Tw #21

FORM NO 9-1904— A

SITE NO. TW# 21

Recorded by _____

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 9/19/78

H

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 334315087320001 (5 … 19) | RG Number R = 0 * | Transaction T - (A) D M V * (add, delete, modify, verified)

Site Type 2 = C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well, well, shaft) | Data Reliability 3 - (C) U L M * (field checked, unchecked, location not, minimal, accurate, data) | Reporting Agency 4 - USGS *

Project No. 5 = 450100410 0 * | District 6 = 01 * | State 7 = 01 * | County (or town) ~~Hosea~~ | 8 = 125 *

Latitude 9 = 33 43 15 * (deg, min, sec) | Longitude 10 = 087 32 00 * (deg, min, sec) | Lat-Long Accuracy 11 (S) F T M * (sec, 5 sec, 10 sec, Min)

Fayette

Local Number 12 = ' ' * | Land Net Loc. 13 = NENWNE S 25 T 15S R 10W * (1/4, 1/4, 1/4, section, township, range, merid)

Location Map 14 = BERRY * | Scale 15 = 24000 *

Altitude 16 = 720. * | Method of Measurement 17 = A L M * (altimeter, level, map) | Accuracy 18 = *

Topo Setting 19 = D C E F H K L Ø P (S) T U V W * (depression, stream, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, upland, channel, flat, draw) | Hydrologic Unit (OWDC) 20 = 03160112 *

Date of First Construction/Completion 21 = 08/29/1978 * (month, day, year) | Use of Site 23 = A D E G H (Ø) M P R S T U W X Z * (anode, drain, geothermal, seismic, heat, reservation, observation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)

Use of Water 24 = A B C D E F H I M N P R S T U Y (Z) * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25 = * | Tertiary Use of Water 26 = * | Depth of Hole 27 = 207. * | Depth of Well 28 = 207. * | Source of Depth Data ① 29 = S *

Water Level 30 = . * | Date Measured 31 = / / * (month, day, year) | Source ① 33 = *

Method of Measurement 34 = A C E G H L M R S T V Z * (airline, calibrated, estimated, pressure gage, calibrated, pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37 = D F G H Ø P R S T V X Z * (dry, flowing, nearby, flowing, nearby, recently flowing, obstruction, pumping, recently pumped, nearby, pumping, nearby, recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 36 = * | Pump Used 35 = * (no) | Measuring Point 266 = . * | Measuring Point Date 267 = / / * (month, day, year)

OWNER IDENTIFICATION (1)

R = 158 * | T - (A) D M * (add, delete, modify) | Date of Ownership 159 # 08/29/1978 * (month, day, year)

Name: Last 161 = USGS * | First 162 = * | Middle Initial 163 = *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 * | T - (A) D M * (add, delete, modify) | Ident 190 # TW 21 * | Assigner 191 = USGS *

New Card Same R & T | Ident 190 # * | Assigner 191 = *

SITE VISIT DATA (1)

R = 186 * | T - A D M * (add, delete, modify) | Date of Visit 187 # / / * (month, day, year) | Name of Person 188 = *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 * | T - A D M * (add, delete, modify) | Date 193 # / / * (month, day, year) | Geohydrologic Unit 195 # *

New Card Same R thru 195

Temperature 196 # 0 0 0 1 0 * | Degrees C 197 = . *

Conductance 196 # 0 0 0 9 5 * | µ Mhos 197 = . *

Other (STORET) Parameter 196 # * | Value 197 = . *

Other (STORET) Parameter 196 # * | Value 197 = . *

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R - 58 * | T - (A) D M * (add, delete, modify) | Entry No 59 # 001 * | Date of Construction Completion 60 - 08/29/1978 * (month day year) | Source of ① Const. Data 64 - S *

Name of Contractor/Driller 63 - MILLER DRLG *

Method of Construction 65 - (A) B C D H J P R T V W Z *
A: air-rotary; B: bored, or sugered; C: cable-tool; D: dug; H: hydraulic, rotary; J: jetted; P: air-percussion; R: reverse, rotary; T: trenching; V: driven; W: drive, wash; Z: other

Finish 66 - C F G H Ø P S T W (X) Z *
C: porous, concrete; F: gravel w. perf; G: gravel, screen; H: horizontal, gallery; Ø: open, end; P: perforated, or slotted; S: screen; T: sand point; W: walled; X: open, hole; Z: other

Type of Seal 67 - B C G Z *
B: bentonite; C: clay; G: cement, grout; Z: other

Bottom of Seal 68 - *

Method of Development 69 - A B C J N P S Z *
A: air-lift, pump; B: bailed; C: compressed, air; J: jetted; N: none; P: other, pump; S: surged; Z: other

Number of Hours in Development 70 - *

Special Treatment During Development 71 - C D E F H M Z *
C: chemicals; D: dry ice; E: explosives; F: deflocculent; H: hydrofracturing; M: mechanical; Z: other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R - 72 * | T - (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0.0 *	74 - 21. *	75 - 8. *
73 # 21. *	74 - 207. *	75 - 10. *
73 # . *	74 - . *	75 - . *
73 # . *	74 - . *	75 - . *
73 # . *	74 - . *	75 - . *

CASING SCHEDULE (2)

R - 76 * | T - (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material ⑤	Thickness of Casing
77 # -1.5 *	78 - 21. *	79 # 10. *	80 - S *	81 - . *
77 # . *	78 - . *	79 # . *	80 - *	81 - . *
77 # . *	78 - . *	79 # . *	80 - *	81 - . *
77 # . *	78 - . *	79 # . *	80 - *	81 - . *
77 # . *	78 - . *	79 # . *	80 - *	81 - . *

OPENINGS SCHEDULE (2)

R - 82 * | T - (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 21. *	83 # . *	83 # . *
Bottom of Section Below LSD	84 - 207. *	84 - . *	84 - . *
Type of Openings ⑥	85 - X *	85 - *	85 - *
Type of Material ⑦	86 - *	86 - *	86 - *
Diameter of Open Section	87 - 10. *	87 - . *	87 - . *
Width of Opening	88 - . *	88 - . *	88 - . *
Length of Opening	89 - . *	89 - . *	89 - . *

FOOT NOTES:

① Source of Data Codes:
S: reporting agency; D: driller; Ø: owner; A: other gov't agency; R: other reported; L: logs; G: geologist; Z: other

⑤ Casing Material Codes
B: brick; C: concrete; G: galv. iron; I: wrought iron; M: other metal; P: PVC or plastic; R: rock or stone; S: steel; T: tile; U: coated steel; W: wood; Z: other

⑥ Type of Openings Codes
F: fracture; L: louvered, shuttered; M: mesh; P: perforated or slotted; R: wire wound; S: screen (unknown); T: sand point; W: walled; X: open hole; Z: other

⑦ Type of Material Codes for Open Sections
B: brass or bronze; C: concrete; G: galv. iron; I: wrought iron; M: other metal; P: PVC or plastic; R: stainless steel; S: steel; T: tile; Z: other

MILLER DRILLING CO., INC.
WELL LOG

NAME: U. S. G. S. Well No. TW# 21

Location: Tuscaloosa, Alabana Completed: 8-24-78

Driller: Giles Helper: Gary Rig: R-3

Total Depth: 207 feet Total Casing: 21 feet, black

DEPTH	DESCRIPTION
0 - 17	Clay with some sand, fine grained to medium, light to dark yellow
17 - 30	Shale, medium gray
30 - 32	Crevice with clay
32 - 47	Shale, medium gray
47 - 53	Fine grained sandstone, dark gray
53 - 67	Shale, dark gray, fine grained
67 - 76	Sandstone, medium gray, fine grained, [illegible]
76 - 84	Shale, dark gray, fine grained
84 - 87	Sandstone, medium gray, fine grained
87 - 90	Shale, dark gray, fine grained
90 - 92	Sandstone, medium gray, fine grained
92 - 107	Shale, dark gray, fine grained
107 - 138	Thin layers of sandstone and shale from 1-inch to 3-inches thick, medium to dark gray, fine to medium grained
138 - 145	Sandstone, fine to medium grained, medium gray
145 - 147	Coal, approximately 18-inches
147 - 150	Shale, dark gray, fine grained
150 - 151	Approximately 14-inches coal
151 - 188	Sandstone with orange coal maybe more coal
188 - 207	Shale, dark gray, fine grained

DISTRICT CODE 11 UNITED STATES DEPARTMENT OF INTERIOR - G
[illegible]01 - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE WATER (DEG C) (00010)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	COLOR (PLATINUM-COBALT UNITS) (00080)	SPECIFIC CONDUCTANCE (US/CM) (00095)
OCT 02...	12.0	237	14.5	90010	5	370

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
315027520001 - TEST WELL 21

, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

NCY A- ING PLE ODE BER) 028)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	ACIDITY (MG/L AS CACO3) (00435)	BICAR-BONATE WH WAT TOTAL FIELD MG/L AS HCO3 (00440)
0010	5	373	6.50	85	139	0	170

DISTRICT CODE 01 UNITED STATES DEPARTMENT OF INTERIOR - G
334315087320001 - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	CARBONATE WH WAT TOTAL FIELD MG/L AS CO3 (00445)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 02...	0	0.60	0.55	0.00	0.55	0.050

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
315087320001 - TEST WELL 21

, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

TRO- EN, ONIA TAL G/L N) 610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SULFIDE TOTAL (MG/L AS S) (00745)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
.00	0.55	0.050	0.630	0	150	7	27

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	PERCENT SODIUM (00932)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA) (00933)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT						
08...	19	30	1.7	26	24	3.5

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
315087320001 - TEST WELL 21

, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

CENT DIUM 0932)	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
22	24	3.5	7.2	39	0.30	22	3

DISTRICT COLORADO

UNITED STATES DEPARTMENT OF INTERIOR - G
[illegible]01 - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	CALCIUM DIS-SOLVED (UG/L AS CA) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT						
26...	1	10	0	11	20	0

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
315087320001 - TEST WELL 21

, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PER, S- LVED G/L CU) 040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	,ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
11	30	0	80	310	100	30	0

DISTRICT CODE 01 UNITED STATES DEPARTMENT OF INTERIOR - G
334315087320001 - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	ACIDITY (MG/L AS H) (71825)	NIT GE AMMO TOT (MG AS N (718
OCT						
02...	336	270	0.0	0.34	0	0

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
315087320001 - TEST WELL 21

, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	ACIDITY (MG/L AS H) (71825)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	PHOS-PHORUS TOTAL (MG/L AS PO4) (71886)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3) (95902)
0.34	0	0.0	1.9	2.7	<0.5	7

DISTRICT CODE 01 UNITED STATES DEPARTMENT OF INTERIOR - G
334315067320001 - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 198

DATE	TIME	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STA AR UNIT (004
OCT						
04...	1[illegible]	17.[illegible]	1028	[illegible]0010	545	7

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-89
315087320001 - TEST WELL 21

, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	PH LAB (STANDARD UNITS) (00403)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)
80010	545	7.20	7.10	31	250	<0.100

DISTRICT CODE 01

UNITED STATES DEPARTMENT OF INTERIOR -
334315087320001 - TEST WE

WATER QUALITY DATA, WATER YEAR OCTOBER 1

DATE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SO SO T RA (00
OCT 04...	250	1	51	30	24	

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
315097320001 - TEST WELL 21

, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE) (01044)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)
30	24	0.7	4.9	61	17000	17000

DISTRICT CODE 01 UNITED STATES DEPARTMENT OF INTERIOR - G
[illegible] - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 198

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) (01054)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT					
[illegible]	[illegible]	1100	1400	280	335

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
315087722001 - TEST WELL 21

, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

NGA-ESE, TAL ECOV-RABLE UG/L S MN) 1055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3) (95902)
1400	280	335	206.00	572	239	1

TW #19

FORM NO 9-1904-A

SITE NO. TW#19

H

Recorded by _____

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 9/19/78

Check One — ✓ English — Metric Units

GENERAL SITE DATA (0)

Site Ident No (5–19): 334151087362091

RG Number: R-0

Transaction: T- A D M V (add, delete, modify, verified)

Site Type: 2- C D H I M P T W (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well, well, shaft)

Data Reliability: 3- C U L M (field checked, unchecked, location not accurate, minimal data)

Reporting Agency: 4- USGS

Project No.: 5- 45010041000

District: 6- 01

State: 7- 01

County (or town): 8- 125 Tusca. FAYETTE

Latitude: 9- 33 41 51 (deg min sec)

Longitude: 10- 087 36 20 (deg min sec)

Lat-Long Accuracy: 11- S F T M (sec, 5 sec, 10 sec, Min)

Local Number: 12-

Land Net Loc.: 13- SWSWSE (1/4 1/4 1/4) S 32 (section) T 15S (township) R 10W (range) (merid)

Location Map: 14- BERRY

Scale: 15- 24000

Altitude: 16- 610.

Method of Measurement: 17- A L M (altimeter, level, map)

Accuracy: 18-

Topo Setting: 19- D C E F H K L Ø P S T U V W (depression, stream, channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, flat, upland, draw)

Hydrologic Unit (OWDC): 20- 03160112

Date of First Construction/Completion: 21- 08/23/1978 (month day year)

Use of Site: 23- A D E G H Ø M P R S T U W X Z (anode, drain, geo-thermal, seismic, heat, reserv, observation, mine, oil or gas, recharge, repress, test, unused, with-drawal, waste, destroyed)

Use of Water: 24- A B C D E F H I M N P R S T U Y Z (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use: 25-

Tertiary Use of Water: 26-

Depth of Hole: 27- 1660.

Depth of Well: 28- 1660.

Source of Depth Data ①: 29- S

Water Level: 30-

Date Measured: 31- / / (month day year)

Source ①: 33-

Method of Measurement: 34- A C E G H L M R S T V Z (airline, calibrated, estimated, pressure, calibrated, geophysical, manometer, reported, steel, electric, calibrated, other; airline, gage, pressure gage, logs, tape, tape, electric tape)

Site Status: 37- D F G H Ø P R S T V X Z (dry, flowing, nearby, flowing, nearby, recently flowing, obstruction, pumping, recently pumped, nearby, pumping, nearby, recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ①: 36-

Pump Used: 35- (no)

Measuring Point: 266-

Measuring Point Date: 267- / / (month day year)

OWNER IDENTIFICATION (1)

R-158

T- A D M (add, delete, modify)

Date of Ownership: 159 # 08/23/1978 (month day year)

Name: Last: 161- USGS

First: 162-

Middle Initial: 163-

OTHER SITE IDENTIFICATION NUMBERS (1)

R-189

T- A D M (add, delete, modify)

Ident: 190 # TW19

Assigner: 191- USGS

New Card Same R & T

Ident: 190 #

Assigner: 191-

SITE VISIT DATA (1)

R-186

T- A D M (add, delete, modify)

Date of Visit: 187 # / / (month day year)

Name of Person: 188-

FIELD WATER QUALITY MEASUREMENTS (1)

R-192

T- A D M (add, delete, modify)

Date: 193 # / / (month day year)

Geohydrologic Unit: 195 #

New Card Same R thru 195

Temperature: 196 # 00010 — Degrees C: 197-

Conductance: 196 # 00095 — µ Mhos: 197-

Other (STORET) Parameter: 196 # — Value: 197-

Other (STORET) Parameter: 196 # — Value: 197-

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z (reporting agency; driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = (A) D M * (add, delete, modify) | Entry No 59 # 001 * | Date of Construction Completion 61 = 08/23/1998 * (month day year) | Source of ① Const. Data 64 = S *

Name of Contractor/Driller 63 = MILLER DRLG. *

Method of Construction 65 = (A) B C D H J P R T V W Z *
air-, rotary | bored, or augered | cable-, tool | dug, | hydraulic, rotary | jetted, | air-per-, cussion | reverse, rotary | trenching, | driven, | drive, wash | other

Finish 66 = C F G H Ø P S T W (X) Z *
porous, concrete | gravel w, perf | gravel, screen | horizontal, gallery, | open, end | perforated, or slotted | screen, | sand point, | walled, | open, hole | other

Type of Seal 67 = B C G Z *
bentonite, | clay, | cement, grout | other

Bottom of Seal 68 = *

Method of Development 69 = A B C J N P S Z *
air-lift, pump | bailed, | compressed, air | jetted, | none, | other, pump | surged, | other

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z *
chemicals, dry ice, explosives, deflocculent, hydrofracturing, mechanical, other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0.0 *	74 = 29. *	75 = 8. *
73 # 29. *	74 = 166. *	75 = 6. *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *

CASING SCHEDULE (2)

R = 76 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material ⑤	Thickness of Casing
77 # -1.5 *	78 = 29. *	79 # 6. *	80 = S *	81 = . *
77 # . *	78 = . *	79 # . *	80 = *	81 = . *
77 # . *	78 = . *	79 # . *	80 = *	81 = . *
77 # . *	78 = . *	79 # . *	80 = *	81 = . *
77 # . *	78 = . *	79 # . *	80 = *	81 = . *

OPENINGS SCHEDULE (2)

R = 82 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 29. *	83 # . *	83 # . *
Bottom of Section Below LSD	84 = 166. *	84 = . *	84 = . *
Type of Openings ⑥	85 = X *	85 = *	85 = *
Type of Material ⑦	86 = *	86 = *	86 = *
Diameter of Open Section	87 = 6. *	87 = . *	87 = . *
Width of Opening	88 = . *	88 = . *	88 = . *
Length of Opening	89 = . *	89 = . *	89 = . *

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z
reporting agency, driller, owner, other gov't, other reported, logs, geologist, other

⑤ Casing Material Codes

B C G I M P R S T U W Z
brick, concrete, galv. iron, wrought iron, other metal, PVC or plastic, rock or stone, steel, tile, coated steel, wood, other

⑥ Type of Openings Codes

F L M P R S T W X Z
fracture, louvered, shuttered, mesh, perforated, or slotted, wire wound, screen, (unknown), sand point, walled, open hole, other

⑦ Type of Material Codes for Open Sections

B C G I M P R S T Z
brass or bronze, concrete, galv. iron, wrought iron, other metal, PVC or plastic, stainless steel, steel, tile, other

MILLER DRILLING CO., INC.
WELL LOG

Name: U. S. G. S. Well No.: TW# 19

Location: Tuscaloosa, Alabama Completed: 8-22-78

Driller: Giles Helper: Gary Rig: R-3

Total Depth: 207 feet Total Casing: 30 feet

DEPTH	DESCRIPTION
0 - 8	Sand, yellow, fine grained
8 - 9	Gravel, medium
9 - 13	Sand, red in color, very [illegible]
13 - 15	Sand, fine grained with some [illegible], yellow
15 - 25	Clay, yellow
25 - 29	Clay, gray in color
29 - 50	Shale, dark gray
50 - 58	Sandstone, medium gray, [illegible]
58 - 103	Layers of sandstone and shale, gray
103 - 150	Shale, dark gray, [illegible]
150 - 152	Approximately [illegible] of [illegible]
152 - 166	Shale, dark gray, [illegible]

DISTRICT CODE 01

UNITED STATES DEPARTMENT OF INTERIOR - G
334151087362001 - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	SOLIDS, RESIDUE AT 180. DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	ACIDITY (MG/L AS H) (71825)	NITR GEN AMMON TOTA (MG/ AS NH (7184
SEP						
07...	201	190	0.0	0.27	<0.1	0.

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
151087362001 - TEST WELL 19

, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	ACIDITY (MG/L AS H) (71825)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	PHOS-PHORUS TOTAL (MG/L AS PO4) (71886)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3) (95902)
0.27	<0.1	0.01	0.21	4.7	<0.5	0

DISTRICT CODE 01 UNITED STATES DEPARTMENT OF INTERIOR - G
S341510873620G1 - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
SEP						
87...	2	<20	ND	17	<10	ND

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
151047562001 - TEST WELL 19

, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PER, S- LVED G/L CU) 040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
17	<10	ND	60	630	140	20	<1

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	PERCENT SODIUM (00932)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA) (00933)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
SEP						
27...	10	9.9	0.4	13	12	2.4

DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
341510873620C1 - TEST WELL 19

TA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ERCENT SODIUM (00932)	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA) (00933)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE, DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
13	12	2.4	2.7	18	0.20	15	2

DISTRICT CODE 01

UNITED STATES DEPARTMENT OF INTERIOR -
734151087362001 - TEST WEL

WATER QUALITY DATA, WATER YEAR OCTOBER 19

DATE	CAR-BONATE WH WAT TOTAL FIELD MG/L AS CO3 (00445)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
SEP						
87...	[illegible]	1.1	0.78	0.010	0.79	0.230

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
151087662001 - TEST WELL 19

, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

TRO- EN, ONIA TAL G/L N) 610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SULFIDE TOTAL (MG/L AS S) (00745)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
.010	0.79	0.260	0.070	0	150	0	39

DISTRICT CODE 01 UNITED STATES DEPARTMENT OF INTERIOR - G
334151087362001 - TEST WELL

WATER QUALITY DATA, WATER YEAR OCTOBER 197

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)
SEP						
27...	0915	207	1[illegible].0	80010	5	330

PARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 2-22-88
151C873C2001 - TEST WELL 19

, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

NCY A- ING PLE ODE BER) 028)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	ACIDITY (MG/L AS CACO3) (00435)	BICAR-BONATE WH WAT TOTAL FIELD MG/L AS HCO3 (00440)
001C	5	330	6.60	72	145	0	180