

SABLE PERMIAN RESOURCES, LLC

Daily Drilling Partner Report

Report Date5/10/2019

Report #1

Projected Days18.00

Drilling Days

Current Depth549

Depth Progress509

Planned VS

Current VS

AFE #1550744

Total AFE2,944,975

UNIVERSITY OWENS 33HK

WELL NO. 336

INTEGRITY 3

API 42383406190000		Surface Legal Location HE&WT RR CO SURVEY, A-884		Latitude 31.1601889900	Longitude -101.3033430000	Orig KB El... 2,733.00	RKB (ft) 31.00	County REAGAN		State TEXAS				
Report Summary														
Well Spud 5/9/2019	TD Date 7/5/2019	RR Date 5/11/2019	Target Formation WFMP C2_350_SH	Proposed TD (ftKB) 17,370	Target Line		Daily Field Est (Cost) 113,924		Cum Field Est (Cost) 113,924					
Status at Report Time Drilling ahead.														
Operations Summary 0 HSE Moved in Integrity rig from the University Owens 32HA, rigged up close loop equipment, set in all equipmenrt, PU BHA 1, Drilled from 40' to 549'.						Planned Operations Drill to TD of 950" +/- . Pump sweeps, TOO H, LD BHA, run and cement casing.								
TRRC: Spoke to Rachel on 05/09/19 at 14:45 hrs. Job number: 177385														
Start MD (ftKB) 40		End MD (ftKB) 549		Depth Progress (ft) 509		Drilling Time (hr) 14.50		Avg ROP (ft/hr) 35.1		Time Since LTI (days)		Time Since RI (days)		
Daily Time Log														
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments			Hole Section	Interval	Category	Activity	NPT		
06:00	15:30	9.50	69	69	Skidded rig from the University Owens 32HA. RU and spotted equipment. Wait on permits. Spuded well 5/9/19 at 15:30. Drilled f/ 40ft to 549ft.			SURF	VERT	DRILL	RIG UP/RIG DOWN	No		
15:30	06:00	14.50	69	549				SURF	VERT	DRILL	DRILL W/ AIR	No		
Drilling Parameters														
Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq	
40	549	14.50	0.00	35.1			1			1			1	
Bit Information														
Size (in)	Make	Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)
17 1/2		TAUREX	PDC	-----	40	961	921.00	26.50	34.8	26.50		34.8	1	2
Current BHA Components														
BHA No	Item Description			Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)		
1	XO SUB			INTEGRITY	INTEGRITY	5 1/2	1	1.33	IF					
1	DRILL COLLAR			INTEGRITY	INTEGRITY	5 1/2	1	28.06	FH					
1	DRILL COLLAR			INTEGRITY	INTEGRITY	5 1/2	1	28.45	FH					
1	XO SUB			INTEGRITY	INTEGRITY	5 1/2	1	1.98	FH					
1	DRILL COLLAR			INTEGRITY	INTEGRITY	8	1	30.76	REG					
1	AIR HAMMER			INTEGRITY	INTEGRITY	10.63	1	6.58	REG					
Wellbore Design														
Casing Description				Run Date		OD (in)	Wt (lb/ft)	Grade		Conn	Set Depth (ftKB)	Length (ft)		
CONDUCTOR				1/21/2019		20	106.50	J-55		WELDED	40.0	40.00		
SURFACE				5/10/2019		13 3/8	54.50	J-55		BUTTRESS THREAD	959.0	958.72		
INTERMEDIATE				6/28/2019		9 5/8	40.00	K-55		LT&C	6,703.0	6,668.39		
PRODUCTION				7/8/2019		5 1/2	17.00	RYP-110		BUTTRESS THREAD	17,368.0	17,341.27		
Survey Data														
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)						
Mud Logging Information														
Max Trip Gas (units)				Avg Drill Gas (units)				Max Drill Gas (units)						
Geological Data														
Formation Name					Prog Top TVD (ftKB)			Drill Top MD (ftKB)		Drill Top (TVD) (ftKB)				
Grayburg					2,060									
San Andres					2,260									
Upper Spraberry					5,015									
Lower Spraberry					5,536									
Jo-Mill Sand					5,832									
Dean					6,324									
WCMP A					6,456									
WCMP B					6,788									
WCMP C					7,164									
WFMP C2 350 Tgt Top					7,302									
WFMP C2 350 LP					7,319									
WFMP C2 350 Tgt Base					7,336									



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
INTEGRITY 3

Report Date 5/11/2019  
Report # 2  
Projected Days 18.00  
Drilling Days  
Current Depth 961  
Depth Progress 412  
Planned VS  
Current VS  
AFE # 1550744  
Total AFE 2,944,975

API 42383406190000			Surface Legal Location HE&WT RR CO SURVEY, A-884			Latitude 31.1601889900	Longitude -101.3033430000	Orig KB El... 2,733.00	RKB (ft) 31.00	County REAGAN		State TEXAS							
Report Summary																			
Well Spud 5/9/2019		TD Date 7/5/2019	RR Date 5/11/2019	Target Formation WFMP C2_350_SH		Proposed TD (ftKB) 17,370		Target Line			Daily Field Est (Cost) 31,365		Cum Field Est (Cost) 145,288						
Status at Report Time Rig released. Waiting on pad drilling																			
Operations Summary 0 HSE Drilled f/ 549' to 961'. Pumped sweeps, TOOH, LD BHA 1, ran, cemented and tested surface casing. RDMO Integrity 3.  Rig released 05/11/19 at 01:00.  Ran surface gyro, installed Encore wellheads and grouted cellar.								Planned Operations Wait on pad drilling.											
Start MD (ftKB) 549			End MD (ftKB) 961		Depth Progress (ft) 412		Drilling Time (hr) 12.00		Avg ROP (ft/hr) 34.3		Time Since LTI (days)		Time Since RI (days)						
Daily Time Log																			
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments				Hole Section	Interval	Category	Activity		NPT					
06:00	18:00	12.00	549	961	Drilled f/ 369' to 961'.				SURF	VERT	DRILL	DRILL W/ AIR		No					
18:00	18:30	0.50	961	961	Pumped sweeps				SURF	VERT	CSG/CEMENT	CLEANUP CYCLE		No					
18:30	19:00	0.50	961	961	TOOH				SURF	VERT	CSG/CEMENT	TRIPS		No					
19:00	19:30	0.50	961	961	LD BHA 1.				SURF	VERT	CSG/CEMENT	P/U & L/D BHA		No					
19:30	21:30	2.00	961	961	Make up one joint shoe track, Baker loc'd and welded shoe track and strap welded Texas pattern shoe, float collar ran 958 (22 jts) OF 13 3/8 in J-55, 54.5 ppf BTC surface casing. Centralizers installed on every 4th joint. Shoe at 958 ft. RKB Float collar at 914 ft RKB Washed down last 2 joints.				SURF	VERT	CSG/CEMENT	RUN CASING		No					
21:30	00:30	3.00	961	961	Mixed and pumped 13 3/8 in surface casing primary cement job as follows: 40 bbls of gel spacer, 149 bbls of 12.8 ppg lead slurry (525sx) at 6 bpm, 89bbls of 14.8 ppg tail slurry at 6 bpm (375sx). Dropped top plug and displaced with 141 bbls of water at 6 bpm. Slowed rate to 2 bpm, Bumped plug, final lift pressue at 250 psi. held 500 psi over final lift pressure to 800 psi., held for 5 minutes. Bled back 1/2 of a barrel. 43 bbls of cement returned to surface.				SURF	VERT	CSG/CEMENT	RUN CEMENT		No					
00:30	01:00	0.50	961	961	Tested surface casing to 1000 psi for 30 min - Test good RDMO Integrity 3.  Rig released: 05/08/19 at 06:00				SURF	VERT	CSG/CEMENT	RIG UP/RIG DOWN		No					
Drilling Parameters																			
Start Depth (ftKB)		End Depth (ftKB)		Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)		RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq			
549		961		12.00	0.00	34.3			1				1			1			
Bit Information																			
Size (in)	Make		Model		Type	Dull Out		Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)		
17 1/2			TAUREX		PDC	-----		40	961	921.00	26.50	34.8	26.50		34.8	1	2		
Current BHA Components																			
BHA No	Item Description					Make		Model		OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)			
1	XO SUB					INTEGRITY		INTEGRITY		5 1/2	1	1.33	IF						
1	DRILL COLLAR					INTEGRITY		INTEGRITY		5 1/2	1	28.06	FH						
1	DRILL COLLAR					INTEGRITY		INTEGRITY		5 1/2	1	28.45	FH						
1	XO SUB					INTEGRITY		INTEGRITY		5 1/2	1	1.98	FH						
1	DRILL COLLAR					INTEGRITY		INTEGRITY		8	1	30.76	REG						
1	AIR HAMMER					INTEGRITY		INTEGRITY		10.63	1	6.58	REG						
Wellbore Design																			
Casing Description					Run Date		OD (in)		Wt (lb/ft)		Grade		Conn		Set Depth (ftKB)		Length (ft)		
CONDUCTOR					1/21/2019		20		106.50		J-55		WELDED		40.0		40.00		
SURFACE					5/10/2019		13 3/8		54.50		J-55		BUTTRESS THREAD		959.0		958.72		
INTERMEDIATE					6/28/2019		9 5/8		40.00		K-55		LT&C		6,703.0		6,668.39		
PRODUCTION					7/8/2019		5 1/2		17.00		RYP-110		BUTTRESS THREAD		17,368.0		17,341.27		
Survey Data																			
MD (ftKB)		Incl (°)		Azm (°)		TVD (ftKB)		VS (ft)		NS (ft)		EW (ft)		DLS (°/100ft)		BUR (°/100ft)			
Mud Logging Information																			
Max Trip Gas (units)						Avg Drill Gas (units)						Max Drill Gas (units)							
Geological Data																			
Formation Name								Prog Top TVD (ftKB)				Drill Top MD (ftKB)				Drill Top (TVD) (ftKB)			
Grayburg								2,060											
San Andres								2,260											
Upper Spraberry								5,015											
Lower Spraberry								5,536											
Jo-Mill Sand								5,832											
Dean								6,324											
WCMP A								6,456											
WCMP B								6,788											
WCMP C								7,164											
WFMP C2 350 Tgt Top								7,302											
WFMP C2 350 LP								7,319											
WFMP C2 350 Tgt Base								7,336											



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

Report Date 6/22/2019  
Report # 3  
Projected Days 18.00  
Drilling Days  
Current Depth 961  
Depth Progress 0  
Planned VS 10,964  
Current VS  
AFE # 1550744  
Total AFE 2,944,975

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

API 42383406190000		Surface Legal Location HE&WT RR CO SURVEY, A-884		Latitude 31.1601889900	Longitude -101.3033430000	Orig KB El... 2,733.00	RKB (ft) 31.00	County REAGAN	State TEXAS						
Report Summary															
Well Spud 5/9/2019	TD Date 7/5/2019	RR Date 7/8/2019	Target Formation WFMPC2_350_SH	Proposed TD (ftKB) 17,370	Target Line Plan #1			Daily Field Est (Cost) 324,375	Cum Field Est (Cost) 469,663						
Status at Report Time Installing mouse hole															
Operations Summary 0 HSE Walked rig from University Owens 32HA to University Owens 33HK, Removed TA cap, Nipped up BOP's, reconnected ground rods, Installed choke line extensions and turnbuckles on stack. R/U testers. Installed test plug with drill pipe. filled stack with water. Tested BOP's, Installed wear bushing.  Hours from rig release 14.5 hrs Mud Wt 10.1 ppg, Vis 58 Last survey: 906 ft .43° Inc, 265.96° Azi, EST Big rig spud date: 6-22-19 Next well : DSU-09 23HK (MIRU)					Planned Operations Install mouse hole, flow line blank and Catch-can tarps. P/U 12 1/4" directional bha, trip in hole, displace well to OBM, drill out shoe track. Drill 12 1/4" hole to intermediate casing point, +/- 6,740 ft										
Start MD (ftKB) 961		End MD (ftKB) 961		Depth Progress (ft) 0		Drilling Time (hr)		Avg ROP (ft/hr)	Time Since LTI (days) 1,050	Time Since RI (days) 1,050					
Daily Time Log															
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments		Hole Section	Interval	Category	Activity	NPT				
15:30	16:45	1.25	961	961	Moved well plates and cellar covers, prepped for walk		MOB	MOB	SKID/WALK	SKID/WALK	No				
16:45	20:15	3.50	961	961	Walked rig 40 ft f/ University Owens 32HA, moved umbilical junction box, reposition choke skid, set mats ahead of rig. R/D walking equipment.		MOB	MOB	SKID/WALK	SKID/WALK	No				
20:15	22:15	2.00	961	961	Removed TA cap, Nipped up BOP's, reconnected ground rods		MOB	SKID/WALK	RIGGING UP	NIPPLE UP B.O.P./WELLHEAD	No				
22:15	23:45	1.50	961	961	Shut down due to severe lightning in close proximity to rig.		MOB	SKID/WALK	RIGGING UP	BOP/OTHER	No				
23:45	01:00	1.25	961	961	Installed choke line extensions and turnbuckles on stack.		MOB	SKID/WALK	RIGGING UP	NIPPLE UP B.O.P./WELLHEAD	No				
01:00	05:30	4.50	961	961	R/U testers. Installed test plug with drill pipe. filled stack with water. Tested top and bottom rams 250 low, 5,000 psi high f/5 mins., tested choke, kill, HCR, inner manual valves 250 low, 5,000 high f/5 mins., tested hydril 250 psi low, and 3,500 psi high f/5 mins., tested top drive manual 250 psi low, 5,000 psi high f/5 mins., tested back to pumps 250 low, 5,000 psi high f/5 mins tested TIW/Inside Gray valve 250 psi low, 5,000 psi high f/5 mins. Tested Blind rams 250 low, 5,000 psi high f/ 5min. Tested choke manifold 250 low/5,000 high f/5 mins.		MOB	SKID/WALK	RIGGING UP	TEST B.O.P	No				
05:30	06:00	0.50	961	961	Pre-treated mud while testing Bop's Installed wear bushing		MOB	SKID/WALK	RIGGING UP	BOP/OTHER	No				
Drilling Parameters															
Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq		
Bit Information															
Size (in)	Make	Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)	
17 1/2		TAUREX	PDC	-----	40	961	921.00	26.50	34.8	26.50		34.8	1	2	
Current BHA Components															
BHA No	Item Description				Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)		
1	XO SUB				INTEGRITY	INTEGRITY	5 1/2	1	1.33	IF					
1	DRILL COLLAR				INTEGRITY	INTEGRITY	5 1/2	1	28.06	FH					
1	DRILL COLLAR				INTEGRITY	INTEGRITY	5 1/2	1	28.45	FH					
1	XO SUB				INTEGRITY	INTEGRITY	5 1/2	1	1.98	FH					
1	DRILL COLLAR				INTEGRITY	INTEGRITY	8	1	30.76	REG					
1	AIR HAMMER				INTEGRITY	INTEGRITY	10.63	1	6.58	REG					
Mud Reports															
Time 22:00	Type OIL BASE	Depth (ftKB) 934	Density (lb/gal) 9.60	Vis (s/qt) 58	PV Calc (cP) 20.0	YP Calc (lb/100... 25	Vis 3rpm 8	Vis 6rpm 9	LGS (%) 7.5	LCM (lb/bbl)	WPS (ppm) 200,492	OW Ratio 72.7/27.3			
Electric Stab (V) 465.0		Excess Lime (lb/bbl) 0.1	HTHP Filtrate (mL/30min) 6.0			HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 9,686.23		Cum Mud Field Est (Cost) 9,686.23			
Mud Reports															
Date 6/21/2019 22:00		Type OIL BASE			Depth (ftKB) 934	Density (lb/gal) 9.60	Percent Oil (%) 64.0	Mud Temp Out... MBT (lb/bbl)		pH	Pm Filtrate (m... Pm (mL/mL)				
Funnel Viscosity (s/qt) 58		PV Calc (cP) 20.0		YP Calc (lb/100ft²) 25		Gel 10 sec (lb/100ft²) 12.000		Gel 10 min (lb/100ft²) 14.000		Vis 3rpm 8		Vis 6rpm 9		Vis 300rpm 45	Vis 600rpm 65
Corrected Solids (%) 10.3		API Water Loss		LGS (%) 7.5	Excess Lime (lb/bbl) 0.1	LCM (lb/bbl)		Chlorides (mg/L) 38,000	Filter Cake (1/32")		Daily Mud Field Est (Cost) 9,686.23		Cum Mud Field Est (Cost) 9,686.23		
Mud Reports															
Date 6/21/2019		Type OIL BASE			Depth (ftKB) 934	Dens (lb/gal) 9.60	Vis (s/qt) 58	PV Calc (cP) 20.0	YP Calc (L... 25	Vis 3rpm 8	Vis 6rpm 9	LGS (%) 7.5	LCM (lb/bbl)	Chlor (mg/L) 38,000	Oil Water Ratio 72.7/27.3
Daily Mud Field Est (Cost) 9,686.23			Cum Mud Field Est (Cost) 9,686.23			Electric Stab (V) 465.0		Excess Lime (lb/bbl) 0.1		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0	
Wellbore Design															
Casing Description				Run Date		OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)				
CONDUCTOR				1/21/2019		20	106.50	J-55	WELDED	40.0	40.00				
SURFACE				5/10/2019		13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72				
INTERMEDIATE				6/28/2019		9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39				
PRODUCTION				7/8/2019		5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27				
Survey Data															
MD (ftKB)		Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)						
581		0.34	51.64	581	0.03	-0.06	0.45	0.92	0.10						
631		0.34	337.24	631	-0.20	0.17	0.51	0.82	0.00						
681		0.57	265.43	681	-0.30	0.29	0.20	1.13	0.46						
731		0.42	227.37	731	-0.14	0.15	-0.18	0.71	-0.30						
781		0.25	276.63	781	-0.01	0.04	-0.42	0.64	-0.34						
831		0.47	307.84	831	-0.14	0.17	-0.69	0.57	0.44						
881		0.45	238.72	881	-0.14	0.20	-1.02	1.04	-0.04						
907		0.43	265.96	907	-0.07	0.14	-1.21	0.80	-0.08						
Mud Logging Information															
Max Trip Gas (units)					Avg Drill Gas (units)					Max Drill Gas (units)					
Geological Data															
Formation Name						Prog Top TVD (ftKB)		Drill Top MD (ftKB)		Drill Top (TVD) (ftKB)					
Grayburg						2,060									
San Andres						2,260									
Upper Spraberry						5,015									
Lower Spraberry						5,536									
Jo-Mill Sand						5,832									
Dean						6,324									
WCMP A						6,456									



**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/22/2019
Report #	3
Projected Days	18.00
Drilling Days	
Current Depth	961
Depth Progress	0
Planned VS	10,964
Current VS	
AFE #	1550744
Total AFE	2,944,975

Geological Data			
Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 6/23/2019  
Report # 4  
Projected Days 18.00  
Drilling Days 0.33  
Current Depth 1,667  
Depth Progress 706  
Planned VS 10,964  
Current VS 46  
AFE # 1550744  
Total AFE 2,944,975

API 42383406190000		Surface Legal Location HE&WT RR CO SURVEY, A-884		Latitude 31.1601889900	Longitude -101.3033430000	Orig KB El... 2,733.00	RKB (ft) 31.00	County REAGAN	State TEXAS					
Report Summary														
Well Spud 5/9/2019	TD Date 7/5/2019	RR Date 7/8/2019	Target Formation WFMPC2_350_SH	Proposed TD (ftKB) 17,370	Target Line Plan #1	Daily Field Est (Cost) 90,768			Cum Field Est (Cost) 560,432					
Status at Report Time Drilling 12 1/4" intermediate section @ 1,667 ft														
Operations Summary 0 HSE Made up flanges on flow line, Levelled rig, Installed catch can tarp, changed dies in top drive grab box, changed out saver sub, picked up 12 1/4" BHA, T.i.h. to 913 ft., replaced co-flex line on flow line, Drilled cement and shoe track from 913 ft to 958 ft. Drilled rat hole f/ 958 ft to 961'. Drilled 12 1/4" hole from 961 ft to 1,667 ft. ( 706 ft @ 88.25 fph) MW 10.1, Vis 58 with full returns and no flow on connections.					Planned Operations Drill 12 1/4" hole to intermediate casing point, +/- 6,740 ft									
Mud Wt 10.1 ppg, Vis 58 Last survey: 1,515 ft MD Inc 8.3° Azm 207.8°, 12.9 ft Ahead, 7.3 ft Right, Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MIRU)														
Start MD (ftKB) 961		End MD (ftKB) 1,667		Depth Progress (ft) 706		Drilling Time (hr) 8.00		Avg ROP (ft/hr) 88.2		Time Since LTI (days) 1,051		Time Since RI (days) 1,051		
Daily Time Log														
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments				Hole Section	Interval	Category	Activity		NPT
06:00	12:30	6.50	961	961	Made up flanges on flow line, Level rig, hung catch can tarp, changed dies in top drive grab box, change out saver sub				MOB	SKID/WALK	RIGGING UP	RIG UP/RIG DOWN		No
12:30	16:30	4.00	961	961	PJSM. P/U BHA #2, motor, stab, torque bit (SPL616), p/u 2 slick drill collars, gap sub, mwd tools, 2 slick drill collars, NM slick PC, x/o and 5 stds of 5" hwdp.				MOB	SKID/WALK	RIGGING UP	P/U & L/D BHA		No
16:30	17:00	0.50	961	961	Installed rotating head				MOB	SKID/WALK	RIGGING UP	BOP/OTHER		No
17:00	17:30	0.50	961	961	Tripped in hole f/ 633 ft to 913 ft.				MOB	SKID/WALK	RIGGING UP	TRIPS		No
17:30	21:00	3.50	961	961	Note : perform choke drill Tightened leaks on flow line, replaced co-flex line on flow line				MOB	SKID/WALK	RIGGING UP	NIPPLE UP B.O.P./WELLHEAD		Yes
21:00	22:00	1.00	961	961	Drilled cement and shoe track from 913 ft to 958 ft. Drilled rat hole f/ 958 ft to 961'				MOB	SKID/WALK	RIGGING UP	DRILL SHOE TRACK		No
22:00	06:00	8.00	961	1,667	Drilled 12 1/4" hole from 961 ft to 1,667 ft. ( 706 ft @ 88.25 fph) MW 10.1, Vis 58 with full returns and no flow on connections.				INT	DIR	DRILL	DRILL W/ MUD		No
Drilling Parameters														
Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq	
913	961					100	10	500	620.0	20	105	105	6,000	
961	1,009	1.00	0.00	48.0		140	14	500	740.0	20	105	105	7,000	
1,009	1,198	2.00	0.00	94.5		450	22	600	1,300.0	30	110	110	9,000	
1,198	1,218	0.00	0.25	80.0	200	240	15	700	1,360.0		110	110		
1,218	1,292	0.75	0.00	98.7		400	25	700	1,495.0	40	110	110	9,000	
1,292	1,314	0.00	0.50	44.0	190	290	15	800	1,665.0		110	110		
1,314	1,385	0.50	0.00	142.0		330	25	800	1,715.0	40	110	110	9,500	
1,385	1,400	0.00	0.25	60.0	-20	330	20	800	1,852.0		110	110		
1,400	1,479	1.00	0.00	79.0		540	34	800	2,090.0	50	115	110	10,000	
1,479	1,494	0.00	0.25	60.0	-70	360	10	800	1,950.0		115	110		
1,494	1,573	0.75	0.00	105.3		600	33	800	2,195.0	50	115	115	10,000	
1,573	1,585	0.00	0.25	48.0	-40	370	17	800	1,985.0		115	115		
1,585	1,667	0.50	0.00	164.0		600	34	800	2,195.0	50	115	115	10,000	
Bit Information														
Size (in)	Make	Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)
17 1/2		TAUREX	PDC		40	961	921.00	26.50	34.8	26.50		34.8	1	2
12 1/4	ULTERRA	SPL616	PDC	1-8-WT-G-X-8-CT-PR	961	5,802	4,841.00	73.50	65.9	55.25	18.25	80.5	38	195
Current BHA Components														
BHA No	Item Description				Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)	
2	DRILL PIPE				ENSIGN 786	ENSIGN 786	5	33	1,033.47	IF		6.56	1.50	
2	HWDP				ENSIGN 786	ENSIGN 786	6.31	15	458.52	IF		6.31	1.75	
2	XO SUB - NON MAG				CATHEDRAL	CATHEDRAL	6.91	1	4.09	IF		6.91	1.63	
2	DRILL COLLAR - PONY				CATHEDRAL	CATHEDRAL	8.05	1	29.45	REG		8.05	1.38	
2	NMDC				CATHEDRAL	CATHEDRAL	8.13	1	29.12	REG		8.13		
2	NMDC				CATHEDRAL	CATHEDRAL	8.15	1	27.97	REG		8.15		
2	ECM GAP SUB				CATHEDRAL	CATHEDRAL	8.19	1	5.76	REG		8.19	0.84	
2	NMDC				CATHEDRAL	CATHEDRAL	8.33	1	30.73	REG		8.33	1.74	
2	NMDC				CATHEDRAL	CATHEDRAL	8.16	1	11.45	REG		8.16	1.80	
2	STABILIZER				STABILDRIILL	STRAIGHT BLADE	11	1	7.30	REG	11.00	8.44	2.65	
2	MOTOR WITH STABILIZER				CATHEDRAL	Performance Motor 7/8, 4.0 Stg. w/ 11.50" stab	8.18	1	27.64	REG				
Mud Reports														
Time 10:00	Type OIL BASE	Depth (ftKB) 934	Density (lb/gal) 10.20	Vis (s/qt) 58	PV Calc (cP) 23.0	YP Calc (lb/100ft²) 18	Vis 3rpm 6	Vis 6rpm 8	LGS (%) 6.8	LCM (lb/bbl)	WPS (ppm) 254,603	OW Ratio 69.8/30.2		
Electric Stab (V) 385.0		Excess Lime (lb/bbl) 0.1	HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 5,231.89		Cum Mud Field Est (Cost) 14,918.12			
Time 22:00	Type OIL BASE	Depth (ftKB) 934	Density (lb/gal) 10.10	Vis (s/qt) 58	PV Calc (cP) 23.0	YP Calc (lb/100ft²) 19	Vis 3rpm 8	Vis 6rpm 9	LGS (%) 6.2	LCM (lb/bbl)	WPS (ppm) 219,849	OW Ratio 67.8/32.2		
Electric Stab (V) 370.0		Excess Lime (lb/bbl) 0.1	HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 5,231.89		Cum Mud Field Est (Cost) 14,918.12			
Mud Reports														
Date 6/22/2019 10:00		Type OIL BASE		Depth (ftKB) 934	Density (lb/gal) 10.20	Percent Oil (%) 60.0	Mud Temp Out... MBT (lb/bbl)		pH	Pm Filtrate (m...)		Pm (mL/mL)		
Funnel Viscosity (s/qt) 58		PV Calc (cP) 23.0	YP Calc (lb/100ft²) 18	Gel 10 sec (lb/100ft²) 9.000	Gel 10 min (lb/100ft²) 12.000		Vis 3rpm 6		Vis 6rpm 8	Vis 300rpm 41		Vis 600rpm 64		
Corrected Solids (%) 11.4		API Water Loss	LGS (%) 6.8	Excess Lime (lb/bbl) 0.1	LCM (lb/bbl)		Chlorides (mg/L) 56,000		Filter Cake (1/32")	Daily Mud Field Est (Cost) 5,231.89		Cum Mud Field Est (Cost) 14,918.12		
Date 6/22/2019 22:00		Type OIL BASE		Depth (ftKB) 934	Density (lb/gal) 10.10	Percent Oil (%) 59.0	Mud Temp Out... MBT (lb/bbl)		pH	Pm Filtrate (m...)		Pm (mL/mL)		
Funnel Viscosity (s/qt) 58		PV Calc (cP) 23.0	YP Calc (lb/100ft²) 19	Gel 10 sec (lb/100ft²) 9.000	Gel 10 min (lb/100ft²) 12.000		Vis 3rpm 8		Vis 6rpm 9	Vis 300rpm 42		Vis 600rpm 65		
Corrected Solids (%) 10.8		API Water Loss	LGS (%) 6.2	Excess Lime (lb/bbl) 0.1	LCM (lb/bbl)		Chlorides (mg/L) 50,000		Filter Cake (1/32")	Daily Mud Field Est (Cost) 5,231.89		Cum Mud Field Est (Cost) 14,918.12		
Mud Reports														
Date 6/22/2019		Type OIL BASE		Depth (ftKB) 934	Dens (lb/gal) 10.20	Vis (s/qt) 58	PV Calc (cP) 23.0	YP Calc (l... 18	Vis 3rpm 6	Vis 6rpm 8	LGS (%) 6.8	LCM (lb/bbl)	Chlor (mg/L) 56,000	Oil Water Ratio 69.8/30.2
Daily Mud Field Est (Cost) 5,231.89			Cum Mud Field Est (Cost) 14,918.12			Electric Stab (V) 385.0		Excess Lime (lb/bbl) 0.1		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0
Date 6/22/2019		Type OIL BASE		Depth (ftKB) 934	Dens (lb/gal) 10.10	Vis (s/qt) 58	PV Calc (cP) 23.0	YP Calc (l... 19	Vis 3rpm 8	Vis 6rpm 9	LGS (%) 6.2	LCM (lb/bbl)	Chlor (mg/L) 50,000	Oil Water Ratio 67.8/32.2
Daily Mud Field Est (Cost) 5,231.89			Cum Mud Field Est (Cost) 14,918.12			Electric Stab (V) 370.0		Excess Lime (lb/bbl) 0.1		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0



SABLE PERMIAN RESOURCES, LLC

Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336

ENSIGN 786

Report Date6/23/2019

Report #4

Projected Days18.00

Drilling Days0.33

Current Depth1,667

Depth Progress706

Planned VS10,964

Current VS46

AFE #1550744

Total AFE2,944,975

Wellbore Design								
Casing Description		Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)
CONDUCTOR		1/21/2019	20	106.50	J-55	WELDED	40.0	40.00
SURFACE		5/10/2019	13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72
INTERMEDIATE		6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION		7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

Survey Data								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
881	0.45	238.72	881	-0.14	0.20	-1.02	1.04	-0.04
907	0.43	265.96	907	-0.07	0.14	-1.21	0.80	-0.08
1,045	0.80	254.90	1,045	0.29	-0.15	-2.65	0.28	0.27
1,140	1.10	256.80	1,140	0.75	-0.53	-4.18	0.32	0.32
1,234	2.50	234.80	1,234	2.27	-1.92	-6.74	1.63	1.49
1,327	5.10	222.80	1,327	6.71	-6.12	-11.20	2.91	2.80
1,421	7.30	217.30	1,420	14.86	-13.94	-17.66	2.42	2.34
1,515	8.30	207.80	1,513	25.96	-24.69	-24.45	1.73	1.06

Mud Logging Information		
Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)

Geological Data			
Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		







**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/24/2019
Report #	5
Projected Days	18.00
Drilling Days	1.33
Current Depth	3,414
Depth Progress	1,747
Planned VS	10,964
Current VS	475
AFE #	1550744
Total AFE	2,944,975

Survey Data									
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)	
2,737	17.10	200.80	2,697	302.35	-295.08	-144.51	0.40	0.21	
2,832	16.70	201.70	2,788	328.58	-320.82	-154.52	0.50	-0.42	
2,925	16.40	202.60	2,877	353.62	-345.35	-164.51	0.42	-0.32	
3,019	15.90	203.40	2,968	378.19	-369.42	-174.72	0.58	-0.53	
3,113	15.40	203.90	3,058	401.93	-392.65	-184.89	0.55	-0.53	
3,207	15.30	204.80	3,149	425.11	-415.32	-195.15	0.27	-0.11	
3,301	14.90	205.70	3,240	447.79	-437.47	-205.59	0.49	-0.43	
3,356	15.30	205.70	3,293	461.01	-450.38	-211.81	0.73	0.73	

## Mud Logging Information

Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)
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## Geological Data

Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/25/2019
Report #	6
Projected Days	18,000
Drilling Days	2,333
Current Depth	4,310
Depth Progress	896
Planned VS	10,964
Current VS	694
AFE #	1550744
Total AFE	2,944,975

API 42383406190000		Surface Legal Location HE&WT RR CO SURVEY, A-884		Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB (ft) 31.00		County REAGAN		State TEXAS		
Report Summary																
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1			Daily Field Est (Cost) 86,509		Cum Field Est (Cost) 785,843	
Status at Report Time Drilling 12 1/4" intermediate section @ 4,310 ft																
Operations Summary 0 HSE T.o.o.h. from 3,414 ft. to BHA, Change out mud motor and T.i.h. to 3,414 ft., Drilled 12 1/4" hole from 3,414 ft to 3,694 ft. ( 280 ft @ 56 fph) MW 10.1, Vis 55 with full returns and no flow on connections. Lost power to draw works, mud pumps and top drive. Repaired electrical issue in VFD house. Slide/Drilled 12 1/4" hole from 3,694 ft to 4,310 ft. ( 616 ft @ 102.6 fph) MW 10.1, Vis 61 with full returns and no flow on connections.  Mud Wt 10.1 ppg, Vis 61 Last survey: 4,147 ft MD Inc 14.2" Azm 202.8°, 9 ft Behind, 6 ft Right Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MIRU)								Planned Operations Drill 12 1/4" hole to intermediate casing point, +/- 6,740 ft								
Start MD (ftKB) 3,414				End MD (ftKB) 4,310		Depth Progress (ft) 896		Drilling Time (hr) 11.00		Avg ROP (ft/hr) 81.5		Time Since LTI (days) 1,053		Time Since RI (days) 1,053		
Daily Time Log																
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments				Hole Section	Interval	Category	Activity		NPT		
06:00	07:45	1.75	3,414	3,414	T.o.o.h. from 3,414 ft to 633, No excess drag in open hole and well took proper fill. Due to mud motor failure				INT	DIR	DRILL	TRIPS		Yes		
07:45	08:00	0.25	3,414	3,414	Removed rotating head.				INT	DIR	DRILL	BOP/OTHER		Yes		
08:00	10:30	2.50	3,414	3,414	Racked about Hwdp and 12 1/4" BHA, laid out mud motor				INT	DIR	DRILL	P/U & L/D BHA		Yes		
10:30	12:30	2.00	3,414	3,414	Note: Bit grading: 0-1-CT-G-X-0-NO-DMF. 2 plugged jets PJSM. P/U BHA #3, Hunting mud motor 8" 7/8, 5.9 0.17pg, stab, re-run bit (SPL616), p/u, 1 slick pony drill collar, 1 slick drill collar, gap sub, mwd tools, 3 slick drill collars, x/o and 5 stds of 5" hwdp.				INT	DIR	DRILL	P/U & L/D BHA		Yes		
12:30	12:45	0.25	3,414	3,414	Removed rotating head.				INT	DIR	DRILL	BOP/OTHER		Yes		
12:45	14:15	1.50	3,414	3,414	T.i.h. from 645 ft. to 3,371 ft., wash last stand to bottom at 3,414 ft.				INT	DIR	DRILL	TRIPS		Yes		
14:15	19:15	5.00	3,414	3,694	Slide/Drilled 12 1/4" hole from 3,414 ft to 3,694 ft. ( 280 ft @ 56 fph) MW 10.1, Vis 58 with full returns and no flow on connections.				INT	DIR	DRILL	DRILL W/ MUD		No		
19:15	19:30	0.25	3,694	3,694	Troubleshoot Pason. Re-booted computer				INT	DIR	DRILL	3rd PARTY EQUIPMENT REPAIR		Yes		
19:30	20:00	0.50	3,694	3,694	Serviced rig while troubleshooting loss of power to top drive, mud pumps and draw works.				INT	DIR	DRILL	LUBRICATE RIG		No		
20:00	00:00	4.00	3,694	3,694	Rig pusher and motorman unable to find the problem. Called for Ensign electrician. Arrived @ 22:00 hrs. Found a bad WAGO in the PLC and replaced. Got pumps and top drive back up and running at 22:30 hrs. Draw works brakes would not release. Circulated at 800 gpm while troubleshooting Draw works brakes. Found a bad Siemens SM322. Changed out same.				INT	DIR	DRILL	REPAIR RIG		Yes		
00:00	06:00	6.00	3,694	4,310	Slide/Drilled 12 1/4" hole from 3,694 ft to 4,310 ft. ( 616 ft @ 102.6 fph) MW 10.1, Vis 61 with full returns and no flow on connections.				INT	DIR	DRILL	DRILL W/ MUD		No		
Drilling Parameters																
Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq			
3,414	3,652	2.25	0.00	105.8		460	21	850	2,820.0	50	160	145	15,000			
3,652	3,676	0.00	2.50	9.6	-60	123	21	900	3,667.0		160	145				
3,676	3,694	0.25	0.00	72.0		210	25	850	2,480.0	50	160	145	14,000			
3,694	3,746	0.50	0.00	104.0		260	21	850	2,650.0	50	160	145	12,000			
3,746	3,770	0.00	0.75	32.0	-20	165	11	900	2,690.0		160	145				
3,770	3,934	1.25	0.00	131.2		555	30	850	2,855.0	50	160	145	14,000			
3,934	3,954	0.00	0.50	40.0	-15	130	12	900	2,720.0		160	145				
3,954	4,121	0.75	0.00	222.7		545	28	850	2,920.0	50	170	150	14,000			
4,121	4,141	0.00	0.50	40.0	0	135	12	900	2,770.0		170	150				
4,141	4,216	0.75	0.00	100.0		495	30	850	2,865.0	50	170	150	14,000			
4,216	4,228	0.00	0.25	48.0	-20	105	10	900	2,775.0		170	150				
4,228	4,310	0.75	0.00	109.3		490	25	850	2,865.0	50	170	150	14,000			
Bit Information																
Size (in)	Make	Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)		
12 1/4	ULTERRA	SPL616	PDC	1-8-WT-G-X-8-CT-PR	961	5,802	4,841.00	73.50	65.9	55.25	18.25	80.5	38	195		
12 1/4	ULTERRA	SPL616	PDC	1-8-WT-G-X-8-CT-PR	961	5,802	4,841.00	73.50	65.9	55.25	18.25	80.5	38	195		
Current BHA Components																
BHA No	Item Description				Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)			
3	DRILL PIPE				ENSIGN 786	ENSIGN 786	5	117	4,924.86	IF		6.56	1.50			
3	HWDP				ENSIGN 786	ENSIGN 786	6.31	15	458.52	IF		6.31	1.75			
3	XO SUB - NON MAG				CATHEDRAL	CATHEDRAL	6.91	1	4.09	IF		6.91	1.63			
3	DRILL COLLAR - PONY				CATHEDRAL	CATHEDRAL	8.05	1	29.45	REG		8.05	1.38			
3	NMDC				CATHEDRAL	CATHEDRAL	8.13	1	29.12	REG		8.13				
3	NMDC				CATHEDRAL	CATHEDRAL	8.15	1	27.97	REG		8.15				
3	ECM GAP SUB				CATHEDRAL	CATHEDRAL	8.19	1	5.76	REG		8.19	0.84			
3	NMDC				CATHEDRAL	CATHEDRAL	8.33	1	30.73	REG		8.33	1.74			
3	NMDC				CATHEDRAL	CATHEDRAL	8.16	1	11.45	REG		8.16	1.80			
3	STABILIZER				STABILDRIILL	STRAIGHT BLADE	11	1	7.30	REG	11.00	8.44	2.65			
3	MOTOR WITH STABILIZER				Hunting	Hunting Motor 7/8, 5.9 Stg. w/ 11.75" stab	8	1	39.25	REG						
Mud Reports																
Time 10:00	Type OIL BASE	Depth (ftKB) 3,414	Density (lb/gal) 10.10	Vis (s/qt) 58	PV Calc (cP) 26.0	YP Calc (lb/100... 24	Vis 3rpm 10	Vis 6rpm 11	LGS (%) 7.4	LCM (lb/bbl)	WPS (ppm) 260,647	OW Ratio 67.4/32.6				
Electric Stab (V) 325.0		Excess Lime (lb/bbl) 0.7	HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 5,258.51			Cum Mud Field Est (Cost) 40,275.88				
Time 22:00	Type OIL BASE	Depth (ftKB) 3,694	Density (lb/gal) 10.10	Vis (s/qt) 62	PV Calc (cP) 28.0	YP Calc (lb/100... 24	Vis 3rpm 12	Vis 6rpm 15	LGS (%) 7.6	LCM (lb/bbl)	WPS (ppm) 253,527	OW Ratio 65.1/34.9				
Electric Stab (V) 312.0		Excess Lime (lb/bbl) 0.7	HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 5,258.51			Cum Mud Field Est (Cost) 40,275.88				
Mud Reports																
Date 6/24/2019 10:00		Type OIL BASE	Depth (ftKB) 3,414	Density (lb/gal) 10.10	Percent Oil (%) 58.0	Mud Temp Out... MBT (lb/bbl)		pH		Pm Filtrate (m... Pm (mL/mL)						
Funnel Viscosity (s/qt) 58		PV Calc (cP) 26.0	YP Calc (lb/100ft²) 24	Gel 10 sec (lb/100ft²) 13.000	Gel 10 min (lb/100ft²) 17.000	Vis 3rpm 10		Vis 6rpm 11		Vis 300rpm 50		Vis 600rpm 76				
Corrected Solids (%) 11.0		API Water Loss 7.4	LGS (%) 7.4	Excess Lime (lb/bbl) 0.7	LCM (lb/bbl)		Chlorides (mg/L) 62,000	Filter Cake (1/32") 5,258.51		Daily Mud Field Est (Cost) 40,275.88		Cum Mud Field Est (Cost) 40,275.88				
Date 6/24/2019 22:00		Type OIL BASE	Depth (ftKB) 3,694	Density (lb/gal) 10.10	Percent Oil (%) 56.0	Mud Temp Out... MBT (lb/bbl)		pH		Pm Filtrate (m... Pm (mL/mL)						
Funnel Viscosity (s/qt) 62		PV Calc (cP) 28.0	YP Calc (lb/100ft²) 24	Gel 10 sec (lb/100ft²) 12.000	Gel 10 min (lb/100ft²) 22.000	Vis 3rpm 12		Vis 6rpm 15		Vis 300rpm 62		Vis 600rpm 90				
Corrected Solids (%) 10.9		API Water Loss 7.6	LGS (%) 7.6	Excess Lime (lb/bbl) 0.7	LCM (lb/bbl)		Chlorides (mg/L) 64,000	Filter Cake (1/32") 5,258.51		Daily Mud Field Est (Cost) 40,275.88		Cum Mud Field Est (Cost) 40,275.88				



**UNIVERSITY OWENS 33HK**  
**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/25/2019
Report #	6
Projected Days	18.00
Drilling Days	2.33
Current Depth	4,310
Depth Progress	896
Planned VS	10,964
Current VS	694
AFE #	1550744
Total AFE	2,944,975

Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



**SABLE PERMIAN RESOURCES, LLC**  
**Daily Drilling Partner Report**

## UNIVERSITY OWENS 33HK

**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/26/2019
Report #	7
Projected Days	18.00
Drilling Days	3.33
Current Depth	5,570
Depth Progress	1,260
Planned VS	10,964
Current VS	797
AFE #	1550744
Total AFE	2,944,975

API 42383406190000	Surface Legal Location HE&WT RR CO SURVEY, A-884	Latitude 31.1601889900	Longitude -101.3033430000	Orig KB El... 2,733.00	RKB (ft) 31.00	County REAGAN	State TEXAS
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## Report Summary

Well Spud	TD Date	RR Date	Target Formation	Proposed TD (ftKB)	Target Line	Daily Field Est (Cost)	Cum Field Est (Cost)
5/9/2019	7/5/2019	7/8/2019	WFMP2_350_SH	17,370	Plan #1	96,435	882,277

Status at Report Time  
Drilling 12 1/4" intermediate section @ 5,570 ft

## Operations Summary

0 HSE

Slide/Drilled 12 1/4" hole from 4,310 ft to 5,570 ft. ( 1,260 ft @ 52.5 tph) MW 10.1, Vis 61 with full returns and no flow on connections.

Mud Wt 10.1 ppg, Vis 61

Last survey: 5,465 ft MD Inc 0.3° Azm 235.7°, 6.5 ft Behind, 1.9 ft Right

Big rig spud date: 6-22-19 22:00 hrs

Next well : DSU-09 23HK (MOVE)

Start MD (ftKB)	E
0	0.000000
100	0.000000
200	0.000000
300	0.000000
400	0.000000
500	0.000000
600	0.000000
700	0.000000
800	0.000000
900	0.000000
1000	0.000000
1100	0.000000
1200	0.000000
1300	0.000000
1400	0.000000
1500	0.000000
1600	0.000000
1700	0.000000
1800	0.000000
1900	0.000000
2000	0.000000
2100	0.000000
2200	0.000000
2300	0.000000
2400	0.000000
2500	0.000000
2600	0.000000
2700	0.000000
2800	0.000000
2900	0.000000
3000	0.000000
3100	0.000000
3200	0.000000
3300	0.000000
3400	0.000000
3500	0.000000
3600	0.000000
3700	0.000000
3800	0.000000
3900	0.000000
4000	0.000000
4100	0.000000
4200	0.000000
4300	0.000000
4400	0.000000
4500	0.000000
4600	0.000000
4700	0.000000
4800	0.000000
4900	0.000000
5000	0.000000
5100	0.000000
5200	0.000000
5300	0.000000
5400	0.000000
5500	0.000000
5600	0.000000
5700	0.000000
5800	0.000000
5900	0.000000
6000	0.000000
6100	0.000000
6200	0.000000
6300	0.000000
6400	0.000000
6500	0.000000
6600	0.000000
6700	0.000000
6800	0.000000
6900	0.000000
7000	0.000000
7100	0.000000
7200	0.000000
7300	0.000000
7400	0.000000
7500	0.000000
7600	0.000000
7700	0.000000
7800	0.000000
7900	0.000000
8000	0.000000
8100	0.000000
8200	0.000000
8300	0.000000
8400	0.000000
8500	0.000000
8600	0.000000
8700	0.000000
8800	0.000000
8900	0.000000
9000	0.000000
9100	0.000000
9200	0.000000
9300	0.000000
9400	0.000000
9500	0.000000
9600	0.000000
9700	0.000000
9800	0.000000
9900	0.000000
10000	0.000000

## Planned Operations

Drill 12 1/4" hole to intermediate casing point, +/- 6,740 ft., l.o.o.h. to run 9 5/8" intermediate casing and cement same

10. *Journal of the American Academy of Religion*, 47 (1979), 1–20.

Start MD (ftKB)	End MD (ftKB)	Depth Progress (ft)	Drilling Time (hr)	Avg ROP (ft/hr)	Time Since LTI (days)	Time Since RI (days)
4,310	5,570	1,260	24.00	52.5	1,054	1,054

## Daily Time Log

Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments	Hole Section	Interval	Category	Activity	NPT
06:00	06:00	24.00	4,310	5,570	Slide/Drilled 12 1/4" hole from 4,310 ft to 5,570 ft. ( 1,260 ft @ 52.5 fph) MW 10.1, Vis 61 with full returns and no flow on connections. Started bypassing shakers at 5,000 ft, raised LCM content to 4.0 lb/bbl	INT	DIR	DRILL	DRILL W/ MUD	No

## Drilling Parameters

Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq
4,310	4,686	3.50	0.00	107.4		480	23	850	2,950.0	50	180	165	14,000
4,686	4,701	0.00	1.00	15.0	180	192	23	900	2,951.0		180	165	
4,701	4,781	1.00	0.00	80.0		375	28	850	2,855.0	50	180	165	14,000
4,781	4,801	0.00	0.75	26.7	180	114	12	900	2,897.0		180	165	
4,801	4,875	0.75	0.00	98.7		420	27	850	2,884.0	50	180	165	14,000
4,875	4,898	0.00	1.75	13.1	180	120	20	900	2,830.0		180	165	
4,898	4,969	0.75	0.00	94.7		513	30	850	2,995.0	50	190	170	14,000
4,969	4,992	0.00	2.50	9.2	180	80	20	825	2,490.0		190	170	
4,992	5,063	1.25	0.00	56.8		580	27	850	3,080.0	50	190	170	17,000
5,063	5,072	0.00	1.25	7.2	20	105	8	825	2,540.0		190	170	
5,072	5,570	9.50	0.00	52.4		400	27	825	3,040.0	50	190	170	17,000

## Bit Information

Size (in)	Make	Model	Type	Dull Out	Depth In (ft)K	Depth Out (ft)K	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)
12 1/4	ULTERRA	SPL616	PDC	1-8-WT-G-X-8-CT-PR	961	5,802	4,841.00	73.50	65.9	55.25	18.25	80.5	38	195
12 1/4	ULTERRA	SPL616	PDC	1-8-WT-G-X-8-CT-PR	961	5,802	4,841.00	73.50	65.9	55.25	18.25	80.5	38	195

## Current BHA Components

BHA No	Item Description	Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)
3	DRILL PIPE	ENSIGN 786	ENSIGN 786	5	117	4,924.86	IF		6.56	1.50
3	HWDP	ENSIGN 786	ENSIGN 786	6.31	15	458.52	IF		6.31	1.75
3	XO SUB - NON MAG	CATHEDRAL	CATHEDRAL	6.91	1	4.09	IF		6.91	1.63
3	DRILL COLLAR - PONY	CATHEDRAL	CATHEDRAL	8.05	1	29.45	REG		8.05	1.38
3	NMDC	CATHEDRAL	CATHEDRAL	8.13	1	29.12	REG		8.13	
3	NMDC	CATHEDRAL	CATHEDRAL	8.15	1	27.97	REG		8.15	
3	ECM GAP SUB	CATHEDRAL	CATHEDRAL	8.19	1	5.76	REG		8.19	0.84
3	NMDC	CATHEDRAL	CATHEDRAL	8.33	1	30.73	REG		8.33	1.74
3	NMDC	CATHEDRAL	CATHEDRAL	8.16	1	11.45	REG		8.16	1.80
3	STABILIZER	STABILDRILL	STRAIGHT BLADE	11	1	7.30	REG	11.00	8.44	2.65
3	MOTOR WITH STABILIZER	Hunting	Hunting Motor 7/8, 5.9 Stg. w/ 11.75" stab	8	1	39.25	REG			

## Mud Reports

Time 10:00	Type OIL BASE	Depth (ftKB) 4,586	Density (lb/gal) 10.10	Vis (s/qt) 60	PV Calc (cP) 24.0	YP Calc (lb/100... 25	Vis 3rpm 8	Vis 6rpm 10	LGS (%) 7.7	LCM (lb/bbl) 247,573	WPS (ppm) 247,573	OW Ratio 65.1/34.9
Electric Stab (V) 308.0		Excess Lime (lb/bbl) 0.7	HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 19,764.27		Cum Mud Field Est (Cost) 60,040.15	
Time 22:00	Type OIL BASE	Depth (ftKB) 5,000	Density (lb/gal) 10.10	Vis (s/qt) 60	PV Calc (cP) 24.0	YP Calc (lb/100... 25	Vis 3rpm 10	Vis 6rpm 12	LGS (%) 5.9	LCM (lb/bbl) 4	WPS (ppm) 234,670	OW Ratio 65.5/34.5
Electric Stab (V) 323.0		Excess Lime (lb/bbl) 0.8	HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 19,764.27		Cum Mud Field Est (Cost) 60,040.15	

## Mud Reports

Date 6/25/2019 10:00		Type OIL BASE		Depth (ftKB) 4,586	Density (lb/gal) 10.10	Percent Oil (%) 56.0	Mud Temp Out... 140.0	MBT (lb/bbl)	pH	Pm Filtrate (m...	Pm (mL/mL)	
Funnel Viscosity (s/qt) 60		PV Calc (cP) 24.0	YP Calc (lb/100ft²) 25	Gel 10 sec (lb/100ft²) 12.000	Gel 10 min (lb/100ft²) 17.000		Vis 3rpm 8		Vis 6rpm 10		Vis 300rpm 49	Vis 600rpm 73
Corrected Solids (%) 11.0	API Water Loss	LGS (%) 7.7	Excess Lime (lb/bbl) 0.7	LCM (lb/bbl)		Chlorides (mg/L) 62,000		Filter Cake (1/32")	Daily Mud Field Est (Cost) 19,764.27		Cum Mud Field Est (Cost) 60,040.15	
Date 6/25/2019 22:00		Type OIL BASE		Depth (ftKB) 5,000	Density (lb/gal) 10.10	Percent Oil (%) 57.0	Mud Temp Out... 153.0	MBT (lb/bbl)	pH	Pm Filtrate (m...	Pm (mL/mL)	
Funnel Viscosity (s/qt) 60		PV Calc (cP) 24.0	YP Calc (lb/100ft²) 25	Gel 10 sec (lb/100ft²) 12.000	Gel 10 min (lb/100ft²) 18.000		Vis 3rpm 10		Vis 6rpm 12		Vis 300rpm 49	Vis 600rpm 73
Corrected Solids (%) 10.3	API Water Loss	LGS (%) 5.9	Excess Lime (lb/bbl) 0.8	LCM (lb/bbl) 4		Chlorides (mg/L) 58,000		Filter Cake (1/32")	Daily Mud Field Est (Cost) 19,764.27		Cum Mud Field Est (Cost) 60,040.15	

## Mud Reports

Date 6/25/2019	Type OIL BASE	Depth (ft/KB) 4,586	Dens (lb/gal) 10.10	Vis (s/qt) 60	PV Calc (cP) 24.0	YP Calc (l...) 25	Vis 3rpm 8	Vis 6rpm 10	LGS (%) 7.7	LCM (lb/bbl)	Chlor (mg/L) 62,000	Oil Water Ratio 65.1/34.9
Daily Mud Field Est (Cost) 19,764.27		Cum Mud Field Est (Cost) 60,040.15		Electric Stab (V) 308.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0
Date 6/25/2019	Type OIL BASE	Depth (ft/KB) 5,000	Dens (lb/gal) 10.10	Vis (s/qt) 60	PV Calc (cP) 24.0	YP Calc (l...) 25	Vis 3rpm 10	Vis 6rpm 12	LGS (%) 5.9	LCM (lb/bbl) 4	Chlor (mg/L) 58,000	Oil Water Ratio 65.5/34.5
Daily Mud Field Est (Cost) 19,764.27		Cum Mud Field Est (Cost) 60,040.15		Electric Stab (V) 323.0		Excess Lime (lb/bbl) 0.8		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0

# Wellbore Design

Casing Description	Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)
CONDUCTOR	1/21/2019	20	106.50	J-55	WELDED	40.0	40.00
SURFACE	5/10/2019	13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72
INTERMEDIATE	6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION	7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

## Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72	0.64
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57	-0.21
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61

[illegible]



**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/26/2019
Report #	7
Projected Days	18.00
Drilling Days	3.33
Current Depth	5,570
Depth Progress	1,260
Planned VS	10,964
Current VS	797
AFE #	1550744
Total AFE	2,944,975

Survey Data								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00

## Mud Logging Information

Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)
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## Geological Data

Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



**SABLE PERMIAN RESOURCES, LLC**  
**Daily Drilling Partner Report**

UNIVERSITY OWENS 33HK

**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/27/2019
Report #	8
Projected Days	18,000
Drilling Days	4,333
Current Depth	5,802
Depth Progress	2322
Planned VS	10,964
Current VS	797
AFE #	1550744
Total AFE	2,944,975

42383406190000		Surface Legal Location HE&WT RR CO SURVEY, A-884		Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB (ft) 31.00		County REAGAN		State TEXAS																	
Report Summary																															
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1		Daily Field Est (Cost) 106,161		Cum Field Est (Cost) 988,438																	
Status at Report Time Wash and ream at 5,524 ft																															
Operations Summary 0 HSE Slide/Drilled 12 1/4" hole from 5,570 ft to 5,802 ft. ( 232 ft @ 29.9 fph), Circulate bottoms up, pump slug, T.o.o.h. due to low ROP from 5,802 ft. to 924 ft. Slip and cut 15 wraps, T.o.o.h. from 924 ft to BHA, Change out bit and motor, T.i.h. to 5,241 ft, wash and ream f/ 5,241 ft to 5,524 ft  Mud Wt 10.1 ppg, Vis 61 LCM 4 ppb Last survey: 5,733 ft MD Inc 0.1° Azm 152.2°, 6.1 ft Behind, 2.1 ft Right Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)								Planned Operations Wash to bottom 5,802 ft. Drill 12 1/4" hole to intermediate casing point, +/- 6,740 ft., T.o.o.h. to run 9 5/8" intermediate casing and cement same																							
								Start MD (ftKB) 5,570		End MD (ftKB) 5,802		Depth Progress (ft) 232		Drilling Time (hr) 7.75		Avg ROP (ft/hr) 29.9		Time Since LTI (days) 1,055		Time Since RI (days) 1,055											
								Daily Time Log																							
								Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments			Hole Section	Interval	Category	Activity		NPT										
08:00	13:45	7.75	5,570	5,802	Slide/Drilled 12 1/4" hole from 5,570 ft to 5,802 ft. ( 232 ft @ 29.9 fph) MW 10.1, Vis 63 with full returns and no flow on connections. Started bypassing shakers at 5,000 ft, raised LCM content to 4.0 lb/bbl			INT	DIR	DRILL	DRILL W/ MUD		No																		
13:45	15:00	1.25	5,802	5,802	Circulate bottoms up, build slug fill trip tank, flow check, well static, pump slug			INT	DIR	DRILL	CLEANUP CYCLE		Yes																		
15:00	18:15	3.25	5,802	5,802	TOH f/ 5,802 ft to 924 ft, hole taking calculated fill			INT	DIR	DRILL	TRIPS		Yes																		
18:15	20:30	2.25	5,802	5,802	PJSM. Slip and cut 15 wraps drill line. Monitor well on trip tank			INT	DIR	DRILL	CUT SLIP & DRILL LINE		Yes																		
20:30	21:00	0.50	5,802	5,802	Trip out of hole f/ 924 ft to 645 ft			INT	DIR	DRILL	TRIPS		Yes																		
21:00	21:30	0.50	5,802	5,802	Pulled rotating head and installed trip nipple			INT	DIR	DRILL	BOP/OTHER		Yes																		
21:30	22:00	0.50	5,802	5,802	Pulled out of hole w/ HWDP f/ 645 ft to 186 ft			INT	DIR	DRILL	P/U & L/D BHA		Yes																		
22:00	01:15	3.25	5,802	5,802	Racked back collars, powered down mwd, drain motor ( slack in lower bearing and was able to turn by hand), break off bit, L/D stabilizer, L/D old Hunting motor, P/U new Hunting motor, M/U Smith SDSI616ME bit, P/U stabilizer, scribe, TIH with collars			INT	DIR	DRILL	P/U & L/D BHA		Yes																		
01:15	01:45	0.50	5,802	5,802	Trip in hole f/ 176 ft to 917 ft			INT	DIR	DRILL	TRIPS		Yes																		
01:45	02:00	0.25	5,802	5,802	Pulled trip nipple and install rotating head			INT	DIR	DRILL	BOP/OTHER		Yes																		
02:00	05:15	3.25	5,802	5,802	Trip in hole f/ 917 ft to 5,241 ft, filling pipe every 10 stands to prevent LCM settling out. Started taking weight due to under gauge hole			INT	DIR	DRILL	TRIPS		Yes																		
05:15	06:00	0.75	5,802	5,802	Wash and ream f/ 5,241 ft to 5,524 ft			INT	DIR	DRILL	REAMING		Yes																		
Drilling Parameters																															
Start Depth (ftKB)		End Depth (ftKB)		Rot Time (hr)		Slide Time (hr)		Int ROP (ft/hr)		TFO (°)		dP (SPP) (psi)		WOB (1000lbf)		Q Rate (gpm/cfm)		SPP (psi)		RPM (rpm)		PU Str Wt (1000lbf)		SO Str Wt (1000lbf)		Drill Tq					
5,570		5,802		7.75		0.00		29.9				652		30		650		2,790.0		45		205		185		17,000					
5,241		5,524										100		3		750		1,530.0		40						5,000					
Bit Information																															
Size (in)		Make		Model		Type		Dull Out		Depth In (ftKB)		Depth Out (ftKB)		Depth Drilled This Job (ft)		Job Drill Hrs (hr)		Avg ROP (ft/hr)		Rot Time (hr)		Slide Time (hr)		Rot ROP (ft/hr)		WOB Max (1000lbf)		Max RPM (rpm)			
12 1/4		ULTERRA		SPL616		PDC		1-8-WT-G-X-8-CT-PR		961		5,802		4,841.00		73.50		65.9		55.25		18.25		80.5		38		195			
12 1/4		ULTERRA		SPL616		PDC		1-8-WT-G-X-8-CT-PR		961		5,802		4,841.00		73.50		65.9		55.25		18.25		80.5		38		195			
Current BHA Components																															
BHA No		Item Description						Make		Model		OD (in)		Jts		Length (ft)		Top Thread		Gauge (in)		Fish Neck OD (in)		FN Len (ft)							
3		DRILL PIPE						ENSIGN 786		ENSIGN 786		5		117		4,924.86		IF				6.56		1.50							
3		HWDP						ENSIGN 786		ENSIGN 786		6.31		15		458.52		IF				6.31		1.75							
3		XO SUB - NON MAG						CATHEDRAL		CATHEDRAL		6.91		1		4.09		IF				6.91		1.63							
3		DRILL COLLAR - PONY						CATHEDRAL		CATHEDRAL		8.05		1		29.45		REG				8.05		1.38							
3		NMDC						CATHEDRAL		CATHEDRAL		8.13		1		29.12		REG				8.13									
3		NMDC						CATHEDRAL		CATHEDRAL		8.15		1		27.97		REG				8.15									
3		ECM GAP SUB						CATHEDRAL		CATHEDRAL		8.19		1		5.76		REG				8.19		0.84							
3		NMDC						CATHEDRAL		CATHEDRAL		8.33		1		30.73		REG				8.33		1.74							
3		NMDC						CATHEDRAL		CATHEDRAL		8.16		1		11.45		REG				8.16		1.80							
3		STABILIZER						STABILDRILL		STRAIGHT BLADE		11		1		7.30		REG		11.00		8.44		2.65							
3		MOTOR WITH STABILIZER						Hunting		Hunting Motor 7/8, 5.9 Stg. w/ 11.75" stab		8		1		39.25		REG													
Mud Reports																															
Time 10:00		Type OIL BASE		Depth (ftKB) 5,700		Density (lb/gal) 10.10		Vis (s/qt) 62		PV Calc (cP) 24.0		YP Calc (lb/100... 25		Vis 3rpm 9		Vis 6rpm 10		LGS (%) 2.0		LCM (lb/bbl)		WPS (ppm) 239,670		OW Ratio 66.3/33.7							
Electric Stab (V) 325.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 18,727.51		Cum Mud Field Est (Cost) 78,767.66																			
Time 22:00		Type OIL BASE		Depth (ftKB) 5,802		Density (lb/gal) 10.10		Vis (s/qt) 61		PV Calc (cP) 26.0		YP Calc (lb/100... 25		Vis 3rpm 10		Vis 6rpm 12		LGS (%) 4.0		LCM (lb/bbl) 4		WPS (ppm) 234,081		OW Ratio 65.9/34.1							
Electric Stab (V) 310.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 18,727.51		Cum Mud Field Est (Cost) 78,767.66																			
Mud Reports																															
Date 6/26/2019 10:00		Type OIL BASE						Depth (ftKB) 5,700		Density (lb/gal) 10.10		Percent Oil (%) 59.0		Mud Temp Out... 151.0		MBT (lb/bbl)		pH		Pm Filtrate (m... 73		Pm (mL/mL) 10.0									
Funnel Viscosity (s/qt) 62		PV Calc (cP) 24.0		YP Calc (lb/100ft²) 25		Gel 10 sec (lb/100ft²) 12.000		Gel 10 min (lb/100ft²) 17.000		Vis 3rpm 9		Vis 6rpm 10		Vis 300rpm 49		Vis 600rpm 73															
Corrected Solids (%) 8.4		API Water Loss		LGS (%) 2.0		Excess Lime (lb/bbl) 0.7		LCM (lb/bbl)		Chlorides (mg/L) 60,000		Filter Cake (1/32")		Daily Mud Field Est (Cost) 18,727.51		Cum Mud Field Est (Cost) 78,767.66															
Date 6/26/2019 22:00		Type OIL BASE						Depth (ftKB) 5,802		Density (lb/gal) 10.10		Percent Oil (%) 58.0		Mud Temp Out... 151.0		MBT (lb/bbl)		pH		Pm Filtrate (m... 73		Pm (mL/mL) 10.0									
Funnel Viscosity (s/qt) 61		PV Calc (cP) 26.0		YP Calc (lb/100ft²) 25		Gel 10 sec (lb/100ft²) 12.000		Gel 10 min (lb/100ft²) 18.000		Vis 3rpm 10		Vis 6rpm 12		Vis 300rpm 51		Vis 600rpm 77															
Corrected Solids (%) 9.4		API Water Loss		LGS (%) 4.0		Excess Lime (lb/bbl) 0.7		LCM (lb/bbl) 4		Chlorides (mg/L) 58,000		Filter Cake (1/32")		Daily Mud Field Est (Cost) 18,727.51		Cum Mud Field Est (Cost) 78,767.66															
Mud Reports																															
Date 6/26/2019		Type OIL BASE						Depth (ftKB) 5,700		Dens (lb/gal) 10.10		Vis (s/qt) 62		PV Calc (cP) 24.0		YP Calc (l... 25		Vis 3rpm 9		Vis 6rpm 10		LGS (%) 2.0		LCM (lb/bbl)		Chlor (mg/L) 60,000		Oil Water Ratio 66.3/33.7			
Daily Mud Field Est (Cost) 18,727.51		Cum Mud Field Est (Cost) 78,767.66		Electric Stab (V) 325.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0																			
Date 6/26/2019		Type OIL BASE						Depth (ftKB) 5,802		Dens (lb/gal) 10.10		Vis (s/qt) 61		PV Calc (cP) 26.0		YP Calc (l... 25		Vis 3rpm 10		Vis 6rpm 12		LGS (%) 4.0		LCM (lb/bbl) 4		Chlor (mg/L) 58,000		Oil Water Ratio 65.9/34.1			
Daily Mud Field Est (Cost) 18,727.51		Cum Mud Field Est (Cost) 78,767.66		Electric Stab (V) 310.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0																			
Wellbore Design																															
Casing Description				Run Date				OD (in)				Wt (lb/ft)				Grade				Conn				Set Depth (ftKB)				Length (ft)			
CONDUCTOR				1/21/2019				20				106.50				J-55				WELDED				40.0				40.00			
SURFACE				5/10/2019				13 3/8				54.50				J-55				BUTTRESS THREAD				959.0				958.72			
INTERMEDIATE				6/28/2019				9 5/8				40.00				K-55				LT&C				6,703.0				6,668.39			
PRODUCTION				7/8/2019				5 1/2				17.00				RYP-110				BUTTRESS THREAD				17,368.0				17,341.27			



SABLE PERMIAN RESOURCES, LLC

Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336

ENSIGN 786

Report Date6/27/2019

Report #8

Projected Days18.00

Drilling Days4.33

Current Depth5,802

Depth Progress232

Planned VS10,964

Current VS797

AFE #1550744

Total AFE2,944,975

Survey Data									
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)	
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72		0.64
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57		-0.21
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17		2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30		-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44		-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96		-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41		2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00		0.00
Mud Logging Information									
Max Trip Gas (units)			Avg Drill Gas (units)			Max Drill Gas (units)			
Geological Data									
Formation Name				Prog Top TVD (ftKB)		Drill Top MD (ftKB)		Drill Top (TVD) (ftKB)	
Grayburg				2,060					
San Andres				2,260					
Upper Spraberry				5,015					
Lower Spraberry				5,536					
Jo-Mill Sand				5,832					
Dean				6,324					
WCMP A				6,456					
WCMP B				6,788					
WCMP C				7,164					
WFMP C2 350 Tgt Top				7,302					
WFMP C2 350 LP				7,319					
WFMP C2 350 Tgt Base				7,336					



**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/28/2019
Report #	9
Projected Days	18,000
Drilling Days	5,333
Current Depth	6,715
Depth Progress	913
Planned VS	10,964
Current VS	796
AFE #	1550744
Total AFE	2,944,975

API 42383406190000			Surface Legal Location HE&WT RR CO SURVEY, A-884			Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB (ft) 31.00		County REAGAN		State TEXAS												
Report Summary																												
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPCC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1				Daily Field Est (Cost) 114,427		Cum Field Est (Cost) 1,102,865												
Status at Report Time Running 9 5/8" intermediate casing at 419 ft.																												
Operations Summary 0 HSE Wash and ream f/ 5,524 ft to 5,802 ft., Slide/Drilled 12 1/4" hole from 5,802 ft to TD at 6,715 ft. ( 913 ft @ 107.4 fph), circulate 2 bottoms up, T.o.o.h. from 6,715 ft. to BHA, laid down BHA. Rigged up Franks casing crew, made up and circulated shoe track, ran 9 5/8" intermediate casing to 419 ft.  Note : Notified Ivy W/TXRRC at 16:15 pm on 6/27/19 of intent to run and cement intermediate casing.  Mud Wt 10.2 ppg, Vis 60 LCM 4 ppb Last survey: 6,656 ft MD Inc 0.9° Azm 279.6°, 7.8 ft Behind, 11.5 ft Right Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)									Planned Operations Run 9 5/8" intermediate casing and cement same																			
Start MD (ftKB) 5,802			End MD (ftKB) 6,715			Depth Progress (ft) 913			Drilling Time (hr) 8.50			Avg ROP (ft/hr) 107.4			Time Since LTI (days) 1,056		Time Since RI (days) 1,056											
Daily Time Log																												
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments					Hole Section	Interval	Category	Activity		NPT													
06:00	06:45	0.75	5,802	5,802	Wash and ream f/ 5,524 ft to 5,802 ft.					INT	DIR	DRILL	REAMING		Yes													
06:45	15:15	8.50	5,802	6,715	Slide/Drilled 12 1/4" hole from 5,802 ft to 6,715 ft. ( 913 ft @ 107.4 fph) MW 10.2, Vis 60 with full returns and no flow on connections. Started bypassing shakers at 5,000 ft, raised LCM content to 4.0 lb/bbl					INT	DIR	DRILL	DRILL W/ MUD		No													
15:15	17:15	2.00	6,715	6,715	Performed clean up cycle at 6,715 ft. circulate 2 btm's up while maintaining 4 ppb cedar fiber. MW 10.2+ ppg Swapped returns to shakers long enough to get percentage of cuttings on bottoms up TD cuttings on shakers 80 % 1st bottoms up cuttings on shakers 50% 2nd bottoms up cuttings on shakers 10% Perform Flow Check, No Flow Pump Slug from Clean Mud  Note : Notified Ivy W/TXRRC at 16:15 pm on 6/27/19 of intent to run and cement intermediate casing.					INT	DIR	CSG/CEMENT	COND MUD & CIRC		No													
17:15	20:15	3.00	6,715	6,715	T.o.o.h. from 6,715 ft to 635 ft., Taking proper fill, Flow checked above San Andres, Well static, Finished tripping out of the hole to BHA, checked flow, no flow, pulled rotating head and install trip nipple, No abnormal drag encountered and hole took proper fill					INT	DIR	CSG/CEMENT	TRIPS		No													
20:15	20:30	0.25	6,715	6,715	Pulled rotating head and installed trip nipple					INT	DIR	CSG/CEMENT	BOP/OTHER		No													
20:30	00:30	4.00	6,715	6,715	Laid out 5 stands of heavy weight drill pipe and laid out 12 1/4" X 8" intermediate directional BHA					INT	DIR	CSG/CEMENT	P/U & L/D BHA		No													
00:30	01:15	0.75	6,715	6,715	Drained stack and pulled wearbushing. Cleaned and cleared rig floor.					INT	DIR	CSG/CEMENT	BOP/OTHER		No													
01:15	03:15	2.00	6,715	6,715	PJSM and rigged up Frank's casing equipment					INT	DIR	CSG/CEMENT	RU/RD 3rd PARTY EQUIPMENT		No													
03:15	05:00	1.75	6,715	6,715	Made up and thread locked 2 joint shoe track to 81 ft, confirmed auto fill float equipment working correctly. Weatherford float shoe Model : 355 and Float collar Model : 455					INT	DIR	CSG/CEMENT	RUN CASING		No													
05:00	06:00	1.00	6,715	6,715	Run 9 5/8" casing from 81 ft to 419 ft					INT	DIR	CSG/CEMENT	RUN CASING		No													
Drilling Parameters																												
Start Depth (ftKB)		End Depth (ftKB)		Rot Time (hr)		Slide Time (hr)		Int ROP (ft/hr)		TFO (°)		dP (SPP) (psi)		WOB (1000lbf)		Q Rate (gpm/cfm)		SPP (psi)		RPM (rpm)		PU Str Wt (1000lbf)		SO Str Wt (1000lbf)		Drill Tq		
5,524		5,802										100		30		750		1,530.0		45		205		185		8,000		
5,802		6,715		8.50		0.00		107.4				600		30		750		3,070.0		50		215		200		14,000		
Bit Information																												
Size (in)	Make		Model		Type		Dull Out		Depth In (ftKB)		Depth Out (ftKB)		Depth Drilled This Job (ft)		Job Drill Hrs (hr)		Avg ROP (ft/hr)		Rot Time (hr)		Slide Time (hr)		Rot ROP (ft/hr)		WOB Max (1000lbf)		Max RPM (rpm)	
12 1/4	ULTERRA		SPL616		PDC		1-8-WT-G-X-8-CT-PR		961		5,802		4,841.00		73.50		65.9		55.25		18.25		80.5		38		195	
12 1/4	SMITH		SDSI616		PDC		1-2-CT-G-X-0-NO-TD		5,802		6,715		913.00		8.50		107.4		8.50				107.4		30		178	
Current BHA Components																												
BHA No	Item Description						Make		Model		OD (in)		Jts		Length (ft)		Top Thread		Gauge (in)		Fish Neck OD (in)		FN Len (ft)					
4	XO SUB - NON MAG						CATHEDRAL		CATHEDRAL		6.91		1		4.09		IF				6.91		1.63					
4	DRILL COLLAR - PONY						CATHEDRAL		CATHEDRAL		8.05		1		29.45		REG				8.05		1.38					
4	NMDC						CATHEDRAL		CATHEDRAL		8.13		1		29.12		REG				8.13							
4	NMDC						CATHEDRAL		CATHEDRAL		8.15		1		27.97		REG				8.15							
4	ECM GAP SUB						CATHEDRAL		CATHEDRAL		8.19		1		5.76		REG				8.19		0.84					
4	NMDC						CATHEDRAL		CATHEDRAL		8.33		1		30.73		REG				8.33		1.74					
4	NMDC						CATHEDRAL		CATHEDRAL		8.16		1		11.45		REG				8.16		1.80					
4	MUD MOTOR										8.1		1		25.40		REG											
Mud Reports																												
Time 10:00		Type OIL BASE		Depth (ftKB) 6,170		Density (lb/gal) 10.10		Vis (s/qt) 73		PV Calc (cP) 33.0		YP Calc (lb/100... 29		Vis 3rpm 11		Vis 6rpm 14		LGS (%) 8.4		LCM (lb/bbl) 4		WPS (ppm) 253,666		OW Ratio 62.6/37.4				
Electric Stab (V) 297.0			Excess Lime (lb/bbl) 0.7			HTHP Filtrate (mL/30min) 6.0			HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 7,180.47			Cum Mud Field Est (Cost) 85,948.13										
Time 22:00		Type OIL BASE		Depth (ftKB) 6,715		Density (lb/gal) 10.20		Vis (s/qt) 60		PV Calc (cP) 26.0		YP Calc (lb/100... 22		Vis 3rpm 8		Vis 6rpm 10		LGS (%) 4.8		LCM (lb/bbl) 4		WPS (ppm) 260,697		OW Ratio 63.2/36.8				
Electric Stab (V) 306.0			Excess Lime (lb/bbl) 7.1			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 7,180.47			Cum Mud Field Est (Cost) 85,948.13										
Mud Reports																												
Date 6/27/2019 10:00		Type OIL BASE				Depth (ftKB) 6,170		Density (lb/gal) 10.10		Percent Oil (%) 53.5		Mud Temp Out... 144.0		MBT (lb/bbl)		pH		Pm Filtrate (m... 62		Pm (mL/mL) 95								
Funnel Viscosity (s/qt) 73		PV Calc (cP) 33.0		YP Calc (lb/100ft²) 29		Gel 10 sec (lb/100ft²) 14.000		Gel 10 min (lb/100ft²) 21.000		Vis 3rpm 11		Vis 6rpm 14		Vis 300rpm 62		Vis 600rpm 95												
Corrected Solids (%) 11.1		API Water Loss 8.4		LGS (%) 8.4		Excess Lime (lb/bbl) 0.7		LCM (lb/bbl) 4		Chlorides (mg/L) 68,000		Filter Cake (1/32") 2		Daily Mud Field Est (Cost) 7,180.47		Cum Mud Field Est (Cost) 85,948.13												
Date 6/27/2019 22:00		Type OIL BASE				Depth (ftKB) 6,715		Density (lb/gal) 10.20		Percent Oil (%) 55.0		Mud Temp Out... 150.0		MBT (lb/bbl)		pH		Pm Filtrate (m... 48		Pm (mL/mL) 74								
Funnel Viscosity (s/qt) 60		PV Calc (cP) 26.0		YP Calc (lb/100ft²) 22		Gel 10 sec (lb/100ft²) 10.000		Gel 10 min (lb/100ft²) 16.000		Vis 3rpm 8		Vis 6rpm 10		Vis 300rpm 48		Vis 600rpm 74												
Corrected Solids (%) 9.6		API Water Loss 4.8		LGS (%) 4.8		Excess Lime (lb/bbl) 7.1		LCM (lb/bbl) 4		Chlorides (mg/L) 71,000		Filter Cake (1/32") 2		Daily Mud Field Est (Cost) 7,180.47		Cum Mud Field Est (Cost) 85,948.13												
Mud Reports																												
Date 6/27/2019		Type OIL BASE				Depth (ftKB) 6,170		Dens (lb/gal) 10.10		Vis (s/qt) 73		PV Calc (cP) 33.0		YP Calc (l... 29		Vis 3rpm 11		Vis 6rpm 14		LGS (%) 8.4		LCM (lb/bbl) 4		Chlor (mg/L) 68,000		Oil Water Ratio 62.6/37.4		
Daily Mud Field Est (Cost) 7,180.47			Cum Mud Field Est (Cost) 85,948.13			Electric Stab (V) 297.0			Excess Lime (lb/bbl) 0.7			HTHP Filtrate (mL/30min) 6.0			HTHP Filter Cake (1/32") 2			HTHP Temperature (°F) 250.0										
Date 6/27/2019		Type OIL BASE				Depth (ftKB) 6,715		Dens (lb/gal) 10.20		Vis (s/qt) 60		PV Calc (cP) 26.0		YP Calc (l... 22		Vis 3rpm 8		Vis 6rpm 10		LGS (%) 4.8		LCM (lb/bbl) 4		Chlor (mg/L) 71,000		Oil Water Ratio 63.2/36.8		
Daily Mud Field Est (Cost) 7,180.47			Cum Mud Field Est (Cost) 85,948.13			Electric Stab (V) 306.0			Excess Lime (lb/bbl) 7.1			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			HTHP Temperature (°F) 250.0										



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 6/28/2019  
Report # 9  
Projected Days 18.00  
Drilling Days 5.33  
Current Depth 6,715  
Depth Progress 913  
Planned VS 10,964  
Current VS 796  
AFE # 1550744  
Total AFE 2,944,975

Wellbore Design								
Casing Description		Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)
CONDUCTOR		1/21/2019	20	106.50	J-55	WELDED	40.0	40.00
SURFACE		5/10/2019	13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72
INTERMEDIATE		6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION		7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

Survey Data								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72	0.64
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57	-0.21
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00

Mud Logging Information		
Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)

Geological Data			
Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



**SABLE PERMIAN RESOURCES, LLC**  
**Daily Drilling Partner Report**

Report Date	6/29/2019
Report #	10
Projected Days	18.00
Drilling Days	6.33
Current Depth	6,715
Depth Progress	0
Planned VS	10,964
Current VS	796
AFE #	1550744
Total AFE	2,944,975

## UNIVERSITY OWENS 33HK

**WELL NO. 336**  
**ENSIGN 786**

API 42383406190000			Surface Legal Location HE&WT RR CO SURVEY, A-884			Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB (ft) 31.00		County REAGAN		State TEXAS												
Report Summary																												
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1				Daily Field Est (Cost) 421,226		Cum Field Est (Cost) 1,524,091												
Status at Report Time T.i.h. with curve BHA at 526'																												
Operations Summary 0 HSE R.I.H. with 9 5/8" 40# J-55/K-55 casing from 419 ft to 6,715 ft. tagged bottom pick up landing joint and land shoe at 6,703 ft., Confirm land out with visual inspection, OSP latch collar at 6,500 ft. OSP packer at 6,447 ft. OSP packer 2,419 ft. Circulated 1 1/2 casing volumes. R/U Halliburton and pumped 2 stage intermediate casing cement job with 90 bbls good cement returns to surface, full returns throughout the job. Flushed line and BOP's, clean pits with pit cleaning crew. Laid down landing joint and set packoff, tested to 5000 psi. Set wear bushing and made up BHA #5 (production curve). T.i.h. to 526' while cleaning pits at time of report.  Note : Notified Ivy W/TXRRC at 16:15 pm on 6/27/19 of intent to run and cement intermediate casing.  Mud Wt 10.2 ppg, Vis 60 LCM 4 ppb Last survey: 6.656 ft MD Inc 0.9° Azm 279.6°, 7.8 ft Behind, 11.5 ft Right Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)									Planned Operations Tih, drill out shoe track. Drill 8 3/4" vertical section to KOP at 6,931 ft																			
Start MD (ftKB) 6,715				End MD (ftKB) 6,715			Depth Progress (ft) 0		Drilling Time (hr)			Avg ROP (ft/hr)			Time Since LTI (days) 1,057		Time Since RI (days) 1,057											
Daily Time Log																												
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments					Hole Section	Interval	Category	Activity		NPT													
06:00	14:00	8.00	6,715	6,715	R.I.H. with 9 5/8" 40# J-55/K-55 casing from 419 ft to 6,715 ft. tagged bottom pick up landing joint and land shoe at 6,703 ft., Confirm land out with visual inspection, OSP latch collar at 6,500 ft. OSP packer at 6,447 ft. OSP packer 2,419 ft. Record P/U 330K and S/O 220K prior to picking up landing joint. Land out with Encore Wellhead rep. Verify landed with visual through wellhead port.					INT	DIR	CSG/CEMENT	RUN CASING		No													
14:00	15:00	1.00	6,715	6,715	Rig down Franks casing equipment / Rig up Halliburton cement head, chain down cement head					INT	DIR	CSG/CEMENT	RU/RD 3rd PARTY EQUIPMENT		No													
15:00	16:45	1.75	6,715	6,715	Circulated 1-1/2 casing capacity at 8 bpm, 10.2 in and out LCM 4 lbs/bbl, Rigged down casing crew.					INT	DIR	CSG/CEMENT	COND MUD & CIRC		No													
16:45	23:30	6.75	6,715	6,715	Stage 1 - Held pre job safety meeting on cement job, Pressure tested lines to 4,000 psi, Halliburton mixed and pumped: 30 bbls 13.0 ppg spacer, followed with 227 bbls, 935 sx 13.5 ppg slurry, with additives, pumped at 6 bpm, followed with 24 bbls, 100 sx 14.8 ppg slurry, with additives, pumped at 6 bpm. Dropped plug and pumped 502 bbls 10.0 ppg OBM, Bumped plug, final circulating pressure was 1,560 psi, increased pressure to 1,820 psi. As per the OPS tool hand, increased pressure up to 2,080 psi, pressures on pump truck were swinging making it difficult to tell if pressure was bleeding off. Increased 2,280 psi and observed a 40 psi drop due to eratic pressures or inflation. Bleed off pressures to 1,800 psi with no fluid loss. pressured back up in the following incraments 2,513 psi, 2,640 psi, 2.695 psi, 2,800 psi, 2,965 psi, and bleed back to 1,800 psi with 1/8 th barrel missing indicating possible inflation. Pressured back up to 3,105 psi and bleed off to 1,800 psi with 1/8 th barrel missing out of tank. Checked floats, 3 barrels bleed back. Dropped the bomb and waited 15 min. Opened stage tool at 718 psi, circulated bottoms up (150 bbls), 25 bbls of spacer was circulated out.  Stage 2 - Halliburton mixed and pumped: 30 bbls 13.0 ppg spacer, followed with 244 bbls, 1,005 sx 13.5 ppg slurry with additives, pumped at 6 bpm, Dropped plug and pumped 183 bbls 10 ppg OBM, bumped plug with 985 psi over final circulating pressure of 650 psi at 2.5 bpm, closed DV tool, Bleed off 2.0 bbls to 0 psi confirming DV tool closed. 30 bbls spacer & 90 bbls cement to surface. Full returns throughout cement job					INT	DIR	CSG/CEMENT	RUN CEMENT		No													
23:30	00:00	0.50	6,715	6,715	Rigged down Halliburton equipment.					INT	DIR	CSG/CEMENT	RU/RD 3rd PARTY EQUIPMENT		No													
00:00	01:00	1.00	6,715	6,715	Flush lines and BOP stack. Set up pit cleaners to clean pits.					INT	DIR	CSG/CEMENT	BOP/OTHER		No													
01:00	02:00	1.00	6,715	6,715	L/O landing joint and removed casing bales and elevators. P/U one joint of 5" drill pipe, set packoff with 15,000 lbs. Tested pack off to 5,000 psi for 5 min. L/O setting tool.					INT	DIR	CSG/CEMENT	BOP/OTHER		No													
02:00	03:00	1.00	6,715	6,715	Installed wear bushing. Prepped floor for making up BHA #5 (Production Curve)					INT	DIR	CSG/CEMENT	BOP/OTHER		No													
03:00	05:30	2.50	6,715	6,715	Picked up BHA #5; Smith MDI611 8 3/4", slick 6.75" 7/8 5 stage fixed 2.25 deg. NM slick DC, NM flex pony DC, Double Pin sub, Gap Sub, Fusion Spacer Sub, Fusion Pulser Sub, NM Flex DC, NM Slick DC					INT	DIR	CSG/CEMENT	P/U & L/D BHA		No													
05:30	06:00	0.50	6,715	6,715	T.i.h. from 150.09' to 526' while cleaning pits					INT	DIR	CSG/CEMENT	TRIPS		No													
Drilling Parameters																												
Start Depth (ftKB)		End Depth (ftKB)		Rot Time (hr)		Slide Time (hr)		Int ROP (ft/hr)		TFO (°)		dP (SPP) (psi)		WOB (1000lbf)		Q Rate (gpm/cfm)		SPP (psi)		RPM (rpm)		PU Str Wt (1000lbf)		SO Str Wt (1000lbf)		Drill Tq		
Bit Information																												
Size (in)	Make		Model		Type		Dull Out		Depth In (ftKB)		Depth Out (ftKB)		Depth Drilled This Job (ft)		Job Drill Hrs (hr)		Avg ROP (ft/hr)		Rot Time (hr)		Slide Time (hr)		Rot ROP (ft/hr)		WOB Max (1000lbf)		Max RPM (rpm)	
12 1/4	ULTERRA		SPL616		PDC		1-8-WT-G-X-8-CT-PR		961		5,802		4,841.00		73.50		65.9		55.25		18.25		80.5		38		195	
12 1/4	SMITH		SDSI616		PDC		1-2-CT-G-X-0-NO-TD		5,802		6,715		913.00		8.50		107.4		8.50				107.4		30		178	
Current BHA Components																												
BHA No		Item Description					Make		Model		OD (in)		Jts		Length (ft)		Top Thread		Gauge (in)		Fish Neck OD (in)		FN Len (ft)					
4		XO SUB - NON MAG					CATHEDRAL		CATHEDRAL		6.91		1		4.09		IF				6.91		1.63					
4		DRILL COLLAR - PONY					CATHEDRAL		CATHEDRAL		8.05		1		29.45		REG				8.05		1.38					
4		NMDC					CATHEDRAL		CATHEDRAL		8.13		1		29.12		REG				8.13							
4		NMDC					CATHEDRAL		CATHEDRAL		8.15		1		27.97		REG				8.15							
4		ECM GAP SUB					CATHEDRAL		CATHEDRAL		8.19		1		5.76		REG				8.19		0.84					
4		NMDC					CATHEDRAL		CATHEDRAL		8.33		1		30.73		REG				8.33		1.74					
4		NMDC					CATHEDRAL		CATHEDRAL		8.16		1		11.45		REG				8.16		1.80					
4		MUD MOTOR									8.1		1		25.40		REG											
Mud Reports																												
Time 10:00		Type OIL BASE		Depth (ftKB) 6,715		Density (lb/gal) 10.20		Vis (s/qt) 62		PV Calc (cP) 27.0		YP Calc (lb/100... 23		Vis 3rpm 9		Vis 6rpm 10		LGS (%) 6.5		LCM (lb/bbl) 4		WPS (ppm) 248,674		OW Ratio 62.8/37.2				
Electric Stab (V) 312.0			Excess Lime (lb/bbl) 0.7			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 6,156.76			Cum Mud Field Est (Cost) 92,104.89										
Time 22:00		Type OIL BASE		Depth (ftKB) 6,715		Density (lb/gal) 10.20		Vis (s/qt) 62		PV Calc (cP) 27.0		YP Calc (lb/100... 23		Vis 3rpm 9		Vis 6rpm 10		LGS (%) 6.5		LCM (lb/bbl) 4		WPS (ppm) 248,674		OW Ratio 62.8/37.2				
Electric Stab (V) 312.0			Excess Lime (lb/bbl) 7.1			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 6,156.76			Cum Mud Field Est (Cost) 92,104.89										
Mud Reports																												
Date 6/28/2019 10:00			Type OIL BASE					Depth (ftKB) 6,715		Density (lb/gal) 10.20		Percent Oil (%) 54.0		Mud Temp Out... MBT (lb/bbl)		pH		Pm Filtrate (m...		Pm (mL/mL)								
Funnel Viscosity (s/qt) 62		PV Calc (cP) 27.0		YP Calc (lb/100ft²) 23		Gel 10 sec (lb/100ft²) 11.000		Gel 10 min (lb/100ft²) 16.000		Vis 3rpm 9			Vis 6rpm 10		Vis 300rpm 50		Vis 600rpm 77											
Corrected Solids (%) 10.6		API Water Loss		LGS (%) 6.5		Excess Lime (lb/bbl) 0.7		LCM (lb/bbl) 4		Chlorides (mg/L) 66,000		Filter Cake (1/32")		Daily Mud Field Est (Cost) 6,156.76		Cum Mud Field Est (Cost) 92,104.89												



**SABLE PERMIAN RESOURCES, LLC**  
**Daily Drilling Partner Report**

UNIVERSITY OWENS 33HK

**WELL NO. 336**  
**ENSIGN 786**

Report Date	6/29/2019
Report #	10
Projected Days	18,000
Drilling Days	6,333
Current Depth	6,715
Depth Progress	0
Planned VS	10,964
Current VS	796
APE #	1550744
Total AFE	2,944,975

Mud Reports										
Date	Type	Depth (ftKB)	Density (lb/gal)	Percent Oil (%)	Mud Temp Out...	MBT (lb/bbl)	pH	Pm Filtrate (m...	Pm (mL/mL)	
6/28/2019 22:00	OIL BASE	6.715	10.20	54.0						
Funnel Viscosity (s/qt)	PV Calc (cP)	YP Calc (lb/100ft²)	Gel 10 sec (lb/100ft²)	Gel 10 min (lb/100ft²)	Vis 3rpm	Vis 6rpm	Vis 300rpm	Vis 600rpm		
62	27.0	23	11.000	16.000	9	10	50	77		
Corrected Solids (%)	API Water Loss	LGS (%)	Excess Lime (lb/bbl)	LCM (lb/bbl)	Chlorides (mg/L)	Filter Cake (1/32")	Daily Mud Field Est (Cost)	Cum Mud Field Est (Cost)		
10.6		6.5	7.1	4	66,000		6,156.76	92,104.89		

Mud Reports												
Date 6/28/2019	Type OIL BASE	Depth (ftKB) 6,715	Dens (lb/gal) 10.20	Vis (s/qt) 62	PV Calc (cP) 27.0	YP Calc (l...) 23	Vis 3rpm 9	Vis 6rpm 10	LGS (%) 6.5	LCM (lb/bbl) 4	Chlor (mg/L) 66,000	Oil Water Ratio 62.8/37.2
Daily Mud Field Est (Cost) 6,156.76		Cum Mud Field Est (Cost) 92,104.89		Electric Stab (V) 312.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0
Date 6/28/2019	Type OIL BASE	Depth (ftKB) 6,715	Dens (lb/gal) 10.20	Vis (s/qt) 62	PV Calc (cP) 27.0	YP Calc (l...) 23	Vis 3rpm 9	Vis 6rpm 10	LGS (%) 6.5	LCM (lb/bbl) 4	Chlor (mg/L) 66,000	Oil Water Ratio 62.8/37.2
Daily Mud Field Est (Cost) 6,156.76		Cum Mud Field Est (Cost) 92,104.89		Electric Stab (V) 312.0		Excess Lime (lb/bbl) 7.1		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0

Casing Description	Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)
CONDUCTOR	1/21/2019	20	106.50	J-55	WELDED	40.0	40.00
SURFACE	5/10/2019	13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72
INTERMEDIATE	6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION	7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72	0.64
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57	-0.21
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00

Mud Logging Information		
Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)

Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 6/30/2019  
Report # 11  
Projected Days 18.00  
Drilling Days 7.33  
Current Depth 7,200  
Depth Progress 485  
Planned VS 10,964  
Current VS 860  
AFE # 1550744  
Total AFE 2,944,975

42383406190000		Surface Legal Location HE&WT RR CO SURVEY, A-884		Latitude 31.1601889900	Longitude -101.3033430000	Orig KB El... 2,733.00	RKB (ft) 31.00	County REAGAN	State TEXAS					
Report Summary														
Well Spud 5/9/2019	TD Date 7/5/2019	RR Date 7/8/2019	Target Formation WFMPCC2_350_SH	Proposed TD (ftKB) 17,370	Target Line Plan #1			Daily Field Est (Cost) 76,346		Cum Field Est (Cost) 1,600,438				
Status at Report Time Drilling 8.75" Curve Section at 7,200 ft														
Operations Summary 0 HSE Pump through top drive with clean mud and surface test motor, T.i.h. from 516 ft. to 2,030 ft., Finished cleaning pits, T.i.h. to 2,415 ft., drill out DV-Tool from 2,415 ft. to 2,431 ft., T.i.h. from 2,431 ft. to 6,649 ft, circulated, test casing 1500 psi 30 min, good test, drilled latch collar and shoe track f/ 6,649 ft to 6,715 ft, drilled vertical f/ 6,715 ft to 6,931 ft KOP, Drilled/slide curve section f/ 6,931 ft to 7,200 ft  Mud Wt 9.8 ppg, Vis 55 Last survey: 7102 ft MD Inc 26.3° Azm 183.6°, 13.3 ft Above, 21.6 ft Right Drilling window: 5 ft above 5 ft below plan 1 Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)					Planned Operations Drill 8.75" curve section to landing point at +- 7,700', t.o.o.h, make up BHA #6 (production lateral), t.i.h., drill 8.75" lateral section to TD at +- 17,388'									
Start MD (ftKB) 6,715		End MD (ftKB) 7,200		Depth Progress (ft) 485		Drilling Time (hr) 10.00		Avg ROP (ft/hr) 48.5		Time Since LTI (days) 1,058	Time Since RI (days) 1,058			
Daily Time Log														
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments		Hole Section	Interval	Category	Activity	NPT			
06:00	08:45	2.75	6,715	6,715	Surface test mud motor and Tripped in hole from 526 ft to 2,030 ft.		INT	DIR	CSG/CEMENT	TRIPS	No			
08:45	09:15	0.50	6,715	6,715	Serviced rig		INT	DIR	CSG/CEMENT	LUBRICATE RIG	No			
09:15	12:15	3.00	6,715	6,715	Finished cleaning pits of LCM and cuttings, Transfer OBM to pits		INT	DIR	CSG/CEMENT	TRIPS	No			
12:15	12:45	0.50	6,715	6,715	Tripped in the hole from 2,030 ft to 2,415 ft.		INT	DIR	CSG/CEMENT	TRIPS	No			
12:45	13:45	1.00	6,715	6,715	Drilled out cement and DV tool from 2,415 ft to 2,431 ft.		INT	DIR	CSG/CEMENT	DRILL SHOE TRACK	No			
13:45	16:15	2.50	6,715	6,715	Tripped in the hole from 2,431 ft to 6,649 ft.		INT	DIR	CSG/CEMENT	TRIPS	No			
16:15	17:00	0.75	6,715	6,715	Filled pipe and circulated surface to surface		INT	DIR	CSG/CEMENT	COND MUD & CIRC	No			
17:00	18:00	1.00	6,715	6,715	Tested casing to 1,500 psi for 30 mins with rig pump.		INT	DIR	CSG/CEMENT	BOP/OTHER	No			
18:00	20:00	2.00	6,715	6,715	Drilled latch collar, shoe track and cement from 6,649 ft to 6,715 ft.		INT	DIR	CSG/CEMENT	DRILL SHOE TRACK	No			
20:00	00:00	4.00	6,715	6,931	Drilled 8 3/4" vertical hole from 6,715 ft to 6,931 ft. 216 ft @ 54.0 ft/hr. with full returns.		PROD	DIR	DRILL	DRILL W/ MUD	No			
00:00	06:00	6.00	6,931	7,200	Drilled 8 3/4" curve from 6,931 ft to 7,200 ft. 269 ft @ 44.8 ft/hr. with full returns.		PROD	CURVE	DRILL	DRILL W/ MUD	No			
Drilling Parameters														
Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq	
6,715	6,931	4.00	0.00	54.0		330	20	600	2,330.0	20	195	180	7,500	
6,931	6,987	0.00	2.00	28.0	180	280	12	500	1,790.0		195	180		
6,987	7,071	0.00	1.75	48.0	-35	380	25	500	1,940.0		195	180		
7,071	7,075	0.25	0.00	16.0		400	20	500	1,870.0	20	200	185	8,500	
7,075	7,106	0.00	0.75	41.3	-30	510	20	500	2,060.0		200	185		
7,106	7,116	0.25	0.00	40.0		215	16	500	1,780.0	20	200	185	8,500	
7,116	7,152	0.00	0.25	144.0	-15	450	28	550	2,250.0		200	185		
7,152	7,162	0.25	0.00	40.0		550	17	550	2,100.0	20	200	185	8,500	
7,162	7,200	0.00	0.50	76.0	145	380	22	550	2,200.0		200	185		
Bit Information														
Size (in)	Make	Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)
12 1/4	SMITH	SDSi616	PDC	1-2-CT-G-X-0-NO-TD	5,802	6,715	913.00	8.50	107.4	8.50		107.4	30	178
8 3/4	SMITH	SDi611	PDC	1-2-BT-S-X-0-CT-BHA	6,715	7,700	985.00	16.75	58.8	7.75	9.00	60.8	54	194
Current BHA Components														
BHA No	Item Description				Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)	
5	DRILL PIPE						5	228	7,049.71	IF				
5	DRILL COLLAR - NON MAG				CATHEDRAL	CATHEDRAL	6.84	1	28.65	IF		6.84	3.31	
5	DRILL COLLAR - FLEX NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	30.65	IF		6 3/4	5.10	
5	FUSION PULSER SUB				CATHEDRAL	CATHEDRAL	6.8	1	7.20	IF		6.8	3.20	
5	FUSION SPACER SUB				CATHEDRAL	CATHEDRAL	6.97	1	5.45	IF		6.97	1.59	
5	MWD - DIRECTIONAL				CATHEDRAL	CATHEDRAL	6 3/4			IF				
5	ECM GAP SUB				CATHEDRAL	CATHEDRAL	6 3/4	1	6.80	IF		6.62	0.94	
5	XO SUB				CATHEDRAL	CATHEDRAL	7.15	1	3.58	IF				
5	DRILL COLLAR - FLEX NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	11.86	IF		6 3/4	2.30	
5	DRILL COLLAR - NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	29.70	IF				
5	MUD MOTOR				CATHEDRAL	C3 Performance 7/8, 5.0, True Slick Fixed @ 2.25°	6.99	1	25.40	IF				
Mud Reports														
Time 10:00	Type OIL BASE	Depth (ftKB) 6,715	Density (lb/gal) 10.20	Vis (s/qt) 62	PV Calc (cP) 27.0	YP Calc (lb/100ft²) 23	Vis 3rpm 9	Vis 6rpm 10	LGS (%) 6.5	LCM (lb/bbl)	WPS (ppm) 248,674	OW Ratio 62.8/37.2		
Electric Stab (V) 312.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 4,175.50		Cum Mud Field Est (Cost) 96,280.39		
Time 15:00	Type OIL BASE	Depth (ftKB) 6,715	Density (lb/gal) 9.80	Vis (s/qt) 58	PV Calc (cP) 20.0	YP Calc (lb/100ft²) 23	Vis 3rpm 8	Vis 6rpm 9	LGS (%) 6.1	LCM (lb/bbl)	WPS (ppm) 206,858	OW Ratio 68.2/31.8		
Electric Stab (V) 415.0		Excess Lime (lb/bbl) 3.2		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 4,175.50		Cum Mud Field Est (Cost) 96,280.39		
Time 22:00	Type OIL BASE	Depth (ftKB) 6,840	Density (lb/gal) 9.80	Vis (s/qt) 56	PV Calc (cP) 23.0	YP Calc (lb/100ft²) 24	Vis 3rpm 10	Vis 6rpm 12	LGS (%) 5.1	LCM (lb/bbl)	WPS (ppm) 255,146	OW Ratio 65.9/34.1		
Electric Stab (V) 405.0		Excess Lime (lb/bbl) 4.5		HTHP Filtrate (mL/30min) 5.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 4,175.50		Cum Mud Field Est (Cost) 96,280.39		
Mud Reports														
Date 6/29/2019 10:00		Type OIL BASE			Depth (ftKB) 6,715	Density (lb/gal) 10.20	Percent Oil (%) 54.0	Mud Temp Out... MBT (lb/bbl)		pH	Pm Filtrate (mL/mL)			
Funnel Viscosity (s/qt) 62		PV Calc (cP) 27.0		YP Calc (lb/100ft²) 23		Gel 10 sec (lb/100ft²) 11.000	Gel 10 min (lb/100ft²) 16.000	Vis 3rpm 9	Vis 6rpm 10	Vis 300rpm 50	Vis 600rpm 77			
Corrected Solids (%) 10.6		API Water Loss		LGS (%) 6.5	Excess Lime (lb/bbl) 0.7		LCM (lb/bbl)		Chlorides (mg/L) 66,000	Filter Cake (1/32")	Daily Mud Field Est (Cost) 4,175.50			
Cum Mud Field Est (Cost) 96,280.39														
Date 6/29/2019 15:00		Type OIL BASE			Depth (ftKB) 6,715	Density (lb/gal) 9.80	Percent Oil (%) 60.0	Mud Temp Out... MBT (lb/bbl)		pH	Pm Filtrate (mL/mL)			
Funnel Viscosity (s/qt) 58		PV Calc (cP) 20.0		YP Calc (lb/100ft²) 23		Gel 10 sec (lb/100ft²) 10.000	Gel 10 min (lb/100ft²) 16.000	Vis 3rpm 8	Vis 6rpm 9	Vis 300rpm 43	Vis 600rpm 63			
Corrected Solids (%) 9.9		API Water Loss		LGS (%) 6.1	Excess Lime (lb/bbl) 3.2		LCM (lb/bbl)		Chlorides (mg/L) 46,000	Filter Cake (1/32")	Daily Mud Field Est (Cost) 4,175.50			
Cum Mud Field Est (Cost) 96,280.39														
Date 6/29/2019 22:00		Type OIL BASE			Depth (ftKB) 6,840	Density (lb/gal) 9.80	Percent Oil (%) 58.0	Mud Temp Out... MBT (lb/bbl)		pH	Pm Filtrate (mL/mL)			
Funnel Viscosity (s/qt) 56		PV Calc (cP) 23.0		YP Calc (lb/100ft²) 24		Gel 10 sec (lb/100ft²) 13.000	Gel 10 min (lb/100ft²) 15.000	Vis 3rpm 10	Vis 6rpm 12	Vis 300rpm 47	Vis 600rpm 70			
Corrected Solids (%) 8.7		API Water Loss		LGS (%) 5.1	Excess Lime (lb/bbl) 4.5		LCM (lb/bbl)		Chlorides (mg/L) 64,000	Filter Cake (1/32")	Daily Mud Field Est (Cost) 4,175.50			
Cum Mud Field Est (Cost) 96,280.39														
Mud Reports														
Date 6/29/2019		Type OIL BASE		Depth (ftKB) 6,715	Dens (lb/gal) 10.20	Vis (s/qt) 62	PV Calc (cP) 27.0	YP Calc (lbf/100ft²) 23	Vis 3rpm 9	Vis 6rpm 10	LGS (%) 6.5	LCM (lb/bbl)	Chlor (mg/L) 66,000	Oil Water Ratio 62.8/37.2
Daily Mud Field Est (Cost) 4,175.50		Cum Mud Field Est (Cost) 96,280.39		Electric Stab (V) 312.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0		



SABLE PERMIAN RESOURCES, LLC

Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336

ENSIGN 786

Report Date6/30/2019

Report #11

Projected Days18.00

Drilling Days7.33

Current Depth7,200

Depth Progress485

Planned VS10,964

Current VS860

AFE #1550744

Total AFE2,944,975

Mud Reports													
Date 6/29/2019	Type OIL BASE	Depth (ftKB) 6,715	Dens (lb/gal) 9.80	Vis (s/qt) 58	PV Calc (cP) 20.0	YP Calc (l... 23	Vis 3rpm 8	Vis 6rpm 9	LGS (%) 6.1	LCM (lb/bbl)	Chlor (mg/L) 46,000	Oil Water Ratio 68.2/31.8	
Daily Mud Field Est (Cost) 4,175.50		Cum Mud Field Est (Cost) 96,280.39		Electric Stab (V) 415.0		Excess Lime (lb/bbl) 3.2		HTHP Filtrate (mL/30min) 6.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0	
Date 6/29/2019	Type OIL BASE	Depth (ftKB) 6,840	Dens (lb/gal) 9.80	Vis (s/qt) 56	PV Calc (cP) 23.0	YP Calc (l... 24	Vis 3rpm 10	Vis 6rpm 12	LGS (%) 5.1	LCM (lb/bbl)	Chlor (mg/L) 64,000	Oil Water Ratio 65.9/34.1	
Daily Mud Field Est (Cost) 4,175.50		Cum Mud Field Est (Cost) 96,280.39		Electric Stab (V) 405.0		Excess Lime (lb/bbl) 4.5		HTHP Filtrate (mL/30min) 5.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0	

Wellbore Design							
Casing Description	Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)
CONDUCTOR	1/21/2019	20	106.50	J-55	WELDED	40.0	40.00
SURFACE	5/10/2019	13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72
INTERMEDIATE	6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION	7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

Survey Data								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72	0.64
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57	-0.21
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00

Mud Logging Information		
Max Trip Gas (units)		Avg Drill Gas (units)
		Max Drill Gas (units)

Geological Data			
Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



**WELL NO. 336**  
**ENSIGN 786**

Report Date	7/1/2019
Report #	12
Projected Days	18.00
Drilling Days	8.33
Current Depth	7,979
Depth Progress	779
Planned VS	10,964
Current VS	1,490
AFE #	1550744
Total AFE	2,944,975

API 42383406190000		Surface Legal Location HE&WT RR CO SURVEY, A-884		Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB (ft) 31.00		County REAGAN		State TEXAS	
Report Summary															
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPCC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1		Daily Field Est (Cost) 92,671		Cum Field Est (Cost) 1,693,108	
Status at Report Time Drilling 8.75" Lateral Section at 7,979 ft															
Operations Summary 0 HSE Drilled/slide curve section from 7,200 ft to landing point at 7,700 ft., ( 500 ft @ 74.1 fph), circulated bottoms up, T.o.o.h. from 7,700 ft. to BHA. Laid down BHA #6, picked up BHA #6 (production lateral). Ran 28 stands of drill pipe, picked up NOV aggitator, t.i.h. to 6,983 ft. Taking weight at top of curve, washed tight spots through curve section. Drilled slide/rotate 8.75" production lateral section f/ 7,700 ft t/ 7,979 ft at time or report.  Mud Wt 10.1 ppg, Vis 55 Last survey: 7826 ft MD Inc 90.3° Azm 182.3°, 2.3 ft Above, 21.3 ft Right Drilling window: 5 ft above 5 ft below plan 1 Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)										Planned Operations Drill 8.75" lateral section to TD at +- 17,388'					
Start MD (ftKB) 7,200				End MD (ftKB) 7,979		Depth Progress (ft) 779		Drilling Time (hr) 9.50		Avg ROP (ft/hr) 82.0		Time Since LTI (days) 1,059		Time Since RI (days) 1,059	
Daily Time Log															
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments				Hole Section	Interval	Category	Activity		NPT	
06:00	12:45	6.75	7,200	7,700	Drilled 8 3/4" curve section from 7,200 ft to 7,700 ft. 500 ft @ 74.1 ft/hr. With full returns and no flow on connections  Note: Curve performance Drilled curve with 1 bha Max dog leg severity was 17.31° Total hours from KOP 6,931 ft. to 7,700 ft. 12.75 hrs to land curve Downtime 0 hrs Landed curve at 7,700 ft MD/7,312 ft TVD 1,305.56 ft VS ( Planned VS 1280.73 ft )				PROD	CURVE	DRILL	DRILL W/ MUD		No	
12:45	13:30	0.75	7,700	7,700	Circulated bottoms up. Flow checked well. Well static. Pumped slug				PROD	LAT	DRILL	COND MUD & CIRC		No	
13:30	16:30	3.00	7,700	7,700	Pulled out of hole from 7,700 ft to 150 ft,				PROD	LAT	DRILL	TRIPS		No	
16:30	17:00	0.50	7,700	7,700	Pulled rotating head and installed trip nipple				PROD	LAT	DRILL	BOP/OTHER		No	
17:00	18:00	1.00	7,700	7,700	Racked NM DC's in derrick, Powered down tool, drained motor and broke bit				PROD	LAT	DRILL	P/U & L/D BHA		No	
18:00	20:30	2.50	7,700	7,700	Note: Bit graded 1-2-BT-S-X-0-CT-BHA Picked up BHA #6; 7" Claw 250 performance motor @ 1.83° Fixed, 8 1/8" NM stabilizer, NM slick DC, NM flex pony DC, Double Pin sub, Gap Sub, NM flex DC, NM slick DC., scribed motor and made up 8 3/4" NOV TKC66Z2				PROD	LAT	DRILL	P/U & L/D BHA		No	
20:30	21:00	0.50	7,700	7,700	Rig Service				PROD	LAT	DRILL	LUBRICATE RIG		No	
21:00	22:15	1.25	7,700	7,700	Tripped in hole from 151 ft to 2,783 ft. Picked up NOV agitator,				PROD	LAT	DRILL	TRIPS		No	
22:15	22:45	0.50	7,700	7,700	Remove trip nipple, Install rotating head				PROD	LAT	DRILL	BOP/OTHER		No	
22:45	01:00	2.25	7,700	7,700	Tih from 2,783 ft to 6,983 ft. tight spot at 6,940 ft				PROD	LAT	DRILL	TRIPS		No	
01:00	03:15	2.25	7,700	7,700	Started taking weight at top of curve and taking 50K/70K to break it over on pickup, washed through tight spot from 6,483 ft to 7,046 ft. Tripped from 7,090 ft to 7,158 ft, taking weight. Washed from 7,178 ft to 7,438 ft. Tih to 7,575 ft, taking weight. Washed from 7,575 ft to bottom @ 7,700 ft. 400 gpm, diff from 50 to 300 psi. When taking weight without pumps, would take 50/70K to break over on pick up.				PROD	LAT	DRILL	REAMING		No	
03:15	06:00	2.75	7,700	7,979	Drilled/Slide 8 3/4" lateral from 7,700 ft to 7,979 ft. 219 ft @ 101.5 ft/hr. With full returns and no flow on connections  Drilling window 5 ft above 5 ft below				PROD	LAT	DRILL	DRILL W/ MUD		No	
Drilling Parameters															
Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq		
7,200	7,215	0.25	0.00	60.0		335	20	600	2,390.0	20	200	185	10,000		
7,215	7,247	0.00	0.75	42.7	-50	430	20	600	2,486.0		200	185			
7,247	7,267	0.25	0.00	80.0		435	22	600	2,525.0	20	200	185	10,000		
7,267	7,294	0.00	0.25	108.0	-50	410	23	600	2,442.0		200	185			
7,294	7,321	0.25	0.00	108.0		440	22	600	2,475.0	20	200	185	10,000		
7,321	7,341	0.00	0.50	40.0	0	415	34	600	2,432.0		200	185			
7,341	7,371	0.25	0.00	120.0		790	21	600	2,605.0	20	200	180	10,000		
7,371	7,388	0.00	0.25	68.0	30	465	30	600	2,650.0		200	180			
7,388	7,415	0.25	0.00	108.0		505	22	600	2,648.0	20	205	180	10,000		
7,415	7,435	0.00	0.25	80.0	20	590	42	600	2,761.0		205	180			
7,435	7,461	0.25	0.00	104.0		495	21	600	2,610.0	20	205	180	10,500		
7,461	7,482	0.00	0.50	42.0	0	468	28	600	2,600.0		205	180			
7,482	7,495	0.25	0.00	52.0		468	22	600	2,600.0	20	205	180	10,500		
7,495	7,529	0.00	0.25	136.0	0	620	41	600	2,830.0		205	180			
7,529	7,539	0.25	0.00	40.0		430	22	600	2,615.0	20	205	180	10,500		
7,539	7,576	0.00	0.25	148.0	0	620	54	600	2,830.0		205	180			
7,576	7,596	0.25	0.00	80.0		480	22	600	2,675.0	20	205	180	10,000		
7,596	7,623	0.00	0.25	108.0	0	560	30	600	2,790.0		205	180			
7,623	7,651	0.50	0.00	56.0		445	23	600	2,670.0	20	210	175	10,000		
7,651	7,670	0.00	0.25	76.0	-20	445	30	600	2,790.0		210	175			
7,670	7,685	0.25	0.00	60.0		490	22	600	2,700.0	20	210	175	10,000		
7,685	7,700	0.00	0.25	60.0	-90	200	18	600	2,400.0		210	175			
7,700	7,760	0.50	0.00	120.0		475	20	640	3,520.0	30	220	180	8,000		
7,760	7,775	0.00	0.25	60.0	-90	250	15	640	3,550.0		220	180			
7,775	7,885	1.00	0.00	110.0		630	27	700	4,240.0	60	210	170	13,000		
7,885	7,905	0.00	0.25	80.0	-115	290	22	700	3,915.0		210	170			
7,905	7,979	0.75	0.00	98.7		290	27	700	4,240.0	60	210	170	13,000		
Bit Information															
Size (in)	Make	Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)	
8 3/4	SMITH	SDi611	PDC	1-2-BT-S-X-0-CT-BHA	6,715	7,700	985.00	16.75	58.8	7.75	9.00	60.8	54	194	
8 3/4	REED	TKC66 Z2	PDC	1-2-CT-S-X-0-NO-DMF	7,700	14,977	7,277.00	47.25	154.0	38.75	8.50	174.0	43	261	
Current BHA Components															
BHA No	Item Description				Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)		
6	DRILL PIPE				Ensign	Rig	5		12,168.82	IF					
6	AGITATOR				NOV	NOV	6.84	1	25.06	IF					
6	DRILL PIPE				RIG	RIG	5	84	2,631.80	IF			6 1/2		
6	DRILL COLLAR - NON MAG				CATHEDRAL	CATHEDRAL	6.84	1	28.65	IF			6.84	3.31	
6	DRILL COLLAR - FLEX NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	30.65	IF			6 3/4	5.10	
6	MWD - DIRECTIONAL				CATHEDRAL	CATHEDRAL				IF					
6	ECM GAP SUB				CATHEDRAL	CATHEDRAL	6.62	1	6.60	IF			6.62	0.94	
6	XO SUB				CATHEDRAL	CATHEDRAL	7.15	1	3.58	IF					
6	DRILL COLLAR - FLEX NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	11.86	IF			6 3/4	2.30	
6	DRILL COLLAR - NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	29.70	IF					



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 7/1/2019  
Report # 12  
Projected Days 18.00  
Drilling Days 8.33  
Current Depth 7,979  
Depth Progress 779  
Planned VS 10,964  
Current VS 1,490  
AFE # 1550744  
Total AFE 2,944,975

Current BHA Components														
BHA No	Item Description		Make		Model		OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)	
6	STABILIZER		CATHEDRAL		CATHEDRAL		6.612	1	4.83	IF	8.13			
6	MUD MOTOR		CATHEDRAL		7" C2 - Claw 1.83, 250 Performance Motor w/ Slick Sleeve		7.13	1	34.45	IF	8.25			
Mud Reports														
Time 10:00	Type OIL BASE	Depth (ftKB) 7,470	Density (lb/gal) 9.90	Vis (s/qt) 54	PV Calc (cP) 27.0	YP Calc (lb/100... 24	Vis 3rpm 10	Vis 6rpm 11	LGS (%) 6.1	LCM (lb/bbl)	WPS (ppm) 274,635	OW Ratio 66.7/33.3		
Electric Stab (V) 416.0		Excess Lime (lb/bbl) 0.6	HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 12,176.63		Cum Mud Field Est (Cost) 108,457.02			
Time 22:00	Type OIL BASE	Depth (ftKB) 7,470	Density (lb/gal) 10.00	Vis (s/qt) 54	PV Calc (cP) 26.0	YP Calc (lb/100... 25	Vis 3rpm 10	Vis 6rpm 11	LGS (%) 5.6	LCM (lb/bbl)	WPS (ppm) 270,875	OW Ratio 67.8/32.2		
Electric Stab (V) 404.0		Excess Lime (lb/bbl) 0.7	HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 12,176.63		Cum Mud Field Est (Cost) 108,457.02			
Mud Reports														
Date 6/30/2019 10:00		Type OIL BASE		Depth (ftKB) 7,470	Density (lb/gal) 9.90	Percent Oil (%) 58.0	Mud Temp Out... 145.0		MBT (lb/bbl)	pH	Pm Filtrate (m...	Pm (mL/mL)		
Funnel Viscosity (s/qt) 54		PV Calc (cP) 27.0	YP Calc (lb/100ft²) 24	Gel 10 sec (lb/100ft²) 12.000	Gel 10 min (lb/100ft²) 14.000		Vis 3rpm 10		Vis 6rpm 11	Vis 300rpm 51		Vis 600rpm 78		
Corrected Solids (%) 9.5		API Water Loss	LGS (%) 6.1	Excess Lime (lb/bbl) 0.6	LCM (lb/bbl)		Chlorides (mg/L) 78,000		Filter Cake (1/32")	Daily Mud Field Est (Cost) 12,176.63		Cum Mud Field Est (Cost) 108,457.02		
Date 6/30/2019 22:00		Type OIL BASE		Depth (ftKB) 7,470	Density (lb/gal) 10.00	Percent Oil (%) 59.0	Mud Temp Out... 145.0		MBT (lb/bbl)	pH	Pm Filtrate (m...	Pm (mL/mL)		
Funnel Viscosity (s/qt) 54		PV Calc (cP) 26.0	YP Calc (lb/100ft²) 25	Gel 10 sec (lb/100ft²) 12.000	Gel 10 min (lb/100ft²) 15.000		Vis 3rpm 10		Vis 6rpm 11	Vis 300rpm 51		Vis 600rpm 77		
Corrected Solids (%) 9.7		API Water Loss	LGS (%) 5.6	Excess Lime (lb/bbl) 0.7	LCM (lb/bbl)		Chlorides (mg/L) 65,000		Filter Cake (1/32")	Daily Mud Field Est (Cost) 12,176.63		Cum Mud Field Est (Cost) 108,457.02		
Mud Reports														
Date 6/30/2019		Type OIL BASE		Depth (ftKB) 7,470	Dens (lb/gal) 9.90	Vis (s/qt) 54	PV Calc (cP) 27.0	YP Calc (l... 24	Vis 3rpm 10	Vis 6rpm 11	LGS (%) 6.1	LCM (lb/bbl)	Chlor (mg/L) 78,000	Oil Water Ratio 66.7/33.3
Daily Mud Field Est (Cost) 12,176.63		Cum Mud Field Est (Cost) 108,457.02			Electric Stab (V) 416.0		Excess Lime (lb/bbl) 0.6		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2	HTHP Temperature (°F) 250.0		
Date 6/30/2019		Type OIL BASE		Depth (ftKB) 7,470	Dens (lb/gal) 10.00	Vis (s/qt) 54	PV Calc (cP) 26.0	YP Calc (l... 25	Vis 3rpm 10	Vis 6rpm 11	LGS (%) 5.6	LCM (lb/bbl)	Chlor (mg/L) 65,000	Oil Water Ratio 67.8/32.2
Daily Mud Field Est (Cost) 12,176.63		Cum Mud Field Est (Cost) 108,457.02			Electric Stab (V) 404.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2	HTHP Temperature (°F) 250.0		
Wellbore Design														
Casing Description				Run Date		OD (in)	Wt (lb/ft)	Grade		Conn	Set Depth (ftKB)	Length (ft)		
CONDUCTOR				1/21/2019		20	106.50	J-55		WELDED	40.0	40.00		
SURFACE				5/10/2019		13 3/8	54.50	J-55		BUTTRESS THREAD	959.0	958.72		
INTERMEDIATE				6/28/2019		9 5/8	40.00	K-55		LT&C	6,703.0	6,668.39		
PRODUCTION				7/8/2019		5 1/2	17.00	RYP-110		BUTTRESS THREAD	17,368.0	17,341.27		
Survey Data														
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)						
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72	0.64						
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57	-0.21						
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55						
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21						
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61						
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91						
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22						
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00						
Mud Logging Information														
Max Trip Gas (units)				Avg Drill Gas (units)					Max Drill Gas (units)					
Geological Data														
Formation Name					Prog Top TVD (ftKB)			Drill Top MD (ftKB)			Drill Top (TVD) (ftKB)			
Grayburg					2,060									
San Andres					2,260									
Upper Spraberry					5,015									
Lower Spraberry					5,536									
Jo-Mill Sand					5,832									
Dean					6,324									
WCMP A					6,456									
WCMP B					6,788									
WCMP C					7,164									
WFMP C2 350 Tgt Top					7,302									
WFMP C2 350 LP					7,319									
WFMP C2 350 Tgt Base					7,336									



**WELL NO. 336**  
**ENSIGN 786**

Report Date	7/2/2019
Report #	13
Projected Days	18,000
Drilling Days	9,333
Current Depth	12,117
Depth Progress	4,138
Planned VS	10,964
Current VS	5,621
A/E #	1550744
Total A/E	2,944,975

API 42383406190000				Surface Legal Location HE&WT RR CO SURVEY, A-884				Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB (ft) 31.00		County REAGAN		State TEXAS										
Report Summary																												
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPCC2_350_SH				Proposed TD (ftKB) 17,370		Target Line Plan #1				Daily Field Est (Cost) 89,797			Cum Field Est (Cost) 1,782,905									
Status at Report Time Drilling 8.75" Lateral Section at 12,117 ft																												
Operations Summary 0 HSE Drilled 8 3/4" production lateral from 7,979 ft. to 12,117 ft. ( 4,138 ft @ 176 fph )										Planned Operations Drill 8.75" lateral section to TD at +/- 17,388'																		
Mud Wt 10.2 ppg, Vis 56 Last survey: 11,964 ft MD Inc 87.6° Azm 179°, 4.7 ft Below, 24 ft Left Drilling window: 5 ft above 5 ft below plan #1 Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)																												
Start MD (ftKB) 7,979				End MD (ftKB) 12,117				Depth Progress (ft) 4,138				Drilling Time (hr) 23.50				Avg ROP (ft/hr) 176.1				Time Since LTI (days) 1,060			Time Since RI (days) 1,060					
Daily Time Log																												
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments							Hole Section	Interval	Category		Activity			NPT									
06:00	17:30	11.50	7,979	10,140	Drilled/Slide 8 3/4" lateral from 7,979 ft to 10,140 ft. 2,161 ft @ 187.9 ft/hr. With full returns and no flow on connections							PROD	LAT	DRILL		DRILL W/ MUD			No									
17:30	18:00	0.50	10,140	10,140	Drilling window 5 ft above 5 ft below							PROD	LAT	DRILL		LUBRICATE RIG			No									
18:00	06:00	12.00	10,140	12,117	Rig Service Drilled/Slide 8 3/4" lateral from 10,140 ft to 12,117 ft. 1,977 ft @ 164.8 ft/hr. With full returns and no flow on connections							PROD	LAT	DRILL		DRILL W/ MUD			No									
					Drilling window 5 ft above 5 ft below																							
Drilling Parameters																												
Start Depth (ftKB)		End Depth (ftKB)		Rot Time (hr)		Slide Time (hr)		Int ROP (ft/hr)		TFO (°)		dP (SPP) (psi)		WOB (1000lbf)		Q Rate (gpm/cfm)		SPP (psi)		RPM (rpm)		PU Str Wt (1000lbf)		SO Str Wt (1000lbf)		Drill Tq		
7,979		8,072		0.25		0.00		372.0				700		28		700		4,275.0		60		210		170		13,000		
8,072		8,097		0.00		0.25		100.0		-30		200		18		700		3,810.0				210		170				
8,097		8,355		1.25		0.00		206.4				615		30		725		4,355.0		80		210		170		13,000		
8,355		8,370		0.00		0.25		60.0		30		335		27		725		4,205.0				210		170				
8,370		8,542		0.75		0.00		229.3				645		25		725		4,540.0		80		210		170		13,000		
8,542		8,554		0.00		0.25		48.0		-130		265		19		725		4,135.0				210		170				
8,554		8,920		1.50		0.00		244.0				670		28		725		4,560.0		80		210		160		13,000		
8,920		8,932		0.00		0.25		48.0		-150		261		20		725		4,272.0				210		160				
8,932		9,107		0.75		0.00		233.3				605		27		725		4,580.0		80		210		160		13,000		
9,107		9,123		0.00		0.25		64.0		45		305		16		725		4,455.0				210		160				
9,123		9,201		0.50		0.00		156.0				370		29		725		4,500.0		80		210		160		13,000		
9,201		9,213		0.00		0.25		48.0		45		255		15		725		4,295.0				210		160				
9,213		9,294		0.50		0.00		162.0				530		27		725		4,580.0		80		210		160		13,000		
9,294		9,309		0.00		0.25		60.0		145		380		18		725		4,430.0				210		160				
9,309		9,764		2.25		0.00		202.2				730		28		725		4,842.0		80		220		155		14,000		
9,764		9,782		0.00		0.25		72.0		90		360		25		725		4,452.0				220		155				
9,782		9,952		0.75		0.00		226.7				683		28		725		4,816.0		80		220		155		14,000		
9,952		9,964		0.00		0.25		48.0		180		220		31		725		4,428.0				220		155				
9,964		10,140		0.75		0.00		234.7				683		28		725		4,816.0		80		220		155		14,000		
10,140		10,155		0.00		0.25		60.0		-145		683		10		725		4,305.0				220		155				
10,155		10,328		0.75		0.00		230.7				690		28		725		4,835.0		80		220		155		14,000		
10,328		10,346		0.00		0.25		72.0		-145		137		10		725		4,305.0				220		155				
10,346		10,610		1.25		0.00		211.2				740		30		725		5,000.0		80		225		145		14,500		
10,610		10,630		0.00		0.25		80.0		-90		215		20		725		4,520.0				225		145				
10,630		11,081		2.50		0.00		180.4				670		30		725		4,930.0		80		225		140		15,000		
11,081		11,093		0.00		0.25		48.0		-20		260		20		725		4,635.0				225		140				
11,093		11,457		1.75		0.00		208.0				700		31		725		4,990.0		80		230		130		15,000		
11,457		11,469		0.00		0.25		48.0		0		190		22		725		4,590.0				230		130				
11,469		11,646		0.75		0.00		236.0				850		40		725		5,205.0		80		230		130		17,500		
11,646		11,666		0.00		0.25		80.0		45		260		29		725		4,760.0				230		130				
11,666		11,929		2.25		0.00		116.9				600		30		725		5,070.0		80		230		130		17,000		
11,929		11,944		0.00		0.25		60.0		90		360		26		725		4,835.0				230		130				
11,944		12,117		1.00		0.00		173.0				650		26		725		4,950.0		80		230		130		17,000		
Bit Information																												
Size (in)	Make		Model		Type		Dull Out		Depth In (ftKB)		Depth Out (ftKB)		Depth Drilled This Job (ft)		Job Drill Hrs (hr)		Avg ROP (ft/hr)		Rot Time (hr)		Slide Time (hr)		Rot ROP (ft/hr)		WOB Max (1000lbf)		Max RPM (rpm)	
8 3/4	SMITH		SDI611		PDC		1-2-BT-S-X-0-CT-BHA		6,715		7,700		985.00		16.75		58.8		7.75		9.00		60.8		54		194	
8 3/4	REED		TKC66 Z2		PDC		1-2-CT-S-X-0-NO-DMF		7,700		14,977		7,277.00		47.25		154.0		38.75		8.50		174.0		43		261	
Current BHA Components																												
BHA No	Item Description							Make			Model		OD (in)		Jts	Length (ft)		Top Thread		Gauge (in)		Fish Neck OD (in)		FN Len (ft)				
6	DRILL PIPE							Ensign			Rig		5		5	12,168.82		IF										
6	AGITATOR							NOV			NOV		6.84		1	25.06		IF										
6	DRILL PIPE							RIG			RIG		5		84	2,631.80		IF				6 1/2		3.31				
6	DRILL COLLAR - NON MAG							CATHEDRAL			CATHEDRAL		6.84		1	28.65		IF				6.84		3.31				
6	DRILL COLLAR - FLEX NON MAG							CATHEDRAL			CATHEDRAL		6 3/4		1	30.65		IF				6 3/4		5.10				
6	MWD - DIRECTIONAL							CATHEDRAL			CATHEDRAL							IF										
6	ECM GAP SUB							CATHEDRAL			CATHEDRAL		6.62		1	6.60		IF				6.62		0.94				
6	XO SUB							CATHEDRAL			CATHEDRAL		7.15		1	3.58		IF										
6	DRILL COLLAR - FLEX NON MAG							CATHEDRAL			CATHEDRAL		6 3/4		1	11.86		IF				6 3/4		2.30				
6	DRILL COLLAR - NON MAG							CATHEDRAL			CATHEDRAL		6 3/4		1	29.70		IF										
6	STABILIZER							CATHEDRAL			CATHEDRAL		6.612		1	4.83		IF		8.13								
6	MUD MOTOR							CATHEDRAL			7" C2 - Claw 1.83, 250 Performance Motor w/ Slick Sleeve		7.13		1	34.45		IF		8.25								
Mud Reports																												
Time 10:00		Type OIL BASE		Depth (ftKB) 8,635		Density (lb/gal) 10.20		Vis (s/qt) 56		PV Calc (cP) 25.0		YP Calc (lb/100... 24		Vis 3rpm 10		Vis 6rpm 11		LGS (%) 6.2		LCM (lb/bbl) 121,105.55		WPS (ppm) 268,190		OW Ratio 67.4/32.6				
Electric Stab (V) 405.0			Excess Lime (lb/bbl) 0.5			HTHP Filtrate (mL/30min) 4.0				HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 12,648.53				Cum Mud Field Est (Cost) 121,105.55								
Time 22:00		Type OIL BASE		Depth (ftKB) 10,635		Density (lb/gal) 10.20		Vis (s/qt) 56		PV Calc (cP) 29.0		YP Calc (lb/100... 25		Vis 3rpm 12		Vis 6rpm 14		LGS (%) 5.6		LCM (lb/bbl) 121,105.55		WPS (ppm) 276,253		OW Ratio 68.8/31.2				
Electric Stab (V) 407.0			Excess Lime (lb/bbl) 0.8			HTHP Filtrate (mL/30min) 4.0				HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 12,648.53				Cum Mud Field Est (Cost) 121,105.55								



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 7/2/2019  
Report # 13  
Projected Days 18.00  
Drilling Days 9.33  
Current Depth 12,117  
Depth Progress 4,138  
Planned VS 10,964  
Current VS 5,621  
AFE # 1550744  
Total AFE 2,944,975

Mud Reports													
Date 7/1/2019 10:00		Type OIL BASE			Depth (ftKB) 8,635		Density (lb/gal) 10.20		Percent Oil (%) 58.0		Mud Temp Out... MBT (lb/bbl) 171.0		pH
Funnel Viscosity (s/qt) 56		PV Calc (cP) 25.0		YP Calc (lb/100ft²) 24		Gel 10 sec (lb/100ft²) 13.000		Gel 10 min (lb/100ft²) 18.000		Vis 3rpm 10		Vis 6rpm 11	
Corrected Solids (%) 10.7		API Water Loss 29.0		LGS (%) 6.2		Excess Lime (lb/bbl) 0.5		LCM (lb/bbl)		Chlorides (mg/L) 64,000		Filter Cake (1/32") 12,648.53	
Daily Mud Field Est (Cost) 121,105.55		Cum Mud Field Est (Cost) 121,105.55		Electric Stab (V) 405.0		Excess Lime (lb/bbl) 0.5		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0	
Date 7/1/2019 22:00		Type OIL BASE			Depth (ftKB) 10,635		Density (lb/gal) 10.20		Percent Oil (%) 59.5		Mud Temp Out... MBT (lb/bbl) 189.0		pH
Funnel Viscosity (s/qt) 56		PV Calc (cP) 29.0		YP Calc (lb/100ft²) 25		Gel 10 sec (lb/100ft²) 15.000		Gel 10 min (lb/100ft²) 24.000		Vis 3rpm 12		Vis 6rpm 14	
Corrected Solids (%) 10.5		API Water Loss 29.0		LGS (%) 5.6		Excess Lime (lb/bbl) 0.8		LCM (lb/bbl)		Chlorides (mg/L) 65,000		Filter Cake (1/32") 12,648.53	
Daily Mud Field Est (Cost) 12,648.53		Cum Mud Field Est (Cost) 121,105.55		Electric Stab (V) 407.0		Excess Lime (lb/bbl) 0.8		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0	

Mud Reports													
Date 7/1/2019		Type OIL BASE			Depth (ftKB) 8,635		Dens (lb/gal) 10.20		Vis (s/qt) 56		PV Calc (cP) 25.0		YP Calc (l...
Daily Mud Field Est (Cost) 12,648.53		Cum Mud Field Est (Cost) 121,105.55		Electric Stab (V) 405.0		Excess Lime (lb/bbl) 0.5		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0	
Date 7/1/2019		Type OIL BASE			Depth (ftKB) 10,635		Dens (lb/gal) 10.20		Vis (s/qt) 56		PV Calc (cP) 29.0		YP Calc (l...
Daily Mud Field Est (Cost) 12,648.53		Cum Mud Field Est (Cost) 121,105.55		Electric Stab (V) 407.0		Excess Lime (lb/bbl) 0.8		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0	

Wellbore Design							
Casing Description		Run Date		OD (in)		Wt (lb/ft)	
CONDUCTOR		1/21/2019		20		106.50	
SURFACE		5/10/2019		13 3/8		54.50	
INTERMEDIATE		6/28/2019		9 5/8		40.00	
PRODUCTION		7/8/2019		5 1/2		17.00	

Survey Data									
MD (ftKB)		Incl (°)		Azm (°)		TVD (ftKB)		VS (ft)	
16,761		89.70		181.00		7,312		10,354.39	
16,855		89.50		181.50		7,312		10,448.34	
16,949		91.90		184.60		7,311		10,542.31	
17,043		91.70		184.80		7,308		10,636.23	
17,136		90.20		183.10		7,307		10,729.20	
17,230		88.40		182.70		7,308		10,823.18	
17,311		90.20		184.80		7,309		10,904.16	
17,370		90.20		184.80		7,309		10,963.14	

Mud Logging Information													
Max Trip Gas (units)						Avg Drill Gas (units)						Max Drill Gas (units)	

Geological Data			
Formation Name		Prog Top TVD (ftKB)	Drill Top MD (ftKB)
Grayburg		2,060	
San Andres		2,260	
Upper Spraberry		5,015	
Lower Spraberry		5,536	
Jo-Mill Sand		5,832	
Dean		6,324	
WCMP A		6,456	
WCMP B		6,788	
WCMP C		7,164	
WFMP C2 350 Tgt Top		7,302	
WFMP C2 350 LP		7,319	
WFMP C2 350 Tgt Base		7,336	



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 7/3/2019  
Report # 14  
Projected Days 18.00  
Drilling Days 10.33  
Current Depth 14,977  
Depth Progress 2,860  
Planned VS 10,964  
Current VS 8,534  
AFE # 1550744  
Total AFE 2,944,975

42383406190000			Surface Legal Location HE&WT RR CO SURVEY, A-884			Latitude 31.1601889900	Longitude -101.3033430000	Orig KB El... 2,733.00	RKB (ft) 31.00	County REAGAN	State TEXAS			
Report Summary														
Well Spud 5/9/2019	TD Date 7/5/2019	RR Date 7/8/2019	Target Formation WFMPCC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1			Daily Field Est (Cost) 107,694		Cum Field Est (Cost) 1,890,599		
Status at Report Time T.o.o.h. for new mud motor at 14,468"														
Operations Summary 0 HSE Drilled 8 3/4" production lateral from 12,117 ft. to 14,977 ft. ( 2,860 ft @ 136.2 fph ). Lost all motor differential, dust up mud weight to 10.5 ppg. Circulated heavy mud to surface. T.o.o.h. for motor f/ 14,977' t/ 14,468" at time of report.  Mud Wt 10.5 ppg, Vis 57 Last survey: 14,879 ft MD Inc 92.7° Azm 184.6°, 1.5 ft Above, 12 ft Right New Drilling window: 5 ft above 5 ft below plan #1 23:56 7/2/19 Old Drilling window: 0 - 10 ft below plan #1 05:46 7/2/19 Old Drilling window: 5 ft above 5 ft below plan #1 Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)							Planned Operations T.o.o.h., change out mud motor, t.i.h., Drill 8.75" lateral section to TD at +- 17,388'							
Start MD (ftKB) 12,117		End MD (ftKB) 14,977		Depth Progress (ft) 2,860		Drilling Time (hr) 21.00		Avg ROP (ft/hr) 136.2		Time Since LTI (days) 1,061		Time Since RI (days) 1,061		
Daily Time Log														
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments			Hole Section	Interval	Category	Activity	NPT		
06:00	09:30	3.50	12,117	12,500	Drilled/Slide 8 3/4" lateral from 12,117 ft to 12,500 ft, increased mud weight to from 10.2 ppg to 10.3 ppg due to finding larger size cuttings in the shale bin.  With full returns and no flow on connections			PROD	LAT	DRILL	DRILL W/ MUD	No		
09:30	20:00	10.50	12,500	14,400	Drilling window 0 ft to 10 ft below Drilled/Slide 8 3/4" lateral from 12,500 ft to 14,400 ft, increased mud weight to from 10.3 ppg to 10.4 ppg due to finding larger size cuttings in the shale bin.			PROD	LAT	DRILL	DRILL W/ MUD	No		
20:00	03:00	7.00	14,400	14,977	New Drilling window: 5 ft above 5 ft below plan #1 23:56 7/2/19 Drilling window 0 ft to 10 ft below Drilled/Slide 8 3/4" lateral from 14,400 ft to 14,977 ft,			PROD	LAT	DRILL	DRILL W/ MUD	No		
03:00	05:00	2.00	14,977	14,977	New Drilling window: 5 ft above 5 ft below plan #1 23:56 7/2/19 Drilling window 0 ft to 10 ft below Lost all differential on mud motor, indicating possible broken drive shaft. Pump 20 bbl LCM sweep, dust up system f/ 10.4 ppg t/ 10.5 ppg. Circulate 10.5 ppg mud to surface.			PROD	LAT	DRILL	COND MUD & CIRC	Yes		
05:00	06:00	1.00	14,977	14,977	Check flow (no flow), T.o.o.h. f/ 14,977" t/ 14,468"			PROD	LAT	DRILL	TRIPS	Yes		
Drilling Parameters														
Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq	
12,117	12,129	0.00	0.50	24.0	150	361	30	640	3,782.0		230	130		
12,129	12,305	1.00	0.00	176.0		462	26	640	3,986.0	80	245	135	17,000	
12,305	12,320	0.00	0.50	30.0	180	305	31	725	4,825.0		245	135		
12,320	12,400	0.25	0.00	320.0		570	30	725	5,100.0	80	240	135	18,000	
12,400	12,420	0.00	0.25	80.0	-150	270	28	725	4,775.0		240	135		
12,420	12,493	0.75	0.00	97.3		460	30	725	5,052.0	80	240	135	18,000	
12,493	12,508	0.00	0.25	60.0	180	271	25	725	5,080.0		240	135		
12,508	12,682	1.25	0.00	139.2		700	32	725	5,217.0	80	235	135	17,000	
12,682	12,702	0.00	0.25	80.0	-45	510	36	725	5,145.0		235	135		
12,702	12,776	0.75	0.00	98.7		580	35	725	5,315.0	80	235	130	17,500	
12,776	12,796	0.00	0.25	80.0	-45	345	25	725	4,050.0		235	130		
12,796	12,964	1.00	0.00	168.0		650	31	725	5,315.0	80	235	130	17,500	
12,964	12,989	0.00	0.25	100.0	-90	450	30	725	5,230.0		235	130		
12,989	13,059	0.50	0.00	140.0		650	30	725	5,315.0	80	240	115	17,500	
13,059	13,084	0.00	0.25	100.0	-115	400	20	725	5,190.0		240	115		
13,084	13,246	0.75	0.00	216.0		635	28	725	5,435.0	80	240	110	17,500	
13,246	13,271	0.00	0.25	100.0	-145	340	15	725	5,340.0		240	110		
13,271	13,811	3.00	0.00	180.0		705	28	725	5,575.0	80	245	105	17,000	
13,811	13,998	1.00	0.00	187.0		775	31	725	5,500.0	80	245	105	17,000	
13,998	14,018	0.00	0.25	80.0	100	300	40	725	5,200.0		245	105		
14,018	14,186	1.25	0.00	134.4		575	31	725	5,475.0	80	245	100	16,000	
14,186	14,198	0.00	0.25	48.0	180	200	38	725	5,215.0		245	100		
14,198	14,468	2.25	0.00	120.0		575	33	725	5,525.0	80	250	105	16,000	
14,468	14,488	0.00	0.25	80.0	-140	250	43	725	5,215.0		250	105		
14,488	14,656	1.00	0.00	168.0		575	32	725	5,440.0	80	250	105	16,000	
14,656	14,938	2.00	0.00	141.0		615	32	630	4,475.0	80	250	100	16,000	
14,938	14,958	0.00	0.50	40.0	-130	250	32	725	5,350.0		250	100		
14,958	14,977	0.25	0.00	76.0		250	32	725	5,500.0	80	250	100	16,500	
Bit Information														
Size (in)	Make	Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)
8 3/4	SMITH	SD611	PDC	1-2-BT-S-X-0-CT-BHA	6,715	7,700	985.00	16.75	58.8	7.75	9.00	60.8	54	194
8 3/4	REED	TKC66 Z2	PDC	1-2-CT-S-X-0-NO-DMF	7,700	14,977	7,277.00	47.25	154.0	38.75	8.50	174.0	43	261
Current BHA Components														
BHA No	Item Description			Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)		
6	DRILL PIPE			Ensign	Rig	5		12,168.82	IF					
6	AGITATOR			NOV	NOV	6.84	1	25.06	IF					
6	DRILL PIPE			RIG	RIG	5	84	2,631.80	IF		6 1/2			
6	DRILL COLLAR - NON MAG			CATHEDRAL	CATHEDRAL	6.84	1	28.65	IF		6.84	3.31		
6	DRILL COLLAR - FLEX NON MAG			CATHEDRAL	CATHEDRAL	6 3/4	1	30.65	IF		6 3/4	5.10		
6	MWD - DIRECTIONAL			CATHEDRAL	CATHEDRAL			IF						
6	ECM GAP SUB			CATHEDRAL	CATHEDRAL	6.62	1	6.60	IF		6.62	0.94		
6	XO SUB			CATHEDRAL	CATHEDRAL	7.15	1	3.58	IF					
6	DRILL COLLAR - FLEX NON MAG			CATHEDRAL	CATHEDRAL	6 3/4	1	11.86	IF		6 3/4	2.30		
6	DRILL COLLAR - NON MAG			CATHEDRAL	CATHEDRAL	6 3/4	1	29.70	IF					
6	STABILIZER			CATHEDRAL	CATHEDRAL	6.612	1	4.83	IF	8.13				
6	MUD MOTOR			CATHEDRAL	7" C2 - Claw 1.83, 250 Performance Motor w/ Slick Sleeve	7.13	1	34.45	IF	8.25				
Mud Reports														
Time 10:00	Type OIL BASE	Depth (ftKB) 12,493	Density (lb/gal) 10.25	Vis (s/qt) 59	PV Calc (cP) 29.0	YP Calc (lb/100... 25	Vis 3rpm 12	Vis 6rpm 14	LGS (%) 5.2	LCM (lb/bbl)	WPS (ppm) 280,006	OW Ratio 69.4/30.6		
Electric Stab (V) 405.0		Excess Lime (lb/bbl) 0.8		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2	T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 24,178.62		Cum Mud Field Est (Cost) 145,284.17			
Time 22:00	Type OIL BASE	Depth (ftKB) 14,199	Density (lb/gal) 10.30	Vis (s/qt) 56	PV Calc (cP) 29.0	YP Calc (lb/100... 25	Vis 3rpm 12	Vis 6rpm 13	LGS (%) 6.7	LCM (lb/bbl)	WPS (ppm) 296,956	OW Ratio 70.2/29.8		
Electric Stab (V) 417.0		Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2	T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 24,178.62		Cum Mud Field Est (Cost) 145,284.17			



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 7/3/2019  
Report # 14  
Projected Days 18.00  
Drilling Days 10.33  
Current Depth 14,977  
Depth Progress 2,860  
Planned VS 10,964  
Current VS 8,534  
AFE # 1550744  
Total AFE 2,944,975

Mud Reports																																							
Date 7/2/2019 10:00		Type OIL BASE			Depth (ftKB) 12,493		Density (lb/gal) 10.25		Percent Oil (%) 60.0		Mud Temp Out... 196.0		MBT (lb/bbl)		pH		Pm Filtrate (m...)		Pm (mL/mL)																				
Funnel Viscosity (s/qt) 59		PV Calc (cP) 29.0		YP Calc (lb/100ft²) 25		Gel 10 sec (lb/100ft²) 15,000		Gel 10 min (lb/100ft²) 24,000		Vis 3rpm 12		Vis 6rpm 14		Vis 300rpm 54		Vis 600rpm 83																							
Corrected Solids (%) 10.4		API Water Loss		LGS (%) 5.2		Excess Lime (lb/bbl) 0.8		LCM (lb/bbl)		Chlorides (mg/L) 65,000		Filter Cake (1/32")		Daily Mud Field Est (Cost) 24,178.62		Cum Mud Field Est (Cost) 145,284.17																							
Date 7/2/2019 22:00		Type OIL BASE			Depth (ftKB) 14,199		Density (lb/gal) 10.30		Percent Oil (%) 60.0		Mud Temp Out... 205.0		MBT (lb/bbl)		pH		Pm Filtrate (m...)		Pm (mL/mL)																				
Funnel Viscosity (s/qt) 56		PV Calc (cP) 29.0		YP Calc (lb/100ft²) 25		Gel 10 sec (lb/100ft²) 15,000		Gel 10 min (lb/100ft²) 25,000		Vis 3rpm 12		Vis 6rpm 13		Vis 300rpm 54		Vis 600rpm 83																							
Corrected Solids (%) 11.3		API Water Loss		LGS (%) 6.7		Excess Lime (lb/bbl) 0.7		LCM (lb/bbl)		Chlorides (mg/L) 68,000		Filter Cake (1/32")		Daily Mud Field Est (Cost) 24,178.62		Cum Mud Field Est (Cost) 145,284.17																							
Mud Reports																																							
Date 7/2/2019		Type OIL BASE			Depth (ftKB) 12,493		Dens (lb/gal) 10.25		Vis (s/qt) 59		PV Calc (cP) 29.0		YP Calc (l... 25		Vis 3rpm 12		Vis 6rpm 14		LGS (%) 5.2		LCM (lb/bbl)		Chlor (mg/L) 65,000		Oil Water Ratio 69.4/30.6														
Daily Mud Field Est (Cost) 24,178.62				Cum Mud Field Est (Cost) 145,284.17				Electric Stab (V) 405.0				Excess Lime (lb/bbl) 0.8				HTHP Filtrate (mL/30min) 4.0				HTHP Filter Cake (1/32") 2				HTHP Temperature (°F) 250.0															
Date 7/2/2019		Type OIL BASE			Depth (ftKB) 14,199		Dens (lb/gal) 10.30		Vis (s/qt) 56		PV Calc (cP) 29.0		YP Calc (l... 25		Vis 3rpm 12		Vis 6rpm 13		LGS (%) 6.7		LCM (lb/bbl)		Chlor (mg/L) 68,000		Oil Water Ratio 70.2/29.8														
Daily Mud Field Est (Cost) 24,178.62				Cum Mud Field Est (Cost) 145,284.17				Electric Stab (V) 417.0				Excess Lime (lb/bbl) 0.7				HTHP Filtrate (mL/30min) 4.0				HTHP Filter Cake (1/32") 2				HTHP Temperature (°F) 250.0															
Wellbore Design																																							
Casing Description					Run Date					OD (in)					Wt (lb/ft)					Grade					Conn					Set Depth (ftKB)					Length (ft)				
CONDUCTOR					1/21/2019					20					106.50					J-55					WELDED					40.0					40.00				
SURFACE					5/10/2019					13 3/8					54.50					J-55					BUTTRESS THREAD					959.0					958.72				
INTERMEDIATE					6/28/2019					9 5/8					40.00					K-55					LT&C					6,703.0					6,668.39				
PRODUCTION					7/8/2019					5 1/2					17.00					RYP-110					BUTTRESS THREAD					17,368.0					17,341.27				
Survey Data																																							
MD (ftKB)			Incl (°)			Azm (°)			TVD (ftKB)			VS (ft)			NS (ft)			EW (ft)			DLS (°/100ft)			BUR (°/100ft)															
16,761			89.70			181.00			7,312			10,354.39			-10,339.34			-558.14			1.72			0.64															
16,855			89.50			181.50			7,312			10,448.34			-10,433.31			-560.19			0.57			-0.21															
16,949			91.90			184.60			7,311			10,542.31			-10,527.15			-565.19			4.17			2.55															
17,043			91.70			184.80			7,308			10,636.23			-10,620.79			-572.88			0.30			-0.21															
17,136			90.20			183.10			7,307			10,729.20			-10,713.55			-579.29			2.44			-1.61															
17,230			88.40			182.70			7,308			10,823.18			-10,807.42			-584.04			1.96			-1.91															
17,311			90.20			184.80			7,309			10,904.16			-10,888.23			-589.34			3.41			2.22															
17,370			90.20			184.80			7,309			10,963.14			-10,947.02			-594.28			0.00			0.00															
Mud Logging Information																																							
Max Trip Gas (units)								Avg Drill Gas (units)								Max Drill Gas (units)																							
Geological Data																																							
Formation Name												Prog Top TVD (ftKB)						Drill Top MD (ftKB)						Drill Top (TVD) (ftKB)															
Grayburg												2,060																											
San Andres												2,260																											
Upper Spraberry												5,015																											
Lower Spraberry												5,536																											
Jo-Mill Sand												5,832																											
Dean												6,324																											
WCMP A												6,456																											
WCMP B												6,788																											
WCMP C												7,164																											
WFMP C2 350 Tgt Top												7,302																											
WFMP C2 350 LP												7,319																											
WFMP C2 350 Tgt Base												7,336																											



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 7/4/2019  
Report # 15  
Projected Days 18.00  
Drilling Days 11.33  
Current Depth 14,977  
Depth Progress 0  
Planned VS 10,964  
Current VS 8,534  
AFE # 1550744  
Total AFE 2,944,975

42383406190000			Surface Legal Location HE&WT RR CO SURVEY, A-884			Latitude 31.1601889900	Longitude -101.3033430000	Orig KB El... 2,733.00	RKB (ft) 31.00	County REAGAN	State TEXAS															
Report Summary																										
Well Spud 5/9/2019	TD Date 7/5/2019	RR Date 7/8/2019	Target Formation WFMPCC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1			Daily Field Est (Cost) 113,866		Cum Field Est (Cost) 2,004,466														
Status at Report Time Working tight spot at 10,460 ft																										
Operations Summary 0 HSE T.o.o.h from 14,468 ft to 152 ft. Laid down BHA #6. Picked up BHA #7. T.i.h. f/ 155 ft to 6,659 ft. Slip/cut drill line. T.i.h. f/ 6,659 ft t/10,460 ft. Work tight spot, @ 10,460 ft.							Planned Operations Continue T.i.h., drill 8.75" lateral section to TD at +- 17,388'																			
Mud Wt 10.5 ppg, Vis 62 Last survey: 14,879 ft MD Inc 92.7° Azm 184.6°, 1.5 ft Above, 12 ft Right New Drilling window: 5 ft above 5 ft below plan #1 23:56 7/2/19 Old Drilling window: 0 - 10 ft below plan #1 05:46 7/2/19 Old Drilling window: 5 ft above 5 ft below plan #1 Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)																										
Start MD (ftKB) 14,977		End MD (ftKB) 14,977		Depth Progress (ft) 0		Drilling Time (hr)		Avg ROP (ft/hr)		Time Since LTI (days) 1,062		Time Since RI (days) 1,062														
Daily Time Log																										
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments			Hole Section	Interval	Category	Activity		NPT													
06:00	14:45	8.75	14,977	14,977	Pumped slug. Flow checked well. Well static. Continued pulling out of the hole f/ 14,468 ft t/ 2,738 ft. Laid down NOV aggitator. T.o.o.h. f/ 2,738 ft t/ 1,500ft. Pulled wet f/ 1,500 ft t/ BHA. Hole took proper fill on trip out.			PROD	LAT	DRILL	TRIPS		Yes													
14:45	15:15	0.50	14,977	14,977	Pulled rotating head, installed trip nipple.			PROD	LAT	DRILL	TRIPS		Yes													
15:15	16:15	1.00	14,977	14,977	Picked up single and racked back NMDC's. Power down MWD and drain motor. Motor was spinning freely by hand indicating possible broken shaft. Broke off bit and slick sleeve off motor. Mouse hole gap sub to stabilizer. Laid down motor.			PROD	LAT	DRILL	P/U & L/D BHA		Yes													
16:15	16:45	0.50	14,977	14,977	Cleaned floor			PROD	LAT	DRILL	P/U & L/D BHA		Yes													
16:45	18:30	1.75	14,977	14,977	Picked up new 7" Claw 250, 1.75 deg fixed mud motor. Installed slick sleeve. Made up new 8.75" TKC6622 bit with 9 x 16's jets. Picked up gap sub to stabilizer out of mouse hole and re-programed MWD and obtained drillers offset. Made up collars out of the derrick and tested motor.			PROD	LAT	DRILL	P/U & L/D BHA		Yes													
18:30	22:45	4.25	14,977	14,977	Tripped in hole f/ 155 ft to 2,783 ft, pick up agitator, Tripped in hole to 6,381 ft, Installed rotating head, Tripped in hole f/ 6,381 ft to 6,659 ft, filled pipe, installed TIW valve, Monitored well on trip tank			PROD	LAT	DRILL	TRIPS		Yes													
22:45	01:00	2.25	14,977	14,977	Slipped and cut 13 wraps drill line			PROD	LAT	DRILL	CUT SLIP & DRILL LINE		Yes													
01:00	02:00	1.00	14,977	14,977	T.i.h. f/ 6,659 ft t/ 7,980 ft			PROD	LAT	DRILL	TRIPS		Yes													
02:00	03:00	1.00	14,977	14,977	Shut down due to electrical storm			PROD	LAT	DRILL	BOP/OTHER		Yes													
03:00	04:30	1.50	14,977	14,977	T.i.h. f/ 7,980 ft t/ 10,460 ft.			PROD	LAT	DRILL	TRIPS		Yes													
04:30	06:00	1.50	14,977	14,977	Worked tight spot at 10,460 ft. Pump rate 425 gpm, rotary 40 rpm. increasing parameters as hole will allow.			PROD	LAT	DRILL	BOP/OTHER		Yes													
Drilling Parameters																										
Start Depth (ftKB)		End Depth (ftKB)		Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq											
Bit Information																										
Size (in)	Make		Model		Type	Dull Out		Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)									
8 3/4	SMITH		SDi611		PDC	1-2-BT-S-X-0-CT-BHA		6,715	7,700	985.00	16.75	58.8	7.75	9.00	60.8	54	194									
8 3/4	REED		TKC66 Z2		PDC	1-2-CT-S-X-0-NO-DMF		7,700	14,977	7,277.00	47.25	154.0	38.75	8.50	174.0	43	261									
Current BHA Components																										
BHA No	Item Description					Make		Model		OD (in)	Jts	Length (ft)	Top Thread		Gauge (in)	Fish Neck OD (in)	FN Len (ft)									
6	DRILL PIPE					Ensign		Rig		5		12,168.82	IF													
6	AGITATOR					NOV		NOV		6.84	1	25.06	IF													
6	DRILL PIPE					RIG		RIG		5	84	2,631.80	IF			6 1/2										
6	DRILL COLLAR - NON MAG					CATHEDRAL		CATHEDRAL		6.84	1	28.65	IF			6.84	3.31									
6	DRILL COLLAR - FLEX NON MAG					CATHEDRAL		CATHEDRAL		6 3/4	1	30.65	IF			6 3/4	5.10									
6	MWD - DIRECTIONAL					CATHEDRAL		CATHEDRAL					IF													
6	ECM GAP SUB					CATHEDRAL		CATHEDRAL		6.62	1	6.60	IF			6.62	0.94									
6	XO SUB					CATHEDRAL		CATHEDRAL		7.15	1	3.58	IF													
6	DRILL COLLAR - FLEX NON MAG					CATHEDRAL		CATHEDRAL		6 3/4	1	11.86	IF			6 3/4	2.30									
6	DRILL COLLAR - NON MAG					CATHEDRAL		CATHEDRAL		6 3/4	1	29.70	IF													
6	STABILIZER					CATHEDRAL		CATHEDRAL		6.612	1	4.83	IF		8.13											
6	MUD MOTOR					CATHEDRAL		7" C2 - Claw 1.83, 250 Performance Motor w/ Slick Sleeve		7.13	1	34.45	IF		8.25											
Mud Reports																										
Time 10:00	Type OIL BASE		Depth (ftKB) 14,977		Density (lb/gal) 10.50		Vis (s/qt) 60		PV Calc (cP) 30.0		YP Calc (lbf/100ft²) 26		Vis 3rpm 12		Vis 6rpm 14		LGS (%) 7.3		LCM (lb/bbl)		WPS (ppm) 291,902		OW Ratio 70.4/29.6			
Electric Stab (V) 420.0			Excess Lime (lb/bbl) 0.8			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 11,366.17				Cum Mud Field Est (Cost) 156,650.35							
Time 22:00	Type OIL BASE		Depth (ftKB) 14,977		Density (lb/gal) 10.50		Vis (s/qt) 62		PV Calc (cP) 30.0		YP Calc (lbf/100ft²) 26		Vis 3rpm 13		Vis 6rpm 14		LGS (%) 7.1		LCM (lb/bbl)		WPS (ppm) 298,932		OW Ratio 71/29			
Electric Stab (V) 426.0			Excess Lime (lb/bbl) 0.8			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 11,366.17				Cum Mud Field Est (Cost) 156,650.35							
Mud Reports																										
Date 7/3/2019 10:00			Type OIL BASE			Depth (ftKB) 14,977		Density (lb/gal) 10.50		Percent Oil (%) 59.5		Mud Temp Out... 196.0		MBT (lb/bbl)		pH		Pm Filtrate (m...)		Pm (mL/mL)						
Funnel Viscosity (s/qt) 60		PV Calc (cP) 30.0			YP Calc (lbf/100ft²) 26			Gel 10 sec (lbf/100ft²) 15.000			Gel 10 min (lbf/100ft²) 26.000			Vis 3rpm 12			Vis 6rpm 14			Vis 300rpm 56			Vis 600rpm 86			
Corrected Solids (%) 12.4		API Water Loss			LGS (%) 7.3			Excess Lime (lb/bbl) 0.8			LCM (lb/bbl)			Chlorides (mg/L) 65,000			Filter Cake (1/32")			Daily Mud Field Est (Cost) 11,366.17			Cum Mud Field Est (Cost) 156,650.35			
Date 7/3/2019 22:00			Type OIL BASE			Depth (ftKB) 14,977		Density (lb/gal) 10.50		Percent Oil (%) 60.0		Mud Temp Out... 196.0		MBT (lb/bbl)		pH		Pm Filtrate (m...)		Pm (mL/mL)						
Funnel Viscosity (s/qt) 62		PV Calc (cP) 30.0			YP Calc (lbf/100ft²) 26			Gel 10 sec (lbf/100ft²) 16.000			Gel 10 min (lbf/100ft²) 26.000			Vis 3rpm 13			Vis 6rpm 14			Vis 300rpm 56			Vis 600rpm 86			
Corrected Solids (%) 12.4		API Water Loss			LGS (%) 7.1			Excess Lime (lb/bbl) 0.8			LCM (lb/bbl)			Chlorides (mg/L) 66,000			Filter Cake (1/32")			Daily Mud Field Est (Cost) 11,366.17			Cum Mud Field Est (Cost) 156,650.35			
Mud Reports																										
Date 7/3/2019		Type OIL BASE			Depth (ftKB) 14,977		Dens (lb/gal) 10.50		Vis (s/qt) 60		PV Calc (cP) 30.0		YP Calc (l... 26		Vis 3rpm 12		Vis 6rpm 14		LGS (%) 7.3		LCM (lb/bbl)		Chlor (mg/L) 65,000		Oil Water Ratio 70.4/29.6	
Daily Mud Field Est (Cost) 11,366.17				Cum Mud Field Est (Cost) 156,650.35				Electric Stab (V) 420.0			Excess Lime (lb/bbl) 0.8			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			HTHP Temperature (°F) 250.0						
Date 7/3/2019		Type OIL BASE			Depth (ftKB) 14,977		Dens (lb/gal) 10.50		Vis (s/qt) 62		PV Calc (cP) 30.0		YP Calc (l... 26		Vis 3rpm 13		Vis 6rpm 14		LGS (%) 7.1		LCM (lb/bbl)		Chlor (mg/L) 66,000		Oil Water Ratio 71/29	
Daily Mud Field Est (Cost) 11,366.17				Cum Mud Field Est (Cost) 156,650.35				Electric Stab (V) 426.0			Excess Lime (lb/bbl) 0.8			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			HTHP Temperature (°F) 250.0						
Wellbore Design																										
Casing Description					Run Date			OD (in)		Wt (lb/ft)		Grade		Conn		Set Depth (ftKB)		Length (ft)								
CONDUCTOR					1/21/2019			20		106.50		J-55		WELDED		40.0		40.00								
SURFACE					5/10/2019			13 3/8		54.50		J-55		BUTTRESS THREAD		959.0		958.72								



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 7/4/2019  
Report # 15  
Projected Days 18.00  
Drilling Days 11.33  
Current Depth 14,977  
Depth Progress 0  
Planned VS 10,964  
Current VS 8,534  
AFE # 1550744  
Total AFE 2,944,975

Wellbore Design							
Casing Description	Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)
INTERMEDIATE	6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION	7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

Survey Data								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72	0.64
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57	-0.21
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00

Mud Logging Information		
Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)

Geological Data			
Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



**WELL NO. 336**  
**ENSIGN 786**

Report Date	7/5/2019
Report #	16
Projected Days	18,000
Drilling Days	12,333
Current Depth	15,880
Depth Progress	903
Planned VS	10,964
Current VS	9,381
AFE #	1550744
Total AFE	2,944,975

PPI 42383406190000		Surface Legal Location HE&WT RR CO SURVEY, A-884		Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB El... 31.00		County REAGAN		State TEXAS			
Report Summary																	
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPCC2_350_SH		Proposed TD (ftKB) 17,370				Target Line Plan #1		Daily Field Est (Cost) 70,180		Cum Field Est (Cost) 2,074,646	
Status at Report Time Drilling 8.75" Lateral Section at 15,880 ft																	
<div>Operations Summary</div> <div>0 HSE</div> <div>Worked tight and packing off hole from f/ 10,460 ft to 10,449 ft staging pump rate up to 625 GPM and rotary to 80 RPM. Washed to 10,547 ft. T.i.h. t/ 12,870 ft. Pumped weighted sweep let hole unload. T.i.h. f/ 12, 870 ft to 14,844 ft. Staged up pumps and washed to bottom at 14,977 ft. Circulated bottoms up, observed large angular pieces of shale unload from the well. Drilled 8.75" production lateral f/ 14,977 ft to 15,880 ft at time of report.</div> <div>Mud Wt 10.9 ppg, Vis 62</div> <div>Last survey: 15,727 ft MD Inc 91.4° Azm 178.2°, 1.0 ft Above, 6.8 ft Right</div> <div>New Drilling window: 0 ft below 10 ft above plan #1 00:30 7/5/19</div> <div>Old Drilling window: 5 ft above 5 ft below plan #1 23:56 7/2/19</div> <div>Big rig spud date: 6-22-19 22:00 hrs</div> <div>Next well : DSU-09 23HK (MOVE)</div>								<div>Planned Operations</div> <div>Drill 8.75" lateral section to TD at +/- 17,388'</div>									
Start MD (ftKB) 14,977				End MD (ftKB) 15,880		Depth Progress (ft) 903		Drilling Time (hr) 11.25		Avg ROP (ft/hr) 80.3		Time Since LTI (days) 1,063		Time Since RI (days) 1,063			
Daily Time Log																	
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments				Hole Section	Interval	Category	Activity		NPT			
06:00	11:00	5.00	14,977	14,977	Circulated/ back reamed and recorded pressures f/ 10,460 ft to 10,449 ft staged up parameters F/ 100 - 625 GPM, 30-80 RPM worked pipe when hole allowed due to packing off. Circulated weighted sweep after establishing consistant flow rate after hole unloaded large shale and cuttings. Washed down f/ 10,460 ft to 10,547 ft Increased MW to 10.9 due to large shale coming across shakers				PROD	LAT	DRILL	REAMING		Yes			
11:00	12:15	1.25	14,977	14,977	Tripped in hole f/ 10,547 ft to 12,870 ft				PROD	LAT	DRILL	TRIPS		Yes			
12:15	14:15	2.00	14,977	14,977	Circulated bottoms up to top of curve and pumped 15 bbl .5 ppg over weighted sweep and circulated out of hole. Large angular cuttings were observed at the shakers				PROD	LAT	DRILL	COND MUD & CIRC		Yes			
14:15	15:30	1.25	14,977	14,977	Tripped in hole f/ 12,870 ft to 14,844 ft				PROD	LAT	DRILL	TRIPS		Yes			
15:30	17:00	1.50	14,977	14,977	Staged up pumps f/ 350 - 640 GPM, washed and reamed f/ 14,844 ft to 14,939 ft				PROD	LAT	DRILL	REAMING		Yes			
17:00	18:15	1.25	14,977	14,977	Staged up pumps t/ 725 GPM. Washed to bottom at 14,977 ft. Circulated bottoms up, observed 3" shale unloading over the shakers.				PROD	LAT	DRILL	REAMING		Yes			
18:15	04:30	10.25	14,977	15,786	Drilled/Slide 8 3/4" lateral from 14,977 ft to 15,786 ft, With full returns and no flow on connections				PROD	LAT	DRILL	DRILL W/ MUD		No			
					MW 10.9 VIS 62												
					New Drilling window: 0 ft below 10 ft above plan #1 00:30 7/5/19 Old window: 5 ft above 5 ft below plan #1 23:56 7/2/19												
04:30	05:00	0.50	15,786	15,786	Lost GAMA f/ 15,720 ft to 15,786 ft. Relog at 200 ft/hr				PROD	LAT	DRILL	DIRECTIONAL WORK		Yes			
05:00	06:00	1.00	15,786	15,880	Drilled/Slide 8 3/4" lateral from 15,786 ft to 15,880 ft, With full returns and no flow on connections				PROD	LAT	DRILL	DRILL W/ MUD		No			
					MW 10.9 VIS 62												
					New Drilling window: 0 ft below 10 ft above plan #1 00:30 7/5/19 Old window: 5 ft above 5 ft below plan #1 23:56 7/2/19												
Drilling Parameters																	
Start Depth (ftKB)	End Depth (ftKB)	Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq				
14,977	15,222	3.25	0.00	75.4		450	24	675	5,300.0	70	255	100	13,000				
15,222	15,244	0.00	0.75	29.3	-80	250	50	700	5,475.0		255	100					
15,244	15,422	2.00	0.00	89.0		600	30	700	5,700.0	75	260	100	16,000				
15,422	15,444	0.00	0.50	44.0	-20	250	45	700	5,425.0		260	100					
15,444	15,598	1.25	0.00	123.2		525	30	640	4,875.0	75	260	90	16,000				
15,598	15,613	0.00	0.50	30.0	-30	125	48	640	4,675.0		260	90					
15,613	15,692	0.75	0.00	105.3		550	32	700	5,775.0	75	265	85	16,000				
15,692	15,707	0.00	0.50	30.0	0	175	40	640	4,650.0		265	85					
15,707	15,786	0.75	0.00	105.3		525	35	640	5,050.0	75	265	80	16,000				
15,786	15,880	1.00	0.00	94.0		525	32	700	5,750.0	75	265	80	16,000				
Bit Information																	
Size (in)	Make	Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)			
8 3/4	REED	TKC66 Z2	PDC	1-2-CT-S-X-0-NO-DMF	7,700	14,977	7,277.00	47.25	154.0	38.75	8.50	174.0	43	261			
8 3/4	REED	TKC66 Z2	PDC	1-2-BT-S-X-0-CT-TD	14,977	17,370	2,393.00	26.50	90.3	21.00	5.50	103.1	50	255			
Current BHA Components																	
BHA No	Item Description				Make	Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)				
7	DRILL PIPE				Ensign	Rig	5	421	13,071.54	IF							
7	AGITATOR				NOV	NOV	6.84	1	25.06	IF							
7	DRILL PIPE				RIG	RIG	5	84	2,631.80	IF			6 1/2				
7	DRILL COLLAR - NON MAG				CATHEDRAL	CATHEDRAL	6.84	1	28.65	IF			6.84	3.31			
7	DRILL COLLAR - FLEX NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	30.65	IF			6 3/4	5.10			
7	MWD - DIRECTIONAL				CATHEDRAL	CATHEDRAL				IF							
7	ECM GAP SUB				CATHEDRAL	CATHEDRAL	6.62	1	6.60	IF			6.62	0.94			
7	XO SUB				CATHEDRAL	CATHEDRAL	7.15	1	3.58	IF							
7	DRILL COLLAR - FLEX NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	11.86	IF			6 3/4	2.30			
7	DRILL COLLAR - NON MAG				CATHEDRAL	CATHEDRAL	6 3/4	1	29.70	IF							
7	STABILIZER				CATHEDRAL	CATHEDRAL	6.612	1	4.83	IF		8.13					
7	MUD MOTOR				CATHEDRAL	7" C2 - Claw 1.75, 250 Performance Motor w/ Slick Sleeve	6.97	1	34.73	IF		8.25					
Mud Reports																	
Time 10:00	Type OIL BASE	Depth (ftKB) 14,977	Density (lb/gal) 10.70	Vis (s/qt) 66	PV Calc (cP) 30.0	YP Calc (lb/100... 29	Vis 3rpm 14	Vis 6rpm 15	LGS (%) 8.9	LCM (lb/bbl)	WPS (ppm) 291,902	OW Ratio 69.9/30.1					
Electric Stab (V) 454.0		Excess Lime (lb/bbl) 0.8	HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 8,126.33		Cum Mud Field Est (Cost) 164,776.68						
Time 22:00	Type OIL BASE	Depth (ftKB) 15,180	Density (lb/gal) 10.90	Vis (s/qt) 62	PV Calc (cP) 30.0	YP Calc (lb/100... 33	Vis 3rpm 16	Vis 6rpm 15	LGS (%) 7.4	LCM (lb/bbl)	WPS (ppm) 292,741	OW Ratio 70.5/29.5					
Electric Stab (V) 462.0		Excess Lime (lb/bbl) 0.7	HTHP Filtrate (mL/30min) 4.2		HTHP Filter Cake (1/32") 2		T HTHP (°F) 250.0		Daily Mud Field Est (Cost) 8,126.33		Cum Mud Field Est (Cost) 164,776.68						
Mud Reports																	
Date 7/4/2019 10:00		Type OIL BASE	Depth (ftKB) 14,977	Density (lb/gal) 10.70	Percent Oil (%) 58.0	Mud Temp Out... 110.0		MBT (lb/bbl)		pH	Pm Filtrate (m...		Pm (mL/mL)				
Funnel Viscosity (s/qt) 66		PV Calc (cP) 30.0		YP Calc (lb/100ft²) 29	Gel 10 sec (lb/100ft²) 18.000		Gel 10 min (lb/100ft²) 28.000		Vis 3rpm 14		Vis 6rpm 15		Vis 300rpm 40		Vis 600rpm 51		
Corrected Solids (%) 13.9		API Water Loss		LGS (%) 8.9	Excess Lime (lb/bbl) 0.8		LCM (lb/bbl)		Chlorides (mg/L) 65,000		Filter Cake (1/32")		Daily Mud Field Est (Cost) 8,126.33		Cum Mud Field Est (Cost) 164,776.68		



**SABLE PERMIAN RESOURCES, LLC**  
**Daily Drilling Partner Report**

Report Date	7/5/2019
Report #	16
Projected Days	18.00
Drilling Days	12.33
Current Depth	15,880
Depth Progress	903
Planned VS	10,964
Current VS	9,381
AFE #	1550744
Total AFE	2,944,975

## UNIVERSITY OWENS 33HK

**WELL NO. 336**  
**ENSIGN 786**

Mud Reports											
Date 7/4/2019 22:00	Type OIL BASE			Depth (ftKB) 15,180	Density (lb/gal) 10.90	Percent Oil (%) 58.5	Mud Temp Out... 194.0	MBT (lb/bbl)	pH	Pm Filtrate (m...)	Pm (mL/mL)
Funnel Viscosity (s/qt) 62	PV Calc (cP) 30.0	YP Calc (lb/100ft²) 33	Gel 10 sec (lb/100ft²) 20.00	Gel 10 min (lb/100ft²) 29.00	Vis 3rpm 16	Vis 6rpm 15	Vis 300rpm 63	Vis 600rpm 93			
Corrected Solids (%) 14.0	API Water Loss	LGS (%) 7.4	Excess Lime (lb/bbl) 0.7	LCM (lb/bbl)	Chlorides (mg/L) 64,000	Filter Cake (1/32")	Daily Mud Field Est (Cost) 8,126.33	Cum Mud Field Est (Cost) 164,776.68			

## Mud Reports

Date 7/4/2019	Type OIL BASE	Depth (ftKB) 14,977	Dens (lb/gal) 10.70	Vis (s/qt) 66	PV Calc (cP) 30.0	YP Calc (l...) 29	Vis 3rpm 14	Vis 6rpm 15	LGS (%) 8.9	LCM (lb/bbl)	Chlor (mg/L) 65,000	Oil Water Ratio 69.9/30.1
Daily Mud Field Est (Cost) 8,126.33		Cum Mud Field Est (Cost) 164,776.68		Electric Stab (V) 454.0	Excess Lime (lb/bbl) 0.8		HTHP Filtrate (mL/30min) 4.0	HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0		
Date 7/4/2019	Type OIL BASE	Depth (ftKB) 15,180	Dens (lb/gal) 10.90	Vis (s/qt) 62	PV Calc (cP) 30.0	YP Calc (l...) 33	Vis 3rpm 16	Vis 6rpm 15	LGS (%) 7.4	LCM (lb/bbl)	Chlor (mg/L) 64,000	Oil Water Ratio 70.5/29.5
Daily Mud Field Est (Cost) 8,126.33		Cum Mud Field Est (Cost) 164,776.68		Electric Stab (V) 462.0	Excess Lime (lb/bbl) 0.7		HTHP Filtrate (mL/30min) 4.2	HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0		

## Wellbore Design

Casing Description	Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)
CONDUCTOR	1/21/2019	20	106.50	J-55	WELDED	40.0	40.00
SURFACE	5/10/2019	13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72
INTERMEDIATE	6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION	7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

## Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72	0.64
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57	-0.21
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00

## Mud Logging Information

Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)
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## Geological Data

Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		





**WELL NO. 336**  
**ENSIGN 786**

Report Date	7/6/2019
Report #	17
Projected Days	18.00
Drilling Days	13.33
Current Depth	17,370
Depth Progress	1,490
Planned VS	10,964
Current VS	10,963
A/E #	1550744
Total A/E	2,944,975



**WELL NO. 336**  
**ENSIGN 786**

Report Date	7/6/2019
Report #	17
Projected Days	18.00
Drilling Days	13.33
Current Depth	17,370
Depth Progress	1,490
Planned VS	10,964
Current VS	10,963
APE #	1550744
Total AFE	2,944,975

Mud Reports											
Date 7/5/2019 10:00		Type OIL BASE		Depth (ftKB) 16,097	Density (lb/gal) 10.90	Percent Oil (%) 58.5	Mud Temp Out... 201.0	MBT (lb/bbl)	pH	Pm Filtrate (m...)	Pm (mL/mL)
Funnel Viscosity (s/qt) 65	PV Calc (cP) 30.0	YP Calc (lb/100ft²) 31	Gel 10 sec (lb/100ft²) 18.000	Gel 10 min (lb/100ft²) 28.000	Vis 3rpm 13		Vis 6rpm 15		Vis 300rpm 61	Vis 600rpm 91	
Corrected Solids (%) 14.4	API Water Loss	LGS (%) 8.3	Excess Lime (lb/bbl) 0.8	LCM (lb/bbl)	Chlorides (mg/L) 65,000		Filter Cake (1/32")	Daily Mud Field Est (Cost) 16,449.66		Cum Mud Field Est (Cost) 181,226.34	
Date 7/5/2019 22:00		Type OIL BASE		Depth (ftKB) 17,309	Density (lb/gal) 11.00	Percent Oil (%) 59.5	Mud Temp Out... 210.0	MBT (lb/bbl)	pH	Pm Filtrate (m...)	Pm (mL/mL)
Funnel Viscosity (s/qt) 58	PV Calc (cP) 28.0	YP Calc (lb/100ft²) 33	Gel 10 sec (lb/100ft²) 14.000	Gel 10 min (lb/100ft²) 26.000	Vis 3rpm 11		Vis 6rpm 13		Vis 300rpm 61	Vis 600rpm 89	
Corrected Solids (%) 14.5	API Water Loss	LGS (%) 8.3	Excess Lime (lb/bbl) 0.8	LCM (lb/bbl)	Chlorides (mg/L) 65,000		Filter Cake (1/32")	Daily Mud Field Est (Cost) 16,449.66		Cum Mud Field Est (Cost) 181,226.34	

Date 7/5/2019	Type OIL BASE	Depth (ftKB) 16,097	Dens (lb/gal) 10.90	Vis (s/qt) 65	PV Calc (cP) 30.0	YP Calc (l...) 31	Vis 3rpm 13	Vis 6rpm 15	LGS (%) 8.3	LCM (lb/bbl) 15	Chlor (mg/L) 65,000	Oil Water Ratio 70.9/29.1
Daily Mud Field Est (Cost) 16,449.66		Cum Mud Field Est (Cost) 181,226.34		Electric Stab (V) 465.0		Excess Lime (lb/bbl) 0.8		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0
Date 7/5/2019	Type OIL BASE	Depth (ftKB) 17,309	Dens (lb/gal) 11.00	Vis (s/qt) 58	PV Calc (cP) 28.0	YP Calc (l...) 33	Vis 3rpm 11	Vis 6rpm 13	LGS (%) 8.3	LCM (lb/bbl) 15	Chlor (mg/L) 65,000	Oil Water Ratio 72.1/27.9
Daily Mud Field Est (Cost) 16,449.66		Cum Mud Field Est (Cost) 181,226.34		Electric Stab (V) 466.0		Excess Lime (lb/bbl) 0.8		HTHP Filtrate (mL/30min) 4.0		HTHP Filter Cake (1/32") 2		HTHP Temperature (°F) 250.0

Casing Description	Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ftKB)	Length (ft)
CONDUCTOR	1/21/2019	20	106.50	J-55	WELDED	40.0	40.00
SURFACE	5/10/2019	13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72
INTERMEDIATE	6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION	7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
16,761	89.70	181.00	7,312	10,354.39	-10,339.34	-558.14	1.72	0.64
16,855	89.50	181.50	7,312	10,448.34	-10,433.31	-560.19	0.57	-0.21
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00

Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)
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Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
Lower Spraberry	5,536		
Jo-Mill Sand	5,832		
Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		







SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 7/7/2019  
Report # 18  
Projected Days 18.00  
Drilling Days 14.33  
Current Depth 17,370  
Depth Progress 0  
Planned VS 10,964  
Current VS 10,963  
AFE # 1550744  
Total AFE 2,944,975

Survey Data								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
16,949	91.90	184.60	7,311	10,542.31	-10,527.15	-565.19	4.17	2.55
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00

Mud Logging Information		
Max Trip Gas (units)	Avg Drill Gas (units)	Max Drill Gas (units)

Geological Data			
Formation Name	Prog Top TVD (ftKB)	Drill Top MD (ftKB)	Drill Top (TVD) (ftKB)
Grayburg	2,060		
San Andres	2,260		
Upper Spraberry	5,015		
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Dean	6,324		
WCMP A	6,456		
WCMP B	6,788		
WCMP C	7,164		
WFMP C2 350 Tgt Top	7,302		
WFMP C2 350 LP	7,319		
WFMP C2 350 Tgt Base	7,336		



**SABLE PERMIAN RESOURCES, LLC**  
**Daily Drilling Partner Report**

Report Date	7/8/2019
Report #	19
Projected Days	18.00
Drilling Days	15.33
Current Depth	17,370
Depth Progress	0
Planned VS	10,964
Current VS	10,963
AFE #	1550744
Total AFE	2,944,975

## UNIVERSITY OWENS 33HK

**WELL NO. 336**  
**ENSIGN 786**

API 42383406190000			Surface Legal Location HE&WT RR CO SURVEY, A-884			Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB (ft) 31.00		County REAGAN		State TEXAS				
Report Summary																				
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1				Daily Field Est (Cost) 320,475		Cum Field Est (Cost) 2,608,790				
Status at Report Time Circulating before cement job																				
Operations Summary 0 HSE Retrieved wear bushing. Cleaned and cleared rig floor. R/U Frank's equipment. Made up shoe track. Ran 5.5 production casing to 17,368 ft, confirmed layout w/ Encore, R/U cement head, burst disc at 1586 psi, circulated/bleed air out, circulating 1.5 bottoms up  Mud Wt 11.1 ppg, Vis 58 Last survey: 17,311 ft MD Inc 90.2° Azm 184.8°, 10.0 ft Above, 9.0 ft Right Big rig spud date: 6-22-19 22:00 hrs Next well : DSU-09 23HK (MOVE)									Planned Operations Circulate, cement production casing, nipple down Bop's, clean pits. Move rig to DSU-09 23HK											
Start MD (ftKB) 17,370				End MD (ftKB) 17,370			Depth Progress (ft) 0		Drilling Time (hr)			Avg ROP (ft/hr)		Time Since LTI (days) 1,066		Time Since RI (days) 1,066				
Daily Time Log																				
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments				Hole Section	Interval	Category	Activity		NPT						
06:00	07:00	1.00	17,370	17,370	Cleaned and cleared the rig floor of OBM and trip hazards				PROD	PROD	CSG/CEMENT	BOP/OTHER		No						
07:00	07:30	0.50	17,370	17,370	Pulled wearbushing				PROD	PROD	CSG/CEMENT	BOP/OTHER		No						
07:30	08:45	1.25	17,370	17,370	Rigged up Frank's casing tools.				PROD	PROD	CSG/CEMENT	RU/RD 3rd PARTY EQUIPMENT		No						
08:45	09:45	1.00	17,370	17,370	PJSM. Made up float shoe (Model 323HD) and float collar (Model 4EHDL), rig up circulating iron, pump thru				PROD	PROD	CSG/CEMENT	RUN CASING		No						
09:45	19:30	9.75	17,370	17,370	Picked up and ran toe sleeves (TC-MV577-BT-625K155-17PJ10X2, Sn : 77155-12034, 12035 ), ran 285 jts (12,208 ft) of 17 ppf RYP-110 BTC 5 1/2" production casing. *** Cat walk down***  5 1/2" swedge with lo-torque functioned and left in open position on rig floor.  Note: Notified Sherry Operator # 91 with TRRC at 7/05/2019 22:15 of intent to run and cement 5 1/2" production casing				PROD	PROD	CSG/CEMENT	RUN CASING		No						
19:30	21:00	1.50	17,370	17,370	Cat walk down, wire caught and pulled out of termination block, pull slack back and reterminated.				PROD	PROD	CSG/CEMENT	REPAIR RIG		Yes						
21:00	02:30	5.50	17,370	17,370	Ran 5.5" casing from 12,208 ft 17,368 ft. Tagged bottom, lay down tag joints, landed casing with Encore casing hanger. Visually verified land out.  Ran a total of 434 joints of 17 ppf, (?17,158 ft) RYP -110 BTC casing and 4 marker joints,  Shoe at 17,365 ft. Float collar at 17,340 ft. Geo Dynamics Toe Sleeve at 17,283 ft. Geo Dynamics Toe Sleeve at 17,217 ft. Marker joint at 14,117 ft. Marker joint at 10,908 ft. NOV Flotation collar at 6,818 ft. Marker joint at 5,953 ft.  Installed 305 centralizers as per program 5 1/2" swedge with lo-torque functioned and left in open position on rig floor.  Note: Notified Sherry Operator # 91 with TRRC at 7/05/2019 22:15 of intent to run and cement 5 1/2" production casing				PROD	PROD	CSG/CEMENT	RUN CASING		No						
02:30	03:30	1.00	17,370	17,370	R/D casing equipment, R/U Halliburton cement head and circulating iron.				PROD	PROD	CSG/CEMENT	RU/RD 3rd PARTY EQUIPMENT		No						
03:30	06:00	2.50	17,370	17,370	Ruptured flotation collar disk @ 1586 psi @ 2 BPM, shut down & wait 10 minutes & bleed air, pump 100 bbls shut down pump, wait 10 minutes bleeding air. Pump 100 bbls shut down 10 min. Circulating bottoms up staged pumps up f/ 3 bpm to 8 bpm.				PROD	PROD	CSG/CEMENT	COND MUD & CIRC		No						
Drilling Parameters																				
Start Depth (ftKB)		End Depth (ftKB)		Rot Time (hr)	Slide Time (hr)	Int ROP (ft/hr)	TFO (°)	dP (SPP) (psi)	WOB (1000lbf)	Q Rate (gpm/cfm)	SPP (psi)	RPM (rpm)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drill Tq					
Bit Information																				
Size (in)	Make		Model	Type	Dull Out	Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)					
8 3/4	REED		TKC66 Z2	PDC	1-2-CT-S-X-0-NO-DMF	7,700	14,977	7,277.00	47.25	154.0	38.75	8.50	174.0	43	261					
8 3/4	REED		TKC66 Z2	PDC	1-2-BT-S-X-0-CT-TD	14,977	17,370	2,393.00	26.50	90.3	21.00	5.50	103.1	50	255					
Current BHA Components																				
BHA No	Item Description					Make		Model	OD (in)	Jts	Length (ft)	Top Thread	Gauge (in)	Fish Neck OD (in)	FN Len (ft)					
7	DRILL PIPE					Ensign		Rig	5	421	13,071.54	IF								
7	AGITATOR					NOV		NOV	6.84	1	25.06	IF								
7	DRILL PIPE					RIG		RIG	5	84	2,631.80	IF		6 1/2						
7	DRILL COLLAR - NON MAG					CATHEDRAL		CATHEDRAL	6.84	1	28.65	IF		6.84	3.31					
7	DRILL COLLAR - FLEX NON MAG					CATHEDRAL		CATHEDRAL	6 3/4	1	30.65	IF		6 3/4	5.10					
7	MWD - DIRECTIONAL					CATHEDRAL		CATHEDRAL			IF									
7	ECM GAP SUB					CATHEDRAL		CATHEDRAL	6.62	1	6.60	IF		6.62	0.94					
7	XO SUB					CATHEDRAL		CATHEDRAL	7.15	1	3.58	IF								
7	DRILL COLLAR - FLEX NON MAG					CATHEDRAL		CATHEDRAL	6 3/4	1	11.86	IF		6 3/4	2.30					
7	DRILL COLLAR - NON MAG					CATHEDRAL		CATHEDRAL	6 3/4	1	29.70	IF								
7	STABILIZER					CATHEDRAL		CATHEDRAL	6.612	1	4.83	IF	8.13							
7	MUD MOTOR					CATHEDRAL		7" C2 - Claw 1.75, 250 Performance Motor w/ Slick Sleeve	6.97	1	34.73	IF	8.25							
Mud Reports																				
Time 10:00		Type OIL BASE		Depth (ftKB) 17,370		Density (lb/gal) 11.10		Vis (s/qt) 64		PV Calc (cP) 29.0		YP Calc (lb/100... 33		Vis 3rpm 13		Vis 6rpm 14	LGS (%) 7.9	LCM (lb/bbl)	WPS (ppm) 304,012	OW Ratio 72/28
Electric Stab (V) 465.0			Excess Lime (lb/bbl) 0.8			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 906.95			Cum Mud Field Est (Cost) 190,400.94		
Time 22:00		Type OIL BASE		Depth (ftKB) 17,370		Density (lb/gal) 11.10		Vis (s/qt) 65		PV Calc (cP) 30.0		YP Calc (lb/100... 33		Vis 3rpm 13		Vis 6rpm 15	LGS (%) 7.9	LCM (lb/bbl)	WPS (ppm) 304,012	OW Ratio 72/28
Electric Stab (V) 469.0			Excess Lime (lb/bbl) 0.7			HTHP Filtrate (mL/30min) 4.0			HTHP Filter Cake (1/32") 2			T HTHP (°F) 250.0			Daily Mud Field Est (Cost) 906.95			Cum Mud Field Est (Cost) 190,400.94		
Mud Reports																				
Date 7/7/2019 10:00			Type OIL BASE				Depth (ftKB) 17,370		Density (lb/gal) 11.10		Percent Oil (%) 59.0		Mud Temp Out... 201.0		MBT (lb/bbl)		pH		Pm Filtrate (m...	Pm (mL/mL)
Funnel Viscosity (s/qt) 64		PV Calc (cP) 29.0		YP Calc (lb/100ft²) 33		Gel 10 sec (lb/100ft²) 15.000		Gel 10 min (lb/100ft²) 27.000		Vis 3rpm 13			Vis 6rpm 14		Vis 300rpm 62		Vis 600rpm 91			
Corrected Solids (%) 15.0		API Water Loss		LGS (%) 7.9		Excess Lime (lb/bbl) 0.8		LCM (lb/bbl)		Chlorides (mg/L) 64,000		Filter Cake (1/32")		Daily Mud Field Est (Cost) 906.95			Cum Mud Field Est (Cost) 190,400.94			



SABLE PERMIAN RESOURCES, LLC  
Daily Drilling Partner Report

UNIVERSITY OWENS 33HK

WELL NO. 336  
ENSIGN 786

Report Date 7/8/2019  
Report # 19  
Projected Days 18.00  
Drilling Days 15.33  
Current Depth 17,370  
Depth Progress 0  
Planned VS 10,964  
Current VS 10,963  
AFE # 1550744  
Total AFE 2,944,975

Mud Reports																					
Date 7/7/2019 22:00		Type OIL BASE			Depth (ftKB) 17,370		Density (lb/gal) 11.10		Percent Oil (%) 59.0		Mud Temp Out...		MBT (lb/bbl)		pH		Pm Filtrate (m...		Pm (mL/mL)		
Funnel Viscosity (s/qt) 65		PV Calc (cP) 30.0		YP Calc (lb/100ft²) 33		Gel 10 sec (lb/100ft²) 16.000		Gel 10 min (lb/100ft²) 28.000		Vis 3rpm 13			Vis 6rpm 15			Vis 300rpm 63			Vis 600rpm 93		
Corrected Solids (%) 15.0		API Water Loss		LGS (%) 7.9		Excess Lime (lb/bbl) 0.7		LCM (lb/bbl)		Chlorides (mg/L) 65,000		Filter Cake (1/32")		Daily Mud Field Est (Cost) 906.95			Cum Mud Field Est (Cost) 190,400.94				

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Date 7/7/2019		Type OIL BASE			Depth (ftKB) 17,370		Dens (lb/gal) 11.10		Vis (s/qt) 64		PV Calc (cP) 29.0		YP Calc (l... 33		Vis 3rpm 13		Vis 6rpm 14		LGS (%) 7.9		LCM (lb/bbl)		Chlor (mg/L) 64,000		Oil Water Ratio 72/28	
Daily Mud Field Est (Cost) 906.95				Cum Mud Field Est (Cost) 190,400.94				Electric Stab (V) 465.0				Excess Lime (lb/bbl) 0.8				HTHP Filtrate (mL/30min) 4.0				HTHP Filter Cake (1/32") 2				HTHP Temperature (°F) 250.0		
Date 7/7/2019		Type OIL BASE			Depth (ftKB) 17,370		Dens (lb/gal) 11.10		Vis (s/qt) 65		PV Calc (cP) 30.0		YP Calc (l... 33		Vis 3rpm 13		Vis 6rpm 15		LGS (%) 7.9		LCM (lb/bbl)		Chlor (mg/L) 65,000		Oil Water Ratio 72/28	
Daily Mud Field Est (Cost) 906.95				Cum Mud Field Est (Cost) 190,400.94				Electric Stab (V) 469.0				Excess Lime (lb/bbl) 0.7				HTHP Filtrate (mL/30min) 4.0				HTHP Filter Cake (1/32") 2				HTHP Temperature (°F) 250.0		

Wellbore Design							
Casing Description	Run Date	OD (in)	Wt (lb/ft)	Grade	Conn	Set Depth (ft)KB	Length (ft)
CONDUCTOR	1/21/2019	20	106.50	J-55	WELDED	40.0	40.00
SURFACE	5/10/2019	13 3/8	54.50	J-55	BUTTRESS THREAD	959.0	958.72
INTERMEDIATE	6/28/2019	9 5/8	40.00	K-55	LT&C	6,703.0	6,668.39
PRODUCTION	7/8/2019	5 1/2	17.00	RYP-110	BUTTRESS THREAD	17,368.0	17,341.27

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Mud Logging Information		
Max Trip Gas (units)		Avg Drill Gas (units)
		Max Drill Gas (units)

Geological Data			
Formation Name		Prog Top TVD (ftKB)	Drill Top MD (ftKB)
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San Andres		2,260	
Upper Spraberry		5,015	
Lower Spraberry		5,536	
Jo-Mill Sand		5,832	
Dean		6,324	
WCMP A		6,456	
WCMP B		6,788	
WCMP C		7,164	
WFMP C2 350 Tgt Top		7,302	
WFMP C2 350 LP		7,319	
WFMP C2 350 Tgt Base		7,336	



**WELL NO. 336**  
**ENSIGN 786**

Report Date	7/9/2019
Report #	20
Projected Days	18.00
Drilling Days	16.07
Current Depth	17,370
Depth Progress	0
Planned VS	10,964
Current VS	10,963
AFE #	1550744
Total AFE	2,944,975

API 42383406190000			Surface Legal Location HE&WT RR CO SURVEY, A-884			Latitude 31.1601889900		Longitude -101.3033430000		Orig KB El... 2,733.00		RKB (ft) 31.00		County REAGAN		State TEXAS											
Report Summary																											
Well Spud 5/9/2019		TD Date 7/5/2019		RR Date 7/8/2019		Target Formation WFMPCC2_350_SH		Proposed TD (ftKB) 17,370		Target Line Plan #1			Daily Field Est (Cost) 219,435			Cum Field Est (Cost) 2,828,224											
Status at Report Time See University Lands 10 35-23 12HA																											
Operations Summary 0 HSE Circulated 1.5 bottoms up. Cemented 5.5" production casing as per plan. Full returns during entire cement job. ( 43 bbls of cement to surface). R/D Halliburton cement equipment, Flushed through lines, Set pack off.  Mud Wt 11.1 ppg, Vis 58 Last survey: 17,311 ft MD Inc 90.2° Azm 184.8°, 10.0 ft Above, 9.0 ft Right Big rig spud date: 6-22-19 22:00 hrs Next well : University Lands 10 35-23 12HA (MOVE)								Planned Operations Clean pits. Rig down to move rig to University Lands 10 35-23 12HA Aveda- Crane, pole truck, forklift and tandem Tuesday to get started on moving catwalk, BOP wrangler, removing diagonal beams and installing cylinders Softening rig and ready equipment to haul on Wednesday and start hauling misc equipment, catwalk, accumulator and umbilical skids. Stellar camp- Tuesday morning. Load as much as my truck can haul Tuesday and start moving from one to the other to get a head start. Water Fleet portable system- Tuesday, Safety solutions and Iron Horse for regular rig down Tuesday, Power Sat and Pason to do equipment switch – Wednesday, Full blown move on Thursday morning. Released to the UL 35 12 HA.																			
								Start MD (ftKB) 17,370		End MD (ftKB) 17,370		Depth Progress (ft) 0		Drilling Time (hr)		Avg ROP (ft/hr)		Time Since LTI (days) 1,067		Time Since RI (days) 1,067							
Daily Time Log																											
Start Time	End Time	Dur (hr)	Start Depth (ftKB)	End Depth (ftKB)	Comments					Hole Section	Interval	Category	Activity		NPT												
06:00	08:15	2.25	17,370	17,370	Circulated 1.5 B/U staging pumps to 8 bpm. Pumped 5 1/2 in. production cement job with Halliburton as follows: Pumped 50 bbl 11.3 ppg Clean Spacer Ill, 375 bbls (900 sx) NeoCem TM + additives 11.5 ppg lead cement, 502 bbls (1,675 sx) NeoCem TM + additives 12.5 ppg tail cement. Washed up cementing lines to open top tanks and dropped dart plug, Displaced w/ 403 bbls of treated water (first 20 bbl with sugar), Anhib 11 and Aldacide G / remaining displacement with Anhib 20 and Aldacide G at 8 bpm until caught cement at 40 bbls into displacement, pumped remaining displacement at 6 bpm. Slowed pump rate to 4 bpm for last 30 bbls of displacement. Plug landed on time with final circulating pressure of 2,100 psi. Bumped plug to 3,100 psi. (1,000 psi over) Held pressure for 5 minutes. Released pressure and bled back 4.5 bbls. Floats held. Full returns during whole cement job. 50 bbls of spacer and 43 bbls of cement back to surface. Top of lead at surface. Estimated top of tail at 6,235' MD'. R/D Halliburton cement equipment.					PROD	PROD	CSG/CEMENT	COND MUD & CIRC		No												
08:15	13:15	5.00	17,370	17,370						PROD	PROD	CSG/CEMENT	RUN CEMENT		No												
13:15	14:00	0.75	17,370	17,370	Set packoff with 10k down.  Started transferring OBM to tank farm on next pad Flushed surface lines, top drive, choke manifold and BOP stack, L/D bails and elevators, Closed rams, bled off Kooomey unit, press down kooomey, removed Kooomey lines, front turn buckles, flow line, kill line, choke hose and rotating head assembly. Replaced blown hose on wrangler. Welder working on Repairs on wrangler.  Nipple down stack and install night cap  TDJ cleaning pits. Transferring OBM to tank farm on next pad  Rig released from the University Owens 33 HK to the UL 10 23 12 HA @ 23:45 hrs on 7/8/19					PROD	PROD	CSG/CEMENT	RU/RD 3rd PARTY EQUIPMENT		No												
14:00	15:00	1.00	17,370	17,370						PROD	PROD	CSG/CEMENT	BOP/OTHER		No												
15:00	16:45	1.75	17,370	17,370						PROD	PROD	CSG/CEMENT	BOP/OTHER		No												
16:45	23:45	7.00	17,370	17,370						PROD	PROD	CSG/CEMENT	NIPPLE UP B.O.P./WELLHEAD		No												
Drilling Parameters																											
Start Depth (ftKB)		End Depth (ftKB)		Rot Time (hr)		Slide Time (hr)		Int ROP (ft/hr)		TFO (°)		dP (SPP) (psi)		WOB (1000lbf)		Q Rate (gpm/cfm)		SPP (psi)		RPM (rpm)		PU Str Wt (1000lbf)		SO Str Wt (1000lbf)		Drill Tq	
Bit Information																											
Size (in)	Make		Model		Type	Dull Out		Depth In (ftKB)	Depth Out (ftKB)	Depth Drilled This Job (ft)	Job Drill Hrs (hr)	Avg ROP (ft/hr)	Rot Time (hr)	Slide Time (hr)	Rot ROP (ft/hr)	WOB Max (1000lbf)	Max RPM (rpm)										
8 3/4	REED		TKC66 Z2		PDC	1-2-CT-S-X-0-NO-DMF		7,700	14,977	7,277.00	47.25	154.0	38.75	8.50	174.0	43	261										
8 3/4	REED		TKC66 Z2		PDC	1-2-BT-S-X-0-CT-TD		14,977	17,370	2,393.00	26.50	90.3	21.00	5.50	103.1	50	255										
Current BHA Components																											
BHA No	Item Description					Make		Model		OD (in)		Jts	Length (ft)		Top Thread		Gauge (in)	Fish Neck OD (in)		FN Len (ft)							
7	DRILL PIPE					Ensign		Rig		5		421	13,071.54		IF												
7	AGITATOR					NOV		NOV		6.84		1	25.06		IF												
7	DRILL PIPE					RIG		RIG		5		84	2,631.80		IF			6 1/2									
7	DRILL COLLAR - NON MAG					CATHEDRAL		CATHEDRAL		6.84		1	28.65		IF			6.84		3.31							
7	DRILL COLLAR - FLEX NON MAG					CATHEDRAL		CATHEDRAL		6 3/4		1	30.65		IF			6 3/4		5.10							
7	MWD - DIRECTIONAL					CATHEDRAL		CATHEDRAL		</td>																	



**WELL NO. 336**  
**ENSIGN 786**

Report Date	7/9/2019
Report #	20
Projected Days	18.00
Drilling Days	16.07
Current Depth	17,370
Depth Progress	0
Planned VS	10,964
Current VS	10,963
AFE #	1550744
Total AFE	2,944,975

Survey Data								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BUR (°/100ft)
17,043	91.70	184.80	7,308	10,636.23	-10,620.79	-572.88	0.30	-0.21
17,136	90.20	183.10	7,307	10,729.20	-10,713.55	-579.29	2.44	-1.61
17,230	88.40	182.70	7,308	10,823.18	-10,807.42	-584.04	1.96	-1.91
17,311	90.20	184.80	7,309	10,904.16	-10,888.23	-589.34	3.41	2.22
17,370	90.20	184.80	7,309	10,963.14	-10,947.02	-594.28	0.00	0.00
Mud Logging Information								
Max Trip Gas (units)			Avg Drill Gas (units)			Max Drill Gas (units)		
Geological Data								
Formation Name			Prog Top TVD (ftKB)		Drill Top MD (ftKB)		Drill Top (TVD) (ftKB)	
Grayburg			2,060					
San Andres			2,260					
Upper Spraberry			5,015					
Lower Spraberry			5,536					
Jo-Mill Sand			5,832					
Dean			6,324					
WCMP A			6,456					
WCMP B			6,788					
WCMP C			7,164					
WFMP C2 350 Tgt Top			7,302					
WFMP C2 350 LP			7,319					
WFMP C2 350 Tgt Base			7,336					