

# STATE WELL REPORT

## Part 1

### Driller's Log

Mississippi Department of Environmental Quality  
Office of Land and Water Resources  
P. O. Box 2309  
Jackson, MS 39225-2309  
(601)961-5555  
(601)961-5228 (fax)

#### For Office Use Only:

Well #: H181  
Aquifer: \_\_\_\_\_  
E-Log #: \_\_\_\_\_

County: Leflore  
Permit #: \_\_\_\_\_  
Driller: Roland W Tollett (RMO-00009026)  
Date drilling completed: 5/7/2019

USGS site name: YB-06a-EC

*State Law requires that this report be prepared by the license holder responsible for the work and filed with the Department at the above address within 30 days of completion of drilling of the well or borehole.*

<b>Well Owner Information</b> (Landowner if borehole is not for a water well)	<input checked="" type="checkbox"/> Well or <input type="checkbox"/> Borehole Location
Owner Name: <u>(landowner - Lee Abraham)</u>	Latitude: <u>33.55415</u> Longitude: <u>-90.18128</u>
Mailing Address: <u>USGS (driller - rtollett@usgs.gov)</u> <u>3095 W. California Ave</u>	Method of Lat/Long (check one): Conventional Survey _____, USGS quad _____, Hand-held GPS <u>X</u> , Survey-grade GPS _____
<u>Ruston</u> <u>LA</u> <u>71270</u> City State Zip Code	<u>SE</u> <u>1/4</u> <u>NW</u> <u>1/4</u> , Sec <u>34</u> T <u>20N</u> R <u>01E</u>
Telephone No. ( <u>318</u> ) <u>251-9630</u> (245-8639 cell)	<u>1.5</u> Miles <u>N/NE</u> of <u>Greenwood, MS</u> (Distance) (Direction) (Nearest Town)

<b>Well / Borehole Data</b>	
Date drilling started: <u>5/7/2019</u> Date drilling completed: <u>5/7/2019</u> Hole depth: <u>98 ft bls</u> Hole diameter: <u>3.25 in</u>	
Location of the source of any surface water used for drilling: <u>none used</u>	
Method of dosing and volume of Chlorine used in drilling and development: <u>none used</u>	
Logs run (check applicable): <input type="checkbox"/> No log run <input checked="" type="checkbox"/> Electric <input type="checkbox"/> Gamma Ray <input type="checkbox"/> Density <input type="checkbox"/> Sonic <input type="checkbox"/> Neutron <input type="checkbox"/> Other: _____	
Name of organization running log(s): <u>USGS, 3095 W. California Ave, Ruston, LA 71270 (318) 251-9630 x13</u>	
Purpose of borehole (check one): <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Geotechnical/Geological Investigation <input type="checkbox"/> Ground Source Heat Pump <input type="checkbox"/> Seismic Survey <input type="checkbox"/> Other (describe) _____	
<i>If drilling is not related to water well construction, skip the remainder of this block</i>	
Purpose of Well (check all applicable): <input type="checkbox"/> Home <input type="checkbox"/> Industrial <input type="checkbox"/> Public Supply <input type="checkbox"/> Irrigation <input type="checkbox"/> Fish Culture <input checked="" type="checkbox"/> other	
Other (describe): <u>monitoring well</u>	
If a flowing well, method of flow regulation: Valve _____ Other (describe) _____	
Static Water Level: <u>4.40</u> feet <input type="checkbox"/> above or <input checked="" type="checkbox"/> below land surface Date measured: <u>5/9/2019 @ 0800</u> (check one)	
Method of measurement (check one) <input type="checkbox"/> Steel tape <input checked="" type="checkbox"/> Electric tape <input type="checkbox"/> Air line <input type="checkbox"/> Other (describe): _____	
Well depth: <u>80.0</u> Well grouted to a depth of: <u>30</u> feet Type of grout (check one): <input checked="" type="checkbox"/> Neat Cement <input type="checkbox"/> Bentonite <input type="checkbox"/> Mix	
Casing length: <u>70</u> feet Casing diameter: <u>2</u> inches Type of casing: <u>PVC</u>	
Screen length: <u>10</u> feet Screen diameter: <u>2</u> inches Type of screen: <u>PVC</u>	
Screen slot size: <u>0.010</u> inches Setting depth: From <u>70</u> feet to <u>80</u> feet	
Type of completion (check all applicable): <input type="checkbox"/> Gravel packed <input type="checkbox"/> Underreamed <input type="checkbox"/> Open hole <input checked="" type="checkbox"/> Natural Development	
Other (describe): _____	
Top of lap pipe or reduction in casing: <u>NA</u> feet	
<i>If telescoped or more than one screen, describe on next page</i>	





# STATE WELL REPORT

## Part 2

**Pump Installer's Completion Report**  
Mississippi Department of Environmental Quality  
Office of Land and Water Resources  
P.O. Box 2309  
Jackson, MS 39225-2309  
(601)961-5210  
(601) 360-0535 (fax)

### For Office Use Only:

Well #: **H181**

Aquifer: \_\_\_\_\_

County: Leflore

Permit #: \_\_\_\_\_

Driller: \_\_\_\_\_

Date completed: \_\_\_\_\_

Copy information from block on Part 1

*This part of the report must be completed by a licensed water well contractor or a licensed pump installer. A copy of Part 1 of the report must be attached and both parts filed with the Department at the above address within 30 days of well completion.*

Well Owner Information	Well Location
Owner Name: _____	Latitude: _____ Longitude: _____
Mailing Address: _____ _____	Method of Lat/Long (check one): Conventional Survey_____, USGS quad_____, Hand-held GPS_____, Survey-grade GPS_____ _____ 1/4 _____ 1/4, Sec _____ T _____ R _____
City _____ State _____ Zip Code _____	_____ Miles _____ of _____ (Distance) (Direction) (Nearest Town)
Telephone No. (_____) _____	

**Pump Type (check one)**

Submersible  Turbine  Air Lift  Centrifugal  Flowing Well  Jet  Piston  Rotary  Other (describe): \_\_\_\_\_

Date Pump Installed: \_\_\_\_\_ Rated Pump Capacity: \_\_\_\_\_ Gallons Per Minute

Is This Pump (check one):  New  Repaired  Replacement

**Power Type (check one)**

Electric  Diesel  Gasoline  Natural Gas  Tractor PTO  Windmill  Other (describe): \_\_\_\_\_

Horse Power Rating of Motor: \_\_\_\_\_ Setting Depth: \_\_\_\_\_ feet Number of Stages: \_\_\_\_\_

**Pump Test Data for Non Flowing Well**

Date Well Tested: \_\_\_\_\_ Duration of Pump Test (minimum 4 hours): \_\_\_\_\_ hours

Static Water Level (A): \_\_\_\_\_ Feet Below Land Surface Pumping Water Level (B): \_\_\_\_\_ Feet Below Land Surface

Drawdown [(B) - (A)]: \_\_\_\_\_ Feet Below Land Surface Test Pumping Rate: \_\_\_\_\_ Gallons Per Minute

Method of measurement (check one): Steel tape  Electric tape  Air line  Other (describe): \_\_\_\_\_

**Pump Test Data for Flowing Well**

Measured shut in head: \_\_\_\_\_ feet.

Well yielded \_\_\_\_\_ GPM with a drawdown of \_\_\_\_\_ feet after \_\_\_\_\_ hours of pumping

**Meter Installation**

Meter Manufacturer: \_\_\_\_\_ Meter Serial Number: \_\_\_\_\_

Meter Model Number/Name: \_\_\_\_\_ Type of Meter: \_\_\_\_\_

Totalizer Register Unit and Multiplier Factor (AF x .001, gal x 1000, etc): \_\_\_\_\_

Installation Date: \_\_\_\_\_ Meter installed by: \_\_\_\_\_

Is This Meter (check one):  New  Repaired  Replacement

*Important: By submitting the above information you are certifying that this meter was installed to manufacturer standards. For agricultural wells, a list of approved meters is on the MDEQ website.*

I HEREBY CERTIFY that the above statements are true to the best of my knowledge.

Print Name of Pump Installer and License No. (if applicable)	<b>RECEIVED</b> Date	Signature of Pump Installer
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Driller: Roland W Tollett, USGS, 3095 W California Ave, Ruston, LA 71270 [318-245-8639] (MS LIC RMO-00009026)

Site number: <MDEQ no> Leflore YB-06a-EC

Drill date: 20190507

Plugged date: active monitoring well

Site type: USGS monitoring well

EC-HPT log depth: 98 ft bls

Monitoring well depth: 80 ft bls

Rig Type: Geoprobe 7822DT with EC-HPT probe (note: cores collected at well YB-06b six feet NW of this well)

Lat/Long 33.55415 -90.18128 (+- 9ft)

Sec Township Range: SE1/4,NW1/4,S34,T20N,R01W

Land surface elevation: 38.1 meters (125 feet; accuracy 1.6 ft) [data source: DEM]

Topo Map Name: Greenwood, MS

County/Parish: 083 Leflore County, MS (1:24,000)

HUC code: 080302050905 Sharkey Bayou-Yalobusha

MAPS site\_no for NWIS: 333315090105301

Land owner: Lee Abraham (nice lawyer in town – brought us his Honest Abe’s donuts)



\*\*\*\*\* USER NOTES \*\*\*\*\*

Drilled by Roland (USGS Ruston LA) and Ashley Bussell (USGS Ruston LA).

Driller notes (ROP is rate of penetration; TOC is top of 2" PVC casing):

YB-06a-EC: Ashley Bussell (USGS) and Roland W Tollett (USGS) pushed this log. Conditions were excellent. We also installed a second, shallower well (<MDEQ no> Leflore YB-06b) on site for water-quality sampling.

**EC-HPT log notes:**

0-8 ft bls was mostly clay with some silty zones. We saw a silty brown clay on the rod wiper which is typically found in the shallower intervals.

8-18 ft bls was mostly clayey silts

18-98 ft bls was mostly sand, with clay lenses at 73 ft bls and 86-90 ft bls

Noticeable change at 46-60 ft bls (more diff to push rods). Likely a nice medium sand as the Geoprobe had a slight shake, tight feel during hammering/pushing. There appears to be clay lenses at 73 ft bls and 86-90 ft bls, but the full interval pushed similar (48-98 ft bls). Cores will also be collected at this site.

HPT log: The 9 dissipation tests produced a theoretical water level of about 3.5 ft bls which matched the measured WLS very well.

**Well construction:** This 2" PVC monitoring well is ~83 ft from bottom of point to TOC with a 10 ft screen; screened interval is ~70-80 ft bls; MP is 3.00 above land surface with aluminum protective riser and 2 ft radius concrete slab; a 4" point was added to btm of casing; about 10 gallons of tap water were poured into PVC casing prior to pulling rods; this technique was used to balance and equalize pressure.

About 2 cups of bentonite granules were poured into the annular space of the borehole and bridged over around 30 ft below land surface (bls). Portland cement at a tap water ratio of 5-6 gals per 92-lb bag was used to seal the borehole from about 30 ft bls to land surface.

Water level:

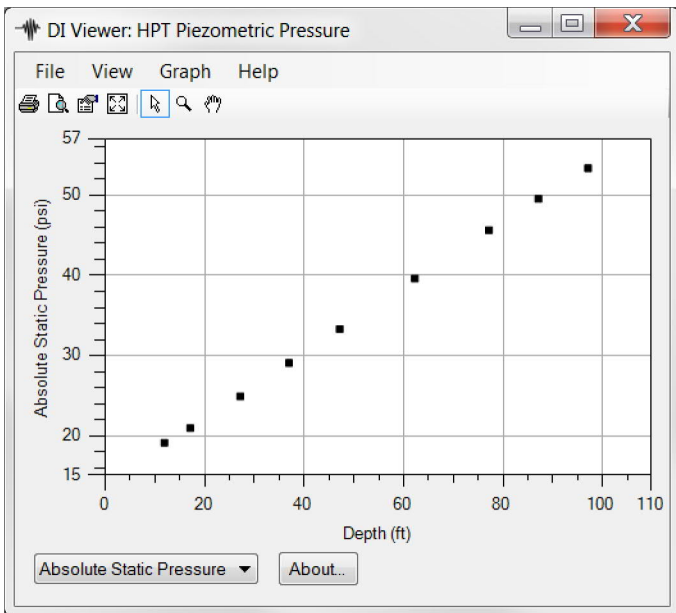
5/9/19 @ 0800 = 8.40 - 1.00 - 3.00 = 4.40 ft bls measured with e-tape by Roland W Tollett of the USGS

\*\*\*\*\*

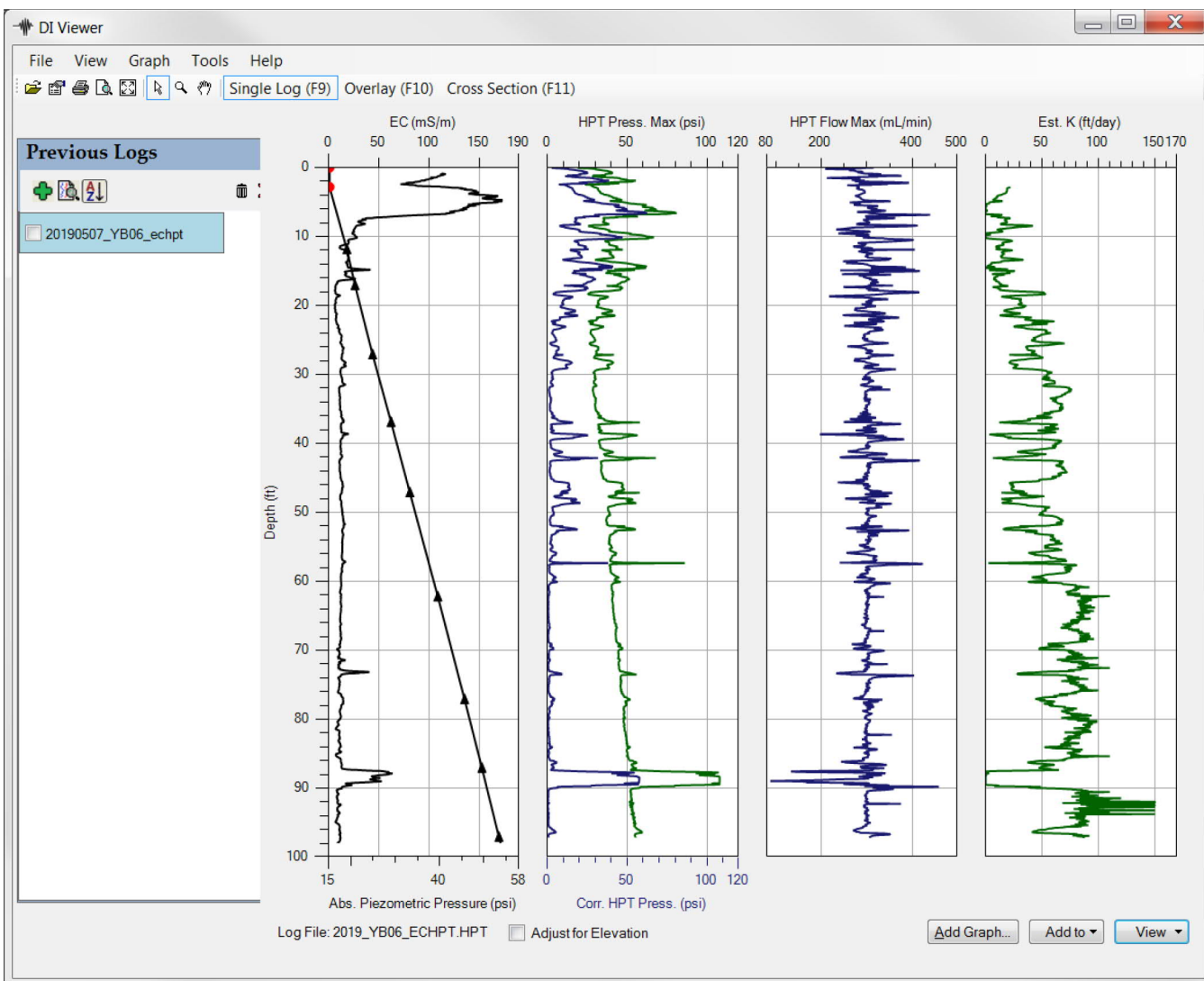


**USGS YB-06a-EC (continued)**

**Figure 1.** Graph of all 9 dissipation tests and EC-log showing 9 dissipation points from both the unsaturated and saturated zones.



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**USGS YB-06a-EC (continued) – Log file from Geoprobe software**

2019\_YB06\_echpt.zip

SITE INFORMATION -- DIRECT IMAGE HPT PROBE

Geoprobe DI Acquisition Software for Windows Version: 3.2 Build: 18113

Pre-Log EC Load Tests

Test	Target (mS/m)	Actual (mS/m)	% Diff	P/F
Test 1	195.0	199.8	2.5	PASS
Test 2	97.0	98.7	1.8	PASS
Test 3	24.0	24.8	3.5	PASS

COMPANY: Geoprobe

OPERATOR: rtollett

PROJECT ID: usgs\_office

CLIENT: USGS

UNITS: ENGLISH

PROBE AND ARRAY: K6050 HPT Probe with Wenner

LOCATION: LA

100 INCH STRING POT USED

ROD LENGTH: 5 feet

PRE-LOG HPT REFERENCE TEST VALUES

PRE TEST TIME: Tue May 7 2019 13:16:13

TEST	HPT PRESSURE (psi)	FLOW (mL/min)	HPT PRESSURE (kPa)
TOP with FLOW=0	15.618	0.0	107.690
TOP with FLOW>0	15.935	295.2	109.870
BOTTOM with FLOW=0	15.416	0.0	106.290
BOTTOM with FLOW>0	15.735	296.0	108.490

EXPECTED FLOW=0 HPT DIFF.: 0.22 psi (1.5 kPa) +/- 10%

ACTUAL FLOW=0 HPT DIFF.: 0.20 psi (1.4 kPa)

TRANSDUCER TEST PASSED

HPT IDEAL COEFFS: 2.2696e1,-2.2356

HPT SENSOR CAL NUMBERS: XD30959A,0.0000,0.0000,0.0000,0.0000,9.9490e-1,-1.3100

LOG START TIME: Tue May 7 2019 13:19:28

LOG END DEPTH: 97.10 ft (29.596 m)

LOG END TIME: Tue May 7 2019 14:31:30

LATITUDE: 33.554200000

LONGITUDE: 90.181700000

ELEVATION: 0.000 METERS 0.00 FEET

GPS Quality: Manual

POST-LOG HPT REFERENCE TEST VALUES

POST TEST TIME: Tue May 7 2019 15:05:38

TEST	HPT PRESSURE (psi)	FLOW (mL/min)	HPT PRESSURE (kPa)
TOP with FLOW=0	15.650	0.0	107.900
TOP with FLOW>0	15.888	296.1	109.540
BOTTOM with FLOW=0	15.451	0.0	106.530
BOTTOM with FLOW>0	15.717	300.8	108.370

EXPECTED FLOW=0 HPT DIFF.: 0.22 psi (1.5 kPa) +/- 10%

ACTUAL FLOW=0 HPT DIFF.: 0.20 psi (1.4 kPa)

TRANSDUCER TEST PASSED

Post-Log EC Load Tests

Test	Target (mS/m)	Actual (mS/m)	% Diff	P/F
Test 1	195.0	202.2	3.7	PASS
Test 2	97.0	100.1	3.2	PASS
Test 3	24.0	24.5	2.2	PASS



**USGS YB-06a-EC (continued) – Log file from Geoprobe software**

\*\*\*\*\* USER NOTES \*\*\*\*\*

Drilled by Ashley Bussell and Roland W Tollett.

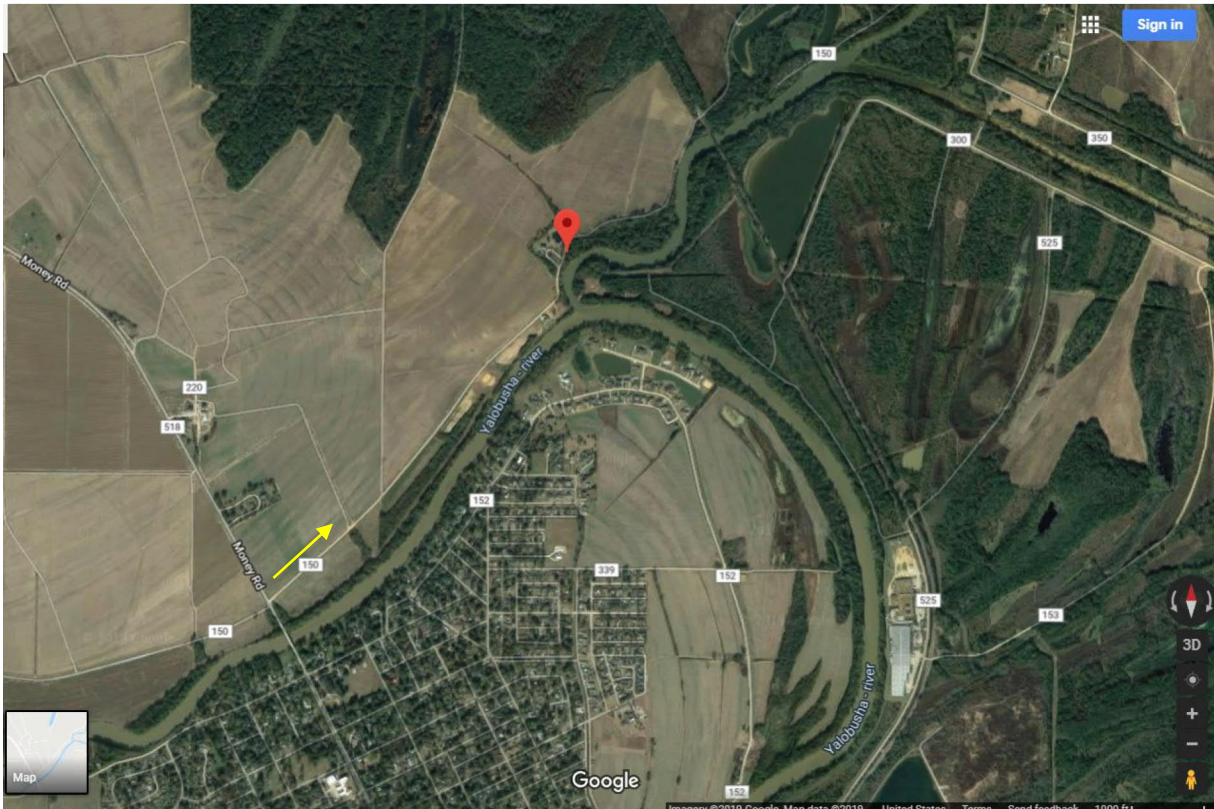


Clay from surface to 9 ft bls, then clay/silt to about 18 ft bls. This zone is likely the brownish gray silty wet clay that was observed on the Geoprobe rod wiper. Note that the river is high (just below top of banks).

Overall this borehole pushed easily. The zone from 48 ft bls to 60 bls was noticeably more difficult to push, but not hard compared to other boreholes in the area.

Below 60 ft bls was very easy to push, and a few clay lenses were noticed on the EC log.

Figure 3. Location of monitoring well YB-06a-EC and YB-06b near Greenwood, MS.





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New Site Sheet Form - MAPS

File Tables Search Network Help

**NEW SITE**

Site Record

Agency Code: USGS: U.S. Geological Survey Site Number: 333315090105301 Site Type Code: GW

Station Name: <MDEQ no> Leflore YB-06a-EC Agency Use Code:

Coordinate/Altitude Data

Latitude: 333314.94 Longitude: 0901052.61 Coordinate Accuracy: H: Hndrth secur Coordinate Method: G: GPS

Coordinate Datum: NAD83: NA Datum of 1983 Latitude NAD83 in decimal degrees Longitude NAD83 in decimal degrees

Altitude in ft: 125 Altitude Datum Code: NAVD88: V Datum of 1988 Altitude Method Code: N: DEM Altitude Accuracy Value in ft: 1.6

Surface Water Data

Drainage Area in sq mi: Basin Code: Contributing Drainage Area in sq mi: Hydrologic Unit Code: 080302050905: Sharkey Bayou-Yalobi

Spatial Data

Land Net: S34 T20N R01E O Topographic Code: Map Name: GREENWOOD, MS Map Scale: 24000

Groundwater Data

Aquifer Code: National Aquifer Code: Aquifer Type Code: Well Depth in ft: Hole Depth in ft: Source of Depth:

Administrative Data

Country Code: US: United States State Fips Code: 28: Mississippi County Fips Code: 083: Leflore Cot Minor Civil Division: 91116: District2 District Code: 28: MISSISSIPPI Time Zone Code: CST: Central Standard Daylight Savings Time Flag: Y: Yes

Use Data

Primary Use of Site: Secondary Use of Site: Tertiary Use of Site Code: Primary Use of Water Code: Secondary Use of Water Code: Tertiary Use of Water Code: National Water Use Code:

Data Collection and Dates

Data Reliability Code: Site Establishment Date: First Construction Date:



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