WATER-RIGHT DOCKET

Montezuma Castle National Monument

Docket No: 1

MONTEZUMA CASTLE WELL - SPRING WELL

Preliminary Docket Information

03-25-1975: water right/source docket information

WATER RESOURCES/WATER RI... DATE: March 25, 1975

WATER RIGHT/SOURCE DOCKET INFORMATION

REGION Western AREA Montezuma Castle

SITE Well in the Montezuma Castle Parcel

STATE Arizona COUNTY Yavapai DOCKET NO WR #1

LOCATION NE & NW¼ NE¼ Section 17, T14N, R5E G&SRB&M

REGIONAL BASIN LOCAL BASIN

ACQUIRED BY

APPLICATION Cancelled PERMIT CERTIFICATE

ACTION DUE PRIORITY RESERVATION

QUANTITY 6,000 gallons per day USE domestic

STATUS SOURCE Beaver Creek

REMARKS

NARRATIVE:

In 1928, a well was drilled to a depth of 88 feet in Montezuma Castle National Monument (Proclaimed December 8, 1906) to provide a domestic water supply for the headquarters in the "Castle" area. The well was located about 100 feet from the bank of Beaver Creek and, according to the well record dated April 12, 1948, water was found in the Verde River Lake Bed Formation. The water system was improved in 1930 by installation of a pump and a distribution reservoir. In anticipation of needing additional water and/or an improved water system, Frank Pinkley (Superintendent of Southwestern National Monuments) filed Application No. A-1744 on March 9, 1937. The application was for 6,000 gallons per day to be used for domestic and irrigation purposes, the water to be supplied by a proposed well to be located near the existing well. On June 19th, 1947, the State of Arizona issued Permit No. A-1964 to appropriate water as described in the above application. The new well was drilled in 1950 to a depth of 100 feet and a 20 gpm pump was installed.

On August 1, 1951, Mr. Conrad L. Wirth, Associate Director of the NPS, requested Application No. A-1744 be cancelled by the State of Arizona as the diversion was ruled not to be from surface resources (the sole correspondence where this "ruling" is mentioned is a memo by G.W. Robertson of Water Resources Section, Region 3, dated Sept. 9, 1959). It appears that Arizona law, at that time, did not permit a water right on subsurface sources. The application and permit were cancelled on August 6, 1951.

On June 6, 1956, the water pump on the headquarters well (drilled in 1950) was found to be operating without producing any water. The bottom of the well had caved in and so a nearby driller was called in to put the well back in operation. He first tried to clean the well but more material kept caving in. The well was then cased down to a depth of 100 feet and from that point drilled an additional 20 feet. At this a supply of good water was found (all work was completed on 6/11/56).

In 1958, a new water supply and storage system for the Castle Area was constructed (pursuant to Contract No. 14-10-33-445). A new well was drilled (completed on 12/4/58) to a depth of 160 feet and a pump with a maximum capacity of 35 gpm was installed. The new well was about 50 feet from the well drilled in 1950. It appears from USGS groundwater analyses filed in 1965 and 1968, both the 1950 and 1959 wells were producing water and both were labelled Well No. (A-14-5) 17-1. (Is this correct or is there a mixup due to their close proximity?)

Compiled by M. Ackerman

Approved by W. Werrell

WATER DOCKET INFORMATION

AREA MONTEZUMA CASTLE N M

DOCKET NO. 1

APPLICATION NO. A-1744

PERMIT NO. A-1964

CERTIFICATE NO. _____

TITLE OF DOCKET WELLS- PERCOLATING WATER BELOW BEAVER CREEK

PRIORITY _____

REMARKS: _____

Montezuma Castle National Monument - Deed 3, Application A-1744

1. Letter of February 9, 1937 to Frank Pinkley from Joseph E. Taylor, Attorney.

2. Letter of October 18, 1937 to Joseph E. Taylor from Frank Pinkley, Superintendent, enclosing letter dated October 11 from Jesse C. Wanslee, State Water Commissioner, to Frank Pinkley.

3. Letter of October 29, 1937 to Frank Pinkley from J. E. Taylor.

4. Letter of January 12, 1948 to O. C. Williams from Dunn.

5. Notice of Beginning of Construction dated January 9, 1948.

6. Memorandum for the Regional Director dated April 30, 1948 from Conrad L. Wirth, Acting Assistant Director.

7. Memorandum for the Director dated June 8, 1948 to J. R. Lassiter, Regional Engineer.

8. Record of Well.

RECEIVED WITH MEMO OF 7/24/59

Montezuma Castle National Monument - Docket No. 1

1. NM-MONT-4978, Sheet 2 of 2 Sheets.

2. Record of Well.

3. Letter of August 6, 1951 to Conrad L. Wirth from Tessie I. Duncan, Secretary, Water Division.

4. Drawdown Recovery Curve for Well Under Contract 14-10-333-445 Discharge - 45 G.P.M.

5. Drawdown Recovery Curve for Well Under Contract 14-10-333-445 Discharge - 70 G.P.M.

6. Attempt to establish maximum yield test - 100 G.P.M., Sheet 1 of 1.

7. Attempt to establish maximum yield test - 80 G.P.M., Sheet 1 of 1.

8. Maximum Yield Test - 70 G.P.M., Sheet 1 of 2 and Sheet 2 of 2.

9. Desired Yield Test - 45 G.P.M., Sheet 1 of 2 and Sheet 2 of 2.

10. Attempt to establish maximum yield test - 35 G.P.M., Sheet 1 of 1.

11. Log of Water Well Drilled at Montezuma Castle National Monument under Contract 14-10-333-445, dated October 15, 1958 by Charles L. Hollamon, Contractor.

RECEIVED WITH MEMO OF 9/24/59

Montezuma Castle National Monument
Water Right #1
Outline of Assembly - Correspondence

1. Letter to Associate Director from State Land Department, August 6, 1951

2. Memorandum to Regional Director from Chief Water Resources, February 27, 1959

3. Memorandum to Director from Acting Regional Director, September 3, 1959

4. Letter to Sanitary Engineer from Superintendent, May 25, 1961

5. Memorandum to Director from Acting Regional Director, June 6, 1961

6. Memorandum to Director from Assistant Regional Director, November 13, 1961

7. Memorandum to Superintendent from Assistant Regional Director, Operations, August 20, 1964

8. Memorandum to Superintendent from Assistant Regional Director, Operations, July 20, 1965

9. Memorandum to Superintendent from Hydraulic Engineer, November 8, 1966

For Departmental Use Only

File No. 39-_____

Date Filed:_____

WFN_____

STATEMENT OF CLAIMANT FORM
FOR
OTHER USES[1]

VERDE RIVER WATERSHED
SUPERIOR COURT OF MARICOPA COUNTY

1. Claimant Name: United States of America c/o National Park Service (Montezuma Castle NM)
Claimant Address: Western Regional Office, P.O. Box 36063 City 450 Golden Gate Ave. San Francisco, CA
State: California 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 Rights Claims - Includes Montezuma Castle Well (A-14-5)

3. Claimed Priority Date: See Attachment (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: Reservation Purposes, see Attachment

5. Source of Water:
A. ☒ Stream: name *, tributary to ____
B. ☒ Spring: name *, tributary to ____
C. ☐ Lake or Reservoir: name ____, tributary to ____
D. ☒ Groundwater * See Attachment

6. Legal description of the Point of Diversion: (attach additional sheet if required)
____¼, ____¼, ____¼, Section____, Township____N/S, Range____E/W
Reserved portions of Montezuma Castle National Monument (see Attachment)

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 State Land Department, Arizona Water Commission or Arizona Department of Water Resources Intent to Drill File No.____
D. ☒ Other, describe Natural Flows

[1] *See Instructions for explanation of uses in this category*

9. Means of Conveyance:

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

B. ☒ Other, describe: In-channel

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

County _____

Legal Subdivision	Section	Township	Range
_____	_____	_____N/S	_____E/W
_____	_____	_____N/S	_____E/W

11. Claimed Right: See Attachment

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 Bruce M. Kilgore, Chief Div. of Nat. Res.&Research Western Regional Office, National Park Service

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? Regular 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), Bruce M. Kilgore, on behalf of the National Park Service

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.

_____

(seal)

_____

My Commission Expires: _____ Notary Public

or, _____ Authorized Personnel of the Department of Water Resources

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 VERDE 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 claims reserved water rights on portions of Montezuma Castle National Monument "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (16 U.S.C. 1).

The Monument consists of two units: Montezuma Castle unit and Montezuma Well unit. The portions of these units on which reserved water rights are claimed are described in Exhibit MOCA #1 and Exhibit MOCA #2.

A. Montezuma Castle National Monument - Montezuma Castle unit.

1. Purpose - The Montezuma Castle unit of the Monument was reserved by Presidential Proclamation No. 696, on December 8, 1906 (34 Stat. 3265, Exhibit MOCA #3) as authorized by "An Act for the Preservation of American Antiquities" approved June 8, 1906 (34 Stat. 225, Exhibit MOCA #4) to protect the prehistoric structure known as Montezuma's Castle, which is of the greatest ethnological value and scientific interest.

2. Sources - All surface and ground water sources including creeks, springs, seeps and confined and unconfined aquifers within portions of the unit reserved or withdrawn from the public domain and continuously administered by Federal agencies. This includes, but is not limited to, Beaver Creek and its unnamed tributaries.

3. Dates of Priority - Those dates upon which the respective portions of the Castle unit were reserved, withdrawn or otherwise set aside and/or transferred to the National Park Service, to wit: December 8, 1906, for those lands described by Presidential Proclamation No. 696 (Exhibit MOCA #3); February

23, 1937, for those lands described by Presidential Proclamation No. 2226 (50 Stat. 1817, Exhibit MOCA #5); and November 10, 1978, for those lands described in Public Law 95-625 (92 Stat. 3467, Exhibit MOCA #6). Excepted are those lands described above which have at some time passed from the Public Domain into other than Federal ownership.

For those lands described by Presidential Proclamation No. 2226 and Public Law 95-625 for the purposes described in the original reservation (Coconino National Forest) (46 Stat. 1770 and 30 Stat. 11, Exhibits MOCA #7 and #8), a priority date of September 29, 1919, is claimed. For those lands described by Presidential Proclamation No. 696, and for the purposes described in the original reservation (Verde National Forest) (30 Stat. 11 and 35 Stat. 2170, Exhibits MOCA #8 and #9) a priority date of December 30, 1907, is claimed. The above described lands are delineated in Exhibit MOCA #1.

4. Amount of Water Reserved

a) Creeks, springs and seeps (non-consumptive). Except as provided in subparagraphs c) and d) below, the United States claims the right to maintain Beaver Creek at the flow sufficient to maintain the dynamic equilibrium and capacity of its stream channel to properly protect the prehistoric structure adjacent to Beaver Creek and to provide for interpretive experiences.

Additionally, the United States claims the right to maintain all springs and seeps at their natural flows to the extent such flows contribute to the historic integrity of the area. These rights are subject to valid perfected water rights having priority dates earlier than those listed in II.A.3. above. The amount of water specifically claimed has not been determined as of this date. When data become available, the United States will submit a supplemental claim quantifying its non-consumptive requirements for creeks, springs and seeps.

b) Ground water (non-consumptive). Except as provided in subparagraphs c) and d) below, the United States claims the right to that amount of ground water required for the purposes described in II.A.1. It is not possible to quantify or describe the amount of ground water that may be required. However, nothing in this claim shall be deemed to bar the United States from bringing an action in any court of competent jurisdiction to protect Montezuma Castle National Monument from ground water withdrawals detrimental to the purposes described in II.A.1.

c) Quantifiable present and future administrative uses (consumptive). The United States claims the right to divert and use 24.0 AF/annum from surface and/or ground water sources for picnic areas, visitor centers, concessions and other visitor-use areas, park administration facilities, ranger stations, shop, maintenance and storage facilities, and employee residences; lawns surrounding park buildings, structures, and heavy-use areas; irrigation for interpretive purposes (ethnological value), waste water treatment and other uses for the purposes described in II.A.1. above.

d) Non-quantifiable present and future administrative uses (consumptive). The United States claims the right to use non-quantifiable amounts of water for, but not limited to, control and suppression of wild fires and structural fires, construction of roads and trails, construction of new facilities, and revegetation activities necessary to maintain (or return) watersheds at (or to) their historic condition.

B. Montezuma Castle National Monument - Montezuma Well Unit

1. Purpose - The Montezuma Well unit was added to the Montezuma Castle National Monument by an Act of Congress approved October 19, 1943 (57 Stat. 572, Exhibit MOCA #10). The Act directed that these lands be managed in the same manner as established for the Montezuma Castle unit of the Monument, i.e., all lands within the Monument are to be administered as provided in U.S.C., title 16, sec. 1 to preserve the ethnological value and scientific interest of the area and to provide for the enjoyment of the same (39 Stat. 535, Exhibit MOCA #11).

2. Sources - All surface and ground water sources within those portions of the unit which were reserved from the public domain and continuously administered by Federal agencies.

3. Dates of Priority - October 17, 1943, the date of the Act authorizing the establishment of this unit of Montezuma Castle National Monument. The lands and their reservation dates are described in Exhibit MOCA #2.

4. Amount of Water Reserved

a) Ground water (non-consumptive). Except as provided in subparagraphs b) and c) below, the United States claims the right to that amount of ground water required to maintain the historic and scientific value of the area. It is not possible to quantify or describe the amount of ground water that may be required. However, nothing in this claim shall be

deemed to bar the United States from bringing an action in any court of competent jurisdiction to protect Montezuma Castle National Monument from ground water withdrawals detrimental to the purposes described in II.A.1.

b) Quantifiable present and future administrative uses (consumptive). The United States claims the right to 11.0 AF/annum from surface and/or ground water sources for picnic areas, visitor centers, concessions and other visitor-use areas, park administration facilities, ranger stations, shop, maintenance and storage facilities, and employee residences; lawns surrounding park buildings, structures, and heavy use areas; irrigation for interpretive purposes (ethnological value), waste water treatment and other uses for the purposes described in II.A.1 above.

c) Non-quantifiable present and future administrative uses (consumptive). The United States claims the right to use non-quantifiable amounts of water for, but not limited to, control and suppression of wild fires and structural fires, construction of roads and trails, construction of new facilities, and revegetation activities necessary to maintain (or return) watersheds at (or to) their historic condition.

III. Notarized Statement:

I, Bruce M. Kilgore, 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 the information contained and statements made herein are to the best of my knowledge and belief true, correct and complete.

Notary Public

My Commission Expires:

IV. The United States of America claims water rights under Arizona State Law for beneficial purposes in the following National Park Service administered locations:

A. Montezuma Castle National Monument - Montezuma Well unit

1) Water Supply Well - see attached form.

2) Back-up Supply Well - see attached form.

3) Wales Arnold Ditch - see attached form.

B. Tuzigoot National Monument

1) Headquarters Water System Well - see attached form.

06-03-1982: registration of existing wells: registration no. 55-629124: file no. a(14-5)17aac

Declaration: The United States gives this notification to the State in the interest of comity, and does not concede that the State has power to regulate the rights of the United States to the use of water.

RECEIVED JUN 9 1982 DEPT. OF WATER RESOURCES

DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE — FILE IN DUPLICATE

05

FOR OFFICE USE ONLY
REGISTRATION NO. 55- 629124
FILE NO. A(14-5)17 aac
FILED 6-9-82 (DATE) AT 1:30 (TIME)
INA —
AMA —

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☒
NON-EXEMPT WELL — $10.00	☐

1. Name of Registrant:
   National Park Service, Western Region, Division of Water Resources
   450 Golden Gate Ave., Box 36063, (Address) San Francisco, (City) CA (State) 94102 (Zip)

2. File and/or Control Number under previous groundwater law:
   13-701 (File Number) 35- (Control Number)

3. a. The well is located within the SW ¼ NE ¼ NE ¼, Section 17, of Township 14 N N/S, Range 5 E E/W, G & SRB & M, in the County of Yavapai.
   b. If in a subdivision: Name of subdivision _____, Lot No. _____, Address _____.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
   public supply, domestic, fire protection.

5. If for irrigation use, number of acres irrigated from well _____.

6. Owner of land on which well is located. If same as Item 1, check this box ☒
   _____
   (Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
   a. Depth of Well 160 feet
   b. Diameter of casing 10 inches
   c. Depth of casing 160 feet
   d. Type of casing black seamless steel, perforated from 80 - 160 ft below land surface datum.
   e. Maximum pump capacity not more than 35 gallons per minute.
   f. Depth to water 55 feet below land surface.
   g. Date well completed December 4, 1958 (Month) (Day) (Year).

8. The place(s) of use of water. If same as Item 3, check this box ☒.
   ____¼ ____¼ ____¼, Section ____ Township ____ Range ____
   ____¼ ____¼ ____¼, Section ____ Township ____ Range ____
   Montezuma Castle National Monument - Castle Area Supply Well
   Attach additional sheet if necessary.

9. DATE JUN 3 1982 SIGNATURE OF REGISTRANT (Sgd) Gerard S. Witucki
   GERARD S. WITUCKI
   CHIEF, DIVISION OF WATER RESOURCES

CHANGE OF WELL INFORMATION

Registration Number 55 629124

I request the following information be changed in Well File Number A(14-5)17aac

_____

_____

_____

_____

_____

_____

Date _____, 19____ _____
Signature of Well Owner

STATEMENT OF CHANGE OF WELL OWNERSHIP

I, _____, state that I am (no longer) the (new) owner of the well described below:

Township _____ Range _____ Section _____, _____¼ _____¼ _____¼

Registration #55-_____ File No._____

Previous Owner	New Owner
Address	Address
City State Zip	City State Zip

NOTE: ARS 45-593 requires that the Department be notified of change of well ownership and that the well owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within 30 days after changes take place.

NOTE: SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP OR WELL DATA SUCH AS PUMP CAPACITY, ETC.

11-13-1951: letter to camp verde, arizona from well driller cottonwood regarding testify of the first drilled domestic water well durin

Camp Verde, Arizona

To Whom it may concern:

I hereby testify that I drilled the first domestic water well at Montezuma Castle National Monument during the year of 1928.

Riley Lee.

Riley Lee
Well Driller
Cottonwood, Arizona

John O Cook
Witness to signature

11/13/51
Date

09-07-1951: memorandum to regional director from chief regarding water right application no. a-1744, permit no.l a-1964

In reply refer to:
L5h MONT

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Washington 25, D. C.

September 7, 1951

Memorandum

To: Regional Director, Region Three

From: Chief, Water Resources Branch

Subject: Water Right Application No. A-17hh, Permit No. A-196h, Montezuma Castle National Monument

Attached is the original assembly of Montezuma Castle Water Right Docket No. 1, which was formerly Deed 3, for transmittal to the Superintendent. He should destroy his present assembly of Montezuma Castle Deed 3 or dismantle it and place the contents in the correspondence files, in order to avoid confusion as to which is the official assembly.

Also attached is a partial assembly of the same docket for the Region Three files, including a copy of Record of Well covering the new well drilled in 1950, a map showing the location of the well, and a copy of a letter from the State Land Department of Arizona notifying us that the above application and permit have been cancelled in accordance with our request. The folder of your present Deed 3 should be destroyed and its contents inserted at the bottom of the enclosed assembly.

Although the water right permit has been cancelled because the Arizona water laws do not require applications for appropriation on ground water, we are retaining the assemblies in the docket files as a record of the ownership of the wells, and for possible reinstatement if the Arizona Ground Water Code is amended to make such action desirable. For such future action, we should also insert a statement by some one qualified to make it, as to the date when the first well was drilled. A copy of the statement should be sent to this Office for our assembly, the original placed in the Superintendent's assembly, and a copy inserted in the Region Three assembly. The same date should be shown as date of priority at extreme right of the tab on the assembly folder.

(SGD.) A. VAN V. DUNN,
A. van V. Dunn
Chief, Water Resources Branch

In duplicate

Attachments 2

AvanVDunn:sh

09-07-1951: letter to state land commissioner from acting assistant director regarding re: water right applications no. a-1744, a-30

August 17, 1951

Mr. W. W. Lane
State Land Commissioner
Phoenix, Arizona

Dear Mr. Lane:

Re: Water Right Applications Nos. A-1744, A-3061, A-3062

We have just cancelled application No. A-1744 for the appropriation of the ground water flow of Beaver Creek, at Montezuma Castle National Monument, because the behavior of the well during the last few dry years has shown that the source of the water is independent of the stream. We have also protested applications A-3061, A-3062, for the appropriation of water in Organ Pipe Cactus National Monument by the Gray Partnership and Mrs. Birdie Bell Miller, on the grounds that the wells intercept percolating water which is not subject to appropriation and, further, that the applicants do not have adequate access over the Federal land. Mr. Gaylor, Attorney for the Gray Partnership, and Mrs. Miller, have requested several extensions of time in which to make reply; and we have concurred in your granting such extensions--the latest until October 1, 1951.

Subsequent to such actions, we have noted in Life magazine for August 13 that the Governor of Arizona has initiated some action to have the Legislature amend the Ground Water Law 1948 "to put more teeth in it." Should such amendment provide for the appropriation of percolating ground water, we assume that there would be provision for declaration of existing claims under which we could reinstate Application No. A-1744; and that the protest of Applications Nos. A-3061 - 3062 would still be considered under the laws which were applicable at the time such protest was filed. We certainly do not wish to let the hearing on the protest drag until the case is further complicated by amended water laws.

Accordingly, we shall appreciate any information you can supply with regard to proposed amendment of the Ground Water Law of 1948, including copy of any bill which has been drafted, if available for distribution to interested agencies. We shall also appreciate having you send a copy of your reply to the Regional Director, National Park Service, Santa Fe, New Mexico.

Sincerely yours,

Jackson W. Price
Acting Assistant Director

AvanDunn:mls

Copy to: Regional Director, Region Three (4)
Mr. Dunn

File Montezuma Castle 660-057

COPY

WR Copy

W. W. Lane
State Land Commissioner

Office of
STATE LAND DEPARTMENT
STATE OF ARIZONA
PHOENIX, ARIZONA

Water Division

August 6, 1951

Mr. Conrad L. Wirth
Associate Director
National Park Service
U. S. Department of the Interior
Washington 25, D. C.

Your Ref: L54 MONT

Our Ref: Application No. A-1744
Permit No. A-1964
Beaver Creek
United States of America,
Southwestern National Monuments

Dear Sir:

In response to your request dated August 1, 1951, the above captioned permit has today been cancelled on the records of this office, said action being endorsed by the State Land Commissioner in Book No. 10, of Applications for Permit at Page No. A-1744.

Sincerely yours,

/s/ Tessie I. Duncan

TESSIE I. DUNCAN
SECRETARY, WATER DIVISION

13

08-01-1951: letter to engineer, water division from associate director regarding the form for filling proof required on application no.

File Montezuma Castle
660-05.7

GWR

In reply refer to:
L54 MONT

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON 25, D. C.

AUG - 1 1951

Mr. C. H. W. Smith
Engineer, Water Division
State Land Department
Phoenix, Arizona

Dear Mr. Smith:

The form for filing proof required on Application No. A-1744, Permit No. A-1964, was received and your kind assistance is appreciated.

During the dry weather since this permit was granted, we have determined that the source of the well is ground water which has no connection with the waters of Beaver Creek, and is not subject to appropriation under existing water laws.

Accordingly, we wish to cancel or withdraw Application A-1744, subject to reinstatement if the water laws are amended to permit appropriation of percolating waters.

Sincerely yours,

(SGD) CONRAD L. WIRTH
Conrad L. Wirth
Associate Director

Copy to: Regional Director, Region Three (2)
Mr. Dunn

AvanVDunn:GWR:sh

14

Application No. a-124.

Receipt No 2028

Montezuma Castle

Department of the State Water Commissioner

Phoenix, Arizona, June 19, 1947

Received from U.S.A.-Sec. Nat. Monuments (Applicant's Name) Address Chief Water Div. Nat. Park Service,

payment being made by U.S. Treasurer (Applicant's Agent), Address Washington, D.C.,

the sum of five + no/100 Dollars in payment of fee in connection with the above designated application as follows:

Examination	$	Certifying	$
Filing and Recording	$ 5.00	Blue Prints	$
Misc. Recording	$	C. W. R.—Recorder	$
Copying	$		$

Cash
Check 2-30 #30257430
M. O. 608
Amount Rec'd $ 5.00
Payment $ -
Change $ -

Remarks Repd. mailed with Permit

Municipal	$	Stock watering	$ 5.00
Domestic	$	Mining	$
Irrigation	$	Power	$

See above Permit for 2002 for Irrigation

STATE WATER COMMISSIONER

By Irvin L. Flynn
Sec.

06-02-1947: memorandum to director from regional engineer regarding returning the voucher for filing notice of intention to drill a

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION THREE
SANTA FE, NEW MEXICO

June 2, 1947.

MEMORANDUM for the Director.

There is enclosed copy of letter from the State Land Department, State of Arizona, returning the voucher for filing Notice of Intention to Drill a Well at Montezuma Well.

(Sgd) J. R. Lassiter

J. R. Lassiter,
Regional Engineer.

Enclosure 2850833.

05-26-1947: letter to associate regional director from secretary regarding receipt of notice of intention to drill well

C O P Y

OFFICE OF

STATE LAND DEPARTMENT

STATE OF ARIZONA

Phoenix, Arizona

26 May 1947

Mr. E. T. Scoyen,
Associate Regional Director,
National Park Service
Santa Fe, New Mexico

Re: Notice of Intention to Drill Well
NE¼NW¼SW¼ Sec. 31, T. 15 N., R. 5 E.

Dear Mr. Scoyen:

We are in receipt of your notice of intention to drill well which was submitted in duplicate. The duplicate copy will be returned to you as soon as it is properly checked and filed. You will note that while owners of proposed irrigation or drainage wells are required to file these notices, no law has yet been passed necessitating a permit from or approval by, the State Land Commissioner.

We return public voucher filled out in the amount of $1.00 for the reason that no fees are charged for filing these notices.

Sincerely yours,

(Sgd) Tessie L. Flynn

Tessie L. Flynn
Secretary, Water Division

f
Enc.

C O P Y

05-26-1947: letter to chief from secretary regarding receipt no. 2002

C O P Y

O. C. Williams
State Land Commissioner

Office of
STATE LAND DEPARTMENT
STATE OF ARIZONA
PHOENIX, ARIZONA

Water Division

5 May, 1947

Mr. A. van V. Dunn
Chief, Water Division
National Park Service
Chicago 54, Illinois

Re: Application No. A-1744
Beaver Creek
United States of America
Southwestern National Monuments

Dear Mr. Dunn:

We enclose our Receipt No. 2002 in acknowledgment of the $2.64 recording fee paid by the U. S. Treasurer for permit to irrigate 22 acres at 12¢ per acre in the above captioned case.

We regret to inform you that when calling for the permit fee we overlooked the fact that domestic use is also included in this application for permit, for which permit an additional fee of $5.00 is necessary.

Upon receipt of the $5.00 fee we shall approve the application.

Regretting this oversight which necessitates a delay in the approval of this application,

Sincerely yours,

(Sgd) Tessie L. Flynn

Tessie L. Flynn
Secretary, Water Division

f
Enc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Chicago 54, Illinois

May 9, 1947.

Water Division,
State Land Department,
Phoenix, Arizona.

Gentlemen:

In accordance with the letter of May 5 from Mrs. Flynn, regarding Application No. A-1744 for the appropriation of the underground flow of Beaver Creek at Montezuma Castle National Monument, we enclose a voucher for $5.00 to cover the fee for filing and recording the permit. Please sign, as indicated by penciled cross, and return the voucher for payment.

Sincerely yours,

A. van V. Dunn,
Chief, Water Division.

AvVD:sh.

Enclosure 576.

04-15-1947: letter to engineer from chief regarding the letter of april 11, a voucher and purchase order to cover the filing fee under

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Chicago 54, Illinois

April 15, 1947.

Mr. C. H. W. Smith,
Engineer, Water Division,
State Land Department,
Phoenix, Arizona.

My dear Mr. Smith:

In accordance with your letter of April 11, a voucher and purchase order are enclosed to cover the filing fee under Application No. A-1744 for the appropriation of water at Montezuma Castle National Monument. Please sign the voucher as indicated by penciled cross, and return to us for payment. The purchase order is issued as a means of obligating the funds in this Office, and the enclosed original may be retained by you.

Sincerely yours,

(SGD.) A. VAN V. DUNN

A. van V. Dunn,
Chief, Water Division.

AvVD:sh.
Enclosure 559.

04-11-1947: letter to chief from engineer regarding the letter of march 25 which clarifies the situation with respect to the applicatio

C O P Y

O. C. Williams
State Land Commissioner

Office of
State Land Department
State of Arizona
Phoenix, Arizona

Water Division

11 April 1947

Mr. A. van V. Dunn
Chief, Water Division
National Park Service
Chicago 54, Illinois

Re: Application No. A-1744
Beaver Creek
United States of America
Southwestern National Monuments

Dear Mr. Dunn:

I thank you for your letter of March 25 which clarifies the situation very much with respect to this application and is a desirable addition to the file.

This application, of course, is somewhat unusual in that it is not actually an irrigation project, neither is it an application purely for domestic use.

I believe the rider which you have attached to the application also clarifies the situation, but I believe that in addition thereto paragraph 11 should read 22 acres rather than 80 acres as it now stands as being the total acreage now contemplated to be irrigated. We will make that change on the application. As you suggested, the final proof will show the condition as finally developed.

The State Land Commissioner can now approve this application and grant permit upon receipt of the recording fees for permit in the amount of $2.64, which is 12¢ per acre for 22 acres.

Very truly yours,

(Sgd) C. H. W. Smith.

C. H. W. SMITH
ENGINEER, WATER DIVISION

CHWS:f

01-09-1949: notice of beginning of construction: application no. a-1744: permit no. a-1964

NOTICE OF BEGINNING OF CONSTRUCTION

I, A. van V. Dunn, Chief, Water Resources Branch, National Park Service, Dept. of the Interior, for the United States of America, the permittee under Application No. A-1744, Permit No. A-1964, issued by the State Water Commissioner of the State of Arizona for the appropriation of the waters of Beaver Creek, tributary of the Verde River (Describe source of water supply)

for domestic and irrigation purposes in Montezuma Castle National Monument

in accordance with the terms of said permit, began the actual construction of the works described therein on the 31st day of December, 19 48, being within the time fixed in said permit for the beginning of construction work.

The first well and water system was started during 1932 and completed for domestic use during the last part of that year. The water system was improved by installation of pump and distribution reservoir now being used, in 1938. Much of the pump and electrical equipment for the second well covered by this permit was obtained during 1938 and 1939. The project is now in operation at its full capacity, but necessary completion of the enlarged system has suffered from competition with Federal measures of defense, war, and postwar recovery.

(The appropriator should state the manner of beginning construction work, number of men employed, the amount of work done prior to the date of this statement, and any additional information which may tend to show the beginning of work in good faith.)

In Witness Whereof, I have hereunto set my hand this 7th day of January, 1949.

National Park Service, Interior Building, Washington 25, D. C. (Present address)

A. VAN V. DUNN (Signature of applicant)

Fill out, detach, and mail to the State Water Commissioner, Phoenix, Arizona.

A. van V. Dunn,
Chief, Water Resources Branch.

RECORDED
COMPARED

Permit No. A-1964 Application No. A-1744

APPLICATION FOR A PERMIT

To Appropriate Public Waters of the State of Arizona

Filed March 9, 1937, at 11:30 A.M.
(Applicant must not fill in the above blanks.)

I, Frank Pinkley, Superintendent of the Southwestern National Monuments, acting for and on behalf of the United States of America,
(Name of Applicant.)
of Coolidge, County of Yavapai,
(Postoffice.)
State of Arizona, do hereby make application for a permit to appropriate the following described unappropriated waters of the State of Arizona:

1. The source of the proposed appropriation is Beaver Creek
(Name of stream or name of reservoir and stream if water is diverted from reservoir.)
, tributary of Verde River

2. The amount of water which the applicant intends to apply to beneficial use is:
   For Domestic (Municipal or Domestic.) use, 6,000 gallons per day.
   For Irrigation (Irrigation.) use, 2.25 AF/A/annum average (Cubic feet per second, or acre feet per acre per annum.)
   For (Mining or Stock Watering.) use, (Cubic feet per second, or gallons per day.)
   For (Power.) use, cubic feet per second.
   For use,

3. The point of diversion is located (1) Existing, a well in Beaver Creek from which the
(State bearing and distance or coordinate distances to section or quarter section corner.)
N. E. corner Section 17, T 14 N, R 5 E bears N 69° 55' E. 1534.3 feet.

(2) Proposed additional, a well in Beaver Creek from which said NE corner Section 17 bears N 52° 09' E. 1336.7 feet.

being within the NW¼ NE¼
(State 40-acre subdivision of U. S. Government survey or projection thereof.)
of Sec. 17, T. 14 N (No. N. or S.), R. 5 E (No. E. or W.), G. & S. R. B. & M., in the County of Yavapai, respectively.

4. The main pipe lines (Main ditch, canal or pipe line.) to be 0.2 miles in length, terminating in the NW¼NE¼ (State 40-acre subdivision of U. S. Government survey or projection thereof.) of Sec. 17, T. 14 N (No. N. or S.), R. 5 E (No. E. or W.), G. & S. R. B. & M., the proposed location being shown throughout on the accompanying map.

DESCRIPTION OF WORKS

5. **Diversion Works:** (a) Diversion will be by gravity, the diverting dam to be pumps wells (Existing) 24 (Proposed) 94 feet in depth height (stream bed to overflow), 12" diameter casings long on top, and constructed of lined with standard casing.
(Concrete, earth, brush, etc.)

(b) Description of headgate None
(Timber, concrete, etc., number and size of openings.)

(c) If water is to be pumped give general description Existing plunger pump of approximately
(Size and type of pump.)
20 g.p.m. capacity driven by gasoline 3 H.P. engine. Proposed unit to consist of
30 g.p.m. plunger pump and 5 H. P. gasoline engine.
(Size and type of engine or motor to be used, total head water is to be lifted, etc.)

Do not use this form in making application for a permit to construct a reservoir and store water. A special form for this purpose may be obtained from the State Water Commissioner.

6. Conduit System. (a) Canal, ditch, flume: Width on top (at water line) variable feet; width at bottom 1.5 ? feet; depth of water variable feet; length 5000 feet; grade variable feet per 1,000 feet; materials of construction Excavated in earth

(Cross out two not used.)

(b) Pipe line: Diameter 4" & 2½" inches; length as shown on maps feet; grade variable feet per 1,000 feet; total fall from intake to outlet 125 feet; kind Standard galvanized iron.

(Riveted steel, cement, wood-stave, etc.)

NOTE.—If a combination of different sizes or kinds of conduit is to be used, attach extra sheets with complete description, also show location of each clearly on map.

7. Distributing Works. Tank or Trough: Material Existing - steel tank Size 6' x 6'
Proposed - concrete re- 7' x 14' x 8'
(Cross out one.) Proposed irrigation- Concrete Head Box 6' x 6' x 6'

Capacity Existing tank, 1000 gallons
Existing reservoir, 5000 gallons
Irrigation head box, 1000 gallons

8. Cost and Construction Schedule. The estimated cost of the proposed project is $ 4000

It is proposed to begin construction within $1000 system now complete after the approval of this (Not over 1 year.)

application, to complete construction within 3 years thereafter and to completely apply the

water to the proposed use 10 years after the beginning of construction. present date.

DESCRIPTION OF PROPOSED USE

9. Domestic Use. Domestic use is proposed as follows: For 25 permanent employees, 25,000 annual tourists staying 1 to 7 days each, and seasonal consumption areas of 25 approximately.

(Describe nature of use which may include the irrigation of gardens not exceeding one-half acre, stating number of persons and number of domestic stock to be served, etc.)

10. Municipal Use. To supply the city of None

County, having a present population of , and an
(Name of.)

estimated population of in 19

11. Irrigation Use. (a) The land to be irrigated has an area of ~~80.0~~ 22 acres; is located in Yavapai County, Arizona, and is particularly described by legal subdivisions as follows:

(Describe the subdivisions of the township or section the entire area of which it is proposed to irrigate, by the largest possible legal subdivisions, in the table below, inserting the area in the acreage column. In cases of irregular shaped parcels use a separate line to describe each 2½ acre subdivision in which they occur and insert only the area of such subdivision to be irrigated in the acreage column.)

Tp.	Range	Sec.	Parts of following acreage as determined by ultimate development, but not to exceed a ~~SUBDIVISIONS~~ total of more than that possible with designated rate of diversion and duty of water.	Number Acres To Be Irrigated
14 N	5 E	16	~~NW¼ NW¼~~ Part of NW¼	~~20.3~~
"	"	16	~~NE¼ NW¼~~	~~5.0~~
"	"	16	~~SW¼ NW¼~~ 22 acres	~~2.5~~
"	"	16	~~SW¼ NW¼~~	~~14.3~~
"	"	17	~~NW¼ NE¼~~ Part of NE¼	~~18.1~~
"	"	17	~~NE¼ NE¼~~	~~15.1~~
"	"	17	~~SE¼ NE¼~~	~~10.7~~

(If more space is required, attach separate sheet.)

(b) What is the character of the soil? Alluvial over stream bottom land which is protected

(c) What quantity of water is necessary to raise proposed crops? 2.25 AF/A/annum - average
(Acre feet per acre per annum.)

(d) Land to be irrigated is owned by United States of America
(Name of owner.) (If applicant is not, give name of owner.)

(e) The irrigation season will begin about March and end about November
(Beginning date each season.) (Closing date each season.)

(f) Has the land to be irrigated any water right or source of water supply other than that herein applied for? No Describe the nature and amount of any additional supply.

12. Stock Watering Use. (a) What kind of stock is it proposed to serve? None

(b) What is the average number of stock it is proposed to serve per annum?

(c) What is the maximum number of stock it is proposed to serve?

13. Power Use. (a) The maximum amount of water to be used through the penstock is ..... cubic feet per second.

(b) Total amount of power to be developed ..... (Second feet × fall ÷ 8.8.) theoretical horsepower.

(c) Total fall to be utilized ..... (Pressure head.) feet.

(d) The nature of the works by means of which the power is to be developed ..... (Turbine, Pelton wheel, hydraulic ram, etc.)

(e) The works to be located, and the water to be released, in ..... (40-acre subdivision.) of Sec....., T..... (No. N. or S.), R. ..... (No. E. or W.), G. & S. R. B. & M.

(f) Is water to be returned to any stream? ..... (Yes or No.) If so, name stream and describe location of point where returned ..... (Name of stream.) in the ..... (40-acre subdivision.), Sec....., T..... (No. N. or S.), R. ..... (No. E. or W.), G. & S. R. B. & M.

(g) The use to which the power is to be applied is ..... (For distribution and sale or private use, etc.)

14. Mining Use. The mines to be served are ..... (Placer gold, lode gold, copper, etc.) known as the ..... (Names of claims or name of group.),

located in ..... (40-acre subdivision.), Sec....., T..... (No. N. or S.), R. ..... (No. E. or W.), G. & S. R. B. & M.,

and owned by .....

The method of utilizing the water is .....

Will the water be polluted by chemicals or otherwise? ..... (Explain nature of pollution, if any.)

What disposition is made of water after use? ..... (State if stored for reuse. If returned to a stream give name of stream and description of 40-acre tract to which returned.)

GENERAL

15. Are the maps required by the Rules and Regulations filed with Application? Yes (Yes or No.) If not, state specifically the time required for filing same .....

16. The proposed point of diversion is on land of Montezuma Castle National Monument. U. S. A. (Insert name of owner, or state on Public Domain, National Forest, State Land, etc.)

17. The proposed conduit system is on land of Montezuma Castle National Monument. U. S. A. (Insert name of owner, or state on Public Domain, National Forest, State Land, etc.)

18. The land at the proposed place of use is owned by Montezuma Castle National Monument, U. S. A.

19. Post office used by those living near the proposed point of diversion is Camp Verde, Arizona

20. Of the applicant's knowledge, has the water described herein ever been appropriated, claimed or used by others? No If so, file a statement herewith furnishing names of former appropriators or users of the water, and supporting applicant's claim that the water is now subject to appropriation.

21. If the source of supply is a stream, state names and addresses of water users from the stream below the proposed point of diversion; or, if the source of supply is other than a stream, furnish the names and addresses of at least three residents of the vicinity familiar with the source of supply and the proposed use of water.

Mr. & Mrs. F. L. Davis, Camp Verde, Arizona.

Tony Taylor, Camp Verde, Arizona.

E. A. Jordan, Camp Verde, Arizona.

Southwestern National Monuments
United States of America

(Sgd) Frank Pinkley Superintendent
Signature of Applicant.

ORDER OF CORRECTION

STATE OF ARIZONA, County of Maricopa. } ss.

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for correction or completion, as follows:

In order to retain its priority, this application must be corrected, completed and refiled in the office of the State Water Commissioner on or before ....., 19.....

WITNESS my hand and seal of office this ..... day of ....., 19.....

State Water Commissioner.

Application No. A-1744 RECORDED COMPARED

Permit No. A-1964

PERMIT

STATE OF ARIZONA, County of Maricopa. } ss.

This is to certify that I have examined the foregoing application and do hereby approve the same, and grant to the applicant a permit to appropriate the water described therein subject to the following limitations and conditions:

The amount of water appropriated shall be limited to the amount which can be applied to beneficial use and shall not exceed Two Million One Hundred Ninety Thousand (2,190,000) gallons per annum for domestic use, and Two & 25/100 (2.25) acre feet per acre per annum for irrigation.

The priority of date under this permit is March 9, 1937.

Actual construction work shall begin on or before June 19, 1948., and shall be prosecuted with reasonable diligence and be completed on or before June 19, 1951.

Complete application of the water to the proposed use shall be made on or before June 19, 1952.

WITNESS my hand and seal of office this 19th day of June, 19 47.

(Sgd) O. C. Williams

State ~~Water~~ Land Commissioner.

Application No. A-1744

Permit No. A-1964

PERMIT
To Appropriate Public Waters of the State of Arizona

District No. .....

This instrument was first received in the office of the State Water Commissioner at Phoenix, Arizona, on the 9th day of March, 19 37, at 11:30 o'clock A. M.

Returned to applicant for correction

Corrected application refiled

ved June 19, 1947.

Recorded in Book No. 10 of Applications for Permit at page 1744

(Sgd) O. C. Williams

State ~~Water~~ Land Commissioner.

THE MANUFACTURING STATIONERS — PHOENIX, ARIZONA

03-18-1947: letter to director from engineer regarding reply of the letter of february 18 reviewing the application

C O P Y

Office of
State Land Department
State of Arizona
Phoenix, Arizona

Water Division

18 March 1947

The Director
National Park Service
Chicago 54, Illinois

Attention: Mr. A. van V. Dunn
Chief, Water Division

Re: Application No. A-1744
Beaver Creek
U. S. of America
Southwestern National
Monuments

Dear Mr. Dunn :

Reply is made to your letter of February 18, delay of which has been unavoidable.

In reviewing this application I find a discrepancy which will need to be corrected before we can take further action.

Paragraph 5 (c) states that water will be pumped from the two wells in the amount of 20 and 30 gallons per minute respectively, or a total of 50 gallons per minute. This amount of water will provide 72,000 gallons per day, and subtract the 6,000 gallons per day for domestic use leaves a total of 66,000 gallons per day for irrigation use. Assuming an irrigation season of 250 days which probably would be maximum in that locality, it would be possible to pump 16,500,000 gallons, or approximately 50 acre feet during the irrigation season, with a water duty of 2.25 acre feet per acre. This amount of water would provide for the irrigation of about 22 acres, whereas it is stated in the application and shown on the map that it is proposed to irrigate 80 acres. This is a discrepancy which will need to be reconciled.

I think it advisable to return the maps and application in order that you may make the corrections as seems most convenient. Inasmuch as this application was submitted before our present regulations as to maps, etc., were in effect, we will not require that a new map be submitted in accordance with those regulations. However, if you find it necessary or desirable to make a new map, we will appreciate having it made in accordance with our present regulations.

You made inquiry about fees and you are advised that no further fees will be due in this case until the same is ready for permit.

Very truly yours,

(Sgd) C. H. W. Smith

C. H. W. SMITH
ENGINEER, WATER DIVISION

CHWS:
ENCS.

03-18-1947: letter to engineer from chief regarding water rights initiated by the filing of application no. a-1744 for the appropriation

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

64

February 18, 1947.

Mr. C. H. Smith,
Engineer, Water Division,
State Land Department,
Phoenix, Arizona.

My dear Mr. Smith:

By letter of March 12, 1946, you suggested that we might perfect the water rights initiated by the filing of Application No. A-1744 for the appropriation of waters believed to be the underground flow of Beaver Creek in Montezuma Castle National Monument. Apparently, you and I both believed that the ground water law which became effective on October 5, 1945, had eliminated the need for proof that the source was underground stream flow, and not just percolating water. I requested that the application be placed in active status, by letter of March 26; and that you advise as to further action you might require before you could grant a permit.

Until the Federal budget is relieved of postwar and housing entanglements, the National Park Service, as a Federal bureau, cannot resume its full prewar development. There is, therefore, no rush about establishing dates for completion of the water system and its use under permit. However, we should appreciate an answer to the questions raised as to procedure and the status of fees.

Sincerely yours,

(SGD.) A. VAN V. DUNN
A. van V. Dunn,
Chief, Water Division.

AvVD:sh.
cc: Regional Director, Region Three (2).



03-26-1946: letter to engineer from chief regarding reference made to the letter of march 12 as it relates to the water right applicati

March 26, 1946.

Mr. O. H. Smith,
Engineer, Water Division,
State Land Department,
Phoenix, Arizona.

My dear Mr. Smith:

Reference is made to your letter of March 12 as it relates to our water right Application No. A-1744 for the appropriation of underground water in Beaver Creek drainage at Montezuma Castle National Monument. The application as now on file in your office correctly represents our present installation and plans for enlargement. The well at diversion point No. (2) has not yet been drilled, due largely to recent war conditions, but it is still scheduled for completion within a few years.

The war has retarded completion of the system, and also curtailed water use. However, we are already prepared to report beginning of construction through completion of diversion No. (1) and its related system. We also have a construction program which includes completion of diversion No. (2) within the next three or four years but so integrated with the general national recovery program that we cannot give the exact date. It is assumed that if you grant a permit at this time you will grant the usual 5 years for completion of construction.

On this basis, we request that you proceed with the further steps necessary to issue a permit, sending the same to this Office instead of the address given on the application. Also, please note the same change of address for further communications.

not answered as of 10/3/46

Our records show that a voucher for $5.00, to cover the filing fee, was submitted with a letter of February 20, 1937, from the Acting Superintendent of the Southwestern National Monuments, which we assume to have been paid. Please advise us if any further fees are due at this time.

Sincerely yours,

(SGD.) A. VAN V. DUNN

A. van V. Dunn,
Chief, Water Rights Division.

AvVD:sh.

cc: Regional Director, Region Three (2).

C O P Y

O. C. Williams
State Land Commissioner

Office Of
STATE LAND DEPARTMENT
State of Arizona
Phoenix, Arizona

Water Division

March 12, 1946

Mr. A. van V. Dunn
Chief, Water Rights Division
U. S. National Parks Service
Chicago 54, Illinois

Dear Mr. Dunn:

Reply is made to your letter of February 21st, addressed to Mr. O. C. Williams, State Land Commissioner.

We enclose as requested, three copies of Senate Bill No. 3 relating to ground water. As you will observe, registration of well does not constitute application for permit to appropriate water, but is for the purpose of obtaining a record of all irrigation and drainage wells having a capacity of more than 100 gallons per minute, and is being made in conjunction with the underground investigation which is now being made throughout the state by the U. S. Geological Survey.

We note that according to your Application No. A-1744, that one of the wells covered by this application is for 20 gallons per minute, and the other is for 30 gallons per minute, and, therefore, would not need to be registered under the provisions of the law.

Further reference is made to your Application No. A-1744:

The present policy of this office is somewhat changed from that which seemed to be in effect at the time this application was made, in that we believe that this office should not constitute itself as a final judge as to whether underground water is percolating water, or is the underground flow of a stream. In other words, we believe that we should accept applications where the water covered thereby is claimed as the underground flow of a stream, and the evidence makes such claim appear reasonable. Therefore, if it is your desire to proceed with this application you may so advise us.

If construction has been made different from that outlined in the application on file, or if your plans have been changed, an amended application would be necessary. We shall be glad to know your desire in this matter.

Referring to your letter of February 18th, wherein you request maps, and information relative to a list of applications, you are advised that this information is being compiled and will be transmitted as soon as completed.

Very truly yours,
(Sgd) C. H. W. Smith.
C. H. W. SMITH
ENGINEER, WATER DIVISION

CHW:f

03-24-1942: letter to hydraulic engineer from state water commissioner regarding the letter of the 20th instant relative to water righ

@ 8/26

STATE WATER COMMISSIONER
STATE HOUSE
PHOENIX, ARIZONA

JESSE C. WANSLEE
COMMISSIONER

August 24, 1942

AUG 26 1942

Mr. A. van V. Dunn
Hydraulic Engineer
National Park Service
601 Sheldon Building
San Francisco, California

Dear Sir:

Your letter of the 20th instant relative to water rights on Beaver Creek is acknowledged.

The list in our letter of July 18th includes all rights on Beaver Creek of record in this office. It is possible, however, that there are other rights which were initiated prior to June 12, 1919, the effective date of the Water Code, of which we have no record.

You will be advised of any applications that may be filed by Mrs. Davis.

Sincerely yours,

Jesse C. Wanslee

Jesse C. Wanslee
State Water Commissioner

JCW:ETS:LC

10-11-1937: letter to superintendent from state water commissioner regarding the letter of the 30th ultimo with enclosures

C O P Y

STATE WATER COMMISSIONER
State House
Phoenix, Arizona
October 11, 1937

Mr. Frank Pinkley, Supt.,
Southwestern Monuments,
Coolidge, Arizona.

Re: App. A-1744,
Beaver Creek.

Dear Mr. Pinkley:

Your letter of the 30th ultimo with enclosures was received on the 1st instant, but it has remained unanswered until we could have our engineer, Mr. Stewart, visit the project. Mr. Stewart was at Montezuma Castle on the 5th instant and examined Beaver Creek, the proposed site of the new well, and the well now in use.

We have carefully read the letters of Vincent W. Vandiver, Associate Regional Geologist, and H. B. Hommon, Senior Sanitary Engineer, and the report of A. van V. Dunn, Associate Engineer, submitted in support of the theory that the water is subject to appropriation as underflow of Beaver. While we are of the opinion that the water being pumped from the well located beneath the dwelling house is from Beaver Creek, there is, as yet, not sufficient proof that it is appropriable as the under flow of the Creek, under the rule laid down in the case of Maricopa County Municipal Water Conservation District No. 1, et al., v. Southwest Cotton Co., et al, 4 Pac. (2d) 369, which is our leading case on the classification of underground water. See pages 380 (22) and page 381 (24).

There will be no action on this application until such time as you may be able to call at the office and discuss the matter with us, or a representative of the department can call on you. The filing of the application on March 9, 1937, establishes a date of priority as of that date, regardless of the date that the application is approved, not only for the well now being used, but for the well it is proposed to drill. Other applications to appropriate water from Beaver Creek that may be filed later will be junior to the rights acquired under the application of the National Park Service.

Sincerely yours,

(SGD) Jesse C. Wanslee,
JESSE C. WANSLEE
STATE WATER COMMISSIONER

JCW:AC

STATE WATER COMMISSIONER
Room 407 Arizona State Building
Phoenix, Arizona.

C
O
P
Y

April 3, 1937.

Mr. Hugh M. Miller,
Acting Supervisor,
Southwestern Monuments,
National Park Service,
Coolidge, Arizona.

Re: A-1744, Beaver Creek,
Frank Pinkley, Supt.,
Southwestern National
Monuments.

Dear Sir:

This will acknowledge receipt of your letter of the 16th ultimo, requesting information concerning present status of the above designated application.

We have not yet reached this application for examination, but have written to the persons, whose names you gave us as being familiar with the vicinity of the point of diversion of the waters of Beaver Creek and lands to be irrigated, requesting that they advise this department whether, of their knowledge, the granting of permit under this application will interfere with the right of any other person to the use of these waters.

To date we have received a reply to but one of our letters. Mr. A. R. (Tony) Taylor states in his letter of March 20th to this department that the proposed diversion will be to his detriment.

Examination of the map accompanying the application discloses that it is proposed to obtain the water from a well now sunk and a well to be sunk outside of the channel of Beaver Creek. Apparently the application is made on the theory that the water to be pumped is the underflow of the creek.

In this connection it will be necessary that you be able to furnish satisfactory proof that the water is in fact subsurface water of Beaver Creek. See the case of Maricopa County Municipal Water Conservation District No. 1, et al. v. Southwest Cotton Co., et al. 4 Pac (29) 369, paragraphs 17 to 24 inc., of the syllabus.

Very truly yours,

(SGD) EDWIN T. STEWART

State Water Commissioner.

Send copy of brief please.

03-20-1937: letter to state water commissioner from tony taylor regarding reply to the march 15th, will say that this water if approp

C
O
P
Y

Camp Verde, Arizona,
March 20th, 1937.

Mr. Edwin T. Stewart,
State Water Commissioner,
Phoenix, Arizona.

Dear Mr. Stewart, In reply to yours March 15th, will say that this Water if appropriated to the National Monument will effect me greatly.

I have been useing this Water for four Years, My Property is located in Sect. 17, Onehalf mile south of this Natl, Monument.

I have kept Water in this Ditch every day in the Year for the past four Years. the water gets very low in the Summer through June July and August. If they take this water it will make my homestead practically worthless.

The money that I have put out on this Homestead is Approximately Twentyfive hundred Dollars, I moved here in 1931, on the 2nd day of December, and have a four Roomed House all Fenced Chicken house and Run, Small Grainery, Barn, Corral, and Two Cellars, good Ditch and Fruit Trees, A Few Pecan trees, some Berries, And Has Grubbed approximately twelve acres of heavy Mesquite brush, Therefore I feel that I will be damaged A great deal by this Ditch and also feel that I should be considered before this was granted, Thanking you for your kind letter advising me of this. I am

Very truly

A R TAYLOR

Tony Taylor

Received
March 23, 1937

Office of
State Water Commissioner

Supporting Hydro Data

G.W. Type Analysis A-1, no Fe sol'n. USGS CHEMICAL ANALYSIS Account 20NP Project 34

State Arizona County Yavapai Location 14N.5E.17.200 - Montezuma Castle

Latitude-Longitude Well No. (A-14-5)17-1 Date Collected 2-23-68

Owner Montezuma Castle Nat'l. Mon., Box 218, Camp Verde, Date Drilled 1950 Source Drilled Depth (ft) 118 Diam. (in)

pH..... 7.4 Temp. (°C) 18

Hardness as $CaCO_3$: Total, mg/L 326

Noncarbonate, mg/L. 0

Color.. 3 Sodium-adsorption ratio..... 0.7

%Na.... 16 Tons per acre ft....

Density, g/ml at 20°C

W.B.F. Verde limestone

Producing Intervals 1950 to present

W.L. 73' below surface

Sampled after Pumping (Time) 8 min.

Yield approx. 15 GM

Point of Collection Water tap, utility room

Appearance Clear

Use Dom., Ps

Collected by Jack R. Clark

Remarks:

Chemist RLL, BR, SWM, EP Checked By EFW

Date Completed 3-21-68

Date Transmitted

Laboratory No. C63334

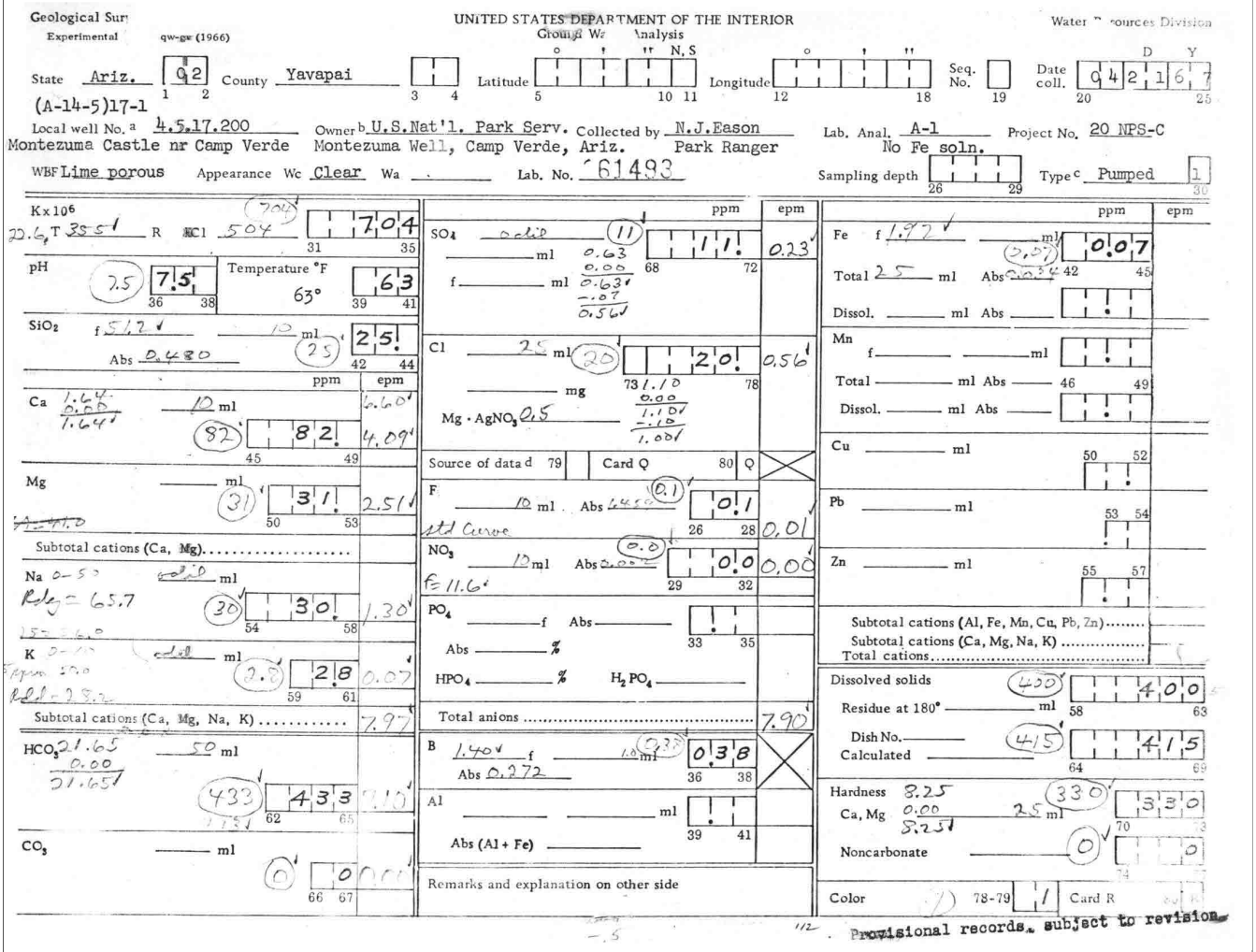
Specific Conductance, micromhos at 25°C 682

Concentrations in milligrams per liter (mg/L)

Silica (SiO_2).....	25	Bicarbonate (HCO_3).....	422
		Carbonate (CO_3).....	0
Calcium (Ca).....	76		
		Sulfate (SO_4).....	10
Magnesium (Mg).....	33		
		Chloride (Cl).....	18
Sodium (Na).....	28		
		Fluoride (F).....	0.2
Potassium (K).....	2.8		
		Nitrate (NO_3).....	0.0
Na+K (Calculated).....			
Dissolved Iron (Fe)....		Boron (B).....	0.33
Total Iron (Fe).....	0.02	Dissolved Solids: Sum of Constituents.....	401
		Residue on Evaporation at 180°C.....	386

Provisional records, subject to revision.

04-21-1967: ground water analysis: local well no. a4.5.17.200: project no. 20 nps-c



Geological Survey — Experimental — qw-gw (1966)

UNITED STATES DEPARTMENT OF THE INTERIOR — Ground Water Analysis

Water Resources Division

State Ariz. (02) County Yavapai — Latitude ° ' " N, S — Longitude ° ' " — Seq. No. — Date coll. D 04 Y 21 67

(A-14-5)17-1

Local well No.[a] 4.5.17.200 — Owner[b] U.S.Nat'l. Park Serv. — Collected by N.J.Eason

Montezuma Castle nr Camp Verde — Montezuma Well, Camp Verde, Ariz. — Park Ranger

Lab. Anal. A-1 — Project No. 20 NPS-C

No Fe soln.

WBF Lime porous — Appearance Wc Clear — Wa — Lab. No. 61493 — Sampling depth — Type[c] Pumped (1)

	ppm	epm
Kx10⁶ 20.6, T 35.5 R — MCl 504 (704)	704	
pH 7.5 (7.5) — Temperature °F 63°	63	
SiO_2 f 5.2 — 10 ml — Abs 0.480 (25)	25	
Ca 1.64 0.00 1.64 — 10 ml (82)	82	4.09
Mg — ml (31)	31	2.51
Subtotal cations (Ca, Mg)		
Na 0-5 — Rdg = 65.7 — ml (30)	30	1.30
K 0-10 — Rdg = 2.3 — ml (2.7)	28	0.07
Subtotal cations (Ca, Mg, Na, K)		7.97
HCO_3 21.65 0.00 21.65 — 50 ml (433)	433	7.10
CO_3 — ml (0)	0	0.00

	ppm	epm
SO_4 — ml 0.63 0.00 0.63 — f — ml 1.07 0.56 (11)	11	0.23
Cl 25 ml (20) — mg — Mg · $AgNO_3$ 0.5 0.00 1.10 1.10	201.10	0.56
Source of data d — Card Q — Q		
F — 10 ml — Abs 0.450 (0.1) — std Curve	01	0.01
NO_3 — 10 ml — Abs 0.000 (0.0) — f = 11.6	00	0.00
PO_4 — f — Abs — Abs — % — HPO_4 — % — H_2PO_4		
Total anions		7.90
B 1.40 f — 10 ml (9.3) — Abs 0.272	038	
Al — ml — Abs (Al + Fe)		

Remarks and explanation on other side

	ppm	epm
Fe f 1.92 — ml (2.0) — Total 25 ml Abs 0.034	0.07	
Dissol. — ml Abs		
Mn f — ml — Total — ml Abs — Dissol. — ml Abs		
Cu — ml		
Pb — ml		
Zn — ml		
Subtotal cations (Al, Fe, Mn, Cu, Pb, Zn)		
Subtotal cations (Ca, Mg, Na, K)		
Total cations		
Dissolved solids (400) — Residue at 180° — ml	400	
Dish No. — Calculated (415)	415	
Hardness 8.25 — Ca, Mg 0.00 5.25 — 25 ml (330)	330	
Noncarbonate	0	
Color (1) 78-79 1 — Card R		

Provisional records, subject to revision.

r61493

State | County | Lat. | Long. | Seq. No. | Date | Samp. depth

Remarks:

Source: Drilled
DD: 1959
Depth: 160'
Producing intervals from 63' to 80'
WL: static 63' below surface
Sampled after pumping: 22-1/4 hrs meas.
Yield:2000-3000gal/day. Pump 45 gal/min.
meas.
PC: Apartment Bldg. Utility Rm.
Use: Dom., Ps, Air Cond.

SiO_2	O.D.	mg/O.D	f
0.1	0.196 = 0.510	0.512	0.512 x 100 = 51.2
0.2	0.390 = 0.513	0.512	0.512 x 200 = 102.4

Fe

0.0125 = 0.258 = 0.048
0.0250 = 0.520 = 0.048
0.0500 = 1.053 = 0.047
0.048
f = (0.048)(40) = 1.92
f = (0.048)(100) = 4.80

F	O.D
BL	1.506
0.01	1.209
0.02	0.937
0.03	0.768

LEWIS ALARY — E. F. WILLIAMS
Chemist _____ Checked by _____
Date began MAY 1 1967 Date transmitted _____
Punched by _____ Verified _____

Br _____ ml — 26 28

I _____ ml — 29 31

Alk. as $CaCO_3$ — 32 35

Free CO_2 — 36 38

SAR 0.7 — 39 41

RSC — 42 44

Organics

MBAS (ABS) _____ ml — 45 47

NO_3	O.D.	mg/O.D	f
0.05	0.433	0.115	
0.10	0.872	0.115	0.116
0.10	0.858	0.117	0.116 x 100 = 11.6

48 50

51 54

a Master card A (21-34)
b Master card A (52-66)
c Type:
1. Pumped 4. Spigot
2. Bucket 5. Bailer
3. Forest 6. Special
d Source of data:
1. USGS 5. Industrial
2. UPHS 6. Private
3. State Health 7. Educational
4. State

Radiochemical
Alpha (pc/l) — 55
Beta (pc/l) — 58
Ra (pc/l) — 61

	Magnesium	Ca+Mg	Ca
~~STD~~	~~Ca+Mg~~	~~Ca~~	~~Mg~~
5	12.0	12.0	12
10	19.0	20.0	20
25	39.0	39.0	39.0
50	56.0	56.0	

64

Other data (67-79)e
Dissolved Solids --- ml 200 pt 41
45.1103
45.0303
0.0800

Boron	O.D	mg/O.D	
0.5 mg	0.351	1.42	1.40
0.5	0.355	1.41	
1.0	0.737	1.36	

~~0.5~~ ~~0.477~~
~~0.5~~ ~~0.470~~
~~1.0~~ ~~0.807~~

e Indicate constituent and card colu[illegible]
Card S — 80

Provisional records, subject to revision.

Montz 1

G.W. Type Analysis A-I no Fe sol. **U.S. GEOLOGICAL SURVEY ANALYTICAL NOTES** Project N.P.S. Collected Thomas Gibson

State Arizona County Yavapai City (at or near) Montezuma Castle NE I/4 sec I7 T4N R5E (a-14-5)17-1

Latitude-Longitude _____ Well No. (A-I4-5)I7-I Date Collected 3-22-65

Owner Nat'l Park Service Box 2I8 Camp Verde Arizona Date Drilled Jan.(?)59 Cased to _____ Depth (ft) I60 Diam.(in) I0

pH 7.6 7.6 Temp.(°F) 64°?

Hardness as $CaCO_3$ Total 300 300

Noncarbonate 0 0

Color 1 1 S.A.R. 0.7 0.7

%Na 16 16 T/at 0.48 0.48

Density (g/ml) _____

W.B.F. Verde Limestone?

Producing Intervals all year

W.L. _____

Sampled after Pumping(Time) _____

Yield 35 G.M. pump meas.

Point of Collection H.Q. utility room cold tap

Appearance Clear

Use Dom., air cond.

Remarks: Chlorine added

Chemist LEWIS ALARY Checked By _____

Date Completed MAY -4 1965

Date Transmitted _____

Laboratory No. 56697

Spec. Cond. (micromhos at 25°C): T 25.1 R KCl 337 R Sample 531 (635) 635

	PPM	EPM
Silica f 49.6 vol 10 o.d. 0.461	(23) 23	
Calcium vol 10 1.50 / 0.00 / 1.50	(75) 75	3.74
Magnesium vol 25 7.50 / 0.00 / 7.50	(27) 27	2.26
Sodium vol 0 range 0-50 57.2 / 57.2	(26) 26	1.13
Potassium vol 0 range 0-10 28.5 / 28.5	(2.8) 2.8	0.07
Na+K (Calculated)		
Iron f 1.84 vol 25 In sol.: o.d. —		
Total: o.d. 0.014	(0.03) 0.03	
TOTAL CATIONS		7.20

	PPM	EPM
Bicarbonate vol 50 19.50 / 0.00 / 19.50	(390) 390	6.39
Carbonate	0	0.00
Sulfate vol 10 2.55 / 0.00 / 0.55 / -.09 / 0.46	(9.6) 9.6	0.20
Chloride vol 25 AgNO3 0.5 1.06 / 0.00 / 1.06 / -.10 / 0.96	(19) 19	0.54
Fluoride (0.0007)(1000) vol 10 o.d. 1.480	(0.1) 0.1	0.01
Nitrate f 11.3 vol 10 o.d. 0.006	(0.1) 0.1	0.00
Boron f 1.30 vol 1.0 o.d. 0.251	(0.33) 0.33	
Sum of Constituents	(375) 375	
Residue on Evaporation at 180°C vol 200 dish #43 4.7002 / 44.6244 / 2.0708	(354) 362	
TOTAL ANIONS		7.14

Provisional records, subject to revision.

FORM 9-1367 (9-1960)
U. S. DEPT. OF INTERIOR
GEOLOGICAL SURVEY

ANALYTICAL STATEMENT - GW
(A-14-5)17-1
NPS

COUNTY Yavapai (Ariz)
LAB NO. 54098

Location: Castle Section; Montezuma Castle, N. of Camp Verde, Ariz., NE¼ sec. 17*
Source (type of well): Drilled
Owner: NPS - Dept. of Int. Box 218, Camp Verde, Ariz.
Date drld: 1950 Cased to ____ ft
Depth: 118' Diam: 5"
Wtr. bearing: Verde
Static level: 73 ft below gr.
Sampled after pumping: ? hrs
Yield: At least 15 gpm (pump)
Ft of collar: Drinking fountain at bdqtrs.
Appearance: Clear
Temp (°F): 64 Use: Dom., Ps
Collector: John Stockert, Pk. Ranger
Chemist: LIA
Date completed: May 12, 1964
Checked by: RLL
Date transmitted: NPS & AGW

Date of collection: Apr. 12, 1964
Ignition Loss: ____ Color: 0
Dissolved Solids:
Residue at 180°C: 326
Calculated (Sum): 338
Tons per Acre Foot: 0.44
Hardness as $CaCO_3$: 260
Non-carbonate Hardness: 0
% Na: 16 SAR: 0.6 pH: 7.6
Specific Conductance (micromhos at 25°C): 569

*T14N R5E | PI= Intervals irr.

Rmks. This well is only source of wtr for all dom. & public needs at Castle Sect. of Montezuma Castle Nat'l. Mon. Supply is adequate.

Provisional records, subject to revision.

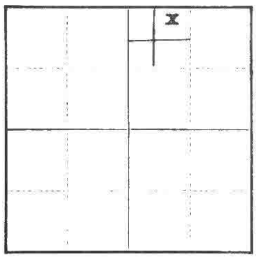
	ppm	ppm
SiO_2		21
Fe (total)		0.03
Ca	3.59	72
Mg	1.61	20
Na	1.04	24
K	0.07	2.7
Na+K	6.31	
HCO_3	5.69	347
CO_3	0.00	0
SO_4	0.17	8.4
Cl	0.51	18
F	0.01	0.2
NO_3	0.00	0.2
	6.38	B 0.27

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9-355
(Jan. 1927)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

RECORD OF WELL



Locate well on plat of section.

1. **Location:** State Arizona County Yavapai
   Nearest P. O. Camp Verde Direction from P. O. N.E.
   Distance from P. O. 5 miles; NE ¼ sec. 17, T. 4N, R. 5E
   If in city, give street and number

2. **Owner:** National Park Service Address Montezuma Castle National Mon., Camp Verde
   Driller: Charles L. Hollamon Address Camp Verde, Arizona
3. **Situation:** Is well on upland, in valley, or on hillside? Valley
4. **Elevation of top of well:** 3230 ft. above (Above or below) the level of sea (Sea, depot, lake, or stream)
5. **Type of well:** Drilled (Dug, driven, bored, or drilled); kind of drilling rig used Churn drill (Solid tool, jetting, rotary, etc.)
6. **Depth of well:** 160 ft.; year in which well was finished 1959
   Does well enter rock? Yes; if so, at what depth? 47' ft.; kind of rock Limestone layers
7. **Diameter:** At top 12 inches; at bottom 12 inches.
8. **Principal water bed:** Lime porous (Gravel, sand, clay, or rock. If rock, state kind)
   Depth to principal water bed 80 ft.; thickness of bed 7 ft.
   If other water supplies were found, give depth to each 130-134 ft. and 153-160 ft.
9. **Casings:** Kind black steel seamless; size 10"; length 161 ft.; between depths of -1 and 160 ft.
   Kind ; size ; length ft.; between depths of and ft.
   Kind ; size ; length ft.; between depths of and ft.
   Packers (if any): Depth at which packers were used None; kind
   Screen or Strainer: Was well finished with screen? No; kind of screen (80 ft. of casing perforated - 90 lin.ft. of gravel pack.);
   length of screen ft.; diameter inches; size of openings
10. **Head:** Does well at present overflow without pumping? No; did it overflow when new? No;
    if flowing, give pressure lb. per sq. inch; or height water will rise in a pipe ft. above surface;
    original pressure or head ; if not flowing, give water level in well 63 ft. below surface.
11. **Pump:** Is the well pumped? Yes; kind of pump Submersible, multi-stage centrifugal;
    size or capacity of pump 5HP - 35 GPM; kind of power Electric
12. **Yield:** Natural flow at present (if any) 0 gallons per minute; original flow 0 gallons per minute;
    well has been pumped at 45 GPM gallons per minute continuously for 22¼ hours;
    quantity of water ordinarily obtained from well 2000 to 3000 gallons per day.
13. **Use:** For what purpose is the water used? Domestic
14. **Quality of the water:** Hard (Hard or soft, fresh or salty, etc.); is there an analysis? Yes
15. **Cost of well, not including pump:** $4,007.50 Temperature of water 63° F.

Name of person filling blank Albert G. Henson, Superintendent
Date 10/20/61 Address Montezuma Castle N.M., Camp Verde, Arizona

On the back of this sheet give the record of the beds through which the well passes and other data not given above.

LOG OF WELL

KIND OF ROCK OR OTHER MATERIAL (Give color and tell whether hard or soft)	DEPTH, IN FEET From—	DEPTH, IN FEET To—	THICKNESS, IN FEET	REMARKS (Especially information as to water found)
Top Soil	0	10	10	
Soil with drift rocks	10	20	10	
Loose gravel	20	25	5	Water worn
Large river boulders	25	33	8	
Soft clay and lime	33	47	4	Laid in layers
Hard crystalized lime	47	53	6	
Softer lime w/layers of clay	53	78	25	
Hard crystalized lime	78	80	2	
Water in brownish lime	80	87	7	Hit first water. The water raised 17 ft.
Layers of soft brown clay.	87	104	17	Clay did not mix good with water
Hard white lime w/layers of clay	104	118	14	
Very hard lime	118	123	5	The hardest drilled yet.
Soft lime and red clay	123	130	7	Acted like bentonite
Soft water bearing lime	130	134	4	Soft water bearing lime that was light in weight
Hard lime w/layers of soft lime about six inches thick.	134	153	9	No clay was present
Dark brown lime with water crystals in it.				This lime is very light in weight when dry

U. S. GOVERNMENT PRINTING OFFICE 8—0642

Form 10-174 (Rev. 8-56)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION	AREA	COUNTY	STATE
Three	Montezuma Castle Nat'l. Monument	Yavapai	Arizona

PROJECT OR JOB TITLE	PCP NO.
Improvement & Enlargement of Water Supply and Storage and/ Sewage Disposal System	U-1-4; U-1-5, U-2-5

LOCATION IN AREA	MASTER PLAN NO.	BUILDING NO.
Castle Area	NM-MC-3121A	None

WORKING DRAWING NO. AND TITLE
NM-MC-3108 and NM-MC-3108B

APPROPRIATION TITLE AND SYMBOL	WORK ORDER NO.
14X1035	B-1-MOCA & Revisions

CONTRACT NO.	DATE WORK STARTED	DATE WORK COMPLETED
14-10-333-445 *A	*A 10/15/58	*A 12/4/58
14-10-333-556 *B	*B 12/22/59	*B 5/10/60

NAME OF CONTRACTOR	ADDRESS
*A Charles L. Hollamon	*A Camp Verde, Arizona
*B D. W. Falls, Inc.	*B Box 95, Albuquerque, New Mexico

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
Drilling of Well - Project feature "A"			$ 4,007.50
Water System - Project feature "B"			34,904.96
Sewage Disposal System (under Project feature "B")			10,878.38
Day Labor Portion			
Hose House, Hose and Fittings			485.26

Construction Costs ..... $ 50,276.10
Plus PS & S Costs 17.51% 8,803.35
Total Project Costs 59,079.45

FIELD FINANCE OFFICE CLEARANCE

Henry Alarid Jr.

Henry Alarid, Jr., Regional Accountant
October 10, 1961

TOTAL $ 50,276.10

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES
200.19		268.95

OTHER
49,806.96

CHANGE ORDERS

ORIGINAL CONTRACT AMOUNT	FIRST	SECOND	THIRD
*A 4,900.00 *B 44,626.86	*A - 892.50 *B-1,037.00	*B 2,193.48	
FINAL CONTRACT AMOUNT	**FOURTH**	**FIFTH**	**SIXTH**
49,790.84			

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES

SUBMITTED BY (Name and title)	DATE
Albert G. Henson, Superintendent	9/20/61
APPROVED BY (Name and title)	DATE

(ATTACH NARRATIVE STATEMENT, PHOTOGRAPHS, AND "AS BUILT" DRAWINGS TO THIS FORM)

38105

NARRATIVE - COMPLETION REPORT

CONTRACT NOS. 14-10-333-445 and 14-10-333-556, Improvement and Enlargement of Water Supply and Storage.

CONTRACTORS: Charles L. Hollamon, Camp Verde, Arizona
D. W. Falls, Inc., Box 95, Albuquerque, New Mexico

This project was accomplished through two separate contracts. Contract No. 14-10-333-445, Drilling of a Water Well at Montezuma Castle National Monument, Arizona, will be designated as Project Feature "A" and Contract No. 14-10-333-556, Construction of Water, Sewer, and Electrical Systems, Castle Area, Montezuma Castle National Monument, Arizona, will be designated as Project Feature "B".

Project Feature "A":

As the first step in the construction of a new water supply and storage system for the Castle Area, a new well was drilled, cased and tested under this contract. The work was started 10/15/58 and the job was completed and accepted 12/4/58. No special conditions or difficulties were encountered during the work. Change Order #1 specified that the contractor would perforate the lower 80 lin. ft. of the 10" casing and increase the gravel pack to a total of 90 lin. ft. at no extra cost to the Government. This was in lieu of the specified screen.

The contractor was paid for the following quantities of materials and work performed:

Quantity	Item	Amount
160	Lineal ft. of 12" Bore.	$1,600.00
161	Lineal ft. of 10" Casing in place.	1,207.50
30	Lineal ft. Gravel Pack outside of 10" Casing.	100.00
1	Lump Sum, Developing Well.	200.00
1	Lump Sum, Furnishing, installing and removing Test Pumping Equipment	400.00
40	Hours, Pumping Test.	400.00
1	Lump Sum, Reaming and Grouting.	100.00
	Total Cost, Items 1 thru 7	$4,007.50

This project is complete and the work resulted in a usable facility. Drilling Log and Data Sheets have already been submitted.

Project Feature "B":

The original project construction proposals covering the water and sewer utilities for the Castle Section of Montezuma Castle National Monument included the following features:

Water System: 10,000 gallon storage tank on hillside north of existing well.
Install new pump in existing well 4" distribution lines.

Sewer System: Add a 3,500 gallon septic tank to serve new Visitor Center, existing residences and proposed apartment building.

Preliminary study by various personnel from WODC and the Regional Office indicated that these plans were completely inadequate. From field data gathered by student trainees during the summer of 1958, WODC prepared a more adequate system which included the following features:

Water System: New well and pump and abandonment of old well.
50,000 gallon underground storage tank.
6" distribution lines.
Automatic pump controls.

Sewer System: Abandonment of existing cess pools.
6" collection lines from all buildings.
Sump and pumping station to pump sewage under Beaver Creek.
7,500 gallon septic tank.

The engineers estimate of $57,080 indicated that this system, although desirable, would be too costly and the plan was restudied by all concerned with a view to reducing costs. By means of the combined talents of personnel from WODC and the Region Three Office, various changes were effected which reduced the cost without impairing, to any great extent, the efficiency of the systems.

Because of the limited amount of funds available the planned work was broken down on the bid schedule as follows:

Water System
Sewer System
Alternate "A" Water System - Pumphouse superstructure with electrical installations, pump control cables and controls and installation of a new hypochlorinator.
Alternate "B" Water System - Hose house with fire hose and nozzle.

The final plans and specifications were distributed to the bidders on 10/5/59 and the bids were opened on 11-3-59. Bids were received from eight firms. The low bidder was D. W. Falls, Inc. of Albuquerque with a low bid of:

Water System	$29,767.01
Sewer System	10,399.85
Alternate "A" Water System	3,323.00
Alternate "B" Water System	1,137.00

Contract 14-10-333-556 dated 11/16/59 was issued for $44,626.86 covering the entire bid schedule.

The Notice to Proceed was issued on 12/14/59, acknowledged on 12/21/59, and work was started on 12/22/59. Project Inspector Bill Hall, WODC, supervised the project. Work proceeded pretty much on schedule despite bad weather throughout the months of January and February.

As a result of further review by Supervisory Landscape Architect Alleman, it was deemed desirable to delete the hose house as included in the contract and replace it with a simpler structure which would fit into the development better. Since this change was agreeable to the contractor, this item was deleted from the contract and the contract price was reduced by the $1,137.00 bid amount. This change was made by Change Order No. 1 dated 4/18/60.

Also included on Change Order No. 1 was the substitution of an automatic hypochlorinator (Wallace & Tiernan, type HEMP) in place of the manually operated model (Wallace & Tiernan, type HWM). Since the specified hypochlorinator had already been uncrated, this involved an additional cost of $100 to cover shipping and re-packing costs.

Other details of the construction went along quite well, with a normal amount of over and under runs in the various items. The main over run was in the amount of excavation required for the reservoir ($1,281.50 over run) as a result of a decision to more completely hide the structure. Another substantial over run ($542.33) was a result of moving the sewer lagoon approximately 200 ft. farther west in order to save several large sycamore trees. This was partially offset by a $219.50 under run in the sewer lagoon excavation. The result of all the over and under runs was that the cost of the contract was increased by $2,193.48. The reduction of $1,037.00 on Change Order No. 1 reduced the net increase to $1,156.48.

An allotment of $500 was made to cover the construction of the hose house by day labor. The hose house was built and equipped at a cost of $485.26 leaving a balance of $14.74.

The contract work was completed on May 10, 1960. Flushing of the lines and testing of the lines were accomplished and the utilities were accepted by the Government on 5/16/60.

Difficulties occurred in the float valve automatic controls a month or so after the contract was accepted and the contractor made the necessary repairs. Two months later the controls went out again. After several months delay in making the necessary repairs, we made arrangements locally to have the repairs made. This was done and the bill for this work was submitted to the contractor for payment.

This project is complete and the work resulted in a usable facility.

Information for Real Property records:

100.6	BUILDINGS, Other, Pumphouse, Castle Area Building #25, cement block, concrete floor, built-up roof, 40 sq. ft.		$1,400.00
100.8	UTILITIES, Water System, Castle Area		
	2072 lineal ft. 6" line	$12,897.88	
	120 lineal ft. 2½" line	622.90	
	97 lineal ft. 2" line	449.85	
	258 lineal ft. 1" line	601.19	
	95 lineal ft. 3/4" line	332.34	
	50,000 gal. steel reservoir	12,424.10	
	3 fire hydrants	1,199.70	
	Pump, 5 HP, submersible (Reda, multi-stage centrifugal, Serial No. 52131) 2 inch outlet, rating of 35 GPM	2,387.20	
	Automatic controls	1,136.40	
	Hypochlorinator	911.00	
	Hose House & fittings	485.26	
	Well, 160 ft. deep, w/160 ft. 10 inch casing	4,007.50	
			37,455.32
100.8	UTILITIES, Sewer System, Castle Area		
	650 lineal ft. 6" sewer line	2,125.20	
	405 lineal ft. 4" sewer line	1,943.18	
	3600 cu.yd. sewer lagoon w/fence	3,084.20	
	4 concrete manholes	700.00	
	7500 gal. septic tank	3,025.80	
			10,878.38
100.8	UTILITIES, Electric System, Castle Area		
	555 lineal ft. underground power cable	180.30	
	Meter Pole	300.00	
			480.30
100.8	UTILITIES, Telephone System, Castle Area		
	555 lineal ft. underground cable (1-6 pair cable and 2-1 pair cable)		62.10

05-16-1960: well pump data chart; duplicate in pump data file

REGION THREE OFFICE

WELL PUMP DATA CHART

Duplicate in Pump Data File

Date May 16, 1960 Sheet 1 of 1

PARK OR MONUMENT Montezuma Castle

NAME OF SUPPLY, and LOCATION by 40 ACRE DIVISION of Sec., Twp. & Rge.	PUMP UNIT									PUMP POWER		
	MAKE	SERIAL NUMBER	TYPE - PISTON TURBINE, ETC.	CAPACITY - GPM DESIGN	CAPACITY - GPM ACTUAL	HEAD - FEET DESIGN	HEAD - FEET ACTUAL	DIA.-INCHES INTAKE	DIA.-INCHES OUTLET	KIND ELEC-GAS	HP	Operating RPM
NE¼NW¼NE¼; Sec. 17, ~~T. 4 N., R5E, G&SRM~~ T14N, R5E, G&SRM	Reda	52131	Submersible, multi stage centrifugal		35		100	none	2 inch	Elec 230V-S.P	5	

Form 10-174
(Rev. 8-56)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION	AREA	COUNTY	STATE
Three	Montezuma Castle National Monument	Yavapai	Arizona

PROJECT OR JOB TITLE: Improvement and Enlargement of Water Supply and Storage (Portion) — PCP NO.: U-1-4

LOCATION IN AREA: Castle Area — MASTER PLAN NO.: — BUILDING NO.: None

WORKING DRAWING NO. AND TITLE: NM-MC-3108

APPROPRIATION TITLE AND SYMBOL: 14X1035 — WORK ORDER NO.: B-1 MOCA

CONTRACT NO.: 14-10-333-445 — DATE WORK STARTED: 10-15-58 — DATE WORK COMPLETED: 12-4-58

NAME OF CONTRACTOR: Charles L. Hollamon — ADDRESS: Camp Verde, Arizona

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
Contract for drilling, casing and testing well	1	$4,007.50	$4,007.50
		TOTAL	$4,007.50

Field Finance Office Clearance:

Robert L. Giles
Regional Accountant 12/22/58

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES

OTHER: $ 4,007.50

ORIGINAL CONTRACT AMOUNT	CHANGE ORDERS FIRST	SECOND	THIRD
$ 4,900.00	Underruns $ 892.50		
FINAL CONTRACT AMOUNT	**FOURTH**	**FIFTH**	**SIXTH**

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES

SUBMITTED BY (Name and title): Foy L. Young, Superintendent — DATE: 12/16/58

APPROVED BY (Name and title): — DATE:

(ATTACH NARRATIVE STATEMENT, PHOTOGRAPHS, AND "AS BUILT" DRAWINGS TO THIS FORM)

GPO. 814176

NARRATIVE SECTION OF COMPLETION REPORT

Contract 14-10-333-445, Improvement and Enlargement of Water Supply and Storage (Portion)

As the first step in the construction of a new water supply and storage system for the Castle Area, a new well was drilled, cased and tested under this contract. The work was started 10-15-58 and the job was completed and accepted 12-4-58. No special conditions or difficulties were encountered during the work. Change Order #1 specified that the contractor would perforate the lower 80 lin. ft. of the 10" casing and increase the gravel pack to a total of 90 lin. ft. at no extra cost to the Government. This was in lieu of the specified screen.

The contractor was paid for the following quantities of materials and work performed.

Quantity	Item	Amount
160	Lineal ft. of 12" Bore	$1600.00
161	Lineal ft. of 10" Casing in place.	1207.50
30	Lineal ft. Gravel Pack outside of 10" Casing.	100.00
1	Lump Sum, Developing Well.	200.00
1	Furnishing, installing and removing Test Pumping Equipment, lump sum.	400.00
40	Hours, Pumping Test	400.00
1	Lump Sum, Reaming and Grouting.	100.00
	Total Cost, Items 1 thru 7	$4007.00

Attached as part of this report are Drilling Log and Data Sheets on pumping tests. After all required work was completed a light metal plate was fitted over top of casing and spot welded in place.

12-12-1958: log of water well drilled at moca under contract 14-10-333-445

Log of Water Well Drilled at Montezuma Castle National Monument
under contract 14-10-333-445

a. th Kell
Mona 12/12/58

October 15, 1958

0 to 10 ft. Top Soil

10 to 20 ft. Soil with drift rocks

20 to 25 ft. loose gravel, water worn

25 to 33 ft. large river boulders

33 to 47 ft. soft clay and lime that laid in layers

47 to 53 ft. hard crystalized lime

53 to 78 ft. softer lime with layers of clay

78 to 80 ft. hard crystalized lime

80 to 87 ft. hit first water in brownish lime that was porous. The water raised 17 ft.

87 to 104 layers of soft brown clay that made the bit bog. This clay did not mix good with water

104 to 118 ft. hard white lime with layers of clay

118 to 123 ft. very hard lime. The hardest drilled yet.

123 to 130 ft. soft lime and red clay that acted like bentonite

130 to 134 ft. soft water baring lime that was light in weight

134 to 153 ft. hard lime with layers of soft lime about six inches thick. No clay was present

153 to 160 ft. dark brown lime with water crystals in it. This lime is very light in weight when dry

Charles L. Hellamon

Charles L. Hellamon
Contractor

00-00-0000: attempt to establish maximum yield test; 45 g.p.m.

MONTEZUMA CASTLE NATIONAL MONUMENT Sheet 1 of 1

ATTEMPT TO ESTABLISH MAXIMUM YIELD TEST

35 G.P.M.

Static Water Level 63 Feet

Draw Down to		In		Draw Down to		In	
73	Feet	1	min. 14 sec.	80.71	Feet	16	min.
75.71	"	2	"	81.14	"	17	"
78.24	"	3	"	81.37	"	18	"
79.60	"	4	"	81.53	"	19	"
80.20	"	5	"	81.57	"	20	"
80.01	"	6	"	81.70	"	21	"
79.20	"	7	"	81.77	"	22	"
79.50	"	8	"	81.83	"	23	"
80.20	"	9	"	81.89	"	24	"
80.71	"	10	"	81.95	"	26	"
81.16	"	11	"	82.02	"	28	"
81.31	"	12	"	82.09	"	30	"
81.33	"	13	"	82.10	"	33	"
80.90	"	14	"	82.11	"	36	"
80.74	"	15	"	82.12	"	43	"

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Recovery

From	82.12	Feet	to	70	Feet	in	1	min.
"	70.	"	"	69	"	"	3	"
"	69.	"	"	68	"	"	4	"

MONTEZUMA CASTLE NATIONAL MONUMENT

DESIRED YIELD TEST

11-25-58 — 45 G.P.M.

Start - 11:02 a.m.
Finish 11/26/58 9:17 a.m.

Static Water Level 63 Feet.

Draw Down to		In			Draw Down to		In		
73	Feet	0 min.	33 sec.		92.10	Feet	67 min.		
77	"	1 "	30 "		92.08	"	70 "		
78.86	"	2 "			91.90	"	75 "		
80.40	"	2 "	30 "		93.46	"	80 "		
81.44	"	3 "			93.70	"	85 "		
82.32	"	3 "	30 "		93.72	"	90 "		
82.91	"	4 "			93.72	"	95 "		
83.47	"	5 "			93.70	"	100 "		
83.81	"	6 "			93.70	"	105 "		
84.19	"	7 "			93.90	"	110 "		
84.58	"	8 "			94.	"	115 "		
84.94	"	9 "			93.75	"	120 "		(2 hrs.)
85.27	"	10 "			93.92	"	125 "		
86.02	"	11 "			93.80	"	130 "		
86.63	"	12 "			93.75	"	135 "		
87.03	"	13 "			93.85	"	140 "		
87.29	"	14 "			93.70	"	145 "		
87.51	"	15 "			94.16	"	150 "		
88.15	"	17 "			94.10	"	155 "		
88.40	"	18 "			94.05	"	160 "		
88.60	"	19 "			94.	"	170 "		
88.95	"	20 "			94.20	"	180 "		(3 hrs.)
89.21	"	21 "			94.10	"	190 "		
89.87	"	22 "			94.15	"	200 "		
90.23	"	23 "			94.10	"	215 "		
90.34	"	24 "			94.20	"	230 "		
90.47	"	25 "			94.15	"	240 "		(4 hrs.)
90.59	"	27 "			94.20	"	270 "		
90.78	"	30 "			94.20	"	300 "		(5 hrs.)
91.06	"	33 "			95.10	"	330 "		
91.25	"	36 "			95.60	"	345 "		
91.45	"	39 "			95.60	"	360 "		(6 hrs.)
91.66	"	42 "			96.10	"	390 "		
91.74	"	45 "			96.40	"	420 "		(7 hrs.)
91.94	"	48 "			95.45	"	450 "		
92.08	"	51 "			95.50	"	480 "		(8 hrs.)
91.50	"	54 "	)Dropped		95.60	"	510 "		
91.36	"	57 "	) to		95.	"	540 "		(9 hrs.)
91.66	"	60 "	)43 G.P.M.		95.	"	570 "		
91.90	"	63 "	)		95.	"	600 "		(10 hrs.)
92.04	"	65 "	Returned to 45 G.P.M.		95.50	"	630 "		

DESIRED YIELD Te.

Draw Down to		In		
95.20	Feet	660	min.	(11 hrs.)
95.20	"	690	"	
95.25	"	720	"	(12 hrs.)
95.40	"	750	"	
95.50	"	780	"	(13 hrs.)
95.60	"	810	"	
95.60	"	840	"	(14 hrs.)
95.70	"	870	"	
95.30	"	900	"	(15 hrs.)
95.60	"	930	"	
95.80	"	960	"	(16 hrs.)
95.60	"	990	"	

Draw Down to		In		
95.70	Feet	1020	min.	(17 hrs.)
95.60	"	1050	"	
95.70	"	1080	"	(18 hrs.)
95.60	"	1110	"	
95.80	"	1140	"	(19 hrs.)
95.70	"	1170	"	
95.75	"	1200	"	(20 hrs.)
95.25	"	1230	"	
95.30	"	1260	"	(21 hrs.)
95.25	"	1290	"	
95.30	"	1320	"	(22 hrs.)
95.50	"	1335	"	22 hrs. 15 min.

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Recovery

From		to			in		
"	95.50 Feet	"	88.	Feet	"	0 min.	6 sec.
"	88. "	"	78.	"	"	2 "	
"	78. "	"	76.	"	"	3 "	
"	76. "	"	75.	"	"	4 "	
"	75. "	"	73.75	"	"	5 "	
"	73.75 "	"	72.80	"	"	6 "	
"	72.80 "	"	71.10	"	"	8 "	
"	71.10 "	"	69.80	"	"	10 "	
"	69.80 "	"	67.60	"	"	15 "	
"67	67.60 "	"	66.60	"	"	20 "	
"	66.60 "	"	66.	"	"	25 "	
"	66. "	"	65.70	"	"	30 "	
"	65.70 "	"	65.20	"	"	45 "	
"	65.20 "	"	65.	"	"	60 "	

MONTEZUMA CASTLE NATIONAL MONUMENT

MAXIMUM YIELD TEST

11-24-58 — 70 G.P.M.

Start - 1:10 p.m.
Finish 7:10 p.m.

Static Water Level 63 Feet.

Draw Down to	In	Draw Down to	In	
73 Feet	0 min. 8 sec.	129.07 Feet	41 min.	
83 "	1 "	131.63 "	42 "	
86.69 "	3 "	131.83 "	43 "	
88.49 "	4 "	132.10 "	44 "	
91.78 "	5 "	132.31 "	45 "	
94.83 "	6 "	132.32 "	46 "	
97.65 "	7 "	132.34 "	48 "	
99.73 "	8 "	132.41 "	49 "	
101.80 "	9 "	136. "	50 "	
105.53 "	11 "	137.36 "	51 "	
107.08 "	12 "	137.43 "	52 "	
108.08 "	13 "	137.50 "	53 "	
108.77 "	14 "	137.50 "	54 "	
109.19 "	15 "	137.60 "	55 "	
109.67 "	16 "	137.60 "	56 "	
110.45 "	17 "	137.50 "	60 "	
111. "	18 "	137.60 "	65 "	
111.36 "	19 "	137.50 "	70 "	
111.63 "	20 "	137.40 "	75 "	
111.96 "	21 "	137.40 "	80 "	
112.38 "	22 "	137.40 "	85 "	
113.60 "	23 "	137.40 "	90 "	
115.23 "	24 "	137.40 "	95 "	
116.80 "	25 "	137.35 "	100 "	
118.46 "	26 "	137.30 "	105 "	
119.89 "	27 "	137.30 "	110 "	
120.75 "	28 "	137.30 "	115 "	
121.35 "	29 "	137.30 "	120 "	(2 hrs.)
121.90 "	30 "	137.30 "	150 "	
122.30 "	31 "	137.30 "	180 "	
122.94 "	32 "	137.30 "	210 "	
123.40 "	33 "	137.30 "	240 "	
123.92 "	34 "	137.60 "	270 "	
125.14 "	35 "	138. "	300 "	(5 hrs.)
125.62 "	36 "	138. "	330 "	
126.58 "	37 "	137.60 "	360 "	(6 hrs.)
127.57 "	38 "			
128. "	39 "			
128.40 "	40 "			

Recovery

From	137.60	Feet	to	125	Feet	in	1	Minute
"	125.	"	"	100	"	"	4	"
"	100.	"	"	90	"	"	6	"
"	90.	"	"	80	"	"	8	"
"	80.	"	"	75	"	"	12	"
"	75.	"	"	70	"	"	18	"
"	70.	"	"	68	"	"	23	"

00-00-0000: attempt to establish maximum yield test; 80 g.p.m.

MONTEZUMA CASTLE NATIONAL MONUMENT Sheet 1 of 1

ATTEMPT TO ESTABLISH MAXIMUM YIELD TEST

80 G.P.M.

Static Water Level 63 Feet

Draw Down to	In	Draw Down to	In
73 Feet	0 min. 3 sec.	113.55 Feet	13 min.
88 "	2 " 36 "	116. "	14 "
93 "	3 " 33 "	118.47 "	15 "
98 "	4 " 57 "	121.04 "	16 "
101.26 "	6 "	123.19 "	17 "
105.44 "	7 "	126.44 "	18 "
107.55 "	8 "	128.73 "	19 "
109.25 "	9 "	133.23 "	20 "
110.36 "	10 "	137.08 "	21 "
110.99 "	11 "	140.53 "	22 "
111.50 "	12 "		

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Recovery

From	140.53 Feet	to	124 Feet	1	min.
"	124.	"	"	100	"	2	"
"	100.	"	"	90	"	4	"
"	90	"	"	85	"	5	"
"	85	"	"	80	"	7	"
"	80	"	"	75	"	10	"
"	75	"	"	70	"	16	"
"	70	"	"	68	"	20	"

00-00-0000: attempt to establish maximum yield test; 100 g.p.m.

MONTEZUMA CASTLE NATIONAL MONUMENT Sheet 1 of 1

ATTEMPT TO ESTABLISH MAXIMUM YIELD TEST

100 G.P.M.

Static Water Level 63 Feet.

Draw Down to	In
78 Feet	0 min. 10 sec.
88 "	1 " 30 "
93 "	2 " 45 "
98 "	4 " 15 "
101 "	6 "
104 "	7 "
106 "	8 "
108 "	9 "
111 "	10 "
112 "	11 "
140 "	15 "

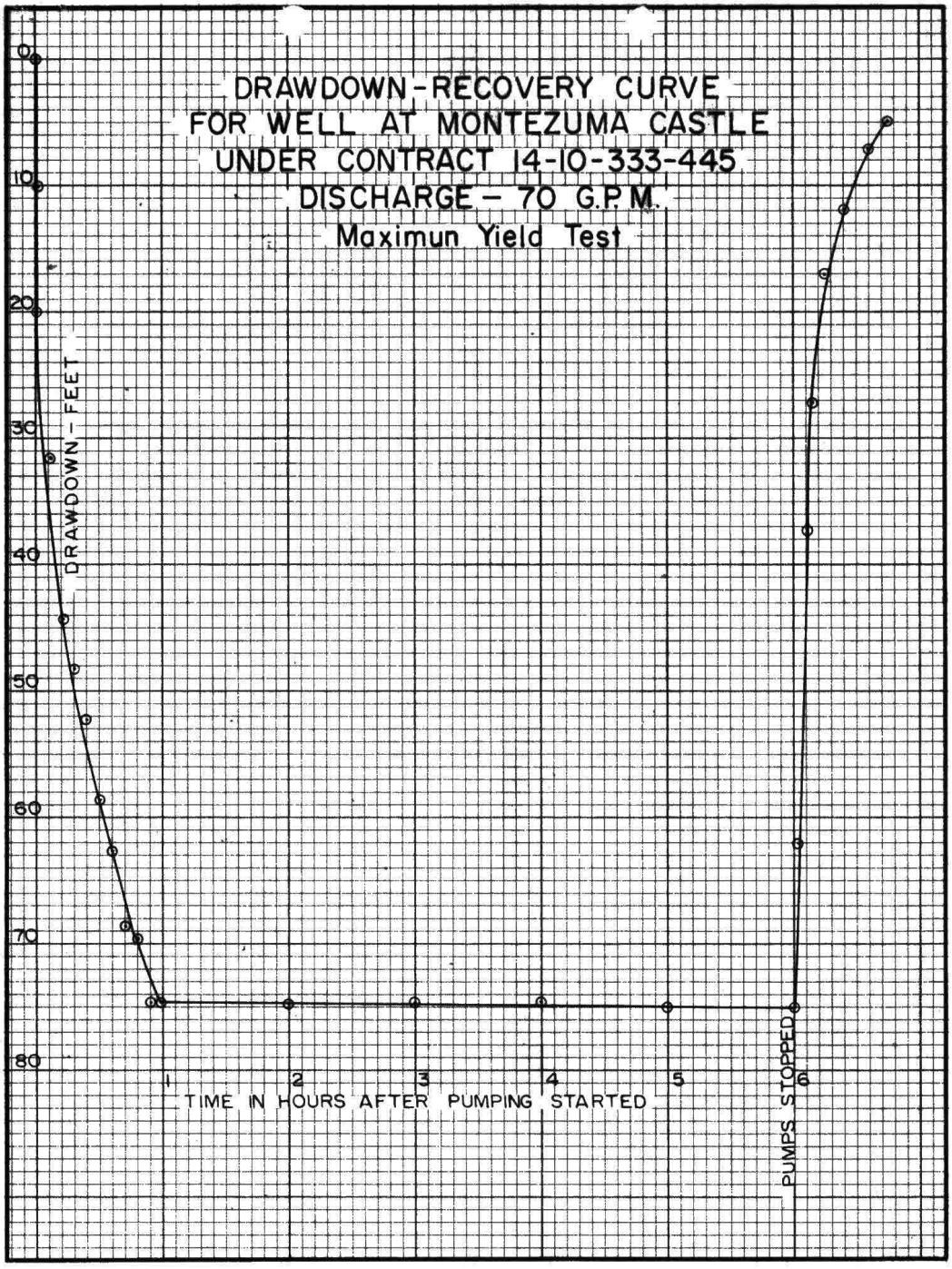
Note: Could not hold 100 G.P.M.
Discharge dropped to 90 G.P.M.
last 2 minutes

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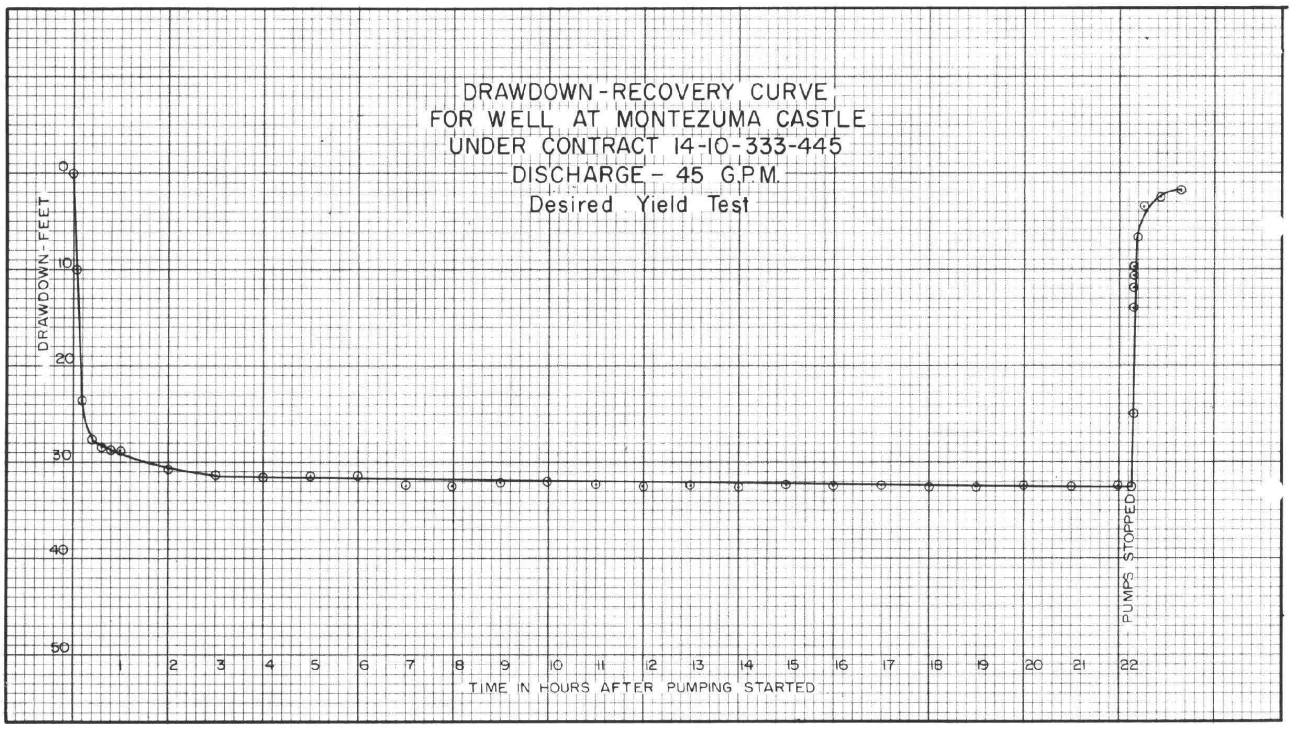
Recovery

From	140	Feet	to	125	Feet	in	1	min.
"	125	"	"	100	"	"	3	"
"	100	"	"	90	"	"	5	"
"	90	"	"	80	"	"	8	"
"	80	"	"	70	"	"	14	"
"	70.	"	"	68	"	"	17	"

00-00-0000: drawdown-recovery curve for well at moca under contract 14-10-333-445 discharge- 70 g.p.m. maximum yield test



00-00-0000: drawdown-recovery curve for well at moca under contract 14-10-333-445 discharge- 45 g.p.m.: desired yield test



12-22-1958: completion report for construction project

NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION: Three | AREA: Verde Valley Group | STATE: Arizona

PROJECT OR JOB TITLE: Improvements to Well Equipment [illegible] and Storage (Part 2)

PCP NO: U-1-4

LOCATION: Verde Area

MASTER PLAN NO:

BUILDING NO: None

WORKING DRAWING NO. AND TITLE: NM-VG-4138

AUTHORIZATION NO. AND TITLE AND NUMBER: [illegible]

WORK ORDER NO.: B-1 MOCA

CONTRACT NO.: [illegible]-33-445

DATE WORK STARTED: 10-15-58

DATE WORK COMPLETED: 12-4-58

NAME OF CONTRACTOR: [illegible] L. Hollamon

ADDRESS: Camp Verde, Arizona

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
Lump sum for drilling, casing and testing well	1	$4,007.50	$4,007.50
		TOTAL	$4,007.50

Field Finance Office Clearance:

[signature] Regional Accountant 12/22/58

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES
OTHER: $ 4,007.50		

CHANGE ORDERS

ORIGINAL CONTRACT AMOUNT	FIRST	SECOND	THIRD
$ 4,900.00	Underruns $ 892.50		
FINAL CONTRACT AMOUNT	FOURTH	FIFTH	SIXTH

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES

SUBMITTED BY (Name and title): Foy L. Young, Superintendent — DATE: 12/16/58

APPROVED BY (Name and title): — DATE:

ATTACH NARRATIVE STATEMENT, PHOTOGRAPHS AND "AS BUILT" DRAWINGS TO THIS FORM

GPO 914176

NARRATIVE SECTION OF COMPLETION REPORT

Contract 14-10-333-445, Improvement and Enlargement of Water Supply and Storage (Portion)

As the first step in the construction of a new water supply and storage system for the Castle Area, a new well was drilled, cased and tested under this contract. The work was started 10-15-58 and the job was completed and accepted 12-4-58. No special conditions or difficulties were encountered during the work. Change Order #1 specified that the contractor would perforate the lower 80 lin. ft. of the 10" casing and increase the gravel pack to a total of 90 lin. ft. at no extra cost to the Government. This was in lieu of the specified screen.

The contractor was paid for the following quantities of materials and work performed.

Quantity	Item	Amount
160	Lineal ft. of 12" Bore	$1600.00
161	Lineal ft. of 10" Casing in place.	1207.50
30	Lineal ft. Gravel Pack outside of 10" Casing.	100.00
1	Lump Sum, Developing Well.	200.00
1	Furnishing, installing and removing Test Pumping Equipment, lump sum.	400.00
40	Hours, Pumping Test	400.00
1	Lump Sum, Reaming and Grouting.	100.00
	Total Cost, Items 1 thru 7	$4007.50

Attached as part of this report are Drilling Log and Data Sheets on pumping tests. After all required work was completed a light metal plate was fitted over top of casing and spot welded in place.

07-22-1956: completion report of construction project: master plan no. nm-mont-2043

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION	AREA	COUNTY	STATE
Three	Montezuma Castle Nat'l Monument	Yavapai	Arizona

PROJECT OR JOB TITLE	PCP NO.
Water Well Repair	none

LOCATION IN AREA	MASTER PLAN NO.	BUILDING NO.
Behind headquarters museum	NM-MONT-2043	none

WORKING DRAWING NO. AND TITLE: none

APPROPRIATION TITLE AND SYMBOL	ACCOUNT NO.
14X1035, Construction, NPS	MX-331.13

CONTRACT NO.	DATE WORK STARTED	DATE WORK COMPLETED
none	6-7-56	6-11-56

NAME OF CONTRACTOR	ADDRESS
Wingfield Commercial Company	Camp Verde, Arizona

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
Drill well deeper	20'	$5.00	$114.80
Rental on boom truck with personal services	4 hrs.	7.50	30.00
Bail well and reset pump	---	---	150.00
Well casing, 5"	100'	1.50	150.00
Equipment operation	68 mi.	.0841	5.72
		TOTAL	$450.52

SUMMARY OF EXPENDITURES

On the evening of June 6 the water pump on the headquarters well was found to be operating without producing any water. The Wingfield Commercial Co., Camp Verde, Arizona, sent a boom truck to pull the pipe and cylinder the next day, and it was learned there had been a cavein of fine sand and clay near the bottom of the well. Mr. C. L. Hollamon, who had the only well rig immediately available, agreed to move in and put the well back in operation. First he tried to clean the well, but more material kept caving in. The well was cased down to solid limestone to [illegible] and the well drilled approximately 20 feet deeper where another supply of good water was found.

Because of the large crowds of visitors and extreme temperatures during this period, it was necessary to get the well back into operation by the quickest means possible.

Field Accounting Office Clearance date July 31, 1956

Administrative Officer A. L. Crumley

07-22-1956: completion report of construction project: master plan no. nm-mont-2043

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION: Three	AREA: Montezuma Castle Nat'l Monument	COUNTY: Yavapai	STATE: Arizona
PROJECT OR JOB TITLE: Water Well Repair			PCP NO.: none
LOCATION IN AREA: Behind headquarters museum		MASTER PLAN NO.: NM-MONT-2043	BUILDING NO.: none
WORKING DRAWING NO. AND TITLE: none			
APPROPRIATION TITLE AND SYMBOL: 14X1035, Construction, NPS			ACCOUNT NO.: MZ-331.13
CONTRACT NO.: none		DATE WORK STARTED: 6-7-56	DATE WORK COMPLETED: 6-11-56
NAME OF CONTRACTOR: Wingfield Commercial Company		ADDRESS: Camp Verde, Arizona	

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
Drill well deeper	20'	$5.00	$114.80
Rental on boom truck with personal services	4 hrs.	7.50	30.00
Bail well and reset pump	---	---	150.00
Well casing, 5"	100'	1.50	150.00
Equipment operation	68 mi.	.0841	5.72
		TOTAL	$450.52

SUMMARY OF EXPENDITURES

PERSONAL SERVICES: 85.72

OTHER: $444.80

CHANGE ORDERS

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES

/sgd/ T. I. Young, Superintendent — DATE: July 22, 1956

General Superintendent — DATE: July 31, 1956

07-31-1956: completion report of construction project: master plan no. nm-mont-2043; narrative statement

Narrative Statement - Water Well Project

On the evening of June 6 the water pump on the headquarters well was found to be operating without producing any water. The Wingfield Commercial Co., Camp Verde, Arizona, sent a boom truck to pull the pipe and cylinder the next day, and it was learned there had been a cavein of fine sand and clay near the bottom of the well. Mr. C. L. Hollamon, who had the only well rig immediately available, agreed to move in and put the well back in operation. First he tried to clean the well, but more material kept caving in. The well was cased down to solid limestone to hold back the sand and clay, and the well drilled approximately 20 feet deeper where another supply of good water was found.

Because of the large crowds of visitors and extreme temperatures during this period, it was necessary to get the well back into operation by the quickest means possible.

Field Accounting Office Clearance date July 31, 1956

Administrative Officer A. R. Crumley

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

RECORD OF WELL

8 | 9
17 | 16
Well →

*Locate well on plat of section.

1. **Location:** State Arizona County Yavapai
Nearest P. O. Camp Verde Direction from P. O. S
¼ sec. NE17, T. 14 N., R. 5 E

2. **Owner:** Department of Interior, NPS Address Montezuma Castle National Monument, Camp Verde, Arizona.
Driller: J. A. Lee Address Box 186, Cottonwood, Arizona
Site selected by: National Park Service Address Camp Verde, Arizona.

3. **Situation:** Is well on upland, in valley, or on hillside? Valley

4. **Type of well:** Drilled (Dug, driven, bored, or drilled); kind of drilling rig used churn drill (Solid tool, jetting, rotary, etc.)

5. **Depth of well:** 88 ft.; year in which well was finished 1928
Does well enter rock? Yes; if so, at what depth? 18 ft.; kind of rock limestone

6. **Depth to water:** 48 ft.; Amount water rose above level where first struck Not much. ft.

7. **Diameter:** At top 6 inches; at bottom 6 inches.

8. **Principal water bed:** limestone (Gravel, sand, clay, or rock. If rock, state kind)
Depth to principal water bed 48 ft.; thickness of bed Not known ft.
If other water supplies were found, give depth to each

9. **Casings:** Kind Steel; size 6"; length Not known ft.; between depths of and ft.
Kind ; size ; length ft.; between depths of and ft.
Kind ; size ; length ft.; between depths of and ft.
Packers (if any): Depth at which packers were used None used; kind
Screen or **Strainer:** Was well finished with screen or perforated pipe? None; kind of screen ;
length of screen ft.; diameter inches; size of openings
perforated pipe ; size of perforations ; How were perforations made; burned, drilled ?

10. **Head:** Does well at present overflow without pumping? No; did it overflow when new? ;

11. **Pump:** Is the well pumped? Yes; kind of pump Automatic electric ;
size or capacity of pump Deming deep well Size 10; kind of power electric 110 v. 60 cycle

12. **Yield:** Natural flow at present (if any) None gallons per minute; original flow Not known gallons per minute;
well has been pumped at Not known gallons per minute continuously for hours;
quantity of water ordinarily obtained from well gallons per minute

13. **Use:** For what purpose is the water used? Domestic household & in public restrooms.

14. **Quality of the water:** fresh - hard (Hard or soft, fresh or salty, etc.); is there an analysis? No

Name of person filling blank H omer F. Hastings
Date April 12, 1948 Address Montezuma Castle National Monument, Camp Verde, Ariz.

On the back of this sheet give the record of the beds through which the well passes and any other facts not given above.

LOG OF WELL

KIND OF ROCK OR OTHER MATERIAL (Give color and tell whether hard or soft)	DEPTH, IN FEET From—	DEPTH, IN FEET To—	THICKNESS, IN FEET	REMARKS (Especially information as to water found)
No log of this well is available. It is located about 100 ft. from the bank of Beaver Creek and about 18 ft. of river fill consisting of loose rocks, dirt, gravel, etc. were penetrated before reaching the limestone formation. Water was found in the Verde River Lake Bed formation which is known to extend to a depth of several hundred feet. See "Verde River Lake Beds Near Clarkdale, Arizona" by Olaf P. Jenkins in the American Journal of Science, Vol. 5, January, 1923.				

8620

Other Supporting Information

06-04-1982: letter to director from regional director regarding the completed well registration forms for existing wells

KMR

United States Department of the Interior

NATIONAL PARK SERVICE
WESTERN REGION
450 GOLDEN GATE AVENUE, BOX 36063
SAN FRANCISCO, CALIFORNIA 94102

IN REPLY REFER TO:

JUN 9 '82

Rocky Mountain Regional Office	Initial & Date
Regional Director	
Deputy Regional Director	
Administration	
Park Operations	ML
Plan & Resource Pres.	
Coop Prog	
Communications & P.A.	
EEO	
Oper Eval	
Action Taken	

L54 (WR-RNW)

June 4, 1982

Mr. Wesley E. Steiner, Director
Department of Water Resources
99 E. Virginia Avenue
Phoenix, Arizona 85004

Reference: Arizona Groundwater Management Act (1980), A.R.S. 45-593

Dear Mr. Steiner:

Enclosed are the completed well registration forms for existing wells within the State of Arizona owned by the United States Government, Department of the Interior, National Park Service, Western Region. These forms have been completed for the following areas: Casa Grande National Monument (1 well), Chiricahua National Monument (8 wells), Coronado National Memorial (6 wells), Fort Bowie National Historic Site (1 well), Grand Canyon National Park (no wells), Lake Mead National Recreation Area (14 wells), Montezuma Castle National Monument (3 wells), Organ Pipe Cactus National Monument (21 wells), Petrified Forest National Park (3 wells), Saguaro National Monument (14 wells), Tonto National Monument (1 well), Tumacacori National Monument (3 wells), Tuzigoot National Monument (1 well), and Walnut Canyon National Monument (1 well). The location of these National Park Service areas are shown on the enclosed map (in red).

Of the total 77 wells being registered, 12 wells have a pump capacity exceeding 35 gallons per minute and therefore payment in the amount of $120.00 ($10.00 X 12) will be forwarded to your office by the U.S. Treasury Department under separate cover as the registration fee for these non-exempt wells.

If there are any questions with regards to this matter, or if we can be of further assistance, please contact Gerard S. Witucki, Chief, Division of Water Resources, (415) 556-8660, of this Office.

Sincerely yours,

FOR John B. Cherry

Howard H. Chapman
Regional Director, Western Region

Enclosures

See attached sheet for bcc's

bcc's sent to:

Superintendent, Casa Grande, w/respective encls., w/blank form & w/o map
Superintendent, Chiricahua/Fort Bowie, w/respective encls., w/blank form & w/o map
Superintendent, Coronado, w/respective encls., w/blank form & w/o map
Superintendent, Grand Canyon, w/o encls.
Superintendent, Lake Mead, w/respective encls., w/blank form & w/o map
Superintendent, Montezuma Castle/Tuzigoot, w/respective encls., w/blank form & w/o map
Superintendent, Organ Pipe Cactus, w/respective encls., w/blank form & w/o map
Superintendent, Petrified Forest, w/respective encls., w/blank form & w/o map
Superintendent, Saguaro, w/respective encls., w/blank form & w/o map
Superintendent, Tonto, w/respective encls., w/blank form & w/o map
Superintendent, Tumacacori, w/respective encls., w/blank form & w/o map
Superintendent, Walnut Canyon, w/respective encls., w/blank form & w/o map
General Superintendent, Southern Arizona Group, w/respective encls., w/blank form & w/o ma
Field Solicitor, San Francisco Office - Attn: J. Burke, w/encls. & w/blank form
Field Solicitor, Phoenix Office - Attn: W. Swan, w/map, w/blank form & w/example of completed form
Regional Director, Rocky Mountain Region - Attn: W. McKeel, w/map, w/blank form & w/example of completed form
Regional Director, Southwest Region - Attn: G. Moore, w/map, w/blank form & w/example of completed form
(WR)AF, w/SF 1034, w/o encls.

08-20-1964: memorandum to superintendent from assistant regional director regarding water analysis

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Southwest Region
Santa Fe, New Mexico

AUG 20 1964

IN REPLY REFER TO:
L54

Memorandum

To: Superintendent, Montezuma Castle

From: Assistant Regional Director, Operations

Subject: Water Analysis, Various Sources
_____, Docket Number Various.

We have enclosed an analysis for the following water source(s):

Source	Docket No.
Old Well	2
Spring	3
Headquarters Well	1

We have placed this information in the correct Docket and by copies of this memorandum are sending them to the Director and Chief, WODC, for insertion in their Dockets.

George W. Miller

Enclosure(s) (3)

cc: Director (2) enc(3)
Chief, WODC (2) w/enc. (3)

W O D C
AUG 24 '64

CHF	
ADM	
PERS	
P & P	
ARCH	
ENG	10/19/10
L. A.	
SPEC	
CONT	Alleman
SFTY	Marley
	Reynolds
	CAS
ACTION TAKEN - DATE	

64-611

7

11-24-1961: memorandum to director from assistant regional director regarding record of well

WODC

Nov 13 11 51 AM

Region Three
Santa Fe, New Mexico

Memorandum

To: Director

From: Assistant Regional Director

Subject: Record of Well, Montezuma Castle Headquarters Area, Montezuma Castle National Monument

Attached is a copy of a Record of Well including a Log of Well, at headquarters area, Montezuma Castle, which was drilled in 1959.

We have placed a copy of this record in our Docket No. 1, Montezuma Castle, and by copies of this memorandum are sending it to WODC and the Superintendent for insertion in their dockets.

George W. Miller
Assistant Regional Director

In duplicate

Attachment

Copy to: Chief, WODC (2) w/attachment
Supt., Montezuma Castle w/attachment

W O D C
NOV 24 '61
CHF
ADM
PERS
P & P
ARCH
3 ENG
L.A.
SPEC
CONT
SFTY
1
2
ACTION TAKEN - DATE
None

06-06-1961: memorandum to director from assistant regional director regarding water analyses, domestic water wells

W O D C
JUN -9 '61
CHF
ASM
PERS
P & P
ARCH
ENGR
L. A.
SPEC
CONT
SCTY
ACTION TAKEN - DATE
None

Region Three
Santa Fe, New Mexico

154

JUN 6 1961

Memorandum

To: Director

From: Assistant Regional Director

Subject: Water Analyses, Domestic Water Wells, Montezuma Castle National Monument

Attached are copies of water analyses made on the domestic well at Montezuma Castle and the domestic well at Montezuma Well, prepared by Arizona State Health Laboratory. The Laboratory Numbers are: 31624 and 31625.

We have placed copies of these in our water rights dockets - No. 31624 in Docket No. 1 and No. 31625 in Docket No. 2. By copies of this memorandum we are sending these to WODC for insertion in their dockets.

(SIGNED)

James M Carpenter
Acting Regional Director

In duplicate

Attachments

Copy to: Chief, WODC

K
5

L-54

Region Three
Santa Fe, New Mexico

SEP 3 - 1959

Memorandum

To: Director

From: Acting Regional Director

Subject: Log of Wells, Pump Tests, Montezuma Castle and Wupatki - C/R

Our records indicate that we forwarded to your office on December 12, 1958 the log of the well and related pump tests at Montezuma Castle.

We are enclosing replacement copies of the log of the well and pump tests at Montezuma Castle. We are also enclosing copies of the well log and pump tests at Wupatki.

(SIGNED)

Harthon L. Bill
Acting Regional Director

In duplicate

Attachments

Copy to: WODC (2) w/attachments
Supt., Montezuma Castle w/o attachments
Supt., Wupatki w/o attachments

WESTERN OFFICE
DESIGN & CONSTRUCTION
SEP 8 1959 A.M.
CHIEF
ADMIN. ASSIST.
PERSONNEL
PLANS & PROG.
SAFETY
ARCHITECT
ENGINEER
LAND. ARCH.
ACTION TAKEN—DATE

attachments filed in geology folder
COPY [illegible] IN MAIL ROOM (A-14-5) Hrac
WBR
12/31/80

154-GBL

September 9, 1959

Memorandum

To: Regional Director, Region Three

From: Acting Chief, Water Resources Section

Subject: Position of Well Drilled Under Contract 14-10 333-445, Montezuma Castle

Review of Drawing MM-MC/3108-B informs us that the recently drilled well is in a location that is in nominal agreement with the one designated as Diversion No. 2 on the cancelled application, (see Docket 1), any not more than 50 feet off in either N.-S. or E.-W. directions. On the application, which was cancelled because it was not required at the time, being ruled not a diversion from surface resources, the tie to the N.E. corner was: "bears N 52° 09' E, 1336 ft." In the event it should be necessary to file in the future due to modification of Arizona law, we would like to be advised, as time permits, of any appreciable difference in a tie to the "as built" well No. 2 and the tie shown on the application.

SIGNED

Gordon W. Robertson
Acting Chief, Water Resources Section

Copy to: Superintendent, Montezuma Castle
Chief, WORC

NO COPY MADE IN MAIL ROOM

agent Novak

WESTERN OFFICE
DESIGN & CONSTRUCTION
SEP 15 1959 A.M.
CHIEF
ADMIN. ASSIST.
PERSONNEL
PLANS & PROG.
SAFETY
ARCHITECT
ENGINEER
LAND. ARCH.
ACTION TAKEN — DATE

02-27-1959: memorandum to regional director from chief regarding completion report, water supply enlargement

L54-OBL

February 27, 1959

Memorandum

To: Regional Director, Region Three

From: Chief, Water Resources Section

Subject: Completion Report, Water Supply Enlargement, Castle Area, Docket 1, Montezuma Castle National Monument

The attached copies of Form 10-174 and the narrative report of December 16, 1958, should be filed above the log and other records which are already in the subject docket.

SIGNED

A. van V. Dunn
Chief, Water Resources Section

Attachment

Copy to: Superintendent, Montezuma Castle, w/c attachment
Chief, WODC, w/c attachment

WESTERN OFFICE
DESIGN & CONSTRUCTION
MAR 2 1959 A.M.
CHIEF
ADMIN. ASSIST.
PERSONNEL
PLANS & PROG.
SAFETY
ARCHITECT
ENGINEER
LAND. ARCH.
ACTION TAKEN—DATE
none

2

MONTEZUMA CASTLE (CASTLE AREA)
Notes at Regional Office
August 22, 1957

1926 well went dry in 1950.

A replacement was dug near 1926 well, but not as shown in Application A-1744.

Regional Office docket was in terrible shape. We should sent outline of Washington Office docket for guidance in bringing it up to date, in good order.

COPY

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
REGION THREE
SANTA FE, NEW MEXICO

June 8, 1948.

MEMORANDUM for the Director.

There is enclosed copy of Custodian Hastings' memorandum of June 4, relating to the water well which serves Montezuma Castle National Monument. This memorandum is in reply to Mr. Wirth's memorandum of April 30, asking for verification of certain questions relating to water right deed pertaining to this well. It is hoped that Mr. Hastings' explanation of the points in conflict will enable Mr. Dunn to complete his records on this well.

(Sgd) J. R. Lassiter

J. R. Lassiter,
Regional Engineer.

In duplicate.
Enclosure 2866028.
cc: Cust., Montezuma Castle.

COPY

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Montezuma Castle National Monument
Camp Verde, Arizona

June 4, 1948.

MEMORANDUM for the Regional Director, Region Three.

Reference is made to Regional Engineer Lassiter's memorandum of May 5, 1948 regarding wells and water rights for this monument. We regret reply has been delayed so long because of the heavy visitor travel which leaves little time for administrative matters. It is only taking time on a day off duty that I am able to prepare this reply.

The following refers to questions raised by Mr. Wirth in his memorandum of April 30 and transmitted with Mr. Lassiter's memorandum of May 5. The record appears to be understood regarding the well drilled at Montezuma Well in 1947. This is covered in Deed 7 and was transmitted to us with Mr. A. van V. Dunn's memorandum of April 15, 1948.

At Montezuma Castle we have an existing well and a proposed well. The existing well is located within three feet of the south end of our present museum building which before 1939 was the Custodian's residence. The well is about 125 feet from the north bank of Beaver Creek and is sheltered by a pump house attached to the end of the museum building. My information on this well is as reported in my memorandum of April 14 which referred to Mr. Lassiter's memorandum of January 16. It is based on information obtained orally from the driller and from the replies to a memorandum of May 1, 1937 written by former custodian Earl Jackson to his father.

The questions raised by Mr. Wirth are discussed in the order in which they are presented in his memorandum of April 30.

1. The well is 88 feet deep. The Application may have been based on the assumption that water would be struck about 24 feet below the surface which is about the distance to the usual water level in Beaver Creek.

2. The casing of the well where it can be seen is 6" in diameter. I do not know why the Application shows a diameter of 12".

3. It may have been presumed that our well would draw on the underground flow of Beaver Creek as indicated in (1) above.

4. This question must refer to Item 12, Yield, in the Record. We reported the natural flow as "None" meaning there was no artesian flow. We have no way of learning how many gallons of water per minute this well will yield. The pump is mounted over the casing in such a fashion that to examine the well, the pump would have to be disconnected by someone equipped to do well servicing and the whole water system disrupted at a season of heavy travel.

The location of the pump and its connection to a pneumatic pressure system makes it impossible for us to make any observations on the yield of this well. We have no way of checking the rate at which water is now pumped and the lowering of the water surface in the well.

We presume there is no confusion between the existing well discussed above and the proposed well to be drilled about an eighth of a mile to the southeast and up Beaver Creek. This is covered in PCP Sheet U-1-1, January 22, 1942. Our latest Priority Sheet showed the Index Number as U-1-2 for this item.

In duplicate.

Homer F. Hastings,
Custodian.

04-30-1948: memorandum to regional director from acting assistant director regarding the record of well

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

WASHINGTON 25, D. C.

April 30, 1948.

MEMORANDUM for the Regional Director, Region Three.

The Record of Well, drilled at Montezuma Castle National Monument in 1928, which was forwarded in duplicate with the memorandum of April 23 from Mr. Lassiter, is assumed to pertain to the existing well described in Deed 3 for that area. Verification is desired because the data conflict with those in the water right deed as follows:

1. The Record gives a depth of 88 feet, but the Application gives a depth of 24 feet.

2. The Record gives a diameter of 6", but the Application gives a diameter of 12".

3. The Record indicates that water was encountered at a depth of 48 feet, after penetrating 30 feet of limestone rock formation, while the Application is based on diversion of underground flow of Beaver Creek.

4. The Record indicates that no water is now used (or do you mean that there is no artesian overflow), although it is said to be used for domestic purposes, while the Application indicates that it is the sole source of supply until the proposed well can be drilled about an eighth of a mile to the southeast.

It is extremely fortunate that Mr. Hastings was able to obtain this ancient history from the well driller, if both reports relate to the same well. The information will change the status of water rights appreciably, and will also have considerable bearing on the design for the new well.

It is now particularly important to determine the capacity of the present well. The Water Right Application indicates that the present pump has a capacity of 20 gallons per minute. Tests should be made with this pump to determine whether that quantity of water can be pumped for any appreciable time without lowering the water

surface in the well; or how far the water surface can be lowered in various time intervals, and how long it takes the water to return to the original level after pumping is stopped. If the pump will do it, we should also determine the time needed to pump the well dry; or to a static water level, what that static level is, and the time for refill after pumping.

We note that you have sent us the carbon copies of the Record of Well. We assume that you have retained the original and one copy for the deed assemblies in your office and at the Monument. We still need one extra copy, which we will type. However, in the future, please send us the original so that we can get better photostats if needed. Also, in accordance with Mr. Dunn's memorandum of March 23, we suggest that only one carbon copy be made, and retained by the composer, until we determine how many extra copies will be needed in the particular case.

(SGD) CONRAD L. WIRTH

Acting Assistant Director.

In duplicate.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

54

June 24, 1947.

MEMORANDUM for the Regional Director, Region Three.

Permit No. A-1964 has now been issued on Application No. A-1744 for the appropriation of the underground flow of Beaver Creek at Montezuma Castle National Monument, and one copy of the application-permit is enclosed as completed. Please substitute this copy for the one now in your assembly of Deed 3, and complete that one and forward it to the Monument to replace their copy. Also, please add the permit number after the application number on the lip of your deed folder and advise the Custodian of the Monument to do the same. The resulting extra copy of the application may be destroyed.

The extensions to be made are as follows:

1. Enter permit number at upper left corner of page 1.

2. Enter "Recorded" and "Compared" above application number at upper right hand corner of page 1.

3. Fill in date and time of filing on page 1.

4. Correct paragraph 11 to limit area to be irrigated to 22 acres in NW¼ Section 16 and NE¼ Section 17.

5. Type in signature of application at bottom of page 3.

6. Fill in permit form on last page.

7. Enter application and permit numbers, records of receipt and approval, and indicate that permit was signed by State Land Commissioner, all on cover section of last page.

The notice of beginning of construction may be completed at any time. It would be helpful to have the record of construction, including dates and present status of work on the second well, available when I call at Santa Fe on July 7.

(SGD.) A. VAN V. DUNN
Chief, Water Division.



AvVD:sh.
Enclosure 617.
In duplicate.

C O P Y

Office of
STATE LAND DEPARTMENT
STATE OF ARIZONA
PHOENIX, ARIZONA

June 19, 1947

Re:
Application No. A-1744,
Permit No. A-1964
Beaver Creek,
Southwestern National Monuments,
United States of America

Mr. A. Van V. Dunn,
Chief Water Division,
National Park Service,
Chicago 54, Illinois.

Dear Mr. Dunn:

We enclose herewith permit No. A-1964, which was granted today in the above designated case. Also enclosed you will find our Receipt No. 2028 in the amount of $5.00 for the recording fee for stockwatering permit.

You will note the dates as set forth for prosecution of work, on the 4th page of the instrument, and that you are given until June 19, 1952 within which to completely apply the water to beneficial use, even though in paragraph 8 of the Application a ten year period of time was requested.

In the event that you will require a longer time in which to apply the water than is provided by our statutes, further provision may be made through the Commissioner's order granting a further extension upon showing as set forth by the permittee.

The beginning of construction must commence not later than June 13,1948, or at any time prior to that date that is suitable to the permittee, and notice must be filed in this office setting forth the date of such beginning upon forms furnished by this office, and which we enclose herewith for your use.

Sincerely yours,

(Sgd) Tessie L. Flynn

Tessie L. Flynn,
Secretary Water Division
State Land Department

Enclosures
TLF:j

06-03-1947: memorandum to director from regional engineer regarding the duplicate copy of notice of intention to drill well

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION THREE
SANTA FE, NEW MEXICO

June 3, 1947.

MEMORANDUM for the Director.

There is enclosed the duplicate copy of Notice of Intention to Drill Well which was returned from the Land Department, Water Division, State of Arizona, June 2. This notice relates to the well now being drilled at Montezuma Well for domestic water. It is thought that Mr. Dunn would like to have this duplicate in order to prepare complete copies of files on this project.

(Sgd) J. R. Lassiter.

J. R. Lassiter,
Regional Engineer.

Enclosure 2850836.

05-23-1947: letter to commissioner from associate regional director regarding two copies of form w-1, notice of intention to drill we

WR Copy

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION THREE
SANTA FE, NEW MEXICO

May 23, 1947.

Mr. O. C. Williams, Commissioner,
Water Division,
State Land Department,
Phoenix, Arizona.

Dear Mr. Williams:

There are enclosed two copies of your Form W-1, Notice of Intention to Drill Well at Montezuma Well section of Montezuma Castle National Monument.

There is also enclosed our voucher in the amount of $1.00 for filing fee. It is requested that you sign this voucher as indicated by "x" and return it to this office together with one copy of the application when approved.

Sincerely yours,

E. T. Scoyen,
Associate Regional Director.

Enclosure 2850807.

cc: The Director (2).

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS
54

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

May 1, 1947.

MEMORANDUM for the Regional Director, Region Three.

Please send us a copy of the specifications and advertisement for bids to drill a well at the Montezuma Well area of Montezuma Castle National Monument, to which Mr. Lassiter referred in his memorandum of April 24. Also, please send us a map showing the location of the proposed well.

The Ground Water Act of 1945 of the State of Arizona, Section 6, provides that no person shall drill, or cause to be drilled, any well for the development and use of ground water without first filing notice of intention to drill with the State Land Commissioner. Section 7 of the same act provides that the well driller must file a log on completion of the drilling. In addition, the act was sponsored by the Geological Survey and the Bureau of Reclamation. In the circumstances, we believe that this Service should comply with the law, if for no other reasons than to protect the well driller and facilitate the work of the Geological Survey.

Mr. Dunn has written to the State Land Commissioner for the necessary forms and will file the notice on receipt of the information mentioned above. In addition, please arrange to have the contracting well driller provide us with copies of the log and other reports which he must file.

(SGD) HUGH M. MILLER

AvVD:sh.

Acting Director.

In duplicate.

cc: Mr. Dunn.



04-24-1947: memorandum to director from regional engineer regarding the advice to mr. dunn about advertising for bids for the dr

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION THREE
SANTA FE, NEW MEXICO

April 24, 1947.

MEMORANDUM for the Director.

This is to advise Mr. Dunn that we are advertising for bids for the drilling of a well at Montezuma Well. Since the laws of Arizona do not require filing for a well unless the water is part of the underground flow of a surface stream, we do not consider an application for drilling necessary.

(Sgd) J. R. Lassiter.

J. R. Lassiter,
Regional Engineer.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS
84

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

March 25, 1947.

Mr. G. H. W. Smith,
Engineer, Water Division,
State Land Department,
Phoenix, Arizona.

My dear Mr. Smith:

Before modifying Water Right Application No. A-1744 for diversions of the underground flow of Beaver Creek for Montezuma Castle National Monument, as suggested in your letter of March 18, I am returning it as an illustration of the following discussion. A franked and addressed sticker is enclosed for its return to us without postage.

The 80 acres claimed as arable in the application constitute all land which is suitable for irrigation. The 2.25 acre-feet per acre is the duty of water required for the type of vegetation we propose to irrigate. The capacity of the two pumps totals 50 gallons per minute, but we do not anticipate continuous operation of them.

We have a master plan of development which includes the improvement and maintenance of a road, certain residences, a museum, a machine shop, public comfort stations and parking areas. All of these would be deducted from the 80-acre total to determine the actual potential irrigated area. In addition, much of the area will be left in its natural arid desert state. The irrigation, chiefly to provide shade at areas of human occupancy, will be scattered.

As a result, the application is intended to be a request for the diversion of 6,000 gallons per day for domestic and sanitary purposes, and approximately 50 acre-feet for irrigation of about 22 acres, scattered in relatively small parcels over the 80 acres of land which is suitable for such treatment. In fact, if the full 22 acres are irrigated we would probably provide still more pump capacity to permit some of the units to be shut down for repair and maintenance.

The exact amount of irrigated land depends on the amount of land which must be developed for public use and administrative units. These, in turn, depend on the number of visitors at the Monument at the peak season. Approximately 30% of the annual visitors usually



arrive in August, and as much as half of that monthly peak may arrive in a two or three day period including July 4, the second week in August, or Labor Day, depending on the relation of holidays to the day of the week.

The public attendance at the Monument reached a peak of about 19,000 in 1930, and again in 1934. Unlike attendance at most parks and monuments, the attendance at Montezuma Castle has not shown a continuous gain, due in part, no doubt, to periods of adverse road conditions. However, there was a continuous gain from 1939 to 1941 and the attendance of 1946 was about 50% greater than in 1941. It seems possible, therefore, that we may expect a steady annual increase for some time, until a saturated density of use is reached. At the time I prepared the application for former Superintendent Pinkley, I estimated that density as described in item No. 9.

For these reasons, I omitted any detailed limitations on the areas to be irrigated, assuming that they would be fixed at the time of final proof for the certificate, and that such proof would be made as soon as the limiting maximum of 50 gallons per minute was reached, or as soon as we were satisfied that a lesser amount would be sufficient.

Apparently, the way to clarify the application would be to add a statement in item 11 to show that only parts of the designated acreage will be irrigated, the total being limited by the duty of water and designated average rate of pumping in any one day. This statement is attached in such a way that you can pull it off and return the application with an alternate suggestion if you wish.

It is true that to maintain that average we might want to double or triple the pump capacity if the wells proved adequate, in part to permit use of alternate units, and in part to permit pumping the daily quota in an 8 to 12-hour period. However, since the right with priority of March 9, 1937, is limited to the full time operation of the designated pump capacity, I do not see that these details need mention. Frankly, I have never anticipated that the two designated pumps, with 50 gpm capacity, would need to operate more than 8 or 10 hours per day to satisfy the ultimate needs. However, we always figure that much of the domestic supply can be used for irrigation in April, May, and June, when public attendance is low.

This Service does not wish to make exotic developments in its areas except to the extent necessary for human comfort. This Monument

being in an arid region, the irrigation will be quite limited. Even the shade trees will be those native to the general area, but encouraged to provide a maximum of shade by irrigation to maintain maximum growth.

Sincerely yours,

(SGD.) A. VAN V. DUNN

A. van V. Dunn,
Hydraulic Engineer,
Chief, Water Division.

AvVD:sh.

Enclosure 545.

cc: Regional Director, Region Three (2),
with 2 copies of Mr. Smith's letter
of March 18, 1947.

03-22-1946: memorandum to director from nps regarding new arizona ground water law

WR Copy

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION THREE
SANTA FE, NEW MEXICO

March 22, 1946.

MEMORANDUM for the Director.

Reference is made to Mr. Dunn's memorandum of March 19 relative to the new Arizona ground water law.

We do not know of any of our wells in Arizona that come within the 100 gpm requirement of this law. The intake in Phantom Ranch in Grand Canyon is not considered a well at all as it is merely a sump into which a portion of the flow of Bright Angel Creek is diverted.

It will be satisfactory to proceed with the perfection of water rights at Montezuma Castle under application A-1744 in its present form as there have been no changes in either the existing installation or the proposed additions that would warrant amending the application.

We do not recall any other wells that might be classed as being located in stream channels which would be subject to appropriation under the revised policy of the State Water Division.

JAMES R. LASSITER

James R. Lassiter,
Regional Engineer.

In duplicate.

03-19-1946: memorandum to regional director from nps regarding a copy of the arizona ground water law

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

March 19, 1946.

MEMORANDUM for the Regional Director, Region Three.

There are enclosed one copy of the new Arizona ground water law and two copies of a letter of March 12 from Mr. C. H. W. Smith, Engineer, Water Division, Arizona State Land Department, relating to Application No. A-1744 for the appropriation of water for Montezuma Castle National Monument.

It is evident that this Service will not have many wells which will require recording as long as the law applies only to those with a capacity of 100 gallons per minute, or more. However, we will obtain copies of the forms to be used for the rare cases, and distribute them for your guidance. We wonder, too, if you can think of any existing wells which can produce 100 gallons per minute. The well at Phantom Ranch in Grand Canyon, for instance, only has a pump of 30-gallon per minute capacity, but we wonder if a higher test run was ever made.

In replying to Mr. Smith's questions about Application A-1744, we propose to request a permit and proceed with the perfection of rights. Before doing so, however, we should like to know whether there has been any change in the installation to merit amendment of the application.

The change of policy by the State means that we should now apply for permits to appropriate the water diverted from all wells in stream channels. We shall review our records of such wells and will appreciate having you suggest any cases which you think need such attention.

(SGD.) A. VAN V. DUNN

Chief, Water Rights Division.

AvVD:sh.
Enclosure 380.
In duplicate.



02-21-1946: memorandum to regional director from nps regarding two assemblies of montezuma castle national monument water

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS 54

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

February 21, 1946.

MEMORANDUM for the Regional Director, Region Three.

Enclosed are two assemblies of Montezuma Castle National Monument Water Right Deed No. 3 for your office and that of the Custodian, which includes the following papers:

1. Drawing NM-MONT-4978, in 2 sheets, Beaver Creek Diversions for Montezuma Castle National Monument.

2. Water Right Application No. A-1744 for appropriation from Beaver Creek for domestic and irrigation use at Montezuma Castle National Monument.

3. Letter of February 9, 1937, from Attorney Joseph E. Taylor to Superintendent Pinkley, forwarding original application for signature and transmission to the State Water Commission.

4. Letter of October 11, 1939, from State Water Commissioner to Superintendent Pinkley.

5. Letter of October 18, 1937, from Superintendent Pinkley to Attorney Joseph E. Taylor.

6. Letter of October 29, 1937, from Regional Attorney Joseph E. Taylor to Superintendent Pinkley.

As the correspondence indicates, this application has been held in abeyance by the State Water Commissioner pending proof of the source of appropriation. The Arizona water law was amended to include well diversions, effective October 3, 1945. We are now attempting to have this application considered under the new law, and to determine how far the law will become applicable to other wells which we have had to disregard to date.

Our records show that copies of the maps were forwarded to you with Mr. Taylor's letter of February 9, 1937. In order to avoid the necessity of making up extra maps here, will you please extract those maps from your files and place them in the assembly marked for your office, below all the other documents. The assembly marked for the Custodian contains the maps, as well as the other papers.



We have no record as to the signature of applicant at the bottom of page 3 of the application, and if you have a signed copy in your office we would appreciate this information.

If this application is accepted under the ground water law, it may be possible to establish a priority of first use rather than the date of filing. We understand from Mr. Richey that a well was in use before 1931, but he does not know whether the present one is on the same site or a new one. Please advise us as to the dates and locations of successive wells as far as possible, so that we may obtain the earliest possible priority on the basis of use, showing changes in point of diversion if necessary.

(SGD.) A. VAN V. DUNN

Chief, Water Rights Division.

AvVD:sh.

Enclosure 150.
In duplicate.

02-21-1946: letter to state land department from nps regarding manual of industries relating to the appropriation of water

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS 54

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

February 21, 1946.

Mr. O. C. Williams, Commissioner,
State Land Department,
Phoenix, Arizona.

My dear Mr. Williams:

We have received a copy of your Manual of Instructions, dated January 1946, relating to the appropriation of water, which advises that Senate Bill No. 5 of the First Special Session, 1945, of the 17th Legislature, has been passed, and that a ground water law is now in effect. Please send us three copies of the law, and the same number of the forms which are used in connection with the perfection of rights thereunder.

From the information in the manual, it appears that it is not compulsory to file unless the well has a capacity of 100 gallons per minute. If the law, as passed and printed, does not explain the matter, we should like to know whether you are now accepting, or propose to accept, filings for wells where the average daily diversions will be between 1,000 and 100,000 gallons per day.

As a specific case, we have filed Application A-1744 for the diversion of water in Beaver Creek drainage for use at Montezuma Castle National Monument, claiming the source as the underground flow of the Creek. There has been no final application since 1937 because of failure to provide adequate proof that the water was from the Creek and not mere percolation. It seems possible that this application might be cleared under the new law, without the aforesaid proof. If this is possible, we should like to know whether the application should be transcribed on a new form. Also, before obtaining a permit under the ground water law, we should like to introduce the date of first use, which was prior to 1930, and must be verified.

Sincerely yours,

(SGD.) A. VAN V. DUNN

A. van V. Dunn,
Chief, Water Rights Division.

AvVD:sh.

cc: Regional Director, Region Three (2).



601 Sheldon Building

August 20, 1942.

State Water Commissioner,

Phoenix, Arizona.

Dear Sir:

Reference is made to your letter of July 18, 1942, regarding water rights on Beaver Creek near Montezuma Castle National Monument, and particularly to our water right application A-1744 on which further action is still pending.

Since making the inquiry to which your letter is the reply, we have obtained a description of the land of Mrs. Flo Alice Davis and find that it lies to the south of the monument instead of to the north, although it does abut on the stream both above and below the Park Service diversions covered by application A-1744. We enclose a print of drawing NM-MONT-6975, Redorded Water Claims on Beaver Creek, which shows the location of the monument, the land of Mrs. Davis, and the water rights listed in your letter.

We assume that the list in your letter included all rights on Beaver Creek, but as a precaution I am taking this opportunity to make sure that no right which might influence application A-1744 was omitted because of our inadequate description of Mrs. Davis' land.

We understand that Mrs. Davis is contemplating the sale of her land and that the purchaser may initiate or increase water use thereon. Such development might conflict with the Park Service claims. It might also provide the proof for our claim that the Park Service wells divert underground stream flow rather than percolating water. For these reasons we are particularly

FILE COPY

interested in any claims or applications which may be filed in the future for such diversions. Therefore, whether above or below our diversions, we shall appreciate immediate advice as to any further applications to appropriate waters of Beaver Creek.

Yours very truly,

AvVD:SH

A. van V. Dunn,
Hydraulic Engineer.

Enclosure 2121997.

cc: Director) with print and
Region Three) copy of Mr.
Supt.,S.W.Mons.) Wanslee's letter
Custodian,) of 7/18/42.
Montezuma N.M.)
through Supt.,S.W.M.)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION FOUR
SAN FRANCISCO, CALIFORNIA
601 Sheldon Building

July 11, 1942.

MEMORANDUM for Attorney Albert L. Johnson:

Reference is made to Mr. Richey's memo of July 8, 1942, regarding water rights at Montezuma Castle.

Water Right Application A-1744 was rejected by the State Water Commissioner because the source of supply was a well, was not subject to appropriation, and therefore did not come under the jurisdiction of the Water Commissioner. We tried to prove that the well was in fact a diversion of the underground flow of Beaver Creek, instead of a diversion of percolating water, and therefore would be subject to appropriation and Commission jurisdiction. My arguments were given in "Analysis of Source of Water Supply of Wells at Montezuma Castle National Monument", dated April 20, 1937. The Regional Geologist offered additional arguments about the same time. We did not go to the expense of fluorescein tests.

Mr. Joseph E. Taylor was satisfied that we had a good claim to diversion rights as of March 9, 1937, when the application was filed, provided we resubmit it when, or if, the water code is amended. Apparently we have done all we can for the time being.

The claim, however, was all for well diversions for domestic and irrigation purposes. There are no irrigation ditches. We could file an application to divert surface flow of the stream by ditch at any time that plans for such ditches are available. This application would become senior to any initiated by the proposed purchaser of the higher land but junior to any rights and claims now existing, if we can get our filing in before Mrs. Davis or the vendee can file further claims.

Water rights lapse in Arizona after five years of non-use. If Mrs. Davis has not used any water since our filing in 1937 there would seem to be no senior right. However, the State water code did not become effective until 1919. What is your interpretation of possible lapse of rights initiated by use before that date?

Also, the water code states that percolating water is the property of the landowner without legal appropriation. If Mrs. Davis and her client can divert the whole stream without affecting the NPS well we have no grounds for complaint. If such diversion does lower the well level it will prove what we failed to prove in 1937. It would then be time to go to court if necessary to get our filing A-1744 reinstated as of March 9, 1937. This is where Mr. Taylor expected our record of the rejection to be of value.

Subject to any ideas you may have I feel that we should do nothing until diversions are made above the monument except keep a record of the water level in the well before and after each pumping and every day or two if pumping is not so frequent. Also, I will investigate water right filings with the Water Commissioner, and we should have any records on land title which Mr. Richey may obtain.

A. Hand Dunn

Hydraulic Engineer.

10-29-1937: letter to superintendent from regional attorney regarding position has been protected for application a-1744

Montezuma Castle
Chiricahua

FILE COPY

October 29, 1937.

Mr. Frank Pinkley,
Superintendent,
Southwestern Monuments,
Coolidge, Arizona.

Dear Mr. Pinkley:

This refers to your letter of October 18 with which you enclosed a copy of a letter from the State Water Commissioner Jesse C. Wanslee under date of October 11.

Inasmuch as the State Water Commissioner has received our application, at least to the extent of filing it, and since he acknowledges that the filing establishes the date of priority as of March 9, 1937, it seems to us that our position has been protected.

We recommend that the matter be allowed to rest in status quo if possible. I do not see how we can furnish any further proof, but it is possible that Mr. Dunn will again be in the vicinity of this monument during the winter, and he may have further suggestions after viewing the ground personally.

At this time we would also like to acknowledge receipt of your letter of October 12 concerning your application for a permit to appropriate water at Chircahua National Monument. We note that payment of the permit fee has been acknowledged and that you are tracing the matter and will advise of any further information upon the subject.

Sincerely yours,

Joseph E. Taylor,
Regional Attorney.

In duplicate.

JET:SH

CC: Director
Regional Director, Region 3

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

October 18, 1937.

Joseph E. Taylor, Attorney,
Branch of Land Acquisition and Regulation,
Region Four, National Park Service,
610 Sheldon Building,
San Francisco, California.

Dear Mr. Taylor:

We are enclosing copy of a letter dated October 11 from Mr. Jesse C. Wanslee, State Water Commissioner, concerning application No. A-1744 for permission to appropriate the waters of Beaver Creek at Montezuma Castle National Monument. We should like to have your advice with respect to the statements made by Mr. Wanslee in the last paragraph of his letter.

Cordially,

(Sgd) Frank Pinkley

Frank Pinkley,
Superintendent.

09-30-1937: letter to state water commissioner from nps regarding satisfactory proof that the water proposed for appropriation for

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

REC'D OCT 2 1937

September 30, 1937.

State Water Commissioner,
Room 407,
Arizona State Building,
Phoenix, Arizona.

Dear Sir:

Reference is made to Mr. Stewart's letter of April 5, 1937, File A-1744, Beaver Creek, Frank Pinkley, Superintendent, Southwestern National Monuments.

In this letter Mr. Stewart stated that it would be necessary to furnish satisfactory proof that the water proposed for appropriation in the above-mentioned application is in fact sub-surface water of Beaver Creek. In reply, the following representations are made:

1. An analysis of source of water supply of wells at Montezuma Castle National Monument, prepared by Mr. A. van V. Dunn, Associate Engineer, National Park Service, Branch of Land Acquisition and Regulation, Legal Division, illustrated with photographs and maps is submitted herewith and demonstrates that there is actually an appropriation of the waters of Beaver Creek.

2. Letter addressed to me by Vincent W. Vandiver, Associate Regional Geologist, National Park Service, is enclosed for the bearing which the last paragraph bears on the Montezuma Castle situation. It will be noted that Mr. Vandiver, a competent geologist, says that "There is little question that the water in the well is coming from a sub-surface flow of Beaver Creek."

3. Copy of a letter signed by H. B. Hommon, Senior Sanitary Engineer, United States Public Health Service, is enclosed giving chemical analysis which corroborates the assertion that the creek is the source of the water in the well.

4. It is noted that one A. R. Taylor has protested our filing on the ground that it would interfere with his developments since 1931. In this connection you are informed that the present well was drilled in 1928 and has been used continuously since that date by the Government.

09-30-1937: letter to state water commissioner from nps regarding satisfactory proof that the water proposed for appropriation for

5. Attention is invited to the fact that plans are now on file for drilling an additional well in the vicinity of the public camp ground and that such additional well is merely a portion of an enlargement of the existing system which will be continued by drilling other wells as required by future use. In view of the fact that contemplated and proposed additional wells supplement a system which has been in existence since 1928, it is felt that the original seniority on the first well should apply to the whole system.

Information is requested as to whether the data given above is sufficient to prove appropriability of the water and the senior right of the Park Service over that of Mr. A. R. Taylor on Beaver Creek. We feel that the Government has a clear and definite case and if additional information is required this office would wish to be given an opportunity to present it at an early date.

Cordially,

Frank Pinkley

Frank Pinkley,
Superintendent.

cc: Joseph E. Taylor, Regional Attorney,
Region IX, National Park Service,
801 Sheldon Building, San Francisco.

NATIONAL PARK SERVICE
BRANCH OF LAND ACQUISITION AND REGULATION
WATER RIGHTS SECTION

110 Sutter St.,
San Francisco, Calif.,
September 24, 1937.

MEMORANDUM TO MR. JOSEPH E. TAYLOR:

SUBJECT: Water Rights - Montezuma Castle National Monument

In reply to Mr. Pinkley's letter of August 18, I believe that he should submit a copy of Associate Regional Geologist Vandiver's letter of June 25 to the State Water Commissioner at Phoenix, calling special attention to the last paragraph which seems to be all that pertains to the Montezuma water system. We should also supply Mr. Pinkley with copies of Senior Sanitary Engineer Harry B. Hommon's report or letter of July 27 relating to the chemical content of the stream and well at Montezuma Castle, instructing him to forward a copy of this with a copy of Mr. Vandiver's letter to the Water Commissioner.

I am not sure but it might be well to have Mr. Hommon and Mr. Vandiver sign the copies of their respective letters which are to be sent to the Water Commissioner.

Former Water Commissioner Edwin T. Stewart also advised us on April 3, 1937, that Mr. A. R. Taylor had protested our filing on Montezuma Castle water on the ground that it would interfere with his developments since 1931. Mr. Pinkley should advise the Water Commissioner that the present well has been in operation since a much earlier date. He might be able to give the exact date which gives our right a decided seniority over that of Mr. A. R. Taylor.

He should also call attention to the fact that the proposed well in the vicinity of the campground is merely a portion of an enlargement of the existing system, and that therefore the original seniority on the first well should apply to the whole system, and his proposed well should be merely another step in the proof of appropriation of the total quantity of water requested in our application.

I believe then that it would be well for Mr. Pinkley in his letter to the Water Commissioner to ask specifically in closing if this data is not sufficient to prove the appropriability of the water as requested in our application. This will tend to produce a possible written statement from the Water Commissioner, either accepting the filing or definitely rejecting it, either of which I believe you consider ample protection for the monument.

A. van V. Dunn,
Associate Engineer.

CC: Supt. Pinkley (2)
Acting Regional Director.

09-27-1937: letter to superintendent from attorney regarding water rights

FILE COPY

September 27, 1937.

Mr. Frank Pinkley,
Superintendent,
Southwestern Monuments,
Coolidge, Arizona.

Subject: Water Rights -
Montezuma Castle National Monument.

Dear Mr. Pinkley:

There are enclosed two copies of Associate Engineer Dunn's memorandum of September 24 to me, referring to your letter of August 18, regarding the water right filing at Montezuma Castle National Monument. This memorandum is self-explanatory, and I believe should be followed as a method of procedure. Also enclosed are two signed copies of Mr. Hommon's letter of July 27. The procedure as outlined is as follows:

1. Send the State Water Commissioner at Phoenix one copy of Mr. Dunn's memorandum, one copy of Mr. Hommon's letter, and one copy of Mr. Vandiver's letter of June 25.

2. In your letter of transmittal give the date of first use of the existing well to the best of your ability, being sure that it is prior to 1931.

3. Include in your letter an explanation of the intent to consolidate the proposed new well with the old as a part of an enlarged water system in order that it serves as an additional proof of appropriation with the original priority of the first well.

4. Make a point of asking if this data is sufficient to prove appropriability of the water, and the senior right of the Park Service over that of Mr. A. R. Taylor on Beaver Creek.

We also wish to advise you that Mr. Stewart is no longer Water Commissioner, but Engineer of the Water Commission. As we do not know the name of the new Commissioner, the correspondence should be addressed to the office rather than the individual.

Sincerely yours,

Joseph E. Taylor,
Attorney.

Encls.

AvVD:SH

CC: [redacted]
XXX[redacted]
ACTING REGIONAL DIRECTOR.

08-18-1937: letter to attorney from nps regarding water rights

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

RECD AUG 20 1937

Aug. 18, 1937.

Mr. Joseph E. Taylor, Attorney
Branch of Land Acquisition & Regulation
National Park Service
110 Sutter Street
San Francisco, California

Dear Mr. Taylor:

Subject: Water Rights - ~~Canyon de Chelly~~ and Montezuma Castle National Monuments.

Receipt is acknowledged of your letter of July 29 relating to the above subject. In the second paragraph you say that you have no copy of the report on Montezuma Castle to which Mr. Vandiver refers unless he means Mr. Dunn's "Analysis of source of water supply of wells at Montezuma Castle National Monument." This is the report to which Mr. Vandiver refers. We sent it to him for consideration in connection with his study of the problem.

In the third paragraph you say "These two reports should support our application to appropriate water at Montezuma before the State Water Commissioner, Mr. Stewart." Do we understand that we should submit copies of the two reports to the State Water Commissioner? If so, we do not have copy of Mr. Hommon's opinion and in that case would be glad if you would send us a copy. If it is merely intended to convey that the reports would be available in case argument is necessary on the application, no further action is requested.

Cordially,

Frank Pinkley

Frank Pinkley,
Superintendent.

08-06-1937: letter to senior sanitary engineer from attorney regarding failure of acknowledgement of receipt of letter containing rep

FILE COPY

August 6, 1937.

Mr. H. B. Hommon,
Senior Sanitary Engineer,
U. S. Public Health Service,
210 Federal Office Building,
San Francisco, Calif.

Dear Mr. Hommon:

The short conversation had with you today in the National Park Service drafting room served to remind me that I have failed to acknowledge receipt of your letter of July 27, which contains your report on the results of partial chemical analyses of samples of water from the well and creek at Montezuma Castle National Monument.

As explained to you, we are accumulating evidence for the purpose of establishing to the satisfaction of the State Water Commissioner that the water in use at Montezuma Castle, coming as it does from a well, is actually the subsurface flow of the creek and therefore subject to appropriation. Your report will be very helpful in the compilation of this evidence, and I take this opportunity of expressing our thanks for your thorough and prompt action.

Sincerely yours,

Joseph E. Taylor,
Attorney.

JET:H

PARTIAL COPY
(Complete report in 660-05.7 Southwestern Monuments File)

NATIONAL PARK SERVICE
BRANCH OF LAND ACQUISITION AND REGULATION

REPORT ON

TRIP TO THE SOUTHWESTERN MONUMENTS

By

Albert L. Johnson,
Associate Attorney.

110 Sutter Street,
San Francisco, Calif.,
June 1, 1937,
Revised as of Aug. 1, 1937.

In accordance with our conferences of May 1 and May 8, 1937, I visited the headquarters of the Southwestern Monuments at Coolidge, Arizona, for the purpose of interviewing the Superintendent, and, in compliance with his request, going into a general discussion of the water rights situation in the Southwestern Monuments, and with particular reference to our correspondence in the matter of acquisition of water rights at White Sands, Montezuma Castle, Chiricahua, and Saguaro.

* * * * * * * * *

Montezuma Castle National Monument, Arizona

Superintendent Pinkley and Mr. Miller thought it advisable for me to visit Montezuma Castle in view of our filing for a water right there and receiving two protests thereto. On talking over the situation with them as to our correspondence with Water Commissioner Stewart, neither Mr. Pinkley nor Mr. Miller would venture a recommendation as to whether our filing was for percolating waters or for the diversion of waters from Beaver Creek. They advised me to visit the locality myself, and in particular consult Russell Farmer, the park ranger there, who is the only geologist employed on the Southwestern Monuments. They then stated that if Mr. Farmer's report to us should not be sufficient, they would advise Mr. Vandiver, the Regional Geologist at Santa Fe, to go there for a special report and make an analysis by copper smelter or chemical indicator. No reference was made to the Custodian of this monument as to whether or not he had any special knowledge on the subject.

After my visit with Superintendent Pinkley and Assistant Superintendent Miller, I interviewed Mr. Stewart, the Water Commissioner of Arizona, and his assistant, Mrs. Harrison. I was told by them that our applications on Grand Canyon were about ready for approval and would soon be ratified. I asked the Water Commissioner about filing a tentative application to establish priority where the matter is not susceptible of proof at the time. In answer to this question of Mr. Taylor, the Water Commissioner said no such application would be received. The answer was positively "No". As to the second question -- whether the provisional application would be received or refused by letter of the Commissioner, he stated that it would be refused by letter.

Mr. Stewart desired me to go to Montezuma Castle National Monument, and investigate the facts there as to water flow in Beaver Creek. He thought, as did Mr. Pinkley, that first-hand information should be obtained about this water filing before attempting to make proof before the Water Commissioner of our appropriation of underground flow. Mr. Stewart thought our filing was made without full

knowledge of the facts there. He recommended that if we found that he was correct in assuming that our well was merely tapping percolating water, that our application should be withdrawn, but that if we were sure that we could prove our case in accordance with our application and map submitted, then we should proceed with a geological report and proof in accordance with the case of Maricopa County District which he had cited to us in correspondence with this office.

Mr. Stewart did not regard the protest of Mrs. Davis, situated on land above our appropriation, as being of any consequence, but did regard the protest of the rancher whose land was below our appropriation as being important. At any rate, Mr. Stewart wanted to be advised of our position as soon as we had geological information on the subject so as to determine whether we insisted on going ahead with our case.

Mr. Stewart stated that he did not think our application was filed according to the facts existing in Montezuma Castle National Monument, and he deemed the facts to come under the provisions of paragraph 23 of the syllabus of the Maricopa County decision.

Custodian Jackson, during the three hours I was with him, tried to show me the Government spring which rises in Beaver Creek. Although we tramped the entire length of the monument boundaries on Beaver Creek, we could not locate this spring. Jackson stated that the spring was marked on the Government maps as Government Spring, and was so marked in the office of Mr. Kittredge. He said he had not seen the spring, however, for five years, so that it might be in the middle of the river or opposite wall now instead of on the near bank. They had unusual rainfall in that vicinity this year.

Mr. Jackson stated that he had only returned to Montezuma since January of this year, having formerly been stationed at Bandelier, but that he had been reared in this vicinity and that his father was the first Custodian. Jackson did not know whether the present well in back of his residence affected the stream flow ornot, but promised to put on a little demonstration for me when I returned Monday. He said he would pump from the well and fill the storage tank to capacity and see if the stream flow of Beaver Creek was affected by that procedure. He said that his father had exhausted the well by pumping it dry without mentioning any effect on the stream flow. He would write his father to see what his memory was on the subject.

Upon my return to Montezuma the following Monday morning, I spent most of my time talking with Ranger Geologist Farmer, to whom Mr. Pinkley referred me. Mr. Farmerwas to be made Custodian of White Sands the first of July. Mr. Farmer repeated to me what Jackson had said about the former Custodian, Jackson Senior, not mentioning any effect on the stream flow from pumping the well. He also said that the water in the stream was softer than the well flow. He would not venture an opinion as to Mr. Dunn's contentions in our application and map on file for the water right, but said that the whole basin between Montezuma Castle and the opposite wall one-half mile distant might derive its water from the same underflow.

He said that hackberry and sycamore trees that are now growing along the north bank of Beaver Creek near the headquarters must have plenty of water, and as they were in a flourishing condition their roots probably penetrated to the underflow of Beaver Creek. Those hackberry and sycamore trees are about 10 feet above this season's highest flow of the stream. They really grow at the same level or elevation at which the well is situated. He gave me the following measurements as to elevation above sea level:

3154 elev. = lowest outcrop of solid limestone.
3174 elev. = top of well.
3150 elev. = bottom of well.
3158 elev. = top of stream.

The Geologist agreed with me that you could hardly consider this a canyon. It was more in the nature of a wash or a valley, ranging from 1/2 mile to 3/4 mile in width, with a cliff on the north side which holds Montezuma Castle, and quite a little series of uplands on the south side, which might be called mesas. He could not give any data on underground stream flow.

Mr. Farmer stated that Mr. Vandiver, the Regional Geologist, would be in Montezuma within a week, and that they would then make a joint investigation of the geological formation, and if they could not agree upon a conclusion, he thought the only thing to do would be to have a scientific test made, as suggested by Mr. Dunn and Mr. Pinkley. If Mr. Vandiver did not arrive, Mr. Farmer promised to make a personal report on the geological formation around Montezuma.

We now have the report of the Regional Geologist, Mr. Vandiver, and the analyses of the water of our well and of Beaver Creek by the Sanitary Engineer, Mr. Hommon, who both concur in our conclusion that the waters of our well are from the same source as Beaver Creek. From these two reports, I think we should proceed with our filing and the proof thereof before the Water Commissioner of Arizona. I think we can meet the requirements of the Maricopa case as pointed out to me by State Water Commissioner Stewart. These requirements we must meet are declared by the Supreme Court of Arizona as follows:

"Waters and Water Courses - §130.

"Waters may be subject to appropriation as being 'subflow' of river.

"The 'underflow,' 'subflow,' or 'undercurrent,' as it is variously called, or surface stream, may be defined as those waters which slowly find their way through sand and gravel constituting bed of a stream, or lands under or immediately adjacent to stream, and are themselves part of surface stream.

"In determining whether waters are subject to appropriation as subflow, inquiry is whether drawing off of subsurface water tends to diminish appreciably and directly flow of surface stream.

"If drawing off of subsurface water does tend to diminish flow of surface stream, it is subflow, subject to same rules of appropriation as surface stream itself, but, if it does not, then, although it may originally come from waters of such stream, it is not, strictly speaking, part thereof, but is subject to rules applying to percolating waters."

The Custodian at Montezuma, Mr. Jackson, was not very much interested in our water filing, but Mr. Fenner, as stated by Mr. Pinkley, was very much interested in the legal and geological questions involved.

Montezuma Castle
X Canyon de Chelly

July 29, 1937.

Mr. Frank Pinkley,
Superintendent,
Southwestern Monuments,
Coolidge, Arizona.

Subject: Water Rights - Canyon de Chelly and Montezuma Castle National Monuments.

Dear Mr. Pinkley:

We have your letter of June 29 enclosing report from Regional Geologist Vandiver in regard to water rights at Canyon de Chelly National Monument.

The report on Canyon de Chelly with photographs is complete, but Mr. Vandiver only incidentally mentions the Montezuma Castle question. With reference to the last paragraph of Mr. Vandiver's letter, he says there is little question but the water in the well is coming from a sub-surface flow of Beaver Creek "although we have no log of the well". We have no copy of the report on Montezuma Castle to which Mr. Vandiver refers, unless he means Mr. Dunn's "Analysis of Source of Water Supply of Wells at Montezuma Castle National Monument" which was forwarded to you on April 20, 1937, a copy of which is in our files. If this is not the report indicated by Mr. Vandiver, we would appreciate having a copy of the one referred to.

Mr. Vandiver's conclusion on Montezuma Castle is corroborated by a letter we received yesterday from H. B. Hommon, Senior Sanitary Engineer of the U. S. Public Health Service, in which he gives his conclusion, after analyzing the samples of water from the well and creek at Montezuma Castle. Mr. Hommon concludes that the waters of the well and creek are from the same source. These two reports should support our application to appropriate water at Montezuma before the State Water Commissioner, Mr. Stewart.

Sincerely yours,

Joseph E. Taylor,
Attorney.

By
Albert L. Johnson,
Associate Attorney.

A.J:3H

06-21-1937: letter to superintendent from attorney regarding request of bottled water from the stream and well to be analyzed

FILE COPY

June 21, 1937.

Mr. Frank Pinkley,
Superintendent,
Southwestern Monuments,
Coolidge, Arizona.

Dear Mr. Pinkley:

Mr. Johnson on his return from the Southwestern Monuments advises that Mr. Farmer considers the water in the stream softer than that in the well at Montezuma Castle. This in itself, if proved, should settle the matter of relation of the well to the stream flow. It would be highly desirable if you could forward to us a bottle of approximately a pint capacity each of water from the well and from the stream proper, in order that we may have them analyzed by the Public Health Service.

From the latest data there seems to be great probability that the well itself may not be subject to appropriation in accordance with the State laws. However, the value in the present case is the information which is being obtained for use in the proper treatment of the water at other monuments in canyon bottoms, and as such we should carry the matter as far as we can to use as a basis in the study and treatment of these other monument water systems.

The point at the moment is not so much the immediate appropriation, as it is the assurance that our rights are protected against possible interference by others. We have suggested this matter to Mr. Stewart, and we feel that probably such protection is only going to be possible by either a filing or by the State later refusing to accept the application.

For the moment at Montezuma, we do not wish to lose the priority of the existing filing until we are sure what the conditions are likely to be with regard to the new system and additional well which are proposed for future construction.

Sincerely yours,

Joseph E. Taylor,
Attorney.

AvVD:SH

By

A. van V. Dunn,
Associate Engineer.

AvVD:SH

CC: Mr. Dunn.

P.S.-- Mr. Johnson told me that Mr. Vandiver, the Regional Geologist, was to make an analysis of the waters of Beaver Creek and of the well at Montezuma Castle. He stated in his report on his return from Arizona that Mr. Farmer was going to write his opinion of the geological formation before leaving Montezuma for White Sands, and Mr. Farmer stated on May 24 that Mr. Vandiver was expected at Montezuma that week, and that they might collaborate on a joint report. At any rate, we are expecting to hear from one or the other of these geologists, giving us their opinion of the formation at Montezuma and an analysis of the water there.

A. v. V. D.

ALJ:SH

PARTIAL COPY OF MEMORANDUM TO MR. TAYLOR FROM ASSOCIATE ENGINEER A. VAN V. DUNN DATED JUNE 21, 1937.

(Complete copy of memorandum in 660-05.7 Southwestern Monuments File)

June 21, 1937.

MEMORANDUM TO MR. TAYLOR:

Re: Mr. Johnson's Report on Trip to the Southwestern Monuments.

I have reviewed Mr. Johnson's report on his trip to the Southwestern Monuments, and make the following suggestions:

* * * * * * * * * * *

1. The State Water Commissioner, Mr. Stewart, has suggested that possibly insufficient study was made regarding the Montezuma Castle water system before filing an application.

I think this point is one needing careful consideration at any time when we make a filing. In the particular case, with what information was available, there did not seem to be as much question as has since arisen, and I think that we were doubtless fully justified in the procedure we followed at the time. Further in this connection, the particular filing is in actuality a part of a study as I see it, in that we are trying to determine just what procedure to follow in connection with this and other somewhat similar water systems in the Southwest. We wish protection for the future, and if water is not now subject to appropriation, but may later be when priorities have become much more numerous, it will be highly desirable to find some way of recording our claims even if, as you suggest, with a letter of refusal as the answer from the State Water Commissioner.

2. In the interviews between Mr. Johnson and others, there seems to be quite a definite feeling on the part of the Superintendents and Custodians that they will assume the responsibility of determining whether water should be legally appropriated or not, and there seems to be a general reluctance on the part of the Southwestern Monument officials to make filings and appropriations in most cases. This is probably due in some measure to the current action with regard to the Montezuma case, and somewhat due to the Director's latest decision not to file on the Pipe Springs water system, and partially because of the rather delicate associations between these officials and their local neighbors.

06-10-1937: memorandum to attorney from associate engineer regarding filing of application a-1744 to retain until final proof can

June 10, 1937.

MEMORANDUM TO MR. TAYLOR:

I have reviewed Mr. Miller's letter of June 2 regarding the Montezuma Castle water system.

The depth of 88 feet given in this letter now brings the number of recorded depths to three -- namely, 30, 70, and 88. Further, this is the first reference to having pierced the limestone formation below the gravel-filled stream bed, and the first information that water was not struck until a depth of 48 feet was reached.

From the information given, it is quite evident that the existing diversion is from an underground source, and it would be extremely difficult to prove any connection between this source and the surface stream.

This does not, however, settle the matter of the proposed additional well, which may or may not draw from the surface stream. It seems probable that the same source as the existing well will be used, but this is entirely dependent on the final design and construction.

On the basis of information as we now have it, I suggest that we reply to the State Engineer to the effect that the major supply of the existing well is not subject to appropriation, but that there is a possibility of a certain amount of seepage from the surface waters which may also be diverted, and would be subject to appropriation; and that, further, the proposed additional well is still in such preliminary stages of design that we wish to retain the filing A-1744 until final proof can be made of the source at the time of drilling.

A. van V. Dunn,
Associate Engineer.

CC: Supt. Pinkley.
Mr. Dunn.

06-02-1937: letter to attorney from nps regarding information for the application to appropriate water rights

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

REC'D JUN 5 1937

June 2, 1937.

Mr. Joseph E. Taylor, Attorney,
Branch of Land Acquisition & Regulation,
Legal Division, 110 Sutter Street,
San Francisco, California.

Dear Mr. Taylor:

Reference is made to your letter of April 20 asking for certain specific information with respect to the application to appropriate water rights at Montezuma Castle National Monument.

We have finally elicited the following information, obtained from memory by Mr. Martin L. Jackson, who was custodian at Montezuma Castle National Monument at the time the well was dug:

> The well is 88 feet deep. River fill, loose rocks, dirt, gravel, etc., were drilled through for 18 feet before limestone formation was struck. Water was struck at 48 feet below the surface. The well was dug in 1928 and was put in use at once. No diminution of flow in the creek has ever been observed as a result of operation of the pump.

Ranger Farmer, who is a competent geologist, advises that since the well penetrates the limestone formation that it cannot possibly be related to the flow in the stream channel. In the circumstances it would appear to this office that we need have no concern with the waters in the well so far as the application for appropriation is concerned. OK.

We have not answered all the questions at issue. We shall be pleased to go into the matter further upon receipt of additional request.

Very truly yours,

Hugh M. Miller,
Assistant Superintendent.

HMM:LG

PARTIAL
C O P Y

(Complete report in 660-05.7 Southwestern Monuments File)

NATIONAL PARK SERVICE
BRANCH OF LAND ACQUISITION AND REGULATION
WATER RIGHTS SECTION

REPORT ON

TRIP TO THE SOUTHWESTERN MONUMENTS

By

Albert L. Johnson,
Associate Attorney.

110 Sutter St.,
San Francisco, Calif.,
June 1, 1937.

In accordance with our conferences of May 1 and May 8, 1937, I started for the headquarters of the Southwestern Monuments at Coolidge, Arizona, on May 10, arriving there at 5:15 P. M. on May 12. Being unable to reach Mr. Pinkley, the Superintendent, on the telephone that evening, but talking with Hugh Miller, Assistant Superintendent of the Southwestern Monuments, I made an appointment to see Mr. Miller the following day to go over the situation with reference to all the land and water problems about which Mr. Pinkley had written us or about which we wished to be informed.

I conferred with Hugh Miller from 8:30 A. M. to 5:30 P. M. on May 13, and Mr. Miller took me to Mr. Pinkley's residence for about one hour of that time to consult the Superintendent as to two or three of the monuments and several questions on which Mr. Miller was not informed. On most matters Mr. Miller was thoroughly conversant with all facts.

* * * * * * * * * * *

Montezuma Castle

Superintendent Pinkley and Mr. Miller thought it advisable for me to visit Montezuma Castle in view of our filing for a water right there and receiving two protests thereto. On talking over the situation with them as to our correspondence with Water Commissioner Stewart, neither Mr. Pinkley nor Mr. Miller would venture a recommendation as to whether our filing was for percolating waters or for the diversion of waters from Beaver Creek. They advised me to visit the locality myself, and in particular consult Russell Farmer, the park ranger there, who is the only geologist employed on the Southwestern Monuments. They then stated that if Mr. Farmer's report to us should not be sufficient, they would advise Mr. Vandiver, the Regional Geologist at Santa Fe, to go there for a special report and make an analysis by copper smelter or chemical indicator. No reference was made to the Custodian of this monument as to whether or not he had any special knowledge on the subject.

Mr. St rt desired me to go to Montezum Castle National Monument, and in stigate the facts there as to underflow in Beaver Creek. He thought, as did Mr. Pinkley, that first-hand information should be obtained about this water filing before attempting to make proof before the Water Commissioner of our appropriation of underground flow. Mr. Stewart thought our filing was made without full knowledge of the facts there. He recommended that if we found that he was correct in assuming that our well was merely tapping percolating water, that our application should be withdrawn, but that if we were sure that we could prove our case in accordance with our application and map submitted, then we should proceed with a geological report and proof in accordance with the case of Maricopa County District which he had cited to us in correspondence with this office.

Mr. Stewart did not regard the protest of Mrs. Davis, situated on land above our appropriation, as being of any consequence, but did regard the protest of the rancher whose land was below our appropriation as being important. At any rate, Mr. Stewart wanted to be advised of our position as soon as we had geological information on the subject so as to determine whether we insisted on going ahead with our case.

Mr. Stewart also brought up the question of the peculiar position of Boulder Dam Recreational Area, and showed me correspondence from a firm of Chicago attorneys who had made filings on the Colorado River, and which firm contended that the consent of the Secretary of the Interior was all that was needed with reference to any possible protest of the National Park Service as to the water filings for private interests. The Water Commissioner had replied to the Chicago firm of attorneys that he thought a Congressional Act would be necessary to allow any private corporation filing within the boundaries of the Recreational Area, as he regarded the statute pertaining to national parks and monuments as also applying to the Boulder Dam Area. He desired us to investigate this if we arrived at any different conclusion from his.

Mr. Stewart stated that he did not think our application was filed according to the facts existing in Montezuma Castle National Monument, and he deemed the facts to come under the provisions of paragraph 23 of the syllabus of the Maricopa County decision.

Montezuma Castle

I arrived at Montezuma Castle National Monument early Saturday afternoon. I interviewed Custodian Jackson, who was then the only one in. He stated that Mr. Farmer, the geologist to whom I had been referred by the Superintendent, had gone to White Sands to investigate his taking over the White Sands custody the first of July; that Mr. Farmer would return that evening or Sunday, but that I should come out Monday morning to see him, as they were both too busy with visitors Sunday to talk over any water problems.

Mr. Jackson, during the three hours I was with him, tried to show me the Government spring which rises in Beaver Creek. Although we tramped the entire length of the monument boundaries on Beaver Creek, we could not locate this spring. Jackson stated that the spring was marked on the Government maps as Government Spring, and was so marked in the office of Mr. Kittredge. He said he had not seen the spring, however, for five years, so that it might be in the middle of the river or opposite wall now instead of on the near bank. They had unusual rainfall in that vicinity this year.

Mr. Jackson stated that he had only returned to Montezuma since January of this year, having formerly been stationed at Bandelier, but that he had been reared in this vicinity and that his father was the first Custodian. Jackson did not know whether the present well in back of his residence affected the stream flow or not, but promised to put on a little demonstration for me when I returned Monday. He said he would pump from the well and fill the storage tank to capacity and see if the stream flow of Beaver Creek was affected by that procedure. He said that his father had exhausted the well by pumping it dry without mentioning any effect on the stream flow. He would write his father to see what his memory was on the subject.

I left Mr. Jackson at half past five on Saturday with the advice that I would call upon him and Mr. Farmer on the Monday following. I repaired to the village of Cottonwood twenty-three miles distant, as Mr. Jackson was unable to secure me any reasonable accommodations nearer.

Upon my return to Montezuma the following Monday morning, I spent most of my time talking with Ranger Geologist Farmer, to whom Mr. Pinkley referred me. Mr. Farmer is to be made Custodian of White Sands the first of July. Mr. Farmer repeated to me what Jackson had said about the former Custodian, Jackson Senior, not mentioning any effect on the stream flow from pumping the well. He also said that the water in the stream was softer than the well flow. He would not venture an opinion as to Mr. Dunn's contentions in our application and map on file for the water right, but said that the whole basin between Montezuma Castle and the opposite wall one-half mile distant might derive its water from the same underflow.

He said that hackberry and sycamore trees that are now growing along the north bank of Beaver Creek near the headquarters must have plenty of water, and as they were in a flourishing condition their roots probably penetrated to the underflow of Beaver Creek. These hackberry and sycamore trees are about 10 feet above this season's highest flow of the stream. They really grow at the same level or elevation at which the well is situated. He gave me the following measurements as to elevation above sea level:

3154 elev. = lowest outcrop of solid limestone.
3174 elev. = top of well.
3150 elev. = bottom of well.
3158 elev. = top of strem.

The Geologist agreed with me that you could hardly consider this a canyon. It was more in the nature of a wash or a valley, ranging from 1/2 mile to 3/4 mile in width, with a cliff on the north side which holds Montezuma Castle, ~~and another ruin~~ and quite a little series of uplands on the south side, which might be called mesas. He could not give any data on underground stream flow.

Mr. Farmer stated that Mr. Vandiver, the Regional Geologist, would be in Montezuma within a week, and that they would then make a joint investigation of the geological formation, and if they could not agree upon a conclusion, he thought the only thing to do would be to have a scientific test made, as suggested by Mr. Dunn and Mr. Pinkley. If Mr. Vandiver did not arrive, Mr. Farmer promised to make a personal report on the geological formation around Montezuma.

There are not a great number of visitors to this monument, there only being three or four cars in there on Saturday afternoon during the time I was there from around 2:00 o'clock until 5:30. There were none at all there Monday, although I was there all the morning and up until 1:30 in the afternoon. There are just about as many visitors to Montezuma Well, which is privately owned, and to which an admission charge is made. Montezuma Well is quite a natural wonder in itself, the water extending to an unknown depth, and at an elevation about equal to Beaver Creek. The well is 750 feet in diameter. On this private property are a large number of ruins being excavated by the owners of the land. The owners are attempting to sell to the State or Nation.

The Custodian at Montezuma, Mr. Jackson, was not very much interested in our water filing, but Mr. Farmer, as stated by Mr. Pinkley, was very much interested in the legal and geological questions involved.

PARTIAL COPY OF MEMORANDUM BY ATTORNEY JOSEPH E. TAYLOR.

May 3, 1937.

MEMORANDUM:

On Saturday, May 1, a conference was had between Mr. Dunn, Mr. Johnson, and myself, at which was discussed certain problems to be met in the Southwestern Monuments.

It is felt that certain preliminary legal work can be accomplished at this time in connection with a number of these monuments, and before final opinions are rendered or any final work attempted, certain facts should be ascertained from Superintendent Pinkley or the Custodians, or through discreet inquiry of local residents.

With that in mind, it is determined that Mr. Johnson will go to Coolidge, Arizona, and interview Superintendent Pinkley, probably some time the first part of next week, and from there he will branch out and conduct his activities in accordance with the needs as determined from his interview with Superintendent Pinkley. He will also interview the State Water Commissioner at Phoenix probably upon a number of subjects.

For Mr. Johnson's information, particular reference is made to a memorandum by Mr. Dunn dated March 1, to be found in the Southwestern Monuments Water Rights file.

With respect to Montezuma Castle National Monument, Arizona, special reference is made to Mr. Pinkley's letter of April 7 and the enclosures therein mentioned, to Mr. Dunn's memorandum of April 9, and to my pencil notation attached to Mr. Dunn's memorandum also dated April 9, all dealing with the protests registered by one Tony Taylor in connection with the filing at Montezuma Castle. This matter should be discussed with Mr. Pinkley and with the State Water Commissioner, and any recommendations made by either should be given careful consideration.

04-27-1937: letter to custodian from nps regarding file on application to appropriate the water of beaver creek

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

April 27, 1937.

Mr. Earl Jackson, Custodian,
Montezuma Castle National Monument,
Camp Verde, Arizona.

Dear Earl:

We are intrusting to you herewith the complete file on our application to appropriate the waters of Beaver Creek, etc. Will you kindly turn this file over to Farmer for preparation of the supplemental report suggested in Mr. Taylor's letter of April 20.

I am not any too sure when the well was dug and first continuously used. Could you obtain this information by local inquiry.

Will you kindly return all papers in the file with Mr. Framer's report as soon as it can conveniently be prepared.

Cordially,

Frank Pinkley

Frank Pinkley,
Superintendent.

cc: Taylor

ak

FILE COPY

(Bound in blue covers, separate from this letter.)

April 20, 1937.

Mr. Frank Pinkley,
Superintendent,
Southwestern Monuments,
Coolidge, Arizona.

Dear Mr. Pinkley:

In accordance with Mr. Stewart's letter of April 3 to Mr. Miller, we have prepared the following exhibit and analysis of conditions at Montezuma Castle National Monument. One copy is for your files, and the other should be forwarded to Mr. Stewart if it meets with your approval.

As you know, however, we have not been to Montezuma, and have based our application and this exhibit on data collected from maps and correspondence. It would be highly desirable for you to review the statements and return the exhibit for corrections if necessary.

It also seems possible that your geologist can add valuable information -- possibly by a supplemental report to accompany this one. If such a supplement is possible, we should like a copy to bring our records up to date. The two most beneficial additions would be:

1. Proof of flow past the well parallel to the stream.

2. Information on the depth and nature of the gravel deposit forming the visible canyon floor.

3. Has pumping in the very dry season ever been sufficiently great to reduce the visible stream flow below the "well" site?

As we explained in submitting the application to you for filing, we are making a test case of the Montezuma Castle water system. There are several other similar cases in the Southwestern Monuments, where the Park Service title to water is questionable without appropriation.

With the data now being submitted through you, we hope Mr. Stewart will be able to advise us on the proper procedure for this and other cases, to meet all State requirements.

The Tony Taylor protest is interesting, but should not bother us with our prior use as well as filing. However, we should like to have from you the date the well was dug and first continuously used.

Sincerely yours,

Joseph E. Taylor,
Attorney.

AVvD:SH

CC: Mr. E. T. Stewart.

04-09-1937: illegible handwritten note

4/9/37

Mr. Johnson —

Note enclosed!
Check case expenses
pending with Mr. ...
you will have to
do more in regard
to this protest.
Check with them
in person ...
suggested in Mr. ...
paragraph of Attorney
letter.
This advice strictly

April 9, 1937.

MEMORANDUM TO MR. TAYLOR:

I have just reviewed Mr. Stewart's letter of April 3 and that from Mr. Pinkley of April 7, regarding Montezuma Castle water system.

This brings out a new angle of the water problem in Arizona in that the State inquiry encourages protests by other interested parties, which I do not believe would be made in other cases. Mr. Tony Taylor apparently has a right of approximately the same age as the monument, and he has not to date made an attempt to appropriate the water. Probably this case is likely to result in a court case if pressed. — Should not — no basis of right for him

A second point is in relation to the additional information regarding stream flow. When talking with Mr. Stewart in December, he stated that the broader channel of a stream was considered in determining stream flow. Now he asks for proof that the water from our wells is actually stream flow and not percolating water alongside. I feel that there is no doubt the water we take is actually stream flow, both because the wells are so shallow, and because of the geological formation of this broader stream channel. As such, the water is subject to appropriation.

The third point is more in the nature of a question, in that I wonder whether it is better to press these questionable issues at this time, or leave them fifty years until the water situation is more acute, with the hope that possibly later laws might establish our rights without the controversies between the Government and neighboring ranchers. Personally, I feel that such an action would leave the Government with a very questionable water title which might become more uncertain as time progressed, and I am in favor of clearing the matter up at the earliest opportunity. The mere fact that at the present moment Tony Taylor feels that the well will be detrimental to his ranch implies that some time within the next few years he will awaken to the legal procedure and file on the water he needs for his purposes. At that time, without any previous filing like our present application No. A-1744, the park would have no grounds for continuing the use of this water, and might be forced to close up the monument except as a stopping place for a few moments for a few tourists who did not mind the lack of drinking facilities and sanitation.

our work is to make for certainty more.

Fourth, I feel, however, that the method of approach may have been wrong in the case of Montezuma Castle, and the experience may be the basis for establishing a new procedure. It might be highly desirable for you or Mr. Johnson to carry on a preliminary investigation or discussion with the neighboring water users at each of the Southwestern Monuments and arrive at some agreement prior to the final filing of the application for water. At the same time it should be my duty to have the necessary application and map completed and ready to file when these negotiations are started, in order that they could be submitted on an instant's notice in case any of the neighbors decided to file as a result of their more complete information regarding the State Water Code.

A. van V. Dunn,
Associate Engineer.

to be discussed.

04-07-1937: letter to attorney from superintendent regarding copies of correspondence relative to application no. a-1744

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

REC'D APR 9 1937

April 7, 1937.

Mr. Joseph E. Taylor, Attorney,
Branch of Land Acquisition & Regulation,
Legal Division, 110 Sutter Street,
San Francisco, California.

Dear Mr. Taylor:

We are enclosing copies of correspondence received from the State Water Commissioner relative to application No. A-1744, Beaver Creek, Montezuma Castle National Monument. No action will be taken pending receipt of your advice.

Cordially,

Frank Pinkley

Frank Pinkley,
Superintendent.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

REC'D MAR 19 1937

March 16, 1937.

State Water Commissioner,
Capitol Building,
Phoenix, Arizona.

Dear Sir:

Reference is made to our letter of February 20, submitting application for a permit to appropriate the waters of Beaver Creek, at Montezuma Castle National Monument, in Yavapai County.

Information is requested as to the present status of this application.

Very truly yours,

Hugh M. Miller,
Acting Superintendent.

cc: Joseph E. Taylor, Attorney, Branch of Land Acquisition & Regulation, Legal Division, 110 Sutter Street, San Francisco.

HMM:LG

03-13-1937: letter to superintendent from associate attorney regarding present status of application for appropriation of water from

FILE COPY

March 13, 1937.

Mr. Frank Pinkley,
Superintendent,
Southwestern Monuments,
Coolidge, Arizona.

Dear Mr. Pinkley:

This refers to application for appropriation of water from Beaver Creek for the use of Montezuma Castle National Monument, which application was forwarded to the State Water Commissioner by Assistant Superintendent Miller under date of February 20.

We would appreciate your advice as to the present status of this application, and when it is returned to you would thank you to give us the information requested in the last paragraph of our letter of February 25 to Mr. Miller.

Yours very truly,

Albert L. Johnson,
Associate Attorney.

SH

FILE COPY

February 25, 1937.

Mr. Hugh M. Miller,
Acting Superintendent,
Southwestern Monuments,
Coolidge, Arizona.

Dear Mr. Miller:

We wish to thank you for your letter of February 20, informing us that you have submitted your application and maps to the State Water Commissioner, to cover the appropriation of water from Beaver Creek for the use of Montezuma Castle National Monument.

Most of our filings in Arizona are such that they do not exactly jibe with the regulations of the State Water Commissioner, and the possibility always exists that that office may return them to you for correction in some respect. If such correction is requested, or if you are notified of any protest, we would thank you to advise us at your earliest convenience.

When the original application is returned to you, we would appreciate it if you will advise us the date of filing stamped upon it, and the date of approval, with the information contained in the "Permit" which, after approval, should be completed by the State Water Commissioner upon the final page of the application.

Yours very truly,

Joseph E. Taylor,
Attorney.

JET:SH

02-20-1937: letter to attorney from nps regarding submission to the state water commissioner application for appropriation of wate

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

REC'D FEB 23 1937

February 20, 1937.

Mr. Joseph E. Taylor, Attorney,
Branch of Land Acquisition and Regulation,
Legal Division, National Park Service,
110 Sutter Street,
San Francisco, California.

Dear Mr. Taylor:

We have executed and submitted to the State Water Commissioner application enclosed with your letter of February 9 for appropriation of water rights at Montezuma Castle National Monument.

We are enclosing for your information copy of a letter received from Earl Jackson, Custodian, concerning water users below the point of diversion. We listed under item 21 on the application the names of Tony Taylor and E. A. Jordan, both of Camp Verde, Arizona. Thank you for copies of the maps. Thank you also for offering to pay the filing fee. It will not be necessary to bill this small fee back to the Branch of Land Acquisition and Regulation.

Very truly yours,

Hugh M. Miller,
Acting Superintendent.

HMM:LG

REC'D FEB 2 2 1937

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

February 20, 1937.

State Water Commissioner,
Capitol Building,
Phoenix, Arizona.

Dear Sir:

Enclosed is application for a permit to appropriate the waters of Beaver Creek, at Montezuma Castle National Monument, in Yavapai County. This application is accompanied by Drawing NM/MONT-4978 in two sheets, entitled "Beaver Creek Diversions for Montezuma Castle National Monument". Also enclosed is public voucher for the filing fee of $3.00. Since Government checks cannot be drawn in advance of the service, you are requested to sign the voucher on the lines indicated, and return it to this office for payment as soon as the application has been properly recorded. Promptly upon receipt by this office, the voucher will be given administrative approval and will be forwarded to the Disbursing Officer for payment.

Very truly yours,

Hugh M. Miller,
Acting Superintendent.

cc: Joseph E. Taylor, Attorney, Branch of Land Acquisition & Regulation, Legal Division, 110 Sutter Street, San Francisco.

NATIONAL PARK SERVICE

Montezuma Castle National Monument

REC'D FEB

C
O
P
Y

Camp Verde, Arizona.

February 16, 1937.

Mr. Hugh Miller, Acting Sup't.,
Southwestern Monuments,
Coolidge, Arizona.

Dear Hugh:

In response to your telephone call of an hour ago, I hereby list the names and addresses of landowners on Beaver Creek between Montezuma Castle and the Verde River.

1. Tony Taylor, Camp Verde, Arizona.
2. E. A. Jordan, Camp Verde, Arizona.
3. Noah Hayden, Camp Verde, Arizona.
4. Mrs. Nicholas A. Vyne. Property administered by Gary Vyne, Vyne Bothers Electric Company, Prescott, Arizona.

Of the aforementioned individuals, only Tony Taylor and E. A. Jordan could possibly use water from Beaver Creek. Vyne and Haydon are under the Verde Ditch, and get water from the Verde River.

The four I have mentioned are the only landowners on the entire creek from Montezuma Castle to the Verde River.

Robert Baun, address Camp Verde, is living on the Davis land across the creek from the Castle. Then comes Tony Taylor, as the next person downstream. Then comes Andy Killibrew, address Camp Verde, then E. A. Jordan, then Noah Haydon, then Mrs. Nicholas A. Vyne.

Aside from the first four names listed in this letter, the others have no water or property rights, but are simply living on abandoned homesteads which were not proved up on.

Hoping this is all the information you desire.

Sincerely yours,

(Sgd) EARL JACKSON
CUSTODIAN

02-09-1937: letter to superintendent, southwestern monuments from attorney regarding enclosed application for the appropriation

S.W. Monuments

FILE COPY

February 9, 1937.

Mr. Frank Pinkley,
Superintendent,
Southwestern Monuments,
Coolidge, Arizona.

Dear Mr. Pinkley:

Enclosed is the application for the appropriation of water at Montezuma Castle National Monument. We feel that the simplest way to assure the water supply for this monument is to file the necessary application for appropriation immediately.

By definition in Arizona, the wells, both present and proposed, seem to be for the diversion of water from Beaver Creek, although they may appear on first sight to be on the bank. Since this is the only way in which this water is subject to appropriation, we have prepared the application and map to emphasize this relation between the wells and the stream.

In connection with quantities, we have shown a proposed irrigation of all land below the contour of the proposed irrigation head box in order to give a maximum quantity of water. We realize that this is in excess of the area proposed for the camp ground, but there is no obligation to develop more irrigation than we need, and it will retain the water until the final development plans are completed.

In item No. 5(c) a description of the pump units is required, As far as we can determine, the present unit consists of approximately a 20 gallon per minute pump with a 3 horse power gasoline engine and the proposed of a 30 gallon per minute pump with a 5 horse power engine. If the existing pump and motor differ from these descriptions please correct them on the application and advise us accordingly for our records.

Under items 20 and 21 provision is made for reference to other water right claims in the vicinity. Under 20 we assume that no direct water diversion is made at the specific points described under our filing. Under 21, it asks for the names of three water users below our point of diversion. The only one we know at present is Mrs. Davis who is patenting the land directly south of the Castle. If you know two other residents or users between this point and the mouth of Beaver Creek, their names and addresses should be added to the list.

02-09-1937: letter to superintendent, southwestern monuments from attorney regarding enclosed application for the appropriation

With these additions and corrections you should sign as applicant on the last line below item 21, and forward the application and two original maps, together with a voucher for $3.00, to the State Water Commissioner, Phoenix, Arizona.

This filing is somewhat unusual, and is intended both to establish the right on Montezuma National Monument, and test the method of handling some of these well systems. Should the application be returned for corrections, please return it to us with the necessary additional information they request, in order that we may know the history of the case in preparing additional applications.

The Director has suggested in most cases that the parks or monuments should pay the filing fees out of their administrative allotments. However, at this moment we have a small apparent surplus in our accounts. If you wish to bill the Branch of Land Acquisition and Regulation for the $3.00 covered by voucher to the State Water Commissioner, it will be perfectly satisfactory.

We enclose a copy of the application and a print of each map for your records.

Sincerely yours,

Joseph E. Taylor,
Attorney.

Encls.

AvVD:SH

~~CC: Director. - Copy of application and map held until approved.~~

12-19-1936: cross reference from attorney to superintendent, southwestern monuments regarding the enclosed memorandum reg

10-223
(July 1934)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

CROSS REFERENCE

File No. Montezuma Castle

December 19, 1936

From: Attorney Joseph E. Taylor,
To : Superintendent Pinkley, Southwestern Monuments:

SUBJECT Enclosing memorandum by Mr. Dunn regarding investigation at Grand Canyon National Park, and discussing questions of Arizona water law.

ORIGINAL LETTER FILED S. W. Monuments.

U. S. GOVERNMENT PRINTING OFFICE 6—9017

Montezuma
x Chiricahua
x Wupatki
x N. Lite Sands
x S.W. Monuments
x Grand Canyon

NATIONAL PARK SERVICE

Branch of Land Acquisition and Regulation
Legal Division

Report
On
Investigation of Water Rights
For Grand Canyon and Southwestern Monuments

By

A. van V. Dunn
Associate Engineer

San Francisco, Calif.,
December 17, 1936.

Introduction

This report constitutes a review of my activities on a trip to Arizona in connection with National Park Service water rights in that State. The trip was made in the company of Associate Attorney Albert L. Johnson, on instructions from Attorney Joseph E. Taylor of the Branch of Land Acquisition and Regulation.

We left San Francisco November 29, and returned December 11. We visited Grand Canyon, Casa Grande, Phoenix, and Los Angeles.

Grand Canyon

At Grand Canyon we found that Superintendent Tillotson was away on leave, but outlined our program to Acting Superintendent Lloyd, and arranged for an interview with Mr. Tillotson in Phoenix. We also discussed the various water systems of the Park with Park Engineer Carrel.

The desirable water rights for the Park are as follows:

1. Indian Gardens supply for South Rim, 300,000 g.p.d., which is the full flow of the source of supply. We were able to file the application on this supply while in Phoenix, and arrange for the map, which will be submitted within thirty days, after incorporating data obtained from the Santa Fe Railway Company in Los Angeles.

2. Union Pacific Hydro-electric Development on Bright Angel Creek for North Rim, 5 second feet.

3. Roaring Spring Supply for North Rim, 30,000 g.p.d. during four summer months.

Only part of the necessary data for filing on these two systems was available in the Park, so Mr. Lloyd wrote to the Union Pacific for the additional information. When this is received, maps and applications will require two to three weeks of office work.

4. Fish Hatchery (proposed) on Roaring Spring, 1/2 second foot.

5. Fifteen Impounding Dams for Wild Life, 225 acre feet, of which twelve dams are now constructed. By specifications of the State Water Code, Wild Life and Fish are not recognized as beneficial use, so that these two items are not now subject to appropriation. However, the Park can lose the water through private filings below its boundary for recognized beneficial use, and the State is anxious to liberalize its code, so it would seem highly desirable to have as much correspondence on the matter with the State as possible. Mr. Tillotson has agreed to write one letter to place his problems on record.

6. Cottonwood Camp Supply, 300 g.p.d., and irrigation of five acres. The maps and application will require a part of a week of office work.

7. Clear Creek (proposed), 100 gallons per week, and irrigation of ten acres. A preliminary application and map were prepared in the field, for use as an illustration with the Water Commission, and can be completed and filed very quickly.

8. Phantom Ranch on Bright Angel Creek, 7000 g.p.d. present use and irrigation of twenty acres. It is also proposed to divert 1/2 second foot to augment the Indian Gardens supply for the South Rim, and the Fred Harvey interests are considering a hydro-electric plant which might require an additional five or six second feet. This combined system may be partially combined with items 2 and 3, and will require approximately a month of office work. The data is now on file in the office of the Chief Engineer, but will require considerable modification for use.

Except for the developments by the Union Pacific, data for filing can now be prepared from data obtained in the interview with Mr. Carrel, or from maps in the office of the Chief Engineer.

Southwestern Monuments

In our interview with Superintendent Pinkley at Casa Grande, we discussed all Southwestern Monuments, irrespective of State boundaries. The following tabulation of Mr. Pinkley's problems is clearly more of adjustments and legal interpretations than of actual filing on rights in the various states. Without doubt, Mr. Johnson will be able to adjust many of these problems during the next few months.

1. Montezuma National Monument, Arizona:

Domestic use is from wells which are not subject to appropriation.

Beaver Creek should be appropriated for much needed irrigation. (Water from the Coolidge Dam has been refused for some reason, though the ditches bound the monument on two sides.) There is a controversy over this water, however, as there is already a diversion for an unpatented homestead, and the homesteader wishes to use the diversion as proof in his patent. Either an adjustment between the United States and this homesteader, or haste in obtaining first priority for the Park Service, seems necessary if the monument is to be protected on the irrigation of 20 acres.

2. Pipe Springs National Monument, Arizona:

These springs were first developed and used by the Mormons about 1870. An interdepartmental agreement was reached in 1933, granting 5 g.p.m. to the neighboring stockmen, 75% of the remainder (approximately 30 g.p.m.) to the Indian Service, and the remainder to the monument. Neither Mr. Pinkley nor the stockmen seems satisfied with the agreement. Disregarding the allocation of the water, further investigation is needed to determine whether proper filings have been made for appropriation by the United States.

3. Chiricahua National Monument, Arizona:

The present supply is from a spring. Further study is needed to determine whether this spring is subject to appropriation. There is also a stream which Mr. Pinkley does not regard as a necessary supply at this time. It seems possible, however, that commingling the waters of the spring and stream to make both subject to appropriation, might provide greater protection.

4. Tonto National Monument, Arizona:

A small spring on this monument does not flow beyond boundary. It has been used as watering hole, and farmers would protest fencing the area. Further investigation should be made toward protecting the monument rights.

5. Tumacacori National Monument, Arizona:

An irrigation ditch crosses the monument, but does not supply water to, or concern the monument. The monument will obtain its water from a well or precipitation.

6. Walnut Canyon, Arizona:

Water is needed, but there is only an intermittent flow in the canyon. The Santa Fe Railway Company built an impounding dam below the monument, which does not hold water. The Park Service plans a metal catchment for precipitation, but it might be well to file on an impounding dam until further study of local conditions can be made.

7. Wupatki National Monument, Arizona:

A spring of 4 to 5 g.p.m. now flows off of the monument in pipe layed in 1927 by Babbitt Brothers Sheep Company. Babbitt Brothers wish to take up the pipe, but the Park Service questions title to the pipe. Mr. Pinkley does not wish water now, but wishes to protect rights for future. He prefers having stock watered off of monument. He wishes legal advice, which Mr. Johnson will doubtless provide.

8. Kofa and Organ Pipe National Monuments, Arizona:

These prospective monuments need water. Possible sources should be studied, and appropriation made if possible.

9. White Sands National Monument, New Mexico:

It is planned to try to sink a suitable well for domestic use. The "artesian well", at the Pool of Siloam, was created by man in drilling for oil, and as such is not technically subject to appropriation.

10. Bandelier National Monument, New Mexico:

The source of supply is Frijoles Creek, which is also used by the operator to irrigate her garden in the monument. The operator claims her right through an old filing by Judge Abbott, though neither the operator nor Judge Abbott owns the land. Since it is desirable to eliminate the operator's garden, Mr. Pinkley wishes to prove the Abbott filing inactive if possible. A Park Service filing should be made, and a thorough study of its relation to the one of Judge Abbott.

11. Arches National Monument, Utah:

A small spring is to be developed, but both filing and development are dependent on acquisition of the land on which the spring is located.

12. Hovenweep National Monument, Utah and Colorado:

There is no water on the portion of the monument in Colorado, and no plan to provide any. A small spring in Utah will be needed for domestic supply, and should be filed upon. Mr. Pinkley is not sure whether the spring has been used before or not, and the matter should be investigated.

13. Yucca House National Monument, Colorado:

A small spring now serves a watering hole outside the monument by pipe. Mr. Pinkley favors maintaining the watering hole to keep stock off of the monument, but wishes to retain or establish a monument right. He has requested legal advice, which Mr. Johnson will doubtless supply.

Arizona Water Code

Portions of three days were spent in conferences with the Arizona State Water Commissioner, Mr. Stewart, and his Deputy, Mrs. Harrison, to obtain a more complete knowledge of the Code, its interpretation, and adaptation to Park Service problems.

The specific wording of the Code restricts the waters which can be appropriated to those for six uses. In the case of the parks, water for fish hatcheries and wild life watering holes cannot be recognized as beneficial use at this time. At the same time, the Commissioner wishes to liberalize the Code, and requested letters explaining the need for these uses. Superintendent Tillotson agreed to write such a letter, and it seems desirable for others to do the same if possible. Unfortunately, the number of parks and monuments with wild life problems, in Arizona, are limited.

Another complication in filing on Park Service water is the complicated system so often needed in a park, and the inadequacy of the State application form. This form was prepared previously for irrigation applications, and does not provide the mechanical flexibility for dealing with pump systems from several sources. However, Mr. Stewart approved of the use of riders until the forms can be modified.

Arizona does not recognize percolating water as subject to appropriation, but does recognize stream flow in a well defined channel, even though this water may all flow underground during much of the year. Further, springs in the bed of a stream are regarded as part of the stream, while those on a stream bank are separate springs and need separate filings unless their waters are commingled with those of the stream. Further, a spring on the stream bank which did not flow, but merely dampened the ground before development by man, is regarded as percolating water, and no more subject to appropriation than the water from a well. Precipitation or flood water, before it reaches a natural channel, belongs to the land, and is not subject to appropriation. Yet appropriation is necessary for storage, even though only in a tank or small reservoir. These interpretations make it difficult to treat many of the proposed park filings, but the Commission is anxious to liberalize its Code, and glad to accept questionable cases for submission to the State Supreme Court.

Water used prior to 1919, prior to the adoption of the Water Code, has valid rights when the use can be proved. Even though the Park Service did not make active use before that date, many of its rights are going to be influenced by earlier private use. The situation at Pipe Springs is a good example, though it cannot be fully understood until the interdepartmental agreement is studied by Mr. Johnson.

Municipal use has not been fully settled in Arizona. The Commissioner agreed that many parks have use more nearly like that of a municipality than is considered under domestic use. He has also allowed a small summer colony to file an application for municipal use, even though the 500 inhabitants are only there three months out of the year. On this basis, we have been advised to file on "Municipal and Domestic Use" for the North and South Rim Systems at Grand Canyon, in order to permit anticipating future increased demands. The acceptance of the application will then be up to the State Supreme Court, but in any case, priority will date from the date of the application by the Park Service. ✓

Applications

On December 9, while Superintendent Tillotson was in Phoenix, an application was filed on the Indian Gardens water supply for the South Rim of Grand Canyon. The map to accompany this application will be filed within the next thirty days. It needed certain additions, the data for which was obtained from the Santa Fe Railway Company in Los Angeles on the return trip to San Francisco.

Conclusions

From the data obtained, two types of problems are involved in the water right filings for Arizona. Grand Canyon requires a great deal of routine work to be done in compiling the necessary maps. There is full justification for a draftsman to prepare the complicated tracings. There are between two and three months steady work for a draftsman and myself. Although the Southwestern Monuments will also require maps, they will be relatively simple in comparison with the legal investigations with which Mr. Johnson is more familiar.

CC: Director.
Mr. Tillotson.
Mr. Pinkley.
Mr. Kittredge.
Mr. Dunn.

AvVD:SH

12-17-1936: cross reference from associate engineer to attorney regarding information regarding various national monuments obta

10-223
(July 1934)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

CROSS REFERENCE

File No. Montezuma Castle N.M.

December 14, 1936.

From: Associate Engineer Dunn
To : Attorney Taylor

SUBJECT Information regarding various national monuments obtained by Mr. Dunn from Supt. Pinkley on December 5, 1936.

ORIGINAL LETTER FILED S. W. Monuments 660-05.7

U. S. GOVERNMENT PRINTING OFFICE 6—9017

C O P Y

Water Situation at

Montezuma Castle National Monument

At the Montezuma Castle, Beaver Creek runs through our property and, although we have never used its waters for other than household purposes, it is entirely possible that we may want to use them for irrigation within the next few years. As we understand it, we have no inherent right to the use of the water which runs through our land and can only acquire a right by filing and posting notices and actually taking the water out and applying it to beneficial use on the land. The land thus served acquires the title to the water and it cannot be used on any other parcel of land and can not be purchased or sold apart from the land to which it is attached. In making our filing we would only obtain our consecutive right to the use of the water. That is, if there were fifty filings ahead of us on the Creek, we could not use water from the Creek if it were carrying less water than was necessary for the preceding fifty filings.

Beaver Creek is our only possible source of supply for irrigation water. All ditches, canals and other appliances for handling the water would have to be constructed.

Since we wish the water only for camp ground shade and general landscaping, about two acre feet would probably be sufficient.

The government now has no right or title to any of this water.

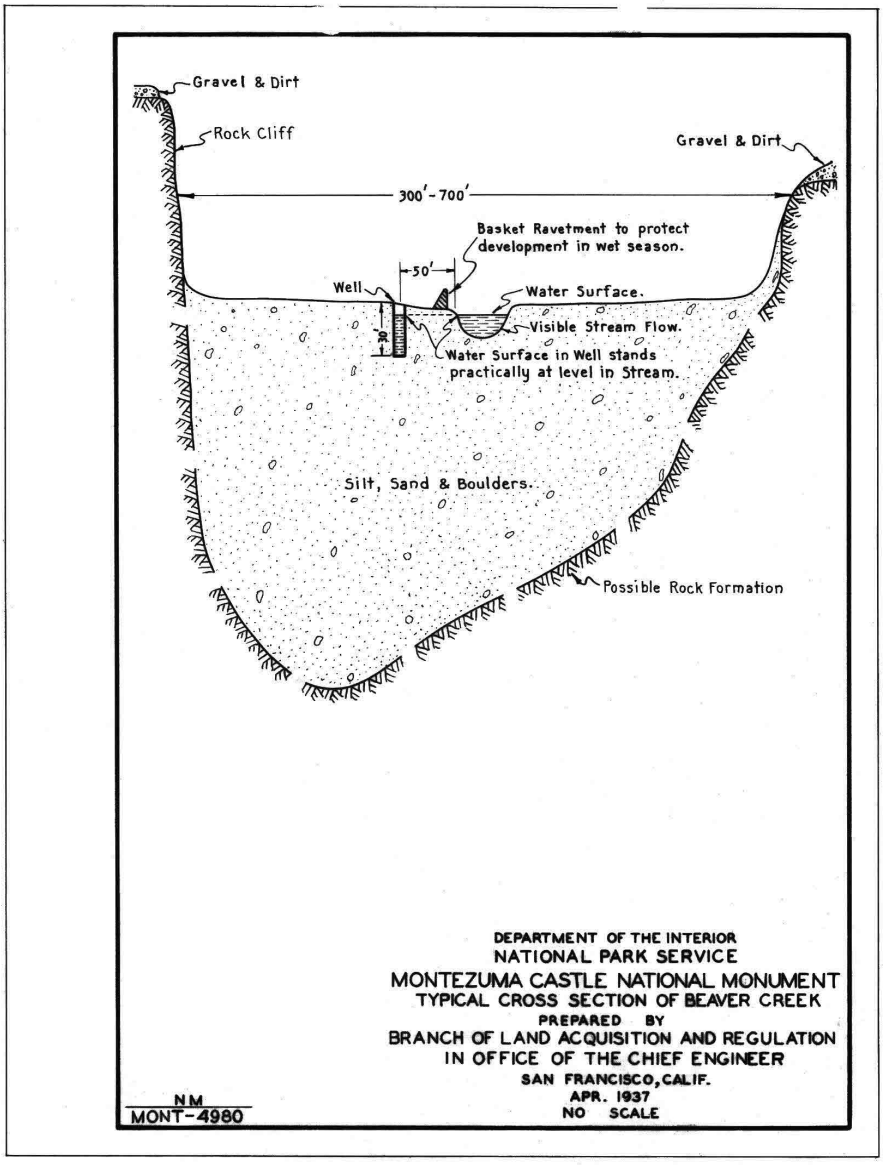
We do not know whether the present filings on Beaver Creek have exhausted the supply of water or not.

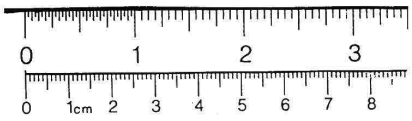
The only other available source of water would be to sink wells and pump.

Pumping would be rather expensive both in initial cost and general upkeep. The plant would probably cost around $8,000 installed. The ditches would probably cost in the neighborhood of $3,000.

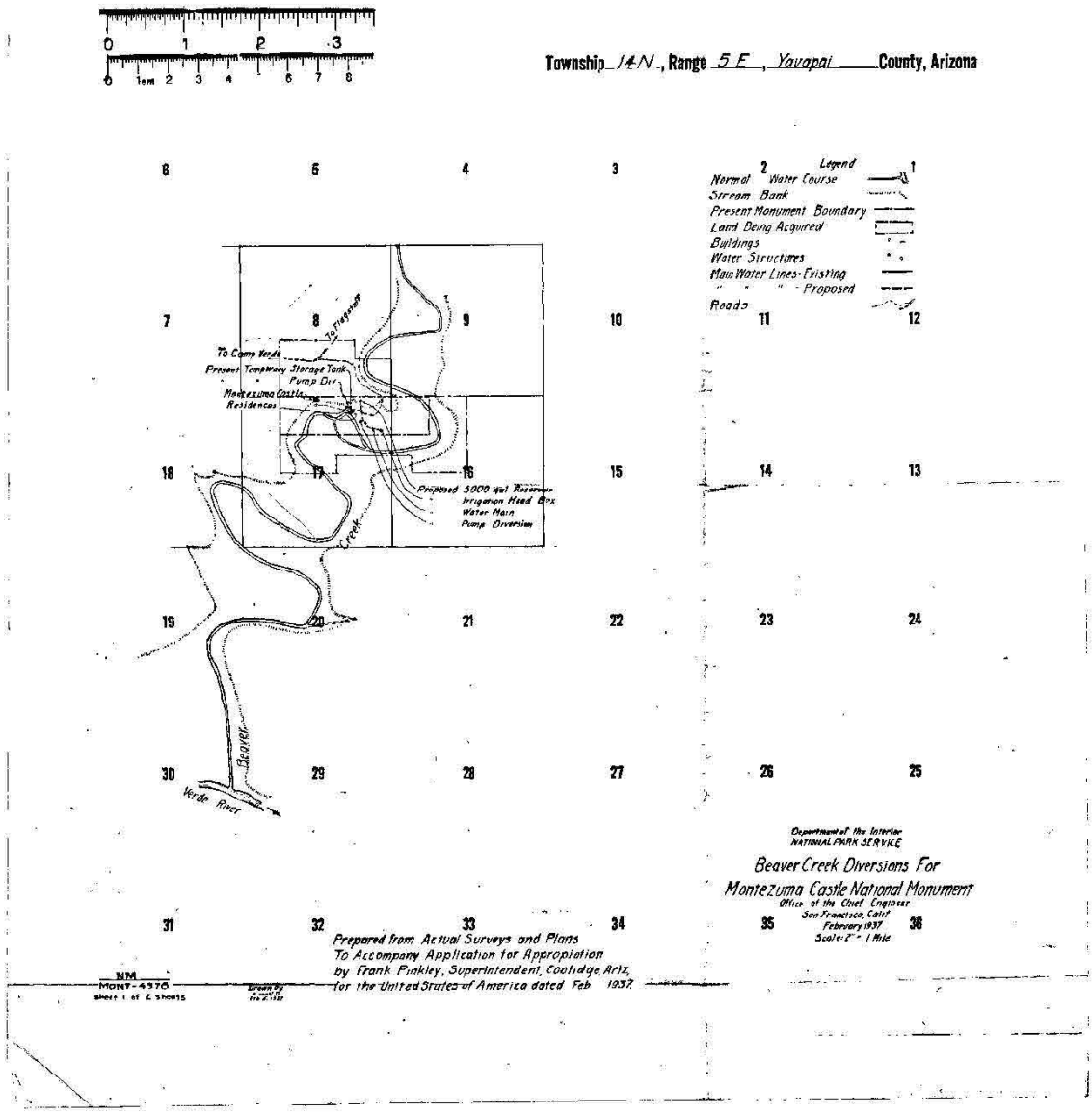
There is no way in which flood waters could be impounded or otherwise used.

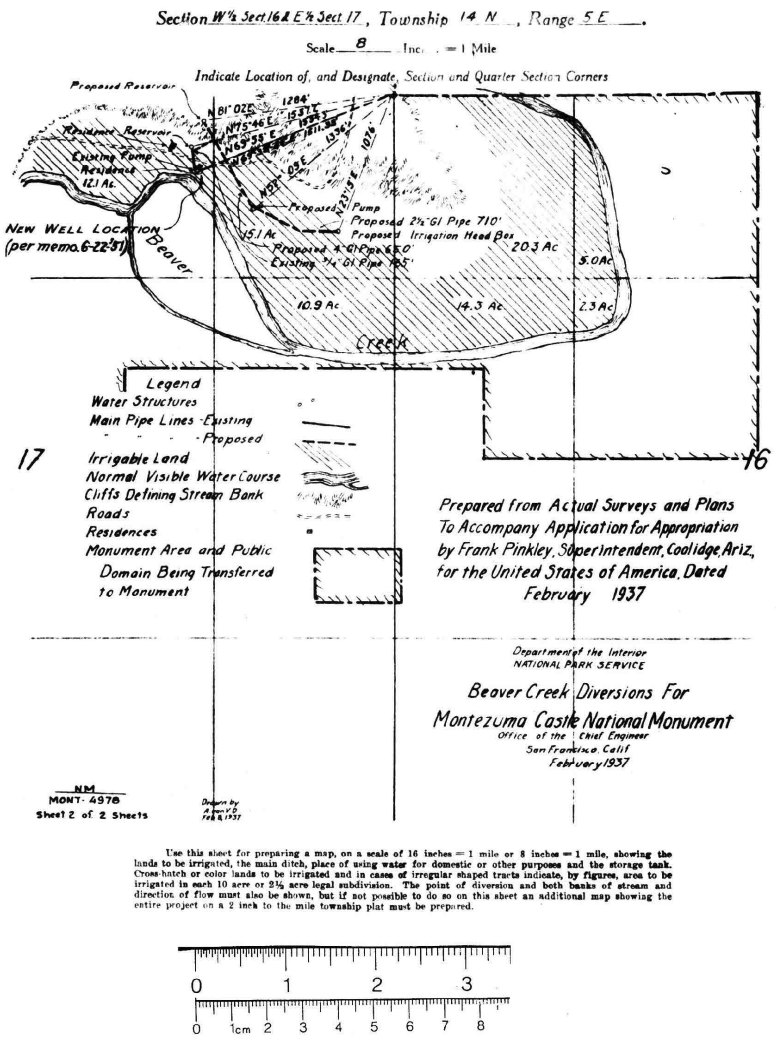
04-00-1937: map of typical cross section of beaver creek, moca by branch of land acquisition and regulation in office of the chief e





02-00-1937: map of the beaver creek diversions for moca





Docket Information

Number of Documents in Docket 160

Documents Dated from 12/17/1936 to 6/4/1982

Docket Compiled: 5/26/2011