



WATER-RIGHT DOCKET

Lake Roosevelt National Recreation Area

Docket No: 9

SPRING CANYON-SURFACE AND GROUND WATER.

Preliminary Docket Information

03-03-1964: water docket information; march 03, 1964

W A T E R D O C K E T I N F O R M A T I O N

A R E A COULEE DAM N.R.A.

DOCKET NO. 9

APPLICATION NO. 18483 & 8352

PERMIT NO. 13672 & 8018

CERTIFICATE NO. 9267 & 6194-A

TITLE OF DOCKET SPRING CANYON CAMPGROUND

PRIORITY March 3, 1964

REMARKS: Roosevelt Lake 0.50 c.f.s.

Certificate of Surface Water Right # 9267,

(Permit # 13672, Application # 18483) Roosevelt
Lake Diversion .

Ground Water Application # 8352 , Spring Canyon
Campground . 200 gpm, 40 acre feet.

Well = 8 in. dia. and 173 feet deep.



DANIEL J. EVANS, GOVERNOR

MAURICE AHLQUIST, DIRECTOR

RECEIVED
OCT 1 1968
DEPARTMENT OF WATER RESOURCES

335 GENERAL ADMINISTRATION BUILDING
OLYMPIA 98501

PHONE 753-6186
AREA CODE 206

September 30, 1968

U. S. Department of Interior
National Park Service
Coulee Dam National Recreational Area
P. O. Box 37
Coulee Dam, Washington 99116

Gentlemen:

Re: Surface Water Certificate 9267

This is to advise that the Relinquishment of the above-numbered certificate has been recorded in Volume L, Page 806 in the office of Lincoln County and has been given the number 316989.

We have made this a matter of record in this office on this date.

If further information or assistance is required in this matter please feel free to call upon us at any time.

Very truly yours,

DEPARTMENT OF WATER RESOURCES


ERNEST E. LeVASSEUR, Hydrologist
Division of Water Management

EEL:vw

CERTIFICATE RECORD No. 13 PAGE No. 6194-A
 STATE OF WASHINGTON, COUNTY OF Lincoln

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Water Resources thereunder.

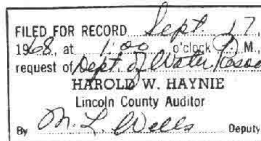
THIS IS TO CERTIFY That U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

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 $\frac{1}{4}$ SE $\frac{1}{4}$

Sec. 8, Twp. 28 N., R. 31 E. W.M.
 for the purpose of irrigation and domestic supply
 under and subject to provisions contained in Ground Water Permit No. 8018 issued by the De-
 partment 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 6194-A;
 that the right hereby confirmed dates from October 21, 1966; 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 200 gallons per minute; 26 acre-
 feet per year, for irrigation of 6.5 acres during irrigation season each year,
 and 14 acre-feet per year, continuously during entire year for domestic supply for
 Special provisions required by the Department of Water Resources: / public park.

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

That part of the Spring Canyon Campground within SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 9 and SE $\frac{1}{4}$ SE $\frac{1}{4}$
 Sec. 8, T. 28 N., R. 31 E.W.M.



FILED
 INDEXED
 COMPAREL
 PAGED

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, Depart-
 ment of Water Resources affixed this 20th day of September, 1968

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

Rec'd as date memo to Laco dated July 28, 1969.

Ground Water Permit No. 8018

**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 6194-A, on the
20th day of September

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

STATE PRINTING PLANT - OLYMPIA, WASH.

** Geo. Filing*
Return to:
U. S. Department of the Interior
National Parks Service
Coulee Dam National Recreational Area
Post Office Box 37
Coulee Dam, Washington 99116

A. G. Norton

RELINQUISHMENT OF
 Certificate Re No. 19, Page No. 927
 State of Washington, County of Lincoln
CERTIFICATE OF (GROUND) (SURFACE) WATER RIGHT

1. The undersigned U.S. Department of Interior, National Park Service, Coulee Dam Recreation Area (is) ~~(are)~~ the holder (s) of a certificate of (ground) (surface) water right No. 9267, dated 18 January 1965, issued by the Supervisor of Water Resources ~~(or Hydraulics)~~.
 2. Said certificate authorizes withdrawal of public waters of the State of Washington for use for Irrigation & Community domestic supply ~~for public use~~ on young forest land, and for sale to the public 10 T. 8 N., R. 31 E. 14 W.
 (If more space is required, attach separate sheet)
 3. The undersigned (has) ~~(have)~~ no further requirement for the rights to withdraw, utilize, and put to beneficial use the waters embodied in said certificate.
 4. The undersigned (has) ~~(have)~~ not assigned or otherwise transferred the rights embodied in said certificate.
 5. The undersigned therefore convey (s), quitclaim (s), and relinquish (es) all rights embodied in said certificate of (ground) (surface) water right No. 9267 to the State of Washington.
 6. It is understood this document shall be recorded by the State of Washington in the county or counties wherein the lands affected by said right are located.
- Dated this 9th day of September, 19 68.



 David A. Richie

Superintendent
 Coulee Dam National Recreation Area
 U.S. Department of the Interior
 National Park Service

State of Washington)
 County of _____) ss.

On this day personally appeared before me _____
 to me known to be the individual, or individuals described
 in and who executed the within and foregoing instrument, and acknowledged that
 _____ signed the same as _____ free and voluntary act
 and deed, for the uses and purposes therein mentioned.
 Given under my hand and official seal this _____ day of _____ 19 _____

 Notary Public in and for the
 State of _____
 residing in _____



DANIEL J. EVANS, GOVERNOR

H. MAURICE AHLQUIST, DIRECTOR

DEPARTMENT OF WATER RESOURCES

335 GENERAL ADMINISTRATION BUILDING
OLYMPIA 98501

PHONE 753-6185
AREA CODE 206

September 5, 1968

U.S. Department of Interior
National Park Service
Coulee Dam National Recreational Area
P O Box 37
Coulee Dam, Washington 99116

*Relinquished on 9-9-68
Copy sent to Regional Office*

Gentlemen:

Re: Surface Water Certificate 9267
Ground Water Permit No. 8018

ATTN: Mrs. Ruth Strock

Technical review of the file of your Ground Water Permit No. 8018 preliminary to issuance of your Certificate of Water Right discloses one matter which should be resolved before that certificate issues.

The findings for your Permit 8018 noted that the requested water is to be used in lieu of water from Franklin D. Roosevelt Lake under your Surface Water Certificate 9267 (copy enclosed) which is an abandoned source.

If the Lake source is in fact abandoned, we recommend that you relinquish that right. In that event, we shall be able to, and will, issue your right under Ground Water Permit 8018 as a primary right.

We enclose herewith a partially completed relinquishment form in the event you desire to relinquish Surface Water Certificate 9267.

Since we are holding your check to the Lincoln County Auditor, it would be appreciated if you would give this matter early consideration.

Very truly yours,

DEPARTMENT OF WATER RESOURCES

Benjamin Weisberg
BENJAMIN WEISBERG, Engineer
Division of Water Management

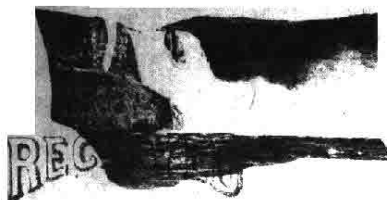
BW:vw

Enclosure



DANIEL J. EVANS, GOVERNOR

H. MAURICE AHLQUIST, DIRECTOR



DEPARTMENT OF WATER RESOURCES

325 GENERAL ADMINISTRATION BUILDING
OLYMPIA, WASH.

PHONE 753-6186
AREA CODE 206

DEC 11 1967

December 8, 1967

C. D. N. R. A.

United States Department of the Interior
National Park Service
Coulee Dam National Recreation Area
P. O. Box 37
Coulee Dam, Washington 99116

ATTENTION: Mrs. Ruth S. Strock

Dear Madam:

Re: Ground Water Permit No. 8018 (issued under Ground Water
Application No. 8352) -- your reference L 54

In reference to your letter dated December 6, 1967, our records show that the above numbered permit was sent to your attention on July 21, 1967. Under normal procedure the receipt for permit fees is sent back along with the permit. Therefore, we cannot understand why you have not received the permit.

For your records we are enclosing a xerox copy of this document. Additionally we are enclosing a copy of our letter dated July 21, 1967, and a water well report form in the event these were not received earlier. If we can be of further assistance to you on this matter, please advise. Thank you.

Very truly yours,

DEPARTMENT OF WATER RESOURCES

EUGENE F. WALLACE
Supervising Hydrologist
Division of Water Management

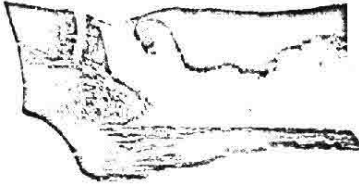
EFW:jf

Enclosure

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

July 21, 1967

United States Department of the Interior
National Park Service
Coulee Dam National Recreation Area
P. O. Box 37
Coulee Dam, Washington 99116

ATTENTION: Mrs. Ruth S. Strock
Administrative Officer

Dear Madam:

(USDI - National Park Service - Spring Canyon Campground)
Enclosed is Permit No. 8018 issued to you under Application
No. 8352. The examination report of our inspector indicates
that your system has been completed.

Also enclosed is Proof of Appropriation form, which is to be filed
when the water granted in the permit has been put to full beneficial
use. This notice is not to be filed until the water has been put to
full use. Please note that it requires your notarized signature.

The statutory filing and recording fees of \$5.00 payable to the
Department of Water Resources and \$ 2.00 payable to the Lincoln
County Auditor should accompany this form. Kindly send two separate
checks or money orders.

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 works furnish
a certified record of information.

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 8018 under Application No. 8352
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 October 21, 1966

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 200 gallons per minute; 40 acre-feet per year, to be used for the following purposes: Irrigation and domestic supply

as more definitely set out below.

Location of the well, tunnel, or infiltration trench is 310 feet north and 80 feet west from southeast corner of Sec. 8
being within SE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 8, T. 28 N., R. 31 E.W.M.
county of Lincoln

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

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

For irrigation: 200 gallons per minute; 26 acre-feet per year,
for the irrigation of _____

domestic supply for
for public park

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

That part of the Spring Canyon Campground within
SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 9 and SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 8,
T. 28 N., R. 31 E.W.M.

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 173 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:

Since this application is a replacement for an existing certificate, which covers an abandoned source of water, this must be considered as a totally supplemental supply.

Construction work shall begin on or before Started
and shall thereafter be prosecuted with reasonable diligence and completed on or before Completed
and complete application of water to proposed use shall be made on or before August 1, 1968

Given under my hand and the seal of this office at Olympia, Washington, this 21st day of July, 1967



Assistant Director
Division of Water Management
Department of Water Resources

S. F. No. 1285-6-67-5M. 4019.

RECEIPT **IN** 184WASHINGTON STATE
DEPARTMENT OF WATER RESOURCES

Olympia, Washington, 14 July, 1967
 RECEIVED FROM U.S.D., Nat. Park Service, Capitol Bldg., Wash.
Twenty and 00/100 DOLLARS 20.00

FUND: ☒ General Rec. Rev. ☐ Weather Mod. ☐ Basic Data ☐ Cash
 SOURCE: ☐ Water Code ☐ Publications ☐ Adjudications ☐ Refunds ☒ Check
☐ Per. and Lic. ☐ Investments ☐ Other ☐ M. O.

DEPARTMENT OF WATER RESOURCES

By D. P. Long

Thank You

Permit FeeG.W. Appl # 8352

97-66606

L54

Coulee Dam National Recreation Area
Coulee Dam, Washington 99116

July 7, 1967

Mr. H. W. Pollock, Supervisor
Division of Water Resources
Department of Conservation
State of Washington
Olympia, Washington

Dear Mr. Pollock:

Subject: Ground Water Application No. 8552 (USDI - National
Park Service - Spring Canyon Campground)

In accordance with your request of June 26, 1967, we are
enclosing Seattle-First National Bank Cashier's Check No.
6946340 for \$20.00 to cover the statutory fee for the
subject application.

Sincerely yours,

Mrs. Ruth S. Strock
Administrative Officer

Enclosure:
Cashier's Check No. 6946340



DANIEL J. EVANS
GOVERNOR

STATE OF WASHINGTON

Department of Conservation

H. MAURICE AHQUIST, DIRECTOR

335 GENERAL ADMINISTRATION BUILDING
OLYMPIA

June 26, 1967

DIVISIONS:

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

U. S. Department of the Interior
Coulee Dam National Recreation Area
P. O. Box 37
Coulee Dam, Washington 99116

ATTENTION: Charles P. Woodbury
Acting Superintendent
Gentlemen:

Re: Ground Water Application No. 8352
(USDI - National Park Service - Spring Canyon 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 Conservation.

Very truly yours,

DEPARTMENT OF CONSERVATION

H. W. POLLOCK, Supervisor
Division of Water Resources

HWP:lm

Enc.

S.F.No.8399



DANIEL J. EVANS
GOVERNOR

STATE OF WASHINGTON
Department of Conservation
H. MAURICE AHLQUIST, DIRECTOR
335 GENERAL ADMINISTRATION BUILDING
OLYMPIA

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

January 13, 1967

JAN 16 1967

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

Dear Sir:

USDI - National Park Service (Spring Canyon Campground)
Re: Ground Water Application No. 8352

We acknowledge receipt of affidavit of publication of notice in connection with the above-numbered application.

The water codes requires that no action be taken until the expiration of a thirty (30) day period from the last date of publication, which time is allowed for filing any protests or objections. In some cases it is also necessary for us to await approval of the Departments of Fisheries and Game before issuing permits.

With the least possible delay, an examination of your application will be made along with other applications located in your vicinity.

Very truly yours,

DEPARTMENT OF CONSERVATION

H. W. Pollock
H. W. POLLOCK, Supervisor
Division of Water Resources

HWP: es

cc [unclear] [unclear]

Rec'd w/ memo memo dated Feb 13, 1967

Coulee Dam National Recreation Area
Coulee Dam, Washington 99116

January 12, 1967

L54

Department of Conservation
State of Washington
335 General Administration Building
Olympia, Washington

Gentlemen: Re: Ground Water Application No. 8352
 USDI - National Park Service
 (Spring Canyon Campground)

Attached is Affidavit of Publication in connection with the
subject application.

Very truly yours,

Charles P. Woodbury
Acting Superintendent

Enclosure-1

Affidavit of Publication

STATE OF WASHINGTON }
COUNTY OF LINCOLN } ss.

State of Washington Office of
Supervisor of Water Resources
Olympia

**NOTICE OF GROUND WATER
RIGHT APPLICATION NO. 8352
TAKE NOTICE:**

That U. S. DEPARTMENT OF
THE INTERIOR — NATIONAL
PARK SERVICE of Coulee Dam,
Washington on October 21, 1966,
filed application for permit to
withdraw public ground waters
through a well situated within
SE4SE4 of Section 8, Township
28, N., Range 31 E.W.M., in Lin-
coln County, in the amount of 200
gallons per minute, subject to
existing right continuously, each
year for the purpose of domestic
supply; during irrigation season
for irrigation.

Any objections must be accom-
panied by a two dollar (\$2.00) re-
cording fee and filed with the
State Supervisor of Water Re-
sources within thirty (30) days
from November 17, 1966.

Witness my hand and official
seal this 31st day of October,
1966.

(SEAL)

H. W. POLLOCK
State Supervisor of Water
Resources

(Nov. 10-17)

DOROTHY L. RANDALL, being first duly sworn on oath deposes and says
that SHE is the PRINCIPAL CLERK of the DAVENPORT TIMES,
a weekly newspaper. That said newspaper is a legal newspaper and has been
approved as a legal newspaper by order of the superior court in the county in
which it is published and it is now and has been for more than six months prior
to the date of the publication hereinafter referred to, published in the English

language continually as a weekly newspaper at DAVENPORT
LINCOLN CO., Washington, and is now and during all of
said time was printed in an office maintained at the aforesaid place of publication
of said newspaper. That the annexed is a true copy of

NOTICE OF WATER RIGHT APPLICATION # 8352

as it was published in regular issues (and not in supplement form) of said
newspaper once a week for a period of two consecutive weeks,
commencing on the 10th day of NOVEMBER, 1966,
and ending on the 17th day of NOVEMBER, 1966,
both dates inclusive and that such newspaper was regularly distributed to its
subscribers during all of said period. That the full amount of the fee charged
for the foregoing publication is the sum of \$ 6.01, which amount has
been paid in full, at the rate of \$2.40 a hundred words for the first insertion
and \$1.80 a hundred words for each subsequent insertion.

Dorothy L. Randall
Subscribed and sworn to before me this 10th day
of November, 1966

(SEAL)

Alvin G. Hinkle
Notary Public in and for the State of Washington,
Residing at DAVENPORT, Washington.



NOV 1 1966

STATE OF WASHINGTON

Department of Conservation

H. MAURICE AHLQUIST, DIRECTOR

35 GENERAL ADMINISTRATION BUILDING
OLYMPIA

October 31, 1966

DIVISIONS:

RECLAMATION
FLOOD CONTROL
WATER RESOURCES
MINES AND GEOLOGY
COSUMES PROJECT
FISH RESOURCES
WEATHER MODIFICATION
SOIL & WATER CONSERVATION
COMMITTEE

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

Gentlemen:

USDI → National Park Service (Spring Canyon Campground)
Re: Ground Water Application No. 8352

Your application for the appropriation of water has been given the above number for our records. Will you please refer to it by number in future correspondence.

Enclosed is a notice of your application which should be published once a week for two consecutive weeks (two publications) in a newspaper of general circulation published in Lincoln County as provided in Chapter 275, Laws of 1953. Such a paper should have general circulation in the locality where the water is to be diverted and used. Publishing the notice in a remote part of the county when not necessary, may be followed by the applicant being instructed to republish in a designated newspaper.

To assure accuracy, it is the responsibility of the applicant to check the notice over carefully before having it published.

After publication, kindly send the affidavit of publication to this office. Publication should start within thirty days from date.

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

Very truly yours,

DEPARTMENT OF CONSERVATION

H. W. POLLOCK, Supervisor
Division of Water Resources

HWP: es

Enc.

S.F.No.8393

D. E. S. 174-B-10-63-25C 82273

STATE OF WASHINGTON
OFFICE OF SUPERVISOR OF WATER RESOURCES
OLYMPIA

NOTICE OF GROUND WATER RIGHT APPLICATION NO. 8352

TAKE NOTICE

That

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

of Coulee Dam, Washington on October 21, 1966

filed application for permit to withdraw public ground waters through a well
situated within SE₂SE₄

Section 8 Township 28 N. Range 34 E. W. M. Lincoln County

Area Sub-area Zone

in the amount of 200 gallons per minute ~~subject to existing rights~~ subject to

existing rights continuously each year for the purpose of domestic supply;

during irrigation season for irrigation.

Any application must be accompanied by a two dollar (\$2.00) recording fee and filed with the State
Superintendent of Water Resources within thirty (30) days from

Witness my hand and official seal this 31st day of October 1966

H. W. POLLOCK
State Supervisor of Water Resources

Report of Examination on Ground Water

Received date October 21, 1966 Date of exam. May 25, 1967 Appli. No. 8352

Name USDI - National Park Service Address P.O. Box 37, Coulee Dam, Wash.

Type of works a well Dimensions 8" x 173'

Progress of works Complete and in use

Quantity applied for 200 g.p.m. 9.75 acre-feet per year

Legal sub. SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 8 Twp. 28 N., Rge. 31 E. County Lincoln

Use irrigation and domestic supply for public park

Irrigation-acreage: Present 6.5 Planned 6.5 Feasible 6.5

Municipal: Population _____ as of _____

Industrial _____

Time pump will be operated continuously for domestic supply; during irrigation

Other water rights appurtenant to this land Cert 9267: 0.37 cfs (comm. dom) and 0.13 cfs;
26 ac-ft (irrigation) 6.5 acres. Surface water rights from Roosevelt Lake

Proximity to existing works, springs, wells, or streams None

Area _____ Sub-area _____ Zone _____

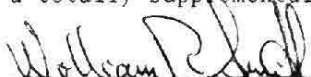
RECOMMENDATIONS

Approved for 200 g.p.m. 40 acre-feet per year, subject to existing
 water rights. (1 acre-foot 325,850 gallons.)

The water requirement of this land is calculated on the basis of each
 acre needing 4 acre-feet per year per acre or a total of 26 acre-feet
 annually for the irrigation of 6.5 acres.

An additional 4 acre-feet per year is allowed to satisfy the demand for
 water for the Spring Canyon Campground. "Since this application is a
 replacement for an existing certificate, which covers an abandoned source
 of water, this must be considered as a totally supplemental supply."

Signed at Olympia, Washington
 this 23 day of June, 1967.


 WILLIAM R. SMITH, Geologist
 Division of Water Resources

SAN FRANCISCO PLANNING AND SERVICE CENTER
Office of Land and Water Rights
450 Golden Gate Avenue, Box 36063
San Francisco, California 94102
October 18, 1966

L54 LWSSC

Spring Canyon - CODA
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Eckerson *See*

Morris *AM*

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 Spring Canyon Campground, within the Coulee Dam National Recreation Area. We are also enclosing in cash the examination fee of \$10.00. The receipt for this cash payment should be mailed directly to my attention at San Francisco. 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. I repeat, however, the receipt for the cash payment should be sent to me.

Sincerely,

(Sgd) MANUEL MORRIS

Manuel Morris
Supervisory Hydraulic Engineer

Enclosures

cc:
Superintendent, Coulee Dam w/c of application
Regional Director, WR
Chief, Branch of Water Resources, WASO w/c of application

MMorris:pm

S. F. No. 370-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

SPRING CANYON

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 5 miles east of Grand Coulee, Washington
(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 Spring Canyon2. The quantity of water which applicant intends to withdraw for beneficial use is 200
gallons per minute; 9.75 acre feet per year.

3. The use or uses to which water is to be applied _____

Domestic and irrigation

(Domestic supply, irrigation, municipal, manufacturing, industrial use, etc.)

4. The time during which water will be required each year entire year5. Location of well or other works for withdrawal of water: In county of Lincoln(a) 810' north and 80' west from section corner common to Secs. 8, 9, 16 and 17
(Give distance and bearing from nearest corner of section or legal subdivision)being within the SW 1/4 of Sec. 9, Twp. 28 N., Rge. 31 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) ~~1 1/2~~ well will be _____ and have a diameter of _____ inches and an estimated depth of _____ feet.
(Dug or drilled)

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

6" steel pipeline to storage tank of 20,000 gallon capacity. Distribution lines to public campground and buildings.

3-stage vertical turbine, capacity 200 gpm. are to be used, give size and type:

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

(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:

325 feet from Franklin D. Roosevelt Lake and approximately 15 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:

None

(Name)	(Direction)	(Distance)
(Name)	(Direction)	(Distance)
(Name)	(Direction)	(Distance)

SUPPLY THE FOLLOWING INFORMATION ACCORDING TO USE PROPOSED: **public campground**

7. For ~~Municipal~~ Supply: To supply the city, town, or community of **900**, in the county of **1000**, having a present population of _____, and an estimated population of _____ in 19____.

6.5

8. For Irrigation: Number of acres to be irrigated _____ 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)

Spring Canyon Campground, within SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 9 and SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 9,
T 28 N., R 31 E., W.M.

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

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

~~Representative of the United States~~ Owner
(Owner, lease, contract buyer, etc.)

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

If so, from what source? Surface water right from Roosevelt Lake

12. Construction work will begin on or before December 10, 1965

13. Construction work will be completed on or before June 1, 1966

14. Water will be put to complete beneficial use on or before June 1, 1966

(Sgd) MANUEL MORRIS

(Signature of applicant)

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 this purpose.
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.

STATE OF WASHINGTON, COUNTY OF Lincoln

CERTIFICATE OF SURFACE WATER RIGHT

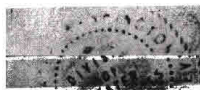
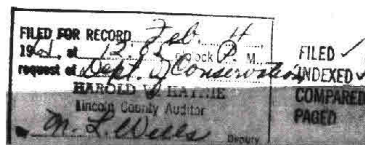
(In accordance with the provisions of Chapter 127, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the State Supervisor of Water Resources thereunder.)

This is to certify that U.S. DEPT. OF INTERIOR, NAT'L PARK SERV., COULEE DAM NAT'L RECREATION AREA
of Coulee Dam, State of Washington, has made
proof to the satisfaction of the State Supervisor of Water Resources of Washington, of a right to the use
of the waters of Franklin D. Roosevelt Lake / (Columbia River),
with point or points of diversion within the SW $\frac{1}{4}$ SW $\frac{1}{4}$
Sec. 9, Twp. 28 N., R. 31 E., W. M., under and subject to provisions contained in
appropriation Permit No. 13672 issued by the State Supervisor of Water Resources, and
that said right to the use of said waters has been perfected in accordance with the laws of Washington,
and is hereby confirmed by the State Supervisor of Water Resources of Washington and entered of
record in Volume 19, at Page 9267, on the 18 day of January, 1965.
that the priority date of the right hereby confirmed is March 3, 1964; that the
amount of water under the right hereby confirmed, for the following purposes is limited to an amount
actually beneficially used and shall not exceed 0.32 cubic feet per second during entire year
for Community domestic supply; 0.13 cubic feet per second, 26 acre-feet per year, during
irrigation season each year, for irrigation of 6.5 acres.

A description of the lands under such right to which the water right is appurtenant, and the
place where such water is put to beneficial use, is as follows:

Spring Canyon Campground within SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 9, and SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Sec. 8, in T. 28 N.,
R. 31 E.W.M.

Return guaranteed as of 7-9-68



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.

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this

18 day of January, 1965

M. J. Walker
State Supervisor of Water Resources.

ENCLOSING DATA

Permit No. 13672

Certificate of Surface Water Right

Recorded in the office of State Supervisor
of Water Resources, Olympia, Washington,
in Book No. 19 of Water Right
Certificates, on Page 9267, on
the 18 day of January,
1965.

STATE OF WASHINGTON, } ss.
County of _____

I certify that the within was received
and duly recorded by me in Volume _____
of Book of Water Right Certificates, Page
_____ on the _____ day of
_____, 19____.

200
Return to Gate Park Service
U.S. Forest Service
Olympia, Wash.

STATE OF WASHINGTON, COUNTY OF Lincoln

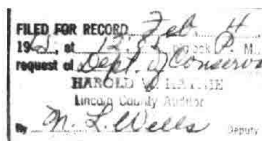
CERTIFICATE OF SURFACE WATER RIGHT

(In accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the State Supervisor of Water Resources thereunder.)

This is to certify that U.S. DEPT. OF INTERIOR, NAT'L PARK SERV., COULEE DAM NAT'L RECREATION AREA
 of Coulee Dam, State of Washington, has made
 proof to the satisfaction of the State Supervisor of Water Resources of Washington, of a right to the use
 of the waters of Franklin D. Roosevelt Lake /, ~~Columbia River~~
 with point or points of diversion within the SW $\frac{1}{4}$ SW $\frac{1}{4}$
 Sec. 9, Twp. 28 N., R. 31 E., W. M., under and subject to provisions contained in
 appropriation Permit No. 13672 issued by the State Supervisor of Water Resources, and
 that said right to the use of said waters has been perfected in accordance with the laws of Washington,
 and is hereby confirmed by the State Supervisor of Water Resources of Washington and entered of
 record in Volume 19, at Page 9267, on the 18 day of January, 1965
 that the priority date of the right hereby confirmed is March 3, 1964; that the
 amount of water under the right hereby confirmed, for the following purposes is limited to an amount
 actually beneficially used and shall not exceed 0.32 cubic feet per second during entire year
 for Community domestic supply; 0.13 cubic feet per second, 26 acre-feet per year, during
 irrigation season each year, for irrigation of 6.5 acres.

A description of the lands under such right to which the water right is appurtenant, and the
 place where such water is put to beneficial use, is as follows:

Spring Canyon Campground within SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 9, and SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Sec. 8, in T. 28 N.,
 R. 31 E.W.M.



FILED ☒
 INDEXED ☒
 COMPARED
 PAGED

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.

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this

18 day of January, 1965

M. L. Wells
 State Supervisor of Water Resources.

Permit No. 13672

Certificate of Surface Water Right

Recorded in the office of State Supervisor
of Water Resources, Olympia, Washington,
in Book No. 19 of Water Right
Certificates, on Page 9267, on
the 18 day of January,
1965

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, Page
_____ on the _____ day of
_____, 19____

STATE PRINTING PLANT, OLYMPIA, WASH.

Return to Holly Park Service
U.S. Dept. of Interior
Chattanooga, Tennessee

Proof of Appropriation of WaterApplication No. 18483Permit No. 15672 Book No. 35

1. Name of Permittee U.S. Department of Interior, National Park Service
2. Postoffice address Box 57, Coulee Dam, Washington
3. Source of appropriation Franklin D. Roosevelt Lake (Columbia River)
4. Name or number of works (if any) None
5. For what purpose or purposes is water used? Irrigation and community domestic supply for public campground.
6. Give date of beginning of construction August 24, 1953
7. Give date of completion of construction work, including water distribution system
April 30, 1964
8. Give date when water was completely applied to proposed use April 30, 1964
9. If used for irrigation:
Give number of acres described in permit 0.2
Give number of acres actually irrigated 0.2
10. If used for power: HP actually developed None
11. LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED:
Spring Canyon Campground, within SW 1/4 SW 1/4 of Section 9, and SE 1/4 SE 1/4 of Sec. 8, T. 28 N., R. 1 E., S. 14.
12. During what months is water used? April through October
13. Does map filed with your application show correctly the location of well or point of diversion for withdrawal of water, and area of land where water is used? Yes
14. If the dimensions, location or type of structure do not correspond to those described in your permit, state what changes have been made giving dimensions, etc. None
15. Actual measured discharge or diversion of permanent system: 200 GPM (gpm or cfs)

(Sign certification on reverse side)

STATE OF WASHINGTON,

County of Okanogan } ss.

I, Homer W. Robinson, being first duly sworn, depose and say that I have read the above and foregoing proof of appropriation; that I know the contents thereof; and that the facts therein stated are true.

IN WITNESS WHEREOF, I have hereunto set my hand this 6th day of January, 19 65.

Homer W. Robinson

Subscribed and sworn to before me this 6 day of Jan, 19 65

Velma M. Hargrave
Notary Public.

Form No. 1, P. No. 76-7-57-5M, 48888, O.S.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
Division of Water Resources

Permit to Appropriate Public Waters of the State of Washington

Book No. 25 of Permits, on Page 13472 Under Application No. 18483

U. S. DEPARTMENT OF INTERIOR, NATIONAL PARK SERVICE, COULEE DAM NATIONAL RECREATION AREA

of Coulee Dam, Washington

is hereby granted a permit to appropriate the following described public waters of the State of Washington, subject to existing rights and to the following limitations and provisions: Permittee shall construct and maintain at his own expense a weir, or other suitable device, for measuring any water granted herein for irrigation purposes and such appropriation shall be subject to a reasonable rotation system if ordered by the State Supervisor of Water Resources. The diversion intake shall be tightly screened at all times with wire having a mesh opening not greater than .125 (1/8) inch.

Priority date of this permit is March 2, 1964

Source of the proposed appropriation is Franklin D. Roosevelt Lake (Columbia River), tributary of

The quantity of water appropriated shall be limited to the amount which can be beneficially applied and not to exceed 2.13 cubic feet per second, or its equivalent in case of rotation, to be used for the following purposes: Irrigation and community domestic supply for public camp ground as more definitely set out below.

The approximate point of diversion is located 80 feet north and 500 feet east from south-west corner of Sec. 9

being within SW 1/4 Sec. 9, Twp. 33 N., Rge. 21 E. W. M., county of Lincoln

The use, or uses, to which water is to be applied:

FOR DOMESTIC SUPPLY AND MISCELLANEOUS USES: 2.77 cubic feet per second during entire year for community domestic supply to be used within Sec. 9, Twp. 33 N., Rge. 21 E. W. M.,

FOR IRRIGATION: 2.13 cubic feet per second, 24 acre-feet per year, from during irrigation season each year, for irrigation of 5 acres, described as follows.

Spring Canyon Campground, within SW 1/4 of Sec. 9, and SE 1/4 of Sec. 9, Twp. 33 N., R. 21 E. W. M.

FOR POWER: cubic feet per second continuously each year. Total power to be developed theoretical horse power. Total fall to be utilized feet.
 Nature of works by means of which power is to be developed
 Works to be located in Sec., Twp. N., Rge. W. M.
 Water to be returned to
 Point of return Sec., Twp. N., Rge. W. M.
 Use to which power is to be applied
 FOR MUNICIPAL SUPPLY: cubic feet per second during entire year to supply

DESCRIPTION OF DIVERSION WORK

Height of dam ft.; Length on top ft.; Length on bottom ft.
 Material to be used and character of construction
 Description of headgate U.S. motor-driving turbine pump; 6" steel pipeline to storage tank having approximately 20,000 gallon capacity

CANAL SYSTEM

AT HEADGATE: Width on top (at water line) ft.; Width on bottom ft.;
 Depth of water ft.; Grade ft. fall per one thousand feet.
 AT MILES FROM HEADGATE: Width on top (at water line) ft.; Width on bottom ft.; Depth of water ft.; Grade feet per one thousand feet.

(Please read carefully provisions below)

Construction work shall begin on or before Started
 and shall thereafter be prosecuted with reasonable diligence and completed on or before Completed
 and complete application of water to proposed uses shall be made on or before
 January 1, 1964

Given under my hand and the seal of this office at Olympia, Washington, this 24 day of
 December, 1964

M. B. Walker
 State Supervisor of Water Resources



ALBERT D. ROSELLINI
GOVERNOR

STATE OF WASHINGTON
Department of Conservation
EARL COE, DIRECTOR
335 GENERAL ADMINISTRATION BUILDING
OLYMPIA

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

December 28, 1964

RECEIVED

DEC 29 1964

C. D. N. R. A.

National Park Service
U. S. Dept. of Interior
Coulee Dam, Washington

Gentlemen:

Enclosed is Permit No. 13672 issued to you under
Application No. 18483. The examination report of
our inspector indicates that your system has been completed.

Also enclosed is Proof of Appropriation, which is to be
filed when the water granted in the permit has been put to
full beneficial use. This notice is not to be filed until
the water has been put to full use. Please note that it
requires your notarized signature.

The statutory filing and recording fees of \$3.00 payable to
the Department of Conservation and \$2.00
payable to the Lincoln
County Auditor should accompany these forms. Kindly send
two separate checks or money orders.

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

Very truly yours,

DEPARTMENT OF CONSERVATION

EARL COE, DIRECTOR

M. G. Walker

M. G. WALKER, Supervisor
Division of Water Resources

MGW: mh
Enc. 4

L-54

Western Region
450 Golden Gate Avenue, Box 36063
San Francisco, California 94102

December 1, 1964

Mr. Eugene F. Wallace, Geologist
Division of Water Resources
335 General Administration Building
Olympia, Washington 98502

Dear Mr. Wallace:

This will acknowledge your letter of November 19 concerning our water right applications at Coulee Dam National Recreation Area. These are ground water applications, 7143 and 7144, and surface water applications, 18483 to 18486 inclusive.

We appreciate your calling to our attention the correctness of the quantities requested under applications 18484 and 18485. I have checked our records with Superintendent Robinson of Coulee Dam, and in application 18484, we cannot find where the indicated quantity was 0.18 cfs. The application as filed requested 0.50 cfs (225 gpm). The presently installed pump is operating at 200 gpm, and delivers the water to a storage tank from which it is repumped to the campgrounds at 100 gpm. This is a temporary measure, and proposed construction will enable the entire 225 gpm to be put to full use. Therefore we request that you restore the indicated quantity to 0.50 cfs as originally shown in our application. Accordingly, pending restoration to this amount in application 18484, we are requesting our Finance Division to submit a warrant for \$100 covering the five remaining applications.

On application 18485, Superintendent Robinson says that 0.05 cfs (22.5 gpm) is correct. Although the system at San Poil Bay campground has an apparent capacity greater than 22.5 gpm, the spring source is at this time not capable of additional yield without considerable development work. The needs at the present time can be met from the available 22.5 gpm.

We appreciate your interest in our applications and your concern is most gratifying. Copies of our exchange of letters are being sent to Superintendent Robinson.

Sincerely yours,

Manuel Morris
Acting Regional Chief, Division
of Land and Water Rights

Enclosures

cc:
Superintendent, Coulee Dam
Director - SLW
Chief, WODC (2)

P. S. - The enclosures are in sufficient quantities to permit filings in the individual dockets. Also enclosed is Affidavit of Publication, the republication of Application 7143. Filing is as follows: (Application No./ Docket No.) 7143/11, 7144/8, 18483/9, 18483/10, 18485/7, 18486/12.



ALBERT D. ROSELLINI
GOVERNOR

STATE OF WASHINGTON
Department of Conservation

335 GENERAL ADMINISTRATION BUILDING
OLYMPIA

November 19, 1964

DIVISIONS:

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

United States Department of the Interior
National Park Service
Western Region
450 Golden Gate Avenue
Box 36063
San Francisco, California 94102

ATTENTION: Manuel Morris, Hydraulic Engineer

Gentlemen:

Re: Ground Water Applications No. 7143 and 7144;
Surface Water Applications No. 18483, 18484, 18485
and 18486 (Your number L 54)

Enclosed please find signed voucher, payable to the Department of Conservation, in the amount of \$120.00 to cover statutory permit fees relative to the above-mentioned applications.

In checking the various files, we have found two points in question that you should be advised of. First, in reference to the Report of Examination for Surface Water Application No. 18484, the total quantity recommended was erroneous. The indicated quantity of 0.18 c.f.s. should have been 0.21 c.f.s. We have made the necessary correction and permit will issue for the larger amount.

The second point in question refers to Surface Water Application No. 18485 which was submitted for the appropriation of 0.05 c.f.s. from an unnamed spring for your San Poil Bay Campground. The application indicates a 3" pipeline to a 5,000 gallon storage tank with a 3" line from the tank to campground where it is reduced to a 1½" line through the campground. Our concern is that you may not have filed for enough water. If the capacity of the installed system is greater than 0.05 c.f.s. (22.5 g.p.m.), you should probably request an amendment of the application to increase the quantity to the actual capacity of your system. These comments are only submitted for your consideration because we do not know the actual capacity of the installed system.

If you feel you have adequate coverage under the application in question, you should remit the full warrant according to the enclosed voucher and

November 19, 1964

United States Department of the Interior
National Park Service
Western Region
450 Golden Gate Avenue
Box 36063
San Francisco, California 94102

ATTENTION: Manuel Morris, Hydraulic Engineer

permits will be issued under all six applications. If, however, you do check the capacity of the system under Surface Water Application No. 18485 and decide to request an amendment you should submit a warrant for only \$100.00 to cover the five other applications.

Very truly yours,

DEPARTMENT OF CONSERVATION
ROY MUNDY, DIRECTOR


EUGENE F. WALLACE, Geologist
Division of Water Resources

EGW:yw
Encl.

REPORT OF EXAMINATION

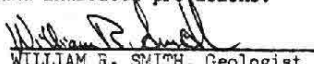
Date of application March 3, 1964 Date of examination July 28, 1964 Application No. 18483
 National Park Service
 Name Coulee Dam National Recreation Area Address P. O. Box 37, Coulee Dam, Wash.
 Quantity applied for 0.50 c.f.s. Use Irrigation & community domestic use for public campground
 Source of appropriation Franklin D. Roosevelt Lake (Columbia R.) Tributary of _____
 Legal sub. SW1/4 Sec. 9 Twp. 28 N., Rge. 31 E. County Lincoln
 Measured or estimated quantity Lake Probable low flow -
 Quantity previously appropriated: W.T. _____ CWT. _____ E.T. _____
 Other use made of water Irrigation and power generation
 Diversion works ~~none observed~~ U.S. motor-driving turbine pump; 6" steel pipeline to
storage tank having approximately 20,000 gallon capacity
 Other equipment Distribution lines to service taps and sprinklers
 Irrigable acreage: Planned 6.5 acres Present Not determined Feasible 6.5 acres
 Other water rights appurtenant to this land None known
 Progress of project Completed
 Protests None recorded
 Quantity recommended (total) 0.50 c.f.s. Irrig. 0.13 c.f.s. & 26 acre-feet ^{year} per Dom.
 Power Municipal Community Domestic: _____
 Other uses/ 0.37 c.f.s.
 Department of Fisheries and Game report See below
 Special remarks and provisions:

In accordance with the recommendations of the Depts. of Fisheries and Game, permit shall be issued subject to the following provisions: The diversion intake shall be tightly screened at all times with wire having a mesh opening not greater than .125 (1/8) inch.

The water requirement of this land is calculated on the basis of each acre needing 0.02 c.f.s. and 4 acre-feet per year per acre or 0.13 c.f.s. and 26 acre-feet annually for 6.5 acres.

In accordance with R.C.W. 90.03.290, I find that there is water available for appropriation from the source in question and that the diversion proposed in the application will not impair existing rights or be detrimental to the public welfare. Therefore, permit should issue as recommended above, subject to existing rights and indicated provisions.

Signed this 5 day of August, 1964


 WILLIAM R. SMITH, Geologist
 Division of Water Resources

Legal Notices

**NOTICE OF WATER RIGHT
APPLICATION NO. 18483**
State of Washington Office of
Supervisor of Water Resources
Department of Conservation
Olympia

TAKE NOTICE:

That National Park Service,
U. S. Dept. of Interior of Coulee
Dame, Washington on March 3,
1964, filed application for permit
to divert the public waters of
Franklin D. Roosevelt Lake (Co-
lumbia River), in the amount of
0.50 second-foot subject to exist-
ing rights, continuously for do-
mestic supply and during irriga-
tion season for irrigation each
year for the purpose of irrigation
and community domestic supply
for public campground that the
approximate point of diversion is
located within SW¼ of SW¼ of
Section 9, Township 28 N., Range
31 E.W.M., in Lincoln County.

Any objections must be accom-
panied by a two dollar (\$2.00) re-
cording fee and filed with the
State Supervisor of Water Re-
sources within thirty (30) days
from June 4, 1964.

Witness my hand and official
seal this 8th day of May, 1964.

(SEAL)
M. G. WALKER
State Supervisor of Water
Resources

(May 28-June 4)

Affidavit of Publication

STATE OF WASHINGTON
COUNTY OF LINCOLN

ss.

Dorothy L. Randall, being first duly sworn on oath deposes and says
that she is the Principal clerk of the Davenport Times,
a weekly newspaper. That said newspaper is a legal newspaper and has been
approved as a legal newspaper by order of the superior court in the county in
which it is published and it is now and has been for more than six months prior
to the date of the publication hereinafter referred to, published in the English

language continually as a weekly newspaper at Davenport
Lincoln County, Washington, and is now and during all of
said time was printed in an office maintained at the aforesaid place of publication
of said newspaper. That the annexed is a true copy of

Notice of Water Right Application No. 18483.

as it was published in regular issues (and not in supplement form) of said
newspaper once a week for a period of two consecutive weeks,
commencing on the 28th day of May, 19 64,
and ending on the 4th day of June, 19 64,
both dates inclusive and that such newspaper was regularly distributed to its
subscribers during all of said period. That the full amount of the fee charged
for the foregoing publication is the sum of \$ 7.10, which amount has
been paid in full, at the rate of \$2.40 a hundred words for the first insertion
and \$1.80 a hundred words for each subsequent insertion.

Dorothy L. Randall
Subscribed and sworn to before me this 4th day
of June, 1964

(SEAL)

[Signature]
Notary Public in and for the State of Washington.
Residing at Davenport, Washington.

AGS
GWSKAGS
GWSKAGS
GWSKAGS
GWSK

Form 10. S. F. No. 218-A-7-57-5M. 49500. O.S.

Please send \$10.00 minimum statutory examination fee with application.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
Division of Water Resources

APPLICATION FOR A PERMIT
To Appropriate Public Waters of the State of Washington
(Read directions on last page carefully before filling out this form)

Application No. 18483

I, U.S. Department of the Interior, National Park Service, Coulee Dam National Recreation Area.
(Name of applicant)
of Coulee Dam, Washington P. O. Box 37
(Complete postoffice address)
do hereby make application for a permit to appropriate the following described public waters of the State of Washington subject to existing rights:
If the applicant is a corporation, give date and place of incorporation _____

1. The source of the proposed appropriation is Franklin D. Roosevelt Lake (Columbia River)
(Name of stream)
tributary of _____

2. The amount of water which the applicant intends to apply to beneficial use is 0.50 c.f.s.
cubic feet per second, 22: 362 acre-feet per year.

3. The use to which the water is to be applied is Domestic and irrigation
(Irrigation, power, mining, manufacturing, domestic supplies, etc.)

4. Time during which water will be required each year All Year

5. The approximate point of diversion is located 880 feet north and 500 feet east of
(Give distance and bearing to section corner)
Section corner common to Sections 8, 9, 17, and 18 in T. 28 N., R. 31 E., W. M.

being within the SW 1/4 SW 1/4 of Sec. 9, Tp. 28 N., R. 31 E. W. M.,
(Give smallest legal subdivision) (E. or W.)
in the county of Lincoln

6. The _____ to be _____ ft. or miles in length, terminating
(Main ditch, canal, or pipe line)
in the _____ of Sec. _____, Tp. _____ N., R. _____ W. M.,
(Smallest legal subdivision) (E. or W.)
the proposed location being shown on the accompanying map.

7. Estimated cost of development necessary to utilize fully the appropriation herein asked for
\$ 25,000.

8. Does the stream from which you wish to appropriate water flow through the tract of land on
which the water is to be used? _____ adjacent to it.

9. DESCRIPTION OF WORKS:

(a) DIVERSION WORKS—

(1) Height of diversion dam none; length on top _____ feet; length on bottom
_____ feet; material to be used and character of construction _____

(Loose rock, concrete, masonry, rock and brush, timber crib, etc., wasteway over or around dam)

(2) Description of headgate none

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

When storage works are contemplated a storage permit must be filed in addition to the above. These forms can be secured, together with instructions, by addressing the State Supervisor of Water Resources, Olympia, Washington.

(b) Description of Ditch or Pipeline System 2,200 feet of 6-inch main from pump to
21,000 gallon storage tank, 2,175 feet of 4-inch, 240 feet of 2-inch, and
790 feet of 3/4-inch distribution lines in campground and picnic area.

10. IRRIGATION: Number of acres to be irrigated 6.5

11. MUNICIPAL OR COMMUNITY WATER SUPPLY:

To supply the city or community of public campground
Spring Canyon, Lincoln County, having a
 (Name) (Name)
 present population of 500 and an estimated population of 800 in 19 70

(a) Estimated present requirement 32 acre feet per year.

12. LEGAL DESCRIPTION OF PROPERTY on which water is to be used, for all purposes
 other than Municipal Supply or Power (Copy legal description from deed) SW4SW4 of Section 9,
and SE4SE4 of Section 8, in T. 28 N., R. 31 E., W. M.

(a) What interest do you have in the above described property Administrator

(b) Are there any existing water rights appurtenant to the above described property No.

If so, from what source _____

13. POWER:

(a) Total amount of power to be developed None H. P.
 (Theoretical horsepower)

(b) Total fall to be utilized _____ feet.
 (Head)

(c) The nature of the works by means of which the power is to be developed _____

(d) Such works to be located in _____ of Sec. _____, Tp. _____ N., Rge. _____ W. M.
 (Legal subdivision) (E. or W.)

(e) To what stream is the water to be returned? _____

(f) Locate point of return _____ Sec. _____, Tp. _____ N., Rge. _____ W. M.
 (E. or W.)

(g) The use to which power is to be applied is _____

14. WORK SCHEDULE:

(a) Construction work will begin on or before March 1, 1964

(b) Construction work will be completed on or before June 1, 1964

XERO
COPY

XERO
COPY

XERO
COPY

XERO
COPY

AUG 10 1964

AUG 10 1964

AUG 10 1964

AUG 10 1964

Triplicate maps of the proposed ditch or other work, prepared in accordance with the rules of the State Supervisor of Water Resources, accompany this application.

(SIGN HERE) Homer W. Robinson Address 610 Crest Drive, Coulee Dam, Wash.
(Applicant)

(SIGN HERE) _____ Address _____
(Owner of Land in Item 12)

Signed in the presence of us as witnesses:

(1) Paul S. Smith _____, Coulee Dam, Wash.
(Name) (Address of witness)
(2) Charles D. Hurling _____, Coulee Dam, Wash.
(Name) (Address of witness)

Remarks: This application does not constitute waiver of other rights the
United States may have to the same water.

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.

Supporting Hydro Data

LWSSC
USGS Report 1969Spring CanyonCODA
Docket # 9

Spring Canyon campground is on the south shore of the lake, about 3 miles upstream from Grand Coulee Dam (fig. 1). The campground is on the west side of a small bay formed at the mouth of Spring Canyon (fig. 4).

For several years water was supplied to the campground from an 8-inch well drilled in 1954 to a depth of 111 feet. The well was reported originally to have yielded 200 to 350 gpm (gallons per minute), but because the well decreased in yield, and also was pumping sand, it was deepened in 1959. The log of this well is in table 4. The well still was not entirely satisfactory and attempts to improve its yield were made again in 1963. It then yielded 35 gpm, and the water still contained fine sand. The U.S. Geological Survey located a potential well site and supervised the drilling of a new well which was completed December 1965.

The campground at Spring Canyon is underlain by deltaic deposits formed in Glacial Lake Columbia. The gravel of the delta is interstratified with silty clay. Channel deposits within the delta appear to be the most likely source of ground water.

Coarse gravel is exposed at three sites in the area of Spring Canyon (fig. 4). These exposures delineate a channel that is offset slightly from Seaton Canyon, but which is aligned in a similar northwesterly direction. If earlier channels (now buried) were similarly located and were gravel filled, more coarse material should be penetrated than by wells drilled to either side of it. The well that was drilled in 1954 is northeast of this exposed channel. This well was deepened, then abandoned because of sand problems and inadequate yield. The site selected for the new well is 200 feet southwest of the earlier well and in line with the channel whose course is indicated by the three exposures of channel deposits.

The new well penetrated clean sand and gravel from 155 to 179 feet (table 4). A step-drawdown pumping test and a constant-rate pumping test were performed. During the constant-rate test, the well was pumped at 370 gpm for 5½ hours. The drawdown was about 38 feet. The water

24

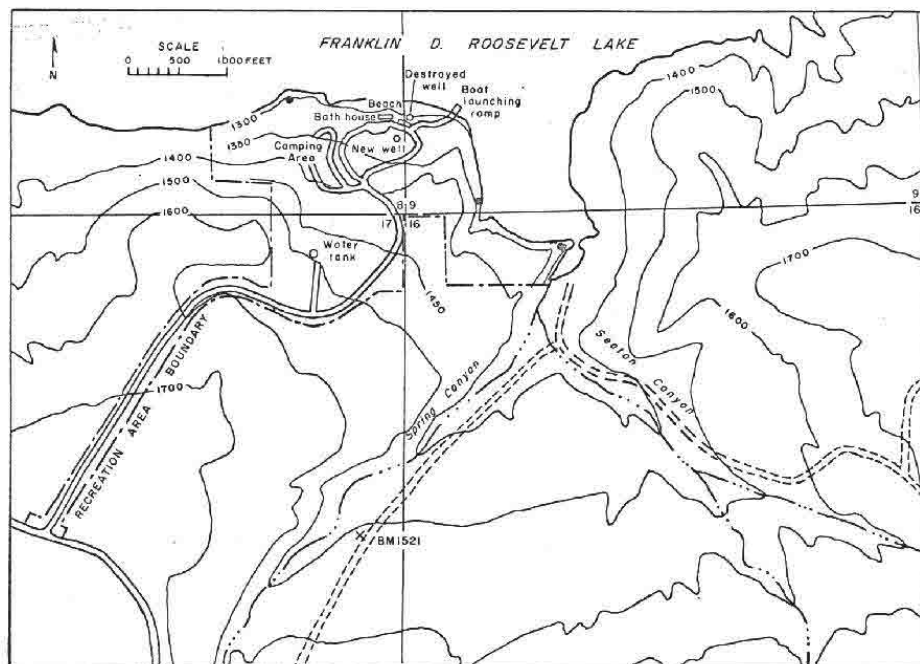


FIGURE 4.--Spring Canyon campground (No. 2 on fig. 1). General areas where channel gravel is exposed are marked by • . Base from NPS developed area plan, and from USGS quadrangle.

TABLE 4.--Logs of two wells at Spring Canyon campground

Destroyed Spring Canyon well: Drilled to 111 ft by Curley Beard, 1954; deepened by Clyde Woolery, 1959, altitude 1,300 ft; 8-inch casing to 111 ft, 6-inch casing to 155 ft; various intervals screened at various times; water level 25 ft below land sur- face, 6-10-59; yield 35 gpm. Casing removed, Oct. 1965.		
	Thick- ness (feet)	Depth (feet)
Sand-----	21	21
Sand and gravel-----	14	35
Clay, sandy-----	10	45
Clay-----	15	60
Sand, some water-----	19	79
Clay, sandy-----	26	105
Gravel, fine-----	6	111
Gravel-----	2	113
Shale, hard [clay]-----	2	115
Sand and gravel-----	9	124
Clay-----	2	126
Gravel, fine "pea"-----	9	135
Clay-----	2	137
Gravel, water-bearing-----	6	143
Sand and gravel-----	10	153
Gravel, fine "pea"-----	3	156

TABLE 4.--Logs of two wells at Spring Canyon campground--Con.

New Spring Canyon well: Drilled by Bach Drilling Co., 1965; altitude 1,319 ft; 8-inch casing to 158 ft; screen 158-173 ft; water level 30.04 ft below land surface, 10-24-67; yield 370 gpm for 5½ hrs, drawdown 38 ft.			Thick- ness (feet)	Depth (feet)
Sand-----			15	15
Sand and silt-----			15	30
Sand, fine, and clay-----			30	60
Sand, coarse, and clay-----			5	65
Sand, fine, and clay-----			15	80
Sand, fine to coarse, and clay-----			14	94
Clay, blue, and sand-----			11	105
Clay, very little sand-----			14	119
Clay, some coarse gravel; water level at 55 ft-----			11	130
Clay and fine sand; water level at 35 ft; bailed 50 gpm-----			10	140
Sand, coarse, some clay-----			10	150
Sand, fine, some clay; water level at 44 ft; bailed 50 gpm for 15 minutes, drawdown 50 ft-----			5	155
Sand and gravel-----			5	160
Sand, coarse, and gravel; bailed 50 gpm, drawdown 5 ft-----			5	165
Gravel and some sand-----			8	173
Sand, fine, and gravel-----			6	179
Sand, gravel, and clay; bailed 50 gpm, drawdown 50 ft-----			4	183

level recovered to within 1 foot of the static level in less than 1 minute after the pump was shut off. A summary of the measurements recorded during the step-drawdown test of the new well is presented below:

Step	Time since pumping began (min.)	Rate (gpm)	Cumulative drawdown (ft)	Specific capacity (gpm/ft)
1	105	142	9	15.8
2	145	195	14	13.9
3	230	263	20	13.1
4	285	339	27	12.5
5	305	390	34	11.5

The specific capacity decreased with increase in pumping rate during the step-drawdown test which indicates that some well loss occurred.

The results of an analysis of water from the new Spring Canyon well are in table 2 and indicate a total dissolved-solids content of 1,000 mg/l. This is twice the amount recommended as the limit by the Public Health Service (1962, p. 7). Sulfate is the only constituent in the sample from the new Spring Canyon well that exceeds the recommended limits of the Public Health Service.

The water level in the new well at Spring Canyon responds to changes in lake stage. The tests described above were made when Roosevelt Lake was about 12 feet below maximum operating stage. During the summer, when the well will be subjected to peak demand, the lake is expected to be full and the available drawdown will be greater as a result.



000031

27 DEC 1967

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 Planning and Service Center
Office of Land and Water Rights
NATIONAL PARK SERVICE

DEC 27 1967

ACT. INFO.	INITIALS	DATE
CHIEF		
ASST. CHIEF		
STAFF ASS.		
SUPV. APPR.		

December 26 1967
Sup. Hyd. Eng. [Signature]

DOCKET
FILE

Mr. William Fields
Supervisory Hydraulic Engineer
Western Regional Office
National Park Service
450 Golden Gate Avenue
San Francisco, California 94102

Dear Mr. Fields:

Reference is made to your request for information concerning the activities of the Geological Survey at Spring Canyon Campground in Coulee Dam National Recreation Area, in obtaining a ground-water supply. A description of the work is forwarded for your reference. The need for a new ground-water supply at Spring Canyon Campground became evident as a result of repeated unsuccessful attempts to obtain sand-free water from a well drilled in 1954 and deepened in 1959.

The U.S. Geological Survey located a potential well site, and supervised the drilling of a well which was completed December 1965. The geologic conditions that influenced the selection of a well drilling site at Spring Canyon are described in my letter to Mr. Morris dated February 12, 1965. In general, exposures of coarse, sandy gravel in an elongate configuration suggest that these occupy a channel cut into the finer materials of the terrace on which the campground is situated. Similar channel deposits at depth were expected to be the most likely source of ground water at the campground. For that reason, the site selected for drilling was placed about 200 feet southwest of the earlier well, in line with the channel whose course is suggested by the three exposures of channel deposits.

On October 28, 1965, the Bach Drilling Company began drilling an 8-inch well at the site selected. The casing used was that removed from the abandoned well. The well penetrated clean sand and gravel from 155 to 179 feet and drilling was discontinued at 183 feet in a mixture of sand, gravel, and clay. A 15-foot length of screen, whose slot sizes range from 0.022 to 0.080 inch was obtained by the National Park Service for installation in this well. When the driller started to pull back the 8-inch casing so that the screen could be set opposite part of the sand and gravel stratum, the casing parted near a weld. The drilling rig was moved 5 feet east and drilling started again and

continued to a depth of 173 feet. The well log and other tabular data relative to the new well (USGS well 28/31-8R1) are included at end of this letter. The materials below 173 feet penetrated in the well first attempted, 5 feet to the west are also listed in the log. The screen was installed from 158 to 173 feet below land surface, in sand and gravel. The well was developed with a surge block until no more sand could be brought into the well. After development of the well, it was pumped under controlled conditions. A step-drawdown test was run by the driller on December 28, 1965. A constant rate pumping test was made the next day, at which time the well was pumped at 370 gallons a minute for $5\frac{1}{2}$ hours. The drawdown was about 38 feet. The water level recovered to within 1 foot of the static level in less than 1 minute after the pump was shut off. Water-level measurements obtained during both tests are appended. A summary of measurements recorded during the step-drawdown test follows.

Step	Time since pumping began (min.)	Rate (gpm)	Cumulative drawdown (feet)	Specific capacity (gpm/ft)
1	105	142	9	15.8
2	145	195	14	13.9
3	230	263	20	13.1
4	285	339	27	12.5
5	305	390	34	11.5

The drawdown in a well is made up of two components, (1) formation loss, the loss of head caused by the resistance to water movement within the interstices of the aquifer, and (2) well loss, the loss of head caused by flow through the screen and turbulent flow within the casing. When the flow is laminar, both types of loss are linear with respect to pumping rate. When the flow is turbulent, only the formation loss is linear, the well loss varies approximately as the square of the pumping rate. The foregoing table shows that the ratio of drawdown to pumping rate is not constant inasmuch as the specific capacity decreased 40 percent when the yield increased from 142 to 390 gallons a minute. For this test, the magnitude of each of the two kinds of loss were computed and are plotted on a graph, attached. The expected drawdowns for yields greater than 390 gallons a minute can be determined from this graph. The planned withdrawal rate of 200 gpm is, however, much less than the capacity of the well.

The water level in the well responds to changes in lake stage. The tests described above were made when Lake Roosevelt was about 12 feet below maximum operating stage. During the summer, the time

of peak demand, the lake level is expected to rise so that a greater drawdown will be possible than when the test was made.

The well was sampled for chemical analysis on October 24, 1967. The analysis is attached. It indicates a dissolved solids of 1,000 mg/l (milligrams per liter), twice the amount recommended as the limit by the Public Health Service (1962). However, the only individual constituent that exceeds the Public Health Service recommended limits is sulfate, whose recommended limit is 250 mg/l.

Sincerely yours,

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

L. B. Laird
District Chief

Enclosures (5)

Driller's log for second well at new site, Spring Canyon
Campground, Coulee Dam National Recreation Area. Drilled
by Bach Drilling Co., 1965. Land surface altitude, 1,319 ft.;
water level, 30.04 ft. below land surface, 10-24-67.

	Thick- ness (feet)	Depth (feet)
Sand-----	15	15
Sand and silt-----	15	30
Sand, fine, and clay-----	30	60
Sand, coarse, and clay-----	5	65
Sand, fine, and clay-----	15	80
Sand, fine to coarse, and clay-----	14	94
Clay, blue, and sand-----	11	105
Clay, very little sand-----	14	119
Clay, some coarse gravel; water level at 55 ft	11	130
Clay and fine sand; water level at 35 ft; bailed 50 gallons a minute-----	10	140
Sand, coarse, some clay-----	10	150
Sand, fine, some clay; water level at ____ft; bailed 50 gallons a minute for 15 minutes, drawdown 50 ft-----	5	155
Sand and gravel-----	5	160
Sand, coarse, and gravel; bailed 50 gallons a minute, drawdown 5 ft-----	5	165
Gravel and some sand-----	8	173
Sand, fine, and gravel-----	6	179
Sand, gravel, and clay; bailed 50 gallons a minute, drawdown 50 ft-----	4	183

Record of water-level measurements in the new Spring Canyon
well 28/31-8R1 during pumping tests, December 28-29, 1965

Step-drawdown pumping test

December 28, 1965--Static water level 39 ft. below land surface
Pump started at 11:15 a.m.

Time	Pumping rate (gpm)	Water level (ft below land surface)	Drawdown (ft)
11:15 a.m.	136	46	7
11:25	142	47	8
11:35	142	47	8
11:45	142	47	8
11:55	142	48	9
12:00 noon	142	48	9
12:15 p.m.	144	48	9
12:30	144	48	9
12:45	144	48	9
1:00	144	48	9
	Pump speed increased		
1:05	190	51	12
1:10	190	51	12
1:15	190	52	13
1:20	195	53	14
1:25	195	53	14
1:30	200	53	14
1:45	200	53	14
	Pump speed increased		
2:20	257	58	19
2:30	257	58	19
2:45	257	58	19
3:00	268	59	20
3:15	268	59	20
3:30	268	59	20
3:45	268	59	20
	Pump speed increased		
3:50	337	66	27
4:00	337	66	27
4:15	340	66	27
4:30	340	66	27
4:45	340	66	27
	Pump speed increased		
4:50	388	72	33
4:55	388	73	34
5:00	390	73	34
5:05	390	73	34
5:10	393	73	34

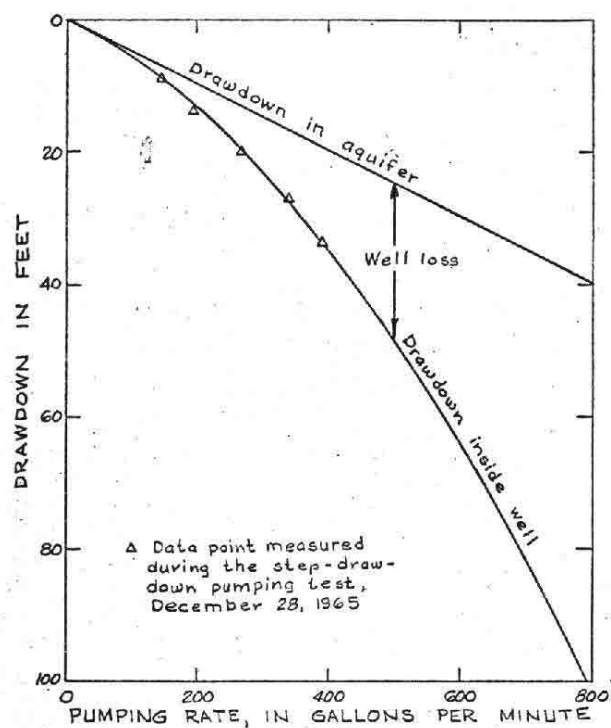
Record of water-level measurements in the new Spring Canyon
well 28/31-8R1 during pumping tests December 28-29, 1965--Continued

Constant-Rate Pumping Test

December 29, 1965--Static water level 40 ft. below land surface
Pump started at 11:00 a.m. and run 10 minutes at full capacity

Time	Pumping rate (gpm)	Water level (ft below land surface)	Drawdown (ft)
11:00 a.m. ^{4m} 0	442	76	36
Pump speed reduced			
11:10 a.m. ¹⁰ 30	366	71	31
11:30 ³⁰ 60	366	71	31
12:00 noon ⁶⁰ 90	372	73	33
12:15 p.m. ⁷⁵ 120	372	73	33
12:30 ⁹⁰ 150	372	73	33
12:45 ¹⁰⁵ 180	372	74	34
1:00 ¹²⁰ 210	372	74	34
1:30 ¹⁵⁰ 240	372	75	35
2:00 ¹⁸⁰ 270	372	75	35
2:30 ²¹⁰ 300	366	76	36
3:00 ²⁴⁰ 330	366	77	37
3:30 ²⁷⁰	363	78	38
4:00 ³⁰⁰	363	78	38
4:30 ³³⁰	363	78	38

After the pump was stopped, the water level rose to 41 ft ^{below land surface}
within one minute.



Drawdown-yield curves for a pumping time of $1\frac{1}{2}$ hours, Spring Canyon well (28/31-8R1), using the method described by Bierschenk (1964).

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
GROUND WATER ANALYSIS

Location Spring Canyon Campground State Wash. County Lincoln
Latitude _____ Longitude _____ Seq. No. _____
Date collected Oct. 24, 1967 Point of coll. Discharge pipe
Source 8-in drilled production well Local well No. 28/31-8R1
Owner Natl Park Serv, Coulee Dam Water use Public Supply
Depth (ft) 172.6 Cased to (ft) _____ Diam. (in) 8 Date drilled Dec. 1965
W.L. 30.04 ft below lsd Yield 15 gpm WBF Sand and gravel
Treatment _____ Appear. when coll. clear
Collected by H. W. Anderson, Jr. Remarks 4 oz. sample included

Specific conductance
(micromhos at 25° C) 1190 pH 8.2 Temp. (°F) 57

	ppm mg/l	eq/l		ppm mg/l	eq/l
Silica (SiO ₂)	30		Bicarbonate (HCO ₃)	222	3.64
			Carbonate (CO ₃)	0	0.00
Calcium (Ca)	123	6.14	Sulfate (SO ₄)	486	10.12
Magnesium (Mg)	70	5.76	Chloride (Cl)	2.1	.06
Sodium (Na)	38	1.65	Fluoride (F)	1.2	.06
Potassium (K)	13	.33	Nitrate (NO ₃)	6.7	.11
Total		13.88	Total		13.99

	ppm		ppm
Aluminum (Al)		Dissolved solids:	
		Residue on evap. at 180°C	1000 ✓
Iron (Fe)	0.14	Calculated	879 ✓
Manganese (Mn)		Hardness as CaCO ₃	596
		Noncarbonate	413
		Color	5

Lab. No. 2573

Field No.

Project

Trace Constituents

<u>Constituent</u>	<u>Concentration*</u>
Copper	< 0.4
Zinc	< 0.5
Lead	< 0.04
Silver	< 0.04
Cadmium	< 0.005
Barium	< 1
Chromium	< 0.05
Cyanide	< 0.01
Selenium	< 0.01
Phenol	< 0.001
ABS	< 0.01
Arsenic	< 0.01
Manganese	< 0.05

*Milligrams per liter

70-5-31-66.

JUN 30 10 28 AM '66

SAN FRANCISCO PLANNING AND SERVICE CENTER
Office of Land and Water Rights
450 Golden Gate Avenue, Box 36063
San Francisco, California 94102
May 25, 1966

L54

Memorandum

To: Superintendent, Coulee Dam

From: Supervisory Hydraulic Engineer, SSC

Subject: Spring Canyon well - Coulee Dam

S
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Reed
4/5/31

A review of Washington State Department of Health Laboratory Analysis No. 488, dated May 13, 1966, reveals the water from the new Spring Canyon well will probably prove unacceptable for domestic and most other uses. A side-by-side comparison with some of the U.S. Public Health Service's water-quality criteria for 1962 should prove helpful in seeing how poor the quality of this water is. We have also included the World Health Organization International Standard for 1958 for those constituents not covered by PHS.

	<u>Spring Canyon well</u>	<u>USPHS - 1962</u>	<u>WHO - 1958</u> (Permissive/Excessive)
Calcium	163	---	75/200
Chloride	6	250	200/600
Fluoride	1.4	.8-1.3	---
Iron	.14	.3	.3/1.0
Magnesium	46	---	50/150
Manganese	0	.05	.1 / .15
Nitrates	11	45	---
Sulfates	625	250	200/400
Total Calculated Solids	1014.2	500	500/1500

The USPHS standard is exceeded for sulfates and solids. From Climatologic Data provided by the U.S. Weather Bureau for Coulee Dam, the annual average maximum daily air temperature is 58.9° (1950 - 1960) for which the fluoride upper limit is 1.3 mg/l and the optimum is 1.0 mg/l. Until the USPHS has given its comments, this water should not be used.

(Sgd) MANUEL MORRIS

Enclosure

Manuel Morris

cc:

Chief, D&C, SSC, w/c enc.
Chief, Branch of Water Resources, WASO
Curtis Ritchey, USPHS

1959

Dimensions of Materials installed in Well
Number One, Job Number One, Spring Canyon Park

1-6" Standard Steel Drive Shoe

153'3" -6" I.D. Standard Drive Pipe

1 Johnson Everdur Screen (40 slot), 5', with connections, 5'9"
Screen measures 5 5/8" O.D.

Steel casing sets from 1' above ground level to 152'3" below
ground level

Screen sets from 151' to the bottom of well (156')

Steel shoe sets at 152'3" below ground level

Welds on casing

1st weld is at 127'3" below ground level

2nd " " " 106'3" " " "

3rd " " " 84'6" " " "

4th " " " 63'10" " " "

5th " " " 42'5" " " "

6th " " " 32'3" " " "

7th " " " 20'7" " " "

8th " " " 9'9" " " "

Well Log

111'-113' gravel

113'-115' hard shale

115'-124' sand and gravel

124'-126' clay

126'-135' gravel (pea)

135'-137' clay

137'-143' Waterbearing gravel

143'-153' gravel and sand, mixed

153'-156' pea gravel

Record of Work on Well Number One, Spring Canyon Park

May 9 Hauled in 6" casing
" 12 Moved in equipment and set up
" 13 Pulled the pump and started running 6" casing
" 14 Finished running 6" casing, sand pumped the hole
" 15 Drilling new hole
" 18 " " "
" 19 " " "
" 21 Bail tested hole, result--37.5 g.p.m. Took format on sample. Drove to Spokane to order screen
May 22--June 19 Waiting for screen and installation instructions to arrive
June 10 Measured static water level--25'
Measured depth of hole--156'
Bailed and sand pumped well in preparation for screen
Welded ring on 6" casing.
" 11 Installed the screen
Broke down tools
Started pump installation at 2:00 p.m.
" 12 Completed pump installation and removed the equipment

Pump was 60GPM turbine -
water supply proved inadequate -
See Job Number Two.

Save

CLYDE I. WOOLERY
WELL DRILLING CONTRACTOR
BOX 872
EPHRATA, WASH.

Coulee Dam National Recreation Area
Coulee Dam, Washington

Spring Canyon Park
Well Number One, Job Number Two

Pulled screen out

Pulled casing which was at 152'3" so the shoe sets at 105'

Packed gravel in old hole as casing was pulled

Re-installed screen so that bottom of screen sets at 110' and
top of screen sets at 104'4"

These measurements are from the top of the concrete block

60 GPM turbine pump installed and used
during the summer of 1959. Water flow
to the well was barely adequate for domestic
use without irrigation. Second pump
(centrifugal) installed to pump from take for
irrigation of beach area.

D5037

October 31, 1958

Memorandum

To: Regional Director, Region Four

From: Superintendent, Coulee Dam

Subject: Well Pump, Spring Canyon, Coulee Dam NRA

Following receipt of Mr. Whitworth's memorandum of October 16, we have reviewed our Spring Canyon water requirements, and offer the following information.

When our pump was in good condition it provided water for all purposes by operating four hours per day or less. This was at a time when our grass was new and the trees newly planted. If the pump was delivering a full 100 GPM our use would have been 43,200 gallons per day.

We are now irrigating approximately 2-1/2 acres of grass and trees at the beach area, and watering trees in another 2-1/2 acres of campground. We estimate our present water use at 30,000 gallons per day. A pump delivering 50 GPM to the bank for 10 hours per day would meet our present needs.

Watering of trees in our proposed campground extension, increased visitation, and additional grassed areas could very easily increase our needs to 100,000 gallons per day by 1966. In the event of such needs, we probably would want another well to divide the pumping requirements. Upon examination of our "As Built" water system, Drawing NRA-CD-2378, we believe it practicable to irrigate the beach area with a pump drawing from the lake and entirely independent of the domestic system. Some minor changes would be involved, but it would not be very costly or difficult. This could reduce our well demands by 20,000 gallons per day and would permit use of a less costly pump for irrigation. We could then use a 50 GPM pump in our well very satisfactorily and it would meet our needs for some time to come.

In any event, the Spring Canyon well must be rehabilitated and provided with a new pump before next summer. We discussed this well with a well driller from Moses Lake and he thought it possible the present casing could be driven deeper to reach a good gravel bed. At least the well can be cleaned of sand, surged, and made satisfactory for use with a smaller capacity pump.

If you concur in our thinking, we would appreciate your help in selecting the proper pump, and in preparation of bid specifications for the well rehabilitation. We are assuming, of course, that funds can be found to finance this job.

Homer W. Robinson
Superintendent

Copy to: Chief, WDC



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

October 16, 1958

IN REPLY REFER TO:

D-5039

To: Superintendent, Coulee Dam

From: Acting Regional Chief of Operations, Region Four

Subject: Well Pump, Spring Canyon, Coulee Dam

We have requested recommendations of Worthington Corporation as to the type and size of deep well pump suitable for the Spring Canyon well. Attached are copies of our letter to them and a diagrammatic profile sketch of the well and water system.

Worthington has informed us that the existing pump is a model designed to deliver 180 gallons per minute at a total dynamic head of 223 feet. The maximum head against which the pump is capable of delivering water is 255 feet. As our sketch indicates the head of the Spring Canyon system probably exceeds this maximum.

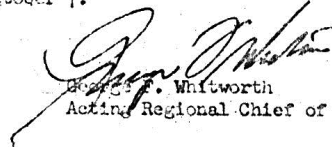
The high pumping rate (180 GPM) of the present pump may also have contributed to its failure. This quantity of water being drawn into the well through only eleven feet of perforations could carry a quantity of sand into the well and also could possibly plug the openings. We suggest a lower rate be used in the event replacing the pump is necessary.

To arrive at a practical lower rate we have estimated the water needs at Spring Canyon. Exclusive of irrigation we estimated the present peak daily demand of the bathhouse and campground at 11,000 gallons. The domestic use could be expected to increase to 30,000 gallons per day with complete MISSION 66 development. We lack data on irrigation use but have calculated that if 12 acres are irrigated at present, the water use for this purpose alone could amount to 100,000 gallons per day based on a standard usage allowance of 1 second foot per 80 acres of land irrigated. By 1966 the irrigation needs may be doubled to 200,000 gallons per day. To meet peak 1966 domestic demand the pump would have to deliver 50 gallons per minute for 10 hours to reach the total of 30,000 gallons. Irrigation needs as calculated above are so much greater than this that we are inclined to doubt our figures. If your present experience indicates 100,000 to 200,000 gallons per day may be needed for irrigation by 1966, the proper course would be to add stages and a larger motor to the present pump. In this latter event, the well also would need major improvement.

13

We would appreciate your review of our estimate of water needs and of the suggestion of replacing the present pump with one of 50 gallons per minute capacity.

We are attaching for your files copies of the performance curve and detail drawings for the present pump and a copy of Mr. Wiese's letter of October 7.


George F. Whitworth
Acting Regional Chief of Operations

Attachments

Copy to: Chief, WODC

LOG

SPRING CANYON WELL

Driller - Curley Beard, Coulee City, Washington

On the job - April 19, 1954

Started to spud - April 21, 1954

First 21 ft. Dry sand

21 to 35 " Sand and gravel

35 to 45 " Sandy clay

45 to 60 " All clay

60 to 79 " Sand with some water

79 to 105 " Sandy clay

105 to 111 " Gravel - not very coarse.

11 ft. of perforations which are 3" long and 1/4" wide, or as narrow as can be cut with a torch - staggered.

(Above information obtained from Mr. Beard by A. F. Drysdale on August 8, 1958)

Other Supporting Information



IN REPLY REFER TO:

L54
(WR)PC

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WESTERN REGION
450 GOLDEN GATE AVENUE, BOX 36053
SAN FRANCISCO, CALIFORNIA 94102

October 2, 1968

K W

RECEIVED	
San Francisco Planning and Service Center Office of Land and Water Rights NATIONAL PARK SERVICE	
OCT 2 - 1968	
ACT. INFO.	INITIALS/DATE
☒ CHIEF	
☒ ASST. CHIEF	
☐ STAFF ASST.	
☐ SUPV. APPR.	
☐ PRE-ACQ'N.	
☐ TITLE	
☐ EXCHANGE	
☒ SUPV. HYD. ENG.	
☒ ROBERT	Jan 15
☒ CHIEF	Oct 25
☐ DOCKET	
☐ FILE	

Memorandum

To: Chief, Office of Land and Water Rights, SSC

From: Assistant to the Regional Director, Program Coordination

Subject: Relinquishment of water right - Coulee Dam

Enclosed for your information is a copy of Mr. Richie's September 26 memorandum advising that the State of Washington will issue ground water right No. 6194 to replace surface water right No. 9267 which the Park no longer requires.


John L. Sansing

Enclosure

cc:
Supt., Coulee Dam



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

September 26, 1968

IN REPLY REFER TO:

L54
(WR)OLW

Memorandum

To: Regional Director, Western Region
From: Superintendent, Coulee Dam
Subject: Relinquishment of water right

The surface water right at Spring Canyon which we perfected to irrigate from the lake is no longer needed since our entire supply comes from a well.

We have written the State of Washington to relinquish surface water right No. 9267. It will be replaced by ground water right No. 6194 which the State is in the process of issuing.


David A. Richie



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

SAN FRANCISCO PLANNING AND SERVICE CENTER
450 GOLDEN GATE AVENUE, BOX 36025
SAN FRANCISCO, CALIFORNIA 94102

IN REPLY REFER TO:

L54 LWSSC

February 23, 1968

Memorandum

To: Chief, Division of Land and Water Rights, WASO
Attention: Chief, Branch of Water Resources

From: Supervisory Hydraulic Engineer, SSC

Subject: Letter Report on Spring Canyon Campground, Coulee Dam

Reference your memorandum of January 25, 1968 where you posed some questions. We shall attempt to answer them in order.

During October 1965, the Bach Drilling Company pulled the old casing prior to the drilling of the new well and used it as part of the casing in the new well. The letter of February 12, 1965, does not indicate this; however, as you do not have a copy of this letter in your files, a copy is enclosed.

It would appear that the lake water is much lower in sulfates than our well water. The USGS did not sample the lake water near our site. However, they did sample at the north end of the lake at North Point. The highest analysis indicated there was 23 ppm with most of the samples down at 10 to 15 ppm. Analysis of water from the well in October 1967, indicated 486 ppm which is still too high, but there are several wells in the Park Service which use water which exceeds this. The USGS speculated on two possibilities as to the source of sulfates. First, there are some saline lakes about 45 miles to the northwest of our site where the runoff washed over a contact between a basalt and a granite and may be related in some way to high sulfate content. The water in the well at Spring Canyon Campground is higher than lake level and the drainage is from the south of the campground. The basalt and granite contact exists in this area as in the other described situation.

The second possibility is that a local farmer is using a fertilizer containing sulphur. Throughout the Columbia Basin, fertilizer of this type is used. There is some farming going on near the campground. A geologic study of area to determine the actual cause may not be too

CODA

effective as an aid toward finding a solution, for if the basalt and granite contact is the source, there is nothing we can do about it and if the fertilizer is the cause, the damage has probably already been done.

In reply to your question on the auger holes, the nearest hole was augered at Kellers Ferry, according to USGS, which is about 15 miles away from Spring Canyon, so we probably cannot be too sure of the sulfate content of the shallow water at Spring Canyon Campground.

As to locating a well in the same buried channel nearer the lake, this may not be too effective as the water in the channel is moving toward the lake and probably would not differ greatly in sulfate content than the present well.

A solution may be to locate a shallow (upper 100 feet) well near the lake. In that we do not have any auger holes right near this site, we might auger about five holes to depths of less than 100 feet in hopes that we find good water. One disparaging feature of this approach, though, is that the drilling log at the present well indicated a fair amount of clay in this interval. So perhaps as you indicate, the best solution may be to treat the lake water, although as I have said before we can get by with this water temporarily.

We shall continue to give this problem our consideration.

William E. Fields
William E. Fields

Enclosure ¹⁰

cc: Regional Director, Western Region w/enc

aw

January 25, 1968

L54-OLW

Memorandum

To: Chief, Office of Land and Water Rights, SSC
Attention: Mr. Fields

From: Chief, Branch of Water Resources

Subject: Letter report on Spring Canyon Campground, Coulee Dam

As requested in Mr. Fields' memorandum of December 26, 1967, we have reviewed the above report.

The only questions raised during review was whether the casing was pulled from the abandoned well by Beck Drilling Company as part of the work or had been pulled earlier. Perhaps the letter of February 12, 1965, referred to in the second paragraph, explains this. We apparently did not get a copy of this and would appreciate having one for our files.

Otherwise the report seems straightforward. The report notes the high sulfate content, and, although the letter of June 2, 1966, from the Public Health Service concludes that the water from the abandoned well, that had 625 ppm of sulfates was satisfactory, it would have a laxative effect on some portion of the people who use it. Outside of a weekend of rain, I can think of no quicker way of spoiling a camping trip.

Whether there is a solution other than treating lake water, I do not know. I assume the lake water is much lower in sulfates, but have no ready reference to check this. The report does not include an explanation of the high sulfate content of the water and perhaps the geologic study of the area around the lake may suggest the cause. The analyses of the waters from the auger holes did not show a high sulfate content but these were relatively shallow. The Survey could be quizzed on this. One other solution comes to mind and that is the possibility of locating a well in the same channel but close to the lake. Bank storage or induced recharge from the lake might reduce the sulfate content.

Mr. Fields' memorandum states that he would like to make docket material out of it. Although this phrase is not entirely clear, it is understood that geologic and hydrologic reports are included in the field dockets. We have not followed that practice in this Office, but have no objections to the Spring Canyon report being used in that manner.

(Signed)
E. W. Reed

cc:
Superintendent, Coules Dam
Regional Director, Western
Chief, DC, SSC
Mr. Reed - OLWW-WSC, Room 103

EWReed:ljc

RECEIVED
JAN 26 1968
U.S. GEOLOGICAL SURVEY
WASHINGTON, D.C.



*254 Spring Canyon Coda ✓
Hunter Coda*

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Water Resources Division
1305 Tacoma Avenue South
Tacoma, Washington 98402

IN REPLY REFER TO:

February 12, 1965

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

Dear Mr. Morris:

We discussed with Mr. Homer Robinson, Superintendent of the Coulee Dam National Recreation Area, the water supply situation at both Spring Canyon and Hunter Campground. The Spring Canyon Campground was visited. The Hunter Campground was not visited inasmuch as the road into it had not been cleared and the snow cover there would make any geologic observations difficult or impossible. Because each campground has at least some history of ground-water development, it is possible to evaluate briefly the situation at each place, to the extent that you can get started with plans for further construction.

A study of the data available for the existing well at Spring Canyon suggests strongly that no further attempt should be made to renew its production. Inasmuch as there appear to be water-yielding zones at depth in this area, another well should be drilled nearby. A location that is particularly convenient, according to Mr. Robinson, is about 100 feet southeast of the old well, adjacent to the pipeline and just southeast of the road leading to the boat launching ramp. This location appears satisfactory; here, the water-bearing strata are not expected to differ appreciably from the location of the old well. Exposed in the wave-cut bank south of the present surface-water supply dock is an outcrop of laminated clayey silt overlying sand and gravel. The silty clay also appears to underlie the steeply sloping ground south of the NPS trailers. This steep slope on the clayey silt probably continues toward the lake an unknown distance, under the sand deposit that composes the beach on which the campground is situated. Therefore, to maintain the greatest possible thickness of permeable material at the new well site, its distance from the exposure of clayey silt should be kept as great as is feasible, consistent with economic requirements. The suggested location, at altitude 1,310, appears to be a reasonable distance from the outcrop.

Of much greater importance will be the need to log the new well carefully as it is being drilled, to obtain, through bailing tests, some idea of the yield of permeable materials as they are penetrated, and to make certain that the slot width of the screen fits the size distribution of the sand or gravel selected to yield water to the well. Also, a carefully controlled pumping test will be necessary, after well development has been completed, to determine optimum pumping rate under service conditions.

At the Hunter Campground, an exploratory well should be drilled to determine whether water-bearing sand and gravel occurs beneath the clay that yields a small amount of water to the existing shallow well. So far as known, no deep exploration has been tried here. We will make a trip into the area after the snow disappears to determine whether one location for a test well might be more suitable than some other.

Sincerely yours,

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

L. B. Laird
District Chief

February 11, 1965

L-54
Docket 7,8,9,
10,11,12

Memorandum

To: Superintendent, Coulee Dam

From: Acting Regional Chief, Division of Land and Water Rights
Western Region

Subject: Water Rights Dockets 7 to 12 inclusive

There are enclosed, copies of permits, proofs, notice of completion and related correspondence for the water rights applications listed below and the appropriate docket in which these are to be filed.

Application	18483	Permit No.	13672	Docket	9
"	18484	"	13673	"	10
"	18485	"	13674	"	7
"	18486	"	13675	"	12
"	7143	"	6861	"	11
"	7144	"	6862	"	8

(Sgd) Manuel Morris

Manuel Morris

Enclosures

cc:
Director w/enclosures
Chief, WODC (2) w/enclosures

P.S. to Supt: File your originals in lieu of the enclosed which are provided as a guide only. Copies which we distributed were not quite as poor as the enclosed may suggest.

February 10, 1965

L-54

/Docket 6

Memorandum

To: Superintendent, Coulee Dam

From: Acting Regional Chief, Division of Land and Water Rights
Western Region

Subject: Spring Canyon Beach Water System, Docket 6

Your assistance in gathering information on the Spring Canyon Beach water system has been very helpful to the USGS in their recent "rush" investigation, and to us at WRO. We can now plan on drilling a new exploratory well, designed with the USGS assistance and supervised by them, but in a telephone call to Mr. Garrett, today, I learned that the Survey would be unable to provide further assistance this fiscal year. We will make every effort to have a contract awarded on or about July 1, the first day a USGS geologist is available. The history of the present well suggests that certain well drilling practices were not required of the past well drilling contractors, which would have been provided had the Survey been in attendance. While there are no assurances that the USGS would have brought in a successful well, we would today have far more information on which to base a well for test or production.

The material you collected (copies enclosed) on the history of the well should be added to docket 6. You may prefer to place your originals in the docket.

((Sgd)) Manuel Morris

Manuel Morris

Enclosures

cc:
Director w/enclosure
Chief, WROC (2) w/enclosure



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

January 27, 1965

IN REPLY REFER TO:
D5039

RECEIVED		
NPS Western Regional Office		
JAN 29 '65		
	Surname	Date
Reg. Dir.		
Asst. R.D. (AD)		
Asst. R.D. (OP)		
Asst. R.D. (CA)		
Asst. to R.D. (PA)		
Sp. Asst. (Dev)		
Sp. Asst. to R.D.		
R. S. Advisor		

X. Moffitt

Memorandum

To: Regional Director, Western Region
From: Superintendent, Coulee Dam
Subject: Spring Canyon Water System

The attached informational material was requested by Mr. Morris
during a telephone conversation on January 27.

Homer W. Robinson
Homer W. Robinson
Superintendent

enclosures

L54

Coulee Dam National Recreation Area
Coulee Dam, Washington 99116

January 8, 1965

RECEIVED		
NPS Western Regional Office		
JAN 11 '65		
	Signature	Date
Reg. Dir.		
Asst. R.D. (AD)		
Asst. R.D. (UP)		
Asst. R.D. (CA)		
Asst. to R.D. (PA)		
Sp. Asst. (Gen)		
Sp. Asst. to R.D.		
R. S. Advisor		

Alc 11/13

State of Washington
Department of Conservation
335 General Administration Building
Olympia, Washington

Gentlemen:

Enclosed are Proofs of Appropriation of Water for the following applications:

Application No. 18483,	Permit No. 13672
" 18485,	" 13674
" 18486,	" 13675

Also enclosed are money orders in the amount of \$9.00 payable to the Department of Conservation, and \$6.00 payable to Lincoln County Auditor, covering statutory filing and recording fees.

Very truly yours,

Charles P. Woodbury
Acting Superintendent

Enclosures-5

cc:

Western Region w/copies of Proofs of Appropriations,
Dept. of Cons. letter of December 28, 1964,
Instructions, and Permits

WR Copy

REC 8 3 227
Western Region
450 Golden Gate Avenue, Box 36063
San Francisco, California 94102
L-54
Docket 20
December 7, 1964

S
SKN
ENC
12/9

Mr. Eugene F. Wallace, Geologist
Division of Water Resources
335 General Administration Building
Olympia, Washington

Dear Mr. Wallace:

Thank you for your letter of December 3, 1964 covering the pending water rights applications at Coulee Dam National Recreation Area.

We are very pleased to learn that application 18484, Kettle Falls campground, will be approved for the original amount requested.

I was able to intercept the voucher just at the point of its departure to the United States Treasurer for issuance of a check. The order was revised to \$120.00, and has gone forward for disbursement.

Your cooperation is very much appreciated.

Sincerely yours,

Manuel Morris
Hydraulic Engineer

cc:
Supt., Coulee Dam NRA w/c letter
/Director w/c incoming letter X
Chief, WODC (2) w/c incoming letter



ALBERT D. ROSELLINI
GOVERNOR

STATE OF WASHINGTON
Department of Conservation
335 GENERAL ADMINISTRATION BUILDING
OLYMPIA

December 3, 1964

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

Mr. Manuel Morris, Hydraulic Engineer
United States Department of Interior
National Park Service
Western Region
450 Golden Gate Avenue
Box 36063
San Francisco, California 94102

Dear Mr. Morris:

Re: Ground Water Applications No. 7143 & 7144
Surface Water Application No. 18483, 18484,
18485 and 18486 (Your number L 54)

Receipt is acknowledged of your letter dated December 1, 1964. You are advised that upon receipt of the warrant in the amount of \$100.00, permits will issue under all of the above applications except Surface Water Application No. 18484.

Regarding said Surface Water Application No. 18484, you may consider this letter as an amendment to our report of examination mailed to your Coulee Dam office on August 27, 1964. We have amended our copy of the report in accordance with the new information submitted in your letter such that the recommended quantity has been increased to 0.50 c.f.s. which is divided as follows:

0.10 c.f.s. and 20 acre-feet annually for the irrigation of 5 acres
0.40 c.f.s. for community domestic supply

If you concur with this amendment, we can resume processing by requesting you how to submit a voucher in the amount of \$20.00 to cover the statutory fee for issuance of permit.

Please note that we are sending a copy of this letter to Superintendent Robinson for his records.

Yours very truly,

DEPARTMENT OF CONSERVATION
ROY MUNDY, DIRECTOR

Eugene F. Wallace
EUGENE F. WALLACE, Geologist
Division of Water Resources

EH/ch

cc: Homer W. Robinson, Supt.
Coulee Dam Natl. Recreation Area
Coulee Dam, Washington 99116

1-54
Dockets 7, 8, 9, 10
11, 12

To: Superintendent, Coulee Dam

From: Assistant Regional Director, Operations, Western Region

Subject: Water Rights Applications, Coulee Dam

Your copies of the Reports of Examination transmitted by memorandum of November 30, 1964 should be placed in the dockets as follows:
(Application No. / Docket No.) 7143/11, 7144/8, 18483/9, 18484/10, 18485/7, and 18486/12.

On comparison of the reports with the applications, it is noted that the State has recommended lesser quantities than were requested. Application 7144 is reduced from 100 gpm to 50 gpm; application 18484 from 0.50 cfs to 0.18 cfs, although by letter the State changed this to 0.21 cfs; and application 18486, from 0.25 cfs to 0.11 cfs. Mr. Morris' letter to the State, with copy to you, dated December 1 requested the restoration to the full amount on application 18484, but being unaware of the other cuts, no comments on the other applications were made. Please therefore review your needs in these two other applications, and if you feel the revised quantities are inadequate, communicate with the State as quickly as possible, requesting the amounts be corrected. If this cannot be done now, then at some future date, new applications can be filed for the additional water but they will carry newer priority dates also.

The earlier receipt of these reports would have enabled us to comment on them in time, and given us the opportunity to offer our assistance in effecting possible changes. It will be very much appreciated, if reports, and miscellaneous correspondence on water rights matter are brought to our attention as soon as possible.

(Sgd.) Warren F. Hamilton

Warren P. Hamilton

cc:
Director w/c of reports
Chief, WOLC (2) w/c of reports



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

November 30, 1964

IN REPLY REFER TO:

L54

RECEIVED		
NPS Western Regional Office		
DEC 2 - '64		
	Surname	Date
REG. DIR.		
Asst. N. D. (Gd)		
Asst. N. D. (Ad)		
Asst. N. D. (CA)		
Asst. to N. D.		
Sp. Asst. (Inv)		
Sp. Asst. (MCA)		

Memorandum

To: Regional Director, Western Region
From: Superintendent, Coulee Dam
Subject: Water Right Applications - Coulee Dam

Transmitted herewith are one copy each of Reports of Examination for our six water right applications now pending. These reports were requested by Mr. Morris during our telephone conversation of November 30.


Homer W. Robinson
Superintendent

Enclosures

L-54

To: Director

Subject: New Water Right Dockets, Coulter Dam

Docket No. 7 - Keller Ferry campground -	Application	7143
Docket No. 8 - Porcupine Bay campground -	"	7144
Docket No. 9 - Spring Canyon campground -	"	18483
Docket No. 10 - Kettle Falls campground -	"	18484
Docket No. 11 - San Poil Bay campground -	"	18485
Docket No. 12 - Evans campground -	"	18486

DOI: 10.1002/anie.200525406

Gunnar" of "agerlund

Enclosures

cc.

Superintendent, Coulee Dam
Chief, WDC (2) w/docket /

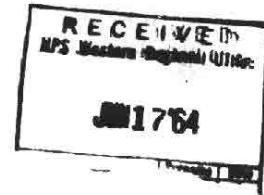
[illegible]



IN REPLY REFER TO:
L54

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

June 15, 1964



Memorandum

To: Regional Director, Western Region
From: Superintendent, Coulee Dam
Subject: Water Rights, Coulee Dam

Attached are photocopies of Affidavits of Publication attesting to the publication of Notices of Water Right Applications numbered 7143, 7144, 18483, 18484, 18485, and 18486.

The originals of the Affidavits were forwarded to the Washington State Department of Conservation.

Homer W. Robinson
Homer W. Robinson
Superintendent

Enclosures



IN REPLY REFER TO:

L-54

RECEIVED
NPS WESTERN REGIONAL
OFFICE
MAY 25 '64

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

May 22, 1964

Memorandum

To: Regional Director, Western Region
From: Superintendent, Coulee Dam
Subject: Water Right Applications, Coulee Dam

In reply to Mr. Siler's subject memorandum of May 19 our water right applications appear to be moving along satisfactorily.

We have arranged for publication of three notices of application and just yesterday received the remaining notices.

Five of the six notices of application had to be revised as they did not provide the quantity of water required. This has caused a small delay but new notices have been received and we do not anticipate any problems.

Homer W. Robinson
Homer W. Robinson
Superintendent

May 19, 1964

L-54

Memorandum

To: Superintendent, Coulee Dam

From: Regional Chief, Division of Land and Water Rights,
Western Region

Subject: Water Right Applications, Coulee Dam

On February 28, 1964 we transmitted to you six water right applications for the use of water at Coulee Dam. At the time we asked that you report any action or correspondence with the State Department of Conservation to this office so that new Water Right Dockets could be initiated.

If you have received any information on these applications we shall appreciate it if you will forward the data to the Regional Office at your earliest opportunity. If you have not received any notices of any kind from the State we suggest you contact them at this time to determine the status of the applications.

~~SUP JAMES M. SILER~~

James M. Siler

RWKetcham:lar 5/19/64



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

January 29, 1960

CODA Docket 6

IN REPLY REFER TO:
L54-OBL

RECEIVED	
NPS REGION FOUR OFFICE	
FEB - 4 '60	
SURNAME	DATE
REG. DIR.	
ASST. R.D.	
OPERATIONS	
ADMIN.	
RECREATION	
INTERP.	
RANGER ACT	

Memorandum

To: Regional Director, Region Four
From: Chief, Water Resources Section
Subject: Transmittal of Docket 6, Spring Canyon Beach Water System, Coulee Dam

Attached is your copy of the subject docket which contains only a copy of completion report dated May 10, 1956. A map of the water system should be prepared, showing the system covered by the completion report, and also older systems replaced or enlarged, and distributed for inclusion in the docket. Memoranda, or other forms of historical statements should also be prepared to describe progressive stages of the water development and the use of older wells, springs, or other water sources, with dates, and included as a part of the historical background of the water claims.

The record of well and log of well should be distributed, if available, for inclusion in the subject docket.

A. van V. Dunn

A. van V. Dunn
Chief, Water Resources Section

Attachment

Copy to: Superintendent, Coulee Dam, w/identical attachment
Chief, WODC (2), w/identical attachment

*original copy of report, at B-1
of 12, under 100' depth, but should be included*

*6' under 4' 10"
additional depth to 200'
partial depth 100' screen installed
under 4' 10' screen depth of water
10' screen*

*Spaulding
LSS 3/8
W. H. Worth*

L54

XD5039

December 3, 1958

Memorandum

To: Regional Director, Region Four
From: Superintendent, Coulee Dam
Subject: Well Pump and Water System Rehabilitation, Spring Canyon

Your attention is directed to Mr. Johnston's memorandum of November 10.

We have been thinking of ways and means of solving our pump problem and of getting a good rehabilitation job on the Spring Canyon well. We believe the present pump is, or can be made suitable for pumping the irrigation water.

We also have another complete deep well turbine pump and motor that might serve with minor repairs for the domestic supply pump. It is a Pomona turbine, Model PF 4570-46 with a 7-1/2 hp Fairbanks-Morse motor, 300 feet of 2-1/2" pipe, drive shaft and bearings. We do not know the pump capacity, but feel sure a small turbine pump could be purchased at moderate cost if this one is not suitable. We would prefer a pump of 50 GPM capacity to insure an adequate supply for the future, and believe the well can be made to produce this amount without trouble. If we can thus reduce the pump costs, we can do a better job of rehabilitating the well.

Most well drillers make a charge for moving and setting up their drill rigs at a new location. This charge varies with the distance and difficulty of setting up, but it will run from \$150 to \$200. One driller estimated the cost of moving in, surging, and bailing our well at approximately \$1,000. Cleaning out the sand would be an additional charge.

Except for short periods of cold weather, this job could be done at any time during this winter. Perhaps March or April would be most favorable, but we would want the project completed by May 1.

We most certainly appreciate your interest and help with our problem.

Homer W. Robinson
Superintendent

HWR:RS

L54

D 50 39 ✓

November 10, 1958

Memorandum

To: Superintendent, Coalee Dam
From: Regional Chief of Operations, Region Four
Subject: Well Pump and Water System Rehabilitation,
Spring Canyon

Thank you for your memorandum of October 31, furnishing us information relative to water requirements at Spring Canyon.

In this memorandum you stated that a pump delivering 50 GPM for 10 hours a day would meet the present needs, and probably it would be possible in the future to irrigate at least a large portion of the beach area with a pump drawing water from the lake entirely independent of the domestic system. This would require certain minor changes but should not be costly nor difficult.

It appears to us that we can go one step farther. Instead of a 50 GPM pump operating 10 hours per day, it would appear to us that a 20 to 25 GPM pump operating 24 hours a day would meet your requirements, would be cheaper to purchase, install and operate, and would reduce the chance of well failure from sanding.

In order to qualify as rehabilitation, the proposed work cannot exceed half of the replacement cost of the present pump and well. This prohibits the recommended deepening of the existing well, inasmuch as we estimate the replacement cost at \$5,000. This \$5,000 is based upon 111 feet of cased well at \$17.00 per foot, plus bailing and pumping tests totaling \$710, plus \$2400 for the present pump unit.

We recommend the following work:

Item 1.	40 lin.ft. Remove sand from existing well, @ \$5.00	\$200.00
Item 2.	5 hours bailing test, @ \$14.00	70.00
Item 3.	10 hours developing and/or surging well, @ \$14.00	140.00
Item 4.	Furnish and set test pump	190.00
Item 5.	30 hours of pumping test, @ \$10.00	300.00
	Total	900.00
	Furnish and set pump (25 GPM @ 280 ft.)	1,600.00
	Total rehabilitation cost	\$2,500.00

If you believe the above development would meet your requirements at Spring Canyon, please let us know. Also let us know when the work could be undertaken. Upon receipt of this information we will determine if funds can be made available for this purpose.

Fred T. Johnston
Regional Chief of Operations

D5039

October 31, 1958

Memorandum

To: Regional Director, Region Four
From: Superintendent, Coulee Dam
Subject: Well Pump, Spring Canyon, Coulee Dam NRA

Following receipt of Mr. Whitworth's memorandum of October 16, we have revised our Spring Canyon water requirements, and offer the following information.

When our pump was in good condition it provided water for all purposes by operating four hours per day or less. This was at a time when our grass was new and the trees newly planted. If the pump was delivering a full 180 GPM our use would have been 43,200 gallons per day.

We are now irrigating approximately 2-1/2 acres of grass and trees at the beach area, and watering trees in another 2-1/2 acres of campground. We estimate our present water use at 30,000 gallons per day. A pump delivering 50 GPM to the bank for 10 hours per day would meet our present needs.

Watering of trees in our proposed campground extension, increased visitation, and additional grassed areas could very easily increase our needs to 100,000 gallons per day by 1966. In the event of such needs, we probably would want another well to divide the pumping requirements. Upon examination of our "As Built" water system, Drawing NRM-CD-2378, we believe it practicable to irrigate the beach area with a pump drawing from the lake and entirely independent of the domestic system. Some minor changes would be involved, but it would not be very costly or difficult. This could reduce our well demands by 20,000 gallons per day and would permit use of a less costly pump for irrigation. We could then use a 50 GPM pump in our well very satisfactorily and it would meet our needs for some time to come.

In any event, the Spring Canyon well must be rehabilitated and provided with a new pump before next summer. We discussed this well with a well driller from Moses Lake and he thought it possible the present casing could be driven deeper to reach a good gravel bed. At least the well can be cleaned of sand, surged, and made satisfactory for use with a smaller capacity pump.

If you concur in our thinking, we would appreciate your help in selecting the proper pump, and in preparation of bid specifications for the well rehabilitation. We are assuming, of course, that funds can be found to finance this job.

Homer W. Robinson
Superintendent

Copy to: Chief, WDC



UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

October 16, 1958

IN REPLY REFER TO:

D-5039

C. I. A. A.		Date
Sup.		11/1/58
Asst. Sup.		
Adm. Asst.		
Eng. Asst.		
Rec. Mgmt.		
Training		
Public Affs.		
Spec. Inv.		
Off. of Cong. & Public Affairs		

To: Superintendent, Coulee Dam
From: Acting Regional Chief of Operations, Region Four
Subject: Well Pump, Spring Canyon, Coulee Dam

We have requested recommendations of Worthington Corporation as to the type and size of deep well pump suitable for the Spring Canyon well. Attached are copies of our letter to them and a diagrammatic profile sketch of the well and water system.

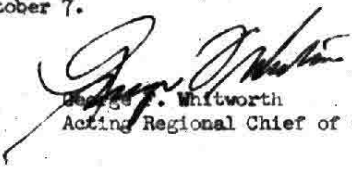
Worthington has informed us that the existing pump is a model designed to deliver 180 gallons per minute at a total dynamic head of 223 feet. The maximum head against which the pump is capable of delivering water is 255 feet. As our sketch indicates the head of the Spring Canyon system probably exceeds this maximum.

The high pumping rate (180 GPM) of the present pump may also have contributed to its failure. This quantity of water being drawn into the well through only eleven feet of perforations could carry a quantity of sand into the well and also could possibly plug the openings. We suggest a lower rate be used in the event replacing the pump is necessary.

To arrive at a practical lower rate we have estimated the water needs at Spring Canyon. Exclusive of irrigation we estimated the present peak daily demand of the bathhouse and campground at 11,000 gallons. The domestic use could be expected to increase to 30,000 gallons per day with complete MISSION 66 development. We lack data on irrigation use but have calculated that if 12 acres are irrigated at present, the water use for this purpose alone could amount to 100,000 gallons per day based on a standard usage allowance of 1 second foot per 80 acres of land irrigated. By 1966 the irrigation needs may be doubled to 200,000 gallons per day. To meet peak 1966 domestic demand the pump would have to deliver 50 gallons per minute for 10 hours to reach the total of 30,000 gallons. Irrigation needs as calculated above are so much greater than this that we are inclined to doubt our figures. If your present experience indicates 100,000 to 200,000 gallons per day may be needed for irrigation by 1966, the proper course would be to add stages and a larger motor to the present pump. In this latter event, the well also would need major improvement.

We would appreciate your review of our estimate of water needs and of the suggestion of replacing the present pump with one of 50 gallons per minute capacity.

We are attaching for your files copies of the performance curve and detail drawings for the present pump and a copy of Mr. Wiese's letter of October 7.



George J. Whitworth
Acting Regional Chief of Operations

Attachments

Copy to: Chief, WODC

COPY

August 21, 1958

Memorandum

To: Homer Robinson, Superintendent, National Park Service
From: W. E. Walcott, Columbia Basin Project Geologist
Subject: Rehabilitation of Spring Canyon Well

After reviewing the driller's log, the well test record, visiting the site, and discussions with you I believe the subject well is a good one but needs development.

I believe that you should hire some well drilling company to set over your well and do a thorough surging and development job in the gravel aquifer near the bottom of the well. This would involve intermittent surging and bailing sand out of the well and may take several days. You will probably have to pay for moving of the drill rig in and out and the other expense would be an hourly charge for development. Generally, the surging operation is of short duration at the start, one or two hours, because of the abundance of sand that flows to the well. As development continues the amount of sand becomes less and you will reach a point where a couple hours surging results in only a quart or less of sand. I believe that when development reaches this point you have done all the good you can. By that time you have developed a chamber in the gravel and/or a graded filter back from the hole.

You will probably find that the hole is filled with sand near the bottom when you start development. The hole should be cleaned out to the original depth or even drilled a little deeper first and then development started.

I will be very happy to visit this operation when under way if you will so advise me.

W. E. Walcott
C.B.P. Geologist

D 5039

July 30, 1958

Memorandum

To: Regional Director, Region Four
From: Superintendent, Coulee Dam
Subject: Water System, Spring Canyon

Our Spring Canyon water system is causing us more than a little concern; in fact, we are wondering if it will see us through the present season.

This system consists of a drilled well, 111 feet in depth and cased with 8" casing which was perforated at about 60 feet from the surface. The well was equipped with an eight-stage vertical turbine pump installed 80 feet from the surface, with a capacity of 200 gallons per minute. This installation was completed in the spring of 1954.

This pump was incapable, even when new, of putting water in the storage tank when the lake level dropped more than 10 feet from maximum.

Apparently the well was not provided with sand screens, as we frequently pump large quantities of sand that plug the water lines and fixtures. This pumping of sand has so reduced the efficiency of the pump that it will no longer put water into the storage tank. To keep the system operative for this season we have installed a booster pump at the top of the well to increase pressure and quantity for filling the tank.

We have included an item in our 1960 FY B&U construction program for rehabilitation of this water system. We propose to consult a geologist and on his advice either drill a new well or overhaul the existing one to make it satisfactory, and install a new pump.

Due to the emergent nature of this situation and because of considerable savings effected on the Kettle Falls Water and Sewer System, U-33-4 and U-25-3, we request that a portion of these savings be made available this fiscal year for rehabilitation of the Spring Canyon water system. There is attached PCP U-7-4, which states the requirements of this proposal and the amount of money estimated for the project.

We would like to start work on this job immediately after Labor Day and will certainly appreciate your approval of the project.

Homer W. Robinson
Superintendent

Attachment
HWRobinson:RS

SAN FRANCISCO PLANNING AND SERVICE CENTER
Office of Land and Water Rights
450 Golden Gate Avenue, Box 36025
San Francisco, California 94102

L54 SSCLW

May 4, 1967

CODA - WR's 5, 7, 9

Morris

Memorandum

To: Chief, Division of Land and Water Rights
Attention: Chief, Branch of Water Resources

From: Supervisory Hydraulic Engineer, SSC

Subject: Material for Coulee Dam water dockets

Enclosed are copies of three letters from the Acting Superintendent, Coulee Dam, to the Department of Conservation, State of Washington, each with attached related material. The letter and attachments pertaining to Application 8355 should be filed in Water Right Docket No. 5 under Part III, Appropriative Well Rights; those relating to Application 8351 should be filed in Docket No. 7 under Part II, Well; and those pertaining to Application 8352 should be filed in Docket No. 9 under Part II, Well.

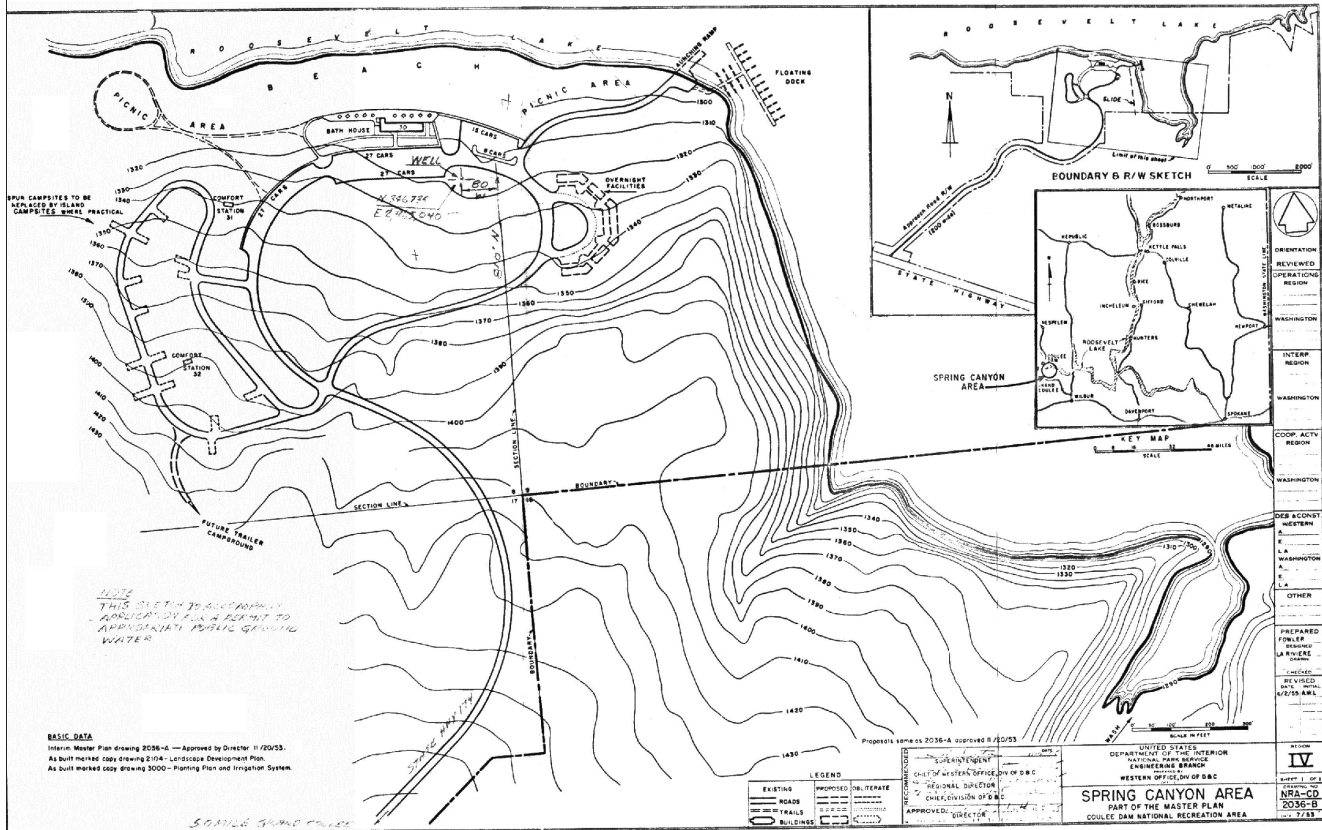
By copy of this memorandum, the Superintendent, Coulee Dam, is requested to file his copies similarly.

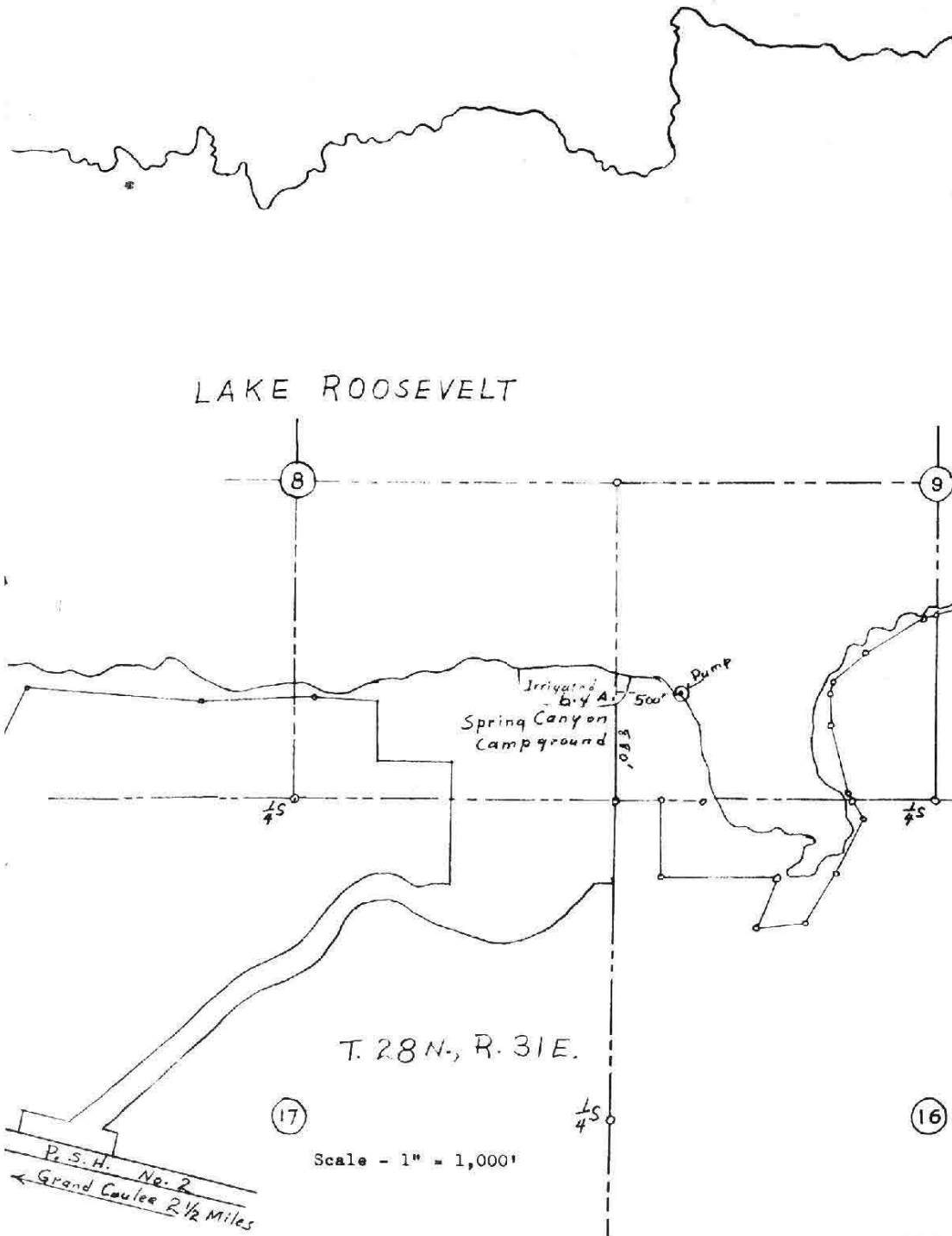
Manuel Morris

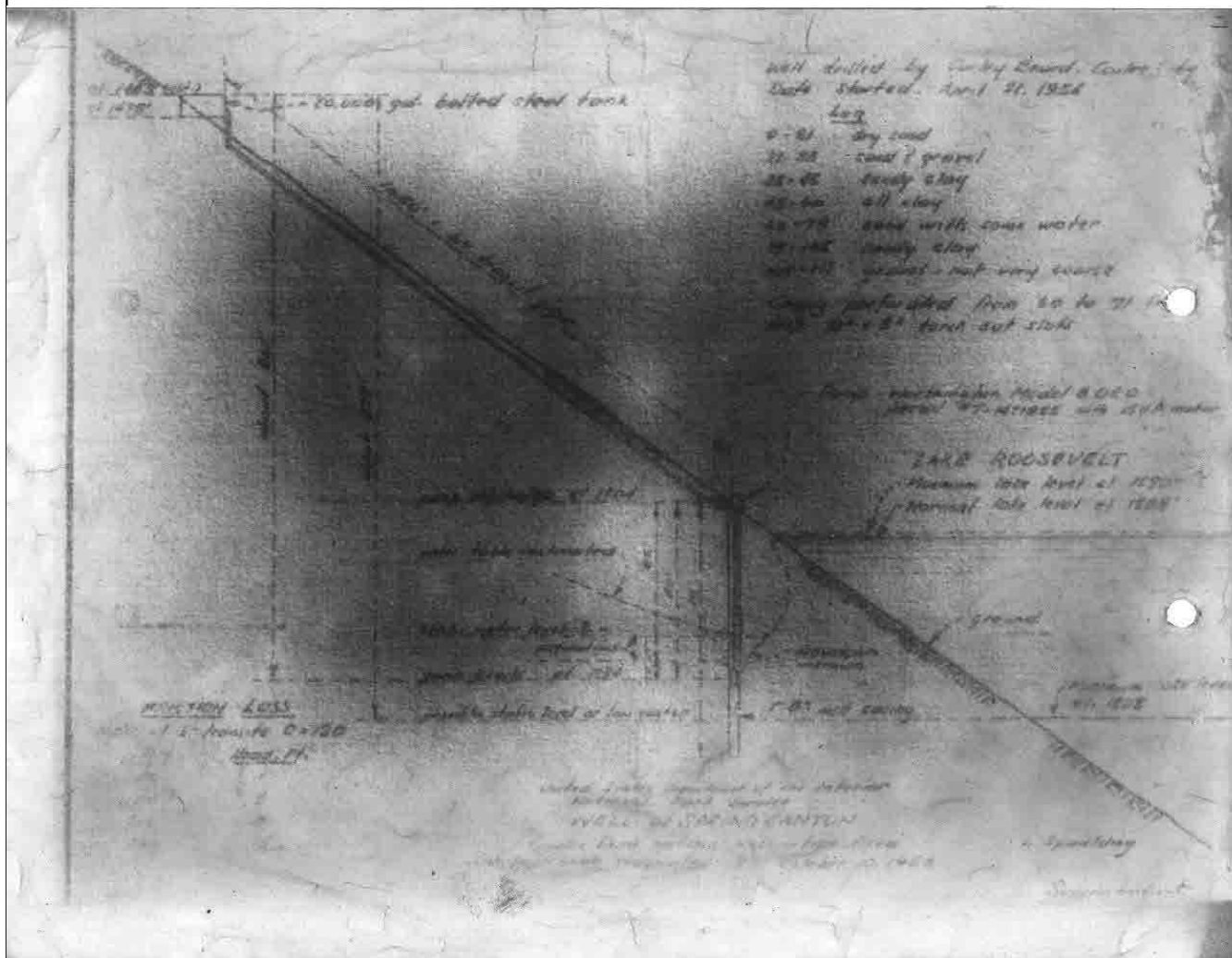
Enclosures

cc:
Superintendent, Coulee Dam w/o enc.

pm







Docket Information

Number of Documents in Docket 99

Documents Dated from 7/30/1958 to 9/30/1968

Docket Compiled: 6/3/2016