



WATER-RIGHT DOCKET

Lake Roosevelt National Recreation Area

Docket No: 6

GIFFORD CAMPGROUND WELL

Preliminary Docket Information

00-00-0000: docket information

WATER DOCKET INFORMATION

A R E A COULEE DAM NRA

DOCKET NO. 15

APPLICATION NO. 8477

PERMIT NO. 8205

CERTIFICATE NO. 6213-A

TITLE OF DOCKET GIFFORD CAMPGROUND WELL

PRIORITY MAY 30, 1966 , , January 12, 1967

REMARKS:

Certificate Record No. 13 PAGE No. 6213-A

STATE OF WASHINGTON, COUNTY OF Stevens

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 283, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Water Resources thereunder.

THIS IS TO CERTIFY That U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

of Coulee Dam, Washington, has made proof to the satisfaction of the Department of Water Resources of Washington, of a right to the use of the ground waters of a well located within SE 1/4

Sec. 10, Twp. 32 N., R. 37 E.W.M.

for the purpose of group domestic supply for public campground

under and subject to provisions contained in Ground Water Permit No. 8205 issued by the Department of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the Department of Water Resources of Washington and entered of record in Volume 13 at page 6213-A; that the right hereby confirmed dates from January 12, 1967; that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 50 gallons per minute; 2 acre-feet per year, for group domestic supply for public campground continuously during entire year

Special provisions required by the Department of Water Resources:

A description of the lands to which such ground water right is appurtenant:

That portion of the W 1/2 of Sec. 10, T. 32 N., R. 37 E.W.M. lying westerly of State Highway No. 25

Indexed 1/4 Recorded 1/4 Compared 1/4 Pages 1/4
State of Washington, County of Stevens, ss.
Filed OCT 14 1968 At 8:07 A.M.
Recorded in G of Water Rights Page 453
at request of State of Washington
Department of Water Resources

REA W. ZOONEMA
County Auditor

Call to
\$2.00

U. S. Department of Interior
Coulee Dam National Recreation Area
P.O. Box 37
Coulee Dam, Washington 99116
Attn: Albert F. Drysdale
District Ranger

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

This certificate of ground water right is specifically subject to relinquishment for nonuse of water as provided in Section 18, Chapter 233, Laws of 1967.

WITNESS the seal and signature of the Assistant Director, Division of Water Management, Department of Water Resources affixed this 10th day of October, 1968

John H. Liddle
Assistant Director
Division of Water Management
Department of Water Resources

Ground Water Permit No. 8205

**CERTIFICATE OF GROUND
WATER RIGHT**

Recorded in the Department of Water
Resources, Olympia, Washington, in Book

No. 13 of Ground Water Right

Certificates, on page 6213-A, on the

10th day of October

19 68

STATE OF WASHINGTON, }
County of } ss.

I certify that the within was received and
duly recorded by me in Volume
of Book of Water Right Certificates, at
page, on the day of

, 19

U. S. P. No. 1245-6-67-5M: 4019.

RECEIPT NO. 2207

WASHINGTON STATE
DEPARTMENT OF WATER RESOURCES

Olympia, Washington, Dec 11, 1967
RECEIVED FROM U.S.D. Natl Park Service - Coulson Dam
Twenty Dollars DOLLARS 20.00
FUND: General Rec. Rev. Weather Mod. Basic Data Cash
SOURCE: Water Code Public. tions. Adjudications Refunds Check
Per. and Lic. Investments Other M. O.

Permit fee
G.W. App # 8477
DEPARTMENT OF WATER RESOURCES
By B. Kuyper
Thank You

Washington State

DANIEL J. EVANS, GOVERNOR

H. MAURICE AHLQUIST, DIRECTOR



DEPARTMENT OF WATER RESOURCES

335 GENERAL ADMINISTRATION BUILDING
OLYMPIA 98501

PHONE 753-6166
AREA CODE 206

RECEIVED

December 18, 1967

DEC 19 1967

C. D. N. R. A.

Superintendent
Coulee Dam National Recreation Area
P. O. Box 37
Coulee Dam, Washington 99116

Dear Sir:

(your number: L54 - Gifford Campground)
Enclosed is Permit No. 8205 issued to you under
Application No. 8477. As the examination report
of our inspector indicates that you have already begun
construction on your project, we are enclosing a Notice
of Completion of Construction. Please file this notice
when you have finished the work.

Please read carefully the instruction sheet as well as
both sides of your copy of the permit.

Very truly yours,

DEPARTMENT OF WATER RESOURCES

H. W. POLLOCK, Assistant Director
Division of Water Management

HWP:lm

Enc. 5

P.S. You are enclosed Well Driller's Record. The Ground
Water Code requires that the well driller or other constructor
of work furnish a certified record of information.

S.F. 8503

STATE OF WASHINGTON
DEPARTMENT OF WATER RESOURCES
DIVISION OF WATER MANAGEMENT

**Permit to Appropriate Public Ground Waters
of the State of Washington**

Book No. 17 of Ground Water Permits, on page 8205 under Application No. 8477

U. S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

of Coulee Dam, Washington

is hereby granted a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights, and to the limitations and provisions set out herein.

Priority date of this permit is January 12, 1967

Source of the proposed ground water appropriation is a well
within area sub-area
zone Name or number of works is _____

Quantity of water appropriated shall be limited to the amount which can be beneficially applied and not to exceed 50 gallons per minute; 2 acre-feet per year to be used for the following purposes: group domestic supply for public campground
as more definitely set out below:

Location of the well, tunnel, or infiltration trench is 1300 feet west and 850 feet north
of the center of Sec. 10
being within SE1/4 of Sec. 10, T. 32 N., R. 37 E.W.M.
county of Stevens

Use, or uses to which water is to be applied:

For municipal supply: _____ gallons per minute; _____ acre-feet per year,
to supply _____

For irrigation: _____ gallons per minute; _____ acre-feet per year,
for the irrigation of _____ acres.

For miscellaneous uses: 50 gallons per minute; 2 acre-feet per year,
for group domestic supply for public campground

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

That portion of the W1/2 of Sec. 10, T. 32 N., R. 37 E.W.M. lying westerly of State Highway No. 25.

DESCRIPTION OF WORKS FROM WHICH WATER IS TO BE WITHDRAWN

The well will be drilled and have a diameter of 8 inches, and depth of 152 feet.
(Dug or drilled)

Description of tunnel or infiltration trench:

Please read carefully provisions below)

Particular specifications required by the Department of Water Resources for the purpose of preventing waste of public waters:

The installation of an access port as described in attached Ground Water Bulletin No. 1 shall be required prior to issuance of final Certificate of Water Right.

Construction work shall begin on or before Started
and shall thereafter be prosecuted with reasonable diligence and completed on or before May 1, 1970
and complete application of water to proposed use shall be made on or before May 1, 1971

Given under my hand and the seal of this office at Olympia, Washington, this 15th day of December, 1967

Fred B. Hahn Deputy Director
for Assistant Director
Division of Water Management
Department of Water Resources

Coulee Dam National Recreation Area
Box 37
Coulee Dam, Washington 99116

December 7, 1967

L54

Department of Water Resources
Division of Water Management
335 General Administration Building
Olympia, Washington 98501

Gentlemen:

Subject: Ground Water Application No. 8477

As requested in your letter of November 14, 1967, we
are enclosing Cashier's Check No. 8071572, Seattle-First
National Bank, in the amount of \$20.00 to cover the
statutory fee for the subject application.

Sincerely yours,

Mrs. Ruth S. Strock
Administrative Officer

enclosure

RS

Washington State

DANIEL J. EVANS, GOVERNOR

H. MAURICE AHLQUIST, DIRECTOR



DEPARTMENT OF WATER RESOURCES

335 GENERAL ADMINISTRATION BUILDING
OLYMPIA 98501

PHONE 753-6186
AREA CODE 206

November 14, 1967

RECEIVED

NOV 15 1967

C. D. N. R. A.

Superintendent
Coulee Dam National Recreation Area
P. O. Box 37
Coulee Dam, Washington 99116

Dear Sir:

Re: Ground Water Application No. 8477
(your number: L54 - Gifford Campground)

For your information we enclose a copy of our findings in connection with the above-numbered application.

The application has been approved and a permit will be issued in accordance with this report upon payment of the statutory fee of \$ 20.00. Please make all checks payable to the Department of Water Resources.

Very truly yours,

DEPARTMENT OF WATER RESOURCES

H. W. POLLOCK, Assistant Director
Division of Water Management

HWP:lm

Enc. 2

C. D. N. R. A.

Report of Examination on Ground Water

Received date January 12, 1967 Date of exam. April 26, 1967 Appl. No. 8477
 United States Department of the Interior
 Name National Park Service Address P. O. Box 37, Coulee Dam, Wash.
 Type of works a well Dimensions 8" x 152"
 Progress of works Started Permanent pump not installed
 Quantity applied for 50 g.p.m. 2.0 acre-feet per year
 Legal sub. SE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 10 Twp. 32 N. Rge. 37 E. County Stevens
 Use group domestic supply for public campground
 Irrigation-acreage: Present - Planned - Feasible -
 Municipal: Population - as of -
 Industrial -
 Time pump will be operated continuously
 Other water rights appurtenant to this land None
 Proximity to existing works, springs, wells, or streams Franklin D. Roosevelt Lake - 125 feet
 Area - Sub-area - Zone -

RECOMMENDATIONS

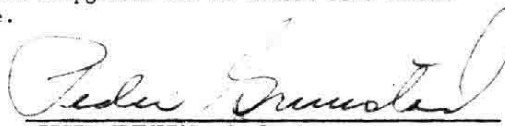
Approved for 50 g.p.m. 2 acre-feet per year, subject to existing
 water rights. (1 acre-foot 325,850 gallons.)

The installation of an access port as described in attached Ground Water Bulletin No. 1 shall be required prior to issuance of final Certificate of Water Right. The applicant may, for his own convenience, wish to install an air-line and gage in addition to the access port.

Use of the waters to be appropriated under this application will be for a public water supply. State Board of Health rules require every owner of a public water supply to obtain written approval from the State Director of Health prior to any new construction or alterations of a public water supply. The applicant is advised to contact the Washington State Department of Health, 304 Public Health Building, Olympia, with regard to the need for compliance.

Presently there are 9 campsites at Gifford Campground and no modern rest rooms. At least one is projected for the future.

Signed at Olympia, Washington
 this 10th day of November, 1967.


 FEDER GRIMSTAD, Geologist
 Division of Water Management

Coulee Dam National Recreation Area
P. O. Box 37
Coulee Dam, Washington 99116

L54

February 24, 1967

Benjamin Weisberg, Engineer
Division of Water Resources
Department of Conservation
State of Washington
335 General Administration Building
Olympia, Washington

Dear Mr. Weisberg:

We are enclosing Affidavit of Publication covering Ground Water
Application No. 8477.

Sincerely yours,

Charles P. Woodbury
Acting Superintendent

enclosure

cc:
Manuel Morris, SLW

Stationers

The Statesman-Examiner

211-213 S. MAIN STREET COLVILLE, WASHINGTON

AMOUNT OF REMITTANCE STATEMENT FOR MONTH OF Feb. 1967

Coulee Dam National Recreation Area

Coulee Dam, Washington 99116

C. ...

PLEASE RETURN THIS CARD WITH YOUR REMITTANCE
ON OR BEFORE THE TENTH OF THE MONTH

Inches		Total	
1st Week	2nd Week	3rd Week	4th Week
		Display Advertising	
DATE	DESCRIPTION	CHARGE	CREDIT
2/18/67	Notice of Water Right Application No. 8477	6.69	
			6.69**

2/C 973-06060

The State of Washington, Colville, Washington

AFFIDAVIT OF PUBLICATION

NOTICE OF GROUND WATER RIGHT APPLICATION NO. 8477
 State of Washington Office of Supervisor of Water Resources, Olympia.
TAKES NOTICE:
 That U. S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE of Coulee Dam, Washington on January 12, 1967, filed application for permit to withdraw public ground waters through a well situated within SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 10, Township 32 N, Range 37 E W.M. in Stevens County, Area, Sub-area, Zone, in the amount of 50 gallons per minute, subject to existing rights continuously, each year for the purpose of group domestic supply for a public campground.
 Any objections must be accompanied by a two dollar (\$2.00) recording fee and filed with the State Supervisor of Water Resources within thirty (30) days from Feb. 17, 1967.
 Witness my hand and official seal this 24th day of January, 1967.
 FRED D. HAHN,
 Acting State Supervisor of Water Resources,
 Feb. 10-Feb. 17, 1967

State of Washington, County of Stevens, ss.

Chas. Graham, being first duly sworn, deposes and says that he is publisher of THE STATESMAN-EXAMINER, a weekly newspaper printed and published at Colville, Stevens County, Washington, and of general circulation in said county and state, and that the notice of which the annexed is a printed copy, was published in the regular and entire issue of said newspaper for a period of 2 consecutive weeks; that the first publication thereof was made on the 10th day of February, 1967, and the last publication was made on the 17th day of February, 1967, and that said newspaper was regularly distributed to its subscribers during all of said period, and that the said notice was published in said newspaper proper and not in supplement form.

And affiant further swears that THE STATESMAN-EXAMINER is a legal newspaper and has been established, published and circulated continuously, as a weekly newspaper, published in the English language, in the said City of Colville for at least six months prior to the date of the first publication of the notice referred to in this affidavit, that the full amount of fee charged for said publication is \$, and said fee has been paid in full.

That the said newspaper, THE STATESMAN-EXAMINER, as by law provided, was approved as a legal newspaper, on May 7, 1948, by order of the Superior Court of the State of Washington, in and for the County of Stevens, in which county said newspaper is published.

Subscribed and sworn to before me this 18th day of February, 1967.

Notary Public in and for the State of Washington, residing at Colville, Washington.

January 27, 1967

cc
Office, Land & Water Rights, WR



DANIEL J. EVANS
GOVERNOR

*Gifford Campbell
Coulee National Recreation Area*
STATE OF WASHINGTON
Department of Conservation
H. MAURICE AHLQUIST, DIRECTOR
335 GENERAL ADMINISTRATION BUILDING
OLYMPIA

January 23, 1967

DIVISIONS:
RECLAMATION
FLOOD CONTROL
WATER RESOURCES
MINES AND GEOLOGY
COLUMBIA BASIN PROJECT
POWER RESOURCES
WEATHER MODIFICATION
SOIL & WATER CONSERVATION
COMMITTEE

Mr. Manuel Morris
Supervisory Hydraulic Engineer
San Francisco Planning and Service Center
Office of Land and Water Rights, N.P.S., USDI
450 Golden Gate Avenue, Box 36063
San Francisco, California 94102

Dear Sir:

RE: Your L54 SSCLW

OUR: Ground Water Application No. 8477

In compliance with request expressed in your letter of January 10, 1967, we enclose herewith the receipt for ten dollars (\$10.00), examination fee, in connection with your application to appropriate water from a well within Sec. 10, T. 32 N., R. 37 E.W.M.

Very truly yours,

DEPARTMENT OF CONSERVATION

Benjamin Weisberg
BENJAMIN WEISBERG, Engineer
Division of Water Resources

BW:es

Enc.

SAN FRANCISCO PLANNING AND SERVICE CENTER
Office of Land and Water Rights
450 Golden Gate Avenue, Box 36063
San Francisco, California 94102
January 10, 1967

LS4 SSCLW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. H. W. Pollock, Supervisor
Division of Water Resources
Department of Conservation
335 General Administration Building
Olympia, Washington

Dear Mr. Pollock:

Enclosed is our application for a permit to appropriate public ground waters of the State of Washington, for a water well located at Gifford Campground, within the Coulee Dam National Recreation Area. We are enclosing in cash the examination fee of \$10.00. The receipt for this cash payment should be mailed directly to my attention at the following address: San Francisco Planning and Service Center, Office of Land and Water Rights, 450 Golden Gate Avenue, Box 36063, San Francisco, California 94102. Further correspondence related to this application should be directed to the Superintendent, Coulee Dam National Recreation Area, P.O. Box 37, Coulee Dam, Washington 99116.

Sincerely,

(Sgd) MANUEL MORRIS

Manuel Morris
Supervisory Hydraulic Engineer

Enclosures

cc:
Regional Director, WR, w/o enc.

S. F. No. 376-B-OS-3-62-75C



\$10.00 examination fee should
accompany each application.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
Division of Water Resources

APPLICATION FOR A PERMIT
To Appropriate Public Ground Waters
OF THE STATE OF WASHINGTON

Application No. G. W.

I, U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE
(Name of applicant)

of P.O. Box 37, Coulee Dam, Washington
(Complete post office address)

do hereby make application for a permit to appropriate the following described public ground waters of the State of Washington, subject to existing rights. This application is made under the provisions of Chap. 263 of the Session Laws of 1945, and amendments thereto of the State of Washington and subject to the rules and regulations of the Department of Conservation, Division of Water Resources.

1. The proposed appropriation will be from Well
(Well, tunnel, infiltration trench)

located 28 miles south of Kettle Falls, Washington, on State Highway 25
(Give approximate distance and direction from nearest city or town)

Area Sub-area
(Leave blank) (Leave blank)

Zone
(Leave blank)

Applicant's name or number of well or other works, if any Gifford Campground

2. The quantity of water which applicant intends to withdraw for beneficial use is 50
gallons per minute; 2.0 acre feet per year.

3. The use or uses to which water is to be applied Domestic supply for a public
campground
(Domestic supply, irrigation, municipal, manufacturing, industrial use, etc.)

4. The time during which water will be required each year April through October

5. Location of well or other works for withdrawal of water: In county of Stevens

(a) Approximately 1500' northwest from center of Section 10
(Give distance and bearing from nearest corner of section or legal subdivision)

being within the SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Sec. 10, Twp. 32 N., Rge. 37 E.
(Give smallest legal subdivision) (E. or W.)

or (b) If within limits of recorded platted property, town or city: Lot, Block

of
(Give name of plat or addition) (If within town or city, give name)

(c) Show this location on accompanying section plat. Other adequate maps or drawings will be acceptable.

6. DESCRIPTION OF WORKS:

(a) Well will be drilled and have a diameter of 8 inches and an estimated depth of 152 feet.
(Dig or drilled)

(b) Tunnels or trenches to be described: *(Attach additional sheets if needed for full description.)*

(c) Distribution system to be described:

Proposed system will consist of cement-asbestos or iron pipe to distribute water through the campground with connections to restrooms.

(d) If pumps are to be used, give size and type:

Probably deep well turbine of 35 to 50 gpm capacity.

(e) Give capacity and type of motor or engine to be used:

Electric motor of 5hp.

(f) If the location of the well, tunnel, or other works is less than one-fourth mile from a natural stream or stream channel, give the distance to the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development:

Approximately 125 feet from Franklin D. Roosevelt Lake and 12 feet higher in elevation.

(g) Ownership of each existing well or other works from which ground water is withdrawn within a radius of one-quarter mile and the distance and direction from well or other works being reported herein:

<u>None</u>		
(Name)	(Direction)	(Distance)
<u></u>		
(Name)	(Direction)	(Distance)
<u></u>		
(Name)	(Direction)	(Distance)

SUPPLY THE FOLLOWING INFORMATION ACCORDING TO USE PROPOSED:

7. For Municipal Supply: To supply the city, town, or community of public campground, in the county of Stevens, having a present population of 30, and an estimated population of 200, in 1975.

8. For Irrigation: Number of acres to be irrigated 0 acres.

9. Legal Description of Property on which water is to be used for all purposes other than municipal supply:

(Copy legal description from deed)
(If more space is required, attach separate sheet)

(On accompanying plat show location of the existing wells or works)

10. What interest do you have in the above described property?

Owner

(Owner, lessee, contract buyer, etc.)

11. Do you have any other water rights appurtenant to the above described property?

If so, from what source?

12. Construction work will begin on or before **March 30, 1966**

13. Construction work will be completed on or before **May, 1970**

14. Water will be put to complete beneficial use on or before **May, 1970**

Nothing herein shall constitute a waiver by the United States of any rights, title, priority or interest it may otherwise have to the use of this or any other water in the State of Washington.

(Sgd) **MANUEE MORRIS**

Supervisory Hydraulic Engineer

15. Name and address of owner of land on which well or works are located:

(Name)

(Address)

(Signature of legal landowner)

Signed in the presence of us as witnesses:

(Name)

(Address of witness)

(Name)

(Address of witness)

STATE OF WASHINGTON, }
COUNTY OF THURSTON. } ss.

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

In order to retain its priority, this application must be returned to the State Supervisor of Water Resources, with corrections, on or before _____, 19____

WITNESS my hand this _____ day of _____, 19____

State Supervisor of Water Resources.

DIRECTIONS FOR PREPARING APPLICATIONS

1. Initial examination fee of \$10.00 should accompany each application. If additional fee is required, you will be notified.
2. Write plainly in ink or use typewriter.
3. Read carefully all questions. Answer only those that apply to your project.
4. Under Question 2 estimate in gallons per minute and acre-feet per year the quantity of water that will be required for your proposed use.
5. A map showing the location of well or other works and place of use, must be made on the enclosed section plat. If for irrigation, show the approximate area to be irrigated. Show also location of other existing wells or other works for withdrawing ground water within a radius of one-quarter mile.
6. In answering Question 5, give the distance and direction of location of well or other construction works for withdrawal of water from the nearest 40-acre corner or other legal subdivision, as
"320 feet north and 1100 feet east from the southwest corner of Sec. 1, Twp. 13 N., Rge. 2 E.W.M.," or
"North 36° 20' east 500 feet from the northeast corner of NW¼ of SW¼ of Sec. 33, Twp. 12 N., Rge. 3 E.W.M.," or
If within the limits of incorporated town or city:
"Lot 4, Block 6 of Churchill's Addition to the City of Spokane, Washington."
7. Be sure to give on the map brief directions for driving to the location of the well or other works from some town or easily located point on a state highway. This is for our convenience in making the examination.
8. If you have been using ground water since **before June 7, 1945**, it will not be necessary to secure a permit from the state for
9. Sign application on the line indicated under Section 14.

SCHEDULE OF FEES DUE IN CONNECTION WITH OBTAINING GROUND WATER RIGHTS

Examination Fees: There is a minimum fee of \$10.00 for each application received. This fee covers all withdrawals up to and including 2250 gallons per minute. There is an additional examination fee of \$2.00 for each 450 gallons per minute, or fraction thereof, over 2250 gallons per minute.

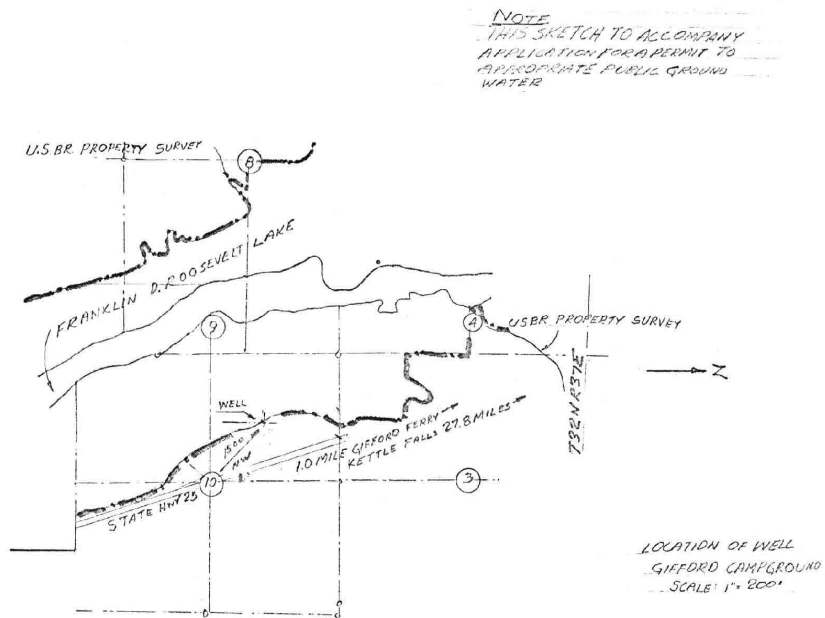
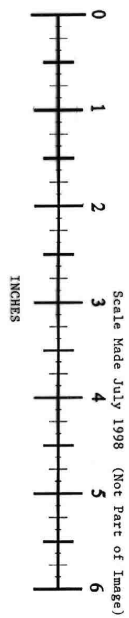
Fees for Filing and Recording Permits: There is a minimum fee of \$4.00 for filing and recording permit. This fee covers irrigation of up to and including 20 acres.

For irrigation of over 20 acres, there is an additional fee as follows:

- 20¢ per acre over 20 acres to 100 acres, inclusive;
- 10¢ per acre over 100 acres to 1000 acres, inclusive;
- 5¢ per acre over 1000 acres.

Permit fee for other uses: Twice the examination fee.

Fee for filing and recording certificate: There is a minimum fee of \$3.00.



Supporting Hydro Data

LW SSC
USGS Report 1969

Gifford

CODA
Docket #15

Gifford campground is on the east shore of the lake, and extends from 1 to 1¼ miles south of the town of Gifford (figs. 1 and 22). The presently (1968) developed campground is at the south end of the Gifford area. In 1964, a well was jetted to 21 feet in silt near the center of the campground. During the summer of 1965, water from this well became turbid and contained silt. In response to a request from the National Park Service in the spring of 1966, a well site was selected, and Geological Survey supervision was provided for drilling an 8-inch diameter well. The well was finished at a depth of 152 feet, and water is temporarily being supplied to the campground by a hand pump.

A large amount of gravel is exposed along the shore at low water near the launching ramp. That gravel is concentrated in an area in line with Buck Canyon, and is interpreted as being a deltaic deposit from the tributary drainage of Buck Canyon. The gravel is interbedded with glacial-lake clay and silt.

The new well penetrated 15 feet of water-yielding sand and gravel between 137 and 152 feet (table 13). A screen with 0.080-inch slots was installed between 140 and 146½ feet. The well was surged and developed for 25 hours. A step-drawdown pumping test was performed on April 22, 1966, at rates ranging from 75 to 317 gpm. The pumping rates and other information derived from the test are summarized below:

Step	Time since pumping began (min.)	Rate (gpm)	Cumulative drawdown (ft)	Specific capacity (gpm/ft)
1	35	75	2.95	25.4
2	102	160	6.85	23.4
3	169	210	7.97	26.3
4	222	266	10.15	26.2
5	227	317	12.32	25.7

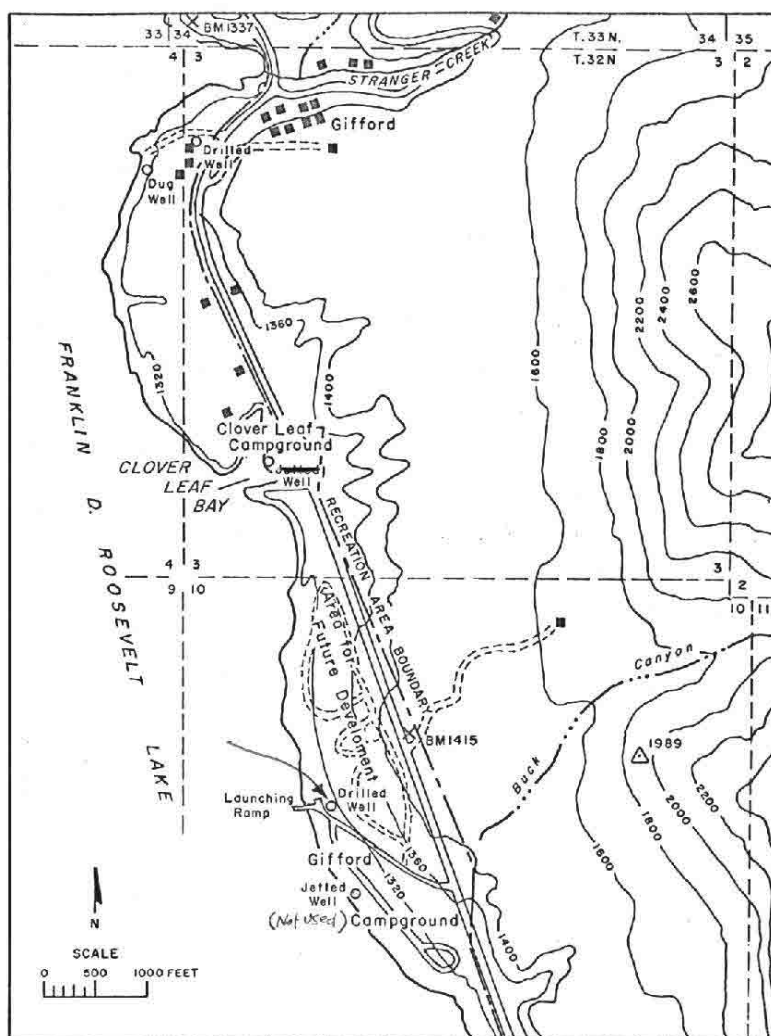


FIGURE 22.--Gifford campground and Clover Leaf campground (Nos. 21 and 22 on fig. 1). Base from USGS quadrangle and NPS master plan.

TABLE 13.--Log of the well at Gifford campground

Drilled by Bach Drilling Co., 1966; altitude 1,302 ft; 8-inch casing to 140 ft; 10-ft screen, 0.080-inch slot, exposed 140-146.5 ft; water level 51.98 ft below land surface, 4-22-66; 75 gpm for 35 min, drawdown 2.95 ft.				
	Thick- ness (feet)	Depth (feet)		
Topsoil and gravel, mixed-----	4	4		
Gravel and boulders-----	12	16		
Gravel and clay, mixed-----	48	64		
Sand and gravel, mixed with clay-----	10	74		
Sand and some fine gravel-----	10	84		
Sand, fine, and silt-----	51	135		
Sand and gravel-----	1	136		
Sand, medium, clean-----	1	137		
Sand, coarse, and some gravel, water-bearing-	1	138		
Gravel, thin layer of cobbles (3 to 6 inch				
diameter) at base, water-bearing-----	6	144		
Sand and gravel, water-bearing-----	5	149		
Sand, coarse, and some gravel, heaving-----	1	150		
Sand, medium to coarse, and fine gravel;				
heaved 6 ft into well-----	2	152		

A water sample collected from a hand pump withdrawing between 3 and 4 gpm for 15 minutes was very hard and contained much iron (table 3). Later, at the time the well was test pumped, another sample was collected. As analyzed by the Washington State Department of Health, that sample had an even higher hardness (320 mg/l), and a much lower iron content (0.21 mg/l).

The results of the pumping test indicate that the well could be pumped at rates up to 1,000 gpm. This yield is sufficient to meet all the needs of the Gifford campground area, and it could also supply the Clover Leaf campground which is less than three-quarters of a mile north of the well.

Clover Leaf

Clover Leaf campground is on the east shore of Roosevelt Lake, halfway between Gifford campground and the town of Gifford. The campground is on the east side of a small bay (figs. 1 and 22). Water is supplied to the area from a small-diameter 30-foot well jetted into silt and fine sand by the National Park Service in 1956.

A hummocky surface just east of the bay suggests that landsliding may have occurred. A small valley extending northeastward from the north end of the bay appears to be an abandoned channel of Stranger Creek which now flows into Roosevelt Lake at the town of Gifford, half a mile north of the bay. This indicates that the Stranger Creek drainage flowed through the Clover Leaf area and may have left deltaic deposits interbedded with the glacial-lake clay and silt. Just north of the bay, silty sand overlies sand and gravel crossbedded toward the south-southwest at altitudes ranging from 1,295 to 1,310 feet. The crossbedded sand and gravel in turn overlie silt at 1,293-foot altitude. Immediately south of the bay, silt and clay overlie sand and very fine gravel at altitudes ranging from 1,295 to 1,310 feet. At the bay this sand and very fine gravel extend from the surface to an unknown depth below lake level.

RECEIVED

WASHINGTON STATE DEPARTMENT OF HEALTH
SMITH TOWER, SEATTLE, WASHINGTON 98104

WF-H#7-7/64

WATER SAMPLE INFORMATION FOR CHEMICAL ANALYSES

MAY 6 1966 (Fill out completely - Use PENCIL only please - ink will run)

City or Town Coulee Dam National Recreation Area
 Date collected April 29, 1966 County Okanogan Collected by Alva D. Conner
 Source of Water: Lake _____ Stream _____ Well xx Spring _____ Other _____
 (please name)

Sample collected from Public Water System at: Well at Gifford Camp Ground Street _____

Taken from: Pump _____ Storage Tank _____ Faucet _____ Hydrant _____ Other _____
 This water is Untreated (xx) Filtered () Treated ()

Indicate type of water treatment NoneField tests: pH _____ Temperature Assume 15° C Alkalinity _____REMARKS: Complete analysis

PLEASE DO NOT WRITE BELOW THIS LINE - FOR LABORATORY USE ONLY

	ppm	epm		ppm	epm
Silica (SiO ₂)	14.50		Bicarbonate (HCO ₃)	* 272.06	4.46
Aluminum (Al)			Carbonate (CO ₃)		
Iron (Fe)	.21				
Manganese (Mn)	.030		Sulfate (SO ₄)	58.0	1.21
			Sulfite (SO ₃)		
			Chloride (Cl)	1.50	.04
Calcium (Ca)	84.51	4.22	Fluoride (F)	.13	.01
Magnesium (Mg)	26.48	2.18	Nitrate (NO ₃)	8.52	.14
Sodium (Na)	4.35	.19	Nitrite (NO ₂)	.013	-
Potassium (K)	3.51	.09	Phosphate (PO ₄)	.38	.01
TOTAL		6.68	TOTAL		5.87
			ppm		
pH, Lab		7.18	Suspended Solids		4.1
Specific conductance (micromhos/cm, 25°C)		506.0	Dissolved Solids		354.2
			Total Solids		358.3
Turbidity (units)		8	a) Total Solids		335.9
Color (units)		4			
Odor (threshold dilution factor)		nil	Total Hardness (CaCO ₃)		320.0
Taste (threshold dilution factor)		nil	Alkalinity (CaCO ₃)		223.0
			a) Noncarbonate hardness (CaCO ₃)		97.0
a) Free CO ₂ (ppm)		31.7	a) Calcium hardness (CaCO ₃)		211.0
Lab Temperature °C			a) Magnesium hardness (CaCO ₃)		109.0
			a) Calculated hardness (CaCO ₃)		320.0

a) Calculated values

* Converted to CO₂ when calculating total solidsDate received May 2, 1966 Date completed May 3, 1966 By J. Shackelford Lab # 467

LOG OF DRILLING REPORTS
Gifford Campground Well, Coulee Dam
Bach Drilling Co. Blue Lake, Coulee City, Wash.

DATE	DEPTH	MATERIAL	REMARKS
3/29/66	0 to 5'-0	top soil gravel mixed	started with 21'-0" casing
3/30/66	5 to 15'-0	" hit 10'-boulder	some problems w/ boulder
3/31/66	15' to 17'	gravel	" "
4/4/66	17' to 30'	gravel, clay	added 19'-3" casing total- 40'-3"
4/5/66	30' to 55'	" "	added 19'-5" casing cut off 8'-10" total 48'-11"
4/6/66	55' to 65'	" "	added 10'-0" casing total 58'-11"
4/7/66	70' to 85'	sand, gravel, clay	more sand than gravel at 80'-0" added 10'-2" total 88'-7"
4/11/66	85' to 110'	fine sand and silt from 87'-0 to 110'-0	added 15'- casing; 10'6" casing total - 114'-1" Static water 74'-0" from ground surface - 12'-0" water in Hole.
4/12/66	110' to 130'	fine sand and silt 115' to 130'	11'-0" & 10' - casing added total 135'-1"
4/13/66	130' to 145'	fine sand to heavy gravel from 137' to 145'	added 11'-0" casing total 146'-1" static water 98'-0" from ground surface.
4/14/66	145' to 152' well drilled		added 6'-1" casing total 152'-2" ground water 72'-0" from surface.
4/18/66 4/19/66 4/20/66	INSTALLED SCREEN, AND STARTED TO SURGE & BAIL		
4/21/66	152'-2"	SURGING; WELL CLEANED UP READY TO PUMP	
4/22/66 4/23/66	PUMPED 8 HRS- PUMPED WELL; SAND PUMPED AND WELDED PLATE ON CASING. ALMOST NO SAND IN THE BOTTOM OF SCREEN AFTER PUMPING.		

Other Supporting Information



*Supplied to
Hunters*

UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY
Water Resources Division
1305 Tacoma Avenue South
Tacoma, Washington 98402

IN REPLY REFER TO:

June 9, 1966

Mr. Manuel Morris, Hydraulic Engineer
Western Regional Office
National Park Service
450 Golden Gate Avenue
San Francisco, California 94102

Dear Mr. Morris:

Reference is made to your request for information concerning disposition of the new well at Gifford. We wish to report that the well drilled at the Gifford campground was completed April 14, 1966. The 10-foot screen purchased for the Hunters Park well was installed at Gifford instead. About 6-1/2 feet of the screen exposed to the aquifer, from 140 to 146-1/2 feet below land surface.

After surging the well, it was test pumped at rates up to 300 gpm, and at this rate, the water level drew down 12 feet. The results of this test indicated that the well could be pumped at rates up to 1,000 gpm. Detailed information and records concerning drilling and development of the well will be supplied soon in line with our reporting commitments to your agency.

Attempts to develop the first well drilled at Hunters Park have been abandoned. Drilling of the second well in a new location has been completed and the well has, I understand, penetrated a substantial thickness of water-yielding material. It should yield enough water for all anticipated needs at the campground.

Sincerely yours,

L. B. Laird
District Chief

SAN FRANCISCO PLANNING AND SERVICE CENTER
Office of Land and Water Rights
450 Golden Gate Avenue, Box 36063
San Francisco, California 94102
May 23, 1966

L54

Gifford, Coulee Dam

Memorandum

Morris

To: Superintendent, Coulee Dam

From: Supervisory Hydraulic Engineer, SSC

Subject: Gifford well, Coulee Dam

Receipt of the water analysis and the contractor's drilling reports on the subject well are appreciated. We are not able at this time to convert the reports to a more graphic form by plotting the information as a well log. We hope to be able to accomplish this soon and a copy will be furnished to you.

A summary of the drilling reports is as follows:

Drilling started on March 29, 1966, and the contractor completed all his operations on April 23, 1966. The drilled depth is 152 feet and 152 feet 2 inches of 8-inch casing was installed. The static water level is 72 feet measured from the surface. A screen furnished by the Government was installed, but details of the screen design are not known. Some difficulty was noted by the contractor in installing the screen. He pulled the casing back 2 feet and the screen stayed up 3½ feet, due to heaving. In failing to properly position the screen, he pulled the casing. There is no indication of level of reset screen and casing. Twenty-five and a half hours were spent surging and bailing--a portion of this time was used in preparation for pumping. Twelve hours were spent on the pumping test--part of this time was spent in pulling the pump, loading tools and welding a plate on the casing. The actual pumping time is not known. The well driller reports that the well was pumped at 300 gpm with "close to 11 feet drawdown".

It is anticipated that a more detailed report will be received from the USGS who had a hydrologist present during the entire drilling and testing operation.

It is noted that the State of Washington Department of Public Health prepared the chemical analysis of the water samples. If there are any cost involved, we would prefer to have the USGS laboratory process these analyses and issue

reports for us. It may be that USGS in Washington does not have a laboratory and the State is more convenient. However, these analyses are usually a part of our project work and, consequently, no charge is made by the USGS.

(Sgd) MANUEL MORRIS

Manuel Morris

cc:

Chief, D&C, SSC, w/c laboratory report

MMorris:pm

L-54 Olym

SAN FRANCISCO PLANNING AND SERVICE CENTER
Office of Land and Water Rights
450 Golden Gate Avenue, Box 36063
San Francisco, California 94102
May 4, 1966

CODA

L-54

Memorandum

To: Assistant Director Specialized Services
Attention: Chief, Branch of Water Resources

From: Supervisory Hydraulic Engineer, SSC

Subject: Water resources investigations - Coulee Dam and Olympic

Enclosed is a copy of the letter from District Chief L. B. Laird of the USGS Water Resources Division at Tacoma, Washington. There are also attached copies of SF 1031 for reimbursement of \$3,125 and \$9,375 for water resource investigations conducted at the subject areas.

At Coulee Dam, Work Order 4-WR-66B provided a total of \$19,250 of which \$1,250 was a carryover from 1965. All together, \$5,250 was allotted for USGS assistance. As of this date, the costs of all construction and investigations under the current program at Coulee Dam are as follows:

Spring Canyon:

Well drilling	\$3,736.25
USGS assistance	<u>750.00</u>
Total	\$4,486.25

San Poil:

Well drilling	\$2,943.75
USGS assistance	<u>750.00</u>
Total	\$3,693.75

Gifford:

Well drilling	\$2,847.50
USGS assistance	<u>500.00</u>
Total	\$3,347.50

Hunter:

Well drilling	\$3,230.00
USGS assistance	<u>750.00</u>
	\$3,980.00

Appraisal costs, as distinguished from direct supervision of test well construction at the well sites named, in 1966 amounted to \$2,500. The aggregate for all U.S.G.S. assistance totals \$5,250, liquidating all funds allocated for U.S.G.S. assistance in the 1965 carryover and the 1966 fiscal year. Of the \$14,000 allotted for construction and park assistance, the aggregate construction cost to date amounts to \$12,727.50, leaving an unexpended balance of \$1,272.50.

There does remain the following additional work still to be accomplished during the current fiscal year at Coulee Dam:

The Hunter Campground well drilling was unsuccessful, although water was reached. The water was turbid, originating in a clayey deposit, and attempts at development or treatment were unsuccessful. Under the directions of the USGS Hydrologist, another site at Hunter has been selected and drilling is now in progress. Failure of the first well was believed to be due in part to driller incompetence, a condition we hope has been remedied by a change in Contractor personnel and by the continuous presence of the USGS Hydrologist. The estimated cost of the new drilling will exceed the available \$1,272.50, but the additional funds required are believed to be or can be made available from other items within the 4-WA-66B work order. You will note also that Mr. Laird's letter requests an additional \$3,500 for assistance at Hunter's as well as reimbursing some remaining costs at Clifford. In a telephone discussion with Mr. Laird it was agreed this money may be available this fiscal year from funds resulting from year-end program adjustments, or in the next fiscal year. If necessary, we will include this in the proposed work order for fiscal 1967.

At Olympic, the work order provided \$12,250, of which \$2,250 was a carryover from 1965; \$7,250 was allotted to the U.S.G.S. for studies and the remainder was to be used for construction. The U.S.G.S. has, in two billings, requested reimbursement of the full \$7,250. The SF 1081 for \$9,375 includes payments as follows:

FY 1966	\$3,167.50
1965 carryover	<u>2,250.00</u>
Total	\$5,437.50

The SF 1081 requesting a reimbursement of \$3,125 includes \$1,612.50 for work at Olympic, total both SF 1081, \$7,250. The remainders of the reimbursements requested in the two cited 1081's are for costs of the Survey at Coulee Dam. These figures will again be reflected in Table A when it is submitted to you.

(Sgd) MANUEL MORRIS

Manuel Morris

Enclosures

cc:

Supt., CODA w/o enc.

Supt., OLYM w/o enc.

Regional Director, Western Division, via enc.

MMorris:pm

OPTIONAL FORM NO. 10
5010-108

UNITED STATES GOVERNMENT

*See Gifford
CODA*
Memorandum

TO : Manuel Morris - Office of Land and
Water Rights

FROM : Coulee Dam

SUBJECT: Wells -

Attached is the bill for the well at Gifford. Al asked me to tell you he overlooked the screen installation when he gave you the figures on this well, and the correct balance is now \$1,198.50.

Ruth Stank

RECEIVED	
San Francisco Office	Service Center
NATIONAL	2015
APR 26 1966	
DATE: 4-26-66	



LS4 Hunter CODA
LS4 Gilchrist CODA

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Water Resources Division
1305 Tacoma Avenue South
Tacoma, Washington 98402

IN REPLY REFER TO:

RECEIVED San Francisco Environmental and Service Center Office of Land and Water Service NATIONAL PARK SERVICE APR 26 1966	
ACT. INFO. CHIEF ASST. CHIEF Mr. J. A. R. Storck, Mr. Eng.	INITIALS (DAY) <i>Wm E</i>

Mr. Manuel Morris, Hydraulic Engineer
Western Regional Office
National Park Service
450 Golden Gate Avenue
San Francisco, California 94102

Dear Mr. Morris:

Further reference is made to our letter to you of March 30, 1966 in which were outlined several steps that could be taken in an effort to rehabilitate the newly-drilled well at Hunters Campground, in the Coulee Dam National Recreational area. In addition to accomplishing most of the items suggested in our letter, an attempt was made to speed the cleaning process by treating with dry acid. During pumping subsequent to the acid treatment a sudden drop in water level was experienced, which likely indicated a cave-in. The water being pumped immediately became more turbid.

It is our understanding that Park Service personnel have decided to stop any further development of the present Hunters well and that they plan to let another contract for drilling a new well at an alternate site some distance away from the present site. We understand an attempt will be made to complete the new well this fiscal year. We are in agreement with the decision to move to a completely new location which was recently agreed on by Park Service personnel and Mr. Anderson of this office. This site is intermediate between the one actually drilled and that recommended in our letter of June 7, 1965. Recent investigations have shown that a location within the limits of the existing campground appears to have at least equal opportunity for development of adequate water supply while being considerably closer to the use area.

In compliance with your recent telephone conversation we are enclosing a form 1081 covering the balance of the participation of the Geological Survey authorized under purchase order 940-133 dated September 10, 1965. A cost estimate covering all planned activity beyond that point is itemized below:

Gifford

Surveillance of drilling and developing well	\$1,250
--	---------

Hunters

Surveillance of attempt to redevelop well	800
Subtotal (if new well not drilled at Hunters 1966 fiscal year)	\$2,050

Surveillance of drilling and developing new well	1,450
Total (if new well drilled at Hunters 1966 fiscal year)	\$3,500

Included in the above summary is a small amount of general geologic reconnaissance which has been and will be done during surveillance periods. This is not intended to broaden the scope but will, in effect, speed up some of the phases that would have been done next year and covered by next years funds.

Sincerely yours,



L. B. Laird
District Chief

Enclosure



UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Water Resources Division
1305 Tacoma Avenue South
Tacoma, Washington 98402

IN REPLY REFER TO:

Recd 4/4/66

[Signature]

March 30, 1966

LS4 Gifford
LS4 Hunter

CODA

Mr. Manuel Morris, Hydraulic Engineer
Western Regional Office
National Park Service
450 Golden Gate Avenue
San Francisco, California 94102

Dear Mr. Morris:

During our recent telephone conversation, you requested information or suggestions relating to the following two problems; (1) A suitable drilling site for the new water-supply well at Gifford campground and (2) disposition of the apparently unsuccessful Hunters campground well.

With regard to the well at Gifford, Henry Anderson, the geologist assigned to the Coulee Dam NPS Study, told Mr. Connors, at Coulee Dam, that the spot that appears most favorable for drilling is "directly above the boat-launching ramp at the north end of the campground area."

With regard to possible salvage of the Hunters well, any suggestions that we make could be considerably in error because we are making them in the virtual absence of field information that normally would be used as the basis for such suggestions. You should try to develop the well further, and to pump it at a relatively high rate, considerably greater than the rate at which you intend to pump the well under service conditions. Further development, plus heavy pumping for several days, might result in the removal of a large amount of the fine material that, currently, is being troublesome. Another attempt could be made to remove the casing, possibly by cutting off the lowermost part (if the casing appears to be stuck at the bottom rather than in the clay at shallower depth), and by using a tool that will drive the casing upward from the bottom rather than by pulling it from the top. If the casing can be pulled out in this manner, a string of 6-inch casing, and screen, should be installed. The screen should be 5 feet long, at most, and it should be set opposite the middle of the water-yielding zone. Enough casing should be installed below the screen so that the screen will remain in position, with the casing below resting on the bottom of the hole. The well should then be developed and tested in the usual manner.

Copy to Coulee Dam
4/5/66

COPIES TO	DATE
FOR USE	4/5/66
☒ INFORMATION	☐ ACTION
WESTERN REGIONAL OFFICE DIVISION	

[Signature]

If neither of these alternatives solve the problem it is possible that the water-yielding capability of the zone in question was over estimated or its position in the well was incorrectly logged. Because there appear to be no samples of the material of the water-bearing zone in existence for inspection, nor any field information that might aid in establishing the precise position and thickness of the zone, we are extremely reluctant to suggest that a new hole be drilled in this area in the hope of obtaining a successful well. For this reason we wish to defer additional counsel until the effects of further well development or of modifying the well construction as described above can be evaluated.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "L. B. Laird".

L. B. Laird
District Chief

Docket Information

Number of Documents in Docket 37

Documents Dated from 3/30/1966 to 10/10/1968

Docket Compiled: 4/21/2011