ACCOMPANYING TEST HOLE RECORDS FOR THE GEOLOGIC MAP OF THE CHURCH HILL 7.5 MINUTE QUADRANGLE IN JEFFERSON AND ADAMS COUNTIES, MISSISSIPPI

The following are descriptions of samples taken from cuttings, a 5-inch scale geophysical well log, and a lithostratigraphic log from test holes drilled with 10-foot stems during the geologic and stratigraphic study of the Church Hill 7.5 minute quadrangle. The prefix 063 precedes these test holes as a numeric designation for boreholes drilled in Jefferson County. A letter follows the numeric designation, which corresponds to a geographic grid of the county based on the Public Land Survey System as prescribed by the Mississippi Department of Environmental Quality (MDEQ) Office of Geology's Environmental Geology Division. The following borehole data and samples are catalogued and stored in the MDEQ Office of Geology's core and sample library and are available for public inspection.

Test Hole Index Map:

063G0043 (Eugene Bates #1)

Location: @ SE Corner of Section 37, Township 9 North, Range 1 West, go 975’ N ASL, Thence 695’ W @RA

GPS Coordinates: N 31°44’20.6”, W 91°13’26.0”

Elevation: 216 feet MSL (LIDAR Data)

Date: March 26-27, 2019

Purpose: Drilled 210 feet for stratigraphic information. Electrical log from 0-210 feet.

Depth (Feet)	Descriptions	Image
0-10	Loess.	
10-20	Loess.	

20-30	Loess.	
30-40	Loess.	
40-50	Top of stem: Loess Bottom of stem: Silt, reddish brown, clayey, iron manganese nodules.	
50-60	Silt, reddish brown, clayey, iron manganese nodules. *Driller: "Some sand"*	

60-70	Silt, reddish brown, clayey, iron manganese mineralization.	
70-80	Top of stem: Sand, khaki to gray, clayey, slightly oxidized. Bottom of stem: Sand, khaki to gray, fine grained, coarsens to pea gravel, chert, quartz. *Large sample collected.*	
80-90	Gravel, brown to white, gray, black, chert, quartz, up to 1 inch in diameter, sandy. *Large sample collected.*	
90-100	Gravel, brown to white, gray, black, chert, quartz, up to 1 inch in diameter, sandy.	

100-110	Gravel, brown to white, gray, black, chert, quartz, up to 1 inch in diameter, sandy.	
----------	----------End Day----------	----------
110-120	Gravel, sandy. *Poor recovery, sample contaminated*	
120-130	Gravel, brown to white, gray, black, chert, quartz, fragments up to 1 inch in diameter, sandy.	
130-140	Gravel, brown to white, gray, black, chert, quartz, fragments up to 1 inch in diameter, sandy.	

140-150	Gravel, brown to white, gray, black, chert, quartz, fragments up to 1 inch in diameter, sandy.	
150-160	Sand, khaki, coarse-grained, graveliferous, heavy minerals.	
160-170	Gravel, brown to white, gray, black, chert, quartz, fragments up to 1 inch in diameter, sandy.	
170-180	3 feet: Gravel, brown to white, gray, black, chert, quartz, fragments up to 1 inch in diameter, sandy. 7 feet: Clay, khaki to gray, stiff.	

180-190 Clay, grayish green, stiff

190-200 Clay, blueish gray to blueish green, stiff

200-210 Clay, blueish gray to blueish green, stiff.

MISSISSIPPI OFFICE of GEOLOGY

MDEQ
Office of Geology

COMPANY Mississippi Office of Geology - Environmental
CLIENT Mississippi Office of Geology - Surface
WELL I D Bates #1
COUNTY **Jefferson** STATE **MS**

LOCATION
31 44 20.6 N / 91 13 26.0 W ***GPS***
@ SE Corner of Section 37 go 975' N ASL,
Thence 695' W @RA

SEC **37** TWP **9N** RGE **1W**

E-LOG FILE #

G-0043

PERMANENT DATUM	MSL	ELEVATION 216' lidar	K.B.
LOG MEAS. FROM	Ground Level	ABOVE PERM. DATUM	D.F.
DRILLING MEAS. FROM	Ground Level		G.L. 216'

DATE	27 March 2019	TYPE FLUID IN HOLE	Drilling Mud
RUN No	1	SALINITY	
TYPE LOG	GR,SP,SPR,CUR,R8,R16,R32,R64	DENSITY	
DEPTH-DRILLER	210'	LEVEL	Hole Full
DEPTH-LOGGER	210'	MAX. REC. TEMP.	
ENGINEER		Log Spliced at	
GEOLOGIST	James Starnes, RPG	Digital File Name	moog22jefferson
DRILLER	Trey Magee	MOG File #	JEFFG0043
RECORDED BY	Andrew Newcomb, RPG		
WITNESSED BY	Jonathan Leard, GIT		

RUN	BOREHOLE RECORD			CASING RECORD			
NO.	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	5.000"	0'	210'	Open	Hole	0'	210'
2							
		ELD523063G0043A				**ELD123063G0043B**	

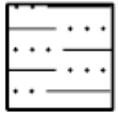
063G0043 (Eugene Bates #1)

AGE	FORMATION	SCALE (Ft)	LITHOLOGY	MUD: clay, silt	SAND: vf, f, m, c, vc	GRAVEL: gran, pebb, cobb, boul	STRUCTURES / FOSSILS
Pleistocene	Loess	10–40					
Pleistocene	pre-loess terrace deposits	40–170					
Miocene	Hattiesburg	170–200					

Lithologies

Clay

Sand and Gravel



Silt

Loess

Symbols

Nodules and concretions

Gastropods

Base Boundaries

Erosional

063H0037 (Trisha Geoghegan #1)

Location: @SW Corner of Section 60, Township 9N, Range 1E, go 1280'E ASL, Thence 1525' N @RA

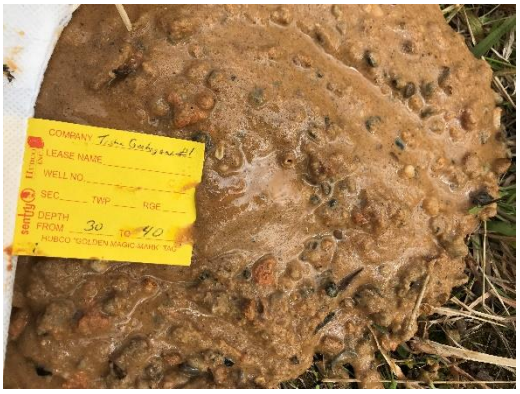
GPS Coordinates: N 31°46'53", W 91°13'38.9"

Elevation. 339 feet MSL (LIDAR Data)

Date: March 25, 2019

Purpose: Drilled 230 feet for stratigraphic information. Electrical log from 0-220 feet.

Depth (Feet)	Descriptions	Image
0-10	8 feet: Gravel, tan to brown, chert, quartz. Sand, red to tan, medium to coarse-grained, quartzose. 2 feet: Clay, khaki, stiff, ironstone at sand clay contact.	
10-20	Sand, reddish khaki, medium to coarse-grained, quartzose. Pea gravel, chert, quartz.	

20-30	Sand, reddish khaki, medium to coarse-grained, quartzose, limonitic. Pea gravel, chert, quartz.	
30-40	Sand, reddish khaki, medium to coarse-grained, quartzose. Gravel, chert, quartz.	
40-50	Sand, reddish khaki, coarse-grained, quartzose. Gravel, chert, quartz.	
50-60	Sand, reddish khaki, coarse-grained, quartzose. Gravel, chert, quartz. *Poor sample recovery.*	

60-70 Sand, khaki, fine to medium-grained, quartzose.

Poor sample recovery.

70-80 Sand, khaki, fine to medium-grained, quartzose.

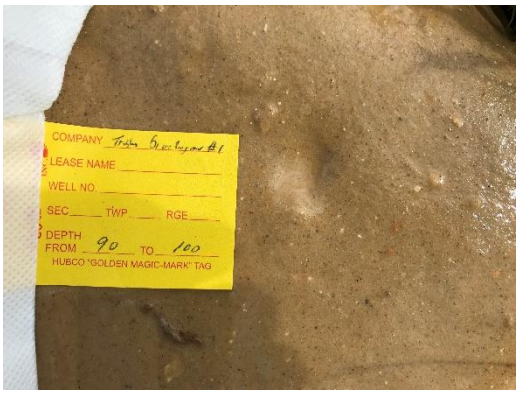
Poor sample recovery.

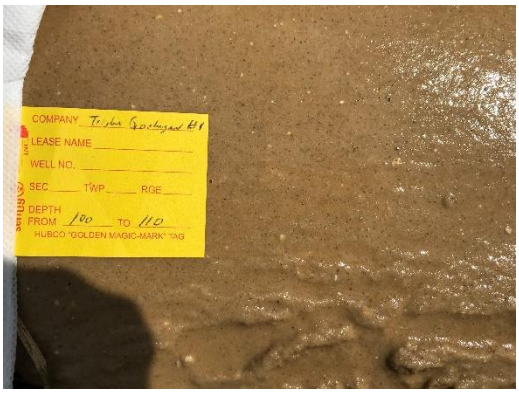
80-90 Sand, khaki, fine-grained, quartzose.

Poor sample recovery.

90-100 Sand, khaki, fine-grained, quartzose.

Poor sample recovery.
Float sample.



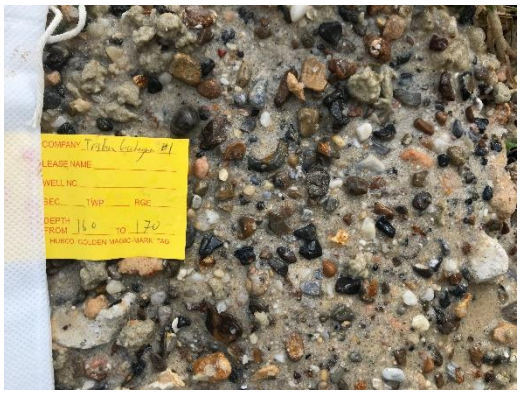
100-110	Sand, khaki, fine-grained, quartzose. *Poor sample recovery.* *Float sample.*	
----------	----------End Day----------	----------
110-120	Sand. *Poor sample recovery.* *Bagged sample highly contaminated.*	
120-130	Sand, khaki, medium to coarse-grained, quartzose. Pea gravel, chert, quartz, manganese staining.	
130-140	Sand, white to tan, fine-grained, clayey, silty, quartzose.	

140-150 Sand, white to tan, coarse to very coarse-grained.
Gravel, angular, chert, quartz.

Large sample taken.

150-160 Sand, white to tan, coarse to very coarse-grained.
Gravel, angular, chert, quartz.

160-170 Sand, white to tan, coarse to very coarse-grained.
Gravel, angular, chert, quartz.

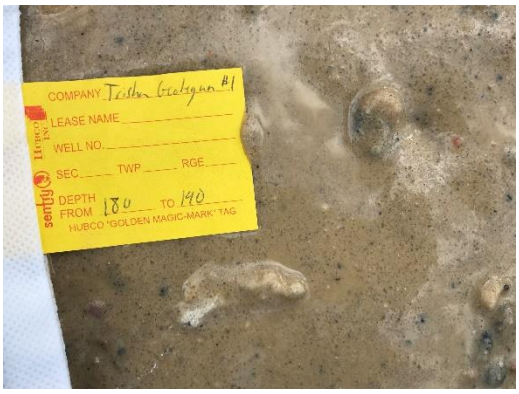


170-180 Sand, white to tan, coarse to very coarse-grained.
Gravel, angular, chert, quartz.

Poor recovery.

180-190 Sand, coarse grained

Poor recovery.



190-200 Sand, Coarse-grained,
Pea gravel, chert, quartz

200-210 Clay, grayish green, stiff.

210-220 Clay, grayish green, stiff, lignite flakes,
carbonized wood.

220-230	Top of stem: Clay, gray, stiff, lignite flakes, carbonized wood. Base of stem: Sand. *Poor recovery of sand.*	

MISSISSIPPI OFFICE of GEOLOGY

MDEQ Office of Geology

COMPANY Mississippi Office of Geology - Environmental
CLIENT Mississippi Office of Geology - Surface
WELL I D Trisha Geohegan #1
COUNTY **Jefferson** STATE **MS**

LOCATION
31 42 06.2 N / 91 08 45.8 W ***GPS***
@ SW Corner of Section 60 go 1280' E ASL,
Thence 1525' N @RA

SEC **60** TWP **9N** RGE **1E**

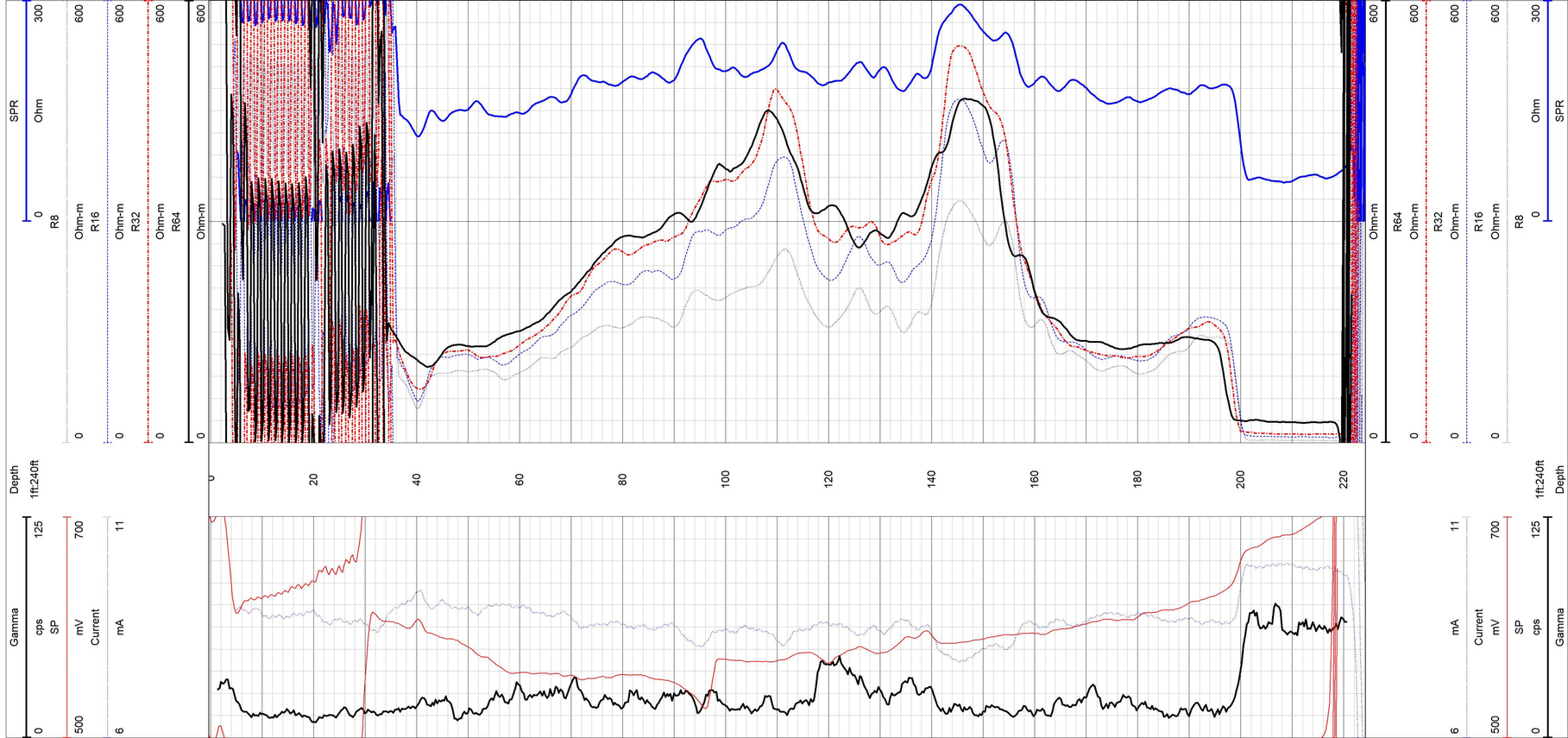
E-LOG FILE #

H-0037

PERMANENT DATUM	MSL	ELEVATION 339' lidar	K.B.
LOG MEAS. FROM	Ground Level	ABOVE PERM. DATUM	D.F.
DRILLING MEAS. FROM	Ground Level		G.L. 339'

DATE	26 March 2019	TYPE FLUID IN HOLE	Drilling Mud
RUN No	1	SALINITY	
TYPE LOG	GR,SP,SPR,CUR,R8,R16,R32,R64	DENSITY	
DEPTH-DRILLER	230'	LEVEL	Hole Full
DEPTH-LOGGER	220'	MAX. REC. TEMP.	
ENGINEER		Log Spliced at	
GEOLOGIST	James Starnes, RPG	Digital File Name	moog12jefferson
DRILLER	Archie McKenzie	MOG File #	JEFFH0037
RECORDED BY	Andrew Newcomb, RPG		
WITNESSED BY	Jonathan Leard, GIT		

RUN	BOREHOLE RECORD			CASING RECORD			
NO.	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	5.000"	0'	230'	Open	Hole	0'	230'
2							
		ELD523063H0037A				**ELD123063H0037B**	

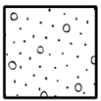


063H0037 (Trisha Geohegan #1)

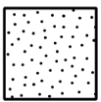
AGE	FORMATION	SCALE (Ft)	LITHOLOGY	MUD SAND GRAVEL (clay silt vf f m c vc gran pebb cobb boul)	STRUCTURES / FOSSILS
Pleistocene	pre-loess terrace deposit	10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220			
Miocene	Hattiesburg				

Lithologies

Clay



Sand and Gravel



Sand

Symbols

Plant material

Base Boundaries

Erosional