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PRINTED: 06-22-2012

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: STEPHENS DIATOMITE

ALTERNATE NAMES:

DUNCAN DIATOMACEOUS EARTH

GREENLEE COUNTY MILS NUMBER: 99

LOCATION: TOWNSHIP 8 S RANGE 31 E SECTION 12 QUARTER C  
LATITUDE: N 32DEG 44MIN 50SEC LONGITUDE: W 109DEG 07MIN 38SEC  
TOPO MAP NAME: DUNCAN - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

DIATOMITE

BIBLIOGRAPHY:

ADMMR STEPHENS DIATOMITE FILE  
ADMMR INFO  
ELEVATORSKI, E.A., AZ. INDUSTRIAL MINERALS,  
1978, P. 34  
UNSURE OF EXACT LOCATION. DEPOSITS 3 1/2 MI.  
N OF DUNCAN

STEPHENS DIATOMITE (file)

Greenlee

T8S R31E Sec. 12

See: MILS Greenlee County Page 1096  
Arizona Industrial Minerals, E. A. Elevatorski, page 34  
Diatomaceous Earth commodity file report by Melvin J. Frost ASU

MILS #99

AKA: Harrington Mine

Geo File CALDER, SUSAN "GEOLOGY OF VANAN HILLS  
PELW410 MTN"

Talked w/  
Jerry at Oak Creek Mining

they drilled some holes in Sec. 11  
T. 85, R. 31 E.  
haven't done anything on Sec. 22  
don't really anticipate any activity

I told him about NOI's + MPO's

F 2-24-84

BLM

AZ-040-3-MPO-34  
3800

SAFFORD DISTRICT OFFICE  
425 E. 4th Street  
Safford, Arizona 85546  
(602) 428-4040

JUN 13 1983

Mr. Joe Bauer  
Oak Creek Contracting Inc.  
South 4  
Duncan, Arizona 85534

Dear Mr. Bauer:

Thank you for your Plan submitted in relation to the surface management regulations (43 CFR 3809). We received this document in our Office on April 15, 1983.

Your operation may begin/continue according to your submitted plan and the attached stipulations.

We appreciate your cooperation.

Sincerely,

Vernon L. Saline

Area Manager

Attachment

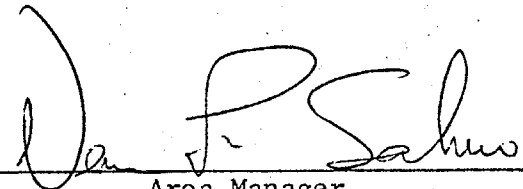
BLM

RLOOMIS/sainz  
06-10-83

American Mineral Industries  
Diatomaceous Earth Mining Operations

U. S. Department of the Interior

Bureau of Land Management  
Safford District  
Safford, Arizona

  
Area Manager

## Summary

American Mineral Industries has applied to conduct mining operations for diatomaceous earth on public land northwest of Duncan, Arizona. Surface mining methods would be utilized with the overburden to be placed in the excavations upon exhaustion of the deposit.

The proposed action is the preferred alternative.

I. Purpose of, and Need for Action

On April 15, 1983 American Mineral Industries (AMI), through local representative Joe Bauer, applied to conduct mining operations on the following described public lands near Duncan, Arizona:

Gila and Salt River Meridian, Arizona  
T. 8 S., R. 31 E.,  
Section 11: E $\frac{1}{2}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$

AMI proposes to use surface mining techniques to extract diatomaceous earth. Extraction pits 10-50 feet deep would be dug, which AMI expects to yield 20,000 tons per year. A bulldozer would be used to dig the pits, while earth scrapers would remove the diatomaceous earth. The pits would be filled with overburden as each deposit was exhausted. A total of approximately ten acres would be disturbed over a period of 5-10 years.

II. Scoping

During the scoping process it was determined that impacts to the following resources would be minimal or non-existent: wildlife, threatened and endangered plant and animal species and recreation. These lands are not located in a wilderness area, WSA, ACEC or floodplain. No prime or unique farmlands are involved.

III. Alternatives, Including the Proposed Action

Alternative 1 - Proposed Action

Under this alternative surface mining of the subject lands would occur in accordance with the applicant's mining plan of operation. Reclamation procedures would be in accordance with 43 CFR 3809.1 and 2. No unique resources would be lost through the action.

This is the preferred alternative.

Alternative 2 - No Action

Under this alternative no surface mining would occur on these public lands. No additional impacts to the environment would occur. The operator would have to seek another location to mine diatomaceous earth.

Alternative 3

The area of operations could be modified to include less acreage. Diatomaceous earth is not ubiquitous in the area. The locations and amount of accessible diatomaceous earth are a result of naturally occurring forces. In this instance the relatively small amount of acreage involved contains commonly occurring plant and wildlife specimens.



#### IV. Affected Environment

##### A. General Description

The proposed mining site is located on the following described public land:

Gila and Salt River Meridian, Arizona  
T. 8 S., R. 31 E.,  
Section 11: E $\frac{1}{2}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$

The site is approximately two miles northwest of Duncan, Arizona and borders the floodplain of the Gila River.

##### 1. Air Quality

The air in the vicinity is generally free of man-caused pollutants except for occasional smoke from the Morenci copper smelter 25 miles northwest. The presence of airborne dust is common.

##### 2. Geology and Soils

The site is underlain by sedimentary deposits of mostly gravel, sand and silt of Pliocene and Pleistocene age.

Soil types on the site are classed as Haplargids - Calciorthids - Torriorthents. These are deep, well drained, very gravelly and loamy soils.

Topography on the site consists of highly dissected hills rising 50' - 100' above the surrounding terrain. Slopes range up to 60%.

##### 3. Vegetation

Vegetation on the site consists chiefly of creosote bush, mesquite and half shrubs. The space between plants is often 2 feet or more.

##### 4. Hydrology

No major drainages are located on the site. Several minor washes cross the parcel from northeast to southwest.

##### B. Land Use and Ownership

The surface and mineral estates of the subject lands are owned by the United States. No oil and gas leases cover the parcel, but a total of ten mining claims are located within these 120 acres. Two natural gas pipeline right-of-ways (A-4521 and PHX-079873), a telephone and telegraph right-of-way (PHX-040734) and a highway right-of-way (AR-032232) are located on the parcel.

The parcel is surrounded by private lands, except for a 40-acre tract of State land to the northeast. Uses on surrounding lands include rural residential, farming, grazing and mining for diatomaceous earth.

C. Cultural Resources

An examination for cultural artifacts was conducted on May 13, 1983. None were found. See attached Cultural Resource Report.

D. Visual Resources

An examination was conducted on May 6 to determine the character of the landscape and probable effects to it caused by the proposed action.

V. Environmental Consequences

A. General Description

1. Air Quality

Air quality in the immediate vicinity of the mining activity may be impaired, especially if winds are present. Dust associated with extracting and moving the overburden and mineral material will be present in the air. Due to the distance of the nearest residence, however, this is not expected to become a problem.

2. Geology and Soils

The subsurface regime of the soil will be disturbed as well as the underlying conglomerate. Such impacts are expected to be minimal due to the intermixed nature of this material. Steep sided pits may pose a hazard to cattle or recreationists. Refilling working pits after exhaustion of the ore deposits would restore the topography to its natural contour.

3. Vegetation

Vegetation on the sites of the mining operations would be destroyed. Its value for wildlife habitat is of small significance, as is its value for forage as evidenced by the ephemeral classification of the grazing allotment. After reclamation natural revegetation would commence.

4. Hydrology

The outcrops of diatomite occur mainly above the minor drainage courses. Were these washes to be the sites of mining activity the disruption to drainage of the area would not be significant due to the small size of the watershed and associated washes.

B. Land Use

Use of the sites for mining would preclude other uses such as grazing or hiking. After mining operations cease and reclamation is accomplished, revegetation of the land would begin to occur. Eventually the disturbed areas could support the same activities as occur at present.

Access would be via private lands to the east.

C. Cultural Resources

Artifacts may be uncovered during the mining operation.

D. Visual Resources

The effects of mining diatomite on the visual quality of the landscape lie within acceptable limits. See attached Visual Ratings Worksheet.

Alternative, Including No Action

Alternative 1 - Proposed Action

Under this alternative mining operations for diatomaceous earth would occur on the subject lands. Environmental impacts could be mitigated.

This is the preferred alternative.

Alternative 2 - No Action

Under this alternative no mining would be allowed on the site.

Alternative 3

The area to be impacted could be modified. Due to the natural origin of this material it occurs in scattered locations. Little choice is left for man to decide where to mine.

Mitigating Measures

Mitigating measures would include reshaping refilled, disturbed areas to conform with the natural contour upon cessation of use of an excavation site. During periods of use, the slope of the sides of excavation pits would be maintained at 30° or less. If cultural artifacts are found during operations work will cease and the Safford District Manager will be notified. Work will resume upon clearance by the District Manager.

Irreversible and Irretreivable Commitments of Resources

Diatomaceous earth will be removed from the site. Vegetation on the sites of the mining operation will be lost as well as the wildlife habitat and forage represented by that vegetation.

Short-Term Uses versus Long-Term Productivity

The extraction of diatomaceous earth will, of course, preclude development of that resource at any future time. Proper mining methods, including reclamation, will result in an eventual production rate for forage and other vegetation at least equal to that which occurs at present.

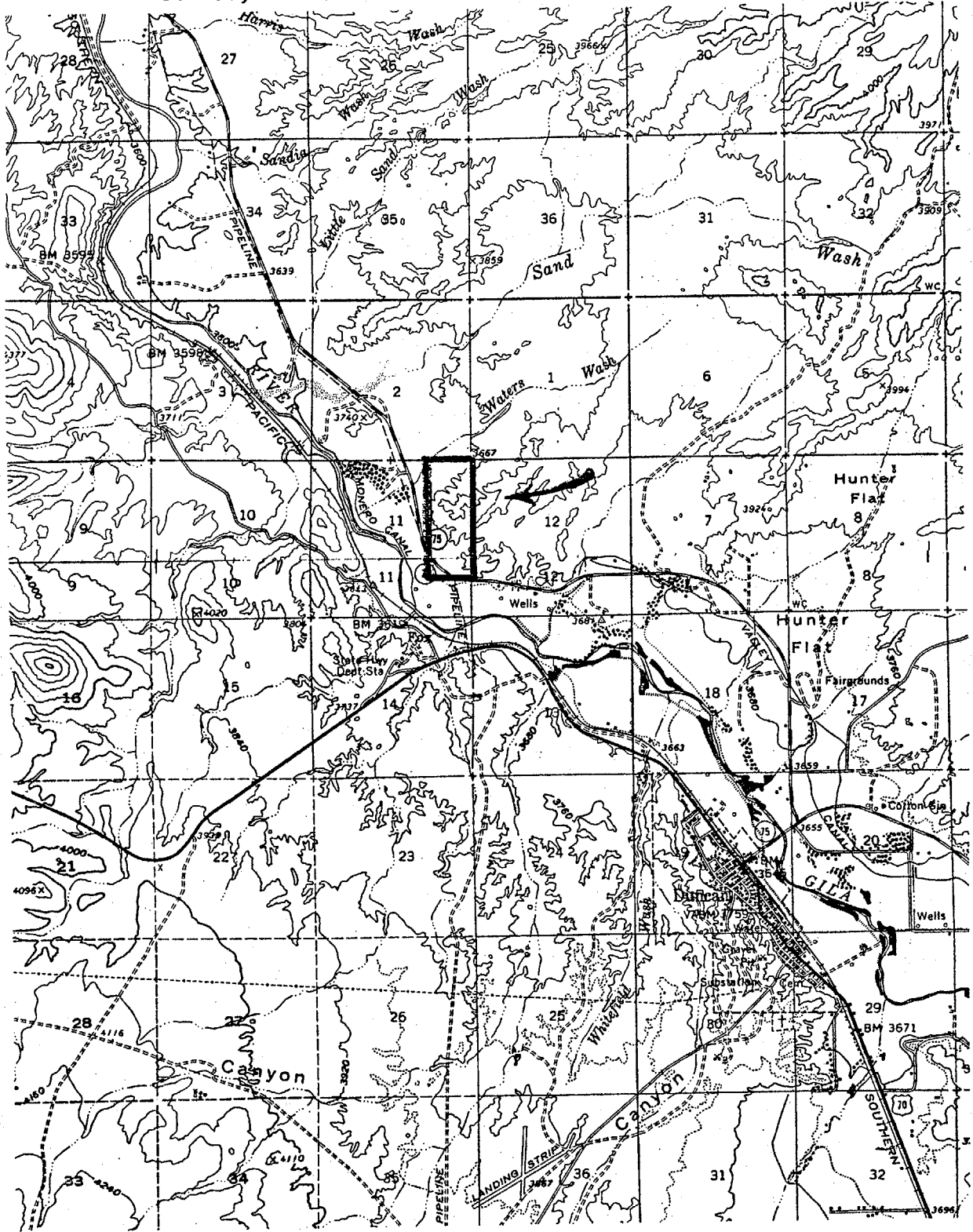
VI. Participating Staff

<u>Name</u>	<u>Assignment/Role</u>	<u>Position</u>
Jon Freeman	Team Leader/Lands	Realty Specialist
Mike Selle	Archaeology/Paleontology	Archaeologist
Mike Rucks	Wildlife/T&E Animals	Wildlife Biologist
Larry Humphrey	T&E Plants	Natural Resource Spec.
Pete Zwaneveld	Visual/Recreation	Outdoor Rec. Planner
Randy Massey	Range	Range Conservationist

VII. Consultation

Joseph Bauer, Project Coordinator  
American Mineral Industries  
#1 Lake Saint Louis Blvd.  
Lake St. Louis, MO 63367

T.8 S., R.31 E.



T 75

T 85

Scale 1:62,500

R 31 E

N

R 32 E

Map 1. Location of Proposed Diatomite Mining Operations

STEPHENS DIATOMITE

GREENLEE COUNTY

MG WR 10/21/83: A mill was partly completed with air separation equipment, to treat the diatomite at the Harrington Mine (Greenlee Co.). This mill is in the NE $\frac{1}{4}$ , Sec. 14, T8S- R31E, near Fox siding.

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Geology File- Calder, Susan, "Geology of Vanar Hills, Peloncillo Mtn"

ARIZONA DEPARTMENT OF MINERAL RESOURCES  
Mineral Building, Fairgrounds  
Phoenix, Arizona

1. Information from: Mr. Ted Eyde, Consulting Geologist  
Address: Geo Services of Arizona, P.O. Box 1127, Cortaro, Arizona 85230
2. Mine: <sup>NC</sup> HARRINGTON 3. No. of Claims - Patented \_\_\_\_\_  
(Greenlee Co.) Unpatented \_\_\_\_\_
4. Location: Uncertain - see Duncan or York Valley 15' Quadrangles
5. Sec. 12 Tp. 8S Range 31E 6. Mining District: Ash Peak
7. Owner: \_\_\_\_\_
8. Address: \_\_\_\_\_
9. Operating Co.: <sup>NC</sup> American Minerals Industries
10. Address: 1 Lake St. Louis Blvd., Lake St. Louis, MO 63367
11. President: R. T. Crow 12. Gen. Mgr.: \_\_\_\_\_
13. Principal Metals: Diatomite 14. No. Employed: \_\_\_\_\_
15. Mill, Type & Capacity: \_\_\_\_\_
16. Present Operations: (a) Down  (b) Assessment work  (c) Exploration   
(d) Production  (e) Rate \_\_\_\_\_ tpd.
17. New Work Planned: All work has apparently ceased.

18. Misc. Notes: Approximately \$400,000 spent in 1982(?) and 1983 for surface geologic mapping, auger drilling, and sampling of the property and erection of a mill (on the south side of the Gila River, in section 13(?) or 14(?)). Reportedly the mill was not completed.

Mr. Eyde reports there are three beds of diatomite, each up to 3 feet thick. Dominant diatoms are pinnularia and fragilaria. The diatomite is relatively high in volcanic ash and calcite.

RECEIVED

OCT 20 1983

DEPT. MINERAL RESOURCES  
PHOENIX, ARIZONA

Date: October 17, 1983

(Signature)

*Michael N. Greeley*

(Field Engineer)

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine ✓ Stephens Diatomite

Date March 11, 1959

District Greenlee County

Engineer Axel L. Johnson

Subject: Field Engineer's Report. Information from Byron D. Young on 3/11/59. Personal visit on 1/7/59

Location: About  $3\frac{1}{2}$  to 4 miles north of Duncan, on the east side of Highway 75 (Duncan-Clifton Highway) and from  $\frac{1}{4}$  to  $\frac{1}{2}$  mile east of the highway.

Acreeage: Leasing 170 acres on a patented homestead with minerals included with the homestead.

Owner: ✓ Elmer Stephens, Duncan, Arizona.

Lessee: ✓ American Diatom, Inc.  
3701 W. Indian School Road  
Phoenix, Arizona

✓ Jim Farmer, President  
✓ Byron D. Young, Vice-Pres.  
✓ A. H. Ellett, Secretary

Principal Minerals: ✓ Diatomaceous earth.

Present Mining Activity: None. No definite date set for starting operations.

Geology: The diatomaceous earth deposits, which I inspected on Jan. 7, were covered with from 1 to 4 ft. of overburden. They were from 3 to 10 ft. in thickness alternating between beds of clay. Some of the beds appeared to contain varying amounts of clay, and others appeared to be relatively pure.

Milling & Marketing: The diatomaceous earth will be shipped in bulk to a buyer in El Paso, Texas, to be used there as pozzolan material. It may be run through a primary crusher before shipping. The time and amount of shipments will depend on the requirements of the El Paso buyers.



(Dunn file)

**DEPARTMENT OF MINERAL RESOURCES**  
STATE OF ARIZONA  
**FIELD ENGINEERS REPORT**

Mine Duncan Diatomaceous Earth Deposits

Date Jan. 7, 1959

District Greenlee County

Engineer Axel L. Johnson

Subject: Field Engineers Report. Personal Visit & Information from Ben F. Billingsley.

On report that diatomaceous earth was being mined near Duncan, the field engineer went in search of the site of operations. Field engineer found two deposits where past operations had been conducted, but no present mining operations. The places visited were as follows:

- (1) Ore deposit about 3 miles N of Duncan on right side of Duncan-Clifton road, which had been stripped and a cut made in same from old operations. There is an overburden of clay 3-4 ft. thick, and the diatomaceous earth is only about 4 ft. thick, as indicated by erosion on the side hill.
- (2) A second deposit about  $3\frac{1}{2}$  miles N of Duncan on the right side of the Duncan-Clifton road. This deposit had very little overburden, except in a few places, and appeared to have considerable thickness, but the actual thickness could not be determined. A number of cuts had been made in this deposit, by old operations. Also there was an old road, which now was in poor shape for lack of use and repairs. A few recent truck tracks on this road indicated some recent inspection and possibly sampling.

Mr. Billingsley, who informed me as to the location of these deposits, stated that he had been informed that a party was planning to start operations on one of these deposits. He did not recall the name of this party.