

**AZWELL:  
A DIGITAL DATABASE OF THE ARIZONA GEOLOGICAL SURVEY  
WELL-CUTTINGS REPOSITORY**

**by**

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DIGITAL INFORMATION SERIES-2**

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*This report is preliminary and has not been edited or reviewed for conformity with Arizona Geological Survey standards*

The Arizona Geological Survey has been a repository for well-cutting samples since 1950. The repository contains approximately 388,000 vials representing approximately 3.8 million linear feet (more than 700 miles) of drill hole from over 4,300 wells. Samples are from water wells, oil and gas wells, and mineral exploration drill holes. These samples are available for public inspection, as are well logs and related information, during the normal working hours of the Arizona Geological Survey. AZWELL is a digital inventory of this repository.

AZWELL is a database in dBASE IV format. Most database management systems accept a file in dBASE IV format. Following is a listing of the structure for the file AZWELL.DBF:

Structure for database: AZWELL.DBF

Number of data records: 4339

Date of last update: 03/24/94

Record structure:

Field	Field Name	Type	Width	Index
1	ID	Character	6	N
2	NAME	Character	80	N
3	STATE	Character	2	N
4	MERIDIAN	Character	4	N
5	LOCATION	Character	50	N
6	COUNTY	Character	2	N
7	DATE	Date	8	N
8	TYPE	Character	2	N
9	CARD	Character	1	N
10	FOLDER	Character	1	N
11	PLOT	Character	1	N
12	NUMSAMPLES	Numeric	4	N
13	CABINET	Character	16	N
14	REMARKS	Character	90	N
**	Total	**	268	

Field 1, ID, is a "Character" field containing the lab number, also called the ABM number (for Arizona Bureau of Mines, the agency's name at the time record keeping began). Even though it contains mostly numeric characters, it must be handled as a character string, not a number. For most of the records, this field consists of 1 to 4 digits; a few records that have identical numerical ID numbers are distinguished by a letter such as "A" or "B" appended to the end. Thus all records have a unique identifier. The lab sequence numbers are not continuous because a number of records were deleted from the database due to incomplete or inaccurate information.

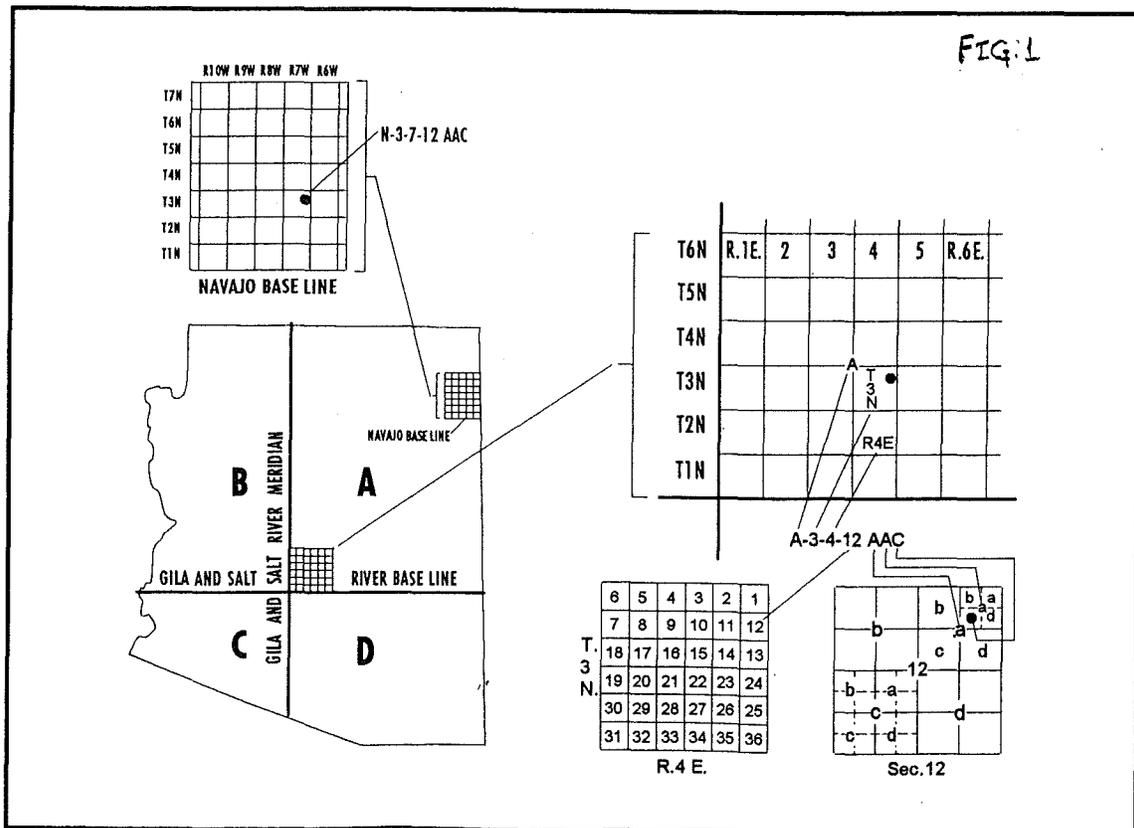
Field 2, NAME, is a "Character" field containing the name of the well or exploration hole, in upper case only.

Field 3, STATE, is a "Character" field containing the two-letter postal abbreviation for the state in which the well is located; there are 106 wells in the list that are located in New Mexico, and 11 in Utah.

Field 4, MERIDIAN, is a "Character" field containing a four-letter abbreviation for the United States Base Line and Meridian upon which the cadastral locations are based:

- SALT = Salt Lake Meridian - Utah
- GILA = Gila and Salt River Meridian - Arizona
- NMEX = New Mexico Meridian - New Mexico
- NAVA = Navajo Meridian - Arizona

Field 5, LOCATION, is a "Character" field containing the cadastral location (township, range, and section coordinates; example: A[3-4]12 AAC). Arizona is divided into quadrants by the Gila and Salt River Base Line and Meridian (Fig. 1). Quadrants are designated A, B, C, and D for northeast, northwest, southwest, and southeast, respectively. Townships, which are north or south, and ranges, which are east or west, are numbered outward from the intersection of the Gila and Salt River Base Line and Meridian. Quadrant, township, range, section and location within the section are designated by the following scheme. The first letter refers to the quadrant of the Base Line and Meridian specified in the field "MERIDIAN." The numbers in parentheses refer to the township and range. The number after the parentheses is the section number. Capital letters following the section number indicate the quarter section (160-acre tract), quarter-quarter section (40-acre tract) and quarter-quarter-quarter section (10-acre tract), with the letters A, B, C, and D again referring to the northeast, northwest, southwest, and southeast quarters, respectively, of each section subdivision. Thus, A(3-4)12 AAC locates a well or drill hole in quadrant A (northeast) of the specified Base Line and Meridian, township 3 north, range 4 east, section 12. The last 3 letters, AAC, should be interpreted from right to left. In this example, AAC refers to the southwest quarter (C) of the northeast quarter (A) of the northeast quarter (A) of section 12. In the Navajo Meridian, locations are based on the Navajo Base Line and Meridian which only has one quadrant, N. Locations of wells in Utah are based on the Salt Lake Base Line and Meridian, and locations of the wells in New Mexico are based on the New Mexico Base Line and Meridian.



Field 6, COUNTY, is a "Character" field containing a two-letter abbreviation for the County in which the well is located. For Arizona:

AP	=	Apache
CH	=	Cochise
CN	=	Coconino
GI	=	Gila
GM	=	Graham
GN	=	Greenlee
LP	=	La Paz
MA	=	Maricopa
MO	=	Mohave
NA	=	Navajo
PM	=	Pima
PN	=	Pinal
SC	=	Santa Cruz
YA	=	Yavapai
YU	=	Yuma

For New Mexico:

BE	=	Bernalillo
MC	=	McKinley
SF	=	Santa Fe
SJ	=	San Juan
SO	=	Socorro
VA	=	Valencia

For Utah:

SJ	=	San Juan
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Field 7, DATE, is a "Date" field containing the date the samples were catalogued at this agency. In some cases, only the year was available; these dates are given in the form 01/01/ZZ where ZZ is the year. In some cases, only the month and year were available; these dates are given in the form XX/01/ZZ where XX is the month and ZZ is the year. An empty field means that no date was entered.

Field 8, TYPE, is a "Character" field containing a two-letter abbreviation for the type of well:

WW	=	Water Well
OW	=	Oil Well
EX	=	Exploration Hole
TH	=	Test Hole
TW	=	Test Well
ME	=	Mineral Exploration
OC	=	Outcrop

Field 9, CARD, is a "Character" field containing either "Y" or "N", indicating either "Yes" or "No". Early well records were originally catalogued on 3"x5" index cards for retrieval. This field indicates whether a card exists. An empty field means that no card was made.

Field 10, FOLDER, is a "Character" field containing either "Y" or "N", indicating either "Yes" or "No". Some wells have information available, such as logs or lithologic descriptions. This information is kept in a folder at the Arizona Geological Survey. This field indicates whether a folder exists, however some folders are empty. An empty field means that no folder was made.

Field 11, PLOT, is a "Character" field containing either "Y" or "N", indicating either "Yes" or "No". A file for each county in Arizona is kept at the Arizona Geological Survey. Within these files are individual pages representing individual townships within the county. This field indicates which well locations are plotted on these township maps. An empty field means that no location plot was made.

Field 12, NUMSAMPLES, is a "Numeric" field containing the number of vials of cutting samples for an individual well.

Field 13, CABINET, is a "Character" field containing the identifier for the cabinet and drawer in which the cuttings samples are stored at the Arizona Geological Survey. An empty field means that there are no samples, or that the samples are in another location, in which case refer to the "REMARKS" field.

Field 14, REMARKS, is a "Character" field containing additional information or comments. SI means "sample interval", and TD means "total depth".

## BIBLIOGRAPHY

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