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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 09/05/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: UNITED EASTERN

ALTERNATE NAMES:

MOHAVE COUNTY MILS NUMBER: 25C

LOCATION: TOWNSHIP 19 N RANGE 20 W SECTION 14 QUARTER SW
LATITUDE: N 35DEG 01MIN 46SEC LONGITUDE: W 114DEG 22MIN 59SEC
TOPO MAP NAME: OATMAN - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
GOLD LODE
SILVER
BERYLLIUM

BIBLIOGRAPHY:
ADMMR UNITED EASTERN FILE
ADMMR HOUSEHOLDER MAP
RANSOME, F.L. "GEO. OF OATMAN GOLD DIST,AZ" USGS BULL 743, P 5-8,41-44, MAP; 1923
WILSON, E.D. "AZ LODE GOLD MINES" AZBM BULL 137, P. 92; 1967
LAUSEN, C. "GEO. & ORE DPSTS OF OATMAN & KATH ERINE DIST,AZ" AZBM BULL 131, P 104-6
SCHRADER, F.C. AIME TRANS, 1917, P. 224-225
GARDNER, E.D. "GOLD MNG & MLLNG IN BLCK MTNS, AZ" USBM IC 6901 P. 23-30; 1936
WARNER, L. ET AL "OCCUR OF NONPEGMATITE BERLY IN US" USGS PP 318, P 102-103; 1959
ADMMR MOHAVE CUSTOM MILL PROJECT
"MINERAL & WATER RESOURCES OF AZ" AZBM BULL 180 P 261; 1969
AZ. STATE MINE INSP. 13TH ANL RPT. P 10, 16
AZ. STATE MINE INSP. 10TH ANL RPT. P 7, 17
AZ. STATE MINE INSP. 9TH ANL RPT. P 9, 14
MALACH, R. "ADVENTURER-JOHN MOSS" P. 7; 1977
MALACH, R. "MOH. CO. PLACE NAMES" P 32; 1976
RABB, D. "REC. OF METAL VALUES PRIOR TO RECLA MATION MND AREAS IN SW" (ADMMR GEOLOGY FILE)
MINING WORLD, FEB. 1963, P. 31

CONTINUED ON NEXT PAGE

CONTINUATION OF UNITED EASTERN

AZ MNG JNL VOL. V. NO. 16, 1/15/22, P. 17
AZ MNG JNL 3-18, P. 21-22; 9/17 P 22; 12/17
P 20,21; 6/19 P 60,80; 3/18 P 21; 4/18 P 24;
7/19 P 27; 12/19 P 32; 1/20 P 41; 2/20 P 36;
3/20 P 16; 4/20 P 43, 60; 3/15/21 P 13; 5/18
P 28,25; 12/1/21 P 16; 1/1/22 P 24; 1/15/22
"1984 FALL FLD TRP, STRUCT & MINERAL,AZ" P 66
ADDITIONAL WORKING SEC. 15-E2, SEC. 23-NE

10/08/85

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

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COMMODITY:
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SILVER-COPRODUCT
BERYLLIUM-BYPRODUCT

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MALACH, R. "MOH. CO. PLACE NAMES" P 32; 1976
RABB, D. "REC. OF METAL VALUES PRIOR TO RECLAMATION MND AREAS IN SW" (ADMMR GEOLOGY FILE)
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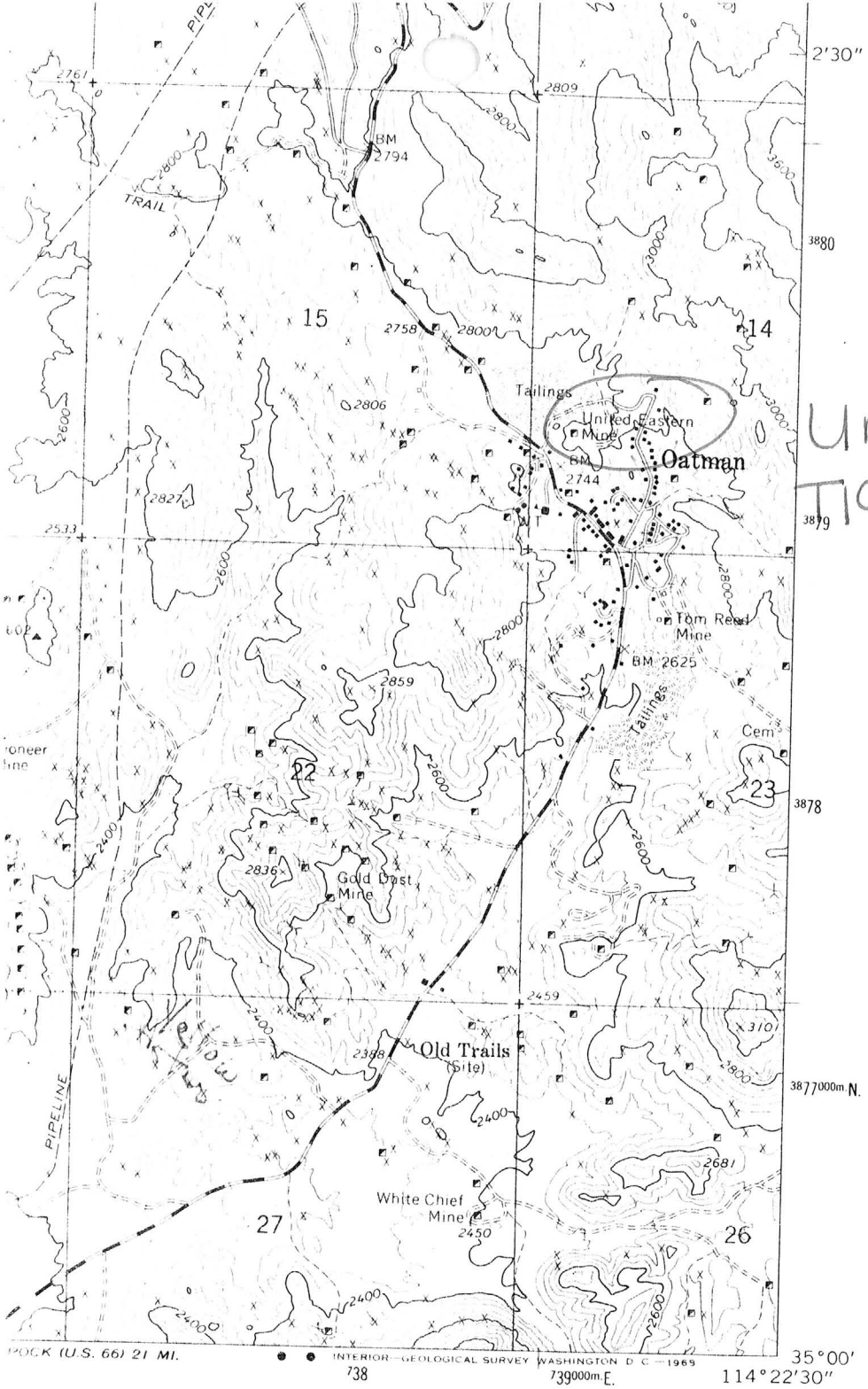
AZ MNG JNL 3-18, P. 21-22; 9/17 P 22; 12/17 P 20,21; 6/19 P 60,80; 3/18 P 21; 4/18 P 24; 7/19 P 27; 12/19 P 32; 1/20 P 41; 2/20 P 36; 3/20 P 16; 4/20 P 43, 60; 3/15/21 P 13; 5/18 P 28,25; 12/1/21 P 16; 1/1/22 P 24; 1/15/22
"1984 FALL FLD TRP, STRUCT & MINERAL,AZ" P 66
ADDITIONAL WORKING SEC. 15-E2, SEC. 23-NE
MAPS - UPSTAIRS IN ABM ROLLED FILE BOXES - MAPS INCLUDE ASSAYS, PLANS, LONGITUDINAL AND VERTICAL SECTIONS OF THE SHAFTS, DRILL HOLE INFORMATION - SEVERAL MAPS
Az. GEOLOGICAL SOCIETY DIGEST VOL. 15, 1984, p. 141



United Eastern
T19N R20W Sec. 14 SW

ROAD CLASSIFICATION

Medium-duty ——— Light-duty ———

Unimproved dirt - - - - - -

51-D

OATMAN, ARIZ.
N3500—W11422.5/7.5

MO

1967

Arizona Department of Mines and Mineral Resources

INFORMATION FROM MINE CARDS IN MUSEUM

MM-K158 Gold in quartz
MM-K169 Gold ore

ARIZONA

MOHAVE COUNTY

~~OATMAN AREA~~

SAN FRANCISCO DISTRICT

UNITED EASTERN ~~LEDGE~~ mine

MILS 25C

0 AKA's

United Eastern (file)

NAME: UNITED EASTERN

COUNTY: MOHAVE

Coatman 7½

T 19N R 20 W SEC. 14 El 2800

DISTRICT: SAN FRANCISCO (OATMAN)

Mineralization: Au, Ag, Be

Geology:

Type Operation: 1100' - 325 TPD Cap. Main shaft 1500'

Production: 14,726,893 (17-25)

References: ABM 131 AIME VOL 76 p 56-90-1928
1925
Mines Handbook P 475 - 17 Pct - 8 1920 p. 279

Mohave County Card File

215 13.5 X 7.5 X 8.0 cm

~4 file

MINE[illegible] SPE[illegible]N FOR DEPARTMENT OF LI[illegible]RY A[illegible]ARCHIVES K158

(Do not write in this space)

Ore _____

Cabinet _____

No. _____

(Wrap each specimen separately, or place it in a substantial bag, by itself, with a number attached, identical with the number on this card.)

Specimen No. 17, collected by Robert E. Morrow ~~Field Engineer~~

Name of ore Gold

Minerals contained _____

Gangue _____

Depth at which taken 1000 ft Level

Approximate mineral content (in terms of average per ton) $40 Ton.

Name of mine or claim United Eastern

Group _____

District OATMAN

Location (distance and direction by highway from what town _____

Owner of property United Eastern Mines Co.

Operator Jack McIver + Associates

Mine active or inactive INACTIVE

If inactive, when operated _____

Specimen presented by J. H. Jones

Date Aug 19, 1940

Notes (Any general information regarding the history of the property.)

Gross Production - $13,000,000

If more space is desired for notes, use other side.

This specimen is now in the ADMR Museum (see K number).

Oatman District 9/3

Great activity is being exercised in this district. New companies are being formed and new development started almost every day. The past record of the district warrants a whole lot of future developments and no doubt it will result in valuable discoveries. A great deal is being written about the district, good bad and indifferent and some of it can be questioned as to the good it does. However with it all not one of them has inferred or mentioned the two main underlying or fundamental principals or reasons why work should be done. Ore shipments in increased tonnage from the United Eastern mine marked the opening of the current month and added to the prestige and value of this latest addition to the shipping mines of the Tom Reed-Gold Road mining district. Thirty tons of $30 ore are now being forwarded daily from the Eastern mine to the Gold Road mill, whereas during August the shipments averaged about 15 tons per day. Inadequate transportation facilities have curtailed and are yet curtailing ore shipments from the property, with the result that the aggregate daily tonnage is not yet up to the weight mark set by McIver and Long at the time the first consignment of ore was billed to mill.

It was along about this time last year that the United Eastern Mining company at a depth of two hundred feet first encountered ore on the dip of the vein into the shaft. On Christmas Eve the crosscut on the 300-foot level entered pay ore in place and the mine's era of prosperity began.

The Big Jim, the property of which cuts into the central section of the Tom Reed ground immediately to the west of its main workings, is also developing into a splendid mine. Ore has been developed from a depth of about 60 ft. below surface to 485 ft., and for a lateral length of more than 450 ft., proving a continuous ore shoot. The vein averages more than 20 ft. in width, and all its content will be sent to mill. Careful mine sampling seems to indicate that average mill returns will be in excess of $12 and possibly close to $20. Careful inspection, measurements and sampling indicate that there is now in this property an actual ore exposure of 230,000 tons, and that work in progress should within the next 60 days expose another block 200 ft. in length, 340 ft. in height and 20 ft. in thickness, or 115,000 tons additional.

May 1916

NEW ORE BODIES NEAR KINGMAN

At the request of the American Institute of Mining Engineers, F. C. Schrader, of the United States geological survey, has given them for publication an article on the Mohave County mining district of Arizona. Mr. Schrader has given particular attention to the mining districts around Kingman.

He regards recent development in the Great Eastern and the Big Jim mines where substantial ore bodies have been opened up at depths of 500 feet, as of the greatest importance in establishing the exceptional worth of this mining region.

Continuing development in the Tom Reed mine gives added proof of the value of the deposits in the Mohave county district, Mr. Schrader believes.

We will give attention to this article at a future date.

May 1916

Big Jim

We noticed some figuring of values in connection with this property a couple of weeks ago. Now an eastern paper has something to say in the following:

The Big Jim crosscut at Oatman, Ariz., on the 485 level, passed through 40 feet of ore. Reports that the 40 feet average about $10.50 per ton are "premature." A drift has been started eastward to get under a lens of very rich ore which averaged above $56 over a 4-foot width the full width of the drift. The official assays in the crosscut on the 485 level should be forthcoming soon. On the 400-level, 46 feet width of ore averaged $7.44 per ton across the entire 46 feet.

This sort of tommyrot rumor and the slothfulness of the Big Jim management in giving assay returns from the crosscut are not conducive to instilling public confidence in the Oatman stocks. The Oatman camp has, therefore, been singularly free of the old Nevada, Cobalt and Porcupine "yank-em-in-and-kick-em-out" boom methods and it is to be hoped that Oatman will continue this year the good start it made last year.

Oatman 1-1916

After passing through numerous of quartz from a few inches to 3 1-2 feet in width that have yielded varying values, the south crosscut on the 400-foot level of the Big Jim at a point 145 feet from the shaft, disclosed a few days ago the hanging wall of its main vein, supposedly the eastern extension of the great Tom Reed-United Eastern ledge. Since the exposure of the hanging fall, the crosscut has been advanced more than 25 feet into the vein without giving any indication as to when the footwall will be revealed. Grab samples taken from the face of the crosscut for the distance it has advanced have returned values of $8.89 to $58.65 and $112.03 per ton.

1-1916

The crosscut from the 400 level of the Big Jim mine reached the footwall of the vein and is said to have approximately 50 feet between the walls of vein material. Twenty-two feet of this vein is considered pay ore, while the balance is of lower grade, being heavy calcite.

April 1916

Some Big Figuring on the Big Jim—Oatman

The Big Jim crosscut on the 2d, or 500-level up to yesterday had passed through 30 feet width of ore without encountering the footwal. One report announced $6 average value across the 30 feet, with 12 feet running $17 a ton. This report is manifestly in error since, if 12 feet assay $17 per ton, the remaining 18 feet would have to assay $1.33-less-than-nothing, to bring the average for the whole 30 feet down to $6 per ton.

Development on the 400 and 485 levels of the Big Jim property continues to add large quantities of ore to the known reserves, and it is officially stated that the average value of all ore being exposed is above $20. Foot for foot of work done to date, the Big Jim is fully equal to the Tom Reed at similar levels, according to assay maps of both properties.

W Palm, Aug., 1975

(Clipping from the Los Angeles Examiner, Feb. 11, 1918.)

Arizona Holds Two World's Records in Mine Outputs

United Eastern Leads in Gold, While New Cornelia Heads Copper Productions

OATMAN, Ariz., Feb. 10.—The United Eastern won for Arizona in 1917 the record of bringing in the greatest gold producer made in that year in the world. In the present period of need by all of the nations of all the gold that can be commandeered, and looking to the still greater need of the yellow metal which will prevail after the war, the distinction and the value of the United Eastern performance ran high.

It was attended by another world record in metal for Arizona in 1917, the New Cornelia having achieved in the copper division like distinction, as the greatest new copper producer introduced to the world in the year.

United Eastern made gold output in 1917 of gross value of $1,864,228. Approximately 95 per cent of value in ore mined was recovered, reflecting high credit upon efficient equipment and management of the property. Production started on January 7, 1917, with a 200-ton milling unit, increased about the middle of the year to 250 tons. New Cornelia Copper Company commenced production in June and made output of approximately 20,000,000 pounds of copper in 1917, of gross value of approximately $4,750,000.

Oatman's gold output this year will be materially higher than in 1917 if the district is left undisturbed by Federal regulations or other disturbing factors, the latter including further material increases in the cost of supplies. Promising development is under way at several properties, while both United Eastern and Tom Reed are physically in form to better last year's output. Should general conditions so adjust as to make gold mining a greater requirement and Government steps be taken to provide impetus, the Gold Roads mine is understood to be in such shape that it might be quickly brought to as large production as in the past.

b-24 file 215 13.5 X 9.5 X 8.0 cm

MINE[illegible] SPEC[illegible]EN FOR DEPARTMENT OF LI[illegible]RY AN[illegible] ARCHIVES K158

(Do not write in this space)

Ore _____

Cabinet _____

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Location (distance and direction by highway from what town _____

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Operator Jack McIver + ASSOCIATES

Mine active or inactive INACTIVE

If inactive, when operated _____

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Date Aug 19, 1940

Notes (Any general information regarding the history of the property.)

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UNITED EASTERN

MOHAVE COUNTY

NJN WR 6/10/88: Tom DeHoff (card) visited and reported that Americana and Process Technology are getting closer to establishing production at the Tom Reed. (file) United Eastern (file) Mohave County. Production will entail grinding and agglomeration of the tailings. They expect a 70% recovery which averages about .03 oz/ton Au. Watchman for Americana is Cleon anderson who may be contacted at 66 Quail Road, Oatman.

UNITED EASTERN

MOHAVE
T19N R20W Sec. 14

1/13/78 GW WR Mr. O. J. Harwood came in with two of his investors in the Victoria Mine near Oatman. He said they had leases on the Tom Reed and the United Eastern tailings therefore, wanted information about them which was given.

WR CJH 4/1/80 Researched written request for information regarding the Black Range Mining Company, Oatman District, Mohave County.

Mr. Robert A. Brant, Vice President, Royal American Exploration Corporation, Suite 1025, 1801 Avenue of the Stars, Los Angeles, California 90067, Phone: (213) 277-1280, said that his company owns what he calls the "Oatman Tailings including Tom Reed and United Eastern". He has figures of 1½ million and 800,000 tons respectively. They are going after certain tonnage that runs .07. Cimetta Engineering of Tucson has done lots of work for them.

At one time considerable tonnage was processed with stamp mills. This is the part with higher gold content. The tails will be slurried, run through cyclones to separate slimes (-270 mesh) grind balance to -325, then on to agitation leach with carbon-in-pulp. Plant will be located about Tom Reid dump. United Eastern tails will be slurried then pumped to plant site and entered into circuit. Anticipate 15 men. No date set for start-up as yet. At this time they believe they have plenty of water in the mines. They will require only 93,000 gallons per day for make-up water. A 24 hour leach is planned. JHJ Office visit 3/7/84

MG WR 3/30/84: Fischer-Watt Mining Co. is still leasee on the Tom Reed (Gold Key and Tom Reed - file) and United Eastern properties in Mohave Co. There has been some discussion concerning possible construction of a mill to re-treat the tailings from these properties. The Tom Reed reportedly has 1,000,000 tons and the United Eastern has 750,000 tons.

NJN WR 1/22/88: Tom Dehoff (card) and John Lindy with Process Technology (card) Unity Mining (file) are setting up an operation to classify, grind and leach the tailings of the United Eastern (file) and Tom Reed ? (file) Mohave County. They believe they will process about 500,000 tons of tailings. They will classify the tailings with cyclones, the fines will be leached directly with a quick recovery expected. Less than 50% of the material is +200 mesh. This portion will be ground to -320 and leached. Anticipated recovery is .03 or better.

WR/GW 1/13/78 - Mr. O.J. Harwood came in with two of his investors in the Victoria mine near Oatman. He said they had leases on the Tom Reed and the United Eastern tailings therefore, wanted information about them which was given. 2/23/78 a.p.

CJH WR 4/1/80: Researched written request for information regarding the Black Range Mining Co., Oatman District, Mohave County.

UNITED EASTERN @ MOHAVE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull Jacqueline E. Schafer, Director

Certified Mail - Return Receipt

November 30, 1999
REF#: EU99-0684

Unity Partners, Inc.
Attention: Thomas DeHoff
275 Bellingrath Park
Conroe, TX 77302

RE: United Eastern Project - Notice Of Violation Closure
Inventory #100325

Dear Mr. DeHoff:

The purpose of this letter is to inform you that the Water Quality Enforcement Unit of the Arizona Department of Environmental Quality has closed the Notice of Violation (NOV) issued to the United Eastern Project (Permit #G-0044-08) on November 8, 1999. Closure of the non-reporting NOV is in no way indicative of the overall compliance status of the facility. This closure is the result of meeting the requirements of the November 8, 1999, NOV by submitting a statement that this facility was not in operation during the second quarter 99, in lieu of the delinquent Self-Monitoring Report Forms (SMRFs).

The Water Quality Enforcement Unit would like to thank you for resolving the past non-reporting violation. Please continue to submit all future SMRFs in a timely manner as required by the referenced permit. Please review the instructions as outlined for properly filling out SMRFs whether or not there is a discharge.

Enclosed please find the SMRFs with instructions for your facility (United Eastern Project Process Technologies, Permit #G-0044-08.) All SMRFs are designed for each facility's specific monitoring and reporting requirements as required within each facility's permit.

The SMRF includes the parameters that are listed in your permit's monitoring table. The reporting and sampling frequencies and sampling location are listed on each page of the SMRF. For example, if your facility has monthly sampling requirements with quarterly reporting, there will be three spaces available on the form for Data Entry (e.g., one space for each month). When completing the SMFR there are five basic areas that require data. Instructions for completing the SMRF are listed below in steps 1 through 6.

1) When completing the SMRF/Electronic Data Reporting (EDR) for each of the parameters that your permit requires, fill in the block titled "Sample Date" by entering the date the sample was taken.

2) Fill in the block titled "Analysis Date" with the date the samples were analyzed by the Arizona certified lab. These dates must fall within the appropriate quarter to be in compliance with sampling and reporting requirements.

3) In the block titled "Lab ID" enter the laboratory's identification number, (this number is the lab's certification number).

4) In the block titled "Reported Concentration" enter the reported results of the analysis.

5) In the block titled "Method" enter the number of the EPA approved analytical method specified in your permit. If your permit allows for **ANY** EPA approved analytical method recognized by ADHS Laboratory Licensure Rules for the purpose of achieving the detection limit which is equal to or lower than the limit specified in the permit, then enter the Method number that was used in the analysis.

6) For any effluent characteristic derived from a calculation using a mathematical average or geometric mean, enter the date the calculation was made (rather than the actual sample date) into the block titled "Sample Date" and enter that same calculation date into the block titled "Analysis Date."

If your facility is not producing flow or your monitoring well is dry or not constructed, enter **"NO FLOW", "NO EVENT", "DRY WELL"or "NOT CONSTRUCTED"** on the SMRF, whichever is applicable. If your chemical analysis was reported as not detected (ND), please enter this result as less than (<) the method detection limit. For example, if the standard method detection limit is 4.4 ug/l and the parameter was not detected, then enter "< less than the 4.4 ug/l". When units of measurement are different in your permit than those on the laboratory reports, convert to the units that are specified in your permit and those on your SMRF. The formula for converting ug/l to mg/l is 0.001 times the reported value in ug/l to get the value in mg/l. SMRFs with "ND" as the reported concentration will be interpreted by the Water Quality Pollution Database (WQPD) as invalid.

If your permit contains parameters with the suffix Ethylene, the SMRF will show parameters with the suffix Ethene. These are one in the same and the labs are aware of this.

Furthermore, **any** area of the SMRF without data will be interpreted by the WQPD as not reported and will be considered a violation of the monitoring and reporting requirements. To avoid the above difficulties please make certain all areas on the SMRF have been completed.

All SMRFs must be signed by the responsible party. Please make copies of the forms for use in future submissions.

If you should have any comments or questions or you would like an EDR format, please call Regina Bain at (602) 207- 4841 or within Arizona 1-800-234-5677 x4841 or Lynn Ott at (602) 207-4816, or within Arizona 1-800-234-5677 ext.4816.

Sincerely,

M. Reza Azizi

M. Reza Azizi, Manager
Water Quality Enforcement Unit

Enclosure(s)

cc w/o enclosures:
Mohave County Health & Social Services
BLM - Ralph Costa 222 N. Central Ave., Phoenix, AZ 85004-2003
State Mine Inspector 1700 E. Washington, Ste. 400 Phoenix AZ 85007
Dept. of Mines & Mineral Resources, Nyal Niemuth 1502 W. Washington
Phoenix, AZ 85007

UNITED EASTERN (P/MOHAVE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull Jacqueline E. Schafer, Director

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

November 8, 1999
REF#: EU99-0617

Thomas DeHoff
Unity Partners, Inc.
275 Bellingrath Park
Conroe, TX 77302

RE: United Eastern Project Process Technologies
Inventory #100325

NOTICE OF VIOLATION

The Arizona Department of Environmental Quality (ADEQ), Water Quality Division, Water Quality Enforcement Unit, has determined that Unity Partners, of Conroe, TX, is in violation of the Arizona Revised Statutes (A.R.S.), Title 49-101 et seq. and applicable rules.

I. FINDINGS OF FACT AND DESCRIPTION OF VIOLATION(S)

1. Thomas DeHoff, Unity Partners, Inc., is the owner and/or operator of the United Eastern Project Process Technologies, a discharging facility, operating pursuant to Groundwater Quality Protection Permit, G-0044-08.

2. The owner/operator of the United Eastern Project has failed to submit monitoring data for the second (2nd) quarter of 1999, as required by the Groundwater Quality Protection Permit issued for the facility. The monitoring data for the second (2nd) quarter of 1999, was due to ADEQ by July 28, 1999. Failing to monitor or report as required by a Groundwater Quality Protection Permit is a violation of the permit and A.R.S. §49-261.A.

II. CITATIONS OF AUTHORITY

1. The Arizona Department of Environmental Quality (ADEQ) shall prevent and abate all water pollution. [A.R.S. §49-104.A.11.]

2. The ADEQ shall adopt, by rule, an aquifer protection permit program to control discharges of any pollutant or combination of pollutants which are reaching or may with reasonable probability reach an aquifer. [A.R.S. §49-203.A.4.(1986)]

3. The ADEQ shall prescribe in the aquifer protection permit the monitoring, record keeping and reporting requirements. [A.R.S. §49-243.F.(1986)]

4. If the director of ADEQ determines that a person is in violation of any condition of a Groundwater Quality Protection Permit, the director may issue an order requiring compliance within a reasonable timeframe. [A.A.C. R18-9-130 and A.R.S. §49-261.A.]

III. REQUIRED CORRECTIVE ACTIONS

Within ten days of receipt of this Notice

1. The owner/operator of the facility shall submit completed Self-Monitoring Report Forms as required by the Groundwater Quality Protection Permit for the second (2nd) quarter of 1999; or

2. The owner/operator of the facility shall submit a written explanation for failing to submit the Self-Monitoring Report Forms as required by the Groundwater Quality Protection Permit for the second (2nd) quarter of 1999.

IV. REQUIRED DOCUMENTATION

1. Adequate documentation of compliance shall consist of completed Self-Monitoring Report Forms as required by the Groundwater Quality Protection Permit for the second (2nd) quarter of 1999. Although ADEQ has previously provided the owner/operator with Self-Monitoring Report Forms for the facility, additional Self-Monitoring Report Forms can be obtained from the Water Quality Data Unit by contacting Julie Collins at (602) 207-4688 or within Arizona 1-800-234-5677 x4688.

2. All Self-Monitoring Report Forms and/or written explanations for failing to report, shall be sent to ADEQ at the following address:

   Arizona Department of Environmental Quality
   Attn: Lynn Ott
   Water Quality Compliance Section
   3033 N. Central Avenue, M0501B
   Phoenix, AZ 85012

3. The above documentation shall be deemed "submitted" when received by ADEQ.

4. Any facility updates including owner/contact/operator name, address and phone number changes should be submitted as soon as the information is available.

V. STATEMENT OF CONSEQUENCES

Failing to adequately respond to this notice in a timely manner will result in an ADEQ referral to the Arizona Attorney General's Office for an escalated enforcement action. At ADEQ's request, the Arizona Attorney General shall file a civil complaint in superior court to recover substantial civil penalties accruing at a rate of twenty-five thousand dollars ($25,000) per day per violation. [A.R.S. §49-262.C.]

Achieving compliance and/or providing an explanation for noncompliance does not preclude ADEQ from seeking civil penalties through the Attorney General for the above-cited violations.

VI. OFFER TO MEET

ADEQ personnel are willing to schedule a meeting to discuss the violations and corrective actions. Prior to the meeting, please submit the following: 1) an agenda that specifies the issues that you wish to discuss and 2) the names and affiliations of the participants that will be accompanying you.

If you would like to meet, or feel that this notice has been sent in error, please contact Lynn Ott at (602) 207-4816, or 1-800-234-5677 x 4816, within five days of receipt of this notice.

M. Reza Azizi

M. Reza Azizi, Manager,
Water Quality Enforcement Unit

cc: Mohave County Health & Social Services
BLM - Ralph Costa, Mining Engineer 222 N. Central Ave. Phoenix, AZ 85004-2003
State Mine Inspector 1700 E. Washignton, Ste. 400 Phoenix, AZ 85007
Dept. of Mines & Mineral Resources, Nyal Niemuth
1502 W. Washington Phoenix, AZ 85007
ADEQ Northern Regional Office Regional Office
ADEQ - Eric Wilson, Manager, Mining Unit
ADEQ- WQEU Facility File
ADEQ- WQEU Reading File
lwo

UNITED EASTERN FILE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

EVAN MECHAM, GOVERNOR
GERALD H. TELETZKE, PH.D., DIRECTOR

NOTICE OF INTENT TO (ISSUE) (A) GROUNDWATER QUALITY PROTECTION PERMIT(S)

Pursuant to Arizona Compilation of Rules and Regulations, Title 9, Chapter 20, Article 2, the Director of the Arizona Department of Environmental Quality intends to issue a Groundwater Quality Protection Permit(s) to the following applicant(s), subject to certain special and general conditions.

Public Notice No. 138-87AZGW
United Eastern Project
Process Technologies
2420 W. First Street, #58
Tempe, Arizona 85281
Groundwater Quality Protection Permit No. G-0044-08

On or about
February 1, 1988

The permittee shall be authorized to operate a hydrometallurgical precious metal recovery facility utilizing the carbon in pulp (CIP) cyanide leaching method. The facility is located in Oatman, Arizona (T19N, R20W, Sections 14, 1S and 23) in the center of the Oatman Mining District. The Groundwater Quality Protection Permit shall regulate the containment of the cyanide leach solution to be used in the ore processing mill and the disposal of neutralized (cyanide destruction) mill tailings. The facility consists of two adjoining processing plant sites, with each site having a precious metal processing and recovery mill, a tailing distribution and disposal areas, and office facilities with a septic system for domestic sewage disposal. The permittee shall continuously monitor the processing mill solutions in the form of leak detection devices and continuously monitor the neutralized mill tailings before disposal for the presence of cyanide. The facility shall be protected from runoff associated with a 100-year, 24-hour stormwater event and shall fence the processing site to provide restricted access. Depth to groundwater below the site is in excess of 500 feet and no groundwater wells are within a 1/4 mile radius of the site.

The permit and related material are available for public review Monday through Friday, 8:00 a.m to 5:00 p.m. at Arizona Department of Environmental Quality, Water Permits Unit, 2005 North Central Avenue, Phoenix, Arizona 85004.

Persons may submit comments or request a public hearing on the proposed action, in writing, to ADEQ at the above address within thirty (30) days from the date of this notice. Public hearing request must include the reason for such request.

RECEIVED
FEB 02 1988
DEPT. OF MINES & MINERAL RESOURCES

The Department of Environmental Quality is An Equal Opportunity Affirmative Action Employer

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 ± 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 then 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 ± 500,000 tons grading 0.75 o/T Au.

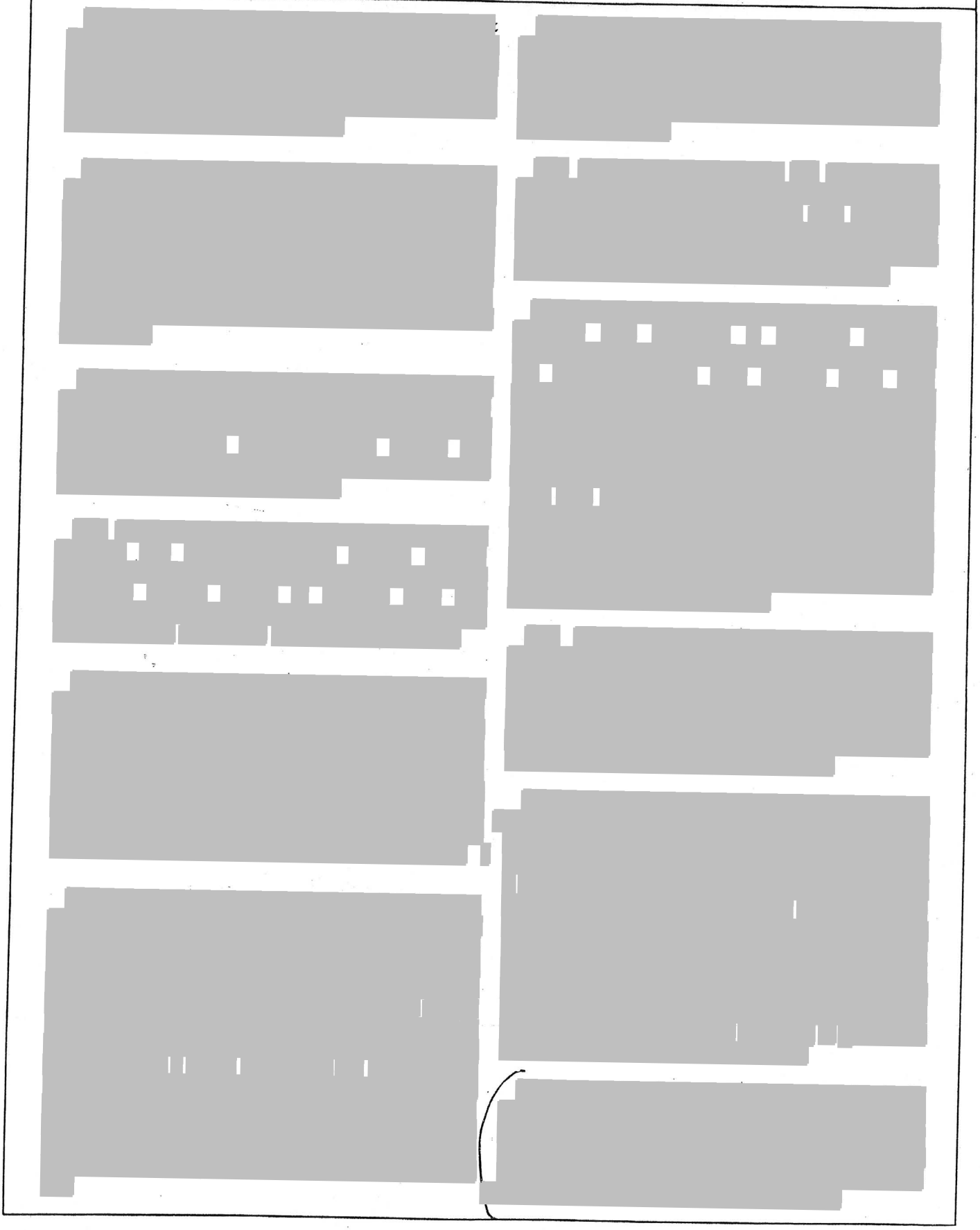
22.5 United Western Mine adjacent to road produced 40,000 T grading 0.30 o/T Au prior to closure in 1940. Drilling in this area by Fischer-Watt Mining shows an open ended reserve of + 200,000 T grading 0.20 o/T Au. The only surface expression of the United Western mineralization is a weak zone of illitic alteration. At the surface, there is no detectable gold or silver and no definative 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 ± 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 ± .9 my). White intrusive rock unit is the Elephants Tooth rhyolite (19.6 ± .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 ± 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

70·60·50 Years Ago

from issues of **Skillings' Mining Review**



ARIZONA DEPARTMENT OF MINERAL RESOURCES
Mineral Building, Fairgrounds
Phoenix, Arizona

1. Information from: W. Perry Durning, Exploration Manager, P. O. Box 402

   Address: Oatman, AZ 86433; Phone 753-1622

2. Mine: _____ 3. No. of Claims - Patented _____

   Unpatented _____

4. Location: _____

5. Sec _____ Tp _____ Range _____ 6. Mining District Oatman

7. Owner: _____

8. Address: _____

9. Operating Co.: Fischer-Watt Mining Co., Inc.

10. Address: _____

11. President: _____ 12. Gen. Mgr.: _____

13. Principal Metals: Au 14. No. Employed: _____

15. Mill, Type & Capacity: _____

16. Present Operations: (a) Down ☐ (b) Assessment work ☐ (c) Exploration ☒
    (d) Production ☐ (e) Rate _____ tpd.

17. New Work Planned: Continue to drill with substantial budget. Two core rigs going. Have delineated marginal ore on a segment of the Tom Reid structure.

18. Miscl. Notes: Fischer--Watt controls most of the Oatman district. Mr. Al Morris is doing a Master's thesis on the structure of the Pioneer Mine area (doing work at the Colorado School of Mines).

Date: 5/5/80

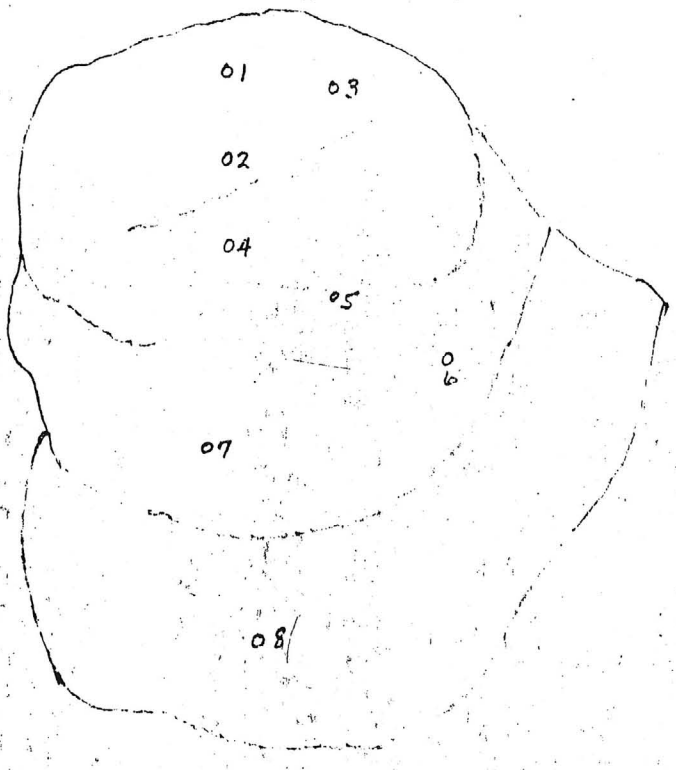
M. N. Greeley
(Signature) (Field Engineer)

United Eastern ✓
Big Jim
United Western

United Eastern Dump (Tails)
Catman Ariz.
7-20-38

1,000,000 tons ? .81% - 200
Water about 5 M. High Cost
Dump 30 - 60 ft. deep
Must stack tails on other ground

Avg. 7 Samples .04 Au.



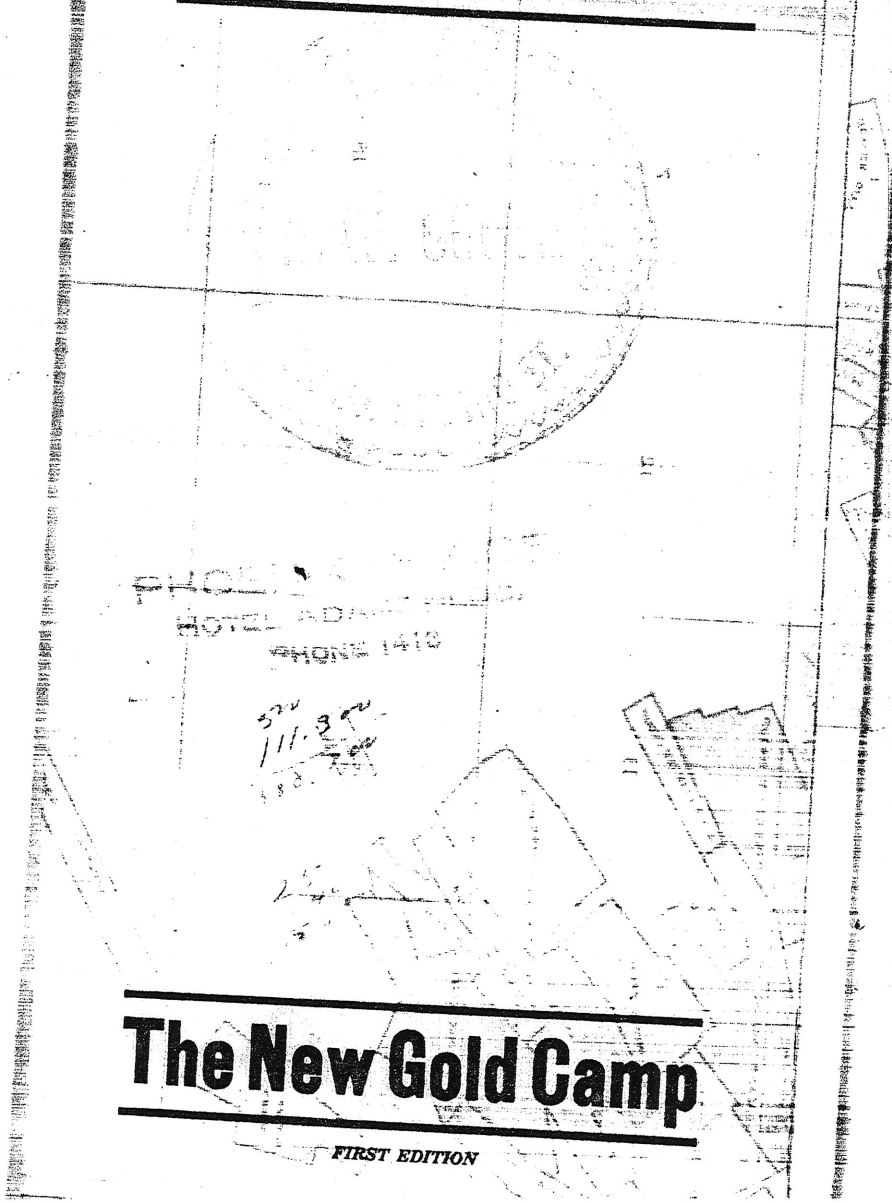
S.	No.	1	10	ft.	1	3/4	Augar	hole
"	"	2	12	"	"	"	"	"
"	"	3	12	"	"	"	"	"
"	"	4	12	"	"	"	"	"
"	"	5	13	"	Cut in Bank			
"	"	6	4	"	1	3/4	Augar	hole
"	"	7	4	"	"	"	"	"
"	"	8	4	"	"	"	"	"

Note: Foreman told me that some of the dump samples went below .03 Au. 81% — 200 mesh.

Oatman, Arizona

Reproduced from the first Official Survey of the Tom Reed Gold Road Mining District.

PRICE 10c



The New Gold Camp

FIRST EDITION

OATMAN ARIZONA

The New Gold Camp

IS located in the southwestern section of Mojave County, Arizona, on the western flank of the Black Range mountains. It is in what is officially known as the San Francisco Mining District. This section has for a long time been referred to as the Tom Reed-Gold Road district, but is now generally known as the Oatman district.

SIZE OF THE DISTRICT

The camp is about centrally located in the district, which is some sixteen miles in length by about nine in width. This map covers this area, the section lines and section numbers being shown, the lines dividing the map into mile-square sections.

The camp itself is some two miles in length, extending from the old nucleus formed by the Tom Reed buildings in the southeastern corner of Section 14, southerly through portions of Sections 22 and 23 to the Lexington townsite in Section 27. It is the center of a population now estimated at about 4,000.

The elevation of the camp is about 4,000 feet. The climate is arid, with hot summers and mild winters, but the heat of the summers is tempered by almost constant breezes, cool nights, and the extreme dryness of the atmosphere.

LIVING IS NOT EXPENSIVE

As compared with the usual new mining camp, the cost of living in Oatman is very low, this being due to easy access and the fact that the Santa Fe Railway is but two hours' distant from the camp. It is estimated that one may live in Oatman at a cost of not more than ten per cent in excess of the cost of living in Los Angeles.

NOT A NEW DISTRICT

Gold was first discovered in this district more than 60 years ago, and some phenomenally rich pockets and lenses of free-milling gold ore were opened. A number of extensive mining ventures were made and failed, due to inadequate equipment and to shallow mining.

It remained for the Gold Road Mine, now owned by the U. S. Smelting and Refining Corporation, and for the Tom Reed Gold Mines Company, to prove that deep mining is required to reach extensive ore bodies. During the last ten years these properties have paid more than $6,000,000 in profits to owners, and are steadily turning out bullion at the rate of more than $100,000 per month.

Discovery of enormous ore bodies in the United Eastern mine, adjoining the Tom Reed mine, something over a year ago, caused the rush which has resulted in the present development of the town and the district.

The United Eastern mine is estimated to have more than $12,000,000 worth of gold ore blocked out in its mine, and is now preparing to build a mill.

The Gold Ore Company is milling thirty tons per day in the Gold Road mill, and is preparing to build its own plant.

The Big Jim Company has recently encountered large bodies of ore and is now engaged in blocking out ore and plans to construct a mill eventually.

MANY COMPANIES DEVI

Experience has shown that i depths of from 400 to 600 feet tained before commercial ore may To sink a working shaft to that d necessary lateral work requires se of time. Yet, despite this han thing like 150 separate properti developed in the district, usually b which have placed machinery e unusually high grade upon thei In several of these properties deve reached a stage where importa coveries may be expected at any

PERMANENCY OF CA

Ore bodies now developed see that Oatman will be making a la tion for several years. The char buildings being erected emphasiz fidence the builders have in the f district, as concrete, stone and iro ing in the construction. Commod cafes and theatres are kept busy, w banks and newspapers are thriving. has electricity and water, and a se tem is now projected.

MANY COMPANIES DEVELOPING

Experience has shown that in the district depths of from 400 to 600 feet must be attained before commercial ore may be expected. To sink a working shaft to that depth, and do necessary lateral work requires several months of time. Yet, despite this handicap, something like 150 separate properties are being developed in the district, usually by companies which have placed machinery equipment of unusually high grade upon their properties. In several of these properties development has reached a stage where important ore discoveries may be expected at any time.

PERMANENCY OF CAMP

Ore bodies now developed seem to assure that Oatman will be making a large production for several years. The character of the buildings being erected emphasizes the confidence the builders have in the future of the district, as concrete, stone and iron are figuring in the construction. Commodious hotels, cafes and theatres are kept busy, while stores, banks and newspapers are thriving. The camp has electricity and water, and a sewerage system is now projected.

TRANSPORTATION

The nearest points to the new gold camp are reached by the Santa Fe Railway. These are Needles, California, and Kingman, Arizona. After leaving the train at either of these places regular auto service conveys the passenger to the camp. From Kingman to Oatman is 27 miles, the trip taking two and one-half hours. From Needles to Oatman is 20 miles, the trip consuming two hours. The roads are crooked but in very good shape.

By automobile, the camp is reached over the National Old Trails Route, either from Kingman, when the trip is being made from the east, or from Topock, when the trip is being made from the west. At Topock a new highway bridge has been built over the Colorado River, and a new road constructed to Oatman, 27 miles distant.

SANTA FE RAILWAY TIME CARD

East Bound

No. 10	Arrives	Needles	8:10 a.m.
No. 10	Arrives	Kingman	11:20 a.m.
No. 2	Arrives	Needles	6:35 p.m.
No. 2	Arrives	Kingman	9:20 p.m.
No. 8	Arrives	Needles	8:00 p.m.
No. 8	Arrives	Kingman	11:05 p.m.
No. 22	Arrives	Needles	3:30 p.m.
No. 22	Arrives	Kingman	6:00 a.m.

West Bound

No. 9	Arrives	Kingman	4:21 p.m.
No. 9	Arrives	Needles	5:50 p.m.
No. 1	Arrives	Kingman	3:50 p.m.
No. 1	Arrives	Needles	5:40 p.m.
No. 21	Arrives	Kingman	7:30 a.m.
No. 21	Arrives	Needles	8:55 a.m.
No. 7	Arrives	Kingman	12:55 p.m.
No. 7	Arrives	Needles	2:30 a.m.

AUTO LINE TIME CARD

Oatman and Gold Road

Kingman

Leave Kingman for Oatman	1:00 p.m.
Arrive Oatman	3:30 p.m.
Leave Oatman for Kingman	7:00 a.m.
Arrive Kingman	9:30 a.m.

Needles

Leave Needles for Oatman	9:15 a.m.
Arrive Oatman	11:30 a.m.
Leave Oatman for Needles	1:00 p.m.
Arrive Needles	3:30 p.m.

Americana Buys Mine, Plans Multi-Purpose Mill.

Americana Investments, Inc. has purchased the former Tom Reed Gold Mining Co. properties in the Oatman 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 N. 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. Hault 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, Gray Eagle, Aztec, Ola Oatman, 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

ıe amalgam process. They discontinued operations, whether due to the low alue of the ore or due to the fact that they did not receive a high percentage of xtraction, I am not in a position to say. I understand they are going to emodel their mill and put in some cyanide equipment.

My opinion of it, the reason why the Oatman district is not going ahead very fast, is that they are not making any discoveries of ore. I know as far as the Tom Reed is concerned, I have got some comparisons on that. Even the United Verde mine, in regard to the footage of development and exploration work they do, and during the six years that I have been in charge of the property, we have never performed less than 5,000 feet of development work per year. It has mostly gone over 6,000 feet. Now, that compares very much with the footage the United Verde make, and fairly large copper mines in the large porphyrys, but you know when a mine performs five to six thousand feet of development or exploration work per year for a little 300-ton property, it does not mean a lack of trying to look for ore. We think we have tried to follow a method of seeking ore that is the best we know of; that is, we employ geologists in a consulting capacity, some of the best that we know, and I also use my own judgment, which is later checked up. We have tried to employ the best methods we possibly could. We just have not been successful in finding ore.

Mr. HAMILTON. This property, then, has produced about twelve or thirteen ns of dollars in about 16 years?

. PHELPS. About 14 years; that is the production. I think they probably operated a year or so before they found any ore. It was only in a more or less development stage.

Mr. HAMILTON. Does your ore carry any silver to amount to anything?

Mr. PHELPS. Very little. We don't make any attempt to keep track of the silver values at all, except in the bullion. About a thirty to forty thousand dollar bullion shipment will run two to three thousand dollars in silver.

Mr. HAMILTON. The price of silver is not material?

Mr. PHELPS. No; it does not affect us at all.

Mr. HAMILTON. In what way do you market your bullion, by shipment to the mint or to the smelters?

Mr. PHELPS. Why, we have varied that. Sometimes we ship to Selby. Most of the time we have been shipping to the mint at San Francisco.

Mr. HAMILTON. It did not make any material difference in the returns received?

Mr. PHELPS. Not very much; about the same.

Mr. HAMILTON. Is there any litigation over claims or property going on at the present time in the district?

Mr. PHELPS. Not at the present time. The United Eastern had an apex suit, but it has all been settled.

Mr. HAMILTON. Generally speaking, after the cloud of battle has passed away, is a fight of that kind worth the money spent upon it?

Mr. PHELPS. I really believe that it was in this case. I don't think if we had n gotten into this suit a body of ore would have been discovered. It might that is hard to say. We received a lot of geological information we prob- y would not have received if we had not gone into a suit of that kind. But absolutely that is not the stand I take at all upon litigation. I think that in litigation, especially apex litigation, both sides lose. It is the lawyers and the experts who come out ahead. What I mean by that, I am not trying to protect the idea of going into a lawsuit.

Mr. HAMILTON. Human nature is usually at fault and not the apexes as a rule. Are there any other obstacles or point which you can bring out, Mr. Phelps?

Mr. PHELPS. We are operating under high-cost conditions in that entire district, regardless of the value, quantities, or sizes of your ore bodies. We are off of the railroad. We have always felt as a gold miner we would like to receive some compensation at least for the gold that has been used in the trades and arts. We realize at the same time that it is rather a touchy ground that we are trying to tread upon, and we have given up all hopes of ever having the Government do anything of that kind. I don't know, personally, whether I wanted the Government to do anything. I can find an ore body of sufficient size and value and work it out and make a profit upon it if they will let me alone. With us it is a matter of finding ore. We spent some money and time on this thing and I have refused to put any more in it. We have been asked to contribute at different times. We won't contribute any more. I think we were simply outgeneraled there in Washington by that jewelers' vigilance committee as they call them. The gold miner never had to organize or anything of that

kind to protect himself. He was never troubled with any market condition. I think we were just outgeneraled. I am referring to that last hearing before the Ways and Means Committee.

Mr. HAMILTON. Yes. Well, your point is to be let alone and find an ore body?

Mr. PHELPS. We would like to have a reduction in taxes. We will try our best to find one if let alone.

Mr. HAMILTON. I wanted to ask you about taxation in Arizona upon your property. Could you give a brief statement as to the taxes that mines are subjected to here in Arizona?

Mr. PHELPS. Well, I can not give you any figures at the present time. I could prepare those figures.

Mr. HAMILTON. Could you work out for me from your records a comparative statement showing the increase in the cost of taxation on mining operations, in the past few years?

Mr. PHELPS. Yes, sir; I could do that.

Mr. HAMILTON. I would be very glad to have it if you can work it out, Mr. Phelps.

Mr. PHELPS. Mr. Hamilton, about that also. There have been a few changes made in the method of taxation during the life of the Tom Reed mine, to such an extent that the comparison is very much like our costs. We have always been taxed high until the last year or two. Our taxes have been rather low during that time, but that is due to the method of taxation in the State. We have paid as much as $1 a ton in taxes—I mean in regard to our costs, taxes have represented very close to a dollar a ton for a good many years. Of course you understand the method of taxation in the State—but Mr. Moore can give you that condition a good deal better than I can, because his mine has been a steady producer right along. During that time in the Tom Reed we have had a good many high peaks and low peaks, the difference being due to the high grade and the low grade ores. I will be glad to make up those figures and mail them to you.

Mr. HAMILTON. I will be glad if you will do so.

Mr. PHELPS. The United Eastern has operated steadily right along, and he can give you those comparisons better than I can, Mr. Hamilton.

Mr. HAMILTON. It was brought out in the hearings in Phoenix that the mining properties in the State of Arizona paid over 50 per cent of the taxes in the State.

Mr. PHELPS. I think it is 52 or 53 per cent, if I remember right. They sent around a little card a short time ago about that; had a circle divided into portions; I believe it was 52 per cent, but I would not be absolutely sure about that.

Mr. HAMILTON. Are there any other points that you wish to bring out at this time?

Mr. HHELPS. No, sir; not that I know of.

Mr. HAMILTON. Well, if there is anything further that you think of, we will be glad to take it up later.

Mr. PHELPS. All right. I will have them made up and sent to you, that business about the taxes.

Mr. HAMILTON. Address it to 915 Hobart Building, San Francisco, Calif.

Mr. PHELPS. Yes, sir. The method of taxation in the number of years we have been here has changed, and that is based on the value of your ore produced, you see. Mr. Moore will tell you about that. I think his comparisons would be a good deal better than anything I can give you.

Mr. HAMILTON. Mr. Moore, will you take the stand, please?

STATEMENT OF MR. R. W. MOORE, GENERAL MANAGER UNITED EASTERN MINING CO., OATMAN, ARIZ.

Mr. HAMILTON. You may state your name and your connections for the record, if you will, please, Mr. Moore.

Mr. MOORE. R. W. Moore, general manager of the United Eastern. I knew something of what you wanted some time ago, Mr. Hamilton, but we have been trying to get some information on freight rates for years prior to the time when we started to operate, and to use costs of the other properties in the district prior to 1914, as compared with our present costs. You see, the United Eastern did not start to produce until 1917. Since 1917 the United Eastern has produced something over $14,000,000. That is, the gross value of the ore treated was something over $14,000,000, and the tonnage average is a little over 100,000 tons a year, and if the company was liquidated now it would

51142—25†—SER 6——7

Taken from the Field Hearings - Commission of Gold and Silver Inquiry-United States Senate - January 1925

show that the average cost of gold has been between nine and ten dollars an ounce. You value the 687,000 tons at a little over $20 a ton—twenty dollars and some cents a ton.

As far as the operating conditions out there are concerned, in a mining way, you might say they are ideal. We have just two ore bodies to mine; both of them were large lenses. The ore is composed of calcite and quartz, with no other mineral in it to interfere with the cyanide process, and our extraction for the 10 years has been 96.85 per cent. In fact, all the value is gold. For each ounce of gold we recover, it has varied from .50 an ounce to .55 of an ounce of silver by weight.

I can leave this list of costs with you. It compares the Gold Roads 1914 costs and labor scale with that of the United Eastern for 1923. In every instance, with the exception of one, there has been a decided increase in the cost of supplies, but this list as I have it here, does not tell the story for the war years, when our operating costs were the highest.

We buy our supplies under the cheapest method that we know of. We buy all of our lumber at San Pedro and arrange to have the lumber laid on the railroad cars from the ship so as to avoid a handling charge there in the yards.

Powder costs and cyanide compare very favorably with those of 1914, but they do not tell the story for the high war years.

The three big factors in operating costs are labor, power, and taxes, aside from the general increased cost of supplies. Our power costs have amounted to as much as $1.18 a ton over a year period. Last year they averaged 96 cents a ton.

Mr. HAMILTON. What is your power?

Mr. MOORE. We have electrical power from Kingman. At the time the plant was started in 1917, it was almost impossible to get a plant to be put in there.

Mr. HAMILTON. Have the power rates changed any?

Mr. MOORE. The power rates have changed considerably. The base rate is now 0.0355, which was the rate established by the Corporation Commission, but as applied to that base rate is an oil differential, which varies with the cost of fuel oil per barrel. With each 10 cents increase or decrease, I think it is, there is an oil differential that will apply, so that the base rate last year was 0.0355. Our power cost 0.022855, as compared with 0.02234 cents per kilowatt-hour for the year 1914, which is the figure received from the Gold Roads Co. We were not producing at that time.

Mr. HAMILTON. What percentage of your costs are labor, Mr. Moore?

Mr. MOORE. A little under 50 per cent. When our monthly costs are running from—it is right around 50 per cent. Labor costs run around $30,000 a month.

Mr. BILLINGS. Did you say that your production was 98,000 tons?

Mr. MOORE. Average 98,000 tons a year. We produced 687,000 tons in seven years.

Mr. HAMILTON. What is the condition of your ore reserves at the present time?

Mr. MOORE. We will be through there, Mr. Hamilton, in May; by the 1st of June, anyway. There is very little likelihood of finding anything at depth, I believe, on account of the prospecting we have done. Most of them have bottomed out between ten and eleven hundred feet below the surface, and your best geologists have classified those as rather shallow deposits and don't give much encouragement for finding additional ore bodies at depth. We have opened up the mine to a depth of 1,300 feet and have done diamond drilling at points varying 200, 400, up to 1,000 feet below that level, or 2,200 feet below the surface, and found nothing to encourage deeper development.

Mr. HAMILTON. Did you find the existence of any mineral zones at all in that development?

Mr. MOORE. No; there is a change in the character of the vein.

At depth there is some calcite, but it is made up principally of white quartz, which geologists have, I believe, put down as one of the primary mineral vein fillings, and that carries practically no gold. The characteristic quartz that carries gold in that district is rather waxy, yellow-looking quartz, and that occurs in all the portions of the vein that carries gold.

Going further with some of the principal items that enter into our costs: Our power costs have varied from 96 cents a ton to $1.18 a ton; and I would just like to bring out here that there are some special features in our State government here that are really against the mining operator. For instance, take the power. We have been operating two shifts there, just a trifle under a mile apart, 5,080 feet. Last year and the year before that we were working two properties, and we constructed a tramway from the Big Jim to the United Eastern, where the mill is located, and the power commission has made it possible for the power company to charge power to us for those two properties as if they were two independent operations. In other words, we can not combine the meter readings of the pumping plant, etc., on the Big Jim. Now, the fact that we can not combine the meter readings adds about 8 cents a ton to the cost of our operations. It is no additional cost to the power company to furnish power to the two places, but that really is quite an item to a short-lived property.

Our taxes have amounted to as high as $1.10 and $1.12 a ton. Last year our taxes were $1.12 a ton. The year before they were 96 cents a ton. Year before last every man who worked every day in the year had to earn $1 or 75 cents for the State to cover taxes. That is, when the taxes amounted to $1.18 a ton.

Labor costs have been high. Referring to 1914, machine men were paid $4; they are now paid $5.50; muckers were paid $3.50, and now they are paid $5; millmen were getting $4 a day, and now they are getting $5.50. So there has been an increase there, roughly, of 35 per cent—a little over 35 per cent. Freight rates in general are about 40 per cent higher than they were. Lumber in 1914 cost $32 a thousand. Our average last year was $42.33.

Mr. HAMILTON. These prices are laid down at the property?

Mr. MOORE. Yes. During the high years we have paid as high as $72 for lumber laid down at the property; that is, for mine timber, merchantable timber. We use all merchantable timber. Cyanide was 22½ cents. Last year the average price of cyanide was 23.9 cents. During the war period cyanide cost something over $1. Steel balls are not used at the Gold Roads, so we can not make a comparison on them. Zinc dust cost in 1914, 7.04 cents, and last year it cost 10.9 cents. In 1914 drill steel cost 7 cents, and in 1923 it cost us 12.07 cents. Mill liners—I don't know what kind of iron that was used at Gold Roads, but the other, tube mills, cost them in 1914 4 cents, while our chrome steel liners now cost us, in 1923, 13.6 cents. The power figures you have.

Mr. HAMILTON. If you will let the reporter have that and incorporate it into the record, please.

(Thereupon, the data referred to was received in evidence and is in words and figures following, to wit:)

	Gold Roads, 1914	United Eastern, 1923
Lumber, per M feet	$32.75	$42.327
Powder, 40 per cent per pound	.14	.1583
Cyanide, 98 per cent	.225	.239
Steel balls (not used in Gold Roads), 5-inch		.05196
Steel balls, 2-inch		.05952
Zinc dust	.0704	.109
Drill steel	.07	.1207
Mill liners (Gold Roads used tube mills)	.04	.136
Lime, per ton	18.50	16.60
Power, kilowatt hours	.022855	.02234
LABOR SCHEDULE		
Machineman	4	5.50
Mucker	3.50	5.00
Hoist man	4.50	6.00
Stope boss	4.50	
LABOR SCHEDULE—continued		
Blacksmith	$4.50	6.00
Sharpener	4.00	5.00
U. G. pump men	4.50	5.50
Cager	4.00	5.50
Nipper	3.50	5.00
Chute blaster	4.50	6.00
Powder monkey	3.50	
Chute puller	3.50	
Compresser man	4.50	5.50
Crusher man	3.50	5.50
Laborers on bull gang	3.50	5.00
Machinists	4.50	6.00
Boss pipeman	4.50	
Millmen	4.00	5.50
Helpers	3.50	5.00
Solution men	4.50	6.00
Mill pumpmen	4.00	

I expect to complete that and give some figures for the intervening years when we get our freight-rate figures, just to show what we had to buck against in the high years. Labor was higher than this, we paid $6, and we paid as high as $72 for lumber into the mine; cyanide was higher; drill steel was higher. Everything, in fact, was higher, and labor efficiency, of course, is something that can not be banked upon, but it is more efficient now than in the war years.

Mr. HAMILTON. How many men do you ordinarily employ in the mine, Mr. Moore?

Mr. MOORE. One hundred and seventy-eight year before last; last year 150. Now, the decrease is partly due to the fact that jobs are not so plentiful, and also to the fact that we had given up some development work.

Mr. HAMILTON. How do you find your costs to-day as compared with seven years ago, under comparable conditions, if it is possible to give it?

Mr. MOORE. It is very difficult to give that, Mr. Hamilton, because at that time there was more unrest in labor than there is now; things were moving up, cost of supplies, etc., and it was hard to make a direct comparison; but our costs right now are lower than they were then. Our low average for last year is in a

great part due to the fact that we had ore bodies developed and quite a lot of that work; I had some, but the more costly work was all done away with. Our cost last year was $6.90, which was the lowest we ever had.

Mr. HAMILTON. What are the highest costs you have had?

Mr. MOORE. Eleven dollars and something. That takes in everything that you can charge to it. If we were to liquidate and pay out everything, the dividends would amount to around $7,000,000.

Mr. HAMILTON. $7,000,000?

Mr. MOORE. Yes, sir.

Mr. HAMILTON. Yes.

Mr. MOORE. The gross value is a little under $14,000,000.

Mr. HAMILTON. The general average was what?

Mr. MOORE. A little over $20. So, gold has cost close around $10 an ounce to produce, or a little under that. As far as taxes are concerned, our main objection is that the rax commission does not levy assessments on the value of the property, the same as they do on everything else.

Mr. HAMILTON. Perhaps we had better postpone the discussion of the tax situation until after lunch?

Mr. MOORE. I have not much to say about it.

Mr. HAMILTON. I was going to ask if you could not outline briefly the method of taxation used in the State?

Mr. MOORE. I think I can do it.

Mr. HAMILTON. Without going into too much detail, but just to show the method of taxation and the method of valuation for taxation purposes. If you would do that, I would be glad to have it.

Mr. MOORE. I will have to get a report of the tax commission, which will show the method by which they arrive at a capitalizing figure that they levy an assessment on the property, depending on the life of the mine—just arbitrary figures they take.

Mr. HAMILTON. We will adjourn until 1.30 o'clock this afternoon.

(Thereupon, at 12.10 o'clock p. m., an adjournment was taken until 1.30 o'clock this afternoon.)

AFTER RECESS

Mr. HAMILTON. Are you ready, Mr. Moore, to go ahead?

Mr. MOORE. I have here a copy of the sixth biennial report of the State tax commission, report to the governor for the year of 1922, and here is a chart showing the comparative assessed valuation by general classification of taxable property in Arizona for the year 1922. Mining property assessment amounted to 48.97 per cent of the total assessed valuation of the State.

Mr. HAMILTON. Do they give their method of arriving at the valuation of mining property in the State, as compared with the other property in the State?

Mr. MOORE. Well, it gives here the method of assessing producing mines. It says here:

"If we admit that a capitalization of the net earnings averaged over a period of years reflects the approximate value of any property, we must also admit that the period of years used be sufficiently numerous so that it is representative of the average performance, neither all the fat years, which would be unfair to the property owner, nor all of the lean years, which would be unfair to the State, when used for the purpose of appraisal and taxation should be used."

Now, this method was started in 1915, and for that year they used a three-year average, and for the 1916 assessment a four-year period was used; since that time a five-year period has been used, with the exception of the years when new mines were brought into production, in which case one year was added to that year until the full period had been reached. Now, the five-year period was used for several years, as long as the mining industry was prospering in the State, but when the copper mines shut down for a couple of years. By taking an average net for the five-year period that carries considerable less, when they used the four and five years, during which time the copper mines were shut down, so the tax commission extended their period over which to calculate the average net to a seven-year period and an eight-year period, and I believe they are going to go to a 9 and 10 year period so as to keep in those years of high prosperity during 1916 and 1917, to offset the next two years when the mines were shut down.

Now, in our own case, we started producing in 1917. They took our net income for the year and then after that they took the net income for each year and took the average for those as we went along up until the present time. This last year they probably used seven years; they used six years before.

Now, they take the average net for a certain period of years and they use a capitalizing figure to determine the valuation according to the probable life of the mine.

They have here 10 classifications. Just for instance, take a copper mine, whose ore bodies are found in veins, fissures, and lenses, and which tend to show evidences of exhaustion, 15 per cent. I won't read all of these. Class 1, 2, and 3 are all 15 per cent. Class 4 copper mines, which tend to show evidences of exhaustion, 18 per cent. Class 5 is gold and silver mines whose ore deposits show evidences of exhaustion, 30 per cent. Now, that is the factor they used for the United Eastern last year and the year before. Class 6, gold and silver mines showing evidences of exhaustion, 20 per cent. That is the factor they have been using right along for the United Eastern. Our average net has been right around a million dollars the way they have calculated it.

There are some costs they would not permit us to deduct, such as litigation expense and some other items that amounted to quite a good deal.

Another thing the tax commission did in 1919, when we had a strike on for two weeks, the tax commission figured what we would have earned if we had worked, and they added that to our valuation and charged taxes upon it.

I mention this just to show the things the mining industry has to fight against in this State.

But by taking the average net over a period of five or six years in the case of the United Eastern they used a capitalization figure of 20 per cent, and if the average net value would be around a million dollars, capitalizing at 20 per cent would make a valuation upon the property of something over $5,000,000; and the tax rate has been around $2—$2.07 or $2.08 I believe it was last year, so it was the highest tax and amounted to one hundred and fourteen-odd thousand dollars, which amounted in that year to $1.18 a ton.

There is a little competition between the county and the State as to how much the county will get and how much the State will get. For instance, they won't permit depreciation upon a plant except a nominal figure. Their attitude is that as long as the plant is doing its work, it is worth the original cost to the property.

Mr. HAMILTON. Well, if you were to decrease the use of the plant to, say, 15 per cent of its capacity——

Mr. MOORE (interposing). They probably would permit a reduction in that case; but the local county officials here have taken the stand that since a certain valuation is put on the mine and plant by the method of taxation of the State tax commission, if they reduce the value of the plant, which is the tax for county purposes, that will increase the amount of your total tax that is received by the State; so that is one reason the local assessor will not permit other than a very small depreciation of your plant.

But that is the general method of taxation, of taking your average net over a period of years and capitalizing that with a factor which is dependent upon the probable life of the mine, and that factor varies from 15 to 30 per cent. A 30-per cent mine is class 8, and naturally those listed in that class are producing mines of an irregular output.

Mr. HAMILTON. Is that method of valuation and taxation acceptable to the companies? Are they satisfied with it under the conditions and the needs of the State for funds?

Mr. MOORE. They have not been ordinarily. What they would prefer, and I know we would prefer it in our case, if they would assess us at 100 per cent upon our net output for the year. Then if our production is less, consequently the lower taxes we will have to pay; if it is higher, we are willing to pay it. A great many of the mining companies, I think, are in favor of that same method. The tax commission states that they don't like that method for this reason: That in the lean years the State would not have sufficient money to care for the needs of the State government, when the mines are shut down. We can easily see that if the State would work under a budget whereby it would control its expenditures by the average amount coming to the State; in those cases that would take care of the lean years and not work hardships upon the mines that are working under difficulties.

Now, we will shut down this May; by June 1, and the way they calculate their taxes, our taxes will be as much this year as they ever have been; that is, in the last couple of years. We won't know what that amount is until after the mine has shut down; but I believe that all of the mines would prefer to be upon a 100 per cent valuation, the same as any other property, rather than the method which is now in force.

Mr. HAMILTON. In other words, you go on the assumption that the property is only valuable when it is operating?

Mr. MOORE. Yes.

Mr. HAMILTON. For taxation purposes?

Mr. MOORE. Yes, sir; because in this way which is in effect now it is just taxing each ton of ore as long as you operate, year after year.

Mr. HAMILTON. Are there any other taxes charged against the companies besides that?

Mr. MOORE. Federal tax?

Mr. HAMILTON. No; bullion tax or additional taxes?

Mr. MOORE. Federal income tax. That don't amount to a great deal now. It did in the early operations, though.

Mr. HAMILTON. Do the companies have any difficulties in the adjustment of their income tax, allowances for depreciation? Have you any cases pending now?

Mr. MOORE. We had quite a little difficulty. Mr. Wiseman told you of the period spent in Washington.

Mr. HAMILTON. Yes; he said something about it.

Mr. MOORE. Yes; it cost us about $10,000 to get back $76,000. It took about a year of his time to convince the department that he was right. They finally did make a refund of that amount. Their attitude was based more as to what the value of the property was when we started in there. They were not willing to allow discovery right upon that thing. The department claimed when the Tom Reed opened that vein they as good as discovered the United Eastern ore values. They would not permit us to apply this for depreciation purposes.

Mr. HAMILTON. Now, are there any other points you have thought of that you want to bring out, Mr. Moore?

Mr. MOORE. No; I don't believe there are, Mr. Hamilton. I think that sheet I gave you will show the comparisons pretty accurately as to the cost of the major supplies and of the labor item.

Mr. HAMILTON. All right. Thank you very much.

(The following data was submitted by Mr. Moore:)

UNITED EASTERN MINING CO.,
Oatman, Ariz., April 5, 1924.

Mr. FLETCHER HAMILTON,
Commission of Gold and Silver Inquiry,
San Francisco, Calif.

DEAR SIR: Inclosed herewith please find statement of comparative costs of materials and wage scale as submitted to you in Kingman a few days ago, and also comparative freight rates for the years 1914 and 1923.

We have recently received a great many forms to fill out from the Washington office of this commission, and in view of that work will not attempt to give full information at this time but will send in those blanks properly filled out as soon as possible.

Very truly yours,

ROY W. MOORE, *General Manager.*

United Eastern Mining Co., Oatman, Ariz., comparative costs of principal items used

Items	Unit	Costs		Per cent of increase
		1914	1923	
Mining timbers	Foot	$32.75	$42.327	29
High explosives	Pound	.14	.1583	13
Cyanide	do	.225	.239	6
Grinding balls, 5-inch	do	(1)	.05196	
Grinding balls, 2-inch	do	(1)	.05952	
Zinc dust	do	.0704	.109	55
Drill steel	do	.07	.1207	72½
Mill liners (steel)	do	.04	.136	240
Lime	Ton	18.50	16.60	[2] 11
Electric power	Kilowatt-hour	.02234	.922855	2

[1] Not used. [2] Decrease.

Comparative wage scale, 1914–1923

Class of labor	Rate		Per cent of increase
	1914	1923	
Machineman	$4.00	$5.50	37.5
Shoveler	3.50	5.00	43
Hoistman	4.50	6.00	33.5
Stope boss	4.50		
Blacksmith	4.00	6.00	33.5
Steel sharpeners	4.00	6.00	50
Pump men, underground	4.50	5.50	22
Cagers	4.00	5.50	37.5
Tool nippers	3.50	5.00	43
Chute blasters	4.50	6.00	33.5
Powder monkey	3.50		
Chute pullers	3.50		
Compressor men	4.50	5.50	22
Crusher men	3.50	5.50	57
Laborers	3.50	5.00	43
Machinists	4.50	6.00	33 5
Boss pipeman	4.50		
Millmen	4.00	5.50	37.5
Solution men	4.50	6.00	33.5
Solution helpers	3.50	5.00	43
Pump men, mill	4.00		
Average increase in wage scale			35.4

United Eastern Mining Co., Oatman, Ariz.—Comparative freight rates, December, 1914, December, 1923

[The rates mentioned are from points listed below to Kingman, Ariz.]

From—	Commodity	Carload rates		Per cent of increase
		1914	1923	
San Pedro, Calif	Mining timbers	$0.27	$0.335	24
Portland, Oreg	do	.64	.66	3
Herpoco, Calif	High explosives	1.68	2.815	67
San Pedro, Calif	Cyanide	1.11	1.565	41
San Francisco	do	1.26	1.775	41
Niagara Falls, N. Y	do	2.43	3.65	50
San Francisco, Calif	Grinding balls	.82	.925	13
Chrome, N. J	do	1.77	1.73	[1] 2
Do	Mill liners	1.83	2.12	16
San Bernardino, Calif	do	.66	1.015	54
Nelson, Ariz	Lime	.10	.13	30
Average increase on above items				33

[1] Decrease.

The general increase of freight rates covering less than carload shipments from Los Angeles and San Francisco, Calif., has been 40 per cent (these shipping points are used inasmuch as the bulk of our purchases are from these points). The 40 per cent increase is made up as follows:

Increase on June 25, 1918	25
Increase on Aug. 26, 1920	25
	50
Decrease on July 1, 1922	10
Total increase 1914–1923	40

THE AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Technical Publication No. 83

Class A, Metal Mining, No. 14

Mining Methods and Records at the United Eastern Mine

By ROY W. MOORE

LOS ANGELES, CALIF.

DISCUSSION OF THIS PAPER IS INVITED. It should preferably be presented in person at the New York Meeting, February, 1928, when an abstract of the paper will be presented. If this is impossible, discussion in writing may be sent to the Editor, American Institute of Mining and Metallurgical Engineers, 29 West 39th Street, New York, N. Y., for presentation by the Secretary or other representative of the author. Unless special arrangement is made, the discussion of this paper will close April 1, 1928. Any discussion offered thereafter should preferably be in the form of a new paper.

29 WEST 39th STREET
NEW YORK, N. Y.

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Issued with *Mining and Metallurgy*, March, 1928

United Eastern
Mohave Co.

August 16, 1920.

Mr. Roy W. Moore, Gen'l Supt.,
United Eastern Mining Company,
Oatman, Arizona.

Dear Sir:-

Weekly Mill Letter
For week ending August 15th:

During the past week we have crushed ore as follows:

	Total Hr.	Hr. Per Day	Tons Dry Ore	Tons Per Hr.	Tons Per Day
Crusher	52.2	7.4	2034	38.9	291
Marcy Mill	195.0	27.9	2030	10.4	290
Ball Pebs	322.0	46.0	1340	4.2	192

We have precipitated 5942 tons of solution, giving 1893 oz. of gold valued at approximately $39,100.00.

Yours truly,

Earle M. Bagley.

Mill Superintendent.

B:ML

CC to Mr. Wiseman
" " " F.A. Keith.

ARIZONA DEPT. OF MINES & MINERAL RESOURCES
STATE OFFICE BUILDING
416 W. CONGRESS, ROOM 161
TUCSON, ARIZONA 85701

Form 37. 3000-1-17

DAILY ASSAY REPORT

UNITED EASTERN MINING COMPANY

GOLD @ $20.67 PER OZ.

SILVER @ ..... " "

Mill Sheet

OATMAN, ARIZONA

4/28/17 191

No.	Sample Taken From	Width	Gold Ounces	Gold Dollars	Silver Ounces	Silver Dollars	Total Value	Percentage of	Description
	Press Tails	Solu.	0 0005	$ -01					Day Shift
	" "	"	0 001	-02					4 Oclock
		"	—	Trace					Graveyard
	" Heads	"	0 224	4 63					Day
	" "	"	0 214	4 42					4 Oclock
	" "	"	0 206	4 25					Graveyard
#2	Thickener	"	0 206	4 25					
3	"	"	0 052	1 08					
4	"	"	0 012	-25					
5	"	"	0 009	-19					
Callow Wash		"	0 224	4 63					
#1	Thickener	Slime	0 44	9 09					
#3	Agitator	"	0 05	1 03					
#2	Thickener	"	0 025	-52					
4	Agitator	"	0 024	-46					
3	Thickener	"	0 03	-62					
4	"	"	0 025	-52					
5	"	"	0 025	-46					
5	"	"	0 02	-41					(Washed)
Marcy Discharge			0 95	19 64					
	Mill Head	—		$17 14					

NaCn 2.2# in agit.
$(NH_4)_2S$ used in sample buckets.
87% -200 mesh
99% -150 ✓

ARIZONA DEPT. OF MINES & MINERAL RESOURCES
STATE OFFICE BUILDING
416 W. CONGRESS, ROOM 161
TUCSON, ARIZONA 85701

2.4 % moisture
2.35 Tundry

D. E. Bruce

WR/GW 1/13/78 - Mr. O.J. Harwood came in with two of his investors in the Victoria mine near Oatman. He said they had leases on the Tom Reed and the United Eastern tailings therefore, wanted information about them which was given. 2/23/78 a.p.

CJH WR 4/1/80: Researched written request for information regarding the Black Range Mining Co., Oatman District, Mohave County.

UNITED EASTERN #1 MOHAVE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull Jacqueline E. Schafer, Director

Certified Mail - Return Receipt

November 30, 1999
REF#: EU99-0684

Unity Partners, Inc.
Attention: Thomas DeHoff
275 Bellingrath Park
Conroe, TX 77302

RE: United Eastern Project - Notice Of Violation Closure
Inventory #100325

Dear Mr. DeHoff:

The purpose of this letter is to inform you that the Water Quality Enforcement Unit of the Arizona Department of Environmental Quality has closed the Notice of Violation (NOV) issued to the United Eastern Project (Permit #G-0044-08) on November 8, 1999. Closure of the non-reporting NOV is in no way indicative of the overall compliance status of the facility. This closure is the result of meeting the requirements of the November 8, 1999, NOV by submitting a statement that this facility was not in operation during the second quarter 99, in lieu of the delinquent Self-Monitoring Report Forms (SMRFs).

The Water Quality Enforcement Unit would like to thank you for resolving the past non-reporting violation. Please continue to submit all future SMRFs in a timely manner as required by the referenced permit. Please review the instructions as outlined for properly filling out SMRFs whether or not there is a discharge.

Enclosed please find the SMRFs with instructions for your facility (United Eastern Project Process Technologies, Permit #G-0044-08.) All SMRFs are designed for each facility's specific monitoring and reporting requirements as required within each facility's permit.

The SMRF includes the parameters that are listed in your permit's monitoring table. The reporting and sampling frequencies and sampling location are listed on each page of the SMRF. For example, if your facility has monthly sampling requirements with quarterly reporting, there will be three spaces available on the form for Data Entry (e.g., one space for each month). When completing the SMFR there are five basic areas that require data. Instructions for completing the SMRF are listed below in steps 1 through 6.

If you should have any comments or questions or you would like an EDR format, please call Regina Bain at (602) 207- 4841 or within Arizona 1-800-234-5677 x4841 or Lynn Ott at (602) 207-4816, or within Arizona 1-800-234-5677 ext.4816.

Sincerely,

M. Reza Azizi

M. Reza Azizi, Manager
Water Quality Enforcement Unit

Enclosure(s)

cc w/o enclosures:
Mohave County Health & Social Services
BLM - Ralph Costa 222 N. Central Ave., Phoenix, AZ 85004-2003
State Mine Inspector 1700 E. Washington, Ste. 400 Phoenix AZ 85007
Dept. of Mines & Mineral Resources, Nyal Niemuth 1502 W. Washington
Phoenix, AZ 85007

UNITED EASTERN (P/MOHAVE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull Jacqueline E. Schafer, Director

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

November 8, 1999
REF#: EU99-0617

Thomas DeHoff
Unity Partners, Inc.
275 Bellingrath Park
Conroe, TX 77302

RE: United Eastern Project Process Technologies
Inventory #100325

NOTICE OF VIOLATION

The Arizona Department of Environmental Quality (ADEQ), Water Quality Division, Water Quality Enforcement Unit, has determined that Unity Partners, of Conroe, TX, is in violation of the Arizona Revised Statutes (A.R.S.), Title 49-101 et seq. and applicable rules.

I. FINDINGS OF FACT AND DESCRIPTION OF VIOLATION(S)

1. Thomas DeHoff, Unity Partners, Inc., is the owner and/or operator of the United Eastern Project Process Technologies, a discharging facility, operating pursuant to Groundwater Quality Protection Permit, G-0044-08.

2. The owner/operator of the United Eastern Project has failed to submit monitoring data for the second (2nd) quarter of 1999, as required by the Groundwater Quality Protection Permit issued for the facility. The monitoring data for the second (2nd) quarter of 1999, was due to ADEQ by July 28, 1999. Failing to monitor or report as required by a Groundwater Quality Protection Permit is a violation of the permit and A.R.S. §49-261.A.

II. CITATIONS OF AUTHORITY

1. The Arizona Department of Environmental Quality (ADEQ) shall prevent and abate all water pollution. [A.R.S. §49-104.A.11.]

2. The ADEQ shall adopt, by rule, an aquifer protection permit program to control discharges of any pollutant or combination of pollutants which are reaching or may with reasonable probability reach an aquifer. [A.R.S. §49-203.A.4.(1986)]

3. The ADEQ shall prescribe in the aquifer protection permit the monitoring, record keeping and reporting requirements. [A.R.S. §49-243.F.(1986)]

4. If the director of ADEQ determines that a person is in violation of any condition of a Groundwater Quality Protection Permit, the director may issue an order requiring compliance within a reasonable timeframe. [A.A.C. R18-9-130 and A.R.S. §49-261.A.]

III. REQUIRED CORRECTIVE ACTIONS

Within ten days of receipt of this Notice

1. The owner/operator of the facility shall submit completed Self-Monitoring Report Forms as required by the Groundwater Quality Protection Permit for the second (2nd) quarter of 1999; or

2. The owner/operator of the facility shall submit a written explanation for failing to submit the Self-Monitoring Report Forms as required by the Groundwater Quality Protection Permit for the second (2nd) quarter of 1999.

IV. REQUIRED DOCUMENTATION

1. Adequate documentation of compliance shall consist of completed Self-Monitoring Report Forms as required by the Groundwater Quality Protection Permit for the second (2nd) quarter of 1999. Although ADEQ has previously provided the owner/operator with Self-Monitoring Report Forms for the facility, additional Self-Monitoring Report Forms can be obtained from the Water Quality Data Unit by contacting Julie Collins at (602) 207-4688 or within Arizona 1-800-234-5677 x4688.

2. All Self-Monitoring Report Forms and/or written explanations for failing to report, shall be sent to ADEQ at the following address:

   Arizona Department of Environmental Quality
   Attn: Lynn Ott
   Water Quality Compliance Section
   3033 N. Central Avenue, M0501B
   Phoenix, AZ 85012

3. The above documentation shall be deemed "submitted" when received by ADEQ.

4. Any facility updates including owner/contact/operator name, address and phone number changes should be submitted as soon as the information is available.

V. STATEMENT OF CONSEQUENCES

Failing to adequately respond to this notice in a timely manner will result in an ADEQ referral to the Arizona Attorney General's Office for an escalated enforcement action. At ADEQ's request, the Arizona Attorney General shall file a civil complaint in superior court to recover substantial civil penalties accruing at a rate of twenty-five thousand dollars ($25,000) per day per violation. [A.R.S. §49-262.C.]

Achieving compliance and/or providing an explanation for noncompliance does not preclude ADEQ from seeking civil penalties through the Attorney General for the above-cited violations.

VI. OFFER TO MEET

ADEQ personnel are willing to schedule a meeting to discuss the violations and corrective actions. Prior to the meeting, please submit the following: 1) an agenda that specifies the issues that you wish to discuss and 2) the names and affiliations of the participants that will be accompanying you.

If you would like to meet, or feel that this notice has been sent in error, please contact Lynn Ott at (602) 207-4816, or 1-800-234-5677 x 4816, within five days of receipt of this notice.

M. Reza Azizi

M. Reza Azizi, Manager,
Water Quality Enforcement Unit

cc: Mohave County Health & Social Services
BLM - Ralph Costa, Mining Engineer 222 N. Central Ave. Phoenix, AZ 85004-2003
State Mine Inspector 1700 E. Washignton, Ste. 400 Phoenix, AZ 85007
Dept. of Mines & Mineral Resources, Nyal Niemuth
1502 W. Washington Phoenix, AZ 85007
ADEQ Northern Regional Office Regional Office
ADEQ - Eric Wilson, Manager, Mining Unit
ADEQ- WQEU Facility File
ADEQ- WQEU Reading File
lwo

UNITED EASTERN FILE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

EVAN MECHAM, GOVERNOR
GERALD H. TELETZKE, PH.D., DIRECTOR

NOTICE OF INTENT TO (ISSUE) (A) GROUNDWATER QUALITY PROTECTION PERMIT(S)

Pursuant to Arizona Compilation of Rules and Regulations, Title 9, Chapter 20, Article 2, the Director of the Arizona Department of Environmental Quality intends to issue a Groundwater Quality Protection Permit(s) to the following applicant(s), subject to certain special and general conditions.

Public Notice No. 138-87AZGW
United Eastern Project
Process Technologies
2420 W. First Street, #58
Tempe, Arizona 85281
Groundwater Quality Protection Permit No. G-0044-08

On or about
February 1, 1988

The permittee shall be authorized to operate a hydrometallurgical precious metal recovery facility utilizing the carbon in pulp (CIP) cyanide leaching method. The facility is located in Oatman, Arizona (T19N, R20W, Sections 14, 1S and 23) in the center of the Oatman Mining District. The Groundwater Quality Protection Permit shall regulate the containment of the cyanide leach solution to be used in the ore processing mill and the disposal of neutralized (cyanide destruction) mill tailings. The facility consists of two adjoining processing plant sites, with each site having a precious metal processing and recovery mill, a tailing distribution and disposal areas, and office facilities with a septic system for domestic sewage disposal. The permittee shall continuously monitor the processing mill solutions in the form of leak detection devices and continuously monitor the neutralized mill tailings before disposal for the presence of cyanide. The facility shall be protected from runoff associated with a 100-year, 24-hour stormwater event and shall fence the processing site to provide restricted access. Depth to groundwater below the site is in excess of 500 feet and no groundwater wells are within a 1/4 mile radius of the site.

The permit and related material are available for public review Monday through Friday, 8:00 a.m to 5:00 p.m. at Arizona Department of Environmental Quality, Water Permits Unit, 2005 North Central Avenue, Phoenix, Arizona 85004.

Persons may submit comments or request a public hearing on the proposed action, in writing, to ADEQ at the above address within thirty (30) days from the date of this notice. Public hearing request must include the reason for such request.

RECEIVED
FEB 02 1988
DEPT. OF MINES & MINERAL RESOURCES

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 ± 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 then 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 ± 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 + 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 definative 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 ± 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 ± .9 my). White intrusive rock unit is the Elephants Tooth rhyolite (19.6 ± .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 ± 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

ARIZONA DEPARTMENT OF MINERAL RESOURCES
Mineral Building, Fairgrounds
Phoenix, Arizona

1. Information from: W. Perry Durning, Exploration Manager, P. O. Box 402

   Address: Oatman, AZ 86433; Phone 753-1622

2. Mine: _____ 3. No. of Claims - Patented _____

   Unpatented _____

4. Location: _____

5. Sec _____ Tp _____ Range _____ 6. Mining District Oatman

7. Owner: _____

8. Address: _____

9. Operating Co.: Fischer-Watt Mining Co., Inc.

10. Address: _____

11. President: _____ 12. Gen. Mgr.: _____

13. Principal Metals: Au 14. No. Employed: _____

15. Mill, Type & Capacity: _____

16. Present Operations: (a) Down ☐ (b) Assessment work ☐ (c) Exploration ☒
    (d) Production ☐ (e) Rate _____ tpd.

17. New Work Planned: Continue to drill with substantial budget. Two core rigs going. Have delineated marginal ore on a segment of the Tom Reid structure.

18. Miscl. Notes: Fischer--Watt controls most of the Oatman district. Mr. Al Morris is doing a Master's thesis on the structure of the Pioneer Mine area (doing work at the Colorado School of Mines).

Date: 5/5/80

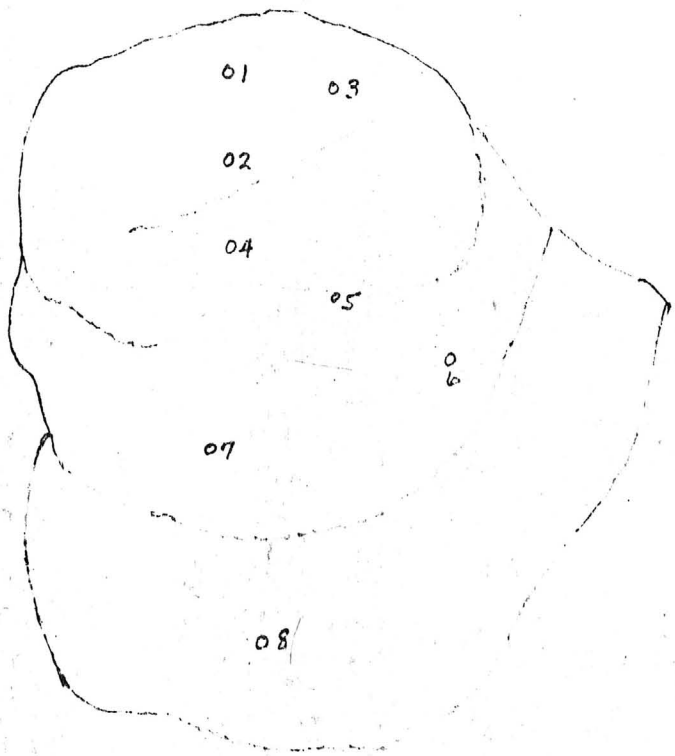
M. N. Greeley
(Signature) (Field Engineer)

United Eastern ✓
Big Ann
United Western

United Eastern Dump (Tails)
Oatman Ariz.
7-20-38

1,000,000 tons ? .81% - 200
Water about 5 M. High Cost
Dump 30 - 60 ft. deep
Must stack tails on other ground

Ave. 7 Samples .04 Au.



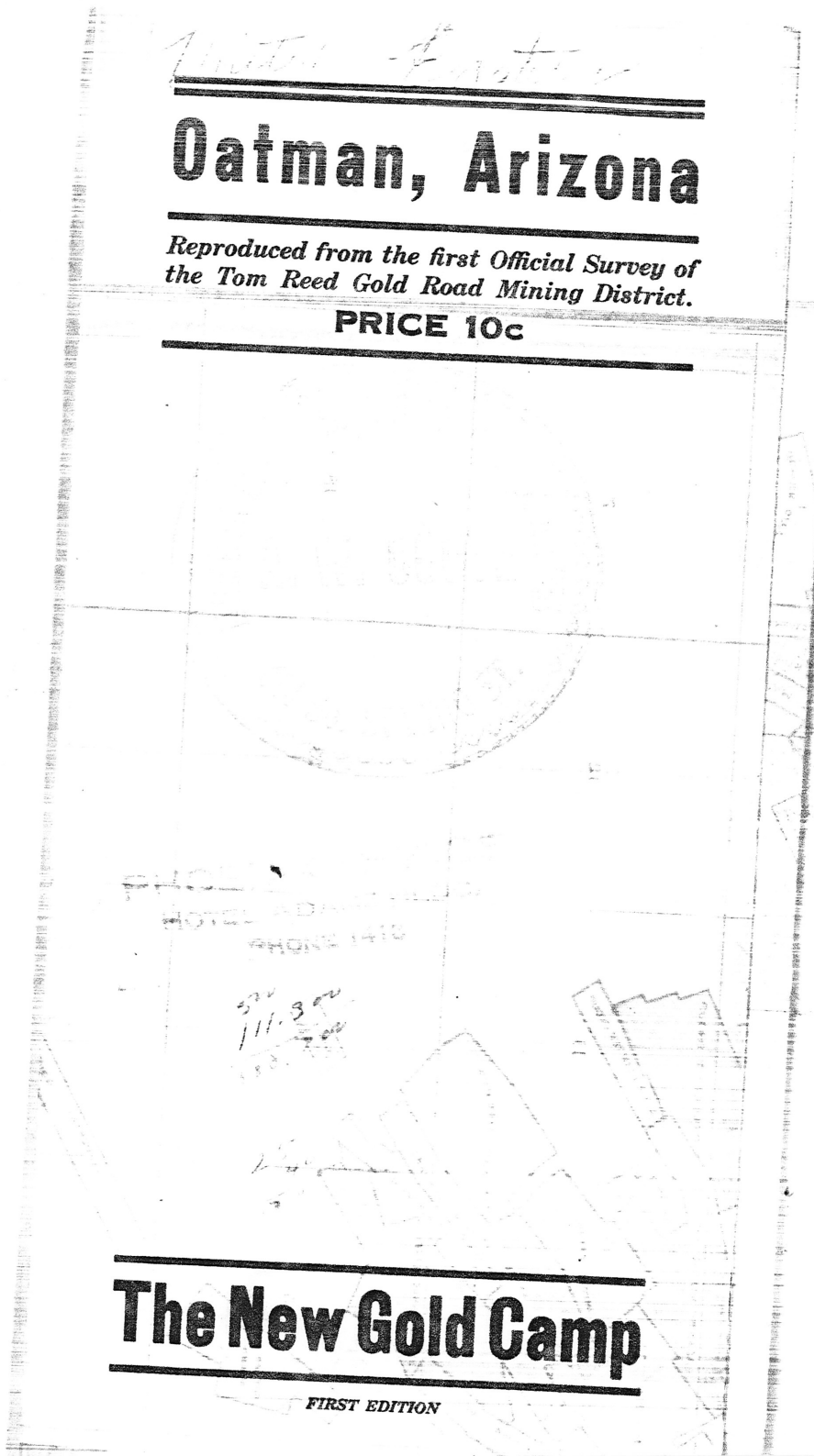
S.	No.	1	10 ft.	1 3/4 Augar hole	
"	"	2	12 "	" " " "	
"	"	3	12 "	" " " "	
"	"	4	12 "	" " " "	
"	"	5	13 "	Cut in Bank	
"	"	6	4 "	1 3/4 Augar hole	
"	"	7	4 "	" " " "	
"	"	8	4 "	" " " "	

Note: goldeness told me that none of the dump samples went below .03 au.
81% - 200 mesh.

Oatman, Arizona

Reproduced from the first Official Survey of the Tom Reed Gold Road Mining District.

PRICE 10c



The New Gold Camp

FIRST EDITION

OATMAN ARIZONA

The New Gold Camp

IS located in the southwestern section of Mojave County, Arizona, on the western flank of the Black Range mountains. It is in what is officially known as the San Francisco Mining District. This section has for a long time been referred to as the Tom Reed-Gold Road district, but is now generally known as the Oatman district.

SIZE OF THE DISTRICT

The camp is about centrally located in the district, which is some sixteen miles in length by about nine in width. This map covers this area, the section lines and section numbers being shown, the lines dividing the map into mile-square sections.

The camp itself is some two miles in length, extending from the old nucleus formed by the Tom Reed buildings in the southeastern corner of Section 14, southerly through portions of Sections 22 and 23 to the Lexington townsite in Section 27. It is the center of a population now estimated at about 4,000.

The elevation of the camp is about 4,000 feet. The climate is arid, with hot summers and mild winters, but the heat of the summers is tempered by almost constant breezes, cool nights, and the extreme dryness of the atmosphere.

LIVING IS NOT EXPENSIVE

As compared with the usual new mining camp, the cost of living in Oatman is very low, this being due to easy access and the fact that the Santa Fe Railway is but two hours' distant from the camp. It is estimated that one may live in Oatman at a cost of not more than ten per cent in excess of the cost of living in Los Angeles.

NOT A NEW DISTRICT

Gold was first discovered in this district more than 60 years ago, and some phenomenally rich pockets and lenses of free-milling gold ore were opened. A number of extensive mining ventures were made and failed, due to inadequate equipment and to shallow mining.

It remained for the Gold Road Mine, now owned by the U. S. Smelting and Refining Corporation, and for the Tom Reed Gold Mines Company, to prove that deep mining is required to reach extensive ore bodies. During the last ten years these properties have paid more than $6,000,000 in profits to owners, and are steadily turning out bullion at the rate of more than $100,000 per month.

Discovery of enormous ore bodies in the United Eastern mine, adjoining the Tom Reed mine, something over a year ago, caused the rush which has resulted in the present development of the town and the district.

The United Eastern mine is estimated to have more than $12,000,000 worth of gold ore blocked out in its mine, and is now preparing to build a mill.

The Gold Ore Company is milling thirty tons per day in the Gold Road mill, and is preparing to build its own plant.

The Big Jim Company has recently encountered large bodies of ore and is now engaged in blocking out ore and plans to construct a mill eventually.

MANY COMPANIES DEVEL

Experience has shown that in depths of from 400 to 600 feet tained before commercial ore may b To sink a working shaft to that de necessary lateral work requires sev of time. Yet, despite this handi thing like 150 separate properties developed in the district, usually by which have placed machinery eq unusually high grade upon their In several of these properties devel reached a stage where importan coveries may be expected at any t

PERMANENCY OF CAM

Ore bodies now developed seem that Oatman will be making a lar tion for several years. The charac buildings being erected emphasize fidence the builders have in the fu district, as concrete, stone and iron ing in the construction. Commodi cafes and theatres are kept busy, w banks and newspapers are thriving. has electricity and water, and a sew tem is now projected.

MANY COMPANIES DEVELOPING

Experience has shown that in the district depths of from 400 to 600 feet must be attained before commercial ore may be expected. To sink a working shaft to that depth, and do necessary lateral work requires several months of time. Yet, despite this handicap, something like 150 separate properties are being developed in the district, usually by companies which have placed machinery equipment of unusually high grade upon their properties. In several of these properties development has reached a stage where important ore discoveries may be expected at any time.

PERMANENCY OF CAMP

Ore bodies now developed seem to assure that Oatman will be making a large production for several years. The character of the buildings being erected emphasizes the confidence the builders have in the future of the district, as concrete, stone and iron are figuring in the construction. Commodious hotels, cafes and theatres are kept busy, while stores, banks and newspapers are thriving. The camp has electricity and water, and a sewerage system is now projected.

TRANSPORTATION

The nearest points to the new gold camp are reached by the Santa Fe Railway. These are Needles, California, and Kingman, Arizona. After leaving the train at either of these places regular auto service conveys the passenger to the camp. From Kingman to Oatman is 27 miles, the trip taking two and one-half hours. From Needles to Oatman is 20 miles, the trip consuming two hours. The roads are crooked but in very good shape.

By automobile, the camp is reached over the National Old Trails Route, either from Kingman, when the trip is being made from the east, or from Topock, when the trip is being made from the west. At Topock a new highway bridge has been built over the Colorado River, and a new road constructed to Oatman, 27 miles distant.

SANTA FE RAILWAY TIME CARD

East Bound

No. 10	Arrives	Needles	8:10 a.m.
No. 10	Arrives	Kingman	11:20 a.m.
No. 2	Arrives	Needles	6:35 p.m.
No. 2	Arrives	Kingman	9:20 p.m.
No. 8	Arrives	Needles	8:00 p.m.
No. 8	Arrives	Kingman	11:05 p.m.
No. 22	Arrives	Needles	3:30 p.m.
No. 22	Arrives	Kingman	6:00 a.m.

West Bound

No. 9	Arrives	Kingman	4:21 p.m.
No. 9	Arrives	Needles	5:50 p.m.
No. 1	Arrives	Kingman	3:50 p.m.
No. 1	Arrives	Needles	5:40 p.m.
No. 21	Arrives	Kingman	7:30 a.m.
No. 21	Arrives	Needles	8:55 a.m.
No. 7	Arrives	Kingman	12:55 p.m.
No. 7	Arrives	Needles	2:30 a.m.

AUTO LINE TIME CARD

Oatman and Gold Road

Kingman

Leave Kingman for Oatman	1:00 p.m.
Arrive Oatman	3:30 p.m.
Leave Oatman for Kingman	7:00 a.m.
Arrive Kingman	9:30 a.m.

Needles

Leave Needles for Oatman	9:15 a.m.
Arrive Oatman	11:30 a.m.
Leave Oatman for Needles	1:00 p.m.
Arrive Needles	3:30 p.m.

UNITED EASTERN #1 MOHAVE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull Jacqueline E. Schafer, Director

Certified Mail - Return Receipt

November 30, 1999
REF#: EU99-0684

Unity Partners, Inc.
Attention: Thomas DeHoff
275 Bellingrath Park
Conroe, TX 77302

RE: United Eastern Project - Notice Of Violation Closure
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The SMRF includes the parameters that are listed in your permit's monitoring table. The reporting and sampling frequencies and sampling location are listed on each page of the SMRF. For example, if your facility has monthly sampling requirements with quarterly reporting, there will be three spaces available on the form for Data Entry (e.g., one space for each month). When completing the SMFR there are five basic areas that require data. Instructions for completing the SMRF are listed below in steps 1 through 6.

1) When completing the SMRF/Electronic Data Reporting (EDR) for each of the parameters that your permit requires, fill in the block titled "Sample Date" by entering the date the sample was taken.

2) Fill in the block titled "Analysis Date" with the date the samples were analyzed by the Arizona certified lab. These dates must fall within the appropriate quarter to be in compliance with sampling and reporting requirements.

3) In the block titled "Lab ID" enter the laboratory's identification number, (this number is the lab's certification number).

4) In the block titled "Reported Concentration" enter the reported results of the analysis.

5) In the block titled "Method" enter the number of the EPA approved analytical method specified in your permit. If your permit allows for **ANY** EPA approved analytical method recognized by ADHS Laboratory Licensure Rules for the purpose of achieving the detection limit which is equal to or lower than the limit specified in the permit, then enter the Method number that was used in the analysis.

6) For any effluent characteristic derived from a calculation using a mathematical average or geometric mean, enter the date the calculation was made (rather than the actual sample date) into the block titled "Sample Date" and enter that same calculation date into the block titled "Analysis Date."

If your facility is not producing flow or your monitoring well is dry or not constructed, enter **"NO FLOW", "NO EVENT", "DRY WELL"or "NOT CONSTRUCTED"** on the SMRF, whichever is applicable. If your chemical analysis was reported as not detected (ND), please enter this result as less than (<) the method detection limit. For example, if the standard method detection limit is 4.4 ug/l and the parameter was not detected, then enter "< less than the 4.4 ug/l". When units of measurement are different in your permit than those on the laboratory reports, convert to the units that are specified in your permit and those on your SMRF. The formula for converting ug/l to mg/l is 0.001 times the reported value in ug/l to get the value in mg/l. SMRFs with "ND" as the reported concentration will be interpreted by the Water Quality Pollution Database (WQPD) as invalid.

If your permit contains parameters with the suffix Ethylene, the SMRF will show parameters with the suffix Ethene. These are one in the same and the labs are aware of this.

Furthermore, **any** area of the SMRF without data will be interpreted by the WQPD as not reported and will be considered a violation of the monitoring and reporting requirements. To avoid the above difficulties please make certain all areas on the SMRF have been completed.

All SMRFs must be signed by the responsible party. Please make copies of the forms for use in future submissions.

Americana Buys Mine, Plans Multi-Purpose Mill.

Americana Investments, Inc. has purchased the former Tom Reed Gold Mining Co. properties in the Oatman 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, 500 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, Gray Eagle, Aztec, Olla Oatman, 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

INDEX.

SURFACE PLANT.

1 Shaft collar - 3 compartment shaft 5'-6"x5'-6" in clear.
2 Head-frame 32'-0"x36'-6" base 16'-6" to sheaves
3 Hoisting sheaves 7'-0" diam. 4½" bore 1" cable
4 Skip-dumping frame.
5 Allis-Chalmers Double-drum electric hoist, parallel motion post brakes - 150 H.P. motor, direct connected thru Herringbone gears - rope speed 800 ft. per min. 1" Rope.
6 Mine compressors- Ingersoll-Rand 9"x12"x16" belt driven 888 Cu.Ft. free air per min. to 100# press.
7 150 H.P. Motor 694 R.P.M. 24"x20" Pulley.
8 Hoist house.
9 Three concrete walls 12" thick, supporting bin.
10 Concrete wall - 14" top - batter 1" per Ft. - Bin support and retaining wall above crusher floor.
11 Coarse ore bin - 16'-6"x16'-6"x19'-6" deep - Discharge 150 tons gravity.

COARSE CRUSHING DEPT.

12 42" Link Belt pan conveyor - 12 Ft. per min. 25 tons per hr. 3 H.P. Motor.
13 "6 Telsmith breaker - 6 to 1 reduction - 48"x12" pulley
14 30 H.P. Allis-Chalmers motor 8"x12" pulley - 860 R.P.M.
15 Crusher house.
16 18" Trough conveyor - Rise 20° - Weighted take-up.
17 Merrick Weightometer.
18 10 H.P. Allis-Chalmers motor 9"x7" Pulley 575 R.P.M.

GRINDING AND CYANIDE DEPT.

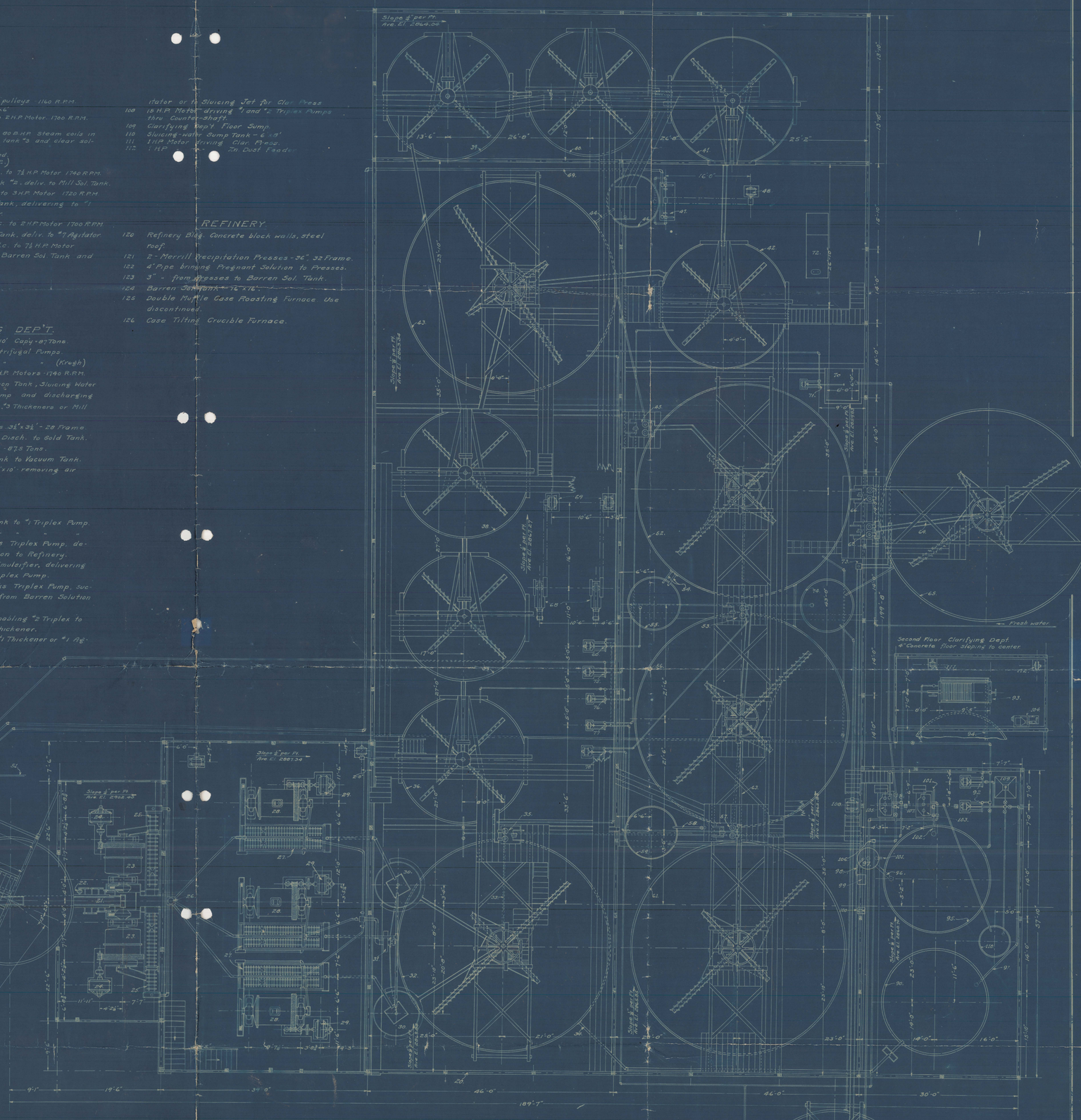
19 Mill bin - 24 Ft. diam. 24 Ft. high - 3" staves, 4" bottom discharge 400 tons gravity
20 Mill building.
21 18" Link-Belt pan conveyor - 12 Ft. per min. - 6½ tons/hr.
22 3 H.P. Motor.
23 Two "6-4½ Marcy mills - Each, 300 tons per 24 hrs. from 1" to 20 mesh. 28 R.P.M.
24 Two 100 H.P. Motors, direct connected - 435 R.P.M.
25 Two Simplex Dorr Classifiers - drag-over returned to Marcy mill.
26 Mechanical distributor.
27 Three Duplex Dorr Classifiers in closed circuit with Ball-pebble mills.
28 Three 5'x6' Allis-Chalmers Ball-pebble mills with 42" Scoops - 28 R.P.M.
29 Three 7½ H.P. Allis-Chalmers motors - direct connected 435 R.P.M.
30 Two 8Ft. Gallow cones - spigot disch. to classifiers.
31 Frenier sand pump - belt driven - 22 R.P.M.
32 "1 Thickener - 40'x12' Dorr mchy. - ¼ R.P.M. of arms - settling area 1227.04 sq.ft. Cap. 9,000 gals. = 480 Tons.
33 4" Pipe - pulp from thickener to pump.
34 4" Pipe - clear solution from thickener to Sol. tank.
35 "1 Diaphragm pump.
36 "1 Agitater tank - 24'x14' Cap. 24,100 gals = 1,284 tons. Dorr Machinery - 2 to 3 R.P.M. of arms.
37 "2 Agitator (same)
38 "3 Agitator "
39 "4 " "
40 "5 " "
41 "6 " "
42 "7 " "
43 "2 Thickener (like "1).
44 Overflow "2 Thickener.
45 "2 Diaphragm pump.
46 "2 Sump tank - 10'x6' Cap. 361 cu.ft. = 2,250 gals. = 11.9 tons. automatic float controlling pump switch.
47 Two belt-driven centrifugal pumps - suction from "2 Sump Tank - disch. to Mill Solution Tank.
48 15 H.P. Motor.
49 3" Pipe to Mill Solution Tank.
50 Mill Solution Tank - 18'x16' - Cap. 27,700 gals. = 1,476 tons.
51 3" Pipe to Mill.
52 "3 Thickener (like "1)
53 "3 Diaphragm pump.
54 Overflow "3 Thickener.
55 "3 Sump tank (like "2)
56 "4 Thickener. (like "1)
57 "4 Diaphragm pump.
58 Overflow "4 Thickener.
59 "4 Sump tank (like "2)
60 2½" Krogh centrifugal pump d.c. to 2 H.P. Motor 1,700 R.P.M. discharge to "2 Thickener.
61 "5 Thickener (like "1)
62 "5 Diaphragm pump. Pulp from "5 Thickener to launder "64
63 Overflow "5 Thickener - to "4 Thickener.
64 Launder delivering ⅔ of pulp from "3 Thick. to "6 Thickener & ⅓ of same to "7 Thickener.
65 "6 Thickener (like "1)
66 "6 Diaphragm pump (Tailings) from "6 & "7 Thickeners.
67 "7 Thickener (like "1, except size - 8'x30')
68 Two I-R. Compressors 9"x8" 78 H.P.
69 Two 20 H.P. Motors 12"x8½" pulleys 1160 R.P.M.
70 Cy. Dept. floor sump 2'x6'x4'
71 2" Krogh cent. pump d.c. to 2 H.P. Motor 1,700 R.P.M. delivers to "2 Thickener.
72 Heating Boiler, oil fired - 60 B.H.P. Steam coils in agitators "1, "2 & "3 - Sump tank "3 and clear solution Gold Tank.
73 Air lift for "7 Thickener feed.
74 "6 Sump Tank - (like "2.)
75 2½" Krogh Cent. Pump d.c. to 7½ H.P. Motor 1740 R.P.M. drawing from Sump Tank "2, deliv. to Mill Sol. Tank.
76 2" Krogh Cent. Pump d.c. to 3 H.P. Motor 1720 R.P.M. drawing from "6 Sump Tank, delivering to "1 Agitator or "5 Thickener.
77 2" Krogh Cent. Pump d.c. to 2 H.P. Motor 1700 R.P.M. drawing from "4 Sump Tank, deliv. to "7 Agitator.
78 2½" Krogh Cent. Pump d.c. to 7½ H.P. Motor 1740 R.P.M. drawing from Barren Sol. Tank and deliv. to "4 Thickener.

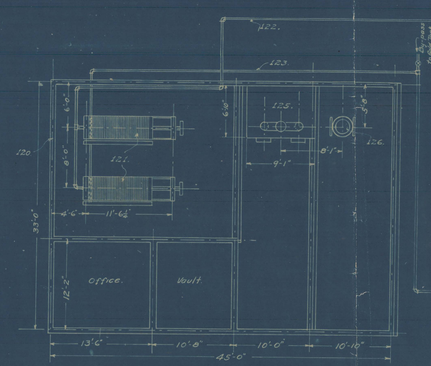
CLARIFYING DEPT.

90 Press Solution Tank 20'x10'. Capy - 87 Tons.
91 4" Suction Line to 2 Centrifugal Pumps.
92 2 - Interchangeable 2½" " " " (Krogh) direct connected to 7½ H.P. Motors - 1740 R.P.M. drawing from Press Solution Tank, Sluicing Water Tank or Clarify. Dept. Sump and discharging to Clarifying Press, "6 or "3 Thickeners or Mill Solution Tank.
93 Merrill Clarification Press 32½"x32½" - 28 Frame.
94 Launder taking Press Disch. to Gold Tank.
95 Gold Tank - 20'x10'. Capy - 87.5 Tons.
96 6" Suction from Gold Tank to Vacuum Tank.
97 Vacuum Treatment Tank - 4'x10' - removing air from Pregnant Solution.
98 1" Pipe to Vacuum Pump.
99 Vacuum Pump
100 " " Motor - 2 H.P.
101 6" Disch. from Vacuum Tank to "1 Triplex Pump.
102 Auxiliary Suction - Gold " " "
103 "1 - 7"x8" Platt Iron Works Triplex Pump, delivering Pregnant Solution to Refinery.
104 Zinc Dust Feeder and Emulsifier, delivering Zinc to Suction of "1 Triplex Pump.
105 "2 - 7"x8" Platt Iron Works Triplex Pump, suction connected to draw from Barren Solution Tank or Cy. Dept. Sump.
106 Emergency Connection, enabling "2 Triplex to draw any Agitator or Thickener.
107 "2 Triplex Discharge to "1 Thickener or "1 Agitator or to Sluicing Jet for Clar. Press.
108 15 H.P. Motor driving "1 and "2 Triplex Pumps thru Counter-shaft.
109 Clarifying Dept. Floor Sump.
110 Sluicing-Water Sump Tank - 6'x8'
111 1 H.P. Motor driving Clar. Press.
112 1 H.P. " " Zn Dust Feeder

REFINERY

120 Refinery Bldg. Concrete block walls, Steel roof.
121 2 - Merrill Precipitation Presses - 36" 32 Frame.
122 4" Pipe bringing Pregnant Solution to Presses.
123 3" " from Presses to Barren Sol. Tank.
124 Barren Sol. Tank - 16'x16'.
125 Double Muffle Case Roasting Furnace. Use discontinued.
126 Case Tilting Crucible Furnace.





UNITED EASTERN MINING CO.
OATMAN, ARIZONA
250 Ton Cyanide Plant.
From original design by C. Wartenweiler
With subsequent additions
Drawn by Stalser
Traced by
Checked by
Scale ⅛"=1' File No.
Date 2-13-18.