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08/20/86

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: FREEMAN SILICA

ALTERNATE NAMES:

PIMA COUNTY MILS NUMBER: 1146

LOCATION: TOWNSHIP 11 S RANGE 2 E SECTION 36 QUARTER
LATITUDE: N DEG MIN SEC LONGITUDE: W DEG MIN SEC
TOPO MAP NAME: GU ACHI 15 MIN

CURRENT STATUS: UNKNONWN

COMMODITY:
SILICON

BIBLIOGRAPHY:
ADMMR FREEMAN SILICA FILE

SHERRIDAN PIT

PIMA COUNTY
CIMARRON MTNS.

Conference with Virgil Denning and Visit 10/4/66

Denning said that he had built up 20,000 tons of stock at the New Cornelia Smelter and that he had a tentative offer to go to Tyrone for some special work until much of the stock was eaten up. He said he probably would accept the offer if it becomes final. Presently he is mining and hauling about 100 tpd.

LAS MEMO 10/4/66

Visit and Conferences with Virgil Denning, Dwight and Ed Tucker, 12/6/66
(and at the Ajo ASMOA meeting.)

Denning has two well established benches from which broken quartzsite is pushed by cat into the original pit for loading. In the process the niggerheads, up to a certain size are shot and remaining larger ones wasted. The material that is eventually loaded by front loader is minus 1-foot in size so that it will fit into the flux crusher at New Cornelia Smelter. Some dirty fines are also eliminated here. The quartzite in places is shattered and because of this springing of the holes did not work well. Instead closely spaced 3-4 foot holes are used with some barrel loading. At best the niggerhead production is a problem where the quartzite beds are thick. Some improvement of the steep access road (3/4-mile nearest the pit) is now under way as it is now hard on the trucks. Production is about 90-100 tpd.

MEMO LAS 12/6/66

Conference with Robart at Orizaba Mine 1/18/67

Robart said that at present Virgil Denning is operating the Anderson Pit, Gunsight District. He also said that the quartzite at Sherridan Pit is not too consistent in grade and has no byproduct to help it.

LAS MEMO 1/18/67

Conference with Virgil Denning, Ajo, 2/7/67

Mr. Denning said he moved off of Sherridan Pit about a month ago in order to revamp the approach road and repair a burned truck or replace it. The comparatively long haul and 6 miles of dirt road was costly compared to Anderson Pit's haul of 26 miles and one mile of dirt road. Sherridan Pit required 5 men and Anderson Pit only 3 (including Denning). Later on it is planned to return to Sherridan, after the road is reworked.

LAS MEMO 2/7/67

SHERRIDAN PIT (Freeman Silica)

PIMA COUNTY
CIMARRON MOUNTAINS

Mine Visit and Conference with Virgil Denning, 4/8/65.

Since the last visit Denning has cut two new benches (now 3 in all). The uppermost bench is now 150 feet long, 20 feet wide and up to 15 feet deep at the face, and extends eastward from the bottom bench. The next, or middle bench, lies immediately below the upper bench and extends eastward for 100 feet and is being extended farther eastward. This bench is 25 feet wide and its north face reaches up to 15-16 feet high. The lower bench, the original one, has not been extended and now serves as storage area for the material from the upper and middle benches. This material is loaded here and the oversize is broken up here also. About 10 percent of the larger boulders require secondary blasting. The two upper benches were being drilled with Denver Wagon drills. The good silica terminates along an apparent fault that forms the W boundary of the lower bench. West of this the lime content is much higher. than the allowable maximum. Denning is presently mining between 125 and 130 tpd. As soon as the new high grade pit east of Sells is producing, the tonnage will be split between the two pits. The Sherridan silica has been averaging about 92-93 percent silica, whereas the new pit is figured to run 94.5 to 97 percent. The latter will be used for slurry. Denning said that he was, except for a truck delay early in February, doing well, costwise. 6 men were working at Sherridan, including 3 drillers, a 22yd truck driver, a repairman and a sub-foreman. One driller substitutes on an RD 8 cat. and a front loader. Denning drives the other 22yd truck.

MEMO LAS 4/8/65

Visit and Conference with Virgil Denning 6/1/65

Denning stated that he had built up a stock pile of silica flux at the Ajo smelter and would slow his production rate from 100 to 50 tpd in 2 weeks. However, he plans to continue his operations at the new pit at Kit Peak, east of Sells. Phelps Dodge uses the latter for slurry since it runs 95 percent silica and wants to build a 5000-ton stockpile of this. The Sherridan Pit has two wide benches east of the dike that trends NE-SW and is nearly vertical. The dike contains considerable CaO and therefore must be avoided. The dike appears to be acid and could be altered rhyolite porphry. The average grade of 15,000 tons, delivered in the last three months, was 93 percent silica, and under 1 percent CaO. A few truck loads from too close to the dike ran 1.5 to 2.0 percent CaO.

MEMO LAS 6/1/65

George had moved some of his equipment, back here, from Orizaba and is now shipping. This is cheaper to deliver per ton, but carries no supplementary silver. He believes he will work here for some time with supplementary silica from Orizaba when necessary to meet quotas. This pit has been active during a stripping program.

Interview with George Freeman - Memo LAS 9-22-65

Mr. Denning said that he will remain at Kitt Peak for at least 2 months, as it will take that long to build up a high grade stockpile at Ajo. He said he had done a little development work removing dirt and the top foot from the quartzite bed, so as to improve the grade.

LAS - 12-7-65 - Conference with Virgil Denning.

SHERRIDAN MINE (Freeman Silica Pit)

PIMA COUNTY
CIMARRON MOUNTAINS

Visit and Conference with Virgil Denning, 12/1/1964.

The second bench in the pit has been established and the access road to the Casa Grande-Quijota highway, was recently graded. It had been severely washed in places.

Mr. Denning stated that he had shipped 9000 tons, assaying 93 percent silica, during the summer. He now has a contract for 15,000 tons at a price of $5.00 per ton, with no rigid requirements on grade. The previous contract was at about $4.20 per ton. Denning is now preparing to use two 22 yard trucks instead of one which will permit him to deliver 100 to 125 tpd, compared with 60-65 tons with one truck. He will work about 26 days and off 4 during each month. The present, or upper bench, is better silica (contains less lime) than was previously delivered. The blast hole spacing in the pit could be closed up some so as to try to eliminate some large nigger heads and make more silica available without excessive secondary blasting. (Previously the niggerheads were wasted). At $4.20 per ton it did not pay to do secondary blasting in order to recover the silica in them. The present haul to Ajo is about 75 miles with 3 short detours where the Indians are replacing structures that had been washed out, by a terrific gully washer that occurred during August. The bridge over Santa Rosa Wash is now sitting in the middle of the stream bed with at least 50 feet of approaches gone on both ends. It appears that they plan to add 50 feet of new bridge on both ends.

MEMO LAS 12/1/1964

Visit and Conference with Virgil Denning 2/2/65

The second bench has been established to a length of 50 feet, a width of 15 feet and a face heighth of about 8-10 feet. The lower bench is about 50 feet high at the face. Shipments of 100 tpd are currently being made. The material assays 91-93 percent silica. One truck was down for repairs but the other was hauling.

LAS MEMO 2/2/65

See: Metal Mining & Processing February 1965 p 38

Metal Min. & Proc. 2/1965

FREEMAN SILICA PIT

CIMARRON MTNS. (Vekol Dist.) Pima County

Pit Visit and Conference with Virgil Denning

Mr. Denning stated that, during June, he had delivered 2000 tons of Silica flux to New Cornelia, at Ajo. This material is averaging 93 per cent SiO_2 and he figures he recovers for shipment, about 93 per cent of all broken material. The remainder is in large boulders that cost too much to break. These are dumped over the rim at the lower bench. The second bench has been established over a width of about 10 feet and a length of about 100 feet. The lower bench is about 100 feet long, 75-80 feet wide and 25 feet high. The upper bench is 15 to 25 feet high but will be more than 30 feet high when it reaches full working width. The only impurity, of consequence, is lime, which can largely be eliminated if three or four feet of quartzite ore are kept between the bench bottom and the underlying limestone (?). The drilling and blasting cost is about $1.15, loading about 25 cents, hauling around $1.50, royalty 20 cents, capital charges roughly 65 cents, a total of around $4.00, as against $4.50 to $4.75 payments per ton. The payments range according to the silica content from 90 per cent up. For instance 90 to 93 per cent pays $4.50 whereas 95 plus pays $5.00.
A discussion of how to spring holes (12 to 15 feet long) was held. It was suggested that it may be wise to spring the toe holes which are now drilled on a 4 foot spacing with 5 feet of burden. By springing more load (or burden) could be handled. By relieving the back holes with intervening breast holes the break size could be reduced. The beds of quartzite are variable in thickness and the breast holes might help to better break the thicker beds. Higher up the hill, or about where bench 4 will eventually lie, the silica content increases appreciably because of leaching out of lime and alumina. A few samples indicate that it could be more than 95 per cent. The reserve is very large.

The haulage road from the Pit to the plant below needs some leveling up in places as it now is tough for about 3/4 mile and is hard on the truck.

Denning plans to work for 2 months more here, barring heavy rains. He can always return to the Anderson Pit if conditions here are bad.

MEMO Lewis A. Smith 6/2/64

Denning is not operating the Freeman pit at present, due to high haulage costs (75 miles) and to a severely gutted haulage road. Heavy torrential rains in early September caused this. He said he could make a reasonable return at this pit with 75 cents more per ton of silica. He is operating the Anderson pit which is only 25 miles from Ajo and on a paved highway. This silica is lower grade than that at the Freeman pit (87-90 percent as compared to 92-94 percent). He has propositioned Phelps Dodge for a better contract for the Freeman Pit material.

Memo - conference with Virgil Denning - LAS - 10-6-64.

FREEMAN SILICA PIT (near Black Jack Mine) CIMARRON DISTRICT
PIMA COUNTY

Interview with A.C. Netherlin.

Netherlin stated that Virgil Denning has applied to the Papago Indian Tribal Council for a mining lease on the Freeman Silica and Black Jack. The Freeman Silica Pit was worked by George Freeman of Casa Grande for a few months prior to the time that he moved to the Orizaba further north. A good showing of silica also is found next to the Black Jack manganese mine a mile N of the Freeman Pit. This area is 79 miles by road from Ajo, 73 miles being paved. According to West, Chief Engineer of Phelps Dodge at Ajo, the Freeman quartz ran 91-93 per cent silica and there was a large reserve. It is not known whether Denning will reopen the White Peak pit (N of Beardsley) if the litigation there is cleared up and M.J. Mevis retains possession. Since the Freeman Pit is about 28 miles closer to Ajo, Denning might prefer to operate at the Cimarron mountains locality, provided, of course, that he can obtain a satisfactory lease from the Indians. This locality was suggested to Denning by the Department of Mineral Resources.

Memo - LAS - 12-3-63

FREEMAN CLAIMS (SILICA)

PIMA COUNTY
VEKOL DIST.

Freeman is making regular shipments of silica from the area immediately south of the Stella Maris in the Vekol Area. The material carries about 93-95% SiO_2 and is very satisfactory. He is employing 2 men and is contracting the haul to Ajo. The contractor has 3 trucks in operation. Two of the trucks have a capacity of 10 yards and one hauls 20 tons.

LEWIS A. SMITH
9-9-59 Conf. Rep.

MEMO

Freeman Silica Active.
4 men working at mine.
3 trucks on contract, doing hauling.
Truck capacities are 10, 10 and 20 tons.
Silica assays between 93 and 95 percent SiO_2 with no other constituents.

According to new Cornelia officials the material is excellent for their purposes.

LEWIS A. SMITH
10-2-59

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine FREEMAN SILICA PROPERTY Date Feb. 4, 1964

District Cimarron Mtns. (Vekol District) Pima Co. Engineer Lewis A. Smith

Subject: Conference with Virgil Denning, Lessee, at Ajo 2/4/64.

OWNERS: Papago Indian Reservation.

LESSEE: VIRGIL DENNING, 1804. Arizona Ave., Yuma.

LOCATION: 42 miles along the Casa Grande-Quijota Rd. From Casa Grande, thence 4½ miles west.

WORK: Partically developed pit 200 feet long by 20-30 feet wide in a quartzsite bed. Previously worked for silica flux, by George Freeman, of Casa Grande. This runs 93 percent silica with no other values. Denning is now repairing the dirt road from the highway to the mine. He plans to mine there within a week or tendays.

HAUL: 78 miles to Ajo, 74 of which is paved.

ROYALTY: 22 cents per ton.

EQUIPMENT:
1 semi-ore truck of 25 ton capacity.
1 yard LeTourneau Front loader
1 Ingersal Rand 600 compressor
1 Tractor mounted wagon drill & steel.

Denning plans to mine here for 9 months and at the Anderson Mine for 3-4 months. He estimates a large reserve of available open-pittable material, and an additional tonnage of strippable material that would become within the cost range. He also believes that he can deliver it to the Ajo smelter cheaper than he could from White Peak where he previously had worked. (less royalty and 28 miles less haul).

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Freeman Silica Date May 12, 1959

District Cimarron Mtns (Vekol), Pima County Engineer Lewis A. Smith

Subject: Mine visit by Frank Knight and Lewis A. Smith

In charge: George Freeman, Casa Grande, Arizona

Location: T. 11 S., R. 2 E. (approximately Sec. 32) (unsurveyed)

Access: The mine road branches from the Black Jack-Stella Maris road at a point 1 mile east of the Black Jack and curves in a southwesterly direction for more than a mile. It places the mine south of the Black Jack by about 1 air mile.

Work: (1) Work consists of more than 1 mile of graded road.

(2) Development of a working bench 75-100 feet long, 15-25 feet wide, and at present up to 10-15 feet of height at the face. The true height was somewhat obscured by a recent blast.

(3) An approach road up to bench 2 which has barely been started.

Equipment: The observed equipment consists of a compressor, Denver trackscavator, a large RD 8 (?) Cat, and a smaller cat plus drill equipment. It was reported by Mr. Stillwell, the cat operator, that 2 trucks would do the hauling to Ajo, a distance of 70 miles.

Character of the rock: The fragmented rock varies to a considerable degree in size (up to 1½-2 feet) which would necessitate considerable secondary blasting to meet smelter specifications. This could best be accomplished by means of shaped-charges since no danger from thrown material appeared to be evident. This should lessen the secondary blasting and loading costs. The clean quartzite should run in excess of 90% silica and it appeared under superficial observation to contain no appreciable impurities other than some alumina.

Geology: The area consists of quartzite (probably Cambrian) overlain to the northeast by Paleozoic limestones (in the vicinity of the Black Jack and Stella Maris and to the east for 2-3 miles). West of the Black Jack granite lies under the quartzite in a few isolated occurrences. In places the Paleozoic rocks have been cut by rhyolite(?) porphyry dikes and by numerous fractures which are transverse to the limestone bedding. No dikes were observed at the mine but what appeared to be a dike, trending NE-SW, appears to cut the quartzite 1/4 to 3/8 of a mile east of the mine, and this dike extends for a considerable distance toward the southwest. From the bold outcrop of this dike, it appears to be acid in character (probably similar to those further north). The width of the apparent quartzite exposure is adequate to supply a large amount of silica in the future.