



WATER-RIGHT DOCKET

Theodore Roosevelt National Park

Docket No: 3

COTTONWOOD CAMPGROUND, SOUTH UNIT

Preliminary Docket Information

00-00-0000: water right record: id no. thro,w,11,140,102,a,f,03

WATER RIGHT RECORD

Park: THRO

Docket Number:
Federal #3

IDENTIFICATION NO: THRO, W, 11, 140, 102, A, F, 03,

DITCH/WATER SYSTEM: Cottonwood Campground, South Unit

SOURCE OF SUPPLY: Well

LOCATION: SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 11, T140N, R102W

WATER RIGHT:

Appropriator: United States of America, National Park Service

Application/Permit Number: 1196

Certificate Record Number:

Date of Priority: June 19, 1964

Quantity of Water: .0055 c.f.s.

Purpose: Domestic and fire protection

Irrigated Land Description:

SUMMARY OF STATUS: This is a Federal water right consisting of a well, pump and distribution system.

Well drilled in 1956, re-dug in 1961.

Application to Appropriate Water was filed June 19, 1964. Approved July 23, 1964.

Office of State Engineer
STATE OF NORTH DAKOTAWater License No. 1196

Permit No. 1196 Priority Date June 19, 1964
 Name of Permit Holder National Park Service, United States of America, Department of the Interior
 Address Medora, North Dakota
 Source of Water Ground Water Supplies (Cottonwood Campground)
 Quantity of Water Approved in Permit 4 acre-feet Nature of Use Domestic & Fire protection
 Date Application Approved and Permit Issued July 23, 1964
 Date Certificate of Completion Issued October 19, 1964 Date Water Beneficially Used 1964

This is to certify that the holder(s) of the permit to divert and appropriate water as indicated above has, he, completed construction of the works as set forth therein and evidenced by the Certificate of Completion issued by me on October 19, 1964, and that the holder(s) of said permit did, on the 31st day of July, 1964, submit proof of the application to beneficial use of 4 acre feet of water for the following purpose

Domestic & Fire protection

Now, therefore, by virtue of the authority vested in me by the laws of the State of North Dakota, I hereby grant and confirm to the National Park Service of Medora, North Dakota holder of said Permit No. 1196, a right dating from June 19, 1964 to appropriate and divert from a point located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ 14 Sec. 11 Twp. 140N., Rge. 102W., a quantity of water limited to the amount that can be beneficially used herein, but not to exceed 4 acre feet annually for Domestic & Fire (purpose) protection and if purpose is irrigation, water is to be applied to the following lands to which this water right is appurtenant:

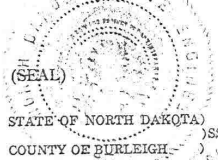
Sec.	Twp.	Rge.	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				Total
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	

Estimated return flow to stream

This water right is subject to the limitation on the use of water as set forth in the laws of this State and to the rights of prior claimants recognized under the laws of North Dakota, and to the following additional limitations . . .

The right to use water for irrigation set forth herein is limited to the above described lands and is subject to cancellation for nonuse.

WITNESS my hand and seal at Bismarck, North Dakota, this 30th day of November, 1964.



Milo W. Hoisveen
State Engineer
State of North Dakota

On this 30th day of November, 1964, before me a notary public, personally appeared Milo W. Hoisveen, known to me to be the same person who executed the Water License and acknowledged to me that he executed the same.

Notary Public

Arnold J. Schuch
Notary Public

BOOK 43 PAGE 534

Doc. Number ✓
Grantor ✓
Grantee ✓
Indexed ✓
Compared ✓

62538

CITY OF DECATUR, GEORGIA
COUNTY OF DECATUR, GA.
I hereby certify that the within instrument was
filed in my office for record this 15th day of
June A. D. 1964 at 3:40
o'clock P. M., and was recorded in Book 43
of Page 533
J. William O'Leary
REGISTER OF DEEDS
By Deputy

8.52

**OFFICE OF STATE ENGINEER
STATE OF NORTH DAKOTA**

CERTIFICATE OF COMPLETION

Permit No.: 1196

Name of Permit Holder: National Park Service, United States of America-Department
of the Interior

Address: Medora, North Dakota

Expiring Date: June 19, 1964

Date Application Approved: July 23, 1964

Source of Water: Ground Water Supplies - (Bottonwood Campground)

Point of Diversion: NE1/4, Section 21, Township 140 North, Range 102 West

Quantity Allowed to Permit: 4 acre-feet

Nature of Use of Water: Domestic use and Fire Protection

This is to certify that the holder of the permit indicated above has fully complied with the provisions of the laws of the State of North Dakota relating to the proof of completion of works to divert water for beneficial use as set out and described in said permit and related application, and that said works have been constructed or installed and are adequate to store, divert and convey water to the place of intended use in accordance with the application, plans, maps and permit indicated above on file in the office of the State Engineer, with the following exceptions _____

Dated at Bismarck, North Dakota this 10th day of October, 1964.

/s/ W. E. Holman
State Engineer
State of North Dakota

(SEAL AFFIXED)

DO NOT COMPLETE THIS SIDE OF FORM — THIS SIDE FOR USE OF STATE ENGINEER

PERMIT

This is to certify that I have examined the foregoing application and hereby approve the same subject to prior rights; rate of withdrawal not to exceed 2.5 gallons per minute.
~~Acres-feet and rate of withdrawal subject to withdrawal by State Engineer. Failure to comply with any order of the State Engineer may result in forfeiture of water right.~~

The amount of water to be appropriated shall be limited to the amount that can be used beneficially, not to exceed 4 acre feet each year.

1. Date of priority June 19, 1964
 2. Date of hearing on application July 13, 1964
 3. Date of approval by State Water Conservation Commission July 23, 1964
 4. Construction to be initiated on or before July 1, 1965
 5. Construction to be completed on or before July 1, 1967
 6. Water shall be beneficially used on or before July 1, 1969
- WITNESS my hand and seal this 29th day of July, 1964

/s/ Milo W. Holtsveen
 State Engineer
 Secretary, State Water Conservation Commission

PERMIT NO. 1196

Application for a Permit to Divert and Appropriate
 the Water of the State of North Dakota

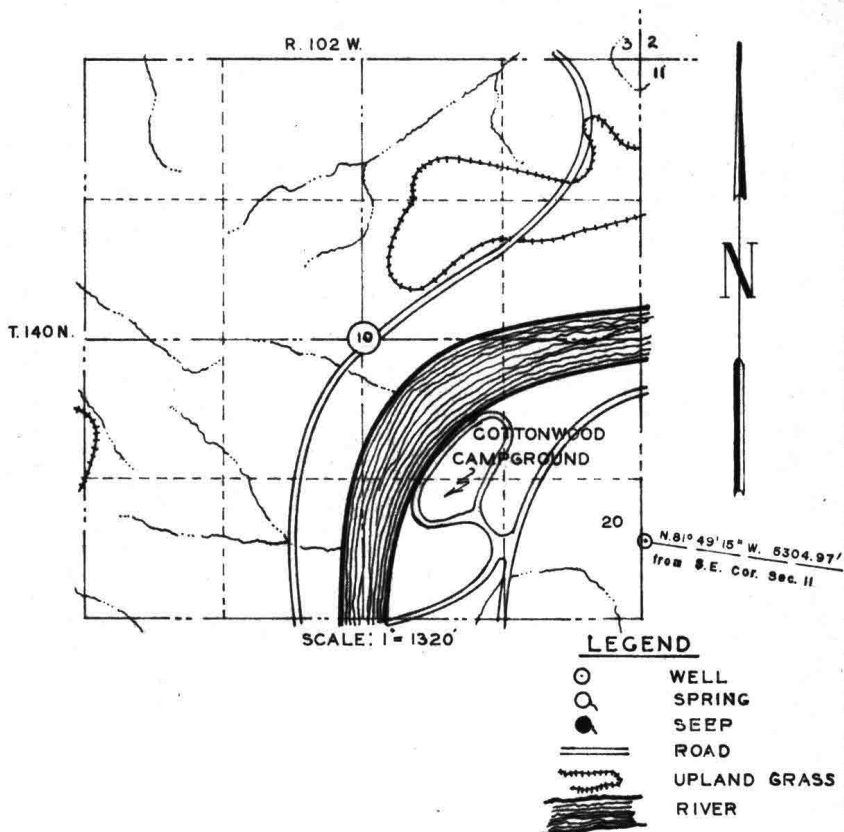
Applicant National Park Service
 Address Medora, North Dakota
 Point of Diversion in SW 1/4 of Section 11
 Township 140 N, Range 102 W.
 Source ground-water
 Acres to be irrigated domestic use and fire protection

The State of North Dakota
 State Engineer's Office

This instrument was received and filed for record on the 19th
 day of June A. D. 1964 at 2:00 o'clock P. M.
/s/ Milo Holtsveen (State Engineer)



"BUY NORTH DAKOTA PRODUCTS"



STATE OF NORTH DAKOTA } ss
COUNTY OF BILLINGS }

I, CLIFFORD R. MARTIN, OF DICKINSON, NORTH DAKOTA DO HEREBY CERTIFY THAT THIS MAP WAS MADE FROM NOTES TAKEN DURING AN ACTUAL SURVEY MADE BY ME ON JUNE 15, 1960 AND IT CORRECTLY REPRESENTS THE WELLS DESCRIBED IN THE ACCOMPANYING APPLICATION TOGETHER WITH A MEANDER OF STREAMS, AND SHOWS ACCURATELY THE LOCATION AND AREA OF THE LANDS PROPOSED TO BE IRRIGATED IN EACH SUBDIVISION.

Clifford R. Martin
REGISTERED ENGINEER



MAP

To accompany application
No. _____

NATIONAL PARK SERVICE
DEPARTMENT OF THE INTERIOR
COTTONWOOD CAMPGROUND WELL
THEODORE ROOSEVELT N.M.P. - 80. UNIT

COTI COD CAMPOROUND

1. Location: State North Dakota County Billings
Nearest P.O. Modora Direction from P.O. NW
Distance from P.O. 2.5 miles; SW $\frac{1}{4}$ sec 11T140N R102W
If in city, give street and number _____
National Park Service, US of America
2. Owner: Department of the Interior Address Modora, North Dakota
Driller: R D Thompson Address Dickinson, North Dakota
3. Situation: Is well on upland, in valley, or on hillside: Hillside
4. Elevation of top of well: 2260 ft. Above the level of Sea
(above or below) (Sea, depot, lake or stream)
5. Type of well: Drilled; kind of drilling rig used Jetting
(dug, driven, bored or drilled) (solid tool, jetting, rotary)
6. Depth of well: 1,215 ft.; year in which well was finished 1956 - Re-dug 1961
Does well enter rock? _____; if so, at what depth? _____ ft.; kind of rock _____
7. Diameter: At top 4 inches; at bottom _____ inches.
8. Principal water bed: Unknown
(Gravel, sand, clay or rock. If rock, state kind)
Depth to principal water bed _____ ft.; thickness of bed _____ ft.
If other water supplies were found, give depth to each _____
9. Casings: Kind Steel; size 4"; length Unknown ft.; between depths of _____ & _____ ft.
Kind _____; size _____; length _____ ft.; between depths of _____ & _____ ft.
Kind _____; size _____; length _____ ft.; between depths of _____ & _____ ft.
- Packers (if any); Depth at which packers were used Unknown; Kind _____
Screen or Strainer; Was well finished with screen? _____ Kind of screen _____
length of screen _____ ft.; diameter _____ inches; size of openings _____
10. Head: Does well at present overflow without pumping? Yes; did it overflow when new?
if flowing, give pressure _____ lb. per sq. inch; or height water will rise in a pipe
_____ ft. above surface; original pressure or head _____; if not flowing, give water
level in well _____ ft. below surface.
11. Pump: Is the well pumped? No; kind of pump _____
size of capacity of pump _____; kind of power _____
12. Yield: Natural flow at present (if any) 17 gallons per min.; original flow _____ gal.
per min. - well has been pumped at _____ gallons per minute continuously for
_____ hours; quantity of water ordinarily obtained from well _____ gal. per day.
13. Use: For what purpose is the water used? Domestic and Fire Protection
14. Quality of the water: Artesian - Soft; is there an analysis? Yes
(hard, soft, fresh or salty, etc)
15. Cost of well, not including pump: Unknown Temperature of water 52 OF

Name of person filling blank Einar L. Johnson
District Park Ranger

Date October 20, 1964 Address Medora, North Dakota

On the back of this sheet give the record of the beds through which the well passes.

July 27, 1956

DRILLER'S LOG OF COTTONWOOD CAMPGROUND WELL

K. D. Thompson - Dickinson, North Dakota

0-15	Yellow Caly
15-65	Blue Shale
65-75	Lignite Coal
75-180	Light Colored Shale
180-230	Sandy Shale
230-235	Brown Shale
235-255	Sand Rock
255-265	Coal
265-270	Shale
270-290	Coal
290-321	Shale
321-333	Sand and Water mixed with Shale
333-507	Shale with thin streaks of Coal
507-510	Hard Sand Rock
510-754	Hard Shale
754-766	Coal
766-788	Hard Shale
788-796	Sand and Water
796-800	Shale
800-801	Rock
801-825	Shale

4-inch casing set at 782 feet.

Well flowed 5 gal. per min.

Pump Test, 10 gal. per min. Drawdown 22 feet

Pumptest at 15 gal. per min. Drawdown 50½ feet fall
at 15 gal., well pumped sand

/s/ L. D. Thompson, Owner
L. D. Thompson, Owner

This well was dug deeper in 1960 however no record of well forms are available for the depth 825-1215'. A letter was sent to K. D. Thompson requesting information, but no response was received.

NOTICE OF HEARING ON PETITION
FOR APPROPRIATION OF WATER FROM

GROUND - WATER SOURCES

Cottonwood Campground

TAKE NOTICE, That National Park Service, United States of America,
Department of the Interior, Medora, N. Dak. has made application to the State
Engineer of North Dakota for a permit to divert and appropriate water from the
ground-water sources

The petition prays for a permit to divert and appropriate water from a
point on the ground-water sources
in the SW 1/4, Section 11, Township 140 North, Range 102 West
the average approximate amount of .0055 cubic feet of water per second
of time during the operating season, for each year said permit may remain in
force, with an annual diversion of 4 acre-feet, for Domestic use and fire protection
in Billings County, North Dakota, and as shown on the map
accompanying the application.

TAKE NOTICE, further that the State Engineer will consider said applica-
tion in his office in the State Capitol, Bismarck, North Dakota, on the 13th
day of July, 19 64, at the hour of 9:30 o'clock a. m.
on that date, at which time and place, all persons interested may present their
views in person or in writing.

Dated at Bismarck, North Dakota this 26th day of June 1964.

/s/ Milo W. Hoisveen, State Engineer
1301 Capitol Building
Bismarck, North Dakota

THURSDAY, JULY 2, 1964

LEGAL NOTICES

NOTICE OF HEARING ON PETITION FOR APPROPRIATION OF WATER FROM GROUND-WATER SOURCES (Peaceful Valley Platte Well)

TAKE NOTICE, That National Park Service, United States of America, Department of the Interior, Medora, North Dakota, has made application to the State Engineer of North Dakota for a permit to divert and appropriate water from the ground-water sources (Peaceful Valley Platte Well).

The petition prays for a permit to divert and appropriate water from a point on the ground-water sources in the SW1/4NW1/4, Section 11, Township 140 North, Range 102 West, the average approximate amount of 0.011 cubic feet of water per second of time during the operating season, for each year said permit may remain in force, with an annual diversion of 4 acre-feet, for domestic use and fire protection in Billings County, North Dakota, and as shown on the map accompanying the application.

TAKE NOTICE, further that the State Engineer will consider said application in his office in the State Capitol, Bismarck, North Dakota, on the 13th day of July, 1964, at the hour of 9:30 o'clock a.m. on that date, at which time and place, all persons interested may present their views in person or in writing.

Dated at Bismarck, North Dakota this 28th day of June 1964.

Milo W. Holtsveen,
State Engineer
1301 Capitol Building
Bismarck, North Dakota
(July 2-9)

NOTICE OF HEARING ON PETITION FOR APPROPRIATION OF WATER FROM GROUND-WATER SOURCES (Cottonwood Campground)

TAKE NOTICE, That National Park Service, United States of America, Department of the Interior, Medora, North Dakota, has made application to the State Engineer of North Dakota for a permit to divert and appropriate water from the ground-water sources (Cottonwood Campground).

The petition prays for a permit to divert and appropriate water from a point on the ground-water sources in the SW1/4NW1/4, Section 11, Township 140 North, Range 102 West, the average approximate amount of 0.011 cubic feet of water per second of time during the operating season, for each year said permit may remain in force, with an annual diversion of 4 acre-feet, for domestic use and fire protection in Billings County, North Dakota, and as shown on the map accompanying the application.

TAKE NOTICE, further that the State Engineer will consider said application in his office in the State Capitol, Bismarck, North Dakota, on the 13th day of July, 1964, at the hour of 9:30 o'clock a.m. on that date, at which time and place, all persons interested may present their views in person or in writing.

Dated at Bismarck, North Dakota this 28th day of June 1964.

Milo W. Holtsveen,
State Engineer
1301 Capitol Building
Bismarck, North Dakota
(July 2-9)

NOTICE OF HEARING ON PETITION FOR APPROPRIATION OF WATER FROM GROUND-WATER SOURCES (Medora Headquarters Well)

TAKE NOTICE, That National Park Service, United States of America, Department of the Interior, Medora, North Dakota, has made application to the State Engineer of North Dakota for a permit to divert and appropriate water from ground-

water sources (Medora Headquarters Well).

The petition prays for a permit to divert and appropriate water from a point on the ground-water sources in the NW1/4NW1/4, Section 10, Township 140 North, Range 102 West, the average approximate amount of 0.011 cubic feet of water per second of time during the operating season, for each year said permit may remain in force, with an annual diversion of 4 acre-feet, for domestic use and fire protection in Billings County, North Dakota, and as shown on the map accompanying the application.

TAKE NOTICE, further that the State Engineer will consider said application in his office in the State Capitol, Bismarck, North Dakota, on the 13th day of July, 1964, at the hour of 9:30 o'clock a.m. on that date, at which time and place, all persons interested may present their views in person or in writing.

Dated at Bismarck, North Dakota this 28th day of June 1964.

Milo W. Holtsveen,
State Engineer
1301 Capitol Building
Bismarck, North Dakota
(July 2-9)

NOTICE OF HEARING ON PETITION FOR APPROPRIATION OF WATER FROM GROUND-WATER SOURCES (Halliday Well)

TAKE NOTICE, That National Park Service, United States of America, Department of the Interior, Medora, North Dakota, has made application to the State Engineer of North Dakota for a permit to divert and appropriate water from the ground-sources (Halliday Well).

The petition prays for a permit to divert and appropriate water from a point on the ground-water sources in the SW1/4NW1/4, Section 12, Township 140 North, Range 102 West, the average approximate amount of 0.011 cubic feet of water per second of time during the operating season, for each year said permit may remain in force, with an annual diversion of 4 acre-feet, for domestic use and fire protection in Billings County, North Dakota, and as shown on the map accompanying the application.

TAKE NOTICE, further that the State Engineer will consider said application in his office in the State Capitol, Bismarck, North Dakota, on the 13th day of July, 1964, at the hour of 9:30 o'clock a.m. on that date, at which time and place, all persons interested may present their views in person or in writing.

Dated at Bismarck, North Dakota this 28th day of June 1964.

Milo W. Holtsveen,
State Engineer
1301 Capitol Building
Bismarck, North Dakota
(July 2-9)

NOTICE OF HEARING ON PETITION FOR APPROPRIATION OF WATER FROM GROUND-WATER SOURCES (Rasmussen Well)

TAKE NOTICE, That National Park Service, United States of America, Department of the Interior, Medora, North Dakota, has made application to the State Engineer of North Dakota for a permit to divert

and appropriate water from the ground-water sources (Rasmussen Well).

The petition prays for a permit to divert and appropriate water from a point on the ground-water sources in the SW1/4NW1/4, Section 10, Township 140 North, Range 102 West, the average approximate amount of 0.011 cubic feet of water per second of time during the operating season, for each year said permit may remain in force, with an annual diversion of 4 acre-feet, for domestic use in Billings County, North Dakota, and as shown on the map accompanying the application.

TAKE NOTICE, further that the State Engineer will consider said application in his office in the State Capitol, Bismarck, North Dakota, on the 13th day of July, 1964, at the hour of 9:30 o'clock a.m. on that date, at which time and place, all persons interested may present their views in person or in writing.

Dated at Bismarck, North Dakota this 28th day of June 1964.

Milo W. Holtsveen,
State Engineer
1301 Capitol Building
Bismarck, North Dakota
(July 2-9)

NOTICE OF HEARING ON PETITION FOR APPROPRIATION OF WATER FROM GROUND-WATER SOURCES (Peaceful Valley Ranch Well)

TAKE NOTICE, That National Park Service, United States of America, Department of the Interior, Medora, North Dakota, has made application to the State Engineer of North Dakota for a permit to divert and appropriate water from ground-water sources (Peaceful Valley Ranch Well).

The petition prays for a permit to divert and appropriate water from a point on ground-water sources in the SW1/4NW1/4, Section 12, Township 140 North, Range 102 West, the average approximate amount of 0.011 cubic feet of water per second of time during the operating season, for each year said permit may remain in force, with an annual diversion of 4 acre-feet, for domestic use and fire protection in Billings County, North Dakota, and as shown on the map accompanying the application.

TAKE NOTICE, further that the State Engineer will consider said application in his office in the State Capitol, Bismarck, North Dakota, on the 13th day of July, 1964, at the hour of 9:30 o'clock a.m. on that date, at which time and place, all persons interested may present their views in person or in writing.

Dated at Bismarck, North Dakota this 28th day of June 1964.

Milo W. Holtsveen,
State Engineer
1301 Capitol Building
Bismarck, North Dakota
(July 2-9)

Name of Paper: *Chiefly South Dakota*
Where Published: *Medora, N.D.*
Date of Issue: *7-2-64*
Sent By: *Superintendent*
Location: *Medora, North Dakota*
Way Sent: *7-2-64* Yes ☒ No ☐

NORTH KOTA STATE DEPARTMENT OF HEALTH

Division of Laboratories
Bismarck, North DakotaCounty Billings

CHEMICAL ANALYSIS OF WATER

Sample Number 63-1323 Date Received 11-7-63 Date Reported 11-19-63Cottonwood Campground Well
Source 1215' x 4" Drilled Section 11 Township 140N Range 102WSubmitted By E. L. Robinson Address Acting Supt., Medora, N. Dak.Owned By Theodore Roosevelt Nat Park Address Medora, N. Dak.
National Park Service

ANALYSIS

TOTAL DISSOLVED SOLIDS	☐ Low ☐ Fairly Low	☐ Satisfactory ☒ Average	☐ High ☐ Very High	1290	mg/l
TOTAL ALKALINITY (as CaCO ₃)	☐ Low ☐ Fairly Low	☐ Satisfactory ☒ Average	☐ High ☐ Very High	640	mg/l
TOTAL HARDNESS (as CaCO ₃)	☒ Low ☐ Fairly Low	☐ Satisfactory ☒ Average	☐ High ☐ Very High	20	mg/l
IRON (Fe)					mg/l
MANGANESE (Mn)					mg/l
pH					
CALCIUM (Ca)					mg/l
MAGNESIUM (Mg)					mg/l
SODIUM (Na)	☐ Low ☐ Fairly Low	☐ Satisfactory ☒ Average	☐ High ☒ Very High	362	mg/l
FLUORIDE (F)					mg/l
CHLORIDE (Cl)	☐ Low ☐ Fairly Low	☐ Satisfactory ☒ Average	☐ High ☐ Very High		mg/l
SULPHATE (SO ₄)	☐ Low ☐ Fairly Low	☐ Satisfactory ☒ Average	☐ High ☐ Very High		mg/l
BICARBONATE (HCO ₃)				659	mg/l
CARBONATE (CO ₃)				60	mg/l
NITRATE (NO ₃)				4.4	mg/l
CONDUCTIVITY				620	ohms
TOTAL HARDNESS				0.1	Grains/Gallon

This water would be: ☐ Excellent ☐ Good ☒ Satisfactory ☐ Usable, but not desirable ☐ Undesirable
 For a: ☒ Private Domestic Supply ☐ Municipal Supply

This water would be: ☐ Excellent for most plants under most conditions.
☐ Good for irrigation but its effect on the soil, over a period of years, may prove harmful to the more sensitive plants.
☒ May be injurious for irrigation and its effect on the soil, over a period of years, may prove harmful to all but the most tolerant plant life.
☐ A water which would be unsatisfactory for irrigation and its effect on the soil would prove harmful to all but the most tolerant of plants.

This water: ☐ Would cause staining of laundry and plumbing fixtures due to its high iron or manganese content.
☒ May prove harmful to individuals on salt-free diets. Please consult your family doctor.
☐ May exert a laxative effect upon persons unaccustomed to its high sulphate content.

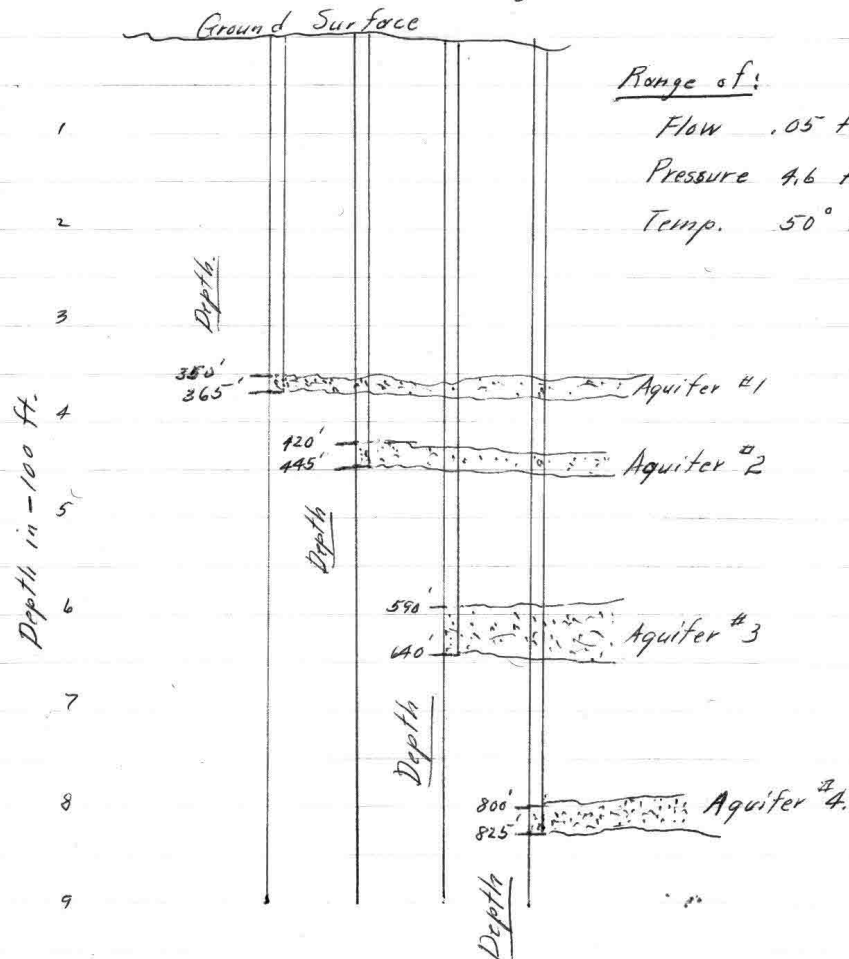
Statement: This analysis includes chemical content only, and does not determine the bacterial quality of the water.

For any further information, write to the
State Health Department, Bismarck, N. Dak.Per. Theo M. Thowen Chemist

Theodore Roosevelt.

Cottonwood Campground. Water Supply.

Ref. Letter from Joseph W Brookhart. Geologist
dated June 17, 1959



Range of:

Flow .05 to 7.5 g.p.m.

Pressure 4.6 to 20.3 p.s.i.

Temp. 50° to 59° F.

Total Drilling = 2320 Lin. Ft.

Casing = Est'd. 2400 Lin Ft.

C
O
P
Y

July 27, 1956

DRILLERS LOG OF COTTONWOOD CAMPGROUND WELL

K. D. Thompson - Dickinson, North Dakota

0-15	Yellow Galy
15-65	Blue Shale
65-75	Lignite Coal
75-180	Light Colored Shale
180-230	Sandy Shale
230-235	Brown Shale
235-255	Sand Rock
255-265	Coal
265-270	Shale
270-290	Coal
290-321	Shale
321-333	Sand and Water mixed with Shale
333-507	Shale with thin streaks of Coal
507-510	Hard Sand Rock
510-754	Hard Shale
754-766	Coal
766-788	Hard Shale
788-796	Sand and Water
796-800	Shale
800-801	Rock
801-825	Shale

4 inch casing set at 782 feet.

Well flowed 5 gal. per min.

Pump Test, 10 gal. per min. Drawdown 22 feet.

Pumptest at 15 gal. per min. Drawdown 58½ feet fall
at 15 gal., well pumped sand.

/s/ L. D. Thompson, Owner
L. D. Thompson, Owner

Other Supporting Information

STATE WATER COMMISSION
900 east boulevard
701-224-2750
bismarck 58501
north dakota

May 1, 1974

National Park Service
Medora, ND 58645

RE: Water Permit Application #1196

Dear Sir:

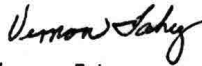
This is to notify you that in accordance with a regulation adopted by the North Dakota State Water Commission in February, 1974, all wells that have conditional or perfected water permits shall be metered by May 1, 1975.

All pending and future ground-water applications shall have metering devices installed prior to the beneficial use of the water. All existing ground-water permit holders will be allowed one years' grace (from May 1, 1974) in which to obtain and install the metering devices if meters are not presently in use.

A meter on your well will enable you to determine well and pump efficiency periodically and you will be alerted to any need for maintenance before failure occurs. Pumping rates and total pumpage figures will enable the State Water Commission to better regulate the development of our ground-water resources. Such regulation will insure the long-term dependability of this important resource.

Enclosed are specifications for water meters.

Sincerely yours,



Vernon Fahy
Engineer-Secretary

VF:RWS:s1

Encls.

CERTIFIED MAIL - NO.

GOVERNOR ARTHUR A. LINK
CHAIRMAN

DONALD E. NOTEBOOM
FAIRVIEW

ALVIN A. KRAMER
MINOT

ARNE DAHL, EX-OFFICIO MEMBER
COMM. OF AGRICULTURE

RICHARD P. GALLACHER

JAMES JUNGROTH

GORDON GRAY

VERNON FAHY, SECRETARY

Form 10-174A
(June 1962)UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPOSITION OF COST FOR COMPLETION REPORT

Work Order Number

2-WR-65B

Fund Symbol

14X1035 (0343)

Year Programmed

1963

Park

Theodore Roosevelt National Memorial Park

Region

Midwest

Location in Park

At various locations within the North and South Units of Theodore Roosevelt NMP

Work Order Title

Filings for water rights with State Water Commission; carry-over from 1963 F.Y.

COMPOSITION OF COST

COSTS CHARGED TO FUNDS ALLOTTED TO FIELD FINANCE OFFICE

(1) Personal Services.....	\$
(2) Travel.....	
(3) Contract Work.....	
(4) Supplies and Materials.....	
(5) Other Direct Expenses.....	252.70
(6) Operation of Equipment.....	~~276.70~~
(7) Depreciation of Equipment.....	

(8) Purchase of Construction Equipment.....

(9) Purchase of Other Accountable Equipment.....

(10) Other Direct Expenses.....

(11) Total Cost Charged to Field Office.....

252.70

~~276.70~~

(12) Total Cost.....

(13) Total Cost of Construction Equipment.....

(14) Total Cost of Other Accountable Equipment.....

(15) Total Cost of Other Direct Expenses.....

(16) Total Cost.....

(17) Total Cost of Construction Equipment on line 8.....

(18) Total Cost of Other Accountable Equipment.....

(19) Total Cost of Other Direct Expenses.....

252.70

~~276.70~~

Identify other costs and other credits by line item entry on an attached schedule or explain in narrative.

NARRATIVE PORTION OF COMPLETION REPORT
ON
WATER RIGHTS FILINGS
IN
THEODORE ROOSEVELT NATIONAL MEMORIAL PARK

Much of the information required to complete the eight (8) "Record of Well" forms attached is unavailable. An inspection was conducted of records in the Billings County Court House with no success. Evidently, water sources developed before the Park was established, ~~and~~ was accomplished without keeping a written record of progress.

From checking the files at Park Headquarters, it is noted that there was an interest in 1943 to obtain water rights for wells located within the Park. However, due to the lack of funds, this project did not get underway until 1962.

The completion costs of most of the wells could not be determined because the cost of the drilling operation had been included with the installation of water lines and other utilities.

~~Hand~~
WLCopy

CONSTRUCTION ITEMS		QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
100.8 UTILITIES: Sewer Systems and Water Systems:				
	<u>WATER</u>		<u>SEWER</u>	
Contract Payments	\$ 11,629.10		16,305.00	27,934.10
Personal Services	69.65		-0-	69.65
Other Direct Expense	208.74		-0-	208.74
P S & S 1961'- 18.27%	2,174.59		2,978.92	5,153.51
	<u>14,077.08</u>		<u>19,283.92</u>	
			TOTAL	33,361.00

I HEREBY AGREE WITH FFO RECORDS

Ewing F. Eilert

EWING F. EILERT, ACCOUNTING OFF.

REGION TWO OFFICE FFO

DATE DEC 4 1961

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES	
69.65			
OTHER Direct 203.74	P S & S 5,153.51		
CHANGE ORDERS			
ORIGINAL CONTRACT AMOUNT (1) 1,860.00	FIRST (1) 391.60	SECOND	THIRD
(2) 25,430.00	(2) 252.50		
FINAL CONTRACT AMOUNT (1) 2,251.60	FOURTH	FIFTH	SIXTH
(2) 25,682.50			

SUBMITTED BY (Name and title)	DATE
APPROVED BY (Name and title) <i>Wallace O. McCaw</i> Wallace O. McCaw, Supt.	DATE February 19, 1962

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

COMPLETION REPORTTheodore Roosevelt National Memorial Park

Contract No. 14-10-0232-554 - Construction of Water Lines, Sewer System and Roads, Cottonwood Campground and Reconstruction of Drainage Ditch, Medora Headquarters.

Drawing Numbers NMP-TR-3130 (5 sheets); NMP-TR-3133 (2 sheets); and NMP-TR-3134 (1 sheet).

This contract was awarded to the low bidder, Sornsin Construction Company, Fargo, North Dakota, for the sum of \$57,723.00. Three bids were received with the second low being \$59,705.50 and the third being \$77,845.00.

The starting date was June 17, 1961 with the initial completion date set at September 15, 1961. The completion date was extended to September 29 by Change Order No. 1 involving an additional compacted fill of 460 cu. yds. which increased the contract amount by \$920.00 to the final amount of \$58,643.00.

The contract essentially involved the construction of a new campground loop of 50 camp sites and a major reconstruction of the storm drainage system at the rear of the Medora Headquarters housing units and along the Park boundary. The contract was completed within the contract period with final inspection made on September 29 with the letter of acceptance, dated October 2.

The following is a copy of the final estimate listing in detail the work accomplished and costs:

ITEM NO.	CONTRACT QUANTITY	DESCRIPTION	QUANTITY TO DATE	UNIT PRICE	AMOUNT TO DATE
<u>Water and Sewer - Cottonwood Campground</u>					
1	2010	L.F. 2" G.S. pipe in place	2131	3.50	\$ 7,458.50
2	320	L.F. 3/4" G.S. pipe in place	421	3.00	1,263.00
3	7	ea. water hydrants	8	48.00	384.00
4	3	2" gate valves	4	68.00	272.00
5	660	6" V.C.T. in place	550	3.00	1,650.00
6	3	Concrete manholes	3	175.00	525.00
7	1	ea. septic tank	100%	6750.00	6,750.00
8	20	L.F. 6" C.I. soil pipe	20	7.00	140.00
9	150	L.F. 4" C.I. pipe	85	4.00	340.00
10	1	ea. subsurface and filter	100%	6900.00	6,900.00
TOTAL WATER AND SEWER SYSTEMS					\$25,682.50

ITEM NO.	CONTRACT QUANTITY	DESCRIPTION	QUANTITY TO DATE	UNIT PRICE	AMOUNT TO DATE
Roads and Parking Cottonwood Campground					
1	7330	Sq.Yd. subgrade preparation	7330	.60	\$ 4,398.00
2	815	Cu.Yd. Scoria base course	777	3.30	2,564.10
3	20	Tons binder material	none	3.30	---
4	25	Units, water	66	4.50	297.00
5	700	Gals. M.C. 1 asphalt	715	.33	235.95
6	2400	Gal. M.C. 3 asphalt	2400	.33	792.00
7	200	Cu.Yd. road mix aggregate	214	9.00	1,926.00
8	666	ea. barrier posts	125	9.00	1,125.00
8A	---	ea. barrier posts delivered but not installed, \$8.05 allowed	541	8.05	4,355.05
9	600	L.F. timber curb	600	6.60	3,960.00
10	460	Change Order #1--Cu.Yd. unclass.Exc.	460	2.00	920.00
TOTAL ROADS AND PARKING					\$20,573.10
Reconstruction of Drainage Ditch Medora Headquarters					
1	666	L.F. concrete ditch sections	666	10.00	\$ 6,660.00
2	100	L.F. concrete culverts	100	40.00	4,000.00
3	1200	L.F. dirt ditch	1200	1.00	1,200.00
4	1	Stilling basin	100%	390.00	390.00
TOTAL RECONSTRUCTION OF DRAINAGE DITCH					\$12,250.00
TOTAL					\$58,505.60

The new campground loop was constructed south of and adjacent to the previously existing 50 site loop increasing the Cottonwood Campground's capacity to 100 camp sites. The previously existing loop is designed primarily for trailer campers while the new loop is designed for and limited to tent campers.

The road system, in the main, consists of a one-way loop approximately 2,160 feet long with head in parking spurs 20 feet wide to accommodate two cars in each spur. The road profile and cross section was designed to fit the natural contours. The road was constructed with a 4 inch scoria base and a 2 inch bituminous road mixed mat. The parking areas and spurs received 4 inches of scoria but no bituminous mat. Barriers, for the most part, consist of low wood posts sparingly used with wood curbing used at two points of group parking.

The water system consists of a 1,960 foot loop of 2" G.S.P. which for the most part was installed under the road to minimize construction scars and 3/4" G.S.P. laterals providing 7 water hydrants.

The sewer system was constructed to provide sewage disposal for the two new comfort stations built under a separate contract. The system involved the laying of 550 L.F. of 6" V.C.T., 20 L.F. of 6" C.I. soil pipe, 85 L.F. of 4" C.I. soil pipe, three concrete manholes, one 3,500 gal. reinforced concrete septic tank with an automatic sewage lift pump and emergency overflow to the river, and a 30 x 60 foot subsurface sand filter.

Refuse containers, stoves, and tables were provided and installed by the Park. The Park is also topsoiling and seeding areas denuded of ground vegetation by construction activities.

Contract No. 14-10-0232-449 - Increase Depth of Well at Cottonwood Campground. (Portion of B-20).

The final contract amount paid to K. D. Thompson of Dickinson for this work was \$2,251.60.

The project was for the purpose of extending the existing water supply well for Cottonwood Campground so that the well would tap an artesian aquifer. The tapping of an artesian water supply at this well made it possible to eliminate the electric pump system and allow artesian water to flow into the reservoir by its own head.

The above final contract amount includes one change order for \$391.60 which was for the purpose of actually penetrating the artesian aquifer. The bid estimate of the required depth of the well fell about 250 feet short of the total depth required.

UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE COMPLETION REPORT OF CONSTRUCTION PROJECT			
REGION	AREA	COUNTY	STATE
Two	Theodore Roosevelt NMP	Billings	North Dakota
PROJECT OR JOB TITLE			POP NO. 61
Cottonwood Campground Water Supply System			U-38
LOCATION IN AREA		MASTER PLAN NO.	BUILDING NO.
Cottonwood Campground			
DRAWING NUMBER NO. AND TITLE			
NMP-TR-2002-1, and NMP-TR-2023-3			
APPROPRIATION TITLE AND SYMBOL			WORK ORDER NO.
Construction, National Park Service, 14X1035			332.3
CONTRACT NO.		DATE WORK STARTED	DATE WORK COMPLETED
14-10-232-149 (1)		8-6-56	7-27-56
14-10-232-151 (2)		7-10-56	7-27-56
FIRM AND HEATING		ADDRESS	
L. B. Thomson		Watford City, North Dakota Dickinson, North Dakota	
COST ANALYSIS			
CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST
Cottonwood Campground Water Supply System (Well)			3,400.00
Construction Expenses (See attached sheet)			
Contract Payment			
Cottonwood Campground Water Supply System			
Other Contractual Services (See attached sheet)			
Personal Services			244.23
Facilitating Services			209.46
Contract Payment			15,428.90
Supplies and Materials			154.36
TOTAL			19,532.95
COSTS AGREE WITH FIELD FINANCE OFFICE RECORDS - 9/26/57			
C. D. Van Kirk, Supervisory Accountant			
SUMMARY OF EXPENDITURES			
PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES	
244.23	-	154.36	
OTHER	Facilitating Services 209.46		
(1) CHANGE ORDERS			
ORIGINAL CONTRACT AMOUNT	FIRST	SECOND	THIRD
(1) 18,962.00	10-11-56	deduct 3,968	
(2) 3,240.00			
FINAL CONTRACT AMOUNT	FOURTH	FIFTH	SIXTH
(1) 15,428.90			
(2) 3,188.50			
THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES			
SUBMITTED BY (Name and title)		DATE	
APPROVED BY (Name and title)		DATE	
John W. Jay, Jr., Superintendent		4-11-57	
(ATTACH NARRATIVE STATEMENT, PHOTOGRAPHS, AND "AS BUILT" DRAWINGS TO THIS FORM)			

Form 10-174
(Rev. 8-56)UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION Two	AREA Theodore Roosevelt Nat Mem Park	COUNTY Billings	STATE North Dakota
PROJECT OR JOB TITLE Cottonwood Campground Water Supply System		MASTER PLAN NO. NMP-TR-3008-A	PCP NO. U-18
LOCATION IN AREA Cottonwood Campground, South Unit		BUILDING NO.	
WORKING DRAWING NO. AND TITLE NMP-TR-2023-P		WORK ORDER NO. 332.3	
APPROPRIATION TITLE AND SYMBOL Construction, National Park Service, 14X1035		DATE WORK STARTED Aug. 6, 1956	DATE WORK COMPLETED 2-28-57
CONTRACT NO. 14-10-232-149		ADDRESS Watford City, North Dakota	
NAME OF CONTRACTOR Thompson Plumbing and Heating			

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
2-inch galvanized steel pipe	2613 LF	2.20	\$ 5,748.60
1-inch galvanized steel pipe	1554 LF	1.95	3,030.30
3/4" water hydrants	7 ea	50.00	350.00
2-inch curb stops with extension box	4 ea	50.00	200.00
Underground steel storage tank, 25,000 gal cap.	1 ea	6,100.00	6,100.00
Other Direct Expense		Sub-Total:	\$15,428.90
Materials: 224 ft. 1" galvanized pipe	224 ft		~~89.92~~ 89.92
1" gate valve	1 ea	6.45	6.45
1" union	1 ea	1.26	1.26
1" ells	8 ea	.36	.72
1" nipples	3 ea	.22	.66
1/2" cap	1 ea	1.60	1.60
1/2" bell reducer	1 ea	.54	.54
Drilling rods and welding-labor	1 job	4.00	4.00
1" curb stops	2 ea	10.65	21.30
Labor	15 hrs.	2.27	34.05
Telephone			~~6.25~~ 6.25
TOTAL			15,590.21

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES
OTHER		
CHANGE ORDERS		
ORIGINAL CONTRACT AMOUNT	FIRST 10-11-56 deduct 3,968.00	SECOND 10-16-56 add 439.25
THIRD 1-29-57 add 590.00	FOURTH 4-11-57 deduct 8.85	FIFTH
SIXTH		
FINAL CONTRACT AMOUNT		
\$ 15,590.21		

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

SUBMITTED BY (Name and title)	DATE
APPROVED BY (Name and title) John W. Jay, Jr., Superintendent	DATE 4-11-57

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

GPO 514174

Form 10-174
(Rev. 8-56)UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION Two	AREA Theodore Roosevelt National Memorial Park	COUNTY Billings	STATE North Dakota
PROJECT OR JOB TITLE Cottonwood Campground Water Supply System (Well)		MASTER PLAN NO. NMP-TR-2023-B	BUILDING NO. 0-18
LOCATION IN AREA Cottonwood Campground		WORK ORDER NO. 332.3	
WORKING DRAWING NO. AND TITLE NMP-TR-3006-A, Water Supply System		DATE WORK COMPLETED July 27, 1956	
APPROPRIATION TITLE AND SYMBOL Construction, National Park Service, 14X1035		DATE WORK STARTED July 10, 1956	
CONTRACT NO. 14-10-232-151		ADDRESS Dickinson, North Dakota	
NAME OF CONTRACTOR K. D. Thompson			

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
Furnishing material, equipment and labor for drilling a water well at Cottonwood Campground			
6-inch bore, surface to 100 feet	100 LF	\$ 2.00	\$ 200.00
6-inch bore, 100 feet to 200 feet	100 LF	2.00	200.00
6-inch bore, 200 feet to 300 feet	100 LF	2.00	200.00
6-inch bore, 300 feet to 400 feet	100 LF	2.00	200.00
6-inch bore, 400 feet to 500 feet	100 LF	2.00	200.00
6-inch bore, 500 feet to 600 feet	100 LF	2.00	200.00
6-inch bore, 600 feet to 700 feet	100 LF	2.00	200.00
6-inch bore, 700 feet to 825 feet	125 LF	1.80	250.00
4-inch ID casing	782.5 LF	10.00	1, 408.50
Bailing test	10 1/2 Hrs	10.00	105.00
Developing well	10 Hrs	10.00	100.00
Pumping test	19 1/2 Hrs	10.00	195.00
Reaming and grouting upper 10 feet	LS	30.00	30.00
TOTAL			\$3,488.50

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES
OTHER		

CHANGE ORDERS

ORIGINAL CONTRACT AMOUNT	FIRST	SECOND	THIRD
\$3240.00	7/17/56		
FINAL CONTRACT AMOUNT	add \$300.00	FIFTH	SIXTH
\$3,488.50			

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

SUBMITTED BY (Name and title) John W. Jay, Jr. Superintendent	DATE 1-11-57
APPROVED BY (Name and title) John W. Jay, Jr. Superintendent	DATE 1-11-57

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

GPO 248179

COMPLETION REPORTCOTTONWOOD CAMPGROUND WATER SUPPLY SYSTEM

The Cottonwood Campground Water Supply System consists of a well, a reservoir, and a distribution system.

The well was drilled in July, 1956 by K.D. Thompson, Dickinson, North Dakota. The total depth of the well is 825 feet with production from a strata of fine sand between approximately 788 feet and 795 feet. Four inch ID black steel pipe is used for casing and is set to a total depth of 782½ feet. The well has an artesian flow of 5 to 6 gpm. Pump tests indicated that the well would not produce more than 10 gpm without carrying excessive amounts of fine sand and clay. Chemical analysis of the water indicated a highly mineralized alkaline quality with a high fluoride content which would be usable for domestic use but not for irrigation.

The well is considerably deeper than originally anticipated and there is not positive reason for this. Wells in the same vicinity are producing from elevations from 100 to 200 feet above this well. A water bearing sand strata was encountered at approximately 320 feet but efforts to develop this water was unsuccessful. After considerable pumping, the water failed to clear of sand and clay. There were no other water sands between this sand and the sand finally developed.

The contract for the storage facilities and distribution system was awarded in June to Thompson Plumbing and Heating of Watford City, North Dakota. Construction started early in August and was completed in October.

The storage reservoir is a 25,000 gallon (11' by 36') steel tank. It is constructed of 3/8" steel plate with butt welded joints. It is equipped with a 24" diameter manhole, water level sight gauge, 2" inlet and overflow, and 4" outlet and drain. The tank is buried in a side hill near the well approximately 100 feet above the campground.

The distribution system consists of 2613 feet of 2" galvanized steel pipe and 1554 feet of 1" galvanized steel pipe. Seven 3/4" water hydrants were installed and connections made to the two comfort stations in the campground. Minimum cover on the pipe is 5 feet. The drain line for an existing water system in the campground was utilized to drain the new water line. Hydrant faucets are the self-closing type.

An over-run of the estimated quantities was necessary to provide for the overflow from the artesian well, and due to an error in taking quantities from the plan for bid schedule. It was originally planned to use this system to serve quarters #5 and abandon the existing artesian well and pressure tank system now used. However, the quality of the water from the new well was rather poor and this plan was abandoned.

It was necessary to install 224 feet of a 1" pipe for drainage of overflow water from the artesian well towards the Little Missouri River. The 1" drain line used for the overflow from Historian residence well proved inadequate to handle the overflow for both wells. The work was added after the project has been declared completed.

The intake connections to the 25,000 water tank broke three separate times due to apparent settling of the concrete rocker supports for the tank. The breaks occurred after the tank had been covered. Only the front end of the tank was dug out to repair the broken lines. Undoubtedly the entire area under the tank and supports was soaked so the fill material under the tank has settled. The contractor should dig up the tank and repack the dirt under the tank.

During the time the tank was being covered with dirt, apparently the heavy bulldozer resulted in one end of the tank being slightly crumpled over the end of the rocker support. A later check revealed the tank was not leaking but it should be rechecked.

The water system was not used after installation was completed due to the lateness of the season although the entire system was checked. Further testing and water sample tests will be taken in the spring of 1957 before visitor use is permitted.

The system as constructed is a usable unit with sufficient capacity to handle considerable expansion of the campground use. However, the relatively low well capacity will limit expanded use unless a larger storage tank is installed. The total costs of the water system amounted to ~~\$19,532.40~~ \$19,532.40.

Approved:

John W. Jay, Jr.
John W. Jay, Jr.
Superintendent

Docket Information

Number of Documents in Docket 27

Documents Dated from 7/27/1956 to 5/1/1974

Docket Compiled: 6/21/2011