

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

API/UWI 42-461-39445-0000	Property Sub 929062-018	Operator PIONEER NATURAL RESRC USA, INC	State TEXAS	County UPTON
Field Name SPRABERRY (TREND AREA)	Surface Legal Location 100' FSL/ 347' FEL, SEC: , BLK: 3, AB: A-17U, SVY: UNIVERSITY LANDS			
Spud Date 9/27/2014	TD Date 11/18/2014	Drilling Rig Release Date 11/22/2014	Frac Date 1/12/2015	On Production Date 3/3/2015
Ground Elevation (ft) 2,699.00	Original KB Elevation (ft) 2,726.00	PBTD (All) (ftKB)	Total Depth (All) (ftKB) Original Hole - 14,710.0; Sidetrack 1 - 18,484.0	Total Depth All (TVD) (ftKB) Original Hole - 8,331.5; Sidetrack 1 - 8,308.6

### Report #: 1 Daily Operation: 9/27/2014 00:00 - 9/27/2014 06:00

Job Category ORIG DRILLING	Primary Job Type ODR	AFE Number 033238
Days From Spud (days) 0	Days on Location (days) 0	End Depth (ftKB) 0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal) 8.34	Rig H & P, 606

#### Operations Summary

Skid Rig To University 178B 18H, R/U After Skid, P/U Dir. Tools

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 0 Days From Spud, 0.25 Total Days On Well, 14 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 1.5 NPT for month of September

Completion percentage: Surface - 0%, Intermediate - 0%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

### Time Log Summary

Operation	Com	Dur (hr)
B_SKID	Skid H&P 606 from University 178B 19H to University 178B 18H. Pioneer Rep & H&P TP verified that rig was level and centered over hole.	0.5
B_SKID	EJSA with rig crew & PNR Representative discussing rigging up after skid. R/U stairs from rig floor to ground & rig floor to flow line skid. R/U high pressure mud lines & air lines. RU wrangler, drawworks & HPU. Filling Mud Tanks W/Fresh Water, Install mouse hole. Get backyard pumps ready for spud & rigging up Thomas Oilfield Cellar Pumps.	2.5
BHA_HAN DLING	Gather up directional tools & prepare to pick up surface BHA	0.5
BHA_HAN DLING	EJSA with rig crew, Directional Driller and Pioneer Rep. M/U Bit, Motor, Shock Sub, 17 1/4" Stabilizer, UBHO, & NMDC, Scribe & Install MWD, M/U NMDC, X.O & HWDP, Test MWD.  Installed corrosion ring in top of X.O sub @ bottom of HWDP	2.5

### Report #: 2 Daily Operation: 9/27/2014 06:00 - 9/28/2014 06:00

Job Category ORIG DRILLING	Primary Job Type ODR	AFE Number 033238
Days From Spud (days) 1	Days on Location (days) 1	End Depth (ftKB) 1,110.0
End Depth (TVD) (ftKB) 1,110.0	Dens Last Mud (lb/gal) 8.70	Rig H & P, 606

#### Operations Summary

Spud & Drill 17 1/2 Surface Interval F/146' - 1,110', Circulate Sweeps, TOH, L/D Dir. Tools, R/U Casing Tools, W.O. Casing Backup Tongs, Run 13 3/8" Surface Casing to 1,087', Circ & Wash Casing F/1,087' - 1,101'

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 1 Days From Spud, 1.25 Total Days On Well, 15 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 1.5 NPT for month of September

Completion percentage: Surface - 100%, Intermediate - 0%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 17-1/2" Surface Section 72' @ 36/hr, 104 spm, 400 gpm, 200 diff, 30 top drive rpm, 32 motor rpm, 92 total bit rpm, 15k wob, 7k torque. At 200' pump 25 bbl of 20 ppb LCM sweep w/30 vis for cost circulation zone. Full returns to surface  Tag @ 144' / check chlorides before spud 1100 (ppm)	2
BHA_HAN DLING	Set back 1 HWDP & run in 1 stand of 8" drill collars in hole for weight,	0.5
DRL_ROT	Rotate Drill 17-1/2" Surface Section 92' @ 92/hr, 104 spm, 400 gpm, 200 diff, 30 top drive rpm, 32 motor rpm, 92 total bit rpm, 25k wob, 10k torque. Pumping 2 soap sticks on every other connection, pumping 1 SAPP stick and 1 gal/Stardrill AP on off connections, pumping hi-vis sweeps as needed. Full returns to surface.	1
BHA_HAN DLING	Set back 1 HWDP & run in 1 stand of 8" drill collars in hole for weight, for total of 6 joints of 8" DC	0.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	<p>Rotate Drill 17-1/2" Surface Section 800' @ 133.33'/hr, 160 spm, 616 gpm, 1050 psi, 600 diff, 70 top drive rpm, 50 motor rpm, 120 total bit rpm, 30k wob, 16k torque. Pumping 2 soap sticks on every other connection, pumping 1 SAPP stick and 1 gal/Stardrill AP on off connections, pumping hi-vis sweeps as needed. Full returns to surface. Check chlorides 1800 (ppm)</p> <p>Contacted TRRC @ 2:00 HRS. 9/27/2014 with Notification of cementing 13 3/8" Surface Casing, spoke with Pam. No job number will call on Monday</p> <p>Line Proximity - PTB @ 1,110' 0.3 Inc., 175.7 Azi. 1' South of and 2' West of Plan 3 Line.</p>	6
CIRC	<p>Pump 2 x 50 BBL h-vis (60 vis) sweep w/ 10 ppb nut plug around to clean hole at TD, in prep to POOH and run 13 3/8" casing, no losses reported</p> <p>Take survey on bottom, fill cellar w/ fresh water to keep hole full.</p> <p>David Reyes, Pioneer HSE safety rep. on location observing casing run</p>	1.5
TOOH	<p>PJSM toTOOH: TOOH to run 13 3/8" surface casing. POOH 9 stands of DP w/ X/O subs, 2 stand of 8" DC's, in derrick. PJSM laying down tools &amp; breaking bit: Lay down stabilizer and break bit off. Lay down MWD tool, shock sub, down hole motor &amp; monels. No Drag.</p> <p>Note: Both stabilizers and bit balled w/red bed clay.</p> <p>Bit Graded - 1/1WT/AX/0/NO/TD</p>	3
SAFETY	Clean Rig Floor. PJSM W/Rig Crew, Casing Crew, PNR Co. Man & Safety Rep On R/U Casing Running Tools.	0.5
CASE	R/U casing running tools.	1
SAFETY	PJSM W/Rig Crew, Express Casing Crew, Pioneer Co. Man and Pioneer Safety Rep on running casing, during the discussion it was noted that Express did not bring a back-up tong for the casing running operation. Express said they usually run a "chained off" collar clamp for a back-up tong in this situation. It was decided to STOP the operation & get the right tools brought to the location. Express stated that they do not bring a back-up tong for the casing unless the customer specifies.	0.5
U_WT	Wait on Express Back Up Tong for casing.	3
CASE	<p>Make up 13 3/8" 54.4# J-55 BT&amp;C Float Collar w/ Texas Pattern Guide Shoe, 1 Jt of 13 3/8" 54.5# J-55 BT&amp;C casing, 13 3/8" 54.5# J-55 float collar &amp; 1 Jt of 13 3/8" 54.5# J-55 BT&amp;C casing, Torque - 3500 ft/lbs. Thread locked all threads in shoe track, including the joint on top of float collar &amp; test- Good. RIH w/13 3/8" 54.5# J-55 BT&amp;C casing to 1,087'.</p> <p>Tagged @ 1,065', worked casing to 1,087', Swage was installed in last joint prior to making up. Do JSA on using man rider to install circulating hose, Lock out drawworks and install hose to wash casing down to 1,101'.</p>	4
CIRC	<p>Break circulation &amp; wash casing F/1,087' - 1,101'.</p> <p>Note: Crest on location ready to cement.</p>	0.5

### Report #: 3 Daily Operation: 9/28/2014 06:00 - 9/29/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
2	2	1,110.0
		End Depth (TVD) (ftKB)
		1,110.0
		Dens Last Mud (lb/gal)
		8.75
		Rig
		H & P, 606

#### Operations Summary

Circulate Casing, R/U Cementers, Cement 13 3/8" Casing, Cut Off Casing, Weld Head On, N/U BOPE, Test BOPE, P/U Dir. Tools, TIH Inspecting 8" Drill Collars

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 2 Days From Spud, 2.25 Total Days On Well, 16 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 1.5 NPT for month of September

Completion percentage: Surface - 100%, Intermediate - 0%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

### Time Log Summary

Operation	Com	Dur (hr)
CIRC	<p>Circulate 13 3/8" Casing shoe at 1,101', Circulate 1 surface - to- surface volume (388 bbls) with 8 bpm at 150 psi. Full returns to surface. Rig down Express casing crew while circulating casing.</p> <p>Shoe @ 1,101' MD Float Collar @ 1,055' Bow Spring Centralizers run middle of shoe joint, 5' above float collar, on collars of Jts. # 6, 10, 14, 19 &amp; 23 for a total of 7 centralizers.</p>	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary						
Operation	Com					Dur (hr)
CMT	PJSM with H&P crew, Crest & Pioneer Representative over cementing 13-3/8" Surface casing. Load top plug with tattle tail into cementing head, witnessed by Pioneer Rep, Crest supervisor & tool pusher.  Note: Casing Centered In Rotary Table.					0.5
CMT	Crest cement 13-3/8" 48 ppf J-55 STC Surface Casing as follows: Pressure test lines to 3500 psi.  20 bbls 8.33 lb/gal of fresh water spacer.  Lead Cement 500 sks (203 bbl) of class "C" cement with 6 % BWOC Bentonite Gel, 0.25#/sk Lost circulation (Cellophane Flakes), 3.0% BWOW NaCL (Salt), 3#/sk Kol Seal, mixed @ 12.8 lb/gal, 1.90 ft3/sk yield, 9.71 gal/sk mixing H2O.  Tail Cement 230 Sks (71 BBL ) of Class "C" Cement with 4.0 % BWOC Bentonite Gel, 2.0 % BWOC CaCL, 0.25 #/sk Cellophane Flakes, mixed @ 13.5 ppg, 1.74 ft3/sk yield, 9.17 gal/Sk mixing water.  Drop top plug with tattle tail witnessed by Pioneer Representative & Crest Supervisor.  Displace cement with 164 bbls of 8.33 ppg fresh water. Displaced final 10 bbls at 2.2 bpm & bump plug @ 1100 psi, 500 psi over final lift pressure of 560 psi. Floats held for 5 min, bled back 0.5 bbls.  94 bbl of cement back to surface					2
CMT	EJSA on rig down Crest cementers					0.5
CMT	Wait on cement, after 1 1/2 hours cement fell 2' in cellar. wash out cement out of cellar. Slack elevators off surface casing 1/4", watch for 5 min no movment. Wash out & rig down Thomas Oilfield cellar pumps					1.5
WLHEAD	EJSA w/ welder and H&P crew on placing well head. Check for gas contents in cellar all good. Chris Burn welder cut off conductor, perform rough cut on 13-3/8" casing. Make final cut on 13-3/8" casing 52" below ground level top of well head @ 18" below GL (measurement confirmed by PNR representative, welder, and Seaboard representative). Preheat & Weld wellhead on casing. Let cool for 30 min then test well head to 370 PSI for 10 min - Good test.					3
NU_TEST	EJSA over Nipple up BOP's w/ PNR CM, H&P rig crew & ETS nipple up crew. Inspect spools & tighten the same. N/U BOPs, R/U choke lines, hydraulic lines to BOP. Install Flowline, C/O Bails & Elevators.  Pumped cement to bottom of wellhead base plate.  Pits Cleaned & Filled With Pre-mix (Fresh Water/Hydrated Gel)					4
NU_TEST	EJSA over testing BOPE with H&P crew, ETS testing crew & PNR CM. Test surface equipment, Dart valve, TIW valve, TDS, Manual IBOP, Hyd. IBOP, 4" Floor Valve, Standpipe & Mud lines back to pumps, to 250 Low 5 min. / 4,500 High 5 min. Test BOP, Shell, Upper pipe rams, Outside kill line & Coil flex choke line to 250 Low 5 min / 3,500 High 5 min.  Perform Accumulator Test - Good Test					3.5
WEARBUS HING	Install long wear bushing. Tighten two painted lock down screws. Witnessed by Pioneer Co. Man.					1
RIG_SVC	Service Rig & TDS					0.5
BHA_HAN DLING	P/U 7/8 lobe 4.0 stage Adj. mud motor set @ 1.76° with 12" Stabilizer (.16 rev/gal). P/U 11' Stabilizer, Shock Sub, UBHO (orient UBHO). P/U NMDC and install MWD. Test Motor & MWD @ 80 spm, 306 gpm, 405 spp (good test). P/U 12 1/4" U716M PDC bit (0.773 TFA). P/U top NMDC & X.O Sub.  TH Hill Job # T1-19109, Inspection # 18242					3
BHA_HAN DLING	TIH, Inspecting 8" DC's					2.5
Report #: 4 Daily Operation: 9/29/2014 06:00 - 9/30/2014 06:00						
Job Category ORIG DRILLING				Primary Job Type ODR		AFE Number 033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
3	3	3,803.0	3,800.4	8.85	H & P, 606	
Operations Summary Inspect 8" Drill Collars, TIH, Tag Cement, Test Casing, Drill Cement & Float Equipment, Drill 12 1/4" Intermediate Hole Section F/1,110' - 3,803						
Remarks Rig (H&P 606) & Well Progress: 4 Rig Move Days, 3 Days From Spud, 3.25 Total Days On Well, 17 Total Days On Location  Rig NPT: 0 hrs previous 24 hrs. 1.5 NPT for month of September  Completion percentage: Surface - 100%, Intermediate - 41%, Curve - 0%, Lateral - 0%  Estimated Pad Drilling Completion Date: 12/11/2014						

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
TIH	EJSA, Finish inspecting DC & TIH W/HWDP & DP, Tag cement @ 1048" All 12 drill collars pass inspection	1
TST_DO_FIT	EJSA, Close Annular Preventer and Test 13 3/8" Casing to 1000 psi for 30 mins, using rig pumps, 961 psi in 30 min. Test OK.	0.5
DRL_ROT	EJSA, Drig Cement & Float Equip. F/1048' - 1,110', 130 spm, 497 gpm, 30 Top Drive rpm, 79 motor rpm, 109 total bit rpm, 1,150 psi. Full returns to surface.  Float Collar @ 1058' Shoe @ 1101'  Job # from TRRC 8233	0.75
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 1,273' @ 164.26'/Hr, 180 spm, 690 gpm, 2200 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 11 k ft/lbs tq, Avg MSE 5, Full returns.	7.75
RIG_SVC	Service Rig & TDS	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 100' @ 200'/Hr, 180 spm, 690 gpm, 2200 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 11 k ft/lbs tq, Avg MSE 5, Full returns.	0.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 17' @ 68'/Hr, 180 spm, 690 gpm, 2,100 psi, 100 psi diff., 110 motor rpm, 18 k wob, 100 MTF, Full returns to surface.	0.25
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 455' @ 140'/Hr, 180 spm, 690 gpm, 2400 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 9, Full returns to surface.	3.25
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 15' @ 30'/Hr, 180 spm, 690 gpm, 2,100 psi, 100 psi diff., 110 motor rpm, 18 k wob, 180 MTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 80' @ 80'/Hr, 180 spm, 690 gpm, 2400 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 9, Full returns to surface.	1
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 20' @ 40'/Hr, 180 spm, 690 gpm, 2,100 psi, 100 psi diff., 110 motor rpm, 18 k wob, 180 MTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 73' @ 146'/Hr, 180 spm, 690 gpm, 2500 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 9, Full returns to surface.	0.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 22' @ 44'/Hr, 180 spm, 690 gpm, 2,150 psi, 100 psi diff., 110 motor rpm, 18 k wob, 180 MTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 74' @ 148'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 11, Full returns to surface.	0.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 16' @ 32'/Hr, 180 spm, 690 gpm, 2,150 psi, 100 psi diff., 110 motor rpm, 18 k wob, 190 MTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 360' @ 102.8'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 14, Full returns to surface.	3.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 10' @ 40'/Hr, 180 spm, 690 gpm, 2,150 psi, 100 psi diff., 110 motor rpm, 18 k wob, 180 GTF, Full returns to surface.	0.25
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 178' @ 101.7'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 15, Full returns to surface.  Line Proximity - PTB @ 3,803 Inc. 4.90° Azi. 166.30°, 3' Ahead & 2' Left of Plan 3 Line  MWD Tool Temperature 101° F  Distance From 178B 19H - 45'	1.75

Report #: 5 Daily Operation: 9/30/2014 06:00 - 10/1/2014 06:00

Job Category ORIG DRILLING	Primary Job Type ODR	AFE Number 033238
Days From Spud (days) 4	Days on Location (days) 4	End Depth (ftKB) 5,752.0
	End Depth (TVD) (ftKB) 5,748.5	Dens Last Mud (lb/gal) 8.90
		Rig H & P, 606

#### Operations Summary

Drill 12 1/4" Intermediate Hole Section F/3,803' - 5,752'

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 4 Days From Spud, 4.25 Total Days On Well, 18 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 0 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 70%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 10' @ 13'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 15, Full returns to surface.	0.75
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 15' @ 30'/Hr, 180 spm, 690 gpm, 2,150 psi, 100 psi diff., 110 motor rpm, 18 k wob, 135 R GTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 69' @ 138'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 15, Full returns to surface.	0.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 18' @ 36'/Hr, 180 spm, 690 gpm, 2,150 psi, 100 psi diff., 110 motor rpm, 18 k wob, 300 GTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 77' @ 103'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 15, Full returns to surface.	0.75
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 22' @ 29'/Hr, 180 spm, 690 gpm, 2,150 psi, 100 psi diff., 110 motor rpm, 18 k wob, 10R GTF, Full returns to surface.	0.75
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 165' @ 73'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 25, Full returns to surface.	2.25
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 13' @ 26'/Hr, 180 spm, 690 gpm, 2,150 psi, 100 psi diff., 110 motor rpm, 18 k wob, 50R GTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 82' @ 109'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 25, Full returns to surface.	0.75
RIG_SVC	Service rig & top drive	0.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 15' @ 60'/Hr, 180 spm, 690 gpm, 2,150 psi, 100 psi diff., 110 motor rpm, 18 k wob, 20R GTF, Full returns to surface.	0.25
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 80' @ 80'/Hr, 180 spm, 690 gpm, 2550 psi, 550 psi diff, 75 Top Drive rpm, 110 motor rpm, 185 total bit rpm, 30-38 k wob, 14 k ft/lbs tq, Avg MSE 25, Full returns to surface.	0.75
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 15' @ 30'/Hr, 180 spm, 690 gpm, 2,200 psi, 100 psi diff., 110 motor rpm, 18 k wob, 20R GTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 834' @ 95.3'/Hr, 180 spm, 690 gpm, 2650 psi, 550 psi diff, 70 Top Drive rpm, 110 motor rpm, 180 total bit rpm, 35-38 k wob, 15 k ft/lbs tq, Avg MSE 12, Full returns to surface.  Displacement w/fresh water gel (40 vis., 8.7 wt.) complete @ 4,557'. Total in gauge hole volume calculations = 6,742 strokes, Total displacement took 12,600 strokes, (5,858 excess strokes). In gauge open hole annulus volume calculations = 4,389 strokes.  Calculated 133% washout of open hole section.  Full returns throughout displacement.  Running Desander/Desilter F/4,577'  Adding 4 sacks/hr Tiger Bullets to system F/4,800' to maintain 100% returns.	8.75
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 534' @ 89'/Hr, 180 spm, 690 gpm, 2,700 psi, 550 psi diff, 70 Top Drive rpm, 110 motor rpm, 180 total bit rpm, 35-38 k wob, 17 k ft/lbs tq, Avg MSE 20, Full returns to surface, Running Desander/Desilter.  Adding 6 sacks/hr Tiger Bullets To System F/5,125' to maintain 100% returns.  Line Proximity - PTB @ 5,752' Inc. 0.2° Azi. 112.1°, 0' South & 0' West of Plan 3 Line  MWD Tool Temperature 101° F  Distance From 178B 19H - 78'	6

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 6 Daily Operation: 10/1/2014 06:00 - 10/2/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR		AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
5	5	6,670.0	6,665.7	8.95	H & P, 606	

### Operations Summary

Drill 12 1/4" Intermediate Hole Section F/5,752' - 6,254', Pump Repair, Drill 12 1/4" Intermediate Hole Section 6,254' - 6,670'

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 5 Days From Spud, 5.25 Total Days On Well, 19 Total Days On Location

Rig NPT: 2 hrs previous 24 hrs. 2 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 84%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 125' @ 83'/Hr, 180 spm, 690 gpm, 2,700 psi, 550 psi diff, 70 Top Drive rpm, 110 motor rpm, 180 total bit rpm, 35-38 k wob, 17 k ft/lbs tq, Avg MSE 20, Full returns to surface, Running Desander/Desilter.  Adding 6 sacks/hr Tiger Bullets To System F/5,125' to maintain 100% returns.	1.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 16' @ 21'/Hr, 180 spm, 690 gpm, 2,200 psi, 100 psi diff., 110 motor rpm, 18 k wob, 325 MTF, Full returns to surface.	0.75
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 78' @ 104'/Hr, Avg MSE 20, Full returns to surface, Running Desander/Desilter.	0.75
RIG_SVC	Service rig & top drive	0.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 20' @ 40'/Hr, 325 MTF, Full returns to surface.	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 75' @ 60'/Hr, Avg MSE 32, Full returns to surface, Running Desander/Desilter.	1.25
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 34' @ 27'/Hr, 330 MTF, Full returns to surface.	1.25
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 60' @ 120'/Hr, Avg MSE 12, Full returns to surface, Running Desander/Desilter.	0.75
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 32' @ 21'/Hr, 330 MTF, Full returns to surface.	1.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 62' @ 83'/Hr, Avg MSE 12, Full returns to surface, Running Desander/Desilter.	0.75
U_RIG_OTR	Change out swab, valve & seat in #1 pump middle module, while circulating w/ 90 spm, 344 gpm, 630 psi 10 rpm	2
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 32' @ 21'/Hr, 325 MTF, Full returns to surface.	1.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 63' @ 63'/Hr, Avg MSE 12, Full returns to surface, Running Desander/Desilter.	1
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 31' @ 31'/Hr, 325 MTF, Full returns to surface.	1
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 63' @ 84'/Hr, Avg MSE 14, Full returns to surface, Running Desander/Desilter.	0.75
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 40' @ 20'/Hr, 325 MTF, Full returns to surface.	2
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 54' @ 108'/Hr, Avg MSE 14, Full returns to surface, Running Desander/Desilter.	0.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 50' @ 18.2'/Hr, 325 MTF, Full returns to surface.	2.75
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 43' @ 86'/Hr, Avg MSE 14, Full returns to surface, Running Desander/Desilter.	0.5
DRL_SLIDE	Slide Drill 12-1/4" Intermediate Section, 40' @ 16'/Hr, 325 MTF, Full returns to surface. MW 8.9 Vis 45  Line Proximity - PTB @ 6,670' Inc. 5.10° Azi. 325.0°, 21' South & 3' East of Plan 3 Line  MWD Tool Temperature 119.1° F  Distance From 178B 19H - 87'	2.5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 7 Daily Operation: 10/2/2014 06:00 - 10/3/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR		AFE Number 033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
6	6	7,412.0	7,403.5	9.00	H & P, 606

### Operations Summary

Drill 12 1/4" Intermediate Hole Section F/6,670' - 7,412'

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 6 Days From Spud, 6.25 Total Days On Well, 20 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 2 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 95%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 57' @ 114'/Hr, 180 spm, 690 gpm, 2,700 psi, 550 psi diff, 70 Top Drive rpm, 110 motor rpm, 180 total bit rpm, 35-38 k wob, 17 k ft/lbs tq, Avg MSE 20, Full returns to surface, Running Desander/Desilter.  Adding 6 sacks/hr Tiger Bullets To System maintain 100% returns.	0.5
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 30' @ 20'/Hr, 180 spm, 690 gpm, 2,200 psi, 200 psi diff., 110 motor rpm, 20 k wob, 350 MTF, Full returns to surface.	1.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 63' @ 84'/Hr, Avg MSE 20, Full returns to surface, Running Desander/Desilter.	0.75
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 60' @ 26.7'/Hr, 330 MTF, Full returns to surface.  Note: EJSa with McClatchy Forklift operator, H&P RM & PNR Rep on offloading casing.	2.25
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 34' @ 68'/Hr, Avg MSE 21, Full returns to surface, Running Desander/Desilter.	0.5
RIG_SVC	Service Rig & top drive	0.5
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 32' @ 32'/Hr, 20R GTF, Full returns to surface.	1
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 94' @ 62.7'/Hr, Avg MSE 21, Full returns to surface, Running Desander/Desilter.	1.5
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 53' @ 21.2'/Hr, 20R GTF, Full returns to surface.	2.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 57' @ 114'/Hr, 180 spm, 690 gpm, 2,700 psi, 550 psi diff, 50 Top Drive rpm, 110 motor rpm, 160 total bit rpm, 35-38 k wob, 17 k ft/lbs tq, Avg MSE 20, Full returns to surface, Running Desander/Desilter.  Slowed rotary due to issues building angle.	0.25
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 65' @ 18.6'/Hr, 156 spm, 600 gpm, 2,000 psi, 200 psi diff., 96 motor rpm, 20 k wob, 325 MTF, Full returns to surface.  Reduced flow rate due to issues building angle.	3.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 29' @ 38.7'/Hr, 156 spm, 600 gpm, 2,450 psi, 550 psi diff, 50 Top Drive rpm, 110 motor rpm, 146 total bit rpm, 35-38 k wob, 17 k ft/lbs tq, Avg MSE 22, Full returns to surface, Running Desander/Desilter.	0.75
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 50' @ 18.2'/Hr, 15R GTF, Full returns to surface.	2.75
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 45' @ 60'/Hr, Avg MSE 24, Full returns to surface, Running Desander/Desilter.	0.75
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 30' @ 15'/Hr, 15R GTF, Full returns to surface.	2
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 64' @ 51.2'/Hr, Avg MSE 30, Full returns to surface, Running Desander/Desilter.	1.25
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 26' @ 15'/Hr, 15R GTF, Full returns to surface.  Line Proximity - PTB @ 7,412' Inc. 7.00° Azi. 318.20°, 34' Behind and 13' Left of Plan 3 Line  MWD Tool Temperature 126.3° F  Distance From 178B 19H - 87'	1.75

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 8 Daily Operation: 10/3/2014 06:00 - 10/4/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
7	7	7,770.0	7,759.5	9.00	H & P, 606	

Operations Summary  
Drill 12 1/4" Intermediate Hole Section 7,412' - 7,770' TD, Circulate Sweeps, TOH (SLM), Inspect 8" DC's, L/D Dir. Tools, Pull Wear Bushing, Function Test BOP

Remarks  
Rig (H&P 606) & Well Progress: 4 Rig Move Days, 7 Days From Spud, 7.25 Total Days On Well, 21 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 2 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 25' @ 25'/Hr, 156 spm, 600 gpm, 2,000 psi, 100 psi diff., 96 motor rpm, 30 k wob, 30R GTF, Full returns to surface.  Note: Reduced flow rate due to issues building angle.	1
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 138' @ 39.4'/Hr, 92/156 spm, 352/600 gpm, 1500/2,000 psi, 300/550 psi diff, 50 Top Drive rpm, 56/96 motor rpm, 106/146 total bit rpm, 30-35 k wob, 13-16 k ft/lbs tq, Avg MSE 21, Full returns to surface, Running Desander/Desilter.  Note: Slowed rotary due to issues building angle. @ 7,480' - Dropped gpm's to 350, due to loss of partial returns (flow dropped from 38% - 20%). Pumped (2) 30 bbl 15ppb LCM (Tiger Bullets) sweeps back to back & established full returns. Staging pumps up slowly, keeping a close eye on losses.	3.5
RIG_SVC	Service Rig & Top Drive	0.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 94' @ 47'/Hr, 120 spm, 460 gpm, 1,750 psi, 300/500 psi diff, 50 Top Drive rpm, 74 motor rpm, 124 total bit rpm, 30-35 k wob, 13-16 k ft/lbs tq, Avg MSE 30, Full returns to surface, Running Desander/Desilter.	2
DRL_SLID E	Slide Drill 12-1/4" Intermediate Section, 26' @ 13'/Hr, 30R GTF, Full returns to surface.	2.5
DRL_ROT	Rotate Drill 12-1/4" Intermediate Section 69' @ 46'/Hr, Avg MSE 26, Full returns to surface, Running Desander/Desilter.  TD Intermediate Hole at 17:00 hrs on 10/3/14, 7,770' MD, TVD 7,759.39'  Line Proximity: PTB @ 7,770' 5.6° Inc., 315.6° Azi., 35' Behind & 19' Left of Plan 3 Line  Distance From 19H - 90', MWD Tool Temperature 122.7° F	1.5
CIRC	Circ. 2 x 40 bbl sweeps 7,500 strokes apart, of 85 vis 9.0 wt. w/15 ppb of Nut Plug/Tiger Bullets, condition mud w/YP 10, PV 8, WL 10.8, Pumped till Shakers cleaned up, Full returns, Perform Flow Check, No Flow, Pump Slug.  Total gauge hole volume calculations = 11,654 strokes, Sweep back @ 14,500 strokes, (2,846 excess strokes).  In gauge open hole annulus volume calculations = 8,650 strokes.  Calculated 33% washout of open hole section.	2.5
TOOH	EJSA on TOOH, TOOH (SLM) F/7,770' - BHA' on trip tank, no excess drag & hole taking proper displacement. Racking back DP in derrick.  Note: SLM was 4.12' Long To Drillers Tally.  Notified Schlumberger @ 21:30 Hrs. on 10/03/2014 W/Non Confirm Time of 08:00, 10/5/2014, For the intermediate cement job, spoke with Corey, also sent an e-mail to Mike Bailey with the same information.	4.5
BHA_HAN DLING	TOOH racking back HWDP & 8" DC's, lay down jars.  Note: Red River on location inspecting/trip checking 8" Drill Collars & Dir. BHA on the ground.  Note: All 8" DC's passed inspection  Note: Removed corrosion ring from X.O Sub @ bottom of HWDP	3.5
BHA_HAN DLING	L/D Dir. Tools, X.O. Sub, Monel DC, MWD, Monel DC, UBHO, 11" Stabilizer, Shock Sub, Motor & Bit  Note: Bit Graded 2/5/CT/S/X/0/BT/TD	1.5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
WEARBUS HING	EJSA on pulling wear bushing. Verify wear bushing lockdown pins are backed out. Pull long wear bushing. No overpull. P/U wash sub and wash well head. Verify hole is full and close blind rams. Lay down wear bushing.  Perform BOP Function Test	1

### Report #: 9 Daily Operation: 10/4/2014 06:00 - 10/5/2014 06:00

Job Category ORIG DRILLING	Primary Job Type ODR	AFE Number 033238
Days From Spud (days) 8	Days on Location (days) 8	End Depth (ftKB) 7,770.0
	End Depth (TVD) (ftKB) 7,759.5	Dens Last Mud (lb/gal) 9.00
	Rig H & P, 606	

#### Operations Summary

R/U CRT, Run 9 5/8" Intermediate Casing, Circulate 1 Casing Volume, R/U Cementers

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 8 Days From Spud, 8.25 Total Days On Well, 22 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 2 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

### Time Log Summary

Operation	Com	Dur (hr)
CASE	EJSA with H&P rig crew, Tesco Casing Crew & PNR representative over rigging up CRT & Casing tools. P/U & R/U Tesco CRT & Casing equipment.	2
SAFETY	EJSA with H&P crew, Tesco Casing crew & PNR Representative over running casing. Discussed the HSE Alert over operating casing tongs & proper hand/body placement. Discussed that every joint of casing that is ran in hole must be run in with CRT & not with CRT single latch elevators. Anybody on the rig can stop the job at anytime if they feel something doesn't look right or is unsafe & we will address the concern at that time.	0.5
CASE	M/U float shoe onto 2 joint shoe track of 9 5/8" 43.5 lb/ft L80 IC BTC Casing. M/U float collar. M/U 1 joint of casing on top of float collar. Thread lock all threads from top of top of float collar down to shoe. Fill up and test floats (Good). Run casing w/ CRT tool @ 45 ft/min F/Surface - average torque to base of triangle 9,600 ft/lbs. Hole displacing properly and have 20 - 25% flow on each joint ran. Hand caliper the ID of 10 jts of 43.5 lb/ft casing - 8.7906". 10 jts of 40 lb/ft casing - 8.8531". ID of single latch elevators - 9.625", OD of casing collars - 10.625".	0.75
CASE	Run 9 5/8" L-80 BT&C Casing w/ CRT tool @ 45 ft/min F/95' - 2,080' (44 jts. 43.5#), F/2,080' - 2,779' (15 jts. 40#), F/2,779' - 4,420' (30 jts. 40# RW & 7 jts. 40#) average torque to 9,600 ft/lbs. Hole displacing properly into trip tank and have 20 - 25% flow on each joint ran. Breaking circulation every 35 jts. & CBU every 70 jts., PU & SO every 1000' while inside csg. & 500' while in OH.  Joint #26 would not make up, laid down joint #26 due to galled threads. Replaced collar, joint #25. Joint #60 - galled threads, replace with joint #184 & replaced collar, joint #59.  Contacted Schlumberger @ 10:30 Hrs 10/4/2014 W/Confirm Time Of 03:00 Hrs 10/5/2014 On Location. Spoke with Sam.  Contacted TRRC @ 11:00 Hrs. 10/4/2014 with Notification of cementing 9-5/8" Intermediate Casing, spoke with Selicia.  Note: Held tail gate meeting with Chris Burns Welders, PNR company rep, PNR safety rep (Chris Purdy) & H&P firewatch hand over welding procedures on monster pit. Filled out hot work permit & designated H&P hand for firewatch.	8.75
SAFETY	EJSA with H&P crew, Tesco Casing crew & PNR Representative over running casing. Discussed the HSE Alert over operating casing tongs & proper hand/body placement. Discussed that every joint of casing that is ran in hole must be run in with CRT & not with CRT single latch elevators. Anybody on the rig can stop the job at anytime if they feel something doesn't look right or is unsafe & we will address the concern at that time.	0.5
CASE	Run 9 5/8" L-80 BT&C Casing w/ CRT tool @ 45 ft/min F/4,420' - 7,726' (73 jts. 40#), average torque to 9,600 ft/lbs. Hole displacing properly into trip tank and have 20 - 25% flow on each joint ran. Breaking circulation every 35 jts & CBU every 70 jts. PU & SO every 500' while in OH.  Joint #110 would not make up, laid down joint #110 due to galled threads. Replaced collar, joint #109.  Note: Schlumberger on Location @ 01:30 Hrs 10/5/2014, Lab Reports Done.	8.75
CASE	P/U & M/U landing joint & hanger, RIH F/7,726' - 7,760'. Hanger landed @ 03:45 hrs., confirmed by Seaboard Rep & Pioneer Representative.  Note: Ran Solid Body Centralizers on stop rings in the middle of each joint on two joint shoe track. Ran Solid body centralizer 5' above float collar on stop ring. Ran Solid Body Centralizers every third joint until reaching 3,000' TVD.  Shoe depth: 7,759' md. Float Collar depth: 7,665' md. Shoe Track length: 94.73' Solid Body Centralizers: 36	0.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
CIRC	Circulate 1 casing volume (586 bbls) with 6,414 strokes @ 8 bpm, 88 spm, 250 psi, full returns to surface.	1.5
CMT	Held Safety Meeting/JSA W/Rig Crew, Schlumberger Cement Crew & PNR Co. Man on R/U Cement Equipment & R/U Cementers.	0.75

Report #: 10 Daily Operation: 10/5/2014 06:00 - 10/5/2014 18:00

Job Category ORIG DRILLING	Primary Job Type ODR	AFE Number 033238
Days From Spud (days) 9	End Depth (ftKB) 7,770.0	End Depth (TVD) (ftKB) 7,759.5
Days On Location (days) 9	Dens Last Mud (lb/gal) 9.00	Rig H & P, 606

#### Operations Summary

Cement 9 5/8" Casing, R/D Cementers, R/D CRT, N/D BOPE, Install & Test Abandonment Cap, Prep Rig To Skid

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 8.5 Days From Spud, 8.75 Total Days On Well, 22.5 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 2 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/11/2014

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	EJSA On Cementing 9 5/8" Intermediate Casing W/Schlumberger, Rig Crew, Rig Manager & PNR Co. Men	0.5
CMT	Schlumberger cement 9 5/8" Intermediate casing as follows:  06:30 hrs- Pressure test cement lines to 4500 psi  Drop bottom plug  07:00 hrs- 50 bbls 9.4 lb/gal MUDPUSH Express. Mixed with 1.50 lb/bbl BW/V. MUDPUSH Express B389, 1402.9 lb/mgal Weighting Agent D031.  07:15 hrs - 769 sk, 325 bbl Lead, 9.7 lb/gal LiteCrete Slurry, 2.33 yield. Mixed with 8.004 gal/sk H2O, 100 lb/sk Cement (LiteCRETE) 0.3% fluid loss D207, 0.2% Dispersant D065, 0.2% Anti foam D046, 0.2% Retarder D013, and 3.0 % NaCl D044.  0815 hrs -289 sk, 55 bbl, 16.4 lb/gal Tail Slurry, 1.07 yield. Mixed with 4.354 gal/sk H2O, 94 lb/sk Cement (Class H), 0.2% Anti foam D046, 0.3% Retarder D013, 0.4% Dispersant D065.  Drop top plug.  08:30 hrs -Displaced cement with 570 bbls of 8.34 ppg Fresh Water w/ 0.084 gal/bbl Green-Cide 25G B244 at 6-8 bpm. Displaced final 20 bbls at 2.3 bpm. Bump plug @ 570 bbls with 1703 psi 500 psi over final lift pressure of 1200 psi. Floats held, bled back 4.5 bbls after 5 minutes.  Full Returns thru out cement job.  Lift pressures: 50 bbl - 8 bpm 471 psi, 100 bbl - 8 bpm 484 psi, 200 bbl - 8 bpm 482 psi, 300 bbl - 8 bpm 641 psi, 400 bbl - 8 bpm 781 psi, 450 bbl - 8 bpm 880 psi, 500 bbl - 8 bpm 1081 psi, 550 bbl- 4.6 bpm 1073 psi, 560 bbl- 2.3 bpm 950 psi, 570 bbl- 2.3 bpm 1205/1700 psi.  *** - SLB supervisor taking & weighing slurry samples every 100 bbls (3 taken on Lead & 1 taken on Tail)  Note: Loading of bottom & top plug verified by both company men, rig manager & Schlumberger supervisor.	3.5
CMT	Flush and clean cement lines, R/D cementers, wash thru BOP & choke.	0.5
CMT	EJSA with SLB cementers & H&P crew over rigging down cementers & iron. R/D Cementers & iron.	1
WLHEAD	EJSA W/Seaboard, H&P rig crew & PNR CM over running packoff. Pull Landing Joint, Set Packoff, Test Packoff to 5,000 psi for 5 minutes Witnessed By Pioneer Rep., L/D Landing Joint	1.5
CASE	EJSA with Tesco CRT hands, H&P rig crew & PNR rep on laying down Tesco CRT. Rig down Tesco CRT per Tesco, lay down hydraulic stand & hoses, lay down CRT.	1
NU_TEST	EJSA with ETS nipple down crew, H&P crew & Pioneer Representative over Nipple down operations. Nipple down flow line & hang off flow line. Disconnect water lines, mud lines & air hose connections for rig skid. N/D bell nipple & lay down out of way. N/D choke line & kill line. Secure BOP with BOP handler and ND BOP's. Lift BOP stack with handler out of way. Secure hydraulic hoses, BOP to sub, pipe wrangler. Set 3rd flow line stand & flow line extension in place. Install skid rails & set skid control stand in place. Remove ground cables out of way, remove hand rails on flow line stand. Install dry hole cap & test. Prepare rig to skid over to University 178B #17H.  Tested well head cap to 500 psi for 10 min test - good  Note: Release rig @ 18:00 hr - 10/5/14 from University 178B #18H to University 178B #17H	4

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

**Report #: 11 Daily Operation: 10/28/2014 06:00 - 10/29/2014 06:00**

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig		
32	10	7,770.0	7,759.5	9.90	H & P, 606		

**Operations Summary**

Skid Rig From University 178B 17H, N/U & Test BOPE, P/U Dir. Tools, TIH

**Remarks**

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 9.5 Days From Spud, 9.75 Total Days On Well, 45 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 11 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 0%, Lateral - 0%

Estimated Pad Drilling Completion Date: 11/25/2014

**Time Log Summary**

Operation	Com	Dur (hr)
SAFETY	EJSA w H&P rig crew on prep rig to skid and skidding rig.	1.5
B_SKID	Skid rig over to University 178B #18H  Note: Rig accepted @ 06:00 hrs on 178B #18H after Pioneer Rep & H&P TP verified that rig was level and centered over hole	1.5
B_SKID	R/U stairs from rig floor to ground & rig floor to flow line skid. R/U high pressure mud lines, water lines & air lines. RU wrangler, drawworks & HPU, move skid rails	1
NU_TEST	Hold EJSA on N/U BOPE. N/U BOP's, R/U flow line stand, bell nipple, kill line, choke line, M/U flow line, fill line, drain line. Install ground rods.	7
NU_TEST	EJSA On Testing BOPE, Full Test on BOP's & choke equipment 250 Low 5 min. / 3,500 High 5 min. Test TDS, stand pipe to pumps 250 Low 5 min / 4,500 High 5 min. 4" Valve on #1 Mud Pump Not Holding.  Dart valve did not test on High, Rig Manager has new dart valve on the way.	6
U_RIG_OTR	Repair 4" Valve #1 Pump	2
NU_TEST	Test TDS, stand pipe to pumps 250 Low 5 min / 4,500 High 5 min. Test Blind Rams 250 Low 5 min / 3,500 High 5 min. Rig Down Testers	1
NU_TEST	Install catch pan on bell nipple. Install Mousehole.	0.5
WEARBUS HING	Install Short Wear bushing in Wellhead, Witnessed by PNR Co. Man, Perform Accumulator Test (Good)	1
SAFETY	EJSA on P/U BHA W/Rig Crew, Directional Driller & PNR Co. Man, Load BHA on Pipe Wrangler	0.5
BHA_HAN DLING	P/U Directional Assy. #3, Motor, Stabilizer, UBHO, NMDC, Flex NMDC & X.O. Sub, Scribe & Install MWD, Test motor & MWD 65 spm, 249 gpm, 280 psi W/75 psi pulses. Good Test, M/U bit & P/U Flex NMDC.  Tested Motor W/Water, taking returns to open top behind shakers, after test hooked up dump line to take returns to reserve pit while tripping in hole.  Note: TH Hill Job # T1-22259, Inspection # 19787, Inspector Rosendo Martinez	1.5
TIH	TIH F/BHA T/605', Filling every 30 stands, taking returns to reserve pit.	0.5

**Report #: 12 Daily Operation: 10/29/2014 06:00 - 10/30/2014 06:00**

Job Category			Primary Job Type			AFE Number	
ORIG DRILLING			ODR			033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig		
33	11	8,586.0	8,299.0	9.75	H & P, 606		

**Operations Summary**

TIH, Test Casing, Drill Cement & Float Equip., Perform FIT, Displace W/OBM, Drill Production Curve F/ 7,780' - 8,586'

**Remarks**

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 10.5 Days From Spud, 10.75 Total Days On Well, 46 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 11 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 92%, Lateral - 0%

Estimated Pad Drilling Completion Date: 11/25/2014

**Time Log Summary**

Operation	Com	Dur (hr)
TIH	EJSA on TIH, TIH F/605' to 7,655', Tag @ 7,662' , filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand.	4.5
TST_DO_FIT	Fill pipe & perform Casing Test To 2,500 psi for 30 minutes. Test Good.	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
TST_DO_FIT	Tag cmt. Drill out cement, Float equipment F/7,662' - 7,770' & Drill 10' of new hole to 7,780' WOB: 5-8K ; SPM: 105 / 402 GPM; RPM: 30.  Note: Float collar @ 7,665' Float shoe @ 7,770'	1
TST_DO_FIT	Perform FIT/LOT W/ leak off psi of $1101 \div 0.052 \div (7,759' \text{ TVD}) + 9.2 \text{ ppg MW Leak-Off Calculated To } 11.93 \text{ ppg EMW}$ . Pressure gradient = 0.14 psi/ft	0.5
CIRC	EJSA with H&P rig crew, NOV mud Eng & PNR representative over displacing hole F/WBM T/OBM. Make sure all lines are rigged up & connections are good. Fill out fluid transfer check-list & prepare to start displacing. Displace hole to OBM.	1.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 20' @ 40 ft/hr: 24 - 26 k WOB, 30 TDS rpm, 145 spm, 555 gpm, 277 motor rpm, 400 - 500 psi Diff, 2,900 spp, 6 - 7 k TQ., Avg MSE 8. Full returns to surface.	0.5
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 195' @ 31.25'/hr, 12-18 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, 20 R GTF. Full returns to surface.	6.25
DRL_ROT	Rotate Drill 8-1/2" Curve Section 21' @ 84 ft/hr: 28 - 30 k WOB, 50 TDS rpm, 150 spm, 575 gpm, 288 motor rpm, 450 - 550 psi Diff, 3,000 spp, 6 - 9 k TQ., Avg MSE 7. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 20' @ 80'/hr, 12-18 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, 20 R GTF. Full returns to surface.	0.25
DRL_ROT	Rotate Drill 8-1/2" Curve Section 27' @ 108 ft/hr: 28 - 30 k WOB, 50 TDS rpm, 150 spm, 575 gpm, 288 motor rpm, 450 - 550 psi Diff, 3,000 spp, 6 - 9 k TQ., Avg MSE 7. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 15' @ 30'/hr, 12-18 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, 20 R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 31' @ 124 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 6 - 9 k TQ., 150 spm, 575 gpm, 450 - 550 psi Diff, 3,000 spp, Avg MSE 7. Full returns to surface.	0.25
RIG_SVC	Service Rig & TDS	0.5
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 24' @ 48'/hr, 12-18 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, 20 R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 23' @ 96 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 6 - 9 k TQ., 150 spm, 575 gpm, 450 - 550 psi Diff, 3,000 spp, Avg MSE 7. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 28' @ 56'/hr, 12-18 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, 20 R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 20' @ 80 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 6 - 9 k TQ., 150 spm, 575 gpm, 450 - 550 psi Diff, 3,000 spp, Avg MSE 7. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 20' @ 40'/hr, 12-18 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, 20 R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 17' @ 68 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 6 - 9 k TQ., 150 spm, 575 gpm, 450 - 550 psi Diff, 3,000 spp, Avg MSE 8. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 25' @ 50'/hr, 12-18 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, 20 R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 12' @ 48 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 6 - 9 k TQ., 150 spm, 575 gpm, 450 - 550 psi Diff, 3,000 spp, Avg MSE 7. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 28' @ 112'/hr, 15-25 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, HS GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 19' @ 76 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 7 - 10 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,050 spp, Avg MSE 5. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 29' @ 58'/hr, 18 -26 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, HS GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 18' @ 72 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 7 - 10 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,050 spp, Avg MSE 6. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 35' @ 46.66'/hr, 18 -26 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, HS GTF. Full returns to surface.	0.75
DRL_ROT	Rotate Drill 8-1/2" Curve Section 10' @ 40 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 7 - 10 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,050 spp, Avg MSE 8. Full returns to surface.	0.25
DRL_SLIDE	Slide Drill 8-1/2" Production Curve 30' @ 60'/hr, 18 -26 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, HS GTF. Full returns to surface.	0.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	<p>Rotate Drill 8-1/2" Curve Section 19' @ 76 ft/hr: 28 - 30 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 7 - 10 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,050 spp, Avg MSE 7. Full returns to surface.</p> <p>PTB @ 8,586': Inc. 79.0, Azi. 1.50, 18' Above &amp; 5' Right Of Plan 5 Line</p> <p>Motor Yield: 12°/100'</p> <p>Need: 5.8°/100'</p> <p>MWD Tool Temperature: 148° F</p> <p>Distance From University 178B 19H: 439'</p> <p>Distance From University 178B 17H: 435'</p> <p>Distance From University 3-17 #3: 314'</p>	0.25

Report #: 13 Daily Operation: 10/30/2014 06:00 - 10/31/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
34	12	10,697.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
	8,328.3	9.75
	Rig	H & P, 606

### Operations Summary

Drill 8 1/2" Production Curve & Lateral F/8,586' - 10,697'

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 11.5 Days From Spud, 11.75 Total Days On Well, 47 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 11 NPT for month of October

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 19%

Estimated Pad Drilling Completion Date: 11/25/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_SLID E	Slide Drill 8-1/2" Production Curve 26' @ 52'/hr, 18 - 26 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 275 psi Diff, 2,800 psi SPP, HS GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 21' @ 42 ft/hr: 15 k WOB, 30 TDS rpm, 318 motor rpm, 348 total rpm, 5 - 7 k TQ., 150 spm, 575 gpm, 400 - 500 psi Diff, 2,850 spp, Avg MSE 6.5. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Curve 25' @ 50'/hr, 25 - 28 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 300 - 400 psi Diff, 2,850 psi SPP, HS GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 23' @ 46 ft/hr: 15 k WOB, 30 TDS rpm, 288 motor rpm, 318 total rpm, 5 - 7 k TQ., 150 spm, 575 gpm, 400 - 500 psi Diff, 2,850 spp, Avg MSE 9. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Curve 12' @ 24'/hr, 28 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 350 - 400 psi Diff, 2,800 psi SPP, HS GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Curve Section 35' @ 70 ft/hr: 18 - 22 k WOB, 30 TDS rpm, 288 motor rpm, 318 total rpm, 6 - 8 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2,950 spp, Avg MSE 7.2. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Curve 9' @ 36'/hr, 28 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 300 - 400 psi Diff, 2,900 psi SPP, HS GTF. Full returns to surface.	0.25
DRL_ROT	Rotate Drill 8-1/2" Curve Section 85' @ 113.3 ft/hr: 22 - 28 k WOB, 60 TDS rpm, 288 motor rpm, 348 total rpm, 8 - 10 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,050 spp, Avg MSE 7.2. Full returns to surface.	0.75
	Landed Curve @ 10:00 hrs, 10/30/14. 8,822' MD (19 hrs)	
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 156' @ 89 ft/hr: 22-28 k WOB, 70 TDS rpm, 288 motor rpm, 358 total rpm, 8-10 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,100 spp, Avg MSE 7.5. Full returns to surface.	1.75
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 16' @ 32'/hr, 30 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 300 - 450 psi Diff, 2,800 psi SPP, 170L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 78' @ 104 ft/hr: 22-28 k WOB, 70 TDS rpm, 288 motor rpm, 358 total rpm, 8-10 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,050 spp, Avg MSE 8. Full returns to surface.	0.75
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 22 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 200 - 350 psi Diff, 2,800 psi SPP, 170L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 73' @ 146 ft/hr: 22-28 k WOB, 70 TDS rpm, 288 motor rpm, 358 total rpm, 8-10 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,050 spp, Avg MSE 7.8. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 30 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 2,800 psi SPP, 170L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 169' @ 135 ft/hr: 25-30 k WOB, 70 TDS rpm, 288 motor rpm, 358 total rpm, 9-11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,100 spp, Avg MSE 7.5. Full returns to surface.	1.25



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 16' @ 64'/hr, 25 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 450 psi Diff, 2,800 psi SPP, 170R GTF. Full returns to surface.	0.25
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 78' @ 104 ft/hr: 25-30 k WOB, 70 TDS rpm, 288 motor rpm, 358 total rpm, 9-11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,125 spp, Avg MSE 7. Full returns to surface.	0.75
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 17' @ 68'/hr, 28 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 2,850 psi SPP, 160R GTF. Full returns to surface.	0.25
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 265' @ 132.5 ft/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 9-13 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,200 spp, Avg MSE 7.5. Full returns to surface.	2
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 32 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 2,850 psi SPP, 160L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 169' @ 112.66 ft/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 9-13 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,200 spp, Avg MSE 7.5. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 38 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 2,850 psi SPP, 160L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 168' @ 112 ft/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 9-13 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,250 spp, Avg MSE 8. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 26.66'/hr, 36 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 2,850 psi SPP, 160L GTF. Full returns to surface.	0.75
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 169' @ 96.57 ft/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 9-14 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,300 spp, Avg MSE 10. Full returns to surface.	1.75
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 25' @ 50'/hr, 33 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 2,850 psi SPP, 180 GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 148' @ 148 ft/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 9-13 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,400 spp, Avg MSE 9. Full returns to surface.	1
RIG_SVC	Service Rig & TDS	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 203' @ 135.33 ft/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 9-14 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,450 spp, Avg MSE 7. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 25' @ 25'/hr, 33 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 2,850 psi SPP, 180 GTF. Full returns to surface.  PTB @ 10,697': Inc. 89.5, Azi. 357.3, 1' Below & 21' Left Of Plan 5 Line  MWD Tool Temperature: 169.7° F	1

Report #: 14 Daily Operation: 10/31/2014 06:00 - 11/1/2014 06:00

Job Category ORIG DRILLING	Primary Job Type ODR	AFE Number 033238
Days From Spud (days) 35	Days on Location (days) 13	End Depth (ftKB) 13,277.0
	End Depth (TVD) (ftKB) 8,339.2	Dens Last Mud (lb/gal) 9.70
		Rig H & P, 606

### Operations Summary

Drill 8 1/2" Production Lateral F/10,697' - 13,277'

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 12.5 Days From Spud, 12.75 Total Days On Well, 48 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 0 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 46%

Estimated Pad Drilling Completion Date: 11/25/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 249' @ 142.3'/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-14 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,600 spp, Avg MSE 7.3. Full returns to surface.	1.75
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 22' @ 22'/hr, 31 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 200 - 300 psi Diff, 3,050 psi SPP, 180 GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 251' @ 125.5'/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-14 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,650 spp, Avg MSE 7.5. Full returns to surface.	2
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 25' @ 25'/hr, 33 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 3,100 psi SPP, 150R GTF. Full returns to surface.	0.75
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 66' @ 132'/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-14 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,750 spp, Avg MSE 7.3. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 24' @ 24'/hr, 26 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 3,100 psi SPP, 135R GTF. Full returns to surface.	1



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 70' @ 140'/hr: 25-30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-14 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,750 spp, Avg MSE 7.5. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 27' @ 27'/hr, 25 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 200 - 300 psi Diff, 3,150 psi SPP, 180 GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 1,384' @ 153.78'/hr: 32 - 35 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-15 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,900 spp, Avg MSE 7.4. Full returns to surface.	9
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 26.66'/hr, 45 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 3,450 psi SPP, 90R GTF. Full returns to surface.	0.75
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 74' @ 98.66'/hr: 32 - 35 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-15 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,900 spp, Avg MSE 7.4. Full returns to surface.	0.75
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 30' @ 40'/hr, 45 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 3,450 psi SPP, 90R GTF. Full returns to surface.	0.75
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 64' @ 128'/hr: 28 - 30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-15 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,950 spp, Avg MSE 7.4. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 20'/hr, 45 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 3,450 psi SPP, 90R GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 169' @ 112.67'/hr: 28 - 30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-15 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,950 spp, Avg MSE 10. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 26.66'/hr, 45 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 3,450 psi SPP, 180 GTF. Full returns to surface.	0.75
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 59' @ 118'/hr: 28 - 30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-15 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3,950 spp, Avg MSE 11. Full returns to surface.  PTB @ 13,277' Inc. 89.5°, Azi. 3.6°, 1' Above and 32' Left of Plan 5 Line  MWD Tool Temperature - 180.5°F	0.5

### Report #: 15 Daily Operation: 11/1/2014 06:00 - 11/2/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
36	14	14,710.0
		End Depth (TVD) (ftKB)
		8,331.5
		Dens Last Mud (lb/gal)
		9.70
		Rig
		H & P, 606

#### Operations Summary

Drill 8 1/2" Production Lateral F/13,277' - 14,710', Perform Clean Up Cycle, POOH F/Motor

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 13.5 Days From Spud, 13.75 Total Days On Well, 49 Total Days On Location

Rig NPT: 6.25 hrs previous 24 hrs. 6.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 60%

Estimated Pad Drilling Completion Date: 11/25/2014

### Time Log Summary

Operation	Com	Dur (hr)
RIG_SVC	Service Rig & top drive.  Changing out swab & liner- #2 pump, #1 pod	0.75
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 206' @ 63.4'/hr: 28 - 30 k WOB, 80 TDS rpm, 203-288 motor rpm, 283-368 total rpm, 9-12 k TQ., 106-150 spm, 406-575 gpm, 400 - 650 psi Diff, 2,300-4100 spp, Avg MSE 17. Full returns to surface.  Change Swab & liner- #2 Pump, #1 Pod, tighten liner washer in #2 Pod. #2 pump back on hole @ 08:00 hrs.	3.25
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 35' @ 35'/hr, 45 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 3,500 psi SPP, 160L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 340' @ 123.6'/hr: 28 - 30 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 10-15 k TQ., 150 spm, 575 gpm, 500 - 650 psi Diff, 4,150 spp, Avg MSE 11.2. Full returns to surface.	2.75
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 22' @ 29.3'/hr, 35 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 150 - 300 psi Diff, 3,500 psi SPP, 150R GTF. Full returns to surface.	0.75
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 258' @ 129'/hr: 30 - 35 k WOB, 80 TDS rpm, 288 motor rpm, 368 total rpm, 12-14 k TQ., 150 spm, 575 gpm, 550 - 675 psi Diff, 4,150 spp, Avg MSE 7.7. Full returns to surface.	2
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 30' @ 15'/hr, 45 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 - 350 psi Diff, 3,500 psi SPP, 90R GTF. Full returns to surface.	2
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 56' @ 112'/hr: 28 - 30 k WOB, 80 TDS rpm, 207 motor rpm, 287 total rpm, 10-14 k TQ., 108 spm, 414 gpm, 500 - 600 psi Diff, 2,800 spp, Avg MSE 8. Full returns to surface.  Drill ahead W/1 pump while replacing swab, #2 pump, #1 pod.	0.25

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 105' @ 140'/hr: 28 - 30 k WOB, 80 TDS rpm, 276 motor rpm, 356 total rpm, 10-15 k TQ., 144 spm, 551 gpm, 550 - 650 psi Diff, 3,950 spp, Avg MSE 8. Full returns to surface.	0.75
DRL_SLIDE	Slide Drill 8-1/2" Production Lateral 30' @ 20'/hr, 52 k WOB, 144 spm, 551 gpm, 276 Motor rpm, 250 - 350 psi Diff, 3,500 psi SPP, 90R GTF. Full returns to surface.	1.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 64' @ 85'/hr: 28 - 30 k WOB, 80 TDS rpm, 276 motor rpm, 356 total rpm, 10-15 k TQ., 144 spm, 551 gpm, 550 - 650 psi Diff, 4,000 spp, Avg MSE 8. Full returns to surface.	0.75
DRL_SLIDE	Slide Drill 8-1/2" Production Lateral 20' @ 26.67'/hr, 52 k WOB, 144 spm, 551 gpm, 276 Motor rpm, 250 - 350 psi Diff, 3,500 psi SPP, 90R GTF. Full returns to surface.	0.75
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 262' @ 131'/hr: 20 - 22 k WOB, 80 TDS rpm, 276 - 268 motor rpm, 356 - 348 total rpm, 10 -14 k TQ., 144 - 140 spm, 551 - 536 gpm, 500 - 600 psi Diff, 4,000 spp, Avg MSE 8. Full returns to surface.  Reduced flow rate to keep SPP 4,000 psi or less. (85% of 4,700 max = 3,995)	2
DRL_SLIDE	Slide Drill 8-1/2" Production Lateral 5' @ 22'/hr, 52 k WOB, 144 spm, 551 gpm, 276 Motor rpm, 250 - 350 psi Diff, 3,500 psi SPP, 90R GTF. Full returns to surface.	0.25
U_MTR	Pressure started climbing while sliding, showing signs of pack-off/motor issues. Picked up off bottom started rotary @ 40 rpm staging up to 80 rpm, torque was high @ 7 - 9k, pressure was high and climbing (138 spm, 528 gpm, up to 4,200 psi) staged pumps down to 100 spm, 383 gpm, 2,750 psi, continued rotation while working string. When conditions allowed, set back 1 stand to allow for full reciprocation, contacted Drlg. Sup't & discussed.  Circulate Clean - Per K & M High Angle Hole Workbook, 5.5 B/U recommended. B/U = 7,800 strokes. Rotating 80 rpm, reciprocating full stand, bringing flow rate up as pressure allows. Beginning @ 100 spm, 383 gpm, 3,800 psi & tq 7 - 10k.	1.25
U_MTR	Time Change (move back 1 hour)	-1
U_MTR	Circulate Clean - Per K & M High Angle Hole Workbook, 5.5 B/U recommended. B/U = 7,800 strokes. Rotating 80 rpm, reciprocating full stand, bringing flow rate up as pressure allows. Strokes began @ 100 spm, 383 gpm, 3,800 psi, after 1 B/U 105 spm, 402 gpm, 3,800 psi, tq 7k, cuttings began to decrease. After 2 B/U, 124 spm, 475 gpm, 3,800 psi, tq 7k, cuttings continue to decrease. After 3 B/U, 130 spm, 498 gpm, 3,800 psi, tq 7k, minimal cuttings @ shakers. Contact Drlg. Sup't. & discuss, due to high pressure, concern is that if clean up cycle is continued motor could pressure up & cause problems not being able to slug pipe.  Build slug, check flow, no flow, pump slug.	3.75
U_MTR	EJSA with H&P crew & PNR representative over tripping out of the hole. POOH For Motor F/14,596' - 13,089' on trip tank. No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH.  PTB @ 14,710' Inc. 90.0°, Azi. 0.10°, 1' Below and 42' Left of Plan 5 Line  MWD Tool Temperature - 184.1°F	1.25

### Report #: 16 Daily Operation: 11/2/2014 06:00 - 11/3/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
37	15	14,710.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
	8,331.5	9.75
	Rig	H & P, 606

#### Operations Summary

POOH, C/O Motor & Bit, TIH, Slip & Cut Drlg Line, TIH, Trough F/Sidetrack

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 14.5 Days From Spud, 14.75 Total Days On Well, 50 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 30.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 60%

Estimated Pad Drilling Completion Date: 11/25/2014

### Time Log Summary

Operation	Com	Dur (hr)
U_MTR	EJSA with H&P crew & PNR representative over tripping out of the hole. TOOH for motor F/13,089' - 101' (Directional BHA). No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH & every 2,000' while in casing.  Tailgate safety meeting with McClatchy Bros Forklift operator, H&P RM & PNR Rep on offloading 5-1/2" casing. Off load 5-1/2" Intermediate casing.	7
U_MTR	Clean OBM & clear off rig floor to handle BHA. EJSA On Rack back collars and L/Dn Directional BHA. Per DD instructions, L/Dn crossover and monel. Retrieve MWD tool & L/Dn same. Set Non mag / UBHO, Stabilizer in mousehole. L/Dn motor.  Note: Left 2.5' of mandrel, 0.65' bit box & bit in the hole. Discussing plan with superintendent & engineer on sidetrack.	2.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	Remove & Inspect short wear bushing (ok). Wash out well head with wash sub, turn 1/4 and install wear bushing, dope & lock down wear bushing with 2- lock screws.  Function test BOPE (OK)	1.5
U_SDTRK	EJSA on picking up directional tools, P/U Directional Assy. #4, Motor, Remove Slick Sleeve, Install Stabilizer Sleeve, Stabilizer, UBHO, NMDC, Flex NMDC & X.O. Sub, Scribe & Install MWD, Test motor & MWD 80 spm, 308 gpm, 475 psi W/120 psi pulses. Good Test.  TH Hill Inspection Job # T1-22259, Inspector Cory Sharpe #533	2.5
U_SDTRK	EJSA, M/U bit, TIH F/BHA to 7,644' on trip tank, filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand w/no drag.	4
U_SDTRK	EJSA on Slip & Cut Drlg. Line, Install TIW, Dock TDS, Slip & Cut 9 Wraps Drlg. Line, check crown saver, recalibrate blocks, check high and low set points.	2
U_SDTRK	TIH F/7,644' - 14,502' (173' past planned sidetrack point to insure fish was not pulled up the hole) on trip tank, filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand w/no abnormal drag.	4
U_SDTRK	Pull back to 14,314', L/D 1 joint & P/U stand, Orient motor to 180 GTF to begin trough @ 14,282'.	0.5

Report #: 17 Daily Operation: 11/3/2014 06:00 - 11/4/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
38	16	14,710.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
8,331.5	9.70	H & P, 606

#### Operations Summary

Trough F/Sidetrack, Time Drill, Resume Troughing.

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 15.5 Days From Spud, 15.75 Total Days On Well, 51 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 54.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 60%

Estimated Pad Drilling Completion Date: 11/28/2014

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	Take survey check shot @ 14,265' to confirm position in wellbore, Original survey inc. 90.7°, azi. 358.1°, Check shot inc. 90.8°, azi. 357.5°, Cut trough F/14,282 - 14,329', 105 spm, 402 gpm, 1,900 psi, 201 motor rpm @ 180 GTF, full returns to surface.	4.5
U_SDTRK	Time Drill 14,329' - 14,334', 6.4 Min./Inch @ 150L GTF, 105 spm, 402 gpm, 1,900 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	6.25
U_SDTRK	Time Drill 14,334' - 14,341', 2.7 Min./Inch @ 150L GTF, 105 spm, 402 gpm, 1,900 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	3.75
U_SDTRK	Time Drill 14,341' - 14,348', 1.8 Min./Inch @ 150L GTF, 105 spm, 402 gpm, 1,900 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	2.5
U_SDTRK	Time Drill 14,348' - 14,353', 1.2 Min./Inch @ 150L GTF, 105 spm, 402 gpm, 1,900 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	1.5
U_SDTRK	Time Drill 14,353' - 14,358' 1 Min./Inch @ 120L GTF, 105 spm, 402 gpm, 1,900 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	1
U_SDTRK	Slide 14,358' - 14,375' @ 90L GTF, 105 spm, 402 gpm, 1,900 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	2.5
U_SDTRK	Survey @ 14,326' Inc., 90.0 Azi., 357.0,  Interpolated point from original well, 14,326' Inc., 90.18, Azi., 359.26, Discussion W/Both DD's & Drlg. Sup't, all in agreement to check for ledge.  M/U Stand, Slack down to check for ledge. Slacked down, holding wt. to 40k, then jumped ledge back into original wellbore. Discussed W/Drlg. Sup't., L/D Single & resume troughing 14,338' - 14,375' @ 180 GTF.	1
U_SDTRK	Troughing 14,337' - 14,375' @ 180 GTF. 105 spm, 402 gpm, 1,900 psi, 201 motor rpm.	1

Report #: 18 Daily Operation: 11/4/2014 06:00 - 11/5/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
39	17	14,710.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
8,331.5	9.70	H & P, 606

#### Operations Summary

Trough F/Sidetrack, Time Drill

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 16.5 Days From Spud, 16.75 Total Days On Well, 52 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 78.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 60%

Estimated Pad Drilling Completion Date: 11/28/2014

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	Troughing 14,337' - 14,374' @ 180 GTF. 105 spm, 402 gpm, 1,850 psi, 201 motor rpm. BOP drill - reaction time 45 seconds	3.5
U_SDTRK	Time Drill 14,374' - 14,386', 12' @ 6.5 Min./Inch @ 180 TF, 105 spm, 402 gpm, 1,850 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	13
U_SDTRK	Time Drill 14,386' - 14,396', 10' @ 3.12 Min./Inch @ 180 TF, 105 spm, 402 gpm, 1,850 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	6.25
U_SDTRK	Time Drill 14,396' - 14,400', 4' @ 1.5 Min./Inch @ 180 TF, 105 spm, 402 gpm, 1,850 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	1.25

Report #: 19 Daily Operation: 11/5/2014 06:00 - 11/6/2014 06:00

Job Category ORIG DRILLING	Primary Job Type ODR	AFE Number 033238
Days From Spud (days) 40	Days on Location (days) 18	End Depth (ftKB) 14,710.0
	End Depth (TVD) (ftKB) 8,331.5	Dens Last Mud (lb/gal) 9.70
	Rig H & P, 606	

### Operations Summary

Time Drill, POOH, C/O BHA, TIH

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 17.5 Days From Spud, 17.75 Total Days On Well, 53 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 102.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 60%

Estimated Pad Drilling Completion Date: 11/28/2014

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	Time Drill 14,400' - 14,401', 1' @ 1.5 Min./Inch @ 180 TF, 105 spm, 402 gpm, 1,850 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	1.5
U_SDTRK	Time Drill 14,401' - 14,406', 5' @ 1.15 Min./Inch @ 180 TF, 105 spm, 402 gpm, 1,850 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	1.5
U_SDTRK	Time Drill 14,406' - 14,411', 5' @ 1 Min./Inch @ 180 TF, 105 spm, 402 gpm, 1,850 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	1
U_SDTRK	Slide 14,411' - 14,426' @ 180 GTF, 105 spm, 402 gpm, 1,900 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	1.5
U_SDTRK	Set down 25k & check for ledge (held 25k @ 14,333')	0.5
U_SDTRK	Slide F/14,426' - 14,439' @ 180 GTF, 105 spm, 402 gpm, 1,900 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	2
U_SDTRK	Rotate F/14,439' - 14,502', 5-8 k WOB, 30 TDS rpm, 196 motor rpm, 226 total rpm, 6-8 k TQ., 102 spm, 391 gpm, 100 - 150 psi Diff, 1,950 spp, Avg MSE 8. Full returns to surface.  Took check shot: original suvery shows 90.4° Inc, 3.5° Azm. Check shot shows: 91.2° Inc, 2.2° Azm.	1
U_SDTRK	Circulate, Conference call with engineer, directional driller & superintendent over plan going forward. Decision to TOOH, L/D Adj. Hsg. Motor, & Stabilization, P/U 2 Deg. Fixed Hsg. Slick & New MMD 55 DM Bit.	2.5
U_SDTRK	EJSA with H&P crew & PNR representative over tripping out of the hole. Check F/Flow, No Flow, Pump Slug, POOH For Motor F/14,502' - BHA' on trip tank. No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH.	8
U_SDTRK	Clean OBM & clear off rig floor to handle BHA. EJSA On Rack back collars and L/Dn Directional BHA. Per DD instructions, Retrieve MWD tool & L/Dn same. Set Non mag / UBHO, Stabilizer in mousehole. L/Dn motor.	1.5
U_SDTRK	Remove & Inspect short wear bushing (ok). Wash out well head with wash sub, turn 1/4 and install wear bushing, dope & lock down wear bushing with 2- lock screws. (PNR CM witnessed)  Function test BOPE (OK)	1
U_SDTRK	EJSA on picking up directional tools, P/U Directional Assy. #5, Motor, Scribe & Install MWD, Test motor & MWD 80 spm, 308 gpm, 475 psi W/120 psi pulses. Good Test. EJSA on P/U and M/U bit. M/U bit.	1
U_SDTRK	TIH F/BHA to 900' on trip tank, filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand w/no drag.	1

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

**Report #: 20 Daily Operation: 11/6/2014 06:00 - 11/7/2014 06:00**

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig		
41	19	14,710.0	8,331.5	9.80	H & P, 606		

**Operations Summary**

TIH, Trough F/Sidetrack, Time Drill to 13,494'

**Remarks**

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 18.5 Days From Spud, 18.75 Total Days On Well, 54 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 126.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 48%

Estimated Pad Drilling Completion Date: 11/28/2014

**Time Log Summary**

Operation	Com	Dur (hr)
U_SDTRK	TIH F/900' - 13,443' on trip tank, filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand w/no abnormal drag.	7.5
U_SDTRK	Take survey check shot @ 13,417' to confirm position in wellbore, Original survey 89.9° Inc, 4.6° Azi, Check shot 90° Inc. 4.4° Azi. Cut trough F/13,443 - 13,483', 105 spm, 402 gpm, 1,900 psi, 117 motor rpm @ 160R GTF, full returns to surface.	5
U_SDTRK	Time Drill 13,483' - 13,493', 10' @ 5 Min./Inch @ 160R TF, 105 spm, 402 gpm, 1,750 psi, 5-15 kwob, 117 motor rpm W/Full Returns.	10.5
U_SDTRK	Time Drill 13,493' - 13,494', 5' @ 4 Min./Inch @ 160R TF, 105 spm, 402 gpm, 1,750 psi, 5-15 kwob, 117 motor rpm W/Full Returns.	1

**Report #: 21 Daily Operation: 11/7/2014 06:00 - 11/8/2014 06:00**

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig		
42	20	14,710.0	8,331.5	9.80	H & P, 606		

**Operations Summary**

Time Drill, Slide and Rotate to 13,565'. Check sidetrack survey. Remained in original hole. POOH to C/O BHA.

**Remarks**

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 19.5 Days From Spud, 19.75 Total Days On Well, 55 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 150.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 48%

Estimated Pad Drilling Completion Date: 12/05/2014 (Updated)

**Time Log Summary**

Operation	Com	Dur (hr)
U_SDTRK	Time Drill 13,493' - 13,498', 5' @ 4 Min./Inch @ 160R TF, 105 spm, 402 gpm, 1,750 psi, 5-15 kwob, 117 motor rpm W/Full Returns.	4
U_SDTRK	Time Drill 13,498' - 13,503', 5' @ 3 Min./Inch @ 160R TF, 105 spm, 402 gpm, 1,775 psi, 5-15 kwob, 117 motor rpm W/Full Returns.	3
U_SDTRK	Time Drill 13,503' - 13,508', 5' @ 2 Min./Inch @ 145-160R TF, 105 spm, 402 gpm, 1,780 psi, 5-15 kwob, 117 motor rpm W/Full Returns.	3
U_SDTRK	Time Drill 13,508' - 13,513', 5' @ 1 Min./Inch @ 145-160R TF, 105 spm, 402 gpm, 1,800 psi, 5-15 kwob, 117 motor rpm W/Full Returns.	1.25
U_SDTRK	Slide 13,513' - 13,548', 35' @ 100 R- 150 R GTF, 80-105 spm, 307-402 gpm, 1,250-1,800 psi, 5-15 kwob, 201 motor rpm W/Full Returns.	5.25
U_SDTRK	Rotate F/13,555' - 13,565', 5-8 k WOB, 20 TDS rpm, 117 motor rpm, 137 total rpm, 6-8 k TQ., 105 spm, 402 gpm, 0 - 50 psi Diff, 1,850 spp, Avg MSE 5. Full returns to surface.  Took check shot: Original suvery shows: 89.9° Inc, 2.1° Azm; Check shot shows: 89.9° Inc, 2.6° Azm.	1
U_SDTRK	Circulate. Conference call with engineer, directional driller & superintendent over plan forward. Decision to TOO H to C/O BHA. Scheduled 6am conference call to discuss plan forward on possible motor and bit change. (F/ 8 1/2" PDC w/ 2.12 motor T/ 8 1/2" Tri cone Mill tooth w/ 2.38 motor.	1
U_SDTRK	EJSA with H&P crew & PNR representative over tripping out of the hole. Check F/Flow, No Flow, Pump Slug, POOH For Motor F/13,565' - 2,150' on trip tank. No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH.	5.5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

**Report #: 22 Daily Operation: 11/8/2014 06:00 - 11/9/2014 06:00**

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig		
43	21	14,710.0	8,331.5	9.80	H & P, 606		

### Operations Summary

TOOH, C/O BHA, TIH, Trough & Time Drill for sidetrack

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 20.5 Days From Spud, 20.75 Total Days On Well, 56 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 174.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 48%

Estimated Pad Drilling Completion Date: 12/05/2014

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	EJSA with H&P day crew & PNR representative over tripping out of the hole. POOH For Motor F/2,150' - BHA on trip tank. No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH.	1
U_SDTRK	Clean OBM & clear off rig floor to handle BHA. EJSA On Rack back collars & L/Dn Directional BHA. Per DD instructions, L/Dn crossover and monel. Retrieve MWD tool & L/Dn same. Set Non mag / UBHO, Stabilizer in mousehole. L/Dn bit.	1
U_SDTRK	Remove & Inspect short wear bushing (ok). Wash out well head with wash sub, turn 1/4 and install wear bushing, dope & lock down wear bushing with 2- lock screws. (PNR CM witnessed)	1
	Function test BOPE (OK)	
U_SDTRK	EJSA on picking up directional tools, P/U Directional Assy. #6, Motor, Remove Slick Sleeve, Install Stabilizer Sleeve, Stabilizer, UBHO, NMDC, Flex NMDC & X.O. Sub, Scribe & Install MWD, Test motor & MWD 80 spm, 308 gpm, 455 psi. Good Test.	1.5
U_SDTRK	TIH F/BHA to 2,100' on trip tank, filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand w/no drag.	1
	Conference call with drilling manager, superintendents & engineers. Decision to TOOH to change out the Hughes GT-C1 with a Hughes GX20M .	
U_SDTRK	POOH to replace bit F/2,100' - BHA. No excessive drag and hole taking proper displacement from trip tank.	1
U_SDTRK	Rack back directional BHA, break bit & L/Dn.	0.5
U_SDTRK	EJSA on slip & cut drill line. Slip & cut 54' of drill line.	2
U_SDTRK	Service Rig & top drive.	0.5
U_SDTRK	EJSA on making up bit. MU bit & change out MWD poppet due to TFA change.	0.5
U_SDTRK	TIH F/BHA to 7,892' on trip tank, filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand w/no drag. Test motor & MWD 80 spm, 308 gpm, 475 psi W/120 psi pulses. Good Test	3.5
U_SDTRK	TIH F/ 7,892' to 13,460' on trip tank, filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand w/no drag.	4
U_SDTRK	Cut & work trough F/13,460 - 13,500', 100 spm, 383 gpm, 1,800 psi, 117 motor rpm @ 180 GTF, full returns to surface.	5
U_SDTRK	Set and chew at 13,500', 100 spm, 383 gpm, 1,800 psi, 117 motor rpm @ 180 GTF, full returns to surface.	1
U_SDTRK	BeginTime Drill @ 13,500', 10' @ 5 Min./Inch @ 180 GTF, 100 spm, 383 gpm, 1,750 psi, 117 motor rpm W/Full Returns.	0.5

**Report #: 23 Daily Operation: 11/9/2014 06:00 - 11/10/2014 06:00**

Job Category			Primary Job Type			AFE Number		
ORIG DRILLING			ODR			033238		
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig			
44	22	14,710.0	8,331.5	9.80	H & P, 606			

### Operations Summary

Time Drill F/13,500' - 13,530'. Slide T/ 13,545'. S/O and Slide T/13,595'. Check sidetrack survey. Remained in original hole. TOOH to btm of curve while waiting on orders.

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 21.5 Days From Spud, 21.75 Total Days On Well, 57 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 198.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 49%

Estimated Pad Drilling Completion Date: 12/05/2014

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	Time Drill 13,500' - 13,510', 10' @ 5 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,800 psi, 4-12k wob, 111 motor rpm W/Full Returns.	9.5
U_SDTRK	Time Drill 13,510' - 13,515', 5' @ 4 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,800 psi, 5-8k wob, 111 motor rpm W/Full Returns.	4
U_SDTRK	Time Drill 13,515' - 13,520', 5' @ 3 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,800 psi, 3-5k wob, 111 motor rpm W/Full Returns.	3
U_SDTRK	Time Drill 13,520' - 13,525', 5' @ 2 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,800 psi, 3-5k wob, 111 motor rpm W/Full Returns.	2
U_SDTRK	Time Drill 13,525' - 13,530', 5' @ 1 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,800 psi, 3-5k wob, 111 motor rpm W/Full Returns.	1



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	Slide 13,530' - 13,545', 15' @ 180 GTF, 100 spm, 383 gpm, 11,800 psi, 5-10k wob, 111 motor rpm W/Full Returns.	1.75
U_SDTRK	Slack off / Slide 13,545' - 13,595', 50' @ 180 GTF, 100 spm, 383 gpm, 1,800 psi, 5-10k wob, 111 motor rpm W/Full Returns. Take survey check shot @ 13,495' to confirm position in wellbore, Original survey 89.9° Inc, 2.1° Azi, Check shot 89.7° Inc, 1.4° Azi. Remained in original wellbore.	0.75
U_SDTRK	Circulate. Conference call with directional drillers & superintendent over plan forward. Decision to TOO H to 8950', 1 stand below end of curve, while waiting on orders..	0.5
U_SDTRK	EJSA with H&P crew & PNR representative over tripping out of the hole. Check F/Flow, No Flow, Pump Slug, POOH F/13,595' - 11,550' on trip tank. No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH.	1.5

Report #: 24 Daily Operation: 11/10/2014 06:00 - 11/11/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days On Location (days)	End Depth (ftKB)
45	23	8,493.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
	8,273.9	9.85
	Rig	H & P, 606

#### Operations Summary

TOOH, C/O BHA, TIH, Trough and Time drill to 8,493'

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 22.5 Days From Spud, 22.75 Total Days On Well, 58 Total Days On Location

Rig NPT: 24 hrs previous 24 hrs. 222.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 69%, Lateral - 0%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	EJSA with H&P crew & PNR representative over tripping out of the hole. POOH F/11,550' - BHA. No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH.  Note: MudLabs Technology conducted mud check and solids analysis on sample from active mud system.	5
U_SDTRK	Clean OBM & clear off rig floor to handle BHA. EJSA on L/Dn Directional BHA. Per DD instructions, L/Dn crossover and monel. Retrieve MWD tool & L/Dn same. Drain motor, break bit, L/Dn monel, UBHO, stabilizer & motor. L/Dn bit.	1.5
U_SDTRK	Remove & Inspect short wear bushing (ok). Wash out well head with wash sub, turn 1/4 and install wear bushing, dope & lock down wear bushing with 2- lock screws. (PNR CM witnessed)  Function test BOPE (OK)	1
U_SDTRK	Clean OBM off rig floor & prepare to PU Directional BHA	0.5
U_SDTRK	EJSA on picking up directional tools, P/U Directional Assy. #7, Motor, Remove Stabilized Sleeve, Install Slick Sleeve, Stabilizer, UBHO, NMDC, Flex NMDC & X.O. Sub, Scribe, & Install MWD. Test motor & MWD 80 spm, 308 gpm, 1300 psi. Pulled motor up to make up bit & noticed bearing housing seal leaking. Remove MWD tool, lay down motor.  Note: Directional hands removed stabilizer sleeve w/ ST-80. While removing stabilizer, pinched bearing housing seal, causing motor to leak.	2.5
U_MTR	Wait on substitute 6 3/4" Mud Motor. Service Rig & top drive. Rig crew continued housekeeping and equipment maintenance	4
U_SDTRK	EJSA on P/U Motor, MWD, and M/U bit. P/U motor, Scribe & Install MWD, Test motor & MWD 80 spm, 308 gpm, 455 psi. Good Test.  Note: Repair & replace hydraulic hose and connection on ST-80.	2.5
U_SDTRK	TIH F/BHA to 8,482' on trip tank, filling pipe every 30 stands, hole displacing properly w/22 - 25% flow on each stand w/no drag.	3.5
U_SDTRK	Troughing 8,482' - 8,492' @ 180 GTF. 100 spm, 383 gpm, 1,350 psi, 201 motor rpm.	2
U_SDTRK	Time Drill 8,492' - 8,493', 1' @ 5 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,350 psi, 1-2k wob, 111 motor rpm W/Full Returns.	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 25 Daily Operation: 11/11/2014 06:00 - 11/12/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR		AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
46	24	9,522.0	8,313.2	9.80	H & P, 606	

### Operations Summary

Time drill F/8,493, - 8,512'. Slide and Land Curve @ 8,675'. Drill Production Lateral to 9,522'

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 23.5 Days From Spud, 23.75 Total Days On Well, 59 Total Days On Location

Rig NPT: 10.5 hrs previous 24 hrs. 232.75 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 8.5%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
U_SDTRK	Time Drill F/8,493' - 8,497', 4' @ 5 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,300 psi, 5-8k wob, 111 motor rpm W/Full Returns.	3.5
U_SDTRK	Time Drill 8,497' - 8,502', 5' @ 4 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,300 psi, 8-10k wob, 111 motor rpm W/Full Returns.	4
U_SDTRK	Time Drill 8,502' - 8,507', 5' @ 3 Min./Inch @ 180 TF, 100 spm, 383 gpm, 1,325 psi, 10-13k wob, 111 motor rpm W/Full Returns.	3
DRL_SLID E	Slide Drill 8-1/2" Production Curve 10' @ 20'/hr, 15-25 k WOB, 100 spm, 383 gpm, 191 Motor rpm, 250 - 300 psi Diff, 1,600 psi SPP, 90L GTF. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Curve 53' @ 53'/hr, 15-25 k WOB, 100 spm, 383 gpm, 191 Motor rpm, 250 - 300 psi Diff, 1,600 psi SPP, 30L GTF. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Curve 105' @ 42'/hr, 15-25 k WOB, 100 spm, 383 gpm, 191 Motor rpm, 250 - 300 psi Diff, 1,600 psi SPP, High Side GTF. Full returns to surface.  Landed Curve @ 20:30 hrs, 11/11/14 @ 8,675' MD	2.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 110' @ 73'/hr: 25 k WOB, 40 TDS rpm, 287 motor rpm, 327 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2900 spp, Avg MSE 8. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 30'/hr, 15-25 k WOB, 100 spm, 383 gpm, 191 Motor rpm, 250 - 300 psi Diff, 1,600 psi SPP, 160R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 79' @ 158'/hr: 25 k WOB, 50 TDS rpm, 287 motor rpm, 337 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2900 spp, Avg MSE 8. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 30'/hr, 15-25 k WOB, 100 spm, 383 gpm, 191 Motor rpm, 250 - 300 psi Diff, 1,600 psi SPP, 160R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 173' @ 115'/hr: 25 k WOB, 50 TDS rpm, 287 motor rpm, 337 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2900 spp, Avg MSE 8. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 30'/hr, 15-25 k WOB, 100 spm, 383 gpm, 191 Motor rpm, 250 - 300 psi Diff, 1,600 psi SPP, 135R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 79' @ 158'/hr: 25 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2900 spp, Avg MSE 9. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 30'/hr, 15-25 k WOB, 100 spm, 383 gpm, 191 Motor rpm, 250 - 300 psi Diff, 1,600 psi SPP, 90R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 170' @ 113'/hr: 25 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2900 spp, Avg MSE 9. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 30'/hr, 15-25 k WOB, 100 spm, 383 gpm, 191 Motor rpm, 250 - 300 psi Diff, 1,600 psi SPP, 90R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 155' @ 103'/hr: 25 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2900 spp, Avg MSE 9. Full returns to surface.  PTB @ 9,522' Inc. 89.1°, Azi. 2.5°, 4' Above and 11' Left of Sidetrack Plan 3 Line  Distance from original hole = 51'  MWD Tool Temperature - 145°F	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 26 Daily Operation: 11/12/2014 06:00 - 11/13/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR		AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
47	25	11,016.0	8,326.4	9.80	H & P, 606	

### Operations Summary

Drill Production Lateral F/9,522' - 11,016'. TOO H above sidetrack. Orient and TIH back through sidetrack. Verify in new hole. TOO H to 1,750' @ report time.

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 24.5 Days From Spud, 24.75 Total Days On Well, 60 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 232.75 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 23%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 33' @ 66/hr, 20-25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 2,850 psi SPP, 135L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 264' @ 106/hr: 25 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3150 spp, Avg MSE 8. Full returns to surface.	2.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 30/hr, 20-25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 2,900 psi SPP, 180 GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 266' @ 106.4/hr: 25-28 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3180 spp, Avg MSE 9. Full returns to surface.	2.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 36/hr, 20-25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 2,850 psi SPP, 170R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 173' @ 115.3/hr: 25-30 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 10 -12 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 3200 spp, Avg MSE 8. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 30/hr, 20-25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 2,850 psi SPP, 100R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 267' @ 106.8/hr: 25-30 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 550 - 700 psi Diff, 3300 spp, Avg MSE 9. Full returns to surface.	2.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 36/hr, 20-25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 2,950 psi SPP, 130L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 168' @ 84/hr: 25 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2900 spp, Avg MSE 9. Full returns to surface.	2
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 36/hr, 20-25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 2,850 psi SPP, 135L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 239' @ 159/hr: 25 k WOB, 60 TDS rpm, 287 motor rpm, 347 total rpm, 9 -11 k TQ., 150 spm, 575 gpm, 500 - 600 psi Diff, 2900 spp, Avg MSE 9. Full returns to surface.  PTB @ 11,016' Inc. 88.7°, Azi. 356.5°, On the line- Above / Below and 8' Left of Sidetrack Plan 3 Line  Distance from original hole = 37'  MWD Tool Temperature - 155°F	1.5
CIRC	Circulate 3 x Btms Up. Shakers cleaned up, Full returns, Perform Flow Check, No Flow, Pump Slug.	2.5
TOOH	EJSA with H&P crew & PNR representative over tripping out of the hole. TOO H to change out BHA F/11,016' - 8,298' ( Above upper trough depth 8,482'). No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH & every 2,000' while in casing.	2
TIH	Orient toolface and TIH through trough and sidetrack to 8,675'. (Btm of sidetrack @ 8,507') No excessive drag and hole taking proper displacement from trip tank. Take survey and verify BHA in new hole.  New Hole w/ bit depth 8,675'. Survey Depth 8,630'. Inc 83.3° Azimuth 353.8°  Original Hole w/ bit depth 8,681'. Survey Depth 8,632'. Inc 81.9° Azimuth 0.5°	1
TIH	EJSA with H&P crew & PNR representative over tripping out of the hole. Perform Flow Check, No Flow, Pump Slug. TOO H F/ 8,675' to 1,750'. No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH & every 2,000' while in casing.	3

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 27 Daily Operation: 11/13/2014 06:00 - 11/14/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR		AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
48	26	11,016.0	8,326.4	9.80	H & P, 606	

### Operations Summary

TOOH. P/Up BHA #9. TIH to 8,685'. Survey to verify in new hole. MWD getting magnetic interference. TOOH to C/O magnetized BHA components.

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 25.5 Days From Spud, 25.75 Total Days On Well, 61 Total Days On Location

Rig NPT: 10.5 hrs previous 24 hrs. 243.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 23%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
TOOH	EJSA with H&P crew & PNR representative over tripping out of the hole. Perform Flow Check, No Flow, Pump Slug. TOOH F/ 1,750" to BHA. No excessive drag and hole taking proper displacement from trip tank.	0.5
SAFETY	Held EJSA on L/D BHA directional tools	0.5
BHA_HAN DLING	Rack back collars & L/Dn Directional BHA. Per DD instructions, L/Dn crossover and monel. Retrieve MWD tool & L/Dn same. rack back Non mag / UBHO, Stabilizer in mousehole. L/Dn bit.	1.5
WEARBUS HING	Remove & Inspect short wear bushing (ok). Wash out well head with wash sub, turn 1/2 and install wear bushing, dope & lock down wear bushing with 2- lock screws. (PNR CM witnessed) Clean floor from OBM  Function test BOPE (OK)	1.5
SAFETY	Held EJSA on P/U BHA directional tools	0.5
BHA_HAN DLING	EJSA on P/U Motor, MWD, and M/U bit. P/U motor, Scribe & Install MWD, Test motor & MWD 80 spm, 308 gpm, 550 psi. Good Test.	1.5
TIH	TIH F/BHA to 7,649' on trip tank, filling pipe every 30 stands, hole displacing properly, torque & drag readings every 2000' in casing w/22 - 25% flow on each stand w/no drag.	4
SAFETY	Held EJSA on slip and cut drilling line	0.5
CUTDL	Cut and slip drilling line	1.5
TIH	EJSA onTIH. TIH F/BHA F/7,650' to 8492' on trip tank, filling pipe every 30 stands, hole displacing properly, torque & drag readings every 2000' in casing w/22 - 25% flow on each stand w/no drag.	1
TIH	Orient toolface and TIH through trough and sidetrack to 8,685'.	0.5
U_MWD	Take survey check shot to verify in new hole @ 8,685'. Survey verified in new hole but MWD getting magnetic interference. Trouble shoot and re-test MWD w/ no success eliminating magnetic interference.  Note: Conference call w/ Pioneer Superintendant, Directional Driller, and MWD. Decision made to POOH and change out Stabil Drill crossover and stabilizer, and recalibrate MWD tool.  Re-enter new hole w/ bit depth 8,685'. Survey Depth 8,629'. Inc 82.6° Azimuth 355.8° 1st time in New Hole w/ bit depth 8,675'. Survey Depth 8,630'. Inc 83.3° Azimuth 353.8°  Original Hole w/ bit depth 8,681'. Survey Depth8,632'. Inc 81.9° Azimuth 0.5°	2
U_MWD	EJSA with H&P crew & PNR representative over tripping out of the hole. Perform Flow Check, No Flow, Pump Slug. TOOH F/ 8,685' to BHA'. No excessive drag and hole taking proper displacement from trip tank. Taking PU & SO every 500' while in OH & every 2,000' while in casing.	3.5
U_MWD	Held EJSA on L/D BHA directional tools per DD	0.5
U_MWD	Rack back collars & L/Dn Directional BHA per DD instructions, L/Dn magnetized crossover and stabilizer. Retrieve MWD tool & L/Dn same. rack back Non mag / UBHO. L/Dn bit.  Note: Found stabilzier and crossover magnetized.	2.5
U_MWD	Remove & Inspect short wear bushing (ok). Wash out well head with wash sub, turn 1/2 and install wear bushing, dope & lock down wear bushing with 2- lock screws. (PNR CM witnessed) Clean floor from OBM	1
U_MWD	EJSA on P/U Motor, MWD, Crossover, Stabilizer, and M/U bit. P/U motor.	1

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 28 Daily Operation: 11/14/2014 06:00 - 11/15/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR		AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
49	27	12,621.0	8,333.9	9.80	H & P, 606	

### Operations Summary

TIH w/ BHA #9. Orient thru sidetrack. TIH. Relog gamma F/10,986' T/11,016' . Rotate / slide 8-1/2" Production Lateral Section F/ 11,016' to 12,621'.

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 26.5 Days From Spud, 26.75 Total Days On Well, 62 Total Days On Location

Rig NPT: 7 hrs previous 24 hrs. 250.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 40%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
U_MWD	Held EJSA on P/U BHA directional tools	0.5
U_MWD	EJSA on P/U Motor, MWD, and M/U bit. P/U motor, Scribe & Install MWD, Test motor & MWD 80 spm, 308 gpm, 550 psi. Good Test.	1
U_MWD	TIH F/BHA to 7,648' on trip tank, filling pipe every 30 stands, hole displacing properly, torque & drag readings every 2000' in casing w/22 - 25% flow on each stand w/no drag.	3.5
U_MWD	Service rig & top drive	0.5
U_MWD	Continue TIH. TIH F/BHA F/7,648' to 8496' on trip tank, filling pipe every 30 stands, hole displacing properly, torque & drag readings every 2000' in casing w/22 - 25% flow on each stand w/no drag.	1
U_MWD	Orient thru sidetrack window	0.5
TIH	Continue TIH. TIH F/BHA F/8,496' T/10,986' on trip tank, filling pipe every 30 stands, hole displacing properly, torque & drag readings every 500' in open hole w/22 - 25% flow on each stand w/no drag.	1.5
TIH	Fill pipe & Relog gamma last std, F/10,986' T/11,016' 95' @ 100 ft/hr:150 spm, 575 gpm, 287 motor rpm, 30 TDS rpm, 317 total rpm, 3150 spp	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 9' @ 18'/hr: 10 k WOB, 35 TDS rpm, 287 motor rpm, 322 total rpm, 5 k TQ., 119 spm, 456 gpm, 600 psi Diff, 2270 spp, Avg MSE 25. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 20 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 70R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 72' @ 72'/hr: 30 k WOB, 80 TDS rpm, 287 motor rpm, 367 total rpm, 11 k TQ., 150 spm, 575 gpm, 600 psi Diff, 3600 spp, Avg MSE 25. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 20 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 70R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 82' @ 164'/hr: 33 k WOB, 80 TDS rpm, 287 motor rpm, 367 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3900 spp, Avg MSE 30. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 36'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 120R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 264' @ 132'/hr: 33 k WOB, 80 TDS rpm, 287 motor rpm, 367 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3900 spp, Avg MSE 30. Full returns to surface.	2
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 36'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 120R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 359' @ 143'/hr: 33 k WOB, 80 TDS rpm, 287 motor rpm, 367 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3900 spp, Avg MSE 40. Full returns to surface.	2.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 120L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 723' @ 131'/hr: 33 k WOB, 80 TDS rpm, 287 motor rpm, 367 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3900 spp, Avg MSE 40. Full returns to surface.	5.5
	PTB @ 12,621' Inc. 89.1°, Azi. 1.7°, 2' Above and 7' Left of Sidetrack Plan 3 Line	
	Distance from original hole = 72'	
	Distance from University 3-17 9: 420'	
	Distance from 178B #17H: 500'+	
	MWD Tool Temperature - 163°F	

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 29 Daily Operation: 11/15/2014 06:00 - 11/16/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig		
50	28	15,039.0	8,351.4	9.80	H & P, 606		

### Operations Summary

Rotate / Slide 8-1/2" Production Lateral Section F/ 15,039'- 16,xxx.

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 27.5 Days From Spud, 27.75 Total Days On Well, 63 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 250.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 64%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 471' @ 135'/hr: 33 k WOB, 80 TDS rpm, 287 motor rpm, 367 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3900 spp, Avg MSE 40. Full returns to surface.	3.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 90R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 75' @ 150'/hr: 33 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3900 spp, Avg MSE 40. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 70R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 262' @ 131'/hr: Avg MSE 10. Full returns to surface.	2
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 10' @ 20'/hr, 180 GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 179' @ 179'/hr: Avg MSE 10. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 30' @ 60'/hr, 180 GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 79' @ 79'/hr: Avg MSE 10. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 100L GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 179' @ 119'/hr: 33 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3950 spp, Avg MSE 40. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 22' @ 22'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 140L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 166' @ 166'/hr: 33 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3950 spp, Avg MSE 50. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 18'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 95L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 264' @ 132'/hr: 33 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3950 spp, Avg MSE 50. Full returns to surface.	2
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 15'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 70L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 90' @ 180'/hr: 33 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3950 spp, Avg MSE 50. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 12' @ 24'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 15R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 167' @ 111'/hr: 33 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3950 spp, Avg MSE 50. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 70R GTF. Full returns to surface.	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 262' @ 174'/hr: 33 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3950 spp, Avg MSE 50. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 40'/hr, 25 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 150- 250 psi Diff, 3300 psi SPP, 120R GTF. Full returns to surface.	0.5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 32' @ 64'/hr: 33 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 12 k TQ., 150 spm, 575 gpm, 700 psi Diff, 3950 spp, Avg MSE 50. Full returns to surface.  PTB @ 15,039' Inc. 91.2°, Azi. 1.8°, 1' Below and 12' Left of Sidetrack Plan 3 Line  Distance from original hole (passing @ 14,710' MD) = 26'  Distance from University 3-17 9: 426'  MWD Tool Temperature - 177°F	0.5

Report #: 30 Daily Operation: 11/16/2014 06:00 - 11/17/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
51	29	16,484.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
	8,328.5	9.80
		Rig H & P, 606

#### Operations Summary

Rotate / Slide 8-1/2" Production Lateral Section F/ 15,039' - 16,484'.

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 28.5 Days From Spud, 28.75 Total Days On Well, 64 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 250.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 79%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 136' @ 68'/hr: 30 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 15 k TQ., 150 spm, 575 gpm, 700 psi Diff, 4100 spp, Avg MSE 50. Full returns to surface.	2
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 15'/hr, 45 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 100 psi Diff, 3400 psi SPP, 45 R GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 174' @ 174'/hr: Avg MSE 50. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 20'/hr, 70 R GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 64' @ 128'/hr: Avg MSE 50. Full returns to surface.	1
RIG_SVC	Service rig & top drive	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 104' @ 69'/hr: Avg MSE 58. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 15'/hr, 150 R GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 63' @ 63'/hr: Avg MSE 58. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 15'/hr, 180 GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 90' @ 90'/hr: Avg MSE 58. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 25' @ 25'/hr, 45 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 100 psi Diff, 3400 psi SPP, 145 L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 69' @ 69'/hr: 30 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 15 k TQ., 150 spm, 575 gpm, 700 psi Diff, 4150 spp, Avg MSE 58. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 25' @ 25'/hr, 135L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 74' @ 148'/hr: Avg MSE 58. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 18' @ 18'/hr, 115R GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 260' @ 104'/hr: Avg MSE 61. Full returns to surface.	2.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 10' @ 18'/hr, 130L GTF. Full returns to surface.	1.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 170' @ 113'/hr: Avg MSE 61. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 22' @ 15'/hr, 150L GTF. Full returns to surface.	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 62' @ 124/hr: 30 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 15 k TQ., 150 spm, 575 gpm, 700 psi Diff, 4150 spp, Avg MSE 58. Full returns to surface.  PTB @ 16,484' Inc. 92.0°, Azi. 2.1°, 1' Above and 13' Left of Sidetrack Plan 3 Line  Distance from University 3-17 9: 472'  MWD Tool Temperature - 181°F	0.5

Report #: 31 Daily Operation: 11/17/2014 06:00 - 11/18/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
52	30	17,934.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
	8,318.4	9.80
		Rig
		H & P, 606

### Operations Summary

Rotate / Slide 8-1/2" Production Lateral Section F/ 16,484' - 17,934'.

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 29.5 Days From Spud, 29.75 Total Days On Well, 65 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 250.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 94%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 105' @ 105/hr: 35 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 15 k TQ., 150 spm, 575 gpm, 700 psi Diff, 4250 spp, Avg MSE 50. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 25' @ 25/hr, 45 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 100 psi Diff, 3450 psi SPP, 60 L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 69' @ 138/hr: 273 motor rpm, 363 total rpm, 15 k TQ., 142 spm, 546 gpm, 700 psi Diff, 4000 spp, Avg MSE 50. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 25' @ 25/hr, 90 L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 447' @ 112/hr: Avg MSE 50. Full returns to surface.	4
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 30' @ 20/hr, 150 L GTF. Full returns to surface.	1.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 347' @ 115/hr: Avg MSE 55. Full returns to surface.	3
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 20/hr, 45 k WOB, 150 spm, 575 gpm, 287 Motor rpm, 100 psi Diff, 3450 psi SPP, 140 L GTF. Full returns to surface.	1
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 88' @ 88/hr: 35 k WOB, 90 TDS rpm, 287 motor rpm, 377 total rpm, 15 k TQ., 150 spm, 575 gpm, 700 psi Diff, 4250 spp, Avg MSE 50. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 6.6/hr, 140 L GTF. Full returns to surface.	3
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 155' @ 103/hr: Avg MSE 55. Full returns to surface.	1.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 7.5/hr, 70 L GTF. Full returns to surface.	2
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 69' @ 138/hr: Avg MSE 55. Full returns to surface.	0.5
RIG_SVC	Service rig & top drive	0.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 20' @ 40/hr: Avg MSE 55. Full returns to surface.	0.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 15' @ 7.5/hr, 30 L GTF. Full returns to surface.  PTB @ 17,934' Inc. 88.7°, Azi. 1.2°, 4' Below and 10' Right of ST 3 Plan 4 Line  Distance from University 3-17 9: 476'  MWD Tool Temperature - 181°F	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

**Report #: 32 Daily Operation: 11/18/2014 06:00 - 11/19/2014 06:00**

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig		
53	31	18,484.0	8,308.6	9.75	H & P, 606		

### Operations Summary

Rotate / Slide 8-1/2" Production Lateral Section F/ 17,934' - 18,484' TD .Perform K&M Clean Up Cycle, TOH (SLM) @ 11,653'.

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 30.5 Days From Spud, 30.75 Total Days On Well, 66 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 250.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 100%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 259' @ 103'/hr: 25 k WOB, 90 TDS rpm, 270 motor rpm, 360 total rpm, 17 k TQ., 140 spm, 540 gpm, 700 psi Diff, 4100 spp, Avg MSE 50. Full returns to surface.	2.5
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 20' @ 7'/hr, 60 k WOB, 140 spm, 540 gpm, 270 Motor rpm, 100 psi Diff, 3450 psi SPP, 120 L GTF. Full returns to surface.	3
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 64' @ 128'/hr: 25 k WOB, 90 TDS rpm, 270 motor rpm, 360 total rpm, 17 k TQ., 140 spm, 540 gpm, 700 psi Diff, 4100 spp, Avg MSE 50. Full returns to surface.	1
DRL_SLID E	Slide Drill 8-1/2" Production Lateral 25' @ 10'/hr, 60 k WOB, 150 spm, 575 gpm, 288 Motor rpm, 250 psi Diff, 3750 psi SPP, 150 L GTF. Full returns to surface.	2.5
DRL_ROT	Rotate Drill 8-1/2" Lateral Section 182' @ 91'/hr: 25 k WOB, 90 TDS rpm, 270 motor rpm, 360 total rpm, 17 k TQ., 140 spm, 540 gpm, 700 psi Diff, 4100 spp, Avg MSE 50. Full returns to surface.  TD'd Lateral @ 18,484' @ 17:00 11/18/2014.  PTB @ 18,484' TD Inc. 91.3°, Azi. 1.1°, 4' Above and 12' Right of ST 3 Plan 4 Line  Distance from University 3-17 9: 482'  MWD Tool Temperature - 184°F	2
CIRC	Perform clean up cycle @ TD per K&M High Angle Hole Cleanup Procedure, (6.5 B/U Per K&M Worksheet) circulating @ 150 spm, 575 gpm, 100 TDS rpm, 3,900 spp, reciprocating full stand.  Note: Released WTF Mud Loggers @ 24:00 hrs	7
TOOH	EJSA with H&P crew & PNR representative over tripping out of the hole. Check for flow. Well static. Pump slug. POOH (SLM) F/18,484' - 11,653', w/ no excess drag & hole is taking proper displacement from trip tank. Taking PU & SO every 500' while in OH & every 2,000' while in casing.	6

**Report #: 33 Daily Operation: 11/19/2014 06:00 - 11/20/2014 06:00**

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig		
54	32	18,484.0	8,308.6	9.75	H & P, 606		

### Operations Summary

TOH, L/D Dir. Tools, Pull Wear Bushing, Function Test BOP, R/U CRT, Run 5 1/2" Production Casing

### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 31.5 Days From Spud, 31.75 Total Days On Well, 67 Total Days On Location

Rig NPT: 1 hrs previous 24 hrs. 251.25 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 100%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	H&P conducting a drug test on all H&P crew members on location.	0.5
TOOH	EJSA with H&P crew & PNR representative over tripping out of the hole. POOH (SLM) F/11,653' - 7,700' (above shoe), w/ no excess drag & hole is taking proper displacement from trip tank. Taking PU & SO every 500' while in OH.  Called the TRRC for an extension on BOP test and Kate Ward grant us 4 days pasted the 11/20/2014 (day of full test).	4
U_RIG_OT R	EJSA on & change swivel packing in top drive.	1
TOOH	Continue tripping out of the hole. Check for flow. Well static. Pump slug. POOH (SLM) F/7,700' to 1,489', w/ no excess drag & hole is taking proper displacement from trip tank. Taking PU & SO readings every 2,000' while in casing.	5.5
TOOH	EJSA on L/D drill pipe (racking board full) & L/D 51 Jts. drill pipe.	3

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
BHA_HAN DLING	EJSA on L/D BHA, L/D flex NMDC, Drain motor, Remove bit, Remove MWD, L/D NMDC, UBHO Sub, X.O. Sub, 8" Nortrack Stabilizer & Motor  Bit Grade - 1/1/CT/C/X/0/NO/TD	2.5
WEARBUS HING	EJSA on Retrieve Wear Bushing, Remove & Inspect wear bushing (OK). Wash out well head. Lay down wear bushing. Clean OBM from & organize floor for running casing.  Function Test BOP, (OK)	1.5
CASE	EJSA with H&P rig crew, Tesco casing crew & PNR representative over rigging up CRT. R/U Tesco CRT & Casing equipment.  OD of casing collars = 6.125" ID of single joint elevators = 5.625"	2.5
CASE	EJSA with Tesco Casing crew, H&P rig crew & PNR representative over making up 2 jt shoe track & running 5-1/2" Production casing. P/U & M/U 5 1/2" 20# P110 BTC. Weatherford Guide Shoe, 2 joint shoe track, Weatherford latch in double valve float collar, (thread lock all threads in shoe track including top of short jt), 20' short jnt, 8' pup, GeoDynamics time delay toe sleeve, 8' pup. Test floats - (good).  Average ID of 10 Joints 5 1/2" 20# P-110 BTC Casing 4.8125".	1
CASE	TIH w/ 5 1/2" 20# P110 BTC casing F/132' - 1,105' with CRT. Taking returns to trip tank, hole giving proper displacement roughly 12.5 bbl's per 10 joints ran. Torque = 5,500 ft/lbs to base of triangle. Break circ. every 40 jts. Taking PU & SO every 2000' while inside csg.	2.5

Report #: 34 Daily Operation: 11/20/2014 06:00 - 11/21/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG DRILLING	ODR	033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
55	33	18,484.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
	8,308.6	9.80
	Rig	H & P, 606

#### Operations Summary

Run 5 1/2" Production Casing

#### Remarks

Rig (H&P 606) & Well Progress: 4 Rig Move Days, 32.5 Days From Spud, 32.75 Total Days On Well, 68 Total Days On Location

Rig NPT: 1.25 hrs previous 24 hrs. 252.5 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 100%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
CASE	TIH w/ 5 1/2" 20# P110 BTC casing F/1,105' - 6,155' with CRT. Taking returns to trip tank, hole giving proper displacement roughly 12.5 bbl's per 10 joints ran. Torque = 5500 ft/lbs to base of triangle. Break cir. every 40 jts. Taking PU & SO every 2000' while inside csg.	8.5
U_RIG	Top drive swivel packing leaking. Already replace swivel packing at shoe when coming out of hole to run production casing notice that packing was leaking around top part of wash pipe union, taking out and replace with ready made wash pipe kit.	0.5
RIG_SVC	Service rig and top drive and inspect CRT	0.5
CASE	TIH w/ 5 1/2" 20# P110 BTC casing F/6,155' - 7,789' with CRT. Taking returns to trip tank, hole giving proper displacement roughly 12.5 bbl per 10 joints ran. Torque = 5500 ft/lbs to base of triangle. Break cir. every 40 jts. Taking PU & SO every 2000' while inside csg.	2.25
CIRC	Circulate Bottoms Up @ 7,784' (9 5/8" Shoe @ 7,760'), 85 spm, 325 gpm, 160 psi F/3,900 strokes, Full Returns To Surface.	1
CASE	TIH w/ 5 1/2" 20# P110 BTC casing F/7,789' - 11,002' with CRT. Taking returns to trip tank, hole giving proper displacement roughly 12.5 bbl per 10 joints ran. Torque = 5500 ft/lbs to base of triangle. Break cir. every 40 jts. Taking PU & SO every 500' while in open hole.	4.75
U_RIG_OT R	Attempt to CBU, Fluid leaking by 2" fill up line valve, replace paddle & seat in valve.	0.75
CIRC	Circulate Bottoms Up @ 11,002', 85 spm, 325 gpm, 500 psi F/5,500 strokes, Full Returns To Surface.  Note: Called Crest Pumping Technology @ 01:00, to be on location @ 10:00 a.m. 11/21/2014 (9 hours notice).	1.25
CASE	TIH w/ 5 1/2" 20# P110 BTC casing F/11,002' - 14,003' with CRT. Taking returns to trip tank, hole giving proper displacement roughly 12.5 bbl per 10 joints ran. Torque = 5500 ft/lbs to base of triangle. Break cir. every 40 jts. Taking PU & SO every 500' while in open hole.  Note: Called TRRC for notification of production casing cement job @ 02:00, spoke with Sheronda.  Note: Called Seaboard @ 05:00 for Tech to be on location @ 10:00 11/21/2014	4.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 35 Daily Operation: 11/21/2014 06:00 - 11/22/2014 06:00

Job Category ORIG DRILLING			Primary Job Type ODR			AFE Number 033238
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
56	34	18,484.0	8,308.6	9.80	H & P, 606	

Operations Summary  
Run 5 1/2" Production Casing & Land @ 18,482', Circulate 1 Casing Volume, Cement Production Casing, N/D BOP's, Install Abandonment Cap & Test, Prepare To Skid, Release Rig To University 178B 19H

Remarks  
Rig (H&P 606) & Well Progress: 4 Rig Move Days, 33.5 Days From Spud, 33.75 Total Days On Well, 69 Total Days On Location

Rig NPT: 0 hrs previous 24 hrs. 252.5 NPT for month of November

Completion percentage: Surface - 100%, Intermediate - 100%, Curve - 100%, Lateral - 100%

Estimated Pad Drilling Completion Date: 12/15/2014

### Time Log Summary

Operation	Com	Dur (hr)
CASE	EJSA on TIH w/ 5 1/2" 20# P110 BTC casing F/14,003' - 14,336' with CRT. Taking returns to trip tank, hole giving proper displacement roughly 12.5 bbl per 10 joints ran. Torque = 5500 ft/lbs to base of triangle. Break cir. every 40 jts. Taking PU & SO every 500' while in open hole.	1
CIRC	Circulate Bottoms Up @ 14,336', 86 spm, 335 gpm, 500 psi F/7,600 strokes, Full Returns To Surface.	1.5
CASE	TIH w/ 5 1/2" 20# P110 BTC casing F/14,336'-18,449' with CRT. Taking returns to trip tank, hole giving proper displacement roughly 12.5 bbl per 10 joints ran. Torque = 5500 ft/lbs to base of triangle. Break cir. every 40 jts. Taking PU & SO every 500' while in open hole.	6.5
CASE	JSA W/ Seaboard Rep, Rig Crew & PNR CO. Man, P/U 5 1/2" 20# P-110 BTC wash down Hanger and Landing joint, Land Casing @ 18,482'  Shoe depth: 18,482' md. Float Collar depth: 18,390' md. Shoe track length: 91.45' Toe Sleeve: 18,359' md Marker's @ 10,781' & 10,961' md. Ran 36 rigid body centralizers.	0.5
CIRC	Circulate 1 Casing Volume (4,480 strokes) @ 18,482' KB, 329 bbl, 86 spm, 705 psi, full returns to surface.  EJSA on rigging down Tesco equipment  EJSA w/ Crest cementers on rigging up cement lines to floor	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
CMT	<p>Crest Pumping Technologies mixed &amp; pumped cement as follows:</p> <p>Test lines to 5,000 psi. OK</p> <p>Weighted Spacer - 50 bbls @ 11.10 lb/gal. Mixed with 3 lb/bbl of GTX Spacer, 152.4 lb/bbl Barite, 2.0 gal/bbl of Plexaid 830 Surfactant and 0.1 gal/bbl of Anti Foam CPT-41L.</p> <p>Drop Bottom Plug</p> <p>Lead Slurry - 223 bbls mixed @ 11.9 lb/gal, 2.42 ft³ yield, 13.62 gal/sk H2O. Mixed with 92 lb/sk 50/50 Poz H cement, 7% Bentonite Gel, 5% BWOW Sodium Chloride, 0.5% CPT-19, 0.40% CPT-503P Defoamer, 0.30% CPT-45 Suspension Agent, 4 lb/sk KOL Seal, 0.15% Citric Acid and 0.15% CPT-20 Cement Retarder</p> <p>Tail Slurry - 523 bbls mixed @ 13.2 lb/gal, 1.63ft³ yield, 8.36 gal/sk H2O. Mixed with 87 lb/sk Class H Plus cement, 1% Bentonite Gel, 3% BWOW Sodium Chloride, 1% CPT-19, 0.4% CPT-35 Cement Dispersant, 0.25% CPT-503P Defoamer and 0.3% CPT-20 Cement Retarder</p> <p>Drop Top Plug</p> <p>PNR representatives observed both bottom &amp; top plug inserted into casing below CRT.</p> <p>Displaced with 407 bbls @ 8.32 lb/gal H2O, Bumped plug @ 22:16 hrs 11/21/14 with 550 psi over final lift pressure of 1,850 psi (2,400 psi). Held pressure for 5 min., released pressure @ 22:21 hrs, bled back 2 bbls. Floats Held.</p> <p>Circulated out approx. 32 bbls OBM contaminated w/spacer.</p> <p>Note: After bumping top plug monitored well for flow on flow line for 5 min, well was static.</p> <p>Lift Pressures: 50 bbl - 6 bpm - 570 psi, 100 bbls - 6 bpm - 1,060 psi, 150 bbls - 6 bpm - 1,570 psi, 200 bbls - 6 bpm - 1,970 psi, 250 bbls - 5.8 bpm - 2,200 psi, 300 bbls - 5.9 bpm - 2,200 psi, 350 bbls - 5.4 bpm - 2,150 psi, 390 bbls - 3.0 bpm - 1,850 psi; 400 bbls - 3.0 bpm - 1,850 psi; 407 bbls 3.0 bpm - 1,850 / 2,400 psi.</p> <p><b>**Held full returns to surface throughout cement job.**</b></p>	5.5
CMT	Pump line flush & fresh water through BOP stack, Flowline and Choke Manifold to clear OBM & any possible cement.	1
CMT	Rig down Crest Pumping Technologies cement crew & iron.	0.5
WLHEAD	Drain Stack. Back off landing joint, pull out and install running tool and pack off. Run in with pack off and verify good seat (OK). Energize pack off with lock pins. Back out landing joint and remove running tool, lay down landing joint. Witnessed by PNR Co. Man.	1.25
CASE	EJSA with Tesco CRT hands, H&P rig crew & PNR Co. Man on laying down Tesco CRT. Rig down Tesco CRT per Tesco, lay down hydraulic stand & hoses, lay down Tesco anti-rotational device.	1.25
NU_TEST	<p>EJSA W/ETS, Rig Crew &amp; PNR Co. Man On N/D BOPE. Hang Off Flowline, N/D Bell Nipple, Choke &amp; Kill Lines, Secure BOP Stack W/ BOP Wrangler, Remove Turnbuckles, N/D BOP Stack &amp; Set Back W/BOP Wrangler. Install Abandonment Cap and Test to 500 psi.</p> <p>Released Rig To University 178B 19H @ 06:00 11/22/2014</p>	3.5

### Report #: 1 Daily Operation: 12/18/2014 06:00 - 12/19/2014 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
83	1	0.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
		Rig

### Operations Summary

### Install B section

### Remarks

### Install B section

### Time Log Summary

Operation	Com	Dur (hr)
WSI	Wait on sun light	2
SAFETY	Hold Safety meeting w/ crew	0.5
WSI	WSI- Plumb cellars. Fill w/ pea gravel.	2
WSI	Install B section	4
WSI	WSI	15.5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

**Report #: 2 Daily Operation: 12/21/2014 06:00 - 12/22/2014 06:00**

Job Category ORIG COMPLETION			Primary Job Type OCM			AFE Number 033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig	
86	2	0.0			Pro Oilfield Services, <rigno>	

**Operations Summary**

MIRU Pro Oilfield Services and Texas Energy Pump Truck.  
RIH w/ 4.625 gauge ring and junk basket to a depth of 8,200 ft.  
POOH w/ gauge ring and junk basket.  
RIH with GR/CBL.  
Made first pass from a depth of 8,170 ft to surface without pressure.  
RU Texas Energy pump truck.  
Made second pass from a depth of 8,200 ft with 1,500 psi to surface.  
Bled down well pressure to 0 psi. POOH w/ GR/CBL tools.  
Secured well. Rigged down Pro Oilfield Services

Estimated top of cement @ 1,500 ft

Surface casing painted red. Intermediate casing painted green.

**Remarks**

Day Shift- Fabian Sotelo

**Time Log Summary**

Operation	Com	Dur (hr)
WSI	WSI, No activity	2
SAFETY	Held pre job safety meeting with Pro Oilfield Services and Texas Energy Services	0.5
LOGCBL	MIRU Pro Oilfield Services and Texas Energy Pump Truck. RIH w/ 4.625 gauge ring and junk basket to a depth of 8,200 ft. POOH w/ gauge ring and junk basket. RIH with GR/CBL. Made first pass from a depth of 8,170 ft to surface without pressure. RU Texas Energy pump truck. Made second pass from a depth of 8,200 ft with 1,500 psi to surface. Bled down well pressure to 0 psi. POOH w/ GR/CBL tools. Secured well. Rigged down Pro Oilfield Services  Estimated top of cement @ 1,500 ft	3
WSI	Well secured, No activity. Await Pre-Stim Ops.	18.5

**Report #: 3 Daily Operation: 12/30/2014 06:00 - 12/31/2014 06:00**

Job Category			Primary Job Type			AFE Number		
ORIG COMPLETION			OCM			033184		
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig			
95	3	0.0						

**Operations Summary**

NU Frac stack,build containment for frac tanks,set co man trailers

Note: will set frac tanks tomorrow pending road conditions.

**Remarks**

Day Shift- Bob Belcher

**Time Log Summary**

Operation	Com	Dur (hr)
WSI	Well secured, No activity. Await Pre-Stim Ops.	6
STACK	NU Frac Stack	4
RURD	Building containments for working tanks,& pumpdown tanks.	8
SDFN	All containments built will put tanks in containment tomorrow,pending road conditions.	6

**Report #: 4 Daily Operation: 12/31/2014 06:00 - 1/1/2015 06:00**

Report #: 4    Daily Operation: 12/31/2014 00:00 - 1/1/2015 00:00					
Job Category			Primary Job Type		
ORIG COMPLETION			OCM		
			AFE Number		
			033184		
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
96	4	0.0			

**Operations Summary**

WSI, Due to icy road conditions.

**Remarks**

Days: Trey Armstrong / Jim Polston  
Nights: Bob Belcher / Shawn Everett

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
U_WOW	WO WEATHER & PPS MIRU	24

### Report #: 5 Daily Operation: 1/1/2015 06:00 - 1/2/2015 06:00

Job Category ORIG COMPLETION		Primary Job Type OCM		AFE Number 033184	
Days From Spud (days) 97	Days on Location (days) 5	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig

#### Operations Summary

WSI, Due to icy road conditions.

Note: Major Ice storm roads are still not safe for travel.

#### Remarks

Days: Trey Armstrong / Jim Polston

Nights: Bob Belcher / Shawn Everett

### Time Log Summary

Operation	Com	Dur (hr)
U_WOW	WO WEATHER & PPS MIRU	24

### Report #: 6 Daily Operation: 1/2/2015 06:00 - 1/3/2015 06:00

Job Category ORIG COMPLETION		Primary Job Type OCM		AFE Number 033184	
Days From Spud (days) 98	Days on Location (days) 6	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig

#### Operations Summary

WSI, Due to icy road conditions.

Note: Major Ice storm roads are still not safe for travel.

#### Remarks

Days: Trey Armstrong / Jim Polston

Nights: Bob Belcher / Shawn Everett

### Time Log Summary

Operation	Com	Dur (hr)
U_WOW	WO WEATHER & PPS MIRU	24

### Report #: 7 Daily Operation: 1/3/2015 06:00 - 1/4/2015 06:00

Job Category ORIG COMPLETION		Primary Job Type OCM		AFE Number 033184	
Days From Spud (days) 99	Days on Location (days) 7	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig

#### Operations Summary

WSI, Wait on roads to clear, Spot working tanks, chemical tanks, flow back, & pump down tanks, finish containment, Acid, & sand delivered. - RU frac support equipment

#### Remarks

Days: Trey Armstrong / Jim Polston

Nights: Bob Belcher / Shawn Everett

### Time Log Summary

Operation	Com	Dur (hr)
U_WOW	WO WEATHER & PPS MIRU	7
RURD	MIRU frac support equipment - Working/FB tanks - containment - Acid & sand delivered - PD trucks AOL.	17

### Report #: 8 Daily Operation: 1/4/2015 06:00 - 1/5/2015 06:00

Job Category ORIG COMPLETION		Primary Job Type OCM		AFE Number 033184	
Days From Spud (days) 100	Days on Location (days) 8	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

#### Operations Summary

WSI, RU FB support equipment, RU PD trucks and support equipment, load 2 tanks with produced water. MIRU PPS Frac Fleet

#### Remarks

Days: Trey Armstrong / Jim Polston

Nights: Bob Belcher / Shawn Everett

### Time Log Summary

Operation	Com	Dur (hr)
RURD	RU Express FB support equipment, RU EcoLoop PD trucks and support equipment, load 2 tanks with 9.1#/gal produced water. Freeze point ~18°F. Load 1 tank w/ gel & 1 tank w/ surfactant. Spot ArkLaTex WL equipment. WO PPS Frac Fleet	13.5
WOF	Waiting on PPS Frac crew to arrive from Pembroke X-1 4H.	5.5
RURD	MIRU PPS Frac spread.	5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

**Report #: 9 Daily Operation: 1/5/2015 06:00 - 1/6/2015 06:00**

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 101	Days on Location (days) 9	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

Operations Summary  
WSI, Complete RU of PD support equipment, MIRU PPS Frac Fleet

Remarks  
Days: Trey Armstrong / Jim Polston  
Nights: Bob Belcher / Shawn Everett

### Time Log Summary

Operation	Com	Dur (hr)
RURD	Continue MIRU in PPS frac & support equipment.	24

**Report #: 10 Daily Operation: 1/6/2015 06:00 - 1/7/2015 06:00**

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 102	Days on Location (days) 10	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig Coil Tubing Solutions, 11

Operations Summary  
Prime up / Test / Set pop offs / Test CSC / Open Sleeve / Attempt Acid job / Rig UP Coil Tubing

Remarks  
DOWNTIME:  
Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 1.0 hrs Cumulative: 1.0 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs

FTR - 96 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 96 bbls  
TSIF - 0 lbs

Days: Trey Armstrong / Jim Polston  
Nights: Bob Belcher / Shawn Everett

### Time Log Summary

Operation	Com	Dur (hr)
WOZF	WO 19H to open sleeve and injection test.	8.75
U_PEPXD	PPS fixing leaks during pressure test	0.75
STIM	Pumped 11 bbl at 2.1 bpm until casing pressure to 6,583 psi and hold for 15 minutes. No leaks downhole or on surface. Pumped 5 more bbl at 2.1 bpm until casing pressure to 9,627 psi. and hold. Sleeve shifted in 17 minutes. Let pressure fall to 4901 psi and start injection test. Worked rate up to 16.8 bpm and 7660 psi. Had pumped 32 bbls when formation locked up and pressure reached 10386 psi. Flowed well down to 1520 psi. Start pumping back into well at a rate of 2.0 bpm, pressure slowly climbed to 8760 psi when shut in. Held pressure for 5 min. Bled down to 8678. Flowed well down to 0. Pressured back up on csg to 9,500 psi. held for 30 minutes. Pressure stayed steady and did not bleed off enough to pump any rate. Will call coil to TCP stage 2	2.5
WSI	Well shut in waiting on TCP operations.	8
RURD	Coil Tubing Solutions started moving in and rigging up	4

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 11 Daily Operation: 1/7/2015 06:00 - 1/8/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 103	Days on Location (days) 11	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig Coil Tubing Solutions, 11

### Operations Summary

Rig up CT - TCP stg 4 guns - RD CT - WSI WO TCP ops on 17H and frac 19H

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.0 hrs Cumulative: 1.0 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs

FTR - 96 bbls  
 RT - 0 bbls  
 CR - 0 bbls  
 LTR - 96 bbls  
 TSIF - 0 lbs

Days: Trey Armstrong / Jim Polston  
 Nights: Bob Belcher / Shawn Everett

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	Prejob JSA meeting	0.5
RURD	Nipple down WL Flange on well head and NU CT BOP and continue RU // NU BHA from top down consists of Coil Connector 3.12" od/ 1.5" id/ 1.34' length// Dual Backpressure Valve 2.88" Od/ 1.00" id/ 1.94' length// FAU HT Disconnect 2.88" od/ .66" id/ 2.02' length// Crossover Sub(2.375 pac box-by-2.375 EUE Pin) 2.88" od/ 1.38" id/ 1.00' length// Ported Sub (2-3/8" EUE) 3.06" od/ 1.99" id/1.70' length// Gun Adapter 3.13"od// Gun 5 3.13" od/ 2.71' length// 6 min time delay 3.13" od/ .83' length// Gun 4 3.13" od/ 2.71' length// 6 min time delay 3.13" od/ .83' length// Gun 3 3.13" od/ 2.71' length// 6 min time delay 3.13" od/ .83' length// Gun 2 3.13" od/ 2.71' length// Gun 1 3.13" od/ 2.71' length// Pressure Activated Firing Head Ported Sub (2-3/8" EUE) 3.13" od/ 1.95' length// Over all length for BHA 24.94 '	4
TCP	RIH with CT @ 11770 ' CT sat down pulled backup to the curve and tried again // CT made it past 11770 ' and continued RIH// @ 18013 ' stacked again pulled up 1000 ' and tried again and stacked out same depth pulled up for second attempt// Stacked out at 18006 ' again called Engineer// Was instructed to pull up to stage 4 and perforate as follows// CDK TCP Guns for Stage# 4 Of 42 . 5 TCP Guns 3-1/8 perforating guns W/ 21.5 gram, 6 SPF. 60 degree phasing, 0.42 EHD. Perforate at intervals: 17755-17757, 17795-17797, 17835-17837,17875-17877, 17915-17917, Total of 30 shots. POOH. Confirmed all guns fired.  FTR: 96 BBL LTR: 96 BBL	6
POOH	POOH with CT and BHA - Bump up, shut well in a lower master valve and blow dry with N2 to help keep reel and flow back iron from freezing while RD and move over to 17H.	6.5
RURD	Break out TCP BHA - RD CTS 2-3/8" CTU and begin move to 17H well.	1.5
WSI	WSI - WO CT ops on 17H and frac 19H.	5.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

**Report #: 12 Daily Operation: 1/8/2015 06:00 - 1/9/2015 06:00**

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 104	Days on Location (days) 12	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

**Operations Summary**

WSI waiting on CT ops of the 17H - will wait to frac until stage 4 is caught up on the 19H and 17H

**Remarks**

**DOWNTIME:**

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.0 hrs Cumulative: 1.0 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs

FTR - 96 bbls  
 RT - 0 bbls  
 CR - 0 bbls  
 LTR - 96 bbls  
 TSIF - 0 lbs

Days: Will Lemons / Chad Hardin  
 Nights: Trey Armstrong / Jim Polston

**Time Log Summary**

Operation	Com	Dur (hr)
WSI	WSI - WO CT ops on 17H and frac 19H & 17H caught up to stage 4.	24

**Report #: 13 Daily Operation: 1/9/2015 06:00 - 1/10/2015 06:00**

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 105	Days on Location (days) 13	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

**Operations Summary**

WSI waiting on CT ops of the 19H - will wait to frac until stage 4 is caught up on the 19H and 17H

**Remarks**

**DOWNTIME:**

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.0 hrs Cumulative: 1.0 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs

FTR - 96 bbls  
 RT - 0 bbls  
 CR - 0 bbls  
 LTR - 96 bbls  
 TSIF - 0 lbs

Days: Will Lemons / Chad Hardin  
 Nights: Trey Armstrong / Jim Polston

**Time Log Summary**

Operation	Com	Dur (hr)
WSI	WSI - WO CT ops on 19H and frac 19H & 17H caught up to stage 4.	24

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

**Report #: 14 Daily Operation: 1/10/2015 06:00 - 1/11/2015 06:00**

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 106	Days on Location (days) 14	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

**Operations Summary**

WSI waiting on CT ops of the 19H - will wait to frac until stage 4 is caught up on the 19H and 17H

**Remarks**

**DOWNTIME:**

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.0 hrs Cumulative: 1.0 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs

FTR - 96 bbls  
 RT - 0 bbls  
 CR - 0 bbls  
 LTR - 96 bbls  
 TSIF - 0 lbs

Days: Will Lemons / Chad Hardin  
 Nights: Trey Armstrong / Jim Polston

**Time Log Summary**

Operation	Com	Dur (hr)
WSI	WSI - WO CT ops on 19H and frac 19H & 17H caught up to stage 4.	24

**Report #: 15 Daily Operation: 1/11/2015 06:00 - 1/12/2015 06:00**

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 107	Days on Location (days) 15	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

**Operations Summary**

WSI-will wait to frac until stage 4 is caught up on the 19H and 17H - begin stg 4 frac

**Remarks**

**DOWNTIME:**

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.0 hrs Cumulative: 1.0 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs

FTR - 96 bbls  
 RT - 0 bbls  
 CR - 0 bbls  
 LTR - 96 bbls  
 TSIF - 0 lbs

Days: Will Lemons / Chad Hardin  
 Nights: Trey Armstrong / Jim Polston

**Time Log Summary**

Operation	Com	Dur (hr)
WSI	WSI - WO Frac ops on 19H and & 17H caught up to stage 4.	22
PSI_TEST	Prime up / pressure test	0.5
STIM	Stg 4 frac in progress at report time	1.5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 16 Daily Operation: 1/12/2015 06:00 - 1/13/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5	
108	16	0.0				

### Operations Summary

Frac stg 4,5,6

Perf stg 5,6,7

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.0 hrs Cumulative: 1.0 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs

FTR - 16,918 bbls

RT - 0 bbls

CR - 0 bbls

LTR - 16,918 bbls

TSIF - 458,671 lbs

Days: Will Lemons / Chad Hardin

Nights: Trey Armstrong / Jim Polston

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>Frac Stage 4 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 222,352 lbs 30/50 sand &amp; 4959 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 7671 psi @ 50 bpm</p> <p>Step Test 65 bpm @ 5799 psi            49 bpm @ 4889 psi            33 bpm @ 4226 psi            16 bpm @ 3604 psi</p> <p>Pad ISIP: 2984 psi. FG: 0.79#. 5 min SIP: 2619 psi.</p> <p>Acid on form @ 35 bpm 7253 psi            Acid clear @ 35 bpm 4755psi</p> <p>Increased rate to 65 bpm. Started stage w/ 15# gel equivalent loading, 10 cp. @ 52 *F. Gel Ph 7. Pumped 1525 bbl pad. Ramped 30/50 sand from 0.5 ppg to 3 ppg. Flushed well with 494 bbls. Ending rate 66 bpm @ 5025 psi. Placed 100% prop iin formation.            Avg. rate: 61 bpm Avg. psi: 6209 psi            Max. rate: 71 bpm Max. psi: 8193 psi            End of job ISIP 1926 FG: 0.66</p> <p>FTR: 5055            CR: 0            LTR: 5055            TSIF: 222,352</p>	0.25
PERF	<p>RU Arklatex WL for Stage# 5 of 42 . RIH &amp; pump down Weatherford CFP &amp; (5) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 17736. Perforate at intervals: 17715-17717, 17675-17677, 17635-17637, 17595-17597, 17555-17557, Total of 30 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /4000psi, 320 ft/min, 1150 Line Ten.</p> <p>TBP: 492 BBL            FTR: 5547 BBL            CR: 0 BBL            LTR: 5547 BBL            TSIF: 222,352 LBS</p>	2.25
WOZF	WSI - WO Frac ops on 19H & 17H	7
PSI_TEST	PPS prime up pressure test lines	1.25

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>Frac Stage 5 of 42 Test stack to 9600 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls of 15% HCL &amp; 227,925 lbs 30/50 sand &amp; 5496 bbls of hybrid fluid down 5.5" 20# csg.</p> <p>Formation broke @ 4577 psi @ 20 bpm</p> <p>Step Test 65 bpm @ 5608 psi 45 bpm @ 4618 psi 25 bpm @ 3745 psi</p> <p>Pad ISIP: 3011 psi Pad FG: 0.79 5 min SIP: 2513 psi</p> <p>Acid on form @ 20 bpm 4612 psi Acid clear @ 20 bpm 3960 psi</p> <p>Increased rate to 65 bpm. Started stage w/ 16# gel equivalent loading, 11 cp. @ 39°F. Pumped 1999 bbl pad. Ramped 30/50 sand from 0.5 ppg to 3.0 ppg. Flushed well with 489 bbls. Ending rate 65 bpm @ 5065 psi. Placed 100% prop in formation.</p> <p>Avg. rate: 64 bpm Avg. psi: 6799 psi Max. rate: 65 bpm Max. psi: 7075 psi Final ISIP: 2163 psi Final FG: 0.69</p> <p>FTR: 11,043 bbl LTR: 11,043 bbl TSIF: 233,882 lbs</p>	2.25
PERF	<p>RU Ark -La-Tex WL for Stage# 6 of 42. RIH &amp; pump down Weatherford 4.37" OD CFP &amp; (5) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Set composite frac plug at 17536. Perforated intervals: 17515-17517, 17475-17477, 17435-17437, 17395-17397, 17355-17357. Total of 30 shots fired. POOH, confirmed plug gone and all guns fired, witnessed ball was dropped.</p> <p>Pump down w/16 bpm @ 3700psi. 310 ft/min &amp; 1100# line tension.</p> <p>Pumped down using : 468 bbl of fluid LTR: 11,511 BBL</p>	2
WOZF	WSI - WO Frac ops on 19H & 17H	4.5
STIM	<p>Frac Stage 6 of 42 Test stack to 9600 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls of 15% HCL &amp; 224789 lbs 30/50 sand &amp; 4926 bbls of hybrid fluid down 5.5" 20# csg.</p> <p>Formation broke @ 4636 psi @ 20 bpm</p> <p>Step Test 65 bpm @ 6230 psi 49 bpm @ 5195 psi 33 bpm @ 4184 psi 16 bpm @ 3442 psi</p> <p>Pad ISIP: 2695 psi Pad FG: 0.7 5 min SIP: 1929 psi</p> <p>Acid on form @ 35 bpm 4876 psi Acid clear @ 35 bpm 4638 psi</p> <p>Increased rate to 65 bpm. Started stage w/ 16# gel equivalent loading, 10 cp. @ 52°F. Pumped 1524 bbl pad. Ramped 30/50 sand from 0.5 ppg to 3.0 ppg. Flushed well with 485 bbls. Ending rate 67 bpm @ 5426 psi. Placed 101% prop in formation.</p> <p>Avg. rate: 65 bpm Avg. psi: 6693 psi Max. rate: 66 bpm Max. psi: 7159 psi Final ISIP: 4344 psi Final FG: 0.7</p> <p>FTR: 16437 bbl LTR: 16437 bbl TSIF: 458671 lbs SICP: 2152</p> <p>**Brined surface iron and well head after frac.</p>	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
PERF	<p>RU Ark -La-Tex WL for Stage# 7 of 47. RIH &amp; pump down Weatherford 4.37" OD CFP &amp; (5) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Set composite frac plug at 17336. Perforated intervals: 17315-17317, 17275-17277, 17235-17237, 17195-17197, 17155-17157. Total of 30 shots fired. POOH and bumped up and waiting for frac to complete frac on 17H to come off well at report time.</p> <p>Pump down w/16 bpm @ 3700psi. 325 ft/min &amp; 1250# line tension.</p> <p>Pumped down using : 481 bbl of fluid</p> <p>LTR: 16918 BBL</p> <p>*Brined PD trucks/iron/wellhead</p>	2.5

Report #: 17 Daily Operation: 1/13/2015 06:00 - 1/14/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
109	17	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac stg 7,8, Start 9 at report time

Perf stg 8,9

#### Remarks

##### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 1.0 hrs Cumulative: 2.0 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs

FTR - 27,979 bbls

RT - 0 bbls

CR - 0 bbls

LTR - 27,979 bbls

TSIF - 904,403 lbs

Days: Will Lemons / Chad Hardin

Nights: Trey Armstrong / Jim Polston

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	PreJob JSA	0.5
WOZF	WSI - WO Frac ops on 19H & 17H	3
PSI_TEST	PPS Prime up Pressure test Iron pumps	1
U_PEPXD	Shut down for PPS to fix actuator valves on the suction side of the hydration unit	1

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>Frac Stage 7 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 222,467 lbs 30/50 sand &amp; 5226 bbls of hybrid fluid down 5.5" 20# csg.</p> <p>Formation broke @ 4289 psi @ 20 bpm</p> <p>Step Test 65 bpm @ 5489 psi  49 bpm @ 4917 psi  33 bpm @ 4146 psi  16 bpm @ 3505 psi</p> <p>Pad ISIP: 2943 psi. FG: 0.78#. 5 min SIP: 2626 psi.</p> <p>Acid on form @ 20 bpm 4260 psi  Acid clear @ 20 bpm 3900 psi</p> <p>Increased rate to 65 bpm. Started stage w/ 15# gel equivalent loading, 10 cp. @ 50 °F. Gel Ph 7. Pumped 1878 bbl pad. Ramped 30/50 sand from 0.5 ppg to 3 ppg. Flushed well with 481 bbls. Ending rate 65 bpm @ 4642 psi. Placed 100% prop in formation.</p> <p>Avg. rate: 57.5 bpm      Avg. psi: 5917 psi  Max. rate: 68 bpm      Max. psi: 7944 psi  End of job ISIP 2307      FG: 0.71</p> <p>FTR: 22,144  CR: 0  LTR: 22,144  TSIF: 681,138</p>	2
PERF	<p>RU Arklatex WL for Stage# #8 of 42 . RIH &amp; pump down Weatherford CFP &amp; (5) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 17136. Perforate at intervals: 16955-16957, 16995-16997, 17035-17037, 17075-17077, 17115-17117, Total of 30 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /3700psi, 320 ft/min, 1547 Line Ten.</p> <p>TBP: 412 BBL  FTR: 22,556 BBL  CR: 0 BBL  LTR: 22,556 BBL  TSIF: 681,138 LBS</p>	2
WOZF	WSI - WO Frac ops on 19H & 17H	5
STIM	<p>Frac Stage 8 of 42 Test stack to 9600 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls of 15% HCL &amp; 223,265 lbs 30/50 sand &amp; 4921 bbls of hybrid fluid down 5.5" 20# csg.</p> <p>Formation broke @ 4880 psi @ 20 bpm</p> <p>Step Test 65 bpm @ 5751 psi  49 bpm @ 4824 psi  33 bpm @ 4098 psi  16 bpm @ 3449 psi</p> <p>Pad ISIP: 2960 psi    Pad FG: 0.78    5 min SIP: 1944 psi</p> <p>Acid on form @ 35 bpm 5789 psi  Acid clear @ 35 bpm 4745 psi</p> <p>Increased rate to 65 bpm. Started stage w/ 16# gel equivalent loading, 10 cp. @ 50°F. Pumped 1524 bbl pad. Ramped 30/50 sand from 0.5 ppg to 3.0 ppg. Flushed well with 476 bbls. Ending rate 65 bpm @ 5136 psi. Placed 100% prop in formation.</p> <p>Avg. rate: 64 bpm      Avg. psi: 6427 psi  Max. rate: 65 bpm      Max. psi: 6867 psi  Final ISIP: 2352 psi      Final FG: 0.71    SICP: 1854</p> <p>FTR: 27,477 bbl  LTR: 27,477 bbl  TSIF: 904,403 lbs</p>	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
PERF	RU Ark -La-Tex WL for Stage# 9 of 42. RIH & pump down Weatherford 4.37" OD CFP & (5) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Set composite frac plug at 16936. Perforated intervals: 16915-16917, 16875-16877, 16835-16837, 16795-16797, 16755-16757. Total of 30 shots fired. POOH, confirmed plug gone and all guns fired, witnessed ball was dropped.  Pump down w/16 bpm @ 3800psi. 330 ft/min & 1150# line tension.  Pumped down using : 450 bbl of fluid  LTR: 27,927 BBL	2
WOZF	WSI - WO Frac ops on 19H & 17H	4.5
STIM	Fracing stage 9 of 42 at report time.	1

Report #: 18 Daily Operation: 1/14/2015 06:00 - 1/15/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
110	18	0.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
		PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac: Stg #9,10  
Perf: Stg #10,11

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 4 hrs Cumulative: 6.0 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 1.5 hrs Cumulative 1.5 hrs

FTR - 38876 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 38876 bbls  
TSIF - 1149952 lbs

Days: Jerry Fletcher / Randy Armstrong  
Nights: Will Lemons / Chad Hardin  
Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
STIM	Frac Stage #9 of 42. Test stack to 9,500 PSI , Frac perms as proposed W/36 bbls 15% HCL 224,115 LBS. 30/50 & 2,876 BBLS Hybrid fluid, down 5.5' CSG  Formation broke @ 20 BPM/4,816PSI  Step Down: 65 bpm @ 5,956 50 bpm @ 4,905 33 bpm @ 4,109  Pad ISIP: 2,828 PSI Pad F.G.:0.77 5 min- 1.697 PSI  Increase rate to 65 bpm. Started stage w/ 15# gel equivalent loading, 8 cp. @ 52 *F. Pumped 1,776 bbl pad. Ramped 30/50 sand from 0.5 ppg to 3 ppg. Flushed well with 473 bbls. Ending rate 65 bpm @ 5,127 psi. Placed 100 % prop in formation.  Avg rate: 60 BPM Avg PSI: 6,213 Max rate: 66 BPM Max PSI: 8,591 ISIP: 2,390 PSI FG .72  LTR Total: 5,161 BBLS Total SIF: 928,518 LBS. FTR Total: 33,089 BBLS	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
PERF	<p>RU Ark -La-Tex WL for Stage# 10 of 47. RIH &amp; pump down Weatherford 4.37" OD CFP &amp; (5) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Set composite frac plug at 16,736'. Perforated intervals: 16,720-16,722, 16,670'- 16,672', 16,630' - 16,632', 16,590 - 16,592, 16,555 - 16,557'. Total of 30 shots fired. POOH, confirmed plug gone and all guns fired, witnessed ball was dropped.</p> <p>Pump down w/431 bpm @4,000 psi. 265 ft/min &amp; 1162 # line tension.</p> <p>Pumped down using :431 bbl of fluid LTR: 33,519 BBL</p>	2.25
WOZF	WSI, waiting on #17h & #19h Zipper ops.	4.25
U_PEPXD	R/D Data van to pull in pump & R/U same.	4
PSI_TEST	PPS prime up pressure test pumps and iron	1
U_OTHR	Express replacing bad valve on popoff and bleed off line	1.5
STIM	<p>Frac Stage 10 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 221434 lbs 30/50 sand &amp; 4911 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 5110 psi @ 20 bpm</p> <p>Step Test 65 bpm @ 5985 psi 49 bpm 4927 psi 33 bpm @ 4164 psi 16 bpm @ 3423 psi</p> <p>Pad ISIP: 2819 psi. FG: 77#. 5 min SIP: 1732 psi.</p> <p>Acid on form @ 20 bpm 5330 psi Acid clear @ 20 bpm 4237psi</p> <p>Increased rate to 65 bpm. Started stage w/ 15# gel equivalent loading, 10 cp. @ 50 °F. Gel Ph 7. Pumped 1524 bbl pad. Ramped 30/50 sand from 0.5 ppg to 3 ppg. Flushed well with 467 bbls. Ending rate 66 bpm @ 5178 psi. Placed 100% prop iin formation.</p> <p>Avg. rate: 65 bpm Avg. psi: 6532 psi Max. rate: 65 bpm Max. psi: 6984 psi End of job ISIP 2580 FG: 0.74</p> <p>FTR: 38430 CR: 0 LTR: 38430 TSIF: 1149952</p>	2
PERF	<p>RU Arklatex WL for Stage# #11 of 42 . RIH &amp; pump down Weatherford CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 16516. Perforate at intervals: 16315-16317, 16355-16357, 16395-16397,16435-16437, 16475-16477, 16490-16492, Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /3800psi, 320 ft/min, 1550 Line Ten.</p> <p>TBP: 446 BBL FTR: 38876 BBL CR: 0 BBL LTR: 38876 BBL TSIF: 1149952 LBS</p>	2
WOZF	WSI, waiting on #17h & #19h Zipper ops. @ time of report	5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 19 Daily Operation: 1/15/2015 06:00 - 1/16/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 111	Days on Location (days) 19	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

Operations Summary  
Frac Stg #11,12  
Perf Stg #12,13

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 4 hrs Cumulative: 10.0 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative: 1.5 hrs

FTR - 53273 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 53273 bbls  
TSIF - 1419041 lbs

Days: Jerry Fletcher / Randy Armstrong  
Nights: Will Lemons / Chad Hardin  
Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
U_PEPXD	Down waiting on PPS to spot new Frac pump & R/U same.	3
STIM	<p>Frac Stage #11 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 250,897 lbs sand &amp; 4257 bbls pad &amp; 3208 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4280 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6289 psi 60 bpm @ 5352 psi 40 bpm @ psi 20 bpm @ 3304 psi Pad ISIP: 3022 psi. FG: 0.79 . 5 min SIP: 2611 psi.</p> <p>Acid on form @ 20 bpm 4359 psi Acid clear @ 20 bpm 3875 psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 8 cp. @ 51 °F. Gel Ph 11.2. Pumped 2503 bbl pad. Ramped 30/50 sand from 0.5 ppg to 1.5 ppg. Cross linker was not working. Flushed well with 461 bbls. SD and checked all chem adds &amp; checked PH on frac tanks. Moved injection port on hydration tank to opposite end of hydration tank away fr/ suction of blender. Checked fluid again OK and started job for 3rd time. Staged sand fr/ .75 ppa to 3.0 ppa. Fluid quality started getting bad again at end of 3.0 ppa sand. Pressure was increasing. Cut sand and flushed well w/ 461 bbls. Ending rate 80 bpm @ 6079 psi. Placed 94% prop iin formation.</p> <p>Avg. rate: 65 bpm Avg. psi: 6220 psi Max. rate: 82 bpm Max. psi: 8124 psi End of job ISIP : 2038 FG: 0..67</p> <p>FTR: 46838 LTR: 46,838 TSIF: 1,400,849</p>	4
PERF	<p>Ark-La-Tex WL for Stage# 12 of 42. RIH &amp; pump down Schlumberger CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 16,276'. Perforate at intervals: 16,260 - 16,262, 16,235 - 16,237, 16,195 - 16,197, 16,155 - 16,157, 16,115 - 16,117, 16,075 - 16,077 Total of 42 holes. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm / psi, 3600 ft/min, 316, Line Ten 1728.</p> <p>FTR: 413 BBL LTR: 47,251 BBL</p>	1.75
WOZF	WSI, waiting on #17h & #19h Zipper ops. @ time of report	7.5
PSI_TEST	PPS prime up pressure test pumps and iron	1

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>Frac Stage 12 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 269889 lbs 20/40 sand &amp; 5626 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4255 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6140 psi  60 bpm 5200 psi  40 bpm @ 4358 psi  20 bpm @ 3664 psi</p> <p>Pad ISIP: 3023 psi. FG: 0.79#. 5 min SIP: 1615 psi.</p> <p>Acid on form @ 20 bpm 4303 psi  Acid clear @ 20 bpm 4018psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 10 cp. @ 50 °F. Gel Ph 7. Pumped 1649 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 457 bbls. Ending rate 80 bpm @ 6049 psi. Placed 100% prop iin formation.</p> <p>Avg. rate: 80 bpm Avg. psi: 7457 psi  Max. rate: 80 bpm Max. psi: 7660 psi  End of job ISIP 2212 FG: 0.7</p> <p>FTR: 52877  CR: 0  LTR: 52877  TSIF: 1419041</p>	2
PERF	<p>RU Arklatex WL for Stage# #13 of 42 . RIH &amp; pump down Weatherford CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 16036. Perforate at intervals: 15835-15837, 15875-15877, 15910-15912, 15950-15952, 15995-15997, 16020-16022 Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /3400psi, 300 ft/min, 1665 Line Ten.</p> <p>TBP: 396 BBL  FTR: 53273 BBL  CR: 0 BBL  LTR: 53273 BBL  TSIF: 1419041 LBS</p>	0
WOZF	WSI, waiting on #17h & #19h Zipper ops. @ time of report	4.75

**Report #: 20 Daily Operation: 1/16/2015 06:00 - 1/17/2015 06:00**

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184

Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
112	20	0.0			PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac Stg #13,14,15

Perf #14,15

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.0 hrs Cumulative: 10.0 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 0.0 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative: 1.5 hrs

FTR - 70,868 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 70,868 bbls  
TSIF - 2,222,670 lbs

Days: Jerry Fletcher / Randy Armstrong  
Nights: Will Lemons / Chad Hardin  
Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
WSI	WSI waiting on 17h & 19h Zipper ops.	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>Frac Stage# 13 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/36 bbls 15% HCL, 267,546 lbs 20/40 sand &amp; 3,482 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4,325 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6,100 psi  60 bpm @ 5,349 psi  40 bpm @ 4,420 psi  20 bpm @ 3,728 psi  Pad ISIP: 3,031 psi. FG: 0.79 . 5 min SIP:1,769 psi.</p> <p>Acid on form @ 20 bpm 4,389 psi  Acid clear @ 20 bpm 4,081 psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 10 cp. @ 49 °F. Gel Ph 7.6. Pumped 1,642 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 452 bbls. Ending rate 79.5 bpm @ 5,495 psi. Placed 100 % prop iin formation</p> <p>Avg. rate: 72 bpm Avg. psi:6,691 psi  Max. rate: 82 bpm Max. psi: 7,796 psi  End of job ISIP : 2,337 FG: 0.71</p> <p>FTR: 55,885 BBLS  CR: 0 BBLS  LTR: 55,885 BBLS  TSIF: 1,685,249 LBS</p>	1.75
PERF	<p>Ark-La-Tex WL for Stage#14 of 42. RIH &amp; pump down Schlumberger CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 15,796'. Perforate at intervals:15,780'- 15,782', 15,755'- 15,757', 15,715'- 15,717',15,675'-15,677',15,635'-15,637', 15,595'-15,597'Total of 42 holes. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /2,800 psi, 300 ft/min, 1,813 Line Ten.</p> <p>TBP: 373 BBL  FTR: 59,258 BBL  CR:0 BBL  LTR: 59,258 BBL  TSIF: 1,685,249 LBS</p>	2
WSI	WSI waiting on 17h & 19h Zipper ops.	4
PSI_TEST	PPS prime up pressure test pumps and iron	1
STIM	<p>Frac Stage 14 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 268572 lbs 20/40 sand &amp; 5593 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4144 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6163 psi  60 bpm 5301 psi  40 bpm @ 4411 psi  20 bpm @ 3628 psi  Pad ISIP: 3680 psi. FG: 0.87#. 5 min SIP: 1567 psi.</p> <p>Acid on form @ 20 bpm 4132 psi  Acid clear @ 20 bpm 3945psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 8 cp. @ 60 °F. Gel Ph 7. Pumped 1642 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 445 bbls. Ending rate 78 bpm @ 5621 psi. Placed 100% prop iin formation.</p> <p>Avg. rate: 71 bpm Avg. psi: 6875 psi  Max. rate: 81 bpm Max. psi: 8174 psi  End of job ISIP 2373 FG: 0.71</p> <p>FTR: 64851  CR: 0  LTR: 64851  TSIF: 1953821</p>	2
WOZF	WSI waiting on perf operations of the 19H	4

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
PERF	RU Arklatex WL for Stage# 15 of 42 . RIH & pump down Weatherford CFP & (6) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 15565. Perforate at intervals: 15555-15557, 15515-15517, 15475-15477, 15435-15437, 15395-15397, Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /3200psi, 350 ft/min, 1125 Line Ten. Note: Moved plug down 9ft to avoid Collar.  TBP: 370 BBL FTR: 65221 BBL CR: 0 BBL LTR: 65221 BBL	2
WOZF	WSI waiting on 17h & 19h Zipper ops.	1
PSI_TEST	PPS prime up presure test iron and pumps	0.75
STIM	Frac Stage 15 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 268849 lbs 20/40 sand & 5647 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4563 psi @ 20 bpm  Step Test 80 bpm @ 6832 psi 60 bpm 5585 psi 40 bpm @ 4576 psi 20 bpm @ 3871 psi Pad ISIP: 3233 psi. FG: 0.82#. 5 min SIP: 1575 psi.  Acid on form @ 20 bpm 4637 psi Acid clear @ 20 bpm 4229psi  Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 9 cp. @ 45 *F. Gel Ph 9.5. Pumped 1649 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 441 bbls. Ending rate 76 bpm @ 6802 psi. Placed 100% prop iin formation. Avg. rate: 77 bpm Avg. psi: 7457 psi Max. rate: 81 bpm Max. psi: 7922 psi End of job ISIP 2374 FG: 0.71  FTR: 70868 CR: 0 LTR: 70868 TSIF: 2222670	2
WOZF	WSI waiting on perf ops of the 19H	2

### Report #: 21 Daily Operation: 1/17/2015 06:00 - 1/18/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
113	21	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		PIONEER PUMPING SERVICES, 5

Operations Summary  
Frac Stg #16,  
Perf Stg #16,17

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.0 hrs Cumulative: 10.0 hrs  
Ark-la-tech WL: 3.5 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 77,465 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 77,465 bbls  
TSIF - 2,495,311 lbs

Days: Jerry Fletcher / Randy Armstrong  
Nights: Will Lemons / Chad Hardin  
Phone # 432-400-2263

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
WSI	WSI waiting on 17h & 19h Zipper ops.	0.75
PERF	<p>Ark-La-Tex WL for Stage#16 of 42. RIH &amp; pump down Schlumberger CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 15,322'. Perforate at intervals:15,310'-15,312',15,270'-15,272', 15,228'-15,230',15,195'-15,197',15,155'-15,157', Total of 36 holes. POOH. Stand wireline back. Confirmed last gun did not fire. Pump down @ 16 bpm /3,900 psi, 304 ft/min, 1,156 Line Ten.</p> <p>NOTE: Last gun did not fire.</p> <p>TBP: 363 BBL FTR: 71,231 BBL CR: 80 BBL LTR: 71,231 BBL TSIF: 2,222,670 LBS</p>	2
WSI	WSI waiting on 19h Frac.	0.5
U_WL	<p>Top gun was disassembled finding the cause of mis fire was that the fire wire was cut during gun build. Problem repaired.</p> <p>Ark-La-Tex WL 2nd run for Stage#16 of 42. RIH &amp; pump down Top gun @ 15,115-15,117 . POOH. Stand wireline back. Confirmed that gun fired. Pump down @ 16 bpm /4,400 psi, 320 ft/min, 1,100 Line Ten.</p> <p>Re-head rope socket.</p> <p>TBP: 341 BBL FTR: 71,572 BBL CR: 0 BBL LTR: 71,572 BBL TSIF: 2,222,670 LBS</p>	3.5
STIM	<p>Frac Stage# 16 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/36 bbls 15% HCL, 272,641 lbs 20/40 sand &amp; 5,580 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4,251 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6,314 psi 60 bpm @ 5,464 psi 40 bpm @ 4,563 psi 20 bpm @ 3,807 psi Pad ISIP: 3,115 psi. FG: 0.80 . 5 min SIP: 2,076 psi.</p> <p>Acid on form @ 20 bpm 4,267 psi Acid clear @ 20 bpm 4,071 psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 9 cp. @ 59 °F. Gel Ph 10.3 Pumped 1,619 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 436 bbls. Ending rate 75 bpm @ 5,676 psi. Placed 100% prop iin formation.</p> <p>Avg. rate: 71 bpm Avg. psi:7,002 psi Max. rate: 81 bpm Max. psi: 8,090 psi End of job ISIP : 2,249 FG: 0.70</p> <p>FTR:77,152 CR: 0 LTR: 77,152 TSIF:2,495,311</p>	2
WSI	WSI waiting on Perf ops 19h. Grease frac stack	1.5
WSI	WSI waiting on 17h & 19h Zipper ops.	2
PERF	<p>RU Arklatex WL for Stage# 17 of 42 . RIH &amp; pump down Weatherford CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 15086. Perforate at intervals: 14875-14877, 14915-14917, 14955-14957,14995-14997, 15035-15037, 15068-15070, Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /3800psi, 350 ft/min, 1350 Line Ten.</p> <p>TBP: 313 BBL FTR: 77465 BBL CR: 0 BBL LTR: 77465 BBL TSIF: 2222670 LBS</p>	2
WSI	WSI waiting on 17h & 19h Zipper ops.	9.25

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	Frac stg 17 at report time.	0.5

Report #: 22 Daily Operation: 1/18/2015 06:00 - 1/19/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184

Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
114	22	0.0			PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac Stg #17,18

Perf Stg #18,19

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.75 hrs Cumulative: 10.75 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
 Express: 0.0 hrs Cumulative: 1.5 hrs

FTR - 89252 bbls  
 RT - 0 bbls  
 CR - 0 bbls  
 LTR - 89252 bbls  
 TSIF - 3,036,512 lbs

Days: Jerry Fletcher / Randy Armstrong  
 Nights: Will Lemons / Chad Hardin  
 Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
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STIM	Frac Stage#17 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/36 bbls 15% HCL, 268,368 lbs 20/40 sand & 5,610 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4,651 psi @ 20 bpm	1.25
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Step Test 80 bpm @ 6,530 psi  
 60 bpm @ 5,454 psi  
 40 bpm @ 4,560 psi  
 20 bpm @ 3,901 psi  
 Pad ISIP: 3,409 psi. FG: 0.84 . 5 min SIP:3,092 psi.

Acid on form @ 20 bpm 4,689 psi  
 Acid clear @ 20 bpm 4,200 psi

Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 10 cp. @ 50°F. Gel Ph 10.1 Pumped 1,649 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 430 bbls. Ending rate 75 bpm @ 5,191 psi. Placed 100% prop iin formation.  
 Avg. rate:71 bpm Avg. psi:6,820 psi  
 Max. rate:81 bpm Max. psi: 7,971 psi  
 End of job ISIP : 2,017 FG: 0.67

FTR: 83,075  
 CR: 0  
 LTR:83,075  
 TSIF:2,763,675 LBS

SAFETY	Prime up pressure test for stg 17 on 17H. Held safety meeting.	1.25
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PERF	Ark-La-Tex WL for Stage# 18 of 42. RIH & pump down Schlumberger CFP & ( 6) 3-1/8 perforating guns W/ 21.5 gram, 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 14,846'. Perforate at intervals:14828 - 14830, 14795 - 14797, 14755 - 14757, 14715 - 14717, 14675 - 14677, 14635 - 14637, Total of 42 holes. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm / 3800 psi, 304 ft/min, 1157 Line Ten.	2
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TBP: 323 BBL  
 FTR: 83,398 BBL  
 CR: 0 BBL  
 LTR: 83,398 BBL  
 TSIF: 2,763,675 LBS



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
WSI	WSI waiting on 17h & 19h Zipper ops.	1.5
WSI	WSI waiting on pump repairs and frac ops on 19H & 17H	4
STIM	<p>Frac Stage 18 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 275837 lbs 20/40 sand &amp; 5557 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4811 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6547 psi  60 bpm 5533 psi  40 bpm @ 4627 psi  20 bpm @ 3903 psi</p> <p>Pad ISIP: 3393 psi. FG: 0.84#. 5 min SIP: 2052 psi.</p> <p>Acid on form @ 20 bpm 4826 psi  Acid clear @ 20 bpm 4300psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 9 cp. @ 62 °F. Gel Ph 9.5. Pumped 1588 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 424 bbls. Ending rate 76 bpm @ 5617 psi. Placed 100% prop iin formation.</p> <p>Avg. rate: 71 bpm Avg. psi: 6981 psi  Max. rate: 80 bpm Max. psi: 8099 psi  End of job ISIP 2278 FG: 0.7</p> <p>FTR: 88955  CR: 0  LTR: 88955  TSIF: 3039512</p>	2
PERF	<p>RU Arklatex WL for Stage# 19 of 42 . RIH &amp; pump down Weatherford CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 14606. Perforate at intervals: 14592-14594, 14558-14560, 14515-14517, 14475-14477, 14435-14437, Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /3700psi, 350 ft/min, 1100 Line Ten.</p> <p>TBP: 297 BBL  FTR: 89252 BBL  CR: 0 BBL  LTR: 89252 BBL  TSIF: 3039512 LBS</p>	2
WOZF	WSI waiting on 17h & 19h Zipper ops.	5.5
PSI_TEST	PPS prime up pressure test pumps and iron	1
STIM	Started Stg #19 frac got 1347 bbls pumped started gel and was informed the Sand Cab unit # 62009 had issues with computer rebooting// flushed the well due to gel was already in well bore and currently waiting on Etech to arrive and make repairs	1
U_PEPXD	Sand Cab unit # 62009 has issues with computer rebooting and shutting down// waiting on Etech to arrive and make repairs	0.75
STIM	Resume stg #19 frac @ time of report	1.75

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 23 Daily Operation: 1/19/2015 06:00 - 1/20/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 115	Days on Location (days) 23	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

### Operations Summary

Finished Stg 19, 20 of 42  
Perf stg 20, 21 of 42

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.00 hrs Cumulative: 10.75 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative: 1.5 hrs

FTR - 101387 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 101387 bbls  
TSIF - 3536360 lbs

Days: Jerry Fletcher / Randy Armstrong  
Nights: Will Lemons / Chad Hardin  
Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>Frac Stage# 19 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 234954 lbs of 20/40 sand &amp; 6102 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4426 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6273 psi 60 bpm @ 5234 psi 40 bpm @ 4484 psi 20 bpm @ 3921 psi Pad ISIP: 3378 psi. FG: 0.83 . 5 min SIP: 3078 psi.</p> <p>Acid on form @ 20 bpm 4400 psi Acid clear @ 20 bpm 4279 psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 10 cp. @ 50 °F. Gel Ph 10. Pumped 2360 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 420 bbls. Ending rate 80 bpm @ 5752 psi. Placed 88% prop iin formation due to the generator on sand belt would not keep running.</p> <p>Avg. rate: 80 bpm Avg. psi: 7413 psi Max. rate: 81 bpm Max. psi: 7730 psi End of job ISIP : 2062 FG: 0.68</p> <p>FTR: 953554 CR: 0 LTR: 95,354 TSIF: 3,274,466</p>	0.5
WL	<p>Ark-La-Tex WL for Stage# 20 of 42. RIH &amp; pump down Schlumberger CFP &amp; ( 6 ) 3-1/8 perforating guns W/ 21.5 gram, 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 14,366'. Perforate at intervals: 14,345 - 14,347, 14,315 - 14,317, 14,275 - 14,277, 14,235 - 14,237, 14,195 - 14,197, 14,155 - 14,157', Total of 42 holes. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm / 3800 psi, 360 ft/min, 1123 Line Ten.</p> <p>TBP: 305 BBL FTR: 95659 BBL CR: 0 BBL LTR: 95659 BBL TSIF: 3,274,466 LBS</p>	1.75
WSI	WSI wating on zipper ops on 17H & 19H	6

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>Frac Stage# 20 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/36 bbls 15% HCL, 261,894 lbs 20/40 sand &amp; 5,430 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4,316 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6,015 psi 60 bpm @ 5,223 psi 40 bpm @ 4,435 psi 20 bpm @ 3,780 psi Pad ISIP: 2,936 psi. FG: 0.78. 5 min SIP: 1,728 psi.</p> <p>Acid on form @ 20 bpm 4,387 psi Acid clear @ 20 bpm 4,139 psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 9 cp. @ 66 °F. Gel Ph 10.2 Pumped 1,512 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 414 bbls. Ending rate 80 bpm @ 6,327 psi. Placed 100 % prop iin formation.</p> <p>Avg. rate: 74 bpm Avg. psi: 6,902 psi Max. rate: 81 bpm Max. psi: 7,898 psi End of job ISIP : 2,232 FG: 0.70</p> <p>FTR: 101,089 CR: 0 LTR: 101,089 TSIF: 3,536,360</p>	2
PERF	<p>RU Arklatex WL for Stage# 21 of 42 . RIH &amp; pump down Weatherford CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 124126. Perforate at intervals: 13915-13917, 13955-13957, 13995-13997, 14035-14037, 14075-14077, 14105-14107, Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /3600psi, 305 ft/min, 1249 Line Ten.</p> <p>TBP: 298 BBL FTR: 101387 BBL CR: 0 BBL LTR: 101387 BBL TSIF: 3536360 LBS</p>	2
WSI	WSI waiting on zipper ops on 17H & 19H	11.75

### Report #: 24 Daily Operation: 1/20/2015 06:00 - 1/21/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
116	24	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac Stg # 21,22 of 42

Perf Stg # 22,23 of 42

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.00 hrs Cumulative: 10.75 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 0.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 113,139 bbls

RT - 0 bbls

CR - 0 bbls

LTR - 113,139 bbls

TSIF - 4,078,006 lbs

Days: Jerry Fletcher / Randy Armstrong

Nights: Will Lemons / Chad Hardin

Phone # 432-400-2263

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
WOZF	WSI waiting on 19h & 18h Zipper frac ops.	6.25
STIM	<p>Frac Stage# 21 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/36 bbls 15% HCL, 272,050 lbs 20/40 sand &amp; 5,336 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4,426 psi @ 20 bpm</p> <p>Step Test 80 bpm @5,933 psi  60 bpm @ 5,154 psi  40 bpm @ 4,328 psi  20 bpm @ 3,792 psi  Pad ISIP: 3,179 psi. FG: 0.81. 5 min SIP:1,951 psi.</p> <p>Acid on form @ 20 bpm 4,442 psi  Acid clear @ 20 bpm 4,150 psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 10 cp. @ 65°F. Gel Ph 10. Pumped 1,388 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 409 bbls. Ending rate 80 bpm @ 5,462 psi. Placed 100% prop iin formation.</p> <p>Avg. rate: 70.3 bpm Avg. psi:6,205 psi  Max. rate: 82 bpm Max. psi: 7,651psi  End of job ISIP : 2,113 FG: 0.68</p> <p>FTR: 106,723  CR: 0  LTR: 106,723  TSIF:3,808.410 LBS</p>	1.75
PERF	<p>Ark-La-Tex WL for Stage#22 of 42. RIH &amp; pump down Schlumberger CFP &amp; ( 6 ) 3-1/8 perforating guns W/ 21.5 gram, 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 13,886'. Perforate at intervals:13,870 -13,872', 13,837 - 13,839, 13,795 - 13,797, 13,755 - 13,757, 13,715 - 13,717, 13,675 - 13,677, Total of 42 holes. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm @ 3000 psi, 328 ft/min, 1275 Line Ten.</p> <p>TBP: 279 BBL  FTR: 107,002 BBL  CR: 0 BBL  LTR: 107,002 BBL  TSIF: 3,808,410 LBS</p>	1.75
WOZF	WSI waiting on 19h & 17h Zipper frac ops.	4
STIM	<p>Frac Stage 22 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 36 bbls 15% HCL, 269596 lbs 20/40 sand &amp; 5864 bbls of hybrid fluid down 5.5" 20# csg. Formation broke @ 4282 psi @ 20 bpm</p> <p>Step Test 80 bpm @ 6172 psi  60 bpm @ 5206 psi  40 bpm @ 4375 psi  20 bpm @ 3675 psi  Pad ISIP: 2850 psi. FG: 0.78#. 5 min SIP: 1683 psi.</p> <p>Acid on form @ 20 bpm 4278 psi  Acid clear @ 25 bpm 4898psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 9 cp. @ 50 °F. Gel Ph 9.5. Pumped 1930 bbl pad. Ramped 20/40 sand from 0.5 ppg to 3 ppg. Flushed well with 404 bbls. Ending rate 81 bpm @ 5826 psi. Placed 100% prop iin formation.</p> <p>Avg. rate: 78 bpm Avg. psi: 7286 psi  Max. rate: 81 bpm Max. psi: 7526 psi  End of job ISIP 2303 FG: 0.71</p> <p>FTR: 112866  CR: 0  LTR: 112866  TSIF: 4078006</p>	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
PERF	RU Arklatex WL for Stage# 23 of 42 . RIH & pump down Weatherford CFP & (6) 3-1/8 perforating guns W/ 21.5 gram, 3 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 13646. Perforate at intervals: 13630-13632, 13595-13597, 13555-13557, 13515-13517, 13475-13477, Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 16 bpm /3000psi, 340 ft/min, 1150 Line Ten.  TBP: 273 BBL FTR: 113139 BBL CR: 0 BBL LTR: 113139 BBL TSIF: 4078006 LBS	2
WOZF	WSI waiting on 19h & 17h Zipper frac ops.	5.75
STIM	Frac stg 23 of 42 at report time.	1

Report #: 25 Daily Operation: 1/21/2015 06:00 - 1/22/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
117	25	0.0
	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)
		Rig
		PIONEER PUMPING SERVICES, 5

Operations Summary  
Perf stgs, 24, 25  
Frac stgs, 23, 24

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.75 hrs Cumulative: 11.50 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 2.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 125,145 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 125,145 bbls  
TSIF - 4,616,002 lbs

Days: Bob Belcher / Shawn Everett  
Nights: Jerry Fletcher / Randy Armstrong  
Phone # 432-400-2263

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
STIM	<p>FRAC STG #23 of 42: Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 36 bbls 15% HCL, 268,430 lbs. 20/40 Brown sand &amp; 5,485 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,414 psi.            Acid on 40 BPM @ 5,695 psi            Acid clear 40 BPM @ 4,859 psi</p> <p>Stepdown:            80 bpm : 6,292 psi            60 bpm: 5,423 psi            40 bpm: 4,625 psi            20 bpm: 3,848 psi            Pad ISIP: 3,244 psi FG: 0.82 psi/ft 5 min: 1,854 psi            Started stage with 15 # equivalent gel loading (10 cp @ 55*)            XL Ph 10</p> <p>Increased rate to 80 bpm. Pumped 1,557 bbl pad Ramped 20/40 brown sand from 0.25 ppg to 3.0 ppg. Flushed well with 398 bbls. Ending rate 80 bpm 5,167 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 71 bpm Avg psi: 5,958 psi            Max rate: 83 bpm Max psi: 8,068 psi            ISIP: 2,450 psi FG: .0.72 psi/ft</p> <p>FTR=119,022 bbls            TSIF= 4,346,436 lbs.</p>	2
PERF	<p>RU Ark La Tex WL for Stage # 24. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @13,396'. Perforate intervals : 13,395'-97', 13,355'-57', 13,315'-17', 13,275'-77', 13,235'-37', &amp; 13,195'-97' w/ 42 shots, 3.5 SPF, 60", 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/2,800 psi. Line speed 300 fpm.</p> <p>238 bbls used for pump down.            LTR: 118,862 Bbls.</p>	2
WOZF	WSI waiting on 19h & 17h Zipper frac ops.	8
U_WLHEA D	WSI to check out Priority frac valve. Started leaking water out of stem bonnet while performing breakdown. Shut down closed master gate & bled off pressure. Called Priority to check out problem.	2
U_PEPXD	Down for PPS mechanic to repair air line on Hydration unit. Also clean out gel tote on hyro	3.5
STIM	<p>FRAC STG #24 of 42: Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/36 bbls 15% HCL, 269,566 lbs. 20/40 Brown sand &amp; 6019 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4404 psi.            Acid on 40 BPM @ 5344 psi            Acid clear 65 BPM @ 6043 psi</p> <p>Stepdown:            80 bpm : 6400 psi            60 bpm: 5502 psi            40 bpm: 4638 psi            20 bpm: 3880 psi            Pad ISIP: 3553 psi FG: 0.86 psi/ft 5 min: 3046 psi            Started stage with 15 # equivalent gel loading (10 cp @ 50*)            XL Ph 9.5</p> <p>Increased rate to 80 bpm. Pumped 2111 bbl pad Ramped 20/40 brown sand from 0.25 ppg to 3.0 ppg. Flushed well with 393 bbls. Ending rate 80 bpm 5845 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 80 bpm Avg psi: 7087 psi            Max rate: 81 bpm Max psi: 7417 psi            ISIP: 2225 psi FG: .0.70 psi/ft</p> <p>FTR=124881 bbls            TSIF= 4,616,002 lbs.</p>	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
PERF	RU Ark La Tex WL for Stage # 25 of 42. RIH & pump down Weatherford CFP & 6 each 3.125" guns. Set CFP @ 13176'. Perforate intervals :13,155 - 13,157,13,115 - 13,117, 13,075 - 13,077, 13,035 - 13,037, 12,995 - 12,997 12,955 - 12,957 w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL . Pump down @ 16 bpm@ 3300 psi. Line speed @ 319 fpm. Line Ten@ 1215  264 bbls used for pump down. LTR:125,145 Bbls. TSIF 4,616,002	1.75
WOZF	WSI waiting on 19h & 17h Zipper frac ops.	2.75

Report #: 26 Daily Operation: 1/22/2015 06:00 - 1/23/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
118	26	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac Stg #25,26 of 42  
Perf Stg #26,  
RIH to perf Stg #27 @ report time.

#### Remarks

##### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 4.5 hrs Cumulative: 16.00 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 136,077 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 136,077 bbls  
TSIF - 5,151,517 lbs

Days: Bob Belcher / Shawn Everett  
Nights: Jerry Fletcher / Randy Armstrong  
Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
WOZF	Well shut in waiting on 17/19H Stim ops	2
U_PEPXD	Changing seats,&valves on 2 pumps.	1
U_PEPXD	Change out Centrifugal pump on blender # 12009	4.5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>FRAC STG #25 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/36 bbls 15% HCL, 267,927 lbs.20/40 Brown sand &amp; 5,252 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,201 psi. Acid on 40 BPM @ 5,122 psi Acid clear 40 BPM @ 4,727 psi</p> <p>Stepdown: 80 bpm :6,032 psi 60 bpm:5,275 psi 40 bpm:4,476 psi 20 bpm:3,822 psi Pad ISIP:3,356 psi FG: 0.83 psi/ft 5 min: 2,294 psi Started stage with 15 # equivalent gel loading (10 cp @ 50*) XL Ph 10</p> <p>Increased rate to 80 bpm. Pumped 1,357 bbl pad Ramped 20/40 brown sand from 0.25 ppg to 3.0 ppg. Flushed well with 388 bbls. Ending rate 80 bpm 5,044 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 79 bpm Avg psi:6,453 psi Max rate: 81 bpm Max psi: 7,000 psi ISIP: 2,440 psi FG: .072 psi/ft</p> <p>FTR=130,397 bbls TSIF= 4,883,929 lbs.</p>	2
PERF	<p>RU Ark La Tex WL for Stage # 26 of 42. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @ 12,936'. Perforate intervals :12,915' - 17',12,875' - 77', 12,835' - 37', 12,795' - 97', 12,755' - 57' 12,715' - 17' w/ 42 shots, 3.5 SPF, 60", 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL . Pump down @ 16 bpm @ 2,900 psi. Line speed @ 319 fpm. Line Ten @ 1215</p> <p>TBP: 221 LTR:130,618 Bbls.</p>	1.5
WOZF	Well shut in waiting on 17/19H Stim ops	9.75
STIM	<p>FRAC STG #26 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/36 bbls 15% HCL, 267,588 lbs.20/40 Brown sand &amp; 5,459 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @4,237 psi. Acid on 20 BPM @ 4,152 psi Acid clear 20 BPM @ 3,978 psi</p> <p>Stepdown: 80 bpm : 6,137 psi 60 bpm: 5,172 psi 40 bpm: 4,333 psi 20 bpm: 3,806 psi Pad ISIP: 3,815 psi FG: 0.89 psi/ft 5 min:1,701 psi Started stage with 15 # equivalent gel loading (9 cp @ 52*) XL Ph 7</p> <p>Increased rate to 80 bpm. Pumped 1,501 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 383 bbls. Ending rate 80 bpm 5,245 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 79 bpm Avg psi: 6,691 psi Max rate: 80 bpm Max psi: 6,990 psi ISIP: 2,288 psi FG: .070 psi/ft</p> <p>FTR= 136,077 bbls CR= 0 LTR: 136,077 bbls TSIF= 5,151,517 lbs.</p>	1.75
PERF	RIH to perf Stg #27 of 42 @ time of report.	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 27 Daily Operation: 1/23/2015 06:00 - 1/24/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 119	Days on Location (days) 27	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

### Operations Summary

Frac Stg # 27,28 of 42

Perf Stg # 27,28,29

Prime up & pressure test for Frac Stg #29 of 42.

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 1 hrs Cumulative: 17.00 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative: 1.5 hrs

FTR - 147,332 bbls

RT - 0 bbls

CR - 0 bbls

LTR - 147,332 bbls

TSIF - 5,689,128 lbs

Days: Bob Belcher / Shawn Everett

Nights: Jerry Fletcher / Randy Armstrong

Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
PERF	RU Ark La Tex WL for Stage # 27 of 42. RIH & pump down Weatherford CFP & 6 each 3.125" guns. Set CFP @ 12,696'. Perforate intervals :12,675' - 77', 12,635' - 37', 12,595' - 97', 12,555' - 57', 12,515' - 17' 12,475' - 77' w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL . Pump down @ 16 bpm @ 2,900 psi. Line speed @ 319 fpm. Line Ten @ 1215  TBP: 251 bbls LTR:136,328 bbls.	0.5
WOZF	Well shut in waiting on 17/19H Stim Ops	4
U_PEPXD	Changing seats,& valves on 2 pumps	1
STIM	FRAC STG # 27 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 36 bbls 15% HCL, 268,016 lbs.20/40 Brown sand & 5,334 bbls Hybrid Fluid down 5.5" csg.  Formation broke @ 20 bpm @ 4,273 psi. Acid on 40 BPM @ 5,196 psi Acid clear 40 BPM @ 4,808 psi  Stepdown: 80 bpm : 6,042 psi 60 bpm: 5,273 psi 40 bpm: 4,466 psi 20 bpm: 3,754 psi Pad ISIP: 3,154 psi FG: 0.81 psi/ft 5 min: 1,670 psi Started stage with 15 # equivalent gel loading (10 cp @ 55*) XL Ph 10  Increased rate to 80 bpm. Pumped 1,377 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 377 bbls. Ending rate 80 bpm 5,185 psi. Placed 100% proppant in formation.  Avg rate: 79 bpm Avg psi: 6,506 psi Max rate: 81 bpm Max psi: 7,021 psi ISIP: 2,402 psi FG: .0.72 psi/ft  FTR=141,662 bbls TSIF= 5,419,533 lbs.	1.75
WOZF	Wait on WL ops on 19H	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
PERF	<p>RU Ark La Tex WL for Stage # 28. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @12,456'. Perforate intervals : 12,435'-37', 12,395'-97', 12,355'-57', 12,315'-17', 12,275'- 77',&amp; 12,235'-37' w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/2,800 psi. Line speed 300 fpm.</p> <p>191 bbls used for pump down. LTR: 141,853 Bbls.</p>	1.5
WOZF	Well shut in waiting on 17/19H Stim Ops	2.75
STIM	<p>FRAC STG #28 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 36 bbls 15% HCL, 269,595 lbs.20/40 Brown sand &amp; 5,260 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,344 psi. Acid on 20 BPM @ 4,463 psi Acid clear 20 BPM @ 4,122 psi</p> <p>Stepdown: 80 bpm :6,020 psi 60 bpm: 5,023 psi 40 bpm: 4,339 psi 20 bpm: 3,746 psi Pad ISIP: 3,109 psi FG: 0.80 psi/ft 5 min: 1,549 psi Started stage with 15 # equivalent gel loading (9 cp @ 50*) XL Ph 9.5</p> <p>Increased rate to 80 bpm. Pumped 1,370 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 372 bbls. Ending rate 81 bpm 5,762 psi. Placed 100% proppant in formation.</p> <p>Avg rate:80 bpm Avg psi: 6,890 psi Max rate: 81 bpm Max psi: 7,225 psi ISIP: 2,308 psi FG: .0.71 psi/ft</p> <p>FTR= 147,113 bbls TSIF= 5,689,128 lbs.</p>	1.75
PERF	<p>RU Ark La Tex WL for Stage # 29. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @12,220'. Perforate intervals : 12,195 - 12,197, 12,155 - 12,157,12,115 - 12,117, 12,075 - 12,077, 12,035 - 12,037, 11,995 - 11,997' w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/2800 psi. Line speed 336 fpm. Line Ten 1225</p> <p>209 bbls used for pump down. LTR: 147,322 Bbls.</p>	2
WOZF	Well shut in waiting on 17/19H Stim Ops	6
STIM	Prime up & pressure test for Stg #29 of42	0.75

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 28 Daily Operation: 1/24/2015 06:00 - 1/25/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 120	Days on Location (days) 28	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

### Operations Summary

Frac Stage #29,30 of 42  
Perf Stage #30,31

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.0 hrs Cumulative: 17.00 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative: 1.5 hrs

FTR - 158,233 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 158,223 bbls  
TSIF - 6,224,943 lbs

Days: Bob Belcher / Shawn Everett  
Nights: Jerry Fletcher / Randy Armstrong  
Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>FRAC STG #29 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 36 bbls 15% HCL, 267,858 lbs.20/40 Brown sand &amp; 5,539 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,566 psi. Acid on 46 BPM @ 5,946 psi Acid clear 80 BPM @ 6,107 psi</p> <p>Stepdown: 80 bpm : 6,013 psi 60 bpm: 5,235 psi 40 bpm: 4,516 psi 20 bpm: 3,828 psi Pad ISIP: 3,276 psi FG: 0.82 psi/ft 5 min: 1,584 psi Started stage with 15 # equivalent gel loading (10 cp @ 50*) XL Ph 9.5</p> <p>Increased rate to 80 bpm. Pumped 1,650 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 367 bbls. Ending rate 40 bpm 4,038 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 79 bpm Avg psi: 6,532 psi Max rate: 80 bpm Max psi: 7,090 psi ISIP: 2,193 psi FG: .0.69 psi/ft</p> <p>FTR= 152,861 bbls TSIF= 5,956,986 lbs.</p>	1.5
PERF	<p>RU Ark La Tex WL for Stage #30. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @11,976'. Perforate intervals : 11,955 - 11,997, 11,915 - 11,917,11,875 - 11,877, 11,835 - 11,837, 11,795 - 11,797, 11,755 - 11,757' w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/2800 psi. Line speed 336 fpm. Line Ten 1225</p> <p>168 bbls used for pump down. LTR: 153,029 Bbls.</p>	1.5
WOZF	WSI waiting on 17/18H Stim Ops	7.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>FRAC STG # 30 of 42: Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perms per schedule w/ 36 bbls 15% HCL, 267,957 lbs. 20/40 Brown sand &amp; 5,035 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,727 psi.            Acid on 40 BPM @ 5,322 psi            Acid clear 40 BPM @ 4,948 psi</p> <p>Stepdown:            80 bpm : 6,002 psi            60 bpm: 5,198 psi            40 bpm: 4,456 psi            20 bpm: 3,887 psi            Pad ISIP: 3,354 psi FG: 0.83 psi/ft 5 min: 2,129 psi            Started stage with 15 # equivalent gel loading (10 cp @ 59*)            XL Ph 9.5</p> <p>Increased rate to 80 bpm. Pumped 1,169 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 362 bbls. Ending rate 80 bpm 5,462 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 79.3 bpm Avg psi: 6,758 psi            Max rate: 80.9 bpm Max psi: 7,357 psi            ISIP: 2,252 psi FG: .0.70 psi/ft</p> <p>FTR=158,064 bbls            TSIF= 6,224,943 lbs.</p>	1.5
WLHEAD	Priority grease frac valves.	0.5
PERF	<p>RU Ark La Tex WL for Stage # 31. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @ 11,736'. Perforate intervals : 11,715 - 11,717, 11,675 - 11,677, 11,635 - 11,637, 11,595 - 11,597, 11,555 - 11,557, 11,515 - 11,517 w/ 42 shots, 3.5 SPF, 60", 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/2600 psi. Line speed 328 fpm. Line Ten 1275</p> <p>TBP: 169            LTR: 158,233 Bbls.</p>	1.25
WOZF	WSI waiting on 17h & 19h Zipper ops.	10.25

### Report #: 29 Daily Operation: 1/25/2015 06:00 - 1/26/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
121	29	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		PIONEER PUMPING SERVICES, 5

Operations Summary  
 Frac Stage #31,32 of 42  
 Perf Stage #32,33

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.0 hrs Cumulative: 17.00 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
 Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 169,225 bbls  
 RT - 0 bbls  
 CR - 0 bbls  
 LTR - 169,225 bbls  
 TSIF - 6,760,964 lbs

Days: Bob Belcher / Shawn Everett  
 Nights: Jerry Fletcher / Randy Armstrong  
 Phone # 432-400-2263

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
WOZF	WSI waiting on 17h & 19h Zipper ops.	2
STIM	<p>FRAC STG # 31 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perms per schedule w/ 36 bbls 15% HCL, 268,646 lbs.20/40 Brown sand &amp; 5,523 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,456 psi.            Acid on 61 BPM @ 6,868 psi            Acid clear 75 BPM @ 6,401 psi</p> <p>Stepdown:            80 bpm : 6,240 psi            60 bpm: 5,373 psi            40 bpm: 4,532 psi            20 bpm: 3,972 psi            Pad ISIP: 3,444 psi FG: 0.84 psi/ft 5 min: 3,019 psi            Started stage with 15 # equivalent gel loading (10 cp @ 59*)            XL Ph 10</p> <p>Increased rate to 80 bpm. Pumped 1,650 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 361 bbls. Ending rate 40 bpm 3,545 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 79 bpm Avg psi: 6,409 psi            Max rate: 81 bpm Max psi: 7,132 psi            ISIP: 2,319 psi FG: .0.71 psi/ft</p> <p>FTR= 163,756 bbls            TSIF= 6,492,989 lbs.</p>	1.5
PERF	<p>RU Ark La Tex WL for Stage # 32. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @ 11,496'. Perforate intervals : 11,475 - 11,477, 11,435 - 11,437, 11,395 - 11,397, 11,355 - 11,357,11,315 - 11,317, 11,275 - 11,277 w/ 42 shots, 3.5 SPF, 60", 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/2600 psi. Line speed 328 fpm. Line Ten 1275</p> <p>TBP: 148 bbls            LTR: 163,904 bbls</p>	1.5
WOZF	WSI waiting on 17h & 19h Zipper ops.	11
STIM	<p>FRAC STG # 32 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perms per schedule w/ 36 bbls 15% HCL,267,975 lbs.20/40 Brown sand &amp; 5158 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4484psi.            Acid on 20 BPM @ 4639 psi            Acid clear 20 BPM @4130 psi</p> <p>Stepdown:            80 bpm :6102 psi            60 bpm:5172 psi            40 bpm: 4382 psi            20 bpm: 3839 psi            Pad ISIP: psi FG: 0. psi/ft 5 min: psi            Started stage with 15 # equivalent gel loading (10 cp @ 50*)            XL Ph 10.5</p> <p>Increased rate to 80 bpm. Pumped 1303 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 350 bbls. Ending rate 80 bpm 3445 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 80 bpm Avg psi:6859 psi            Max rate: 81 bpm Max psi: 7,227 psi            ISIP:2330 psi FG: .0.71 psi/ft</p> <p>FTR= 169,062 bbls            TSIF= 6,760,964 lbs.</p>	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
PERF	RU Ark La Tex WL for Stage # 33. RIH & pump down Weatherford CFP & 6 each 3.125" guns. Set CFP @ 11,256'. Perforate intervals : 11235 - 11237, 11195 - 11197, 11155 - 11157, 11115 - 11117, 11075 - 11077, 11035 - 11037 w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL . Pump down @ 16 bpm/ 3,100 -psi. Line speed 340 fpm. Line Ten 1,170  TBP: 163 bbls LTR: 169,225 bbls	1.5
WOZF	WSI, waiting on 17h & 19h ops.	4.5

Report #: 30 Daily Operation: 1/26/2015 06:00 - 1/27/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
122	30	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac Stage # 33,34, of 42

Perf Stage # 34,35

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.0 hrs Cumulative: 17.00 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative: 1.5 hrs

FTR - 180,379 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 180,379 bbls  
TSIF - 7,296,895 lbs

Days: Bob Belcher / Shawn Everett  
Nights: Jerry Fletcher / Randy Armstrong  
Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
WOZF	WSI waiting on 17h & 19h Zipper ops.	9
STIM	FRAC STG # 33 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 36 bbls 15% HCL 267,962 lbs.20/40 Brown sand & 5,506 bbls Hybrid Fluid down 5.5" csg.  Formation broke @ 20 bpm @ 4,832 psi. Acid on 60 BPM @ 7,355 psi Acid clear 80 BPM @ 6,769 psi  Stepdown: 80 bpm : 6,006 psi 60 bpm: 5,128 psi 40 bpm: 4,387 psi 20 bpm: 3,813 psi Pad ISIP: 3,112 psi FG: 0.80 psi/ft 5 min: 1,782 psi Started stage with 15 # equivalent gel loading (10 cp @ 50*) XL Ph 10.5  Increased rate to 80 bpm. Pumped 1,650 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 350 bbls. Ending rate 40 bpm 3445 psi. Placed 100% proppant in formation.  Avg rate: 80 bpm Avg psi:6,916 psi Max rate: 81 bpm Max psi: 6,298 psi ISIP: 2,601 psi FG: .0.74 psi/ft  FTR= 174,731 bbls TSIF= 7,028,926 lbs.	1.25



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
PERF	<p>RU Ark La Tex WL for Stage # 34. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @ 11,016'. Perforate intervals : 10,995 - 97, 10955 - 57, 10,915 - 17, 10,875 - 77, 10835 - 37, 10,795 - 97 w/ 42 shots, 3.5 SPF, 60", 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/ 3,000 -psi. Line speed 340 fpm. Line Ten 1,170</p> <p>TBP: 108 bbls LTR: 174,839 bbls</p>	1.75
WOZF	WSI waiting on 17h & 19h Zipper ops.	5
STIM	<p>FRAC STG # 34 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perms per schedule w/ 36 bbls 15% HCL 267,969 lbs.20/40 Brown sand &amp; 5412 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4597 psi. Acid on20 BPM @ 4727 psi Acid clear 20 BPM @ 4215 psi</p> <p>Stepdown: 80 bpm : 5689 psi 60 bpm:4965 psi 40 bpm: 4323 psi 20 bpm: 3872 psi Pad ISIP:3357 psi FG:.83. psi/ft 5 min: 1645 psi Started stage with 15 # equivalent gel loading (10 cp @ 58*) XL Ph 10.5</p> <p>Increased rate to 80 bpm. Pumped 1536 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 338 bbls. Ending rate 40 bpm 3595 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 80 bpm      Avg psi:6495 psi Max rate: 81 bpm      Max psi:6969 psi ISIP: 2531 psi      FG: .0..73 psi/ft</p> <p>FTR= 180,751 bbls TSIF= 7,296,895 lbs.</p>	1.5
PERF	<p>RU Ark La Tex WL for Stage # 35. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @ 10,776'. Perforate intervals : 10,755'-10,757', 10,715'- 10,717', 10,675'-10,,677', 10,635'-10,637' 10,595' - 10,597', 10,555' - 10,557', w/ 42 shots, 3.5 SPF, 60", 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/ 2,900-psi. Line speed 340 fpm. Line Ten 1,170</p> <p>TBP:128 bbls LTR: 180,379 bbls</p>	1.25
WOZF	WSI waiting on 17h & 19h Zipper ops.	4.25

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 31 Daily Operation: 1/27/2015 06:00 - 1/28/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 123	Days on Location (days) 31	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

Operations Summary  
Frac Stages # 35,36  
Perf Stages 36,37

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 1.25 hrs Cumulative: 18.25 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 193,874 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 193,874 bbls  
TSIF - 7,840,101 lbs

Days: Bob Belcher / Shawn Everett  
Nights: Jerry Fletcher / Randy Armstrong  
Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
WOZF	WSI waiting on 17h & 19h Zipper ops.	8.75
STIM	<p>FRAC STG # 35 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 73 bbls 15% HCL 20,000 lbs.20/40 Brown sand &amp; 3,443 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,252 psi. Acid on 61 BPM @ 6,590 psi Acid clear 80 BPM @ 6,760 psi</p> <p>Stepdown: 80 bpm : 6,044 psi 60 bpm: 5,504 psi 40 bpm: 4,543 psi 20 bpm: 3,766 psi Pad ISIP: 2,929 psi FG:.78. psi/ft 5 min: 1,901 psi Started stage with 15 # equivalent gel loading (10 cp @ 58*) XL Ph 10.5</p> <p>Increased rate to 80 bpm. Pumped 2,163 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 1.0 ppg. Flushed well with 339 bbls. Ending rate 40 bpm 5,000 psi. Placed 7% proppant in formation.</p> <p>Still having issues with Cross link pump only 1 pump working. Having issues with the xlink pump from the start of the job. Over crosslinking on one side and not cross linking on the other side. So cut dirt and went to flush while on 1# sand. Over flushed the well 100 bbls</p> <p>FTR= 183,822 bbls TSIF= 7,316,895 lbs.</p>	1
U_PEPXD	SD to repair chem add pumps after starting stg 35.	1.25

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
STIM	<p>RESTARTED FRAC STG # 35 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perms per schedule w/ 73 bbls 15% HCL 273,728 lbs.20/40 Brown sand &amp; 7567 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,252 psi. Acid on 61 BPM @ 6,590 psi Acid clear 80 BPM @ 6,760 psi</p> <p>Stepdown: 80 bpm : 6,044 psi 60 bpm: 5,504 psi 40 bpm: 4,543 psi 20 bpm: 3,766 psi Pad ISIP: 2,929 psi FG:.78. psi/ft 5 min: 1,901 psi Started stage with 15 # equivalent gel loading (10 cp @ 58*) XL Ph 10.5</p> <p>Increased rate to 80 bpm. Pumped 2163 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 340 bbls. Ending rate 82 bpm @ 4984 psi. Placed 100% proppant in formation.</p> <p>NOTE: Started stage over after replacing LA pump. Ramped sand back up fr/ .5 ppa to 1.5 ppa then returned to schedule to finish frac OK. All sand placed.</p> <p>Avg rate: 77 bpm                      Avg psi:5681 psi Max rate: 83.4 bpm                  Max psi:8711 psi ISIP:2786 psi                          FG: .077 psi/ft</p> <p>FTR=187,946 bbls TSIF= 7,570,623 lbs.</p>	1
PERF	<p>RU Ark La Tex WL for Stage # 36. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @ 10,536'. Perforate intervals : 10,515'-10,517', 10,475'- 10,477', 10,435'-10,,437', 10,395'-10,397' 10,355' - 10,357', 10,315' - 10,317', w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL .</p> <p>Pump down @ 16 bpm/ 2,360-psi. Line speed 340 fpm. Line Ten 1,150</p> <p>TBP: 117 bbls LTR: 188,063 bbls</p>	1.25
WOZF	WSI waiting on 17h & 19h Zipper ops.	6.75
STIM	<p>FRAC STG # 36 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perms per schedule w/ 35 bbls 15% HCL, 269,478 lbs.20/40 Brown sand &amp; 5,709 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4325psi. Acid on 20 BPM @ 4226 psi Acid clear 20 BPM @3912 psi</p> <p>Stepdown: 80 bpm : 5483 psi 60 bpm:4861 psi 40 bpm: 4205 psi 20 bpm: 3739 psi Pad ISIP: 3254 psi FG: 0.82 psi/ft 5 min: 1908 psi Started stage with 15 # equivalent gel loading (10 cp @ 59*) XL Ph 10</p> <p>Increased rate to 80 bpm. Pumped bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 333 bbls. Ending rate 80 bpm 5183 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 79.9 bpm                      Avg psi: 6231 psi Max rate: 82.8 bpm                  Max psi:6722 psi ISIP: 2741 psi                          FG: .076 psi/ft</p> <p>FTR= 193,772 bbls TSIF= 7,840,101 lbs.</p>	2

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
PERF	RU Ark La Tex WL for Stage # 37. RIH & pump down Weatherford CFP & 6 each 3.125" guns. Set CFP @ 10,296'. Perforate intervals :10,272 - 10,274, 10,237 - 10,239, 10,195 - 10,197, 10,155 - 10,157,10,115 - 10,117, 10,075 - 10,077, w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL . Pump down @ 16 bpm/ 2700-psi. Line speed 350 fpm. Line Ten 1120  TBP: 102 bbls LTR: 193,874 bbls TSIF: 7,840,101	1.25
WOZF	WSI waiting on 17h & 19h Zipper ops.	0.75

Report #: 32 Daily Operation: 1/28/2015 06:00 - 1/29/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
124	32	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac Stages # 37- 39

Perf Stages # 38- 39

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.0 hrs Cumulative: 18.25 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 210,405 bbls

RT - 0 bbls

CR - 0 bbls

LTR - 210,405 bbls

TSIF - 8,629,464 lbs

Days: Mike Drennan / Jimmy Lake

Nights: Bob Belcher / Shawn Everett

Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
WOZF	WSI waiting on 17h & 19h Zipper ops.	7.5
STIM	FRAC STG # 37 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perms per schedule w/ 32 bbls 15% HCL, 268,455 lbs.20/40 Brown sand & 5,192 bbls Hybrid Fluid down 5.5" csg.  Formation broke @ 21 bpm @ 4555 psi. Acid on 21 BPM @ 4518 psi Acid clear 21 BPM @ 4185 psi  Stepdown: 80 bpm : 5296 psi 60 bpm: 4710 psi 40 bpm: 4150 psi 20 bpm: 3655 psi Pad ISIP: 3006 psi FG: 0.79 psi/ft 5 min: 1842 psi Started stage with 15 # equivalent gel loading (10 cp @ 59*) XL Ph 10  Increased rate to 80 bpm. Pumped 1,354 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 328 bbls. Ending rate 80 bpm 4288 psi. Placed 100% proppant in formation.  Avg rate: 80 bpm Avg psi: 5977 psi Max rate: 82 bpm Max psi: 6449 psi ISIP: 2886 psi FG: 0.78 psi/ft  FTR= 199,066 bbls TSIF= 8,108,556 lbs.	1.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
PERF	<p>RU Ark La Tex WL for Stage # 38. RIH &amp; pump down Weatherford CFP &amp; 6 each 3.125" guns. Set CFP @ 10,056'. Perforate intervals :10,035 - 10,037, 9,995 - 9,997, 9,955 - 9,957, 9,915 - 9,917,9,875 - 9,877, 9,835 - 9,837, w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL . Pump down @ 16 bpm/ 2700-psi. Line speed 350 fpm. Line Ten 1120</p> <p>TBP: 102 bbls LTR: 193,874 bbls</p>	1.5
WOZF	WSI waiting on 17h & 19h Zipper ops.	4.75
STIM	<p>FRAC STG #38 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 38 bbls 15% HCL, 269,084 lbs.20/40 Brown sand &amp; 5,117 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,094 psi. Acid on 40 BPM @ 5,077 psi Acid clear 40 BPM @ 4,716 psi</p> <p>Stepdown: 80 bpm : 6,218 psi 60 bpm: 5,792 psi 40 bpm: 4,202 psi 20 bpm: 3,636 psi Pad ISIP: 3,061 psi FG: 0.80 psi/ft 5 min: 2,134 psi Started stage with 15 # equivalent gel loading (10 cp @ 64*) XL Ph 10</p> <p>Increased rate to 80 bpm. Pumped 1,254 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 323 bbls. Ending rate 80 bpm 4,602 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 79 bpm Avg psi: 5,806 psi Max rate: 81 bpm Max psi: 6,312 psi ISIP: 2,647 psi FG: .0.75 psi/ft</p> <p>FTR=204,273 bbls TSIF= 8,377,640 lbs.</p>	1.5
PERF	<p>RU Ark La Tex WL for Stage # 39. RIH &amp; pump down Weatherford CFP &amp; 5 each 3.125" guns. Set CFP @ 9,816'. Perforate intervals : 9,795'-97', 9,755'-57', 9,715'-17' , 9,675'-77', 9,635'- 37',&amp; 9,595'-97' w/ 42 shots, 3.5 SPF, 60*, 21.5 GR, 0.42" EHD perf guns. 42 holes total. POOH. All shots fired. RD WL . Pump down @ 14 bpm/2,600 psi. Line speed 300 fpm.</p> <p>88 bbls used for pump down. LTR: 204,361 bbls.</p>	1.5
WOZF	WSI waiting on 17h & 19h Zipper ops.	3.25

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>FRAC STG #39 of 42: Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 35 bbls 15% HCL, 251,824 lbs. 20/40 Brown sand &amp; 6,044 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,349 psi.            Acid on 63 BPM @ 6,920 psi            Acid clear 75 BPM @ 6,988 psi</p> <p>Stepdown:            80 bpm : 6,101 psi            60 bpm: 4,705 psi            40 bpm: 4,163 psi            20 bpm: 3,723 psi            Pad ISIP: 3,210 psi FG: 0.82 psi/ft 5 min: 1,822 psi            Started stage with 15 # equivalent gel loading (10 cp @ 64*)            XL Ph 10</p> <p>Increased rate to 80 bpm. Pumped 1,650 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 318 bbls. Ending rate 40 bpm 3,531 psi. Placed 94% proppant in formation.</p> <p>Avg rate: 80 bpm Avg psi: 5,864 psi            Max rate: 81 bpm Max psi: 6,419 psi            ISIP: 2,802 psi FG: .0.8 psi/ft</p> <p>FTR=210,405 bbls            TSIF= 8,629,469 lbs.</p> <p>Note: Silo issues reason for the 94% of sand,</p>	1.5
WOZF	Wirelining Stage 40 at report time	1

Report #: 33 Daily Operation: 1/29/2015 06:00 - 1/30/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
125	33	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		PIONEER PUMPING SERVICES, 5

#### Operations Summary

Frac Stages # 40-41

Perf Stages # 40-42

Fracing stage #42 of 42 @ report time.

#### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
 PPS Frac Crew 5: 0.0 hrs Cumulative: 18.25 hrs  
 Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
 Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
 Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
 API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
 Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
 Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
 Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 221,635 bbls

RT - 0 bbls

CR - 0 bbls

LTR - 221,635 bbls

TSIF - 9,164,982 lbs

Days: Mike Drennan / Jimmy Lake

Nights: Bob Belcher / Shawn Everett

Phone # 432-400-2263

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
PERF	<p>RU Ark-La-Tex WL for Stage# 40 Of 42 . RIH &amp; pump down Weatherford CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 4 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 9576. Perforate at intervals: 9355-9357, 9395-9397, 9438-9440,9475-9477, 9515-9517,9555-9557 Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 14 bpm /2400psi, 315 ft/min, 1370 Line Ten.</p> <p>TBP: 75 BBL FTR: 210480 BBL LTR: 210480 BBL</p>	1
WOZF	WSI waiting on 17H & 19H Zipper ops.	4.5
STIM	<p>FRAC STG #40 of 42:Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perms per schedule w/ 36 bbls 15% HCL, 267,604 lbs.20/40 Brown sand &amp; 5,508 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4093 psi. Acid on 20 BPM @ 4044 psi Acid clear 20 BPM @ 3931 psi</p> <p>Stepdown: 80 bpm : 5253 psi 60 bpm: 4684 psi 40 bpm: 4135 psi 20 bpm: 3728 psi Pad ISIP: 3352 psi FG: 0.84 psi/ft 5 min: 2950 psi Started stage with 15 # equivalent gel loading (9 cp @ 65*) XL Ph 10</p> <p>Increased rate to 80 bpm. Pumped 1,664 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 313 bbls. Ending rate 80 bpm 4757 psi. Placed 100% proppant in formation.</p> <p>Avg rate: 80 bpm Avg psi: 5805 psi Max rate: 81 bpm Max psi: 6294 psi ISIP: 2597 psi FG: 0.75 psi/ft</p> <p>FTR= 215,988 bbls TSIF= 8,897,068 lbs.</p>	1.5
PERF	<p>RU Ark-La-Tex WL for Stage# 41 Of 42 . RIH &amp; pump down Weatherford CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 4 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 9,336. Perforate at intervals: 9115-9117, 9155-9157, 9195-9197, 9235-9237, 9275-9277,9315-9317 Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 14 bpm /2600psi, 320 ft/min, 1275 Line Ten.</p> <p>TBP: 58 BBL FTR: 216,046 BBL</p>	1.5
WOZF	WSI waiting on 17H & 19H Zipper ops.	4.5
SAFETY	PJSM	0.5



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Time Log Summary		
Operation	Com	Dur (hr)
STIM	<p>FRAC STG #41 of 42: Test stack to 9,500 psi. Hold 1500 psi on backside. PPS frac'd perfs per schedule w/ 47 bbls 15% HCL, 267,914 lbs. 20/40 Brown sand &amp; 5,535 bbls Hybrid Fluid down 5.5" csg.</p> <p>Formation broke @ 20 bpm @ 4,174 psi.            Acid on 60 BPM @ 6,015 psi            Acid clear 80 BPM @ 6,385 psi</p> <p>Stepdown:            80 bpm : 6,063 psi            60 bpm: 4,906 psi            40 bpm: 4,064 psi            20 bpm: 3,647 psi            Pad ISIP: 3,217 psi FG: 0.82 psi/ft 5 min: 1,940 psi            Started stage with 15 # equivalent gel loading (9 cp @ 65*)            XL Ph 10</p> <p>Increased rate to 80 bpm. Pumped 1,650 bbl pad Ramped 20/40 brown sand from 0.50 ppg to 3.0 ppg. Flushed well with 313 bbls. Ending rate 40 bpm xxx psi. Placed 100% proppant in formation.</p> <p>Avg rate: 80 bpm Avg psi: 5,903 psi            Max rate: 81 bpm Max psi: 6,403 psi            ISIP: 2,261 psi FG: 0.70 psi/ft</p> <p>FTR= 221,581 bbls            TSIF= 9,164,982 lbs.</p>	1.5
PERF	<p>RU Ark-La-Tex WL for Stage# 42 Of 42 . RIH &amp; pump down Weatherford CFP &amp; (6) 3-1/8 perforating guns W/ 21.5 gram, 4 SPF. 60 degree phasing, 0.42 EHD. Position and set composite frac plug at 9,096. Perforate at intervals: 9,075-9,077, 9,035-9,037, 8,995-8,997, 8,955-8,957, 8,915-8,917, 8,875-8,977 Total of 42 shots. POOH. Stand wireline back. Confirmed all guns fired. Pump down @ 14 bpm /2600psi, 320 ft/min, 1275 Line Ten.</p> <p>TBP: 54 BBL            FTR: 221,635 BBL</p>	1.5
WOZF	WSI waiting on 17H & 19H Zipper ops.	6.75
STIM	Fracing stage 42 of 42 @ report time.	0.75

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 34 Daily Operation: 1/30/2015 06:00 - 1/31/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 126	Days on Location (days) 34	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig PIONEER PUMPING SERVICES, 5

### Operations Summary

Complete Frac Stages # 42  
Set Kill Plug at 8571'  
RDMO Frac spread,WL,pump down equipment.

Well stimulation complete 7:40 am

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.0 hrs Cumulative: 18.25 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 227,307 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 227,307 bbls  
TSIF - 9,432,929 lbs

Days: Mike Drennan / Jimmy Lake  
Nights: Bob Belcher / Shawn Everett

Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
STIM	<p>Frac Stage 42 of 42 Test stack to 9500 psi. Hold 1500 psi on backside. PPS frac'd per schedule w/ 37 bbls 15% HCL, 267947 lbs 20/40 Brown sand &amp; 5672 bbls of hybrid fluid down 5.5" #20# csg. Formation broke @ 20 psi @ 4044 bpm</p> <p>Step Test 80 bpm @ 5971 psi 60 bpm 4627 psi 40 bpm @ 4030 psi 20 bpm @ 3700 psi</p> <p>Pad ISIP: 3337 psi. FG: 0.83#. 5 min SIP: 2156 psi.</p> <p>Acid on form @ 40 bpm 4657 psi Acid clear @ 40 bpm 4520psi</p> <p>Increased rate to 80 bpm. Started stage w/ 15# gel equivalent loading, 9 cp. @ 60 *F. Pumped 1831 bbl pad. Ramped 20/40 Brown sand from 0.5 ppg to 3 ppg. Flushed well with 301 bbls. Ending rate 80 bpm @ 4571 psi. Placed 100% prop in formation. Avg. rate: 79.8 bpm Avg. psi: 5610 psi Max. rate: 81 bpm Max. psi: 6071 psi End of job ISIP 2459 FG: 0.72</p> <p>FTR: 227307 LTR: 227307 TSIF: 9432929</p> <p>Stimulation complete:</p>	0.5
PERF	<p>RU Ark-La-Tex WL to set Kill Plug . RIH with Weatherford CFP (Kill Plug) Set @ 8571'. POOH. Stand wireline back. Confirmed plug set.</p> <p>TBP: 0 BBL FTR: 227307 BBL LTR: 227307 BBL</p>	1
RURD	WSI- Rigging down Frac, Wireline, Pumpdown.	22.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 35 Daily Operation: 1/31/2015 06:00 - 2/1/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 127	Days on Location (days) 35	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig

### Operations Summary

Rdmol frac equipment & all support equipment.  
Miru sandex and super loop.

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
PPS Frac Crew 5: 0.0 hrs Cumulative: 18.25 hrs  
Ark-la-tech WL: 0.0 hrs Cumulative: 3.5 hrs  
Select H2O Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Circle 8 crane: 0.0 hrs Cumulative: 0.0 hrs  
Weatherford plugs: 0.0 hrs Cumulative: 0.0 hrs  
API Lube/Grease: 0.0 hrs Cumulative: 0.0 hrs  
Priority WH: 0.0 hrs Cumulative: 2.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 0.0 hrs  
Express: 0.0 hrs Cumulative 1.5 hrs

FTR - 227,307 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 227,307 bbls  
TSIF - 9,432,929 lbs

Days: Mike Drennan / Jimmy Lake  
Nights: Bob Belcher / Shawn Everett

Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
RURD	Continue rigging down and moving off location frac equipment. Transferred frac tanks & water around for drill out ops. Miru Sandex & Super loop.  Wsi. Waiting on drill out ops.  Will start moving in rig and support equipment for drill out ops in the morning.	24

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 36 Daily Operation: 2/1/2015 06:00 - 2/2/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 128	Days on Location (days) 36	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig ENERGY SERVICE COMPANY, 242

### Operations Summary

Miru Esco #242 & all support equipment.  
Nu Bop's.  
Rack and talley tbq.  
PSI test flow lines, & BOP's  
TIH w/ drill out BHA  
210 jts IH @ 6,419' @ report time.

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
Express Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Express Flowback: 0.0 hrs Cumulative: 0.0 hrs  
Esco: 0.0 hrs Cumulative: 0.0 hrs  
Vision: 0.0 hrs Cumulative: 0.0 hrs  
Double T rentals: 0.0 hrs Cumulative: 2.5 hrs

FTR - 227,307 bbls  
RT - 0 bbls  
CR - 0 bbls  
LTR - 227,307 bbls  
TSIF - 9,432,929 lbs

Days: Mike Drennan  
Nights: Bob Belcher

#### BHA as follows:

4 5/8" JZ rock bit serial #1424607  
3 5/8"OD Bit sub  
3.50"OD string float  
3.50"OD string float  
3 5/8"OD X over  
1jt 2 3/8" PH6  
2 13/16"OD X nipple

Sand Box # 274808

Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
WSI	Wsi. Waiting on rig and equipment.	3
SAFETY	Held pre rig up safety meeting with all personel.	0.5
RURD	Miru Esco #242, Vision pump and swivel, Emerald surf mixing plants, Express flowback equipment. Placed containments under all necessary equipment. NU Bops . Started running flare line.  Racked 338 jts 2 3/8" PH-6. Racked 279 jts 2 7/8" PH-6.	12
BOPTEST	Tested flowlines, & blinds on BOP to 2,800 psi, good test.	0.5
MILL_TUB	MU & TIH w/ BHA as follows:  4 5/8" JZ rock bit serial #1424607 3 5/8"OD Bit sub 3.50"OD string float 3.50"OD string float 3 5/8"OD X over 1jt 2 3/8" PH6 2 13/16"OD X nipple  210 jts IH @ 6,419' @ report time.	8

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 37 Daily Operation: 2/2/2015 06:00 - 2/3/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 129	Days on Location (days) 37	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig ENERGY SERVICE COMPANY, 242

### Operations Summary

Cih w/ Ws and bit.

Waited on repairs to flare.

Drilled out Weatherford Kill Plug.

Drilled out Weatherford CFP's 38-34

Drilling on Weatherford CFP #34 @ report time 330 jts IH @ 10,060' pumping 3 bpm @ 1,800 psi returns of 3.2 bpm @ 800 psi.

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs

Express Transfer: 0.0 hrs Cumulative: 0.0 hrs

Express Flowback: 0.0 hrs Cumulative: 0.0 hrs

Esco: 0.0 hrs Cumulative: 0.0 hrs

Vision: 1.25 hrs Cumulative: 1.25 hrs

Double T rentals: 0.0 hrs Cumulative: 2.5 hrs

Voyager: 4.0 hrs Cumulative: 4.0 hrs

FTR - 227,307 bbls

RT - 44 bbls

CR - 44 bbls

LTR - 227,263 bbls

TSIF - 9,432,929 lbs

Days: Mike Drennan

Nights: Bob Belcher

#### BHA as follows:

4 5/8" JZ rock bit serial #1424607

3 5/8"OD Bit sub

3.50"OD string float

3.50"OD string float

3 5/8"OD X over

1jt 2 3/8" PH6

2 13/16"OD X nipple

Sand Box # 274808

Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
MILL_TUB	Continue in hole with ws. Tagged kill plug on jt 282. Laid down 1 jt. picked up 1 jt 2 7/8" WS and tested 2 7/8" pipe rams to 3000 psi ( Test Good). Laid down jt of 2 7/8" and picked up 1 jt 2 3/8". Picked up swivel.  Shutdown to wait on repair to flare before drilling out.	2
U_OTHR	Shut down waiting on voyager to show up and repair flare ignitor. Control box was dropped in mud and water. Had to be replaced.	4
MILL_TUB	Broke circulation and drilled out Weatherford CBP @ 8,571' w/ 282 jts in hole. 1700 psi after drilling kill plug. Held 1800 psi back pressure while drilling plug. Cih to next plug.	2.75
MILL_TUB	Drilled out Weatherford CFP #38 in 44 mins w/ 299 jts in the hole. Pumping 2.7 bpm w/ 1900 psi and returning 3.3 bpm w/ 1000 psi. Continue in hole tag CFP #37 with jt #306.Circulate bottoms up No sand in returns.	4
MILL_TUB	Tag, & Drill out Weatherford CFP #37 w/Jnt #306, @ 9,350' Drill CFP in 42 minutes pumping 2.7 bpm @ 1,500 psi returning 3.2 bpm @ 1,000 psi on 26/64 chk. light sand, Plug debris is small.sent 5 bbl sweep.	2.25
MILL_TUB	Tag, & Drill Weatherford CFP #36 w/Jnt #314, @ 9,580'. While drilling on plug lost high gear in power swivel,circulated bottoms up.Will finish drilling out plug when swivel is replaced.	2
U_OTHR	RD power swivel,&RU new power swivel.	1.25
MILL_TUB	Drilled Weatherford CFP #36 in 60 minutes pumping 3 bpm @ 1,750 psi returning 3.2 bpm @ 850 psi on 27/64 chk. light sand, Plug debris is small.Send 5 bbl sweep	1.25
MILL_TUB	Tag, & Drill out Weatherford CFP #35 w/Jnt #322, @ 9,827' Drill CFP in 63 minutes pumping 3 bpm @ 2,100 psi returning 3.4 bpm @ 700 psi on 27/64 chk.med sand, Plug debris is small.sent 5 bbl sweep. Wash down & tag plug #34.' P/U pump 10 bbl. sweep & circulate to surface.	3.75
MILL_TUB	Drilled out Weatherford CFP #34 @ w/ 330 jts IH @ 10,060' pumping 3 bpm @ 1,800 psi returns of 3.2 bpm @ 800 psi on 27/64 choke.	0.75

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 38 Daily Operation: 2/3/2015 06:00 - 2/4/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 130	Days on Location (days) 38	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig ENERGY SERVICE COMPANY, 242

### Operations Summary

Drilled Weatherford CFP's # 33 - 22

Circulating bottoms up@ report time 430 jts IH @ 13,170' pumping 3 bpm @ 1,500 psi returning 3.6 bpm @ 600 psi on 30/64 choke.

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs

Express Transfer: 0.0 hrs Cumulative: 0.0 hrs

Express Flowback: 0.0 hrs Cumulative: 0.0 hrs

Esco: 0.0 hrs Cumulative: 0.0 hrs

Vision: 0.0 hrs Cumulative: 1.25 hrs

Double T rentals: 0.0 hrs Cumulative: 2.5 hrs

Voyager: 0.0 hrs Cumulative: 4.0 hrs

FTR - 227,307 bbls

RT - 599 bbls

CR - 643 bbls

LTR - 226,664 bbls

TSIF - 9,432,929 lbs

Days: Mike Drennan

Nights: Bob Belcher

#### BHA as follows:

4 5/8" JZ rock bit serial #1424607

3 5/8"OD Bit sub

3.50"OD string float

3.50"OD string float

3 5/8"OD X over

1jt 2 3/8" PH6

2 13/16"OD X nipple

Sand Boxes used # 274808,# 279528

Phone # 432-400-2263

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	Held morning safety meeting at shift change.	0.5
MILL_TUB	Tag,& Drill out Weatherford CFP #33 w/Jnt #338, @ 10,326' Drill CFP in 40 minutes pumping 3 bpm @ 1600 psi returning 3.2 bpm @ 800 psi on 29/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #32. Pumped 10 bbl Sweep and circulated bottoms up.	2
MILL_TUB	Tag,& Drill out Weatherford CFP #32 w/Jnt #346, @ 10,575' Drill CFP in 26 minutes pumping 3 bpm @ 1600 psi returning 3.2 bpm @ 800 psi on 30/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #31.	2.5
MILL_TUB	Tag,& Drill out Weatherford CFP #31 w/Jnt #354, @ 10,793' Drill CFP in 30 minutes pumping 3 bpm @ 1400 psi returning 3.2 bpm @ 800 psi on 31/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #30. Pumped 10 bbl Sweep and circulated bottoms up.	2.5
MILL_TUB	Tag,& Drill out Weatherford CFP #30 w/Jnt #361, @ 11,043' Drill CFP in 26 minutes pumping 3 bpm @ 1400 psi returning 3.1 bpm @ 800 psi on 32/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #29.	1
MILL_TUB	Tag,& Drill out Weatherford CFP #29 w/Jnt #368, @ 11,262' Drill CFP in 18 minutes pumping 3 bpm @ 1400 psi returning 3.1 bpm @ 800 psi on 33/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #28.	1
MILL_TUB	Tag,& Drill out Weatherford CFP #28 w/Jnt #376, @ 11,512' Drill CFP in 20 minutes pumping 3 bpm @ 1400 psi returning 3.1 bpm @ 800 psi on 34/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #27. Pumped 10 bbl Sweep and circulated bottoms up.	2.5
MILL_TUB	Tag,& Drill out Weatherford CFP #27 w/Jnt #384, @ 11,761' Drill CFP in 20 minutes pumping 3 bpm @ 1,500 psi returning 3.1 bpm @ 650 psi on 32/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #26.  Note: Found out Express Energy services employee,twisted his ankle @ 5:45 this morning,he did not inform day or night consultant,I talked with Abraham Uribe supervisor for Express,he said it was first aid only,but that they would bring full report in the am.	1.25
MILL_TUB	Tag,& Drill out Weatherford CFP #26 w/Jnt #391, @ 11,976' Drill CFP in 15 minutes pumping 3 bpm @ 2,400 psi returning 3.5 bpm @ 600 psi on 33/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #25.Pumped 10 bbl Sweep and circulated bottoms up.	3

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
MILL_TUB	Tag, & Drill out Weatherford CFP #25 w/Jnt #399, @ 12,228' Drill CFP in 45 minutes pumping 3 bpm @ 1,300 psi returning 3.6 bpm @ 650 psi on 32/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #24.	1.75
MILL_TUB	Tag, & Drill out Weatherford CFP #24 w/Jnt #407, @ 12,460' Drill CFP in 65 minutes pumping 3 bpm @ 1,800 psi returning 3.5 bpm @ 600 psi on 30/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #23. Pumped 10 bbl Sweep and circulated bottoms up.	3
MILL_TUB	Tag, & Drill out Weatherford CFP #23 w/Jnt #415, @ 12,686' Drill CFP in 25 minutes pumping 3 bpm @ 1,800 psi returning 3.5 bpm @ 600 psi on 30/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #22.	1
MILL_TUB	Tag, & Drill out Weatherford CFP #22 w/Jnt #422, @ 12,938' Drill CFP in 25 minutes pumping 3 bpm @ 1,500 psi returning 3.5 bpm @ 600 psi on 30/64 chk.med sand, Plug debris are small. Pumped 5 bbl sweep. Wash down to CFP #21. Pumped 10 bbl Sweep and circulating bottoms up @ report time 430 jts IH @ 13,170' pumping 3 bpm @ 1,500 psi returning 3.6 bpm @ 600 psi on 30/64 choke.	2

### Report #: 39 Daily Operation: 2/4/2015 06:00 - 2/5/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184

Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
131	39	0.0			ENERGY SERVICE COMPANY, 242

#### Operations Summary

Drilled Weatherford CFP's # 21 - 11

Drilling on CFP #10 at report time.

Continue 24 hr drill out ops.

#### Remarks

##### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
Express Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Express Flowback: 0.0 hrs Cumulative: 0.0 hrs  
Esco: 0.0 hrs Cumulative: 0.0 hrs  
Vision: 0.0 hrs Cumulative: 1.25 hrs  
Double T rentals: 0.0 hrs Cumulative: 2.5 hrs  
Voyager: 0.0 hrs Cumulative: 4.0 hrs

FTR - 227,307 bbls  
RT - 655 bbls  
CR - 1,298 bbls  
LTR - 226,009 bbls  
TSIF - 9,432,929 lbs

Days: Wendell Wiggins  
Luke Armstrong

Nights: Mike Drennan  
TD Jones

#### BHA as follows:

4 5/8" JZ rock bit serial #1424607  
3 5/8" OD Bit sub  
3.50" OD string float  
3.50" OD string float  
3 5/8" OD X over  
1jt 2 3/8" PH6  
2 13/16" OD X nipple

Sand Boxes used #274808, #279528, #25484

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	PJSM	0.5
MILL_TUB	Tag & drill out Weatherford CFP #21 w/Jnt #430 @ 13,170'. Drill CFP in 20 minutes pumping 3 bpm @ 1,400 psi. Returning 3.5 bpm @ 600 psi on 30/64 chk. Med sand w/small to med plug debris. Pumped 5 bbl sweep. Wash down to CFP #20.	1



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
MILL_TUB	Tag & drill out Weatherford CFP #20 w/Jnt #437 @ 13,405'. Drill CFP in 30 mins pumping 3 bpm @ 1,400 psi. Returning 3.5 bpm @ 600 psi on 30/64 chk. Med sand w/small to med plug debris. Wash down to CFP #19 pumped 10 bbl sweep and circulated bottoms up.	2.5
MILL_TUB	Tag & drill out Weatherford CFP #19 w/Jnt #445 @ 13,651'. Drill CFP in 23 minutes pumping 3 bpm @ 1,400 psi. Returning 3.5 bpm @ 600 psi on 30/64 chk. Med sand w/small to med plug debris. Pumped 5 bbl sweep. Wash down to CFP #18.	1.5
MILL_TUB	Tag & drill out Weatherford CFP #18 w/Jnt #453 @ 13,900'. Drill CFP in 26 minutes pumping 3 bpm @ 1,450 psi. Returning 3.4 bpm @ 550 psi on 30/64 chk. Med sand w/small to med plug debris. Wash down to CFP #17 pumped 10 bbl sweep and circulated bottoms up.	2.5
MILL_TUB	Tag & drill out Weatherford CFP #17 w/Jnt #461 @ 14,148'. Drill CFP in 25 minutes pumping 3 bpm @ 1,400 psi. Returning 3.4 bpm @ 550 psi on 30/64 chk. Med sand w/small to med plug debris. Pumped 5 bbl sweep. Wash down to CFP #16.	1.5
MILL_TUB	Tag & drill out Weatherford CFP #16 w/Jnt #469 @ 14,395'. Drill CFP in 33 minutes pumping 3 bpm @ 1,400 psi. Returning 3.4 bpm @ 550 psi on 34/64 chk. Med sand w/small to med plug debris. Wash down to CFP #15 pumped 10 bbl sweep and circulated bottoms up.	3
MILL_TUB	Tag & drill out Weatherford CFP #15 w/Jnt #476 @ 14,613'. Drill CFP in 43 minutes pumping 3 bpm @ 1,400 psi. Returning 3.4 bpm @ 550 psi on 34/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #14. Pumped 5 bbl sweep.	1.5
MILL_TUB	Tag & drill out Weatherford CFP #14 w/Jnt #484 @ 14,846'. Drill CFP in 45 minutes pumping 3 bpm @ 1,300 psi. Returning 3.5 bpm @ 550 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #13. Pumped 10 bbl sweep and circulated bottoms up.	3.25
MILL_TUB	Tag & drill out Weatherford CFP #13 w/Jnt #492 @ 15,080'. Drill CFP in 23 minutes pumping 3 bpm @ 1,200 psi. Returning 3.4 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #12. Pumped 5 bbl sweep.	1.5
MILL_TUB	Tag & drill out Weatherford CFP #12 w/Jnt #499 @ 15,330'. Drill CFP in 22 minutes pumping 3 bpm @ 1,200 psi. Returning 3.4 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #11. Pumped 10 bbl sweep and circulated bottoms up.	3
MILL_TUB	Tag & drill out Weatherford CFP #11 w/Jnt # 507 @ 15,570'. Drill CFP in 25 minutes pumping 3 bpm @ 1,200 psi. Returning 3.5 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #10. Pumped 5 bbl sweep.	1.5
MILL_TUB	Tagged CFP #10 @ 15,800' on jt # 515. Started drilling on CFP.  Continue drill out ops.  FTR - 227,307 bbls RT - 655 bbls CR - 1,298 bbls LTR - 226,009 bbls	0.75

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 40 Daily Operation: 2/5/2015 06:00 - 2/6/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 132	Days on Location (days) 40	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig ENERGY SERVICE COMPANY, 242

### Operations Summary

Drilled Weatherford CFP's # 10 -1. Circulated to PBTD.

Pumped Sweep and circulating well bore clean.

### Remarks

#### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs

Express Transfer: 0.0 hrs Cumulative: 0.0 hrs

Express Flowback: 0.0 hrs Cumulative: 0.0 hrs

Esco: 0.0 hrs Cumulative: 0.0 hrs

Vision: 0.0 hrs Cumulative: 1.25 hrs

Double T rentals: 0.0 hrs Cumulative: 2.5 hrs

Voyager: 0.0 hrs Cumulative: 4.0 hrs

FTR - 227,307 bbls

RT - 219 bbls

CR - 1,517 bbls

LTR - 225,790 bbls

TSIF - 9,432,929 lbs

Days: Wendell Wiggins

Luke Armstrong

Nights: Mike Drennan

TD Jones

#### BHA as follows:

4 5/8" JZ rock bit serial #1424607

3 5/8"OD Bit sub

3.50"OD string float

3.50"OD string float

3 5/8"OD X over

1jt 2 3/8" PH6

2 13/16"OD X nipple

Sand Boxes used #274808, #279528, #25484

### Time Log Summary

Operation	Com	Dur (hr)
MILL_TUB	Tag & drill out Weatherford CFP #10 w /Jnt # 515 @ 15,800'. Drill CFP in 30 minutes pumping 3 bpm @ 1,600 psi. Returning 3.4 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #9. Pumped 5 bbl sweep	1
MILL_TUB	Tag & drill out Weatherford CFP #9 w /Jnt #522 @ 16,041'. Drill CFP in 25 minutes pumping 3 bpm @ 1,600 psi. Returning 3.2 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #8. Pumped 10 bbl sweep and circulated bottoms up.	2.5
MILL_TUB	Tag & drill out Weatherford CFP #8 w /Jnt # 530 @ 16,291'. Drill CFP in 25 minutes pumping 3 bpm @ 1,500 psi. Returning 3.2 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #7. Pumped 10 bbl sweep.	2
MILL_TUB	Tag & drill out Weatherford CFP #7 w /Jnt # 538 @ 16,542'. Drill CFP in 32 minutes pumping 3 bpm @ 1,500 psi. Returning 3.2 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #6. Pumped 15 bbl sweep and circulated bottoms up.	3
MILL_TUB	Tag & drill out Weatherford CFP #6 w /Jnt # 545 @ 16,761'. Drill CFP in 20 minutes pumping 3 bpm @ 1,400 psi. Returning 3.2 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #5. Pumped 10 bbl sweep.	1
MILL_TUB	Tag & drill out Weatherford CFP #5 w /Jnt #552 @ 16,947'. Drill CFP in 28 minutes pumping 3 bpm @ 1,300 psi. Returning 3.2 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #4 @ 17,164'. Pumped 15 bbl sweep and circulated bottoms up.	3.5
MILL_TUB	Tag & drill out Weatherford CFP #4 w /Jnt #558 @ 17,164'. Drill CFP in 45 minutes pumping 3 bpm @ 1,200 psi. Returning 3.5 bpm @ 500 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. After plug was drilled we picked up jt 599 and continue to push plug down hole 15' in tbg stacked out. Swivel torqued up. Pumped 10 bbl sweep and increased pump and return rate to 5 bpm. Worked tbg for 20 mins. Tbg came free. Brought pump rate and return rate back to 3 bpm and 3.5 bpm. Circulated sweep bottoms up. Wash down to CFP #3. Pumped 5 bbl sweep.	3.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Time Log Summary

Operation	Com	Dur (hr)
MILL_TUB	Tag & drill out Weatherford CFP #3 w /Jnt #564 @ 17,340'. Drill CFP in 30 minutes pumping 3 bpm @ 1,400 psi. Returning 3.4 bpm @ 450 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #2. Pumped 5 bbl sweep.	1
MILL_TUB	Tag & drill out Weatherford CFP #2 w /Jnt #571 @ 17,540'. Drill CFP in 45 minutes pumping 3 bpm @ 1,400 psi. Returning 3.4 bpm @ 425 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Wash down to CFP #1. Pumped 5 bbl sweep.	2
MILL_TUB	Tag & drill out Weatherford CFP #1 w /Jnt #577 @ 17,730'. Drill CFP in 30 minutes pumping 3 bpm @ 1,500 psi. Returning 3.4 bpm @ 425 psi on 35/64 chk. Med to heavy sand w/small to med plug debris. Pumped 10 bbl sweep and circulated bottoms up.	3
MILL_TUB	Cih hole to top of sleeve @ 18,357 w/ 597 jts. Started Circulating sweep.	1.5

### Report #: 41 Daily Operation: 2/6/2015 06:00 - 2/7/2015 06:00

Job Category	Primary Job Type	AFE Number
ORIG COMPLETION	OCM	033184
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)
133	41	0.0
End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig
		ENERGY SERVICE COMPANY, 242

#### Operations Summary

Pumped Sweep and circulating well bore clean.  
POOH laying down WS

#### Remarks

##### DOWNTIME:

Weather: 0.0 hrs Cumulative: 0.0 hrs  
Express Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Express Flowback: 0.0 hrs Cumulative: 0.0 hrs  
Esco: 0.0 hrs Cumulative: 0.0 hrs  
Vision: 0.0 hrs Cumulative: 1.25 hrs  
Double T rentals: 0.0 hrs Cumulative: 2.5 hrs  
Voyager: 0.0 hrs Cumulative: 4.0 hrs

FTR - 227,427 bbls  
RT - 79 bbls  
CR - 1,596 bbls  
LTR - 225,831 bbls  
TSIF - 9,432,929 lbs

Days: Wendell Wiggins  
Luke Armstrong

Nights: Mike Drennan  
TD Jones

#### BHA as follows:

4 5/8" JZ rock bit serial #1424607  
3 5/8"OD Bit sub  
3.50"OD string float  
3.50"OD string float  
3 5/8"OD X over  
1jt 2 3/8" PH6  
2 13/16"OD X nipple

Sand Boxes used #274808, #279528, #25484

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	PJSM	0.5
MILL_TUB	Pump a 10 bbl sweep, 30 bbl spacer and another 10 bbl sweep @ 18,357 w/ 597 jts.	2.5
POOH	POOH laying down WS.	12.5
TUBING	2 3/8 tubing at 8250', Rig up to kill well. Pump 15 bbls 11.6 brine down tubing, Swap over to backside and pump 75 bbls 11.6 brine down annulus. Well @ 0 psi, open B section valve and check. Well is static, Keep B section valve open to observe any flow.	1.25
POOH	Out of hole with 2 3/8 tubing	6.75
RURD	Prepare rig to run junk basket and gauge ring, Odessa AS-1 Packer	0.5

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 42 Daily Operation: 2/7/2015 06:00 - 2/8/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 134	Days on Location (days) 42	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig ENERGY SERVICE COMPANY, 242

Operations Summary  
RIH with gr/jb  
RIH and set PKR  
RU to run ESP  
Begin ESP install

Remarks  
DOWNTIME:  
Weather: 0.0 hrs Cumulative: 0.0 hrs  
Express Transfer: 0.0 hrs Cumulative: 0.0 hrs  
Express Flowback: 0.0 hrs Cumulative: 0.0 hrs  
Esco: 0.0 hrs Cumulative: 0.0 hrs  
Vision: 0.0 hrs Cumulative: 1.25 hrs  
Double T rentals: 0.0 hrs Cumulative: 2.5 hrs  
Voyager: 0.0 hrs Cumulative: 4.0 hrs

FTR - 227,427 bbls  
RT - 0 bbls  
CR - 1,596 bbls  
LTR - 225,831 bbls  
TSIF - 9,432,929 lbs

Days: Wendell Wiggins  
Luke Armstrong

Nights: Mike Drennan  
TD Jones

BHA as follows:  
4 5/8" JZ rock bit serial #1424607  
3 5/8"OD Bit sub  
3.50"OD string float  
3.50"OD string float  
3 5/8"OD X over  
1jt 2 3/8" PH6  
2 13/16"OD X nipple

Sand Boxes used #274808, #279528, #25484

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	PJSM	0.5
WLPK	MIRU API wireline. RIH w/4.625 GR /JB to 8,000'. MURIH Arrow A1X 5-1/2" Packer w/ pumpout plug w/ 4 pins(Per Odessa Pkr hand. maybe 6 pins). Set packer @ 7,858'. Perform 15 min negative PSI test.	4.5
WL	POOH API WL and RDMOL.	1
RURD	Rack production tubing. Land tubing hanger. ND bop and annular. ND frac valve and mud cross. NU bop and annular and rig floor preparing to run SLB ESP. MIRU Schlumberger ESP spools and ESP trailer.	3.5
TIH	TIH with prod tubing and ESP. Schlumberger had all pumps and motors made up and started to RIH with first joint of tubing, the spool for electric cable stoped working. Have to replace spool.	6
U_WOV	Waiting on spool to arrive	4.75
TUBING	Spool for electric line arrived and continue in hole with ESP and 2 3/8 tubing EOT @ 2390 report time	3.75

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Report #: 43 Daily Operation: 2/8/2015 06:00 - 2/9/2015 06:00

Job Category ORIG COMPLETION			Primary Job Type OCM		AFE Number 033184
Days From Spud (days) 135	Days on Location (days) 43	End Depth (ftKB) 0.0	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig ENERGY SERVICE COMPANY, 242

Operations Summary  
 TIH w/ SLB ESP and prod tubing  
 Install Hanger, Land Tubing/ EOT @ 7,552'  
 Rig Down BOP and Annular  
 Nipple up Production tree  
 Rig down ESCO rig 242 and move off

Remarks  
 DOWNTIME:  
 Weather: 0.0 hrs Cumulative: 0.0 hrs  
 Express Transfer: 0.0 hrs Cumulative: 0.0 hrs  
 Express Flowback: 0.0 hrs Cumulative: 0.0 hrs  
 Esco: 0.0 hrs Cumulative: 0.0 hrs  
 Vision: 0.0 hrs Cumulative: 1.25 hrs  
 Double T rentals: 0.0 hrs Cumulative: 2.5 hrs  
 Voyager: 0.0 hrs Cumulative: 4.0 hrs

FTR - 227,427 bbls  
 RT - 0 bbls  
 CR - 1,596 bbls  
 LTR - 225,831 bbls  
 TSIF - 9,432,929 lbs

Days: Wendell Wiggins  
 Luke Armstrong

Nights: Mike Drennan  
 TD Jones

BHA as follows:  
 4 5/8" JZ rock bit serial #1424607  
 3 5/8"OD Bit sub  
 3.50"OD string float  
 3.50"OD string float  
 3 5/8"OD X over  
 1jt 2 3/8" PH6  
 2 13/16"OD X nipple

Sand Boxes used #274808, #279528, #25484

Approximately #47,000 sand recovered during drillout.

### Time Log Summary

Operation	Com	Dur (hr)
SAFETY	PJSM	0.5
TUBING	Continue TIH with ESP and 2 3/8 production tubing.	7
U_WOV	Waiting on truck to arrive to pull cellar.	1.5
TUBING	Continue TIH with ESP and 2 3/8 production tubing.	1.5
TUBING	Screw on hanger pick up 1 joint and land tubing. EOT @ 7,552'. Lay down landing joint Bottom of Motor @ 7,347' due to miscount of tubing after landing tubing. Engineer said to leave as is.	0.75
RURD	Rig down BOP and annular	1.5
NU_TREE	Nipple up production tree	1.5
RURD	Rig down ESCO rig 242 and move off	2
WSI	Waiting on production to move in and rig up to well. WSI and secure  Approximately #47,000 sand recovered during drillout.	7.75

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

<b>Report #: 44 Daily Operation: 2/9/2015 06:00 - 2/10/2015 06:00</b>									
Job Category ORIG COMPLETION					Primary Job Type OCM			AFE Number 033184	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig				
136	44	0.0			ENERGY SERVICE COMPANY, 242				
Operations Summary Constr hooking up well TOTP Last report									
Remarks TOTP									
<b>Time Log Summary</b>									
Operation	Com								Dur (hr)
TOTP	TOTP. Last report.								24
<b>Report #: 45 Daily Operation: 2/14/2015 06:00 - 2/15/2015 06:00</b>									
Job Category ORIG COMPLETION					Primary Job Type OCM			AFE Number 033184	
Days From Spud (days)	Days on Location (days)	End Depth (ftKB)	End Depth (TVD) (ftKB)	Dens Last Mud (lb/gal)	Rig				
141	45	0.0			ENERGY SERVICE COMPANY, 242				
Operations Summary Pop well									
Remarks No accidents or incidents									
<b>Time Log Summary</b>									
Operation	Com								Dur (hr)
WSI	Well shut in								9
PMP_PLG	Tie onto casing w/ rig pump. Pressured casing to 1800 psi & plug pumped out. Con't to pump 15 bbls water down csg to displace plug. Shut well in. Schlumberger reading down hole pressure OK.								1
WSI	Well shut in								14
<b>WELL DETAILS</b>									
Well Name UNIVERSITY 178B 18H			API/UWI 42-461-39445-0000			Operator PIONEER NATURAL RESRC USA, INC			
<b>Wellbore Hole Size</b>									
Section Des	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date	End Date				
Conductor	30	27.0	147.0	9/1/2014	9/1/2014				
Surface	17 1/2	147.0	1,110.0	9/27/2014	9/27/2014				
Intermediate	12 1/4	1,110.0	7,770.0	9/29/2014	10/3/2014				
Production	8 1/2	7,770.0	14,710.0	10/28/2014	11/2/2014				
Production	8 1/2	8,493.0	18,484.0	11/11/2014	11/18/2014				
<b>Conductor Casing</b>									
Run Date	Set Depth (ftKB)		Centralizers						
	120.0								
Item Des	OD (in)	ID (in)	Wt/Lgth (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)	
Conductor	20	19.124	94.00	H-40	120.00	1	0.0	120.0	
Run Date	Set Depth (ftKB)		Centralizers						
9/3/2014	147.0		None						
Item Des	OD (in)	ID (in)	Wt/Lgth (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)	
Conductor	20	19.625	78.60	H-40	120.00	3	27.0	147.0	
<b>Surface Casing</b>									
Set Depth (ftKB)	Run Date		Centralizers						
1,101.0	9/28/2014		7 Bow Spring						
Item Des	OD (in)	ID (in)	Wt/Lgth (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)	
Casing Joints	13 3/8	12.615	54.50	J-55	0.00	0	27.0	27.0	
Cut off	13 3/8	12.615		J-55	4.80	0	27.0	31.8	
Casing Joints	13 3/8	12.615	54.50	J-55	1,022.87	25	31.8	1,054.6	
Float Collar	13 3/8	12.615		J-55	1.30	1	1,054.6	1,055.9	
Casing Joints	13 3/8	12.615	54.50	J-55	42.91	1	1,055.9	1,098.8	
Float Collar	13 3/8	12.615		J-55	1.30	1	1,098.8	1,100.1	
Texas Pattern Shoe	13 3/8	12.615		J-55	0.87	1	1,100.1	1,101.0	
Set Depth (ftKB)	Run Date		Centralizers						
1,225.0									

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Item Des		OD (in)	ID (in)	Wt/Lgth (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)
Casing Joints		13 3/8		48.00	J-55	1,225.00	30	0.0	1,225.0
Surface Casing Cement									
Type Casing	String Surface, 1,101.0ftKB	Cementing Start Date 9/28/2014		Cementing End Date 9/28/2014		Cementing Company Crest		Top (ftKB) 30.0	Btm (ftKB) 1,110.0
Class		Amount (sacks)			Yield (ft³/sack)		Density (lb/gal)		
Class		Amount (sacks)			Yield (ft³/sack)		Density (lb/gal)		
Class C Poz		500			1.90				
Class		Amount (sacks)			Yield (ft³/sack)		Density (lb/gal)		
Class C		260			1.75				
Intermediate Casing									
Set Depth (ftKB) 7,750.0		Run Date		Centralizers					
Item Des		OD (in)	ID (in)	Wt/Lgth (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)
Casing Joints		9 5/8		40.00	L-80 IC	7,750.00	193	0.0	7,750.0
Set Depth (ftKB) 7,759.0		Run Date 10/5/2014		Centralizers 36 Solid Body					
Item Des		OD (in)	ID (in)	Wt/Lgth (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)
Landing Joint		9 5/8	8.835			0.00	0	27.3	27.3
Casing Hanger		9 5/8	8.835			4.00	1	27.3	31.3
Casing Joints		9 5/8	8.835	40.00	L-80	3,631.43	80	31.3	3,662.7
Casing Joints - RytWrap		9 5/8	8.835	40.00	L-80	1,361.77	30	3,662.7	5,024.5
Casing Joints		9 5/8	8.835	40.00	L-80	324.14	7	5,024.5	5,348.6
Casing Joints		9 5/8	8.755	43.50	L-80	2,313.90	50	5,348.6	7,662.5
Float Collar		9 5/8	8.755			1.50	1	7,662.5	7,664.0
Casing Joints		9 5/8	8.755	43.50	L-80	91.48	2	7,664.0	7,755.5
Float Collar		9 5/8	8.755			1.75	1	7,755.5	7,757.3
Float Shoe		9 5/8	8.755			1.75	1	7,757.3	7,759.0
Intermediate Casing Cement									
Type Casing	String Intermediate, 7,759.0ftKB	Cementing Start Date 10/5/2014		Cementing End Date 10/5/2014		Cementing Company Schlumberger		Top (ftKB) 3,250.0	Btm (ftKB) 7,770.0
Class		Amount (sacks)			Yield (ft³/sack)		Density (lb/gal)		
Class		Amount (sacks)			Yield (ft³/sack)		Density (lb/gal)		
LITECRETE		769			2.33		9.70		
Class		Amount (sacks)			Yield (ft³/sack)		Density (lb/gal)		
Class H		289			1.07		16.40		
Class		Amount (sacks)			Yield (ft³/sack)		Density (lb/gal)		
Production Casing									
Set Depth (ftKB) 18,482.0		Run Date 11/21/2014		Centralizers 36 Solid Body					
Item Des		OD (in)	ID (in)	Wt/Lgth (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)
Landing Joint		5 1/2	4.778			0.00	0	29.5	29.5
Casing Hanger		5 1/2	4.778			5.10	1	29.5	34.6
Pup Joint		5 1/2	4.778			0.00	0	34.6	34.6
Casing Joints		5 1/2	4.778	20.00	P-110	7,486.39	179	34.6	7,521.0
Pup Joint		5 1/2	4.778			10.06	1	7,521.0	7,531.0
Casing Joints		5 1/2	4.778	20.00	P-110	169.25	4	7,531.0	7,700.3
Pup Joint		5 1/2	4.778			9.93	1	7,700.3	7,710.2
Casing Joints		5 1/2	4.778	20.00	P-110	10,639.01	253	7,710.2	18,349.2
Pup Joint		5 1/2	4.778			8.00	1	18,349.2	18,357.2
Toe Sleeve		5 1/2	4.778			5.43	1	18,357.2	18,362.7
Pup Joint		5 1/2	4.778			27.90	2	18,362.7	18,390.6
Float Collar		5 1/2	4.778			3.00	1	18,390.6	18,393.6
Casing Joints		5 1/2	4.778	20.00	P-110	86.71	2	18,393.6	18,480.3
Float Shoe		5 1/2	4.778			1.74	1	18,480.3	18,482.0
Set Depth (ftKB) 19,200.0		Run Date		Centralizers					



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Item Des		OD (in)	ID (in)	Wt/Lgth (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)
Casing Joints		5 1/2		20.00	P-110 IC	19,200.00	479	0.0	19,200.0
Production Casing Cement									
Type	String	Cementing Start Date		Cementing End Date		Cementing Company		Top (ftKB)	Btm (ftKB)
Casing	Production, 18,482.0ftKB	11/21/2014		11/21/2014		Crest		2,000.0	18,482.0
Class	Amount (sacks)			Yield (ft³/sack)			Density (lb/gal)		
GTX Spacer									
Class	Amount (sacks)			Yield (ft³/sack)			Density (lb/gal)		
50/50 Poz H	520			2.42					
Class	Amount (sacks)			Yield (ft³/sack)			Density (lb/gal)		
Class H Plus	1,835			1.63					
Class	Amount (sacks)			Yield (ft³/sack)			Density (lb/gal)		
Water									
Cement Squeeze									
Description		Type		String		Cementing Start Date	Cementing End Date	Top (ftKB)	Btm (ftKB)
Amount (sacks)		Yield (ft³/sack)				Dens (lb/gal)			
Perforations									
Top (ftKB)	Btm (ftKB)	Zone	Shot Dens (shots/ft)	Entered Shot Total	Com				
8,875.0	8,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 42				
8,915.0	8,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 42				
8,955.0	8,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 42				
8,995.0	8,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 42				
9,035.0	9,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 42				
9,075.0	9,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 42				
9,115.0	9,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 41				
9,155.0	9,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 41				
9,195.0	9,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 41				
9,235.0	9,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 41				
9,275.0	9,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 41				
9,315.0	9,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 41				
9,355.0	9,357.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 40				
9,395.0	9,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 40				
9,438.0	9,440.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 40				
9,475.0	9,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 40				
9,515.0	9,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 40				
9,555.0	9,557.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 40				
9,595.0	9,597.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 39				
9,635.0	9,637.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 39				
9,675.0	9,677.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 39				
9,715.0	9,717.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 39				
9,755.0	9,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 39				
9,795.0	9,797.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 39				
9,835.0	9,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 38				
9,875.0	9,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 38				
9,915.0	9,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 38				
9,955.0	9,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 38				
9,995.0	9,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 38				
10,035.0	10,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 38				
10,075.0	10,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 37				
10,115.0	10,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 37				
10,155.0	10,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 37				
10,195.0	10,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 37				
10,235.0	10,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 37				
10,275.0	10,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 37				
10,315.0	10,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 36				
10,355.0	10,357.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 36				
10,395.0	10,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 36				

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Perforations

Top (ftKB)	Btm (ftKB)	Zone	Shot Dens (shots/ft)	Entered Shot Total	Corr
10,435.0	10,437.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 36
10,475.0	10,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 36
10,515.0	10,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 36
10,555.0	10,557.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 35
10,595.0	10,597.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 35
10,635.0	10,637.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 35
10,675.0	10,677.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 35
10,715.0	10,717.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 35
10,755.0	10,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 35
10,795.0	10,797.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 34
10,835.0	10,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 34
10,875.0	10,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 34
10,915.0	10,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 34
10,955.0	10,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 34
10,995.0	10,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 34
11,035.0	11,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 33
11,075.0	11,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 33
11,115.0	11,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 33
11,155.0	11,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 33
11,195.0	11,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 33
11,235.0	11,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 33
11,275.0	11,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 32
11,315.0	11,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 32
11,355.0	11,357.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 32
11,395.0	11,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 32
11,435.0	11,437.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 32
11,475.0	11,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 32
11,515.0	11,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 31
11,555.0	11,557.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 31
11,595.0	11,597.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 31
11,635.0	11,637.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 31
11,675.0	11,677.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 31
11,715.0	11,717.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 31
11,755.0	11,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 30
11,795.0	11,797.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 30
11,835.0	11,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 30
11,875.0	11,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 30
11,915.0	11,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 30
11,955.0	11,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 30
11,995.0	11,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 29
12,035.0	12,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 29
12,075.0	12,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 29
12,115.0	12,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 29
12,155.0	12,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 29
12,195.0	12,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 29
12,235.0	12,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 28
12,275.0	12,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 28
12,315.0	12,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 28
12,355.0	12,357.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 28
12,395.0	12,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 28
12,435.0	12,437.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 28
12,475.0	12,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 27
12,515.0	12,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 27
12,555.0	12,557.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 27

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Perforations

Top (ftKB)	Btm (ftKB)	Zone	Shot Dens (shots/ft)	Entered Shot Total	Com
12,595.0	12,597.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 27
12,635.0	12,637.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 27
12,675.0	12,677.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 27
12,715.0	12,717.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 26
12,755.0	12,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 26
12,795.0	12,797.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 26
12,835.0	12,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 26
12,875.0	12,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 26
12,915.0	12,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 26
12,955.0	12,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 25
12,995.0	12,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 25
13,035.0	13,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 25
13,075.0	13,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 25
13,115.0	13,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 25
13,155.0	13,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 25
13,195.0	13,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 24
13,235.0	13,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 24
13,275.0	13,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 24
13,315.0	13,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 24
13,355.0	13,357.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 24
13,395.0	13,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 24
13,435.0	13,437.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 23
13,475.0	13,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 23
13,515.0	13,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 23
13,555.0	13,557.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 23
13,595.0	13,597.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 23
13,630.0	13,632.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 23
13,675.0	13,677.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 22
13,715.0	13,717.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 22
13,755.0	13,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 22
13,795.0	13,797.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 22
13,835.0	13,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 22
13,875.0	13,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 22
13,915.0	13,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 21
13,955.0	13,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 21
13,995.0	13,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 21
14,035.0	14,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 21
14,075.0	14,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 21
14,115.0	14,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 21
14,155.0	14,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 20
14,195.0	14,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 20
14,235.0	14,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 20
14,275.0	14,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 20
14,315.0	14,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 20
14,345.0	14,347.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 20
14,395.0	14,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 19
14,435.0	14,437.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 19
14,475.0	14,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 19
14,515.0	14,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 19
14,558.0	14,560.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 19
14,592.0	14,594.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 19
14,635.0	14,637.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 18
14,675.0	14,677.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 18
14,715.0	14,717.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 18

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Perforations

Top (ftKB)	Btm (ftKB)	Zone	Shot Dens (shots/ft)	Entered Shot Total	Com
14,755.0	14,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 18
14,795.0	14,797.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 18
14,835.0	14,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 18
14,875.0	14,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 17
14,915.0	14,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 17
14,955.0	14,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 17
14,995.0	14,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 17
15,035.0	15,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 17
15,075.0	15,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 17
15,115.0	15,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 16
15,155.0	15,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 16
15,195.0	15,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 16
15,228.0	15,230.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 16
15,270.0	15,272.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 16
15,310.0	15,312.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 16
15,355.0	15,357.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 15
15,395.0	15,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 15
15,435.0	15,437.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 14
15,475.0	15,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 15
15,515.0	15,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 14
15,555.0	15,557.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 15
15,595.0	15,597.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 14
15,635.0	15,637.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 15
15,675.0	15,677.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 15
15,715.0	15,717.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 14
15,755.0	15,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 14
15,780.0	15,782.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 14
15,835.0	15,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 13
15,875.0	15,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 13
15,915.0	15,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 13
15,955.0	15,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 13
15,995.0	15,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 13
16,035.0	16,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 13
16,075.0	16,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 12
16,115.0	16,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 12
16,155.0	16,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 12
16,195.0	16,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 12
16,235.0	16,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 12
16,275.0	16,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 12
16,315.0	16,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 11
16,355.0	16,357.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 11
16,395.0	16,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 11
16,435.0	16,437.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 11
16,475.0	16,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 11
16,515.0	16,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 11
16,555.0	16,557.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 10
16,590.0	16,592.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 10
16,630.0	16,632.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 10
16,670.0	16,672.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 10
16,720.0	16,722.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 10
16,755.0	16,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 9
16,795.0	16,797.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 9
16,835.0	16,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 9
16,875.0	16,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 9

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### Perforations

Top (ftKB)	Btm (ftKB)	Zone	Shot Dens (shots/ft)	Entered Shot Total	Com
16,915.0	16,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 9
16,955.0	16,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 8
16,995.0	16,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 8
17,035.0	17,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 8
17,075.0	17,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 8
17,115.0	17,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 8
17,155.0	17,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 7
17,195.0	17,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 7
17,235.0	17,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 7
17,275.0	17,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 7
17,315.0	17,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 7
17,355.0	17,357.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 6
17,395.0	17,397.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 6
17,435.0	17,437.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 6
17,475.0	17,477.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 6
17,515.0	17,517.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 6
17,555.0	17,557.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 5
17,595.0	17,597.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 5
17,635.0	17,637.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 5
17,675.0	17,677.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 5
17,715.0	17,717.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 5
17,755.0	17,757.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 4
17,795.0	17,797.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 4
17,835.0	17,837.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 4
17,875.0	17,877.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 4
17,915.0	17,917.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 4
17,955.0	17,957.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 3
17,995.0	17,997.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 3
18,035.0	18,037.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 3
18,075.0	18,077.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 3
18,115.0	18,117.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 3
18,155.0	18,157.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 2
18,195.0	18,197.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 2
18,235.0	18,237.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 2
18,275.0	18,277.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 2
18,315.0	18,317.0	Wolfcamp A2, Sidetrack 1	3.0		STAGE 2
18,357.0	18,359.0	Wolfcamp A2, Sidetrack 1	2.0		STAGE 1

### Completion (FRAC) Details

#### Stage 1 on 1/6/2015 15:00

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/6/2015	Stage 1	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	18,357.0	18,359.0

#### GEL

Fluid Name	Total Clean Volume (bbl)
Slickwater	96.00

#### Stage 2 on 1/10/2015 00:00

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/10/2015	Stage 2	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	0.0	0.0

#### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	
Fluid Name	Total Clean Volume (bbl)
Slickwater	
Fluid Name	Total Clean Volume (bbl)
15# XLink	

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
Brown Sand	Bulk Sand		lb	30/50	3.00

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### SAND & ACID

Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					2.50
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					2.00
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					1.50
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					0.50
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					1.00

### Stage 3 on 1/10/2015 00:00

Date 1/10/2015	Type Stage 3	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 0.0	Max Btm Depth (ftKB) 0.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl)
Fluid Name Slickwater	Total Clean Volume (bbl)
Fluid Name 15# XLink	Total Clean Volume (bbl)

### SAND & ACID

Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					2.50
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					0.50
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					3.00
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					1.00
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					1.50
Additive Brown Sand	Type Bulk Sand	Amount	Units lb	Sand Size 30/50	Concentration...
					2.00

### Stage 4 on 1/12/2015 04:25

Date 1/12/2015	Type Stage 4	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 17,755.0	Max Btm Depth (ftKB) 17,917.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl)
	5,451.00
Fluid Name Slickwater	Total Clean Volume (bbl)
	5,451.00
Fluid Name 15# XLink	Total Clean Volume (bbl)
	5,451.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 8,334.0	Units lb	Sand Size 30/50	Concentration...
					0.50
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 16,667.0	Units lb	Sand Size 30/50	Concentration...
					1.00
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 30,000.0	Units lb	Sand Size 30/50	Concentration...
					1.50
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 40,000.0	Units lb	Sand Size 30/50	Concentration...
					2.00
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 58,333.0	Units lb	Sand Size 30/50	Concentration...
					2.50
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 69,019.0	Units lb	Sand Size 30/50	Concentration...
					3.00

### Stage 5 on 1/12/2015 16:45

Date 1/12/2015	Type Stage 5	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 17,555.0	Max Btm Depth (ftKB) 17,717.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl)
	5,966.00
Fluid Name Slickwater	Total Clean Volume (bbl)
	5,966.00
Fluid Name 15# XLink	Total Clean Volume (bbl)
	5,966.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 7,830.0	Units lb	Sand Size 30/50	Concentration...
					0.50
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 13,177.0	Units lb	Sand Size 30/50	Concentration...
					1.00



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	30,621.0	lb	30/50	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	39,572.0	lb	30/50	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	58,402.0	lb	30/50	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	78,323.0	lb	30/50	3.00

### Stage 6 on 1/13/2015 01:39

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/13/2015	Stage 6	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	17,355.0	17,517.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	4,926.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	4,926.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	4,926.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	8,056.0	lb	30/50	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	16,306.0	lb	30/50	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	30,857.0	lb	30/50	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	39,413.0	lb	30/50	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	58,064.0	lb	30/50	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	72,093.0	lb	30/50	3.00

### Stage 7 on 1/13/2015 13:38

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/13/2015	Stage 7	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	17,155.0	17,317.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	5,707.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	5,707.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	5,707.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	8,410.0	lb	30/50	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	16,289.0	lb	30/50	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	26,377.0	lb	30/50	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	39,690.0	lb	30/50	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	58,334.0	lb	30/50	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	73,367.0	lb	30/50	3.00

### Stage 8 on 1/13/2015 20:48

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/13/2015	Stage 8	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	16,955.0	17,117.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	5,371.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	5,371.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	5,371.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	8,504.0	lb	30/50	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	16,233.0	lb	30/50	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	31,168.0	lb	30/50	1.50



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### SAND & ACID

Additive 2.0 Brown Sand	Type Bulk Sand	Amount 38,756.0	Units lb	Sand Size 30/50	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 58,298.0	Units lb	Sand Size 30/50	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 70,306.0	Units lb	Sand Size 30/50	Concentration...

### Stage 9 on 1/14/2015 06:00

Date 1/14/2015	Type Stage 9	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 16,755.0	Max Btm Depth (ftKB) 16,917.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl) 5,592.00
Fluid Name Slickwater	Total Clean Volume (bbl) 5,592.00
Fluid Name 15# XLink	Total Clean Volume (bbl) 5,592.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 8,159.0	Units lb	Sand Size 30/50	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 16,399.0	Units lb	Sand Size 30/50	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 30,336.0	Units lb	Sand Size 30/50	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 39,491.0	Units lb	Sand Size 30/50	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 57,798.0	Units lb	Sand Size 30/50	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 71,039.0	Units lb	Sand Size 30/50	Concentration...

### Stage 10 on 1/14/2015 21:00

Date 1/14/2015	Type Stage 10	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 16,555.0	Max Btm Depth (ftKB) 16,722.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl) 5,357.00
Fluid Name Slickwater	Total Clean Volume (bbl) 5,357.00
Fluid Name 15# XLink	Total Clean Volume (bbl) 5,357.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 8,226.0	Units lb	Sand Size 30/50	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 17,049.0	Units lb	Sand Size 30/50	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 29,225.0	Units lb	Sand Size 30/50	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 39,616.0	Units lb	Sand Size 30/50	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 58,719.0	Units lb	Sand Size 30/50	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 68,599.0	Units lb	Sand Size 30/50	Concentration...

### Stage 11 on 1/15/2015 08:30

Date 1/15/2015	Type Stage 11	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 16,315.0	Max Btm Depth (ftKB) 16,517.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl) 8,375.00
Fluid Name Slickwater	Total Clean Volume (bbl) 8,375.00
Fluid Name 15# XLink	Total Clean Volume (bbl) 8,375.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 9,856.0	Units lb	Sand Size 30/50	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,667.0	Units lb	Sand Size 30/50	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 85,084.0	Units lb	Sand Size 30/50	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 50,160.0	Units lb	Sand Size 30/50	Concentration...

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	39,525.0	lb	30/50	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	46,605.0	lb	30/50	3.00

### Stage 12 on 1/15/2015 23:15

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/15/2015	Stage 12	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	16,075.0	16,277.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	6,019.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	6,019.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	6,019.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	9,900.0	lb	30/50	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	20,033.0	lb	30/50	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	35,813.0	lb	30/50	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	47,760.0	lb	30/50	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	70,689.0	lb	30/50	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	85,694.0	lb	30/50	3.00

### Stage 13 on 1/16/2015 08:00

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/16/2015	Stage 13	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	15,835.0	16,037.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	5,985.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	5,985.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	5,985.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	10,000.0	lb	20/40	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	19,517.0	lb	20/40	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	45,658.0	lb	20/40	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	39,004.0	lb	20/40	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	69,738.0	lb	20/40	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	83,629.0	lb	20/40	3.00

### Stage 14 on 1/16/2015 16:23

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/16/2015	Stage 14	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	15,595.0	15,797.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	5,962.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	5,962.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	5,962.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	9,952.0	lb	20/40	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	19,585.0	lb	20/40	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	36,104.0	lb	20/40	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	47,537.0	lb	20/40	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	68,596.0	lb	20/40	2.50

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### SAND & ACID

Additive 3.0 Brown Sand	Type Bulk Sand	Amount 86,798.0	Units lb	Sand Size 20/40	Concentration...
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### Stage 15 on 1/17/2015 02:08

Date 1/17/2015	Type Stage 15	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 15,355.0	Max Btm Depth (ftKB) 15,557.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl) 6,011.00
Fluid Name Slickwater	Total Clean Volume (bbl) 6,011.00
Fluid Name 15# XLink	Total Clean Volume (bbl) 6,011.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 9,857.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,318.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,649.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,247.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,923.0	Units lb	Sand Size 20/40	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 84,855.0	Units lb	Sand Size 20/40	Concentration...

### Stage 16 on 1/17/2015 12:50

Date 1/17/2015	Type Stage 16	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 15,115.0	Max Btm Depth (ftKB) 15,312.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl) 5,892.00
Fluid Name Slickwater	Total Clean Volume (bbl) 5,892.00
Fluid Name 15# XLink	Total Clean Volume (bbl) 5,892.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 9,667.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,591.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 35,919.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,479.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 69,979.0	Units lb	Sand Size 20/40	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 90,005.0	Units lb	Sand Size 20/40	Concentration...

### Stage 17 on 1/18/2015 05:30

Date 1/18/2015	Type Stage 17	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 14,875.0	Max Btm Depth (ftKB) 15,077.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl) 5,931.00
Fluid Name Slickwater	Total Clean Volume (bbl) 5,931.00
Fluid Name 15# XLink	Total Clean Volume (bbl) 5,931.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,008.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,823.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 35,949.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 46,838.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 69,869.0	Units lb	Sand Size 20/40	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 84,781.0	Units lb	Sand Size 20/40	Concentration...

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Completion (FRAC) Details						
Stage 18 on 1/18/2015 16:27						
Date	Type	Zone	Stim/Treat Company		Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/18/2015	Stage 18	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services		14,635.0	14,837.0
GEL						
Fluid Name			Total Clean Volume (bbl)			
15% HCl			5,851.00			
Fluid Name			Total Clean Volume (bbl)			
Slickwater			5,851.00			
Fluid Name			Total Clean Volume (bbl)			
15# XLink			5,851.00			
SAND & ACID						
Additive	Type	Amount	Units	Sand Size	Concentration...	
0.5 Brown Sand	Bulk Sand	5,385.0	lb	20/40	0.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
1.0 Brown Sand	Bulk Sand	23,144.0	lb	20/40	1.00	
Additive	Type	Amount	Units	Sand Size	Concentration...	
1.5 Brown Sand	Bulk Sand	35,682.0	lb	20/40	1.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
2.0 Brown Sand	Bulk Sand	47,899.0	lb	20/40	2.00	
Additive	Type	Amount	Units	Sand Size	Concentration...	
2.5 Brown Sand	Bulk Sand	69,778.0	lb	20/40	2.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
3.0 Brown Sand	Bulk Sand	91,949.0	lb	20/40	3.00	
Stage 19 on 1/19/2015 06:15						
Date	Type	Zone	Stim/Treat Company		Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/19/2015	Stage 19	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services		14,395.0	14,594.0
GEL						
Fluid Name			Total Clean Volume (bbl)			
15% HCl			6,408.00			
Fluid Name			Total Clean Volume (bbl)			
Slickwater			6,408.00			
Fluid Name			Total Clean Volume (bbl)			
15# XLink			6,408.00			
SAND & ACID						
Additive	Type	Amount	Units	Sand Size	Concentration...	
0.5 Brown Sand	Bulk Sand	9,917.0	lb	20/40	0.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
1.0 Brown Sand	Bulk Sand	19,842.0	lb	20/40	1.00	
Additive	Type	Amount	Units	Sand Size	Concentration...	
1.5 Brown Sand	Bulk Sand	35,801.0	lb	20/40	1.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
2.0 Brown Sand	Bulk Sand	47,909.0	lb	20/40	2.00	
Additive	Type	Amount	Units	Sand Size	Concentration...	
2.5 Brown Sand	Bulk Sand	70,130.0	lb	20/40	2.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
3.0 Brown Sand	Bulk Sand	46,468.0	lb	20/40	3.00	
Stage 20 on 1/19/2015 14:41						
Date	Type	Zone	Stim/Treat Company		Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/19/2015	Stage 20	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services		14,155.0	14,347.0
GEL						
Fluid Name			Total Clean Volume (bbl)			
15% HCl			5,429.00			
Fluid Name			Total Clean Volume (bbl)			
Slickwater			5,429.00			
Fluid Name			Total Clean Volume (bbl)			
15# XLink			5,429.00			
SAND & ACID						
Additive	Type	Amount	Units	Sand Size	Concentration...	
0.5 Brown Sand	Bulk Sand	9,970.0	lb	20/40	0.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
1.0 Brown Sand	Bulk Sand	19,775.0	lb	20/40	1.00	
Additive	Type	Amount	Units	Sand Size	Concentration...	
1.5 Brown Sand	Bulk Sand	36,244.0	lb	20/40	1.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
2.0 Brown Sand	Bulk Sand	47,363.0	lb	20/40	2.00	
Additive	Type	Amount	Units	Sand Size	Concentration...	
2.5 Brown Sand	Bulk Sand	70,411.0	lb	20/40	2.50	
Additive	Type	Amount	Units	Sand Size	Concentration...	
3.0 Brown Sand	Bulk Sand	77,131.0	lb	20/40	3.00	
Stage 21 on 1/20/2015 12:10						
Date	Type	Zone	Stim/Treat Company		Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/20/2015	Stage 21	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services		13,915.0	14,117.0

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,614.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,614.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,614.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 9,494.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,934.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 35,833.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 46,144.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 68,763.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 91,882.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 22 on 1/20/2015 19:45						
Date 1/20/2015	Type Stage 22	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 13,675.0	Max Btm Depth (ftKB) 13,877.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 6,137.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 6,137.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 6,137.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 85,596.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 23 on 1/21/2015 06:30						
Date 1/21/2015	Type Stage 23	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 13,435.0	Max Btm Depth (ftKB) 13,632.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,723.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,723.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,723.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,127.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,528.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,441.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,502.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,070.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 89,404.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 24 on 1/22/2015 00:19						
Date 1/22/2015	Type Stage 24	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 13,195.0	Max Btm Depth (ftKB) 13,397.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 6,283.00			

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

GEL						
Fluid Name Slickwater			Total Clean Volume (bbl) 6,283.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 6,283.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 9,936.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,616.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,251.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,777.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 69,100.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 86,886.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 25 on 1/22/2015 13:57						
Date 1/22/2015	Type Stage 25	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 12,955.0	Max Btm Depth (ftKB) 13,157.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,473.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,473.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,473.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,753.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,960.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 35,991.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,470.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 69,366.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 84,387.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 26 on 1/23/2015 02:47						
Date 1/23/2015	Type Stage 26	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 12,715.0	Max Btm Depth (ftKB) 12,917.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,670.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,670.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,670.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 9,966.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,589.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,513.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 46,870.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,877.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 83,773.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 27 on 1/23/2015 11:45						
Date 1/23/2015	Type Stage 27	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 12,475.0	Max Btm Depth (ftKB) 12,677.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,525.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,525.00			

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

GEL						
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,525.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 8,476.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 14,379.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 35,869.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,778.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 69,786.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 91,728.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 28 on 1/23/2015 19:35						
Date 1/23/2015	Type Stage 28	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 12,235.0	Max Btm Depth (ftKB) 12,437.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,469.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,469.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,469.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,163.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,813.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,374.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,428.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 69,348.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 86,469.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 29 on 1/24/2015 06:00						
Date 1/24/2015	Type Stage 29	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 11,995.0	Max Btm Depth (ftKB) 12,197.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,707.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,707.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,707.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 83,858.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 30 on 1/24/2015 16:40						
Date 1/24/2015	Type Stage 30	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 11,755.0	Max Btm Depth (ftKB) 11,957.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,204.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,204.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,204.00			



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	9,046.0	lb	20/40	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	20,235.0	lb	20/40	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	36,980.0	lb	20/40	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	48,891.0	lb	20/40	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	71,287.0	lb	20/40	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	86,174.0	lb	20/40	3.00

### Stage 31 on 1/25/2015 08:00

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/25/2015	Stage 31	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	11,515.0	11,717.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	5,671.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	5,671.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	5,671.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	10,000.0	lb	20/40	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	20,000.0	lb	20/40	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	36,000.0	lb	20/40	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	48,000.0	lb	20/40	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	70,000.0	lb	20/40	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	84,646.0	lb	20/40	3.00

### Stage 32 on 1/25/2015 22:45

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/25/2015	Stage 32	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	11,275.0	11,477.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	5,323.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	5,323.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	5,323.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	10,510.0	lb	20/40	0.50
Additive	Type	Amount	Units	Sand Size	Concentration...
1.0 Brown Sand	Bulk Sand	20,825.0	lb	20/40	1.00
Additive	Type	Amount	Units	Sand Size	Concentration...
1.5 Brown Sand	Bulk Sand	36,549.0	lb	20/40	1.50
Additive	Type	Amount	Units	Sand Size	Concentration...
2.0 Brown Sand	Bulk Sand	48,754.0	lb	20/40	2.00
Additive	Type	Amount	Units	Sand Size	Concentration...
2.5 Brown Sand	Bulk Sand	71,041.0	lb	20/40	2.50
Additive	Type	Amount	Units	Sand Size	Concentration...
3.0 Brown Sand	Bulk Sand	80,296.0	lb	20/40	3.00

### Stage 33 on 1/26/2015 15:50

Date	Type	Zone	Stim/Treat Company	Min Top Depth (ftKB)	Max Btm Depth (ftKB)
1/26/2015	Stage 33	Wolfcamp A2, Sidetrack 1	Pioneer Pumping Services	11,035.0	11,237.0

### GEL

Fluid Name	Total Clean Volume (bbl)
15% HCl	5,614.00
Fluid Name	Total Clean Volume (bbl)
Slickwater	5,614.00
Fluid Name	Total Clean Volume (bbl)
15# XLink	5,614.00

### SAND & ACID

Additive	Type	Amount	Units	Sand Size	Concentration...
0.5 Brown Sand	Bulk Sand	10,000.0	lb	20/40	0.50

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

### SAND & ACID

Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 84,038.0	Units lb	Sand Size 20/40	Concentration...

### Stage 34 on 1/26/2015 23:00

Date 1/26/2015	Type Stage 34	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 10,795.0	Max Btm Depth (ftKB) 10,997.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl) 5,539.00
Fluid Name Slickwater	Total Clean Volume (bbl) 5,539.00
Fluid Name 15# XLink	Total Clean Volume (bbl) 5,539.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 9,411.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,156.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 35,457.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,358.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,528.0	Units lb	Sand Size 20/40	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 91,472.0	Units lb	Sand Size 20/40	Concentration...

### Stage 35 on 1/27/2015 14:42

Date 1/27/2015	Type Stage 35	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 10,555.0	Max Btm Depth (ftKB) 10,757.0
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### GEL

Fluid Name 15% HCl	Total Clean Volume (bbl) 7,684.00
Fluid Name Slickwater	Total Clean Volume (bbl) 7,684.00
Fluid Name 15# XLink	Total Clean Volume (bbl) 7,684.00

### SAND & ACID

Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 0.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 0.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 0.0	Units lb	Sand Size 20/40	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 0.0	Units lb	Sand Size 20/40	Concentration...
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 28,839.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 7,209.0	Units lb	Sand Size 20/40	Concentration...
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 31,908.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 47,844.0	Units lb	Sand Size 20/40	Concentration...
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 69,901.0	Units lb	Sand Size 20/40	Concentration...
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 88,027.0	Units lb	Sand Size 20/40	Concentration...

### Stage 36 on 1/28/2015 02:17

Date 1/28/2015	Type Stage 36	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services	Min Top Depth (ftKB) 10,315.0	Max Btm Depth (ftKB) 10,517.0
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## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,809.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,809.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,809.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,026.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 19,599.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 35,171.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,150.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 69,768.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 91,983.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 37 on 1/28/2015 13:34						
Date 1/28/2015	Type Stage 37	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 10,075.0	Max Btm Depth (ftKB) 10,277.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,281.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,281.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,281.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 84,455.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 38 on 1/28/2015 21:24						
Date 1/28/2015	Type Stage 38	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 9,835.0	Max Btm Depth (ftKB) 10,037.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,205.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,205.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,205.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 85,084.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 39 on 1/29/2015 03:30						
Date 1/29/2015	Type Stage 39	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 9,595.0	Max Btm Depth (ftKB) 9,797.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 6,044.00			

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

GEL						
Fluid Name Slickwater			Total Clean Volume (bbl) 6,044.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 6,044.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 67,824.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 40 on 1/29/2015 11:29						
Date 1/29/2015	Type Stage 40	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 9,355.0	Max Btm Depth (ftKB) 9,557.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,586.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,586.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,586.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 83,604.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 41 on 1/29/2015 19:45						
Date 1/29/2015	Type Stage 41	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 9,115.0	Max Btm Depth (ftKB) 9,317.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,589.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,589.00			
Fluid Name 15# XLink			Total Clean Volume (bbl) 5,589.00			
SAND & ACID						
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration... 0.50	
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration... 1.00	
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration... 1.50	
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration... 2.00	
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration... 2.50	
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 83,914.0	Units lb	Sand Size 20/40	Concentration... 3.00	
Stage 42 on 1/30/2015 05:10						
Date 1/30/2015	Type Stage 42	Zone Wolfcamp A2, Sidetrack 1	Stim/Treat Company Pioneer Pumping Services		Min Top Depth (ftKB) 8,875.0	Max Btm Depth (ftKB) 9,077.0
GEL						
Fluid Name 15% HCl			Total Clean Volume (bbl) 5,672.00			
Fluid Name Slickwater			Total Clean Volume (bbl) 5,672.00			

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

GEL										
Fluid Name 15# XLink					Total Clean Volume (bbl) 5,672.00					
SAND & ACID										
Additive 0.5 Brown Sand	Type Bulk Sand	Amount 10,000.0	Units lb	Sand Size 20/40	Concentration... 0.50					
Additive 1.0 Brown Sand	Type Bulk Sand	Amount 20,000.0	Units lb	Sand Size 20/40	Concentration... 1.00					
Additive 1.5 Brown Sand	Type Bulk Sand	Amount 36,000.0	Units lb	Sand Size 20/40	Concentration... 1.50					
Additive 2.0 Brown Sand	Type Bulk Sand	Amount 48,000.0	Units lb	Sand Size 20/40	Concentration... 2.00					
Additive 2.5 Brown Sand	Type Bulk Sand	Amount 70,000.0	Units lb	Sand Size 20/40	Concentration... 2.50					
Additive 3.0 Brown Sand	Type Bulk Sand	Amount 83,947.0	Units lb	Sand Size 20/40	Concentration... 3.00					
Zones										
Zone Name				Top (ftKB)						
Wolfcamp A2										
Tubing Details										
Tubing Description Tubing - Production		Set Depth (ftKB) 7,552.0		Run Date 2/8/2015						
Tubing Components										
Item Des	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)			
Tubing Hanger	7 1/16	4.60		0.90		26.9	27.8			
Tubing	2 3/8	4.70	L-80	7,170.00	222	27.8	7,197.8			
Profile Nipple R 2.375" OD	2 3/8	4.60		1.10	1	7,197.8	7,198.9			
Tubing	2 3/8	4.60	L-80	32.30	1	7,198.9	7,231.2			
BOH	2 3/8			0.60	1	7,231.2	7,231.8			
ESP Pump DN 1050N CR_CT	4			21.80		7,231.8	7,253.6			
ESP Pump DN 1050N CR_CT	4			21.80		7,253.6	7,275.4			
Pump AGH D5-21, ES	4			7.00		7,275.4	7,282.4			
Intake VGSA D20-60	4			3.30		7,282.4	7,285.7			
Protector Max. LSBPB-UT,KTb/HL	4			8.50		7,285.7	7,294.2			
Protector Adapter 400X 375	4			8.50		7,294.2	7,302.7			
Adapter	4			0.60		7,302.7	7,303.3			
Motor 71.4 HP/2110V/49.6A	4			20.80		7,303.3	7,324.1			
Motor 71.4 HP/2110V/49.6A	4			23.90		7,324.1	7,348.0			
Phoenix Select 375	4			2.70		7,348.0	7,350.7			
De-Sander	5 1/2			5.00		7,350.7	7,355.7			
Tubing	2 3/8	4.70	L-80	195.80	6	7,355.7	7,551.5			
Bull Plug, With 3.5" Collar	2 3/8			0.50		7,551.5	7,552.0			
Rod Strings										
Rod Description #4 electric cable		Set Depth (ftKB) 7,279.0		Run Date 2/8/2015						
Rod Components										
Item Des	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)	Make	Model	SN
#4 Electric cable	1/4			7,252.00		27.0	7,279.0			
Other In Hole										
Des	Top (ftKB)	Btm (ftKB)	OD (in)	Run Date	Com		String	Wellbore		
Composite Plug 1	17,736.0	17,738.0	4.37	1/12/2015			Production, 18,482.0ftKB	Sidetrack 1		
Composite Plug 2	17,536.0	17,538.0	4.37	1/12/2015			Production, 18,482.0ftKB	Sidetrack 1		
Composite Plug 3	17,336.0	17,338.0	4.37	1/13/2015			Production, 18,482.0ftKB	Sidetrack 1		
Composite Plug 4	17,136.0	17,138.0	4.37	1/13/2015			Production, 18,482.0ftKB	Sidetrack 1		
Composite Plug 5	16,936.0	16,938.0	4.37	1/13/2015			Production, 18,482.0ftKB	Sidetrack 1		
Composite Plug 6	16,736.0	16,738.0	4.37	1/14/2015			Production, 18,482.0ftKB	Sidetrack 1		
Composite Plug 7	16,516.0	16,518.0	4.37	1/15/2015			Production, 18,482.0ftKB	Sidetrack 1		

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Other In Hole							
Des	Top (ftKB)	Btm (ftKB)	OD (in)	Run Date	Com	String	Wellbore
Composite Plug 8	16,276.0	16,278.0	4.37	1/15/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 9	16,036.0	16,038.0	4.37	1/16/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 10	15,796.0	15,798.0	4.37	1/16/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 11	15,565.0	15,567.0	4.37	1/16/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 12	15,322.0	15,324.0	4.37	1/17/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 13	15,086.0	15,088.0	4.37	1/17/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 14	14,846.0	14,848.0	4.37	1/18/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 15	14,606.0	14,608.0	4.37	1/18/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 16	14,366.0	14,368.0	4.37	1/19/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 17	14,116.0	14,118.0	4.37	1/19/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 18	13,886.0	13,888.0	4.37	1/20/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 19	13,646.0	13,648.0	4.37	1/20/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 20	13,396.0	13,398.0	4.37	1/21/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 21	13,176.0	13,178.0	4.37	1/22/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 22	12,936.0	12,938.0	4.37	1/22/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 23	12,696.0	12,698.0	4.37	1/23/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 24	12,456.0	12,458.0	4.37	1/23/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 25	12,220.0	12,222.0	4.37	1/23/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 26	11,976.0	11,978.0	4.37	1/24/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 27	11,736.0	11,738.0	4.37	1/24/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 28	11,496.0	11,498.0	4.37	1/25/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 29	11,256.0	11,258.0	4.37	1/26/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 30	11,016.0	11,018.0	4.37	1/26/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 31	10,776.0	10,778.0	4.37	1/27/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 32	10,536.0	10,538.0	4.37	1/27/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 33	10,296.0	10,298.0	4.37	1/28/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 34	10,056.0	10,058.0	4.37	1/28/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 35	9,816.0	9,818.0	4.37	1/29/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 36	9,576.0	9,578.0	4.37	1/29/2015		Production, 18,482.0ftKB	Sidetrack 1
Composite Plug 37	9,336.0	9,338.0	4.37	1/29/2015		Production, 18,482.0ftKB	Sidetrack 1

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Other In Hole										
Des		Top (ftKB)	Btm (ftKB)	OD (in)	Run Date	Com		String	Wellbore	
Composite Plug 38		9,096.0	9,098.0	4.37	1/29/2015			Production, 18,482.0ftKB	Sidetrack 1	
Composite Plug 39		8,571.0	8,573.0	4.37	1/30/2015			Production, 18,482.0ftKB	Sidetrack 1	
AS1-X Packer		7,858.0	7,866.0	4.37	2/7/2015			Production, 18,482.0ftKB	Sidetrack 1	
Well Tests										
Description BEFORE IP						Volume Oil Total (bbl) 4392.0	Volume Gas Total (MCF) 4,032.000	Volume Water Total (bbl) 19588.0		
Start Date	End Date	Sz Dia Choke (in)	P Tub End (psi)	P Cas End (psi)	Com			Vol Oil Tot (bbl)	Vol Gas Tot (MCF)	Vol Water Tot (bbl)
3/3/2015	3/3/2015	0.000	103.0	100.0				14.0	125.000	988.0
3/4/2015	3/4/2015	0.000	202.0	102.0				0.0	125.000	1389.0
3/5/2015	3/5/2015	0.000	242.0	101.0				0.0	135.000	1351.0
3/6/2015	3/6/2015	0.000	537.0	76.0				13.0	126.000	1303.0
3/7/2015	3/7/2015	0.000	300.0	101.0				61.0	280.000	2117.0
3/8/2015	3/8/2015	0.000	416.0	702.0				29.0	191.000	1529.0
3/9/2015	3/9/2015	0.000	120.0	98.0				15.0	94.000	915.0
3/10/2015	3/10/2015	0.000	349.0	205.0				292.0	57.000	1054.0
3/11/2015	3/11/2015	0.000	357.0	215.0				353.0	198.000	1106.0
3/12/2015	3/12/2015	0.000	357.0	215.0				343.0	237.000	1080.0
3/13/2015	3/13/2015	0.000	347.0	200.0				394.0	316.000	1049.0
3/14/2015	3/14/2015	0.000	0.0	0.0				0.0	0.000	0.0
3/15/2015	3/15/2015	0.000	347.0	200.0				454.0	341.000	1054.0
3/16/2015	3/16/2015	0.000	352.0	209.0				484.0	343.000	980.0
3/17/2015	3/17/2015	0.000	353.0	209.0				490.0	357.000	962.0
3/18/2015	3/18/2015	0.000	649.0	209.0				480.0	367.000	892.0
3/19/2015	3/19/2015	0.000	347.0	209.0				471.0	365.000	901.0
3/20/2015	3/20/2015	0.000	345.0	210.0				499.0	375.000	918.0
Description COMPLETION IP						Volume Oil Total (bbl) 947.0	Volume Gas Total (MCF) 856.000	Volume Water Total (bbl) 1256.0		
Start Date	End Date	Sz Dia Choke (in)	P Tub End (psi)	P Cas End (psi)	Com			Vol Oil Tot (bbl)	Vol Gas Tot (MCF)	Vol Water Tot (bbl)
3/21/2015	3/21/2015	0.000	0.0	0.0	IP WELL 3/21/15			947.0	856.000	1256.0
Directional Survey										
Date 9/27/2014			Description MAIN HOLE SURVEY							
Date	MD (ftKB)		Incl (°)		Azm (°)	TVD (ftKB)	Unwrap Displace (ft)	Survey Company		
	0.00		0.00		0.00	0.00	0.00	Integrity Directional Services		
9/27/2014	164.00		0.60		333.00	164.00	0.86	Integrity Directional Services		
9/27/2014	228.00		0.70		322.60	227.99	1.58	Integrity Directional Services		
9/27/2014	326.00		0.70		315.00	325.99	2.78	Integrity Directional Services		
9/27/2014	421.00		0.40		288.50	420.98	3.67	Integrity Directional Services		
9/27/2014	515.00		0.20		269.70	514.98	4.15	Integrity Directional Services		
9/27/2014	609.00		0.20		166.30	608.98	4.36	Integrity Directional Services		
9/27/2014	704.00		0.40		156.40	703.98	4.85	Integrity Directional Services		
9/27/2014	798.00		0.50		141.40	797.98	5.58	Integrity Directional Services		
9/27/2014	892.00		0.60		175.10	891.97	6.45	Integrity Directional Services		
9/27/2014	987.00		0.50		164.00	986.97	7.35	Integrity Directional Services		
9/27/2014	1,028.00		0.30		175.70	1,027.97	7.64	Integrity Directional Services		
9/27/2014	1,184.00		0.00		136.10	1,183.97	8.05	Integrity Directional Services		
9/27/2014	1,278.00		0.30		237.30	1,277.96	8.29	Integrity Directional Services		
9/27/2014	1,373.00		0.20		262.40	1,372.96	8.70	Integrity Directional Services		
9/27/2014	1,467.00		0.20		171.50	1,466.96	8.93	Integrity Directional Services		
9/27/2014	1,562.00		0.30		216.40	1,561.96	9.31	Integrity Directional Services		
9/27/2014	1,656.00		0.50		215.60	1,655.96	9.97	Integrity Directional Services		
9/27/2014	1,751.00		0.20		237.80	1,750.96	10.54	Integrity Directional Services		
9/27/2014	1,845.00		0.30		222.00	1,844.96	10.95	Integrity Directional Services		



## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	Unwrap Displace (ft)	Survey Company
9/27/2014	1,939.00	0.50	235.10	1,938.96	11.60	Integrity Directional Services
9/27/2014	2,033.00	0.40	258.90	2,032.95	12.32	Integrity Directional Services
9/27/2014	2,127.00	0.90	284.60	2,126.95	13.37	Integrity Directional Services
9/27/2014	2,222.00	0.80	300.30	2,221.94	14.76	Integrity Directional Services
9/27/2014	2,316.00	1.10	307.40	2,315.92	16.32	Integrity Directional Services
9/27/2014	2,410.00	1.20	304.50	2,409.90	18.20	Integrity Directional Services
9/27/2014	2,504.00	0.80	359.30	2,503.89	19.67	Integrity Directional Services
9/27/2014	2,599.00	1.10	7.30	2,598.88	21.24	Integrity Directional Services
9/27/2014	2,693.00	1.30	18.90	2,692.86	23.20	Integrity Directional Services
9/27/2014	2,787.00	1.70	20.40	2,786.83	25.66	Integrity Directional Services
9/27/2014	2,882.00	1.80	12.80	2,881.78	28.55	Integrity Directional Services
9/27/2014	2,976.00	1.10	43.90	2,975.75	30.85	Integrity Directional Services
9/27/2014	3,070.00	0.70	118.90	3,069.74	32.04	Integrity Directional Services
9/27/2014	3,165.00	2.20	156.80	3,164.71	34.35	Integrity Directional Services
9/27/2014	3,259.00	4.10	166.10	3,258.57	39.50	Integrity Directional Services
9/27/2014	3,353.00	5.10	166.90	3,352.26	47.04	Integrity Directional Services
9/27/2014	3,447.00	5.30	170.90	3,445.87	55.55	Integrity Directional Services
9/27/2014	3,542.00	5.30	167.20	3,540.47	64.32	Integrity Directional Services
9/27/2014	3,636.00	4.90	166.30	3,634.10	72.68	Integrity Directional Services
9/27/2014	3,730.00	5.30	165.50	3,727.72	81.03	Integrity Directional Services
9/27/2014	3,824.00	4.80	173.80	3,821.36	89.29	Integrity Directional Services
9/28/2014	3,918.00	4.70	190.90	3,915.04	96.98	Integrity Directional Services
9/28/2014	4,013.00	3.60	201.90	4,009.79	103.83	Integrity Directional Services
9/28/2014	4,107.00	3.10	210.20	4,103.63	109.31	Integrity Directional Services
9/28/2014	4,201.00	2.30	196.10	4,197.53	113.70	Integrity Directional Services
9/28/2014	4,296.00	1.30	197.00	4,292.48	116.68	Integrity Directional Services
9/28/2014	4,390.00	0.10	325.90	4,386.47	117.70	Integrity Directional Services
9/28/2014	4,484.00	0.30	36.70	4,480.47	117.99	Integrity Directional Services
9/28/2014	4,578.00	0.20	5.10	4,574.47	118.38	Integrity Directional Services
9/28/2014	4,673.00	0.40	27.30	4,669.47	118.87	Integrity Directional Services
9/28/2014	4,767.00	0.20	12.90	4,763.47	119.36	Integrity Directional Services
9/28/2014	4,861.00	0.30	311.50	4,857.47	119.71	Integrity Directional Services
9/28/2014	4,956.00	0.40	338.10	4,952.47	120.28	Integrity Directional Services
9/28/2014	5,050.00	0.30	11.80	5,046.46	120.83	Integrity Directional Services
9/28/2014	5,145.00	0.20	263.20	5,141.46	121.08	Integrity Directional Services
9/28/2014	5,239.00	0.10	200.50	5,235.46	121.29	Integrity Directional Services
9/28/2014	5,333.00	0.20	94.50	5,329.46	121.46	Integrity Directional Services
9/28/2014	5,427.00	0.20	184.70	5,423.46	121.69	Integrity Directional Services
9/28/2014	5,522.00	0.20	112.10	5,518.46	121.96	Integrity Directional Services
10/1/2014	5,616.00	0.30	163.70	5,612.46	122.33	Integrity Directional Services
10/1/2014	5,710.00	0.00	142.40	5,706.46	122.57	Integrity Directional Services
10/1/2014	5,804.00	0.40	74.20	5,800.46	122.90	Integrity Directional Services
10/1/2014	5,898.00	0.30	350.90	5,894.46	123.33	Integrity Directional Services
10/1/2014	5,993.00	0.80	295.90	5,989.46	124.16	Integrity Directional Services
10/1/2014	6,087.00	0.80	303.70	6,083.45	125.47	Integrity Directional Services
10/1/2014	6,181.00	1.30	337.00	6,177.43	127.13	Integrity Directional Services
10/2/2014	6,276.00	1.90	323.20	6,272.39	129.76	Integrity Directional Services
10/2/2014	6,370.00	2.70	329.10	6,366.32	133.53	Integrity Directional Services
10/2/2014	6,464.00	3.00	317.50	6,460.20	138.18	Integrity Directional Services
10/2/2014	6,558.00	3.90	315.10	6,554.03	143.84	Integrity Directional Services
10/2/2014	6,653.00	4.80	318.80	6,648.76	151.04	Integrity Directional Services
10/2/2014	6,747.00	5.30	322.30	6,742.39	159.31	Integrity Directional Services
10/2/2014	6,841.00	5.40	325.70	6,835.98	168.07	Integrity Directional Services
10/2/2014	6,936.00	5.70	323.70	6,930.54	177.25	Integrity Directional Services
10/2/2014	7,030.00	5.00	320.40	7,024.13	186.02	Integrity Directional Services
10/2/2014	7,124.00	6.50	315.70	7,117.65	195.43	Integrity Directional Services

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	Unwrap Displace (ft)	Survey Company
10/3/2014	7,219.00	6.90	318.90	7,212.00	206.50	Integrity Directional Services
10/3/2014	7,313.00	7.00	318.20	7,305.31	217.88	Integrity Directional Services
10/3/2014	7,407.00	7.30	318.30	7,398.58	229.58	Integrity Directional Services
10/3/2014	7,501.00	6.80	316.80	7,491.87	241.11	Integrity Directional Services
10/3/2014	7,596.00	6.10	315.30	7,586.27	251.79	Integrity Directional Services
10/3/2014	7,690.00	5.60	315.60	7,679.78	261.37	Integrity Directional Services
10/29/2014	7,784.00	4.50	315.20	7,773.41	269.64	Integrity Directional Services
10/29/2014	7,831.00	8.80	327.80	7,820.09	275.05	Integrity Directional Services
10/29/2014	7,878.00	14.20	336.20	7,866.13	284.40	Integrity Directional Services
10/29/2014	7,925.00	21.20	342.20	7,910.88	298.66	Integrity Directional Services
10/29/2014	7,972.00	28.00	346.10	7,953.59	318.20	Integrity Directional Services
10/29/2014	8,019.00	34.20	347.50	7,993.82	342.47	Integrity Directional Services
10/30/2014	8,067.00	41.80	350.20	8,031.62	371.99	Integrity Directional Services
10/30/2014	8,114.00	45.10	352.90	8,065.74	404.30	Integrity Directional Services
10/30/2014	8,160.00	47.50	354.70	8,097.52	437.55	Integrity Directional Services
10/30/2014	8,207.00	49.50	355.30	8,128.66	472.75	Integrity Directional Services
10/30/2014	8,255.00	52.30	357.40	8,158.93	510.00	Integrity Directional Services
10/30/2014	8,302.00	54.90	359.80	8,186.82	547.82	Integrity Directional Services
10/30/2014	8,349.00	58.80	1.10	8,212.52	587.16	Integrity Directional Services
10/30/2014	8,396.00	63.00	2.50	8,235.37	628.22	Integrity Directional Services
10/30/2014	8,443.00	66.40	2.80	8,255.45	670.70	Integrity Directional Services
10/30/2014	8,492.00	70.30	1.80	8,273.53	716.24	Integrity Directional Services
10/30/2014	8,537.00	74.30	0.90	8,287.21	759.10	Integrity Directional Services
10/30/2014	8,584.00	77.80	0.50	8,298.54	804.70	Integrity Directional Services
10/30/2014	8,632.00	81.90	0.50	8,306.99	851.94	Integrity Directional Services
10/30/2014	8,679.00	85.80	1.10	8,312.03	898.66	Integrity Directional Services
10/30/2014	8,726.00	87.40	1.30	8,314.82	945.58	Integrity Directional Services
10/30/2014	8,773.00	89.70	2.00	8,316.00	992.56	Integrity Directional Services
10/30/2014	8,820.00	90.80	2.50	8,315.80	1,039.56	Integrity Directional Services
10/30/2014	8,913.00	92.30	2.50	8,313.28	1,132.52	Integrity Directional Services
10/30/2014	9,007.00	91.70	1.10	8,310.00	1,226.46	Integrity Directional Services
10/30/2014	9,102.00	89.80	359.40	8,308.76	1,321.45	Integrity Directional Services
10/30/2014	9,196.00	88.50	358.10	8,310.15	1,415.43	Integrity Directional Services
10/30/2014	9,290.00	89.80	358.60	8,311.55	1,509.42	Integrity Directional Services
10/30/2014	9,384.00	89.60	0.30	8,312.04	1,603.41	Integrity Directional Services
10/30/2014	9,478.00	88.00	1.30	8,314.01	1,697.39	Integrity Directional Services
10/30/2014	9,572.00	88.60	1.10	8,316.80	1,791.35	Integrity Directional Services
10/30/2014	9,666.00	90.10	1.80	8,317.86	1,885.34	Integrity Directional Services
10/30/2014	9,760.00	88.70	1.10	8,318.85	1,979.33	Integrity Directional Services
10/30/2014	9,855.00	89.80	1.00	8,320.09	2,074.32	Integrity Directional Services
10/30/2014	9,949.00	88.70	0.80	8,321.32	2,168.31	Integrity Directional Services
10/30/2014	10,043.00	89.90	1.20	8,322.47	2,262.30	Integrity Directional Services
10/31/2014	10,137.00	89.10	359.10	8,323.29	2,356.29	Integrity Directional Services
10/31/2014	10,232.00	90.80	358.40	8,323.37	2,451.29	Integrity Directional Services
10/31/2014	10,326.00	88.20	358.10	8,324.19	2,545.28	Integrity Directional Services
10/31/2014	10,420.00	88.40	358.20	8,326.98	2,639.23	Integrity Directional Services
10/31/2014	10,514.00	89.70	357.70	8,328.54	2,733.22	Integrity Directional Services
10/31/2014	10,608.00	91.10	357.30	8,327.89	2,827.21	Integrity Directional Services
10/31/2014	10,699.00	88.30	356.90	8,328.36	2,918.20	Integrity Directional Services
10/31/2014	10,791.00	89.10	356.80	8,330.45	3,010.18	Integrity Directional Services
10/31/2014	10,882.00	91.70	358.10	8,329.81	3,101.17	Integrity Directional Services
10/31/2014	10,972.00	89.10	358.20	8,329.19	3,191.16	Integrity Directional Services
10/31/2014	11,064.00	90.50	358.80	8,329.51	3,283.15	Integrity Directional Services
10/31/2014	11,156.00	92.40	359.20	8,327.18	3,375.12	Integrity Directional Services
10/31/2014	11,250.00	90.50	2.10	8,324.80	3,469.08	Integrity Directional Services
10/31/2014	11,344.00	90.40	4.90	8,324.06	3,563.06	Integrity Directional Services

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	Unwrap Displace (ft)	Survey Company
10/31/2014	11,438.00	87.90	4.80	8,325.46	3,657.05	Integrity Directional Services
10/31/2014	11,532.00	89.00	5.10	8,328.00	3,751.01	Integrity Directional Services
10/31/2014	11,626.00	89.60	4.60	8,329.15	3,845.00	Integrity Directional Services
10/31/2014	11,721.00	90.10	4.30	8,329.40	3,940.00	Integrity Directional Services
10/31/2014	11,815.00	89.80	3.80	8,329.48	4,034.00	Integrity Directional Services
10/31/2014	11,909.00	89.50	3.30	8,330.05	4,128.00	Integrity Directional Services
10/31/2014	12,003.00	89.80	3.30	8,330.63	4,222.00	Integrity Directional Services
10/31/2014	12,098.00	89.90	2.90	8,330.87	4,317.00	Integrity Directional Services
10/31/2014	12,192.00	89.70	2.40	8,331.20	4,411.00	Integrity Directional Services
10/31/2014	12,286.00	89.60	1.90	8,331.78	4,504.99	Integrity Directional Services
10/31/2014	12,380.00	89.40	1.10	8,332.60	4,598.99	Integrity Directional Services
10/31/2014	12,474.00	89.80	1.10	8,333.25	4,692.99	Integrity Directional Services
10/31/2014	12,569.00	89.10	359.20	8,334.17	4,787.98	Integrity Directional Services
10/31/2014	12,663.00	90.20	358.50	8,334.74	4,881.97	Integrity Directional Services
10/31/2014	12,757.00	89.10	356.30	8,335.31	4,975.96	Integrity Directional Services
11/1/2014	12,851.00	89.90	357.50	8,336.13	5,069.96	Integrity Directional Services
11/1/2014	12,945.00	88.20	359.40	8,337.69	5,163.94	Integrity Directional Services
11/1/2014	13,040.00	89.60	3.20	8,339.52	5,258.90	Integrity Directional Services
11/1/2014	13,134.00	91.20	3.60	8,338.86	5,352.89	Integrity Directional Services
11/1/2014	13,228.00	89.20	3.30	8,338.53	5,446.89	Integrity Directional Services
11/1/2014	13,323.00	89.20	2.40	8,339.86	5,541.88	Integrity Directional Services
11/1/2014	13,417.00	89.90	4.60	8,340.60	5,635.87	Integrity Directional Services
11/1/2014	13,511.00	89.90	2.10	8,340.76	5,729.86	Integrity Directional Services
11/1/2014	13,605.00	90.90	1.60	8,340.11	5,823.86	Integrity Directional Services
11/1/2014	13,699.00	90.90	0.70	8,338.63	5,917.85	Integrity Directional Services
11/1/2014	13,794.00	92.30	0.80	8,335.98	6,012.81	Integrity Directional Services
11/1/2014	13,888.00	90.10	1.00	8,334.01	6,106.78	Integrity Directional Services
11/1/2014	13,982.00	90.40	359.00	8,333.60	6,200.77	Integrity Directional Services
11/1/2014	14,076.00	90.30	356.80	8,333.02	6,294.77	Integrity Directional Services
11/1/2014	14,171.00	89.50	358.30	8,333.19	6,389.76	Integrity Directional Services
11/1/2014	14,265.00	90.70	358.10	8,333.03	6,483.76	Integrity Directional Services
11/1/2014	14,359.00	89.90	359.90	8,332.53	6,577.76	Integrity Directional Services
11/1/2014	14,453.00	90.40	3.50	8,332.29	6,671.74	Integrity Directional Services
11/1/2014	14,547.00	90.30	1.80	8,331.71	6,765.73	Integrity Directional Services
11/1/2014	14,641.00	90.00	0.10	8,331.47	6,859.73	Integrity Directional Services
11/1/2014	14,710.00	90.00	0.10	8,331.47	6,928.73	Integrity Directional Services
Date 11/11/2014		Description Sidetrack 1 Surveys				
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	Unwrap Displace (ft)	Survey Company
11/11/2014	8,492.00	70.30	1.80	8,273.53	0.00	Integrity Directional Services
11/11/2014	8,536.00	69.70	358.90	8,288.58	41.34	Integrity Directional Services
11/11/2014	8,568.00	74.30	356.60	8,298.47	71.76	Integrity Directional Services
11/11/2014	8,599.00	78.50	354.30	8,305.76	101.89	Integrity Directional Services
11/11/2014	8,630.00	83.30	353.80	8,310.66	132.49	Integrity Directional Services
11/11/2014	8,662.00	89.00	353.70	8,312.81	164.40	Integrity Directional Services
11/11/2014	8,693.00	90.90	353.30	8,312.83	195.40	Integrity Directional Services
11/11/2014	8,725.00	91.70	353.40	8,312.11	227.39	Integrity Directional Services
11/12/2014	8,819.00	90.60	354.30	8,310.22	321.37	Integrity Directional Services
11/12/2014	8,913.00	89.00	355.60	8,310.55	415.36	Integrity Directional Services
11/12/2014	9,007.00	89.90	356.10	8,311.45	509.36	Integrity Directional Services
11/12/2014	9,101.00	88.90	357.70	8,312.44	603.35	Integrity Directional Services
11/12/2014	9,195.00	89.50	1.00	8,313.75	697.33	Integrity Directional Services
11/12/2014	9,289.00	91.00	1.60	8,313.34	791.32	Integrity Directional Services
11/12/2014	9,383.00	89.10	2.50	8,313.26	885.32	Integrity Directional Services
11/12/2014	9,477.00	90.80	3.50	8,313.34	979.31	Integrity Directional Services
11/12/2014	9,571.00	88.10	0.30	8,314.24	1,073.29	Integrity Directional Services

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	Unwrap Displace (ft)	Survey Company
11/12/2014	9,665.00	89.10	0.60	8,316.54	1,167.26	Integrity Directional Services
11/12/2014	9,759.00	90.50	0.60	8,316.87	1,261.26	Integrity Directional Services
11/12/2014	9,854.00	89.10	0.40	8,317.20	1,356.25	Integrity Directional Services
11/12/2014	9,948.00	89.90	0.70	8,318.02	1,450.25	Integrity Directional Services
11/12/2014	10,042.00	91.60	0.00	8,316.79	1,544.24	Integrity Directional Services
11/12/2014	10,136.00	88.70	358.70	8,316.54	1,638.22	Integrity Directional Services
11/12/2014	10,231.00	89.00	357.90	8,318.45	1,733.20	Integrity Directional Services
11/12/2014	10,325.00	89.30	360.00	8,319.84	1,827.19	Integrity Directional Services
11/12/2014	10,419.00	89.40	359.90	8,320.91	1,921.18	Integrity Directional Services
11/12/2014	10,513.00	90.40	1.30	8,321.07	2,015.18	Integrity Directional Services
11/12/2014	10,607.00	88.80	358.90	8,321.73	2,109.17	Integrity Directional Services
11/12/2014	10,698.00	91.30	0.40	8,321.65	2,200.16	Integrity Directional Services
11/12/2014	10,790.00	89.00	357.60	8,321.41	2,292.14	Integrity Directional Services
11/12/2014	10,881.00	88.50	356.50	8,323.39	2,383.12	Integrity Directional Services
11/12/2014	10,971.00	88.70	356.50	8,325.59	2,473.09	Integrity Directional Services
11/14/2014	11,058.00	89.60	357.00	8,326.88	2,560.08	Integrity Directional Services
11/14/2014	11,150.00	90.70	359.50	8,326.64	2,652.07	Integrity Directional Services
11/14/2014	11,244.00	89.90	1.10	8,326.15	2,746.06	Integrity Directional Services
11/14/2014	11,338.00	89.40	0.40	8,326.72	2,840.06	Integrity Directional Services
11/14/2014	11,432.00	89.90	0.30	8,327.30	2,934.06	Integrity Directional Services
11/14/2014	11,526.00	89.10	2.10	8,328.12	3,028.05	Integrity Directional Services
11/14/2014	11,620.00	89.30	2.50	8,329.43	3,122.04	Integrity Directional Services
11/14/2014	11,714.00	89.90	3.20	8,330.09	3,216.04	Integrity Directional Services
11/14/2014	11,809.00	90.60	4.30	8,329.67	3,311.04	Integrity Directional Services
11/15/2014	11,903.00	89.10	1.80	8,329.92	3,405.03	Integrity Directional Services
11/15/2014	11,997.00	89.70	2.00	8,330.90	3,499.02	Integrity Directional Services
11/15/2014	12,091.00	89.70	2.00	8,331.40	3,593.02	Integrity Directional Services
11/15/2014	12,185.00	90.20	2.40	8,331.48	3,687.02	Integrity Directional Services
11/15/2014	12,280.00	90.40	2.20	8,330.98	3,782.02	Integrity Directional Services
11/15/2014	12,374.00	89.30	1.70	8,331.23	3,876.01	Integrity Directional Services
11/15/2014	12,468.00	89.10	1.70	8,332.54	3,970.01	Integrity Directional Services
11/15/2014	12,562.00	89.80	2.40	8,333.44	4,064.00	Integrity Directional Services
11/15/2014	12,657.00	89.10	2.20	8,334.35	4,159.00	Integrity Directional Services
11/15/2014	12,751.00	90.20	2.40	8,334.93	4,252.99	Integrity Directional Services
11/15/2014	12,845.00	89.20	1.80	8,335.42	4,346.99	Integrity Directional Services
11/15/2014	12,939.00	90.10	0.30	8,335.99	4,440.98	Integrity Directional Services
11/15/2014	13,033.00	88.70	359.40	8,336.98	4,534.98	Integrity Directional Services
11/15/2014	13,128.00	88.70	0.40	8,339.13	4,629.95	Integrity Directional Services
11/15/2014	13,222.00	91.00	3.20	8,339.38	4,723.93	Integrity Directional Services
11/15/2014	13,316.00	91.10	2.70	8,337.66	4,817.92	Integrity Directional Services
11/15/2014	13,410.00	91.80	2.70	8,335.28	4,911.89	Integrity Directional Services
11/15/2014	13,505.00	90.50	3.10	8,333.37	5,006.87	Integrity Directional Services
11/15/2014	13,599.00	91.60	3.60	8,331.65	5,100.85	Integrity Directional Services
11/15/2014	13,693.00	90.80	4.40	8,329.68	5,194.83	Integrity Directional Services
11/15/2014	13,787.00	89.20	2.80	8,329.68	5,288.82	Integrity Directional Services
11/15/2014	13,882.00	90.00	3.50	8,330.34	5,383.82	Integrity Directional Services
11/15/2014	13,976.00	88.50	3.10	8,331.57	5,477.81	Integrity Directional Services
11/15/2014	14,070.00	88.00	3.20	8,334.45	5,571.76	Integrity Directional Services
11/15/2014	14,164.00	88.10	1.50	8,337.64	5,665.70	Integrity Directional Services
11/15/2014	14,258.00	88.10	1.30	8,340.76	5,759.65	Integrity Directional Services
11/15/2014	14,352.00	87.60	1.80	8,344.29	5,853.58	Integrity Directional Services
11/18/2014	14,445.00	87.60	0.60	8,348.18	5,946.50	Integrity Directional Services
11/16/2014	14,541.00	88.90	0.60	8,351.11	6,042.45	Integrity Directional Services
11/16/2014	14,635.00	88.70	0.70	8,353.08	6,136.43	Integrity Directional Services
11/16/2014	14,729.00	90.20	1.80	8,353.98	6,230.43	Integrity Directional Services
11/16/2014	14,823.00	91.00	2.40	8,353.00	6,324.42	Integrity Directional Services

## Drilling & Completion Summary - Ascending

Well Name: UNIVERSITY 178B 18H

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	Unwrap Displace (ft)	Survey Company
11/16/2014	14,918.00	91.20	1.80	8,351.18	6,419.40	Integrity Directional Services
11/16/2014	15,012.00	89.10	3.10	8,350.93	6,513.39	Integrity Directional Services
11/16/2014	15,106.00	88.80	2.80	8,352.65	6,607.38	Integrity Directional Services
11/16/2014	15,200.00	90.70	2.60	8,353.06	6,701.37	Integrity Directional Services
11/16/2014	15,295.00	90.60	1.70	8,351.99	6,796.36	Integrity Directional Services
11/16/2014	15,389.00	92.00	2.80	8,349.85	6,890.34	Integrity Directional Services
11/16/2014	15,483.00	93.10	2.90	8,345.67	6,984.24	Integrity Directional Services
11/16/2014	15,577.00	93.20	3.90	8,340.50	7,078.10	Integrity Directional Services
11/16/2014	15,672.00	92.70	5.20	8,335.62	7,172.97	Integrity Directional Services
11/16/2014	15,766.00	91.40	4.60	8,332.25	7,266.91	Integrity Directional Services
11/16/2014	15,860.00	87.70	1.30	8,332.99	7,360.88	Integrity Directional Services
11/16/2014	15,954.00	88.90	1.80	8,335.78	7,454.83	Integrity Directional Services
11/16/2014	16,049.00	90.50	2.40	8,336.28	7,549.83	Integrity Directional Services
11/17/2014	16,143.00	91.60	2.70	8,334.55	7,643.81	Integrity Directional Services
11/17/2014	16,237.00	90.90	2.00	8,332.50	7,737.79	Integrity Directional Services
11/17/2014	16,331.00	92.00	2.10	8,330.13	7,831.76	Integrity Directional Services
11/17/2014	16,425.00	90.00	2.50	8,328.49	7,925.74	Integrity Directional Services
11/17/2014	16,520.00	89.80	3.90	8,328.65	8,020.73	Integrity Directional Services
11/17/2014	16,614.00	90.90	3.80	8,328.08	8,114.73	Integrity Directional Services
11/17/2014	16,708.00	91.40	1.90	8,326.19	8,208.71	Integrity Directional Services
11/17/2014	16,803.00	90.50	1.40	8,324.62	8,303.69	Integrity Directional Services
11/17/2014	16,897.00	91.30	1.40	8,323.14	8,397.68	Integrity Directional Services
11/17/2014	16,992.00	92.20	2.00	8,320.24	8,492.63	Integrity Directional Services
11/17/2014	17,086.00	92.90	2.50	8,316.06	8,586.54	Integrity Directional Services
11/17/2014	17,180.00	90.40	1.10	8,313.35	8,680.49	Integrity Directional Services
11/17/2014	17,275.00	89.70	1.10	8,313.27	8,775.49	Integrity Directional Services
11/17/2014	17,369.00	89.70	1.10	8,313.76	8,869.49	Integrity Directional Services
11/17/2014	17,463.00	90.80	2.70	8,313.35	8,963.48	Integrity Directional Services
11/17/2014	17,557.00	90.60	1.90	8,312.20	9,057.48	Integrity Directional Services
11/17/2014	17,652.00	89.00	2.50	8,312.53	9,152.47	Integrity Directional Services
11/18/2014	17,746.00	88.40	2.00	8,314.66	9,246.45	Integrity Directional Services
11/17/2014	17,840.00	88.70	1.20	8,317.04	9,340.42	Integrity Directional Services
11/17/2014	17,935.00	89.60	1.10	8,318.45	9,435.41	Integrity Directional Services
11/17/2014	18,029.00	89.90	1.10	8,318.86	9,529.40	Integrity Directional Services
11/17/2014	18,124.00	91.70	2.50	8,317.54	9,624.39	Integrity Directional Services
11/17/2014	18,218.00	92.20	1.60	8,314.34	9,718.33	Integrity Directional Services
11/17/2014	18,312.00	90.70	1.10	8,311.96	9,812.30	Integrity Directional Services
11/17/2014	18,407.00	91.30	1.10	8,310.30	9,907.29	Integrity Directional Services
11/17/2014	18,484.00	91.30	1.10	8,308.55	9,984.27	Integrity Directional Services