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PRINTED: 09/06/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: VIVIAN

ALTERNATE NAMES:

JACKS SHAFT  
ORO FINO GROUP

MOHAVE COUNTY MILS NUMBER: 31A

LOCATION: TOWNSHIP 19 N RANGE 20 W SECTION 20 QUARTER NE  
LATITUDE: N 35DEG 00MIN 56SEC LONGITUDE: W 114DEG 25MIN 17SEC  
TOPO MAP NAME: OATMAN - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

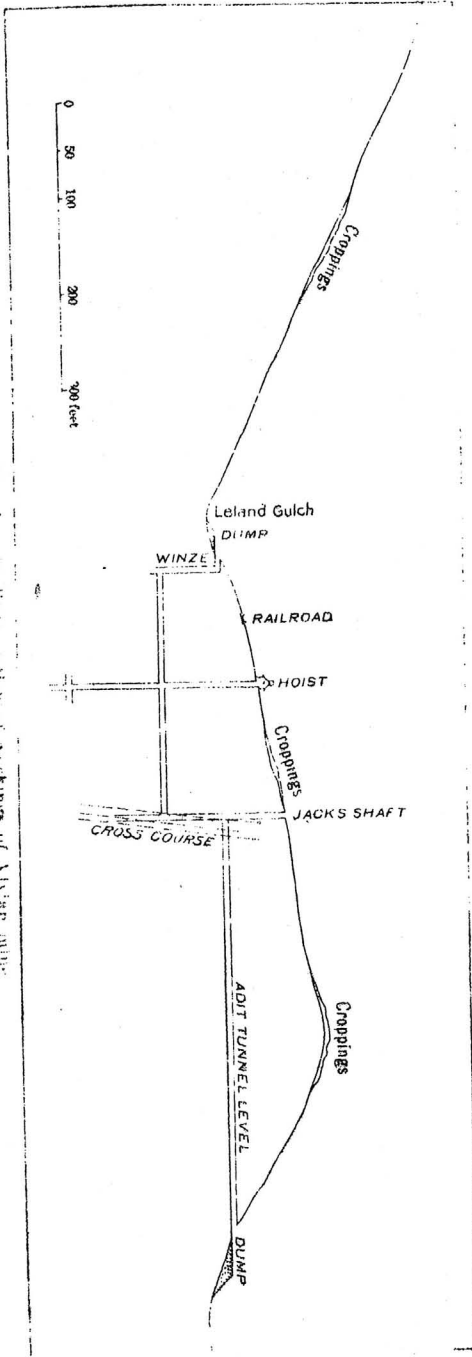
GOLD LODE  
SILVER  
BERYLLIUM  
CALCIUM CALCITE  
LEAD

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BLM MINING DISTRICT SHEET  
SCHRADER, F.C., USGS BULL 397, P. 195-196  
ADMMR MOHAVE CARD FILE  
GARDNER, E.D., USGS PP. 318 P. 102-103  
ADMMR VIVIAN MINE FILE  
RANESOME, F.L., USGS BULL. 743, P. 5 AND MAP  
ABGMT BULL. 131 P. 10, 13,15,29,76  
ABGMT BULL. 129 P. 83-86  
ABM MAPS ROLLED MAPS UNDER VIVIAN MINING CO.



FIGURE 11. Longitudinal section of workings of Vicksburg mine.



VICTORY MINES & MILLING CO.

Pb

Mohave

8 - 7

T 24 N, R 18 W

Victory Mines & Milling Co., 401 Verdugo R.,  
Glendale, Calif.

'42

NAME OF MINE: WRIGLEY

COUNTY: MOHAVE  
DISTRICT: WALLAPAI  
METALS: PB, ZN

OPERATOR AND ADDRESS:

MINE STATUS

DATE:

DATE:

5/1/44

Victory Mng. & Milling Co. 5/1/44  
Frank Nelson, Pres.  
Box 186, Kingman

Closed due to refusal  
of loan

start soon. 6/1/42  
MIN JOURNAL 130/42

VIVIAN GROUP MOHAVE COUNTY  
Au SAN FRANCISCO DIST.

MINING JOURNAL 1-15-42 p17

See; U.S.G.S. Bulletin #397 p195-96

SEE ABM. Bull. 31, P.I., p. 10-13-15-29-76  
ABM. Bull. 129, pp. 83-93.

See! USGS Prof. Paper # 318  
Page 103

USGS Bull. 340 p. 58

USGS Bull. 743, p. 5

MILS Sheet sequence number 0040150301

MAPS - Upstairs in the ABM rolled file  
boxes under Vivian Mining Company  
1 composite map and 1 map of ~~the~~  
the workings of the Mitchell Shaft



MINING JOURNAL - 1-15-42 -  
p. 17

McHABE CO. NEAR BATMAN  
A.G. LAITEM, GEN. MGR. ~~Page 17~~  
WM. F. AMES, GEN. SUPT. BATMAN, ARIZ.  
CHAS. BOYLES, MILL. SUPT.  
HOMER LINDERMAN, MASTER MECHANIC  
ROBERT A. ELGIN, KINGMAN, AR. - CONS. ENG.



Page 16

Mining Journal  
2/29/40

The Mining Record  
May 6, 1987

Page 6—The Phoenix Central News—June 11, 1975

## **Explore Arizona**

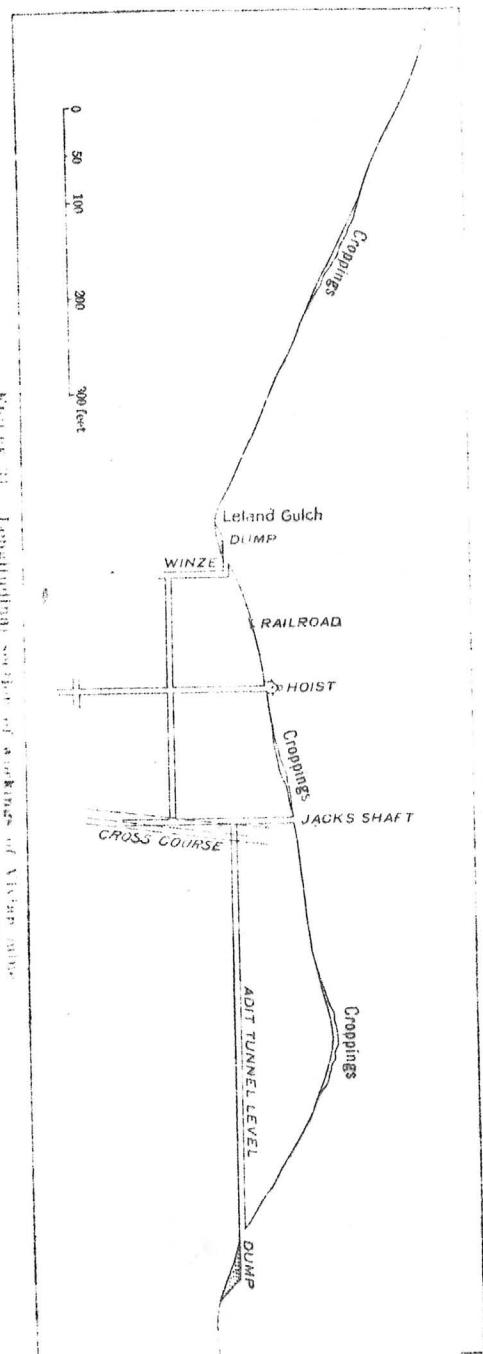


FIGURE 1. Longitudinal section of workings of Mine No. 1.

SUN RIVER GOLD CORP.  
OATMAN PROJECT, ARIZONA

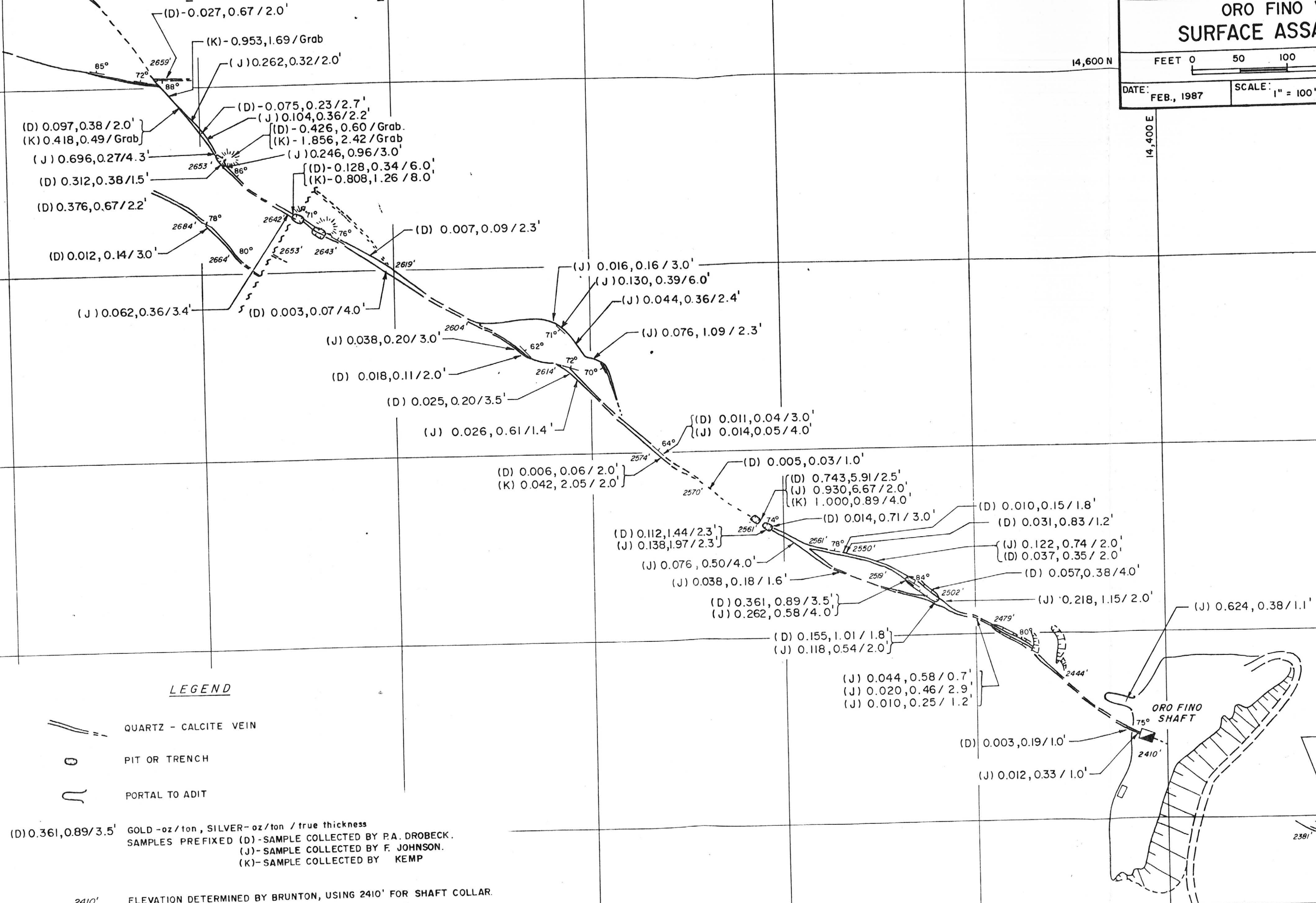
ORO FINO VEIN  
SURFACE ASSAY PLAN

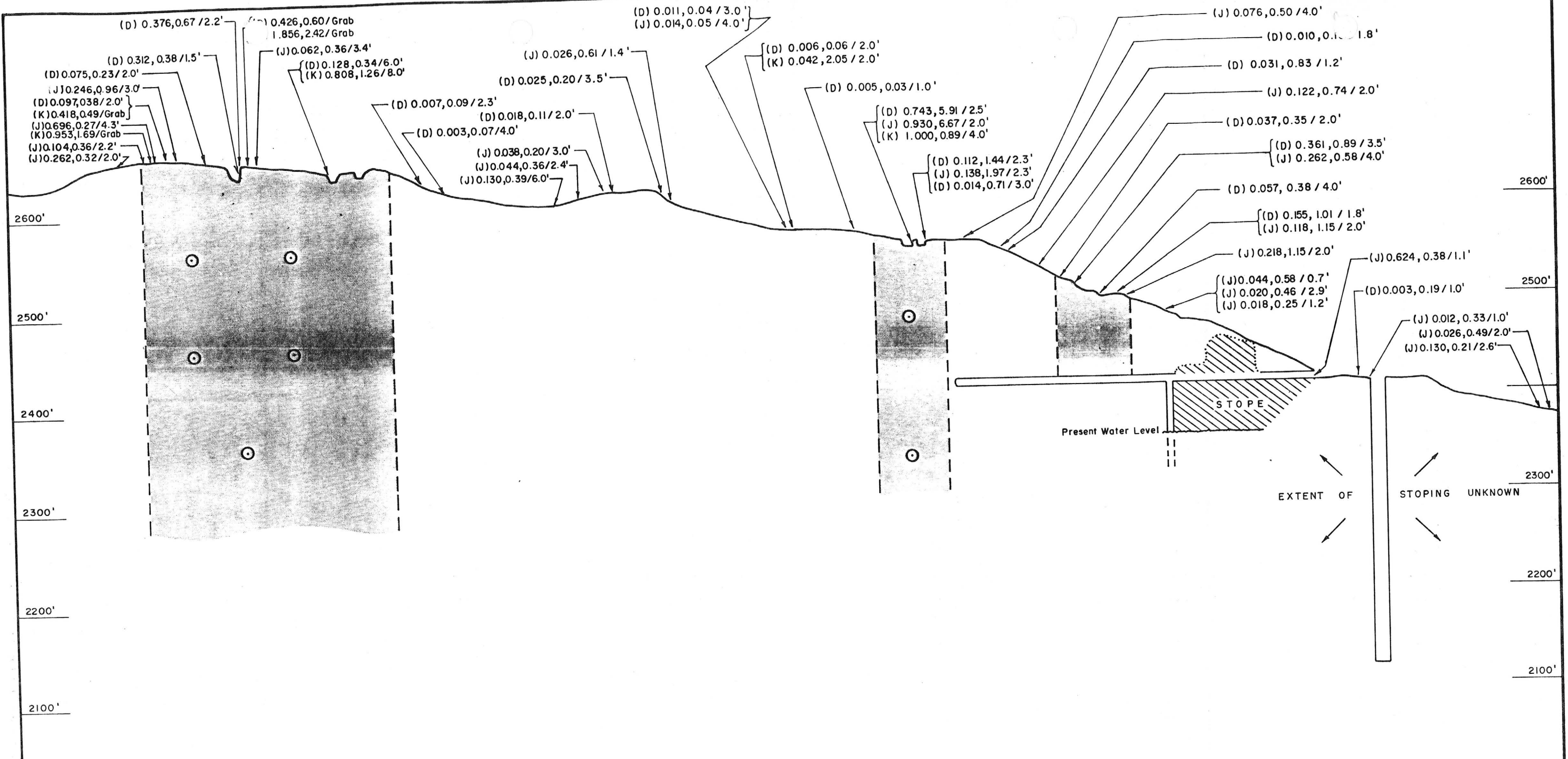
FEET 0 50 100 150 200

DATE: FEB., 1987

SCALE: 1" = 100'

FIGURE No.





# LEGEND



PROPOSED DRILL INTERSECTION



ORE SHOOT TARGET

(D) 0.361, 0.89 / 3.5'

GOLD - oz/ton, SILVER - oz/ton / true thickness  
 SAMPLES PREFIXED (D)-SAMPLE COLLECTED BY RA. DROBECK  
 (J)-SAMPLE COLLECTED BY F. JOHNSON  
 (K)-SAMPLE COLLECTED BY KEMP

ELEVATION DETERMINED BY BRUNTON, USING 2410' FOR SHAFT COLLAR.

SUNRIVER GOLD CORP.		
OATMAN PROJECT ARIZONA		
ORO FINO VEIN LONGITUDINAL SECTION LOOKING NE		
FEET 0 50 100 150 200 FEET		
DATE: FEB., 1987	SCALE: 1" = 100'	FIGURE No.



VIVIAN MINE

MOHAVE COUNTY

RRB WR 12/10/82: Aleigh Peterson was in to check our files on properties owned at least in part by her grandmother, Mrs. Blanche Peterson, 2012 Los Angeles Street, Kingman, Arizona 86401. She also has several unpatented claims in the area. The files asked for were the Iowa, Vivian, Golden Era, Silver Coin, Old Timer and Old Colony and Prince George in the Oatman District. Mrs. Peterson's last husband was active in the area for many years with Al Beard.

---

NJN WR 11/28/86: Fred Johnson (c) called and reported that he has been doing mapping at the Oro Fino Claim of the Vivian Mine (file), Mohave County for owner Ken Hodgeson, 2995 Jamica Blvd., Lake Havasu, Arizona 86403, 453-7305. Mr. Hodgeson has a relatively large land position in the San Francisco Mining District.

---

NJN WR 3/13/87: Bill Vanderwall (c) reported that Gamin Resources (c) obtained a lease on the Leland Mine, Mohave County.

---

NJN WR 7/3/87: Fred Johnson (card) of Colorado called and reported that Ken Hodgeson (card) has turned his Oatman area properties over to Grubstake of Las Vegas. That group is drifting at the Minneapolis towards some old shoots (Vivian - file) Mohave County.

---

K

GEOLOGICAL REPORT

ON THE

LELAND/ORO FINO GOLD PROPERTY

*Leland Group  
(file)* SAN FRANCISCO MINING DISTRICT

MOHAVE COUNTY, ARIZONA

FOR

SUN RIVER GOLD CORP.

March 8, 1988

W.G.T. CONSULTANTS LTD.

*Received from Ken Hodgson  
Riken Resources Ltd  
2995 Janice Blvd. No.  
Ak Havasu, City Az 86403*

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Location Map

Property Location Map

Geological Map

Longitudinal Section (Oro Fino Vein)

Surface Assay Plan (Oro Fino Vein) Sheet 1.

Surface Assay Plan (Oro Fino Vein) Sheet 2.

Diamond Drill Hole Sections OF # 1 to 6

SUMMARY:

The Leland/Oro Fino property, held under option to purchase by Sun River Gold Corp., is comprised of 4 patented and 34 located mineral claims situated near Oatman, Arizona.

The general logistics involving accessibility, water, power, climate, transportation, supplies, work force, and accommodations are excellent.

Between 1897 and 1942 the Oatman District produced 2.2 million ounces of gold and 800,000 ounces of silver from over 3.8 million tons of ore with an average grade of 0.58 ounces of gold/ton and 0.17 ounces of silver/ton.

The Leland and Oro Fino Veins were discovered in 1871 and produced 28,000 and 4,100 tons respectively, with an estimated grade of 0.75 ounces of gold/ton.

The veins have been developed by a total of some 3,900 feet (1,189 meters) of underground workings.

The San Francisco Mining District lies on the western flank of the Black Mountains, a fault-bounded Tertiary volcanic pile, composed of trachyte, latite, rhyolite, and basalt overlying

Precambrian basement rocks.

The claims are underlain by andesitic and latitic flows and breccias of the Tertiary Oatman Formation. Older Alcyone volcanics are exposed in the western portion of the Leland Claims.

The veins are subparallel and have a general trend of some 150 degrees. The Leland vein dips at 70 degrees to the southwest and the Oro Fino, steeply to the northeast.

The veins contain gold and silver values in a gangue of white and green quartz and calcite. The veins vary in width from one to 10 feet (0.3 to 3.0 meters) and attain widths to 25 feet (7.6 meters).

Three mineralized sections were defined by surface sampling during 1986 and 1987 for an aggregate length of 450 feet (137 meters) with an average width of four feet (1.2 meters). ZONE I has a length of 250 feet and averages 0.309 oz. gold/ton and 0.49 oz. silver/ton. ZONE II has a length of 100 feet (30.5 meters) and averages 0.310 oz. gold/ton and 1.56 oz. silver/ton. ZONE III averages 0.128 oz. gold/ton and 0.50 oz. silver/ton for a length of 100 feet (30.5 meters).

During 1987 a total of 1,159 feet (353 meters) of BQ diamond drilling was completed in six shallow holes to test ZONE I. All

the holes encountered anomalous gold values and Hole O.F.-1 cut two feet (0.6 meters) that assayed 0.328 oz. gold/ton and 0.64 oz. silver/ton.

The gold, which is very fine, occurs erratically in the veins and tends to cluster, resulting in a "nugget effect".

To properly evaluate the mineralized zones, an exploration program consisting of underground drifting and raising is recommended at an estimated cost of \$264,000.00.

INTRODUCTION:

At the request of the Board of Directors of Sun River Gold Corp., the writer has prepared the following geological report which is based upon personal visits to the property during 1987, from a study of historical data, and a detailed study of the results of diamond drilling carried out by the company during 1987.

The purpose of the studies was to evaluate the assay results from the recent surface and underground sampling and diamond drilling, and to recommend an exploration and development program that would assist in fully evaluating the economic potential of the Leland/Oro Fino gold deposit.

PROPERTY:

The property is comprised of four patented and 34 unpatented lode mineral claims held by location. They are as follows:

PATENTED CLAIMSMINERAL SURVEY No.

J. B. Lane	1680
Oro Fino	1680
Leland	1680
Leland No. 2	1680



LODE CLAIMSAMC #

Leland 3-20 incl.	243944-961 incl.
Big Jim West 16-28 incl.	262359-371 incl.
Oro Fino 2, 3	243963, 243964
Oro Fino Fraction	243962

OWNERSHIP:

The claims are held under option to purchase by Sun River Gold, Inc., a wholly owned subsidiary of Sun River Gold Corp., of Vancouver, British Columbia. The claims are all in good standing.

LOCATION:

The property is located in portions of Sections 17, 20, and 21, Township 19 North, Range 20 West, 2.5 miles (4 km) by road west of the town of Oatman, some 28 miles (45 km) west of Kingman in Mohave County, northwestern Arizona. Las Vegas, Nevada lies some 120 miles (193 km) northwest of the property.

ACCESS:

The property is accessible by paved Highway 66 and dirt roads, about 2.5 miles (4 km) west of Oatman. Oatman may be reached by paved highway from Kingman, a distance of 28 miles (45 km), or by

gravelled road for 15 miles (24 km) east from Bullhead City on the Colorado River.

#### TOPOGRAPHY:

The property exhibits gentle to precipitous relief. Elevations in the Oatman area range from 2,400 feet (731 meters) to 4,400 feet (1,341 meters).

#### CLIMATE:

The climate within the area is arid with average winter temperatures of 45 degrees F. (7 degrees C.). Summer months average into the 90 degrees F. range (32 degrees C.). The annual rainfall is less than 10 inches (25 cm).

#### VEGETATION:

Vegetation is sparse and consists of a desert variety of grasses, cacti, sage brush, thorny brush, and greasewood.

WATER:

Water exists in the mine workings and is available from the town of Oatman for exploration purposes. Water for production would probably be derived from wells.

POWER:

Hydro-electric power is available in the area.

TRANSPORTATION AND SUPPLIES:

There is an excellent road and transportation infrastructure in the area. Both Kingman and Bullhead City have airports. Most supplies would be available locally or from larger communities in Arizona and Nevada.

ACCOMMODATION:

Local communities have more than ample accommodation and employees would be able to commute to the site thus alleviating the costs of any camp construction and maintenance.

HISTORY:

Gold was first discovered in the San Francisco (Oatman) Mining District in 1863 with the main discoveries of the Gold Road and Tom Reed Veins in 1900 and 1901 respectively.

Rich ore was discovered on the Tom Reed Vein in 1916 and in the same year the high grade United Eastern ore body was discovered.

The Gold Road Mine operated from 1900 to 1916, briefly during 1922, and again from 1934 to 1942.

In 1924 the United Eastern Mine shut down and the Tom Reed Mine closed in the mid 1930's.

Between 1897 and 1942 the Oatman District produced 2.2 million ounces of gold and 800,000 ounces of silver from over 3.8 million tons of ore at an average grade of 0.58 ounces of gold per ton and 0.17 ounces of silver per ton.

Production ceased in 1942 with WW II emergency legislation. The low gold price after the war was not conducive to exploration, development and production in the District and the area remained idle for many years.

In recent years the increase in the price of gold has resulted in a renewed interest in the area.

The Leland and Oro Fino Veins were discovered in 1871 and production is reported to be 28,800 tons and 4,100 tons respectively, with an estimated grade of 0.75 ounces of gold per ton.

The Leland Mine was developed by some 3,000 feet (914 meters) of underground workings distributed along a length of about 3,500 feet (1,067 meters) and a vertical range of 700 feet (213 meters). Extensive open cut mining was carried out on the upper levels near the crest of Leland Hill.

The Oro Fino Vein was developed by a 500 foot (152 meters) deep shaft and a 400 foot (122 meters) long adit.

#### REGIONAL GEOLOGY:

The Oatman or San Francisco District lies on the western flank of the Black Mountains, a fault-bounded Tertiary volcanic pile composed of trachyte, latite, rhyolite, and basalt situated in the southern end of the Basin and Range Geological Province.

The Black Mountains are deeply incised on the west flank, but are little eroded on the eastern slopes. Exposures of Precambrian basement rocks are found on the western margin and north end of the District. Except for the capping basalt, the volcanic centre

appears to have been in the Oatman area.

The Tertiary volcanic pile has a 10 degree dip to the east and rests on a Precambrian basement of schist, gneiss, and granite.

The Alcyone Formation of Eocene age, a sequence of trachytic tuffs, latite flows, tuff breccias, lahars, and minor sedimentary rocks, overlies the basement rocks. The Times Porphyry, a rock very similar in composition to the Alcyone Formation, intrudes the Alcyone volcanics and has been interpreted as being comagmatic with the Alcyone Formation.

The Esperanza Formation, a trachytic flow of Early Miocene age, unconformably overlies the Alcyone Formation, and is in turn conformably overlain by older Miocene Oatman and Gold Road Formations.

The Oatman Formation is a sequence of massive to vesicular biotite-poor latite flows, latite tuffs, flow breccias, and minor sedimentary beds approximately 1,000 feet (305 meters) thick at Oatman. The Formation thins rapidly from the centre of the District.

The Gold Road Formation conformably overlies the Oatman Formation and is comprised of a sequence of biotite-rich latite flows and minor ash flows and breccias which attain a maximum thickness of 800 feet (244 meters).

Because of the similarity of the petrological character and distribution of the Miocene Esperanza, Oatman, and Gold Road Formations, or Middle Volcanics, they are probably comagmatic and originated from nearby vents.

The Middle Volcanics are unconformably overlain by the Antelope and Sitgreaves Formations, or Upper Volcanics, consisting of a series of trachytes, quartz latites, and rhyolite tuffs.

The Middle, and probably the Upper, Volcanics were intruded by the Moss Porphyry, a quartz monzonite pluton which is probably comagmatic with the Miocene volcanics and a late-stage epizonal pluton which intruded its own volcanic cover.

The volcanics have been intruded by rhyolite dykes and bosses of Tertiary age.

#### LOCAL GEOLOGY:

The property is underlain by andesitic and latitic flows and breccias of the Tertiary Oatman Formation.

The andesitic rocks exhibit propylitization near the veins and particularly in the immediate vicinity of ore shoots.

The Alcyone formation occurs in the southwest portion of the Leland claims.

The Leland and Oro Fino Veins strike about 150 degrees. The Leland dips at 70 degrees to the southwest, whereas the Oro Fino dips steeply to the northeast.

The Leland Vein system is up to 15 feet (4.5 meters) wide whereas the Oro Fino Vein system attains widths up to 25 feet (7.6 meters).

The veins contain gold and silver in quartz and calcite with considerable green quartz.

The Leland Vein has been traced by pits and trenches along strike for a distance of some 2,500 feet (272 meters) and the Oro Fino Vein for a distance of 4,000 feet (1,220 meters).

Visible gold has been observed in vein material in a number of the surface workings.

#### MINERALIZATION:

The mineral deposits in the Oatman District are typical of epithermal gold-silver veins in Tertiary volcanic rocks. They consist of quartz-calcite-adularia open-space fillings along



fissure veins within which definite ore shoots containing fine-grained free gold occur. Pyrite content is generally low, commonly less than one quarter of one percent.

The previously mined ore shoots had a vertical range of a few hundred to 1,200 feet (366 meters) and exhibited a strong vertical zonation of alteration-mineralization. Many of the ore shoots were blind, showing only weak alteration with little or barren vein matter at surface.

In addition to primary zonation, many of the ore bodies had been cut and displaced by post-mineral faults which commonly closely followed the attitude of the veins, further complicating the mineralization geometry.

The ore shoots mined to date have widths varying from a few feet to over 45 feet (13.7 meters). Dilatency along the veins has produced the greatest widths.

Mineralization has occurred in most of the ore shoots in several stages of quartz and calcite. A total of five stages of quartz deposition has been recognized. The higher grade ore shoots typically contain the late-stage green and yellow quartz which occur as streaks through the lower grade quartz and calcite resulting in an erratic distribution of values in a given ore shoot.

The ore shoots were best developed in areas of massive quartz and calcite, as well as, in zones of stockworks of quartz and calcite veinlets.

The Leland and Oro Fino Vein structures vary in width from one to 10 feet (0.3 to 3 meters) and in some cases attain widths up to 25 feet (7.6 meters).

#### SAMPLING:

Considerable sampling of the Leland/Oro Fino vein structures was carried out by Wayne R. Kemp, Ph.D., consulting geologist during the summer of 1986, by Fred M. Johnson, consulting geologist in March, 1986, and by P. A. Drobeck, M.Sc., consulting geologist during January and February, 1987. There was good corroboration between the three sets of samples and three ore shoots were identified on surface. Visible free gold was observed in numerous cases along the sampled zones.

#### ZONE I:

<u>Sample Width (ft.)</u>	<u>Au oz/Ton</u>	<u>Ag oz/Ton</u>
2.0	0.262	0.32
2.2	0.104	0.36
4.3	0.696	0.27
2.0	0.097	0.38
3.0	0.246	0.96

2.0	0.075	0.23
1.5	0.312	0.38
2.2	0.376	0.67
3.4	0.062	0.36
6.0	0.128	0.34
8.0	0.808	1.26

ZONE I has a sampled length of 250 feet (76.2 meters) and a weighted average grade of 0.309 oz. gold/ton and 0.49 oz. silver/ton across an average width of 4.0 feet (1.2 meters).

ZONE II:

<u>Sample Width (ft.)</u>	<u>Au oz/Ton</u>	<u>Ag oz/Ton</u>
2.5	0.743	5.91
2.0	0.930	6.67
4.0	1.000	0.89
2.3	0.112	1.44
3.0	0.014	0.71
2.3	0.138	1.97
4.0	0.076	0.50

ZONE II has a sampled length of 100 feet (30.5 meters) and a weighted average grade of 0.310 oz. gold/ton and 1.56 oz. silver/ton across an average width of 4.0 feet (1.2 meters).

ZONE III:

<u>Sample Width (ft.)</u>	<u>Au oz/Ton</u>	<u>Ag oz/Ton</u>
2.0	0.037	0.35
3.5	0.361	0.89

4.0	0.262	0.58
4.0	0.057	0.38
1.8	0.155	1.01
2.0	0.118	1.15
2.0	0.218	1.15

ZONE III has a sampled length of 100 feet (30.5 meters) and a weighted average grade of 0.128 oz. gold/ton and 0.50 oz. silver/ton across an average width of 4.0 feet (1.2 meters).

#### DIAMOND DRILLING:

A total of 1,159 feet (353 meters) of BQ diamond drilling was completed in six shallow holes on the westernmost, ZONE I. All of the holes intersected the Oro Fino Vein and showed anomalous gold-silver values. Drill Hole O.F.-1 intersected 2.0 feet which assayed 0.328 oz. gold/ton and 0.64 oz. silver/ton.

The gold, as observed in field specimens, occurs erratically in the vein as very fine particles.

A "nugget effect" results when the gold occurs as clusters of fine gold particles.

The drilling, although confined to a relatively small area, was successful in proving that the structure has a depth of greater than 300 feet and does contain gold-silver values as indicated by surface sampling.

LELAND VEIN SAMPLING:

Location: Upper West Adit-stoped area.

<u>Sample Width</u> (ft.)	<u>Au oz/Ton</u>	<u>Ag oz/Ton</u>
2.3	0.080	0.45
3.5	0.106	0.34
12.0	0.039	0.78
3.0	0.014	0.52
6.5	0.018	0.39
4.5	0.112	1.28
4.5	0.016	0.69
4.5	0.012	0.23

Location: Upper East Level.

<u>Sample Width</u> (ft.)	<u>Au oz/Ton</u>	<u>Ag oz/Ton</u>
4.0	0.209	3.50
2.0	0.171	3.03

CONCLUSIONS AND RECOMMENDATIONS:

The Oatman gold camp in the San Francisco Mining District has produced 3,800,000 tons of ore with an average grade of 0.58 ounces of gold/ton and 0.17 ounces of silver/ton from 1897 to 1942.

The Leland/Oro Fino property, held under option to purchase by Sun River Gold Corp., consists of four patented and 34 lode mineral claims located near Oatman, in northwestern Arizona.

The property is underlain by andesitic and latitic flows and breccias of the Oatman Formation of Tertiary age. The vein structures on the Leland/Oro Fino property are subparallel and have similar trends to the Tom Reed, Gold Road, and United Eastern veins which were the major producers of the area.

Reported production from the Leland Mine is 28,800 tons with an estimated grade of 0.75 ounces of gold/ton, and from the Oro Fino workings, 4,100 tons with a grade of 0.75 ounces of gold/ton.

Recent surface sampling along a strike length of some 1,200 feet (366 meters) has outlined three well-mineralized sections with an aggregate length of 450 feet (137 meters).

Recent shallow diamond drilling has shown that the vein extends to a depth of over 300 feet (91 meters). Anomalous gold values were encountered in the drill holes with one good grade intersection of 0.328 ounces of gold per ton and 0.64 ounces of silver per ton over 2.0 feet (0.61 meters).

Because of the erratic distribution of the gold and silver values in the vein systems, along with the inherent "nugget effect", it is recommended that a program of underground drifting and raising be undertaken to better evaluate the deposit. Such a program will allow for larger bulk sampling that will result in a more accurate grade evaluation than would further diamond drilling

which is prone to poor results due to the apparent "nugget effect".

The current drift should be extended some 600 feet (183 meters) to pass through the downward extension of the mineralized sections. When the zones are defined, raises should be driven to test the tenor of the mineralized zones.

ESTIMATE OF COSTS OF EXPLORATION AND DEVELOPMENT PROGRAM:

Drifting 600 feet (183 meters) @ \$200.00/ft.....	\$120,000.00
Raising 500 feet (152 meters) @ \$200.00/ft.....	100,000.00
Contingencies @ 20%.....	<u>44,000.00</u>
Total.....	\$264,000.00

It is estimated that it will take approximately five months to complete the recommended program.

Respectfully submitted,



March 8, 1988.  
Calgary, Alberta.


W. G. Timmins, P.Eng.,  
W.G.T. CONSULTANTS LTD.

CERTIFICATE

I, WILLIAM G. TIMMINS of the City of Calgary in the Province of Alberta hereby certify that:

1. I am a Geologist with offices at 200, 700-4th Avenue S.W., Calgary, Alberta and have been practising my profession for 23 years.
2. I am a graduate of the Haileybury School of Mines, Haileybury, Ontario, and attended Michigan Technological University.
3. I am a member of the Association of Professional Engineers of British Columbia.
4. I have no direct or indirect interest in either the property or securities of Sun River Gold Corp., or its affiliates, nor do I expect to receive any such interest.
5. This report is based on published reports and maps, government reports and a personal examination of the property between January 18 and 23, 1987.
6. I hereby consent to the use of this report by the Company in connection with a prospectus or a Statement of Material Facts relating to the raising of funds for this project.

Dated at Calgary, in the Province of Alberta, this 8th day of March, 1988.



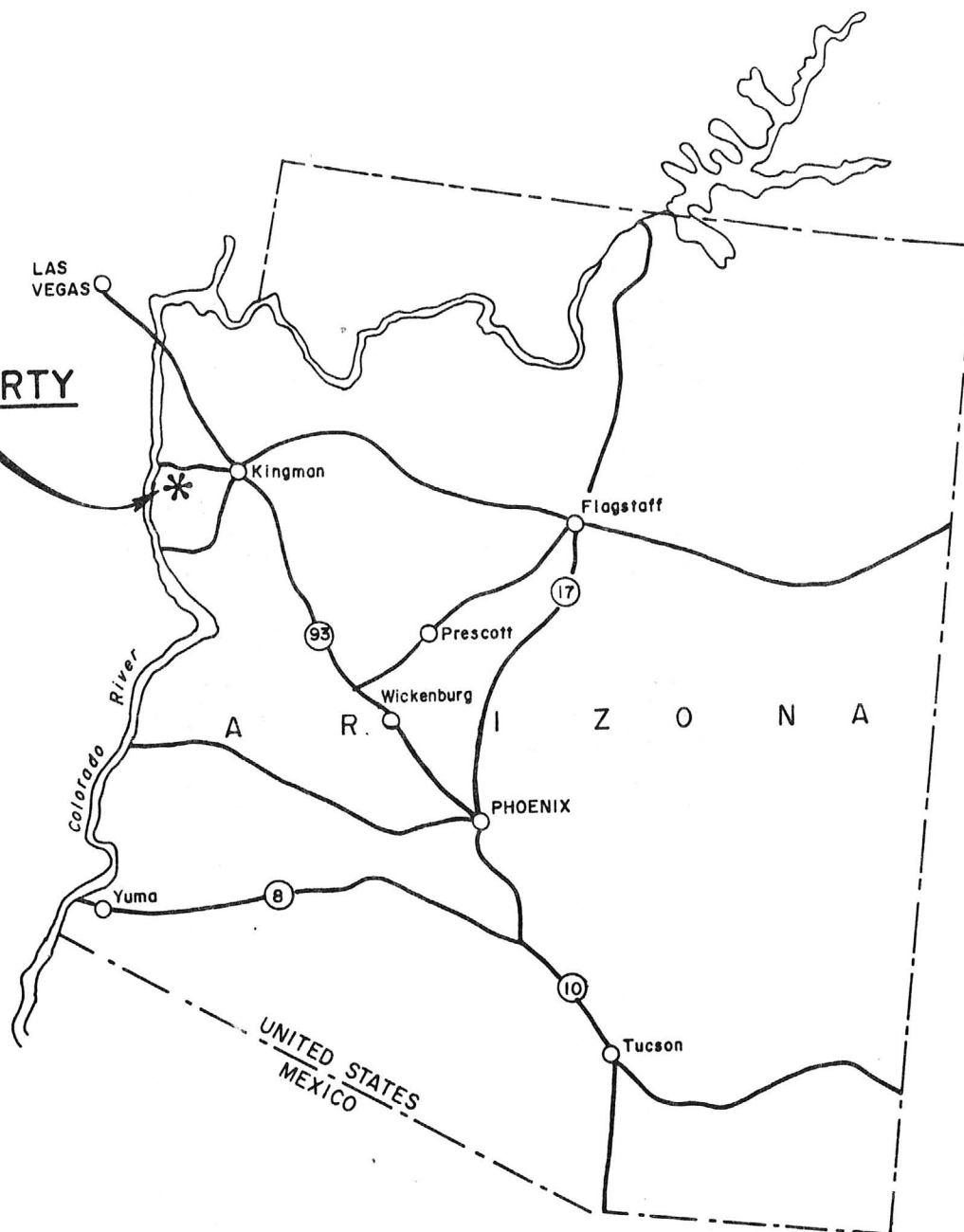
WILLIAM G. TIMMINS, P.Eng.



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**PROPERTY**



**SUN RIVER GOLD CORP.**

**OATMAN PROJECT, ARIZONA**

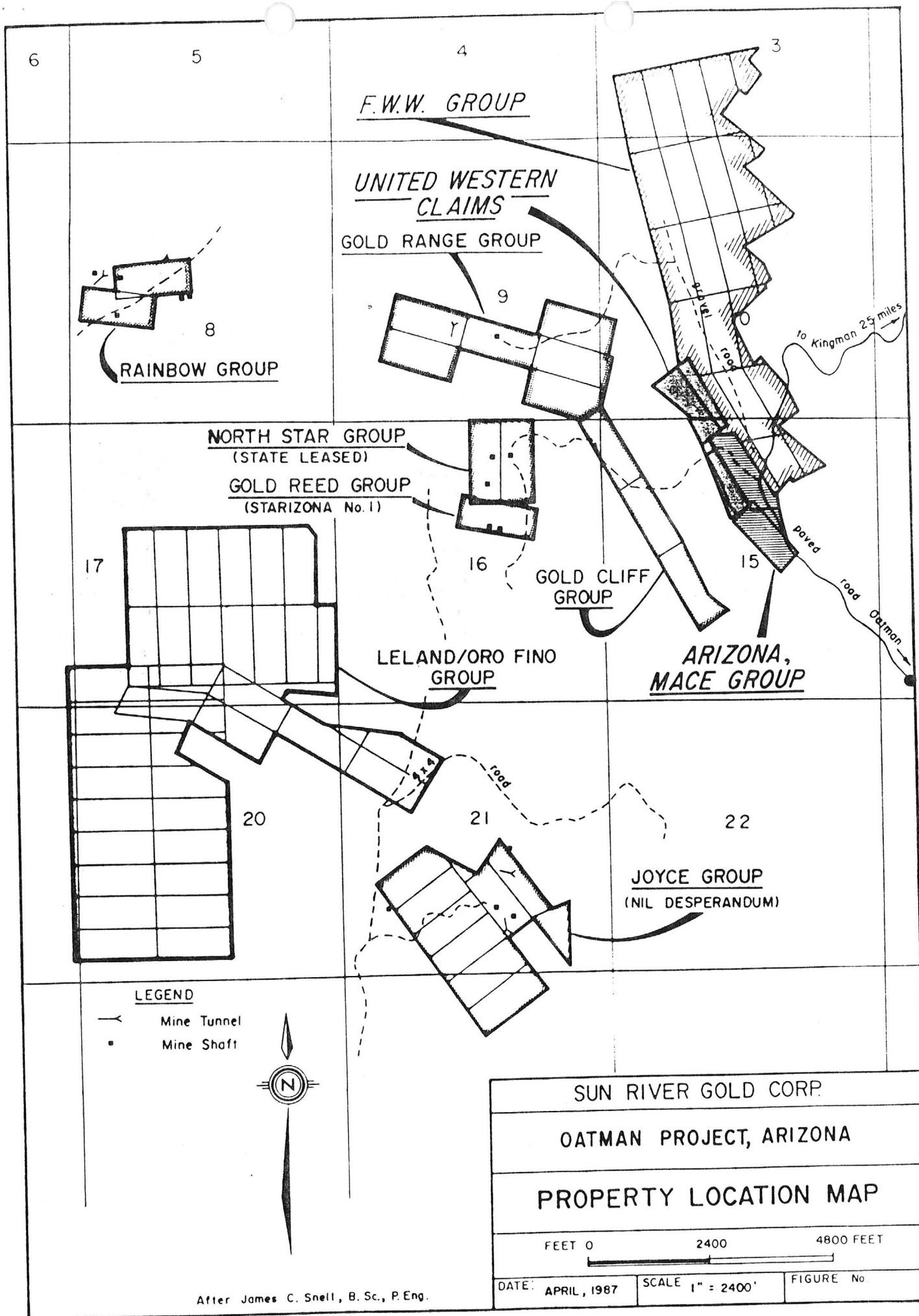
**LOCATION MAP**

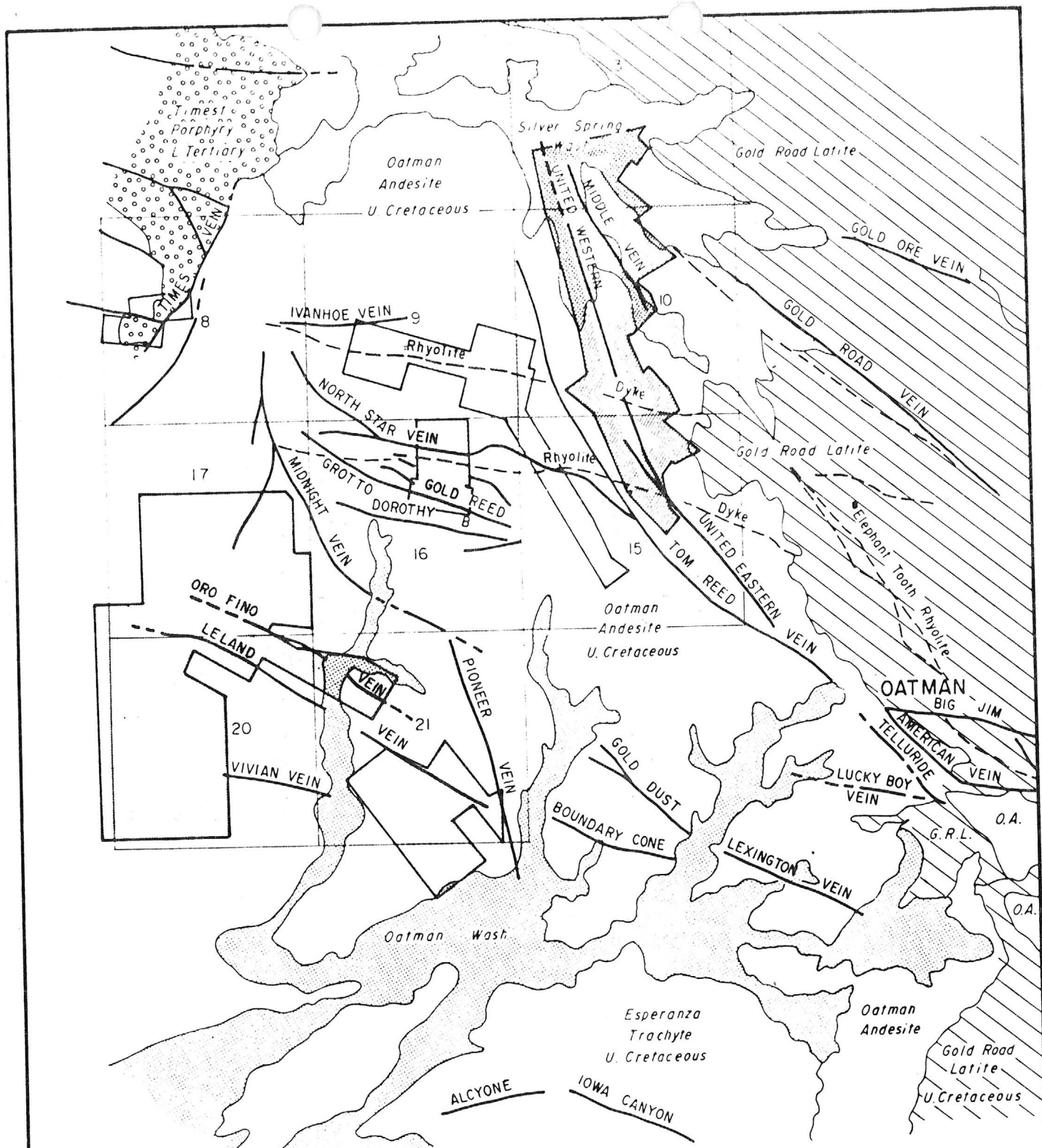
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DATE: FEB., 1987

SCALE: As Shown

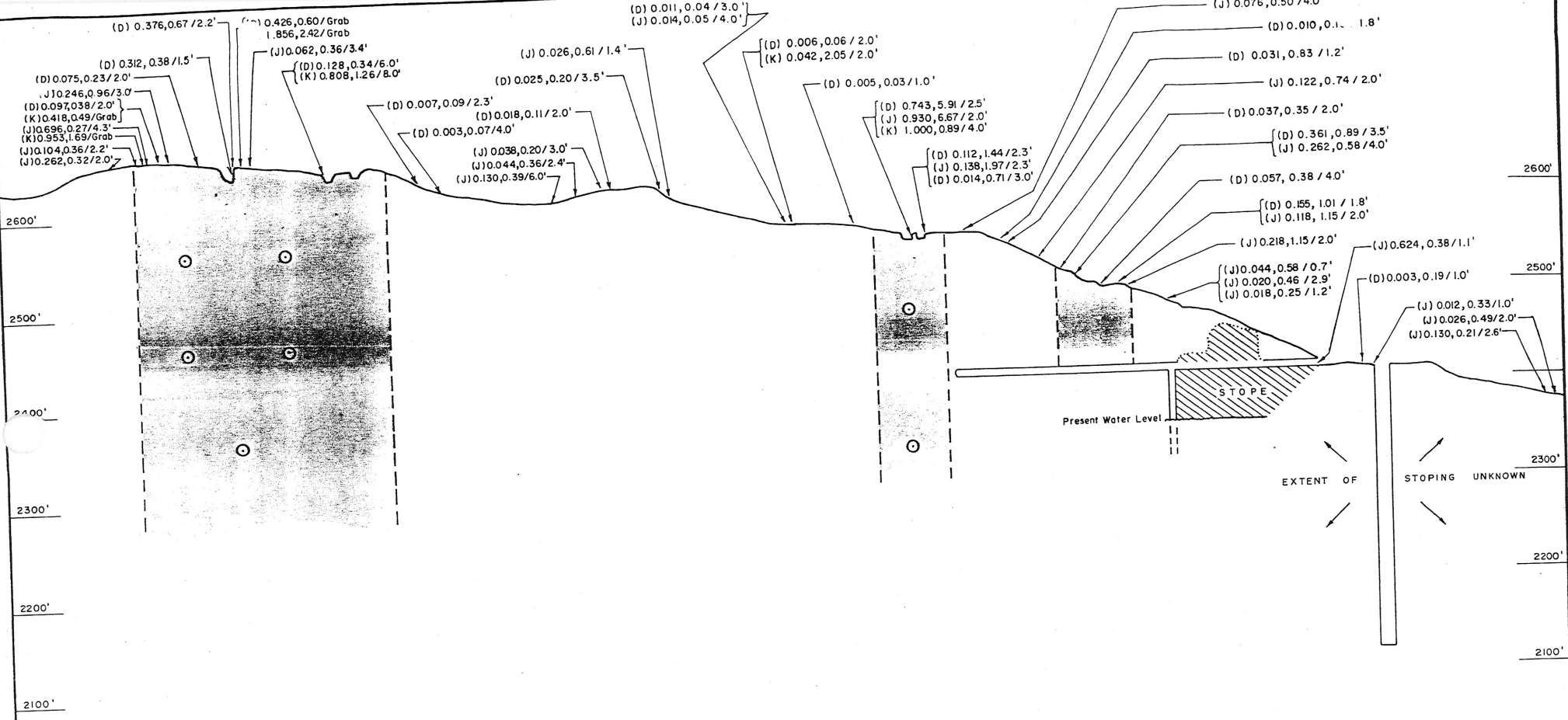
FIGURE No.





After James C. Snell, B.Sc., P.Eng.

SUN RIVER GOLD CORP.		
OATMAN PROJECT, ARIZONA		
GEOLOGICAL MAP		
FEET 0 3500 7000 FEET 		
DATE: APRIL, 1987	SCALE: 1" = 3500'	FIGURE No.



**LEGEND**

- PROPOSED DRILL INTERSECTION
- ORE SHOOT TARGET

(D) 0.361, 0.89 / 3.5' GOLD - oz/ton, SILVER - oz/ton / true thickness  
 SAMPLES PREFIXED (D)-SAMPLE COLLECTED BY P.A. DROBECK  
 (J)-SAMPLE COLLECTED BY F. JOHNSON  
 (K)-SAMPLE COLLECTED BY KEMP

ELEVATION DETERMINED BY BRUNTON, USING 2410' FOR SHAFT COLLAR.

SUNRIVER GOLD CORP.		
OATMAN PROJECT ARIZONA		
ORO FINO VEIN LONGITUDINAL SECTION LOOKING NE		
FEET 0 50 100 150 200 FEET		
DATE FEB., 1987	SCALE 1" = 100'	FIGURE No.

SUN RIVER GOLD CORP.

OATMAN PROJECT

ORO FINO PROPERTY

GEOLOGIC MAP of the ORO FINO VEIN - Sheet 2

Quartz - calcite vein

Fault

Sample collected by P. Drobeck, assayed by Chemea,  
showing a/T Au, a/T Ag /true thickness

2444' Elevation determined by Brunton, using 2410' for shaft collar

SCALE 1" = 50'

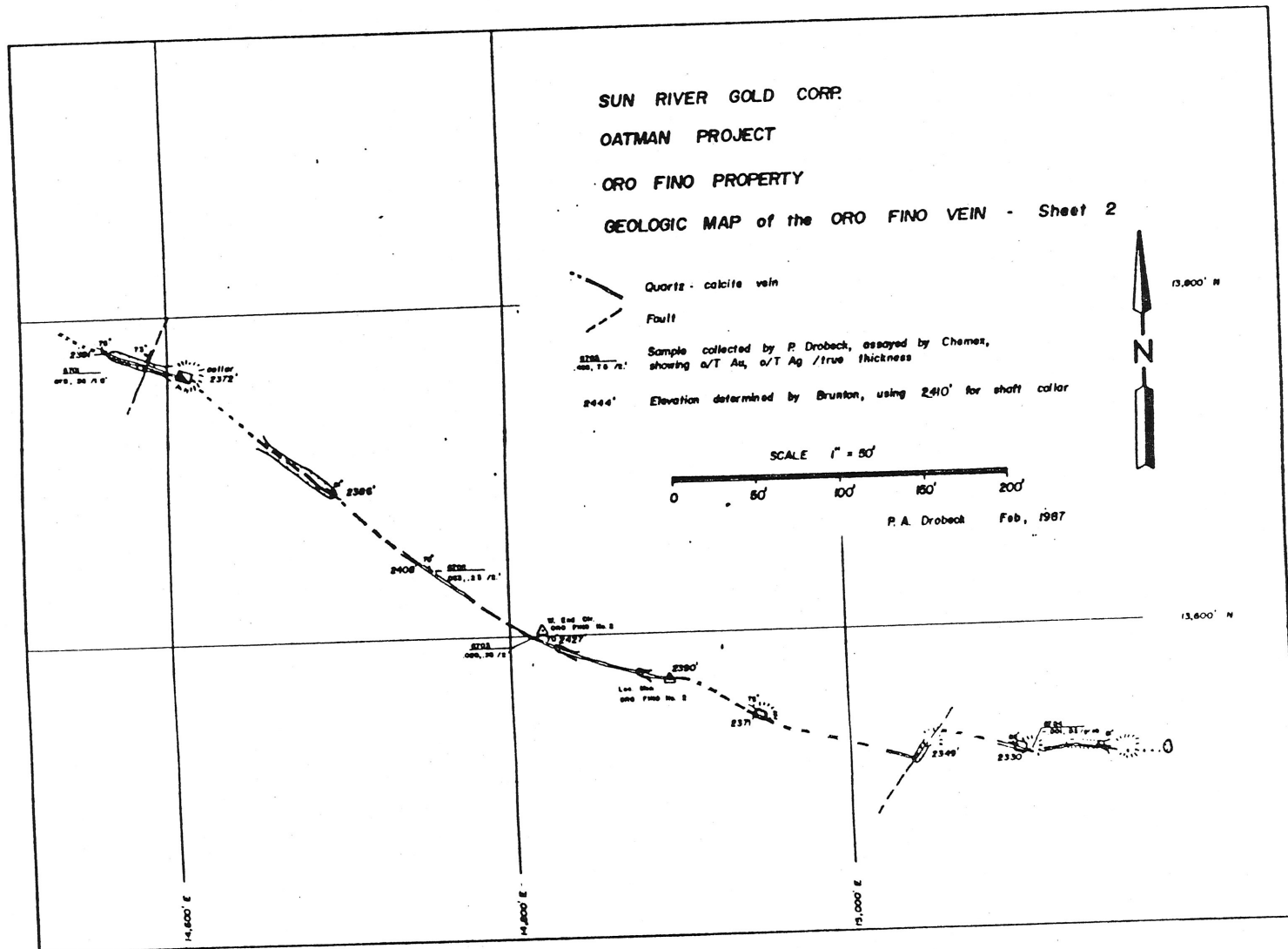
0 50' 100' 150' 200'

P. A. Drobeck Feb, 1987

13,800' N

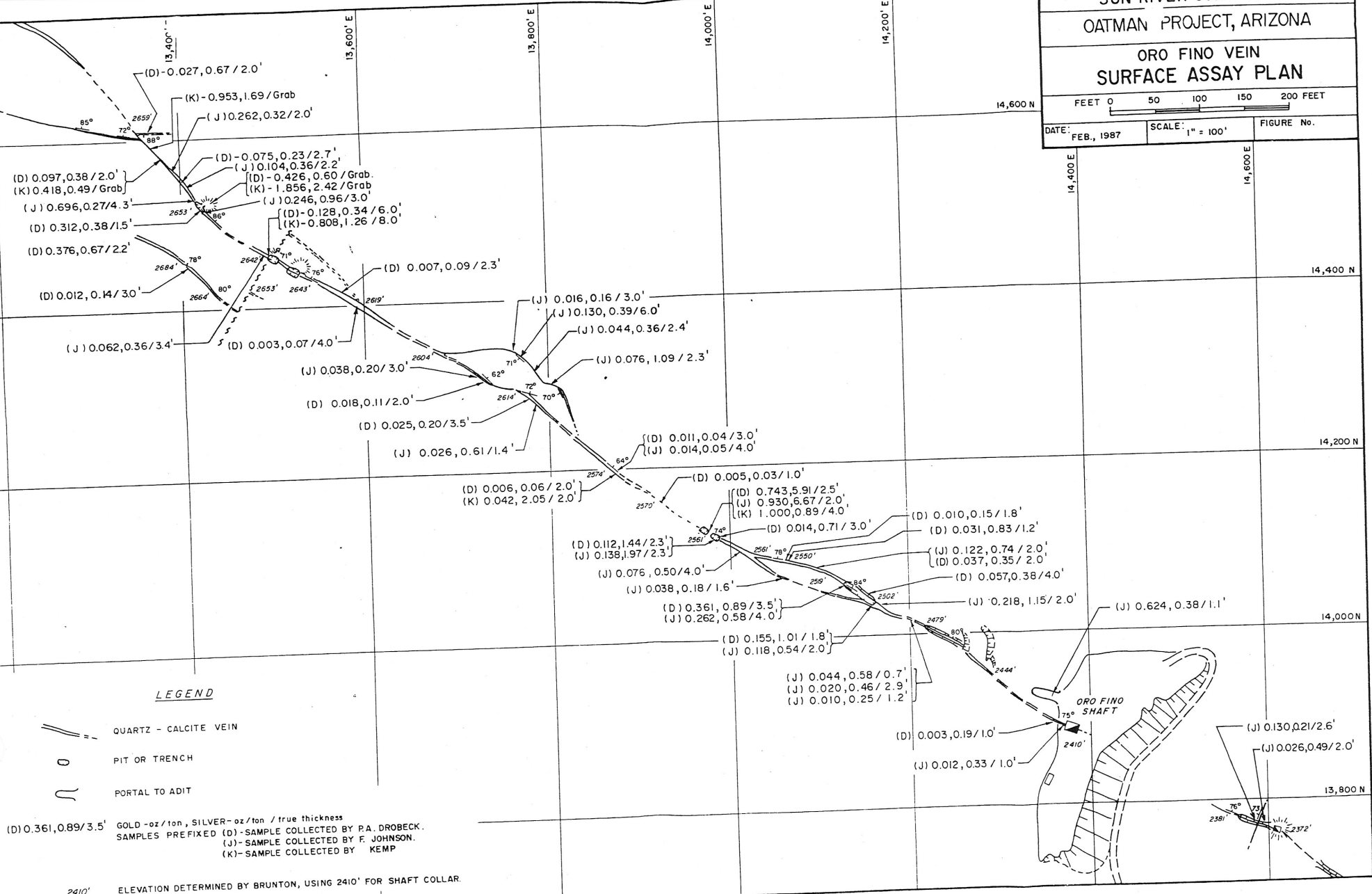


13,600' N



SUN RIVER GOLD CORP.  
OATMAN PROJECT, ARIZONA  
ORO FINO VEIN  
SURFACE ASSAY PLAN

DATE: FEB., 1987 SCALE: 1" = 100' FIGURE No.



S 45° W

N 45° E

Elevation  
(feet)

2700

2650

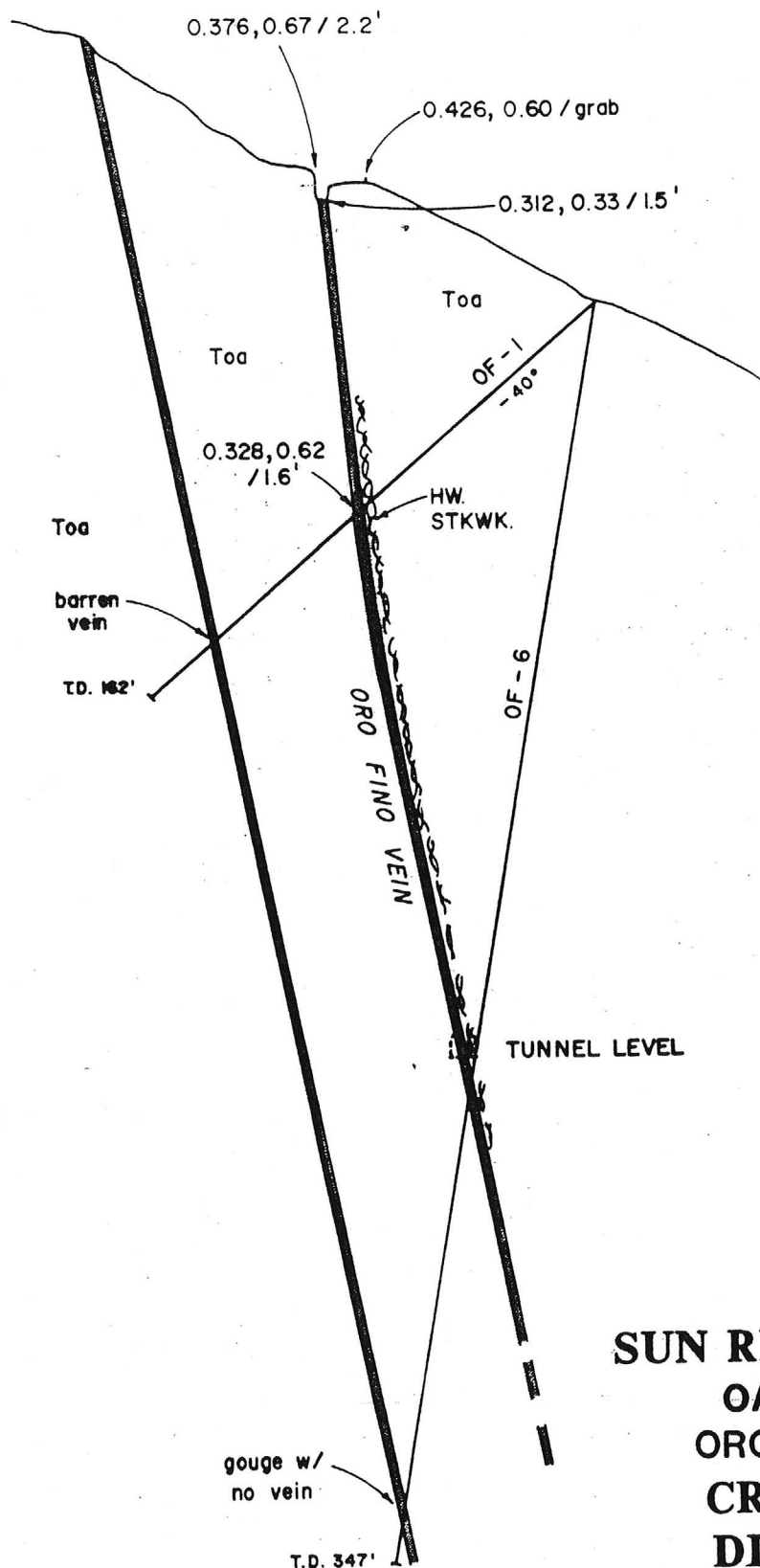
2600

2550

2500

2450

2400



**SUN RIVER GOLD CORP.**  
**OATMAN PROJECT**  
**ORO FINO PROPERTY**  
**CROSS-SECTION**  
**DDH OF-1, OF-6**



P. A. Drobeck

March, 1988



S 3° W

N 3° E

Elevation  
(feet)

2700

2650

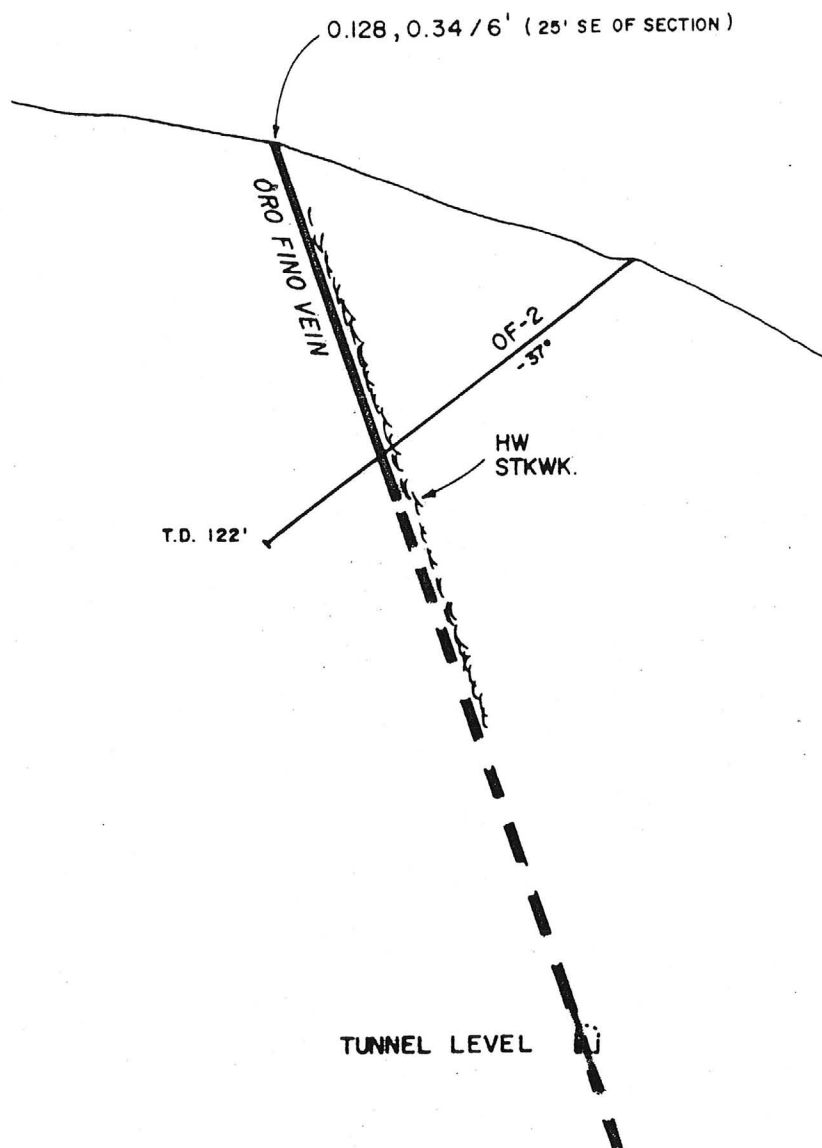
2600

2550

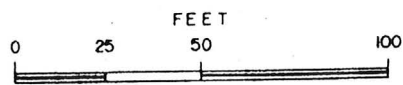
2500

2450

2400



**SUN RIVER GOLD CORP.**  
**OATMAN PROJECT**  
**ORO FINO PROPERTY**  
**CROSS-SECTION**  
**DDH OF-2**



P. A. Drobeck March, 1988

S 12° E

N 12° W

Elevation  
(feet)

2700

2650

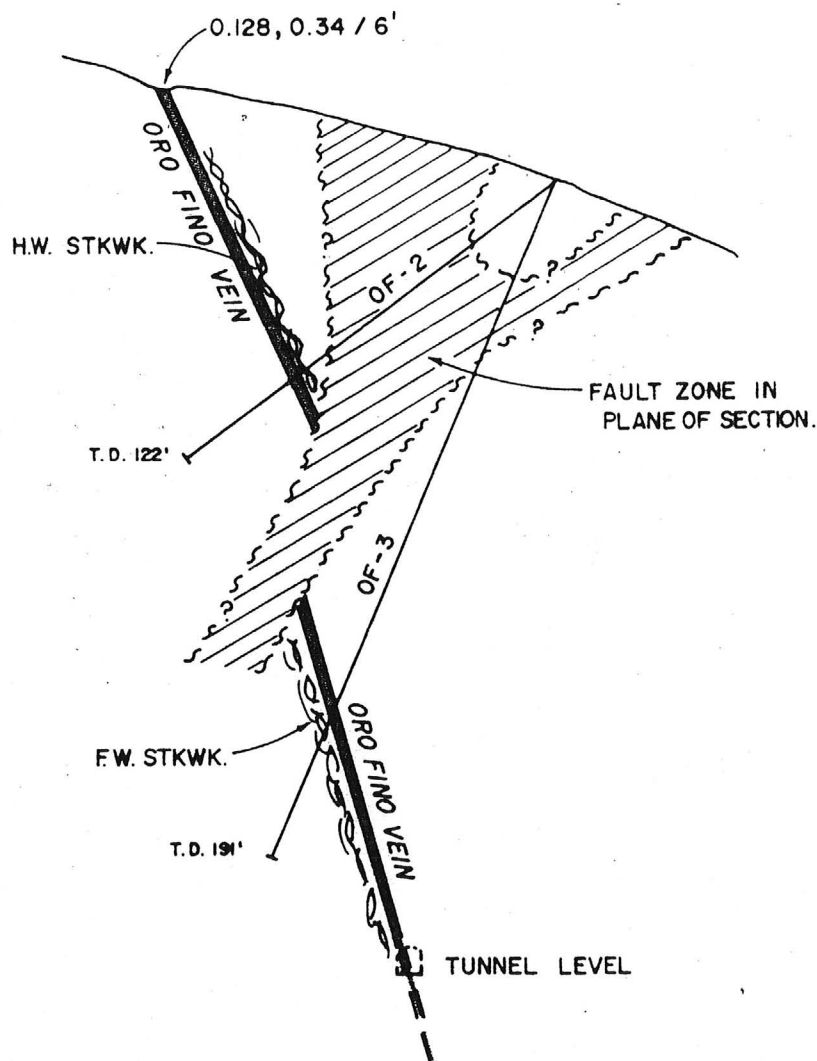
2600

2550

2500

2450

2400



**SUN RIVER GOLD CORP.**  
**OATMAN PROJECT**  
**ORO FINO PROPERTY**  
**CROSS-SECTION**  
**DDH OF-2, OF-3**



P. A. Drobeck

March, 1988

EAST

WEST

Elevation  
(feet)

2700

2650

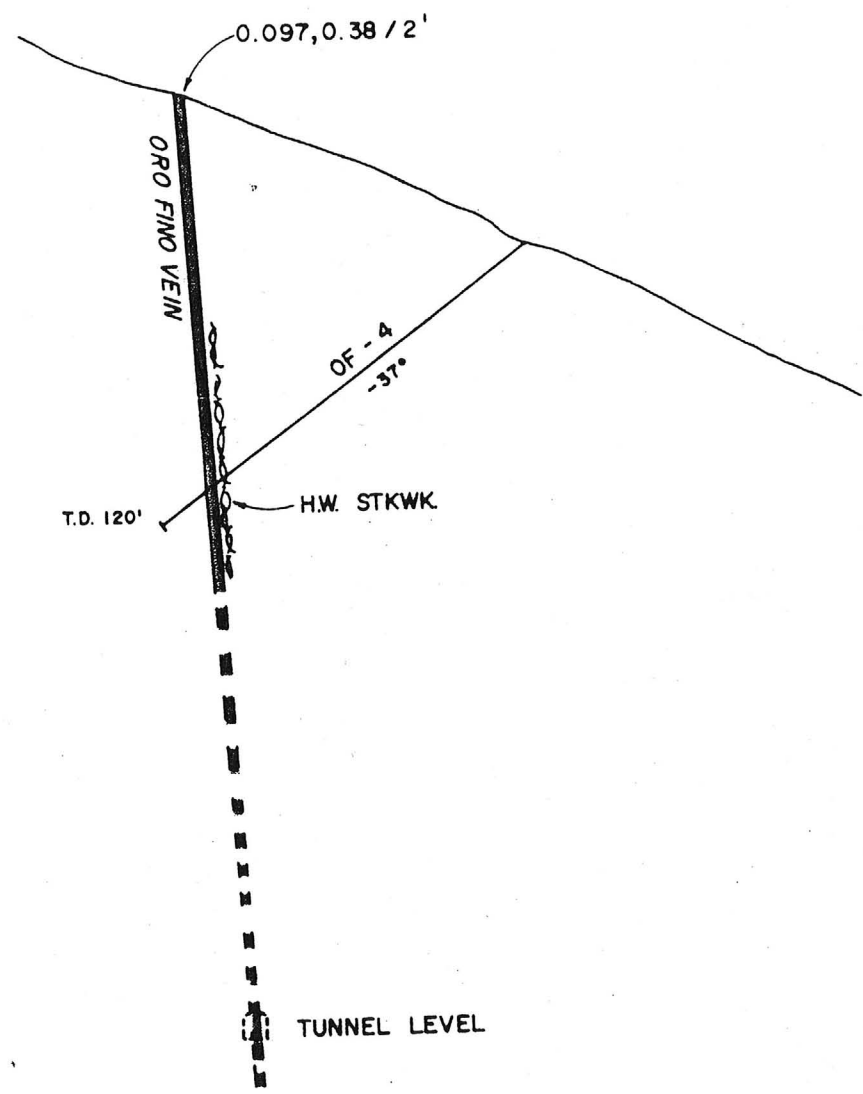
2600

2550

2500

2450

2400



**SUN RIVER GOLD CORP.**  
**OATMAN PROJECT**  
**ORO FINO PROPERTY**  
**CROSS-SECTION**  
**DDH OF-4**



P. A. Drobeck

March, 1988

N 81 W

S 81 E

Elevation  
(feet)

2700

2650

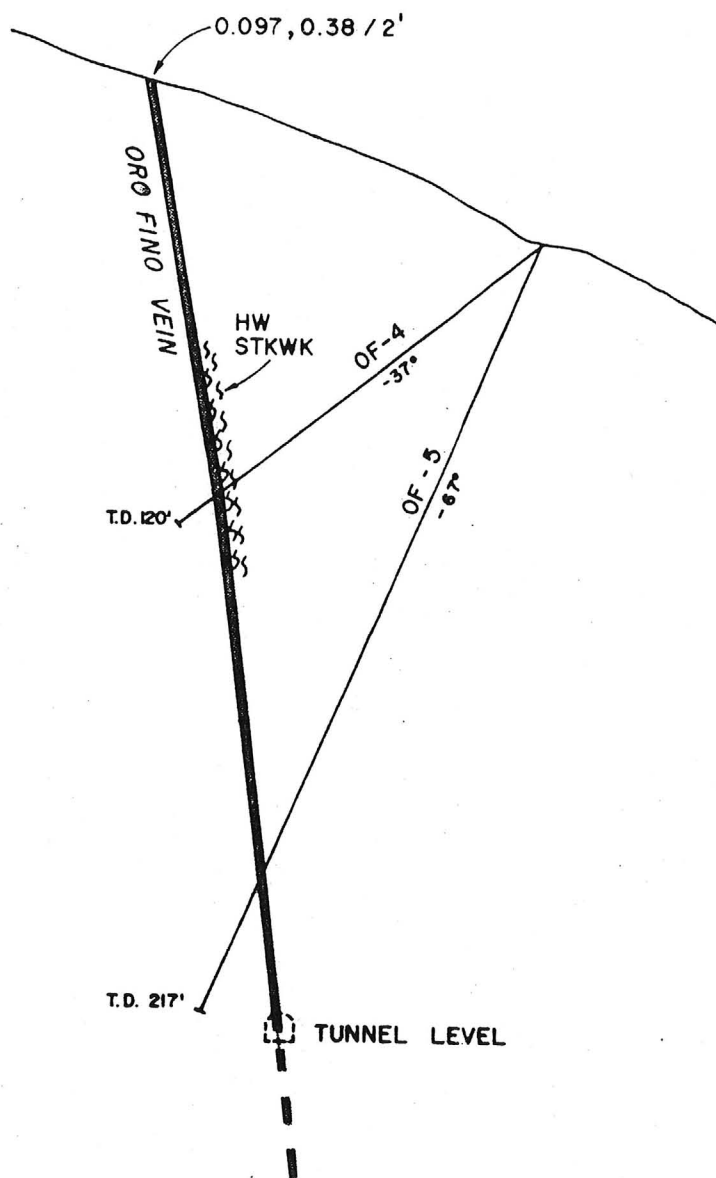
2600

2550

2500

2450

2400



**SUN RIVER GOLD CORP.**  
**OATMAN PROJECT**  
**ORO FINO PROPERTY**  
**CROSS-SECTION**  
**DDH OF-4, OF-5**



P. A. Drobeck

March, 1988

GENERAL CONDITIONS COVERING SHIPMENTS

OF CUSTOM ORE

TO THE VIVIAN CUSTOM MILL.

Base Charges

Lots of less than 10 tons -	\$4.25 per ton	\$5.00 Sampling Charge
" " over 10 to 20 " -	4.00 " "	No Sampling Charge
" " " 20 to 40 " -	3.90 " "	" " "
" " " 40 to 60 " -	3.80 " "	" " "
" " " 60 tons -	3.70 " "	" " "
Guaranteed shipments of 20 tons		
per day (120 tons per week) -	3.60 " "	" " "

Payment to shipper will be made on the Gold content at the rate of \$34 9125 (U. S. Mint price) per ounce subject to the following schedule:-

Lots assaying up to	\$10.00 per ton	-----	90% Extraction.
" " from	\$10.01 to \$15.00 per ton	-----	89% "
" " " "	\$15.01 to \$17.50 " "	-----	88% "
" " " "	\$17.51 to \$20.00 " "	-----	87% "
" " " "	\$20.01 to \$25.00 " "	-----	86% "
" " over	\$25.00 per ton	-----	85% "

Lots assaying \$5.00 per ton or less will not be paid for.

No payment for silver content of any ore.

The rates quoted above apply to ore delivered in bulk in our bins. All schedules are subject to change.

Sampling.

Sampling to be done by the company according to standard practice and is accepted as final. After sampling, the product will be placed in process and co-mingled with other ores, or otherwise disposed of, at company's discretion.

Control samples to both shipper and company. In case of disagreement on assays an umpire shall be selected, in rotation, from a list mutually agreed upon. The umpire assay shall be final, if it is within the limits obtained by the shipper and the company. If the umpire is not within these limits then the assay of the shipper or that of the company, whichever is nearest that of the umpire, shall prevail. Losing party to pay cost of umpire.

In case shipper fails to submit assays, the company assay shall govern.

Settlements

Settlement to be made within thirty (30) days after completion of shipment.

Note:- Shippers having in their possession substantial quantities of commercial ore are requested to communicate with us.

VIVIAN MINING CO. Box 421 Catman, Ariz.

From files of  
Paris V. Brough (deceased)

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine Vivian Date May 9, 1962  
District San Francisco, Mohave County Engineer Travis P. Lane  
Subject: Summary of History, and Visits of May 25, 1959, and May 20, 1961.

The property was drained in 1902 and after producing some rich surface ores, it was taken over in 1905 by the Vivian Mining Co. of Los Angeles. This company built a mill in 1906, but operated for only a short time reportedly because of lack of water.

(Started but not finished by Mr. Lane, before he died.)

---

Ray Shaw and Associates are building and installing a 25 TPD Mill at the Vivian Mine

FTJ WR 3/10/67

Visited Vivian Mine - idle FTJ WR 11/9/69

Visited the Vivian Mine - idle- no one around. FTJ WR 7/11/70

Call from C.S. Stoll in Oatman. He reports that the Vivian has 400,600 tons of \$8-\$9 tails at \$175. GWI WR 1/21/75

---

*Do Not Reproduce*

*No Not Reproduce*

VIVIAN GROUP

MOHAVE COUNTY

' Van C. Lee, owner of one of the claims of the Vivian Group and also one unpatented claim, is setting up a small amalgamation-concentration mill (several tons a day capacity).

See: USGS BULL. 397

May 25, 1959

TRAVIS P. LANE - WEEKLY REPORT

May 18, 1961

Interviewed V. B. <sup>C.</sup> Lee who is working small scale at the Vivian mine.

TRAVIS P. LANE - Weekly Report - May 20, 1961

August 30, 1943

Mr. Albert E. Kern  
Vivian Mining Co., Inc.  
110 Sutter Street  
San Francisco, California

Dear Mr. Kern:

In reply to your letter of August 27 I am sorry to say that I know of no folder regarding the rates on renting automobiles, but I called up the Tanner Motor Tours, 612 North First Street, care of Westward Ho Hotel, and they told me that the rate for a car would be \$6.75 a day for the first 40 miles and then 12½ cents a mile for anything over. It would also be necessary for you to provide your own gasoline after the first 40 miles but that you could undoubtedly obtain this from the local O.P.A. office. It is rather a tough problem to get this sort of transportation and you may have difficulty in doing it.

I might suggest that Mr. Lon Rutledge of Klondyke, who drives the school stage in the Klondyke district, has a station wagon and he might possibly be able to meet you at Safford and take you back and forth from Safford to Klondyke whenever you wish. In this case, you could reach Safford by bus from Phoenix, but, as you know, bus travel is rather inconvenient at these times due to the crowded condition.

You might also write the Arizona Tours, Inc., 102 East Monroe Street, Phoenix, and they may be able to give you more information regarding the hiring of a car here in Phoenix.

I would suggest that you write the Tanner Motor Tours and have them confirm the statement I made regarding their charges.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP



5. Coupal  
Phoenix

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*      *  *  *      *      *      *  *  *      *
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*      *  *  *  *      *      *  *  *  *      *
*      *  *  *  *      *      *  *  *  *      *
**     *****  *      *      *****  *****
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EQUIPMENT and SUPPLIES.

*file* ————— VIVIAN MINING CO.

OATMAN, ARIZONA

Sold Exclusively By:

MINES ENGINEERING & EQUIPMENT CO.

SAN FRANCISCO, CAL.

Sutter 7224

369 Pine St.

## COMPLETE UNITS

ASSAY OFFICE - Complete, as follows:

- 1 - Assay furnace, Denver Fire Clay Co. #4410 oil burning
- 1 - Straub assay crusher, size 4 X 6, #3
- 1 - Braun pulverizer, serial #31302
- 1 - G.E. 2 H.P. motor with shafting and belts to operate crusher and pulverizer, model 5 K 225 A 2, frame 225, type K, 1800 RPM, 440 volt, 60 cy., 3 ph., #F P 6093
- 1 - Arrow-Hart thermal motor starter #1373, type R T, 440 V,  $7\frac{1}{2}$  H.P., 3 pole.
- 2 - Arrow-Hart switches, #27284, 3 pole, 30 amp., 575 volts, A C,  $7\frac{1}{2}$  HP, 3 fuse.
- 1 - Home made electric strip heater sample dryer
- 1 - Cutler-Hammer switch #4141 H 1, 2 pole, 30 amp, 125-250 V.
- 1 - Sample cutter
- 1 - Becker pulp balance
- 1 - Genco trip balance, General Scientific Co.
- 1 - Wm. Ainsworth assay balance #564-B
- 1 - Wagner air conditioner

## AGITATORS

- 3 - Complete agitators as follows:
  - 3 - Agitator tanks, 20' high 24' dia. 3/16 steel
  - 2 - 24' X 20' Dorr agitator mechanisms #338-D
  - 1 - 24' X 20' Wemco " " " LO head
  - 1 - Fairbanks Morse motor, 5 HP, type CV, frame KE 284, 1200 RPM, 440 V, 60 cy., 3 ph., sec. volts 110, 15 amp., #316147
  - 1 - G.E. 5 HP motor #4861238, type KT 936, form C, 1800 RPM, 220 volt, 3 ph., 60 cy., model 65 A 2
  - 1 - W. 5 HP, type CS, frame 284, 1200 RPM, 220 volt, 60 cy., 3 ph., serial 80099049, style #678022
  - 1 - Square D safety switch #88341, 30 amp., 600 V, 3 pole
  - 2 - Cutler-Hammer safety switches, #4131 H24, 3 pole, 30 amp, 600 volts.
- 2 - Concentrate Agitators, as follows:
  - 2 - Concentrate agitator tanks, 10'6" high, 6'2" wide, corrugated galv. iron 22 20 gauge
  - 2 - Wemco agitator drives, model PM 24, size 6'2" X 11', serial #39228 X 1 and 39228 X 2.  
No Motors.
- 1 - 7' dia. X 8'9" high Agitator mechanism with:
  - 1 - W. motor, type CS, frame W225, 3 HP, 440 volt, 3 ph., 60 cy., 1200 RPM, style 825 132, serial #8103352
  - 2 - Cutler-Hammer motor control #9115 H26 C  $7\frac{1}{2}$  HP, 440 V.

## BALL MILL

- 1 - Hardinge conical ball mill, 8' X 22" Manganese steel liners never installed, 13 V belt drive, complete with:
  - 1 - G.E. 125 HP #22 E 105 motor, type MT 5584-8-125-900 form BL, 3 ph., 60 cy., 2200 volts rewound to 440 volts, 30 amp., 875 RPM, #5204979
  - 1 - G.E. oil circuit breaker, type FK 20 TPST #6070396 G 11, 200 amp, 2500 V, with under voltage attachment.
  - 1 - G.E. drum switch controller, type T 170 A, #443711
  - 1 - Set of 3 banks of cast iron grids for 125 HP motor #198561

## BARREL - AMALGAMATION

- 1 - Amalgamation barrel 24" dia. X 36" wide with 1 G.E., 2 HP motor, Class 4-2, 1800 RPM, 60 cy., 440 V, 3 ph., form K with 1 - 15' - 3" belt; 2 $\frac{1}{2}$ ' steel pulley, supports, shaft, 20' of 3" belt to 4' dia. 6" face steel pulley.

## BLOWER

- 1 - Denver Fire Clay blower #250 complete with:
  - 1 - Wagner 1 HP motor for blower, type RA frame 75, Model XL 340437, 3600 RPM, 1 ph., 110/220 V, #3 P 2624
  - 1 - Arrow Hart thermal motor starter #1370, 220 volt, 1 HP, 2 pole.

## CELLS - FLOTATION

- 4 - Kraut flotation machines type DW, rotors #1051, 1049, 1052, 1050 with 2 G.E. motors #5342373 and #5342372, 10 HP, type KF, model 9 F 393, frame 3 24Y, 220-440 V, 3 ph., 60 cy., 1750 RPM. These are "rougher" wood cells; 2 V belts to each cell.
- 2 - Kraut flotation machines type DI, rotors #1189 and 1190, with 5 HP, motor #8102935, style ECI 28742, 440 volt, 60 cy., 3 ph., These are "Cleaner" steel cells; 2 V belts to each cell.

## CLASSIFIER

- 1 - Dorr type "C" duplex classifier, 16', belt drive, with:
  - 1 - W. 5 HP motor, type CS, frame W-284, 3 ph., 60 cy., 220-440 V, 1200 RPM, style 7987-17, Serial #8102236

## COMPRESSORS

- 1 - Chicago Pneumatic Duplex 2 stage simplate valve #28586, size 13 $\frac{1}{2}$  X 8 X 10, O C B, capacity 492 cubic feet per minute, complete with:
  - 1 - W. 75 HP motor, type C C I, 440 V, 98.8 Amp, 3 ph., 60 cy., 850 RPM, style #76474, serial #692824, 8 V-belt drive.
  - 1 - G.E. starting compensator #CR 1034, Type NR 634, form H 2 R I, 440 V, 60 cy., sec. volts 176-374, for motor type I form K 60/75 HP, 3 phase

## Chicago Pneumatic Compressor Cont'd

- 1 - Arrow Hart switch 575 volts 200 Amp, 3 pole #27306
- 1 - Steel air receiver 4' X 11'6" with drain, hand hole, safety valve, whistle
- 11'6" suction pipe with 2 elbows, reducing flange & tools.
- 1 - Ingersoll Rand compressor, Class ERI, size 9 X 8, #23115, complete with:
  - 1 - W. 20 HP motor, type CS, frame W 405, 883 RPM, 440-220 volt, 3 ph., 60 cy., style #798847, serial #1 EM 380
  - 1 - Square D switch 100 amp, 600 volts #56343
  - 1 - G.E. Magnetic switch, 25 max, HP, 440 volt, 60 cy., type CR 7006 - D30B #4381269 G 104
  - 30 Ft. 8" belt.
  - 1 - Air receiver 3/8 steel, size 5' X 3' with gauge, pipe, and fittings.

## CONVEYORS

- 1 - Only 30" X approx. 25' C to C Belt conveyor with head and tail mechanism, 8 sets troughing and 2 sets return idlers, complete with:
  - 1 - Reeves variable speed drive, size 1, class E #38193
  - 1 - Fairbanks Morse 3 HP motor, 1200 RPM, 440 volt, 60 cy., 3 ph., type B #21618
  - 1 - Arrow-Hart Magnetic switch type MC, 440 V, 3 pole, 3 ph., 60 cycle, #27650
- 1 - 18" X approx. 125' C to C belt conveyor complete with:
  - 1 - Head and 1 tail pulley with takeup, 24" dia. X 20" face.
  - 30- Type 28 - 3 roll troughing idlers mounted on planks for 18" conveyor belt, 10 return idlers type 17
  - 3 - Sets Standard conveyor guide rollers
  - 252 ft. 18" X 5 ply rubber conveyor belt 3/16" X 1/16" covers.
  - 1 - Drive pulley 9" face X 36" dia. steel pulley; 1 - 19" face X 60" dia. steel pulley; 1 belt 5" X 22'; 1 - belt 8" X 31'
  - 1 - G.E. 5 HP motor, 900 RPM, 440 V, 3 ph., 60 cy., type KT 751-8-5 form C, Model #44936, #4036238 induction motor.
  - 1 - Arrow-Hart Magnetic type MC, 440 V, 3 pole, 3 ph., 60 cy., #27650

## CRUSHERS

- 1 - 4" X 6" Dodge type jaw crusher with pulley for belt drive, complete with:
  - 1 - Fairbanks Morse 3 HP motor #25063, belt connected on steel plate with crusher. V belts.



- 1 - Traylor Gyratory type crusher 2'4" - 9" opening #31197, Model TY, Manganese steel fitted, complete with:
  - 1 - Allis Chalmers 50 HP motor 440 V, 860 RPM, 60 cy., 3 ph., #3 K 28481 with A.C. V belt drive, D 144, and sheaves.
  - 1 - G.E. starting compensator C.R. 1034, type NR 1634 form H3Pl, for 60-75 HP motor, primary volts 440, sec. volts 176/374, Type 1 form K and G.E. relay panel, type P form CE, 100 A, 600 volts, Cat. No. 128 303

#### FEEDERS - BELT

- 1 - Ball mill feeder "Wemco" Western Mach. Co. with master geared head motor drive, motor, style #45380, counter shaft speed 95.2 RPM type P A, frame 7435, 1 $\frac{1}{2}$  HP, 440 V, 1800 RPM, serial #H B 779
- 1 - Feeder belt 9' X 16"

#### FEEDER - ZINC

- 1 - Merrill-Crowe disc type zinc feeder complete with special geared motor, cone, valve rod, tappet, 2 $\frac{1}{2}$ " all iron butterfly valve and 8" X 8" steel float with arm and float nut - motor size 1/4 HP, with:
  - 2 - Arrow-Hart switches, 30 amp, 125-250 V, #27000

#### FEEDERS - REAGENT

- 1 - Kraut reagent feeder, 2 compartment with W. 1/4 HP motor, 110 volt, 60 cy., serial #256, type CB, steel box 24" wide X 26" long X 11" deep.
- 1 - Kraut type dip reagent feeder single compartment with W. 1/4 HP motor, 1800 RPM, 60 cy., single phase, 110 V, frame 144, serial #FG style 900590A, steel box 6" deep by 10" wide by 18" long.

#### HOISTS

- 1 - Denver Engineering Works 50 HP single drum electric hoist, 3500# rope pull, bar type indicator, post brakes on drum, pinion shaft 3-1/4" dia., drum shaft 4" dia., gear 5" face, serial #25177, complete with:
  - 1 - 50 HP Westinghouse 900 RPM, 440 V, 3 ph., 60 cy., slip ring motor, serial #1161419
  - 1 - W. drum switch, style #S O 482963
  - 1 - Set of 4 banks hoist grids #JAC 72565, 1.01 ohms resistance.
  - 1 - Arrow-Hart Safety switch, #27306, 200 amp, 600 V, 3 pole.

#### EXTRAS

- 1 - New 48" gear and pinion for above hoist.

- 1 - Heavy duty hoist, converted from air to electricity with herringbone gear and pinion, post brake on each side, heavy duty clutch, with:
  - 1 - 40 HP hoist motor, serial #995746, complete with resistance grids #20 HPAC and G.E. drum controller CP 3203 - 1300J

#### JIGS

- 1 - Bendelari Jig 26", motor drive, U. S. motor 2 HP, geared ratio 4.13 RPM #209, type CH frame 254-40 #145-732, 900 RPM, 3 ph., 60 cy., 220-440 volt.

#### PUMPS

- 1 - Wilfley centrifugal sand pump 2", #C 1476 with 10' of 4" belt, complete with:
  - 1 - Fairbanks Morse 5 HP, type H, ball bearing, 440 V, 1800 RPM, 60 cy., #27497
- 1 - Wilfley centrifugal sand pump, size 2" #C 1476 with 10' of 4" belt, complete with:
  - 1 - W. 5 HP, type CS motor, serial #8102935, 220-440 volt, frame W 254, style ECL 28742, 1450 RPM
- 1 - 3" C.A. Wilfley high head heavy duty sand pump with standard runner at 1965 RPM with 10" P.A. 6 C, groove pump sheave and 1 - 24" P.A. 6 C groove sheave - 6 #C 96 V belts, complete with:
  - 1 - G.E. 50 HP motor, type KT 337, 1800 RPM, 440 volt, 60 cycle, 3 ph., stock serial #12128
  - 1 - G.E. starting compensator, type NR 1116, form A 2, primary volts 440, sec. 220-352, 60 cy., 3 ph., #860807
  - 1 - Cutler Hammer safety switch, type A, Cat. #4101 H 27, 100 amp, 50 HP.
- 1 - 6" Sterling Deep well pump, 11 stage, with a 4 X 1 X 1½ X 5' column extension, complete with:
  - 1 - G.E. 25 HP motor, 3450 RPM, 3 ph., 60 cy., 440 V, serial #5380932 vertical.
  - 1 - G.E. Magnetic switch, type CR 7006-D 30 B, Cat. #4381269, G 104, 440 volt, 60 cycle, 25 HP max.
- 1 - 3" Fairbanks Morse centrifugal pump with 30' of 4" belt, complete with:
  - 1 - Century 7½ HP motor, type S C N, frame 324, form S A A, 3 ph., 60 cy., 1150 RPM, 220-440 V, #1028371
  - 1 - Arrow-Hart switch 575 volts, 30 amp., #27284
- 1 - Kimball Krogh sand pump, model 100, size 1½x1½ complete with:
  - 1 - G.E. 3 HP motor, model 5 K, 254 A 22, 3 ph., 60 cyl., 220-440 V, 1165 RPM, #GP8403.
  - 1 - Arrow-Hart safety motor starter with resettable thermal overload, #1373, type RT, 440 V, 3 pole.
  - 1 - Cutler-Hammer switch, 3 pole, 575 volt, 30 amp, #4131 H 24

- 1 - Krogh centrifugal pump #21, type B, form B, #1559252, with 3 V-belt drive #B 81, complete with:
  - 1 - G.E. 3 HP motor, model 5 K 254 A 222, frame 254, type K, 440 V, 60 cy., 3 ph., 1200 RPM, #5494420
- 1 - 4" Byron Jackson centrifugal pump, with 3 V-belt drive, complete with:
  - 1 - Wagner 5 HP motor, type 13 TBP, 3 ph., 60 cy., 1800 RPM, 440 volt, #147218
  - 1 - Cutler-Hammer safety switch, 3 pole, 575 volts, 30 amp, 7½ HP #4131 H 24
- 1 - Ingersoll Rand Motor pump #IR VI 7807-100, G.E. 1 HP motor, #G M 2224, Model 5 K 202 B 953, frame 202 V, type K, 220-440 V, 60 cycle, 3480 RPM
- 1 - Ingersoll Rand Motor Pump, G.E. motor, model K F 254 C 858, type 254 Y, 5 HP, 60 cy., 440 V, 3 ph., 3600 RPM, #M P 816, with:
  - 1 - Trumbull safety switch #60351, 30 amp, 600 V, 3 pole.
- 1 - Chicago Pneumatic vacuum pump, type 30035, size 5" X 4", #P 7 S B, V drive, with:
  - 1 - G.E. 3 HP motor, model 5 K 225 A 10, frame 225, type K 220-440 volt, 60 cy., 3 ph., 1800 RPM, #5429970 with V drive.
  - 1 - G.E. starting switch, type CR 1062-C 5, 7½ HP, 440 volt, #4981 891
- 1 - Fairbanks Morse centrifugal pump, size 1½" X 2" with 12' of 4" belt.
- 1 - United Iron Works centrifugal pump 3" X 3", with:
  - 1 - W. 7½ HP motor #11 E 9 60 (no name plate) 850 RPM, belt 4" wide 20' long.
  - 1 - Arrow-Hart safety switch #27445, 30 amp, 600 volts, 3 ph., push button station.

#### SAMPLER:

- 1 - Denver Equipment automatic enclosed geared sampler, with:
  - 1 - W. 1/4 HP, 1725 RPM, 110 volt, single phase, type F R, frame B 145, style 900912 motor.

#### TABLES

- 4 - Wilfley tables complete with head motion, #16040, 16041, 16042, 16043, 2 left, 2 right hand, style #11 D, with:
  - 4 - W. motors 1½ HP type C D, frame W 224, 1200 RPM, 440 V, 3 ph., 60 cy., style #948075, serial Nos. 16236, 12936, 17836, 11736.

#### THICKENERS:

- 1 - Dorr thickener #962, size 12' X 40' complete (Steel superstructure - does not rest on tank) with:
  - 1 - G.E. motor, 5 HP, model 5 K 284 A 2, frame 284, type K, 220-440 V, 60 cy., 3 ph., 1200 RPM #5428017
- 1 - 30' dia. X 10' deep thickener mechanism, belt driven, 3-7/16" shaft, angle rakes, 52" gear, lifting device, low head superstructure, complete with motor & redwood tank.

## INDIVIDUAL UNITS

### AIR CONDITIONER

- 1 - Wagner Air Conditioner

### AIR RECEIVERS

- 1 - 4' X 11'6" steel air receiver with drain, hand hole, safety valve, whistle.
- 1 - 5' X 3' Air receiver 3/8 steel, with gauge pipe and fittings.

### ANVILS

- 1 - 125# anvil

### BAG HEADS

- 62 - Cast iron precipitation bag heads

### BALANCES

- 1 - Wm. Ainsworth Assay balance #564-B
- 1 - Becker pulp balance
- 1 - Genco trip balance, General Scientific Co.

### BALLS - GRINDING

- 17 Tons 4" Alloy grinding balls
- 6 Tons graduated sizes (from ball mill)

### BARRELS - AMALGAMATION

- 1 - Amalgamation barrel 24" X 36"

### BASKETS

- 1 - Standard mine rescue basket

### BLOWERS

- 1 - American Blower Co. blower #4V
- 1 - Denver Fire Clay Co. blower #250
- 1 - Buffalo Forge Co. blower #6

### BINS - ORE

- 1 - 2" wood stave crude ore bin, 50 ton capacity with 18" X 24" Denver gate with rack and pinion.
- 1 - 3/16 steel crude ore bin 12' dia. X 12' high, 100 ton capacity, cone bottom with 18" X 24" Denver gate with rack and pinion.
- 1 - Fine ore bin 1/4" steel shell, 16' dia. X 20' high cone bottom, 200 tons capacity.



## BUILDINGS (Corrugated Iron - Wood frame)

Blower House 10' wide X 14' long X 8' to eaves, wooden sash.  
Change Room 15' wide X 20' long X 11' to eaves, " "  
Compressor Bldg. 20' wide X 24' long X 10' to eaves, steel sash.  
Change Room 14' wide X 24' long X 8' to eaves, wooden sash.  
Mill Building (Apprx. 30' X 60') All steel building, bolted  
construction, corrugated iron enclosed. Weight 26,062 lbs.  
Plans on application.

## CABLE

600 ft. 3/4" Hoist cable (Steel)  
600 ft. 1" Hoist cable

## CARS - ORE

10 - 16 cu. ft. 18" ga. swivel type ore cars.

## CARS - Timber Truck

3 - Timber cars

## CLASSIFIER

1 - Dorr type EIMCO duplex classifier, 16' X 5'

## COLUMNS - DRILL

1 - 4' column with arm and safety collar  
2 - 6' " " " " " "

## COMPRESSORS

1 - I. R. compressor, class ER1 #20583, size 14" X 12"  
1 - Chicago Pneumatic Duplex 2 stage simplate valve #28586,  
size 13 1/2" X 8 X 10, O C B, capacity 492 cubic feet per  
minute.  
1 - Ingersoll Rand compressor, Class E R I, size 9 X 8

## CONES

1 - Allen Sand Cone No. 40 C

## CRUSHERS

1 - No. 3 Straub Assay crusher, size 4 X 6  
1 - 4" X 6" Dodge type jaw crusher with pulley.  
1 - Traylor Gyratory type crusher 2'4" - 9" opening,  
serial #31197  
1 - #2 McCully Gyratory crusher, made by Power & Mining  
Machinery Co., serial #161

## CUTTERS - SAMPLE

1 - Sample cutter

#### DRILLS - PORTABLE

- 1 - Stanley portable drill, 225 RPM, 110 volts AC or DC  
6 amp., type 341X, serial #11250.
- 1 - Portable drill, Buffalo Forge Co., #93
- 1 - Little Giant #2 air drill

#### DRILL SHARPENER & PUNCH

- 1 - Gardner-Denver drill sharpener, type D S - 2, complete  
with dies and dolly and 1 - Gardner-Denver drill  
puncher type H P 20, #537.

#### DRYER

- 1 - Home made electric strip heater sample dryer

#### DRILLS - ROCK

- 6 - CP43 Stoppers for 1" Q.O. steel
- 2 - CP 5 Drifters complete with shells
- 1 - IR DA30 Drifter complete with shell
- 1 - IR JA55 Sinker (Jackhammer)
- 1 - S49 Ingersoll Rand sinker
- 1 - Cochise jackhammer
- 1 - I.R. Jackhammer
- 1 - 10BC1 IR Jackhammer
- 1 - IR Stoper - wiggletail

#### DRILL PARTS

- 1 - Drifting machine shell - 11R
- 1 - " " " - 1CP
- 1 - " " " - 1GD
- 1 - Back head bare #CP 75102 (New)

#### EMERY WHEEL

- 1 - Emery wheel, #315 power grinder

#### FANS

- 2 - Wagner motor fans, 8860 R, series R, 60 cycle, 110 V,  
1.3 amp., model 4450 - A 802

#### FIRE EXTINGUISHERS

- 1 - Phomene fire extinguisher Type P 13

#### FORGES

- 1 - Home made forge

#### FURNACES

- 1 - Assay furnace, Denver Fire Clay Co. #4410, oil burning.
- 1 - Denver Fire Clay Co. drill furnace, oil burner, #CS - 753

#### GENERATORS - CARBIC

- 1 - Portable carbic acetylene generator type CMPI #K2P 87552.

## GONGS

- 1 - 11" mine gong

## HAMMER

- 1 - Home made power hammer - rock drill powered.

## HEAD FRAMES

- 1 - Head frame 30' high, 10 X 10 timbers
- 1 - " " 28' " 10 X 10 timbers

## HOISTS - CHAIN

- 1 - D. Round & Sons chain hoist, capacity 2000#
- 1 - D. Round & Sons chain hoist " 6000#

## HOISTS - TUGGER

- 1 - Ingersoll Rand Model "EU" Tugger hoist, 2000# capacity, cable capacity is 225' of 3/8 cable; 125' of 1/2 cable. Rope speed 54' per min. at 80# pressure.
- 1 - Chicago Pneumatic Tugger hoist, model MHI, 1500# capacity.

## HOSE - AIR, WATER, FIRE

- 5 - 50 ft. lengths 3/4" air hose, coupled
- 3 - 50 ft. " 1/2" water hose, coupled
- 1 - 50' length 2 1/2" fire hose, coupled with 10" nozzle

## IRON - CORRUGATED

- 27 1/2" wide corrugated sheets of various lengths.

## KITS - FIREMAN'S

- 1 - Red Comet fireman's kit

## LATHE

- 1 - Bradford lathe 23" swing X 12' bed, complete with tool post, steady rest, chucks, face plate & countershafts.

## METERS

- 1 - Niagara 2" Cyanide solution meter.

## OILERS

- 6 - Rock drill oilers

## PIPE

- 5000 ft. 2" standard black pipe
- 550 ft. 3 1/2" " " "
- 1550 ft. 4" heavy casing

## PIPE - VENT

- 1 - Section 25' - 14" flexible vent pipe.

## PUMPS

- 1 - Fairbanks Morse centrifugal pump, size 1½" X 2" with 12' of 4" belt.
- 1 - Fairbanks Morse pump, 1½" #A M P B - 46435
- 1 - Roper gear pump #N 1296 - 2" inlet, 2" outlet.
- 1 - Wilfley centrifugal sand pump, size 2", #C1476
- 1 - Wilfley centrifugal sand pump, 2" size.
- 1 - Krogh centrifugal pump No. 2½, type B, form E, #1559252.
- 1 - United Iron Works centrifugal pump 3" X 3".
- 1 - Fairbanks Morse 3" centrifugal pump with 30' of 4" belt.
- 1 - 3" CA Wilfley high head heavy duty sand pump with standard runner at 1975 RPM with 10" P.A. 6 C, groove pump sheave and 1 - 24" P.A. 6C groove sheave - 6 No.C 96 V-belts.
- 1 - Simplex diaphragm pump, model PSB, size 3"
- 1 - Byron Jackson centrifugal pump, size 4" with 3 V-belt drive.
- 2 - 4" Simplex belt drive diaphragm pumps
- 1 - Chicago Pneumatic vacuum pump, type 30065, size 5" X 4", #P 7 S B, V drive.

## PULVERIZERS

- 1 - Braun pulverizer, serial #31302

## RAGS

- 1½ Bales colored wiping rags - approximately 150#

## RAIL

- 4000 ft. 12 lb. relaying rail with fish plates

## RAIL BENDER

- 1 - Rail bender

## REGULATOR

- 1 - No. R 102 regulator

## SCALES

- 1 - Howe scales, #1456, 10 ton capacity, platform 9'x18'

## SKIPS

- 1 - 24" X 24" X 38" skip with rollers
  - 1 - 24" X 26" X 38" " " "
  - 1 - 25" X 27" X 58" " " "
- Other skips different sizes.

## SPRAYER - PAINT

- 1 - Paint sprayer, 1/3 HP Montgomery Ward motor, Model D P A 2225, 110 V, 1750 RPM, 60 cy., 5.25 amp., serial #O-2-7

## STEEL - DRILL

1" quarter oct., 1-1/8" round, 1" hex. in complete set.

## STOVES

1 - Wood burning stove and water tank in change room, size of tank 16" X 6", capacity 52 gallons.

## TANKS - HOT WATER

1 - 150 Gal. hot water tank, no heater  
1 - 150 Gal. " " " " "

## TANKS - REDWOOD

1 - 17' dia. X 9' high  
1 - 18' dia. X 10' high, 3" staves  
1 - 20' dia. X 5' " 1-3/4" "  
1 - 20' dia. X 5' " 1-3/4" "  
3 - 30' dia. X 6' " 2-3/4" "  
2 - 30' dia. X 12' " 2-3/4" "

## TANKS - STEEL

1 - 3' dia. X 8' high, Galv. iron corrugated  
1 - 5' dia. X 5' high, Steel 1/16" thick  
1 - 5' dia. X 5' high, " 3/16" "  
1 - 6' dia. X 5'6" high, corrugated Galv.  
1 - 6' dia. X 6' high, Galv. steel 1/16"  
2 - 6'2" dia. X 10'6" high, corrugated Galv. 22 ga.  
1 - 12' dia. X 10'6" high, Galv. steel 16 ga.  
2 - 9'5" X 12'2", Corrugated Galv.  
2 - 20' dia. X 12' high, 1/4" plate (water tanks 60000 Gal.)  
1 - 15'9" X 12' high, 1/4" plate  
3 - 24' dia. X 20' high, 3/16" plate (Agitators)  
1 - 24' dia. X 20' high, 3/16" " "

## TANKS - VACUUM

1 - 3' dia. X 6'6" high steel vacuum tank

## TAP & DIE SET

1 - Little Giant #7 tap and die set

## TOILET

1 - Low type enamel toilet

## TOOLS

1 - Set tools for hand forge work

## TRUCK

1 - Dodge truck - 1936 model LE 31 - 3/4 ton Express



## WISE

- 2 - Bench vises
- 1 - Prentiss Vise #182 size  $4\frac{1}{2}$  X  $4\frac{1}{2}$

## WELDING TORCH

- 1 - Welding torch and cutting tips

## WHEELBARROW

- 1 - Rubber tired wheelbarrow
- 2 - Wheelbarrows - steel wheels

## WHEELS - EMERY

- 1 - No. 315 Power grinder - Extra grinding wheels

## WHEELS - SHEAVE

- 1 - Sheave wheel

## WHISTLE

- 1 - Air whistle

## WIRE

1000 ft. 3 conductor power line

## ELECTRICAL EQUIPMENT

### BREAKERS - CIRCUIT

- 1 - G.E. oil circuit breaker, type F K 20 T P S T #6070396  
G 11, 200 amp., 2500 V with undervoltage attachment.  
(Ball mill)

### COMPENSATORS

	Make	Form	Type	Form	Prl. Volts	Sec. Volts	Cy.	Ph.	H.P.
1 - G.E.	CR1034	NR1634	H2R1		440	176-374	60	3	60-75
1 - G.E.	CR1034	NR1634	H3PL		440	176-374	60	3	60-75
1 - G.E.		NR1116	A2		440	220-362	60	3	

### CONTROLLERS - DRUM TYPE

- 1 - W. Drum controller, style #S O 482963 (50 HP Hoist)
- 1 - G.E. " " CP 3202-1300 J (40 HP motor)
- 1 - G.E. " " type T 170 A, #443711 (Ball mill)
- 2 - Cutler-Hammer motor control #9115 H26C,  $7\frac{1}{2}$  HP, 440 V.

### GRIDS - RESISTANCE

- 1 - Set grids for 20 HP AC variable speed motor (40 HP)
- 1 - Set of 3 banks of cast iron grids for 125 HP motor  
#198561 box 4, 5, 6. (Ball Mill)
- 1 - Set of 4 banks hoist grids #J A C 72565, 1.01 ohms  
resistance. (50 HP hoist)

MOTORS

HP	Make	Type	Phase	Cycle	Volts	RPM	Frame	Style Model	Serial	
1/2	Wagner	KA	1	60	110-220	1725	75	L2P	V24B392K	
1	Wagner	RA	1	60	"	3600	75	XL	340437	(DFC Blower)
2	G.E.	K	3	60	"	1800		4-2		(Amalg.Bbl)
2	O.E.	K	3	60	440	1800	225	5K-225A2	FP6098	(Spare)
3	W.	CS	3	60	440	1200	W225	825-132	8103352	(7'agitator)
3	C.E.	K	3	60	440	1800	225		5429970	(CP Vac.pump)
3	G.E.	K	3	60	440	1200	254	5K254A222	GP8403	(K.K. #100 pump)
3	F.M.	B	3	60	440	1200			21618	(30"conveyor)
3	W.	CS	3	60	440	1800	W225	1038-757	337	
3	G.E.	K	3	60	440	1200	254	5K254A222	5494420	(2 1/2 K.K. Pump)
5	G.E.	K	3	60	440	1200	284		5428017	(40"Thickener)
5	F.M.	B	3	60	220	1200			18492	
5	W.	CS	3	60	220	1200	284	678022	80099049	(24'Agitator)
5	F.M.	CV	3	60	440	1200	KE284		316147	24' "
5	W.	CS	3	60	440	1200	284	678023	3163211	
5	G.E.	KT751	3	60	440	900		44936	4036238	(18"Conveyor)
5	W.		3	60	440			79-8717	810-2301	
5	W.	OCL	3	60	200	1120		67342	688094	
5	F.M.	H	3	60	440	1800			27497	(2"Wilfley)
5	W.	CS	3	60	440	1450	W254	ECL28742	8102935	"
5	Wagner	13	3	60	440	1800			147218	(4" B.J. pump)
5	G.E.	KT	3	60	220	1800		65A2	4861288	(24'Agitator)
5	W.	CS	3	60	440	1200		798-7-17	8102236	(Classifier)
7 1/2	G.E.	KT4	3	60	440	1800		C	767523	
7 1/2	Cent.	SCN	3	60	220-440	1150	324	SAA	102837k	(3"F.M.pump)
7 1/2	W.		3	60	"	850			11E960	(3x3 U.Iron pump)
20	W.	CS	3	60	"			1EM380	798847	(I.R.Compres)
25	G.E.		3	60	440	3450		Vertical	5380932	(6" Sterling pump)
40	W.		3	60	440				995746	(Hoist)
50	G.E.	KT	3	60	440	1800		337	12128	(3"Wilfley)
50	A.C.		3	60	440	860			3K28481	(V-drive Traylor)
50			3	60	440	900			1161419	(Hoist motor)
75	W.	CGI	3	60	400	850		76474	692824	(C.P. Compres.)
125	G.E.	MT	3	60	440	875			5204979	(Ball mill)

45 W. Motor base only

# RELAY

Name	Type	Form	Amp.	Volts	Cat.No.
G.E.	P	C2	100	600	128303

# RHEOSTATS

1 - Westinghouse rheostat, style #50469710, type J,  
480 volts, 2328 ohms.

# STARTERS - MOTOR

Name	Type	Series	HP	Volt	Pole	Style
4 - W.	WK18	A	2	440	3	545-208
1 - AH			1	220	2	1370 (Amal.Bbl)
1 - AH	RT		7 $\frac{1}{2}$	440	3	1373 Spare
1 - AH	RT		7 $\frac{1}{2}$	440	3	1373 (KK #100 pump)
1 - AH	RT			440	3	1373

10 - AH, type CS, 30 amp., 60 cy., 440 volt, 3 ph., Style #28007

# SWITCHES - MAGNETIC

Make	Type	HP	Volt	Cycle	phase	Cat.No.
G.E.	CR7006-D	25	440	60	3	G104 4381269 (IR Comp)
G.E.	CR1062-CS	7 $\frac{1}{2}$	440	60	3	4981891 CP Vac pp.
AH	MC		440	60	3	27650 30" Convey.
AH	MC		440	60	3	27650 18" "
AH	MC		440	60	3	27650
CH	B	7 $\frac{1}{2}$	440	60	3	F3 198236
G.E.	CR7006	7 $\frac{1}{2}$	440	60	3	D40H
G.E.	CR7006	25	440	60	3	G104 4381269 6" Sterling
G.E.	CR7006	25	440	60	3	G104 4381269-D30B
G.E.	CR7006	7 $\frac{1}{2}$	440	60	3	D40H 3885849-G10H
G.E.	CR7006	7 $\frac{1}{2}$	440	60	3	D40H 3885849-G10H

# SWITCHES - OIL

Name	Type	Amp.	Pole	Volt
Kelman		400	3	7500
G.E.	FK 35	800	3	2500

16093



SUN RIVER GOLD CORP.

OATMAN PROJECT

ORO FINO PROPERTY

GEOLOGIC MAP of the ORO FINO VEIN - Sheet 2

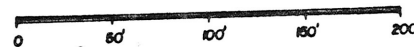
Quartz - calcite vein

Fault

Sample collected by P. Drobeck, assayed by Chemes,  
showing a/T Au, a/T Ag /true thickness

Elevation determined by Brunton, using 2410' for shaft collar

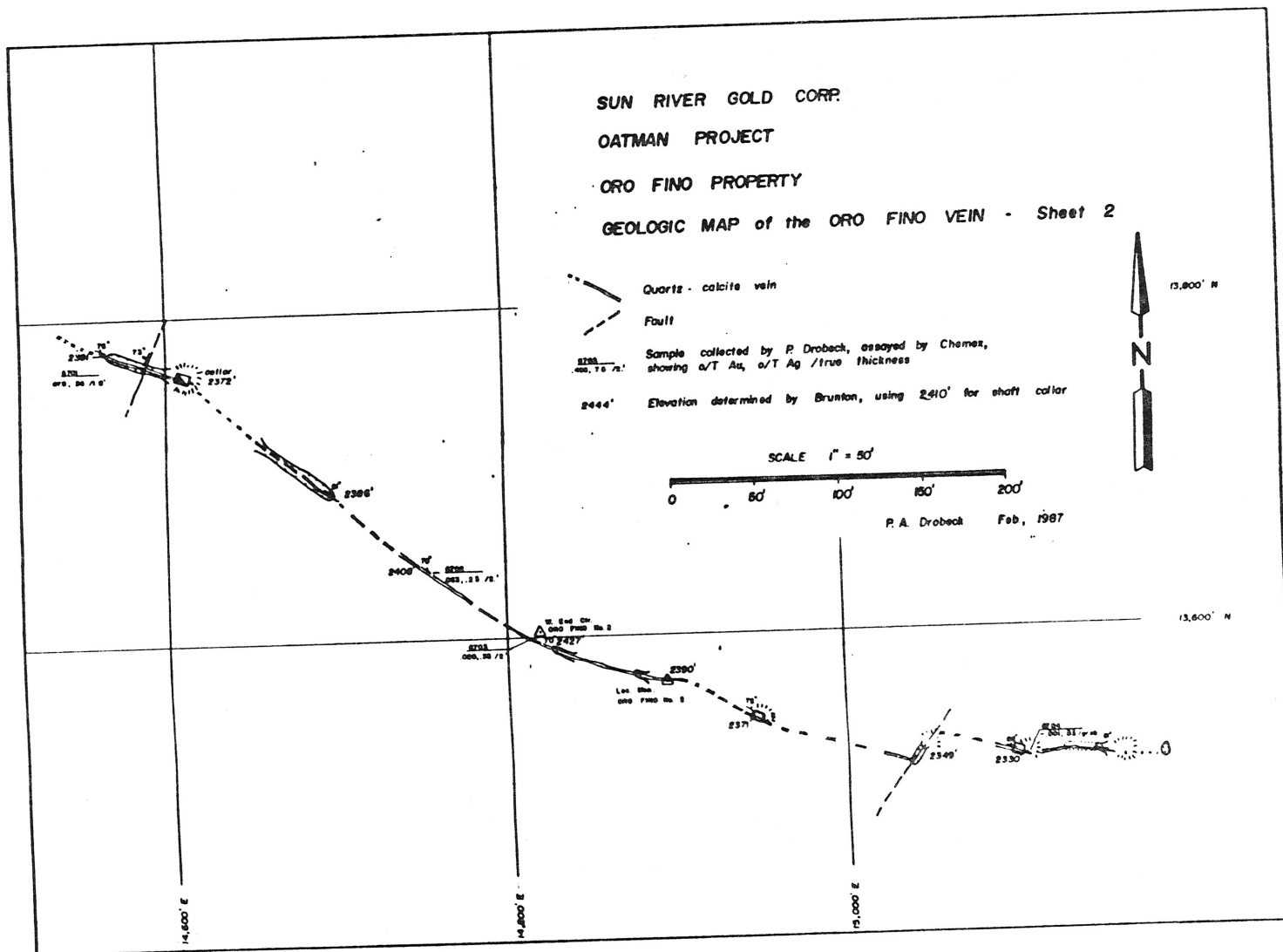
SCALE 1" = 50'



P. A. Drobeck Feb, 1987

13,800' N

13,600' N



S 45° W

N 45° E

Elevation  
(feet)

2700

2650

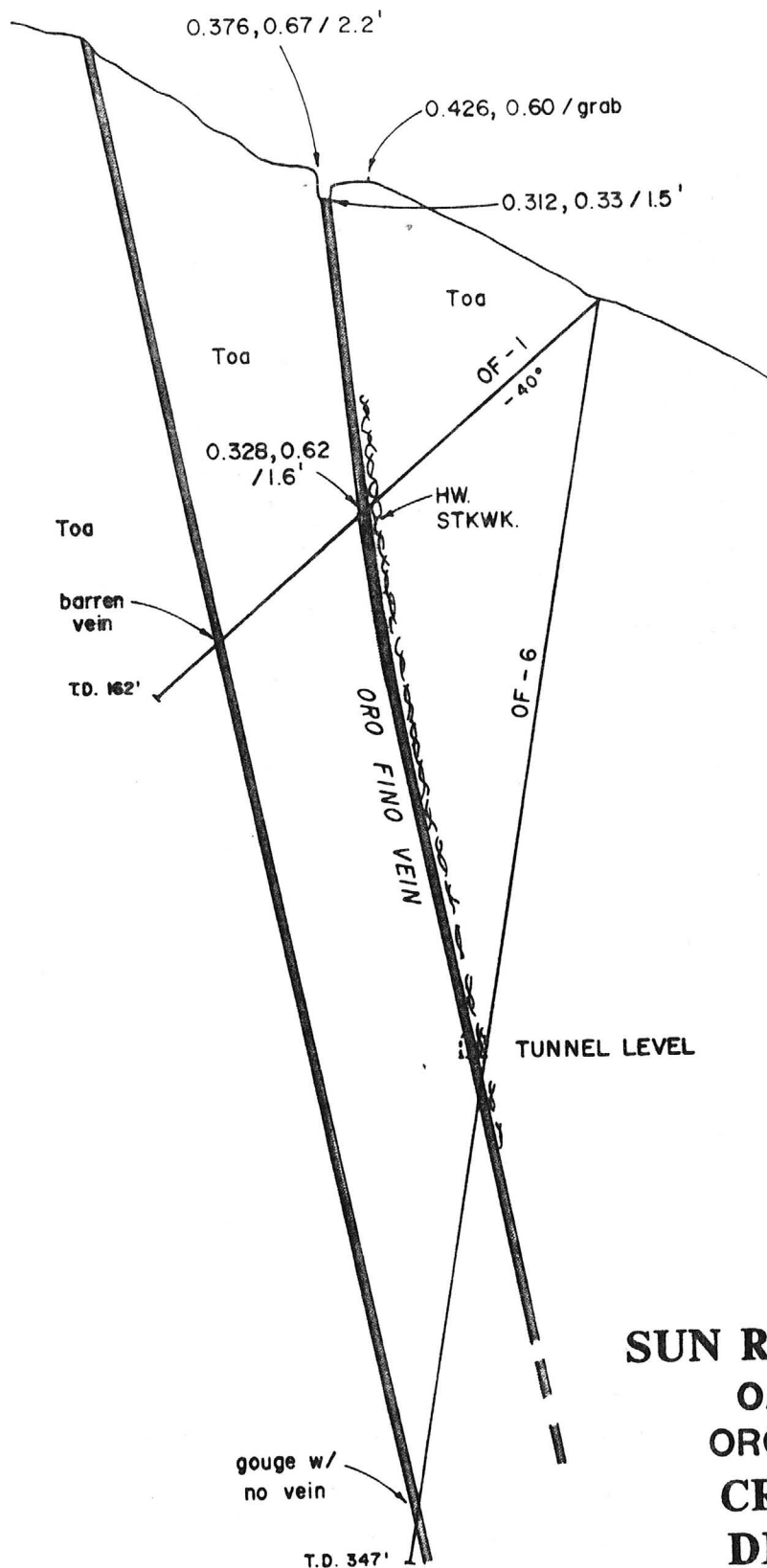
2600

2550

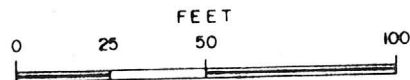
2500

2450

2400



**SUN RIVER GOLD CORP.**  
**OATMAN PROJECT**  
**ORO FINO PROPERTY**  
**CROSS-SECTION**  
**DDH OF-1, OF-6**



P. A. Drobeck

March, 1988

S 3° W

N 3° E

Elevation  
(feet)

2700

2650

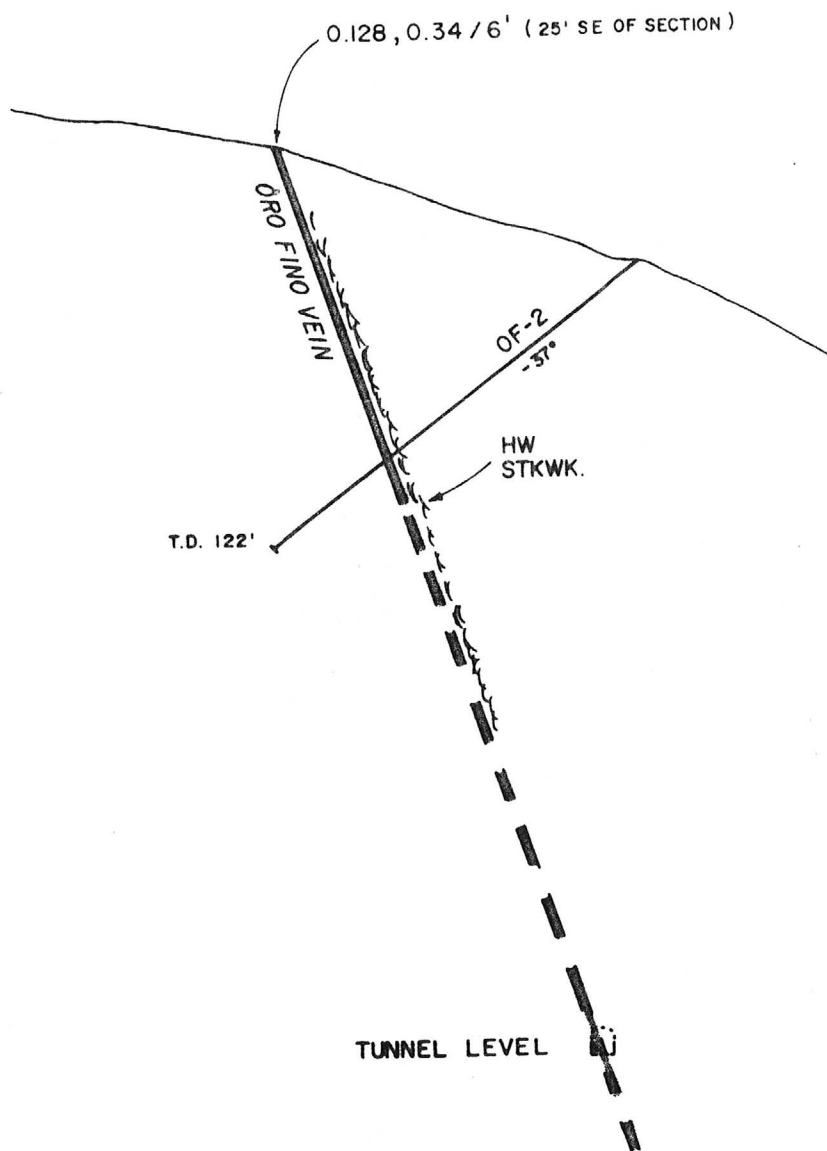
2600

2550

2500

2450

2400



**SUN RIVER GOLD CORP.  
OATMAN PROJECT  
ORO FINO PROPERTY  
CROSS-SECTION  
DDH OF-2**



P. A. Drobeck

March, 1988

N 12° W

S 12° E

Elevation  
(feet)

2700

2650

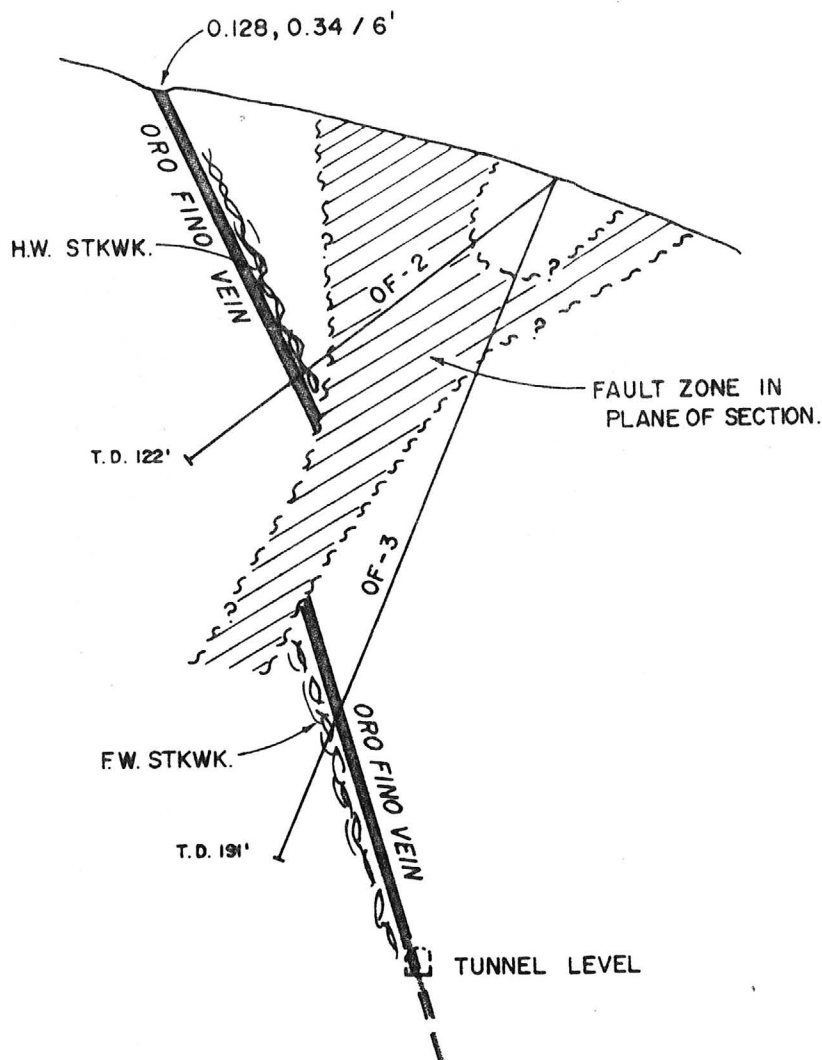
2600

2550

2500

2450

2400



**SUN RIVER GOLD CORP.  
OATMAN PROJECT  
ORO FINO PROPERTY  
CROSS-SECTION  
DDH OF-2, OF-3**



P. A. Drobeck

March, 1988

WEST

EAST

Elevation  
(feet)

2700

2650

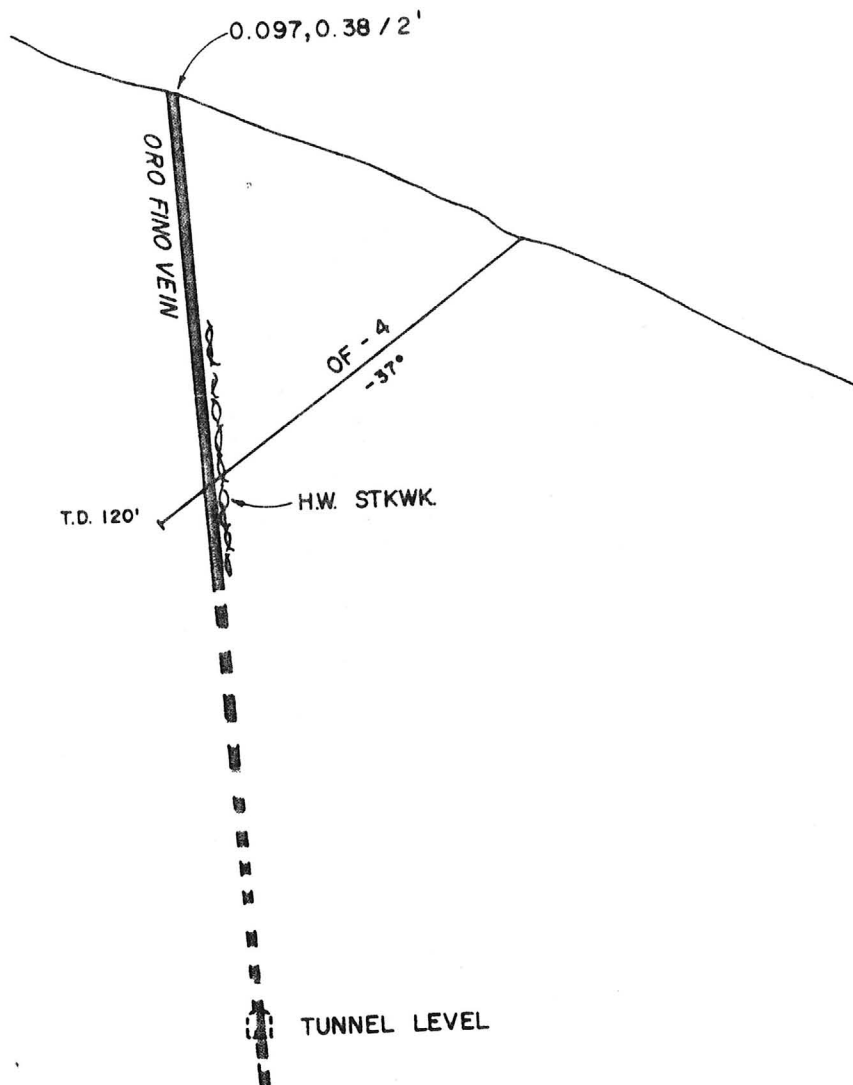
2600

2550

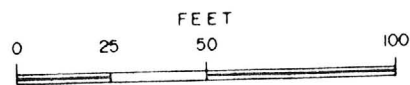
2500

2450

2400



**SUN RIVER GOLD CORP.  
OATMAN PROJECT  
ORO FINO PROPERTY  
CROSS-SECTION  
DDH OF-4**



P. A. Drobeck

March, 1988

N 81 W

S 81 E

Elevation  
(feet)

2700

2650

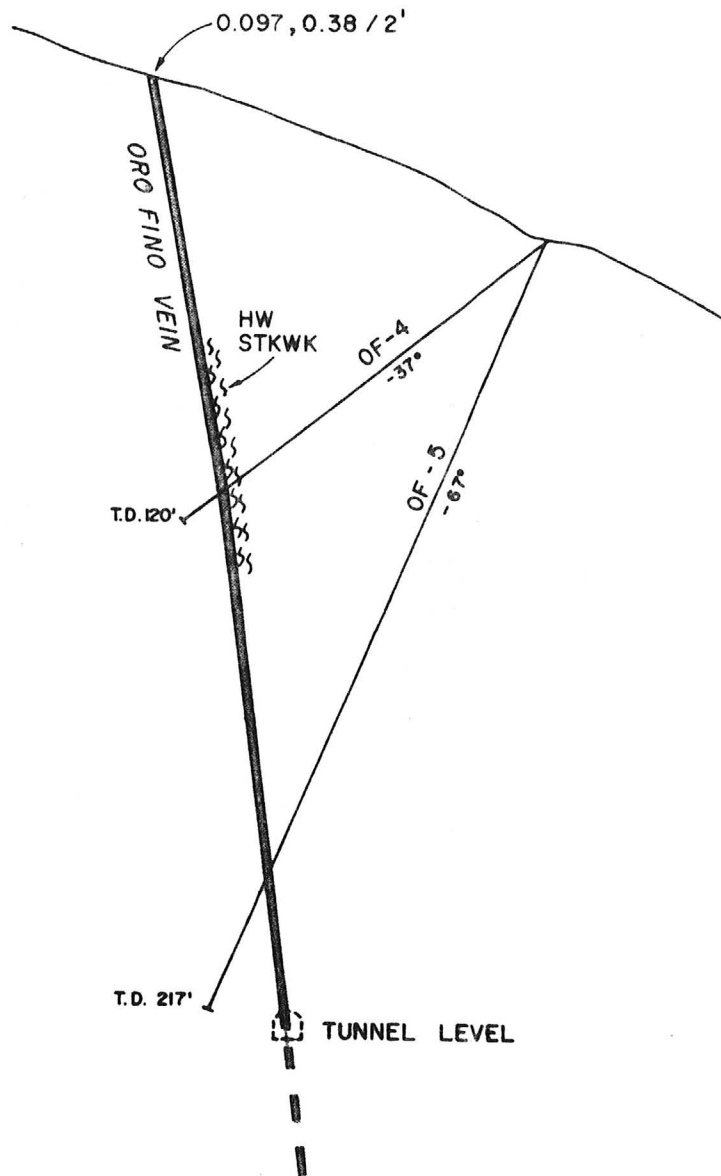
2600

2550

2500

2450

2400



**SUN RIVER GOLD CORP.**  
**OATMAN PROJECT**  
**ORO FINO PROPERTY**  
**CROSS-SECTION**  
**DDH OF-4, OF-5**



P. A. Drobeck

March, 1988

GENERAL CONDITIONS COVERING SHIPMENTS

OF CUSTOM ORE

TO THE VIVIAN CUSTOM MILL.

Base Charges

Lots of less than 10 tons -	\$4.25 per ton	\$5.00 Sampling Charge
" " over 10 to 20 " -	4.00 " "	No Sampling Charge
" " " 20 to 40 " -	3.90 " "	" " "
" " " 40 to 60 " -	3.80 " "	" " "
" " " 60 tons -	3.70 " "	" " "
Guaranteed shipments of 20 tons		
per day (120 tons per week) -	3.60 " "	" " "

Payment to shipper will be made on the Gold content at the rate of \$34 9125 (U. S. Mint price) per ounce subject to the following schedule:-

Lots assaying up to	\$10.00 per ton-----	90% Extraction.
" " from	\$10.01 to \$15.00 per ton -----	89% "
" " " "	\$15.01 to \$17.50 " " -----	88% "
" " " "	\$17.51 to \$20.00 " " -----	87% "
" " " "	\$20.01 to \$25.00 " " -----	86% "
" " over	\$25.00 per ton -----	85% "

Lots assaying \$5.00 per ton or less will not be paid for.

No payment for silver content of any ore.

The rates quoted above apply to ore delivered in bulk in our bins. All schedules are subject to change.

Sampling.

Sampling to be done by the company according to standard practice and is accepted as final. After sampling, the product will be placed in process and co-mingled with other ores, or otherwise disposed of, at company's discretion.

Control samples to both shipper and company. In case of disagreement on assays an umpire shall be selected, in rotation, from a list mutually agreed upon. The umpire assay shall be final, if it is within the limits obtained by the shipper and the company. If the umpire is not within these limits then the assay of the shipper or that of the company, whichever is nearest that of the umpire, shall prevail. Losing party to pay cost of umpire.

In case shipper fails to submit assays, the company assay shall govern.

Settlements

Settlement to be made within thirty (30) days after completion of shipment.

Note:- Shippers having in their possession substantial quantities of commercial ore are requested to communicate with us.

VIVIAN MINING CO. Box 421 Catman, Ariz.

From files of  
Paris V. Brough (deceased)

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine Vivian Date May 9, 1962  
District San Francisco, Mohave County Engineer Travis P. Lane  
Subject: Summary of History, and Visits of May 25, 1959, and May 20, 1961.

The property was drained in 1902 and after producing some rich surface ores, it was taken over in 1905 by the Vivian Mining Co. of Los Angeles. This company built a mill in 1906, but operated for only a short time reportedly because of lack of water.

(Started but not finished by Mr. Lane, before he died.)

---

Ray Shaw and Associates are building and installing a 25 TPD Mill at the Vivian Mine

FTJ WR 3/10/67

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Visited Vivian Mine - idle FTJ WR 11/9/69

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Visited the Vivian Mine - idle- no one around. FTJ WR 7/11/70

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Call from C.S. Stoll in Oatman. He reports that the Vivian has 400,000 tons of \$8-\$9 tails at \$175. GWI WR 1/21/75

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*Do Not Reproduce*



STATE OF ARIZONA  
DEPARTMENT OF MINERAL RESOURCES  
MINERAL BUILDING, FAIRGROUNDS  
PHOENIX 7, ARIZONA



Vivian

May 9, 1962

San Francisco, Mohave County

Travis P. Lane

Summary of History, and Visits of May 25, 1959, and May 20, 1961.

The property was drained in 1902 and after producing some rich surface ores, it was taken over in 1905 by the Vivian Mining Co. of Los Angeles. This company built a mill in 1906, but operated for only a short time reportedly because of lack of water.

(Started but not finished by Mr. Lane, before he died.)

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VIVIAN GROUP

MOHAVE COUNTY

Van C. Lee, owner of one of the claims of the Vivian Group and also one unpatented claim, is setting up a small amalgamation-concentration mill (several tons a day capacity).

See: USGS BULL. 397

May 25, 1959

TRAVIS P. LANE - WEEKLY REPORT

May 18, 1961

Interviewed V. B. Lee who is working small scale at the Vivian mine.

TRAVIS P. LANE - Weekly Report - May 20, 1961

August 30, 1943

Mr. Albert E. Kern  
Vivian Mining Co., Inc.  
110 Sutter Street  
San Francisco, California

Dear Mr. Kern:

In reply to your letter of August 27 I am sorry to say that I know of no folder regarding the rates on renting automobiles, but I called up the Tanner Motor Tours, 612 North First Street, care of Westward Ho Hotel, and they told me that the rate for a car would be \$6.75 a day for the first 40 miles and then 12½ cents a mile for anything over. It would also be necessary for you to provide your own gasoline after the first 40 miles but that you could undoubtedly obtain this from the local O.P.A. office. It is rather a tough problem to get this sort of transportation and you may have difficulty in doing it.

I might suggest that Mr. Lon Rutledge of Klondyke, who drives the school stage in the Klondyke district, has a station wagon and he might possibly be able to meet you at Safford and take you back and forth from Safford to Klondyke whenever you wish. In this case, you could reach Safford by bus from Phoenix, but, as you know, bus travel is rather inconvenient at these times due to the crowded condition.

You might also write the Arizona Tours, Inc., 102 East Monroe Street, Phoenix, and they may be able to give you more information regarding the hiring of a car here in Phoenix.

I would suggest that you write the Tanner Motor Tours and have them confirm the statement I made regarding their charges.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

J. Coupal  
Phoenix

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EQUIPMENT and SUPPLIES.

*file* — VIVIAN MINING CO.  
OATMAN, ARIZONA

Sold Exclusively By:

MINES ENGINEERING & EQUIPMENT CO.  
SAN FRANCISCO, CAL.

Sutter 7224

369 Pine St.



## COMPLETE UNITS

### ASSAY OFFICE - Complete, as follows:

- 1 - Assay furnace, Denver Fire Clay Co. #4410 oil burning
- 1 - Straub assay crusher, size 4 X 6, #3
- 1 - Braun pulverizer, serial #31302
- 1 - G.E. 2 H.P. motor with shafting and belts to operate crusher and pulverizer, model 5 K 225 A 2, frame 225, type K, 1800 RPM, 440 volt, 60 cy., 3 ph., #F P 6093
- 1 - Arrow-Hart thermal motor starter #1373, type R T, 440 V,  $7\frac{1}{2}$  H.P., 3 pole.
- 2 - Arrow-Hart switches, #27284, 3 pole, 30 amp., 575 volts, A C,  $7\frac{1}{2}$  HP, 3 fuse.
- 1 - Home made electric strip heater sample dryer
- 1 - Cutler-Hammer switch #4141 H 1, 2 pole, 30 amp, 125-250 V.
- 1 - Sample cutter
- 1 - Becker pulp balance
- 1 - Genco trip balance, General Scientific Co.
- 1 - Wm. Ainsworth assay balance #564-B
- 1 - Wagner air conditioner

### AGITATORS

- 3 - Complete agitators as follows:
  - 3 - Agitator tanks, 20' high 24' dia. 3/16 steel
  - 2 - 24' X 20' Dorr agitator mechanisms #338-D
  - 1 - 24' X 20' Wemco " " L0 head
  - 1 - Fairbanks Morse motor, 5 HP, type CV, frame KE 284, 1200 RPM, 440 V, 60 cy., 3 ph., sec. volts 110, 15 amp., #316147
  - 1 - G.E. 5 HP motor #4861288, type KT 936, form C, 1800 RPM, 220 volt, 3 ph., 60 cy., model 65 A 2
  - 1 - W. 5 HP, type CS, frame 284, 1200 RPM, 220 volt, 60 cy., 3 ph., serial 80099049, style #678022
  - 1 - Square D safety switch #38341, 30 amp., 600 V, 3 pole
  - 2 - Cutler-Hammer safety switches, #4131 H24, 3 pole, 30 amp, 600 volts.
- 2 - Concentrate Agitators, as follows:
  - 2 - Concentrate agitator tanks, 10'6" high, 6'2" wide, corrugated galv. iron 22 20 gauge
  - 2 - Wemco agitator drives, model PM 24, size 6'2" X 11', serial #39228 X 1 and 39228 X 2. No Motors.
- 1 - 7' dia. X 8'9" high Agitator mechanism with:
  - 1 - W. motor, type CS, frame W225, 3 HP, 440 volt, 3 ph., 60 cy., 1200 RPM, style 825 132, serial #8103352
  - 2 - Cutler-Hammer motor control #9115 H26 C  $7\frac{1}{2}$  HP, 440 V.

## BALL MILL

- 1 - Hardinge conical ball mill, 8' X 22" Manganese steel liners never installed, 13 V belt drive, complete with:
  - 1 - G.E. 125 HP #22 E 105 motor, type MT 5584-8-125-900 form BL, 3 ph., 60 cy., 2200 volts rewound to 440 volts, 30 amp., 875 RPM, #5204979
  - 1 - G.E. oil circuit breaker, type FK 20 TPST #6070396 G 11, 200 amp, 2500 V, with under voltage attachment.
  - 1 - G.E. drum switch controller, type T 170 A, #443711
  - 1 - Set of 3 banks of cast iron grids for 125 HP motor #198561

## BARREL - AMALGAMATION

- 1 - Amalgamation barrel 24" dia. X 36" wide with 1 G.E., 2 HP motor, Class 4-2, 1800 RPM, 60 cy., 440 V, 3 ph., form K with 1 - 15' - 3" belt; 2½' steel pulley, supports, shaft, 20' of 3" belt to 4' dia. 6" face steel pulley.

## BLOWER

- 1 - Denver Fire Clay blower #250 complete with:
  - 1 - Wagner 1 HP motor for blower, type RA frame 75, Model XL 340437, 3600 RPM, 1 ph., 110/220 V, #3 P 2624
  - 1 - Arrow Hart thermal motor starter #1370, 220 volt, 1 HP, 2 pole.

## CELLS - FLOTATION

- 4 - Kraut flotation machines type DW, rotors #1051, 1049, 1052, 1050 with 2 G.E. motors #5342373 and #5342372, 10 HP, type KF, model 9 F 393, frame 3 24Y, 220-440 V, 3 ph., 60 cy., 1750 RPM. These are "rougher" wood cells; 2 V belts to each cell.
- 2 - Kraut flotation machines type DI, rotors #1189 and 1190, with 5 HP, motor #8102935, style ECI 28742, 440 volt, 60 cy., 3 ph., These are "Cleaner" steel cells; 2 V belts to each cell.

## CLASSIFIER

- 1 - Dorr type "C" duplex classifier, 16', belt drive, with:
  - 1 - W. 5 HP motor, type CS, frame W-284, 3 ph., 60 cy., 220-440 V, 1200 RPM, style 7987-17, Serial #8102236

## COMPRESSORS

- 1 - Chicago Pneumatic Duplex 2 stage simplate valve #28586, size 13½ X 8 X 10, O C B, capacity 492 cubic feet per minute, complete with:
  - 1 - W. 75 HP motor, type C C I, 440 V, 98.8 Amp, 3 ph., 60 cy., 850 RPM, style #76474, serial #692824, 8 V-belt drive.
  - 1 - G.E. starting compensator #CR 1034, Type NR 634, form H 2 R I, 440 V, 60 cy., sec. volts 176-374, for motor type I form K 60/75 HP, 3 phase

## Chicago Pneumatic Compressor Cont'd

- 1 - Arrow Hart switch 575 volts 200 Amp, 3 pole #27306
- 1 - Steel air receiver 4' X 11'6" with drain, hand hole, safety valve, whistle
- 11'6" suction pipe with 2 elbows, reducing flange & tools.
- 1 - Ingersoll Rand Compressor, Class ERI, size 9 X 8, #23115, complete with:
  - 1 - W. 20 HP motor, type CS, frame W 405, 883 RPM, 440-220 volt, 3 ph., 60 cy., style #798847, serial #1 EM 380
  - 1 - Square D switch 100 amp, 600 volts #56343
  - 1 - G.E. Magnetic switch, 25 max, HP, 440 volt, 60 cy., type CR 7006 - D30B #4381269 G 104
  - 30 Ft. 8" belt.
  - 1 - Air receiver 3/8 steel, size 5' X 3' with gauge, pipe, and fittings.

## CONVEYORS

- 1 - Only 30" X approx. 25' C to C Belt conveyor with head and tail mechanism, 8 sets troughing and 2 sets return idlers, complete with:
  - 1 - Reeves variable speed drive, size 1, class E #38193
  - 1 - Fairbanks Morse 3 HP motor, 1200 RPM, 440 volt, 60 cy., 3 ph., type B #21618
  - 1 - Arrow-Hart Magnetic switch type MC, 440 V, 3 pole, 3 ph., 60 cycle, #27650
- 1 - 18" X approx. 125' C to C belt conveyor complete with:
  - 1 - Head and 1 tail pulley with takeup, 24" dia. X 20" face.
  - 30- Type 28 - 3 roll troughing idlers mounted on planks for 18" conveyor belt, 10 return idlers type 17
  - 3 - Sets Standard conveyor guide rollers
  - 252 ft. 18" X 5 ply rubber conveyor belt 3/16" X 1/16" covers.
  - 1 - Drive pulley 9" face X 36" dia. steel pulley; 1 - 19" face X 60" dia. steel pulley; 1 belt 5" X 22'; 1 - belt 8" X 31'
  - 1 - G.E. 5 HP motor, 900 RPM, 440 V, 3 ph., 60 cy., type KT 751-8-5 form C, Model #44936, #4036238 induction motor.
  - 1 - Arrow-Hart Magnetic type MC, 440 V, 3 pole, 3 ph., 60 cy., #27650

## CRUSHERS

- 1 - 4" X 6" Dodge type jaw crusher with pulley for belt drive, complete with:
  - 1 - Fairbanks Morse 3 HP motor #25063, belt connected on steel plate with crusher. V belts.

- 1 - Traylor Gyrotory type crusher 2'4" - 9" opening #31197, Model TY, Manganese steel fitted, complete with:
  - 1 - Allis Chalmers 50 HP motor 440 V, 860 RPM, 60 cy., 3 ph., #3 K 28481 with A.C. V belt drive, D 144, and sheaves.
  - 1 - G.E. starting compensator C.R. 1034, type NR 1634 form H3P1, for 60-75 HP motor, primary volts 440, sec. volts 176/374, Type 1 form K and G.E. relay panel, type P form CE, 100 A, 600 volts, Cat. No. 128 303

#### FEEDERS - BELT

- 1 - Ball mill feeder "Wemco" Western Mach. Co. with master geared head motor drive, motor, style #45380, counter shaft speed 95.2 RPM type P A, frame 7435, 1 $\frac{1}{2}$  HP, 440 V, 1800 RPM, serial #H B 779
- 1 - Feeder belt 9' X 16"

#### FEEDER - ZINC

- 1 - Merrill-Crowe disc type zinc feeder complete with special geared motor, cone, valve rod, tappet, 2 $\frac{1}{2}$ " all iron butterfly valve and 8" X 8" steel float with arm and float nut - motor size 1/4 HP, with:
  - 2 - Arrow-Hart switches, 30 amp, 125-250 V, #27000

#### FEEDERS - REAGENT

- 1 - Kraut reagent feeder, 2 compartment with W. 1/4 HP motor, 110 volt, 60 cy., serial #256, type CB, steel box 24" wide X 26" long X 11" deep.
- 1 - Kraut type dip reagent feeder single compartment with W. 1/4 HP motor, 1800 RPM, 60 cy., single phase, 110 V, frame 144, serial #FG style 900590A, steel box 6" deep by 10" wide by 18" long.

#### HOISTS

- 1 - Denver Engineering Works 50 HP single drum electric hoist, 3500# rope pull, bar type indicator, post brakes on drum, pinion shaft 3-1/4" dia., drum shaft 4" dia., gear 5" face, serial #25177, complete with:
  - 1 - 50 HP Westinghouse 900 RPM, 440 V, 3 ph., 60 cy., slip ring motor, serial #1161419
  - 1 - W. drum switch, style #S O 482963
  - 1 - Set of 4 banks hoist grids #JAC 72565, 1.01 ohms resistance.
  - 1 - Arrow-Hart Safety switch, #27306, 200 amp, 600 V, 3 pole.

#### EXTRAS

- 1 - New 48" gear and pinion for above hoist.



- 1 - Heavy duty hoist, converted from air to electricity with herringbone gear and pinion, post brake on each side, heavy duty clutch, with:
  - 1 - 40 HP hoist motor, serial #995746, complete with resistance grids #20 HPAC and G.E. drum controller CP 3203 - 1300J

#### JIGS

- 1 - Bendelari Jig 26", motor drive, U. S. motor 2 HP, geared ratio 4.13 RPM #209, type CH frame 254-40 #145-732, 900 RPM, 3 ph., 60 cy., 220-440 volt.

#### PUMPS

- 1 - Wilfley centrifugal sand pump 2", #C 1476 with 10' of 4" belt, complete with:
  - 1 - Fairbanks Morse 5 HP, type H, ball bearing, 440 V, 1800 RPM, 60 cy., #27497
- 1 - Wilfley centrifugal sand pump, size 2" #C 1476 with 10' of 4" belt, complete with:
  - 1 - W. 5 HP, type CS motor, serial #8102935, 220-440 volt, frame W 254, style ECL 28742, 1450 RPM
- 1 - 3" C.A. Wilfley high head heavy duty sand pump with standard runner at 1965 RPM with 10" P.A. 6 C, groove pump sheave and 1 - 24" P.A. 6 C groove sheave - 6 #C 96 V belts, complete with:
  - 1 - G.E. 50 HP motor, type KT 337, 1800 RPM, 440 volt, 60 cycle, 3 ph., stock serial #12128
  - 1 - G.E. starting compensator, type NR 1116, form A 2, primary volts 440, sec. 220-352, 60 cy., 3 ph., #860807
  - 1 - Cutler Hammer safety switch, type A, Cat. #4101 H 27, 100 amp, 50 HP.
- 1 - 6" Sterling Deep well pump, 11 stage, with a 4 X 1 X 1½ X 5' column extension, complete with:
  - 1 - G.E. 25 HP motor, 3450 RPM, 3 ph., 60 cy., 440 V, serial #5380932 vertical.
  - 1 - G.E. Magnetic switch, type CR 7006-D 30 B, Cat. #4381269, G 104, 440 volt, 60 cycle, 25 HP max.
- 1 - 3" Fairbanks Morse centrifugal pump with 30' of 4" belt, complete with:
  - 1 - Century 7½ HP motor, type S C N, frame 324, form S A A, 3 ph., 60 cy., 1150 RPM, 220-440 V, #1028371
  - 1 - Arrow-Hart switch 575 volts, 30 amp., #27284
- 1 - Kimball Krogh sand pump, model 100, size 1½x1½ complete with:
  - 1 - G.E. 3 HP motor, model 5 K, 254 A 22, 3 ph., 60 cyl., 220-440 V, 1165 RPM, #GP8403.
  - 1 - Arrow-Hart safety motor starter with resettable thermal overload, #1373, type RT, 440 V, 3 pole.
  - 1 - Cutler-Hammer switch, 3 pole, 575 volt, 30 amp, #4131 H 24

- 1 - Krogh centrifugal pump #21, type B, form B, #1559252, with  
3 V-belt drive #B 81, complete with:
  - 1 - G.E. 3 HP motor, model 5 K 254 A 222, frame 254,  
type K, 440 V, 60 cy., 3 ph., 1200 RPM, #5494420
- 1 - 4" Byron Jackson centrifugal pump, with 3 V-belt drive,  
complete with:
  - 1 - Wagner 5 HP motor, type 13 TBP, 3 ph., 60 cy., 1800  
RPM, 440 volt, #147218
  - 1 - Cutler-Hammer safety switch, 3 pole, 575 volts, 30  
amp, 7½ HP #4131 H 24
- 1 - Ingersoll Rand Motor pump #IR VI 7807-100, G.E. 1 HP  
motor, #G M 2224, Model 5 K 202 B 953, frame 202 V,  
type K, 220-440 V, 60 cycle, 3480 RPM
- 1 - Ingersoll Rand Motor Pump, G.E. motor, model K F 254 C  
858, type 254 Y, 5 HP, 60 cy., 440 V, 3 ph., 3600 RPM,  
#M P 816, with:
  - 1 - Trumbull safety switch #60351, 30 amp, 600 V, 3 pole.
- 1 - Chicago Pneumatic vacuum pump, type 30035, size 5" X 4",  
#P 7 S B, V drive, with:
  - 1 - G.E. 3 HP motor, model 5 K 225 A 10, frame 225,  
type K 220-440 volt, 60 cy., 3 ph., 1800 RPM,  
#5429970 with V drive.
  - 1 - G.E. starting switch, type CR 1062-C 5, 7½ HP,  
440 volt, #4981 891
- 1 - Fairbanks Morse centrifugal pump, size 1½" X 2" with  
12' of 4" belt.
- 1 - United Iron Works centrifugal pump 3" X 3", with:
  - 1 - W. 7½ HP motor #11 E 9 60 (no name plate) 850 RPM,  
belt 4" wide 20' long.
  - 1 - Arrow-Hart safety switch #27445, 30 amp, 600 volts,  
3 ph., push button station.

#### SAMPLER:

- 1 - Denver Equipment automatic enclosed geared sampler, with:
  - 1 - W. 1/4 HP, 1725 RPM, 110 volt, single phase, type  
F R, frame B 145, style 900912 motor.

#### TABLES

- 4 - Wilfley tables complete with head motion, #16040, 16041,  
16042, 16043, 2 left, 2 right hand, style #11 D, with:
  - 4 - W. motors 1½ HP type C D, frame W 224, 1200 RPM, 440  
V, 3 ph., 60 cy., style #948075, serial Nos. 16236,  
12936, 17836, 11736.

#### THICKENERS:

- 1 - Dorr thickener #962, size 12' X 40' complete (Steel  
superstructure - does not rest on tank) with:
  - 1 - G.E. motor, 5 HP, model 5 K 284 A 2, frame 284, type  
K, 220-440 V, 60 cy., 3 ph., 1200 RPM #5428017
- 1 - 30' dia. X 10' deep thickener mechanism, belt driven,  
3-7/16" shaft, angle rakes, 52" gear, lifting device, low  
head superstructure, complete with motor & redwood tank.

## INDIVIDUAL UNITS

### AIR CONDITIONER

- 1 - Wagner Air Conditioner

### AIR RECEIVERS

- 1 - 4' X 11'6" steel air receiver with drain, hand hole, safety valve, whistle.
- 1 - 5' X 3' Air receiver 3/8 steel, with gauge pipe and fittings.

### ANVILS

- 1 - 125# anvil

### BAG HEADS

- 62 - Cast iron precipitation bag heads

### BALANCES

- 1 - Wm. Ainsworth Assay balance #564-B
- 1 - Becker pulp balance
- 1 - Genco trip balance, General Scientific Co.

### BALLS - GRINDING

- 17 Tons 4" Alloy grinding balls
- 6 Tons graduated sizes (from ball mill)

### BARRELS - AMALGAMATION

- 1 - Amalgamation barrel 24" X 36"

### BASKETS

- 1 - Standard mine rescue basket

### BLOWERS

- 1 - American Blower Co. blower #4V
- 1 - Denver Fire Clay Co. blower #250
- 1 - Buffalo Forge Co. blower #6

### BINS - ORE

- 1 - 2" wood stave crude ore bin, 50 ton capacity with 18" X 24" Denver gate with rack and pinion.
- 1 - 3/16 steel crude ore bin 12' dia. X 12' high, 100 ton capacity, cone bottom with 18" X 24" Denver gate with rack and pinion.
- 1 - Fine ore bin 1/4" steel shell, 16' dia. X 20' high cone bottom, 200 tons capacity.

## BUILDINGS (Corrugated Iron - Wood frame)

Blower House 10' wide X 14' long X 8' to eaves, wooden sash.  
Change Room 15' wide X 20' long X 11' to eaves, " "  
Compressor Bldg. 20' wide X 24' long X 10' to eaves, steel sash.  
Change Room 14' wide X 24' long X 8' to eaves, wooden sash.  
Mill Building (Apprx. 30' X 60') All steel building, bolted  
construction, corrugated iron enclosed. Weight 26,062 lbs.  
Plans on application.

## CABLE

600 ft. 3/4" Hoist cable (Steel)  
600 ft. 1" Hoist cable

## CARS - ORE

10 - 16 cu. ft. 18" ga. swivel type ore cars.

## CARS - Timber Truck

3 - Timber cars

## CLASSIFIER

1 - Dorr type EIMCO duplex classifier, 16' X 5'

## COLUMNS - DRILL

1 - 4' column with arm and safety collar  
2 - 6' " " " " " "

## COMPRESSORS

1 - I. R. compressor, class ER1 #20583, size 14" X 12"  
1 - Chicago Pneumatic Duplex 2 stage simplate valve #28586,  
size 13 1/2" X 8 X 10, O C B, capacity 492 cubic feet per  
minute.  
1 - Ingersoll Rand compressor, Class E R I, size 9 X 8

## CONES

1 - Allen Sand Cone No. 40 C

## CRUSHERS

1 - No. 3 Straub Assay crusher, size 4 X 6  
1 - 4" X 6" Dodge type jaw crusher with pulley.  
1 - Traylor Gyratory type crusher 2'4" - 9" opening,  
serial #31197  
1 - #2 McCully Gyratory crusher, made by Power & Mining  
Machinery Co., serial #161

## CUTTERS -SAMPLE

1 - Sample cutter



#### DRILLS - PORTABLE

- 1 - Stanley portable drill, 225 RPM, 110 volts AC or DC 6 amp., type 341X, serial #11250.
- 1 - Portable drill, Buffalo Forge Co., #93
- 1 - Little Giant #2 air drill

#### DRILL SHARPENER & PUNCH

- 1 - Gardner-Denver drill sharpener, type D S - 2, complete with dies and dolly and 1 - Gardner-Denver drill puncher type H P 20, #537.

#### DRYER

- 1 - Home made electric strip heater sample dryer

#### DRILLS - ROCK

- 6 - CP43 Stoppers for 1" Q.O. steel
- 2 - CP 5 Drifters complete with shells
- 1 - IR DA30 Drifter complete with shell
- 1 - IR JA55 Sinker (Jackhammer)
- 1 - S49 Ingersoll Rand sinker
- 1 - Cochise jackhammer
- 1 - I.R. Jackhammer
- 1 - 10BC1 IR Jackhammer
- 1 - IR Stoper - wiggletail

#### DRILL PARTS

- 1 - Drifting machine shell - 11R
- 1 - " " " - 1CP
- 1 - " " " - 1GD
- 1 - Back head bare #CP 75102 (New)

#### EMERY WHEEL

- 1 - Emery wheel, #315 power grinder

#### FANS

- 2 - Wagner motor fans, 8860 R, series R, 60 cycle, 110 V, 1.3 amp., model 4450 - A 802

#### FIRE EXTINGUISHERS

- 1 - Phomene fire extinguisher Type P 13

#### FORGES

- 1 - Home made forge

#### FURNACES

- 1 - Assay furnace, Denver Fire Clay Co. #4410, oil burning.
- 1 - Denver Fire Clay Co. drill furnace, oil burner, #CS - 753

#### GENERATORS - CARBIC

- 1 - Portable carbic acetylene generator type CMPI #K2P 87552.

## GONGS

- 1 - 11" mine gong

## HAMMER

- 1 - Home made power hammer - rock drill powered.

## HEAD FRAMES

- 1 - Head frame 30' high, 10 X 10 timbers
- 1 - " " 28' " 10 X 10 timbers

## HOISTS - CHAIN

- 1 - D. Round & Sons chain hoist, capacity 2000#
- 1 - D. Round & Sons chain hoist " 6000#

## HOISTS - TUGGER

- 1 - Ingersoll Rand Model "EU" Tugger hoist, 2000# capacity, cable capacity is 225' of 3/8 cable; 125' of 1/2 cable. Rope speed 54' per min. at 80# pressure.
- 1 - Chicago Pneumatic Tugger hoist, model MHI, 1500# capacity.

## HOSE - AIR, WATER, FIRE

- 5 - 50 ft. lengths 3/4" air hose, coupled
- 3 - 50 ft. " 1/2" water hose, coupled
- 1 - 50' length 2 1/2" fire hose, coupled with 10" nozzle

## IRON - CORRUGATED

- 27 1/2" wide corrugated sheets of various lengths.

## KITS - FIREMAN'S

- 1 - Red Comet fireman's kit

## LATHE

- 1 - Bradford lathe 23" swing X 12' bed, complete with tool post, steady rest, chucks, face plate & countershafts.

## METERS

- 1 - Niagara 2" Cyanide solution meter.

## OILERS

- 6 - Rock drill oilers

## PIPE

- 5000 ft. 2" standard black pipe
- 550 ft. 3 1/2" " " "
- 1550 ft. 4" heavy casing

## PIPE - VENT

- 1 - Section 25' - 14" flexible vent pipe.

## PUMPS

- 1 - Fairbanks Morse centrifugal pump, size 1½" X 2" with 12' of 4" belt.
- 1 - Fairbanks Morse pump, 1½" #A M P B - 46435
- 1 - Roper gear pump #N 1296 - 2" inlet, 2" outlet.
- 1 - Wilfley centrifugal sand pump, size 2", #C1476
- 1 - Wilfley centrifugal sand pump, 2" size.
- 1 - Krogh centrifugal pump No. 2½, type B, form E, #1559252.
- 1 - United Iron Works centrifugal pump 3" X 3".
- 1 - Fairbanks Morse 3" centrifugal pump with 30' of 4" belt.
- 1 - 3" CA Wilfley high head heavy duty sand pump with standard runner at 1975 RPM with 10" P.A. 6 C, groove pump sheave and 1 - 24" P.A. 6C groove sheave - 6 No.C 96 V-belts.
- 1 - Simplex diaphragm pump, model PSB, size 3"
- 1 - Byron Jackson centrifugal pump, size 4" with 3 V-belt drive.
- 2 - 4" Simplex belt drive diaphragm pumps
- 1 - Chicago Pneumatic vacuum pump, type 30065, size 5" X 4", #P 7 S B, V drive.

## PULVERIZERS

- 1 - Braun pulverizer, serial #31302

## RAGS

- 1½ Bales colored wiping rags - approximately 150#

## RAIL

- 4000 ft. 12 lb. relaying rail with fish plates

## RAIL BENDER

- 1 - Rail bender

## REGULATOR

- 1 - No. R 102 regulator

## SCALES

- 1 - Howe scales, #1456, 10 ton capacity, platform 9'x18'

## SKIPS

- 1 - 24" X 24" X 38" skip with rollers
  - 1 - 24" X 26" X 38" " " "
  - 1 - 25" X 27" X 58" " " "
- Other skips different sizes.

## SPRAYER - PAINT

- 1 - Paint sprayer, 1/3 HP Montgomery Ward motor, Model D P A 2225, 110 V, 1750 RPM, 60 cy., 5.25 amp., serial #0-2-7

## STEEL - DRILL

1" quarter oct., 1-1/8" round, 1" hex. in complete set.

## STOVES

1 - Wood burning stove and water tank in change room, size of tank 16" X 6", capacity 52 gallons.

## TANKS - HOT WATER

1 - 150 Gal. hot water tank, no heater  
1 - 150 Gal. " " " " "

## TANKS - REDWOOD

1 - 17' dia. X 9' high  
1 - 18' dia. X 10' high, 3" staves  
1 - 20' dia. X 5' " 1-3/4" "  
1 - 20' dia. X 5' " 1-3/4" "  
3 - 30' dia. X 6' " 2-3/4" "  
2 - 30' dia. X 12' " 2-3/4" "

## TANKS - STEEL

1 - 3' dia. X 8' high, Galv. iron corrugated  
1 - 5' dia. X 5' high, Steel 1/16" thick  
1 - 5' dia. X 5' high, " 3/16" "  
1 - 6' dia. X 5'6" high, corrugated Galv.  
1 - 6' dia. X 6' high, Galv. steel 1/16"  
2 - 6'2" dia. X 10'6" high, corrugated Galv. 22 ga.  
1 - 12' dia. X 10'6" high, Galv. steel 16 ga.  
2 - 9'5" X 12'2", Corrugated Galv.  
2 - 20' dia. X 12' high, 1/4" plate (water tanks 60000 Gal.)  
1 - 15'9" X 12' high, 1/4" plate  
3 - 24' dia. X 20' high, 3/16" plate (Agitators)  
1 - 24' dia. X 20' high, 3/16" " "

## TANKS - VACUUM

1 - 3' dia. X 6'6" high steel vacuum tank

## TAP & DIE SET

1 - Little Giant #7 tap and die set

## TOILET

1 - Low type enamel toilet

## TOOLS

1 - Set tools for hand forge work

## TRUCK

1 - Dodge truck - 1936 model LE 31 - 3/4 ton Express



## WISE

- 2 - Bench vises
- 1 - Prentiss Vise #182 size  $4\frac{1}{2}$  X  $4\frac{1}{2}$

## WELDING TORCH

- 1 - Welding torch and cutting tips

## WHEELBARROW

- 1 - Rubber tired wheelbarrow
- 2 - Wheelbarrows - steel wheels

## WHEELS - EMERY

- 1 - No. 315 Power grinder - Extra grinding wheels

## WHEELS - SHEAVE

- 1 - Sheave wheel

## WHISTLE

- 1 - Air whistle

## WIRE

1000 ft. 3 conductor power line

## ELECTRICAL EQUIPMENT

### BREAKERS - CIRCUIT

- 1 - G.E. oil circuit breaker, type F K 20 T P S T #6070396  
G 11, 200 amp., 2500 V with undervoltage attachment.  
(Ball mill)

### COMPENSATORS

	Make	Form	Type	Form	Prl. Volts	Sec. Volts	Cy.	Ph.	H.P.
1 - G.E.	CR1034	NR1634	H2R1		440	176-374	60	3	60-75
1 - G.E.	CR1034	NR1634	H3PL		440	176-374	60	3	60-75
1 - G.E.		NR1116	A2		440	220-362	60	3	

### CONTROLLERS - DRUM TYPE

- 1 - W. Drum controller, style #S O 482963 (50 HP Hoist)
- 1 - G.E. " " CP 3202-1300 J (40 HP motor)
- 1 - G.E. " " type T 170 A, #443711 (Ball mill)
- 2 - Cutler-Hammer motor control #9115 H26C,  $7\frac{1}{2}$  HP, 440 V.

### GRIDS - RESISTANCE

- 1 - Set grids for 20 HP AC variable speed motor (40 HP)
- 1 - Set of 3 banks of cast iron grids for 125 HP motor  
#198561 box 4, 5, 6. (Ball Mill)
- 1 - Set of 4 banks hoist grids #J A C 72565, 1.01 ohms  
resistance. (50 HP hoist)

# MOTORS

HP	Make	Type	Phase	Cycle	Volts	RPM	Frame	Style Model	Serial	
1/2	Wagner	KA	1	60	110-220	1725	75	L2P	V24B392K	
1	Wagner	RA	1	60	"	3600	75	XL	340437	(DFC Blower)
2	G.E.	K	3	60	"	1800		4-2		(Amalg.Bbl)
2	G.E.	K	3	60	440	1800	225	5K-225A2	FP6098	(Spare)
3	W.	CS	3	60	440	1200	W225	825-132	8103352	(7'agitator)
3	C.E.	K	3	60	440	1800	225		5429970	(CP Vac.pump)
3	G.E.	K	3	60	440	1200	254	5K254A222	GP8403	(K.K. #100 pump)
3	F.M.	B	3	60	440	1200			21618	(30"conveyor)
3	W.	CS	3	60	440	1800	W225	1038-757	337	
3	G.E.	K	3	60	440	1200	254	5K254A222	5491420	(2 1/2 K.K. Pump)
5	G.E.	K	3	60	440	1200	284		5428017	(40'Thickener)
5	F.M.	B	3	60	220	1200			18492	
5	W.	CS	3	60	220	1200	284	678022	80099049	(24'Agitator)
5	F.M.	CV	3	60	440	1200	KE284		316147	24' "
5	W.	CS	3	60	440	1200	284	678023	3163211	
5	G.E.	KT751	3	60	440	900		44936	4036238	(18"Conveyor)
5	W.		3	60	440			79-8717	810-2301	
5	W.	CCL	3	60	200	1120		67342	688094	
5	F.M.	H	3	60	440	1800			27497	(2"Wilfley)
5	W.	CS	3	60	440	1450	W254	ECL28742	8102935	"
5	Wagner	13	3	60	440	1800			147218	(4" B.J. pump)
5	G.E.	KT	3	60	220	1800		65A2	4861288	(24'Agitator)
5	W.	CS	3	60	440	1200		798-7-17	8102236	(Classifier)
7 1/2	G.E.	KT4	3	60	440	1800		C	767523	
7 1/2	Cent.	SCN	3	60	220-440	1150	324	SAA	102837k	(3"F.M.pump)
7 1/2	W.		3	60	"	850			11E960	(3x3 U.Iron pump)
20	W.	CS	3	60	"			IEM380	798847	(I.R.Compres)
25	G.E.		3	60	440	3450		Vertical	5380932	(6" Sterling pump)
40	W.		3	60	440				995746	(Hoist)
50	G.E.	KT	3	60	440	1800		337	12128	(3"Wilfley)
50	A.C.		3	60	440	860			3K28481	(V-drive Traylor)
50			3	60	440	900			1161419	(Hoist motor)
75	W.	CCI	3	60	400	850		76474	692824	(C.P. Compres.)
125	G.E.	MT	3	60	440	875			5204979	(Ball mill)

45 W. Motor base only

# RELAY

Name	Type	Form	Amp.	Volts	Cat.No.
G.E.	P	C2	100	600	128303

# RHEOSTATS

1 - Westinghouse rheostat, style #50469710, type J,  
480 volts, 2328 ohms.

# STARTERS - MOTOR

Name	Type	Series	HP	Volt	Pole	Style
4 - W.	WK18	A	2	440	3	545-208
1 - AH			1	220	2	1370 (Amal.Bbl)
1 - AH	RT		7 $\frac{1}{2}$	440	3	1373 Spare
1 - AH	RT		7 $\frac{1}{2}$	440	3	1373 (KK #100 pump)
1 - AH	RT			440	3	1373

10 - AH, type CS, 30 amp., 60 cy., 440 volt, 3 ph., Style #28007

# SWITCHES - MAGNETIC

Make	Type	HP	Volt	Cycle	phase	Cat.No.
G.E.	CR7006-D	25	440	60	3	G104 4381269 (IR Comp)
G.E.	CR1062-CS	7 $\frac{1}{2}$	440	60	3	4981891 CP Vac pp.
AH	MC		440	60	3	27650 30" Convey.
AH	MC		440	60	3	27650 18" "
AH	MC		440	60	3	27650
CH	B	7 $\frac{1}{2}$	440	60	3	F3 198236
G.E.	CR7006	7 $\frac{1}{2}$	440	60	3	D40H
G.E.	CR7006	25	440	60	3	G104 4381269 6" Sterling
G.E.	CR7006	25	440	60	3	G104 4381269-D30B
G.E.	CR7006	7 $\frac{1}{2}$	440	60	3	D40H 3885849-G10H
G.E.	CR7006	7 $\frac{1}{2}$	440	60	3	D40H 3885849-G10H

# SWITCHES - OIL

Name	Type	Amp.	Pole	Volt
Kelman		400	3	7500
G.E.	FK 35	800	3	2500

16093



CROSS SECTION THRU  
MITCHELL SHAFT  
VIVIAN MINING COMPANY  
SCALE: 1 INCH = 40 FEET  
OATMAN, ARIZONA.  
Traced by M. G. Gully

