

# 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)

County: Harrison County, MS  
Permit #: \_\_\_\_\_  
Driller: Roland W Tollett (RMO-00009026)  
Date drilling completed: 04-23-2019

### For Office Use Only:

Well #: D115  
Aquifer: \_\_\_\_\_  
E-Log #: \_\_\_\_\_

USGS site name: MS-DNFWF-01

*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) Owner Name: <u>DeSoto National Forest and USGS</u> Mailing Address: <u>USGS (driller - rtollett@usgs.gov)</u> <u>3095 W. California Ave</u> Ruston LA 71270 City State Zip Code Telephone No. ( <u>318</u> ) <u>251-9630 (245-8639 cell)</u>	<input checked="" type="checkbox"/> Well or <input type="checkbox"/> Borehole Location Latitude: <u>30.59187</u> Longitude: <u>-88.90693</u> Method of Lat/Long (check one): Conventional Survey _____, USGS quad _____, Hand-held GPS <u>X</u> , Survey-grade GPS _____ SW <u>1/4</u> SE <u>1/4</u> , Sec <u>20</u> T <u>5S</u> R <u>9W</u> <u>10.0</u> Miles <u>North</u> of <u>D'Iberville, MS @ I-10</u> (Distance) (Direction) (Nearest Town)
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<b>Well / Borehole Data</b>	
Date drilling started: <u>04/23/19</u> Date drilling completed: <u>04/23/19</u> Hole depth: <u>30 ft bls</u> Hole diameter: <u>2.25 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 (no pump so no part 2 of well report)</u>	
If a flowing well, method of flow regulation: Valve _____ Other (describe) _____	
Static Water Level: <u>8.68</u> feet <input type="checkbox"/> above or <input checked="" type="checkbox"/> below land surface Date measured: <u>4/24/2019</u> (check one)	
Method of measurement (check one) <input type="checkbox"/> Steel tape <input type="checkbox"/> Electric tape <input type="checkbox"/> Air line <input type="checkbox"/> Other (describe): _____	
Well depth: <u>29</u> Well grouted to a depth of: <u>10</u> feet Type of grout (check one): <input checked="" type="checkbox"/> Neat Cement <input type="checkbox"/> Bentonite <input type="checkbox"/> Mix	
Casing length: <u>19</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>19</u> feet to <u>29</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>	

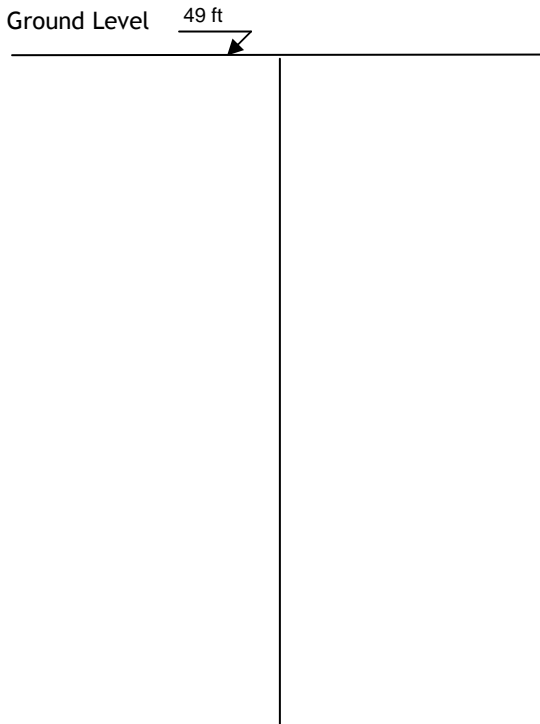
County: Harrison County, MS  
Permit #: \_\_\_\_\_

**For Office Use Only:**

Well #: **D115**

The sketch below only required for water wells

If well telescopes, show depths on sketch.

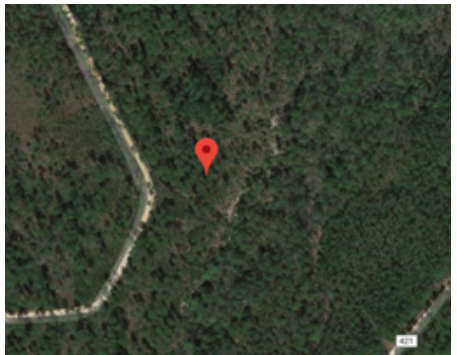
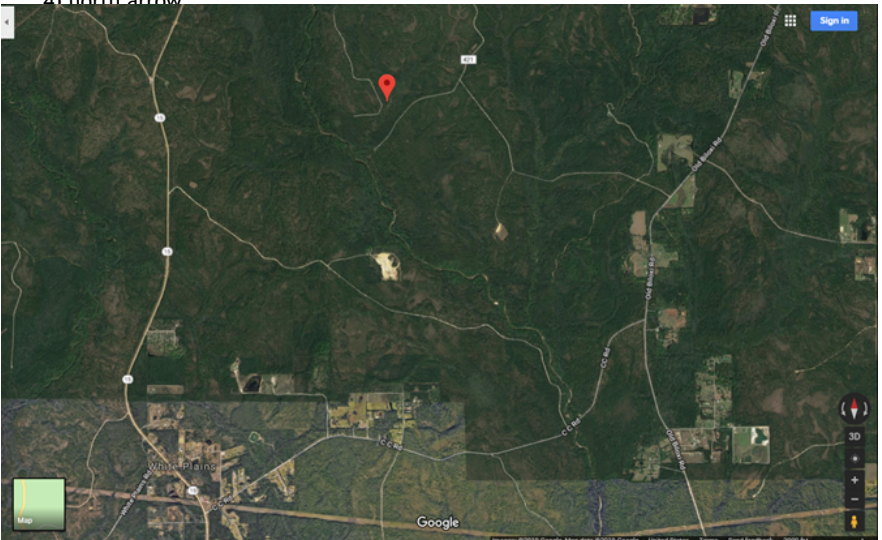


Description of formations encountered must be provided for all wells and boreholes, unless specifically exempted by regulations

Description of Formations Encountered	From (depth)	To (depth)
	Ground level	
medium to coarse sand	surface	28
dense, gray, moist clay	28	48
< end of EC-HPT log >		

If more than one screen, show location of each on sketch

- Sketch the property layout and include the following:
- 1) the well location
  - 2) any permanent structures on the property that may aid in locating the well
  - 3) any roads, power lines, or other items that may aid in locating the property and the well
  - 4) north arrow



Landowner Name: DeSoto National Forest and USGS

I HEREBY CERTIFY that the well/borehole was drilled, constructed, and completed in accordance with all applicable requirements of the Mississippi Department of Environmental Quality and the Mississippi Department of Health regulations, if applicable, and state laws.

Roland W Tollett \_\_\_\_\_ 6/4/2019 \_\_\_\_\_  
 Print Name of Responsible Licensee and License No. Date Signature of Licensee

**ROLAND TOLLETT** Digitally signed by ROLAND TOLLETT  
 Date: 2019.06.04 11:06:59 -05'00'

**D115 Harrison Co.**

Driller: Roland W Tollett, USGS, 3095 W California Ave, Ruston, LA 71270 [318-245-8639] (MS LIC RMO-00009026)

USGS Site number: 303530088542501

USGS station name: <MDEQ no> HARRISON MS-DNFWF-01

Drill date: 20190423

Plugged date: active

Site type: USGS monitoring well

EC-log depth 48 ft bls

Rig Type: Geoprobe 7822DT with EC-HPT probe

Lat/Long 30.59187 -88.90693 +-13ft

Sec Township Range: SW1/4,SE1/4,S20,T5S,R9W

Land surface elevation: 14.9 meters (49 feet) [data source: NED1]

Topo Map Name: WHITE PLAINS, MS

County/Parish: 047 Harrison County, MS (1:24,000)

HUC code: 031700090403 Bayou Billie – Tchoutacabouffa R

Associated well in USGS NWIS: 303530088542501

Associated surface-water gage in USGS NWIS: 02480345

Land owner: DeSoto National Forest

**Note: The purpose of this site is to monitor pitcher plant bog restoration.**

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

Drilled by Roland (USGS Ruston LA) and Brandon Anderson (USGS MS) and Darrell Wilson (USGS MS).

This monitoring well is located in the riparian zone on the west side of small stream in DeSoto National Forest near a USGS stream gage and rain gage ([02480345](#)).

EC-log shows a low conductance unit (sand) down to 28 ft bls, then a high conductance unit from 28ft bls to end of log at 48ft bls.

Using last 3 dissipation points produced an estimated water level of 8.8ft bls, which closely matches the actual measured water level of 8.68ft bls on 4/24/2019 @ 1030. The MP for this well is 3.0ft above land surface.

Field conditions: Perfect log borehole down to 29ft bls in hot, sunny conditions. After 29ft, the HPT system became plugged by the moist, gray, swelling clay unit. The EC log is complete down to 48ft bls.

General core description or interesting info from field book: Nice wet sand unit perched on a think, dense clay unit.

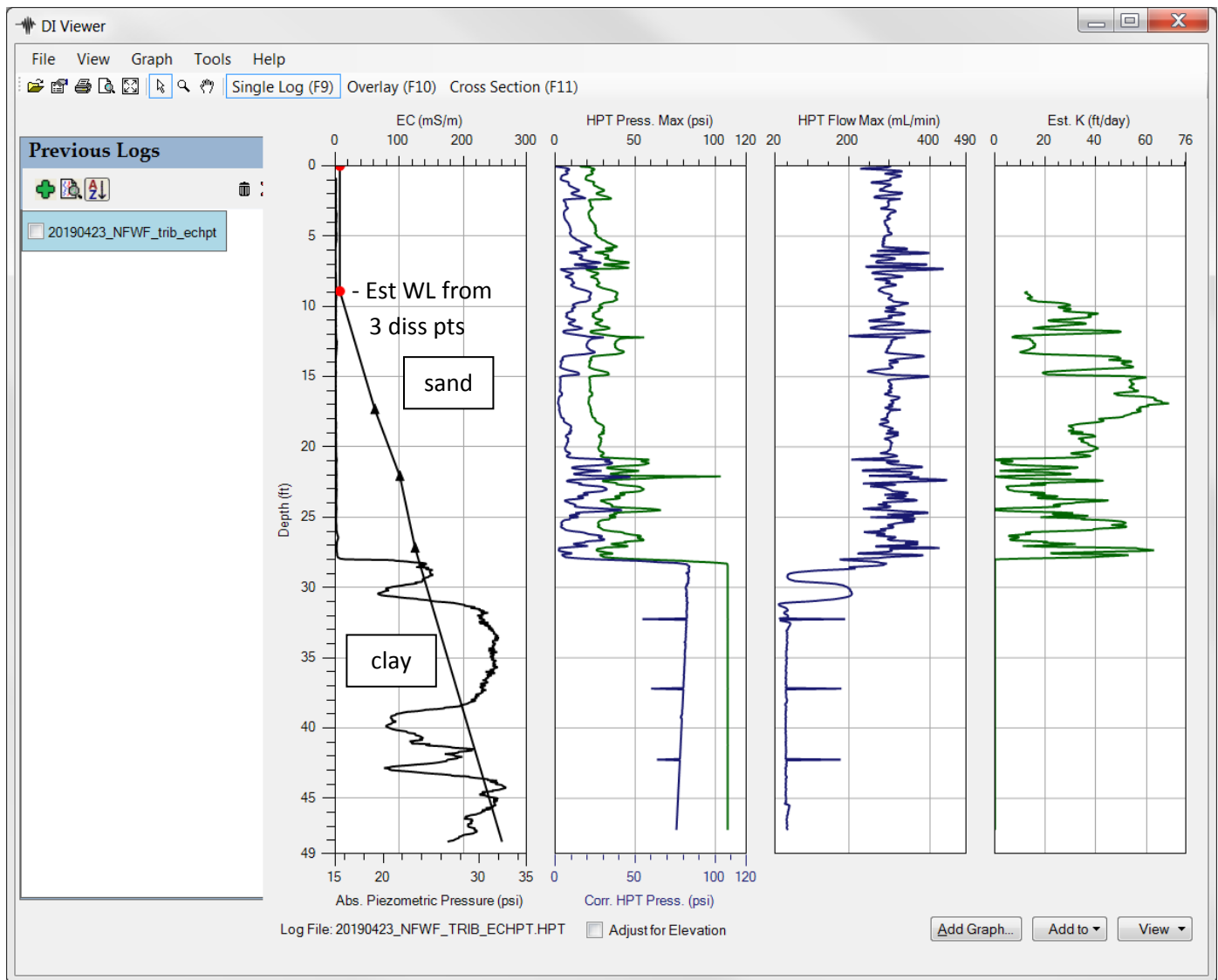
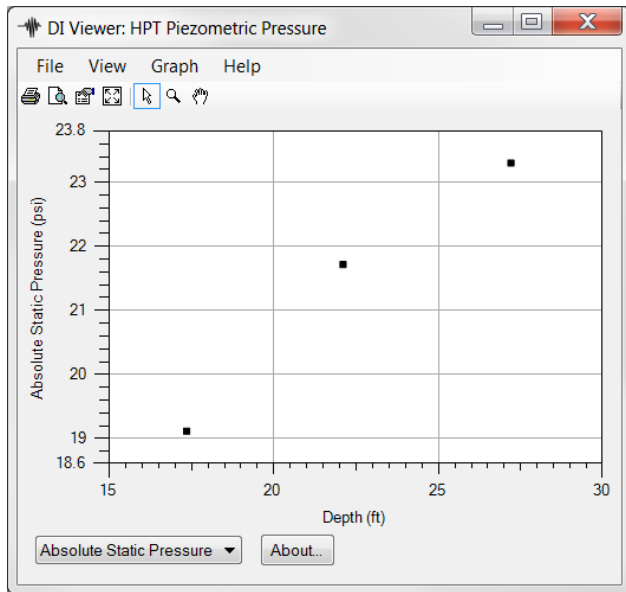
No cores were collected.

About 2 cups of bentonite granules were poured into the annular space and packed at about 15 ft bls below land surface (bls). One bag of portland cement at a tap water ratio of 5-6 gals per 94-lb bag were used to seal the annulus from about 13ft bls to land surface. A 4" thick 4ft diameter slab was constructed around the well.

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USGS Well MS-DNFWF-01 (continued)

Figure 1. Graph of all 3 dissipation tests and EC-log showing 3 dissipation points from the saturated zone.



**D115 Harrison Co.**

**USGS Well MS-DNFWF-01 (continued)**

\*\*\*\*\* EC/HPT QC \*\*\*\*\*

20190423\_NFWF\_trib\_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	203.0	4.1	PASS
Test 2	97.0	100.3	3.4	PASS
Test 3	24.0	24.0	0.1	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 Apr 23 2019 13:00:15

TEST	HPT PRESSURE (psi)	FLOW (mL/min)	HPT PRESSURE (kPa)
TOP with FLOW=0	15.894	0.0	109.590
TOP with FLOW>0	16.177	298.8	111.540
BOTTOM with FLOW=0	15.666	0.0	108.010
BOTTOM with FLOW>0	15.975	297.8	110.150

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

ACTUAL FLOW=0 HPT DIFF.: 0.23 psi (1.6 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 Apr 23 2019 13:58:10

LOG END DEPTH: 47.25 ft (14.402 m)

LOG END TIME: Tue Apr 23 2019 14:37:28

**D115 Harrison Co.**

**USGS Well MS-DNFWF-01 (continued)**

LATITUDE: 30.591583000

LONGITUDE: -88.906833000

ELEVATION: 0.000 METERS 0.00 FEET

GPS Quality: Manual

**POST-LOG HPT REFERENCE TEST VALUES**

POST TEST TIME: Tue Apr 23 2019 14:51:24

POST-LOG HPT REFERENCE TESTS BYPASSED

**Post-Log EC Load Tests**

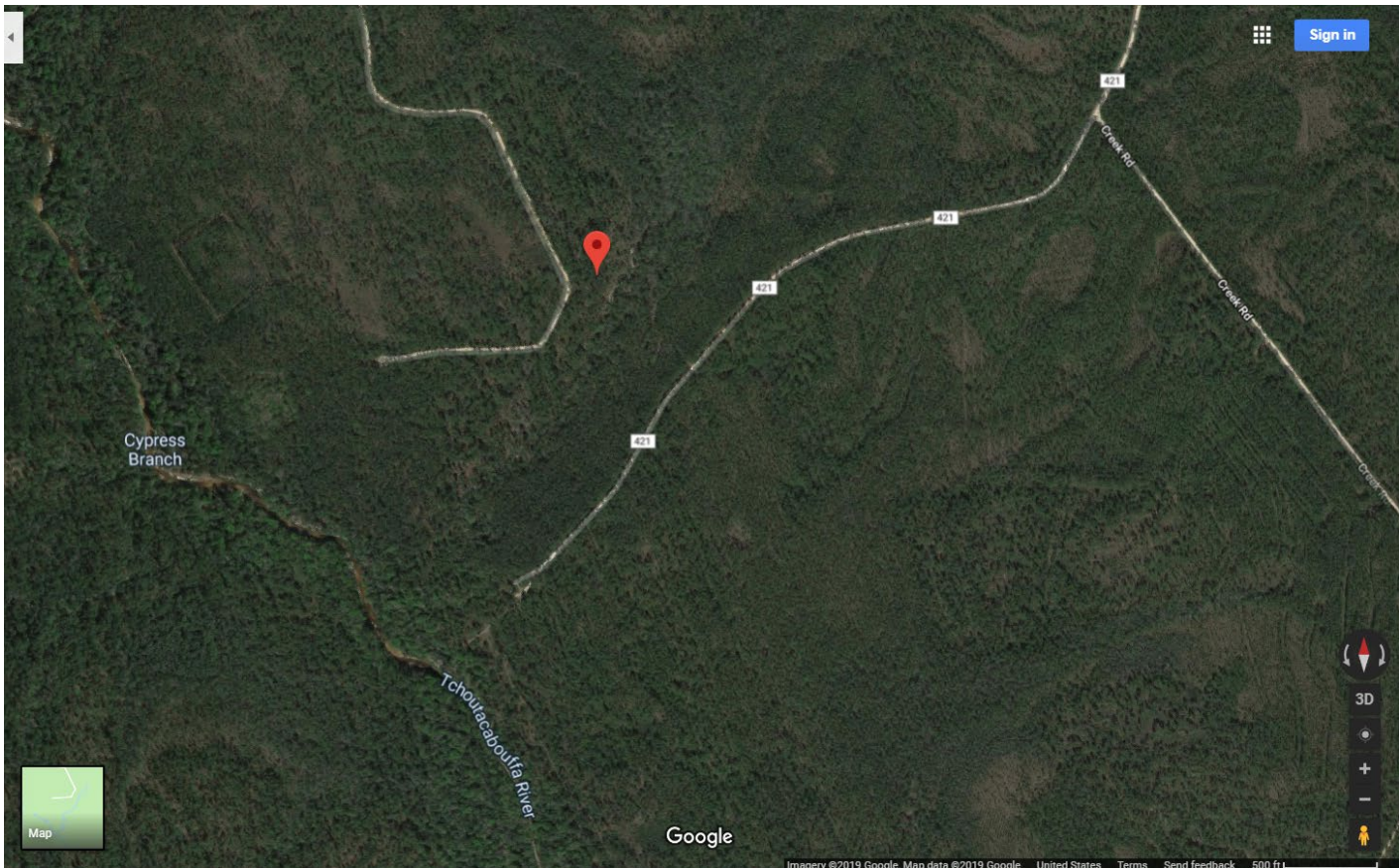
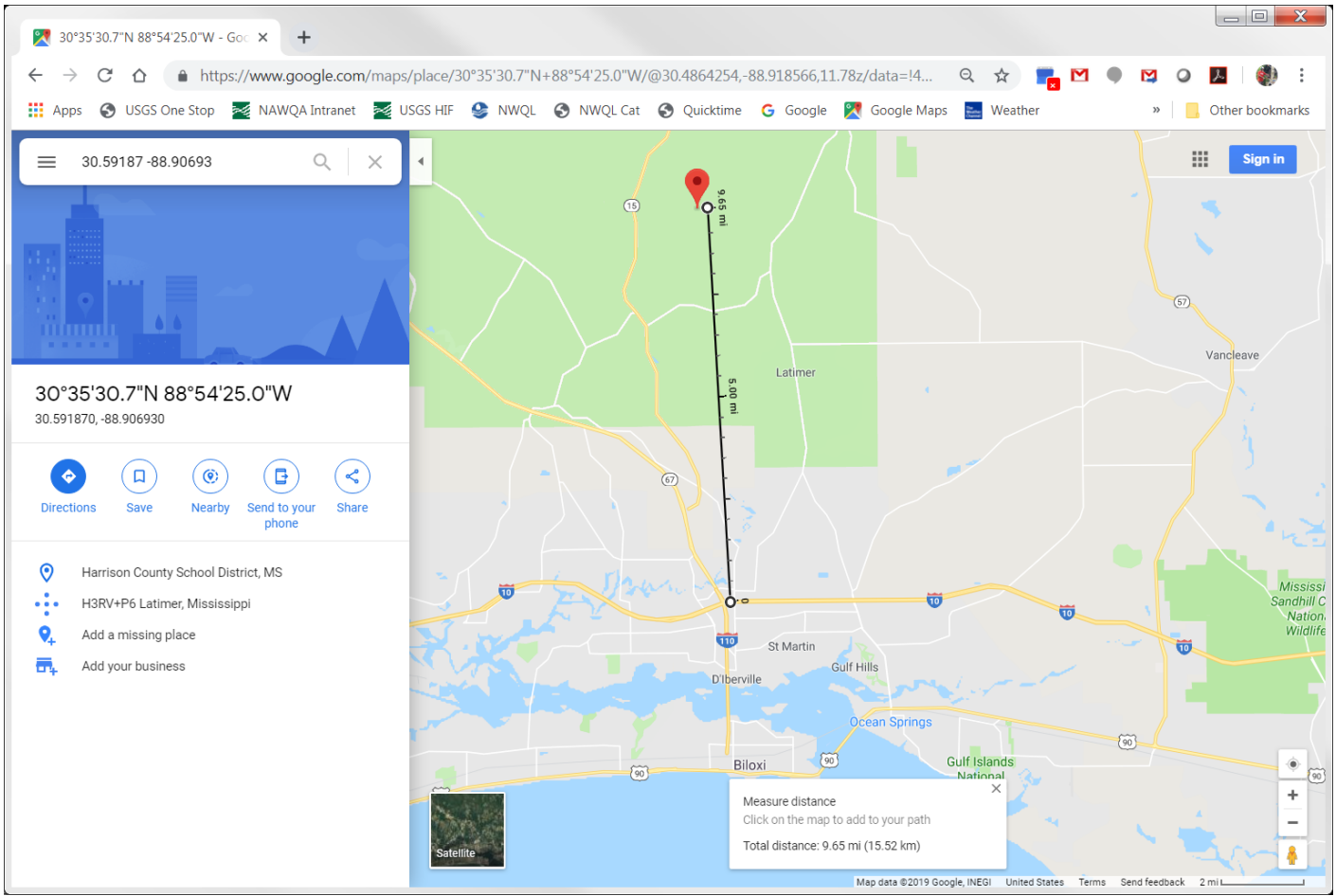
Test	Target (mS/m)	Actual (mS/m)	% Diff	P/F
Test 1	195.0	193.3	0.9	PASS
Test 2	97.0	95.2	1.9	PASS
Test 3	24.0	23.3	2.9	PASS

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

The EC log and upper part of HPT log appear to be okay. There was a kink in the HPT tubing in the probe head. There appears to be a clean sand down to 27 ft bls, then a thick clay. The clay on the rods was dense dark gray/brown and very sticky/tacky with no water to the squeeze. Darrell, Brandon, Roland drillers



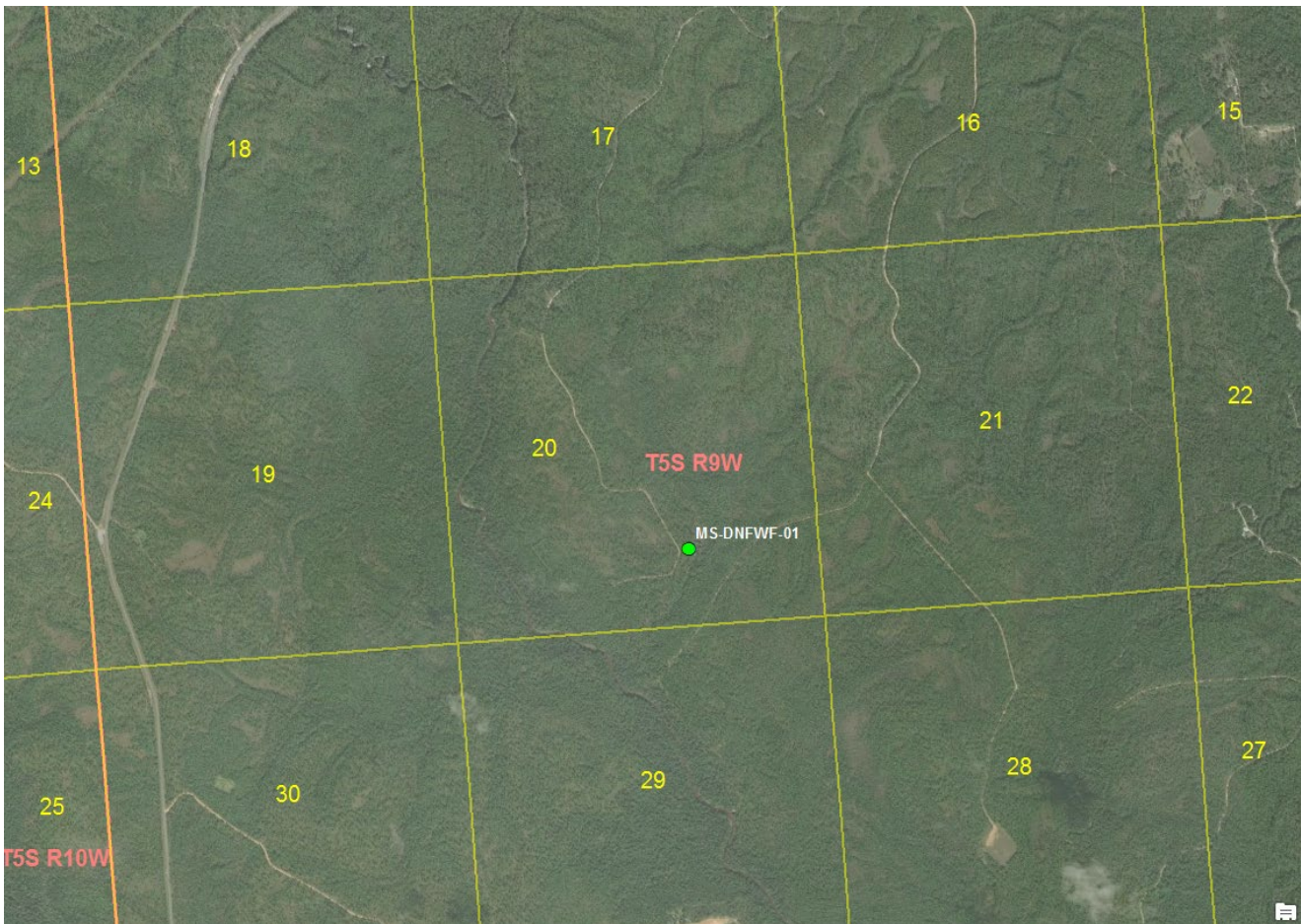
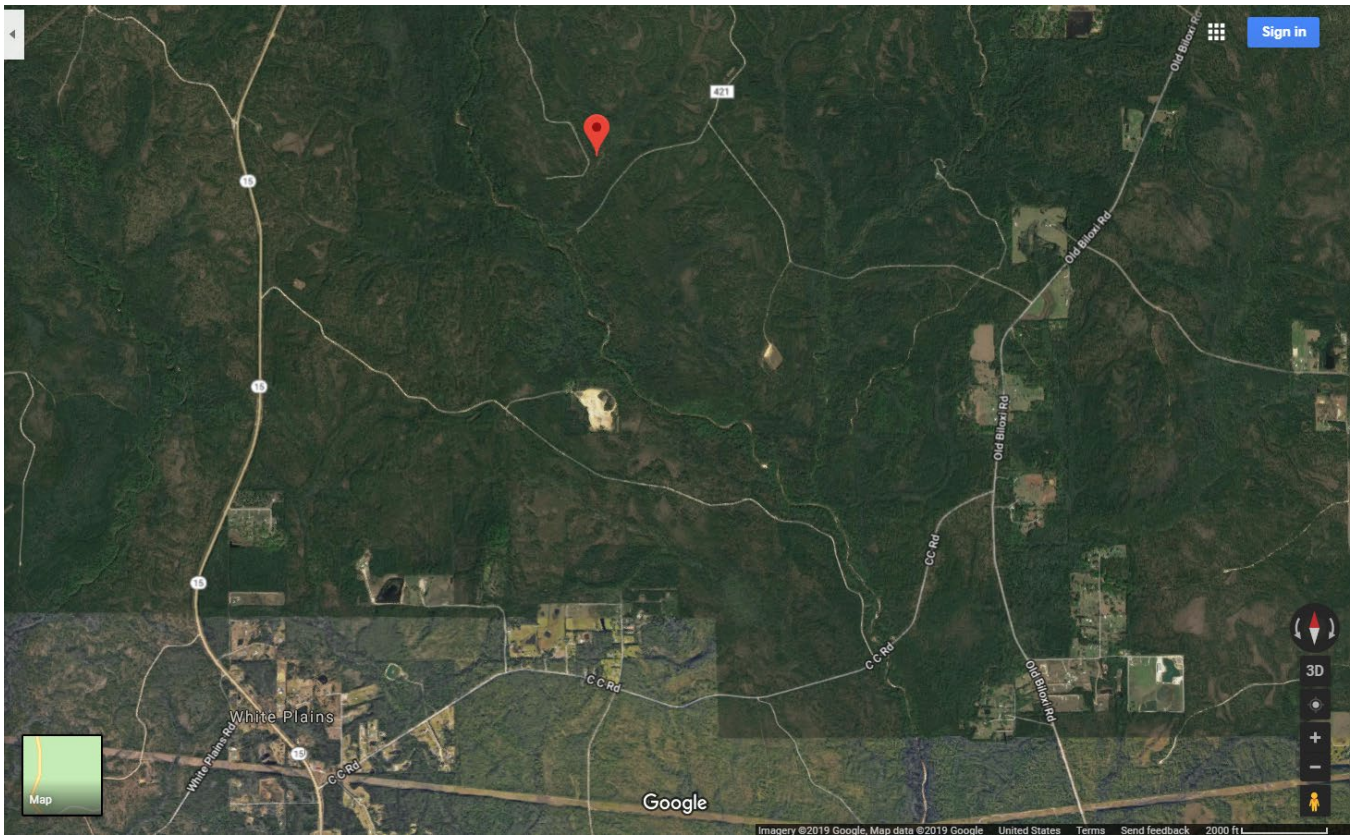
USGS Well MS-DNFWF-01 (continued)





**D115 Harrison Co.**

**USGS Well MS-DNFWF-01 (continued)**





USGS Well MS-DNFWF-01 (continued)

New Site Sheet Form - MAPS

File Tables Search Network Help

**NEW SITE**

- Site
- Datums
- Physical Characteristics
- Administrative
- Groundwater
- Other Data Available
- Miscellaneous Values
- Special Cases
- Spring

**Site Record**

Agency Code: USGS: U.S. Geological Survey | Site Number: 303531088542501 | Site Type Code: GW

Station Name: | Agency Use Code: |

**Coordinate/Altitude Data**

Latitude: 303530.73 | Longitude: 0885424.95 | Coordinate Accuracy: | Coordinate Method: |

Coordinate Datum: | Latitude NAD83 in decimal degrees | Longitude NAD83 in decimal degrees

Altitude in ft: 49 | 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: 031700090403: Bayou Billie-Tchoutac

**Spatial Data**

Land Net: SWSES20 T05S R09W S | Topographic Code: A: Alluvial fan

Map Name: WHITE PLAINS, 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: 047: Harrison Co. | Minor Civil Division: 90216: District 1 | 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: |

Datum values required.