



WATER-RIGHT DOCKET

Canyonlands National Park

Docket No: 7

HANS FLAT WELL

Preliminary Docket Information

00-00-0000: note to the file

NOTE TO THE FILE

08/13/93
JSA

Hans Flat Well [NPS Docket= CANY 0007]

This well was drilled in 1973. The well is located at an NPS ranger station at Hans Flat. NPS docket files contained a partly completed application for this source, but there is no indication it was ever submitted. The well and ranger station are located within GLCA, but the ranger station is administered by CANY due to access logistics. Presently, the water used at this site is trucked in (from ARCH).

pk #18 4/11/74

RECEIVED
BUTS
APR 10 8 20 AM '74

LS4(RMR)PNW
CANY/WR#7

April 4, 1974

Ronald S. Staten
Office of the Solicitor
Suite 6201 Federal Building
125 So. State Street
Salt Lake City, Utah 84111

Dear Mr. Staten:

Enclosed is our Application to Appropriate Water for the State of Utah.

We would appreciate it if you would review it, have it notarized if
necessary and submit it to the Utah State Engineers Office for processing.

Sincerely yours,

/s/ WILLIAM MEKEEL

William L. Mekeel
Legal Assistant
Rocky Mountain Regional Office

Enclosure

cc:
Supt., CANY *
WASO-MM, Berte *

*Please begin a new Water Docket #7. Additional
information will be transmitted as it becomes
available.

Form 97 10M 2-62

Application No.

APPLICATION TO APPROPRIATE WATER **STATE OF UTAH**

NOTE:—The information given in the following blanks should be free from explanatory matter, but when necessary, a complete supplementary statement should be made on the following page under the heading "Explanatory."

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, for uses indicated by (X) in the proper box or boxes, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

1. Irrigation ☐ Domestic ☒ Stockwatering ☐ Municipal ☐ Power ☐ Mining ☐ Other Uses ☒ PUBLIC USE
2. The name of the applicant is UNITED STATES OF AMERICA, DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE
3. The Post Office address of the applicant is CANYONLANDS NATIONAL PARK, 446 SOUTH MAIN STREET, MOAB, UTAH 84532
4. The quantity of water to be appropriated is second-feet or 56 acre-feet
5. The water is to be used for DOMESTIC AND PUBLIC USE from JANUARY to JANUARY
(Major Purpose) (Month) (Day) (Month) (Day)
- other use period from to
(Minor Purpose) (Month) (Day) (Month) (Day)
- and stored each year (if stored) from to
(Month) (Day) (Month) (Day)
6. The drainage area to which the direct source of supply belongs is
(Leave Blank)

7. The direct source of supply is UNDERGROUND WATER - WELL
(Name of stream or other source)

which is tributary to tributary to

*Note.—Where water is to be diverted from a well, a tunnel, or drain, the source should be designated as "Underground Water" in the first space and the remaining spaces should be left blank. If the source is a stream, a spring, a spring area, or a drain, so indicate in the first space, giving its name, if named, and in the remaining spaces, designate the stream channels to which it is tributary, even though the water may sink, evaporate, or be diverted before reaching said channels. If water from a spring flows in a natural surface channel before being diverted, the direct source should be designated as a stream and not a spring.

8. The point of diversion from the source is in WAYNE County, situated at a point*
IN THE NW 1/4 OF SECTION 28, T. 29 S., R. 16 E., OF THE SLN.

*Note.—The point of diversion must be located definitely by course and distance or by giving the distances north or south, and east or west with reference to a United States land survey corner or United States mineral monument, if within a distance of six miles of either, or if at a greater distance, to some prominent and permanent natural object. No application will be received for filing in which the point of diversion is not defined definitely.

9. The diverting and carrying works will consist of

10. If water is to be stored, give capacity of reservoir in acre-feet height of dam
area inundated in acres legal subdivision of area inundated

11. If application is for irrigation purposes, the legal subdivisions of the area irrigated are as follows:

Total Acres

12. Is the land owned by the applicant? Yes X No If "No," explain on page 2.

13. Is this water to be used supplementally with other water rights? Yes No X
If "yes," identify other water rights on page 2.

14. If application is for power purposes, describe type of plant, size and rated capacity

15. If application is for mining, the water will be used in Mining District at

the mine, where the following ores are mined

16. If application is for stockwatering purposes, number and kind of stock watered

17. If application is for domestic purposes, number of persons 30-35 or families 6 to 8 Plus PUBLIC

18. If application is for municipal purposes, name of municipality WATER USE

19. If application is for other uses, include general description of proposed uses PUBLIC USE WILL INCLUDE
DRINKING WATER, WATER FOR PUBLIC RESTROOMS AND DOMESTIC WATER FOR CAMPGROUNDS.

20. Give place of use by legal subdivision of the United States Land Survey for all uses described in paragraphs 14 to 19, incl.

21. The use of water as set forth in this application will consume second-feet of water
and second feet will be returned to the natural stream or source at a point described
as follows:

The following additional facts are set forth in order to define more clearly the full purpose of the proposed application:

This image shows a single sheet of white paper with horizontal blue lines, similar to standard notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

The quantity of water sought to be appropriated is limited to that which can be beneficially used for the purpose herein described.

Legal Assistant

DECLARATION OF CITIZENSHIP

STATE OF UTAH,
County of..... } ss.

My commission expires:

(SEAL)

Notary Public

Director
Deputy Director
NPS Mgmt.
Administration
Professional Svcs
Coop. Activities
Operations Eval.
Public Affairs
EEO
Mickel

Baski Drilling, Inc.

Phone 948-3900

Rt. 1, Box 339
Pueblo, Colorado

LOG

WATER WELL, HANS FLAT, CANYONLANDS NATIONAL PARK

From	To	
0	- 53	Reddish Brown Sandy Shale
53	- 73	Light Brown Sandstone
73	- 132	Buff to Light Brown Sandstone
132	- 138	Light Brown Sandstone, Some Red Sandstone
138	- 139	Red Sandstone
139	- 312	Buff Sandstone
312	- 429	Reddish Brown Sandstone
429	- 431	Red Shaly Sand
431	- 432	Light Buff Sandstone
432	- 442	Light Brown Sandstone
442	- 518	Light Brown and Reddish Sandstone
518	- 522	Reddish Brown Sandstone
522	- 579	Reddish Brown Sandstone and Some Shale
579	- 589	Reddish Brown Shale
589	- 595	Red Shale
595	- 674	Red Shale and Some Sandstone
674	- 737	Purple Sandy Shale
737	- 777	Harder Red Sandstone
777	- 809	Coarser Light Brown Sandstone with Some Sandy Shale Layers
809	- 903	Light Brown Sandstone, Not As Much Shale
903	- 960	Light Brown Sandstone
960	- 1221	Light Brown Sandy Shale with Some Shale Layers
1221	- 1272	Reddish Brown Shale
1272	- 1311	Reddish Brown Shale with Some Sandstone
1311	- 1315	Red Sandy Shale
1315	- 1387	Green, Gray, Red and Some Brown Shale
1387	- 1411	Gray Limestone
1411	- 1439	Green and Gray Shale
1439	- 1505	Brown, Gray Shaly Limestone
1505	- 1540	Orange Sandstone
1540	- 1639	Brown Sandy Shale
1639	- 1675	Gray-Green Sandstone
1675	- 1783	Red and Brown Shale
1783	- 1819	Sandy Shale
1819	- 1876	Brown Shale, Some White Sandstone
1876	- 1899	Brown Shale and Sandstone
1899	- 2081	Brown Shale and Sandy Shale
2081	- 2083	Hard Gray Sandstone
2083	- 2214	Red and Brown Shale and Sandy Shale
2214	- 2281	Brown Sandy Shale
2281	- 2383	White Sandstone

Baski Drilling, Inc.

Phone 948-3900

*Rt. 1, Box 339
Pueblo, Colorado*

LOG , continued

WATER WELL, HANS FLAT, CANYONLANDS NATIONAL PARK

From	To	
2383	- 2409	Brown and Orange Sandy Shale
2409	- 2421	Light Brown Sandy Shale
2421	- 2440	Light Brown and White Sandstone
2440	- 2457	White Sandstone
2457	- 2475	Red Shaly Sandstone
2475	- 2515	Red Sandy Shale
2515	- 2523	White Sandstone
2523	- 2526	Red Sandy Shale
2526	- 2530	Red Sandstone
2530	- 2539	Light Red Sandstone
2539	- 2581	Gray-White Sandstone
2581	- 2678	White Sandstone
2678	- 2728	White and Gray Sandstone with a few Sandy Shale Layers

copy for Dick

Baski Drilling, Inc.

Phone 948-3900

Rt. 1, Box 339
Pueblo, Colorado

DEAR DICK:

The pump we used to test well was
A AXELSON INSERT PUMP - the complete pump
is lowered by the rods into seating nipple on
tubing string - it had a 1 1/4" bore and 96"
stroke - using 65" of stroke and 15 strokes a
minute we were able to pump in excess
of 4 g.p.m. - These pumps are not too
expensive - but the tubing - 2 3/8 - 2 7/8 upset ~~may~~
we hard to find as most all oil field tubular
products are in short supply - I would
say the tubing - rods and pump would cost
APPROX. - \$6,000.00 - \$7,000.00 plus the pump sack on ground
which I don't have prices on but I imagine in
the neighborhood of \$3000 - \$4000 - still the total cost should
be less than other types of pumps -
If you put pump in Bid's I'd be happy to bid
on it so send spec's when you're ready -

Yours truly,
Ken Baski

DICK
HAVE A MERRY CHRISTMAS!

Hans Flat

Test Pump

Time	Level	GPM
1 min	2492	2.8
5 min	2494.3	3.0
10	2503.1	3.4
15	2507.4	3.6
20	2509.3	4.0
25	2512.1	4.0
30	2513.8	4.0
40	2518.9	4.0
50	2525.3	4.0
60	2530.4	4.0
70	2533.6	4.0
80	2539.6	4.0
90	2548.7	4.0
100	2556.8	4.0
120	2560.3	4.0
2h	2641.2	4.0
3h	2662.1	4.1
4h	2681.4	4.1
5h	2690.1	4.0
6h	2701.3	4.1
7h	2705.4	4.0
8h	2703.1	4.1
9h	2707.3	4.1
10h	2704.4	4.0
11h	2703.1	4.0

12h	2703.4	4.0
13h	2704.1	4.0
14h	2704.5	4.0
15h	2704.8	4.0
16h	2705.1	4.1
17h	2705.0	4.0
18h	2705.2	4.0
19h	2705.3	4.0
20h	2705.0	4.0
21h	2705.6	4.0
22h	2705.4	4.0
23h	2705.7	4.0
24h	2706.1	4.0

Recover

Other Supporting Information



IN REPLY REFER TO:

D5039-DSC-TMW

OCT 18 1979

Memorandum

To: Regional Director, Rocky Mountain Region

From: Assistant Manager, Midwest/Rocky Mountain Team, DSC

Reference: Canyonlands National Park, Package No. 195, Hans Flat,
Type: Preliminary Design, Water System

Subject: Transmittal of Information

Enclosed for your information is an update of cost estimates for the proposed water treatment system at Hans Flat.

We will be expecting your comments on this update. Please don't hesitate to contact this office should you need any further information.


Donald A. Purse

Enclosure

cc:
Supt., Canyonlands, w/encl.

Rocky Mountain
Regional Office

OCT 1 '79

United States Department of the Interior
NATIONAL PARK SERVICE
DENVER SERVICE CENTER
755 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

Regional Director	
Deputy Reg. Director	
Administration	
Park Operations	
Plan. & Resource Prog.	
Executive Assistant	
Communications & P.A.	
AD	
Action Taken	



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United States Department of the Interior

NATIONAL PARK SERVICE
DENVER SERVICE CENTER
755 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

IN REPLY REFER TO:

D5039-DSC-TMW

OCT 17 1979

Memorandum

To: Chief, Branch of Design, Midwest/Rocky Mountain Team, DSC
From: Civil Engineer, Midwest/Rocky Mountain Team, DSC
Reference: Canyonlands National Park, Package No. 195, Water System,
Type: Preliminary Design, Hans Flat
Subject: Update of Cost Estimates of December 6, 1977 Memorandum

Introduction

The cost estimates submitted on December 6, 1977 were updated to reflect price increases in equipment and labor. The revised cost estimates also reflect the information obtained on the cost of hauling water to the site and the cost of labor for operating and maintaining the equipment installed.

The annual cost of each alternative considered was determined using 20 year estimated project life and 7 percent (EPA recommended) interest rate.

For $i=7$ percent and $n=20$ years;
Single-payment Present-worth Factor=0.2584
Equal-payment Series Present-worth Factor=10.594
Equal-payment Series Capital-recovery Factor=0.094393

Alternatives

System I: 800 GPD Reverse Osmosis (RO) Unit

Water Treatment System

Softener	\$ 1,400	
Pressurizer	1,000	
Oxidation Filter	1,100	
RO Unit	3,600	
Chemical Feed	900	
Instruments & Misc.	2,000	
Installation	<u>3,500</u>	13,500



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Tank Modifications	\$ 5,000
Waste Disposal	5,000
Salt Storage & Equipment Building	<u>5,000</u>

Total Project Cost	<u>\$28,500</u>
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Present-worth of replacement in 20 years	<u>\$ 7,400</u>
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Present-worth capital cost	<u>\$35,900</u>
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Operation & Maintenance (O & M)

Salt	\$ 1,180/year
Hex-Phosphate	140
Oxidation Filter	40
RO cleaning	240
RO membrane	400
Materials	<u>2,000</u>
Labor	<u>2,000</u>
O & M	\$ 4,000/year

Present worth O & M for 20 year project life	<u>\$42,400</u>
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Total Present-worth cost for 20 year project life	<u>\$78,300</u>
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Annual Cost	<u>\$ 7,400/year</u>
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System II: 6 household RO units

Water Treatment System

Softener	\$ 1,400
Pressurizer	1,000
Oxidation Filter	1,100
6 household RO units	3,000
Instruments & Misc.	1,000
Installation	<u>3,000</u>

	\$10,500
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Tank Modifications	\$ 5,000
Salt Storage	<u>\$ 2,500</u>

Total Project Cost	<u>\$18,000</u>
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Present-worth of replacement in 20 years	<u>4,700</u>
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Present-worth Capital Cost	<u>\$22,700</u>
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Operation & Maintenance (O & M)

Salt	\$ 750/year
Oxidation Filter	50
RO Filter	300
RO Membrane	<u>3,600</u>
Materials	\$ 4,700
Labor	<u>1,500</u>
O & M	\$ 6,200/year

Present-worth O & M for
20 year project life \$65,700

Total Present-worth cost
for 20 year project life \$88,400

Annual Cost \$ 8,300/year

System III: Haul in drinking water only

Water Treatment System

Softener	\$ 1,400	
Pressurizer	1,000	
Oxidation Filter	1,100	
Installation	<u>2,500</u>	
		\$ 6,000

Tank Modifications \$ 5,000

Distribution System \$ 7,500

Total Project Cost \$18,500

Present-worth of replacement
in 20 years \$ 4,800

Present-worth capital Cost \$23,300

Operation & Maintenance (O & M)

Salt	\$ 750/year
Oxidation Filter	50
Materials	\$ 800
Labor	<u>1,000</u>
O & M	\$ 1,800/year

Present-worth of O & M for
20 year project life \$19,100

Drinking Water Haul

Use existing method of hauling
water in 5,000 gallon tanker at a
cost of \$225/trip
Need 2 trips/year

$$2 \times \$ 225 = \$450/\text{year}$$

Present-worth of water haul for
20 year project life \$ 4,800

Total Present-worth cost
for 20 year project life \$47,200

Annual Cost \$ 4,500/year

System IV: Haul in all water

265 Days @ 800 GPD = 212,000 Gallons
100 Days @ 150 GPD = 15,000 Gallons
227,000 Gallons
46 trips

46 Trips @ \$225/Trip
Annual Cost \$10,350/year

Total Present-worth cost
for 20 year project life \$110,000

Summary

System	Initial Project Cost \$	20 year Present-Worth \$	20 year Annual Cost \$/Year
I	28,500	78,300	7,400
II	18,000	88,400	8,300
III	18,500	47,200	4,500
IV	NONE	110,000	10,350

In addition to the above alternatives we also considered construction of a rainfall catchment and construction of a solar still.

V Rainfall Catchment:

The natural variations of an altogether low annual rainfall (4 inches per year) restricts this alternative to consideration as a supplemental source of water supply only.

Rainfall catchments have proven to be practical on islands where the annual rainfall is high and is distributed throughout the year.

VI Solar Still:

This would provide for treatment for all of the well water for culinary and other uses.

Additional information is needed to determine the practical value of this alternative.

Recommendation

Economic considerations indicate that System III would be the least expensive alternative. System III would provide for partially treated well water for all but culinary uses. Drinking water would be hauled in as needed.

Istvan Lippai
Istvan Lippai, P. E.



United States Department of the Interior

NATIONAL PARK SERVICE
DENVER SERVICE CENTER
755 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

Rocky Mountain
Regional Office

MAR 2 '78

IN REPLY REFER TO:

D5039-DSC-TMW

MAR 1 1978

Regional Director	
Deputy Reg. Director	
Asst. Dir.:	
Adm. Serv.	
Ext. Affairs	
Gen. Inv.	
Plan. & Resource Pres.	
Public Affs. Off.	
Records Mgmt.	
Tech. Serv.	
Training	
Off. of Cong. & Public Affairs	
Director's Sec'y	
Asst. Dir.:	
Adm. Serv.	
Ext. Affairs	
Gen. Inv.	
Plan. & Resource Pres.	
Public Affs. Off.	
Records Mgmt.	
Tech. Serv.	
Training	
Off. of Cong. & Public Affairs	
Director's Sec'y	

Memorandum

To: Regional Director, Rocky Mountain Region

From: Assistant Manager, Midwest/Rocky Mountain Team, DSC

Reference: Canyonlands National Park, Package No. 195, Hans Flat,
Type: Comprehensive Design, Water System

Subject: Hans Flat Water System

In answer to your concern with the Hans Flat well we feel that it would be prudent to investigate the production and future reliability of the well. There are a couple of possible causes for this drop in water production and these should be studied, for the conclusions may affect the planning of the Hans Flat development.

The first possible cause for low production might be a faulty pump or leaking well tubing. This could be checked by seeing if the water level drops between pumping periods indicating a leak. In addition to this the pump/tubing system could be pressure tested to check for any leaks. This work could be performed by most drilling companies or well service companies such as Farmington Well Service, Farmington, New Mexico. Additional information on this particular pump could be gained through the Axelson pump distributor in Farmington (505-325-6556). As you know, this pump has had problems in the past and these could be reoccurring.

The other possibility for the reduced production of the well may simply be that the aquifer is not producing enough water. It seems unlikely that at our low pumping rate the well would be going dry, but this should be determined conclusively. Perhaps Peter Huntoon could shed some light in this area, but we would recommend that a rigorous well test and analysis be performed to determine the actual yield of the well and help predict its future performance. Only a very brief well test and analysis was done at the time of the well drilling. Some local well driller should be able to do this work



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and specific testing recommendations and advice could be received from United States Geological Survey office in Salt Lake City.

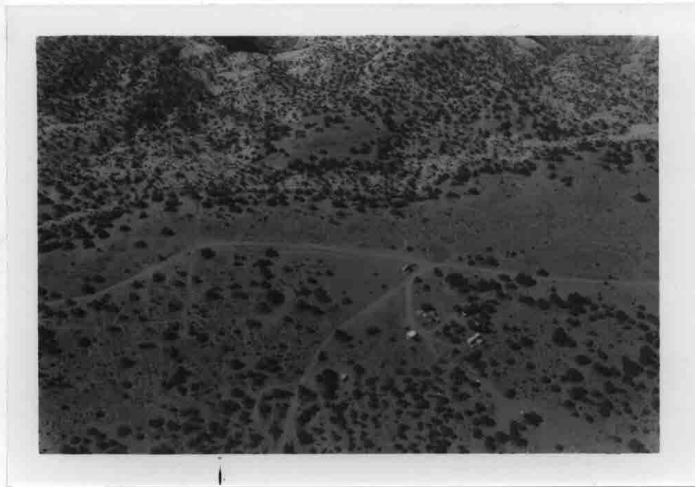
In conclusion, we feel that the pump and drop pipe should be checked for proper operation (including sanding in) and a well test be performed to answer two basic questions: 1) What is the present and future capacity of the well? 2) What will be the cost of maintaining the deep well pump? The answers to these questions will certainly affect the decision regarding the installation of the water treatment system and so this work should start as soon as possible. This work could be contracted out at the park with assistance from the Regional Water Resources Division. We feel that this study should be completed before further work is done on the water treatment system design and installation.

Please call this office if you have any questions or if we can be of further assistance.



Donald A. Purse

cc:
Supt., Canyonlands



" THIS IS THE PLACE "

HANS FLAT AREA

Docket Information

Number of Documents in Docket 18

Documents Dated from to

Docket Compiled: 2/2/2011