



WATER-RIGHT DOCKET

Chickasaw National Recreation Area

Docket No: 2

ANTELOPE SPRINGS

Preliminary Docket Information

08-14-1995: memorandum: dockets; august 14, 1995

August 14, 1995

L54(479)

Memorandum

To: Files

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

Subject: Dockets

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

Buffalo Springs Docket # 01
Antelope Spring 02

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 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 made.

WATER DOCKET INFORMATION

AREA CHICKASAW

DOCKET NO. 2

APPLICATION NO. _____

STATE RIPARIAN NO. _____

CETIFICATE NO. _____

TITLE OF DOCKET ANTELOPE SPRINGS

PRIORITY _____

REMARKS _____

Card #7 7A 7C

NATIONAL PARK SERVICE
WATER RIGHTS DATA SHEETOrganization
Code 7 5 1 0Docket
Classification 7 (B) A
Federal Reserved AlienDocket
Number 0 2

Source Number 0 2 of 4 0

Card #1 (1A) 1C
Add Change

Site 4 N T E L O P E S P R I N G S

Location 1 Township/Range --- T 1 S R 3 E Sec 0 1 A B C D of A B C D of A B C D
2 Lat/Long --- Latitude 3 4 3 0 1 7 S Longitude 0 9 6 5 6 2 8
3 Other ---

Card #2 (2A) 2C
Add ChangeSequence
Number State 4 0 County M U R R A YAcquired by 1 2 3 4 5
Purchase Appropriation Riparian Reservation Other
(Explain in Remarks)Application
NumberCancellation
Date year month dayPermit
NumberCancellation
Date year month dayCertificate
NumberCancellation
Date year month day

*Complete letter
in Chic-030*

LS4(S&R-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	4.383	.032
1979	3.287	.133
1980	1.035	.068
1981	1.439	.015
1982	1.195	3.037

The above metered 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, 1961. 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: K. 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

LS4(SWR-OM)

May 9, 1983

Mr. James R. Barnett
Executive Director
Oklahoma Water Resources Board
P.O. Box 53583
Oklahoma City, Oklahoma 73152

Dear Mr. 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 M. 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

No. ANTELOPE SPRINGS - Sulphur Artesian Basi
Basin Name

Page 1 of 2

Declaration No. _____ Date received _____

1. Name of Declarant United States of America through the National Park ServiceMailing Address Chickasaw National Recreation Area, P.O. Box 201, Sulphur, OK 73086County of Murray State of Oklahoma2. Source of water supply Simpson/Arbuckle Group (See Section 8. A.)
(artesian or shallow water aquifer)

3. Describe well location under one of the subheadings:

a. 1/4 1/4 1/4 1/4 of Sec. 1 Twp. 15 Rge. 3E IDP 1, in
Murray County.b. Tract No. _____ of Map No. _____ of the _____
On land owned by the United States of America4. 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 to 3300 gpm (Section 8. B.)
(acre feet per acre) _____
Historical and current uses: public drinking,
for livestock watering, education, recreation, purposes.
(acre feet per annum) _____ fish and wildlife including supporting of existing
natural riparian ecosystem.6. Description of spring: Developed or Undeveloped (Circle One)

Date Developed: _____ by _____

7. Water was first applied to beneficial use 7 1 1902
month day yearand since that time has been used fully and continuously for the above described
purpose in Number 5.8. Additional statements or explanations A. Classified as part of Sulphur Creek Group by
Dr. Charles N. Gould, Geologist, in "Report on Springs" August 13, 1906.
B. Reported by Dr. Jimmy F. Harp, et. al., Associate Professor in School of Civil
Engineering and Environmental Science, University of Oklahoma in "Subsurface and Surface
Water Flows at Platt National Park, Sulphur Oklahoma" April 1976.I, Robert J. Harp 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. Harp declarant
by _____Subscribed and sworn to before me this 9th day of May, A.D., 1983My commission expires February 21, 1987 Robert J. Harp Notary Public

Page 2 of 2

3. C. 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 27 1983
April 22, 1983
- (V)

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 R3E IM

[illegible]

data presented as
disclosure I claim?

Churchill	SW NE	unlevel	5 gpm	7-1-C2
Spring	E/	Spr.		
Puckers	SW NE	unlevel	3 gpm	7-1-C2
Spring	E/	Spr.		
Iron	SW NE	unlevel	4.65 gpm	7-1-C2
Spring	E/	Spr.		
Jericho	SW NE	unlevel	3 gpm	7-1-C2
Spr.	E/	Spr.		
unlevel	SW NE	unlevel	4.25 gpm	7-1-C2
Springs (2)	E/	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

check Buffalo springs (CHIC-001)
for addl. info. (related to new supply
wells near CHIC approved by Farmer's Home Admin.)

O. Willian

11 Sep 95

PLATT
Docket

Southwest Region
P. O. Box 728
Santa Fe, New Mexico 87501

L54

MAY 11 1973

Dr. James Harp
School of Civil Engineering
University of Oklahoma
Norman, Oklahoma 73069

Dear Dr. Harp:

It was a pleasure meeting you and Dr. Joakin Laguros recently. Enclosed please find copies of the:

- (1) water level measurements for Antelope and Buffalo Springs;
and
- (2) groundwater level charges for the Horsman well.

As we discussed, we would appreciate reviewing a proposal to determine if groundwater withdrawals outside of Platt National Park has an effect on spring flows issuing from both Antelope and Buffalo Springs, and other minor springs within the Park.

This project has been given a high 1974 FY priority within this Region. We will award this contract as soon as funds are available. Should you have any questions, please call 505-982-3801, extension 493.

Sincerely yours,
(SIGNED)

Garland Moore
Hydraulic Engineer

Enclosures

cc:
Vic Berte, PNW-WASO
Director, DSC, R. Budz
Supt., Platt
PSN-SWR.1

GMoore:ba 5/11/73

ANTELOPE SPRINGS

(2)

June 21
Sat. 2:25 PM .96

June 23 .96
Mon. 3:30

Thurs. June 26
2:15 P.M. .95

Sat. June 28
3:00 .95

Sun June 29 .95

(69)

(4)

Fri. July 11 (69) .92
2:30

Sun July 13 .92
2:30

Tue. July 15 .92
2:30

Th. July 17 .92
2:15

Sat July 19 .92
2:15

(1)

June 2 - (69)
Mon. 3:00 PM - .99

June 6 - 69
Fri. 10:20 .99

Sat. June 14 .99
3:00

Fri June 20 .97

(3)

~~Sat. June 28~~

Tues. July 1 (69)
3:00 P.M. .94

Sat. July 5
3:00 P.M. .95

Sun July 5 .93
3:30 P.M.

Th. July 10 .93
3:30

Sat. Aug 2 ⁽⁶⁹⁾ .92
2:20

Mon Aug 4 .92

wed Aug 6 .90

Fri. Aug 8 .90

Sat Aug 10 .90

Tue Aug 12 .90

Th. Aug 14 .90

Sat. Aug 16 .90

Mon Nov 10 ⁽⁶⁹⁾ .88

Mon Nov 24 .88

Wed Dec 3 .88

Mon Jan 12 ⁽⁷⁰⁾ .90

Mon Jan 26 .87 ~~.88~~

Sat Feb 14, 1970 .89

Fri Feb 20 .85

Fri Feb 27 .86

Tues Mar. 10 .88

Mon July 21 - 69 .92
1:30

wed July 23 - .92

Fri. July 25 - .92
2:10

Sun July 27 .93
2:30

Tue July 29 .92
1:55

Th July 31 .92
2:10

Mon Aug 18 ⁽⁶⁹⁾ .89

Wed. Th. Aug 21 .89

Sat Aug 21 .88

Sat Sept 5 .89

wed sept 10 .88

Sat Sept 13 .87

Tue sept 20 .87

wed Oct 8 .89

Thur Oct 16 .90

~~Sat Oct 25 .91~~

Wed Nov 5 ⁽⁶⁹⁾ .88

(10)

Tue. June 30 (70) .86

Mon July 6 .83

Sat. July 11 .85

FRI JULY 17 .83

Mon July 27 .83

THUR AUG 6 .82

MON AUG 10 .80

Sun. Aug. 16 .80

(12)

Mon (70) Sept 28 .82

TUE. SEPT. 29 .85

WED SEPT. 30 .82

THUR OCT. 1 .82

FRI. OCT. 2 .82

SAT OCT. 3 .82

Sun oct 4 .82

MON oct 5 .82

WED. OCT. 7 .82

(9)

Thur March 19 .90

~~Wed~~ (70) March 25 .89

Fri. April 5 .90

Fr. April 10 .91

Tue April 21 .95

Thurs " 28 .92

Fri May 8 .93

Thur May 21 .93

Tue. June 2 .88

Tue. June 2 .88

Tue. June 23 .87

(11)

Sun. Aug 23 (70) .80

MON AUG 24 .80

TUE SEPT 1 .79

MON. SEPT. 7 .77

Mon Sept. 14 .77

Fri Sept. 17 .78

Sun Sept 20 .78

Wed Sept 23 .79

Fri. Sept 25 .81

(14)

Sun Nov 29	.94
Sun Dec 6	.94
Thur Dec 18	.94
Fri Jan 8	.92
Sun Jan 24	.90
Sun Jan 31	.90
Sun FEB 14	.88
SAT FEB 20	.89
Mon MAR 1	.89
Mon MAR 8	.90-
WED MAR 17	.88
WED MAR 24	.88
THUR APR 8	.85
TUE APR 20	.83

(71)

(16)

(71)

Thur. July 1	.75
Mon. July 5	.73
Thur. July 8	.71
July 12	Didn't locate pen
Tue July 13	.70
FRI July 16	.69
MON JULY 19	.69
Sat July 24	.69
Sun July 25	.69
Mon " 26	.69
Tues July 27	.70
Wed July 28	.70
Thur " 29	.69

(13)

FRI. (70) OCT. 16	.95
Sun. Oct. 18-70	.95
Thur Oct 20-70	.95
SAT. OCT. 24, 70	.96
TUE OCT. 27, 70	.96
Mon. Nov 2, 70	.96
WED Nov. 4, 70	.96
Sun. Nov. 8	.95
~~Tues~~ Nov. 24	.94

(15)

TUE APR. 27	.83
MON MAY 3	.83
THUR MAY 13	.82
MON MAY 17	.81
Sat. June 5	.77
MON JUNE 14	.75
Thurs. June 17	.75
MON June 21	.75
Mon June 28	.75

(71)

(18)

(71)

Tue	Aug. 17	.70
Thur	Aug. 19	.70
Fri	20	.70
Sun	22	.70
Mon	23	.70
Sat	28	.70-
Mon	30	.70
Tue	SEPT 7	.68
Fri	SEPT 10	.68
Sun	12	.68
Tue	14	.68
Wed	15	.66
Thur	16	.66
Mon	20	.66
Sun	26	.64
Mon	27	.63

(20)

Thur	10-24-71	.71
FRI.	10-29	.70
SAT.	10-30	.70
Sun	31	.70
Tue	11-2	.70
WED.	11-3	.70
Wed	11-10	.70
Sun	11-14-71	.70
SAT	11-20	.71
Tue	11-23	.70
Tue	12-1	.71
SAT	12-11	.76
SUN	12-12	.77
WED	12-15	.88
SAT	12-18	.83
SUN	12-19-71	.85
TUE	(21-21-71)	.85

(17)

Fri	July 30	.69
Sun	Aug 1	.69
Mon	" 2	.69
Tue	Aug 3	.68
Wed.	Aug 4	.68
Th.	Aug. 5	.68
Fri	Aug 6 (rain)	.68
Sat	Aug. 7	.69
Sun	Aug 8	.69
Mon	9	.69
Tue	10	.69
Wed	11	.69
Thur.	12	.69
Sat	14	.69
Sun	15	.70+
MON	16	.70

(71)

(19)

(71)

Wed	9-29	.64
Mon	10-4	.65
Tue	10-5	.67
Wed	10-6	.66
Thur	-7	.66
FRI.	8	.66
Sun	-10	.66
Mon	11	.67
WED	13	.68
Sat	16	.68
Tue	19	.67
Wed	20	.68
THUR	21	.69
SAT	23	.70
MON	25	.71
WED	27	.71

(22)		
MON	5-1	.84
SUN	5-21	.85
Mon	5-29	.84
Mon	6-12	.81
Sat	6-17	.80
Sat	6-24	.77
Mon	6-26	.78
Tue	7-11	.76

(24)		
10-10-72		.52
10-16-72		.47
10-22-72		.54
10-24-72		.14
11-2-72		.75
11-5-72		.77
11-13-72		.83
11-26-72		.87
1-8-73		.89
1-16-73		.89
2-4		.90
2-6		.91
2-13		.95
2-16		.98
2-25		.97
3-4		.97
3-6		.99

(21)		
MON	12/27/71	.86
THUR	12-30-71	.87
Thur	1-6-72	.88
Sun	1-9-72	.88
SAT	1-15	.88
SAT	1-22	.88
Mon	1-24-72	.88
SAT	1-29	.88
THUR	2-8	.88
Sun	2-13	.87
Sun	2-20	.86
Sun	2-27	.87
Mon	3-6	.88
Tue	3-21	.86
Mon	4-4	.81
Mon	4-10	.82
PH	4-17	.82

(23)		
7-15-72		.74
7-21		.73
7-24		.73
7-28		.72
7/30		.73
8/5		.71
8-7		.70
8-14		.72
8-22		.70
8-31		.68
9-11		.67
9-19		.64
9-23		.64
9-25		.62

WATER SYSTEM DATA

*Antelope Springs*Area Platt National Park Recorded by C.T. Othmer Date 8/21/72
Mo. Da. Yr.

1. Name of System: Stream systems
2. Location: State Oklahoma County Murray General Area Sulphur
3. General Description: Rock Creek, Travertine Creek, Springs flowing into creeks.
(Type of System, Use, Sources, Capacity, etc.)

(Bromide, Medicine & Black Sulphur Springs are included in Mineral Water Systems)

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

Permit No. None Docket No. None 2 Remarks: _____see addenda
(e.g. see addendum)

5. Sources of Supply: No./Type of Sources see addendum for source data
(Use Addendums for Source Data)

- (NA) 6. Storage: No. of Storage Sites _____

*Storage Data #1: Location: Latitude / / Longitude / /
(Deg. Min. Sec.) (Deg. Min. Sec.)

Other Location Descriptions: _____

Type Storage _____
(Pneumatic, Elevated, Underground, Ground Level, etc.)Pressure Setting _____ Type Construction _____
(If Pneumatic)

Capacity _____ gal. Inlet Size _____ in. Outlet Size _____ in.

Remarks: _____

*Storage Data #2: Location: Latitude / / Longitude / /
(Deg. Min. Sec.) (Deg. Min. Sec.)

Other Location Descriptions: _____

Type Storage _____
(Pneumatic, Elevated, Underground, Ground Level, etc.)Pressure Setting _____ Type Construction _____
(If Pneumatic)

Capacity _____ gal. Inlet Size _____ in. Outlet Size _____ in.

Remarks: _____

- (NA) 7. Distribution: Residences _____ Trailers _____

Drinking Fountains _____ Fire Hydrants _____ Other _____

8. Vendome Well	Latitude	34°30'20" N	longitude	96°58'22" W	(Indian
Buffalo Springs	"	34°30' 9" N	"	96°56'20" W	Meridian)
Antelope Springs	"	34°30'17" N	"	96°56'28" W	
Travertine Creek joins Rock Creek	"	34°30'14" N	"	96°58'16" W	
Rock Creek enters Park	"	34°30'29" N	"	96°58'28" W	
Rock Creek leaves Park	"	34°29'35" N	"	96°59'24" W	

ADDENDUM FOR SOURCE DATA

N/A

Source No./Names _____

Power Source _____ Motor: Make _____ HP _____
(Electric, Gas, Generator)

RPM _____ Type _____ Phase _____ Cycles _____

Pump Housing: Type Const. _____; Size x x _____
(Walls) (Roof) (W x L x H)

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

Manual _____

Other _____
(Explain)

History: (Vendome Well)
Driller or Construction Co. _____ unknown _____
(Name) (Address)

Date Drilled: / / 1922 Pump Intake Setting NA ft.
Mo.Da.Yr.

Method Drilled: _____ unknown _____
(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 NA ft. Q at Specified Drawdown _____

Method of Measurement:

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

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

Remarks: 1) see addendum: Legal considerations re Vendome Well; 2) _____
(e.g. see addendums for chemical analysis, water usage, etc.)
Flow measured at 2500 gpm 12/1/59; 3) well drilled to depth of 365 ft.;
4) channel to Travertine Creek constructed by CCC in the thirties.

Remarks regarding source data in general: Buffalo Springs, Antelope Springs and Vendome Well are the principal contributors to Travertine Creek which feeds into Rock Creek as it flows through the Park boundaries. All three sources are artesian. Vendome averages approx. 2500 gpm. Buffalo and Antelope Springs vary between 0 and 2500 gpm.

ANALYST John Thompson

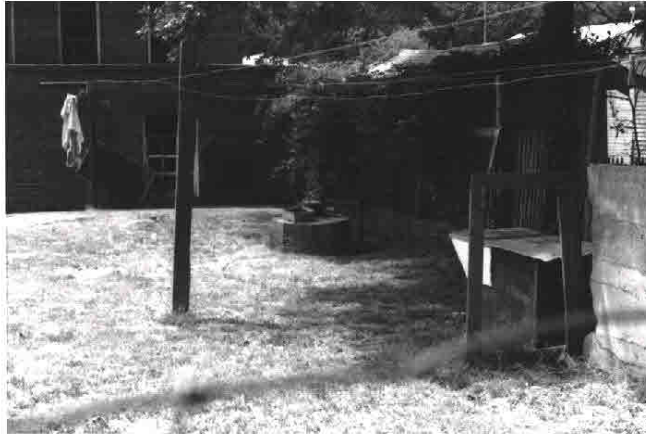
notes from Gould & Schoff - 1939 -

- 1) They think the mineral (bromide + medicine) springs have same origin as the sulphur springs.
- 2) There are no analyses of the sulphur springs - only the medicine + bromide
 → Gould (1939) gives short anal. of BIG TOM as Cl⁻ 482, Na 269, Ca 86, Mg 35, K 24 Pt
 mineral spg. concs about 2000 ppm Cl⁻.
- 3) They say sulphur springs flow only 5 or 6 much ~~as~~ in 1939 as in 1906!! i.e., less intake of H₂O There is being taken out by wells + springs.
- 4) They say:
 - A. fresh water from Portotoe
 - B. mineral (all) water from Simpson.
- 5) They do not explain in detail the antelope, Buffet + other fresh H₂O springs as usually where water table hits surface.
- 6) They do not mention mixing of ~~H₂O~~ H₂S w/ with the brine.
- 7) They relate fluctuations of springs to rainfall - especially fresh water springs.
- 8) They say in course of time both springs + wells will cease.

Metals(cont.)								
wt. % of								
residue								
Silicon	1	2	3	4	5	6	7	8
	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

COMPOSITION OF SPRING AND WELL WATER IN PLATT NATIONAL PARK								
<u>Halides</u> Wt. % of total Sam.	<u>Buffalo</u> <u>Springs</u>	<u>Antelope</u> <u>Springs</u>	<u>Sulphur</u> <u>Pool</u>	<u>Black</u> <u>Sulphur</u>	<u>Pavillion</u> <u>Springs</u>	<u>Sulphur</u> <u>Springs</u>	<u>Bromide</u> <u>Springs</u>	<u>Medicine</u> <u>Springs</u>
Chloride	0.0050	0.0099	0.0534	----	0.0155	0.0876	0.2270	0.2170
Bromide	0.0000	0.0000	0.0030	0.003	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
<u>Metals</u> 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.

PHOTOGRAPHIC ADDENDUM FOR PLATT NATIONAL PARK



JACK DIAMOND WELL

PHOTOGRAPHIC ADDENDUM FOR PLATT NATIONAL PARK



ANTELOPE SPRINGS

PHOTOGRAPHIC ADDENDUM FOR PLATT NATIONAL PARK



ANTELOPE SPRINGS

Docket Information

Number of Documents in Docket 32

Documents Dated from 10/15/1963 to 9/11/1995

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