



# Cement

Well Name: Stroh 13G-323

## Cement

### Surface Casing Cement, Casing, 4/5/2015 18:00

Type Casing	String Surface, 920.0ftKB	Start Date 4/5/2015	Cementing End Date 4/5/2015	Wellbore Original Hole	Job Drilling - original, 4/4/2015 20:00	Cementing Company Cementers Well Service Inc	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) 930.0	Pump Start Date 4/5/2015		Pump End Date 4/5/2015		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) 325.0	Plug Bump Pressure (psi) 800.0	Pressure Held (psi) 250.0	Pressure Release Date 4/6/2015		Full Return? Yes		Vol Cement Ret (bbl) 8.0		Volume Lost (bbl)		
Recip? No	Stroke (ft)	Recip Rate (...)	Rotat... No	RPM (rpm)	Pipe Movement Note		MD Tagged... 873.0	Tag Method Drill Bit		Tag Wt (100... 3	Prop... No	Depth Plug... 930.0	Tag Cement Date 4/6/2015		Drill Out Date 4/6/2015	Drill Out Dia (...) 8 3/4

#### 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	13.0	930.0	4/5/2015	4/5/2015	G	770	5.20	1.18	161.8		15.20

### Intermediate Casing Cement, Casing, 4/11/2015 17:30

Type Casing	String Intermediate, 7,710.0ftKB	Start Date 4/11/2015	Cementing End Date 4/11/2015	Wellbore Original Hole	Job Drilling - original, 4/4/2015 20:00	Cementing Company Halliburton Energy Services	Cement Objective	Eval Method Calculated
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#### Cement Stages

Stg # 1	Description Intermediate Casing Cement				Objective ISOLATION			Top Depth (ftKB) 150.0	Bottom Depth (ftKB) 7,725.0	Pump Start Date 4/11/2015		Pump End Date 4/11/2015	Top Plug? Yes	Btm Plug? No	
Initial Pump Rate (bbl/min) 5		Final Pump Rate (bbl/min) 7		Avg Pump Rate (bbl/min) 6	Final Pump Pressure (psi) 2,100.0		Plug Bump Pressure (psi) 2,500.0	Pressure Held (psi) 2,500.0	Pressure Release Date 4/11/2015		Full Return? Yes	Vol Cement Ret (bbl) 0.0		Volume Lost (bbl) 0.0	
Recip? No	Stroke (ft)	Recip Rate (...)	Rotat... No	RPM (rpm)	Pipe Movement Note		MD Tagged... 7,669.0	Tag Method Drill Bit	Tag Wt (100... 5	Prop... No	Depth Plug... 7,725.0	Tag Cement Date 4/12/2015		Drill Out Date 4/12/2015	Drill Out Dia (...) 6 1/8

#### 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	150.0	7,725.0	4/11/2015	4/11/2015	EXPANDACEM	835	7.08	1.60	238.0	15.0	13.80

### Production Casing Cement, Casing, 4/19/2015 14:30

Type Casing	String Liner, 14,236.0ftKB	Start Date 4/19/2015	Cementing End Date 4/19/2015	Wellbore Original Hole	Job Drilling - original, 4/4/2015 20:00	Cementing Company Halliburton Energy Services	Cement Objective	Eval Method Calculated
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#### Cement Stages

Stg # 1	Description Production Casing Cement				Objective		Top Depth (ftKB) 6,607.0	Bottom Depth (ftKB) 14,236.0	Pump Start Date 4/19/2015		Pump End Date 4/19/2015		Top Plug? Yes	Btm Plug? No						
Initial Pump Rate (bbl/min) 5	Final Pump Rate (bbl/min) 4		Avg Pump Rate (bbl/min) 5		Final Pump Pressure (psi)		Plug Bump Pressure (psi)		Pressure Held (psi) 1,424.0		Pressure Release Date 4/19/2015		Full Return? Yes	Vol Cement Ret (bbl) 1.0		Volume Lost (bbl) 0.0				
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)
Preflush	0.0	0.0	4/19/2015	4/19/2015					0.0		0.00
Lead	6,606.0	14,236.0	4/19/2015	4/19/2015	B	525	7.73	1.67	156.2		13.80
Displacement	0.0	6,606.0	4/19/2015	4/19/2015					159.0		8.33