



WATER-RIGHT DOCKET

Chaco Culture National Historical Park

Docket No: 1

S&MC SPREADER DAMS

Preliminary Docket Information

00-00-0000: water docket information

WATER DOCKET INFORMATION

A R E A CHACO CANYON N M

DOCKET NO. 1

APPLICATION NO. _____

PERMIT NO. _____

CERTIFICATE NO. _____

TITLE OF DOCKET DIVERSION DAMS

PRIORITY Nov. 8, 1950

REMARKS: _____

Area: Chaco Canyon NM Docket #1
Title of Docket: Diversion Dams

1. Water Spreading Dikes, drawing No. 2041, dated March 2, 1951
2. Test Well Record submitted by Memo to Superintendent, Chaco Canyon NM from Hydraulic Engineer, Water Resources, SWR dated 11/26/73,

Chaco Canyon National Monument
Water Right Docket #1
Outline of Assembly - Correspondence

1. Drawing 2041
2. Memorandum of March 7, 1951 to Regional Engineer from Engineer Conn regarding construction of Soil and Moisture Conservation Diversion Dams at Chaco Canyon.
3. Memorandum of July 9, 1951 to Director from Assistant Regional Director regarding water right considerations in connection with Soil and Moisture Conservation Spreader Dams at Chaco Canyon.
4. Memorandum with attachment to Director from Regional Chief of Lands, February 25, 1959.

Chaco Canyon Docket #1

See official water right
filing map presented to the
State, May 17, 1977 in
map tube

THE MAP TUBE COULD NOT BE FOUND AT THE TIME OF SCANNING CHCU DOCKET 01.

SIGNATURE David Curtis DATE 4/9/98



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

**S. E. REYNOLDS
STATE ENGINEER**

November 2, 1973

**Bataan Memorial Building
STATE CAPITOL
SANTA FE, NEW MEXICO 87501**

Mr. Garland Moore
Hydraulic Engineer
National Park Service
Southwest Region
P. O. Box 728
Santa Fe, New Mexico 87501

Dear Mr. Moore:

Enclosed is copy of a portion of the San Juan Decree with-
in Chaco Canyon National Monument which is the only water
right of record in this office.

Very truly yours,

S. E. Reynolds
State Engineer

By:

M. B. Compton
M. B. Compton
Engineer
Water Rights Division

MBC:fr

**ADJUDICATED RIGHTS OF INDIVIDUAL CANALS, DITCHES, CARRIERS AND
RESERVOIRS, AND LAND OWNERS USING WATERS THEREUNDER OR
THEREFROM IN CAUSE NO. 01690, DISTRICT COURT,
SAN JUAN COUNTY, NEW MEXICO**

Name of Ditch, Carrier or Reservoir: Westbrook Spreaders.

Type of Organization: Individual.

Source of Water Supply: Kin Lazin Wash and Indian Creek.

Diversion Priority Date: March 3, 1934. Priority No. 1.

Maximum Rate of Diversion at Headgate or Intake of Ditch in Cubic Feet per Second of
Time for Irrigation Purposes: 34.5.

Total of Irrigated Acres: 716.7.

Additional Rights: In addition to the waters diverted for irrigation of lands, this ditch and
the land owners and water users thereunder have the subsisting vested right to demand,
divert, receive and use such amount and amounts of waters, as are from time to time bene-
ficially needed and required, for domestic and stock watering purposes.

Exhibits: Photostatic copy of Notice of Intention to Make Forman Application Filed as
Exhibit No. 102. Photostatic copy of "Application for Permit," filed as Exhibit No. 103.

Remarks: Water Right File No. 2034 in Office of State Engineer. Application is for the ap-
propriation of flood waters.

**STATE OF NEW MEXICO, IN THE DISTRICT COURT, COUNTY OF SAN JUAN, CAUSE No. 01690,
INDEPENDENT DITCH CO., ET AL, VS. McDERMOTT DITCH CO., ET AL**

Name of Ditch: Westbrook Spreaders. River: Kin Lazin Wash & Indian Creek.

Land Owner: Westbrook, I. K. Acres Irrigated: 716.7.

Engineer's Report: Vol. II Page 435. Vol. III Sheet No. 85-86-87.

Land Description:

In Sections 4, 5, Twp. 19 N., Rge. 13 W., in Sections 17, 18, 20, 28, 29, 32, 33, Twp. 20 N., Rge. 13 W.

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

OCT 31 1973

L54

New Mexico State Engineer's Office
Division of Water Rights
Bataan Memorial Building
Santa Fe, New Mexico 87501

Attention: Mr. Donald Gray

Gentlemen:

We are requesting your record of all water rights on file in T. 20 N.,
R. 8 W. and T. 21 N., Rs. 10, 11 and 12 W., N.M.P.M., surrounding and
within Chaco Canyon National Monument.

Sincerely yours,

(SIGNED)
Garland Moore
Hydraulic Engineer

cc:
DDS (Vic Berte', Room 2214)
PSN-SWR

GMoore:ba 10/31/73

CHACO CANYON

- A. Executive Orders (EO's), Secretary's Orders (SO's), Public Land Orders (PLO's) and Special Land Use Permits (SLUP's) (intrafederal legislation) See SO, EO, PLO, SLUP list.
- B. The following comments pertain to those areas shown by NPS Map dated 3/72 to be within Monument boundaries but in nonfederal ownership (NFO) (See 1a and 1b):
 1. The NE $\frac{1}{4}$ of Sec. 4, T 21 N., R 11 W. passed out of federal ownership (FO) as Indian Trust Patent (1A 832) 680268 dated 5/29/1919 (See 13). Presently remains as Indian Allotment.
 2. The NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Sec. 25, T 21 N., R 12 W. passed out of FO as part of Railroad Grant Patent (RRG Pat.) 26540 dated 11/5/1908 (See 9). NPS Map of 3/72 shows it to be currently owned by New Mexico and Arizona Land Company (See 3a).
 3. The SE $\frac{1}{4}$ of Sec. 17, T 17 N., R 10 W. passed out of FO as part of RRG Pat. 500899 dated 11/27/1915. Two curative patents were subsequently issued: RRG Cur. Pat. 551617 dated 10/23/1916 and RRG Cur. Pat. 567459 dated 2/14/1917 (See 12). Present ownership is unknown.
 4. The SE $\frac{1}{4}$ of Sec. 28, T 17 N., R 12 W. passed into NFO as Indian Trust Patent (1A 1002) 680380 dated 5/31/1919. BLM records show that this patent was canceled on 7/17/1930 (See 15). Apparently a gap exists here, as BLM had no further entries on this land yet the NPS Map dated 3/72 shows the land to be owned by the Atlantic and Pacific Railroad Company (See 3b); how it passed into this NFO is unknown at this time.
- C. These comments refer to those areas shown by NPS Map dated 3/72 to be in FO (See 1a and 1b and 3a, 3b, 3c).
 1. Of the areas shown to have been acquired via Presidential Proclamation dated 3/11/1907 (D-9) (See 3a, 3b, 3c, and 8a, 8b):
 - a. The following lands never passed out of FO, and the only entry shown in BLM records is the 1907 Proclamation (See 2a and 2b).

T 21 N., R 10 W., Secs. 8, 18, 20, 22, 24, 26, 28

T 21 N., R 11 W., Secs. 4 (S $\frac{1}{2}$ plus NW $\frac{1}{4}$); 8; 10; 12 (N $\frac{1}{2}$ plus N $\frac{1}{2}$ S $\frac{1}{2}$ and Lots 4,6,7,8); 14 (W $\frac{1}{2}$ plus W $\frac{1}{2}$ E $\frac{1}{2}$); 20; 30 (S $\frac{1}{2}$, NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$)

T 20 N., R 8 W., Sec. 12 (S $\frac{1}{2}$)

b. All of:

T 21 N., R 10 W., Sec. 16

T 21 N., R 11 W., Sec. 2

T 21 N., R 12 W., Sec. 32, SE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$

were designated as School or State lands by the State Grant (SG) Act of Congress dated 6/20/1910 (See 10).
Also:

1. Prior to 1910, Sec. 16, T 21 N., R 10 W. had been included in the Territorial Reservation Act of Congress dated 7/22/1854 and the Territorial Grant Act dated 6/21/1898 (See 4).
2. These areas were reacquired via Indemnity Lists (IL) (See 16). (See reverse side of 16.)
3. According to BLM, only Section 32, T 21 N., R 12 W. was included in the SG Amends Act dated 1/25/1927 (extending act of 6/20/1910 to Mining Lands, subject to prior rights)(See 18).

c. The E $\frac{1}{2}$ E $\frac{1}{2}$ of Sec. 14, T 21 N., R 11 W. passed out of FO as Homestead Entry (HE) SF 02801 dated 11/26/1900. This patent was canceled on 4/26/1911 (See 6).

d. The W $\frac{1}{2}$ NW $\frac{1}{4}$ (also described as lots 1 and 2) of Sec. 30, T 21 N., R 11 W. and lots 4,6,7,8 in the S $\frac{1}{2}$ S $\frac{1}{2}$ of Sec. 12, T 21 N., R 11 W. were in NFO briefly as part of HE SF 02800 dated 5/14/1900, amended 3/26/1901, and relinquished on 1/28/1907 (See 5a and 5b).

2. The areas:

T 21 N., R 10 W., Secs. 17, 21

T 21 N., R 11 W., Secs. 3,11,13

passed out of FO as part of Railroad Grant (RRG) Patent 6 dated 3/5/1903 (See 7). They were reacquired by Warranty Deed from the University of New Mexico on 1/7/1949 (D-11). Oil, gas and mineral rights were excepted in the deed (See 22).

3. The areas:

T 21 N., R 10 W., Secs. 7, 19

T 21 N., R 11 W., Secs. 1, 9, 17, 19

had originally passed out of FO as part of RRG Pat. 6 dated 3/5/1903 (See 7). They were reacquired via Quitclaim Deed (QCD) LC 047026 from Santa Fe and Pacific Railroad dated 7/15/1933 (D-1) (See 20).

4. Secs. 23, 25, 27, 29 of T 21 N., R 10 W. passed out of FO as part of RRG Pat. 6 dated 3/5/1903 (See 7). They were reacquired via QCD LC 047974 dated 12/30/1933 from Santa Fe and Pacific Railroad Co. (D-2) (See 21).

5. Of the areas, according to NPS Map of 3/72 to have been acquired via Presidential Proclamation dated 1/10/1928 (D-10) (See 3a, 3b, 19a and 19b) the following comments can be made:

- a. The SW $\frac{1}{4}$ of Sec. 10, T 20 N., R 8 W. never passed out of FO, and the Proclamation of 1928 is the only entry recorded by BLM (See 2b).
- b. Oil and gas permit SF 046762 was issued on 5/23/1924 for all of Sec. 24, T 21 N., R 11 W. This permit was canceled on 4/12/1928 (See 17).
- c. The SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 32, T 21 N., R 12 W. passed into State ownership with the SG Act of Congress dated 6/20/1910 (See 10) and was reacquired via IL Base 301 dated 6/3/1957 (See 16) (Park Service deed file does not mention IL Bases).

6. Lots 1,2,3,5 and 9 in the S $\frac{1}{2}$ S $\frac{1}{2}$ of Sec. 12, T 21 N., R 11 W. passed out of FO as HE Patent 294955 dated 10/5/1912. Supplemental Patent 1106760 was issued on 2/3/1940 (See 11). The lands were reacquired via condemnation proceedings (Civil No. 1522) on 6/10/1952 (D-12). (BLM had no record of this transaction.)

- D. The following comments pertain to land not previously mentioned which is not included within present boundaries but shown by NPS Map of 6/68 to be proposed additions to the park (See 1a, 1b).

- 1. The NE $\frac{1}{4}$ Sec. 28, T 17 N., R 12 W. passed out of FO as Indian Tract Patent (1A 1000) 680378 dated 5/31/1919. Apparently it is still in NFO, but this needs further verification (See 14).
- 2. The SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 32, T 21 N., R 12 W. passed out of FO as State Land with the SG dated 6/20/1910 (See 10), SG amends Act 1/25/1927 (See 18), and School Land Patent 1182675 dated 6/2/1958 (See 23).

3. All of Sec. 5, T 20 N., R 12 W. passed out of FO as part of RRG Pat. 26540 dated 11/5/1908 (See 9).
4. The NE $\frac{1}{4}$ NE $\frac{1}{4}$ (Lot 8) of Sec. 6, T 20 N., R 12 W. showed the following entries at BLM.
 1. (All the following involved the entire NE $\frac{1}{4}$) (See 19.5):
 - a. Oil Gas Permit SF 055405 issued 4/7/1928 and canceled 8/8/1929.
 - b. Oil Gas Lease NM 01985 dated 4/1/1952 expired 3/31/1962.
 - c. Oil Gas Lease NM 0273713 dated 7/1/1962 terminated 6/30/1964.
 - d. Private Exchange (PX) Patent 30660065 issued 11/10/1965.
 - e. Oil Gas Lease NM 7465 issued 10/1/1968.
 2. Lots 8,9,10, Sec. 6, T 20 N., R 12 N. (See 25 for lot designations) were issued Oil Gas Lease NM 0556955 dated 6/1/1965. This lease was terminated on 5/31/1967.

Santa Fe 077735
The Regents of the University
of New Mexico

June 23, 1948

Preliminary Opinion

An examination has been made of the title data relating to Taylor Grazing exchange, Santa Fe 077735, of The Regents of the University of New Mexico, involving certain land in San Juan County, New Mexico.

The land is described in a warranty deed, executed by The Regents of the University of New Mexico, on April 3, 1948, recorded May 28, 1948, in Deed Book 128, at page 53, of the records of San Juan County, New Mexico.

Abstracts Nos. C-1386, C-1558 and C-1840 have been prepared by The Commonwealth Title Company, Farmington, New Mexico, last certified to on January 10, 1948, and covering the period of time since the issuance of patents by the United States to the Santa Fe Pacific Railroad Company. In some respects, these abstracts are so brief that we are unable to evaluate the instruments abstracted. Additional information must be supplied in regard to the following:

1. There is no conveyance from the Railroad Company covering secs. 3 and 11, T. 21 N., R. 11 W., although item 4, abstract No. C-1386, makes reference to such a conveyance. Likewise item 4, abstract No. C-1840, refers to such a conveyance, but there is no deed from the Company to Richard Wetherill for secs. 17 and 21, T. 21 N., R. 10 W. A further search may disclose conveyances for these sections.

2. Item 11 of Abstract C-1386, shows a Special Master's Deed. Since there is no conveyance from Epimenio A. Miera, the grantee in item 6, we presume that this was the result of foreclosure of the mortgages shown in items 8, 9 and 10, of the same abstract. If this presumption is correct, sufficient take-off of the proceeding should be shown in the abstract so that we may determine whether or not the deed based thereon is adequate for the intended purpose.

3. Item 1 of Abstract No. C-1558, shows a final decree, quieting title to secs. 3 and 13, T. 21 N., R. 11 W., in The Regents of the University of New Mexico. The abstract should show briefly a statement of the proceedings leading up to the decree, such as the nature of the complaint, names of the parties, service, publication, returns, and default, in order that we may determine whether or not the statute has been complied with.

Santa Fe 077735

-2-

4. The Regents of the University of New Mexico are required to execute a correction deed, which needs no stamps, but which should recite " in consideration of an exchange of land under the provisions of section 8 of the Act of June 28, 1934 (48 Stat. 1269) as amended June 26, 1936 (49 Stat. 1976; 43 U.S.C. sec. 315g)."

~~Upon compliance with the foregoing, the title will be reexamined and approved, if found satisfactory.~~

5. The abstracts should be extended to show the recordation of both deeds and that there are then no unpaid taxes or other outstanding obligations constituting a lien against the offered base land.

Upon compliance with the foregoing, the title will be reexamined and approved, if found satisfactory.


Acting Title Examiner.

ADDRESS ONLY THE
DIRECTOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON 25, D. C.

IN REPLY REFER TO:

Santa Fe 077735 "ID"

DEC 2 - 1948

DECISION

The Regents of the University : Sec. 8, Private Exchange
of New Mexico :

Additional Requirements.

On January 15, 1945, The Regents of the University of New Mexico, Albuquerque, New Mexico filed application Santa Fe 077735, for an exchange of lands under the provisions of sec. 8 of the act of June 28, 1934 (48 Stat. 1269), as amended June 26, 1936 (49 Stat. 1976, 43 U.S.C. 315g). Conditional approval of the exchange was given and publication thereof directed by this office November 4, 1947.

On June 15, 1948, there was received in this office, a warranty deed, evidence of title and other papers involving the exchange. An examination has been made of the title data relating to the exchange.

The offered land is described in a warranty deed, executed by The Regents of the University of New Mexico on April 3, 1948, recorded May 28, 1948, in Deed Book 128, at page 53, of the records of San Juan County, New Mexico.

Abstracts No. C-1386, C-1558, and C-1840 have been prepared by The Commonwealth Title Company, Farmington, New Mexico, last certified to on January 10, 1948, and covering the period of time since the issuance of patents by the United States to the Santa Fe Pacific Railroad Company. In some respects, these abstracts are so brief that we are unable to evaluate the instruments abstracted. In view thereof, additional information must be supplied in regard to the following:

1. There is no conveyance from the Railroad Company covering sections 3 and 11, T. 21 N., R. 11 W., although item 4, abstract No. C-1386, makes reference to such a conveyance. Likewise item 4, abstract No. C-1840, refers to such a conveyance, but there is no deed from the company to Richard Wetherill for sections 17 and 21, T. 21 N., R. 10 W. A further search may disclose conveyance for these sections.

2. Item 11 of Abstract C-1386 shows a Special Master's Deed. Since there is no conveyance from Epimenie A. Miers, the grantee in item 6, we presume that this was the result of foreclosure of the mortgages shown in items 8, 9, and 10, of the same abstract. If this presumption is correct, sufficient take-off of the proceeding should be shown in the abstract so that

Santa Fe 077735 "LD"

we may determine whether or not the deed based thereon is adequate for the intended purpose.

3. Item 1 of Abstract No. C-1558, shows a final decree, quieting title to Sections 3 and 13, T. 21 N., R. 11 W., in The Regents of the University of New Mexico. The Abstract should show briefly a statement of the proceedings leading up to the decree, such as the nature of the complaint, names of the parties, service, publication, returns, and default, in order that we may determine whether or not the statute has been complied with.

4. The Regents of the University of New Mexico are required to execute a correction deed, which need no stamps, but which should recite "in consideration of an exchange of land under the provisions of section 8 of the Act of June 28, 1934 (48 Stat. 1269) as amended June 26, 1936 (49 Stat. 1976) 43 U.S.C. 315g)".

5. The abstracts should be extended to show the recordation of both deeds and that there are then no unpaid taxes or other outstanding obligations constituting a lien against the offered base land.

Upon compliance with the foregoing, the title will be reexamined and approved, if found satisfactory.

The abstracts of title are attached. The applicant has 30 days from receipt of notice hereof within which to furnish the required evidence or to appeal. In the absence of action within that period, the application will be rejected and the case closed.

Marion Clowson
Director.

Attachment

cc: A.M., (1)
R.A., Reg. V (3)
cc: *Pink Sheet*
GHD/gbd: 11/26/48

[N° C-1840]

ABSTRACT OF TITLE

*To the following described Real Estate situated in
San Juan County, New Mexico*

Section Seventeen (17) and Section Twenty
One (21) in Township Twenty one (21)
North, Range Ten (10) West, N.M.P.M.

PREPARED FOR

SIMMS, MODRALL, SEYMOUR
Attorneys at Law

COMPILED BY

THE COMMONWEALTH TITLE COMPANY

E. P. WOODS

L. P. WOODS

BONDED ABSTRACTERS

FARMINGTON, NEW MEXICO

Entry No. 1

ABSTRACT
NO.
C-1840UNITED STATES OF AMERICA
By T. Roosevelt, President
By F. M. McKean, Secretary
C. H. Bush, Recorder, G.L.C.
(SEAL)UNITED STATES PATENT
Dated March 5, 1903Filed: Oct. 5, 1910, 8:30 A.M.
Recorded: Book 27, page 292

TO

CONSIDERATION: Conformity to
Acts of CongressTHE SANTA FE PACIFIC RAILROAD
COMPANY, Successor in Interest
to the Atlantic and Pacific
Railroad Company

"WHEREAS by the Act of Congress approved July 27, 1866, entitled 'An Act granting lands to aid in the construction of a Railroad and Telegraph Line from the State of Missouri and Arkansas to the Pacific Coast', there was granted to the Atlantic and Pacific Railroad Company, its successors and assigns, for the purpose of aiding in the construction of said Railroad and Telegraph line to the Pacific Coast, every alternate Section of public land, not mineral, designated by odd numbers, to the amount of twenty alternate Sections per mile, on each side of said Railroad line, as said Company may adopt, through the Territories of the United States, and ten alternate Sections of land per mile on each side of said Railroad whenever it passes through any State, and whenever on the line thereof, the United States have full title not reserved, sold, granted, or otherwise appropriated, and free from pre-emption, or other claims or rights, at the time the line of said road is designated by a plat thereof, filed in the office of the Commissioner of the General Land Office, and---Whereas, it is further provided by said Act, that "Whenever prior to said time, any of said sections or parts of sections shall have been granted, sold, reserved, occupied by homestead settlers or pre-empted or otherwise disposed of, other lands shall be selected by said Company in lieu thereof, under the direction of the Secretary of the Interior, in alternate sections, and designated by odd numbers not more than ten miles beyond the limits of said alternate sections, and not included in the reserved numbers, and ---Whereas, official statements bearing dates December 17, 1880, April 19, 1891, January 7, and December 16, 1882, and November 3, 1883, have been filed in the General Land Office, showing that the Commissioners appointed by the President under the provisions of the fourth section of said Act of Congress approved July 27, 1866, have reported to him that the line of said railroad and telegraph from a point in Township 8 N., R. 2 E. Territory of New Mexico, and ending at a point on the West bank of the Colorado River in the State of California, has been constructed and fully completed and equipped in the manner prescribed by the said Act of Congress and --

WHEREAS, certain tracts of land have been selected by the duly authorized land agent of the said Atlantic and Pacific Railroad Company as shown by his original list, approved by the local officers and now on file in the General Land Office, and ---

WHEREAS, it is shown by evidence filed in the office of the Secretary of the Interior, that the Santa Fe Pacific Railroad Company, under a purchase at foreclosure sale of the property and rights of the Atlantic and Pacific Railroad Company and by compliance with the provisions of the Act of Congress approved March 3, 1897, (29 Stat., 322) became the lawful successor in interest of the said Atlantic and Pacific Railroad Company; and--

Sheet No. 1

Entry No. 1 Continued

ABSTRACT
NO.
C-1840

Whereas the said tracts of land lie coterminous with the constructed line of road, and are particularly described as follows, to-wit:

Section 17 and 21, Twp. 21 N., R. 10 W., N.M.M.
(And other lands)

"Yet excluding and excepting from the transfer by these presents, 'All Mineral Lands', should any such be found to exist in the tracts described in the foregoing; but this exclusion and exception according to the terms of the Statute, shall not be construed to include lands containing coal and iron."

Recorded in Vol. 31, pages 180 to 186 inclusive.

Sheet No. 2

X-1-

Entry No. 2

ABSTRACT
NO.
C-1840

THE SANTA FE PACIFIC RAILROAD
COMPANY, (Hereinafter called The
Santa Fe Pacific Company), a
Corporation created under and by
virtue of an Act of Congress
approved March 3, 1897.

SECRETARY'S DEED No. 14732
Dated May 30, 1903

Filed: Nov. 16, 1903, 4:00 P.M.
Recorded: Book 14, page 14

CONSIDERATION: \$1.00

TO

THE SANTA FE PACIFIC DEVELOPMENT
COMPANY, (Hereinafter called The
Development Company), a
California Corporation

"WHEREAS by the Act of Congress approved July 27, 1866, entitled,
'An Act granting lands to aid in the construction of a Railroad
and Telegraph Line from the States of Missouri and Arkansas to
the Pacific Coast', The Atlantic and Pacific Railroad Company
was incorporated;

"WHEREAS by Section 3 of said Act of Congress there was granted
to said Atlantic and Pacific Railroad Company for the purpose of
aiding in the construction of said Railroad and Telegraph line
to the Pacific Coast, the alternate sections of public lands, not
mineral, designated by odd numbers, to the amount of twenty
alternate sections per mile on each side of said Railroad line,
as in said Section 3 provided; and

"WHEREAS, Thereafter said Atlantic and Pacific Railroad Company
executed its certain mortgages or deeds of trust, whereby it
mortgaged and conveyed to the trustees therein named respectively,
its railroad and telegraph line known as the Western Division of
the Atlantic and Pacific Railroad, beginning at Albuquerque on
the Rio Grande River, in the Territory of New Mexico, and thence
extending to the Colorado River and thence by the most practicable
and eligible route to the Pacific Ocean, together with its
franchises, privileges and other rights and all other property
of every description composing or pertaining to the said Railroad
and Telegraph line, including the lands and rights granted to
said Atlantic and Pacific Railroad Company by the aforesaid
Section 3 of said Act of Congress; and

"WHEREAS, in certain causes thereafter instituted and pending in
the Courts of New Mexico, Arizona and California for the fore-
closure of said mortgages and deeds of trust, such proceedings
were had that the said railroad and telegraph line, franchises,
privileges and other rights and all other property of every
description pertaining to the said Railroad and Telegraph line,
and also the lands and rights granted to said Atlantic and
Pacific Railroad Company by said Section 3 of said Act of Congress
were sold in pursuance of decrees entered in said causes, and
such sale having been duly confirmed by said Courts, were
conveyed by Owen N. Marron, the Special Master appointed by said
Courts, unto Aldace F. Walker, R. Somers Hays and Victor Morawetz
by deed dated the second day of June, 1897; and

"WHEREAS, said Aldace F. Walker, R. Somers Hays and Victor Morawetz
accepted the provisions of the Act of Congress approved March 3,
A.D. 1897, entitled, 'An Act to define the rights of purchase
under mortgages authorized by an Act of Congress approved April
twentieth, 1871, concerning the Atlantic and Pacific Railroad
Company', and, by a proper deed or instrument filed with and
approved by the Secretary of the Interior, as prescribed by said

Sheet No. 3

2/1

Entry No. 2 Continued

ABSTRACT
NO.
C-1840

Act of Congress, relinquished and conveyed to the United States of America all their claim, right, title and interest to all lands granted by the United States of America to the Atlantic and Pacific Railroad Company embraced both within the granted and indemnity limits which were adjacent to and coterminous with the uncompleted portions of said Railroad of the Atlantic and Pacific Railroad Company on the 6th day of July, 1886; and

"WHEREAS, said purchasers, Aldace F. Walker, R. Somers Hays and Victor Morawetz, in accordance with said Act of Congress approved March 3, A.D. 1897, duly organized and constituted the Santa Fe Pacific Company, party of the first part hereto; and by deed dated the 24th day of June, A.D. 1897, duly conveyed to the Santa Fe Pacific Company all and singular all the said right, title and interest acquired by them in and to the said Railroad and Telegraph line, franchises, privileges and other rights and property of every description composing or pertaining to said Railroad and Telegraph line, including said lands and rights granted to said Atlantic and Pacific Railroad Company by said Section 3 of said Act of Congress approved July 27, 1866, excepting, however the claim, right, title and interest theretofore relinquished and conveyed by them, as aforesaid, to the United States of America; and

"WHEREAS, thereafter by a certain deed dated December 24, 1898, Edward Wilder conveyed to the Santa Fe Pacific Company certain lands which theretofore had been granted to said Atlantic and Pacific Railroad Company by the aforesaid Act of Congress approved July 27, 1866, such lands having been theretofore sold and conveyed by the Atlantic and Pacific Railroad Company to George F. Crane and the title thereto having been acquired by the said Edward Wilder:

"NOW, THEREFORE, This Indenture Witnesseth, that for and in consideration of the sum of \$1.00 to it duly paid by the Development Company, at or before the ensembling and delivery of these presents and of other valuable considerations, the receipt whereof is hereby acknowledged, The Santa Fe Pacific Company has granted, bargained, sold, assigned, released, conveyed, confirmed and set over and by these presents does grant, bargain, sell, assign, release, convey, confirm and set over to The Development Company, its successors and assigns forever, all the right, title, interest, claim and demand of the Santa Fe Pacific Company in and to all lands and all rights which were granted to The Atlantic and Pacific Railroad Company under and by virtue of said Section 3 of said Act of Congress approved July 27, 1866, including all lands for which patents have been granted or for which patents may hereafter be granted, whether such lands have been selected or surveyed or may hereinafter be selected or surveyed, and whether such lands be located within the limits specifically designated in said Section 3 of said Act of Congress approved July 27, 1866, or be lands selected in lieu thereof not more than 10 miles beyond said limits; and including all lands to which the Santa Fe Pacific Company is or may be entitled to receive by way of indemnity in lieu of lands, within its place or indemnity limits, hereby conveyed."

Except certain described lands not applicable to lands herein shown.

"To Have and to Hold the said lands and land grants and all other property, real, personal and mixed, rights, assets and appurtenances hereby conveyed or assigned or intended to be conveyed or assigned unto the Development Company, its successor or successors and assigns, forever.

Sheet No. 4

271

ABSTRACT
NO.
C-1840

Entry No. 2 Continued

"And the Santa Fe Pacific Company hereby irrevocably constitutes and appoints the Development Company, its successors and assigns, the Attorney-in-Fact of the Santa Fe Pacific Company at any and all times in the name or on behalf of the Santa Fe Pacific Company but at the sole cost and expense of the Development Company, to do any and all acts and things which the Santa Fe Pacific Company might or could lawfully do, for the purpose of perfecting or enforcing all the rights, titles, interest, claims, and demands hereby granted and conveyed or intended to be granted and conveyed, and to use the name of the Santa Fe Pacific Company for such purposes and also in and about any legal proceedings and suits, either at law or in equity, as the Development Company, in its discretion, may deem necessary or expedient, hereby ratifying and confirming all acts which the Development Company may do in the premises.

"And the Santa Fe Pacific Company further covenants that from time to time upon the request of the Development Company, it, the Santa Fe Pacific Company, will make, do, execute, acknowledge, and deliver all such further acts, deeds, and assurances in law as may be reasonably required for effectuating the intention of these presents and for the better assuring and confirming unto the Development Company, its successors and assigns, all and singular the premises, property, and rights hereby conveyed or assigned, or intended so to be.

"In Witness Whereof, on the day and year first above written, the Santa Fe Pacific Company, party of the first part, has caused this indenture to be signed by its President, and its Corporate Seal to be hereunto affixed, and the same to be attested by its Secretary.

(SEAL)

Attest:

L. C. Deming
Its Secretary

SANTA FE PACIFIC RAILROAD COMPANY

By E. P. Ripley
Its President

Form Accepted:

Victor Morawetz
Gen. Counsel."

ACKNOWLEDGED: Aug. 10, 1903, by Edward P. Ripley, President of the Santa Fe Pacific Railroad Company, before Edward J. Engel, N.P., Cook County, Ill. (SEAL). Commission expires April 17, 1905.

ACKNOWLEDGED: Aug. 17, 1903, by L. C. Deming, Secretary of the Santa Fe Pacific Railroad Company, before D. J. Sheehan, N.P., New York County, N.Y. Borough of Manhattan. (SEAL). Commission expires March 30, 1904.

Entry No. 3

ABSTRACT
NO.
C-1840

THE SANTA FE PACIFIC DEVELOPMENT
COMPANY, (Hereinafter called the
Development Company), a
California Corporation

DEED
Dated March 11, 1904

Filed May 17, 1904, 10:00 A.M.
Recorded: Book 14, page 66

TO

THE SANTA FE PACIFIC RAILROAD
COMPANY, (Hereinafter called the
Santa Fe Pacific Company), a
Corporation created and existing
by virtue of an Act of Congress
approved March 3, 1897.

CONSIDERATION: \$1.00 and other
valuable considerations

"WHEREAS, the party of the second part executed a deed bearing
date the 30th day of May, 1903, and duly recorded, conveying to
the party of the first part the lands, rights and privileges
hereinafter described and conveyed, and

"WHEREAS, it has been agreed between the parties hereto that the
party of the first part shall convey to the party of the second
part all of the right, title and interest acquired by the
party of the first part in and to said lands, rights and privilege
as conveyed to it by said deed:

"NOW, THEREFORE, This Indenture Witnesseth, that for and in
consideration of the sum of One Dollar, to it duly paid by the
said Santa Fe Pacific Company, at or before the ensembling and
delivery of these presents, and of other valuable considerations,
the receipt whereof is hereby acknowledged, the Development
Company has granted, bargained, sold, assigned, released, conveyed
confirmed and set over, and by these presents does hereby grant,
bargain, sell, assign, release, convey, confirm and set over to
the Santa Fe Pacific Railroad Company, its successors and assigns
forever, all the right, title, interest, claim and demand which
were conveyed by the Santa Fe Pacific Railroad Company by its
deed dated May 30th, 1903, to the Santa Fe Pacific Development
Company in and to all lands and all rights which were granted to
Atlantic & Pacific Railroad Company under and by virtue of
Section 3 of an Act of Congress approved July 27, 1866, including
all lands for which patents have been granted, or for which patent
might thereafter be granted, whether such lands had been selected
or surveyed or might thereafter be selected or surveyed, and
whether such lands were located within the limits specifically
designated in said Section 3 of said Act of Congress approved
July 27, 1866, or were lands selected in lieu thereof not more
than ten miles beyond said limits, and including all lands which
the Santa Fe Pacific Company was or might be entitled to receive
by way of indemnity in lieu of lands within its place or indemnity
limits.

"To Have and to Hold the said lands and land grants and all other
property, real, personal and mixed, rights, assets and appur-
tenances hereby conveyed or assigned, or intended to be conveyed
or assigned, unto the Santa Fe Pacific Company, its successor or
successors and assigns, forever.

"And the Development Company further covenants that from time to
time upon the request of the Santa Fe Pacific Company it, (the
Development Company) will make, do, execute, acknowledge and
deliver all such further acts, deeds and assurances in law as may
be reasonably required for effectuating the intention of these
premises, and for the better assuring and confirming unto the
Santa Fe Pacific Company, its successors and assigns, all and
singular the premises, property, and rights hereby conveyed or
assigned, or intended so to be.

Sheet No. 6

W/T

Entry No. 3 Continued

ABSTRACT
NO.
C-1840

"And the said Development Company does hereby surrender up and relinquish its appointment as Attorney-in-Fact of the Santa Fe Pacific Company as in said indenture of May 30, 1903, provided or set forth, and does hereby release the Santa Fe Pacific Company, its successors and assigns, as Attorney-in-Fact of the Santa Fe Pacific Company, in said indenture of May 30, 1903, provided and set forth.

"In Witness Whereof, on the day and year first above written, the Development Company has caused this indenture to be signed by its Vice President, and its Corporate Seal to be hereunto affixed and the same to be attested by its Assistant Secretary.

Approved as to form: SANTA FE PACIFIC DEVELOPMENT COMPANY
E. D. Kumon, By Howel Jones,
General Solicitor. Vice President

(SEAL)
Attest: G. Holterhoff, Jr.,
Assistant Secretary."

ACKNOWLEDGED: (Corporation Form) March 11, 1904, by Howel Jones, Vice President, and G. Holterhoff, Jr., Assistant Secretary, of the Santa Fe Pacific Development Company, before E. M. Astbursy, N.P., Los Angeles County, California. (SEAL). Commission expires Jan. 30, 1907.

ABSTRACT
NO.
C-1840

Entry No. 4

RICHARD WETHERILL and
MARIETTA PALMER WETHERILL,
his wife

TO

BENJAMIN T. B. HYDE

WARRANTY DEED
Dated Nov. 10, 1902

Filed: Nov. 12, 1902, 3 P.M.
Recorded: Book 13, page 25

CONSIDERATION: \$1.00 and other
good and valuable considerations

CONVEYS:

In Township 21 N., R. 10 West, all of Sec. 17, 640 acres,
and all of Sec. 21, 640 acres, and other lands.

The Township and Range above referred to lie North and
West of the N.M. Principal Base Line and Meridian.

Subject to all the reservations, exceptions and conditions
contained in deeds by the Santa Fe Pacific Railroad
Company to said Marietta Palmer Wetherill covering the
aforesaid lands.

ACKNOWLEDGED: Nov. 10, 1902, before Granville Pendleton, N.P.,
San Juan County, New Mexico. (SEAL). Commission expires Oct.
18, 1906.

Entry No. 5

BENJAMIN T. B. HYDE and
HELEN C. B. HYDE, his wife

TO

SCHOOL OF AMERICAN RESEARCH,
A New Mexico Corporation

WARRANTY DEED
Dated January 22, 1929

Filed: March 12, 1929, 11:15 A.M.
Recorded: Book 81, page 426

CONSIDERATION: \$1.00 and other
good and valuable consideration

CONVEYS:

All of Section 17 and 21 in Township 21 N., R. 10 W.

"Subject however, to all the reservations, exceptions and
conditions contained in deeds by the Santa Fe Pacific
Railroad Company to Marietta Palmer Wetherill covering the
aforesaid lands."

And also subject to unpaid taxes.

ACKNOWLEDGED: January 28, 1929, before H. H. Dorman, N.P., Santa
Fe, County, New Mexico. (SEAL). Commission expires December 29,
1929.

ABSTRACT
NO.
C-1840

Entry No. 6

R. W. HEFLIN, Treasurer
San Juan County, New Mexico

TO

COUNTY OF SAN JUAN

TAX SALE CERTIFICATE No. 414
Dated Oct. 2, 1913

Filed: Nov. 18, 1913, 10:29 A.M.
Recorded: Tax Book 2, page 147

AMOUNT: \$724.68

Taxes for the year 1912, assessed against Unknown Owners on the following described lands:

All of Sec. 17, Twp. 21 R. 10
All of Sec. 21, Twp. 21 R. 10

And other lands

CANCELLED by Court Order No. 1321, shown by Entry No. 8 herein.

Entry No. 7

R. W. HEFLIN, Treasurer,
San Juan County, New Mexico

TO

COUNTY OF SAN JUAN

TAX SALE CERTIFICATE No. 1087
Dated Oct. 1, 1915

Filed: July 24, 1919, 2:42 P.M.
Recorded: Tax Book 3, page 252

AMOUNT: \$642.62

Taxes for the year 1914, assessed against Unknown Owners, on the following described land:

All of Sec. 17, Twp. 21 N., R. 10 W.
All of Sec. 21, Twp. 21 N., R. 10 W.

(And other lands)

CANCELLED by Court Order No. 3121, shown at Entry No. 8 herein.

THE GUARANTEE ABSTRACT & TITLE COMPANY

ABSTRACT No. C-1840ENTRY NO. 8COUNTY OF SAN JUAN }
STATE OF NEW MEXICO, } SS.IN THE DISTRICT COURT
NO. 1321TRANSCRIPT OF JUDGMENT
DATE, MAY 23, 1921.
FILED FOR RECORD AND DU-
LY RECORDED BOOK 64,
PAGE 255, RECORDS OF SAN
JUAN COUNTY, NEW MEXI-
CO, AT 4 O'CLOCK P. M., JULY
28, 1921.

In the matter of the State of New Mexico, plaintiff, against the known and the unknown persons, and the real estate, lands, and property described in the delinquent tax list of the said County of San Juan, for the Years 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918 and 1919, defendants:

GENERAL JUDGMENT

This cause coming on now to be heard upon the motion of plaintiff, that judgment be entered herein, and the plaintiff state appearing by and through Frank A. Burdick, Esq., the Special Counsel for the State Tax Commission in and for the said County of San Juan and the court having examined the pleadings, and the delinquent tax lists upon which this action is founded, and the tax rolls for each of the above named years in the office of the Treasurer of said County, and the proofs produced herein, and having duly considered the same and being advised in the premises, the COURT FINDS:

1. That, the said Frank A. Burdick, Esq., is the Special Counsel for the said plaintiff state in the premises, and, as such he is authorized to, and does, bring this suit on behalf of the State of New Mexico, and that this action, in the judgment of said Special Counsel, has been properly brought.

2. That, as shown by the record made herein, all of the steps necessary to be taken under the law by way of published and mailed notices, summons, and other process of the court issued, have been duly had and taken; and that an examination of the records herein shows that all of the tax items to be found upon the tax rolls in the Office of the Treasurer of said San Juan County for the years above enumerated, and also upon the delinquent tax lists filed herein for said years, have been acted upon by the court in this action.

3. That there are a large number of double assessments entered upon each and every of said tax rolls for said years; that a conscientious effort has been made by the taxing authorities of said County, and by said Special Counsel, to eliminate all of such double assessments from the said tax rolls, and that through such efforts a great many of these double assessments originally entered therein have been eliminated therefrom; but notwithstanding the fact that many such eliminations have been so made, a large number of these double assessments yet remain upon said tax rolls; that these double assessments constitute liens upon the properties belonging to various citizens of said County, and that the said liens so created are wrongful and should be declared invalid and removed.

4. That the said tax rolls contain a great number of erroneous descriptions of the lands upon which taxes are assessed; and that because of such erroneous descriptions no valid tax sales thereof can be ordered by the court to be made.

5. That all assessments entered upon said tax rolls for said years upon both real and personal property, which appear to be valid, and which constitute legal obligations on the part of the therein named taxpayers to pay the amounts of the taxes therein respectively assessed against them, have been duly transcribed into the delinquent tax lists filed in this action, and that judgment has been entered in this action upon each and every of such valid assessments so shown by said delinquent tax lists.

WHEREFORE, THE COURT FINDS, as a conclusion of law from the foregoing, that all of the assessments found upon the said tax rolls, other than those embraced within, and affected by, the judgment heretofore entered in this action, as afore-said, should be cancelled and held for naught.

6. AND THE COURT FURTHER FINDS, that because of mistakes and errors made and existing in the assessments books and tax rolls of said county for the said enumerated years, a large proportion of the sales of real property made at the divers tax sales held therein during the period of the said enumerated years were and are invalid; that a large proportion of the tax sales certificates issued to said county upon such sales were and are likewise invalid; that although ordained by positive law to be so held, no tax sales whatsoever have been held in said county since the taxing year of 1914; and that, at such of the tax sales as have been held in said county during the period of the said enumerated years, the law requiring the outstanding tax sales certificates to be annually advertised and offered for sale thereat has not been complied with; and

7. That the judgment rendered in this action will cast a further cloud upon the title to all of the said tax sale certificates still held by said county, thereby making the same invalid and void by virtue of such judgment; and that, because of all the matters and things herein set forth, all of the said tax sale certificates heretofore issued to said county upon said tax sales, which are still held by said County, are probably invalid, and are certainly of no marketable value to the state for revenue purposes, and this condition exists as to the valid as well as to the invalid certificates, and whether the same be recorded or not.

WHEREFORE THE COURT FINDS, as a conclusion of law therefrom, that each and every tax sale certificate heretofore issued by any Treasurer of said County and which is still held by the said County of San Juan, whether such certificate be recorded or not, should be declared void, cancelled, and held for naught.

And the COURT FURTHER FINDS, that each and all of the allegations in said plaintiff's complaint contained are true and correct in this behalf, and that the plaintiff is entitled to the relief prayed for therein.

WHEREFORE IT IS ORDERED, ADJUDGED AND DECREED, by the Court, that each and every assessment of taxation upon both real and personal property found upon the tax rolls for the Years 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918 and 1919 in the office of the County Treasurer of said County, are HEREBY CANCELLED AND HELD FOR NAUGHT; saving and excepting, however, from the operation of this judgment each and every of those assessments upon the several tracts or parcels of lands which are by the judgment of the court entered in this action on the 23rd day of May, 1921, ordered to be sold for the payment of delinquent taxes, with the interest and costs due thereon; and, also saving and excepting however, from the operation of this judgment, each and every of those assessments upon personal property upon which the judgment of the court was entered in this action on the 23rd day of May, 1921; and

IT IS FURTHER ORDERED, ADJUDGED, AND DECREED, that each and every tax sale certificate issued by any Treasurer of said County of San Juan at any time prior to the day of the entering of this judgment, and which is still held by the said County of San Juan, whether such certificate be recorded or not, is hereby declared void, cancelled and held for naught.

Done in Open Court at the Special May, 1921, Term thereof, held at AZTEC, on this 23rd day of May, 1921.

BY THE COURT,

(Signed) REED HOLLOMAN, Judge

COUNTY OF SAN JUAN, STATE OF NEW MEXICO—SS.

I, the undersigned, Clerk of the District Court for the First Judicial District of the State of New Mexico, within and for the County of San Juan, do hereby certify that the----- and foregoing is a true, correct and complete transcript and copy of GENERAL JUDGMENT entered in the above entitled cause, as appears from the Records and files in my said office.

WITNESS my hand and the Seal of said Court this 23 day of May, 1921.
(SEAL)

R. W. BERGIN, Clerk.

COUNTY OF SAN JUAN, STATE OF NEW MEXICO—SS.

I hereby certify that this instrument was filed for record on the 28th day of JULY, 1921, at 4 o'clock P. M., and DULY RECORDED in BOOK 64 Page 255, of the Records of said County.

R. W. BERGIN,

Probate Clerk and Ex-Officio Recorder.

Sheet No. 10

Page No.-----

Entry No. 9

STATE OF NEW MEXICO
COUNTY OF San JuanCERTIFICATE OF TAX LIEN # 280ABSTRACT
NO.
C-1840

The State Tax Commission of the State of New Mexico hereby certifies that, by virtue of the laws of the State of New Mexico, the County of San Juan, in said State, for itself and for the State and all municipalities and districts within said County having an interest in the taxes levied, has a tax lien against the property herein described securing the payment of the several amounts set forth herein and endorsed hereon, which said amounts are the amounts of taxes levied against the said described land for each of the said years, and the penalties and interest accrued thereon, which said amounts are unpaid and delinquent; that said lien is prior and superior to all other liens and encumbrances against the said property and is assignable.

The property against which said lien exists is situate in School District No. 24 in said County and State and is described as follows:

All of Section 17 and 21 in Twp. 21 N., R. 10 W.,
N.M.P.M., 1280 acres.

The years for which said property was assessed, the names of the persons to whom assessed, and the amount of taxes, penalty, interest and costs levied and accrued thereon which is due, unpaid and delinquent, are as follows:

Year	Assessed to	Valuation	Tax	Penalty & Interest	Total
1927	Unknown Owner	\$1280	\$ 47.39	\$ 11.86	\$ 59.25
TOTAL			\$ 47.39	\$ 11.86	\$ 59.25

The total amount of taxes, penalties, interest and costs, as hereinabove specified shall bear interest at the rate of one and one-half per centum per month from the date of this certificate until paid.

This certificate may be foreclosed at any time after one year after the date of delinquency of the above mentioned taxes, provided that, if the taxes levied against the said described property subsequent to the year in which the above taxes were levied are paid by the person against whom assessed, the time for foreclosing this certificate shall be two years after the date of such delinquency.

ISSUED AND EXECUTED, under and pursuant to the law of the State of New Mexico this 14th day of October, 19 29.

STATE TAX COMMISSION OF NEW MEXICO
By Geo. B. Bowra
Delinquent Tax Collector for
San Juan County, New Mexico.

Entry No. 10

STATE OF NEW MEXICO
COUNTY OF San JuanCERTIFICATE OF TAX LIEN # 532

ABSTRACT

NO.
C-1840

The State Tax Commission of the State of New Mexico hereby certifies that, by virtue of the laws of the State of New Mexico, the County of San Juan, in said State, for itself and for the State and all municipalities and districts within said County having an interest in the taxes levied, has a tax lien against the property herein described securing the payment of the several amounts set forth herein and endorsed hereon, which said amounts are the amounts of taxes levied against the said described land for each of the said years, and the penalties and interest accrued thereon, which said amounts are unpaid and delinquent; that said lien is prior and superior to all other liens and encumbrances against the said property and is assignable.

The property against which said lien exists is situate in School District No. 24 in said County and State and is described as follows:

Sec. 21, Twp. 21, Range 10

(And other lands)

The years for which said property was assessed, the names of the persons to whom assessed, and the amount of taxes, penalty, interest and costs levied and accrued thereon which is due, unpaid and delinquent, are as follows:

Year	Assessed to	Valuation	Tax	Penalty & Interest	Total
1928	Southern Surety Co.	\$1280.00	\$44.14	\$10.84	\$54.98
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
TOTAL			\$44.14	\$10.84	\$54.98

The total amount of taxes, penalties, interest and costs, as hereinabove specified shall bear interest at the rate of one and one-half per centum per month from the date of this certificate until paid.

This certificate may be foreclosed at any time after one year after the date of delinquency of the above mentioned taxes, provided that, if the taxes levied against the said described property subsequent to the year in which the above taxes were levied are paid by the person against whom assessed, the time for foreclosing this certificate shall be two years after the date of such delinquency.

ISSUED AND EXECUTED, under and pursuant to the law of the State of New Mexico this 10th day of March, 1930.

STATE TAX COMMISSION OF NEW MEXICO
By Geo. B. Bowra
Delinquent Tax Collector for
San Juan County, New Mexico.

Entry No. 11

STATE OF NEW MEXICO
COUNTY OF San JuanCERTIFICATE OF TAX LIEN # 535

ABSTRACT

NO.

C-1840

The State Tax Commission of the State of New Mexico hereby certifies that, by virtue of the laws of the State of New Mexico, the County of San Juan, in said State, for itself and for the State and all municipalities and districts within said County having an interest in the taxes levied, has a tax lien against the property herein described securing the payment of the several amounts set forth herein and endorsed hereon, which said amounts are the amounts of taxes levied against the said described land for each of the said years, and the penalties and interest accrued thereon, which said amounts are unpaid and delinquent; that said lien is prior and superior to all other liens and encumbrances against the said property and is assignable.

The property against which said lien exists is situate in School District No. 24 in said County and State and is described as follows:

Sec. 17, Twp. 21, Range 10, 640 acres

The years for which said property was assessed, the names of the persons to whom assessed, and the amount of taxes, penalty, interest and costs levied and accrued thereon which is due, unpaid and delinquent, are as follows:

Year	Assessed to	Valuation	Tax	Penalty & Interest	Total
1928	Unknown Owner	\$ 640	\$ 22.07	\$ 5.55	\$ 27.62

PAID Jan. 21, 1936, C.O. T-109 Rec. 2572

TOTAL \$ 22.07 \$ 5.55 \$ 27.62

The total amount of taxes, penalties, interest and costs, as hereinabove specified shall bear interest at the rate of one and one-half per centum per month from the date of this certificate until paid.

This certificate may be foreclosed at any time after one year after the date of delinquency of the above mentioned taxes, provided that, if the taxes levied against the said described property subsequent to the year in which the above taxes were levied are paid by the person against whom assessed, the time for foreclosing this certificate shall be two years after the date of such delinquency.

ISSUED AND EXECUTED, under and pursuant to the law of the State of New Mexico this 10th day of March, 19 30.

STATE TAX COMMISSION OF NEW MEXICO
By Geo. E. Bowra
Delinquent Tax Collector for
San Juan County, New Mexico.

Entry No. 12

STATE OF NEW MEXICO
COUNTY OF San Juan

CERTIFICATE OF TAX LIEN # 544

ABSTRACT
NO.
C-1840

The State Tax Commission of the State of New Mexico hereby certifies that, by virtue of the laws of the State of New Mexico, the County of San Juan, in said State, for itself and for the State and all municipalities and districts within said County having an interest in the taxes levied, has a tax lien against the property herein described securing the payment of the several amounts set forth herein and endorsed hereon, which said amounts are the amounts of taxes levied against the said described land for each of the said years, and the penalties and interest accrued thereon, which said amounts are unpaid and delinquent; that said lien is prior and superior to all other liens and circumstances against the said property and is assignable.

The property against which said lien exists is situate in School District No. Add, in said County and State and is described as follows:

Sections 17 & 21, Twp. 21, Range 10, 1280 acres.

The years for which said property was assessed, the names of the persons to whom assessed, and the amount of taxes, penalty, interest and costs levied and accrued thereon which is due, unpaid and delinquent, are as follows:

Year	Assessed to	Valuation	Tax	Penalty & Interest	Total
1924	Unknown Owner	\$ 1280	\$ 45.39	\$ 29.50	\$ 74.89
1925	" "	1280	39.17	21.35	60.52
1926	" "	1280	32.26	13.71	45.97
1927	" "	1280	47.39	15.40	62.79
1928	" "	1280	44.14	10.59	54.73
TOTAL			\$ 208.35	\$ 90.55	\$ 298.90

The total amount of taxes, penalties, interest and costs, as hereinabove specified shall bear interest at the rate of one and one-half per centum per month from the date of this certificate until paid.

This certificate may be foreclosed at any time after one year after the date of delinquency of the above mentioned taxes, provided that, if the taxes levied against the said described property subsequent to the year in which the above taxes were levied are paid by the person against whom assessed, the time for foreclosing this certificate shall be two years after the date of such delinquency.

ISSUED AND EXECUTED, under and pursuant to the law of the State of New Mexico this 10th day of March, 1930.

STATE TAX COMMISSION OF NEW MEXICO
By Geo. B. Bowra
Delinquent Tax Collector for
San Juan County, New Mexico.

Sheet No. 14

ABSTRACT
NO.
C-1840

Entry No. 13

M. D. HATELY, Treasurer
San Juan County, New Mexico

TAX SALE CERTIFICATE No. 380
Dated December 7, 1934

TO

Filed: In the office of the
County Treasurer

STATE OF NEW MEXICO

AMOUNT: \$63.53

Taxes for the year 1931, assessed against the following described
land:

All of Section 21, Twp. 21 Range 10
All of Section 17, Twp. 22 Range 10

CANCELLED By Court Order T - 109

Entry No. 14

E. P. BREWER, Treasurer
San Juan County, New Mexico

TAX SALE CERTIFICATE No. 982
Dated March 5, 1935

TO

Filed: In the office of the
County Treasurer

STATE OF NEW MEXICO

AMOUNT: \$48.82

Taxes for the year 1933, assessed against the following described
lands:

All of Sec. 17, Twp. 21 R. 10
All of Sec. 21, Twp. 21 R. 10

CANCELLED By Court Order T - 109

Entry No. 16

ABSTRACT
NO.
C-1840

THE BOARD OF DIRECTORS OF
THE SCHOOL OF AMERICAN RESEARCH
Paul A. F. Walter, Vice-
President
ATTEST: Wayne L. Manzy
Secretary & Bus. Mgr.

EASEMENT

Dated May 6, 1940

Filed: July 5, 1940, 9:31 A.M.
Recorded: Book 102, page 129

CONSIDERATION: For a sufficient
Consideration

TO

UNITED STATES OF AMERICA

The School of American Research hereinafter designated as grantor, for a sufficient consideration, hereby grants and conveys to the United States of America, hereinafter designated as grantee, the right to perform soil erosion control work in and upon such lands owned by the grantor which are situated in San Juan County, State of New Mexico:

Sections 17, 21, Township 21 North, Range 10 West,
within the boundaries of Chaco Canyon National Monument.

The grantee may erect on the above-described property such erosion control structures as may be necessary in connection with the whole scheme of erosion control of the Chaco Drainage Basin. The grantor will be responsible for the necessary maintenance of all erosion control structures.

This easement is granted and conveyed with the following conditions and stipulations:

(1) The agency of the grantee that superintends the control work on such lands will consult with the grantor wherever control work might affect the grantor's buildings or ruins located on such lands.

(2) No grazing by livestock will be permitted on such lands.

(3) If at any time after date hereof, the rights granted herein are not used by the grantee for the above purposes, for a period of two years, this easement shall become null and void, provided, however, the grantee shall thereafter be permitted to go upon such lands and remove therefrom all materials and property belonging to the grantee.

.....

ACKNOWLEDGED: May 6, 1940, before A. T. Armbruster, N.F., Santa Fe County, New Mexico. (SEAL). Commission expires January 25, 1944. (Corporation form)

Sheet No. 16

7/11

ABSTRACT
NO.
C-1840

Entry No. 16

SCHOOL OF AMERICAN RESEARCH
By Edgar L. Hewett, President
of the Managing Board
ATTEST: Wayne L. Manzy,
Secretary (SEAL)

WARRANTY DEED
Dated November 18, 1940
Filed: Jan. 27, 1941, 9:25 A.M.
Recorded: Book 102, page 191

TO

CONSIDERATION: \$1.00

REGENTS OF THE UNIVERSITY
OF NEW MEXICO
Albuquerque, New Mexico

CONVEYS:

All of Sections 17 and 21 in Township 21 N., R. 10 W.,
Subject however, to all the reservations, exceptions and
conditions contained in deeds by the Santa Fe Pacific
Railroad Company to Marietta Palmer Wetherill covering
the aforesaid lands.

(\$3.52 in Canc. revenue stamps J.F.S. 1/25/41)

ACKNOWLEDGED: November 19, 1940, before Jean M. Cady, N.P., Santa
Fe County, New Mexico. (SEAL). Commission expires February 27,
1943.

Entry No. 16 A

STATE OF NEW MEXICO
COUNTY OF SAN JUAN

ABSTRACT
No.
C-1840

IN THE DISTRICT COURT

In the Matter of the Correction) Filed: Apr. 3, 1936
of the Tax Rolls of San Juan)
County for the Years 1926 to)
1935, inclusive, on the property) No. T-109 Tax
of the School of American Research.)

PETITION

The School of American Research, a New Mexico corporation having its principal office at Santa Fe, respectfully shows:

1. That petitioner is a non-profit corporation organized under the laws of New Mexico for the purpose of promoting and developing educational and scientific research;
 2. That petitioner is the owner of Section 17 and 21 in Township 21 North, Range 10 West, N.M.P.M., which it has owned since the year 1929, and said lands are used exclusively for research and educational purposes by the petitioner and for no other purpose, and are exempt from taxation;
 3. That, through error, the taxing authorities assessed said lands for taxes for the year 1929 to 1935, inclusive, and have added penalties and interest thereon;
 4. That the value of said lands consists chiefly in the ruins which they contain, and said lands have no commercial use or value for business purposes;
 5. That assessments for the years 1926, 1927 and 1928 on said lands are excessive, and petitioner desires to have them reduced to a nominal sum and to pay them without interest or penalties, so as to clear the title to said property and to keep and use it for scientific and educational purposes only:
- WHEREFORE, Petitioner prays that the Court direct the Treasurer of San Juan County to cancel the assessments for 1926, 1927 and 1928 and all interest and penalties and certificate of lien or tax sale thereon, and to extend the taxes at the rate for each of said years 1926, 1927 and 1928 at \$100.00 valuation, and to order and direct the Treasurer of San Juan County to show upon his tax rolls for the years 1929 to 1935, inclusive, and thereafter, so long as the petitioner is on said lands and uses them for educational purposes, that said lands are exempt from taxation, and all taxes levied with interest and penalties for the years 1929 to 1935, inclusive, and all tax lien certificates and tax sales be cancelled and held to be void.

SCHOOL OF AMERICAN RESEARCH,
Petitioner
By John F. Simms
Its Attorney

APPROVED FOR FILING WITHOUT
COST

David M. Carmody
Asst. District Attorney

* * * * *

Sheet No. 17 A

Entry No. 16 A Continued

ABSTRACT

No. ORDER
C-1840

Filed: Apr. 3, 1936

The Court having considered the petition of the School of American Research an educational institution, and being sufficiently advised, IT IS

ORDERED that the Treasurer of San Juan County, New Mexico, cancel the assessments against Sections 17 and 21 in Township 21 North, Range 10 West, N.M.P.M., for the years 1926, 1927 and 1928 and all interest and penalties, tax lien certificates and tax sales certificates, if any, for said years, and place upon his rolls for said years said property for assessment in the proper school district at a valuation of \$100.00, and extend the taxes thereon and permit the School of American Research to pay the same in full of the taxes for said years, and to cancel all assessments for the year 1929 to 1935, inclusive, including interest and penalties and including any tax lien certificates and tax sales certificates thereon, and to show the property as exempt to the School of American Research as used for educational purposes.

M. A. Otero, Jr.
District Judge

Dated:

ABSTRACT NO. C-1840

C E R T I F I C A T E
THE COMMONWEALTH TITLE COMPANY
BONDED ABSTRACTERS
Farmington, New Mexico

STATE OF NEW MEXICO }
COUNTY OF SAN JUAN } SS

The undersigned, THE COMMONWEALTH TITLE COMPANY, E. P. Woods and L. P. Woods, Co-partners, whose bond is a surety bond and in force at the date of signing this certificate;

HEREBY CERTIFIED, that the foregoing instrument consisting of 17 sheets and 16 entries is a true accurate and complete abstract of all instruments of record or on file in the office of the County Clerk of San Juan County, New Mexico, that affect the title to the lands and/or water rights as shown in the Caption hereof;

That there are no foreign executions, mechanics' liens or other processes of courts, transcripts or certified copies of Judgments or orders of court, notices of pendency of any attachments or other suits or proceedings, or other evidences of the existence of liens, processes, judgments or court proceedings on file or of record in the office of the County Clerk of said County affecting the title to the said lands or water rights, except as fully shown as to essential facts in the foregoing abstract;

That all proceedings in the Probate Court of said County are set out, either in full or in abstract form, showing all essential facts in said instrument;

That there are no Tax Sale Certificates of record in the office of the County Clerk of said County, or Certificates of Tax Liens on file in the Office of the County Treasurer of said County except as are shown in the foregoing abstract, and that there are no taxes assessed and unpaid against said lands, as shown by the records in the office of the County Treasurer of said County, except as follows:

That there are no defects in said title, either of record or otherwise, not shown in said abstract of which we have any notice or information;

That all instruments are shown either in full or in abstract form as to essential matters, with all special conditions and clauses shown; formal portions of deeds, acknowledgments and other instruments being omitted.

This certificate covers the title to said lands and/or water rights from United States Patent TO April 18, 1941 at 4 P.M.

IN WITNESS WHEREOF, THE COMMONWEALTH TITLE COMPANY has caused this certificate to be signed this 18 day of April A.D. 19 41.

THE COMMONWEALTH TITLE COMPANY

By E. P. Woods

Co-Partner

Entry No. 17

SANTA FE PACIFIC RAILROAD COMPANY DEED

By R. G. Rydin, Vice President Dated: May 1, 1941

Attest: H. B. Frink, Ass't Sect'y
(SEAL)

Filed: October 1, 1943, 2:58 PM
Recorded: Book 102, page 459

TO

CONSIDERATION: \$25.00

ABSTRACT
No.
C-1840

THE REGENTS OF THE UNIVERSITY OF
NEW MEXICO

RECITES:

WITNESSETH, That said party of the first part for and in consideration of the sum of Twenty-five Dollars, to it in hand paid, the receipt whereof is hereby acknowledged, does hereby remise, release, and quitclaim unto the said party of the second part, its successors and assigns, forever, the following described lands, situate in the County of San Juan, and State of New Mexico, to-wit:

Sec. 17 and 21, Twp. 21 N., R. 10 W. N.M.M., New Mexico.

This deed is executed for the purpose of clearing title to the above described premises and without consideration other than the nominal sum of Twenty-five Dollars.

IN WITNESS WHEREOF, the said party of the first part has caused this deed to be signed by its Vice President and attested by its Assistant Secretary, and its corporate seal to be hereunto affixed, the day and year first above written.

Attest:

SANTA FE PACIFIC RAILROAD COMPANY,

H. B. Frink
Assistant Secretary.
(SEAL)

By R. G. Rydin
Vice President.

ACKNOWLEDGED: June 6, 1941, before George L. Garver, Notary Public,
Cook County, Illinois (SEAL) Commission expires Sept. 15, 1942.
(Corporate Form)

Sheet No. 18

Entry No. 18

LEVA M. BARTON, Treasurer
San Juan County, N.M.

TAX SALE CERTIFICATE NO. 3822
Dated: December 2, 1940

ABSTRACT
No.
C-1840

TO
STATE OF NEW MEXICO

Filed: April 4, 1941, 10:47 AM
Recorded: Book 10, page 444

AMOUNT: \$3.85

Taxes for the year 1939 assessed agains Jno Leonard on the follow-
ing lands:

S $\frac{1}{2}$ SE Sec 29 - twp 22 - R 10
S $\frac{1}{2}$ NE Sec 21 - twp 21 - R 10

Assigned April 4, 1941 to Edward Sargent for the sum of \$3.98.

Taxes for the year 1940 paid by Edward Sargent in the sum of
\$3.75, April 4, 1941.

ABSTRACT NO. _____

C E R T I F I C A T E
THE COMMONWEALTH TITLE COMPANY
BONDED ABSTRACTERS

Farmington, New Mexico

STATE OF NEW MEXICO)
COUNTY OF SAN JUAN) SS

The undersigned, THE COMMONWEALTH TITLE COMPANY, E. P. Woods and L. P. Woods, Co-partners, whose bond is a surety bond and in force at the date of signing this Certificate;

HEREBY CERTIFIES, that the foregoing instrument consisting of 2 sheets and 2 entries is a true accurate and complete abstract of all instruments of record or on file in the office of the County Clerk of San Juan County, New Mexico, that affect the title to the lands and/or water rights as shown in the Caption hereof;

That there are no foreign executions, mechanics' liens or other processes of courts, transcripts or certified copies of Judgments or orders of court, notices of pendency of any attachments or other suits or proceedings, or other evidences of the existence of liens, processes, judgments or court proceedings on file or of record in the office of the County Clerk of said County affecting the title to the said lands or water rights, except as fully shown as to essential facts in the foregoing abstract;

That all proceedings in the Probate Court of said County are set out, either in full or in abstract form, showing all essential facts in said instrument;

That there are no Tax Sale Certificates of record in the office of the County Clerk of said County, or Certificates of Tax Liens on file in the Office of the County Treasurer of said County except as are shown in the foregoing Abstract, and that there are no taxes assessed and unpaid against said lands, as shown by the records in the office of the County Treasurer of said County, except as follows:

Taxes for the year 1947 in the amount of \$63.80 unpaid.

That there are no defects in said title, either of record or otherwise, not shown in said abstract of which we have any notice or information;

That all instruments are shown either in full or in abstract form as to essential matters, with all special conditions and clauses shown, formal portions of deeds, acknowledgments and other instruments being omitted.

This certificate covers the title to said lands and/or water rights from April 18, 1941, at 4 P.M. to January 10, 1948 at 4:00 PM

IN WITNESS WHEREOF, THE COMMONWEALTH TITLE COMPANY has caused this certificate to be signed this 10th day of January A.D. 1948.

THE COMMONWEALTH TITLE COMPANY

By E. P. Woods
Co-Partner

Entry No. 19

STATE OF NEW MEXICO)
COUNTY OF SAN JUAN) ss.

IN THE DISTRICT COURT
No. 02627

The Regents of the University of
New Mexico, a corporation,
Plaintiff,

BSTRACT
No.
C-1840

vs.

Mrs. Walter Crandall, Assessor of
San Juan County, and Miss Gladys
Andrews, Treasurer of San Juan
County,
Defendants.

PETITION

Filed: March 3, 1948

Petitioner states:

1. That The Regents of the University of New Mexico is a corporation, and that it is the owner of Sections 3, 11, 13, less 45 acres, in Twp. 21 N., R. 11 W., N.M.P.M., and Sections 17 and 21 in Twp. 21 N., R. 10 W., N.M.P.M., aggregating 3,155 acres, and was the owner of said land on January 1, 1947.

2. That the Defendant Mrs. Walter Crandall is the duly elected and qualified Assessor of San Juan County, New Mexico. That the Defendant Miss Gladys Andrews is the duly elected and qualified Treasurer of San Juan County, New Mexico.

3. That, by error, said land was shown by the records of said Assessor and Treasurer as being assessable, when, in fact, said land is non-assessable and is tax exempt as it is property of a State owned educational institution, in accordance with Sec. 3, Article 8 of the Constitution of New Mexico.

4. That the Petitioner herein has requested the Defendants to correct said assessment, and the Defendants have refused to so do without an order of authorization from the District Court.

WHEREFORE, Plaintiff petitions this Court for an order directing the Defendants to cancel the assessment against said land and to enter of record that said assessment was erroneous and should have been marked "Tax Exempt".

O. K.
M.P. Gutierrez
District Attorney

SIMS, MODRALL, SEYMOUR & SIMS
By Joseph E. Rahl
Attorneys for Plaintiff

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ANSWER

Filed: March 3, 1948

The Defendants for their answer to the Petition of the Plaintiff state:

That, if Plaintiff proves ownership of the lands mentioned in Paragraph numbered 1. of the Petition as of January 1, 1947, they stand ready to obey the Order of this Court, but said Defendants are not able to correct the assessment as requested by requested by Plaintiff, without such order.

Respectfully submitted,
Mrs. Walter Crandall
As Assessor of San Juan Co.,
New Mexico.

Entry No. 19 Continued

O.K.
M.P. Gutierrez
District Attorney

Gladys Andrews
As Treasurer of San
Juan County, New Mexico

ABSTRACT
No.
C-1840

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WAIVER OF NOTICE OF HEARING

Filed: March 3, 1948

Comes now the State Tax Commission, by its Tax Commission Attorney and enters its appearance in the above entitled cause, consents that said Petition may be taken and considered by the Court, and waiving the notice of hearing provided by law, consents to hearing thereon at any time without further notice to the said State Tax Commission

STATE TAX COMMISSION OF N.M.

By

E. P. Ripley
Tax Commission Attorney

Executed: 15 January 1948

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ORDER

Filed: March 3, 1948.

The Court having heard the Petition of The Regents of the University of New Mexico, a corporation, and having considered the Answer of the Assessor and Treasurer of San Juan County, New Mexico, and of the State Tax Commission of New Mexico, and having been sufficiently advised with oral and documentary evidence, finds that the allegations of the Petition are true and that the same should be granted.

WHEREFORE, IT IS ORDERED, that The Regents of the University of New Mexico, a corporation, are entitled to have the following lands belonging to said corporation, in San Juan County, New Mexico, exempted for taxation for the year 1947, to-wit:

Sections 3, 11 and 13, less 45 acres, in Twp. 21 N.,
R. 11 W., N.M.P.M., and Sections 17 and 21 in Twp.
21 N., R. 10 W., N.M.P.M., aggregating 3,155 acres,

and the Assessor and the Treasurer of San Juan County, New Mexico, are directed to show said land as exempt from taxation for the year 1947, on the tax records of said County.

David M. Carmody
District Judge

O.K.
M.P. Gutierrez
Asst. Atty.
O.K.
E.P. Ripley
Tax Commission Attorney.

Abstract No. C-1840
C E R T I F I C A T E
THE COMMONWEALTH TITLE COMPANY
BONDED ABSTRACTERS
Farmington, New Mexico

STATE OF NEW MEXICO)
COUNTY OF SAN JUAN) SS

The undersigned, THE COMMONWEALTH TITLE COMPANY, E. P. Woods, L. P. Woods and Gordon G. Woods, Co-partners, whose bond is a surety bond and in force at the date of signing this Certificate;

HEREBY CERTIFIES, that the foregoing instrument consisting of 2 sheets and 1 entries is a true accurate and complete abstract of all instruments of record or on file in the office of the County Clerk of San Juan County, New Mexico, that affect the title to the lands and/or water rights as shown in the Caption hereof;

That there are no foreign executions, mechanics' liens or other processes of courts, transcripts or certified copies of Judgments or orders of court, notices of pendency of any attachments or other suits or proceedings, or other evidences of the existence of liens, processes, judgments or court proceedings on file or of record in the office of the County Clerk of said County affecting the title to the said lands or water rights, except as fully shown as to essential facts in the foregoing abstract;

That all proceedings in the Probate Court of said County are set out, either in full or in abstract form, showing all essential facts in said instrument;

That there are no Tax Sale Certificates of record in the office of the County Clerk of said County, or Certificates of Tax Liens on file in the Office of the County Treasurer of said County except as are shown in the foregoing abstract, and that there are no taxes assessed and unpaid against said lands, as shown by the records in the office of the County Treasurer of said County, except as follows:

All taxes up to and including the year 1948 paid in full

That there are no defects in said title, either of record or otherwise, not shown in said abstract of which we have any notice or information;

That all instruments are shown either in full or in abstract form as to essential matters, with all special conditions and clauses shown; formal portions of deeds, acknowledgments and other instruments being omitted.

This certificate covers the title to said lands and/or water rights from January 10, 1948, 4 PM TO December 28, 1948 at 4:00 PM.

IN WITNESS WHEREOF, THE COMMONWEALTH TITLE COMPANY has caused this certificate to be signed this 28th day of December A.D. 1948.

THE COMMONWEALTH TITLE COMPANY
By E. P. Woods
Co-Partner

©-1386 The Commonwealth Title Company, Farmington, New Mexico.

② U. D. pat. 3/5/02 Accs. 3, 11 + 13 - 21K-11W
10/5/10

27-29R
Santa Fe Pacific

⑤ D. 5/20/09
10/11/10
27-314
Sec. 13 only

Merietta Palmer Withrill ④ 4/15/11
⑥ H. D. 4/15/11 33-96
Retroced from RR 4/21/11 Sec. 11 + 13
33-63 Secs. 13 + 15

Epimenio A. Niere

① Special Master's D. 9/30/25
10/26/25 71-209
71-209
Possibly foreclosed?
Niles ③ ④ + ⑤
Not connected.
Secs. 13 + 15

Southern Surety Co.
③ SWD 11/10/28
12/21/28
71-667
Sec. 13

⑩ W. D. 11/17/28
12/21/28
81-375
see 13.

adv. ©-1558

Sent to quit title
to Secs. 3 and 13
Date of Order 7/24/37

④ Richard Withrill and of
Merietta Palmer Withrill
W. D. 11/10/02
11/12/02 Secs. 3 + 11,
13-25 21K-11W.
Benjamin J. T. Hyde sale 37

② W. D. 2/16/27
3/24/27
71-400 Secs. 3 + 11

H. B. Sammons
⑤ QER 2/24/27 et seq
4/11/27
79-60
1/2 int.
Secs. 3 + 11

J. C. Morris
③ QER 12/11/28
12/11/28
79-182
Secs. 3 + 11

The School of American Research
③ QER 8/26/29
9/5/33
91-256 Sec. 3 + 11 no min.

University of New Mexico
W. D. 4/3/48
5/28/48
128-53
4/29/35
11/1/38
4/6/38
11/12/38
1/10/38

United States

Q-1840
 W. J. Pat Dec 17-21-21N-10W.
 3/5/03
 10/5/10
 27-292

Santa Fe Pacific RR Co.
 5/1/41
 10/1/43
 102-459

Richard Withrill
 W.D. 10/19/02 Secs. 17+21
 11/2/02 papers & notes in hand
 13-25 from Santa Fe RR.

Benjamin T. B. Hyde

W.D. 1/22/29
 3/12/29
 81-426

School of American Research

W.D. 11/18/40
 1/27/41
 102-191

Records of the University of New Mexico.
 W.D. 4/3/48 certified 4/6/44
 5/28/48
 128-53

United States

C-1386

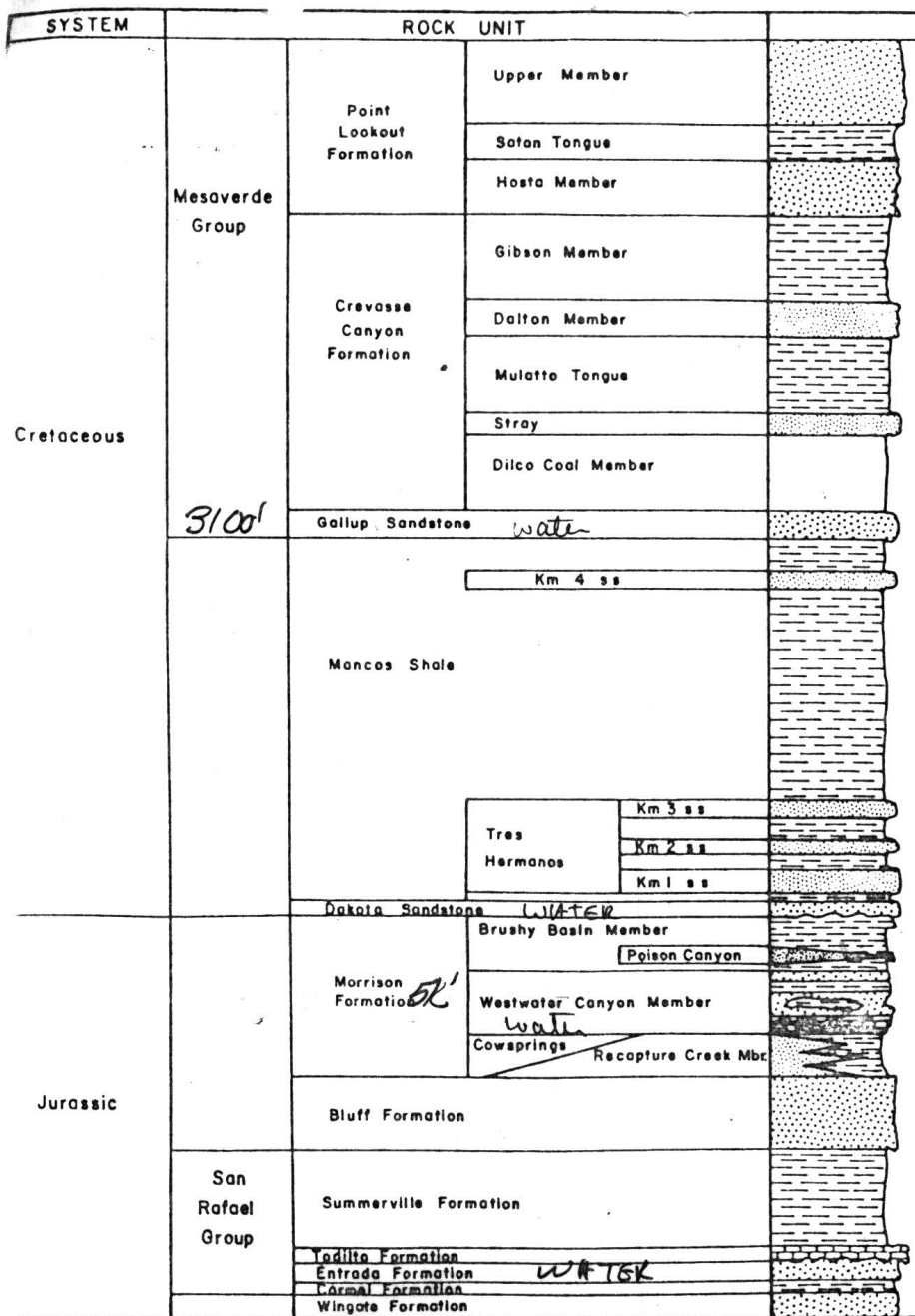
Ⓟ E.A. Miers Assoc. 13+15-21W-11N.
 2/12/13 #22,500-34rd.
 7/22/13 30-262

Capital City Bank County of Ranjoon
 8/2/13
 5/12/14
 30-230

The Interstate Casualty & Guaranty Co.

Ⓟ Miers #22,500-34rd.
 2/18/15
 2/23/15 No. 3-21W-11N.
 30-275

The Interstate Casualty & Guaranty Co.



Vertical Scale 1"=500' Modified from Hazlett and Kreek, 1963

Figure 2.2.2-1 Generalized Geologic Column

Title Search
file

HYDROLOGY OF CHACO CANYON NATIONAL MONUMENT

6 More

Purpose and Scope of Investigation

Prior to 1972 the estimated water demand for the entire monument was less than 1 mgd. Proposed development for the construction of physical facilities envisioned in the master plan designed to increase visitation will correspondingly increase the demand for water. Prior to the drilling of a 3700 foot deep well the entire water supply was obtained from wells dug in the alluvium and from a 600 foot deep well at Fajada Headquarters. The proposed expansion and construction of new physical facilities required that this study be made to determine the availability of groundwater to meet the projected water demand.

Previous Investigations

The general groundwater situation at Chaco Canyon NM has been described by Ross Maxwell (1940); Maxwell and Rothrock (1942), S.W. West (1957) and by W.R. Speer (1972). General area studies on the Navajo Indian Reservation have been published by Glenwiddie, Mourant, Basler (1966).

LOCATION.

Chaco Canyon National Monument is located in southwestern San Juan County in northern portion of New Mexico.

Topographically, the Monument is located on the Chaco Plateau within ^{San Juan Basin of the} Colorado Plateau surface water physiographic province and the Montana - Arizona groundwater provinces.

The area surrounding the monument is sparsely populated with limited livestock raising as the principal agriculture activity. Oil and gas field operations represent the principal industrial activity of the area.

CLIMATE

The climate of northeastern San Juan County is semi-arid. Precipitation and Temperature gauging station, located at Pueblo Ponto, has been maintained by the U.S. Weather Bureau, and read by the monument staff since 1932.

Annual total precipitation averages 8.67 inches.

^{and various} ~~Distribution of total~~ precipitation by seasons are as follows:

Season	Mean	(1950) Total amount for direct record year	(1957) westward	Mean Snowfall
December	0.62	T	0.31	4.9
January	0.43	0.00	0.30	4.3
February	0.60	T	0.49	3.4
Winter ^{total} mean	1.65	T	1.10	12.6
March	0.57	0.60	0.65	2.1
April	0.45	0.44	0.56	1.1
May	0.74	T	1.42	0.1
Spring ^{total} mean	1.76	1.04T	2.63	3.3
June	0.35	0.19	0.54	0.0
July	1.08	0.77	2.12	T
August	1.39	0.06	2.73	0.0
Summer ^{total} mean	2.82	1.02	5.49	T
September	1.06	1.21	.08	T
October	0.95	.03	2.80	0.2
November	0.43	.05	0.83	2.2
Autumn ^{total} mean	2.44	1.29	3.71	2.4T
Total for year.	8.67"	3.35"	13.03"	18.3"

Table _____ shows that the rainy season occurs during the summer and fall in which 61% of the mean annual total precipitation ^(18.67") occurs. Maximum snowfall occurs in winter in which 69% (12.6") of the mean annual total snowfall (18.3") can be expected.

Temperatures of 90°F or greater occur at least 50 days a year. Winter temperatures of 32°F or lower occur 179 days a year.

Table —
Mean Temperature
Chaco Canyon N.M.

	Mean	Temperature Highest	Lowest	Mean Daily Temp. Max	Min
<u>Winter</u>					
December	30.2	74	-21	44.8	15.4
January	28.7	70	-24	43.1	14.3
February	34.4	71	-18	48.5	19.8
<u>Spring</u>					
March	39.8	87	2	52.5	23.3
April	49.3	90	6	67.2	31.4
May	57.6	96	19	76.1	39.0
<u>Summer</u>					
June	67.4	100	27	87.0	47.8
July	73.5	106	39	91.5	55.6
August	71.6	102	38	88.6	54.5
<u>Autumn</u>					
September	63.8	99	26	82.2	45.4
October	52.2	88	14	70.1	34.3
November	37.9	77	-12	55.1	20.7

Total 50.5

Climate Summary of the United States - Supplement for 1931 through 1952.
- New Mexico - U.S. Dept. of Commerce Weather Bureau
Same as above 1951 thru - Supplement 1951 through 1960.

Chaco Canyon National Monument is located on the Chaco Plateau portion of San Juan Basin. The entire region is characterized by broad, elevated horizontal layered sedimentary rock formations of Late Cretaceous age.

Chaco River, an intermittent stream, encompasses a drainage area approximately 450,000 Acres at the monument. Elevations within the drainage basin vary from 6100 feet above mean sea level within the monument to 7200 feet, 30 miles to the south on the Continental Divide.

Surface Waters.

The Chaco River and its tributary Ryader Wash drain approximately 45,000 acres within the project area. ^(See pg. 7) Flow in this portion of the River is intermittent and subject to flash flooding.

The natural flow of smaller tributaries found within Chaco Canyon National Monument has been altered by 25 diversions or spreader dams constructed in 1950 with the Soil and Moisture Conservation funds. Purpose of these diversion dams was to remove concentrated flows of water, which cascades over the precipitous cliffs on both flanks of Chaco River, from destroying areas of archaeological interest and structurally oriented faultlines within the monument.

Location of all diversion dams were terminated so that the flows of all waters thus concentrated would flow away from Chaco River. It was presumed that the water would eventually find its own way into Chaco River with ~~no~~ ^{the} minimum erosion of the banks.

All diversion dams were designed to carry maximum flows of water varying from 3 to 5 feet per second.

Climate

The climate of southeastern San Juan County is semi-arid. U.S. Weather Bureau maintains a precipitation and temperature gauging station at Pueblo Bonito since 1941 & 1942 respectively. Daily readings are recorded by monument staff.

Annual rainfall averages 8.67 inches of which 3.53 inches (41%) occurs during the months of July, August and September. 19 years records for 1951 to 1960 show that daily rainfall incidents of ≥ 0.10 ^{inches} but less than 0.50 inches has occurred a total of 10 times (38% of all recordings) during July, August and September.

Annual snowfall averages 18.3 inches of which 9.3 inches (50%) occurs during November and December. No snowfall has been recorded during June, August and September. Traces have been recorded to occur in July and August.

Mean annual temperature is 50.5°F . Mean summer temperatures vary from 63.8°F to 73.5°F . Maximum

GROUND WATER

The availability of ground water is a rather elusive quantity as it depends on many factors, most of which are difficult to determine in a quantitative manner. Such factors are the extent, thickness and physical properties of water bearing rocks; the amount of water stored in them; the amount of water that enters each ground water reservoir in a given time; the portion of the recharge that can be reclaimed with the techniques now available; the chemical and bacteriological quality of ground water from different sources; and the conservation measures which may be taken to protect existing ground water resources.

The factors enumerated are not all of equal importance, as their relative importance varies from ^{basin within the same area} aquifer to aquifer. Aquifers ~~are~~ defined as lithologic units which coincide with, or are a part of geologic formations.

tural basins are recharged only from direct precipitation and infiltration from small streams. Shallow canyons cut by tributaries of the Little Colorado River and small folds localize the movement and occurrence of ground water and control the distribution of artesian areas. The aquifers of the Mesaverde Group are separated from the underlying aquifers by the Mancos Shale, which is 500-700 feet thick in the Black Mesa basin.

Black Mesa basin is unique in that nearly all ground water in the basin is discharged at Blue Spring and several springs near the confluence of the Little Colorado and Colorado Rivers. The yield of the springs measured intermittently near the mouth of the Little Colorado River averages 223 cfs or about 161,000 acre-ft per yr, which represents the total discharge into the Colorado River from Black Mesa basin, an area of about 28,000 sq mi. Perhaps 95 percent or more of this water is from the C multiple-aquifer system because a substantial part of the water discharging from the other aquifers in the basin is evaporated or is used for irrigation, principally near Tuba City.

SAN JUAN BASIN

In contrast to Black Mesa basin, rocks of Late Cretaceous age cover most of western San Juan basin except on the flanks of the Zuni Mountains and Defiance Plateau (pls. 1, 5). The aquifers in Triassic and Jurassic rocks are restricted to a narrow belt of outcrops that outlines the shape of the basin. Permian and older rocks occupy the central parts of the Zuni Mountains and Defiance Plateau.

The aquifers in pre-Cretaceous rocks (table 3) are recharged along narrow exposures on the flanks of the basin where beds are tilted 3°-30°. The exposures are higher than 6,500 feet and are covered by vegetation and soil, which make the area generally favorable for recharge.

Regional movement of ground water in the aquifers in pre-Cretaceous rocks is restricted by low permeability, facies changes, and wedging-out down dip of the aquifers (fig. 5). Therefore, much of the ground water moves subparallel to the sides of the basin. The discharge is to many small streams along the basin flanks and to the San Juan River. Water in the aquifers in pre-Cretaceous rocks in the southwestern part of the basin (Gallup sag) discharges to the alluvium along the Puerco River or moves across the low structural divide into Black Mesa basin (pl. 5).

Aquifers of the Upper Cretaceous rocks in San Juan basin are usually under high artesian pressure and are at various places within a stratigraphic interval of more than 5,000 feet (table 3). Ground-water move-

ment in the units of the lower part of the sequence, including the Gallup and Point Lookout Sandstones and the water-yielding beds of the Crevasse Canyon Formation, is similar to that in the aquifers in Triassic and Jurassic rocks. Water in aquifers in the remainder of the Cretaceous sequence moves toward the San Juan and Chaco Rivers (pl. 5). Because aquifers of the Menefee Formation are thin, lenticular, and tongue-out to the northeast, movement of water toward the center of the basin is inhibited. The Cliff House and Pictured Cliffs Sandstones are exposed in broad areas and are continuous in the subsurface in the central part of the basin. These sandstone units are recharged chiefly from precipitation in their areas of outcrop, and movement of ground water is generally northwestward to the Chaco and San Juan Rivers (pl. 5).

The aquifers in Cretaceous rocks are probably interconnected, although imperfectly, into a multiple hydraulic system in most of western San Juan basin. The development of this system apparently aids movement of water between the aquifers in different parts of the basin and helps to direct the ground-water discharge to the reaches of the Chaco and the San Juan Rivers in the northwestern part of the basin. Some interaquifer movement apparently is downward and is indicated by lows on the piezometric surfaces of the various aquifer systems in the central region of the basin near Farmington (Berry, 1959).

BLANDING BASIN

Recharge to the Blanding basin is from the Carrizo Mountains, the northern part of the Defiance Plateau, the eastern flank of the Monument upwarp along Comb Ridge, and the Ute Mountains in southwestern Colorado. All ground water moves generally northward toward and eventually reaches the San Juan River (pl. 5). This discharge includes the overflow from the San Juan basin and a small amount from Black Mesa basin. Some water issues from the Navajo and Wingate Sandstones to Chinle Wash downstream from Rock Point Trading Post, Laguna Creek, and the lower part of Walker Creek.

HENRY BASIN

Regional ground-water movement in the small part of the Henry basin within the Navajo country is limited to the Navajo and Wingate Sandstones, the Shinarump Member of the Chinle Formation, and the Cedar Mesa Sandstone Member of the Cutler Formation. Recharge to these units is on the summits of mesas and on the broad, gently sloping rock platforms; the ground water is intercepted by deep canyons and is diverted by synclines and anticlines (pl. 1). A small amount of water, therefore, discharges directly to the San Juan

River and to its larger tributaries. Ground-water movement north of the San Juan River is down dip toward the center of the Henry basin and to the Colorado River.

KAIPAROWITS BASIN

All movement of ground water in the Kaiparowits basin is toward the Colorado and San Juan Rivers (pl. 5). The Navajo Sandstone is the chief aquifer and is recharged nearly everywhere within the basin. South of the Colorado River in the Navajo Indian Reservation, ground water in the Navajo is generally unconfined, but the water north of the river near the center of the basin is confined. In the southern part of the Kaiparowits basin, the Navajo Sandstone is the only aquifer that adjoins the streambed between the mouth of Forbidding Canyon and Lees Ferry (pl. 1) and discharges directly to the Colorado River.

In the eastern part of the basin, the Navajo Mountain dome and nearby deep canyons modify the general northwestward ground-water movement toward the Colorado River. Movement from Navajo Mountain is radial in all directions except to the northeast, where the domal structure joins the Beaver Creek and Rainbow anticlines. Ground water in the Navajo and Wingate Sandstones discharges along the rim of Piute Canyon and into the bottoms of Forbidding and Navajo Canyons. In this area the multiple-aquifer system is well developed, and much of the water that is recharged to the Navajo Sandstone percolates downward through the Kayenta Formation and into the Wingate Sandstone. This interformational movement is aided by strong jointing and fracturing and by zones of shattered rock on Navajo Mountain.

Rocks of Jurassic age contribute very little water to the Colorado River in the Kaiparowits basin because they crop out high on the mesas, buttes, and escarpments. Ground-water movement is localized, and there are a few springs on Navajo Mountain, on the down dip sides of mesas, and in a few places elsewhere in the basin.

DISCHARGE

The main areas of natural ground-water discharge in the Navajo country adjoin the Colorado, San Juan, Chaco, and Little Colorado Rivers, Moenkopi and Chinle Washes, and Navajo Creek (pl. 5). This water becomes part of the streamflow. The total amount of ground water discharged into the Colorado River system is unknown, although 223 cfs has been measured near the mouth of the Little Colorado River, and more than 8 cfs is estimated to be maintaining the flow in the perennial reaches of tributaries flowing into the Colorado River in Glen Canyon and into the San Juan

River. In addition, the combined total flow of perennial reaches of streams in the interior of the Navajo country was partly measured and is estimated to be 10 cfs. Most of this flow percolates into the sandstone or is evaporated.

Few springs in the reservations yield more than 100 gpm, and this water is evaporated near the point of discharge. Several springs at Hotevilla in the Navajo country furnish enough water to irrigate small fields built on the nearby rocky cliffs. The total discharge of the springs, excluding that of Blue Spring, is estimated to be more than 20 cfs. The main areas of spring discharge are in the canyons adjacent to Glen Canyon, near Tuba City, near Mexican Water, on the Defiance Plateau, and near the Chuska and Carrizo Mountains.

Most springs on the reservations are gravity springs where the water table intersects the land surface. Common types are contact, fracture, depressional, and seepage. Few of the springs are artesian. No thermal springs were inventoried. General water of an artesian spring flows through an opening in the confining beds overlying the aquifer. These are principally in the area of artesian flow on the west side of the San Juan basin (fig. 9), although artesian springs are more common throughout this area.

Contact springs occur principally along the contacts of the Navajo Sandstone, Shinarump Formation, the Chinle Formation, Lukachukai Member, Wingate Sandstone, Dakota Sandstone, Chuska Sandstone, volcanic member of the Bidahochi Formation, and the sandstone units of the Mesaverde Group. Numerous springs also discharge along the contact of the alluvium and impermeable consolidated rock.

Fracture springs flow from joints, faults, and bedding planes. These are the most common type of springs in the Navajo, Wingate, and other thick sandstone areas. Large bedding planes, concave upward in the Navajo Sandstone and the Shinarump Member of the Chinle Formation, concentrate downward-percolating water, which is discharged usually as small springs or seeps, in places hundreds of feet above the regional water table—in some places high on the face of a cliff. Weathering of the Navajo Sandstone in the immediate area of a spring issuing along joints and bedding planes has produced many of the prominent alcoves in the canyon country near the Colorado River.

Tubular springs are rare; these include Blue Spring and a few associated springs that flow from limestone within the canyon of the Little Colorado River. In the past, however, tubular openings were common in the Hopi Buttes and on the Defiance Plateau. Also were the orifices of large extinct springs

GEOHYDROLOGY OF WELL #21:10:21:344b

<u>FORMATION</u>	<u>THICKNESS FEET</u>	<u>LITHOLOGY</u>	<u>WATER BEARING CHARACTERISTICS</u>
Alluvium	20	Unconsolidated deposits of valley fill - chiefly gravel, sand, mudstone clay.	Limited quantity of good to poor quality - quantity 6 to an estimated 50 gpm.
Menefee	1730	Sandstone, claystone. Average porosity - 20% Average density - 2.25 g/cc.	Limited quantity of poor water quality. Yield 4-6 gpm.
Point Lookout	190	Sandstone. Average porosity - 17% Average density - 2.35 g/cc.	Unknown - reportedly good quality water elsewhere of limited yield.
Mancos Shale	960	Shale. Average porosity - 4% Average density - 2.60 g/cc.	No water.
Gallup Sandstone	200+	Sandstone. Average porosity - 17% Average density - 2.35 g/cc.	Artesian flow, 175 psi shut in pressure - good quality. Yield - 165 gpm.

TABLE I - RECORDS OF WELLS IN CHACO CANYON NATIONAL MONUMENT

LOCATION	DATE COMPLETED	DEPTH INCHES	DIAMETER		WATER LEVEL		YIELD		USE	REMARKS
					BGL	DATE	RATE	DATE		
21:10:29:211	1940	16	144	11.96	9/14/56		6	6/56	D.	
21:11:12:333	1937	15	180	18.94	9/14/56		-	-	D.	Abandoned
21:11:13:121a	1940	20	180	-	-		-	-	-	Unused
21:11:13:121b	-	16	48	16.76	9/14/56		2-3	6/27/56	P.S.	
21:10:28:123a	1967	56	4	-	8/ 4/72		-	-	-	
21:10:28:123b	1967	58	4	42	8/ 4/72		-	-	-	
21:10:28:111	1966	96	24	55	1966		-	-	-	Plugged-Salty
21:10:29:222	1966	92	24	45	1966		50	1966	-	Plugged, Yield est. bailing
21:10:29:344	1966	100	10	?	1966		-	1966	-	Plugged
21:10:29:433	1966	200	10	-	1966		-	1966	-	Dry-Plugged
21:10:27:114	1966	100	10	-	1966		-	1966	-	Plugged
21:10:27:214	1966	100	10	-	1966		-	1966	-	Plugged
21:10:21:344a	1966	800	10	69	1966		6	1966	D.	Abandoned
21:10:21:344b	1972	3111	6	+400	1972		170	1972	D.	Artesian flow

D-Domestic Supply
P.S.-Public Supply

QUALITY OF WATER REPORTS - CHEMICAL ANALYSIS
CHACO CANYON NATIONAL MONUMENT, NATIONAL PARK SERVICE

AFSA CHACO CANYON NM	21:10:29:222	21:10:28:123a	21:10:29:211	21:10:12:333	21:10:13:121B	21:10:29:433	21:10:21:344a	21:10:27:114	21:10:27:214
SOURCE WELL-TEST	4/8/72	8/8/72	5/2/61	9/14/56	9/14/56		9/18/72	10/22/71	
DATE									
Silica (Si O ₂)	< 1.0	8.0	10	10	10		22.1		
Iron (Fe)	2.00	1420	16	19	19		0.56		
Manganese (Mn)	0.024	30.1					< 0.01		
Calcium (Ca)	92.7	355	38	24	23		12.1		
Magnesium (Mg)	4.71	176	14	8.3	10.0		2.21		
Sodium (Na)	773	3380	210	198	118		67		
Potassium (K)	3.00	15.9	1.3				4.4		
Bicarbonate (HCO ₃)	352	0.0	370	372	296		200		
Carbonate (CO ₃)	0.2	0.0	0	0.0	0.0		0		
Sulfate (SO ₄)	1160	7235	274	198	95		577		
Chloride (Cl)	57.7	187	9.5	7.0	7.0		44.1		
Fluoride (F)	5.2	0.3	1.4	1.8	1.4		1.54		
Nitrate (NO ₃)	0.8	0.9	3.3	0.2	1.2		0.7		
Dissolved Solids:									
Calculated			745						
Residue on evap- oration at 180°C	2194	14,203	743	653	424		1275		
Hardness as Ca CO ₃	26.7	2222	152	94	98				
Non-carbonate hardness			0	0	0				
Percent Sodium % Na			75	82	72				
Sodium Adsorption Ratio			7.4	8.9	5.2				
Specific Conductance			1140	986	665		2600		
Unhos @ 25°C	8.5	4.3	8.0	7.9			8.1		
pH									
Notes			0.31						
21:10:28:111 - General - Bad Salty									
21:10:29:344 - General - Bad Salty									

Other Supporting Information

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

In reply refer to:
D5415 CHAC

Region Three
Santa Fe, New Mexico

July 9, 1951

Memorandum

To: Director
From: Assistant Regional Director
Subject: Water Right Considerations in Connection with Soil and
Moisture Conservation Spreader Dams at Chaco Canyon
National Monument

Mr. Robertson, by memorandum of June 22, requested certain information and material on the above subject. The data is to be used to make a water right assembly for the records of the Water Resources Branch. The assembly will be Docket No. 1.

The water spreading project at Chaco Canyon was started on November 8, 1950 and completed on December 8, 1950 under Project No. PCP 3-1. The water spreading was only a portion of the 1951 Fiscal Year Soil Conservation Program there.

Two copies of Mr. Conn's memorandum of March 7, 1951 on the above subject and two copies of Drawing No. 2041, titled Water Spreading Dikes, S&MC, are attached in accordance with your request. The information on signatures on the extra copies of the drawing can be found on your copy of the drawing which was transmitted with Mr. Connell's memorandum of March 9 on the above subject matter.

(SIGNED)

Hugh M. Miller
Assistant Regional Director

In triplicate

Attachments 4

Copy to: General Supt., SWNM
in duplicate

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Region Three
Santa Fe, New Mexico

March 7, 1951

Memorandum

To: Regional Engineer
From: Engineer Conn
Subject: Construction of Soil and Moisture Conservation Diversion
Dams at Chaco Canyon, New Mexico

The problem of diverting and spreading flash flood waters at Chaco Canyon arose from the fact that in the past these waters have poured off of the steep rocky slopes above, concentrated in small areas, and flowed over the high vertical banks of the Chaco Wash cutting deep and ever-widening gullies. These gullies were rapidly cutting back across the narrow flat lands of the valley of Chaco Canyon, threatening ruins, blocking roads, and carrying an ever-increasing load of sediment into the streambeds below. The purpose of these diversions is to take the water from the areas of concentration, spread it on a more protected location, reduce the velocity of the runoff and give it time for maximum penetration, protect the gullied areas, roads and ruins, and find more suitable spills for lowering the waters into the wash.

The matter of finding suitable spills for these water spreading dams was a serious problem as the vegetation at most locations was sparse and the spill into the wash was a vertical drop of approximately twenty-five feet. It was decided to divert the flow and spread it as far away from the banks of the wash as feasible. A portion of this water will eventually meander back to the banks of the wash and cut its own spill. For this reason special care should be taken in observing and maintaining these spills.

It may be noted from the attached map that the twenty-four (24) water spreading dams and one filled diversion dam are numbered consecutively beginning at the east end of the Monument boundary and moving downstream. Construction was also carried forward in this order. Each of these dams has a variable grade with the first quarter of its length having a 0.0 grade, the second quarter 0.1 per hundred

feet, the third quarter 0.2 per hundred feet, and the fourth quarter 0.3 per hundred feet to the spill. There are exceptions to this rule where the structure picks up a heavy load at the upper end.

These dams, with four exceptions where roads cross them, are constructed with 8 feet crowns, 3 to 1 front slope and 2 to 1 back slope with all the dirt for fill being moved from the borrow channel above and adjacent to the structure. This borrow channel is approximately 28 feet wide and 2 feet deep and is expected to silt in within a short period of time. The total length of the 24 diversion dams was 24,241 linear feet or 4.6 miles, and the total cubic yardage is 44,156. It took 464 1/2 bulldozer hours to complete this work at a cost of \$4,064.38, or a cost of 9.2 cents per yard. The overhead cost amounted to 1.6 cents per cubic yard, making a total cost of 10.8 cents per cubic yard.

Structure No. 2-A is a dam constructed from hauled material. It is adjacent to an important archeological ruin, and it was thought best not to disturb the soil at this location. This dam is 300 feet long, 9 feet wide, 1 foot high, and has a grade of 0.2 feet per hundred.

Due to the small scale of the map, the acreage of the spreading areas is not shown as we think this would be confusing. These spreading areas range from 3 acres for the smallest, to 15 acres for the largest of these structures. With regard to maximum flow the shortest dam will have 62 cubic feet per second, at a velocity of 3 feet per second and a 28-foot spreading width in channel, which gives a flow depth of 9 inches in channel. On the longest structure, the one carrying the heaviest load, there is a maximum flow of 360 cubic feet per second at a velocity of 5 feet per second, with an average width spreading area above dam of 100 feet. This is roughly a 9 inch depth of flow over the width of the spread area. The spill on this structure, No. 12, must be carefully maintained as the sterile soils a short distance below are subject to heavy erosion.

None of the waters diverted will be utilized other than that which is absorbed into the soils, a portion of which in time will penetrate the subsoils and flow back into the wash.

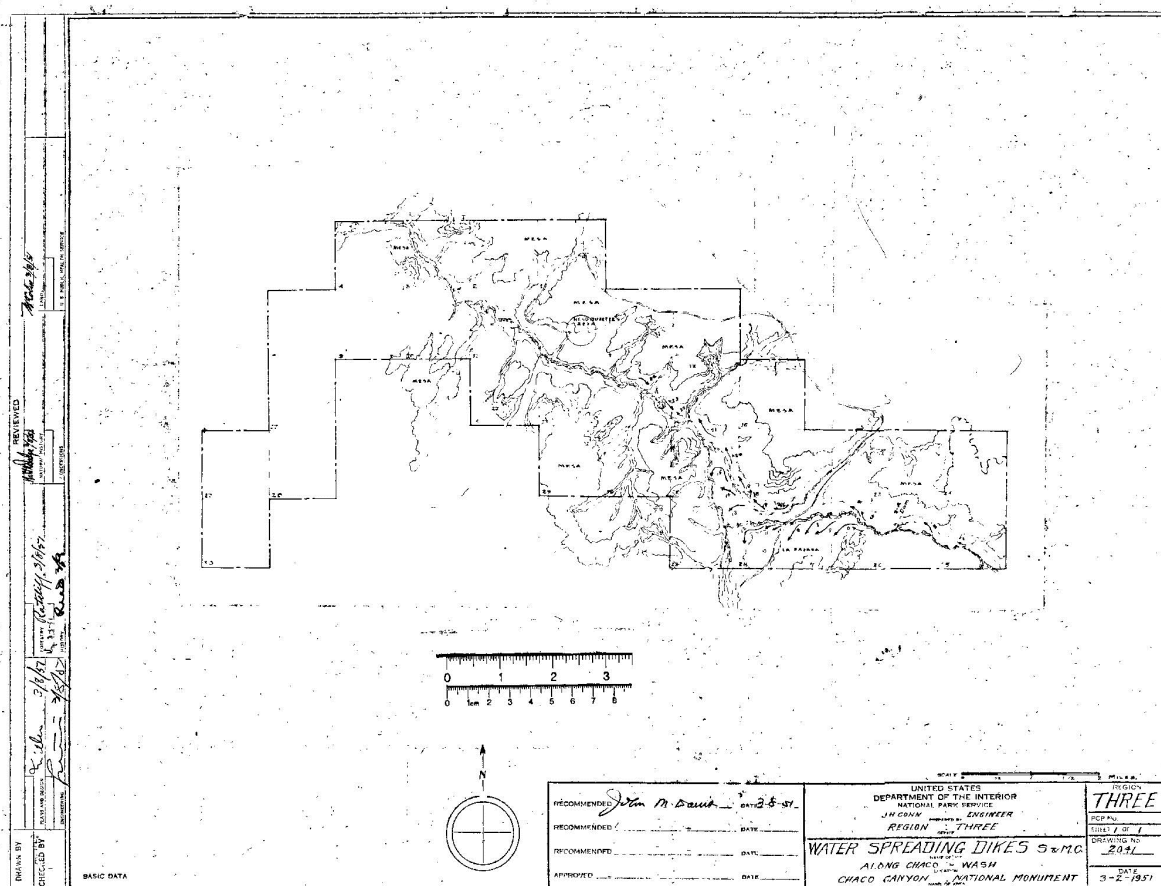
/s/ J. H. Conn
Engineer

Attachment

Approved for distribution: /s/ H. H. Cornell Date: Mar. 9, 1951
Assistant Regional Director

Copy to: Director
General Superintendent, SWNM
in duplicate
Soil Conservationist Balch

Maps and Miscellaneous Information



Docket Information

Number of Documents in Docket 66

Documents Dated from 11/10/1902 to 5/17/1977

Docket Compiled: 6/13/2016