

Daily Drilling Report

UNIVERSITY 10-17E 5H				PERMIAN - JV SOUTHERN WOLFCAMP	
ENSIGN - 133				Job:	ODR
Accept: 10/18/2021		Release:		Report Date:	10/19/2021
Days Since LTI: 499.00		Days Since RI: 499.00		Report #:	3
				DFS:	1
				AFE #:	9015942
				Total AFE + Sup:	\$2,512,469.27
				Daily Field Est. (Cost):	\$92,511.53

P/I/UWI 42-383-41037-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)				
SSN ID00017562	Property Sub	KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,597.00	Ground Elevation (ft) 2,572.00	Spud Date 9/18/2021		TD Date			
Jobs										
Responsible Grp 2		Responsible Grp 3		Job Type	Start Date		End Date	Job Status		
DRL ENG - JACKIE LUTHER		AREA TEAM 2		ODR	9/18/2021 14:00			IN PROGRESS		
Job Dates (ex. Estimated Pad Release, TXRRC Calls)										
Type		Subtype		Date		Note				
MILESTONE		ESTIMATED PAD RELEASE		11/10/2021		Drilling Intermediate on 1st well of 3 well pad, Sequential Drilling. Estimated pad release 11/11/21 Updated 10-17-21				
Daily Operations										
Footage/Meterage (ft) 1,013.00	Drilling Hours (hr) 5.25	% Rotating Time (%) 80.95	End Depth (ftKB) 1,936.0	Target Depth (ftKB) 17,171.0	Daily Field Est Total (Cost) 92,511.53	Cum Field Est To Date (Cost) 443,631.10				
24 HR ROP (ft/hr) 193.0	Circulating Hours (hr) 1.25	% Sliding Time (%) 19.05	End Depth (TVD) (ftKB) 1,923.7	Target Depth (TVD) (ftKB) 7,390.0	Daily Mud Field Est (Cost)	Cum Mud Field Est (Cost)	Total AFE + Sup (Cost) 2,512,469.27			
Daily Goal Description DRILLED FEET		Daily Goal - Last 24 0.0		Daily Goal - Next 24 3,000.0		Goal Comments Goal Met				
Backbuild Yes	Lateral Inclination	Last Casing String SURFACE, 903.0ftKB			Next Casing String PROPOSED INTERMEDIATE, 6,758.0ftKB					
Avg Connection Gas 0.00	Avg Trip Gas 32.00	Avg Background Gas 48.00		Max Connection Gas 0.00		Max Trip Gas 67.00	Max Drill Gas 0.00			
Operations Summary Walk Rig F/University 10-17F 6H, NU BOP, Shell Test BOP, IWB, PU BHA, TIH, Drill Out Shoe Track, Drill 10' New FormationT/933', Circ, Perform FIT to 12.6 ppg EMW, Drill 12 1/4" Intermediate T/1,936', (19.05% Sliding, 10.72° Tangent, 4' Ahead & 12' Right of Plan 2 Line)										
Operations Next Report Period Drill 12 1/4" Intermediate T/4,936', With no HSE										
Operations at Report Time Service Rig @ 1,936'										
Remarks Surface - 100% Intermediate - 17% Production Curve - 0% Production Lateral - 0%										
Time Log										
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #
17:00	0.25	17:15	MOB, RIG UP	SFTY	NORMAL	PJSM W/Ensign, Trifecta, Cactus & PNR over walking rig, discussed order of operation, potential hazards and assigned roles and responsibilities.	923.0	923.0		
17:15	0.5	17:45	MOB, RIG UP	SKID	NORMAL	Walked rig F/University 10-17F 6H and centered over well.  TA cap removed offline	923.0	923.0		
17:45	0.25	18:00	MOB, RIG UP	NU_BOPE	NORMAL	Set Stack and NU QDC on wellhead.  NU Mud line	923.0	923.0		
18:00	0.5	18:30	MOB, RIG UP	CONC_BOPE	NORMAL	Shell test BOP connection to 250 psi low & 5000 psi high, 5 mins each test, Test Mudlines back to pumps 250 low & 5,500 psi high, 5 mins each test.	923.0	923.0		
18:30	0.75	19:15	INT, PRE DRL	WRBSH	NORMAL	Remove Test Plug and install Wear Bushing	923.0	923.0		
19:15	0.25	19:30	INT, PRE DRL	SFTY	NORMAL	PJSM W/Ensign, Gordon and PNR over PU BHA. Discusse order of operation, potential hazards and assigned roles and responsibilities	923.0	923.0		
19:30	1	20:30	INT, PRE DRL	PU_ DIR	NORMAL	PU Dir Assy as directed by Phoenix	923.0	923.0		
20:30	1.75	22:15	INT, PRE DRL	HDL_BHA	NORMAL	TIH W/8" DC's, 5 stds hwdp, taking displacement overboard.	923.0	923.0		
22:15	0.75	23:00	INT, PRE DRL	DRL_OUT	NORMAL	Tag cement @ 859', drill cement, float, shoe track & shoe @ 903' & cement void to 923'  Displace to Brine while drilling out.	923.0	923.0		
23:00	0.5	23:30	INT, PRE DRL	DRL	NORMAL	Rot Drill F/923' - 933' New Formation	923.0	933.0		
23:30	0.75	00:15	INT, PRE DRL	CIRC	NORMAL	Circ BU X2 to ensure even MW for FIT  MW in 9.9, MW out 9.9	933.0	933.0		
00:15	0.5	00:45	INT, PRE DRL	FIT	NORMAL	Perform FIT to 12.6 EMW  TVD of shoe = 902.5 ((12.5 - 9.9) x 0.052) x 902.5 = 122 Target PSI PSI achieved = 128  Fill gas buster W/Brine	933.0	933.0		
00:45	4.75	05:30	INT, DRL	DRL	NORMAL	Drill 12 1/4" Intermediate F/933' - 1,936', 1,003' @ 211 ft/hr), With no issues, Full retruns	933.0	1,936.0		
05:30	0.5	06:00	INT, DRL	RIG_SVC	NORMAL	Servcie Rig & TDS, Change Inline Screen	1,936.0	1,936.0		
Drill Strings										
BHA #2 , INTERMEDIATE										
Bit Run 2		Drill Bit 12 1/4in, XS616, JV6769			Bit Type PDC		Make SMITH			
Nozzles (1/32") 10/10/10/10/10/10/10/11		Bit Total Fluid Area (nozzles) (in²) 0.78		IADC Bit Dull -----		Hours Drilled By Bit (hr) 5.25		Depth Drilled By Bit (ft) 1,013.00		
BHA Drilling Time (hr) 5.25		BHA Depth Drilled (ft) 1,013.00		BHA ROP (ft/hr) 193.0		Depth In (ftKB) 923.0		Depth Out (ftKB) 1,936.0		
Daily Drilling Report				Page 1/4				Printed: Tuesday, October 19, 2021		

# Daily Drilling Report

# ENSIGN - 133

Accept: 10/18/2021	Release:
Days Since LTI: 499.00	Days Since RI: 499.00

<b>PERMIAN - JV SOUTHERN WOLFCAMP</b>	
<b>Job:</b>	<b>ODR</b>
<b>Report Date:</b>	<b>10/19/2021</b>
<b>Report #:</b>	<b>3</b>
<b>DFS:</b>	<b>1</b>
<b>AFE #:</b>	<b>9015942</b>
<b>Total AFE + Sup:</b>	<b>\$2,512,469.27</b>
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Hydraulic Calculations										
Dens Mud (lb/gal)	ECD End (lb/gal)	Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Jet Vel (ft/s)	Bit dP (psi)	Min Open Hole AV (ft/min)	Max Open Hole AV (ft/min)	Vol DrillString (bbl)	Vol Bit to Shoe (bbl)	Vol Shoe to Top (bbl)
9.90	9.92	109.8	0.9	204.8	376.3	14.0	177.4	25.32	108.94	115.40

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Mud Checks

Time 22:00		Mud Company PIONEER DRILLING FLUIDS		Type WATER BASE	Depth (ftKB) 923.0	Density (lb/gal) 9.90	Funnel Viscosity (s/qt) 29	T Flowline (°F)	
PV (cP) 2.0	YP (lb/100ft²) 1.000	Vis 3rpm 1	Vis 6rpm 1	Filtrate (mL/30min) 0.0	HTHP Filtrate (mL/30min)	HTHP Temperature (°F)		HTHP Pressure (psi)	
Solids (%) 11.5		Low Gravity Solids (%) 1.7		Sand (%) 0.1	MBT (lb/bbl) 2.5	Pm (mL/mL) 0.100		Pf (mL/mL)	
Chlorides (mg/L) 158,000		Calcium (mg/L) 2,800		CaCl (ppm)	Oil Water Ratio 0/100	Electric Stab (V)		Lime (lb/bbl) pH 8.0	
Gel 10 sec (lb/100ft²) 1.000				Gel 10 min (lb/100ft²) 1.000		Gel 30 min (lb/100ft²) 1.000			
Comment RECOMMENDED FLUID TREATMENT Maintain MW @ 9.8 - 10.2 ppg, Dump/dilute w/ reserve. Treat Active w/ .04 ppb Lime /hour. Sweeps: 80 bbls of active to slug, Add .6 ppb Soda Ash, .6 ppb Xanthan Gum, 1 can of PHPA Pump 20 - 25 bbls every other connection  DRILLING FLUID ACTIVITY LAST 24 HRS Cleaned pits and filled w/ brine. Dressed out shakers w/ 140's. Will begin pumping sweeps once BHA is past the shoe. Once drilling, will build WBM to top off frac tanks for displacement. Daily Cost was charged to University 10-17F 6H.  RIG ACTIVITY LAST 24 HOURS Skid rig f/ University 10-17F 6H, N/U & Test BOP, P/U BHA & TIH t/ 861', Drilling out shoe track at time of report.									
Last BOP Test									
Date	Test Type			Item Tested		Next Test Date		Com	
10/18/2021	BOP			BOP'S, 10/18/2021 17:00, <class>		10/30/2021		BOP Shell Test	
Leak Off and Formation Integrity Tests									
Test Type				Depth (ftKB)		Dens Fluid (lb/gal)			
FORMATION INTEGRITY				903.0		12.63			
Casing Pressure Test									
Test Type		Test Subtype			Date	Item Tested	Failed?	Time (min)	P (psi)
CASING		STANDARD			9/24/2021	SURFACE, 903.0ftKB	No	30.00	1,000.0
Kick Offs & Key Depths									
Date			Type			Top Depth (ftKB)		Depth Top (TVD) (ftKB)	
Casing Strings									
Description	Set Depth (ftKB)	Set Depth (TVD) (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)	Top Thread	P LeakOff (psi)		
CONDUCTOR	125.0	125.0	20	H40	78.67				
SURFACE	903.0	902.5	13 3/8	J55	54.50	BTC	592.1		
Gas Emissions - Flare									
Type	Method	Dur (min)	Amount	Units	Com				
FLARE	METERED	780.00	0.166	MCF	Previous Meter - 19025.6 SCF Current Meter - 1191.75 SCF				
Job Supply Amounts									
Supply Item Des	Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed	
DIESEL	FUEL	GAL	10,727	364	0	Tfr'd 10,727 gal Rig Fuel fom University 10-17F 6H @ \$2.3413/gal	10,363	1,226.0	
DIESEL	MUD	GAL	9,030	0	0	Tfr'd 9030 gal Mud Diesel from University 10-17 6H @ \$2.3413/gal	9,030	0.0	
WATER	FRESH	BBL	0	0	0	Meter - 33123	0	0.0	
Mud Additive Amounts									
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons			
Pump Operations									
Pump #	Make		Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)		
1	H&H		1600	5 1/2	12.00	0.088	5,549.0		
2	H&H		1600	5 1/2	12.00	0.088	5,549.0		
3	H&H		1600	5 1/2	12.00	0.088	5,549.0		
Pump Checks									
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)			
1	1,662.0	04:40	180.0	30	106	95			
1	1,662.0	04:41	240.0	40	141	95			
1	1,662.0	04:42	300.0	50	176	95			
2	1,662.0	04:43	180.0	30	106	95			
2	1,662.0	04:44	240.0	40	141	95			
2	1,662.0	04:45	300.0	50	176	95			
3	1,662.0	04:46	180.0	30	106	95			
3	1,662.0	04:47	240.0	40	141	95			
3	1,662.0	04:48	300.0	50	176	95			
Deviation Surveys									
Date	Description FINAL SURVEY					Job			
Date 9/18/2021	Description AS DRILL SURVEY					Job ODR, 9/18/2021 14:00			
Survey Data - All surveys for 24 hr reporting period									
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)		
960.00	1.42	144.54	959.48	-15.83	-15.99	8.73	1.42		
1,053.00	2.70	154.42	1,052.42	-18.72	-18.91	10.34	1.42		
1,144.00	5.66	162.12	1,143.17	-24.88	-25.11	12.64	3.30		
1,234.00	7.57	165.53	1,232.57	-34.79	-35.08	15.49	2.17		
Daily Drilling Report									

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Printed: Tuesday, October 19, 2021

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**ENSIGN - 133**

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## Formations

### Daily Contacts

## Personnel Log

## Daily Drilling Report

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UNIVERSITY 10-17E 5H				PERMIAN - JV SOUTHERN WOLFCAMP	
				Job:	ODR
				Report Date:	10/20/2021
				Report #:	4
				DFS:	2
				AFE #:	9015942
				Total AFE + Sup:	\$2,512,469.27
				Daily Field Est. (Cost):	\$107,925.35

P/UWI 42-383-41037-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)												
SSN ID00017562		Property Sub		KB-Grd (ft) 25.00		Orig KB Elev (ft) 2,597.00		Ground Elevation (ft) 2,572.00		Spud Date 9/18/2021		TD Date						
Jobs																		
Responsible Grp 2		Responsible Grp 3			Job Type		Start Date			End Date		Job Status						
DRL ENG - JACKIE LUTHER		AREA TEAM 2			ODR		9/18/2021 14:00					IN PROGRESS						
Job Dates (ex. Estimated Pad Release, TXRRRC Calls)																		
Type				Subtype			Date			Note								
MILESTONE				ESTIMATED PAD RELEASE			11/10/2021			Drilling Intermediate on 2nd well of 3 well pad, Sequential Drilling. Estimated pad release 11/11/21 Updated 10-19-21								
Daily Operations																		
Footage/Meterage (ft) 4,265.00		Drilling Hours (hr) 21.75		% Rotating Time (%) 80.46		End Depth (ftKB) 6,201.0		Target Depth (ftKB) 17,171.0		Daily Field Est Total (Cost) 107,925.35		Cum Field Est To Date (Cost) 551,556.46						
24 HR ROP (ft/hr) 196.1		Circulating Hours (hr) 2.25		% Sliding Time (%) 19.54		End Depth (TVD) (ftKB) 6,146.7		Target Depth (TVD) (ftKB) 7,390.0		Daily Mud Field Est (Cost) 6,110.42		Cum Mud Field Est (Cost) 6,110.42		Total AFE + Sup (Cost) 2,512,469.27				
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 3,000.0				Daily Goal - Next 24 542.0				Goal Comments Goal met						
Backbuild Yes		Lateral Inclination		Last Casing String SURFACE, 903.0ftKB					Next Casing String PROPOSED INTERMEDIATE, 6,758.0ftKB									
Avg Connection Gas 266.00			Avg Trip Gas 0.00			Avg Background Gas 193.00			Max Connection Gas 1,037.00			Max Trip Gas 0.00			Max Drill Gas 1,661.00			
Operations Summary Drill 12 1/4" Intermediate T/6201', (19.54% Sliding, 10.72° Tangent, Dropped Out, 24' Behind & 18' Right of Plan 2 Line)																		
Operations Next Report Period Drill 12 1/4" Intermediate T/6,743', (ICP1), Circ Caliper Sweeps, TOO H, Slip & Cut, TOO H, LD BHA, PWB, RU & Run 9 5/8" Int Casing, With no HSE																		
Operations at Report Time Service Rig @ 6,201'																		
Remarks Surface - 100% Intermediate - 91% Production Curve - 0% Production Lateral - 0%																		
Time Log																		
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com				Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #					
06:00	10.5	16:30	INT, DRL	DRL	NORMAL	Drill 12 1/4" Intermediate F/1,936' - 4,024', (2088' @ 198.85 ft/hr), With no issues, Full returns  Displaced from Brine to Gel Mud @ 3,000'				1,936.0	4,024.0							
16:30	0.5	17:00	INT, DRL	RIG_SVC	NORMAL	Service Rig equipment and C/O inline screen				4,024.0	4,024.0							
17:00	1.5	18:30	INT, DRL	DRL	NORMAL	Drill 12 1/4" Intermediate F/4,024' - 4,478', (454' @ 302.6 ft/hr), With no issues, Full returns				4,024.0	4,478.0							
18:30	0.5	19:00	INT, DRL	CIRC	NORMAL	CBU Prior to entering Clearfork				4,478.0	4,478.0							
19:00	3.5	22:30	INT, DRL	DRL	NORMAL	Drill 12 1/4" Intermediate F/4,478' - 5,476', (988' @ 282.28 ft/hr), With no issues, Full returns				4,478.0	5,476.0							
22:30	0.75	23:15	INT, DRL	CIRC	NORMAL	CBU Prior to entering Spraberry				5,476.0	5,476.0							
23:15	6.25	05:30	INT, DRL	DRL	NORMAL	Drill 12 1/4" Intermediate F/5,476' - 6,201', (725' @ 116 ft/hr), With no issues, Full returns				5,476.0	6,201.0							
05:30	0.5	06:00	INT, DRL	RIG_SVC	NORMAL	Service Rig & TDS				6,201.0	6,201.0							
Drill Strings																		
BHA #2 , INTERMEDIATE																		
Bit Run 2			Drill Bit 12 1/4in, XS616, JV6769						Bit Type PDC			Make SMITH						
Nozzles (1/32") 10/10/10/10/10/10/10/10/11			Bit Total Fluid Area (nozzles) (in²) 0.78			IADC Bit Dull -----			Hours Drilled By Bit (hr) 27.00			Depth Drilled By Bit (ft) 5,278.00						
BHA Drilling Time (hr) 27.00			BHA Depth Drilled (ft) 5,278.00			BHA ROP (ft/hr) 195.5			Depth In (ftKB) 923.0			Depth Out (ftKB) 6,201.0						
Drill String Components																		
Jts	Item Des				OD (in)		ID (in)		Len (ft)		Cum Len (ft)		Wt (lbf)		Cum Wt (1000lbf)		Make	
114	DRILL PIPE				5		4.28		5,173.13		6,201.00		115,826.4		218		RIG	
5	HWDP				5		3.13		151.92		1,027.87		7,140.2		102		RIG	
1	DRILLING JARS - HYDRAULIC				6 1/2		2.75		32.01		875.95		4,600.8		95		YELLOW JACKET OILFIELD SERVICES	
12	HWDP				5		3.13		362.41		843.94		17,033.3		90		RIG	
1	SUB - XO				7 7/8		2.88		2.89		481.53		414.6		73		DRILLING TOOLS INTERNATIONAL	
12	DRILL COLLAR				8		2.88		344.17		478.64		51,195.3		73		RIG	
1	SUB - XO				8 1/4		2.88		2.54		134.47		405.4		22		DRILLING TOOLS INTERNATIONAL	
1	SUB - SHOCK				8 1/8		3.00		25.00		131.93		3,806.2		21		COUGAR	
1	DRILL COLLAR - NON MAG				8		3.25		30.32		106.93		4,326.4		17		GORDON	
1	MWD TOOL - NON-RETRIEVABLE				8		3.75		29.10		76.61		3,880.5		13		GORDON	
1	SUB - UBHO				8		3.50		3.17		47.51		438.1		9		GORDON	
1	STABILIZER				8.31		2.88		5.94		44.34		1,225.6		9		DRILLING TOOLS INTERNATIONAL	
1	MOTOR - STABILIZER SLEEVE				9		2.38		36.90		38.40		7,423.2		7		PHOENIX	
Mud Motors																		
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr Defln Type		Bit To Bend						
PHX-900032-PTS		1.5		SEALED		7:8		7				7.83						
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Printed: Wednesday, October 20, 2021																		

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Mud Additive Amounts							
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons	
BENTONITE - BULK	VISCOSIFIER	CWT	18	13	25.0	13	
DRILLPAC LV	FLUID LOSS ADDITIVES	LB	0	15	0.0	15	
LIGNITE	DISPERSANTS/T HINNER	LB	0	20	105.0	20	
LIME	ALKALINITY CONTROL	LB	0	10	40.0	10	
PAC LV	FLUID LOSS ADDITIVES	LB	120	0	120.0	0	
PHPA	VISCOSIFIER	GAL	0	2	47.0	2	
SCALE CHARGE	MISCELLANEOUS	EA	2	2	0.0	2	
SODA ASH	ALKALINITY CONTROL	LB	0	31	160.0	31	
TRANSPORTATION	MISCELLANEOUS	EA	1,350	1,350	0.0	1,350	
XANTHAN GUM	VISCOSIFIER	LB	0	4	136.0	4	
ZINC OXIDE	SPECIALITY	LB	0	5	128.0	5	
Pump Operations							
Pump #	Make	Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)	
1	H&H	1600	5 1/2	12.00	0.088	5,549.0	
2	H&H	1600	5 1/2	12.00	0.088	5,549.0	
3	H&H	1600	5 1/2	12.00	0.088	5,549.0	
Pump Checks							
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)	
1	5,748.0	01:35	280.0	30	106	95	
1	5,748.0	01:36	320.0	40	141	95	
1	5,748.0	01:37	380.0	50	176	95	
2	5,748.0	01:38	280.0	30	106	95	
2	5,748.0	01:39	340.0	40	141	95	
2	5,748.0	01:40	380.0	50	176	95	
3	5,748.0	01:41	280.0	30	106	95	
3	5,748.0	01:42	300.0	40	141	95	
3	5,748.0	01:43	360.0	50	176	95	
Deviation Surveys							
Date	Description FINAL SURVEY				Job		
Date 9/18/2021	Description AS DRILL SURVEY				Job ODR, 9/18/2021 14:00		
Survey Data - All surveys for 24 hr reporting period							
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
1,962.00	11.93	152.25	1,948.26	-155.99	-157.16	62.80	0.87
2,053.00	12.24	149.96	2,037.25	-172.49	-173.83	72.00	0.63
2,143.00	12.18	150.63	2,125.21	-188.85	-190.36	81.44	0.17
2,235.00	11.98	150.36	2,215.17	-205.44	-207.12	90.92	0.23
2,326.00	11.84	150.69	2,304.21	-221.61	-223.47	100.16	0.17
2,418.00	11.83	151.16	2,394.26	-237.94	-239.96	109.33	0.11
2,509.00	11.79	151.92	2,483.33	-254.15	-256.33	118.20	0.18
2,599.00	11.68	152.29	2,571.45	-270.17	-272.51	126.77	0.15
2,691.00	11.51	152.48	2,661.57	-286.39	-288.90	135.34	0.19
2,781.00	11.38	153.11	2,749.78	-302.12	-304.78	143.50	0.20
2,870.00	11.35	153.52	2,837.04	-317.65	-320.45	151.38	0.10
2,961.00	11.41	153.72	2,926.25	-333.59	-336.53	159.36	0.08
3,052.00	11.51	153.76	3,015.43	-349.65	-352.75	167.36	0.11
3,142.00	11.63	154.32	3,103.61	-365.74	-368.98	175.26	0.18
3,234.00	11.69	153.91	3,193.71	-382.31	-385.71	183.38	0.11
3,324.00	10.65	153.33	3,282.00	-397.79	-401.33	191.12	1.16
3,413.00	10.08	151.93	3,369.55	-411.88	-415.55	198.48	0.70
3,504.00	10.19	151.39	3,459.13	-425.83	-429.64	206.08	0.16
3,595.00	10.12	151.56	3,548.70	-439.79	-443.74	213.74	0.08
3,776.00	8.29	148.50	3,727.37	-464.63	-468.85	228.13	1.05
3,866.00	7.58	148.98	3,816.50	-475.13	-479.47	234.58	0.79
3,957.00	6.98	147.81	3,906.77	-484.84	-489.29	240.62	0.68
4,048.00	6.28	146.92	3,997.16	-493.59	-498.14	246.28	0.78
4,138.00	5.86	146.51	4,086.66	-501.45	-506.10	251.50	0.47
4,230.00	5.56	146.41	4,178.20	-508.99	-513.73	256.56	0.33
4,320.00	5.17	144.48	4,267.81	-515.83	-520.66	261.33	0.48
4,411.00	5.11	144.80	4,358.44	-522.39	-527.31	266.05	0.07
4,501.00	4.82	144.55	4,448.10	-528.66	-533.66	270.55	0.32
4,592.00	4.50	143.62	4,538.80	-534.57	-539.65	274.88	0.36
4,683.00	4.13	141.98	4,629.54	-539.95	-545.11	279.02	0.43
4,775.00	3.76	141.92	4,721.32	-544.87	-550.09	282.92	0.40
4,864.00	3.37	142.28	4,810.15	-549.17	-554.46	286.32	0.44
4,955.00	2.91	137.69	4,901.02	-552.94	-558.28	289.51	0.58
5,046.00	2.64	134.10	4,991.91	-556.05	-561.45	292.57	0.35
Daily Drilling Report							
Page 4/5				Printed: Wednesday, October 20, 2021			



# Daily Drilling Report

**ENSIGN - 133**

Accept: 10/18/2021	Release:
Days Since LTI: 500.00	Days Since RI: 500.00

<b>PERMIAN - JV SOUTHERN WOLFCAMP</b>	
<b>Job:</b>	<b>ODR</b>
<b>Report Date:</b>	<b>10/20/2021</b>
<b>Report #:</b>	<b>4</b>
<b>DFS:</b>	<b>2</b>
<b>AFE #:</b>	<b>9015942</b>
<b>Total AFE + Sup:</b>	<b>\$2,512,469.27</b>
<b>Daily Field Est. (Cost):</b>	<b>\$107,925.35</b>

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
5,137.00	1.88	127.06	5,082.84	-558.35	-563.81	295.27	0.89
5,228.00	1.36	109.30	5,173.80	-559.57	-565.06	297.48	0.79
5,319.00	1.13	113.55	5,264.78	-560.25	-565.78	299.32	0.27
5,409.00	1.15	108.87	5,354.76	-560.87	-566.43	300.99	0.11
5,500.00	0.70	95.91	5,445.75	-561.20	-566.78	302.41	0.54
5,590.00	0.63	102.48	5,535.74	-561.34	-566.94	303.44	0.11
5,681.00	0.63	92.21	5,626.74	-561.45	-567.07	304.43	0.12
5,772.00	0.18	46.08	5,717.74	-561.36	-566.99	305.03	0.57
5,863.00	0.16	44.40	5,808.74	-561.17	-566.80	305.22	0.02
5,954.00	0.20	71.98	5,899.73	-561.02	-566.66	305.46	0.10

## Formations

Formation Name	Prog Top (TVD SS) Override (ft(elv))	Prog Top MD (ftKB)	Prog Top (TVD) (ftKB)	Final Top MD (ftKB)	Final Top (TVD) (ftKB)
268_7_SPBY_L_C1/LOWER SPRABERRY SHALE	-3,900.0		6,497.0		
ICP1	-4,050.0		6,647.0		
269_0_DEAN	-4,375.0		6,972.0		
270_0_WFMP_A1	-4,525.0		7,122.0		
271_0_WFMP_A2	-4,625.0		7,222.0		
FTP	-4,750.0		7,347.0		
PBHL/TD	-4,793.0		7,390.0		

## Daily Contacts

Job Contact	Title	Office	Mobile	Email
POLYA, JOE, AREA DRILLING SUPERINTENDENT	AREA DRILLING SUPERINTENDENT	432-413-6147	432-352-3155	JOE.POLYA@PXD.COM
LUTHER, JACKIE, ENGINEER	ENGINEER	972-969-5626	303-512-3803	JACKIE.LUTHER@PXD.COM
DAFFRON, MIKE, SUPERINTENDENT	SUPERINTENDENT	432-385-9242	318-243-5902	MIKE.DAFFRON@PXD.COM
WAGNON, TIM, SUPERINTENDENT	SUPERINTENDENT		409-489-2208	TIM.WAGNON@PXD.COM
DANDRIDGE, CURTIS, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		601-917-5575	CURTIS.DANDRIDGE@PXD.COM
KEETH, BERNARD, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		405-850-9583	BERNARD.KEETH@PXD.COM
MCSPERITT, GREG, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		580-729-0858	GREG.MCSPERITT@PXD.COM
JUNKIN, DUSTIN, MUD ENGINEER	MUD ENGINEER		972-935-1498	DUSTIN.JUNKIN@PXD.COM
RIG-ENSIGN 133, RIG PHONE	RIG PHONE	432-355-3047	432-888-5146	DL-ENSIGN133@PXD.COM

## Personnel Log

Company	Count
ENSIGN UNITED STATES DRILLING S W INC	13

Daily Drilling Report

UNIVERSITY 10-17E 5H				PERMIAN - JV SOUTHERN WOLFCAMP	
				Job:	ODR
				Report Date:	10/21/2021
				Report #:	5
				DFS:	3
				AFE #:	9015942
				Total AFE + Sup:	\$2,512,469.27
				Daily Field Est. (Cost):	\$94,781.85

P/I/UWI 42-383-41037-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)				
SSN ID00017562	Property Sub	KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,597.00	Ground Elevation (ft) 2,572.00	Spud Date 9/18/2021		TD Date			
Jobs										
Responsible Grp 2		Responsible Grp 3		Job Type	Start Date		End Date	Job Status		
DRL ENG - JACKIE LUTHER		AREA TEAM 2		ODR	9/18/2021 14:00			IN PROGRESS		
Job Dates (ex. Estimated Pad Release, TXRRRC Calls)										
Type		Subtype		Date		Note				
MILESTONE		ESTIMATED PAD RELEASE		11/10/2021		Drilling Intermediate on 2nd well of 3 well pad, Sequential Drilling. Estimated pad release 11/11/21 Updated 10-19-21				
Daily Operations										
Footage/Meterage (ft) 542.00	Drilling Hours (hr) 8.50	% Rotating Time (%) 100.00	End Depth (ftKB) 6,743.0	Target Depth (ftKB) 17,171.0	Daily Field Est Total (Cost) 94,781.85	Cum Field Est To Date (Cost) 646,338.31				
24 HR ROP (ft/hr) 63.8	Circulating Hours (hr) 1.25	% Sliding Time (%) 0.00	End Depth (TVD) (ftKB) 6,688.7	Target Depth (TVD) (ftKB) 7,390.0	Daily Mud Field Est (Cost) 5,881.76	Cum Mud Field Est (Cost) 11,992.18	Total AFE + Sup (Cost) 2,512,469.27			
Daily Goal Description DRILLED FEET		Daily Goal - Last 24 542.0		Daily Goal - Next 24 0.0		Goal Comments Ops Goal Not Met due to Washout				
Backbuild Yes	Lateral Inclination	Last Casing String SURFACE, 903.0ftKB			Next Casing String PROPOSED INTERMEDIATE, 6,758.0ftKB					
Avg Connection Gas 553.00		Avg Trip Gas 0.00		Avg Background Gas 493.00		Max Connection Gas 1,700.00		Max Trip Gas 0.00	Max Drill Gas 1,933.00	
Operations Summary Drill 12 1/4" Intermediate T/6,654', Trouble Shoot & TOO H F/PSI Loss, Lay Down Washed Out DC's, TIH/W/HWDP, Slip & Cut, TIH, Cont. Drill 12 1/4 Intermediate T/6,743', (ICP), (0.0% Sliding, 10.72° Tangent, Dropped Out, 23' Behind & 24' Right of Plan 2 Line), Circulate Caliper Sweep, Flow Check, TOO H T/5,872'										
Operations Next Report Period TOOH, LD BHA, PWB, RU & Run & Land 9 5/8" Int Casing, Circ. Casing, Cement Casing, With no HSE										
Operations at Report Time TOOH @ 5,872'										
Remarks Surface - 100% Intermediate - 100% Production Curve - 0% Production Lateral - 0%										
Time Log										
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #
06:00	5.75	11:45	INT, DRL	DRL	NORMAL	Drill 12 1/4" Intermediate F/6,201' - 6654', (453' @ 78 ft/hr). With no issues, Full returns  Note: After working on MP and bring it back online, OBSPP was 300 psi lower. Checked all surface equipment and cleaned suction/inline screens. Drilled last half of remaining stand and had additional loss of 180 psi in OBSPP. TOO H for wash.	6,201.0	6,654.0		
11:45	0.25	12:00	INT, DRL	FLOW_CHK	NORMAL	Flow check, well static.	6,654.0	6,654.0	0.25	1
12:00	2.75	14:45	INT, DRL	TOOH_ELEV	NORMAL	TOOH (Wet) F/6,654' - 4,256', Looking for washout, no overpull but hole not taking proper fill.	6,654.0	6,654.0	2.75	1
14:45	0.5	15:15	INT, DRL	CIRC	NORMAL	Spotted 60 bbl of 3 ppg over mud cap to give hole a 9.8 ppg MWE. Hole static.	6,654.0	6,654.0	0.50	1
15:15	2.25	17:30	INT, DRL	TOOH_ELEV	NORMAL	TOOH (Wet) F/ 4,256' - 1,117', Looking for washout, hole taking proper fill from trip tanks.	6,654.0	6,654.0	2.25	1
17:30	0.5	18:00	INT, DRL	HDL_ROT HD	NORMAL	Pull rot head, install trip nipple.	6,654.0	6,654.0	0.50	1
18:00	0.5	18:30	INT, DRL	TOOH_ELEV	NORMAL	TOOH (Wet) W/HWDP F/1,027' - 478', Looking for washout, hole taking proper fill from trip tanks.	6,654.0	6,654.0	0.50	1
18:30	0.5	19:00	INT, DRL	HDL_BHA	NORMAL	TOOH W/8" DC's 478' - 420', Found washed connection between bottom of 11th DC & Top of 10th DC. LD 2 8" DC's	6,654.0	6,654.0	0.50	1
19:00	1	20:00	INT, DRL	TIH_ELEV	NORMAL	TIH W/HWDP F/420' - 968', With no issues, hole givng proper closed end displacement to trip tanks.	6,654.0	6,654.0	1.00	1
20:00	0.5	20:30	INT, DRL	RIG_SVC	NORMAL	Service Rig & TDS, Test Torque on top drive, ST-3080 & Rig Tongs, All good	6,654.0	6,654.0	0.50	1
20:30	0.25	20:45	INT, DRL	SFTY	NORMAL	PJSM W/Ensign over Slip & Cut Drlg. Line, discussed order of operation, potential hazards and assigned roles and responsibilities.	6,654.0	6,654.0	0.25	1
20:45	0.75	21:30	INT, DRL	SLIP_CUT	NORMAL	Slip & Cut Drlg. Line	6,654.0	6,654.0	0.75	1
21:30	0.5	22:00	INT, DRL	HDL_ROT HD	NORMAL	Remove Trip Nipple & Install Rotating Head	6,654.0	6,654.0	0.50	1
22:00	1	23:00	INT, DRL	TIH_ELEV	NORMAL	TIH F/1,061' - 3,785', With no issues, hole givng proper closed end displacement to trip tanks.	6,654.0	6,654.0	1.00	1
23:00	0.75	23:45	INT, DRL	CIRC	NORMAL	Fill Pipe & Take Surveys for Mag Variation due to pulling MWD inside casing on TOOH	6,654.0	6,654.0	0.75	1
23:45	0.5	00:15	INT, DRL	TIH_ELEV	NORMAL	TIH F/3,785' - 4,691', With no issues, hole givng proper closed end displacement to trip tanks.	6,654.0	6,654.0	0.50	1
00:15	0.5	00:45	INT, DRL	CIRC	NORMAL	CBU to Circ out Mud Cap	6,654.0	6,654.0	0.50	1
00:45	1	01:45	INT, DRL	TIH_ELEV	NORMAL	TIH F/4,691' - 6,415', With no issues, hole givng proper closed end displacement to trip tanks.	6,654.0	6,654.0	1.00	1
01:45	0.75	02:30	INT, DRL	TIH_NONELEV	NORMAL	Wash F/6,415' - 6654', With no issues, Full Returns	6,654.0	6,654.0	0.75	1
Daily Drilling Report										

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Printed: Thursday, October 21, 2021

Daily Drilling Report

Time Log																	
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #							
02:30	1	03:30	INT, DRL	DRL	NORMAL	Drill 12 1/4" Intermediate F/6,654' - 6,743', (ICP), (89' @ 89 ft/hr). With no issues, Full returns.  Tubulars counted prior to section TD, Pason tally is correct.  Dusted up system to 9.8	6,654.0	6,743.0									
03:30	1.75	05:15	INT, POST DRL	CIRC	NORMAL	Circulate 2 X Caliper Sweeps, With Full returns  STS Strokes 11,022 In Gauge OH Annulus = 8,288 Strokes Sweep Back @ 12,700 Strokes Calculated Washout 20%	6,743.0	6,743.0									
05:15	0.25	05:30	INT, POST DRL	FLOW_CHK	NORMAL	Flow Check to trip tanks, Well Static	6,743.0	6,743.0									
05:30	0.5	06:00	INT, POST DRL	TOOH_ELEV	NORMAL	TOOH (Wet) F/6,743' - 5,872', With no issues, hole taking proper fill from trip tanks.	6,743.0	6,743.0									
Interval Problems																	
RIG, 6,654.0ftKB, 10/20/2021 11:45																	
Ref #	Dur (N...)	Ex...	Subtype	Problem Descript...	Est Cost OR (Cost)	Accountable Party	Comment										
1	14.75	No	DRILL STRING	DRILL COLLAR		ENSIGN UNITED STATES DRILLING S W INC	After working on MP and bring it back online, OBSPP was 300 psi lower. Checked all surface equipment and cleaned suction/inline screens. Drilled last half of remaining stand and had additional loss of 180 psi in OBSPP. TOOH for wash. Found washed out connection on 8" DC's, Pin of DC #11 & Box of DC #10. LD both DC's, TIH										
Drill Strings																	
BHA #2 , INTERMEDIATE																	
Bit Run 2				Drill Bit 12 1/4in, XS616, JV6769				Bit Type PDC			Make SMITH						
Nozzles (1/32") 10/10/10/10/10/10/10/10/11				Bit Total Fluid Area (nozzles) (in²) 0.78		IADC Bit Dull -----PP		Hours Drilled By Bit (hr) 35.50			Depth Drilled By Bit (ft) 5,820.00						
BHA Drilling Time (hr) 32.75				BHA Depth Drilled (ft) 5,731.00		BHA ROP (ft/hr) 175.0		Depth In (ftKB) 923.0			Depth Out (ftKB) 6,654.0						
Drill String Components																	
Jts	Item Des				OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make						
114	DRILL PIPE				5	4.28	5,173.13	6,201.00	115,826.4	218	RIG						
5	HWDP				5	3.13	151.92	1,027.87	7,140.2	102	RIG						
1	DRILLING JARS - HYDRAULIC				6 1/2	2.75	32.01	875.95	4,600.8	95	YELLOW JACKET OILFIELD SERVICES						
12	HWDP				5	3.13	362.41	843.94	17,033.3	90	RIG						
1	SUB - XO				7 7/8	2.88	2.89	481.53	414.6	73	DRILLING TOOLS INTERNATIONAL						
12	DRILL COLLAR				8	2.88	344.17	478.64	51,195.3	73	RIG						
1	SUB - XO				8 1/4	2.88	2.54	134.47	405.4	22	DRILLING TOOLS INTERNATIONAL						
1	SUB - SHOCK				8 1/8	3.00	25.00	131.93	3,806.2	21	COUGAR						
1	DRILL COLLAR - NON MAG				8	3.25	30.32	106.93	4,326.4	17	GORDON						
1	MWD TOOL - NON-RETRIEVABLE				8	3.75	29.10	76.61	3,880.5	13	GORDON						
1	SUB - UBHO				8	3.50	3.17	47.51	438.1	9	GORDON						
1	STABILIZER				8.31	2.88	5.94	44.34	1,225.6	9	DRILLING TOOLS INTERNATIONAL						
1	MOTOR - STABILIZER SLEEVE				9	2.38	36.90	38.40	7,423.2	7	PHOENIX						
Mud Motors																	
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr DefIn Type		Bit To Bend					
PHX-900032-PTS		1.5		SEALED		7:8		7				7.83					
Sensors																	
Sensor Type				Sensor-Bit (ft)				Note									
GAMMA				55.39				Mud Pulse									
DIRECTIONAL				67.00				Mud Pulse									
Drilling Parameters																	
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lbf)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Off-Btm Str Wt (1000lbf)	Drill Tq	Off Btm Tq	TFO (°)
06:00	11:45	6,201.0	453.00	78.8	50	50	525.0	900	2,850.0	61.4	235	270	205	235	22,000.0	9,000.0	0
BHA #3 , INTERMEDIATE																	
Bit Run 2RR				Drill Bit 12 1/4in, XS616, JV6769				Bit Type PDC			Make SMITH						
Nozzles (1/32") 10/10/10/10/10/10/10/10/11				Bit Total Fluid Area (nozzles) (in²) 0.78		IADC Bit Dull -----		Hours Drilled By Bit (hr) 35.50			Depth Drilled By Bit (ft) 5,820.00						
BHA Drilling Time (hr) 2.75				BHA Depth Drilled (ft) 89.00		BHA ROP (ft/hr) 32.4		Depth In (ftKB) 6,654.0			Depth Out (ftKB) 6,743.0						
Daily Drilling Report																	

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Printed: Thursday, October 21, 2021

Daily Drilling Report

UNIVERSITY 10-17E 5H

ENSIGN - 133

Accept: 10/18/2021Release: Days Since LTI: 501.00Days Since RI: 501.00

PERMIAN - JV SOUTHERN WOLFCAMP

Job: ODR

Report Date: 10/21/2021

Report #: 5

DFS: 3

AFE #: 9015942

Total AFE + Sup: \$2,512,469.27

Daily Field Est. (Cost): \$94,781.85

Drill String Components																	
Jts	Item Des	OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make									
1265	DRILL PIPE	5	4.28	5,774.03	6,743.00	129,280.5	222	RIG									
5	HWDP	5	3.13	151.64	968.97	7,127.1	93	RIG									
1	DRILLING JARS - HYDRAULIC	6 1/2	2.75	32.01	817.33	4,600.8	86	YELLOW JACKET OILFIELD SERVICES									
12	HWDP	5	3.13	362.41	785.32	17,033.3	81	RIG									
1	SUB - XO	7 7/8	2.88	2.89	422.91	414.6	64	DRILLING TOOLS INTERNATIONAL									
10	DRILL COLLAR	8	2.88	285.55	420.02	42,475.6	64	RIG									
1	SUB - XO	8 1/4	2.88	2.54	134.47	405.4	22	DRILLING TOOLS INTERNATIONAL									
1	SUB - SHOCK	8 1/8	3.00	25.00	131.93	3,806.2	21	COUGAR									
1	DRILL COLLAR - NON MAG	8	3.25	30.32	106.93	4,326.4	17	GORDON									
1	MWD TOOL - NON-RETRIEVABLE	8	3.75	29.10	76.61	3,880.5	13	GORDON									
1	SUB - UBHO	8	3.50	3.17	47.51	438.1	9	GORDON									
1	STABILIZER	8.31	2.88	5.94	44.34	1,225.6	9	DRILLING TOOLS INTERNATIONAL									
1	MOTOR - STABILIZER SLEEVE	9	2.38	36.90	38.40	7,423.2	7	PHOENIX									
Mud Motors																	
SN		Bend Angle	Bearing Type	Lobe Config	# Stages	Lwr Defln Type	Bit To Bend										
PHX-900032-PTS		1.5	SEALED	7:8	7		7.83										
Sensors																	
Sensor Type		Sensor-Bit (ft)				Note											
GAMMA		55.39				Mud Pulse											
DIRECTIONAL		67.00				Mud Pulse											
Drilling Parameters																	
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lbf)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Off-Btm Str Wt (1000lbf)	Drill Tq	Off Btm Tq	TFO (°)
00:15	00:45	6,654.0	0.00	0.0	50	50	0.0	700	2,000.0	0.0	235	270	205	235	7,000.0	7,000.0	0
01:45	02:30	6,654.0	0.00		0	50	0.0	700	2,000.0	0.0	235	270	205	235	7,000.0	7,000.0	0
02:30	03:30	6,654.0	89.00	89.0	50	60	800.0	800	2,500.0	118.7	235	270	205	235	19,000.0	7,000.0	0
03:30	05:15	6,743.0	0.00	0.0	0	60	800.0	800	2,500.0	0.0	235	270	205	235	7,000.0	7,000.0	0
Hydraulic Calculations																	
Dens Mud (lb/gal)	ECD End (lb/gal)	Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Jet Vel (ft/s)	Bit dP (psi)	Min Open Hole AV (ft/min)	Max Open Hole AV (ft/min)	Vol DrillString (bbl)	Vol Bit to Shoe (bbl)	Vol Shoe to Top (bbl)							
9.60	9.81	435.9	3.7	327.8	934.2	22.4	283.9	111.44	695.15	115.40							

UNIVERSITY 10-17E 5H

ENSIGN - 133

Accept: 10/18/2021      Release:

Days Since LTI: 501.00      Days Since RI: 501.00

PERMIAN - JV SOUTHERN WOLFCAMP

Job: ODR

Report Date: 10/21/2021

Report #: 5

DFS: 3

AFE #: 9015942

Total AFE + Sup: \$2,512,469.27

Daily Field Est. (Cost): \$94,781.85

Mud Checks

Time 22:00		Mud Company PIONEER DRILLING FLUIDS		Type WATER BASE	Depth (ftKB) 6,654.0	Density (lb/gal) 9.60	Funnel Viscosity (s/qt) 46	T Flowline (°F) 80.0	
PV (cP) 10.0	YP (lb/100ft²) 16.000	Vis 3rpm 13	Vis 6rpm 14	Filtrate (mL/30min) 18.0	HTHP Filtrate (mL/30min)	HTHP Temperature (°F)		HTHP Pressure (psi)	
Solids (%) 8.5		Low Gravity Solids (%) 7.1		Sand (%) 0.3	MBT (lb/bbl) 20.0	Pm (mL/mL) 0.200		Pf (mL/mL)	
Chlorides (mg/L) 25,000		Calcium (mg/L) 400		CaCl (ppm)	Oil Water Ratio 0/100	Electric Stab (V)		Lime (lb/bbl) 0.0	pH 9.0
Gel 10 sec (lb/100ft²) 16.000				Gel 10 min (lb/100ft²) 21.000			Gel 30 min (lb/100ft²) 25.000		

Comment

RECOMMENDED FLUID TREATMENT  
Maintain MW @ 9.6-9.8 ppg while drilling. Maintain volume and MW with whole fluid dilution from WBM built in premix. Pre-mix mud 1.6 ppb soda ash, 20 ppb Gel, 1.3 ppb PAC LV, 1.1 ppb Lig, 0.4 ppb Zinc Oxide.

DRILLING FLUID ACTIVITY LAST 24 HRS

Maintained MW @ 9.6 by dumping/diluting with whole mud dilution. Allow mud weight to stay 9.6 ppg due to flow seen on last well. Will allow weight to climb to 9.8 ppg at TD for trip out. Continue to build pre-mix gel mud and dump/dilute to maintain MW @ 9.6 - 9.8 ppg while drilling. Spotted 60 bbl 9.8 mud cap while tripping for wash out.

RIG ACTIVITY LAST 24 HOURS

Drill t/ 5,400' t/ 6,654'. Observed pressure loss at approx 6,600', drilled ahead to 6,654' whith pressure loss. Decision made to POOH and look for washed out pipe. Determined some collars had cracks at tool joint. RIH to complete last approx 100'. Will pump caliper sweeps and circulate hole clean. ROP 117, WOB 61, RPM 60, Torque 22K, Diff 719, P/U 270, S/O 205, Conn Gas 47, BG Gas 199, Max Gas 1933 units @ 5443' MD, FTG Last 24 Hrs- 1,254', Lithology at 6,550', 35% SD, 10% LS, 55% SH.

Last BOP Test

Date	Test Type	Item Tested	Next Test Date	Com
10/18/2021	BOP	BOP'S, 10/18/2021 17:00, <class>	10/30/2021	BOP Shell Test

Leak Off and Formation Integrity Tests

Test Type	Depth (ftKB)	Dens Fluid (lb/gal)
FORMATION INTEGRITY	903.0	12.63

Casing Pressure Test

Test Type	Test Subtype	Date	Item Tested	Failed?	Time (min)	P (psi)
CASING	STANDARD	9/24/2021	SURFACE, 903.0ftKB	No	30.00	1,000.0

Kick Offs & Key Depths

Date	Type	Top Depth (ftKB)	Depth Top (TVD) (ftKB)

Casing Strings

Description	Set Depth (ftKB)	Set Depth (TVD) (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)	Top Thread	P LeakOff (psi)
CONDUCTOR	125.0	125.0	20	H40	78.67		
SURFACE	903.0	902.5	13 3/8	J55	54.50	BTC	592.1

Gas Emissions - Flare

Type	Method	Dur (min)	Amount	Units	Com
FLARE	METERED	1,440.00	0.006	MCF	Previous Meter - 19193.36 SCF Current Meter - 19199.16 SCF

Job Supply Amounts

Supply Item Des	Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed
DIESEL	FUEL	GAL	7,249	1,989	0	66148- R	12,382	6,456.0
DIESEL	MUD	GAL	7,254	0	0	66562-M	16,284	0.0
WATER	FRESH	BBL	0	0	0	Meter - 36675	0	3,552.0

Mud Additive Amounts

Des	Type	Units	Rec	Consumed	On Loc	Cum Cons
BARITE - BULK	WEIGHTING MATERIAL	CWT	0	6	57.0	6
BCI OBM PRIMARY	OIL MUD ADDITIVE	GAL	4	0	11.0	0
BCI OBM SECONDARY	OIL MUD ADDITIVE	GAL	4	0	12.0	0
BENTONE 910	OIL MUD ADDITIVE	GAL	40	0	80.0	0
BENTONE 990	OIL MUD ADDITIVE	LB	40	0	70.0	0
CALCIUM CHLORIDE	SALT	LB	200	0	275.0	0
GILSONITE	FLUID LOSS ADDITIVES	LB	50	0	115.0	0
LIGNITE	DISPERSANTS/T HINNER	LB	0	35	70.0	55
LIME	ALKALINITY CONTROL	LB	200	0	240.0	10

Daily Drilling Report

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Printed: Thursday, October 21, 2021



# Daily Drilling Report

Mud Additive Amounts							
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons	
PAC LV	FLUID LOSS ADDITIVES	LB	0	25	95.0	25	
PALLETS	MISCELLANEOUS	EA	14	14	0.0	14	
SHRINK WRAP	SERVICE	EA	12	12	0.0	12	
SODA ASH	ALKALINITY CONTROL	LB	0	46	114.0	77	
SOLTEX	FLUID LOSS ADDITIVES	LB	40	0	85.0	0	
TRANSPORTATION	MISCELLANEOUS	EA	675	675	0.0	2,025	
ZINC OXIDE	SPECIALITY	LB	0	16	112.0	21	
Pump Operations							
Pump #	Make	Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)	
1	H&H	1600	5 1/2	12.00	0.088	5,549.0	
2	H&H	1600	5 1/2	12.00	0.088	5,549.0	
3	H&H	1600	5 1/2	12.00	0.088	5,549.0	
Pump Checks							
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)	
1	6,563.0	11:00	315.0	30	106	95	
1	6,563.0	11:01	330.0	40	141	95	
1	6,563.0	11:02	350.0	50	176	95	
2	6,563.0	11:03	310.0	30	106	95	
2	6,563.0	11:04	325.0	40	141	95	
2	6,563.0	11:05	350.0	50	176	95	
3	6,563.0	11:06	305.0	30	106	95	
3	6,563.0	11:07	320.0	40	141	95	
3	6,563.0	11:08	345.0	50	176	95	
Deviation Surveys							
Date	Description FINAL SURVEY				Job		
Date 9/18/2021	Description AS DRILL SURVEY				Job ODR, 9/18/2021 14:00		
Survey Data - All surveys for 24 hr reporting period							
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
6,225.00	0.53	61.48	6,170.73	-559.94	-565.61	307.22	0.01
6,315.00	0.53	80.17	6,260.72	-559.66	-565.34	307.99	0.19
6,406.00	0.49	85.34	6,351.72	-559.54	-565.24	308.79	0.07
6,496.00	0.49	76.84	6,441.72	-559.41	-565.12	309.55	0.08
6,587.00	0.51	98.87	6,532.71	-559.37	-565.09	310.33	0.21
6,676.00	0.50	101.62	6,621.71	-559.49	-565.23	311.10	0.03
Formations							
Formation Name			Prog Top (TVD SS) Override (ft(elv))	Prog Top MD (ftKB)	Prog Top (TVD) (ftKB)	Final Top MD (ftKB)	Final Top (TVD) (ftKB)
269_0_DEAN			-4,375.0		6,972.0		
270_0_WFMP_A1			-4,525.0		7,122.0		
271_0_WFMP_A2			-4,625.0		7,222.0		
FTP			-4,750.0		7,347.0		
PBHL/TD			-4,793.0		7,390.0		
Daily Contacts							
Job Contact		Title	Office	Mobile	Email		
HARDIN, JOE, AREA DRILLING SUPERINTENDENT		AREA DRILLING SUPERINTENDENT	361-452-2118	361-318-8762	THOMAS.HARDIN@PXD.COM		
LUTHER, JACKIE, ENGINEER		ENGINEER	972-969-5626	303-512-3803	JACKIE.LUTHER@PXD.COM		
DAFFRON, MIKE, SUPERINTENDENT		SUPERINTENDENT	432-385-9242	318-243-5902	MIKE.DAFFRON@PXD.COM		
JOHNSON, STEVEN, SUPERINTENDENT		SUPERINTENDENT		580-504-9863	STEVEN.JOHNSON@PXD.COM		
JACOBS, TUCKER, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR	972-444-9001	361-318-8269	TUCKER.JACOBS@PXD.COM		
KEETH, BERNARD, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		405-850-9583	BERNARD.KEETH@PXD.COM		
MCSPERITT, GREG, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		580-729-0858	GREG.MCSPERITT@PXD.COM		
SENTZ, RON, MUD ENGINEER		MUD ENGINEER		469-585-7376	RON.SENTZ@PXD.COM		
RIG-ENSIGN 133, RIG PHONE		RIG PHONE	432-355-3047	432-888-5146	DL-ENSIGN133@PXD.COM		
Personnel Log							
Company						Count	
ENSIGN UNITED STATES DRILLING S W INC						13	
Daily Drilling Report							

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Printed: Thursday, October 21, 2021

Daily Drilling Report

UNIVERSITY 10-17E 5H				PERMIAN - JV SOUTHERN WOLFCAMP	
ENSIGN - 133				Job:	ODR
Accept: 10/18/2021		Release:		Report Date:	10/22/2021
Days Since LTI: 502.00		Days Since RI: 502.00		Report #:	6
				DFS:	4
				AFE #:	9015942
				Total AFE + Sup:	\$2,512,469.27
				Daily Field Est. (Cost):	\$292,508.15

P/I/UWI 42-383-41037-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)						
SSN ID00017562		Property Sub		KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,597.00	Ground Elevation (ft) 2,572.00	Spud Date 9/18/2021		TD Date			
Jobs												
Responsible Grp 2		Responsible Grp 3			Job Type	Start Date		End Date		Job Status		
DRL ENG - JACKIE LUTHER		AREA TEAM 2			ODR	9/18/2021 14:00				IN PROGRESS		
Job Dates (ex. Estimated Pad Release, TXRRC Calls)												
Type			Subtype			Date		Note				
MILESTONE			ESTIMATED PAD RELEASE			11/10/2021		Drilling Intermediate on 2nd well of 3 well pad, Sequential Drilling. Estimated pad release 11/12/21 Updated 10-21-21				
Type TXRRC CALL			Subtype CEMENT INT			Date 10/21/2021		Note Ivy San Angelo Office				
Daily Operations												
Footage/Meterage (ft) 0.00		Drilling Hours (hr)		% Rotating Time (%)		End Depth (ftKB) 6,743.0		Target Depth (ftKB) 17,171.0		Daily Field Est Total (Cost) 292,508.15	Cum Field Est To Date (Cost) 938,846.46	
24 HR ROP (ft/hr)		Circulating Hours (hr)		% Sliding Time (%)		End Depth (TVD) (ftKB) 6,688.7		Target Depth (TVD) (ftKB) 7,390.0		Daily Mud Field Est (Cost) 8,908.61	Cum Mud Field Est (Cost) 20,900.79	Total AFE + Sup (Cost) 2,512,469.27
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 0.0				Daily Goal - Next 24 500.0		Goal Comments Goal Met		
Backbuild Yes		Lateral Inclination		Last Casing String INTERMEDIATE, 6,737.0ftKB					Next Casing String PROPOSED PRODUCTION, 17,335.0ftKB			
Avg Connection Gas 178.00		Avg Trip Gas 0.00			Avg Background Gas 218.00		Max Connection Gas 178.00		Max Trip Gas 0.00		Max Drill Gas 494.00	
Operations Summary TOOH, LD BHA, PWB, RU & Run & Land 9 5/8" Int Casing, Circ. Csg. Cap, Cement 1st Stage, Drop Opening Cone												
Operations Next Report Period Open DV Tool, CBU Above DV Tool, Cement 2nd Stage, Install & Test Packoff, IWB, PU BHA, TIH, Test Csg, Drill Out DV Tool, TIH, Test Casing, Drill Out Shoe Track and 10' New Formation, CBU, FIT T/11.5 EMW, Drill 8 3/4" Prod Curve T/7,243' With no HSE												
Operations at Report Time Cement Operations												
Remarks Surface - 100% Intermediate - 100% Production Curve - 0% Production Lateral - 0%												
Time Log												
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com			Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #
06:00	2.25	08:15	INT, POST DRL	TOOH_ELEV	NORMAL	TOOH F/5,872' - 1,050', With no issues, hole taking proper fill from trip tanks.			6,743.0	6,743.0		
08:15	0.25	08:30	INT, POST DRL	HDL_ROT HD	NORMAL	Pull Rotating Head			6,743.0	6,743.0		
08:30	0.75	09:15	INT, POST DRL	HDL_BHA	NORMAL	Rack back HWDP, jars, LD 1 DC to make even stds, rack back 3 stds 8" DCs.			6,743.0	6,743.0		
09:15	0.25	09:30	INT, POST DRL	SFTY	NORMAL	PJSM W/Ensign, Gordon and PNR on LD Directional tools, Discussed order of operation, potential hazards and assigned roles and responsibilities.			6,743.0	6,743.0		
09:30	1	10:30	INT, POST DRL	LD_DIR	NORMAL	LD MWD, Mud Motor, Thruster & UBHO, Rack back Monels.			6,743.0	6,743.0		
10:30	0.5	11:00	INT, POST DRL	WRBSH	NORMAL	Pull WB, Install Trip Nipple.			6,743.0	6,743.0		
11:00	0.25	11:15	INT, POST DRL	SFTY	NORMAL	Clean Rig Floor & Remove Trip Hazards			6,743.0	6,743.0		
11:15	0.5	11:45	INT, POST DRL	RIG_SVC	NORMAL	Service Rig & TDS			6,743.0	6,743.0		
11:45	0.25	12:00	INT, POST DRL	SFTY	NORMAL	PJSM W/Ensign, Frank's, Weatherford, Tenaris and PNR on LRU Casing tools and running casing, Discussed order of operation, potential hazards and assigned roles and responsibilities.			6,743.0	6,743.0		
12:00	1	13:00	INT, CASE & CMT	RU_CSG	NORMAL	RU Casing Tools, Test ESD on Tong Unit			6,743.0	6,743.0		
13:00	0.5	13:30	INT, CASE & CMT	MU_SHOE_TR K	NORMAL	MU shoe track and pump through floats, Thread locked all connections through to of float collar			6,743.0	6,743.0		
13:30	4	17:30	INT, CASE & CMT	CSG_W/O ROTATION	NORMAL	Run 9 5/8" Int 1 csg F/130' - 3,736', @ 100 fpm, Filling on the fly and breaking circulation every 40 jts. Hole giving proper closed end displacement to trip tanks to 2,058'  Note: @ 2,058' displacement began to diminish and by 2,327' had no displacement, slowed run speed to 80 fpm, backside staying full but taking displacement of casing.  Avg MU Tq to base of triangle 9,000 ft/lbs			6,743.0	6,743.0		
Daily Drilling Report						Page 1/4			Printed: Friday, October 22, 2021			

Daily Drilling Report

UNIVERSITY 10-17E 5H

ENSIGN - 133

Accept: 10/18/2021      Release:

Days Since LTI: 502.00      Days Since RI: 502.00

PERMIAN - JV SOUTHERN WOLFCAMP

Job: ODR

Report Date: 10/22/2021

Report #: 6

DFS: 4

AFE #: 9015942

Total AFE + Sup: \$2,512,469.27

Daily Field Est. (Cost): \$292,508.15

Time Log											
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #	
17:30	0.5	18:00	INT, CASE & CMT	CIRC	NORMAL	Fill Pipe & attempt to break circulation prior to PU DV Tool/Packer Assy. No Returns  Est losses 104 bbl.	6,743.0	6,743.0			
18:00	4.25	22:15	INT, CASE & CMT	CSG_W/ROTATION	NORMAL	Run 9 5/8" Int 1 csg F/3,676' - 6,707', @ 60 fpm, Filling on the fly and breaking circualtion every 40 jts.  Note: Slowed run speed to 60 fpm once packer below rotary, with trip tank on backside hole taking displacement + 2 bbl per jt run. Slowed to 40 fpm @ 4,723', After filling @ 5,516', hole taking displacement + 1.2 bbl/jt.  Tag Bottom @ W/Casing, (Run Ready) to confirm. Per tally should have tagged 36' in, tagged 49' in, 2 LD Joints and PU 10' Marker, Hanger & Landing Jt and land casing in wellhead with 172k on hanger.  Avg MU Tq to base of triangle 9,000 ft/lbs  Est Losses while running casing = 532 bbl	6,743.0	6,743.0			
22:15	2	00:15	INT, CASE & CMT	CIRC	NORMAL	Circ casing volume (510 bbl) thru CRT, Beginning @ 3 bbl/min, staging up to 6 bbl min, hole taking everything we pump.  Note: Trip tank on backside, no gains or losses in trip tank.  RD Casing tools while circ casing volume.  Held PJSM W/Ensign, SLB, Weatherford, Frank's & PNR over RD CRT & RU Cement Iron and Pumping cement job while circulating.  Est losses while circ 510 bbl.	6,743.0	6,743.0			
00:15	0.5	00:45	INT, CASE & CMT	RU_CMT	NORMAL	RD CRT & RU Cement head and lines on Casing stump	6,743.0	6,743.0			
00:45	5.25	06:00	INT, CASE & CMT	CMT	NORMAL	Flush 20 bbl to pit & Test lines to 5000 psi, Cement 9 5/8" Intermediate casing per SLB. Performed Stage 1 as follows: 50 bbls of 11.0 ppg MPE, 654 bbl 11.0 ppg lead, 62 bbl 14.8 ppg tail. Drop plug and displaced W/300 bbl H2O followed by 204 bbls of 9.3 gel mud. With trip tank on backside gained 0 bbl while pumping cement (No Returns). approx 50 bbl into displacement began to get returnns ~ 10%, Final Lift, Bump and Packer details to follow on next report.  Waiting on DV Tool opening cone to fall @ Time of report.  Est 1,200 bbl lost while cementing first stage	6,743.0	6,743.0			
Drill Strings											
BHA #3 , INTERMEDIATE											
Bit Run 2RR			Drill Bit 12 1/4in, XS616, JV6769			Bit Type PDC		Make SMITH			
Nozzles (1/32") 10/10/10/10/10/10/10/10/11			Bit Total Fluid Area (nozzles) (in²) 0.78		IADC Bit Dull 1-3-CT-S-X-0-BT-TD	Hours Drilled By Bit (hr) 35.50		Depth Drilled By Bit (ft) 5,820.00			
BHA Drilling Time (hr) 2.75			BHA Depth Drilled (ft) 89.00		BHA ROP (ft/hr) 32.4	Depth In (ftKB) 6,654.0		Depth Out (ftKB) 6,743.0			
Drill String Components											
Jts	Item Des				OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make
1265	DRILL PIPE				5	4.28	5,774.03	6,743.00	129,280.5	222	RIG
5	HWDP				5	3.13	151.64	968.97	7,127.1	93	RIG
1	DRILLING JARS - HYDRAULIC				6 1/2	2.75	32.01	817.33	4,600.8	86	YELLOW JACKET OILFIELD SERVICES
12	HWDP				5	3.13	362.41	785.32	17,033.3	81	RIG
1	SUB - XO				7 7/8	2.88	2.89	422.91	414.6	64	DRILLING TOOLS INTERNATIONAL
10	DRILL COLLAR				8	2.88	285.55	420.02	42,475.6	64	RIG
1	SUB - XO				8 1/4	2.88	2.54	134.47	405.4	22	DRILLING TOOLS INTERNATIONAL
1	SUB - SHOCK				8 1/8	3.00	25.00	131.93	3,806.2	21	COUGAR
1	DRILL COLLAR - NON MAG				8	3.25	30.32	106.93	4,326.4	17	GORDON
1	MWD TOOL - NON-RETRIEVABLE				8	3.75	29.10	76.61	3,880.5	13	GORDON
1	SUB - UBHO				8	3.50	3.17	47.51	438.1	9	GORDON
Daily Drilling Report											
Page 2/4					Printed: Friday, October 22, 2021						

Daily Drilling Report

UNIVERSITY 10-17E 5H				PERMIAN - JV SOUTHERN WOLFCAMP			
ENSIGN - 133				Job: ODR			
Accept: 10/18/2021		Release:		Report Date:		10/22/2021	
Days Since LTI: 502.00		Days Since RI: 502.00		Report #:		6	
				DFS:		4	
				AFE #:		9015942	
				Total AFE + Sup:		\$2,512,469.27	
				Daily Field Est. (Cost):		\$292,508.15	

Drill String Components										
Jts	Item Des		OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make	
1	STABILIZER		8.31	2.88	5.94	44.34	1,225.6	9	DRILLING TOOLS INTERNATIONAL	
1	MOTOR - STABILIZER SLEEVE		9	2.38	36.90	38.40	7,423.2	7	PHOENIX	
Mud Motors										
SN		Bend Angle	Bearing Type	Lobe Config		# Stages	Lwr Defin Type		Bit To Bend	
PHX-900032-PTS		1.5	SEALED	7:8		7			7.83	
Sensors										
Sensor Type		Sensor-Bit (ft)				Note				
GAMMA		55.39				Mud Pulse				
DIRECTIONAL		67.00				Mud Pulse				
Hydraulic Calculations										
Dens Mud (lb/gal)	ECD End (lb/gal)	Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Jet Vel (ft/s)	Bit dP (psi)	Min Open Hole AV (ft/min)	Max Open Hole AV (ft/min)	Vol DrillString (bbl)	Vol Bit to Shoe (bbl)	Vol Shoe to Top (bbl)
Mud Checks										
Time 22:00		Mud Company PIONEER DRILLING FLUIDS			Type WATER BASE		Depth (ftKB) 6,743.0	Density (lb/gal) 9.80	Funnel Viscosity (s/qt) 48	T Flowline (°F) 90.0
PV (cP) 11.0	YP (lb/100ft²) 15.000	Vis 3rpm 13	Vis 6rpm 14	Filtrate (mL/30min) 18.0		HTHP Filtrate (mL/30min)		HTHP Temperature (°F)		HTHP Pressure (psi)
Solids (%) 9.0		Low Gravity Solids (%) 7.6		Sand (%) 0.3		MBT (lb/bbl) 17.5		Pm (mL/mL) 0.200		Pf (mL/mL)
Chlorides (mg/L) 26,000		Calcium (mg/L) 400		CaCl (ppm)	Oil Water Ratio 0/100	Electric Stab (V)		Lime (lb/bbl) 0.0	pH 9.0	
Gel 10 sec (lb/100ft²) 16.000				Gel 10 min (lb/100ft²) 22.000				Gel 30 min (lb/100ft²) 25.000		
Comment RECOMMENDED FLUID TREATMENT Maintain MW at 9.6-9.8 ppg while drilling. Maintain volume and MW with whole fluid dilution from WBM built in premix. Pre-mix mud 1.6 ppb soda ash, 20 ppb Gel, 1.3 ppb PAC LV, 1.1 ppb Lig, 0.4 ppb Zinc Oxide.  \$25,995.79 DRILLING FLUID ACTIVITY LAST 24 HRS Maintained MW @ 9.8 by dusting as needed. Lost returns on casing run approx 2,400'. Hole taking mud. Begin adding water and diluting with newly built mud to drop mud weight to 9.5 ppg to be used to fill back side. No returns while finish RIH with casing. Pump 9.3 ppg down hole while displacing casing with no returns.  RIG ACTIVITY LAST 24 HOURS Drill t/ 6,654' t/ 6,743'. TD section at 6,743'. Dusted as needed to bring mud weight to 9.8 ppg. Flow check, well static, pump slug and POOH. Pick up and begin RIH with 9 5/8 casing. Lost returns on casing run approx 2,400'. Hole taking mud. Reduce mud weight on backside with no returns to casing depth. Circulate casing volume with 9.3 ppg with no returns. Rig up cement crew and make preparations for two stage cement.										
Last BOP Test										
Date	Test Type		Item Tested			Next Test Date	Com			
10/18/2021	BOP		BOP'S, 10/18/2021 17:00, <class>			10/30/2021	BOP Shell Test			
Leak Off and Formation Integrity Tests										
Test Type			Depth (ftKB)			Dens Fluid (lb/gal)				
FORMATION INTEGRITY			903.0			12.63				
Casing Pressure Test										
Test Type		Test Subtype			Date	Item Tested		Failed?	Time (min)	P (psi)
CASING		STANDARD			9/24/2021	SURFACE, 903.0ftKB		No	30.00	1,000.0
Kick Offs & Key Depths										
Date			Type			Top Depth (ftKB)		Depth Top (TVD) (ftKB)		
Casing Strings										
Description	Set Depth (ftKB)	Set Depth (TVD) (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)	Top Thread		P LeakOff (psi)		
CONDUCTOR	125.0	125.0	20	H40	78.67					
SURFACE	903.0	902.5	13 3/8	J55	54.50	BTC		592.1		
INTERMEDIATE	6,737.0	6,682.7	9 5/8	L-80 HC	40.00	BTC				
Gas Emissions - Flare										
Type	Method	Dur (min)	Amount	Units	Com					
FLARE	METERED	1,440.00	0.005	MCF	Previous Meter - 19199.16 SCF Current Meter - 19204.27 SCF					
Job Supply Amounts										
Supply Item Des	Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed		
DIESEL	FUEL	GAL	0	894	0		11,488	7,350.0		
DIESEL	MUD	GAL	0	0	0		16,284	0.0		
WATER	FRESH	BBL	0	0	0	Meter - 36675	0	3,552.0		
Mud Additive Amounts										
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons				
BARITE - BULK	WEIGHTING MATERIAL	CWT	0	32	25.0	38				
BENTONITE - BULK	VISCOSIFIER	CWT	0	5	20.0	18				
LIGNITE	DISPERSANTS/T HINNER	LB	0	20	50.0	75				
PAC LV	FLUID LOSS ADDITIVES	LB	0	20	75.0	45				
SODA ASH	ALKALINITY CONTROL	LB	0	14	100.0	91				
ZINC OXIDE	SPECIALITY	LB	0	4	108.0	25				
Pump Operations										
Pump #	Make		Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)			
1	H&H		1600	5 1/2	12.00	0.088	5,549.0			
Daily Drilling Report			Page 3/4				Printed: Friday, October 22, 2021			

# Daily Drilling Report

**ENSIGN - 133****Release:**

Days Since RI: 502.00

<b>PERMIAN - JV SOUTHERN WOLFCAMP</b>	
<b>Job:</b>	<b>ODR</b>
<b>Report Date:</b>	<b>10/22/2021</b>
<b>Report #:</b>	<b>6</b>
<b>DFS:</b>	<b>4</b>
<b>AFE #:</b>	<b>9015942</b>
<b>Total AFE + Sup:</b>	<b>\$2,512,469.27</b>
<b>Daily Field Est. (Cost):</b>	<b>\$292,508.15</b>

Pump Operations						
Pump #	Make	Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)
2	H&H	1600	5 1/2	12.00	0.088	5,549.0
3	H&H	1600	5 1/2	12.00	0.088	5,549.0
Pump Checks						
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)
Deviation Surveys						
Date	Description				Job	
	FINAL SURVEY					
Date	Description				Job	
9/18/2021	AS DRILL SURVEY				ODR, 9/18/2021 14:00	
Formations						
Formation Name	Prog Top (TVD SS) Override (ft(elv))	Prog Top MD (ftKB)	Prog Top (TVD) (ftKB)	Final Top MD (ftKB)	Final Top (TVD) (ftKB)	
269_0_DEAN	-4,375.0		6,972.0			
270_0_WFMP_A1	-4,525.0		7,122.0			
271_0_WFMP_A2	-4,625.0		7,222.0			
FTP	-4,750.0		7,347.0			
PBHL/TD	-4,793.0		7,390.0			
Daily Contacts						
Job Contact	Title	Office	Mobile	Email		
HARDIN, JOE, AREA DRILLING SUPERINTENDENT	AREA DRILLING SUPERINTENDENT	361-452-2118	361-318-8762	THOMAS.HARDIN@PXD.COM		
LUTHER, JACKIE, ENGINEER	ENGINEER	972-969-5626	303-512-3803	JACKIE.LUTHER@PXD.COM		
DAFFRON, MIKE, SUPERINTENDENT	SUPERINTENDENT	432-385-9242	318-243-5902	MIKE.DAFFRON@PXD.COM		
JOHNSON, STEVEN, SUPERINTENDENT	SUPERINTENDENT		580-504-9863	STEVEN.JOHNSON@PXD.COM		
JACOBS, TUCKER, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR	972-444-9001	361-318-8269	TUCKER.JACOBS@PXD.COM		
KEETH, BERNARD, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		405-850-9583	BERNARD.KEETH@PXD.COM		
MCSPERITT, GREG, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		580-729-0858	GREG.MCSPERITT@PXD.COM		
SENTZ, RON, MUD ENGINEER	MUD ENGINEER		469-585-7376	RON.SENTZ@PXD.COM		
RIG-ENSIGN 133, RIG PHONE	RIG PHONE	432-355-3047	432-888-5146	DL-ENSIGN133@PXD.COM		
Personnel Log						
Company					Count	
ENSIGN UNITED STATES DRILLING S W INC					12	
Daily Drilling Report						
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Daily Drilling Report

UNIVERSITY 10-17E 5H				PERMIAN - JV SOUTHERN WOLFCAMP	
ENSIGN - 133				Job:	ODR
Accept: 10/18/2021		Release:		Report Date:	10/23/2021
Days Since LTI: 503.00		Days Since RI: 503.00		Report #:	7
				DFS:	5
				AFE #:	9015942
				Total AFE + Sup:	\$2,512,469.27
				Daily Field Est. (Cost):	\$185,586.27

P/I/UWI 42-383-41037-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)											
SSN ID00017562		Property Sub		KB-Grd (ft) 25.00		Orig KB Elev (ft) 2,597.00		Ground Elevation (ft) 2,572.00		Spud Date 9/18/2021		TD Date					
Jobs																	
Responsible Grp 2				Responsible Grp 3				Job Type		Start Date				End Date		Job Status	
DRL ENG - JACKIE LUTHER				AREA TEAM 2				ODR		9/18/2021 14:00						IN PROGRESS	
Job Dates (ex. Estimated Pad Release, TXRRC Calls)																	
Type				Subtype				Date				Note					
MILESTONE				ESTIMATED PAD RELEASE				11/10/2021				Drilling Intermediate on 2nd well of 3 well pad, Sequential Drilling. Estimated pad release 11/12/21 Updated 10-21-21					
Daily Operations																	
Footage/Meterage (ft) 619.00		Drilling Hours (hr) 9.25		% Rotating Time (%) 27.03		End Depth (ftKB) 7,362.0		Target Depth (ftKB) 17,171.0		Daily Field Est Total (Cost) 185,586.27		Cum Field Est To Date (Cost) 1,124,422.41					
24 HR ROP (ft/hr) 66.9		Circulating Hours (hr) 0.50		% Sliding Time (%) 72.97		End Depth (TVD) (ftKB) 7,225.8		Target Depth (TVD) (ftKB) 7,390.0		Daily Mud Field Est (Cost) 4,120.78		Cum Mud Field Est (Cost) 25,021.58		Total AFE + Sup (Cost) 2,512,469.27			
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 500.0				Daily Goal - Next 24 564.0				Goal Comments Goal Met					
Backbuild Yes		Lateral Inclination		Last Casing String INTERMEDIATE, 6,737.0ftKB						Next Casing String PROPOSED PRODUCTION, 17,172.0ftKB							
Avg Connection Gas 0.00		Avg Trip Gas 0.00		Avg Background Gas 104.00				Max Connection Gas 0.00		Max Trip Gas 0.00		Max Drill Gas 130.00					
Operations Summary Open DV Tool, CBU Above DV Tool, Cement 2nd Stage, Install & Test Packoff, IWB, PU BHA, TIH, Test Csg, Drill Out DV Tool, TIH, Test Casing, Drill Out Shoe Track and 17' New Formation, CBU, FIT T/11.5 EMW, Drill 8 3/4" Prod Curve T/7,362' (72.97% Sliding, Inc 35.5°, Azi 355.0°, BRN 9.12°, MY 12.0°, 11' Behind & 16' Right of Plan 2 Line)																	
Operations Next Report Period Drill & Land 8 3/4" Prod Curve @ 7,726', Cont Drilling 8 3/4" Prod Lateral T/7,926', CBU, TOO H T/6,829', Ream Thru Curve To Bottom, CBU, TOO H, LD Curve BHA, PU RSS BHA, TIH, With no HSE																	
Operations at Report Time Drilling 8 3/4" Prod Curve @ 7,362'																	
Remarks Surface - 100% Intermediate - 100% Production Curve - 59% Production Lateral - 0%																	
Time Log																	
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com				Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #				
06:00	0.5	06:30	INT, CASE & CMT	CMT	NORMAL	Drop opening bomb, wait 30 min to fall, pressure up and shift tool.  Notes from 1st Stage missing on previous report: Approx 50 bbl into displacement began to get returns ~ 10%, for a total of 36 bbl mud returned throughout 1st Stage Cement. Final lift 960 psi, Bumped plug @ 05:30 10/22/21 to 505 psi over to 1,465 psi. Held 5 mins then pressured up in 200 psi increments @ 1 bbl/min to 2,300 psi where packer opened, packer set @ 2,500 psi Pressured up to 2,985 and held, bled back to 1,450 psi (1.25 bbl in/1 bbl out) Packer took .25 bbl to inflate. Bled 3.5 bbls back. Floats held.				6,743.0	6,743.0						
06:30	0.75	07:15	INT, CASE & CMT	CIRC	NORMAL	Swap to rig pump and circulate bttns up from DV tool. Worked rate to 8 bpm w/ full returns, got 10 bbl spacer back above DV.				6,743.0	6,743.0						
07:15	2.5	09:45	INT, CASE & CMT	CMT	NORMAL	Test lines to 2500 psi, Performed Stage 2: 50 bbls of 10.9 ppg spacer, 236 bbl 11.0 ppg lead, 56 bbl 14.8 ppg tail. Drop plug and displaced W/ 226 bbl FW, full returns, 130 bbls cmt back to surface. Bumped plug F/700 - 2300 psi to close DV. Held 5 min, bled back 2.5 bbl, DV tool confirmed closed.				6,743.0	6,743.0						
09:45	0.5	10:15	INT, CASE & CMT	RD_CSG	NORMAL	RD Cement head & iron. Flush stack and choke.				6,743.0	6,743.0						
10:15	0.75	11:00	INT, CASE & CMT	WH	NORMAL	LD landing jt, install packoff per Cactus. Test to 5000 psi, lock in, pull 40k over, test again, rupture disc.				6,743.0	6,743.0						
11:00	0.5	11:30	PROD, PRE DRL	WRBSH	NORMAL	Install wear bushing.				6,743.0	6,743.0						
11:30	0.5	12:00	PROD, PRE DRL	RIG_SVC	NORMAL	Grease top drive, have welder replace broken floor door plate.				6,743.0	6,743.0						
12:00	0.25	12:15	PROD, PRE DRL	SFTY	NORMAL	PJSM W/Ensign, Gordon and PNR on PU Directional tools, Discussed order of operation, potential hazards and assigned roles and responsibilities.				6,743.0	6,743.0						
12:15	0.75	13:00	PROD, PRE DRL	PU_DIR	NORMAL	PU Curve Assy as directed by Phoenix.				6,743.0	6,743.0						
13:00	1.5	14:30	PROD, PRE DRL	TIH_ELEV	NORMAL	TIH F/98' - 2,955', Taking displacement overboard.  Tag Cement @ 2,955'				6,743.0	6,743.0						
14:30	0.5	15:00	PROD, PRE DRL	CSG_TEST	NORMAL	Fill pipe, flush through choke, space out & perform csg test 2500 psi for 10 min.				6,743.0	6,743.0						
15:00	0.75	15:45	PROD, PRE DRL	DRL_OUT	NORMAL	Drill out Cment & DV tool, 15 wob, 400 gpm, 25 rotary, wipe through x2.				6,743.0	6,743.0						
15:45	1.5	17:15	PROD, PRE DRL	TIH_ELEV	NORMAL	TIH F/2,981' - 6,537', Taking displacement overboard.				6,743.0	6,743.0						
Daily Drilling Report																	
Page 1/4 Printed: Saturday, October 23, 2021																	

# Daily Drilling Report

<b>ENSIGN - 133</b> <b>Accept: 10/18/2021</b> <b>Release:</b> <b>Days Since LTI: 503.00</b> <b>Days Since RI: 503.00</b>	
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<b>PERMIAN - JV SOUTHERN WOLFCAMP</b>	
<b>Job:</b>	<b>ODR</b>
<b>Report Date:</b>	<b>10/23/2021</b>
<b>Report #:</b>	<b>7</b>
<b>DFS:</b>	<b>5</b>
<b>AFE #:</b>	<b>9015942</b>
<b>Total AFE + Sup:</b>	<b>\$2,512,469.27</b>
<b>Daily Field Est. (Cost):</b>	<b>\$185,586.27</b>

Daily Drilling Report Page 2/4 Printed: Saturday, October 23, 2021

Daily Drilling Report

UNIVERSITY 10-17E 5H

ENSIGN - 133  
Accept: 10/18/2021      Release:  
Days Since LTI: 503.00      Days Since RI: 503.00

PERMIAN - JV SOUTHERN WOLFCAMP  
Job: ODR  
Report Date: 10/23/2021  
Report #: 7  
DFS: 5  
AFE #: 9015942  
Total AFE + Sup: \$2,512,469.27  
Daily Field Est. (Cost): \$185,586.27

Mud Checks

Time 22:00		Mud Company PIONEER DRILLING FLUIDS		Type OIL BASE	Depth (ftKB) 6,808.0	Density (lb/gal) 9.70	Funnel Viscosity (s/qt) 59	T Flowline (°F) 100.0				
PV (cP) 14.0	YP (lb/100ft²) 12.000	Vis 3rpm 7	Vis 6rpm 8	Filtrate (mL/30min)	HTHP Filtrate (mL/30min) 18.0	HTHP Temperature (°F) 200.0		HTHP Pressure (psi) 500.0				
Solids (%) 13.5		Low Gravity Solids (%) 8.4		Sand (%)	MBT (lb/bbl)	Pm (mL/mL)		Pf (mL/mL)				
Chlorides (mg/L) 29,000		Calcium (mg/L) 6,400		CaCl (ppm) 18,500	Oil Water Ratio 76.9/23.1	Electric Stab (V) 601.0		Lime (lb/bbl) 2.3	pH			
Gel 10 sec (lb/100ft²) 12.000				Gel 10 min (lb/100ft²) 18.000			Gel 30 min (lb/100ft²) 21.000					
Comment RECOMMENDED FLUIDS TREATMENT Maintain MW @ 9.5-9.6 ppg while drilling curve, Diesel - 5.4 bph, Water - 2.4 bph, Additions- Lime - 1.3 ppb, CaCl - 1.0 ppb, Soltex - .3 ppb, Gilsonite .3 ppb, BCI Primary - .3 ppb, BCI Secondary - .3 ppb.												
DRILLING FLUIDS ACTIVITY LAST 24 HRS Cleaned pits and filled w/ 9.7 ppg OBM. Drilled out and displaced t/ OBM. Performed FIT t/ 11.5 ppg EMW. Adding chemicals to increase mud properties in spec and running dilution @ 8 bph to cut MW t/ 9.5-9.6 ppg. Brought in approx 800 bbls brine for next well.												
RIG ACTIVITY LAST 24 HOURS Finish up two stage cement on intermediate casing. Transfer WBM to frac tanks, dump pits and clean. Fill with OBM from storage. Displace hole and Drill out shoe FIT t/ 11.5ppg EMW. Begin drilling ahead building the curve f/ 6,743' t/ 7,300'. Building the curve at time of report. ROP 115, WOB 30, RPM 30, Torque 7K, Diff 223, P/U 190, S/O 170, Conn Gas 78, BG Gas 130, Max Gas 130 units @ 6786' MD', FTG Last 24 Hrs- 62', Lithology at 6,830', 90% SH, 10% LS.												
Last BOP Test												
Date 10/18/2021	Test Type BOP			Item Tested BOP'S, 10/18/2021 17:00, <class>		Next Test Date 10/30/2021		Com BOP Shell Test				
Leak Off and Formation Integrity Tests												
Test Type		Depth (ftKB)				Dens Fluid (lb/gal)						
FORMATION INTEGRITY		903.0				12.63						
FORMATION INTEGRITY		6,737.0				11.50						
Casing Pressure Test												
Test Type		Test Subtype		Date		Item Tested		Failed?	Time (min)	P (psi)		
CASING		STANDARD		9/24/2021		SURFACE, 903.0ftKB		No	30.00	1,000.0		
CASING		STANDARD		10/22/2021		INTERMEDIATE, 6,737.0ftKB		No	30.00	2,500.0		
Kick Offs & Key Depths												
Date 10/22/2021 22:30			Type KICK OFF			Top Depth (ftKB) 6,829.0		Depth Top (TVD) (ftKB) 6,774.7				
Casing Strings												
Description	Set Depth (ftKB)	Set Depth (TVD) (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)	Top Thread	P LeakOff (psi)					
CONDUCTOR	125.0	125.0	20	H40	78.67							
SURFACE	903.0	902.5	13 3/8	J55	54.50	BTC	592.1					
INTERMEDIATE	6,737.0	6,682.7	9 5/8	L-80 HC	40.00	BTC	3,993.4					
Cement												
INTERMEDIATE CASING CEMENT, Casing, 10/22/2021 00:45												
Cementing End Date 10/22/2021 09:45	Wellbore ORIGINAL	Technical Result SUCCESS	Comment No returns on Stage 1, Full returns on Stage 2 with 130 bbl Cement to Surface									
Cement Stages												
Description 1st Stage	Final Top De... 2,981.0	Btm (ftKB) 6,737.0	Top Pl... Yes	Btm Pl... No	Q Pump Init (... 5	Q Pump Fina... 3	Q Pump Avg... 5	P Pump Final... 1,500.0	P Plug Bump... 950.0	Float... No	Recip? No	Rotated? No
Cement Fluids												
Fluid Type MUDPUSH	Estimated Top (ftKB) 2,981.0			Est Btm (ftKB) 3,339.0		Class		Yield (ft³/sack) 11.00	Density (lb/gal) 11.00			
Fluid Type LEAD CMT	Estimated Top (ftKB) 3,339.0			Est Btm (ftKB) 6,216.0		Class TXI LITEWEIGHT		Yield (ft³/sack) 2.76	Density (lb/gal) 11.00			
Fluid Type TAIL CMT	Estimated Top (ftKB) 6,216.0			Est Btm (ftKB) 6,737.0		Class CLASS C		Yield (ft³/sack) 1.33	Density (lb/gal) 14.80			
Fluid Type DSPLMT	Estimated Top (ftKB) 28.3			Est Btm (ftKB) 6,648.0		Class		Yield (ft³/sack) 8.34	Density (lb/gal) 8.34			
Description 2nd Stage	Final Top De... 28.3	Btm (ftKB) 2,981.0	Top Pl... Yes	Btm Pl... No	Q Pump Init (... 5	Q Pump Fina... 3	Q Pump Avg... 6	P Pump Final... 695.0	P Plug Bump... 2,275.0	Float... No	Recip? No	Rotated? No
Cement Fluids												
Fluid Type MUDPUSH	Estimated Top (ftKB) 0.0			Est Btm (ftKB) 0.0		Class		Yield (ft³/sack) 11.00	Density (lb/gal) 11.00			
Fluid Type LEAD CMT	Estimated Top (ftKB) 28.3			Est Btm (ftKB) 2,472.0		Class TXI LITEWEIGHT		Yield (ft³/sack) 2.76	Density (lb/gal) 11.00			
Fluid Type TAIL CMT	Estimated Top (ftKB) 2,472.0			Est Btm (ftKB) 2,981.0		Class CLASS C		Yield (ft³/sack) 1.33	Density (lb/gal) 14.80			
Fluid Type DSPLMT	Estimated Top (ftKB) 28.3			Est Btm (ftKB) 2,981.0		Class		Yield (ft³/sack) 8.34	Density (lb/gal) 8.34			
Gas Emissions - Flare												
Type	Method	Dur (min)	Amount	Units	Com							
FLARE	METERED	1,440.00	0.28	MCF	Previous Meter - 19204.27 SCF Current Meter - 19484.12 SCF							
Job Supply Amounts												
Supply Item Des	Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed				
DIESEL	FUEL	GAL	0	1,125	0		10,363	8,475.0				
DIESEL	MUD	GAL	0	0	0		16,284	0.0				
WATER	FRESH	BBL	0	0	0	Meter - 36675	0	3,552.0				
Mud Additive Amounts												
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons						
BARITE - BULK	WEIGHTING MATERIAL	CWT	47	8	64.0	46						
BENTONITE - BULK	VISCOSIFIER	CWT	0	5	15.0	23						
Daily Drilling Report												
Page 3/4												
Printed: Saturday, October 23, 2021												

# Daily Drilling Report

<b>ENSIGN - 133</b> <b>Accept: 10/18/2021</b> <b>Release:</b> <b>Days Since LTI: 503.00</b> <b>Days Since RI: 503.00</b>	
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<b>PERMIAN - JV SOUTHERN WOLFCAMP</b>	
<b>Job:</b>	<b>ODR</b>
<b>Report Date:</b>	<b>10/23/2021</b>
<b>Report #:</b>	<b>7</b>
<b>DFS:</b>	<b>5</b>
<b>AFE #:</b>	<b>9015942</b>
<b>Total AFE + Sup:</b>	<b>\$2,512,469.27</b>
<b>Daily Field Est. (Cost):</b>	<b>\$185,586.27</b>

## Pump Operations

## Pump Checks

## Deviation Surveys

Date	Description
9/18/2021	AS DRILL SURVEY

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
6,764.00	0.28	93.16	6,709.71	-559.57	-565.32	311.69	0.26
6,853.00	2.71	346.45	6,798.67	-557.54	-563.29	311.42	3.15
6,943.00	13.20	0.44	6,887.69	-545.17	-550.91	311.00	11.77
7,034.00	22.25	353.80	6,974.29	-517.63	-523.33	309.21	10.17
7,124.00	31.39	351.75	7,054.52	-477.51	-483.11	304.00	10.21

Formation Name	Prog Top (TVD SS) Override (ft(elv))	Prog Top MD (ftKB)	Prog Top (TVD) (ftKB)	Final Top MD (ftKB)	Final Top (TVD) (ftKB)
FTP	-4,750.0		7,347.0		
PBHL/TD	-4,793.0		7,390.0		

Job Contact	Title	Office	Mobile	Email
HARDIN, JOE, AREA DRILLING SUPERINTENDENT	AREA DRILLING SUPERINTENDENT	361-452-2118	361-318-8762	THOMAS.HARDIN@PXD.COM
LUTHER, JACKIE, ENGINEER	ENGINEER	972-969-5626	303-512-3803	JACKIE.LUTHER@PXD.COM
DAFFRON, MIKE, SUPERINTENDENT	SUPERINTENDENT	432-385-9242	318-243-5902	MIKE.DAFFRON@PXD.COM
JOHNSON, STEVEN, SUPERINTENDENT	SUPERINTENDENT		580-504-9863	STEVEN.JOHNSON@PXD.COM
JACOBS, TUCKER, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR	972-444-9001	361-318-8269	TUCKER.JACOBS@PXD.COM
KEETH, BERNARD, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		405-850-9583	BERNARD.KEETH@PXD.COM
MCSPERITT, GREG, WELLSITE SUPERVISOR	WELLSITE SUPERVISOR		580-729-0858	GREG.MCSPERITT@PXD.COM
SENTZ, RON, MUD ENGINEER	MUD ENGINEER		469-585-7376	RON.SENTZ@PXD.COM
RIG-ENSIGN 133, RIG PHONE	RIG PHONE	432-355-3047	432-888-5146	DL-ENSIGN133@PXD.COM

Company	Count
PIONEER NATURAL RESOURCES USA INC	4
ENSIGN UNITED STATES DRILLING S W INC	13
PHOENIX TECHNOLOGY SERVICES USA INC	2
GORDON TECHNOLOGIES LLC	1
STRATAGRAPH INC	2
STALLION SOLIDS CONTROL INC	1

Daily Drilling Report

P/UWI 42-383-41037-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)				
SSN ID00017562		Property Sub		KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,597.00	Ground Elevation (ft) 2,572.00	Spud Date 9/18/2021	TD Date		
Jobs										
Responsible Grp 2		Responsible Grp 3		Job Type		Start Date		End Date		
DRL ENG - JACKIE LUTHER		AREA TEAM 2		ODR		9/18/2021 14:00		IN PROGRESS		
Job Dates (ex. Estimated Pad Release, TXRRC Calls)										
Type			Subtype		Date		Note			
MILESTONE			ESTIMATED PAD RELEASE		11/10/2021		Drilling Intermediate on 2nd well of 3 well pad, Sequential Drilling. Estimated pad release 11/12/21 Updated 10-21-21			
Daily Operations										
Footage/Meterage (ft) 633.00		Drilling Hours (hr) 8.75		% Rotating Time (%) 34.29		End Depth (ftKB) 7,995.0		Target Depth (ftKB) 17,171.0		
								Daily Field Est Total (Cost) 109,073.31		
								Cum Field Est To Date (Cost) 1,233,495.72		
24 HR ROP (ft/hr) 72.3		Circulating Hours (hr) 4.75		% Sliding Time (%) 65.71		End Depth (TVD) (ftKB) 7,346.0		Target Depth (TVD) (ftKB) 7,390.0		
								Daily Mud Field Est (Cost) 9,411.35		
								Cum Mud Field Est (Cost) 34,432.93		
								Total AFE + Sup (Cost) 2,512,469.27		
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 564.0			Daily Goal - Next 24 5,800.0		Goal Comments Goal Met	
Backbuild Yes		Lateral Inclination		Last Casing String INTERMEDIATE, 6,737.0ftKB				Next Casing String PROPOSED PRODUCTION, 17,172.0ftKB		
Avg Connection Gas 266.00		Avg Trip Gas 0.00		Avg Background Gas 248.00		Max Connection Gas 376.00		Max Trip Gas 0.00		
								Max Drill Gas 132.00		
Operations Summary Drill & Land 8 3/4' Prod Curve @ 7,680', Cont. Drill Prod Lateral T/7,818', (79.31% Sliding, Curve Landed, 1' Above & 9' Right of Plan 2 Line) CBU, Flow Check, TOO H T/6,829', Ream thru Curve to Bottom, CBU, Flow Check, TOO H, LD Curve BHA, PU RSS Lateral BHA, TIH, Downlink RSS, Wash F/7,770 - 7,818', Drill 8 1/2" Prod Lateral T/7,995', (0% Sliding RSS, 2.12° Avg Lateral DLS, 2' Above and 9' Right of Plan 2 Target 1 Line)										
Operations Next Report Period Drill 8 1/2" Prod Lateral T/13,795', With no HSE										
Operations at Report Time Drilling 8 1/2" Prod Lateral @ 7,995'										
Remarks Surface - 100% Intermediate - 100% Production Curve - 100% Production Lateral - 0.03%										
Time Log										
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #
06:00	5.5	11:30	PROD, DRL CURVE	DRL	NORMAL	Drill 8 3/4" Prod Curve F/7,362' - 7,680' (318' @ 58 ft/hr), With no issues, Full returns.	7,362.0	7,680.0		
11:30	1.75	13:15	PROD, DRL CURVE	DRL	NORMAL	Drill lateral F/7,680' - 7,818', With no issues, Full returns. Took survey on bttm and confirmed lined up for RSS.	7,680.0	7,818.0		
13:15	0.25	13:30	PROD, DRL CURVE	CIRC	NORMAL	Circulate while prepping for short trip.	7,818.0	7,818.0		
13:30	0.25	13:45	PROD, DRL CURVE	FLOW_CHK	NORMAL	Flow check, well static.	7,818.0	7,818.0		
13:45	0.75	14:30	PROD, DRL CURVE	TOOH_ELEV	NORMAL	TOOH (Wet) F/7,818' - 6,829' (KOP), With no issues, hole taking proper fill from trip tanks.	7,818.0	7,818.0		
14:30	2.5	17:00	PROD, DRL CURVE	TIH_NONELEV	NORMAL	Ream Curve F/6,829' - 7,818', With no issues @ 600 gpm, 30 rpm, 500 ft/hr., Full returns.	7,818.0	7,818.0		
17:00	0.5	17:30	PROD, DRL CURVE	RIG_SVC	NORMAL	Rig Service.	7,818.0	7,818.0		
17:30	0.25	17:45	PROD, DRL CURVE	CIRC	NORMAL	Finish CBU	7,818.0	7,818.0		
17:45	0.25	18:00	PROD, DRL CURVE	FLOW_CHK	NORMAL	Flow check, well static	7,818.0	7,818.0		
18:00	1.5	19:30	PROD, DRL LAT	TOOH_ELEV	NORMAL	Pump slug & TOO H F/7,818' - 4,622', With no issues, hole taking proper fill from trip tanks RSS BHA.	7,818.0	7,818.0		
19:30	0.25	19:45	PROD, DRL LAT	HDL_ROT HD	NORMAL	Pull Rotating Head & Install Trip Nipple	7,818.0	7,818.0		
19:45	1	20:45	PROD, DRL LAT	TOOH_ELEV	NORMAL	TOOH F/4,532' - BHA, With no issues, hole taking proper fill from trip tanks.	7,818.0	7,818.0		
20:45	0.25	21:00	PROD, DRL LAT	SFTY	NORMAL	Clean and organize Rig Floor to LD BHA	7,818.0	7,818.0		
21:00	0.25	21:15	PROD, DRL LAT	SFTY	NORMAL	PJSM W/Ensign, Phoenix, Gordon & PNR over LD curve assy. Discussed order of operation, potential hazards and assigned roles and responsibilities.	7,818.0	7,818.0		
21:15	0.75	22:00	PROD, DRL LAT	LD_DIR	NORMAL	LD BHA as directed by Phoenix	7,818.0	7,818.0		
22:00	0.25	22:15	PROD, DRL LAT	SFTY	NORMAL	PJSM W/Ensign, Phoenix, Gordon & PNR over PU RSS assy. Discussed order of operation, potential hazards and assigned roles and responsibilities.	7,818.0	7,818.0		
22:15	1	23:15	PROD, DRL LAT	PU_DIR	NORMAL	PU RSS BHA as directed by Phoenix	7,818.0	7,818.0		
Daily Drilling Report										
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Printed: Sunday, October 24, 2021										



Daily Drilling Report

UNIVERSITY 10-17E 5H

ENSIGN - 133  
Accept: 10/18/2021      Release:  
Days Since LTI: 504.00      Days Since RI: 504.00

PERMIAN - JV SOUTHERN WOLFCAMP  
Job: ODR  
Report Date: 10/24/2021  
Report #: 8  
DFS: 6  
AFE #: 9015942  
Total AFE + Sup: \$2,512,469.27  
Daily Field Est. (Cost): \$109,073.31

Time Log																	
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com	Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #							
23:15	0.5	23:45	PROD, DRL LAT	RIG_SVC	NORMAL	Service Rig & TDS, Change Inline Screen	7,818.0	7,818.0									
23:45	2.25	02:00	PROD, DRL LAT	TIH_ELEV	NORMAL	TIH F/BHA - 6,518', With no issues, hole giving proper closed end displacement to trip tanks. Filling every 30 stands. Tested MWD on 1st fillup.	7,818.0	7,818.0									
02:00	0.25	02:15	PROD, DRL LAT	HDL_ROT HD	NORMAL	Pull Trip Nipple & Install Rotating Head	7,818.0	7,818.0									
02:15	1	03:15	PROD, DRL LAT	TIH_ELEV	NORMAL	TIH F/6,608' - 7,770', With no issues, hole giving proper closed end displacement to trip tanks.	7,818.0	7,818.0									
03:15	1	04:15	PROD, DRL LAT	CIRC	NORMAL	Fill Pipe, Downlink RSS to HIA	7,818.0	7,818.0									
04:15	0.25	04:30	PROD, DRL LAT	TIH_NONELEV	NORMAL	Wash F/7,770' - 7,818', With no issues, Full returns.	7,818.0	7,818.0									
04:30	1.5	06:00	PROD, DRL LAT	DRL	NORMAL	Drill 8 1/2" Prod Lateral F/7,818' -7,995', (177' @ 118 fph), With no issues, Full returns	7,818.0	7,995.0									
Drill Strings																	
BHA #4 , PRODUCTION - CURVE																	
Bit Run 3			Drill Bit 8 3/4in, MDSi611, JV1414			Bit Type PDC		Make SMITH									
Nozzles (1/32") 13/13/13/13/13/13			Bit Total Fluid Area (nozzles) (in²) 0.78		IADC Bit Dull 2-2-BT-A-X-0-CT-BHA		Hours Drilled By Bit (hr) 16.50		Depth Drilled By Bit (ft) 1,075.00								
BHA Drilling Time (hr) 16.50			BHA Depth Drilled (ft) 1,075.00		BHA ROP (ft/hr) 65.2		Depth In (ftKB) 6,743.0		Depth Out (ftKB) 7,818.0								
Drill String Components																	
Jts	Item Des			OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make							
170	DRILL PIPE			5	4.28	7,719.71	7,818.00	172,844.3	182	RIG							
1	DRILL COLLAR - NON MAG			6 3/4	3.25	31.08	98.29	2,904.7	10	GORDON							
1	MWD TOOL - NON-RETRIEVABLE			6 3/4	3.25	30.51	67.21	2,851.5	7	GORDON							
1	SUB - UBHO			6 1/2	2.75	3.04	36.70	326.6	4	GORDON							
1	MOTOR - SLICK SLEEVE			6 5/8	1.75	32.66	33.66	3,560.6	4	PHOENIX							
Mud Motors																	
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr Defin Type	Bit To Bend						
24XH675520		2		SEALED		7:8		5.7			5.31						
Sensors																	
Sensor Type			Sensor-Bit (ft)			Note											
GAMMA			44.71			Mud Pulse											
DIRECTIONAL			56.00			Mud Pulse											
Drilling Parameters																	
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lbf)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Off-Btm Str Wt (1000lbf)	Drill Tq	Off Btm Tq	TFO (°)
06:00	11:30	7,362.0	318.00	57.8	42	0	300.0	600	2,450.0	57.8	175	195	165	175	0.0	0.0	0
11:30	12:15	7,680.0	60.00	80.0	40	30	350.0	600	2,450.0	80.0	175	195	165	175	9,500.0	6,000.0	0
12:15	12:30	7,740.0	10.00	40.0	42	0	300.0	600	2,450.0	40.0	175	195	165	175	0.0	0.0	320
12:30	13:15	7,750.0	68.00	90.7	40	30	350.0	600	2,450.0	90.6	175	195	165	175	10,000.0	6,000.0	0
13:15	13:30	7,818.0	0.00		0	30	0.0	600	2,450.0	0.0	175	195	165	175	0.0	6,000.0	0
14:30	17:00	7,818.0	0.00		3	30	0.0	600	2,450.0	0.0	175	195	165	175	0.0	6,000.0	0
17:00	17:45	7,818.0	0.00		0	30	0.0	600	2,450.0	0.0	175	195	165	175	0.0	6,000.0	0
BHA #5 , PRODUCTION - LATERAL																	
Bit Run 4			Drill Bit 8 1/2in, TKC66, A278737			Bit Type PDC		Make NOV									
Nozzles (1/32") 12/12/11/11/11/11			Bit Total Fluid Area (nozzles) (in²) 0.59		IADC Bit Dull -----		Hours Drilled By Bit (hr) 1.50		Depth Drilled By Bit (ft) 177.00								
BHA Drilling Time (hr) 1.50			BHA Depth Drilled (ft) 177.00		BHA ROP (ft/hr) 118.0		Depth In (ftKB) 7,818.0		Depth Out (ftKB) 7,995.0								
Drill String Components																	
Jts	Item Des			OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make							
173	DRILL PIPE			5	4.28	7,856.56	7,995.00	175,908.4	190	RIG							
1	DRILL COLLAR - NON MAG			6 3/4	3.25	31.08	138.44	2,904.7	14	GORDON							
1	MOTOR - SLICK SLEEVE			7 1/4	1.63	34.80	107.36	4,638.1	12	PHOENIX							
1	ANTI-STALL TOOL			6 3/4	2.25	16.77	72.56	1,813.7	7	TOMAX							
1	SUB - FILTER			6 5/8	3.25	2.88	55.79	256.3	5	DRILLING TOOLS INTERNATIONAL							
1	STABILIZER			6 3/4	2.88	5.81	52.91	577.9	5	DRILLING TOOLS INTERNATIONAL							
1	DRILL COLLAR - NON MAG			6 3/4	3.75	28.90	47.10	2,430.8	4	GORDON							
1	SUB - UBHO			6 3/4	2.50	3.89	18.20	373.9	2	GORDON							
1	RSS TOOL			6 7/8	2.25	13.31	14.31	1,499.9	1	PHOENIX							
Daily Drilling Report					Page 2/5			Printed: Sunday, October 24, 2021									



Daily Drilling Report

Gas Emissions - Flare								
Type	Method	Dur (min)	Amount	Units	Com			
FLARE	METERED	1,440.00	0.001	MCF	Previous Meter - 19484.12 SCF Current Meter - 19484.75 SCF			
Job Supply Amounts								
Supply Item Des	Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed
DIESEL	FUEL	GAL	0	1,511	0		8,852	9,986.0
DIESEL	MUD	GAL	0	4,309	0		11,975	4,309.0
WATER	FRESH	BBL	0	0	0	Meter - 36675	0	3,552.0
Mud Additive Amounts								
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons		
BARITE - BULK	WEIGHTING MATERIAL	CWT	0	11	53.0	57		
BCI OBM PRIMARY	OIL MUD ADDITIVE	GAL	0	2	9.0	2		
BCI OBM SECONDARY	OIL MUD ADDITIVE	GAL	0	2	10.0	2		
BCI OBM WETTING AGENT	OIL MUD ADDITIVE	GAL	0	1	6.0	1		
BENTONE 910	OIL MUD ADDITIVE	GAL	0	10	70.0	10		
BENTONE 990	OIL MUD ADDITIVE	LB	0	10	60.0	10		
CALCIUM CHLORIDE	SALT	LB	0	54	221.0	54		
GILSONITE	FLUID LOSS ADDITIVES	LB	0	20	95.0	20		
LIME	ALKALINITY CONTROL	LB	0	40	200.0	50		
OIL DRY	OIL MUD ADDITIVE	LB	0	2	48.0	2		
SOLTEX	FLUID LOSS ADDITIVES	LB	0	20	65.0	20		
Pump Operations								
Pump #	Make	Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)		
1	H&H	1600	5 1/2	12.00	0.088	5,549.0		
2	H&H	1600	5 1/2	12.00	0.088	5,549.0		
3	H&H	1600	5 1/2	12.00	0.088	5,549.0		
Pump Checks								
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)		
1	7,818.0	04:25	400.0	30	106	95		
1	7,818.0	04:26	500.0	40	141	95		
1	7,818.0	04:27	600.0	50	176	95		
3	7,818.0	04:28	400.0	30	106	95		
3	7,818.0	04:28	500.0	40	141	95		
3	7,818.0	04:30	600.0	50	176	95		
Deviation Surveys								
Date	Description					Job		
	FINAL SURVEY							
Date	Description					Job		
9/18/2021	AS DRILL SURVEY					ODR, 9/18/2021 14:00		
Survey Data - All surveys for 24 hr reporting period								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	
7,398.00	52.58	0.76	7,261.91	-301.47	-306.99	300.90	9.69	
7,488.00	64.94	0.60	7,308.50	-224.67	-230.19	301.80	13.73	
7,580.00	76.88	0.89	7,338.53	-137.89	-143.41	302.94	12.98	
7,671.00	88.43	1.51	7,350.15	-47.79	-53.33	304.83	12.71	
7,762.00	90.76	1.22	7,350.79	43.20	37.63	307.00	2.58	
7,822.00	91.16	91.16	7,349.51	81.29	75.03	345.98	149.87	
Formations								
Formation Name			Prog Top (TVD SS) Override (ft(elv))	Prog Top MD (ftKB)	Prog Top (TVD) (ftKB)	Final Top MD (ftKB)	Final Top (TVD) (ftKB)	
FTP			-4,750.0		7,347.0			
PBHL/TD			-4,793.0		7,390.0			
Daily Contacts								
Job Contact		Title	Office	Mobile	Email			
HARDIN, JOE, AREA DRILLING SUPERINTENDENT		AREA DRILLING SUPERINTENDENT	361-452-2118	361-318-8762	THOMAS.HARDIN@PXD.COM			
LUTHER, JACKIE, ENGINEER		ENGINEER	972-969-5626	303-512-3803	JACKIE.LUTHER@PXD.COM			
DAFFRON, MIKE, SUPERINTENDENT		SUPERINTENDENT	432-385-9242	318-243-5902	MIKE.DAFFRON@PXD.COM			
JOHNSON, STEVEN, SUPERINTENDENT		SUPERINTENDENT		580-504-9863	STEVEN.JOHNSON@PXD.COM			
JACOBS, TUCKER, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR	972-444-9001	361-318-8269	TUCKER.JACOBS@PXD.COM			
KEETH, BERNARD, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		405-850-9583	BERNARD.KEETH@PXD.COM			
MCSPERITT, GREG, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		580-729-0858	GREG.MCSPERITT@PXD.COM			
SENTZ, RON, MUD ENGINEER		MUD ENGINEER		469-585-7376	RON.SENTZ@PXD.COM			
RIG-ENSIGN 133, RIG PHONE		RIG PHONE	432-355-3047	432-888-5146	DL-ENSIGN133@PXD.COM			
Personnel Log								
Company							Count	
PIONEER NATURAL RESOURCES USA INC							4	
Daily Drilling Report								

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Printed: Sunday, October 24, 2021

Daily Drilling Report

UNIVERSITY 10-17E 5H	
ENSIGN - 133	
Accept: 10/18/2021	Release:
Days Since LTI: 504.00	Days Since RI: 504.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	10/24/2021
Report #:	8
DFS:	6
AFE #:	9015942
Total AFE + Sup:	\$2,512,469.27
Daily Field Est. (Cost):	\$109,073.31

Personnel Log	
Company	Count
ENSIGN UNITED STATES DRILLING S W INC	13
PHOENIX TECHNOLOGY SERVICES USA INC	2
GORDON TECHNOLOGIES LLC	1
STRATAGRAPH INC	2
STALLION SOLIDS CONTROL INC	1

Daily Drilling Report

UNIVERSITY 10-17E 5H				PERMIAN - JV SOUTHERN WOLFCAMP	
				Job:	ODR
				Report Date:	10/25/2021
				Report #:	9
				DFS:	7
				AFE #:	9015942
				Total AFE + Sup:	\$2,512,469.27
				Daily Field Est. (Cost):	\$113,787.59

P/I/UWI 42-383-41037-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)									
SSN ID00017562		Property Sub		KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,597.00	Ground Elevation (ft) 2,572.00	Spud Date 9/18/2021	TD Date							
Jobs															
Responsible Grp 2		Responsible Grp 3		Job Type		Start Date		End Date		Job Status					
DRL ENG - JACKIE LUTHER		AREA TEAM 2		ODR		9/18/2021 14:00				IN PROGRESS					
Job Dates (ex. Estimated Pad Release, TXRRC Calls)															
Type			Subtype		Date		Note								
MILESTONE			ESTIMATED PAD RELEASE		11/10/2021		Drilling Intermediate on 2nd well of 3 well pad, Sequential Drilling. Estimated pad release 11/12/21 Updated 10-21-21								
Daily Operations															
Footage/Meterage (ft) 6,289.00		Drilling Hours (hr) 22.50		% Rotating Time (%) 100.00		End Depth (ftKB) 14,284.0		Target Depth (ftKB) 17,171.0		Daily Field Est Total (Cost) 113,787.59		Cum Field Est To Date (Cost) 1,347,280.23			
24 HR ROP (ft/hr) 279.5		Circulating Hours (hr) 0.50		% Sliding Time (%) 0.00		End Depth (TVD) (ftKB) 7,364.6		Target Depth (TVD) (ftKB) 7,390.0		Daily Mud Field Est (Cost) 6,242.64		Cum Mud Field Est (Cost) 40,675.57		Total AFE + Sup (Cost) 2,512,469.27	
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 5,800.0				Daily Goal - Next 24 2,850.0				Goal Comments Goal Met			
Backbuild Yes		Lateral Inclination		Last Casing String INTERMEDIATE, 6,737.0ftKB				Next Casing String PROPOSED PRODUCTION, 17,172.0ftKB							
Avg Connection Gas 1,155.00		Avg Trip Gas 0.00		Avg Background Gas 1,200.00		Max Connection Gas 1,665.00		Max Trip Gas 0.00		Max Drill Gas 1,665.00					
Operations Summary Drill 8 1/2" Prod Lateral T/14,284', (0% Sliding RSS,0.62° Avg Lateral DLS, 5' Above and 32' Right of Plan 2, Target 2 Line)															
Operations Next Report Period Drill 8 1/2" Prod Lateral T/~17,085', Perform K&M On Bottom CUC T/17134', With no HSE															
Operations at Report Time Service Rig @ 14,284'															
Remarks Surface - 100% Intermediate - 100% Production Curve - 100% Production Lateral - 69%															
Time Log															
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com			Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #			
06:00	6.75	12:45	PROD, DRL LAT	DRL	NORMAL	Drill Lateral F/7,995' - 9,842', (1,847" @ 273.63 ft/hr), With no issues, Full Returns			7,995.0	9,842.0					
12:45	0.75	13:30	PROD, DRL LAT	RIG_SVC	NORMAL	Change out gasket in standpipe on floor.			9,842.0	9,842.0	0.75	3			
13:30	5.5	19:00	PROD, DRL LAT	DRL	NORMAL	Drill Lateral F/9,842' - 11476', (1,634' @ 297.09 ft/hr), With no issues, Full Returns			9,842.0	11,476.0					
19:00	0.25	19:15	PROD, DRL LAT	3RD_PTY	NORMAL	Unstop & Flush Cuttings from Shaker Trough, Poly pipe suction line in reserve pit to rental trash pump feeding shaker trough floated and pump lost prime, causing trough to plug off.			11,476.0	11,476.0	0.25	4			
19:15	10.25	05:30	PROD, DRL LAT	DRL	NORMAL	Drill Lateral F/11,476' - 14,284', (2,808' @ 273.95 ft/hr), With no issues, Full Returns			11,476.0	14,284.0					
05:30	0.5	06:00	PROD, DRL LAT	RIG_SVC	NORMAL	Service Rig & TDS, C/O Inline Screen			14,284.0	14,284.0					
Interval Problems															
RIG, 9,842.0ftKB, 10/24/2021 12:45															
Ref #	Dur (N...	Ex...	Subtype	Problem Descript...	Est Cost OR (Cost)	Accountable Party		Comment							
3	0.75	No	CIRCULATING SYSTEM	PIPING		ENSIGN UNITED STATES DRILLING S W INC		Change out gasket in standpipe above 4" Valve on floor.							
RIG, 11,476.0ftKB, 10/24/2021 19:00															
Ref #	Dur (N...	Ex...	Subtype	Problem Descript...	Est Cost OR (Cost)	Accountable Party		Comment							
4	0.25	No	CIRCULATING SYSTEM	SOLIDS CONTROL		PIONEER NATURAL RESOURCES USA INC		Unstop & Flush Cuttings From Shaker Trough, Poly pipe suction line in reserve pit to rental trash pump feeding shaker trough floated and pump lost prime, causing trough to plug off.							
Drill Strings															
BHA #5 , PRODUCTION - LATERAL															
Bit Run 4			Drill Bit 8 1/2in, TKC66, A278737				Bit Type PDC		Make NOV						
Nozzles (1/32") 12/12/11/11/11/11			Bit Total Fluid Area (nozzles) (in²) 0.59		IADC Bit Dull -----		Hours Drilled By Bit (hr) 24.00		Depth Drilled By Bit (ft) 6,466.00						
BHA Drilling Time (hr) 24.00			BHA Depth Drilled (ft) 6,466.00		BHA ROP (ft/hr) 269.4		Depth In (ftKB) 7,818.0		Depth Out (ftKB) 14,284.0						
Drill String Components															
Jts	Item Des				OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make				
312	DRILL PIPE				5	4.28	14,145.56	14,284.00	316,719.1	331	RIG				
1	DRILL COLLAR - NON MAG				6 3/4	3.25	31.08	138.44	2,904.7	14	GORDON				
1	MOTOR - SLICK SLEEVE				7 1/4	1.63	34.80	107.36	4,638.1	12	PHOENIX				
1	ANTI-STALL TOOL				6 3/4	2.25	16.77	72.56	1,813.7	7	TOMAX				
1	SUB - FILTER				6 5/8	3.25	2.88	55.79	256.3	5	DRILLING TOOLS INTERNATIONAL				
1	STABILIZER				6 3/4	2.88	5.81	52.91	577.9	5	DRILLING TOOLS INTERNATIONAL				
1	MWD TOOL - NON-RETRIEVABLE				6 3/4	3.75	28.90	47.10	2,430.8	4	GORDON				
1	SUB - UBHO				6 3/4	2.50	3.89	18.20	373.9	2	GORDON				
1	RSS TOOL				6 7/8	2.25	13.31	14.31	1,499.9	1	PHOENIX				
Daily Drilling Report										Page 1/4		Printed: Monday, October 25, 2021			





Daily Drilling Report

Casing Strings								
Description	Set Depth (ftKB)	Set Depth (TVD) (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)	Top Thread	P LeakOff (psi)	
CONDUCTOR	125.0	125.0	20	H40	78.67			
SURFACE	903.0	902.5	13 3/8	J55	54.50	BTC	592.1	
INTERMEDIATE	6,737.0	6,682.7	9 5/8	L-80 HC	40.00	BTC	3,993.4	
Gas Emissions - Flare								
Type	Method	Dur (min)	Amount	Units	Com			
FLARE	METERED	1,440.00	0.005	MCF	Previous Meter - 19484.75 SCF Current Meter - 19489.89 SCF			
Job Supply Amounts								
Supply Item Des	Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed
DIESEL	MUD	GAL	8,245	2,991	0	65897-M, 66833-M	17,229	7,300.0
WATER	FRESH	BBL	4,282	4,282	0	Meter - 40957	0	7,834.0
Mud Additive Amounts								
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons		
BARITE - BULK	WEIGHTING MATERIAL	CWT	0	2	51.0	59		
BCI OBM PRIMARY	OIL MUD ADDITIVE	GAL	0	2	7.0	4		
BCI OBM SECONDARY	OIL MUD ADDITIVE	GAL	0	2	8.0	4		
BENTONE 910	OIL MUD ADDITIVE	GAL	0	10	60.0	20		
BENTONE 990	OIL MUD ADDITIVE	LB	0	10	50.0	20		
CALCIUM CHLORIDE	SALT	LB	0	46	175.0	100		
GILSONITE	FLUID LOSS ADDITIVES	LB	0	10	85.0	30		
LIME	ALKALINITY CONTROL	LB	0	80	120.0	130		
SOLTEX	FLUID LOSS ADDITIVES	LB	0	10	55.0	30		
Pump Operations								
Pump #	Make		Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)	
1	H&H		1600	5 1/2	12.00	0.088	5,549.0	
2	H&H		1600	5 1/2	12.00	0.088	5,549.0	
3	H&H		1600	5 1/2	12.00	0.088	5,549.0	
Pump Checks								
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)		
1	14,190.0	04:30	680.0	30	106	95		
1	14,190.0	04:31	800.0	40	141	95		
1	14,190.0	04:32	900.0	50	176	95		
2	14,190.0	04:33	680.0	30	106	95		
2	14,190.0	04:34	780.0	40	141	95		
2	14,190.0	04:35	900.0	50	176	95		
Deviation Surveys								
Date		Description				Job		
		FINAL SURVEY						
Date		Description				Job		
9/18/2021		AS DRILL SURVEY				ODR, 9/18/2021 14:00		
Survey Data - All surveys for 24 hr reporting period								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	
8,004.00	90.59	359.54	7,347.32	285.12	279.60	306.83	0.30	
8,095.00	90.42	0.11	7,346.52	376.10	370.59	306.55	0.65	
8,185.00	90.14	0.26	7,346.08	466.09	460.59	306.84	0.35	
8,277.00	90.76	0.88	7,345.36	558.08	552.58	307.76	0.95	
8,368.00	90.17	1.17	7,344.62	649.08	643.57	309.39	0.72	
8,457.00	89.95	0.75	7,344.53	738.08	732.55	310.88	0.53	
8,546.00	90.20	1.06	7,344.41	827.07	821.54	312.28	0.45	
8,636.00	89.83	0.70	7,344.39	917.07	911.53	313.66	0.57	
8,725.00	89.95	0.77	7,344.56	1,006.07	1,000.52	314.81	0.16	
8,814.00	89.55	0.47	7,344.95	1,095.07	1,089.52	315.77	0.56	
8,904.00	89.58	0.62	7,345.63	1,185.06	1,179.51	316.63	0.17	
8,995.00	89.67	0.90	7,346.22	1,276.06	1,270.50	317.83	0.32	
9,086.00	89.61	1.13	7,346.80	1,367.06	1,361.48	319.44	0.26	
9,176.00	89.83	1.44	7,347.24	1,457.06	1,451.46	321.46	0.42	
9,266.00	89.67	1.48	7,347.63	1,547.05	1,541.43	323.76	0.18	
9,356.00	90.00	2.06	7,347.89	1,637.04	1,631.39	326.54	0.74	
9,447.00	89.67	1.78	7,348.15	1,728.03	1,722.33	329.58	0.48	
9,538.00	89.75	2.00	7,348.61	1,819.02	1,813.28	332.59	0.26	
9,629.00	89.61	2.54	7,349.12	1,910.00	1,904.21	336.19	0.61	
9,719.00	90.03	2.41	7,349.40	1,999.97	1,994.13	340.08	0.49	
9,810.00	89.81	2.05	7,349.53	2,090.95	2,085.06	343.62	0.46	
9,901.00	89.95	2.49	7,349.72	2,181.93	2,175.99	347.22	0.51	
9,990.00	89.58	1.81	7,350.08	2,270.91	2,264.92	350.56	0.87	
10,082.00	89.81	1.52	7,350.57	2,362.90	2,356.88	353.23	0.40	
10,171.00	89.69	1.05	7,350.96	2,451.90	2,445.86	355.23	0.55	
10,261.00	89.75	0.96	7,351.40	2,541.90	2,535.84	356.81	0.12	
10,351.00	89.72	1.03	7,351.82	2,631.90	2,625.83	358.37	0.08	
Daily Drilling Report								
Page 3/4				Printed: Monday, October 25, 2021				

# Daily Drilling Report

**ENSIGN - 133**

**Accept: 10/18/2021**

**Release:**

Days Since LTI: 505.00

Days Since RI: 505.00

<b>PERMIAN - JV SOUTHERN WOLFCAMP</b>	
<b>Job:</b>	<b>ODR</b>
<b>Report Date:</b>	<b>10/25/2021</b>
<b>Report #:</b>	<b>9</b>
<b>DFS:</b>	<b>7</b>
<b>AFE #:</b>	<b>9015942</b>
<b>Total AFE + Sup:</b>	<b>\$2,512,469.27</b>
<b>Daily Field Est. (Cost):</b>	<b>\$113,787.59</b>

Survey Data - All surveys for 24 hr reporting period							
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
10,441.00	89.78	1.14	7,352.21	2,721.90	2,715.81	360.07	0.14
10,533.00	89.58	1.14	7,352.72	2,813.90	2,807.79	361.91	0.22
10,623.00	89.75	1.75	7,353.25	2,903.89	2,897.76	364.17	0.70
10,714.00	90.06	2.04	7,353.40	2,994.88	2,988.71	367.18	0.47
10,804.00	89.78	1.67	7,353.53	3,084.87	3,078.66	370.10	0.52
10,895.00	90.20	1.76	7,353.54	3,175.87	3,169.62	372.82	0.47
10,988.00	89.67	0.73	7,353.65	3,268.86	3,262.60	374.84	1.25
11,077.00	89.97	1.21	7,353.93	3,357.86	3,351.58	376.35	0.64
11,168.00	89.72	0.86	7,354.17	3,448.86	3,442.57	377.99	0.47
11,258.00	89.75	0.49	7,354.59	3,538.86	3,532.56	379.05	0.41
11,349.00	89.50	359.87	7,355.19	3,629.85	3,623.56	379.34	0.73
11,440.00	89.36	359.25	7,356.09	3,720.81	3,714.55	378.64	0.70
11,531.00	89.44	359.57	7,357.04	3,811.77	3,805.54	377.70	0.36
11,621.00	89.78	359.92	7,357.66	3,901.74	3,895.54	377.30	0.54
11,713.00	89.58	359.88	7,358.17	3,993.73	3,987.54	377.14	0.22
11,802.00	89.83	0.72	7,358.63	4,082.72	4,076.53	377.61	0.98
11,893.00	90.00	1.00	7,358.76	4,173.71	4,167.52	378.97	0.36
11,983.00	89.67	0.84	7,359.02	4,263.71	4,257.51	380.42	0.41
12,072.00	89.95	1.50	7,359.32	4,352.71	4,346.49	382.24	0.81
12,163.00	89.95	1.79	7,359.40	4,443.71	4,437.45	384.85	0.32
12,253.00	90.03	2.29	7,359.41	4,533.69	4,527.40	388.05	0.56
12,344.00	90.31	2.84	7,359.14	4,624.66	4,618.30	392.12	0.68
12,435.00	89.83	2.41	7,359.03	4,715.63	4,709.21	396.29	0.71
12,526.00	90.06	2.34	7,359.12	4,806.60	4,800.13	400.06	0.26
12,617.00	90.14	2.22	7,358.96	4,897.58	4,891.06	403.68	0.16
12,708.00	89.97	2.21	7,358.87	4,988.56	4,981.99	407.20	0.19
12,798.00	89.86	1.63	7,359.01	5,078.55	5,071.94	410.22	0.66
12,889.00	89.61	0.44	7,359.43	5,169.55	5,162.92	411.86	1.34
12,980.00	90.09	0.40	7,359.67	5,260.54	5,253.92	412.53	0.53
13,071.00	89.72	358.75	7,359.82	5,351.51	5,344.91	411.85	1.86
13,161.00	90.17	358.76	7,359.90	5,441.44	5,434.89	409.90	0.50
13,251.00	89.81	357.96	7,359.92	5,531.34	5,524.85	407.32	0.97
13,342.00	90.17	358.46	7,359.94	5,622.22	5,615.81	404.48	0.68
13,432.00	90.03	358.35	7,359.78	5,712.13	5,705.77	401.97	0.20
13,523.00	90.25	358.62	7,359.56	5,803.04	5,796.74	399.57	0.38
13,614.00	89.81	358.33	7,359.51	5,893.95	5,887.71	397.14	0.58
13,705.00	89.69	357.94	7,359.91	5,984.83	5,978.66	394.18	0.45
13,795.00	89.44	357.33	7,360.59	6,074.67	6,068.58	390.47	0.73
13,886.00	89.13	357.74	7,361.72	6,165.49	6,159.49	386.56	0.56
13,977.00	90.28	359.35	7,362.19	6,256.40	6,250.45	384.25	2.17
14,067.00	89.92	358.95	7,362.04	6,346.35	6,340.44	382.91	0.60
14,157.00	89.16	359.57	7,362.76	6,436.30	6,430.43	381.75	1.09
Formations							
Formation Name			Prog Top (TVD SS) Override (ft(elv))	Prog Top MD (ftKB)	Prog Top (TVD) (ftKB)	Final Top MD (ftKB)	Final Top (TVD) (ftKB)
PBHL/TD			-4,793.0		7,390.0		
Daily Contacts							
Job Contact		Title	Office	Mobile	Email		
HARDIN, JOE, AREA DRILLING SUPERINTENDENT		AREA DRILLING SUPERINTENDENT	361-452-2118	361-318-8762	THOMAS.HARDIN@PXD.COM		
LUTHER, JACKIE, ENGINEER		ENGINEER	972-969-5626	303-512-3803	JACKIE.LUTHER@PXD.COM		
DAFFRON, MIKE, SUPERINTENDENT		SUPERINTENDENT	432-385-9242	318-243-5902	MIKE.DAFFRON@PXD.COM		
JOHNSON, STEVEN, SUPERINTENDENT		SUPERINTENDENT		580-504-9863	STEVEN.JOHNSON@PXD.COM		
JACOBS, TUCKER, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR	972-444-9001	361-318-8269	TUCKER.JACOBS@PXD.COM		
KEETH, BERNARD, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		405-850-9583	BERNARD.KEETH@PXD.COM		
MCSPERITT, GREG, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		580-729-0858	GREG.MCSPERITT@PXD.COM		
SENTZ, RON, MUD ENGINEER		MUD ENGINEER		469-585-7376	RON.SENTZ@PXD.COM		
RIG-ENSIGN 133, RIG PHONE		RIG PHONE	432-355-3047	432-888-5146	DL-ENSIGN133@PXD.COM		
Personnel Log							
Company						Count	
PIONEER NATURAL RESOURCES USA INC						4	
ENSIGN UNITED STATES DRILLING S W INC						12	
PHOENIX TECHNOLOGY SERVICES USA INC						2	
GORDON TECHNOLOGIES LLC						1	
STRATAGRAPH INC						2	
STALLION SOLIDS CONTROL INC						1	

Daily Drilling Report

UNIVERSITY 10-17E 5H				PERMIAN - JV SOUTHERN WOLFCAMP	
ENSIGN - 133				Job:	ODR
Accept: 10/18/2021		Release:		Report Date:	10/26/2021
Days Since LTI: 506.00		Days Since RI: 506.00		Report #:	10
				DFS:	8
				AFE #:	9015942
				Total AFE + Sup:	\$2,512,469.27
				Daily Field Est. (Cost):	\$115,545.25

PWI/UWI 42-383-41037-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)												
SSN ID00017562		Property Sub		KB-Grd (ft) 25.00		Orig KB Elev (ft) 2,597.00		Ground Elevation (ft) 2,572.00		Spud Date 9/18/2021		TD Date						
Jobs																		
Responsible Grp 2		Responsible Grp 3			Job Type		Start Date			End Date		Job Status						
DRL ENG - JACKIE LUTHER		AREA TEAM 2			ODR		9/18/2021 14:00					IN PROGRESS						
Job Dates (ex. Estimated Pad Release, TXRRRC Calls)																		
Type				Subtype			Date			Note								
MILESTONE				ESTIMATED PAD RELEASE			11/10/2021			Drilling Intermediate on 2nd well of 3 well pad, Sequential Drilling. Estimated pad release 11/12/21 Updated 10-21-21								
Daily Operations																		
Footage/Meterage (ft) 2,843.00		Drilling Hours (hr) 22.50		% Rotating Time (%) 100.00		End Depth (ftKB) 17,127.0		Target Depth (ftKB) 17,171.0		Daily Field Est Total (Cost) 115,545.25		Cum Field Est To Date (Cost) 1,462,825.48						
24 HR ROP (ft/hr) 126.4		Circulating Hours (hr) 1.00		% Sliding Time (%) 0.00		End Depth (TVD) (ftKB) 7,369.4		Target Depth (TVD) (ftKB) 7,390.0		Daily Mud Field Est (Cost) 7,816.70		Cum Mud Field Est (Cost) 48,492.27		Total AFE + Sup (Cost) 2,512,469.27				
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 2,850.0				Daily Goal - Next 24 58.0				Goal Comments Goal Met						
Backbuild Yes		Lateral Inclination		Last Casing String INTERMEDIATE, 6,737.0ftKB						Next Casing String PROPOSED PRODUCTION, 17,172.0ftKB								
Avg Connection Gas 904.00		Avg Trip Gas 0.00			Avg Background Gas 783.00			Max Connection Gas 1,229.00			Max Trip Gas 0.00			Max Drill Gas 1,275.00				
Operations Summary Drill 8 1/2" Prod Lateral T/16,985', Perform K&M On Bottom CUC T/17,127', (0% Sliding RSS, 0.88° Avg Lateral DLS, 3' Below and 3' Right of Plan 2, Target 4 Line)																		
Operations Next Report Period Finish On Bottom CUC T/17,185' (TD), TOO, LD RSS, PWB, RU & Run 5 1/2" Prod Casing, With no HSE																		
Operations at Report Time Perform K&M On Bottom CUC @ 17,127'																		
Remarks Surface - 100% Intermediate - 100% Production Curve - 100% Production Lateral - 99%																		
Time Log																		
Start Time	Dur (hr)	End Time	Phase	Operation	Ops Category	Com				Start Depth (ftKB)	End Depth (ftKB)	Prob Hrs (hr)	Prob Ref #					
06:00	1.75	07:45	PROD, DRL LAT	DRL	NORMAL	Drill Lateral F/14,284' - 14,466', (182' @ 104 ft/hr), Control Drilling for Directional Control, Full Returns				14,284.0	14,466.0							
07:45	0.5	08:15	PROD, DRL LAT	HDL_ROT	NORMAL	Change out leaking rot head.				14,466.0	14,466.0	0.50	5					
08:15	8.75	17:00	PROD, DRL LAT	DRL	NORMAL	Drill Lateral F/14,466' - 16,095', (1,629' @ 186 ft/hr), With no issues, Full Returns				14,466.0	16,093.0							
17:00	0.5	17:30	PROD, DRL LAT	RIG_SVC	NORMAL	Rig service, jet flowline.				16,093.0	16,093.0							
17:30	3.25	20:45	PROD, DRL LAT	DRL	NORMAL	Drill Lateral F/16,095' - 16,909', (814' @ 250 ft/hr), With no issues, Full Returns				16,093.0	16,909.0							
20:45	0.5	21:15	PROD, DRL LAT	RIG_SVC	NORMAL	Service Rig & TDS, Change Inline Screen				16,909.0	16,909.0							
21:15	0.25	21:30	PROD, DRL LAT	DRL	NORMAL	Drill Lateral F/16,909' - 16,985', (76' @ 250 ft/hr), With no issues, Full Returns				16,909.0	16,985.0							
21:30	8.5	06:00	PROD, POST DRL	DRL_K&M	NORMAL	Control Drill @ 17 FPH, 8 1/2" Prod lateral F/16,185' - 17,127', (142' @ 17 ft/hr), While performing on bottom clean up cycles.				16,985.0	17,127.0							
Interval Problems																		
3RD PARTY, 14,466.0ftKB, 10/25/2021 07:45																		
Ref #	Dur (N...	Ex...	Subtype	Problem Descript...	Est Cost OR (Cost)	Accountable Party			Comment									
5	0.50	No	PRESSURE CONTROL	ROTATING HEAD		BLACK GOLD RENTAL TOOLS INC			Change out leaking rot head.									
Drill Strings																		
BHA #5 , PRODUCTION - LATERAL																		
Bit Run 4			Drill Bit 8 1/2in, TKC66, A278737						Bit Type PDC			Make NOV						
Nozzles (1/32") 12/12/11/11/11			Bit Total Fluid Area (nozzles) (in²) 0.59			IADC Bit Dull -----			Hours Drilled By Bit (hr) 46.50			Depth Drilled By Bit (ft) 9,309.00						
BHA Drilling Time (hr) 46.50			BHA Depth Drilled (ft) 9,309.00			BHA ROP (ft/hr) 200.2			Depth In (ftKB) 7,818.0			Depth Out (ftKB) 17,127.0						
Drill String Components																		
Jts	Item Des				OD (in)		ID (in)		Len (ft)		Cum Len (ft)		Wt (lbf)		Cum Wt (1000lbf)		Make	
375	DRILL PIPE				5		4.28		16,988.56		17,127.00		380,373.9		395		RIG	
1	DRILL COLLAR - NON MAG				6 3/4		3.25		31.08		138.44		2,904.7		14		GORDON	
1	MOTOR - SLICK SLEEVE				7 1/4		1.63		34.80		107.36		4,638.1		12		PHOENIX	
1	ANTI-STALL TOOL				6 3/4		2.25		16.77		72.56		1,813.7		7		TOMAX	
1	SUB - FILTER				6 5/8		3.25		2.88		55.79		256.3		5		DRILLING TOOLS INTERNATIONAL	
1	STABILIZER				6 3/4		2.88		5.81		52.91		577.9		5		DRILLING TOOLS INTERNATIONAL	
1	MWD TOOL - NON-RETRIEVABLE				6 3/4		3.75		28.90		47.10		2,430.8		4		GORDON	
1	SUB - UBHO				6 3/4		2.50		3.89		18.20		373.9		2		GORDON	
1	RSS TOOL				6 7/8		2.25		13.31		14.31		1,499.9		1		PHOENIX	
Daily Drilling Report																		
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**PIONEER**  
NATURAL RESOURCES

# Daily Drilling Report

## UNIVERSITY 10-17E 5H

**ENSIGN - 133**

**Accept: 10/18/2021**

**Release:**

Days Since LTI: 506.00

Days Since RI: 506.00

**PERMIAN - JV SOUTHERN WOLFCAMP**

<b>Job:</b>	<b>ODR</b>
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Report Date: 10/26/2021

Report #: 10

<b>DFS:</b>	<b>8</b>
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**AFE #:** 9015942

<b>Total AFE + Sup:</b>	<b>\$2,512,469.27</b>
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<b>Daily Field Est. (Cost):</b>	<b>\$115,545.25</b>
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Mud Motors																	
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr Defin Type		Bit To Bend					
PHX-725042-PTS		0		NOT SEALED		7:8		8.5				0					
Sensors																	
Sensor Type				Sensor-Bit (ft)				Note									
GAMMA				30.47				Mud Pulse									
DIRECTIONAL				36.00				Mud Pulse									
Drilling Parameters																	
Start Time	End Time	Start Depth (ftKB)	Int Depth (ft)	Int ROP (ft/hr)	WOB (1000lb)	RPM (rpm)	dP (SPP) (psi)	Q Flow (gpm)	SPP (psi)	ROP Average (ft/hr)	Drill Str Wt (1000lb)	PU Str Wt (1000lb)	SO Str Wt (1000lb)	Off-Btm Str Wt (1000lb)	Drill Tq	Off Btm Tq	TFO (°)
06:00	07:45	14,284.0	182.00	104.0	50	120	770.0	635	3,725.0	104.0	175	195	130	175	15,500.0	6,500.0	0
08:15	11:30	14,466.0	454.00	139.7	50	120	465.0	635	3,725.0	139.7	175	195	130	175	15,500.0	6,500.0	0
11:30	14:30	14,920.0	631.00	210.3	36	120	745.0	635	3,800.0	210.3	175	195	125	175	15,500.0	6,500.0	0
14:30	17:00	15,551.0	544.00	217.6	45	120	620.0	635	3,900.0	217.6	175	200	120	175	18,500.0	7,000.0	0
17:00	17:30	16,095.0	0.00		0	30	0.0	635	3,900.0	0.0	175	205	120	175	7,000.0	7,000.0	0
17:30	19:30	16,095.0	453.00	226.5	50	120	685.0	635	4,050.0	226.5	175	205	120	175	19,000.0	7,000.0	0
19:30	20:45	16,548.0	361.00	288.8	50	120	585.0	635	4,100.0	288.8	175	210	120	175	19,000.0	7,000.0	0
20:45	21:15	16,909.0	0.00		0	30	620.0	635	4,100.0	0.0	175	215	120	175	7,000.0	7,000.0	0
21:15	21:30	16,909.0	76.00	304.0	50	120	630.0	635	4,100.0	304.0	175	215	120	175	18,000.0	7,000.0	0
21:30	06:00	16,985.0	142.00	16.7	25	120	135.0	635	4,100.0	16.7	175	225	120	175	11,000.0	7,000.0	0
Hydraulic Calculations																	
Dens Mud (lb/gal)	ECD End (lb/gal)	Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Jet Vel (ft/s)	Bit dP (psi)	Min Open Hole AV (ft/min)	Max Open Hole AV (ft/min)	Vol DrillString (bbl)	Vol Bit to Shoe (bbl)	Vol Shoe to Top (bbl)							
9.90	11.54	393.2	6.9	344.1	1,061.6	17.8	790.5	303.36	478.81	346.92							
Mud Checks																	
Time		Mud Company				Type		Depth (ftKB)		Density (lb/gal)		Funnel Viscosity (s/qt)		T Flowline (°F)			
22:00		PIONEER DRILLING FLUIDS				OIL BASE		16,995.0		9.90		60		131.0			
PV (cP)	YP (lb/100ft²)	Vis 3rpm	Vis 6rpm	Filtrate (mL/30min)		HTHP Filtrate (mL/30min)		HTHP Temperature (°F)		HTHP Pressure (psi)							
22.0	19.000	10	11			15.6		200.0		500.0							
Solids (%)		Low Gravity Solids (%)		Sand (%)		MBT (lb/bbl)		Pm (mL/mL)		Pf (mL/mL)							
13.5		6.8															
Chlorides (mg/L)		Calcium (mg/L)		CaCl (ppm)		Oil Water Ratio		Electric Stab (V)		Lime (lb/bbl)		pH					
30,000		5,800		18,000		76/24		752.0		3.4							
Gel 10 sec (lb/100ft²)				Gel 10 min (lb/100ft²)				Gel 30 min (lb/100ft²)									
16.000				23.000				27.000									
Comment																	
RECOMMENDED FLUIDS TREATMENT																	
Maintain MW @ 9.8-9.9 ppg while drilling, Diesel - 10.7 bph, Water - 3.6 bph, Additions- Lime - 2.0 ppb, CaCl - 1.0 ppb, Soltex - .4 ppb, Gilsonite - .4 ppb, Bentone 910 - .2 ppb, Bentone 990 - .2 ppb, BCI Primary - .6 ppb, BCI Secondary - .3 ppb.																	
DRILLING FLUIDS ACTIVITY LAST 24 HRS																	
Maintain 9.9 ppg. Adding chemicals to increase mud properties in spec and running dilution @ 14 bph to maintain mud weight. Turn on centrifuge to help maintain mud weight. Transfer 694 bbls 12.0 ppg OBM stored on next location to Ensign 134 - Wavle-Burkitt 1205D 4H.																	
RIG ACTIVITY LAST 24 HOURS																	
Drill ahead f/ 12,800' t/ 16,995'. Start Clean Up drilling at 16,985'. Maintain mud weight at 9.8 - 9.9 ppg until slow drilling to TD. Will allow mud weight to climb to 10.0 ppg at TD. ROP 344, WOB 47, RPM 118, Torque 19K, Diff 671, P/U 200, Conn Gas 233, BG Gas 1011, Max Gas 1275 units @ 12777' MD, FTG Last 24 Hrs- 2050', Lithology at 16,840', 95% SH, 5% LS.																	
Last BOP Test																	
Date	Test Type			Item Tested			Next Test Date		Com								
10/18/2021	BOP			BOP'S, 10/18/2021 17:00, <class>			10/30/2021		BOP Shell Test								
Leak Off and Formation Integrity Tests																	
Test Type				Depth (ftKB)				Dens Fluid (lb/gal)									
FORMATION INTEGRITY				903.0				12.63									
FORMATION INTEGRITY				6,737.0				11.50									
Casing Pressure Test																	
Test Type		Test Subtype			Date		Item Tested			Failed?		Time (min)		P (psi)			
CASING		STANDARD			9/24/2021		SURFACE, 903.0ftKB			No		30.00		1,000.0			
CASING		STANDARD			10/22/2021		INTERMEDIATE, 6,737.0ftKB			No		30.00		2,500.0			
Kick Offs & Key Depths																	
Date				Type				Top Depth (ftKB)				Depth Top (TVD) (ftKB)					
10/22/2021 22:30				KICK OFF				6,829.0				6,774.7					
10/23/2021 11:30				HEEL				7,680.0				7,350.4					
Casing Strings																	
Description		Set Depth (ftKB)		Set Depth (TVD) (ftKB)		OD (in)		Grade		Wt/Len (lb/ft)		Top Thread		P LeakOff (psi)			
CONDUCTOR		125.0		125.0		20		H40		78.67							
SURFACE		903.0		902.5		13 3/8		J55		54.50		BTC		592.1			
INTERMEDIATE		6,737.0		6,682.7		9 5/8		L-80 HC		40.00		BTC		3,993.4			
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Daily Drilling Report

Gas Emissions - Flare								
Type	Method	Dur (min)	Amount	Units	Com			
FLARE	METERED	1,440.00	0.003	MCF	Previous Meter - 19489.89 SCF Current Meter - 19492.37 SCF			
Job Supply Amounts								
Supply Item Des	Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed
DIESEL	FUEL	GAL	0	3,081	0		8,541	16,544.0
DIESEL	MUD	GAL	0	9,417	0		7,812	16,717.0
WATER	FRESH	BBL	0	0	0	Meter - 40957	0	7,834.0
Mud Additive Amounts								
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons		
BARITE - BULK	WEIGHTING MATERIAL	CWT	0	12	39.0	71		
BCI OBM PRIMARY	OIL MUD ADDITIVE	GAL	0	2	5.0	6		
BCI OBM SECONDARY	OIL MUD ADDITIVE	GAL	0	2	6.0	6		
BENTONE 910	OIL MUD ADDITIVE	GAL	0	10	50.0	30		
BENTONE 990	OIL MUD ADDITIVE	LB	0	5	45.0	25		
CALCIUM CHLORIDE	SALT	LB	0	50	125.0	150		
GILSONITE	FLUID LOSS ADDITIVES	LB	0	10	75.0	40		
LIME	ALKALINITY CONTROL	LB	0	40	80.0	170		
SOLTEX	FLUID LOSS ADDITIVES	LB	0	15	40.0	45		
Pump Operations								
Pump #	Make		Model	Liner Size (in)	Stroke (in)	Vol/Stk (bbl/stk)	P Max (psi)	
1	H&H		1600	5 1/2	12.00	0.088	5,549.0	
2	H&H		1600	5 1/2	12.00	0.088	5,549.0	
3	H&H		1600	5 1/2	12.00	0.088	5,549.0	
Pump Checks								
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)		
1	16,692.0	20:18	700.0	30	106	95		
1	16,692.0	20:19	800.0	40	141	95		
1	16,692.0	20:20	920.0	50	176	95		
3	16,692.0	20:15	700.0	30	106	95		
3	16,692.0	20:16	800.0	40	141	95		
3	16,692.0	20:17	900.0	50	176	95		
Deviation Surveys								
Date		Description				Job		
		FINAL SURVEY						
Date		Description				Job		
9/18/2021		AS DRILL SURVEY				ODR, 9/18/2021 14:00		
Survey Data - All surveys for 24 hr reporting period								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	
14,339.00	89.53	3.40	7,365.80	6,618.21	6,612.25	388.39	1.24	
14,430.00	88.60	3.79	7,367.29	6,709.11	6,703.06	394.09	1.11	
14,521.00	89.47	4.55	7,368.82	6,799.96	6,793.80	400.71	1.27	
14,611.00	89.69	6.12	7,369.48	6,889.70	6,883.41	409.08	1.76	
14,701.00	89.78	7.46	7,369.90	6,979.24	6,972.77	419.72	1.49	
14,792.00	90.28	7.46	7,369.85	7,069.67	7,063.00	431.53	0.55	
14,839.00	90.14	5.89	7,369.68	7,116.44	7,109.68	436.99	3.35	
14,884.00	89.92	3.79	7,369.65	7,161.34	7,154.52	440.79	4.69	
14,974.00	89.58	0.42	7,370.05	7,251.31	7,244.44	444.10	3.76	
15,064.00	89.97	1.17	7,370.40	7,341.31	7,334.43	445.34	0.94	
15,154.00	90.11	1.31	7,370.34	7,431.31	7,424.41	447.29	0.22	
15,244.00	90.23	0.34	7,370.07	7,521.31	7,514.40	448.59	1.09	
15,336.00	89.64	358.85	7,370.18	7,613.27	7,606.40	447.94	1.74	
15,425.00	89.78	1.07	7,370.63	7,702.25	7,695.39	447.88	2.50	
15,515.00	89.67	1.26	7,371.06	7,792.25	7,785.37	449.71	0.24	
15,606.00	90.31	2.28	7,371.07	7,883.24	7,876.32	452.52	1.32	
15,697.00	90.03	0.38	7,370.80	7,974.23	7,967.30	454.63	2.11	
15,787.00	90.06	359.64	7,370.73	8,064.22	8,057.29	454.64	0.82	
15,878.00	90.65	1.23	7,370.17	8,155.21	8,148.29	455.33	1.86	
15,969.00	89.81	1.03	7,369.80	8,246.21	8,239.27	457.13	0.95	
16,059.00	90.67	1.64	7,369.43	8,336.20	8,329.24	459.23	1.17	
16,149.00	90.28	1.54	7,368.68	8,426.20	8,419.20	461.72	0.45	
16,241.00	90.06	0.67	7,368.41	8,518.20	8,511.18	463.50	0.98	
16,331.00	89.97	0.05	7,368.38	8,608.19	8,601.18	464.06	0.70	
16,422.00	89.92	1.40	7,368.47	8,699.18	8,692.17	465.21	1.48	
16,512.00	89.92	0.95	7,368.60	8,789.18	8,782.15	467.06	0.50	
16,602.00	89.78	359.99	7,368.83	8,879.18	8,872.15	467.80	1.08	
16,692.00	89.64	359.67	7,369.29	8,969.16	8,962.15	467.53	0.39	
16,782.00	89.78	0.46	7,369.74	9,059.14	9,052.15	467.63	0.89	
16,873.00	89.89	0.47	7,370.01	9,150.14	9,143.14	468.37	0.12	
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# Daily Drilling Report

**ENSIGN - 133**

<b>PERMIAN - JV SOUTHERN WOLFCAMP</b>	
<b>Job:</b>	<b>ODR</b>
<b>Report Date:</b>	<b>10/26/2021</b>
<b>Report #:</b>	<b>10</b>
<b>DFS:</b>	<b>8</b>
<b>AFE #:</b>	<b>9015942</b>
<b>Total AFE + Sup:</b>	<b>\$2,512,469.27</b>
<b>Daily Field Est. (Cost):</b>	<b>\$115,545.25</b>

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