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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 03/18/2003

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: SNOWFLAKE GYPSUM

ALTERNATE NAMES:

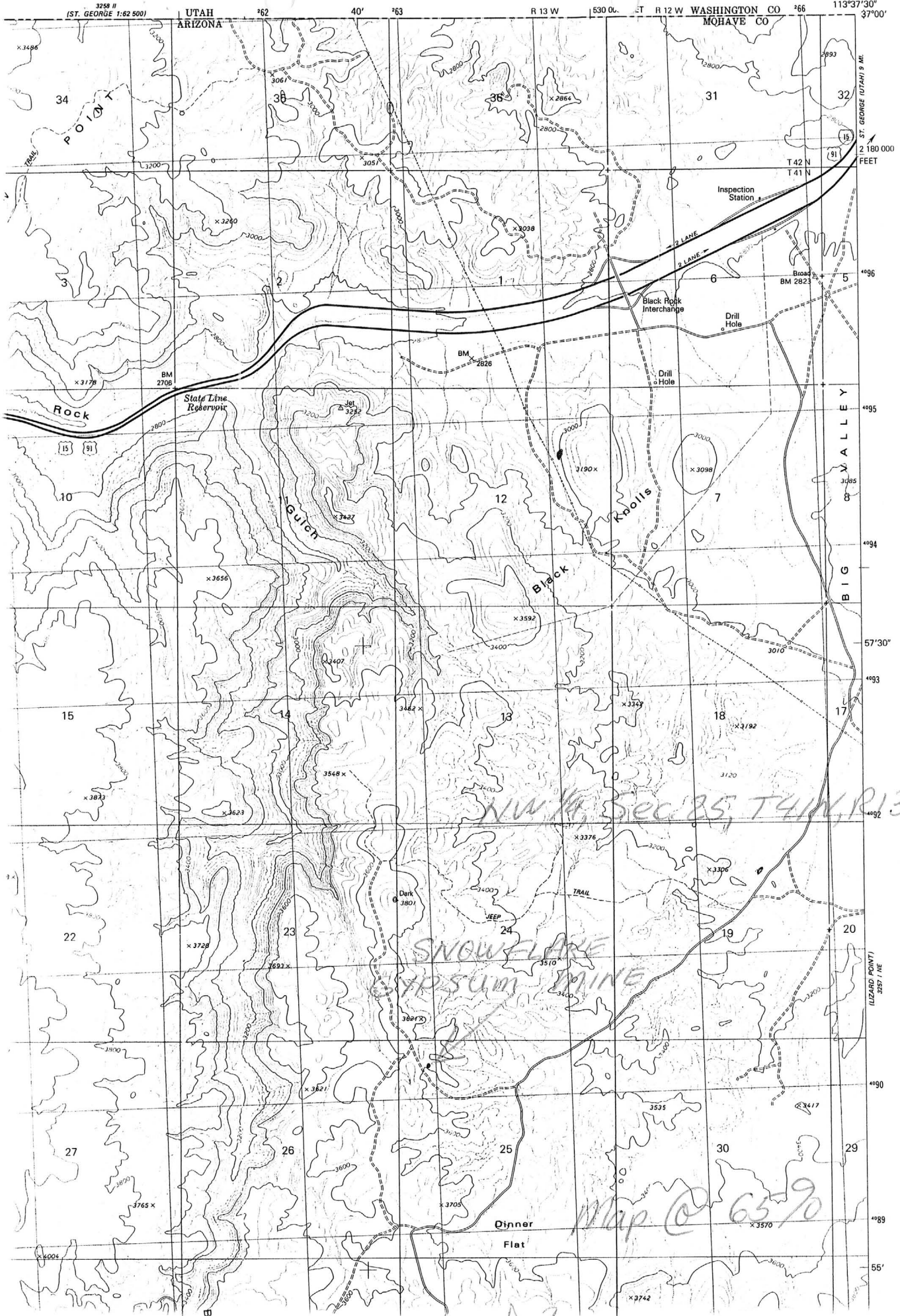
MOHAVE COUNTY MILS NUMBER: 784

LOCATION: TOWNSHIP 41 N RANGE 13 W SECTION 25 QUARTER NW
LATITUDE: N 36DEG 55MIN 05SEC LONGITUDE: W 113DEG 39MIN 41SEC
TOPO MAP NAME: PURGATORY CANYON - 7.5 MIN

CURRENT STATUS: PRODUCER

COMMODITY:
GYPSUM

BIBLIOGRAPHY:
ADMMR SNOWFLAKE GYPSUM FILE



grams per tonne and occurs in the alluvial gravels along the Beaver Dam Wash. Exploration for these gold deposits is taking place immediately north of the Arizona Strip District in Utah (Spooner, 1988). Based on the geologic environment, the inferred geologic processes, and reported occurrence of gold in this area, the alluvial material along Beaver Dam Wash has a moderate potential for the occurrence of gold. Gold exploration is occurring although development potential is speculative at the present time.

Breccia pipe related precious and base metal deposits are known to occur along the lower Grand Wash Cliffs and Virgin Mountains. These deposits reportedly contain copper (up to 23 percent), silver (up to 10 ounces/ton), and relatively minor amounts of lead, zinc, uranium, and gold (Keith and others, 1983). Germanium and Gallium are also known to occur in the Apex deposit in Utah (Bernstein, 1986). It is possible that these elements could occur in breccia pipes located along the lower Grand Wash Cliffs and Virgin Mountains. Based upon the geologic environment, inferred geologic processes and mines in these areas, they have been rated as having a high potential for the occurrence of metallic mineral resources (Map III-3). The available data provide abundant direct and indirect evidence to support the existence of the resource.

URANIUM

Exploration for and development of uranium resources are currently the most active mineral related operations on the district. There are two mines in operation, three in various stages of development, and three that have been closed and reclaimed. These mines lie to the north and west of the Kanab Creek drainage. The uranium occurs in collapse features known as breccia pipes (Figure III-1).

Breccia pipes in the Arizona Strip originate in Red-wall Limestone and form collapse features in overlying rocks as young as the Chinle Formation. Uranium mineralization occurs in the Supai through Toroweap Formations (Krewedl and Carisey, 1986). Eight deposits of uranium, presently economical to develop, have been identified by Energy Fuels Nuclear in the Kanab Creek area. These deposits are almost exclusively uranium bearing, though other metals are known to exist. Active exploration programs have been undertaken by several companies in search of additional deposits on the Arizona Strip.

Sandstone type uranium deposits are known to occur in the Petrified Forest and Shinarump members of the Chinle Formation. Uranium was produced from deposits

in these members in the 1950s (Keith and others, 1983; Scarborough, 1981; Baillieu and Zollinger, 1980). Approximately 1,524 tons of uranium ore averaging 0.201 percent U3O8 was produced from the Vermillion Cliffs deposits between 1954 and 1957 (Scarborough, 1981). These deposits are located within the present day Vermillion Cliffs Wilderness Area. Uranium was also produced from the Rainbow Hills mining district though no production figures are available. Based on the geologic environments, inferred geologic processes and numerous mines in these areas; they have been rated as having a high potential for the occurrence of uranium resources (Map III-4). This rating is supported by abundant direct and indirect evidence.

GYP SUM

Cedar Pockets
On the Arizona Strip District, gypsum occurs in the Pakoon Dolomite, the Seligman and Woods Ranch members of the Toroweap Formation (Nielson, 1986; Hintze, 1986; Moore, 1972), the Harrisburg Member of the Kaibab Formation (Nielson, 1986; Cheevers and Rawson, 1979); and the Lower Red Member of the Moenkopi Formation (Stewart et al, 1972; Wilson, 1962). Gypsum in the Kaibab and Moenkopi formations appears to be of good quality. Based on the known occurrence of gypsum in these formations, areas overlain by the Toroweap, Kaibab, and Moenkopi Formations have a high favorability for containing gypsum. The thick gypsum deposit in the Pakoon Dolomite appears to be an isolated occurrence in the Cedar Pockets area and, as such, the Pakoon Dolomite has been rated highly favorable in that area (Map III-2). The certainty that gypsum occurs in these areas is also high, supported by abundant direct and indirect evidence.

Sunshine Lake
Large gypsum deposits are found in the northwestern portion of the district around Black Rock Gulch, the north end of the Sunshine Trail and in Cedar Pockets. Operators are actively mining in two locations and another mine is currently inactive. Assays show the Cedar Pockets and Black Rock Gulch deposits to be of high quality and good potential exists for gypsum mining from these areas.

SAND AND GRAVEL

In the western portion of the district, gravel is abundant along the lower slopes of the Virgin and Beaver Dam Mountains. Here alluvial fans have formed and the gravel is expected to be unsorted but of good quality. Well sorted, good quality gravel is also expected to occur in

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1992

MoHAVE County

WESTERN GYPSUM

Snowflake Gypsum Mine T41N R13W Sec. 25

130 E. 200 North, P.O. Box 850, St. George, UT 84770 Phone (801) 628-3916 -
Employees: 10 - Open pit gypsum mines, Primary and secondary crushing,
screening plant - Producing gypsum for cement industry, agriculture,
fertilizer industry, functional fillers, and water treatment. Markets in
California and Arizona.

President Don Cecala

Mine Superintendent Tracy Cannon

Asst. Mine Superintendent Aaron Rasmussen

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Mine Superintendent Tracy Cannon
Asst. Mine Superintendent Aaron Rasmussen

Snowflake Mine

Mr. K Daily Spectrum
Oct 28, 1990



ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

FIELD VISIT AND INTERVIEW

1. Information from: Don Cecala - Western Gypsum
Address: P. O. Box 850, St. George, Utah 84770
2. Phone: (801) 628-3916
3. Mine: Snowflake Gypsum Mine
4. ADMMR Mine File: Snowflake Gypsum Mine
5. County: Mohave
6. MILS Number:
7. District: (mining) or (mineral)
8. Township: T 41N Range: R 13W Sec(s): NW $\frac{1}{4}$, Sec. 25
9. USGS Topographic Map: Purgatory Canyon 7.5
10. Location (descriptive):
11. Number of Claims: Patented
Unpatented
12. Owner(s): (if different from above)
13. Address:
14. Operating Company: Western Gypsum
15. Pertinent People and/or Firm:
16. Commodities: Gypsum
17. Operational Status: Active - Quarry, crushing plant
18. Summary of information received, comments, etc.:

Don Cecala reported Western Gypsum is operating the Snowflake Gypsum mine and trucking 6-8,000 tons per month of gypsum to Glendale, Nevada where it is transferred to larger trucks and railcars and shipped to California cement plants and for agricultural uses in central California. Gypsum is drilled, shot, screened and crushed. They hope expand to 20,000 tons per month.

Date: August 10, 1990Ken A. Phillips

UTAH ARIZONA

(SAINT GEORGE)

45' R 13 W 26 R 12 W 27 550 R 11 W

36 31 36 31 31 36 31 36 31 36 31

T 42 N T 41 N

Jeep Trail

1068 Little Black Mountain

880

Big Valley

Jeep 36 Trail

6

1

960

Water Tank

Powerline

Rock Canyon

Jeep Trail

Water Tank

Jeep Trail

Water Tank

Draw

GYPSUM CITY MINE

AMERICAN GYPSUM

SNOW FLAKE GYPSUM MINE

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SAND AND GRAVEL

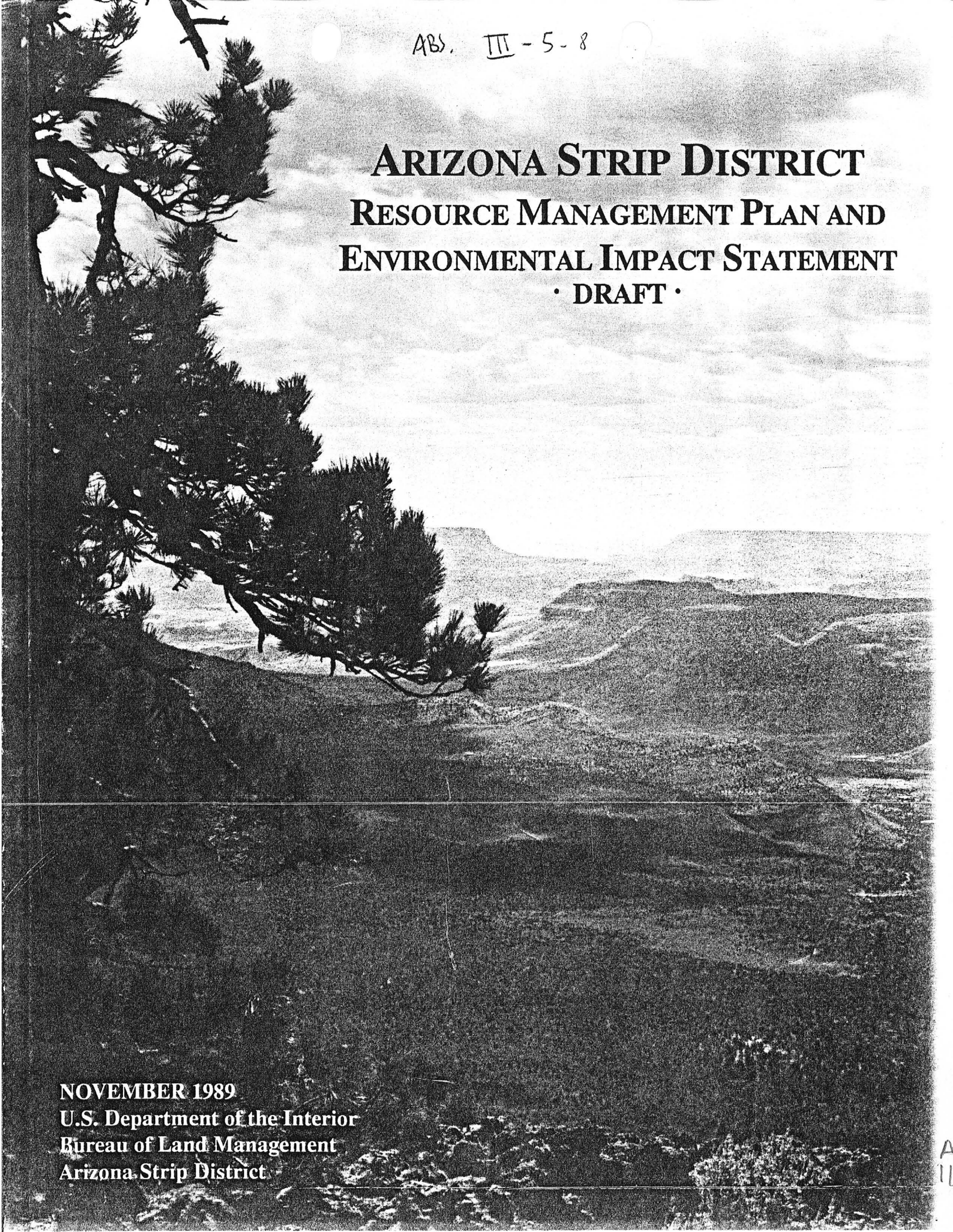
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ARIZONA STRIP DISTRICT RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT • DRAFT •



NOVEMBER 1989
U.S. Department of the Interior
Bureau of Land Management
Arizona Strip District

ABS. III - 5 - 8



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