



WATER-RIGHT DOCKET

Dinosaur National Monument

Docket No: 2

LODORE WELL.

Preliminary Docket Information

00-00-0000: water right record park: dino docket number: federal #2

WATER RIGHT RECORD

Park: DINO

Docket Number:
Federal #2.

IDENTIFICATION NO: DINO, W, 2 0, 0 9, 1 0, 2A, F, 0 2,

DITCH/WATER SYSTEM: Lodore Well Water System

SOURCE OF SUPPLY: Well

LOCATION: SW $\frac{1}{2}$ Sec. 20, T9N, R102W, 6th PM

WATER RIGHT:

Appropriator: United States of America, National Park Service

Application/Permit Number:

Certificate Record Number:

Date of Priority:

Quantity of Water:

Purpose: Domestic

Irrigated Land Description:

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

The well was completed in 1956.

1963 -- Proposed test well in this area. Work completed March 21, 1964, under permit #17738. The water was not satisfactory for drinking due to excessive quantities of arsenic, sulphates, etc. We intend to retain the well for irrigation purposes within the campground.

Docket No. 2

DINOSAUR

Table of Contents

1. Drawing (if any) giving tie and relation to river. (to be supplied)
2. Record of Well.
3. Map with Completion Report.
4. Completion Report on Well.
5. Registration No. ____ of Well. (to be prepared)
6. Application for Use of Groundwater. (to be prepared)

DOCKET INFORMATION SHEET

Docket Identity	DINO W 20 109 1102 A F 02
Region	ROCKY MOUNTAIN
Area	DINOSAUR NATIONAL MONUMENT
Site	LODORE WELL WATER SYSTEM
State	COLORADO
County	MOFFAT
Docket	DINO WATER RIGHT DOCKET 2
Location	T9N R102W SEC 20 SE 1/4 NW 1/4
Acquired by	APPROPRIATION
Application	
Permit	17738 WELL DRILLING
Certificate	
Priority	
Reservation	OCTOBER 14 1915
Status	ACTIVE FEDERAL
Source	GROUND WATER
Use	IRRIGATION
Quantity	
Hydrologic Unit	14040106
Remarks	THE WATER IS NOT SATISFACTORY FOR DRINKING DUE TO EXCESSIVE QUANTITIES OF ARSENIC SULPHATES ETC. WELL RETAINED FOR IRRIGATION PURPOSES WITHIN THE CAMPGROUND

Supporting Hydro Data

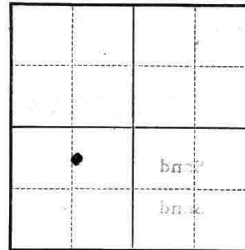
9-25
(Jan. 1958)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

RECEIVED
Chief Clerk's Office
NATIONAL PARK SERVICE

RECORD OF WELL

1. Location: State Colorado County Moffat
Nearest P. O. Greystone, Colo Direction from P. O. NW
Distance from P. O. _____ miles; SW $\frac{1}{4}$ sec. 20, T. 4N, R. 102W
If in city, give street and number _____



Locate well on plat of section.

2. Owner: National Park Service Address _____
Driller: Park Service Crew Address _____
3. Situation: Is well on upland, in valley, or on hillside? valley
4. Elevation of top of well: 5300 ft. above the level of sea level
(Above or below) (See, depot, lake, or stream)
5. Type of well: bored; kind of drilling rig used post hole auger
(Dug, driven, bored, or drilled) (Solid tool, jetting, rotary, etc.)
6. Depth of well: 18 ft.; year in which well was finished 1956
Does well enter rock? no; if so, at what depth? _____ ft.; kind of rock _____
7. Diameter: At top 8 inches; at bottom 8 inches.
8. Principal water bed: sand (Gravel, sand, clay, or rock. If rock, state kind)
Depth to principal water bed 15 ft.; thickness of bed 3 ft.
If other water supplies were found, give depth to each _____
9. Casings: Kind galv. pipe; size 8; length 18 ft.; between depths of _____ and _____ ft.
Kind perf. w/sandpoints; size _____; length _____ ft.; between depths of _____ and _____ ft.
Kind _____; size _____; length _____ ft.; between depths of _____ and _____ ft.
- Packers (if any): Depth at which packers were used none; kind _____
- Screen or Strainer: Was well finished with screen? _____; kind of screen _____;
length of screen _____ ft.; diameter _____ inches; size of openings _____
10. Head: Does well at present overflow without pumping? no; did it overflow when new? no;
if flowing, give pressure _____ lb. per sq. inch; or height water will rise in a pipe _____ ft. above surface;
original pressure or head _____; if not flowing, give water level in well _____ ft. below surface.
11. Pump: Is the well pumped? yes; kind of pump hand;
size or capacity of pump 5 GPM; kind of power manual
12. Yield: Natural flow at present (if any) _____ gallons per minute; original flow _____ gallons per minute;
well has been pumped at 5 GPM gallons per minute continuously for 2 minutes ~~hours~~;
quantity of water ordinarily obtained from well 10 gallons per day. (average)
13. Use: For what purpose is the water used? domestic
14. Quality of the water: hard (Hard or soft, fresh or salty, etc.); is there an analysis? no
15. Cost of well, not including pump: \$300.00 Temperature of water 50 ° F.

Name of person filling blank Leady M. Cockrell & John B. Carmack
Date July 2, 1958 Address Dinosaur National Monument, Vernal, Utah

On the back of this sheet give the record of the beds through which the well passes and any other facts not given above.

6-9542

Form 10-58
July 1958UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE9SP1
REPORT 10-58

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION Two	AREA Dinosaur National Monument	COUNTY Uintah-Utah	STATE Utah and Colorado
PROJECT OR JOB TITLE Water Wells - Various Campgrounds	LOCATION IN AREA Pat's Hole - Lodore - Split Mountain Gorge	PCP NO. U-16	BUILDING NO. None Assigned
WORKING DRAWING NO. AND TITLE NM-DIN-2032 - Water Wells and Hand Pumps	DATE WORK STARTED July 1954	ACCOUNT NO. 332.3	DATE WORK COMPLETED 3/5/58
APPROPRIATION TITLE AND SYMBOL 14X1035 Construction	NAME OF CONTRACTOR None - Accomplished by Day Labor	ADDRESS None	

COST ANALYSIS

CONSTRUCTION ITEMS	QTY	UNIT COST IN PLACE	TOTAL COST IN PLACE
Wells Drilled: Three each with a depth of from twenty to fifty feet. Wells are located at Lodore, Pat's Hole and Split Mountain Gorge, as shown on attached map. An ample, useable supply of water was obtained. Pumps installed were of the manually-operated suction type.			

COST SHOWN WITH FFO REPORT
C. D. VAN HORN, SUPERVISOR
RECEIVED APR 16 1958

TOTAL 1,751.71

SUMMARY OF EXPENDITURES

PERSONAL SERVICES 924.24	VEHICLES AND SUPPLIES 714.51
OTHER 116.91	

CHANGE ORDERS

ORIGINAL CONTRACT AMOUNT	FIRST	SECOND	THIRD
-	-	-	-
FINAL CONTRACT AMOUNT	FOURTH	FIFTH	SIXTH
-	-	-	-

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

SUBMITTED BY (Name and title) Jess H. Lombard, Superintendent	DATE 4/29/58
APPROVED BY (Name and title) Jess H. Lombard, Superintendent	DATE 4/29/58

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

Other Supporting Information

Form 10-411
(Rev. 2/62)UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

PROJECT CONSTRUCTION PROPOSAL

1. Statement of requirements, proposed work and construction data, justification, etc. (Use additional sheets as necessary.)

Develop 6 campsites on the Green River, located at Ladore, Wade and Curtis, Pot Creek, Triplet Falls, Rippling Brook and Rainbow Park.

Provide 1 garbage pit, 2 refuse stations, 3 fireplaces, 3 tables and 2 pit toilets at each campsite.

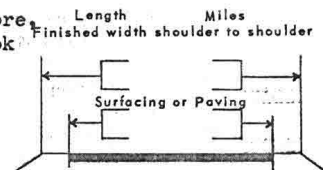
Use all standard equipment. Refuse stations, No. 9064, Tables No. 9063, Fireplaces No. 9024-A

Dig, test and case 6 test wells by contract prior to development of campsites.

Provide 6 hand pump wells complete for campground use.

Provide class "B" Alcolac Aluminum toilets and covered garbage pits.

Development of these 6 campgrounds and installations of standard equipment will provide for modern, sanitary facilities for increasing visitor use on the Green River.



2. Land Status (if Govt.-owned, what agency), Water Rights, Research, Etc.

Government Owned NPS

3. PCP Data Prepared by (Name, Title & Date) <u>Robert D. Jeffery 8/29/62</u> <u>Maintenance Supervisor</u>		4. Cross-reference PCP's to this Project: PCP numbers of previously completed portions:		6. CLASS C ESTIMATE Construction..... \$ <u>32,900</u> Plans, Surveys, & Supervision..... ~~33,900~~ <u>4730</u> Contingencies..... ~~1,970~~ SUB TOTAL ~~38,800~~ <u>39,600</u> Exhibits, Audio-Visual Installations, etc..... GRAND TOTAL \$ ~~38,800~~ <u>39,600</u>	
5. Construction by: Day Labor ☒ Contract ☐ Work supervised by: Park ☒ Reg. ☐ Design Office ☐					
7. DISTRIBUTION OF COPIES No. To 5 0-4 MW Region		8. Recommended by Park Office (Signature, title, date) <u>Earl M. Semingsen</u> Earl M. Semingsen, Superintendent September 6, 1962			
		9. Approved by Regional Office (Signature, title, date) <u>J. Brown</u> Regional Chief of Programs Coordination MAR 11 1963			
		10. Reviewed by D&C Field Office (Signature, Title, Date) <u>Carl J. Gasser</u> Supervisory Construction Management Engineer, WCCC MAR 28 1963			
11. Location within Area or Termini <u>Ladore to Rainbow Park on Green River</u>		12. Master Plan No. <u>NM-DIN 2006-H</u>		13. Bldg. or Rt. # and Sec. 2006-H being reviewed	
14. Region <u>Midwest</u>	15. Park <u>Dinosaur National Monument</u>				
16. Project <u>Develop 6 campsites on the Green River</u>		Moffat <u>Utah</u> (County) <u>Colorado</u> <u>Utah</u> (State) <u>(4)</u>		17. PCP Index No. <u>M-88-1</u>	
River Campground Developments, Green River				18. P. S. & S. by BPR ☐ NPS ☒	

f-465

CLASS ☒ (A) - Estimate based on working drawings
 CLASS ☐ (B) - Estimate based on preliminary plans
 CLASS ☐ (C) - Estimate based on similar facilities in other parks

19. ESTIMATE

Item	Quantity	Cost
Complete 6 test wells by contract at proposed development sites		
Estimated Cost:	6	23,000
Miscellaneous Signs	30	390
Refuse Stations	12	300
Garbage Pits with covers	6	270
Tables No. 9063	18	900
Fire Places No. 9024-A	18	1,080
Pit Toilets	12	4,140
Hand Well Pumps complete	6	2,820
The cost of campground equipment (75% of total used) floated down to campsites is in excess of \$100 per site, but is the minimum estimated cost, complete, in place		
Estimate Totals		
Construction.....	\$	32,900
Plans, Surveys, and Supervision.....	\$	~~XXXXX~~ 4730
Contingencies.....	\$	~~XXXXX~~ 1970
SUB TOTAL	\$	~~XXXXXX~~ 39600
Exhibits, Aud.-Vis. Installations, Etc.....	\$	
GRAND TOTAL	\$	~~XXXXXX~~ 39600

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

Order Number

122-211704

COMPOSITION OF COST FOR COMPLETION REPORT

Fund Symbol

14X1035

Park

Dinosaur National Monument

Region

Midwest

Year Programmed

1965

Location in Park

Green River, Colorado and Utah

Work Order Title

River Campground Development (6 Sites complete with water wells)

COMPOSITION OF COST

COSTS CHARGED TO FUNDS ALLOTTED TO FIELD FINANCE OFFICE

(1) Personal Services.....	\$ 9,651.62	
(2) Travel.....	1,032.70	
(3) Contract Work		
(4) Supplies and Materials.....	4,531.05	
(5) Other Direct Expenses.....	2,602.04	
(6) Operation of Equipment.....		
(7) Depreciation of Equipment.....	154.10	
(8) Purchase of Construction Equipment.....		
(9) Purchase of Other Accountable Equipment.....	317.44	
(10) Other Costs:		
(11) TOTAL COST CHARGED TO FFO FUNDS	xxxxxxxxxx	\$ 18,288.95

OTHER COSTS:

(12) PS&S, AP, and/or Facilitating Services @ 16 %.....	\$ 2,926.23	
(13) Inventory and Other Non-Fund Costs		2,926.23
(14) GROSS WORK ORDER COSTS	xxxxxxxxxx	\$ 21,215.18

LESS:

(15) Residual Value of Construction Equipment on Line 8.....	\$	
(16) Other Credits		
(17) NET COST OF FIXED ASSETS	xxxxxxxxxx	\$ 21,215.18

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

COMPLETION REPORT NARRATIVE
Work Order 122-211704 River Campground Development
Dinosaur National Monument

These campgrounds were designed as rest stops and/or overnight stops for boating parties down the Green River from Gates of Lodore to Split Mountain. Heaviest use to be from concession operated boat tours.

All equipment, materials and personnel had to be transported in by pontoon boat. Much difficulty was encountered in trying to develop water supplies. Several attempts were made to hand dig wells and to drive well points. None of these efforts produced an adequate supply of potable water. It will be necessary to transport water in or utilize river water.

Even before completion, the campgrounds were receiving heavy seasonal use.

Dino
L54 MWR(OL)

With 3/3/65
atm 7/3
88

MAR 3 1965

Memorandum

To: Superintendent, Dinosaur
From: Hydraulic Engineer
Subject: Water Right Filing for Wells Drilled at Lodore Campground Development

In reviewing our Water Right Docket No. 2 for test well drilling data, we find that no Applications for Permits to Use Ground Water were prepared for the following wells:

1. Well No. 1 (Hand Pump Equipped).
2. Well No. 3 (Drilled near river bank and gasoline storage tank), abandoned.
3. Well No. 4 (Drilled in the Cottonwood Creek Basin downstream from the Entrance Road Crossing), abandoned.
4. Well No. 5 (Drilled upstream from Well No. 4 and beyond the Entrance Road Crossing), acceptable for domestic water supply and final development.

We believe an Application for a Permit to drill Well No. 5 should be filed with the State, as this well proved to be an adequate and satisfactory supply of water. Inasmuch as Wells No. 1, 3, and 4 have been abandoned, no applications will be needed.

We are preparing Docket No. 2 with separate Parts I through V covering the data on each individual well in the area. We have a Chemical Analysis for each of the wells, except No. 1 which is abandoned. The Application for a Permit to Construct Well No. 2 and the Application for Permit No. 17738, (approved October 14, 1963), will be retained for that water supply, as the well will be used for irrigation purposes.

REC'D IN GEN. FILES MAR 5 1965

Please prepare an application to cover the drilling of Well No. 5, Domestic Water Supply. Upon receipt of the approved application, please supply this office with four copies for inclusion in our water right docket. The docket will be distributed after all pertinent data has been assembled.

Sd: William A. Mott

William A. Mott
Hydraulic Engineer

WAMott:fh

Dino
LS4 MWR (OL)

MAY 21 1964

Mott 5/20
adm 5/20

Memorandum

To: Superintendent, Dinosaur

From: Hydraulic Engineer

Subject: Log and History of Well, Permit No. 17738, Gates of Lodore,
Dinosaur

We have reviewed the subject Log and History of Well enclosed with your memorandum of April 13, 1964, and make the following comments:

1. Initially, Permit No. 17738 was for drilling a well which presumably would be developed as a supply well to which this permit would be applicable. If this well, the approximate location of which is shown on the drawing, is retained as a source of water to irrigate area landscapings, it will be necessary to obtain another permit for the well which will be developed as a source of water for domestic use. We understand the well drilled upstream from the entrance road crossing in Cottonwood Creek Basin has proved satisfactory and will be developed to provide the supply of water for domestic use.

2. Incidentally, the subject History of Well shows "Use of Water - Domestic, Public Campground." This should be amended to read, "Irrigation, Landscapings, Lodore Campground," if the well is retained for irrigation purposes. You should request the State Engineer to amend the "Use" item on his copy of the Log and History of Well Report accordingly, and we will amend the copies we have for distribution. Enclosed is your copy of the subject permit as requested in your memorandum of May 15, 1964.

Also enclosed are two enlarged drawings of the Lodore Campground Area upon which we have shown in pencil the approximate location of the four test wells drilled in the area and numbered in the order in which they were drilled. Test Well No. 4 should be surveyed and tied to a surveyed land corner. As a matter of geological record, Test Wells Nos. 2 and 3 should be located and marked "Abandoned," and a separate narrative completion report should be prepared for each of the four wells.

(Sgd) William A. Mott

Hydraulic Engineer

Enclosure

WAMott:fa

REC'D IN GEN FILES
MAY 22 1964



IN REPLY REFER TO:

D5039

UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Dinosaur National Monument
Box 101, Artesia, Colorado

May 15, 1964

Reg. Director	
Mrs. Howe	
Operations	
Administration	
Coop. Act.	
Pub. Affairs	
Development	
Res. Div.	
Field Serv.	
Action taken	
File	

RETURN TO OFFICE FROM WHICH FILED

Memorandum

To: Regional Director, Midwest Region

From: Superintendent, Dinosaur

Subject: Log and History of Well, Gates of Lodore Well #17738

By memorandum of April 13, we sent four copies of Log and History of Well for Gates of Lodore Water Well #17738 to you. Apparently we also sent our copy. Please return the original white copy to us, or if you do not have it, please send a good photocopy.

Earl M. Semingsen
Earl M. Semingsen
Superintendent

In duplicate

C.C. MAILED TO	
BY	DATE

REC'D IN GEN. MAY 13 1964

May 15, 1964

	Reg. Director	RETURN TO FILES PROMPTLY
	Mrs. Howe	
	Operations	
	Administration	
	Coop. Act.	
	Club Affairs	
	Dev. Inform.	
	Res. Serv.	
	Field Serv.	
	File	

Dear Sir:

The well drilling under permit #17738 has been completed, however the water is not satisfactory for drinking due to excessive quantities of Arsenic, Sulphates, and Total Dissolved Solids. We intend to retain the well for irrigation purposes for trees and shrubs within the campground.

Earl M. Semingsen
Superintendent

Enclosures

ENS

REC'D IN GEN. MAY 20 1964
FILES

L54 MOL

MAY 8 1964

W O D C	
MAY 13 '64	
CHF	
ADM	
PERS	
P & P	
ARCH	
ENGR	
L.A.	
SPEC	
CONT	
SFTV	
ACTION TAKEN - DATE	

Handwritten notes: 1. 10/10/64, 2. 11/10/64, 3. 12/10/64, 4. 1/10/65, 5. 2/10/65, 6. 3/10/65, 7. 4/10/65, 8. 5/10/65, 9. 6/10/65, 10. 7/10/65, 11. 8/10/65, 12. 9/10/65, 13. 10/10/65, 14. 11/10/65, 15. 12/10/65, 16. 1/10/66, 17. 2/10/66, 18. 3/10/66, 19. 4/10/66, 20. 5/10/66, 21. 6/10/66, 22. 7/10/66, 23. 8/10/66, 24. 9/10/66, 25. 10/10/66, 26. 11/10/66, 27. 12/10/66, 28. 1/10/67, 29. 2/10/67, 30. 3/10/67, 31. 4/10/67, 32. 5/10/67, 33. 6/10/67, 34. 7/10/67, 35. 8/10/67, 36. 9/10/67, 37. 10/10/67, 38. 11/10/67, 39. 12/10/67, 40. 1/10/68, 41. 2/10/68, 42. 3/10/68, 43. 4/10/68, 44. 5/10/68, 45. 6/10/68, 46. 7/10/68, 47. 8/10/68, 48. 9/10/68, 49. 10/10/68, 50. 11/10/68, 51. 12/10/68, 52. 1/10/69, 53. 2/10/69, 54. 3/10/69, 55. 4/10/69, 56. 5/10/69, 57. 6/10/69, 58. 7/10/69, 59. 8/10/69, 60. 9/10/69, 61. 10/10/69, 62. 11/10/69, 63. 12/10/69, 64. 1/10/70, 65. 2/10/70, 66. 3/10/70, 67. 4/10/70, 68. 5/10/70, 69. 6/10/70, 70. 7/10/70, 71. 8/10/70, 72. 9/10/70, 73. 10/10/70, 74. 11/10/70, 75. 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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Dinosaur National Monument
Box 101, Artesia, Colorado

IN REPLY REFER TO:

Please indicate which is correct.

~~D5039~~

*Cond. must
be met*

April 13, 1964

L54

*water matters
disputes - resources -
rights, etc.*

Memorandum

To: Regional Director, Midwest Region
From: Superintendent, Dinosaur
Subject: Gates Of Lodore Water Well # 17738

Attached are four copies of Log and History of Well for Gates of Lodore Water Well #17738 for your files.

Earl M. Semingsen
Earl M. Semingsen
Superintendent

In dupl. w/attachments

Reg. Director	
Mrs. Howe	
Operations	<i>MD</i>
Admission	
Coop. Act.	
Pub. Affairs	
Development	
Res. Div.	
Field Div.	
<i>X Land + Water</i>	
Action taken	<i>memo</i>
dept	<i>2/21/74</i>
File	<i>OK</i>

RETURN TO
FILL
PRO
PTL

5/20

5-20-64

C.C. TRACED TO Retained in
Water Resources
BY *2/21/74* DATE *5-20-64*

REC'D IN GEN
FILES MAY 22 1964

Dinosaur National Monument
Box 101, Artesia, Colorado

April 7, 1964

REQUEST FOR RELEASE OF CLAIMS

Mr. Barwood L. Campbell
969 West 2nd North
Roosevelt, Utah

Dear Sir:

In order that the final payment may be made on your Contract No. 14-10-0232-616 for Drilling of a Test Water Well, Lodore Development Area, Dinosaur National Monument you are requested to execute the original and all copies of the enclosed RELEASE OF CLAIMS. You should keep one copy for your files and return the original and other copies to this office.

The requirement for this release is contained in the General Provisions, Standard Form 234, Clause 7, "Payments to Contractors", subparagraph (d).

If you have any claims against the Government arising under and by virtue of this contract, they should be excepted and described in sufficient detail to identify them and the amounts of each should be stated separately.

If you have no claims you should have the words "No Exceptions" typed in the space immediately above the last sentence reading "This release has been executed ***".

Final payment on your contract will not be made until this release has been signed by you and furnished this Office.

Sincerely yours,

Earl M. Semington
Contracting Officer

By _____
Superintendent

1 REC'D IN COPY APR 29 1964
FILES

L54 Dina

Filed
4/29/64
Jm

RELEASE OF CLAIMS

For and in consideration of the receipt of final payment in the amount of \$3,062.50 from the United States of America (hereinafter called the Government) under and pursuant to Contract No. 14-10-0232-816 for Drilling of a Test Water Well, Lodere Development Area, Dinosaur National Monument the undersigned hereby does remise, release and discharge the Government, its officers, agents, and employees of and from any and all claims and demands whatsoever under or arising from the said contract, except specified claims in stated amounts listed as follows:

NO EXCEPTIONS

This release has been executed this 9th day of April, 1964.

Mr. Darwood L. Campbell
(Contractor)

BY /s/ Darwood L. Campbell

Owner
(Title)

RECEIVED APR 20 1964

Dino
L54 MRLW

Tolson JH
OS #1
(2) Supply
ROUTE TO *Robinson*
Aiton 8/3/64
Proctor 10/1/64
(1) Maint. 10/1/64

REPORT ON TELEPHONE CALL - MARCH 18, 1964

To: William A. Mott, Hydraulic Engineer

From: George Gallagher, Area Engineer, Dinosaur

Subject: Test Well Drilling Operations at Lodore Campground, Dinosaur

Mr. Gallagher called a little after 9:00 P.M., at my residence to report on the drilling operations at Lodore Campground. The driller had moved to a second test well site, north of ranger cabin and near river bank, and started drilling early Wednesday Morning, March 18. They encountered alluvium material to a depth of about six feet below which was a shale formation. Drilling continued to a total depth of forty feet which was shale from the six foot depth to the bottom of the bore. A very little seepage of water was noticed at the contact between the alluvium and shale formation. The drilling in the shale did not produce any water.

We advised a sample of water should be obtained from Cottonwood Creek, near north edge of Lodore development area and an analysis be made to determine the quality of the water. Should the sample of the surface supply be satisfactory, it is proposed to drill a test well along Cottonwood Creek in the vicinity of the entrance road crossing. At the present time there exists considerable flow ice in the Cottonwood Creek plain which limits the selection of a site at which to drill a test well in the Cottonwood Creek Basin.

The driller has been directed to continue pumping the test well #1 supply in an effort to flush the well and reduce the arsenic content to within limits acceptable by the Public Health Service. The driller has pumped the well for some thirty hours and is expected to continue for an additional twenty-five or thirty hours, after which a sample will be obtained and analyzed for arsenic content.

REC'D 10/1/64

The fact that the old original well, equipped with a hand pump, near the ranger station was developed in a relatively sandy formation, the surprise of a shale formation existing near the river bank indicates that possibly we were drilling close to the edge of a shale deposit. It was suggested that any further test well drilling within the development area should be down possibly near the Cottonwood trees south of the old ranger station. However, a concern of the existing sanitary facilities raised a doubt of the feasibility of developing a water supply in this area.

Mr. Gallagher will report the results of the water analysis of Cottonwood Creek as soon as available.

William A Mott

William A. Mott
Hydraulic Engineer

L54 Dino
D5639

Dinosaur National Monument
Box 101, Artesia, Colorado

February 28, 1964

Reg. Director	
Admin. Asst.	
Asst. to R. D.	
Admin.	
Conservation	
Res. Planning	
Proj. Coord.	
Info. & Public	
Field Service	
Action Taken	
File	

due 3/3
None Required
File

AIR MAIL

Memorandum

To: Chief, Western Office of Design and Construction
From: Superintendent, Dinosaur
Subject: Water Well at the Gates of Lodore Development Area -
Dinosaur

We have Chief Engineer Smith's subject memorandum of February 24th. A test water well has been drilled at the Gates of Lodore Area and a sample of water sent to the U.S.G.S. laboratory in Salt Lake City for chemical analysis. A portion of the chemical analysis has been completed and we received a telephone report yesterday of the results. The water appears to be satisfactory for elements analyzed thus far, however, sulphates are high (584 ppm) and total dissolved solids high (1510 ppm). These exceed the recommended limits of PHS Drinking Water Standards, 1962. We have asked the U.S.G.S. laboratory to analyze the water for all elements listed in the Standards, and should receive a report early next week.

The well is located as shown on the attached sketch. This location was determined in the field by Midwest Region Hydraulics Engineer William Mott. The well data is as follows:

Depth of well	50', cased full depth
Size of casing	7" I.D.
Water Bearing Formation	Coarse sand, pea gravel
Static Water Level	27' below ground
Water level @ 37 gpm (maximum yield)	43' below ground
Water level @ 15 gpm (desired yield)	37' below ground
Water temperature	54° F.

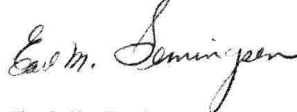
Should the complete chemical analysis determine the water does not meet the PHS Standards we intend to drill a second well near the river bank and close to the existing temporary gasoline storage tank, (Garry Switzer knows this location). This location was indicated

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as a second choice by Mr. Mott. We feel at this location the water source would be infiltration from the Green River, whereas at the existing test well, the water is apparently from another source since the static level is approximately three feet above river level.

We will let you know the results of the complete chemical analysis as soon as we receive. If you need additional information, please contact us.



Earl M. Semingsen
Superintendent

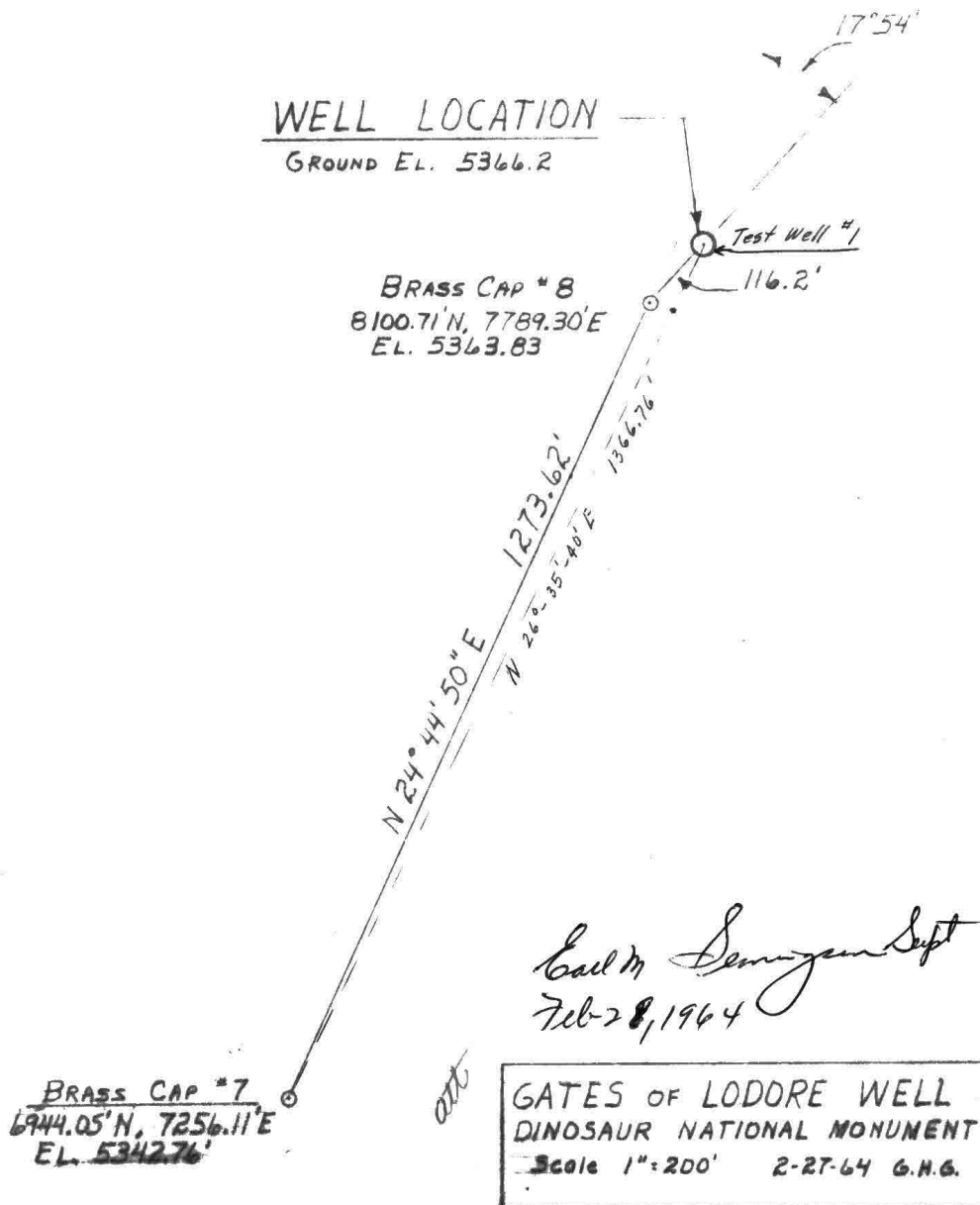
In dupl. w/attachment

cc:
Mott, MRO, w/attachment ✓

P.S. Mr. Mott:

The analysis of the second sample sent in, after approximately 24 hours of pumping, is quite different from the first. Fluorides - 0.9 ppm, Arsenic - 0.05 ppm, however sulphates are higher. The first sample was a composite of water collected at 36' and 44' which may cause the difference. Will send a complete chemical analysis when received.





Dinosaur National Monument
Box 101, Artesia, Colorado

January 28, 1964

NOTICE OF BEGINNING DATE

Mr. Darwood L. Campbell
969 W 2 N
Roosevelt, Utah

Dear Sir:

It is noted that you acknowledged receipt on January 27, 1964, of our letter dated January 20, 1964, notifying you to proceed with the work of your Contract No. 14-10-032-816, Drilling of a Test Water Well, Lodore Development Area, Dinosaur National Monument, Colorado.

Therefore, in accordance with the specifications, the date of January 28, 1964, has been recorded as the first calendar day of the contract period which, unless extensions are granted, will expire March 12, 1964.

Sincerely yours,

Earl M. Semingsen
Earl M. Semingsen
Superintendent

REC'D IN GEN FILES APR 20 1964

Mott 1/20/64

Auton 1/20
Robinson 1/21

LS4 MRLW

Dene

JAN 21 1964

Memorandum

To: Superintendent, Dinosaur
From: Acting Assistant Regional Director
Subject: Supplemental Work Order (1st Revision) No. 2-WR-64B, dated January 10, 1964, Dinosaur

Enclosed is a copy of subject work order covering the costs for additional drilling at Green River Campground; the contract bid price for drilling a test well at Lodore.

You should keep accrued costs on the Lodore well drilling work as it progresses and advise this office should the total cost approach the authorized amount.

(*Seal*) Harry E. Robinson
Acting Assistant Regional Director

Enclosure

WAMott:fh

REC'D IN GEN. FILES JAN 22 1964

Form 10-556
(June 1956)UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICESupplemental
WORK ORDER
(1st Revision)

No.	2-WR-64B
Date	January 10, 1964
General Ledger Acct. No.	102.5
Fund Symbol	14X1035 (0343)
Statutory Authority (where necessary)	
Plan No.	

Area or Office	Midwest Regional Office	Region	Midwest
The <u>Dinosaur National Monument</u> (Organizational Unit)			
under the supervision of <u>Superintendent</u> is authorized and requested to proceed with the performance of the work or service described below in accordance with the detail and plan more specifically set forth in the drawing or plan referred to herein.			

Title and/or Description of Project or Service to be Performed	PCP No.
Water Test Well Drilling to investigate available water supplies for proposed developments in the Lodore and Green River Campground areas, and other services as listed below.	Year Programmed 1964
	Est. Starting Date July 1, 1963
	Est. Completion Date June 30, 1964

Location of Work Requested
Lodore, Green River Campground and Green River Campsites Areas.

ESTIMATE OF COSTS			
Components of Costs	Amount	Acctg. Code	Project Features
<u>Lodore</u>			<u>Lodore</u>
Test Well Contract	\$2,700		Test Well Drilling
Water Analysis	100		
Supt's Use	150		
<u>Green River Campground</u>			<u>Green River Campground</u>
Test Well Drilling	450		Additional Drilling -
Additional Depth			Depth
Unliquidated Obligations	925	1,375	Unliquidated Obligations
			925
<u>Green River Campsites</u>			<u>Green River Campsites</u>
U.S.G.S. Reconnaissance of			(Unliquidated Obligations)
Water potentials	115		
			115
TOTAL	\$4,390		TOTAL
			\$4,390

Distribution of Copies	Remark
No. TO	
1 Supt. DINO	SEE REVERSE SIDE
1 MRO Files	REC'D IN GEN. FILES JAN 23 1964
1 MRO FFO	Approved by (Signature, Title, & Date) January 10, 1964
1 MRO Programs	William A. Mott, Hydraulic Engineer
1 MRO Mott	Regional Office Clearance when Required (Signature, Title, & Date) January 10, 1964
	Harry B. Robinson, Acting Asst. Regional Director
	ALLOTMENT ACTION
	Allotment Advice No.
	Allotment Advice Date
	Amount for Work Order

If Additional Space is Necessary, Use Reverse in Tumble Fashion

101621

This authorization sets the maximum to be expended on a refundable basis for the projects and purposes described.

Any balance not expended before the end of the fiscal year, is automatically cancelled as of the close of the fiscal year.

Unpaid obligations as of June 30 will be reprogrammed in the following year.

Payments chargeable to this work order should be identified by the Work Order Number and Project area and forwarded at the end of each month to the Regional Office for payment.

A report of unliquidated obligations, to be carried over to next fiscal year, should be reported to the Regional Office not later than June 15 of the current fiscal year.

As soon as practicable after each work order project is completed, the Superintendent shall prepare and submit to the Regional Office a Narrative Completion Report. This report shall give an account of execution of the work such as, but not limited to: (a) the dates of beginning and completion; (b) itemized expenditures; (c) description of project operations and any difficulties encountered; (d) a completed "Record of Well" on Form No. 9-255 (U.S. Geological Survey, Water Resources Branch) for each test well drilled; and, (e) any other data pertinent to the project.

Dinosaur National Monument
P.O. Box 101, Artesia, Colorado

FINDINGS OF FACT

0232
Contract No. 14-10-~~832~~-816

Invitation for Bids were publicly advertised on two separate occasions and by contact with more than eight known well drillers in the surrounding areas of Colorado and Utah. No response was received from any of the prospective bidders.

It is believed that prospective bidders declined to submit bids because of the isolation factors that had to be considered in the location for the drilling of the test water well at the Lodore development area, Dinosaur National Monument. This factor was considered due to the high cost of moving drilling equipment and also to the absence of any housing accommodations.

The negotiated contract is awarded to Mr. Darwood L. Campbell, Roosevelt, Utah, being the only interested bidder. The proposed work is essential for the completion of the development of the Lodore public use area.


Earl M. Semingsen
Superintendent

Dinosaur National Monument
Box 101, Artesia, Colorado

January 20, 1964

NOTICE TO PROCEED

Mr. Darwood L. Campbell
969 W 2 N
Roosevelt, Utah

Dear Sir:

Enclosed is a copy of approved Contract No. 14-10-032-816, Drilling of a Test Water Well, Lodore Development Area, Dinosaur National Monument, Colorado, for your information and file.

Under the provisions of the specifications, you are hereby notified to proceed with the work. In order that the date of beginning of the contract period may be made a matter of record, it is requested that you immediately acknowledge receipt of this letter on the form provided herewith. Please sign and return all copies, retaining one copy for your records.

Sincerely yours,

Earl M. Semingsen
Earl M. Semingsen
Superintendent
Contracting Officer

Enclosure

Date Jan. 27, 1964

Superintendent
Dinosaur National Monument
P.O. Box 101
Artesia, Colorado

Dear Sir:

Notification to proceed with the work of Contract No. 14-10-032-816, Drilling of a Test Water Well, Lodore Development Area, Dinosaur National Monument, Colorado, was received by us on Jan. 27 1964.

Darwood L. Campbell

By _____

Title _____

REC'D IN GEN. FILES APR 29 1964

STANDARD FORM 20
JANUARY 1961 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

INVITATION FOR BIDS
(CONSTRUCTION CONTRACT)

REFERENCE

DATE

November 13, 1963

NAME AND LOCATION OF PROJECT

Drilling of a Test
Water Well, Lodore Development Area,
Dinosaur National Monument, Colorado

DEPARTMENT OR AGENCY

U. S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

BY (Issuing office)

Regional Director, Midwest Region
National Park Service
1709 Jackson Street
Omaha, Nebraska 68102

Sealed bids in

duplicate

for the work described herein will be received until

3:00 P.M., Local Prevailing Time, November 25, 1963

at the office of the Regional Director, Midwest Region

National Park Service

1709 Jackson Street

Omaha, Nebraska 68102

and at that time publicly opened.

Information regarding bidding material, bid guarantee, and bonds

Bid must be submitted upon the bid form furnished by the Government, or upon a copy thereof, and must be prepared in conformity with Standard Form 22, Instructions to Bidders.

Bid guaranty is required for twenty percent of the total bid. (See Clause 4 of Standard Form 22, Instructions to Bidders.)

The successful bidder will be required to execute the Standard Government Form of Construction Contract (Standard Form 23).

Performance and Payment Bonds, each in the amount of fifty percent of the contract price will be required.

Progress payments will be made monthly.

Time limit for completion of the work is specified.

The contract provides for liquidated damages.

*No Bids
Negotiated*

Description of work

Furnishing all plant, labor, equipment, appliances and materials and performing all operations in connection with the Drilling and Testing of a Test Water Well, Lodore Development Area, Dinosaur National Monument, Colorado.

REC'D IN GEN. FILES APR 20 1964

SPECIFICATIONS

DESCRIPTION OF WORK:

The Contractor shall provide all labor, materials, supplies, equipment, and power to drill a domestic test water well at the Lodore development area, located in the North end of Dinosaur National Monument along the Green River, approximately 17 miles northwest of Greystone, Colorado. The Contractor shall be a licensed water well driller, if such license is required by the State of Colorado and will comply with all applicable laws and regulations governing water well drilling. Access road exists to the drilling site.

PROSECUTION OF WORK:

The Contractor shall commence work within 15 days after the receipt of notification to proceed and complete the entire work within 45 calendar days after the date of notice to proceed. We shall prosecute the work with faithfulness and energy and in a neat and orderly manner so as to complete the entire work within 45 calendar days. The interval of 45 days is hereby agreed upon as the time necessary for the completion of the entire work.

METHOD AND MEASUREMENT AND PAYMENT:

(a) Measurement and Payment

Measurement and payment will be based on completed work performed in strict compliance with the specifications and in accordance with the contract bid schedule.

(b) Measurement

Measurement will be made of the applicable units of work or materials, shown in the Bid Schedule, acceptable by the Contracting Officer.

(c) Payment

Payment shall be at the applicable unit or lump sum price as quoted in the contract bid schedule and shall constitute full compensation for all labor, materials, and equipment necessary for the respective items of work acceptably completed and in place.

(d) Storage of Materials and Equipment

An area will be provided for the Contractor to store materials and equipment, necessary for the accomplishment of the work in accordance with the specifications. No storage will be allowed elsewhere without written approval of the Contracting Officer.

The Contractor shall maintain all spaces used for storage in a safe and orderly condition. Inflammables shall be kept in enclosed containers and fire extinguishers of the proper size and type shall be provided in quickly accessible locations.

(e) Protection of Sites

The Contractor shall protect from damage all structures, trees, shrubbery, etc., during the progress of his work; he shall remove from the site all cuttings, drillings, debris and all unused materials; and shall upon completion of the work, restore the sites as nearly as possible to their original conditions. Water pumped from the wells shall be conducted to places designated by the Contracting Officer where it will be possible to dispose of it without erosion or other damage to property or the creation of a nuisance.

LOCAL CONDITIONS:

(a) General

The following information regarding subsurface conditions is intended to assist the bidder. However, the Government does not guarantee its accuracy nor that it is necessarily indicative of conditions to be encountered in drilling the well(s) under this contract.

(b) Geology

A few springs in the walls of the north part of Lodore Canyon show the quartzite of the Uintah Mountain group carries some water. Ground water may occur at the well site (campground) in cracks or fractures in the quartzite of the Uintah Mountain group or at the contact with the overlaying alluvium at a depth of no more than 20' or 30'. However, the amount of water the quartzite might yield is questionable and the quartzite should be tested as a water source only if the alluvium fails to yield a satisfactory supply.

CONSTRUCTION SPECIFICATIONS

1-.01 GENERAL:

The Contractor shall be required to perform all work pertaining to the drilling of a test water well to a depth penetrating a water-bearing stratum satisfactory to the Contracting Officer provided such a stratum is reached within the maximum depth specified herein. Depth of the well shall not exceed a maximum of 75 feet unless mutually agreeable with the Contracting Officer and the Contractor. Should it be desirable to drill beyond the maximum depth, such drilling shall be accomplished only upon written authorization of the Contracting Officer and a mutual agreement between the Contractor and the Contracting Officer with respect to the unit costs involved for the additional work. In the event an adequate and satisfactory supply of water seems to have been reached before the maximum depth of drilling has been reached, the Contractor shall stop drilling operations and perform such yield tests and development work, which may include bailing tests and test pumping, as the Contracting Officer shall direct.

If a satisfactory yield is obtained, the well shall be finished as specified and as directed. If the yield is not satisfactory, the Contractor shall continue drilling to the maximum depth unless such drilling in the opinion of the Contracting Officer is believed will not produce the desired yield, then the Contractor shall remove the well casing if any, and plug the abandoned bore. The temporary well casing will remain the property of the Contractor and shall be removed from the area by him.

A pumping test to determine yield and drawdown shall be made each time the Contracting Officer determines that a yield test is desired. One or more additional installations of the test pump following additional drilling or development may be required should the first pumping test reveal an inadequate supply.

1-.02 MATERIALS AND CONSTRUCTION

SPECIFIC REQUIREMENTS:

(a) Bore

Well shall be drilled large enough to receive the size of casing specified and shall be straight and plumb.

(b) Drilling

Choice of method of drilling shall be made by the Contractor, either by rotary or churn drill rig.

(c) The Depth

The exact depth of bore and casing shall be determined by the Contracting Officer, but shall not exceed the maximum depth of 75 feet, nor unreasonably beyond the estimated depth unless mutually agreed to in writing between the Contracting Officer and the Contractor, in which case adjustments may be made in the contract bid price.

(d) Collection of Formation Samples:

Samples shall be taken by the Contractor at intervals not to exceed (5) feet. Each sample must be representative of the formation and include fine and coarse materials after the water is decanted.

These samples shall be collected in rigid containers, with lids, approximately one pint in size and shall be labeled to show the well, the date, and the depth from which the sample was obtained. The containers shall be furnished by the Contractor.

(e) Drilling Log:

The Contractor shall keep an accurate daily log of the well. The log will show the type of material, the thickness of the various formations, and the depth at which any change of materials occurred. The log will show all of the materials penetrated and full descriptive notes made of everything found by the drill and of all difficulties or unusual conditions met in drilling. All water bearing strata shall be described in special detail as to whether the material is loose, compact, its color, and if gravel, whether it is water worn or angular. The log shall be kept current with drilling operations and shall be available to the Government at all times during the course of drilling. Upon completion of the well, the log shall be prepared in quadruplicate (4 copies), signed by the Contractor, and delivered to the Contracting Officer. The Contractor's daily log of drilling operations shall also show the depth to which the well has been drilled as of the close of each day.

1-.03 MATERIALS:

(a) General

All materials shall be new and free from objectionable defects. No used or old material will be accepted. However, if the Contractor deems it necessary or desirable to use temporary casing, the casing may be used or new, subject to the approval of the Contracting Officer. The temporary casing shall remain the property of the Contractor and shall be removed by him upon final completion of the well.

- (b) The well shall be of a single casing type with a bore of sufficient size to accept 6-inch (I.D.) casing. The casing shall be normal 6-inch (I.D.) black steel pipe weighing not less than 18.97 lbs. per foot (plain ends). All materials shall be new and free from defects. Casing shall be furnished in approximately 20' lengths and joints full-fillet electric arc welded as casing is placed in the bore. Welds shall be free of slag and in conformance with standard welding practices. Casing shall extend not less than 18" nor more than 2' above natural ground and/or as directed by the Contracting Officer. Perforated casing, where required, shall be perforated at such points and in such manner as directed by the Contracting Officer. The total length of casing to be perforated will be within the limits of the water-bearing aquifer or as determined by the Contracting Officer. Perforated pipe shall not have more than 10% open space area. Drilled holes or sawed slots are preferred. Punched holes or

slots cut by machine or burned by torch may be permitted if approved by the Contracting Officer. Openings must be evenly spaced, of uniform size, and free from jagged edges and other irregularities. Whenever feasible, perforations will be based on actual mechanical analysis of the aquifer material. Perforations of the casing to form a screen shall be accomplished if such screen in the opinion of the Contracting Officer will be satisfactory to exclude loose formation materials from collecting inside of the well.

(c) Well Screen

- (1) Determination of Screen Criteria. Final determination of need for screen and determination of screen criteria will be made by the Contracting Officer after exploration of water-bearing strata and after analysis of samples therefrom. Determination of screen criteria will depend upon the thickness and uniformity of water-bearing strata, analysis of aquifer samples, and requirements of the well, and will be based upon recommendations of screen manufacturer, and/or qualified Agency of the Government.
- (2) Characteristics of Screen. The screen and fittings shall be of Everdur metal or silicon bronze and is the basis of the Contractor's estimate of cost of screen. The type of screen, the size of openings, diameter and final length of screen shall be approved by the Contracting Officer. The screen shall have adequate strength to resist external forces after installation and to resist damage during installation. The fittings shall seal top of screen tightly to casing and to close bottom of screen. If screen is installed inside casing, lead packer seal shall be provided at top of screen with 12-inch minimum overlap of casing and screen.

1-.04 Developing and Testing:

(a) Developing

After completion of drilling operations and alignment tests (hereinafter specified) the Contractor shall develop, then clean out the well. As approved by the Contracting Officer, the Contractor shall develop the well to obtain maximum yield of water with a suitable surge plunger or other similar device designed to develop the water-bearing formation encountered. The development shall extract from the water-bearing formation the practical maximum quantity of such fine materials as may, during the life of the well, be drawn into casing when the well is pumped under maximum conditions of drawdown. All equipment and materials furnished and used by the Contractor to develop the well shall remain his property and shall be removed by him upon completion of the work.

(b) Time of Tests

Upon completion of the drilling of the well bore, developing of the well, cleaning of accumulated sediments from the well, the Contractor shall make preliminary determination of yield by bailing or other approved method. Approximate determination of water level in well shall be made to Contracting Officer's satisfaction before and immediately after completion of preliminary test.

In event of an unsuccessful preliminary test, reasonable time shall be allowed for the Government to evaluate the geologic and hydrologic data and decide upon further course of action. The contract time may be extended a corresponding amount.

After the well has been completely constructed, developed, cleaned out and if preliminary tests show or indicate an adequate supply is available, the Contractor shall notify the Contracting Officer to that effect and make necessary arrangements to conduct final tests. Final tests shall be run with similar equipment and in like manner to that hereinafter described.

(c) Plumbness and Alignment Test

Plumbness and alignment shall be tested by lowering into the well, to a depth determined by the Contracting Officer (lowest anticipated pump setting), a section of pipe forty (40) feet long or a dummy of the same length. The outer diameter of the plumb shall be not more than $\frac{1}{2}$ -inch smaller than the diameter of that part of the casing or hole being tested. If a dummy is used, it shall consist of a rigid spindle with three rings, each ring being 12 inches wide. The rings shall be truly cylindrical and shall be placed at each end of the dummy and one ring in the middle thereof. The central member of the dummy shall be rigid so that it will maintain the alignment of the axes of the rings. Should the dummy, or pipe, fail to move freely through the length of the casing or hole to the depth required by the Contracting Officer, or should the well vary from the vertical in excess of two-thirds of the smallest inside diameter of that part of the well being tested per 100 feet of depth, or beyond limitations of this test, the plumbness and alignment of the well shall be corrected by the Contractor at his own expense and, should he fail to correct such faulty alignment or plumbness the Contracting Officer may refuse to accept the well.

(d) Test Pump and Equipment

The contractor shall furnish, install, and operate necessary pumping equipment capable of pumping from the well a maximum of not less than 30 gpm. Throttling devices shall be furnished so that the discharge may be reduced to zero gpm. The pumping unit shall be complete with prime mover of ample power, controls and appurtenances, and shall be capable of being operated without interruption for a period of 24 hours.

He shall also furnish, install, and operate equipment of approved size and type for measuring the flow of water, such equipment to be a weir box, orifice or water meter. To measure the elevation of the water level in the well, an air line, complete with gauge, head pump and check valve shall be provided. Unless otherwise directed, the air line shall be securely fastened to the pumping unit, and shall terminate approximately at the maximum desired pumping level, but in no case shall it be within two (2) feet of the end of the pump intake. All equipment and material furnished and installed by the Contractor for the pumping test shall remain his property, and shall be removed by him upon completion of the work.

(e) Duration of Pumping Test

Except as otherwise provided, the Contractor shall furnish all labor, motive power, lubricating oil, and other necessary materials, equipment, labor, and supplies required and shall operate the pumping unit as herein-after described. Accidental interruptions may, if so agreed upon between the Contractor and the Contracting Officer, be compensated for by correspondingly extending the time of the completion of the test run. After completion of the final test, the Contractor shall remove by bailing, sand pumping or other methods, any sand, stones, or other foreign material that may become deposited in the well.

The time stated for the duration of the final test is a minimum only and the Government reserves the right to extend such period of test, or to make additional tests.

(f) Constant Pumping Rate Drawdown Curve

The Contractor shall operate the pumping equipment at a constant discharge rate specified by the Contracting Officer, and simultaneously record the drawdown in the well as a function of time of test. Duration of this test will be such as to reach a depth where no further drawdown is noted, or until the water level reaches a point where further drawdown would pump the well dry or damage it, whichever is shortest in time. From this data the Contractor shall prepare a drawdown time curve and include it in his reports of the well test.

(g) Maximum Yield

The Contractor shall operate the pumping equipment at increasing discharge rates until the specified maximum gpm is reached, or the water level reaches a point where further increases would pump the well dry, or there is danger of damage to the well, whichever rate is smallest. The Contractor shall then pump continuously for a period of six hours at that maximum rate and shall ascertain the water level and make certain that the water level remains stationary during this pumping period. At the end of this test, the well shall be allowed to fully recover its static water level.

(h) Desired Yield

Upon completion of the above test, the Contractor shall determine the gallons per minute delivered at sixty percent of the maximum drawdown at maximum yield or point where no fine material is pumped, whichever is the lesser. He shall then operate his pump, delivering water at this rate, for a period of not less than twenty-four (24) hours after the pumping level reaches stability unless otherwise directed. The Contractor shall make certain that the water level remains stationary during this period.

(i) Pumping Test Data

Drawdown reading and discharge rates for the "Maximum Yield Test" shall be taken every five minutes until the maximum drawdown for such increment of discharge has been reached and held for a period to be determined by the Contracting Officer. At the end of this test, recovery labels shall be

measured every five minutes until the water surface has risen to within five (5) feet of the original or starting level. Drawdown readings and discharge rates for the "Desired Yield Test: shall also be taken every five minutes. All data shall be carefully recorded and a written report containing all data shall be delivered to the Contracting Officer in quadruplicate.

(j) Reports

When the well and tests have been completed, the Contractor shall submit to the Contracting Officer a written report, in quadruplicate, showing the log and all pertinent data.

1-.05 Grouting:

Upon acceptance of the well by the Contracting Officer, the upper 10 feet of the bore shall be reamed to not less than a diameter of 8-inches greater than the casing O.D., and the casing shall be centered in this section and held in place with sufficient spacers to maintain true alignment and then grouted. Grout shall consist of 1 part Portland Cement and 3 parts sand mixed with only sufficient water to form a workable mix. The grout shall be placed in such a manner that surface water and other impurities will be prevented from entering the well by infiltration along the bore and casing. Method of grouting shall be approved and shall include forcing grout from bottom of grout space toward ground surface. Grouting operation shall be continuous. The grout shall be allowed to set for 3 days before any work may be done which would disturb it or cause it to crack. Care shall be taken to protect the grout from damage and insure a proper curing during this 3-day setting period.

1-.06 Protecting Water Supply:

The Contractor shall take such necessary precautions, as approved by the Contracting Officer, to prevent contaminated water or water having undesirable physical or chemical characteristics from entering, through the opening made by the Contractor in drilling the well, the stratum from which the well is to draw its supply. He shall also take all necessary precautions during the construction period to prevent contaminated water, gasoline, etc., from entering the well either through the opening or seepage through the ground surface.

1-.07 Corrective Work:

In the event that the well becomes contaminated, or that water having undesirable physical or chemical characteristics does enter the well due to the neglect of the Contractor, he shall, at his own expense, perform such work or supply such casings, seals, sterilizing agents or other material as may be necessary to eliminate the contamination or shut off the undesirable water.

1-.08 Temporary Capping:

At all times during the progress of the work, the Contractor shall protect the well in such a manner as to effectively prevent either tampering with the well or the entrance of foreign matter into it, and, upon its completion, he shall provide and set a substantial screwed or flanged cap satisfactory to the Contracting Officer at a distance not less than one foot or more than two feet above the normal ground surface, or as directed.

1-.09 Abandonment of Well:

If a satisfactory water supply is not found, the well shall be abandoned, at the direction of the Contracting Officer. The abandoned well bore shall be plugged with impervious material as required by the State, or as directed. All salvable materials recovered by the Contractor shall remain his property unless specifically purchased by the Government.

If, for any reason, the Contractor should abandon drilling at one location in favor of another, or should fail to complete a satisfactory well bore as specified or required, he shall plug the abandoned bore as specified or required, above at no cost to the Government and without compensation for drilling operations performed at the abandoned site. Salvaged materials shall remain the Contractor's property.

Dino
L54 MRLW

OCT 21 1963

Mott 10/18
Arnow 10/18
M. L. McKown
10/25

Memorandum

To: Superintendent, Dinosaur
From: Acting Assistant Regional Director
Subject: Specifications for Drilling Test Well, Lodore Campground,
Dinosaur

We have prepared specifications for subject drilling project, in lieu of using the revised specifications for the Green River Campground well. A Wage Rate schedule has been requested, should the bids exceed the \$2,000 limit.

In respect to Ted Arnow's October 7 memorandum suggesting the use of driven well-points to obtain the supply of water, we believe a well supply would be more satisfactory.

[Sgd] R. L. McKown

Acting Assistant Regional Director

WAMott:fh

05039 L-54 DINO

Dinosaur National Monument
Box 101, Artesia, Colorado

October 3, 1963

Reg. Director	
Admin. Asst.	
Asst. to R. D.	
Admin.	
Cons. Int. Use	<i>mo</i>
Res. Planning	<i>10/10/63</i>
Prog. Coord.	
Info. & Publs.	
Field Svc.	
Action Taken	<i>none</i>
File	<i>10-11-63</i>

Office of the State Engineer
232 State Services Building
1525 Sherman Street
Denver 3, Colorado

Attention: Ground Water Division

Dear Sir:

Enclosed are two copies of Application for Use of Ground Water (Form C). We would like to drill the Lodore Ranger Station and Campground development well this fall and would appreciate application approval as soon as possible.

Please send us a copy of the Colorado Ground Water Law and a list of licensed well drillers for Colorado.

Thank you.

Sincerely yours,

Earl M. Semingsen
Earl M. Semingsen
Superintendent

Attachment

cc:
Midwest Region, w/attachment ✓
NATIONAL PARK SERVICE

1963 OCT 1 AM 10 52

REGIONAL OFFICE
MIDWEST
RECEIVED

REC'D

IN CH
FILED

has already filed 10/10/63
not to file
10-11-63

File

RECEIVED
MIDWEST
REGIONAL OFFICE

1963 OCT 7 AM 10 23

NATIONAL PARK SERVICE
OMAHA, NEBRASKA

Form C(Rev.)
3-62/5MSTATE OF COLORADO
APPLICATION FOR USE OF GROUND WATER

(Use Indelible Pencil or Typewriter)

Applicant Dinosaur National Monument
National Park Service
Department of the Interior
P.O. Address P.O. Box 101, Artesia, Colorado
Quantity applied for 25 gpm or
AF StorageUsed for Domestic and
Public Campground Purposeson/at within Sec. 20, T 9 N
(legal description of land site)
R 102 W, 6th P.M.

Total acreage irrigated and other rights.

ESTIMATED DATA OF WELL

Hole size: 7 in. to 50 ft.
 in. to ft.Casing Plain 7 in. from 0 to 50 ft.
 in. from to ft.Open or Perf. 7 in. from 40 to 50 ft.
 in. from to ft.PUMP _____ Outlet
DATA: Type Submersible HP 2 Size 4"Use initiation date May 1962.
(Use Supplemental pages for additional data)

THIS APPLICATION APPROVED

PERMIT NO. _____

ISSUED:

DATE _____ 19____

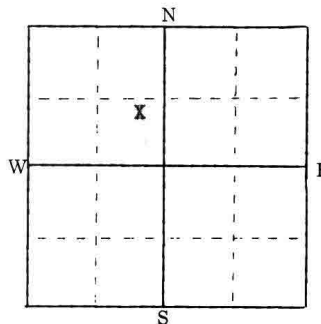
Driller to furnish Log and History (Form E)
within 30 days after completion of well.

LOCATION OF WELL

County MoffatSE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Sect. 20, Twp. 9N,Rge. 102 W, 6th P.M. OR

Street Address or Lot & Block No. _____

Town or Subdivision _____

Locate
well in
40 acre
(small)
square
as near
as possible.
Large square
is one section.\$25.00 fee required for uses other
than Domestic or Livestock.Applicant Carl M. Semington
Agent or Superintendent, Dinosaur Nat'l
Driller Drilling Contract not awardedAddress Box 101, Artesia, Colorado

NOTE — SATISFACTORY COMPLETION REQUIRED FOR APPROVAL OF APPLICATION

Stratton
Stratton

Stratton
Stratton

Stratton
Stratton

August 30, 1963

154

To: Superintendent, Dinosaur
From: Chief Engineer, WOEC
Subject: Test Well, Lodore Development Area - Dinosaur

This is in response to the last paragraph of Acting Assistant Regional Director Robinson's memorandum dated August 21, File No. 154 HENO, suggesting that this office might indicate a suitable location for the subject test well which would facilitate developments in the area.

We would recommend a location in the southeast corner of the utility area as shown on Drawing HM-BIN-3227 which was recently submitted by this office for recommendations and approval. If this drawing is not approved, we could not make any recommendation until a plan for the development of the area is determined.

SIGNED

P. E. Smith

cc:
Reg. Dir., Midwest
Proj. Supv. Hong

Informational to: Heubner, Richey

RStratton:nb

FILE COPY

Stratton
Stratton

L54 DINO

AUG 21 1963

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Memorandum

To: Superintendent, Dinosaur

From: Acting Assistant Regional Director

Subject: Test Well at Lodore Development Area, Dinosaur

In our 1964 Water Resource program, we have programmed a test well to determine available water supply for such development. It is estimated the depth of possibly 95' will be adequate to obtain a supply of water at an estimated cost of around \$1900.00.

We suggest you request WODC to prepare specifications, also obtain their estimate of cost of drilling a test well and the preparation of the specifications. In the event the work can be accomplished at a total cost of \$2,000.00 or less, we may obtain estimates from three well drillers and accomplish the work under a purchase order.

In your July 22 memorandum to this office you mention a location near the Green River on the best geological spot. According to the geological report by Ralph E. Smith, Geologist, in his summary (Table II), he indicates a questionable chemical quality of the water for domestic use in this area and the type of material as fine sand and a minimum depth of well 20'.

Relative to a particular location to drill a test well, perhaps WODC would indicate a suitable location that would facilitate developments in the area. Mr. Mott plans a trip sometime possibly the latter part of September when he can review the locations with you at Lodore with respect to a possible test well site.

(Sgd) Harry B. Robinson

Acting Assistant Regional Director

cc: Chief, WODC

L54-L

July 29, 1958

Memorandum

To: Regional Director, Region Two

From: Chief, Water Resources Section

Subject: Water Rights Dockets No. 2 Ladore Well, No. 3 Pat's Hole Well,
and No. 4 Split Mountain Gorge Well, Dinosaur

WESTERN OFFICE	
DESIGN & CONSTRUCTION	
AUG 1 1958 A.M.	
CHIEF	
ADMIN. ASSIST.	
PERSONNEL	
PLANS & PROG.	
SAFETY	
ARCHITECT	
ENGINEER	<i>W. H. H.</i>
LAND. ARCH.	
ACTION TAKEN—DATE	
<i>None</i>	

Attached are your copies of the subject dockets, with the data available at this time. Similar assemblies are being sent to the Superintendent and WODC. Also attached is a draft of an application for the appropriation of the water from Split Mountain Gorge Well.

The record of the Ladore Well was received with the location shown in SW $\frac{1}{4}$ Sec. 20, T 4 N, R 102 W, 6 PM. I have corrected to show the location in T 9 N, assuming a typographical error.

The Split Mountain Well is in Utah. Mr. Mott should prepare an application similar to the attached copy, in accordance with our air mail memorandum of July 28 to Regions Two and Three concerning re-adjudication of rights to Colorado River water in Utah. I believe that the attached draft gives the general form, such that no further review will be needed here before the final application is signed and submitted by the Superintendent.

I am not sure that there is not a more up-to-date form for only domestic purposes, just as there are separate forms for appropriation of water for irrigation, stock watering, and miscellaneous purposes. The application should be prepared with copies for each of the four docket assemblies, and the copies should be amended and corrected in the same manner that the original may be changed on instructions from the State Engineer.

There is no Federal filing fee in Utah, but the State Engineer will request \$20 for advertising at the proper time.

I have only been able to rough out a draft of the proposed application because of inadequate and conflicting data. The Drawing 3108-A showed two well sites, while the Record of Well shows a site approximately half way between. In the docket I have also designated the completed well as Well No. 3, in the event that there may have been prior bores at sites 1 and 2. We should have the "Records of Well" for

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any bores at sites 1 and 2, even if dry, but if only one well has been drilled, its number should be corrected in the docket. For further explanation of the drawing, please refer to my memorandum of March 13, 1956, which does not appear to have been answered.

From the drawing I believe that the constructed well can be located with sufficient accuracy by pacing or chaining from the earlier traverse, scaling coordinates, and computing the resulting tie to SE Cor. Sec. 30. However, I seem to recall that part of Lot 7, and possibly Lot 12 may have been privately owned. The tie should be sufficiently accurate to prevent conflict with private interests, if any.

There is also some question as to the extent of development for which water should be appropriated. From the data in the attached docket, not over 10,000 or 15,000 gallons per day is now used, and there are apparently pit toilets. The draft of the application provides for a possible modernization and enlargement to use an ultimate of about 32,850 gallons per year with flush toilets. The application can be simplified if the present development is also the ultimate, but we should be sure to claim enough water for any ultimate, and Mr. Mott should give a better description of the ultimate development than I have offered, if there is to be expansion.

Mr. Mott should also prepare the notices and applications for use of the Pat's Hole and Ladore Wells, but there is less need to rush the matter. We do not need to assign well numbers, because they will be identified by the numbers assigned by the Colorado Division of Water Resources. Mr. Mott should need no further assistance from here for the procedure to follow in the Colorado filings, but we should like to see the applications for use of groundwater before they are filed.

The portion of Drawing 3108-A at bottom of Docket No. 3 for the Pat's Hole Well indicates that we should indicate that the groundwater is probably the subsurface flow of the Green River. I suggest an interlinear statement to that effect, just below the quantity of water to be claimed on the Application for Use of Ground Water. I also think it will be desirable to show distance from river to well and relative elevations on the sketches on Forms for both Registration of Well and Application for Use of Ground Water.

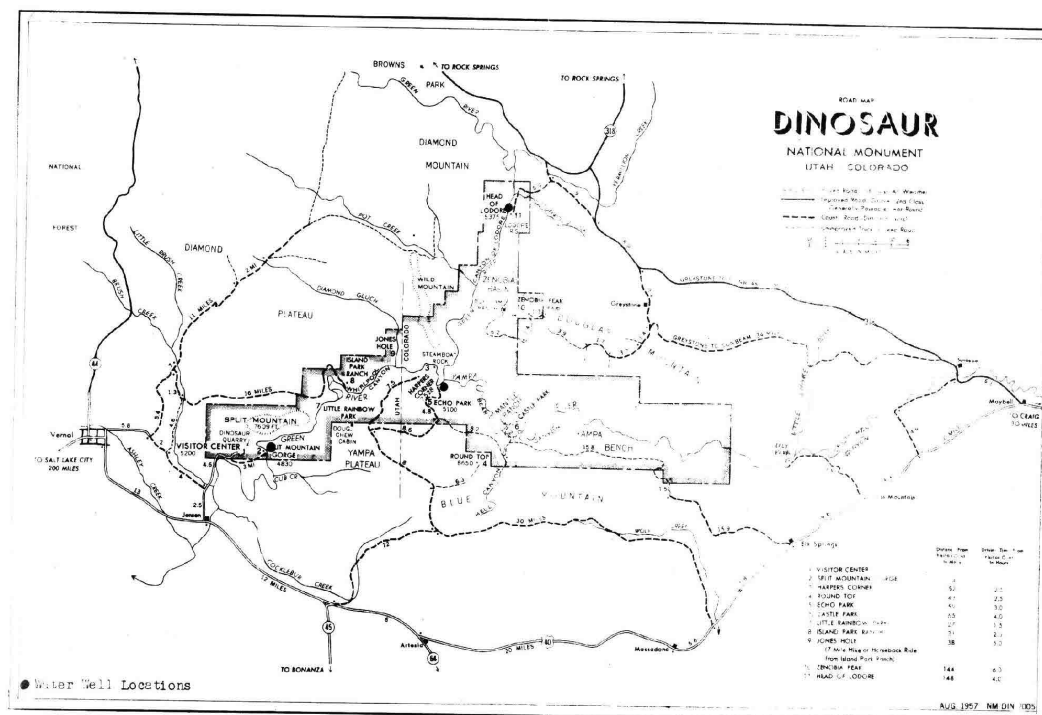
The table of contents for Docket No. 2, Ladore Well, calls for drawing similar to those we have prepared from 3108-A. Mr. Mott may find it sufficient to give the data on the small sketches on the state forms.

Tie to section corner, distance from river, and relative elevations of water in the well and river, are not needed for filing, but they would help in defining the nature of the claim. They will also be needed if, or when the rights are adjudicated.

SIGNED

A. van V. Dunn
Chief, Water Resources Section

Attachments 4
Copy to: / Superintendent, Dinosaur, with 3 docket folders
✓ Chief, WODC, with 3 docket folders



Docket Information

Number of Documents in Docket 50

Documents Dated from 8/15/1957 to 6/30/1968

Docket Compiled: 3/9/2011