



CONTACT INFORMATION

Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
<http://www.azgs.az.gov>
inquiries@azgs.az.gov

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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: OATMAN MINING & MILLING

ALTERNATE NAMES:

HAMMOND VEIN
OATMAN GOLD
KOKOMO SHAFT

MOHAVE COUNTY MILS NUMBER: 34E

LOCATION: TOWNSHIP 19 N RANGE 20 W SECTION 23 QUARTER NE
LATITUDE: N 35DEG 01MIN 14SEC LONGITUDE: W 114DEG 22MIN 05SEC
TOPO MAP NAME: MOUNT NUTT - 7.5 MIN

CURRENT STATUS: DEVEL DEPOSIT

COMMODITY:

GOLD LODE

BIBLIOGRAPHY:

ADMMR OATMAN GOLD MINING & MILLING
ADMMR UNITED EASTERN MINE FILE, HAFF & COLWELL
MAP
WEED, W.H., THE MINES HANDBOOK VOL. XVI, 1925
P. 405
ADDITIONAL WORKINGS SEC. 14-NE

OATMAN GOLD MINING & MILLING CO.

MOHAVE COUNTY
OATMAN DIST.

AZTEC MINE -

See: TOM REED GOLD MINES (file) for info. re this property, dated 11-18-62
(Republic - 11-18-62)

See: E. & M. J. - Dec. 1962, p 124 re AZTEC MINE et al

See: MINING WORLD, February 1963, p 31

See: ABM Bull 131, p. 60-67-103-Pl. IV

See: ABM Bull. 137, p. 90

See: USGS Bull. 743, p. 6-7-8.

IC 6901 p. 19

~~ABM # 129 p. et al.~~

See: Arizona Mining Journal Feb. 15, 1922 p. 14,
March 15, 1922 p. 13

See: Hartman Gold Mining Co. in Eagle-Picher Confidential "H" files

MAPS — Upstairs in the ABM rolled file boxes - 2 maps of the
Gold Ranger claim showing underground workings
Aztec mine - 7 maps mostly the 400 and 500 foot levels

Library - Geology, AGS section, "1984 Fall Field Trip, Structure
& Mineralization, Kingman Area, Az" p. 66 (Included in file)

OATMAN QUEEN GOLD MINING CO.

Au

Mohave Co. 8-10 T 19 N, R 20 W

W. F. Hines, Apt. 11, 1057 S. New Hampshire,
Los Angeles 6, Calif.

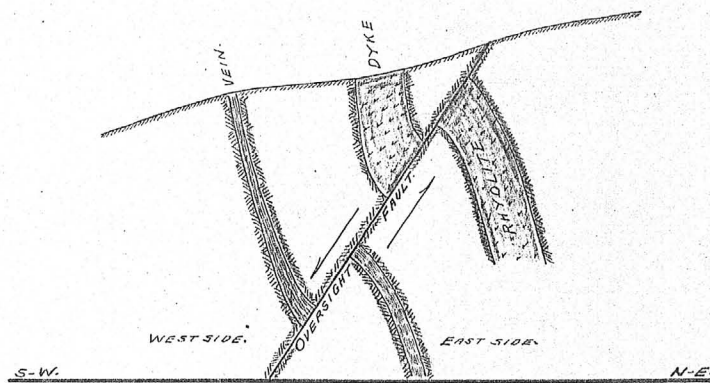
'47

[illegible]

Sec. 12

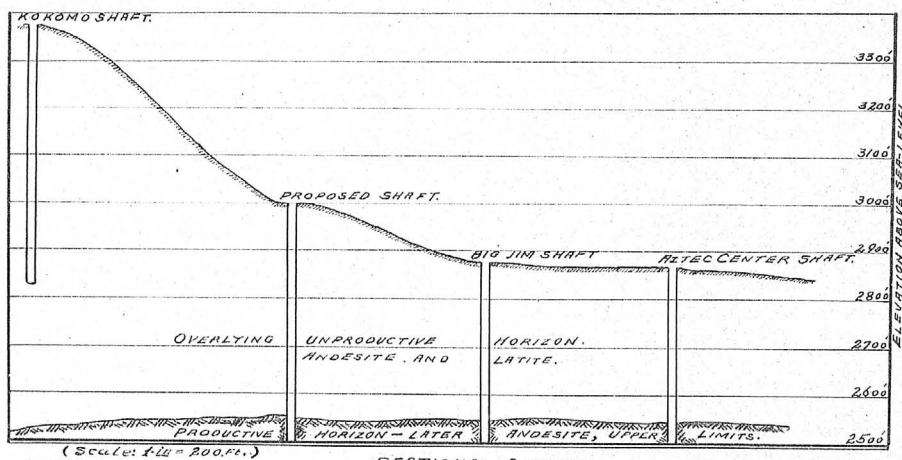
Sec. 13

Sec. 14

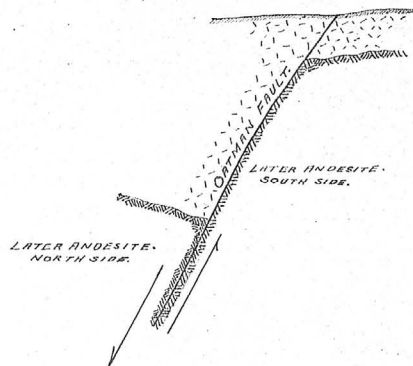
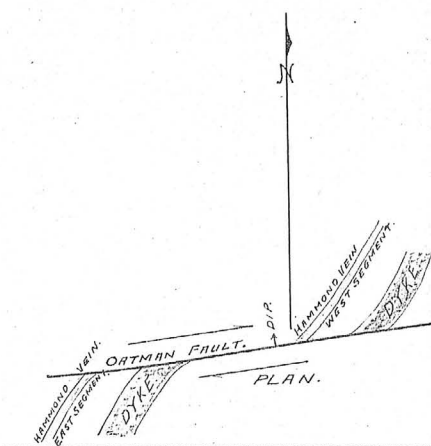


SKETCHED SECTION
ILLUSTRATING RELATION BETWEEN THE
HAMMOND VEIN, RHYOLITE DYKE AND
OVERSIGHT
FAULT.

SECTION PARALLELING OATMAN FAULT.



SECTIONAL DIAGRAM
SHOWING RELATIVE ELEVATIONS
OF
KOKOMO AND PROPOSED SHAFTS TO BIG JIM AND RHYTEC-CENTER.



SECTION.
(NORTH AND SOUTH.)

SKETCHED PLAN AND SECTION
ILLUSTRATING MOVEMENT ON
THE OATMAN FAULT.

OATMAN GOLD MINING & MILLING CO.

MOHAVE COUNTY
OATMAN DIST.

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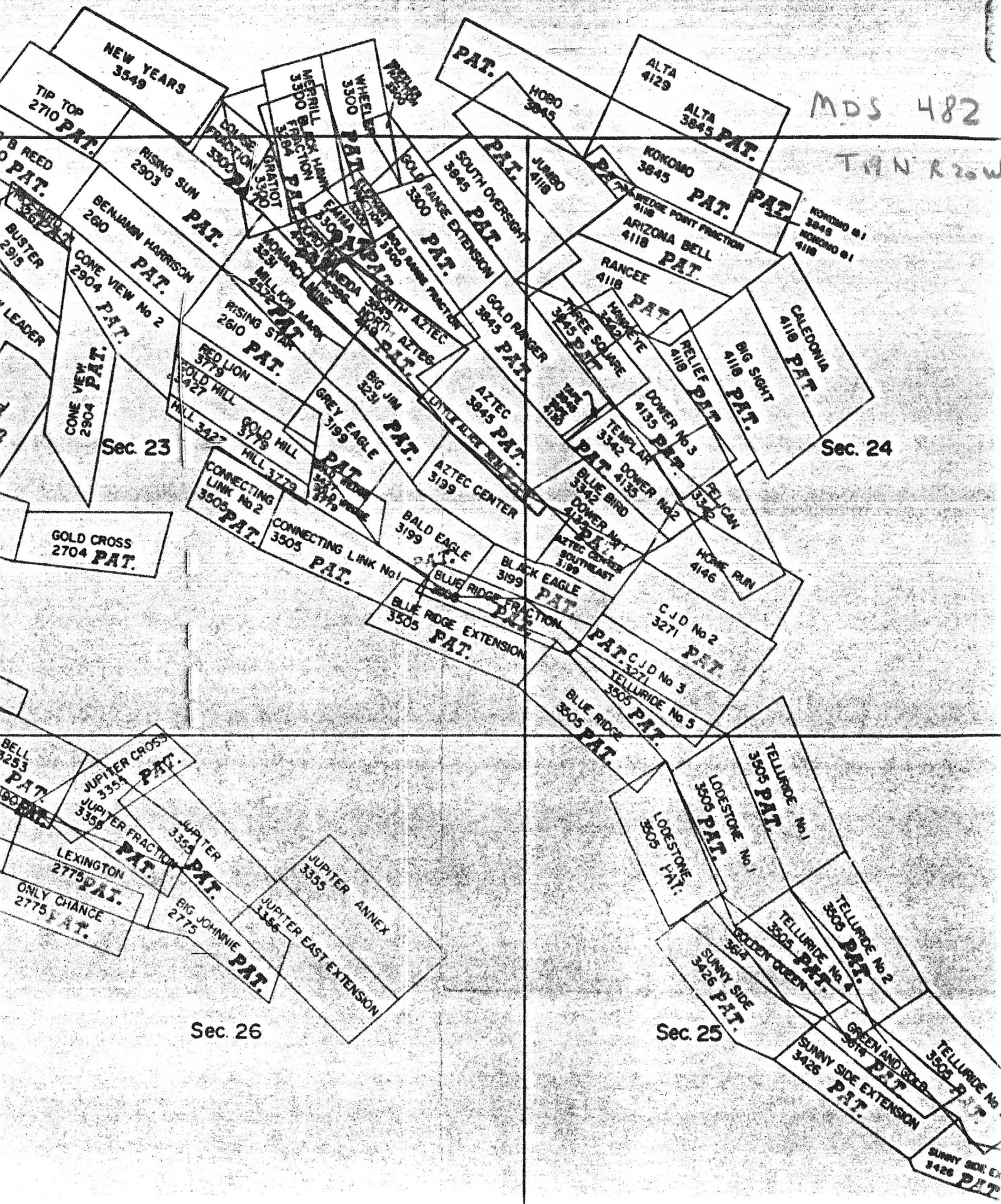
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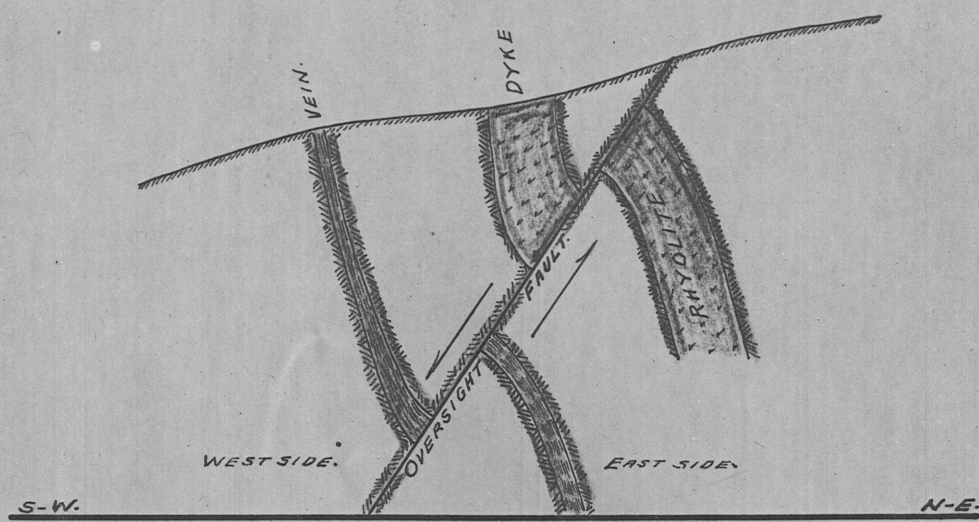
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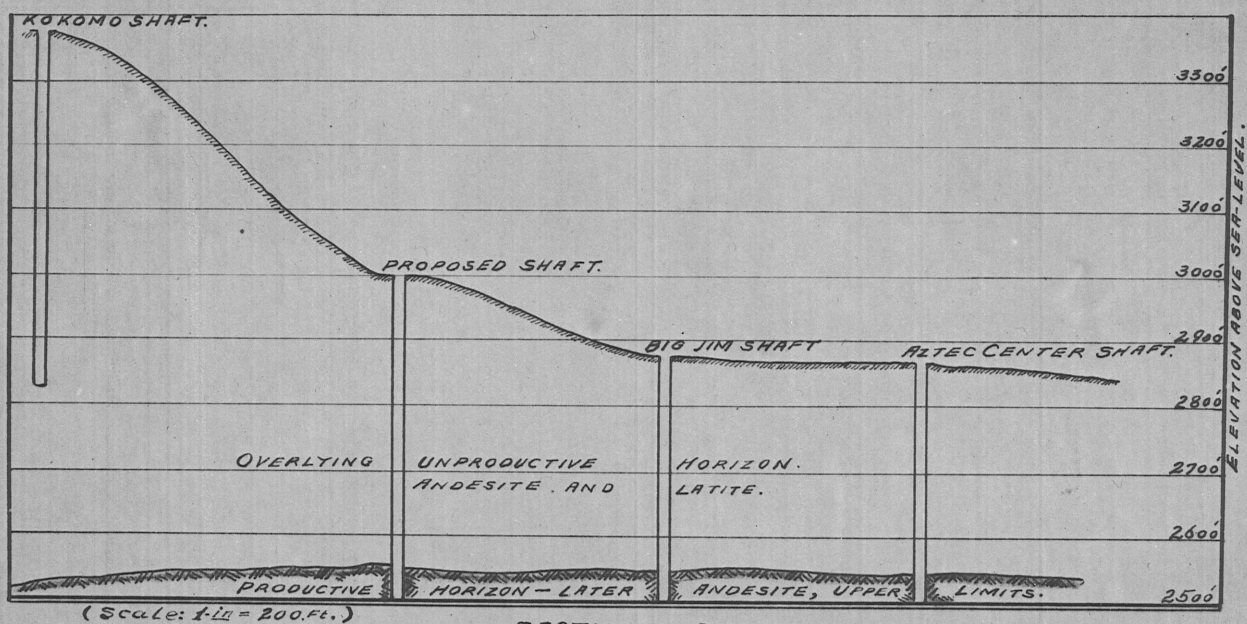
T 19 N R 20 W



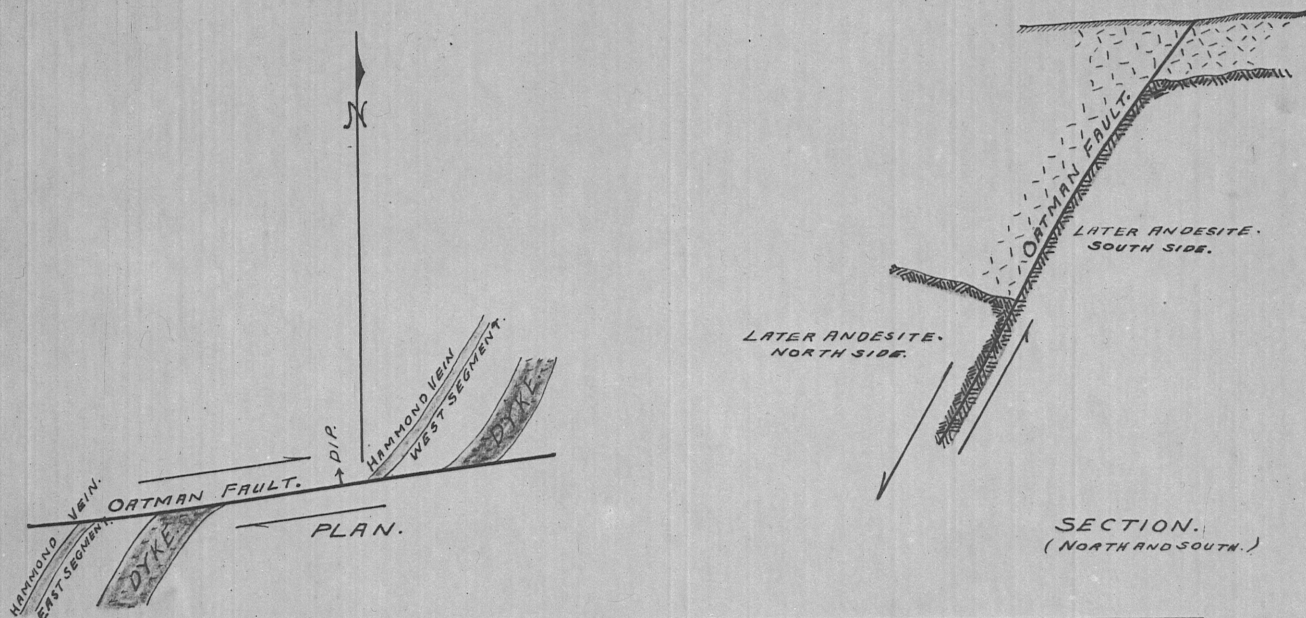


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SECTIONAL DIAGRAM
SHOWING RELATIVE ELEVATIONS
OF
KOKOMO AND PROPOSED SHAFTS TO BIG JIM AND AZTEC-CENTER.



SKETCHED PLAN AND SECTION
ILLUSTRATING MOVEMENT ON
THE OATMAN FAULT.

OATMAN GOLD MINING & MILLING CO

NJN WR 1/23/86: G. Hunter Ware, of Ware, Hunt, and Profett, 2500 Bennington Road, Charlottesville, VA 22901 (804) 293-6737 visited and reported that they are doing research for a client interested in the Kokomo Vein (Oatman Gold Mining & Milling Co - file) Oatman District, Mohave County.

NJN WR 5/13/88: Mason Coggin (card) reported that Barbara Whitlocke (card) is trying to determine the value of records of the Tillie Starbuck (file) Yavapai County and the Oatman Mining and Milling (file) Mohave County. Mr. Coggin suggested donation of her records to our Department. Ms. Whitlocke's Oatman Mining and Milling file consists of the following 5 parcels of patented claims: 1) Yankee, Annie, Wheeler, Wheeler Fraction, Merrill, Gratiot, Louise Fraction, New Years, Tonopha #1 (117 acres) 2) Elephant Fraction, Gold Range Fraction, Emma, Gold Range Extension (40 acres) 3) Million Mark (11.78 acres) 4. Dorsey (1.9 acres) and 5) Telluride #5 (5 acres). Fischer-Watt (file) had this property leased during the late 70's early 80's by Oatman Exploration Project, but apparently just used it for road access and did not do any drilling.

KOKOMO VEIN

Mohave Cnty
Oatman District

KAP WR 2/26/80: Perry Durning of Fischer Watt Mining Co. reported they have obtained a joint venture partner (Canadian Mines) to assist in drilling the Kokomo Vein system in the Oatman District, Mohave County. Drilling has been underway for ten days.

KAP WR 8/15/80: A report was received that Fischer-Watt mining Co. has spent well in excess of \$1,000,000 on gold/silver exploration in the Oatman District, Mohave County. They have done some drilling on the Kokomo Vein System and are getting vein intercepts. Continuity is reported to be a problem.

KAP WR 1/16/81: Perry Durning of Fischer-Watt Mining Co. reported that the results on their exploration effort (ove

on the Kokomo Vein System, San Francisco District, Mohave County, were discouraging. They plan additional work in the District when a joint venture partner can be found. Thus far, their work in the District has proven 100,000 tons of gold ore which ran 0.2 tr.oz/ton.

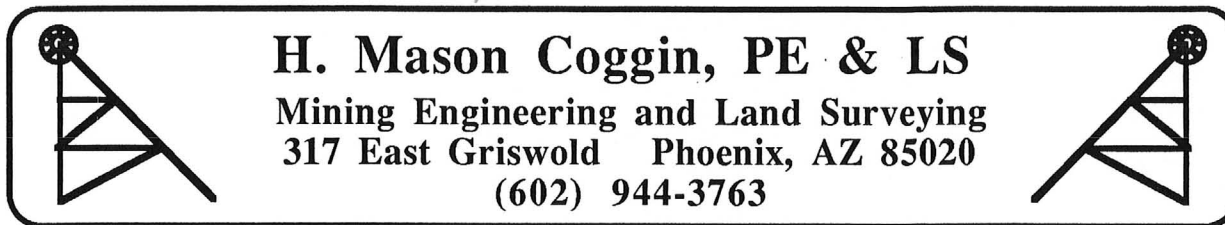
NJJ WR 11/23/84: Perry Durning of Fischer-Watt Oatman Project (f) Mining reported that the Kokomo Vein (c) structure located in between the Tom Reed and Gold Road veins, has never had any major production and this was one of their primary exploration targets at Oatman. Their drilling intersected values of .1 oz/ton Au 3' wide in the Gold Road Latite. Their drilling from the footwall side of the vein always steepened thus them never got good intercepts

KOKOMO VEIN

Card 2

NJN WR 11/23/84 cont.: of the vein in the Oatman Latite. As the other veins had their major production come from areas hosted by Oatman Latite he feels they have not adequately tested the Kokomo yet. He would recommend either cutting costly roads to get better drill pad placement, or even better (and requiring more guts) cross cutting to the vein from perhaps the Big Jim shaft. This would have the advantage of being able to map the mortheast slip movements which portend vein thickening and shoot development.

TILLIE STARBUCK (A)
OATMAN MINING AND MILLING (A)



April 30, 1988

Mrs Barbara Whitlock
2167 Banyan Drive
Los Angeles, CA 90049

Dear Barbara:

Very sorry to hear about your husband.

It is good to hear from you! Of course, I would be very happy to have your father's records and furniture, but could not begin to offer you their worth.

The furniture, I have no doubt, will bring a good price on the LA market and perhaps, even in Prescott. I have a Globe Map/Book Case that gets many comments.

I doubt that anyone could pay what the documents are worth. First, they would have to review them to find if there was any thing of value, and then they would not need them. Perhaps, it is best to donate them to the Arizona Department of Mines and Mineral Resources and take the donation off your taxes. Your accountant could tell you what this might be worth to you. You may want to do it this year.

ADMMR would make these files available to the public and this should enhance the possibilities of selling your property.

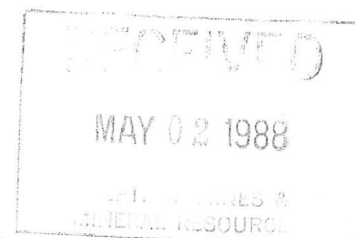
With your permission, I would like to add your Oatman and Bradshaw properties to my news letter. A copy of my last one is attached. I will need an information package for backup. From this, I hope to get some consulting work, if not on these properties, then on another.

If you are interested in any of these ideas, I will be try to be available during the first two weeks of July. Please call.

Sincerely,

H. Mason Coggin

Encl.



stoped for 5,000 feet along strike. Past production from the Gold Road Mine is 1,500,000 tons grading 0.32 o/T Au. The mine closed in 1942 by war board order #L-208, with reported reserves of \pm 250,000 tons of 0.25 o/T Au remaining in the mine.

- 20.9 Gold Road townsite - once a thriving community of 2,000 to 3,000 people. The three hundred ton per day Gold Road Mill was located across a small ridge to the north. Massive stockwork veined outcrop to left is relatively barren silica cap over the Sharp ore body on the Gold Road Vein (200,000 - 300,000 tons grading 0.50 o/T Au).
- 21.4 To the south a road cut exposes the post mineral Mallery fault zone. Two miles to the southeast the Mallery fault displaced the top of the Big Jim-Aztec ore shoot on the Tom Reed Vein by more than 400 feet. The Big Jim-Aztec ore shoot, footwall to the Mallery fault, was buried below barren Oatman latite and was discovered by accident. The Big Jim-Aztec orebodies produced \pm 500,000 tons grading 0.75 o/T Au.
- 22.5 United Western Mine adjacent to road produced 40,000 T grading 0.30 o/T Au prior to closure in 1940. Drilling in this area by Fischer-Watt Mining shows an open ended reserve of \pm 200,000 T grading 0.20 o/T Au. The only surface expression of the United Western mineralization is a weak zone of illitic alteration. At the surface, there is no detectable gold or silver and no definitive trace element anomaly.
- 23.1 To the north lies 750,000 tons of mill tailings from the United Eastern Mill. Mill ore came from the United Eastern and Big Jim ore shoots. Ore was ground to 80% - 200 mesh and processed through a modern Cyanide Mill. About 97% of the gold was recovered (Mill tailings grade \pm 0.03 o/T Au).
- 23.3 Stop 2 - Turn to right to old schoolhouse - view of Oatman - once a thriving community of 8,000 to 10,000 people. Oatman now has a population of 90 to 100 permanent residents. Cliff forming rock unit to north is Gold Road latite (18.2 \pm .9 my). White intrusive rock unit is the Elephants Tooth Rhyolite (19.6 \pm .9 my). Slope forming unit is the Oatman latite which is host for most of the major ore shoots at Oatman. The mine shaft to the north is the United Eastern #2 shaft from which was produced 550,000 T grading 1.10 o/T Au. The only surface expression of the United Eastern ore shoot (300 feet below the present surface) is a zone of strong illitic alteration with no geochem signature. To the south east along the Tom Reed Vein - the bold silicified outcrop in back of the fire station is the top of the Tip Top ore shoot (250,000 T \pm 0.70 o/T Au). Erratic anomalous gold and silver values are obtained in outcrop. The top of the ore shoot is about 75 feet below the surface. East-southeast from the Tip Top at the cement foundations for the Tom Reed Mill on the small hill east of town is the Ben Harrison ore

REPORT
ON
PROPERTY

OF THE

OATMAN GOLD MINING & MILLING CO.

JUNE 30TH, 1921

BY

EDWARD W. BROOKS
MINING GEOLOGIST AND ENGINEER
LOS ANGELES, CALIFORNIA



June 30th, 1921.

To the President and
Board of Directors of the
OATMAN GOLD MINING AND MILLING CO.,
Chicago, Ills.

Gentlemen:-

Complying with your letter of instructions under date of May 18th, ult., and signed by your Mr. Geo. R. Turley, I have examined the property of your Company situated in the Oatman Mining District, Mohave County, Arizona. This work was undertaken on June 10th, and has continued up to the present time.

The purpose of this examination was to make a comprehensive survey of the physical condition of the property; to study its geology and vein-structure in the light of recent developments; to determine, so far as possible, its relations with respect to neighboring and contiguous properties already, or about to become, important producers. All this with a view to deciding upon the proper location and character of development best suited to the exploration of the Company's ground.

This involved, not only close investigation of the area contained within the property-lines, but a study of the maps and workings of contiguous properties, so far as these were available to me, including considerable time spent underground. For this I am indebted to Mr. Charles F. Pugh, Manager of the Alcyone Mines Co. Mr. Hammond, Superintendent of the Oatman United Co. Mr. Moore, Superintendent of the United Eastern Co. and especially to Mr. W.B. Phelps, Superintendent of the Tom Reed Co. with whom I spent a very interesting and instructive day in the underground workings of the Aztec Center and adjacent claims, now prominent producers. The position of the latter with respect to the Company's property can be appreciated by consulting a map of the locality accompanying this report. Through the courtesy of Mr. Phelps the writer was enabled to inspect and study the local system of faulting as revealed in the technical investigations of Mr. Hershey, Mr. Winchell and others, all geologists of national repute, supplemented by the recent studies of Mr. F. L. Ransome, present head of the Department of Economic Geology, of the U. S. Geological Survey. I am also under obligation to Mr. Herman Zulch, who supplied valuable information connected with his survey of the properties in this locality, both surface and underground, in connection with the recent apex litigation between the Tom Reed and the United Eastern Companies, involving title to the ore-bodies discovered in the Big Jim claim.

Location.

The property under consideration is situated about one mile east, by south-east, of the town of Oatman with which it is connected by a good road over which motor vehicles are daily driven. The elevation of the town is about 2700 feet; that at the camp on the property 3000 feet above sea-level. The elevation, however, varies greatly within the area contained within the property-lines, inasmuch as the group lies well up on the westerly flank of the Black Range where steep and frequently abrupt slopes are common. On the whole it is very favorably situated for development in respect to the matter of transportation.

The position occupied by your Company's group of claims in relation to surrounding properties will be best understood by reference to map accompanying, noting particularly the locations of the Oatman United, Big Jim, Oatman Combination and Tom Reed claims, especially the Aztec Center, Monarch and Grey Eagle claims of the last named company. About three-quarters of a mile north-westerly from your property is the Gold Road Mine, the camp's earliest and one of its most important producers. This is not shown on the accompanying map. The "Oatman Gold" may, therefore, be considered as centrally situated within the proved productive territory of the district.

Descriptive Geology.

The formation is made up predominantly of rocks of volcanic origin extruded in late Tertiary times. These rest upon an ancient, greatly eroded land surface composed of rocks assigned to Pre-Cambrian age which constitute the great basement series of the entire South-west. Locally these basal rocks are made up of gneissoidal granite containing many later, igneous intrusives.

The volcanics comprise thick bedded flows of andesites of different periods, many rhyolitic flows and intrusives and rhyolitic tuffs and breccias together with eruptive rocks of intermediate composition such as trachyte and latite. All of these were later buried under a great outpouring of basalt which caps the volcanic series. All of these rocks have been greatly eroded; some of them during intervals in the eruptive period, so that now only a relatively small part of the great area formerly covered by them remains intact in original sequence. They have also suffered extensive and intricate dislocation through faulting, crustal movements, operating on a large scale.

The earliest recognizable flows consist of andesite. For convenience in description Schrader has divided this andesite into two distinct periods separated by an erosion interval. In his report to the U.S. Geological Survey, he refers to them as "Older" and

"Later". They have thus come to be generally so referred to in this district by operators in general. As a matter of fact both the older and later andesites are made up of a series of separate flows of closely related composition. The older andesite rests directly on the gneissoidal granite of the basal complex; the later andesite rests upon the eroded surface of the older andesite. The distinction is important from the fact that up to the present time no bodies of commercial ore have been found in the older andesite. On the contrary the productive horizon is found to lie either in the lower portion of the later andesite, termed by Schrader the "Green, chloritic andesite", or possibly in some cases above this horizon. From this it is apparent that one of the requisites for finding workable ores in this district is the presence of the so-called "later andesite". This is by no means the case over many parts of the district where it has been entirely scored away, or nearly so. Your property contains the later andesite.

Both the older and later andesites were subsequently broken and intruded by large bodies of rhyolite in the form of irregular plugs, necks and dykes. The deposition of the gold is believed to have accompanied and immediately followed this period of rhyolitic intrusion. In fact the gold appears to have come in with the rhyolite and been given off by it to the underground circulation. This in turn was greatly stimulated and sustained in motion by the heat given off by rhyolitic intrusives to the surrounding rocks. Under favorable conditions these gold-carrying waters built up deposits of ore along their flowage channels. The presence, therefore, of dykes or plugs of rhyolite in the vicinity of a vein cutting the later andesite is an important indication of possible ore-bodies to be found in such vein. Your property has many such dykes and plugs of rhyolite.

The productive and commercially important veins of this district were formerly fissures in the andesite resulting from a series of fault movements which dislocated the formation along lines striking north-westerly and south-westerly at varying angles. The fissures so formed dip generally to the north-east, and they all belong to a single system; cut the same rocks and, closely related in time, have been more or less affected by the same ore-making agencies in common. These fault fissures were formed prior to the incoming of the rhyolite, and accordingly afforded ready-made flowage channels for the gold-bearing, underground circulation which followed. The veins of a later origin, many of which are known, have not, thus far, been found to contain important commercial values in this locality. The prospective value for mining purposes of any property in this particular vicinity depends, accordingly, on whether or not it contains one or more veins of this

particular pre-rhyolite, north westerly striking and north-easterly dipping series. There are at least two such veins within the property lines of the group. One is the "Hammond" vein, formerly known as the Aztec vein, and the "Kokomo" vein. The former traverses the Gold Ranger and Aztec claims in the south half of the property; the latter extends through the full length of the C.O.D., Hobo., Kokomo, and Kokomo No. 1, claims forming the norther tier of the group. What has previously been said can be briefly condensed in the following statement:--- Your property contains at least two veins of the known productive series; they cut the full, original thickness of the later andesite in which the important ore-bodies of the camp occur, and they are accompanied by rhyolitic intrusives such as have, it is believed, been the original source of the gold found in this locality. All geological conditions therefore, are of the best and would, without additional evidence, give the ground a high prospective value. However, additional evidence of great importance is afforded by the development in adjacent and neighboring properties. This the writer will try to explain farther on.

The Kokomo Vein.

This is a well defined vein belonging to the productive series. It has a strike varying from N. 62°, W. to N. 87°, W. with dip at about 80° to the northeast. It has been opened by a shaft to the depth of 500 feet. At this point a crosscut was run north from the shaft 110 feet where the vein was encountered and a drift carried west following it. At first the values shown were low, ranging from a few cents to two or three dollars per ton, which corresponds well with the values found in the veins now producing elsewhere in the camp, from samples taken outside the limits of the ore-shoots, that is; from the relatively barren segments of the veins. When this drift had reached a point about 315 feet in, a sudden rise in the values obtained occurred. A distance, sampled along the vein, of twenty feet returned an average of \$22.79 per ton, for the samples taken. Regularly sampled for a distance of fifty-five feet, the average of all samples taken gave \$11.55 per ton. The samples were cut at five foot intervals in the regular manner. The vein at this point, however, was narrow. The ore-streak varying from sixteen inches to two and one-half feet in width. Drifting was accordingly carried ahead in the hope of reaching a point where the vein widened. The values again fell to the level of those obtained before the 315 foot point was reached and the work was suspended and has not since been resumed.

The writer believes that the \$11.55 and \$22.79 average values given above were taken from the apex of an ore-shoot lying below the 500' level and that when the proper depth has been reached, it will be found to become very much wider and possibly of better grade.

1
It was formerly believed that a depth of five hundred feet on the Kokomo vein at the point where the shaft has been sunk would be sufficient to reach any ore-shoots which were contained therein. Later developments in neighboring properties have shown this estimate to be in error. The evidence shows that all, or nearly all of the important ore-shoots in the mines of this portion of the district were reached at a horizon lying somewhere close to 2400 feet to 2500 feet above sea-level. This irrespective of the elevation of the collar of the shaft from which the ore was opened. The elevation of the collar of the Big Jim shaft is 2875 ft. above sea-level; that of the Aztec Center shaft 2860 ft. The collar of the Kokomo Shaft is at an elevation of 3375 ft. and the bottom of the shaft stands at 2875 ft. The Oatman Gold shaft, therefore, bottoms about on the level with the collars of both the Big Jim and Aztec Center shafts in both of which the ore-shoots come to within about 300 ft. below the surface, but do not continue above this point, as a rule. In the Aztec Center the ore continues up from the lowest working level until it encounters what is locally termed the "blue mud", a decomposed biotitic andesite, or latite of a character entirely distinct from the andesite within which the ore-shoots make. This undoubtedly represents an inhospitable member of the andesite series which overlies the lower, "green, chloritic andesite" of Schrader, and which is the most favored rock for the occurrence of ore in the veins of the district.

Whatever explanation be accepted, to account for the conditions just described, it is evident that to attain the level of the top of the ore-shoots in the Aztec Center and the Big Jim, Oatman Gold's near productive neighbors, the Oatman Gold, Kokomo shaft must be sunk another three to five hundred feet. (An inspection of the appended sketched cross-section will make this clear.) This among other considerations, which will be considered hereinafter, make it appear inadvisable to continue exploratory work through the Kokomo Shaft.

A large, irregular plug of rhyolite forms the south, or foot-wall of the Kokomo vein about the center of the Kokomo claim of the group. The vein is dislocated by a north-east by south-west fault which has heaved the west, or hanging-wall side of the fault sharply to the north-east through a distance of fifty feet or more, at the surface, but a less distance on the 500 ft level. Aside from this no serious dislocations of the vein are apparent at this time. Evidence of some strike faulting appears underground along the drifts in the form of a clay gouge showing the diagonal pressure striations characteristic of the movement of one wall upon the other. The workings make considerable water on the 500 ft. level, but the flow is not great and is a valuable asset for the future. The amount of this flow has not been determined.

The foregoing description is drawn from notes made on the ground by the writer prior to the suspension of work. At the present time the shaft is badly caved and filled with water up to a point about 300 feet below the collar, and is therefore inaccessible.

The writer advises the abandonment of this shaft for the present. The cost of cleaning it out and retimbering, necessitating as it would, the widening and enlarging of the shaft, would be nearly, if not quite as great as that of sinking a new shaft in a location much more favorable for economical operation. The present shaft is imperfectly suited for the development of the Kokomo vein, but not so for exploring the Hammond vein, which is of even greater promise than the Kokomo vein; nor for developing the very important area constituting the southern half of the group. Moreover the present shaft is cramped for room by the walls of the narrow canyon-like gulch containing it. It is situated at about the highest accessible elevation within the bounds of the property, making the delivery of supplies and the handling of materials to and from both difficult and expensive. It may later become useful as a ventilating shaft by connection with the new shaft.

The Hammond Vein.

This vein is one of the productive series previously referred to. It can be clearly traced on the surface and the outcrop strikes N, 26° to 36° , W., with north-easterly dip of about 85° . Standing on the west end of the Gold Ranger claim, this vein can be seen coming down the steep slope leading up to the high pinnacle known as the White Elephant to the gulch along which the road to the Kokomo shaft leads. Here it is covered by loose boulders but reappears again in two small open cuts close to the north side-line of the Aztec claim a hundred feet or so north-east of the cookhouse at the camp. To reach this point the vein must have traversed the south-west corner of the Gold Ranger claim close to the road referred to above. South-eastwardly it continues to the Oatman Fault showing in the Spring or Water Tunnel near the bunkhouse. This fault has broken and offset the Hammond vein, heaving the north-west side of the fault to the north-east a distance of three hundred feet more or less. The segment of the vein lying south-east of the fault then continues on towards the Oatman Combination, appearing in the latter property on a line considerably south-west of the shaft. The strike of the Hammond vein would seem to converge towards the vein now being worked in the Aztec Center claim of the Tom Reed Company, but the junction point would lie east of the south-east end-line of the Aztec Center, possible within the ground controlled by the United American Company. That these two veins unite in fact cannot at this time be certainly affirmed, though strongly indicated. (In this connection consult map of the locality accompanying this report.) As the vein, now being mined in the Aztec Center claim of the Tom Reed, is one of the

largest, most uniformly productive veins of the district, having a record of many millions of dollars in gross output, its junction with the Hammond, the two veins being simply separate branches of the same general line of fissuring, gives the latter a very high prospective value.

Westwardly, after leaving the Gold Ranger claim, the Hammond vein traverses the Gold Range claim of the United Oatman Company. It has been located on the 600 ft. level of this property in a drift extending east of the main working shaft to a point just south of and immediately under the Elephant's Tooth, or White Elephant as it is sometimes called. Here a body of ore has been encountered, the full extent of which has not been determined, which gave returns averaging \$11.20 per ton in gold. According to reports believed to be reliable the Oatman Combination which adjoins the Gold Ranger and Aztec claims on the east and north has broken into a body of ore in this same vein. The two properties just mentioned have the only deep development that has been made on the Hammond vein to date, both being successful in finding the ore. This is exceptionally strong evidence in favor of that part of this vein lying between the Oatman United and the Oatman Combination, being the segment contained in the Gold Ranger and Aztec claims of your Company's holdings. In this connection it is interesting to note that the collar of the working shaft on the United Oatman, or rather, the Oatman United, stands at an elevation of 2830 feet.

The Hammond vein follows along the south side of a north-westerly trending dyke of rhyolite of which the White Elephant is a part. Within the Gold Ranger and Aztec claims this dyke has been broken and offset by the Oatman Fault. This fault strikes very nearly east and west and has separated the two broken ends of the dyke through a horizontal distance approximating 300 feet. The north side of this fault has been heaved to the east. The Oatman Fault is post-mineral in respect to the Hammond vein and undoubtedly has broken and offset this in the same way that it has the dyke and will have to be reckoned with in any plan of development.

The rocks on either side of this fault appear to have been greatly sheared and crushed. The fault itself can be seen in the water tunnel just above the bunkhouse at the Company's Camp.

Another post-mineral fault occurs on the north side of the White Elephant dyke with a strike about 30° to 35° north-west and dipping towards the south-west. Its course is roughly parallel to the Hammond vein only a short distance to the south,--probably a hundred feet or so. It will cut both the dyke and the Hammond vein on its dip, displacing them in much the same way that the Mallery Fault of the Big Jim has affected the vein in that property. This fault I have termed the Oversight, since it is clearly shown in the saddle between the White Elephant and the steep, andesitic hill just north of it on the Oversight claim.

After the Hammond vein was formed the Oversight Fault occurred slicing off the upper part of the vein and dropping it down with more or less lateral displacement as well as vertical. Later came the Oatman Fault cutting across both the vein and Oversight Fault, offsetting both horizontally and dropping that part of the vein lying north of the Oatman Fault through a considerable vertical distance as well. The extent of this is not known at this time. The two sides of the Oatman Fault represent different geological horizons, that on the south side of the fault being the deeper. The practical bearing of this is that a shaft sunk on the south side of the fault will not have to go as deep to reach the ore-horizon as would one sunk north of the fault, such being the Kokomo shaft. The location of a new working shaft, to be later described, has been made in view of this consideration among others.

Aside from the faults mentioned, other lesser faults due to adjustments occasioned by the movement on the greater ones, have occurred. These have no regularity in either strike or dip. It is not believed that they will seriously affect the work of development.

The Hammond vein cuts the same sequence of rocks found in the Big Jim and Aztec Center, both of which are working the same vein which roughly parallels the Hammond vein a short distance to the south of it. The ore-occurrence in the Aztec Center--Big Jim Vein is probably due to the genetic influence of the White Elephant rhyolite dyke, inasmuch as this dyke is the only known rhyolitic intrusive thus far found in this immediate locality with the exception of a large plug of this rock lying still farther away and north of the White Elephant dyke. This is well exposed in the Hartman group of claims. Inasmuch as these rhyolitic intrusives appear to have been responsible for the ore-bodies in the Aztec Center and Big Jim vein, it is reasonable to believe that the Hammond vein, situated between the former and the White Elephant dyke, has been equally well, or even better favored in ore-disposition, the source of the gold in one vein being presumably the same in the other. This is simply what would naturally be expected on the theory that like causes operating under like conditions may be relied upon to result in like effects.

The cumulative evidence bearing upon the value of the Hammond vein for mining purposes, which has been drawn from the sources given above, is all but conclusive. It cannot be made stronger short of actually developed ore-bodies. For purposes of development a location for a new shaft has been selected by the writer, in the making of which all of the considerations previously enumerated are taken into account. They will be restated in what follows:

Proposed Shaft.

The location selected for the new working shaft is on the slightly raised, gently sloping bench just above the road leading to the Kokomo shaft, approximately 150 feet N, 65°, E, of the N, E, Cor, Gold Range Fraction belonging to the United Oatman Company. This is in the south-west corner of the Gold Ranger claim of your Company. It is just north of and a few hundred feet from the Company's camp. It is easily accessible; affords ample dumping facilities and the elevation at the collar of the shaft will be about 3000 feet. It is also favorably situated for the delivery of ore to a treatment plant or mill for which the ground lying immediately to the south-west is well suited. This will cover a portion of the west end of the Aztec claim. Being close in to the camp, a long and tiresome climb on the part of the miners is avoided such as was necessary in working through the Kokomo shaft. In addition to this supplies and deliveries of all kinds can be made to this shaft at a cost appreciably lower than to the Kokomo shaft, resulting in a great saving in operating costs. Development through this new shaft can be carried on at an operating cost at least one-fourth less than would be entailed in operations through the Kokomo Shaft. It will accordingly be understood that the important economic conditions affecting operations are very much in favor of the new proposed location. This is also true in respect to that portion of the Company's property which it is proposed to develop in this manner. The writer considers the Kokomo vein as a very important and promising one for development. He believes that the apex of an important ore-shoot has been cut in the 500 ft. level of the Kokomo shaft and that it affords all the encouragement for further exploration that can reasonably be asked. But the work that would be done on the Kokomo vein would not develop the even more promising Hammond vein, nor prove the value of, what the writer believes to be the most important and really the largest part of the Company's property. A glance at the map will make it apparent that the territory contained within the external boundaries of the property falls naturally into two separate and distinct groups of claims which should be, and can only be developed as separate enterprises. Both of these are of great promise, but the Gold Ranger--Aztec group, compared to what may be called the Kokomo group, is the better of the two on present showing. It should, therefore, be developed first. Later the two groups can be connected underground if conditions are found to warrant as the writer thinks highly probable.

The Hammond vein has been opened in ore in two places; one on the vein west and one on the vein east of the segment lying within the Gold Ranger and Aztec claims. It appears to be a branch of one of the largest and most highly productive veins of the district. This is the Aztec-Big Jim vein. It contains the same formation found in the last named vein and has been undoubtedly acted upon by the same mineralizing influences

which have made its ore-bodies. The horizon within which these ore-bodies lie will be reached in sinking the proposed shaft to a depth of considerably less than 500 feet, whereas, the Kokomo shaft must be sunk as much or more below its present lowest level to gain the same horizon and would require to be entirely reconstructed in order to do this. The rehabilitation of the Kokomo shaft would cost nearly or quite as much as the proposed shaft will cost.

By transferring and using the machinery and equipment now on the Kokomo shaft, the new shaft should be sunk for between thirty and forty dollars per vertical foot including timbering and cutting stations. Crosscutting and drifting from this shaft should cost in the vicinity of fifteen dollars per lineal foot. By reason of the present instability in the prices of materials and labor scale, no more definite figures can be given at this time. The tendency is, however, towards lowering the present costs generally.

The proposed new shaft will be located close to but not on the Hammond vein. Its position on the north-east side of this vein is such that the vein will approach the shaft, as depth is gained, by reason of the dip, and possibly intercept it in the deeper levels, so that a minimum of crosscutting will be required.

Development may be carried forward from the proposed shaft into the ground covered by the Aztec, North Aztec and Gold Ranger claims by crosscuts and laterals driven in a southerly direction; command of the Oversight and South Oversight claims by crosscut to the north.

Recapitulation.

The deposits of gold ore in the Oatman district occur in veins of a particular system characterized by north-westerly strike and north easterly dip.

The ore-shoots are found in what is locally known as the "later andesite" and especially in the lower portion of it called the "green, chloritic Andesite" by Schrader. The later andesite has been scored away over a large part of the area embraced within the district; is partially removed in other places and is left in its original thickness,--1000' to 1500' or more,--in other localities.

The origin of the gold is believed to have been connected with the intrusion of plugs and dykes of rhyolite. The rhyolite dykes correspond to the veins in trend, and frequently form one wall of a vein for considerable distance. In all of the known productive veins, rhyolite is either present in one wall or a dyke of it runs more or less parallel with the vein

and at no great distance from it,---a few hundred feet at the most, and generally much less than this.

All of these favoring conditions are present in connection with the veins in the Company's ground, both the Hammond and the Kokomo veins.

The Oatman United on the west; the Aztec Center and Big Jim on the south and the Oatman Combination on the east of the Oatman Gold have all located the ore and are either working or preparing to work it.

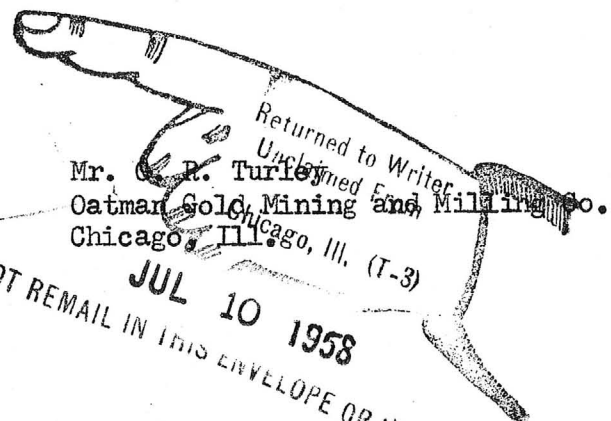
The apex of an ore-shoot is believed to have been cut in the Kokomo vein within the Company's ground, in the 500' level of the workings extending from a shaft now caved and inaccessible, for which reason its abandonment for the present is advised. The gold values obtained are correct and personally investigated by the writer.

Bodies of gold ore carrying commercial values have been located in the Hammond vein in its extensions east and west of the part which lies within the Oatman Gold, both occurrences being in adjoining properties. Proximity to the several discoveries now being profitably worked in near by properties, other than the two just enumerated, proves the locality to have been especially favored with ore-deposition, and unquestionably gives a high prospective value to the Hammond vein which traverses the Gold Ranger and Aztec claims belonging to your Company.

All conditions are exceptionally favorable for the development of this part of the property. This can be accomplished with less work and expense by means of the proposed new shaft, and with a larger assurance of success than that afforded by the Kokomo shaft. The writer accordingly strongly advises that this plan be followed. If this is done and the work intelligently directed, it is the writer's conviction that you will be rewarded with one of the camp's great and profitable gold mines.

Respectfully,

Edward W. Brooks
Mining Geologist and Engineer.



Returned to Writer
Unclaimed Envelope
JUL 10 1958
DO NOT REMAIL IN THIS ENVELOPE OR WRAPPER

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

To the Owner or Operator of the Arizona Mining Property named below:

Oatman Gold Mine & Mill (Mohave Co.)	Gold
(Property)	(ore)

We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

Frank P. Knight

FRANK P. KNIGHT,
Director.

Enc: Mine Owner's Report

May 27, 1957

No information on this property.

MARK GEMMILL



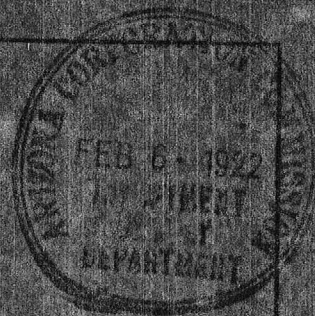
THE MINING JOURNAL
June 30, 1929 p 35

REPORT
ON
PROPERTY
OF THE

OATMAN GOLD MINING & MILLING CO.

JUNE 30TH, 1921

BY
EDWARD W. BROOKS
MINING GEOLOGIST AND ENGINEER
LOS ANGELES, CALIFORNIA



June 30th, 1921.

To the President and
Board of Directors of the
OATMAN GOLD MINING AND MILLING CO.
Chicago, Ills.

Gentlemen:-

Complying with your letter of instructions under date of May 18th, ult., and signed by your Mr. Geo. R. Turley, I have examined the property of your Company situated in the Oatman Mining District, Mohave County, Arizona. This work was undertaken on June 10th, and has continued up to the present time.

The purpose of this examination was to make a comprehensive survey of the physical condition of the property; to study its geology and vein-structure in the light of recent developments; to determine, so far as possible, its relations with respect to neighboring and contiguous properties already, or about to become, important producers. All this with a view to deciding upon the proper location and character of development best suited to the exploration of the Company's ground.

This involved, not only close investigation of the area contained within the property-lines, but a study of the maps and workings of contiguous properties, so far as these were available to me, including considerable time spent underground. For this I am indebted to Mr. Charles F. Pugh, Manager of the Alcyone Mines Co. Mr. Hammond, Superintendent of the Oatman United Co. Mr. Moore, Superintendent of the United Eastern Co. and especially to Mr. W.B. Phelps, Superintendent of the Tom Reed Co. with whom I spent a very interesting and instructive day in the underground workings of the Aztec Center and adjacent claims, now prominent producers. The position of the latter with respect to the Company's property can be appreciated by consulting a map of the locality accompanying this report. Through the courtesy of Mr. Phelps the writer was enabled to inspect and study the local system of faulting as revealed in the technical investigations of Mr. Hershey, Mr. Winchell and others, all geologists of national repute, supplemented by the recent studies of Mr. F. L. Ransome, present head of the Department of Economic Geology, of the U. S. Geological Survey. I am also under obligation to Mr. Herman Zulch, who supplied valuable information connected with his survey of the properties in this locality, both surface and underground, in connection with the recent apex litigation between the Tom Reed and the United Eastern Companies, involving title to the ore-bodies discovered in the Big Jim claim.

Location.

The property under consideration is situated about one mile east, by south-east, of the town of Oatman with which it is connected by a good road over which motor vehicles are daily driven. The elevation of the town is about 2700 feet; that at the camp on the property 3000 feet above sea-level. The elevation, however, varies greatly within the area contained within the property-lines, inasmuch as the group lies well up on the westerly flank of the Black Range where steep and frequently abrupt slopes are common. On the whole it is very favorably situated for development in respect to the matter of transportation.

The position occupied by your Company's group of claims in relation to surrounding properties will be best understood by reference to map accompanying, noting particularly the locations of the Oatman United, Big Jim, Oatman Combination and Tom Reed claims, especially the Aztec Center, Monarch and Grey Eagle claims of the last named company. About three-quarters of a mile north-westerly from your property is the Gold Road Mine, the camp's earliest and one of its most important producers. This is not shown on the accompanying map. The "Oatman Gold" may, therefore, be considered as centrally situated within the proved productive territory of the district.

Descriptive Geology.

The formation is made up predominantly of rocks of volcanic origin extruded in late Tertiary times. These rest upon an ancient, greatly eroded land surface composed of rocks assigned to Pre-Cambrian age which constitute the great basement series of the entire South-west. Locally these basal rocks are made up of gneissoidal granite containing many later, igneous intrusives.

The volcanics comprise thick bedded flows of andesites of different periods, many rhyolitic flows and intrusives and rhyolitic tuffs and breccias together with eruptive rocks of intermediate composition such as trachyte and latite. All of these were later buried under a great outpouring of basalt which caps the volcanic series. All of these rocks have been greatly eroded; some of them during intervals in the eruptive period, so that now only a relatively small part of the great area formerly covered by them remains intact in original sequence. They have also suffered extensive and intricate dislocation through faulting, crustal movements, operating on a large scale.

The earliest recognizable flows consist of andesite. For convenience in description Schrader has divided this andesite into two distinct periods separated by an erosion interval. In his report to the U.S. Geological Survey, he refers to them as "Older" and

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"Later". They have thus come to be generally so referred to in this district by operators in general. As a matter of fact both the older and later andesites are made up of a series of separate flows of closely related composition. The older andesite rests directly on the gneissoidal granite of the basal complex; the later andesite rests upon the eroded surface of the older andesite. The distinction is important from the fact that up to the present time no bodies of commercial ore have been found in the older andesite. On the contrary the productive horizon is found to lie either in the lower portion of the later andesite, termed by Schrader the "Green, chloritic andesite", or possibly in some cases above this horizon. From this it is apparent that one of the requisites for finding workable ores in this district is the presence of the so-called "later andesite". This is by no means the case over many parts of the district where it has been entirely scored away, or nearly so. Your property contains the later andesite.

Both the older and later andesites were subsequently broken and intruded by large bodies of rhyolite in the form of irregular plugs, necks and dykes. The deposition of the gold is believed to have accompanied and immediately followed this period of rhyolitic intrusion. In fact the gold appears to have come in with the rhyolite and been given off by it to the underground circulation. This in turn was greatly stimulated and sustained in motion by the heat given off by rhyolitic intrusives to the surrounding rocks. Under favorable conditions these gold-carrying waters built up deposits of ore along their flowage channels. The presence, therefore, of dykes or plugs of rhyolite in the vicinity of a vein cutting the later andesite is an important indication of possible ore-bodies to be found in such vein. Your property has many such dykes and plugs of rhyolite.

The productive and commercially important veins of this district were formerly fissures in the andesite resulting from a series of fault movements which dislocated the formation along lines striking north-westerly and south-westerly at varying angles. The fissures so formed dip generally to the north-east, and they all belong to a single system; cut the same rocks and, closely related in time, have been more or less affected by the same ore-making agencies in common. These fault fissures were formed prior to the incoming of the rhyolite, and accordingly afforded ready-made flowage channels for the gold-bearing, underground circulation which followed. The veins of a later origin, many of which are known, have not, thus far, been found to contain important commercial values in this locality. The prospective value for mining purposes of any property in this particular vicinity depends, accordingly, on whether or not it contains one or more veins of this

particular pre-rhyolite, north westerly striking and north-easterly dipping series. There are at least two such veins within the property lines of the group. One is the "Hammond" vein, formerly known as the Aztec vein, and the "Kokomo" vein. The former traverses the Gold Ranger and Aztec claims in the south half of the property; the latter extends through the full length of the C.O.D., Hobo., Kokomo, and Kokomo No. 1, claims forming the norther tier of the group. What has previously been said can be briefly condensed in the following statement:--- Your property contains at least two veins of the known productive series; they cut the full, original thickness of the later andesite in which the important ore-bodies of the camp occur, and they are accompanied by rhyolitic intrusives such as have, it is believed, been the original source of the gold found in this locality. All geological conditions therefore, are of the best and would, without additional evidence, give the ground a high prospective value. However, additional evidence of great importance is afforded by the development in adjacent and neighboring properties. This the writer will try to explain farther on.

The Kokomo Vein.

This is a well defined vein belonging to the productive series. It has a strike varying from N. 62°, W. to N. 87°, W. with dip at about 80° to the northeast. It has been opened by a shaft to the depth of 500 feet. At this point a crosscut was run north from the shaft 110 feet where the vein was encountered and a drift carried west following it. At first the values shown were low, ranging from a few cents to two or three dollars per ton, which corresponds well with the values found in the veins now producing elsewhere in the camp, from samples taken outside the limits of the ore-shoots, that is; from the relatively barren segments of the veins. When this drift had reached a point about 315 feet in, a sudden rise in the values obtained occurred. A distance, sampled along the vein, of twenty feet returned an average of \$22.79 per ton, for the samples taken. Regularly sampled for a distance of fifty-five feet, the average of all samples taken gave \$11.55 per ton. The samples were cut at five foot intervals in the regular manner. The vein at this point, however, was narrow. The ore-streak varying from sixteen inches to two and one-half feet in width. Drifting was accordingly carried ahead in the hope of reaching a point where the vein widened. The values again fell to the level of those obtained before the 315 foot point was reached and the work was suspended and has not since been resumed.

The writer believes that the \$11.55 and \$22.79 average values given above were taken from the apex of an ore-shoot lying below the 500' level and that when the proper depth has been reached, it will be found to become very much wider and possibly of better grade.

It was formerly believed that a depth of five hundred feet on the Kokomo vein at the point where the shaft has been sunk would be sufficient to reach any ore-shoots which were contained therein. Later developments in neighboring properties have shown this estimate to be in error. The evidence shows that all, or nearly all of the important ore-shoots in the mines of this portion of the district were reached at a horizon lying somewhere close to 2400 feet to 2500 feet above sea-level. This irrespective of the elevation of the collar of the shaft from which the ore was opened. The elevation of the collar of the Big Jim shaft is 2875 ft. above sea-level; that of the Aztec Center shaft 2860 ft. The collar of the Kokomo Shaft is at an elevation of 3375 ft. and the bottom of the shaft stands at 2875 ft. The Oatman Gold shaft, therefore, bottoms about on the level with the collars of both the Big Jim and Aztec Center shafts in both of which the ore-shoots come to within about 300 ft. below the surface, but do not continue above this point, as a rule. In the Aztec Center the ore continues up from the lowest working level until it encounters what is locally termed the "blue mud", a decomposed biotitic andesite, or latite of a character entirely distinct from the andesite within which the ore-shoots make. This undoubtedly represents an inhospitable member of the andesite series which overlies the lower, "green, chloritic andesite" of Schrader, and which is the most favored rock for the occurrence of ore in the veins of the district.

Whatever explanation be accepted, to account for the conditions just described, it is evident that to attain the level of the top of the ore-shoots in the Aztec Center and the Big Jim, Oatman Gold's near productive neighbors, the Oatman Gold, Kokomo shaft must be sunk another three to five hundred feet. (An inspection of the appended sketched cross-section will make this clear.) This among other considerations, which will be considered hereinafter, make it appear inadvisable to continue exploratory work through the Kokomo Shaft.

A large, irregular plug of rhyolite forms the south, or foot-wall of the Kokomo vein about the center of the Kokomo claim of the group. The vein is dislocated by a north-east by south-west fault which has heaved the west, or hanging-wall side of the fault sharply to the north-east through a distance of fifty feet or more, at the surface, but a less distance on the 500 ft level. Aside from this no serious dislocations of the vein are apparent at this time. Evidence of some strike faulting appears underground along the drifts in the form of a clay gouge showing the diagonal pressure striations characteristic of the movement of one wall upon the other. The workings make considerable water on the 500 ft. level, but the flow is not great and is a valuable asset for the future. The amount of this flow has not been determined.

The foregoing description is drawn from notes made on the ground by the writer prior to the suspension of work. At the present time the shaft is badly caved and filled with water up to a point about 300 feet below the collar, and is therefore inaccessible.

The writer advises the abandonment of this shaft for the present. The cost of cleaning it out and retimbering, necessitating as it would, the widening and enlarging of the shaft, would be nearly, if not quite as great as that of sinking a new shaft in a location much more favorable for economical operation. The present shaft is imperfectly suited for the development of the Kokomo vein, but not so for exploring the Hammond vein, which is of even greater promise than the Kokomo vein; nor for developing the very important area constituting the southern half of the group. Moreover the present shaft is cramped for room by the walls of the narrow canyon-like gulch containing it. It is situated at about the highest accessible elevation within the bounds of the property, making the delivery of supplies and the handling of materials to and from both difficult and expensive. It may later become useful as a ventilating shaft by connection with the new shaft.

The Hammond Vein.

This vein is one of the productive series previously referred to. It can be clearly traced on the surface and the outcrop strikes N, 26° to 36° , W., with north-easterly dip of about 85° . Standing on the west end of the Gold Ranger claim, this vein can be seen coming down the steep slope leading up to the high pinnacle known as the White Elephant to the gulch along which the road to the Kokomo shaft leads. Here it is covered by loose boulders but reappears again in two small open cuts close to the north side-line of the Aztec claim a hundred feet or so north-east of the cookhouse at the camp. To reach this point the vein must have traversed the south-west corner of the Gold Ranger claim close to the road referred to above. South-eastwardly it continues to the Oatman Fault showing in the Spring or Water Tunnel near the bunkhouse. This fault has broken and offset the Hammond vein, heaving the north-west side of the fault to the north-east a distance of three hundred feet more or less. The segment of the vein lying south-east of the fault then continues on towards the Oatman Combination, appearing in the latter property on a line considerably south-west of the shaft. The strike of the Hammond vein would seem to converge towards the vein now being worked in the Aztec Center claim of the Tom Reed Company, but the junction point would lie east of the south-east end-line of the Aztec Center, possible within the ground controlled by the United American Company. That these two veins unite in fact cannot at this time be certainly affirmed, though strongly indicated. (In this connection consult map of the locality accompanying this report.) As the vein, now being mined in the Aztec Center claim of the Tom Reed, is one of the

largest, most uniformly productive veins of the district, having a record of many millions of dollars in gross output, its junction with the Hammond, the two veins being simply separate branches of the same general line of fissuring, gives the latter a very high prospective value.

Westwardly, after leaving the Gold Ranger claim, the Hammond vein traverses the Gold Range claim of the United Oatman Company. It has been located on the 600 ft. level of this property in a drift extending east of the main working shaft to a point just south of and immediately under the Elephant's Tooth, or White Elephant as it is sometimes called. Here a body of ore has been encountered, the full extent of which has not been determined, which gave returns averaging \$11.20 per ton in gold. According to reports believed to be reliable the Oatman Combination which adjoins the Gold Ranger and Aztec claims on the east and north has broken into a body of ore in this same vein. The two properties just mentioned have the only deep development that has been made on the Hammond vein to date, both being successful in finding the ore. This is exceptionally strong evidence in favor of that part of this vein lying between the Oatman United and the Oatman Combination, being the segment contained in the Gold Ranger and Aztec claims of your Company's holdings. In this connection it is interesting to note that the collar of the working shaft on the United Oatman, or rather, the Oatman United, stands at an elevation of 2830 feet.

The Hammond vein follows along the south side of a north-westerly trending dyke of rhyolite of which the White Elephant is a part. Within the Gold Ranger and Aztec claims this dyke has been broken and offset by the Oatman Fault. This fault strikes very nearly east and west and has separated the two broken ends of the dyke through a horizontal distance approximating 300 feet. The north side of this fault has been heaved to the east. The Oatman Fault is post-mineral in respect to the Hammond vein and undoubtedly has broken and offset this in the same way that it has the dyke and will have to be reckoned with in any plan of development.

The rocks on either side of this fault appear to have been greatly sheared and crushed. The fault itself can be seen in the water tunnel just above the bunkhouse at the Company's Camp.

Another post-mineral fault occurs on the north side of the White Elephant dyke with a strike about 30° to 35° north-west and dipping towards the south-west. Its course is roughly parallel to the Hammond vein only a short distance to the south,--probably a hundred feet or so. It will cut both the dyke and the Hammond vein on its dip, displacing them in much the same way that the Mallery Fault of the Big Jim has affected the vein in that property. This fault I have termed the Oversight, since it is clearly shown in the saddle between the White Elephant and the steep, andesitic hill just north of it on the Oversight claim.

After the Hammond vein was formed the Oversight Fault occurred slicing off the upper part of the vein and dropping it down with more or less lateral displacement as well as vertical. Later came the Oatman Fault cutting across both the vein and Oversight Fault, offsetting both horizontally and dropping that part of the vein lying north of the Oatman Fault through a considerable vertical distance as well. The extent of this is not known at this time. The two sides of the Oatman Fault represent different geological horizons, that on the south side of the fault being the deeper. The practical bearing of this is that a shaft sunk on the south side of the fault will not have to go as deep to reach the ore-horizon as would one sunk north of the fault, such being the Kokomo shaft. The location of a new working shaft, to be later described, has been made in view of this consideration among others.

Aside from the faults mentioned, other lesser faults due to adjustments occasioned by the movement on the greater ones, have occurred. These have no regularity in either strike or dip. It is not believed that they will seriously affect the work of development.

The Hammond vein cuts the same sequence of rocks found in the Big Jim and Aztec Center, both of which are working the same vein which roughly parallels the Hammond vein a short distance to the south of it. The ore-occurrence in the Aztec Center--Big Jim Vein is probably due to the genetic influence of the White Elephant rhyolite dyke, inasmuch as this dyke is the only known rhyolitic intrusive thus far found in this immediate locality with the exception of a large plug of this rock lying still farther away and north of the White Elephant dyke. This is well exposed in the Hartman group of claims. Inasmuch as these rhyolitic intrusives appear to have been responsible for the ore-bodies in the Aztec Center and Big Jim vein, it is reasonable to believe that the Hammond vein, situated between the former and the White Elephant dyke, has been equally well, or even better favored in ore-disposition, the source of the gold in one vein being presumably the same in the other. This is simply what would naturally be expected on the theory that like causes operating under like conditions may be relied upon to result in like effects.

The cumulative evidence bearing upon the value of the Hammond vein for mining purposes, which has been drawn from the sources given above, is all but conclusive. It cannot be made stronger short of actually developed ore-bodies. For purposes of development a location for a new shaft has been selected by the writer, in the making of which all of the considerations previously enumerated are taken into account. They will be restated in what follows:

Proposed Shaft.

The location selected for the new working shaft is on the slightly raised, gently sloping bench just above the road leading to the Kokomo shaft, approximately 150 feet N, 65°, E, of the N, E, Cor, Gold Range Fraction belonging to the United Oatman Company. This is in the south-west corner of the Gold Ranger claim of your Company. It is just north of and a few hundred feet from the Company's camp. It is easily accessible; affords ample dumping facilities and the elevation at the collar of the shaft will be about 3000 feet. It is also favorably situated for the delivery of ore to a treatment plant or mill for which the ground lying immediately to the south-west is well suited. This will cover a portion of the west end of the Aztec claim. Being close in to the camp, a long and tiresome climb on the part of the miners is avoided such as was necessary in working through the Kokomo shaft. In addition to this supplies and deliveries of all kinds can be made to this shaft at a cost appreciably lower than to the Kokomo shaft, resulting in a great saving in operating costs. Development through this new shaft can be carried on at an operating cost at least one-fourth less than would be entailed in operations through the Kokomo Shaft. It will accordingly be understood that the important economic conditions affecting operations are very much in favor of the new proposed location. This is also true in respect to that portion of the Company's property which it is proposed to develop in this manner. The writer considers the Kokomo vein as a very important and promising one for development. He believes that the apex of an important ore-shoot has been cut in the 500 ft. level of the Kokomo shaft and that it affords all the encouragement for further exploration that can reasonably be asked. But the work that would be done on the Kokomo vein would not develop the even more promising Hammond vein, nor prove the value of, what the writer believes to be the most important and really the largest part of the Company's property. A glance at the map will make it apparent that the territory contained within the external boundaries of the property falls naturally into two separate and distinct groups of claims which should be, and can only be developed as separate enterprises. Both of these are of great promise, but the Gold Ranger--Aztec group, compared to what may be called the Kokomo group, is the better of the two on present showing. It should, therefore, be developed first. Later the two groups can be connected underground if conditions are found to warrant as the writer thinks highly probable.

The Hammond vein has been opened in ore in two places; one on the vein west and one on the vein east of the segment lying within the Gold Ranger and Aztec claims. It appears to be a branch of one of the largest and most highly productive veins of the district. This is the Aztec-Big Jim vein. It contains the same formation found in the last named vein and has been undoubtedly acted upon by the same mineralizing influences

which have made its ore-bodies. The horizon within which these ore-bodies lie will be reached in sinking the proposed shaft to a depth of considerably less than 500 feet, whereas, the Kokomo shaft must be sunk as much or more below its present lowest level to gain the same horizon and would require to be entirely reconstructed in order to do this. The rehabilitation of the Kokomo shaft would cost nearly or quite as much as the proposed shaft will cost.

By transferring and using the machinery and equipment now on the Kokomo shaft, the new shaft should be sunk for between thirty and forty dollars per vertical foot including timbering and cutting stations. Crosscutting and drifting from this shaft should cost in the vicinity of fifteen dollars per lineal foot. By reason of the present instability in the prices of materials and labor scale, no more definite figures can be given at this time. The tendency is, however, towards lowering the present costs generally.

The proposed new shaft will be located close to but not on the Hammond vein. Its position on the north-east side of this vein is such that the vein will approach the shaft, as depth is gained, by reason of the dip, and possibly intercept it in the deeper levels, so that a minimum of crosscutting will be required.

Development may be carried forward from the proposed shaft into the ground covered by the Aztec, North Aztec and Gold Ranger claims by crosscuts and laterals driven in a southerly direction; command of the Oversight and South Oversight claims by crosscut to the north.

Recapitulation.

The deposits of gold ore in the Oatman district occur in veins of a particular system characterized by north-westerly strike and north easterly dip.

The ore-shoots are found in what is locally known as the "later andesite" and especially in the lower portion of it called the "green, chloritic Andesite" by Schrader. The later andesite has been scored away over a large part of the area embraced within the district; is partially removed in other places and is left in its original thickness, --1000' to 1500' or more, --in other localities.

The origin of the gold is believed to have been connected with the intrusion of plugs and dykes of rhyolite. The rhyolite dykes correspond to the veins in trend, and frequently form one wall of a vein for considerable distance. In all of the known productive veins, rhyolite is either present in one wall or a dyke of it runs more or less parallel with the vein

and at no great distance from it,---a few hundred feet at the most, and generally much less than this.

All of these favoring conditions are present in connection with the veins in the Company's ground, both the Hammond and the Kokomo veins.

The Oatman United on the west; the Aztec Center and Big Jim on the south and the Oatman Combination on the east of the Oatman Gold have all located the ore and are either working or preparing to work it.

The apex of an ore-shoot is believed to have been cut in the Kokomo vein within the Company's ground, in the 500' level of the workings extending from a shaft now caved and inaccessible, for which reason its abandonment for the present is advised. The gold values obtained are correct and personally investigated by the writer.

Bodies of gold ore carrying commercial values have been located in the Hammond vein in its extensions east and west of the part which lies within the Oatman Gold, both occurrences being in adjoining properties. Proximity to the several discoveries now being profitably worked in near by properties, other than the two just enumerated, proves the locality to have been especially favored with ore-deposition, and unquestionably gives a high prospective value to the Hammond vein which traverses the Gold Ranger and Aztec claims belonging to your Company.

All conditions are exceptionally favorable for the development of this part of the property. This can be accomplished with less work and expense by means of the proposed new shaft, and with a larger assurance of success than that afforded by the Kokomo shaft. The writer accordingly strongly advises that this plan be followed. If this is done and the work intelligently directed, it is the writer's conviction that you will be rewarded with one of the camp's great and profitable gold mines.

Respectfully,

Edward W. Brooks
Mining Geologist and Engineer.

Americana Buys Mine, Plans Multi-Purpose Mill.

Americana Investments, Inc. has purchased the former Tom Reed Gold Mining Co. properties in the Catman Mining District of Mohave County from the Sawyer Petroleum Co. Included are 900 acres of rugged mountain country, several former producing mines and other assets.

Americana program calls for immediate construction of a unique 1000 ton multi-purpose cyanide mill to process the estimated 1,250,000 tons of tailings in the huge dump deposited during operations of the Tom Reed mill from 1904 to 1939. Sawyer retains an interest in the tailings.

Americana president Leland H. Wiscombe said the new mill, which he helped to design, will handle 1000 tpd tailings, 300 tpd raw ore, or both tailings and ore together. He said it will be the largest gold and silver concentrating mill in northern Arizona.

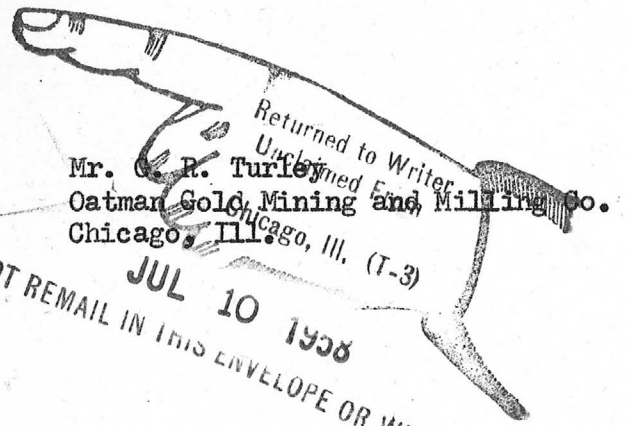
Charles H. Dunning will be the consulting engineer on mining projects. The first project will be the White Chief mine, scheduled for development during the next year. Tailings only will be milled until the mine goes on stream. The White Chief is owned by the Triumph Mining Co. which recently signed a five-year lease-purchase contract with Americana.

W.J. Nault of the Techmanix Corp., Newburgh, N.Y. co-designer of the mill, is serving as consulting metallurgist and mill technician.

The group decided to put up the mill after three months of extensive tests and studies, including drill sampling of the tailing dump. Wiscombe said mill records and assays indicate about \$3 million in gold may remain in the dump, much of it in solution and cyanided.

The purchase covers 49 patented claims, including some well known mines which produced millions in gold but which have been under water since the federal mine closing order of 1942. In addition to the Tom Reed mine, Americana now owns the Black Eagle, Grey Eagle, Astas, Olla Catman, Big Jim and Gold Ore mines. Wiscombe said some may still contain profitable ore, but no plans for de-watering are in view at present.

Taken from E & M J - Dec. 1962



Mr. C. R. Turley
Oatman Gold Mining and Milling Co.
Chicago, Ill. Chicago, Ill. (T-3)

JUL 10 1958

DO NOT REMAIN IN THIS ENVELOPE OR WRAPPER

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

To the Owner or Operator of the Arizona Mining Property named below:

Oatman Gold Mine & Mill (Mohave Co.)

Gold

(Property)

(ore)

We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

Frank P. Knight

FRANK P. KNIGHT,
Director.

Enc: Mine Owner's Report