



CONTACT INFORMATION

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

The following file is part of the

Arizona Department of Mines and Mineral Resources Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

03/31/87

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: BLACK BIRD

ALTERNATE NAMES:

LA PAZ COUNTY MILS NUMBER: 306

LOCATION: TOWNSHIP 7 N RANGE 17 W SECTION 24 QUARTER SE
LATITUDE: N 33DEG 55MIN 55SEC LONGITUDE: W 113DEG 58MIN 45SEC
TOPO MAP NAME: UTTING - 15 MIN

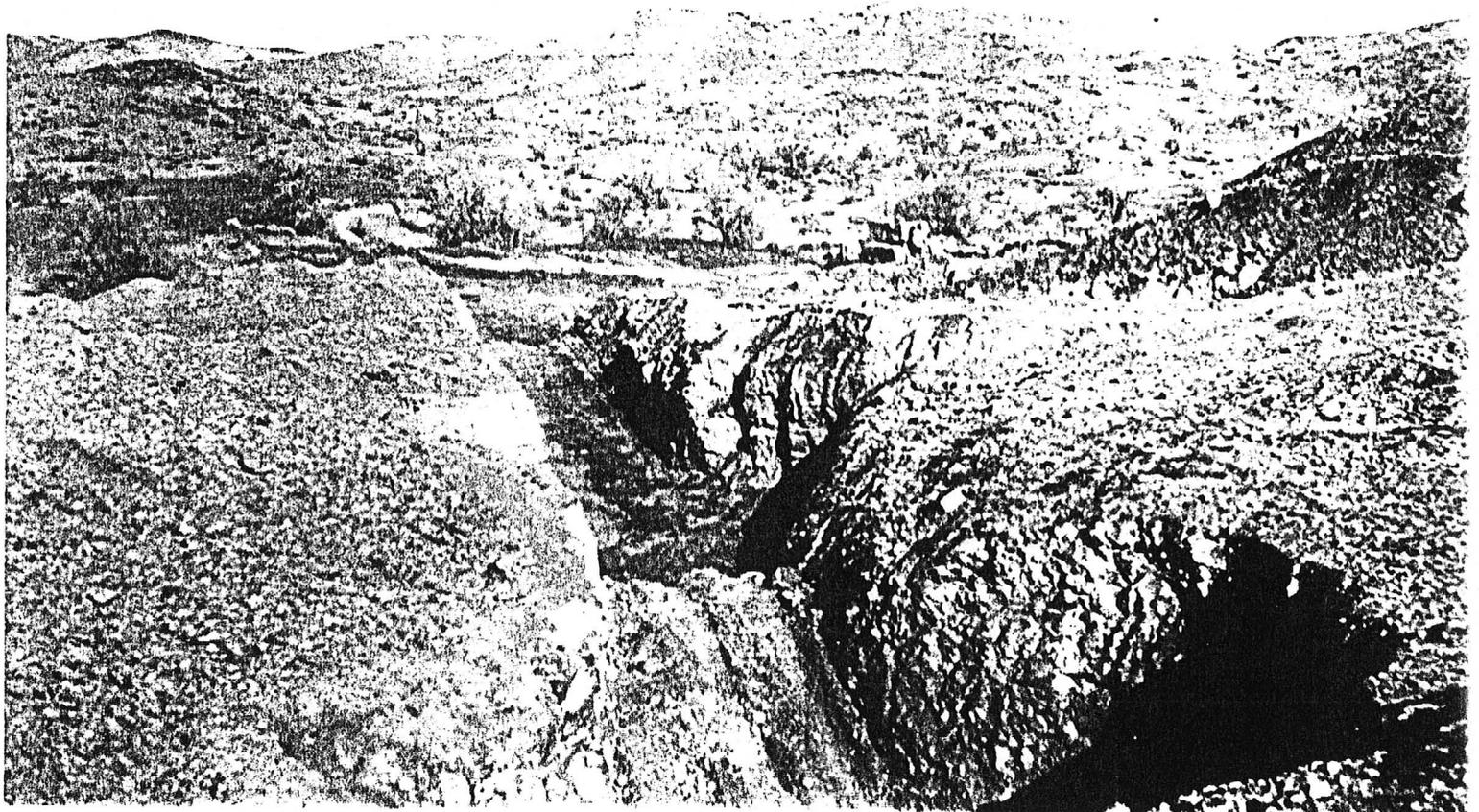
CURRENT STATUS: PAST PRODUCER

COMMODITY:

MANGANESE
BERYLLIUM
PUMICE PUMICE

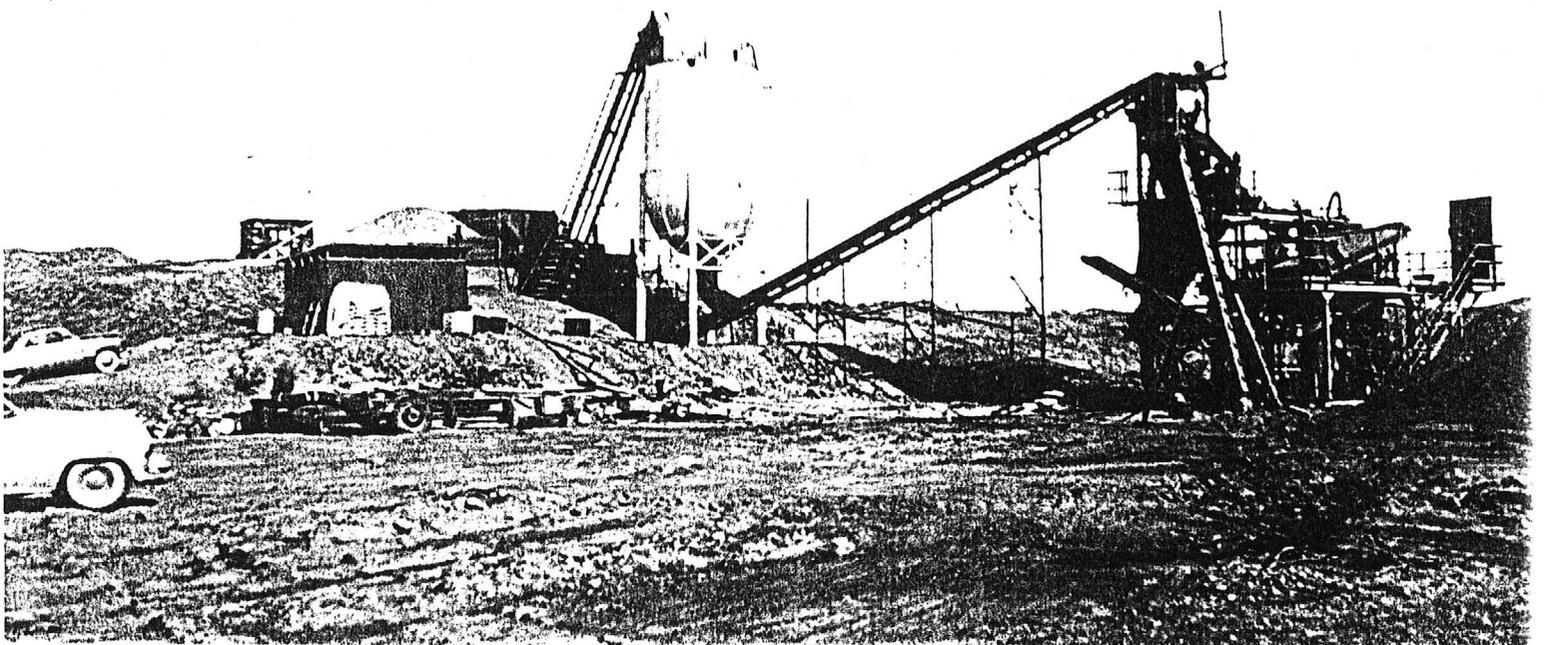
BIBLIOGRAPHY:

KEITH, S.B., 1978, AZBM BULL. 192, P. 167
ADMMR BLACK BIRD FILE
SCARBOROUGH, ROBERT - (ADMMR GEOLOGY FILE)
AZBM BULL 134, P. 67
USBM IC 7843, P 72
AGBMT BULL. 180, P. 109
USBM RI 6828, P. 59
MNG WRLD 8/58, P 65; MNG WRLD 6/59, P. 73
ADMMR PHOTOS



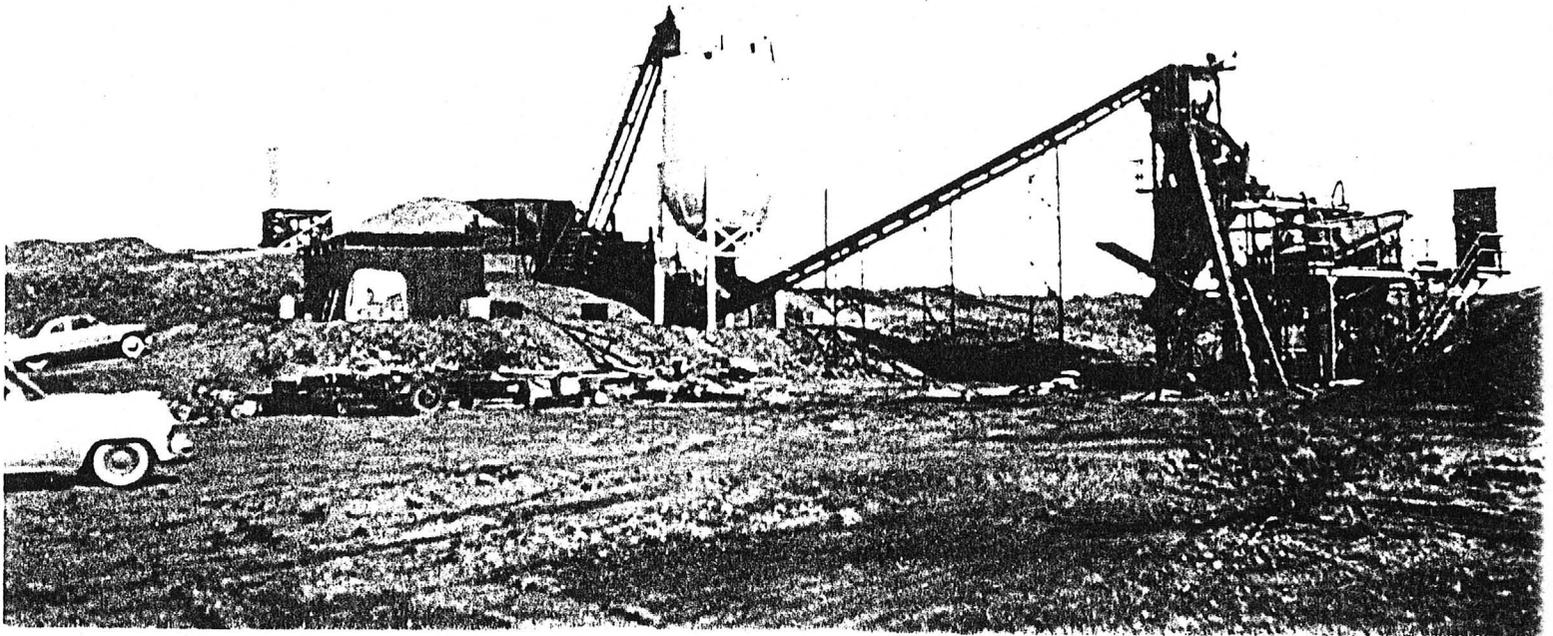
A-14-3

1954



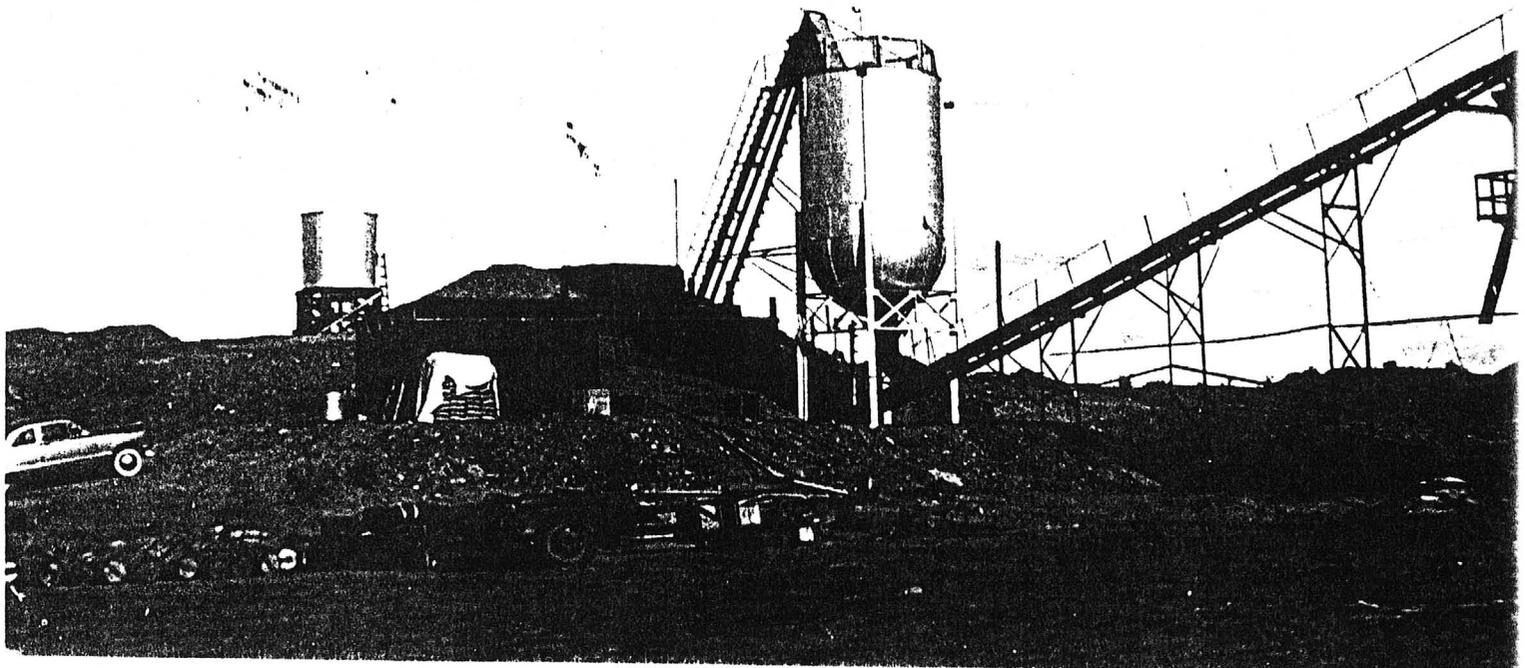
A-14-8

1954



A-14-6

1954

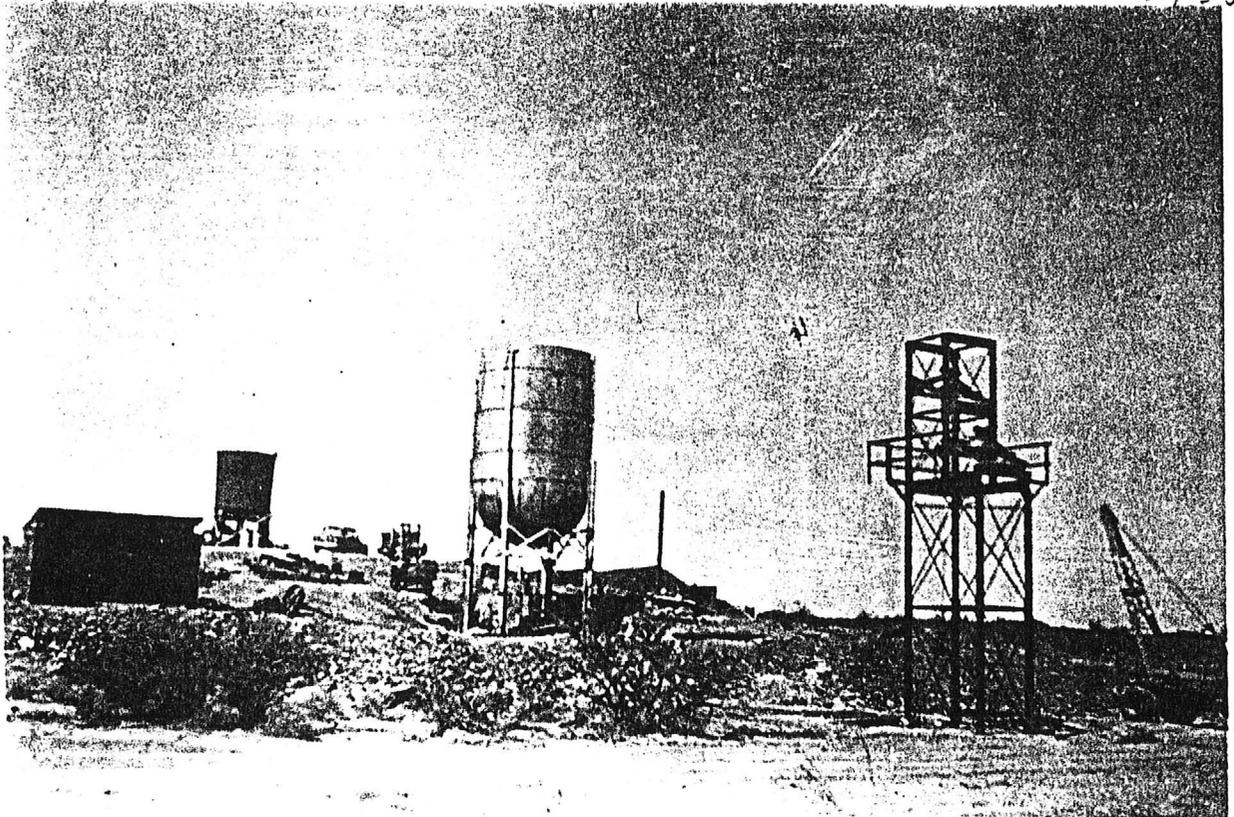


A-14-9

1954

A-14-11

1953



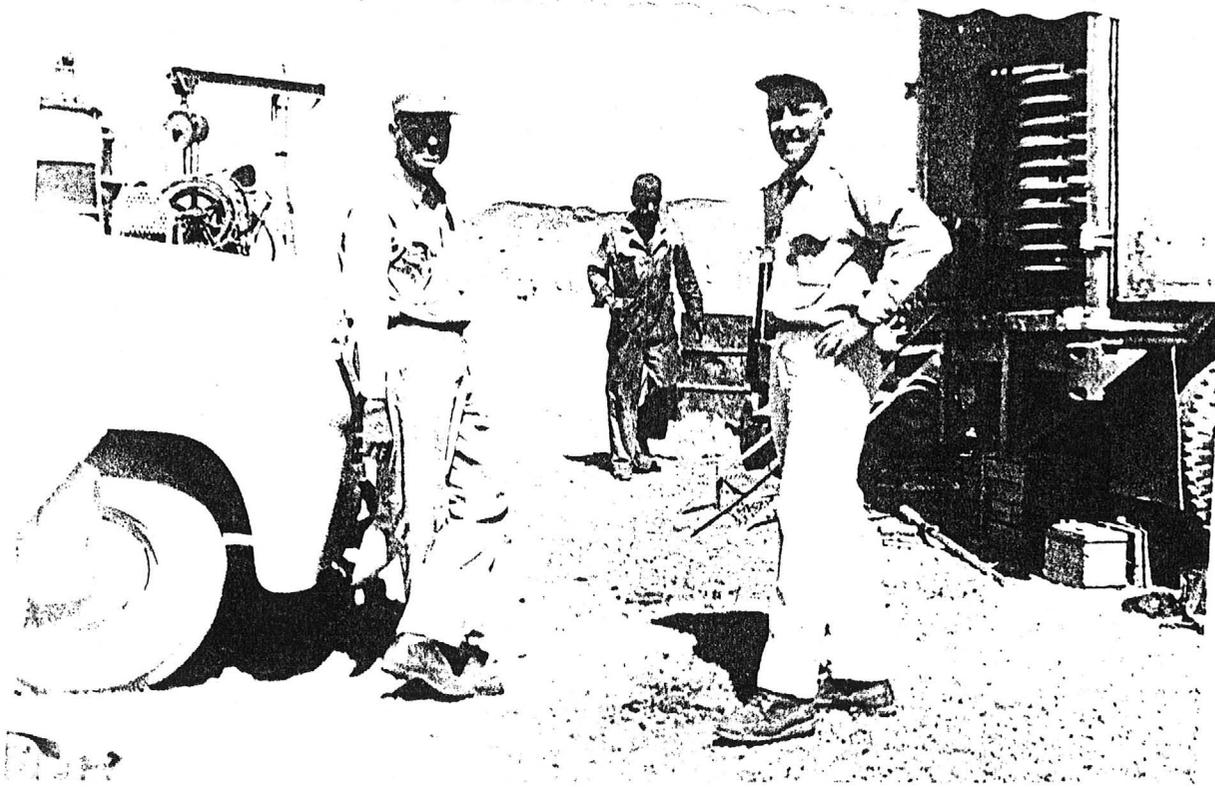


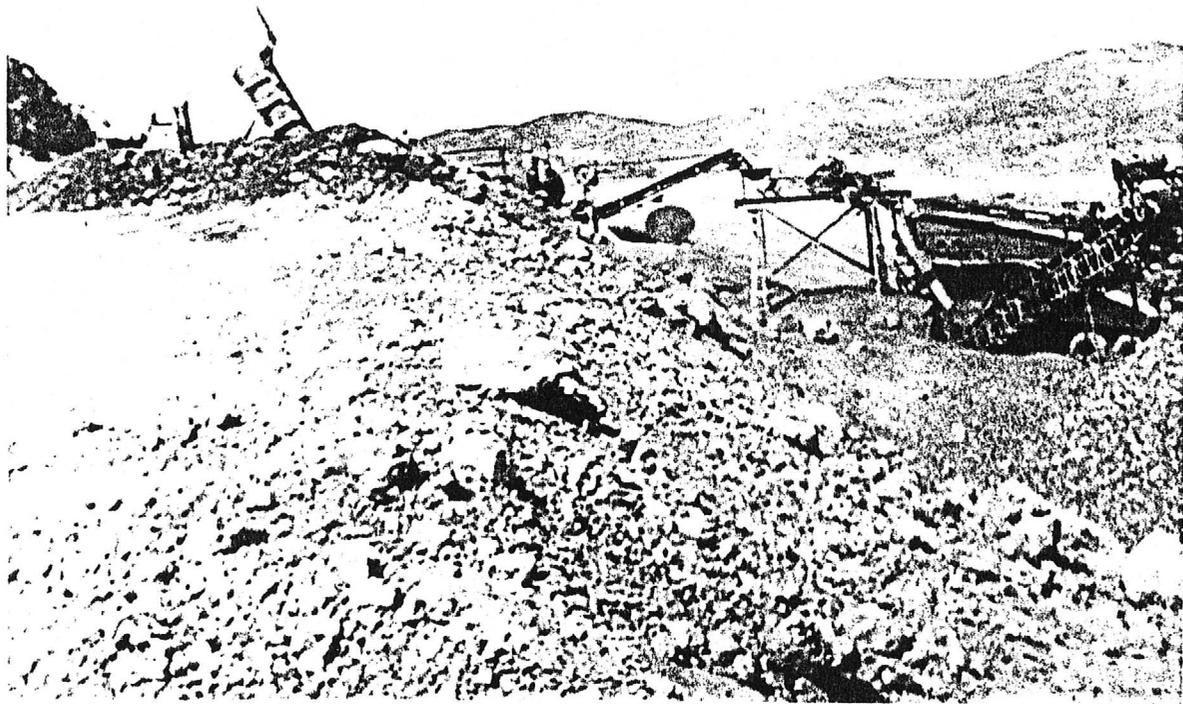
A-14-15

A-14-14 LEFTY WHITCOMB & PAT DE WILLIAMS

1958

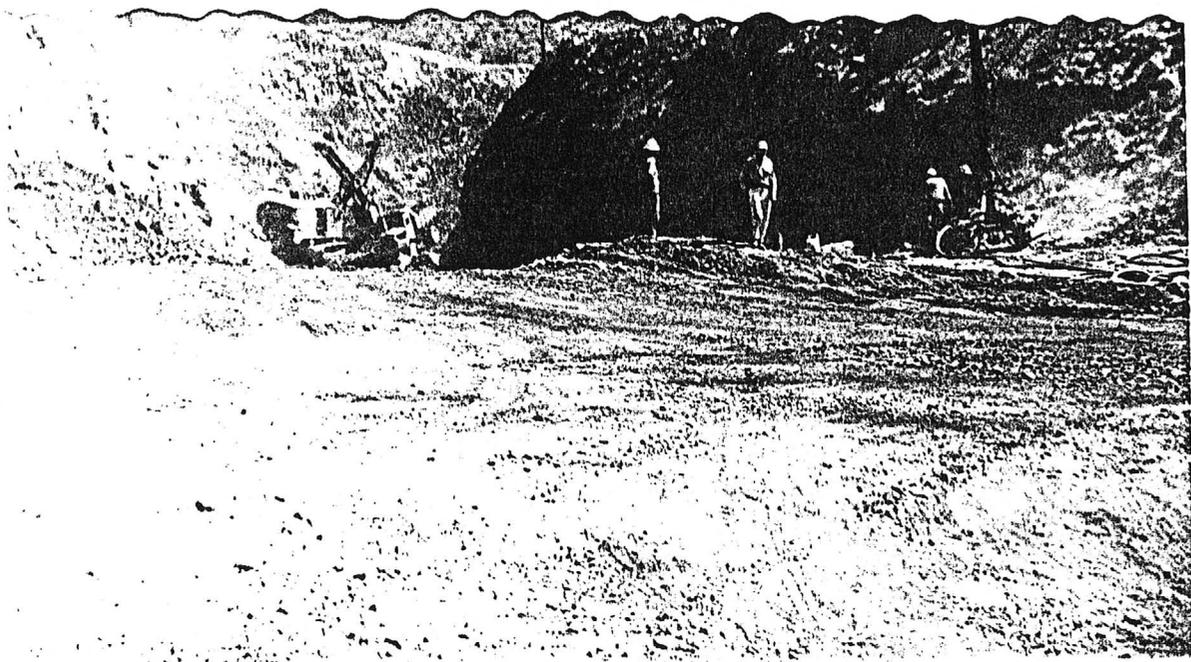
1958





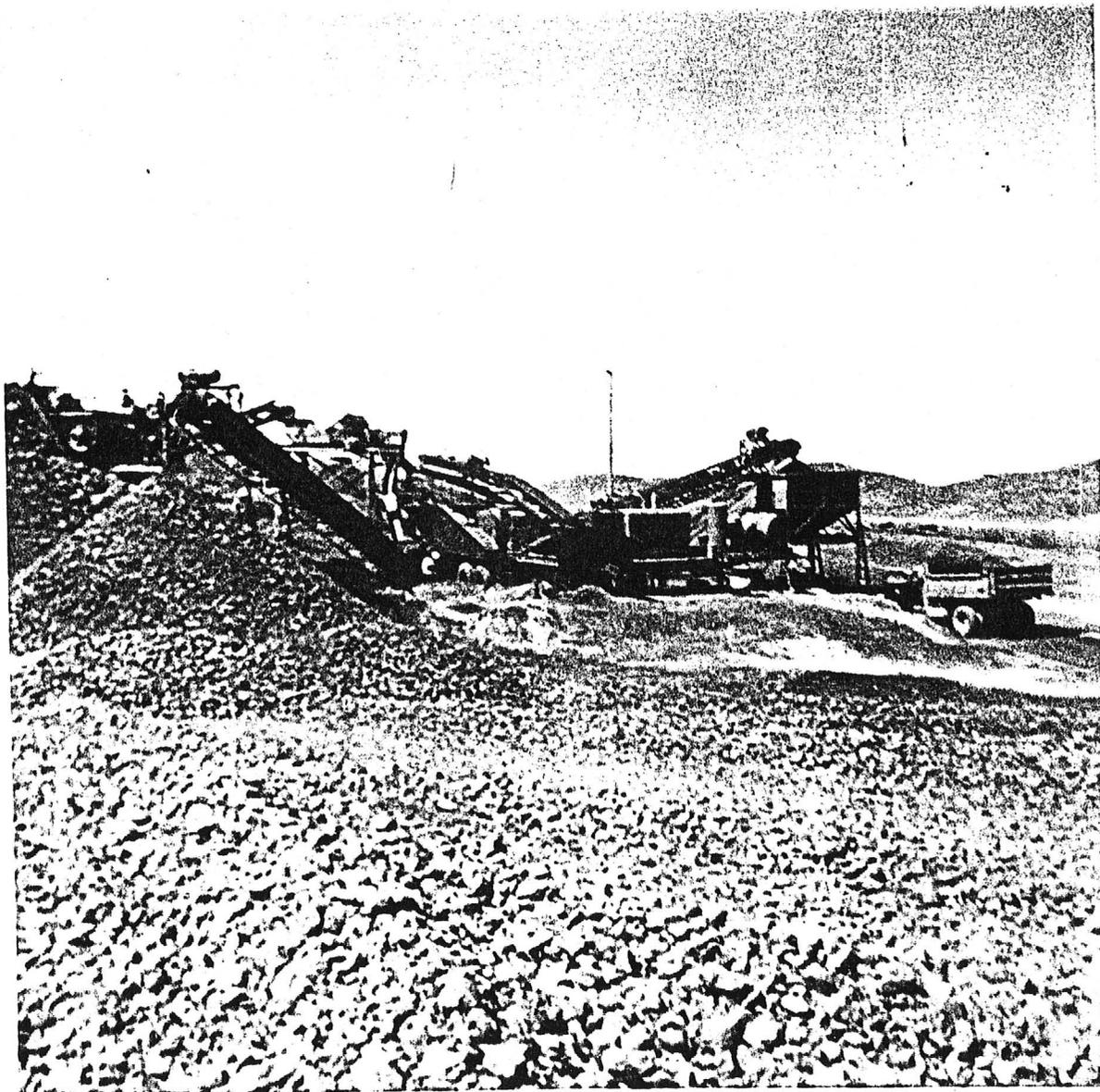
A-14-12

1958



A-14-12

1958

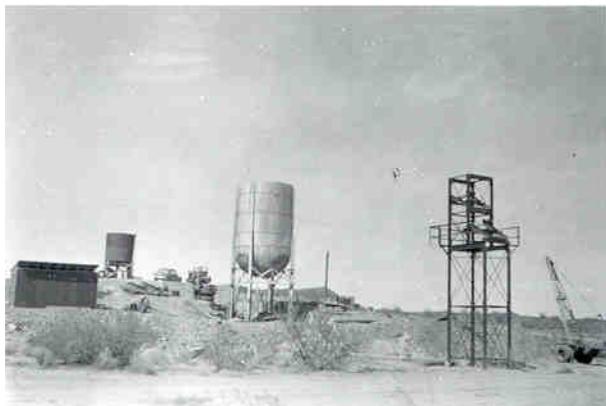


A-14-13

1958





















BLACK BIRD

YUMA COUNTY

Interviewed Garrett and Pat De Williams (of the Sunshine Mining Co.) at Salome. Mr. Garrett supervises the Black Bird project from the company's Spokane office and was on his way to Bouse to evaluate the mine (the operation has recently been extremely marginal). TPL WR 3-13-59

Visited Black Bird mine and mill of Sunshine Mining Co. at Bouse. Production was at a normal rate. The Black Bird pit is being extended down slope with increasing amounts of stripping required. TPL WR 5-23-59

Visited Black Bird mine and mill of Sunshine Mining Co. 18 men working in the mill, 22 (for Isbell Construction Co.) at the mine and crushing plant. Milling rate has averaged 15,000 tpm during recent months (maximum daily about 1,000 tons). The grade has dropped steadily however and is now barely economic. No reserves have been developed and Pat de Williams, supt., expects to terminate at the end of this month or early in July. TPL WR 6-13-59

Visited Bouse. The Sunshine Mining Co. operation terminated on June 21. Isbell Construction Co. has moved out all its mining and crushing equipment. No company personnel was present at the time of visit. TPL WR 7-27-59

Visited the Black Bird mine at Bouse. The mill formerly operated by Sunshine Mining Co. is idle but still intact. It is said that property and equipment items are in dispute. TPL Memo 10-14-60

Conference with J. C. Townsend, Bouse

Mr. Townsend, who owns the 15 Black Bird claims, said that they contained sizeable deposit of pumice, in addition to the manganese ore, much of which was shipped to the Wenden Stock pile. He said that the Arizona Bureau of Mines examined it, prior to the erection of Glen Canyon Dam, as a possible pozzolan source. He hopes to interest someone in its use as a light-weight aggregate constituent. The deposit lies in Sec. 24-25, T7N, R17W and Secs. 19, 30, T7N, R16W. LAS 10-16-64

Active Mine List April 1967 - Dev.

The manganese venture at Black Bird mine near Bouse, was not successful due to a miscalculation as to ore grade. It was believed that ore would run 10 percent manganese but it only mined at 5 percent. Memo LAS 6-13-67

Mr. Del Peterson stated that the marble-quartz business continues about normal. They are at present employing 12 men in the quarry and plant. The manganese operation at the Black Bird mine near Bouse has been abandoned. Memo Robt. F. Playter 10-9-67

(REFERS TO WHITE MARBLE GROUP FILE

THIS FILE

SHEET 2 of 2

VIII GEOLOGY AND MINERALOGY: DEPOSIT TYPE: Lacustrine Tuff

LENGTH: +500' **WIDTH** +250' **VEIN STRIKE** NA **DIP** Flat

HOST ROCK: Tuff upper contact basalt, 6' thick tuff, lower contact
not seen

ECONOMIC MINERALS: Fine grained (estimated 200 mesh) tuff, no larger
material observed so distal from source

COMMENTS: Potential Pozzolan; potential chemical carrier, analysis
of materials porosity, permeability, and chemistry required
to determine possible uses.

IX. EQUIPMENT ON SIGHT: None

X. SAMPLE: ADMMR 28045

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine BLACK BIRD (and Black Rock) Date June, 1954

District Plomosa - Yuma County Engineer RICH

Subject:

Location: Located in Sec. 23, T. 7 N. R. 17 W. - approximately 1 mile east of Bouse

Number of Claims: 5 Unpatented claims

Owners: J. C. Townsend of Bouse, Arizona. Manganese Corporation of Arizona has contract to purchase mining property from Mr. Townsend - mill owned by Manganese Corporation of Arizona

Operators: Manganese Corporation of Arizona, Victor J. Morgan, Manager - Bouse, Arizona

Mineral: Manganese

Number of Men Employed: 15

Production rate: Approximately 100 tons every 24 hours

Geology: Ore occurs in irregular masses distributed throughout a vein system approximately 50 feet wide; 1,000 feet long, hanging ~~on~~ footwall of granite; mineralized area dips approximately 45 degrees. Manganese occurs in fracture zones resulting in a great many fines when broken. Manganese content is approximately 8% MnO. Principal mineral is pyrolusite or psilomelane on the surface.

MANGANESE CORP. OF ARIZONA (OWNER) 5-25-54
VICTOR J. MORGAN, Mgr.
Bouse, Arizona

MILL at Bouse -

Leases on Black Rock and Black Bird Mined near Bouse. Contract to pur.
Sec. 23, T. 7 N. R. 17 W. approx. 1 mi. E. of Bouse.
5 unpatented claims. J. C. Townsend, owner, Bouse, Ariz.

MORGAN, VICTOR J. (OWNER) & MGR. 5-25-54
MANGANESE CORP. OF ARIZONA
BOUSE, ARIZONA

MILL at Bouse - MANGANESE CORP. OF ARIZONA

Leases on Black Rock and Black Bird Mines near Bouse, contract to pur.
Sec. 23, T. 7 N. R. 17 W. approx. 1 Mi. E. of Bouse.
5 unpatented claims. J. C. Townsend, owner, Bouse, Ariz.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine: Manganese Properties

Date: Feb. 20, 1954

To: R.I.C. Manning, Director

Engineer: Mark Gemmill

Subject: Present Activities

Manganese Corp of Arizona - Mill at Bouse

With the recent installation of a sink-float unit, this plant seems to be doing very well. Fines in the ore are screened out dry. This product is not suitable for the sink-float treatment, and is shipped as is to the Wenden Depot. It is reported that the sink-float product runs better than 40%. This company has leases on the Black Bird and Black Rock mines near Bouse from which ore for the mill is now being produced. It is reported that a lease on the Shannon mine in the Artillery Peak area has been obtained and ore from it will be hauled to the Bouse plant for treatment. The capacity of the plant is said to be four to five hundred tons daily.

Blackbird Mine

Utting. (sec. 24, T. 7N., R. 16W.)

Yuma County

reference: Dept. of Mineral Resources, Black Bird,
Yuma County (file)

Manganese Deposits of Western Arizona
by L.L. Farnham and L.A. Stewart
U.S. Dept of the Interior 1958
Bureau of Mines Information Circular 7843

current owner: Jim C. Townsend, Boise, Arizona
(as of 1967)

lessee: U.S. Marble Corp., 2101 E. Jackson,
Phoenix; a monthly lease and royalty
agreement along with the option to buy
(as of 1967)

history of the mine:

Activity at the Blue Bird mine began in
1952 and the first ore was shipped in 1953
by James C. Townsend. Later in 1953 the
property was leased and operated by the
Manganese Co. of Arizona until mid-1954.
During this period 20,000 to 30,000 tons
of low-grade ore was mined. The ore
concentrates totaled 2,815 long tons
assaying 22.2% Mn and 670 tons of sorted
ore assaying 17% Mn. As of 1967 the
Mn operation was abandoned but the
marble-quartz business continued fairly
normally

Black Bird Mine (cont.)
minerals: manganese, pyrolusite, and
psilomelane.

geology:

on body. — mineralization of manganese occurs along an irregular fracture zone in an andesitic lava. The zone strikes about N. 70° W, dips steeply southward, and is exposed for about 1,100 feet on the surface. Mineralized areas range from 10 to 30 feet in width. The manganese minerals occurred in a network of seams, veinlets and irregular bunches deposited around fragments of unreplaced lava.

The Black Bird Group consists of 8 unpatented claims

In 1967 there were plans of starting up manganese mining operations.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Blackbird
Yuma
District Bouse, Mohave County
Date March 5, 1959
Engineer Travis P. Lane
Subject: Visits - last Feb. 26th

The plant has operated steadily since August at an average rate of 600 to 650 tons per day. Until recently the crushing plant at the mine scalped off and discarded the plus $2\frac{1}{2}$ " material sending a $\frac{1}{2}$ " crushed product to the concentrator. Recently, however, all the mine run material has been crushed to $\frac{1}{2}$ ". Grade of mill feed for the past several months has ranged between 5 and 6% Mn. Grade of concentrates (HM, Jig bed, and Jig Hutch) averages around 44% Mn, with recovery of upwards of 70%. The hutch product in excess of that which can be blended within fineness limitations of concentrate specification is sold to Mohave Mining & Milling Co. for blending and/or sintering in its Wickenburg plant.

The first mining was done in the east pit and this was carried to its economic limits laterally and in depth. A pit was opened in the Black Hills deposit some 4 miles southerly from the Black Bird, but no large volume of ore which could be mined cleanly was developed. Mining operations are now in progress in the original or west pit where, after mining out much of the ground between the two pits, work is now directed down the steep dip of the ore in the bottom of the pit.

Drilling on the fringes and projection of known ore has been disappointing, and the testing of other deposits in the region has not produced favorable results.

The job is competently handled and the company is fortunate in that the ore is readily amenable to gravity concentration with good recovery (for manganese ore) and a good grade of concentrate. Even so, in view of the very low grade of plant feed, the company has been able to continue only because of the cooperation of the lessor and the mining contractor in reducing respectively the royalty rate and the stripping and mining charge.

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



Century Mining Co
Mrs.

Century M. Co. (Black Mule etc.)
Mrs.

March 22, 1961

MEMO

C
O
P
Y

Jim Hicks of Century Mining Co., Bouse, called re trouble he is having with Vera Robinson, a woman who came into his territory in mid 1959 and now is jumping his claims and using force to keep him out - according to his story. The following is all from him. A nephew of Mrs. (?) Robinson is with her and she has at least one man who accompanied her with a six-shooter at a time when they ordered Hicks and another man not to enter his claims to do assessment work. He and another man have been shot at 5 times. Vera Robinson has filed suit to quiet title on the following claims:

- 4 called Burro Barites group. Hicks, owner.
- 3 called Redbird group - owned by Hicks and Walter E. Wilson, 50-50

Hicks also has 9 claims in a Black Mule group which he is mining and which she has not bothered.

The Redbird group has iron which he wants to mine. He claims she is holding them by force; has put up inadequate monuments; has not done proper location work, has filled in his holes and raised claim generally. He has gotten restraining orders; she is under peace bond and he has won out in court actions so far; but his attorney wants him to get an independent party to go on the land, see what has been done, and testify in court.

He says she has filed 87 claims in a Santa Fe group and about 40 more, 11 miles south of Bouse on the old Quartzsite highway.

He told of his manganese mill costing \$245,000. and of Kaiser's wanting changes to the tune of another \$50,000 that would delay them until sometime next month.

When told about De Zan's doings, he remarked that they had plenty of markets for manganese.

He said the mill would have cost \$450,000. if they hadn't been able to get Mohave Mining & Milling's and other former producers' equipment.

He started as a coal miner, became a successful oil geologist and has been in Arizona 12 years in the tungsten and manganese businesses.

Mr. Williams of S. C., Vice president of Century, is the main guy,

according to Hicks. He said Norris now lives in Phoenix. Norris is the one that called on us earlier this month.

Hicks said he had spent considerable money fighting Vera Robinson and asked our help by sending Travis Lane to examine the claims in question and testify as to his findings. I told him it was against our policy - particularly when shooting is involved - and he said he appreciated our position.

F.P.K.

MEMO

Century Min. Co

October 14, 1960

BLACKBIRD MINE

Travis P. Lane

Visited the Blackbird mine at Bouse. The ^{mill} plant formerly operated by Sunshine Mining Co. is idle but still intact. It is said that property and equipment items are in dispute.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Blackbird

Date March 5, 1959

District Bouse, Mohave County

Engineer Travis P. Lane

Subject: Visits - last Feb. 26th

The plant has operated steadily since August at an average rate of 600 to 650 tons per day. Until recently the crushing plant at the mine scalped off and discarded the plus $2\frac{1}{2}$ " material sending a $\frac{1}{2}$ " crushed product to the concentrator. Recently, however, all the mine run material has been crushed to $\frac{1}{2}$ ". Grade of mill feed for the past several months has ranged between 5 and 6% Mn. Grade of concentrates (HM, Jig bed, and Jig Hutch) averages around 44% Mn, with recovery of upwards of 70%. The hutch product in excess of that which can be blended within fineness limitations of concentrate specification is sold to Mohave Mining & Milling Co. for blending and/or sintering in its Wickenburg plant.

The first mining was done in the east pit and this was carried to its economic limits laterally and in depth. A pit was opened in the Black Hills deposit some 4 miles southerly from the Black Bird, but no large volume of ore which could be mined cleanly was developed. Mining operations are now in progress in the original or west pit where, after mining out much of the ground between the two pits, work is now directed down the steep dip of the ore in the bottom of the pit.

Drilling on the fringes and projection of known ore has been disappointing, and the testing of other deposits in the region has not produced favorable results.

The job is competently handled and the company is fortunate in that the ore is readily amenable to gravity concentration with good recovery (for manganese ore) and a good grade of concentrate. Even so, in view of the very low grade of plant feed, the company has been able to continue only because of the cooperation of the lessor and the mining contractor in reducing respectively the royalty rate and the stripping and mining charge.

6-12-58

BLACK BIRD

No reliable record is available regarding past production. It seems to have been in the order of 30,000 tons with grade of about 15%.

At the time of visit 10 men were employed in rehabilitation and expansion of the mill (to 600-800 tpd) and the exploration and mining contractor (Isbell Construction Co) had 2 men drilling in and around the east pit.

Sunshine has only operated for a short time and they do not consider the data now in hand sufficiently informative to serve as a base for a reliable tonnage and grade estimate of reserves. They feel, however, that they have enough ore to produce at least 7,500 tons of concentrates during the balance of 1958 and probably the full quota of 10,000 tons in 1959. Overall grade of the deposit is tentatively put at 5% Mn and with some selective mining and waste discard at a two-stage crushing plant in the pit it is anticipated that mill feed grade can be held around 10% Mn.

The company also has the Black Hills group of 8 unpatented claims under lease from Jim Townsend and they propose to drill there after the Black Bird project is in production. This group lies some 4 miles southerly from the Black Bird group and is reported to contain a similar manganese deposit.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Black Bird

Date July 17, 1958

District Bouse (Plomosa) Yuma Co.

Engineer Travis Lane

Subject: Visit

Operator: Sunshine Mining Co.

Isbell Construction Co. with Lefty Whitcomb as Supt. is drilling in and around the east pit, and is completing installation of the crushing plant on the border of the pit. The crusher equipment consists of a Dearborn portable primary crusher, 18" x 30", and a Pioneer portable plant for secondary crushing. The final crushed product will be 1/2" and this will be trucked to the mill for concentration by heavy media and jigs. The contractor has moved in a 1½ cu. yd. Northwest shovel for mining and stripping, along with an end loader and dozers.

For test purposes several runs of mine ore have been fed to the old crushing plant at the mill. It is expected that the mine will be able to supply the mill at capacity rate early in August but the mill circuit will probably require some re-arrangements and adjustments before operating at capacity. The mill employs heavy media and jigs.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine **BLACK BIRD**

Date **JUNE 12, 1958**

District **BOUSE (Plomosa)**

Engineer **TRAVIS LANE**

Subject: **MINE VISIT**

Owner: **Jim Townsend of Bouse, Arizona**

Operator: **Sunshine Mining Co. with headquarters in Spokane, Washington**

DeWilliams
Manager: **Pat Williams, Bouse, Arizona**

Mill Sup't: **Imo Ito**

Mining Contractor: **Isbell Construction Co.**

The property, comprising 8 unpatented claims is located 2 miles easterly by level road from Bouse, Arizona. Bouse is a station on the Santa Fe Railroad.

The manganese mineralization occurs in a fault zone in andesite. The strike of the fault is approximately north 65° west and the dip is 65-75° southwesterly. The fault is characterized by a band of red clay gouge about 24" thick with a zone of brecciation extending for some distance into its hanging wall. The brecciation is most intense and the manganese mineralization is richest against the fault. The ore zone is exposed in the workings for a length of some 1500' with surface indication of extensions of several hundred feet on the west end and 1000' or more on the east end. The width of the manganese mineralization varies from 10 to 15 feet and possibly more.

manganese

The minerals are psilomelane and manganite with some pyrolusite and this mineralization occurs in thin veinlets and as grains and nuggets in the fine brecciation against the fault and, also, in patches and occasional massive chunks in the coarser brecciation away from the fault.

The workings consist of two pits and some surface cuts and trenches, also a surface area where some detrital manganese bearing material (placer manganese) has been removed. The west pit is 550' long with the fault as the north bounding wall. It has been mined for a width of 15' to 40' and to an average depth of about 30' (maximum 50'). Ore is continuing in depth into the floor of the pit and in places the south wall (HW) is still in ore. The east pit is separated from the west pit by a length of some 200 to 300' of barren fault zone material. This pit is a later development and less work has been done than in the west pit. Length of the pit is approximately 300' and width from 10-20'. It has been mined to a depth of from several feet to about 20'. Ore is continuing down dip against the fault and the southerly limit has not yet been definitely delimited.

Float manganese particles and chunks are abundant on the surface for a distance of about 1000' in an easterly direction from the east pit and also, in places, bunches are exposed in stringers in shallow cuts across the extension of the fault zone. The strike of the fault zone appears to veer more southerly on this end of the property.

The property has seen much activity since the inception of the manganese buying program. Three separate operators conducted milling operations for short periods and then Ore Concentrating Co., an Amplex Corporation project, built a plant employing heavy media and table concentration. This operator recently entered into an operating agreement with Sunshine Mining Company whereby the latter will revamp the plant and manage the operation.

6-12-58

BLACK BIRD

No reliable record is available regarding past production. It seems to have been in the order of 30,000 tons with grade of about 15%.

At the time of visit 10 men were employed in rehabilitation and expansion of the mill (to 600-800 tpd) and the exploration and mining contractor (Isbell Construction Co) had 2 men drilling in and around the east pit.

Sunshine has only operated for a short time and they do not consider the data now in hand sufficiently informative to serve as a base for a reliable tonnage and grade estimate of reserves. They feel, however, that they have enough ore to produce at least 7,500 tons of concentrates during the balance of 1958 and probably the full quota of 10,000 tons in 1959. Overall grade of the deposit is tentatively put at 5% Mn and with some selective mining and waste discard at a two-stage crushing plant in the pit it is anticipated that mill feed grade can be held around 10% Mn.

The company also has the Black Hills group of 8 unpatented claims under lease from Jim Townsend and they propose to drill there after the Black Bird project is in production. This group lies some 4 miles southerly from the Black Bird group and is reported to contain a similar manganese deposit.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Ampex
Mine MANGANESE MILL, Bouse, Arizona Date October 17, 1957
District Plomosa, Yuma County Engineer Frank P. Knight
Subject: Report on Property

Ampex Corporation of America
5051 Harbor Blvd.,
San Diego, California

Dr. (Chem.) Howard E. Smith,
Head of Mining Division

Tomo Ito, Plant Mgr., Metallurgist

Verne C. Haynes, Plant Supt.

Combined gravity and sink-float plant. Set up for careful sizing into 5 sizes - finer to tables and jigs and coarse to sink float. Sink float with 5 x 5 drum- capacity 800 tons. 3 of 4 tables installed but not jigs. Rest of plant is well along. No building except over gravity section.

Flow sheet - roughly 8" grizzly to small bin. Fines by conveyor to fine grizzly. Coarse to 10 x 21 A.C. jaw crusher. Elev. to vibrating screens in closed circuit with small set of rolls. Screen products to 2 sect. bin. Fines by elevator to 2 trommels and sized products to jigs and 4 tables. Coarse bin feeds to vibrating screen - classifier with oversize to sink-float section. (Undersize to jigs ?) No provision for Flotation or sintering.

Although a Parker Dam power line runs close by, they have installed a 120 and a 60 Kva - diesel-generator for mill power.

They do not intend to take in custom ores for the present. Mill feed will come from Townsends Black Bird Mine and another property owned by the company, located N. W. of the mill, name not given.

F. Knight

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine BLACK BIRD Date October 9, 1957
District Plomosa District - Yuma County Engineer Frank P. Knight
(Bouse)
Subject: Information from owner - J. C. Townsend, Bouse, Arizona

Owner J. C. Townsend said that Manganese Corporation of Arizona, Vic Morgan, Manager, was crushing to 5-6" screening and shipping fines under low-grade (Wenden Depot) program. The coarse was upgraded by heavy media to 48 to 60% manganese. The plant was moved to New Mexico. He said that he was now mining and had agreed to supply the new Amplex Corporation mill with 200 tons per day; that he had stockpiled about 4,000 tons and was awaiting completion of the mill before resuming work. Tomo-Ito of Amplex said that that company would get its ores from its own properties.

Visited the pit which is on the H.W. of a fault striking about N 52°W and dipping about 80°W. The manganese, chiefly psilomelane, is in a breccia zone at least 25 ft wide along the fault and much of it is part of the cementing material of the breccia. At the N. W. end the pit widens considerably, due to cross fracturing. The south end narrows some, but the fault has been picked up over several hundred feet S.E. of the pit and at about 200 feet SE some manganese was being mined. The pit is about 500 feet long and about 40 feet deep at the middle. The ore is reported to be low grade - less than 10% Mn.