

API/UWI 05071088850000	Location T34S-R68W-S13	Field Name Purgatoire River	Permit Number 20062614	State/Province Colorado	Well Configuration Type Vertical
Gr Elev (ft) 7,820.00	Casing Flange Elevation (ft)	KB-Ground Distance (ft) 0.00	KB-Casing Flange Distance (ft)	Spud Date 8/12/2006 09:30	Rig Release Date 8/14/2006 19:00

Conductor Casing Cement, 8/12/2006 10:15

Type Casing	Cementing Start Date 8/12/2006	Cementing End Date 8/12/2006	Wellbore Original Hole	String Conductor, 23.0ftKB
Cementing Company Wal-Mart	Evaluation Method	Cement Evaluation Results		

Comment
Cmt'd w/ 11 sks Redi-Crete

1, 3.0-23.0ftKB

Top Depth (ftKB) 3.0	Bottom Depth (ftKB) 23.0	Full Return? Yes	Vol Cement Ret (bbl) 0.0	Top Plug? No	Bottom Plug? No
Initial Pump Rate (bbl/min) 1	Final Pump Rate (bbl/min) 1	Avg Pump Rate (bbl/min) 1		Final Pump Pressure (psi) 0.0	Plug Bump Pressure (psi) 0.0
Pipe Reciprocated? No	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)	Drill Out Date

Cement

Fluid Type Cement	Fluid Description 18.0	Amount (sacks) 11	Class A	Volume Pumped (bbl) 2.0
Estimated Top (ftKB) 3.0	Estimated Bottom Depth (ftKB) 23.0	Percent Excess Pumped (%)	Yield (ft³/sack) 1.00	Mix H2O Ratio (gal/sack) 5.00
Free Water (%)	Density (lb/gal) 18.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Surface Casing Cement, 8/12/2006 17:15

Type Casing	Cementing Start Date 8/12/2006	Cementing End Date 8/13/2006	Wellbore Original Hole	String Surface, 220.8ftKB
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
Cmt'd w/ 195 sks & circ 5 bbls to pit

1, 47.0-230.0ftKB

Top Depth (ftKB) 47.0	Bottom Depth (ftKB) 230.0	Full Return? No	Vol Cement Ret (bbl) 0.0	Top Plug? No	Bottom Plug? No
Initial Pump Rate (bbl/min) 3	Final Pump Rate (bbl/min) 2	Avg Pump Rate (bbl/min) 3		Final Pump Pressure (psi) 0.0	Plug Bump Pressure (psi) 0.0
Pipe Reciprocated? No	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)	Drill Out Date

Spacer

Fluid Type Spacer	Fluid Description 8.33	Amount (sacks)	Class	Volume Pumped (bbl) 57.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 230.0	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.33	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

LCM

Fluid Type LCM	Fluid Description 9.00	Amount (sacks)	Class	Volume Pumped (bbl) 20.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 230.0	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 9.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Cement

Fluid Type Cement	Fluid Description 14.0 - 14.5	Amount (sacks) 167	Class G	Volume Pumped (bbl) 50.0
Estimated Top (ftKB) 47.0	Estimated Bottom Depth (ftKB) 230.0	Percent Excess Pumped (%)	Yield (ft³/sack) 1.66	Mix H2O Ratio (gal/sack) 7.76
Free Water (%)	Density (lb/gal) 14.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

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Cement Fluid Additives		
Add	Type	Conc
Trinidad Surf Blend		

2, 0.0-47.0ftKB					
Top Depth (ftKB) 0.0	Bottom Depth (ftKB) 47.0	Full Return? No	Vol Cement Ret (bbl) 5.0	Top Plug? No	Bottom Plug? No
Initial Pump Rate (bbl/min) 1	Final Pump Rate (bbl/min) 1	Avg Pump Rate (bbl/min) 1		Final Pump Pressure (psi) 0.0	Plug Bump Pressure (psi) 0.0
Pipe Reciprocated? No	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)	Drill Out Date

Cement				
Fluid Type Cement	Fluid Description 14.5	Amount (sacks) 27	Class G	Volume Pumped (bbl) 8.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 47.0	Percent Excess Pumped (%)	Yield (ft³/sack) 1.66	Mix H2O Ratio (gal/sack) 7.76
Free Water (%)	Density (lb/gal) 14.50	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc

Production Casing Cement, 8/14/2006 19:00

Type Casing	Cementing Start Date 8/14/2006	Cementing End Date 8/14/2006	Wellbore Original Hole	String Production, 2,405.8ftKB
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
Cmt'd w/ 145 & 300 sks & circ 5 & 50 bbls cmt to pit

1, 1,635.4-2,430.0ftKB					
Top Depth (ftKB) 1,635.4	Bottom Depth (ftKB) 2,430.0	Full Return? Yes	Vol Cement Ret (bbl) 5.0	Top Plug? Yes	Bottom Plug? No
Initial Pump Rate (bbl/min) 3	Final Pump Rate (bbl/min) 3	Avg Pump Rate (bbl/min) 3		Final Pump Pressure (psi) 850.0	Plug Bump Pressure (psi) 1,550.0
Pipe Reciprocated? No	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)	Drill Out Date

Wash down				
Fluid Type Wash down	Fluid Description 8.6	Amount (sacks)	Class	Volume Pumped (bbl) 165.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 2,430.0	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.60	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc

Spacer				
Fluid Type Spacer	Fluid Description 8.6	Amount (sacks)	Class	Volume Pumped (bbl) 60.0
Estimated Top (ftKB) 600.0	Estimated Bottom Depth (ftKB) 2,430.0	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.60	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc

LCM				
Fluid Type LCM	Fluid Description 9.0	Amount (sacks)	Class	Volume Pumped (bbl) 60.0
Estimated Top (ftKB) 600.0	Estimated Bottom Depth (ftKB) 2,430.0	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 9.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc

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1st STAGE CMT

Fluid Type 1st STAGE CMT	Fluid Description 13.0	Amount (sacks) 145	Class Prem Lite	Volume Pumped (bbl) 53.0
Estimated Top (ftKB) 2,430.0	Estimated Bottom Depth (ftKB) 2,430.0	Percent Excess Pumped (%)	Yield (ft ³ /sack) 2.04	Mix H2O Ratio (gal/sack) 10.58
Free Water (%)	Density (lb/gal) 13.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc
Trinidad Prod Blend		

Displacement

Fluid Type Displacement	Fluid Description 8.6	Amount (sacks)	Class	Volume Pumped (bbl) 56.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 2,358.1	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.60	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

2, 65.0-1,626.1ftKB

Top Depth (ftKB) 65.0	Bottom Depth (ftKB) 1,626.1	Full Return? Yes	Vol Cement Ret (bbl) 50.0	Top Plug? Yes	Bottom Plug? Yes
Initial Pump Rate (bbl/min) 3	Final Pump Rate (bbl/min) 3	Avg Pump Rate (bbl/min) 3	Final Pump Pressure (psi) 690.0	Plug Bump Pressure (psi) 1,700.0	
Pipe Reciprocated? No	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)	Pipe Rotated? No	Pipe RPM (rpm)	
Tagged Depth (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)	Drill Out Diameter (in)	Drill Out Date	

Spacer

Fluid Type Spacer	Fluid Description 8.6	Amount (sacks)	Class	Volume Pumped (bbl) 20.0
Estimated Top (ftKB) 1,000.0	Estimated Bottom Depth (ftKB) 1,626.1	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.60	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

LCM

Fluid Type LCM	Fluid Description 9.0	Amount (sacks)	Class	Volume Pumped (bbl) 60.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 1,626.1	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 9.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

2nd Stage Cement

Fluid Type 2nd Stage Cement	Fluid Description 13.0	Amount (sacks) 300	Class Prem Lite	Volume Pumped (bbl) 109.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 1,626.1	Percent Excess Pumped (%)	Yield (ft ³ /sack) 2.04	Mix H2O Ratio (gal/sack) 10.58
Free Water (%)	Density (lb/gal) 13.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc
Trinidad Prod Blend		

Displacement

Fluid Type Displacement	Fluid Description 8.6	Amount (sacks)	Class	Volume Pumped (bbl) 39.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 1,626.1	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc