

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: Leflore, MS
Permit #: _____
Driller: Roland W Tollett (RMO-00009026)
Date drilling completed: 08-29-2019

For Office Use Only:

Well #: L344
Aquifer: _____
E-Log #: _____

RECEIVED
12-03-2019
BY OLWR

USGS site name: MS18-01b

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.

| | |
|---|--|
| Well Owner Information (Landowner if borehole is not for a water well) Owner Name: <u>Billy Whittington (landowner)</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>33.53988</u> Longitude: <u>-090.19455</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> NE <u>1/4</u> , Sec <u>04</u> T <u>19N</u> R <u>01E</u> <u>0.1</u> Miles <u>NW</u> of <u>Greenwood, MS</u> (Distance) (Direction) (Nearest Town) |
|---|--|

| | |
|--|--|
| Well / Borehole Data | |
| Date drilling started: <u>08/29/19</u> Date drilling completed: <u>08/29/19</u> Hole depth: <u>45 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 checked="" type="checkbox"/> No log run <input 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 with a 3.0 ft MP and 4" aluminum protective cover</u> | |
| If a flowing well, method of flow regulation: Valve _____ Other (describe) _____ | |
| Static Water Level: <u>3.55</u> feet <input type="checkbox"/> above or <input checked="" type="checkbox"/> below land surface Date measured: <u>08/30/2019 @ 1015</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>41.0</u> Well grouted to a depth of: <u>25</u> feet Type of grout (check one): <input checked="" type="checkbox"/> Neat Cement <input type="checkbox"/> Bentonite <input type="checkbox"/> Mix | |
| Casing length: <u>31.0</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>.010</u> inches Setting depth: From <u>31.0</u> feet to <u>41.0</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> | |

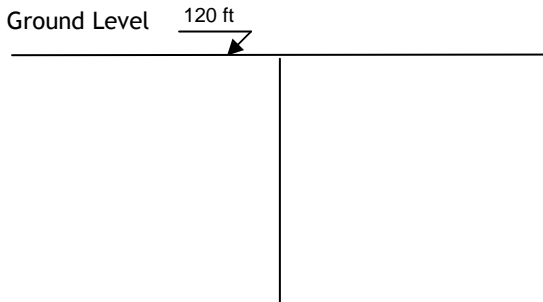
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The sketch below only required for water wells
If well telescopes, show depths on sketch.

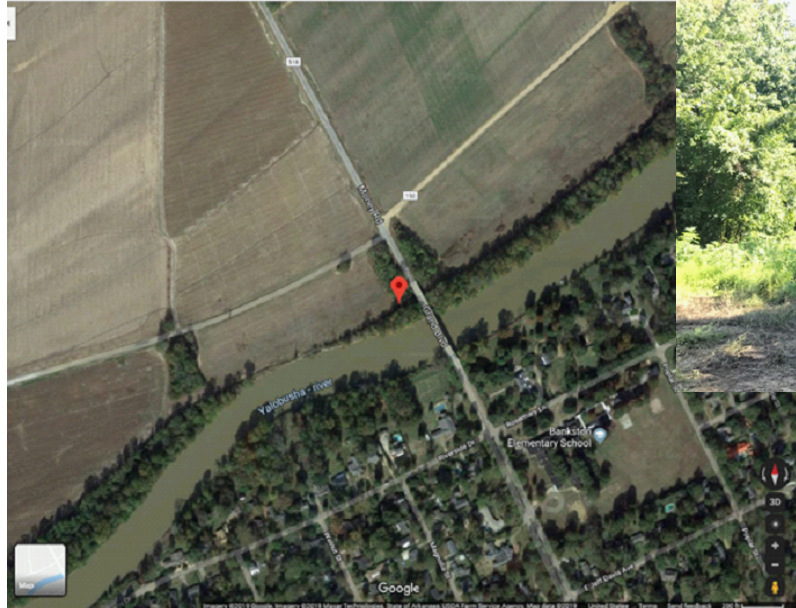


Description of formations encountered must be provided for all wells and boreholes, unless specifically exempted by regulations

| Description of Formations Encountered | From (depth) Ground level | To (depth) |
|--|------------------------------|------------|
| Core intervals: | | |
| brown swollen clay | 5 | 10 |
| gray silty caly | 20 | 25 |
| abrupt transition clay to sand | 25 | 30 |
| medium gray sand | 40 | 45 |
| | | |
| Grain-sizes will be determined by USDS ARS in Oxford MS for each core. | | |
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Sketch the property layout and include the following:



Note:
MS18-01b is the
northeast-most
monitoring well
(left in photo)

Landowner Name: x

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 _____ 08/29/2018 _____
 Print Name of Responsible Licensee and License No. Date

ROLAND TOLLETT _____
 Digitally signed by ROLAND TOLLETT
 Date: 2019.11.01 11:01:14 -05'00'
 Signature of Licensee

083L0344

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

Site number: [MDEQ NO] LEFLORE MS18-01b

Drill date: 20190829

Plugged date: active monitoring well

Site type: USGS monitoring well

EC-HPT log depth: see well MS18-01a-EC

Monitoring well depth: 41 ft bls

Rig Type: Geoprobe 7822DT (note: ECHPT log collected six ft SW of this well at well MS18-01a-EC)

Lat/Long 33.53988 -90.19455 (+- 10ft)

Sec Township Range: SW1/4,NE1/4, S04,T19N,R01E

Land surface elevation: 36.6 meters (120 feet; accuracy 1.6 ft) [data source: DEM]

Topo Map Name: Greenwood, MS

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

HUC code: 080302020604 Outlet Tallahatchie River

MAPS site_no for USGS NWIS: 333224090114002

Land owner: Whittington, Billy (local farmer)



***** USER NOTES *****

Drilled by Roland (USGS Ruston LA) and Wesley Bolton (USDA ARS Oxford MS).

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

MS18-01b: Roland W Tollett (USGS) and Wesley Bolton cored selected intervals and direct pushed this monitoring well. Conditions were very hot and dry. We also installed a second, deeper 81ft well (<MDEQ no> MS18-01a-EC) on-site for future NMR logging and possibly water-quality sampling.

Core intervals (to be processed for grain size by USDA ARS Oxford MS, JR Rigby):

5-10 (poor recovery, brown silty swollen clay); 20-25 (good recovery, gray clay); 25-30 (transitions abruptly from clay to sand); 35-40 (excellent recovery, gray medium sand typical of area, note that plastic sleeve is stuck in core rod). ECHPT log from nearby well MS18-01a-EC shows conductors (clay) from 5-25 ft bls and 83-88 ft bls.

Well construction: This 2" PVC monitoring well is ~44 ft from bottom of point to TOC with a 10 ft screen; screened interval is ~31-41 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 8 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 20 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 20 ft bls to land surface.

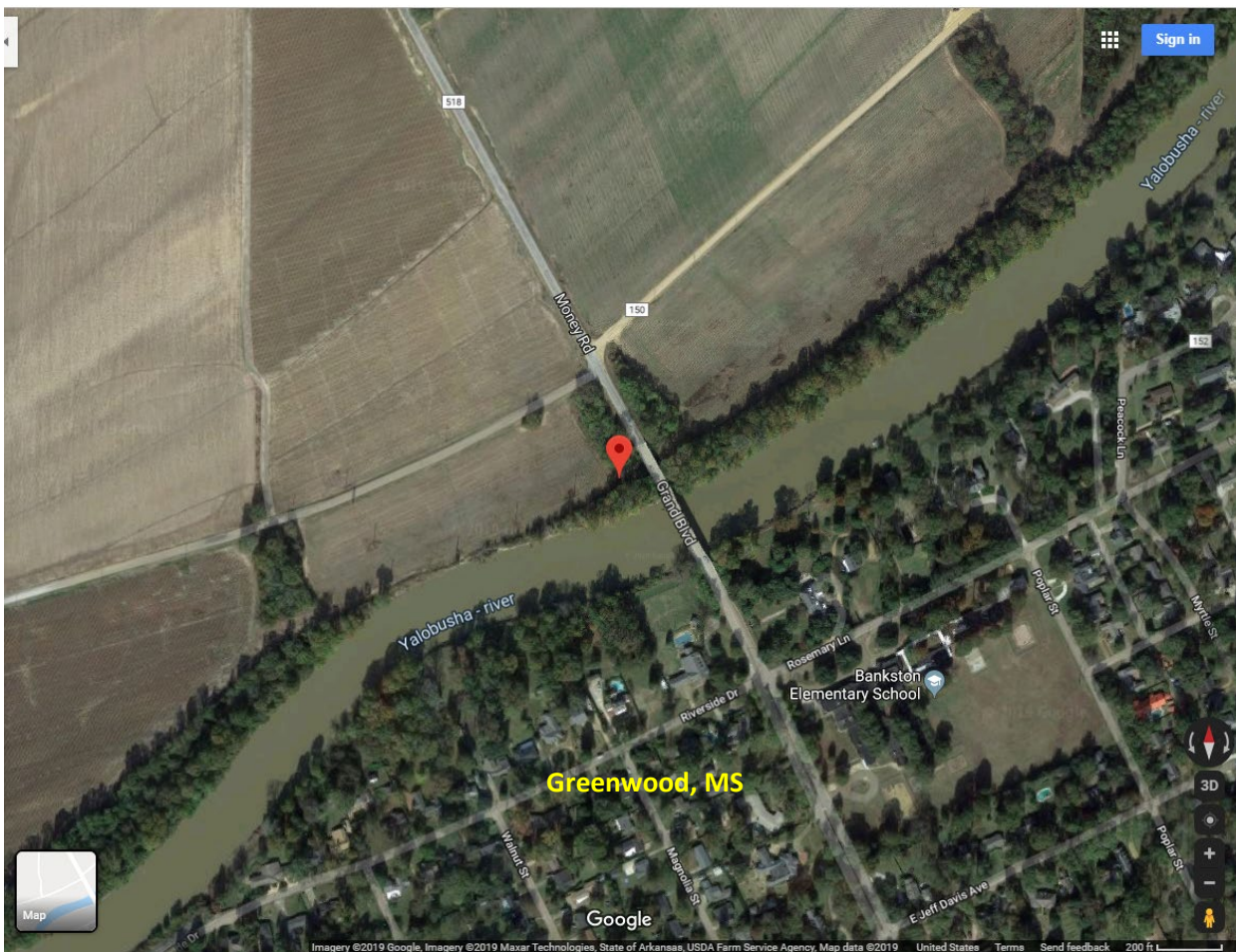
Water level:

8/30/19 @ 1015 = 7.55 - 1.00 (tape offset) - 3.00 = 3.55 ft bls measured with e-tape by Roland W Tollett of the USGS

NOTE: tape offset is the broken missing piece of etape; Etape is calibrated and approved by HIF with 1 foot offset

USGS MS18-01b (continued)

Figure 1. Location of monitoring well MS18-01a-EC and MS18-01b near Greenwood, MS.





USGS MS18-01b (continued)

