Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

#### 8. DRILLER'S LOG:

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	то	DESCRIPTION
	·	

9.	FOR HEAT PUMP ONLY: Avg. Depth:ft. # of Hole:	
10.	DOES THE NEW WELL REPLACE AN EXISTING WELL? ☐ Yes ☐ No  If yes, has owner been informed of state regulations requiring probabandoned wells? ☐ Yes ☐ No	_
11.	NAME OF PERSON WHO DRILLED THE WELL:	
a	certify that this work was done and completed in accorda nd Regulations of the State of Louisiana, including Chap	ter XII of Title
	1, Public Health – Sanitary Code, if applicable, on:	
l	by:(Name of Water Well C	ontractor),
L	icense No. WWC	
s, e	further acknowledge and agree that by typing my name or placing my ma pace on this document it is my intention to electronically sign the docume lectronic signature shall be considered as an original signature for all pu	nt. Further, the rposes and shall
S	ave the same force and effect as an original signature. Without limitation, ignature" shall include faxed versions of an original signature or electron cansmitted versions (e.g., via pdf) of an original signature.	"electronic nically scanned and
s. tr	ignature" shall include faxed versions of an original signature or electror	"electronic nically scanned and

ПП	Ш	Ŧ		П	П
		ŧ			
				N.	١
	V		-	ľ	1

Boring/Well No.:	MW-1
<b>G</b>	

Project:		Henning M	lanagement,	, L.L.C. v. Ch	evron U.S.A	. Inc., et al. Project No.: 0526033
Location: Hayes, LA			Coordinates: UTM 15N 507828.25, 3327953.8			
Surface Elev.:		NM			Boring T.D.	. 60' Boring Dia.: 2.25"
Date St	arted:	12/1/20	21	Date Comple	ted: <u>1</u>	2/1/2021 Well Dia./Materials: 3/4" PVC Pre-Pack
Drilling	Company	. Wal	ker Hill			Driller:Blake Sistrunk
Drilling Method:		Direct	Push - Geop	probe 7822D	Т	Grouting Method: Portland
Logged by: Cory Hunter					Soil Sample Method: Acetate liner	
		z				
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 —		15 <u>4</u> 0   15 <u>4</u>				
_		A A A A A A A A A A A A A A A A A A A		Top: 0.84		0-3': CLAY: dark gray (10YR, 4/1), dry, medium soft to medium stiff, good plasticity, silty at top, no odor, penetrometer: 1.0-1.75 T/sq. ft.
_		70 70 8	3.0/4.0	Middle: 0.85	0-4	
_	$\sim$	40 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Bottom: 1.61		3-4': NO RECOVERY
5 —	-///	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Top: 1.83		4-8': CLAY: light gray (10YR, 7/2), dry, medium stiff, good plasticity, no odor, penetrometer: 2.0 T/sq. ft.
_		1 0 0 T	4.0/4.0	Middle: 2.81	4-8	
		D D D D		Bottom: 2.83		
		7 7 7 A		Top: 3.08		8-9': CLAY: light gray (10YR, 7/2), dry, medium stiff, good plasticity, no odor, penetrometer: 1.75 T/sq. ft.
10 —		10 P	3.6/4.0	Middle: 2.56	8-12	9-11.6': SILTY CLAY: yellowish red (5YR, 5/6) to light gray, dry, mottled, stiff clay with softer silt pockets and lenses, sparse shell fragments, no odor, penetrometer: 1.75-2.25 T/sq. ft.
_		40		Bottom: 2.43		11.6-12': NO RECOVERY
_	-//-			Top: 3.02		12-16': CLAY: brownish yellow (10YR, 6/6) to light gray, mottled, dry, stiff, medium plasticity, occasional silty pockets/lenses 14-16 feet, no odor, penetrometer: 2.0 T/sq. ft.
_		D	4.0/4.0	Middle: 3.06	12-16	
15 —		40		Bottom: 2.73		
		40 24 40 40 40 40 40 40 40 40 40 40 40 40 40		Top: 2.19		16-18': SILTY CLAY: light brownish gray (10YR, 6/2), moist where silty, medium stiff clay with silt pockets and lenses, no odor, penetrometer: 2.0 T/sq. ft.
_		4 00	3.2/4.0	Middle: 1.75	16-20	18-19.2': CLAY: gray, dry, stiff, medium plasticity, no odor, penetrometer: 2.0 T/sq. ft.
-				Bottom: 2.34		19.2-20': NO RECOVERY
20 —	-			Top: 1.75		20-24': CLAY: very pale brown (10YR, 7/3), dry, medium stiff to stiff, poor plasticity, little silt, no odor, penetrometer: 2.0-2.5 T/sq. ft.
_		200 000	4.0/4.0	Middle: 1.62	20-24	
		P 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Bottom: 1.42		
25 —				Top: 1.61		24-28': CLAY: very pale brown (10YR, 7/3), dry, very stiff, poor plasticity, little silt, no odor, penetrometer: 2.5-3.5 T/sq. ft.
_	-///	A A A A A A A A A A A A A A A A A A A	4.0/4.0	Middle: 1.72	24-28	
_		4 4		Bottom: 1.52		
_		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4.0/4.0	Top: 1.71 Middle: 1.71	28-32	28-32': CLAY: light brownish gray (10YR, 6/2), dry, very stiff, poor plasticity, some concreations, penetrometer: 3.25 T/sq. ft.
30 —		1.0°4   1.0°5		Bottom: 2.29		
		1	<u> </u>			



Boring/Well No.: MW-1
-----------------------

Project	No.: _	0526	6033	Da	ate Drilled:	12/1/2021
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 —		(15명 <b>1</b> 73호)		Ton. 4.74		(Cont. from page 1)
_		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4.0/4.0	Top: 1.71 Middle: 1.71 Bottom: 2.29	28-32	28-32': CLAY: light brownish gray (10YR, 6/2), dry, very stiff, poor plasticity, some concreations, penetrometer: 3.25 T/sq. ft.
_ _ 35 —		A A A A A A A A A A A A A A A A A A A	4.0/4.0	Top: 1.74 Middle: 1.67	32-36	32-36': SILTY CLAY: strong brown (7.5YR, 5/6), dry, stiff clay with some silt, slightly softer where silty, no odor, penetrometer: 1.0-4.0 T/sq. ft.
_ _ _		A CONTRACTOR OF THE PROPERTY O	4.0/4.0	Top: 1.81 Middle:1.57	36-40	36-40': CLAY: brown (7.5YR, 5/3), with some black streaks, dry, stiff, sparse concreations, poor plasticity, no odor, penetrometer: 3.0 T/sq. ft.
40 —		2 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4.0/4.0	Bottom: 2.18  Top: 1.87  Middle: 2.11	40-44	40-44': CLAY: pale brown (10YR, 6/3) to light gray, mottled, dry, stiff to very stiff, medium to poor plasticity, penetrometer: 2.5-3.0 T/sq. ft.
45 — — —			4.0/4.0	Top: 1.27  Middle: 1.64  Bottom: 1.54	44-48	44-48': CLAY: brown (10YR, 6/3), mottled, dry, very stiff, medium to poor plasticity, penetrometer: 4.5 T/sq. ft.
_			4.0/2.0	Top: 1.53 Bottom: 1.41	48-50	48-50': SILTY CLAY: gray (10YR, 6/1), very stiff clay, dry, medium soft where very silty, penetrometer: 3.0-1.25 T/sq. ft.
50 — —			4.0/2.0	Top: 1.19 Bottom: 1.48	50-52	50-52': CLAYEY SILT: greenish gray (GLEY1, 6/10Y), medium soft, moist to dry, more clay and stiffer at base, penetrometer: 1.75 T/sq. ft.
_			4.0/2.0	Top: 1.36 Bottom: 1.19	52-54	52-54': CLAYEY SILT: greenish gray (GLEY1, 6/10Y), medium soft, moist to wet, more clay and stiffer at base, penetrometer: 1.0 T/sq. ft.
55 —			4.0/2.0	Top: 1.26 Bottom: 1.88	54-56	54-56': SILTY CLAY: greenish gray (GLEY1, 5/5GY), slightly mosit to dry, medium soft, good plasticity, penetrometer: 1.5 T/ sq. ft.
_			4.0/2.0	Top: 2.45 Bottom: 2.71	56-58	56-58': CLAY: greenish gray, medium stiff, dry, some silt, no odor, penetrometer: 2.0 T/sq. ft.
60 —			4.0/2.0	Top: 2.52 Bottom: 2.14	58-60	58-60': CLAY: gray, slightly mosit to dry, medium stiff, with scattered wood fragments, penetrometer: 1.75 T/ sq. ft.
- - - - 65 -	 					
_	<u> </u>					



**ERM Monitoring Well** 

Parish Boundary

#### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:

Imagery Basemap via ArcGIS Online.



Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

#### 8. DRILLER'S LOG:

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	то	DESCRIPTION
	·	

9.	FOR HEAT PUMP ONLY: Avg. Depth:ft. # of Hole:	
10.	DOES THE NEW WELL REPLACE AN EXISTING WELL? ☐ Yes ☐ No  If yes, has owner been informed of state regulations requiring probabandoned wells? ☐ Yes ☐ No	_
11.	NAME OF PERSON WHO DRILLED THE WELL:	
a	certify that this work was done and completed in accorda nd Regulations of the State of Louisiana, including Chap	ter XII of Title
	1, Public Health – Sanitary Code, if applicable, on:	
l	by:(Name of Water Well C	ontractor),
L	icense No. WWC	
s, e	further acknowledge and agree that by typing my name or placing my ma pace on this document it is my intention to electronically sign the docume lectronic signature shall be considered as an original signature for all pu	nt. Further, the rposes and shall
S	ave the same force and effect as an original signature. Without limitation, ignature" shall include faxed versions of an original signature or electron cansmitted versions (e.g., via pdf) of an original signature.	"electronic nically scanned and
s. tr	ignature" shall include faxed versions of an original signature or electror	"electronic nically scanned and

1	
<b>ERM</b>	

Project:		Henning M	lanagemen	t, L.L.C. v. Ch	evron U.S.A	. Inc., et al.		Project No.:	0526033	
Locatio	n:	Hayes, LA						Coordinates:	UTM N15 507704.97, 3328141.8	
Surface	e Elev.:	NM			Boring T.D.	.: 62'	Boring	g Dia.: <u>3</u> .	25"	
Date St	tarted:	12/9/20	21	Date Comple	ted: 1	2/10/2021	Well Dia./Materials:	: <u>1" PV</u>	/C Pre-Pack	
Drillina	Company	/∶ Wal	ker Hill			Driller:	Wanya Cook			
Drilling	Method:	Direct	Push - Geo	probe 3230D	Т		Grouting Met	thod: F	Portland	
Logged	l by:	Shaw	n Wiggins			Soil Sar	nple Method:	Acetate liner		
ŦΕ	OGY (LOG)	LICTION	LE ERY EET)	EC m)	TION VAL T)					
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION				
0 —		130 Fg.				0.01.011.77.01.4		(D 0/4) -##		
_			2.0/2.0	Top: 0.84 Bottom: 1.71	0-2	penetrometer: 2		YR, 3/1), Stiπ, mo	oist, rootlets at top, no odor,	
_				Top: 1.81					YR, 3/1) to pale brown (10YR, 6/3),	
_			4.0/4.0	Middle: 3.61	2-6	T/sq. ft.	gnuy moist, orange an	id black mottling	, no odor, penetrometer: 1.0-1.25	
5 —		9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Bottom: 3.62						
_		4 P P P P P P P P P P P P P P P P P P P		Top: 3.58					m stiff, moist, black and orange	
_		A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4.0/4.0	Middle: 2.59	6-10				netrometer: 1.5 T/sq. ft.	
_		70		Bottom: 1.92			CLAYEY SAND: pale bing, fine sand, no odor		3), medium dense, slightly wet, orange 1.5 T/sq. ft.	
10 —		2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Top: 3.00					5/3) and reddish brown (5YR, 4/4),	
_		40	4.0/4.0	Middle: 2.75	10-14	penetrometer: 1	.75 T/sq. ft.		') layer of shells at bottom, no odor,	
_				Bottom: 3.56		12-14': CLAY: b	rown (10YR, 5/3), stiff	f, slightly moist, r	no odor, penetrometer: 3.0 T/sq. ft.	
- 15				Top: 3.38					dium soft, moist, minor silty clay	
_			4.0/4.0	Middle: 3.27	14-18		0	. ,	or, penetrometer: 1.25-2.25 T/sq. ft.	
_	<u> </u>	A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Bottom: 1.72		17.3-18': SILTY T/sq. ft.	CLAY: grayish brown	(10YR, 5/2), sof	t, wet, no odor, penetrometer: 1.25	
_				Top: 2.68		·	• • • • • • • • • • • • • • • • • • • •		noist, blacker mineral staining near enetrometer: 1.25-1.75 T/sq. ft.	
20 —		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.0/4.0	Middle: 2.51	18-22	middle, ordinge	motaling at top and bo	ttom, no odor, po	5.10.10.11.0.11.20 1.70 173q. 1c.	
_		A 24		Bottom: 1.81						
_				Top: 1.66			rown (10YR, 5/3), stiff or, penetrometer: 3.0-3		to slightly moist, minor orange	
_		9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4.0/4.0	Middle: 1.71	22-26	motaling, no out	or, periodometer. 0.0 o	7.70 175q. It.		
25 —				Bottom: 1.77						
_		D D D D D D D D D D D D D D D D D D D		Top: 1.79					iff to medium stiff, slightly moist, minor ometer: 1.5-4.5 T/sq. ft.	
-		700	4.0/4.0	Middle: 1.84	26-30	orange and plat	on mouning at bottom, i	no odor, penetro	7.110tor. 1.0-7.0 1/34.1t.	
_		40 40		Bottom: 1.89						
30 —		1.00								



Project	No.: _	0526	6033	Da	ate Drilled:	12/10/2021
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 —				Top: 1.90		(Cont. from page 1)  30-34': CLAY: brown (10YR, 5/3), hard to very stiff, dry to slightly moist, orange mottling,
- - -		24 24 24 24 24 24 24 24 24 24 24 24 24 2	4.0/4.0	Middle: 2.02 Bottom: 1.98	30-34	minor white mineral concretions, no odor, penetrometer: 3.5-4.0 T/sq. ft.
35 —			4.0/4.0	Top: 1.84 Middle: 1.75 Bottom: 1.77		34-34.7': CLAY: dark yellowish brown (10YR, 4/6), stiff, slightly moist, no odor, penetrometer 2.75 T/sq. ft. 34.7-35.3': CLAYEY SILT: dark yellowish brown (10YR, 4/4), soft, slightly wet, no odor, penetrometer: 0.5 T/sq. ft. 35.3-38': CLAY: brown (10YR, 4/3), very stiff, slightly moist, no odor, penetrometer: 3.0 T/sq. ft.
40 —			4.0/4.0	Top: 1.84 Middle: 1.43 Bottom: 1.42		38-42': CLAY: grades from dark yellowish brown (10YR, 4/4) to light yellowish brown (10YR, 6/4), very stiff to stiff, dry to slightly moist, minor silt content, no odor, penetrometer: 2.0-3.25 T/sq. ft.
- - 45 -			3.4/4.0	Top: 1.47 Middle: 1.34 Bottom: 1.48	42-46	42-45.4': SILTY CLAY: with fine SAND: brown (10YR, 5/3), medium stiff, slightly moist, orange mottling, increasing grain size with depth, no odor, penetrometer: 1.5 T/sq. ft.  45.4-46': NO RECOVERY
- - -			4.0/4.0	Top: 1.14 Middle: 0.93 Bottom: 0.55		46-47.6': CLAYEY SILTY SAND: light brownish gray (2.5Y, 6/2), medium soft, wet, fine grained, no odor, penetrometer: 1.25 T/sq. ft. 47.6-49': CLAYEY SILT: light brownish gray (2.5Y, 6/2), medium stiff, moist, no odor, penetrometer: 0.75-1.25 T/sq. ft. 49-50': SAND: with SILT: dark grayish brown (2.5Y, 4/2), dense, wet, fine grained, no odor, penetrometer: 0.75 T/sq. ft.
50 —			3.0/4.0	Top: 1.03 Middle: 1.11 Bottom: 0.81	50-54	50-50.6': SILTY SAND: dark greenish gray (GLEY1, 4/10Y), medium dense, wet, fine grained, no odor, penetrometer: 1.0 T/sq. ft. 50.6-53': SANDY CLAY: dark greenish gray (GLEY1, 4/10Y), medium stiff, moist to slightly wet in spots, slightly wet silty sand layers at 52.2-52.4' bgs, 52.5-52.6' bgs, and 52.7-53' bgs no odor, penetrometer: 1.0-2.0 T/sq. ft. 53-54': NO RECOVERY
55 — —			4.0/4.0	Top: 0.77 Middle: 1.09 Bottom: 2.00		54-57.5': SILTY SAND: dark grayish green (GLEY1, 4/10Y), grades from unconsolidated to very dense, saturated to wet, minor clay content, fine grained sand with slight increase in grain size with depth, no odor, penetrometer: 0.25-0.5 T/sq. ft.  57.5-58': CLAY: very dark brown (10YR, 2/2), medium stiff, moist, high plasticity, no odor, penetrometer: 1.5 T/sq. ft.
60 -			4.0/4.0	Top: 2.28 Middle: 2.31 Bottom: 1.98	58-62	58-62': CLAY: dark gray (10YR, 4/1), medium stiff, moist, high plasticity, some wood fragments interspersed at 59.9' bgs and 60.9-61.0' bgs, no odor, penetrometer: 1.5-2.0 T/sq. ft.
65 —						



**ERM Monitoring Well** 

Parish Boundary

#### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:

Imagery Basemap via ArcGIS Online.



Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

#### 8. DRILLER'S LOG:

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	то	DESCRIPTION
	·	

9.	FOR HEAT PUMP ONLY: Avg. Depth:ft. # of Hole:	
10.	DOES THE NEW WELL REPLACE AN EXISTING WELL? ☐ Yes ☐ No  If yes, has owner been informed of state regulations requiring probabandoned wells? ☐ Yes ☐ No	_
11.	NAME OF PERSON WHO DRILLED THE WELL:	
a	certify that this work was done and completed in accorda nd Regulations of the State of Louisiana, including Chap	ter XII of Title
	1, Public Health – Sanitary Code, if applicable, on:	
l	by:(Name of Water Well C	ontractor),
L	icense No. WWC	
s, e	further acknowledge and agree that by typing my name or placing my ma pace on this document it is my intention to electronically sign the docume lectronic signature shall be considered as an original signature for all pu	nt. Further, the rposes and shall
S	ave the same force and effect as an original signature. Without limitation, ignature" shall include faxed versions of an original signature or electron cansmitted versions (e.g., via pdf) of an original signature.	"electronic nically scanned and
s. tr	ignature" shall include faxed versions of an original signature or electror	"electronic nically scanned and

I	H	П	П	П	П	$\blacksquare$
- 1	1			ш	d	
- 13	H)	M	ш	Ш		Y
+	*	H	H	Н	H	4
F	Ħ,	N		V.	И	1
	_				_	_

Project:	: <u> </u>	Henning M	anagement,	L.L.C. v. Ch	evron U.S.A	. Inc., et al.	Project No.: 0526033
Locatio	n:l	Hayes, LA					Coordinates: UTM N15 507710.19, 3328311.5
Surface	e Elev.:	NM			Boring T.D.	62'	Boring Dia.: 3.25
Date St	tarted:	12/8/20	21	Date Comple	eted:1	2/9/2021	Well Dia./Materials: 1" PVC Pre-Pack
Drilling	Company	. Wall	ker Hill			Drille	er: Wanya Cook
Drilling	Method:	Direct	Push - Geop	probe 3230D	Т		Grouting Method: Portland
Logged	l by:	Shaw	n Wiggins			Soil	Sample Method: Acetate liner
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	PID (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 -		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1.3/2.0	Top: .080 Bottom: 0.94	0.6	0-2	0-1.3': SILTY CLAY: dark yellowish brown (10YR, 3/4), medium soft, moist, no odor, minor rootlets at top, penetrometer: 1.25 T/sq. ft. 1.3-2': NO RECOVERY
- - 5 -		2 2 4 4 2 2 4 2 4 2 4 4 2 4 4 4 4 4 4 4	3.0/4.0	Top: 1.23 Middle: 2.14 Bottom: 2.81	Bottom: 0.5	2-6	2-5': CLAY: dark grayish brown (10YR, 4/2), medium stiff to medium soft, slightly moist, minor orange and black mottling, no odor, penetrometer: 1.0-1.5 T/sq. ft.
- - -		20 00 00 00 00 00 00 00 00 00 00 00 00 0	4.0/4.0	Top: 2.66 Middle: 3.16 Bottom: 2.60	Bottom: 0.7	6-10	6-8': CLAY: grayish brown (10YR, 5/2), medium stiff, slightly moist, minor orange mottling, no odor, penetrometer: 1.75 T/sq. ft. 8-8.7': SILTY CLAY: grayish brown (10YR, 5/2), very soft, wet, no odor, penetrometer: 0.0 T/sq. ft. 8.7-10': CLAY: grayish brown (10YR, 5/2), stiff to very stiff, slightly moist, no odor, penetrometer: 3.5 T/sq. ft.
10 —		294 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4.0/4.0	Top: 2.43 Middle: 3.23 Bottom: 3.46	Bottom: 0.4	10-14	10-14': CLAY: grayish brown (10YR, 5/2), stiff, slightly moist, minor orange and black mottling, some silt content near top, reddish brown mineral concretion at 11.0' bgs, no odor, penetrometer: 2.0-2.25 T/sq. ft.
15 — —			4.0/4.0	Top: 3.56 Middle: 2.07 Bottom: 2.24	Bottom: 0.7	14-18	14-18': CLAY: grayish brown (10YR, 5/2), grades from stiff to medium stiff, moist to slightly wet, medium soft clayey silt lenses at 16.4-16.6' bgs, 17.0-17.1' bgs, and 17.3-17.4'; bgs, no odor, penetrometer: 1.25-1.75 T/sq. ft.
20 —		2 2 3 4 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4.0/4.0	Top: 2.01 Middle: 1.72 Bottom: 1.63	Bottom: 0.3	18-22	18-22': CLAY: grades from very dark grayish brown (10YR, 3/2) to grayish brown (10YR, 5/2), medium soft, moist, orange mottling at bottom, no odor, penetrometer: 0.75-1.0 T/sq. ft.
25 —			4.0/4.0	Top: 1.77 Middle: 1.62 Bottom: 1.81		22-26	22-26': CLAY: gray (2.5Y, 6/1), grades from medium soft to stiff, moist, minor silt content, no odor, penetrometer: 0.75-3.25 T/sq. ft.
30 —			4.0/4.0	Top: 1.75 Middle: 1.86 Bottom: 1.98		26-30	26-30': CLAY: dark gray (2.5Y, 4/1), very stiff, slightly moist, no odor, penetrometer: 3.5 T/sq. ft.
<u> </u>	<u> </u>		<u> </u>	<u> </u>			



Project	No.: _	0526	6033	Da	ate Drilled:		12/9/2021
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	(MAA)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 -				Top: 1.82			(Cont. from page 1)  30-34': CLAY: dark gray (2.5Y, 4/1), stiff, slightly moist, white mineral concretions, some silt content at bottom, extensive brown mottling, no odor,
-			4.0/4.0	Middle: 1.81 Bottom: 1.18	NM	30-34	penetrometer: 2.25-3.25 T/sq. ft.
35 – - -			4.0/4.0	Top: 1.63 Middle: 1.43 Bottom: 1.41		34-38	34-36': CLAY: yellowish brown (10YR, 5/4), medium soft, slightly moist, silty clay lenses at 35.1-35.2' bgs and 35.5-35.7' bgs, no odor, penetrometer: 1.25 T/sq. ft. 36-37.5': CLAYEY SILT: yellowish brown (10YR, 5/4), soft, slightly wet, no odor penetrometer: 0.25 T/sq. ft. 37.5-38': SILTY CLAY: yellowish brown (10YR, 5/4), medium stiff, moist, no odor, penetrometer: 1.5 T/sq. ft.
40 -			4.0/4.0	Top: 1.52 Middle: 1.82 Bottom: 2.34		38-42	38-38.5': CLAYEY SILT: yellowish brown (10YR, 5/4), soft, moist, no odor, penetrometer: 0.0 T/sq. ft. 38.5-42': CLAY: dark yellowish brown (10YR, 5/4), stiff, slightly moist to dry, no odor, penetrometer: 2.5-3.5 T/sq. ft.
- - 45 -			4.0/4.0	Top: 2.16 Middle: 2.33 Bottom: 2.03		42-46	42-46': CLAY: gray (5Y, 5/1), very stiff, slightly moist, minor orange mottling, no odor, penetrometer: 3.25-4.5 T/sq. ft.
- - -			4.0/4.0	Top: 2.10 Middle: 2.19 Bottom: 1.82		46-50	46-50': CLAY: very dark gray (5Y, 3/1), very stiff, dry to slightly moist, minor orange mottling, no odor, penetrometer: 3.25-3.75 T/sq. ft.
50 -			4.0/4.0	Top: 2.25 Middle: 2.01 Bottom: 2.73		50-54	50-54': CLAY: very dark gray (5Y, 3/1), stiff, slightly moist, sandy clay lense at 52.5-52.6' with slightly moist very fine sand compoents, no odor, penetrometer: 2.0-3.5 T/sq. ft.
55 — —			4.0/4.0	Top: 3.06 Middle: 2.75 Bottom: 2.69		54-58	54-58': CLAY: very dark gray (5Y, 3/1), stiff, slightly moist, minor orange mottling, no odor, penetrometer: 2.75 T/sq. ft.
60 -			4.0/4.0	Top: 2.41 Middle: 2.32 Bottom: 2.28		58-62	58-62': CLAY: very dark gray (5Y, 3/1), medium stiff to medium soft, moist, wood fragments interspersed within clay increasing with depth, no odor, penetrometer: 1.0-1.5 T/sq. ft.
65 —							



**ERM Monitoring Well** 

Parish Boundary

#### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:

Imagery Basemap via ArcGIS Online.



Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

#### 8. DRILLER'S LOG:

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	то	DESCRIPTION

9.	FOR HEAT PUMP ONLY: # of Hole:		ft.	
10.	DOES THE NEW WELL RE If yes, has owner been in abandoned wells? ☐ Yes	formed of state regula		ging of
11.	NAME OF PERSON WHO	DRILLED THE WELL:		
<i>a</i> 5	certify that this work w nd Regulations of the S 1, Public Health – Sani	tate of Louisiana, in tary Code, if applica	ncluding Chapter able, on:	XII of Title (Date)
	y:icense No. WWC		e of Water Well Cont	ractor),
s, e h	further acknowledge and agr pace on this document it is my lectronic signature shall be co ave the same force and effect ignature" shall include faxed ansmitted versions (e.g., via p	nintention to electronically onsidered as an original s as an original signature. versions of an original sig	ly sign the document. I ignature for all purpo Without limitation, "e gnature or electronica	Further, the ses and shall electronic
A	authorized Signature:_	Eph'8C		
Γ	)ate:			

	Т	П	П	Т		П
	t	Н	Н	±		Н
- 1	4	H	Н	+	4	H
H	١,	$\Box$	H	F	H	X
H	ľ	١,		1	X	1
	+				-	-

Boring/Well No.:	MW-4

Project:	<u></u>	Henning M	anagement,	L.L.C. v. Ch	evron U.S.A.	. Inc., et al.	Project No.: 0526033
Locatio	n:l	Hayes, LA					Coordinates: UTM N15 507844.65, 3328348.5
Surface	Elev.:	NM			Boring T.D.	62'	Boring Dia.: 3.25"
Date St	arted:	12/8/20	21 [	Date Comple	ted:1	2/8/2021	Well Dia./Materials: 1" PVC Pre-Pack
Drilling	Company	. Wall	ker Hill			Drille	er: Blake Sistrunk
Drilling	Method:	Direct	Push - Geop	orobe 3230D	Т		Grouting Method: Portland
Logged	by:	Shaw	n Wiggins			Soil	Sample Method: Acetate liner
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	PID (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 —		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1.6/2.0	Top: 0.68 Bottom: 1.13	0.2	0-2	0-1.6': CLAY: very dark brown (10YR, 2/2), slightly moist, medium stiff to stiff, no odor, reddish sand layer at 0.5' bgs, penetrometer: 2.0 T/sq. ft. 1.6-2': NO RECOVERY
_ _ 5 _		2 2 2 2 2 3 3 4 3 3 4 3 3 4 3 4 3 4 3 4	4.0/4.0	Top: 1.33 Middle: 2.02 Bottom: 2.12	Bottom: 0.4	2-6	2-6': CLAY: brown (10YR, 5/3), medium stiff, slightly moist, no odor, orange mottling, penetrometer: 1.0-1.5 T/sq. ft.
		20 20 20 20 20 20 20 20 20 20 20 20 20 2	4.0/4.0	Top: 1.93 Middle: 2.05 Bottom: 2.14	Bottom: 0.7	6-10	6-10': CLAY: brown (10YR, 5/3), grades from medium stiff to stiff, moist to slightly moist, no odor, light orange mottling at top and dark orange mottling at bottom, penetrometer: 0.5-2.0 T/sq. ft.
10 —			4.0/4.0	Top: 3.03.  Middle: 2.28  Bottom: 2.95	Bottom: 0.5	10-14	10-10.4': CLAY: grayish brown (10YR, 5/2), stiff, moist, penetrometer: 1.5 T/sq. ft. 10.4-10.9': CLAY: grayish brown (10YR, 5/2), medium soft, moist, no odor, with abundant shells, penetrometer: 1.5 T/sq. ft. 10.9-14': CLAY: brown (10YR, 5/3), stiff, slightly moist, no odor, penetrometer: 2.5 T/sq. ft.
15 — — —		2 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4.0/4.0	Top: 3.13 Middle: 3.23 Bottom: 3.43	Bottom: 0.4	14-18	14-15.1': CLAY: llight grayish brown (10YR, 6/2), stiff, slightly moist, no odor, moist silty lense at 14.4-14.5' bgs, penetrometer: 1.5 T/sq. ft. 15.1-15.5': SILTY CLAY: brown (10YR, 5/3), soft, slightly wet, no odor, penetrometer: 0.0 T/sq. ft. 15.5-18': CLAY: grades from brown (10YR, 5/3) to dark grayish brown (10YR, 4/2), stiff, moist, no odor, silty clay lenses at 16.2-16.4' bgs and 17.3-17.4' bgs, penetrometer: 1.75 T/sq. ft.
20 —		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4.0/4.0	Top: 2.48 Middle: 2.45 Bottom: 2.20	Bottom: 0.6	18-22	18-22': CLAY: gray (10YR, 6/1), medium soft to stiff, slightly moist, orange mottling, mineral nodules at 19.0-20.0' bgs, no odor, penetrometer:0.5-2.25 T/sq. ft.
25 —			3.3/4.0	Top: 2.72 Middle: 2.49 Bottom: 2.33	Bottom: 0.5	22-26	22-25.3': CLAY: brown (10YR, 5/3), very stiff, dry to slightly moist, orange and black mineral mottling, mineral concretions at 24.1' bgs, no odor, penetrometer: 3.25 T/sq. ft.  25.3-26': NO RECOVERY
30 —			3.7/4.0	Top: 2.36 Middle: 2.29 Bottom: 2.26	Bottom: 0.1	26-30	26-29.7': CLAY: brown (7.5YR, 5/3), very stiff, dry to slightly moist, minor orange mottling, minor silt content, no odor, penetrometer: 3.0-3.25 T/sq. ft.  29.7-30': NO RECOVERY
		<u> </u>					



Project	No.: _	0526033		Date Drilled:			12/8/2021
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	PID (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 —			3.7/4.0	Top: 2.31 Middle: 2.52 Bottom: 2.49	Bottom: 0.4	30-34	(Cont. from page 1)  30-31': CLAY: brown (7.5YR, 5/3), very stiff, dry, no odor, penetrometer: 3.5 T/sq. ft. 31-32': SILTY CLAY: brown (7.5YR, 5/3), soft, slightly moist, no odor, penetrometer: 1.0 T/sq. ft. 32-33.7': CLAY: grades from light brownish gray (10YR, 6/2) to brown (7.5YR, 5/4), medium stiff to stiff, slightly moist, black mineral concretions at 33.0' bgs, no odor, penetrometer: 1.5-2.75 T/sq. ft. 33.7-34': NO RECOVERY
35 — — —			4.0/4.0	Top: 2.65 Middle: 2.72 Bottom: 2.78	Bottom: 0.5	34-38	34-35.2': CLAY: yellowish brown (10YR, 5/4), medium soft, slightly moist, no odor, penetrometer: 0.75 T/sq. ft. 35.2-36.1': SILTY CLAY: dark yellowish brown (10YR, 4/6), soft, slightly moist, no odor, penetrometer: 0.75 T/sq. ft. 36.1-38': CLAY: dark yellowish brown (10YR, 3/4), stiff, dry to slightly moist, no odor, penetrometer: 2.75 T/sq. ft.
40 -			4.0/4.0	Top: 2.52 Middle: 2.67 Bottom: 2.46	Top: 0.6 Bottom: 0.9	38-42	38-42': CLAY: dark grayish brown (2.5Y, 4/2), very stiff, dry to slightly moist, orange mottling, no odor, penetrometer: 3.5 T/sq. ft.
45 —			3.5/4.0	Top: 2.24 Middle: 1.87 Bottom: 1.84	Top: 1.4 Bottom: 1.3	42-46	42-44.8': CLAY: yellowish brown (10YR, 5/4), stiff, moist, orange mottling, no odor, penetrometer: 2.75 T/sq. ft. 44.8-45.5': SILTY CLAY to CLAYEY SILT: yellowish brown (10YR, 5/4), medium soft, moist, no odor, penetrometer: 1.0 T/sq. ft. 45.5-46': NO RECOVERY
- - - 50 -			4.0/4.0	Top: 2.04 Middle: 1.99 Bottom: 2.46	Bottom: 1.6	46-50	46-46.6': CLAYEY SILT: yellowish brown (10YR, 5/4), soft, moist to very slightly wet, no odor, penetrometer: 0.0 T/sq. ft. 46.6-48.2': SILTY CLAY: yellowish brown (10YR, 5/4), medium soft to medium stiff, moist, minor orange and black mottling, no odor, penetrometer: 0.75 T/sq. ft. 48.2-50': CLAY: yellowish brown (10YR, 5/4), stiff, moist, minor silt content, minor orange mottling, no odor, penetrometer: 1.75 T/sq. ft.
- - -			4.0/4.0	Top: 2.35 Middle: 1.87 Bottom: 3.01	Bottom: 2.2	50-54	50-54': CLAY: brown (10YR, 5/3), stiff, slightly moist, orange mottling, no odor, penetrometer: 2.0-2.5 T/sq. ft.
55 — — —			4.0/4.0	Top: 2.53 Middle: 2.47 Bottom: 1.51	Top: 2.6 Bottom: 2.8	54-58	54-58': CLAY: dark gray (10YR, 4/1) with extensive brown (10YR, 4/3) mottling very stiff, moist, no odor, penetrometer: 3.0-3.5 T/sq. ft.
60 —			4.0/4.0	Top: 2.23 Middle: 2.14 Bottom: 1.76	Bottom: 2.1	58-62	58-62': CLAY: dark yellowish brown (10YR, 4/4), very stiff, slightly moist, very thin silt lenses at 60.5-60.7' bgs, no odor, penetrometer: 3.0-4.5 T/sq. ft.
65 —							



**ERM Monitoring Well** 

Parish Boundary

#### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:

Imagery Basemap via ArcGIS Online.



Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

#### 8. DRILLER'S LOG:

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	то	DESCRIPTION

9.	FOR HEAT PUMP ONLY: # of Hole:		ft.	
10.	DOES THE NEW WELL RE If yes, has owner been in abandoned wells? ☐ Yes	formed of state regula		ging of
11.	NAME OF PERSON WHO	DRILLED THE WELL:		
<i>a</i> 5	certify that this work w nd Regulations of the S 1, Public Health – Sani	tate of Louisiana, in tary Code, if applica	ncluding Chapter able, on:	XII of Title (Date)
	y:icense No. WWC		e of Water Well Cont	ractor),
s, e h	further acknowledge and agr pace on this document it is my lectronic signature shall be co ave the same force and effect ignature" shall include faxed ansmitted versions (e.g., via p	nintention to electronically onsidered as an original s as an original signature. versions of an original sig	ly sign the document. I ignature for all purpo Without limitation, "e gnature or electronica	Further, the ses and shall electronic
A	authorized Signature:_	Eph'8C		
Γ	)ate:			

1	F	Н	Ŧ	Н	Ŧ	H	Ŧ	B
1	1	\				1	4	į
E	1	١			1			1
1	_	7	-	7		ne N		Æ

Boring/Well No.:	MW-5

Project:	Project: Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Project No.: 0526033					
Location: Hayes, LA						Coordinates: UTM 15N 507937.43, 3328245.4
Surface Elev.:	NM			Boring T.D.	60'	Boring Dia.: 2.25"
Date Started:	11/30/2	2021	Date Comple	ted: <u>1</u>	1/30/2021	Well Dia./Materials: 3/4" PVC Pre-Pack
Drilling Comp	any: Wa	ılker Hill			Drille	er:Blake Sistrunk
Drilling Metho	-	t Push - Geop	orobe 7822D	Т		Grouting Method: Portland
Logged by:	Cory	Hunter			Soil	Sample Method: Acetate liner
		Ī			_	
DEPTH (FEET) LITHOLOGY	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	PID (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
	0	1				
0		2.0/4.0	Top: 0.75 Bottom: 1.98	Top: 1.9 Bottom: 2.2	0-4	0-2': CLAY: brown (7.5YR, 5/2), slightly moist to dry, medium soft, good plasticity, silty at top, no odor penetrometer: 0.75- 1.5 T/sq. ft.  2-4': NO RECOVERY
5		3.6/4.0	Top: 2.02 Middle: 2.26 Bottom: 2.09	Top: 3.9 Bottom: 2.2	4-8	4-6': CLAY: light yellowish brown (10YR, 6/4), dry, medium soft, good plasticity, little silt, no odor, penetrometer: 1.5 T/ sq. ft. 6-7.6': CLAY: reddish yellow (5YR, 6/6) to light gray, mottled, dry, stiff, very silty at top, no odor, penetrometer: 2.5 T/sq. ft. 7.6-8': NO RECOVERY
10		4.0/4.0	Top: 1.62 Middle: 1.59 Bottom: 2.46	Bottom: 2.6	8-12	8-10.5': SILTY CLAY: red (2.5YR, 5/6), slightly moist where silty, stiff clay with softer silt lenses, no odor, penetrometer: 2.5 T/sq. ft.  10.5-12': CLAY: yellow (10YR, 7/6) to light gray, mottled, dry, stiff, with crushed shells at 11 feet, no odor, 1.75 T/sq. ft.
15		4.0/4.0	Top: 2.33 Middle: 2.45 Bottom: 2.37	Top: 3.2 Bottom: 2.9	12-16	12-16': CLAY: very pale brown (10YR, 7/4) to light gray, mottled, dry, medium stiff to stiff, medium plasticity, no odor, penetrometer: 2.75 T/sq. ft.
		عييا	Top: 2.58 Middle: 2.53 Bottom: 2.61	Bottom: 3.6	16-20	16-20': CLAY: very pale brown (10YR, 7/4) to light gray, mottled, dry, medium stiff to stiff, medium plasticity, little silt, no odor, penetrometer: 2.25-2.5 T/sq. ft.
20		4.0/4.0	Top: 1.97 Middle: 1.82 Bottom: 1.91	Bottom: 2.4	20-24	20-24': CLAY: very pale brown (10YR, 7/4), dry, medium stiff, good plasticity, no odor, penetrometer: 2.75-3.0 T/sq. ft.
25		4.0/2.0	Top: 2.10 Bottom: 2.09	2.7	24-26	24-26': CLAY: very pale brown (10YR, 7/4), dry, medium stiff, good plasticity, no odor, penetrometer: 2.75 T/sq. ft.
		4.0/2.0	Top: 2.00 Bottom: 2.33	3.5	26-28	26-28': CLAY: very pale brown (10YR, 7/4), dry, very stiff, poor plasticity, no odor, penetrometer: 4.5 T/sq. ft.
30		4.0/2.0	Top: 2.29 Bottom: 2.56	2.7	28-30	28-30': CLAY: very pale brown (10YR, 7/4), dry, very stiff, slightly softer, poor plasticity, no odor, penetrometer: 3.0 T/sq. ft.
	_					



Project No.:		0526033		Date Drilled:			11/30/2021
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	PID (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 —		翠丰藤					(Cont. from page 1) 30-32': CLAY: very pale brown (10YR, 7/4), dry, very stiff, slightly softer, poor
_			4.0/2.0	Top:2.50 Bottom: 2.57	3.2	30-32	plasticity, no odor, with sparse concreations, penetrometer: 2.75 T/sq. ft.
_			2.0/2.0	Top: 2.06 Bottom: 2.01	2.8	32-34	32-34': CLAYEY SILT: light yellowish brown (10YR, 6/4), wet, soft, sticky, no odor, penetrometer: 0.5 T/sq. ft.
35 —			3.5/2.0	Top: 1.81 Bottom: 2.12	2.7	34-36	34-35': CLAYEY SILT: light yellowish brown (10YR, 6/4), moist, soft, sticky, no odor, penetrometer: 0.75 t/sq. ft. 35-36': CLAY: yellowish brown (10YR, 5/4), dry, stiff, poor plasticity, no odor, penetrometer: 2.75 T/sq. ft.
_			4.0/2.0	Top: 1.95 Bottom: 2.22	2.1	36-38	36-38': CLAY: yellowish brown (10YR, 5/4), dry, stiff, poor plasticity, no odor, penetrometer: 3.25 T/sq. ft.
_			4.0/2.0	Top: 2.69 Bottom: 2.48	2.2	38-40	38-40': CLAY: yellowish brown (10YR, 6/4), dry, stiff, poor plasticity, no odor, penetrometer: 3.25 T/sq. ft.
40 —			4.0/2.0	Top: 2.35 Bottom: 2.61	1.6	40-42	40-42': CLAY: light brownish gray (10YR, 6/2), dry, stiff, poor plasticity, no odor, penetrometer: 3.25 T/sq. ft.
_			4.0/2.0	Top: 2.52 Bottom: 2.34	1.3	42-44	42-44': CLAY: light brownish gray (10YR, 6/2), dry, very stiff, poor plasticity, no odor, penetrometer: 3.75 T/sq. ft.
45 — — —			4.0/4.0	Top: 1.93 Middle: 1.71 Bottom: 2.52	Top: 1.4 Bottom: 2.6	44-48	44-48': CLAY: brown (7.5YR, 5/3), dry, stiff, medium to good plasticity, no odor, bluish gray and brown at base, penetrometer: 2.25 T/sq. ft.
50 —			4.0/4.0	Top: 2.63 Middle: 2.66 Bottom: 2.27	Bottom: 2.6	48-52	48-52': CLAY: greenish gray (GLEY, 6/10Y), dry, stiff, medium to poor plasticity, no odor, penetrometer: 2.5 T/sq. ft.
   55			4.0/4.0	Top: 1.83 Middle: 1.44 Bottom: 1.52	Bottom: 2.6	52-56	52-56': SILTY CLAY: light olive brown (2.5Y, 5/4), dry, stiff to medium stiff, medium to good plasticity, no odor, penetrometer: 1.75-2.75 T/sq. ft.
_			4.0/2.0	Top: 1.61 Bottom: 1.44	2.2	56-58	56-58': SILTY CLAY: light greenish gray (GLEY1, 7/10Y), dry, very silty, medium stiff, large silt grains, no odor, penetrometer: 2.25 T/sq. ft.
60 —			2.7/2.0	Top: 1.21 Bottom: 1.29	2.8	58-60	58-60': SILTY CLAY: light greenish gray (GLEY1, 7/10Y), dry, very silty, medium stiff, large silt grains, no odor, trace fine sand, penetrometer: 1.5 T/sq. ft.
_ _ _	 						



**ERM Monitoring Well** 

Parish Boundary

#### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:

Imagery Basemap via ArcGIS Online.



Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

#### 8. DRILLER'S LOG:

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	то	DESCRIPTION

9.	FOR HEAT PUMP ONLY: # of Hole:		ft.	
10.	DOES THE NEW WELL RE If yes, has owner been in abandoned wells? ☐ Yes	formed of state regula		ging of
11.	NAME OF PERSON WHO	DRILLED THE WELL:		
<i>a</i> 5	certify that this work w nd Regulations of the S 1, Public Health – Sani	tate of Louisiana, in tary Code, if applica	ncluding Chapter able, on:	XII of Title (Date)
	y:icense No. WWC		e of Water Well Cont	ractor),
s, e h	further acknowledge and agr pace on this document it is my lectronic signature shall be co ave the same force and effect ignature" shall include faxed ansmitted versions (e.g., via p	nintention to electronically onsidered as an original s as an original signature. versions of an original sig	ly sign the document. I ignature for all purpo Without limitation, "e gnature or electronica	Further, the ses and shall electronic
A	authorized Signature:_	Eph'8C		
Γ	)ate:			

ПП	Ш	Ŧ		П	П
		ŧ			
				N.	١
	V		-	ľ	1

Boring/Well No.:	MW-6

Project:	<u> </u>	Henning M	lanagement,	L.L.C. v. Ch	evron U.S.A.	. Inc., et al.	Project No.: 0526033
Location: Hayes, LA							Coordinates: <u>UTM 15N 508137.47, 3328271.9</u>
Surface Elev.: NM				Boring T.D.	40'	Boring Dia.: 3.25"	
Date St	arted:	11/18/2	021 <u> </u>	Date Comple	ted: <u>1</u>	1/18/2021	Well Dia./Materials: 1" Pre-Pack PVC
Drilling	Company:	Wal	ker Hill			Drille	er:Blake Sistrunk
Drilling	Method:	Direct	Push - Geop	probe 7822D	Т		Grouting Method: Portland
Logged	by:	Cory	Hunter			Soil	Sample Method: Acetate liner
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	OIA (MAA)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 -			2.3/4.0	Top: 1.70 Bottom: 2.42	0.1	0-4	0-2.3': SILTY CLAY: very dark gray (10YR, 3/1), medium soft, dry, good plasticity, no odor, shells at top, penetrometer: 2.25 T/sq. ft.  2.3-4': NO RECOVERY
5 —			4.0/4.0	Top: 3.03 Middle: 3.06 Bottom: 3.53	0.1	4-8	4-8': CLAY: brownish yellow (10YR, 6/6) to light gray, mottled, medium stiff, dry, medium plasticity, no odor, some silt, penetrometer: 2.0-2.25 T/sq. ft.
10 —			4.0/4.0	Top: 3.22 Middle: 3.26 Bottom: 4.05	Bottom: 0	8-12	8-9': CLAY: brownish yellow (10YR, 6/6) to light gray, mottled, medium stiff, dry, medium plasticity, no odor, some silt, penetrometer: 2.25 T/sq. ft. 9-12': SILTY CLAY: yellowish red (5YR, 5/6) to light gray, mottled, soft, slightly mosit to dry, silts interbedded with stiff clay, shell fragments at bottom, penetrometer: 0.5-3.0 T/sq. ft.
_ _ 15 _			4.0/4.0	Top: 4.16 Middle: 4.55 Bottom: 3.83	Top: 0 Bottom: 0.1	12-16	12-16': CLAY: yellow brown (10YR, 5/6) to light gray, mottled, stiff, dry, poor plasticity, no odor, silty at top, penetrometer: 3.0-3.5 T/sq. ft.
_ _ _		1	4.0/4.0	Top: 3.92 Middle: 4.66 Bottom: 4.73	Bottom: 0	16-20	16-20': SILTY CLAY: gray (10YR, 5/1), moist, soft silt interbedded with firm dry clays, no odor, more clay at base, penetrometer: 1.5-1.75 T/sq. ft.
20 —			4.0/4.0	Top: 2.49 Middle: 2.81 Bottom: 2.70	0.1	20-24	20-24': CLAY: gray (10YR, 5/1), stiff, dry, medium plasticity, no odor, some concretions at top, penetrometer: 2.5-3.0 T/ sq. ft.
25	10 P	4.0/4.0	Top: 2.15 Middle: 2.05 Bottom: 2.09	Bottom: 0	24-28	24-28': CLAY: gray (10YR, 5/1), stiff, dry, poor plasticity, no odor, some concretions at top, penetrometer: 2.5-3.75 T/sq. ft.	
30 —			4.0/4.0	Top: 2.56 Middle: 2.38 Bottom: 2.31	0	28-32	28-32': CLAY: gray (10YR, 5/1), stiff, dry, poor plasticity, no odor, some concretions at top, penetrometer: 3.0 T/sq. ft.
	<u> </u>						



Project No	o.:	0526	8033	Da	ate Drilled:		11/18/2021
ОЕРТН (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	OIA (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 30 40 45 50	LITHG	M CONSTI	4.0/4.0 4.0/4.0 3.3/2.0	Top: 2.56 Middle: 2.38 Bottom: 2.31 Top: 2.32 Middle: 2.57 Bottom: 2.50 Top: 2.34 Bottom: 2.00 Top: 2.14 Bottom: 2.36	0 0.1	28-32 32-36 36-38 38-40	(Cont. from page 1)  28-32': CLAY: gray (10YR, 5/1), stiff, dry, poor plasticity, no odor, some concretions at top, penetrometer: 3.0 T/sq. ft.  32-36': SILTY CLAY: light olive brown (2.5Y, 5/4), medium soft, slightly moist to dry, good plasticity, penetrometer: 1.0-1.75 T/sq. ft.  36-38': CLAYEY SILT: brown (10YR, 4/3), medium soft, moist, good plasticity, clay at top, penetrometer: 1.0 T/sq. ft.  38-40': CLAYEY SILT: brown (10YR, 4/3), soft, wet, good plasticity, clay at bottom, penetrometer: 0.5 T/sq. ft.
55 —	- - - - - - -						



**ERM Monitoring Well** 

Parish Boundary

#### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:

Imagery Basemap via ArcGIS Online.



Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

#### 8. DRILLER'S LOG:

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	то	DESCRIPTION

9.	FOR HEAT PUMP ONLY: # of Hole:		ft.	
10.	DOES THE NEW WELL RE If yes, has owner been in abandoned wells? ☐ Yes	formed of state regula		ging of
11.	NAME OF PERSON WHO	DRILLED THE WELL:		
<i>a</i> 5	certify that this work w nd Regulations of the S 1, Public Health – Sani	tate of Louisiana, in tary Code, if applica	ncluding Chapter able, on:	XII of Title (Date)
	y:icense No. WWC		e of Water Well Cont	ractor),
s, e h	further acknowledge and agr pace on this document it is my lectronic signature shall be co ave the same force and effect ignature" shall include faxed ansmitted versions (e.g., via p	nintention to electronically onsidered as an original s as an original signature. versions of an original sig	ly sign the document. I ignature for all purpo Without limitation, "e gnature or electronica	Further, the ses and shall electronic
A	authorized Signature:_	Eph'8C		
Γ	)ate:			

ПП	Ш	Ŧ		П	П
		ŧ			
				N.	١
	V		-	ľ	1

Boring/Well No.:	MW-8

Project:	:	Henning M	anagement,	L.L.C. v. Ch	evron U.S.A	. Inc., et al.	Project No.: 0526033
Locatio	n: <u> </u>	Hayes, LA					Coordinates: UTM N15 508217.59, 3327817.3
Surface	Surface Elev.: NM				Boring T.D.	54'	Boring Dia.: 3.25"
Date St	tarted:	12/14/2	021 <sub>[</sub>	Date Comple	ted:1	2/14/2021	Well Dia./Materials:1" PVC Pre-Pack
Drilling	Company:	. Wall	ker Hill			Drille	er: Wanya Cook
_	Method:		Push - Geop	orobe 3230D	Т		Grouting Method: Portland
Logged	l by:	Shaw	n Wiggins			Soil	Sample Method: Acetate liner
	. 6	Z C				z	
ОЕРТН (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	OIA (MAA)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 —		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2.0/2.0	Top: 0.76 Bottom: 1.15	0.1	0-2	0-2': SILTY CLAY: very dark brown (10YR, 2/2), medium soft, dry to slightly moist, rootlets at top, no odor, penetrometer: 1.0 T/sq. ft.
5 —		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4.0/4.0	Top: 1.42 Middle: 2.11 Bottom: 2.18	Bottom: 0.3	2-6	2-6': CLAY: grayish brown (10YR, 5/2), medium stiff, moist, orange mottling increasing with depth, no odor, penetrometer: 1.25-1.5 T/sq. ft.
- - -		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4.0/4.0	Top: 1.53 Middle: 2.00 Bottom: 1.95	Bottom: 0.3	6-10	6-10': CLAY: mottled reddish brown (5YR, 4/4), medium soft to stiff, slightly moist, clayey silt layers at 6.0-6.2' bgs, 6.4-6.5' bgs, 7.2' bgs, 7.3' bgs, 7.9' bgs, and 8.8-9.0' bgs, abundant shells at 9.6-10.0' bgs, no odor, penetrometer: 0.5-2.25 T/sq. ft.
10 —		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4.0/4.0	Top: 3.03 Middle: 3.37 Bottom: 3.34	Bottom: 0.2	10-14	10-14': CLAY: grades from yellowish brown (10YR, 5/6), to brown (10YR, 5/3), very stiff to stiff, slightly moist, some black mottling near the top, no odor, penetrometer: 2.75-3.25 T/sq. ft.
15 — —		2 4 4 4 5 5 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6	4.0/4.0	Top: 3.16 Middle: 3.09 Bottom: 3.30	Bottom: 0.2	14-18	14-18': CLAYEY SILT: alternating with CLAY: yellowish brown (10YR, 5/4), clay is medium stiff and moist, clayey silt is very soft and slightly wet, clayey silt at 14.8-14.9' bgs, 15.2-15.3' bgs, 15.7-16.0' bgs, 16.1-16.2' bgs, 16.6-16.7' bgs, 16.9-17.1' bgs, and 17.5-17.6' bgs, no odor, penetrometer: 0-1.75 T/sq. ft.
20 —		10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4.0/4.0	Top: 3.12 Middle: 1.92 Bottom: 1.95	Bottom: 0.3	18-22	18-22': CLAY: light yellowish brown (10YR, 6/4), medium soft to stiff, moist, minor mineral concretions, abundant orange mottling, no odor, penetrometer: 0.5-2.0 T/sq. ft.
25 —		20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4.0/4.0	Top: 1.84 Middle: 1.96 Bottom: 1.98	Bottom: 0.1	22-26	22-26': CLAY: yellowish brown (10YR, 5/4), medium stiff, moist, minor silt content, minor black mineral concretions, no odor, penetrometer: 1.5-1.75 T/sq. ft.
30 —			4.0/4.0	Top: 2.40 Middle: 2.28 Bottom: 2.10	Bottom: 0.0	26-30	26-30': CLAY: dark yellowish brown (10YR, 4/6), hard, slightly moist, mineral concretions at 29.1' bgs, no odor, penetrometer: 4.25 T/sq. ft.
	<u> </u>						
Cilliagra	liaka rabe	n Dooum - :- 4	o\Droineta\050	6022 Honrine	Doring Lag-101	(Calarabiya) A	M 9 over DEVISED: 04/06/2022



Project	No.: _	0526	6033	Da	ate Drilled:		12/14/2021
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	OIA (MAM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 —			4.0/4.0	Top: 2.00 Middle: 2.20 Bottom: 1.55	Bottom: 0.2	30-34	(Cont. from page 1)  30-33.2': CLAY: with SILT: yellowish brown (10 YR, 5/4), very stiff, moist, silty clay at 30.5-30.6' bgs, 31.6-32.0' bgs, 32.7-32.9' bgs, no odor, penetrometer: 4.0 T/sq. ft.  33.2-34': SANDY CLAYEY SILT: yellowish brown (10YR, 5/4), medium soft, moist to slightly wet, no odor, penetrometer: 1.5 T/sq. ft.
35 — ———————————————————————————————————			4.0/4.0	Top: 2.00 Middle: 2.27 Bottom: 2.29	Top: 0.4 Bottom: 0.4	34-38	34-35': SILTY CLAY: yellowish brown (10YR, 5/4), medium soft, moist, no odor penetrometer: 0.75 T/sq. ft. 35-38': CLAY: grades from brown (10YR, 5/3) to dark yellowish brown (10YR, 4/4), stiff, slightly most, no odor, penetrometer: 3.25 T/sq. ft.
40 —		4 6 70 6 6 70 6 6 70 6 6 70 6 70 6 70 6	4.0/4.0	Top: 2.01 Middle: 2.48 Bottom: 2.20	Bottom: 0.3	38-42	38-42': CLAY: grades from yellowish brown (10YR, 5/6) to brown (10YR, 5/3), very stiff, slightly moist, no odor, penetrometer: 3.0-3.25 T/sq. ft.
- - 45 -			4.0/4.0	Top: 2.51 Middle: 2.29 Bottom: 1.38	Bottom: 0.6	42-46	42-46': CLAY: brown (10YR, 4/3), very stiff, moist, some silt content near bottom, orange mottling, no odor, penetrometer: 3.25-3.5 T/sq. ft.
— — — — 50 —			4.0/4.0	Top: 1.79 Middle: 1.29 Bottom: 2.70	Bottom: 0.1	46-50	46-50': SILTY CLAY: yellowish brown (10YR, 5/4), stiff, moist, wet silt layer at 47.8-48.0' bgs, no odor, penetrometer: 2.5-3.0 T/sq. ft.
-			4.0/4.0	Top: NM Middle: 2.12 Bottom: 1.87	Bottom: 0.1	50-54	50-52': CLAY: observed at top and bottom, sealed for geotechnical analysis 52-54': CLAY: brown (10YR, 5/3), stiff, moist, mineral concretions at 53.3' bgs, orange mottling, no odor, penetrometer: 2.75 T/sq. ft.
55 — — —	  						
60 —	 						
65 — —							



**ERM Monitoring Well** 

Parish Boundary

#### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:

Imagery Basemap via ArcGIS Online.



Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

<ol> <li>USE OF WELL (Check appropriate box):</li> </ol>	6. LOCATION OF WELL:
☐ Domestic ☐ Rig Supply ☐ Monitoring	Latitude:°" Longitude:°"
☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply	
☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:
□Other (please specify)	
	Physical Address:
2. WELL OWNER:	
Phone: (	
	Well is Near,Approximatelymiles from
	(Crossroads, Railroad, any Landmark, etc.)
3. WELL OWNER'S ADDRESS:	
	(Attach a man or eletch or registered plat if Dia Cumply to registration)
	(Attach a map or sketch or registered plat if Rig Supply to registration)
4. OWNER'S WELL NUMBER OR NAME:	
	FOR MONITOR/PIEZO/RECOVERY WELLS ONLY
Serial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION QUAD NO.
5. WELL INFORMATION:	
Date completed:ft. below ground surface	
	7. REMARKS:
Depth of Well:ft. Static water level:ft. below ground surface	
Date Measured: Casing:in. □ Metal □ Plastic □ Other Length:	ft
Screen:in.	
Length:ft. Cemented from:ft. to ground su	due

FROM	то	DESCRIPTION
	·	

9.	FOR HEAT PUMP ONLY: Avg. Depth:ft. # of Hole:	
10.	DOES THE NEW WELL REPLACE AN EXISTING WELL? ☐ Yes ☐ No  If yes, has owner been informed of state regulations requiring probabandoned wells? ☐ Yes ☐ No	_
11.	NAME OF PERSON WHO DRILLED THE WELL:	
a	certify that this work was done and completed in accorda nd Regulations of the State of Louisiana, including Chap	ter XII of Title
	1, Public Health – Sanitary Code, if applicable, on:	
l	by:(Name of Water Well C	ontractor),
L	icense No. WWC	
s, e	further acknowledge and agree that by typing my name or placing my ma pace on this document it is my intention to electronically sign the docume lectronic signature shall be considered as an original signature for all pu	nt. Further, the rposes and shall
S	ave the same force and effect as an original signature. Without limitation, ignature" shall include faxed versions of an original signature or electron cansmitted versions (e.g., via pdf) of an original signature.	"electronic nically scanned and
s. tr	ignature" shall include faxed versions of an original signature or electror	"electronic nically scanned and

I	F	П	П	7	Ŧ	Ŧ	F	F	П
A			Ħ	1	#	#	t	4	d
- 13	ŀ		V	+	+	+	Н	ć	H
	3	U		Z	I	#	t	Ĕ	Ħ
$\vdash$	Н	P	d	+	╀	+	+	Ь	Н
			٦	٦		Y	4	ø	2

Project:	<u> </u>	Henning N	Management	t, L.L.C. v. Ch	evron U.S.A	. Inc., et al.	Project No.: 0526033		
_ocatio	n:	Hayes, LA	١				Coordinates: _UTM N15 508221.24, 3328165.12		
Surface	e Elev.:	NM			Boring T.D.	<u>44'</u>	Boring Dia.: 3.25"		
Date St	arted:	11/29/2	2021	Date Comple	ted: 1	1/29/2021	Well Dia./Materials: 1" PVC Pre-Pack		
Orillina	Company	, Wa	lker Hill	Driller: Blake Sistrunk			er: Blake Sistrunk		
Drilling Method: Direct Push - Georg			probe 7822D	Т		Grouting Method: Portland			
Logged by: Cory Hunter						Soil	Sample Method: Acetate liner		
		7							
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	(MAA) Old	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION		
0 —			<u> </u>						
_				Top: 1.05	Top: 0.9		0-2': SILTY CLAY: light yellowish brown (2.5Y, 6/4), dry, medium stiff, crumbly, no odor, penetrometer: 2.75 T/sq. ft.		
-		A 04	3.6/4.0	Middle: 1.78	Bottom: 0.5	0-4	2-3.6': CLAY: light yellowish brown (2.5Y, 6/4), dry, medium soft, good plasticity, no odor, little gravel at 3' bgs, penetrometer: 2.0 T/sq. ft.		
			7 7	Bottom: 2.29			3.6-4': NO RECOVERY		
5 —	-//7	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Top: 2.08	Top: 2.4		4-8': CLAY: light yellowish gray (5YR, 5/6) to yellowish red, dry, stiff, medium to poor plasticity, gravel at 4.5' bgs, little silt, mottled, no odor, penetrometer: 2.5		
_		8	4.0/4.0	Middle: 2.13		4-8	T/sq. ft.		
_		7	4	Bottom: 2.96	Bottom: 1.4				
_		D 0		Top: 2.65			8-12': CLAY: yellowish red, dry, medium stiff,very silty at top and bottom,		
10 —			4.0/4.0	Middle: 3.02	Top: 3.7	8-12	crushed shells at 10.5' bgs, no odor, penetrometer: 2.25-2.5 T/sq. ft.		
_		Bottom: 3.33	Bottom: 3.6	0 12					
_		7	2				12-16': CLAY: light yellowish brown (2.5Y, 6/4), dry, stiff, medium to poor		
_	<i>-</i> ///	74 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Top: 3.78	Top: 4.4	1 1	plasticity, some very silty pockets at 14-16' bgs, penetrometer: 2.75 T/sq. ft.		
- 15 -		D 0 00	4.0/4.0	Middle: 4.03	Bottom: 3.8	12-16			
15 —		**************************************	5 5 7	Bottom: 3.61					
_		P P P		Top: 4.21	Top: 3.2		16-20': CLAY: gray (7.5YR, 5/1), dry, medium stiff, little silt, no odor, penetrometer: 2.25 T/sq. ft.		
_	-///-	14 P 4 P		Middle: 4.01	Bottom: 3.6	16-20			
_		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Bottom: 3.76	l				
20 —		49 40	4.0/2.0	Top: 2.11 Bottom: 2.09	2.4	20-22	20-22': CLAY: pale brown (10YR, 6/3), dry, medium stiff, medium to poor plasticity, somewhat crumbly, little silt, no odor, penetrometer: 2.25 T/sq. ft.		
_		2 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3.8/2.0	Top: 2.15 Bottom: 2.03	1.9	22-24	22-24': CLAY: pale brown (10YR, 6/3), dry, medium stiff, medium to poor plasticity, somewhat crumbly, little silt, no odor, penetrometer: 2.5 T/sq. ft.		
25 —		7 7 7	4.0/2.0	Top: 2.10 Bottom: 2.01	2.4	24-26	24-26': CLAY: pale brown (10YR, 6/3), dry, medium stiff, medium to poor plasticity, somewhat crumbly, little silt, no odor, penetrometer: 3.0 T/sq. ft.		
_		40 A 4 A 4 A 4 A 4 A 4 A 4 A 4 A 4 A 4 A	4.0/2.0	Top: 1.84 Bottom: 2.04	2.5	26-28	26-28': CLAY: yellowish brown (10YR, 5/6) to light gray, dry, very stiff, poor plasticity, mottled, penetrometer: 4.5 T/sq. ft.		
30 —		200	4.0/2.0	Top: 1.87 Bottom: 2.16	2.4	28-30	28-30': CLAY: yellowish brown (10YR, 5/6) to light gray, dry, stiff, poor plasticity, mottled, some silt at top, penetrometer: 2.5 T/sq. ft.		
	<u> </u>	<u> </u>							



Boring/Well No.: MW-7
-----------------------

Project No.:	0526033	3 D	ate Drilled:	1	11/29/2021
DEPTH (FEET) LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION SAMPLE	RECOVERY (FEET/FEET) FIELD EC (mS/cm)	PID (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 35 40 40 6GRA	3	Top: 1.90 Bottom: 2.52 3.3/2.0 Top: 2.08 Bottom: 1.91 Top: 1.55 Bottom: 2.19 Top: 2.91 A.0/4.0 Middle: 2.04 Bottom: 1.85 Top: 2.81 A.0/4.0 Middle: 2.26 Bottom: 2.55	1.9 2.9 3 Top: 2.5 Bottom: 3.2	30-32 32-34 34-36 36-40	(Cont. from page 1)  30-32': CLAY: gray (5YR, 6/1), dry, medium soft, good plasticity, little silt, no odor, penetrometer: 1.5 T/sq. ft.  32-34': SILTY CLAY: reddish brown 5YR, 5/3), dry, medium stiff to stiff, penetrometer: 2.75 T/sq. ft.  34-36': CLAYEY SILT: brown (7.5YR, 5/3), slightly moist to moist, soft, good plasticity, more stiff clay at base, penetrometer: 0.75 T/sq. ft.  36-37.5': CLAY: brown (7.5YR, 4/3), dry, stiff, no odor, penetrometer: 3.0 T/sq. ft.  37.5-38.2': CLAYEY SILT: brown (7.5YR, 5/4), slightly moist, soft, good plasticity, no odor, penetrometer: 0.75 T/sq. ft.  38.2-40': CLAY: light yellow brown, dry, medium stiff to stiff, no odor, penetrometer: 3.0 T/sq. ft.  40-44': CLAY: brown (7.5YR, 5/3), dry very stiff, poor plasticity, no odor, penetrometer: 3.0-3.25 T/sq. ft.
55					



**ERM Monitoring Well** 

Parish Boundary

### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:



## CLICK SUBMIT UPON COMPLETION OR MAIL ORIGINAL TO:

Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

Using: □Pump down Method □Gravity Method

FROM	то	DESCRIPTION
	·	

9.	FOR HEAT PUMP ONLY: Avg. Depth:ft. # of Hole:	
10.	DOES THE NEW WELL REPLACE AN EXISTING WELL? ☐ Yes ☐ No  If yes, has owner been informed of state regulations requiring probabandoned wells? ☐ Yes ☐ No	_
11.	NAME OF PERSON WHO DRILLED THE WELL:	
a	certify that this work was done and completed in accorda nd Regulations of the State of Louisiana, including Chap	ter XII of Title
	1, Public Health – Sanitary Code, if applicable, on:	
l	by:(Name of Water Well C	ontractor),
L	icense No. WWC	
s, e	further acknowledge and agree that by typing my name or placing my ma pace on this document it is my intention to electronically sign the docume lectronic signature shall be considered as an original signature for all pu	nt. Further, the rposes and shall
S	ave the same force and effect as an original signature. Without limitation, ignature" shall include faxed versions of an original signature or electron cansmitted versions (e.g., via pdf) of an original signature.	"electronic nically scanned and
s. tr	ignature" shall include faxed versions of an original signature or electror	"electronic nically scanned and

9	
<b>ERM</b>	Environmental Resources Management
Project:	Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al.

Location:

Surface Elev.:

Date Started:

Hayes, LA

12/2/2021

NM

### vironmental Resources Management

Date Completed:

MW-9 Boring/Well No.: 0526033 Project No.: UTM N15 508265.87, 3327953.8 Coordinates: 2.25" Boring Dia.: 3/4" PVC Pre-Pack Well Dia./Materials:

Walker Hill Blake Sistrunk **Drilling Company:** Driller: Portland Direct Push - Geoprobe 7822DT Drilling Method: Grouting Method:

52'

12/2/2021

Boring T.D.:

Logged			Hunter	JODE 1022D		Soil Sample Method: Acetate liner
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 —		saker latit.				
		A A A A A A A A A A A A A A A A A A A	2.7/4.0	Top: 0.51 Middle: 2.00	0-4	0-2.7': CLAY: light yellow brown (2.5Y, 6/3) to gray on top, medium soft to medium stiff, dry, little silt at top, sparse white concretions, no odor, penetrometer: 1.5 T/sq. ft.
	5	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Bottom: 2.15		2.7-4': NO RECOVERY
5 —		2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Top: 2.21		4-5.5': CLAY: light yellow brown (2.5Y, 6/3) to gray on top, medium soft to medium stiff, dry, little silt at top, sparse white concretions, no odor, penetrometer: 2.0 T/sq. ft.
		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	4.0/4.0	Middle: 1.78 Bottom: 2.22	4-8	5.5-8': SILTY CLAY: strong brown (7.5YR, 5/6), stiff clay with abundant silt pockets and lenses, dry, no odor, penetrometer: 2.0-2.5 T/sq. ft.
		7 A D D D		Top: 2.22		8-10': SILTY CLAY: strong brown (7.5YR, 5/6), stiff clay with abundant silt pockets and
10 —		40 P	4.0/4.0	Middle: 2.35	8-12	lenses, dry, no odor, penetrometer: 2.5 T/sq. ft.  10-12': CLAY: reddish brown to yellow brown (10YR, 5/6), stiff, dry, abundant crushed shell
		20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Bottom: 2.81		layers at 11-11.5' bgs, no odor, penetrometer: 2.75 T/sq. ft.
		\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		Top: 3.37		12-16': CLAY: light yellow brown (2.5Y, 6/3), stiff, dry, medium plasticity, little silt, mottled, no odor, penetrometer: 2.5 T/sq. ft.
15			4.0/4.0	Middle: 2.98	12-16	
15 —	<del>-</del>			Bottom: 2.27		
		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Top: 2.23		16-20': CLAY: gray (2.5Y, 6/1), medium stiff to stiff, dry, medium to good plasticity, some silt, no odor, penetrometer: 2.0-2.25 T/sq. ft.
	7//7	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4.0/4.0	Middle: 2.52	16-20	
20 —	-///	A A A A		Bottom: 2.31		20-24': CLAY: light yellow brown (2.5Y, 6/4), stiff, dry, medium plasticity, with silt, no odor,
_	<i>_</i> /// <i>_</i>	7 P P	4.0/4.0	Top: 1.61	00.04	penetrometer: 2.5 T/sq. ft.
		2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4.0/4.0	Middle: 1.47 Bottom: 1.46	20-24	
25 —	7//7	10 A		Top: 1.49		24-28': CLAY: light yellow brown (2.5Y, 6/4), stiff, dry, medium plasticity, with silt and
		7 b	4.0/4.0	Middle: 1.40	24-28	scattered white mineral concretions, no odor, penetrometer: 2.5-2.75 T/sq. ft.
				Bottom: 1.46		
30 —			4.0/4.0	Top: 1.63 Middle: 1.79 Bottom: 1.64	28-32	28-32': CLAY: light yellow brown (2.5Y, 6/4), very stiff, dry, medium plasticity, with silt, mottled, with concretions, no odor, penetrometer: 3.25-3.75 T/sq. ft.
						\/Gs\archive\MW-9 syg_RE\/ISED: 01/06/2022



Boring/Well No.: MW-9

Project	No.: _	0526033		Date Drilled:		12/2/2021
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 —				Top: 1.63		(Cont. from page 1)  28-32': CLAY: light yellow brown (2.5Y, 6/4), very stiff, dry, medium plasticity, with silt,
_			4.0/4.0	Middle: 1.79 Bottom: 1.64	28-32	mottled, with concretions, no odor, penetrometer: 3.25-3.75 T/sq. ft.
- 35 -			4.0/4.0	Top: 1.95 Middle: 1.38 Bottom: 2.14		32-34': SILTY CLAY: light gray (2.5Y, 7/1), medium soft, slightly moist to dry, good plasticity, no odor, penetrometer: 1.0-1.25 T/sq. ft.  34-36': CLAYEY SILT: light gray to yellowish brown, medium soft, slightly moist, good plasticity, no odor, penetrometer: 1.0-2.5 T/sq. ft.
- - -		1994 — 1995 1994 — 1995	4.0/4.0	Top: 1.97 Middle: 1.73	36-40	36-40': CLAY: brown (10YR, 5/3), stiff, dry, medium plasticity, silty at top, no odor, penetrometer: 2.0-2.5 T/sq. ft.
40 —			4.0/4.0	Top: 2.51  Middle: 2.36  Bottom: 2.18	40-44	40-44': CLAY: light yellowish brown (10YR, 6/4), very stiff, dry, poor plasticity, no odor, penetrometer: 3.0 T/sq. ft.
45 — ———————————————————————————————————			4.0/4.0	Top: 2.49 Middle: 2.14 Bottom: 1.83	44-48	44-48': CLAY: with SILT: light yellow brown, stiff, soft, medium to good plasticity, more silt at bottom, no odor, penetrometer: 2.0-3.0 T/sq. ft.
_			3.0/2.0	Top: 2.36 Bottom: 2.06	48-50	48-49.5': CLAYEY SANDY SILT: pale brown (10YR, 6/3), stiff, slightly moist to wet, softer and with good plasticity where wet, no odor, penetrometer: 2.5 T/sq. ft.
50 —			4.0/2.0	Top: 2.60 Bottom: 2.72	50-52	49.5-52': CLAY: light brownish gray (10YR, 6/2), stiff, dry, medium plasticity, no odor, penetrometer: 2.25 T/sq. ft.
55 —						
65 —						



**ERM Monitoring Well** 

Parish Boundary

### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:



## CLICK SUBMIT UPON COMPLETION OR MAIL ORIGINAL TO:

Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

Using: □Pump down Method □Gravity Method

FROM	то	DESCRIPTION
	·	

9.	FOR HEAT PUMP ONLY: Avg. Depth:ft. # of Hole:	
10.	DOES THE NEW WELL REPLACE AN EXISTING WELL? ☐ Yes ☐ No  If yes, has owner been informed of state regulations requiring probabandoned wells? ☐ Yes ☐ No	_
11.	NAME OF PERSON WHO DRILLED THE WELL:	
a	certify that this work was done and completed in accorda nd Regulations of the State of Louisiana, including Chap	ter XII of Title
	1, Public Health – Sanitary Code, if applicable, on:	
l	by:(Name of Water Well C	ontractor),
L	icense No. WWC	
s, e	further acknowledge and agree that by typing my name or placing my ma pace on this document it is my intention to electronically sign the docume lectronic signature shall be considered as an original signature for all pu	nt. Further, the rposes and shall
S	ave the same force and effect as an original signature. Without limitation, ignature" shall include faxed versions of an original signature or electron cansmitted versions (e.g., via pdf) of an original signature.	"electronic nically scanned and
s. tr	ignature" shall include faxed versions of an original signature or electror	"electronic nically scanned and

		6	
E	?	N	1

Boring/Well No.: MW-9D

Project:				, L.L.C. v. Ch	evron U.S.A	UTNANA 500000 44 0007054 4
Locatio		Hayes, LA	1			Coordinates: UTM N15 508266.11, 3327954.1  - 52' Boring Dia : 2.25"
Surface		12/2/2	021		Boring T.D.	olologo
Date St	arted:	12/2/2	021	Date Comple	ted:'	2/2/2021 Well Dia./Materials: 3/4" PVC Pre-Pack
Drilling	Compan	/·	alker Hill			Driller: Blake Sistrunk
Drilling	Method:	-		probe 7822D	T	Grouting Method: Portland
Logged	by: _	Cory	Hunter			Soil Sample Method: Acetate liner
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 —			2.7/4.0	Top: 0.51 Middle: 2.00 Bottom: 2.15		0-2.7': CLAY: light yellow brown (2.5Y, 6/3) to gray on top, medium soft to medium stiff, dry, little silt at top, sparse white concretions, no odor, penetrometer: 1.5 T/sq. ft.  2.7-4': NO RECOVERY
5 —			4.0/4.0	Top: 2.21 Middle: 1.78 Bottom: 2.22		4-5.5': CLAY: light yellow brown (2.5Y, 6/3) to gray on top, medium soft to medium stiff, dry, little silt at top, sparse white concretions, no odor, penetrometer: 2.0 T/sq. ft. 5.5-8': SILTY CLAY: strong brown (7.5YR, 5/6), stiff clay with abundant silt pockets and lenses, dry, no odor, penetrometer: 2.0-2.5 T/sq. ft.
- 10 - -			4.0/4.0	Top: 2.22 Middle: 2.35 Bottom: 2.81		8-10': SILTY CLAY: strong brown (7.5YR, 5/6), stiff clay with abundant silt pockets and lenses, dry, no odor, penetrometer: 2.5 T/sq. ft.  10-12': CLAY: reddish brown to yellow brown (10YR, 5/6), stiff, dry, abundant crushed shell layers at 11-11.5' bgs, no odor, penetrometer: 2.75 T/sq. ft.
_ _ _ 15 —			4.0/4.0	Top: 3.37 Middle: 2.98 Bottom: 2.27		12-16': CLAY: light yellow brown (2.5Y, 6/3), stiff, dry, medium plasticity, little silt, mottled, no odor, enetrometer: 2.5 T/sq. ft.
-			4.0/4.0	Top: 2.23 Middle: 2.52 Bottom: 2.31		16-20': CLAY: gray (2.5Y, 6/1), medium stiff to stiff, dry, medium to good plasticity, some silt, no odor, penetrometer: 2.0-2.25 T/sq. ft.
20 —			4.0/4.0	Top: 1.61 Middle: 1.47 Bottom: 1.46	20-24	20-24': CLAY: light yellow brown (2.5Y, 6/4), stiff, dry, medium plasticity, with silt, no odor, penetrometer: 2.5 T/sq. ft.
25 — — —			4.0/4.0	Top: 1.49 Middle: 1.40 Bottom: 1.46		24-28': CLAY: light yellow brown (2.5Y, 6/4), stiff, dry, medium plasticity, with silt and scattered white mineral concretions, no odor, penetrometer: 2.5-2.75 T/sq. ft.
30 —		4000	4.0/4.0	Top: 1.63 Middle: 1.79 Bottom: 1.64		28-32': CLAY: light yellow brown (2.5Y, 6/4), very stiff, dry, medium plasticity, with silt, mottled, with concretions, no odor, penetrometer: 3.25-3.75 T/sq. ft.
_	<u> </u>	-				



Boring/Well No.: MW-9D

Project	No.: _	0526033		Date Drilled:		12/2/2021
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30 —		েবৰ িক		Tan: 4.62		(Cont. from page 1)
_		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4.0/4.0	Top: 1.63 Middle: 1.79 Bottom: 1.64		28-32': CLAY: light yellow brown (2.5Y, 6/4), very stiff, dry, medium plasticity, with silt, mottled, with concretions, no odor, penetrometer: 3.25-3.75 T/sq. ft.
35 —		7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4.0/4.0	Top: 1.95 Middle: 1.38 Bottom: 2.14		32-34': SILTY CLAY: light gray (2.5Y, 7/1), medium soft, slightly moist to dry, good plasticity, no odor, penetrometer: 1.0-1.25 T/sq. ft.  34-36': CLAYEY SILT: light gray to yellowish brown, medium soft, slightly moist, good plasticity, no odor, penetrometer: 1.0-2.5 T/sq. ft.
- - -			4.0/4.0	Top: 1.97 Middle: 1.73 Bottom: 2.48		36-40': CLAY: brown (10YR, 5/3), stiff, dry, medium plasticity, silty at top, no odor, penetrometer: 2.0-2.5 T/sq. ft.
40 —			4.0/4.0	Top: 2.51  Middle: 2.36  Bottom: 2.18	40-44	40-44': CLAY: light yellowish brown (10YR, 6/4), very stiff, dry, poor plasticity, no odor, penetrometer: 3.0 T/sq. ft.
45 — ———————————————————————————————————			4.0/4.0	Top: 2.49 Middle: 2.14 Bottom: 1.83	44-48	44-48': CLAY: with SILT: light yellow brown, stiff, soft, medium to good plasticity, more silt at bottom, no odor, penetrometer: 2.0-3.0 T/sq. ft.
_			3.0/2.0	Top: 2.36 Bottom: 2.06	48-50	48-49.5': CLAYEY SANDY SILT: pale brown (10YR, 6/3), stiff, slightly moist to wet, softer and with good plasticity where wet, no odor, penetrometer: 2.5 T/sq. ft.
50 —		<u> </u>	4.0/2.0	Top: 2.60 Bottom: 2.72	50-52	49.5-52': CLAY: light brownish gray (10YR, 6/2), stiff, dry, medium plasticity, no odor, penetrometer: 2.25 T/sq. ft.
55 —						
_	L -					



**ERM Monitoring Well** 

Parish Boundary

### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:



## CLICK SUBMIT UPON COMPLETION OR MAIL ORIGINAL TO:

Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

1. U	SE OF WELL (Check appropriate box):	6. LOCATION OF WELL:	
	□ Domestic □ Rig Supply □ Monitoring	Latitude:°" Longitude:	o <u> </u>
	☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply		
	☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:	
	□Other (please specify)		
		Physical Address:	
2. <b>w</b>	VELL OWNER:		
Pl	hone: (		
		Well is Near,Approximately	
		(Crossroads, Railroad, any Landmark, etc.)	
3. <b>w</b>	VELL OWNER'S ADDRESS:	-	
		-	
		(Attach a man or skatch or registered plat if Dia Cumplet	a ragistration)
		(Attach a map or sketch or registered plat if Rig Supply to	registration)
4. <b>o</b>	WNER'S WELL NUMBER OR NAME:		
		FOR MONITOR/PIEZO/RECOVERY WELLS ONLY	,
Se	erial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION	QUAD NO.
5 \A	VELL INFORMATION:		
_			
D.	rate completed:ft. below ground surface		
	epth of Well:ft.	7. REMARKS:	
	tatic water level:ft. below ground surface		
	ate Measured: asing:in.		
	creen:in.		
LE	ength:ft. Cemented from:ft. to ground surface		

Using: □Pump down Method □Gravity Method

FROM	то	DESCRIPTION

9.	FOR HEAT PUMP ONLY: # of Hole:		ft.	
10.	DOES THE NEW WELL RE If yes, has owner been in abandoned wells? ☐ Yes	formed of state regula		ging of
11.	NAME OF PERSON WHO	DRILLED THE WELL:		
<i>a</i> 5	certify that this work w nd Regulations of the S 1, Public Health – Sani	tate of Louisiana, in tary Code, if applica	ncluding Chapter able, on:	XII of Title (Date)
	y:icense No. WWC		e of Water Well Cont	ractor),
s, e h	further acknowledge and agr pace on this document it is my lectronic signature shall be co ave the same force and effect ignature" shall include faxed ansmitted versions (e.g., via p	nintention to electronically onsidered as an original s as an original signature. versions of an original sig	ly sign the document. I ignature for all purpo Without limitation, "e gnature or electronica	Further, the ses and shall electronic
A	authorized Signature:_	Eph'8C		
Γ	)ate:			

	H	П	Ŧ	П	П	П
I	N		Ŧ		4	
E	١		1			
Н	Н		٠,	H	J	1

Boring/Well No.:	MW-10

Project:		Henning M	lanagement	, L.L.C. v. Ch	evron U.S.A.	Project No.: 0526033	
Locatio	n:	Hayes, LA					Coordinates: UTM N15 508109.37, 3327861.3
Surface	e Elev.: NM			Boring T.D.: <u>52'</u>			Boring Dia.: 3.25"
Date St	te Started:12/13/2021			Date Completed: 12/14/2021			Well Dia./Materials: 1" PVC Pre-Pack
Drilling Company:Walker Hill			ker Hill			Drille	er: Wanya Cook
Drilling Method: Direct Push - Ge			Push - Geo <sub>l</sub>	probe 3230D	Т		Grouting Method: Portland
Logged by: Shawn Wiggin			n Wiggins			Soil	Sample Method: Acetate liner
	<u> </u>	z					
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	(MAA) GIA	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 —		रुद्धव विक					
_		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1.6/2.0	Top: 0.72 Bottom: 1.40	1.2	0-2	0-1.6': SILTY CLAY: dark brown (10R, 3/3), very stiff, slightly moist, minor rootlets at top, no odor, penetrometer: 3.0 T/sq. ft. 1.6-2': NO RECOVERY
_	-			Top: 1.94	Top: 1.9		2-5.7': CLAY: mottled brownish yellow (10YR, 6/6), medium soft, moist, no o\dor, penetrometer: 1.0-1.25 T/sq. ft.
_		9 9	3.7/4.0	Middle: 2.00	Bottom: 3.0	2-6	
5 —	7//7	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Bottom: 1.36			5.7-6': NO RECOVERY
				Top: 0.52	Top: 3.8 Bottom: 1.7	6-10	6-10': SILTY CLAY: grades from brownish yellow (10YR, 6/6) to light brownish gray (10YR, 6/2), very stiff to medium stiff, moist, minor fine sand content,
_			4.0/4.0	Middle: 2.20			some silty sand at bottom, no odor, penetrometer: 2.5-4.5 T/sq. ft.
_		70		Bottom: 2.18			
10 —	2525			Top: 2.56			10-10.3': CLAY: light brownish gray, very hard, dry, no odor, penetrometer: 2.5
			4.0/4.0	Middle: 3.54		10-14	T/sq. ft. 10.3-11': SHELLY CLAY: yellowish brown (10YR, 5/4), medium stiff, moist to
_	-///	7 7 8	4.0/4.0				slightly wet, no odor, penetrometer: 2.5 T/sq. ft. 11-14': CLAY: grades from brownish yellow (10YR, 6/6) to grayish brown
_				Bottom: 3.17			(10YR, 5/2), very stiff to stiff, moist, no odor, penetrometer: 2.5-3.5 T/sq. ft.  14-18': CLAY: light olive brown (2.5Y, 5/4), medium stiff, moist to wet in spots,
15 —	-///	D 0 0 0		Top: 3.03	Top: 3.7		slightly wet to wet silt layers at 14.8' bgs, 15.0' bgs, 15.2' bgs, 15.7' bgs,
_		400	4.0/4.0	Middle: 2.07	Bottom: 2.6	14-18	16.0-16.3' bgs, 16.5-16-7' bgs, and 17.6' bgs, no odor, penetrometer: 2.0-3.0 T/sq. ft.
		4 0 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Bottom: 1.83			
_		4 P P P		Top: 2.84	Top: 3.0		18-22': CLAY: grades from dark grayish brown (2.5Y, 4/2) to light yellowish brown (2.5Y, 6/2), medium stiff to medium soft, slightly moist, orange mottling
20 —			4.0/4.0	Middle: 1.60		18-22	at 20.0-21.4' bgs, some silt content at 21.5-22.0' bgs, no odor, with abundant shells, penetrometer: 1.56-1.75 T/sq. ft.
	///7	4 4 4		Bottom: 1.69			
_		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Top: 1.69	Top: 4.0		22-26': CLAY: light yellowish brown (2.5Y, 6/4), medium stiff, slightly moist, minor orange mottling, minor silt content increasing with depth, no odor,
_	+///	10 0 0	4.0/4.0	Middle: 1.52		22-26	penetrometer: 1.5-2.5 T/sq. ft.
25 —				Bottom: 1.63			
_		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Top: 1.60	Top: 1.8		26-30': CLAY: light olive brown (2.5Y, 5/3), medium stiff, dry to slightly moist, minor black and orange mottling, minor silt content, no odor, penetrometer:
_			4.0/4.0	Middle: 1.49		26-30	2.0-2.5 T/sq. ft.
_	<i>-</i> /// <i>-</i>	200		Bottom: 1.74	Bottom: 1.9		
30 —		100					
		1	<u> </u>				



Boring/Well No.: MW-10

Project No.:		0526	6033	Date Drilled:		:12/14/2021		
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	PID (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION	
30			4.0/4.0	Top: 1.58 Middle: 1.96 Bottom: 1.63	Bottom: 2.6	30-34	(Cont. from page 1)  30-34': CLAY: mottled light brownish gray (2.5Y, 6/2) and dark yellowish brown (10YR, 4/6), hard, dry to slightly moist, minor black mineral concretions, no odor, penetrometer: 3.75-4.25 T/sq. ft.	
35 — ———————————————————————————————————			4.0/4.0	Top: 1.42 Middle: 1.89 Bottom: 1.97	Top: 2.5 Bottom: 2.4	34-38	34-36': CLAYEY SILT: alternating with SILTY CLAY: light olive brown (2.5Y, 5/6), silty clay is medium stiff, clayey silt is soft to medium soft, clayey si at 34.4-34.6' bgs, 34.7-34.8' bgs, 35.0-35.1' bgs, and 35.6-35.9' bgs, no odor, penetrometer: 0.0 T/sq. ft. 36-38': CLAY: dark yellowish brown (10YR, 4/6), very stiff, dry to slightly moist, no odor, penetrometer: 3.5 T/sq. ft.	
40 —			4.0/4.0	Top: 2.68  Middle: 2.27  Bottom: 2.28	Bottom: 3.7	38-42	38-42': CLAY: light brownish gray (10YR, 6/2), hard, slightly moist, minor black mottling, extensive orange mottling, no odor, penetrometer: 4.0-4.25 T/sq. ft.	
45 —			4.0/4.0	Top: 2.51 Middle: 2.16 Bottom: 1.76	Bottom: 2.0	42-46	42-46': CLAY: gray (10YR, 6/1), very stiff, dry to slightly moist, orange mottling and minor black mottling, minor silt content near bottom, no odor, penetrometer: 3.5-4.0 T/sq. ft.	
- - - 50 -			4.0/4.0	Top: 1.54 Middle: 1.31 Bottom: 1.35	Top: 1.7 Bottom: 1.7	46-50	46-50': CLAYEY SILT: yellowish brown (10YR, 5/4), medium stiff, moist to very slightly wet, minor orange mottling, no odor, penetrometer: 0.75 T/sq. ft.	
- - -			4.0/2.0	Top: 1.21 Middle: 2.92 Bottom: 2.97		50-52	50-52': CLAY: gray (10YR, 5/1), stiff, slightly moist, orange mottling, no odor, penetrometer: 2.5 T/sq. ft.	
55 — - - -	 							
60 —	  							
65 — —								



**ERM Monitoring Well** 

Parish Boundary

### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:



## CLICK SUBMIT UPON COMPLETION OR MAIL ORIGINAL TO:

Louisiana Dept. of Natural Resources Attn: Ground Water Resources P.O. Box 94275 Baton Rouge, LA 70804-9275 (225) 342-8244 Ph. (225) 242-3505 Fax

# LOUISIANA DEPARTMENT OF NATURAL RESOURCES OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

#### ONLINE ACCESS:

- 1) Go to http://sonris.com/
- 2) Click on **Data Access** in the left hand panel.
- 3) Under the section labeled

**Conservation**, click on **Ground Water Information**.

<ol> <li>USE OF WELL (Check appropriate box):</li> </ol>	6. LOCATION OF WELL:
☐ Domestic ☐ Rig Supply ☐ Monitoring	Latitude:°" Longitude:°"
☐ Piezometer ☐ Heat Pump Hole ☐ Heat Pump Supply	
☐ Recovery ☐ Relief ☐ Abandoned Pilot Hole	Parish:
□Other (please specify)	
	Physical Address:
2. WELL OWNER:	
Phone: (	
	Well is Near,Approximatelymiles from
	(Crossroads, Railroad, any Landmark, etc.)
3. WELL OWNER'S ADDRESS:	
	(Attach a man or eletch or registered plat if Dia Cumply to registration)
	(Attach a map or sketch or registered plat if Rig Supply to registration)
4. OWNER'S WELL NUMBER OR NAME:	
	FOR MONITOR/PIEZO/RECOVERY WELLS ONLY
Serial Number (Rig Supply Only):	SECTION TOWNSHIP RANGE ELEVATION QUAD NO.
5. WELL INFORMATION:	
Date completed:ft. below ground surface	
Depth of Well:ft.	7. REMARKS:
Static water level:ft. below ground surface	
Date Measured: Casing:in. □ Metal □ Plastic □ Other Length:	ft
Screen:in.	
Length:ft. Cemented from:ft. to ground su	due

Using: □Pump down Method □Gravity Method

FROM	то	DESCRIPTION

9.	FOR HEAT PUMP ONLY: # of Hole:	Avg. Depth:ft	
10.		EPLACE AN EXISTING WELL? ☐Ye Iformed of state regulations requ ☐No	
11.	NAME OF PERSON WHO	DRILLED THE WELL:	
<i>a</i> 5	nd Regulations of the S 1, Public Health – San	vas done and completed in acc State of Louisiana, including ( itary Code, if applicable, on: _	Chapter XII of Title(Date)
	oy: .icense No. WWC	(Name of Water	Well Contractor),
s, e h	pace on this document it is my lectronic signature shall be co ave the same force and effect	ree that by typing my name or placing y intention to electronically sign the d onsidered as an original signature for as an original signature. Without lim versions of an original signature or e pdf) of an original signature.	ocument. Further, the all purposes and shall itation, "electronic
A	Authorized Signature:_	Ehir C	
Γ	Date:		

I	F	П	П	Ŧ	Ŧ	F	F	H	П
A			Н	#	#		L	H	S
- 13	ŀ		V	+	+	H	Н	^	H
	3	U		4	İ			Ĭ	Ц
$\vdash$	Н	٦	d	Ŧ,	K	H	H	Н	4
			٦	4		×	7	d	7

Boring/Well No.: MW-11

Project:	H	Henning M	1anagement	L.L.C. v. Ch	evron U.S.A	. Inc., et al.	Project No.: 0526033
Locatio	n: <u> </u>	Hayes, LA					Coordinates: UTM 15N 508381.91, 3327861.8
Surface	ırface Elev.: NM			Boring T.D.: <u>52'</u>			Boring Dia.: 2.25" soil/3.25" well
Date St	e Started: 12/7/2021 Date Comple			ted: _1	2/7/2021	Well Dia./Materials: 1" Pre-Pack PVC	
Drilling Company: Walker Hill			lker Hill			Drille	er:Blake Sistrunk
Drilling Method: Direct Push - Geo			Push - Geo	probe 7822D	Т		Grouting Method: Portland
Logged	by:	Cory	Hunter			Soil	Sample Method: Acetate liner
		Z					
DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	(Mdd) GId	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0 —		୍ଧ୍ୟ କ୍ରେମ					
_		Q 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Top: 2.47			0-2': CLAY: brown (7.5YR, 4/2), dry, medium stiff, soft and silty at top, good plasticity, no odor, penetrometer: 0.75-2.0 T/sq. ft.
_		2 Da	2.0/4.0	Bottom: 2.80	0.1	0-4	2-4': NO RECOVERY
-	- X -	4		Bottom: 2.00			
5 —		D 00 0		Top: 3.06			4-8': CLAY: light yellowish brown (10YR, 6/4) to light gray, dry, mottled, stiff,
, –		0 D	4.0/4.0	Middle: 2.64	Top: 0.2	4-8	medium plasticity, some silt, penetrometer: 1.75-2.25 T/sq. ft.
_		4 4		Bottom: 2.75	Bottom: 0.1		
_	+	D 0 D					8-10': SILTY CLAY: yellowish red (5YR, 4/6) to light gray, mottled, dry, stiff, no
-		7		Top: 2.74	Top: 0.2		odor, penetrometer: 2.0 T/sq. ft.
10 —		9 9 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4.0/4.0	Middle: 2.58	Bottom: 0.3	8-12	10-12': CLAY: yellowish red (5YR, 4/6), dry, stiff with dense shell at 11 feet, no
		14 P 4 P		Bottom: 3.18			odor, penetrometer: 3.5 T/sq. ft.
_	-///	4 4		Top: 3.47			12-16': CLAY: light olive brown (2.5Y, 5/4) to light gray, dry, stiff, with occasional silt pockets/lenses, penetrometer: 2.25-2.5 T/sq. ft.
_		D D D D D	4.0/4.0	Middle: 3.22	0.2	12-16	
15 —	-///	2 Z Z		Bottom: 2.82			
_	++	4 4		Top: 2.99			16-20': SILTY CLAY: gray (10YR, 5/1) to yellowish brown (10YR, 5/6), slightly
		40 40	4.0/4.0	Middle: 2.83	0.2	16-20	moist to dry, medium stiff to soft where silty, with abundant silty lenses and pockets, penetrometer: 0.5-1.5 T/sq. ft.
_	777	\$ 0 A	1.0, 1.0			10 20	
20 —		2 D 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Bottom: 1.85			20-24': CLAY: yellowish brown (10YR, 5/6), dry, medium stiff, good plasticity,
-	+///	2 4 4 A		Top: 1.91			little silt, no odor, penetrometer: 2.25 T/sq. ft.
_		40 20	4.0/4.0	Middle: 1.92	0.2	20-24	
	7//7	P Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q		Bottom: 1.90			
25 —				Top: 1.85	Top: 0.1		24-28': CLAY: yellowish brown (10YR, 5/6), dry, medium stiff, good plasticity, little silt, no odor, penetrometer: 2.0 T/sq. ft.
_	Z///		4.0/4.0	Middle: 2.20		24-28	
-				Bottom: 2.01	Bottom: 0.3		
-			4.0/4.0	Top: 2.05 Middle: 1.71 Bottom: 2.07	Top: 1.8 Bottom: 0.7	28-32	28-29.5': CLAY: yellowish brown (10YR, 5/6), dry, medium stiff, good plasticity, little silt, no odor, penetrometer: 1.75-3.0 T/sq. ft.
30 — —		12-2-		2.01			



Boring/Well No.: MW-11

Project No.:		0526033		Date Drilled:			12/7/2021
DEPTH (FEET)	(GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	FIELD EC (mS/cm)	OIA (PPM)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30				Top: 2.05 Middle: 1.71 Bottom: 2.07 Top: 2.12 Middle: 2.15	Top: 1.8 Bottom: 0.7	28-32	(Cont. from page 1)  29.5-30.5': CLAYEY SILT: yellowish brown (10YR, 5/4), moist to wet, soft, penetrometer: 1.75-3.25 T/sq. ft. 30.5-32': CLAY: yellowish brown (10YR, 5/6), dry, very stiff, little silt, penetrometer: 3.25 T/sq. ft.  32-36': SILTY CLAY: light yellowish brown (10YR, 6/4), dry, medium stiff, medium plasticity, somewhat crumbly, no odor, penetrometer: 1.5-2.25 T/sq. ft.
35				Bottom: 2.16  Top: 1.92  Middle: 2.09	Bottom: 0.4 0.4	36-40	36-38.5': CLAYEY SILT: yellowish brown (10YR, 5/4), moist, medium soft, good plasticity, with stiff clayey interval 37.5-38 feet, no odor, penetrometer: 1.0 T/sq. ft.
40			4.0/4.0	Bottom: 2.55  Top: 2.15  Middle: 2.30	Top: 0.3 Bottom: 0.2	40-44	38.5-40': CLAY: brown, dry, stiff, medium plasticity, no odor, penetrometer: 3.5 T/sq. ft.  40-44': CLAY: light brownish gray (10YR, 6/2), dry, very stiff, medium to poor plasticity, no odor, penetrometer: 3.25 T/sq. ft.
45			3.7/4.0	Top: 2.59  Middle: 1.53  Bottom: 1.88	0.2	44-48	44-48': SILTY CLAY: light yellowish brown (10YR, 6/4), moist to dry, soft at top, clay with abundant silt pockets and lenses, 0.75-2.25 T/sq. ft.
50			4.0/4.0	Top: 2.76  Middle: 2.64  Bottom: 1.64	Top: 0.5 Bottom: 0.8	48-52	48-52': CLAY: grayish brown (10YR, 5/2), dry when cut, stiff, medium to poor plasticity, penetrometer: 2.5 T/sq. ft.
55 —	- - - -						
60 —	-						
65 —	-						



**ERM Monitoring Well** 

Parish Boundary

### **ERM Monitoring Well Locations**

Henning Management, L.L.C. v. Chevron U.S.A. Inc., et al. Hayes Oil & Gas Field Calcasieu and Jefferson Davis Parishes, Louisiana

Notes:

