

Well Name: Apache Canyon 02-14

Surface Casing Cement

API/UWI 05071082560000	Location T34S-R68W-S02	Field Name Purgatoire River	Permit Number 2004290	State/Province Colorado	Well Configuration Type Vertical
Gr Elev (ft) 8,615.00	Casing Flange Elevation (ft)	KB-Ground Distance (ft) 0.00	KB-Casing Flange Distance (ft)	Spud Date 1/13/2005 00:00	Rig Release Date 1/15/2005 00:00

Surface Casing Cement, 1/13/2005 00:00

Type Casing	Cementing Start Date 1/13/2005	Cementing End Date 1/13/2005	Wellbore Original Hole	String Surface, 526.0ftKB
Cementing Company	Evaluation Method Returns to Surface	Cement Evaluation Results		

Comment

1, 0.0-526.0ftKB

Top Depth (ftKB) 0.0	Bottom Depth (ftKB) 526.0	Full Return? No	Vol Cement Ret (bbl) 32.0	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

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Fluid Type	Fluid Description Midcon II w/Trinidad surf blenc	Amount (sacks) 247	Class	Volume Pumped (bbl)
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/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

Conductor Casing Cement, 1/13/2005 00:00

Type Casing	Cementing Start Date 1/13/2005	Cementing End Date 1/13/2005	Wellbore Original Hole	String Conductor, 21.0ftKB
Cementing Company Halliburton Energy Services	Evaluation Method Returns to Surface	Cement Evaluation Results		

Comment

<stagenum>, 0.0-21.0ftKB

Top Depth (ftKB) 0.0	Bottom Depth (ftKB) 21.0	Full Return? No	Vol Cement Ret (bbl)	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

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Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/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

Production Casing Cement, 1/15/2005 00:00

Type Casing	Cementing Start Date 1/15/2005	Cementing End Date 1/15/2005	Wellbore Original Hole	String Production, 2,616.0ftKB
Cementing Company	Evaluation Method	Cement Evaluation Results		

Comment

1, 1,592.0-2,616.0ftKB

Top Depth (ftKB) 1,592.0	Bottom Depth (ftKB) 2,616.0	Full Return? No	Vol Cement Ret (bbl)	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

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Fluid Type	Fluid Description	Amount (sacks) 170	Class Midcon II	Volume Pumped (bbl)
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/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

2, 0.0-1,592.0ftKB					
Top Depth (ftKB) 0.0	Bottom Depth (ftKB) 1,592.0	Full Return? No	Vol Cement Ret (bbl) 18.0	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

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Fluid Type	Fluid Description	Amount (sacks) 300	Class Midcon II	Volume Pumped (bbl)
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/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