

Cement Summary

LOON O-06 65-10 127-00

Production

API / UWI 300/O-06 6510 127000	Surface Legal Location O-6 65-10 127-00	District NEW VENTURES	Field Name Loon	License No. 470
Program	Well Type Exploration	Well Configuration Type VERTICAL	Original KB/RT Elevation (m) 257.60	KB-Ground Distance (m) 5.20

Original Hole				
Wellbore Name Original Hole	Profile Type	Kick Off Depth (mKB)	Vertical Section Direction (°)	
Section	Size (mm)	Act Top (mKB)	Act Btm (mKB)	
SURFAC	311.0	5.20	600.00	
PROD1	222.0	600.00	1,856.00	

Screw On Bowl, Flow Stream on 1/31/2013 11:45:00 PM

Type Screw On Bowl	Install Date 1/31/2013				
Description	Make	Model	WP (kPa)	Service	SN
Screw On Casing Bowl	STREAM FLOW	SOW	34,500	Sweet	

Surface, 597.00mKB

Casing Description Surface	Wellbore Original Hole	Run Date 1/31/2013	Set Depth (mKB) 597.00	Stick Up (mKB) 1.78	Set Tension (daN) 28.0
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Centralizers Count 16	Scratchers Count
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Jts	Item Description	OD Nominal (mm)	Nominal ID (mm)	Wt (kg/m)	Grade	Top Conn Sz (mm)	Top Thread	Section Length (m)	Top (mKB)	Btm (mKB)
45	Casing Joints	244.5	226.6	53.574	K-55		LTC	584.65	-1.78	582.87
1	Float Collar	244.5	226.6	53.574	K-55		LTC	0.42	582.87	583.29
1	Casing Joints	244.5	226.6	53.574	K-55		LTC	13.00	583.29	596.29
1	Float Collar	244.5	226.6	53.574	K-55		LTC	0.42	596.29	596.71
1	Float Shoe	244.5	226.6	53.574	K-55		LTC	0.29	596.71	597.00

Production, 1,856.00mKB

Casing Description Production	Wellbore Original Hole	Run Date 2/19/2013	Set Depth (mKB) 1,856.00	Stick Up (mKB) 1.74	Set Tension (daN) 48,000.0
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Centralizers Count 86	Scratchers Count
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Jts	Item Description	OD Nominal (mm)	Nominal ID (mm)	Wt (kg/m)	Grade	Top Conn Sz (mm)	Top Thread	Section Length (m)	Top (mKB)	Btm (mKB)
146	Casing Joints	177.8	159.4	38.692	P-110		LTC	1,843.75	-1.74	1,842.01
1	Float Collar	177.8	159.4	38.692	P-110		LTC	0.46	1,842.01	1,842.47
1	Casing Joints	177.8	159.4	38.692	P-110		LTC	13.10	1,842.47	1,855.57
1	Float Shoe	177.8	159.4	38.692	P-110		LTC	0.43	1,855.57	1,856.00

Production, casing, 2/20/2013 01:15

Cementing Start Date 2/20/2013	Cementing End Date 2/20/2013	Wellbore Original Hole
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Evaluation Method Cement Bond Log	Cement Evaluation Results Will run USIT log to confirm cement top
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Comment
Cemented 177.8mm casing from surface to 1382m with 21.64 tonne HiLite Lead cement 23.55m3 slurry with 1.2% FLAC B348, 0.3% retarder and 0.2% antifoam at 1400kg/m3. From 1382m to 1856m 12 tonne ClassG 9.12m3 slurry with 0.4% fluid loss, 0.5% dispersant, 0.2% antifoam and 0.3% retarder, displaced with 36m3 water. Total lost of returns while displacing the last 10m3 prior to bumping plug estimated cement top at 500m. Bumped plug bled back Floats held, Pump up to 17500kpa pressure test casing good.

1, 500.00-1,382.00mKB

Top (mKB) 500.00	Bottom (mKB) 1,382.00	Full Return? No	Cmnt Rtrn (m³) 0.850	Top Plug? No	Bottom Plug? No
Initial Pump Rate (m³/min) 0.700	Final Pump Rate (m³/min) 1.000	Average Pump Rate (m³/min) 0.850	Final Pump Pressure (kPa) 7,500	Plug Bump Pressure (kPa) 17,500	
Pipe Reciprocated? Yes	Reciprocation Stroke Length (m) 2.00	Reciprocation Rate (spm)	Pipe Rotated? No	Pipe RPM (rpm)	
Depth tagged (mKB)	Tag Method	Depth Plug Drilled Out To (mKB)	Drill Out Diameter (mm)	Drill Out Date	

Lead Cement

Fluid Type Lead Cement	Fluid Description HiLite Lead Cement	Amount (1000kg) 21,648.0	Class HiLite	Volume Pumped (m³) 23.55
Estimated Top (mKB) 500.00	Estimated Bottom (mKB) 1,382.00	Percent Excess Pumped (%) 30.0	Yield (m³/tonnes) 1.300	Mix H2O Ratio (m³/tonnes) 0.82
Free Water (%)	Density (kg/m³) 1400.0	Plastic Viscosity (cp)	Thickening Time (hrs)	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
Antifoam		0.2
FLAC		1.2
Retarder		0.3

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Tail Cement

Fluid Type Tail Cement	Fluid Description Class G Tail Cement	Amount (1000kg) 12,000.0	Class G	Volume Pumped (m³) 8.61
Estimated Top (mKB) 1,382.00	Estimated Bottom (mKB) 1,856.00	Percent Excess Pumped (%) 30.0	Yield (m³/tonnes) 0.760	Mix H2O Ratio (m³/tonnes) 0.43
Free Water (%)	Density (kg/m³) 1900.0	Plastic Viscosity (cp)	Thickening Time (hrs)	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
Antifoam		0.2
Dispersant		0.5
Fluid Loss Control		0.4
Retarder		0.3