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**From:** Morel, Brian P [Brian.Morel@bp.com]  
**Sent:** Thursday, April 15, 2010 4:00 PM  
**To:** Jesse Gagliano; Hafle, Mark E; Cocalles, Brett W; Walz, Gregory S  
**Subject:** RE: OptiCem Report  
**Attachments:** image002.jpg; image003.jpg

We have 6 centralizers, we can run them in a row, spread out, or any combinations of the two. It's a vertical hole so hopefully the pipe stays centralized due to gravity. As far as changes, it's too late to get any more product to the rig, our only options is to rearrange placement of these centralizers. Please see attached diagram for my recommendation.



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HAL\_0010648

HDR004-011125

17788.89		46.93
17835.82	X	3.72 centralizer 46
17881.82	- - -	46
17927.82	- - -	45.85
17973.67	X	3.73 centralizer 46
18019.67	- - -	46
18065.67	- - -	47.23
18110.76	X	3.68 centralizer
18112.9	- - -	2.14 Float Collar 47.59
18160.49	X	3.74 centralizer 45
18205.49	- - -	47.59
18253.08	X	3.74 centralizer 46.92
18297.02	X	3.62 centralizer
18300	- - -	2.98 Reamer Shoe
Casing Shoe		

Brian

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**From:** Jesse Gagliano [mailto:Jesse.Gagliano@Halliburton.com]  
**Sent:** Thursday, April 15, 2010 3:35 PM

**To:** Hafle, Mark E; Morel, Brian P; Cicales, Brett W; Walz, Gregory S  
**Subject:** OptiCem Report

Attached is the updated OptiCem report & lab test. The items that I updated in OptiCem are below; everything else is the same from the one we ran together yesterday.

Imported caliper data  
Imported directional data  
Entered in centralizer info  
Updated Cement RPM data from lab test

Updating the above info now shows the cement channeling and the ECD going up as a result of the channeling. I'm going to run a few scenarios to see if adding more centralizers will help us or not.

Below is what the standoff looks like with the current centralizer plan. Let me know if you have any questions. Thanks!!

Halliburton Energy Services  
OptiCem v6.4.8  
Centralizer Calculations Report  
This report was created 04/15/2010 15:31:57.  
GetCentNumber = 10

n	Spacing ft	MD ft	Dev. %	Az. °	Stand. %	Rest. Force lbf	Tension lbf	Centralizer
10	48.0	18300.0	0.9	219.9	80.73	11	0	B 7.000x8.500
		18276.0			77.23			
9	45.0	18252.0	0.9	219.9	80.31	21	1356	B 7.000x8.500
		18229.5			79.77			
8	45.0	18207.0	0.9	219.9	80.33	20	2627	B 7.000x8.500
		18184.5			79.80			
7	45.0	18162.0	0.9	219.9	91.47	20	3899	B 7.000x8.500
		18139.5			90.86			
6	48.0	18117.0	0.9	219.9	91.44	21	5170	B 7.000x8.500
		18093.0			90.66			
5	84.0	18069.0	0.9	219.9	63.91	27	6526	B 7.000x8.500
		18027.0			59.77			
4	45.0	17985.0	0.9	219.9	45.09	25	8590	B 7.000x8.500
		17962.5			44.83			
3	84.0	17940.0	0.9	219.9	45.09	25	9696	B 7.000x8.500
		17898.0			42.29			
2	45.0	17856.0	0.9	219.9	43.95	25	11760	B 7.000x8.500
		17833.5			43.70			
1	17811.0	17811.0	0.9	219.9	13.98	3399	12865	B 7.000x8.500
		17810.0			13.98			
		17790.0			50.00			
	0.0	0.0			50.00			

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