



# Partner Drilling Report

## Well Name: UNIVERSITY 3-35 #102HB

Report Date: 6/28/2017  
 Report #: 26.0, DFS: 24.48  
 Time Log DFS: 24.48  
 Depth Progress: 0.00

API/UWI No. 42461405920000		Surface Legal Location A-U47; SEC. 11; BLK. 4 CCSD&RGNG RR CO		Well License/Permit No. 826301		State/Province TEXAS	
Original Spud/Spud Rig Date 6/3/2017 18:30		Rig Release Date		KB to GL (ft) 25.00		KB-Casing Flange Distance (ft)	
Original Spud/Spud Rig Date 6/3/2017		Weather P.CLOUDY		Temperature (°F) 70.0		Road Condition GOOD	
Original Spud/Spud Rig Date 6/3/2017		Weather P.CLOUDY		Temperature (°F) 70.0		Hole Condition GOOD	
Current Status/OART PREPARING TO LIFT STACK				24 Hour Forecast WOC, R/D CMT HEAD, FINISH CLEANING PITS, BEGIN TO PREP RIG FOR SKID, P/U STACK AND SET SLIPS, B/O LOWER ADAPTOR, RAISE STACK MAKE ROUGH CUT / FINAL CUT AND BEVEL, INSTALL C-22 BLIND CAP, R/D OPERATIONS CONTINUE TO PREP FOR SKID, RELEASE RIG.			

Short Report  
 CIRC CSG VOLUME, R/D BYRD CSG CREW, R/U SCHLUMBERGER CMT HEAD AND LINES, WAIT ON BULK CMT TO ARRIVE, PJSM, RUN PRODUCTION CMT JOB, WOC, CLEAN PITS, BEGIN PREP FOR RIG DOWN OPERATION.

<b>Mud Volumes</b>						
Active Volume (bbl)	Var Active Vol (bbl)	Balance (bbl)	Tank Volume (bbl)	Additions (bbl)	Losses (bbl)	Hole Volume (bbl)
4,288.6	-409.3	-614.6	3,862.0	502.1	296.8	426.6

Time Log							Operation Summary
Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code	
06:00	08:00	2.00	24PHC, Prod Hole Csg	Cl	g	O	CONTINUE TO CIRCULATE 1-1/2 CASING VOLUME @ 5 BPM  R/D BYRD CASING CREW  NOTE: NO LOSSES OBSERVED DURING CIRCULATION.
08:00	16:00	8.00	24PHC, Prod Hole Csg	TR	q	S	CONTINUE CIRCULATING WHILE WAITING ON SCHLUMBERGER BULK CEMENT TO ARRIVE ON LOCATION RECEIVED 2 LOADS CEMENTER INFORMED US THAT THE OTHER 3 LOADS ARE EN ROUTE TO LOCATION. ALL CEMENT ARRIVED ON LOCATION SHCLUMBERGER CEMENTERS STATED THAT THEY ARE 100% READY TO CONDUCT CEMENT JOB.  NOTE: RIG CREW CLEANED ON RIG WHILE WAITING FOR CEMENT TO ARRIVE.

AFE Number DD.17.30779.CAP.DRL	AFE+Supp Amt (Cost) 2,177,000.00
Day Total (Cost) 138,298	Cum To Date (Cost) 2,358,116
Mud Field Est (Cost) 1,193	Cum Mud Field Est (Co... 122,308
Start Depth (ftKB) 19,215.0	End Depth (ftKB) 19,215.0
Planned Formation WOLFCAMP B	Planned TMD (ftKB) 19,216.0
Last Casing String Production Casing, 19,215.0ftKB	

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	36.0

Rigs	
<b>HELMERICH &amp; PAYNE DRILLING, 3</b>	
Contractor HELMERICH & PAYNE DRILLING	Rig Number 394
Rig Supervisor THOMAS PENDERGRASS, Toolpusher	Phone Mobile 918-936-7394

1, Gardner-Denver, PZ-11			
Pump Number 1	Pwr (hp) 1,300.0	Rod Diameter...	
Liner Size (in) 5	Stroke (in) 11.00	Vol/Stk OR (b... 0.067	
P (psi)	Slow Spd	Strokes (s...)	Eff (%)

2, Gardner-Denver, PZ-11			
Pump Number 2	Pwr (hp) 1,300.0	Rod Diameter...	
Liner Size (in) 5	Stroke (in) 11.00	Vol/Stk OR (b... 0.067	
P (psi)	Slow Spd	Strokes (s...)	Eff (%)

Mud Additive Amounts		
Mud Additive Description	Field Est (Cost/unit)	Consumed
12 HR MUD ENGINEER	700.00	1.0
CALCIUM CHL 95 -98%	17.10	15.0
CON DET	59.00	4.0

Job Supplies			
Supply Item Description DIESEL FOR OBM			Unit Label Gal
Total Received 40,295.4	Total Consumed 36,424.4	On Loc 3,871.0	
Supply Item Description DRILLING CUTTINGS			Unit Label Cu. Yds
Total Received 400.0	Total Consumed 400.0	On Loc 0.0	
Supply Item Description DRILLING WATER			Unit Label Bbl
Total Received 6,436.7	Total Consumed 6,436.7	On Loc 0.0	
Supply Item Description DRILLING WATER			Unit Label Bbl
Total Received 9,718.0	Total Consumed 9,718.0	On Loc 0.0	



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Time Log							Operation Summary
Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code	
16:00	21:00	5.00	24PHC, Prod Hole Csg	CE	a	O	<p>HELD PJSM WITH HOC - H&amp;P - BAKER AND SLB CEMENTERS ON PRODUCTION CEMENT JOB. RIG UP SLB CEMENT LINES TO RIG FLOOR.</p> <p>PERFORM CEMENT JOB FOR PRODUCTION CASING AS FOLLOWS:</p> <p>SWAPPED TO SCHLUMBERGER CEMENT LINES PRESSURE TESTED SAME TO 1000 PSI LOW AND 5000 HIGH: TEST GOOD,</p> <p>- SPACER: MIX &amp; PUMP 60 BBL'S OF MUD PUSH EXPRESS SPACER @ 10.5 PPG. MIX AND PUMP 117.56 BBL MRF SPACER @ 10.5 PPG</p> <p>- LEAD SLURRY: MIX &amp; PUMP 141.51 BBL'S (371 SK'S) OF TXI LIGHTWEIGHT BLEND CEMENT @ 11.5 PPG, YIELD 2.29 FT3/SK, MIX WATER 13.10 GAL/SK</p> <p>- TAIL SLURRY: MIX &amp; PUMP 585.40 BBL'S (2110 SK'S) OF D909 CEMENT @ 13.20 PPG, YIELD 1.56 FT3/SK, MIX WATER 7.59 GAL/SK</p> <p>- FLUSH LINES WITH 20 BBL OF 20% ACETIC ACID TO RESERVE PIT TO MAKE SURE THE LINE IS FILLED UP WITH ACID.</p> <p>- DROP DART PLUG AND PUMP 20 BBL OF 20% ACETIC ACID AHEAD FOLLOWED BY 20 BBL TREATED FRESH WATER.</p> <p>- TOTAL DISPLACEMENT PUMPED 424.7 BBL. FIELD CALCULATED TOP OF CEMENT @ 4000'.</p> <p>- BUMP PLUG AT 2100 HRS . PRESSURE UP TO 3238 PSI (500 PSI OVER CIRCULATING PSI) AND HOLD FOR 5 MINUTES. BLEED BACK 5 BBL. FLOAT EQUIPMENT HELD. 7</p>
21:00	05:00	8.00	24PHC, Prod Hole Csg	CE	c	O	<p>WOC. (8 HOURS) RIG DOWN CEMENTERS AND EQUIPMENT.</p> <p>FLUSH THROUGH LINES, BOP STACK, CHOKE MANIFOLD AND BACK TO MUD PUMPS AND STAND PIPE.</p> <p>TRANSFER REMAINING MUD FROM MUD TANKS TO FRAC TANKS. BEGIN CLEANING PITS. R/D FLOW LINE, SLIPPED AND CUT DRILL LINE(10 WRAPS) CALIBRATED BLOCK, CLEANED RIG FLOOR.</p> <p>PREPARING TO LIFT STACK AT REPORT TIME.</p>
05:00	06:00	1.00	24PHC, Prod Hole Csg	BO	f	O	<p>REMOVE TURN BUCKLES FROM BOPS AND HOOK UP BOP WRANGLER</p> <p>PREPARING TO LIFT STACK AT REPORT TIME.</p>

Job Supplies		
Supply Item Description	Unit Label	Gal
FUEL		
Total Received	Total Consumed	On Loc
48,192.4	40,083.4	8,109.0
LIQUID DRILLING WASTE	Bbl	
Total Received	Total Consumed	On Loc
790.0	790.0	0.0
POTABLE WATER	Gal	
Total Received	Total Consumed	On Loc
21,300.0	21,300.0	0.0
SEWAGE	Gal	
Total Received	Total Consumed	On Loc
38,200.0	38,200.0	0.0
THREAD PROTECTORS	Box	
Total Received	Total Consumed	On Loc
1.0	1.0	0.0
TRASH/GENERAL WASTE	Ea	
Total Received	Total Consumed	On Loc
2.0	2.0	0.0

Safety Checks		
Time	Type	Safety Topic
17:30	Pre-Tour	PROPPER PPE / WORKING AROUND HIGH PRESSURE CMT LINES
05:30	Pre-Tour	PROPPER PPE / WK AROUND HIGH PRESSURE CMT LINES/ R/D OPERATIONS

Wellbores	
Wellbore Name	
UNIVERSITY 3-35 #102HB	
Kick Offs & Key Depths	
Type	Top Depth (ftKB)

Mud Checks						
Time	Type	Depth (ftKB)	Density (kg/m³) (lb/g...	Funnel Viscosity (s/qt)	PV Calc (cP)	YP Calc (lb/100ft²)
05:00	INVERMUL	19,205.0	9.10	62	10.0	8.003
Gel 10 sec (kPa) (lb...	Gell 10 min (kPa) (l...	Gel 30 min (kPa) (lb...	Filterate (mL/30min)	Filter Cake (1/32")	pH	Solids (%)
9.004	13.005	15.006				10.0
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%)	Chlorides (kg/m³) (...	Calcium (kg/m³) (m...	Potassium (mg/L)	Electric Stab (V)
	71.0	19.0	38,000.000	19,200.000		805.0

Mud Volumes			
Tank/Addition/Loss	Type	Volume (bbl)	Subtype
Addition	ANNULUS	0.0	
Addition	PIPE CAP	0.0	
Hole	Hole	426.6	
Tank	ACTIVE PITS	0.0	
Hole	TOTAL CIRC	0.0	
Tank	RESERVE	1,931.0	
Tank	INVERMUL	1,931.0	
Addition	FRESH WATER	426.6	



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Mud Volumes							
Tank/Addition/Loss	Type	Volume (bbl)			Subtype		
Loss	SURFACE	60.0					
Loss	OTHER	196.8					
Loss	PIT RESIDUAL	40.0					
Addition	BASE	72.9					
Addition	CHEMICALS	2.6					
Drill Strings							
BHA #<stringno>, <des>							
Bit Run	Drill Bit	IADC Bit Dull			TFA (incl Noz) (in <sup>2</sup> )		
Nozzles (1/32")				BHA Length (ft)	String Wt (1000lbf)	Bit ROP (ft/hr)	
Drill String Components							
Item Des	Manual/Tally Jts	OD (in)	ID (in)	Len (ft)	Top Thread		
Drilling Parameters							
Wellbore	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
Q Gas Inj (ft <sup>3</sup> /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...)
Hydraulic Calculations							
Bit Hydraulic Power (hp)	HP/Area (hp/in <sup>2</sup> )	Bit Jet Velocity (ft/s)		Bit Pressure Drop (psi)		% P @ bit (%)	
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)	
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		
6/3/2017 20:30	192.0						
Interval Problems							
Problem Type	Problem Subtype	Start Date	Start Depth (ftKB)	End Depth (ftKB)	Est Cost (Cost)	Est Lost Time (hr)	
Other	WAITING ON BULK CMT TO ARRIVE	6/27/2017	19,215.0	19,215.0			
Action Taken							
WAIT ON CMT TO ARRIVE ON LOCATION.							
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...		
6/4/2017	13 3/8	684.0	684.0		500.0		
Test Date	Test Type	Fluid Density (lb/gal)	EMW (lb/gal)				
6/8/2017	Casing Test	9.10	23.17				
Run Date	OD (in)	Set Depth (ft...)	Set Depth (T...)	Comment	MACP Press...		
6/12/2017	9 5/8	7,787.0	7,781.9	9 5/8" INTERMEDIATE CASING TEST ABOVE DV TOOL.	1,500.0		
Test Date	Test Type	Fluid Density (lb/gal)	EMW (lb/gal)				
6/13/2017	Casing Test	8.80					
Run Date	OD (in)	Set Depth (ft...)	Set Depth (T...)	Comment	MACP Press...		
6/12/2017	9 5/8	7,787.0	7,781.9	9 5/8" INTERMEDIATE CASING TEST ABOVE SHOE TRACK.	1,500.0		
Test Date	Test Type	Fluid Density (lb/gal)	EMW (lb/gal)				
6/13/2017	Casing Test	8.80					

