

PROPERTIES OF

ISLAND MOUNTAIN MINING DISTRICT AT
GOLD CREEK, ELKO COUNTY, NEVADA

By: F. D. McGregor

ITEM
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The body of this report contains the results of an examination of Island Mountain Mining district at Gold Creek, Elko County, Nevada.

The property consists of 5180 acres of surface area, of which 280 acres is patented land, 4,900 acres is held by claims, although much of it has been found to contain gold bearing ground that may come within commercial possibility. You will notice on the map the patented lands are marked in red, unpatented yellow.

No authentic information is available as to the total production of gold in this district but it has been variously estimated all the way from \$750,000.00 to \$2,000,000.00, judging from the amount of panning indications, would show that a considerable output was derived from this locality.

With the passing of many placer workings with hand methods such as "rockers", "longtoms", "ground sluicing" and the like, much of this ground is left unworked on account of lack of large scale operation, as no operations of importance were ever conducted on any portion of the Gold Creek holdings. There is, however, definite information that a large portion of the 5180 acres is gold bearing ground.

A company was formed at Gold Creek in 1894 and capitalized at \$5,000,000. The company had a thirteen mile canal constructed eight miles from the intake of Martin Creek to the reservoir and five miles from the reservoir to where the water could be distributed for placer operations. This water system was ready for placer operations in the month of October, 1897. We have no

the gold thus concentrated from the gold quartz veins forming the rich areas, worked by placer miners of '73.

Before discussing our plans of operations it seems advisable to augment the description of the mine, during its former operations, by quoting from a few of the many articles which have appeared in various mining publications.

FROM THE BULLETIN OF NEVADA STATE BUREAU OF MINES AND THE
UNITED STATES BUREAU OF MINES:

PLACER MINING IN NEVADA ISLAND MOUNTAIN DISTRICT

"The Island Mountain or Gold Creek district is at Island Mountain, 75 miles north of the town of Elko and about 25 miles south of the Idaho-Nevada State Line. It is on Gold Run Creek, one of the tributaries of the Owyhee River. The district derived the name of Island Mountain from an isolated mountain or monadnock which rises at least 1000 feet above the surrounding terrain. The average elevation of the district is about 6,500 feet above sea level.

The district was discovered in 1873 and soon became one of the most prominent placer areas in the state. The early operations were confined to sluicing. In subsequent years a large investment was made in ditches and pipe lines for the operation of hydraulic giants. The ditch was five miles long and conducted water from a tributary of the Owyhee River to a point near the placer ground where a head of 300 feet was obtained for the operation of the giants. The work resulted in the recovery of much gold. In addition to this, considerable panning and rocking was done by earlier miners. According to an early report of the State Mineralogist of Nevada, some of the claims on Hope Gulch yielded \$2.50 per pan and as much as \$30.00 per day per man was obtained with rockers. A few men have mined there in recent years with some success. The gold averages about \$19.36 per ounce (old price). The principal drawback to more extensive operations in recent years has been a lack of sufficient water. Water is available only during the spring season. More extensive operations could be carried on by the storage of the flood waters."

By: Alfred Merritt Smith,
Mining Engineer, Nevada
State Bureau of Mines &
William O. Vanderburg,
Associate Mining Engineer,
U. S. Bureau of Mines.

Gold Creek is one of the largest hydraulic mines in Nevada in active operation. The principal supply point is Elko, Nevada connected by State Highway a distance of 75 miles.

IMPORTANT:

The development of an adequate water supply has been the most expensive part of the enterprise.

The system 15-mile canal with head gates, wiers, spillways and reservoir with large earth and rock dams which is constructed with earth, rock and masonry. The facing of the dams is neatly riprapped with facing stone. No. 1 dam is 1800 feet long and 30 feet high; No. 2 dam is 600 feet long and 40 feet high. The reservoir is connected with two pipes of 24-inch diameter properly valved so as to regulate the flow of water sufficient to supply a 14-inch stream from Neck Hill under a head of 500 feet discharging 4700 gallons of water per minute, moving more than 5500 cubic yards of gold bearing ground every 24-hours. The reservoir has a capacity of 6000 acre feet of water. The size of the reservoir is 7/8 miles long, 1/2 mile wide and an average of 22-1/2 feet deep, which has been filed on by F. D. McGreager through the state engineer of Nevada for the benefit of the proposed company.

A special use permit and easement has also been issued by U. S. Forest Service to enter upon the government ground in sections 28, 29, 30, 31, 32 and 33, Township 45 North, Range 56 East, and Sections 25 and 36, Township 44 North, Range 55 East, all in Mount Diablo Meridian, Elko County, Nevada for the purpose of water storage in the reservoir, also for the use of canals to and from the reservoir.

In June of 1936 we purchased a Catapillar Gold Washington and Screening Plant and additional equipment at a cost of \$45,000.00 for the purpose of washing the gold bearing ground, which gave us surprising results. Out

and pits made at many places measured and sluiced, also gave surprising results. The panning over the large flats were somewhat surprising, showing from 5 to 50 colors of gold recovered.

Many months were spent by myself and associates examining Gold Creek properties. On account of the vastness of the deposits, a complete sampling of all the properties would require years of work at large expense so the work of testing was laid out to the effect that we should study all in a general way for the purpose of selecting areas best suited for initial operation upon which areas tested material and detailed study to determine beyond doubt justification for the entire enterprise.

My geological study of the Gold Creek district, as a whole, the history of its small operations and my rather intensive examination and testing of Gold Creek placer ground has enabled me to form the following conclusion: All conditions for hydraulic operation are ideal. The values per yard are excellent, the head of water ample and dump conditions perfect. While Gold Creek properties are very extensive, the tested ground area alone justifies the enterprise. The Gold Creek area contains about 1000 acres within which there are not less than 20,000,000 cubic yards of gold bearing ground. The cost of working this yardage should not exceed 10¢ per yard and should yield an estimated profit of 20¢ per cubic yard, from the operation of the Catapillar Gold washing and Screening Plant and not considering the hydraulic operation.

The ordinary hazards of mining do not form a part of this project and is an industrial enterprise rather than a mining venture.

Taken as a whole, I consider this is one of the best hydraulic mining opportunities that has come to my attention for many years and I recommend it.

As an aid in making this study and in doing the preliminary engineering, I employed the services of several engineers, well known in Nevada and Utah, and my knowledge of the mine has been gained from several years of experience. We are indebted for much of the historical and other information presented herein from former owners of the property.

The values per yard in Gold Creek area are thoroughly proven by many years of small operations, while the values per yard in other areas have not yet been established by actual mining but the surface values are very high, many times higher in places than those of Gold Creek.

In all that has been written or spoken of Gold Creek Mine, that name is always used as referring to the mine operations at Gold Creek. The first company began its operations there and its successors continued them at that one point on the Gold Creek placer ground. As a matter of fact it constitutes only a smaller part of the mine.

It is, however, still a most important part because the amount of good gold bearing ground remaining there is measurable and its values in gold thoroughly established. Within the entire gold bearing ground it is almost impossible to select a pan of surface material which will not show gold.

Our enlarged water system will afford a supply amply sufficient to operate either place on a scale of operation to wash from 10,000 to 12,000 cubic yards of gold bearing ground every twenty-four hours.

PLAN OF OPERATION

We shall commence actual mine operations at Gold Creek. We have decided to do so in spite of the very great temptation to start at other points. As already stated, other points on the property are all virgin and the surface sampling shows values per yard far in excess of those of Gold Creek. In fact the sampling completed it is my opinion that we can commence operations on

Gold Creek with a production of no less than \$25,000 per month by the use of only the first unit of water which is completed. By commencing at Gold Creek we shall recover known values per yard, which, though perhaps not as great as those of other portions of the gold bearing ground, are great enough; and the 20,000,000 cubic yards on Gold Creek is an estimated yardage sufficient in itself to make the enterprise safe and highly profitable with every element of risk removed. This operation starts with the catapillar gold washing and screening plant and hydraulicing operations after system is completed.

All areas along the entire 5180 acre tract can be worked to practically the same advantage insofar as the topography is concerned. The sole determining factor as to where mining can be most profitably done is the matter of gold values per cubic yard. The actual application of water to any area, as described will give the values there as definitely as they are already proven on Gold Creek. The foregoing described Gold Creek accurately and fully.

ESTIMATED COST OF HYDRAULICING

Including the cost of hydraulicing at Gold Creek and other areas that are larger than that of Gold Creek and in my opinion are far more important in the future life of the mine. The area within the company's holdings covering the hill sides and other gold bearing ground about 4000 acres and containing an estimated 80,000,000 cubic yards of gold bearing ground, we believe sufficient to insure mine operations for twenty-years. The importance is reflected by tests made of the yardage all over the entire 5180 acres at a distance of about 300 yards apart over 700 tests were made from 1 to 14 feet in depth and the average amount of gold per yard recovered by panning was 30¢ per yard.

The cost of hydraulicing this large area is estimated at 4¢ per yard

and should show a profit of 20¢ per yard, including Gold Creek cost from hydraulicing starting July 15, 1937.

The known recoverable values are so greatly in excess of the above stated unit of cost that an estimated profit of 20¢ a yard justifies the expectation.

TESTING OPERATION WITH GOLD PLACER
WASHING MACHINE

On October 1, 1936, we started testing placer ground at Gold Creek with large catapillar gold washing and screening plant and operated for ten days. The test showed a recovery of nineteen ounces of gold amounting to \$685.00. This operation was made for testing the plant as well as the ground and the gold recovery riffles. Owing to the enormous yardage going through the machine proved the riffles were not large enough to make a full gold recovery and owing to need of changing the riffles for mechanical separation, the machine was shut down for making the improvements necessary. It is our belief that the next returns to July 1, 1937, will be far above 20¢ per yard of gold recovery net profit. The testing proved to my associates and myself sufficient to warrant any additional expenditure for large operation with the Gold Washing Machine. The balance of the season was spent in the cleaning up of canals and reservoir and repair on dams, getting everything ready to catch the spring water run off of 1937, so as to enable us to start large operations July 1st, 1937, including gold washing machine and hydraulic operations.

ESTIMATED COST TO COMPLETE
HYDRAULIC SYSTEM
AND
ITEMS AS FOLLOWS:

Additional attachments to improve Gold Washing and Screening Plant for recovering fine gold	\$ 5,000
Additional work on hydraulic system and equipment	50,000
Additional work on ditches, canals	7,000
Bunk houses and camp equipment	2,500
Cost of incorporation and checking reports	5,000
Working capital	<u>10,000</u>
Total	\$ 79,500

When you take into consideration that this enterprise covers a distance of 15 miles long from where the water intake at Martin Creek to the lower end of the gold bearing ground, this will enable you to formulate a picture of the immensity of this project. In the summer of 1934 and 1935 we employed six men to dig test holes on the Gold Creek Placer ground. These test holes ranged in size from 1 to 30-yard pits. We contracted with these men that if they would give us an accurate measurement of the pits we would give them all of the gold recovered for their definite information. Inclosed herein is the recovery sheets for the amount of gold they received from Chrisman and Nichols of Salt Lake City, Utah, Government purchasers of gold. The number of total tests made were more than 700, giving the results herein stated by Chas. W. McGregor his letter addressed to J. J. Week, showing the recovery of gold on the Duryee property, an average of 75% per cubic yard. This covered 500 tests and practically proved all the Duryee 480 acres. The number of tests made on the balance of the 500 acres numbered 700 from 1 to 14 feet in depth to bedrock and the average amount of gold per yard was 50%.

THE FIVE IMPORTANT ATTRIBUTES WHICH MAKE IT A
GREAT MINE TODAY ARE THE FOLLOWING:

1. The vastness of the placer and quartz bearing ground amounting to 100,000,000 cubic yards.
2. An abundance of water capable of being applied under desired pressure.
3. Topography such as to afford ideal grades and dump facilities. These three factors combine to render the duty of an acre-foot of water so high as to permit costs as low as 4¢ per cubic yard for hydraulicing.
4. The known recoverable values are so greatly in excess of this unit of cost as to estimate a profit of 20¢ per cubic yard is very low.
5. It should be possible with all equipment to ultimately wash 10,000 to 12,000 cubic yards per 24-hour day.

OTHER ATTRIBUTES

Other attributes of Gold Creek properties which are important in contributing to the success of the enterprise are: Its timber requirements are very small compared with other placer mining operations. There is very little burden of soil over the total placer and gold bearing quartz ground. Its location with reference to labor and supplies. Its water power capable of generating electric energy for its own use, permitting six to eight months of placer mining operations.

We consider the following to be the salient points to be borne in mind:

1. The vastness of gold placer and gold quartz bearing ground amounting to 100,000,000 cu. yds.
2. An abundance of water capable of being applied under any desired pressure.
3. Topography such as to afford ideal grades and dump facilities.

These three factors combine to render the duty of a second foot of water so high as to permit costs as low as 4¢ per cubic yard.

CONCLUSION

I have devoted a good portion of my time during the three years last past to engineering and geological research into the possibilities of the gold placer ground and consideration of ways and means of transforming these possibilities into actualities, productive of profit.

All theories advanced, opinions rendered and estimates made herein are based upon my findings during three years of close familiarity with the situation as I see it. I believe them to be reasonably sound and competent. They are offered in good faith and in firm belief with the beginning of active operation and development that Gold Creek District will steadily advance to a position of genuine importance as a contributor to the supply of gold contained therein, and maintain that standing through a long and profitable period of time.

Respectfully submitted,

(sgd) F. D. McGREGOR
Ogden, Utah
January 15, 1937.

FRANK L. LUCAS
Consulting Geologist
Salt Lake City, Utah

2143 Wellington Street,
January 10, 1937.

Mr. J. J. Week,
Elko, Nevada.

Dear Mr. Week:

In accordance with your request I am enclosing a copy of my recent field report on the Gold Creek Placer, Island Mountain Mining District, Elko County, Nevada.

It is my opinion that this placer represents one of the best undeveloped pieces of known placer ground in the state of Nevada today.

Water supply is ample for a large scale operation. A reservoir which I understand is controlled by the interests now holding this ground is capable of holding 7500 acre feet of water. I understand that proper feeder canals have been constructed to fill this reservoir to capacity in a year of normal precipitation.

An operating fund of \$100,000 should be sufficient to bring this property into commercial production as far as equipment and initial operating costs are concerned, providing this fund is used to supplement considerable equipment already on the ground. Such a fund should equip a dragline, auxiliary hydraulic plant and gold saving plant capable of handling a maximum of 1000 cubic yards of gravel per eight-hour shift, or a maximum capacity of 3000 cubic yards per twenty-four hour run.

Operating costs should be well under 20¢ per cubic yard of material handled with good management.

Such an operating program should, of course, be preceded by a careful program of field work designed to test and block a given area of the 6000 acres controlled by the present operators of this property.

In conclusion, this property in the hands of competent management should return excellent profits over actual operations costs.

It is a property I should like to be connected with in a consulting capacity.

Very truly yours,

(sgd) FRANK L. LUCAS

ACADEMIC TRAINING

F. D. McGregor, 2912 Adams Ave., Ogden, Utah.

Mining and Milling
Metallurgy
Geology
Minerology
Hydraulic Engineering

UNIVERSITY OF UTAH.

Construction Engineer on large scale,
operation in Ogden and Salt Lake City, Utah.
Construction for personal ownership over
One Million Dollars.

COMMERCIAL HISTORY

Associated with M. L. West, June Bug Mining Co., Nevada.

Tungsten Mining and Milling, Utah.

Originator of Copper Precipitation Plant from sewerage
water now being used by Utah Copper Company, Bingham, Utah.

Engineer of Gold Creek Project, Gold Creek, Nevada.

Professional connections of Frank L. Lucas include --

1. Present connections with the Mercur Deep Mines Company of Salt Lake City. This company controls a substantial portion of the old Consolidated Mercur Mine at Mercur, Utah, owned at one time by the Governor George Dern interests.
2. Consulting engineer for Leach Bros. Contracting Company of Omaha, Neb. This company in 1934 and 1935 spent considerable time and money investigating certain placer properties with a view to acquiring a property with commercial possibilities.
3. Consulting engineer for J. Vear Hansen of Salt Lake City, Utah. Mr. Hansen in 1935 was actively interested in certain placer properties in Idaho.

Formal geologic and engineering training, University of Utah.

Private practice in Nevada, Arizona, Colorado, Idaho, Wyoming and Utah.