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REPORT

On the Property of

NEVADA PORPHYRY GOLD MINES, INC.

Round Mountain, Nye County, Nevada

By
Louis D. Gordon

Fallon, Nevada
April 21, 1930

I N D E X

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NAME AND ORGANIZATION

Nevada Porphyry Gold Mines, Inc. is a Nevada Corporation. The capitalization is $7,500,000, consisting of 1,500,000 non-assessable shares of a par value of $5.00 per share. This Company will own all of the property formerly owned by Round Mountain Mines Company, Fairview Round Mt. Mines Company, Fairview Extension Mining Company, Round Mt. Homestake Mining Company and Nevada Gold Development Company, all of which were formerly operated as individual mining companies but now consolidated and operated as one company.

For the above properties, 700,000 shares of capital stock will be issued and 132,667 shares will be issued for development and sampling of the various properties during the past year.

With this stock issued, there will be available, for Company purposes, 677,333 shares of Treasury Stock.

LOCATION

The properties of Nevada Porphyry Gold Mines, Inc. are located at Round Mountain, Nye County, Nevada, on the western flank of the Toquima Range, sixty miles north of Tonopah, the nearest and most convenient railroad point.

MINING CLAIMS, AREAS, HISTORY AND PRODUCTION

Round Mountain Mines Company

The claims formerly owned by Round Mountain Mines Company, to which title is held by United States Patent, are as follows:

			Acres
Sunnyside Group--Survey No. 2815			
Sunnyside No. 1	Lode	)	
Sunnyside No. 2	"	)	
Sunnyside No. 3	"	)	57.220
Sunnyside Fraction	"	)	
Los Cazabo		)	
Round Mt. Extension Group--Survey No. 3618			
Monument	Lode	)	
Saddle Back	"	)	
Fraction	"	)	
Flat	"	)	
Mariposa	"	)	102.087
Valley View	"	)	
Saddle Back Fraction	"	)	
Fraction No. 1	"	)	
Fraction No. 2	"	)	
Great Western Group--Survey No. 3588			
Great Western	Lode	)	
Great Western No. 1	"	)	
Great Western No. 2	"	)	
Great Western No. 3	"	)	66.406
Great Western No. 4	"	)	
Great Western Fraction	"	)	
Black Hawk Group--Survey No. 3322			
Black Hawk	Lode		19.003
Combination Group--Survey No. 4367			
Blue Jay No. 2	Lode	)	
Blue Jay No. 4	"	)	
White Horse Fraction	"	)	
Hobo Fraction	"	)	52.259
O. K. Fraction	"	)	
Rattle Snake Fraction	"	)	
Edith Fraction	"	)	
Smoky Valley Group--Survey No. 2929			
Sunnyside Extension	Lode		17.981
Gold Trail Group--Survey No. 4367			
Dixie	Lode	)	
Frederick	"	)	
Robert C	"	)	
Troy	"	)	67.981
High Five	"	)	
Holdover	"	)	
Mohawk-Wall Street Group--Survey No. 4367			
Last Chance No. 1	Lode	)	
Last Chance No. 2	"	)	50.996
Left Over Fraction	"	)	

		Acres
Rogers & Regal Group--Survey No. 4369		
Rogers & Regal	Lodes	22.040
Gibson & Hanson Group--Survey No. 4374		
Round Mountain Reo	Lode)	
Merry Xmas	")	37.066
Antelope--Survey No. 3245		
Antelope		19.741
	Total Acreage	512.780

In addition, the Company owns unpatented lode mining claims, included in the Gold Leaf and Friendship Groups, aggregating 66.78 acres. The patented claims, as above, cover practically all of the lode area of Round Mountain proper.

The Company also owns several mining claims in Jefferson and Jett Canyons, title to which has been and is being maintained for the purpose of protecting their water rights and dam sites.

The unpatented placer mining claims, owned by this Company, are as follows:

Dawson No. 1	Placer)	
Dawson No. 2	")	
Yukon	")	
Oro	")	
Oro No. 1	")	
Oro No. 2	")	110.9686
Oro No. 3	")	
Oro No. 4	")	
Oro No. 5	")	
Oro No. 6	")	
Oro No. 7	")	
Oro No. 8	")	
Oro No. 9	")	
Oro No. 10	")	
Oro No. 11	")	256.3385
Oro No. 12	")	
Smoky Valley Association	")	
Apache	")	
Zulu	")	

		Acres
Victory Association	Placer	
Victory Association No. 3	"	
Victory Association No. 4	"	
Victory Association No. 5	"	
Victory Association No. 6	"	
Victory Association No. 7	"	
Victory Association No. 8	"	
Victory Association No. 9	"	
Victory Association No. 10	"	2640.00
Bull Association	"	
Safe Association	"	
Safe Association No. 2	"	
Mineral Farm Association	"	
Connecting Line Association	"	
Money Maker Association	"	
Jewel Association	"	
Tunnecliffe Association	"	

Some of the "Association Placer" claims cover the original "Gulch Placer" locations, but the net placer area is more than 2500 acres.

The Round Mountain district was discovered in February, 1906. Shortly thereafter, the Round Mt. Mining Company was organized, of which the Round Mt. Mines Company is the successor in interest. At the time of its organization, the Company owned sixty acres of lode mining claims situated sixty miles from a railroad, no electric power was available and the closest water supply was five miles distant. Since that time, the Company has expanded to its present status and has acquired all additional area from production and the issuance of treasury stock.

Lode mining operations were started in 1906 and have been carried on continuously since that time. The production of the lode mine prior to the beginning of the Nevada Porphyry sampling and development has been 487,461.59 tons, from which bullion of the value of $3,484,111.77 or $7.148 per ton has been produced. In addition, lessees of the Company have produced during the past twenty-four years, bullion of a value of $888,146.55. The production of the lessees came from selective mining.

All of this lode production is shown in the table below.

Lode	Tons	Value	Per Ton
April, 1907 to March 31, 1908	14,059	$ 186,298.31	$13.251
April 1, 1908 to March 31, 1909	29,582.2	349,505.19	11.814
April 1, 1909 to March 31, 1910	33,858.9	393,864.63	11.635
April 1, 1910 to Feb. 28, 1911	36,252.1	337,682.37	9.314
March 1, 1911 to March 31, 1912	54,915	389,582.05	7.09
April 1, 1912 to March 31, 1913	57,360	318,985.46	5.56
April 1, 1913 to March 31, 1914	57,187	302,063.35	5.28
April 1, 1914 to March 31, 1915	48,230	316,837.34	6.57
April 1, 1915 to March 31, 1916	48,929	277,809.60	5.68
April 1, 1916 to Dec. 31, 1916	18,523	131,600.34	7.10
Calendar Year 1917	(8,411	79,521.93	9.4545
	(3,707.29	7,844.28	2.1159
Calendar Year 1918	0	0	0
Calendar Year 1919	560	3,862.06	6.89
Calendar Year 1920	4,513.1	21,377.96	4.73
Calendar Year 1921	0	0	0
Calendar Year 1922		1,028.00	
Calendar Year 1923	9,830	48,961.01	4.98
Calendar Year 1924	8,741	76,275.41	8.72
Calendar Year 1925	8,695	46,007.10	5.29
Calendar Year 1926	16,910	79,397.63	4.6953
Calendar Year 1927	14,478	40,881.94	2.82
Calendar Year 1928	10,280	64,092.84	6.23
Jan. 1, 1929 to April 10, 1929	2,440	10,632.97	4.36
Total	487,461.59	$3,484,111.77	$ 7.148

Lode Lease Production

October 1, 1906 to Dec. 31, 1917		$ 119,838.02
Calendar Year 1918		78,202.34
Calendar Year 1919		112,623.14
Calendar Year 1920		67,351.89
Calendar Year 1921		96,628.03
Calendar Year 1922		92,484.57
Calendar Year 1923		92,550.08
Calendar Year 1924		107,497.85
Calendar Year 1925		52,886.86
Calendar Year 1926		32,030.57
Calendar Year 1927		23,565.86
Calendar Year 1928		8,349.59
Jan. 1, 1929 to April 10, 1929		4,137.75
	Total	$ 888,146.55

In 1907 the Round Mt. Hydraulic Mining Company was organized by interests owning ground since acquired by Round Mt. Mines Company. A pipe line six miles long was built from Jefferson and Shoshone Canyons to Round Mountain for the purpose of conducting placer operations. The Round Mt. Power & Water Company later succeeded to the interests of the Round Mt. Hydraulic Company and in 1916 the Round Mt. Mines Company purchased for the sum of $120,000.00 all of the mining claims, water rights, properties and franchises of the Round Mt. Power & Watsr Company.

The placer production for the years 1907 to 1915, both inclusive, by the various predecessors in interest of Round Mountain Mines Company, was 272,240 yards, from which bullion of a value of $405,536.68, or $1.63 per yard, was recovered.

In 1915 the Round Mt. Mines Company purchased the water rights of Jett Canyon and built a pipe line from Jett Canyon to Round Mountain, a distance of nine miles, and in 1915 began hydraulic operations on Company account. These operations have been carried on continuously ever since, although handicapped at times by dry seasons causing a temporate lack of water for efficient hydraulic operations.

The total placer production of Round Mountain Mines Company since beginning operations on company account totals 1,035,308 yards from which bullion of a value of $830,843.99 was recovered; an average of $0.8025 per yard. The total placer production of the district to date is 1,307,548 yards from which bullion of a value of $1,236,380.67 has been recovered; an average value of 94½¢ per yard, all of which is shown in the table below and on the map of Placer Area No. 1 accompanying this report.

Placer Production

Year	Yards	Production	Per Yard
1907 to 1915	272,240	$405,556.68	$1.63
1915 to 1916	175,477	142,211.40	.81
1917	127,788	152,306.15	1.19
1918	71,367	79,834.44	1.12
1919	62,640	48,176.98	.77
1920	64,665	59,569.10	.92
1921	110,700	120,845.70	1.09
1922	139,400	46,000.09	.33
1923	79,280	28,091.41	.35
*1924	0	0	0
1925	65,000	31,514.25	.48
1926	65,280	46,922.18	.72
1927	38,610	21,623.74	.56
1928	12,633	20,403.12	1.62
1929	22,468	33,545.45	1.49
	1,307,548	$1,236,380.67	$0.9455

*Building new flume

The Company has paid to date nearly $400,000.00 in dividends and has expended over $750,000.00 for plants, improvements and equipment, of which approximately $330,000.00 was for pipe lines from Jefferson, Shoshone and Jett Canyons to provide a water supply for milling and placer mining operations.

The Jett Creek pipe line above referred to is in excellent condition. The first section, at the source of water supply, consists of 14,000 feet of riveted steel pipe from 30" to 15" in diameter. The second section consists of 28,000 feet of lap welded steel pipe from 1/4" to 5/16" thick and 15" in diameter. This section is in the floor of the valley where the static head is the greatest. The last section consists of 6000 feet of riveted steel pipe 15" in diameter. The Jefferson-Shoshone line is all riveted steel pipe from 15" to 10" in diameter and is in good condition for most of its length, although a few minor replacements may be necessary in a year or two.

The lode mine is equipped with a 75 h. p. electric hoist, ten-drill Ingersoll Rand Compressor, blacksmith shop with drill sharpener, machine shop, storehouse, change room, etc. Also all

necessary machinery, tools and equipment for a production of 150 tons per day. An amalgamation mill in good operating condition of a capacity of 150 tons per day is available. The placer equipment is modern, adequate and in good condition.

Fairview Round Mt. Mines Company

The claims formerly owned by the Fairview Round Mt. Mines Company, to which title is held by United States Patent, are as follows:

	Acres
Fairview Lode--Survey No. 2823	18.503
Lone Pine--Survey No. 3463	19.000
Total	37.503

The unpatented lode claims owned by this Company are as follows:

Daisy Fraction (Daisy)	Lode)	
Blue Jay No. 3	")	
Blue Jay No. 5	")	45.00
Solid Gold	")	
Mother Lode	")	
Mother Lode No. 1	")	
Empire	")	
Empire No. 1	")	90.00
Empire Fraction	")	
Lincoln Fraction	")	
Total		135.00

This Company was organized in 1906 and prior to 1917 its estimated production was $100,000.00. Since 1917 the Company has produced $612,168.08 from 27,137 tons of ore milled. In addition, lessees have produced 6903 tons of a value of $188,756.84.

Following is a table showing this production:

Lode	Tons	Value	Per Ton
Calendar Year 1917	1,097.2	$ 20,595.39	$18.77
Calendar Year 1918	8,807.7	178,801.39	20.30
Calendar Year 1919	8,692.9	296,465.77	34.10
Calendar Year 1920	8,466.5	115,242.96	13.61
Calendar Year 1921	67.4	925.03	14.60
Calendar Year 1926	5	77.54	15.50
Total	27,136.7	$612,168.08	$22.558

Lode Lease Production

Calendar Year 1921		$ 74,426.59
Calendar Year 1922		28,301.86
Calendar Year 1923		24,171.49
Calendar Year 1924		4,174.72
Calendar Year 1925		1,185.81
Calendar Year 1926		3,110.85
Calendar Year 1927		2,299.77
Calendar Year 1928		995.75
	Total	$118,756.84

The Fairview Company has paid in dividends approximately $190,000.00, expanded its holdings from twenty acres to its present status, spent over $35,000.00 for tools, machinery, buildings and equipment and is a large holder in the various other operating companies in the district.

The mine is equipped with eight-drill Ingersoll-Rand compressor, blacksmith shop equipment, necessary mine buildings and all necessary machinery, tools and equipment for a production of from thirty to fifty tons per day. An amalgamation mill in fair operating condition of a capacity of 30 tons per day, is on the ground.

FAIRVIEW EXTENSION MINING COMPANY

The claims formerly owned by the Fairview Extension Mining Company, to which title is held by United States Patent, are as follows:

Central Group--Survey No. 3248

First Shot First Shot No. 2 Shot Fraction	37.284 Acres

In addition, the Company owns the following unpatented mining claims:

Blue Jacket Blue Jacket No. 1 Blue Jacket No. 2 East Sunny Side Extension East Sunny Side Extension No. 1 Manhattan Alta No. 1 Alta No. 2 Little Peggy Midnight	170.00 Acres

Prior to the organization of the Fairview Extension Company, some of the claims now owned by this Company were owned and operated by the Round Mt. Blue Jacket Mining Company which, from information believed to be reliable, is reputed to have produced approximately $100,000.00. Since the organization of the Fairview Extension Company, approximately $15,500.00 has been produced and milled at other mills in the district as the Company has no milling plant of its own.

Following is a table showing this production:

Lode	Tons	Value	Per Ton
Calendar Year 1919	102	$1,532.09	$15.02
Calendar Year 1920	165	2,205.64	13.367
Calendar Year 1926	6	232.53	38.75
Total	273	$3,970.26	$14.543

Lode Lease Production

Calendar Year 1921	$1,581.71
Calendar Year 1922	5,022.22
Calendar Year 1923	4,901.96
Calendar Year 1924	204.91
Calendar Year 1926	1,056.99
Calendar Year 1928	696.44
Total	$11,464.23

This Company has expended for improvements about $22,000.00, consisting of a 50 h. p. electric hoist, eight-drill Ingersoll-Rand compressor, headframe, ore-bins, buildings and mine tools and equipment.

The main low grade zone of the Round Mt. Mining Company, known as "Area No. 2", undoubtedly extends through this property.

Round Mt. Homestake Mining Company

The claims formerly owned by this Company, to which title is held by United States Patent, are as follows:

	Acres
Dixon & Stebbins Lode--Survey 3618	20.00
Lookout Lode--Survey No. 4367	19.34
Total	39.34

This Company also owns the following unpatented lode mining claims:

Gordon	Lode)	
Gordon No. 1	")	
Gordon No. 2	")	65.00 Acres
Bronco	")	

All of the claims in this group were located in 1906 and shortly thereafter the Round Mt. Homestake Mining Company was organized. Title has been maintained to the claims to the present time, but no extensive work has been done and the Company has no record production. However, the ground is well situated and thought to have considerable value on account of its strategic position and its location with relation to the operating companies in the district.

Nevada Gold Development Company

The claims owned by this Company consist of the following unpatented mining claims:

	Acres
Channel Placer)	
Channel Placer No. 1)	
Channel Placer No. 2)	
Channel Placer No. 3)	
Channel Placer No. 4)	
Old Channel)	
Old Channel No. 1)	

Nevada Gold Development Company was organized in for the purpose of exploring the placer area to the south and west of that owned by Round Mt. Mines Company. Equipment was installed consisting of electric hoist, compressor, headframe, orebins, etc., and a vertical, two-compartment shaft sunk to a depth of 266 feet. I am informed that the last 60 feet of the shaft carried values of from 50¢ to $2.00 in gold.

At the time the Nevada Porphyry sampling operations were begun it was not thought feasible to sample the shaft as considerable

water had come in, the timbers were in bad repair near the lower portion of the shaft and the cost was thought prohibitive. However, the ground has considerable value from a placer point of view on account of its location with reference to the placer deposits of the Round Mountain Mines Company and I consider it highly probable that large and profitable placer deposits will be opened on this property.

FACILITIES

Transportation and Communication

An excellent county highway extends from Tonopah to the camp and equipment and supplies are hauled in motor trucks. Except in rare instances, and only for a day or so then, the road is open throughout the entire year. The cost of hauling supplies on a large scale from the railroad to the mine will not exceed $11.00 to $13.00 per ton. An automobile mail and passenger stage is in daily operation between Tonopah and Round Mountain.

The camp is connected by telephone and telegraph with Tonopah on the south and Austin, Lander County, on the north. Austin is seventy miles north of Round Mountain.

Climate

The climate is favorable for operations throughout the entire year as there are no extremes. The thermometer seldom reaches zero in winter and only occassionly as high as ninety degrees in summer. There is only a slight snow fall at the mine; in fact, never enough to interfere with surface operations. In summer there is only an occassional slight rainfall.

Labor

Labor conditions have always been excellent in this

camp as most of the employees are married men who have homes and families at Round Mountain. There is an abundance of good water, excellent drainage and on the whole, good sanitary conditions. The present wage scale is $5.50 for machine miners and timbermen and $5.00 for shovelers and other laborers. During the twenty-four years the camp has been in existence, there has never been a suggestion of labor trouble or strikes.

Water Supply

The flow through the pipe lines from Jett and Jefferson Canyons is 800 miner's inches for several months of the year. This, of course, is considerably less at certain times of the year, but the Company has other water rights available to the pipe lines, which can be utilized at reasonable cost, so that an ample water supply for the contemplated operations is assured.

Power

Power used at present is generated by the Nevada-California Power Company near Bishop, California, and transmitted over high-tension lines to the mine. The schedule for power consumption is on a sliding scale and at present is as follows:

First	1,000	Kw-h.	per	meter	per	month	$3.25	per	Kw-h.
Next	3,000	"	"	"	"	"	3.00	"	"
"	4,000	"	"	"	"	"	2.75	"	"
"	6,000	"	"	"	"	"	2.40	"	"
"	14,000	"	"	"	"	"	2.25	"	"
"	27,000	"	"	"	"	"	2.00	"	"
"	27,000	"	"	"	"	"	1.60	"	"
"	27,000	"	"	"	"	"	1.40	"	"
"	27,000	"	"	"	"	"	1.30	"	"
"	27,000	"	"	"	"	"	1.25	"	"
"	54,000	"	"	"	"	"	1.20	"	"
"	110,000	"	"	"	"	"	1.15	"	"
All Over	327,000	"	"	"	"	"	1.14	"	"

However, it is thought very probable that with an operation such as the one contemplated, a more favorable power schedule can be arranged.

L B SPENCER
MINA, NEV.

Topography

Round Mountain is on the eastern side of Big Smoky Valley at the base of the Toquima Range, which forms the east boundary of the Valley. At its highest point, it rises about 700 feet above the level of the valley which slopes gently to the west, making ideal the disposal of tailings from milling and hydraulic operations. For this reason, it could not be more ideally situated for steam shovel operations, as a mill located a short distance west of the mountain proper would permit of beginning these operations at the proper elevation and the disposal of waste rock, and tailings from a mill, by gravity.

General Geology

The following is taken from the report of Mr. H. G. Ferguson of the United States Geological Survey, and was written in 1921:

"Granite rocks occupy a large part of the Toquima Range and are intrusive into the Paleozoic sediments. No data bearing on the time of intrusion could be obtained in the Toquima Range, but the rock is probably of Cretaceous or possibly early Tertiary age. Microscopic examination of specimens from the vicinity of Round Mountain shows that the rock is here a microcline granite.

"The principal Tertiary rock of the district is a porphyritic rhyolite, close to quartz latite in mineral composition, which forms Round Mountain, two hills to the south, and a hill to the east in which is the Fairview mine. This rock contains abundant phenocrysts of quartz, orthoclase, oligoclase, and biotite. The quartz occurs in deeply corroded crystals, the largest of which are 2.5 millimeters in diameter. Many of the feldspar crystals and some of the quartz are broken as if by flow of the groundmass after crystallization of the phenocrysts. The biotite occurs in small,

regular plates but is very pale, apparently as a result of later bleaching by acid waters. The phenocrysts grade down in size to the microlites that form part of the groundmass. The groundmass is in part glassy but in places shows irregular polarization, which is apparently due to devitrification.

"The detrital desert wash of Big Smoky Valley laps against the spurs of the range. The boundary between rock and valley fill is irregular, and there is no evidence of any recent faulting on the east side of the valley. On the west side, however, the bold front of the Toyabe Range is clearly formed by a large fault of comparatively recent date.

"The principal veins on Round Mountain are known as the Los Cazabo and the Keane. The Los Cazabo crops out on the south flank of Round Mountain. It strikes westward and dips about 15 degrees N. It has yielded ore for 900 feet down the dip. The Keane vein dips to the south and has proved productive only in the lower levels. The Mariposa vein lies north of the Keane and dips gently to the south. In the so-called sheeted zone, on the west side of the hill, and the stringer section east of the shaft small veinlets occur so close together that the entire deposit has been mined by the glory-hole method.

"The grade of ore mined differs according to the method of mining adopted. From 1910 to 1917, when the Round Mountain Company for the most part mined its own ores, a large tonnage could be handled economically, and the average value of bullion recovered per ton of ore was between $6 and $7. In 1918 and 1919 the leasing system was chiefly used, and small rich streaks were followed by the lessees. During this period the average value of bullion recovered per ton of ore mined was $35.77. In 1920 the recovered value per ton of ore mined was $4.73 on Company account, and that mined by lessees $52.68.

"Free gold is the only valuable mineral obtained, for

although auriferous pyrite is present in some veins the quantity is too small to warrant concentration or cyanidation. The gold is intercrystallized with quartz or associated with limonite and minor manganese oxide in small fissures in which quartz may be lacking, and both types of occurrence may be present in the same vein.

"The primary metallic minerals present are gold, pyrite and rarely realgar. The gangue consists essentially of quartz together with accessory adularia and alunite and rarely fluorite.

"A small amount of pyrite is found in the ore. As even the deepest workings are above the water level, little of this mineral remains unaltered, but here and there pseudomorphs of limonite retain the form of the original crystals of pyrite.

"Apparently silicification was contemporaneous with the vein filling and slightly later than sericitization, for in one specimen quartz and a little gold replace part of the feldspar crystal that had previously been partly sericitized.

"After the primary quartz veins were deposited, new fissures were formed. This later fissuring was probably as extensive as the original fissuring, but for the most part the later fissures did not follow closely the original veins. The supergene waters that oxidized the auriferous pyrite in general followed the new channels, which crossed the older veins at many points, and iron oxide and secondary gold were deposited along these newly formed fissures.

"The result is a second type of vein which consists of a fissure filled chiefly with mixed oxides of iron and manganese, the iron in excess of the manganese. Commonly the adjoining country rock is shattered for some distance from the major fissure, and in many places the smaller parallel fissures are the more productive. Crushed fragments of vein quartz occur here and there, but in some of these fissures no gangue minerals other than limonite

and pyrolusite are present."

Since this was written, another vein known as the "Placer Vein" has been opened. It is parallel in strike and dip to the Los Gazabo vein, about 700 feet southwest of that vein toward the base of the mountain and apparently forms the foot wall of the low grade zone of the property. This will be discussed later.

Metallurgy

The gold occurrence is in the form of metallic gold disseminated in the veins and zones. Past practice has demonstrated that 90% or better of the contained gold can be recovered by amalgamation; in fact, recovery has averaged 96% over long periods.

With modern amalgamation practice and fine grinding it is my opinion that an average recovery of close to 95% of the gold can be maintained.

The process is cheap as milling costs in the district have not exceeded $1.00 per ton on the basis of a mill of 100 tons capacity. The ore is friable and ideal in every way for treatment by this process.

Titles

The various titles have been passed upon by the firm of Cooke, Stoddard & Hatton of Reno, Nevada.

All but a very small part of the important lode areas are covered by United States Patent. The titles to the unpatented claims enumerated above are considered good and merchantable.

LOW GRADE POSSIBILITIES

Sampling operations by the Nevada Porphyry Company were begun in April, 1929.

No. 1 Area

In what is known as No. 1 Area (Stebbins Hill), 504 feet

of drifts and crosscuts were driven, 2203 feet of surface trenching was done and 1739 assays made. All of Stebbins Hill was surveyed and the mine workings carefully mapped. All dumps resulting from past operations, whether on Company account or lessees, were mapped, measured and sampled. In all 105 dumps, totalling 18,284 tons were included in this sampling. The dumps are located on all sides of Stebbins Hill as shown on the map of No. 1 Area submitted herewith. 540 assays were run from these dumps. The 18,284 tons averaged $2.49 per ton, as per detailed table below:

STEBBINS HILL DUMP VALUES

Dump No.	No. Assays	Tonnage	Average Value	Total Value
1	1	36	$ .83	$ 29.88
2	4	134	1.35	180.90
3	3	66	1.16	76.56
4	4	47	17.35	815.45
5	4	13	1.50	19.50
6	6	180	1.61	289.80
7	4	95	2.89	274.55
8	4	20	1.14	22.80
9	3	3	.76	2.28
10	2	19	1.76	33.44
11	1	27	2.07	55.89
12	5	83	4.23	351.09
13	3	42	.41	17.22
14	3	94	17.56	1,650.64
15	2	65	.21	13.65
16	2	47	.21	9.87
17	4	350	1.65	577.50
18	2	12	.62	7.44
19	2	8	.73	5.84
20	2	40	.21	8.40
21	10	374	6.01	2,247.74
22	12	175	2.32	406.00
23	8	105	1.09	114.45
24	2	8	1.66	13.28
25	2	45	1.86	83.70
26	2	21	3.01	63.21
27	2	20	2.48	49.60
28	3	72	1.93	138.96
29	2	13	.41	5.33
30	1	27	1.03	27.81
31	1	1	.00	.00
32	2	30	.41	12.30
33	1	3	1.65	4.95
34	4	41	1.35	55.35
35	5	30	.74	22.20
36	2	20	2.89	57.80
37	1	38	.41	15.58
38	2	38	.21	7.98
39	3	20	1.79	35.80

Stebbins Hill Dump Values--Continued

Dump No.	No. Assays	Tonnage	Average Value	Total Value
40	2	6	$ 2.07	$ 12.42
41	7	96	1.18	113.28
42	4	102	1.35	137.70
43	9	146	.81	118.26
44	3	43	2.27	97.61
45	1	4	2.28	9.12
46	1	6	.83	4.98
47	6	43	1.45	62.35
48	1	5	.21	1.05
49	1	3	.41	1.23
50	1	5	.62	3.10
51	2	13	.31	4.03
52	1	10	.21	2.10
53	7	53	3.40	180.20
54	1	16	.41	6.56
55	1	5	1.03	5.15
56	1	3	1.24	3.72
57	1	1	3.31	3.31
58	1	3	1.45	4.35
59	1	2	.83	1.66
60	3	5	.07	0.35
61	6	62	.35	21.70
62	10	210	1.38	289.80
63	1	16	.00	.00
64	8	278	1.36	378.08
70	3	74	4.13	305.62
71	2	87	3.31	287.97
72	7	115	1.24	142.60
73	2	68	.62	42.16
74	8	225	1.66	373.50
75	1	62	.83	51.46
76	3	87	7.03	611.61
77	2	80	.93	74.40
78	1	4	.62	2.48
79	5	84	1.03	86.52
80	4	52	.72	37.44
81	6	70	.69	48.30
82	3	31	1.14	35.34
83	3	12	1.10	13.20
84	48	2900	2.14	6,206.00
85	15	215	2.06	442.90
86	1	2	1.65	3.30
87	17	390	1.98	772.20
88	14	197	1.25	246.25
89	5	26	3.17	82.42
90	1	2	.83	1.66
91	3	12	2.69	32.28
92	5	75	.49	36.75
93	20	405	7.60	3,078.00
94	7	135	14.91	2,012.85
95	1	30	1.24	37.20
96	7	44	12.55	552.20
97	13	249	3.31	824.19
98	2	20	5.79	115.80
99	24	1640	1.82	2,984.80
100	7	80	3.48	278.40
101	2	116	1.13	131.08
102	1	5	1.86	9.30
103	20	1125	2.51	2,823.75
104	6	16	.89	14.24
105	4	20	1.50	30.00
106	2	20	4.75	95.00
107	1	4	.83	3.32
108	1	7	3.31	23.17
109	2	4	.93	3.72
3-A	57	5896	2.28	13,442.88
Total	540	18284		$45,663.11

To supplement the dump samples, a crosscut tunnel known as the Daugherty Tunnel, on the northeast slope of Stebbins Hill, was selected. This crosscut had been driven 164 feet and 390 tons of material had been placed on the dump as a result of this work. This dump of 390 tons averaged $1.98. The crosscut was extended 231 feet and samples were cut every five feet.

From the portal of the tunnel to a point 260 feet beyond the portal, the average of these samples was 91¢ per ton in gold. At a point 185 feet from the portal a zone was entered which for 60 feet averaged $2.19.

The surface trenches were driven across the strike of the zone and were necessarily shallow. 399 samples from these trenches showed an average of 44¢ per ton. 868 feet of underground crosscuts were sampled. 189 samples were taken showing an average of $1.30 per ton. The low values of the assays from the surface trenches are not surprising as few, if any, values were found anywhere on the surface of Stebbins Hill. This applies to the Fairview Mountain as well, which is undoubtedly the eastern extension of the No. 1 or Stebbins Hill zone.

From the base to the top of Stebbins Hill, the No. 1 Area contains 12,000,000 tons. The Daugherty tunnel is 212.2 feet below the top of the hill and 73 feet above its base. It is not possible to make a definite prediction as to the tonnage and grade available in this area. However, in view of the results of sampling to date, and the fact that the hill has already produced about $350,000.00, it is my opinion that a large tonnage can be profitably handled by steam shovels; more especially in view of the fact that the grade of the ore going to the mill can be increased 100% or more by crushing and rejecting portions of the coarser material. This phase of the situation will be spoken of later.

No. 2 Area

This seems to be the widest, longest and most important zone so far opened on the property. The Los Gazabo vein is its northern margin and the Placer Vein its southern. However, the placer vein area proper is shown on a separate map submitted herewith. In this zone and inclusive of the work done in the placer vein, 2011 feet of tunnels and drifts, 1454.7 feet of crosscuts were driven and 8,142 assays made.

528 feet of raises were driven and a caved winze cleaned out and retimbered for 200 feet. 49 dumps containing 30,562 tons were sampled including 4391 tons of boulders rejected from placer operations. 1480 assays were run. The average value per ton of these dumps is $3.50, as shown on the table below and on the map titled "Map of No. 2 Area."

NO. 2 AREA DUMP SAMPLES

Dump No.	No. Assays	Tonnage	Average Value	Total Value
138	5	16	$ 5.79	$ 92.64
140	14	52	6.52	339.04
141	11	203	6.20	1,258.60
142	246	4422	4.77	21,092.94
143	10	98	4.92	482.16
144	5	239	6.94	1,658.66
145	15	1297	5.80	7,522.60
146	7	646	5.85	3,779.10
147	5	77	4.51	347.27
148	23	635	4.92	3,124.20
149	12	473	4.91	2,322.43
150	7	75	1.89	141.75
151	15	234	3.41	797.94
152	10	351	7.81	2,741.31
153	12	227	4.51	1,023.77
155	21	21	2.07	43.47
200	8	68	6.07	412.76
201	19	209	6.32	1,320.88
202	4	142	7.18	1,019.56
203	7	84	2.92	245.28
204	7	159	8.18	1,300.62
205	7	73	7.03	513.19
206	10	91	3.99	363.09
207	6	56	2.79	156.24
208	6	38	2.07	78.66
209	8	26	3.59	93.34
210	11	11	4.44	48.84
218	28	4391	..40	1,756.40

Dump No.	No. Assays	Tonnage	Average Value	Total Value
219	28	3286	$ 8.25	$27,126.00
156-A	95	454	1.91	867.14
156-B	57	71	1.76	124.96
156-C	25	15	3.35	50.25
156-D	100	1540	1.30	2,002.00
156-E	76	2742	.71	1,946.82
156-F	69	132	5.20	686.40
156-G	98	220	2.69	591.80
156-H	25	72	.63	45.36
156-I	20	98	1.50	147.00
156-J	82	114	1.67	190.38
156-K	6	42	.83	34.86
156-L	29	82	1.47	120.54
156-M	125	5000	2.50	12,500.00
156-N	22	325	3.15	1,023.75
156-O	16	340	1.68	571.20
156-P	10	222	4.03	894.66
156-Q	17	420	1.50	630.00
156-R	23	562	3.53	1,983.86
156-S	8	182	1.49	271.68
156-T	10	227	5.00	1,135.00
Total	1480	30562		$107,020.40

Average Value Per Ton $ 3.50
Average Value Per Ton (excluding #218, Placer Boulders) $ 4.02

820 Crosscut, driven through this zone on the eastern end averaged $1.49 for 570 feet. 804 Crosscut, 300 feet southeast from 820 and at practically the same elevation, averaged $1.44 for 630 feet. 461 Crosscut, 640 feet southeast of 804 Crosscut and 106 feet higher in elevation, averaged $0.89 for 615 feet. No. 1 Crosscut, 275 feet southeast of 461 crosscut, averaged $1.06 for 390 feet. This last crosscut is 167 feet higher in elevation than the 800 Crosscut. Between 804 and 461, crosscuts through the zone for a width of 250 feet, showed average values of $2.33. The developed length of this No. 2 Zone, taking into consideration the No. 2 Glory-holes which are 750 feet southeast of No. 1 Crosscut, is over 2000 feet. The average width of the zone is 475 feet and its average developed depth 183 feet, indicating 12,599,201 tons of ore in this block of an average value of $1.18. It is safe to assume that this zone will have extensions both northwest and southeast from the limits of the present workings. This will apply to

depth as well, as in my opinion the zone will extend to an average depth of not less than 150 feet below the elevation of the 804 Crosscut, as already demonstrated by a winze sunk to a depth of 240 feet below the floor of the 804 Crosscut.

Areas in the zone containing a large tonnage of a higher grade can be mined if it seems desirable to do so, as, of course, the values obtainable are in inverse ratio to the widths mined. One block at the northwestern end of the No. 2 Area contains 1,198,225 tons of an average value of $1.92, all of which is indicated on an assay map of all of the workings mentioned submitted herewith and titled "Map of Areas No. 2 and No. 3."

Placer Vein Section--No. 2 Area

This section has been developed for a length of 720 feet and an average width of approximately 100 feet. An assay map of this work is submitted herewith and titled "Placer Vein Section, No. 2 Area." This Area shows the following tonnage:

West of 804 Crosscut:

Block	Tonnage	Average Value	Total Value
A	30,808	$ 2.56	$78,868.48
B	36,830	2.21	81,394.30
C	8,875	1.67	14,821.25
D	7,800	3.49	27,222.00
E	39,845	2.87	114,355.15
	124,158	$ 2.55	$316,661.18

East of 804 Crosscut:

1	15,417	$ 1.78	$ 27,442.26
2	18,443	1.95	35,944.35
3	15,692	2.12	33,267.04
4	28,513	1.55	44,195.15
5	39,928	.88	35,136.64
	117,983	$ 1.49	$175,985.44

Total--242,141 tons; value--$492,646.62; average value per ton--$2.03.

The best of this section seems to be to the northwest but the mountain slopes gently away in that direction and as the workings were extended west, the tonnage to be developed from their

elevation gradually decreased, making it inadvisable to proceed in that direction. However, there is no weakness in the northwest drift and it is my opinion that the zone will extend for a considerable distance in that direction.

There is also a good chance for the zone to get better to the southeast, judging from the location of the No. 2 Glory-holes, their production and average value per ton of ore mined, as indicated by the map last referred to.

No. 3 Area

When work was started, this Area was thought to be separate and distinct from the No. 2 Area, but as a matter of fact should probably be included in it. However, for present purposes, it will be considered separately.

1060.4 feet of drifts and crosscuts were driven in this area and 1456 assays made. An assay map of this Area is submitted herewith and titled "Map of No. 3 Area." The estimated tonnage available, as a result of this work, is shown in the table below:

Block	Tonnage	Average Value	Total Value
A	87,875	$ 2.54	$223,202.50
B	106,502	2.28	242,824.56
C	31,256	3.77	117,835.12
D	16,349	2.68	43,815.32
E	19,176	0.76	14,573.76
F	39,536	1.53	60,490.08
G	43,732	1.12	48,979.84
Total	344,426	$ 2.18	$751,721.18

It certainly has an extension to the west and northwest as indicated by a glory hole, the result of former operations, shown on the map in question, at the western extremity of the No. 3 workings. This glory hole produced 40,000 tons of an average value of $4.00 per ton. Its west extension is also indicated by a crosscut tunnel some 75 feet east of the work done and noted on the map as the Hargett Tunnel. Undoubtedly there will be important

extensions of this zone both east and west and at depth.

161 samples from 16 dumps, containing 3455 tons, showed all the sumps in this Area to average $5.09 as per table below:

NO. 3 AREA DUMP SAMPLES

Dump No.	No. Assays	Tonnage	Average Value	Total Value
119	4	88	$ .72	$ 63.36
121	3	24	.42	10.08
122	11	40	4.00	160.00
123	3	33	9.30	306.90
124	3	26	3.24	84.24
125	8	39	5.71	222.69
126	7	16	7.03	112.48
127	4	45	4.13	185.85
128	47	1427	6.68	9,532.36
129	16	146	5.08	741.68
130	4	22	2.07	45.54
131	8	49	1.76	86.24
132	2	23	4.44	102.12
133	26	839	5.13	4,304.07
134	11	603	2.54	1,531.62
135	4	35	2.79	97.65
Total	161	3455		$ 17,586.88

Average Value Per Ton $ 5.09

No. 2 A Area

This is southeast of the No. 2 Area and is probably the southeast extension of that Area. It was thought that a good estimate of what to expect in this section could be had from the surface dumps. 41 dumps containing 5687 tons were sampled and some 745 assays made. The average value of all the dumps on the property is $1.31 per ton, as outlined in the table below:

NO. 2-A AREA DUMP SAMPLES

Dump No.	No. Assays	Tonnage	Average Value	Total Value
175	25	181	$ .89	$ 161.09
176	10	42	1.65	69.30
177	12	35	2.07	72.45
178	12	38	.09	3.42
179	47	1228	.94	1,154.32
180	15	50	.59	29.50
181	18	122	4.95	603.90
182	10	57	2.85	162.45
183	17	427	.68	290.36
184	7	58	.91	52.78
185	3	31	.69	21.39
186	5	43	.41	17.63
187	10	67	.17	11.39

Dump No.	No. Assays	Tonnage	Average Value	Total Value
188	38	265	$ 3.92	$ 1,038.80
188-A	2	16	3.51	56.16
188-B	8	22	1.46	32.12
189	15	50	1.08	54.00
190	57	965	1.18	1,138.70
190-A	9	22	.77	16.94
190-B	9	18	1.21	21.78
190-C	9	17	.73	12.41
191	11	24	1.54	36.96
191-A	16	72	2.30	165.60
192	38	150	1.60	240.00
192-A	10	25	.31	7.75
192-B	11	18	1.84	33.12
192-C	19	21	.99	20.79
192-D	4	10	10.50	105.00
192-E	4	12	15.04	180.48
193	39	124	.94	116.50
193-A	10	20	.39	7.80
194	82	780	1.14	889.20
195	9	52	1.17	60.84
196	40	162	.84	136.08
197	7	32	.56	17.92
198	23	125	.30	37.50
199	25	87	.38	33.06
400	8	15	1.06	15.90
400-A	6	20	.52	10.40
401	20	87	2.17	188.79
402	25	97	1.11	107.67
Total	745	5687		$7,432.31

Average Value Per Ton $ 1.31

Fairview Area

12,188 tons of material on the dumps of this property, resulting from all of the work done on the property to date and contained in 14 separate dumps, averaged $2.07 as per table below:

FAIRVIEW AREA DUMP SAMPLES

Dump No.	No. Assays	Tonnage	Average Value	Total Value
317	5	27	$ 0.49	$ 13.23
318	4	22	1.34	29.48
319	51	162	16.00	2,592.00
320	55	375	2.21	828.75
321	260	6360	1.97	12,529.20
324	132	2442	1.32	3,223.44
327	163	2500	2.16	5,400.00
328	17	69	1.27	87.63
329	35	81	2.43	196.83
330	4	14	0.77	10.78
331	4	47	2.32	109.04
332	4	57	1.03	58.71
333	3	11	16.60	182.60
337	7	21	.74	15.54
Total	744	12188		$25,277.25

Average Value Per Ton $ 2.07

It was not feasible to sample the mine workings as they were badly caved at places and the expense of retimbering would have been excessive. I am sure from my intimate knowledge of the property, that it contains several hundred thousand tons of as good grade material, if not better, than developed in the zones of the No. 2 and No. 3 Areas.

Placer

An area on the eastern end of what has been designated Placer Area No. 1 was sampled by means of churn drill holes, test pits and channels cut in existing placer banks. 1327 feet of churn drill holes were drilled, 1815 feet of channels cut in existing placer banks and about 200 feet of test pits sunk. The area as sampled contains 1,029,692 tons of an average value of $1.00 per ton. The method used in computing this tonnage and a complete record of this sampling is shown on a map titled "Map of Portion of Placer Area No. 1" submitted herewith.

The area showed no weakness to the northwest and it seems safe to assume that a very large tonnage to the northwest will contain values equally as good as the area sampled. It is also safe to assume that the area west of the placer banks hydrauliced in the past contains an immense yardage of pay material. Reference to maps of Placer Area No. 1 shows the production of this hydrauliced area to have been 1,307,548 yards of an average value of 94⅓¢ a yard, and placer operations are now being carried on in this west bank in ground that averages nearly $1.50 per yard.

COMMENTS AND CONCLUSIONS

While it is true that all of the material in the zones discussed carries gold, it is also true that the greater proportion of the values occur in veinlets traversing the zones, resulting in the "fines" carrying the larger percentage of the contained values.

An indication of what may be done is the history of the No. 2 Glory-holes above referred to, and situated at the southeast end of the No. 2 Zone as developed to date. 232,142 tons of ore were produced from these glory holes of an average value of $2.78 per ton. This material was all passed through a coarse crusher and a revolving trommel with one inch openings. The undersize was saved for ore and the oversize rejected as waste. The ore taken to the mill averaged $7.40 and the rejected material about $1.00 per ton. Of course, ore of this grade as it stood before mining could be profitably mined in large scale operations but my conviction is that the same ratio of mechanical concentration will apply to material carrying less values in gold than these glory holes.

I am sure that by mining the entire mass, passing it through a crusher and rejecting half of the material, that a mill product can be obtained more than twice the value of the material mined. Our mill test operations, carried on during the past year prove this. 6403.35 tons were milled from the No. 2 Area and 423.5 tons from the No. 3 Area. The ore averaged $3.00 per ton and $2.53 per ton was recovered in the mill without grinding finer than 30 mesh. An average of 75% of the values was recovered from material passing through a 3/4" trommel and the balance from the oversize material, further demonstrating the feasibility of mechanical rejection and what might be termed mechanical concentration prior to milling.

My recommendation is, therefore, that this practice be given careful consideration in a contemplated mill as by following this proceedure a very large tonnage will be available that would not prove profitable were it milled as a whole.

The production of the various glory holes on the property, their position and average value per ton are shown on the map of

No. 2 and No. 3 Areas.

In the No. 2 and No. 3 Zones, no tonnage below the elevation of the 804 Crosscut has been considered. However, as the enrichment has been proved to a depth of 240 feet below the elevation of this crosscut, and the mineralization shows no weakness, probable ore is equal to the ore considered reasonably assured in these zones.

Considering the past production of the property and the result of our sampling operations, a crushing plant of a capacity of not less than 2000 tons per day and a milling plant of a capacity not less than 1000 tons per day seems justified.

Respectfully submitted,