



## Partner Drilling Report

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

Report Date: 6/12/2017

Report #: 10.0, DFS: 8.48

Time Log DFS: 8.48

Depth Progress: 308.00

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 PARTLY CLOUDY/WINDY	Temperature (°F) 72.0	Road Condition GOOD
Current Status/OART P/U AND RUNNING 9 5/8" INTERMEDIATE CASING.		Hole Condition GOOD	
24 Hour Forecast CONTINUE TO RUN 9 5/8" INTERMEDIATE CASING. CEMENT 9 5/8" INTERMEDIATE CASING. P/U DRILL OUT ASSEMBLY AND DRILL OUT.			

Short Report  
DRILL AND SURVEY 12 1/4" INTERMEDIATE HOLE F/ 7485' TO 7793'. CIRCULATE AND CONDITION HOLE.  
WIPER TRIP TO 5000'. CIRCULATE AND CONDITION HOLE. POOH TO DRILL COLLARS. L/D 6 1/2" DC AND 8"  
DC. LAY DOWN DIRECTIONAL TOOLS. PULL WEAR BUSHING AND RIG UP CASING RUNNING TOOLS. MAKE  
UP SHOE TRACK AND RUN 9 5/8" INTERMEDIATE CASING.

Mud Volumes						
Active Volume (bbl) 1,501.0	Var Active Vol (bbl) 231.0	Balance (bbl) 217.4	Tank Volume (bbl) 409.0	Additions (bbl) 13.6	Losses (bbl) 0.0	Hole Volume (bbl) 1,092.0

#### Time Log

Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code	Operation Summary
06:00	09:30	3.50	10IHVD, Int Hole Vert Drill	DR	b	O	DRILL AND SURVEY INTERMEDIATE HOLE F/ 7485' TO 7793'. AVG ROP: 88 FT/HR
09:30	10:30	1.00	12IHC, Int Hole Csg	CI	g	O	PUMP HI-VIS SWEEPS AND CIRCULATE BOTTOMS UP. NOTIFY TRRC @ 10:15 WITH INTENT TO CEMENT 9 5/8" INTERMEDIATE CASING. SPOKE WITH WHITNEY, OPERATOR 87.
10:30	14:30	4.00	12IHC, Int Hole Csg	TP	e	O	WIPER TRIP TO 5000'.
14:30	15:30	1.00	12IHC, Int Hole Csg	CI	g	O	PUMP HI-VIS SWEEPS AND CIRCULATE BOTTOMS UP.
15:30	16:30	1.00	12IHC, Int Hole Csg	TP	c	O	POOH TO 6487'. NOTE: TIGHT CONNECTIONS
16:30	17:00	0.50	12IHC, Int Hole Csg	RM	b	O	RIG SERVICE NOTE: REPAIR BROKEN HYDRAULIC LINE ON ST-80
17:00	17:30	0.50	12IHC, Int Hole Csg	DT	c	O	REPAIR BROKEN HYDRAULIC HOSE ON ST-80.
17:30	21:00	3.50	12IHC, Int Hole Csg	TP	c	O	POOH TO TOP OF 6 1/2" DRILL COLLARS F/ 6487' TO 858'. NOTE: TIGHT CONNECTIONS.
21:00	21:30	0.50	12IHC, Int Hole Csg	OT	e	O	PULL ROTATING HEAD RUBBER ELEMENT.
21:30	23:30	2.00	12IHC, Int Hole Csg	TP	b	O	LAY DOWN 6 1/2" DRILL COLLARS.
23:30	00:30	1.00	12IHC, Int Hole Csg	TP	b	O	LAY DOWN 8" DRILL COLLARS.
00:30	02:00	1.50	12IHC, Int Hole Csg	TP	b	O	DRAIN MOTOR, BREAK BIT AND LAY DOWN DIRECTIONAL TOOLS.
02:00	02:30	0.50	12IHC, Int Hole Csg	WH	c	O	PULL LONG WEAR BUSHING.
02:30	04:00	1.50	12IHC, Int Hole Csg	CS	a	O	HOLD PJSM WITH BYRD CASING CREW AND H&P PERSONNEL. R/U UP CASING RUNNING EQUIPMENT.
04:00	06:00	2.00	12IHC, Int Hole Csg	CS	b	O	P/U AND MAKE UP SHOE TRACK. TEST FLOATS - GOOD TEST. P/U AND RUN 6 JOINTS OF 9 5/8" 40# SEAH-80HC BT&C INTERMEDIATE CASING @ REPORT TIME.

#### Mud Checks

Time 17:00	Type Water Based Mud	Depth (ftKB) 7,401.0	Density (kg/m³) (lb/g... 9.60	Funnel Viscosity (s/qt) 39	PV Calc (cP) 7.0	YP Calc (lb/100ft²) 11.005
Gel 10 sec (kPa) (lb... 9.004	Gell 10 min (kPa) (l... 17.007	Gel 30 min (kPa) (lb... 22.009	Filtrate (mL/30min) 22.0	Filter Cake (1/32") 2	pH 10.0	Solids (%)
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%) 93.8	Chlorides (kg/m³) (... 60,000.000	Calcium (kg/m³) (m... 	Potassium (mg/L)	Electric Stab (V)

AFE Number DD.17.30779.CAP.DRL	AFE+Supp Amt (Cost) 2,177,000.00
Day Total (Cost) 74,289	Cum To Date (Cost) 763,379
Mud Field Est (Cost) 2,698	Cum Mud Field Est (Co... 42,453
Start Depth (ftKB) 7,485.0	End Depth (ftKB) 7,793.0
Planned Formation WOLFCAMP B	Planned TMD (ftKB) 19,216.0
Last Casing String Surface Casing, 684.0ftKB	

#### Daily Contacts

Job Contact	Mobile
BRIAN ALLEMAN, Engineer	214-978-8000
CHRISTOPHER ABSHIRE, Foreman	281-220-5828
KEVIN GOTTE, Consultant	281-220-5828
TRAVIS PERSCHE, Rig Clerk/Logistics	281-220-5829

#### Personnel Log

Head Count	27.0
------------	------

#### Rigs

##### HELMERICH & PAYNE DRILLING, 3

Contractor HELMERICH & PAYNE DRILLING	Rig Number 394
Rig Supervisor JARED CARPENTER, Toolpusher	Phone Mobile 918-936-7394

##### 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... 0.091
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) 6	Stroke (in) 11.00	Vol/Stk OR (b... 0.091
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
AQUAGEL	150.00	5.0
CAUSTIC SODA	29.40	8.0
EZ MUD	85.03	6.0
MF-55	89.00	1.0
PAC-R	149.00	1.0
SODA ASH	13.25	20.0

#### Job Supplies

Supply Item Description DIESEL FOR OBM	Unit Label Gal
Total Received 4,003.9	Total Consumed 0.0
On Loc 4,003.9	
Supply Item Description DRILLING CUTTINGS	Unit Label Cu. Yds
Total Received 0.0	Total Consumed 0.0
On Loc 0.0	
Supply Item Description DRILLING WATER	Unit Label Bbl
Total Received 346.0	Total Consumed 346.0
On Loc 0.0	



## Partner Drilling Report

Well Name: UNIVERSITY 3-35 #102HB

Report Date: 6/12/2017

Report #: 10.0, DFS: 8.48

Time Log DFS: 8.48

Depth Progress: 308.00

### Mud Checks

Time 05:00	Type Water Based Mud	Depth (ftKB) 7,793.0	Density (kg/m³) (lb/g... 9.80	Funnel Viscosity (s/qt) 46	PV Calc (cP) 7.0	YP Calc (lb/100ft²) 10.004
Gel 10 sec (kPa) (lb... 14.006	Gell 10 min (kPa) (l... 19.008	Gel 30 min (kPa) (lb... 22.009	Filtrate (mL/30min) 22.0	Filter Cake (1/32") 2	pH 10.0	Solids (%)
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%)	Chlorides (kg/m³) (... 69,000.000	Calcium (kg/m³) (m... 	Potassium (mg/L)	Electric Stab (V)

### Mud Volumes

Tank/Addition/Loss	Type	Volume (bbl)	Subtype
Addition	Water		
Hole	Hole	1,092.0	
Tank	Reserve		
Loss	SURFACE EQUIPMENT		
Tank	TOTAL CIRC	409.0	
Tank	INVERMUL		
Addition	CHEMICALS	13.6	

### Drill Strings

#### BHA #2, Intermediate

Bit Run 1	Drill Bit 12 1/4in, XS616S, JM9343	IADC Bit Dull 1-2-CT-S-X-1-WT-TD	TFA (incl Noz) (in²) 0.78
Nozzles (1/32") 13/13/13/13/13/13	BHA Length (ft) 875.18	String Wt (1000lb) 	Bit ROP (ft/hr) 112.7

### Mud Motors

Motor Bend 1.83 FIXED	Bit to Bend 6.21	Rotor Nozzle Diameter (in) 
--------------------------	---------------------	--------------------------------

### Drill String Components

Item Des	Manual/Tally Jts	OD (in)	ID (in)	Len (ft)	Top Thread
XO Sub	1	7 5/8	3.88	2.81	IF
Drill Collar	7	6 1/2	2.50	213.97	NC46
Drilling Jars - Mechanical	1	6 1/2	2.25	31.78	NC46
Drill Collar	14	6 1/2	2.50	425.45	NC46
XO Sub	1	8	2.75	2.90	NC46
Drill Collar	3	8	2.81	93.21	NC56
XO Sub	1	7 15/16	3.13	2.99	NC56
Drill Collar - Non Mag	1	8 1/16	3.75	30.15	REG
Non-Mag Hangoff Sub	1	8 1/16	3.75	5.51	REG
Drill Collar - Non Mag	1	8	3.75	29.33	REG
Stabilizer	1	8 1/16	2.88	7.34	REG
Mud Motor - Bent Housing	1	8	2.88	28.44	REG

### Drilling Parameters

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 7,485.0	End Depth (ftKB) 7,793.0	Cum Depth (ft) 7,073.00	Drilling Time (hr) 3.50	Cum Drill Time (hr) 62.76	Interval ROP (ft/hr) 88.0	Flow Rate (gpm) 802
WOB (1000lbf) 31	Rotary RPM (rpm) 70	SPP (psi) 3,770.0	Drill Str Wt (1000... 225	PU Str Wt (1000lbf) 262	SO Str Wt (1000lbf) 239	Drilling Torque 16.0	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...

### Hydraulic Calculations

Bit Hydraulic Power (hp) 418.3	HP/Area (hp/in²) 3.5	Bit Jet Velocity (ft/s) 331.2	Bit Pressure Drop (psi) 894.0	% P @ bit (%) 24
Max Casing AV (ft/min) 1,505.9	Max Open Hole AV (ft/min) 228.4	Min Casing AV (ft/min) 189.9	Min Open Hole AV (ft/min) 228.4	ECD End (lb/gal) 16.07
Error				

### Kicks

Kick Date	Kick Depth (ftKB)	Control Date	Control Depth (ftKB)	Kick Class
-----------	-------------------	--------------	----------------------	------------

Kill Notes

### Lost Circulation

Start Date 6/3/2017 20:30	Top Depth (ftKB) 192.0	Bottom Depth (ftKB)	Ops In Prog	Vol Lost Tot (bbl)	End Date
------------------------------	---------------------------	---------------------	-------------	--------------------	----------

### Interval Problems

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

Action Taken

### Job Supplies

Supply Item Description		Unit Label
DRILLING WATER		Bbl
Total Received	Total Consumed	On Loc
9,718.0	9,718.0	0.0
Supply Item Description		Unit Label
FUEL		Gal
Total Received	Total Consumed	On Loc
23,936.5	14,294.5	9,642.0
Supply Item Description		Unit Label
LIQUID DRILLING WASTE		Bbl
Total Received	Total Consumed	On Loc
0.0	0.0	0.0
Supply Item Description		Unit Label
POTABLE WATER		Gal
Total Received	Total Consumed	On Loc
9,300.0	9,300.0	0.0
Supply Item Description		Unit Label
SEWAGE		Gal
Total Received	Total Consumed	On Loc
14,800.0	14,800.0	0.0
Supply Item Description		Unit Label
THREAD PROTECTORS		Box
Total Received	Total Consumed	On Loc
0.0	0.0	0.0
Supply Item Description		Unit Label
TRASH/GENERAL WASTE		Ea
Total Received	Total Consumed	On Loc
0.0	0.0	0.0

### Safety Checks

Time	Type	Safety Topic
17:30	Pre-Tour	HAND PLACEMENT
04:00	Pre-Job	RUNNING CASING
05:30	Pre-Tour	BUFFER ZONE

### Wellbores

Wellbore Name UNIVERSITY 3-35 #102HB
---

### Kick Offs & Key Depths

Type	Top Depth (ftKB)
------	------------------



## Partner Drilling Report

Report Date: 6/12/2017  
Report #: 10.0, DFS: 8.48  
Time Log DFS: 8.48  
Depth Progress: 308.00

Well Name: UNIVERSITY 3-35 #102HB

### 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 6/4/2017	OD (in) 13 3/8	Set Depth (ft... 684.0	Set Depth (T... 684.0	Comment	MACP Press... 500.0
Test Date 6/8/2017	Test Type Casing Test	Fluid Density (lb/gal) 9.10	EMW (lb/gal) 23.17		

### Survey Data

MD (ftKB) 7,435.00	Inclination (°) 1.27	Azimuth (°) 29.02	TVD (ftKB) 7,429.98	VS (ft) -69.81	NS (ft) -68.96	EW (ft) -142.66	DLS (°/100ft) 0.07
MD (ftKB) 7,530.00	Inclination (°) 1.15	Azimuth (°) 34.41	TVD (ftKB) 7,524.96	VS (ft) -68.09	NS (ft) -67.26	EW (ft) -141.61	DLS (°/100ft) 0.17
MD (ftKB) 7,625.00	Inclination (°) 1.04	Azimuth (°) 22.29	TVD (ftKB) 7,619.95	VS (ft) -66.50	NS (ft) -65.67	EW (ft) -140.74	DLS (°/100ft) 0.27
MD (ftKB) 7,719.00	Inclination (°) 0.92	Azimuth (°) 33.40	TVD (ftKB) 7,713.93	VS (ft) -65.08	NS (ft) -64.25	EW (ft) -140.00	DLS (°/100ft) 0.24
MD (ftKB) 7,736.00	Inclination (°) 1.07	Azimuth (°) 23.91	TVD (ftKB) 7,730.93	VS (ft) -64.82	NS (ft) -63.99	EW (ft) -139.86	DLS (°/100ft) 1.31
MD (ftKB) 7,793.00	Inclination (°) 1.07	Azimuth (°) 23.91	TVD (ftKB) 7,787.92	VS (ft) -63.85	NS (ft) -63.02	EW (ft) -139.43	DLS (°/100ft) 0.00