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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Federal Center, Denver, Colorado 80225

CHEMICAL AND RADIOCHEMICAL DATA FOR DOMESTIC
SUPPLY WELLS AND SURFACE-WATER SAMPLES IN THE
VICINITY OF TATUM SALT DOME,
LAMAR COUNTY, MISSISSIPPI

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By

W. A. Beetem and D. B. Grove

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ABSTRACT

Ground-water and surface-water samples collected in the vicinity of Tatum salt dome, Mississippi, a U.S. Atomic Energy Commission project test site, have been analyzed by the U.S. Geological Survey as part of the evaluation program after the Salmon Event. Samples were collected from wells of all types of construction and at distances of 1 to 5 miles from the dome.

INTRODUCTION

Since the Salmon Event a series of ground-water samples has been collected in the immediate vicinity (less than 1-mile distance) of the detonation. The samples were collected mainly for radiochemical analysis although chemical analyses were run on some of the samples. The radiochemical analyses have been reported in U.S. Geological Survey reports Beetem and Grove (1971a and 1971b), and Janzer, Robinson, and Rucker (1971a and 1971b). The previously unreported chemical analyses for the area studied are presented in the current report although most of the wells from which the samples were collected have not been used as domestic supplies. HT-2a and HT-2c are the only hydrologic test wells that have been used for domestic supply. Others may have been used for industrial water.

Streams in the area have been sampled periodically. Previously unreported chemical analyses for these streams are included to make the analyses available to other users.

Brand names given in this report are included to identify specific equipment used, and do not constitute an endorsement of these products by the U.S. Geological Survey.

WELL NUMBERS AND LOCATIONS

Figures 1 and 2 give the location of the water wells and stream-sampling locations for which chemical data are tabulated. Table 1 summarizes some of the well data for these same wells. The well-numbering system is adapted from the one used in ground-water studies in other parts of the state. Each township or part of a township within a county unit is assigned a grid letter (see figure 1), beginning with the letter A in the northwestern part of the county and continued alphabetically in normal reading order to the southern border. The letter "I" is not used. The section number follows the grid letter. Wells in each section are numbered consecutively beginning with one. Thus, well number F25-2 represents well 2 of section 25 in grid F. In the immediate vicinity of Tatum salt dome this system of numbering was not followed and these wells are identified as "HT" for hydrologic test well with a number following as identifier, or as "E" for exploratory followed by a number.

FIGURE 1.--WATER-WELL LOCATIONS WITHIN 5-MILE RADIUS OF TATUM DOME, LAMAR COUNTY MISSISSIPPI.

Figure 1.— MAP OF TATUM DOME AREA

Table 1.--Record of Lamar County, Mississippi, wells for which chemical analyses are included

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

Water-bearing unit: Qt, Quaternary alluvium and terrace deposits; Tph, Tertiary Pascagoula and Hattiesburg undifferentiated; Tc, Catahoula Sandstone; Tcc, Tertiary calcite caprock; Tv, Vicksburg Group; Tcm, Cook Mountain Limestone.

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

Use of water: D, domestic; Ind, industrial; O, observation well; PS, public supply; S, stock.

Well number	Owner	Year drilled	Type of well	Depth (ft)	Water-bearing unit	Water level		Use of water
						Below LSD	Date of measurement	
F 25-2	Buel Bryant	1945	B	80	Qt	--	--	D,S
F 33-2	Sara Entrekin	1951	D	230	Tph	80	1951	D,S
F 36-5	J. C. Gipson	1949	B	75	Qt	67	--	D,S
J 1-1	H. W. Burge	--	D	120	Qt	99	1961	D,S
J 3-2	W. E. Brown	1955	B	30	Qt	2	1961	D,S
J 4-5	H. O. Thompson	1954	B	31	Qt	16	1954	D,S
J 4-8	B. F. Sones	1959	D	196	Tph	60	1959	D,S
J 8-4	J. R. Boler	1959	D	280	Tph	70	1959	D,S
J 10-1	Toxie Speights	--	B	43	Qt	--	--	D,S
J 12-1	Fred Dobson	1943	B	48	Qt	31.2	7-22-65	D,S
J 12-2	Ross Powell	1951	D	90	Qt	--	--	D,S
J 16-7	Wylie Smith	1949	B	66	Qt	48.6	7-22-65	D,S
J 16-10	Archie Sistrunk	1951	B	39	Qt	15	1951	D,S
J 16-11	Mark Howe	1952	D	100	Qt	80	1952	D,S
J 22-3	G. C. Saul	1957	D	50	Qt	40	1961	D,S

Table 1.--Record of Lamar County, Mississippi, wells for which chemical analyses are included--Continued

Well number	Owner	Year drilled	Type of well	Depth (ft)	Water-bearing unit	Water level		Use of water
						Below LSD	Date of measurement	
J 25-4	Vollie DeBrow	1956	B	65	Qt	37.4	4-23-65	D,S
J 25-5	T. C. Brashears	1959	D	71	Qt	--	--	D,S
J 26-2	L. C. Howard	1958	D	80	Qt	60	1958	D,S
J 27-1	Hubert Powell	1949	D	39	Qt	38.6	4-23-65	D,S
J 32-1	J. Q. Butler	1956	D	454	Tph	--	--	D,S
J 34-2	Kerry Kittrell	1960	D	132	Qt	68.7	8-14-61	D,S,Ind
J 34-9	Martha Entrekin	1952	D	138	Qt	80	1954	D,S
J 34-14	H. G. Thompson	1961	D	100	Qt	65	4-24-63	D
J 36-4	Arthur Lowe	1953	B	86	Qt	50	5-24-61	D,S
o K 7-1	R. L. Anderson, Sr.	1949	B	98	Qt	76	1949	D,S
K 7-4	G. W. Anderson	1951	B	80	Qt	70	1951	D,S
K 9-2	Miss. Forestry Comm.	1959	D	131	Qt	80	1959	D,S
K 18-1	W. W. Beech	1940	B	56	Qt	37.9	8-18-64	D,S
K 18-8	R. L. Anderson, Jr.	1963	D	78	Qt	--	--	D,S
K 28-1	J. H. Busha	1955	D	102	Qt	--	--	D,S
K 33-2	Mrs. W. M. Courtney	1936	B	45	Qt	30.4	4-23-65	D,S
L 16-2	Town of Purvis	1961	D	984	Tph	214.0	10- 9-61	PS
O 31-1	Town of Lumberton	1951	D	1,005	Tc	135	2- 1-61	PS

Table 1.--Record of Lamar County, Mississippi, wells for which chemical analyses are included--Continued

Well number	Owner	Year drilled	Type of well	Depth (ft)	Water-bearing unit	Water level		Use of water
						Below LSD	Date of measurement	
HT-2c	USAEC	1961	D	366	Tph	129.5	8- 1-62	PS
HT-4	USAEC	1961	D	474	Tph	92.3	3- 4-65	O
HT-2a	USAEC	1961	D	1,079	Tph	134.4	2-18-65	PS
HT-5	USAEC	1963	D	680	Tph	104.6	3- 4-65	O
HT-1a	USAEC	1961	D	1,090	Tph	125.0	3-11-65	O
HT-6	USAEC	1963	D	812	Tph	108.8	3-12-65	O
E-1	USAEC	1961	D	2,200	Tc	108.8	2-11-65	O
E-14b (U)	USAEC	1963	D	1,075	Tc	--	--	O
HT-3	USAEC	1963	D	1,064	Tcc	103.7	3- 4-65	O
E-9	USAEC	1961	D	1,789	Tcc	86.6	3- 4-65	O
E-14b (L)	USAEC	1963	D	1,075	Tcc	--	--	O
HT-1 (3)	USAEC	1961	D	2,402	Tc	149.6	1964	O
HT-2 (3)	USAEC	1961	D	2,622	Tc	137.5	9-13-65	O
HT-1 (4)	USAEC	1961	D	2,402	Tv	127.6	12- 2-64	O
HT-2 (4)	USAEC	1961	D	2,622	Tv	120.0	9- 3-65	O
HT-1 (5)	USAEC	1961	D	2,402	Tcm	78.3	5- 9-61	O
HT-2 (5)	USAEC	1961	D	2,622	Tcm	85.0	6-30-61	Ind

SUMMARY OF WELLS SAMPLED

Except for the exploratory and hydrologic test wells, the wells are mostly shallow and completed in the sands and gravels of the local terrace deposits of Quaternary age which blanket most of the area under consideration. The deeper wells tap the underlying sands of Pascagoula and Hattiesburg Formations of Miocene age. Some of the hydrologic test wells are completed in even deeper aquifers, among which are the Catahoula Sandstone, the limestones of the Vicksburg Group, and the Cook Mountain Limestone.

WATER QUALITY

As a part of studies before and after the Salmon Event, samples were collected to provide a base of comparison of any possible water-quality changes that might be attributed to the Salmon Event experiment. No description of the water quality is being attempted in this data release as a comprehensive review and description of water quality in the area by Beetem and others will be released shortly. The water analyses are identified as coming from aquifers; for example, terrace deposits, Catahoula Sandstone, etc.

To complete the release of data in our files, the radiochemical analyses of gross beta, gross alpha, and tritium follow the chemical analyses for the wells not in the immediate vicinity of the Tatum salt dome. The radiochemical data in the immediate vicinity has been previously released. The tritium values reported are sought but not detected by method used. The method used was liquid scintillation counting and most probable limit of detection for these samples was 2×10^{-6} $\mu\text{C/ml}$ (micro-curies per milliliter). Although this concentration is less than might

be expected on samples of rainfall, it is much higher than normal ground-water concentrations; so little significance can be attached to these values, other than that the waters are not grossly contaminated.

RADIOCHEMICAL ANALYSES

Water samples received for analysis at the Denver Laboratory are first assigned a laboratory number. The sample bottles are then marked with these numbers and all pertinent information supplied with the sample is typed on data cards. All identifying information written on the bottle is removed before the sample is submitted to the analysts for analysis. These procedures have been adopted as a quality-control measure and are standard for all incoming water samples.

Gross alpha, gross beta, and tritium determinations are made on all samples submitted. When anomalously high gross beta or gross alpha counts are obtained, sample planchets are recounted and a duplicate sample prepared to substantiate the data. If the duplicate tritium determination indicates concentrations near normal background levels but with discrepancy of data, aliquots of the samples are sent to a laboratory in Washington, D.C., for electrolytic concentration and subsequent low-level liquid scintillation counting. Various other radiochemical determinations may be made, depending on the results obtained for gross alpha and gross beta determinations and a gross gamma scan.

The determination of the tritium concentration is made on part of the distillate obtained from a small volume of the sample, which is distilled to dryness. For counting, a 4.0-ml (milliliter) aliquot of the sample distillate is mixed with 18.0-ml aliquot of a dioxane-base liquid

scintillation "cocktail" in a polyethylene counting vial. The vial is placed in a refrigerated sample changer and associated Packard Model 314E liquid scintillation spectrometer, and the sample is counted three times over a period of 2 days. The entire procedure is repeated after an interval of at least 7 days and the six values averaged and reported.

Beta activity of the water samples analyzed is determined on sample aliquots ranging in volume from 5 to 1,000 ml. Aliquot volumes chosen for analyses are dependent upon the total dissolved solids in the samples and are chosen to yield deposits within certain weight tolerances, which will standardize self-absorption of the samples.

Gross alpha values are reported for aliquots of sufficient size to give significant counts above background. For aliquots too small to give significant counts above background, gross alpha values are reported as "sought but not detected by method used."

CHEMICAL ANALYSES

In this study the chemical analyses basically consisted of the determination of silica (SiO_2), aluminum (Al), iron (Fe), manganese (Mn), calcium (Ca), magnesium (Mg), strontium (Sr), sodium (Na), potassium (K), lithium (Li), copper (Cu), zinc (Zn), bicarbonate (HCO_3), carbonate (CO_3), sulfate (SO_4), chloride (Cl), fluoride (F), nitrate (NO_3), phosphate (PO_4), dissolved solids, hardness, specific conductance, pH, color, and temperature.

The values of most constituents obtained by chemical analysis represent the amount of the constituents in solution at the time of the analysis. For some constituents and properties, these values may be slightly higher or lower than the values that might have been found if the analysis had been done directly at the sampling site.

The principal methods used in the chemical analysis of water samples reported herein were analyzed as described in the following paragraphs. For a more thorough description of the methods used, the reader is referred to "Methods for Collection and Analysis of Water Samples," by Rainwater and Thatcher (1960).

Generally, pH is measured by immersing a set of electrodes in a water sample; the potential produced is measured by a pH meter.

Silica, iron, aluminum, nitrate, fluoride, phosphate, and sulfate are determined by adding a known amount of color-causing reagent to water and measuring the intensity of the resultant color in a spectrophotometer. The intensity of the color produced is approximately proportional to the concentration of the constituent being determined.

Hardness, chloride, carbonate, and bicarbonate are determined by adding a measured amount of standardized reagent to a known volume of water until a color change or a pH change signals that the reaction is complete.

Sodium, potassium, lithium, manganese, calcium, magnesium, strontium, copper, and zinc are measured in an atomic absorption photometer. In this determination, the solution to be analyzed is vaporized in a flame; then the resultant color intensity of the flame is compared to the emission of the same metal from a standard lamp.

All these methods mentioned require a fairly low concentration of the constituent being analyzed; the samples of water analyzed, with the exception of the samples from the Cook Mountain Limestone, fall in this category. For those samples, some of the constituents were measured

gravimetrically. In this method, the substance to be analyzed is precipitated; the precipitate is filtered, washed, and weighed. This method, depending on the sample, is at times used to determine silica, calcium, magnesium, sodium, sulfate, and chloride.

Dissolved solids are usually measured by evaporating a known volume of water sample, drying the residue at 180°C for 1 hour, cooling the residue in a desiccator, and then weighing the residue. Most of the chemical analyses in this report give dissolved solids determined by the evaporation method and by calculation.

Specific conductance of water is determined by dipping a cell into a water sample and measuring its specific electrical resistance. The specific conductance of the water is the reciprocal of the specific resistance of the water and is reported in micromhos (one-millionth of a mho).

REFERENCES CITED

- Beetem, W. A., and Grove, D. B., 1971a, Radiochemical analyses of ground-water samples collected after the Salmon Event in the vicinity of Tatum salt dome, Mississippi: U.S. Geol. Survey rept. USGS-474-124, 48 p.; available only from U.S. Dept. Commerce, Natl. Tech. Inf. Service, Springfield, Va. 22151.
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- Janzer, V. J., Robinson, B. P., and Rucker, S. J., 1971a, Radiochemical analyses of water samples collected after the Salmon Event in the vicinity of Tatum salt dome, Mississippi: U.S. Geol. Survey rept. USGS-474-115, 32 p.; available only from U.S. Dept. Commerce, Natl. Tech. Inf. Service, Springfield, Va. 22151.
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- Rainwater, F. H., and Thatcher, L. L., 1960, Methods for the collection and analysis of water samples: U.S. Geol. Survey Water-Supply Paper 1454, 301 p.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Grantham Creek at Well E-9
 Location Tatum Salt Dome 10 miles west of Purvis, Lamar County, Mississippi
1/4 1/4 1/4 Sec 13, T 2 N., R 16 W. Field/Office No. _____

Date Col. 9-9-65 Time 1330
 Col. By USGS
 Field detns: Temp. (°F) 70 pH _____
 Sp. Cond. (μmhos) <50 Eh _____
 Appearance Clear

Well Type _____ Use _____
 Depth (ft.) _____ Cased to _____
 Diam. (in.) _____ Date drilled _____
 Water level (ft.) _____
 Discharge _____
 W. B. F. _____
 Owner _____

Chemical components

ppm epm

Silica (SiO ₂)	<u>10</u>	
Aluminum (Al)	<u>.06</u>	
Iron (Fe)	<u><.01</u>	
Manganese (Mn)	<u>.01</u>	
Calcium (Ca)	<u>.7</u>	<u>0.03</u>
Magnesium (Mg)	<u>.4</u>	<u>.03</u>
Strontium (Sr)	<u><.02</u>	<u>--</u>
Sodium (Na)	<u>1.4</u>	<u>.06</u>
Potassium (K)	<u>.5</u>	<u>.01</u>
Lithium (Li)	<u>.01</u>	<u>--</u>

Cations (epm) 0.13

Bicarbonate (HCO ₃)	<u>5</u>	<u>0.08</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.6</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>.00</u>
Nitrate (NO ₃)	<u>.1</u>	<u>.00</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.15Physical characteristics
and computed values

Dissolved Solids (ppm)	
Res. on evap. at 180°C	<u>22</u>
Calculated	<u>18</u>
Suspended solids (ppm)	
Hardness as CaCO ₃ (ppm)	
Total	<u>3</u>
Non-carbonate	<u>0</u>
Specific conductance	
(μmhos at 25°C)	<u>17</u>
pH	<u>6.4</u>
Color	
Percent sodium	<u>46</u>
SAR	<u>.3</u>

Remarks:

Lab. No. 660165 Analysts G. F. Scarbro Date Checked 11-24-65

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Half Moon Creek, P/C: at gaging stationLocation See RemarksSW 1/4 1/4 1/4 Sec 2, T 2 N., R 16 W. Field/Office No. _____Date Col. 9-9-65 Time 1340Col. By USGSField detns: Temp. (°F) 72 pH _____Sp. Cond. (μmhos) <50 Eh _____Appearance Clear

Well Type _____ Use _____

Depth (ft.) _____ Cased to _____

Diam. (in.) _____ Date drilled _____

Water level (ft.) _____

Discharge _____

W. B. F. _____

Drainage area (sq. miles): Approx. 20

Owner _____

Chemical components

ppm

epm

Silica (SiO ₂)	<u>10</u>	
Aluminum (Al)	<u>.05</u>	
Iron (Fe)	<u><.01</u>	
Manganese (Mn)	<u>.01</u>	
Calcium (Ca)	<u>.7</u>	<u>0.03</u>
Magnesium (Mg)	<u>.4</u>	<u>.03</u>
Strontium (Sr)	<u><.02</u>	<u>--</u>
Sodium (Na)	<u>1.5</u>	<u>.07</u>
Potassium (K)	<u>.4</u>	<u>.01</u>
Lithium (Li)	<u>.01</u>	<u>--</u>

Cations (epm) 0.14Physical characteristics
and computed values

Dissolved Solids (ppm)	
Res. on evap. at 180°C	<u>23</u>
Calculated	<u>18</u>
Suspended solids (ppm)	
Hardness as CaCO ₃ (ppm)	
Total	<u>3</u>
Non-carbonate	<u>0</u>
Specific conductance	
(μmhos at 25°C)	<u>17</u>
pH	<u>6.3</u>
Color	
Percent sodium	<u>50</u>
SAR	<u>.4</u>

Remarks:

Location: Near Baxterville, Lamar Co., Mississippi, 8 miles west of Purvis, off Purvis Salt Dome Road.

St. Stephens Meridian immediately upstream from confluence with Hurrican Creek and 5½ miles north of Baxterville.

Bicarbonate (HCO ₃)	<u>5</u>	<u>0.08</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>.00</u>
Chloride (Cl)	<u>2.4</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>.00</u>
Nitrate (NO ₃)	<u>.1</u>	<u>.00</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.15Lab. No. 660166 Analysts G. F. ScarbroDate Checked 11-24-65

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Lower Little Creek P/C: at gaging stationLocation See RemarksNW 1/4 1/4 Sec 5, T 2 N., R 16 W. Field/Office No. _____Date Col. 9-9-65 Time 1300Col. By USGSField detns: Temp. (°F) 74 pH _____Sp. Cond. (µmhos) <50 Eh _____Appearance Clear

Well Type _____ Use _____

Depth (ft.) _____ Cased to _____

Diam. (in.) _____ Date drilled _____

Water level (ft.) _____

Discharge _____

W. B. F. _____

Drainage area (sq. miles): Approx. 80

Owner _____

Chemical components

ppm

epm

Silica (SiO ₂)	<u>10</u>	
Aluminum (Al)	<u>.04</u>	
Iron (Fe)	<u><.01</u>	
Manganese (Mn)	<u>.01</u>	
Calcium (Ca)	<u>1.1</u>	<u>0.05</u>
Magnesium (Mg)	<u>.4</u>	<u>.03</u>
Strontium (Sr)	<u><.02</u>	<u>--</u>
Sodium (Na)	<u>1.8</u>	<u>.08</u>
Potassium (K)	<u>.4</u>	<u>.01</u>
Lithium (Li)	<u>.01</u>	<u>--</u>

Cations (epm) 0.17

Physical characteristics

and computed values

Dissolved Solids (ppm)

Res. on evap. at 180°C 28Calculated 20

Suspended solids (ppm)

Hardness as CaCO₃ (ppm)Total 4Non-carbonate 0

Specific conductance

(µmhos at 25°C) 21pH 6.4

Color _____

Percent sodium

47

SAR

.4

Remarks:

Location: Near Baxterville,
Lamar Co., Mississippi, 11 miles
west of Purvis, off Purvis Salt
Dome Road.

Bicarbonate (HCO ₃)	<u>6</u>	<u>0.10</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.9</u>	<u>.08</u>
Fluoride (F)	<u><.1</u>	<u>.00</u>
Nitrate (NO ₃)	<u>.1</u>	<u>.00</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.18Lab. No. 660167 Analysts G. F. ScarbroDate Checked 11-24-65

Lab. No. 660441U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Well F25-2
Location Lumberton, Lamar Co., Mississippi
SW $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ Sec. 25, T. 3 N., R. 16 W. Field/Office No. _____Date Col. 10-25-65 Time 1600
Col. By USGS
Field detns: Temp. ($^{\circ}$ F) 68 pH _____
Sp. Cond. (μ hos) _____ Eh _____
Appearance ClearWell Type Bored Use Dom; stock
Depth (ft.) 80 Cased to Unknown
Diam. (in.) 2 Date drilled 1945
Water level (ft.) Unknown
Discharge 2.5 gpm on 5-24-61
W. B. F. Citronelle Fm.Owner Buel Bryant
Rt. 4, Lumberton, Miss.

Chemical components

ppm

epm

Silica (SiO_2)	<u>7.6</u>	
Aluminum (Al)	<u><.01</u>	
Iron (Fe)	<u><.01</u>	
Manganese (Mn)	<u>.02</u>	
Calcium (Ca)	<u>2.6</u>	<u>0.13</u>
Magnesium (Mg)	<u>1.6</u>	<u>.13</u>
Strontium (Sr)	<u><.02</u>	<u>--</u>
Sodium (Na)	<u>8.6</u>	<u>.37</u>
Potassium (K)	<u>.7</u>	<u>.02</u>
Lithium (Li)	<u>.01</u>	<u>--</u>
Copper (Cu)	<u><.01</u>	<u>--</u>
Zinc (Zn)	<u>7.6</u>	<u>--</u>

Cations (epm) 0.65

Bicarbonate (HCO_3)	<u>34</u>	<u>0.56</u>
Carbonate (CO_3)	<u>0</u>	<u>.00</u>
Sulfate (SO_4)	<u>1.0</u>	<u>.02</u>
Chloride (Cl)	<u>2.9</u>	<u>.08</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO_3)	<u>.9</u>	<u>.01</u>
Phosphate (PO_4)	<u><.01</u>	<u>--</u>

Anions (epm) 0.67Physical characteristics
and computed values

Dissolved Solids (ppm)	
Res. on evap. at 180°C	<u>41</u>
Calculated	<u>43</u>
Suspended solids (ppm)	
Hardness as CaCO_3 (ppm)	
Total	<u>13</u>
Non-carbonate	<u>0</u>
Specific conductance	
(μ hos at 25°C)	<u>70</u>
pH	<u>6.4</u>
Color	
Percent sodium	<u>57</u>
SAR	<u>1.0</u>

Remarks:

Well has 4.5 ft. strainer.

Lab. No. 660441 Analysts M. J. Fishman and G. F. Scarbro Checked from _____ Date Checked 1-3-66

QW-1A

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By _____
Date 2-27-66

GPO 843-806

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source <u>Well F25-2</u>		Well Type <u>Bored</u> Use Dom; stock	
Location <u>Lumberton, Lamar Co., Mississippi</u>		Depth (ft) <u>80</u> Cased to <u>Unknown</u>	
SW <u>1/4</u> <u>1/4</u> <u>1/4</u> Sec. <u>25</u> , T. <u>3 N.</u> , R. <u>16 W.</u> Field/Office No. _____		Diam. (in) <u>2</u> Date Drilled <u>1945</u>	
Date Col. <u>10-25-65</u> Time <u>1600</u>	Water level (ft) <u>Unknown</u>		
Col. By <u>USGS</u>	Discharge <u>2.5 gpm on 5-24-61</u>		
Field detns: Temp. ($^{\circ}$ F) <u>68</u> pH _____	W.B.F. <u>Citronelle Fm.</u>		
Sp. Cond. (μ mhos) _____ Eh _____	Owner <u>Buel Bryant,</u>		
Appearance <u>Clear</u>	Rt. <u>4</u> , Lumberton, Miss.		

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	2.3		2-5-66
Gross α as U equivalent μ g/l	1.9		2-5-66
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	38		

Isotopic Analysis	Remarks:
Barium-lanthanum ¹⁴⁰	Well has 4.5 ft. strainer.
Cerium-praseodymium ¹⁴⁴	ND: Sought but not detected by method used 2-9-66.
Cesium ¹³⁷	
Chromium ⁵⁷	
Cobalt ⁶⁰	
Ruthenium-rhodium ¹⁰⁶	
Tritium	ND
Zinc ⁶⁵	
Zirconium-niobium ⁹⁵	

Date sample received 12-14-65
 Date data released 2-11-66
 Program classification _____

Analyst P. K. Roscio; H.C. Claassen
 Date checked 2-11-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Well F33-2
Location Lumberton, Lamar Co., Mississippi
SE $\frac{1}{4}$ SE $\frac{1}{4}$ $\frac{1}{4}$ Sec. 33, T. 3 N., R. 16 W. Field/Office No. _____Date Col. 10-25-65 Time 1545
Col. By USGS
Field detns: Temp. ($^{\circ}$ F) 68 pH _____
Sp. Cond. (μ mhos) _____ Eh _____
Appearance ClearWell Type Drilled Use Dom; stock
Depth (ft.) 230 Cased to 225 ft.
Diam. (in.) 2 Date drilled 1951
Water level (ft.) 80 $\pm$ below l.s.d., 1951
Discharge 1 gpm on 5-16-63
W. B. F. Pascagoula and Hattiesburg Fms., undiff.
Owner Sara Entrekin,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO_2)	<u>52</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>188</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>184</u>
Manganese (Mn)	<u><.02</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>22</u>	<u>1.10</u>	Hardness as CaCO_3 (ppm)	
Magnesium (Mg)	<u>3.0</u>	<u>.25</u>	Total	<u>68</u>
Strontium (Sr)	<u>.25</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>27</u>	<u>1.17</u>	Specific conductance	
Potassium (K)	<u>2.9</u>	<u>.07</u>	(μ mhos at 25°C)	<u>243</u>
Lithium (Li)	<u>.08</u>	<u>--</u>	pH	<u>7.1</u>
Copper (Cu)	<u><.01</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.50</u>	<u>--</u>	Percent sodium	<u>45</u>
			SAR	<u>1.4</u>
Cations (epm) <u>2.60</u>			Remarks:	

Bicarbonate (HCO_3)	<u>134</u>	<u>2.20</u>
Carbonate (CO_3)	<u>0</u>	<u>.00</u>
Sulfate (SO_4)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>11</u>	<u>.31</u>
Fluoride (F)	<u>.1</u>	<u>.01</u>
Nitrate (NO_3)	<u><.1</u>	<u>--</u>
Phosphate (PO_4)	<u><.01</u>	<u>--</u>
Anions (epm) <u>2.52</u>		

Lab. No. 660442 Analysts M. J. Fishman and G. F. Scarbro Check 1 from _____ Date Checked 1-3-66
Original Records

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well F33-2

Location Lumberton, Lamar Co., Mississippi

SE 1/4 SE 1/4 1/4 Sec 33, T 3 N., R 16 W. Field/Office No.

Date Col. 10-25-65 Time 1545

Col. By USGS

Field detns: Temp. (°F) 68 pH

Sp. Cond. (μmhos) Eh

Appearance Clear

Well Type Drilled Use Dom; stock

Depth (ft) 230 Cased to 225 ft.

Diam. (in) 2 Date Drilled 1951

Water level (ft) 80 + below l.s.d., 1951

Discharge 1 gpm on 5-16-63

W.B.F. Pascagoula and Hattiesburg Fms.,
undiff.

Owner Sara Entrekin,

Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μg/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	5.1		1-7-66
Gross α as U equivalent μg/l	<2.5		1-7-66
Net extr. α, U equivalent μg/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	190		
Isotopic Analysis			
			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND; Sought but not detected by method used.			

Date sample received 12-14-65

Date data released 1-17-66

Program classification

Analyst T. Curran; P. K. Roscio; H. C. Claassen

Date checked 1-17-66

Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original RecordsBy
Date 2-22-66

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well F36-5
Location Lumberton, Lamar Co., Mississippi
NE $\frac{1}{4}$ NW $\frac{1}{4}$ $\frac{1}{4}$ Sec. 36, T. 3 N., R. 16 W. Field/Office No. _____

Date Col. 10-25-65 Time 1615
Col. By USGS
Field detns: Temp. ($^{\circ}$ F) 66 pH _____
Sp. Cond. (μ hos) _____ Eh _____
Appearance Clear

Well Type Bored Use Dom; stock
Depth (ft.) 75 Cased to See Remarks
Diam. (in.) 8 Date drilled 1949
Water level (ft.) 67 (below l.s.d.)
Discharge 2 gallons, 17 sec., 5-25-61
W. B. F. Citronelle Fm.

Owner J. C. Gibson,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO_2)	<u>8.0</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>22</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>27</u>
Manganese (Mn)	<u><.02</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>1.4</u>	<u>0.07</u>	Hardness as CaCO_3 (ppm)	
Magnesium (Mg)	<u>.6</u>	<u>.05</u>	Total	<u>6</u>
Strontium (Sr)	<u><.02</u>	<u>--</u>	Non-carbonate	<u>1</u>
Sodium (Na)	<u>4.3</u>	<u>.19</u>	Specific conductance	
Potassium (K)	<u>.5</u>	<u>.01</u>	(μ hos at 25°C)	<u>29</u>
Lithium (Li)	<u>.01</u>	<u>--</u>	pH	<u>6.6</u>
Copper (Cu)	<u><.01</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.03</u>	<u>--</u>	Percent sodium	<u>59</u>
			SAR	<u>.8</u>

Cations (epm) 0.32

Bicarbonate (HCO_3)	<u>6</u>	<u>0.10</u>
Carbonate (CO_3)	<u>0</u>	<u>.00</u>
Sulfate (SO_4)	<u>1.0</u>	<u>.02</u>
Chloride (Cl)	<u>4.3</u>	<u>.12</u>
Fluoride (F)	<u><.1</u>	<u>.00</u>
Nitrate (NO_3)	<u>4.0</u>	<u>.06</u>
Phosphate (PO_4)	<u><.01</u>	<u>--</u>

Anions (epm) 0.30

Remarks:

Cased to: Tile well with jet pump installed within.

Lab. No. 660443 Analysts M. J. Fishman and G. F. Scarbro Checked from Original Records Date Checked 1-3-66

QW-1A

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By _____
Date 2-27-66

GPO 843-608

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well F36-5
Location Lumberton, Lamar Co., Mississippi
NE 1/4 NW 1/4 1/4 Sec. 36, T. 3 N., R. 16 W. Field/Office No. _____

Date Col. 10-25-65 Time 1615
Col. By USGS
Field detns: Temp. (°F) 66 pH _____
Sp. Cond. (μmhos) _____ Eh _____
Appearance Clear

Well Type Bored Use Dom; stock _____
Depth (ft) 75 Cased to See Remarks _____
Diam. (in) 8 Date Drilled 1949
Water level (ft) 67 (below l.s.d.?) _____
Discharge 2 gallons, 17 sec., 5-25-61
W.B.F. Citronelle Fm.

Owner J. C. Gibson,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>2.0</u>		<u>2-5-66</u>
Gross α as U equivalent <u>μg/l</u>	<u>1.2</u>		<u>2-5-66</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	<u>26</u>		

Isotopic Analysis	
Barium-lanthanum ¹⁴⁰	
Cerium-praseodymium ¹⁴⁴	
Cesium ¹³⁷	
Chromium ⁵⁷	
Cobalt ⁶⁰	
Ruthenium-rhodium ¹⁰⁶	
Tritium	<u>ND</u>
Zinc ⁶⁵	
Zirconium-niobium ⁹⁵	

Remarks:

Cased to: Tile well with a jet pump installed.

ND: Sought but not detected by method used 2-9-66.

Date sample received 12-14-65
Date data released 2-11-66
Program classification _____

Analyst P.K. Roscio; T. Curran; H.C. Claassen
Date checked 2-11-66
Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

By _____
Date 2-22-66

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J1-1
 Location Lumberton, Lamar Co., Mississippi
 NE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 1, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-25-65 Time 1630
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 70 pH _____
 Sp. Cond. (μ hos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft.) 120 Cased to 112 ft.
 Diam. (in.) 2 Date drilled Unknown
 Water level (ft.) 99 ft. below l.s.d., 1961
 Discharge 3 gpm, 8-19-64 (measured)
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Horace W. Burge,
Rt. 4, Lumberton, Miss.

Chemical components		Physical characteristics and computed values	
	ppm		
Silica (SiO_2)	<u>8.6</u>	Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>	Res. on evap. at 180°C	<u>12</u>
Iron (Fe)	<u><.01</u>	Calculated	<u>18</u>
Manganese (Mn)	<u><.02</u>	Suspended solids (ppm)	
Calcium (Ca)	<u>.4</u>	Hardness as CaCO_3 (ppm)	
Magnesium (Mg)	<u>.3</u>	Total	<u>2</u>
Strontium (Sr)	<u><.02</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>2.8</u>	Specific conductance	
Potassium (K)	<u>.5</u>	(μ hos at 25°C)	<u>15</u>
Lithium (Li)	<u>.01</u>	pH	<u>6.1</u>
Copper (Cu)	<u>.11</u>	Color	
Zinc (Zn)	<u>.16</u>	Percent sodium	<u>71</u>
		SAR	<u>.9</u>

Cations (epm) 0.17

Remarks:

Bicarbonate (HCO_3)	<u>5</u>	<u>0.08</u>
Carbonate (CO_3)	<u>0</u>	<u>.00</u>
Sulfate (SO_4)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.9</u>	<u>.08</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO_3)	<u>.4</u>	<u>.01</u>
Phosphate (PO_4)	<u><.01</u>	<u>--</u>

Anions (epm) 0.17

Lab. No. 660444 Analysts M. J. Fishman and G. F. Scarbro Checked from Original Records Date Checked 1-3-66

QW-1A

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By _____
 Date 2-27-66

GPO 843-806

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - RadiochemicalSource Well J1-1Location Lumberton, Lamar Co., MississippiNE 1/4 NW 1/4 1/4 Sec 1, T 2 N., R 16 W. Field/Office No. _____Date Col. 10-25-65 Time 1630Col. By USGSField detns: Temp. (°F) 70 pH _____

Sp. Cond. (µmhos) _____ Eh _____

Appearance ClearWell Type Drilled Use Dom:stockDepth (ft) 120 Cased to 112 ft.Diam. (in) 2 Date Drilled UnknownWater level (ft) 99 ft. below l.s.d., 1961Discharge 3 gpm, 8-19-64 (measured)W.B.F. Quaternary (alluvium, terrace,deposits, etc.)Owner Horace W. Burge,Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined	
Uranium <u>µg/l</u>				
Radium as Ra ²²⁶				
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>0.8</u>		<u>12-28-65</u>	
Gross α as U equivalent <u>µg/l</u>	<u>1.0</u>		<u>12-28-65</u>	
Net extr. α, U equivalent <u>µg/l</u>				
Gross γ (as Cs ¹³⁷)				
Potassium ⁴⁰				
Strontium ⁹⁰ *				
Dissolved solids <u>mg/l</u>	<u>17</u>			
Isotopic Analysis				
			Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰				
Cerium-praseodymium ¹⁴⁴				
Cesium ¹³⁷				
Chromium ⁵⁷				
Cobalt ⁶⁰				
Ruthenium-rhodium ¹⁰⁶				
Tritium (<u>µc/ml 2-9-66</u>)	<u>ND</u>			
Zinc ⁶⁵				
Zirconium-niobium ⁹⁵				
ND: Sought but not detected by				
method used,				

Date sample received 12-14-65Date data released 1-5-66

Program classification _____

Analyst T. Curran; P. K. Roscio; H. C. ClaassenDate checked 1-5-66Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

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By _____
Date 2-22-66

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Well J3-2
Location Lumberton, Lamar Co., Mississippi
NW 1/4 SW 1/4 1/4 Sec. 3, T. 2 N., R. 16 W. Field/Office No. _____Date Col. 10-26-65 Time 1115
Col. By USGS
Field detns: Temp. (°F) 70 pH _____
Sp. Cond. (μmhos) _____ Eh _____
Appearance ClearWell Type Driven Use Dom; stock
Depth (ft.) 30 Cased to 27 ft.
Diam. (in.) 1-1/4 Date drilled 1955
Water level (ft.) 2 below l.s.d., 1961
Discharge A few gpm (hand pump)
W. B. F. Quaternary (alluvium, terrace deposits, etc.)
Owner W. E. Brown,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>20</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>41</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>37</u>
Manganese (Mn)	<u><.02</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>1.2</u>	<u>0.06</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.6</u>	<u>.05</u>	Total	<u>6</u>
Strontium (Sr)	<u>.05</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>4.7</u>	<u>.20</u>	Specific conductance	
Potassium (K)	<u>.7</u>	<u>.02</u>	(μmhos at 25°C)	<u>33</u>
Lithium (Li)	<u><.01</u>	<u>--</u>	pH	<u>6.2</u>
Copper (Cu)	<u>.04</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.25</u>	<u>--</u>	Percent sodium	<u>61</u>
			SAR	<u>.9</u>

Cations (epm) 0.33

Remarks:

Bicarbonate (HCO ₃)	<u>14</u>	<u>0.23</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.9</u>	<u>.08</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>.1</u>	<u>.00</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.31Lab. No. 660445 Analysts G. F. Scarbro Checked from Original Records Date Checked 1-14-66

QW-1A

25

By _____
Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J3-2Location Lumberton, Lamar Co., MississippiNW 1/4 SW 1/4 1/4 Sec 3, T 2 N. R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1115
Col. By USGS
Field detns: Temp. (°F) 70 pH _____
Sp. Cond. (μmhos) _____ Eh _____
Appearance Clear

Well Type Driven Use Dom; stock
Depth (ft) 30 Cased to 27 ft.
Diam. (in) 1-1/4 Date Drilled 1955
Water level (ft) 2 below l.s.d., 1961
Discharge A few gpm (hand pump)
W.B.F. Quaternary (alluvium, terrace deposits, etc.)
Owner W. E. Brown,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>1.8</u>		<u>1-7-66</u>
Gross α as U equivalent <u>μg/l</u>	<u>8.1</u>		<u>1-7-66</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids <u>mg/l</u>	<u>37</u>		
Isotopic Analysis			Method
Barium-lanthanum ¹⁴⁰			Corrected for decay to:
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>μc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65Date data released 1-17-66

Program classification _____

Analyst T. Curran; P.K. Roscio; H.C. ClaassenDate checked 1-17-66Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

By _____
Date 2-22-66

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J4-5
 Location Lumberton, Lamar Co., Mississippi
SE 1/4 1/4 1/4 Sec. 4, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1130
 Col. By USGS
 Field detns: Temp. (°F) 74 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Clear

Well Type Jetted Use Dom; stock
 Depth (ft.) 25 Cased to 20 ft.
 Diam. (in.) 2 Date drilled 1954?
 Water level (ft.) 16 below l.s.d., 1954
 Discharge Approx. 1 gpm
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Harry O. Thompson, Rt. 4, Lumberton, Miss.

Chemical components		Physical characteristics and computed values	
	ppm		
Silica (SiO ₂)	<u>12</u>	Dissolved Solids (ppm)	
Aluminum (Al)	<u>.01</u>	Res. on evap. at 180°C	<u>41</u>
Iron (Fe)	<u><.01</u>	Calculated	<u>37</u>
Manganese (Mn)	<u>.04</u>	Suspended solids (ppm)	
Calcium (Ca)	<u>1.2</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>1.5</u>	Total	<u>9</u>
Strontium (Sr)	<u><.02</u>	Non-carbonate	<u>4</u>
Sodium (Na)	<u>4.5</u>	Specific conductance	
Potassium (K)	<u>1.5</u>	(μmhos at 25°C)	<u>57</u>
Lithium (Li)	<u>.01</u>	pH	<u>5.7</u>
Copper (Cu)	<u>.07</u>	Color	
Zinc (Zn)	<u>.33</u>	Percent sodium	<u>48</u>
		SAR	<u>.7</u>

Cations (epm) 0.42

Remarks:

Bicarbonate (HCO ₃)	<u>7</u>	<u>0.11</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>5.7</u>	<u>.16</u>
Fluoride (F)	<u><.1</u>	<u>.00</u>
Nitrate (NO ₃)	<u>8.0</u>	<u>.13</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.40

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J4-5
 Location Lumberton, Lamar Co., Mississippi
SE 1/4 1/4 1/4 Sec. 4, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1130
 Col. By USGS
 Field detns: Temp. (°F) 74 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Clear

Well Type Jetted Use Dom; stock
 Depth (ft) 25 Cased to 20 ft.
 Diam. (in) 2 Date Drilled 1954?
 Water level (ft) 16 below l.s.d., 1954
 Discharge Approx. 1 gpm
 W.B.F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Harry O. Thompson,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>3.7</u>		<u>2-5-66</u>
Gross α as U equivalent <u>μg/l</u>	<u>1.9</u>		<u>2-5-66</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	<u>46</u>		

Isotopic Analysis		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml <u>2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND; Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 2-11-66
 Program classification _____

Analyst P.K. Roscio; T. Curran; H.C. Claassen
 Date checked 2-11-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J4-8
 Location Lumberton, Lamar Co., Mississippi
 NW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 4, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1145
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 67 pH _____
 Sp. Cond. (μ mhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft.) 196 Cased to 188 ft.
 Diam. (in.) 2 Date drilled 1959
 Water level (ft.) 60 below l.s.d., 1959
 Discharge 2 gpm (estimated)
 W. B. F. Pascagoula and Hattiesburg Fms., undiff.
 Owner Ben F. Sones,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO_2)	<u>54</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u>.01</u>		Res. on evap. at 180°C	<u>212</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>202</u>
Manganese (Mn)	<u>.90</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>27</u>	<u>1.35</u>	Hardness as CaCO_3 (ppm)	
Magnesium (Mg)	<u>6.6</u>	<u>.54</u>	Total	<u>95</u>
Strontium (Sr)	<u>.22</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>21</u>	<u>.91</u>	Specific conductance	
Potassium (K)	<u>2.8</u>	<u>.07</u>	(μ mhos at 25°C)	<u>282</u>
Lithium (Li)	<u>.06</u>	<u>--</u>	pH	<u>7.4</u>
Copper (Cu)	<u>.02</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.38</u>	<u>--</u>	Percent sodium	<u>31</u>
			SAR	<u>.9</u>

Cations (epm) 2.89

Remarks:

Bicarbonate (HCO_3)	<u>159</u>	<u>2.61</u>
Carbonate (CO_3)	<u>0</u>	<u>.00</u>
Sulfate (SO_4)	<u>4.0</u>	<u>.08</u>
Chloride (Cl)	<u>8.5</u>	<u>.24</u>
Fluoride (F)	<u>.1</u>	<u>.01</u>
Nitrate (NO_3)	<u>.1</u>	<u>.00</u>
Phosphate (PO_4)	<u><.01</u>	<u>--</u>

Anions (epm) 2.94

Lab. No. 660447 Analysts G. F. Scarbro Checked from Original Records Date Checked 1-14-66

QW-1A

29

By _____
Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J4-8

Location Lumberton, Lamar Co., Mississippi

NW 1/4 SW 1/4 1/4 Sec 4, T 2 N., R 16 W. Field/Office No.

Date Col. 10-26-65 Time 1145
Col. By USGS
Field detns: Temp. (°F) 67 pH
Sp. Cond. (μmhos) Eh
Appearance Clear

Well Type Drilled Use Dom; stock
Depth (ft) 196 Cased to 188 ft.
Diam. (in) 2 Date Drilled 1959
Water level (ft) 60 below l.s.d., 1959
Discharge 2 gpm (estimated)
W.B.F. Pascagoula and Hattiesburg Fms.,
undiff.
Owner Ben F. Sones,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μg/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	5.0		12-28-65
Gross α as U equivalent μg/l	14		12-28-65
Net extr. α, U equivalent μg/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	220		
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
Date data released 1-5-66
Program classification

Analyst T. Curran; S.L. Rickert; P.K. Roscio
Date checked 1-5-66 / H.C. Claassen
Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

By
Date 2-22-66

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J10-1
 Location Lumberton, Lamar Co., Mississippi
SW ¼ SE ¼ ¼ Sec. 10, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1515
 Col. By USGS
 Field detns: Temp. (°F) 67 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Clear

Well Type Driven Use Dom; stock
 Depth (ft.) 43 Cased to 40 ft. (est.)
 Diam. (in.) 1-1/4 Date drilled _____
 Water level (ft.) _____
 Discharge 2 2/3 gpm, 3-27-63
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Toxie Speights,
Rt. 4, Lumberton, Miss.

Chemical components		Physical characteristics and computed values	
	ppm		
Silica (SiO ₂)	<u>7.8</u>	Dissolved Solids (ppm)	
Aluminum (Al)	<u>.02</u>	Res. on evap. at 180°C	<u>20</u>
Iron (Fe)	<u><.01</u>	Calculated	<u>18</u>
Manganese (Mn)	<u><.02</u>	Suspended solids (ppm)	
Calcium (Ca)	<u>.2</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.4</u>	Total	<u>2</u>
Strontium (Sr)	<u><.02</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>2.8</u>	Specific conductance	
Potassium (K)	<u>.3</u>	(μmhos at 25°C)	<u>17</u>
Lithium (Li)	<u><.01</u>	pH	<u>6.3</u>
Copper (Cu)	<u>.02</u>	Color	
Zinc (Zn)	<u>.07</u>	Percent sodium	<u>71</u>
		SAR	<u>.9</u>

Cations (epm) 0.17

Bicarbonate (HCO ₃)	<u>4</u>	<u>0.07</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u>1.0</u>	<u>.02</u>
Chloride (Cl)	<u>2.6</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>.7</u>	<u>.01</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.17

Remarks:

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J10-1

Location Lumberton, Lamar Co., Mississippi

SW 1/4 SE 1/4 1/4 Sec 10, T 2 N., R 16 W. Field/Office No.

Date Col. 10-26-65 Time 1515
Col. By USGS
Field detns: Temp. (°F) 67 pH
Sp. Cond. (μmhos) Eh
Appearance Clear

Well Type Driven Use Dom; stock
Depth (ft) 43 Cased to 40 ft. (est.)
Diam. (in) 1-1/4 Date Drilled
Water level (ft)
Discharge 2 2/3 gpm, 3-27-65
W.B.F. Quaternary (alluvium,
terrace deposits, etc.)
Owner Toxie Speights,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μg/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	0.4		12-28-65
Gross α as U equivalent μg/l	<.4		12-28-65
Net extr. α, U equivalent μg/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	15		
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65

Date data released 1-5-66

Program classification

Analyst T. Curran; E. Villasana; H.C. Claassen

Date checked 1-5-66

Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

By
Date 2-22-66

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J12-1
 Location Lumberton, Lamar Co., Mississippi
 SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 12, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1630
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 68 pH _____
 Sp. Cond. (μ mos) _____ Eh _____
 Appearance Clear
 Well Type Bored Use Dom; stock
 Depth (ft.) 48 Cased to 47 ft.
 Diam. (in.) 8 Date drilled 1943
 Water level (ft.) 31.19 below l.s.d., 7-22-65
 Discharge Bucket well
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Fred Dobson, Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO_2)	7.6		Dissolved Solids (ppm)	
Aluminum (Al)	.01		Res. on evap. at 180°C	24
Iron (Fe)	<.01		Calculated	24
Manganese (Mn)	.03		Suspended solids (ppm)	
Calcium (Ca)	.5	0.02	Hardness as CaCO_3 (ppm)	
Magnesium (Mg)	.8	.07	Total	5
Strontium (Sr)	<.02	--	Non-carbonate	4
Sodium (Na)	3.3	.14	Specific conductance	
Potassium (K)	.7	.02	(μ mos at 25°C)	36
Lithium (Li)	.01	--	pH	5.3
Copper (Cu)	.02	--	Color	
Zinc (Zn)	.21		Percent sodium	56
			SAR	.7

Cations (epm) 0.25

Remarks:

Bicarbonate (HCO_3)	1	0.02
Carbonate (CO_3)	0	.00
Sulfate (SO_4)	<.1	--
Chloride (Cl)	5.8	.16
Fluoride (F)	<.1	--
Nitrate (NO_3)	4.8	.08
Phosphate (PO_4)	<.01	--

Anions (epm) 0.26

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J12-1
 Location Lumberton, Lamar Co., Mississippi
 SW 1/4 NE 1/4 1/4 Sec 12, T 2 N., R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1630
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 68 pH _____
 Sp. Cond. (μ mhos) _____ Eh _____
 Appearance Clear

Well Type Bored Use Dom; stock
 Depth (ft) 48 Cased to 47 ft.
 Diam. (in) 8 Date Drilled 1943
 Water level (ft) 31.19 below l.s.d., 7-22-65
 Discharge Bucket well
 W.B.F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Fred Dobson,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	1.6		12-28-65
Gross α as U equivalent μ g/l	4.3		12-28-65
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	26		
Isotopic Analysis			
		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μ c/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 1-5-66
 Program classification _____

Analyst T. Curran; E. Villasana; H.C. Claassen
 Date checked 1-5-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

By _____
 Date 2-22-66

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J12-2
 Location Lumberton, Lamar Co., Mississippi
NW ¼ NE ¼ ¼ Sec. 12, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1640
 Col. By USGS
 Field detns: Temp. (°F) 69 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft.) 90 Cased to 85 ft.
 Diam. (in.) 2 Date drilled 1951
 Water level (ft.) Unknown
 Discharge 8 gpm, 8-18-64 (measured)
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Ross Powell,
Rt. 4, Lumberton, Miss.

Chemical components		Physical characteristics and computed values	
	ppm		epm
Silica (SiO ₂)	<u>8.6</u>	Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>	Res. on evap. at 180°C	<u>26</u>
Iron (Fe)	<u><.01</u>	Calculated	<u>22</u>
Manganese (Mn)	<u>.01</u>	Suspended solids (ppm)	
Calcium (Ca)	<u>.3</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.7</u>	Total	<u>4</u>
Strontium (Sr)	<u><.02</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>3.5</u>	Specific conductance	
Potassium (K)	<u>.6</u>	(µmhos at 25°C)	<u>30</u>
Lithium (Li)	<u><.01</u>	pH	<u>6.1</u>
Copper (Cu)	<u>.02</u>	Color	
Zinc (Zn)	<u>1.1</u>	Percent sodium	<u>63</u>
		SAR	<u>.8</u>

Cations (epm) 0.24

Remarks:

Bicarbonate (HCO ₃)	<u>5</u>	<u>0.08</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>4.1</u>	<u>.12</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>2.7</u>	<u>.04</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.24

Lab. No. 660450 Analysts G. F. Scarbro 35
 Checked from Original Records Date Checked 1-14-66
 Date 3-3-66
 OW 1A

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - RadiochemicalSource Well J12-2Location Lumberton, Lamar Co., MississippiNW 1/4 NE 1/4 1/4 Sec 12, T 2 N., R 16 W. Field/Office No. _____Date Col. 10-26-65 Time 1640Col. By USGSField detns: Temp. (°F) 69 pH _____

Sp. Cond. (μmhos) _____ Eh _____

Appearance ClearWell Type Drilled Use Dom; stockDepth (ft) 90 Cased to 85 ft.Diam. (in) 2 Date Drilled 1951Water level (ft) UnknownDischarge 8 gpm, 8-18-64 (measured)W.B.F. Quaternary (alluvium,terrace deposits, etc.)Owner Ross Powell,Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>1.4</u>		<u>12-28-65</u>
Gross α as U equivalent <u>μg/l</u>	<u>2.8</u>		<u>12-28-65</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids <u>mg/l</u>	<u>24</u>		
Isotopic Analysis			
		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>μc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65Date data released 1-5-66

Program classification _____

Analyst T. Curran; E. Villasana; H. C. ClaassDate checked 1-5-66Checked by V. J. JanzerChecked from
Original RecordsBy _____
Date 2-2-66

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J16-7
 Location Lumberton, Lamar Co., Mississippi
SE ¼ NE ¼ ¼ Sec. 16, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1235
 Col. By USGS
 Field detns: Temp. (°F) 68 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear
 Well Type Bored Use Dom; stock
 Depth (ft.) 65.80 Cased to 67 ft. (est.)
 Diam. (in.) 6 Date drilled 1949
 Water level (ft.) 48.64 below 1.s.d., 7-22-65
 Discharge Bucket well
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Wylie Smith,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	7.8		Dissolved Solids (ppm)	
Aluminum (Al)	<.01		Res. on evap. at 180°C	33
Iron (Fe)	<.01		Calculated	27
Manganese (Mn)	.01		Suspended solids (ppm)	
Calcium (Ca)	.7	0.03	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	1.5	.12	Total	8
Strontium (Sr)	<.02	--	Non-carbonate	4
Sodium (Na)	3.4	.15	Specific conductance	
Potassium (K)	.5	.01	(µmhos at 25°C)	43
Lithium (Li)	<.01	--	pH	5.7
Copper (Cu)	.08	--	Color	
Zinc (Zn)	.11	--	Percent sodium	48
			SAR	.5

Lab. No. 660451 Analysts G. F. Scarbro Checked from Original Records Date Checked 1-14-66
 QW - 1A 37 By 3-3-66 Date 3-3-66

Lab. No. 660451U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - RadiochemicalSource Well J16-7Location Lumberton, Lamar Co., MississippiSE 1/4 NE 1/4 1/4 Sec 16, T 2 N., R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1235
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 68 pH _____
 Sp. Cond. (μ mhos) _____ Eh _____
 Appearance Clear

Well Type Bored Use Dom; stock
 Depth (ft) 65.80 Cased to 67 ft. (est.)
 Diam. (in) 6 Date Drilled 1949
 Water level (ft) 48.64 below l.s.d., 7-22-65
 Discharge Bucket well
 W.B.F. Quaternary (alluvium,
terrace deposits, etc.)
 Owner Wyllie Smith,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	1.3		1-7-66
Gross α as U equivalent μ g/l	.8		1-7-66
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	29		

Isotopic Analysis	Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰		
Cerium-praseodymium ¹⁴⁴		
Cesium ¹³⁷		
Chromium ⁵⁷		
Cobalt ⁶⁰		
Ruthenium-rhodium ¹⁰⁶		
Tritium (μ c/ml 2-9-66)	ND	
Zinc ⁶⁵		
Zirconium-niobium ⁹⁵		
ND: Sought but not detected by method used.		

Date sample received 12-14-65Date data released 1-17-66

Program classification _____

Analyst T. Curran; E. Villasana; H.C. ClaassenDate checked 1-17-66Checked by V. J. Janzer*Analyzed only when indicated by gross β count.Checked from
Original RecordsBy _____
Date 2-22-66

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J16-10
 Location Lumberton, Lamar Co., Mississippi
NE 1/4 NW 1/4 1/4 Sec. 16, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1200
 Col. By USGS
 Field detns: Temp. (°F) 66 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Clear

Well Type Bored Use Dom; stock
 Depth (ft.) 39 Cased to 39 ft.
 Diam. (in.) 6 Date drilled 1951
 Water level (ft.) 15 below l.s.d., 1951
 Discharge A few gpm (estimated)
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Archie Sistrunk,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	7.4		Dissolved Solids (ppm)	
Aluminum (Al)	<.01		Res. on evap. at 180°C	67
Iron (Fe)	<.01		Calculated	63
Manganese (Mn)	.20		Suspended solids (ppm)	
Calcium (Ca)	2.5	0.12	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	5.8	.48	Total	30
Strontium (Sr)	.10	--	Non-carbonate	27
Sodium (Na)	7.1	.31	Specific conductance	
Potassium (K)	2.4	.06	(μmhos at 25°C)	134
Lithium (Li)	<.01	--	pH	6.1
Copper (Cu)	.04	--	Color	
Zinc (Zn)	2.5	--	Percent sodium	32
			SAR	.6
Cations (epm) 0.97			Remarks:	
Bicarbonate (HCO ₃)	4	0.07		
Carbonate (CO ₃)	0	.00		
Sulfate (SO ₄)	1.0	.02		
Chloride (Cl)	24	.68		
Fluoride (F)	<.01	--		
Nitrate (NO ₃)	11	.18		
Phosphate (PO ₄)	<.01	--		
Anions (epm) 0.95				
Checked from				

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source <u>Well J16-10</u>	
Location <u>Lumberton, Lamar Co., Mississippi</u>	
NE <u>1/4</u> NW <u>1/4</u> Sec <u>16</u> , T <u>2 N.</u> , R <u>16 W.</u> Field/Office No. _____	
Date Col. <u>10-26-65</u> Time <u>1200</u>	Well Type <u>Bored</u> Use <u>Dom; stock</u>
Col. By <u>USGS</u>	Depth (ft) <u>39</u> Cased to <u>39</u> ft.
Field detns: Temp. (°F) <u>66</u> pH _____	Diam. (in) <u>6</u> Date Drilled <u>1951</u>
Sp. Cond. (μmhos) _____ Eh _____	Water level (ft) <u>15</u> below l.s.d., 1951
Appearance <u>Clear</u>	Discharge <u>A few gpm (estimated)</u>
	W.B.F. <u>Quaternary (alluvium, terrace deposits, etc.)</u>
	Owner <u>Archie Sistrunk,</u>
	<u>Rt. 4, Lumberton, Miss.</u>

Elements	pc/l	pc/g	Date determined
Uranium μg/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	10		1-7-66
Gross α as U equivalent μg/l	6.3		1-7-66
Net extr. α, U equivalent μg/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	85		
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 1-17-66
 Program classification _____

Analyst T. Curran; P. K. Roscio; H. C. Claassen
 Date checked 1-17-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J16-11
 Location Lumberton, Lamar Co., Mississippi
SE ¼ SW ¼ ¼ Sec. 16, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1225
 Col. By USGS
 Field detns: Temp. (°F) 68 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear
 Well Type Drilled Use Dom; stock
 Depth (ft.) 100 Cased to 96 ft.
 Diam. (in.) 2 Date drilled 1952
 Water level (ft.) 80 below l.s.d., 1952
 Discharge A few gpm (estimated)
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Mark Lowe,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>9.0</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u>.02</u>		Res. on evap. at 180°C	<u>34</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>32</u>
Manganese (Mn)	<u>.01</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>2.7</u>	<u>0.13</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>1.0</u>	<u>.08</u>	Total	<u>11</u>
Strontium (Sr)	<u>.08</u>	<u>--</u>	Non-carbonate	<u>3</u>
Sodium (Na)	<u>3.7</u>	<u>.16</u>	Specific conductance	
Potassium (K)	<u>.6</u>	<u>.02</u>	(µmhos at 25°C)	<u>51</u>
Lithium (Li)	<u><.01</u>	<u>--</u>	pH	<u>6.1</u>
Copper (Cu)	<u>.05</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.08</u>	<u>--</u>	Percent sodium	<u>41</u>
			SAR	<u>.5</u>

Cations (epm) 0.39

Remarks:

Bicarbonate (HCO ₃)	<u>10</u>	<u>0.16</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>3.4</u>	<u>.10</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>7.0</u>	<u>.11</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.37

Lab. No. 660453 Analysts G. F. Scarbro Checked from Original Records Date Checked 1-14-66
 Date 3-3-66
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Lab. No. 660453U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - RadiochemicalSource Well J16-11Location Lumberton, Lamar Co., MississippiSE 1/4 SW 1/4 1/4 Sec 16, T 2 N., R 16 W. Field/Office No. _____Date Col. 10-26-65 Time 1225Col. By USGSField detns: Temp. (°F) 68 pH _____

Sp. Cond. (μmhos) _____ Eh _____

Appearance ClearWell Type Drilled Use Dom; stockDepth (ft) 100 Cased to 96 ft.Diam. (in) 2 Date Drilled 1952Water level (ft) 80 below l.s.d., 1952Discharge A few gpm (estimated)W.B.F. Quaternary (alluvium,terrace deposits, etc.)Owner Mark Lowe,Rt. 4, Lumberton, Mississippi

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>0.8</u>		<u>1-7-66</u>
Gross α as U equivalent <u>μg/l</u>	<u>1.3</u>		<u>1-7-66</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids <u>mg/l</u>	<u>36</u>		
Isotopic Analysis			Method
Barium-lanthanum ¹⁴⁰			Corrected for decay to:
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>μc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65Date data released 1-17-66

Program classification _____

Analyst T. Curran; E. Villasana; H.C. ClaassenDate checked 1-17-66Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original RecordsBy _____
Date 2-22-66

Revised form 3-17-65

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GPO 848-788

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J22-3
 Location Lumberton, Lamar Co., Mississippi
SE ¼ NW ¼ ¼ Sec. 22, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1250
 Col. By USGS
 Field detns: Temp. (°F) 66 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft.) 50 Cased to 45 ft.
 Diam. (in.) 2 Date drilled 1957
 Water level (ft.) 40(?) below l.s.d., 1961
 Discharge 8.18 gpm, 5-14-63
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner G. C. Saul,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	8.4		Dissolved Solids (ppm)	
Aluminum (Al)	<.01		Res. on evap. at 180°C	21
Iron (Fe)	<.01		Calculated	18
Manganese (Mn)	.02		Suspended solids (ppm)	
Calcium (Ca)	.3	0.01	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	.4	.03	Total	2
Strontium (Sr)	.03	--	Non-carbonate	0
Sodium (Na)	2.7	.12	Specific conductance	
Potassium (K)	.3	.01	(µmhos at 25°C)	17
Lithium (Li)	<.01	--	pH	5.8
Copper (Cu)	.04	--	Color	
Zinc (Zn)	.08	--	Percent sodium	71
			SAR	.9

Cations (epm) 0.17

Bicarbonate (HCO ₃)	3	0.05
Carbonate (CO ₃)	0	.00
Sulfate (SO ₄)	1.0	.02
Chloride (Cl)	2.4	.07
Fluoride (F)	<.1	--
Nitrate (NO ₃)	1.6	.03
Phosphate (PO ₄)	<.01	--

Anions (epm) 0.17

Remarks:

Lab. No. 660454 Analysts G. F. Scarbro Checked from Original Records Date Checked 1-14-66
 Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J22-3Location Lumberton, Lamar Co., MississippiSE 1/4 NW 1/4 1/4 Sec 22, T 2 N., R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1250
Col. By USGS
Field detns: Temp. ($^{\circ}$ F) 66 pH _____
Sp. Cond. (μ mhos) _____ Eh _____
Appearance Clear

Well Type Drilled Use Dom; stock
Depth (ft) 50 Cased to 45 ft.
Diam. (in) 2 Date Drilled 1957
Water level (ft) 40(?) below l.s.d., 1961
Discharge 8.18 gpm, 5-14-63
W.B.F. Quaternary (alluvium,
Terrace deposits, etc.)
Owner G. C. Saul,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	0.5		12-28-65
Gross α as U equivalent μ g/l	.5		12-28-65
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	17		

Isotopic Analysis		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μ c/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
Date data released 1-5-66
Program classification _____

Analyst T. Curran; E. Villasana; H.C. Claassen
Date checked 1-5-66
Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

By _____
Date 2-22-66

Lab. No. 660455U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J25-4
 Location Purvis, Lamar Co., Mississippi
SE ¼ SE ¼ NE ¼ Sec. 25, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1445
 Col. By USGS
 Field detns: Temp. (°F) 68 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear
 Well Type Bored Use Dom; stock
 Depth (ft.) 65 Cased to 65 ft.
 Diam. (in.) 8 Date drilled 1956
 Water level (ft.) 37.36 Below l.s.d., 4-23-65
 Discharge Bucket well
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Vollie DeBrow,
Rt. 4, Purvis, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>19</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>44</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>41</u>
Manganese (Mn)	<u><.02</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>3.9</u>	<u>0.19</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.7</u>	<u>.06</u>	Total	<u>13</u>
Strontium (Sr)	<u>.02</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>3.2</u>	<u>.14</u>	Specific conductance	
Potassium (K)	<u>.5</u>	<u>.01</u>	(µmhos at 25°C)	<u>45</u>
Lithium (Li)	<u>.01</u>	<u>--</u>	pH	<u>6.1</u>
Copper (Cu)	<u>.04</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.19</u>	<u>--</u>	Percent sodium	<u>35</u>
			SAR	<u>.4</u>

Cations (epm) 0.40

Remarks:

Bicarbonate (HCO ₃)	<u>19</u>	<u>0.31</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u>1.0</u>	<u>.02</u>
Chloride (Cl)	<u>2.9</u>	<u>.08</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>.5</u>	<u>.01</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.42

Lab. No. 660455 Analysts G. F. Scarbro Checked from Original Records Date Checked 1-14-66
 GW - 1A 45 By 3-3-66 Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - RadiochemicalSource Well J25-4Location Purvis, Lamar Co., MississippiSE 1/4 SE 1/4 NE 1/4 Sec 25. T 2 N. R 16 W. Field/Office No. _____Date Col. 10-26-65 Time 1445Col. By USGSField detns: Temp. (°F) 68 pH _____

Sp. Cond. (µmhos) _____ Eh _____

Appearance ClearWell Type Bored Use Dom; stockDepth (ft) 65 Cased to 65 ft.Diam. (in) 8 Date Drilled 1956Water level (ft) 37.36 below l.s.d., 4-23-65Discharge Bucket wellW.B.F. Quaternary (alluvium, terrace deposits, etc.)Owner Vollie DeBrow,Rt. 4, Purvis, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>µg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>1.7</u>		<u>12-28-65</u>
Gross α as U equivalent <u>µg/l</u>	<u>3.0</u>		<u>12-28-65</u>
Net extr. α, U equivalent <u>µg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids <u>mg/l</u>	<u>42</u>		
Isotopic Analysis			
		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>µc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65Date data released 1-5-66

Program classification _____

Analyst T. Curran; E. Villasana; H. C. ClaassenDate checked 1-5-66Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original RecordsBy _____
Date 2-22-66

Lab. No. 660456U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Well J25-5
Location Purvis, Lamar Co., Mississippi
SE ¼ NE ¼ SE ¼ Sec. 25, T. 2 N., R. 16 W. Field/Office No. _____Date Col. 10-26-65 Time 1430
Col. By USGS
Field detns: Temp. (°F) 69 pH _____
Sp. Cond. (µmhos) _____ Eh _____
Appearance ClearWell Type Drilled Use Dom; stock
Depth (ft.) 71 Cased to 68 ft.
Diam. (in.) 2 Date drilled 1959
Water level (ft.) _____
Discharge 2 1/2 gpm, 1963
W. B. F. Quaternary (alluvium,
terrace deposits, etc.)
Owner T. C. Brashears,
Rt. 4, Purvis, Miss.

Chemical components

ppm

epm

Silica (SiO ₂)	<u>8.4</u>	
Aluminum (Al)	<u><.01</u>	
Iron (Fe)	<u><.01</u>	
Manganese (Mn)	<u>.05</u>	
Calcium (Ca)	<u>.3</u>	<u>0.01</u>
Magnesium (Mg)	<u>.5</u>	<u>.04</u>
Strontium (Sr)	<u><.02</u>	<u>--</u>
Sodium (Na)	<u>2.6</u>	<u>.11</u>
Potassium (K)	<u>.3</u>	<u>.01</u>
Lithium (Li)	<u>.01</u>	<u>--</u>
Copper (Cu)	<u>.05</u>	<u>--</u>
Zinc (Zn)	<u>.13</u>	<u>--</u>

Cations (epm) 0.17

Bicarbonate (HCO ₃)	<u>5</u>	<u>0.08</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.9</u>	<u>.08</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>.9</u>	<u>.01</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.17Physical characteristics
and computed values

Dissolved Solids (ppm)	
Res. on evap. at 180°C	<u>20</u>
Calculated	<u>18</u>
Suspended solids (ppm)	
Hardness as CaCO ₃ (ppm)	
Total	<u>3</u>
Non-carbonate	<u>0</u>
Specific conductance	
(µmhos at 25°C)	<u>19</u>
pH	<u>5.7</u>
Color	
Percent sodium	<u>65</u>
SAR	<u>.7</u>

Remarks:

Checked from
Original RecordsLab. No. 660456 Analysts G. F. Scarbro 47 By _____ Date Checked 1-14-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J25-5
 Location Purvis, Lamar Co., Mississippi
SE 1/4 NE 1/4 SE 1/4 Sec 25, T 2 N., R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1430
 Col. By USGS
 Field detns: Temp. (°F) 69 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft) 71 Cased to 68 ft.
 Diam. (in) 2 Date Drilled 1959
 Water level (ft) Unknown
 Discharge 2 1/2 gpm, 1963
 W.B.F. Quaternary (alluvium, terrace deposits, etc.)
 Owner T. C. Brashears, Rt. 4, Purvis, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>0.6</u>		<u>1-8-66</u>
Gross α as U equivalent <u>μg/l</u>	<u><.4</u>		<u>1-8-66</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids <u>mg/l</u>	<u>12</u>		
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>μc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 1-17-66
 Program classification _____

Analyst T. Curran; E. Villasana; H. C. Claassen
 Date checked 1-17-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J26-2
Location Lumberton, Lamar Co., Mississippi
NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 26, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1310
Col. By USGS
Field detns: Temp. (°F) 68 pH _____
Sp. Cond. (µmhos) _____ Eh _____
Appearance Clear

Well Type	Drilled	Use	Dom. stock
Depth (ft.)	80	Cased to	80
Diam. (in.)	8	Date drilled	1958
Water level (ft.)	60 below l.s.d., 1958		
Discharge	4 gpm, 9-11-64 (measured)		
W. B. F.	Quaternary (alluvium, terrace deposits, etc.)		
Owner	L. C. Howard, Rt. 4, Lumberton, Miss.		

Chemical components		
	ppm	epm
Silica (SiO ₂)	8.2	
Aluminum (Al)	.01	
Iron (Fe)	<.01	
Manganese (Mn)	.05	
Calcium (Ca)	.6	0.03
Magnesium (Mg)	1.4	.12
Strontium (Sr)	.02	--
Sodium (Na)	2.9	.13
Potassium (K)	.6	.02
Lithium (Li)	.01	--
Copper (Cu)	.04	--
Zinc (Zn)	.02	--

Cations (epm) 0.30

Bicarbonate (HCO_3^-)	4	0.07
Carbonate (CO_3^{2-})	0	.00
Sulfate (SO_4^{2-})	1.0	.02
Chloride (Cl^-)	4.0	.11
Fluoride (F^-)	<.1	--
Nitrate (NO_3^-)	5.8	.09
Phosphate (PO_4^{3-})	<.01	--

Anions (epm) 0.29

Physical characteristics and computed values

Dissolved Solids (ppm)	
Res. on evap. at 180°C	31
Calculated	27
Suspended solids (ppm)	
Hardness as CaCO ₃ (ppm)	
Total	8
Non-carbonate	4
Specific conductance	
(µmhos at 25°C)	33
pH	5.8
Color	
Percent sodium	43
SAR	.5

Remarks:

Checked from
~~Original Records~~

Lab. No. 660457 Analysts G. F. Scarbro By Date Checked 1-14-66

QW - 1A

Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J26-2
 Location Lumberton, Lamar Co., Mississippi
 NE 1/4 NE 1/4 1/4 Sec 26, T 2 N., R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1310
 Col. By USGS
 Field detns: Temp. (°F) 68 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft) 80 Cased to 80
 Diam. (in) 8 Date Drilled 1958
 Water level (ft) 60 below l.s.d., 1958
 Discharge 4 gpm, 9-11-64 (measured)
 W.B.F. Quaternary (alluvium, terrace deposits, etc.)
 Owner L. C. Howard,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>1.7</u>		<u>1-8-66</u>
Gross α as U equivalent <u>μg/l</u>	<u>1.5</u>		<u>1-8-66</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids <u>mg/l</u>	<u>25</u>		
Isotopic Analysis			Method
Barium-lanthanum ¹⁴⁰			Corrected for decay to:
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>μc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 1-17-66
 Program classification _____

Analyst T. Curran; E. Villasana; H. C. Claassen
 Date checked 1-17-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J27-1
 Location Lumberton, Lamar Co., Mississippi
SE ¼ NE ¼ ¼ Sec. 27, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. <u>10-26-65</u>	Time <u>1320</u>	Well Type <u>Drilled</u>	Use <u>Dom; stock</u>
Col. By <u>USGS</u>		Depth (ft.) <u>39</u>	Cased to <u>38.41 ft.</u>
Field detns: Temp. (°F) <u>68</u>	pH _____	Diam. (in.) <u>8</u>	Date drilled <u>1949</u>
Sp. Cond. (µmhos) _____	Eh _____	Water level (ft.) <u>38.62 below 1.s.d., 4-23-65</u>	
Appearance <u>Clear</u>		Discharge <u>Bucket well</u>	
		W. B. F. <u>Quaternary (alluvium, terrace deposits, etc.)</u>	
		Owner <u>Hubert Powell,</u>	
		<u>Rt. 4, Lumberton, Miss.</u>	

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	8.6		Dissolved Solids (ppm)	
Aluminum (Al)	.01		Res. on evap. at 180°C	27
Iron (Fe)	<.01		Calculated	25
Manganese (Mn)	.01		Suspended solids (ppm)	
Calcium (Ca)	2.1	0.10	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	.3	.02	Total	6
Strontium (Sr)	.02	--	Non-carbonate	0
Sodium (Na)	3.0	.13	Specific conductance	
Potassium (K)	.4	.01	(µmhos at 25°C)	26
Lithium (Li)	.01	--	pH	6.1
Copper (Cu)	<.01	--	Color	
Zinc (Zn)	.08	--	Percent sodium	50
			SAR	.5

Cations (epm) 0.26

Bicarbonate (HCO ₃)	10	0.16
Carbonate (CO ₃)	0.	.00
Sulfate (SO ₄)	1.0	.02
Chloride (Cl)	2.2	.06
Fluoride (F)	<.1	--
Nitrate (NO ₃)	2.1	.03
Phosphate (PO ₄)	<.01	--

Anions (epm) 0.27

Remarks:

Checked from
Original Records

Lab. No. 660458 Analysts G. F. Scarbro By _____ Date Checked 1-14-66
 Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J27-1
Location Lumberton, Lamar Co., Mississippi
SE 1/4 NE 1/4 1/4 Sec. 27, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1320
Col. By USGS
Field detns: Temp. (°F) 68 pH _____
Sp. Cond. (μmhos) _____ Eh _____
Appearance Clear

Well Type Drilled Use Dom; stock
Depth (ft) 39 Cased to 38.41 ft.
Diam. (in) 8 Date Drilled 1949
Water level (ft) 38.62 below l.s.d., 4-23-65
Discharge Bucket well
W.B.F. Quaternary (alluvium, terrace deposits, etc.)
Owner Hubert Powell, Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>1.1</u>		<u>2-5-66</u>
Gross α as U equivalent <u>μg/l</u>	<u>2.5</u>		<u>2-5-66</u>
Net extr. α; U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	<u>26</u>		
<hr/>			
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml 2-9-66)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
Date data released 2-11-66
Program classification _____

Analyst P.K. Roscio; T. Curran; H.C. Claassen
Date checked 2-11-66
Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J32-1
 Location Lumberton, Lamar Co., Mississippi
 NE $\frac{1}{4}$ NW $\frac{1}{4}$ $\frac{1}{4}$ Sec. 32, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1355
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 64 pH _____
 Sp. Cond. (μ mhos) _____ Eh _____
 Appearance Clear
 Well Type Drilled Use Dom; stock
 Depth (ft.) 454 Cased to 442 ft.
 Diam. (in.) 2 Date drilled June 1956
 Water level (ft.) Unknown
 Discharge A few gpm (estimated)
 W. B. F. Miocene (sands and small gravel)
 Owner John Q. Butler,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO_2)	<u>43</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>162</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>164</u>
Manganese (Mn)	<u>.17</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>16</u>	<u>0.80</u>	Hardness as CaCO_3 (ppm)	
Magnesium (Mg)	<u>3.3</u>	<u>.27</u>	Total	<u>54</u>
Strontium (Sr)	<u>.33</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>27</u>	<u>1.17</u>	Specific conductance	
Potassium (K)	<u>2.6</u>	<u>.07</u>	(μ mhos at 25°C)	<u>233</u>
Lithium (Li)	<u>.04</u>	<u>--</u>	pH	<u>7.0</u>
Copper (Cu)	<u>.03</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.39</u>	<u>--</u>	Percent sodium	<u>50</u>
			SAR	<u>1.6</u>

Cations (epm) 2.33

Bicarbonate (HCO_3)	<u>126</u>	<u>2.07</u>
Carbonate (CO_3)	<u>0</u>	<u>.00</u>
Sulfate (SO_4)	<u>2.0</u>	<u>.04</u>
Chloride (Cl)	<u>7.6</u>	<u>.21</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO_3)	<u>.1</u>	<u>.00</u>
Phosphate (PO_4)	<u><.01</u>	<u>--</u>

Anions (epm) 2.32

Remarks:

Checked from
Original Records

Lab. No. 660459 Analysts G. F. Scarbro By 53 Date Checked 1-14-66
 Date 3-3-66

Lab. No. 660459U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - RadiochemicalSource Well J32-1Location Lumberton, Lamar Co., MississippiNE 1/4 NW 1/4 1/4 Sec 32, T 2 N. R 16 W. Field/Office No. _____Date Col. 10-26-65 Time 1355Col. By USGSField detns: Temp. (°F) 64 pH _____Sp. Cond. (μmhos) EhAppearance ClearWell Type Drilled Use Dom; stockDepth (ft) 454 Cased to 442 ft.Diam. (in) 2 Date Drilled June 1956Water level (ft) UnknownDischarge A few gpm (estimated)W.B.F. Miocene (sands and small gravel)Owner John Q. Butler,Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>2.3</u>		<u>1-8-66</u>
Gross α as U equivalent <u>μg/l</u>	<u><2.2</u>		<u>1-8-66</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	<u>170</u>		

Isotopic Analysis		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (uc/ml 2-9-66)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65Date data released 1-17-66

Program classification _____

Analyst T. Curran; P.K. Roscio; H.C. ClaasseDate checked 1-17-66Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J34-2
 Location Baxterville, Lamar Co., Mississippi
 NW $\frac{1}{4}$ SE $\frac{1}{4}$ $\frac{1}{4}$ Sec. 34, T. 2 N., R. 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1340
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 63 pH _____
 Sp. Cond. (μ hos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock; ind _____
 Depth (ft.) 132 Cased to 127 ft.
 Diam. (in.) 4 Date drilled Oct. 1960
 Water level (ft.) 68.72 below l.s.d., 8-14-61
 Discharge 25 gpm
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Kerry Kittrell, Baxterville, Miss.

Chemical components		Physical characteristics and computed values	
	ppm		
Silica (SiO ₂)	<u>8.8</u>	Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>	Res. on evap. at 180 $^{\circ}$ C	<u>24</u>
Iron (Fe)	<u><.01</u>	Calculated	<u>20</u>
Manganese (Mn)	<u>.02</u>	Suspended solids (ppm)	
Calcium (Ca)	<u>.4</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.6</u>	Total	<u>4</u>
Strontium (Sr)	<u><.02</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>2.6</u>	Specific conductance	
Potassium (K)	<u>.3</u>	(μ hos at 25 $^{\circ}$ C)	<u>19</u>
Lithium (Li)	<u><.01</u>	pH	<u>6.2</u>
Copper (Cu)	<u>.07</u>	Color	
Zinc (Zn)	<u>.03</u>	Percent sodium	<u>58</u>
		SAR	<u>.6</u>

Cations (epm) 0.19

Remarks:

Bicarbonate (HCO ₃)	<u>5</u>	<u>0.08</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u>1.0</u>	<u>.02</u>
Chloride (Cl)	<u>2.4</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>1.6</u>	<u>.03</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.20

Lab. No. 660460 Analysts G. F. Scarbro By _____ Date Checked 1-14-66
 QW - 1A 55 Date 3-3-66
 Checked from Original Records

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J34-2
 Location Baxterville, Lamar Co., Mississippi
 NW 1/4 SE 1/4 1/4 Sec 34, T 2 N., R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1340
 Col. By USGS
 Field detns: Temp. (°F) 63 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock; Ind
 Depth (ft) 132 Cased to 127 ft.
 Diam. (in) 4 Date Drilled Oct. 1960
 Water level (ft) 68.72 below l.s.d., 8-14-61
 Discharge 25 gpm
 W.B.F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Kerry Kittrell, Baxterville, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μg/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	0.7		12-28-65
Gross α as U equivalent μg/l	.9		12-28-65
Net extr. α, U equivalent μg/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	19		
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 1-5-66
 Program classification _____

Analyst T. Curran; P.K. Roscio; H.C. Claassen
 Date checked 1-5-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Lab. No. 660461U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Well J34-9
Location Baxterville, Lamar Co., Mississippi
SW $\frac{1}{4}$ NW $\frac{1}{4}$ $\frac{1}{4}$ Sec. 34, T. 2 N., R. 16 W. Field/Office No. _____Date Col. 10-26-65 Time 1350
Col. By USGS
Field detns: Temp. ($^{\circ}$ F) 76 pH _____
Sp. Cond. (μ hos) _____ Eh _____
Appearance ClearWell Type Drilled Use Dom; stock
Depth (ft.) 138 Cased to 132
Diam. (in.) 2 Date drilled 1952
Water level (ft.) 80 below l.s.d., 1954
Discharge A few gpm (estimated)
W. B. F. Quaternary (alluvium,
terrace deposits, etc.)
Owner Martha Entrekin,
Baxterville, Miss.

Chemical components

ppm

epm

Silica (SiO ₂)	<u>8.8</u>	
Aluminum (Al)	<u>.01</u>	
Iron (Fe)	<u><.01</u>	
Manganese (Mn)	<u>.02</u>	
Calcium (Ca)	<u>.7</u>	<u>0.03</u>
Magnesium (Mg)	<u>1.1</u>	<u>.09</u>
Strontium (Sr)	<u><.02</u>	<u>--</u>
Sodium (Na)	<u>3.0</u>	<u>.13</u>
Potassium (K)	<u>.4</u>	<u>.01</u>
Lithium (Li)	<u><.01</u>	<u>--</u>
Copper (Cu)	<u>.11</u>	<u>--</u>
Zinc (Zn)	<u>.18</u>	<u>--</u>

Cations (epm) 0.26

Bicarbonate (HCO ₃)	<u>4</u>	<u>0.07</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u>1.0</u>	<u>.02</u>
Chloride (Cl)	<u>4.1</u>	<u>.12</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>4.0</u>	<u>.06</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.27Physical characteristics
and computed values

Dissolved Solids (ppm)	
Res. on evap. at 180 $^{\circ}$ C	<u>29</u>
Calculated	<u>25</u>
Suspended solids (ppm)	
Hardness as CaCO ₃ (ppm)	
Total	<u>6</u>
Non-carbonate	<u>3</u>
Specific conductance	
(μ hos at 25 $^{\circ}$ C)	<u>33</u>
pH	<u>6.1</u>
Color	
Percent sodium	<u>50</u>
SAR	<u>.5</u>

Remarks:

Lab. No. 660461 Analysts G. F. Scarbro By _____ Date Checked 1-14-66
NW - 1A 57 Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J34-9
 Location Baxterville, Lamar Co., Mississippi
 SW 1/4 NW 1/4 1/4 Sec 34, T 2 N., R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1350
 Col. By USGS
 Field detns: Temp. (°F) 76 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft) 138 Cased to 132
 Diam. (in) 2 Date Drilled 1952
 Water level (ft) 80 below l.s.d., 1954
 Discharge A few gpm (estimated)
 W.B.F. Quaternary (alluvium, terrace deposits, etc.)
 Owner Martha Entrekin, Baxterville, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra^{226}			
Gross β (as $Sr^{90} - Y^{90}$)	<u>1.3</u>		<u>12-28-65</u>
Gross α as U equivalent <u>μg/l</u>	<u>.6</u>		<u>12-28-65</u>
Net extr. α , U equivalent <u>μg/l</u>			
Gross γ (as Cs^{137})			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	<u>31</u>		
<hr/>			
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>μc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
<hr/>			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 1-5-66
 Program classification _____

Analyst T. Curran; P.K. Roscio; H.C. Claasse
 Date checked 1-5-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Lab. No. 660462U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J34-14
 Location Baxterville, Lamar Co., Mississippi
SW ¼ SW ¼ SE ¼ Sec. 34, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1410
 Col. By USGS
 Field detns: Temp. (°F) 69 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom
 Depth (ft.) 100 Cased to 94 ft.
 Diam. (in.) 2 Date drilled March 1961
 Water level (ft.) 65 below 1.s.d., 1963
 Discharge 3.5 gpm, 4-25-63 (measured)
 W. B. F. Citronelle Fm.

Owner H. G. Thompson,
Baxterville, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>11</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>26</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>22</u>
Manganese (Mn)	<u>.03</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>.4</u>	<u>0.02</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.4</u>	<u>.03</u>	Total	<u>3</u>
Strontium (Sr)	<u>.04</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>2.7</u>	<u>.12</u>	Specific conductance	
Potassium (K)	<u>.7</u>	<u>.02</u>	(µmhos at 25°C)	<u>19</u>
Lithium (Li)	<u><.01</u>	<u>--</u>	pH	<u>6.0</u>
Copper (Cu)	<u>.07</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.10</u>	<u>--</u>	Percent sodium	<u>63</u>
			SAR	<u>.8</u>

Cations (epm) 0.19

Remarks:

Bicarbonate (HCO ₃)	<u>5</u>	<u>0.08</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u>1.0</u>	<u>.02</u>
Chloride (Cl)	<u>2.6</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>1.5</u>	<u>.02</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.19Checked from
Original Records

Lab. No. 660462 Analysts G. F. Scarbro By _____ Date Checked 1-14-66
 59 Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J34-14

Location Baxterville, Lamar Co., Mississippi

SW 1/4 SW 1/4 SE 1/4 Sec 34, T 2 N., R 16 W. Field/Office No.

Date Col. 10-26-65 Time 1410
 Col. By USGS
 Field detns: Temp. (°F) 69 pH
 Sp. Cond. (μmhos) Eh
 Appearance Clear

Well Type Drilled Use Dom
 Depth (ft) 100 Cased to 94 ft.
 Diam. (in) 2 Date Drilled March 1961
 Water level (ft) 65 below l.s.d., 1963
 Discharge 3.5 gpm, 4-25-63 (measured)
 W.B.F. Citronelle Fm.

Owner H. G. Thompson,
 Baxterville, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μg/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	0.5		12-28-65
Gross α as U equivalent μg/l	<.6		12-28-65
Net extr. α, U equivalent μg/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	21		

Isotopic Analysis		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65

Date data released 1-5-66

Program classification

Analyst T. Curran; H.C. Claassen

Date checked 1-5-66

Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
 Original Records

By
 Date 2-22-66

Lab. No. 660463U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Well J36-4
Location Baxterville, Lamar Co., Mississippi
NW $\frac{1}{4}$ SE $\frac{1}{4}$ $\frac{1}{4}$ Sec. 36, T. 2 N., R. 16 W. Field/Office No. _____Date Col. 10-26-65 Time 1440
Col. By USGS
Field detns: Temp. ($^{\circ}$ F) 68 pH _____
Sp. Cond. (μ mhos) _____ Eh _____
Appearance ClearWell Type Bored Use Dqm; stock
Depth (ft.) 86 Cased to 80 ft.
Diam. (in.) 2 Date drilled 1953
Water level (ft.) 50 $\pm$ below l.s.d., 5-24-61
Discharge 5.4 gpm, 1963(?)
W. B. F. Quaternary (alluvium, terrace deposits, etc.)
Owner Arthur Lowe, Baxterville, Miss.

Chemical components		Physical characteristics and computed values	
	ppm		epm
Silica (SiO_2)	<u>13</u>	Dissolved Solids (ppm)	
Aluminum (Al)	<u>.01</u>	Res. on evap. at 180°C	<u>31</u>
Iron (Fe)	<u><.01</u>	Calculated	<u>29</u>
Manganese (Mn)	<u>.04</u>	Suspended solids (ppm)	
Calcium (Ca)	<u>1.0</u>	Hardness as CaCO_3 (ppm)	
Magnesium (Mg)	<u>.8</u>	Total	<u>6</u>
Strontium (Sr)	<u><.02</u>	Non-carbonate	<u>1</u>
Sodium (Na)	<u>2.7</u>	Specific conductance	
Potassium (K)	<u>1.2</u>	(μ mhos at 25°C)	<u>36</u>
Lithium (Li)	<u><.01</u>	pH	<u>6.0</u>
Copper (Cu)	<u>.07</u>	Color	
Zinc (Zn)	<u>.80</u>	Percent sodium	<u>44</u>
		SAR	<u>.5</u>

Cations (epm) 0.27

Remarks:

Bicarbonate (HCO_3)	<u>7</u>	<u>0.11</u>
Carbonate (CO_3)	<u>0</u>	<u>.00</u>
Sulfate (SO_4)	<u>1.0</u>	<u>.02</u>
Chloride (Cl)	<u>3.6</u>	<u>.10</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO_3)	<u>2.8</u>	<u>.05</u>
Phosphate (PO_4)	<u><.01</u>	<u>--</u>

Anions (epm) 0.28Checked from
Original RecordsLab. No. 660463 Analysts G. F. ScarbroDate Checked 1-14-66

QW - 1A

61

By _____
Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well J36-4Location Baxterville, Lamar Co., MississippiNW 1/4 SE 1/4 1/4 Sec 36, T 2 N., R 16 W. Field/Office No. _____

Date Col. 10-26-65 Time 1440
Col. By USGS
Field detns: Temp. (°F) 68 pH _____
Sp. Cond. (μmhos) Eh
Appearance Clear

Well Type Bored Use Dom; stock
Depth (ft) 86 Cased to 80 ft.
Diam. (in) 2 Date Drilled 1953
Water level (ft) 50 + below l.s.d., 5-24-61
Discharge 5.4 gpm, 1963(?)
W.B.F. Quaternary (alluvium, terrace deposits, etc.)
Owner Arthur Lowe, Baxterville, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>1.7</u>		<u>12-28-65</u>
Gross α as U equivalent <u>μg/l</u>	<u>1.5</u>		<u>12-28-65</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	<u>31</u>		
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>μc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65Date data released 1-5-66

Program classification _____

Analyst T. Curran; P.K. Roscio; H.C. ClaassenDate checked 1-5-66Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source <u>Well K7-1</u>	
Location <u>Lumberton, Lamar Co., Mississippi</u>	
NW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. <u>7</u> , T. <u>2 N.</u> , R. <u>15 W.</u> Field/Office No. _____	
Date Col. <u>10-26-65</u> Time <u>1615</u>	Well Type <u>Bored</u> Use <u>Dom; stock</u>
Col. By <u>USGS</u>	Depth (ft.) <u>98</u> Cased to <u>93 ft.</u>
Field detns: Temp. ($^{\circ}$ F) <u>68</u> pH _____	Diam. (in.) <u>2</u> Date drilled <u>1949</u>
Sp. Cond. (μ hos) _____ Eh _____	Water level (ft.) <u>76 below l.s.d., 1949</u>
Appearance <u>Colored</u>	Discharge <u>4 gpm, 3-27-63 (measured)</u>
	W. B. F. <u>Quaternary (alluvium, terrace deposits, etc.)</u>
	Owner <u>R. L. Anderson, Sr., Rt. 4, Lumberton, Miss.</u>

Chemical components		Physical characteristics and computed values	
	ppm		
Silica (SiO ₂)	8.0	Dissolved Solids (ppm)	
Aluminum (Al)	<.01	Res. on evap. at 180°C	22
Iron (Fe)	<.01	Calculated	20
Manganese (Mn)	.07	Suspended solids (ppm)	
Calcium (Ca)	.3	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	.5	Total	3
Strontium (Sr)	<.02	Non-carbonate	0
Sodium (Na)	2.8	Specific conductance	
Potassium (K)	.6	(μ hos at 25°C)	21
Lithium (Li)	<.01	pH	6.0
Copper (Cu)	.12	Color	
Zinc (Zn)	.31	Percent sodium	63
		SAR	.8

Cations (epm) 0.19

Remarks:

Bicarbonate (HCO ₃)	4	0.07
Carbonate (CO ₃)	0	.00
Sulfate (SO ₄)	1.0	.02
Chloride (Cl)	2.4	.07
Fluoride (F)	<.1	--
Nitrate (NO ₃)	2.2	.04
Phosphate (PO ₄)	<.01	--

Anions (epm) 0.20

Checked from
Original Records

Lab. No. 660464 Analysts G. F. Scarbro By 63 Date Checked 1-14-66
Date 3-3-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well K7-1
 Location Lumberton, Lamar Co., Mississippi
NW 1/4 SW 1/4 1/4 Sec. 7, T. 2 N., R. 15 W. Field/Office No. _____

Date Col. 10-26-65 Time 1615
 Col. By USGS
 Field detns: Temp. (°F) 68 pH _____
 Sp. Cond. (μmhos) _____ Eh _____
 Appearance Colored

Well Type Bored Use Dom; stock
 Depth (ft) 98 Cased to 93 ft.
 Diam. (in) 2 Date Drilled 1949
 Water level (ft) 76 below l.s.d., 1949
 Discharge 4 gpm, 3-27-63 (measured)
 W.B.F. Quaternary (alluvium,
terrace deposits, etc.)
 Owner R. L. Anderson, Sr.,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium <u>μg/l</u>			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<u>3.8</u>		<u>2-5-66</u>
Gross α as U equivalent <u>μg/l</u>	<u>1.1</u>		<u>2-5-66</u>
Net extr. α, U equivalent <u>μg/l</u>			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids <u>mg/l</u>	<u>20</u>		

Isotopic Analysis		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (<u>μc/ml 2-9-66</u>)	<u>ND</u>		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 2-11-66
 Program classification _____

Analyst P.K. Roscio; T. Curran; H.C. Claassen
 Date checked 2-11-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well K7-4
 Location Purvis, Lamar Co., Mississippi
SE ¼ SW ¼ ¼ Sec. 7, T. 2 N., R. 15 W. Field/Office No. _____

Date Col. 10-26-65 Time 1610
 Col. By USGS
 Field detns: Temp. (°F) 68 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear
 Well Type Bored Use Dom; stock
 Depth (ft.) 80 Cased to 80
 Diam. (in.) 6 to 2 Date drilled 1951
 Water level (ft.) 70 below l.s.d., 1961
 Discharge 3 gpm, 8-18-64
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner G. W. Anderson,
Rt. 1, Purvis, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>8.0</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>16</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>17</u>
Manganese (Mn)	<u>.10</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>.6</u>	<u>0.03</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.4</u>	<u>.03</u>	Total	<u>3</u>
Strontium (Sr)	<u>.15</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>1.5</u>	<u>.07</u>	Specific conductance	
Potassium (K)	<u>.6</u>	<u>.02</u>	(µmhos at 25°C)	<u>16</u>
Lithium (Li)	<u>.01</u>	<u>--</u>	pH	<u>6.0</u>
Copper (Cu)	<u>.03</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.17</u>	<u>--</u>	Percent sodium	<u>47</u>
			SAR	<u>.4</u>

Cations (epm) 0.15

Bicarbonate (HCO ₃)	<u>4</u>	<u>0.07</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.4</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>.00</u>
Nitrate (NO ₃)	<u>1.2</u>	<u>.02</u>
Phosphate (PO ₄)	<u>.11</u>	<u>--</u>

Anions (epm) 0.16

Remarks:

Checked from

Lab. No. 660465 Analysts G. F. Scarbro Original Records _____ Date Checked 2-11-66
 QW - 1A _____ 65 _____ By _____
 Date 2-28-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well K7-4
 Location Purvis, Lamar Co., Mississippi
SE 1/4 SW 1/4 1/4 Sec. 7, T. 2 N., R. 15 W. Field/Office No. _____

Date Col. 10-26-65 Time 1610
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 68 pH _____
 Sp. Cond. (μ mhos) _____ Eh _____
 Appearance Clear

Well Type Bored Use Dom; stock
 Depth (ft) 80 Cased to 80
 Diam. (in) 6 to 2 Date Drilled 1951
 Water level (ft) 70 below l.s.d., 1961
 Discharge 3 gpm, 8-18-64
 W.B.F. Quaternary (alluvium, terrace deposits, etc.)
 Owner G. W. Anderson, Rt. 1, Purvis, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	0.6		2-6-66
Gross α as U equivalent μ g/l	1.9		2-6-66
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	17		

Isotopic Analysis		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μ c/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 2-11-66
 Program classification _____

Analyst P.K. Roscio; E. Villasana; H.C. Claasser
 Date checked 2-11-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Well K9-2
Location Purvis, Lamar Co., Mississippi
SE ¼ SE ¼ ¼ Sec. 9, T. 2 N., R. 15 W. Field/Office No. _____Date Col. 10-25-65 Time 1645
Col. By USGS
Field detns: Temp. (°F) 69 pH _____
Sp. Cond. (µmhos) _____ Eh _____
Appearance Clear
Well Type Drilled Use Dom; stock
Depth (ft.) 131 Cased to 125 ft.
Diam. (in.) 2 Date drilled 1959
Water level (ft.) 80 below l.s.d., 1959
Discharge A few gpm (estimated)
W. B. F. Quaternary (alluvium, terrace deposits, etc.)
Owner Mississippi Forestry Commission
Rt. 1, Purvis, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>11</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>18</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>20</u>
Manganese (Mn)	<u><.02</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>.8</u>	<u>0.04</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.3</u>	<u>.02</u>	Total	<u>3</u>
Strontium (Sr)	<u>.09</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>1.5</u>	<u>.07</u>	Specific conductance	
Potassium (K)	<u>1.1</u>	<u>.03</u>	(µmhos at 25°C)	<u>21</u>
Lithium (Li)	<u>.01</u>	<u>--</u>	pH	<u>5.4</u>
Copper (Cu)	<u>.02</u>	<u>--</u>	Color	
Zinc (Zn)	<u>1.1</u>	<u>--</u>	Percent sodium	<u>44</u>
			SAR	<u>.4</u>

Cations (epm) 0.16

Bicarbonate (HCO ₃)	<u>6</u>	<u>0.10</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.2</u>	<u>.06</u>
Fluoride (F)	<u>.0</u>	<u>.00</u>
Nitrate (NO ₃)	<u>.2</u>	<u>.00</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.16

Remarks:

Checked from
Original RecordsLab. No. 660466 Analysts G. F. Scarbro By _____ Date Checked 2-11-66

QW - 1A

Date 2-28-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well K9-2
Location Purvis, Lamar Co., Mississippi
SE 1/4 SE 1/4 1/4 Sec 9, T 2 N., R 15 W. Field/Office No. _____

Date Col. 10-25-65 Time 1645
Col. By USGS
Field detns: Temp. (°F) 69 pH _____
Sp. Cond. (µmhos) _____ Eh _____
Appearance Clear

Well Type Drilled Use Dom; stock
Depth (ft) 131 Cased to 125 ft.
Diam. (in) 2 Date Drilled 1959
Water level (ft) 80 below l.s.d., 1959
Discharge A few gpm (estimated)
W.B.F. Quaternary (alluvium,
terrace deposits, etc.)
Owner Mississippi Forestry Commission
Rt. 1, Purvis, Miss.

Elements	pc/l	pc/g	Date determined
Uranium µg/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	1.1		1-8-66
Gross α as U equivalent µg/l	1.1		1-8-66
Net extr. α, U equivalent µg/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	21		
<hr/>			
Isotopic Analysis		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (µc/ml 2-9-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
<hr/>			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
Date data released 1-17-66
Program classification _____

Analyst T. Curran; E. Villasana; H. C. Claassen
Date checked 1-17-66
Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well K18-8
 Location Lumberton, Lamar Co., Mississippi
NW ¼ SW ¼ ¼ Sec. 18, T. 2 N., R. 15 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1555
 Col. By USGS
 Field detns: Temp. (°F) 68 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear
 Well Type Drilled Use Dom; stock
 Depth (ft.) 78 Cased to 78 ft.
 Diam. (in.) 2 Date drilled July 1963
 Water level (ft.) Unknown
 Discharge A few gpm (estimated)
 W. B. F. Quaternary (alluvium,
terrace deposits, etc.)
 Owner R. L. Anderson, Jr.
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	8.0		Dissolved Solids (ppm)	
Aluminum (Al)	<.01		Res. on evap. at 180°C	20
Iron (Fe)	<.01		Calculated	22
Manganese (Mn)	.06		Suspended solids (ppm)	
Calcium (Ca)	1.4	0.07	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	1.0	.08	Total	8
Strontium (Sr)	.08	--	Non-carbonate	1
Sodium (Na)	1.6	.07	Specific conductance	
Potassium (K)	.6	.02	(µmhos at 25°C)	26
Lithium (Li)	.01	--	pH	5.6
Copper (Cu)	.02	--	Color	
Zinc (Zn)	2.7	--	Percent sodium	29
			SAR	.3

Cations (epm) 0.24

Remarks:

Bicarbonate (HCO ₃)	8	0.13
Carbonate (CO ₃)	0	.00
Sulfate (SO ₄)	<.1	--
Chloride (Cl)	2.4	.07
Fluoride (F)	<.1	--
Nitrate (NO ₃)	2.9	.05
Phosphate (PO ₄)	<.01	--

Anions (epm) 0.25

Checked from

Original Records

Lab. No. 660467 Analysts G. F. Scarbro By Date 2-28-66 Date Checked 2-11-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well K-18-8

Location	Lumberton, Lamar Co., Mississippi
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NW 1/4 SW 1/4 1/4 Sec. 18, T. 2 N., R. 15 W. Field/Office No.

Date Col. 10-26-65 Time 1555

Col. By USGS

Field detns: Temp. (°F) 68 pH

Sp. Cond. (μ mhos) Eh

Appearance Clear

Well Type	Drilled	Use	Dom: stock
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Depth (ft) 78 Cased to 78 ft.

Diam. (in) 2 Date Drilled July 1963

Water level (ft) Unknown

Discharge A few gpm (estimated)

W.B.F. Quaternary (alluvium,
terrace deposits, etc.)

Owner R. L. Anderson, Jr.

Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium $\mu\text{g/l}$			
Radium as Ra^{226}			
Gross β (as $\text{Sr}^{90} - \text{Y}^{90}$)	1.1		2-6-66
Gross α as U equivalent $\mu\text{g/l}$	1.6		2-6-66
Net extr. α , U equivalent $\mu\text{g/l}$			
Gross γ (as Cs^{137})			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	22		

Isotopic Analysis			Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰				
Cerium-praseodymium ¹⁴⁴				
Cesium ¹³⁷				
Chromium ⁵⁷				
Cobalt ⁶⁰				
Ruthenium-rhodium ¹⁰⁶				
Tritium (uc/ml 2-1-66)	ND			
Zinc ⁶⁵				
Zirconium-niobium ⁹⁵				
ND: Sought but not detected by method used.				

Date sample received 12-14-65

Date data released 2-11-66

Program classification

Analyst P.K.Roscio; E.Villasana;H.C.Claasser

Date checked 2-11-66

Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

By _____
D. 2-22-66

Lab. No. 660468U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Well K33-2
Location Purvis, Lamar Co., Mississippi
NE 1/4 NW 1/4 1/4 Sec. 33, T. 2 N., R. 15 W. Field/Office No. _____Date Col. 10-26-65 Time 1510
Col. By USGS
Field detns: Temp. (°F) 67 pH _____
Sp. Cond. (μmhos) _____ Eh _____
Appearance ClearWell Type Bored Use Dom; stock
Depth (ft.) 45 Cased to 45 ft.
Diam. (in.) 8 Date drilled 1936
Water level (ft.) 30.37 below l.s.d., 4-23-65
Discharge Bucket well
W. B. F. Quaternary (alluvium, terrace deposits, etc.)
Owner Mrs. W. M. Courtney, Rt. 1, Purvis, Miss.

Chemical components

ppm

epm

Silica (SiO ₂)	<u>7.3</u>	
Aluminum (Al)	<u><.01</u>	
Iron (Fe)	<u><.01</u>	
Manganese (Mn)	<u>.14</u>	
Calcium (Ca)	<u>1.6</u>	<u>0.08</u>
Magnesium (Mg)	<u>.4</u>	<u>.03</u>
Strontium (Sr)	<u>.06</u>	<u>--</u>
Sodium (Na)	<u>1.6</u>	<u>.07</u>
Potassium (K)	<u>.5</u>	<u>.01</u>
Lithium (Li)	<u>.02</u>	<u>--</u>
Copper (Cu)	<u>.02</u>	<u>--</u>
Zinc (Zn)	<u>.19</u>	<u>--</u>

Cations (epm) 0.19

Bicarbonate (HCO ₃)	<u>4</u>	<u>0.07</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.6</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>2.8</u>	<u>.05</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.19Physical characteristics
and computed values

Dissolved Solids (ppm)	
Res. on evap. at 180°C	<u>20</u>
Calculated	<u>19</u>
Suspended solids (ppm)	
Hardness as CaCO ₃ (ppm)	
Total	<u>6</u>
Non-carbonate	<u>2</u>
Specific conductance (μmhos at 25°C)	<u>19</u>
pH	<u>5.6</u>
Color	
Percent sodium	<u>37</u>
SAR	<u>.3</u>

Remarks:

Checked from
Original RecordsLab. No. 660468 Analysts G. F. Searbro By _____ Date Checked 2-11-66

QW - 1A

71

Date 2-28-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source	Well K33-2		
Location	Purvis, Lamar Co., Mississippi		
	NE 1/4	NW 1/4	1/4 Sec. 33, T. 2 N., R. 15 W. Field/Office No.
Date Col.	10-26-65	Time	1510
Col. By	USGS		
Field detns: Temp. (°F)	67	pH	
Sp. Cond. (µmhos)		Eh	
Appearance	Clear		
Well Type	Bored	Use	Dom; stock
Depth (ft)	45	Cased to	45 ft.
Diam. (in)	8	Date Drilled	1936
Water level (ft)	30.37 below l.s.d., 4-23-65		
Discharge	Bucket well		
W.B.F.	Quaternary (alluvium, terrace deposits, etc.)		
Owner	Mrs. W. M. Courtney, Rt. 1, Purvis, Miss.		

Elements	pc/l	pc/g	Date determined
Uranium $\mu\text{g/l}$			
Radium as Ra^{226}			
Gross β (as Sr^{90} - Y^{90})	0.7		2-6-66
Gross α as U equivalent $\mu\text{g/l}$	.8		2-6-66
Net extr. α , U equivalent $\mu\text{g/l}$			
Gross γ (as Cs^{137})			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	18		
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (uc/ml 2-1-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND; Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 2-11-66
 Program classification

Analyst T. Curran; P.K. Roscio; H.C. Claassen
 Date checked 2-11-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well K28-1
 Location Purvis, Lamar Co., Mississippi
NW ¼ NW ¼ Sec. 28, T. 2 N., R. 15 W. Field/Office No. _____

Date Col. 10-26-65 Time 1520
 Col. By USGS
 Field detns: Temp. (°F) 68 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft.) 102 Cased to 99 ±
 Diam. (in.) 2 Date drilled June 1955
 Water level (ft.) Unknown
 Discharge A few gpm (estimated)
 W. B. F. Quaternary (alluvium, terrace deposits, etc.)
 Owner John H. Busha,
Rt. 1, Purvis, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>9.2</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>26</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>23</u>
Manganese (Mn)	<u>.08</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>1.6</u>	<u>0.08</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.4</u>	<u>.03</u>	Total	<u>6</u>
Strontium (Sr)	<u><.02</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>2.6</u>	<u>.11</u>	Specific conductance	
Potassium (K)	<u>.6</u>	<u>.02</u>	(µmhos at 25°C)	<u>34</u>
Lithium (Li)	<u>.01</u>	<u>--</u>	pH	<u>5.6</u>
Copper (Cu)	<u>.05</u>	<u>--</u>	Color	
Zinc (Zn)	<u>5.7</u>	<u>--</u>		<u>46</u>
			SAR	<u>.5</u>

Cations (epm) 0.24

Bicarbonate (HCO ₃)	<u>10</u>	<u>0.16</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.4</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>.9</u>	<u>.01</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.24

Remarks:

Lab. No. 660485 Analysts G. F. Scarbro By _____ Date Checked 2-11-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well K28-1
 Location Purvis, Lamar Co., Mississippi
 NW 1/4 NW 1/4 1/4 Sec. 28, T. 2 N., R. 15 W. Field/Office No. _____

Date Col. 10-26-65 Time 1520
 Col. By USGS
 Field detns: Temp. ($^{\circ}$ F) 68 pH _____
 Sp. Cond. (μ hos) _____ Eh _____
 Appearance Clear

Well Type Drilled Use Dom; stock
 Depth (ft) 102 Cased to 99 ±
 Diam. (in) 2 Date Drilled June 1955
 Water level (ft) Unknown
 Discharge A few gpm (estimated)
 W.B.F. Quaternary (alluvium, terrace deposits, etc.)
 Owner John H. Busha, Rt. 1, Purvis, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	0.8		2-6-66
Gross α as U equivalent μ g/l	.8		2-6-66
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	28		

Isotopic Analysis		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μ c/ml 2-1-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
 Date data released 2-11-66
 Program classification _____

Analyst P.K. Roscio; H.C. Claassen
 Date checked 2-11-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well J8-4
 Location Lumberton, Lamar Co., Mississippi
SE ¼ SW ¼ ¼ Sec. 8, T. 2 N., R. 16 W. Field/Office No. _____
 Date Col. 10-26-65 Time 1215
 Col. By USGS
 Field detns: Temp. (°F) 67 pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear
 Well Type Drilled Use Dom; stock
 Depth (ft.) 280 Cased to 275 ft.
 Diam. (in.) 2 Date drilled 1959
 Water level (ft.) 70 or 80 below l.s.d., 1959
 Discharge A few gpm (estimated)
W. B. F. Pascagoula and Hattiesburg Fms.,
undiff.
 Owner James R. Boler,
Rt. 4, Lumberton, Miss.

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>41</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>166</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>167</u>
Manganese (Mn)	<u>.28</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>19</u>	<u>0.95</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>4.7</u>	<u>.39</u>	Total	<u>68</u>
Strontium (Sr)	<u>.22</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>24</u>	<u>1.04</u>	Specific conductance	
Potassium (K)	<u>2.4</u>	<u>.06</u>	(µmhos at 25°C)	<u>257</u>
Lithium (Li)	<u>.06</u>	<u>--</u>	pH	<u>7.6</u>
Copper (Cu)	<u>.03</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.47</u>	<u>--</u>	Percent sodium	<u>42</u>
			SAR	<u>1.3</u>

Cations (epm) 2.46

Bicarbonate (HCO ₃)	<u>134</u>	<u>2.20</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>9.0</u>	<u>.25</u>
Fluoride (F)	<u>.1</u>	<u>.01</u>
Nitrate (NO ₃)	<u>.2</u>	<u>.00</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 2.46

Remarks:

Lab. No. 660486 Analysts G. F. Scarbro Checked from Original Records Date Checked 2-11-66
 QW-1A 75 Date 2-28-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source <u>Well J8-4</u>	
Location <u>Lumberton, Lamar Co., Mississippi</u>	
SE <u>1/4</u> SW <u>1/4</u> <u>1/4</u> Sec <u>8</u> , T <u>2 N.</u> , R <u>16 W.</u> Field/Office No. _____	
Date Col. <u>10-26-65</u> Time <u>1215</u>	Well Type <u>Drilled</u> Use <u>Dom; stock</u>
Col. By <u>USGS</u>	Depth (ft) <u>280</u> Cased to <u>275 ft.</u>
Field detns: Temp. (°F) <u>67</u> pH _____	Diam. (in) <u>2</u> Date Drilled <u>1959</u>
Sp. Cond. (μmhos) <u>Eh</u>	Water level (ft) <u>70 or 80 below l.s.d., 1959</u>
Appearance <u>Clear</u>	Discharge <u>A few gpm (estimated)</u>
	W.B.F. <u>Pascagoula and Hattiesburg Fms.,</u>
	<u>undiff.</u>
	Owner <u>James R. Boler,</u>
	<u>Rt. 4, Lumberton, Miss.</u>

Elements	pc/l	pc/g	Date determined	
Uranium μg/l				
Radium as Ra ²²⁶				
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	4.4		1-8-66	
Gross α as U equivalent μg/l	9.0		1-8-66	
Net extr. α, U equivalent μg/l				
Gross γ (as Cs ¹³⁷)				
Potassium ⁴⁰				
Strontium ⁹⁰ *				
Dissolved solids mg/l	180			
Isotopic Analysis			Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰				
Cerium-praseodymium ¹⁴⁴				
Cesium ¹³⁷				
Chromium ⁵⁷				
Cobalt ⁶⁰				
Ruthenium-rhodium ¹⁰⁶				
Tritium (μc/ml 2-1-66)	ND			
Zinc ⁶⁵				
Zirconium-niobium ⁹⁵				
ND; Sought but not detected by method used,				

Date sample received 12-14-65
 Date data released 1-17-66
 Program classification _____

Analyst T. Curran; H.C. Claassen
 Date checked 1-17-66
 Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

Lab. No. 660487U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Well K18-1
 Location Lumberton, Lamar Co., Mississippi
NE ¼ NE ¼ ¼ Sec. 18, T. 2 N., R. 15 W. Field/Office No. _____

Date Col. <u>10-26-65</u>	Time <u>1550</u>	Well Type <u>Bored</u>	Use <u>Dom</u>
Col. By <u>USGS</u>		Depth (ft.) <u>56±</u>	Cased to <u>56±</u>
Field detns: Temp. (°F) <u>66</u>	pH _____	Diam. (in.) <u>2</u>	Date drilled <u>1940±</u>
Sp. Cond. (µmhos) _____	Eh _____	Water level (ft.) <u>37.90</u>	below 1.s.d., <u>8-18-64</u>
Appearance <u>Clear</u>		Discharge <u>A few gpm (estimated)</u>	
		W. B. F. <u>Quaternary (alluvium, terrace deposits, etc.)</u>	
		Owner <u>W. W. Beech,</u>	
		<u>Rt. 4, Lumberton, Miss.</u>	

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>8.6</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u>.15</u>		Res. on evap. at 180°C	<u>42</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>36</u>
Manganese (Mn)	<u><.02</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>3.5</u>	<u>0.17</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.5</u>	<u>.04</u>	Total	<u>11</u>
Strontium (Sr)	<u>.02</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>6.3</u>	<u>.27</u>	Specific conductance	
Potassium (K)	<u>.7</u>	<u>.02</u>	(µmhos at 25°C)	<u>52</u>
Lithium (Li)	<u>.01</u>	<u>--</u>	pH	<u>6.0</u>
Copper (Cu)	<u>.02</u>	<u>--</u>	Color	
Zinc (Zn)	<u>11</u>	<u>--</u>	Percent sodium	<u>54</u>
			SAR	<u>.8</u>

Cations (epm) 0.50

Remarks:

Bicarbonate (HCO ₃)	<u>24</u>	<u>0.39</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u><.1</u>	<u>--</u>
Chloride (Cl)	<u>2.5</u>	<u>.07</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>2.2</u>	<u>.04</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 0.50

Lab. No. 660487 Analysts G. F. Scarbro Checked from Original Records Date Checked 2-11-66
 QW-1A 77 Date 2-28-66

Lab. No. 660487

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Well K18-1
Location Lumberton, Lamar Co., Mississippi
NE 1/4 NE 1/4 1/4 Sec 18, T 2 N., R 15 W. Field/Office No. _____

Date Col. 10-26-65 Time 1550
Col. By USGS
Field detns: Temp. ($^{\circ}$ F) 66 pH _____
Sp. Cond. (μ mhos) Eh
Appearance Clear

Well Type Bored Use Dom
Depth (ft) 56+ Cased to 56 +
Diam. (in) 2 Date Drilled 1940+
Water level (ft) 37.90 below l.s.d., 8-18-64
Discharge A few gpm (estimated)
W.B.F. Quaternary (alluvium, terrace deposits, etc.)
Owner W. W. Beech,
Rt. 4, Lumberton, Miss.

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	1.5		12-28-65
Gross α as U equivalent μ g/l	<.7		12-28-65
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	33		
Isotopic Analysis			Method Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μ c/ml 2-4-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by method used.			

Date sample received 12-14-65
Date data released 1-5-66
Program classification _____

Analyst T. Curran; H.C. Claassen
Date checked 1-5-66
Checked by V. J. Janzer

*Analyzed only when indicated by gross β count.

Checked from
Original Records

By _____
Date 2-22-66

Lab. No. 660488U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water AnalysisSource Water tap at Pure Oil Station north of Lumberton.
Location Lumberton, Lamar Co., Mississippi
SW $\frac{1}{4}$ $\frac{1}{4}$ Sec. 31, T. 1 N., R. 14 W. Field/Office No. Date Col. 10-28-65 Time 1400
Col. By W. T. Oakley
Field detns: Temp. ($^{\circ}$ F) pH
Sp. Cond. (μ mhos) Eh
Appearance ClearWell Type Drilled Use Municipal supply
Depth (ft.) See Remarks Cased to See Remarks
Diam. (in.) See Remarks Date drilled See Remarks
Water level (ft.) See Remarks
Discharge See Remarks
W. B. F. See RemarksOwner Town of Lumberton,
Lumberton, Mississippi

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO_2)	45		Dissolved Solids (ppm)	
Aluminum (Al)	<.01		Res. on evap. at 180°C	164
Iron (Fe)	<.01		Calculated	167
Manganese (Mn)	.03		Suspended solids (ppm)	
Calcium (Ca)	.3	0.01	Hardness as CaCO_3 (ppm)	
Magnesium (Mg)	.1	.01	Total	1
Strontium (Sr)	<.02	--	Non-carbonate	0
Sodium (Na)	49	2.13	Specific conductance	
Potassium (K)	.6	.02	(μ mhos at 25°C)	225
Lithium (Li)	.02	--	pH	7.3
Copper (Cu)	<.02	--	Color	
Zinc (Zn)	.08	--	Percent sodium	98
			SAR	21

Cations (epm) 2.17

Bicarbonate (HCO_3)	124	2.03
Carbonate (CO_3)	0	.00
Sulfate (SO_4)	7.0	.15
Chloride (Cl)	3.6	.10
Fluoride (F)	.1	.01
Nitrate (NO_3)	.2	.00
Phosphate (PO_4)	1.0	--

Anions (epm) 2.29

Remarks:

Depth (ft.): No. 1: 1,005; No. 2: 885.
 Cased to: No. 1: 990 ft.; No. 2: --
 Diam. (in.): No. 1: 8; No. 2: 10 to 8.
 Date drilled: No. 1: 1951; No. 2: 1962.
 Water level (ft.): No. 1: 135 below l.s.d.
 No. 2: 135 below l.s.d.
 Discharge: No. 1: 700 gpm; No. 2: 697 gpm.
 W.B.F.: No. 1: Catahoula Sandstone (?);
 No. 2: Pascagoula and Hattiesburg Fms.,
 undiff.

Lab. No. 660488 Analysts G. F. Scarbro Checked from Original Records Date Checked 2-11-66
 QW-1A 79 Date 2-22-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Water tap at Pure Oil Station north of Lumberton.Location Lumberton, Lamar Co., MississippiSW 1/4 1/4 1/4 Sec 31, T 1 N., R 14 W. Field/Office No. _____Date Col. 10-28-65 Time 1400Col. By W. T. OakleyField detns: Temp. ($^{\circ}$ F) _____ pH _____Sp. Cond. (μ mhos) _____ Eh _____Appearance ClearWell Type Drilled Use Municipal supplyDepth (ft) See Remarks Cased to See RemarksDiam. (in) See Remarks Date Drilled See RemarksWater level (ft) See RemarksDischarge See RemarksW.B.F. See RemarksOwner Town of Lumberton,Lumberton, Mississippi

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	<0.8		12-29-65
Gross α as U equivalent μ g/l	<2.3		12-29-65
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	200		

Isotopic Analysis

Barium-lanthanum¹⁴⁰Cerium-praseodymium¹⁴⁴Cesium¹³⁷Chromium⁵⁷Cobalt⁶⁰Ruthenium-rhodium¹⁰⁶Tritium (μ c/ml 2-4-66)Zinc⁶⁵Zirconium-niobium⁹⁵ND: Sought but not detected by
method used.

Remarks:

Depth (ft.): No. 1: 1,005; No. 2: 885.

Cased to: No. 1: 990 ft.; No. 2: --.

Diam. (in.): No. 1: 8; No. 2: 10 to 8.

Date drilled: No. 1: 1951; No. 2: 1962.

Date drilled: No. 1: 1951; No. 2: 1962.

Water level (ft.): No. 1: 135 below

1.s.d.; No. 2: 135 below 1.s.d.

Discharge: No. 1: 700 gpm; No. 2: 697 gpm.

W.B.F.: No. 1: Catahoula Sandstone (?);
No. 2: Pascagoula and Hattiesburg Fms.,
undiff.Date sample received 12-14-65Date data released 1-5-66

Program classification _____

Analyst T. Curran; H.C. ClaassenDate checked 1-5-66Checked by V. J. Janzer*Analyzed only when indicated by gross β count.

Lab. No. 660489U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Sample collected at tap in County Health Building.
 Location Purvis, Lamar Co., Mississippi
NW ¼ NW ¼ NE ¼ Sec. 16, T. 2 N., R. 14 W. Field/Office No. L16-2
 Date Col. 10-29-65 Time 1620
 Col. By W. T. Oakley
 Field detns: Temp. (°F) _____ pH _____
 Sp. Cond. (µmhos) _____ Eh _____
 Appearance Clear
 Well Type Drilled Use Municipal supply
 Depth (ft.) 984 Cased to _____
 Diam. (in.) 16 Date drilled Sept. 1961
 Water level (ft.) 214.0 below l.s.d., 10-9-61
 Discharge 757 gpm, 2-19-62 (measured)
 W. B. F. Pascagoula and Hattiesburg Fms.,
undiff.
 Owner Town of Purvis,
Purvis, Mississippi

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>46</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>115</u>
Iron (Fe)	<u>.81</u>		Calculated	<u>118</u>
Manganese (Mn)	<u><.02</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>7.8</u>	<u>0.39</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>.4</u>	<u>.03</u>	Total	<u>21</u>
Strontium (Sr)	<u>.15</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>19</u>	<u>.83</u>	Specific conductance	
Potassium (K)	<u>2.0</u>	<u>.05</u>	(µmhos at 25°C)	<u>135</u>
Lithium (Li)	<u>.02</u>	<u>--</u>	pH	<u>7.4</u>
Copper (Cu)	<u><.02</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.01</u>	<u>--</u>	Percent sodium	<u>64</u>
			SAR	<u>1.8</u>

Cations (epm) 1.30

Bicarbonate (HCO ₃)	<u>62</u>	<u>1.02</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u>8.0</u>	<u>.17</u>
Chloride (Cl)	<u>4.3</u>	<u>.12</u>
Fluoride (F)	<u><.1</u>	<u>--</u>
Nitrate (NO ₃)	<u>.6</u>	<u>.01</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 1.32

Remarks:

Checked from
Original RecordsLab. No. 660489 Analysts G. F. Scarbro 81 Date Checked 2-11-66
 Date 2-28-66
 QW - 1A

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - Radiochemical

Source Sample collected at tap in County Health Building.

Location Purvis, Lamar Co., Mississippi

NW 1/4 NW 1/4 NE 1/4 Sec 16, T 2 N., R 14 W. Field/Office No. L16-2

Date Col. 10-29-65 Time 1620

Col. By W. T. Oakley

Field detns: Temp. (°F) pH

Sp. Cond. (μmhos) Eh

Appearance Clear

Well Type Drilled Use Municipal supply

Depth (ft) 984 Cased to

Diam. (in) 16 Date Drilled Sept. 1961

Water level (ft) 214.0 below l.s.d., 10-9-61

Discharge 757 gpm, 2-19-62 (measured)

W.B.F. Pascagoula and Hattiesburg Fms.,

undiff.

Owner Town of Purvis,

Purvis, Mississippi

Elements	pc/l	pc/g	Date determined
Uranium μg/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	2.2		12-29-65
Gross α as U equivalent μg/l	<2.0		12-29-65
Net extr. α, U equivalent μg/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	130		
Isotopic Analysis			
		Method	Corrected for decay to:
Barium-lanthanum ¹⁴⁰			
Cerium-praseodymium ¹⁴⁴			
Cesium ¹³⁷			
Chromium ⁵⁷			
Cobalt ⁶⁰			
Ruthenium-rhodium ¹⁰⁶			
Tritium (μc/ml 2-4-66)	ND		
Zinc ⁶⁵			
Zirconium-niobium ⁹⁵			
ND: Sought but not detected by			
method used.			

Date sample received 12-14-65

Date data released 1-5-66

Program classification

Analyst T. Curran; H.C.Claassen

Date checked 1-5-66

Checked by V. J. Janzer

Checked from
Original RecordsBy
Date 2-22-66

*Analyzed only when indicated by gross β count.

U. S. DEPT. OF THE INTERIOR -- GEOLOGICAL SURVEY
Statement of Water Analysis

Source Sample collected at water tap in AEC Building.
 Location Hattiesburg, Forrest Co., Mississippi
1/4 1/4 1/4 Sec T R Field/Office No. _____

Date Col. 10-29-65 Time 1645 Well Type _____ Use Municipal supply
 Col. By W. T. Oakley Depth (ft.) _____ Cased to _____
 Field detns: Temp. (°F) _____ pH _____ Diam. (in.) _____ Date drilled _____
 Sp. Cond. (μmhos) _____ Eh _____ Water level (ft.) _____
 Appearance _____ Discharge _____
 W. B. F. _____
 Owner _____

Chemical components			Physical characteristics and computed values	
	ppm	epm		
Silica (SiO ₂)	<u>14</u>		Dissolved Solids (ppm)	
Aluminum (Al)	<u><.01</u>		Res. on evap. at 180°C	<u>110</u>
Iron (Fe)	<u><.01</u>		Calculated	<u>113</u>
Manganese (Mn)	<u>.18</u>		Suspended solids (ppm)	
Calcium (Ca)	<u>8.1</u>	<u>0.40</u>	Hardness as CaCO ₃ (ppm)	
Magnesium (Mg)	<u>2.9</u>	<u>.24</u>	Total	<u>33</u>
Strontium (Sr)	<u>.32</u>	<u>--</u>	Non-carbonate	<u>0</u>
Sodium (Na)	<u>25</u>	<u>1.09</u>	Specific conductance	
Potassium (K)	<u>4.0</u>	<u>.10</u>	(μmhos at 25°C)	<u>185</u>
Lithium (Li)	<u>.01</u>	<u>--</u>	pH	<u>7.7</u>
Copper (Cu)	<u><.02</u>	<u>--</u>	Color	
Zinc (Zn)	<u>.02</u>	<u>--</u>	Percent sodium	<u>59</u>
			SAR	<u>1.9</u>

Cations (epm) 1.83

Bicarbonate (HCO ₃)	<u>96</u>	<u>1.57</u>
Carbonate (CO ₃)	<u>0</u>	<u>.00</u>
Sulfate (SO ₄)	<u>9.0</u>	<u>.19</u>
Chloride (Cl)	<u>2.3</u>	<u>.06</u>
Fluoride (F)	<u>.1</u>	<u>.01</u>
Nitrate (NO ₃)	<u>.6</u>	<u>.01</u>
Phosphate (PO ₄)	<u><.01</u>	<u>--</u>

Anions (epm) 1.84

Remarks:

Water supply comes from several wells in two separate fields.

Lab. No. 660490 Analysts G. F. Scarbro Checked from Original Records Date Checked 2-11-66
 QW - 1A 83 Date 2-28-66

U. S. DEPT. OF THE INTERIOR--GEOLOGICAL SURVEY
Statement of Water Analysis - RadiochemicalSource Sample collected at water tap in AEC Building.Location Hattiesburg, Forrest Co., Mississippi1/4 1/4 1/4 Sec T R Field/Office No. Date Col. 10-29-65 Time 1645Col. By W. T. OakleyField detns: Temp. ($^{\circ}$ F) pH Sp. Cond. (μ mhos) Eh Appearance Well Type Use Municipal supplyDepth (ft) Cased to Diam. (in) Date Drilled Water level (ft) Discharge W.B.F. Owner

Elements	pc/l	pc/g	Date determined
Uranium μ g/l			
Radium as Ra ²²⁶			
Gross β (as Sr ⁹⁰ - Y ⁹⁰)	3.8		12-29-65
Gross α as U equivalent μ g/l	3.0		12-29-65
Net extr. α , U equivalent μ g/l			
Gross γ (as Cs ¹³⁷)			
Potassium ⁴⁰			
Strontium ⁹⁰ *			
Dissolved solids mg/l	120		

Isotopic Analysis		Remarks:
Barium-lanthanum ¹⁴⁰		Water supply comes from several wells in two separate fields.
Cerium-praseodymium ¹⁴⁴		
Cesium ¹³⁷		ND: Sought but not detected by method used 2-4-66.
Chromium ⁵⁷		
Cobalt ⁶⁰		
Ruthenium-rhodium ¹⁰⁶		
Tritium	ND	
Zinc ⁶⁵		
Zirconium-niobium ⁹⁵		

Date sample received 12-14-65Date data released 1-5-66Program classification Analyst T. Curran; H.C. ClaassenDate checked 1-5-66Checked by V. J. Janzer*Analyzed only when indicated by gross β count.

USGS-474-120
Dribble-53

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