



WATER-RIGHT DOCKET

Chickasaw National Recreation Area

Docket No: 3

BLACK SULPHUR SPRING

Preliminary Docket Information

08-17-1995: memorandum: dockets; august 17, 1995

August 17, 1995

L54(479)

Memorandum

To: Files

From: Owen Williams, Chief, Water Rights Branch *OW*

Subject: Dockets

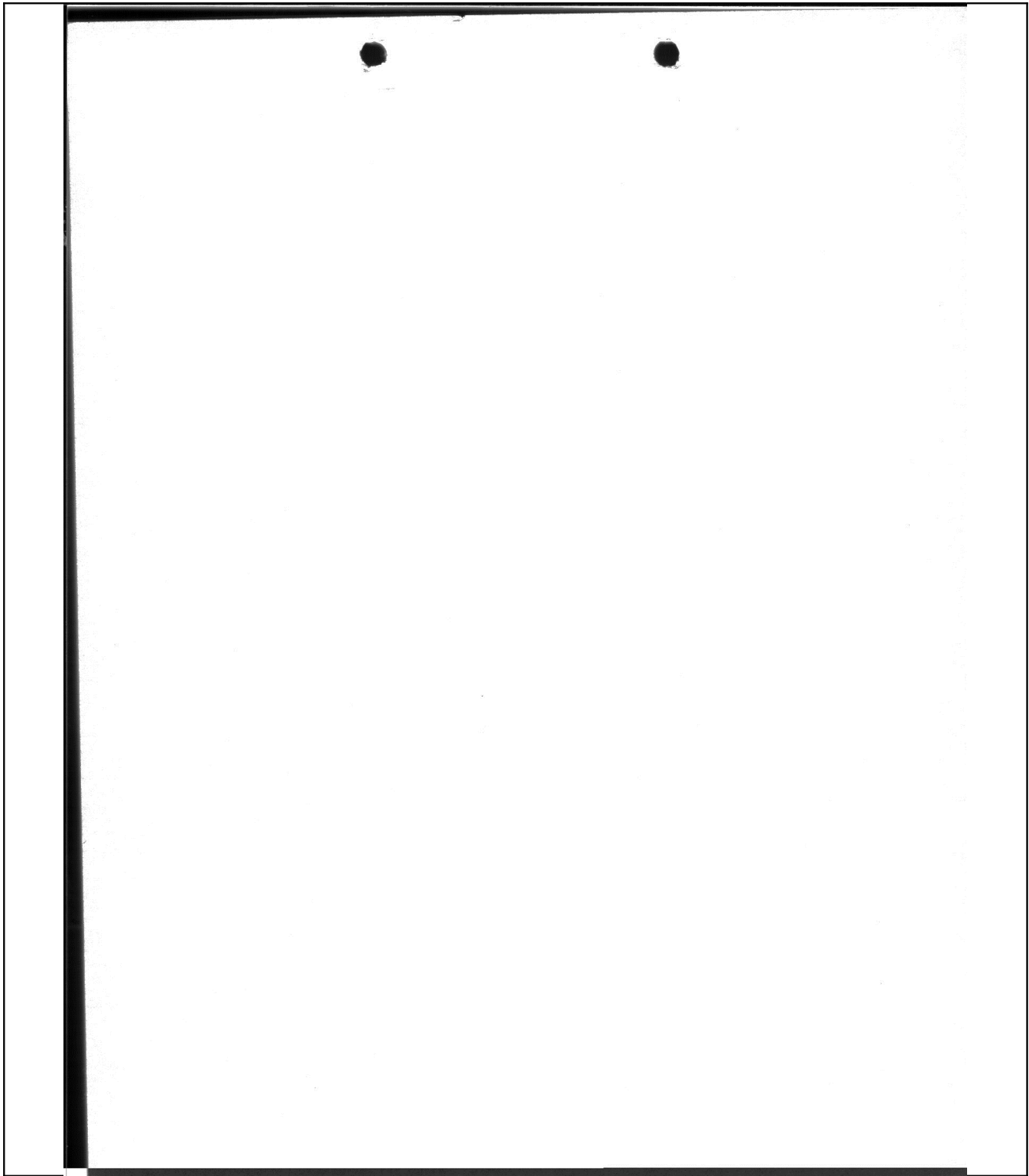
This is one of six springs in the "Ravine group" as defined by Charles N. Gould in 1905. The springs are named:

Spring	Docket
Sulphur Springs	23
Sulphur Springs	22
Soda Springs	21
Taff's Spring	20
Black Sulphur Spring	03
Iron Spring ¹	05

Where it is available, water Quality data are included in the CHIC springs dockets. This is done here because of the original purposes for which the park was established. Water quality data would not normally be a part of a docket, but CHIC's springs were viewed as medicinal at the time of the park's establishment. This reason, among others, necessitated the protection and preservation of CHIC and its springs.

The State of Oklahoma has been informed of the U.S.'s claim to the springs but no quantification of a right under the reservation doctrine, or any other doctrine has been completed.

¹ Note: This spring has been identified as Sulphur Spring. However, based upon the location in the 5/9/83 Declaration of Ownership of Water Rights, it appears to park staff (Len Weems, 8/16/95 phone conversation) and WRB that this spring has been double counted in the 5/27/83 Letter to James Barnett from Assoc R.D. Jack Neckels as Sulphur Spring and Iron Spring. The correct name for this spring, I believe, is Iron Spring and the Docket will be modified to reflect that.



Organization Code: 7 5 1 0
 Docket Classification: F (R) A
 Docket Number: 0 3
 Source Number: 0 3 of 4 0

Card #1

LA	IC
----	----

Add Change

[illegible]

Card #2

2A	2C
----	----

Add Change

[illegible][illegible]

Card #3
3A 3C
Add ChangeStatus
Active InactiveWater System
Primary SecondaryType of Source
L R S W
Lake River Spring WellLegal Source
S G
Surface Water Orchard WaterPriority
year month dayQuantity Used
cub.ft. gal acre ft. miner's in.per
sec min day month yearLine of Water
Primary SecondaryName
(00) Wildlife
(01) Stockwater
(02) Irrigation
(03) MunicipalCampground
(04) Domestic
(05) Public Supply
(06) Recreation
(07) Mining
(08) Fire ProtectionOther
(09) Other
(10) Other
(11) Other
(12) OtherReservation Date
year month dayDate of Adjustment
year month dayHydrologic Unit Number
1 1 1 3 0 3 0 3Card #4
4A 4C
Add ChangeRemarks
W A T E R F L O W M A I N T A I N E D
H Y D R A P H Y CCard #5
5A 5C
Add ChangeCard #6
6A 6C
Add ChangeCard #7
7A 7C
Add Change

*Complete letter
in CHIC-030*

L54(SWR-OM)

MAY 27 1983

Mr. James E. Barnett
Executive Director
Oklahoma Water Resources Board
P.O. Box 53585
Oklahoma City, Oklahoma 73152

Dear Mr. Barnett:

Following the National Park Service's "Declaration of Water Rights" to all springs and wells (see Enclosure A for individual listing), at Chickasaw National Recreation Area dated May 9, 1983, enclosed you will find the following additional information:

1. Excerpts of correspondence, office memoranda, etc., dated from the early 1900's generally describing the development of selected springs within the Sulphur Springs Reservation (formerly Platt National Park).
2. Photographs showing visitor use of selected springs through the years.

In addition to the above declarations, the National Park Service obtains water from the following water sources for municipal purposes.

1. City of Sulphur, Oklahoma.
2. Rural Water District No. 1.
3. NPS Water Treatment Plant.

Municipal water purchased from the City of Sulphur and the Rural Water District No. 1 from 1976 to 1982 is as follows:

<u>Year</u>	<u>City of Sulphur</u>	<u>RWD No. 1</u>
1976	1.431	.003
1977	2.199	.021
1978	4.363	.032
1979	3.287	.133
1980	1.035	.068
1981	1.639	.015
1982	1.195	3.037

The above material values are in million of gallons per year.

Supplemental mineral water is obtained from the overflow of an artesian well (Caylor Well), which is located on non-National Park Service property within Sulphur, Oklahoma. The water has been flowing into park land since 1937, as nearly as we are able to determine at this time. A formal agreement reflecting the above verbal agreement, which has been in effect since 1937(?), was entered on June 3, 1981. The initial flow to the park from Caylor Well is estimated at 15 to 20 gallons per minute.

Visitation figures to the area (see Enclosure 3), compiled by the staff of Chickasaw National Recreation Area from 1907 to 1982 are also enclosed. As you will note, visitation to the area shows an increasing trend from 106,332 in 1908 to 2,094,319 in 1982. Visitation has increased in part because of the increasing size of the park and construction or replacement of physical facilities, plus the discovery of the recreational and aesthetic benefits of the area by first time visitors to the area.

Additional information is available, should you and the board request it. The information may take some time to secure as it is stored in Dallas, Texas. Obtaining additional information may require as much as two months work and attendant costs estimated at \$10,000.

Sincerely,

/s/ JACK NECKELS

Associate Regional Director,
Park Operations, SWR

Enclosures 3

bcc:
Field Solicitor, Santa Fe
Superintendent, Chickasaw
Chief, WASO/497
Solicitor, Regional Office, P.O. Box 3156, Tulsa, Oklahoma 74101 (Attn: E. King)
(each w/o enclosures)

GMoore:og:5/26:83

Enclosure A

LISTING OF DECLARATION OF WATER RIGHTS

1. Antelope Springs
2. Buffalo Springs
3. Cunningham Spring
4. Base Spring
5. Big Tom Springs
6. Arsenic Spring
7. Little Tom Springs
8. Swords' Spring
9. Townsley's Spring
10. Dog Springs
11. Unnamed Spring
12. Hillside Spring
13. Beach Springs
14. Beach Springs
15. Beach Springs
16. Sand Springs
17. Bromide Spring
18. Cliff Bromide Spring
19. Unnamed Spring
20. Black Sulphur Spring
21. Sulphur Spring
22. Tuff's Spring
23. Iron Spring
24. Soda Spring
25. Sulphur Springs
26. Sulphur Springs
27. Wilson Spring
28. Churchill Spring
29. Rucker's Spring
30. Iron Spring
31. Jericho Spring
32. Unnamed Springs
33. Vendome Well
- Observation Well No. 1
- Observation Well No. 2

LSA(SJR-OM)

May 9, 1983

Dr. James R. Barnett
Executive Director
Oklahoma Water Resources Board
P.O. Box 53585
Oklahoma City, Oklahoma 73152

Dear Dr. Barnett:

In accordance with an agreement reached during a meeting between members of our respective staffs on April 21, 1983, the National Park Service declares a water claim to all waters issuing from a total of 33 springs which were identified by Dr. Charles N. Gould, Professor of Geology at the University of Oklahoma, in 1906. In addition, the National Park Service declares its claims to water which issue from the Vendome Well, a free flowing artesian well.

Within 2 weeks, the National Park Service will submit under separate cover, two packages consisting of photographs and excerpts of correspondence dating back to the turn of the century, concerning these claims.

Sincerely,

/s/ Robert L. Kerr

Regional Director,
Southwest Region

Separate Cover

cc:

Field Solicitor, Santa Fe)

Superintendent, Chickasaw) each w/copy of enclosure

Chief, WASO/497)

Mr. K. King, Solicitor, Regional Office, P.O. Box 3156, Tulsa, OK 74101 w/enc.

Moore:edr:5/9/83

OM

DECLARATION OF OWNERSHIP OF WATER RIGHTS

Page 1 of 2

No. Black Sulphur Spring-(Wilson Springs)-Su or Artesian Basin
 Basin Name

Declaration No. _____ Date received _____

1. Name of Declarant United States of America through National Park Service
 Mailing Address Chickasaw National Recreation Area, Box 201, Sulphur, OK 73086
 County of Murray State of Oklahoma
2. Source of water supply Simpson/Arbuckle Group *(See 8B)
 (artesian or shallow water aquifer)
3. Describe well location under one of the subheadings:
 a. SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 2 Twp. 15 Rge. 3E 1PM in
Murray County.
 b. Tract No. _____ of Map No. _____ of the _____
 On land owned by the United States of America
4. Description of well: date drilled _____ driller _____ depth _____ feet.
 outside diameter of casing _____ inches; original capacity _____ gal. per min.; present
 capacity _____ gal. per min.; pumping lift _____ feet; static water level _____ feet (above)
 (below) land surface; make and type of pump _____
 Make, type, horsepower, etc., of power plant _____
 Fractional or percentage interest claimed in well _____
5. Quantity of water appropriated and beneficially used 2 gallons per minute *(See 8C)
 (acre feet per acre) historical and current uses: public drinking water, live-
stock watering, education, recreation, fish purposes.
 (acre feet per annum) for and wildlife including support of existing natural
riparian ecosystem.
6. Description of spring: Developed or Undeveloped (Circle One)
 Date Developed: prior to 12-22-1906 by NATIONAL PARK SERVICE
7. Water was first applied to beneficial use prior to 12 22 1906
 month day year
 and since that time has been used fully and continuously for the above described
 purpose in Number 5.
8. Additional statements or explanations A) Also known as Sulphur Asphaet Springs
 (Vegetative Type Map - Platt National Park) - August 1933. B) Classified as one
 of six springs of the "Ravine Group" by Dr. Charles N. Gould, Geologist, in
 "Report of Springs" - August 13, 1906. C) Approximate flow determined by Dr. Gould
 in 1905 - reference 8B. D) See Attached

I, Robert J. Smith being first duly sworn upon my oath, depose
 and say that the above is a full and complete statement submitted in evidence of
 ownership of a valid water right, that I have carefully read each and all of the items
 contained therein and that the same are true to the best of my knowledge and belief.

Robert J. Smith declarant
 by _____

Subscribed and sworn to before me this 9th day of May, A.D., 1983

My commission expires February 21, 1987 Robert P. Williams Notary Public

8. This Declaration is provided pursuant to the policy of the Secretary of the Interior to recognize and grant deference to state laws, regulations and procedures where those secure water rights and uses of the United States. This Declaration is given as a matter of comity, cooperation and information. It does not consent to the jurisdiction of the State in regards to judicial or other adjudications, the rights of the United States to the use or amount of water, or the amount described in this Declaration. This Declaration cannot affect vested rights under Federal or State law.

These Declarations concerning ownership of or flows of springs - developed and undeveloped - and wells should be taken and considered in totality as part of the entire Chickasaw National Recreation Area.



UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
REGIONAL OFFICE, SOUTHWEST REGION
P.O. BOX 3156
TULSA, OKLAHOMA 74101

APR 22 1983
April 22, 1983

Mr. James R. Barnett
Executive Director
Oklahoma Water Resources Board
P. O. Box 53585
Oklahoma City, Oklahoma 73152

Re: Determination of Prior Vested Ground Water Rights, Murray County

Dear Mr. Barnett:

In accordance with the conclusions reached during the discussion on April 21, among members of your staff, employees of the National Park Service, and me in the Office of the Chief, Division of Stream Water, concerning the determination of prior vested ground water rights in Murray County as they affect the Chickasaw National Recreation Area, additional time is hereby requested to May 9, 1983, within which National Park Service will submit evidence and information to supplement the record on behalf of historical uses by the National Recreation Area and its predecessor National Park.

It was agreed during our discussion that, subject to your approval of this request for additional time, supplemental information and evidence will be provided to O.W.R.B. by May 9 in order to allow timely completion of the ongoing determination process.

Sincerely yours,

Kathleen King
Kathleen King
Department Counsel
National Park Service

cc: Office of the General Counsel, OWRB, Attention: Glen Hammonds

bcc: Regional Director, NPS, Attn: Gary Moore, Hydrological Engineer
Field Solicitor, Santa Fe, Attn: John Harrington

TIS R3E1M

NAME OF WELL / SPRING	LOCATION	CLASS	QUANTITY CLAIMED	DATE OF FIRST USE
Vendome	NE NW NE §3	DRILLED WELL	2500 gpm	1922
Observation test well #1	NE NW NE §1	DRILLED well	?	Aug 1972
Observation test well #2	NW NW NW §1	DRILLED well	?	July 1972
No. 1 Antelope Springs	NW NW NE §1	undeveloped - art. spring	to 3300 gpm	July 1, 1902
No. 2 Antelope Springs	NE SW NE §1	undeveloped - art. spring	to 3300 gpm	July 1, 1902
Channing Spring	NE SW NE §2	undeveloped - art. spring	?	July 1, 1902
Spring #1	SW NW NW §1	undeveloped - art. spring	?	7-1-02
Big Tom Spring	SW NE NE §3	Developed Spring	40 gpm	8-1-10
Frederick Spring	SW NE NE §3	Developed Spring	8 gpm	8-1-10
Little Tom Spring	SW NE NE §3	Developed Spring	3 gpm	2-1-10
Spring #1	SW NE NE §3	Developed Spring	5 gpm	2-1-10
Tomato Spring	SW NE NE §3	Developed Spring	2 gpm	2-1-10
Joe Springs	SW NE NE §3	Developed Spring	2 gpm	8-1-10
undeveloped Spring	SW NE NE §3	Developed Spring	2 gpm	8-1-10
Little Tom Spring	NW SE NE §3	Developed Spring	20 gpm	5-26-04
No. 3 Antelope Springs	SW NE NE §3	Developed Spring	70 gpm	7-1-02
Spring #1	SW NE NE §3	Developed Spring	?	7-1-02
Spring #2	SE NW SW §3	Developed Spring	1 gpm	5-17-06
Spring #3	NE SW NE §3	Developed Spring	to 3300 gpm	5-5-06
Spring #4	SE NW SW §3	Developed Spring	gpm	3-1-08
Spring #5	SE NW SW §3	Developed Spring	gpm	2-7-08
Spring #6	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #7	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #8	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #9	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #10	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #11	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #12	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #13	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #14	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #15	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #16	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #17	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #18	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #19	SE NW SW §3	Developed Spring	gpm	7-1-08
Spring #20	SE NW SW §3	Developed Spring	gpm	7-1-08

data presented in
this section is claimed
as to be correct

Churchill	SW NE	Unseal	5 gpm	7-1-02
Spring	81	Spr.		
Proctor	SW NE	Unseal	3 gpm	7-1-02
Spring	81	Spr.		
Tracy	SW NE	Unseal	4.25 gpm	7-1-02
Spring	81	Spr.		
Tencho	SW NE	Unseal	3 gpm	7-1-02
Spr.	81	Spr.		
Unseal	SW NE	Unseal	4.25 gpm	7-1-02
Spring (2)	81	Spr.		

Land History

September 11, 1995

L54(479)

Memorandum

To: Files

From: Owen Williams, Chief, Water Rights Branch

Subject: Land Status Information - CHIC Dockets

Information concerning land status for CHIC is contained in the file folder labeled CHIC Deeds rather than in individual dockets.

Other Supporting Information

8/18

Gary: Howard's Figure of
\$4351 appears a little high
in that he has 104 man-days
main & operation, but has included
23 man-days shown above, which
~~are~~ should be in the 104.

Hope this is what you
wanted.

JCH

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Superintendent, Platt Nat'l. Park
Arbuckle Recreation Area

DATE: 8/15/72

FROM : Maintenance Supervisor

SUBJECT: Maintenance Costs on Springs in Platt National Park; Request for by:
Garland Moore, SWR

From July 1971 to August 1, 1972, the following maintenance costs have been incurred.

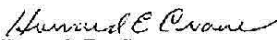
- ✓ 1. Black Sulphur Springs (Beach Springs)
 - a. Protective cover and manhole over cistern - 3 mandays, supplies \$125.00
 - b. Replace chlorinator 1 manday, item 228.00
 - c. Replace public service frost proof hydrant 1 manday, item 75.00
2. Medicine Spring
 - a. Cleaning and disinfecting cistern 2 mandays, supplies 70.00
 - b. Replace pump gaskets and strainers $\frac{1}{2}$ manday, items 24.00
3. Bromide Spring
 - a. Cleaning and disinfecting cistern 1 manday, supplies 35.00
 - b. Replace chlorinator $\frac{1}{2}$ manday, item 214.00
 - c. Replace drain line from Bromide Pavilion 3 mandays, supplies 150.00
4. Pavilion Springs
 - a. Cleaning drain line 2 mandays 60.00
 - b. Replace drain line 3 mandays, supplies 100.00
5. Antelope Springs
 - a. Cleaning of discharge channel and lagoon 3 mandays 75.00
6. Buffalo Springs
 - a. Cleaning of basin and channel 3 mandays 75.00
7. On an annual basis, 104 mandays @\$30. per m/day (\$3,120.), are spent in routine inspection of Springs, pumps, chlorinators, pumphouses and lines to distribution points and general upkeep of the systems.



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

Faucets, hydrants and drains are all used by the Public and must be maintained to USPHS Standards to protect the visitors.

The costs shown above are representative of a normal years operation and maintenance, total costs - \$4,351.00. Costs shown do not reflect the maintenance of structures housing the spring facilities.


Howard E. Crane

WATER SYSTEM INVENTORY

PARK Platt National Park AREA WITHIN PARK Black Sulphur Spring
 WATER SUPPLY SOURCE: WELL _____ SPRING Black Sulphur TRIBUTARY TO _____
 STREAM _____ TRIBUTARY TO _____ OTHER _____
 LOCATION: SEC. NE¹ of Sec. 3 T. 1-S R. 3-E M. Indian Base Line
 (to nearest 10 acres)
 IF LAND UNSURVEYED PROVIDE PROJECTION OF SEC. _____ T. _____ R. _____ M. _____
Pavilion 1924
 WHEN CONSTRUCTED Pump House 1965 WHAT EXISTING FACILITIES ARE SERVED: (a) CAMPGROUND _____
 (no. of sites)
 (b) PICNIC AREA None (c) CONCESSIONER None (d) COMFORT STATIONS None
 (no. of sites)
 (e) RESIDENCES None (f) IRRIGATION _____
 (no. of acres and legal location to nearest 10 acres)
 (g) OTHERS Pavilion & Hydrant YEARLY WATER USE (in gallons) 36,000 AND 24,000
 MAY TO OCTOBER OCTOBER TO MAY
 REQUIREMENTS ON DAY OF GREATEST USE IN GALLONS 600 CAPACITY OF THE SOURCE (gallons per day) 2,800
Platt NATIONAL PARK SERVICE DRAWING THAT APPLIES TO THIS WATER SYSTEM AND SOURCE: No. 5315-B
 DTD _____ TITLE _____ MASTER PLAN: No. 2100 DTD _____
 TITLE _____

The water from Black Sulphur Spring supplies a drinking fountain and runs into Rock Creek.
 Private containers are also filled and removed from the Park.

Black Sulphur Springs

WATER SYSTEM DATA

Area Platt National Park Recorded by C. T. Othmer Dates /21/ 72
Mo. Da. Yr.

1. Name of System: Mineral Water Systems
2. Location: State Oklahoma County Murray General Area Sulphur
3. General Description: This system includes all springs and artesian flows that are set
(Type of System, Use, Sources, Capacity, etc.)

up by the Park to allow visitors to take water home with them.

4. Water Rights: Type of Right domestic Claim No. none
(Riparian, Appropriative, Absolute, etc.)

Permit No. none Docket No. none Remarks: see legal addendum and
maintenance cost memorandum
(e.g. see addendum)

5. Sources of Supply: No./Type of Sources Bromide, Medicine, and Black Sulphur Springs,
Jack Diamond well
(Use Addendums for Source Data)

6. Storage: No. of Storage Sites 2 (#1 Medicine Springs water #2 Bromide Springs water)

*Storage Data #1: Location: Latitude 34°/29'/48" Longitude 96°/58'/59"
(Deg. Min. Sec.) (Deg. Min. Sec.)

Other Location Descriptions: _____

Type Storage Elevated
(Pneumatic, Elevated, Underground, Ground Level, etc.)

Pressure Setting NA Type Construction Concrete tank
(If Pneumatic)

Capacity 280 ft³ gal. Inlet Size 1 in. Outlet Size 1 in.

Remarks: _____

*Storage Data #2: Location: Latitude 34°/29'48" Longitude 96°/58'/59"
(Deg. Min. Sec.) (Deg. Min. Sec.)

Other Location Descriptions: _____

Type Storage Elevated
(Pneumatic, Elevated, Underground, Ground Level, etc.)

Pressure Setting NA Type Construction Concrete tank
(If Pneumatic)

Capacity 280 ft³ gal. Inlet Size 1 in. Outlet Size 1 in.

Remarks: _____

7. Distribution: Residences _____ Trailers _____

Drinking Fountains X Fire Hydrants _____ Other _____

8. Black Sulphur Springs Longitude 96° 58'18" W Latitude 34°30'18" N
Pumphouse for Medicine Springs and Bromide Springs Longitude 96°59'00" W
Latitude 34°29'77" N
Bromide Pavillion (outlet for Medicine water, Bromide water and sulphur water from
the Jack Diamond well) Longitude 96°58'59" W Latitude 34°29'48" N.

ADDENDUM FOR SOURCE DATA

Source No./Names Black Sulphur Springs

Power Source Electric Motor: Make Dayton HP 1/3
(Electric, Gas, Generator)

RPM 1725 Type K Phase 1 Cycles 60

Pump Housing: Type Const. Concrete Blocks ; Concrete Slab Size 7'4" x 6' x 6'
(Walls) (Roof) (W x L x H)

Control: Automatic Pressure
(Float, Electrode, Pressure, Time, etc.)

Manual _____

Other Chlorinator automatically kicks in when pump starts
(Explain)

Motor serial number 62059KVG3

(NA) History: Driller or Construction Co. _____ (Name) _____ (Address)

Date Drilled: / / Pump Intake Setting _____ ft.
Mo. Da. Yr.

Method Drilled: _____
(Air, Rot, Bored, Cable, Dug, Hyd. Rot, Jetted,
Air Percussion, Reverse Rotary, Trenching, etc.)

Lift Type: _____
(Air, Bucket, Cent, Jet, Nose, Piston, Submerg, Turb, etc.)

Hgt. of Casing above Ground _____ ft. Static Water Level _____ ft.
(From top of casing to
water level)

Drawdown _____ ft. Q at Specified Drawdown _____

Method of Measurement:

Static Water Level _____
(Air Line, Steel Tape, Electric Probe, etc.)

Drawdown _____
(Air Line, Steel Tape, Electric Probe, etc.)

Remarks: _____
(e.g. see addendums for chemical analysis, water usage, etc.)



IN REPLY REFER TO

UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
Platt National Park
Arbuckle Recreation Area
P. O. Box 201
Sulphur, Oklahoma 73086

May 6, 1971

Ron Cotten
Supervisory Civil Engineer, SWRO

Dear Ron:

Enclosed please find 2 copies of recent analysis prepared by the Southern Oklahoma Skill Center laboratory. Bert Mitchell, U.S.P.H.S. suggested this during his last visit. These are posted in Pavilion Springs pavilion, and in the Bromide pavilion on large routed signs. I cannot determine when the previous analysis was made or when the signs were made. There are some variations and we plan to rework the signs as time allows. Would you please forward the second set to Bert Mitchell? The #3 Sulphur is the line to Bromide Pavilion from the "Jack Diamond" artesian well. He was especially interested in this one due to the taste.

I have also enclosed sheets on two proposed seal and chip contracts that, after analyzing our April ADP sheets it appears we can finance from 1971 FY operating funds. If you agree to the need for these could you send them to Bob Bone for contract preparation. A suggested bidders list is also enclosed.

Sincerely

Howard E. Crane

Howard E. Crane
Maintenance Supervisor
Platt-Arbuckle

#2 Black Sulphur Springs

Dissolved Oxygen	1.5 ppm
PH	7.1
P Alkalinity	0
M Alkalinity	320 ppm
Total Hardness	276 ppm
Non-Carbonate Hardness	0
Color	0
Turbidity	0
Manganese	0.2 ppm
Bromine	1.4 ppm
Sulphate	9 ppm
Bicarbonate	390 ppm
Chlorides	160 ppm
Calcium Hardness	168 ppm
Calcium	67 ppm
Magnesium	26 ppm
Carbonate	0

OKLAHOMA STATE DEPARTMENT OF HEALTH
ENGINEERING LABORATORY

REPORT OF WATER ANALYSIS

SAMPLE Black Sulphur Spring ENGINEERING LABORATORY NUMBER 853
 SOURCE OF SAMPLE Platt National Park DATE TAKEN 10-1-63
 CITY Sulphur DATE RECEIVED 10-3-63
 COUNTY Murray DATE COMPLETED 10-14-63
 PUBLIC ☒ PRIVATE ☐

RESULTS REPORTED IN PARTS PER MILLION

CONSTITUENT	PPM	CONSTITUENT	PPM
SILICA (SiO ₂)		IRON (Fe)	0
CALCIUM (Ca)	60	MANGANESE (Mn)	0
MAGNESIUM (Mg)	39	SULFATE (SO ₄)	15
SODIUM (Na)		SPECIFIC CONDUCTANCE (Microhms)	
POTASSIUM (K)		DISSOLVED SOLIDS	700
BICARBONATE (HCO ₃)	390	TOTAL HARDNESS (CaCO ₃)	309
CARBONATE (CO ₃)		CALCIUM HARDNESS (CaCO ₃)	148
CHLORIDE (Cl)	170	NON-CARBONATE HARDNESS (CaCO ₃)	
FLUORIDE (F)	0.75	"P" ALKALINITY (CaCO ₃)	0
NITRATE (N)	0	TOTAL ALKALINITY (CaCO ₃)	312
AMMONIA (N)	0	COLOR	5
		TURBIDITY (SiO ₂)	1
DISSOLVED OXYGEN			
BIOCHEMICAL OXYGEN DEMAND		pH	6.9

REMARKS _____

ANALYST Thomas J. Carlile

ANALYTICAL REPORT

To M. G. Powers

Report Number 5975

Date February 17, 1959

Book Number 942

Eight water samples as designated

Sample	Iodide, % (Gravimetric)	Bromide, % (Gravimetric)	Chloride, % (Gravimetric)	Total Halide, calculated as Chloride, mg/kg $\rightarrow$ in ppm (Titrimetric)
1.	0.000	0.012	0.005	- 125
9- ~~10~~ G.	0.0039	0.000	0.0155 ¹⁵⁶	- 194
3.	0.000	0.003	0.0534	- 567
4.	*	*	*	2.9 2.9
5.	¹⁰ 0.001	¹²⁰ 0.0120	²²⁷⁰ 0.2270	- 2400
6.	0.001	0.000	0.0876 ⁸⁷⁶	- 896
7. 1?	¹⁰ 0.001	¹²⁰ 0.012	²¹⁷⁰ 0.2170	- 2300
8. 2?	0.000	0.000	0.0099 ⁹⁹	- 17

*Method inapplicable.

SCALE FACTORS 4051-18

WE. PNP

DA: 2-17-59

Beetle 1/2

Pavillon Spry.

29

PROBLEM

Sulphur pool

12

Black; Sulphur

4

[illegible]

SCALE FACTORS FPC-1-A-1 C-8-9-1-2

$$LiF \times Ta /$$

WELL: RNP

DATE 2-13-58

PROBLEM

Buffalo Springs

Reaction 5: 9

PROBLEM _____
Sulphur pool
3

"Black Sulphur Sp." 4

[illegible]

TABLE 5
Black Sulphur Spring Chemical and Physical Water Quality

<u>Parameter</u>	<u>Values</u>		
	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>
pH	7.6	7.4	7.3
Dissolved Oxygen (DO), mg/l	0.0	0.0	0.0
5 Day (20°C) BOD, mg/l	2.8	1.1	0.1
Total Suspended Solids, mg/l	35	-	<7
Total Solids, mg/l	642	603	582
Organic Nitrogen as (N), mg/l	.4	-	< .05
Ammonia Nitrogen as (N), mg/l	3.0	-	< .05
Nitrate Nitrogen as (N), mg/l	.2	-	< .1
Nitrite Nitrogen as (N), mg/l	<.005	-	< .005
Total Phosphate as (P), µg/l	25	19	15
Bromide, mg/l	.4	.4	.3
Chloride, mg/l	162	150	145
Hardness as (CaCO ₃), mg/l	280	267	244
(Micromhos/ Conductivity in cm at 25°C)	1,420	1,130	989
Sulfide	.4	.3	.2
Phenol			
Sulfite			
Chemical Oxygen Demand, mg/l	9	5	0

COMPOSITION OF SPRING AND WELL WATER IN PLATT NATIONAL PARK								
Halides Wt. % of total Sam.	1 Buffalo Springs	2 Antelope Springs	3 Sulphur Pool	4 Black Sulphur	5 Pavillion Springs	6 Sulphur Springs	7 Bromide Springs	8 Medicine Springs
Chloride	0.0050	0.0099	0.0534	-----	0.0155	0.0876	0.2270	0.2170
Bromide	0.0000	0.0000	0.0030	-----	0.0000	0.0000	0.0120	0.0120
Iodide	0.0000	0.0000	0.0000	-----	0.0039	0.0010	0.0010	0.0010
Total Halides	0.0050	0.0099	0.0564	0.0003	0.0194	0.0886	0.2400	0.2300
PPM Halides	50	99	564	3	194	886	2400	2300
Metals Wt. % of residue								
Calcium	23.50	15.51	2.51	31.30	4.15	1.51	7.01	3.52
Iron	0.15	0.09	0.14	0.30	0.16	0.09	0.12	0.12
Titanium	Tr.	Tr.	Tr.	Tr.	Tr.	---	---	Tr.
Copper	0.065	0.095	0.100	0.105	0.064	0.050	0.062	0.065
Chromium	0.024	0.021	0.022	0.028	0.037	0.018	0.017	0.011
Zinc	Tr.	---	---	Tr.	---	Tr.	Tr.	Tr.
Nickel	Tr.	Tr.	Tr.	Tr.	Tr.	Tr.	Tr.	Tr.
Strontium	0.071	0.055	0.445	0.000	0.126	0.365	0.040	0.040
Barium	Tr.	Tr.	Tr.		Tr.	---	Tr.	Tr.

Metals(cont.)								
Wt. % of								
residue	1	2	3	4	5	6	7	8
Silicon	Tr.	Tr.	Tr.	Tr.	Tr.	Tr.	Tr.	Tr.
Total								
Sulphur	0.00	0.00	0.19	0.19	0.12	0.32	0.19	---
Potassium	0.36	0.63	1.38	0.44	0.67	1.14	0.63	0.17

Docket Information

Number of Documents in Docket 29

Documents Dated from 2/13/1958 to 9/11/1995

Docket Compiled: 6/13/2016