



WATER-RIGHT DOCKET

Carlsbad Caverns National Park

Docket No: 5

OTHER SPRINGS AND SEEPS

Supporting Hydro Data

00-00-0000: water docket information

WATER DOCKET INFORMATION

A R E A CARLSBAD CAVERNS NATIONAL PARK

DOCKET NO. 5

APPLICATION NO. _____

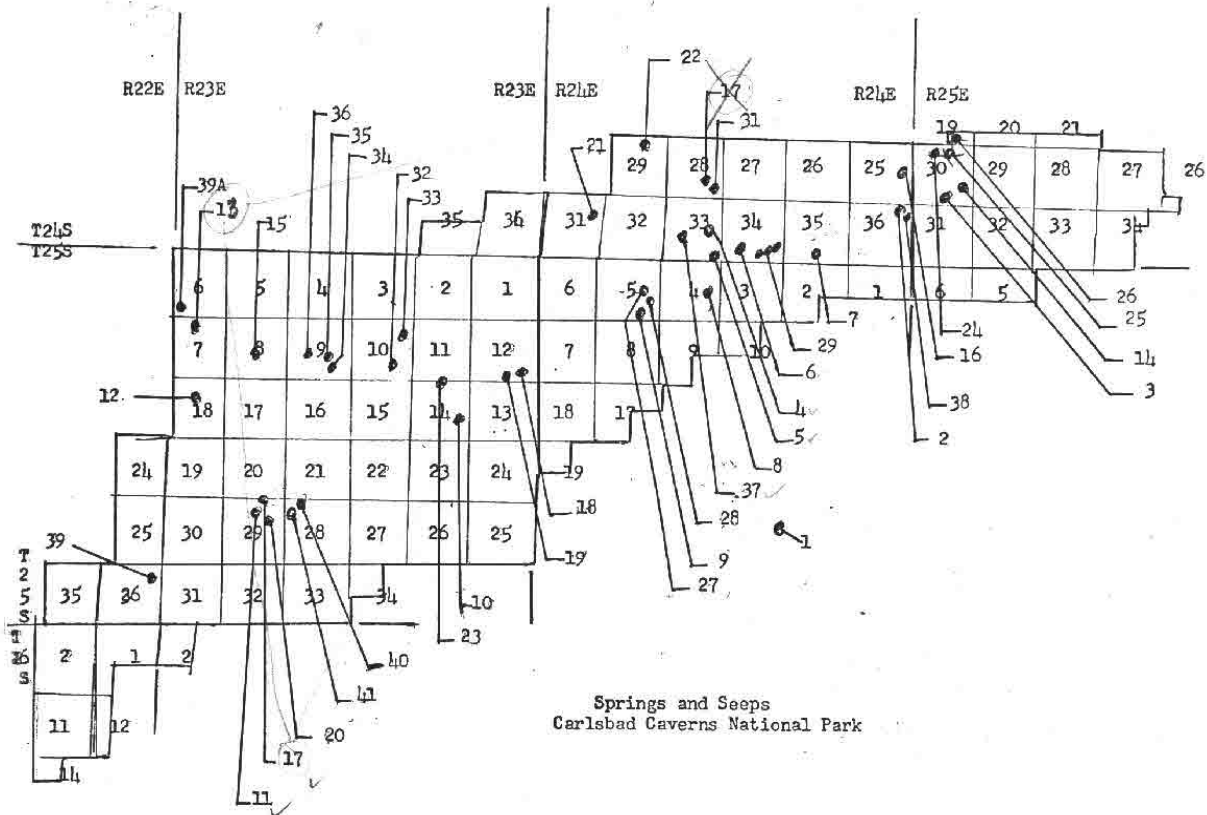
PERMIT NO. _____

CERTIFICATE NO. _____

TITLE OF DOCKET OTHER SPRINGS AND SEEPS
LOCATED IN CACA AREA

PRIORITY _____

REMARKS: _____



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COPY

CARLSBAD CAVERNS D. 11
IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO

UNITED STATES OF AMERICA,	)
	)
Plaintiff:	)
	)
vs:	)
	)
320 Acres of Land, more or less,	)
situate in Eddy County, State of	)
New Mexico;	)
Alma J. Lowe;	)
John E. Lowe, also known as	)
J. E. Lowe;	)
Ernest E. Scoggin and	)
Elizabeth M. Scoggin, his wife;	)
E. A. Forbes;	)
Frank Cook;	)
H. F. Becker;	)
Helen E. Forbes;	)
Guy Holiday;	)
William B. Ricker;	)
C. E. Seilinger;	)
Robert Schumaker;	)
T. A. Rayson;	)
Vivian Nation;	)
Villa Judy;	)
Charles G. Veberg;	)
F. A. Swan;	)
J. G. Pringle;	)
Joe Benton;	)
Fred Joanes;	)
G. J. Deffner;	)
G. C. Banagy;	)
Inga Johnson;	)
Ella Van Huff;	)
M. L. Baker;	)
Faye Furnish;	)
S. A. Neilson;	)
Helen L. Kistler;	)
Mabel L. Baker;	)
H. D. Olsen;	)
County Treasurer, Eddy County,	)
New Mexico; and ALL UNKNOWN OWNERS	)
OF OR CLAIMANTS OF INTEREST IN THE	)
LANDS HEREIN DESCRIBED,	)
Defendants.	)

No. 1672

Civil Action

PETITION

Comes now the United States of America, a sovereign, by its attorneys Everett M. Grantham, United States Attorney for the District of New Mexico, and William B. Robinson, Special Assistant to the Attorney General, and Lorenzo A. Chavez, Special Attorney, Lands Division, Department of Justice, acting under the instructions of the Attorney General of the United States of America and at the request of Oscar L. Chapman, Secretary of the Interior of the United States of America, and respectfully shows to the Court:

I

That this is a suit of a civil nature brought by the above named plaintiff under the authority of and pursuant to the provisions of the Act of Congress of August 1, 1888 (25 Stat. 357, 40 U.S.C., 1946 ed., Section 257) and pursuant to the Act of May 14, 1930 (46 Stat. 279, 16 U.S.C., 1946 ed., Sections 407 et seq.) and Acts supplementary thereto and amendatory thereof, and that funds have been appropriated by the Interior Department Appropriation Act of 1949 (Public Law 841, 80th Congress) to pay whatever sums may ultimately be awarded and adjudged in this proceeding as just compensation, together with damages, if any, incident to the taking and condemnation thereof.

II

That the Secretary of the Interior has found and determined that it is necessary and advantageous to the interests of the United States that certain lands situate in the County of Eddy, State of

New Mexico, hereinafter described, be acquired in connection with the administration, protection and development of Carlsbad National Park, Eddy County, New Mexico.

III

That the plaintiff intends and seeks to take, acquire and condemn by this proceeding the fee simple title, subject, however, to existing easements for public roads and public utilities, to certain lands in said Eddy County, New Mexico, which lands are described as follows:

The West Half of the Southeast Quarter ($W\frac{1}{2}SE\frac{1}{4}$) and the Northeast Quarter of the Southeast Quarter ($NE\frac{1}{4}SE\frac{1}{4}$) of Section Thirty-three (33); the North Half of the South Half ($N\frac{1}{2}S\frac{1}{2}$) and the Southeast Quarter of the Northeast Quarter ($SE\frac{1}{4}NE\frac{1}{4}$) of Section Thirty-four (34), Township Twenty-four (24) South, Range Twenty-four (24) East, New Mexico Principal Meridian.

all in Eddy County, New Mexico.

IV

That a plat of said lands is filed in this proceeding and marked Exhibit A and herewith made a part of this petition by reference thereto.

V

That the purpose for which the plaintiff is taking and condemning said lands constitutes a public use.

VI

The the owner or owners of said lands and claimants of mineral or other interests therein and their last known addresses follow:

<u>Claimants</u>	<u>Addresses</u>
Alma J. Lowe	Carlsbad, New Mexico
John E. Lowe, also known as J. E. Lowe	Carlsbad, New Mexico
Ernest E. Scoggin	Artesia, New Mexico
Elizabeth M. Scoggin	Artesia, New Mexico
E. A. Forbes	Unknown
Frank Cook	Unknown
H. F. Becker	Unknown
Helen E. Forbes	Unknown
Guy Holliday	Unknown
William B. Ricker	Unknown
C. E. Seilinger	Unknown
Robert Schumaker	Unknown
T. A. Rayson	Unknown
Vivian Nation	Unknown
Villa Judy	Unknown
Charles G. Veberg	Unknown
F. A. Swan	Unknown
J. G. Pringle	Unknown
Joe Benton	Unknown
Fred Joanes	Unknown
G. J. Deffner	Unknown
G. G. Banagy	Unknown
Inga Johnson	Unknown
Ella Van Huff	Unknown
M. L. Baker	Unknown

<u>Claimants</u>	<u>Addresses</u>
Faye Furnish	Unknown
S. A. Neilson	Unknown
Helen L. Kistler	Unknown
Mabel L. Baker	Unknown
H. D. Olsen	Unknown
County Treasurer, Eddy County, New Mexico	Carlsbad, New Mexico

VII

That plaintiff is credibly informed and believes that there may be other persons who have been made defendants herein by the name and style of ALL UNKNOWN OWNERS OF OR CLAIMANTS OF INTEREST IN THE LANDS HEREIN DESCRIBED, who may make some claim to said land or mineral interests in, on and under said lands herein described, and that said owners or claimants are unknown and are made defendants herein to the end that they may appear, plead and defend in like manner as if named herein.

VIII

WHEREFORE, the premises considered and to the end that all and singular the lands described in this petition and hereby sought to be taken may be acquired by the United States by condemnation in accordance with the several Statutes and Acts of Congress in such case made and provided, plaintiff prays this honorable court:

1. To take jurisdiction of this proceeding and to make and enter all such orders, judgments and decrees as may be necessary.
2. That the Court appoint three disinterested freeholders as commissioners to assess the damages and determine all the damages

that may accrue to the defendants by reason of the condemnation of said fee simple title and mineral interests, and to assess such damages against the plaintiff herein.

3. That the Court make and enter an order and decree of condemnation for the fee simple title to the lands described in this petition, vesting title thereto and to all oil, gas and other mineral interests in, on and under said lands, in the United States of America for the uses and purposes hereinbefore set out.

4. That the Court grant such other and further relief as the nature of the case may require.

UNITED STATES OF AMERICA

By s/Everett M. Grantham WBR
United States Attorney
District of New Mexico
Albuquerque, New Mexico

By s/William B. Robinson
Special Assistant to the
Attorney General
Lands Division
Department of Justice

AFFIDAVIT

STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

William B. Robinson, being first duly sworn, upon oath
deposes and says that he is Special Assistant to the Attorney
General, Lands Division, and one of the attorneys for the plaintiff
in the foregoing cause; that he has read the foregoing petition and
knows the contents thereof; that the same is true upon information
and belief.

s/William B. Robinson
William B. Robinson

SUBSCRIBED AND SWORN TO before me this 11th day of May
1950.

s/Maurice Sanchez
Notary Public

(SEAL)

My commission expires:
12/13/50

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO

F I L E D
SEP 7 1951
WM. D. BRIARS
CLERK

UNITED STATES OF AMERICA	)	
	)	
Plaintiff,	)	
vs.	)	No. 1672
	)	
320 Acres of Land, more or less,)	)	Civil Action
situate in Eddy County, State of)	)	
New Mexico; Alan J. Lowe, et al.)	)	
	)	
Defendants	)	

FINAL JUDGMENT

The above entitled matter coming on to be heard upon the motion of the plaintiff for a final judgment in said motion and the court being fully advised finds that said motion should be sustained and the court further finds:

1. That upon the 13th day of July, 1951, the commissioners heretofore appointed by this court filed in the Clerk's office their report covering the damages to the condemnees, such condemnees being the owners of record of the lands included in the proceeding.
2. That no exceptions were filed to the report of commissioners within the time allowed by law and that on the 16th day of August 1951, this Honorable Court entered an order in said proceeding approving such commissioners' report.
3. That although more than twenty (20) days have elapsed since the entering of the order approving such commissioners' report, no demand for a jury trial had been filed either by the plaintiff or any of the condemnees.
4. That upon the date of the institution of said action Ernest E. Scoggin and Elizabeth M. Scoggin were the record owners

of the lands described in the petition, together with a one-half interest in the minerals appurtenant to said lands, and that at the time of the institution of said action the said lands and mineral interests were encumbered by a real estate mortgage in the principal amount of \$3000.00 securing a promissory note in a like amount dated November 24, 1948, bearing interest at the rate of six per cent (6%) per annum, and providing further that if said note was not paid at maturity, the makers thereof agreed and bound themselves to pay ten per cent (10%) of the unpaid principal and interest as attorney's fees; and that no part of said indebtedness has been paid and that the defendants, Ernest E. Scoggin and Elizabeth M. Scoggin, his wife, have filed in said cause of action a pleading designated as a motion admitting that the entire amount of principal and interest above described is due and unpaid and have consented that from any award made in favor of the said Ernest E. Scoggin and Elizabeth M. Scoggin, his wife, the court shall direct the full payment of said indebtedness to said John E. Lowe and Alma J. Lowe, his wife.

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED that the condemnees, Ernest E. Scoggin and Elizabeth M. Scoggin, his wife, shall have and recover judgment against the plaintiff, United States of America, in the amount of \$4,720.00 as just compensation for the taking in condemnation of the rights of the above condemnees in the following described land, situate in Eddy County, State of New Mexico, to-wit:

The west half of the southeast quarter ($W\frac{1}{2}SE\frac{1}{4}$) and the northeast quarter of the southeast quarter ($NE\frac{1}{4}SE\frac{1}{4}$) of Section Thirty-three (33); the north half of the south half ($N\frac{1}{2}S\frac{1}{2}$) and the southeast quarter of the northeast quarter ($SE\frac{1}{4}NE\frac{1}{4}$) of Section Thirty-four (34), Township Twenty-four (24) South, Range Twenty-four (24) East, New Mexico Principal Meridian.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED That the condemnees, J. E. Lowe and Alma J. Lowe, his wife, shall have and recover judgment against the plaintiff in the amount of \$320.00 as full compensation for the taking of the one-half interest in the mineral rights under the lands hereinabove described.

IT IS FURTHER ORDERED AND ADJUDGED that the defendants, or condemnees, E. A. Forbes, Frank Cook, H. F. Becker, Helen E. Forbes, Guy Holiday, William B. Ricker, C. E. Seilinger, Robert Schumaker, T. A. Rayson, Vivian Nation, Villa Judy, Charles G. Veberg, F. A. Swan, J. G. Pringle, Joe Benton, Fred Joanes, G. J. Deffner, G. G. Banagy, Inga Johnson, Ella Van Huff, M. L. Baker, Faye Furnish, S. A. Neilson, Helen L. Kistler, Mabel L. Baker and H. D. Olsen, being the former owners or claimants to certain unpatented placer claims within the area of the lands hereinabove described have and recover nothing against the plaintiff, United States of America, by reason of or on account of such unpatented placer mining claims.

IT IS FURTHER ORDERED that out of the monies to be deposited into the registry of the court in satisfaction of the judgment hereby granted that the defendants or condemnees, John E. Lowe and Alma J. Lowe, his wife, are entitled to receive the sum of \$3000.00 with interest at six per cent (6%) thereon from November 24, 1948 to the date of this judgment, and that in

addition to said sum together with interest the said condemnees, John E. Lowe and Alma J. Lowe, his wife, are entitled to receive ten per cent (10%) of the principal and interest due on said sum of \$3000.00 by way of attorney's fees.

IT IS FURTHER ORDERED THAT THE United State of America shall deposit into the registry of this court the sum of \$5040.00 in satisfaction of the judgment hereby granted, and that when this is done fee simple title shall vest in the plaintiff.

IT IS FURTHER ORDERED that whenever the amount of the judgment hereby granted shall be deposited into the registry of the court, that the Clerk of the court shall issue his registry check in favor of Ernest E. Scoggin and Elizabeth M. Scoggin, his wife, in the amount of \$809.00, and that he also issue his registry check in the amount of \$4,231.00, in favor of the defendants, John E. Lowe and Alma J. Lowe, his wife, and that he mail said checks to Caswell S. Neal, their attorney of record, Carlsbad, New Mexico.

DONE at Albuquerque, New Mexico, this 7th day of September, 1951.

CARL A. HATCH
UNITED STATES DISTRICT JUDGE

OFFICE OF THE ATTORNEY GENERAL

WASHINGTON, D. C.

December 22, 1952

Honorable Oscar L. Chapman
Secretary of the Interior
Washington 25, D. C.

My dear Mr. Secretary:

I have examined the abstracts of title, transcript of record and other related papers in the condemnation proceeding entitled United States of America v. 320 Acres of Land, more or less, situate in Eddy County, State of New Mexico; Alma J. Lowe, et al., Civil Action No. 1672, in the United States District Court for the District of New Mexico, for use in connection with the Carlsbad Caverns National Park Project.

The abstracts of title prepared by The Eddy County Abstract Company, Nos. 15734 and 19534, are in satisfactory form.

The judgment dated September 7, 1951, awarded the sum of \$5,040.00 as the just compensation for the land which amount was deposited into the registry of the court in satisfaction of the judgment.

I am of the opinion that the proceeding has been regularly conducted and that a valid title to the land is vested in the United States of America, subject to existing easements for public roads and highways, public utilities, railways and pipe lines.

A certified copy of the final judgment was forwarded to your Department on September 19, 1951.

Enclosed are the abstracts of title and the certificate of the clerk showing the deposit of the award into the registry of the court.

Sincerely yours,

s/James P. McGranery
Attorney General

A REPORT ON PERMANENT SPRINGS OF CARLSBAD CAVERNS NATIONAL PARK

by JOHN M. GOOD

Introduction:

The field work for this report was done during the winter and spring of 1953. It was believed that this time of year would be best because the permanent springs would be at their lowest rates of flow and the ephemeral ones would be dry, the previous year having been deficient in rainfall. No significant rains fell during the field work. Work was definitely of a reconnaissance nature as only those springs shown on topographic maps were investigated.

Purpose of Investigation:

The main purpose of this investigation was to determine whether or not these springs could be depended upon to furnish a permanent supply of drinking water for emergency use during the course of back country patrols or in the case of local fires. The secondary purpose was to decide whether any of these springs could furnish enough water for campsites in the event any should be established in the back country.

Summary of Results:

Two of the springs investigated should prove to be excellent sources of water for both men and stock. The better of these is located in the center of Sec. 29, T25S, R23E, overlooking West Slaughter Canyon. The rate of flow into the spring basin was measured in excess of ten gallons per hour on May 7, 1953. Deer water here but no signs of use by stock were seen in two visits.

The other important spring is located in NE $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 5, T25S, R24E, on the west wall of Rattlesnake Canyon near the Stone Ranch. In the latter part of January, 1953, the flow of this spring was estimated to exceed ten gallons per hour. The water was trapped in a concrete tank of 5000 gallon capacity or more. Deer and smaller animals use this tank but there were no signs of domestic stock. Doubt that the above rate of flow is permanent was stated by James Eden who noticed the water level in the tank had dropped considerably by the end of May.

Each of the springs is discussed in the following section and their locations plotted on the map that accompanies this report.

Description of Springs:

Section 29, T25S, R23E. - Center of section. Water flows from a fifteen foot zone of brecciated sandy limestone about 100 yards south of the pool. Water flows from spring to pool through a galvanized iron pipe. The pool is about thirty feet long, eight wide, and up to one foot in depth. Some of the water flows over the rock ledges immediately below the spring and is lost. The area contributing ground water to this spring is large and I do not think there is much chance of its going dry. The limestones overlying the aquifer do not contain large open joints; the aquifer is sandy and perhaps contains some silt; no signs of stock were seen near the spring or on the plateau above. These factors combine to make the chances of pollution rather small. No work is needed to improve or maintain this spring.

SE¹/₄, NE¹/₄, Sec. 29 - A seep was noted here in May that was not present in January. Flow is small, less than one gallon per hour.

Section 12, T25S, R23E. - Three springs are shown on the topographic map but none were located although every effort was made to do so. It can only be concluded that these are ephemeral at best and could not be given consideration as a permanent source of water.

Section 14, T25S, R23E. - In SE¹/₄, NE¹/₄, Sec. 14 is a small spring that furnished water for the Clement Ranch in Slaughter Canyon. The spring lies beneath massive limestone beds and flows from a ledge of sandy conglomerate. The flow was estimated to be between one and two gallons per hour. There was no catch basin at the spring and hence no water was being impounded. The risk of pollution is small because of the inaccessability of the spring. This spring would provide enough water for one or two men. In spite of the difficulty in reaching this spring, a glance at the map shows its importance in cases of emergency. It is the only known source of permanent water in an area of about twenty square miles, excepting New Cave. In the case of a fire east of Slaughter Canyon and west of theattlesnake drainage, it might save one or two men a lot of climbing. Because of its importance I feel that a small catch basin should be dug here and the edges reinforced by rock. This task could be accomplished by one man in a day's work very easily, using the materials at hand.

Section 33, T24S, R24E. - In SW $\frac{1}{4}$, SW $\frac{1}{4}$ of the section is found a spring flowing from small holes in the upper part of a sandy zone. The rate of flow was low, less than one gallon per hour, but there was much evidence to suggest that flows were normally larger. It seems unlikely that this spring could be considered safe from pollution. The ledge of limestone above the aquifer is about six feet thick and joints in it are open. Horses water here frequently.

The spring behind the ranch house near the center of the section is not a permanent one.

An unmarked spring was discovered in a ravine on the line between sections 33 and 34 by James Eden and myself. The spring seeps into the floor of the ravine at an estimated flow of one gallon per hour. The ravine could easily be dammed to form a catch basin. If permanent this spring would probably be the best source of water hereabouts as there was no evidence of use by domestic stock. Much grass grows around the spring as do many madrone trees thus making the area a scenic one.

Section 36, T24S, R24E, - In the NE $\frac{1}{4}$ of this section is found a beautiful little spring surrounded by oaks but of no importance in this report because of its proximity to Headquarters.

Conclusions and Recommendations:

From the study of these springs in Carlsbad Caverns National Park it is concluded that no permanent springs will be found in the Capitan limestone. The reason being that this great

thickness of carbonate rock contains no aquifers nor any impermeable zones that might be expected to cause the local development of a perched water table. Any subsurface water in this formation is probably quickly conducted down to underlying beds through well developed joints. This theory is not too important because most of the highland area of the park lies behind the reef in the Tansill and Yates formations where different conditions of sedimentation prevailed.

The waters of all springs, discovered and undiscovered, should be free from contamination by gypsum. Animal pollution is the only source of contamination considered dangerous and this danger is probably limited to those springs found at lower elevations and that are easily reached by domestic stock.

It is believed that the springs in the northwest part of the park should be examined in the same manner as those described in this report. The description of those northwestern springs was omitted from this report because the writer was transferred before getting a chance to see them.

Should anyone chance to visit any of these springs at a future date it would be a good idea to estimate rates of flow and catch basin conditions. In such manner a backlog of data could be compiled as to the permanency of the springs.

Some sort of a catch basin should be constructed at the spring in Section 14, T25S, R23E.

None of the springs described in this report are considered large enough to furnish sufficient water for public campgrounds.

OK

OK

OK

OK

OK

NUMBER: 2
 NAME: Oak springs
 LOCATION: R: 24 E T: 24S S: 36, NW $\frac{1}{4}$, NW $\frac{1}{4}$ ^{NE 1/4 sec 16}
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT x INTERMITTENT
 PREVIOUS USE: Originally water for guano mining. First supply for CACA.

IMPROVEMENTS: DATE-----1930
 TYPE-----Water tanks and pumping system.
 BY WHOM-----NPS.

HISTORY: First used as guano mining water. Previously used for livestock. Water rights of NPS released. Could not fill tanks in 1930 due to drought. Old fence wire removed in September, 1970.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
11-30-69	5	Heying	
11-10-60	65	McLenore	
1-1963	30	Reisch	
1931	307	Supt. Mo. Report.	
1932	126	Supt. Mo. Report.	
10-10-68	2	HEYING-ARRESTROG	
9-10-70	31	Heying-Burkham	
Jan 1979	77	SUP. Mo. REPORT	

NUMBER: 3
 NAME: Big Hill Seep
 LOCATION: R: 25E T: 24S S:30 NE $\frac{1}{4}$, SW $\frac{1}{4}$ 7
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT x INTERMITTENT _____
 PREVIOUS USE: Wildlife

IMPROVEMENTS: DATE----- About 1935
 TYPE----- Road cut put in
 BY WHOM----- NPS

HISTORY: At one time, after road was put in, this spring furnished drinking water and radiator water for visitors coming to the Caverns. Development was done by CCC. This water facilities was removed by NPS personnel in 1963. It is now just a seep on the West side of the road.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
10-10-60	7	McLemore	
9-30-69	2	Heying	
7-9-70	2 $\frac{1}{2}$	Heying-Burkham	
9-10-70	2	Heying-Burkham	
1-10-71	frozen	Turner	Approx 13 inch thick ice Photo.
9-12-71	2 $\frac{1}{2}$	TURNER	

NUMBER: 4
 NAME: Lowe Ranch Spring
 LOCATION: R: 24E T: 24S S: 33 NW^{SE 4}₄, SW₄, SE₄
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT ☒ INTERMITTENT ☐
 PREVIOUS USE: Wildlife, domestic, water for livestock.

IMPROVEMENTS: DATE----- 30' metal pipe, metal tub, dry rock tank
 TYPE----- left over from private use.
 BY WHOM----- Lowe.

HISTORY: It is unknown when Lowe's came into the area, but it was during the early 1900's. Acquired by NPS in September 7, 1951, due to court action. The house was of rubble masonry, 14' by 17'. Corral and corrugated sheds for 1000 goats. 1 shed for horses and cattle. These have all been removed.

Old pipe dug out during month of December, 1969. Completed 1-13-70 by Fugate and Heying. New underground 2" pipe relaced old $\frac{1}{2}$ " pipe.

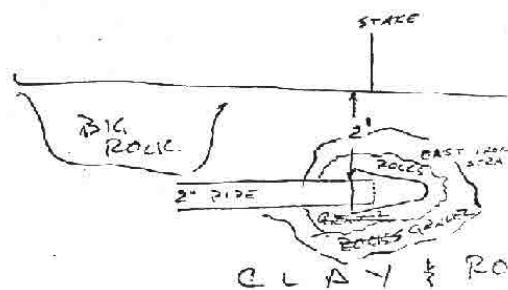
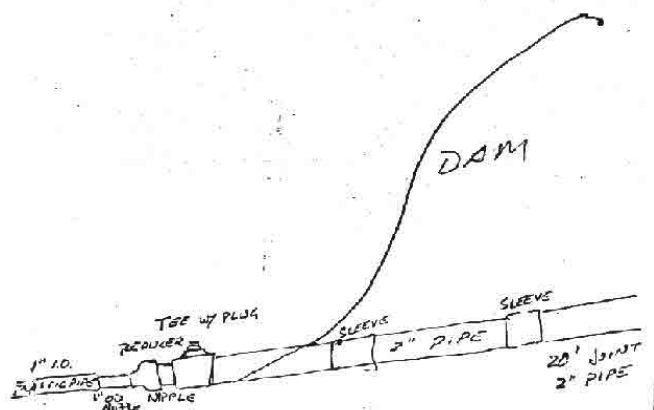
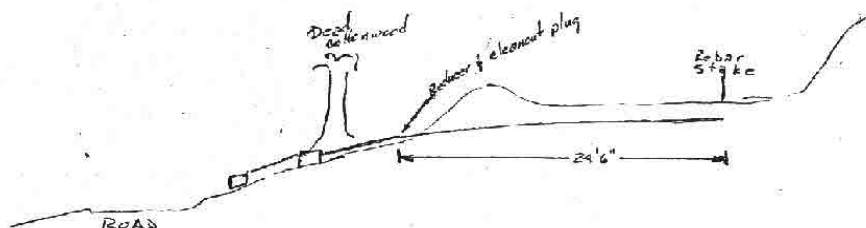
Water piped to small cement tank and metal tank.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
10-10-61	1	Reisch	
11-10-60	3/4	McLemore	
2-63	DRY	Reisch-Gray	
3-13-62	Very low	Reisch	
8-62	DRY	Reisch	
8-21-69	1	Heying	
1-13-70	3	Heying	New pipes completed
1-15-70	4	Heying-Fugate	Full flowage through new pipes.
2-28-70	4	Heying-Fugate	
5-4-70	3 1/2	Heying-Burkham	
4-13-71	3	HEYING	
5-16-71	2	Peterson	Rock Tank not holding water
9-12-71	3/4	TURNER	
8-26-72	dry	Reisch	

LOWE SPRING #4
1-70

LOWE SPRING
1-70



NUMBER: 5
 NAME: Upper Lowe Ranch Seep
 LOCATION: R: 24E T: 24S S: 33 SE $\frac{1}{4}$, SE $\frac{1}{4}$ 7
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☒
 PREVIOUS USE: Stock watering

IMPROVEMENTS: DATE----?--- Earthen tank
 TYPE-----
 BY WHOM----- Lowe

HISTORY: This was established, with wire pens, for goat ranching prior to 1951. The Lowes put this in. Remains of old fence and pen still exist (1-22970). Fence removed in July, 1970.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
11-22-61	level low	Reisch	
5-12-62	" "	"	
2-1963	" "	"	
5-4-70	5	Heying-Burkham	
7-10-70	1	BURKHAM	

[illegible]

[illegible]

NUMBER: 8
 NAME: ----- none
 LOCATION: R: 24E T: 25S S: 4 NE 1/4 NW 1/4
 DRAINAGE: Rattlesnake Canyon
 TYPE OF FLOW: PERMANENT ☒ INTERMITTENT ☒
 PREVIOUS USE: Stray goats and livestock.
 IMPROVEMENTS: DATE----- 1957.
 TYPE----- 3 small check dams.
 BY WHOM----- O'Neal and Patterson.

HISTORY: March 12, 1962 Reisch cleaned out the three check dams,
 Water level up to top of each dam. Did some cement work
 on tank in July of 1962--Reisch and Sufferage.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
3-12-62	/ ?	Reisch	Water at top of dam.
July 1962	DRY/	Reisch-Sufferage	Dry
Feb. 1963	/ ?	Gray-Reisch	Water to top of dam.
Aug. 1969	Dry	Heying-Wardlaw	Dams washed out-gone.
JAN. 20, 1972	6 GPH	HEYING	STREAM BED WET FOR 100'

NUMBER: 9
 NAME: Stone Ranch Spring
 LOCATION: R: 24E T: 25S S: NW $\frac{1}{4}$ SE $\frac{1}{4}$ S5
 DRAINAGE: Rattlesnake Canyon
 TYPE OF FLOW: PERMANENT ☒ INTERMITTENT ☐
 PREVIOUS USE: Domestic, goats, horses.

IMPROVEMENTS: DATE----- 5000 gal. holding tank installed 1918.
 TYPE----- Cement, with drinking cement trough at base.
 BY WHOM----- A Mr. Stone.

HISTORY: Homestead first by Jim White who did not prove up on it. Mr. Stone took over and by 1918 had the house, corrals, garden, and cement work at the Spring finished. Water was eventually piped down from Spring to cement tank on valley floor by house. House measured 14' X 14'.
 Cement Water tank broken by cottonwood tree falling on it, cleaned out seep hole for animals, Sept. 18, 1961-- Reisch.

Mr. Stone died of apparent pneumonia in house on this property, in 1921. Mrs. Stone moved to Carlsbad and the title went to Arthur THORNTON.

FLOW MEASUREMENTS: J. Mayes, on April 17, 1943. Acquired by NPS in 1965.

DATE	AMT. GPH	RECORDER	COMMENT
9-18-61	15	Reisch	
9-18-69	8	Heying	
9-15-71	9	HEYING	
9-3-71	11	HEYING	

Old corral fences removed in September, 1970.

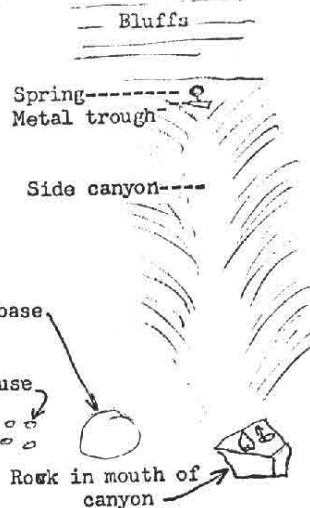
NUMBER: 10
 NAME: Clemond Ranch Seep
 LOCATION: R: 24E T: 25S S: NW $\frac{1}{4}$ SW $\frac{1}{4}$ S14
 DRAINAGE: Slaughter Canyon
 TYPE OF FLOW: PERMANENT INTERMITTENT X
 PREVIOUS USE: Furnished water to Ranch for domestic, livestock use.

IMPROVEMENTS: DATE----- Est. 1906.
 TYPE----- House (gone), corrals (gone) cement base of water tank.
 BY WHOM----- Kip McKinney

HISTORY: Established by Kip McKinney about 1906. Sold to Mr. Clemond about 1916. There was a three room shack, about 12 by 30 feet. Goat corrals near the house. Water piped down from the spring to a metal tank--the base of which still exists. The wood posts upon which the house rested are still in place. Mr. Clemond's first homestead was somewhere in the bottom of Slaughter Canyon below Longview Spring. There is still 20' of water pipe up at the spring. Reisch cleaned out seep, connected pipe to old water tank, March 19 and 20, 1962. Area cleaned up by Fugate and Heying

FLOW MEASUREMENTS: 4m March, 1970.

DATE	AMT. GPH	RECORDER	COMMENT
3-19-62	4-5	Reisch	estimate.
5-8-69	2	Heying	measurement.
4-3-70	4	Heying-Fugate	
9-7-71	1	HEYING	SPRING CLEAN--JUST NOT FLOWING.



CARLSBAD CAVERNS NATIONAL PARK
May 24, 1943.

Memorandum; To Assistant Superintendent;

Report on Reconnaissance Patrol to Trail Canyon Area; Sec. 27, 28, 29
Twp. 25S. Range 23E. Checking on Grazing, General conditions, as, water,
feed, Trespass and vandalism.

Entering area at mouth of Trail Canyon, which lies within S.W. $\frac{1}{4}$ Sec.
27-Twp. 25 S. Range 23 E. and climbing mountain to ridge 1500 or more feet
above flats, and working west along divide between South Slaughter Canyon
and Escarpment.

From this ridge a greater part of the Slaughter Canyon Watershed
can be viewed, and the scenery from this ridge is superb.

Noted the Colwell Estate goats are ranging in this Area, and are
running at large, having no herder, and noted they were scattered, and (5) five
different bunches were seen, one small group of 100 more or less on
flats apparently heading to Ranch for water, Two small groups of 20 more or
less along north slope of S. Slaughter canyon, one group of 100 more or less
at head of Trail in Trail Canyon. and The largest group, 1000 more or less
at the bedding grounds in timbered Area on top of mountain.

Grazing conditions appeared to be fair, brush and trees in full leaf
and other green cover as weeds and vines, Grass still dry.

Noted three watering places, (Seeps along ledges about 300 feet below ¹¹ ²⁰
crown of mountain of north slope, considered water supply as satisfactory. ¹⁷

There is perhaps 80 to 100 acres of timbered land lying in Sec. 28 and
Sec. 29 of this Area, as; scrubby Pine (Ponderosa), Pinion, Alligator bark
Juniper, Oak, and Madrone, Shrubbery, as; Oak Chinery, Cat-Claw, Creosote,
Mesquite, Lecheguilla, Sotol, Cactus and variety of Grass.

Noted Trail leading from this Area down Canyon is accessible for
horses, as evidence shows salt and Herder supplies have been carried in over ~~the~~
this route, however is plenty rough going.

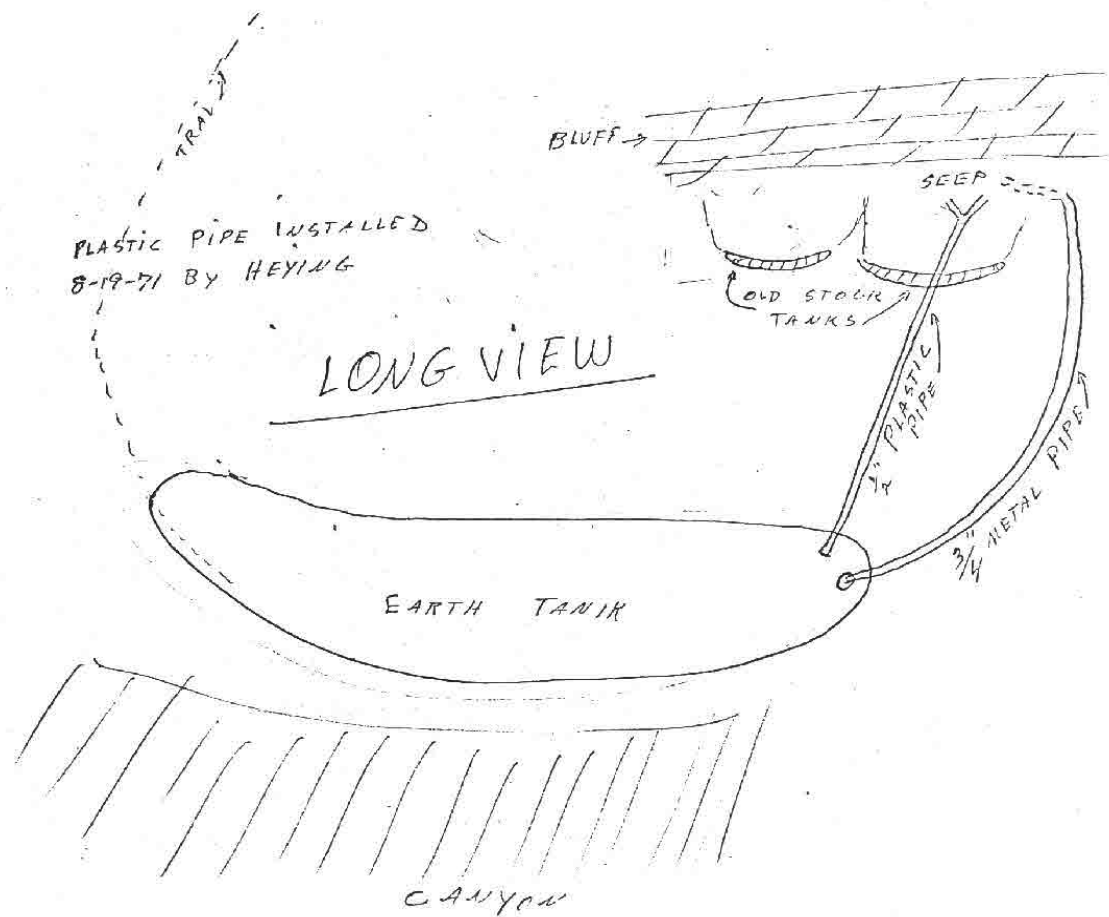
Noted on North slope of Trail Canyon near foot of mountain, a fire
scar of (1) one acre more or less, of recent origin, was probably caused
by lightning. No Apparent damage other than ground cover, as; Grass, brush,
Sotols, and lecheguilla.

Stopped at the Colwell ranch enroute and visited a few minutes with
Arthur Parker, Call was only friendly gesture, no other persons contacted.

(9) Nine hours were spent on this Patrol. (3) Three hours driving to
and from Area visited, (6) Six hours afoot. Intended to visit Painted
Grotto vicinity, Would recommend two or more days be allowed for Patrols
into Back country (of Park Area).

Copy; Ranger File.

Leslie C. Thompson
Ranger.



NUMBER: 11
 NAME: Longview
 LOCATION: R: 23E T: 25S S: Sec 1 NW 1/4 S29
 DRAINAGE: West Slaughter
 TYPE OF FLOW: PERMANENT x INTERMITTENT
 PREVIOUS USE: Goat watering, livestock.

IMPROVEMENTS: DATE----- Ripex Unknown exactly but in 1912-1918
 TYPE----- Pipe from spring to earth tank.
 BY WHOM----- Mr. Nunn and Manley Roberts.

HISTORY: The area was used extensively by goat ranchers.
 The earth tank is 30'x10'x10". Cement tub put under pipe in
 February 1966. Mr. Caldwell did quite a bit of develement
 during the late 1920's and early 1930's.
 Sept. 26, 1961 Reisch-Scott cleaned out drinking hole. Feb. 19 and 20, 1962
 Reisch built up sides of hole with earth and rock. Nov. of 1962 Reisch
 installed metal tub. This was improved with plastic can and cement in
 1965 by O'Neal, Reisch, Heying.

4-27-71--work on spring--pipe cut and spliced back together and
 flowage increased. Surface seep channeled into tank.
 FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
9-26-61	8	O'Neal-Reisch	
2-19-62	4	Reisch	
11-62	2	?	
8-66	10	Kittens	
4-22-69	4	Kittens	estimate.
8-1-69	10	Reisch	
9-24-69	4	Heying	
4-23-70	drip	Heying-Burkham	Pool dry
1-12-71	drip	Heying-Turner	Pool dry, drip so slow will not keep small tank full.
4-27-71	55	Heying-Turner	Pipe cut, spliced back.
8-19-71	6	HEYING	FROM IRON PIPE
8-19-71	7	HEYING	PLASTIC PIPE INSTALLED.
9-13-71	9	HEYING	BOTH PIPES DISCHARGE.
11-22-71	8	HEYING	BOTH PIPES DISCHARGE.

Carlsbad Caverns National Park,
Carlsbad, N. M., Apr. 3, 1942.

Memorandum for Chief Ranger Woodrow:

On March 28 I made a trip to Putnam Canyon in the Northwest corner of the park. This trip was made because no inspection had been made of this area for two years.

This trip was made in the GMC pickup 1040. The Forest Service CCC camp F-137 is the closest one can drive to the park in this vicinity, a distance of exactly fifty miles from the Cavern. This is one mile by section line from the park boundary. From here I walked up Putnam Canyon to the water tank near the head of the canyon.

No stock were seen on the park and no signs were seen of stock watering at Putnam Spring or the temporary watering holes along the canyon. The boundary fence between the Lincoln National Forest and the park is washed out in the canyon bottoms, so when stock are grazing on the forest they could very easily go up the canyons onto the park. No stock were seen on the forest but there will be some at times during the year. About two miles inside the park up Putnam Canyon there is a goat shed of galvanized iron roofing, 30 feet by 75 feet. About three fourths mile further up the canyon is Putnam Spring. This spring has been developed with a painted iron tank, 12 feet in diameter and 16 feet high. There are also two galvanized troughs 8 inches by 14 inches by 8 feet. From what could be observed these improvements would be usable if the pipe lines were cleaned out. This spring is about one half hours travel time from the proposed patrol cabin on the Guadalupe Divide. These improvements are not likely to be removed by the owner as about four miles of road down Putnam Canyon below the spring and tank were completely washed out by last years floods. It is not known who put these improvements on the park, but John Able of Carlsbad, N. M. was grazing goats on this range at the time the Park Service issued the first permits in 1940. He removed his goats from the park shortly afterwards and I do not believe he secured a grazing permit in 1941 or '42.

It is recommended that other trips be made to this corner of the park occasionally to check on grazing trespass, game, and anything else thought necessary. If it is thought advisable to place a man in this vicinity during any or all of the game season or for an overnight trip, accommodations can likely be secured at the CCC camp site through the caretaker and Forest Ranger and good saddle horses can be rented at the John Day ranch, one half mile from the CCC camp.

Clair V. Cooke

Clair V. Cooke,
Park Ranger.

CC Ass't Sup't Diehl.

NUMBER: 12
 NAME: Putnam Tank
 LOCATION: R: 23E T: 25S S: NW $\frac{1}{4}$ S18
 DRAINAGE: Putman Canyon
 TYPE OF FLOW: PERMANENT ☒ INTERMITTENT ____
 PREVIOUS USE: Goats and Domestic

IMPROVEMENTS: DATE----- None. (unknown)
 TYPE----- None originally
 BY WHOM----- ?

HISTORY: Log cabin~~x~~ down stream nearby. Remains of goat shed. NPS
 tin building downstream put in in 1965. ~~x~~ $\frac{1}{2}$ " pipe by spring
 put in by NPS. Old breaking plow near spring. NPS corral by
 tin building. Building no longer used.

4-25-71--The small seep across the floor from the main seep was
 flowing $\frac{1}{2}$ gallon per hour. The seep a few feet down from the main
 seep was flowing 1 gph. A total of 6: $\frac{1}{2}$ gph for all three.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
5-23-62	very low	Weisch	Freezing split metal pipeline.
8-62	8	O'Neal-Weisch	
6-3-69	1 $\frac{1}{2}$	Heying	
7-27-70	5	Heying-Kugate	
4-30-70	6 $\frac{1}{2}$	Heying-Burkham	
4-25-71	5	Heying	

NUMBER: 13
 NAME: Kirkland
 LOCATION: R: 23E T: 25S S: ^{NE 1/4} NW 1/4 S7
 DRAINAGE: Kirkland Canyon
 TYPE OF FLOW: PERMANENT x INTERMITTENT ____
 PREVIOUS USE: Livestock

IMPROVEMENTS: DATE----- ?
 TYPE----- Small earth tank around seep.
 BY WHOM----- ?

HISTORY: Used as stock water. Time put in is unknown. Some $\frac{1}{2}$ pipe
 below spring. Tank holds approx. 30 gallons.

Surface view

side view

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
6-3-69	3	Heying	estimate.
11-30-70	Tank full	Heying-Burkham	No measure taken.
12-14-70	5 GPH.	HEYING-TURNER	ESTIMATE.
11-29-71	TANK FULL	HEYING	
1-11-72	TANK FULL	HEYING	

NUMBER: 14
 NAME: Grammer Seep
 LOCATION: R: 25E T: 24S S: SW $\frac{1}{4}$ NE $\frac{1}{4}$ S30
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT X INTERMITTENT _____
 PREVIOUS USE: Livestock

IMPROVEMENTS: DATE----- ?
 TYPE----- None
 BY WHOM----- Grammer

HISTORY: Small pool of water approx. 2' wide, 6' long, and 1' deep.

The Grammer property was acquired by the NPS on January 20, 1933.
 By donation of the family ~~and parents~~. The gift of the Grammer 40 acres above
 White's City and east of the park was a gift.

On February 28, 1933 the 440 acres, on which the springs are located, were
 acquired by a donated value of \$7500.00 and a purchase price of \$7500.00.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
11-30-69	$\frac{1}{2}$	Heying	
5-3-70	?	Heying-Burkham	Flood washed out basin- basin
7-9-70	NOT MEASURABLE	Heying-Burkham	now about 6" deep x 1 foot across.

ON 7-9-70 HAD 1 $\frac{1}{2}$ GALLONS IN POOL.

NUMBER: 15
NAME: Able Seep
LOCATION: R: 23E T: 25S S: ~~SE~~¹/₄ NW¹/₄ S8
DRAINAGE: Putman Canyon
TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☒
PREVIOUS USE: Wildlife

IMPROVEMENTS: DATE----- ?
TYPE----- ?
BY WHOM----- ?

HISTORY: Used to supply water to Able Goat Camp. Large red metal storage tank.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

NUMBER: 16
 NAME: Kids Spring
 LOCATION: R: 24E T: 24S S: NW $\frac{1}{4}$ S25
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT ☒ INTERMITTENT ☐
 PREVIOUS USE: Stock watering.

IMPROVEMENTS: DATE----- Approx. 1918 to 1920
 TYPE----- Metal tank, $\frac{1}{2}$ " pipe
 BY WHOM----- ?

HISTORY: The water from the spring was piped down to a metal tank about 8 feet in diameter.
 August 1962, cemented check dam in place and connected pipe to small tank--Edmonds and Reisch.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
3-5-62	5	Spangle	
8-1962	8	Reisch	
10-1962	8	Reisch	
9-5-69	8	Heying	Wash tub near spring
1-22-70	20	Heying-Fugate	Cleaned out pipe and tub.

NUMBER: 17
 NAME: Crown Rock (short view).
 LOCATION: R: 23E T: 25S S: 29 NE $\frac{1}{4}$ NW $\frac{1}{4}$
 DRAINAGE: West Slaughter
 TYPE OF FLOW: PERMANENT x INTERMITTENT ____
 PREVIOUS USE: Livestock, goats.

IMPROVEMENTS: DATE----- Approx. 1914
 TYPE----- Earth tank and $\frac{1}{2}$ " pipe to tank.
 BY WHOM----- Nunn

HISTORY: Two seeps, one permanent and one intermittent. In March 27,
 1967 Reisch cleaned out silt and formed a small dam with earth and rock.
 Seeps from ledge.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
3-27-62	Dry	Reisch	
11-1962	Wet	Reisch	
4-22-69	6-8 est.	Kittens	
9-1-69	2-3 est.	Kittens	
10-20-69	8	Heving-Fugate	

NUMBER: 18
 NAME: Maple Spring
 LOCATION: R: 23E T: 25S S: 12, SE $\frac{1}{4}$ SW $\frac{1}{4}$
 DRAINAGE: South Rattlesnake
 TYPE OF FLOW: PERMANENT X INTERMITTENT
 PREVIOUS USE: Goats by Caldwell.

IMPROVEMENTS: DATE----- 4-25-62
 TYPE----- Cleaned out by Reisch
 BY WHOM----- Reisch

HISTORY: Developed by Caldwell Ranch for goats during 1920's.
 Large metal water tank. 30' pipe. Metal watering
 trough.
 Used by cave swallows from Vandalized
 cave, along with wildlife.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
4-25-62	low	Reisch	
11-1962	O.K.	Reisch	
5-5-69	5	Heving	
1-27-70	4	Kittens	

NUMBER: 19
 NAME: Rock Wren
 LOCATION: R: ~~23~~S T: ~~23~~⁵¹ S: 12, SE~~1~~¹ SE~~2~~²
 DRAINAGE: South Rattlesnake
 TYPE OF FLOW: PERMANENT x INTERMITTENT ____
 PREVIOUS USE: Goat ranching.

IMPROVEMENTS: DATE~~666~~----- 1920's
 TYPE----- Metal tank, check dam, small tank.
 BY WHOM----- Coldwell and Clements.

HISTORY: Old metal tank, check dam on seep and small tank put in
 by Clement, later used and repair work done by Coldwell.
 Small tank collects flowage.
 June 1962 Webb and Reisch cemented check dam on seep.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
4-30-62	3	Reisch	Cleaned out.
6-1962	5	Reisch	
11-1962	5	Reisch	
5-5-69	4	Heying	
7-24-69	4	Kittens	
1-21-70	4	Kittens	

NUMBER: 20
 NAME: Seep (dog Pen)
 LOCATION: R: 23E T: 25S S: 29 SW $\frac{1}{4}$ NW $\frac{3}{4}$
 DRAINAGE: Slaughter
 TYPE OF FLOW: PERMANENT X INTERMITTENT ____
 PREVIOUS USE: Domestic water for sheepherder and for sheep.

IMPROVEMENTS: DATE ~~66~~----- 1920's
 TYPE----- Wire and log corral, remains of small rock shelter.
 BY WHOM----- Nunnley and Roberts.

HISTORY: Manley Roberts kept dogs in rock pen during day and turned out
 at night for predator control in the 1920's. ²lk are known
 to be in vicinity. Log cabin above (east) of spring was used
 by goat herders.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
3-10-69	3 est.	Heying	
9-21-69	8	Heying	
3-5-71	6	HEYING	
8-11-71	10	HEYING	
11-22-71	9	HEYING	

NUMBER: 21
NAME: Seep
LOCATION: R: 24E T: 24S S: 31 NW $\frac{1}{4}$
DRAINAGE: Walnut
TYPE OF FLOW: PERMANENT X INTERMITTENT ____
PREVIOUS USE: Wildlife

IMPROVEMENTS: DATE ~~66~~-----None
TYPE-----None
BY WHOM-----None

HISTORY: Are tinaja. " potholes" in stream bed.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT

NUMBER: 22
 NAME: Seep (Upper Lechuguilla)
 LOCATION: R: 24S T: 24E S: 28 NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$
 DRAINAGE: Lechuguilla to Walnut Canyon
 TYPE OF FLOW: PERMANENT X INTERMITTENT

IMPROVEMENT: DATE-----NONE
 TYPE-----NONE
 BY WHOM-----NONE

HISTORY: Near North boundry of park above Serpentine Bends.
 Natural catch basin. Wildlife and occasional cows
 and horses.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
11-6-69	50	Heving and Fugate	After snows and rain.
12-18-71	8	HEVING BRIDWELL	

NUMBER: 23
 NAME: Slaughter Pot Hole
 LOCATION: R: 23E T: 25S S: 11 SE $\frac{1}{4}$ SW $\frac{1}{4}$
 DRAINAGE: Slaughter
 TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☒

IMPROVEMENT: DATE----- NONE
 TYPE----- NONE
 BY WHOM----- NONE

HISTORY: Dry only in extreme dry years. Has been used for years as waterhole for travelers and their livestock. Used as water hole in connection with Goat Cave. Mid-Slaughter trail passes within a few feet of it at the lower end.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
1-28-70	$\frac{1}{2}$ full	Heying-Fugate	
10-11-70	$\frac{1}{4}$ full	HEYING-TRAVELER	
7-20-71	$\frac{3}{4}$ full	" "	
12-7-71	$\frac{1}{4}$ full	HEYING	

NUMBER: 24
 NAME: Grammer Seep (west upper).
 LOCATION: R: 25E T: 24S S: 30 NE $\frac{1}{4}$ NW $\frac{1}{4}$ N $\frac{1}{4}$
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT ~~XXXX~~ INTERMITTENT ____

IMPROVEMENT: DATE----- None
 TYPE----- None
 BY WHOM----- None

HISTORY: All the Grammer seeps (4) were used in conjunction with Ranching operations of the Grammer Family. Apparently came into area during WWI.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
4-30-69	2 est.	Heying	
7-9-70	2 $\frac{1}{2}$	Heying-Burkham	

NUMBER: 25
 NAME: Grammer Spring (middle upper)
 LOCATION: R: 25E T: 24S S: ~~30~~ SW $\frac{1}{4}$ SE $\frac{1}{4}$
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT x INTERMITTENT
 PREVIOUS USE: Same as 24.

IMPROVEMENTS: DATE----- None
 TYPE----- None
 BY WHOM----- None

HISTORY: Same as 24

FLOW MEASUREMENTS:

DATE	AMT. GEP	RECORDER	COMMENT
4-30-69	1 est.	Heying	
7-9-70	1 $\frac{1}{2}$	Heying	

NUMBER: 26
 NAME: Grammer Seep (East Upper)
 LOCATION: R: 25E T: 24S S: 19 S₂¹ SW₄¹
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☒
 PREVIOUS USE: Same as 24.

IMPROVEMENTS: DATE-----NONE
 TYPE-----NONE
 BY WHOM-----NONE

HISTORY: Same as 24.

FLOW MEASUREMENTS:

DATE	AMT. GEP	RECORDER	COMMENT
1-30-69	1 est.	Heving	
7-9-70	Dry	Heving	

NUMBER: 27
 NAME: Stone West Seep
 LOCATION: R: 24E T: 25S S: 15 SW $\frac{1}{4}$ SE $\frac{1}{4}$
 DRAINAGE: Rattlesnake Canyon
 TYPE OF FLOW: PERMANENT x INTERMITTENT
 PREVIOUS USE: Transit livestock.

IMPROVEMENTS: DATE----- NONE
 TYPE----- NONE
 BY WHOM----- NONE

HISTORY: No development.

FLOW MEASUREMENTS:

DATE	AMT. GEP	RECORDER	COMMENT
5-1-69	seeping	Haying	
8-9-71	" "	" "	
12-15-71	DRY	" "	

NUMBER: 28
 NAME: Stone East Seep
 LOCATION: R: 24E T: 25S S: 15 NE 1 S 12
 DRAINAGE: Rattlesnake Canyon
 TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☒
 PREVIOUS USE: Same as 27.

IMPROVEMENTS: DATE----- NONE
 TYPE----- NONE
 BY WHOM----- NONE

HISTORY: SAME AS 27.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
5-1-69	Seeping	Heying	
8-2-71	"	"	
12-15-71	Dry	"	

NUMBER: 29 (3 Holes)
 NAME: Seep Pothole ^{34 SE 1/4 SE 1/4}
 LOCATION: R: 24E T: 24S S: ^{33 NE 1/4}
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☒
 PREVIOUS USE: NONE

IMPROVEMENTS: DATE-----NONE
 TYPE-----NONE
 BY WHOM-----NONE

HISTORY: Only potholes. Could have been used by livestock from the Lowe Ranch operation. 5 lower "potholes" in bottom of canyon, about $\frac{1}{2}$ way down a side canyon. One possible wet weather seep near top. Canyon flows from SW to NE into Walnut Canyon.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
4-10-69	—	HEVING	50-60 GALLONS PER POTHOLE

NUMBER: 30
 NAME: West Seep -- Lechiguella Canyon
 LOCATION: R: 24E T: 24S S: 2B SW ~~1/4~~ SW ~~1/4~~ NE ~~1/4~~, NE ~~1/4~~
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT x INTERMITTENT
 PREVIOUS USE: Wildlife

IMPROVEMENTS: DATE-----NONE
 TYPE-----NONE
 BY WHOM-----NONE

HISTORY: ?? Developed for stock watering with small earth
 and rock tank 20 feet below the seep itself.
 Was developed in conjunction with the Lowe Property.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
10-3-69	3-5 est.	Kittens	
1-12-70	3-5 est.	Kittens	
1-13-70	flowing	Heving-Kittens	No measurement taken.
5-4-70	15	Heving-Burkham	

NUMBER: 31 Lechiguella Canyon
 NAME: East Seep -- / 28 ~~SE 1/4 NE 1/4~~
 LOCATION: R: 21E T: 21S S: 11 ~~SW 1/4 SW 1/4~~
 DRAINAGE:
 TYPE OF FLOW: PERMANENT ☒ INTERMITTENT ☐
 PREVIOUS USE: Livestock

IMPROVEMENTS: DATE----- NONE
 TYPE----- NONE
 BY WHOM----- NONE

HISTORY: 7/ Developed for stock watering with small earth
 and rock tank 20 feet below the seep itself.
 Was developed in conjunction with the Lowe Property.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDING	COMMENT
10-13-69	3-5 est.	Kittens	
1-12-70	3-5 est.	Kittens	
4-13-70	flowing	Heying-Kittens	No measurement taken.
5-4-70	3 1/2	Heying-Burkham	

NUMBER: 32
 NAME:
 LOCATION: R: 23E T: 25S S: 10 NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{2}$
 DRAINAGE: North Slaughter Canyon
 TYPE OF FLOW: PERMANENT _____ INTERMITTENT x
 PREVIOUS USE: Wildlife

IMPROVEMENTS: DATE-----
 TYPE-----
 BY WHOM-----

HISTORY: No known use other than Wildlife. Located on
 March 26, 1970. No flow measurement taken. Listed as
 intermittent until checked during dry spell. Wet winter
 could have caused flowage. Stream bed wet for about
 50 yards. Impossible to get horses to it.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
3-26-70	8 gph est.	Heying	

NUMBER: 33
 NAME: *NE 1/4 NE 1/4*
 LOCATION: R: 23E T: 25S S: 10 ~~NW 1/4 NW 1/4 NE 1/4~~
 DRAINAGE: Middle Slaughter Canyon
 TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☒
 PREVIOUS USE: Wildlife
 IMPROVEMENTS: DATE-----
 TYPE-----
 BY WHOM-----

HISTORY: Same as 32. Stream bed wet for about 15 yards.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
3-26-70	5 gph est.	Heving	

NUMBER: 34
 NAME: Tanaja--pot holes
 LOCATION: R: 23E T: 25S S: ~~10~~⁹ SW $\frac{1}{4}$ SW $\frac{1}{4}$ S $\frac{1}{2}$
 DRAINAGE: Middle Slaughter
 TYPE OF FLOW: PERMANENT _____ INTERMITTENT x
 PREVIOUS USE: Livestock

IMPROVEMENTS: DATE-----
 TYPE-----
 BY WHOM-----

HISTORY:

Located on March 27, 1970. No flowage. Wet weather only.
 Holds approximately 200 to 300 gallons. About half as large
 as the Tanaja located at the lower end of Slaughter Canyon
 trail. Impossible to get horses to it.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT

CAR AD CAVERNS NATIONAL PARK
May 3, 1943.

MEMORANDUM to Assistant Superintendent;
Rangers Thompson and Cooke made reconnaissance Patrol to upper Slaughter Canyon Area, checking on conditions in vicinity of old Grama bedding ground, in S.W. $\frac{1}{4}$ Sec. 3 Twp. 24 S. Range 28 E. Grove G.M.C. pickup #1040-9 mile to upper Walnut Canyon then hiked about three mile S.W.

OLD QUAKER
#85

Found conditions very dry, Noted four(4) small seeps within $\frac{1}{2}$ mile of this bedding ground, which is source of water for the Parker goats that are ranging in this area.

Investigated cave near goat bed ground, which is available for goat shelter during stormy weather, and indicated as being used as such.

Cave extent, about one acre in area and would accommodate several thousand goats.

There are some large pillars and Stalagmite formations, mostly dry and disintegrating, and of no particular importance.

Made some note of possibility for Service road site approaching from upper Walnut Canyon to get on divide of Dark Canyon and Slaughter Canyon watershed. Several miles of this proposed route would be outside National Park, however other possible route keeping within the Park boundary would require considerably more work.

In coming in from head of Walnut Canyon afoot, 2 hours hiking required and coming in from mouth of Slaughter Canyon 2 hours hiking required, however if a service road was provided over route mentioned, this area would be only a matter of minutes to reach afoot from service road.

No timber in area visited except in small Parks in floor of Canyons as; few Ponderosa pine, Alligator bark cedar, Madrone, Maple, Oak, and Cherry. these little Parks take in from $\frac{1}{4}$ acre to one acre, and usually a water seep feeds them.

Returned to Headquarters 6.00 P.M. returning down Walnut Canyon to Hi-way at foot of hill.

Ranger- *Leslie C. Thompson*

copy; Rangers File

NUMBER: 35
 NAME: OLD QUAKER
 LOCATION: R: 23E T: 25S S: 9 NW $\frac{1}{4}$ SW $\frac{1}{4}$
 DRAINAGE: North Slaughter
 TYPE OF FLOW: PERMANENT _____ INTERMITTENT X
 PREVIOUS USE: Goat watering

IMPROVEMENTS: DATE----- Goat pen and temporary
 TYPE----- camp while spring flowed.
 BY WHOM----- Unknown. (PARKER?)

HISTORY: Apparently used only when the water was flowing
 for a temporary pasture for goat use. Flows in
 slope of gentle canyon head, to east. Small wire
 corral cleaned up in January, 1970.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
1-1-70	seep	Heying	Not enough to flow.
10-14-70	DRY	HEYING	
11-26-70	DRY	HEYING	
11-24-71	DRY	HEYING	

NUMBER: 36

NAME:

LOCATION: R: 23E T: 25S S: 9 NE $\frac{1}{4}$ SW $\frac{1}{4}$

DRAINAGE: Middle Slaughter

TYPE OF FLOW: PERMANENT INTERMITTENT X

PREVIOUS USE: Same as 35

IMPROVEMENTS: DATE-----

TYPE----- Same as 35

BY WHOM-----

HISTORY: Same as 36. Flow/s over and down bluff, to west.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
4-1-70	SEEP	HEYING	
10-14-70	SEEP	HEYING TURNER	ROCK WALL WET FOR ABOUT 40 FEET.

NUMBER: 37

NAME:

LOCATION: R: 24E T: 24 S S: 33, ~~M₂~~^{NW₄}, ~~N₂~~^{NW₄}, S₂¹

DRAINAGE: Walnut Canyon

TYPE OF FLOW: PERMANENT _____ INTERMITTENT X

PREVIOUS USE: No apparent use.

IMPROVEMENTS: DATE----- None

TYPE-----

BY WHOM-----

HISTORY: This is in all probability one of the "two or three"
seeps listed in the Deed to the Lowe Property.
Located on 5-4-70.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
5-4-70	---	Heying-Burkhan	Not enough to measure-Visible on rocks.
8-10-71	---	HEYING	ROCKS DRY ABOUT 10' BELOW SEEP.

NUMBER: 38
 NAME:
 LOCATION: R: ~~22~~²²E T: 25S S: 36, NE $\frac{1}{4}$ NW $\frac{1}{2}$ N $\frac{1}{2}$
 DRAINAGE: Walnut Canyon
 TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☒
 PREVIOUS USE: Unknown except possibly wildlife

IMPROVEMENTS: DATE----- N
 TYPE----- O
 BY WHOM----- N
 E

HISTORY:
 NONE. On North slope on the South side of Walnut Canyon.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
1/29-70	Keeps rock damp	Heying-Burkham	On first bench below ridge top.

NUMBER: 39
 NAME: None
 LOCATION: R: 22E T: 25S S: 36 NE $\frac{1}{4}$ $\frac{1}{2}$ ^{NE $\frac{1}{4}$}
 DRAINAGE: Upper Slaughter
 TYPE OF FLOW: PERMANENT _____ INTERMITTENT X
 PREVIOUS USE: Goats and wildlife

IMPROVEMENTS: DATE----- N
 TYPE----- O
 BY WHOM----- N
 E

HISTORY: No known history. This spring is located on the first bench below to ridge top to the north of the old trail from Yucca to Queens. Leave the trail to the North, three slopes down into Slaughter from the top of Double trail. Pool 18" in diameter and 2 to 3 inches deep.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
4-25-70	?	Heying-Durkham	Needs checking to see if permanent or not.
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

NUMBER: 39A
 NAME: None
 LOCATION: R: 23E T: 25² S: 6 E $\frac{1}{2}$ SW $\frac{1}{4}$
 DRAINAGE: Payne Canyon
 TYPE OF FLOW: PERMANENT ☐ INTERMITTENT ☐ Unknown until checked during
 PREVIOUS USE: Wildlife drought.

IMPROVEMENTS: DATE----- n
 TYPE----- o
 BY WHOM----- n
 e

HISTORY: Unknown. Spring not developed. Hard to get to. Located
 $\frac{1}{4}$ mile North and 10⁰ west of Kirkland Spring. Just inside
 of park boundary on west section line of section 6.

FLOW MEASUREMENTS:

DATE	AMT. GPH	RECORDER	COMMENT
1-11-72	h	Heying	

NUMBER: 40
NAME: Iron Pipe
LOCATION: R: 23E T: 25S S: 28 NW $\frac{1}{4}$ NW $\frac{1}{4}$ N $\frac{1}{2}$
DRAINAGE: West Slaughter
TYPE OF FLOW: PERMANENT X INTERMITTENT ____
PREVIOUS USE: Livestock, Goats.

IMPROVEMENTS: DATE----- 1920's
TYPE----- Pipe from underground source, earth tank.
BY WHOM----- Unknown, unless by same as longview spring.

HISTORY: Apparently same a longview. The earth tank was made by hand against a rock retaining wall erected by hand. The $\frac{1}{2}$ " pipe extends from the dirt bank out about 18", originally extended 20 feet to the tank itself. Pipe rusted and broke off.

FLOW MEASUREMENTS:

DATE	AMT. GPH.	RECORDER	COMMENT
1-27-72	8	Heying	Most useage of any spring in area.

NUMBER: 41
NAME: none
LOCATION: R: 23E T: 25S S: 28 NW $\frac{1}{2}$ NW $\frac{1}{2}$ N $\frac{1}{2}$.
DRAINAGE: West Slaughter
TYPE OF FLOW: PERMANENT x INTERMITTENT
PREVIOUS USE: Wildlife.

IMPROVEMENTS: DATE----- u
TYPE----- n
BY WHOM----- k
 nown

HISTORY: Unknown. This was apparently developed along with Longview and the others up above Yucca Canyon. It has/But log wedged into the floor of the stream bed. Dirt is packed above the log to form a dam in the floor. Water from the side seeps down to the creek bed and pools up in a very small pool.

FLOW MEASUREMENTS:

DATE	AMT. GPH.	RECORDER	COMMENT
1-27-72	?	Heying	Stream bed wet for 50 ft.
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Handwritten:
Hansen

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11 3042

A REPORT ON PERMANENT SPRINGS OF CARLSBAD CAVERNS NATIONAL PARK

by JOHN M. GOOD

Introduction:

The field work for this report was done during the winter and spring of 1953. It was believed that this time of year would be best because the permanent springs would be at their lowest rates of flow and the ephemeral ones would be dry, the previous year having been deficient in rainfall. No significant rains fell during the field work. Work was definitely of a reconnaissance nature as only those springs shown on topographic maps were investigated.

Purpose of Investigation:

The main purpose of this investigation was to determine whether or not these springs could be depended upon to furnish a permanent supply of drinking water for emergency use during the course of back country patrols or in the case of local fires. The secondary purpose was to decide whether any of these springs could furnish enough water for campsites in the event any should be established in the back country.

Summary of Results:

Two of the springs investigated should prove to be excellent sources of water for both men and stock. The better of these is located in the center of Sec. 29, T25S, R23E, overlooking West Slaughter Canyon. The rate of flow into the spring basin was measured in excess of ten gallons per hour on May 7, 1953. Deer water here but no signs of use by stock were seen in two visits.

The other important spring is located in NE $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 5, T25S, R24E, on the west wall of Rattlesnake Canyon near the Stone Ranch. In the latter part of January, 1953, the flow of this spring was estimated to exceed ten gallons per hour. The water was trapped in a concrete tank of 5000 gallon capacity or more. Deer and smaller animals use this tank but there were no signs of domestic stock. Doubt that the above rate of flow is permanent was stated by James Eden who noticed the water level in the tank had dropped considerably by the end of May.

Each of the springs is discussed in the following section and their locations plotted on the map that accompanies this report.
Description of Springs:

Section 29, T25S, R23E. - Center of section. Water flows from a fifteen foot zone of brecciated sandy limestone about 100 yards south of the pool. Water flows from spring to pool through a galvanized iron pipe. The pool is about thirty feet long, eight wide, and up to one foot in depth. Some of the water flows over the rock ledges immediately below the spring and is lost. The area contributing ground water to this spring is large and I do not think there is much chance of its going dry. The limestones overlying the aquifer do not contain large open joints; the aquifer is sandy and perhaps contains some silt; no signs of stock were seen near the spring or on the plateau above. These factors combine to make the chances of pollution rather small. No work is needed to improve or maintain this spring.

SW¹/₄, NE¹/₄, Sec. 29 - A seep was noted here in May that was not present in January. Flow is small, less than one gallon per hour.

Section 12, T25S, R23E. - Three springs are shown on the topographic map but none were located although every effort was made to do so. It can only be concluded that these are ephemeral at best and could not be given consideration as a permanent source of water.

Section 14, T25S, R23E. - In SE¹/₄, NE¹/₄, Sec. 14 is a small spring that furnished water for the Clement Ranch in Slaughter Canyon. The spring lies beneath massive limestone beds and flows from a ledge of sandy conglomerate. The flow was estimated to be between one and two gallons per hour. There was no catch basin at the spring and hence no water was being impounded. The risk of pollution is small because of the inaccessability of the spring. This spring would provide enough water for one or two men. In spite of the difficulty in reaching this spring, a glance at the map shows its importance in cases of emergency. It is the only known source of permanent water in an area of about twenty square miles, excepting New Cave. In the case of a fire east of Slaughter Canyon and west of the Rattlesnake drainage, it might save one or two men a lot of climbing. Because of its importance I feel that a small catch basin should be dug here and the edges reinforced by rock. This task could be accomplished by one man in a day's work very easily, using the materials at hand.

Section 33, T24S, R24E. - In SW $\frac{1}{4}$, SW $\frac{1}{4}$ of the section is found a spring flowing from small holes in the upper part of a sandy zone. The rate of flow was low, less than one gallon per hour, but there was much evidence to suggest that flows were normally larger. It seems unlikely that this spring could be considered safe from pollution. The ledge of limestone above the aquifer is about six feet thick and joints in it are open. Horses water here frequently.

The spring behind the ranch house near the center of the section is not a permanent one.

An unmarked spring was discovered in a ravine on the line between sections 33 and 34 by James Eden and myself. The spring seeps into the floor of the ravine at an estimated flow of one gallon per hour. The ravine could easily be dammed to form a catch basin. If permanent this spring would probably be the best source of water hereabouts as there was no evidence of use by domestic stock. Much grass grows around the spring as do many madrone trees thus making the area a scenic one.

Section 36, T24S, R24E, - In the NE $\frac{1}{4}$ of this section is found a beautiful little spring surrounded by oaks but of no importance in this report because of its proximity to Headquarters.

Conclusions and Recommendations:

From the study of these springs in Carlsbad Caverns National Park it is concluded that no permanent springs will be found in the Capitan limestone. The reason being that this great

thickness of carbonate rock contains no aquifers nor any impermeable zones that might be expected to cause the local development of a perched water table. Any subsurface water in this formation is probably quickly conducted down to underlying beds through well developed joints. This theory is not too important because most of the highland area of the park lies behind the reef in the Tansill and Yates formations where different conditions of sedimentation prevailed.

The waters of all springs, discovered and undiscovered, should be free from contamination by gypsum. Animal pollution is the only source of contamination considered dangerous and this danger is probably limited to those springs found at lower elevations and that are easily reached by domestic stock.

It is believed that the springs in the northwest part of the park should be examined in the same manner as those described in this report. The description of those northwestern springs was omitted from this report because the writer was transferred before getting a chance to see them.

Should anyone chance to visit any of these springs at a future date it would be a good idea to estimate rates of flow and catch basin conditions. In such manner a backlog of data could be compiled as to the permanency of the springs.

Some sort of a catch basin should be constructed at the spring in Section 14, T25S, R23E.

None of the springs described in this report are considered large enough to furnish sufficient water for public campgrounds.

Wells in vicinity of Guadalupe Mountains National Park

<u>USGS #</u>	<u>NPS #</u>	<u>Name</u>	<u>Yield (GPM)</u>	<u>Water Quality</u>
HL-47-03-101		"No. 12"	40	Good
HL-47-03-102			"Strong"	Good
HL-47-03-103			"Weak"	
HL-47-03-104			Dry - abandoned	
HL-47-03-106			-	-
HL-47-03-107			10 - abandoned	Poor
HL-47-03-108			12	Poor
HL-47-03-109			Dry	
47-03-201		Highway rest area	-	Good
HL-47-03-202			-10 weak	
HL-47-03-203			8-10	-
HL-47-03-204		Old Gray Ranch	"Strong"	Good
HL-47-02-301	17	McKittrick Canyon R.S.	4	Good
HL-47-03-301		D-Ranch North Line	100	Good
HL-47-02-302	18	McKittrick Canyon Rock House	3 GPM now, perhaps 10,	Good
HL-47-03-302		Big Canyon Draw (near)	"Strong"	Good
HL-47-02-303		Humble Test Well	"Tight hole" but hit water	Sulphur water
HL-47-02-304		McKittrick Canyon R.S.	Now abandoned	Good
HL-47-03-401		Old McComb Ranch	40	Good
HL-47-03-402			2-4	Poor
47-03-403			Abandoned	
HL-47-02-602			Less than 3 GPM	Good
HL-47-02-603			5-10	Good

Wells in vicinity of Guadalupe Mountains National Park

<u>USGS #</u>	<u>NPS #</u>	<u>Name</u>	<u>Yield (GPM)</u>	<u>Water Quality</u>
HL-47-02-604			Abandoned	
HL-47-02-604		Glover's Well (Pine Spring Camp)	3-5	Good
HL-47-02-605		Texas Co. Test Well	"Tight Hole"	-
HL-47-02-606		Culberson-S-Fee-1	"Tight Hole"	-
-	01	Northwest Corner	6	Good
-	02	Sand Hills	6	Good
-	03	Lewis Well	6-8	Salty
-	04	-	6-8	Good
-	05	Pure Oil Well	7-8	Good
-	08-A	Hunter #1 & Delker #1	Abundant supply reported. Water analysis should be available.	Good
	08-B	Hunter #2	Abundant supply reported. Water analysis should be available.	Good

Springs and Streams in vicinity of Guadalupe Mountains National Park

<u>USGS #</u>	<u>NPS #</u>	<u>Name</u>	<u>Recent Flow (GPM)</u>		<u>Water Quality</u>
			<u>Max.</u>	<u>Min.</u>	
HL-47-02-501	16	Smith Spring	51	27	Good
HL-47-02-502	15	Juniper Spring	Very low		Poor
HL-47-02-601		Bell Spring	38		Good
HL-47-701	09	Guadalupe Spring	10		Good
HL-47-02-801	12	Frijole Spring	2-4		Good
HL-47-02-802	14	Manzanita Spring	30	9	Good
HL-47-02-803	11	Upper Pine Spring	3	8	Good
HL-47-02-901	13	Choza Spring	36		Good
-	06	Goat Spring	Approx. 1		Good
-	07	Bone Spring	2-3		Good
-	10	Pine Spring	No Water		
-	19	N. McKittrick Canyon Stream Source	25		Good
-	20	Upper Dog Spring	1 - at times		Good
-	21	S. McKittrick Canyon Stream	30-35 - but reported to be 328 to 58.		Good
-	22	-	2		Good

Table 1 - WATER RESOURCES

Carlsbad Caverns Water Sources
Compiled by R. J. Heying - 9/22/69

Name and Present Status	Iden. No.	Location	Drainage	Last Date Permanent	Flow Record			Use	Structure	Remarks
					Date	Amt. (GPH)	Recorder			
✓ Rattlesnake Springs ✓ Permanent	1	R24E, T25S, S23, SE $\frac{1}{4}$, SW $\frac{1}{4}$	Black River	Checked daily	Winter ✓ Summer ✓	90,000 1,800	Heying	Stock, irrigation, domestic, visitors	Rock pool, Pump house, Irr. Ditches	Flow varies due to irrigation of cotton and alfalfa late spring to early fall. Only 1/2 cfs belongs to NPS.*
✓ Oak Spring Permanent	2	R24E, T24S, S36, NW $\frac{1}{4}$, NW $\frac{1}{4}$	Walnut Canyon	4-30-69	✓ 4-30-69 ✓ 4-10-60 ✓ 1-1963 ✓ 1931 ✓ 1932	5 Est. 65 30 307 126	Heying McLemore Reisch Mo.Rep.	Wildlife	Storage tanks, Pump house, pipes, cement catch basin	Originally supplied water for guano mining. First water supply of Caverns. Previously used for livestock. Water rights released. Water tanks installed in 1930--could not fill tanks due to drought. Small drinking tank installed.
✓ Big Hill Seep Permanent	3	R25E, T24S, SW $\frac{1}{4}$, SW $\frac{1}{4}$, S30	Walnut Canyon	9-3-69	✓ 9-3-69 ✓ 4-10-60 ✓ 11-15-62	2 Est. 7	Heying McLemore Reisch	Wildlife	Flows out of road cut	At one time, after road was put in, this spring furnished drinking and radiator water for visitors coming to Caverns. Development was by CCC
✓ Lowe Ranch Spring Permanent	4	R24E, T24S, SW $\frac{1}{4}$, SW $\frac{1}{4}$, SE $\frac{1}{4}$, S33	Walnut Canyon	8-21-69	✓ 8-21-69 ✓ 4-10-60 ✓ 10-10-61 ✓ 3-13-62 ✓ 8-1962 ✓ 2-1963	1 Est. 3/16 1 Very low Dry Dry	Heying McLemore Reisch Reisch Reisch-Gray	Stray horses, wildlife	20' pipe, metal tub, dry rock tank 15' dia.	Used extensively for goats and livestock prior to 1951.

*Rattlesnake Springs - Original water right est. 1883 by Henry Harrison based on 5 $\frac{1}{2}$ cfs. Original use - livestock, domestic, irrigation. NPS acquired 80 acres and 1/2 cfs in 1936. Used as CCC camp during depression. 1932 - First mention in Supt. monthly report of negotiations for Rattlesnake Springs. 1933 - money acquired to purchase Rattlesnake Springs. 1935 - Completion of Rattlesnake Springs project. Henry Harrison moved on area in 1873.

Carlsbad Caverns Water Sources.

Name and Present Status	Iden. No.	Location	Drainage	Last Date		Flow Record		Recorder	Use	Structure	Remarks
				Permanent	Date	Amt. (GPH)					
✓ Upper/Ranch Seep Intermittent	5	R24E, T24S S34, SE4, S33	Walnut Canyon	1-20-69	✓ 11-22-61 ✓ 5-12-62 ✓ 2-1963	Water level low Water level very low Water level very low	Reisch Reisch Reisch		Livestock	Remains of old fence pen	Used in connection with goat ranching prior to 1951
✓ Seep Intermittent	6	R24E, T24S S34	Walnut Canyon	11-27-61	✓ 11-27-61	Water level o.k.	Reisch		Wildlife		Used for goat ranching.
✓ Spider Cave Seep Permanent	7	R24E, T24S S35	Walnut Canyon								
✓ Seep Intermittent	8	R24E, T25S S4	Rattlesnake Canyon	2-19-63	✓ 3-12-62 ✓ 6-1962 ✓ 2-1963 ✓ 8-21-69	Water up to top of check dams Dry Dry Dry	Reisch Reisch- Sufferage Reisch Heying		Wildlife	Check dams built in bottom of stream, 8" high, 3' long	
✓ Stone Ranch Spring Permanent	9	R24E, T25S SE4, SE4, S5	Rattlesnake Canyon	5-1-69	✓ 9-18-61 ✓ 9-18-69	15 8	Reisch Heying		Wildlife	Cement holding tank, 5000 gal. cracked	Used for domestic use. Goats, horses. Homestead by Jim White was not proved out and Mr. Stone took over in 1918.

Carlsbad Caverns Water Sources

Name and Present Status	Iden. No.	Location	Drainage	Last Date Permanent	Flow Record		Recorder	Use	Structure	Remarks
					Date	Amt. (GPH)				
✓ Glenwood Ranch Seep Intermittent	10	R21E, T25S NW $\frac{1}{4}$, NW $\frac{1}{4}$ S14	Slaughter Canyon	5-8-69	✓ 3-19-62 ✓ 5-8-69	4-5 2	Reisch Heying	Wildlife	20' pipe Old water tank	Furnished water to Glenwood Ranch for domestic and livestock use. Estab. by Mr. Kip McKinney about 1906.
✓ Longview Spring Permanent	11	R23E, T25S SE $\frac{1}{4}$, SW $\frac{1}{4}$ S29	West Slaughter	✓ 4-22-69 Kittams	✓ 8-1-69 ✓ 9-26-61 4-2-19-62 ✓ 9-19-62 ✓ 11-19-62 ✓ 2-19-62 ✓ 8-19-66 ✓ 4-22-69 ✓ 9-21-69	10 8 - 2 4 10 4 est. 4	Reisch O'Neal- Reisch Reisch Kittams Kittams Heying	Wildlife Watered goats	Earthen tank approx. 30'x10'x10" deep. Fed by pipe, tub put under pipe in Feb. 1966.	Estab. by Mr. Nunn approximately 1912-1918.
✓ Putman Tank Permanent as seep	12	R23E, T25S NW $\frac{1}{4}$, S18	Putman Canyon	6-3-69	✓ 5-22-62 ✓ 8-19-62 ✓ 6-3-69	- 8 1½	Reisch O'Neal Heying	Wildlife	Split pipe 30' long	Developed as goat camp. Water for goats-domestic.
✓ Kirkland Spring Permanent	13	R23E, T25S NW $\frac{1}{4}$, S7	Kirkland Canyon	6-3-69	✓ 6-3-69	3 est.	Heying	Wildlife		Developed for use as goat water and for camp.

Carlsbad Caverns Water Sources

Name and Present Status	Iden. No.	Location	Drainage	Last Date Permanent	Flow Record		Recorder	Use	Structure	Remarks
					Date	Ant. (GPH)				
✓ Cranmer Seep Permanent	14	R25S, T24S SE ₄ , NE ₄ S30	Walnut Canyon	4-30-69	✓ -	✓ 1/2 est.	Heying	Wildlife	-	Developed for horses, goats and cattle. Used for domestic purposes.
✓ Able Seep Intermittent	15	R23E, T25S NE ₂ , NW ₄ S8	Putman Canyon	-	✓ -	-	-	Wildlife	Large red storage tank, metal	Water supply for Able Goat Tank.
✓ Kids Spring Permanent	16	R-24S, T24S NW ₄ , S25	Walnut Canyon	10-1962 9-5-69	✓ 3-5-62 ✓ 8-1962 ✓ 10-1962 ✓ 9-5-69	5 8 8 5-8 est.	Spangle Reisch Reisch Heying	Wildlife	Metal tank check dam. 35' pipe. Small tank. Washtub at spring.	Developed for goat ranching. Water at one time was piped down from metal tank.
✓ Crown Rock Seep Permanent (A HORR VIGIL)	17	R23E, T25S NW ₄ , NW ₄ S29	West Slaughter	11-19-62	✓ 3-27-62 ✓ 11-1962 ✓ 4-22-69 ✓ 9-1-69	Dry Wet 6-8 est. 2-3 est.	Reisch Reisch Kittams Kittams	Wildlife	Earth tank on ledge below seep.	Goat use. Originally ranch had pipe from seep to tank below on ledge.
✓ Maple Spring Permanent	18	R23E, T25S SE ₂ , SE ₄ S12	South Rattlesnake	5-5-69	✓ 4-25-62 ✓ 11-1962 ✓ 5-5-69	Low o.k. 3	Reisch Reisch Heying	Cave swallows from Vandalized Cave	Large metal water tank. 30' pipe. Metal watering trough	Cleaned out by Reisch on 4-25-62. Developed by Colwell Ranch for goats during 1920's.
✓ Rockwren Spring Permanent	19	T25S, R23E, SE ₂ , SE ₄ S12	South Rattlesnake	5-5-69	✓ 4-30-62 ✓ 6-1962 ✓ 11-1962 ✓ 5-5-69 ✓ 7-24-69	3 5 5 4 4	Reisch Reisch Reisch Heying Kittams	Wildlife	Old metal tank. Clemond check dam on seep. Small tank collects flowage.	Colwell Ranch development. Cleaned out by Reisch on 4-30-62. Developed during 1920's.
✓ DOG PEN Seep Permanent	20	T23E, R25S SW ₄ , SW ₄ S29	Slaughter	3-10-69	✓ 3-10-69 ✓ 9-24-69	3 est. 8	Heying Heying	Wildlife Goats	Earth tank. Remains of wire and log corral and small rock cabin.	Elk are known to be in vicinity. Manley Roberts kept dogs in rock pen during day and turned out at night for predator control in the 1920's.

Carlsbad Caverns Water Sources

Name and Present Status	Iden. No.	Location	Drainage	Last Date		Flow Record		Recorder	Use	Structure	Remarks
				Permanent	Date	Ant. (DPI)					
✓ Seep Permanent	21	T24S, R24E NW¼, Sec. 31	Walnut	7-25-69	✓				Wildlife	Tinaja	At least 2 potholes in streambed
✓ Seep Permanent	22	T24S, R24E NW¼, NE¼, NW¼ S28	Lechuguilla to Walnut Canyon	4-15-69	✓ 4-15-69	5 est.		Heying	Wildlife Occ. cows and horses	None - natural catch basin	Near North boundary of park above Serpentine Bends
✓ Slaughter Pot Hole Intermittent	23	R23E, T25S SE¼, SW¼ S11	Slaughter	4-21-69	✓ 4-21-69	None		Heying	Wildlife	None	Has been used for years as waterhole for travelers and their livestock. Used in connection with Goat Cave operations.
✓ Grammar Seep (West Upper) Permanent	24	R25E, T24S SE¼, SW¼, S¼ S19	Walnut Canyon	4-30-69	✓ 4-30-69	1 est.		Heying	Wildlife	None	All Grammar Seeps (4) were used in conjunction with ranching operations of the Grammar family.
✓ Grammar Spring (Middle Upper) Permanent	25	R25E, T24S SE¼, SW¼, SE¼ S19	Walnut Can.	4-30-69	✓ 4-30-69	1 est.		Heying	Wildlife	None	Same as above.
✓ Grammar Seep (East Upper) Permanent	26	R25E, T24S S¼, NE¼, S30	Walnut Canyon	4-30-69	✓ 4-30-69	1 est.		Heying	Wildlife	None	Same as above.
✓ Stone West Seep Permanent	27	R24E, T25S, SE¼, SE¼, S35	Rattlesnake Canyon	5-1-69	✓ 5-1-69	Seeping		Heying	Wildlife	None	No use or development. For livestock or domestic use.
✓ Stone East Seep Permanent	28	R24E, T25S, NE¼, SE¼, S35	Rattlesnake Canyon	5-1-69	✓ 5-1-69	Seeping		Heying	Wildlife	None	Same as above.
✓ Seep Intermittent	29	R24E, T24S SW¼, SE¼, S34	Walnut Canyon	9-1-69	✓ 9-1-69	0		Heying	Wildlife	None	Only potholes. Could have been used by goats from Lowe Ranch

Docket Information

Number of Documents in Docket 80

Documents Dated from 4/3/1942 to 1/20/1972

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