

**Summary Report  
and  
Exploration Proposal  
on the  
Troy Canyon Project,  
Nye County, Nevada**

for

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## **Summary**

This report provides a summary of the Troy Canyon Project and makes recommendations for further exploration. The report was prepared at the request of Mr. Dennis Higgs, President of Miranda Gold Corp., as a technical report in support of acquisition of the property and equity financing. The Troy Canyon property is located in eastern Nye County, Nevada approximately 150 kilometres east of Tonopah. The property is comprised of 11 mineral claims, covering the old Locke Mine, on the western edge of the Humboldt National Forest, in the Grant Range of east-central Nevada. The claims are under option from Gerald W. Baughman, of Reno Nevada.

Gold-silver mineralization was first identified at the Locke Gold Mine by a Mr. Beatty in 1867. There is recorded production from the Locke Mine for the period 1948 to 1950. During this period 643 ounces of gold and 660 ounces of silver were derived from 1,859 tons of ore, at an average grade of 0.345 oz/t gold and 0.355 oz/t silver. The mineralization occurs within a variety of quartz bodies, including a massive mesothermal quartz vein, an extensive breccia zone and smaller sheeted and stockwork zones. This quartz body was probably emplaced during the Tertiary along the sheared, northerly trending contact between Cambrian limestones and a Tertiary quartz monzonite pluton. The quartz monzonite forms the footwall to the vein, while pyritized, and recrystallized grayish carbonate rocks form the hangingwall lithology.

Other mineral exploration and mining in the Troy Canyon area dates back to 1869 when an unsuccessful attempt was made to develop the copper, lead, zinc, silver prospects at the head of the canyon. Most of the workings on the Locke Mine date from the 1930's, however as mentioned above the only recorded production was in the late 1940's. All mining activities appear to have ceased in the late 1950's.

Samples recently collected by the authors from surface, and underground quartz exposures, mine dumps, mineral processing facilities, and tailings piles at the old Locke mine returned concentrations of gold ranging from 28ppb to 57.2 g/t gold, and silver values ranging from 0.08 to >100 g/t. These results are within the anticipated range for mesothermal gold mineralized systems.

There is little evidence of any systematic exploration in the Locke Mine area, and there is only reference to one drill hole having ever been attempted. This hole was apparently halted while still in the hanging wall limestones, which reportedly contained ore grade gold values. Within mesothermal systems gold grades commonly remain constant to considerable depths, which have not been tested in the Locke area. No recorded exploration has been carried out elsewhere on the property, providing the potential for the discovery of previously undetected mineralization along strike of the known zones and within the limestones at other locations where they are in contact with the Troy pluton.

To this end it is recommended herein that a Phase 1 program of data compilation, detailed geological mapping of surface and underground exposures, along with systematic sampling be conducted on the Troy Canyon Project. This work should be followed by a Phase 2 drill program once targets have been prioritised. A budget of \$75,000 is required to support the initial Phase 1 program.

## **1 Introduction and Terms of Reference**

### **1.1 Introduction**

This report provides a summary of the exploration history, geological setting and mineral potential of the Troy Canyon Project located in Nye County, Nevada (Figure 1). Miranda Gold Corp. ("Miranda") has recently entered into an option agreement to explore and, if warranted, develop the prospect. The Troy Canyon Project is located approximately 150 kilometres east of Tonopah, Nevada. Recommendations are contained herein for a two-stage exploration program to further define areas of gold mineralization within the property.

### **1.2 Terms of Reference**

Miranda requested that Global Geological Consultants Ltd. ("Global") review the Troy Canyon Project and prepare a technical summary report. This report has been prepared under the guidelines of National Instrument 43-101 and is to be submitted as a Technical Report to the TSX Venture Exchange ("TSX") and the BC Securities Commission ("BCSC") in support of the property acquisition and equity financing. Miranda trades under the symbol TSX: MAD.

Currency used throughout this report is the United States of America dollar.

### **1.3 Purpose of Report**

The purpose of this report is to provide an independent evaluation of the exploration potential of the Troy property. This report makes recommendations for further exploration to determine the extent of the mineralization currently known on the property.

### **1.4 Sources of Information**

Outside sources of information utilized in the undertaking of this report consist of exploration, geological and other reports available in the public record and from private corporate files. Where cited, references are referred to in the text by author and date. Complete references are provided in Section 19 (References).

### **1.5 Field Examination**

The authors of this report visited the property on separate dates during February 2003. Mr. Lewis conducted the first field visit on February 13th, 2003 to determine surface and underground accessibility, review mineral claim location certificates, and collect initial samples from various locations on the property. Mr. Chapman visited the Troy Canyon property on February 23rd, 2003, assessing the geology, styles of mineralization and alteration on the property. Eleven representative samples of surface outcrop, underground exposures, mine dump, tailings, and historical pre-processed material were collected and submitted to ALS Chemex for analysis. Sample results are discussed in Section 8 (Mineralization), Section 11 (Sampling Method and Approach) and Section 13 (Data Verification).



0 50 100 km

#### GOLD DEPOSITS

- Volcanic Hosted
- Sedimentary Hosted

**Miranda Gold Corp.**

## **TROY CANYON PROJECT**

Nye County, Nevada  
Township 6N, Range 57E

## **Location Map**

Troy Canyon 7.5' Quadrangle



Scale: see above

Date: March 2003

Figure:

**1**

## **2 Disclaimer**

In the preparation of this report, the authors have relied on information obtained through a review of public and private documents, reports and data. In particular, the authors have relied heavily on the information contained in the Old English Gold Corporation report dated April 1968, and on the 1988 USGS Grant Range Rare II Area Study. All sources of information garnered for this report are referenced in Section 19 (References). The eleven samples collected for analysis by the authors are for comparative value only. No independent verification of historical geological, geochemical, or other technical data was undertaken.

A review of the mineral claim records from the BLM and Nye County, Nevada provides information on the status of the relevant claims that comprise the Troy property, a complete table of current claim data is provided in Appendix 1. The authors have relied on the accuracy of these records.

## **3 Property Description and Location**

### **3.1 Area and Location**

The Troy property is located in eastern Nye County, Nevada approximately 150 kilometres east of Tonopah, or alternately 230 kilometres north of Las Vegas. The property consists of 11 mineral claims covering approximately 91 ha (220 acres) on the western side of the Grant Range, immediately to the east of Railroad Valley. The centre of the property is roughly at 38° 20' 25" North latitude, 115° 34' 37" West longitude on the Troy Canyon, Nevada US Geological Survey 7 ½' quadrangle map sheet.

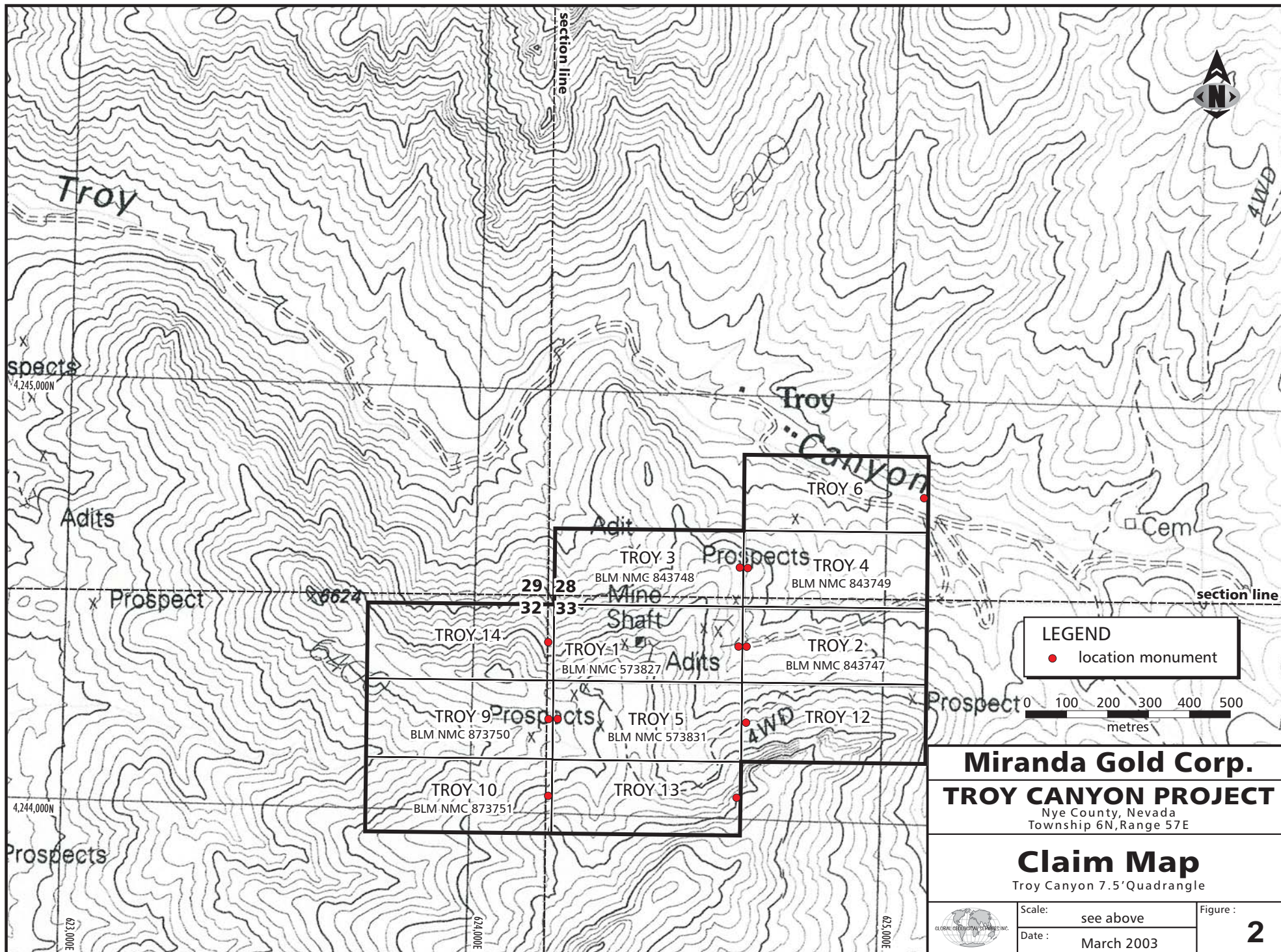
### **3.2 Claims and Title**

The Troy property lies within the Troy Mining District in the Humbolt National Forest. Access to the property is through BLM administered lands on existing roads.

The property consists of 11 contiguous unpatented mineral claims covering approximately 91 ha (220 acres) as shown on Figure 2. The claims cover portions of Sections 28, 32 and 33 in Township 6 North, Range 57 East in Nye County, Nevada. The claims are registered in the name of Gerald M. Baughman, of Reno, Nevada. A complete claim listing is provided in Appendix 1. Annual maintenance fees totalling \$135 per claim are payable to the BLM August 31. The county requires recording fees of approximately \$15 per claim each year.

Miranda has entered into an option agreement dated January 23, 2003, with Gerald W. Baughman for the acquisition of four mineral properties in Nevada. The option terms as set forth in this section of the report represent the total consideration for all properties. Miranda may earn a 100% interest in the Troy Canyon Project subject to a 3% Net Smelter Return through a combination of cash payments and share issuances.





The option has a 5 year term during which time there shall be cumulative cash payments of US\$220,000, the issuance of 450,000 share purchase warrants of Miranda and exploration expenditures of US\$650,000. One or more of the properties can be terminated without affecting the option on the remaining properties, however the expenditures and considerations will be reduced on a pro rata basis. The proration is 20% of the totals to the Troy Project.

Following the completion of a bankable feasibility study, two thirds, or 2%, of the royalty may be purchased by the Optionee for \$1 million for each 1% NSR for each property.

### 3.3 Mineralization

Gold silver mineralization on the property is hosted within a mesothermal quartz vein and an extensive quartz breccia that has been emplaced along the sheared contact between a Tertiary quartz monzonite pluton, and Cambrian limestones. Gold and silver mineralization occurs with pyrite, arsenopyrite, along with lesser sphalerite, and galena. Zones of strong limonite or manganese staining also tend to display stronger precious metal values. Grayish banded and coloform quartz observed within the mesothermal bull quartz host indicates that epithermal activity likely took place after emplacement of the main vein. The effect this later hydrothermal activity had on the distribution and grade of precious metals mineralization is unknown at this time.

Precious metals mineralized quartz lenses within the broader bull quartz vein are accessed by several adits at varying elevations on the property. A cursory examination was made in the main portal of the old Locke mine, and several of the other underground workings. The bull quartz vein can be traced on surface for over 300 metres, and has been observed over a vertical distance of more than 180 metres. A more complete description of style and distribution of mineralization is provided in Section 8 (Mineralization).

### 3.4 Environmental Liability

None of the adits or other workings on the property have been fenced, or otherwise sealed off, and do therefore pose a potential safety hazard. Adequate fencing should be erected in these areas to prevent entry. It is not known if previous exploration on the property was conducted under a Notice issued by the BLM or the Forest Service, and it does not appear that any reclamation work has ever been performed in areas disturbed by prior exploration or mining activities.

### 3.5 Permits

The property lies on Federal lands, within the Humboldt National Forest. These lands are administered by the United States Forest Service ("USFS") under the Federal Land Policy and Management Act of 1976. Exploration within the national forest lands must be permitted by the USFS. Prior to undertaking exploration activities, a Plan of Operations must be submitted to the USFS for review. An environmental assessment along with public input is required, which will necessitate a lead time of approximately four months prior to undertaking any field work



requiring surface disturbance. A reclamation bond must be posted with the USFS to cover the reclamation costs of any such disturbance.

Permitting was initiated in 1996 for a small drill program, and apparently verbal approvals were received, however the program was not carried out. No permits have been recently applied for or are currently issued for the Troy property.

#### **4 Access, Climate, Local Resources, Infrastructure and Physiography**

The Troy property is accessed from Tonopah by following State Highway 6 east 80 kilometres to the Warm Springs junction, then south on Highway 375 for 26 kilometres to the signed junction of an un-numbered county road that travels east then north through Railroad Valley. From this junction one travels approximately 15 kilometres past the Nyala Ranch to the signed turnoff for Troy Canyon. Seven kilometres to the east of this junction, at a point just past the ruins of the old mill and cabins at Troy, an unmarked road travels southerly and westerly a further two kilometres to the old workings at the Locke mine. Several old exploration roads, in various states of repair, still exist on the property, providing access to the old workings.

The property is located on the western slopes of the Grant Ranges, a few kilometres east of the floor of Railroad Valley, at elevations ranging from 1845 metres to 2070 metres above sea level. Topography is generally moderately steep with slopes being in the order of 30 to 35 degrees. The general Troy area is arid to semi-arid desert with temperatures to 40<sup>0</sup> C in the summer, and on average 130 days per year where freezing temperatures are experienced at night. Precipitation varies between four and 10 centimetres per year, and often falls in the form of snow during the winter months. For the most part physical work could be conducted on the Troy property year round.

The vegetation found on the property is typical of central Nevada and consists of sagebrush and other desert plants on the lower slopes and valleys. Shadscale, white sage and greasewood occur with sagebrush on the drier slopes and hills. Sparse to locally heavy cover of pinion pine and juniper trees occur at higher elevations on the property. Cottonwood trees, grasses, and more water dependent species of vegetation are found in the Troy Canyon valley.

Should sufficient economic mineralization be discovered on the project, the current claim base would likely be insufficient to support mining operations, tailings and waste storage and processing plants. Additional surface lands would be required. The property is in fair proximity to existing infrastructure, and within reasonable distance of the towns of Tonopah, and Ely, as well as the city of Las Vegas. Given the lengthy history of continual mining in the state of Nevada, it is anticipated that sufficient experienced manpower exists in the general area to support a project at the Troy Canyon property.

#### **5 History**

It is reported that the Locke (or Troy) gold-silver occurrence was discovered in 1867 by Mr. A. Beatty. Further up the canyon the Troy copper-silver deposit was discovered in 1869, and

purchased the following year by an English company who undertook to develop it. The company built a 20 stamp mill, the remains of which can still be seen in the valley bottom immediately below the old Locke mine, and operated it for less than two years before shutting down due to a lack of profitable ore.

After the company shut down operations in the canyon around 1872 it is reported that various individuals worked the property intermittently until around 1936 when the property was acquired by Mr. Joseph Haffen, and his associates, who formed the Old English Mining Corporation. Subsequent to the acquisition of the property they drifted into the gold quartz zone, erected a mill, installed various mining facilities and piped water. The property lay dormant during the early 1940's due to the war, and unfavourable legislation, but progress slowly continued, and in 1946 a 50-ton mill was built.

The government report on production from mines in 1948 lists production from the "Old English Mine" as being 500 tons of ore amalgamated yielding 180 ounces of gold and 25 ounces of silver. A further 18 tons were shipped to a smelter, which returned 12 ounces of gold and 15 ounces of silver. Five tons of concentrate was also shipped for smelting that year, which returned 36 ounces of gold, and 47 ounces of silver. In 1949 1,219 tons of ore were processed returning 408 ounces gold and 245 ounces silver. Only 20 tons yielding 5 ounces gold and 1 ounce silver were produced in 1950. At this time the underground workings amounted to approximately 600m in length.

In 1957 the company applied for financing from the Office of Mineral Exploration (OME), and was granted \$33,656, which was used for drifting, and other underground exploratory work in the mine. One drill hole was attempted on the property at this time, but reportedly was terminated in the hangingwall before reaching the mineralized quartz. There are references in the literature that the hole was terminated in "pyritic, shaley limestone, which carried \$10 in gold." (Ericson 1968), but the validity and source of this claim is unknown.

It appears that little was done on the property from the 1960s through the 1980s, although a geological study was prepared by Ericson in 1968, which made recommendations for the orderly exploration of the property. Apparently the owners of the property held it in good standing until 1988 (mention is made in one report of there having been a watchman on the property in 1986), in which year they forgot to file assessment work. Mr. Baughman staked the property in 1989, and has held the key claims covering the old Locke mine continuously since then.

In 1988 during his analysis of the Mineral Resources of the Grant Range Rare II Area, Richard F. Kness calculated an "Inferred Subeconomic Resource" for the Locke Mine, and within the Locke Vein outside of the mine workings. The authors of this report have not reviewed any of the forgoing calculations to verify the accuracy or validity of them, and they do not conform to NI #43-101 specifications. They are included solely because they are part of the historic database for the property.

Table I

Grant Range Rare II Study "Inferred Subeconomic Resource"						
Zone	Tons	Average Grade		Approx. Ounces		
		Au (gpt)	Ag (gpt)	Gold	Silver	
A	50,000	3.06	13.3	4,920	21,382	
B	2,200	1.33	12.8	94	905	
C	3,800	0.169	1.45	20	177	
Outside mine	300,000	0.950	15.98	9,164	15.98	
Total:	356,000			14,198	176,612	

In 1989 Hecla Mining collected 3 samples from the property, with the best result being 0.36 g/t Au and 25 g/t Ag. No descriptions are available of the samples.

Amax Gold Inc. conducted a property exam in 1989. Four of the 8 samples collected contained in excess of 1.0 g/t, with the best result being over 10 g/t gold. A limestone sample from the contact zone contained 5 g/t gold.

In early 1990 Arizona Gold took 8 samples of quartz vein and gouge material. Two of the quartz samples returned 1.2 g/t and 1.98 g/t gold. Cambior USA Inc. visited the property later in 1990 and collected 15 samples, mostly chips of vein material. Results ranged from 5ppb to 57 g/t gold. Colray Resources collected 4 samples in September 1990, 3 of which returned 0.3, 0.56, and 1.48 oz/ton gold.

Southwestern Gold Corporation performed some mapping and collected 18 chip samples in the area in 1991. Results of the surface sampling included 0.08 g/t over 33m, 4.34 g/t over 10m and a high of 13.92 g/t gold and 312 g/t silver over 0.3m. Also in 1991 USMX examined the property and collected 24 surface samples, which ranged from a low of 0.13 g/t to a high of 40.4 g/t gold, 5 samples contained <0.05 g/t gold. These samples were all of quartz material.

In 1990-91 Horizon Gold Corp. carried out a rough estimate of the quartz resource based on 11 sections through the workings. This study arrived at a total of 1,150,000 tons with a strip ratio of 4:1. No grade was given for this tonnage as no drilling has been carried out to provide any data. As with the resource numbers generated in the Bureau of Mines Report by Kness, this data is included for historical completeness only and no implications are made by the authors as to this representing any form of mineral resource.

A series of 17 samples collected by Western Mining in 1992 returned no significant gold or silver values. No descriptions of the material sampled are available so there is no way to determine why these results are at such variance to other samples collected from the property.

Sampling by Cordex Exploration 1991 yielded 3 assays over 1 g/t, with the highest value being 3.48 g/t gold.

In 1999 Independence Mining conducted a chip sampling program on the Troy property. The best result obtained was 16.78 g/ton gold over 5m of crushed quartz with abundant limonite

staining. All but 2 of the remaining 9 samples contained less than 100ppb gold.

## **6 Geological Setting**

The Troy Project is located within the Basin and Range geomorphological province in the Grant Range, northern Nye County Nevada. The geology in this area is predominately a thick package of miogeosynclinal sedimentary, and metasedimentary rocks, which range in age from early Cambrian to Pennsylvanian (Figure 3). The stratigraphic succession youngs northward, with over 7600m of Cambrian to Pennsylvanian strata preserved.

At least 1500m of Paleocene to Eocene lacustrine strata and Oligocene to Miocene ash-flow tuffs overlie the Paleozoic strata. In the southern portion of the range Miocene quartz monzonite stocks intrude the older rocks.

Structurally the area is defined by the major north trending normal fault (or faults) that bound the Railroad Valley. This structure and related splays cut alluvial deposits as young as Holocene, and probably has a minimum vertical displacement of 3700m. Oil well data from the northern end of Railroad Valley indicate a steep westward dip to this structure. The subsidiary group of normal faults trend easterly. Internally the structure of the Grant Range is dominated by low angle faults, generally subparallel to bedding. Minor folds associated with many of these fault surfaces are overturned toward the east, suggesting tectonic transport in that direction.

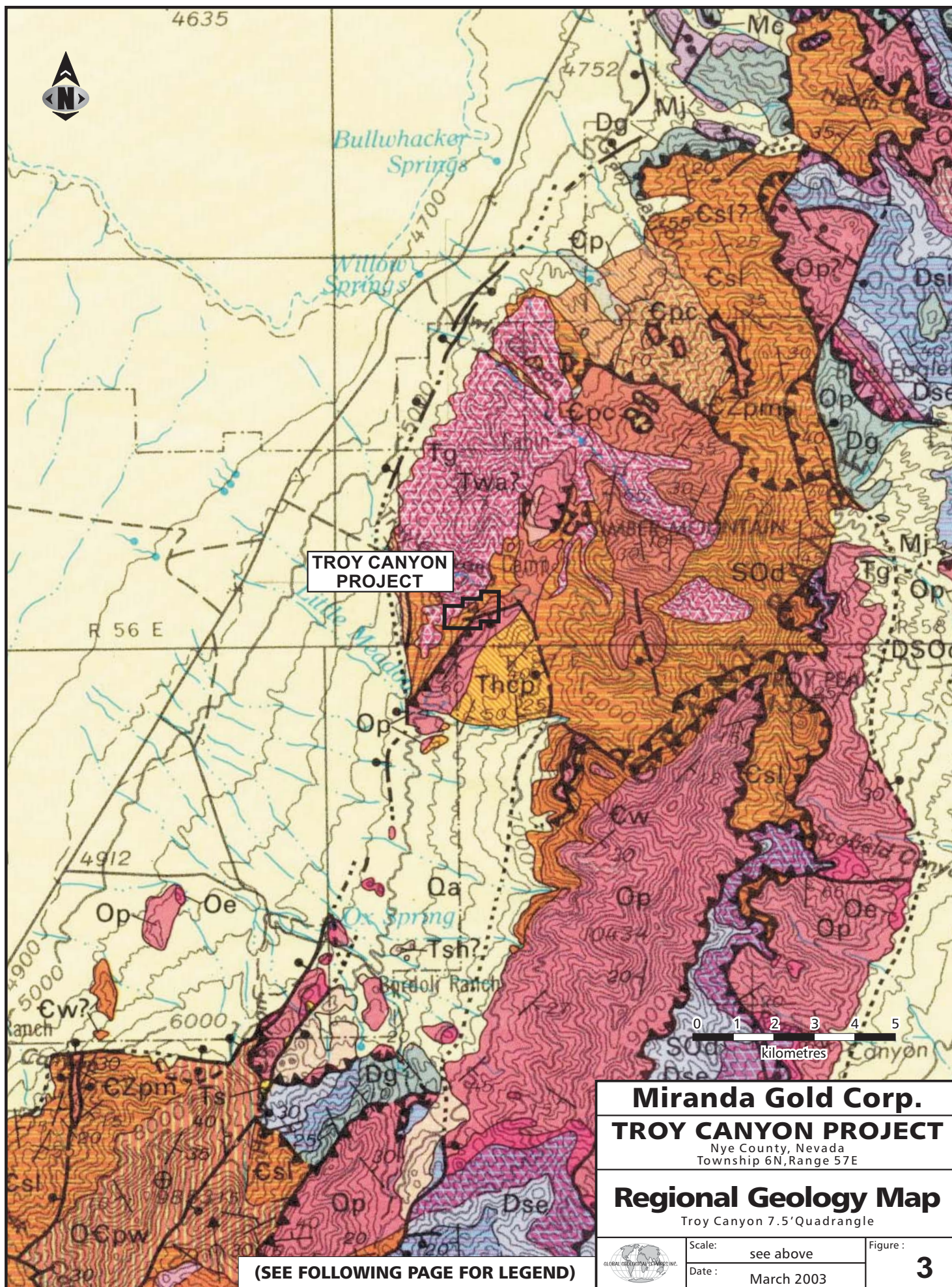
Cebull (1970) recognized two structural settings in the pre Tertiary of the southern Grant Range. The lower level consists of strongly folded and metamorphosed Lower Cambrian strata, mainly Prospect Mountain Quartzite, which have developed a schistose fabric. Small quartz monzonite plutons intrude these rocks, with the largest being that which outcrops in and around the Troy Canyon property. These plutons have imposed thermal metamorphic effects upon the pre-existing schistosity. These plutons were apparently emplaced before, during and after the low angle faulting that is characteristic of the higher structural level.

The upper structural block consists of un or weakly metamorphosed Upper Cambrian or younger Paleozoic strata that are only weakly folded, but are cut by numerous low angle faults.

Cebull (1970) identifies the rocks in the Locke Mine area as being correlative to the Lower Cambrian Prospect Mountain Quartzite and Eldorado Limestone. Locally these sedimentary rocks have undergone thermal and synkinematic metamorphism along with locally intense deformation. The Tertiary (23my) Troy pluton is the major intrusive in the region. The pluton, is primarily quartz monzonite with minor granite and granodiorite. It is possible that the granite, and granodiorite represent younger intrusives, rather than compositional differentiation during the emplacement of the Troy pluton. Contact metamorphism may be present at the contact between the intrusive and the pre-Tertiary sediments, however it is not extensive.

The mesothermal quartz body which hosts the gold-silver mineralization seen in the Locke Mine on the Troy Canyon property is spatially, and quite probably temporally related to the Troy pluton. It occurs at the sheared, slightly metamorphosed (pyritized), recrystallized, contact of







# Miranda Gold Corp.

## TROY PROJECT

Nte County, Nevada  
Township 6N, Range 57E

## Regional Geology Map

Troy Canyon 7.5' Quadrangle

## LEGEND for Fig.3

### PANCAKE, WHITE PINE, HORSE, GRANT, QUINN CANYON, GOLDEN GATE, EGAN, AND SOUTH EGAN RANGES

Ps	SEDIMENTARY ROCKS—Riepe Spring Limestone of Steele (1960) and Rib Hill Sandstone, undifferentiated; in Pancake Range
Pe	ELY LIMESTONE— <b>Pe</b> , thin-bedded limestone. <b>Pec</b> , limestone with abundant chert in grit and conglomerate in Pancake Range. <b>Pes</b> , limy sandstone in Golden Gate Range
Pec	
Pes	
Mc	CHAINMAN SHALE AND DIAMOND PEAK FORMATION— <b>Mc</b> , shale with tongues of sandstone and conglomerate in upper part. <b>Ms</b> , sandstone and conglomerate; mapped separately in some areas
Ms	
Mj	JOANA LIMESTONE
Mjp	PILOT SHALE
Mjp	LIMESTONE AND SOME SHALE
DSOd	DOLOMITE, UNDIVIDED—Primarily in Grant and Quinn Canyon Ranges. Includes some brecciated masses, shown with breccia pattern, that may have developed by large-scale gravity sliding during Tertiary extension

Dsi	SIMONSON DOLOMITE
Dse	SEVY DOLOMITE
Si	LAKETOWN DOLOMITE
SOd	DOLOMITE
Ou	ELY SPRINGS DOLOMITE AND EUREKA QUARTZITE, UNDIFFERENTIATED—Primarily in Pancake Range
Oes	ELY SPRINGS DOLOMITE
Oe	EUREKA QUARTZITE
Op	POGONIP GROUP—Limestone and shaly limestone
Cw	WINDFALL FORMATION—Cherty limestone
OCpw	LOWER PART OF POGONIP GROUP AND WINDFALL FORMATION, UNDIVIDED
Csl	SHALE AND LIMESTONE, UNDIVIDED—Locally metamorphosed to slate and marble
Cd	DUNDERBERG SHALE
Cip	LINCOLN PEAK FORMATION—Chiefly limestone
Cpc	POLE CANYON LIMESTONE
Cp	PIOCHE SHALE
CZpm	PROSPECT MOUNTAIN QUARTZITE

the intrusive with the shaley limestone hanging wall rocks. Skarn mineralization has been noted to occur elsewhere in the area at the contact of the pluton with the country rock.

## **7 Deposit Types**

The veining seen on the Troy property can probably be best classified as mesothermal, although there may be an epithermal component, or overprint on this deposit. One analogue would be the mines developed on, or near the northern contact of the Rossland Monzonite in the old gold mining camp of Rossland, British Columbia. The Rossland camp produced in the order of 3,000,000 ounces of gold, with production terminating at depth due to economic considerations rather than lack of mineralization.

Many of the features observed at the Troy Canyon property also correlate with the characteristics of the so called Intrusion Related Gold Deposits, such as Brewery Creek and Dublin Gulch, Yukon and Pogo in Alaska. These features include elevated bismuth, molybdenum and tellurium values within veins associated with granitic plutons.

## **8 Mineralization**

Precious metals values are hosted by a wide vein of "bull" quartz that had been emplaced at the faulted contact between the Troy pluton, and the Cambrian Eldorado limestones. This eastern contact of the pluton is marked by considerable shearing and indicates that post mineralization movement has or still is occurring. A massive zone of brecciated quartz on top of the small hill hosting the Locke Mine provides further evidence of this movement. This wide body of quartz has been followed along strike on surface for over 300 metres, while exposures have been noted over a vertical distance of some 180 metres.

Gold - silver mineralization is commonly associated with sulphides, typically pyrite and arsenopyrite, with minor sphalerite and galena. In portions of the deposit where the sulphides have been leached out the gold occurs in vuggy zones that exhibit strong limonite, and manganese oxide staining. Some free gold has been noted to occur on the Irwin prospect in the next drainage to the north of Troy Canyon and although none is reported in the Locke mine it is probable that this mode of occurrence accounts for some of the gold that has been produced.

Signs of post mineralization epithermal activity is evident as white to grey, banded to colloform chalcedonic quartz zones within the broader area of bull quartz. The impact of this post main vein emplacement activity on the mineralization is unknown. The gold and silver values typically occur in lenses within the bull quartz which can range from several centimetres in width up to almost 7 metres. One lens in the vicinity of the main portal of the old Locke mine has been traced for 91 metres along strike, and 30 metres down dip. Apparently the mineralized zones extend beyond the quartz lenses as small lodes in both the metasediments, and the intrusive. These mineralized zones within the country rock appear to be controlled by small cross structures.

The hanging wall at the Locke mine appears to be the preferred locus for emplacement of precious metals mineralization, possibly as a result of the organic material in the metasediments. Graphite may be observed on shear surfaces in the underground workings. The strike of this contact varies from 010° to 035° dipping southeasterly from 30° to 40°. Most of the past mining/exploration work has followed this contact. Features related to structure may have controlled ore deposition at Locke such as limbs and apices of folds, shears concordant with folds, etc. No work has previously been directed at determining if this is indeed the case.

Assay results for the eleven samples collected from the Troy property during the recent property review are provided in Table II below and shown on Figure 4. These samples were not collected with the aim of providing a statistical analysis, but as a check on the general tenor of mineralization previously reported. The results obtained fit well with the range of values reported by previous operators. Based on the author's experience the results represent anomalous levels for elements encountered in a mesothermal system. The geochemical signature at Locke typically appears to be gold and silver values accompanied by elevated arsenic and bismuth levels along with anomalous lead, zinc, moly and tellurium.

Table II  
Representative Geological Samples

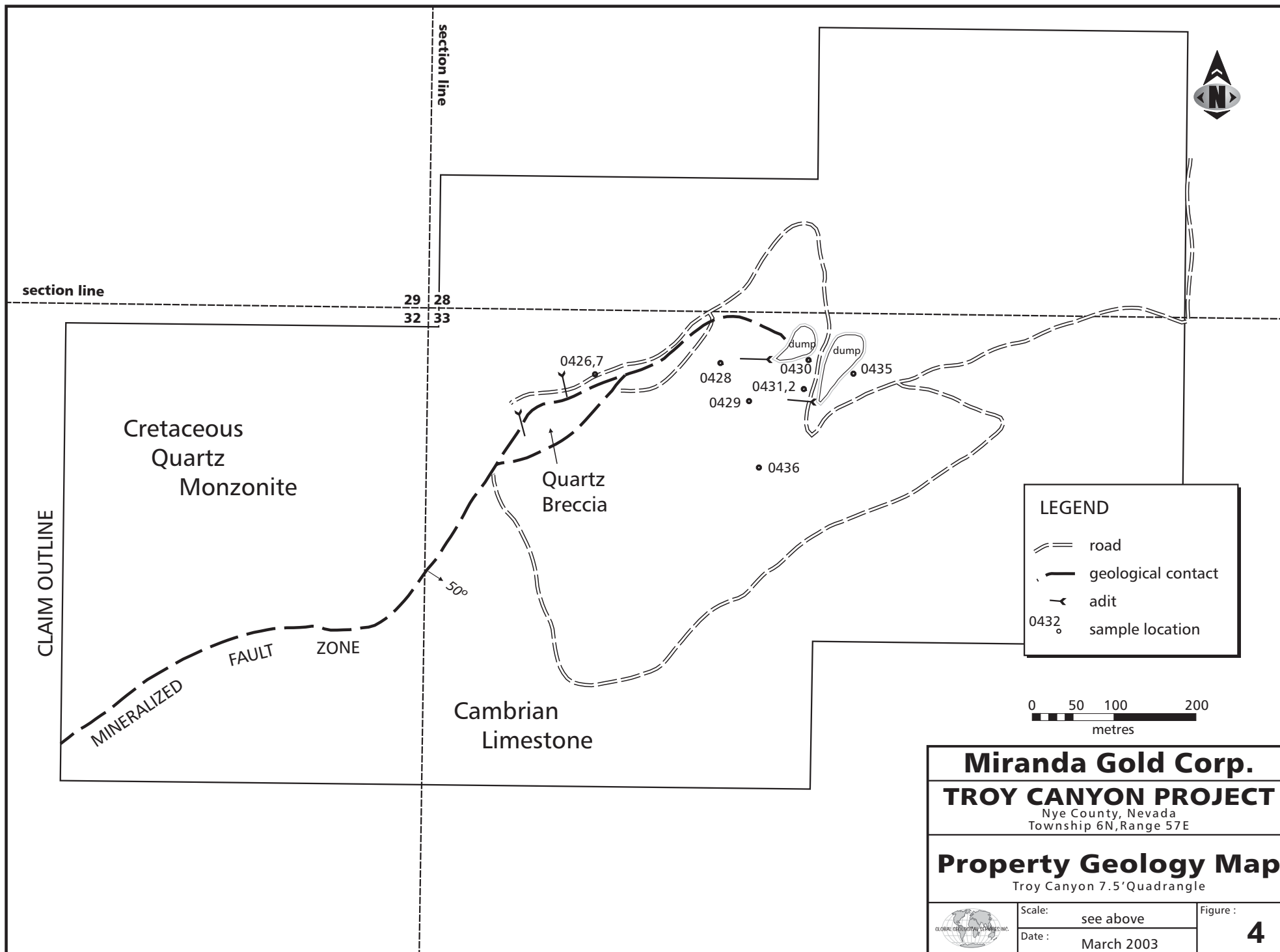
Sample number	Au ppm	Ag ppm	As ppm	Pb ppm	Zn ppb
0426	26.7	>100	473	8970	207
0427	2.34	14.0	28.5	125.5	57
0428	0.028	0.24	1.2	5.7	<2
0429	0.35	1.53	510	96.2	263
0430	57.2	>100	1855	>1000	351
0431	0.308	4.42	25.6	48.9	20
0432	29.8	35.4	99.5	875	173
0433	0.56	2.69	155.5	135.5	186
0434	0.456	0.79	416	13.4	257
0435	4.47	7.04	2250	475	994
0436	0.016	0.08	11	9.5	<2

## 9 Exploration

Miranda has not as yet undertaken any exploration of the Troy Canyon property. Past exploration activities by other parties have been outlined in Section 5 (History).

## 10 Drilling

Miranda has not undertaken any drilling of the Troy Canyon property. There is reference to only one drill hole having been attempted on the property, which is mentioned in Section 5 (History)



## **11 Sampling Method and Approach**

During the recent examinations of the property the authors collected eleven samples from various locations on the claim block. These samples were broken off from quartz vein outcroppings, taken from underground workings, collected from mine dump piles, the coarse ore bin, and scooped up from tailings. Samples were taken of a variety of materials to get a representative “feel” for what may be mineralized in the area and what the past operators processed through their facilities. Analyses were performed by ALS Chemex in Reno, Nevada.

## **12 Sample Preparation, Analyses and Security**

The proposed work programs will utilize geological consultants and contract drillers independent to Miranda. In Phase 2 while drilling by reverse circulation, the geological sample is collected by means of a dual wall tube, a cyclone and a Jones splitter. Approximately 1/8 to 1/4 of the total drill cuttings weighing approximately 10 to 12 kilograms are collected for analysis for each five foot interval. The drill stem is raised off the bottom and blown clear to ensure no residual material remains prior to initiating the next five foot run.

During core drilling activities, the core sample remains under the supervision of the drill supervisor until collected by the geological consultant. During logging and review of the drill core, sample intervals are measured out. The core is then split in half using either a hydraulic splitter or rock saw. One half of the core is then retained on site for reference or possible check sampling.

A dedicated sampler, under the supervision of the geological consultant, collects the drill sample. The sample is placed into a uniquely numbered sample bag, a corresponding sample tag placed in the bag and the bag sealed by wire tie. Known sample blanks and standards are inserted into the sample sequence intermittently as checks on lab accuracy. Samples are then placed into sacks, sealed and labelled for shipping. Periodic shipments are made to the selected assay lab by bonded courier. From the point of collection to delivery to the courier, the samples are under complete control of the geologist.

The selected assay laboratory catalogues the sample and assures a complete chain of custody of each sample through the analytical process. The sample is generally crushed to 2 millimetres, a 250-gram split taken and then pulverized to 75 micron. The pulp is analyzed, generally for gold by fire assay and for trace elements by induced coupled plasma. A laboratory has not yet been selected for the proposed work program at Troy, but selection criteria will ensure that the lab operates according to ISO/IEC Guide 25 – “General requirements for the competence of calibration and testing laboratories”.

Potential sampling problems exist in all types of drilling. To mitigate potential sample error, or to identify potential error, multiple drilling techniques may be conducted over selected areas to allow for accurate collection of samples.



### **13 Data Verification**

Geological information for the Troy property has been compiled from available public and private sources. A review of the geological setting of the property and the style and intensity of mineralization observed by the authors in outcrop indicates that gold mineralization in the vicinity of the Locke mine would likely be classified as mesothermal. The style of occurrence here is similar in some respects to other well-documented mesothermal gold deposits throughout the world.

In conjunction with the data and property review of the Troy property, the authors collected eleven samples of rock from outcrop and mine dumps on the property.

### **14 Adjacent Properties**

There are no mineral claims adjacent to, or in the immediate vicinity of the Troy property. Patented claims covering the old millsite, held by the Old English Mining Company are located in Troy Canyon immediately to the north and below the old Locke mine. It is assumed that these claims were originally staked solely for their strategic location for the beneficiation of the ore produced at the Troy mine, which is further up the canyon. The Troy Mine briefly produced low grade copper-lead-silver mineralization before shutting down.

The general area has seen mineral exploration, and limited production dating back to the 1860s, but to date no large scale mining operations have been undertaken.

### **15 Metallurgical Testing**

Reference to only one preliminary metallurgical test performed by McClelland Laboratories, Inc. of Sparks Nevada was uncovered while researching the property.

The test was conducted in late 1990 at the request of Horizon Gold Corporation. A one kilogram sample designated as TR8, described as "Bottle Roll Test", was collected during a visit to the property by that company in the fall of 1990. It was subjected to a 96 hour bottle roll test. In the test the one kilogram of material was crushed to 80% minus ½" feed, and subjected to 96 hours of direct cyanidation treatment. Gold recovery was calculated at 54.5%, while silver was 25%. Cyanide consumption was reported as very low (0.1 pound per ton of ore), while the lime requirement was low (2.7 pounds per ton of ore).

In 1994, at the request of a Mr. Toporowski, McClelland Laboratories Inc. had Chemex Laboratories assay some of what is presumably the original TR8 sample submitted by Horizon. This sample returned 4.56 g/t Au and 1.5 g/t Ag.

Compilation of production information coupled with further research may uncover more information regarding the processing of ore at the Locke mine, which ultimately may yield valuable information regarding the amenability of the mineralized rock here to a variety of treatments.

Miranda has not conducted any metallurgical test work on rocks from the Troy property.

## **16 Mineral Resource Estimate**

Miranda has not conducted a mineral resource estimate for the Troy property. As detailed in the History section, an "Inferred Subeconomic Resource" was calculated by Kness for the Department of the Interior study of the Grant Range Rare II Area.

## **17 Interpretation and Conclusions**

The area of the old Locke Mine in Troy Canyon hosts mesothermal gold-silver mineralization in economically significant concentrations. Mesothermal systems typically are persistent to great depths. To date the system seen on the property has only been investigated over a vertical extent of approximately 180 metres, with the bulk of the work having been concentrated on the hanging wall of the quartz host. It is reasonable to assume that the mineralization could extend significantly below those levels seen to date. Presently it is impossible to make any assumptions as to the behaviour of grade distribution at depth.

Underground plans exist (Figure 5) which show in good detail the workings and sampling that has taken place over the years on this property. This work however only concerns the quartz body itself and the hanging wall material immediately adjacent to it that has been exploited in the past.

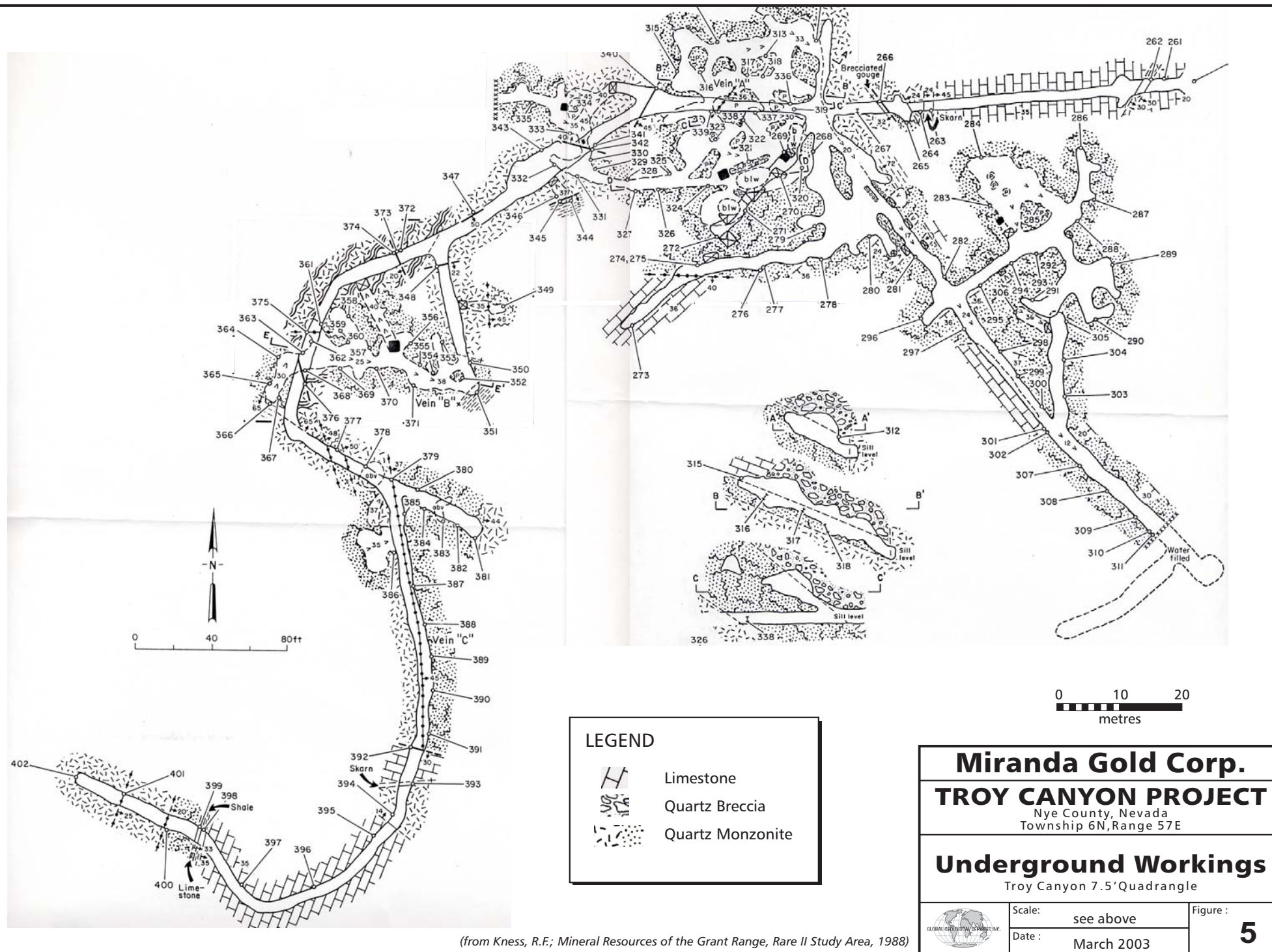
While some underground and surface geological mapping has been completed in the general vicinity of the old mine, little modern, systematic exploration has been conducted in this area, or at other showings located on the property.

Only one drill hole has been attempted on the property and this was terminated in the hanging wall short of the quartz body. No systematic sampling was carried out on the material from this hole, however it is believed to have terminated in anomalous gold values.

In conclusion it is believed that the Troy Canyon Project is very prospective for hosting economically significant concentrations of gold and silver mineralization. The data available on the property is at a stage where a minimum of work would be necessary to bring the property to a drill-ready stage. The property is definitely under-explored relative to its mineralized potential.

## **18 Recommendations**

The Phase I program for the Troy Canyon Project should include a digital compilation of all existing data, and continued research for additional information. This compilation would be undertaken in conjunction with detailed sampling and mapping of the surface exposures and all accessible underground workings. Grid based mapping, soil sampling and geophysical surveys will be required to define the true extent of the mineralized quartz zone both along strike and to depth. Concurrent with this compilation, the mapping and sampling program should be expanded to evaluate the contact zone beyond the confines of the Locke Mine area.



The purpose of the mapping and sampling programs is to determine the controls on mineralization in order to efficiently direct the ongoing exploration. An orthophoto base should be created to accurately locate all of the existing workings, and provide a framework for the addition of new information. This data will assist in avoiding problems that are commonly encountered when drilling around old workings. A qualified person will be required to inspect and scale the underground workings prior to mapping and sampling.

The results of the Phase 1 work will provide priority drill targets to determine the presence of any resource that may still exist in the area of previous workings, and to test the down dip and along strike potential of the system. The Phase 2 reverse circulation drill program would be required to test the mineralization observed at the Locke mine, and in the various showings proximal to it.

#### 18.1 Cost Estimate

The recommended Phase One exploration program at the Troy property is estimated at \$78,000. Drill testing of priority targets in Phase 2 is estimated to cost \$300,000. The table below provides a breakdown of projected expenditures for the two exploration phases.

Description		Total
Accommodation and Board	geological, geophysical staff	\$4,000
Analyses – rock	500 samples at \$15/sample	\$7,500
soil	750 samples at \$20/sample	\$15,000
Data compilation – map prep etc.		\$7,500
Geological consultant & sampler	20 days @ \$650	\$13,000
Soil sampling, grid preparation	10 days @ \$300	\$3,000
Permitting	Notices to BLM	\$2,000
Trenching		\$8,000
Geophysical Survey (mag/EM)	4 days @ \$750/day	\$3,000
Report writing & computer drafting		\$5,000
Transportation	Vehicle rental/mileage	\$3,000
Contingency		<u>\$7,000</u>
<b>Estimated Cost – USD</b>	<b>Phase One Program</b>	<b>\$78,000</b>
	<b>Phase Two Program – Drilling</b>	<b>\$300,000</b>
<b>Total Estimated Cost</b>		<b>\$378,000</b>

Sincerely,  
Global Geological Consultants Ltd.

\_\_\_\_\_  
"signed"  
Jim Chapman, P.Geol.  
March 17, 2003

## **19      References**

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## **20 Statement of Qualification**

I, Jim Chapman, P.Geo, of 1455 Upland Trail, Bowen Island, in the Province of British Columbia, am a Professional Geoscientist.

I am:

- President of Tamri Geological Ltd., a private consulting practice providing exploration services to the mining community
- a member of the Association of Professional Engineers and Geoscientists of British Columbia.
- a graduate from the University of British Columbia with a Bachelor of Science degree in geology in 1976, and I have practiced my profession continuously since graduation.

As a result of my experience and qualification I am a Qualified Person as defined in National Policy 43-101.

This experience has included all aspects of the industry from project generation through implementation and report preparation for owners, clients and regulatory authorities. These programs have included: mineral exploration for gold, silver, copper, molybdenum, base metals, diamonds, phosphate, graphite and uranium in Canada, the United States, Mexico, Honduras, Guyana, Venezuela, and Guinea Bissau. Since 1982 I have operated as an independent consulting geologist on projects ranging from reconnaissance to deposit definition-drilling programs.

As Exploration Manager for Champion Resources Inc. I implemented a Prefeasibility study of the Farim Phosphate Deposit in Guinea Bissau, West Africa along with a country wide diamond reconnaissance sampling program during the period 1997 to 2001. From 1995 to 1997 I directed volcanogenic massive sulphide exploration in Mexico, copper porphyry and gold skarn exploration in Honduras and gold exploration programs in Guyana.

From 1982 to 1995 I worked with a number of publicly listed junior resource companies and geological consulting groups providing project management. The clients were involved in the Northwest Territories diamond play, the Voisey's Bay nickel play, the Hemlo gold play, Eskay Creek and various other areas in Canada, the USA and overseas.

As President of Tamri Geological Ltd. since 1995, I am responsible for international and domestic project development, examination, evaluation and reporting of a variety of mineral deposit types and commodities, supervision and management of exploration projects as well as client representation and government liaison.

I am the author of the report titled "Summary Report and Exploration Proposal on the Troy Canyon Project, Nye County, Nevada" for Miranda Gold Corp. dated March 17, 2003.

The sources of all information are quoted in the report. The information provided by the various parties is to the best of my knowledge and experience correct.

As stated in the "Report" I conducted a site visit of the subject properties on February 23, 2003.

I am not aware of any material fact or material change with respect to the subject matter of this technical report, which is not reflected in this report, the omission to disclose which would make this report misleading.

I have no direct or indirect interest in Miranda Gold Corp. or of the subject properties described in this report.

I have read National Instrument 43-101, Form 43-101FI and this report has been prepared in compliance with NI 43-101 and Form 43-101FI.

Dated at Vancouver, British Columbia, this 17th day of March 2003.

\_\_\_\_\_  
"signed"  
Qualified Person

I, Thomas M. Lewis, FGAC, am a practicing geologist residing at 2120 Bennett Rd., Kelowna, in the Province of British Columbia, certify that:

I am a consulting mineral exploration geologist, currently under the employ of Global Geological Consultants Ltd., a private consulting practice providing exploration services to the mining community.

I am a Fellow of the Geological Association of Canada.

I graduated from Brandon University, with a Bachelor of Science degree in geology in 1989, and a diploma in Petroleum and Mineral Land Management from Mt Royal College, in 1986. I have practiced my profession continuously since graduation.

Since 1987 I have been involved in mineral exploration for gold, silver, copper, graphite, phosphate, wollastonite, and base metals in Canada, the United States, Mexico, Honduras, Guinea Bissau, and India.

As a consulting Geologist since 1989, and while employed by various consulting firms, mineral exploration companies, or mineral producing companies I have been responsible for international and domestic project development, examination, evaluation and reporting of a variety of mineral deposit types and commodities, supervision and management of exploration projects as well as client representation and government liaison.

As a result of my experience and qualifications I am a Qualified Person as defined in N.P. 43-101.

I am a co-author of the report titled "Summary Report and Exploration Proposal for the Troy Canyon Project, Nye County, Nevada", dated March 17, 2003. The sources of all information used to prepare the report are quoted therein. The information provided by the various parties is to the best of my knowledge and experience correct. I conducted a field examination of the property February 13, 2002.

I am not aware of any material fact or material change with respect to the subject matter of this technical report, which is not reflected in this report, the omission to disclose which would make this report misleading.

I am independent of Miranda Gold Corp. in accordance with the application of National Instrument 43-101.

I have read National Instrument 43-101, Form 43-101FI and this report has been prepared in compliance with NI 43-101 and Form 43-101FI.

Dated at Tonopah, Nevada this 17th day of March, 2003.

\_\_\_\_\_  
"signed"  
Tom Lewis, FGAC

## APPENDIX I

### CLAIM DATA

#### Troy Canyon Project

All claims are subject to an annual maintenance fee of \$100 per claim, due the 1<sup>st</sup> of September. The following claims, registered in the name of Gerald W. Baughman, are currently valid through to August 31, 2003. A location certificate for each claim is recorded by Nevada Mining Claim ("NMC") instrument number with the BLM and by document number at the Nye County recorders' office, Tonopah, Nevada.

The claims are located in sections 28, 32, 33, T6N, R57E, Nye County, Nevada.

<u>CLAIM NAME</u>	BLM <u>NMC NUMBER</u>	NYE COUNTY <u>RECORD NUMBER</u>
Troy 1	573827	0246542
Troy 2	843747	0555971
Troy 3	843748	0555972
Troy 4	843749	0555973
Troy 5	573831	0246546
Troy 6	pending	0845550
Troy 9	843750	0555974
Troy 10	843751	0555975
Troy 12	pending	0845551
Troy 13	pending	0845552
Troy 14	pending	0845553

## APPENDIX 2

### Sample descriptions and Assay Certificates

Sample Number	Date	UTM		Material	Comments
		Easting	Northin g		
426	3/13/03	624461	4244444	Dump	Vuggy quartz, limonite stained, trace hematite. Trace patchy disseminated very fine grained pyrite. Quartz crystals in vugs.
427	3/13/03	624461	4244444	Dump	Limonite, with trace hematite stained quartz. Slightly vuggy.
428	3/13/03	624549	4244477	Bedrock	White "Bull" quartz. Strongly fractured with local trace hematite on fracture surfaces
429	3/13/03	624589	4244474	Dump	"Stained" quartz with limonite & hematite pervasive staining, with some stronger hematite, and trace MnO on fracture surfaces. Trace vuggy.
430	3/13/03	624622	4244476	Dump	Moderately vuggy, cloudy grey quartz, with pervasive limonite & hematite staining, also on fracture surfaces, with trace MnO.
431	3/13/03	624644	4244449	"Heads	Random grab. Mill feed from hopper above crushers. Strong limonite stain, local hematite. Some vuggier, heavier pieces included.
432	3/13/03	624644	4244449	"Heads	Selective grab. Mill feed from hopper above crushers. Strongly limonitic stained vuggy quartz.
433	3/13/03	? - U.G.		Bedrock	Underground - main portal. Strong hematite & limonite stained dark, slightly vuggy quartz. 2 metre rough chip - corresponds to 101137
434	3/13/03	? - U.G.		Bedrock	Underground - main portal. Random chip. Strong limonite & hematite stained, locally vuggy dark quartz.
435	3/13/03	624677	4244449	"Tails"	"Tailing" from pile closest to mill. Yellowish brown to reddish brown, fine grained siliceous material.
436	3/23/03	624590	4244340	Float	Fractured, brecciated and limonitic limestone from cliffs to NE of main qtz body