3460 0041 OSCEOLA

THE DRY GULCH PLACER
OSCEOLA MINING DISTRICT
WHITE PINE COUNTY, NEVADA

JUNE, 1974

A PLACER DEPOSIT

A mass of gravel, sand or similar material resulting from the crumbling and erosion of solid rocks and containing particles or nugget of gold, platinum, tin, tungsten, or other valuable minerals, that have been derived from rocks or veins. (1)

(1) U. S. Geological Survey Bulletin Number 613, page 184

To: Petro-Mineral Projects, Inc.
Attn: Mr. H. John Sykes, Jr.
From: G.A. Davison
Subject: PROPOSED PROGRAM FOR PLACER DEVELOPMENT
DRY GULCH DEPOSIT, OSCEOLA MINING DISTRICT
Date: June 25, 1974

Introduction: The writer was assigned by Mr. James R. Keighley to evaluate all available data related to Dry Gulch placers including the submitted by the present owners. Accordingly, June 19 and 20 were spent on the property accompanied by Mr. Allen Penick, Petro-Mineral Project geologist, and the first day by Mr. Glen Taylor, owner. The property was revisited with Mr. James R. Keighley on June 23rd.

Summary:

(1) The Dry Gulch property of Mr. Glen Taylor is located on an aluvial fan containing millions of cubic yards of stream deposited gravel. These gravels contain gold at shallow depth with values likely to increase near bedrock as yet unexposed.

(2) I can now verify earlier information received second hand. There is excellent possiblity that gold can be produced in commercial quantity from upper deposit of shallow depth. There is fair possiblity that with present or higher gold price, gravel can be worked to 200 feet depths with maximum size equipment. Potential yardage for low cost operation is many millions. Deep testing should be left for a later time.

(3) Conditions for the operation are good. Accessibility, water, and power are better than normally found. The few boulders seen can be handled with mechanized equipment. Gravel is tight but not cemented. Clay which might hinder gold recovery is not excessive. Weather conditions will not prevent 12 months operations.

Yardage and Grade:

As stated in the earlier report by Mr. Keighley dated June 13, 1974, the 10 placer claims assigned comprise approximately 1,600 acres in area. They are located on an aluvial fan sloping westward into Spring Valley. The deposit was formed during the earliest stages of erosion from Dry Gulch. Accumulation of debris at the mouth of the canyon, and perhaps decreased rainfall, forced the water to cut a new channel northwestward near the foot of the mountains. This channel was intensively worked, because of high gold value and shallow bedrock, although handicapped by scanty water (Dry Gulch).

Nearly all of the area is located on the aluvial fan and is potentially workable. Gold is widely distributed, as shown by earlier work, however we do not anticipate that more than a minor percentage of the area will be pay

material. There should be old channels on badrock and above where gold has concentrated. Payground may be limited to these channels but there is also the possibility that a maximum size operation will be justified which can show a profit with a lower gold value.

Depth of the deposit is more than expected from previous reports. Rimrock is exposed near the east boundary of the proeprty. Old work has left a gravel bank 30 feet high without reaching the bottom of the channel. Three-quarters of a mile to the WSW, an old shaft partly filled, reached a depth of 60 feet without exposing bedrock.

Throughout the area, bedrock is steeper than surface of the aluvial deposit thus gravel depth may attain 200 feet in the western portion. See enclosed section.

There is insufficient information on which to make positive estimates of gold value. Previous work on the property has been relativley shallow but we are informed that material from grass roots down carrys at least a few cents. An old map of American Dredge Company, undated and unsigned, shows a number of shafts and cuts with gold values from .38 to .63 cents per cubic yard. These were sampled prior to gold price increases so can be multiplied by five. Values of $1.90 to $3.15 per cubic yard to a depth of 28 feet are certainly attractive today.

Mr. Glen Taylor has hauled gravel to his washing plant from two open pits.. Maximum depth reached was 20 to 30 feet and Taylor assured me that he recovered well over one dollar per yard. This is not pay gravel when worked on a small scale and hauled a distance of 2 to 2.5 miles, but will be profitable when worked at larger capacity in a plant near working face. Taylor's gold sample ranges from fine to rice grain size with one nugget of 5 to 6 grams. Gold fineness varies from 850 to 875.

The objectives of the initial exploration program will be to prove a volume of one million cubic yards with average gold value of $1.50 or more. This will justify capital expenditure for a moderate size plant which can work economically to bed-rock in the higher area of the aluvial fan.

Water:

Water supply is the second important consideration. Spring Valley just below Glen Taylor's well is a long N-S depression with no outlet. Early engineers refered to water supply in the valley as inexhaustable. Taylor reports that water stands at 40 feet in his 200 ft. well and is not lowered by pumping. His water rights are 10 cubic feet per second or about 45,000 gallons per minute. This is ten times more than we can possibly require. Taylor says also that there will be no difficulty in securing authorization for an

additional well nearer the upper gravel. If after further study, we are reasonably assured that water is available at higher elevation cost of the well will be compensated by saving in pipe and electrical power. It will be more convenient to control pumping with a well 1.5 miles nearer operations, and a drilled well will provide useful information on gravel value and depth.

Power:

Excavation, loading and haulage equipment is normally Diesel powered. Pumping is the major consumer of electricity. Washing plant with trommel, conveyors jigs, circulating pumps etc. will be driven by electric motros. Flood lighting for night operation, laboratory equipment, welder and other requirements will be small but important electrical consumers. Exact calculations can not be made at this stage but pump motor is 125 HP.

Mount Wheeler Power Company has a high voltage line on the property with power available. Cost of transformers, switches, and feeder lines will be determined at a later date. Their base rate is $88 per month. Price per KWH is said to be rather high but will surely be less than to install and operate a private plant.

Exploration Program:

With an option payment due 60 days after signing, contract we will focus our attention on work which produces quick information. Rather than widely spaced tests which might indicate possible or probable pay-gravel over a large area, the target will be to develop a samller yardage of assured value. The two pits are most likely to produce the results we are seeking.

(1) Gravel is compressed but not chemically cemented. It stands vertically for heights of 20 to 30 feet. Large channel samples can be taken. Except in the upper pit where older workings exposed the north rim, there are few boulder exceeding 6 inches in diameter. These are rounded to sub-angular.

(2) Maps available are not adequate. An early assignment will be to locate claim corners and to establish reference monuments in the test area. Surface should be mapped with 5 foot contour intervals and important features located. Sample data can be posted on the map for calculations. The few old shafts will be located, and if feasible, some may be extended to bedrock.

(3) There are various methods of sampling gold placers. Care must be taken in all procedures, but with erratic distribution, all must agree that accuracy increases with the size of sample. With a plant at Dry Gulch capable of treating 10 cubic yards per hour, after some modification, we propose to run bulk samples. This will be a pilot plant with equipment identical to that used in a larger commercial scale operation.

(4) Starting at the lower pit, approximately 2 miles from washing plant, it is planned to open a cut to 20 feet depth and 100 yards length at right angles to apparent flow direction. Most of the material will be discarded but bulk samples will be sent to the pilot plant. A trench will then be excavated in the bottom of dozer cut to maximum depth. I am informed that 24" backhoe can reach 40 feet total depth in two passes. This may not expose bedrock but one can reasonably predict that material below 40 foot depth will not decrease in gold value. Trenches will be lengthened or shortened depending on gold values. Three or four trenches should adequately test a distance of 0.7 miles where gulches converge. Twenty-four foot depth of pay-gravel with a width of 100 yards and a length of 0.71 mile will give one million cubic yards.

In the upper pit, a 30 foot face of gravel is exposed for a length of approximately 100 yards. This will be channel sampled and bed rock uncovered. This has less area than the lower pit, is farther from water, and 170 feet higher. It is said to have less gold value than the lower pit though it is better located and contains coarser material.

Equipment Requirement and Cost

	Monthly cost
1. Bulldozer IH, ID-20 ($25/hr., 6 hr. day)	$ 3,750.00
2. *Front-end Loader - 2 cu. yds., rubber tires	1,600.00
3. *Back hoe $2,100-$2,400 per month, $750 haul	2,400.00
4. Truck - capacity 15 cu. yds., (6 hr/day @$25)	3,750.00
5. Test Plant & Water Pump	2,500.00
	14,000.00

* Items to be leased, balance from G. Taylor

Additional Equipment - Purchase

1. Denver Jig 12 x 18 Duplex	$1,000	
2. Vanning Wheel	1,000	
3. Gold Balance	1,000	
4. Pressure Pump	2,500	
5. Misc. Laboratory	2,000	
	$7,500 per month	1,875.00
Possible stand-by equipment old loader, Low Boy, Jigs, Etc.		200.00
Test Plant Modification -- $2,000/per month ----		500.00
Miscellaneous Unforseen		925.00
Monthly equipment		$17,000.00
Total for four month period		$68,000.00

The above compares with $71,000 for lease of equipment, purchases, and tailings disposal in Mr. Keighley's estimate of June 13, 1974. Rental prices may vary some from those given me by Mr. Glen Taylor and shown here.

Personnel:

Employment of Mr. Glen Taylor as Project Foreman was a provision of the lease contract. On Taylor's recommendation, I have agreed to hire his brother-in-law, Paul Gulrich as mill operator at $5.00 per hour. It is not usually good policy to have property owners in a position where they can influence sample results. It is my opinion that both are reliable, and that Taylor will be as concerned as ourselves that results are accurate.

Gulrich has past experience with the test plant. He is young and intelligent.

Glen Taylor operates all types of mechanical equipment, has considerable experience in surface mining and gravity recovery. He has worked a good many years for his own account, and will be helpful in many ways.

Taylor specified also Jim Harbecke as equipment operator for front end loader and backhoe. Drivers for bulldozer and truck rented from Taylor will be provided by him. Taylor will also select laborers who live in the area.

Work Schedule Approximate:

First Month

1. Survey and prepare maps.
2. Make necessary modifications in test plant.
3. Prepare water set-up. Make pumping tests if possible.
4. Begin ground preparation in pits with bulldozer.
5. Locate all shafts that can be conveniently sampled. Decide which are to be deepened.
6. Start test runs on upper material from bulldozer trench. Using front end loader and truck.

Second Month

1. Continue plant operation at capacity.
2. Start backhoe work to deepen cuts.
3. Sample and test bank gravel pit No. 2.
4. Sample shafts and particularly those near test area.
5. Summarize data for decision on second option payment and continuation of program.

Third Month

1. Continue plant operation at capacity.
2. Deepen shafts or sink new ones from bottom of cuts to test ground below 40 feet depth.

3. If possible complete scheduled work in area of Pit No. 1. More work may be done depending on results of previous tests.

4. Begin testing gravel from Pit No. 2.

Fourth Month

1. Continue plant operation at capacity.

2. Produce gravel from pits No. 1 or No. 2, whichever most likely to increase reserves.

3. Continue bedrock exploration.

4. Summarize data for reserve estimate.

Miscellaneous Notes:

1. It is planned to work only a normal 8 hour dayshift. Some equipment as front end loader may be used on overtime if justified to speed the program.

2. Handling of funds, payroll, and accounts has been discussed with Glen Taylor. He wishes to be free of this burden and responsibility.

3. PMP must maintain at all times a conscientious, capable man on the property to assure that concentrate is properly handled as directed. He must see that equipment is cleaned after each batch test so there is no possibility of salting from a previous sample. A young engineer is preferable for this work, though it might be done as well by an undergraduate who is not returning to school in September.

4. The nearest living accommodations is at least 10 miles from the property. A small used trailer might be a good investment since it will surely be useful on other projects.

5. Clean-up man must be provided an exclusive area in or beside the plant where he can work. A secure place for test samples is another necessity.

A. L. Davison

TO: Petro-Mineral Projects, Inc.
FROM: James R. Keighley
SUBJECT: Proposed Development Program for Dry Gulch Placer Deposit, Osceola Mining District
DATE: June 13, 1974

In my report on the Dry Gulch Placer, I gave the opinion that the deposit has good possibilities. Now that suitable arrangements with the owners have been concluded, the first work would be directed to more exact information on the following:

(1) Yardage and grade potential
(2) Water - quantity available and cost
(3) Plant design
(4) Production cost and net profit

A power line has already been constructed to the well on the Dry Gulch property and no problems are anticipated with energy supply.

Water is available from one well currently on the property. Current owner figures indicate deliverability on a 900' head through a 10,000' 8" pipe line already on the property. These figures must be verified. If they are verified, this water supply should be sufficient for a 4,000 cubic yard per day operation utilizing appropriate water saving techniques.

A unitized test plant is currently available on a lease basis and should be contracted immediately.

Until exact costs are available for power and water, estimates can be only approximate. Rex L. Frandsen, Secretary/Treasurer of Midas International has given their cost at 50 cents per cubic yard for a small test plant. I am estimating 75 cents per cubic yard for the test work period.

The development program will require about four months and $140,000 should be allocated for this purpose. Most of the essential equipment requirements are currently available on a lease basis. Costs for this development program will be approximately as follows:

(1) Property Option Payments	$25,000
(2) Lease of Unitized Test Plant (4 mos. at $9,000)	36,000
(3) Lease of Other Earth Moving and Testing Equipment (4 mos. at $6,000)	24,000
(4) Cove Classifier	2,000
(5) Amalgamation and Lab Equipment	3,000
(6) Tailings disposal	8,000

(7)	Wages and Salaries Labor - 5 men at $50 each for Testing Plant	$25,000
	Foreman - $1200 a month for 4 months	4,800
(8)	Supervision and Consulting (4 mos. at $6,000)	24,000
(9)	Fuel and Supplies	10,000
(10)	Miscellaneous	8,000
	Total	$169,800

Although small amounts of gold will be produced during the development period, the principle purpose will be to test the deposits in various locations and determine depth, character, and gold value of gravel.

If early results are optimal, grade somewhat higher than $1.50 per yard^3, with no decrease in estimated yardage, we may wish to proceed with plans for the larger plant before the development phase is complete. Funds should be available for this purpose. Design and capacity of final treatment plant may wish to be increased but funds should be available to begin operations with a 3600 yards^3 per day with plant costing approximately $250,000.

Gold deposits are difficult to evaluate because of irregular distribution. However, after four months of test work, data should be available on which the outcome can be predicted with reasonable accuracy. I believe that the investment of $420,000 will then be justified.

Property Description

Ten (10) Unpatented Placer Mining Claims recorded in the White Pine County Courthouse, State of Nevada:

Name of Claim:

Mayfair No. 2
Mayfair No. 3
Mayfair No. 4
Jo Bar No. 1
Jo Bar No. 2
Jo Bar No. 3
Jo Bar No. 4
Jo Bar No. 5
Lucky Mac No. 2
Goodboy

The above claims are approximately 160 acres each, aggregating a total of approximately 1,600 acres.

Location

The ten (10) Unpatented Placer Mining Claims covered by this report are all located in Dry Gulch, in sections 10, 11, 12, 13, 14 and 15 of Township 14 North, Range 67 East MPP & M, White Pine County, Nevada. The mine area is best reached by access of U.S. Route 6 which crosses the property. The old mining town of Osceola, Nevada is 2 miles to the North, Ely, Nevada, approximately 35 miles to the Northwest, Pioche, Nevada, 40 miles to the South, and Delta, Utah, approximately 90 miles to the East.

Equipment

There is a power line to the property, a well, and an eight (8) inch pipeline from the well approximately 10,000' in length to the area of the upper prospect pits. Pumps are installed. There are a trommel and rental earth moving equipment on the property under the supervision of Glenn Taylor.

Geology

Dry Gulch is the main drainage on the west side of the Osceola District. It was the principal gold producing area in the district from itinerant placer mining. Numerous gold bearing veins and fracture zones occur in quartzites in the headwaters. An extensive area of alluvials occurs on the claims in the Dry Gulch Valley. Very little yardage has been worked.

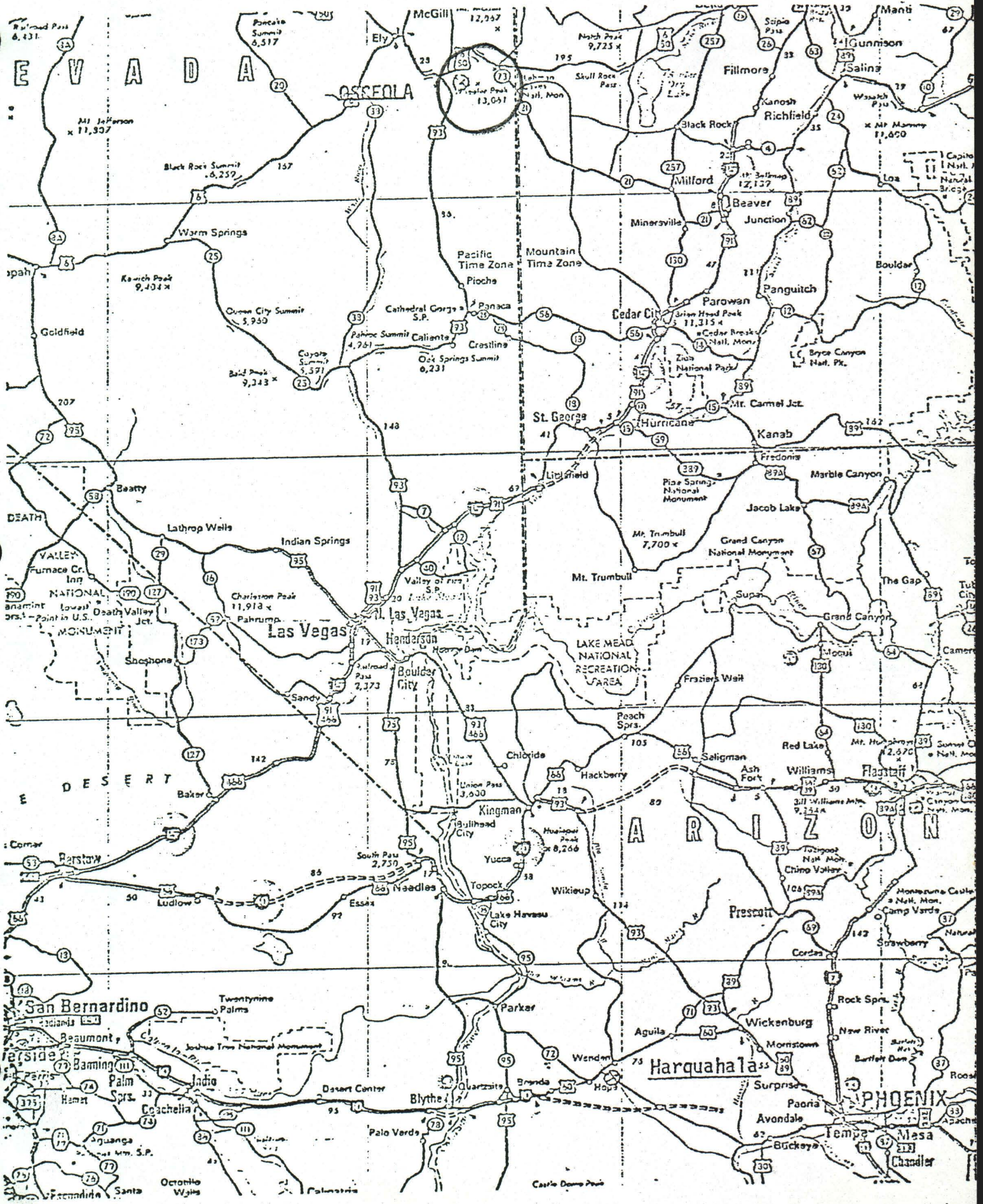
W.O. Vanderburg, U.S. Bureau of Mines, in Placer Mining in Nevada, Nevada Bureau of Mines Bulletin, Volume 30 No. 4, 1936, estimated Dry Gulch gravel at $1.32 per cubic yard, (gold at $35 per ounce), average from 4700 samples 7 to 54 feet in depth averaging 26 1/2 feet.

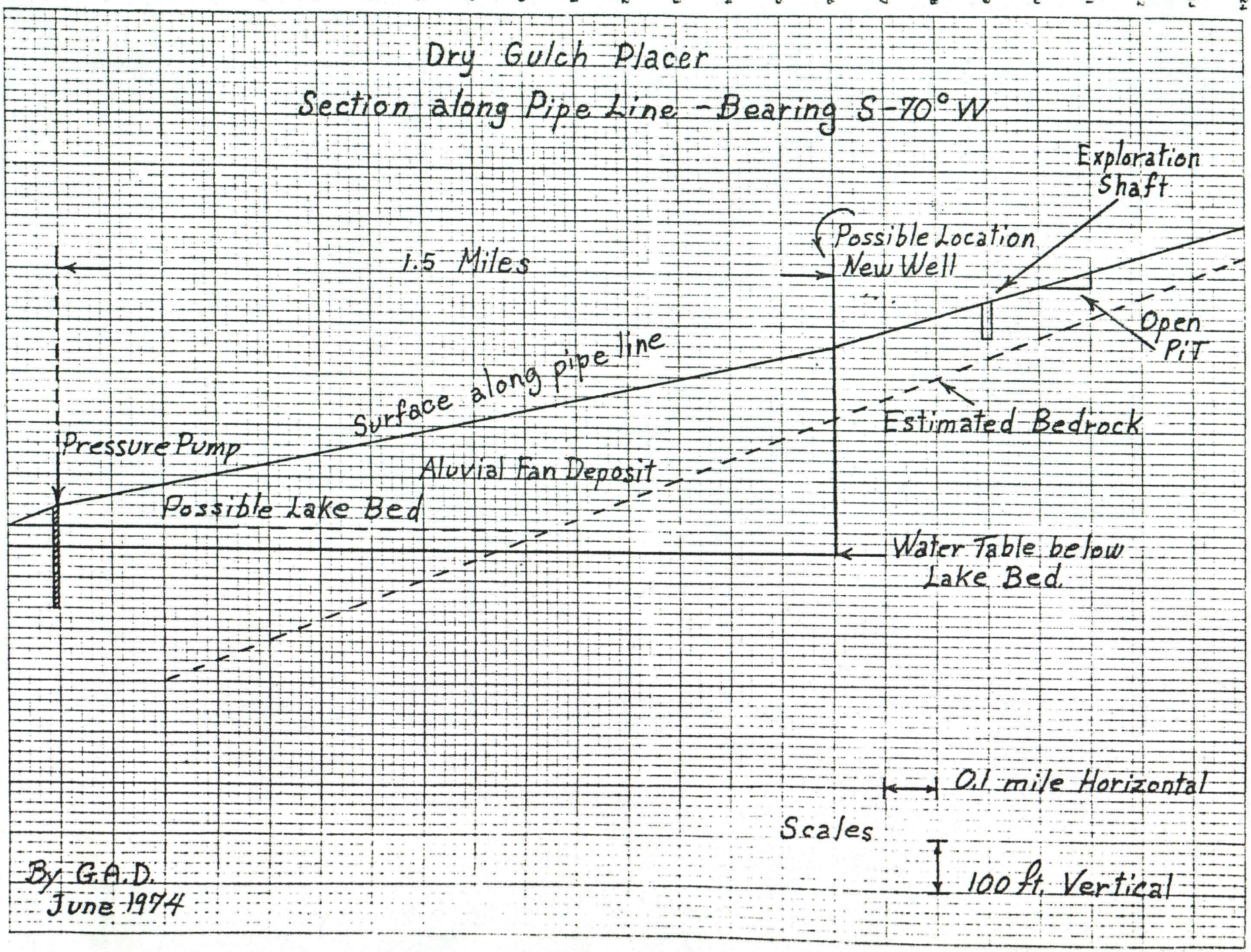
Recommendations

My recommendations are to check these figures of the U.S. Bureau of Mines with a development program as the Bureau of Mines study shows this to be the best placer area in the county and possibly the best in the State of Nevada.

James R. Keighley
Executive Vice President
June 12, 1974

Properties Map




Dry Gulch Placer
Section along Pipe Line - Bearing S-70° W
Exploration Shaft
Possible Location New Well
1.5 Miles
Open Pit
Surface along pipe line
Estimated Bedrock
Pressure Pump
Alluvial Fan Deposit
Possible Lake Bed
Water Table below Lake Bed
0.1 mile Horizontal
Scales
100 ft. Vertical
By G.A.D.
June 1974

1.4 2.1

File

JAMES R. KEIGHLEY
Mining Geologist

1450 EAST SECOND ST.
RENO, NEVADA 89502

(702) 329-7827
(702) 329-8477

October 30, 1974

Dr. Charles Meinstein
N. Phoenix Ear, Nose
and Throat Clinic
9200 North Third Street
Phoenix, Arizona 85020

Dear Dr. Meinstein

I am enclosing a report done jointly by my geologists and engineers on your Gold Placer, Osceola District, White Pine County, Nevada. Also enclosed are my letters on (1) Spenst Hansen's report of June 10, 1974 and (2) Meeting with Quam, Kimball, the Frandsens, and Miller.

There are certain items in the report on which I have comments. The yardage appears like 12 million, but high up in areas where there are numerous small workings the bedrock is close to the surface and this would reduce yardage in those spots. The figures Frandsen quoted to us on the early hydraulicking we found later were from Dry Gulch and not the Mary Ann placer, and so would have no relation to the average gold content on your placer. My samples of the lower pit where the tunnels are were over $2.11 at $150 per ounce gold and the upper pits were even higher. Also, a tungsten mineral scheelite ($CaWO_4$) occurred with the black sands in the lower pit. However, to obtain the maximum yardage from the deposit I believe we should consider $1.50 per cubic yard to be an average figure. A higher cutoff grade would reduce the overall yardage. Naturally, just above bedrock values are several times this figure.

In testing the gravels there is only one thing to do and that is to improve on the current plant, make the necessary changes and start operating at 500 cubic yards daily testing large tonnages from different areas. The main equipment is on hand and with a few modifications would give very good recovery. Rail must be welded in the upper part of the trommel to scour and break down the softer material. During Frandsen's operations clay balls were forming and these hold fine gold. Davison's recommendations for improving the plant should be carried out before production is initiated. Equipment needed and costs are listed on pages 5 and 6. Loading and haulage should be contracted during the first stage. Glen Taylor, who lives within a few miles of the property, will contract the loading and haulage at lower prices than given on page 6.

Both Davison and I believe that a trommel will be necessary to free the fine gold. It may be that by detailed testing this can be eliminated and water jets and vibrating screens can be used in the large plant to be constructed later.

We worked up estimates with the contractor of the costs of a large plant and he claims he can meet the following figures at Mary Ann Canyon:

Item	100 Yds./ Hr.	200 Yds./Hr.
Screening Plant	$ 2,000	$ 2,000
Loader (s)	2,000	4,000
Bulldozer (s)	2,000	4,000
Scraper (s)	2,000	4,000
Fuel oil power	5,000	10,000
Payroll insurance taxes	15,000	20,000
Miscell. Maintenance	7,000	15,000
Total Monthly	$35,000	$59,000
Gross Mo.sales @ $1.00/Yd	$60,000	$120,000
Mo.Net Profit @ $1.00/Yd	$25,000	$ 61,000
Gross Mo.Sales @ $2.00/Yd	$120,000	$240,000
Mo.Net Profit @ $2.00/Yd	$ 85,000	$181,000

A stacker would be included by the contractor in these cost figures. If the contractor can do it for these amounts, the company could certainly do it at less cost.

Before constructing the large plant, I would consider a dragline instead of the loader, scraper system. This would prove to be a much lower cost operation. In fact, I believe I could save 8 to 10¢ a cubic yard by using one.

I would use a small ($1,000) vanning wheel on the concentrate. In final separation after taking out magnetite with a magnet the fine gold in the black sand concentrate should be amalgamated with mercury. I doubt whether there will be trouble with the

JAMES R. KEIGHLEY
MINING GEOLOGIST

recovery, but if there is, the concentrate could be cyanided and then the solution passed through carbon which is then stripped with caustic recovering the gold.

There is nothing difficult about this operation and no major problems. Recovering very fine gold is a matter of close sizing, if this problem should occur. The only other saleable product beside some silver might be tungsten. There may be sufficient scheelite to yield a saleable product. The area to the south of Mary Ann Canyon has widespread occurrences of scheelite eroded from deposits at the contact of granite and limestone. Copper lead and zinc minerals occurring in the placer are too scarce to have commercial value.

Enclosed is some interesting information on Osceola's early days.

Should you have questions, please call me.

Best regards,

James R. Keighley

JRK/ew
Enclosures

JAMES R. KEIGHLEY
MINING GEOLOGIST