



WATER-RIGHT DOCKET

Saguaro National Park

Docket No: 20

TUSCON MOUNTAIN PARK WELL NO. 1

Preliminary Docket Information

05-29-1979: water right/source docket information: tucson mountain park well no. 1

WATER RESOURCES/WATER RIGHT

DATE: May 29, 1979

WATER RIGHT/SOURCE DOCKET INFORMATION

REGION Western AREA Saguaro National Monument
SITE Tucson Mountain Park Well No. 1
STATE Arizona COUNTY Pima DOCKET NO. WR#7
LOCATION SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 34, T13S, R11E, G&SRB&M
REGIONAL BASIN Colorado LOCAL BASIN Gila
ACQUIRED BY Donation by Pima County; Partly reserved land.
APPLICATION _____ PERMIT _____ CERTIFICATE _____
ACTION DUE _____ PRIORITY March 18, 1964 RESERVATION November 15, 1961
QUANTITY 528,000 gallons per year USE Domestic
STATUS Active SOURCE Groundwater (Well)
REMARKS Tucson Mountain Park Well No. 1 is located in Hydrologic Basin Unit No. 15050304.

NARRATIVE:

Saguaro National Monument consists of two separate areas, designated the Rincon Mountain Unit (the eastern portion) and the Tucson Mountain Area (the western portion). The Rincon Mountain Unit was established by proclamation on March 1, 1933. The Tucson Mountain Unit was similarly created on November 15, 1961.

Prior to the establishment of the Tucson Mountain Area of the Monument, a portion of its was a Pima county park. There were four wells, whose location is unknown, in the park lands. They were used by the Arizona Fish and Game Department to increase the wildlife population for hunting purposes. The Park Service in the early 1960's was interested in eliminating these wells from the Monument land, but there is no evidence that this was ever done.

Early in 1964, the Park Service decided to establish a water supply for the Tucson Mountain Area of the Monument. After filing a Notice of Intention of Drill a Well with the State of Arizona, the Service let a contract and drilling commenced. Test Hole No. 1, drilled to a depth of 413 feet in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of section 34, was dry and later plugged. Test Hole No. 2, completed on March 26, 1964, was located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of section 34. It was 560 feet deep and water was found at 439 feet below land surface datum. In order to determine the production capacity of Test Well No. 2, a step-drawdown test was run on March 18, 1964, at a maximum rate of 30 gpm for 6 hours. The water level recovered to 441 feet below land surface datum only three minutes after the test ended. Based on this and later testing, Test Well No. 2 was determined to have an excellent supply capacity.

Monument staff reported that as of July 11, 1975, Test Well No. 2, now termed Tucson Mountain well no. 1, was the primary water source for the area, with 528,000 gallons per year used for domestic purposes. No state water right filing had been made for this source, and because the land belonged to a County park, it is questionable whether or not the Reservation Doctrine will apply to this water source.

Compiled by Kevin Kidder, reviewed Ernesto Molina Page 1 of 1

Approved by _____

Filed 11/2/87

For Departmental Use Only

STATEMENT OF CLAIMANT FORM
FOR
OTHER USES¹

File No. 39- _____
Date Filed: _____
WFN _____

UPPER SANTA CRUZ RIVER WATERSHED
SUPERIOR COURT OF MARICOPA COUNTY

1. Claimant Name: United States of America, National Park Service (Saguaro NM)
Claimant Address: Western Regional Office, P.O. Bx36063 City San Francisco State: Ca. Zip Code 94102 Telephone (415) 556-8660
2. Basis of Claim:
 - A. ☐ Appropriation Right acquired prior to June 12, 1919. 1974 Water Rights Registration Act Registry No. _____
 - B. ☐ Appropriation Right acquired after June 12, 1919. Application No. _____ Permit No. _____, or Certificate of Water Right No. _____
 - C. ☐ Decreed water right. Principal litigants, court, date and case no.: _____
 - D. ☐ Right to withdraw groundwater.
 - E. ☒ Other, describe: Reserved Water Right Claim
3. Claimed Priority Date: See attachments (month/day/year)
4. Use:

A. ☐ Municipal B. ☐ Commercial or Industrial C. ☐ Mining D. ☐ Stockwatering other than from a stockpond	E. ☐ Recreation, Fish & Wildlife F. ☒ Other, describe: <u>Reservation purposes. See attachments.</u>
--	--
5. Source of Water:
 - A. ☒ Stream: name *, tributary to _____
 - B. ☒ Spring: name *, tributary to _____
 - C. ☐ Lake or Reservoir: name _____, tributary to _____
 - D. ☒ Groundwater *
* See attachments.
6. Legal description of the Point of Diversion: (attach additional sheet if required)
_____, _____, _____, Section _____, Township _____ N/S, Range _____ E/W
Reserved portions of Saguaro National Monument. See attachments.
7. If there are Irrigation, Domestic or Stockpond uses also supplied from the Point of Diversion, describe: _____
8. Means of Diversion:
 - A. ☐ Instream pump
 - B. ☐ Gravity flow into ditch, canal or pipeline.
 - C. ☐ Well: Arizona Department of Water Resources Well Registration No. 55- _____
 - D. ☒ Other, describe See attachments.

¹ See Instructions for explanation of uses in this category

9. Means of Conveyance:

A. ☐ Ditch, canal or pipe. If the means of conveyance is owned and/or operated by some other entity, please give name and address: _____

B. ☒ Other, describe: See attachments.

10. Place of Use, if other than point of diversion: (attach additional sheet if required)

County _____

Legal Subdivision _____

Section _____

Township _____

Range _____

_____ N/S _____ E/W

_____ N/S _____ E/W

11. Claimed Right: See attachments.

A. Maximum Flow Rate: _____

☐ cubic-feet per second
☐ gallons per minute
☐ Arizona miner's inches

B. Annual Volume of Water Use: _____ acre-feet

C. Storage Right: _____ acre-feet

12. Attach photographs, maps or sketches necessary to show the point of diversion, storage reservoir(s), place(s) of use and means of conveyance.

13. It may be necessary for a representative from the Department of Water Resources to inspect the diversion, conveyance and place of use. Your signature following will grant permission to enter your property for the purpose of inspection: Signature of Claimant _____

14. Should it be necessary for a representative of the Department to contact you as the claimant or your representative, are there any special instructions regarding time of day or address to aid in locating the specified person? Work days (415) 556-1036

15. Attach Filing Fee to Form. Mail form(s) and fee(s) to: Department of Water Resources, P.O. Box 2920, Phoenix, AZ 85062.

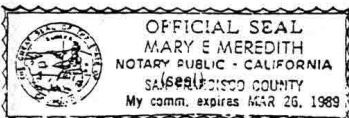
16. Additional comments: _____

(attach additional sheet if required)

17. Notarized Statement:

I (We), John D. Cherry, on behalf of the United States of America,

the claimant(s) named in this claim, do hereby certify under penalty of perjury, that the information contained and statements made herein are to the best of my(our) knowledge and belief true, correct and complete.



My Commission Expires:
March 26, 1989

John D. Cherry 10/28/87
 Subscribed and sworn to before me this 28th day of October, 1987.

Witness my hand and official seal.

Mary E. Meredith
 Mary E. Meredith Notary Public

or, _____
 Authorized Personnel of the Department of Water Resources

filed
11/2/87

SUPERIOR COURT OF MARICOPA COUNTY, ARIZONA

IN THE MATTER OF THE APPLICATION OF THE UNITED STATES OF AMERICA FOR
RESERVED AND APPROPRIATED WATER RIGHTS IN THE UPPER SANTA CRUZ RIVER
GENERAL ADJUDICATION.

I. Name and address of Applicant:

United States of America
c/o National Park Service
Western Regional Office
P.O. Box 36063
450 Golden Gate Avenue
San Francisco, CA 94102

II. The United States of America hereby claims water rights in those portions of the National Monuments described below which are encompassed by this adjudication. The United States claims reserved rights under the legislation which designates or enlarges the areas known as Saguaro National Monument and Tumacacori National Monument. The United States further claims additional water rights under state law for whatever purposes might have been added by the designation of portions of Saguaro National Monument as wilderness areas.

A. Saguaro National Monument.

1. Reserved Water Rights. (See Exhibits SAGU #1a and #1b.)

- a. Purpose. To secure favorable conditions of water flow; to preserve objects of scientific interest; to secure the benefits of wilderness; and to provide for the administration of and visitation to the monument. (Exhibits SAGU #2, #3, #4, #5, and #6.)
- b. Sources. All surface and ground water sources including rivers, perennial and intermittent streams, springs, seeps, lakes, pools, tinajas, confined and unconfined aquifers and other natural sources of water on and under lands reserved from the public domain.
- c. Locations of Current Diversions and Uses on Reserved Land.

1) Legal description of the current points of diversion

- a) Kenner Well -- NW 1/4 SW 1/4 SW 1/4, Section 4, T 15S, R 16E, G&SRB&M.
- b) Manning Camp Spring -- NE 1/4 SE 1/4 SE 1/4, Section 30, T 14S, R 17E, G&SRB&M.
- c) Madrona Pack Base Well -- NW 1/4 SW 1/4 SE 1/4, Section 4, T 15S, R 17E, G&SRB&M (Registration No. 55-629099).

- d) Tucson Mountain Park Well -- SW 1/4 SW 1/4 SW 1/4, Section 34, T 13S, R 11E, G&SRB&M (Registration No. 55-629094).
 - e) North Slope-Section 25 Well -- NE 1/4 SE 1/4 NW 1/4, Section 25, T 13S, R 11E, G&SRB&M (Registration No. 55-629097).
 - f) Pictured Rocks Road-Section 7 Well -- NE 1/4 SE 1/4 NW 1/4, Section 7, T 13S, R 12E, G&SRB&M (Registration No. 55-629096).
- 2) Legal description of the current places of use. The legal descriptions listed in II.A.1.c.1) represent the places of use for the listed points of diversion.
 - 3) Current purposes of use. The current purposes of use are those identified in II.A.1.a. above.
 - 4) Water requirements. See II.A.1.e. below.
- d. Dates of Priority. (See Exhibits SAGU #1a and #1b.) July 19, 1907, for lands reserved by Presidential Proclamation No. 27 (Exhibit SAGU #2); April 29, 1929, for lands reserved by Recreational Withdrawal No. 21 (Exhibits SAGU #7 and #8); March 1, 1933, for lands reserved by Presidential Proclamation No. 2032 (Exhibit SAGU #3); November 15, 1961, for lands reserved by Presidential Proclamation No. 3439 (Exhibit SAGU #9); October 20, 1976, for lands reserved by the Act of that date (Exhibit SAGU #6); and October 21, 1976, for lands reserved by the Act of that date (Exhibit SAGU #10).
- e. Amount of Water Claimed:
- 1) Surface and ground water (non-consumptive). The United States of America claims, except as provided in subparagraphs 2) and 3) below, the right to that minimum amount of surface and ground water occurring on and under those portions of Saguaro National Monument reserved from the public domain which is necessary to fulfill the purposes described in II.A.1.a. above as follows. The government will (a) at the time of proof present evidence relating to the minimum amount of water necessary to fulfill such purposes, or (b) in the event recognized under state law, seek a decree of an unquantified reserved right, permitting a general right to enjoin users of a junior priority that may adversely affect or injure the purposes of the reservation, or to enjoin users as otherwise permitted under state law.

- 2) Quantifiable present and future administrative uses (consumptive). The United States of America claims the right to divert and use 19 AF/annum from surface and ground water sources for picnic areas, visitor centers, concessions and other visitor-use areas; park administration facilities, shop, maintenance and storage facilities, ranger stations, entrance stations, visitor contact stations, employee residences, and attendant facilities; lawns surrounding park buildings and structures and other public-use areas to offset heavy human impact; construction of roads and trails; revegetation activities; and waste water treatment facilities.
 - 3) Non-quantifiable present and future administrative uses (consumptive). The United States of America claims the right to use non-quantifiable amounts of water for controlling and suppressing wildfire and structural fires.
2. Appropriative Water Rights. The United States of America claims water rights under Arizona state law for beneficial purposes in Saguaro National Monument as follows (see certificates attached).
- a. Red Hills Section 36 Well -- Registration No. 55-629095.
 - b. Lockyer Well -- Registration No. 55-629098.
 - c. CCC Well -- Registration No. 55-629100.
 - d. Freeman Drilled Well -- Registration No. 55-629101.
 - e. Freeman Dug Well -- Registration No. 55-629102.
 - f. Genemata Well -- Registration No. 55-629103.
 - g. Old Superintendent's Well -- Registration No. 55-629104.
 - h. Baker Well #2 (Headquarters Supply Well) -- Registration No. 55-629105.
 - i. Headquarters Well No. 2 -- Registration No. 55-629106.
 - j. Greene Well -- Registration No. 55-629107.
- B. Tumacacori National Monument.
1. Appropriative Water Rights. The United States of America claims water rights under Arizona state law for beneficial purposes in Tumacacori National Monument as follows (see certificates attached).

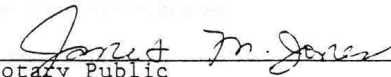
- a. Well No. 1 -- Registration No. 55-629109.
- b. Well No. 2 (Headquarters Well) -- Registration No. 55-629110.
- c. Well No. 3 -- Registration No. 55-629111.

III. Notarized Statement.

I, Patrick Barry, on behalf of the United States of America, National Park Service, the claimant named in this claim, do hereby certify under penalty of perjury, that I have read the information contained and statements made herein and to the best of my knowledge and belief they are true, correct and complete.


PATRICK BARRY
Attorney, Department of Justice

Subscribed and sworn to before me this 2nd day of November, 1987.


Notary Public

My Commission Expires:

11-12-87

WR copy

Southwest Region
Santa Fe, New Mexico

87501-005
FEB 1 1965

L54

State Land Commissioner
State Land Office
State Office Building
State of Arizona
Phoenix, Arizona 85000

Attention: F.C. Ryan

RE: File No. D(13-11) 34 ccc

Dear Sir:

It has been brought to our attention that the Report of Well Driller filed with your office by Mr. Graham L. Cowley of St. John's, Arizona, on August 18, 1964, is in error.

Under Item No. 4, Location of Well, the 10 acre subdivision should be SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ rather than SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 34, T. 34 S., R. 11 E., G&SR B.M. In case you are interested in a more exact tie, the well bears North 88° 12' West, 2534.6', from the South quarter corner of Section 34 in the same Township and Range.

A further check of our records indicate that the application and other pertinent data were filed correctly.

We have corrected our conformed copy of the Report and request that the correction be made on the original in your office.

Sincerely yours,
(SIGNED)

George W. Miller
Assistant Regional Director
Operations

cc: Director (2)✓
Chief, WODC (2)
Superintendent, Saguaro

(ORIGINAL IN DUPLICATE)

LAND DEPARTMENT
WATER DIVISION
STATE OF ARIZONA

REPORT OF WELL DRILLER

This report should be prepared by the driller in all detail and filed with the State Land Commissioner following completion of the well.

1. OWNER United States of America, National Park Service
Name
by Daniel B. Beard, Regional Director, P.O. Box 728, Santa Fe, New Mexico
Address

2. Lessee or Operator _____
Name
Address

3. DRILLER Graham L. Cowley
Name
190 E. Commercial, St. Johns, Arizona
Address

4. Location of well: Twp. 13 S. Rge. 11 E. Section. 34 SW 1/4 SW 1/4 SW 1/4
10-acre subdivision

5. Intention to Drill File No. D(13-11) 34 ccc Permit No. _____

*Correction made per
more to div. ops. SW.
Reg. dated Feb 1, 1965*

DESCRIPTION OF WELL

6. Total depth of hole 560 ft.

7. Type of casing 6 5/8 O.D. x 2.800 Wall P.E.

8. Diameter and length of casing 6 in. from 0 to 560 in. from _____ to _____ in. from _____ to _____

9. Method of sealing at reduction points _____

10. Perforated from 400 to 560, from _____ to _____, from _____ to _____, from _____ to _____

11. Size of cuts 1/4" x 6" Number of cuts per foot One every two feet

12. If screen was installed: Length _____ ft. Diam. _____ in. Type _____

13. Method of construction drilled
drilled, dug, driven, bored, jetted, etc.

14. Date started January 28, 1964
Month Day Year

15. Date completed March 20, 1964
Month Day Year

16. Depth of water 441.07 ft.
If flowing well, so state.

17. Describe point from which depth measurements were made, and give sea-level elevation if available Top of casing

18. If flowing well, state method of flow regulation _____

19. REMARKS: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Received 8-17-64 by K
Filed 8-18-64 by K
File No. D(13-11) 34 ccc

WD FORM G-301
REV. 4-27-59

(Well Log to Appear on Reverse Side)

Rec'd by mine dated Sept 2, 1964

OBED M. LASSEN
STATE LAND COMMISSIONER
PHONE 271-4621

STATE LAND DEPARTMENT

STATE OF ARIZONA
STATE OFFICE BUILDING
PHOENIX 7, ARIZONA



RECEIVED	
NPS SOUTH WESTERN REGIONAL OFFICE	
FEB 11 1964	
Surname	Date
Regional Dir.	
Com.	
Adm.	
Publ.	
Program Coord.	
Operations	
Concessions	
Natural History	
Hist & Archaeology	
Ranger Services	

February 11, 1964

United States of America
National Park Service
c/o Regional Director
P. O. Box 728
Santa Fe, New Mexico 87501

File No. D(13-11)34 ccc

Dear Sir:

This copy of Notice of Intention to Drill Well in Twp. 13 South , Rge. 11 East ,
Section 34 , SW 1/4 SW 1/4 SW 1/4, is returned to you for your file. Also
enclosed are a:

WELL DRILLING CARD, which should be in the hands of the driller
before construction of the well is started;

REPORT OF WELL DRILLER form, which may be filled in by the
driller but which you should make sure is mailed to us after
completion of the well;

REPORT OF EQUIPMENT INSTALLED form, which shall be filled
in by you and sent to us after the installation of the pumping
equipment.

In the event it is necessary to change the location of the proposed well, you should
obtain the written permission of the State Land Commissioner before proceeding
with the drilling.

Very truly yours,

WATER DIVISION

By *F. C. Ryan*
F. C. Ryan, Supervisor
k

cc: USGS, Tucson
5-5-59

LSY

Received 2-6-64 By KE
Filed 2-10-64 By KE
Duplicate
Mailed 2-10-64 By KE
File Number D(13-11)34 CCC



1586

This card to be posted on or nearby the well rig during drilling operations.

State of Arizona
EXEMPTED WELL

NOTICE OF INTENTION TO DRILL AN EXEMPTED WELL HAS
BEEN FILED WITH THE STATE LAND COMMISSIONER BY

UNITED STATES OF AMERICA NATIONAL PARK SERVICE - SANTA FE, N.M.

FOR PURPOSES OTHER THAN IRRIGATION OF AGRICUL-
TURAL LAND. WELL TO BE LOCATED IN

TWP. 13 South RGE. 11 East SEC. 34 SW 1/4 SW 1/4 SW 1/4

S E A L

WD FORM G-308

Lois C. Duncan
DEPUTY STATE LAND COMMISSIONER

STATE LAND DEPARTMENT
Water Division
Phoenix 7, Arizona

IMPORTANT

PLEASE COMPLETE AND RETURN

Location of Well

File No. D(13-11)34 ccc

NORTH

WEST

EAST

SOUTH

(Indicate Well Location
by a circle "o" in the
above Section Plat)

REPORT OF EQUIPMENT INSTALLED

OWNER _____

LOCATION OF WELL:

✓ 1/4 1/4 1/4, Sec. _____ Twp. _____ Rge. _____

Date Well Completed: _____ Depth _____

1. Well Test:Discharge: _____ Date Well Tested: _____
(Gal. Per Min.)Method of Discharge Measurement: _____
(weir, orifice, current meter, etc.)

Static Water Level: _____ ft. Drawdown _____ ft.

Total Pumping Lift _____ ft.

2. Equipment Installed:Kind of Pump: _____
(turbine, centrifugal, etc.)Kind of Power: _____ H. P. Rating of Motor _____
(Elec., Nat. Gas, Etc.)

I HEREBY CERTIFY that all the above statements are true to the best of my
knowledge and belief.

Signature _____

Date _____, 19____.

Address _____

WD Form G-306
10-57

Supporting Hydro Data



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, Colorado 80525-5596

DA?
Bill? JCRH

January 20, 1998

L54(2380)
SAGU/General

Memorandum

To: Superintendent, Saguaro National Park

Through: William L. Jackson, Chief, Water Operations Branch *WJ*

From: Larry Martin, Hydrogeologist, Water Operations Branch

Subject: Hydrogeologic Conditions for the Water Supply Well at the Red Hills Visitor Center, Tucson Mountain Unit, Saguaro National Park.

Introduction

Water for the Red Hills Visitor Center, maintenance shop, employee housing, and administrative offices for the Tucson Mountain Unit of Saguaro National Park is supplied by a well approximately a mile west of the facilities. Current demand is about 50,000 gallons per month (1700 gallons per day) with little seasonal fluctuation in the demand. The well is pumped at 9-10 gallons per minute, generally about 3 hours per day in the early morning hours when electric rates are lower.

The well is located about a hundred feet northeast from the intersection of Mile Wide Road and Sandario Road, about one mile southwest of the Red Hills Visitor Center. The legal description of the well is SW3, SW3, SW3 of Section 34, T. 13 S., R. 11 E. (D-13-11 34ccc)

Well Construction

The well was constructed in February and March, 1964. The well is 560 feet deep and was drilled with an 8-inch bit. The well is cased with 6-inch steel casing to the total depth. The lower 160 feet (400-560 feet) of the casing was perforated with 3"x6" cuts, one every 2 feet.

Geologic formations encountered were inferred from the drilling rate. The upper 435 feet of the well was drilled through conglomerate. Below 435 feet, the drilling rate was much slower and was thought to indicate drilling through fractured bedrock.

The well was tested for drawdown and yield by running a step drawdown test on the morning of March 18, 1964. The well was pumped for a total of 6 hours at successive rates of 10, 20, and 30 gpm. The drawdowns measured at these rates are very small and indicate that the well can be safely pumped at much higher rates. Just before the start of the test, the static water level was measured at 441.07 feet below the top of the casing. The water level recovered to the static level within one minute after pumping ceased, and within 3 minutes the water level stabilized at a new static level of 441.02 feet, 0.05 feet higher than before pumping started.

A second test was run with maximum output from the test pump for 24 hours at a rate of 42 gpm. The drawdown was 2.1 feet at the end of 24 hours of pumping, giving a specific capacity of 20 gpm per foot of drawdown.

Hydrogeology

The water level in this well is consistent with water levels in the alluvial aquifer of the Avra Valley. However, the wells in the Avra Valley obtain water from the alluvial deposits, whereas this well obtains water from fractures in the bedrock. The water in the alluvial and bedrock aquifers seems to be hydrologically connected as indicated by uniform water levels between wells completed in different aquifers.

The hydrologic system in the Avra Valley was in approximate equilibrium and ground-water levels generally remained unchanged until about 1940. Ground-water pumping for irrigation began near Marana in 1937, and by 1954 more than 100 irrigation wells were in use in the northern and central parts of the valley. Ground-water levels declined in many areas after 1940 because ground-water pumping exceeded recharge. (Cuff and Anderson, 1987) Agricultural activity was greatest from 1954 to 1977. In 1972, the City of Tucson began to purchase and retire farmland in exchange for municipal ground-water rights in the valley. Gradual retirement of agricultural lands resulted in major reductions of pumping from 1976 through 1984.

Water levels generally remained unchanged in the areas south of T.13 S. from 1940 to 1952 (University of Arizona, 1952). From 1952 to 1975, expansion of the irrigated farmland further south in the valley resulted in increased pumping for irrigation in the vicinity of the park's water supply well, resulting in water table decline of 50 to 100 feet. The exact amount is uncertain because the park's well was not constructed until 1964. Water table decline from 1964 to 1998 is approximately 35 feet. Additional decline occurred prior to construction of the well in 1964.

In January, 1995 maintenance was conducted at the well and the following conditions were noted. Depth to water was 474.9 feet. The pump was set at 514 feet. Total depth of the well was 527 feet. When it was initially constructed the well was 560 feet deep.

Current Conditions

In November, 1997 I visited the site with the intent of measuring the water level in the well and instructing park staff on a regular program of monitoring water levels in the well. We were unable to

measure the water level with a meter having 500 feet of wire. We later determined that the probe was getting hung up somewhere in the well as the water level currently is 476 feet below ground surface.

In late-December, 1997 the pump failed and had to be replaced. The motor was still in good shape, but the impellers were worn, indicating that the cause of failure was probably from pumping sand and sediment that had entered the well through the perforated casing. Static water level is at 476 feet below ground surface. The pump is set at 515 feet. Sand and sediment has entered the well, filling it to 525 feet below ground surface.

Arizona Department of Water Resources (ADWR) periodically measures the water table elevation at many wells throughout the Avra Valley. Location of wells which are monitored by ADWR are shown on the attached map. Wells are numbered according to the well numbering and naming system described on an attached page. The park's well is located in T.13 S. The remainder of the wells shown on the map are in T.14 S. All wells are in R.11 E. Wells on the map and corresponding data on the hydrograph are identified by a number followed by 3 letters. The number is the section number where the well is located. The 3 letters (a-d) following the number refer to the 3,3,3 section where the well is located.

Data for wells in the vicinity of the park's water supply well were obtained from the ADWR website. These data are plotted on the attached hydrograph. These data show that the rate of water table decline has decreased dramatically since about 1975. From 1955 to 1970, the rate of water table decline was about 4 feet per year. From 1980 to 1995, the rate of decline has been about 0.5 feet per year. This change in the rate of decline can be directly related to purchase and retirement of irrigated farmland in exchange for municipal ground-water rights in the valley by the City of Tucson. Gradual retirement of agricultural lands resulted in major reductions of pumping from 1976 through 1984.

At the current rates of water table decline in the Avra Valley, the park's well will have plenty of water for many (50+) years to come. When, or if, the water table decline does become a problem, the pump could be lowered deeper in the well to alleviate the problem.

Recommendations

1. Park staff should measure the water level in the well on a monthly basis so we will know how much seasonal water table fluctuation occurs and to provide solid information on the current rate (and changes in the rate) of water table decline. These data will provide park staff the information they need to plan for the future.
2. The sand and sediment in the well should be removed by bailing and surging to rehabilitate the well. A local well drilling company can do this as a routine maintenance procedure. Removing the buildup of sand and sediment from the well will create a new sediment trap in the well, reducing the amount of sand pumped from the well and reducing wear and tear on the pump. This maintenance procedure may pay for itself by extending the life of pumps.

References

Cuff, Melinda K., and S.R. Anderson, 1987, Ground-Water Conditions in Avra Valley, Pima and Pinal Counties, Arizona - 1985. U.S. Geological Survey Water Resources Investigations Report 87-4192. 3 sheets.

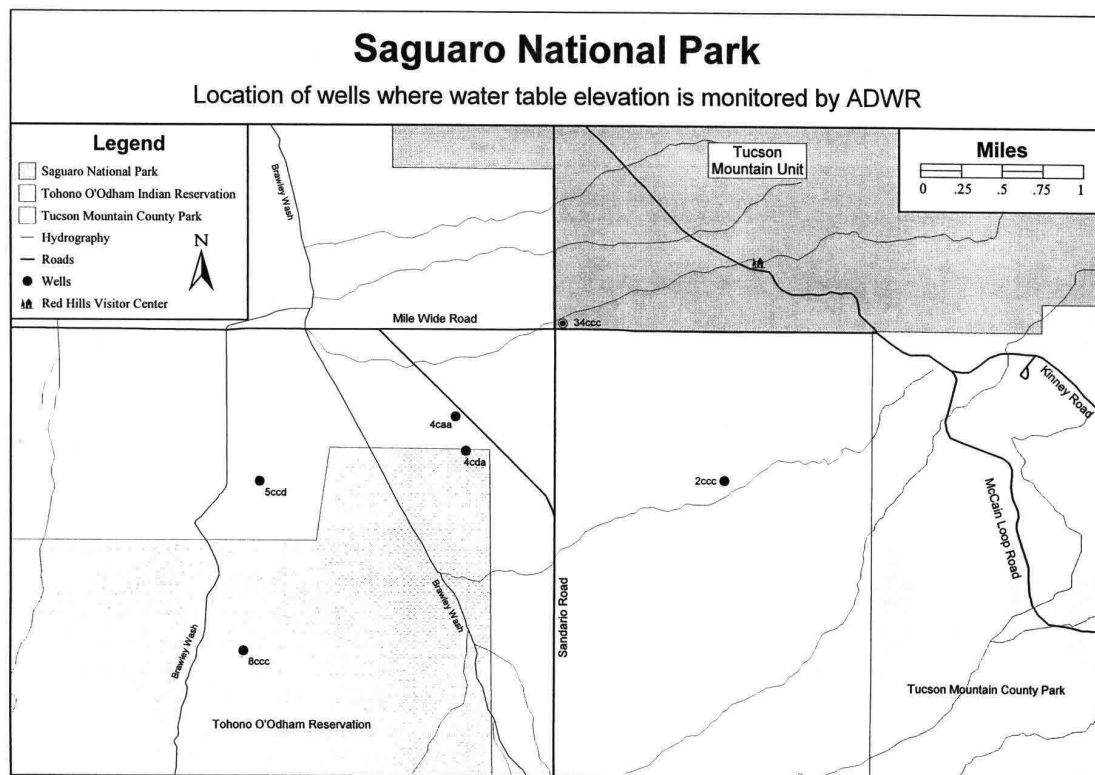
Hanson, R.T., S.R. Anderson, and D.R. Pool, 1990, Simulation of Ground-Water Flow and Potential Land Subsidence, Avra Valley, Arizona. U.S. Geological Survey Water Resources Investigations Report 90-4178, 41 pp.

University of Arizona, 1952, Approximate lowering of the water table from 1940 to 1952, Avra-Altar Valley. University of Arizona, Agricultural Engineering Department map, 1 sheet.

Sony Martin

attachments

cc: SAGU - Greg Johnson, Al Burns
BUFF - David Mott
2380 - Kimball, Jackson, Flora, Pettee



WELL-NUMBERING AND NAMING SYSTEM

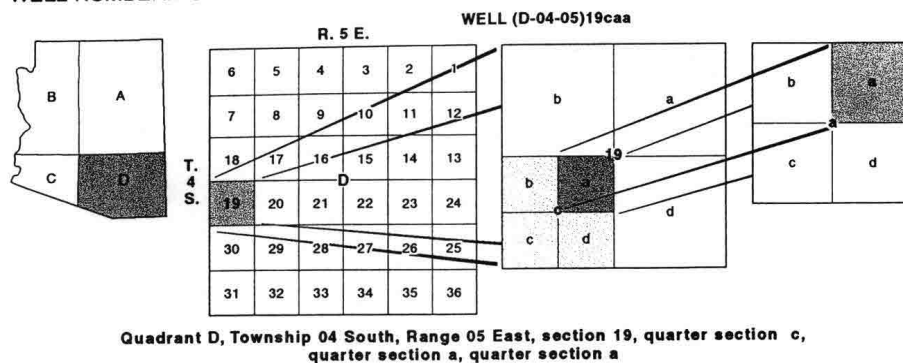
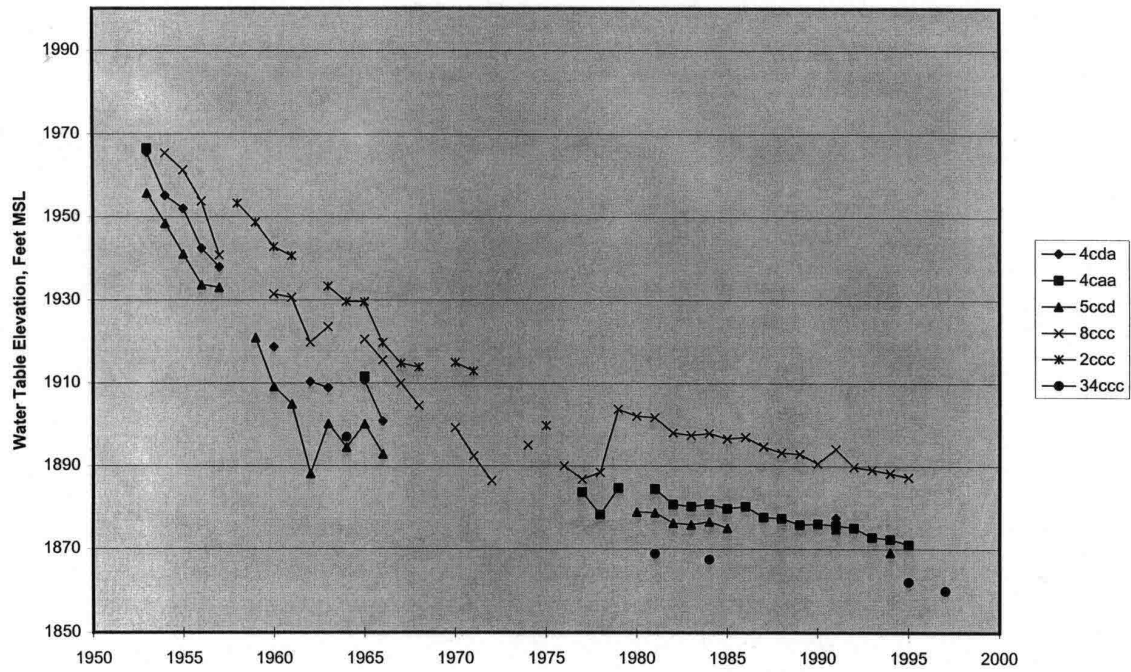


Figure 3. Well-numbering and naming system.

The well numbers used by the Geological Survey in Arizona are in accordance with the Bureau of Land Management's system of land subdivision. The land survey in Arizona is based on the Gila and Salt River meridian and base line, which divide the State into four quadrants. These quadrants are designated counterclockwise by the capital letters A, B, C, and D. All land north and east of the point of origin is in A quadrant, that north and west in B quadrant, that south and west in C quadrant, and that south and east in D quadrant. The first digit of a well number indicates the township, the second the range, and the third the section in which the well is situated. The lowercase letters a, b, c, and d after the section number indicate the well location within the section. The first letter denotes a particular 160-acre tract, the second the 40-acre tract, and the third the 10-acre tract. These letters also are assigned in a counterclockwise direction, beginning in the northeast quarter. If the location is known within the 10-acre tract, three lowercase letters are shown in the well number. In the example shown, well number (D-4-5)19caa designates the well as being in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T. 4 S., R. 5 E. Where more than one well is within a 10-acre tract, consecutive numbers beginning with 1 are added as suffixes.

Chart15

Water Levels Near SAGU West



TMD-WL.XLS

LAND DEPARTMENT
WATER DIVISION
STATE OF ARIZONA

REPORT OF WELL DRILLER

IMPORTANT

#17

PLEASE COMPLETE AND RETURN

Dry hole

This report should be prepared by the driller in all detail and filed with the State Land Commissioner following completion of the well.

1. OWNER UNITED STATES OF AMERICA, NATIONAL PARK SERVICE
 Name
c/o Regional Director - P. O. Box 728, Santa Fe, New Mexico
 Address
2. Lessee or Operator United States of America, National Park Service
 Name
c/o Regional Director - P. O. Box 728, Santa Fe, New Mexico
 Address
3. DRILLER Cowley Brothers
 Name
St. Johns, Arizona
 Address
4. Location of well: Twp. 13 S Rge. 11 E Section 14 NW SW SW SW
 10-acre subdivision
5. Intention to Drill File No. D(13-11)34 ccc Permit No. _____

DESCRIPTION OF WELL

6. Total depth of hole 560 ft.
7. Type of casing 6 3/4" steel casing, welded
8. Diameter and length of casing 6 in. from surface to 560 ft. in. from _____ to _____, in. from _____ to _____
9. Method of sealing at reduction points None
10. Perforated from 400 to 560, from _____ to _____, from _____ to _____, from _____ to _____
11. Size of cuts 1/8-inch X 3-inches Number of cuts per foot 6
12. If screen was installed: Length None ft. Diam. _____ in. Type _____
13. Method of construction drilled with rotary rig
 drilled, dug, driven, bored, jetted, etc.
14. Date started February 28, 1964
 Month Day Year
15. Date completed March 21, 1964
 Month Day Year
16. Depth of water 440 ft.
 If flowing well, so state.
17. Describe point from which depth measurements were made, and give sea-level elevation if available. surface
at 2336 feet above sea level
18. If flowing well, state method of flow regulation Not flowing well

Lessee or Operator. United States of America, National Park Service
 Name % Assistant Director - P.O. Box 228, El Paso, New Mexico
 Address
 DRILLER Cowley Brothers
 Name St Johns, Arizona
 Address
 Location of well: Twp. 13 S Rge. 11 E Section 4 SW 1/4 SW 1/4 SW 1/4
 10-acre subdivision
 Intention to Drill File No. D(13-11)34 ccc Permit No.

DESCRIPTION OF WELL

Total depth of hole 567 ft.
 Type of casing 6 3/8" steel casing, welded
 Diameter and length of casing 6 in. from surface to 560 ft in. from to in. from to
 Method of sealing at reduction points None
 Perforated from 400 to 560, from to, from to, from to
 Size of cuts 1/8-inch X 3-inches Number of cuts per foot 6
 If screen was installed: Length None ft. Diam. in. Type
 Method of construction drilled with rotary
 drilled, dug, driven, bored, jetted, etc.
 Date started February 28, 1964
 Month Day Year
 Date completed March 21, 1964
 Month Day Year
 Depth of water 440 ft.
 If flowing well, so state.
 Describe point from which depth measurements were made, and give sea-level elevation if available surface
+ 2336 feet above sea level
 If flowing well, state method of flow regulation Not flowing well

REMARKS: Top 10 feet of
are cemented to seal off
surface water.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Received by
 Filed by
 File No. D(13-11)34 ccc

(Well Log to Appear on Reverse Side)



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 4070
Tucson, Arizona, 85717

IN REPLY REFER TO:

Water Resources
Division

RECEIVED	
NPS SOUTHWEST REGIONAL	
OCT 15 1964	
Regional Director	Surname
Operations	
Administration	
Coop. Agencies	
Development	
Resource	
Files	

October 13, 1964

MEMORANDUM

To: Assistant Regional Director, National Park Service,
Southwest Region, P.O. Box 728, Santa Fe, New Mexico

From: District Chief, WRD, Tucson, Ariz.

Subject: Wells in Tucson Mountain Park of Saguaro National Monument

Mr. Pashley concluded that the two rotary holes in the Tucson Mountain Park section of Saguaro National Monument penetrated a conglomerate composed of pebbles of various volcanic rocks, red sandstone, and granite. The cuttings were continually recirculated during the drilling of the wells; in cases such as this often the only indication of a new formation having been hit is the first appearance of rock fragments of a new type mixed in with cutting from the formations above. Pashley carefully classified the cutting from each interval and was unable to detect any new types. The cuttings from both wells have been preserved and are on file at the Arizona Bureau of Mines under the numbers 1793 and 1796.

H. M. Babcock
For H. M. Babcock
District Chief

L 54 / Sagu

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Regional Director

DATE: March 20, 1964

FROM : Regional Chief of Lands

*1 SUBJECT: Report on Testing Tucson Mountain Park Second Well, Saguaro

Geologist Fred Pashley telephoned Friday, March 20 to report the results on the second well at Saguaro, Tucson Mountain District.

A 24 hour pump test was conducted and the pump available produced 42.3 gpm.

The well is 560.00 feet deep.

The static water level is 441.02.

The well produced 42.3 gpm during the 24 hour test with 2 feet of drawdown.

Mr. Pashley reports the recovery was almost instantaneous.

Thus far the driller has not placed all of the casing in the Headquarters well and the well cannot be tested until sometime next week.


John E. Kell

cc: Assistant Regional Director Miller, Operations
Assistant Regional Director Arnberger, Resource Planning
Hydraulic Engineer Fields

L54
Sagu

Well Drilling and Testing Operations at the Tucson Mountain Section
of Sahuaro National Monument, Pima County, Arizona

Location: Two holes were drilled in this area. The first was dry and was located approximately in the SE 1/4, SE 1/4, SW 1/4 of Sec. 34, T. 13 S., R. 11 E., Pima County, Arizona. This hole will be referred to as No. 1. The second hole contained water and is located in the southwest corner of Sec. 34, T. 13 S., R. 11 E. It will be referred to as No. 2.

Contractor: Both holes were drilled with a rotary drilling rig by the Cowley Brothers Drilling Company, St. Johns, Arizona.

Date of Work: The driller moved onto the site of hole No. 1 late in January and completed work at hole No. 2 on March 26, 1964.

Water Level: Test hole No. 1 - dry; Test hole No. 2 - water level was approximately 439 feet below ground surface on March 20, 1964.

Test Hole No. 1: This hole was drilled to a depth of 413 feet. Drilling time information indicated that the hole went into bedrock at a depth of about 402 feet. The last 11 feet of the hole drilled at a rate of less than 1/2 foot per hour, whereas the preceding 12 feet had drilled at a rate of nearly 10 feet per hour. The drilling time data is plotted on figure 1. The predicted elevation

of the regional water table at this site is about 70 feet below the bottom of the hole.

The samples of formation cuttings from this hole are not useful in determining rock types because of extreme contamination caused by continued recirculation of the cuttings.

After the hole reached its total depth it was tested for possible perched water but was found to be dry.

Test Hole No. 2: As in hole No. 1, it was necessary to rely on drilling time information (figure 1) to determine the depth at which the drill went into bedrock. The rate of penetration decreased sharply at a depth of about 435 feet and remained low for the remainder of the drilling. Drilling was not stopped once bedrock was encountered because we had predicted that the hole would reach the regional water table at a depth of about 430 feet and because the action of the drilling indicated that there were crevices in the bedrock which could transmit water.

After the hole reached its total depth of 560 feet, the drilling mud was bailed out and water was standing in the hole at a depth of 439 feet below the land surface.

The driller then placed 562 feet of 6-inch casing, perforated in the lower 160 feet, in the hole. This was followed by 23 1/2 hours of surging and developing. He then bailed the well at a rate of 10 gpm for 3 1/2 hours and noted no

perceptible drawdown.

Pumping Tests: Two pumping tests were conducted in order to determine the capacity of the well.

The first was a step drawdown test conducted on the morning of March 18, 1964. The well was pumped for a total of 6 hours at successive rates of 10, 20, and 30 gpm. The drawdowns measured at these rates (figure 2) are very small and indicate that the well can be pumped safely at much higher rates. Just before the start of the test the static water level measured at 441.07 feet below the top of the casing. The static water level recovered within one minute after pumping ceased, and within 3 minutes the water level stabilized at a new static level of 441.02 feet, a position .05 feet higher than before pumping started.

On the basis of this test it was decided to pump the well for 24 hours at a higher rate. The specifications for this well required the driller to provide a pump capable of pumping a maximum of at least 30 gpm. Data from the step drawdown test suggested that the well could be expected to produce several times this amount and would have to be pumped at a considerably greater rate than this in order to adequately test the well. Therefore, during the second test the well was pumped with the pump valve wide open in order to produce its maximum output of 42.3 gpm. The drawdown data from this test are plotted

on semi-logarithmic paper on figure 3. The drawdown was 2.1 feet at the end of 24 hours of pumping giving a specific capacity of 20 gpm per foot of drawdown.

Both the drawdown and residual drawdown curves plotted on semi-logarithmic paper (figure 3) have nearly identical hooks on their ends that occurred at the same time on successive days. The cause of these are unknown, but they may be the result of changes in temperature, barometric pressure, or pumping from other wells in the area.

Regional Water Levels: The regional water table in this area has been declining at a rate of approximately 4 feet per year. This yearly decline can be expected to continue and to increase as a result of increased pumpage. In addition to the yearly declines, seasonal fluctuations can be expected to result from heavy irrigation pumping during the summer months. The amount of seasonal fluctuation can best be determined by measuring the water level in this well periodically throughout the year.

Knowledge of the yearly and seasonal declines to be expected will be useful in determining the proper depth to set the pump.

The water level in the well is at the predicted altitude of the regional water table of the Avra Valley; however, the wells in the Avra Valley derive their water from alluvial deposits whereas this well is probably getting water from fractures in bedrock. The water in the alluvial deposits and in the bedrock

seems to be hydrologically connected as indicated by the uniform water levels. It could not be determined during the drilling and testing of the well from which intervals in the bedrock the water was coming from. It is possible that the entire yield of water is coming from fractures in the bedrock which are connected with the water-bearing alluvium of Avra Valley. If this is true then several years of decline in the regional water level could dewater the fractures and greatly decrease the yield of the well.

Water Quality: The chemical analysis of a sample of the water from the well follows:

soluble salts ppm	EC x 10 ³	calcium ppm	magnesium ppm	sodium ppm	chloride ppm	sulfate ppm	
305	.44	32	7	43	20	22	

carbonate ppm	bicarbonate ppm	fluoride ppm	sodium to calcium ratio	hardness gr./gal.	% Na	
0	181	.3	1.3	6.2	46.8	

The bacteriological analysis of a sample of the water collected during the constant discharge test revealed the presence of coli-aerogenes in 3 out of 5 tubes tested and indicates some contamination of the water.

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)
 R=90 * T= A D M * Entry No. 256 # * Depth to Top 91 = * * * * * Depth to Bottom 92 = * * * * *

Unit Identifier 93 = * * * * * Lithology 96 = * * * * * Lithologic Modifier 97 = * * * * *

AQUIFER DATA (2)
 R=94 * T= A D M * Geo hydrologic Unit Entry No. 256 # *
 Date 95 # / / * Water Level 126 = * * * * * % Water Contributed 132 = * * * * *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)
 R=90 * T= A D M * Entry No. 256 # * Depth to Top 91 = * * * * * Depth to Bottom 92 = * * * * *

Unit Identifier 93 = * * * * * Lithology 96 = * * * * * Lithologic Modifier 97 = * * * * *

AQUIFER DATA (2)
 R=94 * T= A D M * Geo hydrologic Unit Entry No. 256 # *
 Date 95 # / / * Water Level 126 = * * * * * % Water Contributed 132 = * * * * *

PERTINENT REMARKS
 R=183 * T= A * 185 = * * * * * *
 add 185 = * * * * * *
 New Card Same R&T 185 = * * * * * *

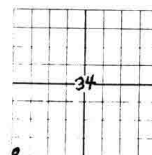
NOTES:

SAGU
Docket
#7
Tucson Mtn.
Park Well

Well is located inside small concrete block shelter house.
 Well is 78 feet North of fence by Mile Wide Road,
 70 feet East of fence by Sandario Road, measured
 by tape (± 1 foot)

This well is the sole source for Saguaro West, being the
 second well drilled for this supply - see well (D-13-11)34 cdd.
 W. Warrell, March 1979

This site was visited by Hydrologist Reed
 on 9/10/81 at which time a static water
 level measurement was made, Pump
 having been turned off since 9/5/81.
 Static water level ^{low} WSD = 466.7 feet.



U. S. GOVERNMENT PRINTING OFFICE: 1976 O - 213-137

Pump was turned on after static water level measurement was taken.
 Rate, measured with flow meter = 11 gpm. Gate valve
 was closed on line to storage tanks to prevent backflow.
 valve opened near well head and first water sample taken
 after 10 minutes of pumping; Sample #1 temp. 30.5°C, spec. cond. = 500 μ H/cm
 Sample #2 temp. = 31.0°C, spec. cond. = 480 μ H/cm at 25°C,
 water was clear in appearance.

SAGU, Well (D-13-11) 34. ccc
Docket #7



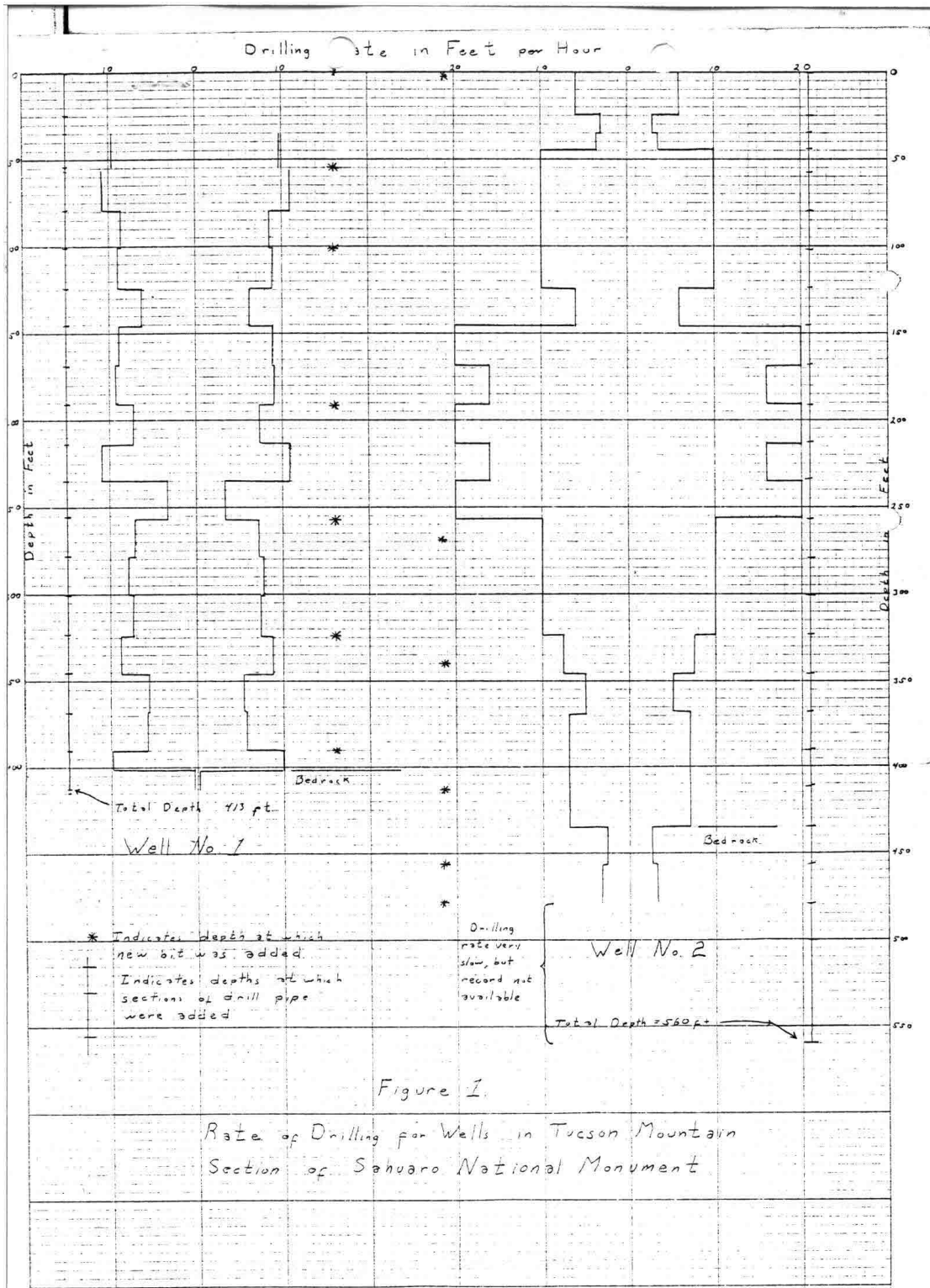
Looking North, showing well house.

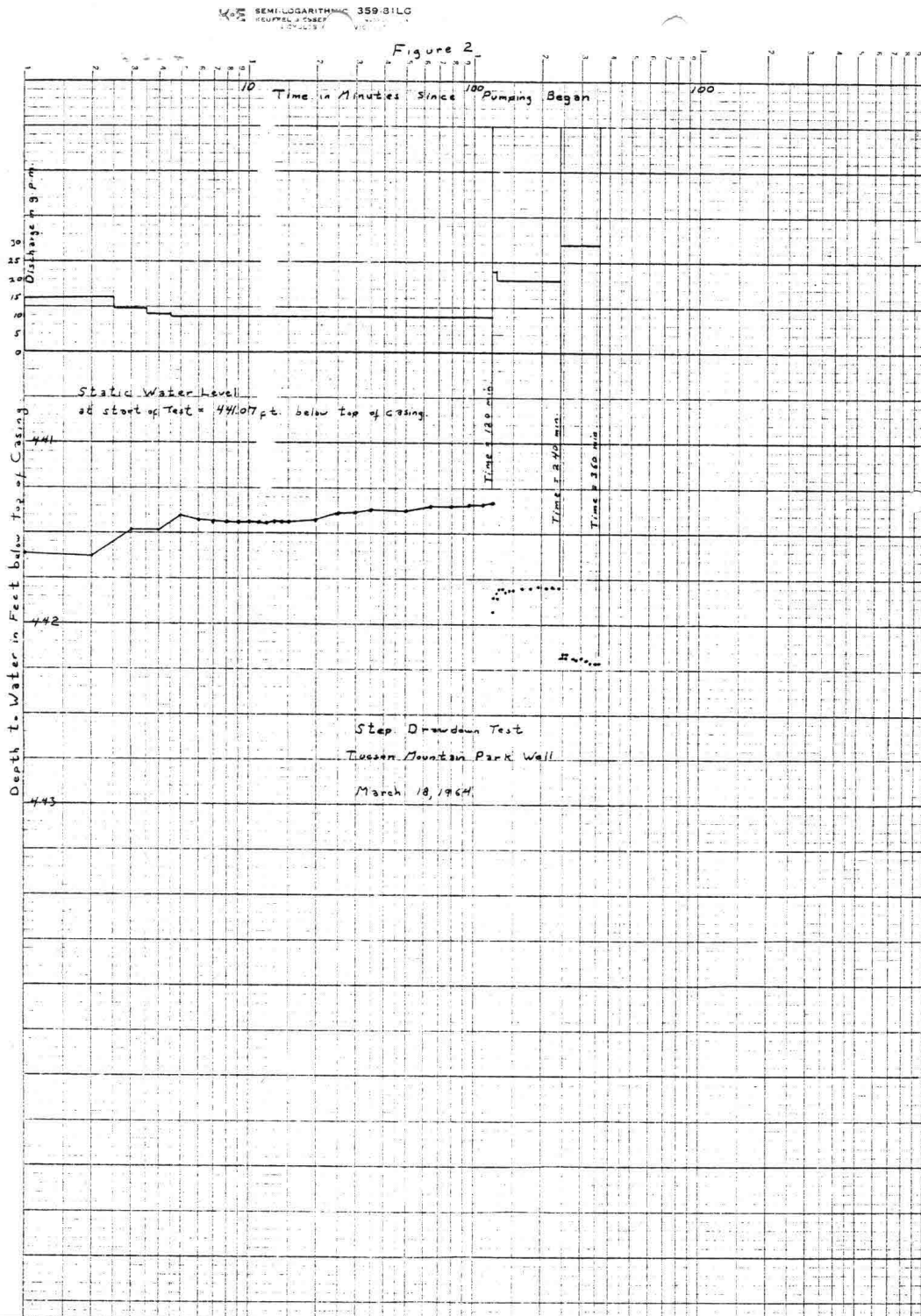


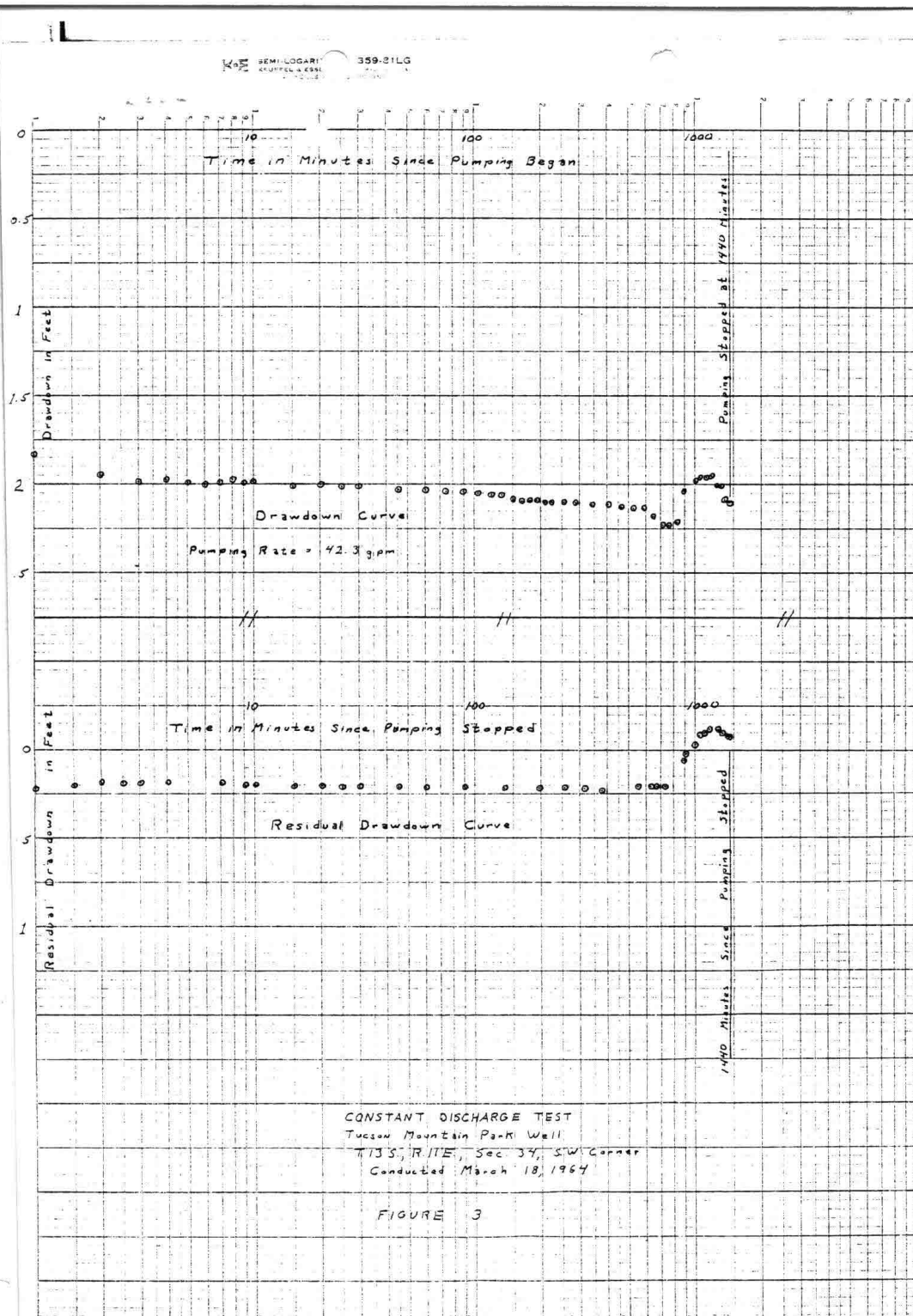
Looking Northwest; stop sign at upper left is
at road intersection. Well house is at upper
right.

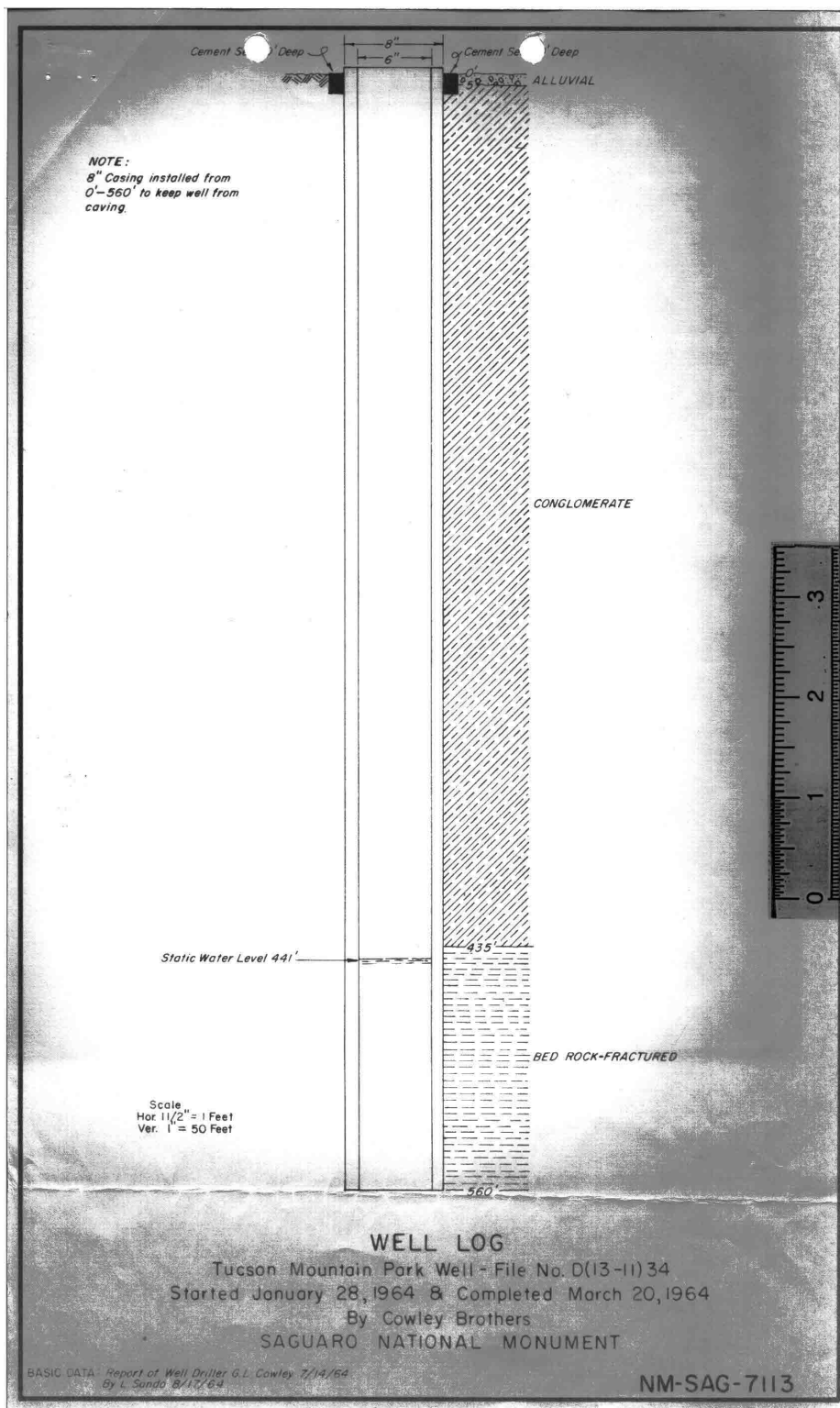
USA NATIONAL PARK SER
P O BOX 728
SANTA FE NM 87501

2. FILE NUMBER: D13011034CCCGS1 CONTROL NUMBER: NONE
3. SW 1/4 SW 1/4 SW 1/4 SECTION 34
TOWNSHIP 13.0S RANGE 11.0E
COUNTY: PIMA
4. USE: MUNICIPAL
7. WELL DATA
- | | |
|-----------------------|------------------------------------|
| A. DEPTH OF WELL: | 560 |
| B. CASE DIAMETER: | 07 |
| C. DEPTH OF CASING: | 560 |
| D. TYPE OF CASING: | PERFORATED OR SLOTTED STEEL CASING |
| E. MAX PUMP CAPACITY: | REGISTRANT TO FURNISH |
| F. DEPTH TO WATER: | 441 |
| G. DATE COMPLETED: | 1 / 1964 |









Other Supporting Information

154

Southwest Region
P.O. Box 728
Santa Fe, New Mexico
87501

NOV 9 1965

W O D C
NOV 12 1965

CHF	
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P & P	
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ENGR	
L.A.	
CH.M.P.	
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Memorandum

To: Director

From: Assistant Regional Director, Operations

Subject: Material for Docket No. 7, Saguaro National Monument

Enclosed is a copy of a Log of Wells prepared by Graham L. Cowley, Well Driller, on July 14, 1964. This log is for Wells No. 1 and No. 2. As you will note, Well No. 1 was plugged from top to bottom due to it being a dry hole. However Well No. 2 was a water producing well and this log should be inserted in Docket No. 7, Tucson Mountain Park, with the pictorial drawing of the well, NM-SAG-7113.

By copies of this memorandum we are sending a copy of the log to Chief, WODC and Superintendent, Saguaro for insertion in their dockets.

(SIGNED)

George W. Miller

In duplicate

Enclosure

cc: Chief, WODC (2), w/enc.
Superintendent, Saguaro
w/enc.

COWLEY BROTHERS SUPPLY CO.

AERMOTOR - JENSEN - CLAYTON - MARK
COMPLETE WELL SERVICE - DRILLING & EQUIPPING

July 14, 1964

190 E. COMMERCIAL
ST. JOHNS, ARIZONA
PHONE 337-4921

Saguaro National Monument
Route 8, Box 350
Tucson Arizona 85710
Dear Sirs:

Drillers Log of Wells drilled on west side of Tucson
Mountain

Well no 1 Drilled with 8 3/4 hits not cased.

0-10 feet Alluvial

10-403 Conglomerate

403-413 Bed Rock Bottom of Hole

It took 7 hits to drill this well, lost 10 feet 2 1/2 ft per hr
Bailed hole and surged. Dry Hole. Plugged from top to bottom

* Well no 2 Drilled with 8 3/4 hits cased with 6 5/8 casing

0-5 feet Alluvial

5-435 Conglomerate

435-560 Bed rock ^{fractured} Bottom of Hole

6 hits to drill well

Bailed and surged. Good well of Water.

above wells drilled in February and March 1964

By Graham I Cowley
Driller

154

Southwest Region
Santa Fe, New Mexico
87501

MAY 14 1965

W O D C
MAY 17 1965

CHF	
ADM	
P & P	
ARCH	
ENR	✓
L.A.	
CH. M.P.	
CONTR	
SFTY	
ELEC	

3. 5/18
4. 6-7-65
5. 6-7-65

Memorandum

To: Director

From: Assistant Regional Director, Operations

Subject: Well Log for Docket No. 7, Saguaro National Monument

We have enclosed for insertion in your Docket No. 7 a pictorial Well Log, NM-SAG-7113. This is the log for the well at Tucson Mountain Park. We have also inserted a state application number on the tab of the docket. This number is D(13-11)34 ecc.

We have also added the application number to the tab of Docket No. 6 which is D(14-16)31 and have added application number D(15-17)4 to the tab of Docket No. 8.

By copies of this memorandum we are requesting Chief, WODC and Superintendent, Saguaro to insert the Well Log in their docket and place the appropriate water well numbers on the dockets.

(SIGNED)

George W. Miller

In duplicate

Enclosure

cc: Chief, WODC (2) ✓
w/enc.
Superintendent, Saguaro
w/enc.

W Rupp
Sue
2/25

Southwest Region
Santa Fe, New Mexico

FEB 18 1964

LS4
SAGU

Memorandum

To: Superintendent, Saguaro
From: Assistant Regional Director, Resource Planning
Subject: Well Documents, Test Well, Tucson Mountain Park,
Saguaro National Monument— *See Docket for location*

At the request of the State Land Office in Phoenix we have filed a Notice of Intention to Drill Well for the subject area even though it is not required by law.

Their acknowledgement of this filing included the following items:

1. Duplicate copy of Form G-300 (Notice of Intention to Drill Well)
2. Well Drilling Card
3. Report of Well Driller
4. Report of Equipment Installed

We have prepared a Docket for this well and have called it "Docket No. 7", Tucson Mountain Park Well and have inserted copies of the first two items of the above list in this docket. Your copy of the docket is enclosed and by copies of this memorandum we are sending these Dockets to the Director and Chief, WODG, for their files.

We have also enclosed the originals of the Well Drilling Card and Report of Well Driller. The Well Drilling Card should be posted on/or nearby the well rig during drilling operations. Upon completion of the well you should have the driller complete the Report of Well Driller and then send it to this office. We will make copies of it for the docket, distribute

then and send the report into the State Land Office.

After the testing and installation of the pumping equipment is complete you can send this information to us and we will complete the Report of Equipment Installed and file this with the State Land Office.

As construction of this well progresses we would appreciate a progress report by telephone.

(SIGNED)

Leslie P. Arnberger

Enclosures *7-1-64*

cc: Director (2) w/docket ✓
WODC (2) w/docket

68-2-4-65

WR copy

Southwest Region
Santa Fe, New Mexico
87501

FEB 1 1965

L54

Memorandum

To: Director

From: Assistant Regional Director, Operations

Subject: Water Well Location, Report of Well Driller, Tucson
Mountain Park, Saguaro

The Chief Engineer, WODC, has brought to our attention that there is an error in the Report of Well Driller filed by Mr. Graham L. Cowley concerning the subject well. This report was inserted in Docket No. 7 for Saguaro National Monument and transmitted to you for insertion in your Docket on September 2, 1964.

The error is in Item No. 4, Location of Well. The 10 acre subdivision should read SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ instead of SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 34, T. 13S., R. 11 E.

We have corrected our copy of the report, notified the State Land Commission of the error and requested them to make a correction. By copies of this memorandum we are requesting the Superintendent, Saguaro and Chief, WODC, to correct the copies in their Docket.

(SIGNED)

George W. Miller

In duplicate

✓ Correction made on well location.

cc: Chief, WODC (2)
Superintendent, Saguaro

January 21, 1965

L 54

Pingry

PESmith

AIR MAIL
Memorandum

To: Regional Director, Southwest Region
From: Chief Engineer, WODC
Subject: Water Well Location, Tucson Mountain District, Saguaro

The location of the subject well, as shown on the well driller's report in the water rights docket, is not in accordance with our understanding. Pingry states that the producing well is located in the SW 1/4 SW 1/4 SW 1/4 of Section 34 T 13S R 11E. Also, he reports that the dry hole was located in the SE 1/4 SE 1/4 SW 1/4 of the same Section 34, which might account for the location being recorded at that location.

Correction of the well location and water rights claims is requested.

The computed distance and bearing from the 1/4 corner common to sections 34 and 3 is 2534.6 feet N 88° 12' W. The bearing is based on an assumed bearing of N 90° W for the line from the section corner $\frac{34}{3} | \frac{35}{2}$ to the 1/4 corner $\frac{34}{3}$.

FILE COPY

SIGNED

P. E. Smith

cc:
Supt., Saguaro

Informational to: EBMartin, Reynolds, Alleman
EMPingry:bg

SAGUARO

Southwest Region
Santa Fe, New Mexico

JAN 16 1964

44-1-23-64
WRCOPY

Mr. Obed M. Lassen
State Land Commissioner
State Land Department
Capitol Annex Building
Phoenix, Arizona

Dear Sir:

We are about to begin construction of three test wells for water supply at Saguaro National Monument. Two of these will be at Saguaro proper and the other will be at Tucson Mountain Park. The physical characteristics of these wells are as follows:

1. Headquarters Well - located in Section 31, Township 14S., Range 16E., G.&S.R.M., 8" bore with expected depth of 350' and expected yield of 10 g.p.m.
2. Madrona Pack Base Well - located in Section 4, Township 15S., Range 17E., G.&S.R.M., 8" bore with expected depth of 250' and expected yield of 10 g.p.m.
3. Tucson Mountain Park Well - located in Section 34, Township 13S., Range 11E., G.&S.R.M., 8" bore with expected depth of 600' and expected yield of 20 g.p.m.

We are in possession of Bulletin No. 303 dated 1958 and published by your Department. According to the map contained in this bulletin the Tucson Mountain Park well would be inside the Marana critical area created October 15, 1954. The other two wells are outside the critical areas if our map is up to date. All three wells will be for domestic or culinary use for Saguaro National Monument and would fall under the definition of "Exempted Wells".

According to our interpretation of your State Law a "Notice of Intention to Drill Well" form G-300 is only required if an "Exempted Well" will produce in excess of 100 g.p.m. even if it lies in a critical area. Utilizing the same interpretation a drilling card (Form G-308) is not required for any of these wells.

Since this Service has always had a policy to adhere to water laws of the State in which we work, we wonder if you would inform us by return mail whether or not our interpretation of your Ground Water Code is correct. If you do require certain forms or applications for these wells would you please forward the proper forms to us in order that we may comply with your laws.

(SIGNED)

J. M. Carpenter
Acting Regional Director

cc: Director (2) ✓
Superintendent, Saguaro

LGA
SAGU

Southwest Region
Santa Fe, New Mexico

FEB 18 1964

W O N C
FEB 20 '64

CHF	
ADM	
PERS	
P & P	
ARCH	
L.A.	
SPEC	
CONT	
SFTV	

3 *[initials]*

[Signature]
ACTION TAKEN DATE
File

E

Memorandum

To: Superintendent, Saguaro
From: Assistant Regional Director, Resource Planning
Subject: Well Documents, Test Well, Tucson Mountain Park,
Saguaro National Monument

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4. Report of Equipment Installed

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We have also enclosed the originals of the Well Drilling Card and Report of Well Driller. The Well Drilling Card should be posted on/or nearby the well rig during drilling operations. Upon completion of the well you should have the driller complete the Report of Well Driller and then send it to this office. We will make copies of it for the docket, distribute

then and send the report into the State Land Office.

After the testing and installation of the pumping equipment is complete you can send this information to us and we will complete the Report of Equipment Installed and file this with the State Land Office.

As construction of this well progresses we would appreciate a progress report by telephone.

(SIGNED)

Leslie P. Amberger

Enclosures

cc: Director (2) w/docket
WDC (2) w/docket ✓

Docket Information

Number of Documents in Docket 49

Documents Dated from 1/16/1964 to 1/20/1998

Docket Compiled: 6/16/2011