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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SAM POWELL PEAK QUADRANGLE
ARIZONA—YAVAPAI CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

(WAGONER 1:62 500)
3452 II

1/7/86 - no activity at site of Oro Grande Mine - no sign of drill roads, etc. - can see the mine area from hwy 93.

34°00′ 112°45′ — 250 000 FEET — 340 — 341 R. 5 W. R. 4 W. — 342 42′30″ — 343 — (WICKENBURG) 3451 I NW — 345 — WICKENBURG 4 MI. — 40′ — 347 — 348 — INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1972 — 349000m.E. — 34°00′ 112°37′30″

(VULTURE MTS. 1:62 500)
3451 IV

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1968. Field checked 1969

Polyconic projection. 1927 North American datum
10,000-foot grid based on Arizona coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue

Fine red dashed lines indicate selected fence lines

GN MN 0°57′ 17 MILS 14½° 258 MILS

UTM GRID AND 1969 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

1 ½ 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ARIZONA
QUADRANGLE LOCATION

ROAD CLASSIFICATION
Light-duty road, all weather, improved surface
Unimproved road, fair or dry weather

(RED PICACHO)
3451 I NE

SAM POWELL PEAK, ARIZ.
N3400—W11237.5/7.5

1969

AMS 3452 II SW—SERIES V898

the native silver ores of Cobalt, Ontario. Nichols (1983) study indicated that the Monte Cristo deposit is unrelated to the other ore deposits of the district. Its ore petrology, mineralogy and trend are completely different from the other veins in the district and are suggestive of a Precambrian origin.

Intense sericitically altered quartz monzonite porphyry of unknown age was encountered at 268 meters in a drill hole on the Monte Cristo property (Nichols, 1983). What relationship, if any, this rock has to the mineralization in the district is unknown.

Mining activity was carried on in the Black Rock district as early as the 1870's, but most production apparently occurred in the early 1900's. Keith and others (1983a) list recorded production between 1902 and 1976 as amounting to 40,000 tons containing 9,700 oz Au; 110,000 oz Ag; 400,000 lbs Cu; and 444,000 lbs Pb. Hewett and others (1936) noted the district was worked as early as the 1870's and had produced about $400,000 prior to 1904. Based on figures cited by Wilson and others (1967) this writer would estimate total gold production from the district as about 11,125 oz; the Gold Bar (O'Brien) and Oro Grande mines being the largest producers.

Mines of Interest:

Oro Grande Mine: (Sec. 24, T8N, R5W) Located about 1 mile east of the Hassayampa River and 4½ miles by road north of Wickenburg, the area was prospected for copper and silver in the 1870's. In 1900, a 10-stamp mill was installed, 340 ft shaft sunk and several thousand feet of development work completed. The workings produced 8,600 tons of ore averaging $5.32 in gold (± 27 opt) in 1904. Mineralization occurs in fractured and brecciated nearly vertical fault zone that strikes N37°E. In places this zone is greater than 100 ft in width and is cut by transverse, narrow and irregular veins and stringers of white quartz along which occur pseudomorphs of limonite after pyrite. The principal orebody mined was apparently irregular in shape and several tens of feet in maximum widths. This zone was discontinuously stoped between the 200 ft level and the surface. Ore consists of brecciated country rock cemented by brown to black limonite, calcite and coarse glassy quartz. Free gold occurred as ragged particles mainly in the limonite associated with the quartz. Wilson and others (1967) report that considerable amounts of low-grade, gold-bearing material was exposed by the drifts that explored the breccia zone E and NE of the stoped area. This property appears to hold good potential for considerable low-grade (±.10 opt Au) tonnage remaining across the wide breccia zone. It should be thoroughly examined and sampled.

O'Brien (Gold Bar) Mine: (NE¼ Sec. 33, T9N, R3W) About 15 miles northeast of Wickenburg the deposit was located in 1888; a 10-stamp mill was erected in 1091 and reportedly treated some 4,000 tons of material that yielded $60,000. In 1907-08, Interior Mining and Trust Co. reported to have erected a 100-ton mill and mined the orebody from the surface to 385 ft level on the incline. The 1907 production was listed as $33,402 in bullion and concentrates; 1908 production from the district is reported to have been $91,749 in gold; the

THE VOICE OF THE MINING INDUSTRY

WEDNESDAY, MARCH 13, 1985, DENVER, COLORADO 80206 $24 per year, 50 cents per copy

Karl, Put in Gold Bar Files =443,333 oz Au
2.6 MM tons = .17 opt Au

SING PRICE
an
.... $288.91
..... $ 5.68
s — Page 7)

Operation
w $200/oz.

Friedland noted that ect Feasibility Report management's judg- hat the Summitville will become one of the old mines in North a due to its relatively ital requirements and lly low operating costs r $200 per ounce of he completed report n forwarded to the fi- institutions that are y involved in detailed ons regarding financ- Summitville project. company's address is Marine Building, 355 Street, Vancouver, anada V6C 2G8; (604) 9.

co Announces
blic Offering

YORK, NY — ASAR- orporated announced public offering of 3 shares of Asarco com- ck was made through stment banking group by Shearson Lehman s. The stock is being at a price of $22 7/8 e.

proceeds from the sale shares will be used to the company's out- g indebtedness.

ugh its diverse domes- international opera- d investments, Asarco f the world's leading rs of nonferrous met- ncipally silver, copper, l zinc.

Oro Grande Mine

Joint Venture Starts Development Operation At Arizona Gold Mine

SALT LAKE CITY, UT — McFarland & Hullinger, A Tooele, Utah based mining company, and Global Energy Ltd., a publicly held Nevada natural resources company, have begun development operations at the famous Oro Grande Mine near Wickenburg, Arizona, Global Energy President Richard Jensen announced.

McFarland & Hullinger, operator of the joint venture, is currently conducting a bulk sampling program of the mineralized zones on the gold property in order to establish an economical and feasible mining plan, Jensen indicated.

Global Energy purchased the Oro Grande mine in January of this year for $3 million in cash and stock. The Oro Grande mine began production in 1901 and produced gold until 1941. The mine, which is located on 150 acres of patented land and 1000 acres of unpatented lode mining claims, is only partially developed.

A 1931 report by International Engineering Company of El Paso, Texas, established proven gold reserves of over 2.6 million tons (with a value of $133 million at today's gold prices) with an additional 900,000 tons of probable ore. This report has since been substantiated by two additional engineering reports.

McFarland & Hulinger has successfully operated several mines in the western United States, including the Iron King mine near Humboldt, Arizona; the San Xavier Mine south of Tucson, Arizona; and the Johnson Camp mine near Douglas, Arizona. The company is also one of the larger ore hauling and contracting companies in the west.

Global Energy is primarily engaged in the acquisition and development of mineral properties in the western United States. In addition to the Oro Grande Mine, the company owns a tungsten mine in New Mexico, which it is holding for future development. Global Energy also owns all of the rights and interest in a recording company, Rival Records, and a BMI publishing firm, Renegade Publishing, both based in Denver, Colorado. Global Energy's stock is traded on the over-the-counter market.

The company's address is 5340 Cottonwood Lane, Salt Lake City, UT 84117; (801) 277-5962.

Exploration Permits Approved For Nevada Gold Joint Venture

TORONTO — Franco-Nevada Mining Corporation President Pierre Lassonde reported that the Environmental Impact Report (EIR) was approved by the Nevada Board of Supervisors by a vote of 5 to 0 after only one day of hearing. This vote of confidence is a positive reinforcement to the work done by the company and the independent consultant hired by the board of directors to prepare the report, Lassonde said. The acceptance of the report clears the way for the rezoning of the property and issuance of the exploration permits. Even though the whole process has taken somewhat more time than first anticipated, given the current state of the precious metal markets, the delay has not worked against long term interests.

As a junior mining company, Lassonde said, we realize that much of our future is dependent on new discoveries. Is importat for the company to maintain an exploration program that is responsive to the changing environment and is cost effective. Exploration has always been a numbers' game, and the more properties explored and drilled, the higher the chances of actually finding ore body. We have both the people and the money to stay in the game and achieve our goal.

The Nevada Gold Joint Venture was very active in 1984, as it staked or acquired a total of 15 new properties, of which 3 were drilled by third parties. In the lst few months, Lassonde said, we have directed our attention to areas where substantial post-production has taken place. With the help of modern geological interpretation, we feel that new ore bodies can be uncovered that have the same high grade characteristics as the past producers.

Lassonde said that the company's treasury is almost intact with approximately $3 million in working capital. We continue to seek a source of cash flow from an operating mine in Nevada. We expect that the current low gold price will create an opportunity to make an acquisition in the not too distant future.

The company's address is Suite 1201, 2300 Yonge St., Toronto, Ontario M4P 1E4.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FLORES QUADRANGLE
ARIZONA—YAVAPAI CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

3452 III NW (O'NEILL PASS)
3452 II NW (YARNELL)
3452 III NE (CONGRESS)
3452 III SW (CONGRESS SW)
3452 II SW (SAM POWELL PEAK)
(VULTURE MTS. 1:62 500) 3451 IV
(WICKENBURG) 3451 I NW

112°52'30" 34°07'30" 112°45' 34°00'

328 000m E. 329 50' 331 R.6W. R.5W. 334 47'30" 335 336 240 000 FEET 337 338 338 000m E.

3777 000m N. 3776 3775 3774 3773 3772 3771 3770 3769 3768 3767 3766 3764 000m N.

1 130 000 FEET
1 100 000 FEET

T.9N. T.8N.

PRESCOTT 42 MI.
CONGRESS (ARIZ. 71) 3.6 MI.
WIKIEUP 65 MI.
6 MI. TO ARIZ 71
WICKENBURG 32 MI.
PHOENIX 57 MI

Water Tank
Big Tank
Martinez Tank
Pitts Tank
Borrow Pit
Flores
MORETON AIRPORT
Black Hill Tank
Martinez
Antelope Creek
Weaver Creek
Wash
Soils
ATCHISON TOPEKA AND SANTA FE
TRAIL
JEEP
PACK TRAIL
Well
BM

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1968. Field checked 1969

Polyconic projection. 1927 North American datum
10,000-foot grid based on Arizona coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue

To place on the predicted North American Datum 1983 move the projection lines 1 meter south and 68 meters east as shown by dashed corner ticks

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1969 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
GN 1°01' 18 MILS
MN 14½° 258 MILS

SCALE 1:24 000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION
Primary highway, hard surface
Secondary highway, hard surface
Light-duty road, hard or improved surface
Unimproved road
Interstate Route U. S. Route State Route

ARIZONA
QUADRANGLE LOCATION

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1980

FLORES, ARIZ.
N3400—W11245/7.5
1969
DMA 3452 III SE—SERIES V898

Superior Midwest Energy Terminal Marks Record Coal Shipments

Total of 6,677,349 S.T. loaded out in 157 cargoes at port of Superior

During 1984, Orba/Reiss Transshipment Co. established a new record in nine seasons of shipping western coal from the Superior Midwest Energy Terminal by loading out 6,677,349 short tons in 157 vessel cargoes for delivery to electric generating facilities in Michigan. This compares with the former record of 5,718,900 tons in the previous year of 1983.

In the latest year, coal received by rail via Burlington Northern from mines in Montana at the Superior Midwest Energy Terminal totaled 5,538,089 short tons in 506 trains, with the principal tonnage amounting to 4,506,169 tons produced by Decker Mining Co. and destined for Detroit Edison Co. in St. Clair. The remainder consisted of 515,045 tons produced by Decker and 516,875 tons produced by Western Energy Co. and Westmoreland Resources Inc. for Upper Peninsula Generating Co. in Marquette. The latter was composed of 265,136 tons originating at Western Energy's Colstrip mine and 251,739 tons from Westmoreland's Kuehn mine.

At the end of 1984, the stockpile at the Superior Midwest Energy Terminal aggregated 967,863 short tons.

Aerial view of Superior Midwest Energy Terminal at which shipments of western coal reached a new record of 6,677,349 short tons in 1984.

Kidston Gold's Operations Temporarily Halted

Placer Development Ltd. reports that operations have been interrupted at the Kidston gold mine in Queensland, Australia, due to a state-wide labor dispute between the Queensland Electricity Board and its unionized employees.

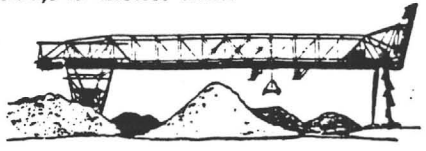
The result for the mine has been an inadequate supply of electricity and consequently, on Feb. 12, operations at the mine were halted until full electrical service is again available.

The mine is owned by Placer's subsidiary, Kidston Gold Mines Ltd. (70%-interest). It commenced operations in Jan. 1985 and the first gold bullion was poured in early February.

Barbara Rohstoffbetriebe's 1984 Iron Ore Shipments in Germany

In 1984, Barbara Rohstoffbetriebe GmbH shipped by rail to German steel works a total of 437,233 metric tons of iron ore from two underground mines, consisting of 355,793 tons from Wohlverwahrt-Nammen, 6 miles from Minden in Lower Saxony, and 81,440 tons from Fortuna in the Salzgitter district.

During the previous year of 1983, shipments by the company from these two mines totaled 382,549 metric tons.



Two Companies Join to Develop Arizona Gold Mine

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Mesabi Range Geo. Society Meeting

The monthly meeting of the Mesabi Range Geological Society will be held on Wednesday, March 20, at Valentini's Supper Club in Chisholm, Minn. This month's speaker will be Dr. Matt Walton, director of the Minnesota Geological Survey. He will speak on the activities of the Minnesota Geological Survey 1984-1985.

The social hour begins at 6 p.m., with dinner at 7 p.m. Any questions, please contact Richard Buchheit at 218/263-6484.