

San Francisco, California,
February 3, 1930.

Mr. Brace Carter,
San Francisco, California.

Dear Mr. Carter:

Agreeable to your request, we beg to submit the following report on the properties of the Gray Mining Company and enclose a circular fully describing the Vivian Tunnel Company, a subsidiary of and the control of which is vested in Gray Mining Company, both enterprises located at Contact, Elko County, Nevada.

Location, Geology, Topography and Drainage: The following are brief quotations from the report of Mr. F. C. Shrader, as presented to the Department of the Interior, United States Geological Survey, Bulletin 497, of 1912. For further details as to geology, topography and drainage, I refer you to said survey and report.

"The Contact mining district is in the northeastern part of Elko County, Nevada."

"Topography and Drainage: The district lies in the Nevada Plateau and, broadly characterized, is an elongated quaquaversal, produced by the updoming of the Paleozoic sedimentary rocks by an underlying intrusive granitic mass from whose intracontact area all the sedimentary rocks have been removed. The floor of the basin has been lowered by erosion to a considerable depth into the granodiorite.

"The mountains are of the rounded massive type. Of these the principal landmarks are the Ellen D., China and Middle Stack mountains, situated about 8 miles apart, in the western, southern and north-eastern parts of the district respectively, at the apices of an equilateral triangle. Important secondary points are Blanchard Mountain towards the southeast, and Toana John Peak on the east. The latter occupies a commanding position and is visible from the vicinity of Rogerson and other points 50 miles distant.

"Geology:

The rock groups of the district, beginning with the oldest, are Paleozoic sedimentary rocks, post-Paleozoic granitic intrusive rocks, Tertiary lavas, Tertiary lake beds, and Quaternary deposits. Of these the most important, with reference to the mineral deposits, are the post-Paleozoic sediments."

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Past History of Camp; Mining development work is being carried on adjacent to all of these mountains, and at various places on the contact around the horse shoe and on cross fissures in the core or center. But the principal workings are on the eastern tip and north side of the horse shoe. The core or center of the horse shoe is an intrusive granite formation, intersected by cross fissure veins of syenite and granodiorite dikes. Many of these dikes, especially the granodiorite, have been opened up to a depth of from 100 to

250 feet and the ore showings made in some of them are encouraging for further development. The majority of the dikes intersect with the lime outer wall of the horse shoe, and it is apparent that these dikes were the channels through which the thermal waters were forced up through and re-deposited the mineral values along the contact between the granite and lime and formed the contact deposits occurring around the entire outer rim of the shoe, being very pronounced and making back in the lime at the intersection of the cross fissures with the lime, and thinning out the leaner seams where the distance between the intersection of these cross fissures is greatest.

The camp was first located in the early '70's and various deposits were worked through shallow shafts and tunnels, and shipments were made from various properties, but the distance from the railroad necessitated sorting the ore to a grade where it would bear the cost of freighting to the railroad, transportation to the smelters and working charges, and prevented the camp from being worked on a large scale. All the workings were shallow, the deepest of them not exceeding 300 feet. A fair tonnage had been opened up by these shallow workings, but the greater part of this ore was an oxide and carbonate. The distance from the railroad and lack of proven depth of the ore bodies would not justify the building of a smelter and as most of the ores opened up were oxides and carbonates that could not be treated successfully by concentration, and as the gangue matter from the ores carried a heavy per cent of lime, they could not be treated successfully by the ordinary leaching methods and the ammonia leaching process is complicated, and with the exception of the Kennecott plant in Alaska, has been unsatisfactory.

Total shipments from the camp since the early days exceed 300,000 tons, most of the ores having been taken from shallow workings and nothing from any depth greater than 300 feet.

When the Gray Mining Company acquired and took possession of the property, the first work was to determine whether the ore values carried below the oxide and carbonate zones into the sulphide, in commercial quantities. A tunnel, cross cutting the granite and lime contact was driven for a distance of 2300 feet, which cut the contact and the ores thereon, and under a quartzite dike laying back of the contact in the lime at a vertical depth of 1050 feet. This tunnel developed an indicated tonnage of more than 4,000,000 tons of commercial ore.

This indicated tonnage is arrived at as follows: By the usual open cut, shallow shafts from the surface, and an intermediate tunnel, driven for a distance of 520 feet, giving a backing of 375 feet, which exposed bodies of chalcopyrite ore, varying from 3 per cent to 7 per cent in copper and 7 ounces in silver per ton. A second intermediate tunnel driven for a distance of 460 feet, cut the ore at a depth of 640 feet and exposed ore bodies of a grade of 5 per cent copper, 30 feet across the face. The last 2300 foot tunnel mentioned in the preceding paragraph cuts the ore at a vertical depth of 1050 feet, at which lower level the values in both copper, gold and silver have increased. This ore has been drifted on for a distance of 120 feet east and west, and cross cut for a distance of 35 feet in width. While this ore body is not technically blocked out on three sides, still, exposed as it is by the four workings and changing as it does, from an oxide and carbonate ore near the surface to chalcocite and chalcopyrite on the lower level, assures permanency and size, giving above this lower tunnel in excess of 4,000,000 tons of commercial ore.

Transportation: When the 2300 foot tunnel proved the ore values below the oxide and carbonate zones, I went before the Public Utilities Commissions of Nevada and Idaho to grant a certificate of public convenience and necessity for the construction of a railroad from Wells, Nevada, to Rogerson, Idaho, which was granted, and the principal consideration was the potential ore production in the Contact District.

Preliminary negotiations were taken up by the Union Pacific Railroad Company, and after a visit to the camp by the officials and engineers of the railroad company a decision to build such a railroad was arrived at. After years of aggressive effort and the expenditure of over \$60,000.00 of my own funds, I secured the right-of-way for the Union Pacific and 103 miles of railroad were constructed by the Union Pacific Company, through Contact, connecting the Union Pacific subsidiary, the Oregon Short Line, at Rogerson, Idaho, with the Western Pacific and the Southern Pacific lines at Wells, Nevada, thus affording railroad transportation and eliminating the last physical barrier that stood in the way of successful development of the Contact District. The railroad is now three-eighths of a mile from the mouth of the Vivian Tunnel, and we are assured of a spur line for this distance as soon as production demands it.

Properties and Holdings of Gray Mining Company:

- (a) 80.6286% of the total outstanding capital stock of the Nevada Copper Mining, Milling & Power Company consisting of 51 patented copper mining claims, and 11 additional patented claims, owned outright.
- (b) All of the unsold portion of Contact City townsite, consisting of 830 lots at a listed valuation of \$479,925.00 as per list attached. The city of Contact at the present time has a population of between 250 and 300 people, and quite a few lots have been sold, and as the remaining unsold lots constitute practically all of the available ground for resident and commercial uses in this vicinity, they should be of considerable value and disposed of readily, once operations are started. Gray Mining Company also owns the only available springs. Water system for City of Contact also owned and installed, and includes tanks, pipe lines, etc.
- (c) 56 per cent of the outstanding shares of the Vivian Tunnel Company, a public utility, organized for the purpose of driving and operating a long drainage and working tunnel, to serve all of the Gray Mining Company properties and six additional companies owning mining ground on the north side of Contact. The Tunnel Company also holds a franchise from the State of Nevada to furnish light and power to Contact City and vicinity for a radius of fifteen miles for a period of twenty-five years. The machinery for the manufacture and sale of this power and light plant is on the ground and installation is completed, and consists of the following:

- 1 240 HP Type "Y" Diesel Oil Engine,
standard pattern,
- 1 18x11x14 Sullivan Angle Compound
Compressor,
- 1 120 HP Type "Y" Diesel Engine,
S. E. pattern,
- 1 90 KVA, 2300 volt, 3 phase, 60 cycle
alternator, direct connected to engine,
- 1 15 KVA, 2300 volt, 3 phase, 60 cycle
alternator, belted to engine.

The town of Contact and areas adjacent to the town have been wired for both lights and power. Many of the buildings in Contact have been wired up and the plant is ready for immediate operation.

- (d) Gray Mining Company also owns all waters developed by the Vivian Tunnel, which will be of value for plant operations. Also 320 acres of plant sites held by location, being carried through to patent; offices, lodging house and hotel in Contact.

Mining: It is proposed to commence work immediately as follows:

- (a) The working of the Palo Alto and Blue Bird claims, and other claims of the lower group, by shallow workings where ore is already exposed and available for mining. And test by churn drills the ore on the south slope of the Palo Alto and Bryan claims, for indicated bodies of ore, with the view of determining whether the bodies of ore are of sufficient size to justify steam shovel operations.
- (b) The erection of a power line from the plant at the mouth of the Vivian Tunnel to the upper group and the beginning of mining of the higher grade ores as already exposed by the development work in the long 2300 foot upper tunnel.
- (c) Resuming work in the face of the Vivian Tunnel as follows: As cross fissures of ore are cut by the tunnel, they will be drifted on north and south, and raises will be made in the ore for the purpose of blocking out tonnage and affording ventilation. Smelting ores will be shipped to the smelters as mined. Air and power for this work will be purchased from the Tunnel Company by the Gray Mining Company, for all necessary work. The development shafts have exposed the ore to the extent that these drifts and raises will occur from 125 to 150 feet apart in the tunnel and work done along the contact has proven that a large tonnage of ore along the contact and under the quartzite dike, exists, which can be mined from the laterals driven from the tunnel. Development work on the ore bodies has shown that the ores go down and increase in value with depth as they change from the carbonate and oxide ores to a sulphide and while these ore bodies are not of the same size as the porphyry mines, the ores are of a much higher grade, which will permit shipping a substantial amount of the ore direct to the smelter as mined.

- (d) Treatment of Ores: Preliminary tests made on the low grade ores on the lower group have shown a good recovery by using a very light solution of sulphuric acid and leaching; and a small testing plant should be installed with the view of working out a suitable treatment of the oxide and carbonate ores. Preliminary tests made on the deeper ores give a good recovery as shown by the flow sheet prepared by the General Engineering Company of Salt Lake City, and sufficient ores are now exposed on the upper group to justify the installation of a small flotation unit for the treatment of the lower grade ores.
- (e) Tonnage and Values: The present tonnage indicates in excess of 4,000,000 tons of commercial ore in the upper group (as proven by the 2300 foot tunnel mentioned in a preceding paragraph). Values of smelting ore grade from 4 to 10 per cent copper, with by-products of silver and gold. Plant treatment ores grade from 1 to 3 per cent copper, with fair values of silver and gold. All company assays on the upper group checked by Hanks, of San Francisco.
- (f) Cost of Mining: From 35¢ to \$2.10 per ton.

Estimated First Year's Production: Through the workings of the Vivian Tunnel, as per schedules which I am including in a separate detailed operating report.

The immediate mining and shipment of high grade ores from the upper workings direct to the smelter as mined, which mining will block out the lower grade ores to be treated later on by plants to be constructed near the mouth of the Vivian Tunnel on the company's plant site.

Estimated Net Revenue for the First Full Year's Production: Operations for the first twelve months, based on working at full capacity and on smelting ores only, with copper at 15½¢ per pound, \$550,000.00. The twelfth month should show a net earning of \$100,000.00, which should be substantially increased when plants for the treatment of the low grade ores are constructed on the property and more faces are opened up for mining purposes.

General Points: Water; This district has ample water supplies for plants of any size, first, through water developed by the Vivian Tunnel, and second, through the artesian springs which the company owns.

Labor Conditions; Good. All necessary help available. The principal industries of the State of Nevada are mining and cattle raising, and every assistance is given to the mining interests by both the State and County officials.

Proposed Financing: Contracts will be entered into with a reliable and successful wholesale distributor of investment securities to distribute through established financial sources sufficient shares to net the company a minimum of \$300,000.00. The company will not retail or offer at retail any of its securities. It is the firm decision of the management to have and to hold in the treasury for expansion and not for capital financing, a minimum of three-fourths of its total authorized capital, said \$300,000.00 to be used as follows:

- (a) \$150,000.00 to be expended the first year towards driving the Vivian Tunnel a distance of 3300 feet.
- (b) \$25,000.00 to be expended in churn drilling on the lower group to ascertain if there are sufficient disseminated ores to justify installation of a steam shovel plant.
- (c) \$125,000.00 to immediately start mining and shipping high grade ores already developed from the upper group, such ores to be shipped direct to the smelter; and for corporate uses and for cash reserve.

The Contact District has been known for years to mining engineers as one of the largest mineralized areas in America, having an area of 20 miles across and 55 miles around. But only until the Gray Mining Company proved, by driving a long 2300 foot tunnel, which cut the ores on the contact and under the quartzite dike at a vertical depth of 1050 feet and conclusively proved that the values extended below the oxide and carbonate into the sulphide or primary ores, and developed an indicated tonnage in excess of 4,000,000 tons of commercial ore, was it possible to secure transportation for the district, which now allows the Gray Mining Company, with the necessary machinery and power plant constructed and ready, to start large scale production.

The property will be on a self supporting basis from the start of operations, as soon as the present financing has been completed; and I am confident that it will be on a dividend earning basis during 1930. The total authorized capital of the company, incorporated under the laws of the State of Delaware, consists of 2,000,000 shares of No Par Value, and of which less than one-fourth will be outstanding.

In concluding this preliminary statement as a part of my report, I have endeavored to stay within the limits of the ultra-conservative, realizing that you, as a wholesale distributor of securities, will check as closely on my statements and the property, as our financial advisor has checked on you; and within conservative limits, I state that our properties are greater than those of the Nevada Consolidated, which Mr. David Bartley and I discovered and developed, and whose history is well known in the copper industry. I realize that you will want a competent engineer and geologist to thoroughly examine and report on the properties, which I invite. I respectfully suggest that you carefully select for such purpose, one skilled in copper and the operations of copper properties. I will cooperate and lend all the aid and assistance at our command to expedite such investigation, and on its completion, I will submit full operating plans and schedules, the pro forma balance sheet giving effect to present financing, and such other data as you may call for.

Yours very truly,

GRAY MINING COMPANY,

By

C. F. Gray

President.