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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: TUCSON PERLITE PLANT

ALTERNATE NAMES:

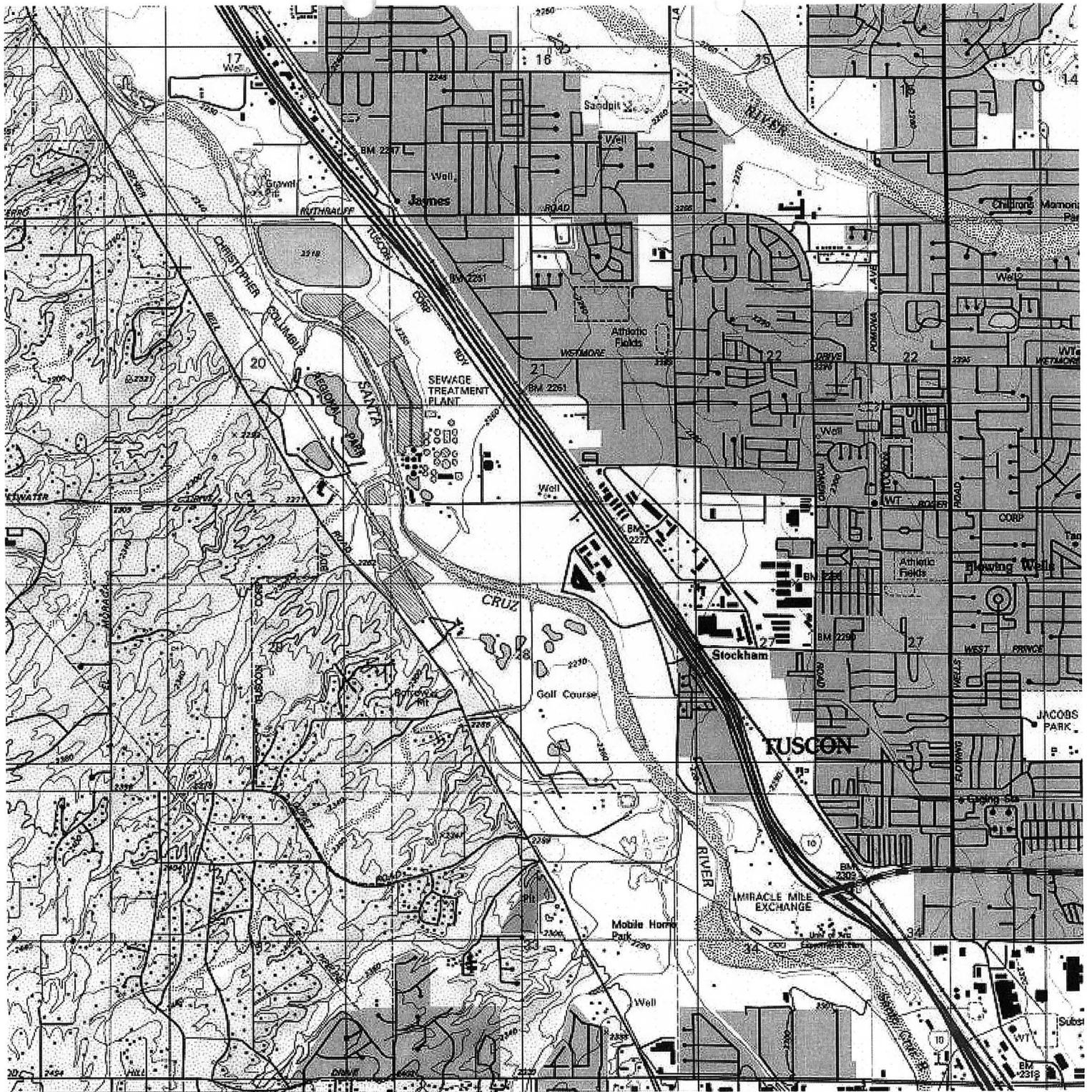
PIMA COUNTY MILS NUMBER: 1185

LOCATION: TOWNSHIP 13 S RANGE 13 E SECTION 21 QUARTER
LATITUDE: N 32DEG 17MIN 18SEC LONGITUDE: W 111DEG 01MIN 22SEC
TOPO MAP NAME: JAHNES - 7.5 MIN

CURRENT STATUS: UNK

COMMODITY:
MILL

BIBLIOGRAPHY:
ADMMR TUCSON PERLITE PLANT FILE



DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Tucson Perlite Plant

Date Sept. 29, 1960

District Pima County

Engineer Axel L. Johnson

Subject: Present Status. Information from adjoining office and Personal visit.

References: Report of Nov. 26, 1958.

Present Status Engineer visited the location of the plant, and found the plant closed down. Engineer was unable to locate the former operators, but a party in an adjoining office said that the plant had been closed approx. two months (some time in July)
Most of the crushing and processing equipment was still on the premises.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Tucson Perlite Plant

Date Nov. 26, 1958

District Pima County

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from George Wilson and Personal Visit.

Location At Jaynes, about 10 miles NW of Tucson.

Owners and Operators Tucson Perlite, Inc., 4439 N. Highway Drive, Tucson, Ariz.
 Approximately 1/3 of the stock in the company is held by each of the following:
 ✓ W. Scott Marshall, 2635 N. Rosemont Blvd., Tucson
 ✓ George A. Wilson, 3514 E. Grant Road, Tucson
 ✓ James C. Bailey, 2315 E. Elm, Tucson
 A couple of other persons also own a small interest in the company.
 ✓ James Joslin is employed as Maintenance Superintendent for the company.

Principal Product ✓ Perlite (processed and sacked)

Present Activity Mining perlite and processing same.
 2 men working.
 Production about 480 sacks per week (4 cu. ft. sacks, weighing about 30 lbs. each), from about 8 cu. yd. of perlite ore.

Mining Operations The company operates a perlite mine near Superior, located about one mile SE of the Superior Air Port, and near the Williams pit. This property is leased from a Mr. Iberria, who runs a grocery store in Superior.

The perlite is mined by open pit methods. The perlite ore is drilled and blasted, and then loaded into an 8 yard truck, using a D-4 dozer-loader. It is then trucked from the mine to the plant at Jaynes, a distance of about 100 miles.

The mine is operated intermittently as the demand requires it. Drilling and blasting is done once or twice a month, and about one 8 yard truckload of perlite ore is loaded and hauled to the plant every week for processing.

The company also owns a perlite deposit south of Casa Grande, which is not being operated at the present time.

Plant Operations The perlite ore is crushed in a 6" x 9" jaw crusher, then elevated by means of a bucket elevator and run through a 30" x 4" trommel screen with 10 mesh openings. The oversize from the screen is dropped into a hammermill for further crushing, the crushed material from the hammermill going back through the trommel screen.

The undersize from the trommel screen (minus 10 mesh) is dropped down into a 9 yard storage bin, and from there it is elevated by means of a bucket elevator into another 9 yard storage bin.

From this storage bin, it is fed with an automatic feeder into a rotating Preheater, where it is heated to 600 deg. F. From this preheater, the material is passed into a Rotary Furnace, where it is heated to 2000 degrees F.

From there, the material goes into a Collector. A cyclone attached to this collector produces a suction, which carries the light material up into the cyclone, and leaving the heavier material in the collector, to be run into a finished material bin of 40 sacks capacity. This is the # 2 Perlite.

The lighter material carried into the cyclone is run over a trommel screen with 30 mesh openings, the oversize (plus 30 minus 10 mesh) going into the same finished material bin as # 2 Perlite.

The undersize from the trommel screen (minus 30 mesh) goes into a second finished material bin of 20 sacks capacity. This is # 0 Perlite.

DEPARTMENT OF MINERAL RESOURCES

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FIELD ENGINEERS REPORT

Mine Tucson Perlite Plant

Date

District

Engineer

Subject:

A sacker, at the bottom of each of the two finished material bins, is used for placing the right amount of materials into paper sacks. These sacks hold about 4 cu. ft. of material, weighing about 30 lbs. The sacks are stored in a storage shed until such time as it is sold to the users of the product. 600 sacks are in the shed at present. About 2/3 of the 480 sack weekly production is # 2 grade, and 1/3 is # 0 grade.

In the plant operation, the crushing and screening plant is operated for 1/2 day, and the preheater and furnace the other 1/2 day.

A large part of the plant equipment is home made in the machine shop and blacksmith shop, but is generally modelled after the manufactured article. For example, the automatic feeder, feeding the material into the preheater, is made out of old automobile parts, and modelled after the Challenge Feeder. The Preheater, Rotary Furnace, Collector, and Cyclone are all home made, and also the sackers.

Markets and Uses The perlite is sold to the various users of the product in Tucson and vicinity at 90 cents per sack wholesale.

The #2 grade is sold to the various lumber yards for use in plaster, and also to the concrete block plants for making concrete block. Some # 2 grade is also sold to the nurseries for use as a soil conditioner.

Brickcrete of Arizona at Tucson makes a concrete block, using 2 parts of # 2 grade perlite to 1 part of sand plus cement and coloring, which is reported to have a compressive strength of 1400 p. s. i. This is a 4" x 8" x 12" colored block, weighing only 10 lbs., and retailing at \$ 150 per M.

The # 0 grade is sold to lumber companies and other dealers for mixing in plaster as a finish coat. It is also used as an insulation material for filling the holes in concrete block, and for other insulation usages. The University of Arizona used # 0 grade perlite for insulating their Solar House.

Tucson Perlite, Inc. is experimenting with a solid concrete block, made by using 1 part of cement to 2 parts of sand to 4 parts of perlite. This is a 4" x 8" x 16" solid block weighing 19 lbs., and testing 1370 # p. s. i. They plan to sell this at \$ 150 per M white and \$ 190 per M colored.

History

- (1) Present owners started an experimental plant at Jaynes about 3 yr. ago.
- (2) Formation of the present company about 2 yr. ago.
- (3) Installation of a gas line into the plant about 1 yr. ago, enabling the company to start production.
- (4) Production has gradually increased during the past year, as additional markets and uses for the material has been found.

Additional Mr. Wilson states that the company will not attempt to process any perlite of larger size than the # 2 grade, on account of the high cost of processing it into larger sizes.

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FIELD ENGINEERS REPORT

Mine Tucson Perlite Plant

Date

Flow Sheet

District

Engineer

Subject:

