

Well Name: Apache Canyon 05-09V

Conductor Casing Cement

API/UWI 05071091270000	Location T34S-R67W-S05	Field Name Purgatoire River	Permit Number 20065934	State/Province Colorado	Well Configuration Type Vertical
Gr Elev (ft) 7,406.00	Casing Flange Elevation (ft)	KB-Ground Distance (ft) 0.00	KB-Casing Flange Distance (ft)	Spud Date 7/7/2007 19:30	Rig Release Date 7/10/2007 06:00

**Conductor Casing Cement, 7/7/2007 22:15**

Type Casing	Cementing Start Date 7/7/2007	Cementing End Date 7/8/2007	Wellbore Original Hole	String Conductor, 47.5ftKB
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment  
PUMPED 81 SX MIDCON II TRINIDAD SURFACE BLEND @ 35 PSI DISPLACED W/20 BBLS WATER CIRC 7 BBLS CMT TO PIT , SHUT IN WELL W/ 20 PSI

**1, 3.0-50.0ftKB**

Top Depth (ftKB) 3.0	Bottom Depth (ftKB) 50.0	Full Return? No	Vol Cement Ret (bbl) 7.0	Top Plug? No	Bottom Plug? No
Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)	Avg Pump Rate (bbl/min)		Final Pump Pressure (psi)	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)		Drill Out Diameter (in)	Drill Out Date

**Conductor Cement**

Fluid Type Conductor Cement	Fluid Description	Amount (sacks) 81	Class Midcon II	Volume Pumped (bbl)
Estimated Top (ftKB) 3.0	Estimated Bottom Depth (ftKB) 50.0	Percent Excess Pumped (%)	Yield (ft³/sack) 1.66	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 14.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

**Cement Fluid Additives**

Add	Type	Conc

**Surface Casing Cement, 7/8/2007 18:30**

Type Casing	Cementing Start Date 7/8/2007	Cementing End Date 7/8/2007	Wellbore Original Hole	String Surface, 495.8ftKB
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment  
Pumped

**1, 2.5-500.0ftKB**

Top Depth (ftKB) 2.5	Bottom Depth (ftKB) 500.0	Full Return? No	Vol Cement Ret (bbl) 35.0	Top Plug? No	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) 1,823.0	Plug Bump Pressure (psi) 1,847.0
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) 244	Class Midcon II	Volume Pumped (bbl) 72.0
Estimated Top (ftKB) 2.5	Estimated Bottom Depth (ftKB) 500.0	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

**Production Casing Cement, 7/9/2007 19:00**

Type Casing	Cementing Start Date 7/9/2007	Cementing End Date 7/9/2007	Wellbore Original Hole	String Production, 1,968.0ftKB
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment  
PUMP FIRST STAGE W/ 115 SX MIDCON II TRINIDAD PRODUCTION BLEND 12 PPG CMTW/ 250 #CIRC PSI DISPLACED W/ 65 BBLS WATER @ 450# MAX CIRC PSI CIRC 5 BBLS CMT TO PIT DROP BOMB WAIT 7 MIN. PUMP @ REDUCED RATE TO OPEN TOOL , OPEN TOOL W/2075 PSI 2ND STAGE , PUMPED 175 SX MIDCON II TRINIDAD PRODUCTION BLEND @ 12 PPG DISPLACED W/ 23 BBLS CMT , CIRC 66 BBLS CMT



Cement Jobs by Well

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Gr Elev (ft) 7,406.00	Casing Flange Elevation (ft)	KB-Ground Distance (ft) 0.00	KB-Casing Flange Distance (ft)	Spud Date 7/7/2007 19:30	Rig Release Date 7/10/2007 06:00

1, 1,204.0-2,005.0ftKB					
Top Depth (ftKB) 1,204.0	Bottom Depth (ftKB) 2,005.0	Full Return? No	Vol Cement Ret (bbl) 5.0	Top Plug? No	Bottom Plug? No
Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)	Avg Pump Rate (bbl/min)		Final Pump Pressure (psi)	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)		Drill Out Diameter (in)	Drill Out Date

Production Cement				
Fluid Type Production Cement	Fluid Description	Amount (sacks) 115	Class Midcon II	Volume Pumped (bbl)
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack) 2.56	Mix H2O Ratio (gal/sack) 14.50
Free Water (%)	Density (lb/gal) 12.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc

2, 40.0-1,201.0ftKB					
Top Depth (ftKB) 40.0	Bottom Depth (ftKB) 1,201.0	Full Return? No	Vol Cement Ret (bbl) 632.0	Top Plug? No	Bottom Plug? No
Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)	Avg Pump Rate (bbl/min)		Final Pump Pressure (psi)	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)		Drill Out Diameter (in)	Drill Out Date

Production Cement				
Fluid Type Production Cement	Fluid Description	Amount (sacks) 175	Class Midcon II	Volume Pumped (bbl)
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack) 2.56	Mix H2O Ratio (gal/sack) 14.50
Free Water (%)	Density (lb/gal) 12.00	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc