Method

Constant cooling		Time (hh:mm)
T_{start}	20.5 °C	18:30
T_{low}	2 °C	01:00
T_{heat}	25 °C	00:20
Hold time	25	01:00
T end	20.5 °C	00:30

TOTAL TIME = 21 hrs 20 mins

Very slow cooling		Time (hh:mm)
T_{start}	20.5 °C	55:30
T_{low}	2 °C	01:00
T_{heat}	25 °C	00:20
Hold time	25	01:00
T end	20.5 °C	00:30

TOTAL TIME = 58 hrs 20 mins

Fast cooling		Time (hh:mm)
T_{start}	20.5 °C	06:10
T_{low}	2 °C	01:00
T_{heat}	25 °C	00:20
Hold time	25	01:00
T end	20.5 °C	00:30

TOTAL TIME = 9hrs

Vacuum pump used unless otherwise stated that we used 30 bar degassing or same fluids in a precursor test

Pressure drop = DP

Ta = rapid hydrate temperature [oC]

To = hydrate onset temperature [oC]

DP = Pressure drop from hydrate formation [bar]

Expt Date	Chemical	C [ppm]	Duration [days]	Vol.[ml]	Rock Speed	Rock Angle	Ball	T_O1	T_O2	T_O3	T_O4	T_O5	Av To	Ta1	Ta2	Ta3	Ta4	Ta5	Av Ta	DP1	DP2	DP3	DP4	DP5	Av.DP	Degassing	Comments
01.12.2010	DI water		1	20	20	40	Steel	17.3	18.0	17.7	20.0	19.5	**18.5**							9.4	8.3	8.9	19.9	9.8	**11.3**	30 bar degassing	3 bar leak Cell 2
02.12.2010	DI water		1	20	20	40	Steel	18.9	18.5	18.2	18.3	18.8	**18.5**							9.7	9.6	6.6	10.6	7.5	**8.8**	30 bar degassing	
01.02.2011	DI water		1	20	20	40	Steel	17.4	17.2	17.5	17.2	18.6	**17.6**							7.4	5.3	14.2	18.4	8.2	**10.7**	Vacuum	
07.12.2010	Luvicap 55W	2500	1	20	20	40	Steel	9.2	8.8	9.2	8.4	8.4	**8.8**	6.0	6.0	5.9	5.9	6.0	**6.0**	12.0	12.0	10.8	9.0	12.0	**11.2**	30 bar degassing	
27.01.2011	Luvicap 55W	2500	1	20	20	40	Steel	7.0	-	7.0	7.1	7.4	**7.1**	5.9	-	5.8	5.8	5.8	**5.8**	13.4	-	10.3	9.4	8.2	**10.3**	Vacuum	Error in Cell 2
28.01.2011	Luvicap 55W	2500	3	20	20	40	Steel	8.4	8.8	8.5	8.4	8.8	**8.6**	7.0	7.1	7.0	7.1	7.1	**7.1**	15.9	15.1	18.2	16.3	16.4	**16.4**	Vacuum	
03.02.2011	Luvicap 55W	2500	1	20	20	40	Steel	8.4	8.0	7.4	8.1	7.0	**7.8**	5.8	5.8	5.7	5.8	5.8	**5.8**	9.4	11.3	10.5	9.6	17.8	**11.7**	30 bar degassing	
03.12.2010	Luvicap 55W	5000	1	20	20	40	Steel	6.9	7.0	7.4	6.5	6.5	**6.9**	4.1	4.4	4.0	4.1	3.8	**4.1**	13.2	13.4	14.0	14.0	12.1	**13.3**	30 bar degassing	
06.12.2010	Luvicap 55W	5000	1	20	20	40	Steel	6.9	8.0	7.2	6.4	6.1	**6.9**	4.0	4.3	3.8	4.3	3.5	**4.0**	14.0	12.5	8.4	13.9	11.6	**12.1**	30 bar degassing	
02.02.2011	Luvicap 55W	5000	1	20	20	40	Steel	6.8	6.8	6.8	6.2	6.2	**6.6**	3.5	3.5	3.5	3.3	3.7	**3.5**	8.7	7.5	9.2	12.0	11.4	**9.8**	Vacuum	
04.03.2011	Luvicap 55W	5000	1	20	20	40	Steel	6.3	6.2	6.1	6.1	6.5	**6.2**	3.5	3.3	3.5	3.5	3.4	**3.4**	8.5	7.8	8.5	11.7	7.3	**8.8**	Vacuum	
04.02.2011	Luvicap 55W	5000	3	20	20	40	Steel	6.8	7.2	8.3	8.1	7.1	**7.5**	5.8	5.5	5.6	5.4	5.3	**5.5**	18.6	21.5	23.7	17.7	24.0	**21.1**	Vacuum	
21.01.2011	Luvicap 55W	2500	1	20	20	40	Glass	7.0	8.0	6.8	7.0	8.0	**7.4**	5.8	5.8	5.8	5.8	5.8	**5.8**	11.8	8.2	14.0	13.7	7.8	**11.1**	Vacuum	
20.01.2011	Luvicap 55W	5000	1	20	20	40	Glass	5.7	5.8	5.4	6.0	5.6	**5.7**	3.4	3.5	3.2	3.5	3.4	**3.4**	5.7	7.6	7.9	5.8	5.8	**6.6**	Vacuum	
14.02.2011	Luvicap 55W	2500	1	20	10	40	Steel	-	-	-	8.6	8.4	**8.5**	-	-	-	6.1	6.0	**6.1**	-	-	-	8.0	6.4	**7.2**	Vacuum	Error in Cell 1, 2 and 3
23.02.2011	Luvicap 55W	2500	1	20	10	40	Steel	8.2	8.2	8.7	8.1	7.2	**8.1**	5.9	5.8	5.8	5.7	6.0	**5.8**	9.8	8.2	8.7	8.7	7.3	**8.5**	Vacuum	
21.02.2011	Luvicap 55W	5000	1	20	10	40	Steel	5.3	5.9	5.7	5.3	5.8	**5.6**	3.7	3.4	3.6	3.8	3.8	**3.7**	11.3	8.0	5.2	10.0	8.7	**8.6**	Vacuum	
02.03.2011	Luvicap 55W	2500	1	20	20	25	Steel	7.4	8.0	7.8	6.9	7.0	**7.4**	5.5	6.0	5.8	5.9	5.7	**5.8**	8.7	7.7	8.6	8.9	7.7	**8.3**	Vacuum	
03.03.2011	Luvicap 55W	5000	1	20	20	25	Steel	6.9	5.8	6.0	6.1	6.3	**6.2**	3.9	3.4	3.4	3.6	3.6	**3.6**	6.9	7.4	5.8	7.2	5.4	**6.5**	Vacuum	
08.03.2011	Luvicap 55W	2500	1	10	20	40	Steel	8.0	8.3	8.2	8.6	8.2	**8.3**	6.3	6.8	6.7	6.9	6.8	**6.7**	4.3	2.6	3.7	3.6	2.0	**3.2**	Vacuum	
09.03.2011	Luvicap 55W	5000	1	10	20	40	Steel	6.9	6.4	6.0	5.9	6.4	**6.3**	4.3	4.2	4.1	4.2	4.8	**4.3**	1.4	2.0	2.2	5.9	1.0	**2.5**	Vacuum	
10.03.2011	Luvicap 55W	2500	1	30	20	40	Steel	6.3	6.8	6.4	6.4	6.3	**6.4**	5.0	5.0	5.0	5.0	5.0	**5.0**	37.3	35.8	36.5	36.5	36.2	**36.5**	Vacuum	
14.03.2011	Luvicap 55W	5000	1	30	20	40	Steel	4.4	4.9	4.9	4.8	5.1	**4.8**	2.2	2.3	2.0	2.3	2.0	**2.2**	27.3	30.4	19.0	34.0	21.0	**26.3**	Vacuum	
15.03.2011	Luvicap 55W	2500	8hrs	20	20	40	Steel	6.1	6.0	5.9	5.8	6.0	**6.0**	5.0	4.8	4.9	4.8	4.9	**4.9**	19.8	14.3	14.0	18.6	18.3	**17.0**	Vacuum	
16.03.2011	Luvicap 55W	5000	8hrs	20	20	40	Steel	5.0	4.2	3.8	4.2	4.3	**4.3**	2.8	2.3	2.5	2.7	2.5	**2.6**	10.7	10.6	12.3	11.7	7.6	**10.6**	Vacuum	
09.04.2011	Luvicap 55W	1000	1	20	20	40	Steel	10.3	9.4	10.8	10.0	10.4	**10.2**	9.7	9.0	10.0	9.6	9.3	**9.5**	15-20	15-20	15-20	15-20	15-20	**15-20**	Vacuum	Test stopped after 892mins, therefore no clear DP
10.04.2011	Luvicap 55W	10000	1	20	20	40	Steel	4.3	6.2	6.3	4.3	4.8	**5.2**	2.0	2.0	2.0	2.0	2.2	**2.0**	8.3	7.3	8.0	8.9	8.2	**8.1**	Vacuum	Ta for all cells (exept cell 5) happend at minumums temperature
10.01.2011	Luvicap EG	2500	1	20	20	40	Steel	8.1	9.3	8.8	8.7	8.7	**8.7**	7.9	8.0	8.0	8.2	8.2	**8.1**	31.4	24.8	30.6	30.3	29.8	**29.4**	Vacuum	
12.01.2011	Luvicap EG	5000	1	20	20	40	Steel	6.6	6.9	6.3	5.7	7.0	**6.5**	6.4	6.8	6.1	5.3	6.9	**6.3**	-	-	-	-	-	**-**	Vacuum	Program shut down after 970 mins
14.01.2011	Luvicap EG	2500	1	20	20	40	Glass	8.7	8.5	9.4	8.8	8.3	**8.7**	8.0	8.0	8.0	8.0	8.0	**8.0**	13.3	12.5	13.2	12.9	12.5	**12.9**	Vacuum	
17.01.2011	Luvicap EG	5000	1	20	20	40	Glass	5.9	6.1	6.1	5.1	5.7	**5.8**	5.8	6.0	6.0	4.2	5.3	**5.5**	2.0	2.7	5.5	6.5	5.2	**4.4**	Vacuum	
07.02.2011	Luvicap EG + TBAB	2500	1	20	20	40	Steel	6.3	7.0	6.8	7.0	6.1	**6.6**	5.9	6.2	6.2	6.2	5.9	**6.1**	11.3	1.2	11.7	7.8	17.1	**9.8**	Vacuum	
25.01.2011	Luvicap EG+BGE	2500	1	20	20	40	Steel	7.5	7.7	7.3	7.4	7.3	**7.4**	4.0	4.0	4.1	4.0	4.1	**4.0**	17.2	16.8	16.9	15.8	14.9	**16.3**	Vacuum	
26.01.2011	Luvicap EG+BGE	5000	1	20	20	40	Steel	3.3	3.3	3.4	3.0	3.0	**3.2**	2.6	2.6	2.7	2.7	2.7	**2.7**	5.2	5.2	5.1	4.7	4.2	**4.9**	Vacuum	
09.12.2010	Inhibex 101	2500	1	20	20	40	Steel	7.0	7.2	5.7	5.6	5.2	**6.1**	3.4	3.5	3.3	3.1	3.2	**3.3**	12.0	13.0	14.0	12.5	12.0	**12.7**	Vacuum	
17.12.2010	Inhibex 101	5000	1	20	20	40	Steel	3.7	2.8	2.9	-	-	**3.1**	-	-	-	-	-	**-**	-	-	-	-	-	**-**	Vacuum	
18.12.2010	Inhibex 101	5000	1	20	20	40	Steel	14.4	11.7	13.0	11.7	9.8	**12.1**	-	-	-	-	-	-	-	-	-	-	-	**-**	Vacuum	Precursor Test/some confusing readings
10.12.2010	Inhibex 101	2500	1	20	20	40	Steel	7.5	7.0	6.2	5.5	5.0	**6.2**	3.5	3.4	3.4	3.0	3.2	**3.3**	12.3	12.8	15.8	13.2	13.0	**13.4**	30 bar degassing	
11.12.2010	Inhibex 101	2500	1	20	20	40	Steel	11.8	11.5	11.0	10.7	10.6	**11.1**	3.0	2.9	3.0	3.0	3.0	**3.0**	14.6	14.3	19.2	16.3	14.1	**15.7**	same fluids	Precursor Test/some confusing readings
12.12.2010	Inhibex 101	2500	1	20	20	40	Steel	11.2	10.0	10.2	10.0	10.0	**10.3**	2.9	2.8	3.0	n/a	n/a	**2.9**	14.2	14.9	20.5	n/a	n/a	**16.5**	same fluids	Precursor Test/some confusing readings
13.12.2010	Inhibex 101	2500	1	20	20	40	Glass	7.0	5.5	5.8	5.8	5.7	**6.0**	3.5	3.3	3.2	3.5	3.5	**3.4**	7.6	7.0	4.7	8.0	7.6	**7.0**	Vacuum	
13.01.2011	Inhibex 101	5000	1	20	20	40	Glass	-	-	-	-	-	**-**	-	-	-	-	-	**-**	-	-	-	-	-	**-**	Vacuum	No gas hydrate formation
22.02.2011	Inhibex 101	2500	1	20	20	40	Steel	5.0	5.0	4.8	5.1	4.2	**4.8**	3.0	3.0	3.0	3.0	3.7	**3.1**	13.3	13.1	14.1	13.1	15.7	**13.9**	Vacuum	
18.02.2011	Inhibex 101	2500	3	20	20	40	Steel	6.2	6.1	5.3	6.3	6.4	**6.1**	5.3	5.2	5.0	5.5	5.4	**5.3**	21.3	20.7	27.7	31.0	20.8	**24.3**	Vacuum	
03.01.2011	Inhibex 501	2500	1	20	20	40	Steel	8.8	8.7	7.6	8.4	8.7	**8.4**	5.2	5.1	4.6	4.8	5.0	**4.9**	10.5	10.7	13.5	13.4	11.6	**11.9**	Vacuum	
06.01.2011	Inhibex 501	5000	1	20	20	40	Steel	8.7	6.8	7.0	6.0	7.0	**7.1**	2.6	2.4	2.4	2.4	2.4	**2.4**	8.9	8.3	9.3	8.3	9.0	**8.8**	Vacuum	
11.01.2011	Inhibex 501	2500	1	20	20	40	Glass	6.4	6.3	6.9	6.6	8.5	**6.9**	4.6	4.6	4.6	4.5	4.6	**4.6**	7.4	6.6	7.0	5.3	5.6	**6.4**	Vacuum	
24.01.2011	Inhibex 501	5000	1	20	20	40	Glass	4.3	4.8	4.8	5.2	5.8	**5.0**	2.0	2.0	2.0	2.0	2.0	**2.0**	4.5	2.8	3.3	4.0	4.3	**3.8**	Vacuum	
28.02.2011	PVP Plasdone 4k (Mw=4000)	5000	1	20	20	40	Steel	10.3	10.3	12.0	12.2	10.8	**11.1**	10.1	10.3	11.7	11.9	10.3	**10.9**	19.6	19.3	24.3	22.2	21.5	**21.4**	Vacuum	
02.05.2011	PVP 30k (Mw=60 000)	5000	1	20	20	40	Steel	11.3	13.0	12.8	12.9	11.0	**12.2**	11.0	12.4	12.2	12.3	10.4	**11.7**	24.7	22.3	24.2	20.4	23.9	**23.1**	Vacuum	
01.03.2011	PVP 120k (Mw=3 mill)	5000	1	20	20	40	Steel	13.4	13.4	14.0	13.9	13.2	**13.6**	12.8	13.0	13.0	13.0	12.5	**12.9**	13.4	13.0	14.4	13.8	13.4	**13.6**	Vacuum	