

**From:** Mason, Mike C  
**Sent:** Sun May 16 15:49:30 2010  
**To:** Birrell, Gordon Y; Dupree, James H  
**Subject:** FW: Macondo SIWHP Build-up Rate Final Report.doc  
**Importance:** Normal  
**Attachments:** Expected Macondo Reservoir Depletion.xls  
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Attached are plots describing the rates required to result in a given reservoir depletion pressure. If you have questions let me know.

**Mike Mason PE**  
Vice President, Base Management  
BP Exploration & Production Technology  
Contact Details  
Office - 281 504 2227  
Cell - [REDACTED]

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**From:** Liao, Tony T  
**Sent:** Sunday, May 16, 2010 10:36 AM  
**To:** Mason, Mike C  
**Subject:** RE: Macondo SIWHP Build-up Rate Final Report.doc

Hi Mike,

Here are the calculation results I got:

To get an 700 psi depletion from 4/20/2010 to 15May2010, the rate required is 86,600 B/D.

Attached please find the Excel file for all the cases I ran.

I checked all the input and they are the same as those in the document.

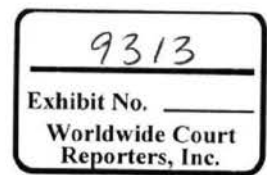
Please let me know if you have any questions.

Best regards,

Tony T. Liao, Ph.D.  
BP America, Inc., Houston  
(Office) +1 281 504 6571  
EPT, Base Management, Technology Specialist Support Team

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**From:** Mason, Mike C  
**Sent:** Saturday, May 15, 2010 9:26 PM  
**To:** Liao, Tony T



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BP-HZN-2179MDL02172721  
BPD209-000878

TREX-009313.0001

TREX 009313.0001

**Subject:** Macondo SIWHP Build-up Rate Final Report.doc

<< File: Macondo SIWHP Build-up Rate Final Report.doc >>

Tony

Run an 700 psi case on Mbal and calculate the rate required to deliver that sort of pressure depletion

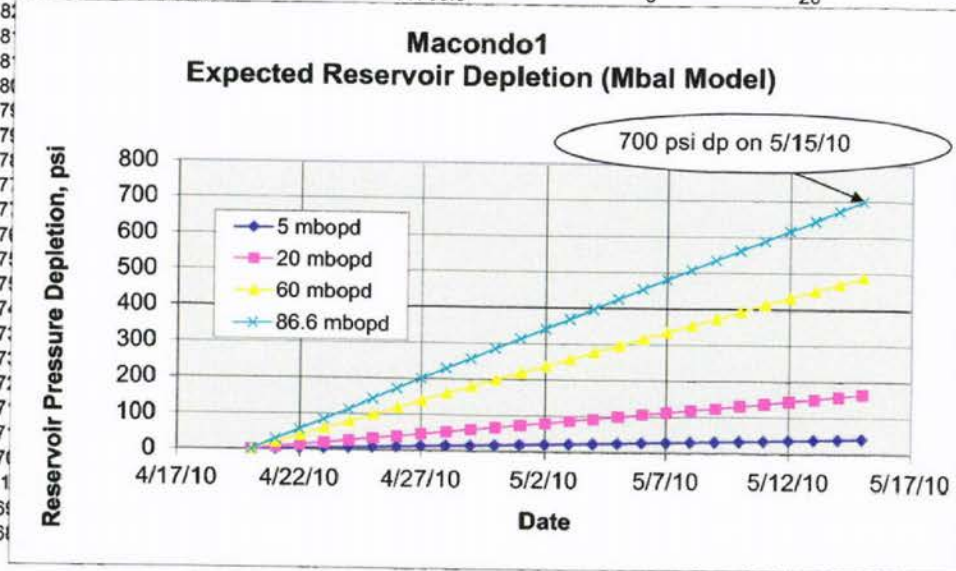
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BP-HZN-2179MDL02172722  
BPD209-000879

TREX-009313.0002

TREX 009313.0002

Date	Pr (psi) for 5k B/D	Pr (psi) for 20k B/D	Pr (psi) for 60k B/D	Pr (psi) for 86.6k B/D	5 mbopd	20 mbopd	60 mbopd	86.6 mbopd
4/20/2010	11850	11850	11850	11850	0	0	0	0
4/21/2010	11848.3	11843.3	11830	11821.2	2	7	20	29
4/22/2010	11846.7	11836.7	11810.1	11792.5	3	13	40	58
4/23/2010	11845	11830.1	11790.3	11763.9	5	20	60	86
4/24/2010	11843.4	11823.4					80	115
4/25/2010	11841.7	11816.7					99	143
4/26/2010	11840	11810					119	172
4/27/2010	11838.4	11803.4					139	200
4/28/2010	11836.7	11796.7					159	228
4/29/2010	11835.1	11790.1					178	257
4/30/2010	11833.4	11783.4					198	285
5/1/2010	11831.7	11776.7					218	313
5/2/2010	11830.1	11770.1					237	341
5/3/2010	11828.4	11763.4					257	369
5/4/2010	11826.8	11756.8					276	397
5/5/2010	11825.1	11750.1					296	425
5/6/2010	11823.4	11743.4					315	453
5/7/2010	11821.8	11736.8					335	481
5/8/2010	11820.1	11730.1					354	508
5/9/2010	11818.5	11723.5					374	536
5/10/2010	11816.8	11716.8					393	563
5/11/2010	11815.1	11710.1					412	591
5/12/2010	11813.5	11703.5					432	618
5/13/2010	11811.8	11696.8					451	646
5/14/2010	11810.2	11690.2					470	673
5/15/2010	11808.5	11683.5					489	700



Summary

#####  
 # PRODUCTION PREDICTION - TANK RESULTS #  
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.....  
 . Stream : Qo=5000 B/D .  
 .....

Time (date m/d/)	Tank Pressure (psig)	Oil Rate (STB/day)	Gas Rate (MMscf/day)
4/20/2010	11850	5000	15
4/21/2010	11848.3	5000	15
4/22/2010	11846.7	5000	15
4/23/2010	11845	5000	15
4/24/2010	11843.4	5000	15
4/25/2010	11841.7	5000	15
4/26/2010	11840	5000	15
4/27/2010	11838.4	5000	15
4/28/2010	11836.7	5000	15
4/29/2010	11835.1	5000	15
4/30/2010	11833.4	5000	15
5/1/2010	11831.7	5000	15
5/2/2010	11830.1	5000	15
5/3/2010	11828.4	5000	15
5/4/2010	11826.8	5000	15
5/5/2010	11825.1	5000	15
5/6/2010	11823.4	5000	15
5/7/2010	11821.8	5000	15
5/8/2010	11820.1	5000	15
5/9/2010	11818.5	5000	15
5/10/2010	11816.8	5000	15
5/11/2010	11815.1	5000	15
5/12/2010	11813.5	5000	15
5/13/2010	11811.8	5000	15
5/14/2010	11810.2	5000	15
5/15/2010	11808.5	5000	15

Qo=5000

#####  
 # PRODUCTION PREDICTION - TANK RESULTS #  
 #####

.....  
 . Stream : Qo=20000 B/D .  
 .....

Time (date m/d/)	Tank Pressure (psig)	Oil Rate (STB/day)	Gas Rate (MMscf/day)
4/20/2010	11850	20000	60
4/21/2010	11843.3	20000	60
4/22/2010	11836.7	20000	60
4/23/2010	11830.1	20000	60
4/24/2010	11823.4	20000	60
4/25/2010	11816.8	20000	60
4/26/2010	11810.2	20000	60
4/27/2010	11803.5	20000	60
4/28/2010	11796.9	20000	60
4/29/2010	11790.3	20000	60
4/30/2010	11783.7	20000	60
5/1/2010	11777.1	20000	60
5/2/2010	11770.5	20000	60
5/3/2010	11763.9	20000	60
5/4/2010	11757.3	20000	60
5/5/2010	11750.7	20000	60
5/6/2010	11744.1	20000	60
5/7/2010	11737.5	20000	60
5/8/2010	11730.9	20000	60
5/9/2010	11724.3	20000	60
5/10/2010	11717.7	20000	60
5/11/2010	11711.1	20000	60
5/12/2010	11704.5	20000	60
5/13/2010	11698	20000	60
5/14/2010	11691.4	20000	60
5/15/2010	11684.8	20000	60

Qo=20000

#####  
 # PRODUCTION PREDICTION - TANK RESULTS #  
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.....  
 . Stream : Qo=60000 B/D .  
 .....

Time (date m/d/)	Tank Pressure (psig)	Oil Rate (STB/day)	Gas Rate (MMscf/day)
4/20/2010	11850	60000	180
4/21/2010	11830	60000	180
4/22/2010	11810.1	60000	180
4/23/2010	11790.3	60000	180
4/24/2010	11770.4	60000	180
4/25/2010	11750.6	60000	180
4/26/2010	11730.8	60000	180
4/27/2010	11711.1	60000	180
4/28/2010	11691.4	60000	180
4/29/2010	11671.7	60000	180
4/30/2010	11652	60000	180
5/1/2010	11632.4	60000	180
5/2/2010	11612.8	60000	180
5/3/2010	11593.2	60000	180
5/4/2010	11573.7	60000	180
5/5/2010	11554.1	60000	180
5/6/2010	11534.7	60000	180
5/7/2010	11515.2	60000	180
5/8/2010	11495.8	60000	180
5/9/2010	11476.4	60000	180
5/10/2010	11457	60000	180
5/11/2010	11437.7	60000	180
5/12/2010	11418.4	60000	180
5/13/2010	11399.1	60000	180
5/14/2010	11379.8	60000	180
5/15/2010	11360.6	60000	180

Qo=60000

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 # PRODUCTION PREDICTION - TANK RESULTS #  
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.....  
 . Stream : Qo=86600 B/D .  
 .....

Time (date m/d/)	Tank Pressure (psig)	Oil Rate (STB/day)	Gas Rate (MMscf/day)
4/20/2010	11850	86600	259.8
4/21/2010	11821.2	86600	259.8
4/22/2010	11792.5	86600	259.8
4/23/2010	11763.9	86600	259.8
4/24/2010	11735.3	86600	259.8
4/25/2010	11706.8	86600	259.8
4/26/2010	11678.3	86600	259.8
4/27/2010	11650	86600	259.8
4/28/2010	11621.6	86600	259.8
4/29/2010	11593.4	86600	259.8
4/30/2010	11565.2	86600	259.8
5/1/2010	11537	86600	259.8
5/2/2010	11509	86600	259.8
5/3/2010	11480.9	86600	259.8
5/4/2010	11453	86600	259.8
5/5/2010	11425.1	86600	259.8
5/6/2010	11397.3	86600	259.8
5/7/2010	11369.5	86600	259.8
5/8/2010	11341.8	86600	259.8
5/9/2010	11314.1	86600	259.8
5/10/2010	11286.6	86600	259.8
5/11/2010	11259	86600	259.8
5/12/2010	11231.6	86600	259.8
5/13/2010	11204.2	86600	259.8
5/14/2010	11176.8	86600	259.8
5/15/2010	11149.6	86600	259.8

Qo=86600

