

Daily Drilling Report

API/UWI 42-383-40858-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)						
SSN ID00017688	Property Sub	KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,668.00	Ground Elevation (ft) 2,643.00	Spud Date 11/11/2020	TD Date						
Safety Checks												
Time	Type	Des	Tour	Com								
Jobs												
Responsible Grp 2		Responsible Grp 3		Job Type	Start Date		End Date		Job Status			
DRL ENG - JACKIE LUTHER		AREA TEAM 4		ODR	11/11/2020 17:30				IN PROGRESS			
Job Dates (ex. Estimated Pad Release, TXRRC Calls)												
Type			Subtype		Date		Note					
MILESTONE			ESTIMATED PAD RELEASE		1/17/2021		Drilling Intermediate on well 1 of 3, sequentially.					
Daily Operations												
Footage/Meterage (ft) 3,629.00		Drilling Hours (hr) 21.00		% Rotating Time (%) 83.33		End Depth (ftKB) 4,678.0		Target Depth (ftKB) 20,511.0		Daily Field Est Total (Cost) 76,133.71	Cum Field Est To Date (Cost) 534,999.05	
24 HR ROP (ft/hr) 172.8		Circulating Hours (hr) 0.75		% Sliding Time (%) 16.67		End Depth (TVD) (ftKB) 4,613.0		Target Depth (TVD) (ftKB) 7,643.0		Daily Mud Field Est (Cost) 6,085.46	Cum Mud Field Est (Cost) 6,085.46	Total AFE + Sup (Cost) 2,683,002.54
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 3,000.0				Daily Goal - Next 24 2,295.0		Goal Comments Goal Met		
Backbuild Yes		Lateral Inclination Toe Flat		Last Casing String SURFACE, 1,027.7ftKB				Next Casing String PROPOSED INTERMEDIATE, 6,973.0ftKB				
Avg Connection Gas 0.00		Avg Trip Gas 0.00		Avg Background Gas 0.00		Max Connection Gas 0.00		Max Trip Gas 0.00		Max Drill Gas 0.00		
Operations Summary Finish picking up BHA, pick up pipe going in the hole to Float collar (985'), Drill shoe track plus 10', perform FIT. Drill 12 1/4 intermediate T/ 4,678'. Troubleshoot rectifier												
Operations Next Report Period Drill 12 1/4" Intermediate T/ 6,973', swap mud system to water base gel mud at 4700'. Circulate 2 high vis sweeps and until shakers clean, Trip out of the hole (backream transition between San Andreas and Greyburg, trip out of the hole and L/D BHA, pull wear bushing.												
Operations at Report Time Drilling 12 1/4" Intermediate at 4,678'												
Remarks Surface - 100% Intermediate - 61% 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	1	07:00	INT, PRE DRL	DRL_OUT	NORMAL	Drill Cement, shoe track, and rat hole T/1049'			1,049.0	1,049.0		
07:00	0.25	07:15	INT, PRE DRL	CIRC	NORMAL	CBU			1,049.0	1,049.0		
07:15	0.25	07:30	INT, PRE DRL	DRL	NORMAL	Drill F/1049' T/1059' w/ 10 ppg Brine and full returns.			1,049.0	1,059.0		
07:30	0.25	07:45	INT, PRE DRL	FIT	NORMAL	Perform FIT to 12.5 ppg EMW. 133 psi surface pressure applied with 10 ppg. Successful test.			1,059.0	1,059.0		
07:45	0.75	08:30	INT, DRL	DRL	NORMAL	Drill INT #1 F/1059 T/1131			1,059.0	1,131.0		
08:30	0.5	09:00	INT, DRL	RIG_SVC	NORMAL	Rig Service			1,131.0	1,131.0		
09:00	1	10:00	INT, DRL	RIG_RPR	NORMAL	Troubleshoot rectifier loss. Check plugs on all electrical equipment and reconnect poorly plugged in equipment.			1,131.0	1,131.0	1.00	2
10:00	20	06:00	INT, DRL	DRL	NORMAL	Drill INT #1 F/1131 T/4678'. 3,547' at 177.35 fph.w/ 10 ppg Brine and full returns. Built 12° tangent			1,131.0	4,678.0		
Interval Problems												
RIG, 1,131.0ftKB, 12/8/2020 09:00												
Ref #	Dur (N...	Ex...	Subtype	Problem Descript...	Est Cost OR (Cost)	Accountable Party			Comment			
2	1.00	No	POWER SYSTEMS	GENERATOR		ENSIGN ENERGY SERVICES			Troubleshoot rectifier loss. Check plugs on all electrical equipment and reconnect poorly plugged in equipment.			
Drill Strings												
BHA #2 , Intermediate												
Bit Run 2		Drill Bit 12 1/4in, D507WX, 5306034				Bit Type PDC		Make GE/BAKER HUGHES				
Nozzles (1/32") 12/12/12/12/12/12		Bit Total Fluid Area (nozzles) (in²) 0.77			IADC Bit Dull -----		Hours Drilled By Bit (hr) 21.00		Depth Drilled By Bit (ft) 3,629.00			
BHA Drilling Time (hr) 21.00		BHA Depth Drilled (ft) 3,629.00			BHA ROP (ft/hr) 172.8		Depth In (ftKB) 1,049.0		Depth Out (ftKB) 4,678.0			
Drill String Components												
Jts	Item Des				OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make	
81	DRILL PIPE				5	2.75	3,624.23	4,678.00		24	RIG	
5	HWDP - INTERNALLY COATED				5	3.13	153.60	1,053.77	7,219.2	24	RIG	
1	DRILLING JARS - HYDRAULIC				6 1/2	2.75	32.05	900.17		17	YELLOW JACKET OILFIELD SERVICES	
12	HWDP - INTERNALLY COATED				5	3.13	366.45	868.12	17,223.1	17	RIG	
1	SUB - XO				8	2.88	3.98	501.67		0	DRILLING TOOLS INTERNATIONAL	
12	DRILL COLLAR				8	2.88	360.00	497.69		0	RIG	
1	SUB - XO				8	2.88	2.17	137.69		0	DRILLING TOOLS INTERNATIONAL	
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ENSIGN - 133

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/9/2020
Report #:	6
DFS:	5
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$76,133.71

Drill String Components																		
Jts	Item Des				OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make							
1	SUB - SHOCK				8	3.50	22.72	135.52		0	COUGAR							
1	DRILL COLLAR - NON MAG				8	3.25	30.90	112.80		0	GORDON							
1	DRILL COLLAR - NON MAG				8	3.75	30.30	81.90		0	GORDON							
1	SUB - UBHO				8	3.50	2.68	51.60		0	GORDON							
1	STABILIZER				8.06	2.81	8.26	48.92		0	DRILLING TOOLS INTERNATIONAL							
1	MOTOR - STABILIZER SLEEVE				9	2.75	39.16	40.66		0	PHOENIX							
Mud Motors																		
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr Defin Type		Bit To Bend						
PHX-900033-PTS		1.5		SEALED		7:8		7				6.82						
Sensors																		
Sensor Type				Sensor-Bit (ft)						Note								
GAMMA				58.39														
DIRECTIONAL				70.00														
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 (°)	
07:00	07:15	1,049.0	10.00	40.0	15	30	150.0	650	1,375.0	50.0	130	150	125	130	6,000.0	1,000.0	0	
07:15	07:30	1,059.0	0.00		0	0	500.0	650	1,375.0	0.0	130	150	125	130	0.0	0.0	0	
07:30	08:30	1,059.0	72.00	72.0	60	40	1,000.0	1,000	2,900.0	150.0	130	150	125	130	10,000.0	2,000.0	0	
08:30	09:00	1,131.0	0.00	0.0	0	0	500.0	650	1,375.0	0.0	130	150	125	130	0.0	0.0	0	
10:00	10:30	1,131.0	45.00	90.0	15	0	450.0	1,000	2,900.0	200.0	130	150	125	130	0.0	0.0	130	
10:30	11:00	1,176.0	137.00	274.0	60	40	1,000.0	1,000	2,900.0	250.0	130	150	125	130	10,000.0	2,000.0	0	
11:00	11:30	1,313.0	45.00	90.0	15	0	450.0	1,000	2,900.0	200.0	130	150	125	130	0.0	0.0	340	
11:30	12:00	1,358.0	138.00	276.0	60	50	1,000.0	1,000	2,900.0	400.0	130	150	125	130	20,000.0	4,000.0	0	
12:00	12:15	1,496.0	45.00	180.0	20	0	450.0	1,000	2,900.0	200.0	130	150	125	130	0.0	0.0	335	
12:15	12:30	1,541.0	137.00	548.0	60	50	1,000.0	1,000	2,900.0	550.0	130	150	125	130	20,000.0	4,000.0	0	
12:30	13:00	1,678.0	55.00	110.0	20	0	450.0	1,000	2,900.0	150.0	130	150	125	130	0.0	0.0	315	
13:00	14:00	1,733.0	128.00	128.0	60	50	1,000.0	1,000	2,900.0	250.0	130	150	125	130	20,000.0	4,000.0	0	
14:00	14:30	1,861.0	30.00	60.0	20	0	450.0	1,000	2,900.0	150.0	130	150	125	130	0.0	0.0	315	
14:30	18:00	1,891.0	694.00	198.3	60	50	1,000.0	1,000	2,900.0	250.0	130	150	125	130	20,000.0	4,000.0	0	
18:00	19:45	2,585.0	274.00	156.6	60	40	1,000.0	740	2,000.0	210.0	160	165	150	160	20,000.0	5,000.0	0	
19:45	20:15	2,859.0	15.00	30.0	0	45	350.0	740	2,000.0	50.0	160	165	150	160	20,000.0	0.0	20	
20:15	23:15	2,874.0	441.00	147.0	60	60	1,100.0	1,000	3,425.0	220.0	160	165	150	160	20,000.0	5,000.0	0	
23:15	23:30	3,315.0	15.00	60.0	45	0	350.0	1,000	3,425.0	120.0	160	165	150	160	0.0	0.0	0	
23:30	02:45	3,330.0	803.00	247.1	60	60	1,100.0	1,000	3,425.0	220.0	160	165	150	160	20,000.0	5,000.0	0	
03:00	03:15	4,133.0	13.00	52.0	45	0	350.0	1,000	3,525.0	120.0	160	165	150	160	0.0	0.0	0	
03:15	03:45	4,146.0	168.00	336.0	60	60	1,100.0	1,000	3,525.0	220.0	160	165	150	160	20,000.0	5,000.0	0	
03:45	04:30	4,314.0	16.00	21.3	45	0	350.0	1,000	3,525.0	120.0	160	165	150	160	0.0	0.0	0	
04:30	06:00	4,330.0	348.00	232.0	60	60	1,100.0	1,000	3,525.0	220.0	160	165	150	160	20,000.0	5,000.0	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)								
10.40	10.45	946.4	8.0	415.0	1,622.3	28.0	354.9	36.14	426.38	131.39								
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Mud Checks									
Time 22:45		Mud Company PIONEER DRILLING FLUIDS			Type WATER BASE	Depth (ftKB) 3,230.0	Density (lb/gal) 10.40	Funnel Viscosity (s/qt) 28	T Flowline (°F) 100.0
PV (cP) 3.0	YP (lb/100ft²) 1.000	Vis 3rpm 1	Vis 6rpm 1	Filtrate (mL/30min) 50.0	HTHP Filtrate (mL/30min)		HTHP Temperature (°F)		HTHP Pressure (psi)
Solids (%) 15.0		Low Gravity Solids (%) 4.9		Sand (%) 0.3		MBT (lb/bbl) 5.0		Pm (mL/mL) 0.500	Pf (mL/mL)
Chlorides (ppm) 167,000,000.000		Calcium (ppm) 800,000.000		CaCl (ppm)	Oil Water Ratio 0/100	Electric Stab (V)		Lime (lb/bbl)	pH 9.5
Gel 10 sec (lb/100ft²) 1.000				Gel 10 min (lb/100ft²) 1.000			Gel 30 min (lb/100ft²) 1.000		
Comment DAILY COST \$ \$8,475.46 TOTAL WELL COST \$ \$20,075.46 RECOMMENDED FLUID TREATMENT DRILLING FLUID ACTIVITY LAST 24 HRS 1 sack lime every 2 hrs, 2 sacks soda ash every hour, 1 sack Pac-LV every 2 hours, 1 can PHPA every 2 hours. Pump sweeps every other stand: 80 bbls of mud, 2 sacks soda ash, 1 sack Xanthan Gum, pump 20-25 bbls per sweep. Dump sand traps every 500' drilled. Transfer brine from tank farm to pits to maintain volume. Start adding reserve pit water to cut weight. Begin mixing gel mud in pre-mix tanks for next section. WELL VOLUMES RECAP Daily Diesel Used GAL Cumulative Diesel Used GAL Daily WBM Surface Losses 1,781 BBL Daily WBM Downhole Losses BBL Cumulative WBM Surface Losses 1,781 BBL Cumulative WBM Downhole Losses BBL WBM Volume Accounting 3,190 BBL Total WBM Received BBL Total WBM on Location 3,190 BBL Daily Water Used 100 BBL Cumulative Water Used 100 BBL RIG ACTIVITY LAST 24 HOURS Finish, pick up BHA, trip in hole, drill float equipment and cement plus 10' new hole, circulate bottom's up, perform FIT to 12.0 ppg EMW, drill from 1,059' to 3,518'. ROP 104 ft/hr avg, WOB 60K, RPM @ bit 240, TQ 21K, Diff 1,050, Max Gas 34u @ 2,986', 24 hr ftg 2,491'.									
Last BOP Test									
Date	Test Type			Item Tested		Next Test Date	Com		
12/7/2020	BOP			BOP'S, 12/5/2020 06:00, U		12/28/2020	Tested BOP 250 low 5000 high		
Leak Off and Formation Integrity Tests									
Test Type				Depth (ftKB)			Dens Fluid (lb/gal)		
FORMATION INTEGRITY				1,027.0			12.49		
Casing Pressure Test									
Test Type		Test Subtype			Date	Item Tested		Failed?	Time (min) P (psi)
CASING		STANDARD			11/22/2020	SURFACE, 1,027.7ftKB		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		20	H40	78.67				
SURFACE	1,027.7	1,027.1	13 3/8	K55	54.50	BTC	666.2		
Job Supply Amounts									
Supply Item Des		Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed
DIESEL		FUEL	GAL		2,995	0	Rig Fuel	5,232	4,935.0
Mud Additive Amounts									
Des		Type	Units	Rec	Consumed	On Loc	Cum Cons		
BENTONITE - BULK		VISCOSIFIER	TON		4	54.12	4		
CAUSTIC SODA		ALKALINITY CONTROL	LB	60	3	57.0	3		
DRILLPAC LV		FLUID LOSS ADDITIVES	LB		63	57.0	63		
LIME		ALKALINITY CONTROL	LB		15	95.0	15		
PALLETS		MISCELLANEOUS	EA	31	31	0.0	31		
SHRINK WRAP		SERVICE	EA	32	32	0.0	32		
SODA ASH		ALKALINITY CONTROL	LB	250	42	208.0	42		
XANTHAN GUM		VISCOSIFIER	LB		2	117.0	2		
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	6,000.0	
2	H&H			1600	5 1/2	12.00	0.088	6,000.0	
3	H&H			1600	5 1/2	12.00	0.088	6,000.0	
Pump Checks									
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)		Eff (%)		
1	4,042.0	02:00	375.0	50	176		95		
1	4,042.0	02:00	350.0	40	141		95		
1	4,042.0	02:00	300.0	30	106		95		
2	4,042.0	02:00	375.0	50	176		95		
2	4,042.0	02:00	300.0	30	106		95		
2	4,042.0	02:00	325.0	40	141		95		
3	4,042.0	02:00	300.0	30	106		95		
3	4,042.0	02:00	325.0	40	141		95		
3	4,042.0	02:00	375.0	50	176		95		
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Deviation Surveys							
Date	Description					Job	
	FINAL SURVEY						
Date	Description					Job	
11/11/2020	AS DRILL SURVEY					ODR, 11/11/2020 17:30	
Survey Data - All surveys for 24 hr reporting period							
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
1,062.00	2.55	124.72	1,061.39	24.12	-15.80	18.23	0.92
1,153.00	3.30	133.58	1,152.27	28.75	-18.76	21.79	0.96
1,243.00	4.60	136.09	1,242.06	34.92	-23.15	26.17	1.46
1,334.00	5.56	139.41	1,332.70	42.88	-29.12	31.57	1.10
1,426.00	7.14	133.52	1,424.13	52.97	-36.45	38.62	1.86
1,518.00	7.71	143.11	1,515.36	64.67	-45.32	46.47	1.48
1,608.00	9.60	142.90	1,604.34	77.83	-56.14	54.62	2.10
1,699.00	9.96	138.20	1,694.01	92.99	-68.05	64.44	0.96
1,791.00	11.67	132.54	1,784.38	110.14	-80.28	76.60	2.19
1,881.00	12.22	129.57	1,872.43	128.76	-92.50	90.65	0.92
1,972.00	12.98	128.35	1,961.24	148.60	-104.98	106.09	0.88
2,062.00	12.62	128.10	2,049.00	168.54	-117.31	121.76	0.40
2,153.00	12.65	129.36	2,137.80	188.44	-129.77	137.28	0.30
2,244.00	12.44	127.56	2,226.63	208.20	-142.06	152.76	0.49
2,334.00	12.30	128.81	2,314.54	227.48	-153.98	167.91	0.34
2,425.00	11.95	127.51	2,403.51	246.59	-165.79	182.94	0.49
2,515.00	11.82	127.74	2,491.58	265.11	-177.11	197.62	0.15
2,607.00	11.75	126.91	2,581.64	283.89	-188.50	212.56	0.20
2,698.00	11.43	126.73	2,670.78	302.16	-199.46	227.19	0.35
2,789.00	11.19	126.05	2,760.02	319.98	-210.04	241.56	0.30
2,879.00	11.41	126.92	2,848.27	337.59	-220.53	255.74	0.31
2,971.00	11.95	127.39	2,938.37	356.20	-231.78	270.58	0.60
3,064.00	11.90	127.72	3,029.36	375.41	-243.49	285.81	0.09
3,153.00	11.79	128.03	3,116.46	393.67	-254.71	300.24	0.14
3,245.00	11.61	128.30	3,206.55	412.32	-266.24	314.90	0.20
3,337.00	12.08	127.05	3,296.59	431.20	-277.78	329.85	0.58
3,429.00	12.58	128.75	3,386.47	450.84	-289.85	345.35	0.67
3,520.00	12.74	129.26	3,475.26	470.78	-302.40	360.85	0.21
3,611.00	12.84	128.54	3,564.00	490.92	-315.05	376.53	0.21
3,701.00	12.74	129.08	3,651.77	510.85	-327.54	392.05	0.17
3,792.00	12.62	128.88	3,740.55	530.82	-340.10	407.58	0.14
3,883.00	12.10	127.65	3,829.44	550.29	-352.17	422.87	0.64
3,972.00	10.95	127.02	3,916.64	568.06	-362.96	437.00	1.30
4,063.00	9.65	125.94	4,006.17	584.31	-372.64	450.08	1.44
4,154.00	9.32	128.28	4,095.93	599.30	-381.68	462.04	0.56
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)
265_0_CLEARFORK/POP			-2,288.0		4,956.0		
267_0_SPBY_U_A1/267_0_SPBY			-3,172.0		5,840.0		
268_7_SPBY_L_C1/LOWER SPRABERRY SHALE			-4,083.0		6,751.0		
269_0_DEAN			-4,578.0		7,246.0		
270_0_WFMP_A1			-4,743.0		7,411.0		
272_0_WFMP_A2			-4,849.0		7,517.0		
INTENDED LANDING POINT (ILP)			-4,945.0		7,613.0		
TARGET #1			-4,950.0		7,618.0		
PBHL/TD			-4,975.0		7,643.0		
Daily Contacts							
Job Contact		Title	Office	Mobile	Email		
HARDIN, JOE, AREA DRILLING SUPERINTENDENT		AREA DRILLING SUPERINTENDENT	361-452-2118	361-318-8762	JOE.HARDIN@PXD.COM		
LUTHER, JACKIE, ENGINEER		ENGINEER	972-969-5626	303-512-3803	JACKIE.LUTHER@PXD.COM		
BROWN, KEITH, SUPERINTENDENT		SUPERINTENDENT	972-313-9798	469-516-3137	KEITH.BROWN@PXD.COM		
BROWN, DAN, SUPERINTENDENT		SUPERINTENDENT		469-203-9731	DAN.BROWN@PXD.COM		
JACOBS, TUCKER, ENGINEER		ENGINEER	972-444-9001	361-318-6782	TUCKER.JACOBS@PXD.COM		
PEARCE, JIMMY, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		661-667-7023	JIMMY.PEARCE@PXD.COM		
COX, JASON, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		281-733-1241	JASON.COX@PXD.COM		
YATES, STEVE, MUD ENGINEER		MUD ENGINEER		979-212-1948	STEVE.YATES@PXD.COM		
RIG-ENSIGN 133, RIG PHONE		RIG PHONE	432-355-3047	432-530-1214			
Personnel Log							
Company						Count	
PIONEER NATURAL RESOURCES USA INC						4	
ENSIGN ENERGY SERVICES						13	
PHOENIX TECHNOLOGY SERVICES USA INC						0	
GORDON TECHNOLOGIES LLC						0	
STRATAGRAPH INC						0	
SAFETY AUTOMATION TECHNOLOGY LLC						1	
HALLIBURTON ENERGY SERVICES INC						0	
Daily Drilling Report				Page 4/4		Printed: Wednesday, December 9, 2020	

Daily Drilling Report

UNIVERSITY 10-11C 3H

ENSIGN - 133

Accept: 12/5/2020 Release:
Days Since LTI: 180.00 Days Since RI: 180.00

PERMIAN - JV SOUTHERN WOLFCAMP
Job: ODR
Report Date: 12/10/2020
Report #: 7
DFS: 6
AFE #: 9009120
Total AFE + Sup: \$2,683,002.54
Daily Field Est. (Cost): \$54,280.79

P/I/UWI 42-383-40858-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)					
SSN ID00017688		Property Sub		KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,668.00	Ground Elevation (ft) 2,643.00	Spud Date 11/11/2020	TD Date			
Safety Checks											
Time	Type	Des		Tour		Com					
Jobs											
Responsible Grp 2		Responsible Grp 3		Job Type		Start Date		End Date			
DRL ENG - JACKIE LUTHER		AREA TEAM 4		ODR		11/11/2020 17:30					
								IN PROGRESS			
Job Dates (ex. Estimated Pad Release, TXRRC Calls)											
Type				Subtype		Date		Note			
MILESTONE				ESTIMATED PAD RELEASE		1/17/2021		Drilling Intermediate on well 1 of 3, sequentially.			
Type TXRRC CALL				Subtype CEMENT INT		Date 12/10/2020		Note Kay Op # 40			
Daily Operations											
Footage/Meterage (ft) 2,304.00		Drilling Hours (hr) 15.00		% Rotating Time (%) 96.67		End Depth (ftKB) 6,982.0		Target Depth (ftKB) 20,511.0			
								Daily Field Est Total (Cost) 54,280.79			
								Cum Field Est To Date (Cost) 660,547.79			
24 HR ROP (ft/hr) 153.6		Circulating Hours (hr) 2.25		% Sliding Time (%) 3.33		End Depth (TVD) (ftKB) 6,916.0		Target Depth (TVD) (ftKB) 7,643.0			
								Daily Mud Field Est (Cost) 16,156.44			
								Cum Mud Field Est (Cost) 22,241.89			
								Total AFE + Sup (Cost) 2,683,002.54			
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 2,295.0			Daily Goal - Next 24 0.0		Goal Comments Goal Met		
Backbuild Yes		Lateral Inclination Toe Flat		Last Casing String SURFACE, 1,027.7ftKB				Next Casing String INTERMEDIATE, 6,972.0ftKB			
Avg Connection Gas 120.00		Avg Trip Gas 0.00		Avg Background Gas 350.00		Max Connection Gas 585.00		Max Trip Gas 0.00			
								Max Drill Gas 583.00			
Operations Summary Drill 12 1/4" Intermediate T/ 6,982', swap mud system to water base gel mud at 4700'. Circulate 2 high vis sweeps and until shakers clean, Trip out of the hole											
Operations Next Report Period Trip out of the hole Backream transition between San Andres and Greyburg, Cont TOOHL/D directional BHA, pull wear bushing, rig up Franks casing equipment, run casing to 6972', circulate 1.5 times casing capacity											
Operations at Report Time Tripping out of the hole @ 5100'											
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	1.5	07:30	INT, DRL	DRL	NORMAL	Drill INT #1 F/4678 T/4949'. 271' at 180.6 fph.w/ 8.9 waterbase mud and full returns. Displaced 10.0 ppg Brine with 8.9 ppg Gel mud while drilling.		4,678.0	4,949.0		
07:30	0.75	08:15	INT, DRL	CIRC	NORMAL	Circulated bottoms up prior to drilling Clear Fork		4,949.0	4,949.0		
08:15	1.25	09:30	INT, DRL	DRL	NORMAL	Drill INT #1 F/4949' T/5131'. 182' at 145.6 fph.w/ 8.9 ppg gel mud and full returns.		4,949.0	5,131.0		
09:30	0.5	10:00	INT, DRL	RIG_SVC	NORMAL	Serviced rig		5,131.0	5,131.0		
10:00	3.25	13:15	INT, DRL	DRL	NORMAL	Drill INT #1 F/5131' T/5763'. 632' at 194.4 fph.w/ 8.9 ppg gel mud and full returns.		5,131.0	5,763.0		
13:15	0.5	13:45	INT, DRL	CIRC	NORMAL	Circulated bottoms up pror to drilling Spraberry		5,763.0	5,763.0		
13:45	5	18:45	INT, DRL	DRL	NORMAL	Drill INT #1 F/5763' T/6396'. 633' at 126.6 fph.w/ 8.9 ppg gel mud and full returns.		5,763.0	6,396.0		
18:45	0.5	19:15	INT, DRL	CIRC	NORMAL	Circulate while troubleshoot pressure loss on surface		6,396.0	6,396.0		
19:15	4	23:15	INT, DRL	DRL	NORMAL	Drill INT #1 F/6396' T/6982'. 586' at 146.5 fph.w/ 8.9 ppg gel mud and full returns.		6,396.0	6,982.0		
23:15	2	01:15	INT, POST DRL	CIRC	NORMAL	Circulate bottoms up pumped two high vis sweeps and circulate until shakers clean. 36% washout		6,982.0	6,982.0		
01:15	0.5	01:45	INT, POST DRL	FLOW_CHK	WELL CONTROL	Flow check well, well flowing. Shut orbit valve with no pressure build up, well believed to be ballooning. Put well on trip tank to be able to strip out of the hole and the trip tank return lines were plugged.		6,982.0	6,982.0		
01:45	1	02:45	INT, POST DRL	RIG_RPR	NORMAL	Remove return line and valves from flow line, found line plugged with metal shavings and sludge. Removed obstruction from trip tank return line and reassembled the line.		6,982.0	6,982.0	1.00	3
02:45	1.75	04:30	INT, POST DRL	TOOH_ELEV	WELL CONTROL	TOOH F/ 6982' T/6126l. Hole not taking proper fill. Close orbit valve and attempt to strip out of hole, orbit valve leaking. Strip out of the hole F/ 6126' T/ 5674'. Attempt to strip out with leaking orbit valve, hole not taking proper fill. SHut in well with no pressure build up, well believed to be ballooning.		6,982.0	6,982.0		
04:30	0.5	05:00	INT, POST DRL	FLOW_CHK	WELL CONTROL	Monitor well with trip tank, well ballooning 2.1 bbls an hour and reduced to 1.5 bbls an hour.		6,982.0	6,982.0		
05:00	1	06:00	INT, POST DRL	TOOH_ELEV	NORMAL	Pull 5 stds slowly F/ 5674' T/ 5100' monitoring well with trip tank, Hole taking less than calculated fill.		6,982.0	6,982.0		
Daily Drilling Report											
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Printed: Thursday, December 10, 2020											

Daily Drilling Report

UNIVERSITY 10-11C 3H		PERMIAN - JV SOUTHERN WOLFCAMP	
ENSIGN - 133		Job: ODR	
Accept: 12/5/2020		Report Date: 12/10/2020	
Release:		Report #: 7	
Days Since LTI: 180.00		DFS: 6	
Days Since RI: 180.00		AFE #: 9009120	
		Total AFE + Sup: \$2,683,002.54	
		Daily Field Est. (Cost): \$54,280.79	

Mud Checks											
Time 22:15		Mud Company PIONEER DRILLING FLUIDS			Type WATER BASE		Depth (ftKB) 6,850.0		Density (lb/gal) 8.80	Funnel Viscosity (s/qt) 53	T Flowline (°F) 105.0
PV (cP) 12.0	YP (lb/100ft²) 17.000	Vis 3rpm 12	Vis 6rpm 14	Filtrate (mL/30min) 14.1		HTHP Filtrate (mL/30min)		HTHP Temperature (°F)		HTHP Pressure (psi)	
Solids (%) 8.0		Low Gravity Solids (%) 5.6		Sand (%) 0.3		MBT (lb/bbl) 25.0		Pm (mL/mL) 0.600		Pf (mL/mL)	
Chlorides (ppm) 26,000,000.000		Calcium (ppm) 200,000.000		CaCl (ppm)	Oil Water Ratio 0.5/99.5		Electric Stab (V)		Lime (lb/bbl) 0.1		pH 9.5
Gel 10 sec (lb/100ft²) 12.000				Gel 10 min (lb/100ft²) 15.000				Gel 30 min (lb/100ft²) 16.000			
Comment DAILY COST \$ \$19,041.44 TOTAL WELL COST \$ \$39,116.89 RECOMMENDED FLUID TREATMENT DRILLING FLUID ACTIVITY LAST 24 HRS Maintain MW at 8.8-9.0 ppg. Maintain volume and MW with whole fluid dilution from WBM built in premix. Pre-mix mud 1.25 ppb soda ash, 25 ppb Gel, 1.25 ppb PAC, 3.1 ppb Lig, 0.25 ppb Zinc Oxide. Displace well from brine to gel based mud. Dump brine into reserve pit. During displacement at 4,789' saw losses of approximately 100 bbls. Total losses at that time. Once gel mud started up the annulus, losses subsided and we had full returns. Dump and dilute while drilling to maintain mud weight 8.8 - 9.0 ppg. Saw intermittent partial losses after bringing pumps on in lower Sprayberry. Estimated losses 75 bbls. Circulate bottom's up prior to pumping caliper sweep. Estimate 36% wash out. WELL VOLUMES RECAP Daily Diesel Used GAL Cumulative Diesel Used GAL Daily WBM Surface Losses 4,581 BBL Daily WBM Downhole Losses 176 BBL Cumulative WBM Surface Losses 6,362 BBL Cumulative WBM Downhole Losses 176 BBL WBM Volume Accounting 3,074 BBL Total WBM Received BBL Total WBM on Location 3,074 BBL Daily Water Used 4,500 BBL Cumulative Water Used 4,600 BBL RIG ACTIVITY LAST 24 HOURS Drill F/3,518' T/4,949', CBU prior to drilling Clear Fork, Drill F/4,949' T/5,763', CBU prior to drilling Sprayberry, Drill F/5,763' T/6,982' TD, CBU. ROP 200 ft/hr, WOB 65K, RPM @ Bit 225, TQ 24K, Diff 1,000, P/U 250K, S/O 190K. Connection gas 120u, background gas 473u, max gas 583u @ 6,625'. 24 hr footage 3,464'. Lithology 60% SH 30% SD 10% LS @ 6,870'.											
Last BOP Test											
Date		Test Type		Item Tested		Next Test Date		Com			
12/7/2020		BOP		BOP'S, 12/5/2020 06:00, U		12/28/2020		Tested BOP 250 low 5000 high			
Leak Off and Formation Integrity Tests											
Test Type				Depth (ftKB)				Dens Fluid (lb/gal)			
FORMATION INTEGRITY				1,027.0				12.49			
Casing Pressure Test											
Test Type		Test Subtype			Date		Item Tested		Failed?	Time (min)	P (psi)
CASING		STANDARD			11/22/2020		SURFACE, 1,027.7ftKB		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		20	H40	78.67					
SURFACE		1,027.7	1,027.1	13 3/8	K55	54.50	BTC		666.2		
Job Supply Amounts											
Supply Item Des		Type	Unit Label	Received	Consumed	Returned	Note		Cum On Loc	Cum Consumed	
DIESEL		MUD	GAL	7,508	0				7,508	0.0	
DIESEL		FUEL	GAL	7,508	3,426				9,314	8,361.0	
Mud Additive Amounts											
Des		Type	Units	Rec	Consumed	On Loc		Cum Cons			
BENTONITE - BULK		VISCOSIFIER	TON		54	0.44		57			
BENTONITE - SACK		VISCOSIFIER	SACK		35	175.0		35			
DRILLPAC LV		FLUID LOSS ADDITIVES	LB		17	40.0		80			
NUT SHELL		LOST CIRCULATION	LB		10	65.0		10			
PAC R		FLUID LOSS ADDITIVES	LB		5	35.0		5			
SODA ASH		ALKALINITY CONTROL	LB		161	47.0		203			
WC DEFOAMER		DEFOAMER	GAL		13	31.0		13			
XANTHAN GUM		VISCOSIFIER	LB		2	115.0		4			
ZINC OXIDE		SPECIALITY	LB		20	30.0		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	6,000.0			
2	H&H			1600	5 1/2	12.00	0.088	6,000.0			
3	H&H			1600	5 1/2	12.00	0.088	6,000.0			
Pump Checks											
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)			Eff (%)			
1	6,576.0	20:00	300.0	40	141			95			
1	6,576.0	20:00	275.0	30	106			95			
1	6,576.0	20:00	350.0	50	176			95			
2	6,576.0	20:00	275.0	30	106			95			
2	6,576.0	20:00	350.0	50	176			95			
2	6,576.0	20:00	300.0	40	141			95			
Daily Drilling Report											

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Daily Drilling Report

Daily Drilling Report

API/UWI 42-383-40858-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)				
SSN ID00017688	Property Sub	KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,668.00	Ground Elevation (ft) 2,643.00	Spud Date 11/11/2020	TD Date				
Safety Checks										
Time	Type	Des	Tour	Com						
Jobs										
Responsible Grp 2		Responsible Grp 3		Job Type	Start Date	End Date		Job Status		
DRL ENG - JACKIE LUTHER		AREA TEAM 4		ODR	11/11/2020 17:30			IN PROGRESS		
Job Dates (ex. Estimated Pad Release, TXRRRC Calls)										
Type			Subtype		Date	Note				
MILESTONE			ESTIMATED PAD RELEASE		1/17/2021	Drilling Intermediate on well 1 of 3, sequentially.				
Daily Operations										
Footage/Meterage (ft) 0.00		Drilling Hours (hr)		% Rotating Time (%)	End Depth (ftKB) 6,982.0	Target Depth (ftKB) 20,511.0	Daily Field Est Total (Cost) 60,015.08		Cum Field Est To Date (Cost) 720,562.87	
24 HR ROP (ft/hr)		Circulating Hours (hr)		% Sliding Time (%)	End Depth (TVD) (ftKB) 6,916.0	Target Depth (TVD) (ftKB) 7,643.0	Daily Mud Field Est (Cost) 1,502.20	Cum Mud Field Est (Cost) 23,744.09	Total AFE + Sup (Cost) 2,683,002.54	
Daily Goal Description DRILLED FEET			Daily Goal - Last 24 0.0			Daily Goal - Next 24 0.0		Goal Comments Goal Met		
Backbuild Yes	Lateral Inclination Toe Flat	Last Casing String INTERMEDIATE, 6,972.0ftKB				Next Casing String PROPOSED PRODUCTION, 22,826.0ftKB				
Avg Connection Gas 0.00		Avg Trip Gas 0.00		Avg Background Gas 0.00		Max Connection Gas 0.00		Max Trip Gas 0.00	Max Drill Gas 0.00	
Operations Summary Trip out of the hole Backream transition between San Andres and Greyburg, Cont TOOHL/D directional BHA, pull wear bushing, rig up Franks casing equipment, run casing to 6972', circulate casing capacity, Start 1st stage of 2 stage cement job										
Operations Next Report Period Continue 2 stage cement job, Install and test pack off, install wear bushing, P/U directional BHA, TIH to DV tool test casing 2500 psi for 10 minutes, slip and cut drill line, C/O saver sub, drill DV tool, TIH to FLoad collar, test casing to 2500 psi for 30 minutes. Drill out, get FIT, drill prod curve.										
Operations at Report Time Cementing intermediate casing										
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	1.75	07:45	INT, POST DRL	TOOH_ELEV	NORMAL	TOOH wet F/ 5100' T/ 3500'. Hole started off not taking very little fill but started taking more and more, after pulling 12 stds it was taking calculated fill.	6,982.0	6,982.0		
07:45	1	08:45	INT, POST DRL	TOOH_NONEL EV	NORMAL	Planned back ream F/ 3500' T/ 2700' (San Andres/Grayburg transistion). 85% returns pumping 450 gpm.	6,982.0	6,982.0		
08:45	0.25	09:00	INT, POST DRL	FLOW_CHK	NORMAL	Flow check, well static.	6,982.0	6,982.0		
09:00	1.5	10:30	INT, POST DRL	TOOH_ELEV	NORMAL	TOOH F/ 2700' T/ 900', hole taking proper fill.	6,982.0	6,982.0		
10:30	0.5	11:00	INT, POST DRL	HDL_ROT HD	NORMAL	Pull rot head, install trip nipple.	6,982.0	6,982.0		
11:00	0.25	11:15	INT, POST DRL	FLOW_CHK	NORMAL	Flow check, well static.	6,982.0	6,982.0		
11:15	1.25	12:30	INT, POST DRL	HDL_BHA	NORMAL	Rack back HWDP and 8" DCs.	6,982.0	6,982.0		
12:30	0.25	12:45	INT, POST DRL	SFTY	NORMAL	PJSM on LD BHA.	6,982.0	6,982.0		
12:45	1.25	14:00	INT, POST DRL	L/D BHA	NORMAL	LD shock sub, Gordon MWD tools, Phoenix MM, and bit.	6,982.0	6,982.0		
14:00	0.5	14:30	INT, POST DRL	WRBSH	NORMAL	Pull wear bushing, clean floor.	6,982.0	6,982.0		
14:30	0.25	14:45	INT, POST DRL	SFTY	NORMAL	PJSM on RU and run csg w/ PNR, Ensign, Franks, Weatherford, and Tenaris.	6,982.0	6,982.0		
14:45	1	15:45	INT, CASE & CMT	RU_CSG	NORMAL	RU franks csg crew.	6,982.0	6,982.0		
15:45	0.5	16:15	INT, CASE & CMT	MU_SHOE_TR K	NORMAL	PU pre-bucked on shoe track and test floats. Good test.	6,982.0	6,982.0		
Daily Drilling Report										

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 #	
16:15	10.75	03:00	INT, CASE & CMT	CSG_W/O ROTATION	NORMAL	Pick up and run 144 joints of 9 5/8 40# L80-IC BTC casing landing on Cactus mandrel hanger setting the shoe at 6972', ACP set at 3239, DV Tool set at 3236, Pup joints at 76' and 86'. Monitor well with trip tank, hole displacing proper amount. Had to wash down last 15'.	6,982.0	6,982.0			
03:00	0.5	03:30	INT, CASE & CMT	RD_CSG	NORMAL	Rig down casing equipment.	6,982.0	6,982.0			
03:30	1	04:30	INT, CASE & CMT	CIRC	NORMAL	Circulate casing capacity. Had 50% returns @ 8 bpm, 75% returns @ 5 bpm. MW 9.1 in/ 9.3 out.	6,982.0	6,982.0			
04:30	0.25	04:45	INT, CASE & CMT	SFTY	NORMAL	PJSM with Schlumberger, Weatherford and rig crews.	6,982.0	6,982.0			
04:45	0.25	05:00	INT, CASE & CMT	RD_CSG	NORMAL	R/D CRT and R/U Cement Head and lines.	6,982.0	6,982.0			
05:00	1	06:00	INT, CASE & CMT	CMT	NORMAL	Pressure test hardline to 4,500 psi. Pump 50 Bbls of 10.5# MPE, 438 Bbl 11.0# Lead Cmt.	6,982.0	6,982.0			
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)	
Mud Checks											
Time 23:00		Mud Company PIONEER DRILLING FLUIDS			Type WATER BASE		Depth (ftKB) 6,982.0	Density (lb/gal) 8.80	Funnel Viscosity (s/qt) 50	T Flowline (°F)	
PV (cP) 8.0	YP (lb/100ft²) 14.000	Vis 3rpm 8	Vis 6rpm 9	Filtrate (mL/30min) 16.6		HTHP Filtrate (mL/30min)		HTHP Temperature (°F)		HTHP Pressure (psi)	
Solids (%) 9.0		Low Gravity Solids (%) 5.9		Sand (%) 0.3		MBT (lb/bbl) 17.5		Pm (mL/mL) 0.500		Pf (mL/mL)	
Chlorides (ppm) 33,000,000.000		Calcium (ppm) 480,000.000		CaCl (ppm)	Oil Water Ratio 0.3/99.7		Electric Stab (V)		Lime (lb/bbl) 0.1	pH 9.0	
Gel 10 sec (lb/100ft²) 11.000				Gel 10 min (lb/100ft²) 16.000				Gel 30 min (lb/100ft²) 17.000			
Comment DAILY COST \$ \$5,062.20 TOTAL WELL COST \$ \$44,179.09 RECOMMENDED FLUID TREATMENT DRILLING FLUID ACTIVITY LAST 24 HRS Maintain MW at 8.8-9.2 ppg. Maintain volume and MW by rolling pits and using centrifuge while running casing. Pre-mix mud 1.25 ppb soda ash, 25 ppb Gel, 1.25 ppb PAC, 3.1 ppb Lig, 0.25 ppb Zinc Oxide. Circulated bottom's up at TD of 6,982' before pumping caliper sweep. Caliper sweep shows 36% wash-out. Have roustabouts continue to mix gel mud until 2 batches are put in the frac tanks and pits have enough volume to trip out of the hole. Order out OBM materials for production interval. WELL VOLUMES RECAP Daily Diesel Used GAL Cumulative Diesel Used GAL Daily WBM Surface Losses 15 BBL Daily WBM Downhole Losses BBL Cumulative WBM Surface Losses 6,377 BBL Cumulative WBM Downhole Losses 176 BBL WBM Volume Accounting 3,461 BBL Total WBM Received BBL Total WBM on Location 3,461 BBL Daily Water Used 383 BBL Cumulative Water Used 4,983 BBL RIG ACTIVITY LAST 24 HOURS Circulate bottom's up, clean out trip tank line, trip out wet, backream F/3,500' T/2,700' with 450 GPM, 30 RPM, 850 psi, 5K TQ (planned back-ream). Finish trip out of hole, lay down BHA, pull wear bushing, running casing at report time. WOB 65K, RPM @ Bit 225, TQ 24K, Diff 1,000, P/U 250K, S/O 190K. Connection gas 120u, background gas 473u, max gas 701u @ 6,982'. 24 hr footage 3,464'. Lithology 60% SH 30% SD 10% LS @ 6,870'.											
Last BOP Test											
Date	Test Type			Item Tested		Next Test Date	Com				
12/7/2020	BOP			BOP'S, 12/5/2020 06:00, U		12/28/2020	Tested BOP 250 low 5000 high				
Leak Off and Formation Integrity Tests											
Test Type				Depth (ftKB)			Dens Fluid (lb/gal)				
FORMATION INTEGRITY				1,027.0			12.49				
Casing Pressure Test											
Test Type		Test Subtype			Date	Item Tested		Failed?	Time (min)	P (psi)	
CASING		STANDARD			11/22/2020	SURFACE, 1,027.7ftKB		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		20	H40	78.67						
SURFACE	1,027.7	1,027.1	13 3/8	K55	54.50	BTC		666.2			
INTERMEDIATE	6,972.0	6,906.0	9 5/8	L80-IC	40.00	BTC					
Job Supply Amounts											
Supply Item Des		Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed		
DIESEL		MUD	GAL	7,282				14,790	0.0		
DIESEL		FUEL	GAL		930			8,384	9,277.0		
Daily Drilling Report											

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Printed: Friday, December 11, 2020

Daily Drilling Report

ENSIGN - 133	
Accept: 12/5/2020	Release:
Days Since LTI: 181.00	Days Since RI: 181.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/11/2020
Report #:	8
DFS:	7
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$60,015.08

Daily Drilling Report Page 3/3 Printed: Friday, December 11, 2020

Daily Drilling Report

UNIVERSITY 10-11C 3H				PERMIAN - JV SOUTHERN WOLFCAMP	
ENSIGN - 133				Job:	ODR
Accept: 12/5/2020		Release:		Report Date:	12/12/2020
Days Since LTI: 182.00		Days Since RI: 182.00		Report #:	9
				DFS:	8
				AFE #:	9009120
				Total AFE + Sup:	\$2,683,002.54
				Daily Field Est. (Cost):	\$325,463.29

API/UWI 42-383-40858-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)						
SSN ID00017688		Property Sub		KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,668.00	Ground Elevation (ft) 2,643.00	Spud Date 11/11/2020	TD Date				
Safety Checks												
Time	Type	Des		Tour		Com						
Jobs												
Responsible Grp 2		Responsible Grp 3			Job Type	Start Date		End Date	Job Status			
DRL ENG - JACKIE LUTHER		AREA TEAM 4			ODR	11/11/2020 17:30			IN PROGRESS			
Job Dates (ex. Estimated Pad Release, TXRRC Calls)												
Type				Subtype		Date		Note				
MILESTONE				ESTIMATED PAD RELEASE		1/17/2021		Drilling production curve on well 1 of 3, sequentially.				
Daily Operations												
Footage/Meterage (ft) 84.00		Drilling Hours (hr) 1.50		% Rotating Time (%) 100.00		End Depth (ftKB) 7,066.0		Target Depth (ftKB) 20,511.0	Daily Field Est Total (Cost) 325,463.29	Cum Field Est To Date (Cost) 1,123,217.86		
24 HR ROP (ft/hr) 56.0		Circulating Hours (hr) 1.25		% Sliding Time (%) 0.00		End Depth (TVD) (ftKB) 7,000.0		Target Depth (TVD) (ftKB) 7,643.0	Daily Mud Field Est (Cost) 180.00	Cum Mud Field Est (Cost) 23,924.09	Total AFE + Sup (Cost) 2,683,002.54	
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 0.0				Daily Goal - Next 24 2,500.0		Goal Comments Goal Met		
Backbuild Yes		Lateral Inclination Toe Flat		Last Casing String INTERMEDIATE, 6,972.0ftKB				Next Casing String PROPOSED PRODUCTION, 22,826.0ftKB				
Avg Connection Gas 0.00		Avg Trip Gas 0.00			Avg Background Gas 0.00		Max Connection Gas 0.00		Max Trip Gas 0.00		Max Drill Gas 0.00	
Operations Summary Continue 2 stage cement job, Install and test pack off, install wear bushing, P/U directional BHA, TIH to DV tool test casing 2500 psi for 10 minutes, drill DV tool, TIH to 6113', P/U drill pipe to 6752', Wash and ream cement to 6881', test casing to 2500 psi for 30 minutes. Drill out shoe track plus 10', get FIT, drill prod curve.												
Operations Next Report Period Drill production curve, continue to drill out into production lateral.												
Operations at Report Time Drilling production at 7066'												
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	2.5	08:30	INT, CASE & CMT	CMT	NORMAL	Pressure test hardline to 6000 psi. Pump 50 Bbls of 10.5# MPE, 440 Bbl 11.0# Lead Cmt and 62 Bbls 14.8# Tail Cmt, Drop wiper plug and displace w/ 277 bbls FW, 245 bbls gel mud (522 total), Did not bump plug, pumped 1/2 shoe track (3 bbls) no bump. Full returns throughout cement job, saw good lift pressures. Checked floats - holding.			6,982.0	7,627.0		
08:30	2.5	11:00	INT, CASE & CMT	CIRC	NORMAL	Drop opening bomb, wait 30 min to fall. Pressure up to 816 psi and open DV tool. Pump 20 bbls through and swap to rig pumps. CBU from DV tool. Full returns above DV tool, got spacer and 70 bbl cmt back above DV.			6,982.0	6,982.0		
11:00	2.5	13:30	INT, CASE & CMT	CMT	NORMAL	Pump 50 Bbls of 10.5# MPE, 366 Bbl 11.0# Lead Cmt and 56 Bbls 14.8# Tail Cmt, Drop wiper plug and displace w/ 245 bbls FW, Bumped Plug w/600 psi @ 3 bpm, took it to 2100 psi. Full returns, 60 bbls cmt back to surface. Floats held, bled back 3.5 bbl.			6,982.0	6,982.0		
13:30	0.5	14:00	INT, CASE & CMT	RD_CMT	NORMAL	PJSM, R/D cement head and iron.			6,982.0	6,982.0		
14:00	0.25	14:15	INT, CASE & CMT	CIRC	NORMAL	Flush through all lines due to getting cement back to surface.			6,982.0	6,982.0		
14:15	1.25	15:30	INT, CASE & CMT	WH	NORMAL	LD landing joint install packoff. Test packoff, pull 40k over, test upper and lower seals. Rupture disc to access prod csg void.			6,982.0	6,982.0		
15:30	0.25	15:45	PROD, PRE DRL	WRBSH	NORMAL	Install wearbushing.			6,982.0	6,982.0		
15:45	0.5	16:15	PROD, PRE DRL	RIG_SVC	NORMAL	Rig Service.			6,982.0	6,982.0		
16:15	0.25	16:30	PROD, PRE DRL	SFTY	NORMAL	PJSM w/ Ensign, Phoenix, Gordon, and PNR Rep on PU BHA.			6,982.0	6,982.0		
16:30	1	17:30	PROD, PRE DRL	PU_DIR	NORMAL	PU 8.5" Curve/Lateral BHA, scribe motor, MU bit, and install MWD tool.			6,982.0	6,982.0		
17:30	2	19:30	PROD, PRE DRL	TIH_ELEV	NORMAL	TIH T/3,100'.			6,982.0	6,982.0		
19:30	0.5	20:00	PROD, PRE DRL	HDL_AGITATOR	NORMAL	PU 6.75" NOV agitator and test @ 600 gpm Note: 1689 before, 2165 after, Pressure drop = 476 psi			6,982.0	6,982.0		
20:00	0.25	20:15	PROD, PRE DRL	CSG_TEST	NORMAL	Test 9-5/8" casing above DV tool to 2500 psi for 10 min. Successful test.			6,982.0	6,982.0		
20:15	1.5	21:45	PROD, PRE DRL	DRL_OUT	NORMAL	Drill out DV tool F/3,326 T/ 3,239'			6,982.0	6,982.0		
Daily Drilling Report												

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Printed: Saturday, December 12, 2020

Daily Drilling Report

ENSIGN - 133

Accept: 12/5/2020	Release:
Days Since LTI: 182.00	Days Since RI: 182.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/12/2020
Report #:	9
DFS:	8
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$325,463.29

Daily Drilling Report Page 2/4 Printed: Saturday, December 12, 2020

PIONEER

NATURAL RESOURCES

Daily Drilling Report

UNIVERSITY 10-11C 3H

ENSIGN - 133

Accept: 12/5/2020Release:Days Since LTI: 182.00Days Since RI: 182.00

PERMIAN - JV SOUTHERN WOLFCAMP

Job: ODRReport Date: 12/12/2020Report #: 9DFS: 8AFE #: 9009120Total AFE + Sup: \$2,683,002.54Daily Field Est. (Cost): \$325,463.29

Mud Checks

Time 23:00		Mud Company PIONEER DRILLING FLUIDS		Type OIL BASE		Depth (ftKB) 6,972.0		Density (lb/gal) 10.20		Funnel Viscosity (s/qt) 107		T Flowline (°F) 60.0													
PV (cP) 22.0	YP (lb/100ft²) 9.000	Vis 3rpm 6	Vis 6rpm 7	Filtrate (mL/30min)		HTHP Filtrate (mL/30min) 18.0		HTHP Temperature (°F) 250.0		HTHP Pressure (psi) 500.0															
Solids (%) 14.0		Low Gravity Solids (%) 7.1		Sand (%)		MBT (lb/bbl)		Pm (mL/mL)		Pf (mL/mL)															
Chlorides (ppm) 24,000,000.000		Calcium (ppm)		CaCl (ppm)		Oil Water Ratio 68.6/31.4		Electric Stab (V) 534.0		Lime (lb/bbl) 1.9		pH													
Gel 10 sec (lb/100ft²) 16.000				Gel 10 min (lb/100ft²) 29.000				Gel 30 min (lb/100ft²) 30.000																	
Comment DAILY COST \$ \$2,205.00 TOTAL WELL COST \$ \$44,397.62 RECOMMENDED FLUIDS TREATMENT DRILLING FLUIDS ACTIVITY LAST 24 HRS MW 9.5 - 10.0 ppg, Diesel - 2 sec/qt - 10.7 BPH, Water 5 sec/qt - 4.3 BPH Additions- Lime - 1 ppb, CaCL - 1.5 ppb, Soltex - 1 ppb, Bentone 990 - 1 ppb, Bentone 910 - 1 ppb, Gilsonite 1 ppb, 1 Drum of Wetting Agent, 1 Drum of BCI Primary, 1 Drum of BCI Secondary, 1 Drum BCI RheoMod Clean pits. Transfer OBM from frac tanks to pits. Displace well to OBM while drilling cement and float equipmet. Begin treatment of mud system after FIT. Maintain 9.5 - 10.0 ppg mud weight. WELL VOLUMES RECAP Daily Diesel Used 7,476 GAL Cumulative Diesel Used 7,476 GAL Daily OBM Surface Losses BBL Daily OBM Downhole Losses BBL Cumulative OBM Surface Losses BBL Cumulative OBM Downhole Losses BBL OBM Volume Accounting2,315 BBL Total OBM Received BBL Total OBM on Location 2,315 BBL Daily Water Used 56 BBL Cumulative Water Used 234 BBL RIG ACTIVITY LAST 24 HOURS Finish running casing, washed F/6,985' T/6,942', P/U hanger, wash F/6,942' T/6,972', Circulate bottom's up, cement 1st stage, plug did not bump. Open DV tool, circulate hole clean, saw spacer only on bottom's up, cement 2nd stage, saw 50 bbls spacer and 75 bbls cement back. R/D cementers, set and test pack-off. Begin picking up Curve BHA. RIH with same, drill out DV tool with fresh water, trip in hole, drill cement and float equipment.																									
Last BOP Test																									
Date		Test Type		Item Tested		Next Test Date		Com																	
12/7/2020		BOP		BOP'S, 12/5/2020 06:00, U		12/28/2020		Tested BOP 250 low 5000 high																	
Leak Off and Formation Integrity Tests																									
Test Type				Depth (ftKB)				Dens Fluid (lb/gal)																	
FORMATION INTEGRITY				1,027.0				12.51																	
FORMATION INTEGRITY				6,972.0				11.00																	
Casing Pressure Test																									
Test Type		Test Subtype		Date		Item Tested		Failed?		Time (min)		P (psi)													
CASING		STANDARD		11/22/2020		SURFACE, 1,027.7ftKB		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				20		H40		78.67															
SURFACE		1,027.7		1,027.1		13 3/8		K55		54.50		BTC		667.2											
INTERMEDIATE		6,972.0		6,906.0		9 5/8		L80-IC		40.00		BTC		3,946.4											
Cement																									
INTERMEDIATE CASING CEMENT, Casing, 12/11/2020 05:00																									
Cementing End Date 12/11/2020 13:30		Wellbore ORIGINAL		Technical Result		Comment																			
Cement Stages																									
Description INTERMEDIATE CASING CEMENT		Final Top De... 3,239.0		Btm (ftKB) 6,972.0		Top Pl... Yes		Btm Pl... No		Q Pump Init (... 8		Q Pump Fina... 3		Q Pump Avg... 7		P Pump Final... 0.0		P Plug Bump... 0.0		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)		Density (lb/gal) 10.80													
Fluid Type LEAD CMT				Estimated Top (ftKB) 3,239.0		Est Btm (ftKB) 6,473.0		Class TXI LITEWEIGHT		Yield (ft³/sack) 2.76		Density (lb/gal) 11.00													
Fluid Type TAIL CMT				Estimated Top (ftKB) 6,473.0		Est Btm (ftKB) 6,972.0		Class CLASS C		Yield (ft³/sack) 1.33		Density (lb/gal) 14.80													
Fluid Type DSPLMT				Estimated Top (ftKB) 0.0		Est Btm (ftKB) 6,972.0		Class FRESH WATER		Yield (ft³/sack)		Density (lb/gal) 8.34													
Description INTERMEDIATE CASING CEMENT		Final Top De... 28.8		Btm (ftKB) 3,239.0		Top Pl... Yes		Btm Pl... No		Q Pump Init (... 8		Q Pump Fina... 3		Q Pump Avg... 7		P Pump Final... 601.0		P Plug Bump... 2,113.0		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)		Density (lb/gal) 10.80													
Fluid Type LEAD CMT				Estimated Top (ftKB) 0.0		Est Btm (ftKB) 2,813.0		Class TXI LITEWEIGHT		Yield (ft³/sack) 2.76		Density (lb/gal) 11.00													
Fluid Type TAIL CMT				Estimated Top (ftKB) 2,813.0		Est Btm (ftKB) 3,239.0		Class CLASS C		Yield (ft³/sack) 1.33		Density (lb/gal) 14.80													
Fluid Type DSPLMT				Estimated Top (ftKB) 0.0		Est Btm (ftKB) 3,239.0		Class FRESH WATER		Yield (ft³/sack)		Density (lb/gal) 8.34													
Job Supply Amounts																									
Supply Item Des		Type		Unit Label		Received		Consumed		Returned		Note		Cum On Loc		Cum Consumed									
DIESEL		MUD		GAL		14,770								29,560		0.0									
DIESEL		FUEL		GAL				1,262		0		Rig Fuel		7,122		10,539.0									
WATER		FRESH		BBL				0				Water Meter Reading 72448		0		6,265.0									
Daily Drilling Report														Page 3/4				Printed: Saturday, December 12, 2020							

Daily Drilling Report

ENSIGN - 133 Accept: 12/5/2020 Release: Days Since LTI: 182.00 Days Since RI: 182.00	
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PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/12/2020
Report #:	9
DFS:	8
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$325,463.29

Daily Drilling Report Page 4/4 Printed: Saturday, December 12, 2020

Daily Drilling Report

UNIVERSITY 10-11C 3H

ENSIGN - 133
Accept: 12/5/2020 Release:
Days Since LTI: 183.00 Days Since RI: 183.00

PERMIAN - JV SOUTHERN WOLFCAMP
Job: ODR
Report Date: 12/13/2020
Report #: 10
DFS: 9
AFE #: 9009120
Total AFE + Sup: \$2,683,002.54
Daily Field Est. (Cost): \$93,283.41

API/UWI 42-383-40858-0000			Well Profile HORIZONTAL			Open Formation WOLFCAMP A2 (WFMP A2)			Field Name SPRABERRY (TREND AREA)												
SSN ID00017688		Property Sub		KB-Grd (ft) 25.00		Orig KB Elev (ft) 2,668.00		Ground Elevation (ft) 2,643.00		Spud Date 11/11/2020		TD Date									
Safety Checks																					
Time		Type		Des		Tour		Com													
Jobs																					
Responsible Grp 2			Responsible Grp 3			Job Type		Start Date			End Date		Job Status								
DRL ENG - JACKIE LUTHER			AREA TEAM 4			ODR		11/11/2020 17:30					IN PROGRESS								
Job Dates (ex. Estimated Pad Release, TXRRC Calls)																					
Type				Subtype			Date			Note											
MILESTONE				ESTIMATED PAD RELEASE			1/17/2021			Drilling production curve on well 1 of 3, sequentially.											
Daily Operations																					
Footage/Meterage (ft) 1,297.00		Drilling Hours (hr) 24.00		% Rotating Time (%) 32.29		End Depth (ftKB) 8,340.0		Target Depth (ftKB) 20,511.0		Daily Field Est Total (Cost) 93,283.41		Cum Field Est To Date (Cost) 1,216,801.27									
24 HR ROP (ft/hr) 54.0		Circulating Hours (hr)		% Sliding Time (%) 67.71		End Depth (TVD) (ftKB) 7,610.3		Target Depth (TVD) (ftKB) 7,643.0		Daily Mud Field Est (Cost) 13,915.74		Cum Mud Field Est (Cost) 37,839.83		Total AFE + Sup (Cost) 2,683,002.54							
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 2,500.0				Daily Goal - Next 24 2,500.0				Goal Comments Missed goal 49% due to bit performance									
Backbuild Yes		Lateral Inclination Toe Flat		Last Casing String INTERMEDIATE, 6,972.0ftKB					Next Casing String PROPOSED PRODUCTION, 22,826.0ftKB												
Avg Connection Gas 175.00		Avg Trip Gas 0.00		Avg Background Gas 195.00		Max Connection Gas 275.00		Max Trip Gas 0.00		Max Drill Gas 334.00											
Operations Summary Drill production curve F/ 7066' T/8066, Landed curve .7 below and 5.9' right of the line, continue to drill out into production lateral F/8066' T/8340'																					
Operations Next Report Period Drill production Lateral																					
Operations at Report Time Drilling production lateral 8340'																					
Remarks Surface - 100% Intermediate - 100% Production Curve - 100% Production Lateral - 2%																					
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	PROD, DRL	DRL	NORMAL	Finish drilling down to KOP F/ 7,7043 T/ 7,066' and high side MM.				7,043.0	7,066.0										
06:30	20	02:30	PROD, DRL CURVE	DRL	NORMAL	Drill curve F/ 7,066' T/ 8,066' (1000' @ 50 fph). Landed curve .7' low 5.9' right of plan line.				7,066.0	8,066.0										
02:30	3.5	06:00	PROD, DRL LAT	DRL	NORMAL	Drill production curve F/ 8,066' T/ 8,340'. (274' @ 78.2 fph).				8,066.0	8,340.0										
Drill Strings																					
BHA #3 , Intermediate																					
Bit Run 3			Drill Bit 8 1/2in, DD506TWX, 5310877					Bit Type PDC			Make GE/BAKER HUGHES										
Nozzles (1/32") 13/13/13/13/13/13			Bit Total Fluid Area (nozzles) (in²) 0.78			IADC Bit Dull -----		Hours Drilled By Bit (hr) 25.50			Depth Drilled By Bit (ft) 1,358.00										
BHA Drilling Time (hr) 25.50			BHA Depth Drilled (ft) 1,358.00			BHA ROP (ft/hr) 53.3		Depth In (ftKB) 6,982.0			Depth Out (ftKB) 8,340.0										
Drill String Components																					
Jts	Item Des				OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make										
114	DRILL PIPE				6 3/4	4.28	5,123.77	8,340.00	99,913.5	160	RIG										
1	AGITATOR				6 3/4	2.63	23.45	3,216.23		60	NOV										
68	DRILL PIPE				5	4.28	3,090.47	3,192.78	60,264.2	60	RIG										
1	DRILL COLLAR - NON MAG				6 3/4	3.25	30.44	102.31		0	GORDON										
1	DRILL COLLAR - NON MAG				6 3/4	3.25	30.87	71.87		0	GORDON										
1	SUB - UBHO				6 1/2	2.63	3.05	41.00		0	GORDON										
1	STABILIZER				6.8	2.88	5.32	37.95		0	DRILLING TOOLS INTERNATIONAL										
1	MOTOR - STABILIZER SLEEVE				6 3/4	2.50	31.63	32.63		0	PHOENIX										
Mud Motors																					
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr Defin Type		Bit To Bend									
24X675524-PTS		2		SEALED		7:8		5.7				5.31									
Sensors																					
Sensor Type				Sensor-Bit (ft)				Note													
GAMMA				49.19																	
DIRECTIONAL				61.00																	
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	06:30	7,043.0	23.00	46.0	35	30	250.0	605	3,400.0	50.0	180	195	170	180	6,000.0	1,500.0	0				
06:30	11:00	7,066.0	138.00	30.7	38	0	300.0	450	2,100.0	50.0	180	195	170	180	0.0	0.0	0				
11:00	16:00	7,204.0	264.00	52.8	38	0	300.0	600	3,050.0	75.0	180	195	170	180	0.0	0.0	0				
Daily Drilling Report																		Page 1/4		Printed: Sunday, December 13, 2020	

Daily Drilling Report

ENSIGN - 133

Accept: 12/5/2020	Release:
Days Since LTI: 183.00	Days Since RI: 183.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/13/2020
Report #:	10
DFS:	9
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$93,283.41

Hydraulic Calculations										
Dens Mud (lb/gal)	ECD End (lb/gal)	Bit Hydraulic Power (hp)	HP/Area (hp/in ²)	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)
9.50	10.23	184.5	3.3	247.5	527.2	17.2	565.4	147.11	61.48	256.77

Daily Drilling Report

UNIVERSITY 10-11C 3H				PERMIAN - JV SOUTHERN WOLFCAMP			
				Job: ODR			
				Report Date: 12/13/2020			
				Report #: 10			
				DFS: 9			
				AFE #: 9009120			
				Total AFE + Sup: \$2,683,002.54			
				Daily Field Est. (Cost): \$93,283.41			

Mud Checks												
Time 06:00		Mud Company PIONEER DRILLING FLUIDS			Type OIL BASE		Depth (ftKB) 7,928.0		Density (lb/gal) 9.50	Funnel Viscosity (s/qt) 56	T Flowline (°F) 100.0	
PV (cP) 15.0		YP (lb/100ft²) 9.000	Vis 3rpm 5	Vis 6rpm 6	Filtrate (mL/30min)		HTHP Filtrate (mL/30min) 16.0		HTHP Temperature (°F) 250.0		HTHP Pressure (psi) 500.0	
Solids (%) 16.0			Low Gravity Solids (%) 8.9		Sand (%)		MBT (lb/bbl)		Pm (mL/mL)		Pf (mL/mL)	
Chlorides (ppm) 30,000,000.000		Calcium (ppm)		CaCl (ppm)		Oil Water Ratio 71.4/28.6		Electric Stab (V) 649.0		Lime (lb/bbl) 3.4		pH
Gel 10 sec (lb/100ft²) 10.000					Gel 10 min (lb/100ft²) 15.000				Gel 30 min (lb/100ft²) 16.000			
Comment DAILY COST \$ \$17,114.09 TOTAL WELL COST \$ \$62,998.18 RECOMMENDED FLUIDS TREATMENT DRILLING FLUIDS ACTIVITY LAST 24 HRS MW 9.5 - 10.0 ppg, Diesel - 2 sec/qt - 10.7 BPH, Water 5 sec/qt - 4.3 BPH Additions- Lime - 1 ppb, CACL - 1.5 ppb, Soltex - 1 ppb, Bentone 990 - 1 ppb, Bentone 910 - 1 ppb, Gilsonite 1 ppb, 1 Drum of Wetting Agent, 1 Drum of BCI Primary, 1 Drum of BCI Secondary, 1 Drum BCI RheoMod Displace well to OBM while drilling cement and float equipmet. Begin treatment of mud system after FIT. Maintain 9.5 - 10.0 ppg mud weight. Run centrifuge 7 hrs, shut off when weight reached 9.5 ppg. WELL VOLUMES RECAP Daily Diesel Used 5,151 GAL Cumulative Diesel Used 12,627 GAL Daily OBM Surface Losses 255 BBL Daily OBM Downhole Losses BBL Cumulative OBM Surface Losses255 BBL Cumulative OBM Downhole Losses BBL OBM Volume Accounting2,274 BBL Total OBM Received BBL Total OBM on Location 2,274 BBL Daily Water Used 45 BBL Cumulative Water Used 279 BBL RIG ACTIVITY LAST 24 HOURS Wash through cement F/6,752' T/6,881', circulate bottom's up, perform casing test, drill cement and float equipment, 10' new hole T/6,992', circulate bottom's up, perform FIT to 11.0 ppg EMW, drill F/6,992' T/7,938'. ROP 75 ft/hr, WOB 35K, RPM @ Bit 175, TQ 10K, Diff 265, P/U 195K, S/O 175K. Connection gas 175u, background gas 195u, max gas 334u @ 7,765'. 24 hr footage 956'. Lithology 80% SH 20% SD @ 7,200'.												
Last BOP Test												
Date		Test Type			Item Tested			Next Test Date		Com		
12/7/2020		BOP			BOP'S, 12/5/2020 06:00, U			12/28/2020		Tested BOP 250 low 5000 high		
Leak Off and Formation Integrity Tests												
Test Type				Depth (ftKB)				Dens Fluid (lb/gal)				
FORMATION INTEGRITY				1,027.0				12.51				
FORMATION INTEGRITY				6,972.0				11.00				
Casing Pressure Test												
Test Type		Test Subtype			Date		Item Tested		Failed?	Time (min)	P (psi)	
CASING		STANDARD			11/22/2020		SURFACE, 1,027.7ftKB		No	30.00	1,000.0	
CASING		STANDARD			12/12/2020		INTERMEDIATE, 6,972.0ftKB		No	30.00	2,500.0	
Kick Offs & Key Depths												
Date				Type			Top Depth (ftKB)		Depth Top (TVD) (ftKB)			
12/12/2020 06:30				KICK OFF			7,066.0		7,000.0			
12/13/2020 02:15				HEEL			8,066.0		7,603.8			
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		20	H40	78.67						
SURFACE		1,027.7	1,027.1	13 3/8	K55	54.50		BTC		667.2		
INTERMEDIATE		6,972.0	6,906.0	9 5/8	L80-IC	40.00		BTC		3,946.4		
Job Supply Amounts												
Supply Item Des		Type	Unit Label	Received	Consumed	Returned	Note		Cum On Loc		Cum Consumed	
DIESEL		MUD	GAL		5,151				24,409		5,151.0	
DIESEL		FUEL	GAL	7,192	2,177	0	Rig Fuel		12,137		12,716.0	
WATER		FRESH	BBL		0		Water Meter Reading 72448		0		6,265.0	
Mud Additive Amounts												
Des		Type		Units		Rec	Consumed		On Loc		Cum Cons	
BCI OBM PRIMARY		OIL MUD ADDITIVE		GAL			1		12.0		1	
BCI OBM RHEO MODIFIER		OIL MUD ADDITIVE		GAL			3		14.0		3	
BCI OBM SECONDARY		OIL MUD ADDITIVE		GAL			3		10.0		3	
BCI OBM WETTING AGENT		OIL MUD ADDITIVE		GAL			1		11.0		1	
BENTONE 910		OIL MUD ADDITIVE		GAL			38		140.0		38	
BENTONE 990		OIL MUD ADDITIVE		LB			20		140.0		20	
GILSONITE		FLUID LOSS ADDITIVES		LB			40		210.0		40	
LIME		ALKALINITY CONTROL		LB			95		0.0		110	
OIL DRY		OIL MUD ADDITIVE		LB			24		16.0		24	
SODA ASH		ALKALINITY CONTROL		LB			9		38.0		212	
SOLTEX		FLUID LOSS ADDITIVES		LB			40		120.0		40	
Daily Drilling Report												

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Printed: Sunday, December 13, 2020

Daily Drilling Report

ENSIGN - 133

Accept: 12/5/2020

Release:

Days Since LTI: 183.00

Days Since RI: 183.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/13/2020
Report #:	10
DFS:	9
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$93,283.41

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	6,000.0	
2	H&H	1600	5 1/2	12.00	0.088	6,000.0	
3	H&H	1600	5 1/2	12.00	0.088	6,000.0	
Pump Checks							
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)	
1	8,203.0	00:43	575.0	50	176	95	
1	8,203.0	04:30	500.0	40	141	95	
1	8,203.0	04:30	425.0	30	106	95	
2	8,203.0	04:30	475.0	40	141	95	
2	8,203.0	04:30	400.0	30	106	95	
2	8,203.0	04:30	575.0	50	176	95	
Deviation Surveys							
Date		Description FINAL SURVEY				Job	
Date 11/11/2020		Description AS DRILL SURVEY				Job ODR, 11/11/2020 17:30	
Survey Data - All surveys for 24 hr reporting period							
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
7,050.00	0.62	55.94	6,984.01	-455.50	-467.61	593.63	1.40
7,097.00	2.07	20.10	7,031.00	-454.55	-466.67	594.13	3.42
7,143.00	7.02	5.10	7,076.84	-450.95	-463.09	594.67	10.98
7,188.00	13.79	359.79	7,121.08	-442.84	-454.98	594.89	15.18
7,233.00	19.84	357.01	7,164.13	-429.85	-441.97	594.47	13.56
7,279.00	25.70	357.16	7,206.53	-412.10	-424.20	593.57	12.74
7,324.00	30.03	358.32	7,246.30	-391.11	-403.19	592.76	9.70
7,370.00	34.02	359.14	7,285.29	-366.74	-378.81	592.23	8.73
7,416.00	40.09	0.17	7,321.99	-339.05	-351.10	592.08	13.26
7,461.00	46.44	359.36	7,354.74	-308.23	-320.28	591.94	14.16
7,506.00	51.03	0.06	7,384.41	-274.42	-286.46	591.77	10.27
7,551.00	52.52	0.50	7,412.25	-239.08	-251.11	591.95	3.40
7,596.00	54.37	1.19	7,439.06	-202.93	-214.97	592.48	4.29
7,642.00	55.57	1.70	7,465.46	-165.27	-177.32	593.43	2.76
7,686.00	56.37	1.69	7,490.08	-128.80	-140.87	594.51	1.82
7,732.00	59.52	2.40	7,514.49	-89.83	-101.91	595.91	6.97
7,777.00	61.99	2.73	7,536.48	-50.58	-62.69	597.67	5.53
7,823.00	68.30	2.78	7,555.80	-8.88	-21.02	599.67	13.72
7,870.00	73.96	2.36	7,571.00	35.57	23.39	601.66	12.07
7,916.00	76.78	1.21	7,582.61	80.07	67.87	603.05	6.59
7,961.00	78.64	359.89	7,592.19	124.03	111.84	603.47	5.03
8,005.00	82.53	358.64	7,599.39	167.40	155.23	602.91	9.27
8,051.00	87.74	359.04	7,603.29	213.19	201.04	601.98	11.36
8,097.00	88.69	359.29	7,604.72	259.13	247.01	601.31	2.14
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)
INTENDED LANDING POINT (ILP)			-4,945.0		7,613.0		
TARGET #1			-4,950.0		7,618.0		
PBHL/TD			-4,975.0		7,643.0		
Daily Contacts							
Job Contact		Title	Office	Mobile	Email		
HARDIN, JOE, AREA DRILLING SUPERINTENDENT		AREA DRILLING SUPERINTENDENT	361-452-2118	361-318-8762	JOE.HARDIN@PXD.COM		
LUTHER, JACKIE, ENGINEER		ENGINEER	972-969-5626	303-512-3803	JACKIE.LUTHER@PXD.COM		
BROWN, KEITH, SUPERINTENDENT		SUPERINTENDENT	972-313-9798	469-516-3137	KEITH.BROWN@PXD.COM		
VILLESICAS, BERNIE, SUPERINTENDENT		SUPERINTENDENT	432-571-2950	432-312-2088	BERNIE.VILLESICAS@PXD.COM		
JACOBS, TUCKER, ENGINEER		ENGINEER	972-444-9001	361-318-6782	TUCKER.JACOBS@PXD.COM		
COX, JASON, WELLSITE SUPERVISOR		WELLSITE SUPERVISOR		281-733-1241	JASON.COX@PXD.COM		
RIG-ENSIGN 133, RIG PHONE		RIG PHONE	432-355-3047	432-530-1214			
Personnel Log							

Daily Drilling Report

UNIVERSITY 10-11C 3H				PERMIAN - JV SOUTHERN WOLFCAMP	
ENSIGN - 133				Job:	ODR
Accept: 12/5/2020				Report Date:	12/14/2020
Days Since LTI: 184.00				Report #:	11
Release:				DFS:	10
Days Since RI: 184.00				AFE #:	9009120
				Total AFE + Sup:	\$2,683,002.54
				Daily Field Est. (Cost):	\$69,098.15

API/UWI 42-383-40858-0000		Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)		Field Name SPRABERRY (TREND AREA)						
SSN ID00017688		Property Sub		KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,668.00	Ground Elevation (ft) 2,643.00	Spud Date 11/11/2020	TD Date				
Safety Checks												
Time	Type		Des		Tour		Com					
Jobs												
Responsible Grp 2			Responsible Grp 3			Job Type	Start Date		End Date	Job Status		
DRL ENG - JACKIE LUTHER			AREA TEAM 4			ODR	11/11/2020 17:30			IN PROGRESS		
Job Dates (ex. Estimated Pad Release, TXRRC Calls)												
Type				Subtype		Date		Note				
MILESTONE				ESTIMATED PAD RELEASE		1/17/2021		Drilling production curve on well 1 of 3, sequentially.				
Daily Operations												
Footage/Meterage (ft) 1,864.00		Drilling Hours (hr) 12.25		% Rotating Time (%) 91.84		End Depth (ftKB) 10,204.0		Target Depth (ftKB) 20,511.0		Daily Field Est Total (Cost) 69,098.15	Cum Field Est To Date (Cost) 1,286,047.76	
24 HR ROP (ft/hr) 152.2		Circulating Hours (hr) 1.00		% Sliding Time (%) 8.16		End Depth (TVD) (ftKB) 7,606.6		Target Depth (TVD) (ftKB) 7,643.0		Daily Mud Field Est (Cost) 7,953.80	Cum Mud Field Est (Cost) 45,793.63	Total AFE + Sup (Cost) 2,683,002.54
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 2,500.0				Daily Goal - Next 24 3,000.0		Goal Comments Missed goal by 26% due to bit trip		
Backbuild Yes		Lateral Inclination Toe Flat		Last Casing String INTERMEDIATE, 6,972.0ftKB				Next Casing String PROPOSED PRODUCTION, 22,826.0ftKB				
Avg Connection Gas 247.00			Avg Trip Gas 0.00			Avg Background Gas 259.00			Max Connection Gas 375.00		Max Trip Gas 0.00	Max Drill Gas 485.00
Operations Summary Drilling lateral T/ 8,837', circulate bottoms up, TOO H, C/O BHA, TIH T/ 6,192', slip and cut drill line, TIH T/ 8,837', Drill lateral T/ 10204' (8.16% sliding, 1.12 avg DLS, 1' below 9'right of the line).												
Operations Next Report Period Drill production lateral as per Directional Plan #1 w/ no HSE incidents.												
Operations at Report Time Drilling production lateral at 10204'												
Remarks Surface - 100% Intermediate - 100% Production Curve - 100% Production Lateral - 17%												
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	12:00	PROD, DRL LAT	DRL	NORMAL	Drill Lateral F/ 8,340' T/ 8,837'. (497' @ 82.8 fph). Note: Decision made to TOO H due to low ROP			8,340.0	8,837.0		
12:00	0.75	12:45	PROD, DRL LAT	CIRC	NORMAL	CBU prior to TOO H			8,837.0	8,837.0	0.75	4
12:45	0.25	13:00	PROD, DRL LAT	FLOW_CHK	NORMAL	Flow check. Well Static			8,837.0	8,837.0	0.25	4
13:00	0.75	13:45	PROD, DRL LAT	TOOH_ELEV	NORMAL	TOOH F/8837 T/6844. Monitor hole with trip tank, hole taking proper fill			8,837.0	8,837.0	0.75	4
13:45	0.5	14:15	PROD, DRL LAT	HDL_ROT HD	NORMAL	Pull rotating head and install trip nipple			8,837.0	8,837.0	0.50	4
14:15	2	16:15	PROD, DRL LAT	TOOH_ELEV	NORMAL	TOOH F/6844 T/101' Monitor hole with trip tank, hole taking proper fill			8,837.0	8,837.0	2.00	4
16:15	0.25	16:30	PROD, DRL LAT	SFTY	NORMAL	Cleaned rig floor prior to working BHA.			8,837.0	8,837.0	0.25	4
16:30	0.25	16:45	PROD, DRL LAT	SFTY	NORMAL	PJSM with Phoenix and rig crews on C/O of BHA.			8,837.0	8,837.0	0.25	4
16:45	0.5	17:15	PROD, DRL LAT	LD_DIR	NORMAL	Drain motor, break bit, L/D mud motor.			8,837.0	8,837.0	0.50	4
17:15	0.5	17:45	PROD, DRL LAT	PU_DIR	NORMAL	P/U mud motor, M/U bit, scribe motor to MWD.			8,837.0	8,837.0	0.50	4
17:45	0.5	18:15	PROD, DRL LAT	RIG_SVC	NORMAL	Serviced rig			8,837.0	8,837.0	0.50	4
18:15	1.25	19:30	PROD, DRL LAT	TIH_ELEV	NORMAL	TIH F/ 101' T/ 3,192. Monitor hole with trip tank, hole displacing proper amount.			8,837.0	8,837.0	1.25	4
19:30	0.5	20:00	PROD, DRL LAT	HDL_AGITATOR	NORMAL	P/U agitator. agitator diff. 550 psi			8,837.0	8,837.0	0.50	4
20:00	1.5	21:30	PROD, DRL LAT	TIH_ELEV	NORMAL	TIH F/ 3,192' T/ 6,931'. Monitor hole with trip tank, hole displacing proper amount.			8,837.0	8,837.0	1.50	4
21:30	0.25	21:45	PROD, DRL LAT	HDL_ROT HD	NORMAL	Remove trip nipple and install rotating head.			8,837.0	8,837.0	0.25	4
21:45	1	22:45	PROD, DRL LAT	SLIP_CUT	NORMAL	Slip and cut drill line.			8,837.0	8,837.0	1.00	4
22:45	1	23:45	PROD, DRL LAT	TIH_ELEV	NORMAL	TIH F/ 6,931' T/ 8837. Monitor hole with trip tank, hole displacing proper amount.			8,837.0	8,837.0	1.00	4
23:45	6.25	06:00	PROD, DRL LAT	DRL	NORMAL	Drill F/ 8,837' T/ 10,204 (1367' @ 218.7 fph)			8,837.0	10,204.0		
Interval Problems												
DOWNHOLE CONDITIONS, 8,837.0ftKB, 12/13/2020 12:00												
Ref #	Dur (N...)	Ex...	Subtype	Problem Descript...	Est Cost OR (Cost)	Accountable Party		Comment				
4	11.75	No	WELLBORE	FORMATION GEOLOGY		PHOENIX TECHNOLOGY SERVICES USA INC		Bit plugged with stator rubber, TOO H was for motor failure				
Daily Drilling Report												

Daily Drilling Report

ENSIGN - 133

Accept: 12/5/2020

Release:

Days Since LTI: 184.00

Days Since RI: 184.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/14/2020
Report #:	11
DFS:	10
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$69,098.15

Drill Strings																		
BHA #3 , PRODUCTION - CURVE/LATERAL																		
Bit Run 3			Drill Bit 8 1/2in, DD506TWX, 5310877						Bit Type PDC			Make GE/BAKER HUGHES						
Nozzles (1/32") 13/13/13/13/13/13			Bit Total Fluid Area (nozzles) (in²) 0.78			IADC Bit Dull 1-2-WT-G-X-0-PN-PR			Hours Drilled By Bit (hr) 31.50			Depth Drilled By Bit (ft) 1,855.00						
BHA Drilling Time (hr) 31.50			BHA Depth Drilled (ft) 1,855.00			BHA ROP (ft/hr) 58.9			Depth In (ftKB) 6,982.0			Depth Out (ftKB) 8,837.0						
Drill String Components																		
Jts	Item Des		OD (in)		ID (in)		Len (ft)		Cum Len (ft)		Wt (lbf)		Cum Wt (1000lbf)		Make			
114	DRILL PIPE		6 3/4		4.28		5,620.77		8,837.00		109,605.0		170		RIG			
1	AGITATOR		6 3/4		2.63		23.45		3,216.23				60		NOV			
68	DRILL PIPE		5		4.28		3,090.47		3,192.78		60,264.2		60		RIG			
1	DRILL COLLAR - NON MAG		6 3/4		3.25		30.44		102.31				0		GORDON			
1	DRILL COLLAR - NON MAG		6 3/4		3.25		30.87		71.87				0		GORDON			
1	SUB - UBHO		6 1/2		2.63		3.05		41.00				0		GORDON			
1	STABILIZER		6.8		2.88		5.32		37.95				0		DRILLING TOOLS INTERNATIONAL			
1	MOTOR - STABILIZER SLEEVE		6 3/4		2.50		31.63		32.63				0		PHOENIX			
Mud Motors																		
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr Defln Type		Bit To Bend						
24X675524-PTS		2		SEALED		7:8		5.7				5.31						
Sensors																		
Sensor Type			Sensor-Bit (ft)						Note									
GAMMA			49.19															
DIRECTIONAL			61.00															
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	10:00	8,340.0	318.00	79.5	45	60	600.0	600	3,100.0	100.0	185	200	170	185	12,000.0	3,000.0	0	
10:00	10:30	8,658.0	12.00	24.0	45	0	250.0	600	3,400.0	70.0	185	200	170	185	0.0	0.0	150	
10:30	12:00	8,670.0	167.00	111.3	45	60	600.0	600	3,400.0	100.0	185	200	170	185	12,000.0	3,000.0	0	
12:00	13:00	8,837.0	0.00		0	60	0.0	600	3,400.0	0.0	185	200	170	185	0.0	0.0	0	
BHA #4 , PRODUCTION - LATERAL																		
Bit Run 4			Drill Bit 8 1/2in, *ADD MODEL TO PICK LIST – TYPE MODEL TO BE ADDED IN COMMENT FIELD, 5314184						Bit Type PDC			Make GE/BAKER HUGHES						
Nozzles (1/32") 16/16/16/11/11			Bit Total Fluid Area (nozzles) (in²) 0.77			IADC Bit Dull -----			Hours Drilled By Bit (hr) 6.25			Depth Drilled By Bit (ft) 1,367.00						
BHA Drilling Time (hr) 6.25			BHA Depth Drilled (ft) 1,367.00			BHA ROP (ft/hr) 218.7			Depth In (ftKB) 8,837.0			Depth Out (ftKB) 10,204.0						
Drill String Components																		
Jts	Item Des		OD (in)		ID (in)		Len (ft)		Cum Len (ft)		Wt (lbf)		Cum Wt (1000lbf)		Make			
156	DRILL PIPE		6 3/4		4.28		7,011.01		10,227.45		136,714.7		197		RIG			
1	AGITATOR		6 3/4		2.63		23.45		3,216.44				60		NOV			
68	DRILL PIPE		5		4.28		3,090.47		3,192.99		60,264.2		60		RIG			
1	DRILL COLLAR - NON MAG		6 3/4		3.25		30.44		102.52				0		GORDON			
1	DRILL COLLAR - NON MAG		6 3/4		3.25		30.87		72.08				0		GORDON			
1	SUB - UBHO		6 1/2		2.63		2.71		41.21				0		GORDON			
1	STABILIZER		6.8		2.88		5.32		38.50				0		DRILLING TOOLS INTERNATIONAL			
1	MOTOR - SLICK SLEEVE		6 3/4		2.50		32.18		33.18				0		PHOENIX			
Mud Motors																		
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr Defln Type		Bit To Bend						
24X165-55-PTS		1.75		SEALED		7:8		5.7				5						
Sensors																		
Sensor Type			Sensor-Bit (ft)						Note									
GAMMA			49.09															
DIRECTIONAL			61.00															
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 (°)	
23:45	00:15	8,837.0	95.00	190.0	35	70	575.0	600	3,350.0	320.0	185	215	170	185	17,000.0	5,600.0	0	
00:15	00:30	8,932.0	15.00	60.0	35	0	375.0	600	3,350.0	110.0	185	215	170	185	0.0	0.0	100	
00:30	02:00	8,947.0	347.00	231.3	35	70	575.0	600	3,350.0	320.0	185	215	170	185	17,000.0	5,600.0	0	
02:00	02:15	9,294.0	17.00	68.0	35	0	375.0	600	3,350.0	110.0	185	215	170	185	0.0	0.0	90	
02:15	06:00	9,311.0	893.00	238.1	35	70	575.0	600	3,350.0	320.0	185	215	170	185	17,000.0	5,600.0	0	
Daily Drilling Report																		
Page 2/4																		
Printed: Monday, December 14, 2020																		

Daily Drilling Report

UNIVERSITY 10-11C 3H

ENSIGN - 133
Accept: 12/5/2020 Release:
Days Since LTI: 184.00 Days Since RI: 184.00

PERMIAN - JV SOUTHERN WOLFCAMP
Job: ODR
Report Date: 12/14/2020
Report #: 11
DFS: 10
AFE #: 9009120
Total AFE + Sup: \$2,683,002.54
Daily Field Est. (Cost): \$69,098.15

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)	
9.50	11.14	186.0	3.3	248.5	531.4	17.2	565.4	180.28	146.26	220.32	
Mud Checks											
Time 06:00		Mud Company PIONEER DRILLING FLUIDS			Type OIL BASE		Depth (ftKB) 8,837.0		Density (lb/gal) 9.50	Funnel Viscosity (s/qt) 58	T Flowline (°F) 122.0
PV (cP) 20.0	YP (lb/100ft²) 10.000	Vis 3rpm 8	Vis 6rpm 9	Filtrate (mL/30min)		HTHP Filtrate (mL/30min) 14.0		HTHP Temperature (°F) 250.0		HTHP Pressure (psi) 500.0	
Solids (%) 11.5		Low Gravity Solids (%) 5.6		Sand (%)		MBT (lb/bbl)		Pm (mL/mL)		Pf (mL/mL)	
Chlorides (ppm) 41,000,000.000		Calcium (ppm)		CaCl (ppm)	Oil Water Ratio 72.3/27.7		Electric Stab (V) 659.0		Lime (lb/bbl) 4.9		pH
Gel 10 sec (lb/100ft²) 11.000				Gel 10 min (lb/100ft²) 16.000				Gel 30 min (lb/100ft²) 21.000			
Comment											
DAILY COST \$ \$9,303.80											
TOTAL WELL COST \$ \$72,301.98											
RECOMMENDED FLUIDS TREATMENT DRILLING FLUIDS ACTIVITY LAST 24 HRS											
MW 9.5 - 10.0 ppg, Diesel - 2 sec/qt - 10.7 BPH, Water 5 sec/qt - 4.3 BPH Additions- Lime - 1 ppb, CACL - 1.5 ppb, Soltex - 1 ppb, Bentone 990 - 1 ppb, Bentone 910 - 1 ppb, Gilsonite 1 ppb, 1 Drum of Wetting Agent, 1 Drum of BCI Primary, 1 Drum of BCI Secondary, 1 Drum BCI RheoMod Maintain mud weight at 9.5 ppg. Build volume to ensure enough mud to drill well. Treatment to mud system to keep it in program specs. Will begin reducing treatment as properties are coming in line. Brought in 170 bbls 7.6 OBM from rig 142.											
WELL VOLUMES RECAP											
Daily Diesel Used 8,321 GAL											
Cumulative Diesel Used 20,948 GAL											
Daily OBM Surface Losses 255 BBL											
Daily OBM Downhole Losses BBL											
Cumulative OBM Surface Losses510 BBL											
Cumulative OBM Downhole Losses BBL											
OBM Volume Accounting2,303 BBL											
Total OBM Received BBL											
Total OBM on Location 2,303 BBL											
Daily Water Used 66 BBL											
Cumulative Water Used 345 BBL											
RIG ACTIVITY LAST 24 HOURS											
Drill ahead f/ 6,681 t/ 8,837. Drilled and finished curve. Begin drilling lateral. Not getting ROP wanted. Decision to round trip to change out BHA. Lay down curve assembly and pick up Lateral assembly. Begin trip in hole with same. Stop to slip and cut drill line. WOB 47, ROP 117, RPM 60, Torque 11,546, Diff PSI 296. Lithology @ 8700 95% shale 5% limestone. Max Gas 426.											
Last BOP Test											
Date	Test Type			Item Tested		Next Test Date		Com			
12/7/2020	BOP			BOP'S, 12/5/2020 06:00, U		12/28/2020		Tested BOP 250 low 5000 high			
Leak Off and Formation Integrity Tests											
Test Type				Depth (ftKB)			Dens Fluid (lb/gal)				
FORMATION INTEGRITY				1,027.0			12.51				
FORMATION INTEGRITY				6,972.0			11.00				
Casing Pressure Test											
Test Type		Test Subtype			Date		Item Tested		Failed?	Time (min)	P (psi)
CASING		STANDARD			11/22/2020		SURFACE, 1,027.7ftKB		No	30.00	1,000.0
CASING		STANDARD			12/12/2020		INTERMEDIATE, 6,972.0ftKB		No	30.00	2,500.0
Kick Offs & Key Depths											
Date			Type			Top Depth (ftKB)		Depth Top (TVD) (ftKB)			
12/12/2020 06:30			KICK OFF			7,066.0		7,000.0			
12/13/2020 02:15			HEEL			8,066.0		7,603.8			
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		20	H40	78.67						
SURFACE	1,027.7	1,027.1	13 3/8	K55	54.50	BTC	667.2				
INTERMEDIATE	6,972.0	6,906.0	9 5/8	L80-IC	40.00	BTC	3,946.4				
Job Supply Amounts											
Supply Item Des		Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed		
DIESEL		MUD	GAL	0	8,321			8,610	20,950.0		
DIESEL		FUEL	GAL	0	1,490			10,652	14,206.0		
WATER		FRESH	BBL		0		Water Meter Reading 72448	0	6,265.0		
Mud Additive Amounts											
Des		Type	Units	Rec	Consumed	On Loc	Cum Cons				
BCI OBM PRIMARY		OIL MUD ADDITIVE	GAL		1	11.0	2				
BCI OBM RHEO MODIFIER		OIL MUD ADDITIVE	GAL		1	13.0	4				
BCI OBM SECONDARY		OIL MUD ADDITIVE	GAL		1	9.0	4				
BCI OBM WETTING AGENT		OIL MUD ADDITIVE	GAL		1	10.0	2				
BENTONE 910		OIL MUD ADDITIVE	GAL		19	121.0	57				
BENTONE 990		OIL MUD ADDITIVE	LB		15	125.0	35				
CALCIUM CHLORIDE		SALT	LB	50	50	0.0	50				
Daily Drilling Report											
Page 3/4					Printed: Monday, December 14, 2020						

Daily Drilling Report

ENSIGN - 133

Accept: 12/5/2020	Release:
Days Since LTI: 184.00	Days Since RI: 184.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/14/2020
Report #:	11
DFS:	10
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$69,098.15

Daily Drilling Report

Daily Drilling Report

ENSIGN - 133

Accept: 12/5/2020

Release:

Days Since LTI: 185.00

Days Since RI: 185.00

API/UWI 42-383-40858-0000			Well Profile HORIZONTAL		Open Formation WOLFCAMP A2 (WFMP A2)			Field Name SPRABERRY (TREND AREA)									
SSN ID00017688		Property Sub		KB-Grd (ft) 25.00	Orig KB Elev (ft) 2,668.00		Ground Elevation (ft) 2,643.00		Spud Date 11/11/2020			TD Date					
Safety Checks																	
Time		Type		Des		Tour		Com									
Jobs																	
Responsible Grp 2			Responsible Grp 3			Job Type		Start Date			End Date		Job Status				
DRL ENG - JACKIE LUTHER			AREA TEAM 4			ODR		11/11/2020 17:30					IN PROGRESS				
Job Dates (ex. Estimated Pad Release, TXRRC Calls)																	
Type				Subtype			Date			Note							
MILESTONE				ESTIMATED PAD RELEASE			1/17/2021			Drilling production lateral on well 1 of 3, sequentially.							
Daily Operations																	
Footage/Meterage (ft) 4,277.00		Drilling Hours (hr) 24.00		% Rotating Time (%) 82.29		End Depth (ftKB) 14,481.0		Target Depth (ftKB) 20,511.0		Daily Field Est Total (Cost) 71,533.10		Cum Field Est To Date (Cost) 1,357,580.86					
24 HR ROP (ft/hr) 178.2		Circulating Hours (hr)		% Sliding Time (%) 17.71		End Depth (TVD) (ftKB) 7,616.9		Target Depth (TVD) (ftKB) 7,643.0		Daily Mud Field Est (Cost) 10,311.02		Cum Mud Field Est (Cost) 56,104.65		Total AFE + Sup (Cost) 2,683,002.54			
Daily Goal Description DRILLED FEET				Daily Goal - Last 24 3,000.0				Daily Goal - Next 24 3,000.0				Goal Comments Exceeded goal by 45%					
Backbuild Yes		Lateral Inclination Toe Flat		Last Casing String INTERMEDIATE, 6,972.0ftKB					Next Casing String PROPOSED PRODUCTION, 22,826.0ftKB								
Avg Connection Gas 782.00			Avg Trip Gas 200.00			Avg Background Gas 765.00			Max Connection Gas 1,324.00			Max Trip Gas 275.00		Max Drill Gas 1,297.00			
Operations Summary Drilled production lateral as per Directional Plan #2 F/ 10,200' T/ 14,481' (15.63% sliding, 1.39 avg DLS, 1' below and 4' left of the line). w/ no HSE incidents.																	
Operations Next Report Period Drill production lateral as per Directional Plan #2, target line #4 w/ no HSE incidents.																	
Operations at Report Time Drilling production lateral at 14,481'																	
Remarks Surface - 100% Intermediate - 100% Production Curve - 100% Production Lateral - 52%																	
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		24	06:00	PROD, DRL LAT	DRL	NORMAL	Drill F/ 10,204' T/ 14,481' (4,277' @ 178.2 fph)				10,204.0	14,481.0					
Drill Strings																	
BHA #4 , PRODUCTION - LATERAL																	
Bit Run 4			Drill Bit 8 1/2in, *ADD MODEL TO PICK LIST – TYPE MODEL TO BE ADDED IN COMMENT FIELD, 5314184					Bit Type PDC			Make GE/BAKER HUGHES						
Nozzles (1/32") 16/16/16/11/11			Bit Total Fluid Area (nozzles) (in²) 0.77			IADC Bit Dull -----		Hours Drilled By Bit (hr) 30.25			Depth Drilled By Bit (ft) 5,644.00						
BHA Drilling Time (hr) 30.25			BHA Depth Drilled (ft) 5,644.00			BHA ROP (ft/hr) 186.6		Depth In (ftKB) 8,837.0			Depth Out (ftKB) 14,481.0						
Drill String Components																	
Jts	Item Des				OD (in)	ID (in)	Len (ft)	Cum Len (ft)	Wt (lbf)	Cum Wt (1000lbf)	Make						
3	DRILL PIPE				6 3/4	4.28	111.98	14,451.00	2,183.6	311	RIG						
33	HWDP				6 3/4	3.00	1,057.15	14,339.02	52,328.9	309	RIG						
156	DRILL PIPE				6 3/4	4.28	10,065.43	13,281.87	196,275.9	257	RIG						
1	AGITATOR				6 3/4	2.63	23.45	3,216.44		60	NOV						
68	DRILL PIPE				5	4.28	3,090.47	3,192.99	60,264.2	60	RIG						
1	DRILL COLLAR - NON MAG				6 3/4	3.25	30.44	102.52		0	GORDON						
1	DRILL COLLAR - NON MAG				6 3/4	3.25	30.87	72.08		0	GORDON						
1	SUB - UBHO				6 1/2	2.63	2.71	41.21		0	GORDON						
1	STABILIZER				6.8	2.88	5.32	38.50		0	DRILLING TOOLS INTERNATIONAL						
1	MOTOR - SLICK SLEEVE				6 3/4	2.50	32.18	33.18		0	PHOENIX						
Mud Motors																	
SN		Bend Angle		Bearing Type		Lobe Config		# Stages		Lwr Defln Type		Bit To Bend					
24X165-55-PTS		1.75		SEALED		7:8		5.7				5					
Sensors																	
Sensor Type				Sensor-Bit (ft)				Note									
GAMMA				49.09													
DIRECTIONAL				61.00													
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	07:00	10,204.0	273.00	273.0	35	70	650.0	600	3,450.0	320.0	185	215	170	185	15,000.0	5,600.0	0
07:00	07:15	10,477.0	20.00	80.0	35	0	275.0	600	3,600.0	110.0	185	215	170	185	0.0	0.0	90
07:15	09:45	10,497.0	618.00	247.2	35	70	650.0	600	3,600.0	320.0	185	215	170	185	16,000.0	5,600.0	0
09:45	10:15	11,115.0	20.00	40.0	35	0	275.0	600	3,600.0	110.0	185	215	170	185	0.0	0.0	90
Daily Drilling Report																	

Daily Drilling Report

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 (°)
10:15	15:00	11,135.0	1,182.00	248.8	35	70	650.0	600	3,600.0	320.0	185	215	170	185	16,000.0	5,600.0	0
15:00	15:30	12,317.0	25.00	50.0	35	0	275.0	600	3,600.0	110.0	185	215	170	185	0.0	0.0	90
15:30	16:30	12,342.0	135.00	135.0	35	70	650.0	600	3,600.0	320.0	185	215	170	185	16,000.0	5,600.0	0
16:30	17:00	12,477.0	15.00	30.0	35	0	275.0	600	3,600.0	110.0	185	215	170	185	0.0	0.0	40
17:00	17:30	12,492.0	137.00	274.0	35	70	650.0	600	3,700.0	170.0	185	215	170	185	14,000.0	5,600.0	0
17:30	18:00	12,629.0	17.00	34.0	42	0	300.0	600	3,700.0	110.0	185	215	170	185	0.0	0.0	30
18:00	19:00	12,646.0	103.00	103.0	35	70	500.0	600	3,675.0	320.0	185	240	125	185	18,000.0	6,600.0	0
19:00	19:30	12,749.0	9.00	18.0	42	0	300.0	600	3,675.0	48.0	185	240	125	185	0.0	0.0	165
19:30	22:30	12,758.0	444.00	148.0	35	70	500.0	600	3,700.0	320.0	185	240	125	185	18,000.0	6,600.0	0
22:30	22:45	13,202.0	9.00	36.0	42	0	300.0	600	3,700.0	48.0	185	240	125	185	0.0	0.0	225
22:45	00:30	13,211.0	358.00	204.6	35	70	500.0	600	3,900.0	320.0	185	240	125	185	18,000.0	6,600.0	0
00:30	01:00	13,569.0	17.00	34.0	42	0	300.0	600	3,900.0	48.0	185	240	125	185	0.0	0.0	270
01:00	03:00	13,586.0	442.00	221.0	35	70	500.0	600	3,900.0	320.0	185	240	125	185	18,000.0	6,600.0	0
03:00	03:15	14,028.0	12.00	48.0	42	0	300.0	600	3,900.0	48.0	185	240	125	185	0.0	0.0	90
03:15	04:15	14,040.0	169.00	169.0	35	70	500.0	600	3,900.0	320.0	185	240	125	185	18,000.0	6,600.0	0
04:15	04:45	14,209.0	15.00	30.0	42	0	300.0	600	3,900.0	48.0	185	240	125	185	0.0	0.0	90
04:45	06:00	14,224.0	257.00	205.6	35	70	500.0	600	3,900.0	320.0	185	240	125	185	18,000.0	6,600.0	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)
9.55	12.41	187.0		3.3		248.5		534.2		17.2	565.4		246.82		257.14		220.32
Mud Checks																	
Time 23:00		Mud Company PIONEER DRILLING FLUIDS				Type OIL BASE		Depth (ftKB) 13,281.0		Density (lb/gal) 9.55		Funnel Viscosity (s/qt) 61		T Flowline (°F) 125.0			
PV (cP) 17.0		YP (lbf/100ft²) 15.000		Vis 3rpm 8		Vis 6rpm 9		Filtrate (mL/30min)		HTHP Filtrate (mL/30min) 13.0		HTHP Temperature (°F) 250.0		HTHP Pressure (psi) 500.0			
Solids (%) 11.5				Low Gravity Solids (%) 5.1				Sand (%)		MBT (lb/bbl)		Pm (mL/mL)		Pf (mL/mL)			
Chlorides (ppm) 38,000,000.000				Calcium (ppm)			CaCl (ppm)		Oil Water Ratio 74.6/25.4		Electric Stab (V) 829.0		Lime (lb/bbl) 4.1			pH	
Gel 10 sec (lbf/100ft²) 12.000						Gel 10 min (lbf/100ft²) 17.000						Gel 30 min (lbf/100ft²) 22.000					
Comment WELL MATERIALS COST DAILY COST \$ \$12,336.02 TOTAL WELL COST \$ \$84,638.00 RECOMMENDED FLUIDS TREATMENT DRILLING FLUIDS ACTIVITY LAST 24 HRS MW 9.5 - 10.0 ppg, Diesel - 2 sec/qt - 10.7 BPH, Water 5 sec/qt - 4.3 BPH Additions- Lime - 3.125 ppb, CACL - 3.125 ppb, Soltex - 1 ppb, Bentone 990 - 1 ppb, Bentone 910 - 1 ppb, Gilsonite 1 ppb, 1 Drum of Wetting Agent - .2 ppb, 1 Drum of BCI Primary - .2 ppb Maintain 9.5 - 9.6 ppg mud weight. Building volume to ensure enough to finish the well. LGS are staying low due to additions of Diesel / Water. Not running centrifuge at this time. WELL VOLUMES RECAP Daily Diesel Used 5,184 GAL Cumulative Diesel Used 26,132 GAL Daily OBM Surface Losses 209 BBL Daily OBM Downhole Losses BBL Cumulative OBM Surface Losses 719 BBL Cumulative OBM Downhole Losses BBL OBM Volume Accounting 2,304 BBL Total OBM Received BBL Total OBM on Location 2,304 BBL Daily Water Used 54 BBL Cumulative Water Used 399 BBL RIG ACTIVITY LAST 24 HOURS Drilling ahead f/ 8,837 t/ 13,281. Finished round trip last night to change BHA. Back on bottom and drilling ahead. ROP 231, WOB 40.6, RPM 70, Torque 14783, Diff 475, P/U 220 S/O 145 Conn Gas, 97, BG Gas 307, Max Gas 609. Lithology 13,090 70% Shale, 30 % Limestone, Tr Pyrite.																	
Daily Drilling Report						Page 2/4						Printed: Tuesday, December 15, 2020					

Daily Drilling Report

Last BOP Test								
Date	Test Type		Item Tested		Next Test Date	Com		
12/7/2020	BOP		BOP'S, 12/5/2020 06:00, U		12/28/2020	Tested BOP 250 low 5000 high		
Leak Off and Formation Integrity Tests								
Test Type		Depth (ftKB)			Dens Fluid (lb/gal)			
FORMATION INTEGRITY		1,027.0			12.51			
FORMATION INTEGRITY		6,972.0			11.00			
Casing Pressure Test								
Test Type		Test Subtype		Date	Item Tested	Failed?	Time (min)	P (psi)
CASING		STANDARD		11/22/2020	SURFACE, 1,027.7ftKB	No	30.00	1,000.0
CASING		STANDARD		12/12/2020	INTERMEDIATE, 6,972.0ftKB	No	30.00	2,500.0
Kick Offs & Key Depths								
Date		Type		Top Depth (ftKB)		Depth Top (TVD) (ftKB)		
12/12/2020 06:30		KICK OFF		7,066.0		7,000.0		
12/13/2020 02:15		HEEL		8,066.0		7,603.8		
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		20	H40	78.67			
SURFACE	1,027.7	1,027.1	13 3/8	K55	54.50	BTC	667.2	
INTERMEDIATE	6,972.0	6,906.0	9 5/8	L80-IC	40.00	BTC	3,946.4	
Job Supply Amounts								
Supply Item Des	Type	Unit Label	Received	Consumed	Returned	Note	Cum On Loc	Cum Consumed
DIESEL	FUEL	GAL		3,113	0	Rig Fuel	7,539	17,319.0
WATER	FRESH	BBL		60		Water Meter Reading 74945	-60	6,325.0
Mud Additive Amounts								
Des	Type	Units	Rec	Consumed	On Loc	Cum Cons		
BARITE - BULK	WEIGHTING MATERIAL	CWT		11	55.0	11		
BCI OBM PRIMARY	OIL MUD ADDITIVE	GAL		1	10.0	3		
BCI OBM SECONDARY	OIL MUD ADDITIVE	GAL		1	8.0	5		
BCI OBM WETTING AGENT	OIL MUD ADDITIVE	GAL		1	9.0	3		
BENTONE 910	OIL MUD ADDITIVE	GAL		25	96.0	82		
BENTONE 990	OIL MUD ADDITIVE	LB		20	105.0	55		
CALCIUM CHLORIDE	SALT	LB	45	45	0.0	95		
GILSONITE	FLUID LOSS ADDITIVES	LB		15	175.0	75		
LIME	ALKALINITY CONTROL	LB	300	40	260.0	195		
PALLETS	MISCELLANEOUS	EA	13	13	0.0	72		
SHRINK WRAP	SERVICE	EA	13	13	0.0	63		
SOLTEX	FLUID LOSS ADDITIVES	LB		20	80.0	80		
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	6,000.0	
2	H&H		1600	5 1/2	12.00	0.088	6,000.0	
3	H&H		1600	5 1/2	12.00	0.088	6,000.0	
Pump Checks								
Pump #	Depth (ftKB)	Time	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)		
1	14,028.0	03:00	850.0	50	176	95		
1	14,028.0	03:00	650.0	30	106	95		
1	14,028.0	03:00	750.0	40	141	95		
2	14,028.0	03:00	650.0	30	106	95		
2	14,028.0	03:00	850.0	50	176	95		
2	14,028.0	03:00	750.0	40	141	95		
Deviation Surveys								
Date		Description					Job	
		FINAL SURVEY						
Date		Description					Job	
11/11/2020		AS DRILL SURVEY					ODR, 11/11/2020 17:30	
Survey Data - All surveys for 24 hr reporting period								
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	
10,235.00	89.53	359.52	7,604.37	2,396.15	2,383.60	644.47	1.79	
10,325.00	90.01	359.45	7,604.73	2,486.12	2,473.59	643.66	0.54	
10,416.00	90.12	357.81	7,604.63	2,577.02	2,564.56	641.49	1.81	
10,506.00	89.81	358.05	7,604.68	2,666.88	2,654.50	638.24	0.44	
10,597.00	90.34	1.15	7,604.56	2,757.84	2,745.49	637.60	3.46	
10,689.00	89.28	0.28	7,604.87	2,849.83	2,837.48	638.75	1.49	
10,779.00	90.54	1.40	7,605.01	2,939.82	2,927.47	640.07	1.87	
10,870.00	89.90	0.07	7,604.66	3,030.82	3,018.46	641.24	1.62	
10,962.00	90.54	1.28	7,604.31	3,122.81	3,110.45	642.32	1.49	
11,054.00	88.92	0.65	7,604.74	3,214.81	3,202.43	643.87	1.89	
11,146.00	90.71	3.29	7,605.04	3,306.79	3,294.36	647.03	3.47	
11,234.00	89.14	2.38	7,605.15	3,394.75	3,382.25	651.38	2.06	
Daily Drilling Report								
Page 3/4				Printed: Tuesday, December 15, 2020				

Daily Drilling Report

ENSIGN - 133

Accept: 12/5/2020	Release:
Days Since LTI: 185.00	Days Since RI: 185.00

PERMIAN - JV SOUTHERN WOLFCAMP	
Job:	ODR
Report Date:	12/15/2020
Report #:	12
DFS:	11
AFE #:	9009120
Total AFE + Sup:	\$2,683,002.54
Daily Field Est. (Cost):	\$71,533.10

Formations

Daily Contacts

Personnel Log

This image shows a completely blank white rectangular area enclosed within a thin black border. There are no markings, text, or illustrations present.