



Cement

Well Name: Guttersen 31T-221

Cement

Surface Casing Cement, Casing, 3/16/2014 19:00

Type Casing	String Surface, 898.0ftKB	Start Date 3/16/2014	Cementing End Date 3/16/2014	Wellbore Original Hole	Job Drilling - original, 3/15/2014 06:00	Cementing Company Cementers	Cement Objective	Eval Method Returns to Surface
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Cement Stages

Stg # 1	Description Surface Casing Cement				Objective			Top Depth (ftKB) 13.0	Bottom Depth (ftKB) 898.0	Pump Start Date 3/16/2014		Pump End Date 3/16/2014		Top Plug? Yes	Btm Plug? No		
Initial Pump Rate (bbl/min) 4		Final Pump Rate (bbl/min) 5		Avg Pump Rate (bbl/min) 5	Final Pump Pressure (psi) 300.0	Plug Bump Pressure (psi) 850.0	Pressure Held (psi)		Pressure Release Date		Full Return? Yes	Vol Cement Ret (bbl) 5.0		Volume Lost (bbl)			
Recip? No	Stroke (ft)	Recip Rate (...)	Rotat... No	RPM (rpm)	Pipe Movement Note			MD Tagged (...)	Tag Method		Tag Wt (100...	Prop... No	Depth Plug...	Tag Cement Date		Drill Out Date	Drill Out Dia (...)

Cement Fluids

Fluid	Est Top (ftKB)	Est Btm (ftKB)	Pump Start Date	Pump End Date	Class	Amount (sacks)	Mix H2O Ratio (gal/sack)	Yield (ft³/sack)	Vol Pumped (bbl)	Excess (%)	Dens (lb/gal)
Tail	13.0	898.0			G	810		1.18	170.2	100.0	15.20

Intermediate Casing Cement, Casing, 3/20/2014 18:00

Type Casing	String Intermediate, 7,092.0ftKB	Start Date 3/20/2014	Cementing End Date 3/20/2014	Wellbore Original Hole	Job Drilling - original, 3/15/2014 06:00	Cementing Company Baker Hughes	Cement Objective	Eval Method Returns to Surface
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Cement Stages

Stg # 1	Description Intermediate Casing Cement				Objective		Top Depth (ftKB) 13.0	Bottom Depth (ftKB) 7,092.0	Pump Start Date 3/20/2014		Pump End Date 3/20/2014		Top Plug? Yes	Btm Plug? No							
Initial Pump Rate (bbl/min) 4		Final Pump Rate (bbl/min) 4		Avg Pump Rate (bbl/min) 4		Final Pump Pressure (psi) 1,138.0		Plug Bump Pressure (psi) 2,099.0		Pressure Held (psi)		Pressure Release Date		Full Return? Yes	Vol Cement Ret (bbl) 0.0	Volume Lost (bbl)					
Recip? No	Stroke (ft)	Recip Rate (...)		Rotat... No	RPM (rpm)		Pipe Movement Note			MD Tagged (...)		Tag Method		Tag Wt (100...	Prop... No	Depth Plug...	Tag Cement Date		Drill Out Date		Drill Out Dia (...)

Cement Fluids

Fluid	Est Top (ftKB)	Est Btm (ftKB)	Pump Start Date	Pump End Date	Class	Amount (sacks)	Mix H2O Ratio (gal/sack)	Yield (ft³/sack)	Vol Pumped (bbl)	Excess (%)	Dens (lb/gal)
Lead	170.0	5,000.0			Prem Lite	314		2.99	167.2		11.20
Tail	5,000.0	7,579.0			50/50 Poz	304		1.38	74.7		14.60