

PIONEER

Daily Drilling Report

AFE Number: 032314

REPORT DATE: 8/2/2014
REPORT: 22
DOL: 24
DFS: 17

NATURAL RESOURCES

Well Name: Harmon 42-6-17-53
Rig Name: PATTERSON - UTI 180
Depth Progress: 0.00

Property Sub 322968-001	Asset Team Identifier	Field Name BLACK FOX	API/UVI 05-073-06615-0000	Spud Date 7/16/2014	Drill RR Date 8/3/2014
KB-Grid (ft) 23.00	Original KB Elevation (ft) 4,668.00	KB-Mud Line Distance (ft)	Start Date 7/10/2014 06:00	End Date	
Safety Summary					
BOP Test Date	Last BOP Test	BOP Func Due	HSE Incident No	HSE Incident Remarks No incidents to report	
Leak Off and Formation Integrity Tests					
Test Date	Comment				
Daily Operations					
Backsight			Lateral Inclination		
Vertical Length (ft)	Curve Length (ft)		Lateral Length (ft)		
Target Depth (ftKB) 6,625.0	Target Depth (TVD) (ftKB)	End Depth (ftKB) 6,690.0	End Depth (TVD) (ftKB) 6,689.7		
Footage/Meterage (ft) 0.00	24 HR ROP (ft/hr)		Drilling Hours (hr)		
Avg Connection Gas	Avg Trip Gas	Avg Background Gas	Max Connection Gas	Max Trip Gas	Max Drift Gas
Operations at Report Time finishing P & A					
Operations Summary Finish cutting SWC, RD wireline, TIH 6.5" collars, RU laydown machine, lay down collars, TIH open ended w/9 jts 4 1/2" HWDP & 4 1/2" drlg pipe to 6361.76 & circulate Well Bore, Hold safety meeting w/Patterson tool pusher, rig crew & PNR Cementers, RU Pioneer Cement Dept. Equip. Pressure test lines Pump 1st stage P&A, WOC 4 hrs					
Remarks No accidents spills or incidents to report					
Operations Next Report Period Complete P & A, Rig Down, WO trucks for rig move.					
Time Log					
Start Time	End Time	Dur (hr)	Operation	P/N	Com
06:00	14:30	8.5	LOG	PP	Sidewall coring: 5841.02, 5823.51, 5805 5804, 5777 5776, 5754, 5701, 5661, 5648.2 5647.5, 5589 5588.51, 5524.41 5523.5, 5494 5493.53, 5370.2 5369.5, 5365.32 5364.5, 5360, 5352 5351.5, 5345.2 5344.52, 5340 5339.5, 5320.01, 5312.2 5307.01.
14:30	15:30	1	TRIP	PP	RU & TIH 6.5" collars.
15:30	17:00	1.5	TRIP BHA	PP	MIRU laydown machine.
17:00	18:30	1.5	TRIP BHA	PP	Lay down collars.
18:30	22:15	3.75	TRIP	PP	TIH w/ 9 jts of 4 1/2" HWDP & 4 1/2" drill pipe openended (to 6361.76")
22:15	01:15	3	CIRC	PP	Circulating Well Bore & hold safety meeting w/Patterson tool pusher, rig crew & PNR Cementers, RU Pioneer Cement Dept. Equip.
01:15	02:00	0.75	PLUGA	PP	Pressure test lines to 5000 psi release pressure and begin P&A pump 40 bbl FW spacer followed by 6 bbl type G neat crmt Displace with 47.3 bbls FW clean up cement Pump truck
02:00	06:00	4	PLUGA	PP	WOC TOOH Stand back 3 STDS & pull 1 STD up and hang in derrick @ 5980'
Mud Properties					
Daily Cost: 1,911.57 Cost Cum Cost: 81,986.86 Cost					
Time 15:00	Type Water Base	Depth (ftKB) 6,690.0	Density (lb/gal) 8.65	Funnel Viscosity (s/qt) 40	T Flowline (°F)
PV (cP) 10.0	YP (lb/100ft²) 11.000	Filtrate (mL/30min) 9.0	HTHP Filtrate (mL/30min)	HTHP Pressure (psi)	HTHP Temperature (°F)
Solids (%) 2.5	Sand (%) 1.0	MBT (lb/bbl) 7.5	pH 9.5	Pm (mL/mL) 0.500	Pf (mL/mL) 0.2
Chlorides (ppm) 800.000	Calcium (ppm) 160.000	Oil Water Ratio 0.5/99.5	Electric Stab (V)	Lime (lb/bbl)	Low Gravity Solids (%) 2.5
Gel 10 sec (lb/100ft²) 3.000	Gel 10 min (lb/100ft²) 5.000	Comment			
Bottom Hole Assembly					
BHA Since Insp (hr)		BHA Wt Below Jar (1000lbf)		Hrs on Jars (hr)	
BHA #<BHA #?>, <Drill String Name?>					
Bit Run	Drill Bit	Bit Type		Make	
Nozzles (1/32")		ADC Codes		ADC Bit Dull	
Bit Total Fluid Area (nozzles) (in²)		Hours Drilled By Bit (hr)		Depth Drilled By Bit (ft)	
BHA Drilling Time (hr)	BHA Depth Drilled (ft)	BHA ROP (ft/hr)	Depth In (ftKB)	Depth Out (ftKB)	
Drill String Components					
Jts	Item Des	OD (in)	ID (in)	Len (ft)	Cum Len (ft)
Drilling Parameters					
<depthstart> - <depthend> ftKB					
Start (ftKB)	End Depth	Int ROP (ft/hr)	WOB (1000lbf)	RPM (rpm)	dP (SPP) (psi)
Drilling Time (hr)	Circ Time (hr)	PU Str Wt (100...)	SO Str Wt (100...)	Drill Str Wt (100...)	Torque Units
		Drilling Torque		Off Btm Tq	

Total AFE + Sup (Cost)		2,629,000.00
AFE Job Cost Summary		
Cost Type	AFE + Supp Amount (Cost)	
DHC	1,442,000.00	
CWC	594,000.00	
Field Estimate Job Cost Summary		
Cost Typ	Field Est (Cost)	
DHC	2,051,767.15	
CWC	23,566.50	
Daily Summary		
Daily Field Est Total (Cost)	Cum Field Est To Date (Cost)	
134,821.40	1,605,098.05	
Daily Mud Field Est (Cost)	Cum Mud Field Est (Cost)	
1,911.57	81,986.86	
POL (Personnel on Location)		
17.0		
Daily Contacts		
Job Contact	Title	
Bearsdlee, Tom	Drilling Supervisor	
Revas, Robbie	Sr. Drilling Foreman	
Personnel Log		
Company	Count	
PIONEER NATURAL RESOURCES	2	
UTI-PATTERSON	12	
COLUMBINE LOGGING, INC.	2	
NATIONAL OILWELL (VARCO) - NOV	1	
Weather		
Precipitation Amount (in)	Precipitation Type	
0.000	none	
Temperature - High (°F)	Temperature - Low (°F)	
95.0	65.0	
Comment		
PATTERSON - UTI, 180		
Rig Type Drilling - Triple		
Rig Start Date 7/11/2014	Rig Release Date 8/3/2014	
1, BOMCO, F-1600		
Pump Number 1		
Liner Size (in) 7	Stroke Length (in) 12.00	Vol/Stk OR (bbl/stk) 0.136
Max Pressure (psi) 5,000.0		
Pump Checks		
Slow Spd	P (psi)	Strokes (spm)
		Q Flow (gpm)
		Eff (%)
2, BOMCO, F-1600		
Pump Number 2		
Liner Size (in) 7	Stroke Length (in) 12.00	Vol/Stk OR (bbl/stk) 0.136
Max Pressure (psi) 5,000.0		
Pump Checks		
Slow Spd	P (psi)	Strokes (spm)
		Q Flow (gpm)
		Eff (%)
Job Supply Amounts		
Supply Item Des	Unit Label	Received
Diesel	gal	489
		5,380
Mud Additive Amounts		
Des	Consumed	Cum Cons
AQUABLOC	3	179
CAUSTIC SODA	1	31
COTTON SEED HULLS	14	248
FIBER SEAL	16	191
NOV HI YIELD GEL	60	818
NOV PAC LV	1	106
NOV XAN-D	4	111
SAW DUST	30	473
Formations		
Formation Name	Prog Top TVD (ftKB)	
Niobrara	791.0	
Ft Hayes	1,364.0	
Dakota	1,876.0	
Morrison	2,213.0	
Dockum	2,414.0	
Day Creek	2,867.0	

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Rig Name: PATTERSON - UTI 180

Depth Progress: 0.00

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Safety Summary					
BOP Test Date	Last BOP Test	BOP Func Due	HSE Incident No	HSE Incident Remarks No incidents to report	

Leak Off and Formation Integrity Tests	
Test Date	Comment

Daily Operations					
Backsight			Lateral Inclination		
Vertical Length (ft)		Curve Length (ft)		Lateral Length (ft)	
Target Depth (ftKB)	Target Depth (TVD) (ftKB)	End Depth (ftKB)	End Depth (TVD) (ftKB)		
6,625.0		6,690.0	6,689.7		
Footage/Meterage (ft)		24 HR ROP (ft/hr)		Drilling Hours (hr)	
0.00					
Avg Connection Gas	Avg Trip Gas	Avg Background Gas	Max Connection Gas	Max Trip Gas	Max Drd Gas

Operations at Report Time
Laying down drill pipe.

Operations Summary
RU PNR Cementers For 2nd stage of P & A job Pumped 2 bbls to pressure test lines, pressure jumped to 2000 psi & kicked pumps off broke Cmmt lines @ DS to check cement lines all clear, Nipple Back up on DS and tested again w/same results. TOOH to 2556', RU lay down machine, lay down 16 jts of DP, TOOH to HWDP & lay it down, TIH w/ 4.5" DP to 6151', tagged up, washed to 6175 w/ 3-15k, lay down 2 jts to 6113' pump 2nd stage plug, 56 bbls 15# cmt, disp w/ 68.5 bbls H2O, TOOH 15 stands, circ. w/ rig pump surf. to surf., TIH 2 stands to 4748', pump 3rd stage: 20.5 bbls cmt, disp w/ 60.8 bbls H2O, TOOH 18 stands, pump surf. to surf., TIH 2 jts to 3098', pump 4th stage w/ 10 bbls 15# cmt, disp w/ 40.8 bbls H2O, TOOH 8 stands to 2371', circ surf. to surf. TOOH laying down.

Remarks
No accidents spills or incidents to report
Operations Next Report Period
Complete P & A, Rig Down,WO trucks for rig move.

Time Log						
Start Time	End Time	Dur (hr)	Operation	PN	Com	Start Depth (ftKB)
06:00	07:15	1.25	PLUGA	PP	NU Cmmt lines to DS for 2nd Stage P & A pump 2 bbls to pressure test lines & pressure jumped to 2000 psi ND off DS to Check Cmmt lines all clear, NU to DS to retest lines pressured up to 2000, start TOOH to find plugged DS	6,690.0
07:15	09:00	1.75	TRIP	PP	TOOH to cement block @ 2554'.	6,690.0
09:00	10:15	1.25	TRIP	PP	RU LD machine.	6,690.0
10:15	11:00	0.75	TRIP	PP	Lay down 17 jts of DP.	6,690.0
11:00	11:45	0.75	TRIP	PP	TOOH standing back to HWDP.	6,690.0
11:45	14:00	2.25	TRIP	PP	Lay down HWDP.	6,690.0
14:00	17:30	3.5	TRIP	PP	TIH to 6151' w/ 4 1/2" drill pipe tagged up, start pump @ 200 GPM circ down to 6173' w/ 3-15k, Lay 2 joints down and set up for plug @ 6113'.	6,690.0
17:30	18:30	1	PLUGA	PP	RU cement equipment, psi test surface lines to 2000 psi (test good), pump 25 bbls water ahead @ 4 bpm 400 psi, (56.4 bbls) 15# cement @ 4 BPM 400 psi & displaced w/ 68.5 bbls water displacement: @ 20 bbls away 4 BPM 224 psi, @ 40 bbls away 4 BPM 200 psi & @ 60 bbls away 4 BPM 300 psi. Final lift 300 psi.	6,690.0
18:30	19:15	0.75	TRIP	PP	RD cement line, stand back 15 jts to 4685'.	6,690.0
19:15	22:30	3.25	CIRC	PP	Circ. well w/ rig pumps @ 214 GPM, SPP 130. TIH 2 jts to 4748' KB. NU cement line.	6,690.0
22:30	23:00	0.5	PLUGA	PP	Psi test surface lines to 2000 psi (test good), pump 25 bbls water ahead @ 3 bpm 200 psi, (20.5 bbls) 15# cement @ 4 BPM 200 psi & displaced w/ 60.8 bbls water displacement: @ 20 bbls away 4 BPM 200 psi, @ 40 bbls away 4 BPM 200 psi & @ 60 bbls away 4 BPM 300 psi. Final lift 300 psi.	6,690.0
23:00	23:45	0.75	TRIP	PP	RD cement line, stand back 18 jts to 3035'.	6,690.0
23:45	01:00	1.25	CIRC	PP	Circ. well w/ rig pumps @ 214 GPM, SPP 130. TIH 2 jts to 3098.5' KB. NU cement line.	6,690.0
01:00	01:45	0.75	PLUGA	PP	Psi test surface lines to 2000 psi (test good), pump 25 bbls water ahead @ 3.5 bpm 200 psi, (10 bbls) 15# cement @ 4 BPM 300 psi & displaced w/ 40.8 bbls water displacement: @ 15 bbls away 3 BPM 300 psi, @ 30 bbls away 4 BPM 300 psi & @ 30 bbls away 4 BPM 300 psi. Final lift 300 psi.	6,690.0
01:45	02:00	0.25	TRIP	PP	RD cement line, stand back 8 jts to 2371'.	6,690.0
02:00	03:00	1	CIRC	PP	Circ. well w/ rig pumps @ 214 GPM, SPP 130.	6,690.0
03:00	06:00	3	TRIP	PP	TOOH laying down.	6,690.0

Total AFE + Supp (Cost)	2,629,000.00
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AFE Job Cost Summary	
Cost Type	AFE + Supp Amount (Cost)
DHC	1,442,000.00
CWC	594,000.00

Field Estimate Job Cost Summary	
Cost Typ	Field Est (Cost)
DHC	2,051,767.15
CWC	23,566.50

Daily Summary	
Daily Field Est Total (Cost)	Cum Field Est To Date (Cost)
28,618.58	1,633,716.63
Daily Mud Field Est (Cost)	Cum Mud Field Est (Cost)
	81,986.86

POL (Personnel on Location)	17.0
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Daily Contacts	
Job Contact	Title
Bearsdlee, Tom	Drilling Supervisor
Revas, Robbie	Sr. Drilling Foreman

Personnel Log	
Company	Count
PIONEER NATURAL RESOURCES	2
UTI-PATTERSON	12
COLUMBINE LOGGING, INC.	2
NATIONAL OILWELL (VARCO) - NOV	1

Weather	
Precipitation Amount (in)	Precipitation Type
Temperature - High (°F)	Temperature - Low (°F)

Comment

PATTERSON - UTI, 180	
Rig Type Drilling - Triple	
Rig Start Date 7/11/2014	Rig Release Date 8/3/2014

1, BOMCO, F-1600			
Pump Number 1			
Liner Size (in) 7	Stroke Length (in) 12.00	Vol/Stk OR (bbl/stk) 0.136	
Max Pressure (psi) 5,000.0			

Pump Checks				
Slow Spd	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)

2, BOMCO, F-1600			
Pump Number 2			
Liner Size (in) 7	Stroke Length (in) 12.00	Vol/Stk OR (bbl/stk) 0.136	
Max Pressure (psi) 5,000.0			

Pump Checks				
Slow Spd	P (psi)	Strokes (spm)	Q Flow (gpm)	Eff (%)

Job Supply Amounts				
Supply Item Des	Unit Label	Received	Consumed	Cum On Loc
Diesel	gal		652	4,728

Mud Additive Amounts		
Des	Consumed	Cum Cons

Formations	
Formation Name	Prog Top TVD (ftKB)
Niobrara	791.0
Fl Hayes	1,364.0
Dakota	1,876.0
Morrison	2,213.0
Dockum	2,414.0
Day Creek	2,867.0
Blaine	3,020.0
Stone Corral	3,351.0
Wolfcamp	3,681.0
Penn	4,459.0
Lansing/KC	4,664.0
Marmaton	5,189.0
Cherokee	5,317.0