Partner Drilling Report

Report Date: 8/2/2017
Report #: 24.0, DFS: 13.29
Time Log DFS: 13.29
Depth Progress: 2,100.00

Well Name: UNIVERSITY 3-35 #104HB

API/UWI No.	Surface Legal Location	Well License/Permit No.	State/Province
42461405810000	A-U47; SEC. 11; BLK 4; UL SURVEY	824982	TEXAS

Original Spud/Spud Rig Date	Rig Release Date	KB to GL (ft)	KB-Casing Flange Distance (ft)
7/19/2017 23:00		25.00	

Original Spud/Spud Rig Date	Weather	Temperature (°F)	Road Condition	Hole Condition
7/19/2017	CLEAR	74.0	GOOD	GOOD

Current Status/OART	24 Hour Forecast
ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION AT REPORT TIME.	DRILL AHEAD AS PER DRILLING PROG AND DIRECTIONAL PLAN IN PRODUCTION SECTION.

Short Report
ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION, RIG SERVICE, ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION, CLEAN UP CYCLE, ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION, C/O SWAB, ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION

Mud Volumes

Active Volume (bbl)	Var Active Vol (bbl)	Balance (bbl)	Tank Volume (bbl)	Additions (bbl)	Losses (bbl)	Hole Volume (bbl)
4,844.3	309.3	333.5	991.0	211.6	235.8	3,853.3

Time Log

Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code	Operation Summary
06:00	15:30	9.50	23PHLD, Prod Hole Lat Drill	DR	c	O	ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION F/15605' TO 16542' 937' @ 98 FPH AVG ROP NOTE: PUMPING 20 BBL 10.5 PPG LCM SWEEPS EVERY 300 FT.
15:30	16:00	0.50	23PHLD, Prod Hole Lat Drill	RM	b	O	RIG SERVICE
16:00	20:30	4.50	23PHLD, Prod Hole Lat Drill	DR	c	O	ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION F/16542' TO 17109' 567' @ 126 FPH AVG ROP NOTE: PUMPING 20 BBL 10.5 PPG LCM SWEEPS EVERY 300 FT.
20:30	22:30	2.00	23PHLD, Prod Hole Lat Drill	CI	g	O	CONDUCTED CLEAN UP CYCLE AT DRLG RATE, CIRC / ROTATE PUMPED 40 BBL WEIGHTED HI-VIS SWEEP. OBSERVED LARGE AMOUNTS OF CUTTINGS WHILE SWEEP AT SURFACE.
22:30	23:00	0.50	23PHLD, Prod Hole Lat Drill	DR	c	O	ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION F/17109' TO 17203' 94' @ 188 FPH AVG ROP NOTE: PUMPING 20 BBL 10.5 PPG LCM SWEEPS EVERY 300 FT.
23:00	23:45	0.75	23PHLD, Prod Hole Lat Drill	TR	r	O	C/O SWAB ON MP#2 POD #3.
23:45	06:00	6.25	23PHLD, Prod Hole Lat Drill	DR	c	O	ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION F/17203' TO 17705' 502 @ 77 FPH AVG ROP NOTE: PUMPING 20 BBL 10.5 PPG LCM SWEEPS EVERY 300 FT.

Mud Checks

Time	Type	Depth (ftKB)	Density (kg/m³) (lb/g…	Funnel Viscosity (s/qt)	PV Calc (cP)	YP Calc (lbf/100ft²)
09:00	INVERMUL	15,951.0	8.90	58	14.0	12.005
Gel 10 sec (kPa) (lb…	Gel 10 min (kPa) (l…	Gel 30 min (kPa) (lb…	Filtrate (mL/30min)	Filter Cake (1/32")	pH	Solids (%)
12.005	18.007	21.009				9.3
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%)	Chlorides (kg/m³) (…	Calcium (kg/m³) (m…	Potassium (mg/L)	Electric Stab (V)
	68.0	22.7	39,000.000	17,000.000		500.0
Time	Type	Depth (ftKB)	Density (kg/m³) (lb/g…	Funnel Viscosity (s/qt)	PV Calc (cP)	YP Calc (lbf/100ft²)
01:00	INVERMUL	17,109.0	9.00	56	15.0	12.005
Gel 10 sec (kPa) (lb…	Gel 10 min (kPa) (l…	Gel 30 min (kPa) (lb…	Filtrate (mL/30min)	Filter Cake (1/32")	pH	Solids (%)
12.005	17.007	21.009				9.9
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%)	Chlorides (kg/m³) (…	Calcium (kg/m³) (m…	Potassium (mg/L)	Electric Stab (V)
	70.0	20.2	39,000.000	17,000.000		500.0

AFE Number	AFE+Supp Amt (Cost)
DD.17.30781.CAP.DRL	2,331,000.00
Day Total (Cost)	**Cum To Date (Cost)**
93,965	1,541,252
Mud Field Est (Cost)	**Cum Mud Field Est (Co…**
10,009	80,295
Start Depth (ftKB)	**End Depth (ftKB)**
15,605.0	17,705.0
Planned Formation	Planned TMD (ftKB)
WOLFCAMP B	19,337.0

Last Casing String
Intermediate Casing, 5,058.0ftKB

Daily Contacts

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

Personnel Log

Head Count: 23.0

Rigs

HELMERICH & PAYNE DRILLING, 3

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

1, Gardner-Denver, PZ-11

Pump Number	Pwr (hp)	Rod Diameter…
1	1,300.0	
Liner Size (in)	**Stroke (in)**	**Vol/Stk OR (b…**
5	11.00	

P (psi)	Slow Spd	Strokes (s…	Eff (%)
600.0	Yes	40	87
720.0	Yes	60	87

2, Gardner-Denver, PZ-11

Pump Number	Pwr (hp)	Rod Diameter…
2	1,300.0	
Liner Size (in)	**Stroke (in)**	**Vol/Stk OR (b…**
5	11.00	

P (psi)	Slow Spd	Strokes (s…	Eff (%)
3,900.0	No	105	87
3,900.0	No	105	87

Mud Additive Amounts

Mud Additive Description	Field Est (Cost/unit)	Consumed
12 HR MUD ENGINEER	700.00	1.0
BARACARB 150	13.30	20.0
BARACARB 50	13.30	20.0
BAROID (BULK)	205.00	9.0
BARO-TROL PLUS	77.97	12.0
CALCIUM CHL 95 -98%	17.10	25.0
DRILTREAT	97.02	4.0
FORKLIFT	95.00	1.0
GELTONE V	65.00	15.0
INVERMUL	558.60	2.0
LIME	6.00	25.0

Partner Drilling Report

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Depth Progress: 2,100.00

Well Name: UNIVERSITY 3-35 #104HB

Mud Volumes

Tank/Addition/Loss	Type	Volume (bbl)	Subtype
Hole	ANNULUS	812.0	
Hole	PIPE CAP	295.5	
Hole	TOTAL HOLE	1,107.9	
Tank	ACTIVE PITS	530.0	
Hole	TOTAL CIRC.	1,637.9	
Tank	RESERVE	461.0	
Addition	BASE	158.0	
Addition	DRILL WATER	25.0	
Addition	BARITE	12.5	
Addition	CHEMICALS	16.1	
Loss	SCE	220.0	
Loss	DOWNHOLE	0.0	
Loss	MISC OTHER	15.8	

Drill Strings

BHA #6, Curve

Bit Run	Drill Bit	IADC Bit Dull	TFA (incl Noz) (in²)
1	8 1/2in, MMD55DM, 1287411	-------	1.86

Nozzles (1/32")	BHA Length (ft)	String Wt (1000lbf)	Bit ROP (ft/hr)
22/22/22/22/22	12,105.26		90.3

Mud Motors

Motor Bend	Bit to Bend	Rotor Nozzle Diameter (in)
2.00 FIXED	4.05	

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	23.78	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	33.76	IF

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)
UNIVERSITY 3-35 #104HB	15,605.0	15,704.0	7,359.00	1.46	79.27	67.8	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
33	70	3,758.0	180	188	182	18.0	

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)
256.8	466.1	99.4	108.8	9.30

Error

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)
UNIVERSITY 3-35 #104HB	15,704.0	15,719.0	7,374.00	0.56	79.83	26.8	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
41	0	3,519.0	180	188	182	0.0	0.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)
256.8	466.1	99.4	108.8	9.30

Error

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)
UNIVERSITY 3-35 #104HB	15,719.0	16,075.0	7,730.00	2.85	82.68	124.9	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
32	70	3,555.0	180	188	182	18.0	

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…

Mud Additive Amounts

Mud Additive Description	Field Est (Cost/unit)	Consumed
STOPPIT	40.00	12.0
SUSPENTONE	134.10	15.0
TRANSPORTATION	1.00	351.58

Job Supplies

Supply Item Description	Unit Label	Total Received	Total Consumed	On Loc
DIESEL FOR OBM	Gal	49,909.0	40,352.0	9,557.0
DRILLING CUTTINGS	Cu. Yds	450.0	450.0	0.0
DRILLING WATER	Bbl	5,994.6	5,994.6	0.0
FUEL	Gal	52,682.0	28,433.0	12,451.0
LIQUID DRILLING WASTE	Bbl	410.0	410.0	0.0
POTABLE WATER	Gal	31,800.0	31,800.0	0.0
SEWAGE	Gal	23,400.0	23,400.0	0.0
THREAD PROTECTORS	Box	1.0	1.0	0.0
TRASH/GENERAL WASTE	Box	0.0	0.0	0.0

Safety Checks

Time	Type	Safety Topic
17:30	Pre-Tour	SLIPS, TRIPS AND FALLS
05:30	Pre-Tour	FORKLIFT AND LOADER OPERATIONS

Wellbores

Wellbore Name
UNIVERSITY 3-35 #104HB

Kick Offs & Key Depths

Type	Top Depth (ftKB)

Report Printed: 8/3/2017

Well Name: UNIVERSITY 3-35 #104HB

Hydraulic Calculations

Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.31

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 #104HB	16,075.0	16,090.0	7,745.00	0.53	83.21	28.3	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
40	0	3,528.0	180	188	182	0.0	0.0
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.31

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 #104HB	16,090.0	16,271.0	7,926.00	1.52	84.73	119.1	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
30	70	3,725.0	180	188	182	17.0	
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.31

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 #104HB	16,271.0	16,287.0	7,942.00	0.47	85.20	34.0	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
41	0	3,541.0	180	188	182	0.0	0.0
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.31

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 #104HB	16,287.0	16,367.0	8,022.00	0.65	85.85	123.1	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
31	70	3,795.0	180	188	182	17.0	
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.32

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 #104HB	16,367.0	16,368.0	8,023.00	0.08	85.93	12.5	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
35	0	3,599.0	180	188	182	0.0	0.0
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...**

Well Name: UNIVERSITY 3-35 #104HB

Hydraulic Calculations

Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.32

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 #104HB	16,368.0	16,370.0	8,025.00	0.02	85.95	100.0	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
33	30	3,587.0	180	188	182	4.0	

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.32

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 #104HB	16,370.0	16,378.0	8,033.00	0.31	86.26	25.8	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
38	0	3,559.0	180	188	182	0.0	0.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.32

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 #104HB	16,378.0	16,745.0	8,400.00	2.28	88.54	161.0	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
24	70	3,765.0	225	240	225	15.0	

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.33

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 #104HB	16,745.0	16,765.0	8,420.00	0.57	89.11	35.1	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
9	0	3,562.0	225	240	225	0.0	0.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.33

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 #104HB	16,765.0	17,040.0	8,695.00	2.21	91.32	124.4	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
30	70	3,849.0	225	240	225	18.0	

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…

Well Name: UNIVERSITY 3-35 #104HB

Hydraulic Calculations

Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.33

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 #104HB	17,040.0	17,053.0	8,708.00	0.50	91.82	26.0	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
4	0	3,601.0	225	240	225	0.0	0.0
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.33

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 #104HB	17,053.0	17,212.0	8,867.00	3.96	95.78	40.2	555
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	3,842.0	225	240	225	19.0	
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.34

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 #104HB	17,212.0	17,228.0	8,883.00	0.79	96.57	20.3	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
24	0	3,595.0	225	240	225	0.0	0.0
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.0	0.4	95.9	74.2	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)**
256.8	466.1	99.4	108.8	9.34

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 #104HB	17,228.0	17,307.0	8,962.00	0.78	97.35	101.3	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
28	70	3,822.0	225	240	225	19.0	
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)**
256.8	466.1	99.4	108.8	9.47

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 #104HB	17,307.0	17,321.0	8,976.00	0.58	97.93	24.1	555
WOB (1000lbf)	**Rotary RPM (rpm)**	**SPP (psi)**	**Drill Str Wt (1000...**	**PU Str Wt (1000lbf)**	**SO Str Wt (1000lbf)**	**Drilling Torque**	**Off Btm Tq**
3	0	3,551.0	225	240	225	0.0	0.0
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...**

Well Name: UNIVERSITY 3-35 #104HB

Hydraulic Calculations

Bit Hydraulic Power (hp)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)**
256.8	466.1	99.4	108.8	9.47

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 #104HB	17,321.0	17,594.0	9,249.00	2.38	100.31	114.7	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
30	70	3,894.0	225	240	225	18.0	

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)**
256.8	466.1	99.4	108.8	9.47

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 #104HB	17,594.0	17,613.0	9,268.00	0.78	101.09	24.4	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
15	0	3,616.0	220	240	225	0.0	0.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)**
256.8	466.1	99.4	108.8	9.47

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 #104HB	17,613.0	17,705.0	9,360.00	0.75	101.84	122.7	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
32	70	3,924.0	220	240	225	18.0	

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)**
256.8	466.1	99.4	108.8	9.48

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

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

Well Name: UNIVERSITY 3-35 #104HB

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...
7/24/2017	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...
7/24/2017	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)
15,733.00	87.99	359.30	8,440.23	7,450.44	7,373.71	1,150.04	2.03
15,828.00	87.79	358.92	8,443.73	7,544.78	7,468.63	1,148.56	0.45
15,922.00	88.49	358.92	8,446.78	7,638.10	7,562.57	1,146.79	0.74
16,017.00	87.75	357.37	8,449.90	7,732.25	7,657.46	1,143.72	1.81
16,111.00	89.70	359.89	8,451.99	7,825.53	7,751.40	1,141.48	3.39
16,205.00	90.64	358.70	8,451.71	7,918.96	7,845.39	1,140.32	1.61
16,299.00	90.07	359.99	8,451.13	8,012.41	7,939.38	1,139.24	1.50
16,394.00	88.69	0.98	8,452.16	8,107.02	8,034.37	1,140.05	1.79
16,489.00	88.62	359.95	8,454.39	8,201.62	8,129.34	1,140.82	1.09
16,583.00	88.69	359.22	8,456.59	8,295.08	8,223.31	1,140.14	0.78
16,677.00	89.70	358.76	8,457.91	8,388.46	8,317.28	1,138.48	1.18
16,772.00	87.85	359.51	8,459.94	8,482.83	8,412.24	1,137.05	2.10
16,866.00	88.09	359.40	8,463.27	8,576.24	8,506.18	1,136.15	0.28
16,960.00	88.09	358.78	8,466.41	8,669.59	8,600.12	1,134.66	0.66
17,055.00	89.50	358.43	8,468.40	8,763.87	8,695.06	1,132.35	1.53
17,150.00	90.50	357.42	8,468.40	8,858.02	8,790.00	1,128.91	1.50
17,244.00	89.26	358.92	8,468.60	8,951.24	8,883.95	1,125.91	2.07
17,339.00	89.30	1.31	8,469.80	9,045.79	8,978.93	1,126.10	2.52
17,434.00	90.00	0.82	8,470.38	9,140.50	9,073.91	1,127.86	0.90
17,528.00	90.47	359.67	8,469.99	9,234.09	9,167.91	1,128.27	1.32
17,623.00	89.13	0.82	8,470.32	9,328.68	9,262.90	1,128.67	1.86

Partner Drilling Report

Report Date: 8/3/2017
Report #: 25.0, DFS: 14.29
Time Log DFS: 14.29
Depth Progress: 1,514.00

Well Name: UNIVERSITY 3-35 #104HB

API/UWI No.	Surface Legal Location	Well License/Permit No.	State/Province
42461405810000	A-U47; SEC. 11; BLK 4; UL SURVEY	824982	TEXAS

Original Spud/Spud Rig Date	Rig Release Date	KB to GL (ft)	KB-Casing Flange Distance (ft)
7/19/2017 23:00		25.00	

Original Spud/Spud Rig Date	Weather	Temperature (°F)	Road Condition	Hole Condition
7/19/2017	CLEAR	70.0	GOOD	GOOD

Current Status/OART	24 Hour Forecast
FLOW CHECK @ REPORT TIME	PUMP SLUG AND POOH LAYING DOWN 5" DRILL PIPE (PERFORM CAT 4 INSPECTION WHILE LAYING DOWN DRILL PIPE). LAY DOWN DIRECTIONAL BHA. R/U CASING EQUIPMENT AND RUN 5 1/2" PRODUCTION CASING.

Short Report

DRILL AND SURVEY 8 1/2" PRODUCTION LATERAL F/ 17705' TO 18261'. CHANGE OUT SWAP IN MP #1. DRILL AND SURVEY 8 1/2" PRODUCTION LATERAL F/ 18261' TO 19219'. TD WELL @ 19219'. CIRCULATE AND CONDITION HOLE.

Mud Volumes

Active Volume (bbl)	Var Active Vol (bbl)	Balance (bbl)	Tank Volume (bbl)	Additions (bbl)	Losses (bbl)	Hole Volume (bbl)
2,151.0	-2,693.3	-2,745.4	911.0	168.9	116.8	1,240.0

Time Log

Start Time	End Time	Dur (hr)	Phase	Ops Code	Sub Code	Time Code	Operation Summary
06:00	13:00	7.00	23PHLD, Prod Hole Lat Drill	DR	c	O	ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION F/17705' TO 18261' 556' @ 79 FPH AVG ROP NOTE: PUMPING 20 BBL 10.5 PPG LCM SWEEPS EVERY 300 FT.
13:00	14:30	1.50	23PHLD, Prod Hole Lat Drill	TR	r	O	C/O SWAB AND LINER ON MP#1 / POD #3.
14:30	00:30	10.00	23PHLD, Prod Hole Lat Drill	DR	c	O	ROTATE / SLIDE DRLG IN LATERAL PRODUCTION SECTION F/18261' TO 19219'. 958' @ 95.8 FPH AVG ROP TD WELL @ 19219', INC 91.88°, AZ 357.18°, TVD 8482.36'. NOTE: PUMPING 20 BBL 10.5 PPG LCM SWEEPS EVERY 300 FT.
00:30	06:00	5.50	24PHC, Prod Hole Csg	CI	g	O	PUMP 1 - 40 BBL WEIGHTED SWEEP, 1 - 30 BBL HI-VIS SWEEP, 1 - 60 BBL HI--VIS / LCM SWEEP

Mud Checks

Time	Type	Depth (ftKB)	Density (kg/m³) (lb/g…	Funnel Viscosity (s/qt)	PV Calc (cP)	YP Calc (lbf/100ft²)
09:00	INVERMUL	17,980.0	9.00	55	14.0	12.005
Gel 10 sec (kPa) (lb…	Gel 10 min (kPa) (l…	Gel 30 min (kPa) (lb…	Filtrate (mL/30min)	Filter Cake (1/32")	pH	Solids (%)
12.005	17.007	21.009				10.0
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%)	Chlorides (kg/m³) (…	Calcium (kg/m³) (m…	Potassium (mg/L)	Electric Stab (V)
	68.0	22.0	37,000.000	15,000.000		600.0
Time	Type	Depth (ftKB)	Density (kg/m³) (lb/g…	Funnel Viscosity (s/qt)	PV Calc (cP)	YP Calc (lbf/100ft²)
01:00	INVERMUL	18,785.0	9.10	55	14.0	13.005
Gel 10 sec (kPa) (lb…	Gel 10 min (kPa) (l…	Gel 30 min (kPa) (lb…	Filtrate (mL/30min)	Filter Cake (1/32")	pH	Solids (%)
12.005	17.007	22.009				10.5
MBT (lb/bbl)	Percent Oil (%)	Percent Water (%)	Chlorides (kg/m³) (…	Calcium (kg/m³) (m…	Potassium (mg/L)	Electric Stab (V)
	71.0	18.5	40,000.000	21,000.000		650.0

Mud Volumes

Tank/Addition/Loss	Type	Volume (bbl)	Subtype
Hole	ANNULUS	907.8	
Hole	PIPE CAP	332.2	
Hole	TOTAL HOLE	1,240.0	
Tank	ACTIVE PITS	450.0	
Hole	TOTAL CIRC.	1,690.0	
Tank	RESERVE	461.0	
Addition	BASE	104.8	
Addition	DRILL WATER	25.0	
Addition	BARITE	9.7	
Addition	CHEMICALS	29.4	
Loss	SCE	116.8	

AFE Number	AFE+Supp Amt (Cost)
DD.17.30781.CAP.DRL	2,331,000.00
Day Total (Cost)	**Cum To Date (Cost)**
78,365	1,619,617
Mud Field Est (Cost)	**Cum Mud Field Est (Co…**
11,488	91,783
Start Depth (ftKB)	**End Depth (ftKB)**
17,705.0	19,219.0
Planned Formation	**Planned TMD (ftKB)**
WOLFCAMP B	19,337.0

Last Casing String
Intermediate Casing, 5,058.0ftKB

Daily Contacts

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

Personnel Log

Head Count
23.0

Rigs

HELMERICH & PAYNE DRILLING, 3

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

1, Gardner-Denver, PZ-11

Pump Number	Pwr (hp)	Rod Diameter…
1	1,300.0	
Liner Size (in)	**Stroke (in)**	**Vol/Stk OR (b…**
5	11.00	
P (psi)	**Slow Spd**	**Strokes (s…**	**Eff (%)**
2,958.0	No	90	95

2, Gardner-Denver, PZ-11

Pump Number	Pwr (hp)	Rod Diameter…
2	1,300.0	
Liner Size (in)	**Stroke (in)**	**Vol/Stk OR (b…**
5	11.00	
P (psi)	**Slow Spd**	**Strokes (s…**	**Eff (%)**
2,958.0	No	89	95

Mud Additive Amounts

Mud Additive Description	Field Est (Cost/unit)	Consumed
12 HR MUD ENGINEER	700.00	1.0
BARABLOK 400	85.00	7.0
BARACARB 150	13.30	17.0
BARACARB 50	13.30	21.0
BAROID (BULK)	205.00	7.0
BARO-TROL PLUS	77.97	19.0
CALCIUM CHL 95 -98%	17.10	73.0
DRILTREAT	97.02	3.0
GELTONE V	65.00	20.0
LIME	6.00	80.0
STOPPIT	40.00	36.0
SUSPENTONE	134.10	15.0

Job Supplies

Supply Item Description	Unit Label
DIESEL FOR OBM	Gal

Total Received	Total Consumed	On Loc
49,909.0	40,352.0	9,557.0

Report Printed: 8/3/2017

Partner Drilling Report

Well Name: UNIVERSITY 3-35 #104HB

Report Date: 8/3/2017
Report #: 25.0, DFS: 14.29
Time Log DFS: 14.29
Depth Progress: 1,514.00

Mud Volumes

Tank/Addition/Loss	Type	Volume (bbl)	Subtype
Loss	DOWNHOLE		
Loss	MISC OTHER		

Drill Strings

BHA #6, Curve

Bit Run	Drill Bit	IADC Bit Dull	TFA (incl Noz) (in²)
1	8 1/2in, MMD55DM, 1287411	-------	1.86

Nozzles (1/32")	BHA Length (ft)	String Wt (1000lbf)	Bit ROP (ft/hr)
22/22/22/22/22	12,105.26		90.3

Mud Motors

Motor Bend	Bit to Bend	Rotor Nozzle Diameter (in)
2.00 FIXED	4.05	

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	23.78	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	33.76	IF

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)
UNIVERSITY 3-35 #104HB	17,705.0	17,973.0	9,628.00	2.35	104.19	114.0	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
30	70	3,939.0	220	240	225	18.0	

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.48

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 #104HB	17,973.0	17,991.0	9,646.00	1.17	105.36	15.4	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
17	0	3,661.0	220	240	225	0.0	0.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.47

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 #104HB	17,991.0	18,065.0	9,720.00	0.78	106.14	94.9	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
24	70	3,902.0	220	254	225	18.0	

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.47

Error

Job Supplies

Supply Item Description	Unit Label	Total Received	Total Consumed	On Loc
DRILLING CUTTINGS	Cu. Yds	450.0	450.0	0.0
DRILLING WATER	Bbl	5,994.6	5,994.6	0.0
FUEL	Gal	52,682.0	28,433.0	12,451.0
LIQUID DRILLING WASTE	Bbl	410.0	410.0	0.0
POTABLE WATER	Gal	31,800.0	31,800.0	0.0
SEWAGE	Gal	23,400.0	23,400.0	0.0
THREAD PROTECTORS	Box	1.0	1.0	0.0
TRASH/GENERAL WASTE	Box	0.0	0.0	0.0

Safety Checks

Time	Type	Safety Topic
17:30	Pre-Tour	HAND AND FEET PLACEMENT
05:30	Pre-Tour	LAYING DOWN DRILL PIPE

Wellbores

Wellbore Name: UNIVERSITY 3-35 #104HB

Kick Offs & Key Depths

Type	Top Depth (ftKB)

Well Name: UNIVERSITY 3-35 #104HB

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)
UNIVERSITY 3-35 #104HB	18,065.0	18,083.0	9,738.00	1.27	107.41	14.2	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
16	0	3,632.0	220	254	225	0.0	0.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.47

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 #104HB	18,083.0	18,350.0	10,005.00	4.07	111.48	65.6	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
32	70	3,916.0	186	221	190		18.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.48

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 #104HB	18,350.0	18,368.0	10,023.00	1.17	112.65	15.4	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
23	0	3,814.0	186	221	190		0.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.48

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 #104HB	18,368.0	18,728.0	10,383.00	3.15	115.80	114.3	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
36	70	4,056.0	186	221	190		20.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.49

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 #104HB	18,728.0	18,743.0	10,398.00	0.80	116.60	18.8	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
18	0	3,715.0	161	242	207		0.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.49

Error

Well Name: UNIVERSITY 3-35 #104HB

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)
UNIVERSITY 3-35 #104HB	18,743.0	19,219.0	10,874.00	3.88	120.48	122.7	555

WOB (1000lbf)	Rotary RPM (rpm)	SPP (psi)	Drill Str Wt (1000...	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
32	70	4,150.0	185	171	162		21.0

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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
24.3	0.4	95.9	75.0	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)
256.8	466.1	99.4	108.8	9.50

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

Interval Problems

Problem Type	Problem Subtype	Start Date	Start Depth (ftKB)	End Depth (ftKB)	Est Cost (Cost)	Est Lost Time (hr)
Other	C/O SWAB ON MP #2 POD #1	8/2/2017	17,203.0	17,203.0		

Action Taken
C/O SWAB ON MP #2 POD #3

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...
7/24/2017	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...
7/24/2017	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)
17,717.00	88.99	0.10	8,471.86	9,422.29	9,356.89	1,129.43	0.78
17,811.00	89.50	359.36	8,473.10	9,515.80	9,450.88	1,128.98	0.96
17,906.00	91.07	359.19	8,472.63	9,610.22	9,545.87	1,127.78	1.66
18,000.00	90.87	0.61	8,471.04	9,703.75	9,639.85	1,127.62	1.53
18,095.00	88.99	1.68	8,471.15	9,798.46	9,734.83	1,129.52	2.28
18,189.00	89.19	1.76	8,472.65	9,892.24	9,828.77	1,132.34	0.23
18,284.00	89.87	1.08	8,473.43	9,986.99	9,923.74	1,134.69	1.01
18,378.00	88.19	1.33	8,475.02	10,080.70	10,017.70	1,136.67	1.81
18,473.00	88.62	0.10	8,477.66	10,175.32	10,112.65	1,137.85	1.37
18,567.00	88.56	359.05	8,479.98	10,268.78	10,206.62	1,137.16	1.12
18,662.00	88.25	358.20	8,482.62	10,363.05	10,301.56	1,134.88	0.95

Well Name: UNIVERSITY 3-35 #104HB

Survey Data

MD (ftKB)	Inclination (°)	Azimuth (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
18,756.00	89.19	0.25	8,484.72	10,456.44	10,395.52	1,133.61	2.40
18,851.00	89.66	0.08	8,485.67	10,551.02	10,490.51	1,133.88	0.53
18,945.00	89.36	358.80	8,486.48	10,644.48	10,584.50	1,132.96	1.40
19,039.00	90.13	357.69	8,486.90	10,737.71	10,678.46	1,130.08	1.44
19,134.00	91.54	357.07	8,485.51	10,831.73	10,773.34	1,125.74	1.62
19,163.00	91.88	357.18	8,484.65	10,860.40	10,802.29	1,124.29	1.23
19,219.00	91.88	357.18	8,482.81	10,915.77	10,858.20	1,121.53	0.00