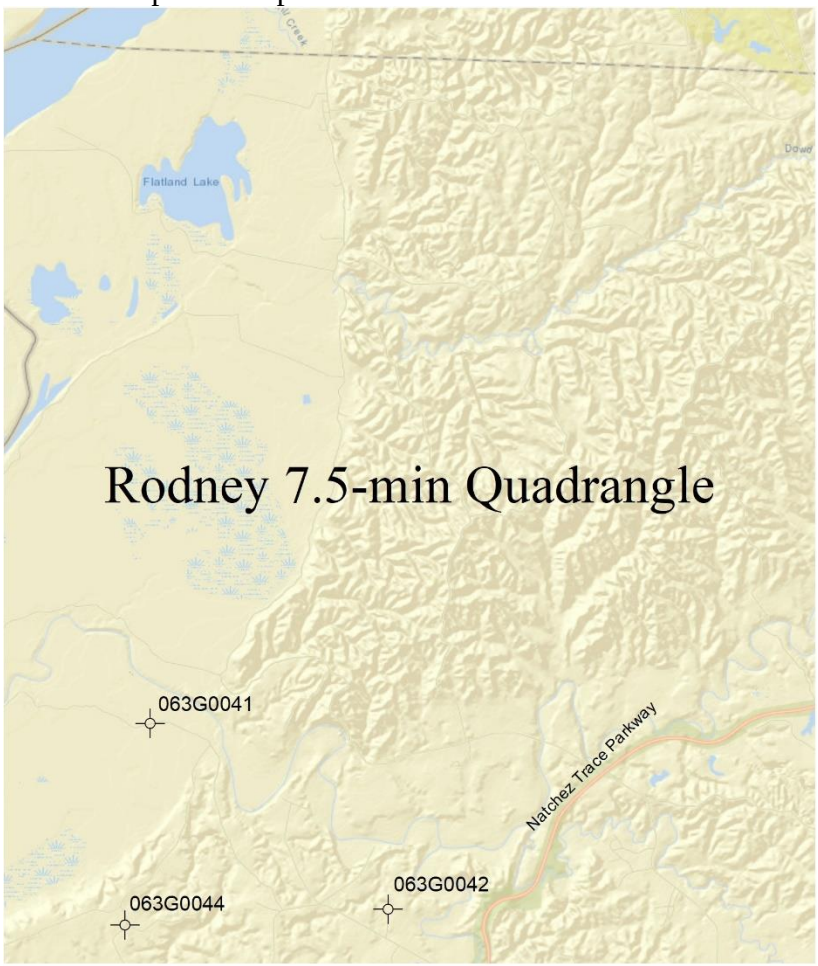
ACCOMPANYING TEST HOLE RECORDS FOR THE GEOLOGIC MAP OF THE RODNEY 7.5 MINUTE QUADRANGLE IN JEFFERSON AND CLAIBORNE COUNTIES, MISSISSIPPI

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 Rodney 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:



063G0041 (James Matheny #1)

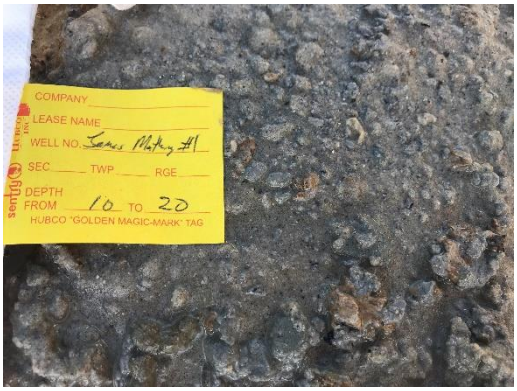
Location: From NW Corner of Section 13, Township 9N, Range 1W, go 2642'E Thence S @RA 1185' to Location

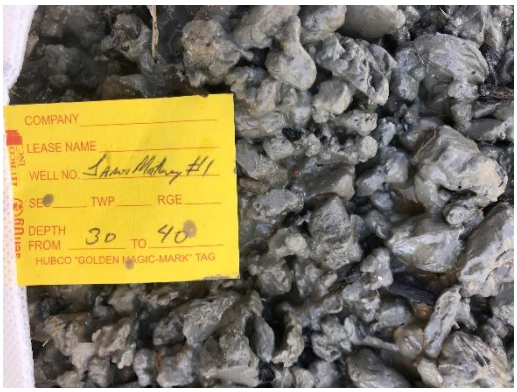
GPS Coordinates: N 31°46'53", W 91°13'38.9"

Elevation. 75 feet MSL (LIDAR Data)

Date: October 3, 2018

Purpose: Drilled 140 feet for stratigraphic information. Electrical log from 0-140 feet.

Depth (Feet)	Descriptions	Image
0-10	Silt, brown, iron manganese nodules, loess derived.	
10-20	Top of stem: Silt, brown, iron manganese nodules, loess derived. Bottom of stem: Sand, gray, medium-grained, loose, quartzose, lignitic.	

20-30	Sand, grayish tan, medium to coarse-grained. Wood @ 3-4 feet.	
30-40	Silt, gray, clayey, anoxic loess derived.	
40-50	Silt, gray, clayey, anoxic loess derived.	
50-60	Silt, gray, clayey, anoxic loess derived.	

60-70	Silt, gray, sandy.	
70-80	Silt, gray, clayey, dry.	
80-90	8 feet: Silt, gray, sandy, dry. 2 feet: Sand, medium to coarse-grained, quartzose, carbonized wood fragments.	
90-100	Sand, gray, medium to coarse-grained, heavy minerals. Pea gravel, brown, chert.	

100-110	Sand, gray, medium to coarse-grained, heavy minerals. Gravel, brown, chert, fossil vertebrate fragment.	
110-120	8 feet: Gravel, chert, quartz, MS river alluvium volcanics. 2 feet: Clay, greenish gray.	
120-130	Clay, grayish green, stiff.	
130-140	Clay, grayish 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 James Matheney #1
COUNTY **Jefferson** STATE **MS**

LOCATION
31 46 53.0 N / 91 13 38.9 W ***GPS***
From NW Corner go 2642'E ASL
Thence S @RA 1185' to Location

SEC **13** TWP **9N** RGE **1W**

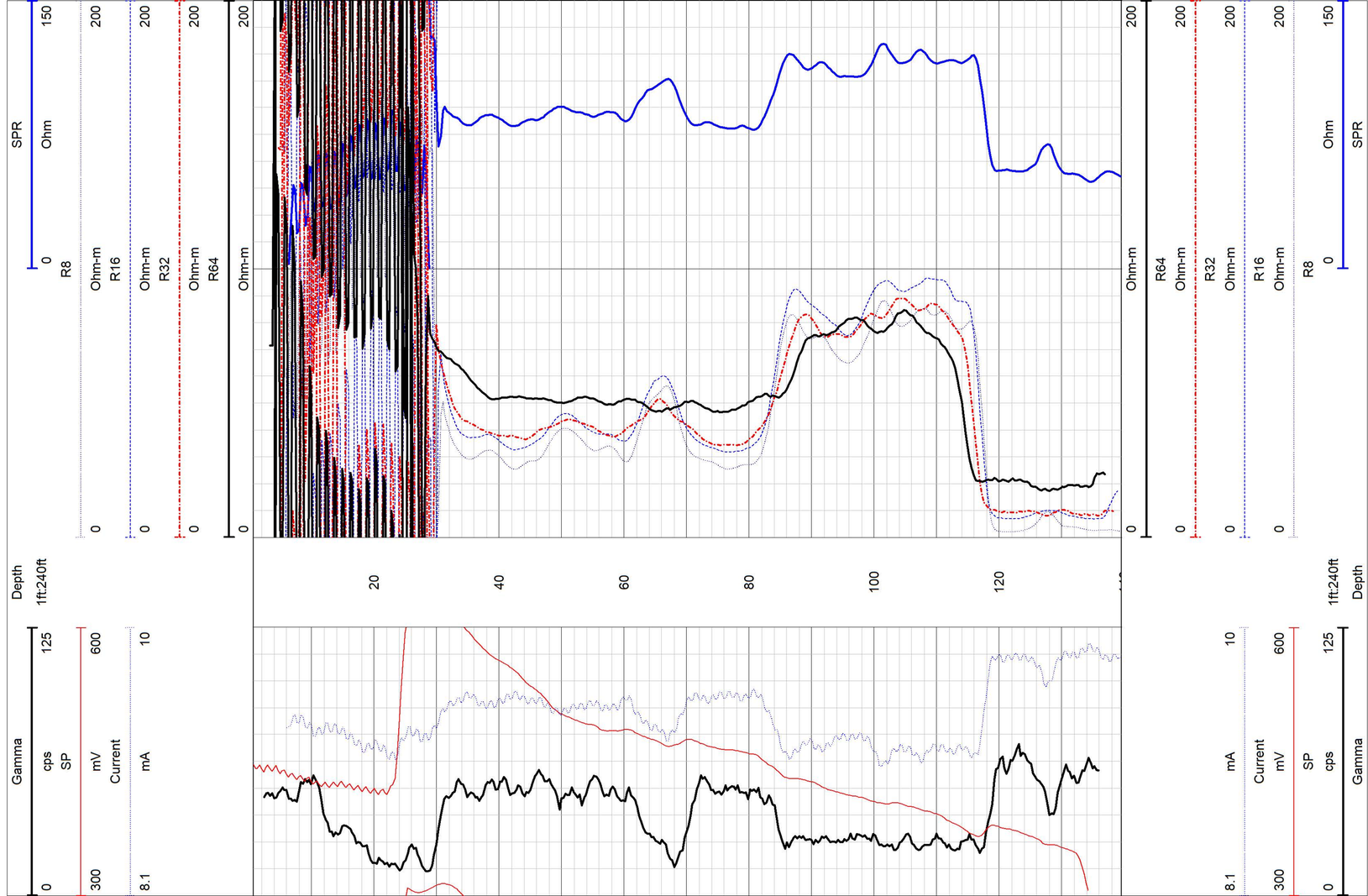
E-LOG FILE #

G-0041

PERMANENT DATUM	MSL	ELEVATION 75' lidar	K.B.
LOG MEAS. FROM	Ground Level	ABOVE PERM. DATUM	D.F.
DRILLING MEAS. FROM	Ground Level		G.L. 75'

DATE	3 October 2018	TYPE FLUID IN HOLE	Drilling Mud
RUN No	1	SALINITY	
TYPE LOG	GR,SP,SPR,CUR,R8,R16,R32,R64	DENSITY	
DEPTH-DRILLER	140'	LEVEL	Hole Full
DEPTH-LOGGER	140'	MAX. REC. TEMP.	
ENGINEER		Log Spliced at	
GEOLOGIST	James Starnes RPG	Digital File Name	
DRILLER	Archie McKenzie	MOG File #	JEFFG0041
RECORDED BY	Paul Parish RPG		
WITNESSED BY	Johnathan Leard		

RUN	BOREHOLE RECORD			CASING RECORD			
NO.	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	5.000"	0'	140'	Open	Hole	0'	140'
2							
		ELD523063G0041A				**ELD123063G0041B**	

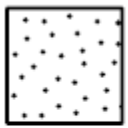


063G0041 (James Matheny #1)

Lithologies

Clay

Sand and Gravel



Sand

Silt

Symbols

Vertebrates

Plant material

Base Boundaries

Erosional

063G0042 (James Matheny #2)

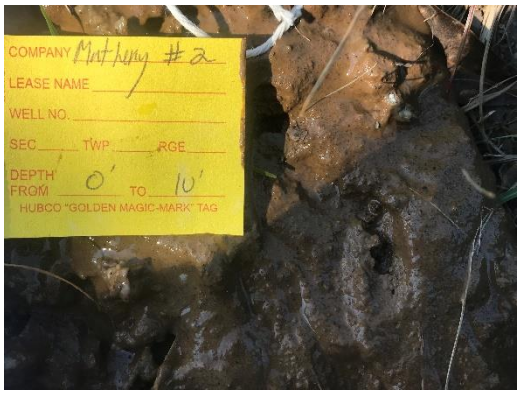
Location: From West most corner of Section 22, Township 9N, Range 1W, go 2480’ due east, thence 190’ due south to location.

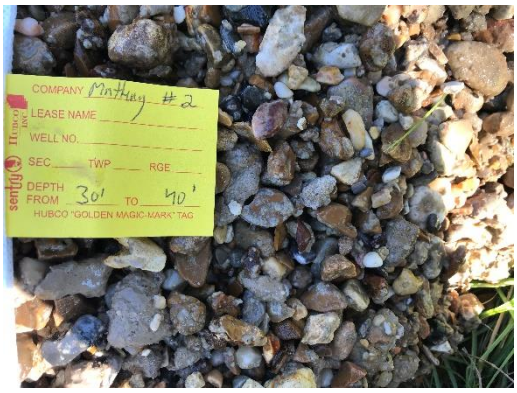
GPS Coordinates: N 31°45’25.6”, W 91°11’27.0”

Elevation. 130.3 feet MSL (LIDAR Data)

Date: October 29-31, 2018

Purpose: Drilled 480 feet for stratigraphic information. Electrical log from 480 feet.

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

20-30	Loess, dry.	
30-40	4 feet: Loess, dry, gastropod fossils. 6 feet: Gravel, tripolitic chert, quartzose, fossiliferous.	
40-50	5 feet: Sand, khaki, medium to coarse-grained, quartzose. Pea gravel, tripolitic chert, quartzose, fossiliferous. 5 feet: Clay, grayish green, stiff.	

50-60	Clay, grayish green, stiff, silty.	
60-70	Clay, grayish green, stiff, silty.	
70-80	Clay, grayish green, stiff, silty.	
80-90	Clay, grayish green, stiff, silty.	

90-100	Clay, grayish green, stiff, silty.	
100-110	Clay, grayish green, stiff, silty.	
110-120	Clay, grayish green, stiff, silty.	
120-130	Top of stem: Clay, greenish gray, silty. Bottom of stem: Siltstone, gray.	

130-140	Top of stem: Siltstone, gray. Bottom of stem: Silt, gray.	
140-150	Clay, gray, stiff.	
----------	----------End Day----------	----------
150-160	Clay, gray, stiff.	
160-170	Clay, greenish gray, stiff.	

170-180 Clay, gray, stiff.

180-190 Clay, gray, stiff.

190-200 Clay, gray, stiff, some maroon streaks.

200-210 Clay, gray, stiff, maroon streaks.

210-220 Clay, gray green, silty, sandy, stiff.

220-230 Clay, gray green, silty, sandy, stiff.

230-240 Clay, greenish gray, stiff, silty.

240-250 Clay, greenish gray, stiff.

250-260 Clay, greenish gray, stiff

260-270 Clay, greenish gray, stiff

270-280 Clay, gray, stiff.

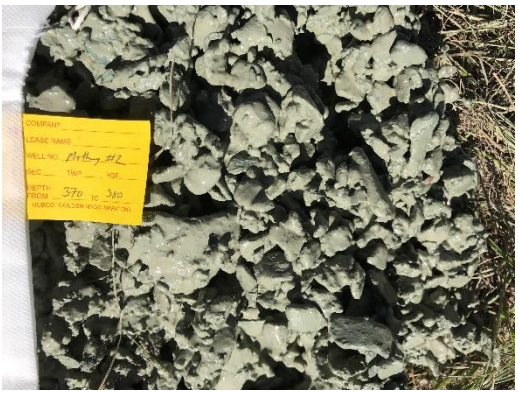
280-290 Clay, greenish gray, stiff.

290-300 Clay, greenish gray, stiff.

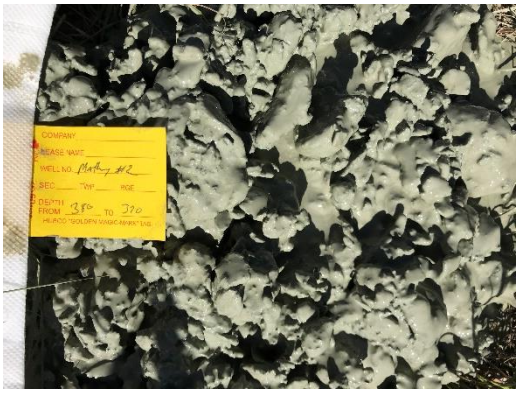
300-310 Clay, greenish gray, stiff.

310-320 Clay, greenish gray, stiff.

320-330 Clay, greenish gray, stiff.

330-340	5 feet: Clay, greenish gray, stiff. 5 feet: Sand, gray, fine grained. *Poor recovery of sand.*	
340-350	Clay, greenish gray, stiff.	
350-360	Clay, greenish gray, stiff.	No image.
360-370	Clay, greenish gray, stiff.	
370-380	Clay, greenish gray, stiff.	

380-390 Clay, greenish gray, stiff.



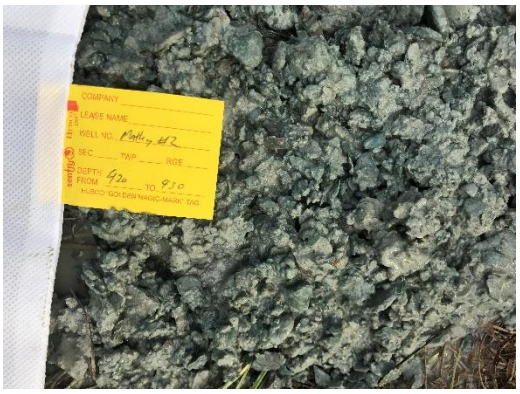
---------- ----------End Day---------- ----------

390-400 Clay, greenish gray, stiff, silty.

400-410 Clay, greenish gray, stiff, silty.

410-420 Clay, greenish gray, stiff, silty.

420-430 Clay, greenish gray, stiff, silty.



430-440 Clay, greenish gray, stiff, silty.

440-450 Clay, greenish gray, stiff, silty.

450-460 Clay, greenish gray, stiff, silty.

460-470	Clay, greenish gray, stiff, silty.	
470-480	Clay, greenish gray, stiff, silty.	No image.

MISSISSIPPI OFFICE of GEOLOGY

MDEQ Office of Geology

COMPANY Mississippi Office of Geology - Environmental
CLIENT Mississippi Office of Geology - Surface
WELL I D Matheney #2
COUNTY **Jefferson** STATE **MS**

LOCATION
31 45 25.6 N / 91 11 27.0 W ***GPS***
From West Most Corner of Section 22 go 2480'
Due East, Thence 190' Due South to Location

SEC **22** TWP **9N** RGE **1W**

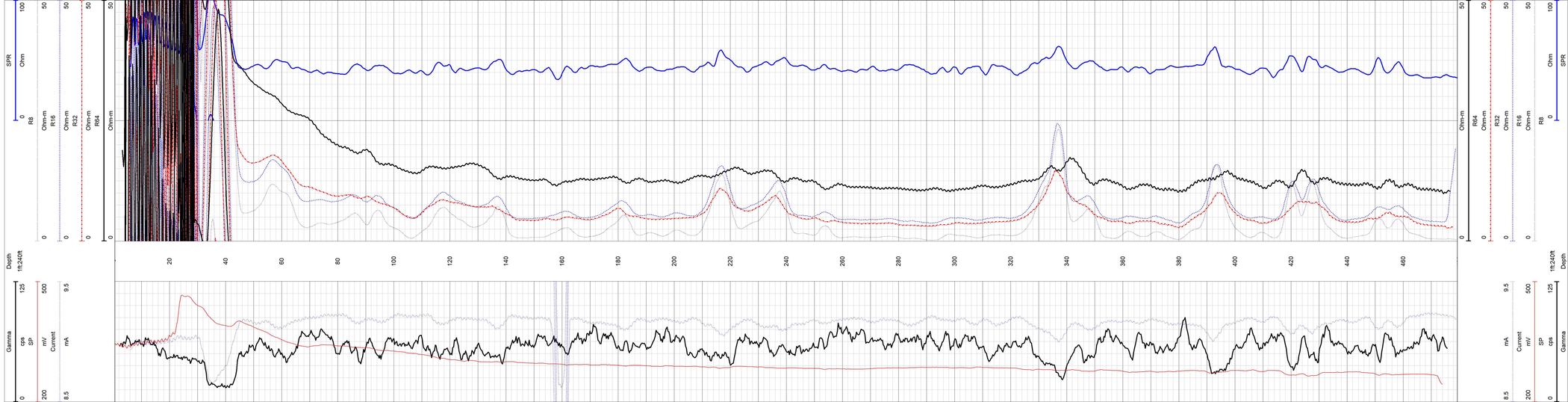
E-LOG FILE #

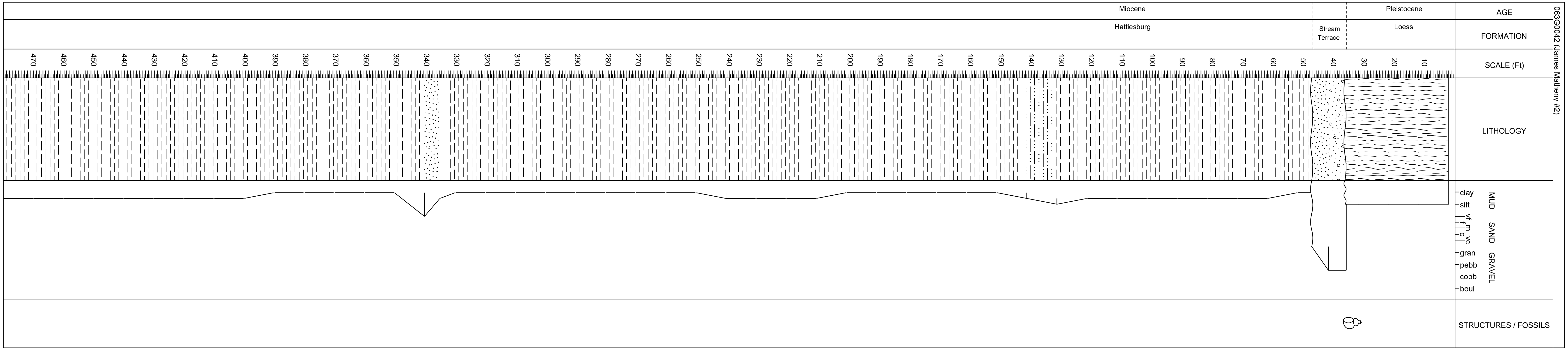
G-0042

PERMANENT DATUM	MSL.	ELEVATION 130.3' Lidar	K.B.
LOG MEAS. FROM	Ground Level	ABOVE PERM. DATUM	D.F.
DRILLING MEAS. FROM	Ground Level		G.L. 130.3'

DATE	31 October 2018	TYPE FLUID IN HOLE	Drilling Mud
RUN No	1	SALINITY	
TYPE LOG	GR,SP,SPR,CUR,R8,R16,R32,R64	DENSITY	
DEPTH-DRILLER	480'	LEVEL	Hole Full
DEPTH-LOGGER	480'	MAX. REC. TEMP.	
ENGINEER		Log Spliced at	
GEOLOGIST	James Starnes RPG	Digital File Name	
DRILLER	Trey Magee	MOG File #	JEFFG0042
RECORDED BY	Paul Parish RPG		
WITNESSED BY	Johnathan Leard GIT		

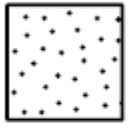
RUN NO.	BOREHOLE RECORD BIT	FROM	TO	CASING RECORD SIZE	WGT.	FROM	TO
1	5.000"	0'	480'	Open	Hole	0'	480'
2							
		ELD523063G0042A				**ELD123063XG0042B**	



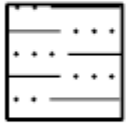

Miocene
Pleistocene
AGE
Hattiesburg
Stream Terrace
Loess
FORMATION
470 460 450 440 430 420 410 400 390 380 370 360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10
SCALE (Ft)
LITHOLOGY
clay
silt
vf
f
m
c
vc
gran
pebb
cobb
boul
MUD
SAND
GRAVEL
STRUCTURES / FOSSILS
0633G042 (James Matheny #2)

Lithologies

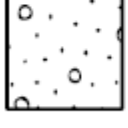
Clay



Sand



Silt



Sand and Gravel

Loess

Symbols

Gastropods

Base Boundaries

Erosional

063G0044 (Eugene Bates #2)

Location: From South Most Corner of Section 19, Township 9 North, Range 1 West, go 2135' NW ASL, Thence 930' NE @RA to Location

GPS Coordinates: N 31°45'18.0", W 91°13'52.9"

Elevation: 195 feet MSL (LIDAR Data)

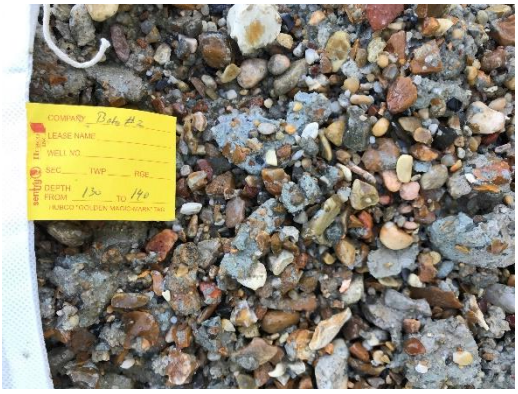
Date: April 1-2, 2019

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

Depth (Feet)	Descriptions	Image
0-10	Loess, khaki, weathered, pedogenic iron manganese concretions.	
10-20	Loess, khaki to gray, weathered to anoxic, pedogenic iron manganese concretions.	

20-30	Loess, grayish green, pulmonate gastropod fragments.	
30-40	Loess, grayish green, pulmonate gastropod fragments, loess dolls.	
40-50	Loess, grayish green, pulmonate gastropod fragments, loess dolls..	
50-60	Top of stem: Loess, grayish green, pulmonate gastropod fragments, loess dolls. Bottom of stem: Clay, khaki, silty, pedogenic iron manganese nodules.	

60-70	Clay, khaki, silty, pedogenic iron manganese nodules.	
70-80	Clay, khaki, silty.	
80-90	Clay, grayish khaki, silty, iron hydroxide mottling.	
90-100	Clay, khaki gray, minimal silt.	

100-110	Clay, grayish khaki, minimal silt, stiff.	
110-120	Clay, greenish khaki, silty.	
120-130	Silt, greenish gray, coarsening to Sand, gray, fine to coarse-grained, coarsening to Pea gravel, chert, quartz, sandy.	
----------	----------End Day----------	----------
130-140	Pea Gravel, up to 1 inch in diameter, chert, quartz, sandy.	

140-150	Gravel, fragments up to 1 inch in diameter, chert, quartz, sandy.	
150-160	Drilled as sand. *Poor Recovery.* *Float Sample*.	
160-170	Top of stem: drilled as sand, coarse-grained. Bottom of stem: drilled as gravel. *Poor Recovery.*	
170-180	5 feet: Sand, grayish khaki, coarse-grained. 5 feet: Clay, khaki to gray, silty, stiff.	

180-190 Clay, blueish gray, silty

190-200 Clay, blueish gray to blueish green, interbedded clayey sand.

200-210 Clay, grayish 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 #2
COUNTY **Jefferson** STATE **MS**

LOCATION
31 45 18.0 N / 91 13 52.9 W ***GPS***
From South Most Corner of Sec 19 go NW 2135'
ASL, Thence NE 930' @RA to Location

SEC **19** TWP **9N** RGE **1W**

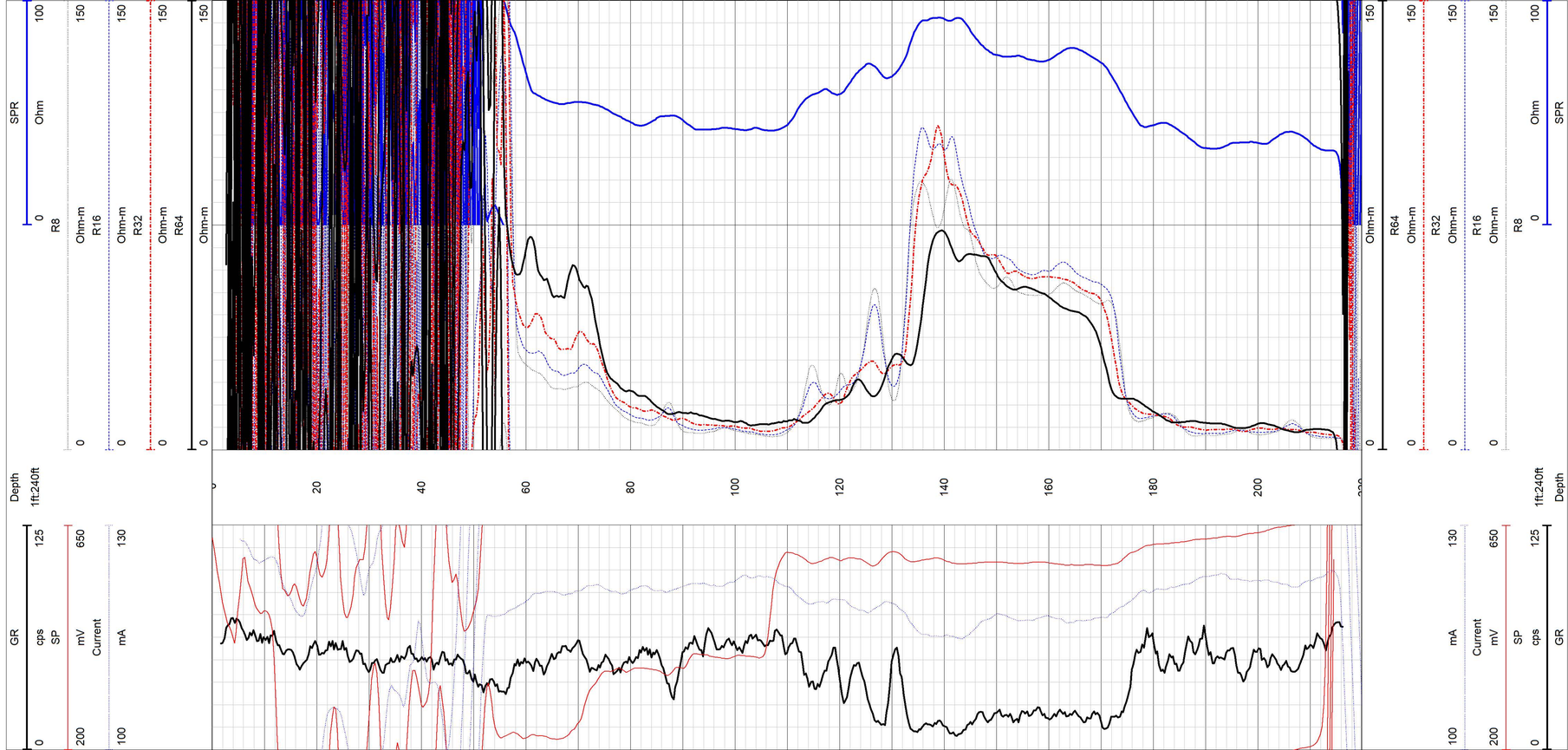
E-LOG FILE #

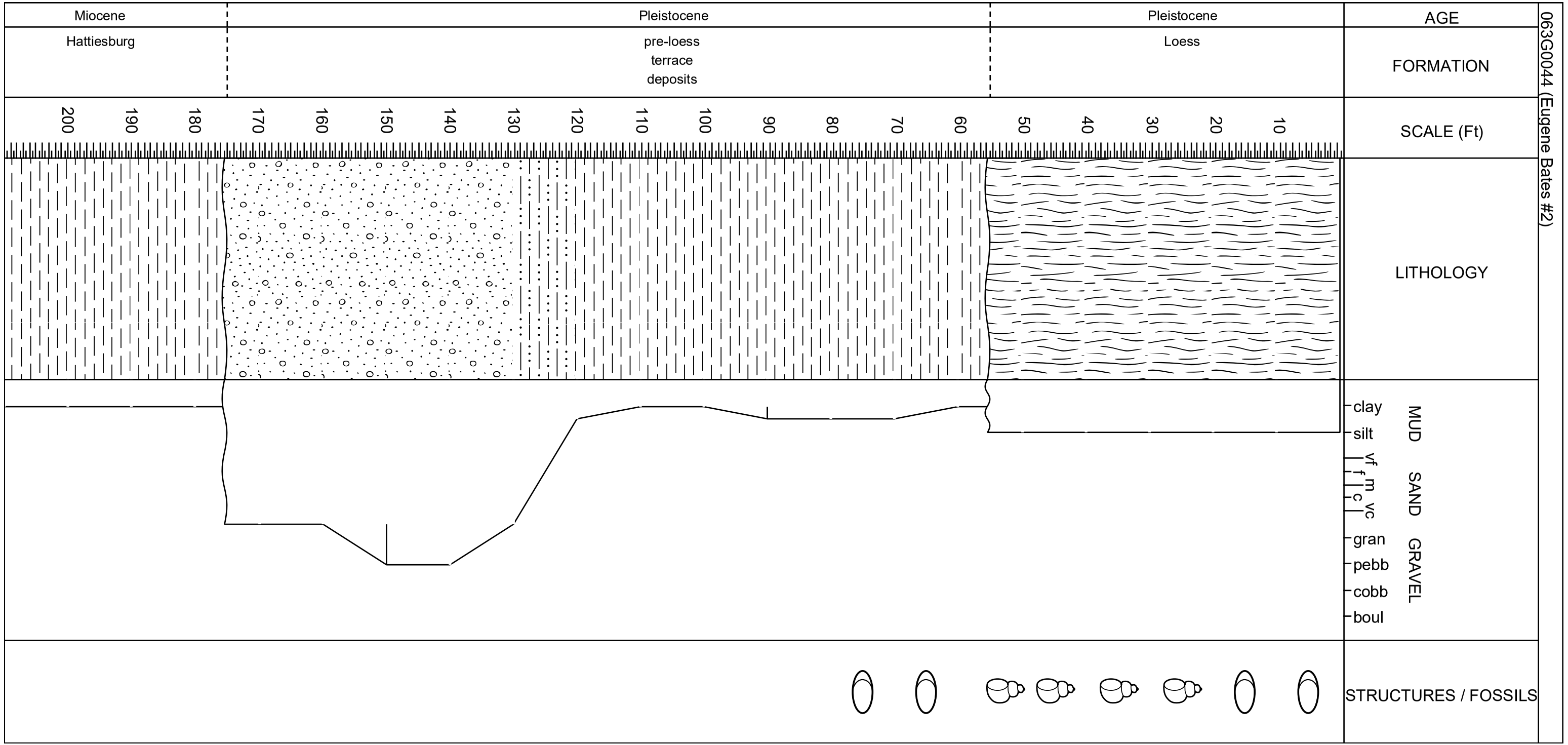
G-0044

PERMANENT DATUM	MSL	ELEVATION 195' lidar	K.B.
LOG MEAS. FROM	Ground Level	ABOVE PERM. DATUM	D.F.
DRILLING MEAS. FROM	Ground Level		G.L. 195'

DATE	2 April 2019	TYPE FLUID IN HOLE	Drilling Mud
RUN No	1	SALINITY	
TYPE LOG	GR,SP,SPR,CUR,R8,R16,R32,R64	DENSITY	
DEPTH-DRILLER	220'	LEVEL	Hole Full
DEPTH-LOGGER	220'	MAX. REC. TEMP.	
ENGINEER		Log Spliced at	
GEOLOGIST	James Starnes, RPG	Digital File Name	moog32jefferson
DRILLER	Archie McKenzie	MOG File #	JEFFG0044
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'	220'	Open	Hole	0'	220'
2							
		ELD523063G0044A				**ELD123063G0044B**	




Miocene
Pleistocene
Pleistocene
AGE
Hattiesburg
pre-loess terrace deposits
Loess
FORMATION
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10
SCALE (Ft)
LITHOLOGY
clay
silt
vf
f
m
c
vc
gran
pebb
cobb
boul
MUD
SAND
GRAVEL
STRUCTURES / FOSSILS
063G0044 (Eugene Bates #2)

Lithologies

Clay

Sand and Gravel

Silt

Loess

Symbols

Nodules and concretions

Gastropods

Base Boundaries

Erosional