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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Federal Center, Denver 25, Colorado

In reply refer to:

Technical Letter
Dribble-38
June 7, 1963

Mr. James E. Reeves
U.S. Atomic Energy Commission
P. O. Box 1676
Las Vegas, Nevada

Dear Mr. Reeves:

Transmitted herewith are two copies of:

~~TECHNICAL LETTER: DRIBBLE-38
BASIC DATA FOR DOMESTIC SUPPLY WELLS IN A
FIVE-MILE RADIUS OF TATUM SALT DOME,
LAMAR COUNTY, MISSISSIPPI--
A SUPPLEMENT TO TECHNICAL LETTER: DRIBBLE-30
(and radiochemical analyses of selected water
samples in the area)~~

~~By~~

~~R. E. Taylor and P. E. Grantham~~

~~MASTER~~

Additional copies have been distributed as indicated below.

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Larry E. Williams
Authorizing Official

Date: 06/28/2007

Sincerely yours,

William E. Hale for

W. S. Twenhofel
Program Supervisor, Dribble
Special Projects Branch

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Federal Center, Denver 25, Colorado

In reply refer to:
Technical Letter
Dribble-38
June 7, 1963

BASIC DATA FOR DOMESTIC SUPPLY WELLS IN A
FIVE-MILE RADIUS OF TATUM SALT DOME,
LAMAR COUNTY, MISSISSIPPI--
A SUPPLEMENT TO TECHNICAL LETTER: DRIBBLE-30
(and radiochemical analyses of selected water
samples in the area)

By

R. E. Taylor and P. E. Grantham

The original inventory of wells in the Tatum Dome area was made in 1961 and reported in Technical Letter, Dribble-30. Between April 23 and May 3, 1963 the inventory was brought up to date by a careful reconvening of the area. It was found that approximately 360 water wells are within 5 miles of the periphery of the dome. Of these about 230 had been reported in Technical Letter, Dribble-30. The balance, 130 wells, consists of new wells drilled since the first inventory (20 percent) and older wells (80 percent) that had not been inventoried previously. Data for the 130 wells are listed in Table 1. Water samples were collected from 20 wells and stored for future reference. It is believed that the inventory within the 5-mile radius is now essentially complete and the wells accurately located.

A few wells had been mislocated in the original inventory. They have been correctly located on the map (fig. 1) in this report. Well K22-1 owned by Narvell Allen and listed in Technical Letter Dribble-30 is located in section 23 and shown on this map as K23-5. The record is not repeated in this report. A new well owned by Willis Jenkins has been

assigned the number K22-1. Although all wells within a 5-mile radius are shown on the map with this report the tabulation presented in Dribble-30 is not repeated here.

Since this is a report on domestic wells, the new hydrologic tests, instrument holes, and stations on the AEC lease are not shown on the map or included in the tabulation. Locations of these are shown in Technical Letter Dribble-29.

There is no reason to repeat here the observations made in the text of Dribble-30. Essentially, the conclusions remain unchanged. As the second inventory was made after the 1,000, 2,000, and 4,000 pound high explosive detonations during the week of April 1 to 6, some information is available of the effect of the high explosive shots on water wells. Only a small percentage of the inhabitants reported any change in turbidity of water. Some valves on pumping equipment which were probably old and more or less corroded broke and were replaced. Two owners reported cloudiness in the water following several of the shots. Two wells in which turbidity was reported, K7-3 and J25-5, are cased with galvanized pipe and equipped with electric pumps. However, the turbidity cleared up quickly after each blast and the water is as clear as it was before the blasts.

Following any test shot, reports of turbidity in water from wells equipped with buckets may be more common than from those equipped with electric pumps owing to the surge caused by removing a bucket of water. The draft of an electric pump whether it is a jet or cylinder type is less abrupt and more constant. A jet or cylinder pump normally discharges at the rate of 2 to 4 gpm (gallons per minute). A bucket containing 2

gallons of water is lifted above the static water level in 2 or 3 seconds. For a very short period of time the withdrawal rate is 40 to 60 gpm. The higher velocity caused by drawing water with a bucket would disturb sediments in the bottom of a well more easily and this would cause turbidity.

With the decline in the water table and the piezometric surfaces of the shallow aquifers owing to the deficiency in precipitation in the winter and spring of 1963, an increase in turbidity from natural causes can be expected. In May 1963 the water level in the shallow observation wells stands on the average 5.3 feet below the level of May 1962. The mean value of the decline is 4.4 feet. The effect of the deficiency will be more severe later in the year. The combination of the effects of shock and decline in the water table may lead to more numerous reports of deterioration of domestic water supplies than would otherwise occur. Distinguishing natural from man-made causes would be difficult to assess without substantial background data.

For this purpose 32 wells have been selected for regular water sampling and analysis prior to and following detonations. Wells have been selected of all types of construction, ages up to 30 years, and distances of less than 1 mile to 5 miles from the dome. It is hoped that these will furnish the necessary background information. Results of these observations will be presented in a technical letter at a later date.

Radiochemical analyses of water samples from selected sources in the area are listed in table 2. Locations of all the wells listed in table 2 except the one in Columbia are shown on the well location map in Technical Letter Dribble-30.

Table 1.--Supplement to inventory of water wells within five-mile radius of Tatum-Dome, Lamar County, Miss.

Well No.: Numbers correspond to those in figure 1.

Type of well: D, drilled; B, bored.

Water-bearing unit: Qt, Quaternary terrace deposits; Thp, Tertiary Hattiesburg-Pascagoula undifferentiated.

Water level: Levels shown in feet are reported; those in tenths were measured on the dates shown.

Method of lift: A, air compressor; B, bucket; C, cylinder; J, jet; P, pitcher; S, submersible; Su, suction; E, electric power; $\frac{1}{2}$, horsepower of pump motor.

Use of water: D, domestic; N, none; S, stock.

Water sample: Yes, collected and stored; -, none collected.

Well No.	Owner	Driller	Year drilled	Type of well	Depth of well (ft.)	Diameter (inches)	Water-bearing unit	Depth to top of screen (ft.)	Water level		Method of lift	Use of water	Water sample	Remarks
									Below land-surface datum (ft.)	Date of measurement				
LAMAR COUNTY														
F20-1	O. W. Ball	Dean Griner	1958	D	70	2	Qt	65	-	-	C -	D	-	
29-9	W. C. Miller	W. C. Miller	1949	B	108	6	Qt	-	98	1949	CE -	D,S	-	Good soft water.
29-10	J. D. Lee	Dean Griner	1961	D	100	-	Qt	-	-	-	CE -	D	-	Do
29-11	Monroe Jones	W. P. Hartfield	1951	B	119	7	Qt	112	100	1951	CE -	D	Yes	Stains.
30-3	Elton Smith	Elton Smith	1953	B	40	2	Qt	-	-	-	CE -	D	-	Good water.
31-2	L. Lowe	-	-	D	40	2	Qt	35	-	-	CE $\frac{1}{2}$	D,S	-	Do
31-3	Wyatt Dement	-	1960	B	40	2	Qt	-	-	-	CE 1/3	D	-	Do
32-1	J. E. McArthur	Dean Griner	1957	D	50	2	Thp	45	-	-	JE 1/3	D,S	-	Do
32-2	-	-	-	B	-	6	Qt	-	9.6	3- -63	-	N	-	Wood curbing.
33-4	George Bass	-	-	D	250	2	Thp	-	-	-	JE 3/4	D,S	-	Good water.
33-5	T. B. Blankford	T. C. Cabiness	1955	D	380	2	Thp	-	-	-	CE $\frac{1}{2}$	D,S	-	Do
35-2	H. L. Gipson	W. P. Hartfield	1946	B	36	8	Thp	-	13.2	5- 2-63	Su,E 1/3	D	-	Do
35-3	I. Bart	Al Lowe	1953	B	75	6	Qt	-	53	1953	CE $\frac{1}{2}$	D,S	-	Do
027-5	O. S. Cox	O. S. Cox	1959	B	65	2	Qt	60	47	1959	JE 3/4	D,S	-	Do
27-6	A. D. Davis	A. D. Davis	1948	B	62	2	Qt	57	42	1948	CE $\frac{1}{2}$	D,S	Yes	Some iron.
28-1	G. E. Bounds	T. C. Cabiness	1961	D	65	4	Qt	60	-	-	JE $\frac{1}{2}$	D,S	Yes	Some iron. Asbestos casing.
28-2	do	J. T. Purvis	1922	B	61	8	Qt	-	44.0	4-25-63	B -	N	Yes	10 ft. from G28-1.
29-2	Mrs. E. Simmons	E. Simmons	1949	B	85	2	Qt	-	-	-	CE -	D,S	-	Clear water.
30-2	-	-	-	B	-	-	-	-	-	-	-	N	-	-
34-4	Dan Cameron	-	1930	B	75	2	Qt	-	-	-	CE 1/3	D	-	Supplies water to 3 houses.
J 2-4	J. W. Cliburn	-	-	B	-	1 $\frac{1}{2}$	-	-	-	-	P -	N	-	Plugged.
2-5	- - Higgenbotham	- - Higgenbotham	1948	B	15	1 $\frac{1}{2}$	Qt	-	-	-	P -	N	-	-
3-6	T. S. Saucier	W. P. Hartfield	1963	D	27	2	Qt	22	-	-	JE $\frac{1}{2}$	D,S	-	Stain.
4-10	H. P. Bolin	H. P. Bolin	1950	B	28	6	Qt	-	14	1950	CE $\frac{1}{2}$	D,S	-	Do
4-11	Odell Henley	Dean Griner	1958	D	196	2	Thp	-	56	1958	JE 3/4	D,S	-	Good water.
4-12	C. L. Housley	-	-	B	-	8	Qt	-	-	-	JE -	D	-	-
4-13	H. O. Thompson	-	-	B	-	6	Qt	-	13.3	2-13-63	-	N	-	-
5-6	-	-	-	B	-	-	-	-	-	-	B -	D	-	Abandoned house.
5-7	J. D. Bolin	T. C. Cabiness	1953	D	165	2	Thp	160	-	-	CE -	D,S	-	Good water.
5-8	Gladdis Johnson	-	-	B	-	-	-	-	-	-	P -	N	-	-
7-3	J. B. Carver	- - Culpepper	1955	D	18	1 $\frac{1}{4}$	Qt	13	-	-	JE -	D	-	Second well 3 ft. away 20 ft. deep used in emergency.
7-4	Albert Pittman	do	1962	D	20	1 $\frac{1}{2}$	Qt	15	-	-	JE -	D	Yes	Stains.
7-5	do	do	1962	D	20	1 $\frac{1}{2}$	Qt	15	-	-	P -	D	-	-
8-7	W. J. Bass	W. J. Bass	1961	B	18	1 $\frac{1}{4}$	Qt	15	-	-	JE 1/3	D,S	-	Good water.
8-8	Jim McCraw	Lonnie Bass	1955	D	-	1 $\frac{1}{4}$	Qt	-	-	-	P -	D	-	Iron.
8-9	Carl Nichols	-	-	D	-	1 $\frac{1}{2}$	-	-	-	-	P -	N	-	Stain.
8-10	Huey Lowe	Dean Griner	-	D	273	2	Thp	-	-	-	CE -	D,S	-	Good water.
8-11	Ottis Temples	do	1958	D	200	2	Thp	-	-	-	CE -	D,S	-	Chicken farm.
9-1	Leo Sistrunk	Al Lowe	1960	B	25	6	Qt	-	19.3	5- 2-63	B -	D	-	Good water.
10-4	-	-	-	-	-	-	-	-	-	-	J - $\frac{1}{2}$	N	-	-
12-10	C. H. McCraney	-	-	D	-	2	-	-	-	-	JE $\frac{1}{2}$	N	-	Vacant house.
16-17	S. Fairchild	-	1960	D	-	2	-	-	-	-	JE 1/3	D	-	Good water.
17-2	Houd Smith	old	B	65	2	Qt	-	-	-	-	CE 3/4	D	-	Do
18-1	Willie May	Dean Griner	1960	B	20	1 $\frac{1}{4}$	Qt	15	-	-	JE -	D,S	Yes	Clear water; some rust.
19-2	Doug Askew	do	1961	D	150	4	Qt	140	-	-	SE 1	N	-	-
20-5	- - Rushing	do	1962	D	100	2	Qt	95	-	-	JE $\frac{1}{2}$	D	-	Good water.
21-9	W. A. Anderson	Elton Smith	1959	B	56	2	Qt	51	-	-	CE $\frac{1}{2}$	D,S	-	Do
21-10	C. H. Johnson	old	B	-	8	-	Qt	-	-	-	-	N	-	-
21-11	Cecil Johnson	Cecil Johnson	1963	B	83	2	Qt	-	-	-	CE -	D	-	Do
21-12	T. G. Howell	T. C. Cabiness	1952	D	120	2	Qt	-	60	1952	CE 1/3	D	-	Stain.
21-13	-	-	-	-	-	-	-	-	-	-	-	-	-	Abandoned house.
23-2	L. O. Howard	-	old	-	-	-	-	-	-	-	C -	N	-	-
27-6	John Winslow	John Winslow	old	B	65	-	Qt	-	-	-	JE $\frac{1}{2}$	D,S	-	Wood curbing. Iron in water.
27-7	Ezra Gibson	Dean Griner	1957	D	112	2	Qt	107	72	1957	CE $\frac{1}{2}$	D	-	Good water.
28-7	J. A. Lowe	T. C. Cabiness	1963	D	80	2	Qt	75	-	-	CE -	D	-	Do
30-6	J. H. Johnson	B. Hartfield	1953	D	98	2	Qt	93	-	-	CE -	D,S	Yes	Yield 6 gpm. Good water.
30-7	R. B. Entrekin	Robert Smith	-	B	110	6	Qt	-	106.0	4-23-63	-	N	-	Poor condition.
30-8	D. L. Smith	-	-	D	100	2	Qt	95	-	-	CE $\frac{1}{2}$	D	-	Stain.
30-9	Austen Rayborn	-	-	D	-	-	-	-	-	-	CE 1	D,S	-	Chicken farm.
32-3	G. W. Howard	S. S. Rouse	1962	D	465	5	Thp	445	-	-	CE 3/4	D	Yes	Yield 4 gpm.
33-3	T. E. Jones	T. E. Jones	1956	B	79	8	Qt	-	-	-	CE $\frac{1}{2}$	D	-	Good water.
34-14	H. G. Thompson	Dean Griner	1961	D	100	2	Qt	94	65	4-24-63	CE 3/4	D	Yes	Good water. Yield 3.5 gpm.
34-15	do	W. P. Hartfield	1960	D	100	2	Qt	94	-	-	CE -	N	-	-
34-16	I. V. Rayborn	-	-	D	175	2	Thp	-	-	-	JE -	D	-	-
34-17	Aden Anderson	Dean Griner	1950	D	100	2	Qt	-	-	-	CE -	D	Yes	Poor taste; stain.
34-18	J. W. Whiddon	T. C. Cabiness	1957	B	-	2	-	-	-	-	JE $\frac{1}{2}$	D	-	Iron.
34-19	Rett Thompson	-	-	-	-	2	-	-	-	-	CE $\frac{1}{2}$	D	-	Iron; can be pumped dry.
34-20	Charles Gipson	-	-	D	130	2	Qt	-	-	-	CE 3/4	D	-	Moderately soft.
34-21	Sam Rayborn	-	-	D	130	2	Qt	-	-	-	CE 3/4	D	-	-
34-22	W. O. Smith	T. C. Cabiness	1948	B	85	2	Qt	80	65	-	JE 3/4	D,S	-	-

Table 1.--(Continued)

Well No.	Owner	Driller	Year drilled	Type of well	Depth of well (ft.)	Diameter (inches)	Water bearing unit	Depth to top of screen (ft.)	Water level		Method of lift	Use of water	Water sample	Remarks
									Below land-surface datum (ft.)	Date of measurement				
LAMAR COUNTY - Continued														
J34-23	A. O. Courtney	-	1959	D	130	2	Qt	125	-	-	CE 3/4	D	-	Good water.
34-24	Jeanette Kendrick	Leo Ladner	1962	D	120	2	Qt	115	-	-	JE 3/4	D	-	Do
34-25	Gora Lucas	-	-	-	-	2	-	-	-	-	CE 1/2	D	-	Stain.
34-26	Tillis Smith	-	-	D	100	2	-	-	-	-	CE 3/4	D,S	-	-
34-27	Bill Gipson	Dean Griner	1951	D	116	2	Qt	111	-	-	CE 3/4	D	-	Do
34-28	John Schraeder	Columbia Well Service	1959	D	137	2	Qt	132	100	1959	CE 3/4	D	-	Adequate for 2 houses.
34-29	Wesley Bonds	-	1943	D	65	2	Qt	60	55	1950	CE 1/2	D,S	-	Good water.
34-30	Kerry Kittrell	-	-	D	120	2	Qt	-	-	-	-	N	-	-
34-31	-	-	-	-	-	-	-	-	-	-	J-	N	-	Abandoned.
34-32	Jim Bilbo	-	1953	D	120	2	Qt	-	-	-	CE 3/4	D	-	Iron. Good water.
34-33	Baxterville Baptist Church	Dean Griner	1962	D	120	2	Qt	110	-	-	SE -	D	Yes	Good water.
34-34	do	-	-	-	-	-	-	-	-	-	CE -	D	-	Standby well.
34-35	W. D. Kittrell	Dean Griner	1963	D	133	4	Qt	128	85	1- -63	SE 1	D	-	-
35-4	Donald Madison	-	-	D	200?	2	Thp?	-	-	-	CE 1	D	Yes	Stain.
36-5	Mason Thompson	Mason Thompson	1962	B	85	6	-	-	-	-	-	N	-	No casing; dry hole.
36-6	J. C. Noble	Dean Griner	1962	D	95	2	Qt	90	72	1962	JE 1	D,S	-	Good water.
K 2-1	Thomas Parker	Thomas Parker	1959	B	68	2	Qt	66	40	1959	C-	D	-	Do
2-2	do	T. C. Cabiness	1962	D	115	2	Thp	105	64	1962	JE 1	D,S	-	Do
7-7	- Lee	-	-	D	60	2	Qt	-	-	-	JE 1/2	D,S	-	-
7-8	D. T. Beach	-	old	B	-	2	-	-	-	-	CE -	N	-	-
8-5	Norman Young	T. C. Cabiness	1950	-	-	2	-	-	-	-	CE 1/2	D,S	Yes	Stains.
8-6	-	-	-	B	61	6	Qt	-	54	5- 2-63	-	N	-	-
10-3	Ada Johnson	-	old	B	85	6	Qt	-	-	-	JE 1/2	D	-	Good water.
10-4	W. H. Nobles, Sr.	W. H. Nobles, Jr.	1947	B	67	2	Qt	62	37	1947	C-	N	-	Unused 3-63.
17-3	Reggie Bond	-	-	-	-	2	-	-	-	-	JE -	-	-	No information.
18-5	Bobby Beech	Dean Griner	1962	D	60	2	Qt	55	48	4- -62	JE 1/2	D	-	Good water.
18-6	Cecil Beech	Cecil Beech	1953	B	40	2	Qt	35	-	-	CE 1/3	D,S	-	Some stain.
18-7	A. L. Beach	W. P. Hartfield	1963	D	68	2	Qt	63	56	1- -63	JE 1/2	D	-	Plastic pipe and screen.
20-2	L. B. Saucier	Dean Griner	1963	D	77	4	Qt	73	-	-	SE 1/2	D,S	-	Good water.
21-8	Glen Beech	W. P. Hartfield	1962	D	92	2	Qt	87	57	1962	JE 1/2	D,S	-	Do
21-9	O. L. Massey	O. L. Massey	1931	B	54	8	Qt	-	44.6	4-25-63	-	N	-	Do
21-10	do	W. P. Hartfield	1951	D	62	2	Qt	57	-	-	CE -	D,S	-	-
21-11	C. H. Anderson	C. H. Anderson	1959	D	58	2	Qt	53	20	1959	CE 1/2	D	-	Do
21-12	H. F. Busha	W. P. Hartfield	1958	D	-	2	-	-	-	-	CE 1/3	D,S	-	Do
21-13	C. L. Slade	do	1960	D	65	2	Qt	60	-	-	JE 1/2	D,S	-	Do
21-14	Troy Housley	C. Busha	-	D	40	2	Qt	-	-	-	JE 1/3	D,S	-	Rusty but clears after running.
22-1	Willis Jenkins	T. C. Cabiness	1962	D	88	2	Qt	84	28	6- 62	JE 3/4	D,S	-	Yield 10 gpm.
22-2	C. R. Saucier	-	-	B	-	2	-	-	-	-	JE -	D	Yes	Yield 1 gpm. Iron.
23-6	E. V. Bounds	W. Matthews	1949	D	75	2	Qt	72	-	-	JE 1/2	D,S	-	Some iron.
23-7	do	-	old	B	45	8	Qt	-	40.6	4-30-63	-	N	-	-
23-8	do	-	1940	-	-	2	-	-	-	-	C-	S	-	Dry.
28-5	A. W. Courtney	W. P. Hartfield	1953	D	-	2	-	-	-	-	CE 1/3	N	-	-
28-6	K. Slade	-	-	B	67	8	Qt	-	48.4	4-26-63	B	D	Yes	Good water.
29-7	Mac Smith	T. C. Cabiness	1961	B	50	1 1/2	Qt	45	-	-	JE -	D,S	-	Stain.
29-8	C. V. Cain	do	1961	B	70	2	Qt	65	-	-	JE 1/2	D,S	-	Do
29-9	M. Brazeal	-	-	B	-	6	Qt	-	-	-	JE -	D,S	-	Easily contaminated.
29-10	Charles Cain	W. P. Hartfield	-	B	-	2	-	-	-	-	JE 1/3	D,S	-	Some iron.
29-11	W. P. Smith	T. C. Cabiness	1950	B	70	2	Qt	65	-	-	JE 1/2	D,S	-	Do
29-12	John Cain	John Cain	1950	B	73	6	Qt	-	40	1950	JE 1/2	D,S	-	Good water.
31-4	- Kittrell	-	-	B	34	6	Qt	-	20.4	4-26-63	B	D	Yes	Wood curbing. Poor condition.
32-6	Jesse Parker	Jesse Parker	1960	B	60	2	Qt	55	-	-	JE 1/2	D	-	Hard water.
33-3	Alfred Courtney	T. C. Cabiness	1940	B	50	2	Qt	45	32	1961	JE 1/2	D,S	Yes	Yield 2 gpm. Good water.
M 1-3	D. C. Bilbo	-	1959	D	70	2	Qt	65	-	-	JE -	D	-	Good water.
1-4	Douglas Lowe	-	1960	D	89	2	Qt	84	22	1960	JE 1/2	D,S	-	Do
2-7	G. W. Rayborn	S. S. Rouse	1955	D	167	2	Qt?	-	-	-	CE 3/4	D,S	-	Do
3-3	Paul Smith	Leo Ladner	1961	D	102	2	Qt	97	63	1961	JE 1/2	D,S	-	Do
11-6	R. T. Bilbo	T. C. Cabiness	1963	D	92	2	Qt	87	-	-	JE 1	D	-	Plastic casing. Good water.
MARION COUNTY														
M36-2	Ray Stampley	Dean Griner	1950	D	315	2	Thp	305	-	-	CE -	D,S	-	-
P 1-2	Eva Sistrunk	do	1962	B	28	1 1/2	Qt	23	20	1962	JE 1/2	D	-	Good water.
1-3	M. L. Cook	do	1955	D	180	2	Thp	175	100	1955	CE -	D,S	-	No rust.
1-4	Ottis Beach	do	1955	D	47	2	Qt	42	30	1963	JE 1/2	D,S	-	Stain.
11-1	Wilmer Byrd	do	1960	D	160	2	Thp	155	-	-	CE -	D	-	Good water.
12-2	John Herrin	John Herrin	1956	B	16	1 1/2	Qt	13	-	-	JE 1/3	D,S	-	Do
12-3	do	do	1958	B	16	1 1/2	Qt	13	-	-	CE -	D,S	Yes	Do
12-4	Marion Kelly	-	-	B	20	1 1/2	Qt	15	-	-	JE 1/2	D,S	-	Do
12-5	J. P. Byrd	Dean Griner	1952	D	197	3	Thp	191	40	1952	JE 1/2	D,S	-	Do
12-6	Dale Culpepper	do	1962	D	218	1 1/2	Thp	208	-	-	JE -	D	-	Do
12-7	do	Dale Culpepper	1952	B	13	6	Qt	-	7.6	4-24-63	-	N	-	Good water but insufficient.
13-1	Edward Burge	do	1963	B	23	2	Qt	20	-	-	P -	D	Yes	Good water.
13-2	John Hibley	Columbia Well Service	1950	D	275	2	Thp	-	-	-	CE 3/4	D	-	Do
13-3	Lewis Burge	Lewis Burge	-	B	25	2	Qt	22	-	-	P -	D	-	-
13-4	C. C. Chapman	-	1950	D	280	2	Thp	-	-	-	CE -	D	-	Do
13-5	Robert Culpepper	Robert Culpepper	1940	B	22	1 1/2	Qt	19	-	-	AE 1/2	D	Yes	Stain.

Table 2.--Radiochemical data for water from wells and streams in the vicinity of Tatum Dome, Lamar County, Miss.

MUNICIPAL AND PRIVATE WELLS

Well No.	Owner	Depth of well (ft.)	Date collected	Alpha activity (pc/l)	Beta activity (pc/l)	Radium Ra (pc/l)	Uranium U (ug/l)	Extractable Alpha activity (net) (pc/l)	Strontium 90 (pc/l)	Temperature (°F)	Remarks
LAMAR COUNTY											
B7-1	Town of Sumrall	400	1-23-62	3.3 ± 2.1 3-25-62	4.4 ± 0.7 3-22-62	2.1 ± 0.1	0.6 ± 0.1	< 1.0	< 0.4	68	Clear.
D31-1	Lawrence Nobles	724	1-23-62	< 0.8 3-27-62	4.6 ± 0.7 3-16-62	0.2 ± 0.1	< 0.1	0.3 ± 0.1	< 0.3	-	Clear.
H28-2	Pontiac-Eastern Refinery	890	5-11-62	< 0.9 9-13-62	1.8 ± 0.3 9- 4-62	0.1 ± 0.1	0.1 ± 0.1	< 0.7	< 0.4	-	
J13-3	Humble Oil Co.	1,050	4-15-61	< 1.3 6-15-61	10 ± 2 6-15-61	5.7 ± 1.1	2.1 ± 0.2	< 0.5	< 0.6	74	Turbid.
L8-1	Town of Purvis	35	1-26-61	< 0.8 1-22-62	4.6 ± 0.7 1-10-62	0.3 ± 0.1	0.1 ± 0.1	< 0.6	< 0.4	70	Clear.
L35-1	J. O. Baker	250	1-25-62	0.9 ± 0.7 3-29-62	3.1 ± 0.5 3-16-62	0.3 ± 0.1	0.8 ± 0.1	< 0.7	< 0.3	69	Clear.
MS-2	Gulf Oil Co.	425	1-25-62	0.3 ± 0.2 3-20-62	1.6 ± 0.2 3-23-62	0.1 ± 0.1	0.1 ± 0.1	0.3 ± 0.1	< 0.4	-	Clear.
O31-1	Town of Lumberton	1,005	9-12-61	< 5.4 11-20-61	3.2 ± 0.5 11-20-61	< 0.1	< 0.1	< 0.6	< 0.4	77	Clear.
MARION COUNTY											
L2-2	City of Columbia	508	9-12-61	< 1.0	4.3 ± 0.6 1-10-62	0.1 ± 0.1	0.2 ± 0.1	0.8 ± 0.5	< 0.4	72	Clear.
P7-1	Hub School	1,028	1-24-62	< 1.4 3-27-62	2.5 ± 0.4 3-16-62	< 0.1	0.2 ± 0.1	< 0.7	< 0.3	77	Flowing well.

HYDROLOGIC TEST WELLS AT TATUM DOME

Well No.	Aquifer	Depth of aquifer (ft.)	Date collected	Alpha activity (pc/l)	Beta activity (pc/l)	Radium Ra (pc/l)	Uranium U (ug/l)	Extractable Alpha activity (net) (pc/l)	Strontium 90 (pc/l)	Temperature (°F)	Remarks
LAMAR COUNTY											
HT-2c	Local	341-361	5-26-60	< 5.0 8-11-61	3.5 ± 0.5 8-29-61	0.4 ± 0.1	0.1 ± 0.1	< 0.4	< 0.4	71	Clear.
HT-1	1	634-655 735-782	5-29-61	< 5.8 9-11-61	2.4 ± 0.4 8-29-61	0.2 ± 0.1	0.6 ± 0.1	< 0.4	< 0.4	78	Turbid.
HT-2	1	670-700 800-820	6- 7-61	< 4.3 8-31-61	5.5 ± 0.8 8-28-61	0.2 ± 0.1	0.4 ± 0.1	< 0.4	< 0.4	75	Clear.
HT-1	2	925-955 1060-1130	5-15-61	< 1.7 8-31-61	2.7 ± 0.4 8-22-61	0.2 ± 0.1	< 0.1	< 0.4	< 0.4	79	Turbid.
HT-1a	2	868-929 1029-1089	4-12-61	2.3 ± 1.3 7-12-61	10 ± 2 6-15-61	2.8 ± 0.6	1.0 ± 0.1	< 0.5	< 0.6	-	Turbid.
HT-1b	2	850-890	4-17-61	0.6 ± 0.4 6-23-61	13 ± 2 7- 3-61	< 0.5	< 0.1	< 0.3	0.6 ± 0.4	78	Turbid.
HT-2	2	920-1000	5-29-61	< 2.2 9-20-61	5.3 ± 0.8 9-14-61	< 0.1	0.2 ± 0.1	< 0.4	< 0.4	77	Clear.
HT-2a	2	935-1016	4-30-61	0.5 ± 0.4 6-29-61	5.8 ± 0.9 7- 8-61	< 0.1	< 0.1	< 0.3	< 0.3	77	Clear.
HT-2b	2	925-1003	5-6-61	0.7 ± 0.4 7- 3-61	6.2 ± 0.9 6-30-61	0.2 ± 0.1	0.2 ± 0.1	< 0.3	< 0.4	77	Clear.
HT-1	3,3a	1230-1310 1375-1403 1418-1460 1475-1525	5- 9-61	< 10 8-30-61	6.4 ± 0.4 8-22-61	1.6 ± 0.3	0.7 ± 0.1	< 0.3	< 0.4	84	Turbid.
HT-2	3	1270-1400	5-26-61	< 39 8-28-61	12 ± 2 8-18-61	0.7 ± 0.1	0.8 ± 0.1	< 0.4	< 0.4	87	-
HT-1	4	1742-1880	4-28-61	< 6.7 7-14-61	23 ± 4 6-15-61	< 0.5	0.1 ± 0.1	< 0.5	< 0.6	92	Clear.
HT-2	4	1817-1959	5-19-61	< 40 8-28-61	49 ± 7 8-18-61	0.4 ± 0.1	0.5 ± 0.1	< 0.3	< 0.4	90	Turbid.
HT-2	4	1817-1959	5-19-61	< 21 1-22-62	10 ± 2 1-10-62	0.2 ± 0.1	0.4 ± 0.1	< 0.7	< 0.4	90	Turbid.
HT-1	5	2240-2390	6- 9-61	< 420 8-30-61	220 ± 30 8-28-61	5.5 ± 1.1	0.2 ± 0.1	0.2 ± 0.1	< 0.4	96	Turbid.
HT-2	5	2414-2618	6-18-61	< 710 11-19-61	< 140 11-17-61	8.1 ± 1.6	< 1.4	< 0.6	< 1	91	Clear

STREAMS DRAINING TATUM DOME

Source	Date collected	Alpha activity (pc/l)	Beta activity (pc/l)	Radium Ra (pc/l)	Uranium U (ug/l)	Extractable Alpha activity (net) (pc/l)	Strontium 90 (pc/l)	Temperature (°F)	Remarks
LAMAR COUNTY									
Half Moon Creek	10-31-61	< 1.0 1-23-62	4.2 ± 0.6 1-11-62	0.5 ± 0.1	0.1 ± 0.1	0.5 ± 0.3	< 0.4	66 ?	Pale yellow color. Discharge 22.5 cfs.
Lower Little Creek	10-31-61	< 5.0 1-23-62	6.0 ± 0.9 1-11-62	< 0.1	0.2 ± 0.1	4.7 ± 1.8	< 0.4	66	Pale yellow color.

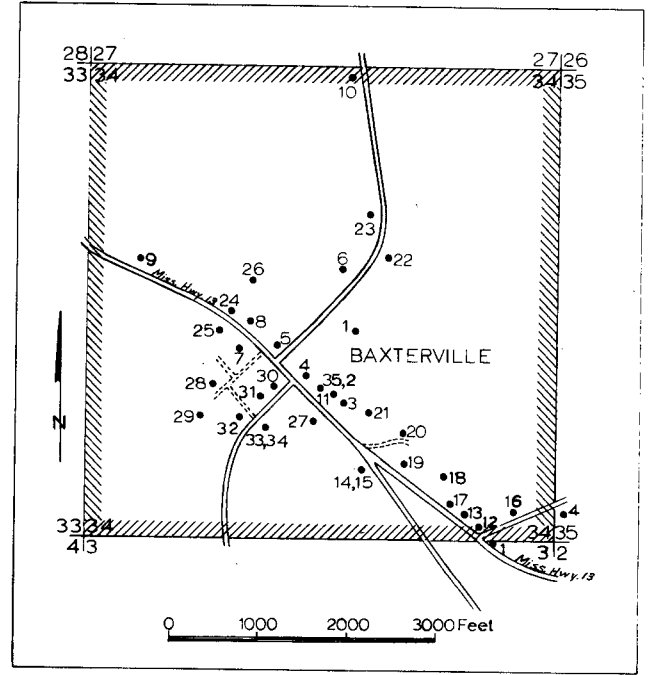
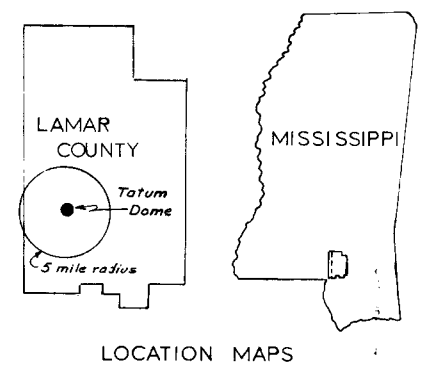
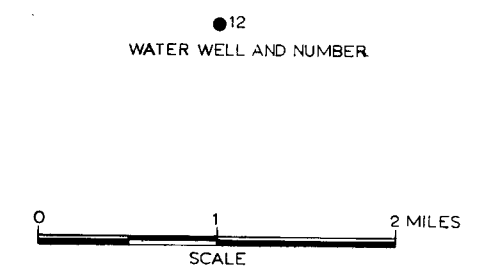
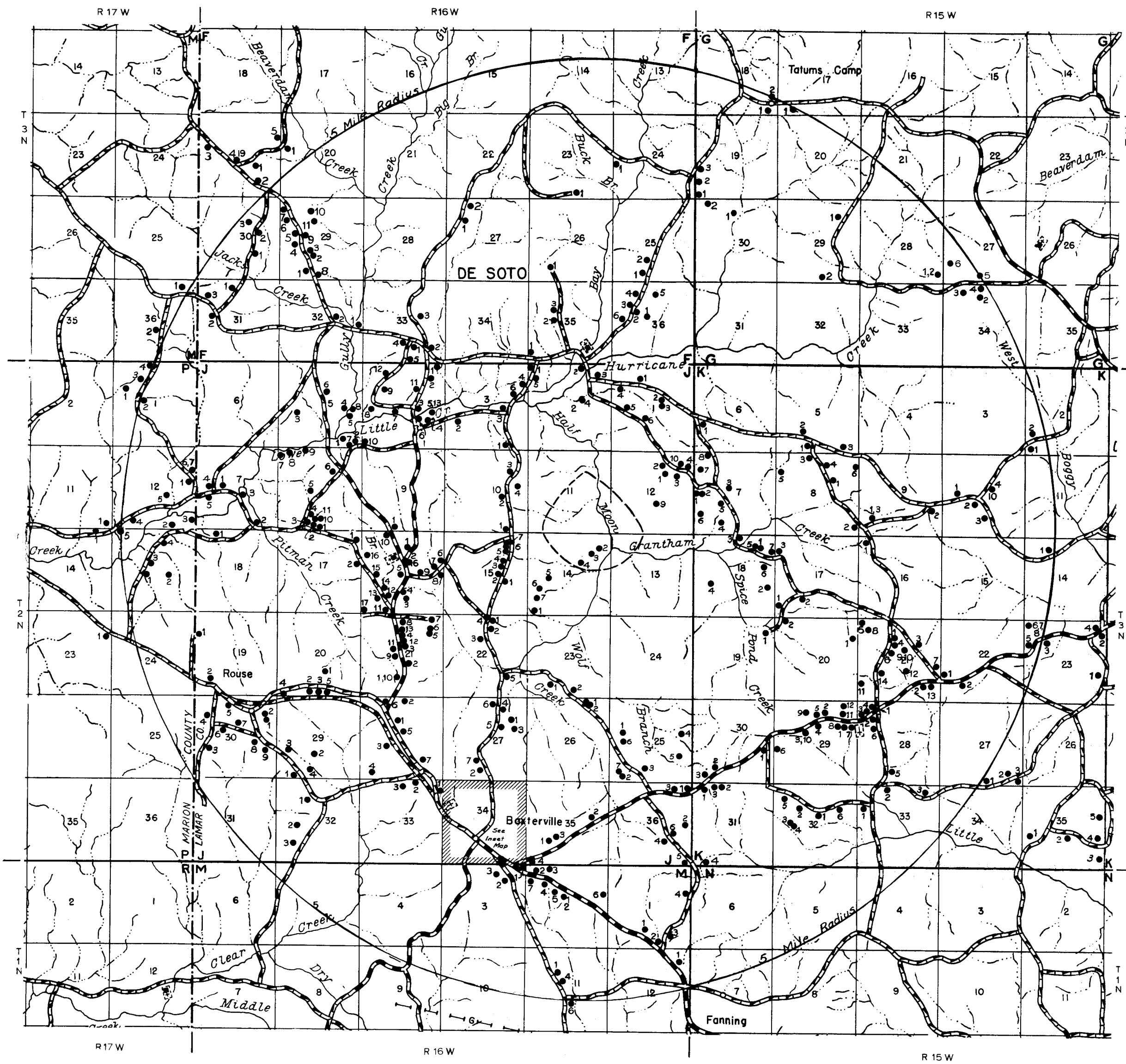


FIGURE I.— WATER WELL LOCATIONS WITHIN 5-MILE RADIUS OF TATUM DOME, LAMAR AND MARION COUNTIES, MISSISSIPPI.