

From: Alberty, Mark W
Sent: Thu Sep 23 14:24:41 2010
To: Mix, Kurt; Bellow, Jonathan M
Cc: Albertin, Martin L.; Bodek, Robert
Subject: RE: MC252 #1
Importance: Normal
Attachments: Macondo LOT Worksheet (MWA).ZIP; Macondo 8 5 x 9 875 inch OH mud loss incident.ZIP; Macondo Losses 8 5in x 9 875in Hole Section.ZIP

OK, so here are my contributions...

First, on the leak-off... Plot attached. FIT was run to a surface pressure of 1520 psi with a surface measured mud weight of 14.3 ppg which give an FIT of 16.01 ppg. Downhole mud weight was 14.52 ppg which would give a downhole FIT of 16.23 ppg, but would need to subtract the friction pressure which was not characterized. Expected leak-off at this shoe was 15.12 ppg based on the post well PFFG analysis. Overburden at this depth is thought to be 15.58 ppg. So the FIT exceeded the best estimate of minimum horizontal stress by 793 psi and overburden by 383 psi. This is thought to be related to a disturbed near wellbore stress which should be time dependent.

<<...>>

We had a ballooning and lost circulation event that occurred at 17761 MD. The ballooning event was 35 barrels and the lost circulation was 233 barrels. A 233 barrel loss must be to the far field as there is insufficient near wellbore storage capacity to account for losses of that magnitude. ECD at the time was 15.12 ppg which is exactly the expected fracture gradient at the shoe. It may be possible to find the depth of this event on time lapse MWD logs, but the fluids team never looked for that.

Let me know if you need any more from me.

The summary reports for this lost circulation event are attached.

<<...>> <<...>>

Regards,
Mark Alberty

From: Mix, Kurt
Sent: Thursday, September 23, 2010 8:51 AM
To: Bellow, Jonathan M; Alberty, Mark W
Cc: Albertin, Martin L.; Bodek, Robert
Subject: RE: MC252 #1

All,

First thanks in advance for your help.

Background: DD2 is currently involved in P&A operations on the MC 252 #1 Well. The P&A operations require that we provide a definitive 9-7/8" annulus test (9-7/8" x 22", 16", 13-5/8", 11-7/8") to a 17.1 ppg emw. The 17.1 ppg emw requirement is based on the MC 252 #1 Well's 9-7/8" FIT test results.

Challenges: Surface pressure limitations exists due to the well documented structural values imposed by the 16" burst disk rating. This coupled with the potential for an annulus fluid density less than the mud weight the casing was set in make it impractical to achieve the desired 17.1 ppg emw test. The lighter fluid could have resulted from separation of the mud's weighting agents from the base oil.

Solution: Provide a compelling case for a revised test value based on physical data collected during operations succeeding the original MC 252#1 9-7/8" liner FIT test. This includes data collected during the MC 252 #1 Well, the subsequent flow period, the static kill operation (kill and cementing operations) and the relief well intersect (and cementing operations).

Deliverable: A collaborative Technical File Note with sufficient rustication for a revised 9-7/8" annulus test valve. Collaboration will include a G&G formation strength value, an EPT wellbore tubular strength guide and a pressure



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BPD148-019147

modeling recommendation based on the G&G and EPT input.
The P&A Team will prepare the Technical File Note based on your input.
Regards,
Kurt Mix

From: Bellow, Jonathan M

Sent: Thursday, September 23, 2010 7:48 AM

To: Mix, Kurt; Alberty, Mark W

Cc: Albertin, Martin L.; Bodek, Robert

Subject: RE: MC252 #1

All: I will get the mudlog pictures to the team. When Marty gets in we will get a PPF plot that shows the FIT then the ballooning at 15.12 ECD. Mark, your analysis of the FIT and a copy of the chart showing how we took it to casing test pressure without any sign of leak off would help as well. Thanks
Jon

From: Mix, Kurt

Sent: Thursday, September 23, 2010 7:49 AM

To: Alberty, Mark W

Cc: Bellow, Jonathan M; Albertin, Martin L.

Subject: RE: MC252 #1

Yes, I need your help. We waited on the results of the IBC log to determine if we were required to pursue. Preliminary results indicate we will have to provide an alternative fracture gradient value for the MC 252 #1 9-7/8" shoe. I spoke to Jonathan this morning at the DD3 morning meeting and will provide you, he and Martin a brief e-mail request on the subject in the next 30 minutes.

Regards,
Kurt Mix

From: Alberty, Mark W

Sent: Thursday, September 23, 2010 6:38 AM

To: Mix, Kurt

Subject: MC252 #1

Kurt,

Did you need my help or were you able to get it all sorted?

Regards,
Mark

Document Produced Natively

Instructions for use of the Formation Pressure Integrity Test (PIT) Workbook

General:

- This spreadsheet uses macros to generate the plot and to change units
- If you copy a sheet to a new workbook without the macros, the plot and units functions will not work.
- Enter all data before selecting the "Plot" button. Plot will not update until this button is pressed.

Spreadsheet Use:

1. Open the workbook and "Save As" a new workbook using the well name as the name of the file
2. Use the "Edit" "Move or Copy Sheet" function to make a copy of the "Blank Case" tab within this same workbook
3. Rename the tab of the copied worksheet with the name of the casing shoe
4. Fill in all yellow cells with the required information
 - a. Purple colored cells are not to be over written, these will complete themselves
 - b. Time data should be in minutes (or fractions thereof) in the "number" format
 - c. No alpha text should be written in the casing test or PIT test data cells
 - d. The alpha text "ISIP" can be written in the PIT VOL (bb) column in the first cell below the last volume reading if desired
 - e. The alpha text "ISIP" signifies "Initial Shut In Pressure"
 - f. Time data for the casing test is not required. Casing test data well in excess of the maximum surface pressure used during the PIT will be ignored.
 - g. Time data below row 325 is ignored at this time. If more than 300 points is required, contact Mark Alberty.
 - h. Do not enter volume data after shut-in, graph will automatically switch to time based reading at that point if you do not enter volume data
5. Once all data is entered, press plot to update the graph.

BP Exploration and Production Formation Pressure Integrity Test (PIT) Procedure, Version 1.0

Document Authority: Wells Director: Harry Thierens

Procedure Custodian: Drilling Excellence Advisor: Terry Jordan

Segment Technical Authority: Mark Alberty

Pre-Job Considerations:

- Graph casing pressure test versus volume pumped and use as a baseline for the PIT test.
- Use cement unit and cement unit gauges. Ensure sufficient mud supply to the cement unit.
- Calculate estimated Leak-off Test (LOT)/Formation Integrity Test (FIT) pressure and test lines to 1000 psi over expected LOT/FIT pressure.

Operations

1. Drill out the cement shoe track, cleanout rathole, and drill 10-ft of new formation or as otherwise specified in well specific program.

Technical Note:

MMS regulations require a minimum of 10-ft md and a maximum of 50-ft md of new formation.

2. Circulate cuttings out of the well or at least above the BOPs. If minimal cuttings have been drilled, circulate a minimum of 1,000-ft above the BHA. Ensure consistent mud weight with surface samples with pressurized scales.
3. Pull bit back into shoe and space out to close the appropriate BOPs.
4. While keeping drill string still, circulate up consistent downhole equivalent static densities (ESDs) from the pressure while drilling (PWD) tool to achieve < 0.05 ppg consistency.
5. Displace the appropriate choke or kill line to fresh mud.

Technical Note:

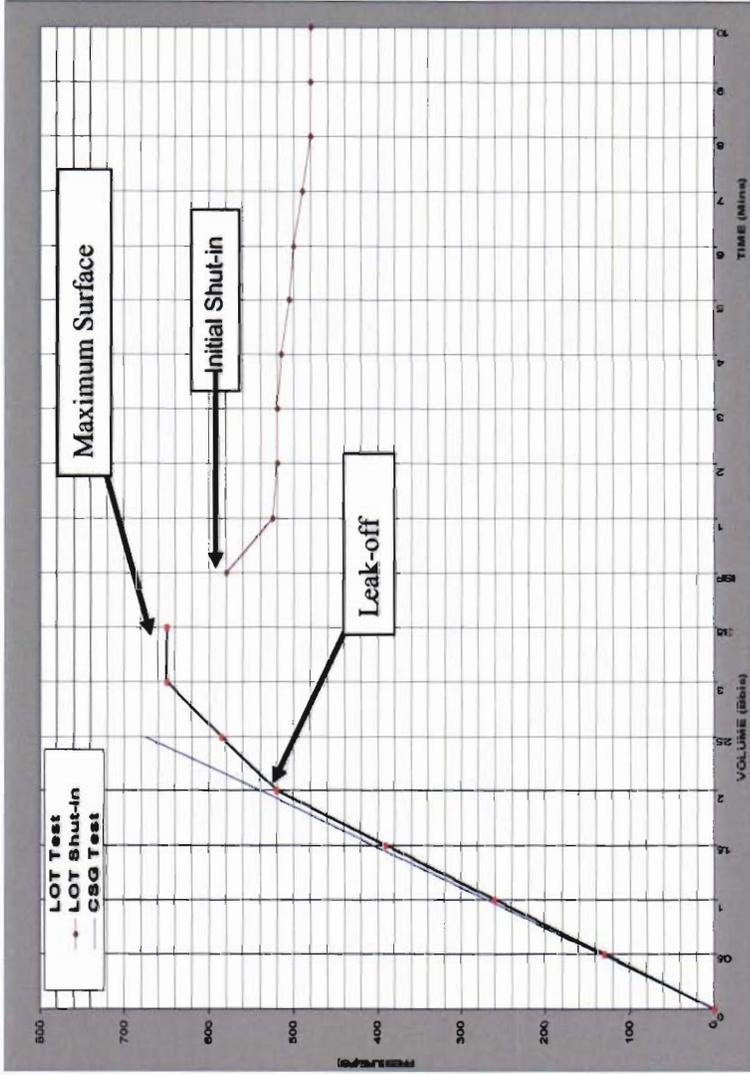
The test will be performed pumping down the drill pipe and down the annulus simultaneously via the appropriate choke or kill line to reduce friction pressure.

6. Rig up to pump down the drill pipe and down choke or kill line with the cement unit.
7. Break circulation down the drill pipe and down the choke or kill line.
8. Close the appropriate surface valve on the drill pipe side, and the appropriate choke/kill line valve at the BOP stack. Test lines to 1,000 psi over anticipated maximum LOT or FIT surface pressure.
9. Bleed off test pressure but do not completely drain lines. Open valves and break circulation down drill pipe and down the choke or kill line.
10. Shutdown and re-zero pressure gauge at cement unit to account for hydrostatic between cement unit and rig floor.
11. Close appropriate BOP and monitor return line to ensure no returns during PIT.
12. Perform LOT/FIT, pumping a maximum of ½ barrel per minute (bpm).
13. Record volume pumped and surface pressure consistent with pump rate. For example, if pumping ½ bpm, record data every ½ bbl. If pumping ¼ bpm, record data every ¼ bbl.
14. Graph data on a Surface Pressure versus Volume Pumped/Time graph.

Technical Note:

Note 1: If performing an FIT, once desired surface pressure is achieved, shutdown and monitor pressure for a minimum of 10 minutes.

Note 2: If performing a LOT, continue pumping until the pressure flattens or decreases (pump until the subsequent pressure is equal or less than the last pressure). This is the shut-down point.



15. Record Initial Shut-in Pressure and continue recording pressure for a minimum of 10 minutes or until pressure is relatively consistent for 2 minutes.
16. Bleed back mud on drill pipe and annular sides.
17. Record volume to release the pressure and compare to volume pumped.
18. Open BOP and re-align manifold for normal circulation.
19. When ESD from leak-off test is pumped up, compare to previous downhole mud weight differential to ensure alignment between surface and downhole leakoffs. The PIT value using downhole mud weight from the PWD tool will be used to determine maximum ECD that will be used while drilling.

Reporting

Technical Note:

There are four potential values to extract from conducting a pressure integrity test:

Surface Measured Pressure Integrity Test: This is the value we are required to report to the MMS

Downhole Measured Pressure Integrity Test: This is the value we use for operations with PWD

Surface Leak-off Test (LOT): This is the value we use as minimum horizontal stress for wellbore stability and stress cage calculations

Downhole Leak-off Test (LOT): This is the value we use as minimum horizontal stress for wellbore stability and stress cage calculations

20. Record the following data on the IADC book (official MMS record) as written:
 - Formation Pressure Integrity Test (PIT) data:
 - Maximum Surface Pressure _____ psi
 - Test Surface Mud Weight _____ ppg
 - Surface Equivalent Mud Weight _____ ppg

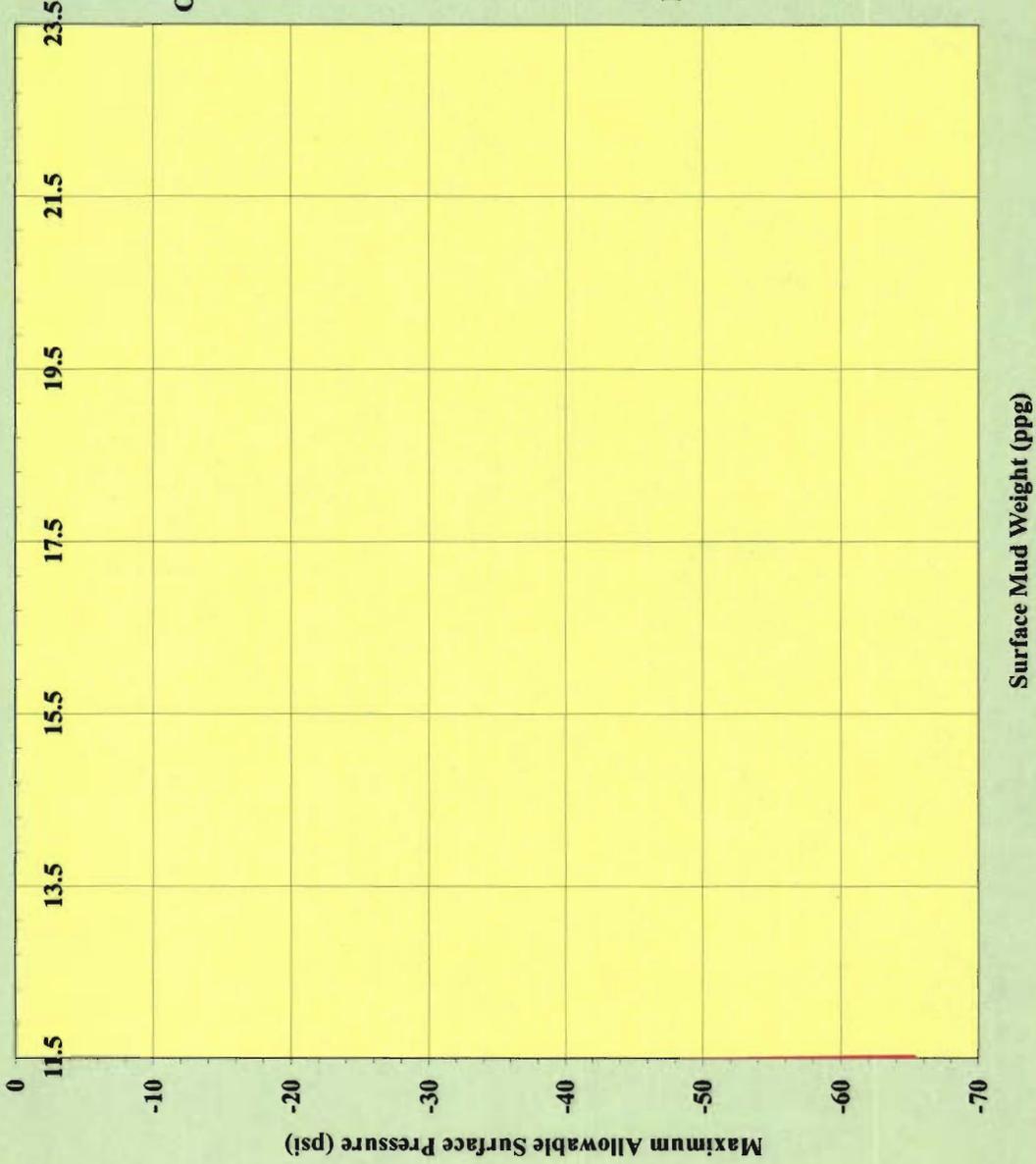
21. On the DIMS morning report, record the following:
 - Surface Measured Formation Pressure Integrity Test (PIT) = _____ ppg
 - Downhole Measured Formation Pressure Integrity Test (PIT) data = _____ ppg
 - Surface Measured Leak-off Test (LOT) data = _____ ppg (if leak-off reached)
 - Downhole Measured Leak-off Test (LOT) data = _____ ppg (if leak-off reached)

22. Record and plot the data on the approved BP GoM PIT Data Spreadsheet and Graph.
23. Record and plot the MMS required Maximum Allowable Surface Casing Pressure (psi) versus Mud Weight (ppg) and post on the rig floor.

bp



Maximum Surface Pressure



Well Name: OCS-G 32306 #1

O.D.Casing/Liner @
Shoe: 18 in

Shoe Depth (MD): 8969 ft

Shoe Depth (TVD): 8969 ft

PIT @ Shoe: 11.36 ppg

Lowest mud weight to be used: 11.5 ppg

BOP system rated working pressure: 10000 psi

70% of lowest casing/liner burst rating: 4500 psi

WELL NAME FIELD	OC5-G 32306 #1 1MC 252 #1	RIG DATE	Marianas 19-Oct-09	SUPERVISOR	Adams/Parker	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT
ELEVATION KB	89 ft	HOLE TD (MD)	8,001 ft	CSG SHOE (MD)	7,952 ft	INCLINATION AT SHOE	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	8,001 ft	CSG SHOE (TVD)	7,952 ft		
MUD WEIGHT	SURFACE 10. ppg	DH ESD 10.22 ppg	TEST RATE (bpm)	0.50			

PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT: 11. ppg
Expected pressure for "Projected FIT/LOT", (psi): 413

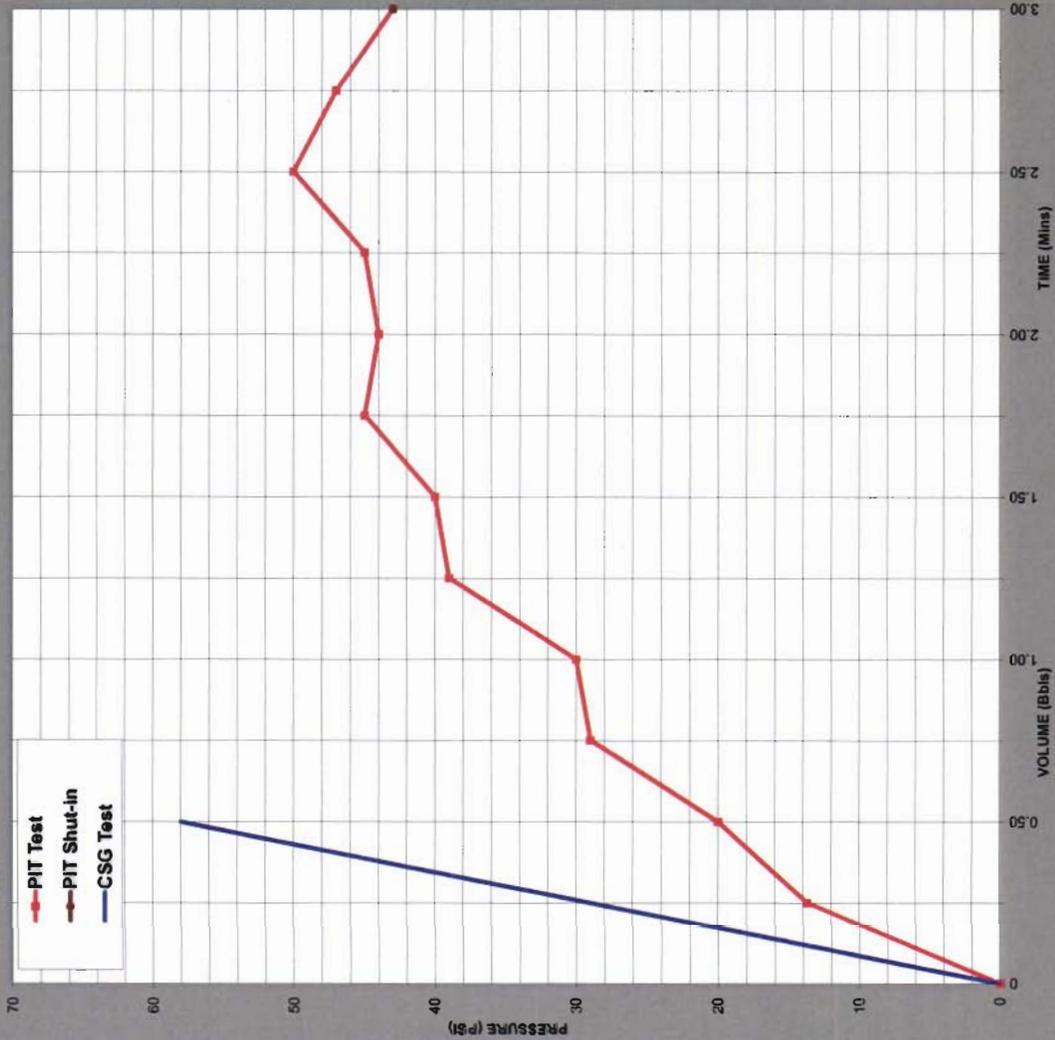
POST-TEST RESULTS

MAXIMUM OBSERVED PRESS (psi): 50
INITIAL SHUT-IN (SIP) OR LOT PRESS (psi): 3.00
MUD PUMPED (bbl): 3.00
MUD FLOW BACK (bbl): 0.50

MMS Value --> MEASURED PIT (EMW) = 10.12 ppg
MEASURED LOT (EMW) = 10.34 ppg

(PIT - RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST	
TIME (min)	VOL (bbl)	PRESSURE (psi)	PRESSURE (psi)
0	0.00	0.00	0
0.5	0.25	29.0	13.7
1.0	0.50	58.0	20
1.5	0.75	113.0	29
2.0	1.00	173.0	30
2.5	1.25	237.0	39
3.0	1.50	310.0	40
3.5	1.75	367.0	45
4.0	2.00	419.0	44
4.5	2.25	484.0	45
5.0	2.50	544.0	50
5.5	2.75	615.0	47
6.0	3.00	664.0	43
6.5	3.25	729.0	
7.0	3.50	798.0	
7.5	3.75	855.0	
8.0	4.00	915.0	
8.5	4.25	985.0	
9.0	4.50	1043.0	
9.5	4.75	1107.0	
10.0	5.00	1169.0	
10.5	5.25	1232.0	
11.0	5.50	1299.0	
11.5	5.75	1370.0	
12.0	6.00	1430.0	
12.5	6.25	1500.0	
13.0	6.50	1574.0	
13.5	6.75	1622.0	
14.0	7.00	1691.0	
14.5	7.25	1749.0	
15.0	7.50	1800.0	
15.5	7.75	1865.0	
16.0	8.00	1926.0	
16.5	8.25	1987.0	
17.0	8.50	2050.0	
17.5	8.75	2118.0	
18.0	9.00	2178.0	
18.5	9.25	2242.0	
19.0	9.50	2300.0	
19.5	9.75	2367.0	
20.0	10.00	2430.0	
20.5	10.25	2490.0	
21.0	10.50	2542.0	
21.5	10.75	2605.0	
22.0	11.00	2666.0	
22.5	11.25	2740.0	
23.0	11.50	2797.0	



WELL NAME	OCS-G 32306 #1	RIG	Marianas	SUPERVISOR	Adams/Parker	TEST TYPE	FIT	LOT
FIELD	MC 252 #1	DATE	19-Oct-09	CSG SHOE (MD)	7,952 ft	INCLINATION AT SHOE	00.0 deg	

ELEVATION KB	89 ft	HOLE TD (MD)	8,001 ft	CSG SIZE OD	22
WATER DEPTH	4,992 ft	HOLE TD (TVD)	8,001 ft	TYPE	Liner

MUD WEIGHT	10.0 ppg	DH ESD	10.22 ppg	TEST RATE (bpm)	0.50
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PRE-TEST CALCULATIONS/RECORDINGS (Surface)

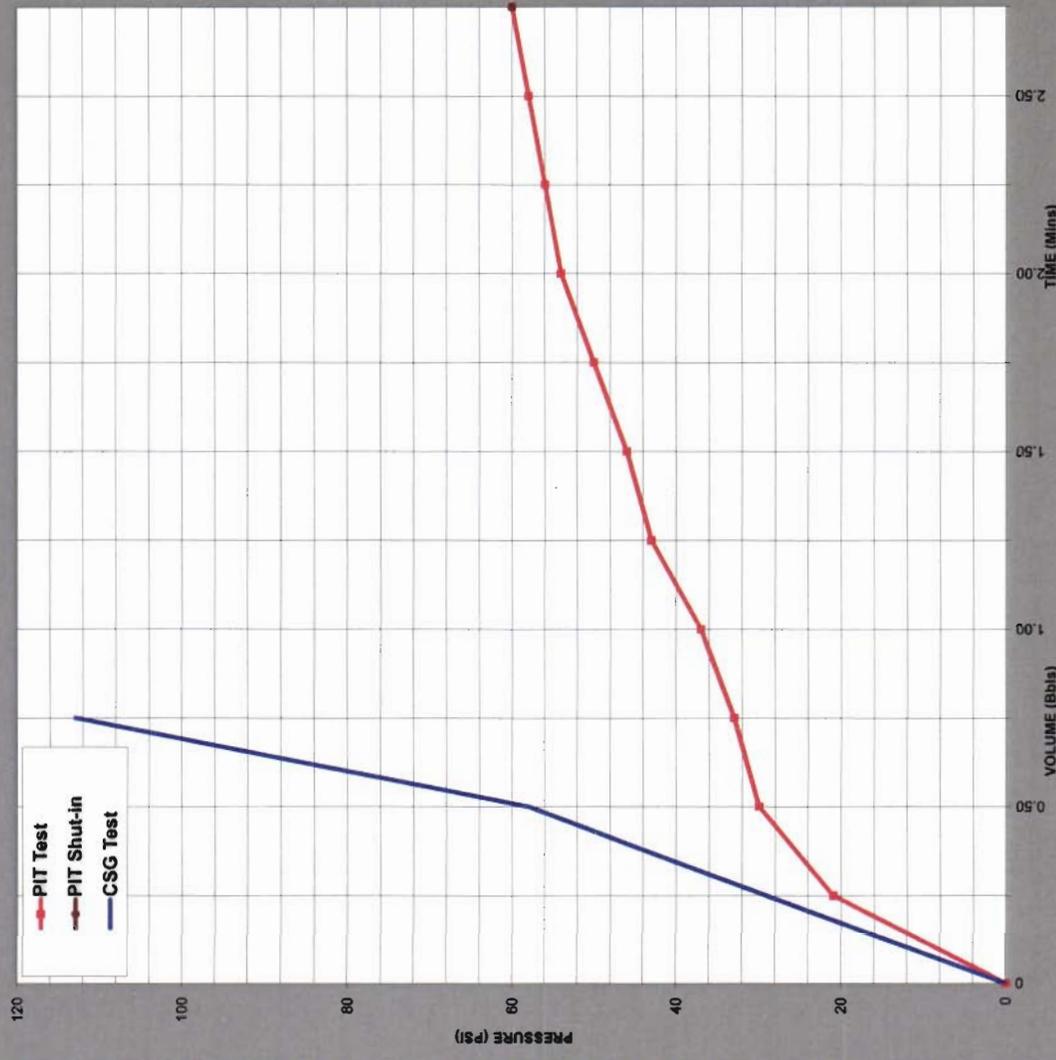
PROJECTED FIT/LOT:	11. ppg
Expected pressure for "Projected FIT/LOT", (psi):	413

POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	60
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	2.75
MUD FLOW BACK (bbbl):	
MMS Value --> MEASURED PIT (EMW) =	10.15 ppg
MEASURED LOT (EMW) =	10.37 ppg

(PIT - RECORDED VOLUME PUMPED EVERY 0.25 BBL OR 0.5 BBL PUMPED)

FORMATION PRESSURE INTEGRITY TEST

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	VOL (bbl)	PRESSURE
0	0.00	0.0	0	0.00	0
0.5	0.25	29.0	0.25	0.25	21
1.0	0.50	58.0	0.50	0.50	30
1.5	0.75	113.0	0.75	0.75	33
2.0	1.00	173.0	1.00	1.00	37
2.5	1.25	237.0	1.25	1.25	43
3.0	1.50	310.0	1.50	1.50	46
3.5	1.75	367.0	1.75	1.75	50
4.0	2.00	419.0	2.00	2.00	54
4.5	2.25	484.0	2.25	2.25	56
5.0	2.50	544.0	2.50	2.50	58
5.5	2.75	615.0	2.75	2.75	60
6.0	3.00	664.0			
6.5	3.25	729.0			
7.0	3.50	798.0			
7.5	3.75	855.0			
8.0	4.00	915.0			
8.5	4.25	985.0			
9.0	4.50	1043.0			
9.5	4.75	1107.0			
10.0	5.00	1169.0			
10.5	5.25	1232.0			
11.0	5.50	1299.0			
11.5	5.75	1370.0			
12.0	6.00	1430.0			
12.5	6.25	1500.0			
13.0	6.50	1574.0			
13.5	6.75	1622.0			
14.0	7.00	1691.0			
14.5	7.25	1749.0			
15.0	7.50	1800.0			
15.5	7.75	1865.0			
16.0	8.00	1926.0			
16.5	8.25	1987.0			
17.0	8.50	2050.0			
17.5	8.75	2118.0			
18.0	9.00	2178.0			
18.5	9.25	2242.0			
19.0	9.50	2300.0			
19.5	9.75	2367.0			
20.0	10.00	2430.0			
20.5	10.25	2480.0			
21.0	10.50	2542.0			
21.5	10.75	2605.0			
22.0	11.00	2666.0			
22.5	11.25	2740.0			
23.0	11.50	2797.0			



WELL NAME FIELD	OCS-G 32306 #1 MC 252 #1	RIG DATE	Martinas 19-Oct-09	SUPERVISOR Adams/Parker	TEST TYPE FIT <input type="radio"/> LOT <input checked="" type="radio"/>
ELEVATION KB WATER DEPTH	69 ft 4,992 ft	HOLE TD (MD) HOLE TD (TVD)	8,001 ft 8,001 ft	CSG SHOE (MD) CSG SHOE (TVD)	7,952 ft 7,952 ft
MUD WEIGHT	10. ppb	DH ESD TEST RATE (bpm)	0.50	INCLINATION AT SHOE	00.0 deg

PRE-TEST CALCULATIONS/RECORDINGS (Downhole)

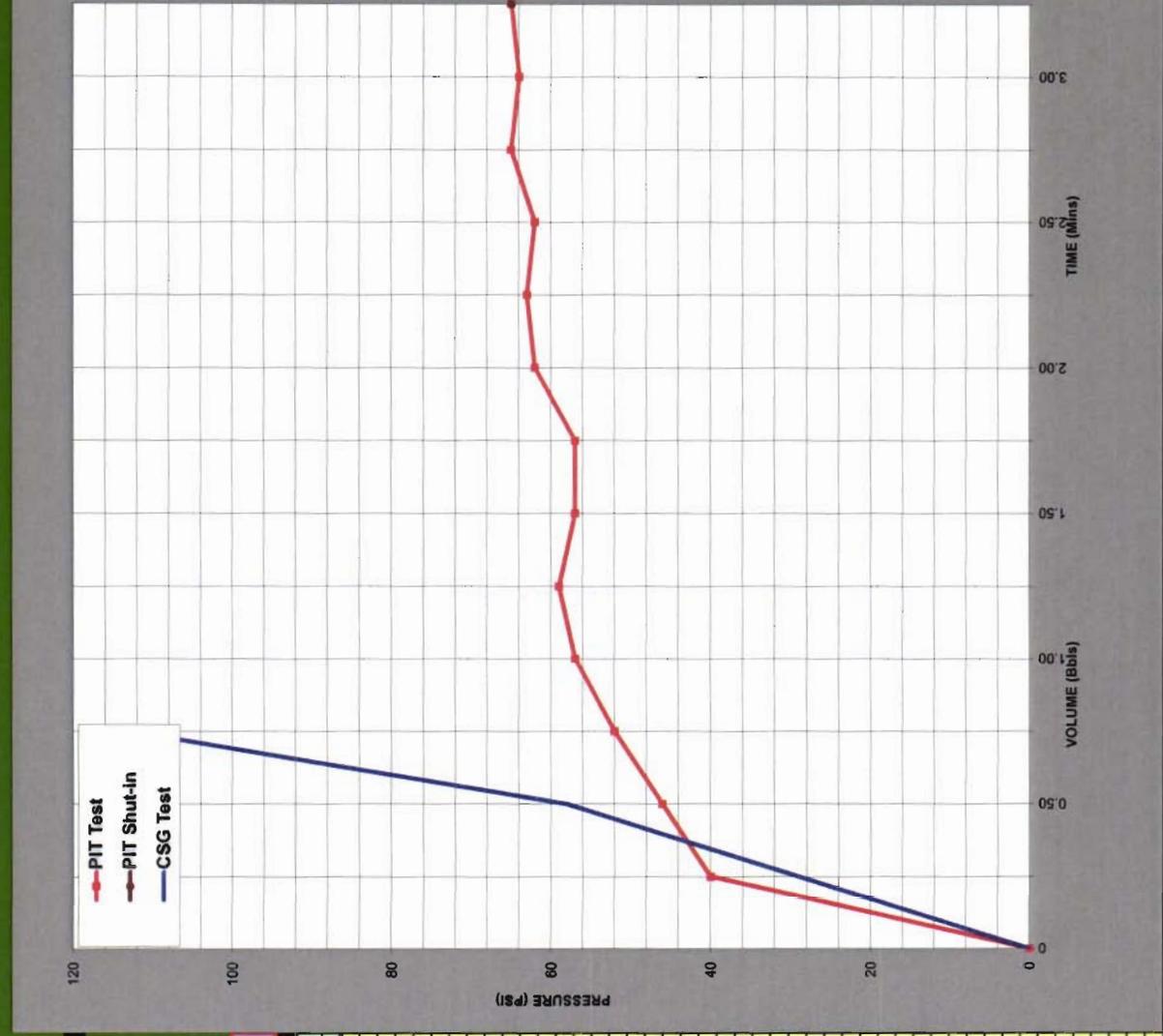
PROJECTED FIT/LOT: 11. ppb
Expected pressure for "Projected FIT/LOT", (psi): 413

POST-TEST RESULTS

MAXIMUM OBSERVED PRESS (psi): 65
INITIAL SHUT-IN (SIP) OR LOT PRESS (psi): 3.25
MUD PUMPED (bbl):
MUD FLOW BACK (bbl):
MMS Value --> MEASURED PIT (EMW) = 10.16 ppb
MEASURED LOT (EMW) = 10.38 ppb

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST			FORMATION PRESSURE INTEGRITY TEST		
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	VOL (bbl)	PRESSURE
0	0.00	0.0	0.00	0.00	0
0.5	0.25	29.0	0.25	0.25	40
1.0	0.50	58.0	0.50	0.50	46
1.5	0.75	113.0	0.75	0.75	52
2.0	1.00	173.0	1.00	1.00	57
2.5	1.25	237.0	1.25	1.25	59
3.0	1.50	310.0	1.50	1.50	57
3.5	1.75	367.0	1.75	1.75	57
4.0	2.00	419.0	2.00	2.00	62
4.5	2.25	484.0	2.25	2.25	63
5.0	2.50	544.0	2.50	2.50	62
5.5	2.75	615.0	2.75	2.75	65
6.0	3.00	664.0	3.00	3.00	64
6.5	3.25	729.0	3.25	3.25	65
7.0	3.50	798.0			
7.5	3.75	855.0			
8.0	4.00	915.0			
8.5	4.25	985.0			
9.0	4.50	1043.0			
9.5	4.75	1107.0			
10.0	5.00	1169.0			
10.5	5.25	1232.0			
11.0	5.50	1299.0			
11.5	5.75	1370.0			
12.0	6.00	1430.0			
12.5	6.25	1500.0			
13.0	6.50	1574.0			
13.5	6.75	1622.0			
14.0	7.00	1691.0			
14.5	7.25	1749.0			
15.0	7.50	1800.0			
15.5	7.75	1865.0			
16.0	8.00	1926.0			
16.5	8.25	1987.0			
17.0	8.50	2050.0			
17.5	8.75	2118.0			
18.0	9.00	2178.0			
18.5	9.25	2242.0			
19.0	9.50	2300.0			
19.5	9.75	2367.0			
20.0	10.00	2430.0			
20.5	10.25	2480.0			
21.0	10.50	2542.0			
21.5	10.75	2605.0			
22.0	11.00	2666.0			
22.5	11.25	2740.0			
23.0	11.50	2797.0			



WELL NAME FIELD	OCS-G-26306 #1 MC 252 #1	RIG DATE	Mentana 19-Oct-09	SUPERVISOR	Adams/Parker	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT
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ELEVATION KB	89 ft	HOLE TD (MD)	8,001 ft	CSG SIZE OD	22	INCLINATION	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	8,001 ft	TYPE	Liner	AT SHOE	

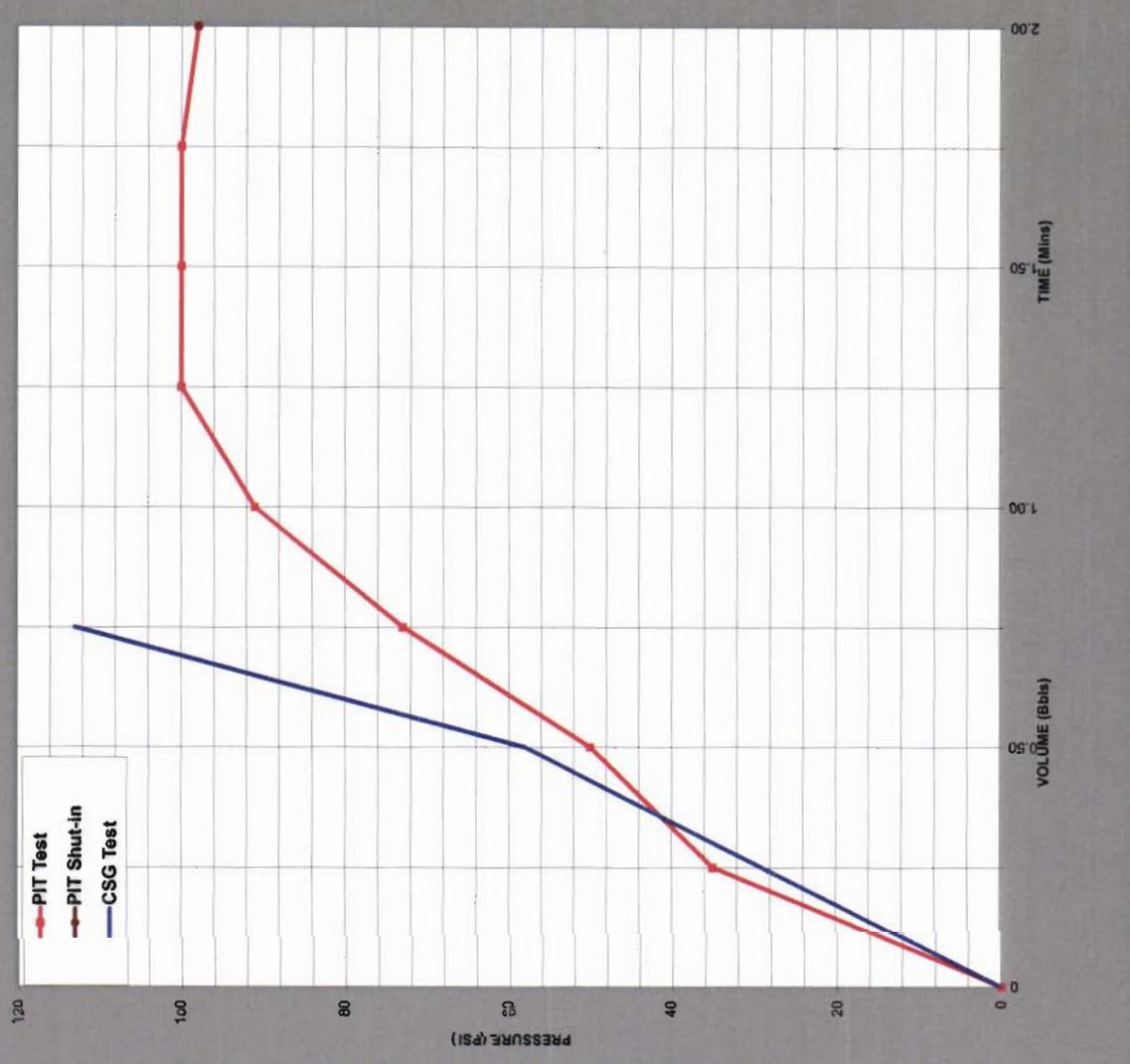
MUD WEIGHT	10.0 ppg	DM ESD	10.22 ppg	TEST RATE (b/min)	0.50
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PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT:	11 ppg
Expected pressure for "Projected FIT/LOT", (psf):	413
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psf):	100
INITIAL SHUT-IN (SIP) OR LOT PRESS (psf):	91
MUD PUMPED (bbl):	2.00
MUD FLOW BACK (bbl):	1.50
MMS Value -> MEASURED PIT (EMM) =	10.24 ppg
MEASURED LOT (EMM) =	10.22 ppg
	10.46 ppg
	10.44 ppg

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE (psi)	TIME (min)	VOL (bbl)	PRESSURE (psi)
0	0.00	0.0	0.00	0	0
0.5	0.25	29.0	0.25	35	
1.0	0.50	58.0	0.50	50	
1.5	0.75	113.0	0.75	73	
2.0	1.00	173.0	1.00	91	
2.5	1.25	237.0	1.25	100	
3.0	1.50	310.0	1.50	100	
3.5	1.75	367.0	1.75	100	
4.0	2.00	419.0	2.00	99	
4.5	2.25	484.0			
5.0	2.50	544.0			
5.5	2.75	615.0			
6.0	3.00	664.0			
6.5	3.25	729.0			
7.0	3.50	798.0			
7.5	3.75	855.0			
8.0	4.00	915.0			
8.5	4.25	985.0			
9.0	4.50	1043.0			
9.5	4.75	1107.0			
10.0	5.00	1169.0			
10.5	5.25	1232.0			
11.0	5.50	1299.0			
11.5	5.75	1370.0			
12.0	6.00	1430.0			
12.5	6.25	1500.0			
13.0	6.50	1574.0			
13.5	6.75	1622.0			
14.0	7.00	1691.0			
14.5	7.25	1749.0			
15.0	7.50	1800.0			
15.5	7.75	1865.0			
16.0	8.00	1926.0			
16.5	8.25	1987.0			
17.0	8.50	2050.0			
17.5	8.75	2118.0			
18.0	9.00	2178.0			
18.5	9.25	2242.0			
19.0	9.50	2300.0			
19.5	9.75	2367.0			
20.0	10.00	2430.0			
20.5	10.25	2480.0			
21.0	10.50	2542.0			
21.5	10.75	2605.0			
22.0	11.00	2666.0			
22.5	11.25	2740.0			
23.0	11.50	2797.0			



WELL NAME	OCS-G 32306 #1	RIG	Marianas	SUPERVISOR	Adams/Parker	TEST TYPE	
FIELD	MC 252 #1	DATE	19-Oct-09			○ FIT	● LOT

ELEVATION KB	89 ft	HOLE TD (MD)	8,001 ft	CSG SIZE OD	22	INCLINATION	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	8,001 ft	TYPE	Liner	AT SHOE	

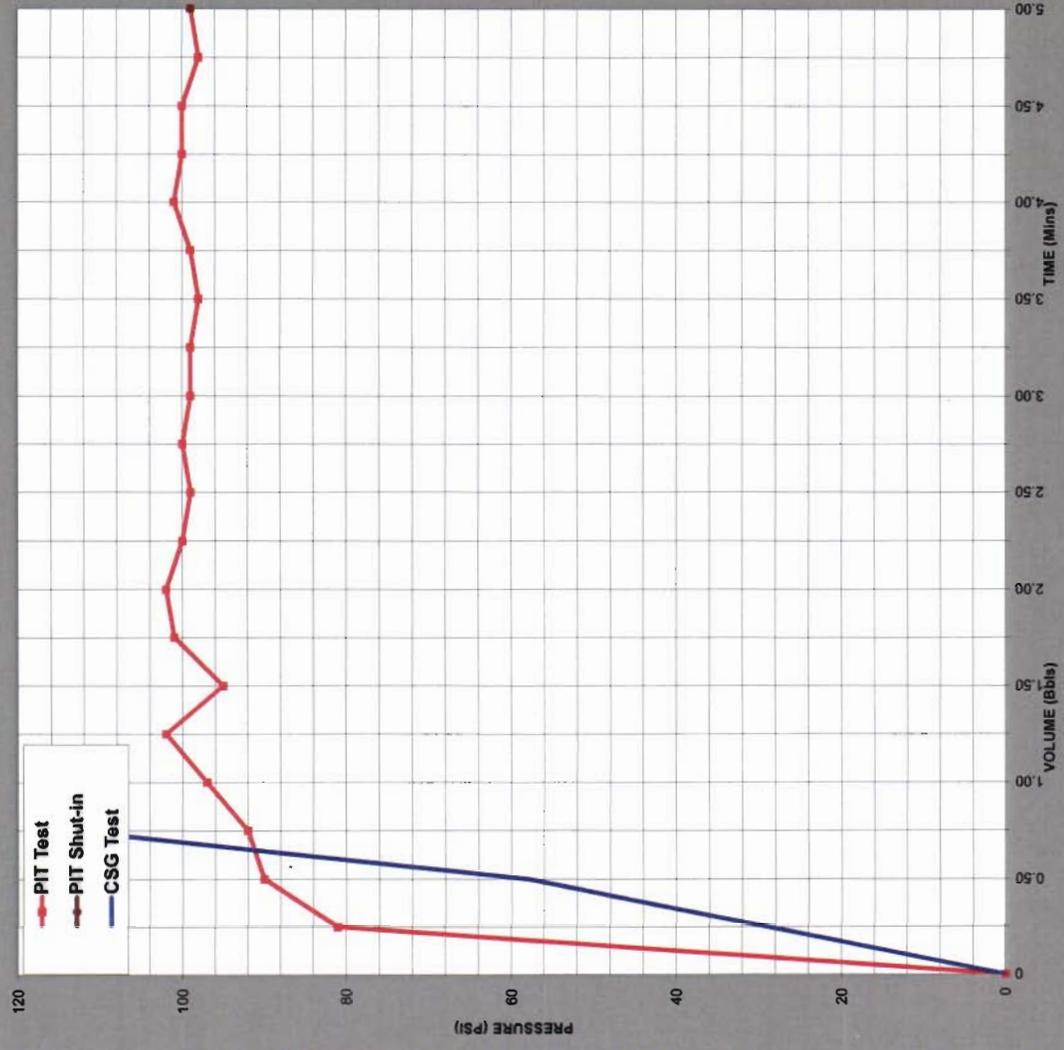
MUD WEIGHT	10. ppq	DH ESD	10.28 ppq	TEST RATE (bpm)	0.50
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PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT:	11. ppq
Expected pressure for "Projected FIT/LOT", (psi):	413
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	102
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	81
MUD PUMPED (bbl):	5.00
MUD FLOW BACK (bbl):	1.00
MMS Value --> MEASURED PIT (EMW) =	10.25 ppq
MEASURED LOT (EMW) =	10.2 ppq
	10.53 ppq
	10.48 ppq

(PIT - RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST	
TIME (min)	VOL (bbl)	PRESSURE (psi)	TIME (min)
0	0.00	0.0	0
0.5	0.25	29.0	0.25
1.0	0.50	58.0	0.50
1.5	0.75	113.0	0.75
2.0	1.00	173.0	1.00
2.5	1.25	237.0	1.25
3.0	1.50	310.0	1.50
3.5	1.75	367.0	1.75
4.0	2.00	419.0	2.00
4.5	2.25	484.0	2.25
5.0	2.50	544.0	2.50
5.5	2.75	615.0	2.75
6.0	3.00	664.0	3.00
6.5	3.25	729.0	3.25
7.0	3.50	798.0	3.50
7.5	3.75	855.0	3.75
8.0	4.00	915.0	4.00
8.5	4.25	985.0	4.25
9.0	4.50	1043.0	4.50
9.5	4.75	1107.0	4.75
10.0	5.00	1169.0	5.00
10.5	5.25	1232.0	5.25
11.0	5.50	1299.0	5.50
11.5	5.75	1370.0	6.00
12.0	6.00	1430.0	6.00
12.5	6.25	1500.0	6.25
13.0	6.50	1574.0	6.50
13.5	6.75	1622.0	7.00
14.0	7.00	1691.0	7.00
14.5	7.25	1749.0	7.25
15.0	7.50	1800.0	7.50
15.5	7.75	1865.0	7.75
16.0	8.00	1926.0	8.00
16.5	8.25	1987.0	8.25
17.0	8.50	2050.0	8.50
17.5	8.75	2118.0	9.00
18.0	9.00	2178.0	9.00
18.5	9.25	2242.0	9.25
19.0	9.50	2300.0	9.50
19.5	9.75	2367.0	9.75
20.0	10.00	2430.0	10.00
20.5	10.25	2480.0	10.25
21.0	10.50	2542.0	10.50
21.5	10.75	2605.0	10.75
22.0	11.00	2666.0	11.00
22.5	11.25	2740.0	11.25
23.0	11.50	2797.0	



WELL NAME FIELD	OCS-G 22306 #1 MC 252 #1	RIG DATE	Martinez 19-Oct-09	SUPERVISOR	Adams/Parker	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT
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ELEVATION KB	89 ft	HOLE TD (MD)	8,001 ft	CSG SIZE OD	22	CSG SHOE (MD)	7,952 ft	INCLINATION	00.0 deg
WATER DEPTH	4,982 ft	HOLE TD (TVD)	8,001 ft	TYPE	Linear	CSG SHOE (TVD)	7,952 ft	AT SHOE	

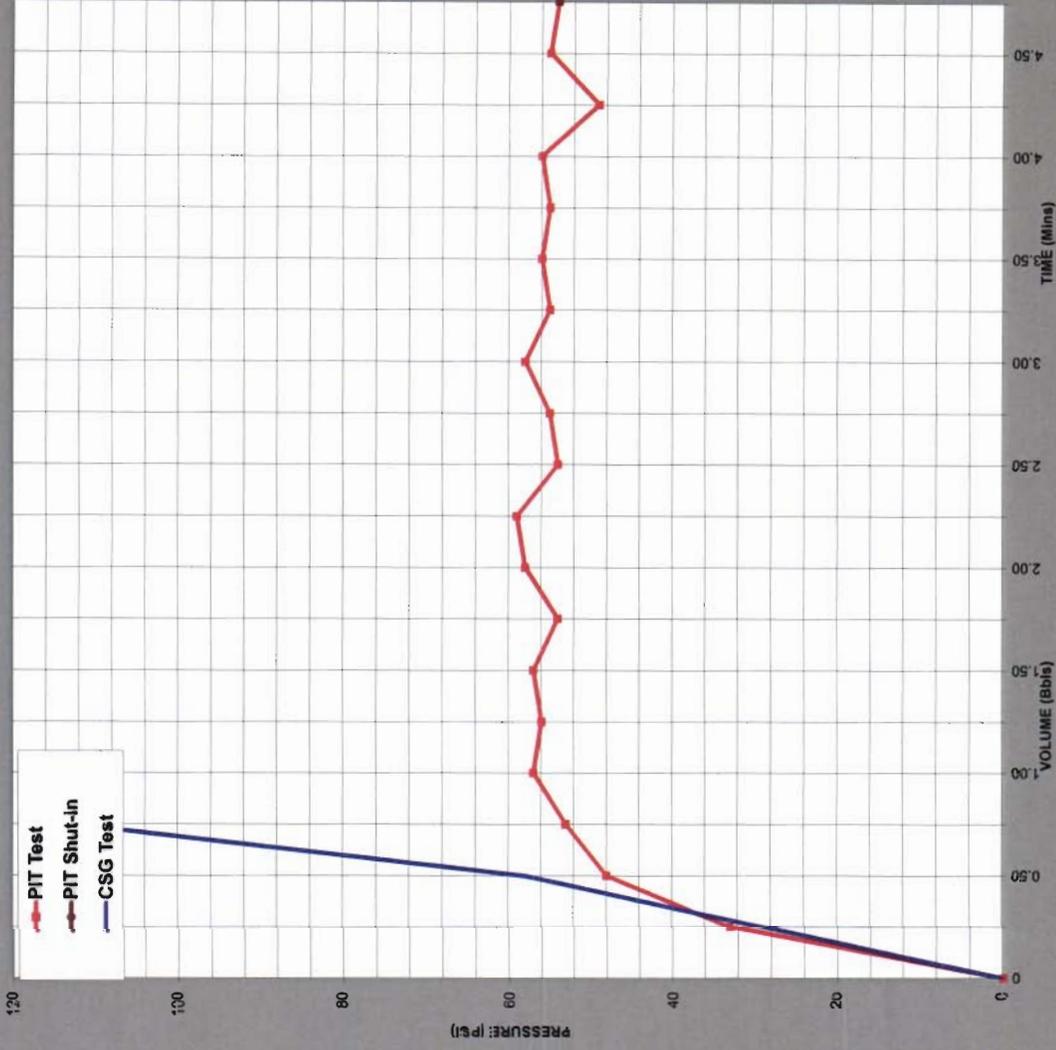
MUD WEIGHT	10.0 ppg	DH ESD	10.28 ppg	TEST RATE (bpm)	0.50
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PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

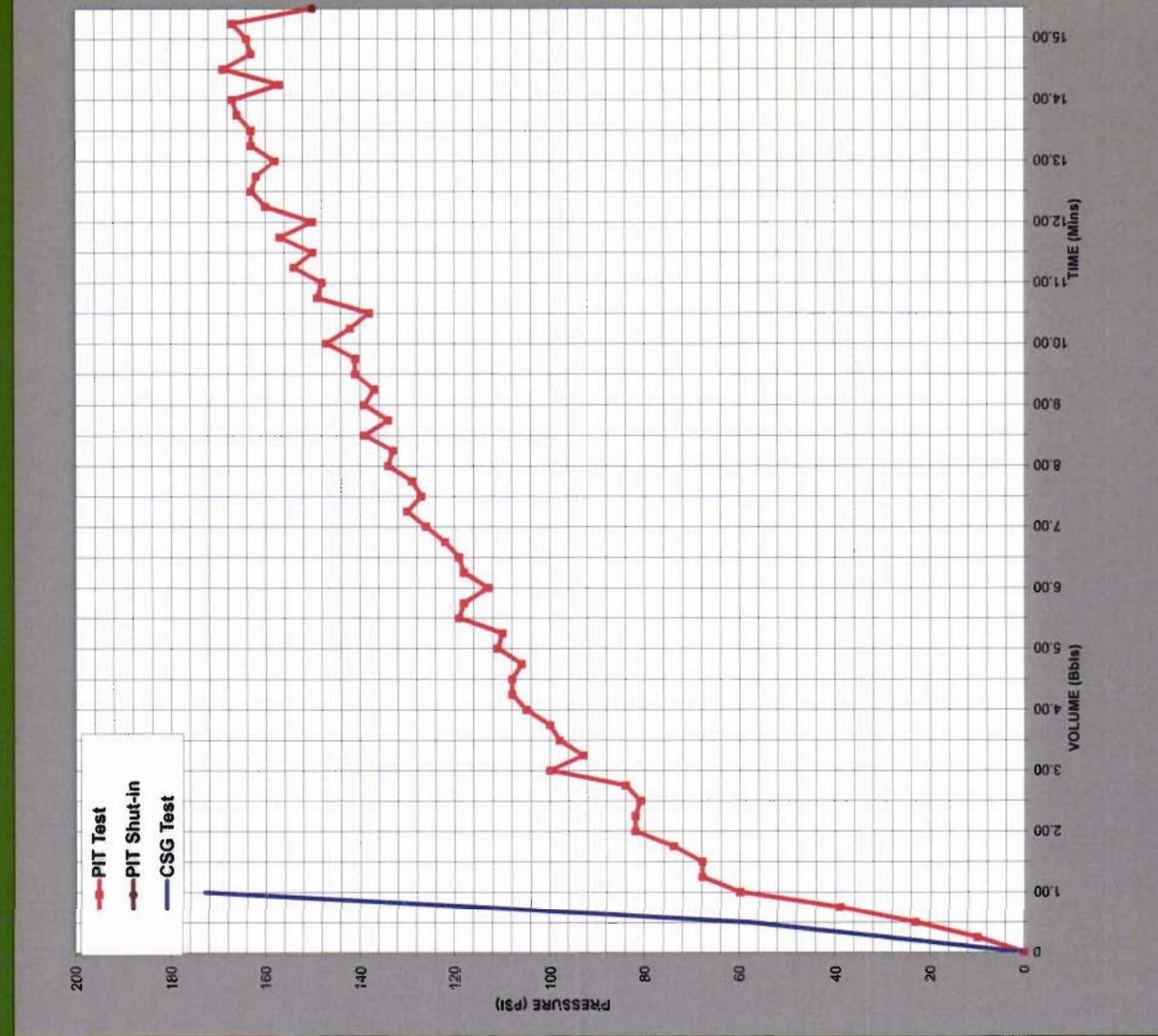
PROJECTED FIT/LOT:	11. ppg
Expected pressure for "Projected FIT/LOT", (psi):	413
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	59
INITIAL SHUT-IN (SIP) OR LOT PRESS (psi):	48
MUD PUMPED (bbl):	4.75
MUD FLOW BACK (bbl):	
MMS Value → MEASURED FIT (EMW) =	10.14 ppg
MEASURED LOT (EMW) =	10.12 ppg
	10.42 ppg
	10.4 ppg

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE (psi)	TIME (min)	VOL (bbl)	PRESSURE (psi)
0	0.00	0	0	0.00	0
0.5	0.25	29.0	0.25	0.25	33
1.0	0.50	58.0	0.50	0.50	48
1.5	0.75	113.0	0.75	0.75	53
2.0	1.00	173.0	1.00	1.00	57
2.5	1.25	237.0	1.25	1.25	56
3.0	1.50	310.0	1.50	1.50	57
3.5	1.75	367.0	1.75	1.75	54
4.0	2.00	419.0	2.00	2.00	58
4.5	2.25	484.0	2.25	2.25	59
5.0	2.50	544.0	2.50	2.50	54
5.5	2.75	615.0	2.75	2.75	55
6.0	3.00	664.0	3.00	3.00	58
6.5	3.25	729.0	3.25	3.25	55
7.0	3.50	798.0	3.50	3.50	56
7.5	3.75	855.0	3.75	3.75	55
8.0	4.00	915.0	4.00	4.00	56
8.5	4.25	985.0	4.25	4.25	49
9.0	4.50	1043.0	4.50	4.50	55
9.5	4.75	1107.0	4.75	4.75	54
10.0	5.00	1169.0			
10.5	5.25	1232.0			
11.0	5.50	1299.0			
11.5	5.75	1370.0			
12.0	6.00	1430.0			
12.5	6.25	1500.0			
13.0	6.50	1574.0			
13.5	6.75	1622.0			
14.0	7.00	1691.0			
14.5	7.25	1749.0			
15.0	7.50	1800.0			
15.5	7.75	1865.0			
16.0	8.00	1926.0			
16.5	8.25	1987.0			
17.0	8.50	2050.0			
17.5	8.75	2118.0			
18.0	9.00	2178.0			
18.5	9.25	2242.0			
19.0	9.50	2300.0			
19.5	9.75	2367.0			
20.0	10.00	2430.0			
20.5	10.25	2490.0			
21.0	10.50	2542.0			
21.5	10.75	2605.0			
22.0	11.00	2666.0			
22.5	11.25	2740.0			
23.0	11.50	2797.0			



WELL NAME FIELD	OC5-G 32306 #1 MC 252 #1	RIG DATE	Marinas 19-Oct-09	SUPERVISOR	Adams/Parker	TEST TYPE	LOT
ELEVATION KB WATER DEPTH	69 # 4,992 ft	HOLE TD (MD) HOLE TD (TVD)	8,001 ft 8,001 ft	CSG SIZE OD TYPE	22 Liner	INCLINATION AT SHOE	00.0 deg
MUD WEIGHT	SURFACE 9.7 ppg	DIH ESD TEST RATE (bpm)	10.22 ppg	CSG SHOE (MD) CSG SHOE (TVD)	7,952 ft 7,952 ft		



PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

Expected pressure for "Projected FIT/LOT":	11. ppg
PROJECTED FIT/LOT: (psi):	537
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	147
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	15.25
MUD PUMPED (bbl):	11.50
MUD FLOW BACK (bbl):	
MMS Value -> MEASURED PIT (EMM) =	10.06 ppg
MEASURED LOT (EMM) =	10.58 ppg

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

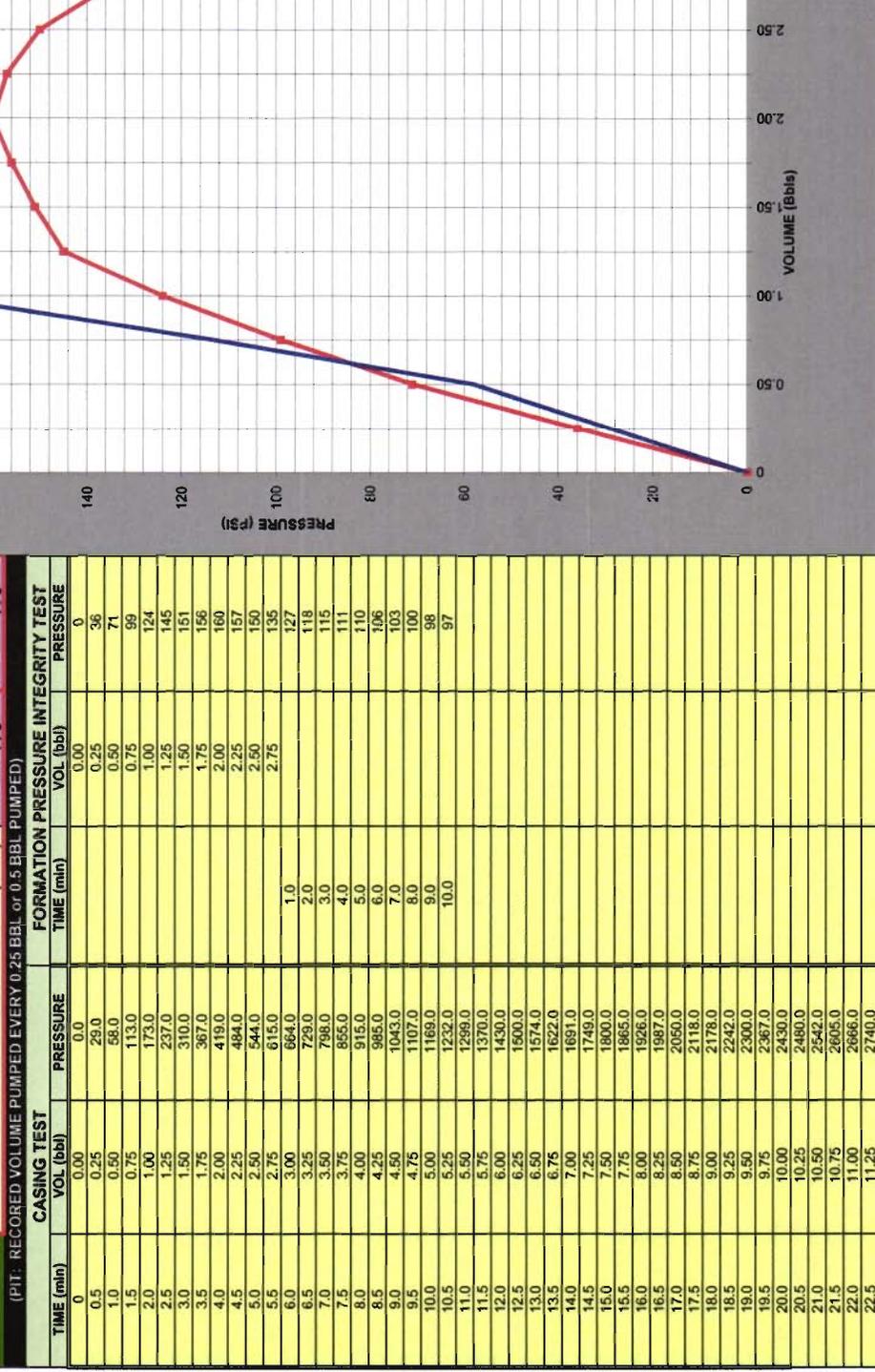
CASING TEST		FORMATION PRESSURE INTEGRITY TEST	
TIME (min)	VOL (bbl)	PRESSURE	PRESSURE
0	0.00	0.0	0
0.5	0.25	29.0	10
1.0	0.50	58.0	20
1.5	0.75	113.0	30
2.0	1.00	173.0	40
2.5	1.25	237.0	50
3.0	1.50	310.0	60
3.5	1.75	387.0	70
4.0	2.00	419.0	80
4.5	2.25	484.0	90
5.0	2.50	544.0	100
5.5	2.75	615.0	110
6.0	3.00	664.0	120
6.5	3.25	729.0	130
7.0	3.50	798.0	140
7.5	3.75	855.0	150
8.0	4.00	915.0	160
8.5	4.25	985.0	170
9.0	4.50	1043.0	180
9.5	4.75	1107.0	190
10.0	5.00	1169.0	200
10.5	5.25	1232.0	210
11.0	5.50	1296.0	220
11.5	5.75	1370.0	230
12.0	6.00	1430.0	240
12.5	6.25	1500.0	250
13.0	6.50	1574.0	260
13.5	6.75	1622.0	270
14.0	7.00	1691.0	280
14.5	7.25	1749.0	290
15.0	7.50	1800.0	300
15.5	7.75	1865.0	310
16.0	8.00	1926.0	320
16.5	8.25	1987.0	330
17.0	8.50	2050.0	340
17.5	8.75	2116.0	350
18.0	9.00	2178.0	360
18.5	9.25	2242.0	370
19.0	9.50	2300.0	380
19.5	9.75	2367.0	390
20.0	10.00	2430.0	400
20.5	10.25	2480.0	410
21.0	10.50	2542.0	420
21.5	10.75	2605.0	430
22.0	11.00	2666.0	440
22.5	11.25	2740.0	450
23.0	11.50	2797.0	460
			150

WELL NAME FIELD	ICS-G 32306 #1 MC 252 #1	RIG DATE	Marianas 19-Oct-09	SUPERVISOR	Adams/Parker	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT
ELEVATION KB	89 ft	HOLE TD (MD)	8,001 ft	CSG SIZE OD	7.952 ft	INCLINATION	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	8,001 ft	TYPE	7,952 ft	AT SHOE	
MUD WEIGHT	SURFACE 9.7 ppg	DH ESD	9.99 ppg	TEST RATE (bpm)	0.50		

PRE-TEST CALCULATIONS/RECORDINGS	(Surface)
PROJECTED FIT/LOT:	11. ppg
Expected pressure for "Projected FIT/LOT", (psi):	537
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	160
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	145
MUD PUMPED (bbl):	2.75
MUD FLOW BACK (bbl):	2.00
MMS Value --> MEASURED PIT (EMW) =	10.09 ppg
MEASURED LOT (EMW) =	10.05 ppg
	10.38 ppg
	10.34 ppg

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST				FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	PRESSURE
0	0.00	0.0		0.00	0		
0.5	0.25	29.0		0.25	36		
1.0	0.50	58.0		0.50	71		
1.5	0.75	113.0		0.75	99		
2.0	1.00	173.0		1.00	124		
2.5	1.25	237.0		1.25	145		
3.0	1.50	310.0		1.50	151		
3.5	1.75	367.0		1.75	156		
4.0	2.00	419.0		2.00	160		
4.5	2.25	484.0		2.25	157		
5.0	2.50	544.0		2.50	150		
5.5	2.75	615.0		2.75	135		
6.0	3.00	664.0	1.0		127		
6.5	3.25	729.0	2.0		118		
7.0	3.50	798.0	3.0		115		
7.5	3.75	855.0	4.0		111		
8.0	4.00	915.0	5.0		110		
8.5	4.25	965.0	6.0		106		
9.0	4.50	1043.0	7.0		103		
9.5	4.75	1107.0	8.0		100		
10.0	5.00	1169.0	9.0		98		
10.5	5.25	1232.0	10.0		97		
11.0	5.50	1299.0					
11.5	5.75	1370.0					
12.0	6.00	1430.0					
12.5	6.25	1500.0					
13.0	6.50	1574.0					
13.5	6.75	1622.0					
14.0	7.00	1691.0					
14.5	7.25	1749.0					
15.0	7.50	1800.0					
15.5	7.75	1865.0					
16.0	8.00	1926.0					
16.5	8.25	1987.0					
17.0	8.50	2050.0					
17.5	8.75	2118.0					
18.0	9.00	2178.0					
18.5	9.25	2242.0					
19.0	9.50	2300.0					
19.5	9.75	2367.0					
20.0	10.00	2430.0					
20.5	10.25	2480.0					
21.0	10.50	2542.0					
21.5	10.75	2605.0					
22.0	11.00	2666.0					
22.5	11.25	2740.0					
23.0	11.50	2797.0					



WELL NAME FIELD	OC5-G 32306 #1 MC 252 #1	RIG DATE	Marianas 19-Oct-09	SUPERVISOR	Adams/Parker	TEST TYPE	LOT
ELEVATION KB	89 ft	HOLE TD (MD)	9,001 ft	CSG SIZE OD	22	INCLINATION	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	8,001 ft	TYPE	Liner	AT SHOE	7,952 ft
MUD WEIGHT	9.7 ppg	DH ESD	9.99 ppg	TEST RATE (bpm)	0.50		

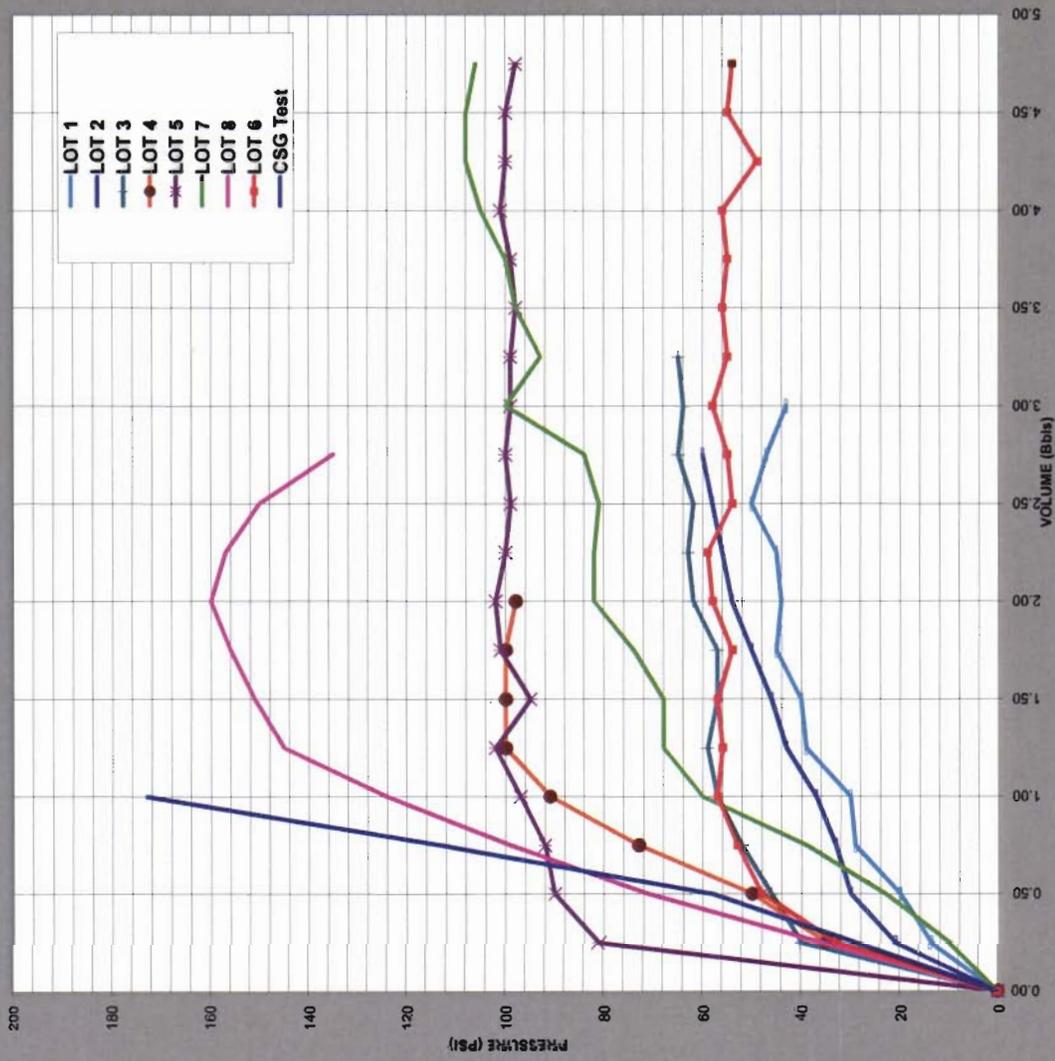
CSG SHOE (MD)	7,952 ft
CSG SHOE (TVD)	7,952 ft

PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT:	11. ppg
Expected pressure for "Projected FIT/LOT", (psi):	537
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	160
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	145
MUD PUMPED (bbl):	2.75
MUD FLOW BACK (bbl):	2.00
MMS Value --> MEASURED PIT (EMMW) =	10.09 ppg
MEASURED LOT (EMMW) =	10.05 ppg
	10.38 ppg
	10.34 ppg

(PIT - RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE (psi)	TIME (min)	VOL (bbl)	PRESSURE (psi)
0	0.00	0.0	0	0.00	0
0.5	0.25	29.0	36	0.25	36
1.0	0.50	58.0	71	0.50	71
1.5	0.75	113.0	69	0.75	69
2.0	1.00	173.0	124	1.00	124
2.5	1.25	237.0	145	1.25	145
3.0	1.50	310.0	151	1.50	151
3.5	1.75	367.0	156	1.75	156
4.0	2.00	419.0	160	2.00	160
4.5	2.25	484.0	157	2.25	157
5.0	2.50	544.0	150	2.50	150
5.5	2.75	615.0	135	2.75	135
6.0	3.00	664.0	127		
6.5	3.25	729.0	118	1.0	118
7.0	3.50	798.0	115	2.0	115
7.5	3.75	855.0	111	3.0	111
8.0	4.00	915.0	110	4.0	110
8.5	4.25	985.0	106	5.0	106
9.0	4.50	1043.0	103	6.0	103
9.5	4.75	1107.0	100	7.0	100
10.0	5.00	1169.0	98	8.0	98
10.5	5.25	1232.0	97	9.0	97
11.0	5.50	1299.0		10.0	
11.5	5.75	1370.0			
12.0	6.00	1430.0			
12.5	6.25	1500.0			
13.0	6.50	1574.0			
13.5	6.75	1622.0			
14.0	7.00	1691.0			
14.5	7.25	1749.0			
15.0	7.50	1800.0			
15.5	7.75	1865.0			
16.0	8.00	1926.0			
16.5	8.25	1987.0			
17.0	8.50	2050.0			
17.5	8.75	2118.0			
18.0	9.00	2178.0			
18.5	9.25	2242.0			
19.0	9.50	2300.0			
19.5	9.75	2367.0			
20.0	10.00	2430.0			
20.5	10.25	2480.0			
21.0	10.50	2542.0			
21.5	10.75	2605.0			
22.0	11.00	2666.0			
22.5	11.25	2740.0			
23.0	11.50	2797.0			



WELL NAME FIELD	OCS-G 32306 #1 MC 252 #1	RIG DATE	Deepwater Horizon 11-Feb-10	SUPERVISOR	M. Sepulvado	TEST TYPE	LOT
ELEVATION KB	75 ft	HOLE TD (MD)	9,086 ft	CSG SHOE (MD)	8,969 ft	INCLINATION	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	9,086 ft	CSG SHOE (TVD)	8,969 ft	AT SHOE	
MUD WEIGHT	10.6 ppg	DH ESD	10.81 ppg	TEST RATE (bpm)	1.00		

PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT: 12 ppg
Expected pressure for "Projected FIT/LOT", (psi): 652

POST-TEST RESULTS

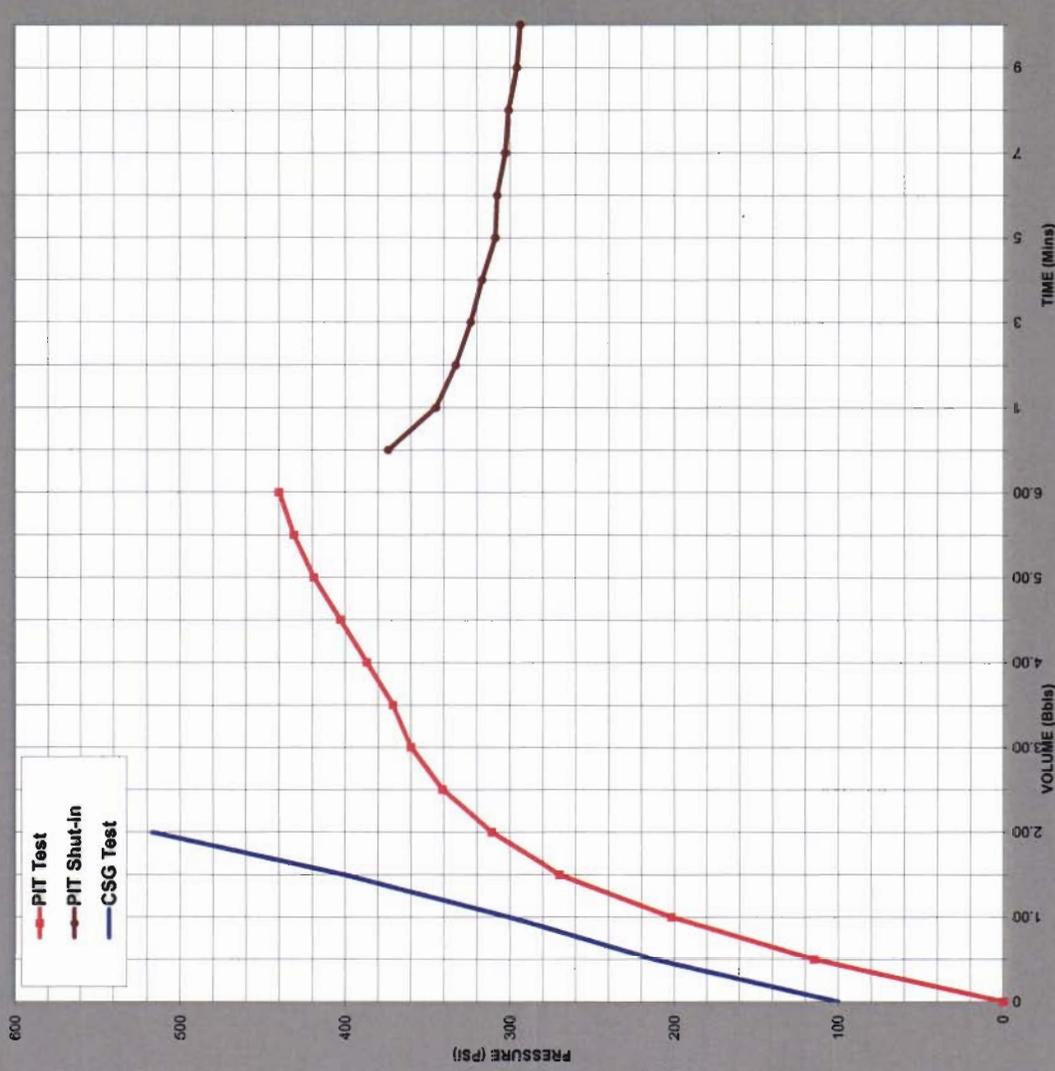
MAXIMUM OBSERVED PRESS (psi): 440

INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):
MUD PUMPED (bbl):
MUD FLOW BACK (bbl):

MMS Value --> MEASURED PIT (EMW) = 11.54 ppg
MEASURED LOT (EMW) = 11.75 ppg

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	VOL (bbl)	PRESSURE
0	0.00	100.0	0.00	0.00	0
0.5	0.50	212.0	0.50	0.50	115
1.0	1.00	300.0	1.00	1.00	202
1.5	1.50	400.0	1.50	1.50	270
2.0	2.00	517.0	2.00	2.00	311
2.5	2.50	605.0	2.50	2.50	341
3.0	3.00	703.0	3.00	3.00	360
3.5	3.50	824.0	3.50	3.50	371
4.0	4.00	916.0	4.00	4.00	387
4.5	4.50	1008.0	4.50	4.50	403
5.0	5.00	1102.0	5.00	5.00	419
5.5	5.50	1196.0	5.50	5.50	431
6.0	6.00	1279.0	6.00	6.00	440
6.5	6.50	1378.0	6.50	6.50	474
7.0	7.00	1466.0	7.00	7.00	345
7.5	7.50	1561.0	7.50	7.50	333
8.0	8.00	1665.0	8.00	8.00	324
8.5	8.50	1755.0	8.50	8.50	317
9.0	9.00	1859.0	9.00	9.00	309
9.5	9.50	1931.0	9.50	9.50	308
10.0	10.00	2025.0	10.00	10.00	303
10.5	10.50	2155.0	10.50	10.50	301
11.0	11.00	2258.0	11.00	11.00	296
11.5	11.50	2358.0	11.50	11.50	294
12.0	12.00	2456.0	12.00	12.00	
12.5	12.50	2560.0	12.50	12.50	
13.0	13.00	2657.0	13.00	13.00	
13.5	13.50	2756.0	13.50	13.50	
14.0	14.00	2858.0	14.00	14.00	
14.5	14.50	2950.0	14.50	14.50	
15.0	15.00	3050.0	15.00	15.00	
0.0	0.00	3008.0	0.00	0.00	
1.0	1.00	2987.0	1.00	1.00	
2.0	2.00	2984.0	2.00	2.00	
3.0	3.00	2978.0	3.00	3.00	
4.0	4.00	2974.0	4.00	4.00	
5.0	5.00	2972.0	5.00	5.00	
6.0	6.00	2971.0	6.00	6.00	
7.0	7.00	2969.0	7.00	7.00	
8.0	8.00	2967.0	8.00	8.00	
9.0	9.00	2965.0	9.00	9.00	
10.0	10.00	2962.0	10.00	10.00	
15.0	15.00	2958.0	15.00	15.00	
20.0	20.00	2954.0	20.00	20.00	
25.0	25.00	2954.0	25.00	25.00	
30.0	30.00	2950.0	30.00	30.00	



WELL NAME FIELD	OC-S-G 32:306 #1 MC 252 #1	RIG DATE	Deepwater Horizon 11-Feb-10	SUPERVISOR	M. Sepulvado	TEST TYPE	LOT
ELEVATION KB	76 ft	HOLE TD (MD)	9,086 ft	CSG SIZE OD	18	INCLINATION	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	9,096 ft	TYPE	Liner	AT SHOE	
MUD WEIGHT	SURFACE 10.6 ppg	DH ESD	TEST RATE (bpm)				
		10.81 ppg	1.00				

PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT: 12 ppg
Expected pressure for "Projected FIT/LOT": (psi): 652

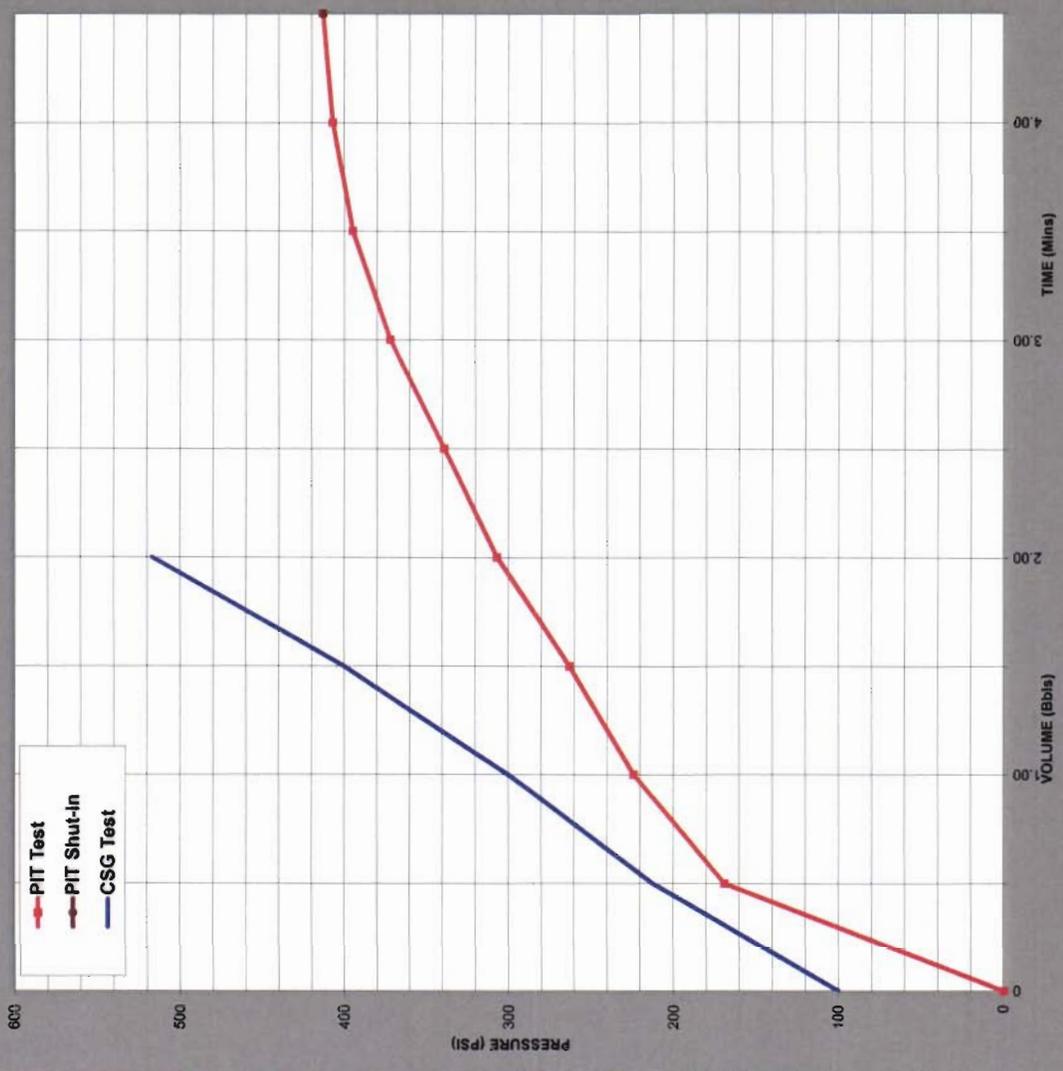
POST-TEST RESULTS

MAXIMUM OBSERVED PRESS (psi): 413

INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):
MUD PUMPED (bbl):
MUD FLOW BACK (bbl):
MMS Value --MEASURED PIT (EMW) = 11.49 ppg
MEASURED LOT (EMW) = 11.7 ppg

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	VOL (bbl)	PRESSURE
0	0.00	100.0	0	0.00	0
0.5	0.50	212.0	169	0.50	169
1.0	1.00	300.0	224	1.00	224
1.5	1.50	400.0	263	1.50	263
2.0	2.00	517.0	307	2.00	307
2.5	2.50	605.0	339	2.50	339
3.0	3.00	703.0	372	3.00	372
3.5	3.50	824.0	395	3.50	395
4.0	4.00	916.0	407	4.00	407
4.5	4.50	1008.0	413	4.50	413
5.0	5.00	1102.0			
5.5	5.50	1186.0			
6.0	6.00	1279.0			
6.5	6.50	1378.0			
7.0	7.00	1466.0			
7.5	7.50	1561.0			
8.0	8.00	1665.0			
8.5	8.50	1755.0			
9.0	9.00	1859.0			
9.5	9.50	1931.0			
10.0	10.00	2025.0			
10.5	10.50	2155.0			
11.0	11.00	2258.0			
11.5	11.50	2358.0			
12.0	12.00	2456.0			
12.5	12.50	2560.0			
13.0	13.00	2657.0			
13.5	13.50	2756.0			
14.0	14.00	2858.0			
14.5	14.50	2950.0			
15.0	15.00	3050.0			
0.0	0.00	3008.0			
1.0	2987.0				
2.0	2984.0				
3.0	2978.0				
4.0	2974.0				
5.0	2972.0				
6.0	2971.0				
7.0	2969.0				
8.0	2967.0				
9.0	2965.0				
10.0	2962.0				
15.0	2958.0				
20.0	2956.0				
25.0	2954.0				
30.0	2950.0				



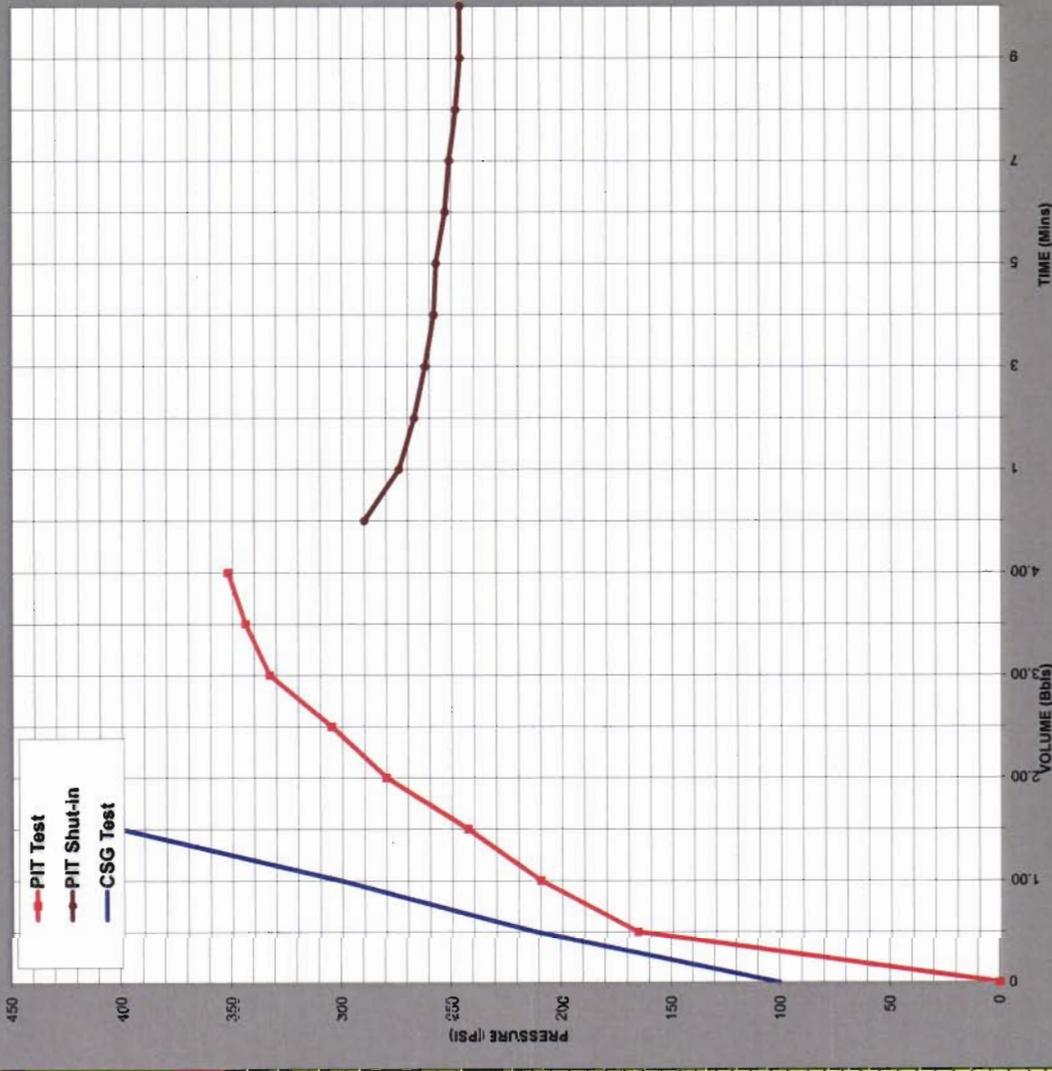
WELL NAME FIELD	OCS-G 32306 #1 MC 252 #1	RIG DATE	Deepwater Horizon 11-Feb-10	SUPERVISOR	M. Sepulvado	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT		
ELEVATION @B WATER DEPTH	75 ft 4,992 ft	HOLE TD (MD) HOLE TD (TVD)	9,096 ft 9,086 ft	CSG SIZE ØD TYPE	18 Linear	CSG SHOE (MD) CSG SHOE (TVD)	8,969 ft 8,969 ft	INCLINATION AT SHOE	00.0 deg
MUD WEIGHT	SURFACE 10.6 ppg	ØH ESD 10.79 ppg	TEST RATE (bpm)	1.00					

PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT:	12. ppg
Expected pressure for "Projected FIT/LOT": (psf):	652
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psf):	352
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psf):	
MUD PUMPED (bbl):	
MUD FLOW BACK (bbl):	
MMS Value → MEASURED PIT (EMW) =	11.36 ppg
MEASURED LOT (EMW) ≠	11.55 ppg

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL OR 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	VOL (bbl)	PRESSURE
0	0.00	100.0	0.00	0.00	0
0.5	0.50	212.0	0.50	166	
1.0	1.00	300.0	1.00	210	
1.5	1.50	400.0	1.50	263	
2.0	2.00	517.0	2.00	280	
2.5	2.50	605.0	2.50	305	
3.0	3.00	703.0	3.00	333	
3.5	3.50	824.0	3.50	344	
4.0	4.00	916.0	4.00	352	
4.5	4.50	1008.0	4.50	352	
5.0	5.00	1102.0	5.00	290	
5.5	5.50	1186.0	5.50	274	
6.0	6.00	1279.0	6.00	267	
6.5	6.50	1378.0	6.50	262	
7.0	7.00	1466.0	7.00	258	
7.5	7.50	1561.0	7.50	257	
8.0	8.00	1665.0	8.00	253	
8.5	8.50	1755.0	8.50	251	
9.0	9.00	1859.0	9.00	248	
9.5	9.50	1931.0	9.50	246	
10.0	10.00	2025.0	10.00	246	
10.5	10.50	2155.0			
11.0	11.00	2258.0			
11.5	11.50	2398.0			
12.0	12.00	2456.0			
12.5	12.50	2560.0			
13.0	13.00	2657.0			
13.5	13.50	2756.0			
14.0	14.00	2858.0			
14.5	14.50	2950.0			
15.0	15.00	3050.0			
0.0	0.00	3008.0			
1.0	1.00	2987.0			
2.0	2.00	2984.0			
3.0	3.00	2978.0			
4.0	4.00	2974.0			
5.0	5.00	2972.0			
6.0	6.00	2971.0			
7.0	7.00	2969.0			
8.0	8.00	2967.0			
9.0	9.00	2965.0			
10.0	10.00	2962.0			
20.0	20.00	2958.0			
25.0	25.00	2954.0			
30.0	30.00	2950.0			



WELL NAME FIELD	OCS-G 32306 #1 MC 252 #1	RIG DATE	Deepwater Horizon 11-Feb-10	SUPERVISOR	M. Sepulvado	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT
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ELEVATION KB	75 ft	HOLE TD (MD)	9,086 ft	CSG SIZE OD	18	CSG SHOE (MD)	8,969 ft	INCLINATION	00.0 deg
WATER DEPTH	4,982 ft	HOLE TD (TVD)	9,086 ft	TYPE	Liner	CSG SHOE (TVD)	8,969 ft	AT SHOE	

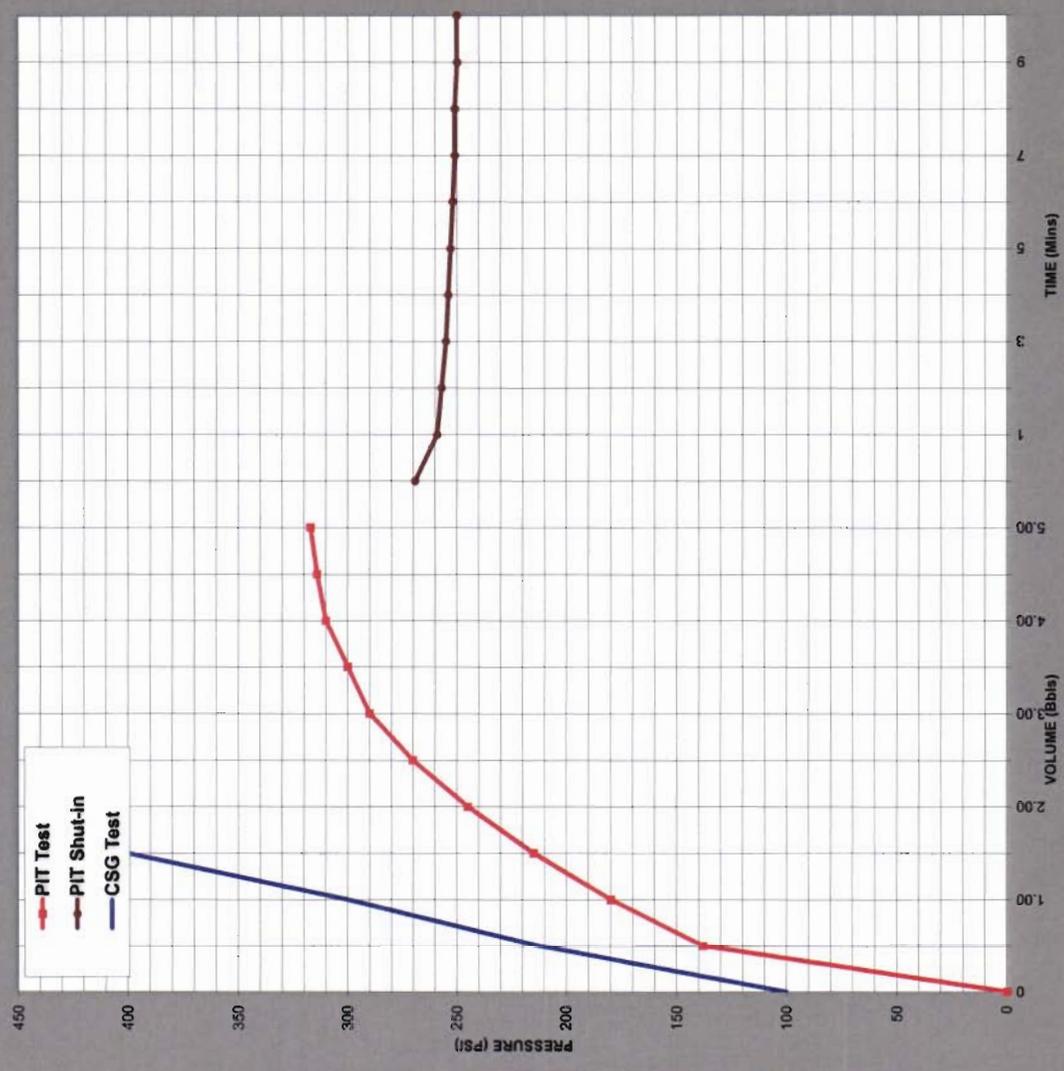
MUD WEIGHT	SURFACE	DH ESD	TEST RATE (bpm)	0.50
	10.6 ppg	10.84 ppg		

PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT:	12. ppg
Expected pressure for "Projected FIT/LOT", (psi):	652
POST-TEST RESULTS	
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	317
MAXIMUM OBSERVED PRESS (psi):	
MUD PUMPED (bbl):	
MUD FLOW BACK (bbl):	
MMS Value -> MEASURED PIT (EMW) =	11.28 ppg
MEASURED LOT (EMW) =	11.52 ppg

(PIT - RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST	
TIME (min)	VOL (bbl)	PRESSURE	PRESSURE
0	0.00	100.0	0
0.5	0.50	212.0	138
1.0	1.00	300.0	180
1.5	1.50	400.0	150
2.0	2.00	517.0	245
2.5	2.50	605.0	270
3.0	3.00	703.0	290
3.5	3.50	824.0	300
4.0	4.00	916.0	314
4.5	4.50	1008.0	317
5.0	5.00	1102.0	269
5.5	5.50	1186.0	259
6.0	6.00	1279.0	257
6.5	6.50	1378.0	255
7.0	7.00	1466.0	254
7.5	7.50	1561.0	253
8.0	8.00	1665.0	252
8.5	8.50	1755.0	251
9.0	9.00	1859.0	251
9.5	9.50	1931.0	250
10.0	10.00	2025.0	250
10.5	10.50	2155.0	250
11.0	11.00	2258.0	250
11.5	11.50	2358.0	250
12.0	12.00	2456.0	250
12.5	12.50	2560.0	250
13.0	13.00	2657.0	250
13.5	13.50	2756.0	250
14.0	14.00	2858.0	250
14.5	14.50	2950.0	250
15.0	15.00	3050.0	250
15.5	15.50	3088.0	250
16.0	16.00	2987.0	250
16.5	16.50	2984.0	250
17.0	17.00	2978.0	250
17.5	17.50	2974.0	250
18.0	18.00	2972.0	250
18.5	18.50	2971.0	250
19.0	19.00	2969.0	250
19.5	19.50	2967.0	250
20.0	20.00	2967.0	250
20.5	20.50	2965.0	250
21.0	21.00	2962.0	250
21.5	21.50	2958.0	250
22.0	22.00	2954.0	250
22.5	22.50	2950.0	250



WELL NAME FIELD	OCS-G 32306 #1 MC 252 #1	RIG DATE	Deepwater Horizon 15-Feb-10	SUPERVISOR	M. Sepulvado	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT
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ELEVATION KB	75 ft	HOLE TD (MD)	9,096 ft	CSG SIZE OD	18	INCLINATION	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	9,096 ft	TYPE	Liner	AT SHOE	8,969 ft

MUD WEIGHT	10.6 ppg	DH ESD	10.7 ppg	TEST RATE (bpm)	0.50
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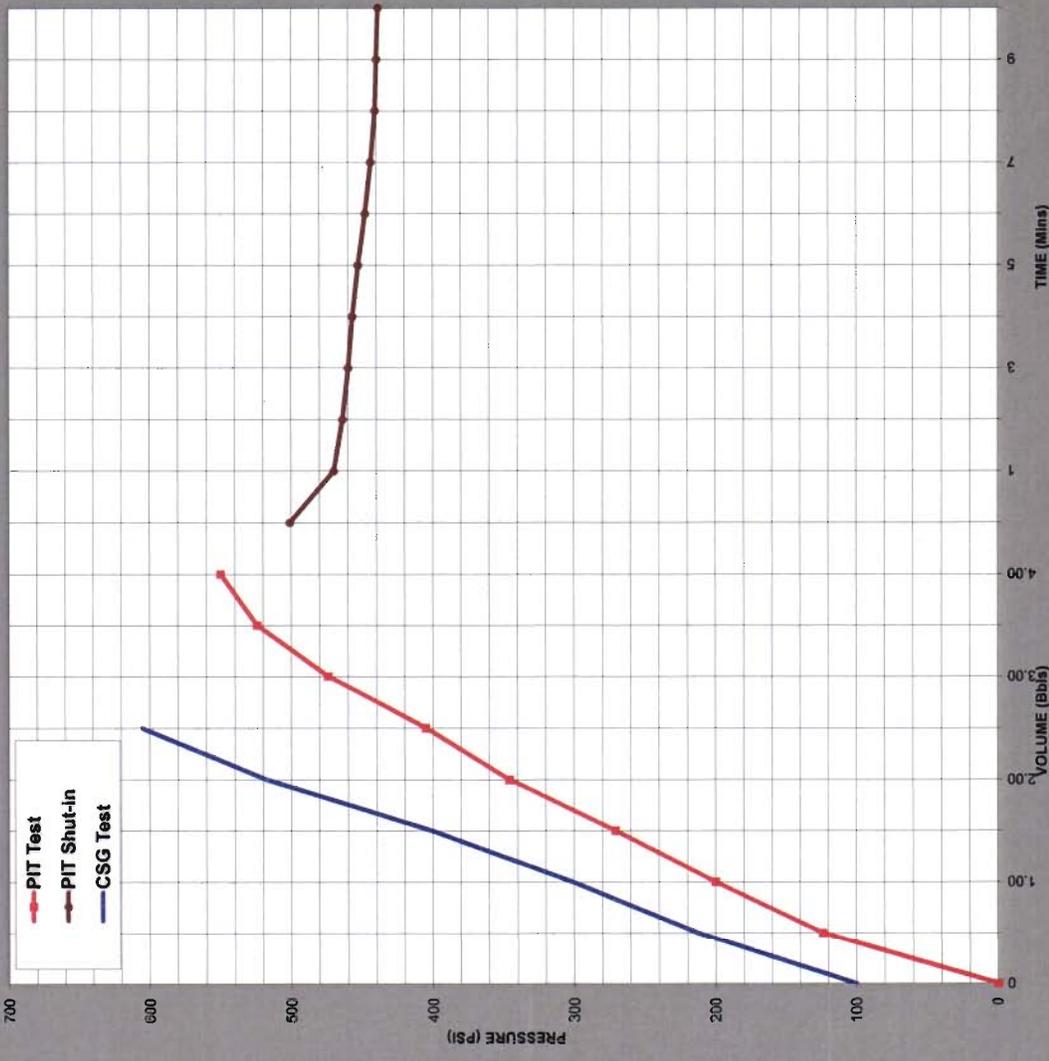
PRE-TEST CALCULATIONS/RECORDINGS

PROJECTED FIT/LOT:	12. ppg	(Surface)
Expected pressure for "Projected FIT/LOT", (psig):	662	(Downhole)
POST-TEST RESULTS		
MAXIMUM OBSERVED PRESS (psig):	550	
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psig):	510	
MUD PUMPED (bbl):	4.25	
MUD FLOW BACK (bbl):	3.50	

MMS Value -> MEASURED PIT (EMW) =	11.78 ppg
MEASURED LOT (EMW) =	11.69 ppg
	11.88 ppg
	11.79 ppg

(PIT: RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	VOL (bbl)	PRESSURE
0	0.00	100.0	0	0.00	0
0.5	0.50	212.0	0.50	0.50	124
1.0	1.00	300.0	1.00	1.00	200
1.5	1.50	400.0	1.50	1.50	271
2.0	2.00	517.0	2.00	2.00	346
2.5	2.50	605.0	2.50	2.50	405
3.0	3.00	703.0	3.00	3.00	474
3.5	3.50	824.0	3.50	3.50	524
4.0	4.00	916.0	4.00	4.00	550
4.5	4.50	1008.0	0.0	5.01	501
5.0	5.00	1102.0	1.0	4.70	470
5.5	5.50	1186.0	2.0	464	
6.0	6.00	1279.0	3.0	460	
6.5	6.50	1378.0	4.0	457	
7.0	7.00	1466.0	5.0	453	
7.5	7.50	1561.0	6.0	448	
8.0	8.00	1665.0	7.0	444	
8.5	8.50	1755.0	8.0	441	
9.0	9.00	1859.0	9.0	440	
9.5	9.50	1931.0	10.0	439	
10.0	10.00	2025.0			
10.5	10.50	2155.0			
11.0	11.00	2258.0			
11.5	11.50	2368.0			
12.0	12.00	2466.0			
12.5	12.50	2560.0			
13.0	13.00	2657.0			
13.5	13.50	2756.0			
14.0	14.00	2858.0			
14.5	14.50	2950.0			
15.0	15.00	3050.0			
0.0		3008.0			
1.0		2987.0			
2.0		2984.0			
3.0		2978.0			
4.0		2974.0			
5.0		2972.0			
6.0		2971.0			
7.0		2969.0			
8.0		2967.0			
9.0		2967.0			
10.0		2965.0			
15.0		2962.0			
20.0		2958.0			
25.0		2954.0			
30.0		2950.0			



WELL NAME FIELD	CCS-G 32306 #1 1MC 252 #1	RIG DATE	Deepwater Horizon 15-Feb-10	SUPERVISOR	M. Sepulvado	TEST TYPE	O FIT ● LOT
ELEVATION KB	75 ft	HOLE TD (MD)	9,096 ft	CSG SHOE (MD)	8,969 ft	INCLINATION	00.0 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	9,096 ft	CSG SHOE (TVD)	8,969 ft	AT SHOE	
MUD WEIGHT	SURFACE 10.6 ppg	DIH ESD TEST RATE (bpm)	10.7 ppg		0.50		

PRE-TEST CALCULATIONS/RECORDINGS: (Surface) (Downhole)

PROJECTED FIT/LOT: 12, ppg

Expected pressure for "Projected FIT/LOT": (psi): 652

POST-TEST RESULTS

MAXIMUM OBSERVED PRESS (psi): 550

INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi): 501

MUD PUMPED (bbl): 4.25

MUD FLOW BACK (bbl): 3.50

MINIS Value --> MEASURED PIT (EMW) = 11.79 ppg

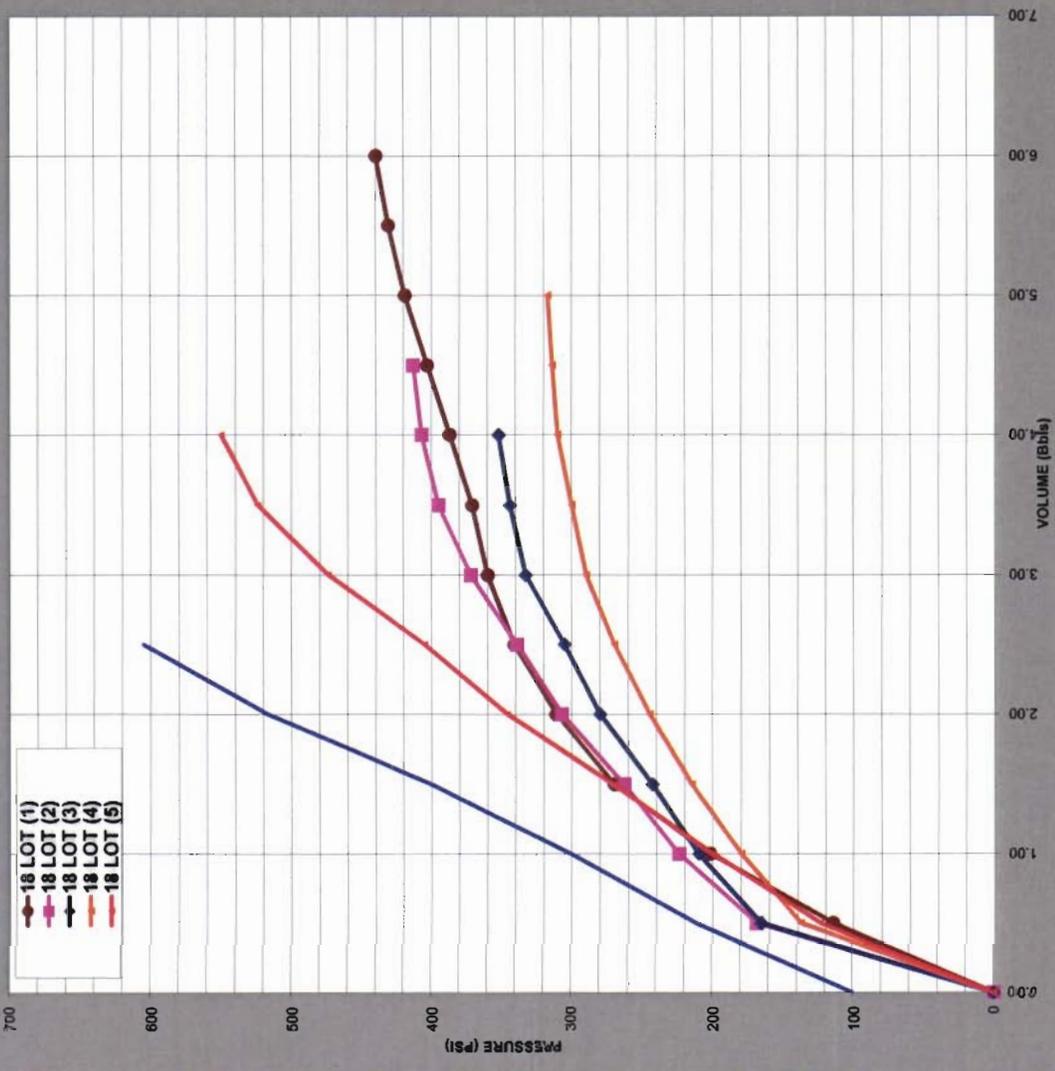
MEASURED LOT (EMW) = 11.68 ppg

11.89 ppg

11.78 ppg

(PIT - RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST			
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)	VOL (bbl)	PRESSURE
0	0.00	100.0	0	0.00	0
0.5	0.50	212.0	0.50	124	124
1.0	1.00	300.0	1.00	200	200
1.5	1.50	400.0	1.50	271	271
2.0	2.00	517.0	2.00	346	346
2.5	2.50	605.0	2.50	405	405
3.0	3.00	703.0	3.00	474	474
3.5	3.50	824.0	3.50	524	524
4.0	4.00	916.0	4.00	550	550
4.5	4.50	1008.0	4.50	501	501
5.0	5.00	1102.0	5.00	470	470
5.5	5.50	1186.0	5.50	464	464
6.0	6.00	1279.0	6.00	460	460
6.5	6.50	1378.0	6.50	457	457
7.0	7.00	1466.0	7.00	453	453
7.5	7.50	1561.0	7.50	448	448
8.0	8.00	1665.0	8.00	444	444
8.5	8.50	1755.0	8.50	441	441
9.0	9.00	1859.0	9.00	440	440
9.5	9.50	1931.0	9.50	439	439
10.0	10.00	2025.0	10.00		
10.5	10.50	2155.0	10.50		
11.0	11.00	2258.0	11.00		
11.5	11.50	2358.0	11.50		
12.0	12.00	2456.0	12.00		
12.5	12.50	2560.0	12.50		
13.0	13.00	2657.0	13.00		
13.5	13.50	2756.0	13.50		
14.0	14.00	2858.0	14.00		
14.5	14.50	2950.0	14.50		
15.0	15.00	3050.0	15.00		
0.0		3008.0			
1.0		2987.0			
2.0		2984.0			
3.0		2978.0			
4.0		2974.0			
5.0		2972.0			
6.0		2971.0			
7.0		2969.0			
8.0		2967.0			
9.0		2967.0			
10.0		2965.0			
15.0		2962.0			
20.0		2958.0			
25.0		2954.0			
30.0		2950.0			



WELL NAME	OC-S-G 32306 #1	RIG	Deepwater Horizon	SUPERVISOR	M. Sepulvado	TEST TYPE	LOT
FIELD	MC 252 #1	DATE	7-Mar-10	CSG SHOE (#D)	11,585 ft	INCLINATION	00.0 deg

ELEVATION KB	75 ft	HOLE TD (MD)	11,638 ft	CSG SIZE OD	16
WATER DEPTH	4,992 ft	HOLE TD (TVD)	11,638 ft	TYPE	Liner

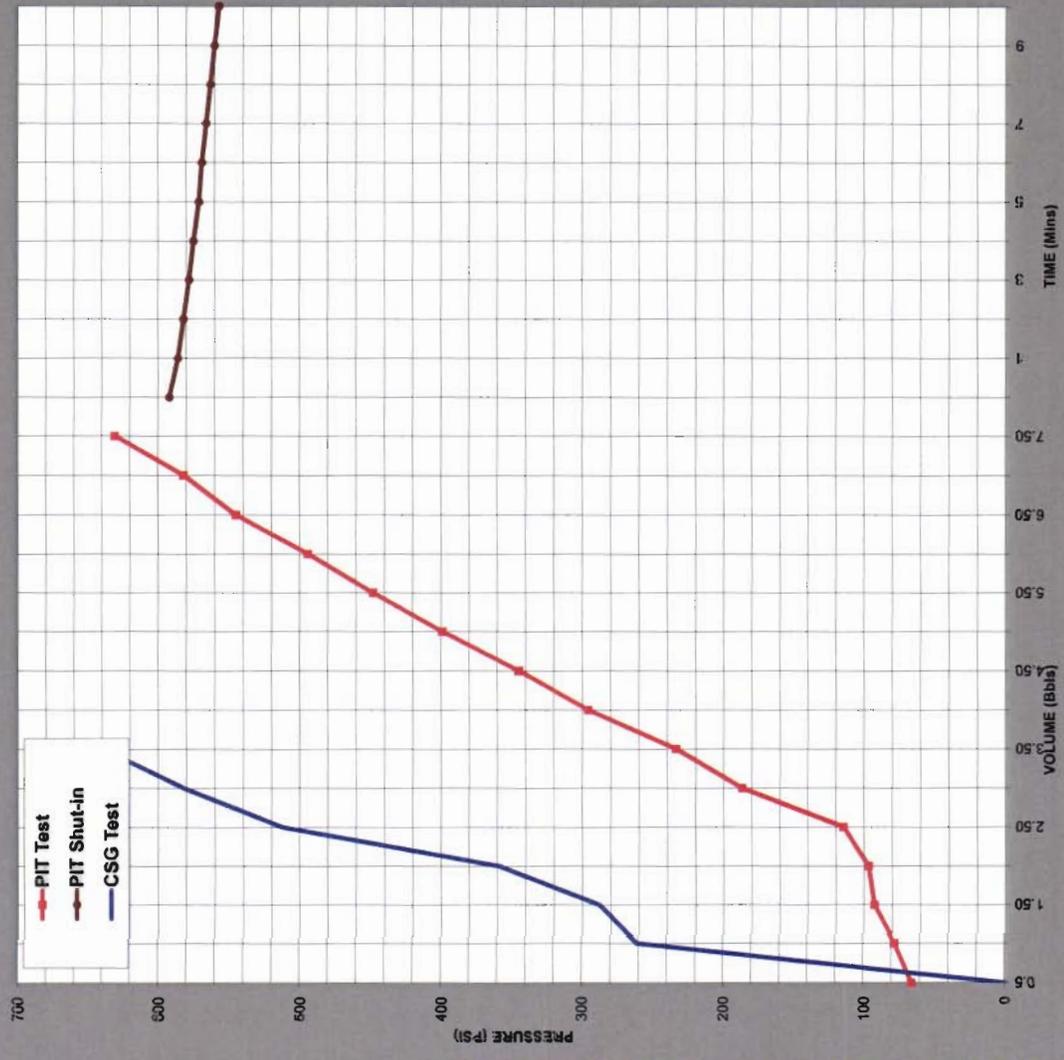
MUD WEIGHT	11.5 ppg	DH ESD	11.71 ppg	TEST RATE (bpm)	0.50
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PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT:	12.8 ppg
Expected pressure for "Projected FIT/LOT", (psi):	782
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	531
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	592
MUD PUMPED (bbl):	7.50
MUD FLOW BACK (bbl):	7.50
MMS Value -> MEASURED PIT (EMW) =	12.55 ppg
MEASURED LOT (EMW) =	12.48 ppg
	12.76 ppg
	12.69 ppg

(PIT - RECORDED VOLUME PUMPED EVERY 0.25 BBL OR 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST	
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)
0.0	0.00	0	1
1.0	0.50	176	2.0
2.0	1.00	261	3.0
3.0	1.50	288	4.0
4.0	2.00	358	5.0
5.0	2.50	512	6.0
6.0	3.00	581	7.0
7.0	3.50	639	8.0
8.0	4.00	713	9.0
9.0	4.50	834	10.0
10.0	5.00	959	11.0
11.0	5.50	1052	12.0
12.0	6.00	1106	13.0
13.0	6.50	1228	14.0
14.0	7.00	1274	15.0
15.0	7.50	1323	0.0
16.0	8.00	1436	1.0
17.0	8.50	1549	2.0
18.0	9.00	1636	3.0
19.0	9.50	1711	4.0
20.0	10.00	1782	5.0
21.0	10.50	1879	6.0
22.0	11.00	2039	7.0
23.0	11.50	2091	8.0
24.0	12.00	2145	9.0
25.0	12.50	2262	10.0
26.0	13.00	2316	
27.0	13.50	2400	
28.0	14.00	2524	
29.0	14.50	2612	
30.0	15.00	2728	
31.0	15.50	2838	
32.0	16.00	2882	
33.0	16.50	3033	
34.0	17.00	3129	
35.0	17.50	3218	
36.0	18.00	3262	
37.0	18.50	3357	
38.0	19.00	3442	
39.0	19.50	3591	
40.0	20.00	3667	
41.00	ISIP	3640	
1.00		3618	
2.00		3614	
3.00		3614	
4.00		3613	
5.00		3611	



WELL NAME	OCS-G 32306 #1	RIG	Deepwater Horizon
FIELD	MC 252 #1	DATE	26-Mar-10
SUPERVISOR	Vidrine/ Lee	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT

ELEVATION KB	75 ft	HOLE TD (MD)	15,113 ft	CSG SIZE OD	11 7/8	INCLINATION	00.5 deg
WATER DEPTH	4,992 ft	HOLE TD (TVD)	15,103 ft	TYPE	Liner	AT SHOE	

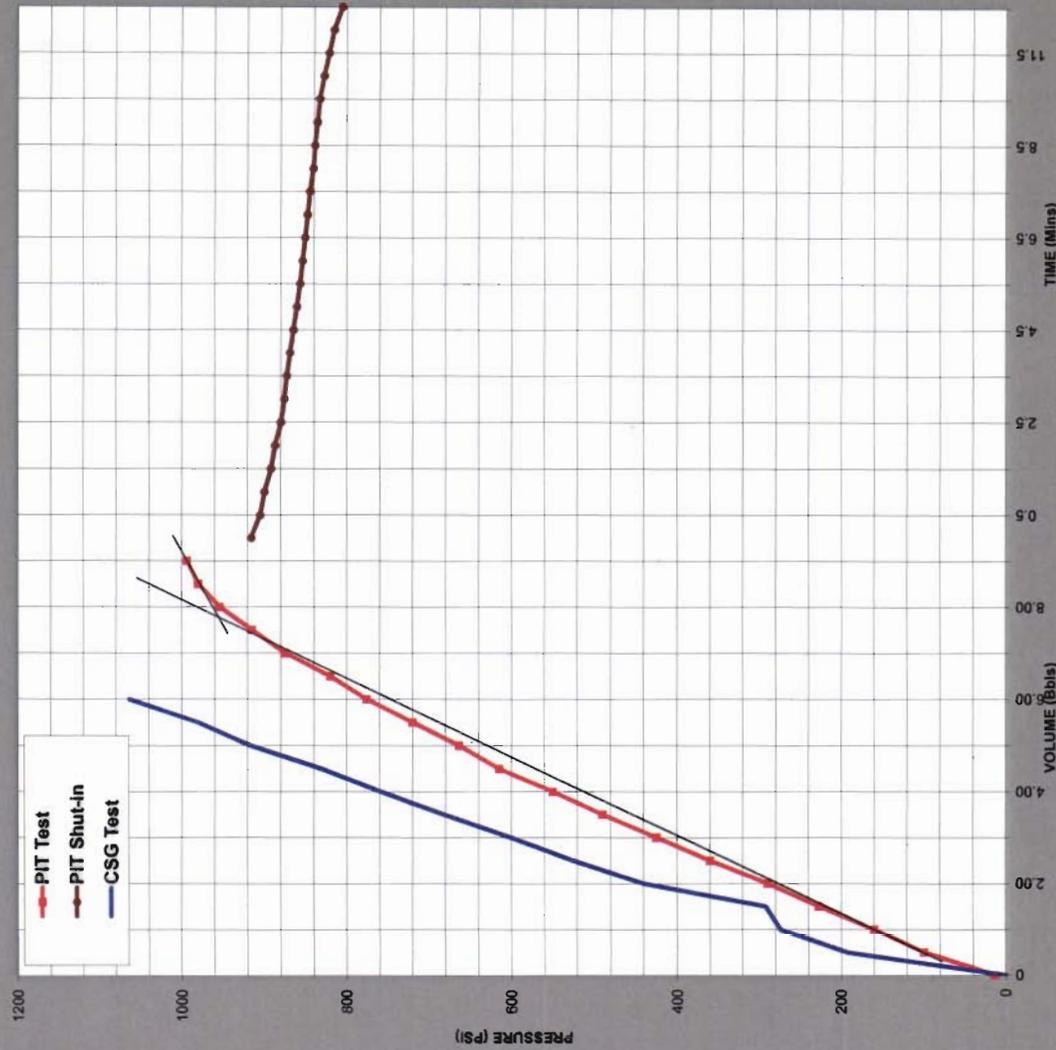
MUD WEIGHT	SURFACE	DH ESD	TEST RATE (bpm)	0.50
	13.4 ppg	13.78 ppg		

PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT:	14.6 ppg
Expected pressure for "Projected FIT/LOT", (psi):	941
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	964
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	960
MUD PUMPED (bbl):	9.00
MUD FLOW BACK (bbl):	6.75
MIMS Value --> MEASURED PIT (EMW) =	14.67 ppg
MEASURED LOT (EMW) =	14.62 ppg
	15.05 ppg
	15. ppg

(PIT - RECORDED VOLUME PUMPED EVERY 0.25 BBL OR 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST	
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)
0	0.00	0.0	0
1.0	0.50	193	0.50
2.0	1.00	274	1.00
3.0	1.50	292	1.50
4.0	2.00	440	2.00
5.0	2.50	525	2.50
6.0	3.00	600	3.00
7.0	3.50	682	3.50
8.0	4.00	758	4.00
9.0	4.50	830	4.50
10.0	5.00	917	5.00
11.0	5.50	980	5.50
12.0	6.00	1064	6.00
13.0	6.50	1135	6.50
14.0	7.00	1214	7.00
15.0	7.50	1290	7.50
16.0	8.00	1362	8.00
17.0	8.50	1439	8.50
18.0	9.00	1500	9.00
19.0	9.50	1562	
20.0	10.00	1648	
21.0	10.50	1722	
22.0	11.00	1801	



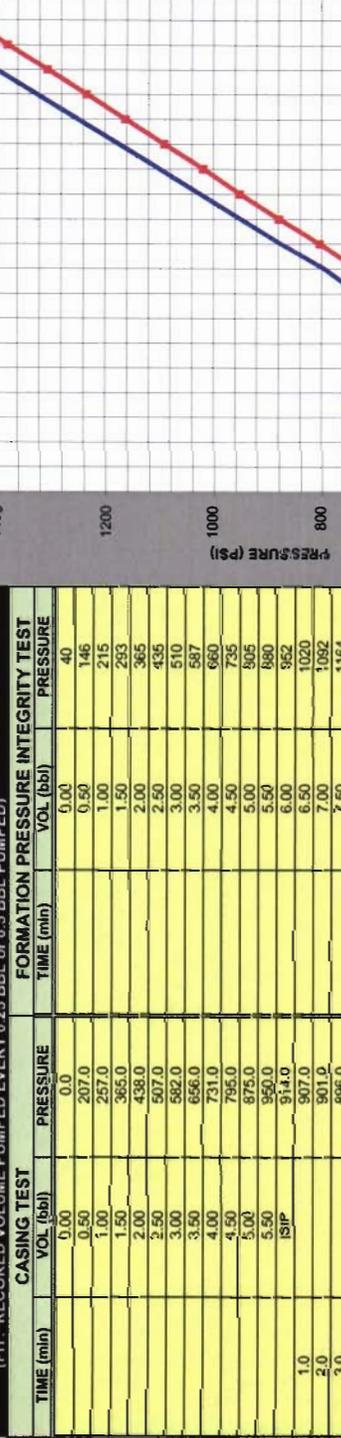
WELL NAME FIELD	OCS-G 32306 #1 MC 252 #1	RIG DATE	Deepwater Horizon 2-Apr-10	SUPERVISOR	Lee / Price	TEST TYPE	<input type="radio"/> FIT <input checked="" type="radio"/> LOT
ELEVATION @ WATER DEPTH	76 ft 4,992 ft	HOLE TD (MD) HOLE TD (TVD)	17,183 ft 17,173 ft	CSG SIZE OD TYPE	9 7/8 Linear	INCLINATION AT SHOE	00.5 deg
MUD WEIGHT	SURFACE 14.3 ppg	DH ESD 14.52 ppg	TEST RATE (bpm)	0.50			

PRE-TEST CALCULATIONS/RECORDINGS (Surface) (Downhole)

PROJECTED FIT/LOT:	15.2 ppg
Expected pressure for "Projected FIT/LOT", (psf):	802
POST-TEST RESULTS	
MAXIMUM OBSERVED PRESS (psi):	1520
INITIAL SHUT-IN (ISIP) OR LOT PRESS (psi):	10.00
MUD PUMPED (bbl):	10.00
MUD FLOW BACK (bbl):	10.00
MMS Value --> MEASURED FIT (EMW) =	16.01 ppg
MEASURED LOT (EMW) =	16.23 ppg

(PIT- RECORDED VOLUME PUMPED EVERY 0.25 BBL or 0.5 BBL PUMPED)

CASING TEST		FORMATION PRESSURE INTEGRITY TEST	
TIME (min)	VOL (bbl)	PRESSURE	TIME (min)
0.00	0.00	0.0	0.00
0.50	0.50	207.0	0.50
1.00	1.00	257.0	1.00
1.50	1.50	365.0	1.50
2.00	2.00	438.0	2.00
2.50	2.50	507.0	2.50
3.00	3.00	582.0	3.00
3.50	3.50	656.0	3.50
4.00	4.00	731.0	4.00
4.50	4.50	795.0	4.50
5.00	5.00	875.0	5.00
5.50	5.50	950.0	5.50
6.00	6.00	914.0	6.00
6.50	6.50	907.0	6.50
7.00	7.00	901.0	7.00
7.50	7.50	896.0	7.50
8.00	8.00	894.0	8.00
8.50	8.50	894.0	8.50
9.00	9.00	894.0	9.00
9.50	9.50	894.0	9.50
10.00	10.00	892.0	10.00
10.50	10.50	892.0	10.50
11.00	11.00	891.0	11.00
11.50	11.50	889.0	11.50
12.00	12.00	888.0	12.00
12.50	12.50	888.0	12.50
13.00	13.00	887.0	13.00
13.50	13.50	887.0	13.50
14.00	14.00	887.0	14.00
14.50	14.50	887.0	14.50
15.00	15.00	887.0	15.00
15.50	15.50	887.0	15.50
16.00	16.00	887.0	16.00
16.50	16.50	887.0	16.50
17.00	17.00	887.0	17.00
17.50	17.50	887.0	17.50
18.00	18.00	887.0	18.00







Event Summary
OSC-G 32306 – MC 252 #1
Deepwater Horizon
Macondo
8.5x9.875" Open Hole Mud Loss Event



8.5x9.875" Open Hole Mud Loss Event Summary

Title: Macondo 8.5x9.875" Open Hole Mud Loss Event Summary
To: Mark Haffe, Brian Morel, Brett Cocales, John Guide, Greg Walz, David Sims
CC: Mark Alberty, Jianguo Zhang, Randall Sant; Andres Diaz
From: John Lebleu – Drilling Excellence Group
Date: May 13, 2010

Objective: To summarize and review the third drilling related mud loss event on the Macondo well and use the lessons learned and corrective actions for future wells.

Background: EPT was engaged in the planning phase of Macondo concerning stress cage and also engaged when loss events occurred. During and after the loss events a joint effort was made by EPT, Macondo drilling engineering, operations, subsurface and I to identify the cause of the losses, learn from the event, and apply the learnings as we drill ahead. During the review of the near 18" shoe event I asked for and received permission to share Macondo information with EPT to help in the review of the loss event. The information provided to EPT on the near 18" shoe event was daily mud reports, daily drilling reports, M-I SWACO daily stacked sieve information, daily geological reports, daily PPFPG reports, and mud logger captured time based data on depth, rop, rpm, torque, flow in, flow out, riser flow, stand pipe pressure, pump rate and strokes.

Because of the previous weak shoe and mud loss events on Macondo, I decided to try a more proactive method of using EPT expertise by sending them the above mentioned data on a daily basis from the start of the 8.5"x9.875" interval. Mark Alberty and Jianguo Zhang with EPT agreed that this would allow them to be more proactive in their recommendations.

Pre Event: 14.75" x 16.5" OH 13.625" liner -After the Kick and stuck pipe event that occurred in the (14.75" x 16.5") interval below the 16" casing, the well was plugged back to 11,615' and side tracked. We kicked off the cement plug and drilled 14.75" x 16.5" hole to 13,150' MD with 12.3 ppg mwt and raised mud weight to 12.4 ppg before POOH to run the liner. Ran 13.625" liner with no mud losses, circulated with no losses, cemented losing 76 bbls.

12.25" x 14.5" OH 11.875" liner -The mud weight was increased from 12.4 ppg to 12.5 ppg while drilling 13.625" the liner shoe track. 10' of new formation was drilled and LOT to 14.66 ppg EMW. Raised mud weight to 12.8 ppg and drilled 12.25" x 14.5" hole to 13,554' and weighted up to 13.0 ppg. Drilled to 13,930' and raised mwt to 13.2 ppg due to pore pressure increase. Drilled 14,581' and raised mwt to 13.3 ppg, at 14,754' ECD increased to 13.77 ppg and circulated to reduce to 13.72 ppg. Drilled to TD for interval at 15,113' and pumped 200 bbl high viscosity sweep and weighted up to 13.4 ppg. Sweep brought no increase in cuttings at the shakers. Ran 11.875" liner with no losses, circulated with 79 bbls lost and some evidence of ballooning. Lost 228 bbls while cementing.

10.625" x 12.25" OH 13.625" liner -Drilled shoe track and 10' of new formation with 10.625" x 12.25". Leak off tested the formation to 14.7 ppg EMW and raised mud weight to 13.6 ppg. Drilled ahead and increased mud weight to 13.7 ppg at 15,575', 13.8 ppg at 16,075', 13.9 ppg at 16,341', 14.0 ppg at 16,782', and drilled to interval TD of 17,173' and increased the mud weight to 14.1 ppg before running 9.875" liner. 59 bbs of mud was lost while running liner, 50 bbls circulating and 233 bbls while cementing.

Event Summary - 1st 8.5" x 9.875" interval event: Tripped in the hole with a 8.5" x 9.875" drilling assembly and weighed up to 14.3 ppg before drilling shoe track. 10' of new formation was drilled to 17,183' and FIT to 15.98 ppg EMW. Drilled to 17,634' and increased the mud weight to 14.5 ppg. Drilled to 17,761' MD and noted a 134 bbl loss. Flow check was unable to obtain a no flow and shut well in with 110 psi on choke and incrementally ballooned back to 0 psi over 6.5 hours. Pumped 184 bbl 84 ppb mixed LCM pill and spotted at 17,761' lost 41 bbls putting pill in place. Continued drilling to 17,835' and took GEO-TAP @ 17,723' with 14.15 ppg EMW. Cut the mud weight to 14.3 ppg and pumped a 178 bbl 84 ppb mixed LCM pill. Circulated bottoms up and got 309 units of gas. Flow checked at 17,634' and flowed back 16 bbls in one hour and well went static. Washed down to 17,835' and pumped 100 bbl 84 ppb mixed LCM pill. Drilled ahead to 17,909' with no mud losses noted. Total losses to this point were 233 bbls.

Event Summary - 2nd 8.5" x 9.875" event: Continued drilling to 18,195' and took GEO-TAP at 18,089' with 12.58 ppg EMW. Continued to drill to 18,260' where ROP dropped and a decision was made to increase the mud weight to 14.4 ppg and POOH for

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	<p style="text-align: center;"> Event Summary OSC-G 32306 – MC 252 #1 Deepwater Horizon Macondo 8.5x9.875" Open Hole Mud Loss Event </p>	
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bit and reamer. At 9322 strokes of 14.4 ppg pumped complete returns were lost and annular was closed and 23 bbls of base oil was placed in the Kill line. Pumped 171 bbls of 84 ppb mixed LCM with the annular closed, looking for returns on Kill line side. Relieved pressure on annular and allowed mud to fall, pressures back up on the annular and topped off riser with 301 bbls of base oil. Opened the annular and the well was static. The calculated EMW at TD was 13.9 ppg. POOH into casing cutting mud weight on surface to from 14.3 to 14.0 ppg. Closed the annular and displace the riser to 14.0 ppg. Monitored the well on the kill line and the well was static. Pumped 184 bbls of 84 ppb mixed LCM pill with annular closed monitoring for returns from the kill line. No returns and drill pipe was slugged. Total losses to this point for the 2nd interval event were 1902 bbls.

Stripped out of hole to 14,937' and pumped 80 bbls of Form-a-squeeze followed by 180 bbls of Form-a-set followed by 40 bbls of Form-a-squeeze followed with 14.0 ppg mud at 6 bbls per minute. Displaced out of drill string and squeezed pills at 0.5 bbls per minute building pressure to 132 psi after 78 bbls pumped. Waited 2.5 hours and bled 75 psi off and opened kill valve and monitored well on mini trip tank. Opened the annular and monitored the well on the trip tank. Decided to build another Form-a-squeeze/Form-a-set pill while waiting on 1st pill 3 more hours, opened the annular and observed losses were 12 bbls per hour. Pumped 80 bbls of the Form-a-squeeze pill into the drill pipe at 9.5 bbls per minute and had returns so decision was made to suspend pumping pills and pumped the 80 bbl Form-a-squeeze pill around and out cutting mud weight to 14.0 ppg. Closed annular and displaced choke and kill lines to 14.0 ppg. POOH and changed out bit and reamer (Baker reamer had all cutters broken or missing and blades were worn past cutter pockets).

Ramped up to full recommended stress cage background LCM ((8 ppb Safecarb 500, 7 ppb Safecarb 250, and 4 ppb of G-seal+) (420 micron fracture width)) and TIH breaking circulation regularly, and washed and reamed. While back-reaming the flow rate dropped from 39% to 29%, the pump pressure dropped from 2049 psi to 1924 psi, and the ECD dropped from 14.5 to 14.4 ppg. Monitored on trip tank, initial losses were 6 BPH and ended the hour at 1.2 BPH with total lost in one hour of 3 bbls. Pumped 172 bbls of 84 ppb mixed LCM with full returns. Continued to wash and ream from 18,234' to 18,260' and drilled to 18,360 losing total of 51 bbls.

E-logged well for 5 days with well staying static. TIH with and cleaned out with no losses, POOH and could not retrieve the wear bushing. POOH, picked up tool, TIH and retrieved wear bushing. Picked up and ran the 7" x 9.875" production casing string and TIH with no mud losses. Circulated and cemented with no mud losses.

The total mud losses for this interval were 3271 bbls bbls.

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Event Summary
 OSC-G 32306 – MC 252 #1
 Deepwater Horizon
 Macondo
 8.5x9.875" Open Hole Mud Loss Event



Stacked Sieve Data:

			3/28/2010		4/3/2010		4/4/2010	
			100.0 ml	LBS/BBL	100.0 ml	LBS/BBL	100.0 ml	LBS/BBL
Sieve Size No.	US Mesh / Theoretical Opening	(µm) Sieve Opening ASTM II						
18	1000	1000						
20	841	850						
25	707	710	0.025	0.1	0.025	0.1	0.01	0.0
30	595	600						
35	500	500	0.125	0.5	0.125	0.5	0.15	0.6
40	420	425						
45	354	355						
50	297	300						
60	250	250	0.25	1.0	0.25	1.0	0.25	1.0
70	210	212						
80	177	180						
100	149	150						
120	125	125						
140	105	106	1.75	6.7	1.5	5.8	1.5	5.8
170	88	90						
200	74	75	2	7.7	2.25	8.7	2.5	9.6
This fluid contains LPM (lbs/bbl)			16 ppb		16 ppb		17 ppb	
Larger than (microns)			75		75		75	

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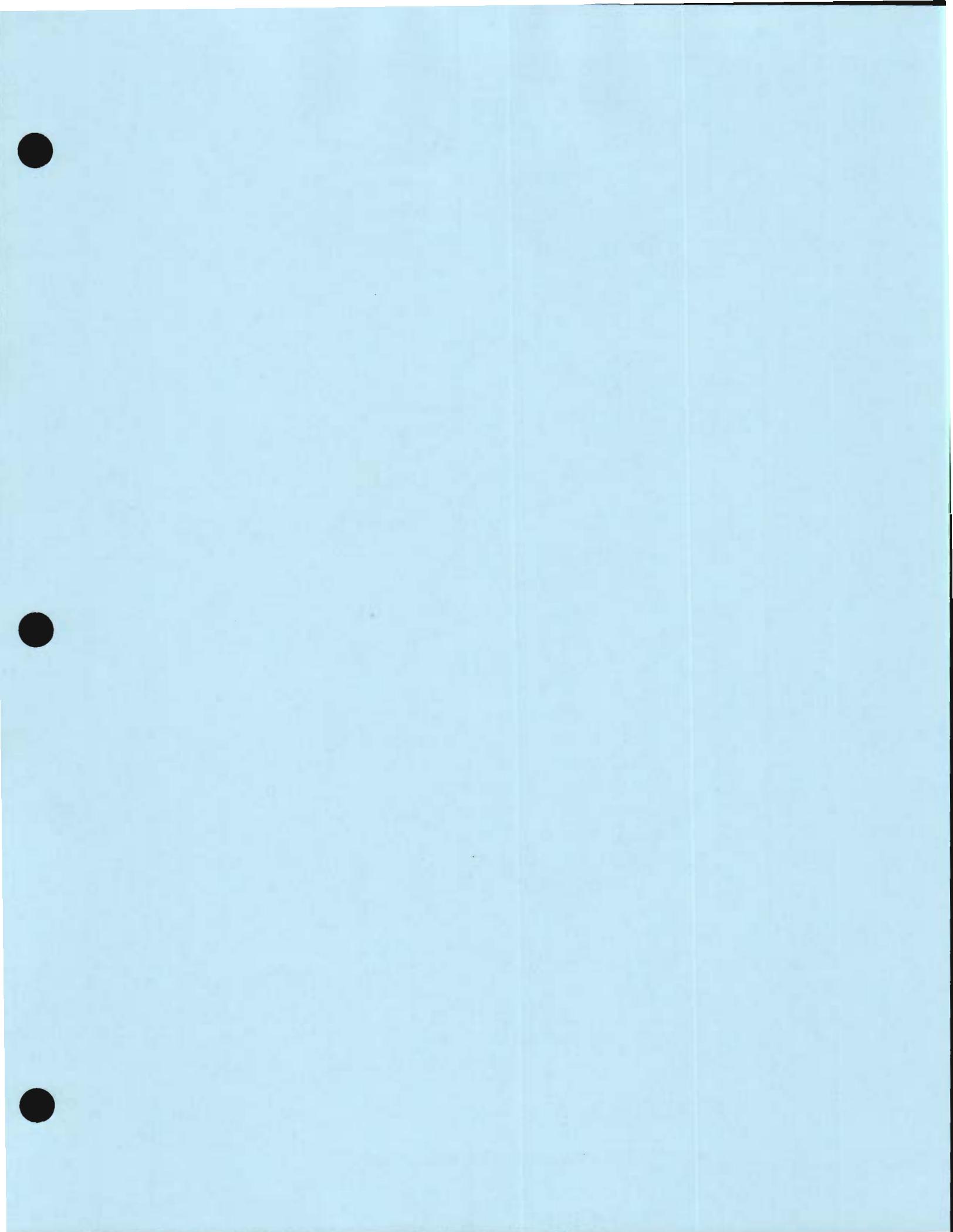
Event Summary
 OSC-G 32306 – MC 252 #1
 Deepwater Horizon
 Macondo
 8.5x9.875" Open Hole Mud Loss Event



Stacked Sieve Data: (continued) (mud losses caused 4/7/2010 concentration to drop)

			4/7/2010		4/8/2010		4/9/2010	
			100.0 ml	LBS/BBL	100.0 ml	LBS/BBL	100.0 ml	LBS/BBL
Sieve Size No.	US Mesh / Theoretical Opening	(µm) Sieve Opening ASTM E 11						
18	1000	1000						
20	841	850						
25	707	710	0					
30	595	600						
35	500	500	0.15	0.6	2	7.7	2.1	8.1
40	420	425						
45	354	355						
50	297	300						
60	250	250	0.25	1.0	1.75	6.7	1.75	6.7
70	210	212						
80	177	180						
100	149	150						
120	125	125						
140	105	106	1	3.9	0.75	2.9	0.5	1.9
170	88	90						
200	74	75	1.75	6.7	0.75	2.9	0.75	2.9
This fluid contains LPM (lbs/bbl)			12 ppb		20 ppb		20 ppb	
Larger than (microns)			75		75		75	

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Macondo 8 1/2" x 9 7/8" Hole Section

Randall Sant - EPT STS Drilling

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delivering breakthrough solutions



LOT @ 9 7/8" liner shoe



- 10 5/8" x 12 1/4" hole section to 17,173' MDRT; 9 7/8" liner shoe @ 17,168' MDRT.
- Increase MW f/ 14.1ppg to 14.3ppg.
- D/O shoe & 10ft new formation - ECD 14.73ppg, ESD 14.52ppg.
- Perform FIT - pump up ESD 16.22ppg

EPT 2



Incident

- D/A.
- Increase MW to 14.5ppg @ 17,634' MDRT & D/A.
- 134bbls lost @ 17,761' . FLC - +ve, shut in well (ballooning??)
- Bleed back 34.8bbls, lose 233bbls in 24hrs.
- Pump 184bbls of 84ppb LCM pill & spot @ 17,761' . 41bbls lost while pumping & spotting pill.
- D/A to 17,835' . W&R. Take Geotap pressures - 14.14-14.16ppg.
- Decrease MW f/ 14.5ppg to 14.3ppg.
- Pump 178bbls of 84ppb LCM pill.
- POH to 17,634' . Circ. While cutting MW to 14.3ppg.
- FLC - +ve w/ 16bbls flow-back; after 1hr, well Static.
- Wash down. Pump 100bbls of 84ppb LCM pill

Background Material: 04/03

0.1ppb > 710µm
0.5ppb > 500µm but < 710µm
1.0ppb > 250µm but < 105µm
5.8ppb > 105µm but < 250µm

EPT 3

Incident



- D/A to 17,909' : ECD - 14.9ppg, ESD - 14.5 to 14.82ppg, no losses.
- Take Geotap pressure @ 18,089' - 12.58ppg EMW.
- D/A to 18,260' : ECD - 14.13ppg, ESD 14.10 - 14.15ppg (???)
- ROP drop off, decision to POH after increasing MW to 14.4ppg.
- Increase MW to 14.4ppg, after 9322stks, lost returns.
- Close annular. Pump 171bbbls of 84ppb LCM pill, 639bbbls lost.
- Allow mud in riser to fall to create riser cap, top off with 6.6ppg base oil - total of 301bbbls base oil used with EMW of 13.9ppg @ TD.
- POH to 17,146' ; static losses @ 6bbbls/hr.
- Decrease surface MW f/ 14.3 to 14.0ppg. Displace riser to 14.0ppg MW.
- Pump 187bbbls of 84ppb LCM pill, no returns.
- Strip out to 16,272' , 1263bbbls lost in 24hrs.
- Con' t strip out to 14,937' ; 6.3bbbls in 2mins static lost rate
observed

EPT 1

con't



- Pump tandem form-a-set / form-a-squeeze pill, displace w/ 14.0ppg MW.
- HES squeeze tandem pill @ 0.5bbls/min; ISIP after squeeze - 160psi; 1586bbls lost in 24hrs.
- Static loss rate @ 12bbls/hr.
- Prepare to pump another tandem pill. Pump 80bbls form-a-squeeze pill, returns observed. FLC - static.
- Circulate form-a-squeeze pill OOH and cut MW to 14.0ppg.
- FLC - static. POOH.

Background Material: 04/04 - 04/07

0.1ppb > 710µm

0.5ppb > 500µm but < 710µm

1.0ppb > 250µm but < 105µm

3.9 - 5.8ppb > 105µm but < 250µm

EPT 5



Incident

- RIH w/ 8 1/2" assembly to 17,668' . Stage pumps up to 300gpm. no losses.
- Wash down to 17,686' , tag w/ 9k. W&R to 18,231' w/ intermittent spots where WOB, ECD and SPP increased slightly.
- While back-reaming last stand, observed a decrease in flow (39-29%), SPP (2049-1924psi) & ECD (14.5-14.4ppg).
- Shut off pumps, initial static losses 6bbl/hr which decreased to 1.2bbls/hr
- Pump 172bbls LCM pill (84lb/bbl) @ 30spm and displace w/ full returns.
- Wash down to 18,260' ; C&C mud.
- D/A to 18,360' . Circulate hole clean @ 300 gpm. ECD 14.2-14.0ppg.
- POH, tight @ 18,195' , 18,135' & 18,132' (300gpm).
- FLC - static.

6.7ppb > 250µm but < 105µm
 1.9ppb > 105µm but < 250µm

8 1/2" x 9 7/8" Hole - Logging, Casing Run & Cementing



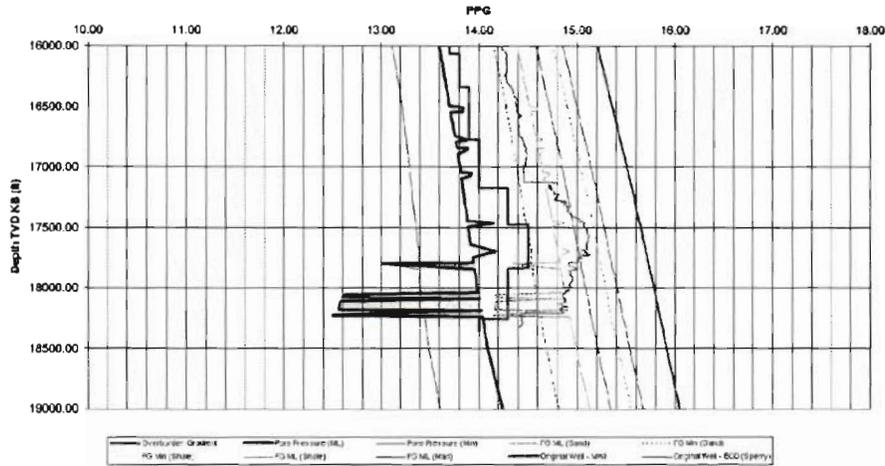
- Run E-Logs, could not get past 18,280' . Log up from this depth.
- RIH w/ 8 1/2" C/O BHA to 17' 168' . Stage pumps to 300gpm, no losses.
- RIH to 17' 668' . Stage pumps to 300gpm, no losses.
- RIH to 18,127' . W&R to 18,360' w/ 10k @ 18,272' & 15k @ 18,280' obs.
- C&C mud @ 18,360' , no losses - ESD - 14.20, 14.19ppg.
- POOH.
- Run 7" x 9 5/8" liner to 18,303' with no reported losses.
- Pump cement w/ 1.0lb/bbl WellLife with no reported losses.

EPT 7

PPFG Chart Extract



Macondo Original PPFG



EPT 8



Macondo 8 1/2" x 9 7/8" Hole Section



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LOT @ 9 7/8" liner shoe

bp



- 10 5/8" x 12 1/4" hole section to 17,173' MDRT; 9 7/8" liner shoe @ 17,168' MDRT.
- Increase MW f/ 14.1ppg to 14.3ppg.
- D/O shoe & 10ft new formation – ECD 14.73ppg, ESD 14.52ppg.
- Perform FIT – pump up ESD 16.22ppg

8 1/2" x 9 7/8" Hole – 1st Lost Circulation Incident

bp



- D/A.
- Increase MW to 14.5ppg @ 17,634' MDRT & D/A.
- **134bbls lost @ 17,761'**. FLC - +ve, shut in well (ballooning??)
- Bleed back 34.8bbbls, lose 233bbbls in 24hrs.
- Pump 184bbbls of 84ppb LCM pill & spot @ 17,761'. 41bbbls lost while pumping & spotting pill.
- D/A to 17,835'. W&R. Take Geotap pressures – 14.14-14.16ppg.
- Decrease MW f/ 14.5ppg to 14.3ppg.
- Pump 178bbbls of 84ppb LCM pill.
- POH to 17,634'. Circ. While cutting MW to 14.3ppg.
- FLC - +ve w/ 16bbbls flow-back; after 1hr, well static.
- Wash down. Pump 100bbbls of 84ppb LCM pill

Background Material: 04/03

- 0.1ppb > 710µm
- 0.5ppb > 500µm but < 710µm
- 1.0ppb > 250µm but < 105µm
- 5.8ppb > 105µm but < 250µm

8 1/2" x 9 7/8" Hole – 2nd Lost Circulation Incident

bp



- D/A to 17,909': ECD – 14.9ppg, ESD – 14.5 to 14.82ppg, no losses.
- Take Geotap pressure @ 18,089' – 12.58ppg EMW.
- D/A to 18,260': ECD - 14.13ppg, ESD 14.10 - 14.15ppg (???)
- ROP drop off, decision to POH after increasing MW to 14.4ppg.
- Increase MW to 14.4ppg, after 9322stks, **lost returns**.
- Close annular. Pump 171bbbls of 84ppb LCM pill, 639bbbls lost.
- Allow mud in riser to fall to create riser cap, top off with 6.6ppg base oil – total of 301bbbls base oil used with EMW of 13.9ppg @ TD.
- POH to 17,146'; static losses @ 6bbbls/hr.
- Decrease surface MW f/ 14.3 to 14.0ppg. Displace riser to 14.0ppg MW.
- Pump 187bbbls of 84ppb LCM pill, no returns.
- Strip out to 16,272', 1263bbbls lost in 24hrs.
- Con't strip out to 14,937'; 6.3bbbls in 2mins static lost rate observed.

8 1/2" x 9 7/8" Hole – 2nd Lost Circulation Incident con't

bp



- Pump tandem form-a-set / form-a-squeeze pill, displace w/ 14.0ppg MW.
- HES squeeze tandem pill @ 0.5bbbls/min; ISIP after squeeze – 160psi; 1586bbbls lost in 24hrs.
- Static loss rate @ 12bbbls/hr.
- Prepare to pump another tandem pill. Pump 80bbbls form-a-squeeze pill, returns observed. FLC – static.
- Circulate form-a-squeeze pill OOH and cut MW to 14.0ppg.
- FLC – static. POOH.

Background Material: 04/04 – 04/07

- 0.1ppb > 710µm
- 0.6ppb > 500µm but < 710µm
- 1.0ppb > 250µm but < 105µm
- 3.9 - 5.8ppb > 105µm but < 250µm

8 1/2" x 9 7/8" Hole – 3rd Lost Circulation Incident

bp



- RIH w/ 8 1/2" assembly to 17,668'. Stage pumps up to 300gpm, no losses.
- Wash down to 17,686', tag w/ 9k. W&R to 18,234' w/ intermittent spots where WOB, ECD and SPP increased slightly.
- While back-reaming last stand, observed a decrease in flow (39-29%), SPP (2049-1924psi) & ECD (14.5-14.4ppg).
- Shut off pumps, initial static losses 6bbbl/hr which decreased to 1.2bbbls/hr
- Pump 172bbbls LCM pill (84lb/bbl) @ 30spm and displace w/ full returns.
- Wash down to 18,260'; C&C mud.
- D/A to 18,360'. Circulate hole clean @ 300gpm – ESD 14.22ppg.
- POH, tight @ 18,195', 18,135' & 18,132' (5-10k).
- FLC – static.

Background Material: 04/08 – 04/09

7.7 - 8.1ppb > 500µm

6.7ppb > 250µm but < 105µm

1.9ppb > 105µm but < 250µm

8 1/2" x 9 7/8" Hole – Logging, Casing Run & Cementing

bp



- Run E-Logs, could not get past 18,280'. Log up from this depth.
- RIH w/ 8 1/2" C/O BHA to 17'168'. Stage pumps to 300gpm, no losses.
- RIH to 17'668'. Stage pumps to 300gpm, no losses.
- RIH to 18,127'. W&R to 18,360' w/ 10k @ 18,272' & 15k @ 18,280' obs.
- C&C mud @ 18,360', no losses – ESD – 14.20, 14.19ppg.
- POOH.
- Run 7" x 9 5/8" liner to 18,303' with no reported losses.
- Pump cement w/ 1.0lb/bbl WellLife with no reported losses.

PPFG Chart Extract

bp



Macondo Original PPFG

