WATER-RIGHT DOCKET

Petrified Forest National Park

Docket No: 1

RIO PUERCO WELL. HEADQUARTERS

State Water Rights Documentation

11-29-1985: statement of claimant form for other uses: file no. 39 91437

PEFO
Well #1

RECEIVED
NOV 29 1985
DEPT. OF
WATER RESOURCES

For Departmental Use Only

File No. 39- 91437
Date Filed: 11-29-85
WFN

STATEMENT OF CLAIMANT FORM FOR OTHER USES[1]

LITTLE COLORADO RIVER WATERSHED ADJUDICATION
SUPERIOR COURT OF APACHE COUNTY

1. Claimant Name: United States of America, c/o National Park Service(Petrified Forest NP)
Claimant Address: 450 Golden Gate Ave., P.O.Box 36063 City San Francisco
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:_____

3. Claimed Priority Date: Dec. 31, 1934 (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:

5. Source of Water:
A. ☐ Stream: name_____, tributary to_____
B. ☐ Spring: name_____, tributary to_____
C. ☐ Lake or Reservoir: name_____, tributary to_____
D. ☒ Groundwater

6. Legal description of the Point of Diversion: (attach additional sheet if required)
SW ¼, NW ¼, SE ¼, Section 9, Township 18 N/S, Range 24 E/W/

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. Registration # 55-629113
D. ☐ Other, describe_____

[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: _____

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

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

11. **Claimed Right:**
   A. Maximum Flow Rate: 100 ☐ 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 Dave Cherry, Associate Regional Director, 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? (415) 556-1036

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

16. **Additional comments:** _____
(attach additional sheet if required)

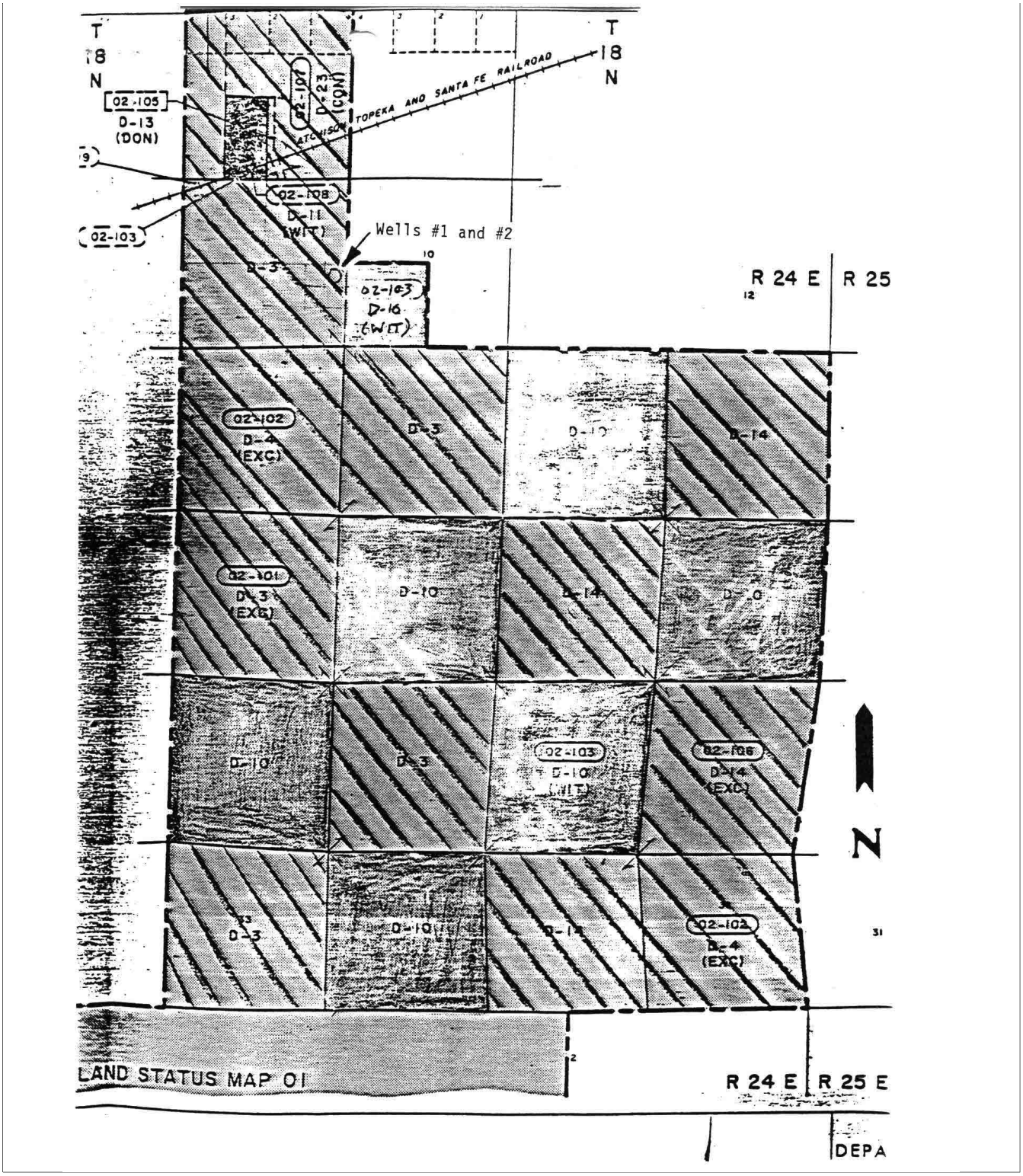
17. **Notarized Statement:**
I (We), John D. Cherry, on behalf of the National Park Service the claimant(s) named in this claim, do hereby certify under penalty of perjury, that the information contained and statements made herein are to the best of my(our) knowledge and belief true, correct and complete.

_____

(seal) See Notary Public acknowledgement attached.

My Commission Expires: _____ Notary Public

or, _____
Authorized Personnel of the Department of Water Resources


T 18 N
T 18 N
TOPEKA AND SANTA FE RAILROAD
02-105 D-13 (DON)
02-107 D-23 (CON)
02-108 D-11 (WIT)
02-103
Wells #1 and #2
D-3
02-103 D-16 (WIT)
R 24 E
R 25
12
02-102 D-4 (EXC)
D-3
D-10
D-14
02-101 D-3 (EXC)
D-10
D-14
D-10
D-3
02-103 D-10 (WIT)
02-106 D-14 (EXC)
N
D-3
D-10
D-14
02-102 D-4 (EXC)
31
LAND STATUS MAP 01
R 24 E
R 25 E
DEPA

Declaration: The United States gi... ification to the State in the inte... or comity, and does not concede that t... State has power to regulate the rights o... the United States to the use of water.

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

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	[X]
NON-EXEMPT WELL – $10.00	[ ]

FOR OFFICE USE ONLY
REGISTRATION NO. 55- 629113
FILE NO. _____
FILED _____ (DATE) AT _____ (TIME)
INA _____
AMA _____

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

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

3. a. The well is located within the NE ¼ SW ¼ NE ¼, Section 9, of Township 18 N N/S, Range 24 E E/W, G & SRB & M, in the County of Apache.
b. If in a subdivision: Name of subdivision _____, Lot No. _____, Address _____.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
Unused.

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 [X]
_____ (Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
a. Depth of Well 48 feet
b. Diameter of casing 5 inches
c. Depth of casing N/A feet
d. Type of casing steel
e. Maximum pump capacity N/A gallons per minute.
f. Depth to water 10.7 feet below land surface.
g. Date well completed _____ (Month) _____ (Day) 1934 (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 _____
Petrified Forest -- Puerco Well #1
Attach additional sheet if necessary.

9. DATE _____ SIGNATURE OF REGISTRANT _____
GERARD S. WITUCKI
CHIEF, DIVISION OF WATER RESOURCES

INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form **in duplicate** with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.

2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.

3. No registration fee is required for Exempt Wells. A $10.00 registration fee must accompany registration forms for all Non-Exempt Wells.

4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.

5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.

2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.

3. a. Fill in the Section, Township and Range in all cases if it is available.
   b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.

4. Show all purposes for which the water is used.

5. If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.

6. If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.

7. Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.

8. Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.

9. The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.

STATE LAND DEPARTMENT OF THE STATE OF ARIZONA
BEFORE THE STATE LAND COMMISSIONER

IN THE MATTER OF APPLICATION TO APPROPRIATE WATER NO. **A-3095**
PERMIT NO. A-2147

Re: Rio Puerco/Little Colorado

Applicant, United States of America, Petrified Forest National Monument

ORDER OF CANCELLATION

Upon the files and records of the Arizona State Land Department, the State Land Commissioner, being fully advised in the premises, hereby makes the following findings of fact:

1. That Application to Appropriate Water No. **A-3095** was filed with the Arizona State Land Department on **December 9, 1950** That the said Applicant has not proceeded with due diligence to perfect said Application to Appropriate Water and was Ordered to Show Cause, if any there be, on or before **September 25, 1973** why said application should not be cancelled.

2. That said Applicant has not shown cause nor did Applicant appear to show cause why Application to Appropriate Water No. **A-3095** should not be cancelled and it is in the best interest of the State to cancel said application due to Applicant's lack of diligence.

NOW, THEREFORE, IT IS HEREBY ORDERED that Application to Appropriate Water No. **A-3095** heretofore filed by **Mr. Gustav W. Muehlenhaupt, Acting Regional Director, U.S. Dept. of the Interior, National Park Service, P.O. Box 36063, San Francisco, Calif. 94102**, Applicant(s) be and the same hereby is cancelled.

This Order is subject to appeal as in such cases is provided by the laws of the State of Arizona.

GIVEN under my hand and the official seal of the Arizona State Land Department this **14th** day of **January**, 1975

SEAL

Rubert L. Bettwy
STATE LAND COMMISSIONER

64-74

BY CERTIFIED MAIL 570517

STATE LAND DEPARTMENT OF THE STATE OF ARIZONA

BEFORE THE STATE LAND COMMISSIONER

IN THE MATTER OF)
APPLICATION NO. A-3095)
TO APPROPRIATE WATER)
)
Re: Rio Puerco/Little Colorado) ORDER TO SHOW CAUSE
)
United States of America, Petrified
Forest National Monument, Applicant
)
)

The Arizona State Land Department, through its Water Rights Division, on lack of information that the above named applicant has complied with the requirements of ARS Section 45-150 relating to the completion of construction to appropriate surface waters, and further on the belief that the above named applicant has not complied with the requirements of Article I, Chapter IV, Rule 13 of the rules and regulations of the State Land Department governing surface waters, copy attached, HEREBY ORDERS that the above named applicant on or before 25th day of September, 19 73, personally or by verified writing appear and show cause why the State Land Department should not cancel the above numbered application to appropriate the certain waters herein described.

GIVEN under my hand and the Official Seal of the State Land Department this 21st day of August, 19 73.

ARIZONA STATE LAND DEPARTMENT

SEAL

Rudd Bolton
STATE LAND COMMISSIONER wfm

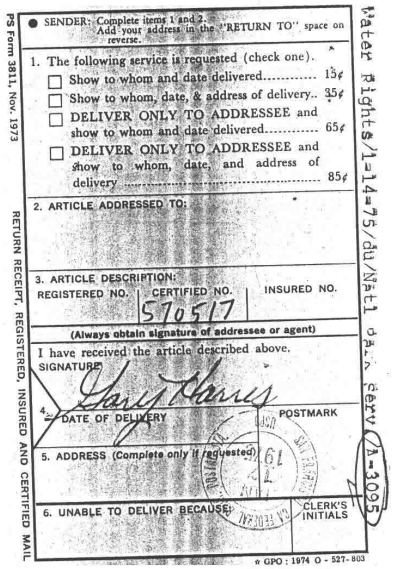
Upon the written request of applicant, and due cause having been shown the date set for hearing the Order to Show Cause set forth above is hereby advanced to the 1st day of October, 19 74.

ARIZONA STATE LAND DEPARTMENT

for the Wm Joe Milling
STATE LAND COMMISSIONER

BY CERTIFIED MAIL 570297

01-17-1975: receival stub: certified no. 570517



● SENDER: Complete items 1 and 2. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one).
- ☐ Show to whom and date delivered..... 15¢
- ☐ Show to whom, date, & address of delivery.. 35¢
- ☐ DELIVER ONLY TO ADDRESSEE and show to whom and date delivered..... 65¢
- ☐ DELIVER ONLY TO ADDRESSEE and show to whom, date, and address of delivery ..... 85¢

2. ARTICLE ADDRESSED TO:

3. ARTICLE DESCRIPTION:
REGISTERED NO. | CERTIFIED NO. 570517 | INSURED NO.

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE Harry Harris

4. DATE OF DELIVERY POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆ GPO : 1974 O - 527-803

PS Form 3811, Nov. 1973 RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

Water Rights/1-14-75/du/Natl Data Serv/A-3095

09-27-1973: letter to action regional director from water rights division regarding extension of time on the commissioner's order to

JACK WILLIAMS
GOVERNOR

Arizona
State Land Department
1624 WEST ADAMS
PHOENIX, ARIZONA 85007
602 - 271-4634

ANDREW L. BETTWY
STATE LAND COMMISSIONER

September 27, 1973

Mr. Gustav W. Muehlenhaupt
Acting Regional Director
U. S. Department of the Interior
National Park Service
Western Region
Post Office Box 36063
San Francisco, California 94102

Dear Mr. Muehlenhaupt:

As per your request of September 14, 1973, find enclosed an extension of time on the Commissioner's Order To Show Cause on Application Nos. A-2823, A-1765, A-1880, A-3095, A-2601, A-2602, A-1878, A-1799, A-1881 and A-1766 to and including the 1st day of October, 1974.

Very truly yours,

Wm Joe Melling

Wm. Joe Melling, Director
Water Rights Division

WJM/jaw

Enclosures

09-14-1973: letter to state land commissioner from acting regional director regarding request for an extension of time

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WESTERN REGION
450 GOLDEN GATE AVENUE, BOX 36063
SAN FRANCISCO, CALIFORNIA 94102

N REPLY REFER TO:

L54(WR)PSSW
Water Rights/General

September 14, 1973

State Land Commissioner
State Land Department of the
State of Arizona
1624 West Adams - 4th Floor
Phoenix, Arizona 85007

Dear Sir:

This is in response to your orders to show cause in regard to applications listed below. In accordance with the telephone conversation of August 29 between Mr. William Melling of your office and Mr. Gerard Witucki of this office, a request is hereby made for an extension of time regarding these applications.

In reviewing our files concerning these applications, we have determined that the water usages under the following permits continue to have regular and active use:

Application A-2823, Permit A-1987 for Lower Saddlehorse Springs in Grand Canyon National Monument.
Application A-1765, Permit A-1093 for Roaring Springs.
Application A-1880, Permit A-1194 for Bright Angel Creek for South Rim of the Grand Canyon.
Application A-3095, Permit A-2147 for Rio Puerco water system in Petrified Forest National Monument.
Application A-2601, Permit A-1829 for Cholla Spring #1 in Tonto National Monument.
Application A-2602, Permit A-1830 for Cholla Spring #2 in Tonto National Monument.

The following diversionary systems are in place, operable, and are being maintained on a standby basis for use during emergencies or while repairs are being made to the principal water-delivery systems:

Application A-1878, Permit A-1192 for Bright Angel Creek
Application A-1799, Permit A-1132 for the Bonita Canyon Springs water system at Chiricahua National Monument.

The systems to which the following permits refer have not been used regularly therefore; we have placed these water usages on our inactive list:

Application A-1881, Permit A-1195 for the Bright Angel Creek hydroelectric system for Phantom Ranch.
Application A-1756, Permit A-1094 for Bright Angel Creek for Phantom Ranch.

Substantial funds were expended in planning and construction for the projects related to these applications, and we believe that increasing Park visitation and expansion of facilities may someday require the implementation of these projects.

Sincerely,

SIGNED

Gustav W. Muehlenhaupt
Acting Regional Director

bc:
Ass't Regional Director, Arizona
Superintendent, GRCA
Superintendent, PEFO
Superintendent, TONTO NM
Superintendent, CHIRICAHUA NM
Field Solicitor, San Francisco
Field Solicitor, Arizona

(WR)PSSW:WNMurray:GSWitucki:mpm 9/14/73

08-21-1973: order to show cause: application no. a-3095

TATE LAND DEPARTMENT OF THE ATE OF ARIZONA

BEFORE THE STATE LAND COMMISSIONER

IN THE MATTER OF)
APPLICATION NO. A-3095)
TO APPROPRIATE WATER)
)
Re: Rio Puerco/Little Colorado) ORDER TO SHOW CAUSE
)
United States of America, Petrified
Forest National Monument, Applicant
)
)

The Arizona State Land Department, through its Water Rights Division, on lack of information that the above named applicant has complied with the requirements of ARS Section 45-150 relating to the completion of construction to appropriate surface waters, and further on the belief that the above named applicant has not complied with the requirements of Article I, Chapter IV, Rule 13 of the rules and regulations of the State Land Department governing surface waters, copy attached, HEREBY ORDERS that the above named applicant on or before 25th day of September, 19 73, personally or by verified writing appear and show cause why the State Land Department should not cancel the above numbered application to appropriate the certain waters herein described.

GIVEN under my hand and the Official Seal of the State Land Department this 21st day of August, 19 73.

ARIZONA STATE LAND DEPARTMENT

SEAL

Rubert A. Bettwy
STATE LAND COMMISSIONER a/f m

Upon the written request of applicant, and due cause having been shown the date set for hearing the Order to Show Cause set forth above is hereby advanced to the 1st day of October, 19 74.

ARIZONA STATE LAND DEPARTMENT

Wm. Joe McClung
for the STATE LAND COMMISSIONER

BY CERTIFIED MAIL 570297

ARTICLE I, CHAPTER IV, RULE 13

13. Proof of Appropriation of Water and Issuance of Certificate.

When an applicant and a holder of a permit has completed the appropriation of the water set forth in his application and permit, he shall file with the Department on a Water Rights Division form PROOF OF APPROPRIATION OF WATER. After a field inspection or such other investigation of the completed project by the Department has been made and the Department is satisfied therefrom that all the requirements of law and these Rules and Regulations have been met, a CERTIFICATE OF WATER RIGHT shall be issued to the applicant or his assignee of record in the State Land Department, Water Rights Division and will be subject to the provisions and conditions therein contained, and such other conditions as may be added thereto, and the provisions of law and these Rules and Regulations.

STATE LAND DEPARTMENT OF TH STATE OF ARIZONA

BEFORE THE STATE LAND COMMISSIONER

IN THE MATTER OF APPLICATION NO. A-3095 TO APPROPRIATE WATER

Re: Rio Puerco/Little Colorado

United States of America, Petrified Forest National Monument, Applicant

ORDER TO SHOW CAUSE

The Arizona State Land Department, through its Water Rights Division, on lack of information that the above named applicant has complied with the requirements of ARS Section 45-150 relating to the completion of construction to appropriate surface waters, and further on the belief that the above named applicant has not complied with the requirements of Article I, Chapter IV, Rule 13 of the rules and regulations of the State Land Department governing surface waters, copy attached, HEREBY ORDERS that the above named applicant on or before 25th day of September, 1973, personally or by verified writing appear and show cause why the State Land Department should not cancel the above numbered application to appropriate the certain waters herein described.

GIVEN under my hand and the Official Seal of the State Land Department this 21st day of August, 1973.

ARIZONA STATE LAND DEPARTMENT

SEAL

Robert Bettwy

STATE LAND COMMISSIONER rwpm

Upon the written request of applicant, and due cause having been shown the date set for hearing the Order to Show Cause set forth above is hereby advanced to the _____ day of _____, 19____.

ARIZONA STATE LAND DEPARTMENT

_____

STATE LAND COMMISSIONER

BY CERTIFIED MAIL 570297

ARTICLE I, CHAPTER IV, RULE 13

13. Proof of Appropriation of Water and Issuance of Certificate.

When an applicant and a holder of a permit has completed the appropriation of the water set forth in his application and permit, he shall file with the Department on a Water Rights Division form PROOF OF APPROPRIATION OF WATER. After a field inspection or such other investigation of the completed project by the Department has been made and the Department is satisfied therefrom that all the requirements of law and these Rules and Regulations have been met, a CERTIFICATE OF WATER RIGHT shall be issued to the applicant or his assignee of record in the State Land Department, Water Rights Division and will be subject to the provisions and conditions therein contained, and such other conditions as may be added thereto, and the provisions of law and these Rules and Regulations.

Water Rights Division A-3095 Petrified Nat'l Monument KH

***SENDER:** Be sure to follow instructions on other side*

PLEASE FURNISH SERVICE(S) INDICATED BY CHECKED BLOCK(S)
(Additional charges required for these services)

☐ Show address where delivered ☐ Deliver ONLY to addressee

RECEIPT
Received the numbered article described below

REGISTERED NO.

CERTIFIED NO. 570297

INSURED NO.

1 SIGNATURE OR NAME OF ADDRESSEE *(Must always be filled in)*

2 SIGNATURE OF ADDRESSEE'S AGENT, IF ANY

DATE DELIVERED

3 SHOW WHERE DELIVERED *(Only if requested, and include ZIP Code)*

09-12-1956: letter to water resources section from surface water division regarding approval of extensions of time

Re: L54-L

September 12, 1956

Mr. A. van V. Dunn, Chief

Water Resources Section

National Park Service

Washington 25, D. C.

COPY

Dear Mr. Dunn:

In compliance with your requests of August 29, 1956 and September 4, 1956, for extensions of time in Applications Nos. A-3095, A-1765 and A-1878, we enclose herewith the requested extensions.

We wish to express our appreciation of the fine cooperation which you have given us.

Very truly yours,

Kay Hammond,
Surface Water Division

Enclosures

09-12-1956: commissioner's order: granting an additional extension of time for permit no. a-2147

BEFORE THE STATE LAND COMMISSIONER OF THE STATE OF ARIZONA

IN THE MATTER of Application No. A-3095, Permit No. A-2147 Rio Puerco (underground flow) tributary of Little Colorado River UNITED STATES OF AMERICA Petrified Forest National Monument	C O M M I S S I O N E R ' S O R D E R Granting an Additional Extension of Time

The UNITED STATES OF AMERICA, Petrified Forest National Monument, by its Chief of Water Resources Section, A. van V. Dunn, having requested an extension of time within which to complete construction work and within which to make complete application of water to beneficial use under the terms of Permit No. A-2147, granted pursuant to Application No. A-3095, and the reasons submitted for said request being considered good and sufficient cause therefor,

IT IS ORDERED, That the Permittee, the UNITED STATES OF AMERICA, Petrified Forest National Monument, be, and it is hereby granted an extension of time dating from September 17, 1956 to September 17, 1966 within which time to complete construction work; and from September 17, 1966 to September 17, 1967 within which time to make complete application of water to beneficial use under the terms of said Permit No. A-2147.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Seal of the State Land Commissioner, this 12th day of September, A. D., 1956.

Kathryn Bills
Acting [illegible] State Land Commissioner

08-29-1956: letter to state land commissioner from chief, water resources section regarding application a-3095, permit a-2147, pet

IN REPLY REFER TO:
L54-L

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

August 29, 1956

Mr. Roger Ernst
State Land Commissioner
State Land Department
Phoenix, Arizona

Re: Application A-3095, Permit A-2147
Petrified Forest

Dear Mr. Ernst:

Request is hereby made for an extension of time in which to complete the water system diverting the underground flow of the Rio Puerco for Petrified Forest National Monument.

The system is nominally complete, and provides the main water supply for the National Monument. Annual attendance at the Monument has increased from 356,809 for the year ending September 30, 1950, to 449,100 for the year ending September 30, 1955, with corresponding increase in the water use.

However, as indicated in Application A-3095, the water system and water claim, are based on ultimate needs which have not been, and will not be reached for some years. As you have probably seen in press releases, the National Park Service is now embarked on MISSION 66, a 10-year development program to provide accommodations and facilities for the anticipated demands of 1956.

The extension of time is requested to permit proof on the use of 1966, to the extent that it does not exceed the authorized quantity of water.

Very truly yours,

A. van V. Dunn

A. van V. Dunn
Chief, Water Resources Section

A- 3095
A- 2147
Rio Puerco
Sub-Lease

08-13-1951: letter to state land commissioner from chief accountant regarding receipt of voucher covering purchase order 00-15

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

RECEIVED
AUG 13 1951
STATE LAND DEPT.
OF ARIZONA

AUG - 9 1951

State Land Commissioner
Phoenix, Arizona

Gentlemen:

We are in receipt of your voucher in the amount of $10.00, covering our Purchase Order 99-15 issued July 13, 1951, for permit fees for domestic and industrial use in Application No. A-3095. We are again enclosing a newly prepared voucher since the signature of Tessie I. Duncan appears in the wrong space. The voucher should be signed in the space indicated by red check mark. Instructions for payee's signature appear at the bottom of the voucher which is indicated by an asterisk at Payee and at the bottom of the voucher.

Upon receipt of the properly certified voucher, the account will be promptly processed for payment.

Sincerely yours,

B. L. Douglas
Chief Accountant

Enclosure

Voucher dated 7/13/51 [illegible]
Signed & returned 8/13/51
Previous voucher was signed [illegible]

07-30-1951: letter to state land commissioner from acting chief accountant regarding receipt of voucher covering purchase order 9

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

JUL 30 1951

a. 3095

State Land Commissioner
Phoenix, Arizona

Gentlemen:

We are in receipt of your voucher in the amount of $10.00, covering our Purchase Order 99-15 issued July 13, 1951, for permit fees for domestic and industrial use in Application No. A-3095. We are returning the voucher since the signature of Tessie I. Duncan appears in the space reserved for the signature of the Authorized Certifying Officer of this office.

Enclosed is a newly prepared voucher which should be signed in the space indicated by the check mark. Upon receipt of the properly certified voucher, the account will be promptly processed for payment.

Sincerely yours,

James M. Carpenter
James M. Carpenter
Acting Chief Accountant

Enclosure

8-3-51. Voucher signed in correct place and returned. TID

8-13-51 Another voucher dated 7-13-51 signed & notarized received

RECEIVED
AUG 3 1951
STATE LAND DEPT.
OF ARIZONA

Match for duplication

ARIZONA
STATE LAND DEPARTMENT

Noted by	To	Date
TP	July	8/3/51
	D	
Ans. by		Date

07-12-1951: letter to engineer, water division from chief, water resources branch regarding purchase order for application no. a-30

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

In reply refer to:
L54 PETF

July 12, 1951

RECEIVED
JUL 21 1951
STATE LAND DEPT.
OF ARIZONA

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

Dear Mr. Smith:

In accordance with your letter of June 27 to Superintendent William E. Branch, Petrified Forest National Monument, we enclose a voucher and purchase order covering fees for permits to appropriate water for domestic and industrial purposes under Application No. A-3095 from the Rio Puerco, tributary of the Little Colorado River. Please sign the voucher and return it to this Office for payment.

Sincerely yours,

A. van V. Dunn
Chief, Water Resources Branch

Enclosures 3

ARIZONA
STATE LAND DEPARTMENT
Noted by | To | Date
7/21/51
Ans. by 7/21/51 Date

June 27, 1951

Mr. William E. Branch
Superintendent Petrified
Forest National Monument
Holbrook, Arizona.

Re: Application No; A-3095
Rio Puerco (underground flow)
Tributary Little Colorado
River

Dear Sir:

We are in receipt of your letter dated June 20th enclosing affidavit of posting in the foregoing application.

No protests having been received against this application, the State Land Commissioner is now in position to issue permit upon the same, and upon receipt of the required fee of $5.00 each for Domestic and Industrial use, or the amount of $10.00, the permit will be issued.

Awaiting your further wishes in the matter,

Very truly yours,

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

s/j

06-20-1951: letter to water division from superintendent regarding executed affidavit of posting and copy of notice posted

RECEIVED
JUN 21 1951
WATER DIVISION
State Land Department

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Petrified Forest National Monument
Holbrook, Arizona

June 20, 1951

Water Division
Arizona State Land Department
Phoenix, Arizona

Subject: Application No. A-3095, Rio Puerco (underground flow) Tributary, Little Colorado River.

Gentlemen,

Pursuant to instructions regarding above application, there are enclosed executed affidavit of posting and copy of Notice posted for your consideration and action.

Sincerely,

William E. Branch
Superintendent

Enclosure

Copy to: Director, National Park Service, with two copies of affidavit of posting and copy of notice posted.



RECEIVED
JUN 21 1951
STATE LAND DEPT.
OF ARIZONA

06-19-1951: affidavit of posting notice: application no. a-3095

AFFIDAVIT OF POSTING NOTICE

IN THE MATTER of APPLICATION

STATE OF ARIZONA, } ss.
County of Navajo

No. A-3095 BEFORE THE STATE LAND COMMISSIONER OF ARIZONA.

William E. Branch, Superintendent Petrified Forest National Monument, being first duly sworn, deposes and says that two copies of the notice of Application No. A-3095 before the State Land Commissioner of Arizona for Permit to Appropriate Public Waters of the State of Arizona

a true copy of which is hereto attached, were posted either by himself or in his presence on the ~~12th~~ 17th day of May, 19 51.

That one of said notices was posted on Bulletin Board, Post Office, Adamana, Arizona - Nearest Post Office to Diversion, about 1/2 mile West.
(Describe how and where posted as accurately as possible)

and the other of said notices was posted on Bulletin Board, Superintendent's Office, Petrified Forest National Monument.
(Describe how and where posted as accurately as possible)

That each of said notices thus posted occupied a conspicuous place in the locality to be affected by the proposed appripriation of water, and remained so posted from the date of posting to the 19th day of June, 19 51.

/s/ W. E. Branch

Subscribed and sworn to before me this 19th day of June, 19 51.

/s/ Roberta Hennessey
Notary Public.

My commission expires November 12, 1953

18

10-03-1951: letter to assistant director from secretary, water division regarding permit granted

C O P Y

W. W. Lane
State Land Commissioner

OFFICE OF
STATE LAND DEPARTMENT
STATE OF ARIZONA
PHOENIX, ARIZONA

Water Division

October 3, 1951

Mr. Hillory A. Tolson
Assistant Director
National Park Service
U. S. Department of the Interior
Washington 25, D. C.

Re: Application No. A-3095
Permit No. A-2147
Rio Puerco

Dear Mr. Tolson:

We enclose permit in the above captioned case which was granted September 17, 1951.

We call your attention for the time set forth in the permit on the fourth page of the instrument.

After September 17, 1956, this office will inquire about your needs for an extension of time within which to make complete beneficial use of the waters, and will extend such time at five years periods to conform with your needs as set forth in Paragraphs 8 and 9 of the instrument.

Sincerely yours,

/s/ Tessie I. Duncan

Tessie I. Duncan
Secretary, Water Division

d
Enclosure

P. S. We also enclose our Receipt No. 2965 for the $10.00 recording fee paid in this case.

07-12-1951: letter to state land department from nps regarding a voucher and purchase order; application no. a-3095

In reply refer to:
15h PETF

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

July 12, 1951

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

Dear Mr. Smith:

In accordance with your letter of June 27 to Superintendent William E. Branch, Petrified Forest National Monument, we enclose a voucher and purchase order covering fees for permits to appropriate water for domestic and industrial purposes under Application No. A-3095 from the Rio Puerco, tributary of the Little Colorado River. Please sign the voucher and return it to this Office for payment.

Sincerely yours,

(SGD.) A. VAN V. DUNN.

A. van V. Dunn
Chief, Water Resources Branch

Enclosures 3

Copy to: Regional Director, Region Three (2)

AvanVDunn:sh

05-17-1951: letter to state land department from state water commissioner regarding application no. a-3095

State Water Commissioner,
Phoenix, Arizona.

Application No. A-3095
Re: Rio Puerco, Underground Flow) Trib. Little Colorado River

Dear Sir:

This is to advise you that two notices of the above designated application were posted in conspicuous places where they can be readily observed and read by residents of the locality affected by the proposed appropriation of water on the 17th day of May, 1951.

Very truly yours,

W. M. C. Branch
Superintendent

PETRIFIED FOREST NATIONAL MONUMENT
HOLBROOK, ARIZONA

RECEIVED
MAY 21 1951
WATER DIVISION
State Land Department

C O P Y

Office of
STATE LAND DEPARTMENT
State of Arizona
Phoenix, Arizona

June 27, 1951

Mr. William E. Branch
Superintendent Petrified
Forest National Monument
Holbrook, Arizona

Re: Application No; A-3095
Rio Puerco (underground flow)
Tributary Little Colorado
River

Dear Sir:

We are in receipt of your letter dated June 20th enclosing affidavit of posting in the foregoing application.

No protests having been received against this application, the State Land Commissioner is now in position to issue permit upon the same, and upon receipt of the required fee of $5.00 each for Domestic and Industrial use, or the amount of $10.00, the permit will be issued.

Awaiting your further wishes in the matter,

Very truly yours,

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

s/j

05-15-1951: letter to nps from state land department regarding notice of the pendency; application no. a-3095

C O P Y

W. W. Lane
State Land Commissioner
Water Division

OFFICE OF
STATE LAND DEPARTMENT
STATE OF ARIZONA
PHOENIX, ARIZONA

May 15, 1951

Mr. Hillory A. Tolson
Assistant Director
National Park Service
Washington 25, D.C.

Re: Application No. A-3095
Rio Puerco (Underground Flow)
Trib. Little Colorado River

Dear Sir:

There are enclosed herewith two copies of notice of the pendency of the above designated application, post card to be used for advising this department of the posting of notices, and an affidavit of posting and continuous posting of notices, with copy of notice attached.

The two notices must be posted within ten (10) days from the date of issuance appearing at the bottom thereof and remain so posted until the expiration of thirty (30) days from such date of issuance. In no event should the notices be posted in inconspicuous places, and they must remain continuously posted from the date of posting until the expiration of the posting period. It is suggested that one notice be posted at, or near, the post office where those who reside in the locality of the proposed appropriation receive mail.

The post card advising this department of posting the notices must be filled out and mailed the day the notices are posted.

The affidavit of posting, with copy of notice attached, must be filled out and mailed the day the notices are posted.

The affidavit of posting, with copy of notice attached, must be filled out, signed and sworn to before some officer qualified to administer oaths in the State of Arizona at the conclusion of the notice period and then immediately mailed to the Water Division, State Land Department, Phoenix, Arizona.

Prompt attention to posting the notices and returning the affidavit of posting at the end of the period of notice will facilitage the approval of the application.

Very truly yours,

W. W. Lane
State Land Commissioner.

Enclosures
s/j

WATER DIVISION

STATE LAND DEPARTMENT

PHOENIX, ARIZONA

NOTICE OF APPLICATION TO APPROPRIATE WATER

Application No. A-3095

Notice is hereby given that on the 9th day of December, 1950

United States of America, Department of the Interior, National Park Service, by Hillory A. Tolson, Assistant Director

filed Application No. A-3095, with the State Land Commissioner of Arizona, for permit to

Appropriate Public Waters of the State of Arizona

Description of Project

Source of water supply Rio Puerco (Underground Flow), tributary Little Colorado River

Amount applied for 30,000 gallons per day

Proposed use of water Domestic, 25,000 gallons per day, Industrial 5,000 gallons per day

Point of diversion within SW¼NE¼ Sec. 9; Twp. 18 N., Rge. 24 E., G.& S.R.M., Apache County

Place of using water Domestic use: S½NE¼; N½SE¼; Sec. 9, Twp. 18 N., Rge. 24 E., and NE¼; Sec. 9; Twp. 17 N., Rge. 24 E., and W½; Sec. 1, Twp. 16 N., Rge. 23 E.,

Remarks: Industrial: S½NE¼; N½SE¼; Sec. 9, Twp. 18 N., Rge. 24 E.; and W½; Sec. 1, Twp. 16 N., Rge. 23 E., G.& S.R.M., Apache and Navajo Counties, In Petrified Forest National Monument Arizona

Protest

Any person desiring to protest against the granting of such permit shall within 30 days from the date of issuance of this notice file with the Water Division, State Land Department, at Phoenix, Arizona, a signed statement **in duplicate** clearly setting forth the protestant's objections to the approval of the application, which statement shall contain the following information:

(1) Statement of the injury which would result to protestant from such appropriation and use.

(2) The basis of protestant's water right, and date of initiation of the right.

(3) Protestant's past and present use of water both as to amount used and land irrigated, or use made of water, if other than irrigation.

(4) A description of the protestant's land or place of use, and the point of diversion of the water.

(5) There may also be filed with such statement such maps and data as the protestant may care to submit in support of his protest.

Issued at Phoenix, Arizona

May 15, 1951

W. W. Lane

~~G. C. WILLIAMS~~

State Land Commissioner.

13

05-15-1951: letter to nps from state land department regarding notice of the pendency; application no. a-3095

W. W. LANE
~~O. G. WILLIAMS~~
STATE LAND COMMISSIONER
WATER DIVISION

OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

May 15, 1951

Mr. Hillory A. Tolson
Assistant Director
National Park Service
Washington 25, D.C.

Re: Application No. A-3095
Rio Puerco (Underground Flow)
Trib. Little Colorado River

Dear Sir:

There are enclosed herewith two copies of notice of the pendency of the above designated application, post card to be used for advising this department of the posting of notices, and an affidavit of posting and continuous posting of notices, with copy of notice attached.

The two notices must be posted within ten (10) days from the date of issuance appearing at the bottom thereof and remain so posted until the expiration of thirty (30) days from such date of issuance. In no event should the notices be posted in inconspicuous places, and they must remain continuously posted from the date of posting until the expiration of the posting period. It is suggested that one notice be posted at, or near, the post office where those who reside in the locality of the proposed appropriation receive mail.

The post card advising this department of posting the notices must be filled out and mailed the day the notices are posted.

The affidavit of posting, with copy of notice attached, must be filled out, signed and sworn to before some officer qualified to administer oaths in the State of Arizona **at the conclusion of the notice period** and then immediately mailed to the Water Division, State Land Department, Phoenix, Arizona.

Prompt attention to posting the notices and returning the affidavit of posting at the end of the period of notice will facilitate the approval of the application.

Very truly yours,

W. W. Lane
~~O. G. WILLIAMS~~,
State Land Commissioner.

Enclosures
s/j

13

05-11-1951: letter to state land commissioner from nps regarding application no. a-3095

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

In reply refer to:
L54 PETF

May 11, 1951

RECEIVED
MAY 15 1951
STATE LAND DEPT.
OF ARIZONA

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

My dear Mr. Lane:

We have received your notice of application to appropriate water of the Rio Puerco under Application A-3095, together with the form to be completed as an affidavit of posting notice. It is necessary to file copies of these water right instruments in the three offices of this Service.

We can duplicate the notice from the extra copy sent by you. However, we shall appreciate it if you will send three extra copies of the form used for the affidavit of posting notice to the Superintendent, Petrified Forest National Monument, Holbrook, Arizona, in time for use at the end of the posting period.

Of the three copies of the notice of application to appropriate water which we have received, two had the names of the counties both before and after the letters "G.& S. R. M.", under the description of the place of using water, and the other had it only following these letters. We have assumed that the single copy with the single reference indicates that you have retained a copy of that run of the notice. Accordingly, we have erased the duplicate reference to the counties preceding the letters "G.& S. R. M." on the two additional copies of the notice before posting them, in order that all may agree.

Sincerely yours,

A. van V. Dunn
Chief, Water Resources Branch

02-19-1951: letter to nps from state land department regarding application no. a-3095

VR Copy

W. W. LANE
C. C. WILLIAMS
STATE LAND COMMISSIONER

OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

Water Division

February 19, 1951

Re: L54 PETF

Mr. A. van V. Dunn, Chief
Water Resources Branch
National Park Service
U. S. Department of the Interior
Washington 25, D. C.

Application No. A-3095
Rio Puerco, underground flow,
Trib. of Little Colorado River
NATIONAL PARK SERVICE

COPY

Dear Mr. Dunn:

Reply is made to your letter of February 13th, with respect to the above captioned case.

We will make the agreed changes on the application form.

I believe that this could hardly be termed a municipal use - at least we have always considered municipal use as domestic on a large scale - such as, a city combined with such other uses which are found in a city. There will be no deletion whatever of your references to growth. I believe that the application will give you full protection on your proposed use.

I do not know what you consider as an average per capita use per day for visitors to the Park, but it would certainly be very much smaller than the average domestic use of the resident personnel.

We shall proceed with the processing of this case within a short time.

Very truly yours,

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

CHWS:k

02-13-1951: letter to state land department from nps regarding application no. a-3095

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

In reply refer to:
L54 PEFP

February 13, 1951

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

My dear Mr. Smith:

This is to authorize you to recite the water uses contemplated under the classification of "Industrial" purposes, in paragraph 10 of Application No. A-3095 for the appropriation of the waters of the Rio Puerco at Petrified Forest National Monument.

In making this addition, however, I wonder whether "Industrial" should be substituted for, or made supplemental to "Municipal." Collectively, the domestic and industrial water use of the entire 30,000 gallons per day is of the type made in a municipality. Like the use in a municipality, there is also an annual increase due to increasing numbers of annual visitors. In the similar case of the South Rim at Grand Canyon National Park, we have actually established a municipal right, Application No. A-1735, Certificate No. 722. In the particular case at Petrified Forest National Monument, however, we have not considered the community of sufficient magnitude to merit the same classification. At the same time, we should not like to delete references which relate to growth as a result of increasing population over a relatively long period of time.

Sincerely yours,

(SGD.) A. VAN V. DUNN

A. van V. Dunn
Chief, Water Resources Branch

Copy to: Regional Director, Region Three (2) with 2 copies of Mr. Smith's letter of Feb. 7

AvanVDunn:sh

02-07-1951: letter to nps from state land department regarding application no. a-3095

W Copy

OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

W. W. LANE
C. H. WILLIAMS
STATE LAND COMMISSIONER

Water Division

February 7, 1951

Re: L54 PETP
Application No. A-3095
Rio Puerco (Underground flow)
Trib. of Little Colorado
NATIONAL PARK SERVICE

Mr. A. van V. Dunn, Chief
Water Resources Branch
National Park Service
U. S. Department of the Interior
Washington 25, D. C.

Dear Mr. Dunn:

After receiving your letter of January 31st, I have come to the conclusion that this application will be in better shape to leave it as originally submitted, namely, 25,000 gallons per day for domestic use and 5,000 gallons per day for industrial use. I believe that to combine this all under domestic would not give a true picture of the application - since the proposed uses classed as industrial are beyond the ordinary understanding of domestic use.

I believe, however, that under Paragraph 10, we should substitute "Industrial" for "Municipal" use and give - in the application - a brief recital of these industrial uses as you have given them to us in your letter. Upon authorization of this by you, we will make this addition to the application.

We also wish to call your attention to the fact that we are now requiring that all applications to appropriate be made in duplicate. In the present case, we will make this duplicate in our office, but request that in any future application which may be submitted, that this regulation be observed.

With best personal regards, I am

Very truly yours,

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

CHWS:k

01-31-1951: letter to state land department from nps regarding application a-3095

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

In reply refer to:
L54 PETF

January 31, 1951

RECEIVED
FEB - 6 1951
WATER DIVISION
State Land Department

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

My dear Mr. Smith:

In your letter of December 11, 1950, concerning Application A-3095 for the appropriation of the waters of the Rio Puerco for use at Petrified Forest National Monument, you ask whether all use might not be classed as domestic rather than include a separate quantity for industrial purposes. We should prefer to have the single classification under the higher use, but have made the distinction because some States, including New Mexico, require it.

Under what we have classed as industrial purposes, we propose to use water in the machine shop, garages for the maintenance and repair of automotive equipment, in cooling systems of the engines which drive the water pumps, and in connection with air conditioning units in many of the buildings occupied by employees and the visiting public.

If these uses can be classed as domestic under the Arizona water laws, it is hereby requested that you make the correction in the application.

Sincerely yours,

A. van V. Dunn
Chief, Water Resources Branch

12-11-1950: letter to nps from state land department regarding receipt no. 2780 for the examination fee; application no. a-3095

Water Division

December 11, 1950

Re: L54 PETF

Application No. A-3095
Rio Puerco (Underground Flow); Trib. Little Colorado River;
NATIONAL PARK SERVICE

Mr. Hillory A. Tolson,
Acting Director,
National Park Service,
U. S. Department of the Interior
Washington 25, 1950

Gentlemen:

We enclose herewith our Receipt No. 2780 for the $3.00 examination fee in the above numbered case.

This application and the map are all in order - however, we note that besides domestic use, you have also applied for 5,000 gallons per day for industrial use; and further, there is nothing in the application to set forth the nature of this industrial use. We would appreciate your advising us as to what specifically is contemplated thereunder.

It is possible that this 5,000 gallons per day for industrial use could be combined with the domestic use - making the domestic use 30,000 gallons per day. If this can be done without affecting the sufficiency of the application - then only one permit fee of $5.00 will be required when permit fee is called for - as each separate use requires a $5.00 permit fee. This $5.00 permit fee is inconsequential at the moment, but if there is actually an industrial use, we should show same somewhere in the application what this will be. If you will give us this information and still wish to include industrial use - upon your authorization, we will add that information to the application.

Very truly yours,

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

Enc-1

CHWS:k

ENCLOSED CHECK IS IN
PAYMENT OF:
$3.00

UNITED STATES
DEPARTMENT OF THE INTER
National Park Service
Washington, D. C.

NOTICE TO BE SENT WITH CHECK

YOUR ACCOUNT NO.....
PURCHASE ORDER NO. 99-362
CONTRACT NO.....

$ HAS BEEN
DEDUCTED ON ACCOUNT
OF.....
.....
.....

State Land Commissioner
Phoenix, Arizona

RECEIVED
DEC 9 1950
WATER DIVISION
State Land Department

11-08-1950: letter to nps from water division regarding public voucher for purchases and services

Water Division

November 8, 1950

In reply refer to:
L54 PETF

Mr. Hillory A. Tolson, Acting Director
National Park Service
United States Department of the Interior
Washington 25, D. C.

Dear Sir:

Enclosed herewith Public Voucher For Purchases and Services Other Than Personal which is submitted for Filing and Examining fee for Application for Permit to Appropriate Waters of Rio Puerco in the amount of $3.00.

Very truly yours,

Kay Hammond,
Acting Secretary
Water Division

Enc-2

k

COMPARED

Permit No. A-2147 Application No. A-3095

APPLICATION FOR A PERMIT

To Appropriate Public Waters of the State of Arizona

Filed December 9, 1950 at 9:30 A. M.
(Applicant must not fill in the above blanks)

I, The United States of America, by Hillory A. Tolson, Assistant Director, National Park Service, Department of the Interior,
(Applicant's name as inserted here must agree with signature)
of National Park Service, Washington 25, ~~County~~ District of Columbia,
(Postoffice)
State of --, 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 Rio Puerco (under-ground flow)
(Name of stream or name of reservoir and stream if water is diverted from reservoir)
, tributary of Little Colorado River

2. The amount of water which the applicant intends to apply to beneficial use is:

For Domestic (Municipal or Domestic) use, 25,000 gallons per day (Gallons per annum, or gallons per day)

For (Irrigation) use, (Acre feet per acre per annum)

For (Mining or Stock Watering) use, (Cubic feet per second, or gallons per annum)

For (Power) use, cubic feet per second.

For Industrial use, 5,000 gallons per day

3. The point of diversion is located at a point whence SW corner Sec. 9,
(State bearing and distance or coordinate distances to section or quarter section corner)
T. 18 N., R. 24 E., G. & S. R. M. bears S. 47° 18' W. 4962 feet

being within the SW¼ NE¼ (State 40-acre subdivision of U. S. Government survey or projection thereof), of Sec. 9, T. 18 N., (No. N. or S.)
R. 24 E. (No. E. or W.), G. & S. R. B. & M., in the County of Apache.

(Note—Complete paragraph below for all proposed uses of water, except irrigation)

4. The water will be used for Domestic purposes in the S½ NE¼ & N½ SE¼ Sec. 9, T. 18 N., R. 24 E.; NE¼ Sec. 9, T.17 N., R. 24 E., & W½ Sec. 1, T.16 N., R. 23 E. in the (40 or 10 acre subdivision)
~~of Sec.~~ and for industrial purposes in the S½ NE¼ & N½ SE¼ Sec. 9, T. 18 N., R. 24 E., & W½ Sec. 1, T. 16 N., R. 23 E. (40 or 10 acre subdivision)
~~of Sec.~~, T., R., G. & S. R. B. & M. Apache & Navajo ~~County~~, Arizona.
in Petrified Forest National Monument

DESCRIPTION OF WORKS

5. **Diversion Works:** (a) Diversion will be by pump from well, 50 feet in depth & 4½ feet in ~~gravity, the diverting dam to be feet in~~ diameter in bed of Rio Puerco with perforated corrugated iron casing, about which crushed ~~height (stream bed to overflow), long on top, and constructed of~~
(Concrete, earth, brush, etc.)
rock was placed to keep out quicksand.

(b) Description of headgate
(Timber, concrete, etc., number and size of openings)

(c) If water is to be pumped give general description Diversion by Myers deep well pump of
(Size and type of pump)
10 g.p.m. capacity, driven by 5 HP electric motor. Same pump delivers water to a pump
(Size and type of engine or motor to be used, total head water is to be lifted, etc.)
sump and the 10,000-gallon distribution reservoir serving the Rio Puerco area. A Fairbanks Morse force pump of 20 g.p.m. capacity, driven by 6 HP gasoline engine delivers water to ~~50,000-gallon distribution reservoir at Monument headquarters.~~

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 Land Commissioner.

103

aa-1

10-7

6. **Conduit System.** (a) Canal, ditch, flume: Width on top (at water line)..... (Cross out two not used) feet; width at bottom.....feet; depth of water.....feet; length.....feet; grade.....feet per 1,000 feet; materials of construction.....

(b) Pipe line: Diameter 2½" 3" 4" inches; length 15,898 45,936 4,316 feet; grade pump lift feet per 1,000 feet; total fall from intake to outlet 279 feet; kind Transite - Force pump to 50,000-gallon reservoir. Pump lift is 91 ft. Diversion pump to 10,000-gal. reservoir through 1735 ft. of 2" pipe.

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

7. **Distributing Works.** 1/ 50,000-gallon reservoir (No.) Material Concrete - 2 cells each 21'x15'6"x10'4" (Tanks or Troughs) (State dimensions and capacity of each) deep at Headquarters Area. 10,000-gal. reservoir of concrete, 14'x6'x6'9" deep at Rio Puerco Area.

8. **Cost and Construction Schedule.** The estimated cost of the proposed project is $ 125,000. ~~It is proposed to begin~~ construction ~~within~~ begun in 1934 (Not over 1 year) ~~after the approval of this application~~, to complete construction within 5 years after/ ~~approval of this application, thereafter~~ (Not more than 5 years) and to completely apply the water to the proposed use within 20 years (State time in months or years) after the beginning of construction.

DESCRIPTION OF PROPOSED USE

9. **Domestic Use.** Domestic use is proposed as follows: All residential demands of about 55 people, a lodge, campgrounds, and comfort stations serving 349,226 visitors in 1949, and the maintenance shops at Petrified Forest National Monument (Describe the subdivisions of the township or section in which the irrigation is to be made, 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.....

having a present population of....., and an estimated population of.....in 19.....

11. **Irrigation Use.** (a) The land to be irrigated has an area of negligible acres; is located in.....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 40 acre subdivision in which they occur and insert only the area of such subdivision to be irrigated in the acreage column.)

Tp.	Range	Sec.	SUBDIVISIONS	Number Acres To Be Irrigated
Note:	1.		The diversion pump fills 10,000-gal. reservoir at Rio Puerco area with overflow to 500-gal. concrete sump, 7'x2'x4'9" deep at pumphouse. The force pump diverts from said sump which is kept filled by continued pumping from well, and back draining from 10,000-gal. reservoir.	
	2.		The system now serves only Rio Puerco and Headquarters areas, but it is proposed to deliver a supplemental supply to parking area at Agate Bridge Area if 2 springs, each with 200 gpd flow, prove inadequate.	
	3.		Water use is increasing with growing visitor use. On the basis of the trend since before the war, it is estimated that there will be about 800,000 visitors in 1970, as compared with 240,967 in 1941 and 349,226 in 1949.	

(If more space is required, attach separate sheet)

(b) What is the character of the soil? --

(c) What quantity of water is necessary to raise proposed crops? -- (Acre feet per acre per annum)

(d) Land to be irrigated is own by -- (Name of owner) (If applicant is lessee, etc., so state)

(e) The irrigation season will begin about -- (Beginning date each season) and end about (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 kin of stock is it proposed to serve? --

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

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

(d) The use of water will begin about -- (Beginning date each season), and end about -- (Closing date each season)

104

(DO NOT WRITE IN THIS SPACE)

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 X 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.

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

..... (Give general description of locality where power will be used)

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...United States administered by National Park Service... (Insert name of owner, or state on Public Domain, National Forest, State Land, etc.)

17. The proposed conduit system is on land of...United States administered by National Park Service... (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...United States administered by National Park Service

19. Post office used by those living near the proposed point of diversion is...Adamana, 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 three water users from the stream below the proposed point of diversion; or, if there are no water users from 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.

Pat Paulsell - Adamana, Arizona

A. T. & S. F. Ry. Co. - Adamana, Arizona

Ed Olsen - Adamana, Arizona

Note: 4. From experiences with pollution, there is no doubt that the well water is the underground flow of the Rio Puerco.

United States of America,
Dept. of the Interior, National Park Service
By /s/ Hillory A. Tolson
Signature of Applicant.
Assistant Director, National Park Service

10-3

10-1

ORDER OF CORRECTION

STATE OF ARIZONA, } ss.
County of Maricopa. }

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 Land Commissioner on or before....., 19.....

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

Corrected application refiled

.....
State Land Commissioner

.....

Application No. A-3095 COMPARED Permit No. A-2147

PERMIT

STATE OF ARIZONA, } ss.
County of Maricopa. }

This is to certify that I have examined the forgoing 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.....

Twenty-five Thousand (25,000) gallons per day for Domestic use, and Five Thousand (5,000) gallons per day for Industrial use.

The priority of date under this permit is December 9, 1950.

Actual construction work ~~shall begin on or before~~ has been started, and shall be prosecuted with reasonable diligence and be completed on or before September 17, 1956.

Complete application of the water to the proposed use shall be made on or before September 17, 1956.

WITNESS my hand and seal of office this 17th day of September, 19 51.

/s/ James R. Burger
Deputy State Land Commissioner

18

(SEAL)

106

11-02-1950: letter to state land commissioner from nps regarding application for the appropriation of the underground flow of the ri

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

In reply refer to:
L54 PETF

NOV - 2 1950

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

My dear Mr. Lane:

Enclosed are our application for the appropriation of the underground flow of the Rio Puerco for use at Petrified Forest National Monument, and the tracing and one print of our drawing NM-PF-6950, Map of the Rio Puerco Diversion for Petrified Forest National Monument.

The "dug" well was deliberately located to intercept the underground flow of the Rio Puerco which was the only available source of supply we could find after digging and drilling numerous exploratory wells at other likely spots in the Monument. After this well was placed in operation, we also had pollution problems until abandonment of the CCC camp on the bank of the river, a short distance upstream. Accordingly, we are confident that the source of supply is the underground flow of the Rio Puerco, and subject to appropriation.

A purchase order, No. 99-362, dated October 12, and a voucher covering the filing fee of $3.00, were inadvertently sent directly to you by our Fiscal Division, instead of being routed through our Water Resources Branch to be enclosed with this application. It is hoped that you are holding the order and voucher. The voucher should be signed and returned to this Office for payment.

Sincerely yours,

Hillory A. Tolson

Hillory A. Tolson
Acting Director

Enclosures 3

05-15-2000: letter from nps to az dept of water resources regarding statement of claimant form, multiple file numbers

United States Department of the Interior

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

IN REPLY REFER TO:

May 15, 2000

L54 (2380)
WUPA/Water Rights
PEFO/Water Rights
SUCR/Water Rights
WACA/Water Rights

Ms. Lisa M. Jannusch
Arizona Department of Water Resources
Adjudications Division
500 North 3rd Street
Phoenix, Arizona 85004

Re: Statement Of Claimant Form For Other Uses Amendment - File No.s 39-89220, 39-89222, 39-91444, 39-91445, 39-91446, and 39-91447.

Dear Lisa:

Attached you will find completed (signed and notarized) water rights claim forms for Wupatki National Monument, Petrified Forest National Park, Sunset Crater National Monument, and Walnut Canyon National Monument. The information you requested in your letter of December 3, 1999 has been provided on the attached forms.

Thanks again for your help with these claims. If we can do anything else please contact Jim Harte at (970) 225-3538.

Sincerely,

Charles W. Pettee
Chief, Water Rights Branch

Attachments (6)

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street, Phoenix, Arizona 85004
Telephone (602) 417-2442
Fax (602) 417-2401

December, 3, 1999

Charles W. Pettee
National Parks Service
Water Resource Division
1201 Oak Ridge Dr., Ste250
Fort Collins, Co 80525-5596

RE: STATEMENT OF CLAIMANT NO. 39

Dear: Claimant,

The Department of Water Resources has received your request to assign/amend a Statement of Claimant filed in the adjudication proceedings. The information you have supplied is **insufficient** to complete your request. **Please provide the information noted in bold below** so that we may continue to process your assignment or amendment.

Please complete the enclosed form(s) and return with all supporting documentation.

We cannot determine what Statement of Claimant is being referenced in your request. Please identify the file reference number (39-_____) of the Statement of Claimant you are assigning or amending.

All signatures must be acknowledged by a Notary Public.

Proof of ownership must be submitted with the original assignment form:
Copy of a RECORDED DEED, TAX VALUATION NOTICE, OR A TAX BILL.

Other:

Sincerely,

Lisa M. Jannusch

Lisa M. Jannusch
Administrative Assistant III
(602) 417-2442 / Toll-Free in Arizona 1-800-352-8488

10-13-1999: letter from nps to az dept of water resources regarding multiple statement of claimant forms

United States Department of the Interior

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

IN REPLY REFER TO:

October 13, 1999

L54 (2380)
WUPA/Water Rights
PEFO/Water Rights
SUCR/Water Rights
WACA/Water Rights

Diane Hanna, Surface Water Rights
Arizona Department of Water Resources
Adjudications Division
500 North 3rd Street
Phoenix, Arizona 85004

Re: Statement Of Claim Of Right To Use Public Waters Of The State Of Arizona – Registry No.s (to be assigned)
Statement Of Claimant Form For Other Uses Amendment – File No.s 39-89220, 39-89222, 39-91444, 39-91445, 39-91446, and 39-91447.

Dear Diane:

Attached you will find completed (signed and notarized) water rights claim forms for Wupatki National Monument, Petrified Forest National Park, Sunset Crater National Monument, and Walnut Canyon National Monument.

Thanks for your help with these claims. If we can do anything else please contact Jim Harte at (970) 225-3538.

Sincerely,

Charles W. Pettee
Chief, Water Rights Branch

Enclosures (7)

8

RECEIVED
MAY 17 2000
SURFACE WATER MANAGEMENT

STATEMENT OF CLAIMANT FORM
FOR

OTHER USES[1]
AMENDMENT

SUPERIOR COURT OF APACHE COUNTY

File No. 39- 89222
Date Filed:
WFN

1. **Claimant Name:** United States of America c/o National Park Service (Petrified Forest NP)
Claimant Address: 1201 Oak Ridge Drive, Suite 250 City Fort Collins
State: Colorado Zip Code 80525 Telephone 970-225-3500

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. Grandfathered Right No. _____
E. ☒ Other, describe: (see File No. 39-89222)

3. **Claimed Priority Date:** ____/____/____(month/day/year) (See File No. 39-89222)

4. **Use:**
A. ☐ Municipal
B. ☐ Commerical or Industrial
C. ☐ Mining
D. ☐ Stockwatering other than from a stockpond
E. ☐ Recreation, Fish & Wildlife
F. ☒ Other, describe: (see File No. 39-89222)

5. **Source of Water:** (see File No. 39-89222)
A. ☐ Stream: name _____, tributary to _____
B. ☐ Spring: name _____, tributary to _____
C. ☐ Lake or Reservoir: name _____, tributary to _____
D. ☐ Groundwater.

6. **Legal description of the Point of Diversion:** (attach additional sheet if required) (See File No. 39-89222)
OCT 18
_____ ¼, _____ ¼, _____ ¼, Section _____, Township _____N/S, Range _____E/W

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 a ditch, canal or pipeline.
C. ☒ Well: Arizona Department of Water Resources Well Registration No. 55-(see Item 15)
D. ☒ Other, describe: (see File No. 39-89222)

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

STATEMENT OF CLAIMANT FORM
FOR
OTHER USES[1]
AMENDMENT
SUPERIOR COURT OF APACHE COUNTY

File No. 39- 89222
Date Filed:
WFN

1. **Claimant Name:** United States of America c/o National Park Service (Petrified Forest NP)
Claimant Address: 1201 Oak Ridge Drive, Suite 250 City Fort Collins
State: Colorado Zip Code 80525 Telephone 970-225-3500

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. Grandfathered Right No. _____
E. ☒ Other, describe: (see File No. 39-89222)

3. **Claimed Priority Date:** ____/____/____(month/day/year) (See File No. 39-89222).

4. **Use:**
A. ☐ Municipal
B. ☐ Commerical or Industrial
C. ☐ Mining
D. ☐ Stockwatering other than from a stockpond
E. ☐ Recreation, Fish & Wildlife
F. ☒ Other, describe: (see File No. 39-89222)

5. **Source of Water:** (see File No. 39-89222)
A. ☐ Stream: name _____, tributary to _____
B. ☐ Spring: name _____, tributary to _____
C. ☐ Lake or Reservoir: name _____, tributary to _____
D. ☐ Groundwater.

6. **Legal description of the Point of Diversion:** (attach additional sheet if required) (See File No. 39-89222)
_____ 1/4, _____ 1/4, _____ 1/4, Section _____, Township _____N/S, Range _____E/W

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 a ditch, canal or pipeline.
C. ☒ Well: Arizona Department of Water Resources Well Registration No. 55-(see Item 15)
D. ☒ Other, describe: (see File No. 39-89222)

[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: (See File No. 39-89222)

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

County Apache & Navajo

Legal Subdivision	Section	Township	Range
		____ N/S	____ E/W
		____ N/S	____ E/W

11. Claimed Right: (see File No. 39-89222)

A. Maximum Flow Rate: _____ ☐ cubic-feet per second ☐ gallons per minute ☐ Arizona miner's inches

B. Annual Volume of Water Use: 172 acre-feet per annum

C. Storage Right: _____ acre-feet

12. Attach photographs, maps or sketches necessary to show the point of diversion, storage resevoir(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 Charles W. Pettee

(Chuck Pettee, Branch Chief, Water Resources Branch, 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? Additional contacts include: William Hansen (970) 225-3532 and Jim Harte (970) 225-3538

15. Additional comments: Amends Item II-B-4-C (page 9), to attachment to claim No. 39-89222, regarding Petrified Forest National Park. Amends quantifiable, present and future administrative consumptive uses from 10 acre-feet per annum to172 acre-feet per annum. 8.c.(continued) well registration No. 55-629113, 629091, 506605, 506603

(attach additional sheet if required)

16. Mail form(s) to: Department of Water Resources, Adjudications Division, ~~15 South 15th Avenue,~~ Phoenix, ~~Arizona 85007.~~

ARIZONA DEPARTMENT OF WATER RESOURCES
ADJUDICATIONS DIVISION
500 NORTH 3RD STREET
PHOENIX, ARIZONA 85004

17. Notarized Statement:

I (We), Charles W. Pettee, for the NPS 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.

Charles W. Pettee

(seal)

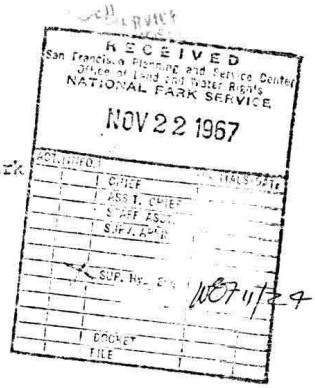
Flora S. Romero
Notary Public

My Commission Expires
Flora B. Romero, Notary Public
State of Colorado
My Commission Expires 7/30/2002

or, _____
Authorized Personnel of the Department of Water Resources

Land History

11-20-1967: memorandum to southwest region from pefo regarding easement for water line



Petrified Forest National Park
Holbrook, Arizona 86025

L3031
X W22

November 20, 1967

Memorandum

To: Regional Director, Southwest Region

From: Superintendent, Petrified Forest

Subject: Easement for Water Line

As requested by telephone conversation with Mr. Ela, we are enclosing a photostat of the easement from the New Mexico and Arizona Land Company for a water line across their property in Section 25, Township 17 North, Range 23 East, Gila and Salt River Base.

Our boundary fence adjoining this section has two locked gates for access and egress to the pipeline.

SIGNED

Donald A. Dayton

Enclosure

cc:
SSC-SLW
Attention: Mr. William Fields w/enclosure

Rec'd w/Mr. Fields' memo to Chief, Br. of Existing Area Studies dated Nov 24, 1967.

EASEMENT
New Mexico & Arizona Land Co.
To
U. S. of America
DATED: June 15th, 1939.

STATE OF MISSOURI)
) SS
CITY OF ST. LOUIS)

RIGHT-OF-WAY EASEMENT

THE NEW MEXICO AND ARIZONA LAND COMPANY, in consideration of the sum of one dollar ($1.00) and other good and valuable consideration, hereby grants to the United States of America the right to construct, maintain, inspect, repair, operate and remove a pipe-line, or pipe-lines, for conveying water, on a strip of land thirty (30') feet wide, in Navajo County, Arizona, having fifteen (15') feet of that width on each side of the following described center line: -

Beginning at a point on the east boundary of Section 25, Township 17 North, Range 23 East Gila and Salt River Base and Meridian, which is S 0°-29' E, 613.0 feet from the north-east corner of said section and running thence S 50°-50' W, 1786.5 feet to the beginning of a curve to the left, thence on the arc of a curve having a radius of 1000.00 feet, a distance of 415.7 feet, and thence S 27°-01' W, 3648.2 feet to a point on the south boundary of the said section, which point is N 89°-42' E, 1947.2 feet from the southwest corner of said section, all being in Navajo County, Arizona.

If the right herein granted is not used within three years from the date hereof, or if the pipe-line, or pipe-lines, herein mentioned be not operated for a period of three years, this right of way easement shall be null and void, provided, however, that the United States shall thereafter be permitted to go upon said premises and to remove therefrom any and all pipe, materials and property placed thereon by the United States.

Dated this Fifteenth day of June, 1939.

(SEAL OF GRANTOR)

S E A L
NEW MEXICO AND ARIZONA LAND COMPANY
1903

NEW MEXICO AND ARIZONA LAND COMPANY, Grantor,

By .....J. M. Kurn.....
Its President.

STATE OF MISSOURI)
) SS
CITY OF ST. LOUIS)

ACKNOWLEDGMENT

(1)

On this Fifteenth day of June, 1939, before me appeared J. M. Kurn, to me personally known, who, being by me duly sworn did say that he is the President of the New Mexico and Arizona Land Company and that the seal affixed to said instrument is the corporate seal of said company by authority of its Board of Directors, and he acknowledged said instrument to be the free act and deed of said company. My Commission expires November 11th, 1940.

(SEAL OF NOTARY PUBLIC)

NOTARIAL SEAL
Walter Studt
Notary Public
City of St. Louis, Mo.

.....Walter Studt.....
Notary Public within and for the
City of St. Louis, State of Missouri.

No. 1, Original.

FILED AND RECORDED AT THE REQUEST OF Clay J. Smith Supt Petrified Forest
DATE 9/15/39 AT 9 A M. AND DULY RECORDED
IN VOL. 7 OF N A R E PAGE 181
RECORDS OF NAVAJO COUNTY, ARIZONA.
Helen R. Grant RECORDER
BY Cecil T. Taylor DEPUTY

(Seal)

10-27-1959: memorandum to region three from petrified forest regarding monument road overpass over santa fe railroad

L3027

Petrified Forest National Monument
Holbrook, Arizona

October 27, 1959

Memorandum

To: Regional Director, Region Three

From: Superintendent, Petrified Forest

Subject: Monument Road Overpass Over Santa Fe Railroad

Sometime ago your office and the Director's advised you had no record of the right-of-way for the subject overpass and suggested we obtain a copy from the Arizona Corporation Commission.

Attached in duplicate is a copy of Decision #6766 approved by the Corporation Commission June 26, 1933.

Relative to attaching the waterline to the overpass structure, the Commission suggested we file an application for authorization to do so and they in turn would approve. This is now being done.

Fred C. Fagergren
Superintendent

Attachments

with Reg Director's memo of 11/20/59

C
O
P
Y

BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF THE BUREAU OF PUBLIC ROADS, UNITED STATES DEPARTMENT OF AGRICULTURE, FOR AN OVERPASS OVER THE TRACKS OF THE ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY, LOCATED IN SECTION FOUR, TOWNSHIP EIGHTEEN NORTH, RANGE TWENTY-FOUR EAST.

DOCKET NO. 4913-R-441 DECISION NO. 6766

OPINION AND ORDER

BY THE COMMISSION:-

By application filed under date of October 10th, 1932, the United States of America, acting by and through Highway Engineer, G. L. McLane, Bureau of Public Roads, United States Department of Agriculture, seeks order of this Commission permitting an overpass or viaduct crossing over the tracks of the Atchison, Topeka & Santa Fe Railway Company in Section 4, Township 18 North, Range 24 East, Apache County, Arizona.

Under date of June 20th, 1933, the Atchison, Topeka & Santa Fe Railway Company filed with this Commission concurring application, together with agreement between the Atchison, Topeka & Santa Fe Railway Company and the United States of America, acting by and through the Department of the Interior, covering construction of the above overpass at the point above designated. This agreement has been executed by the Atchison, Topeka & Santa Fe Railway Company but not executed by the Secretary of the Interior. We are asked to approve this agreement conditioned upon the United States of America, through the Secretary of the Interior, filing within sixty days notice with this Commission that agreement has been executed on behalf of the United States of America. The above overpass is desired for the reason that the United States of America has constructed a high standard highway in a northerly and southerly direction across the Petrified Forest National Monument from the Holbrook-Springerville Highway, formerly designated as U. S. Route 70 and now designated as U. S. Route 260 to the north boundary of said Monument, prior to its extension. Said highway includes a high standard steel and

with Issue of 10/27/39 from Supt - Petrified Forest
" " of 11/20/39 from Reg Director

concrete bridge across the Rio Puerco at the best available bridge site.

The north-bound traffic on said highway now turns west after crossing the Rio Puerco on above mentioned bridge and travels over a temporary road located between the Rio Puerco and the tracks of the Atchison, Topeka & Santa Fe Railway Company in a westerly direction a distance of approximately one and three-fourths miles to a railroad grade crossing across the double tracked main line and sidings of the Atchison, Topeka & Santa Fe Railway Company at Adamana, Arizona, from which it continues in a northerly direction over poorly improved roads to U. S. Route 66 and the Painted Desert.

Almost immediately north of the above mentioned bridge over the Rio Puerco, the double tracked main line of said railroad company is located in a cut of considerable depth providing a suitable site for a highway overpass or viaduct of the standard type commonly used for this purpose, to eliminate the hazards and dangers of a grade crossing to both highway and railroad traffic. A substantial and permanent structure of steel and concrete is proposed, the exact location, design and clearances, both vertical and horizontal to be satisfactory to the railroad company. The proposed extension of the highway to be constructed by the United States continues in a northerly direction from the proposed overpass or viaduct to a connection with U. S. Route 66.

The saving in distance of travel between U. S. Route 260 and the Painted Desert on U. S. Route 66 will be nearly three miles and with the construction of the proposed overpass or viaduct the hazards and dangers to both highway and railroad traffic, of the grade crossing at Adamana, will be avoided.

IT IS THEREFORE ORDERED: That the United States of America, by and through Highway Engineer, G. L. McLane, Bureau of Public Roads, United States Department of Agriculture, is hereby

authorized to construct a highway overpass or viaduct across the tracks of the Atchison, Topeka & Santa Fe Railway Company in Section 4, Township 18 North, Range 24 East, Apache County, Arizona.

Approval of this Commission is also given to agreement between the Atchison, Topeka & Santa Fe Railway Company and the United States of America dated April 27th, 1933, covering the apportionment of costs, etc., of overpass or viaduct at the point above designated. This being subject to the filing with the Commission by the United States Government through its Secretary of the Interior within sixty days that said agreement has been executed on its behalf.

BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

INWITNESS WHEREOF, I, WM. COXON, Secretary of the Arizona Corporation Commission, have hereunto set my hand and affixed the official seal of the Arizona Corporation Commission, at the Capitol, in the City of Phoenix, this 26th day of June, 1933.

Secretary.

Chairman Commissioner Commissioner

Arizona Corporation Commission
FILED
Jun 26 1933

/s/ WM Coxon
Secretary By_____

Supporting Hydro Data

Estimation of Future Water Use for
Petrified Forest National Park

Prepared by J. Harte
Reviewed by R. Thomasson
and Flagstaff Area Office Staff
Approved by W. Hansen
February 10, 2000

Introduction

The objective of this report is to estimate the quantity of water needed for future consumptive use purposes at Petrified Forest National Park (PEFO). Future water use is projected through the year 2050, a 50 year planning period. This report is prepared in support of federal water rights claims to be filed in the Little Colorado River Adjudication in the State of Arizona.

In 1985 Owen R. Williams, Hydrologist, NPS Water Rights Branch, estimated future consumptive use to be 70 acre-feet per year. Measured water use data are now available allowing for a reexamination of the previous estimate and a new estimate of water needs in the year 2050.

PEFO has purchased its water from the Navajo Tribal Utility Authority (NTUA) since 1996. Water flows by gravity from a storage tank, through an 8-inch pipeline, to park headquarters. The system is capable of delivering almost 200,000 gallons per day. PEFO maintains Puerco Well Number 2 as a backup water supply (07/11/97 email from Patrick Fleming, National Park Service Regional Office, Denver Colorado).

Methods and Results

Average annual water use at PEFO was determined by computing the average of the 1998 and 1999 metered water use. Water use data are available for 1994-1997, however, they were not used in computations of average annual water use because all water use was not accounted for and PEFO switched from water wells to the NTUA water system in 1996 (Chad Thomas, PEFO Maintenance, 02/09/00). Administrative and visitor uses are not distinguished and consumptive use is assumed to be the same as the actual metered use for this report.

The following table shows the metered 1998-1999 annual water use and computed average annual water use for PEFO (metered water use data provided by Chad Thomas, PEFO Maintenance, 01/19/00).

Date	Metered Water Use (gallons)	Metered Water Use (acre-feet)
1998	4,954,230	15.2
1999	4,861,730	14.9
Average Water Use	4,907,980	15.0

In order to make a conservative estimate of future water needs at PEFO, the National Park Service-wide average annual visitation growth rate for the period from 1948-1995 is applied to the estimate of current annual water use. Appendix A describes the computation of this rate as well as the rationale for its selection as an appropriate rate. Applying the average annual growth rate of 5 percent per year to the current water use of 15 acre-feet per year for fifty years, yields a projected water need in the year 2050 of approximately 172 acre-feet per year.

Recommendation

It is recommended that the future consumptive use claim for Petrified Forest National Park, filed in the Little Colorado River Adjudication, be amended to 172 acre-feet per year.

APPENDIX A
Determination of a Regional Growth Rate for Projecting Future Water Needs at Little Colorado River Basin National Park Units

Because park water use is partially a function of park visitation, historic visitation data was examined to determine a reasonable growth rate for estimating future water needs. Unfortunately methods of counting Park visitors have not been consistent over time, making estimates of growth rates at individual parks difficult. For this reason, an attempt was made to derive a regional growth rate that incorporates data from a number of National Park units.

Average annual growth rates for the period 1948 through 1995 were computed for each of the four National Park units within the Little Colorado River basin, as well as total National Park unit visitation. Historical data for total nationwide park visitation is shown in Appendix A, along with the computed average annual growth rate. Growth rates for the four Little Colorado River basin parks were similarly computed. The results of these computations are shown in Table 1 below. Average annual growth rates range from 2.9 percent per year at Petrified Forest National Park to 10.2 percent per year at Wupatki National Monument, with the nationwide average of 5.0 percent per year being the median.

Adopting the nationwide average annual growth rate of 5.0 percent as the regional growth rate is reasonable. It is the median value of the calculated growth rates and it incorporates the most visitation data, potentially mitigating the effects of inconsistent visitor counting methods.

	Nationwide	Petrified Forest NP	Walnut Canyon NM	Wupatki NM	Sunset Crater NM
Growth Rate (percent/year)	5.0	2.9	4.7	10.2	8.0

Table 1. Average annual growth rates for all four National Park units within the Little Colorado River Basin and the nationwide average.

Table 2. Number of visitors and interannual growth rates for all National Park Service units.

Year	Visitors	Growth Rate	Year	Visitors	Growth Rate
1904	122,594		1953	52,268,174	0.10
1905	142,859	0.17	1954	54,210,200	0.04
1906	32,475	-0.77	1955	56,572,800	0.04
1907	63,242	0.95	1956	61,602,300	0.09
1908	70,926	0.12	1957	68,016,000	0.10
1909	87,998	0.24	1958	65,460,900	-0.04
1910	200,516	1.28	1959	68,900,500	0.05
1911	224,407	0.12	1960	79,229,000	0.15
1912	229,534	0.02	1961	86,665,161	0.09
1913	252,153	0.10	1962	97,046,762	0.12
1914	240,193	-0.05	1963	102,712,763	0.06
1915	335,299	0.40	1964	111,387,664	0.08
1916	358,006	0.07	1965	121,313,965	0.09
1917	490,705	0.37	1966	133,083,066	0.10
1918	454,841	-0.07	1967	139,677,567	0.05
1919	811,516	0.78	1968	150,837,568	0.08
1920	1,058,455	0.30	1969	163,991,969	0.09
1921	1,173,718	0.11	1970	172,006,570	0.05
1922	1,218,419	0.04	1971	153,693,200	-0.11
1923	1,495,635	0.23	1972	165,653,324	0.08
1924	1,672,832	0.12	1973	168,922,900	0.02
1925	2,056,487	0.23	1974	171,054,800	0.01
1926	2,316,921	0.13	1975	190,390,600	0.11
1927	2,799,767	0.21	1976	216,554,800	0.14
1928	3,026,472	0.08	1977	210,569,700	-0.03
1929	3,250,192	0.07	1978	222,184,042	0.06
1930	3,248,586	0.00	1979	205,369,808	-0.08
1931	3,544,938	0.09	1980	220,463,199	0.07
1932	3,754,596	0.06	1981	238,592,669	0.08
1933	3,481,590	-0.07	1982	244,924,579	0.03
1934	6,337,206	0.82	1983	243,616,747	-0.01
1935	7,676,490	0.21	1984	248,785,509	0.02
1936	11,989,793	0.56	1985	263,441,808	0.06
1937	15,133,432	0.26	1986	281,094,850	0.07
1938	16,331,467	0.08	1987	287,244,998	0.02
1939	15,530,636	-0.05	1988	282,451,441	-0.02
1940	16,755,251	0.08	1989	269,399,837	-0.05
1941	21,236,947	0.27	1990	258,682,828	-0.04
1942	9,370,969	-0.56	1991	267,840,999	0.04
1943	6,828,420	-0.27	1992	274,694,549	0.03
1944	8,339,775	0.22	1993	273,120,925	-0.01
1945	11,713,852	0.40	1994	268,636,169	-0.02
1946	21,752,315	0.86	1995	269,564,307	0.00
1947	25,534,188	0.17	1996	265,796,163	-0.01
1948	29,858,828	0.17	1997	275,236,335	0.04
1949	31,736,402	0.06	1998	286,739,115	0.04
1950	33,252,589	0.05			
1951	37,106,440	0.12	Average annual growth rate:		
1952	47,379,438	0.28	1948-1998		0.048

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NOTE TO THE FILE:

On 02/14/00 a final DRAFT of the report, "Estimation of Future Water Use for Petrified Forest National Park" was FAXed to Park Superintendent Micki Hellickson, for her comments. On 02/14/00 Micki called WRD to discuss her comments to the report. Initially, Micki thought the quantity of 172 acre-feet per year was high, considering past use (Micki said park records show use of 11.5 million to 13.2 million gallons per year during the period 1986-1988; low flow toilets had been installed and irrigation had been reduced since then). However, after considering the park's responsibility to manage the park in perpetuity Micki agreed with the estimate of 172 acre-feet per year, as shown in the report.

Jim Harte
Hydrologist
WRD,WRB

06-09-1982: registration of well #1 ne1/4, sw1/4, ne1/4

Well #1 NE¼, SW¼, NE¼

A 180 240 09 ACA (NR 629113) FILE TYPE: REGISTRATION WELL TYPE: EXEMPT
T18N, R24E, Sec 9 DATE ISSUED: 06 09 982 PLANNED PUMP CAP:

NAME: NATL PARK SVC IN CARE OF: D W R
BOX 36063
SAN FRANCISCO CA 94102

ACCURACY: NOT VERIFIED WATER USES:
AREA: OUTSIDE
SUB-BASIN:
WATERSHED: LITTLE COLORADO RIVER WELL USES:
COUNTY: APACHE
OWNER: FEDERAL DRILLER:

WELL DPTH: 48 FT CASE DIAM: 5 IN CASE DPTH: METH DET:
PUMP CAP: FINISH: STEEL ACRES IRR: YIELD:
DRAW DOWN: WATER LVL: 10 FT LIFT: POWER:
DATE COMPLETED: 00 00 934

POU #1: POU #2:
STATUS: DATA OWN LOG R CRT R PQ NBR: IPQ STATUS:

ENTER - READ NEXT RECORD CLEAR TO RETURN TO SELECTION CRITERIA

Form 10-174
(Rev. 6-56)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION	AREA	COUNTY	STATE
Three	Petrified Forest National Monument	Apache	Arizona

PROJECT OR JOB TITLE: Puerco - Painted Desert Water System
Painted Desert Headquarters Utilities Agate Bridge Water Line

PCP NO. U-21-1 (Compl)
U-22-2 U-23-1

LOCATION IN AREA: Painted Desert Community and Agate Bridge

MASTER PLAN NO.:

BUILDING NO:

WORKING DRAWING NO AND TITLE: Utilities-Painted Desert Community- NM-PF-3237
Agate Bridge Water Line - 3228A Reservoir Regulation & Puerco-3229A

APPROPRIATION TITLE AND SYMBOL: 14X1035

WORK ORDER NO.: B-5

CONTRACT NO.: 14-10-0333-732

DATE WORK STARTED: 1-31-61

DATE WORK COMPLETED: 9-6-61

NAME OF CONTRACTOR: McCormick Const. Co., Inc.

ADDRESS: 8051 N. Loop Rd.
El Paso, Tex.

COST ANALYSIS

CONSTRUCTION ITEMS	QTY	UNIT COST IN PLACE	TOTAL COST IN PLACE
CONTRACT WORK			
Painted Desert Community Water System (U-21-1 R) (U-22-2)			$40,359.80
Community Power and Communications System (U-22-2)			67,693.54
Community Sewer System (U-22-2)			48,855.48
Puerco Ruin Reservoir Regulation (U-21-1)			2,464.00
Agate Bridge Water System (U-23-1)			12,756.98
Rainbow Forest Reservoir Regulation (U-21-1)		P.S.&S	270.00
Expenditures verified by FFO			
SEE REVERSE FOR FIELD FINANCE OFFICE CLEARANCE		TOTAL	172,399.80

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES
OTHER: 172,399.80		

CHANGE ORDERS

ORIGINAL CONTRACT AMOUNT	FIRST	SECOND	THIRD
160,708.00	-1849.17	+7184.55	-161.10
FINAL CONTRACT AMOUNT	**FOURTH**	**FIFTH**	**SIXTH**
172399.80	-4941.44	+499.00	+830.00 Seventh +173.10

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES Overruns - 73.98

SUBMITTED BY (Name and title): John F. Weiler Project Supervisor — DATE:

APPROVED BY (Name and title): Thurl C. Ferguson — DATE: JUN 7 1962

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

30105

COMPLETION REPORT

Painted-Desert-Puerco Water System (PCP U-21-1) and Utilities, Painted Desert Headquarters (PCP U-22-2). Agate Bridge Water Line (PCP U-23-1) PETRIFIED FOREST NATIONAL MONUMENT

Contract 14-10-0333-732

I General:

These projects were grouped so that they might all be accomplished under the same utility contract for economy and ease of administration.

Under a previous contract, 14-10-0333-532, completed in November of 1960, a new water system had been constructed from a new well at the Puerco River north to the Painted Desert. The new system was connected to the existing park system which extended from the Puerco River south to Rainbow Forest. As a result, it was then possible for the entire park to be supplied by gravity from this water system, which extended from a new 500,000 gallon reinforced concrete reservoir at the Painted Desert to the reservoir at Rainbow Forest.

The construction project which is the subject of this report served the purpose of extending water supply lines from the main system to the new Painted Desert Community and to the reservoir at Agate Bridge and, by installing float controls at the Puerco Ruin reservoir and at the Rainbow Forest reservoir, of enabling all other reservoirs to be supplied automatically by gravity from the Painted Desert reservoir.

Additionally, sewerage, underground power and communications needed to serve the new Painted Desert Community were provided under this contract: Fuel oil was not provided under this contract.

II WORK ACCOMPLISHED:

A. Water Projects

1. Painted Desert Community: The new water line was begun at the existing concrete valve box on the main water line. The new line crossed under the community access road through an existing conduit and continued to the community area, where a grid pattern of water mains was installed. Fire hydrants, line valves, air relief valves, drain lines and valves, and complete services to twelve trailer sites were installed. Service lines to future buildings were not a part of this contract. All water lines in the system installed were class 150 asbestos-cement except for the copper trailer services and one 2" galvanized steel drain line.

The components of this system were:

a. Water Pipe:
2002' of 8" AC-valve box to access road & centerline
3432' of 8" AC-throughout community
538' of 6" AC including lines to hydrants
162' of 4" AC to concession building
699' of 3" AC around trailer park
390' of 3/4" Copper for trailer park services (32.5 x 12)

b. Gate Valves with boxes
9--8" line valves
1--6" line valve and 12 hydrant auxiliary valves
1--4" line valve and 1--4" drain valve
3--3" line valves

c. Miscellany
2--1" air relief valves in enclosures
13--4½" fire hydrants with pumper nozzles
12 each pressure reducing valves, stop & drain valves for trailer services and 12 each hose bibbs set in concrete utility curbs
300' of 3" AC drain line
40' of 2" galvanized steel drain line with a 2" gate valve

2. Puerco Ruin: To accomplish automatic filling of the existing 10,000 gallon reservoir, a 1½" float valve and a 2" gate valve were installed at the reservoir, 907' of 2" cast iron pipe were installed from the reservoir to the comfort station, and a 2" pressure-reducing valve and gauge were installed on the reservoir supply line where the supply line ties to the main line in the old pump-house.

3. Agate Bridge: A concrete valve box was built over the existing 3" AC main line and a 2" cast iron line was constructed from the box to the existing Agate Bridge reservoir. A new reservoir was added here to increase the storage capacity.

The components of this system were:

a. Concrete valve box (5'x7'x4'-6")
1--3" pressure reducing valve and gauge
2--3" gate valves
2--2" gate valves (1 on a 12' long 2" drain line)

b. Main line
6642' of 2" cast iron pipe including 186' for 2 drains
4--2" gate valves with boxes including two on drain lines.
2--1" air relief valves in enclosures

c. Reservoir
A 10,000 gallon underground steel tank
166' of 3" cast iron drain line
3--3" gate valves with boxes
2--2" gate valves with boxes
1--2" float valve

4. Rainbow Forest: To accomplish automatic filling of the existing 50,000 gallon reservoir, the 2½" galvanized steel inlet pipe was extended 19' and a 2½" float valve was installed in the reservoir.

B. Sewer System-Painted Desert Community

To serve the community, a sewage collection system and a sewage disposal pond were constructed. Laterals were installed to serve the twelve trailer sites. All lines installed were vitrified clay pipe.

Service lines to future buildings were not a part of this contract.

The components of this system were:
2393' of 8" VCP including 1088' in ponds
2575' of 6" VCP
186' of 4 " VCP for trailer park services (15.5x12)
12 receptacles set in concrete utility curbs
17 Manholes with 2 removalve aluminum ladders
a 4.5 acre oxidation pond with 3 compartments
1 concrete control box with 3 lift gate valves
3 concrete overflow boxes with stop planks
2100' of chain link fence (with gate) enclosing oxidation pond

C. Power-Painted Desert Community

All of the power lines for the Painted Desert Community were placed underground. The Arizona Public Service Company's Kachina Point line, which paralleled the water main, was tapped 45' east of the existing water line valve box and the primary power cable was laid in a trench parallel to the water line. The power cable crossed under the community access road in an existing conduit and continued to an underground oil-disconnect switch vault. From the vault the primary power cable was routed to six transformer sites within the community.

From transformer B secondary power was extended to the apartment building site. From transformer C secondary power was extended through load centers 3 and 4 to the twelve trailer sites and also to the site of load center 5. From transformer F secondary power was extended to the entrance station and to the site of load center 6. This was the extent of secondary power installed under this contract.

Empty secondary conduit was laid from transformer D to the site of load center 8 and from transformer E to the site of load center 7. Load centers 5, 6, 7 and 8 will serve future residences.

The transformers were furnished and installed by the Arizona Public Service Company, which will maintain the system.

The components of this system were:
4598' of #1 AWG 3/c primary power cable (15 KV) in conduit

January 20, 1961--Notice to proceed issued.

January 31, 1961--First day of contract. Contract time 180 days.

February 14, 1961--Change Order #1-Painted Desert Community to revise grades, alignment, and to change quantities in the sewer system. To add trailer park utilitiy curbs. No additional time granted. Contract decreased by $1,849.17.

February 23, 1961--Change Order #2-Painted Desert Community to revise alighment and to increase quantities in water and sewer systems so as to provide a complete system for all proposed community buildings. To provide auxiliary valves for fire hydrants and curb stops for trailer services. Twenty additional days granted. Contract increased by $7,184.55.

March 7, 1961--Change Order 3-Painted Desert Community to revise electrical system quantities and requirements, including the elimination of four pull boxes. To provide for a future 23 KV system and to provide additional grounding. To deepen one sewer line and to add a drain line for the water system. No additional time granted. Contract decreased by $161.10.

April 21, 1961--Change Order #4--Painted Desert Community to increase size and length of secondary power conduits and cables to two residential load centers. To add one 4" water valve and to raise fire fire hydrants to grade. Ten additional days granted. Contract increased by $4,941.44.

May 15, 1961--Change Order #5-Agate Bridge to add two valves and to provide for lowering the existing distribution line to meet the outlet grade of the new reservoir. Three additional days granted. Contrant increased by $499.00.

June 15, 1961--Change Order #6-Painted Desert Community to relocate intercommunication and telephone cables for better service and to increase quantities of these required. To increase the width of the utility curbs. Five additional days granted. Contract increased by $830.00.

August 3, 1961--Change Order #7--Painted Desert Community to increase size and length of secondary power conduits and cables provide in Change Order #4 to correspond with actual amount needed. Two additional days granted, advancing completion date to September 7, 1961. Contract increased by $173.10. Revised contract amount $172,325.82.

September 6, 1961--Final inspection and acceptance of completed work. Overruns increased final contract amount to $172,399.80.

IV. Narrative: Construction began smoothly on February 13, 1961, when the contractor, McCormick of El Paso, started sewer line trench excavation with a backhoe. As sewer tile was laid, the joints were sealed with hot-poured joint sealer. On February 27, a Cleveland trencher began excavating the water line trench. The first water line was laid the next day. The water and sewer line work was continued concurrently and excavation for the power line pull boxes was also accomplished at this stage. A hard caliche-like material was encountered in the deeper cuts and proved troublesome, but blasting was not necessary and the work in general moved along well.

By March 20, all the sewer lines and manholes had been completed up to the control box and the water main had advanced well into the community area. On March 17, trenching was begun on the power line and on the same day excavation was begun at the oxidation pond by a D-7 tractor. On March 23, the pull boxes were installed. By March 29, the fire hydrants had been installed and the water lines in the community were substantially complete. McCormick then moved on to the Agate Bridge water line.

The underground reservoir site at Agate Bridge was excavated first and the pipeline laid from there to the end of the mesa. Occasional blasting was required because of the thin soil cover. To descend the steep mesa, McCormick leveled the trench centerline and dug down with the backhoe, which was backed up by a tractor as it descended. On the lower flat approaching the Puerco-Rainbow Forest water line, the dense bentonitic clay proved to be the most difficult material to excavate and frequent blasting was resorted to. The pipe installation was completed by April 25. The Puerco Ruin reservoir regulation was completed in the next three days and made operative on April 28.

While the above work was underway, work was continued on the oxidation pond excavation. The electrical sub-contractor, Service Electric Co. of Albuquerque, began installation of primary power conduit on April 10 and continued steadily with the installation of telephone conduit, intercommunication conduit, and secondary conduits for some months. The trailer park conduits received early attention.

Arter completing the Agate Bridge water line, McCormick installed the trailer park services and the sites were ready for construction of utility curbs on May 10. By this time, the contractor for the administration building, Kealy of Phoenix, had begun his work and had agreed to construct the utility curbs. Some open trenches around the building site were backfilled by Service Electric, who installed telephone conduit in these locations as the telephone cable had not been received and the open trenches were hampering the work of the building contractor.

During the period from April 25 to May 26, McCormick's operations were divided between Agate Bridge and the Painted Desert Community. At Agate Bridge, work on the underground reservoir, with its valves and drains, and on the main line valve box was completed. In the Community, McCormick excavated and backfilled power trenches, adjusted fire hydrants and manholes to final grades, and filled and tested the water lines.

On May 29, McCormick began to install the overflow boxes and distribution lines in the completed oxidation pond. On June 5 through 7, the chain link fence was constructed around the pond by the Colorado Fuel and Iron Company. The telephone cable arrived on June 6 and installation and backfill was begun. On June 8 through 12, the reservoir regulation was accomplished at Rainbow Forest. On June 22, McCormick completed work on the oxidation pond and disbanded his work force, leaving the subcontractors to complete their portions of the work.

The first of twelve concrete utility curbs was poured on July 6, but this work was not completed until July 26 as this work was of an incidental nature to Kealy. Installation of secondary power cable in the community continued throughout July and August. On July 12, the first primary cable arrived and pulling operations were begun. An Arizona Public Service Company inspector came on duty at this time and remained throughout the pulling, splicing, and testing of the primary cable. The Transformers were set on July 21. Cable splicing began on July 24. Load Centers 3 and 4 were installed on August 4, splicing and potheads were completed on August 11, and the primary cable was satisfactorily tested on August 14.

As the power system will be maintained by the Arizona Public Service Company, occasional revisions in our design were requested by them and difficulties arose over implementing these changes and in assessing financial responsibility to the various parties involved (NPS, APSC, McCormick, Kealy) but all disagreements were eventually resolved.

The oil-sectionalizing switch was installed on August 23 and the power system was energized on August 28. Cleanup and minor adjustments were completed in September by McCormick and Service Electric and the job was accepted on September 6, 1961.

Other Supporting Information

SEP 5 1973

L54-PN(H)

Memorandum

To: Regional Director, Western Region
Attention: Mr. Gerard S. Witucki

From: Chief, Division of Water Resources

Subject: Orders to show cause for Water Right Applications A-3095 and A-2601, Petrified Forest and Tonto

The enclosed notice for Cholla Spring No. 1 Drain at Tonto National Monument and for Rio Puerco at Petrified Forest National Park are referred to you for appropriate action. It appears to us that the water right applications were filed as a matter of comity, although not so designated, and compliance with substantive requirements of the State would be in conflict with the reserved rights doctrine.

It is our recommendation that the State be advised of the comity nature of the filings. The Field Solicitor may have additional recommendations.

Please have the receipt cards executed and returned to the State of Arizona.

(Sgd) MANUEL MORRIS

Manuel Morris

Enclosures

cc:: PN(H) - Mr. Berte w/copies of incoming

FNP:MMorris:tw 8/31/73

06-23-1959: memorandum to regional director from civil engineer regarding testing of well at pefo

w/ copy
L-54

Region Three
Santa Fe, New Mexico

June 23, 1959

Memorandum

To: Regional Director
Through: Regional Chief of Operations
From: Civil Engineer
Subject: Testing of Well at Petrified Forest National Monument Well 152

Enroute to Santa Fe, New Mexico from Grand Canyon National Park on June 11, I stopped at Petrified Forest to check with Superintendent Fagergren on the testing of his new well. They were in the process of testing this well when I arrived. When they had begun testing the water level in the well was 12 feet below the ground level at the well. They pumped to 66 g.p.m. and the water level dropped to 53 feet below the top of the well. When I was there at the well site they were pumping at 100 g.p.m. and the water level had dropped to 72 feet below the top of the ground. This is a drawdown of 60 feet but the drawdown was leveling off, and Mr. Akers of the U. S. Geological Survey had been there during the morning and prior to his departure had stated he would recommend we set the pump at 85 feet below the top of the ground for a flow of 100 g.p.m.

Superintendent Fagergren informed me that the old well was drying up rapidly. He had measured on the evening before and the well was drawing air and only pumping ½ g.p.m. On the day prior to my visit they had had 7,200 people visit the area and had used, according to the water level in the tank, the same amount of water that they pumped with the pumps going continuously. He informed me that they are measuring twice a day but that the condition is critical and that on a peak weekend they will use more water than they can pump. He has requested permission to run a temporary pipeline from the new well to the old pump. This should give them sufficient water to get over the critical period. He gave me the well log and profile of the well which I will have drawn and sent to Western Office of Design and Construction as rapidly as possible.

I left Petrified Forest at 1:30 p.m. and arrived at Grants, New Mexico at 6:00 p.m. that evening. I left Grants at 7:50 a.m. the morning of June 12 and arrived at Santa Fe at 10:30 a.m.

William E. Fields
Civil Engineer

JUN 24 1959

Copy to: Director (2)
Supt., Petrified Forest
WODC (2)

Approved for Distribution _____ Date
Harthon L. Bill, Acting Regional Director

05-24-1957: memorandum to region three from water resources section regarding possible acquisition of santa fe water at adama

WR Copy

L54-L

May 24, 1957

Memorandum

To: Regional Director, Region Three

From: Chief, Water Resources Section

Subject: Possible Acquisition of Santa Fe Water at Adamana, Petrified Forest

Well 132

This refers to the memoranda of April 18 to the Superintendent from Mr. Canfield, of April 23 to you from Mr. Pagergren, and of May 6 to us from Mr. Kell.

The main questions at this time are where the Santa Fe Railway obtains its water, both as to source and location by 40-acre subdivision of a section, and whether there are appropriative rights. The next questions are what the relative contemporary yields, or rights are at the Santa Fe diversion, the Rio Puerco and Desert View wells of this Service; and whether the Santa Fe supply would be used as a supplement to, or in lieu of the existing Park Service sources.

This information is needed to justify the possible acquisition project and also to determine what amendment of rights would be needed. It is assumed that the Santa Fe and Park Service both obtain water from the underground flow of the Rio Puerco, the Santa Fe diversion probably being about a mile or mile and a half below the Park Service diversion. The Park Service has claimed underground flow of the River, but the Santa Fe may have treated its source as percolating groundwater and established no appropriative claim.

From an engineering standpoint, NPS use of the Santa Fe source at headquarters would require about a mile and a half of pipe extension. Doubtless, more wells could be dug or drilled nearer the existing NPS well and produce the same supplemental supply if properly spaced. Assuming that answers to preceding questions show that adequate water and equally good rights can be obtained from either the existing Santa Fe sources or new wells, the rest of the justification for purchase of the Santa Fe system will depend on relative costs and possible construction difficulties of drilling or digging new wells in what seems to be a quicksand stream bed. These matters will have to be determined by engineers in the field.

A. vanV. Dunn
Chief, Water Resources Section

Copy to: Superintendent, Petrified Forest
Mr. B. Miller
Mr. Dunn (2) - Acct. 347 and Petrified Forest
AvVDunn:lct

07-13-1951: public voucher for purchases and services other than personal: order no. 99-16

Standard Form No. 1034 a—Revised
Form prescribed by
Comptroller General, U. S.
September 7, 1950
(Gen. Reg. No. 51, Supp. No. 11)

PUBLIC VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL

D. O. Vou. No. .....

Bu. Vou. No. .....

U. S. Dept. of Interior, National Park Service
(Department, bureau, or establishment)

Voucher prepared at Washington, D.C.
(Give place and date)

THE UNITED STATES, Dr., Payee's Account No. .....

To State Land Commissioner
Phoenix, Arizona
(Payee)

.....
(Address) (City) (State)

PAID BY

(For use of Paying Office)

No. and Date of Order	Date of Delivery or Service	ARTICLES OR SERVICES (Enter description, item number of contract or Federal supply schedule, and other information deemed necessary)	QUANTITY	UNIT PRICE Cost	UNIT PRICE Per	AMOUNT Dollars	AMOUNT Cts.
99-16 7/13/51		Discount Terms ermit fees for domestic use in Application No. A-3095				5	00
		Permit fees for industrial use in Application No. A-3095				5	00
PAYMENT: Complete ☐ Partial ☐ Final ☐		Use continuation sheet(s) if necessary					
Shipped from	to	Weight	Government B/L No.		Total	~~10~~	~~00~~

(Payee must NOT use this space)

Differences .....

Account verified; correct for .....

(Signature or initials) .....

Contract No. Date Req. No. Date Invoice Rec'd.

MEMORANDUM

ACCOUNTING CLASSIFICATION (For completion by Administrative Office)

Appropriation, limitation, or project symbol	Appropriation title	Limit'n. or Proj't. Amount	Appropriation Amount

Allotment symbol	Amount	Obligations liquidated	COST ACCOUNT Symbol	COST ACCOUNT Amount	OBJECTIVE CLASSIFICATION Symbol	OBJECTIVE CLASSIFICATION Amount

Paid by { Check No. ..... dated ....., 19....., for $..... } on Treasurer of the United States in favor of payee named above.
{ Cash, $....., on ....., 19..... }

16—22900a-2

METHOD OF OR ABSENCE OF ADVERTISING

METHOD OF ADVERTISING

1. Advertising in newspapers Yes ☐ No ☐.
2. (*a*) Advertising by circular letters sent to ..... dealers.
   (*b*) And by notices posted in public places Yes ☐ No ☐.

   (If notices were not posted in addition to advertising by circular letters sent to dealers, explanation of such omission must be made below.)

ABSENCE OF ADVERTISING

3. Without advertising, under an exigency of the service which existed prior to the order and would not admit of the delay incident to advertising.
4. Without advertising in accordance with .....
5. Without advertising, it being impracticable to secure competition because of .....

.....

.....

.....

.....

(Here state in detail the nature of the exigency or circumstances under which the securing of competition was impracticable under 3 and 4)

NOTE.—The above form "Method of or Absence of Advertising" is to be used when purchases are made or services secured under proper authority without written agreement in any form. In case of a written agreement (formal contract, proposal, and acceptance, or less formal agreement) Standard Form No. 1036—Revised should be used for abstracting the method of or absence of advertising and award of contract. (See General Regulations No. 51, as amended.)

U. S. GOVERNMENT PRINTING OFFICE : 1950 O—75805

16—22000a-2

00-00-0000: notice to be sent with check: account no. a-3095; purchase order no. 99-15

ENCLOSED CHECK IS IN
PAYMENT OF: $10.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Washington, D. C.

NOTICE TO BE SENT WITH CHECK

YOUR ACCOUNT NO. A-3095 ✓
PURCHASE ORDER NO 99-15
CONTRACT NO.....

State Land Commissioner
Phoenix, Arizona

$ HAS BEEN
DEDUCTED ON ACCOUNT
OF.....
.....
.....

RECEIVED
AUG 28 1951
STATE LAND DEPT.
OF ARIZONA

am Rept No 2965

METHOD OF PURCHASE: Form Approved Budget Bureau No. 48-R101

Indicate Method by Number:

1. Federal Supply Schedule.
2. Bureau of Federal Supply Stock.
3. Surplus Property Transfer.
4. Advertising (R. S. § 3709).
5. War Power's Negotiation.
6. Other Exemption from R. S. § 3709.
7. Miscellaneous.

(S)

(See Bureau of Federal Supply Circular No. B69)

PURCHASE ORDER

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

This number must appear on all PACKAGES and PAPERS relating to this order.

Order No.: 99-16

6

Point of issue: Washington Office, Washington, D.C.

Date: July 13, 1951

Requisition No.:

Allotment:

Appropriation symbol and title: 14X1035 Construction and Acquisition of Lands, National Park Service, Account 347

ADDRESS ALL CORRESPONDENCE AND SUBMIT INVOICES TO "POINT OF ISSUE" SHOWN ABOVE.

To: SELLER
State Land Commissioner
Phoenix,
Arizona

Consignee and destination: SHIP TO
Director, National Park Service
Lands Division (Mr. Dunn)
Department of the Interior
Washington 25, D.C.

Invitation No.:	Contract No.:	Time for delivery:	Discount terms:
	O.M.	Soon as possible	Net

F. O. B. point:	Ship via:	Gov't B/L No.:
Destination		

ITEM No.	ARTICLES OR SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Fee for issuance of permit for domestic use under Application No. A-3095, covering waters of Rio Puerco.	1	each		$5.00
2	Fee for issuance of permit for industrial use under Application No. A-3095, covering waters of Rio Puerco.	1	each		5.00
	Please bill the Consignee in duplicate, on the attached voucher forms which should be completed as to payee's name, address, account number, discount offered, and signed as indicated.				

Please sign and return immediately the attached acknowledgment copy of this order.

INVOICING INSTRUCTIONS:

Prepare in duplicate, itemizing fully, on either your own invoice forms, or the Public Voucher for Purchases and Services Other Than Personal if enclosed herewith, referring thereon to the number of this Purchase Order and mail to the above "Point of Issue." The certificate shown on the reverse hereof must appear on all copies of your invoice and be signed in **original only** of either the invoice or the public voucher before payment can be made, with the name of the firm and the signer's full name and title. You are advised that Law Nos. _____ on the reverse hereof apply under this purchase and your signing the certificate certifies that you have complied therewith. **Certificates typed, stamped, or otherwise prepared on separate sheets and attached to the invoice or voucher will not be acceptable.**

Please supply promptly the above articles or service.

TOTAL $10.00

Signature: R. M. Rittase

Name and Title: R.M. Rittase, *Purchasing officer.*

10-131 (August 1948) ORIGINAL (1)

16—39986-2

10-12-1950: purchase order no. 99-362

METHOD OF PURCHASE: FORM APPROVED Budget Bureau No. 48-R101

Indicate Method by Number:
1. Federal Supply Schedule.
2. Bureau of Federal Supply Stock.
3. Surplus Property Transfer.
4. Advertising (R. S. § 3709). (S)
5. War Power's Negotiation.
6. Other Exemption from R. S. § 3709.
7. Miscellaneous.

(See Bureau of Federal Supply Circular No. B69) 6

PURCHASE ORDER

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

This number must appear on all PACKAGES and PAPERS relating to this order.

Order No.: 99-362

Point of issue: Washington Office, Washington, D.C.

Date: October 12, 1950

Requisition No.:

Allotment:

Appropriation symbol and title:

14X1035 Construction and Acquisition of Lands, National Park Service, Account 347.

ADDRESS ALL CORRESPONDENCE AND SUBMIT INVOICES TO "POINT OF ISSUE" SHOWN ABOVE.

To: SELLER
State Land Commissioner
Phoenix, Arizona

Consignee and destination: SHIP TO
Director, National Park Service
Supply Section
Room 3320, Interior Building
Washington 25, D.C.
Mark "For Mrs. Weist, PO 99-362"

Invitation No.:	Contract No.:	Time for delivery:	Discount terms:
	O.M.	Soon as possible	Net

F. O. B. point:	Ship via:	Gov't B/L No.:
Destination		

ITEM No.	ARTICLES OR SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Fee for examining application for permit to appropriate water from the Rio Puerco for use at Petrified Forest National Monument	1			$3.00
	This fee is prescribed under Chapter 75, Section 137, of the Arizona Code Annotated, 1939.				
	Please bill the Consignee in duplicate, on the attached voucher forms which should be completed as to payee's name, address, account number, discount offered, and signed as indicated.				

Please sign and return immediately the attached acknowledgment copy of this order.

INVOICING INSTRUCTIONS:

Prepare in duplicate, itemizing fully, on either your own invoice forms, or the Public Voucher for Purchases and Services Other Than Personal if enclosed herewith, referring thereon to the number of this Purchase Order and mail to the above "Point of Issue." The certificate shown on the reverse hereof must appear on all copies of your invoice and be signed in **original only** of either the invoice or the public voucher before payment can be made, with the name of the firm and the signer's full name and title. You are advised that Law Nos. _____ on the reverse hereof apply under this purchase and your signing the certificate certifies that you have complied therewith. Certificates typed, stamped, or otherwise prepared on separate sheets and attached to the invoice or voucher will not be acceptable.

Please supply promptly the above articles or service.

TOTAL $3.00

Signature: R. M. Rittase

Name R.M. Rittase

Title: *Purchasing officer.*

10-131 (August 1948) ORIGINAL (1)

16—30988-2

CERTIFICATE

"I certify that the above bill is correct and just; that payment therefor has not been received; that all statutory requirements as to American production and labor standards, and all conditions of purchase applicable to the transactions have been complied with; and that State or local sales taxes are not included in the amounts billed."

LAWS

No. 1.—**American Materials required for public use:** Act of March 3, 1933, 47 Stat. 1520; 41 U. S. C. 10.

No. 2.—**Eight-Hour Day—Laborers and Mechanics—U. S. Contracts:** Act of June 19, 1912, 37 Stat. 137; 40 U. S. C. 324. *Amendment:* Act of September 9, 1940, 54 Stat. 872, 884.

No. 3.—**Prevailing Wages—Laborers and Mechanics:** "Davis-Bacon Act" of March 3, 1931, 46 Stat. 1444; 40 U. S. C. 276 *a*. *Amendment:* Act of August 30, 1935, 49 Stat. 1011, 1013.

No. 4.—**Wage Refunds—"Kick-Back Law:"** Act of June 13, 1934, 48 Stat. 948; 40 U. S. C. 276 *b*.

No. 5.—"Walsh-Healey Act:" Act of June 30, 1936, 49 Stat. 2036; 41 U. S. C. 35.

No. 6.—**Public Works—Emergency Construction (N. I. R. A.) 30-hour week; minimum wages; etc.:** Act of June 16, 1935, 46 Stat. 211; 40 U. S. C. 406.

No. 7.—**Bonds—Performance and Payment—**"Miller Act:" Act of August 24, 1935, 49 Stat. 793; 40 U. S. C. 270 *a*.

No. 8.—**Convict Labor:** Prohibited on Federal contracts by Executive order of May 18, 1905.

No. 9.—**Ceiling Prices:** The vendor guarantees that the price to be charged on any articles herein is not in excess of the ceiling price established by the Office of Price Administration.

U. S. GOVERNMENT PRINTING OFFICE 16—39936-1

11-13-1970: memorandum to chief; water resources section from hydraulic engineer regarding additional water sources for petrifie

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WESTERN SERVICE CENTER
450 GOLDEN GATE AVENUE, BOX 36025
SAN FRANCISCO, CALIFORNIA 94102

IN REPLY REFER TO:

L54(WSC)LWW
PEFO

November 13, 1970

Memorandum

To: Chief, Water Resources Section, Office of Land Acquisition and Water Resources, WSC

From: Hydraulic Engineer

Subject: Additional water sources for Petrified Forest National Park

Reference is made to Southwest Region's memorandum of July 7, 1970, concerning the tentative 1972 F.Y. development program on water supply for Petrified Forest National Park and Superintendent D. A. Dayton's memorandums of May 25 and June 19, 1970, on the same subject.

A complete review has been made of the water supply problem on and off the park. A recent visitation to the park was made for the purpose of gathering information in order to complete a study of acquiring additional potable water sources. The following comments list the various findings and recommendations in reply to the questions noted in Superintendent Dayton's memorandums of May 25 and June 19, 1970, to the Regional Director:

1. The existing water system for the entire park is complete but inadequate to handle future demand or safely comply with present U. S. Public Health Service drinking water standards. The system is an automatic gravity fed water system which extends from the underground 500,000 gallon concrete reservoir on Hill 5924 (BM), Painted Desert Area, to the underground 200,000 gallon concrete reservoir in the south (Rainbow Forest Area). The water is highly mineralized as confirmed by recent chemical analysis (1970) in the amount of 955 mg/L total concentration of dissolved solids which exceeds the minimum allowable standards of 500 mg/L. Maintenance costs on the pump are high ($25,000 actual cost in 8 years, not counting man-hours of maintenance, as per Regional Director's letter of March 21, 1969, to the Director) due to corrosion and the high operating head of 800 feet required to feed water from the pumphouse to the 500,000 gallon Painted Desert reservoir.

Although water lines were not uncovered, all distribution lines north from Puerco Well No. 2 have operated in satisfactory condition and have been free from excessive maintenance except for that small portion of 4-inch (insulated) steel line supported under the highway bridge which crosses over the railroad right-of-way. This section of exposed water line is subject to freezing and has ruptured in the past.

The distribution system from Puerco Well No. 2 to the Rainbow Forest is inadequate and underdesigned. The supply line consists of small diameter ($2\frac{1}{2}$ inch and 3 inch), low pressure type pipe (equal to Class 150 asbestos cement pipe). The indicated static line pressure, reduced by a pressure-reducing valve in Puerco Well No. 2 pumphouse, is 200 psi at the pumphouse and 180 psi at the valve box for Agate Bridge. The 3-inch line is subject to excessive pressure until the line crosses the ridge where the distribution line is then reduced to $2\frac{1}{2}$ inch diameter just northeast of the Rainbow Forest reservoirs. The park has experienced a high cost in maintaining the line generally due to line breaks throughout this portion of the system. The high pressure, which is gravity fed from the Painted Desert reservoir, is required to deliver water (due to high friction losses and head differential) to the reservoir area in the Rainbow Forest. The line was installed 40 years ago and should be replaced unless another source of water is obtained in the Rainbow Forest Area.

? Wouldn't this increase pressure?

Isn't there a storage tank at both ends

1,000,000 — .15 gpm

2. The present water demand for the entire park is 15,300,000 gallons per year (1969) with approximately one-third of the total amount being used in the Rainbow Forest Area located in the south end of the park. The annual water demand is expected to increase as changes take place in the number of visitations, in the number of permanent and seasonal employees, and in the number of living quarters (both temporary and permanent) provided within the park which includes the long range replacement of facilities in Rainbow Forest.

a) Following World War II, park visitation has been increasing at a rate of approximately 33,000 visitors per year. It is anticipated from recent increases in visitation that future annual visitations will not only continue to increase but will accelerate to 1,800,000 visitors annually by 1980. OK

b) The number of permanent and seasonal employees have remained rather constant with little or no fluctuation for the past four years. A slight increase in the number of employees is expected to maintain pace with the increase in visitation and the increase in facilities at Rainbow Forest.

c) The following types of quarters are presently located within the park and the number of these quarters is expected to increased as required by the number of employees:

(1) Painted Desert Area

18	3-Bedroom residences
12	Trailer sites (includes concessioneers)
2	Apartments (school)
2	Houses (on the rim)
8	Apartments, seasonal
42	

(2) Rainbow Forest Area

6	Houses
3	Trailers
3	Apartment (concessioners)
12	

d) A long range replacement of facilities, now existing at Rainbow Forest, is planned in accordance with Master Plan Drawing No. NP-PE 2100-E, Sheet 1. Those facilities, including the district headquarters, entrance station, orientation and information centers, residential areas, maintenance areas, picnicking sites, and all concessions (food, curios, gas and oil, and employees housing), shall be retained for visitor's use. Any future water facilities planned for the area must reflect the increased water demand necessary to support the replacement of Rainbow Forest facilities.

Therefore, the anticipated water demand for 1980 is estimated at approximately 60 gpm (2/3 X 1,800,000 visitors X 23.85* Gals/visitor/day=28,600,000 gallons per year) for the Painted Desert, and approximately 30 gpm (1/3 x 1,800,000 visitors x 23.85* Gals/visitors/day = 14,300,000 gallons per year) for the Rainbow Forest.

*23.85 Gallons/visitor/day is based on an average water consumption of recommended usages, Table 1 - Planning Guide for Water Use, Manual of Individual Water Supply Systems, Public Health Service.

Pretty accurate

3. Present water sources are limited in and around the park. In all cases there are no known water sources that comply with the U. S. Public Health Service Drinking Water Standards. The following briefs on various known wells utilize J. J. Palmer's May 1957 report and the information available in the files, except where indicated.

Comparison of Wells

Well	Date Drilled	(Ft.) Depth	(GPM) Yield	Quality	Locations
Puerco No.1	1934	48	57	Apparently similar to Puerco No. 2	Puerco River
Puerco No. 2	1960	109	90	Total solids 955 mg/L	Puerco River
Santa Fe	1927	87	140	Apparently similar to Puerco No. 2	Puerco River
Adamana Wells No.5, 7, &8	1930 1942	152 110	248 167		
Paulsell	1955	26	Unknown	Non-potable water	Adjacent to Puerco River (Section 16, T18N, R24E)
Zuni Wells No. 3, 7, 8 &9	1937	38 to 82	30 (All 4 wells)	1680 mg/L	Lithodendron Wash
Dobell's Artesian	1958	120	(Flows 100 GPM) Estimated 1200	1190 mg/L	(Section 3, T15N, R23E)
Dobell's New well	1969	500	Estimated high yield	3300 mg/L	(Section 15, T16N, R23E)
Rainbow Forest	1932	950	Unknown	5350 conductivity	(Section 1, T16N, R23E)

4. Summary: As outlined herein, past experience in and around the park with exploratory and production wells in Lithodendron Wash and the Puerco River in the north, and Cottonwood Wash and Jim Camp Wash in the south, failed to discover water of any quality which is chemically suitable for domestic use. In general, all water in the area will require treatment to produce a potable and palatable product meeting U. S. Public Health Service standards. The method of treatment becomes a common element in any solution to solve the water problem.

A particular method of treatment under consideration is reverse osmosis which is relatively simple, automatic, continuous, low cost, and operates at minimum maintenance. Field demonstrations at Chaco Canyon National Monument (November 3-5, 1969) and at Petrified Forest National Park (November 6-8,1969), and recent field demonstrations (April 4, 1970) at Death Valley National Monument using the reverse osmosis process to convert mineralized water to a potable supply have successfully demonstrated its applicability to this situation. Reference is made to Gulf General Atomic's Final Report of Reverse Osmosis Appraisal Programs at Chaco Canyon and Petrified Forest, dated December 1969, and the Final Report of Reverse Osmosis Appraisal Programs at Furnace Creek and Stovepipe Wells in Death Valley National Monument, dated June 11, 1970, for an elaboration on the field demonstrations.

In accordance with the plan in Superintendent Dayton's letters to the Regional Director, dated May 25 and June 19, 1970, the alternatives are considered. The first would retain the existing single water system for the entire park with centralized water treatment and extensive pipelines; the second would utilize two water systems with separate water treatment facilities at the Painted Desert and Rainbow Forest sites respectively. With future water requirements for 1970 and existing facilities determined, a basis is established to make a cost estimate since the problem boils down to one of cost.

The first alternative would replace the distribution line from Puerco Well No. 2, south to the Rainbow Forest reservoirs, provide treatment using a reverse osmosis unit of 130,000 GPD and enlarge the water supplies at Puerco Wells No. 1 and No.2 to provide a minimum of 120 gallons per minute. A reverse osmosis unit of this size operating at 75% recovery provides 90 gallons per minute of treated water (42,900,000 gallons annually). The construction cost amounts to $906,000. This cost, as a capital recovery, amounts to $54,100 per year; annual maintenance and operation costs is $28,100; and the combined annual cost amounts to $82,200.

The second alternative establishes two water systems out of the existing facilities; the Painted Desert water system would require a reverse osmosis treatment unit 90,000 gpd and a new deep well pump at Puerco Well No. 2 with a capacity of 80 gpm; the Rainbow Forest water system would require a new production well with a capacity of 40 gpm, a distribution line to the well site, and a reverse osmosis treatment unit of 50,000 gpd. The construction costs amount to a total of $302,260; $132,000 for the Painted Desert water system; and $170,260 for the Rainbow Forest water system. The total cost, as a capital recovery amounts to $21,700 per year for both systems; annual maintenance and operation cost is $30,100; and the combined annual cost amounts to $51,800. In the unlikely event that the well required for Rainbow Forest produces a fresh water supply requiring no treatment for dissolved solids, the resulting saving of $85,060 realized for the reverse osmosis treatment plant can be deducted from total construction cost.

The most expensive plan would be the one water system to serve the entire park since obviously the replacement of the distribution line from the well to the Rainbow Forest reservoir accounts for a major portion of the construction cost. A summary follows:

Comparison of Costs
(See attached addendum)

Alternate	Treatment	Total Construction Cost	Annual Costs		Total Annual Cost
			Capital Recovery	O&M	
1 (Single system)	Yes	$906,000	$54,100	$28,100	$82,200
2A(Two systems)	Yes	$302,260	$21,700	$30,100	$51,800
2B(Two systems)	*	$217,200	$15,200	$21,500	$36,700

*Treatment provided for Painted Desert system only; no treatment required for Rainbow Forest water system.

5. Recommendation:

Use of the first alternate, the upgrading of the existing single water system, would result in excessive construction costs with a high total annual cost. A slight savings is realized in the annual operation and maintenance costs with one treatment plant for the entire park; however, as mentioned in the second alternate this is no advantage in savings if a fresh water well is drilled in the south. The discussion in the summary was based mainly on cost, however another factor to consider is chlorine retention for such a large distribution system.

The use of the second alternate by this analysis indicates this solution to be the lowest in costs. As outlined in my report, the requirements for providing a treatment plant in the Rainbow Forest District will be determined from the results of drilling an exploratory well in that area.

In view of the foregoing information and my report on the Water System Survey of Petrified Forest, the installation of reverse osmosis facilities for the treatment of brackish water supplies and the installation of separate water systems for Painted Desert and Rainbow Forest is hereby recommended.

D. M. Aughenbaugh

ADDENDUM I

1. Retain the existing single water system for the entire park, provide treatment by reverse osmosis, with a waste water disposal lagoon, install new a distribution line from the well to Rainbow Forest reservoirs and increase the capacity of the Puerco River water source to 120 gpm:

Construction Costs

		Constr. Cost	Average Annual Cost*
(1)	Treatment facilities: 130,000 GPD-R.O. unit complete including pre-treatment (20)	$143,000	$11,470
(2)	R.O. unit foundation (50)	800	40
(3)	Treatment building (50)	6,480	350
(4)	45,000 GPD waste water disposal lagoon (20)	18,000	1,440
(5)	Fencing for lagoon (20)	5,000	400
(6)	6-inch distribution line per PCP U-34 (Oct. 23, 1963) including 21% construction cost increase from 1963 to 1970 (50)	721,200	39,475
(7)	Increase capacity of Puerco Wells (20)	11,520	925
	Total Construction Costs---------	$906,000	$54,100

b) Annual Operation and Maintenance Costs

(1)	Power, electrical	$ 3,218
(2)	Chemicals	8,580
(3)	Maintenance	5,577
(4)	Replace modulus	10,725
	Total Annual Operation & Maintenance Cost	$28,100
	Total Annual Costs (a+b)	$82,200

2A. Provide two water systems (Painted Desert and Rainbow Forest) with separate treatment by reverse osmosis for each system, waste water disposal lagoons, production well for Rainbow Forest with capacity of 40 gpm and a 6-inch distribution line to the well:

a) Construction Costs, Painted Desert

		Constr. Cost	Average Annual Cost*
(1)	Treatment facilities: 90,000 GPD-R.O. unit complete including pre-treatment (20)	$ 99,000	$ 7,940
(2)	R.O. unit foundation (50)	800	41
(3)	Treatment building (50)	6,480	355
(4)	30,000 GPD waste water disposal lagoon (20)	15,000	1,204
(5)	Fencing for lagoon (20)	4,500	360
(6)	Provide pumping facilities of 80 gpm for Puerco Well No. 2 (20)	6,220	500
	Total Construction Costs, Painted Desert	$132,000	$10,400

b) Annual Operation and Maintenance Costs, Painted Desert

(1)	Power, electrical	$ 2,140
(2)	Chemicals	5,720
(3)	Maintenance	4,000
(4)	Replace modulus	7,140
	Total Annual O&M Costs	$19,000
	Total Annual Costs, Painted Desert (a+b)	$29,400

c) Construction Costs, Rainbow Forest

(1)	Treatment facilities: 50,000 GPD-R.O. unit complete including pre-treatment (20)	$ 62,500	$ 5,000

c) Construction Costs, Rainbow Forest (Continued)

		Constr. Cost	Average Annual Cost*
(2)	R.O. unit foundation (50)	$ 800	$ 40
(3)	Treatment building (50)	5,760	310
(4)	15,000 GPD waste water disposal lagoon (20)	12,000	960
(5)	Fencing for lagoon (20)	4,000	220
(6)	Drill, case, and test well (50)	28,000	1,520
(7)	Provide pumping facilities of 40 GPM (20)	5,200	415
(8)	Pumphouse complete (50)	2,500	135
(9)	6-inch distribution line, 7920 ft. (50)	49,500	2,700
	Total Construction Costs, Rainbow Forest	$170,260	$11,300

d) Annual Operation and Maintenance Costs, Rainbow Forest

(1)	Power, Electrical	$ 1,080
(2)	Chemicals	2,860
(3)	Maintenance	2,860
(4)	Replace modulus	4,300
	Total Annual O&M Costs	$11,100
	Total Annual Costs, Rainbow Forest (c+d)	$22,400

e) Total Construction Costs (both systems)

Construction Costs, Painted Desert	$132,000
Construction Costs, Rainbow Forest	170,260
	$302,260

f) Total Annual Costs (both systems)

Annual Costs, Painted Desert	$ 29,400
Annual Costs, Rainbow Forest	22,400
	$ 51,800

2B. Provide two water systems (Painted Desert and Rainbow Forest), treatment by reverse osmosis with waste water disposal lagoon at Puerco River water supply (no reverse osmosis treatment facilities at Rainbow Forest), production well at Rainbow Forest with capacity of gpm and a 6-inch distribution line to the well:

a) Construction Costs, Painted Desert

	Constr. Cost	Average Annual Cost*
No change in facilities and costs shown in 2a.	$132,000	$10,400

b) Annual O&M Costs, Painted Desert

No change in costs shown in 2a.	$19,000
Total Annual Costs, Painted Desert (a+b)	$29,400

c) Construction Costs, Rainbow Forest

	Constr. Cost	Average Annual Cost*
(1) Drill, case, and test well (50)	$ 28,000	$ 1,530
(2) Provide pumping facilities of 30 GPM (20)	5,200	415
(3) Pumphouse complete (50)	2,500	135
(4) 6-inch distribution line, 7920 ft. (50)	49,500	2,720
Total Construction Costs, Rainbow Forest	$ 85,200	$ 4,800

d) Annual Operation and Maintenance Costs, Rainbow Forest

(1) Power, electrical	$ 1,080
(2) Maintenance	1,420
Total Annual O&M Costs	$ 2,500
Total Annual Costs, Rainbow Forest (c+d)	$ 7,300

e) Total Construction Costs (both systems)

Construction Costs, Painted Desert	$132,000
Construction Costs, Rainbow Forest	85,200
	$217,200

f) Total Annual Costs (both systems)

Annual Costs, Painted Desert	$ 29,400
Annual Costs, Rainbow Forest	7,300
	$ 36,700

*Average Annual Cost
.05478 amortization factor, 50 years at 5% interest
.08024 amortization factor, 20 years at 5% interest

09-27-1962: memorandum to director from acting regional director regarding completion report of construction project, june 7, 196

WRCG
@
10/2/62

Southwest Region
Santa Fe, New Mexico

L54
PEFO

SEP 27 1962

Memorandum

To: Director

From: Acting Regional Director

Subject: Completion Report of Construction Project, June 7, 1962, for Puerco-Painted Desert Water System under Contract 14-10-0333-732, Docket No. 1, Petrified Forest National Monument

Enclosure 2 filed in Docket 1

In accordance with Mr. Dunn's request of August 31 we have inserted a copy of the subject completion report in Docket No. 1, Petrified Forest National Monument.

We have been aware that an amendment of existing water right Application No. A-3095 and Permit A-2147 is in order. We have received from the Superintendent at Petrified Forest the use figures of water consumed during 1962 fiscal year but prior to submitting an amendment to this application we feel that further study should be made. This will be accomplished as soon as possible and we will keep you informed as to the progress.

By copies of this memorandum we are sending this completion report to WODC and the Superintendent, Petrified Forest, for insertion in their copy of Docket No. 1.

(SIGNED)

George W. Miller
Acting Regional Director

In duplicate

Enclosures(1 set)

Copy to: Chief, WODC (2) w/enclosures(1 set)
Supt., Petrified Forest w/enclosures

August 31, 1962

L54-RL

Memorandum

To: Regional Director, Southwest Region

From: Chief, Branch of Water Resources

Subject: Completion Report, dated June 7, 1962, for Puerco - Painted Desert Water System under Contract 14-10-0333-732, Petrified Forest

Enclosed is your copy of the subject completion report which should be filed in Docket No. 1.

From our review of the subject completion report it appears that an amendment of the existing water right, Application A-3095, Permit A-2147, is in order.

The installation of the Painted Desert water system has introduced an additional place of use from that described in the water right application. You should also consider whether the quantity of water used from Well No. 1 and 2 is greater then that originally authorized from Well No. 1.

If there is no increase in the quantity of water to be diverted, the existing application-permit should be amended to introduce the supplemental or alternate point of diversion, and the additional area of use. If more water is to be diverted, an application for a supplemental supply from the new diversion well should be filed, designating the Painted Desert area and also those designated in Application A-3095, and indicating that water from the wells designated in both applications may be used interchangeably, or by commingling.

SIGNED

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

Enclosure

Copy to: Superintendent, Petrified Forest, w/c of enc.
Chief, BCBC (2), w/c of enc.
Mr. Dunn

VABerté:AvanVDunn:ljc

L-54 WR copy MP 29.

Region Three
Santa Fe, New Mexico

October 12, 1959

Copies sent to Region on 10/20 WHB

Memorandum

To: Director

From: Acting Regional Director

Subject: Application A-3095, Permit A-2147, Docket No. 1, Petrified Forest National Monument

Information contained in the card file system obtained from your office indicates that the subject application expires during the month of October. This file does not say which year.

The last correspondence which we have, concerning this particular application, was dated August 29, 1956 from Mr. Dunn, Chief of Water Resources Section in your office, to Mr. Roger Ernst, State Land Commissioner, State of Arizona, wherein a request for an extension of time was made. If there was an answer to this request, we are unable to find it in our files. We do, however, find Mr. Dunn's memorandum of April 9, 1957 "Possible Acquisition of Santa Fe Water at Adamana" (code L-54). There is a statement in the second paragraph "we have only last September obtained an extension of time until 1966 in which to make full use of the water under Federal rights."

If copies of the extension of time until 1966 were transmitted to this office, they have been lost or misfiled. At your convenience we would like an additional reproduced copy and a copy of the transmittal memorandum for our file. In the event the Superintendent and Western Office of Design and Construction did not obtain copies of the extension of time, we will make the necessary reproductions and forward to both offices.

If we are in error on the assumption that an extension of time has been granted until 1966, we should be advised immediately

in order that the proper extension can be requested from the State Engineer.

(SIGNED)

Harthon L. Bill
Acting Regional Director

In duplicate ✓

Copy to: Supt., Petrified Forest
Chief, WCDC (2)

00-18-1957: memorandum to superintendent from regional chief regarding possible acquisition of santa fe water at adamana

WRC
@

L-54

Region Three
Santa Fe, New Mexico

Apr 18 1957

Memorandum

To: Superintendent, Petrified Forest

From: Regional Chief of Operations

Subject: Possible Acquisition of Santa Fe Water at Adamana, Petrified Forest

Attached is a Thermo-Fax copy of Mr. Dunn's memorandum of April 9 to the Regional Director regarding the proposed acquisition of the Santa Fe water wells and tanks at Adamana. In a memorandum of March 6, Mr. Kell outlined the proposed acquisition and copies were transmitted to you. At that time, we presumably did not make it clear to Mr. Dunn that since the Santa Fe Railway Company uses deisel locomotives almost entirely, there is no real need for the wells and storage tanks at Adamana since they were used during the period when steam locomotives were in general use on the Santa Fe through most of its divisions.

Mr. Dunn is primarily concerned because the U. S. has established conditional rights to the underground flow of the Rio Puerco, but has not as yet made full beneficial use or proof for a final certificate.

It was Mr. Kell's understanding that your inquiry to the Santa Fe Railway was only an exploratory one to determine their attitude toward eventual disposition of the system and what commitments, if any, they had made to others for the use of the water.

Mr. Dunn believes that before we proceed too far with plans to obtain the company's rights as a supplemental supply, we should consider when rights under Permit A-2147 can be perfected and what justification there is for purchasing the Company rights instead of filing an application for supplemental diversions by the Federal system and permitting the Company rights to lapse.

In the absence of a reply from the Santa Fe Railway Company, we would assume that their rights would be similar to those under our Application A-3095, Permit A-2147 (Docket No. 1).

We also believe that when you have all the information requested from the Santa Fe, we will be able to determine whether the Company has a better diversion.

We are transmitting copies of this memorandum to the Director in order to assure Mr. Dunn that your inquiry was informational only in order that we could determine when the company had furnished the requested information which of the two rights and diversions would best serve our purpose. We also recommend that when you receive this information, you advise what plans there are for developing more water than is currently provided by the existing park water system.

(SIGNED)

David H. Canfield
Regional Chief of Lands

Attachment

Copy to: Director (2) } w/o attach
WODC }

WR Copy

L54-L

April 9, 1957

Memorandum

To: Regional Director, Region Three

From: Chief, Water Resources Section

Subject: Possible Acquisition of Santa Fe Water at Adamana, Petrified Forest

In his memorandum of March 6, Mr. Kell proposed the acquisition of the water system of the Santa Fe Railway Company at Adamana for Petrified Forest, stating that the Company no longer needed most of the water, but not indicating where the Company obtains its water. The United States has already established conditional rights to 30,000 gallons per day of the underground flow of the Rio Puerco for the monument under Application A-3095, Permit A-2147 (Docket 1) but has not made full beneficial use under which to make proof for a final certificate.

It is my recollection that the Company and Park Service both divert from the same source, and not too far apart. Both rights are subject to lapse if not exercised, and we have only last September obtained an extension of time until 1966 in which to make full use of the water under the Federal rights. Before going too far with any plans to obtain the Company rights as a supplemental supply, we should consider when rights under Permit A-2147 can be perfected, and what justification there is for purchasing the Company rights instead of filing an application for supplemental diversions by the Federal system and permitting the Company rights to lapse.

One consideration should be whether the Company has a better diversion. Another question is what other rights there are to the waters of the Rio Puerco with priorities between that of the Company and that of December 9, 1950, when this Service filed Application A-3095, and how much further the Rio Puerco has been appropriated between December 9, 1950, and the present time. There is, of course, the further possibility that Arizona might lose its claim to the water used by the Company, if the right lapsed or were abandoned during the case of Arizona vs. California. In addition, what plans are there for developing more water than is provided by the existing water system?

SIGNED

A. van V. Dunn
Chief, Water Resources Section

Copy to: Mr. Vint
Mr. Langley
MISSION 66
~~Mr. Dunn~~

AvVDunn:lct

In reply refer to:
L54-L

January 19, 1954

Memorandum

To: Regional Director, Region Three

Well #1

From: Chief, Water Resources Branch

Subject: Water Diversions and Ground Water Levels, and Federal Water Rights (Docket 1), Petrified Forest National Monument

The excellent memorandum of December 22 from Mr. Branch should be ample for any further reply we may have to make to Mrs. L. H. Nelson. We do not propose to offer further explanation to Mrs. Nelson unless she indicates dissatisfaction with our reply of November 27, but if she should make such inquiries to you, Mr. Branch, or the Director, the additional information might be:

> There seems to have been no significant change in the level of the underground flow of the Rio Puerco, which is the source of supply for the Monument water system, and probably for the wells of the Santa Fe Railroad at Adamana, and we also find that our average summer pumping of about 12,000 gallons per day does not affect that water sufficiently to have any influence on the water supply in other wells now in existence. We believe that the relatively consistent underground flow of the Rio Puerco, even though there has been a prolonged drought, is due to the large tributary drainage above the Adamana-Petrified Forest area, a part of which has probably experienced heavier precipitation or absorbs more of the precipitation. Presumably, the wells which are drying up do not intercept the underground Rio Puerco flow, but rather derive their water from local percolating water.

In connection with the Federal water rights under Application A-3095, Permit A-2147, Mr. Branch indicates that storage at the headquarters has been increased to 1,000,000 since 1950, or that the data in the application was in error. In addition, if

the average summer diversion is at 12,000 gallons per day the pump with a capacity of 10 gpm (14,400 gpd) has either been replaced by a larger one, or is operating almost continuously. Finally, at the average diversion and use for the four months of June through September, it is quite probable that peak water use has been close to the authorized 30,000 gallons per day.

If a diversion pump has been installed with a capacity of 21 gpm, and records of actual use of 30,000 gpd can be supplied, with date, number of employees, and Monument visitors, and estimates of the amount of use for utility purposes, we may be able to make proof for water right license before 1956. If there are no such records for 1953 or 1954, they should be obtained next summer.

(SGD.) A. VAN V. DUNN

A. van V. Dunn
Chief, Water Resources Branch

In duplicate

AvanVDunn:sh

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

In reply refer to:
L54 PETF

Petrified Forest National Monument
Holbrook, Arizona

July 2, 1951

Memorandum

To: Regional Director, Region Three

From: Superintendent, Petrified Forest

Subject: Application A-3095, Appropriation of Water of the Rio Puerco

Attached is a letter from C. H. W. Smith, Engineer, Water Division, State Land Department of Arizona, requesting a payment of $10. This payment is the required fee of $5 each for Domestic and Industrial use of the water of Rio Puerco (underground flow). This fee is in connection with our application (A-3095) to use this water.

We would appreciate it if you would initiate payment of this fee.

(SIGNED)
William E. Branch
Superintendent

Attachment

05-11-1951: memorandum to superintendent from chief regarding water right application no. a-3095, rio puerco, tributary of little c

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

In reply refer to:
L54 PETF

May 11, 1951

Memorandum

To: Superintendent, Petrified Forest National Monument

From: Chief, Water Resources Branch

Subject: Water Right Application No. A-3095, Rio Puerco, Tributary of Little Colorado River, Petrified Forest National Monument

Enclosed are the original and one copy of a notice of application to appropriate waters of the Rio Puerco under Application No. A-3095, a blank form of affidavit of posting notice for the same, and a post card to be used for advising the State Land Department of the posting of notice, together with instructions from the State Land Commissioner.

You will note that the two notices should be posted within ten days after May 15, one in a conspicuous place near the diversion, and one perhaps on your bulletin board at the Administration Building.

You should also execute the affidavit of posting and return it to the State Land Commissioner after the prescribed 30 days.

We are retaining and duplicating a third copy of the notice and will supply copies with the water right assembly to the interested offices. We are also writing to the State Land Commissioner to obtain more copies of the affidavit of posting, having them sent directly to you in order that you may make more extra copies and return them to this Office for inclusion in the water right assemblies.

(SGD.) A. VAN V. DUNN.

A. van V. Dunn
Chief, Water Resources Branch

Attachments 5

Copy to: Regional Director, Region Three

AvanVDunn:sh

10-03-1950: memorandum to director from regional engineer regarding water rights on rio puerco well

C O P Y

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

October 3, 1950

Memorandum

To: Director

From: Regional Engineer

Subject: Water Rights on Rio Puerco Well,
Petrified Forest National Monument

As requested in Mr. Dunn's memorandum of September 1st, I am returning a copy of Application for Permit to Appropriate Water in the State of Arizona and a print of the map which is to accompany the Application. On the print, Superintendent Branch has indicated the piping arrangement in the pump house, which shows which are used to divert water into the 500-gallon sump from which it is pumped to the Headquarters reservoir.

Mr. Dunn is correct in his assumption that the well is cased with corrugated iron.

The names of three water users near the point of diversion are Pat Paulsell, A. T. & S. F. Ry. Co., and Ed Olsen, all three of Adamana, Arizona. The postoffice nearest the point of diversion is Adamana.

/s/ J. R. Lassiter

J. R. Lassiter
Regional Engineer

Attachments 2 ~~&~~ destroyed - information inserted on file map and application forwarded to State Land Commissioner 11/2/50

Copy to: Supt., Petrified Forest

09-01-1950: memorandum to regional director from chief regarding right to appropriate waters of rio puerco

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

In reply refer to:
L54 PETF

September 1, 1950

Memorandum

To: Regional Director, Region Three

From: Chief, Water Resources Branch

Subject: Right to Appropriate Waters of Rio Puerco for Petrified Forest National Monument

Enclosed are three copies of the proposed water right application and file map. Please review and return one copy of each with any suggested changes, in order that we may complete the application and make the filing. See file maps & application forwarded 11/2/50.

In connection with the map, please complete the details on the pump installation on the pump-house detail in the upper left corner. We wish to show the valve through which the water feeds back from the 10,000-gallon reservoir to the pump sump, which must be above the check valve, or on the radiator cooler line which we have omitted.

The total quantity of water is based on an analysis of the pump records submitted with the memorandum of May 31 from Mr. Lassiter, and travel trends which I have been analyzing both for the NPS system and certain individual areas. The 30,000 g.p.d. will probably not be fully used until about 1970, and the present diversion pump would have to run about sixteen hours per day during the peak of the season. A good lodge, of course, may hasten the full use.

Provision has been made to supply supplemental water to the Agate Bridge area by a lateral to be constructed later, because of the limited spring flow in that area. You may wish to suggest additional areas of use for future flexibility in Monument development.

As I recall, there is no irrigation.

I have had to assume that the well casing is corrugated iron, since it is perforated.

Please supply the names of three water users near the diversion point. Also, is Adamana the postoffice nearest the diversion?

From the difference in water use with maximum and minimum monthly attendance, I have estimated visitor water use at between 1.0 and 1.75 g.p.c. I also allowed 50 g.p.c. for employees of the United States and the concessioner. You may wish to check the ultimate water demand on this basis, suggest different average rates, or give more accurate figures on peak visitor and employee population now, and in the future.

(SGD.) A. VAN V. DUNN.

A. van V. Dunn
Chief, Water Resources Branch

Attachments 6

In duplicate

AvanVDunn:sh

05-31-1950: memorandum to director from regional engineer regarding water rights appurtenant to rio puerco diversion

WR Copy

In reply refer to:
L54 PETF

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
Region Three
Santa Fe, New Mexico

May 31, 1950

Memorandum

To: Director

From: Regional Engineer

Subject: Water Rights appurtenant to Rio Puerco diversion for Petrified Forest National Monument

There is enclosed, in duplicate, copy of Superintendent Whitcraft's memorandum of November 21, 1949 which replies to the points raised by Mr. Dunn's memorandum of September 16, relating to the well, pumps, pipe line and reservoir of the Rio Puerco Water Supply at Petrified Forest National Monument.

Mr. Whitcraft's memorandum covers most of the points raised by Mr. Dunn. In replying to the third paragraph on page 2, we are returning a print on which we have indicated areas which will be served by the pipe line. The only areas involved are the headquarters and the Rio Puerco entrance station, circled in red on the print.

I have been unable to locate any information on the traverse of the 2-inch pipe line to the Rio Puerco reservoir. I have not been able to find any information as to the exact point on the line where the pipe size changed from 3-inch to 2½-inch. Mr. Whitcraft's memorandum gives the length of pipe in each size but no information as to the point of change.

I am unable to furnish you with the elevation of the 50,000 gallon reservoir as the only level notes I have been able to locate in connection with the construction of this reservoir were based on an assumed elevation of 100. I can find data that checks fairly closely with the elevation of 5598.5 for the pipe line at the reservoir but there is no tie to the assumed bench mark used during construction. The elevation of 5319.4 is the invert of the pipe at the pump house.

Mr. Whitcraft has furnished you with the dimensions of the 10,000 gallon reservoir. The 50,000 gallon reservoir at headquarters is of reinforced concrete, two cells, 21' x 15'6" each, 10'4" deep.

It is hoped that with this information you will be able to complete the water rights and file proof of beneficial use.

(SIGNED)

J. R. Lassiter
Regional Engineer

In duplicate

Attachments 5

Copy to: Supt., Petrified Forest

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

C
O
P
Y

PETRIFIED FOREST NATIONAL MONUMENT
Holbrook, Arizona

November 21, 1949

Memorandum

To: Regional Director, Region Three

From: Superintendent

Subject: Water rights appurtenant to Rio Puerco Diversion

In accordance with Mr. Lassiter's memorandum of September 21, there follows as many details of the Rio Puerco Water System as we were able to collect.

It has been our understanding that the well is supplied by underground flow of the river. One condition that bears this out is the fact that when the CCC Camp was occupied, sewage from the Camp flowed in an open trench for a distance of one-half mile to the Rio Puerco River. It entered the river approximately 1500 feet upstream from the well. After six months of sewage disposal in this manner, it was necessary to chlorinate the well water as it had become contaminated. The sewage upon entering the dry river bed of the Rio Puerco would immediately be absorbed by the sands. This indicates that there is an underground flow of water. Chlorination was not necessary six months after the camp was abandoned.

As pointed out in Mr. A. Van V. Dunn's memorandum of September 16, the well is 50 feet deep and 4½ feet in diameter. A carload of crushed gravel was dumped into the well to shut off quick-sand before the pump was installed.

Station 0 plus 7.5 is the end of the 3 inch transite pipe. A 2 inch galvanized pipe connects at that point and continues to the pump. The center of the well is ten feet from the center of the man-hole cover over the 500 gallon sump. The 3 inch transit pipe is 12 feet from the man-hole cover.

According to Mr. Bradley's final construction report on the completion of the Puerco-Headquarters water system, as of May 16, 1941,

there were 8.7 miles of 3 inch transite pipe (45,936 feet) and 3 miles of 2½ inch pipe (15,840 feet), a grand total of 61,776 feet of pipe line from the well to the reservoir.

The well pump at No. 1 well is a deep well Myers Power head with a 9 inch stroke and 3¼ inch cylinder. It is below the surface of the water 32 feet. The surface of the water is 12 feet below the ground level. This pump is rated at 600 gallons per hour.

The force pump that pumps water through the 11.7 miles of line to the 50,000 gallon storage reservoir is a Fairbanks Morse Twinflex 2½" by 4", with a rating of 1200 gallons per hour.

The 10,000 gallon reservoir is still in use. It supplies water to the Puerco checking station restrooms. However, its primary function is as a storage supply in providing sufficient water to operate the pressure pump when pumping to the headquarters reservoir. The well pump fills the Puerco reservoir at the rate of 600 gallons per hour. When the reservoir is full, the well pump continues to operate, spilling its water into the 500 gallon sump, the pressure pump is started. A valve located on the Puerco reservoir line, in the sump, is partially opened, allowing water to flow back from the Puerco reservoir into the sump at the rate of approximately 600 gallons per hour. This amount of flow plus the amount being discharged into the sump by the well pump is sufficient to supply the pressure pump line to headquarters reservoir.

The Puerco reservoir is of concrete construction, 14 feet long, 8 feet wide and 6 feet 9 inches deep. There are 1,735 feet of 2 inch galvanized pipe leading from pump house to reservoir.

Attached are hourly operating reports on Puerco pumps for the 1948 and 1949 fiscal years. Gallons per hour have been figured at the rated capacity of pumps, 600 and 1200 respectively.

(Signed)

Thomas E. Whitcraft
Superintendent

In duplicate

Attachment

00-00-0000: well pump information; puerco

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

PETRIFIED FOREST NATIONAL MONUMENT
Holbrook, Arizona

WELL PUMP, PUERCO

TRAVEL YEAR 1948

Month	Year	Hours of Operation	
October	1947	147	26999
November	1947	147	12 824
December	1947	140	12 049
January	1948	114	12 285
February	1948	166	12 283
March	1948	144	14207
April	1948	117	19 343
May	1948	169	27 249
June	1948	222	50 951
July	1948	162	50 811
August	1948	8.23 hr/day 252	= 24 379
September	1948	226	36 694
		2,006	
		600	
		1,203,600	349,226

Travel YEAR 1949

Month	Year	Hours of Operation	
October	1948	105	25943
November	1948	127	15050
December	1948	142	12,965
January	1949	200	4743
February	1949	167	5972
March	1949	184	14104
April	1949	157	18632
May	1949	202	26, 480
June	1949	200	38260
July	1949	206	54593
August	1949	213	18586
September	1949	182	40948
		2,085	
		600	
		1,251,000	341,074

PRESSURE PUMP, PUERCO

October	1947	60
November	1947	47
December	1947	50
January	1948	77
February	1948	88
March	1948	62
April	1948	64
May	1948	64
June	1948	110
July	1948	81
August	1948	158
September	1948	126
		987
		1,200
		1,184,400

October	1948	63
November	1948	80
December	1948	42
January	1949	125
February	1949	61
March	1949	97
April	1949	101
May	1949	107
June	1949	73
July	1949	106
August	1949	118
September	1949	42
		1,015
		1,200
		1,218,000



1446 per day = 446,040 gal
annual flow = 1,477,120 gal

11-23-1949: stamp of receipt



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

In reply refer to:
L54 PETF

September 16, 1949

Memorandum

To: Regional Director, Region Three

From: Acting Chief Engineer

Subject: Water rights appurtenant to Rio Puerco diversion for Petrified Forest National Monument

Enclosed are three advance prints of NM-PF-6950, Rio Puerco Diversion for Petrified Forest National Monument. This is being prepared to file with an application for appropriation of water for Petrified Forest National Monument.

From the information at hand, the well seems to have been dug 4½ feet in diameter and 50 feet deep, and presumably diverts only the underground flow of the Rio Puerco, using the information in a chemical analysis of the five wells covered by memorandum of November 14, 1946, for the Superintendent from Mr. Keller. We do not seem to have received a Record of Well giving any further detail. This information should be supplied when convenient. For the moment, the question is merely whether the well does divert the underground flow of the river or passes through any impervious strata to underlying ground water.

The drawing is based largely on your pipe line plans NM-PF-5307, and Addition to Pumping Layout, NM-PF-5309. In neither case do we find the exact location of the well with relation to stationing on the pipe line. Our tie to the point of diversion 0+00, I find, has been computed to a point on a tangent passing through 0+7.5, and PC=9+91.9 as shown on sheet 1 of drawing 5307. If 0+7.5 is the end of the 3-inch transite pipe shown on drawing 5309, the point of diversion would fall approximately under the 24-inch cistern ring in the 500-gallon sump, or to the left thereof, on drawing 5309. We will appreciate it if you will supply sufficient additional information to permit us to determine the relation between the center of the well and station 0+7.5 on the pipe line traverse.

In adding up the distances along the pipe line on drawing 6950, I arrive at a total length of 61,980.3 feet, whereas the

master plan gives a total of 61,800 feet, of which 47,000 are 3-inch pipe, and 14,800 are 2½-inch transite pipe. Part of the difference seems to be due to the equations in the line, as the overall stationing is about 150 feet less than the diversion length.

We note from the master plan that the initial pump No. 1 is said to be a deep well pump, although the well seems to be only 50 feet deep. Verification of the type of pump will be appreciated.

We should also like to know exactly what the rated capacity of each of the two pumps is and would like to know approximately the maximum rate of pumping which has been maintained at any time in the past, and for how long. It is presumed that this will be determined by records of water levels in the 50,000-gallon reservoir at the Park headquarters after recorded periods of pumping. I may be somewhat confused as to the deep well pump in that it was presumably purchased originally for use at the deep well at the headquarters area. It may have been used only experimentally at the Puerco diversion.

We should like to have one print of drawing 6950 returned with the areas shown which have been or will be served by the pipe line. In this connection, we should also like to have the traverses if available of the complete pipe line from Pump No. 1 to the 10,000-gallon Rio Puerco reservoir. We should also like to have the locations of 2½-inch and 3-inch pipe shown along the traverse and should like to have the elevations of the top and bottom of the 10,000 and 50,000-gallon reservoirs both indicated and should like to know the approximate average water level in the well, which of course will be shown if we are supplied with the standard record of well. We show an elevation at 0/00 on the pipe line of 5,319.4, which is presumably only the elevation of the invert of the beginning of the pipe line and is not the top, bottom, or water level of the well.

We should also like to know the shape and dimensions of the 10,000 and 50,000-gallon reservoirs, both of which are presumably of concrete construction. If available, it will also be helpful to have copies of the pumping records for 1948 or 1949, broken down at least by months, in order to determine approximately how much water is used in proportion to the recorded Monument attendance. The figures for 1949, of course, will not be available until after the close of this month, but there is no rush order to get out this water right filing. We have already deferred action once when we doubted that the

State Land Commissioner would accept a filing without proof that the diversion was from the underground flow of the river and not from percolating water. This situation, of course, has changed since the State water laws have been amended to provide for recording of even those wells which divert percolating water when the volume of diversion is sufficiently large.

(SGD.) A. VAN V. DUNN.

A. van V. Dunn
Acting Chief Engineer

Attachments 3

In duplicate

AvanVDunn:sh

January 19, 1945.

MEMORANDUM for the Regional Director, Region Three.

Reference is made to the memorandum of January 2 by Park Naturalist Keller to the Superintendent of Petrified Forest National Monument with regard to chemical analyses of the wells used at that monument.

From the data it appears quite evident that the wells in the Puerco River Valley are diverting the underground flow of the river itself, and that at times practically all of the river flow is below the surface. If or when it is proved that the source of supply is the underground flow of the river, it will be in order to file applications for appropriation of the water. If we cannot prove that the underground flow is river flow as distinguished from percolating waters, the State does not at this time have authority to issue a permit or license for such appropriation.

We have a similar case at Montezuma Castle National Monument where we have not yet proved to the satisfaction of the State Water Rights Engineer that the source of well supply is the subsurface flow of Beaver Creek.

We should like to know whether Mr. Keller feels that an adequate proof could be made for the well at Petrified Forest at this time, and before he expresses such an opinion he should refer to my analysis with the hypothetical cross section dated April 20, 1937, and to the Regional Geologist's report of approximately the same time which did not seem to constitute sufficient proof at that time.

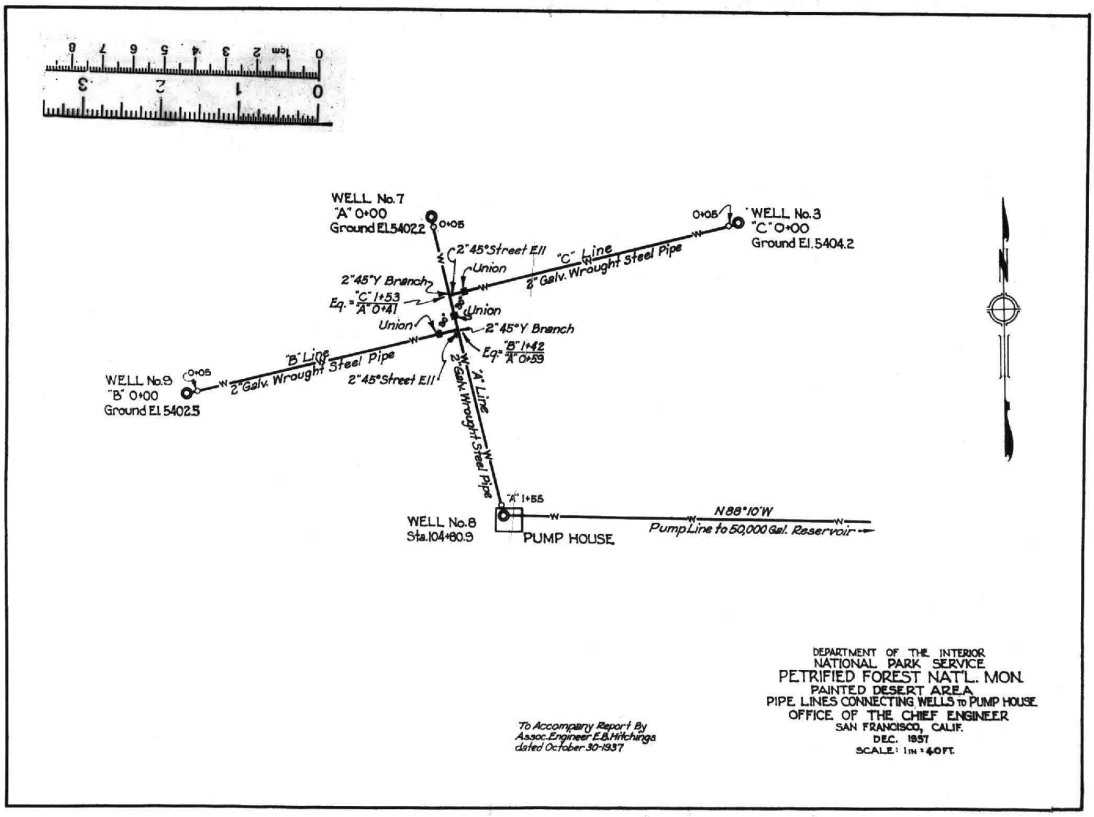
In the case of both Petrified Forest and Montezuma Castle wells, proof that is apparently needed is to add fluoresceein or some color to the stream far enough above the wells and in sufficient quantity to obtain a showing in the water running through the well. There is probably no urgency about the matter, but a project for such a test should be included in the postwar program, and the work and cost involved should be worked up by some one in the field who is familiar both with the local conditions and the methods involved in such work. It is my understanding that the Geological Survey now has a laboratory for analysis of water located at Albuquerque and that if there is no one in the Service familiar with these problems at this time some help might be obtained there.

(illegible) NOV. 30 '37

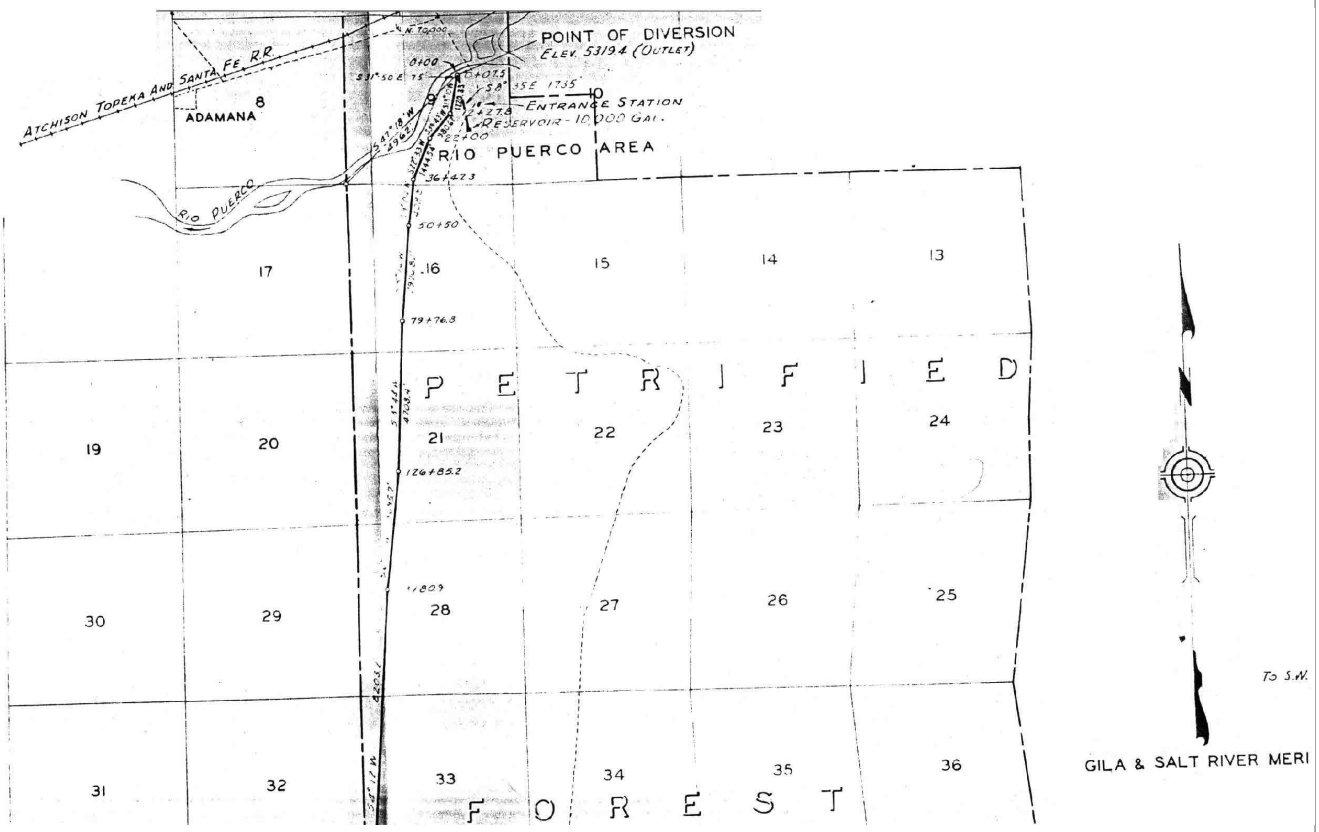
Chief, Water Rights Division.

AvVDish.
In duplicate.

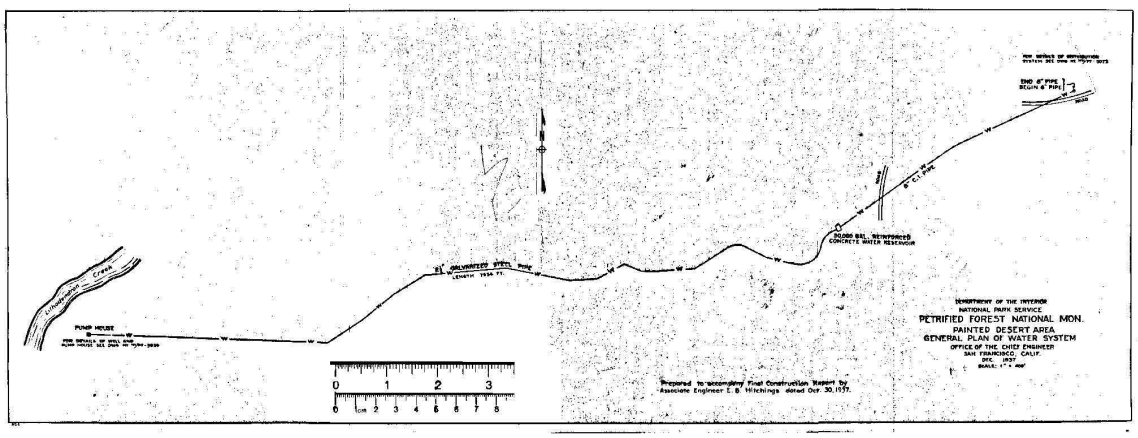
12-00-1957: topographical map of painted desert area: pipe lines connecting wells to pump house



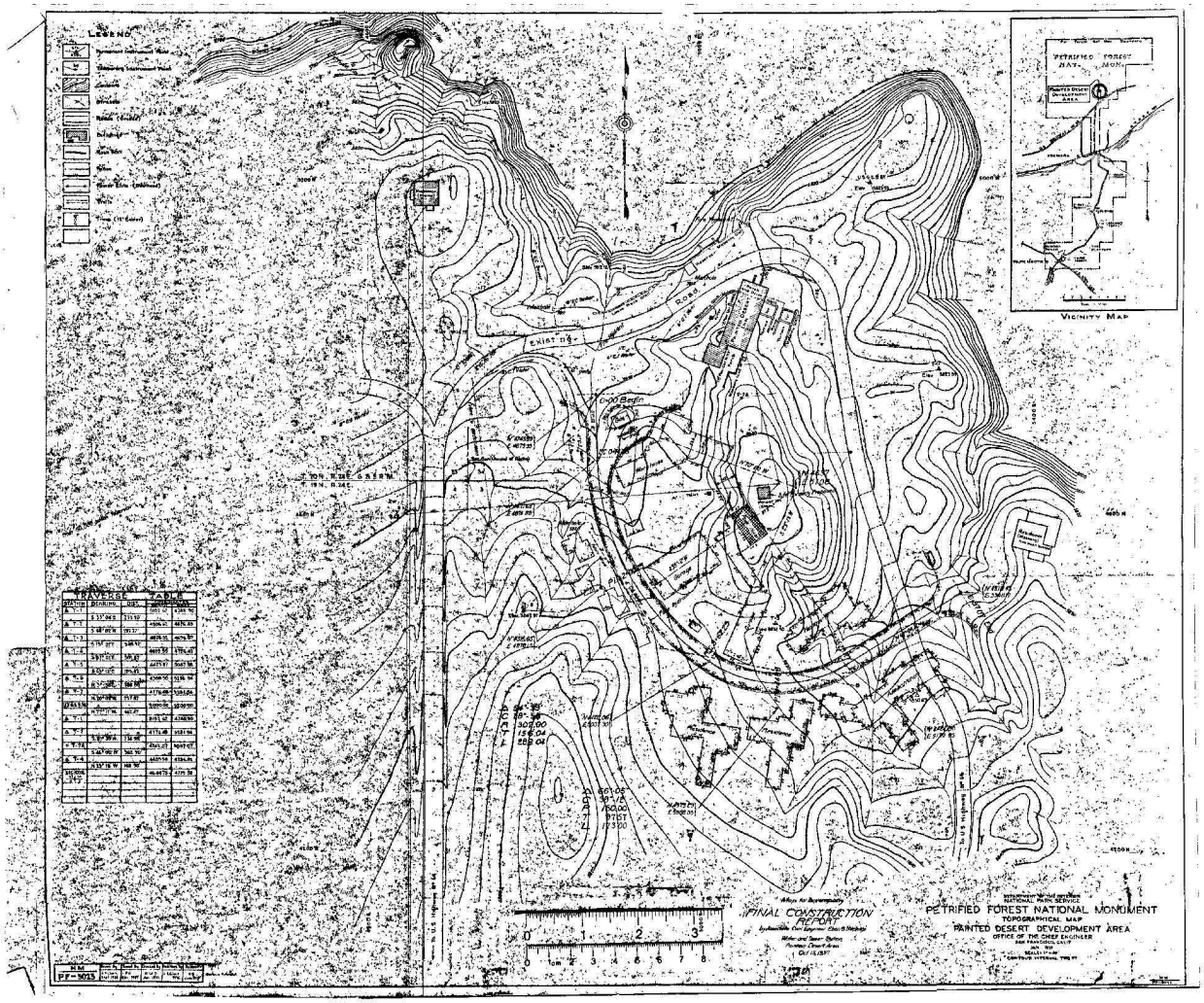
00-00-0000: topographical map of pefo

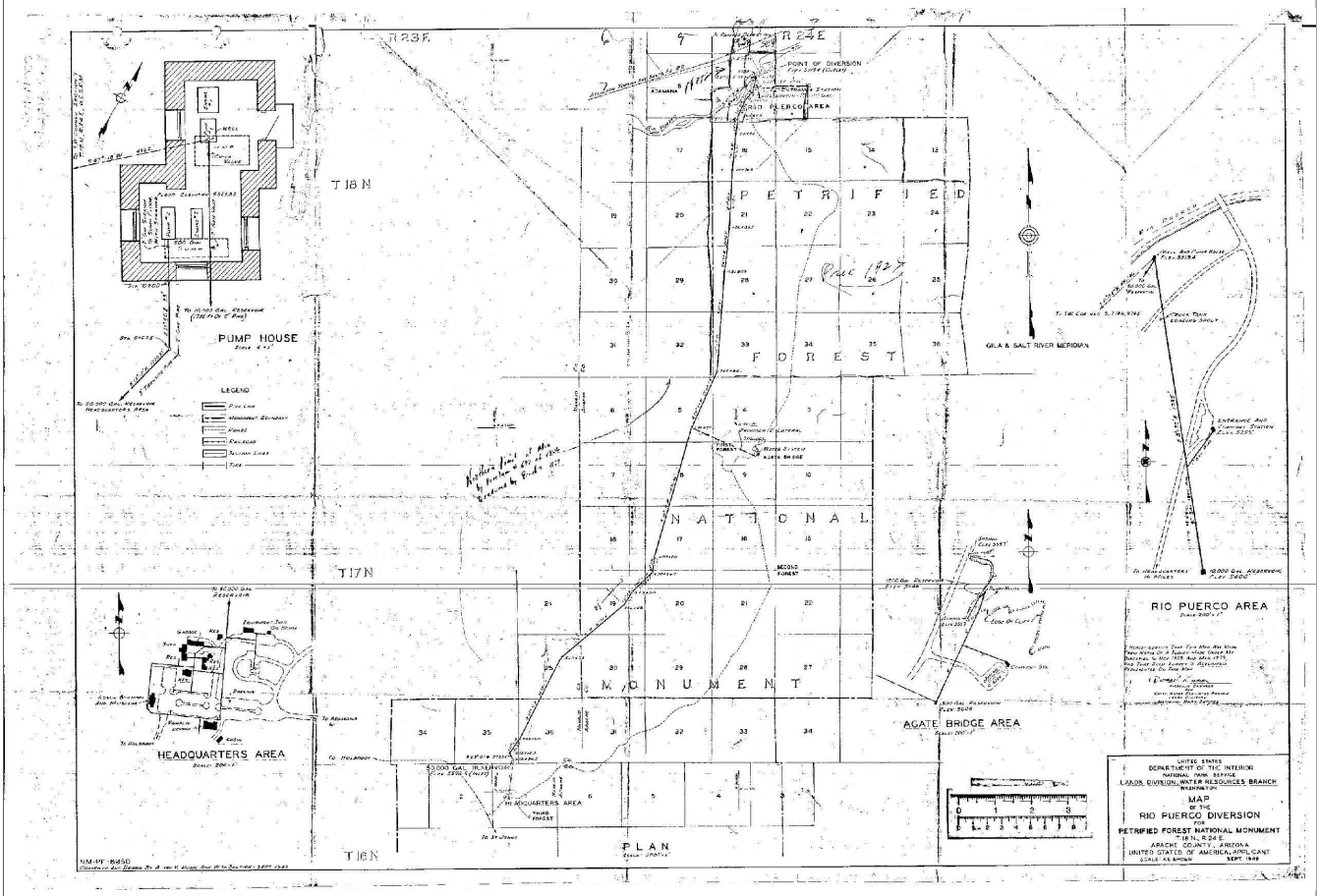


12-00-1937: map of the general plan of the water system - painted desert area



01-00-1938: topographic map of pefo - painted desert development area





Docket Information

Number of Documents in Docket 121

Documents Dated from 6/26/1933 to 5/17/2000

Docket Compiled: 6/7/2011