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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: WORLD'S FAIR

ALTERNATE NAMES:
HENRY FORD

SANTA CRUZ COUNTY MILS NUMBER: 58D

LOCATION: TOWNSHIP 22 S RANGE 16 E SECTION 32 QUARTER W2
LATITUDE: N 31DEG 28MIN 45SEC LONGITUDE: W 110DEG 44MIN 17SEC
TOPO MAP NAME: LOCHIEL - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
SILVER
LEAD
COPPER
ZINC
GOLD

BIBLIOGRAPHY:
INDEX OF MINING PROP. IN SANTA CRUZ CO.
AZBM CARD FILE SANTA CRUZ CO.
ARIZONA MINING JOURNAL, VOL. 4 NO. 5, P. 10,
1920 WORLDS FAIR SILVER MINE
ADMMR WORLD'S FAIR FILE

See: USGS Bull 582 p. 24

Arizona Mining Journal June 1918 p. 79, 42, 43;
Oct 1919 p. 26 May 1920 p. 52 Oct 1920 p. 95

See: ABM Bull. 191, Pg. 60, T22S, R16E, Sec. W Cen. 32

History of Mining in Arizona, ABM p. 301-303

USGS Bull. 582, p. 248-251

Harshaw 7.5 (included in file)

WORLD'S FAIR MINE

SANTA CRUZ COUNTY

HEM WR 5/20/88: The World's Fair Mine (file) MILS #5, Santa Cruz County was briefly visited. There has been no recent activity on this former silver producer which has been touted as a disseminated bulk tonnage prospect. A copy of a favorable report was sent to a Canadian Co, Skylar Resources. They had inquired about this type of property submittal.

CJH WR 9/25/81: Phone call; Grover Heinrichs, Consultant, informed us that Lyle Lichty of Tubac intends to reopen the World's Fair mine (also called Henry Ford mine), Harshaw District, Santa Cruz County. Lichty is a client of Heinrichs'. Heinrichs called to find out if we knew of any available contract miners. Janel Smith, Sec'y-Treas., Tucson West Council, APSMOA recommended that Grover call Carl Lindell, Arivaca, Tel: 398-2359 or Veryle Harbaugh, Tucson, Tel: 294-6950.

MG WR 1/29/82: The Hydrology Dept. at the University of Arizona called for information on the Worlds Fair and Santo Nino mines of Santa Cruz County. The department has a contract to study dry and wet conditions in mine workings that might serve as repositories for nuclear wastes.

MG WR 2/5/82: The World's Fair mine in the Harshaw Mining District is owned by the Argentor Mining Corp., % Verity, Smith and Clark PC, 902 Transamerica Bldg., 177 N. Church, Tucson, AZ 85701. Mr. Lyall Lichty is one of the owners of Argentor. The main adit of the World's Fair Mine is on the Old Prospector claim which is contiguous with the Argentor 1-10 group. The main adit is in fair to good condition and is caved locally. It is a wet mine. Although there is no equipment nor activity at the mine, Argentor has completed recently a geologic study and geochemical survey of the property. A drilling program is planned to begin in 1982.

CJH WR 2/26/82: Visitor: Lyle Lichty, P.O. Box 1267, Tubac, AZ 85640. Tel: 398-2439. He let us copy an engineer's report on teh World's Fair Mine, Santa Cruz County. Another copy will be delivered to the Phoenix Office.

MG WR 9/30/83: A new 120-ft. adit was driven on the Worlds Fair property, Santa Cruz County in 1982. Some underground samples were taken from the adit before a cave-in developed (60-65 feet from the portal) early 1983.

CJH WR 10/28/83: Eddie Martin, Asst. State Mine Inspector, reported the rumor that a new adit will be driven at the World's Fair Mine, Harshaw district, W $\frac{1}{2}$, Sec 32, T2S R16E, Santa Cruz County.

* GENERAL REFERENCES

- REFERENCE 1 F1 < ABGMT-USBM FILE ATA
- REFERENCE 2 F2 < USBM FILES, WORLD'S FAIR MINE
- REFERENCE 3 F3 < TENNEY, JAMES B., 1927-1929, HISTORY OF MINING IN ARIZONA; ARIZONA BUREAU OF MINES, p. 301-303
- REFERENCE 4 F4 < SCHRADER, FRANK C., 1915, MINERAL DEPOSITS OF THE SANTA RITA AND PATAGONIA MOUNTAINS, ARIZONA; USGS BULLETIN 582, p. 248-251

C30 < TETRAHEDRITE, FREIBERGITE, SPHALERITE, SILVER ANTIMONIDES, CHALCOCITE, CHALCOPYRITE, PEARCEITE >

C50 < RICH AND SPOTTY >

L110 < COMMONWEALTH DEVELOPMENT CO. OF PEARCE (1917-1918), BACHMAN-MERRITT METALS CO. L.L. FERRY, C. SCHELER, M. HOGAN (1923-1926), ZERO MINING CO. (1928), TRENCH MINING CO. (1929), WORLD'S FAIR DEVELOPMENT CO., RICHEY, MAX DRACHMAN, GOLD CANYON MINING CO. (1936), J.C. SCHELL (1937-1941), A. GRIFFITH AND KRAMER, AMERICAN SMELTING AND REFINING CO. (1952), KELSEY (1954); PROPERTY COMPRISES 19 UNPATENTED LODE CLAIMS >

M110 < KNOWN VERTICAL RANGE OF 1000 FT, 400 FT OF WHICH IS SEEN IN CROPPINGS AND 600 FT. SEEN IN MINE; CROPPINGS AVERAGE 10-14 FT WIDE WHILE VEIN IN MINE IS ABOUT 16 FT WIDE >

M220 < RHYOLITE DIKE CUTTING DIORITE >

K5 < PINCH AND SWELL STRUCTURES; SWELLS ARE WHOLLY OR PARTIALLY MINERALIZED >

N5 < DIORITE >

N15 < AREA >

N70 < DISPLACEMENT OF 75 FT >

N90 < AND LEACHING >

N85 < UPPER PORTION OF VEIN BEYOND FLAT FAULT. ORE MINERALS ALONG CONTACT CONCENTRATE MAINLY IN RHYOLITE OR HANGING WALL SIDE OF CONTACT; BARITE FORMS SEAMS, BLADES, AND PLATES FILLING FRACTURES AND CAVITIES (INDICATING LATE OR POST-VEIN AGE). HYDROTHERMAL ALTERATION AND LIMONITE MINERALIZATION APPEAR TO EXTEND BEYOND LIMITS OF NARROW VEINS ON PROPERTY >

M110 # 58D

U.S. CRIB-SITE FORM

RECORD IDENTIFICATION

RECORD NUMBER B10 < _____ > RECORD TYPE B20 < X, I, M > DEPOSIT NUMBER B40 < _____ >
 REPORT DATE G1 < 8.2.03 > INFORMATION SOURCE B30 < 1.2 > FILE LINK IDENT. B50 < USBM-0040230090 >
 (YR. MO.)
 REPORTER(SUPERVISOR) G2 < CALDER, SUSAN R. > (last, first, middle initial)
 REPORTER AFFILIATION G5 < ABGMT > SITE NAME A10 < WORLD'S FAIR MINE >
 SYNONYMS A11 < HENRY FORD MINE >

LOCATION

MINING DISTRICT/AREA A30 < HARSHAW DISTRICT >
 COUNTY A60 < SANTA CRUZ > STATE A50 < AZ > COUNTRY A40 < U.S. >
 PHYSIOGRAPHIC PROV A63 < 12 >
 DRAINAGE AREA A62 < 1.5.05.03.0.1.V. LOWER COLORADO > LAND STATUS A64 < 4.1.V. (1979) >
 QUADRANGLE NAME A90 < LOCHIEL (1958) > QUADRANGLE SCALE A100 < 62500 >
 SECOND QUAD NAME A92 < HARSHAW (1948) > SECOND QUAD SCALE A91 < 24000 >
 ELEVATION A107 < 4750 FT >

UTM ACCURACY GEODETIC
 NORTHING A120 < 3482500 > ACCURATE (ACC) (circle) LATITUDE A70 < 31-28-43.4 >
 EASTING A130 < 524900 > ESTIMATED EST < _____ > LONGITUDE A80 < 110-44-16.W >
 ZONE NUMBER A110 < 12 >

CADASTRAL
 TOWNSHIP(S) A77 < 0225 > RANGE(S) A78 < 016E >
 SECTION(S) A79 < 32 >
 SECTION FRACTION(S) A76 < 52 OF NW >
 MERIDIAN(S) A81 < GILA AND SALT RIVER >

POSITION FROM NEAREST PROMINENT LOCALITY A82 < 2.0 MILES WEST OF HARSHAW ON ALUM GULCH >
 LOCATION COMMENTS A83 < 1/2 MILE NORTH OF TRENCH MINE AND MILL >

* ESSENTIAL INFORMATION
+ ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED

COMMODITY INFORMATION

COMMODITIES PRESENT C10 < Ag, Pb, Cu, Au, Zn, _____ >
 ORE MINERALS C30 < ARGENTIFEROUS CERUSSITE, CUPRIFEROUS SILVER, NATIVE SILVER, GALENA, PYRITE >
 COMMODITY SUBTYPES C41 < _____ >
 GEN. ANALYTICAL DATA C43 < ORE VALUES AVERAGED 58 OZ./TON Ag, 6.6% Pb, 0.7% Cu, MINOR Au AND Zn >
 COM. INFO. COMMENTS C50 < CHALCOPYRITE AND PYRITE ARE FINELY DISSEMINATED IN WALL ROCK; ORES ARE >

SIGNIFICANCE

MAJOR PRODUCTS	MAJOR < Ag, Pb, _____ >	NON-PRODUCER	MAJOR COMMODITIES PRESENT C11 < _____ >
MINOR PRODUCTS	MINOR < Cu, Au, Zn, _____ >	NON-PRODUCER	MINOR COMMODITIES PRESENT C12 < _____ >
POTENTIAL PRODUCTS	POTEN < _____ >	NON-PRODUCER	OCURR < _____ >
OCCURRENCES	OCCUR < _____ >	NON-PRODUCER	OCURR < _____ >

*PRODUCTION

PRODUCTION (circle) PRODUCTION SIZE SML MED LGE (circle one) NON-PRODUCER PRODUCTION UND NO (circle one)

*STATUS

EXPLORATION OR DEVELOPMENT
 PRODUCER STATUS AND ACTIVITY A20 < 4 > NON-PRODUCER STATUS AND ACTIVITY A20 < _____ >

DISCOVERER L20 < MCNAMEE >
 YEAR OF DISCOVERY L10 < 1879 > NATURE OF DISCOVERY L30 < B > YEAR OF FIRST PRODUCTION L40 < 1879 > YEAR OF LAST PRODUCTION L45 < 1954 >
 PRESENT/LAST OWNER A12 < PLATORO CORPORATION (1964) >
 PRESENT/LAST OPERATOR A13 < PLATORO CORPORATION (1964) >
 EXPL./DEV. COMMENTS L110 < OWNERS AND OPERATORS INCLUDED MCNAMEE (1879-1881), W. MORAN (1883-1884), FRANK POWERS (1884-1904), WORLD'S FAIR MINING CO. (1909), PHELPS DODGE CO. (1912), >

DESCRIPTION OF DEPOSIT

DEPOSIT TYPE(S) C40 < SHEAR ZONE / VEIN >
 DEPOSIT FORM/SHAPE M10 < PINCH AND SWELL >
 DEPTH TO TOP M20 < _____ > UNITS M21 < _____ > MAXIMUM LENGTH M40 < _____ > UNITS M41 < _____ >
 DEPTH TO BOTTOM M30 < 1000 > UNITS M31 < FT > MAXIMUM WIDTH M50 < 14 > UNITS M51 < FT >
 DEPOSIT SIZE M15 < SMALL > M16 < MEDIUM > M17 < LARGE > (circle one) MAXIMUM THICKNESS M60 < _____ > UNITS M61 < FT >
 TRIKE M70 < NNW > DIP M80 < 45-50 WSW >
 DIRECTION OF PLUNGE M100 < _____ > PLUNGE M90 < _____ >
 P. DESC. COMMENTS M110 < PINCH AND SWELL STRUCTURES SUCCEED EACH OTHER AT INTERVALS USUALLY UNDER 50 FT.; VEIN CROPPINGS EXTEND 600 FT OR MORE TO SOUTH OF MINE; VEIN DEPOSITS HAVE A >

DESCRIPTION OF WORKINGS

Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one)
 DEPTH BELOW SURFACE M160 < 600 > UNITS M161 < FT > OVERALL LENGTH M190 < _____ > UNITS M191 < _____ >
 LENGTH OF WORKINGS M170 < 1500 > UNITS M171 < FT > OVERALL WIDTH M200 < _____ > UNITS M201 < _____ >
 DESC. OF WORK. COM. M220 < DEVELOPMENTS INCLUDED 600 FT. WINZE; ABOUT 15,000 FT. OF DRIFTS, TUNNELS, STOPS, SHAFTS, AND WINZES; DRIFTING 1000 FT EACH WAY FROM WINZE ON VEIN AT LEVELS SPACED 100 FT APART; SHALLOW OPENINGS TO SOUTH OF MINE ARE ALONG N-5 >

GEOLOGY

* AGE OF HOST ROCK(S) K1 < LCRET. >
 * HOST ROCK TYPE(S) K1A < RHYOLITE PORPHYRY, INTRUSIVE DIKES AND OVERFLOWS >
 * AGE OF IGNEOUS ROCK(S) K2 < LCRET. > 72.1 ± 3 MY. (SIMONS E.S. 1974)
 * IGNEOUS ROCK TYPE(S) K2A < GRAND-PORPHYRY AND QUARTZ DIORITE, PORPHYRITIC TRACHYANDESITE >
 * AGE OF MINERALIZATION K3 < LCRET.-TERT. >
 * PERT. MINERALS (NOT ORE) K4 < BARITE, QUARTZ, MANGANESE AND IRON STAIN >
 * ORE CONTROL/LOCUS K5 < N-S TRENDING VEIN DEVELOPED ON 2 SLIPS THAT CONVERGE AND DIVERGE FORMING >
 * MAJ. REG. TRENDS/STRUCT. N5 < DEPOSITS IN AREA ARE ASSOCIATED WITH CONTACT OF RHYOLITE INTRUDED INTO >
 * TECTONIC SETTING N15 < MEADOW VALLEY TRACHYANDESITE FLOW; THICK LAVA FLOWS OF HARSHAW-TRENCH CAMP >
 * SIGNIFICANT LOCAL STRUCT. N70 < VEIN IS CUT BY WEAKLY MINERALIZED CROSS FAULTS WITH AVERAGE LEFT LATERAL >
 * SIGNIFICANT ALTERATION N75 < WALL ROCKS STRONGLY PROPYLITIZED AND PYRITIZED; STRONG PYRITE GOSSAN >
 * PROCESS OF CONC./ENRICH. N80 < SOME SECONDARY ENRICHMENT; ORE VALUE INCREASES WITH DEPTH; SURFACE OXIDATION >
 * FORMATION AGE N30 < _____ >
 * FORMATION NAME N30A < _____ >
 * SECOND FM AGE N35 < _____ >
 * SECOND FM NAME N35A < _____ >
 * IGNEOUS UNIT AGE N50 < LCRET. >
 * IGNEOUS UNIT NAME N50A < JOSEPHINE CANYON DIORITE >
 * SECOND IG. UNIT AGE N55 < _____ >
 * SECOND IG. UNIT NAME N55A < _____ >
 * GEOLOGY COMMENTS N85 < VEIN IS CUT OFF BY FLAT-DIPPING FAULT AT SOUTH END OF TUNNEL; UPPER FAULT BLOCK PROBABLY MOVED EAST BUT NO EXPLORATION HAS BEEN DONE IN ORDER TO LOCATE OFF-SET >

GENERAL COMMENTS

GENERAL COMMENTS GEN < _____ >

* GENERAL REFERENCES CONTINUED

REFERENCE 1 F1 < _____ >
REFERENCE 2 F2 < _____ >
REFERENCE 3 F3 < _____ >
REFERENCE 4 F4 < _____ >

F5 < SIMONS, FRANK S., 1974, GEOLOGIC MAP AND SECTIONS OF THE NOGALES AND LOCHIEL
QUADRANGLES SANTA CRUZ COUNTY, ARIZONA; USGS MAP I-762 (1:48000) >

F6 < ADMR FILE DATA, WORLD'S FAIR MINE >

F7 < KEITH, STANTON B., INDEX OF MINING PROPERTIES IN SANTA CRUZ COUNTY, ARIZONA;
BUREAU OF MINES BULLETIN 191, p. 60 >

F8 < ABG-MT FILES, STANTON B. KEITH >

F9 < KARTCHNER, WAYNE E., 1944, THE GEOLOGY AND ORE DEPOSITS OF A PORTION OF THE HARSHAW
DISTRICT, PATAGONIA MOUNTAINS, ARIZONA; PH.D. THESIS, UNIVERSITY OF ARIZONA, p. 86-88 >

F10 < ABG-MT CLIPPINGS FILE; WORLD'S FAIR MINE, WORLD'S FAIR EXTENSION MINES >

GEOLOGICAL SURVEY

110°45' 31°30'

524000m.E.

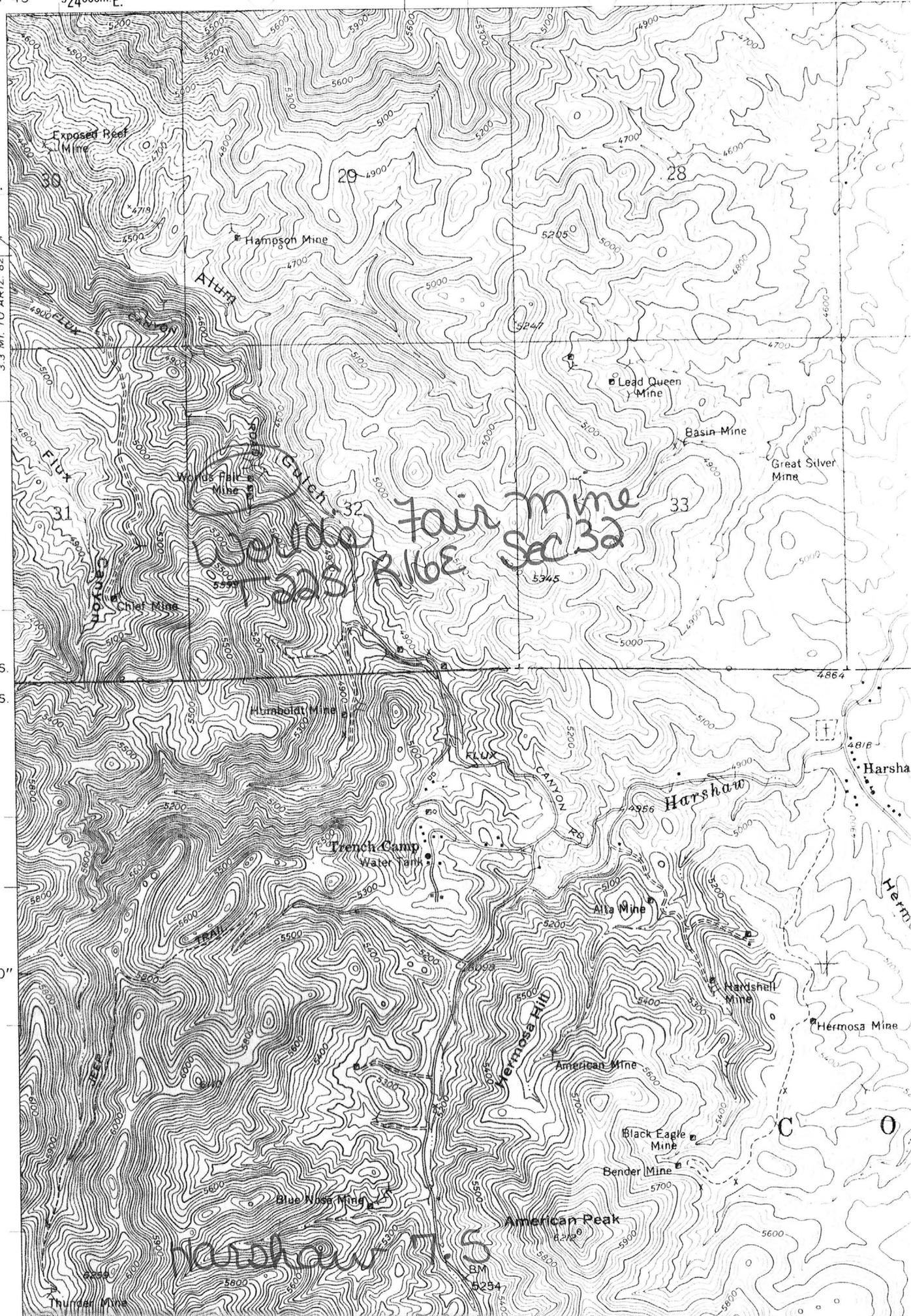
42'30"

3484000m.N.

3.3 MI. TO ARIZ. 82

T. 22 S.
T. 23 S.

27'30"



Metal Mining & Processing 4/1964

S
T
O
R
S
-
O.
E.
C.

USBM LIST 1966 - lists Argentak Mng Corp., S. M. Stranahan V. P.,
Box 975, Green Valley, Ariz. with World Fair mine.

10/2/45

Memo

To: C. H. Dunning

Saw Books re World's Fair. Property again in difficulty. Creditors want receivership abolished. No deal can be made until this is done shortly after Jan. 1. Bid of Eagle Picher for \$90,000 rejected owing to changed status in past 3 months.

G.B.

*(Taken from memo
re mammoth dump)*

June 28, 1942

ref

MEMORANDUM

WORLDS FAIR MINE

To: Director, Dept. Mineral Resources.
From: George A. Ballam

Production of Worlds Fair Mine as obtained from
J. F. Meyers, Lewis Hotel, Tucson, bookkeeper in receiver-
ship:

Leased by	Shell:
1937	2700
1938	12000
1939	17000
1940	10000
1941	10000

The above values, approximating \$50,000 were in lead
and silver.

George A. Ballam

Production from the World's Fair mine, Harshaw district, Santa Cruz Co., reported to the U.S. Bureau of Mines:

Production reported during years: 1879, 1901-02, 1905-07, 1909-10, 1912, 1914-15, 1917-19, 1923-33, 1936-42, 1948-49, 1952, 1954

Cumulative Totals: 13,540 tons of ore treated, yielding:
192,452 pounds of copper
1,226,255 pounds of lead
770 pounds of zinc
892,143 ounces of silver
476 ounces of gold

Cumulative value of silver = \$474,216
" " " gold = 10,934

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
MINE OWNER'S REPORT

Date..... Dec. 11, 1952.

1. Mine:..... **World's Fair Mine**..... (Information from lessee **Harry Oswald**)
2. Location: Sec. **32**..... Twp. **22 S**..... Range. **16 E**..... Nearest Town. **Patagonia**
Distance. **11 miles** Direction **SE**..... Road Condition. **Good**
1/2 mile north of the Trench Mine and Mill.
3. Mining District & County:..... **Harshaw District, Santa Cruz Co.**
4. Former Name of Mine:..... **none**
5. Owner:..... **Otho Books, receiver for Powers Estate**
Address:..... **Otho Books, attorney, 82 West Pennington St., Tucson, Ariz.**
6. Operator:..... **Not in operation. Lessee is Harry Oswald, Patagonia, Ariz. He has a straight lease with no option for 2 years.**
Address:.....
7. Principal Minerals:..... **Silver and copper. Old ore shipments was quite high grade.**
8. Number of Claims:..... **19 unpatented claims** Lode..... **yes**..... Placer.....
Patented..... **no**..... Unpatented..... **yes**
9. Type of Surrounding Terrain:..... **Very hilly & mountainous.**
10. Geology & Mineralization:..... **Main vein is a fissure vein in rhyolite rock. This vein strikes N. & S, and dips 70 deg. to the west. The width of the vein varies from 6 inches to 14 ft. The vein used to contain high ore values, but now seems to be all mined out down to the 580 ft. level.**
11. Dimension & Value of Ore Body:..... **Mine all worked out to the 580 ft. level. The north and south ends of the vein are cut off by faults. Old workings are in bad condition and need retimbering.**

No value.

12. Ore "Blocked Out" or "In Sight": None

Ore Probable: None

13. Mine Workings—Amount and Condition:

No.	Feet	Condition
Shafts <u>1 main</u>	<u>580 ft.</u>	<u>Poor</u>
Raises.....		
Tunnels <u>several</u>	<u>15,000 ft.</u>	<u>Poor</u>
Crosscuts.....		
Stopes.....		

14. Water Supply:

15. Brief History: Mine is said to have produced \$1,500,000 worth of Silver, and 1,000,000 lbs. with some lead and gold during the years it was operated. It had several operators, the last one being Mr. Frank Powers, who operated the mine from 1912 to 1918.

In 1924, the mine went into the hands of receivers. Present lessee, Mr. Harry Ostwalt shipped 68 tons of ore the past year, and claims to have broke even. Mr. Ostwalt also cleaned out and pumped out the shaft down to the 300 ft. level, and did 85 ft. of drifting on the 200 ft. level.

Proposed Plans The lessee, Mr. Harry Ostwalt, intends to give the lease up as not being profitable. Mr. Ostwalt contends that all ore of commercial value above the 580 ft. level has been mined out.

16. Signature: Apel L Johnson, Field Engineer

17. If Property for Sale, List Approximate Price and Terms: None submitted.

1-24-62

New Address

ANITA JACOBSEN *edit* - PLATORO CORPORATION
4344 E. Indian School Road
Suite #1
Phoenix 18, Arizona

Phone: 279-3328

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine ' Worlds Fair Mine Date January 8, 1964
District Harshaw District, Santa Cruz Co. Engineer Axel L. Johnson
Subject: Field Engineers Report. Information from D.M. Stranahan & L.J. Lichty *check 12/20/70*

References: Previous reports - Dec. 11, 1952 & June 12, 1942.

Location: Sec. 32, T. 22 S., R. 16 E., 11 miles SE of Patagonia and 1/2 mile north of the Trench Mine & Mill.

Owners & Operators: Platoro Corporation
431 S. Alvernon Way (Box 4507)
Tucson, Arizona
L.J. Lichty, President
D.M. Stranahan, Treas.
Victor H. Verity, Secy.

Principal Minerals: Copper, lead & silver.

Present Mining Activity: Cleaning out and repairing the main lower tunnel. This work is now completed for a distance of 350 ft. from the portal. 3 men working day shift. Surveying and geological mapping is also being done.

Worlds Fair Mine 4 men working March 6, 1964.

ALJ LETTER (ALJ report file)

World's Fair Mine was found inactive.

ALJ WR 5/11/64

Mine Visit - not operating yet.

ALJ WR 9-5-64

VISITED World's Fair Mine - idle.

GWI WR 3/9/68

Rumor - mine to be sold. GWI WR 11/30/69

Visited World's Fair Mine, no activity seen. GWI WR 5/9/70

WORLD'S FAIR MINE
ABSTRACT

FILE

✓
(file)
The World's Fair Mine, located in the northern Patagonia Mountains of Santa Cruz County, Arizona was discovered by early Spanish explorers and was intermittently operated by Americans from 1879 through 1942. Production records are incomplete but the mine has probably produced well in excess of 200,00 ounces of silver along with some gold and substantial amounts of lead from narrow, high veins.

The veins that have been mined occur in a northwest trending diorite intrusive that is bounded by andesite flows on the east and a west dipping fragmental rhyolite or ignimbrite on the west. Hydrothermal alteration and limonite mineralization appears to extend beyond the limits of the narrow veins, and preliminary sampling has shown that, in places, these altered zones contain more than 1/2 ounce of silver. An initial grid geochemical sampling program, undertaken to determine the range and extent of silver values at the surface has discovered a large area of anomalous silver values in a previously unprospected portion of the claims on a steep, brush covered slope south of the old workings. Over an area of some 1700 feet long by approximately 400 feet wide silver values jump from a background of 0.05 ounce per ton to a range of 0.20 ounce to 2.05 ounces per ton. If one half of this anomalous area represents the leached surface outcrop of a body containing mineable amounts of silver it would contain 30,000 tons per vertical foot or 15 million tons if extended to a depth of 500 feet. Although the property available for option is limited to 9 claims of about 175 acres, sufficient room exists for development of a large tonnage. Little geologic data exists on the outcrop characteristics of bulk silver occurrences but the potential value of a large tonnage of several ounce silver ore justifies additional work on the World's Fair property.

:

More detailed geological mapping, geochemical sampling, the building of a short road, and three to five rotary or diamond drill holes are recommended for further testing of the larger anomalous silver area and the ground underlying the old World's Fair mine workings.

WORLD'S FAIR PROSPECT
SANTA CRUZ COUNTY, ARIZONA

The World's Fair mine and property consists of nine unpatented claims lying approximately 10 miles by road south of the town of Patagonia, Arizona in T22S, R16E, Section 21 of Santa Cruz County. Patagonia is a small town situated 20 miles northeast of the city of Nogales, Arizona which lies on the Arizona-Mexico border.

The World's Fair mine was discovered by early Spanish prospectors and was first located in 1897 by a Mr. McNamee. The mine is described in Bulletin 582 of the United States Geologic Survey, "Mineral Deposits in the Santa Rita and Patagonia Mountains, Arizona," by Frank C. Schrader (1915). The write-up on pages 248 through 251 from Schrader's report follows as the next page in this report.

Records of shipments from the property indicate the following ore was produced during the period 1937-1942:

<u>Year</u>	<u>Tons</u>	<u>Gold oz/T</u>	<u>Silver oz/T</u>	<u>Lead %</u>
1937	538	.025	22.1	16.6
1938	198	.065	151.7	7.3
1939	526	.139	107.1	7.6
1940	200	.21	65.4	7.8
1941	167	.04	98.2	9.3
1942	53	.01	12.4	22.2

In 1963 the mining claims lapsed and the property was acquired by staking by the Platoro Corporation. Platoro Corporation was one of the Thayer Lindsley companies and the field engineer directing the staking of the claims in 1963 was Lyall Lichty who at that time was part owner of Platoro. Lichty has continued to supervise the assessment work on the claims and has maintained his participation in the property to the present date.

The World's Fair mine is near the center of the western part of the district, 2 miles west of Harshaw, on Alum Gulch, at an elevation of about 4,680 feet. (See Pls. I and II, in pocket.)

It was located in 1879 by a Mr. McNamee, who shipped a considerable quantity of ore from it and is said to have abandoned it in 1881. In 1883 William Moran relocated the property and in 1884 sold it to Frank Powers, the present owner, for \$100. Mr. Powers is reported to have soon shipped a few carloads of ore of 25 tons each, which brought from \$8,000 to \$25,000 a car, and by 1902 it was said that \$600,000 worth of ore had been blocked out in the mine ready to ship. Since its acquisition by Mr. Powers it has been worked at intervals only¹ but has always produced considerable rich ore, which was mined or milled and shipped as desired. In 1907, for instance, the production was \$74,210 worth of ore, in lead, copper, gold, and silver.² During the year 1910 the production was \$42,730.³ In 1912 a shipment of a few carloads, mostly very rich ore, is reported to have been made to the Selby smelter. Early in August, 1914, the mine was said to be shipping two carloads of rich ore a week to Douglas.

The property comprises a group of eight claims and is reported to have produced more than \$1,000,000, of which over \$500,000 was in high-grade ore. Several hundred thousand dollars' worth of medium-grade ore, it is said, now lies on the dumps. It is reported that the owner has received several offers for the mine, ranging as high as \$500,000 to \$600,000,⁴ but that the price asked has been \$1,000,000, of which 10 per cent was to be paid down before anyone would be allowed to enter the mine to make an examination. In 1913 the mine was reported to have been sold or bonded to the Copper Queen Co. for \$860,000. Early in 1914 the tax commission of the State of Arizona was reported to have valued the mine at \$155,000 and to have collected \$7,000 in taxes based on this valuation. More recently it has been reported that Charles E. Knox, president of the Montana-Tonopah Mining Co., of Tonopah, Nev., and A. Y. Smith, formerly manager of the Prince Consolidated, of Pioche, Nev., have taken over the mine, and are shipping about 50 tons of ore daily.

The mine is said to be developed to a depth of 600 feet and is the deepest mine in the district. It contains about 15,000 feet of drifts, tunnels, stopes, shafts, and winzes. The owner was absent at the time of visit and the mine was closed. The main entrance to the mine is a crosscut tunnel at an elevation of 4,680 feet, from which, it is reported, a winze has been sunk to a depth of 600 feet with drifting 1,000 feet each way from the winze on the vein at levels spaced 100 feet apart.

The principal equipments are a 10-stamp mill supplied with concentrators, etc., which made an apparently unsuccessful run of three months in 1897 and has been idle ever since. There is also a steam hoist within the tunnel and power drills.

The topography is rough, as shown in Plate XVII, A, and the canyon on the north below the property is impassable, so that the mine is reached by 1½ miles of wagon road of easy grade descending the canyon on the south from the county highway at a point a mile west of Harshaw.

¹ U. S. Geol. Survey Mineral Resources, 1905, p. 155, 1906; *idem*, 1906, p. 170, 1907.

² *Idem*, 1907, pt. 1, p. 178, 1908.

³ *Mines and Mining*, Aug. 1, 1911.

⁴ Curtis, J. N., Report of the Governor of Arizona, 1902, p. 47.

The country rock, as shown in figure 31, is a small area of diorite which forms the northward continuation of the Harshaw belt, but which at the mine is almost surrounded, overlain, and intruded by rhyolite and is more or less pyritic and mineralized. The rhyolite, which is also considerably mineralized and altered, seems to be similar to that at Red Mountain, with which it is apparently connected. Just across the canyon east of the mine the surface is underlain by a purple altered andesitic volcanic rock composed almost wholly of oligoclase-andesine and a little biotite or altered hornblende.

The deposits, to judge from the location of the workings, are about all on or associated with the contact of the rhyolite intruded into the diorite. The workings trend north-northwest and the deposits seem to dip about 80° WSW. into the mountain, but in the mine the dip is said to be about 45°. From the main entrance, which is located about 40 feet above the floor of the canyon, the openings and croppings extend for one-eighth of a mile or more southward and through a vertical range of about 400 feet, which together with the 600 feet of depth the vein is said to have in the mine gives for the deposits a known vertical range of about 1,000 feet. The croppings are irregular, however, and in places difficult to identify and follow.

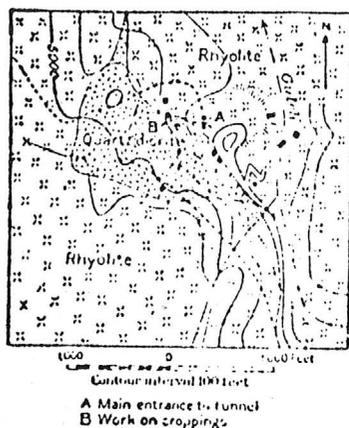


FIGURE 31.—Geologic map of the vicinity of the World's Fair mine.

The croppings range from 10 to 14 feet in width, and the average width of the vein in the mine is said to be about 6 feet, nearly all of which is good workable ore. The metalliferous minerals are said to occur mostly in the rhyolite or hanging-wall side of the contact. A considerable portion of the openings to the south of the mine are on the north-south rhyolite dike cutting the diorite. The croppings of the dike are 15 to 25 feet wide and consist of a reddish-yellow siliceous rhyolite. The valuable

metals in the ore are silver, gold, lead, and copper, silver predominating. The gangue of the vein is commonly said to be quartz, but in most of the ore seen on the dump barite seems to equal the quartz in amount, and in some run of mine specimens it is the chief or only gangue mineral, quartz being inconspicuous or absent. The barite gives to much of the ore a sparry aspect and is particularly prominent as seams, blades, and plates filling fractures and cavities, denoting that much of it is of late or postvein age.

In the upper workings the ores, it is said, were mostly rich lead-silver sulphides, but below water level, in the unoxidized zone, where they maintain or exceed their surface tenor, they carry besides galena considerable copper, mostly in the form of tetrahedrite or gray copper, with some chalcocite and antimonial silver, in places rich in gold. In fact, a considerable part of the ore seems to be antimonial silver. There is also a sprinkling of finely disseminated chalcopyrite and pyrite. The ores from the deeper part of the mine are reported to average about 20 per cent in copper and 500 ounces in silver and \$15 in gold to the ton. Judging from about 500 tons or more seen on the dump the ore is mostly hand-sorted and well graded, seemingly by screens, into sizes ranging from that of a walnut up to that of a 10-inch bowlder. It is then shipped direct to the smelter at Selby, Cal.

Geology

Geology in the immediate area of the World's Fair mine has not been mapped in detail and some features of existing maps may be inaccurate. Rock types known in the area are volcanic flows, intrusive diabase, and a series of conglomerates and agglomerates.

The area is one of rugged topography cut by many canyons. Several former producing mines are found adjacent to the World's Fair property. Adjoining to the south is the January-Tranch property which was operated for 20 years by ASARCO. To the northwest about a mile is the Flux property operated by ASARCO and later by Nash and McFarland. These properties produced silver-lead-zinc ores with small amounts of copper and gold from fault zones in the Tertiary sedimentary rocks.

The World's Fair property is mostly underlain by diabase with an exposure to Chief conglomerate overlies diabase and dips at an angle of 70 degrees to the northeast. Various rhyolite dikes intrude the diabase. Fault zones, more or less mineralized, cut through the diabase. One large fault related to the ore mined, strikes north 70 degrees east and dips 70 degrees northwest.

Alteration and mineralization on the World's Fair property includes a number of vein breccia and alteration zones and possible areas of stock-work mineralization. These should be mapped in more detail.

Current exploration activity in the area surrounding the World's Fair area is intense. Kerr-McGee has discovered a porphyry copper deposit in several hundred million ton class immediately northeast of the World's Fair. ASARCO is conducting exploration for silver and copper immediately south of the World's Fair property. Other companies are exploring the ground to the southwest of the World's Fair property.

The mine is developed by a main level tunnel about 1180 feet long from which most of the ore was extracted. At a point about 680 feet

underground from the adit portal is an internal shaft 348 feet deep with levels at 99, 148, 188, 252 and 348 feet below the collar. Above the main level is an upper level with stopes reaching through to surface. Farther up the slope is a short level, designated the uppermost level, from which good ore was extracted but which did not reach the downward extension of ore found at surface.

The stopes are found mainly on two vein systems designated as the hanging wall zone and the footwall zone. The main stope on the footwall zone occurs on the contact of diabase and conglomerate. A strong fault cutting the veins almost at right angles is observed in the shaft station on the main level.

Some 1,000 feet in a northeasterly direction from the main level adit is a second adit which produced some high grade ore, remnants of which remain.

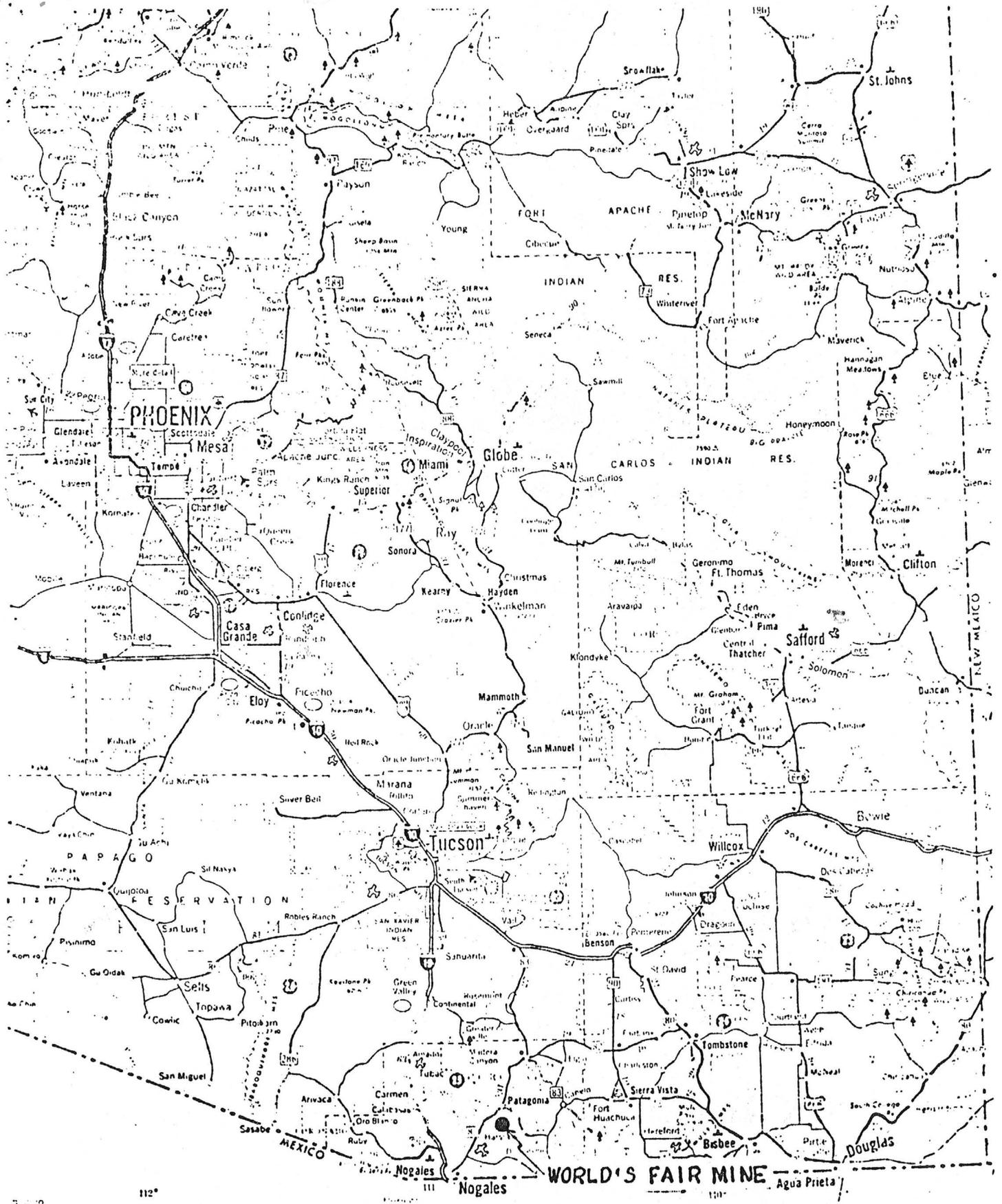
When Platoro Corporation acquired the property, the main level was cleaned out and made accessible and the upper level and the uppermost levels were partially cleaned out. The main level was surveyed and a start was made for the preparation of diamond drill locations to search for ore extensions. No attempt was made to pump out the water from the internal shaft, but the flow is not great and this could be done without difficulty.

The Platoro Corporation, because of other exploration demands, did not undertake the recommended diamond drilling or geologic mapping they had planned.

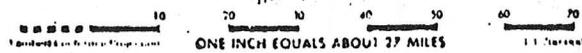
Present data on the World's Fair mine claims indicates an interesting precious metal-base metal prospect with significant bulk silver potential. Geochemical values shown in the initial surface sampling indicate silver, lead and copper associated with fracturing the diabase, and show silver values from .05 to 2.75 ounces per ton, lead values to

3.85%, and copper values to 1,000 parts per million. The exploration target indicated can be tested cheaply by further geological mapping, geochemical sampling, the construction of a short road, and rotary exploratory holes. This will be done to see if a commercial precious metal-base metal deposit underlies the geochemical anomaly and/or the old World's Fair workings. The property is available on favorable option terms.

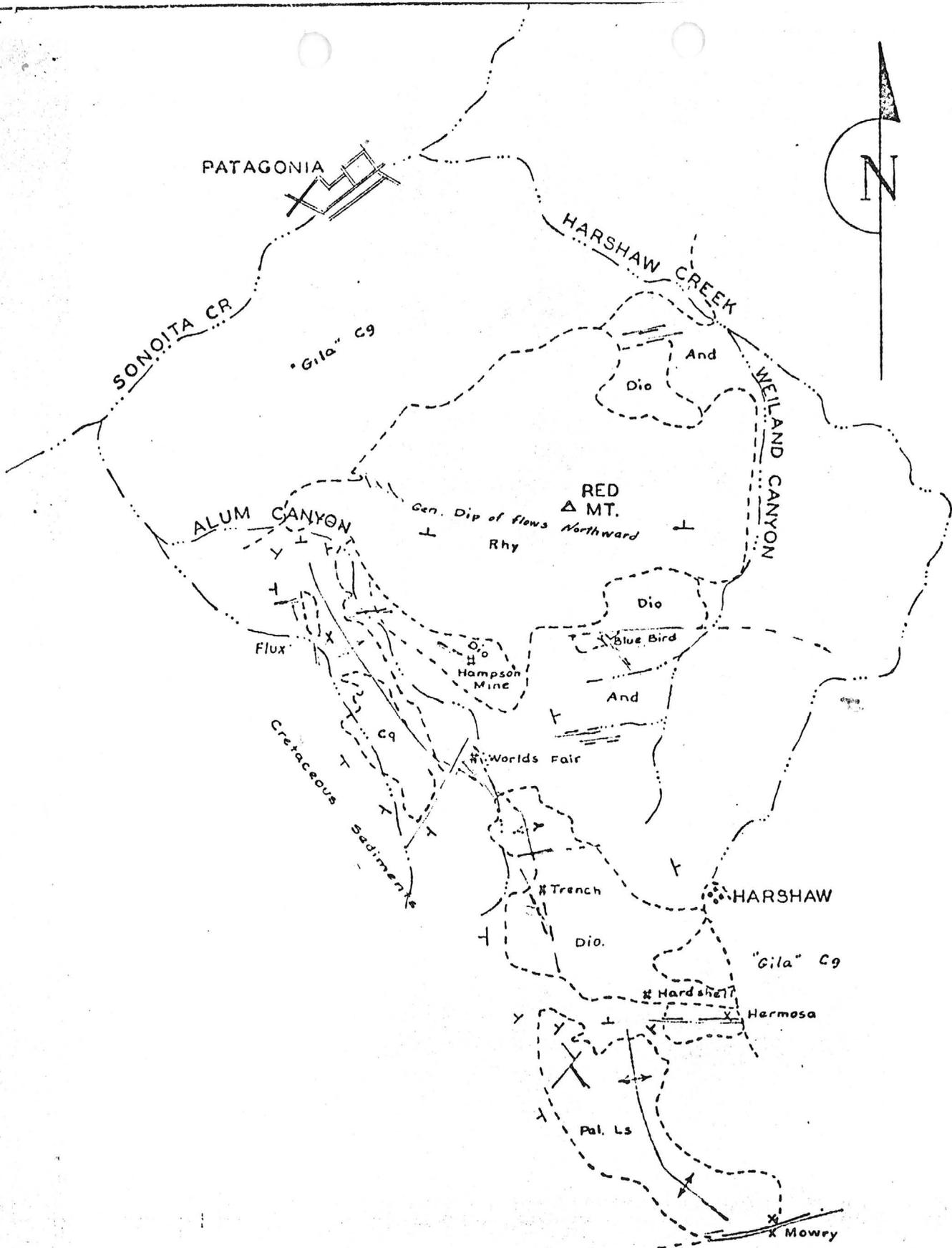
LOCATION MAP OF WORLD'S FAIR MINE



112°



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From: Lyall Lichty, Feb. 22, 1982

SURVEY OF OPERATING MINES

WORLD'S FAIR

ED

By: George A. Ballam

June 12, 1942

Located in the Harshaw Mining District about 2½ miles west of the Trench Mine of A.S. & R. Co. H. W. Zipf, Box 327, Patagonia is receiver for this property which consists of 21 claims with a number of old workings, buildings, and equipment.

From 1903-1930 the World's Fair produced \$800,000 in copper lead and silver. At present 9 leasers are working on the property. A deposit of lead-zinc has recently been found on the east end of the property which the receiver is anxious to lease to a responsible party. The vein in the tunnel shows 3' in width and is widening out. Near the road up the mountain three small shafts have been opened up which show ore over a width of 150'. The tunnel was worked 25 or 30 years ago with a crude hand jig. There is in the vein a 14" streak which assayed 41% lead, 22% zinc, and 14 oz, silver.

The court has ordered sale of a car of junk which has been collected on the property and the receiver is now looking for a buyer.

Mr. Zipf seems to be anxious to cooperate with the department to any extent in getting this property under production. He has authorized J. F. Meyers of the Lewis Hotel in Tucson, to furnish us with the records of the receivership. He also desires to have the attorney, Otho Books, 82 W. Pennington, Tucson, informed of the new regulations regarding priorities and premium payments. I will contact these men and make an additional report.

George A. Ballam

NAME OF MINE: WORLD'S FAIR		COUNTY: S. CRUZ
		DISTRICT:
		METALS: PB, ZN
OPERATOR AND ADDRESS:		MINE STATUS
DATE:		DATE:
5/1/44	O. Books, W. Pennington Tucson, Arizona	5/1/44 Leases
✓ WORLDS FAIR Pb, Zn Santa Cruz 12 - 1 S 36, T 22 S, R 15 E H. W. Zipf, Box 327, Patagonia		
(Deceased. 8/1/46)		

World's Fair Mine

This property is now in receivership under Judge Sames of Tucson. Leased at present by Shell.

This property is small but has yielded very high grade silver ores. The main part of the vein yielded rich silver bearing tetrahedrite ore but Shell's present workings are in steel galena ore with moderate silver.

The vein strikes nearly N-S and dips west at about 65 degrees. The vein is developed on two slips that converge causing pinches or diverge to cause swells. The pinches and swells succeed each other at intervals usually under 50 feet. On the dip each lense of ore has considerable extent and many were stoped from lower levels to the surface. Not all swells were completely ore for the horse of rock between the two slips ~~was~~ was not always mineralized or was but partly mineralized. Shell who worked in the mine in the past says that a stope 15 feet wide is known but such widths were rare. He also stated that the ore improved with depth. Possibly some secondary enrichment.

The vein is cut by cross faults that may show a little low grade pyritic mineralization. These faults ~~are~~ displaced to the left. The main cross fracture offsets the vein 75 feet to the left and caused considerable trouble to Mr. Powers the owner. North of this fault there has been very little work below the tunnel level; to the south however, the vein has been stoped to the 550 level (on the incline). near

This vein is cut off by flat dipping fault ~~at~~ the south end of the tunnel. Probably the upper block moved east; Shell says that no hunt has been made for the offset upper part of the vein beyond the flat fault.

This property probably has some value yet. The lower part of the vein north of the main cross fault may yield considerable ore. Also the upper part of the vein at the south end of the tunnel may be worth searching for beyond the flat fault.

Water stands at the floor of the main tunnel.

A large production cannot be expected from this vein but the high grade of the ore makes operation on a small scale possible. Believe the property has some value yet. Purchase price should be fairly low or under favorable option conditions. A long life is not expectible.

Copper Queen offered Mr. and Mrs. Powers 275,000 in baled cash for it but Mrs. Powers refused less than a million cash; this according to Shell.