



## Partner Drilling Report

Well Name: UNIVERSITY 3-35 #104HB

Report Date: 7/26/2017

Report #: 17.0, DFS: 6.29

Time Log DFS: 6.29

Depth Progress: 10.00

API/UWI No. 42461405810000	Surface Legal Location A-U47; SEC. 11; BLK 4; UL SURVEY	Well License/Permit No. 824982	State/Province TEXAS
Original Spud/Spud Rig Date 7/19/2017 23:00	Rig Release Date	KB to GL (ft) 25.00	KB-Casing Flange Distance (ft)
Original Spud/Spud Rig Date 7/19/2017	Weather CLEAR	Temperature (°F) 76.0	Road Condition GOOD
Current Status/OART TRANSFER OBM F/ FRAC TANKS TO PITS AT REPORT TIME		24 Hour Forecast DISPLACE TO OBM, DRILL AHEAD AS PER DRILLING PROG AND DIRECTIONAL PLAN IN PRODUCTION SECTION.	

Short Report  
CMT OPERATIONS, R/D CMT HEAD, L/D LANDING JT, SET PACKOFF, INSTALL SHORT WEAR BUSHING, M/U DIRECTIONAL TOOLS, TIH, TAG FC, SLIP & CUT, C/O ROTATING HEAD, CIRC / COND, TEST CSG, DRILL OUT SHOE TRACK AND 10' NEW FORMATION, FIT TEST, TRANSFER OBM TO PITS.

Mud Volumes						
Active Volume (bbl) 2,890.1	Var Active Vol (bbl) -1,963.6	Balance (bbl) -1,963.6	Tank Volume (bbl) 1,787.3	Additions (bbl) 0.0	Losses (bbl) 0.0	Hole Volume (bbl) 1,102.8

Time Log							Operation Summary
Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code	
06:00	09:30	3.50	12IHC, Int Hole Csg	CE	a	O	TEST LINES TO 3500 PSI. TEST GOOD.  MIX & PUMP 20 BBL OF 8.33 PPG VISCOSIFIER WATER SPACER.  MIX & PUMP 20 BBL OF 10.0 PPG MUD PUSH EXPRESS SPACER.  - LEAD SLURRY:  MIX & PUMP 363 BBLS (675 SKS) OF CLASS C CEMENT @ 11.0 PPG, YIELD 3.0 FT3/SK, MIX FLUID 18.64 GAL/SK.  - TAIL SLURRY:  MIX & PUMP 44 BBLS (157 SKS) OF CLASS H CEMENT @ 14.0 PPG, YIELD 1.57 FT3/SK, MIX FLUID 8.02 GAL/SK.  - DROP TOP PLUG. DISPLACE CEMENT W/ 30 BBLS FW, 327 BBLS 9.8 PPG WBM, & 20 BBLS FW. TOTAL DISPLACEMENT 377 BBLS.  -BUMP PLUG TO 1000 PSI, 500 PSI OVER FINAL CIRCULATING PRESSURE. HELD PRESSURE FOR 5 MINS.  - BLEED OFF PRESSURE & GOT BACK 1.5 BBLS.  -FLOATS HELD. FULL RETURNS DURING JOB. NO CEMENT TO SURFACE.
09:30	10:00	0.50	12IHC, Int Hole Csg	CE	d	O	R/D CEMENT EQUIPMENT.  FLUSH KILL LINE, FLOW LINE AND SHAKER BYPASS.
10:00	11:00	1.00	12IHC, Int Hole Csg	CS	a	O	L/D LANDING JOINT AND CHANGE OUT ELEVATORS.
11:00	13:00	2.00	12IHC, Int Hole Csg	WH	d	O	M/U WELL HEAD WASH TOOL. WASH TOP OF WELL HEAD.  M/U RUNNING TOOL AND SET PACKOFF WITH 10K DOWN. TEST PACKOFF TO 5000 PSI. PULL 50K OVER ON PACKOFF TO VERIFY LATCH RING IS FULLY EXTENDED - LATCH RING FULLY EXTENDED.
13:00	13:30	0.50	12IHC, Int Hole Csg	WH	c	O	INSTALL SHORT WEAR BUSHING.
13:30	15:30	2.00	12IHC, Int Hole Csg	TP	b	O	MAKE UP DIRECTIONAL BHA.
15:30	18:00	2.50	12IHC, Int Hole Csg	TP	a	O	TIH WITH 18 STANDS OF 5" HWDP AND 5" DP TO 1827.75' PICKED UP AGITATOR.  CONTINUE TO TIH F/1827.75' TO 4941'  NOTE: FILL PIPE EVERY 30 STDs.
18:00	20:00	2.00	12IHC, Int Hole Csg	RM	a	O	RIG SERVICE - SLIP & CUT DRILL LINE.

AFE Number DD.17.30781.CAP.DRL	AFE+Supp Amt (Cost) 2,331,000.00
Day Total (Cost) 72,447	Cum To Date (Cost) 985,946
Mud Field Est (Cost) 700	Cum Mud Field Est (Co... 20,928
Start Depth (ftKB) 5,120.0	End Depth (ftKB) 5,130.0
Planned Formation WOLFCAMP B	Planned TMD (ftKB) 19,337.0
Last Casing String Surface Casing, 1,461.0ftKB	

Daily Contacts	
Job Contact	Mobile
BRIAN ALLEMAN, Engineer	214-978-8000
DAVID LANKFORD, Foreman	281-220-5828
MARTY ARREZOLA, Consultant	281-220-5828
DEAN DUFFY, Rig Clerk/Logistics	281-220-5829

Personnel Log	
Head Count	26.0

Rigs	
HELMERICH & PAYNE DRILLING, 3	
Contractor HELMERICH & PAYNE DRILLING	Rig Number 394
Rig Supervisor THOMAS PENDERGRASS, Toolpusher	Phone Mobile

1, Gardner-Denver, PZ-11			
Pump Number 1	Pwr (hp) 1,300.0	Rod Diameter...	
Liner Size (in) 6	Stroke (in) 11.00	Vol/Stk OR (b...	
P (psi) 0.0	Slow Spd No	Strokes (s... 0	Eff (%) 87
P (psi) 0.0	Slow Spd No	Strokes (s... 0	Eff (%) 87
2, Gardner-Denver, PZ-11			
Pump Number 2	Pwr (hp) 1,300.0	Rod Diameter...	
Liner Size (in) 6	Stroke (in) 11.00	Vol/Stk OR (b...	
P (psi) 0.0	Slow Spd No	Strokes (s... 0	Eff (%) 87
P (psi) 0.0	Slow Spd No	Strokes (s... 0	Eff (%) 87

Mud Additive Amounts		
Mud Additive Description	Field Est (Cost/unit)	Consumed
12 HR MUD ENGINEER	700.00	1.0

Job Supplies		
Supply Item Description	Unit Label	
DIESEL FOR OBM	Gal	
Total Received 9,888.0	Total Consumed 0.0	On Loc 9,888.0
Supply Item Description	Unit Label	
DRILLING CUTTINGS	Cu. Yds	
Total Received 0.0	Total Consumed 0.0	On Loc 0.0
Supply Item Description	Unit Label	
DRILLING WATER	Bbl	
Total Received 0.0	Total Consumed 0.0	On Loc 0.0
Supply Item Description	Unit Label	
FUEL	Gal	
Total Received 34,399.0	Total Consumed 11,319.0	On Loc 11,282.0



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Time Log							
Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code	Operation Summary
20:00	21:30	1.50	12IHC, Int Hole Csg	OT	e	O	C/O ROTATING HEAD PACKAGE.
21:30	23:30	2.00	12IHC, Int Hole Csg	PT	a	O	FILL PIPE & BREAK CIRCULATION, TEST CASING TO 1500 PSI AND HOLD FOR 30 MINUTES - TEST GOOD.
23:30	02:30	3.00	12IHC, Int Hole Csg	CS	d	O	DRILL OUT SHOE TRACK AND CEMENT F/ 4941' TO 5060', AND WASHED TO BTM @ 5120'
02:30	03:00	0.50	12IHC, Int Hole Csg	DR	b	O	DRILL 10' OF NEW FORMATION F/ 5120' TO 5130'
03:00	05:30	2.50	12IHC, Int Hole Csg	PT	b	O	MIX AND SPOT 20 BBL HI VIS LCM PILL, PERFORM F.I.T. WITH 9.9 PPG WBM. PRESSURED UP TO 150 PSI, BLED TO 96 PSI IN 5 MINUTES. 10.2 PPG EMW .
05:30	06:00	0.50	12IHC, Int Hole Csg	CI	c	O	TRANSFER OBM FROM FRAC TANKS TO ACTIVE AT REPORT TIME.
Mud Checks							
Time 15:00	Type Brine	Depth (ftKB) 5,120.0	Density (kg/m³) (lb/g... 9.90	Funnel Viscosity (s/qt) 28	PV Calc (cP) 1.0	YP Calc (lb/100ft²) 4.002	
Gel 10 sec (kPa) (lb... 1.000	Gell 10 min (kPa) (l... 2.001	Gel 30 min (kPa) (lb... 3.001	Filtrate (mL/30min) 95.0	Filter Cake (1/32")	pH 9.0	Solids (%)	
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%) 89.3	Chlorides (kg/m³) (... 175,000.000	Calcium (kg/m³) (m...	Potassium (mg/L)	Electric Stab (V)	
Time 05:00	Type Brine	Depth (ftKB) 5,120.0	Density (kg/m³) (lb/g... 9.90	Funnel Viscosity (s/qt) 28	PV Calc (cP) 1.0	YP Calc (lb/100ft²) 4.002	
Gel 10 sec (kPa) (lb... 1.000	Gell 10 min (kPa) (l... 2.001	Gel 30 min (kPa) (lb... 3.001	Filtrate (mL/30min) 95.0	Filter Cake (1/32")	pH 9.0	Solids (%)	
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%) 89.3	Chlorides (kg/m³) (... 173,000.000	Calcium (kg/m³) (m...	Potassium (mg/L)	Electric Stab (V)	
Mud Volumes							
Tank/Addition/Loss		Type	Volume (bbl)		Subtype		
Hole		ANNULUS	257.1				
Hole		PIPE CAP	87.3				
Hole		TOTAL HOLE	344.4				
Tank		ACTIVE PITS	70.0				
Hole		TOTAL CIRC.	414.0				
Tank		RESERVE	1,717.3				
Tank		BRINE					
Addition		WHOLE MUD	0.0				
Addition		CHEMICALS	0.0				
Drill Strings							
BHA #4, Production							
Bit Run	Drill Bit 8 1/2in, MMD55DM, 12926846			IADC Bit Dull -----		TFA (incl Noz) (in²) 1.86	
Nozzles (1/32") 22/22/22/22/22				BHA Length (ft) 12,106.14	String Wt (1000lbf)	Bit ROP (ft/hr) 3.3	
Drill String Components							
Item Des		Manual/Tally Jts	OD (in)	ID (in)	Len (ft)	Top Thread	
HWDP		21	5	3.00	639.59	IF	
Drill Pipe		306	5	4.28	9,638.80	IF	
Agitator		1	6 9/16	2.50	23.77	IF	
Drill Pipe		54	5	4.28	1,702.49	IF	
Drill Collar - Non Mag		1	6 1/2	3.25	30.67	IF	
Non-Mag Hangoff Sub		1	6 1/2	3.25	5.45	IF	
Drill Collar - Non Mag		1	6 1/2	3.25	30.72	IF	
Mud Motor - Bent Housing		1	6 1/2	2.50	33.65	IF	
Drilling Parameters							
Wellbore UNIVERSITY 3-35 #104HB	Start Depth (ftKB) 5,120.0	End Depth (ftKB) 5,130.0	Cum Depth (ft) 10.00	Drilling Time (hr) 3.00	Cum Drill Time (hr) 3.00	Interval ROP (ft/hr) 3.3	Flow Rate (gpm) 399
WOB (1000lbf) 18	Rotary RPM (rpm) 30	SPP (psi) 1,609.0	Drill Str Wt (1000... 150	PU Str Wt (1000lbf) 157	SO Str Wt (1000lbf) 155	Drilling Torque 4.0	Off Btm Tq
Q Gas Inj (ft³/min)	T Inj (°F)	P BH Ann (psi)	T BH (°F)	P Surf Annulus (p...	T Surf Annulus (°F)	Q Liq Return (gpm)	Q Gas Return (f...

Job Supplies		
Supply Item Description POTABLE WATER		Unit Label Gal
Total Received 21,400.0	Total Consumed 21,400.0	On Loc 0.0
Supply Item Description SEWAGE		Unit Label Box
Total Received 13,800.0	Total Consumed 13,800.0	On Loc 0.0
Supply Item Description THREAD PROTECTORS		Unit Label Box
Total Received 1.0	Total Consumed 1.0	On Loc 0.0
Supply Item Description TRASH/GENERAL WASTE		Unit Label Box
Total Received 0.0	Total Consumed 0.0	On Loc 0.0
Safety Checks		
Time	Type	Safety Topic
17:30	Pre-Tour	PROPER LIFTING TECHNIQUE S
05:30	Pre-Tour	PROPER LIFTING TECHNIQUE S
Wellbores		
Wellbore Name UNIVERSITY 3-35 #104HB		
Kick Offs & Key Depths		
Type	Top Depth (ftKB)	



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**Well Name: UNIVERSITY 3-35 #104HB****Hydraulic Calculations**

Bit Hydraulic Power (hp)	HP/Area (hp/in <sup>2</sup> )	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
9.9	0.2	69.0	42.7	3
Max Casing AV (ft/min)	Max Open Hole AV (ft/min)	Min Casing AV (ft/min)	Min Open Hole AV (ft/min)	ECD End (lb/gal)
279.5	37.0	71.5	37.0	9.95
Error				

**Kicks**

Kick Date	Kick Depth (ftKB)	Control Date	Control Depth (ftKB)	Kick Class
Kill Notes				

**Lost Circulation**

Start Date	Top Depth (ftKB)	Bottom Depth (ftKB)	Ops In Prog	Vol Lost Tot (bbl)	End Date
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**Interval Problems**

Problem Type	Problem Subtype	Start Date	Start Depth (ftKB)	End Depth (ftKB)	Est Cost (Cost)	Est Lost Time (hr)
Action Taken						

**Interval Lessons**

Lesson Type	Start Date	End Date	Start Depth (ftKB)	End Depth (ftKB)	Est Cost Saving (Co...)	Est Time Saving (hr)
Comment						

**Safety Incidents**

Time	Category	Type	Subtype	Cause	Lost time?	Severity

**Leak Off and Formation Integrity Tests**

Run Date	OD (in)	Set Depth (ft...)	Set Depth (T...)	Comment	MACP Press...
7/20/2017	13 3/8	1,461.0	1,460.8	TEST ON CHART: GOOD TEST	500.0
Test Date	Test Type		Fluid Density (lb/gal)	EMW (lb/gal)	
7/21/2017	Casing Test		8.30	14.80	
Run Date	OD (in)	Set Depth (ft...)	Set Depth (T...)	Comment	MACP Press...
	9 5/8	5,058.0	4,973.7	TEST ON CHART: GOOD TEST	1,500.0
Test Date	Test Type		Fluid Density (lb/gal)	EMW (lb/gal)	
7/25/2017	Casing Test		9.90	15.71	
Run Date	OD (in)	Set Depth (ft...)	Set Depth (T...)	Comment	MACP Press...
	9 5/8	5,058.0	4,973.7	TEST ON CHART: GOOD TEST	96.0
Test Date	Test Type		Fluid Density (lb/gal)	EMW (lb/gal)	
7/26/2017	F.I.T.		9.90	10.27	

**Survey Data**

MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
5,130.00	14.32	96.01	5,043.49	-6.34	-81.20	768.72	0.00