



Partner Drilling Report

Well Name: UNIVERSITY 3-35 #102HB

Report Date: 6/9/2017
Report #: 7.0, DFS: 5.48
Time Log DFS: 5.48
Depth Progress: 1,555.00

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	Weather CLEAR	Temperature (°F) 78.0	Road Condition GOOD
Current Status/OART DRILL AND SURVEY INTERMEDIATE HOLE.		24 Hour Forecast DRILL 12 1/4" INTERMEDIATE HOLE.	

Short Report
 TEST 13 3/8" CASING, INSTALL WEAR BUSHING AND CENTER STACK. LAY OUT AND P/U DIRECTIONAL BHA ASSEMBLY. TIH TO 383'. PERFORM RIG SERVICE AND TIH TO 637'. DRILL OUT FLOAT COLLAR AND SHOE TRACK. WASH AND DRILL OUT RAT HOLE. DRILL 12 1/4" INTERMEDIATE HOLE F/ 720' TO 975'. POOH 4 STANDS AND P/U 6 1/2" DRILL COLLARS. DRILL 12 1/4" INTERMEDIATE HOLE F/ 975' TO 2275'.

Mud Volumes						
Active Volume (bbl) 508.3	Var Active Vol (bbl) 395.5	Balance (bbl) 394.8	Tank Volume (bbl) 380.0	Additions (bbl) 0.7	Losses (bbl) 0.0	Hole Volume (bbl) 128.3

Time Log							Operation Summary
Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code	
06:00	07:00	1.00	09SHC, Surf Hole Csg	PT	a	O	TEST 13 3/8" CASING TO 500 PSI AND HOLD FOR 30 MINUTES. TEST GOOD.
07:00	07:30	0.50	09SHC, Surf Hole Csg	WH	c	O	INSTALL LONG WEAR BUSHING
07:30	09:30	2.00	09SHC, Surf Hole Csg	BO	f	O	INSTALL TURN BUCKLES AND CENTER STACK. SET IN MOUSE HOLE AND LAY OUT DIRECTIONAL BHA.
09:30	11:00	1.50	09SHC, Surf Hole Csg	TP	b	O	P/U DIRECTIONAL MOTOR, STABILIZER, NMDC AND HOS. SCRIBE MOTOR AND INSTALL MWD TOOL. TEST MWD TOOL - TEST GOOD. MAKE UP 12 1/4" SMITH XS616S PDC.
11:00	12:00	1.00	09SHC, Surf Hole Csg	TP	a	O	TIH F/ 105' TO 383'.
12:00	12:30	0.50	09SHC, Surf Hole Csg	RM	b	O	RIG SERVICE.
12:30	14:30	2.00	09SHC, Surf Hole Csg	TP	a	O	TIH F/ 383' TO 637' PICKING UP 6 1/2" DRILL COLLARS. TAG TOP OF CEMENT @ 637'. NOTE: PIPE WRANGLER WOULD NOT TURN ON AFTER RIH WITH 13 TOTAL JOINTS OF 6 1/2" DC. ELECTRICIAN CALLED AND IN ROUTE.
14:30	15:30	1.00	09SHC, Surf Hole Csg	CS	d	O	DRILL OUT FLOAT EQUIPMENT AND SHOE TRACK. WASH AND DRILL RAT HOLE F/ 682' TO 720'. TOC @ 637' FLOAT COLLAR @ 639' FLOAT SHOE @ 682'
15:30	17:00	1.50	10IHVD, Int Hole Vert Drill	DR	b	O	DRILL AND SURVEY F/ 720' TO 975'. AVG ROP: 170 FT/HR NOTE: DRILL DOWN 4 STANDS WITH 5" HWDP FROM DERRICK WHILE ELECTRICIAN IN ROUTE.
17:00	17:30	0.50	10IHVD, Int Hole Vert Drill	TP	c	O	POOH 4 STANDS OF 5" HWDP
17:30	19:30	2.00	10IHVD, Int Hole Vert Drill	TP	b	O	TIH PICKING UP 8- 6 1/2" DC AND A SET OF DRILLING JARS. REMOVE TRIP NIPPLE AND INSTALL ROTATING HEAD ELEMENT.
19:30	06:00	10.50	10IHVD, Int Hole Vert Drill	DR	b	O	DRILL, SLIDE AND SURVEY F/ 975' TO 2275'. AVG ROP: 123.8 FT/HR

A/E Number DD.17.30779.CAP.DRL	A/E+Supp Amt (Cost) 2,177,000.00
Day Total (Cost) 59,480	Cum To Date (Cost) 586,412
Mud Field Est (Cost) 1,222	Cum Mud Field Est (Co... 31,958
Start Depth (ftKB) 720.0	End Depth (ftKB) 2,275.0
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	19.0

Rigs	
HELMERICH & PAYNE DRILLING, 3	
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) 6	Stroke (in) 11.00	Vol/Stk OR (b... 0.091	
P (psi) 2,786.0	Slow Spd No	Strokes (s... 100	Eff (%) 88

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) 2,786.0	Slow Spd No	Strokes (s... 99	Eff (%) 88

Mud Additive Amounts		
Mud Additive Description	Field Est (Cost/unit)	Consumed
12 HR MUD ENGINEER	700.00	1.0
EZ MUD	85.03	3.0
MF-55	89.00	3.0

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
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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Mud Checks

Time 15:30	Type Brine	Depth (ftKB) 700.0	Density (kg/m³) (lb/g... 9.10	Funnel Viscosity (s/qt) 32	PV Calc (cP) 2.0	YP Calc (lb/100ft²) 1.000
Gel 10 sec (kPa) (lb... 1.000	Gell 10 min (kPa) (l... 1.000	Gel 30 min (kPa) (lb... 1.000	Filtrate (mL/30min) 100.0	Filter Cake (1/32") pH 10.0	Solids (%) Electric Stab (V)	
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%) 95.5	Chlorides (kg/m³) (... 70,000.000	Calcium (kg/m³) (m... Potassium (mg/L)		
Time 05:00	Type Brine	Depth (ftKB) 1,000.0	Density (kg/m³) (lb/g... 9.10	Funnel Viscosity (s/qt) 32	PV Calc (cP) 2.0	YP Calc (lb/100ft²) 1.000
Gel 10 sec (kPa) (lb... 1.000	Gell 10 min (kPa) (l... 1.000	Gel 30 min (kPa) (lb... 1.000	Filtrate (mL/30min) 100.0	Filter Cake (1/32") pH 10.0	Solids (%) Electric Stab (V)	
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%) 95.5	Chlorides (kg/m³) (... 70,000.000	Calcium (kg/m³) (m... Potassium (mg/L)		

Mud Volumes

Tank/Addition/Loss	Type	Volume (bbl)	Subtype
Addition	Water		
Hole	Hole	128.3	
Tank	Reserve		
Loss	SURFACE EQUIPMENT		
Tank	TOTAL CIRC	380.0	
Tank	INVERMUL		
Addition	CHEMICALS	0.7	

Drill Strings

BHA #2, Intermediate

Bit Run 1	Drill Bit 12 1/4in, XS616S, JM9343	IADC Bit Dull -----	TFA (incl Noz) (in²) 0.78
Nozzles (1/32") 13/13/13/13/13	BHA Length (ft) 875.18	String Wt (1000lbf) 129.6	Bit ROP (ft/hr)

Mud Motors

Motor Bend 1.83 FIXED	Bit to Bend 6.21	Rotor Nozzle Diameter (in)
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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) 720.0	End Depth (ftKB) 882.0	Cum Depth (ft) 162.00	Drilling Time (hr) 0.98	Cum Drill Time (hr) 0.98	Interval ROP (ft/hr) 165.3	Flow Rate (gpm) 581
WOB (1000lbf) 16	Rotary RPM (rpm) 50	SPP (psi) 1,652.0	Drill Str Wt (1000... 92	PU Str Wt (1000lbf) 62	SO Str Wt (1000lbf) 91	Drilling Torque 6.6	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) 160.8	HP/Area (hp/in²) 1.4	Bit Jet Velocity (ft/s) 239.9	Bit Pressure Drop (psi) 474.4	% P @ bit (%) 29
Max Casing AV (ft/min) 145.8	Max Open Hole AV (ft/min) 167.4	Min Casing AV (ft/min) 119.1	Min Open Hole AV (ft/min) 58.8	ECD End (lb/gal) 9.12

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 882.0	End Depth (ftKB) 911.0	Cum Depth (ft) 191.00	Drilling Time (hr) 0.27	Cum Drill Time (hr) 1.25	Interval ROP (ft/hr) 107.4	Flow Rate (gpm) 595
WOB (1000lbf) 4	Rotary RPM (rpm) 0	SPP (psi) 1,560.0	Drill Str Wt (1000... 92	PU Str Wt (1000lb) 62	SO Str Wt (1000lb) 91	Drilling Torque 0.0	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	Unit Label
FUEL	Gal
Total Received 17,016.5	Total Consumed 6,630.5
On Loc 10,386.0	
Supply Item Description	Unit Label
LIQUID DRILLING WASTE	Bbl
Total Received 0.0	Total Consumed 0.0
On Loc 0.0	
Supply Item Description	Unit Label
POTABLE WATER	Gal
Total Received 5,300.0	Total Consumed 5,300.0
On Loc 0.0	
Supply Item Description	Unit Label
SEWAGE	Gal
Total Received 9,900.0	Total Consumed 9,900.0
On Loc 0.0	
Supply Item Description	Unit Label
THREAD PROTECTORS	Box
Total Received 0.0	Total Consumed 0.0
On Loc 0.0	
Supply Item Description	Unit Label
TRASH/GENERAL WASTE	Ea
Total Received 0.0	Total Consumed 0.0
On Loc 0.0	

Safety Checks

Time	Type	Safety Topic
17:30	Pre-Tour	INSTALLING ROTATING HEAD ELEMENT
05:30	Pre-Tour	HOUSE KEEPING

Wellbores

Wellbore Name
UNIVERSITY 3-35 #102HB

Kick Offs & Key Depths

Type	Top Depth (ftKB)



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Hydraulic Calculations

Bit Hydraulic Power (hp)	HP/Area (hp/in ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	35
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)
179.9	219.0	155.8	70.6	9.14

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
	1,218.0	1,283.0	563.00	0.66	4.46	98.5	760
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
19	70	2,476.0	111	127	126	8.0	
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	33
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)
179.9	219.0	155.8	70.6	9.14

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
	1,283.0	1,302.0	582.00	0.40	4.86	47.5	760
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
11	0	2,283.0	118	127	126	0.0	
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	36
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)
179.9	219.0	155.8	70.6	9.14

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
	1,302.0	1,458.0	738.00	1.14	6.00	136.8	760
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
19	70	2,531.0	113	130	121	7.3	
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	32
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)
179.9	219.0	155.8	70.6	9.14

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
	1,458.0	1,470.0	750.00	0.15	6.15	80.0	760
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
8	0	2,312.0	123	129	131	0.0	
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	35
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)
179.9	219.0	155.8	70.6	9.14

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
	1,470.0	1,647.0	927.00	0.97	7.12	182.5	760
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
19	70	2,533.0	120	135	133	8.0	
Q Gas Inj (ft ³ /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...



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Bit Hydraulic Power (hp)	HP/Area (hp/in ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	32
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)
179.9	219.0	179.7	75.1	9.14

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 1,647.0	End Depth (ftKB) 1,665.0	Cum Depth (ft) 945.00	Drilling Time (hr) 0.29	Cum Drill Time (hr) 7.41	Interval ROP (ft/hr) 62.1	Flow Rate (gpm) 760
WOB (1000lbf) 11	Rotary RPM (rpm) 0	SPP (psi) 2,353.0	Drill Str Wt (1000... 124	PU Str Wt (1000lbf) 135	SO Str Wt (1000lbf) 134	Drilling Torque 0.0	Off Btm Tq
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	34
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)
179.9	219.0	179.7	75.1	9.14

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 1,665.0	End Depth (ftKB) 1,738.0	Cum Depth (ft) 1,018.00	Drilling Time (hr) 0.56	Cum Drill Time (hr) 7.97	Interval ROP (ft/hr) 130.4	Flow Rate (gpm) 760
WOB (1000lbf) 17	Rotary RPM (rpm) 70	SPP (psi) 2,586.0	Drill Str Wt (1000... 124	PU Str Wt (1000lbf) 135	SO Str Wt (1000lbf) 134	Drilling Torque 7.0	Off Btm Tq
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	31
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)
179.9	219.0	179.7	75.1	9.14

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 1,738.0	End Depth (ftKB) 1,758.0	Cum Depth (ft) 1,038.00	Drilling Time (hr) 0.37	Cum Drill Time (hr) 8.34	Interval ROP (ft/hr) 54.1	Flow Rate (gpm) 760
WOB (1000lbf) 10	Rotary RPM (rpm) 0	SPP (psi) 2,351.0	Drill Str Wt (1000... 127	PU Str Wt (1000lbf) 136	SO Str Wt (1000lbf) 137	Drilling Torque 0.0	Off Btm Tq
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	35
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)
179.9	219.0	179.7	75.1	9.14

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Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 1,758.0	End Depth (ftKB) 1,836.0	Cum Depth (ft) 1,116.00	Drilling Time (hr) 0.47	Cum Drill Time (hr) 8.81	Interval ROP (ft/hr) 166.0	Flow Rate (gpm) 760
WOB (1000lbf) 19	Rotary RPM (rpm) 70	SPP (psi) 2,633.0	Drill Str Wt (1000... 123	PU Str Wt (1000lbf) 137	SO Str Wt (1000lbf) 135	Drilling Torque 9.0	Off Btm Tq
Q Gas Inj (ft ³ /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...

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359.9	3.1	313.8	811.8	31
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)
179.9	219.0	179.7	75.1	9.14

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Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 1,836.0	End Depth (ftKB) 1,857.0	Cum Depth (ft) 1,137.00	Drilling Time (hr) 0.35	Cum Drill Time (hr) 9.16	Interval ROP (ft/hr) 60.0	Flow Rate (gpm) 760
WOB (1000lbf) 7	Rotary RPM (rpm) 0	SPP (psi) 2,364.0	Drill Str Wt (1000... 131	PU Str Wt (1000lbf) 137	SO Str Wt (1000lbf) 137	Drilling Torque 0.0	Off Btm Tq
Q Gas Inj (ft ³ /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...



Partner Drilling Report

Well Name: UNIVERSITY 3-35 #102HB

Report Date: 6/9/2017
Report #: 7.0, DFS: 5.48
Time Log DFS: 5.48
Depth Progress: 1,555.00

Hydraulic Calculations

Bit Hydraulic Power (hp)	HP/Area (hp/in ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	34
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)
179.9	219.0	179.7	75.1	9.14

Error

Wellbore	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
UNIVERSITY 3-35 #102HB	1,857.0	2,118.0	1,398.00	1.51	10.67	172.8	760
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
19	70	2,674.0	124	142	142	8.0	
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	30
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)
179.9	219.0	179.7	75.1	9.14

Error

Wellbore	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
UNIVERSITY 3-35 #102HB	2,118.0	2,133.0	1,413.00	0.30	10.97	50.0	760
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
11	0	2,477.0	133	143	143	0.0	
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	33
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)
179.9	219.0	179.7	75.1	9.14

Error

Wellbore	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
UNIVERSITY 3-35 #102HB	2,133.0	2,275.0	1,555.00	1.03	12.00	137.9	760
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
19	70	2,894.0	132	142	140	10.0	
Q Gas Inj (ft ³ /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 ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
359.9	3.1	313.8	811.8	28
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)
179.9	219.0	179.7	75.1	9.14

Error

Kicks

Kick Date	Kick Depth (ftKB)	Control Date	Control Depth (ftKB)	Kick Class
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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)
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Action Taken

Interval Lessons

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

Safety Incidents

Time	Category	Type	Subtype	Cause	Lost time?	Severity
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Partner Drilling Report

Report Date: 6/9/2017
Report #: 7.0, DFS: 5.48
Time Log DFS: 5.48
Depth Progress: 1,555.00

Well Name: UNIVERSITY 3-35 #102HB

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) 825.00	Inclination (°) 0.61	Azimuth (°) 327.53	TVD (ftKB) 824.95	VS (ft) 6.16	NS (ft) 6.19	EW (ft) -5.90	DLS (°/100ft) 0.05
MD (ftKB) 912.00	Inclination (°) 2.00	Azimuth (°) 180.47	TVD (ftKB) 911.94	VS (ft) 5.03	NS (ft) 5.06	EW (ft) -6.16	DLS (°/100ft) 2.91
MD (ftKB) 1,007.00	Inclination (°) 2.69	Azimuth (°) 168.92	TVD (ftKB) 1,006.86	VS (ft) 1.18	NS (ft) 1.22	EW (ft) -5.75	DLS (°/100ft) 0.88
MD (ftKB) 1,102.00	Inclination (°) 2.53	Azimuth (°) 211.89	TVD (ftKB) 1,101.77	VS (ft) -2.79	NS (ft) -2.75	EW (ft) -6.43	DLS (°/100ft) 2.02
MD (ftKB) 1,197.00	Inclination (°) 2.53	Azimuth (°) 217.38	TVD (ftKB) 1,196.67	VS (ft) -6.25	NS (ft) -6.20	EW (ft) -8.81	DLS (°/100ft) 0.25
MD (ftKB) 1,292.00	Inclination (°) 1.46	Azimuth (°) 132.57	TVD (ftKB) 1,291.63	VS (ft) -8.74	NS (ft) -8.68	EW (ft) -9.19	DLS (°/100ft) 2.95
MD (ftKB) 1,386.00	Inclination (°) 2.29	Azimuth (°) 98.51	TVD (ftKB) 1,385.58	VS (ft) -9.81	NS (ft) -9.77	EW (ft) -6.45	DLS (°/100ft) 1.44
MD (ftKB) 1,480.00	Inclination (°) 1.44	Azimuth (°) 96.66	TVD (ftKB) 1,479.53	VS (ft) -10.21	NS (ft) -10.19	EW (ft) -3.42	DLS (°/100ft) 0.91
MD (ftKB) 1,575.00	Inclination (°) 1.29	Azimuth (°) 101.77	TVD (ftKB) 1,574.50	VS (ft) -10.55	NS (ft) -10.54	EW (ft) -1.19	DLS (°/100ft) 0.20
MD (ftKB) 1,669.00	Inclination (°) 0.47	Azimuth (°) 143.21	TVD (ftKB) 1,668.49	VS (ft) -11.07	NS (ft) -11.07	EW (ft) 0.08	DLS (°/100ft) 1.05
MD (ftKB) 1,764.00	Inclination (°) 1.32	Azimuth (°) 242.60	TVD (ftKB) 1,763.48	VS (ft) -11.89	NS (ft) -11.88	EW (ft) -0.66	DLS (°/100ft) 1.55
MD (ftKB) 1,858.00	Inclination (°) 3.14	Azimuth (°) 259.92	TVD (ftKB) 1,857.41	VS (ft) -12.86	NS (ft) -12.83	EW (ft) -4.16	DLS (°/100ft) 2.04
MD (ftKB) 1,953.00	Inclination (°) 3.57	Azimuth (°) 263.00	TVD (ftKB) 1,952.25	VS (ft) -13.70	NS (ft) -13.65	EW (ft) -9.65	DLS (°/100ft) 0.49
MD (ftKB) 2,048.00	Inclination (°) 3.80	Azimuth (°) 263.74	TVD (ftKB) 2,047.05	VS (ft) -14.44	NS (ft) -14.35	EW (ft) -15.72	DLS (°/100ft) 0.25
MD (ftKB) 2,142.00	Inclination (°) 3.89	Azimuth (°) 247.06	TVD (ftKB) 2,140.84	VS (ft) -16.06	NS (ft) -15.93	EW (ft) -21.75	DLS (°/100ft) 1.19
MD (ftKB) 2,275.00	Inclination (°) 3.89	Azimuth (°) 247.06	TVD (ftKB) 2,273.54	VS (ft) -19.63	NS (ft) -19.45	EW (ft) -30.06	DLS (°/100ft) 0.00