



Partner Drilling Report

Well Name: UNIVERSITY 3-35 #102HB

Report Date: 6/22/2017
Report #: 20.0, DFS: 18.48
Time Log DFS: 18.48
Depth Progress: 2,094.00

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 CLEAR	Temperature (°F) 74.0	Road Condition GOOD
Current Status/OART ROTATE / SLIDE DRLG IN LATERAL SECTION AT REPORT TIME		24 Hour Forecast DRILL, SLIDE AND SURVEY 8 1/2" PRODUCTION LATERAL.	

Short Report
ROTATE / SLIDE DRLG IN LATERAL SECTION, C/O SWAB ON MP #1 POD #3, ROTATE / SLIDE DRLG IN LATERAL SECTION,

Mud Volumes						
Active Volume (bbl) 3,628.9	Var Active Vol (bbl) 1,683.0	Balance (bbl) 1,793.2	Tank Volume (bbl) 2,775.6	Additions (bbl) 42.3	Losses (bbl) 152.5	Hole Volume (bbl) 853.3

Time Log						
Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code
06:00	17:00	11.00	23PHLD, Prod Hole Lat Drill	DR	c	O
ROTATE / SLIDE DRLG AND SURVEY F/ 11647' TO 12793'						
1146' @ 104 FPH AVG ROP						
17:00	18:00	1.00	23PHLD, Prod Hole Lat Drill	TR	o	S
C/O SWAB ON #1 MP #3 POD						
18:00	06:00	12.00	23PHLD, Prod Hole Lat Drill	DR	c	O
ROTATE / SLIDE DRLG AND SURVEY F/ 12793' TO 13741'						
948' @ 79 FPH AVG ROP						

Mud Checks						
Time 15:00	Type INVERMUL	Depth (ftKB) 12,145.0	Density (kg/m³) (lb/gal) 9.45	Funnel Viscosity (s/qt) 57	PV Calc (cP) 13.0	YP Calc (lb/100ft²) 14.006
Gel 10 sec (kPa) (lb... 11.005	Gell 10 min (kPa) (l... 16.007	Gel 30 min (kPa) (lb... 18.007	Filtrate (mL/30min) 39,000.000	Filter Cake (1/32") 20,000.000	pH Potassium (mg/L) Electric Stab (V) 765.0	Solids (%) 11.0
MBT (lb/bbl) 69.0	Percent Oil (%) 20.0	Percent Water (%) 20.0	Chlorides (kg/m³) (... 39,000.000	Calcium (kg/m³) (m... 20,000.000	Potassium (mg/L) Electric Stab (V) 765.0	
Time 05:00	Type INVERMUL	Depth (ftKB) 13,200.0	Density (kg/m³) (lb/gal) 9.40	Funnel Viscosity (s/qt) 52	PV Calc (cP) 14.0	YP Calc (lb/100ft²) 12.005
Gel 10 sec (kPa) (lb... 11.005	Gell 10 min (kPa) (l... 17.007	Gel 30 min (kPa) (lb... 19.008	Filtrate (mL/30min) 38,000.000	Filter Cake (1/32") 19,200.000	pH Potassium (mg/L) Electric Stab (V) 821.0	Solids (%) 11.0
MBT (lb/bbl) 69.0	Percent Oil (%) 20.0	Percent Water (%) 20.0	Chlorides (kg/m³) (... 38,000.000	Calcium (kg/m³) (m... 19,200.000	Potassium (mg/L) Electric Stab (V) 821.0	

Mud Volumes			
Tank/Addition/Loss	Type	Volume (bbl)	Subtype
Addition	Water	36.0	
Hole	Hole	853.3	
Tank	Reserve	610.0	
Loss	SURFACE EQUIPMENT	125.5	
Tank	TOTAL CIRC	1,313.3	
Tank	INVERMUL	852.3	
Addition	CHEMICALS	6.3	
Loss	DOWNHOLE	0.0	
Loss	EVAPORATION	8.0	
Loss	FILTRATION	19.0	

Drill Strings			
BHA #8, Curve			
Bit Run	Drill Bit 8 1/2in, MMD55DM, 12871270	IADC Bit Dull -----	TFA (incl Noz) (in²) 1.86
Nozzles (1/32") 22/22/22/22/22	BHA Length (ft) 12,130.33	String Wt (1000lb) 87.4	Bit ROP (ft/hr)

Mud Motors		
Motor Bend 2.12 FIXED	Bit to Bend 4.04	Rotor Nozzle Diameter (in)

Drill String Components					
Item Des	Manual/Tally Jts	OD (in)	ID (in)	Len (ft)	Top Thread
HWDP	21	5	3.00	664.93	IF
Drill Pipe	306	5	4.28	9,638.80	IF
Agitator		6 7/8	2.44	24.22	IF
Drill Pipe	54	5	4.28	1,702.49	IF
Drill Collar - Non Mag		6 1/2	3.25	30.02	IF

AFE Number DD.17.30779.CAP.DRL	AFE+Supp Amt (Cost) 2,177,000.00
Day Total (Cost) 128,096	Cum To Date (Cost) 1,662,477
Mud Field Est (Cost) 4,692	Cum Mud Field Est (Co... 86,237
Start Depth (ftKB) 11,647.0	End Depth (ftKB) 13,741.0
Planned Formation WOLFCAMP B	Planned TMD (ftKB) 19,216.0
Last Casing String Intermediate Casing, 7,787.0ftKB	

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	23.0

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) 5	Stroke (in) 11.00	Vol/Stk OR (b... 0.067	
P (psi) 3,721.0	Slow Spd No	Strokes (s... 107	Eff (%) 95
P (psi) 3,721.0	Slow Spd No	Strokes (s... 107	Eff (%) 95

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) 3,721.0	Slow Spd No	Strokes (s... 107	Eff (%) 95
P (psi) 3,721.0	Slow Spd No	Strokes (s... 107	Eff (%) 95

Mud Additive Amounts		
Mud Additive Description	Field Est (Cost/unit)	Consumed
12 HR MUD ENGINEER	700.00	1.0
BARABLOK 400	85.00	2.0
BARACARB 5	13.30	10.0
BAROID (BULK)	205.00	4.0
CALCIUM CHL 95 -98%	17.10	21.0
CON DET	59.00	10.0
EZ-MUL	725.00	1.0
GELTONE V	65.00	6.0
SUSPENTONE	134.10	6.0

Job Supplies		
Supply Item Description DIESEL FOR OBM	Unit Label Gal	
Total Received 20,240.6	Total Consumed 16,237.6	On Loc 4,003.0



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Drill String Components

Item Des	Manual/Tally Jts	OD (in)	ID (in)	Len (ft)	Top Thread
Non-Mag Hangoff Sub		6 1/2	3.25	5.46	IF
Drill Collar - Non Mag		6 1/2	3.25	29.67	IF
Mud Motor - Bent Housing		6 1/2	2.50	33.74	IF

Drilling Parameters

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 11,647.0	End Depth (ftKB) 11,843.0	Cum Depth (ft) 3,545.00	Drilling Time (hr) 1.88	Cum Drill Time (hr) 40.09	Interval ROP (ft/hr) 104.3	Flow Rate (gpm) 566
WOB (1000lbf) 30	Rotary RPM (rpm) 70	SPP (psi) 3,609.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 231	SO Str Wt (1000lbf) 184	Drilling Torque 14.0	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) 26.9	HP/Area (hp/in²) 0.5	Bit Jet Velocity (ft/s) 97.9	Bit Pressure Drop (psi) 81.6	% P @ bit (%) 2
Max Casing AV (ft/min) 261.9	Max Open Hole AV (ft/min) 555.3	Min Casing AV (ft/min) 101.5	Min Open Hole AV (ft/min) 110.9	ECD End (lb/gal) 9.70
Error				

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 11,843.0	End Depth (ftKB) 11,858.0	Cum Depth (ft) 3,560.00	Drilling Time (hr) 0.39	Cum Drill Time (hr) 40.48	Interval ROP (ft/hr) 38.5	Flow Rate (gpm) 566
WOB (1000lbf) 32	Rotary RPM (rpm) 0	SPP (psi) 3,483.0	Drill Str Wt (1000... 168	PU Str Wt (1000lbf) 237	SO Str Wt (1000lbf) 220	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...	

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Error				

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 11,858.0	End Depth (ftKB) 12,023.0	Cum Depth (ft) 3,725.00	Drilling Time (hr) 1.49	Cum Drill Time (hr) 41.97	Interval ROP (ft/hr) 110.7	Flow Rate (gpm) 566
WOB (1000lbf) 29	Rotary RPM (rpm) 70	SPP (psi) 3,721.0	Drill Str Wt (1000... 178	PU Str Wt (1000lbf) 238	SO Str Wt (1000lbf) 188	Drilling Torque 15.0	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) 26.9	HP/Area (hp/in²) 0.5	Bit Jet Velocity (ft/s) 97.9	Bit Pressure Drop (psi) 81.6	% P @ bit (%) 2
Max Casing AV (ft/min) 261.9	Max Open Hole AV (ft/min) 555.3	Min Casing AV (ft/min) 101.5	Min Open Hole AV (ft/min) 110.9	ECD End (lb/gal) 9.71
Error				

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 12,023.0	End Depth (ftKB) 12,039.0	Cum Depth (ft) 3,741.00	Drilling Time (hr) 0.61	Cum Drill Time (hr) 42.58	Interval ROP (ft/hr) 26.2	Flow Rate (gpm) 566
WOB (1000lbf) 23	Rotary RPM (rpm) 0	SPP (psi) 3,487.0	Drill Str Wt (1000... 176	PU Str Wt (1000lbf) 233	SO Str Wt (1000lbf) 193	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...	

Hydraulic Calculations

Bit Hydraulic Power (hp) 26.9	HP/Area (hp/in²) 0.5	Bit Jet Velocity (ft/s) 97.9	Bit Pressure Drop (psi) 81.6	% P @ bit (%) 2
Max Casing AV (ft/min) 261.9	Max Open Hole AV (ft/min) 555.3	Min Casing AV (ft/min) 101.5	Min Open Hole AV (ft/min) 110.9	ECD End (lb/gal) 9.71
Error				

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 12,039.0	End Depth (ftKB) 12,211.0	Cum Depth (ft) 3,913.00	Drilling Time (hr) 1.46	Cum Drill Time (hr) 44.04	Interval ROP (ft/hr) 117.8	Flow Rate (gpm) 566
WOB (1000lbf) 25	Rotary RPM (rpm) 70	SPP (psi) 3,651.0	Drill Str Wt (1000... 176	PU Str Wt (1000lbf) 233	SO Str Wt (1000lbf) 193	Drilling Torque 15.0	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 DRILLING CUTTINGS	Unit Label Cu. Yds
Total Received 190.0	Total Consumed 190.0
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	

Supply Item Description FUEL	Unit Label Gal
Total Received 40,235.5	Total Consumed 28,437.5
On Loc 11,798.0	

Supply Item Description LIQUID DRILLING WASTE	Unit Label Bbl
Total Received 490.0	Total Consumed 490.0
On Loc 0.0	

Supply Item Description POTABLE WATER	Unit Label Gal
Total Received 17,300.0	Total Consumed 17,300.0
On Loc 0.0	

Supply Item Description SEWAGE	Unit Label Gal
Total Received 28,400.0	Total Consumed 28,400.0
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 Ea
Total Received 2.0	Total Consumed 2.0
On Loc 0.0	

Safety Checks

Time	Type	Safety Topic
17:30	Pre-Tour	PRESSURE WASHING / MAN LIFT OPERATIONS
05:30	Pre-Tour	LIFTING AND BACK SAFETY

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 (%)
26.9	0.5	97.9	81.6	2
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)
261.9	555.3	101.5	110.9	9.71

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 12,211.0	End Depth (ftKB) 12,225.0	Cum Depth (ft) 3,927.00	Drilling Time (hr) 0.38	Cum Drill Time (hr) 44.42	Interval ROP (ft/hr) 36.8	Flow Rate (gpm) 566
WOB (1000lbf) 23	Rotary RPM (rpm) 0	SPP (psi) 3,506.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	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 (%)
26.9	0.5	97.9	81.6	2
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)
261.9	555.3	101.5	110.9	9.71

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 12,225.0	End Depth (ftKB) 12,776.0	Cum Depth (ft) 4,478.00	Drilling Time (hr) 4.08	Cum Drill Time (hr) 48.50	Interval ROP (ft/hr) 135.0	Flow Rate (gpm) 566
WOB (1000lbf) 27	Rotary RPM (rpm) 70	SPP (psi) 3,709.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	Drilling Torque 15.0	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 (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.77

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 12,776.0	End Depth (ftKB) 12,791.0	Cum Depth (ft) 4,493.00	Drilling Time (hr) 0.79	Cum Drill Time (hr) 49.29	Interval ROP (ft/hr) 19.0	Flow Rate (gpm) 566
WOB (1000lbf) 30	Rotary RPM (rpm) 0	SPP (psi) 3,436.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	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 (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.77

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 12,791.0	End Depth (ftKB) 12,968.0	Cum Depth (ft) 4,670.00	Drilling Time (hr) 3.04	Cum Drill Time (hr) 52.33	Interval ROP (ft/hr) 58.2	Flow Rate (gpm) 566
WOB (1000lbf) 30	Rotary RPM (rpm) 70	SPP (psi) 3,769.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	Drilling Torque 15.0	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 (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.78

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 12,968.0	End Depth (ftKB) 12,985.0	Cum Depth (ft) 4,687.00	Drilling Time (hr) 0.79	Cum Drill Time (hr) 53.12	Interval ROP (ft/hr) 21.5	Flow Rate (gpm) 566
WOB (1000lbf) 14	Rotary RPM (rpm) 0	SPP (psi) 3,502.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	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...



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27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.78

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 12,985.0	End Depth (ftKB) 13,057.0	Cum Depth (ft) 4,759.00	Drilling Time (hr) 0.82	Cum Drill Time (hr) 53.94	Interval ROP (ft/hr) 87.8	Flow Rate (gpm) 566
WOB (1000lbf) 30	Rotary RPM (rpm) 65	SPP (psi) 3,717.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	Drilling Torque 15.0	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 (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.78

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 13,057.0	End Depth (ftKB) 13,072.0	Cum Depth (ft) 4,774.00	Drilling Time (hr) 0.50	Cum Drill Time (hr) 54.44	Interval ROP (ft/hr) 30.0	Flow Rate (gpm) 566
WOB (1000lbf) 11	Rotary RPM (rpm) 0	SPP (psi) 3,512.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	Drilling Torque 0.0	Off Btm Tq 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...

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Bit Hydraulic Power (hp)	HP/Area (hp/in ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.78

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 13,072.0	End Depth (ftKB) 13,540.0	Cum Depth (ft) 5,242.00	Drilling Time (hr) 4.84	Cum Drill Time (hr) 59.28	Interval ROP (ft/hr) 96.7	Flow Rate (gpm) 566
WOB (1000lbf) 30	Rotary RPM (rpm) 70	SPP (psi) 3,768.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	Drilling Torque 15.0	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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Bit Hydraulic Power (hp)	HP/Area (hp/in ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.80

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 13,540.0	End Depth (ftKB) 13,554.0	Cum Depth (ft) 5,256.00	Drilling Time (hr) 0.49	Cum Drill Time (hr) 59.77	Interval ROP (ft/hr) 28.6	Flow Rate (gpm) 566
WOB (1000lbf) 7	Rotary RPM (rpm) 0	SPP (psi) 3,562.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	Drilling Torque 0.0	Off Btm Tq 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 (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.80

Error

Wellbore UNIVERSITY 3-35 #102HB	Start Depth (ftKB) 13,554.0	End Depth (ftKB) 13,626.0	Cum Depth (ft) 5,328.00	Drilling Time (hr) 0.84	Cum Drill Time (hr) 60.61	Interval ROP (ft/hr) 85.7	Flow Rate (gpm) 566
WOB (1000lbf) 30	Rotary RPM (rpm) 70	SPP (psi) 3,547.0	Drill Str Wt (1000... 177	PU Str Wt (1000lbf) 242	SO Str Wt (1000lbf) 206	Drilling Torque 15.0	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

Report Date: 6/22/2017
Report #: 20.0, DFS: 18.48
Time Log DFS: 18.48
Depth Progress: 2,094.00

Well Name: UNIVERSITY 3-35 #102HB

Hydraulic Calculations

Bit Hydraulic Power (hp)	HP/Area (hp/in ²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.80

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	13,626.0	13,640.0	5,342.00	0.40	61.01	35.0	566
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
1	0	3,605.0	177	242	206	0.0	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 (%)
27.1	0.5	97.9	82.0	2
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)
261.9	555.3	101.5	110.9	9.80

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	13,640.0	13,741.0	5,443.00	1.25	62.26	80.8	566
WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...)	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
29	70	3,839.0	177	242	206	14.0	
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 (%)
26.9	0.5	97.9	81.6	2
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)
261.9	555.3	101.5	110.9	9.76

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)
Instrumentation-S	C/O SWAB ON #1 MP #3 POD	6/21/2017	12,793.0	12,793.0		

Action Taken

C/O SWAB ON #1 MP #3 POD

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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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			



Partner Drilling Report

Report Date: 6/22/2017
Report #: 20.0, DFS: 18.48
Time Log DFS: 18.48
Depth Progress: 2,094.00

Well Name: UNIVERSITY 3-35 #102HB

Leak Off and Formation Integrity Tests

Run Date 6/12/2017	OD (in) 9 5/8	Set Depth (ft... 7,787.0	Set Depth (T... 7,781.9	Comment PERFORM F.I.T. AS FOLLOWS: MW USED WBM @ 8.6 PPG. PUMPED 12.5 BBLs @ .5 BPM. PRESSURE UP TO 975 PSI 11.0 PPG EMW. HELD FOR 5 MINUTES.	MACP Press... 986.0
Test Date 6/13/2017	Test Type F.I.T.		Fluid Density (lb/gal) 8.60	EMW (lb/gal) 11.03	

Survey Data

MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
11,594.00	89.53	2.01	8,392.74	3,340.65	3,341.25	-91.82	1.12
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
11,686.00	90.27	1.73	8,392.90	3,432.61	3,433.20	-88.82	0.86
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
11,777.00	91.18	0.73	8,391.75	3,523.59	3,524.17	-86.86	1.49
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
11,867.00	89.80	1.67	8,390.98	3,613.58	3,614.15	-84.98	1.86
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
11,959.00	90.57	1.05	8,390.69	3,705.56	3,706.12	-82.79	1.07
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,050.00	89.80	2.56	8,390.39	3,796.53	3,797.07	-79.93	1.86
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,145.00	90.40	2.96	8,390.23	3,891.44	3,891.96	-75.35	0.76
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,239.00	88.66	1.66	8,391.00	3,985.38	3,985.87	-71.57	2.31
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,334.00	88.62	2.18	8,393.25	4,080.31	4,080.79	-68.38	0.55
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,428.00	88.76	1.72	8,395.40	4,174.25	4,174.71	-65.19	0.51
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,523.00	89.06	1.30	8,397.21	4,269.22	4,269.66	-62.68	0.54
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,617.00	90.03	0.18	8,397.95	4,363.21	4,363.65	-61.47	1.58
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,712.00	90.24	358.31	8,397.73	4,458.19	4,458.64	-62.72	1.98
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,806.00	89.76	359.49	8,397.73	4,552.15	4,552.62	-64.53	1.36
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,901.00	91.08	359.55	8,397.03	4,647.14	4,647.61	-65.32	1.39
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
12,996.00	91.08	2.03	8,395.24	4,742.11	4,742.58	-64.01	2.61
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
13,090.00	88.59	1.87	8,395.51	4,836.07	4,836.51	-60.81	2.65
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
13,184.00	88.65	1.40	8,397.78	4,930.02	4,930.45	-58.13	0.50
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
13,279.00	88.39	0.48	8,400.23	5,024.98	5,025.40	-56.57	1.01
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
13,373.00	89.56	359.75	8,401.91	5,118.96	5,119.38	-56.39	1.47
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
13,468.00	89.93	359.58	8,402.34	5,213.95	5,214.38	-56.94	0.43
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
13,562.00	90.03	0.17	8,402.37	5,307.95	5,308.38	-57.15	0.64
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
13,657.00	88.96	0.98	8,403.21	5,402.94	5,403.37	-56.19	1.41
MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
13,741.00	88.96	0.10	8,404.73	5,486.93	5,487.35	-55.40	1.05