

API/UWI 05071096350000	Location T34S-R67W-S03	Field Name Purgatoire River	Permit Number 20083506	State/Province Colorado	Well Configuration Type Vertical
Gr Elev (ft) 7,257.00	Casing Flange Elevation (ft)	KB-Ground Distance (ft) 0.00	KB-Casing Flange Distance (ft)	Spud Date 8/22/2008 11:00	Rig Release Date 8/24/2008 12:00

**Conductor Casing Cement, 8/22/2008 13:00**

Type Casing	Cementing Start Date 8/22/2008	Cementing End Date 8/22/2008	Wellbore Original Hole	String Conductor, 44.0ftKB
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment  
12 BBls cmt to pit

**1, 0.0-44.0ftKB**

Top Depth (ftKB) 0.0	Bottom Depth (ftKB) 44.0	Full Return? No	Vol Cement Ret (bbl) 12.0	Top Plug? Yes	Bottom Plug? No
Initial Pump Rate (bbl/min) 3	Final Pump Rate (bbl/min) 3	Avg Pump Rate (bbl/min) 2		Final Pump Pressure (psi) 85.0	Plug Bump Pressure (psi)
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) 44.0	Drill Out Diameter (in) 11	Drill Out Date 8/23/2008	

**Conductor Cement**

Fluid Type Conductor Cement	Fluid Description	Amount (sacks) 76	Class Midcon II	Volume Pumped (bbl)
Estimated Top (ftKB) -3.0	Estimated Bottom Depth (ftKB) 44.0	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)

**Cement Fluid Additives**

Add	Type	Conc
Trinidad Surface Blend		

**Surface Casing Cement, 8/23/2008 08:00**

Type Casing	Cementing Start Date 8/23/2008	Cementing End Date 8/23/2008	Wellbore Original Hole	String Surface, 454.5ftKB
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment  
31 BBLs Cmt to pit

**1, 0.0-455.0ftKB**

Top Depth (ftKB) 0.0	Bottom Depth (ftKB) 455.0	Full Return? No	Vol Cement Ret (bbl) 31.0	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) 60.0	Plug Bump Pressure (psi) 185.0
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	

**Surface Cement**

Fluid Type Surface Cement	Fluid Description	Amount (sacks) 221	Class Midcon II	Volume Pumped (bbl) 65.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 455.0	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)

**Cement Fluid Additives**

Add	Type	Conc
Trinidad Surface Blend		

**Production Casing Cement, 8/24/2008 12:00**

Type Casing	Cementing Start Date 8/24/2008	Cementing End Date 8/24/2008	Wellbore Original Hole	String Production, 1,757.8ftKB
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment  
15 bbls cmt back on 1st stage, 12 bbls back on 2nd stage

**1, 1,032.0-1,757.0ftKB**

Top Depth (ftKB) 1,032.0	Bottom Depth (ftKB) 1,757.0	Full Return? No	Vol Cement Ret (bbl) 15.0	Top Plug? Yes	Bottom Plug? No
Initial Pump Rate (bbl/min) 5	Final Pump Rate (bbl/min) 5	Avg Pump Rate (bbl/min) 5		Final Pump Pressure (psi) 130.0	Plug Bump Pressure (psi) 970.0
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	

**Well Name: Apache Canyon 03-15-67**

API/UWI 05071096350000	Location T34S-R67W-S03	Field Name Purgatoire River	Permit Number 20083506	State/Province Colorado	Well Configuration Type Vertical
Gr Elev (ft) 7,257.00	Casing Flange Elevation (ft)	KB-Ground Distance (ft) 0.00	KB-Casing Flange Distance (ft)	Spud Date 8/22/2008 11:00	Rig Release Date 8/24/2008 12:00

**Production Cement**

Fluid Type Production Cement	Fluid Description	Amount (sacks) 104	Class Prem Lite	Volume Pumped (bbl) 54.0
Estimated Top (ftKB) 1,757.0	Estimated Bottom Depth (ftKB) 1,027.0	Percent Excess Pumped (%)	Yield (ft³/sack) 2.91	Mix H2O Ratio (gal/sack) 11.34
Free Water (%)	Density (lb/gal) 9.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

**Cement Fluid Additives**

Add	Type	Conc

**2, 0.0-1,027.0ftKB**

Top Depth (ftKB) 0.0	Bottom Depth (ftKB) 1,027.0	Full Return? No	Vol Cement Ret (bbl) 12.0	Top Plug? Yes	Bottom Plug? No
Initial Pump Rate (bbl/min) 5	Final Pump Rate (bbl/min) 5	Avg Pump Rate (bbl/min) 5	Final Pump Pressure (psi) 56.0	Plug Bump Pressure (psi) 1,075.0	
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	

**Production Cement**

Fluid Type Production Cement	Fluid Description	Amount (sacks) 108	Class Prem Lite	Volume Pumped (bbl) 56.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 1,027.0	Percent Excess Pumped (%)	Yield (ft³/sack) 2.91	Mix H2O Ratio (gal/sack) 11.34
Free Water (%)	Density (lb/gal) 9.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

**Cement Fluid Additives**

Add	Type	Conc
Tuned Light Systems		