2.0 MEGASCOLIDES 1 - CASING CEMENT JOB DETAILS

The following section details the slurry composition for each section and the schematic provides expected volumes and Costs for each section. Note the slurry cost per barrel may vary slightly between configuration, this is due to the volume of slurry and the required excess mix water required.

2.1 Sidetrack #1 – 1740mMD

2.1.1 KOP #1 Slurry Design

A)	**Spacer**	8.33ppg	
		Freshwater	

B)	**Cement**	16.5ppg, 1.05 cuft/sk	
	Composition	Class A Cement	94 lb/sk
	Dispersent	CFR-3L	5.0 gal /10bbl MF
	Fluid Loss	Halad-413L	10 gal/10bbl MF
	Retarder	HR-6L	3.0 gal/10bbl MF
	Defoamer	NF-6	0.25 gal/10bbl MF
		Freshwater	4.06 gal/sk

2.1.2 7in Production Casing #1

A)	**Spacer**	8.33ppg	
		Freshwater	

B)	**Lead Cement**	12.5ppg, 2.13 cuft/sk	
	Composition	Class A Cement	94 lb/sk
	Extender	Econolite Liquid	20.0 gal /10bbl MF
		Halad-413L	15.0 gal/10bbl MF
		HR-6L	3.0 gal/10bbl MF
		NF-6	0.25 gal/10bbl MF
		Freshwater	11.19 gal/sk

C)	**Tail Cement**	15.6ppg, 1.18 cuft/sk	
	Composition	Class A Cement	94 lb/sk
		CFR-3L	4.0 gal/10bbl MF
		Halad-413L	20.0 gal/10bbl MF
		HR-6L	4.0 gal/10bbl MF
		NF-6	0.25 gal/10bbl MF
		Freshwater	4.89 gal/sk

2.1.3 P&A #1

A)	**Spacer**	8.33ppg	
		Freshwater	

B)	**Cement**	15.8ppg, 1.18 cuft/sk	
	Composition	Class A Cement	94 lb/sk
		HR-6L	3.00 gal/10bblMF
		Halad -413L	10.00 gal/10bblMF
		Freshwater	5.05 gal/sk
		NF-6	0.25 gal/10bblMF

2.2 Sidetrack #2 – 500mMD

2.2.1 KOP #2 Slurry Design

A)	**Spacer**	8.33ppg	
		Freshwater	

B)	**Cement**	16.5ppg, 1.05 cuft/sk	
	Composition	Class A Cement	94 lb/sk
		CFR-3L	5.00 gal/10bblMF
		Freshwater	4.18 gal/sk
		NF-6	0.25 gal/10bblMF

2.2.2 7in Production Casing #2

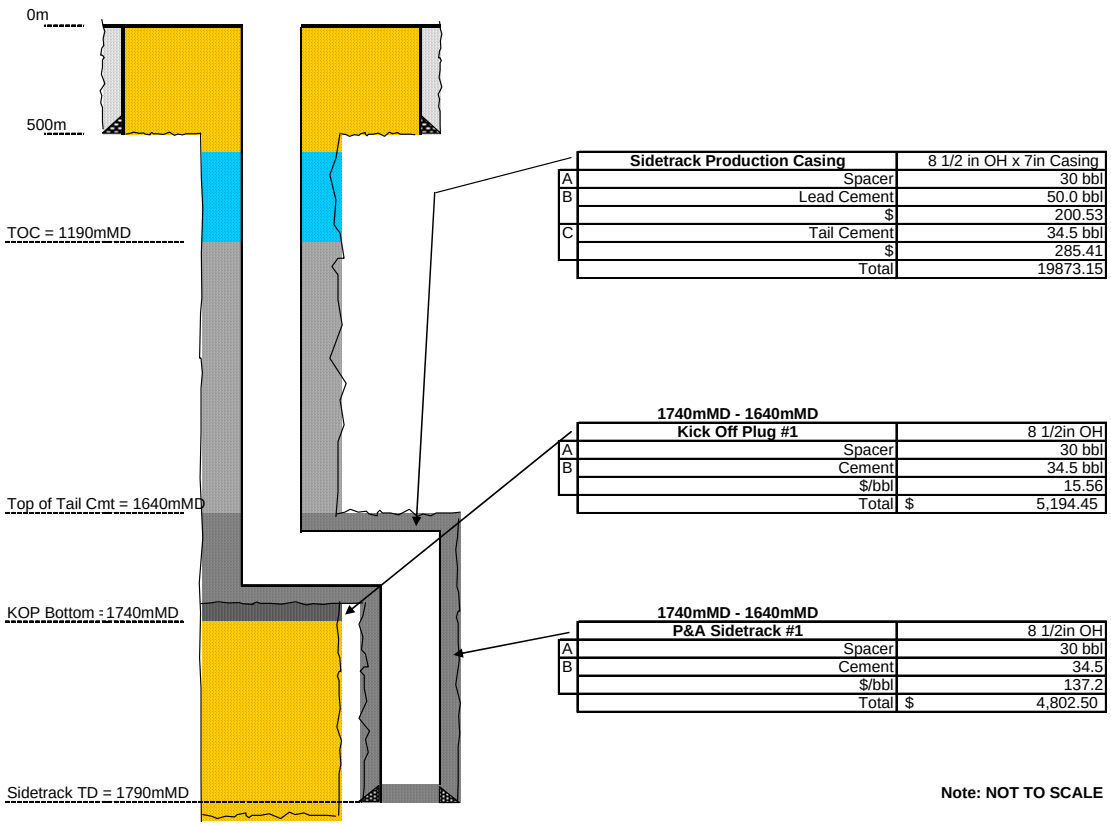
A)	**Spacer**	8.33ppg	
		Freshwater	

B)	**Cement**	15.6ppg, 1.18 cuft/sk	
	Composition	Class A Cement	94 lb/sk
		Halad -413L	20.00 gal/10bblMF
		HR-6L	2.00 gal/10bblMF
		Freshwater	4.95 gal/sk
		NF-6	0.25 gal/10bblMF

2.2.3 Re-Entry Schematic

Upstream Petroleum Pty Ltd
Karoon Gas Australia
Megascolides #1 - Re-Entry

Sidetrack #1 - 1740m



	Sidetrack Production Casing	8 1/2 in OH x 7in Casing
A	Spacer	30 bbl
B	Lead Cement	50.0 bbl
	$	200.53
C	Tail Cement	34.5 bbl
	$	285.41
	Total	19873.15

1740mMD - 1640mMD

	Kick Off Plug #1	8 1/2in OH
A	Spacer	30 bbl
B	Cement	34.5 bbl
	$/bbl	15.56
	Total	$ 5,194.45

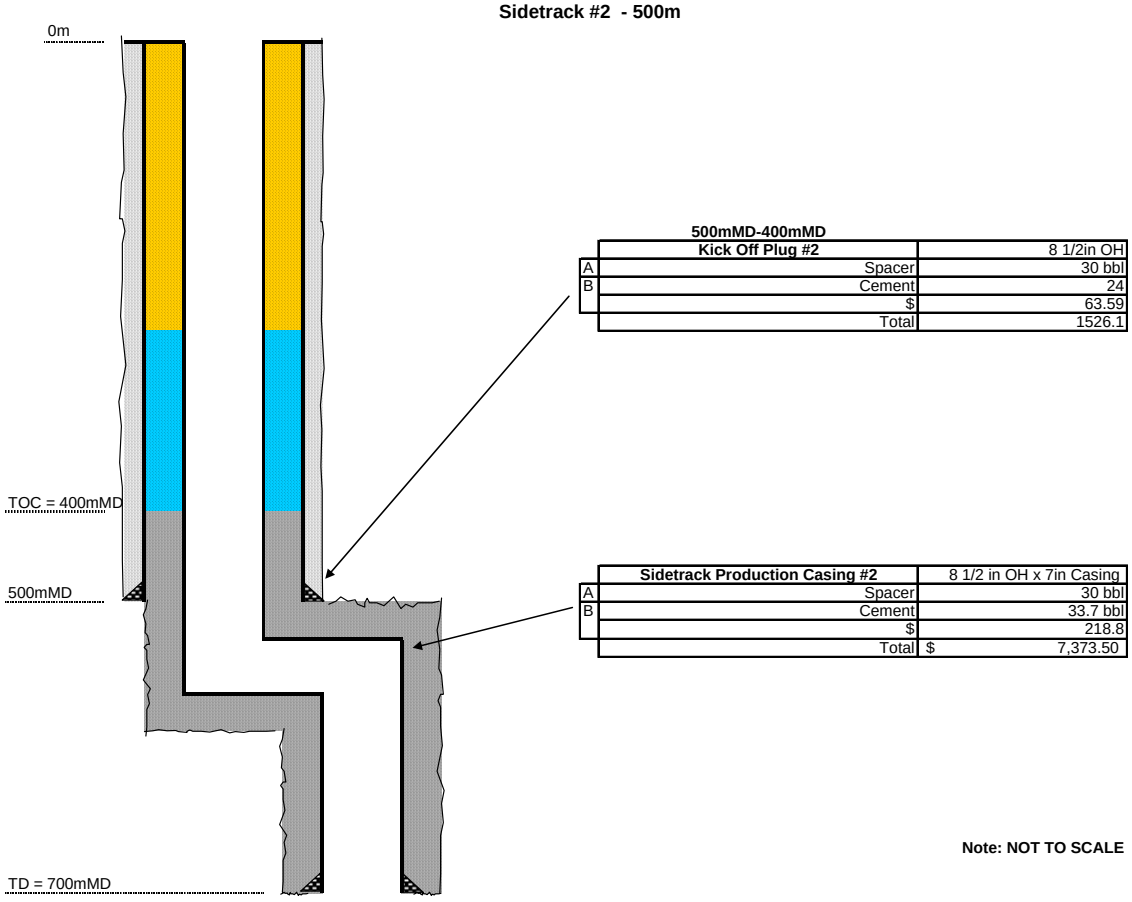
1740mMD - 1640mMD

	P&A Sidetrack #1	8 1/2in OH
A	Spacer	30 bbl
B	Cement	34.5
	$/bbl	137.2
	Total	$ 4,802.50

Note: NOT TO SCALE

Upstream Petroleum Pty Ltd
Karoon Gas Australia
Megascolides #1 - Re-Entry

Sidetrack #2 - 500m



500mMD-400mMD

	Kick Off Plug #2	8 1/2in OH
A	Spacer	30 bbl
B	Cement	24
	$	63.59
	Total	1526.1

	Sidetrack Production Casing #2	8 1/2 in OH x 7in Casing
A	Spacer	30 bbl
B	Cement	33.7 bbl
	$	218.8
	Total	$ 7,373.50

Note: NOT TO SCALE

3.0 FIRM NEW WELL - CASING CEMENT JOB DETAILS

3.1 Surface Casing

3.1.1 All configurations

A)	**Spacer**	8.33ppg	
		Freshwater	
	USD / bbl	NA	
B)	**Lead Cement**	12.5ppg, 2.11 cuft/sk	
	Composition	Class A Cement	94 lb/sk
		Econolite Liquid	20.00 gal/10bblMF
		Freshwater	11.59 gal/sk
		NF-6	0.25 gal/10bblMF
	USD / bbl		

C)	**Tail Cement**	15.6ppg, 1.19 cuft/sk	
	Composition	Class A Cement	94 lb/sk
		Calcium Chloride 1%	1.00 %BWOC
		Freshwater	5.23 gal/sk
		NF-6	0.25 gal/10bblMF
	USD / bbl		

3.2 Production Casing

3.2.1 All Configurations

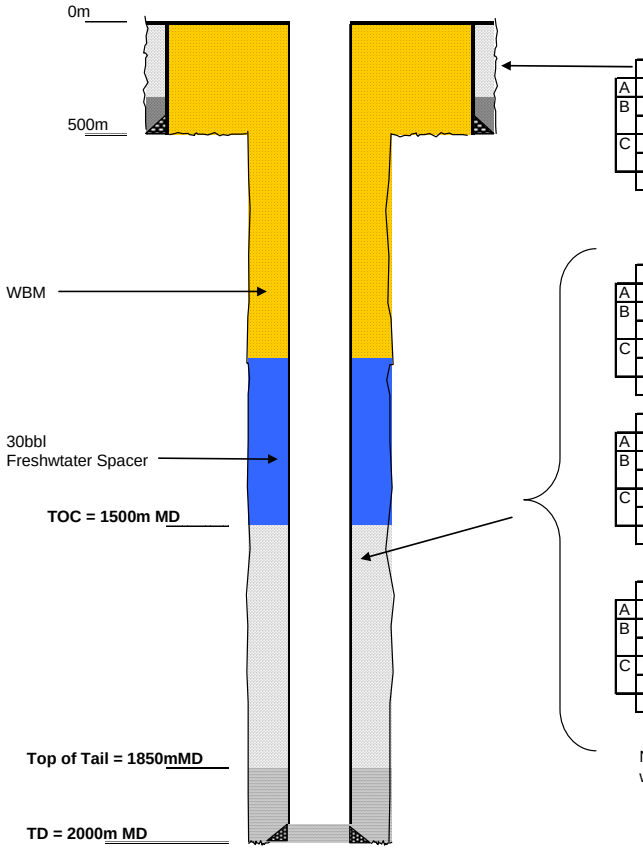
A)	**Spacer**	8.33ppg	
		Freshwater	

B)	**Lead Cement**	12.5ppg, 2.13 cuft/sk	
	Composition	Class A Cement	94 lb/sk
		Econolite Liquid	20.00 gal/10bblMF
		Halad -413L	15.00 gal/10bblMF
		HR-6L	Varied gal/10bblMF
		Freshwater	11.19 gal/sk
		NF-6	0.25 gal/10bblMF

C)	**Tail Cement**	15.6ppg, 1.18 cuft/sk	
	Composition	Class A Cement	94 lb/sk
		Halad -413L	20.00 gal/10bblMF
		CFR-3L	4.00 gal/10bblMF
		HR-6L	Varied gal/10bblMF
		Freshwater	4.89 gal/sk
		NF-6	0.25 gal/10bblMF

3.3 New Well Schematic

Upstream Petroluem Pty Ltd
Karron Gas Australia
No-Name Well



		Configuration 1	Configuration 2
	Surface Casing	12 1/4 in OH x 9 5/8in Casing	9 7/8 in OH x 7 5/8 in Casing
A	Spacer	30 bbl	30 bbl
B	Lead Cement	128.1 bbl	87.8 bbl
	$/bbl	49.22	49.36
C	Tail Cement	61.0 bbl	41.4 bbl
	$/bbl	47.10	45.57
	Total	$ 9,178.18	$ 6,220.50

		Configuration 1	Configuration 2
	Production Casing	8 1/2 in OH x 7in Casing	6 3/4 in OH x 5 1/2 in Casing
A	Spacer	30 bbl	30 bbl
B	Lead Cement	38.9 bbl	25.6 bbl
	$/bbl	140.69	402.80
C	Tail Cement	19.8 bbl	12.7 bbl
	$/bbl	285.41	347.44
	Total	**$ 11,124.20**	**$ 10,311.70**

	Production Casing	**Configuration 3**	**Configuration 4**
A	Spacer	6 3/4 in OH x 4 1/2 in Casing	6 1/8in OH x 5 1/2 in Casing
B	Lead Cement	42.4 bbl	12.2 bbl
	$/bbl	204.31	299.16
C	Tail Cement	19.4 bbl	6.9 bbl
	$/bbl	284.19	521.19
	Total	**$ 14,176.05**	**$ 7,246.00**

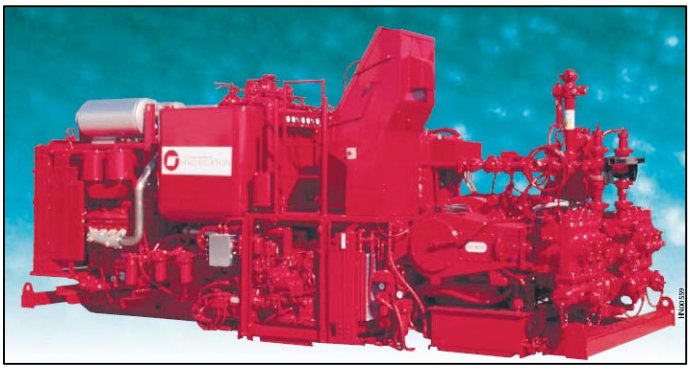
	Production Casing	**Configuration 5**
A	Spacer	6 1/8 in OH x 4 1/2 in Casing
B	Lead Cement	28.9 bbl
	$/bbl	212.35
C	Tail Cement	13.6 bbl
	$/bbl	327.60
	Total	**$ 10,592.25**

Note USD/bbl values differ between similar slurries due to volume requirements and mix water volumes mixed.

Note: NOT TO SCALE

HALLIBURTON SERVICES AND PUMPING TECHNICAL INFORMATION

Trailer Mounted SKD-4 Cementing Unit



Onshore cementing operations in Victoria are mixed and pumped by an SKD-4 Unit which has been purpose trailer mounted for easy transport to onshore filed locations.

One of the world's most popular cementing systems offers many of the high-value benefits all on a single skid base. The SKD-4 is a modular, compact system that includes two of the industry-standard HT-400 pumps and incorporates these high-value features that can significantly enhance performance:

- RCM® IIe mixing system proven worldwide and used by more operators than any other system.
- ADC™ automatic density control to provide consistent, precise density control for the cement slurry. Proven to produce value through better job results.
- UniPro II Control System with data acquisition capabilities for real time viewing and playback of cement job parameters.
- Capable of mixing slurries above 22 lb/gal and providing excellent performance for critical liner, plug back, and squeeze jobs.

1,410-ft3 (39.9-m3) Pneumatic Field Storage Trailer

Halliburton uses a 1410 cuft cement bulk storage trailer for storage of cement on site for cement jobs. The trailer is transported to location and remains on location for the duration of the work. It is transported to location empty and cement is subsequently loaded via cement delivery trucks from the cement supplier – Adelaide Brighton Cement.

CHASSIS: 22,000-lb (9977-kg) axle with 20,000-lb
(9070-kg) spring, 11 R 22.5 tires, kingpin SAE standard 2.0 in.

PNEUMATIC TANKS: 380-, 425- and 435-ft^3 (10.76-, 12.03- and 12.31-m^3) capacity all ASME-coded to 39.5-psi (272.3-kPa) working pressure

SEPARATOR AND DUST COLLECTOR: Constant-pressure 170-ft^3 (4.81-m^3) separator with Cyclone dust collector

DISCHARGE MANIFOLDING:
- 5-in. (127-mm) nominal to separator
- 5-in. nominal separator bypass
- 4-in. (102-mm) drain and cleanout

- 5-in. nominal blow-through front and rear discharge extension

FILL & VENT MANIFOLDING: 5-in. nominal to tanks

Halliburton Cement Lab – Cheltenham

Cementing services in Victoria are supported by a local cement lab located at the Halliburton base in Cheltenham. This lab tests all slurry designs and fine tunes additive loadings as required to achieve the slurry properties required. This lab also tests drilling muds and cement spacer systems. The testing is conducted as per API RP10B specification which is the specification of lab testing procedures for oil well cements. The lab testing is regularly audited internally and follows Halliburton's Global Lab Best Practices (GLBP) in it's daily operations.

The various testing equipment in the Cheltenham cement lab include:

High Pressure – High Temperature (HPHT) Cement Consistometer

This machine tests the thickening time of the cement to determine maximum pumping times of the cement. The temperature and pressure that the cement slurry is subjected to can be carefully controlled and ramped to simulate downhole conditions.

Ultrasonic Cement Analyzer (UCA) & Autoclave Cells

The UCA and autoclave cells work by measuring a sonic signal passed thru the cement as it sets. The speed of the signal is directly proportional to the cement's compressive strength. The slurry is subjected to simulated downhole temperature and pressure conditions as it sets up to give an accurate reading of compressive strength development of the cement over time. WOC times can be determined from these readings.

Fluid Loss Test Cell

The fluid loss test cell is used to measure the dehydration of a cement slurry as it is subjected to downhole temperatures and pressures. The cement under pressure passes thru a mesh and filtrate is collected to give a measure of API fluid loss per 30 min. Fluid loss additives are added to the slurry to control the dehydration of the slurry to within an acceptable amount.

FANN – 35 Rheometer

The FANN-35 (above picture - center) rheometer is used to measure the rheologies of the cement slurry as well as drilling muds and spacer fluid. From the readings taken, a

measure of plastic viscosity and yield point can be calculated to aid in friction calculations in ECD and Tuned Spacer design for optimized drilling fluid removal prior to cementing.

Atmospheric Consistometer

The atmospheric consistometer (above picture – right) is used to precondition cement slurries, drilling fluid as well as spacer fluids to downhole temperatures prior to rheological testing, fluid loss testing and free water testing. The unit heats up the fluid to a set point (typically BHCT) while keeping the fluid agitated.

Water Bath (Free water and Slurry Stability Test Apparatus)

The water bath is used to subject the cement slurry to BHCT conditions and observe slurry characteristics as the cement sets up. Visually the slurry can be observed for settling and or / free water which are signs of slurry instability.

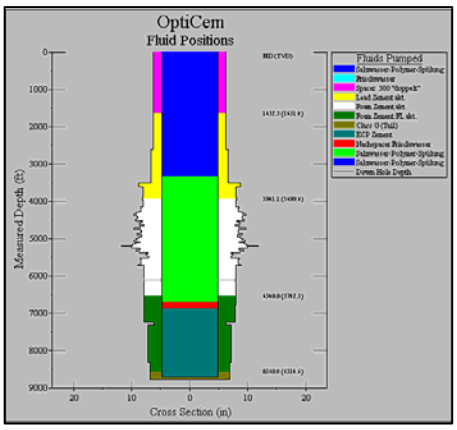
Other Specialty Testing

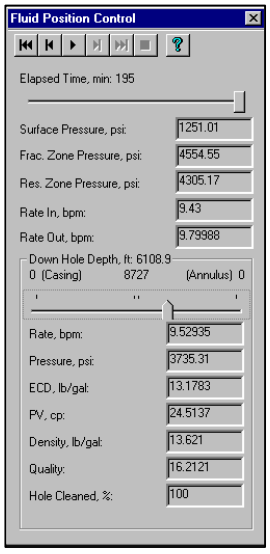
The cement lab is able to perform other specialty testing upon request and these include but are not limited to:

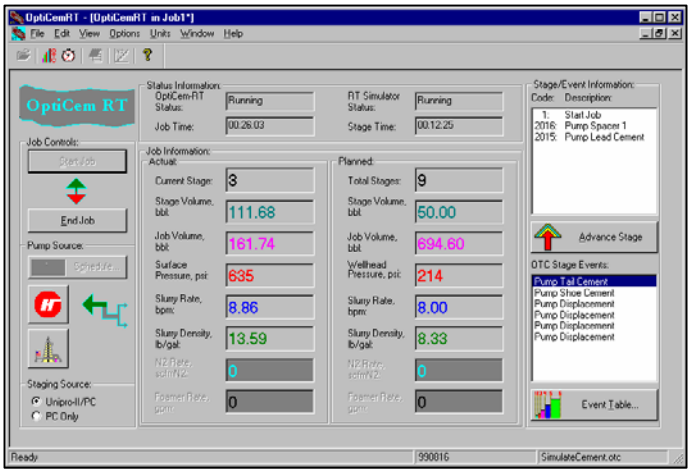
- Cement Cubes Destructive Strength Testing (Crush test)
- Well bore Fluids Rheological Compatibility Testing
- BP Settling Test
- Wettability Testing
- Chlorides Concentration Testing
- AMOCO On / Off Settling Test

Halliburton Cementing Software

OptiCem 6.0







Halliburton's OptiCem™ System helps design and simulate the optimum cement job regardless of the complexity of the wellbore or the type of program - standard or foam. Using OptiCem, you can easily identify potential problems and tune your cementing design parameters before pumping starts. OptiCem can:

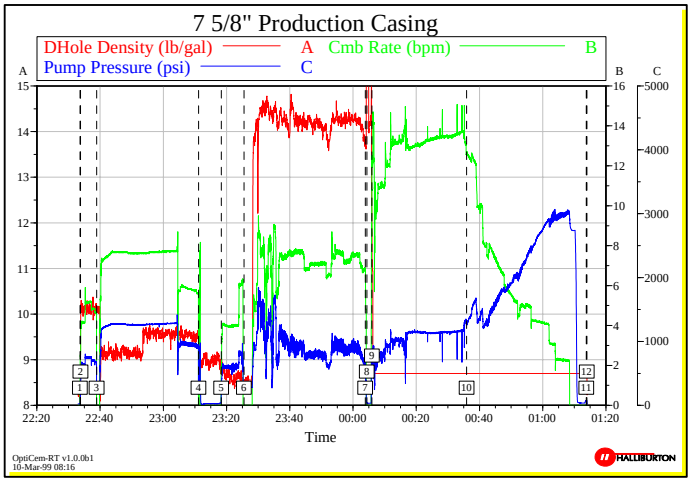
- Optimize pump rates for maximum mud displacement, making sure that pump rates keep fluids below fracturing pressures to help ensure well integrity, and above reservoir pressures to prevent the well from coming in.
- Dynamically simulate cement jobs to help produce a complete picture of the program that should be run.
- Predict circulating pressures at any time during the job, even during "free-fall" when the well is on vacuum and surface pressure indication is zero. Each run of the program provides pressures at the bottom of the hole and forty additional points - giving the user insight into the entire well.

In addition, OptiCem includes features to address other important aspects of cementing. It can:

- Design centralizer placement using any combination of holes, pipe sizes and centralizers of one or more types. Given desired standoff, OptiCem yields centralizer placement; given centralizer placement, the program calculates the resulting standoff.
- Provide real-time analysis during cementing, using a laptop computer. At the well site, the DataWin module gathers data (including data from slurry, nitrogen and chemicals units for foam cement jobs) and formats it for analysis by the OptiCem RealTime™ module. The RealTime module reruns the cement job simulation using this actual well data, which gives the on-site specialist downhole information that is invaluable when last-minute decisions must be made.
- Evaluate job results by comparing the pre-job simulation to simulation based on actual recorded data. This information can be extremely useful in planning future jobs and in trouble shooting.

OptiCem Features include

- Integrated wellbore simulation program for all types of cementing.



- Three-dimensional display of wellbore configuration.
- Centralizer design flexibility including:
- Any type of centralizer (including non-Halliburton) in any combination; any pipe size; any hole size
- Dynamic modelling with minimum data entry
- Choice of fluid placement based on volume, top of fluid, length, number of sacks, etc.
- Viscosity profiles based on temperature for more accurate simulation
- Wellbore temperature profile, simple or complex
- Integrated gas-flow potential calculations to help prevent gas channelling while cement sets
- Dynamic Fluid Position graphic that replays the simulation by time and depth
- Equivalent Circulating Density and Pump Rate plots for two zones of interest (fracture zone and reservoir zone)
- Wellhead pressure graphs that include effects of “surface iron” and so relate directly to pump pressure
- Freefall Calculations table showing predicted surface and bottom-hole pressures
- OptiCem RealTime module, which uses data captured on-site by CemWin to run simulation with the well’s actual data - while cementing takes place.