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Item 4

SUMMARY OF  
GEOLOGICAL AND METALLURGICAL REPORTS  
FOR THE  
"SUNLIGHT GROUP" MINING CLAIMS  
FALLON, NEVADA

Report Prepared by

Rodney B. Beyer

July 29, 1983

Rodney B. Beyer--Chemical Engineer,

Metallurgical investigation

Thermal and chemical process development

Many others have also made notable contributions.

The results of the combined efforts of these chemists, assayors, engineers, and geologist lead to the principle conclusion that a definite favorable economic feasibility is indicated for this property. In summary:

1. Because of geographical location, the "Sunlight Group" claims are in a favorable mining district with respect to the labor market, utilities, water, transportation, and climate. Located adjacent to U.S. Highway 95, 28 miles north of Fallon, easy access is afforded by public roads and rail.
2. In-place, indicated reserves through core drilling, sampling, and assaying conservatively exceed 30 million cubic yards with 15 million troy ozs. (toz) of recoverable gold (Au) and 30 million troy ozs. (toz) of silver (Ag). The ore appears to be unusually homogeneous with respect to the distribution of the precious metals. The reserves are based on values actually recovered from the surface to depths of eighty feet, with ore at all levels.
3. Assuming an overall recovery of 90 percent, and a modest annual production of 150,000 yds. (68,000 toz Au), indicated reserves would sustain operations

for at least 200 years.

4. A unique mining technique using inexpensive slurry pumping and handling, coupled with a proven chemical extraction method for recovery of the precious metals from the ore (both devised and developed by John Peterson), assure efficient and economic operation of mining and recovery processes.

As Mr. Jutzy sums it up: "It is my firm opinion that if this property is properly and professionally developed, it has the clear potential of being one of the largest and most profitable gold producers in the United States.

## I. THE PROPERTY

### OWNERSHIP

Unpatented claims, Sunlight #2 and #3,

### LOCATION AND ACCESS

North half of Section 34, Township 24, north, range 29 east, in Churchill County, located 28 miles north of Fallon, Nevada, just off U. S. Highway 95. Access is provided by the old Lovelock highway cut-off, a public road. The Southern Pacific Company has tracks and power lines within 500 yards of the property. There are approximately 320 acres bordering the Mopoung Hills.

### WATER

There is adequate water for processing, inasmuch as the water table is typically 12 to 15 feet from the surface. Potable water is available about one mile away in Humbolt Lake.

### ASSESSMENT WORK

All 1982 assessment work has been completed and recorded with the U.S. Bureau of Land Management and Churchill County.

### LIENS AND ENCUMBRANCES

No liens or encumbrances are of record against the property.

### GEOLOGY

The property is located in Humbolt sink area, which is a dry lakebed dating from the late pleistocene era

(ca. 35,000 years ago) when glaciers covered much of North America. The entire area is underlain with alluvial deposits eroded from higher mountain ranges of tertiary times. Because the water table is so high the soil of much of the property is unstable. However, in the southeast quarter of Section 4 bordering the hills, the surface is firm and will support a plant site and attendant heavy equipment.

The cemented conglomerate surface common to arid areas is quite friable and can be broken up easily with a drag line. The majority of the ore in the lake bed contains 40% water and is, therefore, capable of being pumped as a slurry to processing tanks instead of requiring conventional mining and transportation.

## II. THE ORE BODY

### DRILLING

The property has been core drilled extensively within the past five years. Special rigs and drills

were used to penetrate the soft wet clay below the surface crust. As the scow was forced down through the ore body, the clay samples were forced up through the hollow core and out the top. Samples of ore were taken for analysis at ten foot intervals.

Because of excessive water pressure at depths below 50 to 60 feet, cave-ins filled the holes faster than they could be evacuated. For this reason, it was difficult to sample below about 80 feet. Successful drilling on one hole to a depth of 124 feet was accomplished, where bedrock was encountered. All samples taken had commercial quantities of precious metals.

### RESERVES

Based upon drilling in Sections 4, 8, and 34 the indicated reserves for the north half of Section 34 are of the order of 30 million cubic yards, allowing for some variations in ore depth and unusable areas on which the plant is to be situated. Probable reserves of an additional 15 million yds., or more, are estimated from the additional 50 to 60 foot depth attained before reaching bedrock.

Using a conservative 30 million yards and recoverable

values of the average reported assay results, the total estimated value of the ore body would likely exceed 15 million troy oz. of gold and 30 million troy oz. of silver, which in today's market would approach ten billion dollars.

#### LIFE EXPECTANCY

Assuming a modest-sized plant with a throughput of 500 ypd, 300 days per year, an annual production of 150,000 yards and at least 68,000 toz of gold at 90% recovery efficiency is anticipated (ca. \$27 M gross revenue). At this rate, indicated reserves would sustain operation for a couple of centuries. Water availability being the only known scale-up restriction suggests that larger production rates are feasible.

relatively reactive compared to its normal "inactive" chemical affinity for anions. As a result, oxidation can readily occur thereby preventing accurate standard fire assays. Some improvement was obtained by William Copley, using a "controlled and corrected" fire assay, as he calls it. His average value of gold using this improved method was quite high. The mean value was slightly over 0.4 opt. averaged about the same for cyanide leaches and mercury amalgamation.

When special care is taken to "free" the gold from its host without vaporization by oxidation at higher temperatures or by elutriation with lighter minerals during wash cycles, substantially higher values have been obtained.

Jerry Henderson worked with a special high reducing power flux in his fire assays and used more than the normal inquarting silver. He was also successful in dissolving the specimen with a strong aqua regia treatment to put the minerals into solution.

The author used a highly reductive gaseous environment in conjunction with gradually increasing temperature to both break down oxidized, or quasi-oxidized, forms of gold and silver and to agglomerate the reduced metal into larger particles for gravity concentration. Notably, when this treatment was performed, higher values, were obtained by both x-ray and standard fire assay methods.



Reports for recent assays performed on surface samples are attached. Several methods were used to evaluate the samples:

1. A simple fire assay using a sulfide ore flux.
2. A "controlled and corrected" fire assay, wherein the slag is recupelled.
3. A sodium hydroxide (caustic soda) fusion followed by a standard fire assay.
4. A quick hot-leach using organic, biodegradable chemicals,
5. followed by a slower cold-leach using similar chemicals.

1. The sulfide-ore fire assays gave good coherent beads of brownish-black consistency when treated with dilute nitric acid, indicative of approximately 35% gold content.

The first two assays, one of a one-half assay ton and the other a full assay-ton gave consistent results of 0.13 opt gold and 0.26 opt silver. These results are considered to be pretty good, since regular fire assays frequently give very low assay values (ie. less than .05 opt). A third assay, completed today, was run using additional iron as a reducing agent. The gold recovery was markedly improved (.22 opt). A very nice yellow bead was obtained with the hot nitric acid treatment. The total metal recovered was somewhat smaller though, reflecting the reduced silver recovery in this assay.

2. Four "controlled and corrected" assays yielded mixed results, and the slag re-runs yielded essentially nothing. The fine black residue after nitric acid treatment, estimated at 3% of the total weight, including two silver inquarts of 3.86 mg, still yielded a respectable average of 0.6 opt in gold, with 11 to 12 opt silver.

3. The caustic soda fusions, after subtracting out the 3.86 mg inquarts of silver, still yielded beads over 5½ mg weight. The black gold residue was friable and amounted to 0.58 opt, with the silver balance being 11 opt, similar to the C & C results. Each assay contained gold and silver at essentially the same concentration, as close as could be measured.

4. The last assay performed was on a kilo of as-received ore (~40% moisture) using a non-toxic leach (to compare with cyanide leaches previously used by John Peterson and others).

The ore was first washed in a 10% sulfuric acid bath for two hours to clean the ore and neutralize the carbonates and other such anions. A quick leach for 15 min. at 150° F was run first. Recovery by zinc precipitate yielded 4.9 mg of metal of which 60% was gold. This calculates to 0.13 opt for the 640 g of equivalent dry ore.

The ore was then leached in a more highly oxidizing solution and recovered an additional 0.06 opt of gold for

a total gold recovery of 0.19 opt and 0.10 opt silver. No inquarts were used in the subsequent fusion of precipitate so the percentage of gold in the resulting beads was substantially greater and the beads were bright bronze- and yellowish gold-colored respectively.

While the two organic leaches recovered only a third of the indicated value of gold by C & C and fusion assays, they suggest that such a method is feasible and improved recovery may result if:

1. washing and neutralizing the ore is accompanied by vigorous agitation or grinding to expose and clean the more occluded particles. (As a point of interest, a sample of complex ore ball-milled with cyanide solution yielded a many-fold improvement in metal recovery.)
2. pre-leach oxidation of the ore as part of the washing and cleaning operation is used.

Even at this level of recovery, though, values in excess of \$80 per ton are excellent, especially since mining costs by slurry pumping should be minimal. The leaches used in these assays are also very cost effective, estimated at half the cost of comparable cyanide methods, ie. reusable, directly electrowinnable, ecologically simple (non-toxic) and fast acting (high reaction rate at ambient temperature).

Probably the most efficient leach that the author had conducted, was for an assay on a sample from the same ore body taken a few years ago. Merwin (Murry) White of

Salt Lake City used a novel "organic oxidation" cyanide leach that he developed and recovered about 3/4 opt Au in 45 minutes.

has informed the author that he has also developed a highly effective cyanide leach using several prior steps to "prepare" the ore. He stated that his leaches indicate that 0.5 opt Au recovery is very conservative. It is clear that a chemical process which requires little or no thermal energy to perform the extraction is much more attractive for this mining operation because drying the ore is not needed and nothing other than electric power is required for processing.

#### PROCESS DEVELOPMENT

The general exploratory steps prior to plant construction, namely, research, bench-scale tests, pilot-scale tests, and economic feasibility have been completed. He is completely satisfied that his process is developed far enough for commercial deployment. While other processes are possible and, perhaps even more fruitful, it may prove to be more prudent to at least get underway with a proven process now and secure a good cash flow. Other methods can always be implemented as they are proven up and show superior economics.

Samples pre-washed in 10% H<sub>2</sub>SO<sub>4</sub> for 2 hrs prior to 1st leach

Ore or material	Weight of sample	Initial weight of bead	Percentage of gold in bead	GOLD ounces per ton	SILVER ounces per ton	PLATINUM ounces per ton	OTHER
(15 min) 1 CLS-13 leach	640 g <sup>①</sup>	4.90mg	60%	0.13 <sup>②</sup>	0.09		brass
(40 hr) 2 CLS-22	640 g	1.52mg	80%	0.06	0.01		gold
3			Total <sup>③</sup>	0.19	0.10		
4							
5							
6							
7	<sup>①</sup> dry weight						

<sup>②</sup> 68% of the recovered values were obtained within 15 minutes by the first leach

<sup>③</sup> Total value + (425)(.19) + (10)(.10) = \$81.75/ton

Note: One assay ton = 29.16 grams. Each milligram of precious metals taken from an Assay Ton equals one troy ounce of precious metals per ton of ore.  
sulfide flux on raw ore

Ore or material	Weight of sample	Initial weight of bead	Percentage of gold in bead	GOLD ounces per ton	SILVER ounces per ton	PLATINUM ounces per ton	OTHER
1 1/2 A.T.	14.6g	0.185mg	35%	0.13	0.24		
2 1 A.T.	29.16g	0.362mg	35%	0.13	0.24		
3 1/2 A.T.	14.6g	0.142mg	80%	0.22	0.05		
4							
5							
6							
7							

Signature

*R.B. Beyer*

Note: One assay ton = 29.16 grams. Each milligram of precious metals taken from an Assay Ton equals one troy ounce of precious metals per ton of ore.

controlled and corrected fire assay with 2 ing. (3.86 mg)

Ore or material	Weight of sample	Initial weight of bead	Percentage of gold in bead	GOLD ounces per ton	SILVER ounces per ton	PLATINUM ounces per ton	OTHER
1	14.6 g	2.43mg	--	trace			
2	14.6 g	3.86mg	--	nil			
3	14.6 g	9.67mg	3	0.55	11.0		
4	14.6 g	10.16mg	3	0.63	11.97		
5							
6							
7							

Signature

*RVB Beyer*

Note: One assay ton = 29.16 grams. Each milligram of precious metals taken from an Assay Ton equals one troy ounce of precious metals per ton of ore.

caustic soda fusion--fire assay with 2 Ag inquarts (3.86 mg)

Ore or material	Weight of sample	Initial weight of bead	Percentage of gold in bead	GOLD ounces per ton	SILVER ounces per ton	PLATINUM ounces per ton	OTHER
1	avg of 4 tests:						
2	14.6 g	(1) 5.81mg	~ 5	0.6	11		
3							
4							
5							
6							
7							

GEOLOGICAL REPORT ON THE

"SUNLIGHT MINE"

prepared by,

JACK J. JUTZY, GEOLOGIST

JACK J. JUTZY  
CONSULTING GEOLOGIST - ENGINEER  
RETIRED  
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September 25, 1978

SUMMARY OF

Mr. Eric Andersen  
Pacific Exploration  
1143 Mariposa Street  
San Francisco, CA

GEOLOGICAL AND METALLURGICAL REPORTS  
FOR THE

Dear Mr. Andersen: "SUNLIGHT GROUP" MINING CLAIMS

I am hereby submitting my geological report concerning the  
Development - Phase I of the "Sunlight" mining property located  
near Fallon, Nevada.

SCOPE OF EXAMINATION

This examination was conducted during the period July 10 - Sept. 15, 1978. A drilling program was conducted, under my direct supervision a small pilot plant was built, and extensive metallurgical, laboratory and assay work was done to determine both the values present and the economic viability of potential mining operations. A field trip was made to Salt Lake City to interview various metallurgists and chemists for the purpose of obtaining more definitive answers to some of the problems connected with this unusual ore.

The express purpose of this report is to determine if the property merits further development and the likelihood of it becoming a profitable mining operation.

Report Prepared by

STATUS OF CLAIMS

Rodney B. Beyer

The property described consists of 5 unpatented Placer Claims comprising 160 acres each. The claims were located by John Peterson of Fallon, Nevada and are presently held by Eric Andersen under a lease - purchase contract.

PROOF OF LABOR

The affidavits of Proof of Labor have been filed annually by John Peterson. The Proof of Labor for 1978 has already been filed and in my opinion is not defective in any way. All the requirements under both State and Federal Statutes have been met or exceeded by the work done under my direct supervision.

July 29, 1983



**JACK J. JUTZY**  
CONSULTING GEOLOGIST - ENGINEER  
RETIRED  
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TELEPHONE 873-8681

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Development - Phase I "Sunlight Mine"  
Eric Andersen, Pacific Exploration

ACCESS & POWER

The subject property is located 28 miles North of Fallon on U.S. Highway 95, approximately a 30 minute drive. The NE corner of Section 8 is located approximately 200 yards from Highway 95 and is reached by the old Lovelock Highway cut-off, a public road, so access is thereby assured.

The Southern Pacific Railroad has tracks accompanied by power lines which run parallel to Highway 96, approximately 400-500 yards from the property, so both a rail road spur and power should be readily available.

WATER

There is more than adequate water for processing purposes located on the property, inasmuch as the water table is located from 12-15' from the surface. The water is not potable, but Duffer Fairbanks, a local drilling contractor familiar with the area, reports that there is a good chance potable water could be found on the edge of the Mopoung Hills near the edge of the property.

GEOLOGY

This property is located in what is known as the Carson Sink area, and is a lakebed dating from the late Pleistocene era. It has been estimated by other that this particular area was inundated 3-5,000 years ago.

The entire area is underlain by alluvial deposits of material eroded from the higher mountain ranges of tertiary times. The overburden varies in depth from 2-20' and consists of a tough, semi-concreted conglomerate. On the ancient lake-bed proper, the water table is located from 5-14' from the surface.

The historical geology of this area will be developed more fully at some future date, but is not within the scope of this examination, since it has no bearing on the economics of the situation.

DRILLING PROGRAM

The drilling itself was accomplished by a scow-type rig devised by John Peterson. It functioned extremely well in this soft clay ore. (See accompanying photographs).

Development - Phase I "Sunlight Mine"  
Eric Andersen, Pacific Exploration

DRILLING PROGRAM

Grid patterns were laid out on the N  $\frac{1}{2}$  of Section 8 and on the SW  $\frac{1}{4}$  of Section 4, (See accompanying maps and profiles), in such a manner as to give a rough approximation of the size of the ore body. Previous work indicated the potential ore body to be so large that there would be no problem in supplying even a very large mill. It was of greater interest to determine the mining characteristics of this ore and whether or not previously reported values would carry throughout the ore body.

It was also our objective to take samples from the bottom of the lakebed near the bedrock as previous work had indicated that the highest values were to be found near bedrock. We were only partially successful in reaching bedrock because with our equipment we were unable to drill deeper than 80' due to cave-ins. At some time in the future it would be very helpful to case a few holes and drill all the way to bedrock. However, it is my opinion that at this stage of development any additional drilling, although helpful and of great scientific interest would not yield any economic benefits.

ORE BODY

It is my conclusion that we have a proven ore body of approximately 40 million tons with a probably additional reserve of another 20 million tons.

The tonnage was computed in the following manner:

(Volume of ore body) 40,300,000 c.y. X  
(assuming a Specific Gravity of 1.25) 1.03 tons /c.y.  
= 41,509,000 tons gross.

This figure was then rounded off to 40,000,000 tons. It should be noted that this ore consists of 40% water by weight, but since the ore will be processed as a slurry it is correct to assume the wet weight in calculating reserves. Also, assaying was done using the wet weight as a base, for the sake of consistency.

LIFE EXPECTANCY

Assuming a through put of 2000 tons per day, 330 days per year would mean annual throughput of 660,000 tons/year. At this rate there is enough ore on hand to last for 60.6 years.

Development - Phase I "Sunlight Mine"  
Eric Andersen, Pacific Exploraton

MINERALOGY

There has been a great expenditure of funds and investigative energy in this area with good results.

It was my opinion several months ago that not enough was known about the manner in which the gold was occurring and that this had a direct bearing on the somewhat elusive manner in which this material behaves. I now new feel that the work done by Mr. Rodney Beyer of Ford, Bacon & Davis, Utah, and Mr. J. Henderson of Provo, Utah, has clarified the situation in an eminently satisfactory manner.

It is of great significance that R. Beyer and J. Henderson, working completely independently and unknown to each other, arrived at essentially the same conclusions and nearly identical results.

The mineralogy and metallurgy of this ore is gone into in great depth by R. Beyer in a separate report. A brief paraphrase from this report succinctly stating the nature of occurrence follows:

"The gold is believed to occur 'encapsulated' as it were by alkaline metal salts such as potassium and sodium. The extraction or detection of gold occurring in this manner is extremely difficult by conventional methods such as fire assaying, cyanidization, AtmoicAbsorbtion, Etc."

The subject is quite complex and the reader is urged to study R. Beyers report for more details.

VALUES

There are three sets or ranges of assays reported on this property.

1. The first set relates to the values obtained by a modified cyanidation process first attempted by John Peterson and then improved upon by J. Lower. In the light of subsequent knowledge it is apparent that this process, though quite viable economically, does not even begin to recover the values present.

The average value of assays done previously by others, of 15 reports equals .546 oz gold/ton and commercial quantities of silver.

Development - Phase 1 "Sunlight Mine"  
Eric Andersen, Pacific Exploration

VALUES (Cont'd)

The average value for our own work = .370 ounces gold/ton, silver and Platinum not measured, 8 samples considered. It should be noted that the samples considered did not span a large number of locations in the ore body and should therefore be considered only as indicators, as there is insufficient data to draw any conclusions. This particular approach was abandoned because other avenues seemed more fruitful.

2. The second set of samples were delivered to R. Beyer and J. Henderson in Salt Lake City. Four samples were taken from the same test hole from two different depths. The samples were then split and four samples then sent to each lab. The purpose of this series of tests was to determine whether the testing procedures were reliable and consistent. Work done by E. Andersen and J. Peterson indicated that values were distributed in a reasonably homogenous manner throughout all four samples. Also, a "hot-spot" was deliberately chosen to give the lab every opportunity to pick up the values.

The "hot-spot" turned out to be quite hot indeed. As per enclosed reports, both direct and indirect average values reported by R. Beyer and Rogers Research utilizing a pre-treatment process and subsequent analysis by X-Ray Diffraction were 6.17 ounces gold/ton 9.91 ounces silver per ton of ore. A subsequent report by Rogers Research dated 9-7-78 also indicated .075 ounces Platinum/ton which may or may not be recoverable.

J. Henderson performed a physical extraction on the splits of that material and recovered from a composite sample 7.65 ounces gold and 35 ounces silver per ton of ore. This initial test was what J. Henderson called his "quickie" test.

To confirm this initial test Mr. Henderson then performed a far more exhaustive test on another composite sample and recovered 11.553 oz Au and 55.765 Ag/ton of ore.

It is not known at this time why J. Henderson can extract more silver from this ore than is indicated by X-Ray diffraction. It is of great interest to note that Mr. Henderson has actually built a mill based on his methods, and that this mill is operating most profitably and extracting precious metals from ores that assayed erratically.

Development - Phase I  
Eric Andersen, Pacific Exploraton

VALUES ( Cont'd )

3. The third set of assays were concerned with determining the over-all value of the ore body and the possible values that could be expected in an actual mining situation.

Our sampling procedure was as follows: from each of the mill feed ponds constructed near each drill hole a core was taken from the approximate center of each pond. The weight of each sample was approximately 10 pounds. The ore in each of the ponds was well mixed and during the sampling great care was taken to get representative samples. I am confident that the samples were correct and give a good approximation of the overall values present.

The averages of the 13 tests are: 4.12 oz gold, 4.17 oz silver, and .052 oz platinum per ton of ore.

These results were reported by Rogers Research using X-Ray diffraction quantitative analysis, dated 9-11-78.

Four composite samples were sent to J. Henderson for analysis. He employed the same direct chemical extraction methods used in his previous tests. The average results from his report dated 9-21-78 were: 4.35 oz gold and 4.35 oz silver per ton of ore.

To actually determine the recoverable precious metals in this ore by these methods one would have to run extensive large scale pilot tests. I feel that at this point it is safe and conservative to say that it would be reasonable to expect a recovery in the range of 2-3 ounces per ton. It could quite easily be more, but it is better to make a mistake on the side of being too conservative.

It would be fatuous to compute gross values for this ore body. The potential ore reserve is so great that attempting to extrapolate values into the next century is meaningless.

A more realistic approach would be to approximate possible revenues over the next 20 years. It does not seem unreasonable to assume a strong gold market for the next 20 years, but to attempt to make any projections beyond that would require the assistance of a crystal ball.

Assuming a conservative production rate of 500 tons a day, and assuming an admittedly high production cost of \$45/ton (including amortization of plant and equipment), and values of 2 oz of gold and 2 oz of silver per ton of ore which would be the equivalent of \$410 gross value per ton.

Development - Phase I  
Eric Andersen, Pacific Exploration

Using the aforementioned parameters, profit potential would be:

Yearly Throughput

500 tons/day x 330 working days = 165,000 tons/year

Yearly Gross

165,000 tons x \$410 gross value/ton = \$67,650,000 per year

Yearly Expense

165,000 tons per year x \$45/ton = - \$ 7,425,000

ANNUAL NET PROFIT

\$60,225,000

SAFETY FACTORS

Many things can go wrong in a mining operation. Two common problems other than mismanagement, are fluctuation in price of product, and variation in metal content of the ore. For this reason it is important to consider the breakeven point in terms of the price of gold and how much gold is in the ore. Assuming the parameters in the last paragraph the breakeven points would be:

Price of Gold

Other factors being equal, the price of gold could drop to \$22.50/ounce before the project would lose money.

Ore Values

Other factors being equal, the gold content could drop to 0.20 oz Au/ton before the project would lose money. The silver content was not even considered.

MINING

It is safe to say that this ore body is ideally suited for cheap and efficient mining.

Power, roads, water and railroad are all convenient and pose no problems.

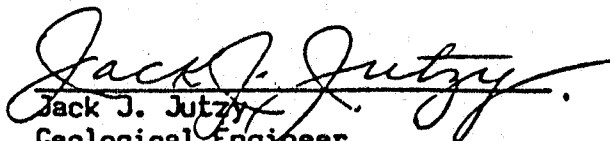
Labor, materials and supplies can all be easily had at Fallon, which is the local mining center and only a 30 minute drive from the property. It will not be necessary to build quarters for employees and feed them, thus reducing the costs considerably. Employees can live at home with their families which is also an advantage.

Development - Phase I  
Eric Andersen, Pacific Exploration

CONCLUSIONS

It is my firm opinion that if this property is properly and professionally developed it has the clear potential of being one of the largest and most profitable gold producers in the United States.

Respectfully submitted,

  
Jack J. Jutzy  
Geological Engineer

25 September 1978



Development - Phase I  
Eric Andersen, Pacific Exploration

MINING (Cont'd)

The ore can be handled as a slurry and pumped from the flats to the millsite and used directly as millfeed. No crushing or sorting is necessary. These advantages should save as much as 30% of capital expenditure and production costs over a conventional mine.

Our tests indicated that the rate of flow on return in an evacuated test hole approximately 50' in depth to be approximately 7 feet per minute. At this rate it would not be difficult to maintain the 112 gpm flow necessary to feed a 1,000 ton/day mill.

R. Beyer has indicated that it might be of some advantage to install a ball mill after the thermal reaction stage and before the cyanidization to enhance recovery, but this would not add to production costs appreciably.

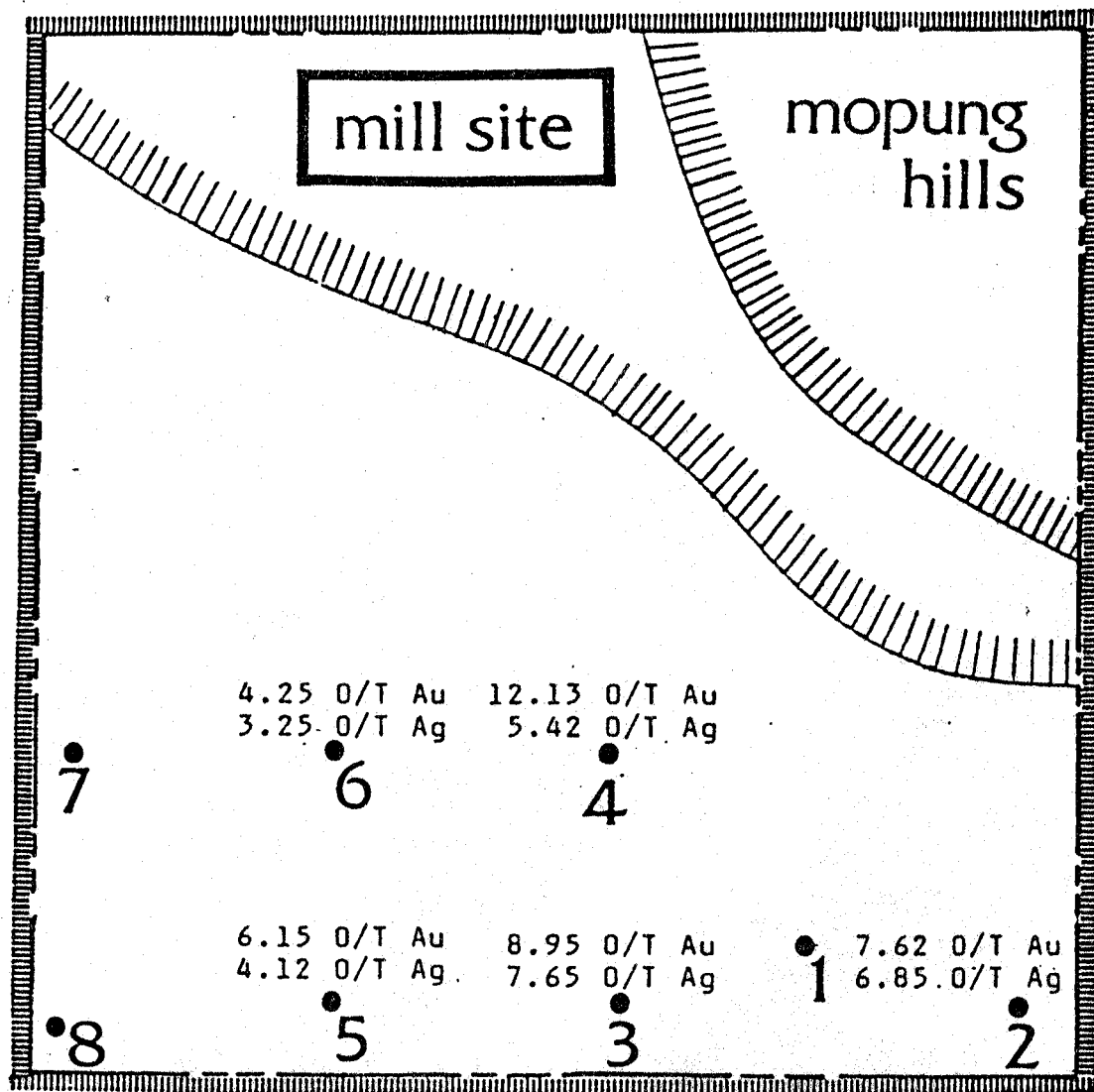
MARKET

The products of this mine are gold, silver and possibly platinum. At present market prices the mill would quickly amortize itself, and it seems safe to assume that there will be a strong market for precious metals for at least the next 5-10 years.

RECOMMENDATIONS

1. Build a one ton a day pilot mill utilizing the Beyer Process and operate it for at least one month to accurately determine production parameters and thus costs.
2. Drill one or two cased holes in the SW $\frac{1}{4}$  of Sec 4 that will reach bedrock. There may be some very high values in the deeper strata.
3. Do additional sampling and assaying to determine distribution of values as a function of depth. This would make it possible to pinpoint the highest values and maximize profits in both the pilot plant stage and early production scale operation, where cash is most sorely needed.

# Section 8



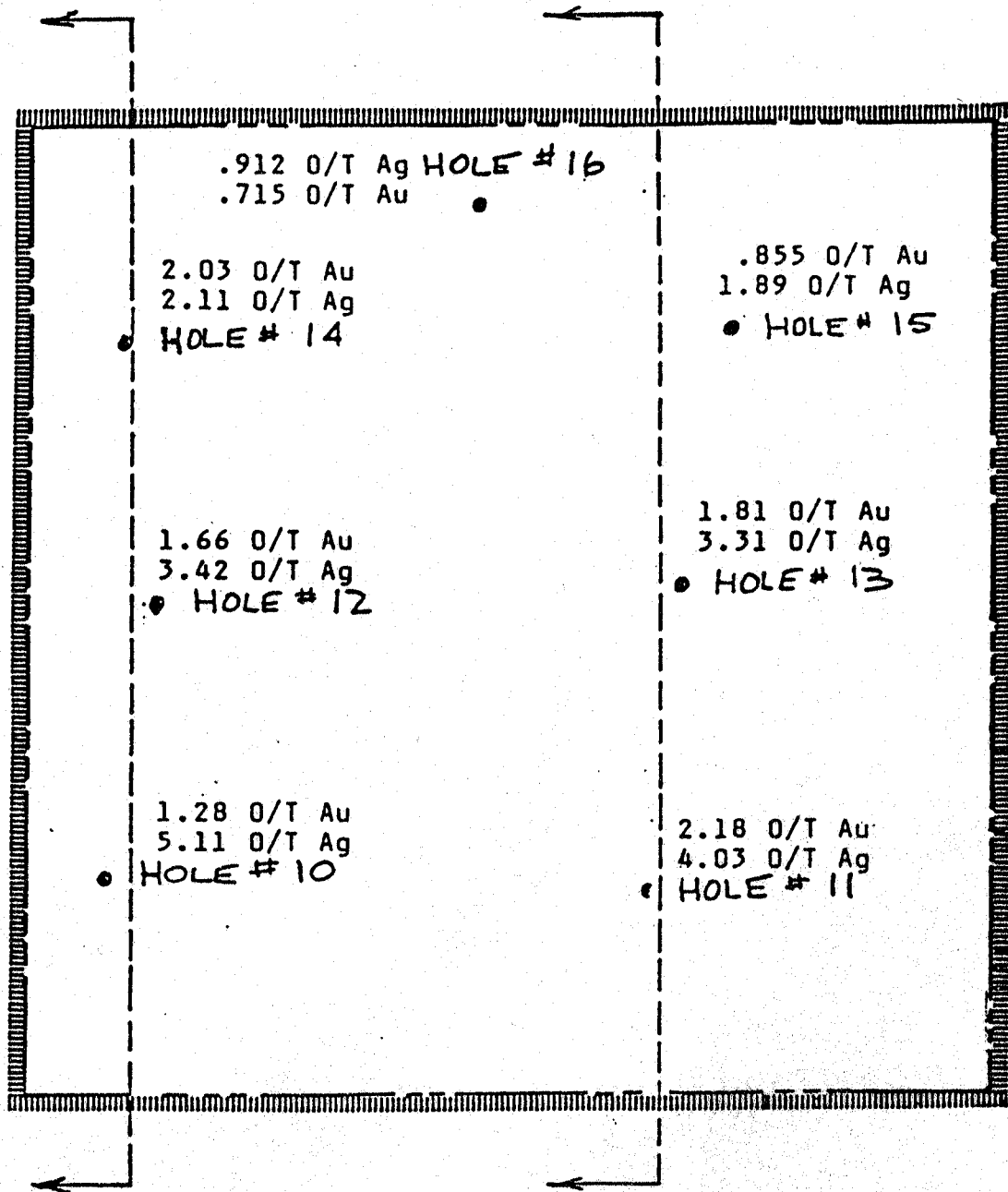
SCALE - 1" = 1000'

DRAWN BY: EA

# SW 1/4 Section 4

PROFILE 4-1

PROFILE 4-2

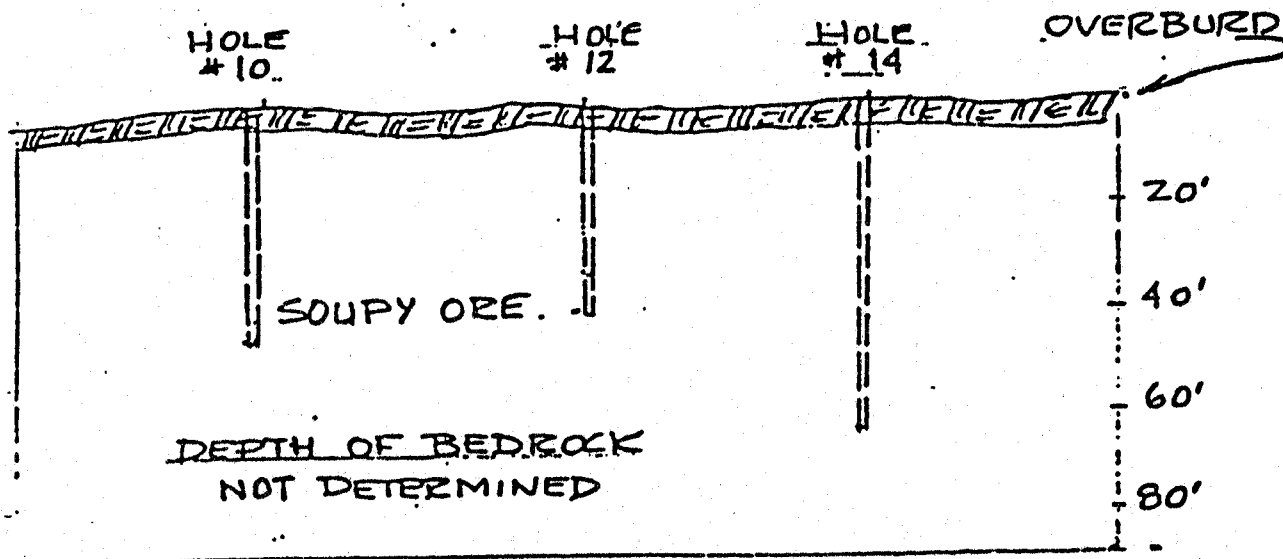


SCALE - 1" = 500'

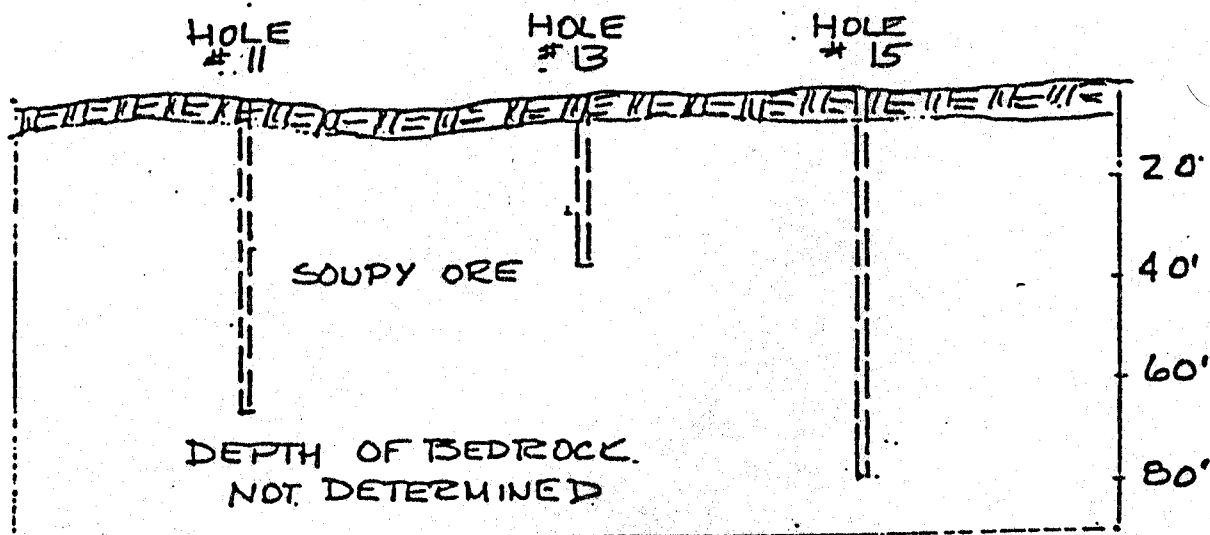
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# Profiles

## Profile 4-1



## Profile 4-2



VERTICAL SCALE 1" = 40'

HORIZ. SCALE 1" = 500'

DRAWN BY - E.A.