

MARATHON GOLD CORPORATION

**NI 43-101 TECHNICAL REPORT
FOR THE
BONANZA GOLD MINE PROPERTY
OREGON, UNITED STATES**

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1.0 SUMMARY

1.1 INTRODUCTION

Micon International Limited (Micon) has been retained by Marathon Gold Corporation (Marathon) and its wholly-owned subsidiary, Marathon Gold Corp. USA (MUSA), to prepare an independent Technical Report in accordance with National Instrument 43-101 (NI 43-101) on the Bonanza Mine property located in the Greenhorn mining district of Oregon, United States.

The Bonanza Mine property hosts the Bonanza Mine, an historic underground mine in Baker County, northeastern Oregon. The mine has produced approximately 99,937.4 oz of gold from 128,514 tons (short tons) of ore mined on a small scale from underground workings that was processed in a mill in the town of Geiser, Oregon. Underground workings were developed to a depth of 365.8 m (1,200 ft) in the late 1890s and early 1900s. Buffalo Mines, Pittsburg Company, Tapin Copper Mines Limited (Tapin) and Gazelle Land and Timber LLC (Gazelle) conducted limited exploration in the early 1950s, the early 1970s and in 2011, respectively. This report documents and summarizes the historic production and exploration completed to date. The qualified person for the report is Tania Ilieva, P.Geol. Senior Geologist with Micon.

Micon's qualified person, Tania Ilieva is independent of Marathon, and MUSA under Section 1.5 of NI 43-101.

Micon visited the Bonanza Mine property on July 25, 2012, when Tania Ilieva, P.Geol., examined local geology and historic mine workings, collected GPS data of access roads and other infrastructure, and collected rock samples from historical waste and dump piles from across the property.

1.2 LOCATION, PROPERTY DESCRIPTION AND OWNERSHIP

The Bonanza Mine property is located in Baker and Grant counties, northeastern Oregon, and approximately 48 km (30 miles) west of the town of Baker, within the Greenhorn mining district, Blue Mountains Gold Belt. The project site is centred around 44° 42' 30" N and 118° 24' 12" W, in high mountain terrain and the elevation varies from 1,500 to 2,000 masl. The Bonanza Mine is the largest historical producer of lode gold in the Greenhorn mining district.

The Bonanza Mine property is located in Township 010S, Range 35E and 35 ½E, Baker County (Sections 3, 4, 9,10,11,16,15,14) and Grant County (Sections 1, 12, 13), Oregon. The property comprises 14 patented lode claims totaling 120.83 ha (300 ac) on private land designated for mining, one patented parcel and 132 unpatented claims covering 944.857 ha (2,335 ac). The total area of the property is approximately 1,066 ha (2,633 ac).

The access to the property is by forest roads and MUSA holds the surface rights to the Bonanza Mine area.

1.3 HISTORY

1.3.1 Exploration/Early Development

The gold bearing veins on the Bonanza Mine property were discovered by Jack Haggard in 1877 and the first gold recovered from the Bonanza quartz veins was recorded in 1877. In 1879, two additional gold-bearing veins were discovered and the mine operated from 1879 to 1904.

From 1939 to 1941, Jackson and McGinnis, sampled the underground workings and the Bonanza vein above the 500-ft level and estimated 19,688 tons of “proven and probable ore” but World War II resulted in closure of the exploration. McGinnis did not estimate the total amount of “ore” that was remaining in and around the old workings.

The property was dormant until 1974 when Tapin conducted prospecting and ground geophysical surveys. The company outlined several anomalies drilled four diamond drill holes on the property in the Bonanza Mine area, but only two holes were documented. In 2009 the property was acquired by Gazelle. The new owners were mainly interested in the timber production and they sold the patented claims to Marathon.

Within the Bonanza Mine property seven additional past producers and prospects are identified, although gold or gold and silver production is not known. The preferred exploration method was underground development and channel sampling. No diamond drilling was conducted on any of the mineral occurrences and “mines”.

The mineral occurrences and “mines” are:

- Blackbird
- White Elephant
- Richmond Mine
- Keystone Belle mine
- Belle Sarah
- Crowpoint mine
- One prospect without an official name.

1.3.2 Mining

At the Bonanza Mine, the Geiser brothers and Pittsburg Company developed three nearly parallel mineralized zones and exposed several cross veins. These veins were accessed by three vertical shafts and 2 adits:

- No. 1 Shaft extends to the 600-ft level.
- No. 2 Shaft to the 300-ft level.

- No. 3 Shaft (Main shaft) is 1,250 ft deep with connections to other underground workings on the 600-ft, 800-ft, 1,000-ft and 1,200-ft levels.
- Adit at 200 ft level.
- Production adit at 500 ft level.

Drifts were driven on or near the veins at 100-ft intervals down to the 600-ft level and, below that, at 200-ft intervals. The maps and plans that survive are incomplete.

The approximate total underground development is 23,876 ft or about 7,277 m (4.5 miles). In addition, however, further underground development is recorded on the 800-ft, 1,000-ft and 1,200-ft levels.

The previous owners produced a total of approximately 99,937 oz of gold, mostly from shallow underground mining of the high grade veins in the beginning of the last century. The reported gold production is from the Bonanza Mine and is shown in Table 1.1 and Table 1.2.

**Table 1.1
Gold Production Reported by the Oregon DGMI**

Year	Tons of Mill Grade Material ¹	Grade (oz/ton Au)	Gold Recovered ¹ (oz)	Gold Price (US\$/oz)	Smelter Return ¹ (US\$)
1877	5	2.00	10.00	21.25	213
1878	5	2.00	10.00	20.69	207
1879	250	2.10	525.00	20.67	10,852
1880-1885	3,000	2.10	6,300.00	20.67	130,224
1886	1,500	1.50	2,250.00	20.67	46,508
1887	2,500	1.50	4,050.00	20.67	83,714
1888	2,700	1.50	3,750.00	20.67	77,513
1889-1890	0	0.00	0.00	20.67	0
1891	1,000	0.90	900.00	20.67	18,603
1892	3,200	0.90	2,880.00	20.67	59,530
1893	4,500	0.90	4,050.00	20.67	83,714
1894	6,500	0.90	5,850.00	20.67	120,920
1895	7,500	0.90	6,750.00	20.67	139,523
1896	8,000	0.90	7,200.00	20.67	148,824
1897	9,000	0.90	8,100.00	20.67	167,427
1898	4,500	0.60	2,700.00	20.67	55,809
1899	11,806	0.60	7,083.60	20.67	146,418
1900	14,188	0.60	8,512.80	20.67	175,960
1901	22,541	0.60	13,524.60	20.67	279,553
1902	5,300	0.60	3,180.00	20.67	65,731
1903	16,300	0.60	9,780.00	20.67	202,153
1904	4,219	0.60	2,531.40	20.67	52,324
Total	128,514	Ave. 1.20	99,937.40		2,065,712

¹ As reported by the owners at the time.
Source: Data provided by Marathon.

The highest production for Bonanza Mine was from 1899 to 1904.

Table 1.2
Recorded Production From the Bonanza Mine

Year	“Ore” (tons)	Revenue (US\$)
1899	not published	146,419.47
1900	not published	175,953.45
1901	14,885	279,556.42
1902	5,371	84,003.08
1903	11,495	202,375.85
1904	3,887	52,315.81

Source: Brooks and Ramp, 1968. The published table is incomplete.

1.3.3 Historical Mineral Resource Estimate

In 1940s, the then owners, McGinnis and Rogers, took 700 channel samples from the 200-ft, 250-ft, 300-ft, 400-ft, and 500-ft levels and prepared a “mineral resource estimate”, using the polygonal method. The historic estimates are provided for information purposes only. There is no assurance the indicated quantities of metal may be achieved in a mineral resource estimate in accordance with NI 43-101.

McGinnis’ estimate was based only on data from old reports and the results of 200 channel samples that were included in the “reserve estimate”. The gold price was government-regulated from 1934 to 1966 at US\$35/oz. Cost estimates were in United States dollars. The estimated remaining or unmined resources is summarized in Table 1.3.

Table 1.3
Summary of the “Measured Resources” of the Remaining “Ore” in the Bonanza Mine as Determined by McGinnis

Block	Location	Length (ft)	Height (ft)	Width (ft)	Tons	Gold Grade (oz/t Au)	Gold Grade (g/t Au)	Value/ton (US\$/t)	Total value (US\$)
1	North vein, pillar below 200 level	130	18	13.3	2,400	0.349	10.87	12.23	39,352.00
2 ¹	North vein, below block 1			13.3	3,000	0.277	8.62	9.7	29,100.00
3	North vein, pillars below 250 level	145	18	2.5	500	1.499	46.64	52.48	26,250.00
4	North vein, 100-ft below surface	125	109	3.3	3,214	0.289	8.98	10.1	32,750.00
5	Cross vein, 400-ft level			2.2	70	2.143	66.65	75	5,250.00
6	South vein, below 120-ft level	35	35	1.2	80	0.937	29.15	32.8	2,566.00
7	North vein, between 200 and 250 level	60	45	20	2,000	0.352	10.95	12.32	24,460.00
8	North vein, between 200 and 250 level		50	4	760	2.083	64.78	72.9	55,400.00

Block	Location	Length (ft)	Height (ft)	Width (ft)	Tons	Gold Grade (oz/t Au)	Gold Grade (g/t Au)	Value/ton (US\$/t)	Total value (US\$)
9	North vein, surface down to 100 ft	100	98	3	2,192	0.291	9.06	10.19	22,336.00
10 ²	North vein, fill between 300 and 500 levels				3,200	0.149	4.65	5.23	16,736.00
11	North vein, between 300 and 500 levels	25	170	3.2	1,042	0.347	10.79	12.14	12,650.00
12	South vein, above and below 300 ft	60	40	2.3	430	0.293	9.11	10.25	4,407.00
13	North vein, 250 level below block 1 and 2	60	25	7	800	0.349	10.87	12.23	9,784.00
Total					19,688				

¹ Broken ore.

² Stope fill.

Data provided by Marathon.

McGinnis estimated that he sampled one eighth of the mine workings.

Also in 1958, Faick assumed that the sulphide mineralization exists on both sides of the deep stope between the 400-ft and 1,200-ft level. He estimated additional 150,000 tons of “ore”, valued at US\$15/t which was equivalent to 0.43 oz/ton (13.33 g/t) remaining in the Bonanza mine. There are no data in the report to support the estimate. It is given for information purposes only and cannot be relied upon.

1.4 GEOLOGY AND MINERALIZATION

1.4.1 Lithology

The project area is located within the Blue Mountains Province (BMP) of northeastern Oregon, and includes the Baker terrane, which has two lithologically and structurally distinctive subunits: Bourne subterrane (northern part) and the Greenhorn subterrane (southern part). The Baker terrane is elongated, approximately east-west-trending belt with tectonic boundaries which are related to subduction processes or strike-slip faulting

The area is underlain by multiple large blocks that are internally coherent, separated by fault and shear zones. Based on the lithology and geological history the rocks in this area are divided into three major age groups: late Paleozoic-early Mesozoic, Jurassic-Cretaceous and Tertiary.

The Bonanza Mine property is underlain by the following rock units:

- Ophiolite assemblage which includes metamorphosed intrusive rocks, represented by serpentinite and serpentinite matrix, known as the Vinegar Hill melange; gabbro, diorite, and pyroxenite; and mafic metavolcanics, called greenstone. The dark grey to black, brittle, siliceous, slightly metamorphosed argillites and chert of the Elkhorne

Ridge Argillite formation are exposed in the central part of the property and host most of the gold-silver mineralization.

- Tertiary volcanics identified as volcanoclastic, basalt and basaltic andesite, silicic volcanic rocks and porphyritic dacite and andesite.
- Quaternary alluvium, which hosts placer gold in some streams, and landslide debris.

1.4.2 Structure

The Blue Mountains Province (BMP), and the Baker terrane (Greenhorn and Bourne subterranean) result from long periods of tectonic activity. Different styles of early deformation indicate separate tectonic activity for the Greenhorn and Bourne subterranean.

Bedding is very poorly preserved only in the layered cherts of the Elkhorn Ridge Argillite.

Fractures, microbreccias, cataclasite zones and faults are pervasive, randomly oriented and they form anastomosing microbreccia and cataclasite zones that usually crosscut all the pre-Cretaceous rocks and mark contacts between different units.

The main fault structures were reactivated during Tertiary volcanism. In most places, the rock suites have been gently warped. They are cut by steeply dipping normal faults with predominantly north to northwest trend. Approximately lateral strike-slip movement has dissected and displaced many of the mineral deposits in the main Greenhorn mining district.

1.4.3 Mineralization

Gold and silver mineralization at the Bonanza Mine is related to three almost parallel quartz-sulphide veins, occurring in brittle silicified, dark grey to black argillite and chert. Faick described the gold bearing mineralized zone as quartz veins or quartz stringers, hosted within brecciated slate (argillite), cemented by veins or network of veinlets of quartz with sulphides.

All reports note the existence of two types of mineralization:

- Oxidized with relatively low sulphides, hematite and limonite staining and free gold.
- Unaltered mineralization with preserved pyrite, arsenopyrite and silver and gold tellurides.

1.5 EXPLORATION

Marathon has not conducted its own exploration on the property.

1.6 MINERAL RESOURCE ESTIMATES

Marathon has not carried out any exploration work to update the historical mineral resource estimates.

1.7 INTERPRETATION AND CONCLUSIONS

The regional geological setting of the Bonanza Mine property is favourable for greenstone-hosted quartz-carbonate vein gold deposits. There has been small scale historical mining for gold and silver, both underground and in small open pits in the oxide zone.

The gold bearing mineralization formed in shear zones and faults within the metasediments of the Elkhorne Ridge Argillite, metamorphosed to greenschist facies or at the contact between serpentine matrix melange and the Elkhorne Ridge Argillite. The mineralization is interpreted to be of hydrothermal replacement origin related to a nearby Jurassic-Cretaceous granitoid pluton. The argillites have quartz-sericite-pyrite alteration, with subsequent deformation and silicification. The gold mineralization consists of multiple quartz veins that are sub-vertical and elongated down-dip. The mineralized zones have two parts, an upper gossan formed by oxidation of the sulphides and containing gold and silver, and the main body of unaltered sulphides which contains gold, and silver.

The total project area is 1,065.684 ha (2,633.313 ac). Previous exploration was very limited and focused only on the gold-bearing quartz vein, mainly on the Bonanza claim (8.34 ha).

There is potential for the discovery of economic mineralization below the 200-ft level and along the lateral extensions of the Bonanza vein, North vein and South vein. Zones of gold bearing sulphide mineralization are identified in the unpatented lode claims, and in the hanging and footwalls of the known veins or between the quartz veins. There is also potential for definition of zones of higher grade disseminated mineralization, and for additional mineralization along the contacts or under the Tertiary cover.

It should be noted that, despite the identified potential which is based on historical data, the Bonanza Mine property is at an early stage of exploration and there is no guarantee that a significant mineral resource will be delineated.

1.8 RECOMMENDATIONS

1.8.1 Proposed Exploration Work

It is anticipated that Marathon's exploration program will start in the second quarter of 2013.

While historic drill logs, maps and sections will be useful to guide exploration, after 40 years the historic drill core is not available and the methods used for historic drill core sampling, preparation and analyses cannot be confirmed as being compliant with current industry standards.

In order to obtain reliable information that will support estimation of mineral resources in accordance with the reporting requirements of NI 43-101, Micon recommends the following:

- A senior geologist, with both surface and underground exploration experience should be employed for the duration of the program. This geologist will compile the historical data and manage the exploration program and ensure that all procedures and protocols are fully in accordance with the reporting requirements of NI 43-101.
- New surface and underground surveys should be completed by an independent surveying contractor who has both surface and underground experience. The precise georeferencing of historical maps and sections with accuracy less than 0.5 m will facilitate resource estimation and potential future mine development.
- An exploration grid should be established on the ground in the areas prioritized for a geochemical survey and ground geophysical survey, starting with those areas around the Bonanza Mine workings. Field observations during the site visit suggest low sulphide gold mineralization located within shear zones, so that induced polarization and resistivity surveys have limited application, but a VLF survey would be an appropriate geophysical tool.
- A prospecting, mapping and trenching program should be completed in the 2013 field season. The mapping should focus on detecting major and minor lineaments, the relationships between major and secondary structures, and how these relate to the known gold mineralization.
- Ground geophysical and penetrating radar surveys should be undertaken in order to locate and map the old underground workings.
- A 15,000-m surface diamond drilling program should be designed and undertaken. The program should be planned in two phases. The first phase (7,500 m) should target the remaining mineralization below the underground workings and test the lateral extension of the known mineralization. The focus of the second phase will depend on the outcome of the initial drilling.
- All accessible underground workings should be thoroughly surveyed, mapped and sampled. Sampling should be detailed where there is evidence of quartz veining and discordant silicified zones. A three-dimensional geological model of the deposit should be built based on surface and underground data
- The first few (say 10) drill holes from surface should have the full length of core sampled to ensure that the characteristics of the mineralized zones are clearly established. Once the first 10 holes have been fully sampled, then only the mineralized zones and the 5 m before and after the mineralized section can be sampled.

- The nugget effect for the high grade gold deposits is very common. A QA/QC protocol using blanks and certified reference material (standards) should be implemented for the channel samples and drill hole samples from the beginning of the program. The performance of control samples (i.e., blanks and standards) should be monitored on a real time basis. If the performance is erratic, then the number of check analyses to be conducted at a different laboratory should be at least 25% of the total samples analysed. If the results on standard samples are acceptable, a 5% rate for check analyses is recommended.

Phase 1 of the drilling program will focus on the 14 patented lode claims, covering 120.83 ha around the old Bonanza Mine. Approximately 7,500 m of confirmation drilling will target the Bonanza, South and North veins and the geophysical anomalies on the lateral extensions of the same structure. Phase 2 would be contingent on the success of the Phase 1 work and would include step out drill holes or drill holes in other ore bodies totalling 7,500 m.

Given the absence of outcrop, a drill hole spacing of 50 to 100 m along strike may be adequate to identify an inferred resource. The drilling program will require at least 30 to 50 holes with a cumulative length of 15,000 m. Given the absence of any data from the previous metallurgical analyses, the drilling program will also help understand the potential variation in mineralogy and in grain size of the sulphide mineralization.

Prior to any exploration activities, it is recommended that MUSA and Marathon establish working relationships with the city council and/or the mayor and the local temporary residents.

1.8.2 Budget

In line with these recommendations, MUSA has proposed an exploration budget of Cdn\$4 million for the period April, 2013 to December, 2013. The breakdown is shown in Table 1.4. As noted above, Phase 2 of the exploration program will be contingent on the outcome of Phase 1.

The budget in Table 1.4 addresses only the direct costs of the exploration program and does not consider general and administrative costs for the company's offices in Toronto, Ontario, Canada, or Denver, Colorado, USA, licence fees and other mineral rights payments, costs for ongoing community and government relations, or project generation and evaluation activities outside of the project area.

**Table 1.4
Budget For Future Exploration Work (2013)**

Item	Units	Volume	Cost/Unit (Cdn\$)	Total (Cdn\$)
Phase 1				
Linecutting and ground geophysics (magnetics/VLF)	km	150	300	45,000
Soil sampling, stream sediment and geological mapping	days	100	500	50,000
Mobilization/demobilization (drilling)		1	8,000	8,000
Surface drilling (NQ)	m	7,500	200	1,500,000
Sample preparation and chemical analyses	sample	3,500	35	122,500
Core logging, data processing, geological interpretations	days	150	500	75,000
Core cutting and geological assistant	days	120	250	30,000
Transportation, food and accommodation	days	150	500	75,000
Contingency (10%)				190,000
Subtotal				2,095,500
Phase 2				
Surface drilling	m	7,500	200	1,500,000
Sample preparation and chemical analyses	sample	3,500	35	122,500
Mineralogical, petrographic and metallurgical studies	units	1	40,000	40,000
GIS, mine and surface surveys	units	1	10,000	10,000
Property payments (exploration permit)	units	1	400	400
Core logging, data processing, report preparation	days	150	500	75,000
Core cutting and geological assistant	days	120	250	30,000
Transportation, food and accommodation	days	150	500	75,000
Contingency (10%)			185,000	185,000
Subtotal				1,852,900
Total				4,000,000

Micon considers that the proposed budget is reasonable and recommends that MUSA proceed with the proposed work program.

2.0 INTRODUCTION AND TERMS OF REFERENCE

Micon International Limited (Micon) has been retained by Marathon Gold Corporation (Marathon) and its wholly-owned subsidiary, Marathon Gold Corp. USA (MUSA), to prepare a an independent Technical Report in accordance with National Instrument 43-101 (NI 43-101) on the Bonanza Mine property located in the Greenhorn mining district, Baker County, Oregon, United States.

The Bonanza Mine property hosts the Bonanza Mine, an historic former underground mine in Baker County, north eastern Oregon. The mine has produced approximately 99,937.4 oz of gold from 128,514 tons (short tons) of ore mined on a small scale from underground workings that was processed at its mill in the town of Geiser, Oregon. Underground workings were developed to a depth of 365.8 m (1,200 ft) in the late 1890s and early 1900s. Buffalo Mines, Tapin Copper Mines Limited (Tapin) and Gazelle Land and Timber LLC (Gazelle) conducted limited exploration in the early 1950s, the early 1970s and in 2011, respectively.

Marathon announced the acquisition of the property from Gazelle on 16 December, 2011 and then expanded the holding through staking. The company plans an exploration program on the property that will comprise data compilation, geochemical and geophysical surveys, prospecting, mapping, trenching and drilling, that will commence in late in 2012 or in 2013. The objective of this program is to outline the remaining gold bearing mineralization in the Bonanza Mine, identify additional mineralization and allow the preparation of a mineral resource estimate under the reporting requirements of NI 43-101.

It is anticipated by Marathon that mineral resources may be amenable to open pit mining, and/or to expansion of the historic small-scale underground mining operation.

2.1 TERMS OF REFERENCE

This report presents an independent property of merit Technical Report for the Bonanza Mine property, located in Baker County, Oregon. This report documents and summarizes the historic production and exploration, completed to date. The qualified person for the report is Tania Ilieva, P.Geo., Senior Geologist with Micon.

The qualified person is independent of Marathon, and MUSA under Section 1.5 of NI 43-101. The Report has been prepared in accordance with disclosure and reporting requirements set forth in NI 43-101, Companion Policy 43-101CP and Form 43-101F1.

Micon visited the Bonanza Mine property on July 25, 2012, when Tania Ilieva, P.Geo., examined local geology, and historic mine workings, collected GPS data of access roads and other infrastructure, and collected rock samples from historical waste and dump piles from across the property.

These site visits were conducted with Mr. Robert Corrigan, independent contractor working for MUSA who is familiar with the area and the location of the historical underground workings.

This report is intended to be used by Marathon subject to the terms and conditions of the agreement with Micon. That agreement permits Marathon to file this report as an NI 43-101 Technical Report with the Canadian Securities Administrators pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

2.2 SOURCES OF INFORMATION

The principal sources of information for this report are:

- Data and transcripts supplied by Marathon.
- Lands and Mineral Records-LR2000 database at the BLM (www.blm.gov/lr2000 and <http://www.blm.gov/or/landrecords/index.php>).
- Reports of the Oregon DGMI.
- USGS reports and production data.
- Observations made during the site visit by Micon, represented by Tania Ilieva.
- Review of various technical reports and maps produced by Marathon staff and/or consultants, and review of technical papers produced in various journals.
- Discussions with Marathon management and staff familiar with the property.
- Personal knowledge gold deposits in similar geological environments.

In the preparation of this report the author has used a variety of unpublished company data, as well as corporate news releases, geological reports, geological maps and mineral claim maps, sourced from Federal and State government agencies. The principal sources of technical information have been the reports by Faick (1958), McGinnis (1958) and Widman (1983). Valuable site-specific information was provided by Mr. Robert Corrigan.

Micon is pleased to acknowledge the helpful cooperation of the management of Marathon and MUSA who made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

It should be noted that historical documents use the term “ore” and “reserves”. Where appropriate, these are retained in this report in quotes. However, these terms should be understood within the historical context and do not denote economic mineralization or

mineral reserves as set out in NI 43-101 or the Definition Standards of the Canadian Institute of Mining, Metallurgy and Petroleum.

2.3 UNITS AND CURRENCY

In this report currency amounts are stated in Canadian dollars (Cdn\$) or US dollars (US\$). Quantities are generally stated in Système International d'Unités (SI) metric units, the standard Canadian and international practice, including metric tons (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area, grams (g) and grams per tonne (g/t) for precious metal grades. Precious metal grades may also be reported in parts per million (ppm) or parts per billion (ppb), and quantities may be reported in troy ounces (oz).

Historic data may be reported in Imperial units, including short tons (tons) for weight, feet (ft) for distance and ounces per short ton (oz/ton) for precious metal grades.

Units of measure and abbreviations used are provided in Table 2.1.

Table 2.1
List of Abbreviations

Term	Abbreviation
Acre(s)	ac
Atomic absorption spectrometry	AAS
Blue Mountains Province	BMP
United States Bureau of Land Management	BLM
Canadian dollar	Cdn\$
Canadian National Instrument 43-101	NI 43-101
Cubic metre(s)	m ³
Degree(s)	°
Degrees Celsius	°C
Degrees Fahrenheit	°F
Detection limit	DL
Fire assay	FA
Foot, feet	ft
Footwall	FW
Geographic information system	GIS
Global positioning system	GPS
Gram(s)	g
Grams per cubic centimetre	g/cm ³
Grams per litre	g/L
Grams per tonne	g/t
Grams per tonne of gold	g/t Au
Greater than	>
Gold	Au
Hanging wall	HW
Hectare(s)	ha
Inch(es)	in
Induced polarization	IP

Term	Abbreviation
Inductively coupled plasma atomic emission spectrometry	ICP-AES
Instrumental neutron activation analysis	INAA
Kilogram(s)	kg
Kilometre(s)	km
Less than	<
Loss on ignition	LOI
Metre(s)	m
Metres above sea level	masl
Millimetre(s)	mm
Millimetres per year	mm/y
Million	M
Million ounces	Moz
Million pounds	Mlb
Million tonnes	Mt
Million years old	Ma
Minute(s)	min
Net smelter return	NSR
Oregon Department of Geology and Mineral Industries	DGMI
Ounce(s) (troy ounce)	oz
Ounces per tonne	oz/t
Ounces per short ton	oz/ton, opt
Parts per billion	ppb
Parts per million	ppm
Pound(s)	lb
Quality assurance/quality control	QA/QC
Second	s
Short ton(s), 2,000 pounds	ton(s)
Square metre(s)	m ²
Square kilometre(s)	km ²
Three dimensional	3D
Tonne(s)	t
United States dollars	US\$
United States Environmental Protection Agency	EPA
United States Forest Service	USFS
United States geological Survey	USGS
Universal Transverse Mercator	UTM
Very Low Frequency (geophysical technique)	VLF
Weight	Wt.
Year	y

3.0 RELIANCE ON OTHER EXPERTS

Micon has not carried out any independent exploration work, drilled any holes or carried out any sampling and assaying on the property, other than taking 12 independent grab samples for analysis. While exercising all reasonable diligence in checking, confirming and testing it, the authors have relied upon Marathon/MUSA's presentation of data for the Bonanza Mine property and the findings of its contractors and consultants in formulating their opinion.

Micon has relied on Marathon's public statements regarding its acquisition of the property, the validity and currency of Marathon/MUSA's title to surface and/or mineral interests in the property. Micon has verified the land status of the mining claims on the BLM system, (see www.blm.gov/lr2000) but did not conduct any further checking of these aspects of the project and offers no opinion thereon.

MUSA owns patented claims with an area of 120.8 ha (300 ac) covering the Bonanza Mine and the company can proceed with the exploration. Micon notes that surface rights to unpatented lode mining claims in the property area may be held by multiple private interests and that Marathon/MUSA may need to establish access agreements to these lands, as necessary, to allow exploration activities to be carried out. Micon has not investigated the possibility of these access agreements for the purposes of this report, and offers no opinion in that regard.

The existing environmental conditions, liabilities and remediation have been described under the relevant section as per NI 43-101 requirements. However, the statements made are for information purposes only and Micon offers no opinion in this regard.

The general descriptions of geology and past exploration activities used in this report are taken from reports and maps, provided by Marathon/MUSA and its consultants, and from reports prepared by various reputable companies or their contracted consultants, as well as from various government and academic publications. Micon has relied on these data, supplemented by its own observations at site.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Bonanza Mine property is located in Baker and Grant counties, northeastern Oregon, and approximately 48 km (30 miles) west of the town of Baker, within the Greenhorn mining district, Blue Mountains Gold Belt. See Figure 4.1. The project site is centred around 44° 42' 30" N and 118° 24' 12" W, in high mountain terrain and the elevation varies from 1,500 to 2,000 masl. The mine was the largest historical producer of lode gold in the Greenhorn mining district.

Figure 4.1
General Location Map for the Bonanza Mine Property



Source: Marathon, www.marathon-gold.com, 2012.

4.1 PROPERTY DESCRIPTION

The Bonanza Mine property is located in Township 010S, Range 35E and 35 ½E, Baker County (Sections 3, 4, 9,10,11,16,15,14) and Grant County (Sections 1, 12, 13), Oregon, USA. The property comprises 14 patented lode claims totaling 120.83 ha (300 ac) on private land, designated for mining, one patented parcel and 132 unpatented claims covering 944.857 ha (2,335 ac). The total area of the property is approximately 1,066 ha (2,633 ac). Marathon/MUSA hold surface rights in the immediate area of the Bonanza Mine.

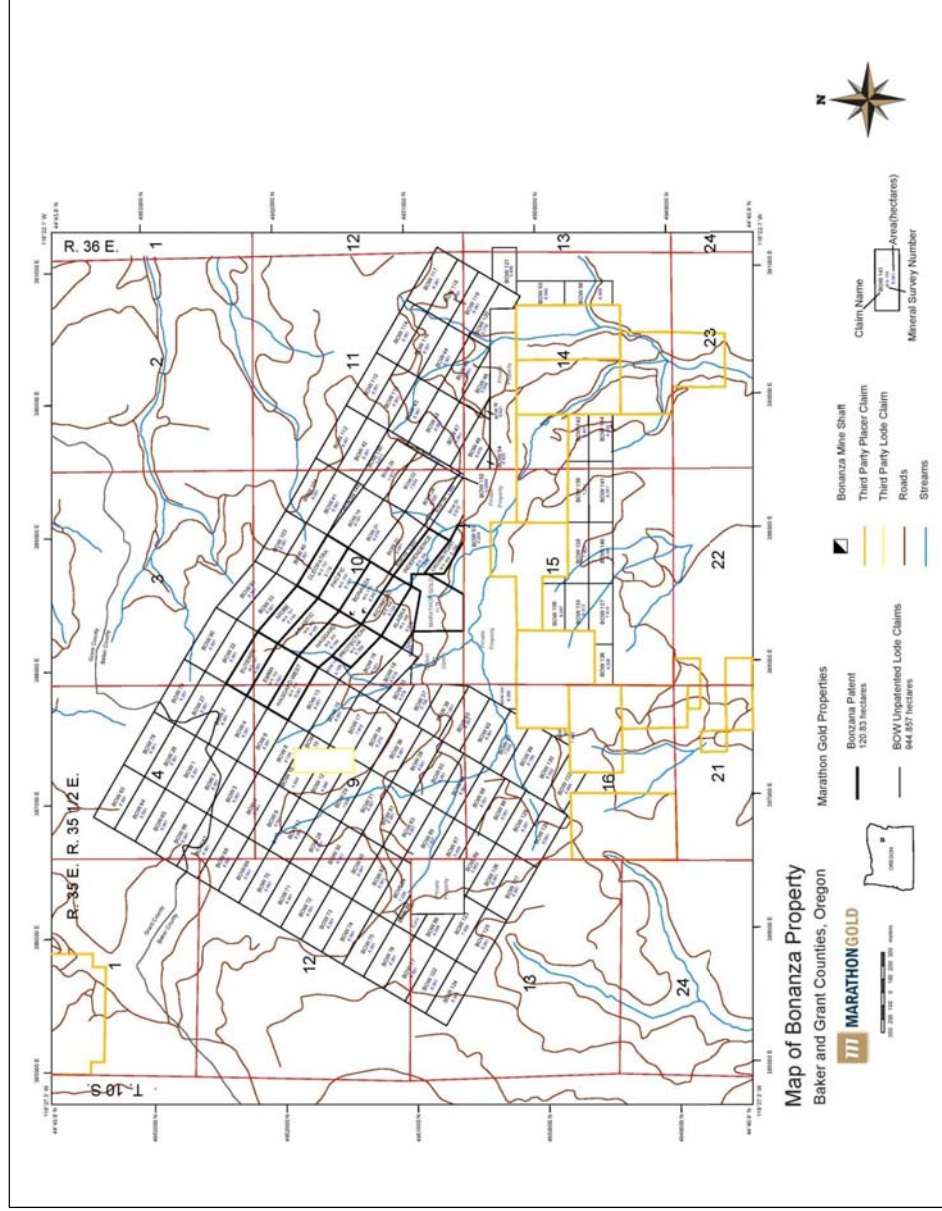
The location of the claims is shown on Figure 4.2 and the patented claims, areas, and date of initial staking are listed in Table 4.1. The unpatented lode claims are summarized in Table 4.2. Brief legal descriptions of the unpatented claims, extracted as a query from the BLM database, are provided in Appendix 1.

Table 4.1
List of the Patented Claims, Bonanza Property, Oregon, USA

Claim Name	BLM Survey No.	Type	County	Area (ac)	Area (ha)	Date Located
BONANZA	M.S. 332	patented lode claim	Baker	20.613	8.342	17-Feb-1898
PACIFIC	M.S. 332	patented lode claim	Baker	20.072	8.123	17-Feb-1898
HAGGARD	M.S. 332	patented lode claim	Baker	20.134	8.148	17-Feb-1898
ATLANTIC	M.S. 332	patented lode claim	Baker	20.134	8.148	17-Feb-1898
HAGGARD WEST	M.S. 332	patented lode claim	Baker	20.660	8.361	17-Feb-1898
EMMA	M.S. 332	patented lode claim	Baker	20.660	8.361	17-Feb-1898
ALASKA	M.S. 508	patented lode claim	Baker	17.228	6.972	13-Jul-1917
RICHMOND	M.S. 508	patented lode claim	Baker	20.109	8.138	13-Jul-1917
PROTECTION	M.S. 508	patented lode claim	Baker	14.302	5.788	13-Jul-1917
INDEPENDENCE	M.S. 508	patented lode claim	Baker	19.516	7.898	13-Jul-1917
CROWN POINT	M.S. 508	patented lode claim	Baker	15.123	6.120	13-Jul-1917
NIOBE	M.S. 727	patented lode claim	Baker	20.121	8.143	18-Sep-1911
CLEOPATRA	M.S. 727	patented lode claim	Baker	20.198	8.174	18-Sep-1911
EUTERPE	M.S. 727	patented lode claim	Baker	20.660	8.361	18-Sep-1911
MARATHON GOLD		patented parcel	Baker	29.034	11.75	

Source: BLM (www.blm.gov/lr2000), as of 31 July, 2012.

Figure 4.2
Claim Map for the Bonanza Mine Property



Source: Marathon, 2012.

Table 4.2
List of Unpatented Claims, Bonanza Mine Property

Claim Name	BLM Serial No.	Type	County	Area (ac)	Area (ha)	Date Located
BOW 1	ORMC168429	unpatented lode	Baker, Grant	20.660	8.361	22-Sep-11
BOW 2	ORMC168430	unpatented lode	Baker, Grant	20.660	8.361	22-Sep-11
BOW 3	ORMC168431	unpatented lode	Baker, Grant	20.660	8.361	22-Sep-11
BOW 4	ORMC168432	unpatented lode	Baker	20.660	8.361	22-Sep-11
BOW 5	ORMC168433	unpatented lode	Baker, Grant	20.660	8.361	22-Sep-11
BOW 6	ORMC168434	unpatented lode	Baker	20.660	8.361	22-Sep-11
BOW 7	ORMC168321	unpatented lode	Baker	20.660	8.361	22-Sep-11
BOW 8	ORMC168322	unpatented lode	Baker	20.250	8.195	22-Sep-11
BOW 9	ORMC168323	unpatented lode	Baker	20.660	8.361	22-Sep-11
BOW 10	ORMC168324	unpatented lode	Baker	11.920	4.824	22-Sep-11
BOW 11	ORMC168325	unpatented lode	Baker	20.660	8.361	22-Sep-11
BOW 12	ORMC168326	unpatented lode	Baker	12.320	4.986	22-Sep-11
BOW 13	ORMC168327	unpatented lode	Baker	20.660	8.361	21-Sep-11
BOW 14	ORMC168328	unpatented lode	Baker	5.426	2.196	21-Sep-11
BOW 15	ORMC168329	unpatented lode	Baker	20.660	8.361	21-Sep-11
BOW 16	ORMC168330	unpatented lode	Baker	20.660	8.361	21-Sep-11
BOW 17	ORMC168968	unpatented lode	Baker	19.459	7.875	11-Feb-12
BOW 18	ORMC168332	unpatented lode	Baker	16.106	6.518	25-Sep-11
BOW 19	ORMC168333	unpatented lode	Baker	20.240	8.191	24-Sep-11
BOW 20	ORMC168334	unpatented lode	Baker	19.711	7.977	24-Sep-11
BOW 21	ORMC168335	unpatented lode	Baker	20.302	8.216	24-Sep-11
BOW 22	ORMC168336	unpatented lode	Baker	19.358	7.834	24-Sep-11
BOW 23	ORMC168337	unpatented lode	Baker	19.869	8.041	24-Sep-11
BOW 24	ORMC168338	unpatented lode	Baker	19.817	8.02	24-Sep-11
BOW 25	ORMC168339	unpatented lode	Baker	14.510	5.872	24-Sep-11
BOW 26	ORMC168674	unpatented lode	Grant	20.660	8.361	16-Dec-11
BOW 27	ORMC168675	unpatented lode	Baker, Grant	20.660	8.361	16-Dec-11
BOW 28	ORMC168676	unpatented lode	Baker	20.660	8.361	15-Dec-11
BOW 29	ORMC168677	unpatented lode	Baker	18.918	7.656	15-Dec-11
BOW 30	ORMC168678	unpatented lode	Baker	20.660	8.361	15-Dec-11
BOW 31	ORMC168679	unpatented lode	Baker	20.660	8.361	15-Dec-11
BOW 32	ORMC168680	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 33	ORMC168681	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 34	ORMC168682	unpatented lode	Baker	20.440	8.272	15-Dec-11
BOW 35	ORMC168683	unpatented lode	Baker	10.818	4.378	15-Dec-11
BOW 36	ORMC168684	unpatented lode	Baker	20.660	8.361	15-Dec-11
BOW 37	ORMC168685	unpatented lode	Baker	14.174	5.736	15-Dec-11
BOW 38	ORMC168686	unpatented lode	Baker	20.660	8.361	15-Dec-11
BOW 39	ORMC168687	unpatented lode	Baker	18.634	7.541	15-Dec-11
BOW 40	ORMC168688	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 41	ORMC168689	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 42	ORMC168690	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 43	ORMC168691	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 44	ORMC168692	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 45	ORMC168693	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 46	ORMC168694	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 47	ORMC168695	unpatented lode	Baker	20.660	8.361	16-Dec-11
BOW 48	ORMC168696	unpatented lode	Baker	13.712	5.549	16-Dec-11
BOW 49	ORMC168697	unpatented lode	Baker	17.238	6.976	16-Dec-11
BOW 50	ORMC168698	unpatented lode	Baker	1.534	0.621	16-Dec-11
BOW 51	ORMC168699	unpatented lode	Baker	1.712	0.693	15-Dec-11
BOW 53	ORMC168700	unpatented lode	Baker	0.504	0.204	10-Jan-12

Claim Name	BLM Serial No.	Type	County	Area (ac)	Area (ha)	Date Located
BOW 54	ORMC168701	unpatented lode	Baker	2.273	0.92	16-Dec-11
BOW 55	ORMC169160	unpatented lode	Baker	16.232	6.569	11-May-12
BOW 56	ORMC169161	unpatented lode	Baker	16.160	6.54	11-May-12
BOW 57	ORMC169162	unpatented lode	Baker	3.571	1.445	11-May-12
BOW 63	ORMC168710	unpatented lode	Grant	20.660	8.361	21-Dec-11
BOW 64	ORMC168711	unpatented lode	Grant	20.660	8.361	21-Dec-11
BOW 65	ORMC168712	unpatented lode	Grant	20.660	8.361	21-Dec-11
BOW 66	ORMC168713	unpatented lode	Baker, Grant	20.660	8.361	21-Dec-11
BOW 67	ORMC168714	unpatented lode	Baker, Grant	20.660	8.361	21-Dec-11
BOW 68	ORMC168715	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 69	ORMC168716	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 70	ORMC168717	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 71	ORMC168718	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 72	ORMC168719	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 73	ORMC168720	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 74	ORMC168721	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 75	ORMC168722	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 76	ORMC168723	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 77	ORMC168724	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 78	ORMC168725	unpatented lode	Grant	20.660	8.361	21-Dec-11
BOW 79	ORMC168726	unpatented lode	Baker, Grant	20.660	8.361	21-Dec-11
BOW 80	ORMC168727	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 81	ORMC168728	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 82	ORMC168729	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 83	ORMC168730	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 84	ORMC168731	unpatented lode	Baker	17.930	7.256	20-Dec-11
BOW 85	ORMC168732	unpatented lode	Baker	18.550	7.507	19-Dec-11
BOW 86	ORMC168733	unpatented lode	Baker	7.939	3.213	20-Dec-11
BOW 87	ORMC168734	unpatented lode	Baker	13.489	5.459	19-Dec-11
BOW 88	ORMC168735	unpatented lode	Baker	11.139	4.508	20-Dec-11
BOW 89	ORMC168736	unpatented lode	Baker	14.784	5.983	19-Dec-11
BOW 90	ORMC168737	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 91	ORMC168738	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 92	ORMC168739	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 93	ORMC168740	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 94	ORMC168741	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 95	ORMC168742	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 96	ORMC168743	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 97	ORMC168744	unpatented lode	Baker	18.864	7.634	19-Dec-11
BOW 98	ORMC168745	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 99	ORMC168746	unpatented lode	Baker	20.228	8.186	19-Dec-11
BOW 100	ORMC168747	unpatented lode	Baker	10.531	4.262	19-Dec-11
BOW 103	ORMC168750	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 104	ORMC168751	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 108	ORMC168755	unpatented lode	Baker	15.066	6.097	22-Dec-11
BOW 112	ORMC168759	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 113	ORMC168760	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 114	ORMC168761	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 115	ORMC168762	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 116	ORMC168763	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 117	ORMC168764	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 118	ORMC168765	unpatented lode	Baker	20.660	8.361	21-Dec-11
BOW 119	ORMC168766	unpatented lode	Baker	20.660	8.361	22-Dec-11
BOW 120	ORMC168767	unpatented lode	Baker	14.272	5.776	22-Dec-11
BOW 121	ORMC168768	unpatented lode	Baker	13.343	5.400	21-Dec-11
BOW 122	ORMC168769	unpatented lode	Baker	20.660	8.361	20-Dec-11

Claim Name	BLM Serial No.	Type	County	Area (ac)	Area (ha)	Date Located
BOW 123	ORMC168770	unpatented lode	Baker	19.659	7.956	20-Dec-11
BOW 124	ORMC168771	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 125	ORMC168772	unpatented lode	Baker	20.660	8.361	20-Dec-11
BOW 126	ORMC168773	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 127	ORMC168774	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 128	ORMC168775	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 129	ORMC168776	unpatented lode	Baker	20.660	8.361	19-Dec-11
BOW 130	ORMC168777	unpatented lode	Baker	20.514	8.302	19-Dec-11
BOW 132	ORMC168779	unpatented lode	Baker	14.821	5.998	19-Dec-11
BOW 135	ORMC168782	unpatented lode	Baker	16.094	6.513	22-Dec-11
BOW 136	ORMC169163	unpatented lode	Baker	10.447	4.228	11-May-12
BOW 137	ORMC168784	unpatented lode	Baker	19.558	7.915	22-Dec-11
BOW 138	ORMC168785	unpatented lode	Baker	18.342	7.423	22-Dec-11
BOW 139	ORMC168786	unpatented lode	Baker	17.967	7.271	18-Dec-11
BOW 140	ORMC168787	unpatented lode	Baker	20.660	8.361	22-Dec-11
BOW 141	ORMC168788	unpatented lode	Baker	20.660	8.361	18-Dec-11
BOW 142	ORMC168789	unpatented lode	Baker	13.469	5.451	18-Dec-11
BOW 144	ORMC168791	unpatented lode	Baker	15.911	6.439	18-Dec-11
BOW 149	ORMC168969	unpatented lode	Baker	3.316	1.342	08-Feb-12
BOW 150	ORMC168970	unpatented lode	Baker	9.664	3.911	08-Feb-12
BOW 151	ORMC168971	unpatented lode	Baker	3.086	1.249	08-Feb-12
BOW 152	ORMC168972	unpatented lode	Baker	0.001	0.0004	08-Feb-12
BOW 153	ORMC168973	unpatented lode	Baker	4.801	1.943	08-Feb-12
BOW 154	ORMC168974	unpatented lode	Baker	4.925	1.993	08-Feb-12

Source: BLM (www.blm.gov/lr2000), as of 31 July, 2012.

The mine has over 18,000 m of underground workings. The patented claims that cover the historical mine workings have mineral rights and surface rights enabling the company to explore on the mine property.

Marathon purchased the Bonanza Mine property for US\$125,000 and 300,000 shares from Gazelle. Gazelle retains a 2% NSR on the property, which includes a right to buy back 1% of the NSR for US\$1,000,000 at the election of Marathon. The sellers have a 20-year right to the timber on the patented parcel.

MUSA has to pay US\$140.00 per claim as annual maintenance fee for all unpatented claims before or on 1 September. The fees for 2013 are fully paid.

4.2 PERMITTING

In order to carry out the recommended exploration program, an exploration permit will be required from the Oregon DGMI. Permits must be obtained prior to exploration operations disturbing more than one surface acre or if drilling to depth greater than 15.24 m (50 ft) is involved. The duration of the permit is 1 year and the application fee is US\$400. The permit must be renewed annually until reclamation has been completed or until an operating permit is obtained. The annual renewal fee is US\$300. The fees for 2013 have already been paid by MUSA. For the patented claims, the company owns the mineral and surface rights, as well as the timber rights, and an exploration permit can be easily obtained by following the

application procedure, filing the required notice and paying the applicable fees, before the beginning of the exploration program.

In addition to an exploration permit, the United States Forest Service (USFS) requires a notice of intent or plan of operations and a bond to cover the cost of reclamation.

The USFS reclaimed the area following historic activities.

If the properties are advanced to a stage, where mining is being considered, then additional permitting will be required from federal, state and local agencies. If the Bonanza Mine property is estimated to contain economically viable mineral deposits, the company is required to conduct environmental studies and obtain an environmental permit from the United States Environmental Protection Agency (EPA).

The area does not have any permanent residents, but several cabins and trailers are located close to the property. Greenhorn is registered as a town and it has a city council, most of whom live in the Portland area and own recreation property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Bonanza Mine project site is located in Baker and Grant Counties, 48 km (30 miles) west of the town of Baker City, just north of Highway 7 (Whitney Tipton Highway). The property is accessible through Greenhorn Forest Service Road (Rd 1042) and Geiser Creek Road from which it is accessed by logging roads and trails. National Forest Development Road 7 connects Interstate Highway 84 (I-84) near the town of Baker City, Oregon.

5.1 CLIMATE

Baker County lies in northeast Oregon near the Idaho border. It is wholly within Climate Division 8 (Northeast Oregon) established by the National Climatic Data Center. The winter is cold with snow fall from October to May. The summer is hot and dry. The average annual temperature recorded at Greenhorn is approximately 8°C (46°F) and ranges between -11°C (11°F) in winter and 28.4°C (83°F) in summer.

Annual precipitation is approximately 54 cm (21 in), falling mainly in winter. Annual snowfall is approximately 175 cm (69 in) and may occur in spring and fall as well as in winter. (See www.ocs.oregonstate.edu).

Exploration and mining operations may be conducted year-round.

5.2 LOCAL RESOURCES

Greenhorn is now a ghost town. The area was mainly known for its underground mining and was abandoned with the closing of the mines in the late 1930s. Adjacent to the project area are located several private properties with summer cottages and trailers, gravel roads and primitive water supply systems. Cell phone coverage is available.

Currently, the Greenhorn mining district has no operating mines and the main economic activities are agriculture, stock raising, logging and tourism. The region has a rich tradition of alluvial mining for gold and skilled exploration and mining personnel can be hired from the adjacent mining areas in Oregon and Idaho.

5.3 INFRASTRUCTURE

The Bonanza Mine property is located close to Highway 7, which is connected to the Interstate Highway 84 (I-84). The property is approximately 20 km (12.5 miles) west of the town of Sumpter and 48 km (30 miles) west of the town of Baker City.

Supplies and services are available in Sumpter and Baker City. Sumpter is the closest town to the project site. It has approximately 200 year-round residents, several lodges and cabins, a library and museum, local restaurants and a gas station. The town is a popular tourist destination during the summer. Baker City is the administrative center of the Baker County.

It is connected to Portland, Oregon and Boise Idaho by Interstate Highway 84. Baker City has an estimated population of approximately 10,000 people and has all modern facilities to support exploration and mining operations.

Air service is available from the Baker City airport to Boise International Airport, Idaho, approximately 190 km east of Baker City.

5.4 PHYSIOGRAPHY

The topography of the area surrounding the Bonanza Mine property is rugged with the surrounding ridge-tops and nearby peaks reaching elevations of 1,600 m to 2,000 m. The V-shaped valleys are deeply carved.

The Greenhorn Mountains are a small and topographically subdued range which is a subdivision of the better-known Blue Mountains geomorphic province. The Greenhorns comprise a little less than 390 km² (150 square miles) in Grant, Baker, and Umatilla counties and are bordered on the north by the North Fork of the John Day River and on the south by the Middle Fork of the John Day River.

Flora and fauna of the Greenhorn Mountains are characteristic of alpine to sub-alpine topography with moderate precipitation, rigorous winters, and warm, dry summers. Vegetation varies with elevation, exposure and outcrop. Lodgepole pine, white fir, mixed spruce, fir and tamarack are predominant, but the relatively dry, south-facing slopes in the area are covered with sagebrush, buckwheat and arrowleaf. Fauna common to the Greenhorn Mountains include elk, deer, black bear, coyote, badger and numerous species of birds, including goshawk, great horned owl, long-eared owl and ruffed grouse, particularly in recently-logged clearings.

6.0 HISTORY

The potential for mining gold-bearing quartz veins in the region was recognized as far back as the 1800s and several mines were developed on both sides of Greenhorn Creek, Slab Creek, Snow Creek and Geiser Creek. Early gold mines developed near the Bonanza Mine and within the property boundaries are the Sarah Belle, Keystone, White Elephant, Richmond and Blackbird Mines. There are several exploration shafts without official names.

The following description of the history of activities on the property has been compiled from a number of documents collected by MUSA, and Micon including internal reports, data from production reports from the Oregon DGMI and USGS reports.

6.1 HISTORIC EXPLORATION/EARLY MINING

Placer gold was discovered in the streams near Stumper and Baker in the 1850s and led to a gold rush in northeastern Oregon and the establishment of the Greenhorn mining district. The gold-bearing veins on the property were discovered by Jack Haggard in 1877. All previous exploration and the first gold recovered from the Bonanza quartz veins were recorded in 1877 (see Table 6.2). The Consolidated Bonanza Gold Mines Company (Bonanza Gold Mines) was incorporated in 1879 and Haggard sold the Bonanza mine to Bonanza Gold Mines Company for US\$350. Bonanza Gold Mines explored the property with trenches and shafts, discovered two additional gold bearing veins and, in 1886, sold the company to Portland Capital Co. The new owner mined the Bonanza vein for three years, but exploration and development was then halted for two years.

The Geiser brothers bought Bonanza Gold Mines in 1891 and continued to explore and develop the mine, mainly with underground workings. In 1897 they patented the first six claims, Bonanza, Pacific, Haggard, Haggard West, Atlantic and Emma. The Bonanza lode claim was one of the six claims making up the Bonanza Mine property and was the first lode claim in the district.

In 1898, the fully licensed mine was sold to Pittsburg Company which operated it from 1899 to 1904. The company expanded the underground development and developed two tunnels (1,120-ft level and 250-ft level) and three shafts (Shaft 1, Shaft 2 and Shaft 3 or Main Plant shaft). After the death of the mine superintendent, Pittsburg Company put the mine on care and maintenance. Over the next 20 years until 1925, a watchman operated a 5-stamp mill at the portal of the 500- ft level adit. He mined the high grade material accessible in the upper workings, but his production is unknown. He also discovered some quartz veins north of the Bonanza vein and patented the Euterpe, Niobe and Cleopatra claims north of the existing property in 1911. Later he patented an additional five claims south of the property in 1917 but there are no data about the exploration activities on the property.

McGinnis and Rogers bought the 14 patented claims, consolidated as the Bonanza property, in 1939 and planned to re-open the mine. The exploration program started in 1941. Jim Jackson, a local miner and prospector started sampling the mine prior to World War II.

Jackson and McGinnis sampled the underground workings and the Bonanza vein above the 500-ft level and compiled some of the existing data. Approximately 700 channel and grab samples were cut and assayed, of which the results of about 200 samples were used to evaluate the remaining “ore reserves”. Based on these data, McGinnis estimated about 19,000 tons of “ore” valued at nearly US\$14.00/ton (equals to 0.4 oz/t or 12.44 g/t) was located in the accessible areas above the 500-ft level. This “reserve” is historical and not compliant with the reporting requirements of NI 43-101, and should not be relied upon.

The exploration was carried only in the tunnels and around the old stopes that were accessible at the time. This amounted to approximately one-eighth of the mine. The exploration program was halted by the US government at the beginning of the war in 1942. The sample program seems to have been only around old stopes and probably is not indicative of all the mineralization remaining in the mine.

The property was dormant until 1974 when Tapin Copper Mines (Tapin) acquired an option to earn a 70% interest in the Bonanza Mine property, including the 14 patented claims. The company compiled all available data and conducted prospecting and ground geophysics. Based on the results from the VLF-EM survey, several anomalies were outlined. Four diamond drill holes were drilled on the property in the Bonanza Mine area but results for only two holes were reported. The holes were approximately 300 ft (100 m) apart. The drill core samples are reported to have returned 71 ft (21.64 m) of 1.94 oz/ton gold (60.34 g/t) and 31 ft (9.45 m) of 3.16 oz/ton gold (98.29 g/t). Drill core and sludges were assayed for gold and silver. However, in December, 1974, the company was accused of salting the core samples in order to increase the value of the company shares. Trading in Tapin’s shares was suspended and the company declared bankruptcy. The four holes are the only known holes drilled on the Bonanza Mine property. Micon does not consider the reported assay results to be reliable.

In 2009, the property was acquired by Gazelle which was mainly interested in the timber production but Mr. Robert Corrigan was contracted to conduct bulk sampling of the old waste dumps of the Bonanza Mine. Sixteen samples from two locations from the waste dump were taken and processed. The weight of the bulk samples was from 19.8 kg (43.75 lb) to 69.4 (153.00 lb). All the samples returned free gold.

The Mineral Information Layer for Oregon-Release 2 (MILO-Release 2) is a geospatial database that stores and manages geological information regarding mineral occurrences, prospects, and mines in the state. Within the Bonanza Mine property are seven known historical gold mines and prospects. The locations of the mineral occurrences, shafts and mines are shown on Figure 7.3. The numbers of the prospect in brackets corresponds to the numbers on the regional geological map (see Figure 7.3) and on the geological map of the property (see Figure 7.5).

The preferred exploration method was underground development and channel sampling. The list of the mineral occurrences and mines on the property is summarized in Table 6.1.

**Table 6.1
Known Mineral Occurrences and Historical Exploration Work Conducted on the Bonanza Mine
Property**

Name	Number on Map	Geological Setting	Exploration	Production
Blackbird?	No. 66	Quartz veins in argillite along the contact with serpentinite	One adit approximately 400 ft long	Production unknown
White Elephant	No. 67	Composite quartz vein up to 4 ft wide in argillite along the contact with serpentine	One short adit	production is unknown
Richmond Mine	No. 68	Narrow quartz veins and limonitic shear zones in chert and argillite	About 300 ft shaft and 3 small adits	unknown
Bonanza Mine	No. 69	Quartz veins in argillite	Underground shafts and adits, channel sampling	99,937 oz
Keystone Belle Mine	No. 70	Quartz stringers in carbonaceous argillite	One adit totalling 200 ft	no recorded production
Belle Sarah	No. 71	In chert and argillite	one short adit	no production
Crow Point Mine	No. 72	In chert and argillite	one short adit	no recorded production
Name unknown	No. 73	Opalline quartz in a shear zone about 2 ft wide in Tertiary volcanics. Vein strikes N 40° E	Several shallow exploration pits	no production

Source: Oregon DGMI, 1983.

No recent exploration has been carried out on any of the known occurrences and the data from the historical exploration and underground mining operations are very limited. Diamond drilling for mineral exploration was not common in the late 1890s and early 1900s and all the exploration was done underground by driving cross cuts and drifting along the veins.

6.2 HISTORIC MINING

Brooks and Ramp (1968) reported that the Bonanza mine was the largest lode producer in the Greenhorn mining district in the late 1800s and early 1900s, produced approximately 99,937 oz of gold from narrow, high grade underground veins.

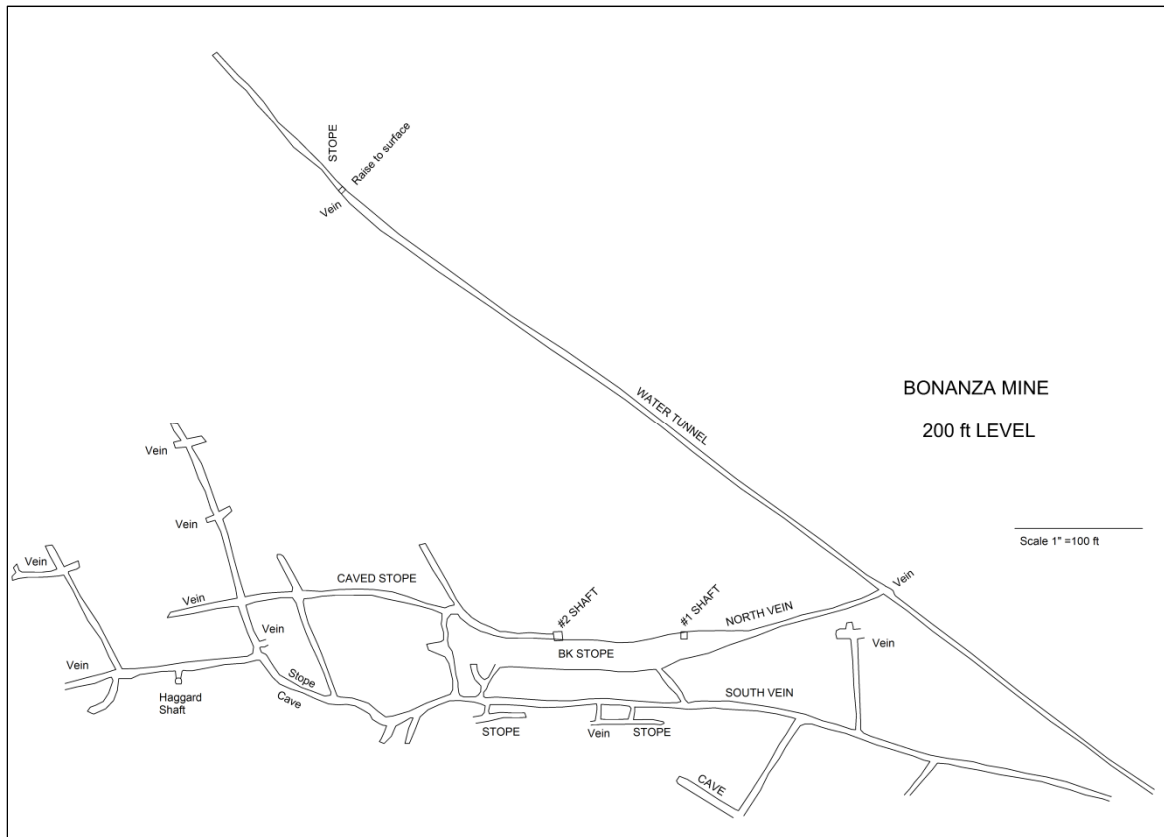
Lindgren (1933) reported that gold mining in the Greenhorn mining district started in 1877 and actively operated from 1889 to 1907 (see Figure 6.4). Mining of lode or quartz vein gold was most active between 1892 and 1904, but it had essentially ceased by 1904. The placer mining also was abandoned by that time.

The Geiser brothers and Pittsburg Company developed three nearly parallel ore zones and exposed several cross veins. From southwest to northeast these veins are designated as follow:

1. Bonanza vein.
2. South vein.
3. North vein.

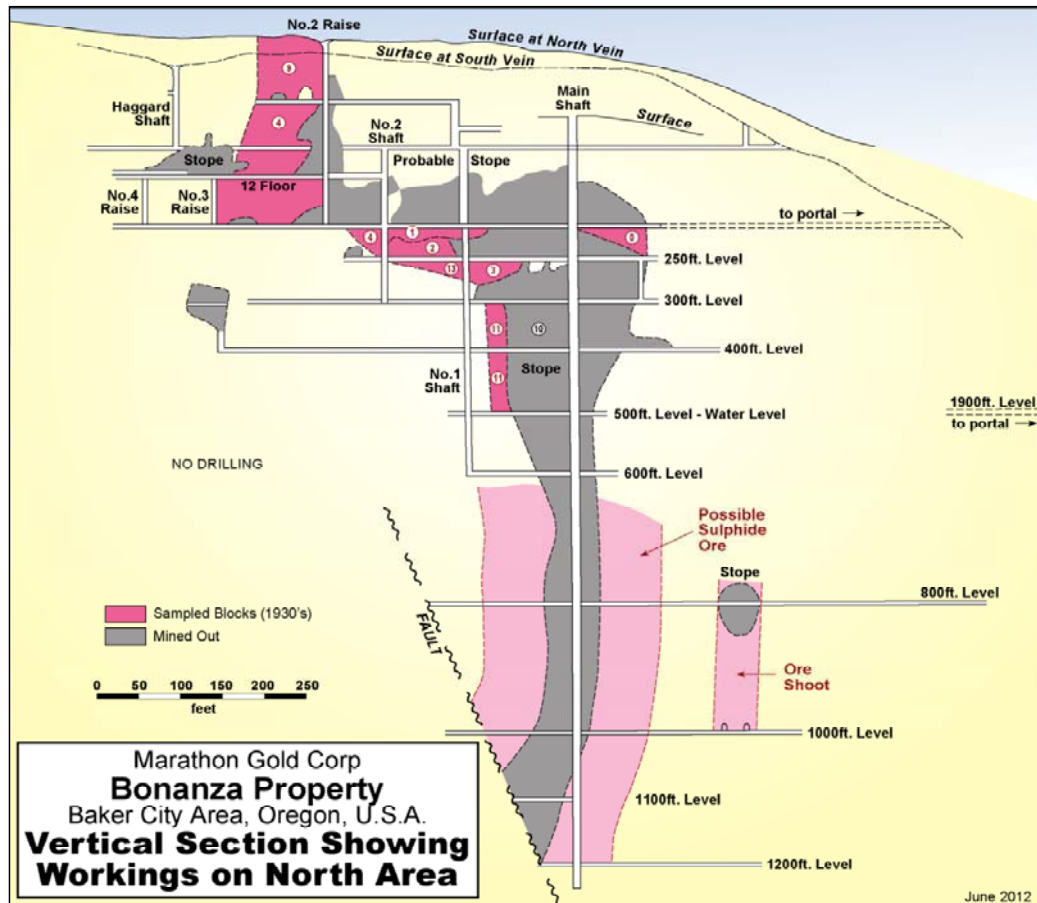
These veins are developed by three vertical shafts and two adits: No. 1 Shaft extends to the 600-ft level, No. 2 Shaft to the 300-ft level, and the No. 3 (Main shaft). Shaft No. 3 is 1,250 ft (381 m) deep with connections on the 600-ft, 800-ft, 1,000-ft and 1,200-ft levels. At the 500-ft level the underground workings are 1,700 ft (518.16 m) long. The Main shaft is not shown on the 200-ft level plan. The adit on the 200-ft level was used for dewatering and the adit on the 500-ft level was for production. Drifts were driven on or near the veins at 100-ft intervals to the 600-ft level. Below that, drifts were driven at 200-ft intervals (see Figure 6.1 and Figure 6.2).

Figure 6.1
Plan of the Underground Workings on the 200-ft Level, Bonanza Mine, Oregon



Source: Faick (1958), provided by Marathon.

Figure 6.2
Longitudinal Section Showing Underground Workings and the Sampled Blocks on the North Vein,
Bonanza Mine Property



Source: Marathon.

McGinnis, who mapped some of the underground workings in 1940s, reported that the levels below the 500-ft level were allowed to flood after 1904 (McGinnis, 1958). Some of the tunnels and shafts subsequently caved, including the upper part of the Main Shaft (see Figure 6.3).

According to McGinnis (1958) and Faick (1958) the approximate total underground development is 23,876 ft or about 7,277 m (4.5 miles). In addition, more development was recorded on the 800-ft, 1,000-ft and 1,200-ft levels.

The mine was developed mainly on the Bonanza vein, accessed from the Main Shaft. Previous owners report that the Bonanza mine was one of the largest historic producers of lode gold with the most continuous mineralized zones in the Greenhorn mining district. Production was estimated at approximately 99,937 oz, mostly from shallow underground mining of the high grade veins in the beginning of the last century. Recorded production is shown in Table 6.2.

Figure 6.3
Caved-in Main Shaft, Bonanza Mine Property



Picture taken during Micon's site visit, July, 2012.

Table 6.2
Gold Production Reported by the Oregon DGMI

Year	Tons of Mill Grade Material ¹	Grade (oz/ton Au)	Recovered Gold ¹ (oz)	Gold price (US\$/oz)	Smelter return (US\$) ¹
1877	5	2.00	10.00	21.25	213
1878	5	2.00	10.00	20.69	207
1879	250	2.10	525.00	20.67	10,852
1880-1885	3,000	2.10	6,300.00	20.67	130,224
1886	1,500	1.50	2,250.00	20.67	46,508
1887	2,700	1.50	4,050.00	20.67	83,714
1888	2,500	1.50	3,750.00	20.67	77,513
1889-1890	0	0.00	0.00	20.67	0
1891	1,000	0.90	900.00	20.67	18,603
1892	3,200	0.90	2,880.00	20.67	59,530
1893	4,500	0.90	4,050.00	20.67	83,714
1894	6,500	0.90	5,850.00	20.67	120,920
1895	7,500	0.90	6,750.00	20.67	139,523
1896	8,000	0.90	7,200.00	20.67	148,824

Year	Tons of Mill Grade Material ¹	Grade (oz/ton Au)	Recovered Gold ¹ (oz)	Gold price (US\$/oz)	Smelter return (US\$) ¹
1897	9,000	0.90	8,100.00	20.67	167,427
1898	4,500	0.60	2,700.00	20.67	55,809
1899	11,806	0.60	7,083.60	20.67	146,418
1900	14,188	0.60	8,512.80	20.67	175,960
1901	22,541	0.60	13,524.60	20.67	279,553
1902	5,300	0.60	3,180.00	20.67	65,731
1903	16,300	0.60	9,780.00	20.67	202,153
1904	4,219	0.60	2,531.40	20.67	52,324
Total	128,514	Ave. 1.2036	99,937.40		2,065,712

¹ As reported by the owners at the time.
Source: Data provided by Marathon.

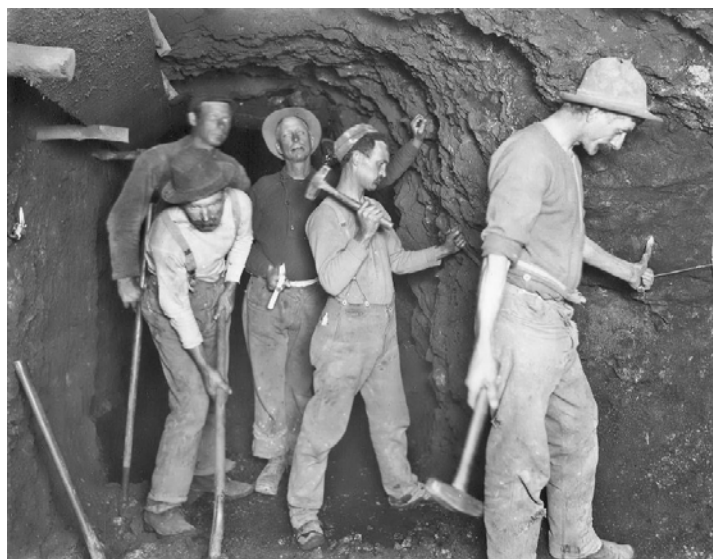
The best production was between 1899 and 1904, as shown in Table 6.3 from records held at the Oregon DGMI.

Table 6.3
Production Results From the Bonanza Mine, Baker County

Year	“Ore” (tons)	Revenue (US\$)
1899	not published	146,419.47
1900	not published	175,953.45
1901	14,885	279,556.42
1902	5,371	84,003.08
1903	11,495	202,375.85
1904	3,887	52,315.81

Source: Brooks and Ramp, 1968. The published table is incomplete.

Figure 6.4
Underground Mining and Exploration in the Bonanza Mine, Baker County, ca. 1904



Source: Picture provided by Marathon.

The main prospecting and exploration/early exploitation was done on the other gold “mines” and prospects using trenches and shafts during the initial development in the mine in the late 1800s and early 1900s.

6.3 HISTORIC MINERAL RESOURCES AND MINERAL RESERVES

All previous exploration results used for resource estimation were obtained from trenches and exploration pits or underground by driving cross cuts and drifting along the veins by hand methods. “Reserve” estimation at the Bonanza Mine was carried out by three different authors, McGinnis, Jackson and Faick.

McGinnis was a mining engineer who opened some of the old workings in and around 1941. He started a sampling program and estimated 19,688 tons of “proven and probable” ore until the Second War curtailed his activities. He acquired the property in 1941, presumably because of the work he had done. He did not estimate the total amount of mineralization that was remaining in and around the old workings.

In 1958, the American Exploration & Mining Co. engaged Faick to visit and evaluate the Bonanza Mine. He prepared a report and estimated that there were about 150,000 tons of 0.429 oz/ton gold (13.34 g/t) grade material left in and around the old workings.

In late 1950s, Jackson, a mining engineer who was in charge of the Buffalo Mine in the same area, conducted a sampling program and evaluated some of the remaining mineralized material in the mine. He calculated a total of 200,000 tons of 0.571 oz/ton gold (17.76 g/t Au) material, but there are no records to support the estimate. His estimate was included in the report by Faick.

This section of the report presents the historical mineral resource estimate for the Bonanza Mine property, completed by McGinnis (1958), based only on data from old reports and 200 channel samples. Total of 700 samples were taken from the old underground workings on levels 100 ft, 200 ft, 250 ft, 300 ft and 400 ft. 200 samples were included in the “reserve” estimate. All the measurements were provided in feet (ft) and oz/ton. The price of gold was government-regulated from 1934 to 1966 and was US\$35/oz in 1958.

Usually, in the case with old mines, it is impossible to make satisfactory calculations of the “resource”, “reserve” or grade of the “remaining ore” in the mine. The historical data are summarized in Table 6.4.

McGinnis (1958) estimated that he and Jackson sampled one-eighth of the mine. Faick (1958) assumed that the sulphide mineralization exists on both sides of the deep stope between 400 ft-level and 1,200 ft-level (see Figure 6.2). He estimated an additional 150,000 tons of “ore”, valued at US\$15/ton, which equates to 0.43 oz/ton gold (13.33 g/t Au) remaining in the Bonanza mine. There are no data in the report to support the estimate.

Table 6.4
Summary of the “Measured Resources ” of the Remaining “Ore” in the Bonanza Mine as Determined by McGinnis

Block	Location	Length (ft)	Height (ft)	Width (ft)	Tons	Gold Grade (oz/ton Au)	Gold Grade (g/t Au)	Value (US\$/ton)	Total Value (US\$)
1	North vein, pillar below 200 level	130	18	13.3	2,400	0.349	10.87	12.23	39,352.00
2 ¹	North vein, below block 1			13.3	3,000	0.277	8.62	9.7	29,100.00
3	North vein, pillars below 250 level	145	18	2.5	500	1.499	46.64	52.48	26,250.00
4	North vein, 100 ft below surface	125	109	3.3	3,214	0.289	8.98	10.1	32,750.00
5	Cross vein, 400-ft level			2.2	70	2.143	66.65	75	5,250.00
6	South vein, below 120-ft level	35	35	1.2	80	0.937	29.15	32.8	2,566.00
7	North vein, between 200 and 250 level	60	45	20	2,000	0.352	10.95	12.32	24,460.00
8	North vein, between 200 and 250 level		50	4	760	2.083	64.78	72.9	55,400.00
9	North vein, surface down to 100 ft	100	98	3	2,192	0.291	9.06	10.19	22,336.00
10 ²	North vein, fill between 300 and 500 levels				3,200	0.149	4.65	5.23	16,736.00
11	North vein, between 300 and 500 levels	25	170	3.2	1,042	0.347	10.79	12.14	12,650.00
12	South vein, above and below 300 ft	60	40	2.3	430	0.293	9.11	10.25	4,407.00
13	North vein, 250 level below block 1 and 2	60	25	7	800	0.349	10.87	12.23	9,784.00
Total					19,688				

¹ Broken “ore”.

² Stope fill.

Data provided by Marathon.

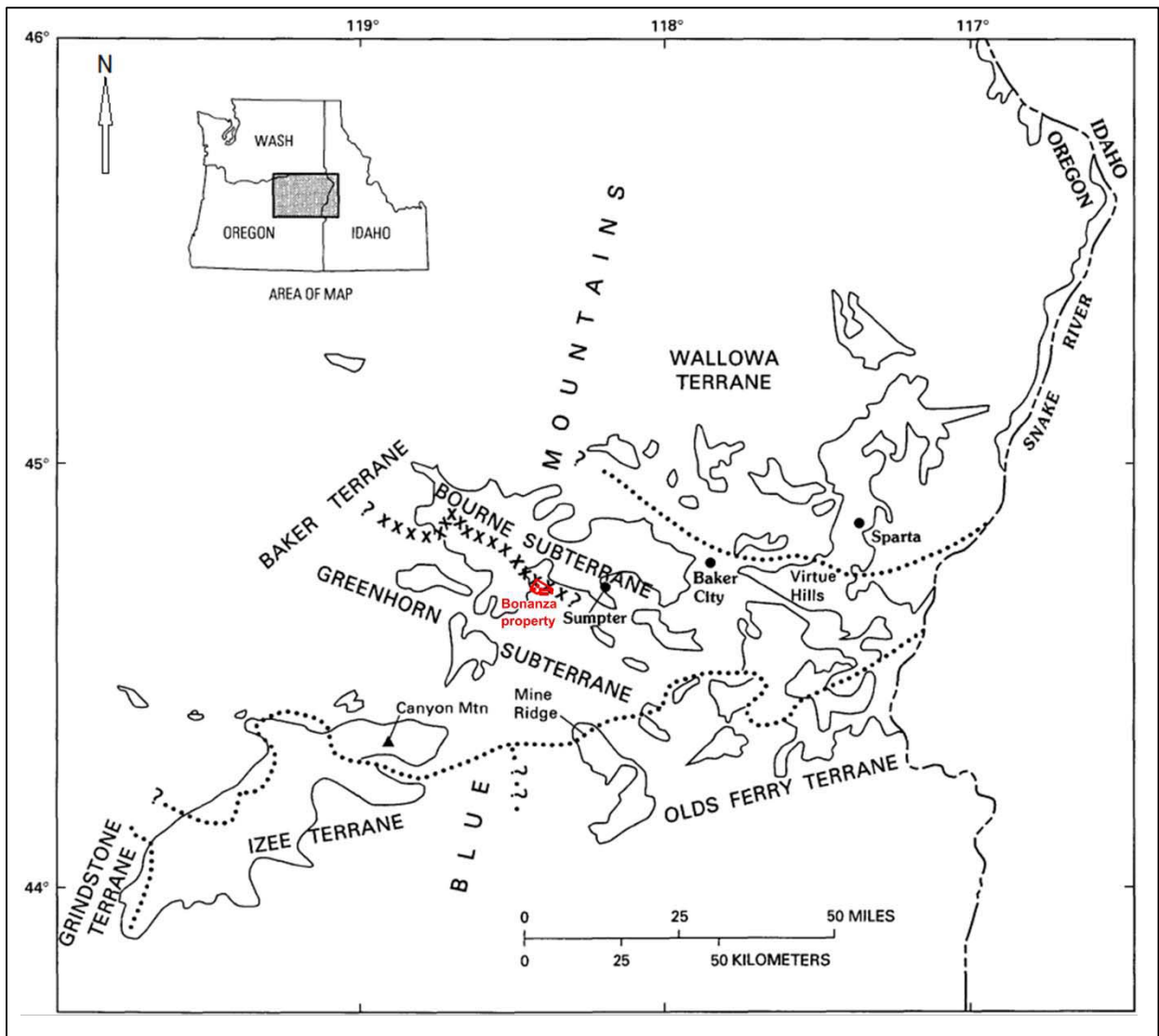
The “reserves” reported above are historical and are not in accordance with the reporting requirements of NI 43-101 and therefore cannot not be relied upon. They are provided for information purposes only. There is no assurance the indicated quantities of metal may be achieved in a mineral resource estimate in accordance with NI 43-101.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The project area is located within the Blue Mountains Province (BMP) of northeastern Oregon, and which consists of extensively dislocated and deformed late Proterozoic/early Mesozoic rocks, undeformed Jurassic-Cretaceous plutons, and Cenozoic cover made up of volcanic and sedimentary rocks. The property lies within the Baker terrane, which has two lithologically and structurally distinctive subunits, the Bourne subterrane (northern part) and the Greenhorn subterrane (southern part). (see Figure 7.1).

Figure 7.1
Pre-tertiary Terranes in the Blue Mountains Province



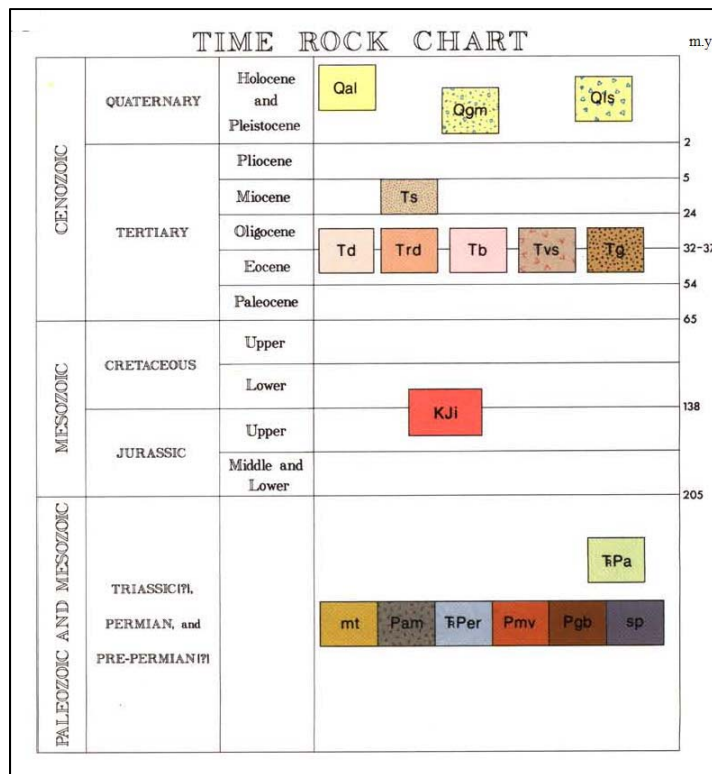
Source: Ferns and Brooks (1995). Dotted lines are terrane boundaries; the line of "x" marks the boundary between Bourne and Greenhorn subterranes.

The Baker terrane has a diverse stratigraphy and complicated tectonic evolution. It is an elongated, approximately east-west-trending belt with tectonic boundaries. These may be compressional boundaries related to subduction processes or strike-slip faulting, or they may have characteristics of both. The Bonanza Mine property covers the south part of the Bourne subterrane and north part of the Greenhorn subterrane.

7.1.1 Lithology

The area is underlain by multiple large blocks that are internally coherent, separated by fault and shear zones. Based on the lithology and geological history, the rocks in this area are divided into three major age groups: late Paleozoic-early Mesozoic, Jurassic-Cretaceous and Tertiary. The temporal relationship between the rock formations are shown on a schematic time-rock chart (Figure 7.2). The distribution of the units, the spatial relationship and the location of the mines or mineral occurrence are shown on the regional geological map (Figure 7.3). A schematic vertical cross section of the area through the Bonanza Mine (Figure 7.4) illustrates the subsurface setting of the property.

Figure 7.2
Simplified Time-Rock Unit Chart



Source: Oregon DGMI, 1983.

A short, simplified description of the main rock units starts with the oldest rocks exposed on the property, but in some cases the age is uncertain. More detailed lithological and structural

descriptions, interpretations and discussions are provided in the literature listed in the Section 20.0. The lithological codes correspond to those shown in Figure 7.2.

7.1.1.1 Late Paleozoic-Early Mesozoic Rock Units

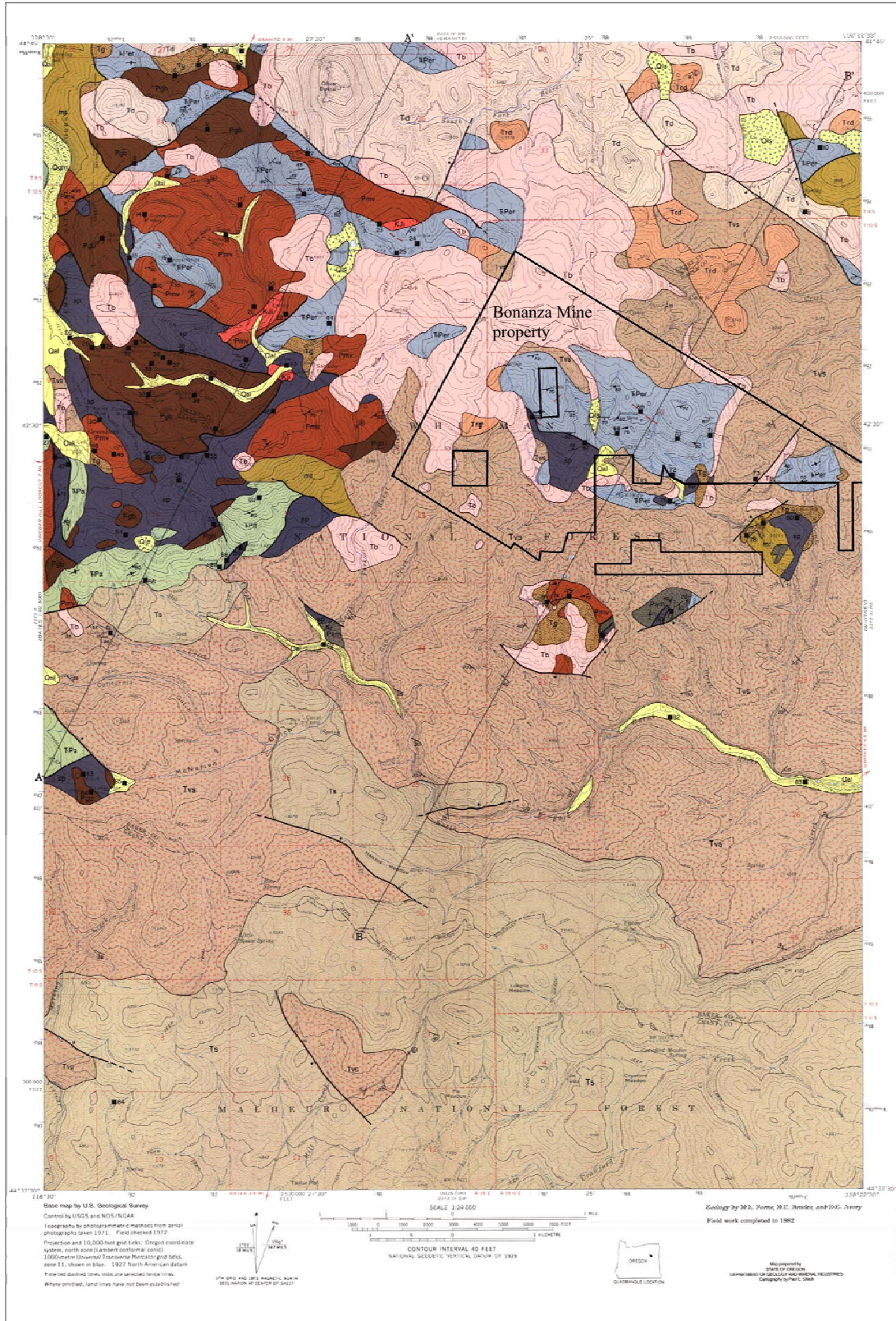
Extensively deformed and metamorphosed, ocean-floor (non-arc) sediments and island-arc material of the Baker terrane were formed from the Devonian to late Triassic, or possibly early Jurassic (Evans, 1986). The numbers referenced in brackets correspond to those on the regional geological map (Figure 7.3) and on the geological map of the property (Figure 7.5).

Serpentinite and serpentine melange (sp) (Triassic and Permian?) rock unit is known as Vinegar Hills melange. The oldest rocks exposed in the area are predominantly green or black serpentinite and serpentine-matrix melange in which small blocks and discontinuous bends of greenstone, gabbro, chert, argillite and epidote amphibolite are arrayed in a matrix of sheared serpentine. Small exposures of foliated peridotite and pyroxenite are included locally, e.g., north of the Owl Mine (38) and immediately to the west of the Black Hawk Mine (16). Many small blocks of argillite, gabbro, and greenstone are included within the serpentine-matrix melange near the town of Greenhorn. Blocks of serpentine-matrix conglomerates derived from the melange and encased within it are found about 300 ft to the east of the Don Juan Mine. The unit is unconformably overlain by Triassic and Permian clastic sedimentary rocks (TrPa) east of the Golden Eagle Mine. The serpentinized rocks probably represent part of a Permian or older ophiolite complex. Part of the serpentinite has been tectonically mobilized into juxtaposition with younger rocks (diapirically juxtaposed). A similar melange in the Aldrich Mountains to the southwest is unconformably overlain by Upper Triassic sedimentary rocks.

The Canyon Mountain Complex (Permian) is a 4-km thick sequence of ultramafic rocks. The diverse volcanic and plutonic components of the Baker terrane include a variety of volcanic greenstones (Pmv) and metamorphosed intrusive rocks (metagabbros) (Mullen, 1985). The rock units are thoroughly altered to greenschist-facies assemblages and pervasively sheared.

Volcanic greenstone (Pmv) (Permian) known as North Fork and Goodrich Creek units. The rock unit consists of predominantly pillow basalts, felsite, felsic tuffs, volcanic conglomerates and breccias with minor amounts of interbedded tuffaceous argillite, limestone and chert. The dark-gray pillow basalts retain relict titan-augite phenocrysts in a generally rich groundmass of chlorite, albite, and epidote. Interbedded volcanic breccias locally contain small limestone pods. Middle Permian conodonts were reported from one such pod near Bennett Creek (Mullen, 1978). The felsic rocks are generally light-greenish-gray, flinty-textured aphanitic rocks which are locally interbedded with light green chert and grayish-green fine-grained quartz-albite (quartz keratophyre) tuffs. Small metamorphosed quartz diorite dikes locally intrude the volcanic rocks.

Figure 7.3
Regional Geologic Map, Greenhorn Area, Baker and Grant Counties, Oregon



LEGEND

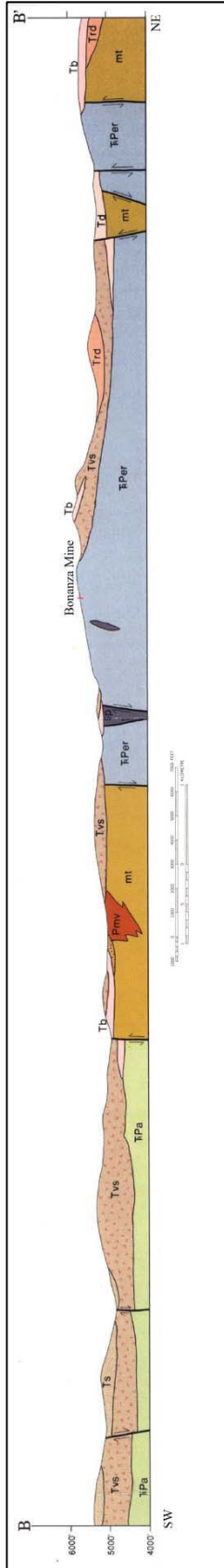
Qal	Alluvium (Holocene and Pleistocene): Unconsolidated, poorly sorted fluvial deposits consisting of gravel, sand, and silt in channels and flood plains of the present drainage system
Qls	Landslide debris (Holocene and Pleistocene): Unstratified, heterogeneous mixtures of soil and angular rock fragments resulting from bedrock failure on oversteepened slopes; typified by hummocky topography
Ogm	Glacial deposits (Holocene and Pleistocene): Unconsolidated, unsorted accumulations of boulders, cobbles, sand, and silt in Lightning Creek
Ts	Volcanic and sedimentary rocks (Miocene): Predominantly gray to black, locally vesicular aphanitic basalt, basaltic andesite, and andesite flows with minor amounts of interbedded tuffaceous and diatomaceous sediments and welded vitric tuff. The flows are predominantly subvolcanic to hypalitic augite-bearing basaltic andesites and andesites of the Strawberry Volcanics. Wheeler (1982) reports a whole-rock K-Ar age of 9.96 m.y. from similar basalt in the Bates quadrangle to the west. Sedimentary rocks in the unit include poorly consolidated deposits of diatomite and tuff and are believed to be correlative with the Mascall Formation (Wheeler, 1982)
Td	Porphyritic dacite and andesite (upper Eocene and Oligocene): Flows, domes, and shallow intrusives of porphyritic hornblende dacite and siliceous andesite. Predominantly light- and medium-gray dacies with large spongy phenocrysts of plagioclase; smaller euhedral hornblende phenocrysts, and resorbed quartz phenocrysts in an aphanitic groundmass. Biotite and orthopyroxene also occur as phenocrysts. At Olive Butte, columnar-jointed flows also include medium-grained plutonic xenoliths
Trd	Silicic volcanic rocks (upper Eocene and Oligocene): Flows and tufts of generally aphanitic hornblende dacite and silicic andesite. Typically pink and light-gray and locally flow-banded
Tb	Basalt and basaltic andesite (upper Eocene and Oligocene): Predominantly black to dark-gray, fine-grained porphyritic basaltic andesite olivine basalt flows. The unit includes flows which underlie, interfinger with, and overlie volcanoclastic rocks of unit Tvs
Tvs	Volcanoclastic rocks (upper Eocene and Oligocene): Predominantly volcanic mudflow breccia deposits (lahars) with irregularly intercalated tuffaceous boulder conglomerates, bedded tufts, and tuffaceous sandstones and siltstones. Also includes local lava flows of aphanitic and porphyritic platy andesites. The volcanoclastic deposits typically are poorly consolidated and consist of poorly sorted, subrounded to subangular volcanic rock fragments in a matrix of felsic volcanic ash, sand, and silt. Clasts are predominantly porphyritic, dark-gray, light-gray, and brownish-red pyroxene and hornblende andesites. Smaller amounts of dacite, rhyodacite, and basalt also occur as clasts
Tc	Gravels (upper Eocene and Oligocene): Stratified deposits of consolidated and loosely cemented gravel, sand, and clay. The detritus is composed of pre-Tertiary rock fragments at Parkerville and Winterville and includes Tertiary volcanic rocks at the Oro Fino Placer (3). The deposits probably represent several episodes of deposition prior to and contemporaneous with early Tertiary volcanism. Locally extensively worked for placer gold
KJl	Quartz diorite and granodiorite (Cretaceous and Upper Jurassic): Small intrusive masses. Includes equigranular hornblende quartz diorite at Tone Springs, equigranular muscovite-bearing granodiorite at the head of Olive Creek, and strongly sericitized granodiorite north of the Pys. Mine (25). The intrusives are presumed to be equivalent to the Bald Mountain Batholith in age but may include some lower Tertiary rocks
TPa	Clastic sedimentary rocks (Triassic and Permian?): Predominantly argillite and sandstone with small amounts of conglomerate, chert, and limestone. Coarse-grained sedimentary rocks include chert-pebble conglomerates and coarse polymictic sedimentary breccias which contain clasts of metamorphosed gabbro, diorite, chert, greenstone, and serpentine. Finer grained conglomerates include poorly sorted lithic wackes composed of chert, argillite, and sandstone clasts in an argillaceous matrix. The conglomerates also contain minor amounts of volcanic rock fragments, serpentine and limestone clasts, and quartz and feldspar crystals. The sedimentary rocks contain fragments of gabbro, greenstone, and serpentine derived from the underlying serpentine-matrix mélange and are in depositional contact with gabbro (Pgb) and serpentine (sp) east of the Golden Eagle Mine (55), indicating that the initial mélange formation must pre-date the deposition of unit TPa. Fragments of similar sedimentary rocks are also enclosed within the mélange. Mullen (1978) reports Early Permian (Leonardian) conodonts and Early Permian (Wolfcampian) fusulinids from a limestone pod in similar rocks in the Bates quadrangle to the west. However, the Early Permian date conflicts with earlier correlations based on lithologic and stratigraphic similarities between unit TPa and rocks of Late Triassic and Jurassic age to the south (Brown and Thayer, 1966). The Early Permian fossils may be exotic to unit TPa and derived by sedimentary reworking of older limestones which had been previously incorporated into the underlying mélange. If this is the case, the sedimentary rocks could be as young as Late Triassic, and mélange formation may have occurred in the Early or Middle Triassic
mt	Mixed-rock terrane (Triassic and Permian?): A structurally chaotic, predominantly ophiolitic assemblage of tectonically juxtaposed rocks of different compositions and ages. Mostly gabbro and greenstone with smaller amounts of diorite, quartz diorite, serpentine, serpentine-matrix mélange, argillite, chert, limestone, and epidote amphibolite. Individual blocks typically range from a few feet to a few hundred feet in the longest dimension. The terrane may be correlative with similar zones mapped in the Bourne and Mt. Ireland quadrangles to the northeast (Brooks and others, 1982; Ferns and others, 1982)
Pam	Epidote amphibolites (Permian?): Predominantly strongly foliated epidote amphibolites with minor amounts of white-mica quartz schists and blue-amphibole-bearing amphibolites. Metamorphic minerals include green amphibole, epidote, albite, and quartz. Parent rocks were gabbros and mafic volcanic rocks. The unit is characterized by a well-developed foliation and tightly recrystallized folds
TPer	Elkhorn Ridge Argillite (Triassic, Permian, and Pennsylvanian): Predominantly chert, siliceous argillite, and argillite with minor amounts of chert-pebble conglomerate, limestone, and tuffaceous argillite. Locally intercalated with pillow lavas and volcanoclastic rocks of unit Pmv. Contorted ribbon cherts exposed along Olive Creek reportedly contain conodonts of Middle Permian age (Dickinson and Thayer, 1978). Fossils of Pennsylvanian, Permian, and Triassic age have been found in limestone pods in Elkhorn Ridge Argillite outside of the Greenhorn quadrangle. The diverse ages and structural complexity indicate that the Elkhorn Ridge Argillite is not a simple stratigraphic unit
Pmv	Greenstone (Permian): Predominantly pillow basalts, felsite, felsic tufts, volcanic conglomerates, and breccias with minor amounts of interbedded tuffaceous argillite, limestone, and chert. The dark gray amygdaloidal pillow basalts retain relict tuffaceous phenocrysts in a generally folty groundmass of chlorite, albite, and epidote. Interbedded volcanic breccias locally contain small limestone pods. Middle Permian conodonts were reported from one such pod near Bennett Creek (Mullen, 1978, p. 120). The felsites are generally light-greenish-gray, flinty-textured aphanitic rocks which are locally interbedded with light-green chert and grayish-green, fine-grained quartz-albite (quartz keratophyre) tufts. Small metamorphosed quartz-diorite dikes locally intrude the volcanic rocks
Pgb	Metamorphosed intrusive rocks (Triassic? and Permian): Predominantly metamorphosed gabbro and diorite with subordinate amounts of pyroxenite, quartz diorite, diabase, and albite granite. The map unit may include intrusive rocks of several different ages and origins. The oldest rocks constitute part of an ophiolite assemblage and include gabbro, tectonite gabbro, and pyroxenite. Layered gabbros in the assemblage crop out adjacent to foliated peridotite north of the Owl Mine (58). Younger(?) diorite and quartz-diorite dikes locally intrude metavolcanic rocks. A Pb-U age of 243 m.y. has been obtained from zircons in a similar appearing quartz diorite in the Granite quadrangle to the north (Brooks and others, 1983)
sp	Serpentine and serpentine-matrix mélange (Triassic and Permian?): Predominantly green or black serpentine and serpentine-matrix mélange in which small blocks and discontinuous bands of greenstone, gabbro, chert, argillite, and epidote amphibolite are arrayed in a matrix of sheared serpentine. Small exposures of foliated peridotite and pyroxenite are included locally, e.g. north of the Owl Mine (58) and immediately to the west of the Black Hawk Mine (16). Many small blocks of argillite, gabbro, and greenstone are included within the serpentine-matrix mélange near the town of Greenhorn. Blocks of serpentine-matrix conglomerates derived from the mélange and encased within it are found about 300 ft to the east of the Don Juan Mine (21). Unit is unconformably overlain by sedimentary rocks of unit TPa east of the Golden Eagle Mine (55). The serpentinized rocks probably represent part of a Permian or older ophiolite complex. Part of the serpentine has been tectonically mobilized into juxtaposition with younger rocks (diapirically juxtaposed). A similar mélange in the Aldrich Mountains to the southwest is unconformably overlain by Upper Triassic sedimentary rocks (Brown and Thayer, 1966; Dickinson and Thayer, 1978)

GEOLOGIC SYMBOLS

—	Contact—approximately located
— —	Fault—ball and bar on downthrown side. Dashed where inferred or concealed
— — —	Quartz veins and mineralized fault zones — dashed where approximately located
■ B4	Mine and prospect locations
⊗	Source of rock sample
↘	Strike and dip of beds or lava flows
⊥	Strike of vertical bed
↘	Strike and dip of foliation
⊥	Strike of vertical foliation

Source: Oregon DGMI, 1983.

Figure 7.4
Longitudinal Geological Cross Section of the area through the Bonanza Mine Property



Source: Oregon DGMI, 1983.

Note: The location of the vertical section is shown on the regional geological map.

The subsurface representation of the ophiolite and associated rocks is largely schematic.

Metamorphosed intrusive rocks (Pgb) (Triassic? and Permian). Predominantly metamorphosed gabbro and diorite with subordinate amounts of pyroxenite, quartz diorite, diabase and albite granite. The map unit may include intrusive rocks of several different ages and origins. The oldest rocks constitute part of an ophiolite assemblage and include gabbro, tectonite-gabbro, and pyroxenite. Layered gabbro in the assemblage crop out adjacent to foliated peridotite north of the Owl Mine. Younger (?) diorite and quartz-diorite dikes locally intrude metavolcanic rocks. A lead-uranium age of 243 Ma has been obtained from zircons in a similar-appearing quartz diorite in the Granite quadrangle to the north (Brooks et al., 1983).

Epidote amphibolite (Pam) (Permian?) The unit consists of predominantly strongly foliated epidote amphibolite with minor amounts of white-mica quartz schists and blue amphibole bearing amphibolites. Metamorphic minerals include green amphibole, epidote, albite and quartz. Parent rocks were gabbros and mafic volcanic nicks. The unit is characterized by a well-developed foliation and tightly crenulated folds.

Mixed-rock terrane (mt) (Triassic and Permian?) A structurally chaotic, predominantly ophiolitic assemblage of tectonically juxtaposed rocks of different compositions and ages. The unit consists mostly of gabbro and greenstone with smaller amounts of diorite, quartz diorite, serpentine, serpentine-matrix melange, argillite, chert, limestone and epidote amphibolite. Individual blocks typically range from a few feet to a few hundred feet in the longest dimension. The terrane may be correlative with similar zones mapped in the Boerne and Mt. Ireland quadrangles to the north (Ferns et al., 1983).

Ophiolite and associated rocks: Rock units below TrPa in the time-rock chart are lithologic subdivisions of structurally chaotic terrane consisting of an ophiolite assemblage of serpentine, gabbro and pillow basalt and including sedimentary rocks consisting of banded chert, chert and argillite. The rocks have been so fragmented and displaced by tectonic processes that their original stratigraphic succession is largely indeterminable. Theoretically, development of the ophiolite assemblage involved contemporaneous plutonic, volcanic, and sedimentary processes which extended over a long time period. Available fossil and radiometric age data indicate that most of the rocks are of Permian age, but older Paleozoic and younger Mesozoic rocks may be included.

Clastic sedimentary rocks (TrPa) (Triassic and Permian) consist of predominantly argillite and sandstone with small amount of conglomerate, chert and limestone. Coarse-grained sedimentary rocks include chert-pebble conglomerates and coarse polymictic sedimentary breccias which contain clasts of metamorphosed gabbro, diorite, chert, greenstone and serpentine. Finer grained conglomerates include poorly sorted lithic wackies composed of chert, argillite and sandstone clasts in an argillaceous matrix. The conglomerates also contain minor amounts of volcanic rock fragments, serpentine and limestone clasts, and quartz and feldspar crystals. The sedimentary rocks contain fragments of gabbro, greenstone, and serpentine derived from the underlying serpentine-matrix melange and are in depositional contact with gabbro (Pgb) and serpentine (sp) east of the Golden Eagle Mine, indicating that the initial melange formation must predate the deposition of unit TrPa. Fragments of similar sedimentary rocks are also enclosed within the melange.

Elkhorn Ridge Argillite (TrPer) (Triassic, Permian, and Pennsylvanian) consists of chert, siliceous argillite and argillite with minor amounts of chert pebble conglomerate, limestone and tuffaceous argillite, locally intercalated with pillow lavas and volcanoclastic rocks of greenstone unit (Pmv). The Bonanza Mine (69) and Crow Point Mine (72) are hosted by the Elkhorn Ridge Argillite.

Folded ribbon chert exposed along Olive Creek reportedly contains conodonts of Middle Permian age (Dickinson and Thayer, 1978). Fossils of Pennsylvanian, Permian and Triassic age have been found in limestone pods in Elkhorn Ridge Argillite outside of the Greenhorn quadrangle. The diverse ages and structural complexity indicate that the Elkhorn Ridge Argillite is not a simple stratigraphic unit.

7.1.1.2 Jurassic-Cretaceous Intrusions

The entire collision zone is intruded by Jurassic-Cretaceous granites, granodiorites forming two main plutons, the Wallowa batholith and the Blue Mountain batholith. The Greenhorn batholith is compositionally similar to larger Wallowa and Blue Mountain intrusives. Most of the lode gold deposits are in pre-Tertiary rocks and they are believed to be associated with Jurassic-Cretaceous intrusions (Ferns, 2007).

Quartz diorite and granodiorite (KJi) are exposed on the property or in close vicinity as relatively small intrusive bodies, which include equigranular hornblende quartz diorite at Tone Springs, equigranular muscovite bearing granodiorite at the head of Olive Creek, and strongly sericitized porphyritic biotite granodiorite north of the Pyx Mine. The intrusives are presumed to be equivalent to the Bald Mountain Batholith in age but may include some lower Tertiary rocks

7.1.1.3 Tertiary Volcanics and Sediments

The Clamo Formation is represented by **volcanoclastic and terrigenous rocks (Tvs) (Upper Eocene and Oligocene)**. The rocks are predominantly volcanic mudflow breccia deposits (lahars) with irregularly intercalated tuffaceous boulder conglomerates, bedded tuffs, and tuffaceous sandstones and siltstones. The unit also includes local lava flows of aphanitic and porphyritic platy andesites. The volcanoclastic deposits typically are poorly consolidated and consist of poorly sorted, subrounded to subangular volcanic rock fragments in a matrix of felsic volcanic ash, sand, and silt. Clasts are predominantly porphyritic, dark gray, light gray and brownish-red pyroxene and hornblende andesites. Smaller amounts of dacite, rhyodacite, and basalt also occur as clasts

Basalt and basaltic andesite (Tb) (Upper Eocene and Oligocene), predominantly black to dark-gray, fine-grained porphyritic holocrystalline olivine basalt flows. The unit includes flows which underlie, interfinger with, and overlie volcanoclastic rocks of unit Tvs.

John Day Formation (Trd) (Upper Eocene and Oligocene) consists of volcanoclastics and lava flows. The unit is represented by silicic volcanic rocks Flows and tuffs of generally

aphanitic hornblende dacite and silicic andesite, and are typically pink and light-gray and locally flow-banded.

Gravel (Tg) (upper Eocene and Oligocene) composed of stratified consolidated and loosely cemented river and lake sediments such as gravel, sand and clay. The detritus is composed of pre-Tertiary rock fragments at Parkerville and Winterville and includes Tertiary volcanic rocks at the Oro Fino Placer. The deposits probably represent several episodes of deposition prior to and contemporary with early Tertiary volcanism. The unit has been locally extensively worked for placer gold.

Volcanic and sedimentary rocks (Ts) (Miocene) is predominantly gray to black, locally vesicular aphanitic basalt, basaltic andesite, and andesite flows with minor amounts of interbedded tuffaceous and diatomaceous sediments and welded vitric tuff. The flows are predominantly pilotaxitic to hyalopilitic augite-bearing basaltic andesites of the Strawberry Volcanics. Ferns et al. (1983) reports a whole-rock potassium-argon age of 9.96 Ma from a similar basalt in the Bates quadrangle to the west. Sedimentary rocks in the unit include poorly consolidated deposits of diatomite and tuff and are believed to be correlative with the Mascall Formation (Fern et al., 1983).

7.1.1.4 Quaternary

Glacial deposits (Qgm) (Holocene and Pleistocene) are unconsolidated, unsorted accumulations of boulders, cobbles, sand and silt in Lightning Creek.

Landslide debris (Qls) (Holocene and Pleistocene) comprises unstratified, heterogeneous mixtures of soil and angular rock fragments formed from bedrock failure from over very steep slopes, typified by hummocky topography.

Alluvium (Qal) (Holocene and Pleistocene) represented by unconsolidated, poorly sorted fluvial deposits consisting of gravel, sand and silt in channels and flood plains of the present drainage system. Widely scattered over the whole area, from the sands of the Snake River on the east to the gravel bars of John Day River on the west, the placer gold deposits indicate the extent of the gold mineralization in Eastern Oregon. These were the first deposits discovered by the pioneer miners and yielded millions of dollars in the early days of mining.

7.1.2 Regional Structure

The BMP, and the Baker terrane (Greenhorn and Bourne subterrane) are the result of long tectonic activity. Different styles of early deformation indicate separate tectonic activity for the Greenhorn and Bourne subterrane, and created the following structures in the project area.

Bedding (S_0) is very poorly preserved only in the layered cherts of the Elkhorn Ridge Argillite. Some of the shear zones surrounding unsheared blocks are parallel to the bedding. Fractures, microbreccias, cataclastic zones and faults are pervasive, randomly oriented and they form anastomosing microbreccia and cataclastic zones that usually crosscut all the pre-

Cretaceous rocks and mark contacts between different units. They can be hundreds of metres long and tenths of metres wide. Rock units were transposed by movement along shear planes that are subparallel or at low angle ($<45^\circ$). Early deformation in the Bourne subterrane was characterized by severe internal disruption of units, including the development of melange in the Elkhorn Ridge Argillite and the development of cataclastic zones in the Goodrich Creek unit. The faults are mainly southward dipping, high angle, reverse and thrust faults. (See Figure 7.4).

Ferns and Brooks (1995) described three sets of folds, identified in the area:

1. F_1 include steeply dipping, north-south trending, poorly preserved folds. They are represented by mesoscopic, open folds in Goodrich Creek Unit and tight, isoclinal folds in Elkhorne Ridge Argillite unit. The F_1 axes plunge $30-35^\circ$ to the south. Thrust faults are surrounding north- to northeast-trending F_1 folds. The F_1 folds are cut by penetrative S_1 cleavage in some rock units in Greenhorn subterrane. South dipping cleavage (S_1) is wide spread in both subterrane.
2. F_2 folds are mesoscopic, gently plunging, and in some case have almost horizontal, practically east-west trending with axial planes dipping to the south. Axial-planar cleavage (S_2) is developed around east-west-trending F_2 fold axes. A later cleavage (S_2) is locally developed in melange matrixes in both subterrane and is apparently related to remobilization and recrystallization of serpentinite accompanying late Jurassic plutonism.
3. F_3 folds are small isoclinal folds and crenulations in foliated metamorphic rocks with northwest-southeast strike, almost parallel to the subterrane boundary.

Recent tectonic activity occurred during the Tertiary when the main faults were reactivated during the Tertiary volcanism. The rocks suites have in most places been only gently warped and are relatively slightly altered. They are cut by steeply dipping normal faults with predominantly north to northwest trend. This event resulted in approximately lateral strike-slip movement that has dissected and displaced many of the ore deposits in the main Greenhorn mining district

According to Ferns and Brooks (1995) the following major tectonic events can be recognized:

1. Early disruption with development of tectonic melanges and cataclastic zones in the Bourne subterrane and development of serpentinite-matrix melange and ophiolite in the Greenhorn subterrane.
2. Folding of Bourne and Greenhorn subterrane about north- and northeast-trending fold axes without development of penetrative cleavages.

3. Later development of penetrative and subpenetrative fracture cleavages (S_1) axial planar to east-west-trending folds in both subterranean.
4. Local development of penetrative and spaced cleavages (S_2), mainly in the matrixes of melange zones in both subterranean.

7.1.3 Mineral Deposits

The data on historical production in the Oregon DGMI shows that gold and silver have been the major mineral products of the area which covers the eastern half of the Greenhorn mining district.

The bulk of the lode production was from the Bonanza Mine, which is on a northwest-striking quartz vein in argillite. The gold-silver ore came from a composite quartz vein in slightly metamorphosed argillite (slate) which strikes N 55° W and dips steeply to the southwest. The major ore shoot reached a maximum horizontal length of 800 ft (244 m) and was mined to a depth of 1,000 ft (304.8 m) below the outcrop.

The area immediately adjoining the old town site of Robinsonville yielded about US\$200,000 in gold from near-surface veins when the gold price was US\$20.67/oz. Many rich pockets of free gold, some with galena, chalcopyrite and dolomite, occurred in quartz veins in metagabbro and serpentinite. Although several of these veins were heavily developed the deposits apparently did not persist to depth. Pardee and Hewett (1914) suggest that these deposits were formed in part due to secondary enrichment during a period of erosion prior to deposition of the overlying Tertiary basalts. Many of the auriferous veins are associated with porphyritic dikes of intermediate to acid composition where the outlying areas host granodiorite of the Greenhorn Batholith.

The adjacent permanent and temporary streams in the area around Greenhorn show a high silver-gold bearing occurrence in the Quaternary sediments that created several placer deposits. They result from surface oxidation of narrow and irregular gold-bearing veins along both sides of the streams and rivers. Placer deposits that occur in the immediate vicinity of Greenhorn are consolidated Tertiary gravels such as Burnt River placer, Winterville placer and Parkerville placer and channel and bench gravels along the modern stream channels.

Chromite and cinnabar are also found in the quadrangle. About 18 tons of chromite ore was produced from the Winterville deposit (79) during World War II. No mercury production has been recorded.

In 2007, the data from the historical mining operations collected by the Oregon DGMI, mapping programs and scientific research were summarized by Fern (2007) and interpreted in the light of the modern plate tectonics theory. The interpretation revealed the spatial and temporal relationship between the mineralization and the formation, amalgamation and disruption of the accreted terranes in the BMP in Oregon. Pre-Tertiary terranes in the Blue Mountains have definitely different mineral deposits. Syngenetic deposits hosted by the

northernmost, island-arc dominated Wallowa terrane include strata-bound, copper-gold exhalative deposits and weakly mineralized, coeval, subvolcanic intrusions. Syngenetic deposits within the central Baker terrane, including the Greenhorn mining district, include chert-hosted, stratabound manganese lenses and ultramafic-hosted chromite pods. The southernmost Olds Ferry terrane contains silver-copper strata-bound volcanogenic deposits.

Mineralized, post-amalgamation, late Jurassic-early Cretaceous intrusions that cut across terrane boundaries are typically zoned, with central copper-molybdenum or silver-tungsten mineralized intrusive cores. Close to the edge of the metasomatized rocks the mineralization changes into gold-silver vein deposits.

Mineralized, post-accretion, Paleogene sub-volcanic intrusions that cut the Olds Ferry-Baker terrane boundary form strongly zoned porphyry systems in which gold mineralization is confined to Baker terrane rocks units. Neogene epithermal hot springs systems occur within both the Olds Ferry and Baker terranes.

7.2 PROPERTY GEOLOGY

7.2.1 Lithology

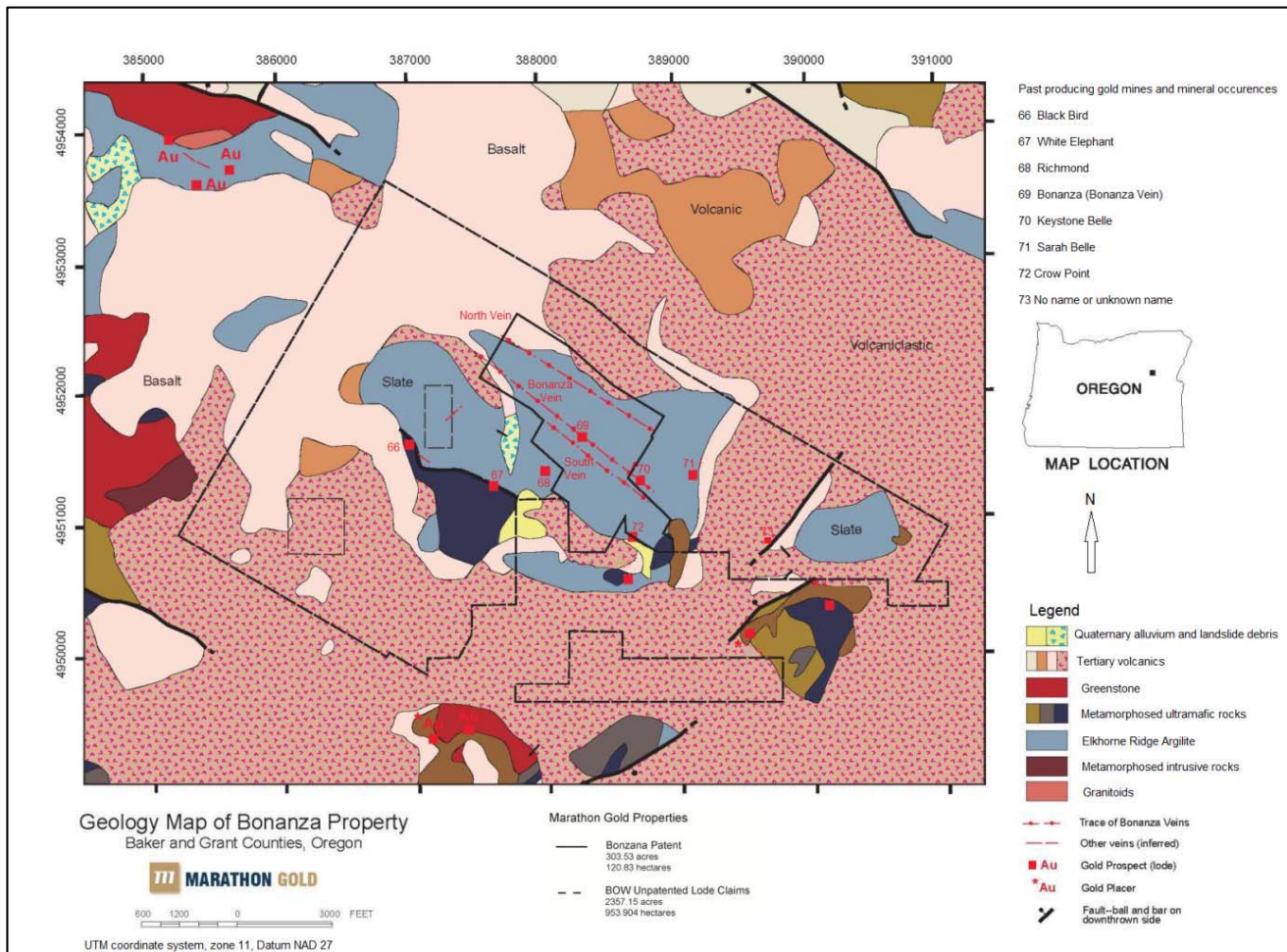
The Bonanza Mine property is underlain by the following rock units:

- Ophiolite assemblage which includes metamorphosed intrusive rocks, represented by serpentinite and serpentinite matrix (sp), known as the Vinegar Hill melange gabbro, diorite, and pyroxenite (Pgb) and mafic metavolcanics (greenstone) (Pmv). The rocks are metamorphosed to greenschist facies. The dark grey to black, brittle, siliceous, slightly metamorphosed argillites and cherts of the Elkhorne Ridge Argillite formation (TrPer) are exposed in the central part of the property and host most of the gold-silver mineralization.
- Tertiary volcanics identified as volcanoclastic (Tvs), basalt and basaltic andesite (Tb), silicic volcanic rocks (Trd) and porphyritic dacite and andesite (Td).
- Quaternary alluvium and landslide debris.

The Bonanza Mine and the other known mineral occurrences and deposits on the property are hosted in dark grey to black, fine-grained, foliated, homogeneous slightly metamorphosed argillite (slate) or on the contact of the argillite with serpentine matrix or Tertiary volcanics. The largest deposit, the Bonanza Mine, is entirely within the altered dark grey argillite. The strike of the Bonanza, Keystone Belle, Richmond and Crowpoint veins, and some of the smaller gold-bearing quartz veins is N 50° W. The veins dip at about 70-80° southwest. The old mining workings intersected three principal veins in the Bonanza Mine. The quartz veins are almost parallel, nearly conformable to the foliation (bedding?) of the argillite or cut it at a small angle (McGinnis, 1958, Faick, 1958). Other mineralized veins are found along the contacts at diverse angles. The gold-silver mineralization is believed to be near a buried

contact between the argillite and the Jurassic-Cretaceous granitic dykes and small intrusives of the Greenhorn batholith, because some of the rocks are metamorphosed around the contacts. Minerals such as scapolite, typical of contact metamorphism, are identified and it is presumed that a granitoid intrusion underlies the area.

Figure 7.5
Geological Map of the Bonanza Property, Baker and Grant Counties, Oregon



Source: Map provided by Marathon, 2012.

Most of the past producers in Greenhorn mining district in eastern Oregon are situated in the Elkhorne Ridge Argillite near intrusive contacts in similar geological settings.

The Oregon DGMI has records for the following gold showings, located on the property:

- Blackbird? (No. 66) showing is related to gold bearing white quartz vein in Elkhorne Ridge Argillite along the contact with serpentinite. The vein strikes N 50° W.

- White Elephant (No. 67) showing has one composite quartz vein up to 4 ft wide in argillite along the contact with serpentine. It appears similar to another ore shoot of the same contact between Elkhorne Ridge Argillite and the serpentine and serpentine matrix of the Vinegar Hill melange (sp) unit.
- Richmond Mine (No. 68) was developed in silicified chert and argillite of the Elkhorne Ridge Argillite formation. Gold-silver mineralization was confined in narrow quartz veins and limonitic shear zones. The strike of the veins is N 15-20°W.
- Bonanza Mine (No. 69) was developed in the slate of the Elkhorne Ridge Argillite formation. The strike of the quartz veins, including Bonanza vein, North vein and South veins is N 50° W. The Bonanza vein dips at about 80° southwest. The gold-bearing quartz veins in the Bonanza Mine are conformable to the foliation (bedding?) of the argillite, or cut it at a small angle (McGinnis, 1958 and Faick, 1958).
- Crow Point showing (No. 72) is on the contact of the Elkhorne Ridge Argillite formation and the tertiary volcanics.
- Keystone Belle showing (No. 70) is located on the south east extension of the Bonanza vein. The mineralized zone consists of quartz stringers in carbonaceous argillite.
- Sarah Belle showing (No. 71) is hosted in chert and argillite of the Elkhorne formation on the contact with Tertiary basalt. The gold mineralization is related to a quartz vein.
- Name unknown (No. 73) opalline quartz in a shear zone about 2 ft wide in Tertiary volcanoclastics. Vein strikes N 40° E. Several shallow pits, no production.
- Greenhorn polymetallic vein.

7.2.2 Structure

Mullen (1978) mapped the Greenhorn area and identified pervasive regional northeast trending cleavage of the argillites and pre-Jurassic units, which is parallel to probable near vertical axial planes of isoclinal folds and thrust faults.

A second set of structures has west-northwest trend direction. They are almost perpendicular to the northeast regional trend, noted in Vinegar Hill conglomerates and volcanics, due to the tectonic emplacement of serpentinite and metagabbro. The faults, shear zones and folds, which strike west-northwest instead of east-northeast are almost parallel to the contacts with the mafic-ultramafic intrusives. Small but fairly regular F_2 folds are over-printed in the more schistose and highly deformed metasediments. The F_2 folds axial planes strike northwest. These folds form a sub-linear northwest trending series of exposures in the serpentinite melange. Development of parallel F_2 folds may be related northeast- southwest compression

during emplacement of the serpentinite in probable mid- to late-Triassic. Serpentinized peridotites are in general too highly altered and dissected to provide reliable and clear structural interpretation.

Mullen (1978) suggests that small-scale north-south and east-west near vertical shear zones, such as those along Snow Creek and McWillis gulch, are post-Jurassic age. Some small granitic intrusions associated with the Jurassic-Cretaceous granitoides are cataclastized by this generation of shears. Pervasive development of sericite, epidote and chlorite within the sheared granitic rock indicates that shearing was post-consolidation, but allowed extensive hydrothermal alteration of the rock. Dates of similar granitic intrusions in the nearby Bald Mountain batholith are 147-155 Ma and the time of shearing is approximately equivalent, or later.

7.3 MINERALIZATION

Gold and silver mineralization at the Bonanza Mine property is related to three almost parallel quartz-sulphide veins, occurring in brittle silicified, dark grey to black argillite and chert (see Figure 7.5). Faick (1958) described the gold bearing mineralized zone as quartz veins or quartz stringers, hosted within brecciated slate (argillite), cemented by veins or network of veinlets of quartz with sulphides (see Figure 7.6).

All reports note the existence of two types of mineralization: oxidized with free gold and less sulphide, hematite and limonite staining, and unaltered mineralization with preserved pyrite, arsenopyrite and silver and gold tellurides.

Figure 7.6
Gold bearing Quartz Vein from the Waste Dump of the Bonanza Mine



Source: The sample was provided by Marathon Gold, the picture was taken by Micon, 2012.

McGinnis (1958) reported, “Comb structure and concentric banding are prominent features of the ore. The gold is confined to the quartz veins, but the argillaceous host rock is usually altered and pyritized. The ore ranges from pure white gold-bearing quartz veins and veinlets to one-half quartz and one-half argillite. The gold bearing sulphide mineralization is erratically distributed in the mineralized quartz-argillite-breccia zone, but the veins are strong and persistent. The gold is usually, if not always associated with sulphides. In lodes of this type if arsenopyrite is present, the material is always regarded as ore, but if pyrite alone is present it may or may not be ore.”

Figure 7.7
Silicified Argillite with Quartz-sulphide Veinlets



Picture taken during Micon's visit, July 2012.

Pardee and Hewett (1914) mentioned that the high grade mineralized zones are in close proximity to roscoelite (green mica) and tellurides of gold and silver. The reported sulphide content in the mineralized quartz veins is 5 to 10%. The ratio of gangue and sulphide has changed with increasing depth. Hewett (1931) showed that the upper part of the veins contain a low percentage of sulphides and yield free gold. With increasing depth the percentage of sulphides rises. The process of downward enrichment has affected a number

of gold bearing veins in the region, including Bonanza. The position and shape of some stopes is explained as enrichment by supergene solution and re-deposition of the gold.

In 1901, Lindgren, a prominent geologist and scientist visited the mine and reported, “The ore body as a whole forms a mass of clay slate traversed by quartz veins and seams of all sizes. Though the pay streak averages only 5 to 6 feet, it swelled in places up to 40 feet by the appearance of a vast number of quartz stringers” (Lindgren, 1901).

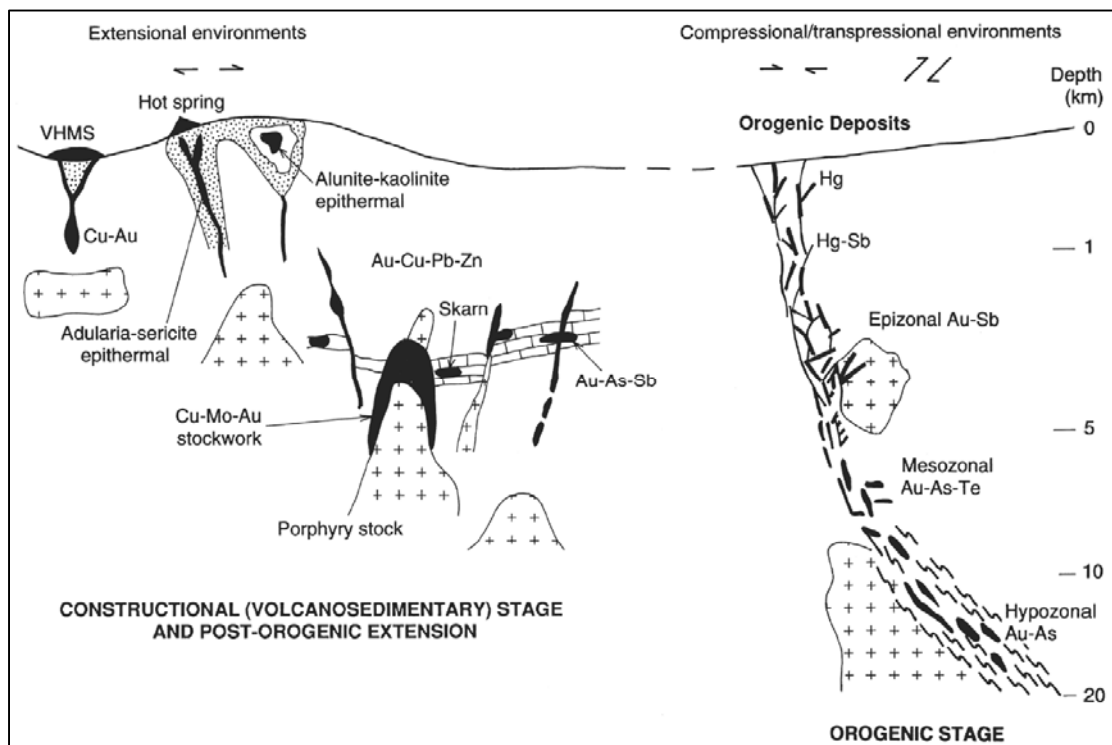
In the Bonanza Mine, brecciated and re-cemented argillite alternates with quartz veins (see Figure 7.6 and Figure 7.7). The quartz-argillite-breccia intervals are from 7 ft (2.1 m) to 40 ft (12.2 m), but the high grade mineralization (“pay streak”) may be from 1 ft (0.3 m) to 4 ft (1.2 m).

The past producers on the Bonanza property were mainly underground mines based on higher grade mineralization within a deposit. Two broad categories of mineralization are recognized in the geological literature: 1) geometric and 2) kinematic (Robert and Poulsen, 2001). As outlined by Robert and Poulsen, geometric mineralized zones are controlled by the intersection of a fault, a shear zone, or a vein with a favourable lithological unit, such as a gabbroic sill, a dyke, or a particularly reactive rock, that will cause the precipitation of the gold-bearing solutions and forming a high grade zone in the mineralized body. The geometric mineralized zone will be parallel to the line of intersection. The kinematic mineralized zones are syn-deformation and syn-formation with the veins, and are defined by the intersection between different sets of veins or contemporary structures. The plunge of kinematic mineralized zones is commonly at a high angle to the slip direction. Structural traps, such as fold hinges or dilational jogs along faults or shear zones, are also favourable for mineralized shoots.

8.0 DEPOSIT TYPES

The regional geological setting of the Bonanza Mine property is favourable for greenstone-hosted quartz-carbonate vein deposits, a subtype of lode gold deposits. They are also known as mesothermal gold deposits (Evans, 1993), orogenic lode gold deposits, shear-zone-related quartz-carbonate or gold-only deposits (Poulsen K. H. and Robert, F., 1989). The deposits occur as quartz and quartz-carbonate veins, with valuable amounts of gold and silver, in faults and shear zones located within deformed terranes of ancient to recent greenstone belts. See Figure 8.1.

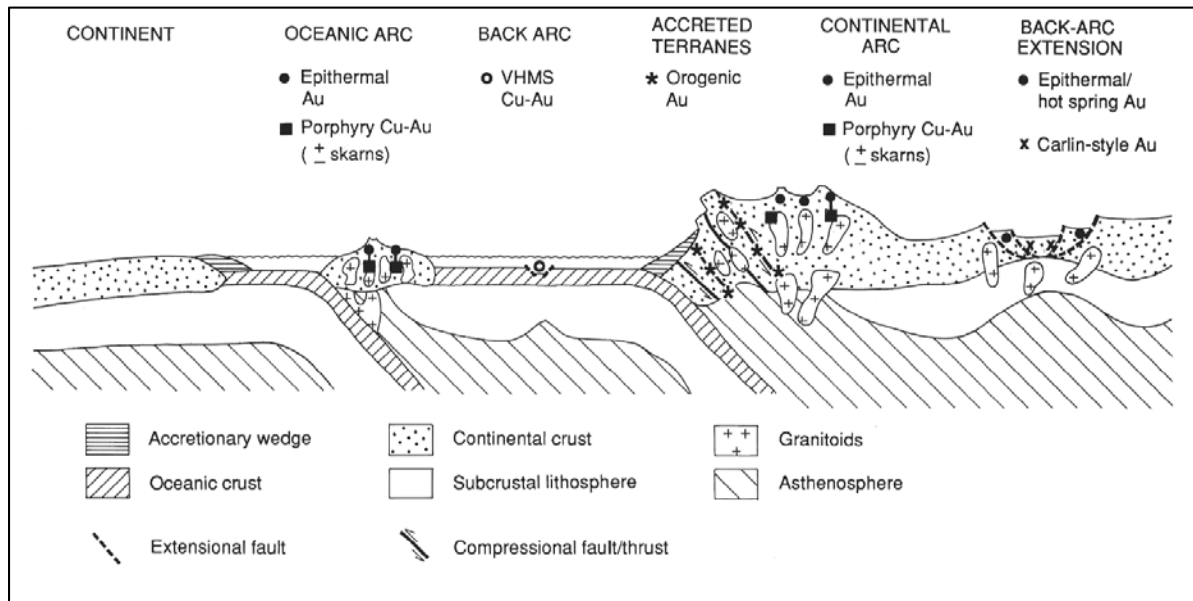
Figure 8.1
Schematic Diagram of the Geological Setting of Hydrothermal Gold Deposits



Source: Groves et al., 1997.

Mineralized zones were formed during compressional deformation processes at convergent plate margins in accretionary and collisional orogens. Subduction-related events, initiate and drive long-distance hydrothermal fluid migration and the resulting gold-bearing quartz veins are emplaced over a huge depth range for hydrothermal ore deposits, with gold deposition from 15–20 km to the near surface environment. See Figure 8.2.

Figure 8.2
Schematic Diagram of the Tectonic Setting of Epigenetic Gold Deposits



Source: Groves et al., 1997.

Distinctive features of this type of deposit are:

- Quartz-dominant vein systems, with <3-5% sulphides, and <5-15% carbonates. Usually the systems are continuous along a vertical extent of 1–2 km with little change in mineralogy or gold grade; however mineral zoning does occur in some deposits.
- The veins contain free gold, and the gold grades are relatively high, historically in 5-30 g/t range.
- Pyrite, arsenopyrite and pyrrhotite are common sulphide minerals, but the combination of the ore-forming minerals depends on the lithology of the host rock. Gold bearing veins exhibit variable enrichment in As, B, Bi, Hg, Sb, Te and W.
- White mica, fuchsite, chlorite, albite and tourmaline or scheelite are also common gangue minerals in the quartz-carbonate veins.

Orogenic gold occurrences world-wide have been found to cluster within structurally complex areas that are characterized by regional faults/thrusts or terrane bounding structures, which most likely were the pathway for the deep metasomatic fluid. These regional structures are the primary control of the gold bearing mineralization and determine the location of epigenetic gold deposits. Lithological control is essential for physiochemical and rheological (deformation) properties of the host rocks and influences the location of gold mineralization on a local scale. Some significant deposits occur in Achaean rocks, but the

age of the host rock age has no significant role on the gold mineralization. Phanerozoic gold lodes are common in the North American Cordillera.

Intense deformational events within the greater region of the project area occurred during the Triassic and Permian, followed by the Jurassic- Cretaceous orogeny. These orogenic periods were accompanied by widespread metamorphism and plutonism which likely generated the fluids that were responsible for transporting and depositing gold in favourable tectonic structures.

At the local scale the optimal places for possible gold bearing mineralization are shear zones and brecciated zones around thrust faults and the clastic marine sedimentary rock that were metamorphosed to graywacke, argillite, schist and phyllite.

9.0 EXPLORATION

Historical exploration is discussed in Section 6 of this report. The property has been dormant for almost 40 years and Marathon/MUSA have not undertaken any exploration.

During the due diligence site visit of Marathon in August, 2011, Mr. Phillip Walford, P.Geo., President of Marathon, collected 12 grab samples from the waste dumps at the old Main shaft. Manual separation of high grade material to go to the mill was carried out near the Main shaft and the 500-ft level tunnel.

The grab samples are from quartz veins containing varying amounts of carbonate and pyrite and some wall rocks. The samples with the most pyrite returned the best results and the lowest grades were with milky “bull” quartz veins with little sulphides. The samples were sent for fire assay and 30 element ICP analyses to Eastern Analytical Ltd., Springdale, NL, Canada, an analytical laboratory, independent from Marathon and MUSA, but not ISO-certified.

The results are listed in Table 1.1 and the assay certificate is provided in Appendix 3.

Table 9.1
Marathon Grab Sample Assay Results from the Bonanza Mine Property

Sample Number	Gold ¹ (g/t)	Silver (g/t)	Arsenic (%)	Copper (%)	Lead (%)	Zinc (%)
22780	0.23	3.1	0.01	0.00	0.05	0.00
22781	0.06	0.2	0.00	0.00	0.00	0.00
22782	0.11	0.4	>0.22	0.01	0.00	0.00
22783	0.75	0.3	0.16	0.00	0.00	0.00
22784	0.06	0.2	0.00	0.00	0.00	0.00
22785	19.12	1.5	0.02	0.01	0.01	0.02
615622	0.02	0.2	0.00	0.00	0.00	0.01
615623	0.01	0.2	0.00	0.00	0.00	0.00
615624	0.01	0.2	0.00	0.00	0.00	0.08
615625	0.01	0.2	0.00	0.00	0.00	0.00
615626	0.08	0.2	0.00	0.00	0.00	0.00
615627	0.01	0.2	0.00	0.00	0.00	0.00

¹ Fire assay results

It is worth mentioning that sample number 22785 (see Figure 7.6) from a gray-white coarse grained quartz vein with fine-grained euhedral cubic pyrite, returned 19.12 g/t gold and 1.5 g/t silver.

Micon considers that the results are reliable for due diligence purposes, but recommends using an ISO-accredited laboratory for the next stage of the exploration program.

10.0 DRILLING

Marathon/MUSA have not complete any drilling on the Bonanza Mine property.

Historical drilling is discussed in Section 6.0.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Marathon/MUSA have collected 12 grab samples from the waste dumps at the old Main shaft. The samples were sent to Eastern Analytical Ltd., 403 Little Bay Road, Springdale, NL for sample preparation and analysis. Other than packaging the samples for dispatch and shipping, no additional sample preparation was conducted by an employee, officer, director or associate of Marathon/MUSA.

Samples received at the laboratory were sorted and verified against the customer list to ensure that all samples had been received and there were no discrepancies. The sorted samples were dried in the original sample bags and taken into the laboratory system. The whole samples are crushed to 80% -10 mesh, split to 250 g and pulverized to 95% -150 mesh. A 30-g subsample of the -150mesh fraction was fire assayed for gold. The resulting doré bead was dissolved by aqua-regia digestion and analysed by atomic absorption (AA). In addition to the fire assay, a 0.5-g subsample was dissolved in hot aqua-regia and analysed by ICP-OES for 30 elements.

Eastern Analytical Ltd. is independent of Marathon and MUSA. The laboratory is not ISO-certified and the samples were taken for the due diligence purposes only of Marathon/MUSA.

The previous owner, Gazelle, collected 16 large samples from the waste dump at three locations as described in Section 6. The samples were prepared in a local unaccredited laboratory.

No QA/QC samples were submitted with grab and bulk samples.

Micon considers the sample preparation, security and analytical procedures to be reasonably in line with general industry standards. The grab samples were intended to confirm mineralization on the property and no QA/QC samples were inserted in the sample batch. Micon recommends that all future sample analysis includes QA/QC samples.

12.0 DATA VERIFICATION

12.1 INTRODUCTION

The data verification conducted by Micon involved the following:

- (a) Site visit to the Bonanza Mine project area for project familiarization and collecting information on the historical underground workings and exploration activities.
- (b) Verification of the land status of the patented and unpatented claims.
- (c) Independent sampling.

12.2 SITE VISIT

Micon, represented by Tania Ilieva, P.Geo., visited the Bonanza Mine project on 25 July, 2012, primarily for project familiarization and to review the survey of the location of the old underground workings, waste dump, location of historical bulk samples, the underground and surface area. She was accompanied by Mr. Robert Corrigan a local independent contractor, familiar with the area.

Micon collected 12 grab samples from the host rock, exposed around the 200-ft level haulage tunnel, three locations from the toe of the waste dump and one sample from the host rocks around the old shaft.

The objective of the sampling was to identify gold and/or pathfinder elements. The samples were submitted to TSL Laboratories Inc., 2-302 48th Street, Saskatoon, Saskatchewan, S7K 6A4, which is an ISO-certified laboratory.

The locations of Micon's independent sampling are shown on Figure 12.1.

Figure 12.1
Google Earth image of the Bonanza Mine area



Source: Google Earth.

The results are listed in Table 12.1 and the assay certificates are provided in Appendix 2.

Table 12.1
Micon's Grab Sample Assay Results from the Bonanza Mine Property

Sample Number	Gold ¹ (g/t)	Silver (g/t)	Arsenic (%)	Copper (%)	Description	Location
75401	< DL	<0.1	0.002	0.001	Metasediment with white, fine to medium grained quartz vein without visible sulphide mineralization.	Dump, south of the 200-ft level adit.
75402	0.01	0.2	0.001	0.004	Dark gray-black foliated argillite (slate) host rock.	Waste dump, south of haulage tunnel.
75403	< DL	<0.1	0.000	0.002	Dark gray argillite-host rock.	Toe of waste pile.
75404	< DL	0.1	0.000	0.003	Dark grey argillite-host rock.	Toe of waste pile.
75405	0.02	<0.1	0.001	0.002	White quartz vein with rusty spots.	Toe of waste pile.
75406	0.11	0.1	0.011	0.003	White quartz vein with rusty spots.	Toe of waste pile.
75407	< DL	<0.1	0.000	0.000	Metasediment with white quartz vein with rusty spots.	Toe of waste pile.
75408	0.02	<0.1	0.005	0.001	White quartz vein with rusty spots.	Toe of waste pile.
75409	0.19	0.2	0.001	0.001	White quartz vein with rusty spots.	Toe of waste pile.
75410	0.01	0.1	0.001	0.002	White quartz vein with rusty spots.	Toe of waste pile.
75411	< DL	<0.1	0.010	0.004	Dark gray metasediment with sulphide mineralization-pyrite and chalcopyrite.	Toe of waste pile.
75412	< DL	0.2	0.000	0.003	Green altered metavolcanics. No visible mineralization.	Shaft area.

¹Fire assay results

As expected, no significant values were reported in the host rock, thereby confirming McGinnis' observation in 1958 that the gold mineralization is confined to quartz veins. The results from the 31-element ICP analyses confirmed that the elevated gold values are associated with higher arsenic, silver, copper and sulphur.

Marathon/MUSA have not completed any sampling programs and QA/QC procedures were not implemented during the previous exploration programs.

Micon recommends that a QA/QC protocol should be implemented and blank, high grade and low grade certified reference materials (standards) should be used for future sampling programs.

The USFS reclaimed the area and no outcrop or development was accessible during the site visit.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

MUSA has not completed metallurgical test work on the property as this is still an early stage exploration property.

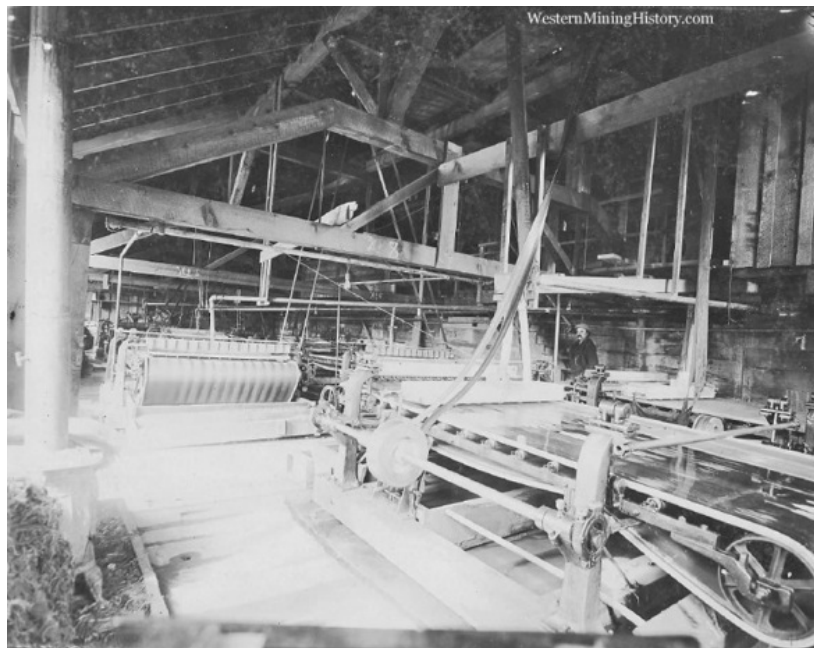
The following is an outline of the historical recovery process. In general, lode mining was conducted by removal of the ore and waste rock from the mine, crushing and milling of the ore, and recovery of the targeted minerals. Ore and waste rock from the underground workings of the mine were removed with hammers, jacks, and explosives. Waste rock was generally deposited near the portal of the dewatering tunnel on the 500-ft level. Ore was transported from haulage tunnel to the mill in Geiser using cable trams.

At the mill located next to the Geiser Creek, the ore was crushed and milled using a 40- to 50-stamp mill. The pulverized ore was mixed with water to form a pulp or slurry. In general, recovery of gold in the Blue Mountains was accomplished by one or more processes, usually depending upon the nature of the mineralization. Material mined from the levels above 500-ft level was oxidized and contained free gold. The gold recovery was reported to be about 60% and was processed by amalgamation, through which the slurry was allowed to flow over a copper plate coated with a film of mercury. The free gold adhered to the mercury, forming an amalgam and the gangue was washed away. Amalgamation tables were typically set up near the bases of stamp mills. Free gold was also recovered by the process of gravity concentration, in which vibrating tables were used to separate gold from the less dense gangue minerals. In the early production years, the gold that was present in sulphide-bearing mineralization was not recovered, since the flotation process had not been widely adopted at that time.

Cyanide leaching was introduced to recover gold from the sulphide ores in which the gold is largely bound in pyrite and arsenopyrite. In general, cyanide leaching was not very successful.

A photograph of the old processing mill at Geiser is shown in Figure 13.1.

Figure 13.1
Bonanza Processing Mill at Geiser, 1901



Source: www.westernmininghistory.com.

14.0 MINERAL RESOURCE ESTIMATES

Exploration is still at early stage and no data are available for the estimation of resources.

Marathon/MUSA have not carried out any exploration work to update the historical mineral resources. Historical mineral resource and “reserve” estimates are reported in Section 6.3 and are provided for information purposes only.

15.0 ADJACENT PROPERTIES

The information provided in this section is based on reliable publicly available records. Micon has not been able to verify this information and the descriptions provided are not necessarily indicative of the mineralization on the Bonanza Mine property.

The closest mine, adjacent to the Bonanza Mine property is the Pix Mine, located in Section 1, Township 105, Range 35 E., Greenhorn district, Grant County. It is an inactive gold mine and mill site, located about 5 km west of Granite, Oregon and 3 to 4 km northwest of the Bonanza Mine. Underground development consists of several tunnels and shafts. The gold mineralization is in near surface pockets in the oxidized zone and in underground quartz-pyrite veins. Minor production was reported from 1907 to 1988. Several times the mine was put on care and maintenance and it was finally closed in the early 1990s.

South of the property are two former placer gold production sites. These small placer deposits were mined with a dredge. The Triangle dredge placer was located in an approximately 2.5-km long paleochannel in Tertiary gravel. The Pakerville placer deposit was mined up to 1980s.

Currently, Calico Resources Corporation has an advanced exploration project in southeast Oregon, called the Grassy Mountain Project. The property is located in Malheur County, Oregon, approximately 112.6 km (70 miles) west of Boise, Idaho and 35.4 km (22 miles) south of Vale, Oregon. Similar gold-silver mineralization is hosted in olivine-rich basalt and siltstones, sandstones, and conglomerates of the late-Miocene Grassy Mountain Formation. The surface expression of the Grassy Mountain gold bearing quartz veins system is indicated by weak to strong silicification and iron staining with scattered 0.5 to 2.5 cm wide creamy to light gray chalcedonic veinlets. Approximate dimensions of the Grassy Mountain deposit are 1,600 ft (487.7 m) long by 1,000 ft (304.8 m) wide by 600 ft (183.9 m) thick. The deposit has a general N 70° E elongation and a 15° bedding plane dip to the north-northeast as a result of faulting and fault block rotation.

16.0 MINERAL RESOURCES AND MINERAL RESERVES

Historical mineral resource and mineral reserves estimates are discussed in Section 6.3.

17.0 OTHER RELEVANT DATA AND INFORMATION

The rules and regulations governing the mining properties, roads, trails, exploration and mining in the USA are set in the General Mining Law of 1872. All details are provided the Mineral Land Regulation & Reclamation Program (MLRR) web page (www.oregongeology.org/mlrr/surfacemining.htm).

All relevant data and information on the Bonanza Mine property are provided elsewhere in this report to make it understandable and not misleading.

18.0 INTERPRETATION AND CONCLUSIONS

The regional geological setting of the Bonanza Mine property is favourable for greenstone-hosted quartz-carbonate vein deposits. There has been small scale historical mining of the oxide zone for silver and gold both in underground workings and in small open pits.

The gold bearing mineralization formed in shear zones and faults within the metasediments of the Elkhorne Ridge Argillite, metamorphosed to greenschist facies or at the contact between serpentine matrix melange and the Elkhorne Ridge Argillite. The mineralization is interpreted to be of hydrothermal replacement origin related to a nearby Jurassic-Cretaceous granitoid pluton. The argillites have quartz-sericite-pyrite alteration, with subsequent deformation and silicification. The gold mineralization consists of multiple quartz veins that are sub-vertical and elongated down-dip. The mineralized zones have two parts, an upper gossan with free gold formed by oxidation of the sulphides and containing gold and silver, and the main body of unaltered sulphides which also contains gold and silver. A geological mapping program and trenching will reveal the exact location of the favourable structures and the continuity of the mineralized zones.

The total project area is 1,065.684 ha (2,633.313 ac) and the property has not been explored for the last 40 years. The previous exploration was very limited and focused only on the gold-bearing quartz vein, mainly on the Bonanza claim (8.34 ha).

There is potential for the discovery of economic mineralization below the 200-ft level and along the lateral extensions of the Bonanza, North and South veins. Zones of gold bearing sulphide mineralization are identified in the unpatented lode claims, and disseminated gold and silver mineralization may exist in the hanging and footwalls of the known veins, or between the quartz veins. There is potential for discovery of zones of higher grade disseminated mineralization, and for additional mineralization along the contacts or under the Tertiary cover. This will require geophysical surveys, trenching and additional drilling.

It should be noted that, despite the identified potential which is based on historical data, the Bonanza Mine property is at an early stage of exploration and there is no guarantee that a significant mineral resource will be delineated.

19.0 RECOMMENDATIONS

It is anticipated that Marathon/MUSA's exploration program will start in the second quarter of 2013.

19.1 PROPOSED EXPLORATION WORK

While historic drill logs, maps and sections will be useful to guide exploration, after 40 years the historic drill core is not available. The methods used for historic drill core sampling, preparation and analyses cannot be confirmed as being compliant with current industry standards.

In order to achieve the best results and obtain reliable information that will support estimation of mineral resources in accordance with the reporting requirements of NI 43-101 Micon recommends the following:

- A senior geologist, with both surface and underground exploration experience should be employed for the duration of the program. This geologist will compile the historical data and manage the exploration program and ensure that all procedures and protocols are fully in accordance with the reporting requirements of NI 43-101.
- New surface and underground surveys should be completed by an independent surveying contractor who has both surface and underground experience. The precise georeferencing of historical maps and sections with accuracy less than 0.5 m will facilitate the resource estimation and potential future mine development.
- An exploration grid should be established on the ground in the areas prioritized for a geochemical survey and ground geophysical survey, starting with those areas around the Bonanza Mine workings. Field observations during the site visit suggest low sulphide gold mineralization located within shear zones, so that induced polarization and resistivity surveys have limited application, but a VLF survey would be an appropriate geophysical tool. Magnetic and radiometric surveys (Gamma ray spectrometry) are good reconnaissance tools which can detect potassic alteration, outline geological units and identify other prominent signatures.
- A prospecting, mapping and trenching program should be completed in the field season of 2013. The mapping should focus on detecting major and minor lineaments, the relationships between major and secondary structures, and how these relate to the known gold mineralization.
- Ground geophysical and penetrating radar surveys should be undertaken in order to locate and map the old underground workings.
- A 15,000-m surface diamond drilling program should be designed and undertaken. The program should be planned in two phases. The first phase (7,500 m) should target

the remaining mineralization below the underground workings and test the lateral extension of the known mineralization. The focus of the second phase will depend on the outcome of the initial drilling.

- All accessible underground workings should be thoroughly surveyed, mapped and sampled. Sampling should be detailed where there is evidence of quartz veining and discordant silicified zones. A three-dimensional geological model of the deposit should be built based on surface and underground data.
- The first few (say 10) drill holes from surface should have the full length of core sampled to ensure that the characteristics of the mineralized zones are clearly established. Once the first 10 holes have been fully sampled, then only the mineralized zones and the 5 m before and after the mineralized section can be sampled.
- The nugget effect for the high grade gold deposits is very common. A QA/QC protocol using blanks and certified reference material (standards) should be implemented for the channel samples and drill hole samples from the beginning of the program. The performance of control samples (i.e., blanks and standards) should be monitored on a real time basis. If the performance is erratic, then the number of check analyses to be conducted at a different laboratory should be at least 25% of the total samples analysed. If the results on standard samples are acceptable, a 5% rate for check analyses is recommended.

Phase 1 of the drilling program will focus on 14 patented claims, covering 120.83 ha (300 ac) around the old Bonanza Mine. Approximately 7,500 m of confirmation drilling will target the Bonanza, South and North veins and the geophysical anomalies on the lateral extensions of the same structure. Phase 2 would be contingent on the success of the Phase 1 work and would include step out drill holes or drill holes in other ore bodies totalling 7,500 m.

Given the absence of outcrop a drill hole spacing of 50 to 100 m along strike may be adequate to identify an inferred resource. The drilling program will require at least 30 to 50 holes with a cumulative length of 15,000 m. The drilling program will also help understand the potential variation in mineralogy and in grain size of the sulphide mineralization. Given the absence of any data from the previous metallurgical analyses

Prior to any exploration activities, it is recommended that MUSA and Marathon establish working relationships with the Baker City council and/or the mayor and with the local temporary residents.

19.2 BUDGET

In line with these recommendations, MUSA has proposed an exploration budget of Cdn\$4 million for the period April, 2013 to December, 2013. The breakdown is shown in Table

19.1. As noted above, Phase 2 of the exploration program will be contingent on the outcome of Phase 1.

Table 19.1
Budget For Future Exploration Work (2012-2013)

Item	Units	Volume	Cost/unit (Cdn\$)	Total (Cdn\$)
Phase 1				
Linecutting and ground geophysics (magnetics/VLF)	km	150	300	45,000
Soil sampling, stream sediment and geological mapping	days	100	500	50,000
Mobilization/demobilization (drilling)		1	8,000	8,000
Surface drilling (NQ)	m	7,500	200	1,500,000
Sample preparation and chemical analyses	sample	3,500	35	122,500
Core logging, data processing, geological interpretations	days	150	500	75,000
Core cutting and geological assistant	days	120	250	30,000
Transportation, food and accommodation	days	150	500	75,000
Contingency (10%)				190,000
Subtotal				2,095,500
Phase 2				
Surface drilling	m	7,500	200	1,500,000
Sample preparation and chemical analyses	sample	3,500	35	122,500
Mineralogical, petrographic and metallurgical studies	units	1	40,000	40,000
GIS, mine and surface surveys	units	1	10,000	10,000
Additional payments (exploration permit)	units	1	400	400
Core logging, data processing, report preparation	days	150	500	75,000
Core cutting and geological assistant	days	120	250	30,000
Transportation, food and accommodation	days	150	500	75,000
Contingency (10%)			185,000	185,000
Subtotal				1,852,900
Total				4,000,000

The budget in Table 19.1 addresses only the direct costs of the exploration program and does not consider general and administrative costs for the company's offices in Toronto, Ontario, Canada or Denver, Colorado, USA, licence fees and other mineral rights payments, costs for ongoing community and government relations, or project generation and evaluation activities outside of the project area. Licence costs are reported in Section 4.2 of this report.

Micon considers that the proposed budget is reasonable and recommends that MUSA proceed with the proposed work program.

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21.0 SIGNATURE PAGE

“Tania Ilieva” *{Signed and sealed}*

Tania Ilieva, P.Ge., APGO (#1259)
Micon International Limited
Effective Date: 17 September, 2012
Signing Date: 17 September, 2012

22.0 CERTIFICATES

CERTIFICATE OF AUTHOR TANIA ILIEVA

As the author of this report on the NI 43-101 Technical Report for the Bonanza Gold Mine Property, Oregon, United States, I, Tania Ilieva do hereby certify that:

- 1) I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail tilieva@micon-international.com;
- 2) I hold the following academic qualifications:
B.Sc. (Geology) Institute of Mining and Geology, Sofia, Bulgaria 1986
Ph. D (Geology) University of Mining and Geology, Sofia, Bulgaria 2000
- 3) I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Ontario (membership # 1259); as well, I am a member in good standing of several other technical associations and societies, including:
Association of Professional Engineers, Geologists and Geophysicists of Manitoba (Membership # 34406)
The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 149800)
- 4) I have worked as a geologist in the mining and minerals industry for 22 years;
- 5) I am familiar with NI 43-101 and, by reason of education, experience and professional registration I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 6 years as an exploration geologist looking for gold and base metal deposits, more than 10 years as a research scientist, 6 years as a consulting geologist.
- 6) As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading;
- 7) I visited the Bonanza Mine property on 25 July, 2012.
- 8) I am independent of the parties involved in the property for which this report is required, as set out in Section 1.5 of NI 43-101, other than providing consulting services;
- 9) I have read the NI 43-101 and this Technical Report has been prepared in compliance with the Instrument.
- 10) I am responsible for the preparation of sections 1 to 20 of this Technical Report dated August 31, 2012 and entitled "NI 43-101 Technical Report for the Bonanza Gold Mine Property, Oregon, United States.

Dated this 17 day of September, 2012

"Tania Ilieva"

Tania Ilieva, Ph.D., P. Geo.
Senior Geologist
Micon International Limited

APPENDIX 1
List of Unpatented Claims

RUN TIME: 10:19 AM

UNITED STATES DEPARTMENT OF INTERIOR
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CLAIM NAME/NUMBER INDEX (ALPHA ORDER)
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Claim Name/Number	Serial No	Claimant	MER	TWN	RANGE	SEC	Subdv	CITY	LOC DATE	Case Closed
BOW 1	ORMC168429	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW SE	OR023	09/22/2011	
BOW 1	ORMC168429	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW SE	OR001	09/22/2011	
BOW 10	ORMC168324	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE NW	OR001	09/22/2011	
BOW 100	ORMC168747	MARATHON GOLD USA CORP	33	0100S	0352E	009	SE	OR001	12/19/2011	
BOW 100	ORMC168747	MARATHON GOLD USA CORP	33	0100S	0352E	016	NW	OR001	12/19/2011	
BOW 103	ORMC168750	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE	OR001	12/21/2011	
BOW 104	ORMC168751	MARATHON GOLD USA CORP	33	0100S	0352E	011	NW	OR001	12/21/2011	
BOW 104	ORMC168751	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE	OR001	12/21/2011	
BOW 108	ORMC168755	MARATHON GOLD USA CORP	33	0100S	0352E	015	NW	OR001	12/22/2011	
BOW 11	ORMC168325	MARATHON GOLD USA CORP	33	0100S	0352E	009	NW	OR001	09/22/2011	
BOW 112	ORMC168759	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE	OR001	12/21/2011	
BOW 112	ORMC168759	MARATHON GOLD USA CORP	33	0100S	0352E	011	NW SW	OR001	12/21/2011	
BOW 113	ORMC168760	MARATHON GOLD USA CORP	33	0100S	0352E	011	NW SW SE	OR001	12/21/2011	
BOW 114	ORMC168761	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW SE	OR001	12/21/2011	
BOW 115	ORMC168762	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	12/21/2011	
BOW 116	ORMC168763	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW SE	OR001	12/21/2011	
BOW 117	ORMC168764	MARATHON GOLD USA CORP	33	0100S	0352E	012	SW	OR001	12/21/2011	
BOW 117	ORMC168764	MARATHON GOLD USA CORP	33	0100S	0352E	011	SE	OR001	12/21/2011	
BOW 118	ORMC168765	MARATHON GOLD USA CORP	33	0100S	0352E	011	SE	OR001	12/21/2011	
BOW 118	ORMC168765	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE	OR001	12/21/2011	
BOW 119	ORMC168766	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE	OR001	12/22/2011	
BOW 119	ORMC168766	MARATHON GOLD USA CORP	33	0100S	0352E	011	SE	OR001	12/22/2011	
BOW 12	ORMC168326	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE NW	OR001	09/22/2011	
BOW 120	ORMC168767	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE	OR001	12/22/2011	
BOW 121	ORMC168768	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE	OR001	12/21/2011	
BOW 121	ORMC168768	MARATHON GOLD USA CORP	33	0100S	0352E	013	NW	OR001	12/21/2011	
BOW 122	ORMC168769	MARATHON GOLD USA CORP	33	0100S	0350E	012	SW	OR023	12/20/2011	
BOW 122	ORMC168769	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE NW	OR001	12/20/2011	
BOW 123	ORMC168770	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE	OR001	12/20/2011	
BOW 124	ORMC168771	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE NW	OR001	12/20/2011	

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BOW 125	ORMC168772	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE NW	OR001	12/20/2011	
BOW 126	ORMC168773	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE	OR001	12/19/2011	
BOW 126	ORMC168773	MARATHON GOLD USA CORP	33	0100S	0352E	016	NW	OR001	12/19/2011	
BOW 127	ORMC168774	MARATHON GOLD USA CORP	33	0100S	0352E	016	NW	OR001	12/19/2011	
BOW 127	ORMC168774	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE SE	OR001	12/19/2011	
BOW 128	ORMC168775	MARATHON GOLD USA CORP	33	0100S	0352E	016	NW	OR001	12/19/2011	
BOW 129	ORMC168776	MARATHON GOLD USA CORP	33	0100S	0352E	016	NW	OR001	12/19/2011	
BOW 129	ORMC168776	MARATHON GOLD USA CORP	33	0100S	0350E	013	SE	OR001	12/19/2011	
BOW 13	ORMC168327	MARATHON GOLD USA CORP	33	0100S	0352E	010	NW	OR001	09/21/2011	
BOW 13	ORMC168327	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE	OR001	09/21/2011	
BOW 130	ORMC168777	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE NW SE	OR001	12/19/2011	
BOW 132	ORMC168779	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE NW SW SE	OR001	12/19/2011	
BOW 135	ORMC168782	MARATHON GOLD USA CORP	33	0100S	0352E	015	NW SW	OR001	12/22/2011	
BOW 136	ORMC169163	MARATHON GOLD USA CORP	33	0100S	0352E	016	SE	OR001	05/11/2012	
BOW 136	ORMC169163	MARATHON GOLD USA CORP	33	0100S	0352E	015	SW	OR001	05/11/2012	
BOW 137	ORMC168784	MARATHON GOLD USA CORP	33	0100S	0352E	015	SW	OR001	12/22/2011	
BOW 138	ORMC168785	MARATHON GOLD USA CORP	33	0100S	0352E	015	NE NW SW SE	OR001	12/22/2011	
BOW 139	ORMC168786	MARATHON GOLD USA CORP	33	0100S	0352E	015	NE SE	OR001	12/18/2011	
BOW 139	ORMC168786	MARATHON GOLD USA CORP	33	0100S	0352E	014	NW SW	OR001	12/18/2011	
BOW 14	ORMC168328	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE	OR001	09/21/2011	
BOW 14	ORMC168328	MARATHON GOLD USA CORP	33	0100S	0352E	010	NW	OR001	09/21/2011	
BOW 140	ORMC168787	MARATHON GOLD USA CORP	33	0100S	0352E	015	SW SE	OR001	12/22/2011	
BOW 141	ORMC168788	MARATHON GOLD USA CORP	33	0100S	0352E	014	SW	OR001	12/18/2011	
BOW 141	ORMC168788	MARATHON GOLD USA CORP	33	0100S	0352E	015	SE	OR001	12/18/2011	
BOW 142	ORMC168789	MARATHON GOLD USA CORP	33	0100S	0352E	014	NW SW	OR001	12/18/2011	
BOW 144	ORMC168791	MARATHON GOLD USA CORP	33	0100S	0352E	014	SW	OR001	12/18/2011	
BOW 149	ORMC168999	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE SE	OR001	02/08/2012	
BOW 15	ORMC168329	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE SE	OR001	09/21/2011	
BOW 150	ORMC168970	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	02/08/2012	
BOW 150	ORMC168970	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE SE	OR001	02/08/2012	

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BOW 151	ORMC168971	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	02/08/2012	
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BOW 152	ORMC168972	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	02/08/2012	
BOW 152	ORMC168972	MARATHON GOLD USA CORP	33	0100S	0352E	015	NE	OR001	02/08/2012	
BOW 153	ORMC168973	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	02/08/2012	
BOW 154	ORMC168974	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	02/08/2012	
BOW 16	ORMC168330	MARATHON GOLD USA CORP	33	0100S	0352E	010	NW SW	OR001	09/21/2011	
BOW 16	ORMC168330	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE SE	OR001	09/21/2011	
BOW 17	ORMC168968	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE SE	OR001	02/11/2012	
BOW 18	ORMC168332	MARATHON GOLD USA CORP	33	0100S	0352E	009	SE	OR001	09/25/2011	
BOW 18	ORMC168332	MARATHON GOLD USA CORP	33	0100S	0352E	010	SW	OR001	09/25/2011	
BOW 19	ORMC168333	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE SE	OR001	09/24/2011	
BOW 2	ORMC168430	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR023	09/22/2011	
BOW 2	ORMC168430	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR001	09/22/2011	
BOW 20	ORMC168334	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	09/24/2011	
BOW 20	ORMC168334	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	09/24/2011	
BOW 21	ORMC168335	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE SE	OR001	09/24/2011	
BOW 22	ORMC168336	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	09/24/2011	
BOW 22	ORMC168336	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	09/24/2011	
BOW 23	ORMC168337	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	09/24/2011	
BOW 24	ORMC168338	MARATHON GOLD USA CORP	33	0100S	0352E	014	NW	OR001	09/24/2011	
BOW 24	ORMC168338	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	09/24/2011	
BOW 24	ORMC168338	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	09/24/2011	
BOW 24	ORMC168338	MARATHON GOLD USA CORP	33	0100S	0352E	015	NE	OR001	09/24/2011	
BOW 25	ORMC168339	MARATHON GOLD USA CORP	33	0100S	0352E	015	NE	OR001	09/24/2011	
BOW 25	ORMC168339	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	09/24/2011	
BOW 25	ORMC168339	MARATHON GOLD USA CORP	33	0100S	0352E	014	NW	OR001	09/24/2011	
BOW 26	ORMC168674	MARATHON GOLD USA CORP	33	0100S	0352E	004	NE NW SW SE	OR023	12/16/2011	
BOW 26	ORMC168674	MARATHON GOLD USA CORP	33	0100S	0352E	004	NE NW SW SE	OR001	12/16/2011	
BOW 27	ORMC168675	MARATHON GOLD USA CORP	33	0100S	0352E	003	SW	OR001	12/16/2011	

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BOW 27	ORMC168675	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR023	12/16/2011	
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BOW 28	ORMC168676	MARATHON GOLD USA CORP	33	0100S	0350E	012	NE SE	OR023	12/15/2011	
BOW 28	ORMC168676	MARATHON GOLD USA CORP	33	0100S	0352E	009	NW SW	OR001	12/15/2011	
BOW 29	ORMC168677	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE NW SW SE	OR001	12/15/2011	
BOW 3	ORMC168431	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW SE	OR001	09/22/2011	
BOW 3	ORMC168431	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW SE	OR023	09/22/2011	
BOW 30	ORMC168678	MARATHON GOLD USA CORP	33	0100S	0352E	009	NW SW	OR001	12/15/2011	
BOW 30	ORMC168678	MARATHON GOLD USA CORP	33	0100S	0350E	012	SE	OR023	12/15/2011	
BOW 31	ORMC168679	MARATHON GOLD USA CORP	33	0100S	0352E	009	NW SW SE	OR001	12/15/2011	
BOW 32	ORMC168680	MARATHON GOLD USA CORP	33	0100S	0352E	010	NW	OR001	12/16/2011	
BOW 32	ORMC168680	MARATHON GOLD USA CORP	33	0100S	0352E	003	SW	OR001	12/16/2011	
BOW 33	ORMC168681	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE NW	OR001	12/16/2011	
BOW 33	ORMC168681	MARATHON GOLD USA CORP	33	0100S	0352E	003	SW	OR001	12/16/2011	
BOW 34	ORMC168682	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE SE	OR001	12/15/2011	
BOW 35	ORMC168683	MARATHON GOLD USA CORP	33	0100S	0352E	010	SW	OR001	12/15/2011	
BOW 35	ORMC168683	MARATHON GOLD USA CORP	33	0100S	0352E	009	SE	OR001	12/15/2011	
BOW 36	ORMC168684	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW SE	OR001	12/15/2011	
BOW 37	ORMC168685	MARATHON GOLD USA CORP	33	0100S	0352E	009	SE	OR001	12/15/2011	
BOW 38	ORMC168686	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW SE	OR001	12/15/2011	
BOW 39	ORMC168687	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE	OR001	12/15/2011	
BOW 39	ORMC168687	MARATHON GOLD USA CORP	33	0100S	0352E	009	SE	OR001	12/15/2011	
BOW 4	ORMC168432	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR023	09/22/2011	
BOW 4	ORMC168432	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE	OR001	09/22/2011	
BOW 4	ORMC168432	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR001	09/22/2011	
BOW 40	ORMC168688	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE NW	OR001	12/16/2011	
BOW 41	ORMC168689	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE	OR001	12/16/2011	
BOW 42	ORMC168690	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE SE	OR001	12/16/2011	
BOW 42	ORMC168690	MARATHON GOLD USA CORP	33	0100S	0352E	011	NW SW	OR001	12/16/2011	
BOW 43	ORMC168691	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	12/16/2011	

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BOW 44	ORMC168692	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE	OR001	12/16/2011	
BOW 44	ORMC168692	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW SE	OR001	12/16/2011	
BOW 45	ORMC168693	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	12/16/2011	
BOW 46	ORMC168694	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE NW	OR001	12/16/2011	
BOW 46	ORMC168694	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW SE	OR001	12/16/2011	
BOW 47	ORMC168695	MARATHON GOLD USA CORP	33	0100S	0352E	014	NW	OR001	12/16/2011	
BOW 47	ORMC168695	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	12/16/2011	
BOW 48	ORMC168696	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE NW	OR001	12/16/2011	
BOW 48	ORMC168696	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW SE	OR001	12/16/2011	
BOW 49	ORMC168697	MARATHON GOLD USA CORP	33	0100S	0352E	014	NW	OR001	12/16/2011	
BOW 49	ORMC168697	MARATHON GOLD USA CORP	33	0100S	0352E	015	NE	OR001	12/16/2011	
BOW 49	ORMC168697	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	12/16/2011	
BOW 49	ORMC168697	MARATHON GOLD USA CORP	33	0100S	0352E	011	SW	OR001	12/16/2011	
BOW 5	ORMC168433	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW SE	OR023	09/22/2011	
BOW 5	ORMC168433	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW SE	OR001	09/22/2011	
BOW 5	ORMC168433	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE NW	OR001	09/22/2011	
BOW 50	ORMC168698	MARATHON GOLD USA CORP	33	0100S	0352E	014	NW	OR001	12/16/2011	
BOW 51	ORMC168699	MARATHON GOLD USA CORP	33	0100S	0352E	010	SW	OR001	12/15/2011	
BOW 53	ORMC168700	MARATHON GOLD USA CORP	33	0100S	0352E	010	SE	OR001	01/10/2012	
BOW 54	ORMC168701	MARATHON GOLD USA CORP	33	0100S	0352E	014	NW	OR001	12/16/2011	
BOW 55	ORMC169160	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE	OR001	05/11/2012	
BOW 56	ORMC169161	MARATHON GOLD USA CORP	33	0100S	0352E	014	NE SE	OR001	05/11/2012	
BOW 57	ORMC169162	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE SE	OR001	05/11/2012	
BOW 6	ORMC168434	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR023	09/22/2011	
BOW 6	ORMC168434	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE	OR001	09/22/2011	
BOW 6	ORMC168434	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR001	09/22/2011	
BOW 63	ORMC168710	MARATHON GOLD USA CORP	33	0100S	0352E	004	NE NW	OR023	12/21/2011	
BOW 63	ORMC168710	MARATHON GOLD USA CORP	33	0100S	0352E	004	NE NW	OR001	12/21/2011	
BOW 64	ORMC168711	MARATHON GOLD USA CORP	33	0100S	0352E	004	NW SW	OR001	12/21/2011	
BOW 64	ORMC168711	MARATHON GOLD USA CORP	33	0100S	0352E	004	NW SW	OR023	12/21/2011	

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BOW 65	ORMC168712	MARATHON GOLD USA CORP	33	0100S	0352E	004	NW SW	OR023	12/21/2011	
BOW 65	ORMC168712	MARATHON GOLD USA CORP	33	0100S	0352E	004	NW SW	OR001	12/21/2011	
BOW 66	ORMC168713	MARATHON GOLD USA CORP	33	0100S	0350E	001	SE	OR023	12/21/2011	
BOW 66	ORMC168713	MARATHON GOLD USA CORP	33	0100S	0350E	001	SE	OR001	12/21/2011	
BOW 66	ORMC168713	MARATHON GOLD USA CORP	33	0100S	0352E	004	NW	OR023	12/21/2011	
BOW 67	ORMC168714	MARATHON GOLD USA CORP	33	0100S	0350E	012	NE	OR023	12/21/2011	
BOW 67	ORMC168714	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW	OR001	12/21/2011	
BOW 67	ORMC168714	MARATHON GOLD USA CORP	33	0100S	0350E	001	SE	OR001	12/21/2011	
BOW 67	ORMC168714	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW	OR023	12/21/2011	
BOW 67	ORMC168714	MARATHON GOLD USA CORP	33	0100S	0350E	001	SE	OR023	12/21/2011	
BOW 68	ORMC168715	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW	OR023	12/20/2011	
BOW 68	ORMC168715	MARATHON GOLD USA CORP	33	0100S	0350E	001	SE	OR001	12/20/2011	
BOW 68	ORMC168715	MARATHON GOLD USA CORP	33	0100S	0350E	001	SE	OR023	12/20/2011	
BOW 68	ORMC168715	MARATHON GOLD USA CORP	33	0100S	0350E	012	NE	OR023	12/20/2011	
BOW 68	ORMC168715	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW	OR001	12/20/2011	
BOW 69	ORMC168716	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW	OR001	12/20/2011	
BOW 69	ORMC168716	MARATHON GOLD USA CORP	33	0100S	0352E	009	NW	OR001	12/20/2011	
BOW 69	ORMC168716	MARATHON GOLD USA CORP	33	0100S	0350E	012	NE	OR023	12/20/2011	
BOW 69	ORMC168716	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW	OR023	12/20/2011	
BOW 7	ORMC168321	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE NW	OR001	09/22/2011	
BOW 7	ORMC168321	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW	OR023	09/22/2011	
BOW 7	ORMC168321	MARATHON GOLD USA CORP	33	0100S	0352E	004	SW	OR001	09/22/2011	
BOW 70	ORMC168717	MARATHON GOLD USA CORP	33	0100S	0350E	012	NE	OR023	12/20/2011	
BOW 70	ORMC168717	MARATHON GOLD USA CORP	33	0100S	0352E	009	NW	OR001	12/20/2011	
BOW 71	ORMC168718	MARATHON GOLD USA CORP	33	0100S	0350E	012	NE SE	OR023	12/20/2011	
BOW 72	ORMC168719	MARATHON GOLD USA CORP	33	0100S	0350E	012	NE SE	OR023	12/20/2011	
BOW 73	ORMC168720	MARATHON GOLD USA CORP	33	0100S	0350E	012	NE SE	OR023	12/20/2011	
BOW 74	ORMC168721	MARATHON GOLD USA CORP	33	0100S	0350E	012	SE	OR023	12/20/2011	
BOW 75	ORMC168722	MARATHON GOLD USA CORP	33	0100S	0350E	012	SW SE	OR023	12/20/2011	
BOW 76	ORMC168723	MARATHON GOLD USA CORP	33	0100S	0350E	012	SW SE	OR023	12/20/2011	

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BOW 76	ORMC168723	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE	OR001	12/20/2011	
BOW 77	ORMC168724	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE NW	OR001	12/20/2011	
BOW 77	ORMC168724	MARATHON GOLD USA CORP	33	0100S	0350E	012	SW SE	OR023	12/20/2011	
BOW 78	ORMC168725	MARATHON GOLD USA CORP	33	0100S	0352E	004	NE NW SE	OR023	12/21/2011	
BOW 78	ORMC168725	MARATHON GOLD USA CORP	33	0100S	0352E	004	NE NW SE	OR001	12/21/2011	
BOW 79	ORMC168726	MARATHON GOLD USA CORP	33	0100S	0352E	003	SW	OR001	12/21/2011	
BOW 79	ORMC168726	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR023	12/21/2011	
BOW 79	ORMC168726	MARATHON GOLD USA CORP	33	0100S	0352E	004	SE	OR001	12/21/2011	
BOW 8	ORMC168322	MARATHON GOLD USA CORP	33	0100S	0352E	009	NE NW	OR001	09/22/2011	
BOW 80	ORMC168727	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/20/2011	
BOW 80	ORMC168727	MARATHON GOLD USA CORP	33	0100S	0350E	012	SE	OR023	12/20/2011	
BOW 81	ORMC168728	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/19/2011	
BOW 82	ORMC168729	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/20/2011	
BOW 82	ORMC168729	MARATHON GOLD USA CORP	33	0100S	0350E	012	SE	OR023	12/20/2011	
BOW 83	ORMC168730	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/19/2011	
BOW 84	ORMC168731	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/20/2011	
BOW 84	ORMC168731	MARATHON GOLD USA CORP	33	0100S	0350E	013	NW	OR001	12/20/2011	
BOW 84	ORMC168731	MARATHON GOLD USA CORP	33	0100S	0350E	012	SE	OR023	12/20/2011	
BOW 85	ORMC168732	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/19/2011	
BOW 85	ORMC168732	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE	OR001	12/19/2011	
BOW 85	ORMC168732	MARATHON GOLD USA CORP	33	0100S	0350E	012	SE	OR023	12/19/2011	
BOW 86	ORMC168733	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE	OR001	12/20/2011	
BOW 86	ORMC168733	MARATHON GOLD USA CORP	33	0100S	0350E	012	SE	OR023	12/20/2011	
BOW 87	ORMC168734	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/19/2011	
BOW 87	ORMC168734	MARATHON GOLD USA CORP	33	0100S	0352E	016	NW	OR001	12/19/2011	
BOW 87	ORMC168734	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE	OR001	12/19/2011	
BOW 88	ORMC168735	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE	OR001	12/20/2011	
BOW 89	ORMC168736	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/19/2011	
BOW 89	ORMC168736	MARATHON GOLD USA CORP	33	0100S	0352E	016	NW	OR001	12/19/2011	
BOW 89	ORMC168736	MARATHON GOLD USA CORP	33	0100S	0350E	013	NE	OR001	12/19/2011	

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BOW 9	ORMC168323	MARATHON GOLD USA CORP	33	0100S	0352E	009	NW	OR001	09/22/2011	
BOW 90	ORMC168737	MARATHON GOLD USA CORP	33	0100S	0352E	003	SW	OR001	12/21/2011	
BOW 91	ORMC168738	MARATHON GOLD USA CORP	33	0100S	0352E	010	NE NW	OR001	12/21/2011	
BOW 91	ORMC168738	MARATHON GOLD USA CORP	33	0100S	0352E	003	SW SE	OR001	12/21/2011	
BOW 92	ORMC168739	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW SE	OR001	12/19/2011	
BOW 93	ORMC168740	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE	OR001	12/19/2011	
BOW 93	ORMC168740	MARATHON GOLD USA CORP	33	0100S	0352E	009	SE	OR001	12/19/2011	
BOW 94	ORMC168741	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW SE	OR001	12/19/2011	
BOW 94	ORMC168741	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE NW	OR001	12/19/2011	
BOW 95	ORMC168742	MARATHON GOLD USA CORP	33	0100S	0352E	009	SE	OR001	12/19/2011	
BOW 95	ORMC168742	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE	OR001	12/19/2011	
BOW 96	ORMC168743	MARATHON GOLD USA CORP	33	0100S	0352E	009	SW	OR001	12/19/2011	
BOW 96	ORMC168743	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE NW	OR001	12/19/2011	
BOW 97	ORMC168744	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE NW	OR001	12/19/2011	
BOW 98	ORMC168745	MARATHON GOLD USA CORP	33	0100S	0352E	016	NW	OR001	12/19/2011	
BOW 99	ORMC168746	MARATHON GOLD USA CORP	33	0100S	0352E	016	NE NW	OR001	12/19/2011	
BOWLEGGED BOWDRIE	ORMC168902	CR STUFF AN IDAHO LLC	33	0200S	0270E	007	NE NW	OR025	10/04/2008	
GEISER BOWL	ORMC164635	HANNEGAN PATRICK	33	0100S	0352E	015	NE	OR001	02/05/2009	
GEISER BOWL	ORMC164635	HANNEGAN PATRICK	33	0100S	0352E	014	NW	OR001	02/05/2009	
GEISER BOWL	ORMC164635	HANNIGAN FRANCIS L/TRUST	33	0100S	0352E	014	NW	OR001	02/05/2009	
GEISER BOWL	ORMC164635	HANNIGAN FRANCIS L/TRUST	33	0100S	0352E	015	NE	OR001	02/05/2009	
KING'S ELBOWS	ORMC165529	BOLSHAZY ROBERT S JR	33	0340N	0080E	014	NW	WA057	10/26/2009	
RAIN BOWE #2	ORMC17243	MT VIEW FARMS LLC	33	0140S	0360E	001	NW SW SE	OR001	05/15/1915	
RAINBOW	ORMC154322	CRAVEN WESLEY D SR	33	0220N	0140E	018	NE NW	WA037	03/08/1999	
RAINBOW	ORMC166306	RUSH R SAMIE	33	0380S	0030W	015	SE	OR029	07/30/2010	
RAINBOW	ORMC18515	SCOTT DAVID H	33	0070S	0360E	019	SE	OR023	08/27/1929	
RAINBOW	ORMC18515	SCOTT LINDA M	33	0070S	0360E	019	SE	OR023	08/27/1929	
RAINBOW #2	ORMC153921	RAINES PHRONISIE	33	0100S	0350E	022	NW	OR001	07/11/1998	
RAINBOW #2	ORMC153921	RAINES PHRONISIE	33	0100S	0350E	021	NE	OR001	07/11/1998	
RAINBOW #3	ORMC153922	RAINES PHRONISIE	33	0100S	0350E	022	NW SW	OR001	07/11/1998	

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APPENDIX 2
Micon's Grab Sample Assay Certificates



2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company: Micon International Ltd.
Geologist: T. Ilieva
Project: Bonanza

TSL Report: S48703
Date Received: Aug 02, 2012
Date Reported: Aug 09, 2012
Invoice: 68612

Remarks:

Sample Type:	Number	Size Fraction	Sample Preparation
Rock	12	Reject ~ 70% -10 mesh (1.70 mm)	Crush, Riffle Split, Pulverize
Pulp	0	Pulp ~ 95% -150 mesh (106 µm)	None

Pulp Size: ~250 grams

Standard Procedure:

Samples for Au Fire Assay/AA (ppb) are weighed at 30 grams.

Element Name	Unit	Extraction Technique	Lower Detection Limit	Upper Detection Limit
Au	ppb	Fire Assay/AA	5	1000

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Liability is limited to the analytical cost for analyses.*



#2 - 302 48th Street · Saskatoon, SK · S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM
Micon International Ltd.
Suite 900 - 390 Bay Street
Toronto, ON M5H 2Y2

REPORT No.
S48703

SAMPLE(S) OF
12 Rock/0 Pulp

INVOICE #: 68612
P.O.:

T. Ilieva
Project: Bonanza

	Au ppb	Au1 ppb	File Name
75401	<5		S48703
75402	10		S48703
75403	<5		S48703
75404	<5		S48703
75405	15		S48703
75406	110		S48703
75407	<5		S48703
75408	15		S48703
75409	190	200	S48703
75410	10		S48703
75411	<5		S48703
75412	<5		S48703
GS-2J	2330		S48703

COPIES TO: T. Ilieva
INVOICE TO: Micon International Ltd.

Aug 09/12

SIGNED

Mark Acres - Quality Assurance



2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company: Micon International Ltd. TSL Report: S48703
Geologist: T. Ilieva Date Received: Aug 02, 2012
Project: Bonanza Date Reported: Aug 15, 2012
Purchase Order: Invoice: 68612

Sample Type:	Number	Size Fraction	Sample Preparation
Rock	12	Reject ~ 70% -10 mesh (1.70 mm) Pulp ~ 95% -150 mesh (106 µm)	Crush, Riffle Split, Pulverize
Pulp	0		None

ICP-MS Aqua Regia Digestion HCl-HNO₃

The Aqua Regia Leach digestion liberates most of the metals except those marked with an asterisk where the digestion will not be complete.

Element Name	Lower Detection Limit	Upper Detection Limit	Element Name	Lower Detection Limit	Upper Detection Limit
Ag	0.1 ppm	100 ppm	Mn *	1 ppm	10000 ppm
Al *	0.01 %	10 %	Mo	0.1 ppm	2000 ppm
As	0.5 ppm	10000 ppm	Na *	0.001%	10 %
Au	0.5 ppb	100 ppm	Ni	0.1 ppm	10000 ppm
B *	1 ppm	2000 ppm	P *	0.001%	5 %
Ba *	1 ppm	1000 ppm	Pb	0.1 ppm	10000 ppm
Bi	0.1 ppm	2000 ppm	S	0.05 %	10 %
Ca *	0.01%	40 %	Sb	0.1 ppm	2000 ppm
Cd	0.1 ppm	2000 ppm	Sc	0.1 ppm	100 ppm
Co	0.1 ppm	2000 ppm	Se	0.5 ppm	1000 ppm
Cr *	1 ppm	10000 ppm	Sr *	1 ppm	10000 ppm
Cu	0.1 ppm	10000 ppm	Te	1 ppm	2000 ppm
Fe *	0.01%	40 %	Th *	0.1 ppm	2000 ppm
Ga *	1 ppm	1000 ppm	Ti *	0.001%	10 %
Hg	0.01 ppm	100 ppm	Tl	0.1 ppm	1000 ppm
K *	0.01%	10 %	U *	0.1 ppm	2000 ppm
La *	1 ppm	10000 ppm	V *	2 ppm	10000 ppm
Mg *	0.01%	30 %	W *	0.1 ppm	100 ppm
			Zn	1 ppm	10000 ppm

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TSL LABORATORIES INC.
2 - 302 48th Street, East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Micon International Ltd.
Attention: B. Lewis
Project: Bonanza
Sample: 12 Rock/0 Pulp

Report No: S48703
Date: August 15, 2012

MULTIELEMENT ICP-MS ANALYSIS
Aqua Regia Digestion

Element Sample	Ag ppm	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %
75401	<0.1	0.06	16.1	10.5	<20	7	<0.1	0.16	<0.1	1.6	123.0	5.4	0.33	<1	<0.01	0.01	<1	0.08	80	0.5	0.003	9.1	0.017
75401 Re	<0.1	0.06	12.5	7.9	<20	7	<0.1	0.16	<0.1	1.7	123.0	5.0	0.33	<1	<0.01	0.01	<1	0.08	80	0.4	0.003	9.7	0.017
75402	0.2	0.07	15.1	0.7	<20	23	<0.1	0.90	0.4	3.1	115.0	35.6	0.93	<1	0.02	0.05	2	0.26	503	0.6	0.002	13.7	0.013
75403	<0.1	0.22	2.1	<0.5	<20	27	<0.1	2.24	<0.1	5.1	120.0	24.4	2.28	<1	0.02	0.03	1	1.02	984	1.6	0.012	18.5	0.028
75404	0.1	3.09	4.7	<0.5	<20	22	<0.1	0.49	0.2	17.0	95.0	27.7	3.82	5	0.02	0.07	4	5.30	511	3.0	<0.001	31.2	0.039
75405	<0.1	0.13	6.7	<0.5	<20	30	<0.1	0.51	0.1	3.5	164.0	23.0	0.99	<1	0.01	0.05	2	0.19	463	0.9	0.003	12.9	0.032
75406	0.1	0.12	105.1	21.3	<20	22	<0.1	3.63	0.3	3.8	122.0	25.3	1.84	<1	<0.01	0.07	3	0.95	3058	1.2	0.004	12.3	0.062
75407	<0.1	0.05	3.0	4.0	<20	56	<0.1	0.50	0.2	1.0	178.0	4.1	0.56	<1	<0.01	0.04	<1	0.18	262	0.8	0.003	7.5	0.024
75408	<0.1	0.05	45.9	9.5	<20	9	<0.1	2.70	<0.1	1.2	146.0	9.5	1.13	<1	<0.01	0.02	1	0.65	514	0.7	0.006	9.2	0.016
75409	0.2	0.05	11.4	91.3	<20	4	<0.1	0.47	<0.1	1.5	174.0	12.3	0.65	<1	<0.01	0.01	<1	0.23	318	0.6	0.001	7.7	0.017
75410	0.1	0.08	7.7	4.8	<20	15	<0.1	0.72	0.2	2.0	167.0	18.2	0.99	<1	<0.01	0.05	2	0.26	925	1.9	0.001	8.5	0.028
75411	<0.1	1.09	10.5	2.8	<20	11	<0.1	20.67	0.2	194.2	3369.0	41.6	3.25	4	0.03	0.02	10	2.82	4108	1.4	0.002	3897.3	0.002
75412	0.2	1.73	3.2	<0.5	38	14	<0.1	0.64	0.1	55.1	957.0	30.6	4.12	4	<0.01	0.05	5	12.02	640	0.9	0.002	1218.7	0.022
BLK	<0.1	<0.01	<0.5	<0.5	<20	<1	<0.1	<0.01	<0.1	<0.1	<1	<0.1	<0.01	<1	<0.01	<0.01	<1	<0.01	<1	<0.1	<0.001	<0.1	<0.001
STD DS9	1.7	0.91	24.4	149.0	<20	397	5.4	0.69	2.1	7.4	119.0	103.1	2.27	5	0.21	0.38	11	0.60	564	11.7	0.076	38.1	0.082
STD OREAS45CA	0.3	3.35	3.6	43.9	<20	172	0.1	0.42	<0.1	89.0	757.0	479.4	14.82	19	0.03	0.07	15	0.12	926	0.8	0.006	233.1	0.038

Signed: _____
Mark Acres - Quality Assurance

A 0.5 g sample is digested with 3 ml 3:1 HCl-HNO3 at 95C for 1 hour and diluted to 10 ml with DI H2O.

Report No: S48703
Date: August 15, 2012

TSL LABORATORIES INC.
2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Micon International Ltd.
Attention: B. Lewis
Project: Bonanza
Sample: 12 Rock/0 Pulp

MULTIELEMENT ICP-MS ANALYSIS
Aqua Regia Digestion

Element Sample	Pb ppm	S %	Sb ppm	Sc ppm	Se ppm	Sr ppm	Te ppm	Th ppm	Ti %	Ti ppm	U ppm	V ppm	W ppm	Zn ppm
75401	0.6	<0.05	<0.1	0.2	<0.5	4	<0.2	<0.1	0.001	<0.1	<0.1	<2	0.1	15
75401 Re	0.6	<0.05	<0.1	0.1	<0.5	7	<0.2	<0.1	0.001	<0.1	<0.1	<2	0.1	14
75402	4.2	0.33	0.8	0.7	0.8	23	<0.2	0.6	0.001	<0.1	0.1	3	<0.1	34
75403	1.0	0.44	0.5	1.6	<0.5	59	<0.2	0.2	0.002	<0.1	0.1	1C	<0.1	50
75404	4.2	0.15	0.2	13.8	<0.5	11	<0.2	1.0	0.015	<0.1	0.1	162	<0.1	37
75405	0.7	0.28	0.3	0.5	<0.5	30	<0.2	0.3	0.001	<0.1	<0.1	<2	<0.1	23
75406	6.2	0.13	0.3	2.4	<0.5	154	<0.2	0.6	0.001	0.1	<0.1	4	<0.1	36
75407	0.2	0.13	0.3	0.2	<0.5	25	<0.2	<0.1	<0.001	<0.1	<0.1	<2	<0.1	30
75408	4.5	0.35	0.6	1.9	<0.5	63	<0.2	0.1	<0.001	<0.1	<0.1	<2	<0.1	17
75409	1.8	0.20	0.3	0.5	<0.5	18	<0.2	0.1	<0.001	<0.1	<0.1	3	<0.1	7
75410	7.7	0.13	0.1	0.7	<0.5	51	<0.2	0.3	<0.001	<0.1	0.2	<2	<0.1	33
75411	2.8	1.77	2.4	15.8	3.4	577	<0.2	<0.1	0.001	0.2	0.8	54	<0.1	32
75412	2.7	<0.05	<0.1	11.2	<0.5	17	<0.2	0.9	0.007	<0.1	0.1	55	<0.1	43
BLK	<0.1	<0.05	<0.1	<0.1	<0.5	<1	<0.2	<0.1	<0.001	<0.1	<0.1	<2	<0.1	<1
STD DS9	115.1	0.16	3.6	2.3	5.3	62	4.7	5.6	0.099	5.2	2.4	37	2.6	311
STD OREAS45CA	19.4	<0.05	0.1	42.6	0.7	13	<0.2	6.4	0.122	<0.1	1.1	209	<0.1	54

Signed:  Mark Acres - Quality Assurance

A 0.5 g sample is digested with 3 ml 3:1 HCl-HNO3 at 95C for 1 hour and diluted to 10 ml with DI H2O.

APPENDIX 3
Marathon/MUSA Grab Sample Assay Certificate

Au Fire Assay/ICP Geochemistry Certificate

Client: Marathon Gold Corporation
Geologist: S. Dunsworth
Project: BZ-GS-12-01
Sample: Rock

Disk File: 638-1202309
Date In: January 06, 2012
Date Out: January 10, 2012

Eastern Analytical Limited
P.O. Box 187
Little Bay Road
Springdale, NL
A0J 1T0

Phone: 709-673-3909
Fax: 709-673-3408

Email: easternanalytical@ri.abn.com

Signed by: _____
(Concentrations in assay range
may cause interferences in
associated elements)

Sample Number	Au	Ce	Sr	Ba	Fe	P	Hg	Mg	As	V	Na	Mo	Al	Be	Ca	Zn	Cu	Sb	Ag	Pb	Bi	Tl	Cd	Co	Ni	W	La	K	Mn	Sn	Ci	
	ppb	ppm	ppm	ppm	%	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
Blank Au	5																															
Std GS-14	6880																															
Blank	---																															
BZGD-2-STD	277	126	19	174	2.65	0.01	1	0.54	6	32	0.03	1	1.37	0.8	0.46	178	31	5	0.2	2	2	0.01	0.5	1	10	10	0.01	5	20	1		
22780	227	10	42	31	1.01	0.01	1	0.30	56	6	0.03	2	0.10	0.5	1.37	28	32	5	0.1	29	2	0.04	0.4	15	17	10	0.17	14.65	20	26		
22781	107	14	88	32	1.02	0.01	1	0.47	34	6	0.10	1	0.18	0.5	3.57	19	25	5	0.2	489	2	0.01	0.5	3	12	10	0.06	529	20	385		
22782	107	19	>220	10	3.08	0.01	1	>5.50	>2200	25	0.12	1	0.54	0.5	>5.50	17	56	24	0.4	4	2	0.01	0.5	113	>1100	10	0.12	10.11	20	275		
22783	754	23	168	32	2.39	0.06	1	0.54	1627	10	0.11	1	0.48	0.5	>5.50	37	47	5	0.3	4	2	0.01	0.9	8	19	10	0.04	1565	20	>110		
22784	63	13	7	97	1.95	0.01	1	0.39	25	9	0.12	1	0.73	0.5	0.10	23	23	5	0.2	15	2	0.01	0.5	2	5	10	0.15	1268	20	110		
22785	19120	12	48	26	1.39	0.02	1	0.60	182	6	0.08	2	0.12	0.5	1.71	206	53	5	1.5	71	2	0.01	1.6	4	15	10	0.24	90	20	302		
615622	15	14	115	35	1.08	0.01	1	0.42	23	7	0.10	2	0.18	0.5	4.35	59	33	5	0.2	4	2	0.01	0.7	3	10	10	0.11	815	20	275		
615624	8	23	>220	22	1.50	0.02	1	0.94	32	14	0.10	2	0.39	0.5	1.68	43	32	6	0.2	5	2	0.01	0.8	5	24	10	0.08	431	20	384		
615625	5	10	4	34	1.02	0.01	1	0.25	9	5	0.16	1	0.10	0.5	>5.50	815	23	5	0.2	6	2	0.01	6.8	2	5	10	0.07	1933	20	112		
615626	79	10	61	26	0.87	0.01	1	0.28	49	4	0.08	1	0.10	0.5	1.48	19	30	5	0.2	4	2	0.01	0.5	4	18	10	0.04	173	20	265		
615627	5	10	20	10	0.88	0.01	1	0.30	5	4	0.10	1	0.10	0.5	0.66	11	11	6	0.2	4	2	0.01	0.5	1	8	10	0.03	200	20	384		