From: Hill, Trevor
Sent: Thu Jul 22 11:40:42 2010
To: Leonard, Andy (ABZ)
Cc: 'andy woods'; Page, Paul W
Subject: RE: Flow rate periods
Importance: Normal
Attachments: Flow Status Log rev1.ZIP
Attachments: Flow Status Log rev1.ZIP

Andy

Please see response just sent to next call-in.

Below is draft of flow periods, though this does not contain any statement about prevailing flowrates.

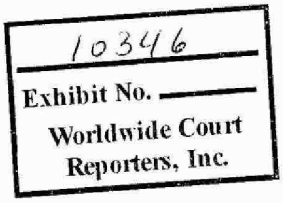
Regards
Trevor

From: Leonard, Andy (ABZ)
Sent: 22 July 2010 12:25
To: Hill, Trevor
Cc: 'andy woods'; Page, Paul W
Subject: RE: Flow rate periods

Trevor
Hope all is well with you. Any progress on this (and the video clips representing each phase)??
I'm on holiday for 2 weeks from Friday evening. Paul Page is organising the check in telecalls while I'm away
Thanks
Andy

From: Leonard, Andy (ABZ)
Sent: 15 July 2010 16:09
To: Hill, Trevor
Cc: 'andy woods'
Subject: Flow rate periods

Trevor
I suspect you are neck deep in operational issues - but have you managed to document the flow rate periods as yet?
thanks



Document Produced Natively

Date	Time, hrs	Blind Shear Rams	Casing Shear Rams	Upper Variable Pipe Rams	Middle Variable Pipe Rams	Lower Variable Pipe Rams	Action	Observations from logs	Video Record	Observations from videos	BOP pressure psi	Observations from pressure traces	Riser	Collection schemes
20-Apr	22:00						ESD/Activated Deadman	No change in flow status, no LMRP disconnect.			n/a			
20-Apr	22:00-23:30						Dead man activated	No change in fire status.			n/a			
21-Apr	16:30-18:45						Attempt to close middle pipe rams (VBRs).	Incorrect routing - hot stab tied into LVPR			n/a			
21-Apr	22:00						Attempt to close middle pipe rams (VBRs).	Unable to build pressure.			n/a			
21-Apr	21:00-24:00						Attempt to close blind shear rams.	ROV deployed to BOPE. Attempt to cut Shear Stinger pin (to activate autoshear) without success. Plug into hot stab and attempt to close shear rams. Unable to build pressure.			n/a			
22-Apr	04:40-06:00						Attempt to close blind shear rams.	Attempt to cut Auto Shear Valve stem with SS grinder. No success. Surface sub to deck. Clear out for BOA Sub C.			n/a			
22-Apr	06:30-08:30	Believed closed					Close blind shear rams.	Cut push rod to activate autoshear. Plug into hot stab on ROV panel, but unable to build pressure.	VTS_01_1.VOB		n/a			
23-Apr													Top of riser arc was about at an elevation of 1,500feet	
24-Apr														
25-Apr	08:00-24:00						Attempt to close Middle Pipe Rams (VBRs)	Attempting to close via ROV panel hot stab. Only abla to generate limited pressure. Discovered leak and began prep to tighten.						
26-Apr	10:00-11:00					Closed	Attempt to close Middle Pipe Rams (VBRs) - but actually close Lower Pipe Rams / Test Rams	Stab into ROV panel for middle pipe ram closure and presure up to 3350 psi Pressure holding suggesting middle pipe rams closed. **NOTE: Determined on 5/3/10 that ROV panel hot stab hose was routed to Lower Pipe (Test) VBRs and not to Middle Pipe VBRs**	Requested 10:00-12:00 for crater					
26-Apr	00:00-11:00						Close Lower Pipe Rams / Test Rams	Tighten fittings and apply 3350 psi to middle pipe rams (VBRs). Apparently closed.						
26-Apr	11:00-15:00						Blind Shears	Attempting to actuate blind shear rams via ROV panel by pumping up to 5000 psi, while Mil 36 (BOA Sub C 2) monitors drill pipe and riser plumes. No change in plumes. No apparent shear.						
27-Apr														
28-Apr	12:00-13:00						ROV in vicinity of riser kink	Observed start of leaks at kink	Requested 12:00-13:00 for both kink and crater				Two leaks appeared at top of kink	
29-Apr	17:40		Closed				Close Casing Shear	At time of activating casing shear Sub C 1 saw a noticeable decrease in flow rate at the riser hand, but then resumed.	Requested 17:15-19:00 for both kink and crater					
30-Apr														
1-May														
2-May	10:45-11:15		Closed				Close Casing Shear again	Ready to function casing shears with accumulator. Start pumping. Pressure up to 4700 psi. Isolate pressure. No visible change in any plumes.						
3-May														
4-May													Top of riser at an elevation of about 1000 ft	
5-May	00:00-03:00													
5-May	03:00-05:00				Closed		Close Middle Pipe ram	Move ROVs to monitor middle pipe ram closure. With 4000 psi on accumulator, BOA Mil 37 open valve O-1 on accumulator (4:00); BOA Mil 36 monitor Parker HIT and clamp, seeing 3500 psi. No evidence of venting at either pod, no evidence or ram moving. No change in plume.	Requested 03:00-05:00 for both kink and crater					
5-May	05:00-24:00													
6-May													Single point of contact with the Horizon rig, coming up and over from the portion of the riser nearest the BOP.	
7-May														

Date	Time, hrs	Blind Shear Rams	Casing Shear Rams	Upper Variable Pipe Rams	Middle Variable Pipe Rams	Lower Variable Pipe Rams	Action	Observations from logs	Video Record	Observations from videos	BOP pressure psi	Observations from pressure traces	Riser	Collection schemes
1-May													Two points of contact with Horizon hull	
1-May												Mud boost line pressure measured at ~2600 psi		
0-May														
1-May														
2-May									20100512150928140@DVR2_Ch1.asf	Observation from live video feed by Mike Tognarelli - watching rov survey and caught a quick change in color on the plume then back to normal First crater plume video released to the public, from 9:12 onwards - used by Prof Wereley to estimate flowrate - this shows the surging nature of the flow, synchronised with riser movement			Riser remaining buoyant loop starts oscillating up and down	
3-May													The portion of the riser that remains somewhat buoyant is "oscillating" from seabed to a peak height around 85ft with a period of 2-4 minutes	
4-May														
5-May											4100		Remaining riser buoyant loop is oscillating	RITT being commissioned
6-May											4100		Remaining riser buoyant loop is oscillating from seabed to 60 feet above - 2 minutes to rise, 1 minute to fall	
7-May											4000		Riser loop maximum height now 54'	
8-May														
9-May											4300-4700			
0-May											4450-4600		Riser loop maximum height now 25'	
1-May											4500		Riser lays down completely on seabed	
2-May														
3-May											4300			
4-May											4300			
5-May	00:00-11:00										4200-4900	Variable with peaks followed by steadier declines		
5-May	11:00-11:45		Closed				Close Casing Shear again	Casing Shear functioned closed again.	120327-123326.asf at kink	Noticeable change to kink leaks as viewed from behind at 12:13. Apparent reduction in flow intensity				
5-May	11:45-24:00										4200-4800	Includes BOP ram dP diagnostics		RITT removed
6-May	00:00-11:00										4300-4500			
6-May	11:00			Closed			Close Upper Variable Rams	Functioned Closed then functioned closed again	05262010110421-113000-Crater.asf		4700	Pressure at BOP rose by about 300 psi		
6-May	13:59					Open	Open Lower Variable Rams	Functioned Open Variable Pipe Rams for start of top kill #1	Masked by mud		4700-6300	Simultaneous opening of rams with start of mud injection		
6-May	14:00-16:00						Top kill 1 phase 1 mud at ~60 bpm				6300-3400	Pressure at BOP rose to a peak of 6300 psi, for mud at 60 bpm.		
6-May	16:00-24:00						Top kill 1 phase 2 mud at 50 bpm				4700-3300	Pressure at BOP rose to a peak of 4700 psi, for mud at 50 bpm.		
7-May	00:00-12:30						Post top kill 1 diagnostics				3300			
7-May	12:30-22:00						Top kill 2 phase 1 junk shots				3300-3400	Peak at 4050 psi		
7-May	22:00-02:00						Top kill 2 phase 2 mud at 25 bpm				5100-3600	Pressure at BOP rose to a peak of 5100 psi, for mud at 25 bpm.		
8-May	02:00-12:00						Post top kill 2				3600-4000			
8-May	12:00-18:00						Top kill 3 mud at 80 bpm, preceded by junk shot				6000-3200	Pressure at BOP rose to a peak of 6000 psi, for mud at 80 bpm.		
8-May	18:00-22:13						Post top kill 3				3300-3400			
8-May	22:14					Closed	Close Lower Variable Rams	Functioned Closed Variable Pipe Rams	20100528221854843@ARCHIVE_Ch2.wmv					
8-May	22:25					Open	Open Lower Variable Rams	Functioned Open Variable Pipe Rams	20100528221854843@ARCHIVE_Ch2.wmv					
8-May	22:25-24:00										3350-3850	Pressure rises to a peak of 3850 psi, then drops slightly back		
9-May	00:00-24:00										n/a	No gauge data available		
0-May	00:00-04:08										3950-3550	Pressure at 3900-3950 psi then drops to 3550 psi		

Date	Time, hrs	Blind Shear Rams	Casing Shear Rams	Upper Variable Pipe Rams	Middle Variable Pipe Rams	Lower Variable Pipe Rams	Action	Observations from logs	Video Record	Observations from videos	BOP pressure psi	Observations from pressure traces	Riser	Collection schemes
0-May	4:08					Closed	Close Lower Variable Rams	Functioned Closed Variable Pipe Rams	20100530034553078@ARCHIVE_Ch3.wmv		3550-4650	Closure of test / lower variable rams		
0-May	04:09-24:00										4150-4750	Initially several peaks, then steadier at about 4300 psi		
1-May	00:00-24:00										n/a			
1-Jun	00:00-11:00										4350-4400			
1-Jun	11:00										4400-4500	Pressure rise of 100 psi as shears are crimped down onto riser. No loss of containment. Shears then release to allow removal of smaller external pipes.	Riser part crimped just downstream of kink during beginning of shearing operation	
1-Jun	16:00										4450-4650	Complete shearing of pipe results in a pressure peak of 4650 psi up from 4450 psi. After the cut the pressure drops immediately to 4500 psi	Riser sheared just downstream of kink	
1-Jun	16:00-24:00										4500-4400	Pressure declines slightly.		
2-Jun	0:00										4400-4300	Pressure loss of 100 psi as diamond saw cut breaks containment	Riser diamond saw cut just upstream of kink breaks containment, but then jams	
2-Jun	00:30-24:00										4300-4350	Reasonably steady		
3-Jun	00:00-8:00										4300-4350			
3-Jun	8:00										4350-4300	Riser sheared just upstream of kink, with decrease of 50 psi in BOP pressure	Riser sheared just upstream of kink	
3-Jun	08:00-24:00										4300-4200	Slight steady downward trend		
4-Jun	00:00-24:00										n/a			LMRP cap commissioned
5-Jun	00:00-24:00										n/a			
6-Jun	00:00-24:00										4100			
7-Jun	00:00-15:00										n/a			
7-Jun	15:00-15:32										4100			
7-Jun	15:32			Closed			Upper Variable Rams Closed	No pressure change noted on BOP sensor and minimal hydraulic fluid usage			4100-4250?			
7-Jun	16:06					Closed	Lower Variable Rams Closed	No pressure change noted on BOP sensor and minimal hydraulic fluid usage						
7-Jun	16:44		Closed				Casing Shear Rams Closed	No pressure change noted on BOP sensor and minimal hydraulic fluid usage						
8-Jun	00:00-24:00										4300-4500			
9-Jun	00:00-24:00										n/a			
0-Jun	00:00-24:00										4250-4350			
1-Jun	00:00-24:00										n/a			
2-Jun	00:00-24:00										4100-4200			
3-Jun	00:00-24:00										4100-4200			
4-Jun	00:00-24:00													
5-Jun	00:00-24:00													
6-Jun	00:00-24:00													
7-Jun	00:00-24:00													
8-Jun	00:00-24:00													
9-Jun	00:00-24:00													
0-Jun	00:00-24:00													
1-Jun	00:00-24:00													
2-Jun	00:00-24:00													

Date	Time, hrs	Engineer	Comment
May 14, 2010	02:30 to 05:00	DTP	Enterprise move into field and position over the RITT / Top Hat staging area. Prepare to make up to RITT with drill pipe with assistance of Enterprise ROVs.
May 14, 2010	5:00 to 12:00	DTP/SMJ	Enterprise and ROVs aligning DP over the top of the RITT. At 5:30 Enterprise begin to slack off as the ROV guides the DP into the RITT connector. As slacking off at 5:35, RITT got knocked off the stand. Enterprise move out to allow Poseidon to move in and pick up RITT.
May 14, 2010	12:00 to 17:00	SMJ	Enterprise moving out of the leak site until modifications are made to the RITT.
May 14, 2010	17:00 to 24:00	DTP	Enterprise out of field, waiting on RITT frame modifications and re-deployment
May 15, 2010	0:00 to 05:00	DTP	Enterprise out of field, waiting on RITT frame modifications and re-deployment
May 15, 2010	5:00 to 11:00	SMJ	Enterprise out of field, waiting on RITT frame modifications and re-deployment
May 15, 2010	11:00 to 14:00	SMJ	Enterprise moving in to latch the RITT
May 15, 2010	14:00 to 15:30	SMJ	Successfully latched the RITT. Moved off awaiting dispersant line installation.
May 15, 2010	15:30 to 18:15	DTP	Mobolize towards crater plume in preparation for RITT tool deployment. Enterprise over crater plume at 18:15.
May 15, 2010	18:18 to 19:00	DTP	Enterprise ROVs and Enterprise continue to position for RITT deployment. ROVs lost visibility at plume. Enterprise moved 300' south to regain visibility with ROVs
May 15, 2010	19:00 to 19:45	DTP	Conduct pre-job meeting for deployment of the RITT. Discuss best operating practices / lessons learned for approaching and working near the riser crater plume with the ROVs.
May 15, 2010	19:45 to 22:45	DTP	Enterprise mobilize back towards the crater plume and establish video communication between Enterprise and OI3. Enterprise pumping methanol out of the end of the RITT tool.
May 15, 2010	22:45 to 23:40	DTP	Enterprise has lowered and positioned the RITT to above the crater plume area. At 22:48 start attempting to make stab with RITT into the end of the riser. **At 22:56 have end of RITT partially put into in riser.** Not sure how far it has went in due to poor visibility. Lost video and audio feed with Enterprise.
May 15, 2010	23:40 to 0:00	DTP	Video and audio feed back. Enterprise noticed a 200 psi increase when tool was stabbed. Believe we have inserted the **RITT ~3' into the riser.** Enterprise ROVs holding RITT in place. Enterprise preparing to bleed off the pressure. Believe we have inserted the RITT ~3' into the riser. All three baffles are inside the riser.
May 16, 2010	0:00 to 05:00	DTP	Enterprise preparing to start pressure bleed off process for flow back. At approximately 12:30, start bleed off process. Enterprise ROVs monitoring flow at plume during pressure bleed off. At 3:30 Enterprise is flaring off gas. At 4:20, have leak at hotstab on RITT tool. Enterprise flowing oil and gas for ~ 15-20 min. At 4:45, **not sure if RITT is still in the riser noticed pressure change on Enterprise**, poor visibility at plume.
May 16, 2010	05:00 to 6:00	DTP	Trying to confirm if the RITT tool is still in the riser. **Have confirmed that RITT is no longer stabbed in the riser at the crater plume.**
May 16, 2010	06:00 to 07:00	DTP	ROV standby while discuss plan forward for RITT.
May 16, 2010	07:00 to 17:00	DTP/MM	Attempt to stab RITT tool into the riser again. **RITT stabbed into riser at 7:25. RITT fully stabbed into the riser.** Enterprise flaring. Move one ROV back to the cage. Reposition the other ROV to continue monitoring the RITT operations.
May 16, 2010	17:00 to 17:45	DTP/MM	Lost video feed (storm)
May 16, 2010	17:45 to 24:00	DTP	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise. Make heading change to 210 deg at 23:00. (Ajusting for wind direction / flare)
May 17, 2010	0:00 to 5:00	DTP	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise. Make additional heading change. (Adjusting from wind direction / flare).
May 17, 2010	5:00 to 24:00	JW / DTP	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 18, 2010	0:00 to 24:00	DTP / JW	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 19, 2010	0:00 to 24:00	DTP / JW	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 20, 2010	0:00 to 05:00	DTP	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 20, 2010	05:00 to 17:00	JW	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 20, 2010	17:00 to 24:00	JFR	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise. Some plume instability from 20:15 to 22:00. Plume stabilized.
May 21, 2010	24:00 to 05:00	JFR	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 21, 2010	05:00 to 17:00	JW	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise. Enterprise re-ballasted at 1700 hrs.
May 21, 2010	17:00 to 24:00	JFR	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 22, 2010	0:00 to 05:00	JFR	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 22, 2010	05:00 to 17:00	JW	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 22, 2010	17:00 to 24:00	JFR	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise.
May 23, 2010	0:00 to 05:00	JFR	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise. Repositioned RITT tool at 0445 hrs.

Date	Time, hrs	Engineer	Comment
May 23, 2010	05:00 to 1700	JW	Enterprise ROVs monitor crater plume with RITT inside the riser. Producing oil and gas back to the Enterprise. ROV's observed that the methanol injection line is leaking a bit at injection point at +/- 0830hrs, Houston discussing. ROV's working on Hot Stab of Methanol Line.
May 23, 2010	17:00 to 24:00	JFR	Monitor RITT 1 operations, produce oil & gas to Enterprise
May 24, 2010	0:00 to 05:00	JFR	Monitor RITT 1 operations, produce oil & gas to Enterprise (RITT #3 arrived 24:00 aboard Infant Jesus)
May 24, 2010	05:00 to 17:00	JW	Monitor RITT 1 operations, produce oil & gas to Enterprise (from 0800 to 0830 recording on boat for Graham Oppenshaw)
May 24, 2010	17:00 to 24:00	JFR	Monitor RITT 1, produce oil & gas to Enterprise
May 25, 2010	0:00 to 05:00	JFR	Monitor RITT 1, produce oil & gas to Enterprise
May 25, 2010	05:00 to 17:00	JW	Monitor RITT 1 operations, produce oil & gas to Enterprise
May 25, 2010	17:00 to 18:00	JW	Mud at the plume, pulling the RITT from the riser
May 25, 2010	18:00 to 20:15	FRM	Mud at plume decrease, shutting down production, going to nitrogen, ROV moving around causes cloud, standing by while Herc 14 moves wan
May 25, 2010	20:15 to 24:00	FRM	Pulling RITT 1, pulled out and moved over waiting on cutter to cut off bottom of tool, ROV unscrewed bolts from bottom section of RITT tool, tool did not part bottom of RITT Tool, released RITT1.
May 26, 2010	0:00 to 05:00	FRM	Move Enterprise 2000 ft. to the West, ROV's standing by.
May 26, 2010	5:00 to 24:00	SMJ	Enterprise ROV's currently removing hydrates from the LMRP with methanol wand.
May 27, 2010	0:00 to 05:00	FRM	Enterprise ROV's currently removing hydrates from the LMRP with methanol wand.
May 27, 2010	5:00 to 18:00	SMJ	Enterprise ROV's are standing by monitoring the LMRP.
May 27, 2010	18:00 to 24:00	FRM	Enterprise ROV's are standing by monitoring the LMRP.
May 28, 2010	00:00 to 5:00	FRM	Enterprise ROV's are standing by monitoring the LMRP.
May 28, 2010	5:00 to 18:00	SMJ	Enterprise ROV's are standing by monitoring the LMRP.
May 28, 2010	18:00 to 24:00	FRM	Enterprise ROV's are standing by monitoring the LMRP. Mixing Mud.
May 29, 2010	00:00 to 5:00	FRM	Enterprise ROV's are standing by monitoring the LMRP.
June 2, 2010	20:00 to 24:00	DTP	Enterprise positioning over the top of mud mats where Top Hat (LMRP Cap) #4 is parked. ROVs preparing LMRP Cap #4 to be connected to the Enterprise. Enterprise workstring first stabbed onto LMRP Cap #4 at 21:04. Attempt to properly align latch into J latch slot and pin in place. Unable to properly align. Disconnect at 22:15. ROV adjusting LMRP Cap position. Attempt to re-stab into LMRP Cap #4 at 22:45. Work to get stab fully aligned.
June 3, 2010	0:00 to 4:00	DTP	Enterprise continuing to have alignment problems with stabbing into LMRP Cap #4. Discuss plan forward. At 1:50, connect sling from LMRP Cap #4 to the Enterprise DP and lift the top hat to a different basket. At 2:40 stabbing back into LMRP Cap #4. Work to lower stab further into Top Hat and engage the J slot. Install keeper pin in place
June 3, 2010	4:00 to 5:00	DTP	Enterprise is completely connected to Top Hat #4. Enterprise lift LMRP Cap #4 off bottom and begin move.
June 3, 2010	5:00 to 6:00	DTP	Enterprise hot stab into methanol injection point on LMRP Cap #4.
June 3, 2010	6:00 to 13:00	DTP	Enterprise move towards Horizon BOP.
June 3, 2010	13:00 to 17:00	SMJ	Enterprise moving into position to deploy the LMRP Cap #4 on the LMRP. Install injection lines from the Enterprise to the LMRP Cap.
June 3, 2010	17:00 to 19:00	SMJ	Starting move over the well center.
June 3, 2010	19:00 to 20:13	DTP	Enterprise ROV disconnecting / adjusting injection lines from Enterprise LMRP to the LMRP Cap #4. Lost communication temporarily.
June 3, 2010	20:13 to 20:47	DTP	Enterprise has green light to move LMRP Cap #4 over the BOP stack. Begin move. Make final approach bringing cap next to the edge of the Horizon Flex Joint at 20:21. Enterprise ROV pull LMRP Cap #4 away from stack slightly at 20:30. At 20:31 begin to lower cap on top of the cut riser. **At 20:33 LMRP Cap #4 is on top of the cut riser.** Enterprise set down 20 klbs at surface on to LMRP Cap #4. Have flow out of valves on top of the LMRP Cap and at the bottom of the cap At 20:39 order given to begin bleed down process. ROVs stand by to close valves. Enterprise confirm that manipulating valves at surface to start bleed down process at 20:44.

Date	Time, hrs	Engineer	Comment
June 3, 2010	20:47 to 24:00	DTP	**At 20:47, crack choke on Enterprise**. Enterprise Mil 92 continue to standby at valve on LMRP cap to close it once there is no more flow at the bottom of the BOP stack. **At 20:51, 12/64 choke and confirm flow to production facility.** Mil 86 move to provide visual of bottom of the LMRP Cap #4. At 21:10, 12/64" choke and 1800 psi. At 21:21, 16/64"" choke and 1820 psi. . At 21:41, 16/64 choke and 1741 psi. At 21:58 16/64" choke and 1665 psi. At 22:18, 16/64 choke and 1577 psi. At 22:45, 16/64 choke and 1460 psi. **At 22:58 get gas to surface, begin to flare.** Enterprise is getting high VOC readings on deck At 23:15, 16/64 choke and 1358 psi. **Oil to surface at 23:15**.
June 4, 2010	0:00 to 3:00	DTP	Mil 86 continue to provide video of LMRP Cap #4, Mil 92 standby at valve on LMRP Cap #4. Continue to open choke and bleed pressure at surface to production facility. (see choke pressures tab) At 1:20, Mil 92 close one vent ball valve on LMRP Cap #4 and observe flow stop at valve. LMRP cap began to wobble. At 1:24, open valve back up to stabilize. Confirm that the LMRP Cap is still seated in the same place. Continue surface bleed down process on the Enterprise.
June 4, 2010	3:00 to 5:00	DTP	Continue pressure bleed down process on the Enterprise. At 4:08, Begin to close 1 of the vent ball valves on the LMRP Cap #4. Having problems closing valve fully due to only a small nub on the broken valve handle. Position to close 2nd vent valve that is 180 deg out from the valve that is partailly closed.
June 4, 2010	5:00 to	DTP	Mil 86 providing visual of bottom of LMRP Cap #4. Check bulls eye reading at 5:45. Mil 92 move to cage due to lack of visibility. Mil 86 move away from the LMRP Cap at 6:20 to blow off /clean lens of Mil 92. Not able to get lens clean, trip Mil 92 to surface for cleaning. Mil 86 move back to view of bottom of LMRP cap.
June 4, 2010	5:00 to 19:00	SMJ	Mil 86 continue to monitor LMRP Cap plume. Mil 92 at surface for repair. Continue to produce oil to surface and flare gas.
June 4, 2010	19:00 to 22:35	DTP	Mil 86 continue to monitor bottom of LMRP Cap #4. Mil 92 at surface for repair. Continue to produce oil to surface and flare gas.
June 4, 2010	22:35 to 23:15	DTP	Mil 86 position out from the BOP stack to get broader view of the plume and LMRP Cap #4. Attempting to get visual of vents. Can see a portion of the entire side of the LMRP cap and one of the vents.
June 4, 2010	23:15 to 24:00	DTP	Mil 86 position back to monitoring the bottom of the LRMP cap and the plume. Mil 92 at surface.
June 5, 2010	0:00 to 0:35	DTP	Mil 86 monitoring the bottom of the LRMP cap and the plume. Mil 92 at surface. Enterprise discovered a small oil leak on a low pressure hose that is on deck near the flare. At 0:25, Mil 86 open back up the one vent on LMRP Cap #4 that was partially closed in case Enterprise needs to shut in.
June 5, 2010	0:35 to 3:20	DTP	**At 0:35, Enterprise has shut in to repair leak.** Mil 86 position out from the BOP stack to get broader view of top hat with flow shut in. Mil 86 position back to view of bottom of LMRP Cap #4. **At 3:20, begin to open back up production to the Enterprise**.
June 5, 2010	3:20 to 9:05	DTP/MM	Enterprise step back up production rate flaring gas and producing oil to surface. Mil 86 provide visual of the bottom of the LMRP Cap #4. Mil 92 at surface for repair.
June 5, 2010	9:05 to 9:25	MM	Mil86 proceeding to inspect the bottom of the LMRP. Bouyancy from the hydrocarbon flow making it difficult to decend to the LMRP. At 9:25hrs aborting attempt to descend to the bottom of the LMRP.
June 5, 2010	9:25 to 11:05	MM	Repositioning to observe 'bullseye'. Had to reposition Skandi Neptune HERC 6 in order allow Mill 86 to position above the bullseye.
June 5, 2010	11:05 to 11:40	MM	Mill 86 trying to get a vertical shot above the bullseye. Could not get proper picture
June 5, 2010	11:40 to 12:35	MM	Mill 86 repositioning to be able to manipulate one of the LMRP Cap #4 valves. In position @ 12:00 hrs by the valve at a 320 deg heading. Got approval to function valve @12:25hrs. Visibility to manipulate valve hampered by hydrocarbon flow.
June 5, 2010	12:35 to 13:25	MM	Attempt to close the LMRP Cap #4 valve at 320 deg heading. Due to the visibility, moving to shift the valve to the right that is more visible. At 12:42hrs begin attempting to close valve. Unable to open valve. At 12:50 hrs repositioning to close valve at 320 deg heading. At 13:25hrs closed valve by turning clockwise.
June 5, 2010	13:25 to 17:00	MM	Repositioning Mill 86 to view the bottom of LMRP Cap #4 . Monitoring same.

Date	Time, hrs	Engineer	Comment
April 26, 2010	12:45	TSH	Herc -14 ROV deployed to monitor riser plume in relief of OI3
April 27, 2010	0:00	TSH	Finish monitoring plume in relief of OI3. Start recovering of Herc - 14 ROV and move off location.
April 27, 2010	1:25	TSH	Herc - 14 ROV back on deck.
April 27, 2010	1:25 to 6:25	TSH	Standing by.
April 27, 2010	6:25 to 11:00	TSH	Splash Herc - 6 ROV to follow down coil tubing (then surfaced @ 13:15) . Splash Herc - 14 ROV to deploy DP beacon on bottom then .
April 27, 2010	11:36	TSH	Herc - 14 ROV Move to BOPE and observe panel
April 27, 2010	12:15	TSH	Herc - 14 ROV Leave BOPE to assist in CT hookup operations.
April 28, 2010	3:00	TSH	Herc - 14 ROV Continuing to assist in CT ops
April 28, 2010	4:38	TSH	Herc - 14 ROV Stand by, then move to monitor plumes.
April 28, 2010	12:26	SWG	Herc 6 follow Atlantis accumulator down
April 28, 2010	15:10	TSH	Start to move into place to deploy and operate Atlantis accumulator.
April 28, 2010	15:00 to 19:00	SWG	Deploy accumulator package. Neptune Scandi Herc - 6 ROV rigging up and testing to pump and charge up accumulator, leak discovered. Herc -6 ROV needs to surface. Decision to let BOA Mil - 36 perform charge pumping of accumulator.
April 29, 2010	7:00	TSH	ROVs are monitoring the riser and drill pipe plumes.
April 29, 2010	11:00	TSH	ROVs are monitoring the riser and drill pipe plumes.
April 29, 2010	13:15	TSH	One ROV (Herc 14) is monitoring the riser plume. The other ROV (Herc 6) is on deck for maintenance (hydraulic leak).
April 29, 2010	15:30	TSH	One ROV are monitoring the riser plume. The other ROV is on deck for maintenance (hydraulic leak).
April 29, 2010	15:30 to 18:25	SWG	Herc 14 at shut-off valve from accumulator. Then survey DP plume - no apparent change, possibly slightly smaller. Then survey and stay to monitor at end of riser (crater in the ground) plume. Appears reduced because able to see some components more clearly
April 29, 2010	18:25 to 24:00	SWG	Monitor riser plume at seabed
April 30, 2010	0:00 to 6:00	SWG	Monitor riser plume at seabed. Then move over to watch plume at drill pipe.
April 30, 2010	6:00 to 10:00	TSH	One ROV (Herc 14) is monitor plume at drill pipe. One ROV (Herc 6) is still under repair.
April 30, 2010	10:00 to 16:00	TSH	One ROV is prepping for the SS deployment of the dispersant via coil tubing. One ROV is still under repair.
April 30, 2010	16:20	TSH	Start displacing green dye fluid in coil tubing for SS dispersant test.
April 30, 2010	17:30	TSH	Begin pumping with dispersant.
April 30, 2010	22:30	SWG	Stop pumping dispersant total 3000 gals pumped between 5 gpm and 9 gpm
April 30, 2010	22:30 to 24:00	SWG	Standby near riser seabed plume
May 1, 2010	0:00 to 6:00	SWG	Herc 14 ROV monitor riser seabed plume. Herc 6 ROV on deck under repair
May 1, 2010	6:00 to 9:00	TSH	Herc 14 ROV monitor riser seabed plume. Herc 6 ROV on deck under repair
May 1, 2010	9:00 to 11:00	TSH	Herc 14 ROV completing seabed survey around riser seabed plume. Herc 6 ROV on deck under repair
May 1, 2010	11:00 to 16:00	TSH	Herc 14 ROV monitor riser seabed plume. Herc 6 ROV on deck under repair
May 1, 2010	16:00 to 24:00	SWG	Herc 14 ROV monitor riser seabed plume. Herc 6 ROV on deck under repair
May 2, 2010	0:00 to 3:30	SWG	Herc 14 ROV monitor riser seabed plume. Herc 6 ROV repaired and dive 01:30
May 2, 2010	3:30 to 5:00	SWG	New wand and hose for coil tubing pumping of dispersant sent down to Herc 6
May 2, 2010	5:00 to 7:15	TSH	Herc 6 ROV remove new coil tubing dispersant wand and hose from basket and hand off to Herc 14 for stab into coil tub ing receptacle and flow check (quick pump of hose capacity only completed @ 04:25). Herc 14 take two samples of riser seafloor plume(bottle # 3 and # 2, no depth specified). Herc 6 took 100 ft riser seafloor plume sample (bottle # 5).
May 2, 2010	7:15 to 9:30	TSH	Herc 6 ROV is back on deck. Herc 14 is prepping for SS injection of dispersant into plume.
May 2, 2010	9:30 to 12:00	TSH	Herc 6 ROV is back on deck. Herc 14 **started pumping dispersant SS into riser/crater plume @ 10:10 @ 9 gpm**.
May 2, 2010	12:00 to 15:00	TSH	Herc 6 ROV is grabbing samples (bottle # 4 at 100 ft). Herc 14 started pumping dispersant SS into riser/crater plume.
May 2, 2010	15:00 to 24:00	SWG	Herc 14 holding wand for coil tubing injection of dispersant. Herc 6 monitor riser plume, surfaced temporarily to allow workboat to come alongside and offload two totes of dispersant.
May 3, 2010	0:00 to 3:45	SWG	Herc 14 holding wand for pumping 5 gpm of dispersant @ 01:30. Herc 14 blown off position by plume and damage wand @ 03:00. Shut down pumping to swap out wand. Resume pumping @ 03:28; get blown off position again and elect to surface for wand replacement.

Date	Time, hrs	Engineer	Comment
May 3, 2010	3:45 to 6:30	SWG/TSH	Herc 14 dive again and resume dispersant pumping @ 1 gpm due to running out of dispersant. Waiting for seas to calm so we can offload more fluid from Pat Tillman.
May 3, 2010	6:30 to 8:30	TSH	Seas have calmed enough to start offloading more dispersant from the Pat Tillman. Herc 14 increasing rate of dispersant pumping to 5 gpm.
May 3, 2010	8:30 to 12:30	TSH	Herc 14 continues to inject dispersant at riser crater plume. Herc 6 surfaces for maintenance.
May 3, 2010	12:30 to 24:00	SWG	Herc 14 continues to inject dispersant at riser crater plume @ ~ 5 gpm. Herc 6 on surface for maintenance (15:30 to 17:45), dives and conduct riser survey for possible hot tap (18:00 to 19:00).
May 4, 2010	0:00 to 06:00	SWG	Herc 14 continues to inject dispersant at riser crater plume **increase to ~ 9 gpm at 01:15, reduced back to 5 gpm @ 05:15**. Herc 6 on surface for maintenance, then start collecting samples @ ~ 04:30.
May 4, 2010	06:00 to 10:00	TSH	Herc 14 continues to inject dispersant at riser crater plume at 5 gpm. Given all **stop for pumping @ 9:00.** Herc 6 on surface for maintenance.
May 4, 2010	10:00 to 10:40	TSH	Herc 14 got order to continue pumping dispersant at riser crater plume at 10:08. They were also ordered to increase to ~ 9 gpm. Herc 6 on surface for maintenance.
May 4, 2010	10:40 to 12:15	TSH	Herc 14 got order to increase to ~ 11 gpm. Herc 6 redeployed to water at 10:50. Herc 6 is scheduled to sample at LMRP.
May 4, 2010	12:15 to 13:30	TSH	Skandi reports that fumes are bad enough. Request to change heading. Request granted. They feel they can stay on task. Just need to move abit. Herc 14 got order to **increase to ~ 11 gpm.** Herc 6 redeployed to water at 10:50. Herc 6 is scheduled to sample at LMRP.
May 4, 2010	13:30 to 17:00	TSH	Skandi reported safety issues. Holding a safety standown. **Stopped injecting dispersant at approximately 14:00**. Completed safety discussion. **Re-started dispersant injection at 16:54**.
May 4, 2010	17:00 to 20:30	SWG	Herc 6 has acquired samples (17:36); Herc 14 & Skandi Neptune coil **decrease dispersant rate to 9 gpm (19:17)**; Herc 6 run feeler gauge over pipe coming out from riser seafloor plume at right angle is less than or equal to 6-5/8" OD.
May 4, 2010	20:30 to 21:30	SWG	Herc 14 dispersant pumping halted temporatily due to OI 3 Maxx 3 sub interfering while attempting to jet out trench around choke and kill lines. Resume pumping @ 5 gpm
May 4, 2010	23:30	SWG	Halt dispersant pumping
May 5, 2010	00:00 to 05:00	SWG	Herc 6 standing by and Herc 14 remaining at riser seafloor plume with wand.
May 5, 2010	05:00 to 10:00	SWG	Herc 6 standby and Herc 14 back off to allow OI 3 Maxx 3 to cut choke or kill line from crater area
May 5, 2010	10:00 to 14:00	DTP	Herc 6 standing by. 12:20 Herc 6 going to subsea basket
May 5, 2010	14:00 to 17:00	DTP	14:00 Herc 6 begins moving to top of plume at riser (just above the BOP stack) to monitor flow. At 14:30 Herc 6 is at the plume (view from above). Herc 6 attempting to get a better view of flow stream. Comparing current flow stream to flow stream previousiy recorded in videos. Appears to be lighter section in plume that may be gas. At 15:00 Herc 14 working with sample subs to prepare them to be brough to surface. Herc 14 working to bring sample basket to surface. At 16:35, Herc 6 continuing to monitor plume at riser just above the BOP stack. At 17:00, pull Herc 6 away from monitoring plume and begin pulling out to surface
May 5, 2010	17:00 to 24:00	DTP	At 18:45, the Herc 14 has moved in place to monitor the plume at the riser just above the BOP stack. At 19:15 Herc 6 is at the surface. While offloading more dispersant from the Pat Tillman had high VOC (Volatile Organic Compounds) levels.
May 6, 2010	0:00 to 6:00	SWG	Herc 14 monitor flex joint plume. Herc 6 dive and monitor crater plume and gather tools. VOC levels increasing on deck and bridge deck.
May 6, 2010	6:00 to 18:00	SMJ	Her 6 and Herc 14 preparing for coffer dam support
May 6, 2010	18:00 to 24:00	SWG	Herc 6 on deck. Herc 14 monitor riser flex joint plume. Hign VOC levels, change vessel heading, VOC levels acceptable.
May 7, 2010	0:00 to 6:00	SWG	Herc 6 on deck. Herc 14 monitor riser flex joint plume. Plume appears to have changed - another or longer split @ ~ 5:15 High VOC lvels 01:15 - 01:30
May 7, 2010	6:00 to 11:00	SMJ	Herc 6 on deck. Herc 14 monitoring riser flex joint plume. High VOC levels 06:15
May 7, 2010	11:00 to 16:00	SMJ	Splash Herc 6 and position to monitor flex joint plume.
May 7, 2010	12:00 to 16:00	SMJ	Herc 14 at surface.
May 7, 2010	17:00 to 22:00	SMJ	Herc 6 monitoring flex joint plume
May 7, 2010	22:00 to 24:00	SWG	Herc 6 move to monitor crater plume. Herc 14 still on surface
May 8, 2010	0:00 to 6:00	SWG	Herc 6 check location of cofferdam marker buoys and continue to monitor crater plume. Herc 14 still on surface
May 8, 2010	6:00 to 10:00	SMJ	Herc 14 splashed, relocating marker buoys
May 8, 2010	10:00 to 14:00	SMJ	Herc 6 and Herc 14 standing by to monitor plumes
May 8, 2010	14:00 to 15:30	SMJ	Herc 6 monitoring crater plume, Herc 14 monitoring flex joint plume

Date	Time, hrs	Engineer	Comment
May 8, 2010	15:30 to 24:00	SMJ	Herc 14 moved out to allow BOA ROVs to cut boost line. Herc 6 still monitoring crater plume.
May 9, 2010	0:00 to 6:00	SWG	Herc 14 moved out to allow BOA ROVs to cut boost line. Herc 6 still monitoring crater plume.
May 9, 2010	6:00 to 19:00	SMJ	Herc 14 monitoring riser. Herc 6 monitoring crater plume.
May 9, 2010	19:00 to 20:00	SWG	Herc 14 moved out to allow OI 3 Maxx 3 to run Rocket Science accoustic survey of riser from mudline entry point back to flex joint kink. Herc 6 monitoring crater plume.
May 9, 2010	20:00 to 21:00	SWG	Herc 14 move to stack to be eyes for Houston IMT (unable to get live feed for BOA Sub C) for hose cutting on blue pod supply to close side of choke and kill isolation valve. Identify hose. Herc 6 monitoring crater plume.
May 9, 2010	21:00 to 24:00	SWG	Herc 14 standing by if needed to provide visual for Houston IMT (no feed from BOA Sub C). Herc 6 monitor crater plume.
May 10, 2010	0:00 to 4:30	SWG	Herc 14 standing by if needed to provide visual for Houston IMT (no feed from BOA Sub C). Swim over and make visual of drill pipe overshot @ 1:45 hrs and observe no pressure on gauge, no evidence of leak. Herc 14 move over toward crater plume area and trace out coil tubing dispersant injection hose and kit wet stored. Herc 6 monitor crater plume.
May 10, 2010	4:30 to 6:30	SWG	Skandi Neptune coil tubing begin injecting dispersant @ 10 gpm. Herc 6 hold wand in crater plume ans Herc 14 monitor activity. Several upsets in first hour. Stab into wand seems faulty.
May 10, 2010	6:30 to 8:45	SMJ	Dispersant injection stopped due to high VOC's at surface
May 10, 2010	8:45 to 16:00	SMJ	Herc 14 resume subsea disperant injection. Herc 6 at surface.
May 10, 2010	16:00 to 18:00	SMJ	Herc 14 continue injecting subsea dispersant at crater plume. Herc 6 monitoring.
May 10, 2010	18:00 to 24:00	DTP	Her 6 to surface. Herc 14 continuing to inject dispersant at crater plume. At 18:30 splash Herc 6, Herc 6 Dive to sea floor and standby.
May 11, 2010	0:00 to 4:30	DTP	Herc 14 continue injecting dispersant at crater plume. Herc 6 standing by. At 3:05, Herc 14 being to flush lines to sea water. At 4:15 inspect wand to ensure pumping fresh water. Herc 6 get gage reading at drill pipe. **Dispersant injection pumps are stopped at 04:30.**
May 11, 2010	4:30 to 17:00	SMJ	Her 14 monitor plume at crater. Positioning to get a snap shot of the crater plume for media distribution. Herc 6 standing by
May 11, 2010	17:00 to 20:00	DTP	Herc 14 monitor flex joint plume. Herc 6 dive and monitor crater plume and gather tools. VOC levels increasing on deck and bridge deck. At 18:30 Herc 14 has traveled to the BOP stack to monitor gague reading pressure at the boost line during boost line pressure up ops. Intial pressure reading 4650 psi. After firing Port B (open) and the actuator began to move on on the mud boost line valve, **pressure droped to 400 psi.. (Pressure at mud boost line with valve open).** Monitor pressure for 30 min. At 19:35, see pressure drop to 300 psi when boost live valve is closed.
May 11, 2010	20:00 to 24:00	DTP	Herc 14 to crater plume for monitoring. Herc 6 at surface At 21:45 Herc 14 leave plume and assist in rig up of coil to be ready for dispertant injection if allowed. Herc 14 back to monitoring plume.
May 12, 2010	00:00 to 5:00	DTP	Her 14 monitor crater plume. Herc 6 at surface. At 1:42 noticed ~15 secs of almost entire white flow stream at crater plume. (gas?) Herc 6 working on pulling transponder. At 2:20 Herc 6 recover transponder. Herc 6 return to surface. Herc 14 continue to monitor plume at crater. At 3:31 notice white flow stream (gas?) for ~ 10 secs at crater plume
May 12, 2010	5:00 to 14:00	DTP	Herc 14 monitor plume. White flow stream (gas burst?) noticed at 5:16. Herc 6 at surface.
May 12, 2010	14:00 to 18:00	SMJ	Herc 6 splashing to prepare for injecting dispersant at 14:40. Herc 14 continues to monitor crater plume.
May 12, 2010	18:00 to 24:00	DTP	Herc 6 monitoring crater plume. Herc 14 at surface. Seeing a solid white plume (~ 15 secs in duration) occurring approximately every 6-7 mins. Herc 14 monitoring plume. Still seeing a solid white plume (~ 15 secs in duration) occurring approximately every 6- 7 mins. Herc 6 to surface.
May 13, 2010	00:00 to 5:00	DTP	Her 14 monitor crater plume. (same observation as above). Herc 6 at surface preparing to do trenching around crater plume. At 2:15, Herc 6 got to bottom and found a problem with the dredge pump. Need to return to surface to repair. At 4:15, Herc 6 begin dredging around the crater plume.
May 13, 2010	05:00 to 8:00	DTP/SMJ	Her 14 monitor plume at crater. Herc 6 dredging at crater plume
May 13, 2010	8:00 to 17:00	SMJ	Her 14 monitoring crater plume. Herc 6 standing by
May 13, 2010	17:00 to 24:00	SMJ / DTP	Herc 14 monitoring plume. Herc 6 standby. Herc 14 prepare for dispersant injection. Herc con14 montitor plume. Observe white plumes (gas) ~ 40 secs in duration occuring every ~1.25 min. At 23:15 Herc 14 move away from plume to allow Maxx3 access for dredging
May 14, 2010	0:00 to 5:00	DTP	Herc 14 standby at depth. At 00:50, Herc 6 dive in case it is needed for dredging. Herc 14 and Herc 6 standby at depth.
May 14, 2010	05:00 to 16:00	SMJ	Herc 14 and Herc 6 standing by.
May 14, 2010	16:00 to 18:00	SMJ	Herc 14 preparing to inject dispersants at crater plume. Herc 6 at surface.

Date	Time, hrs	Engineer	Comment
May 14, 2010	18:00 to 24:00	DTP	Herc 14 monitor plume while wait on dispersant orders. Herc 6 at surface. It was noted by ROV operator, that some of the area in front of the crater that was dredged may have caved back in. At 22:55, put 6' measuring stick directly in front of crater plume to confirm that there is enought room for the elbow on the RITT. Splash Herc 6 at 23:00 to dredge at plume
May 15, 2010	0:00 to 2:15	DTP	Herc 6 begin dredging at the crater plume. Herc 14 to surface. Herc 6 prepare to pump dispersant.
May 15, 2010	02:15 to 05:00	DTP	At **02:15 Herc 14, begin to pump dispersant**. Will try to get to 22 gpm (max flow rate). Max rate achieved. At 2:57, reduce rate to 10 gpm. Herc 6 begin dredging at crater plume. At 4:10 notice very slight leak in hose to dispersant wand. Will send another hose down. Herc 14 continue to pump dispersant
May 15, 2010	05:00 to 15:00	DTP/SMJ	Herc 14 pumping dispersant. Stop pumping at dispersant at 05:30 to swap out the hose going to the dispersant wand. At 5:50, Herc 14 resume pumping dispersant at 10 gpm. Herc 6 standing by with dredge.
May 15, 2010	15:00 to 18:00	SMJ	Herc 14 **halted dispersant injection**. Herc 14 and Herc 6 laying 600-ft jumper for dispersant injection at the RITT tool.
May 15, 2010	18:00 to 23:00	DTP	Herc 14 monitor flow at the riser kink area (just above the BOP stack). Herc 6 is at surface. Herc 14 provide visual of the accumulator skid area next to the BOP stack. At 21:08, Herc 14 back to monitoring leak at riser kink.
May 15, 2010	23:00 to 24:00	DTP	Herc 14 check gauge pressure at boost line after start to stab RITT. Reading 700 psi at the gauge going to the boost line. Herc 6 and Herc 14 monitor leak at the riser kink. No change in flow was noticed at the riser kink at 23:20 when RITT is stabbed. Reading 500 psi at the boost line.
May 16, 2010	0:00 to 2:30	DTP	Her 6 and Herc 14 monitoring plume at the riser kink area. Her 6 and Herc 14 standby as Skandi Neptune completes vessel move in order to prepare for dispersant injection.
May 16, 2010	2:30 to 05:00	DTP	Herc 6 and Herc 14 preparing for dispersant injection. At 3:50, Herc 14 found 2 of the RITT baffles on the seafloor next to the plume. Herc 14 and Herc standby at depth unitl ready to pump dispersant.
May 16, 2010	05:00 to 10:30	DTP/MM	Herc 14 standy at depth. Herc 6 standby at depth to position dispersant stinger into the riser
May 16, 2010	10:30 to 12:30	MM	Herc 14 standby at depth. Herc 14 preparing to position dispersant stinger into the riser. Herc 6 on standby to monitor leak at the riser kink on top the BOP stack. Establish continuity to the end of the stinger.
May 16, 2010	12:30 to 13:30	MM	Herc 6 monitoring the leak at the riser kink on top of the BOP stack. HERC 14 with the dispersant stinger alongside the riser end at the crater plume
May 16, 2010	13:30 to 17:00	MM	**Herc 14 begin pumping dispersant** at the entrance of the riser with stinger. HERC 6 continue to monitor the leak at the riser kink on top of the BOP stack
May 16, 2010	17:00 to 17:45	DTP/MM	Lost video and audio feed (storm)
May 16, 2010	17:45 18:45	DTP	Herc 14 pumping dispersant at the crater plume. Herc 6 monitoring leak at the riser kink
May 16, 2010	18:45 to 24:00	DTP	Herc 14 pumping dispersant at the crater plume. Herc 6 provide visual of actuator on boost line valve while attempt to cycle. At 19:00, Herc 6 moved back to monitor the leak at the riser kink. Herc 14 position camera to get a consistent picture of the plume every 20 mins for comparison of size to determine the effectiveness of the RITT tool. Herc 6 inspecting debris on seafloor. Observed the following repeated plume frequency: 1min 25 sec mostly oil, 56 sec oil/gas, 34 sec mostly gas.
May 17, 2010	0:00 to 01:45	DTP	Herc 14 continue to pump dispersant at the crater plume. Herc 6 stand by at depth. **At 01:45 shut down dispersant pumping** so that Skandi Neptune vessel can reposition. (Due to Enterprise needing to change headings as a result of shift in wind direction / flare.)
May 17, 2010	01:45 to 5:00	DTP	Herc 6 and Herc 14 prepare for vessel move.
May 17, 2010	05:00 to 09:00	DTP/JW	Herc 6 and Herc 14 rig up to pump dispersant. Skandi is reading high VOC at the surface, moved out of zone.
May 17, 2010	9:00 to 15:15	JW	Herc 6 and Herc 14 back on location, wand in place at 09:20. Herc 14 hooked up hose to dispersant wand at **10:15 and then started injecting dispersant at 10 gpm**. Leak at coiled tubing hot stab caused **shut down for 10 min** at 10:24. Wand moved deeper into plume at 11:30, Herc 6 monitoring.
May 17, 2010	15:15 to 17:00	JW	Plume change, had been steady since shift change, now swirling, blowing over Herc 6. Herc 6 position changed.
May 17, 2010	17:00 to 18:45	DTP	Herc 6 pumping dispersant. Herc 14 is standing by at depth. **Stop pumping dispersant at 18:44, lost visibility and wand got stuck under the riser.** ROV operator believes that the change in the plume dynamics could be a result of having three ROVs at the plume instead of two. (2 from Enterprise + Herc 6). Enterprise ROVs stated that all three ROVs were in place before the plume change and that the ROVs are not the cause.
May 17, 2010	18:45 to 24:00	DTP	Herc 6 working to get dispersant wand unstuck and hose rigged back up. At 20:15, Herc 6 standby waiting on orders to start pumping dispersant. At 20:45 got clearance to resume dispersant. **At 20:50 resume pumping dispersant at 10 gpm.** Wand is just in front of the riser. Insert tip of dispersant wand a few inches into the riser.
May 18, 2010	0:00 to 5:00	DTP	Herc 6 continue to pump dispersant at 10 gpm. Herc 14 standby at depth.

Date	Time, hrs	Engineer	Comment
May 18, 2010	05:00 to 06:00	DTP/JW	**Shut down pumping of dispersant at 05:15** due to high VOCs on the Skandi vessel. **At 05:30 resume pumping of dispersant. Shut down dispersant at 05:50** due to sample reading boat leaving the field.
May 18, 2010	06:00 to 12:00	JW	Herc 6 observing plume, visibility dropped off at +/- 10:15. Herc 14 remained standing by at depth.
May 18, 2010	12:00 to 17:00	JW	Herc 6 observing plume. Herc 14 remained standing by at depth. At 1415 hrs the plume was consistently oil for 2:12 +/- 5 sec then heavy gas for 0:45 +/- 8 sec
May 18, 2010	17:00 to 19:30	JW/DPT	Herc 6 observing plume. Herc 14 remained standing by at depth. Will wait for order before starting dispersant pumping.
May 18, 2010	19:30 to 21:10	DTP	Herc 14 move away from the crater plume due to problems with the ROV controls and high VOCs on vessel. Discuss postion relative to the Enterprise. Herc 14 and Herc 6 standby.
May 18, 2010	21:10 to 24:00	DTP	Receive permission to start pumping dispersant at 21:13. Herc 14 position back to plume and prepare to pump dispersants. Enterprise ROV verify that the Herc 14 position will be ok. At 21:50, high VOCs spike on deck of Skandi, clear deck. High VOCs on deck continue.
May 19, 2010	0:00 to 3:45	DTP	At 0:55, Skandi deck cleared to go back to work (VOCs have decreased). Prepare to pump dispersants. At 1:30, Skandi noticed a spike in pump pressure when atttempting to start pumping. There is a unknown restriction some where in their system. Herc 14 inspect lines to determine the problem. Herc 14 confirm that they have flow to the coil and that the restriction is somewhere in the hose between the want and the coil. Herc 6 having problems at 3:40.
May 19, 2010	03:45 to 05:00	DTP	Send down crane line to lift dispersant hose so that restriction can be removed.
May 19, 2010	05:00 to 12:00	JW	Repairing Dispersant hose, pressure test to 2,000-psi.
May 19, 2010	12:00 to 16:30	JW	Return hose to seafloor, get everything in place to pump dispersant. **Re-established dispersant injection at 10gpm at 1630 hrs.**
May 19, 2010	16:30 to 21:00	JW/DTP	Herc 6 observing plume. Herc 14 remained standing by at depth. Continue pumping dispersant at 10gpm.
May 19, 2010	21:00 to 24:00	DTP	Herc 6 Continue to pump dispersant. Herc 14 standby at depth. Discuss Enterprise heading change that would put skandi aligned with the flare boom. After assesment, Skandi deteremined that the current boat postion was ok.
May 20, 2010	0:00 to 5:00	DTP	Herc 6 continue to pump disperant at 10 gpm. Herc 14 standby at depth.
May 20, 2010	5:00 to 17:00	JW	Herc 6 continue to pump disperant at 10 gpm. Herc 14 standby at depth. At 1215hrs Herc 14 did a PR run to look at 3 ROV's monitoring the plume
May 20, 2010	17:00 to 24:00	JFR	Reposition to 109 degree heading for RITT plume comparisons. Dispersant off at 21:45, Dispersant on at 21:58 Monitor RITT plume.
May 21, 2010	0:00 to 05:00	JFR	Inject Dispersat 10 GPM and monitor RITT plume.
May 21, 2010	05:00 to 17:00	JW	Inject Dispersant at 10 GPM, Herc 14 monitoring RITT plume.
May 21, 2010	17:00 to 24:00	JFR	Inject Dispersant at 10 GPM, Herc 14 monitoring RITT plume.
May 22, 2010	00:00 to 05:00	JFR	Inject Dispersant at 10 GPM, Herc 14 monitoring RITT plume.
May 22, 2010	05:00 to 17:00	JW	Inject Dispersant at 10 GPM, Herc 14 monitoring RITT plume. Preparing to add 300-ft of extra hose to the subsea dispersant system. Herc 6 splashed to replace Herc 14 on monitoring duty.
May 22, 2010	17:00 to 24:00	JFR	Inject Dispersant at 10 GPM, Herc 6 monitoring RITT plume.
May 23, 2010	00:00 to 05:00	JFR	Inject Dispersant at 10 GPM, Herc 6 monitoring RITT plume.
May 23, 2010	05:00 to 07:30	JW	Inject Dispersant at 10 GPM, Herc 6 monitoring RITT plume.
May 23, 2010	07:30 to 08:30	JW	Still injecting Dispersant. Herc 6 move to watch RITT Tool at point Methanol being injected
May 23, 2010	08:30 to 11:45	JW	Still injecting Dispersant. Herc 6 and Herc 14 moved back to allow Enterprise to work on Methanol Hot Stab.
May 23, 2010	11:45 to 17:00	JW	Still injecting Dispersant, Herc 6 back Monitoring Dispersant injection at the plume. At 1245 hrs started take close video of the end of the Riser at plume for measurement of riser. Late afternoon Herc 14 took over dispersant monitoring and Herc 6 surfaced.
May 23, 2010	17:00 to 24:00	JFR	Monitor Plume, inject Dispersant 10 GPM
May 24, 2010	00:00 to 05:00	JFR	Monitor Plume, inject Dispersant 10 GPM
May 24, 2010	05:00 to 17:00	JW	Monitor Plume, inject Dispersant 10 GPM (from 0800 to 0830 recording on boat for Graham Oppenshaw)
May 24, 2010	17:00 to 24:00	JFR	Monitor Plume, inject Dispersant 10 GPM
May 25, 2010	00:00 to 05:00	JFR	Monitor Plume, inject Dispersant 10 GPM
May 25, 2010	05:00 to 17:00	JW	Monitor Plume, inject Dispersant 10 GPM
May 25, 2010	17:00 to 18:00	JW	Plume change at 1800hrs, mud and oil
May 25, 2010	18:50 to 19:45	FRM	Herc 6 jumped doing coil inspection, Herc 14 Monitor Plume, inject Dispersant 10 GPM

Date	Time, hrs	Engineer	Comment
May 25, 2010	19:30 to 19:45	FRM	Herc 14 Monitor Plume, inject Dispersant 10 GPM, Cloud formed - (Enterprise ROV moving around)
May 25, 2010	19:45 to 20:15	FRM	Herc 14 stop dispersant injection moving in to remove wan and set to side.
May 25, 2010	20:15 to 22:00	FRM	Herc 14 and 6 monitoring Plume and Enterprise ROV work
May 25, 2010	22:00 to 22:37	FRM	Herc 6 moving wan in place to start injecting dispersant, Herc 14 monitoring plume
May 25, 2010	22:37 to 22:50	FRM	Injection started at 22:37 Herc 6 holding wan in place, Herc 14 monitoring plume and Herc 6
May 25, 2010	22:50 to 0:00	FRM	Herc 6 released wan moved to safe area while Enterprise tries to release RITT. Herc 14 monitoring plume
May 26, 2010	0:00 to 3:30	FRM	Herc 14 unplugged injection coil, Herc 6 stand -by. Move Skandi Neptune 300 ft so Enterprise can move out of area. Standing by.
May 26, 2010	3:30 to 4:20	FRM	Move Skandi Neptune back in to area so Herc 14 and 6 can reconnect the dispersant coil and monitor plume.
May 26, 2010	4:20 to 4:50	FRM	Herc 6 monitoring plume and Herc 14 reconnected dispersant line. Injection of Dispersant was continued at 4:30 am
May 26, 2010	4:50 to 17:00	FRM	Herc 14 monitoring plume and Herc 6 surveying for the end of the RITT tool.
May 26, 2010	17:00 to 19:55	FRM	Herc 14 and Herc 6 monitoring plume .
May 26, 2010	19:55 to24:00	FRM	Herc 14 to move in and make Sonar shots, Not able to move in do to visibilty and can not get Sonar at this time - 20:07 Herc 14 got Sonar Shot will continue to monitor in Sonar mode. Herc 14 is 10 meters away from plume.
May 27, 2010	0:00 to 05:00	FRM	Herc 14 will monitor plume in Sonar mode. Herc 14 is 10 meters away from plume. Herc 14 back to visual inspection of Plume 00:30 hrs. Herc 6 to surface, clean camera lense and do maintenance. Jumped Herc 6 at 00:30 hrs to return to riser plume to monitor plume. Herc 6 on station @ 01:40 relieve Herc 14. Dispersant wan still in place. Herc 14 to surface for cleaning and maintenance.
May 27, 2010	5:00 to 18:00	SMJ	Herc 14 and Herc 6 monitoring crater plume. Dispersant pumping continues at the crater plume since 0500hrs on 5/26..
May 27, 2010	18:00 to 24:00	FRM	Herc 14 visual monitoring of the crater plume, Herc 6 using sonar to monitor crater plume, Herc 6 moved into 10 meters monitoring on sonar. At 20:10 when pumping started visibility lost Herc 14 and 6 both on Sonar monitoring the crater plume.
May 28, 2010	00:00 to 05:00	FRM	Herc 14 and Herc 6 both on Sonar monitoring the crater plume. @ 3:00 Herc 14 changed to visual monitoring.
May 28, 2010	5:00 to 9:30	FRM	Herc 6 to monitor the crater plume. Herc 14 to come to surface to clean lense - Herc 14 on board 05:45 to get cleaned up
May 28, 2010	9:30 to 16:00	SMJ	Herc 14 performing crater survey to identify bridging material that may have been pumped out of riser. Herc 6 monitoring crater plume and dispersant injection.
May 28, 2010	16:00 to 16:38	SMJ	Dispersant injection stopped due to high VOC's at surface. Herc 14 is monitoring crater plume w/ sonar due to lack of visibility.
May 28, 2010	16:38 to 24.00	SMJ	Resumed injecting dispersants at crater plume. Herc 6 and Herc 14 monitoring crater plume
May 29, 2010	00:00 to 05:00	FRM	Resumed injecting dispersants at crater plume. Herc 6 monitoring crater plume, Herc 14 at the flex joint kink plume @ 01:15, Herc 14 off Flex Joint to cage at 4:10,
May 29, 2010	5:00 to 17:00	SMJ	Continued injecting dispersants at crater plume. Herc 6 and Herc 14 monitoring.
May 29, 2010	17:00 to 24:00	FRM	Continued injecting dispersants at crater plume. Herc 14 monitoring. Herc 6 to Surface @ 19:30, Herc 6 at Crater Plume - starting monitoring plume at 22:30,
May 30, 2010	00:00 to 05:00	FRM	Continued injecting dispersants at crater plume. Herc 14 monitoring. Herc 6 to Surface @ 19:30, Herc 6 at Crater Plume - starting monitoring plume at 22:30,
May 30, 2010	05:00 to 17:00	SMJ	Herc 6 at surface for servicing. Herc 14 monitoring.
May 30, 2010	17:00 to 24:00	DTP	Injecting dispersant at crater plume at 10 gpm. Herc 14 monitoring crater plume. Herc 6 at surface.
May 31, 2010	0:00 to 5:00	DTP	Injecting dispersant at crater plume at 10 gpm. Herc 14 monitoring crater plume. Herc 6 at surface.
May 31, 2010	05:00 to 14:00	DTP / SMJ	Injecting dispersant at crater plume at 10 gpm. Herc 14 monitoring crater plume. Herc 6 at surface.
May 31, 2010	14:00 to 20:00	SMJ / DTP	Injecting dispersant at 10 gpm at crater plume. Herc 14 at surface. Herc 6 monitoring crater plume. Herc 14 dive.
May 31, 2010	20:00 to 24:00	DTP	Injecting dispersant at 10 gpm at crater plume. Herc 6 monitoring plume. Herc 14 is working on placing dispersant wands (2) at the BOP stack. Halt placing wands until BOA ROV is out of the way. At 22:00 Herc 14 resume rigging up dispersant wands
June 1, 2010	0:00 to 3:00	DTP	Injecting dispersant at 10 gpm. Herc 6 monitor plume at crater. Herc 14 continue to rig up dispersant wands (2) near the BOP stack. All hoses and wands are in place for pumping dispersant at the BOP stack.
June 1, 2010	3:00 to 5:00	DTP	Injecting dispersant at 10 gpm at crater plume. Herc 6 monitoring crater plume. Herc 14 standby at depth.
June 1, 2010	5:00 to 8:00		Injecting dispersant at 10 gpm at crater plume. Herc 6 monitoring crater plume. Herc 14 standby at depth.
June 1, 2010	8:00 to 13:00	SMJ	Herc 6 monitoring crater plume. Herc 14 monitoring manifold.
June 1, 2010	13:00 to 19:20	SMJ / DTP	Herc 6 and Herc 14 monitoring crater plume. At 19:16 oil flow stops at the crater plume as the riser is being cut with the super shears. At 19:20, see large white plume coming out at the crater plume. Skandi **shut down dispersant pumps at crater plume at 19:20** and prepare for vessel move.
June 1, 2010	19:20 to 20:00	DTP	Skandi recovering coiled tubing and preparing to move to new dispersant pumping location near the BOP stack.

Date	Time, hrs	Engineer	Comment
June 1, 2010	20:00 to 20:45	DTP	Skandi vessel move towards BOP stack.
June 1, 2010	20:45 to 22:15	DTP	Skandi Herc 6 and Herc 14 working to deploy coiled tubing at new location. Herc 14 rig up dispersant hose to coiled tubing.
June 1, 2010	22:15 to 24:00	DTP	Herc 6 and Herc 14 standby while riser is being cut with diamond wire tool. Herc 14 monitor plume at end of the sheared riser. Recover original dispersant wand to surface for modification.
June 2, 2010	0:00 to 2:00	DTP	Herc 6 and Herc 14 standby
June 2, 2010	2:00 to 3:30	DTP	Herc 14 picking up dispersant wand and position to the plume above the top of the BOP. **Begin pumping dispersant at 10 gpm at 2:32** at the plume above the BOP stack as a plan is being developed to free up the diamond wire cutting tool. (Herc 14 supporting wand). **At 3:30, Shut down dispersant pumping** at the plume above the BOP stack due to work on freeing diamond wire cutting tool by lifting riser.
June 2, 2010	3:30 to 5:00	DTP	Herc 6 and Herc 14 standby while lifting the riser to free the diamond wire tool.
June 2, 2010	5:00 to 12:00	DTP	Herc 6 and Herc 14 monitor the riser and plume while the riser is being lifted in an attempt to free the diamond wire tool. Herc 14 postion to plume above the BOP stack and **resume dispersant injection at 5:54 at plume above the BOP stack.**
June 2, 2010	11:00 to 14:40	SMJ	Herc 14 **disperant injection stopped** while another wand was positioned for injection into the plume at the newly created partial cut.
June 2, 2010	14:40 to 17:00	SMJ	**Resume dispersant injection at 14:40.** Herc 6 is using a second wand to inject dispersant into the plume exiting the partial cut. Herc 14 injecting dispersant into the flex joint plume.
June 2, 2010	17:00 to 22:00	DTP	Herc 6 found a leak in the 2nd dispersant line. **Stop pumping dispersant at 17:00.** Only injection with one wand due to leak in the second dispersant line / hose. Herc 6 troubleshooting leak on 400' hose connection and possible leak at panel. Herc 6 disconnecting wand. **Resume pumping at 17:30.** Herc 14 move to injecting above the riser kink. Hot stab in distribution panel getting pumped out restricting max pump rate to 5 gpm. Pumping intermittent. Herc 6 working to repair hot stabs in panel by placing dummy stab in panel. At 21:30, Herc 6 must surface for repair.
June 2, 2010	22:00to 23:00	DTP	**Stop dispersant injection completely at 22:00.** Herc 14 stand by at the plume waiting for Mil 42 to help repair stabs into distribution panel. **Resume pumping dispersant at 23:00 at 10 gpm** after Mil 42 completed placemnt of dummy stabs in panel.
June 3, 2010	0:00 to 6:00	DTP	Herc 14 continue to pump dispersant at 10 gpm , Herc 6 at surface being repaired. Herc 6 dive to depth
June 3, 2010	06:00 to 8:50	DTP	Herc 14 Move to high above crater plume for riser cutting operations. Continue to pump dispersant at 10 gpm
June 3, 2010	08:50 to 9:43	SMJ	**Stopped dispersant injection** due to lack of visibility. Dispersant injection resumed.
June 3, 2010	9:43 to 15:00	SMJ	**Dispersant injection resumed** above the stack at 10 gpm. Continuing injection with the straight wand. 90 degree wand won't be used as to not shut down dispersant to swap over.
June 3, 2010	15:00 to 19:00	SMJ	**Herc 14 stopped dispersant injection** and moved ROV's to allow Enterprise to move in and land LMRP Cap. Herc 6 and Herc 14 standing by
June 3, 2010	19:00 to 19:50	DTP	Herc 14 moving in to above the BOP stack to inject dispersant while the injection lines from the Enterprise LMRP to the LMRP Cap #4 are being adjusted. Herc 6 standby at depth. Herc 14 lay down dispersant wand as Enterprise ROVs are ready to move in. Did not start pumping dispersant.
June 3, 2010	19:50 to 21:00	DTP	Herc 14 and Herc 6 move away from BOP stack and standby for LMRP Cap #4 install operations.
June 3, 2010	21:00 to 21:45	DTP	Herc 14 retrieve dispersant wand and prepare to resume dispersant injection. Wait for Enterprise ROVS to position.
June 3, 2010	21:45 to 24:00	DTP	**At 21:45, Begin dispersant injection at 10 gpm.** Herc 14 supporting wand, Herc 6 standby at depth. Herc 6 provide visual of 2nd dispersant hose (600') route to determine possibility of repositioning hose. Slight vessel move of Skandi.
June 4, 2010	0:00 to 1:44	DTP	Continue injecting dispersant at 10 gpm. Herc 14 supporting wand. Herc 6 swapping out wand on second line to straight wand and position to BOP stack.
June 4, 2010	1:44 to 2:27	DTP	**At 1:44 stop pumping dispersant** while connecting in the repaired 400' dispersant hose for injection through 2 lines.
June 4, 2010	2:27 to 3:30	DTP	**At 2:27, begin pumping dispersant.** Slowly bring rate up to 15 gpm monitoring for leak. Slow rate to 10 gpm at 3:30.
June 4, 2010	3:30 to 5:00	DTP	Continue injecting dispersant at 10 gpm through 2 wands. Herc 14 and Herc 6 each supporting a dispersant wand above the LMRP Cap #4.
June 4, 2010	5:00 to 19:00	SMJ	Continue injecting dispersant at 10 gpm through 2 wands. Herc 14 and Herc 6 each supporting a dispersant wand above the LMRP Cap #4.
June 4, 2010	19:00 to 24:00	DTP	Continue injecting dispersant at 10 gpm through 2 wands. Herc 14 and Herc 6 each supporting a dispersant wand near the bottom of the LMRP Cap #4. At 23:00, total dipersant pumped for the day is 13,444 gals.
June 5, 2010	0:00 to 0:50	DTP	Continue injecting dispersant at 10 gpm through 2 wands. Herc 14 and Herc 6 each supporting a dispersant wand near the bottom of the LMRP Cap #4. At 00:34, begin taking snapshot every half hour.
June 5, 2010	00:50 to 3:50	DTP	At 0:52, begin bringing up dipsersant pumps to max rate while Enterprise is shut in. At 14 gpm at 1:05. At 2:00, have pumped 1424 gallons for the day so far. Continue pumping dispersant with 2 wands at 14.7 gpm. At 3:00 have pumped 2401 gallons. Pumping 15 gpm. At 3:38 lost partial pressure to dispersant hoses. Herc 6 move away from BOP stack to troubshoot leak. Herc 14 continue to hold want at plume at bottom of the LMRP cap. Herc 6 lost visibility while trying to pinpoit leak.

Date	Time, hrs	Engineer	Comment
June 5, 2010	3:50 to 5:17	DTP	**At 3:50 shut down dispersant pumps** to allow Herc 6 visibility. **At 4:22 turn pumps back on** and Herc 6 check for leak. Could not find a leak. **Stop pumps at 4:40.**
June 5, 2010	05:17 to 9:25	DTP/MM	**At 5:17, Resume pumping dispersant at 10 gpm.** Herc 6 and Herc 14 both each supporting a wand at the plume at the bottom of the LMRP cap.
June 5, 2010	9:25 to 10:45	MM	Herc 6 and Herc 14 continue pumping dispersant. Herc 6 repositioned.
June 5, 2010	10:45 to 11:30	MM	Herc 6 and Herc 14 continue pumping dispersant. Herc 6 repositioned to allow the Mill 86 to view the bulleye @ 10:45hrs.
June 5, 2010	11:30 to 17:00	MM	Herc 6 and Herc 14 continue pumping dispersant. Herc 14 repositioning to view the bottom of the LMRP Cap at a heading of 135 deg while continuing to pump dispersant.

Date	Time, hrs	Engineer	Comment
April 22, 2010	All day	TSH	Transit to MC 252. Prep to deploy and assist efforts.
April 23, 2010	0:00 to 12:30	SWG	Finish transit. Transfer containers to BOA. Finalize SIMOPS and HAZID reviews.
April 23, 2010	12:30 to 21:00	SWG	Dive Millenuium 42 ROV and inspect / trace out riser
April 23, 2010	21:00 to 24:00	SWG	Begin inspecting DW Horizon hull and take fixes on thruster positions.
April 24, 2010	00:00 to 05:00	TSH	Complete DW Horizon hull. Begin survey of debris field north of rig.
April 24, 2010	05:00 to 24:00	SWG	Mil 42 ROV monitoring riser plume. Max 3 ROV monitoring drill pipe plume starting @ 16:30
April 25, 2010	All day	TSH	Both ROVs continue to monitor plumes. (Mil 42 ROV on riser plume and Max 3 ROV on drill pipe plume)
April 26, 2010	0:00 to 10:00	TSH	Both ROVs continue to monitor plumes. (Mil 42 ROV on riser plume and Max 3 ROV on drill pipe plume)
April 26, 2010	10:00	TSH	Vessel captain reports fumes in lower deck from oil slick. OI3 suspends ops.
April 26, 2010	10:00 to 19:40	TSH	Recover subs and move off location until slick is mitigated.
April 26, 2010	19:40 to 24:00	TSH	Deploy to ROV to resume monitoring of plumes. (Mil 42 ROV on riser plume and Max 3 ROV on drill pipe plume)
April 27, 2010	0:00 to 2:40	TSH	Mil 42 ROV collected water sample around riser plume. Max 3 monitoring drill pipe plume.
April 27, 2010	2:40 to 24:00	TSH	Mil 42 ROV monitoring riser end plume. Max 3 monitoring drill pipe plume.
April 28, 2010	0:00 to 5:00	TSH	Mil 42 ROV monitoring riser end plume. Max 3 monitoring drill pipe plume.
April 28, 2010	5:00 to 16:00	TSH	Mil 42 ROV taking fluid sample at riser seafloor plume and then temp measurments on BOPE. Conduct thermal survey of choke and kill lines for evidence of fluid movement. None detected. Max 3 monitoring riser end plume. New flow from riser at BOPE noted.
April 28, 2010	16:00 to 1:30	SWG	Monitoring LMRP / Riser plume
April 29, 2010	1:30 to 2:00	SWG	Leak at LMRP / riser flex joint appears to have increased (being monitored by OI 3, so may just be due to different heading).
April 29, 2010	2:00 to 7:30	TSH	One of the ROVs are working to re configure hoses between the Atlantis accumulator and BOPE. The other ROV is still watching the riser plume.
April 29, 2010	7:30 to 8:45	TSH	Both ROVs on deck for retooling for the forward options. One ROV splashed at 8:30. 2nd sub in water.
April 29, 2010	8:45 to 10:50	TSH	ROVs working on re-configuring SS hoses. Map control lines from Gilmore shuttle valves (on casing / "super" shears to determine which one goes to the Blue pod and which goes to the Yellow pod.
April 29, 2010	10:50	TSH	Start to disconnect Blue pod line on shuttle valve (of casing / "super" shear).
April 29, 2010	11:23	TSH	Successfully removed blue control line.
April 29, 2010	12:36	TSH	Attempt to connect new hose to blue pod fitting on shuttle valve assembly. The other end of this hose will be connected to the Atlantis accumulator. Having problems starting connection. Will surface OI3 sub to fix problem.
April 29, 2010	13:10	TSH	OI3 Sub back in water headed to bottom with repaired fitting.
April 29, 2010	14:45	TSH	OI3 Sub back at shuttle valve attempting to connect new hose.
April 29, 2010	16:15	TSH	OI3 Sub has successfully connected new hose at shuttle valve. It appears wrench tight.
April 29, 2010	16:30	TSH	OI3 Sub has move the HIT which is still stabbed into the super shear hose (from BOP bottle package) into the open position.
April 29, 2010	16:30 to 22:00	SWG	OI3 sub1 monitoring pressure closed in on the casing shear close circuit holding @ 4200 - 4300 psi. OI3 Sub2 monitoring pod vent line
April 29, 2010	22:00	SWG	OI3 subs back away and return to cages to allow BOA Mil 36 vertical access to BOP stack
April 30, 2010	0:00 to 6:00	SWG	OI3 # 2 take over monitoring of riser bend plume until 1:15. OI3 # 2 move to drill pipe plume and OI3 # 1 monitor riser LMRP area.
April 30, 2010	6:00 to 10:00	TSH	OI3 # 2 take over monitoring of riser bend plume until 1:15. OI3 # 2 move to drill pipe plume and OI3 # 1 monitor riser LMRP area.
April 30, 2010	10:00 to 13:00	TSH	OI3 # 2 take over monitoring of riser bend plume until 1:15. OI3 # 1 is standing by on bottom.
April 30, 2010	13:00 to 15:00	TSH	OI3 # 2 take over monitoring of riser bend plume until 1:15. OI3 # 1 is standing by to monitor area around LMRP.
April 30, 2010	15:00 to 17:00	TSH	OI3 # 2 take over monitoring of riser bend plume until 1:15. OI3 # 1 is standing by to monitor area around LMRP.
April 30, 2010	17:00 to 24:00	SWG	OI3 #1 (Mil 42) monitoring riser bend plume. OI3 #2 (Maxx 3) surfaced to re-tool for cutting drill pipe
May 1, 2010	0:00 to 5:00	SWG	Mil 42 monitoring riser bend plume. Maxx 3 ROV on surface getting re-tooled for cutting tool joint off the drill pipe
May 1, 2010	5:00 to 5:30	SWG	Mil 42 re-positioned to monitor oil droplets from glycol port on top of LMRP connector
May 1, 2010	5:00 to 8:00	TSH	Dive Maxx 3 ROV and caliper drill pipe to confirm 6-5/8" OD while standby for upper annular closure attempt
May 1, 2010	8:00	TSH	Start to cut 6-5/8" OD pipe with Maxx 3. Mil 42 standing by at LMRP.
May 1, 2010	8:00 to 13:00	TSH	Maxx 3 successfully cut cut 6-5/8" OD pipe. Dress off cut with grinder. Mil 42 standing by at LMRP.
May 1, 2010	13:00 to 14:30	TSH	Maxx 3 dress off drill pipe cut with grinder. Mil 42 standing by at LMRP.
May 1, 2010	14:30 to 16:00	TSH	In position for upper annular closure attempt. Maxx 3 backed off and standing by; Mil 42 monitoring LMRP connector glycol port.

Date	Time, hrs	Engineer	Comment
May 1, 2010	16:00 to 24:00	SWG	After leak discovered (during Upper Annular closure attempt), Mil 42 ROV survey choke & kill umbilicals and clamps and rigid conduit line to assess ROV access to disconnect. Then attempt to tighten fitting on lower annular. Need larger wrench. While waiting on wrench to be lowered, start temperature survey. Obtain readings on Drive pipe below wellhead. Tighten fitting with new wrench, then perform additional grinding on drill pipe cut to satisfaction of drill pipe overshot wellhead service tech. Maxx 3 ROV attempt to mark drill pipe for swallow mark (for overshot wellhead valve).
May 2, 2010	0:00 to 6:00	SWG	Mil 42 conducting temperature survey on BP stack; Maxx 3 monitor drill pipe plume after Iron Horse XLX 9 backed away for workboat cargo transfer.
May 2, 2010	6:00 to 7:00	TSH	OI3 takes down Caprock video feed to upgrade bandwidth.
May 2, 2010	7:00 to 9:00	TSH	Mil 42 conducting temperature survey on BP stack; Maxx 3 monitor drill pipe plume.
May 2, 2010	9:00 to 12:30	TSH	Mil 42 conducting temperature survey on BP stack; Maxx 3 monitor drill pipe plume.
May 2, 2010	12:30 to 13:30	TSH	Mil 42 now at BOPE stack to plug in ROV panel to lower annular; Maxx 3 monitor effluent from lower annular close attempt.
May 2, 2010	13:30 to 14:30	TSH	Attempt to pressure up with accumulator to close lower annular. Leak on HIT/hose connection. All stop.
May 2, 2010	14:30 to 15:00	TSH	Attempt to pressure up with accumulator to close lower annular. Small leak on stab in (clamp?).
May 2, 2010	15:00 to 24:00	SWG	Maxx 3 take pictures of stack in support of Blue pod removal; inspect padeyes for removal of LMRP; inspect riser in support of hot tap. Mil 42 monitor riser bend plume, but will need to surface for repairs once weather lays down.
May 3, 2010	0:00 to 5:00	SWG	Maxx 3 standby at BOP stack; Mil 42 monitor riser bend plume.
May 3, 2010	5:00 to 11:00	TSH	Maxx 3 re-positioned to observe 2nd attempt to close lower annular at BOP stack; Mil 42 monitor riser bend plume. Maxx 3 surfaces for maintenance. Mil 42 having issues. Will return to cage. Maxx 3 will accompany Mil 42 back to it's cage at 11:00. We will temporarily lose our riser bend plume monitoring.
May 3, 2010	11:00 to 12:30	TSH	Mil 42 is completing temp surveys. Maxx 3 is also doing a survey (tracerco on riser looking for drill pipe and tool joints).
May 3, 2010	12:30 to 15:30	TSH	Completing more surveys
May 3, 2010	15:30 to 20:30	SWG	Mil 42 conducting temperature surevey on riser, Maxx 3 surfacing for re-tooling for drill pipe overshot make-up
May 3, 2010	20:30 to 22:15	SWG	Mil 42 snap off 4 bolts holding BOP (middle VBR) P, T electric wet connect cable and pull cable loose. Maxx 3 still on surface.
May 3, 2010	22:15 to 24:00	SWG	Mil 42 move over to assist Mil 36 (need 3rd arm) with make-up of fitting for hose from middle VBR close circuit.
May 4, 2010	0:00 to 02:40	SWG	Maxx 3 dive and make up BOP P,T wet connect. Appears to have mated successfully. Diagnostics suggest adequate voltage being delivered, but no analog signal being received from P, T transducer(s).
May 4, 2010	02:40 to 06:00	SWG	Mil 42 surveying yellow pod for removal requirements, but may need to surface for manipulator repair. Maxx 3 conduct tracerco survey of riser and standing by.
May 4, 2010	06:00 to 14:30	TSH	Maxx 3 trace blue hose to VBR. Prep to cut hose for HIT tool insertion. Cut hose. Dress off. OI3 will clear out for the BOA to insert HIT. Mil 42 completing temp survey at plume. High VOC reading requiring vessel heading change (12:00 - 13:30)
May 4, 2010	14:30 to 16:00	TSH	Maxx 3 prep to cut C/K line at crater plume. Mil 42 completed temp survey at plume.
May 4, 2010	16:00 to 20:30	SWG	Maxx 3 blowing mud away from choke & kill lines near riser seafloor plume until interfering with Skandi Neptune Herc 14 dispersant pumping
May 4, 2010	21:00 to 24:00	SWG	Maxx 3 blowing mud away from choke & kill lines near riser seafloor plume. Mil 42 standing by.
May 5, 2010	0:00 to 3:00	SWG	BOA Mil 36 monitor drill pipe plume while OI 3 Maxx 3 close valve on drill pipe overshot (18-1/4 turns, then back off 1/4 turn). No pressure observed on gauge, **drill pipe plume stopped !**
May 5, 2010	3:00 to 5:30	SWG	Maxx 3 take up position to monitor closed drill pipe overshot wellhead (no pressure and no plume)
May 5, 2010	05:30 to 06:00	SWG	Mil 42 start cutting choke or kill line in crater near riser seafloor plume. Maxx 3 continue to monitor drill pipe pack-off valve
May 5, 2010	06:00 to 8:30	TSH	Mil 42 had to surface for maintenance. Back in the water at 06:50. Starting trench digging at riser crater plume. Maxx 3 continue to monitor drill pipe pack-off valve
May 5, 2010	8:30 to 10:00	TSH / DTP	Mil 42 is cutting C/K lines at crater plume. Maxx 3 continue to monitor drill pipe pack-off valve. 09:30 Choke or kill line (Not sure which one) is completely cut with OI3 Mil 42.
May 5, 2010	10:00 to 14:00	DTP	10:15 MiL 42 monitor plume at crater, Maxx3 continue to monitor DP pack off valve. 13:10 Plume has lighter color (white) on top. Possibly gas. ROV operator states that flow appears to be slower than before. Continue to monitor plume with MIL 42. At 14:00 discuss moving Max3 away from DP pack off valve to top of the plume. Would have to move the boat to the south to do this. Max3 continue to monitor DP pack off valve. WIll work with another ROV to get a view (Herc 6)
May 5, 2010	14:00 to 17:00	DTP	MIL 42 continue to monitor leak in riser at crater. MAX3 continue to monitor DP pack off valve. (no leaks). Mil 42 still monitoring plume, it appears to be smaller than before and gradually slowing at riser leak on seabed/crater
May 5, 2010	17:00 to 21:30	DTP	At 18:30, remove Mil 42 from leak at crater and bring to surface to help with sonar deployment. Move Max3 away from DP pack off valve to to the leak at the crater. Max 3 monitoring leak at the crater. At 19:15, reposition Max 3 for better view of plume at the crater.
May 5, 2010	21:30 to 24:00	DTP	Surface Maxx 3 to tool up for dredging.
May 6, 2010	0:00 to 6:00	SWG	Maxx getting re-tooled for dredging. Mil 42 on surface for tether replacement. High VOC levels
May 6, 2010	9:00 to 17:00	SMJ	Maxx3 standing-by for dredging, forward motor tripped due to ground fault. Decision to proced with one motor.

Date	Time, hrs	Engineer	Comment
May 6, 2010	9:00 to 17:00	SMJ	Mil 42 getting re-tooled for sonar and Tracerco survey of riser kink area
May 6, 2010	17:00 to 22:30	SWG	Mil 42 on deck and Maxx 3 standby at crater, prepared for dredging
May 6, 2010	22:30 to 24:00	SWG	Mil 42 dive and at crater. Maxx 3 standby crater, prepared for dredging
May 7, 2010	0:00 to 3:30	SWG	Mil 42 probe seafloor near crater in preparation for cofferdam set down. Install marker buoys. Maxx 3 standby crater, prepared for dredging.
May 7, 2010	3:30 to 6:00	SWG	Mil 42 standback to allow Iron Horse XLX 10 to get positioning fix on marker buoys, but then need to reposition buoy near drill pipe.
May 7, 2010	6:00 to 16:00	SMJ	Mil 42 standing by to monitor coffer dam install. Maxx 3 standing by to dredge if needed.
May 7, 2010	16:00 to 22:00	SWG	Mil 42 and Maxx 3 monitor cofferdam lowering and assist with visual on alignment and positioning.
May 7, 2010	22:00 to 24:00	SWG	Maxx 3 monitor flex joint plume. Mil 42 on surface
May 8, 2010	0:00 to 18:30	SWG	Maxx 3 monitor flex joint plume. Mil 42 dive (~0:30) and perform voltage and amperage check in preparation for attempting wet connect to BOP P, T sensor (but reconfigured from the other day to only read pressure). Make up wet connect and run through diagnostics. Believe to be getting analog signal back (02:30). Monitor for pressure signal (lost connection at wet connect at least 2 times. Re-stab and reacquire signal. Surface Mil 42 for re-tooling
May 8, 2010	8:00 to 21:00	SMJ	Maxx 3 on deck prepping for Blue view, rocket science, and profile sonar. How some trouble with the Blue View install.
May 8, 2010	21:00 to 24:00	SWG	Dive Mil 42 and start trial Tracerco runs. Request Maxx 3 to provide perpendicular view to aid alignment. Tracerco bracket damaged before finishing.
May 9, 2010	0:00 to 02:00	SWG	Mil 42 conduct Sonar Profiler of riser bend area. Then surface to repair Tracerco bracket. Maxx 3 standby.
May 9, 2010	2:00 to 5:00	SWG	Repair Tracerco bracket, dive Mil 42 to resume survey. Maxx 3 start Blue View 3D Sonar scans at stack.
May 9, 2010	5:00 to 12:00	SMJ	Mil 42 repaired and starting Tracerco survey. Maxx 3 performing Blue View on riser
May 9, 2010	12:00 to 13:30	SMJ	Maxx 3 completed Blue View riser survey and Mil 42 completed Tracerco riser survey. Mil 42 surfacing to equip with shorter Tracerco arms for BOP ram survey. Maxx 3 standing by waiting for boost line test to finish before performing Blue View stack survey.
May 9, 2010	16:00 to 19:00	SMJ	Mil 42 performing BOP ram Tracerco. Maxx 3 standing by for Rocket Science survey.
May 9, 2010	19:00 to 22:00	SWG	Mil 42 surface after finishing Tracerco survey of riser. Maxx 3 start Rocket Science accoustic survey from riser touchdown at seafloor back toward the flex joint kink
May 9, 2010	22:00 to 24:00	SWG	Mil 42 on surface. Maxx 3 continue Rocket Science survey
May 10, 2010	0:00 to 1:30	SWG	Mil 42 make up wet connect to P, T sensor at BOP middle pipe ram. This is for accoustic transmission of data (not the same hard wired connection made the other day with ROV). Maxx 3 run Rocket Science survey riser.
May 10, 2010	1:30 to 3:45	SWG	Mil 42 standby while try to establish communication with P, T gauge and recognize signal received from compatt. Not receiving signal. Maxx 3 standby to run Rocket Science around BOP stack (BOA Sub C ROVs in the way performing Choke & Kill Isolation Valve and Boost Line Valve hose cut and Parker barb & clamp work.
May 10, 2010	3:45 to 5:30	SWG	Mil 42 begin temperature survey work. Maxx 3 standby
May 10, 2010	5:30 to 7:00	SWG	Mil 42 move to hold BOP P, T wet connect together to see if able to read signal. Maxx 3 standby
May 10, 2010	7:00 to 13:30	SMJ	Mil 42 performing riser temp survey at points along the entire riser.
May 10, 2010	13:30 to 16:00	SMJ	Mil 42 completed riser temp survey. Surface Maxx 3 to swap out a motor.
May 10, 2010	16:00 to 21:30	SMJ / DTP	Mil 42 preparing to installing clamps on LMRP coflexip lines going to C/K lines for demolition. Mill 42 installing clamps (4) on coflexip lines. At 18:36 Mil 42 retooling. Mil 42 attaching chains and ROV "come-along" to clamps on coflexip. One of the clamps would not tighten properly. Mil 42 swap out clamp and tighten. Mil 42 installing second come-a-long. When tightening come-a-long. 3 of the 4 clamps are still slipping even though the clamps are bottomed out (tightened all the way). Decision to take all 4 clamps off and bring to surface to modify. Mil 42 begin to remove clamps
May 10, 2010	21:30 to 24:00	DTP	Mil 42 moved to assist BOA Mil 37 with mud boost line ops. Mil 42 assist with installation of Parker clamping system around hose barb/hose. Mil 42 switch out clamp at 22:05 for another Parker clamp that has not been modified. At 23:30 work to install Parker clamp. Maxx 3 is still at surface for repair.
May 11, 2010	00:00 to 05:30	DTP	Mil 42 continue to assist BOA in installing Parker clamp for mud boost line ops. At 1:10 Mil 42 go back to removing coflexip clamps so that they can be brought to surface for modification. At 2:20 all coflex clamps removed, Mil 42 move to assist in Boost line ops. Mil 42 retrieve Parker clamp and assist BOA ROVs in installing Parker clamp for mud boost line ops. Mil 42 monitor actuator while pressure up on Port A to confirm mud boost valve is closed. Maxx 3 at surface.
May 11, 2010	05:30 to 13:30	SMJ	Mil 42 retrieve 2nd Parker clamp for port B (open) hose stab to mud boost line valve. Assist BOA ROV's in stabbing, clamping and testing the stabs.
May 11, 2010	13:30 to 15:30	SMJ	Mil 42 at surface with a broken arm. Repair arm and rig up different saw for hose cut.

Date	Time, hrs	Engineer	Comment
May 11, 2010	15:30 to 18:00	SMJ	Mil 42 repaired, splashed and currently taking riser temp measurements at the crater plume. Maxx 3 repaired and getting equipped for horizontal survey. Both will assist w/ boost line override.
May 11, 2010	18:00 to 20:00	DTP	Mil 42 begin installing parker clamp on 2nd hose, port B (open) for boost line. Holding clamp. At 18:30 Mil 42 monitoring mud boost line valve actuator during boost line ops. At 18:50, No movement when fire A Port (close). At 18:58, when fire Port B (open) actuator moves out indicating mud boost isolation valve is open. Monitor for 30 min. At 19:30 see actuator successfully move to closed position when pressure is bled off of B port.
May 11, 2010	20:00 to 24:00	DTP	Maxx3 prep to do survey of riser kink area. Mil 42 heading back to cage. At 20:20, Maxx3 begin taking measurements of width of kink in riser from underneath. Looking for separation between choke and kill lines just below the riser kink (for riser clamp design). Maxx3 prep and discuss plan for working on choke and kill coflexip line demolition. Lowering slings from surface. Maxx 3 retrieving and installing modified coflexip hose clamps on kill . Mil 42 retrieve slings.
May 12, 2010	00:00 to 5:00	DTP	Mil 42 and Maxx 3 installing kill coflexip clamps. Having trouble installing clamps. Mil 42 and Maxx3 begin to install slings and ROV come-a-long. Having trouble with tightening come-a-long. Mil 42 check gauge to ensure choke and kill isolation valves are closed. Gauge reading 2000 psi. Valves closed. Maxx3 intstall coflexip line clamps. Mil 42 and Maxx3 rig up 2nd come-a long to coflexip hose clamps on kill side and tighten.
May 12, 2010	5:00 to 8:00	DTP/SMJ	Mil 42 and Maxx 3 continue to adjust kill coflexip clamps and come-a-long rigging. At 5:35, Maxx 3 ensure kill line isolation valve is closed. At 5:52, Maxx3 starting cut of the kill coflexip lower hose termination. At 5:56 vent very small amount of fluid when cut into hose ID. Continue to cut. Mil 42 going to surface to install TracerCo and Gamma Ray.
May 12, 2010	8:00 to 14:00	SMJ	Maxx 3 attempting to finish cutting the lower choke coflexip termination. Unsuccessful. Surface Maxx 3 to pick up spreader. Mil 42 performing TracerCo survey of lower kill line and gamma ray of the ram bonnet.
May 12, 2010	14:00 to 16:00	SMJ	Mil 42 finished TracerCo survey's and surfacing to equip for Gamma survey of rams and riser kink. Maxx 3 splashing w/ grinder and spreader bar to cut C/K line clamps.
May 12, 2010	16:00 to 20:00	SMJ / DTP	Maxx 3 grinding off nuts on choke line clamps in order to remove the clamps. Complete grinding of 1st set of nuts at 17:30. Maxx3 retrieving lanyard and attaching it to the cut clamps. Continue cutting nuts/bolts on other side. At 19:55 clamp removed. (attached to lanyard). Dropped clamp after removal. Mil 42 at surface preparing for gamma ray plate survey of riser.
May 12, 2010	20:00 to 24:00	DTP	Maxx3 remove hub "dutchman" at 20:38. AX Gasket fell onto flange on stack. Decision made to push AX gasket off flange with Maxx3 and let it fall. Pushed off Ax gasket at 21:10. Maxx3 clean flange. At 22:00 nut cutter tool, hot stab for glycol. and gamma ray plate survey tool source loaded into basket, begin lowering down. Mil 42 dive.
May 13, 2010	00:00 to 5:00	DTP	Maxx3 completing survey of leak at kink in riser. Measure width of the 2 leaking holes at riser kink and take pictures. At 1:20, Maxx3 and Mil 42 (tied to source) begin gamma ray plate survey of shear ram locking pin bonnet. At 02:15 Maxx3 and Mil 42 begin gamma ray plate survey on riser kink area. Complete all but 2 plate surveys at riser kink. At 3:45 stop plate surveys and take plates to basket. Mil 42 and Maxx3 to surface. Will prepare for dredging at crater plume
May 13, 2010	05:00 to 7:00	DTP	Vessel move towards crater plume. Prepare Mil 42 and Maxx3 for dredging and cutting of c/k lines at plume.
May 13, 2010	7:00 to 10:00	SMJ	Maxx 3 staring dredging operations around the C/K lines in the crater plume. Mil 42 assisting.
May 13, 2010	10:00 to 14:00	SMJ	Dredger leaking. Stop operations and surface to repair.
May 13, 2010	13:30 to 15:00	SMJ	Maxx 3 resuming dredging operations. Mil 42 preparing to install methanol skid for RITT (Riser Insert Tube Tool) ops.
May 13, 2010	15:00 to 17:00	SMJ	Maxx 3 continuing dredging operations. Mil 42 assisting methanol skid to bottom.
May 13, 2010	17:00 to 20:00	DTP	Mil 42 and Maxx3 running methanol skid to sea floor. At 19:55, spot methanol skid on sea floor near BOP stack.
May 13, 2010	20:00 to 22:45	DTP	Mil 42 and Maxx3 disconnect the pressure / temperature sensor from BOP stack and trip to surface.
May 13, 2010	22:45 to 24:00	DTP	OI3 move to above crater plume. Maxx3 at crater plume with dredge at 23:20. Maxx3 dredging in front of crater plume for RITT deployment.
May 14, 2010	0:00 to 5:00	DTP	Maxx3 dredging in front of crater plume for RITT deployment. At 00:15, a tether on Maxx3 is tangled around debris. Attempt to free with dredge. Maxx3 free at 01:05. Continue to dredge. Mil 42 standby at depth providing additional video shot of dredging. At 4:20, Mil 42 confirm location of single riser joint that is stuck in the mud. Maxx 3 continue to dredge.
May 14, 2010	5:00 to 13:00	DTP	Maxx3 continue to dredge, Mil 42 provide video of dredging.
May 14, 2010	13:00 to 16:00	SMJ	Mil 42 surface to equip with the manual pressure sensor. Maxx 3 continuing dredging.
May 14, 2010	16:00 to 20:00	SMJ	Mi 42 installing pressure sensor into BOP stack below Test Ram. Checking readings for accuracy. Discovered that temp line was hooked up which impedes pressure readings on the sensor. Pull sensor to surface to disable temp line. Maxx3 halt dredging operations and standby at depth.
May 14, 2010	20:00 to 22:15	DTP	Prepare P/T sensor and gauge tool (to measure riser kink area) at surface for deployment on Mil 42. Maxx 3 standby at depth. Mil 42 dive, on bottom at 22:15.

Date	Time, hrs	Engineer	Comment
May 14, 2010	22:15 to 24:00	DTP	Mil 42 use gauge tool to measure the widest part of the riser kink. Maxx 3 moving to crater with plume measuring stick. Mil 42 connect P/T sensor at BOP at 23:10. Maxx3 has rope caught in a thruster and must go to surface for repair.
May 15, 2010	0:00 to 3:00	DTP	Mil 42 P/T monitoring at the BOP stack. Pressure at the bottom of the BOP stack is ~ 3100 psi. (see data) Maxx3 at surface for repair. Maxx 3 dive
May 15, 2010	3:00 to 5:00	DTP	Maxx3 check boost line pressure. Showing 500 psi. Maxx3 Open valve to vent pressure, pressure dropped to zero. Close valve and pressure built back up to 400 psi. Verify accumulator skid valve postions. At 3:50, Mil 42 begin to trip to surface after completing P/T monitoring at BOP stack. Maxx3 begin to trip to surface
May 15, 2010	05:00 to	DTP / SMJ	Mil 42 and Maxx3 prepare to deploy gamma ray plate tool to finish survey of riser kink area.
May 15, 2010	07:30 to 11:00	SMJ	Mil 42 and Maxx3 preforming gamma ray plate survey ram bonnet and riser kink area.
May 15, 2010	11:00 to 14:00	SMJ	Finished gamma survey. Mil 42 to plug back into the P/T sensor for data acquisition. Maxx 3 monitoring.
May 15, 2010	14:00 to 15:30	SMJ	Mil 42 completed P/T data acquisition. Currently analyzing. Mil 42 and Maxx3 standing by
May 15, 2010	15:30 to 24:00	DTP	Mil 42 and Maxx3 standby in case needed for RITT deployment assistance. OI3 vessel aprroach from the NW and standby. Mil 42 to surface at 20:40. Maxx3 standby at depth to provide video for RITT stab operations.
May 16, 2010	0:00 to 2:00	DTP	Maxx3 Checking Enterprise LMRP. OI3 move vessel postion to allow room for Skandi to get closer to plume
May 16, 2010	2:00 to 5:00	DTP	Mil 42 move to BOP stack to take pressure readings. At 02:25 begin pressure logging at bottom of the BOP stack. (1st log is 15 min). At ~3:00 begin second pressure log at the bottom of the BOP stack. Complete several more pressure logs. Maxx3 is at surface preparing to assist DD3 ops.
May 16, 2010	5:00 to 17:00	MM	Supporting the DD3 ops.
May 16, 2010	17:00 to 18:00	DTP/MM	Lost video and audio feed.
May 16, 2010	18:00 to 24:00	DTP	Supporting DD3 ops. Cleared to mobilize back towards the Enterprise at 19:10. OI3 vessel move.
May 17, 2010	0:00 to 5:00	DTP	Mil 42 and Maxx3 standby. Transformer change out and fueling on the OI3.
May 17, 2010	5:00 to 8:30	JW	OI3 move back to keep eyes on BOP Stack and potentially pump hydrate remediation into Boost. Maxx3 being reconfigured with Hydrate skid for pumping operations.
May 17, 2010	8:30 to 15:00	JW	Mil42 plugged into P/T Sensor and relaying gauge data at 09:30 from the BOP's.
May 17, 2010	15:00 to 15:45	JW	Mil42 unplugged and moved to take pictures of latch indicator for LMRP.
May 17, 2010	15:45 to 17:00	JW	Mil42 being recovered to get the Pumping Stab added back to . Taking Digital Pressure gauge with it. Both OI3 ROV's back on surface.
May 17, 2010	17:00 to 24:00	DTP	Mil 42 and Maxx3 on surface. Integrating hydrate mitigation skid for MAxx3. Mil 42 being configured for acoustic data acquisition system
May 18, 2010	0:00 to 4:15	DTP	Mil 42 and Maxx 3 standby. Waiting for BOA Sub C to move out so that OI3 can positon into place. Mil 42 in the water at 3:30.
May 18, 2010	4:15 to 5:00	DTP	Mil 42 begin debris survey of the proposed path for the hot line that will connect to the yellow pod. At 4:22, attempt to flatten out a piece of debris.
May 18, 2010	5:00 to 6:30	JW	Continue survey. Found at piece of DP stuck in the mud at 5:15. Take photos of DP connection
May 18, 2010	6:30 to 8:00	JW	Standing by waiting on BOA to finish installing boyancy modules
May 18, 2010	8:00 to 8:30	JW	Maxx3 splashed to join Mil 42 and test the Boost Line for hydrates.
May 18, 2010	8:30 to 10:45	JW	Maxx3 and Mil 42 standing by to test the Boost Line for hydrates, waiting on BOA to finish buoyancy module installation on jumpers.
May 18, 2010	10:45 to 16:00	JW	Maxx3 and Mil 42 at BOPs. Riser kink shows a 3rd leak. Removed SCM cap for Yellow Pod, small debris noted in receptacles that will have to be vacuumed out. Test with methanol & determine that the Boost Line does have Hydrates.
May 18, 2010	16:00 to 17:00	JW	Moving to clear way for Q4000 to work on POD. Will stay to SE where it can reach BOP's in case of opportunity to work on stack
May 18, 2010	17:00 to 22:15	JW/DTP	Maxx3 on surface getting outfitted to vaccuum debris from SCM. Mil 42 on deck at 21:15. OI3 Vessel move. OI3 ROVs will assist during yellow pod installation if needed. Splash Mil 42.
May 18, 2010	22:15 to 24:00	DTP	Mil 42 run to depth. Mil 42 standy by to assist in yellow pod installation if needed.
May 19, 2010	0:00 to 03:00	DTP	Mil 42 run to depth. Mil 42 standy by to assist in yellow pod installation if needed. Maxx 3 standby at surface.
May 19, 2010	03:00 to 05:00	DTP	Maxx3 deploy 1 1/2" wrench to seafloor for Q4000 ROVs to tighten fitting. Mil 42 standby at depth. Maxx3 at depth with wrench at 04:00. Mil 42 and Maxx3 standby.
May 19, 2010	05:00 to 08:30	JW	Verification that Acoustical sensors working, then installed on the BOPs. Got Pressure Reading and then bleed pressure off of "hydraulic panel #7" to turn control of Yellow POD over to the Q4000 at 0745hrs. Looked at Riser Kink with Mil 42 and took picture of third hole for ops.
May 19, 2010	08:30 to 10:00	JW	Survey of Wellhead seafloor looking for cracks or anomolies - no cracks. Wallowed out hole noted to NE where wellhead had rocked to that side.

Date	Time, hrs	Engineer	Comment
May 19, 2010	10:00 to 17:00	JW	Hydrate remediation in Boost line. Challenges with hydrate remediation skid or Methanol Skid. Maxx3 surfaced to check at 1500 hrs.
May 19, 2010	17:00 to 23:30	DTP	Continue to trouble shoot the hydrate remediation skid on board the OI3. Transfer over a tech from the Poseidon to assist in repair. Prepare rigging for running the choke and kill line acoustic sensor. Mil 42 get distances needed for rigging of acoustic detectors.
May 19, 2010	23:30 to 24:00	DTP	QD transferred from BOA. Splash Mil 42 with acoustic detectors.
May 20, 2010	0:00 to 00:45	DTP	Mil 42 dive. Maxx3 continue to wait for hydrate remediation skid repair
May 20, 2010	00:45 to 2:30	DTP	Mil 42 Deploy acoustic pressure / temperature transmitters at goosenecks of both the kill and choke line jumpers at the BOP stack. Both sensor deployed, but not plugged in due to Noise / interference issues. Maxx3 at surface.
May 20, 2010	02:30 to 03:45	DTP	Mil 42 complete survey of MUX / hotline line on seafloor.
May 20, 2010	03:45 to 05:00	DTP	Mil 42 monitor leak at leak at riser kink. Maxx3 at depth with the hydrate remediation skid at 4:15. Maxx 3 begin work to remove hydrate in the mud boost line. Mil 42 begin making final connections for acoustic P/T transmitters.
May 20, 2010	05:00 to 08:00	JW	Mil 42 and Maxx3 working on hyrdate remediation of mud boost line. Decision made at 0800 hrs to discontinue efforts to remove hydrates.
May 20, 2010	08:00 to 09:30	JW	Attepmpted to get PH readings from the plume at the riser bend, but aborted when PH meter kept hydrating up.
May 20, 2010	09:30 to 10:30	JW	Redo the MUX line survey with Mil 42.
May 20, 2010	10:30 to 13:30	JW	Monitoring Riser kink plume
May 20, 2010	13:30 to 17:00	JW	Starboard thruster malfunction, abort dives and move to safe location
May 20, 2010	17:00 to 24:00	JFR	Station outside 500M exclusion, prep to go to drydock for repair.
May 21, 2010	00:00 to 05:00	JFR	Station outside 500M exclusion, prep to go to drydock for repair, awaiting arrival of BOA Deep Sea.
May 21, 2010	05:00 to 24:00	JW	Transferring eqpt to the Pole Star in anticipation of its return to Dry Dock for Thruster repair
May 22, 2010	00:00 to 24:00	JFR	Thruster issue resolved (sensor), Remobbing for duty
May 23, 2010	00:00 to 05:00	JFR	Set transponders for Enterprise, transit to BOP for acoustic pressure temp data acquisiton and to measure dimensions below flex joint
May 23, 2010	05:00 to 11:45	JW	Standing by and taking measurements of BOP's
May 23, 2010	11:45 to 14:30	JW	Standing by and taking measurements of BOP's, Maxx3 making run to get measurement of end of Riser at Plume
May 23, 2010	14:30 to 17:00	JW	In cage while Poseidon does work around the LMRP. At 3:40 moving in toward BOP, stopping every 50-ft to take sonar images of riser kink (base line) and querying the acoustic pressure sensors (test range). Did not pick up acoustical pressure until ROV was within 50-ft of transmitter if flying at 30-ft altitude. Could read at 300-ft in any direction if flying at 50-75ft altitude.
May 23, 2010	17:00 to 24:00	JFR	Functional check streaming accoustic P/T data. At 23:00 Began Rocket Science Survey (axial/radial acoustic) of well & BOP above mudline
May 24, 2010	00:00 to 05:00	JFR	Continue Rocket Science Survey (axial/radial acoustic) of well & BOP above mudline
May 24, 2010	05:00 - 07:30	JFR	Continue Rocket Science Survey (axial/radial acoustic) of well & BOP above mudline. This was a detailed acoustical survey of the stack to try to determine path of the fluids flowing through them.
May 24, 2010	07:30 - 08:30	JW	Kink Plume observation for Graham Oppenshaw
May 24, 2010	08:30 to 10:00	JW	Pull hot stab from hydraulic skid manifold for Steve Gullion. Manipulate/confirm hydraulic skid valving positions as part of Q4000 LDIS pressure testing.
May 24, 2010	10:00 to 12:30	JW	LDL survey around BOP, to get fix in realtionship to relief wells. Had to abort to let Poseidon finish rigging the LMRP/riser.
May 24, 2010	12:30 to 17:00	JW	LDL positioning survey of DD2 and DD3 relief wells. Positioning DD2 transponders near BOP in case of "BOP on BOP" Contingency
May 24, 2010	1700 to 2400	JFR	Finish transponders near BOP. 22:00 begin to receive & stream pressure data. 220 psi choke line, 3830 kill line, 3300 bop below kill line. Data errors. Analogue gauges on 150' jumper goosenecks missing. Troubleshoot Gauges, work remedial plans
May 25, 2010	00:00 to 05:00	JFR	Troubleshoot gauges, work remedial plans. Recovering gauges and preparing to install replacements and analog
May 25, 2010	05:00 to 09:00	JW	One Acoustic gauge reading as of 05:30, other being recovered to surface for replacement. Tooling up, receiving/transmitting pressure data from one acoustical gauge. 0645 hrs BU acoustical gauge being over-boarded to replace the one that went bad on the Kill line, installed at 0830hrs.
May 25, 2010	09:00 to 09:30	JW	Maxx 3 put clamp on top of Kill Line, to assist in removal after demolition.
May 25, 2010	09:30 to 12:00	JW	Standing by stack, assisting Q4000 in pressure testing/Pod function test
May 25, 2010	12:00 to 13:30	JW	Pulled Choke Acoustical Pressure Transmitter, sent to surface. Prep for Demolition on C/K lines
May 25, 2010	13:30 to 16:00	JW	Maxx 3 receiving/relaying data for Q4000 pressure test of Top Kill eqpt to C/K lines. Mil 42 putting clamps on top of Choke line to assist in removal after demolition.
May 25, 2010	16:00 to 16:45	JW	OI-3 w/0 coms, Mil 42 East of BOPs, Maxx 3 in cage
May 25, 2010	16:45 to 17:00	JW	OI-3 coms back up, supporting Q-4000 in Top Kill Testing, Mil 42 East of BOPs, Maxx 3 in cage

Date	Time, hrs	Engineer	Comment
May 25, 2010	17:00 to 24:00	FRM	Maxx 3 to surface to repair frame. Mil 42 still on station interrogating.
May 26, 2010	00:00 to 01:30	FRM	Maxx 3 on surface 0:45 for repairs, Mil 42 still on station interrogating.
May 26, 2010	01:30 to 02:00	FRM	Maxx 3 jumped, Mil 42 to install Acoustic Data Sensor to the choke side.
May 26, 2010	02:00 to 02:30	FRM	Maxx 3 to install Acoustic Data Sensor to the choke side, Mil 42 to continue to interrogate.
May 26, 2010	02:30 to 03:30	FRM	Maxx 3 retreive Acoustic Sensor from basket and install Acoustic Data Sensor to the kill side, Mil 42 standing by.
May 26, 2010	03:30 to 04:35	FRM	Maxx 3 locating tools for making cuts, Mil 42 standing by.
May 26, 2010	04:35 to 7:30	FRM	Maxx 3 cutting off extra lines, return tools to basket, return to surface. Mil 42 standing by.
May 26, 2010	7:30 to 11:00	SMJ	Mil 42 splashing C/K line demolishion equipment. Maxx 2 standing by.
May 26, 2010	11:00 to 12:30	SMJ	Mil 42 taking measurements from C/K line jumpers.
May 26, 2010	12:30 to 17:00	SMJ	Mil 42 and Maxx 3 standing by.
May 26, 2010	17:00 to 24:00	FRM	Mil 42 and Maxx 3 standing by.
May 27, 2010	0:00 to 05:00	FRM	Mil 42 to intragate and turn off transducer, return to cage then surface for service. Maxx 3 to check accumulator and then stand by. Jumped Mil 42 stand - by on bottom.
May 27, 2010	5:00 to 8:00	SMJ	Mil 42 and Maxx 3 standing by on bottom.
May 27, 2010	8:00 to 11:00	SMJ	Mil 42 testing pressure transducers
May 27, 2010	11:00 to 17:00	SMJ	Mil 42 and Maxx 3 standing by on bottom to monitor Top Kill.
May 27, 2010	17:00 to 24:00	SMJ	Mil 42 and Maxx 3 monitoring Top Kill.
May 28, 2010	00:00 to 08:00	FRM	Mil 42 Standing by. Maxx 3 trouble shooting plugged pressure sensor on the kill line - 03:30 to 04:10. Maxx3 to set BOP trans mitter to lower power and then turn all transmitters off to conserve battery life. Maxx 3 Stand -by.
May 28, 2010	8:00 to 10:30	SMJ	Mil 42 and Maxx 3 installing plugs and clamps on C/K lines in preparation for line demolition.
May 28, 2010	10:30 to 11:30	SMJ	Maxx 3 calibrating pressure transducers on the C/K lines
May 28, 2010	11:30 to 18:00	SMJ	Maxx 3 and Mil 42 standing by
May 28, 2010	18:00 to 24:00	FRM	Mil 42 and Maxx3 turn off transponders and return to cage, Mil 42 standing by at basket, waiting on the visibility to improve. Mil 42 to Accumulator to varify pressure (2900 psi guage pack and 2500 psi on guage on the side) @ 22:05, standing by. Maxx 3 interagating transponders @ 22:05. Mil 42 monitoring flex joint plume at 22:22 Diagnostics - No pumping done just interigated the guages.
May 29, 2010	00:00 to 05:00	FRM	Maxx 3 turn-off compacts at 24:00 hrs. Leave Mil 42 on station monitoring Flex joint plume Maxx 3 stand-by. 0:25 trip Maxx3 to surface for repair. @ surface 0:37, Mil 42 released from monitoring flex joint plume @ 1:15, Mil 42 looking around BOP for com-a-long to attach on choke side Maxx 3 back in the water at 1:55, Maxx 3 hanging com-a-long @ 2:20. Maxx 3 to make the first cut to remov e the choke line@4:40
May 29, 2010	5:00 to 10:00	SMJ	Mil 42 and Maxx 3 preparing for C/K line demolition above previously cuts in C/K line coflexip hoses. This will allow room for the riser to be severed if needed.
May 29, 2010	10:00 to 12:30	SMJ	Maxx 3 to surface to repair leaking saw.
May 29, 2010	12:30 to 18:00	SMJ	Maxx 3 continuing with C/K line demolition. Mil 42 is assisting.
May 29, 2010	18:00 to 24:00	FRM	Maxx 3 continuing with C/K line demolition. Mil 42 blew hydraulic hose, will need to trip out to surface for repair. Mil 42 at surface to repair hydraulic hose @ 18:50, Mil 42 line replaced back in water, Maxx 3 taking junk to basket. Maxx3 and Mil 42 assist OI3 in laying out the Choke coflexive to basket. OI3 Turn on transponder - Getting Data from transponders, OI3 laying out Kill coflexive - M-42 and Maxx 3 assisting @ 23:35. OI3 clear of BOP area @ 23:40.
May 30, 2010	00:00 to 05:00	FRM	OI3, M-42 and Maxx 3 moving the Kill Coflexive to transport basket, completed 00:15. Maxx 3 to surface for repairs. Mil 42 moving into position to confirm choke and kill line valve position, Mil 42 confirmed that the lower & upper and lower inner and outer choke valves closed, the lower & upper and lower inner and outer kill valves closed and the Isolation valves are open. Mil 42 then moves out to interrogate BOP, choke and kill sensors. Maxx 3 back in water with 20" blade on the cutter at 03:45.
May 30, 2010	05:00 to 15:30	SMJ	Mil 42 and Maxx 3.
May 30, 2010	15:30 to 16:30	SMJ	Mil 42 taking still photo shots of the riser kink. Maxx 3 standing by.
May 30, 2010	16:30 to 21:30	SMJ / DTP	Mil 42 standing by at depth transmitting pressure data. Maxx 3 on deck. Maxx 3 splashed at 21:30.
May 30, 2010	21:30 to 24:00	DTP	Maxx 3 dive. Maxx 3 at depth at 22:45, Mil 42 to surface. Mil 42 being preped for additional cutting tools that will be used for back up if the Poseidon needs assistance in cutting the choke and kill lines.

Date	Time, hrs	Engineer	Comment
May 31, 2010	0:00 to 4:00	DTP	Maxx3 moving to crater plume for scientifc study / imaging of plume dynamics.(To determine flow rate) At 00:30, Maxx3 is at the crater plume and begin conducting study / imaging. Mil 42 is at surface.
May 31, 2010	4:00 to 5:00	DTP	OI3 vessel move to allow BOA Deep C access to 800' dispersant hose. Wait for BOA Deep C to finish moving dispersant hose before conducting plume imaging at the riser kink
May 31, 2010	5:00 to 7:00	DTP / SMJ	Maxx 3 conduct scientific imaging of plume at riser kink. Mil 42 dive w/ back up choke and kill line cutting tools (grinder)
May 31, 2010	7:00 to 11:30	SMJ	Maxx 3 cutting conduit lines and removing clamps next to C/K lines. Mil 42 assisting.
May 31, 2010	11:30 to 13:30	SMJ	Mil 42 installing jump caps on the junk shot manifold.
May 31, 2010	13:30 to 15:30	SMJ	OI3 vessel is moving to pick up Top Hat #5 and bring to surface for modifications.
May 31, 2010	15:30 to 23:00	SMJ / DTP	Top Hat #5 at surface. Modifying spacer bracket. Mil 42 at surface. Maxx 3 standing by.
May 31, 2010	23:00 to 24:00	DTP	OI3 testing for gas on deck and complete hot work permit for welding on Top Hat #5.
June 1, 2010	0:00 to 1:00	DTP	Take measurements to ensure Top Hat #5 will still fit the riser after being modified and prepare for welding. Discuss modification options with Houston.
June 1, 2010	01:00 to 4:00	DTP	Work on welding / modifications to Top Hat #5.
June 1, 2010	4:00 to 5:45	DTP	Continue to work on Top Hat #5. (reapair sheared bolt) OI3 vessel move in order to be in positon to record pressure data at the BOP stack before the riser cut. Mil 42 and Maxx 3 dive to record BOP pressure data.
June 1, 2010	5:45 to	DTP	Mil 42 transmitting BOP pressure data. Maxx3 monitoring plume at riser kink.
June 1, 2010	9:00 to 10:10	SMJ	Mil 42 moving to cut choke line at the shear cutter area.
June 1, 2010	10:10 to 11:19	SMJ	Mil 42 completed cut of choke line at riser shear area.
June 1, 2010	11:19 to 13:00	SMJ	Mil 42 monitoring shear shearing the riser.
June 1, 2010	13:00 to 15:30	SMJ	Mil 42 returning to surface to pick up saw for line cuts. Choke, Kill, Boost and a hydraulic conduit line
June 1, 2010	15:30 to 17:30	SMJ	Mil 42 commenced cutting lines on the riser. Compelte cutting of choke, kill, boost, and hydraulic conduit line.
June 1, 2010	17:30 to 20:35	DTP	Mil 42 and Maxx3 position to monitor 1st riser cut with shears. Mil 42 transmitting BOP pressure data. Both ROVs providing a visual of the cut. At 19:49 Mil 42, is getting a visual of the inside of the cut riser. Maxx3 assist in holding diamond wire cutting tool as it is being reentered on the cut location. Maxx 3 position for best view of riser kink plume
June 1, 2010	20:35 to 24:00	DTP	Maxx3 monitoring plume at riser kink and recording video for NOAA as the diamond wire cut is being made. Mil 42 transmitting BOP pressure data.
June 2, 2010	0:00 to 3:55	DTP	Maxx3 monitoring plume / cutting of riser. Mil 42 transmitting BOP pressure data. Maxx3 assist in blowing hydrates off the diamond wire cutting tool and monitoring plume as waiting for plan forward from Houston.
June 2, 2010	3:55 to 5:00	DTP	Maxx3 and Mil 42 monitor plume and diamond wire cutting tool as moving the riser attempting to free diamond wire tool.
June 2, 2010	5:00 to 5:30	DTP	Maxx3 and Mil 42 monitor plume and diamond wire cutting tool as moving the riser attemptingto free diamond wire tool.
June 2, 2010	5:30 to 10:30	DTP	Maxx3 and Mil 42 standying by monitoring diamond wire cut tool while discusing plan forward with diamond wire tool. Blow hydrates off diamond wire tool.
June 2, 2010	10:30 to 12:30	SMJ	Maxx 3 and Mil 42 monitoring stuck saw and riser.
June 2, 2010	12:30 to 13:30	SMJ	Mil 42 successfully cut the wire on the diamond saw. Preparing to continue riser cut with super grinder. Maxx 3 going to surface to remove hydrates from camera.
June 2, 2010	13:30 to 14:00	SMJ	Mil 42 commence cutting operations on the riser. Continuing the partial cut made by the wire saw.
June 2, 2010	14:00 to 17:00	SMJ	Mil 42 aborted super grinder cutting due to low visibility. Standing by
June 2, 2010	17:00 to 20:00	SMJ / DTP	Mil 42 Standing by. Maxx 3 splashed and standing by.
June 2, 2010	20:00 to 21:30	DTP	Mil 42 work to retrieve and repair 400' dispersant hose that has a leaky fitting.
June 2, 2010	21:30 to 23:00	DTP	Mil 42 move to replace Herc 6 and work on repairing stabs on distribution panel for dispersant pumping. Maxx 3 standby at depth. Complete connection of dummy hot stabs at 22:55.
June 2, 2010	23:00 to 24:00	DTP	Mil 42 resume retrieval and repair of 400' dispersant hose.
June 3, 2010	0:00 to 3:15	DTP	Mil 42 and Maxx3 continue retrieval and repair of 400' dispersant hose.
June 3, 2010	3:15 to 5:00	DTP	Mil 42 begin transmitting BOP pressure data. Maxx 3 standing by at depth. 400' dispersant hose being lifted to the OI3.
June 3, 2010	5:00 to 8:30	DTP/SMJ	Postion Maxx 3 to provide visual for riser cut. Mil 42 transmitting pressure data. Complete pressure test of 400' dispersant hose and deply overboard. Mil 42 move to stack to provide additional visual of cut.
June 3, 2010	8:30 to 10:00	SMJ	Mil 42 recording a stack pressure of 3360psi. Decreased ~20psi from 7:00. At 8:42, pressure decrease additional 50psi to 3310 when cutting ops began. Riser sheared off of stack at 9:05. Stack pressure still 3310psi. Mil 42 inspecting riser cut. Appears to be two sections of pipe inside the riser section.
June 3, 2010	10:00 to 12:00	SMJ	Mil 42 preparing to cut metal tab sticking out from the shear cut. Maxx 3 performing sonar survey of plume and monitoring cutting operations.

Date	Time, hrs	Engineer	Comment
June 3, 2010	12:00 to 14:00	SMJ	OI3 lowering basket with methanol hoses to the seafloor. Mil 42 continues cutting tab. Maxx 3 surveying seafloor for hose installation.
June 3, 2010	14:00 to 15:00	SMJ	Mil 42 finished the cut on the tab and capture still photos/videos of the plume. Maxx 3 laying dispersant hose to the LMRP Cap.
June 3, 2010	15:00 to 18:00	SMJ	Mil 42 and Maxx 3 monitoring LMRP Cap installation.
June 3, 2010	18:00 to 19:00	SMJ	Maxx 3 gathering and holding injection lines away from LMRP Cap.
June 3, 2010	19:00 to 20:00	DTP	Maxx 3 provide bullseye check at BOP stack at 19:05. Reading inc of 4.5 deg at a 340 deg heading. Maxx3 and Mil 42 move away from BOP stack. Mil 42 attempt to blow off lense of inclometer and reconfirming BOP bullseye reading. Get visual of flex joint.
June 3, 2010	20:00 to 20:40	DTP	Mil 42 stand by at depth. Maxx 3 continuing to transmit BOP pressure data and provide visual of the BOP stack.
June 3, 2010	20:40 to 21:30	DTP	Maxx 3 provide visual of BOP stack to make sure that inclination of BOP has not changed. Mil 42 to cage. Maxx3 provide visual of LMRP Cap #4 and BOP stack after LMRP Cap #4 is landed. Take pictures. Monitor flow around LMRP Cap #4. Maxx3 confirm that inclometer is in the same position.
June 3, 2010	21:30 to 23:15	DTP	Maxx 3 standby at depth, Mil 42 to surface. Splash Mil 42.
June 3, 2010	23:15 to 24:00	DTP	Maxx 3 prepare for connecting 400' dispersant hose. Mil 42 dive.
June 4, 2010	0:00 to 2:30	DTP	Mil 42 and Maxx 3 connecting 400' dispersant hose to the distribution panel for dispersant injection through 2 hoses.
June 4, 2010	2:30 to 3:30	DTP	Mil 42 and Maxx3 monitor distribution panel for leaks as Skandi brings dispersant injection rate up to 15 gpm.
June 4, 2010	3:30 to 5:00	DTP	Mil 42 and Max 3 standing by while preparing for pre-lay and marker survey of proposed CDP hose locations.
June 4, 2010	5:00 to 10:00	DTP	Mil 42 and Maxx 3 begin prelay survey for CDP hose / marker survey.
June 4, 2010	10:00 to 19:00	SMJ	Maxx 3 at surface installing long tether. Mil 42 continuing CDP survey.
June 4, 2010	19:00 to 21:00	DTP	Mil 42 Complete CDP prelay survey. Maxx 3 at surface. (Video feed is in and out)
June 4, 2010	21:00 to 22:40	DTP	Mil 42 installing marker buoys for CDP suction Pile. Maxx 3 at surface.
June 4, 2010	22:40 to 24:00	DTP	Stand by for next task. Maxx 3 at surface. Mil 42 to surface.
June 5, 2010	0:00 to 15:15	DTP/MM	Mil 42 and Maxx 3 OI3 testing deadman on DD2 . Maxx 3 moved to surface. Mil 42 on surface @ 15:15hrs
June 5, 2010	15:15 to 17:00	MM	Mil 42 and Maxx3 OI3 at surface.

Date	Time, hrs	Engineer	Comment
May 21, 2010	00:00 to 24:00	JW	Being mobilized from Thunder Horse to replace the OI3. Expected on location early morning of 22nd.
May 22, 2010	24:00 to 05:00	JFR	Expected departure by 0800 from Thunderhorse
May 22, 2010	05:00 to 24:00	JW	Enroute to Location, arrive and transfer of eqpt
May 23, 2010	00:00 to 05:00	JFR	Tool up and prep to assist Q-4000 jumper installation
May 23, 2010	05:00 to 10:30	JW	Tool up and prep to assist Q-4000 jumper installation. Second ROV ready and splashed at 1025 hrs.
May 23, 2010	10:30 to 17:00	JW	Assisting Q4000 by moving and connecting 450-ft jumpers. At 1140 AM Mil 21 approaching jumpers. At +/- 1215hrs took possession of the Choke line Jumper. Hovering 2-ft above stab at 1700hrs.
May 23, 2010	17:00 to 24:00	JFR	Choke line connected to Manifold at 1900, Kill line connected to Manifold at 23:30. Install Bouyancy Modules for Jumpers
May 24, 2010	00:00 to 05:00	JFR	Install Bouyancy for Jumpers, completed at 0230. Recover Clump Weight. Move to safe area to deploy 2 mats for installation at jumpers.
May 24, 2010	05:00 to 12:30	JW	Deploy 2 mud mats on 450-ft jumpers. At 0730hrs ops determined not to put mats on 450-ft jumpers, recovered to deck.
May 24, 2010	12:30 to 15:00	JW	Preparing tooling on deck for Phase 2 of choke/kill demolition.
May 24, 2010	15:00 to 17:00	JW	Charged BP accumulator skid to 2,900-psi
May 24, 2010	17:00 to 24:00	JFR	Prepare to deploy mats on 450 ft jumpers, stand down with mats suspended (interference)
May 25, 2010	0:00 to 05:00	JFR	Standby with mats suspended (rov tether interference at 450' jumper area)
May 25, 2010	05:00 to 15:00	JW	Tooling up for demolition operations. Interface being upgraded that will plug and analog gauge into port, then attach acoustic to it (need hp analog that is coming from Q4000)
May 25, 2010	15:00 to 17:00	JW	Mil 22 installing Spider Gauge manifold (Digital gauge, memory pack, and slot to plug in ROV), Mil 21 test spider, general support of Q4000 Top Kill . Mil 22 at riser kink at 1605 hrs, 4th leak noticed. Mil 21 at Spider.
May 25, 2010	17:00 to 24:00	FRM	Mil 22 monitor leaks at riser kink. Mil 21 watching at spider while testing valves
May 26, 2010	0:00 to 03:10	FRM	Mil 22 monitor leaks at riser kink. Mil 21 finished monitoring valve test. Mil 21 move basket to sea floor and then place mat over the jumpers
May 26, 2010	03:10 to 04:35	FRM	Mil 22 monitor leaks at riser kink. Mil 21 to move into fill accumulator
May 26, 2010	04:35 to 05:50	FRM	Mil 22 monitor leaks at riser kink. Mil 21pump problem, Mil 21 moved over to monitor riser and Mil 22 to fill accumulator to 3000 psi. Mil 21 to cut hydraulic line from riser while monitoring leaks at the riser.
May 26, 2010	05:50 to 12:30	FRM	Move Mil 22 and Mil 21 to cage. Standing by.
May 26, 2010	12:30 to 14:00	SMJ	Mill 21 monitoring/confirming ram and valve manipulations on the stack. Mil 22 is monitioring flex jt. plume.
May 26, 2010	14:00 to 20:00	SMJ	Mil 21 moved to monitoring for vibration on kill line goose neck during pumping. Mil 22 to continue to monitor leaks at the kink in the flex joint plume.
May 26, 2010	20:00 to 22:00	FRM	Mil 21 to move in to check position of valves on Choke and Kill lines. Kill Lower Outer is closed at 20:05 - Upper inner and Outer Open on Kill @ 20:10 Moving to the Choke side. Top Valve OK. Monitor BOP.
May 26, 2010	22:00 to 24:00	FRM	Mil 21 to try to check Check Upper inner and outer Kill Valves. Very low visibility. Not able to see valves. Mil 21 to stand by at buoy.
May 27, 2010	0:00 to 05:00	FRM	Mil 22 to continue to monitor leaks at the kink in the flex joint plume. Mil 21 to surface @ 0:45 hrs for cleaning and repair of camera.
May 27, 2010	5:00 to 9:00	SMJ	Mil 22 and Mil 21 monitoring flex jt. plume.
May 27, 2010	9:00 to 10:30	SMJ	Mil 21 monitoring/confirming C/K valve position. Mil 22 con't wrench hydrate test.
May 27, 2010	10:30 to 12:30	SMJ	Mil 21 and 22 standing by
May 27, 2010	12:30 to 14:00	SMJ	Mil 22 inserted wrench into flex plume to see if hydrates formed on the wrench as a visual indicator for presence of gas whch can be used during Top Kill.
May 27, 2010	14:00 to 16:30	SMJ	Mil 21 monitoring/confirming C/K valve position. Mil 22 finished wrench hydrate test @ 14:20. Monitoring flex jt plume while awaiting approval to proceed with Top Kill.
May 27, 2010	16:30 to 19:15	SMJ	Mil 21 confirming functioning/position of final C/K valves for Top Kill operation. Mil 21 restabbing Kill Line transmitter. Mil 22 to continue to monitor leaks at the kink in the flex joint plume. Mil 21 confirm outside lower choke line valve closed. Mil 22 confirmed a 5th hole on flex joint plume @ 1805.
May 27, 2010	1915 to 2400	FRM	Mil 21 confirm both the innner and outer valves on the Upper Kill closed , Mil 21 confirm inner and outer upper kill valves open at 19:55, Mil 21 confirm inner and outer upper kill valves closed at 20:35, Same Valves open at 21:50. Move M21 to choke line @ 21:53. Confirm both inner and outer lower open on the choke line.
May 28, 2010	00:00 to 05:00	FRM	Mil 22 monitoring flex joint plume and watching debris in 3rd hole from the left. Mil 21 to confirm both the innner and outer valves on the lower choke are closed when visibility clears up, Mil 21 to confirm inner and outer lower kill valves closed when visibility clears up. Mil 21 confirmed inner and outer valves on the Choke line closed @ 02:00. Mil 21 confirmed inner and outer valves on the kill line closed @ 02:20. Mil 21 check accumulator and top off. Accumulator 2500 psi - top off to 3000 psi. @ 02:45 - finished @ 03:50. Mil 22 to stand-by at the flex joint plume and Mil 21 to the cage.

Date	Time, hrs	Engineer	Comment
May 28, 2010	5:00 to 11:00	SMJ	Mil 21 and Mil 22 Standing by
May 28, 2010	11:00 to 14:00	SMJ	Mil 21 verifying manifold and C/K line valve positions. Standing by
May 28, 2010	14:00 to 18:00	SMJ	Mil 21 monitoring goose neck. Mil 22 monitoring flex joint plume.
May 28, 2010	18:00 to 24:00	FRM	Mil 22 monitoring flex joint plume. Mil 21 to check status of lower choke and Kill line valves -18:05 Lower outer Choke and kill open. At 18:20 Close lower inner kill. Mil 21 move to choke side to varify both lower choke valves closed @ 18:23, Mil 21 Stand - by at choke line valves . 1900 hrs. release Mil 21 and 22. one to surface at a time other to the cage. Need to move Boa Deep C over so Poseiden can move in to lay a mud matt. Mil 22 on surface getting cleaned up @ 20:45, Boa Deep C to the Skandi to pick up 800 ft of chemical dispersant line to be laid from the BOP to the West. Boa Deep C wait for opportunity to lay line,
May 29, 2010	00:00 to 05:00	FRM	Mil 21 and 22 on stand-by. Mil 22 to surface for cleaning and maintenance. Boa Deep C to the Skandi to pick up 800 ft of chemical dispersant line to be laid from the BOP to the West. Boa Deep C wait for opportunity to lay line, Mil 22 back in the water @ 0:30, Boa Deep C started laying 800 ft of chemical despersant line from the BOP West at 1:50, Mil 21 to help with the deployment of the chemical dispersant line
May 29, 2010	5:00 to 12:00	SMJ	Mil 21 and Mil 22 continue to lay 800-ft. dispersant line
May 29, 2010	5:00 to 15:30	SMJ	Mil 21 and Mil 22 completed laying 800-ft. dispersant line. Standing by.
May 29, 2010	15:30 to 18:30	SMJ	Mill 22 cleaning off methanol skid for recovery to surface. Mil 21 standing by.
May 29, 2010	18:30 to 24:00	FRM	Mil 22 cut finished 20:55, Clamp removed by Mil 22 at 21:30. Mil 21 working on methanol skid - preparing to recover, Mil 22 to install plug at Choke coflexive hub connect point on riser finish at 23:05. Mil 22 and 21 move in to install plug at Kill coflexive hub connect point on riser.
May 30, 2010	00:00 to 05:00	FRM	Mil 22 and 21 installing plug at Kill coflexive hub connect point on riser finish at 00:45. Mil 22 to surface for repairs. Recieve Methonal injection line basket from supply boat. Move to Mudmat approximately 2000 ft. from BOP. Drop basket with methonal injection lines for the Enterprise on a mud mat and pick up at least one of the 2 Hats - pick up both hats if possible. Arrived at the mud mat 4:50
May 30, 2010	05:00 to 10:00	SMJ	Mil 21 and Mil 22 standing by to recover buoys and mats off of 450-ft jumpers.
May 30, 2010	10:00 to 14:00	SMJ	Mil 21 and Mil 22 recovering buoys and mats off of 450-ft jumpers.
May 30, 2010	14:00 to 17:00	SMJ	Mil 22 positioning mud mats for Enterprise Drillship. Mil 21 on surface.
May 30, 2010	17:00 to 21:30	DTP	Mil 22 retrieve mud mat that was at the 450' jumpers and reposition for Top Hat deployment. Deploy additional mud mat off the back of the BOA Deep C. (for 2nd Top Hat deployment).
May 30, 2010	21:30 to 24:00	DTP	BOA Deep C lowering down two Top Hats in baskets and spotting in place. Mil 22 assisting in positioning baskets on mud mats.
May 31, 2010	0:00 to 4:30	DTP	Mill 22 to surface. BOA Deep C moving vessel to re-route 800' dispersant hoses to the BOP.
May 31, 2010	4:30 to 11:00	DTP / SMJ	Mill 22 assisting BOA Deep C crane in re-routing 800' dispersant lines to the BOP stack.
May 31, 2010	11:00 to 13:00	SMJ	BOA Deep C continuing to install dispersant hoses.
May 31, 2010	13:00 to 15:30	SMJ	Mil 22 and Mil 21 standing by while mud mats, spools, etc. are transferred to the BOA vessel at surface.
May 31, 2010	15:30 to 20:15	DTP	Mil 22 conduct dispersant line survey. Mil 22 standing by. Complete dispersant hose survey at 20:15
May 31, 2010	20:15 to 22:45	DTP	Mill 22 conduct debris survey for CDP hose installation Did not complete survey beofre Q-4000 was ready for the BOA Deep C to move to assist in picking up of 450' jumpers and deployment of 1000' jumpers. Mill 22 to surface for vessel move. BOA transfer mud mats to boat that will bring them to the OI3.
May 31, 2010	22:45 to 24:00	DTP	BOA Deep C vessel move to assist Q-4000 w/ jumpers.
June 1, 2010	0:00 to 1:00	DTP	BOA Deep C vessel move to assist Q-4000 w/ jumpers.
June 1, 2010	1:00 to 2:45	DTP	Mil 22 working with Q-4000 ROVs to handover the 1st of the 450' jumpers. 1st 450' jumper is transferred to the BOA Deep C winch line at 2:45
June 1, 2010	2:45 to 4:00	DTP	BOA Deep C bringing the 1st 450' jumper to surface.
June 1, 2010	4:00 to 12:00	DTP/SMJ	BOA Deep C vessel move to re-deploy Top Hat #5 (will be transferred over on a supply boat from the OI3) Top Hat #5 on sea floor at 9:25
June 1, 2010	12:00 to 15:00	SMJ	BOA Deep C standing by
June 1, 2010	15:00 to 24:00	DTP	BOA Deep C standing by
June 2, 2010	0:00 to 5:00	DTP	BOA Deep C standing by. Attempt to move vessel torwards BOP stack to repostion dispersant hose, but unable to move in due to high VOCs. Continue to standby
June 2, 2010	5:00 to 14:30	DTP	BOA Deep C standby.
June 2, 2010	14:30 to 19:00	SMJ	BOA retrieving 450' jumper from the Q-4000. Connect 450' jumper and 1000' jumper for re-deployment.
June 2, 2010	19:00 to 24:00	DTP	Mil 22 assisting BOA in lowering down 1450' jumper and transfereing it to the Q-4000. Complete transfering at 23:30
June 3, 2010	0:00 to 4:50	DTP	Mil 22 Conduct LBL survey of Q-4000 MUX line position. Notice piece of pipe / debris at 4:20. Halt survey due to riser cutting operations
June 3, 2010	4:50 to 7:00	DTP	BOA Retrieve basket from sea floor. (contains ROV chain come-a-longs)
June 3, 2010	7:00 to 18:00	SMJ	Mil 22 standing by and Mil 21 on surface.

Date	Time, hrs	Engineer	Comment
June 3, 2010	18:00 to 24:00	DTP	Mil 22 standing by and Mil 21 on surface. At 23:00, attempt to move towards BOP to work with relocation of 600' dispesant hose, but could not get close enough due to high VOCs.
June 4, 2010	0:00 to 5:00	DTP	BOA standby with due to high VOCs. Mil 21 and Mil 22 on deck. After VOCs clear. Splash ROVs. Mil 21 and 22 work on re-routing 600' dispersant hoses to allow current 1200' hose to be moved out of the way of the proposed suction pile location.
June 4, 2010	5:00 to	DTP	BOA vessel transporting 600' dispersant hoses.
June 4, 2010	13:30 to 19:00	SMJ	Mil 22 picking up DDII compats. Mil 21 relocating dispersant lines to sea floor but did not connect.
June 4, 2010	19:00 to 24:00	DTP	Mil 22 recovering DDII compats and returning them to the DD2. Mil 21 standby at depth.
June 5, 2010	0:00 to 5:00	DTP	Mil 22 recovering DDII compats and returning them to the DD2. Mil 21 standby at depth.
June 5, 2010	5:00 to 12:30	MM	Mil22 performing prelay survey for deployment of the 1450ft jumper and MUX line.
June 5, 2010	12:30 to 14:45	MM	Mil 22 performing dispersant line inspection.
June 5, 2010	14:45 to 17:00	MM	Mill 22 repositioning to the crater plume to take photos and looking for the RITT #2 tool. Located RITT and observing end of the cut riser at the crater plume. Mil 21 at surface to install an inclinometer.

Date	Time, hrs	Engineer	Comment
May 6, 2010	11:00 to 17:00	SMJ	VP36 Preparing/Testing riser cutting system
May 6, 2010	11:00 to 17:00	SMJ	VP37 Installing mudmats for J latch cone parking
May 6, 2010	17:00 to 18:00	SMJ	Testing tools
May 6, 2010	18:00 to 24:00	SWG	Testing tools / Standing by
May 7, 2010	0:00 to 6:00	SWG	Standing by (no video feed from ~ 01:20)
May 7, 2010	6:00 to 12:00	SMJ	VP 36 and 37 standing by
May 7, 2010	12:00 to 16:00	SMJ	VP 36 & VP 37 at surface
May 7, 2010	16:00 to 24:00	SMJ	VP 36 & VP 37 at surface
May 8, 2010	0:00 to 24:00	SWG	VP 36 & VP 37 at surface
May 9, 2010	0:00 to 24:00	SWG	VP 36 & VP 37 at surface
May 10, 2010	0:00 to 5:00	SWG	VP 36 & VP 37 at surface
May 10, 2010	5:00 to 18:00	SMJ	Vessel is preparing to swap places w/ the Iron Horse.
May 10, 2010	18:00 to 19:30	DTP	Vessel is preparing to swap places w/ the Iron Horse. Vessel move is complete at 19:30.
May 10, 2010	19:30 to 22:00	DTP	Poseidon preparing to start lowering manifold down into target box. VP 36 and VP 37 lowering junk shot manifold. Have landed in NW corner of the target box at 20:15. VP 37 inspect inclometers on manifold. (2 deg at 332, looks good). Disconnect rigging to junk shot manifold
May 10, 2010	22:00 to 24:00	DTP	VP 36 and 37 standing by.
May 11, 2010	0:00 to 14:00	SMJ	VP 36 and 37 standing by.
May 11, 2010	14:00 to 20:00	SMJ	VP 36 and 37 are standing by. Top Hat is on board vessel.
May 11, 2010	20:00 to 24:00	DTP	Posedion vessel move to above mud mats. Bring top hat basket to sea floor with VP 36 following basket down. VP 37 is at seafloor. At 22:25, basket with top hat is 100' off seafloor, move to target box.
May 12, 2010	0:00 to 5:00	DTP	VP 36 and VP 37 assist in spotting top hat and basket on mud mats. Set on mud mat at 01:40. release VP 37 to go to surface and get shackles for red coflexip line clamps VP 37 at surface at 2:26. Poseidon preparing for riser inspection.
May 12, 2010	8:30 to 13:30	SMJ	VP 37 starting the riser inspection.
May 12, 2010	13:30 to 24:00	SMJ	Vessel moving away from the leak site due to high VOC's
May 13, 2010	0:00 to 3:00	DTP	Only able to deploy 1 ROV (VP 37) due to high gas reading at boat deck
May 13, 2010	3:00 to 5:00	DTP	VP 37 completing riser position survey.
May 13, 2010	05:00 to 8:30	DTP/SMJ	VP 37 completing riser position survey. Riser Insertion tool is loaded on the poseidon.
May 13, 2010	08:30 to 10:00	SMJ	VP 37 finished riser survey. Riser has changed orientation again.
May 13, 2010	10:00 to 14:30	SMJ	Vessel preparing to splash the the RITT (Riser Insertion Tube Tool) frame. VP 36 and 37 to assist.
May 13, 2010	14:30 to 16:30	SMJ	VP 36 V 37 are assisting the lowering of RITT frame. Frame landed on mud mat.
May 13, 2010	16:30 to 21:00	SMJ/DTP	Vessel is preparing to spash the RITT tool and land on the frame. VP 36 and 37 assisting in running riser insert tool. At 18:35, Tool is flipping over as they are running it just under the surface. Adjust rigging and continue down with RIT tool. At 21:00, just off bottom
May 13, 2010	21:00 to 24:00	DTP	VP 36 and VP 37 guiding RITT into frame. Broke retaining latch on frame due to the heave. Lay RITT down temporarily at depth. Adjust RITT frame.
May 14, 2010	0:00 to 2:30	DTP	VP 36 and VP 37 continue to adjust RITT frame. Pick up RITT and place in RITT frame. Unlatch from RITT. Enterprise requesting Poseidon to move.
May 14, 2010	2:30 to 6:00	DTP	VP 36 and VP 37 to surface. Poseidon vessel move to allow Enterprise access to RITT / Top Hat staging area. Will standby in the event that the Enterprise needs ROV assistance.
May 14, 2010	6:00 to 11:00	SMJ	Poseidon vessel move to above RITT tool to pick i back up into stand after it was nocked over.
May 14, 2010	11:00 to 15:00	SMJ	Vessel made attempt to pick up the RITT w/ frame off of the seafloor. RITT is unstable and fell back to rig floor. Instruction given to pull RITT to surface for modifications.
May 14, 2010	15:00 to 18:00	SMJ	RITT stand is on deck for modification. Recover the RITT from seafloor.
May 14, 2010	18:00 to 24:00	DTP	Recover RITT to surface. Begin welding work on Posedion to modify RITT frame.
May 15, 2010	0:00 to 5:00	DTP	Continue to modify RITT frame on Posedion (welding).
May 15, 2010	5:00 to 8:30	SMJ	Splash the RITT tool
May 15, 2010	8:30 to 14:00	SMJ	RITT tool on placed on seafloor mud mat. Enterprise moving in to latch. VP 36 and VP 37 monitoring. Successful latch.

Date	Time, hrs	Engineer	Comment
May 15, 2010	14:00 to 18:00	SMJ	VP 36 and VP 37 on surface preparing for riser postion survey.
May 15, 2010	18:00 to 24:00	DTP	VP 36 Dive for riser postion survey. VP 36 conduct riser postion survey. At 21:30, VP 36 observing the oscillation at the elevated portion of the riser.
May 16, 2010	0:00 to 02:00	DTP	VP 36 continue riser position survey. Finish survey at 02:00.
May 16, 2010	02:00 to 05:00	DTP	Move vessel to allow ROVs to monitor leak at riser kink.
May 16, 2010	05:00 to 9:00	MM	VP 36 monitor leak at riser kink.
May 16, 2010	9:00 to 15:45	MM	Poseidon moved off to allow the BOA to come in closer. Move back to survey riser.
May 16, 2010	15:45 to 17:00	MM	Perform riser survey.
May 16, 2010	17:00 to 17:45	DTP/MM	Lost video and audio feed (storm)
May 16, 2010	17:45 to 24:00	DTP	Results of survey at oscillating riser location shows the riser is moving up/down 54' with a 2 min and 13 second half cycle. (ie for the riser to go up takes 2min 13secs , to go down takes 2 min 13 secs) VP 36 and VP 37 standby. Poseidon Vessel has moved to support DD3 ops.
May 17, 2010	0:00 to 05:00	DTP	Poseidon Vessel and ROVs supporting DD2/ DD3 ops.
May 17, 2010	05:00 to 17:00	JW	Poseidon Vessel and ROVs supporting DD2/ DD3 ops.
May 17, 2010	17:00 to 24:00	DTP	Poseidon Vessel and ROVs supporting DD2/ DD3 ops.
May 18, 2010	0:00 to 5:00	DTP	Poseidon Vessel and ROVs supporting DD2/ DD3 ops.
May 18, 2010	5:00 to 10:45	JW	Poseidon Vessel and ROVs supporting DD2/ DD3 ops.
May 18, 2010	10:45 to 12:00	JW	Poseidon returning to area to install suction piles for hot tap option
May 18, 2010	12:00 to 17:00	JW	Poseidon Installing Marker Buoys for Suction Piles for Hot Tap Option
May 18, 2010	17:00 to 21:00	JW	Suction Piles Markers installed. Move to do Riser Inspection/Survey
May 18, 2010	21:00 to 24:00	DTP	VP 37 conduct riser inspection and survey.
May 19, 2010	0:00 to 02:00	DTP	VP 37 continue riser inspection and survey. VP 37 was within a few joint of finishing the riser survey when they were notified from the Enterprise that they need to move.
May 19, 2010	02:00 to 05:00	DTP	Poseidon Mobilize to opposite side of the field
May 19, 2010	05:00 to 22:00	JW	Support of DD2 ops
May 19, 2010	22:00 to 24:00	DTP	Poseidon mobilize back to field for riser oscillation survey.
May 20, 2010	00:00 to 00:30	DTP	Poseidon mobilize back to field for riser oscillation survey.
May 20, 2010	00:30 to 02:30	DTP	VP 36/37 (not sure which one, no video) conducting riser survey
May 20, 2010	02:30 to 05:00	DTP	Poseidon standby for transfer of mud mats.
May 20, 2010	5:00 to 07:30	JW	Poseidon overboard mud mats for second RiTT tool.
May 20, 2010	07:30 to 17:00	JW	Poseidon deploying mud mats for the second RITT Tool
May 20, 2010	17:00 to 24:00	JFR	Install secondary marker bouys for suction piles
May 21, 2010	24:00 to 05:00	JFR	Set Transponder for Q-4000.
May 21, 2010	05:00 to 09:00	JW	ROV's on deck, vessel receiving Transponder buoy (Compatt) from Q4000 for deployment
May 21, 2010	09:00 to 13:00	JW	Deploying Transponder Buoy for Q4000, Daily Riser Inspection/Survey
May 21, 2010	13:00 to 17:00	JW	Prepare to overboard RiTT 2 to place on mud mats on sea floor. Overboarded at 1630 hrs.
May 21, 2010	17:00 to 24:00	JFR	Set on RITT #2 Mud Mat, slings recovered & backloaded to Infant Jesus. Transit to west storage staging are (new) 22:00, to set mud mats for RITT and tool storage and staging.
May 22, 2010	24:00 to 05:00	JFR	Set Mud Mats
May 22, 2010	05:00 to 07:30	JW	Setting Mud Mats for Top Hat and RITT3 (4 of 10 complete)
May 22, 2010	07:30 to 08:00	JW	Daily Riser Inspection
May 22, 2010	08:00 to 13:30	JW	Suface ROV, move and do survey of Hot Tap Hose Route
May 22, 2010	13:30 to 17:00	JW	Inspection of Riser section attached to Horizon Hull (camera on location +/-1415hrs). Could not locate riser section that was needed. Mission aborted at 1700 hrs to go install mud mats for RITT 3 staging area.
May 22, 2010	17:00 to 24:00	JFR	Setting remaining Mud Mats for Top Hat and RITT3 staging area
May 23, 2010	00:00 to 05:00	JFR	Setting remaining Mud Mats for Top Hat and RITT3 staging area
May 23, 2010	05:00 to 0830	JW	Finish setting remaining Mud Mats for Top Hat and RiTT3 staging area
May 23, 2010	0830 to 14:30	JW	LBL survey of DD2 and DD3 Locations
May 23, 2010	14:30 to 17:00	JW	Rig Slings on LMRP and Riser for Riser removal option

Date	Time, hrs	Engineer	Comment
May 23, 2010	17:00 to 24:00	JFR	Rig slings on LMRP and Riser for Riser removal option (excllluding 90' sling)
May 24, 2010	0:00 to 05:00	JFR	Move 2000' West, park Top Hat #1.
May 24, 2010	05:00 to 13:30	JW	Putting rigging on riser and LMRP for Riser cut Contingency. Modifications to RITT 3 being made on deck.
May 24, 2010	13:30 to 17:00	JW	Preparing to get LMRP basket, to put on seafloor
May 24, 2010	17:00 to 24:00	JFR	Wet Park LMRP basket. Set LDL for DD-II and DD-III
May 25, 2010	0:00 to 05:00	JFR	Set LDL for DD-II and DD-III
May 25, 2010	05:00 to 09:30	JW	LDL complete for DD3, headed to DD2 location to do same
May 25, 2010	09:30 to 15:00	JW	LDL complete for DD2
May 25, 2010	15:00 to 17:00	JW	Rtn to Horizon BOP work area, lower DD2 transponders to depth
May 25, 2010	17:00 to 24:00	FRM	Stand-by to do LBL survey.
May 26, 2010	0:00 to 03:30	FRM	Stand-by to do LBL survey.
May 26, 2010	3:30 to 5:30	FRM	Move in to do LBL survey, standing by until some of the other ROV's can clear out,
May 26, 2010	5:30 to 7:30	SMJ	Completed LBL survey of the area around the BOP's. Standing by for Top Kill
May 26, 2010	7:30 to 17:00	SMJ	Tested Riser Cutter and standing by on bottom.
May 26, 2010	17:00 to 24:00	FRM	Standing by on bottom with Riser Cutter
May 27, 2010	0:00 to 05:00	FRM	Install DDII Transponders / floatation bekins.
May 27, 2010	5:00 to 12:00	SMJ	VP 36 and VP 37 are standing by to run Top Hat to seafloor.
May 27, 2010	12:00 to 12:30	SMJ	VP 36 monitoring Top Hat 3 being lowered and positioned on mud mat.
May 27, 2010	12:30 to 17:00	SMJ	VP 36 and VP 37 standing by
May 27, 2010	17:00 to 18:30	SMJ	VP 36 and VP37 splashing with the Riser Cutter and Super Grinder.
May 27, 2010	18:30 to 24:00	FRM	VP36 on bottom, VP 37 @ 500 ft. waiting on shears to be functioned. Shears functioned - Standing by.
May 28, 2010	00:00 to 05:00	FRM	Stand by while pumping. At 01:45 VP 36 and 37 return Riser Cutter and Super Grinder to Poseidon
May 28, 2010	9:30 to 15:00	SMJ	VP 37 Splashed with Diamond Blade Saw.
May 28, 2010	15:00 to 18:00	SMJ	VP 36 and VP 37 standing by
May 28, 2010	18:00 to 24:00	FRM	VP 36 and VP 37 to install 2 Compacts / transponders @ 22:30
May 29, 2010	00:00 to 05:00	FRM	VP 36 stand-by and VP 37 to install 2 Compacts / transponders @ 00:10, finished deployment of transponders/ compacts at 01:15. then Poseidon recover VP 37 and then will go get water.
May 29, 2010	5:00 to 24:00	SMJ	VP 36 and VP 37 standing by.
May 30, 2010	00:00 to 05:00	FRM	Poseidan moving into position to retrieve the 2 part rigging from riser to be re-worked. VP 37 sueveying the area around the BOP and riser preparing to remove 2 part rigging, bring to surface, re-configure it and re-install it.
May 30, 2010	05:00 to 10:00	SMJ	VP 37 removing rigging from the riser in order to adjust rigging for single cut.
May 30, 2010	10:00 to 15:00	SMJ	VP 37 finished removing rigging from the riser and surface ROV's
May 30, 2010	15:00 to 18:00	SMJ	Poseidon vessel is moving moving away from wellhead to allow Q4000 access.
May 30, 2010	18:00 to 19:30	DTP	Poseidon moving back towards BOP as Q-4000 moves away with 450' jumpers.
May 30, 2010	19:30 to 24:00	DTP	Prepare diamond wire cutting tool at surface. VP 36 and VP 37 dive. VP 37 completing visual inspection of cut area just below the riser kink. Decided that will approach w/ diamond wire tool at a heading of 326 deg. VP 36 and VP 37 setting up diamond wire cutting tool near BOP stack for testing.
May 31, 2010	0:00 to 3:30	DTP	VP 36 and VP 37 Troubleshooting one of the stabs / receptacles at the SHPU that provides the clamping function for the diamond wire tool. Decision made to pull SHPU and replace hot stab with a 17H hot stab. (current receptacle is a zero leak). VP 36 and VP 37 continue to test the other functions of the diamond wire tool before pulling SHPU. Complete fit test of diamond wire cutting tool.
May 31, 2010	3:30 to 7:00	DTP	Pull SHPU and diamond wire cutting tool to surface to replace hot stab / receptacle. Move vessel to east to allow BOA Deep C access to dispersant hose.
May 31, 2010	7:00 to 13:30	SMJ	Running back down w/ SHPU and diamond saw to 500-ft. Tested the saw. Continue running to seafloor and and prepare for Riser Cutting operations. Standing by for OI3 to finish cutting out conduit lines and clamps.
May 31, 2010	13:30 to 15:30	SMJ	Poseidon is hooked up to riser rigging and holding tension. 45k. Commence cutting C/K lines.
May 31, 2010	15:30 to 18:40	DTP	Nut securing blade spun off super grinder . VP 37 to surface to repair saw blade / nut for super grinder. VP 36 reposition strap for support while cutting choke and kill. VP 37 dive

Date	Time, hrs	Engineer	Comment
May 31, 2010	18:40 to 20:30	DTP	Commence cutting of choke and kill lines at the riser kink area. Complete cutting of final section of choke / kill lines with super grinder on VP 37 at 20:30 (Have 41.5-42 KLbs on the winch line connected to the riser while cutting the choke and kill lines)
May 31, 2010	20:30 to 21:00	DTP	VP 37 cut and remove 2-3 ft section of boost line than is below the riser and perpendicular to the flange on the LMRP. (To ensure that it will not be in the way of the diamond saw)
May 31, 2010	21:00 to 24:00	DTP	VP 37 providing visual of the rigging of the slings on the riser. Poseidon position vessel to be centered over the sling supporting the riser. VP 37 providing video survey and pictures of leak at the riser kink for BP scientist study. Attempt LDL survey at four corners on top of BOP stack, at flex joint, at rigging, and at center of proposed cut location. Could not get LDL survey at corners of the BOP and flex joint due to interference with the plume. VP 36 rigging up super shears to SHPU.
June 1, 2010	0:00 to 0:15	DTP	Function test of super shears at depth (Successful)
June 1, 2010	0:15 to 0:45	DTP	Function test of diamond wire cutting tool at depth. (Successful)
June 1, 2010	0:45 to 2:30	DTP	VP 36 and VP 37 position diamond wire cutting tool to proposed riser cut location just above the LMRP and clamp it in place. Take pictures of diamond wire cutting tool alignment.
June 1, 2010	2:30 to 5:00	DTP	VP 36 and VP 37 position shears near riser and standby waiting for clearance to initiate cutting. VP 37 to surface for repair.
June 1, 2010	5:00 to 8:00	SMJ	VP 36 standby at depth, VP 37 being repaired at surface.
June 1, 2010	8:00 to 9:00	SMJ	Lowered shear over riser. Crane wt. = 88 tons on riser.
June 1, 2010	9:00 to 11:19	SMJ	Choke line doesn't fit inside of the shear cut diameter. Cut the choke line successfully using OI3 ROV. Moving saw and shear back into place.
June 1, 2010	11:19 to 13:00	SMJ	Commence shearing of the riser downstream of the riser bend ~40-ft. VP 36 monitoring riser bend plume. VP 37 monitoring HPU. Pressure up to 5000psi. Riser is crimped but not sheared. Shears and are not acting to further severe the pipe. Attempted to increase pressure to 5500 and 7500psi on the shears. Shears are still not advancing. Attempted to manipulate the shears into different points on the riser and cut. No success.
June 1, 2010	13:00 to 15:00	SMJ	Release shears from the riser and position ROVs to cut Choke, Kill, Boost and a hydraulic conduit line\ from riser shear area. VP 36 returning to surface to pick up saw for line cuts.
June 1, 2010	15:00 to 17:30	SMJ	VP 36 commenced cutting lines on riser. Compelte cutting the choke, kill, and boost line and the hyrdaulic conduit line with super grinder.
June 1, 2010	17:30 to 18:55	SMJ / DTP	Lower shears and function test. Position shears to planned riser cut location. Place 10 metric tons of load over wire weight onto the riser support.
June 1, 2010	18:55 to 19:30	DTP	At 18:55 begin to pressure up to the super shears to start 1st riser cut. Hydraulic pressure up to 3000 psi at 18:57, no cut. At 19:00, pressure to 4000 psi, no cut. Continue to bring pressure up to 4900 psi. Hold 4900 psi attempting to cut until 19:08. Bleed down pressure and begin to re-pressure up to get another bite on the riser. At 4400 psi begin to see breach of outer wall of riser. (oil leaking). Hold pressure at 4500 psi and seeing movement on shears and significant oil leaking. At 19:13, pressure dropping on shears and seeing shear movement. Crane beginning to take weight. Complete cut at 19:23. Seeing 56K lbs on the winch. At 19:30 shears opened and shears removed from the riser.
June 1, 2010	19:30 to 20:36	DTP	VP 36 checking inclometer on the BOP stack. Inclometer is pegged out at a 285 deg heading. Inspect diamond wire cutting tool to ensure that the tool is aligned correctly for the cut. Adjust alignment of diamond wire cutting tool by opening and closing clamps. VP 36 giving visual of alignment at 20:15 to 20:25. Discuss alignment with Houston and confirm that the cutting tool is in the proper location.
June 1, 2010	20:36 to 24:00	DTP	Begin riser cutting process with diamond wire cutting tool at 20:36. Weight reading on winch at beginning of the cut is 57.5 klbs including line weight. Begin to contact riser with diamond wire at 21:10. Begin to breach ID of the riser and have oil leaking out of cut area at 21:21. Continue cutting, notice potential hydrate formation beginning on diamond wire cut tool at 21:33. At 21:59, the rotation of the wire cutter tool pulleys stopped. Back up diamond wire travel and at 22:04, diamond wire cutter pulleys are rotating again. Continue to cut. (.5 cm per min). Using the following approach: cut for 4 min, stop feed for 2 min, cut for 4 min, stop feed for 2 min.....Switch to 2 min cut, stop for feed for 1 min sequence.
June 2, 2010	0:00 to 1:30	DTP	Continue cutting riser with diamond wire cutting tool. At 0:05 the wire stopped rotating and the feed stopped. Noticed pressure drop on BOP pressure trend from 3440 psi to 3320 psi at the same time that the diamond wire became stuck. Reduce weight from 17.5 klbs to 12 klbs not including line weight. Still could not rotate wire or operate feed. Troubleshoot. Bring load on winch back up to 17.5 klbs over line weight. Attempt to rock frame of diamond wire cutting tool. Unsuccessful in freeing diamond wire.
June 2, 2010	1:30 to 3:55	DTP	VP 36 standby while discussing plan forward and getting approval in Houston. Believe diamond wire is pinched, most likely in the DP inside the riser.

Date	Time, hrs	Engineer	Comment
June 2, 2010	3:55 to 5:00	DTP	Starting weight indicator reading is 60 klbs. (20klbs over line weight) Come up in 2 ft increments on line secured to the riser with a not to exceed weight of 40 klbs over line weight. Make 1st 2 ft lift, reading 63 klbs (no movement of diamond wire) VP 36 provide visual of inclometer as lifting riser. (maxed out inc reading with AZ of ~ 280 deg) Make 2nd 2 ft lift, reading 65 klbs (no movement of diamond wire). Make 3rd 2 ft lift, reading 66 kbs (getting some retract movement). Make 5th 2 ft lift, reading 70 klbs (getting retract movement). Make 6th 2 ft lift, reading 71.5 klbs (retract movement only). Make 7th 2 ft lift, reading 73 klbs. (retract movement only) Make 8th 2 ft lift. Make 9th 2 ft lift, 76.5 klbs.(retract movement only). Make 10th 2 ft lift, reading 76 klbs, Make 11th lift reading 79.5 klbs. (retract movement only)
June 2, 2010	5:00 to 5:30	DTP	Lower 4 ft, reading 70 klbs attempt to rotate diamond wire in reverse, no succes.
June 2, 2010	5:30 to 10:00	DTP	VP 36 standby while discussing plan forward for freeing the diamond wire cutting tool. Look at safety strap on shears for potential use for rigging on riser.
June 2, 2010	10:00 to 12:00	SMJ	Lower and close shears on the riser. Crane load 65 tons. Pick up to take the wt. off the riser in order to reposition on the rigging on the riser. Slack-off w/ the weight of the shears on the riser and attempt to free the wire cutter.
June 2, 2010	12:00 to 12:40	SMJ	Decision made to abort diamond wire cutting. Preparing to cut diamond wire from the cutter. Cut diamond wire successfully
June 2, 2010	12:40 to 15:00	SMJ	VP 36 removing cutter from the stack once the wire was cut. Breaking down equipment on seafloor and preparing to pull to surface. VP 37 at surface.
June 2, 2010	15:00 to 21:35	SMJ / DTP	Pulling shears and wire cutters to surface. Shears / shear rigging being modified for a horizontal cut.
June 2, 2010	21:35 to 23:15	DTP	Splash shears at 21:35. Begin bringing shears down to depth with VP 36 assisting. Stop at 500' and connect the shears to the SHPU. Function test at 500' and found a leak.
June 2, 2010	23:15 to 24:00	DTP	Bring SHPU and shears back to surface to repair leak on the SHPU. Work to repair leak.
June 3, 2010	0:00 to 3:30	DTP	Complete leak repair. Re-deploy shears to 500'. VP 36 connect shears to the SHPU and function tested the shears. Successful. Continue running to depth with the shears. Function test shears again at depth. Successful
June 3, 2010	3:30 to 5:00	DTP	Poseidon rotating vessel to optimal heading for riser cut / riser support.
June 3, 2010	5:00 to 6:00	DTP	Lower shears to riser cut depth and move vessel towards BOP.
June 3, 2010	6:00 to 6:53	DTP	Postion shears into riser cut location between riser kink and flange on top of LMRP with crane and VP 36. Confirm cut location with Houston. VP 37 at surface.
June 3, 2010	6:53 to 7:15	DTP	At 6:53 start to pressure up on shears to clamp on to riser cut location. Confirm pressure on close is 3000 psi while clamping. The hang weight is reading 49.5 klbs on the winch and 87 tons on the crane.
June 3, 2010	7:15 to 8:42	SMJ	Position shears in proper location on the riser. Having trouble getting proper alignment on the riser.
June 3, 2010	8:42 to 9:05	SMJ	Begin shearing through the riser with 3000psi applied pressure to the shears. Open shears once and shut again. Shear complete with 5000 to 5500psi. Riser swung free and is clear from the stack.
June 3, 2010	9:05 to 13:30	SMJ	Poseidon is moving away from stack to allow OI3 to move in and cut tab off of the shear cut. Positioning to lay down cut riser section on seafloor. VP 36 monitoring.
June 3, 2010	13:30 to 17:00	SMJ	Poseidon pulling shears to surface.
June 3, 2010	17:00 to 19:00	SMJ	VP 36 and VP 37 monitoring LMRP Cap installation.
June 3, 2010	19:00 to 24:00	DTP	VP 36 and VP 37 standing by. (No video feed available)
June 4, 2010	0:00 to 5:00	DTP	Poseidon vessel move to above Top Hat #3. VP 36 provide visual to confirm identity. VP 36 connect hook to Poseidon winch line. Retrieve Top Hat #3 to surface. VP 37 at surface. Lost video comms at 3:30. Continue to retrieve Top Hat #3 to surface.
June 4, 2010	5:00 to 9:30	DTP	VP 36 postion to Top Hat #2. Latch crane hook to Top Hat #2 and pulled to surface. VP 37 at surface.
June 4, 2010	9:30 to 14:00	SMJ	VP 36 postion to Top Hat #5. Latched Top Hat #5 and pulled to surface. VP 37 at surface.
June 4, 2010	14:00 to 19:00	SMJ	Lost video coms
June 4, 2010	19:00 to 24:00	DTP	Modifying top Hat #5 on deck of Poseidon.
June 5, 2010	0:00 to 5:00	DTP	Complete modification of Top Hat #5 on deck of Poseidon. Rig up Top Hat #5 for deployment to seafloor. Splash Top Hat #5. Start to lower towards sea floor
June 5, 2010	5:00 to 6:00	DTP/MM	Lower Top Hat #5 towards the sea floor. Top Hat #5 on sea floor at 6:00. VP 36 disconnect slings. VP 37 at surface.
June 5, 2010	6:00 to 12:30	MM	VP 36 preparing to pick up RITT #2 from the sea floor. VP37 at surface.
5-Jun-2010	12:30 to 15:25	MM	VP 36 and VP 37 on surface.
5-Jun-2010	15:25 to 17:00	MM	Splash the VP 36 to assist in positioning the MUX line by ensuring there is no debris

Date	Time, hrs	Engineer	Comment
May 6, 2010	13:30 to 17:00	SMJ	On location monitoring crator plume
May 6, 2010	13:30 to 17:00	SMJ	V0-1 & XLS-9 performing sea floor survey
May 6, 2010	17:00 to 20:00	SWG	On surface prep for Cofferdam overboarding
May 6, 2010	20:00 to 24:00	SWG	Cofferdam in water at 22:15. XLS-9 follow it down, perform visual @ 150 ft.
May 7, 2010	0:00 to 6:00	SWG	XLS 9 continue to follow cofferdam down (~ 4100 ft @ 02:00). Install plugs. Standby @ ~ 4300 ft while marker buoys installed and position fix obtained.
May 7, 2010	4:00 to 6:00	SWG	V0-1 splashed to assist w/ dam installation
May 7, 2010	6:00 to 11:00	SMJ	XLS 9 and V0-1 standing by for dam install.
May 7, 2010	11:00 to 14:00	SMJ	Coffer dam moved over top of plume.
May 7, 2010	14:00 to 16:00	SMJ	Preparing to lower coffer dam in to place. XLS 9 and V0 1 positioning the dam.
May 7, 2010	17:00 to 19:15	SMJ	Moved dam away from the plume and coming in on another heading for better visibility. Make several attempts to set down with cofferdam properly oriented and aligned.
May 7, 2010	19:15 to 21:00	SWG	PU cofferdam and observe it listing. Allow hydrocarbons to vent from chimney. Move away from plume for better visibility and notice significant hydrate accumulations below mud mats.,
May 7, 2010	21:00 to 23:00	SWG	Decision to raise cofferdam from 4800 ft to 4300 ft while assessing how to properly land in seafloor. Loss of visibility (due either plume or hydrate disassociation). XLS-9 swim up to find crane wire, them swim down to get visual on cofferdam. Rigging between spreader bar and cofferdam appears fouled and cofferdam has "floated" up into underside of spreader bar with north side riding high (~ 12 degree list).
May 7, 2010	23:00 to 24:00	SWG	Trace out rigging and assess options
May 8, 2010	0:00 to 1:30	SWG	Slowly slack off on crane, taking slight weight (~2 tons) and cofferdam gradually "sinking" away from spreader bar. Slight plume from chimney. Stop with cofferdam ~ 50 f off bottom. Listing reduced (~ 9 degrees).
May 8, 2010	1:30 to 3:00	SWG	Set down on seafloor. Venom ROV knock some hydrate off from beneath mud mats, pull plugs from pyramid roof (North - slight hydrocarbon flow, east nothing, south nothing, west - slight hydrocarbon flow). XLS 9 ROV view angled up inside doors. Difficult to see all the way to roof, but appear to be very significant hydrate accummulation.
May 8, 2010	3:00 to 7:00	SWG	Venom ROV surface. XLS 9 monitor pulled plug areas - only slight flow. Monitor chimney - steady flow.
May 8, 2010	7:00 to 13:00	SMJ	Venom ROV has splashed and monitoring the coffer dam along w/ XLS 9. Q4000 has moved off location while Houston works dam issues.
May 8, 2010	13:00 to 20:30	SMJ	Venom ROV removing hydrates from dam mud mats. XLS 9 @ surface repair hydraulic leak & dive at 20:30.
May 8, 2010	20:30 to 24:00	SWG	Venom ROV removing hydrates from dam mud mats. XLS 9 take pictures up inside cofferdam with aid of extension rods for lighting. More hydrates on one face (causing the listing). At 21:20 hrs, Q-4000 hook load was 71 tons.
May 9, 2010	0:00 to 6:00	SWG	Venom ROV continue to "garden hoe" hydrates from under mud mats. XLS-9 ROV use auger to probe and clean out ports on pyramid roof. At 01:00 the Q-4000 tool pusher reported the yellow POD had been fully function tested and was ready to run. At 02:00 hrs XLS 9 also work on hydrate removal from under mud mats At 02:45 hts Q-4000 crane hook 74 tons.
May 9, 2010	6:00 to 12:00	SMJ	Venom monitoring dam. XLS 9 at surface.
May 9, 2010	12:00 to 21:00	SMJ	Q4000 moved the coffer dam and parked it on seafloor ~600-ft. from the leak site. Release rigging from cofferdam and use Venom and XLS 9 to spot sand bags to secur cofferdam to seafloor.
May 9, 2010	21:00 to 24:00	SWG	Venom and XLS 9 standby
May 10, 2010	0:00 to 5:00	SWG	Venom and XLS 9 standby
May 10, 2010	5:00 to 24:00	SMJ	Vessel is gearing up for junk shot
May 11, 2010	0:00 to 24:00	DTP	Venom and XLS 9 standby
May 18, 2010	04:00 to 05:00	DTP	Q 4000 has yellow pod in the water at 300'. Venom and XLS9 following down the yellow pod for re-deployment. (stoping for clamps to MUX / hot line on 50' intervals)
May 18, 2010	05:00 to 12:00	JW	Q 4000 has yellow pod handed off to main rotary at 750-ft by 09:00. Clump weight added. Yellow Pod run on DP. Venom and XLS9 following down the yellow pod for re-deployment. At +/- 2,000-ft at 12:00.
May 18, 2010	12:00 to 16:00	JW	Venom and XLS9 following down the yellow pod for re-deployment. On depth at 16:00 hrs
May 18, 2010	16:00 to 18:00	JW	Q4000 standing by, waiting for OI3 to move, to gain access to BOP's
May 18, 2010	18:00 to 22:15	DTP	Q 4000 moving in to location towards the BOP. At 19:15, Q4000 has the yellow pod near the BOP stack. High current issues, Venom and XLS9 to surface. Q 4000 move away from the BOP stack temporarily. Venom and XLS9 run back to depth.

Date	Time, hrs	Engineer	Comment
May 18, 2010	22:15 to 24:00	DTP	Venom and XLS9 are back to depth. Q 4000 begin to move the yellow pod within 50m of the BOP stack. At 23:00, Venom inspect 150' c/k flexible jumpers to see how much of the lines are resting in the mud.
May 19, 2010	0:00 to 01:00	DTP	Venom blowing debris off of Horizon LMRP where the yellow pod will land. Check bottom of belly of MUX / hot line. (confirmed to be 60' off the seafloor). Q 4000 continue to move to position yellow pod to the BOP stack.
May 19, 2010	01:00 to 02:40	DTP	Venom and XLS9 orient yellow pod for placement onto the Horizon LMRP. At 1:20, yellow pod is landed into place on the Horizon LMRP. Disconnect D-ring and slings. At 2:19 visually verify that the pods locks are engaged. Energize stingers. Noticed hose connection on yellow pod is leaking fluid.
May 19, 2010	02:40 to 04:00	DTP	Decision made to hold off on functioning choke/kill isolation valves with yellow pod until there is an opportunity to tighten the leaking hose connection. Close ball valve to isolate the leak. Confirm leaky fitting size. (OI3 will lower down a wrench)
May 19, 2010	04:00 to 05:00	DTP	Venom retrieve 1.5" wrench from OI3 and work to tighten down leaky fitting on yellow pod hydraulic hose.
May 19, 2010	05:00 to 08:00	JW	At 5:20 complete tightening of leaky fitting and open valve to test. Fitting is no longer leaking. Took control of Yellow Pod/BOP functions at 0745hrs
May 19, 2010	08:00 to 08:30	JW	Successful Function Testing the Choke & Kill Isolation Valves with the Yellow POD
May 19, 2010	08:30 to 17:00	JW	Lay down MUX cable/hot line and clump weight, Move to safe zone, pull Drill Pipe. Prep to run LDIS.
May 19, 2010	17:00 to 21:10	DTP	BOA is along side the Q 4000 with the 450' jumpers, Venom ROV in need of repair
May 19, 2010	21:10 to 22:00	DTP	XLS9 transferring the 450' jumper from the BOA to the Q 4000 with help of Mil 36 and Mil 37. Venom is being repaired
May 19, 2010	22:00 to 24:00	DTP	Work to hang 450' jumper from Q 4000,. First jumper is hung off the Q-4000 at 22:50. Venom is being repaired.
May 20, 2010	0:00 to 05:00	DTP	Q 4000 ROVs wait for BOA to deploy 2nd 450' jumper.
May 20, 2010	05:00 to 09:30	JW	2nd 450-ft Jumper received after 9AM. Being attached at rotary.
May 20, 2010	09:30 to 11:00	JW	Receive 2nd jumper, attach to Y block, prepare to run LDIS
May 20, 2010	11:00 to 14:00	JW	Launch ROV at 11:15 to monitor clump weight during heading change. Rig up and Run LDIS. Issues with accumulator pressures for LDIS emergency release is slowing them down.
May 20, 2010	14:00 to 17:00	JW	Working issues around accumulator pressures required to function the quick disconnect of the LDIS. Both Jumpers hanging at 450-ft
May 20, 2010	17:00 to 2400	JFR	Additional Accumulator Mobilized for LDIS
May 21, 2010	24:00 to 05:00	JFR	Stand by for LDIS deployment
May 21, 2010	05:00 to 17:00	JW	Standing by for Accumulator arrival in order to retest LDIS Quick Release before deploying LDIS
May 21, 2010	17:00 to 24:00	JFR	Overboard, begin running LDIS at approx 16:00
May 22, 2010	0:00 to 05:00	JFR	Continue running LDIS, survey LDIS with ROV. Run 1000' 6-5/8" drill pipe. Pressure test. Leaking.
May 22, 2010	05:00 to 14:00	JW	LDIS being pulled till Jumper end at 750-ft (300-ft of Drill Pipe). At 0700hrs displace dye through system and test again looking for dye indication if pressure indicates leak. Test good at 0900hrs, start running in LDIS again. At 1015hrs bottom of 450-ft jumpers at 1400-ft, stop to pressure test.
May 22, 2010	14:00 to 17:00	JW	LDIS being pulled till Jumper end at 750-ft (300-ft of Drill Pipe) - pressure testing.
May 22, 2010	17:00 to 24:00	JFR	LDIS run to +/-4500, suspend clump weight for transit. Transit to working position.
May 23, 2010	0:00 to 05:00	JFR	Q4000 repositioned, LDIS run to where Jumper end are 300-ft above mud line by 0330 hrs, wait on Boa Deep C to arrive to move jumpers to manifold.
May 23, 2010	05:00 to 12:00	JW	Wait on Boa Deep C to arrive to move jumpers to manifold.
May 23, 2010	12:00 to 17:00	JW	Handed off Choke Line Jumper to Boa Deep C. Lowering the LDIS at 1300hrs.
May 23, 2010	17:00 to 24:00	JFR	Monitor LDIS, assist with jumper installation
May 24, 2010	24:00 to 05:00	JFR	Assist with jumper installation, Monitor LDIS
May 24, 2010	05:00 to 17:00	JW	Monitor LDIS, working through the LDIS/Jumper system procedure (PR-4043). At step 7.75 at 1430hrs.
May 24, 2010	17:00 to 24:00	JFR	Open Moffat valves at choke, displace choke line to mud, replace moffat. Assist troublehooting of gauges
May 25, 2010	0:00 to 05:00	JFR	Open Moffat valves, displace kill line to mud.Assist gauge troubleshooting. Filling drill pipe with mud. Begin pressure test.
May 25, 2010	05:00 to 11:00	JW	Continuing pressure test operations of Top Kill Equipment
May 25, 2010	11:00 to 11:45	JW	Tested Operation of Yellow Pod and re-energized the Mini-connector, LMRP & Wellhead connectors to 1,500-psi from the Q4000. Went to "Latch" on the mini-connector (step 6 on section 1.7 of PR4105) at 1122hrs. Casing Shear Rams functioned closed, no change in plume.
May 25, 2010	11:45 to 13:30	JW	Negative testing (?????)
May 25, 2010	13:30 to 15:30	JW	Pressure Testing Top Kill Manifold through to Choke/Kill valves. Challenges getting Acoustical pressure readings from the OI-3 ROV's, data coming in infrequent updates.
May 25, 2010	15:30 to 17:00	JW	XLS-9 at Top Kill manifold, Venom watching gooseneck
May 25, 2010	17:00 to 24:00	FRM	XLS-9 at Top Kill manifold, Venom watching manifold

Date	Time, hrs	Engineer	Comment
May 26, 2010	0:00 to 01:20	FRM	XLS-9 at Top Kill manifold, Venom on deck for check
May 26, 2010	1:20 to 3:15	FRM	XLS-9 standing by, Venom on deck for check
May 26, 2010	3:15 to 5:00	FRM	XLS-9 standing by, Jumped Venom
May 26, 2010	5:00 to 11:00	SMJ	ROV's standing by for Top Kill
May 26, 2010	11:00 to 11:30	SMJ	XLS-9 positioning junk manifold valves for top kill operations. Venom is standing by.
May 26, 2010	11:30 to 12:00	SMJ	Q4000 commanded upper pipe rams closed using the yellow pod. ROV's are monitoring
May 26, 2010	12:00 to 12:30	SMJ	Standing by. ROV feed problems
May 26, 2010	12:30 to 14:00	SMJ	Function C/K valves. Command LOK, LOC, LIC, LIK open. Command LOK, LOC closed. Command UOC, UIC open. Command UIC, UOC closed. Command LOC, LOK open.
May 26, 2010	14:00 to 17:00	SMJ	Commence pumping WBM for top kill at 6bpm through the lower C/K lines. Increased to 10bpm and walking up rate up to 35bpm. At 14:40, 40bpm 900bbls pumped. At 15:00, 62bpm 2315bbls pumped. At 15:30, 48bpm 4644bbls pumped. At 16:15, 55bpm 6100bbls pumped. BOP pressure is gradually decreasing while pumping.
May 26, 2010	17:00 to 18:40	FRM	Dropped rates to record pressure stabilzation
May 26, 2010	18:30 to 24:00	FRM	Venom moved up to the LDIS. Stand-by
May 26, 2010	18:40 to 20:20	FRM	Q4000 - pump mud down at 25 bpm down choke and kill Start pressure 3300 psi to 4700 psi @ 18:50. Hold Pressure. Pressure dropping.19:00 Stabilize at 4600 psi Rat @ 29 to 31 bpm increase rate to 55 bpm pressure 4600 psi @ 19:15, 2700 bbls pumped @ 19:35. 19:53 Shut down pumping.
May 26, 2010	20:20 to 22:00	FRM	Q 4000 - Pump Frac balls - bring rate up to 35 BPM, reduce rate to 10 bpm 20:25. Take Mud off line - bring BJ (Blue Dolphin) up to pump Frac balls. @ 20:40 pump first load of balls at 10 bpm. @ 21:05 Pressure Start to increase especially on Choke line. Choke Side pressure 3800 psi +/- (scatter) and the Kill Side Pressure of 3100 psi. 21:35 reduce rate and inject 3rd set of Halliburton balls Choke line pressure 2900 psi, kill line 2800 psi, Check (pumping in the upper Kill). Choke line pressure @ 21:50 2825 psi and Kill line 2750 psi. @ 2200 hrs stop pumping with Blue Dolphin.
May 26, 2010	22:00 to 24:00	FRM	Q 4000 Start pumping Kill line 3130 psi - choke line 3032 psi. @ 22:35 Kill line Pressure 3490 psi - choke line 3434 psi. Stop pumping operations. During clean-up found Halliburton Ball injector did not function. Halliburton balls were not pumped.
May 27, 2010	00:00 to 05:00	FRM	XLS9 and Venom to surface for maintenance, will alternate in and out. Stand-by
May 27, 2010	5:00 to 9:00	SMJ	XLS9 and Venom standing by on bottom.
May 27, 2010	9:00 to 10:30	SMJ	Q4000 Function C/K valves. Command UIC, UOC closed. Command LIC open. LOC already open. Command LIK, LOK closed. Command LIC, LOC closed.
May 27, 2010	10:30 to 14:00	SMJ	Standing by
May 27, 2010	14:00 to 16:30	SMJ	Q4000 function C/K valves. Command LIK open. Command LIC open. XLS-9 positioning junk manifold valves for top kill. Standby for approval to proceed with Top Kill
May 27, 2010	16:30 to 17:00	SMJ	Q4000 positioning C/K valves and junk manifold valves for pumping. Command UOK open. Command LOC open.
May 27, 2010	17:00 to 19:00	SMJ	Q 4000 Open junk manifold valve and fire junk shot down the choke line. Staging up pumps behind it to 25bpm @ 2600psi. Drop to 15bpm and launch 1st of 3 platelet shots. Drop to 15bpm and launch 2nd platelet shot. Increase to 30bpm. Command LOC valve closed. Stop pumping 1900 hrs.
May 27, 2010	18:00 to 24:00	FRM	XLS 9 at Junk Shot manifold switched valve 4S open in Header A to pressure check changed out pressure gauge Venom monitoring valves on Junk shot manifold..
May 27, 2010	19:00 to 22:00	FRM	Q 4000 stand by monitor pressures, Command Inner and outer Kill valves open @ 1955, Start pumping down the choke line @ 20:10 increase rate to 40 bpm @ 20:15 presure at 4800 psi choke line and 3000 psi on the BOP. Stop pumping @ 20:30. A piece of debris coming out of the 3rd hole on the flex joint plume. Command the Upper inner and outer Kill line valves closed @ 20:35. Pressure on the Choke line decreased to 3100 psi, the BOP pressure down to 2400 psi. Command the Upper inne and outer Kill line valves open @ 21:50. Command both inner and outer lower valves open on the choke line @ 21:55,

Date	Time, hrs	Engineer	Comment
May 27, 2010	22:00 to 24:00	FRM	Q 4000 - (500 BJ .875" Frac balls loaded and ready to pump) pumping down choke line - shot 1 - qty 275 - 0.875" frac balls gone at 22:10 - increase pump rate to 25 bpr / 3500 psi on choke line, 2800 psi on the BOP, 25 bpm 300 bbls pumped down choke @ 22:20 pressure spike to 4800 psi, Shot number 1 lunched @ 22:25, Next Shot #(46 1" rounded cubes launched @ 22:40, next to be pumped shot #7 1" cubes pumped at 23:00 hrs, choke line injection pressure 4381 psi and falling @2300 hrs. Choke line pressure started increasing at 23:05 to 4500psi @ 23:08 then started decreasing slowly. BOP pressure trending the choke line pressure but 800 psi less in pressure Shot #8 50 - 1 1/8" spheres pumped at 23:10 - pump next 230 1.25" Frac balls launched at 23:45 hrs, next to launch 18 - 2" spheres, pumped at 00:13,
May 28, 2010	00:00 to 05:00	FRM	Q-4000 - At 00:15 Choke line Pressure 4100 psi / the BOP pressure is 3300 psi, Next shot - multiple sizes of frac balls and 1 1/2" cubes launched at 00:37, Cut rate to 1(bpm on choke line at 01:10, Stop pumping at 01:15. Command - Close the lower inner and outer valves on the choke line to be confirmed by Mil 21 when visibility clears up. Command - Close the lower inner and outer valves on the kill line to be confirmed by Mil 21 when visibility clears up. (01:30 time of request). Choke line pressure stabilized @(01:30) 3795 psi, BOP Pressure stabilized at 2544 psi. XLS9 and Venom standing -by.
May 28, 2010	5:00 to 17:00	SMJ	XLS 9 and Venom Standing by
May 28, 2010	9:30 to 13:00	SMJ	Q4000 positioning C/K valves. XLS 9 positioning manifold valves. Command LK valves closed. Command gas lift valves closed. Command UK valves closed. Comman UOC valve closed. Command LIK open. Standing by. At 13:00, command LC valves open. Command manifold valve 4 open.
May 28, 2010	13:00 to 14:00	SMJ	Q4000 Command LOC valve open. Position manifold valves. Command LOK valve open. Commence pumping at 10bpm
May 28, 2010	14:18 to 16:40	SMJ	Q4000 Commence Top Kill at 15bpm with 16.4 WBM. Venom and XLS 9 monitoring manifold. 14:40 Increase rate to 25bpm at 4300psi. 14:47 Increase rate to 60bpm. 15:00 Increase rate to 80bpm and maintain 80 bpm 5000psi. 16:00 80bpm 4400psi. 16:40 80bpm 4000psi.
May 28, 2010	16:40 to 18:00	SMJ	Q4000 Start shutting down pumps. Pumps shut down at 16:53. Transfering 17# WBM to vessels.
May 28, 2010	18:00 to 24:00	FRM	Q4000 Command requested Mil 21 to confirm position of lower Choke and Kill valves @ 18:05 . both open. @ 18:20 Command close both lower choke and kill valves. Verified by Mil 21. Mil 21 Stand - by at choke line valves - Command close all valves on the junk shot manifold 19:40, Command would like for a ROV to go to the Accumulator to verify the pressure and top off Accumulator to 3000 psi @ 20:30. Diagnostics consisted of interrogating of the sensors at the choke and Kill line vavles were functioned.
May 28, 2010	17:00 to 24:00	FRM	XLS 9 and Venom standing by at the junk shot manifold during the diagnostics. XLS9 and Venom to the cage and bring one in at a time for clean-up and maintenance @ 23:15.
May 29, 2010	00:00 to 05:00	FRM	XLS9 and Venom to the cage to stand-by - XLS9 out of the water @ 1:55, XLS9 back in the water at 02:40, Venom to surface for clean-up and maintenance. XLS9 perform sea floor survey for the Q-4000 move. Venom back on depth standing - by @ 5:05
May 29, 2010	5:00 to 17:00	SMJ	XLS 9 and Venom standing by on bottom.
May 29, 2010	17:00 to 24:00	FRM	Q-4000 - Command to flush lines from stack, need to turn on transponder and interrogate. Turned on at 23:15.
May 30, 2010	00:00 to 05:00	FRM	Q-4000 - At 01:00 Mil 42 confirming choke and kill line valve position. The lower & upper and lower inner and outer choke valves closed. The lower & upper and lower inner and outer kill valves closed. Isolation valves open. Move Mil 42 into position to interrogate sensors. XLS9 and Venom supporting Q 4000 in flushing the lines, along with Mil 42. Venom went into the BOP to confirm the position of the valves on the choke and kill lines at 04:55. All the valves on the C/K lines are closed.
May 30, 2010	05:00 to 15:00	SMJ	Standing by to remove 450-ft jumper lines onces BOA removes mud mats off of them.
May 30, 2010	15:00 to 18:25	SMJ	XLS -9 and Venom disconnecting 450-ft coflexip jumpers.
May 31, 2010	18:25 to 24:00	DTP	At 18:25, Venom / XLS-9 have disconnected both of the 450' jumpers from the manifold. Q-4000, lift 450' jumpers off sea floor and begin to move away from the BOP stack area to give access to the Poseidon. Had Poseidon ROV confirm that MUX line is not stretched tight at the BOP stack after moving away.
May 31, 2010	0:00 to 5:00	DTP	Venom and XLS-9 standing by at depth. Q-4000 is away from the Horizon BOP / riser area.
May 31, 2010	5:00 to 24:00	SMJ / DTP	Q4000 continuing to pull LDIS to surface. Venom and XLS-9 standing by.
June 1, 2010	0:00 to 1:00	DTP	Venom and XLS-9 standing by.

Date	Time, hrs	Engineer	Comment
June 1, 2010	1:00 to 2:45	DTP	Venom working with BOA Deep C ROV to recover 1st 450' jumper. Transferred 1st 450' jumper to BOA Deep C at 2:45.
June 1, 2010	2:45 to 5:00	DTP	Venom and XLS-09 standby while the 1st 450' jumper is being brought up to surface on the the BOA Deep C.
June 1, 2010	5:00 to 17:00	SMJ	Venom and XLS-9 standing by
June 1, 2010	17:00 to 24:00	DTP	Venom and XLS-9 standing by
June 2, 2010	0:00 to 5:00	DTP	Venom and XLS-9 standing by
June 2, 2010	5:00 to 14:30	SMJ	Venom and XLS-9 standing by
June 2, 2010	14:30 to 19:00	SMJ	Q4000 lowering 1000-ft jumpers to the seafloor. Venom is monitoring.
June 2, 2010	19:00 to 24:00	DTP	Venom and XLS-9 standing by as BOA is working to overboard the 1450' jumper. Transfer 1450' jumper from BOA to Q-4000 at 23:30.
June 3, 2010	0:00 to 5:00	DTP	Venom and XLS-9 standing by
June 3, 2010	5:00 to 24:00	SMJ /DTP	Venom and XLS-9 standing by
June 4, 2010	0 to 5:00	DTP	Venom and XLS-9 standing by
June 4, 2010	5:00 to 12:00	SMJ	Venom and XLS-9 standing by
June 4, 2010	12:00 to 17:00	SMJ	Venom is at surface getting equipped with 2200-ft long tether to allow operation of the junk shot manifold from Q-4000. XLS 9 standing by.
June 4, 2010	17:00 to 24:00	DTP	Venom and XLS-9 standing by
June 5, 2010	0:00 to 12:30	DTP	Venom and XLS-9 standing by
June 5, 2010	12:30 to 16:45	MM	XLS-9 monitoring the positioning of the MUX cable
June 5, 2010	16:45 to 17:00	MM	Splash the Venom @ 16:45 hrs. XLS-9 monitoring the positioning of the MUX cable

Date	Time, hrs	Engineer	Comment
April 21, 2010	all day	TSH	Response to distress call from DW Horizon. Assist in search and rescue ops.
April 22, 2010	0:00 to 6:25	TSH	Prepare deck for close approach to burning rig. Establish comms with other vessels for SIMOPs. Prep to splash ROVs.
April 22, 2010	6:25 to 8:23	TSH	Splash Mil 37 and move to BOPE. Cut push rod 07:32 to 07:38 to activate autoshear (designed to close blind shear rams). Inspect LMRP. Mil 36 plugs into hot stab on stack for blind shear rams close circuit. Start pumping with no observation of pressure buildup. Leave area due to instability of rig.
April 22, 2010	8:23 to 10:28	TSH	Indications of rig sinking. Survey stack/riser. Riser bent over above flex joint.
April 22, 2010	10:28 to 24:00	TSH	Recover subs. Perform maintenance. Move to safe location to south awaiting instructions.
April 23, 2010	0:00 to 2:00	TSH	Wait on instructions. Splash ROVs to relieve C-Express from BOPE monitoring.
April 23, 2010	2:00 to 13:40	TSH	Monitor and survey BOPE and riser bend. Found new leak at top of flex joint. Caison bullseye 1.5 deg @ 250 deg heading; BOP bullseye 0 deg @ 0 deg heading.
April 23, 2010	13:40 to 24:00	TSH	Survey area for debris and monitor BOPE.
April 24, 2010	0:00 to 18:34	TSH	Survey BOPE, panel, hot stab recipticles, etc. Prep to hot stab with ROV to close BOPEs. Ops suspended at 18:34.
April 25, 2010	0:00 to 8:00	TSH	Survey area while awaiting instructions to perform hot stab ops on stack.
April 25, 2010	8:00 to 10:00	TSH	Mil 37 plug hot stab into "pipe rams closed" receptacle. Pump pressure buildup to 2000 psi attempting to close middle pipe rams. No change in flow status of well.
April 25, 2010	10:00 to 20:00	TSH	Performing scans while waiting on equipment. Transfer bladder equipment from C-Courageous. Prep to resume ram closure ops.
April 25, 2010	20:00 to 24:00	TSH	Mil 36 operate bladder valve and Mil 37 plug hot stab into "pipe rams closed" receptacle. Pump in with bladder assist in attempt to close middle pipe rams, but no change in well status. Found a lose fitting. Prep to tighten fitting.
April 26, 2010	0:00 to 10:00	SWG	Tighten lose fitting. Test and survey for indication of successful repair. Found 2nd leak.
April 26, 2010	10:00 to 11:00	SWG	Stab into ROV panel for middle pipe ram closure and presure up to 3350 psi Pressure holding suggesting middle pipe rams closed.
April 26, 2010	11:00 to 12:00	SWG	Mil 37 (BOA Sub C 1) ROV attempting to actuate blind shear rams via ROV panel by pumping up to 5000 psi, while Mil 36 (BOA Sub C 2) monitors drill pipe and riser plumes. No change in plumes.
April 26, 2010	12:00 to 18:00	SWG	Mil 37 surfaced @ 13:15, while Mil 36 monitors riser plume (relieved by Scandi Neptune ROV @ 14:57) and surfaced @ 15:55. Insertion tooling delivered to vessel and ROV skid pump and intensifier kit fitted.

Date	Time, hrs	Engineer	Comment
April 26, 2010	18:54	TSH	Our next operation will be attempting the Intensifier Blind Shear Closure. This will be done by one of the two BOA Sub C ROVs. At 1854 hrs, both of these ROVs are still on the deck preparing for this operation. In case you are not aware, this operation will re-attempt to close the blind shear ram, only with more pressure (5000 psi) this time
April 26, 2010	19:30	TSH	Held procedure review for CTU Super Shear Ram closure in TOI room. Reviewed risk and potential regrets of operation.
April 26, 2010	20:35	TSH	BOA Sub C 1 (Millennium 37) splashed and descending to stack. The BOA Sub C 2 (Millennium 36) splashed at 2045 hrs.
April 26, 2010	21:00	TSH	Mil 37 ROV on bottom.
April 26, 2010	21:15	TSH	Mil 36 ROV on bottom.
April 26, 2010	21:20	TSH	CTU Super Shear Ram closure procedure was reviewed with MMS in Houston. I wasn't present so I don't know how this went.
April 26, 2010	21:45	TSH	Mil 36 and 37 ROVs prepping for Intensifier BSC. Connect bladder to ROV for fluid supply. Purge line. Mil 37 Plug-in hot stab.
April 26, 2010	21:50	TSH	Mil 37 Pressure up to 3500 psi on blind shear ram close circuit. Dropped off to 3300 psi. Still pumping but can't seem to pressure up above this. Start looking for leaks.
April 26, 2010	21:58	TSH	Still haven't found any leaks. Pump pressure still falling, at 2350 psi.
April 26, 2010	22:02	TSH	Shut pumps off, pressure is holding at 2350 psi.
April 26, 2010	22:08	TSH	Try to pump up again. Pressure up 3700 psi, looking for leaks. Pressure is climbing slowly. Pumps can only do 3-4 gpm, cavity volume should be 30-40 gals.
April 26, 2010	22:12	TSH	Kick on intensifiers. Pressure only going up slightly.
April 26, 2010	22:30	TSH	We have not found any leaks. The hot stab pressure is slowly increasing. Some speculation is that we are slowly crimping some pipe with the rams.
April 26, 2010	22:40	TSH	It appears the pump output is stalled at 4 ksi. It tested to 5 ksi on deck before being splashed.
April 26, 2010	22:47	TSH	After we blocked in the hot stab, we lost about 500 psi. Pressure continuing to bleed off. Troubleshooting issue.
April 26, 2010	22:56	TSH	After bleeding off to 2000 psi, we restarted pumping with intensifiers. Pressured up to 3500, then leveled off. We are just not getting the pressure output we expected.
April 26, 2010	23:03	TSH	Discussing options while still pumping. We might be simply be bypassing fluid by the intensifier back to the bladder at 4 ksi.
April 26, 2010	23:05	TSH	Found leak on sequence valve on shear ram. Discussion on exactly what is leaking.
April 26, 2010	23:18	TSH	Decide to trip the ROV to change the relief setting on the bypass on the intensifier. We plan to increase the relief setting from 5.5 ksi to at least 8.5 ksi. This is so we can get more pressure to the hot stab.

Date	Time, hrs	Engineer	Comment
April 27, 2010	0:20	SWG	BOA Sub C 2 tracing hydraulic lines on the stack particularly the previous potential leak area on the ST lock operating side.
April 27, 2010	2:00	SWG	Discussion about risks associated with attempting to operate blind shears with greater than 3000 psi. Cameron advised 3000 psi WP rated bonnets (and hoses / piping) are actually tested to 5000 psi as part of FAT, so they didn't have concerns. System was last tested in the field to 3000 psi (Feb, 2010) prior to getting on the well. Cameron estimates 4700 psi pressure required for blind shear to cut 6-5/8" DP (with up to full 15,000 psi wellbore pressure).
April 27, 2010	2:50	SWG	BOA SUB C 1 ROV ~ 300 meters off bottom
April 27, 2010	3:00	SWG	BOA SUB C 1 ROV on bottom
April 27, 2010	3:10	SWG	BOA SUB C 1 ROV Stab into dummy receptacle and test to 8400 psi
April 27, 2010	3:17	SWG	BOA SUB C 1 ROV Stab into blind shear close circuit. BOA SUB C 2 ROV monitoring ST lock hydraulic piping
April 27, 2010	3:22	SWG	BOA SUB C 1 (Mil 37) ROV pressure up with CAT pump to 4400 psi. Seeing small plume of hydraulic fluid at ST lock with BOA SUB C 2 ROV. BOA SUB C 1 ROV swap to intensifer and gradually bump up pressure to 5000 psi. BOA SUB C 2 ROV still observing hydraulic fluid (but obviously able to "outrun"). No indication of a shear occurring (sudden drop in pressure, then gradual increase). Note: Observed pressure response is what you would expect if already sheared; also what you would expect if rams are not moving.
April 27, 2010	3:24	SWG	Stop pumping and allow pressure to bleed down to 4000 psi.
April 27, 2010	3:28	SWG	Pump back up to 5000 psi and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:31	SWG	Pump back up to 5000 psi a third time and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:34	SWG	Pump back up to 5000 psi a fourth time and shut-in. Swim BOA SUB C 2 ROV around to other side of BOP stack. No indiction of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:37	SWG	Pump back up to 5000 psi a fifth time and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:40	SWG	Pump back up to 5000 psi a sixth time and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:44	SWG	Pump back up to 5000 psi a seventh time and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:45	SWG	John Bednar update - no change in oil plume as observed by other ROVs. Will continue cycling blind shear operations until 04:00 hrs, then retrieve ROV to make way for coil tubing operation from Skandi vessel.
April 27, 2010	3:53	SWG	Actively bleed down to 0 psi.
April 27, 2010	4:02	SWG	Pump back up to 5000 psi (eighth time) and shut-in. No indication of shear.

Date	Time, hrs	Engineer	Comment
April 27, 2010	4:06	SWG	Actively bleed down to 0 psi. Plan to have conference call at 04:30 to discuss JSA for coil tubing operation of the casing shear.
April 27, 2010	8:00	SWG	BOA SUB C 2 (Mil 36) ROV attempting to cut non-collapsable hose leading to close side of the casing shears ("Super" shears), from BOP accumulator bottle rack (Hose J72). Blade broke. Estimated 2/3 to 3/4 of the way through. Surfacing the ROV.
April 27, 2010	9:15	TSH	BOA Sub C2 ROV back on deck for modifications. BOA Sub C1 watching stack.
April 27, 2010	9:27	TSH	BOA Sub C2 ROV back in water headed for bottom.
April 27, 2010	10:00	TSH	BOA Sub C2 ROV back on bottom.
April 27, 2010	10:10	TSH	Start attempting to cut super shear hose.
April 27, 2010	10:13	TSH	Cut on hose was successful.
April 27, 2010	10:30	TSH	Prepping insertion tool for stabbing cut hose. Skandi Neptune moving into location with CT.
April 27, 2010	11:00	TSH	Concern about design and size of ports on insertion tool. Discussed with Tony Emmerson. Skandi still moving into location.
April 27, 2010	11:10	TSH	We will perform an open water test with the CT BHA to gauge control on rates and pressures.
April 27, 2010	11:45	TSH	Hooked up CTU to insertion tool. Will complete crew change before attempting open water pump test through tool.
April 27, 2010	12:07	TSH	Finished crew change.
April 27, 2010	12:15	TSH	Start open water pump test through tool.
April 27, 2010	12:45	TSH	Still conducting open water test. Concerned about flow rate and backpressure through insertion tool. Finished test with large pump. Will complete similar test with smaller pump.
April 27, 2010	13:30	TSH	Completed open water test with small pump. Will bleed off and proceed to attempt test.
April 27, 2010	14:00	TSH	Insertion tool in place. Going through procedure to mate insertion tool with hose.
April 27, 2010	14.15	TSH	Having difficulty getting insertion tool to stay seated in hose. Small leak appear around mandrel. Decide to back out tool to re-attempt seating procedure.
April 27, 2010	14:30	TSH	After disconnecting hose, inspection showed the end of hose was damaged beyond being usable. Proceed to recut hose.
April 27, 2010	15:00	TSH	Finish recutting line. Attempt to dress off end of hose to increase chances of good seat.
April 27, 2010	15:45	TSH	Re-insert tool. Make 5-6 counterclockwise turns to effect seat.
April 27, 2010	16:20	TSH	Pumping through coil and HIT into casing shear close "hose", but, found leak at shuttle valve indicating some movement. However, having trouble generating enough rate to fully shift shuttle valve.
April 27, 2010	17:00	TSH	Suspect we are getting flow through the tool because we have a leak on the opposite side of the stack at the shuttle valve. The shuttle valve is only partially shifted so there are ports open on both sides of it. Brainstorming on ways to get more flow to the tool to fully shift the shuttle valves.

Date	Time, hrs	Engineer	Comment
April 27, 2010	18:00	SWG	Cut another section of the casing shear hose off and brought sample to surface. Surfacing ROV, will attempt to modify hose injection tool to increase flow through.
April 27, 2010	22:00	SWG	Jump BOA SUB C 2 ROV to attempt to function casing shear rams with ROV pumps and HIT (Hose Insertion Tool), not using coil tubing at present.
April 27, 2010	23:06	SWG	BOA SUB C 2 ROV on bottom.
April 28, 2010	0:30	SWG	With BOA SUB C 2 (Mil 36) ROV monitoring pods, BOA SUB C 1 (Mil 37) ROV pumped up on casing shear close "cut" hose. Pressure up to 2400 psi with CAT pump and seeing control fluid venting at both blue & yellow pods indicating flow past shuttle valve (shuttle in neutral position). Surface test of ROV and stab indicated flow rate of ~ 4 gpm versus normal pod function of greater than 60 gpm.
April 28, 2010	0:45	SWG	Close ball valve and pressure up on casing shear close circuit to 3000 psi, then open ball valve trying to provide a "surge" against the shuttle valve. Again saw control line fluid plume on the pods.
April 28, 2010	1:14	SWG	Decision made to abort solely ROV efforts and proceed with coil tubing pumping with the modified (bored out for larger flow rate) HIT. Also beginning fabrication of hose clamps to be able to isolate hoses to yellow & blue pods.
April 28, 2010	1:49	SWG	Start pumping with coil (ball valve isolating shuttle valve). Mil 37 @ HIT
April 28, 2010	2:03	SWG	Pump pressure up to 4800 psi and open ball valve. Observe venting at both pods. Pressure stabilizing at ~ 1 gpm and 3350 psi.
April 28, 2010	2:17	SWG	Continue pumping ~ 1 gpm. Gauge on HIT increasing slowly to 3600 psi. Surface pump upset, causing shut down. Close HIT ball valve.
April 28, 2010	2:26	SWG	Pump back up to 4800 psi and open ball valve. Observe venting at both pods. Pressure slowly declining while continue to pump.
April 28, 2010	2:35	SWG	Surface pump upset, causing shut down. Pressure ~ 3200 psi. Shut HIT ball valve.
April 28, 2010	2:46	SWG	Resume pumping, at 4800 psi open ball valve. Observe venting at both pods.
April 28, 2010	2:52	SWG	Continue pumping ~ 1 gpm. Pressure slowly declining to 2400 psi. Shut down pump and shut-in on surface (final pressure 2300 psi). Will set pop off for "big" pump to 5000 psi.
April 28, 2010	3:35	SWG	Start pumping with "big" pump. Pump pressure and HIT gauge pressure brought up to 5000 psi. Venting fluid on both pods.
April 28, 2010	4:02	SWG	Shut down pumps. Shut in at surface. Mil 37 monitor pressure @ HIT gauge
April 28, 2010	5:20	SWG	BOA SUB C 2 (Mil 36) ROV inspect BOP stack. Based on tail rod positions, Inner and Outer Lower and Upper Kill fail safe valves are not in the open position. Visually you cannot distinguish between fully closed and pinched (nearly closed) positions (~ 1/3 " difference). Also no heat anomaly (indication of flow) observed above either set of fail safes. Kill line test valve appears open (as it should be - fail safe open).

Date	Time, hrs	Engineer	Comment
April 28, 2010	5:49	SWG	BOA SUB C 2 ROV inspect BOP stack. Based on tail rod positions, Inner and Outer Lower and Upper Choke fail safe valves are not in the open position. Visually you cannot distinguish between fully closed and pinched (nearly closed) positions (~ 1/3 " difference). Also no heat anomaly (indication of flow) observed above either set of fail safes. Choke line test valve appears open (as it should be - fail safe open). Choke line fail safes below the Lower Annular also are not in the open position.
April 28, 2010	8:25	SWG	Mil 37 ROV on deck for re-tooling
April 28, 2010	11:30	SWG	Mil 37 ROV back on bottom
April 28, 2010	12:00	TSH	BOA SUB C 2 ROVs move away from stack area so OI3 sub can complete temperature surveys on choke, kill, and boost lines.
April 28, 2010	13:10	TSH	BOA SUB C 2 ROVs start to move back into stack area after OI3 sub completed temperature surveys.
April 28, 2010	13:30	TSH	Sub C2 attempting to pull hose from HIT tool. Having NO success. Decide to cut hose to accelerate progress. We will need to recover HIT tool to remove stub.
April 28, 2010	14:00	TSH	BOA Sub C1 (Mil 37) begin attempt to stab 3/4" high flow rate wand into hose (1" ID) for casing shear close circuit. Very tight fit. Make good insertion of wand.
April 28, 2010	14:38	TSH	Begin pumping through wand from ROV Cat pump with seawater.
April 28, 2010	15:10	TSH	No success in see flow to shift shuttle valve. BOA Sub C 1 to disengage to make room for Skandi Neptune to attempt Atlantis accumulator option.
April 28, 2010	15:00 to 19:00	SWG	Standing by
April 28, 2010	19:00 to 21:30	SWG	Dive Mil 36 and tie-in
April 28, 2010	21:30 to 22:45	SWG	Mil 36 ROV charges up accumulator to 4000 psi. Mil 37 ROV to use wand tool inserted ~ 2-1/2 ft into casing shear close "cut" hose with manipulator arm trying to "hold" hose closed around wand. Herc 14 ROV at ball valve control on accumulator package and Herc 6 ROV to observe pods. Open ball valve from accumulator and surge through wand tool into casing shear closed circuit. At both pods see some evidence of pink hydraulic fluid which is the color of fluid on the open side of the casing shear. Conclusion is shuttle valve shifted and ram started to close. As accumulator bled down unable to maintain pressure through "loose" connection with wand tool.
April 28, 2010	22:45 to 23:15	SWG	
April 28, 2010	23:15 to 24:00	SWG	Stop pumping. Close ball valve to isolate accumulator. Allow pressure to bleed from system (casing shear rams likely moving back open), while ROV start swapping around to use HIT (Hose Insertion Tool)
April 29, 2010	1:00	SWG	Start pumping with Mil 36 through HIT tool into casing shear close circuit.

Date	Time, hrs	Engineer	Comment
April 29, 2010	2:20	SWG	Pump at 4000 to 4500 psi, stopping every 10-15 minutes to see if any pressure building (and trapped) in casing shear close circuit. All 5 presure checks showed 0 psi. Both pods have slight plume of green (less than yesterday). Some question as to whether the ROV duplex pump is functioning properly. HIT still seems to be providing too much of a restriction. Terminating this operation.
April 29, 2010	2:25	SWG	Begin making preparations to move boats and ROVs around to allow OI 3 ROV to install a hose into a fitting and eliminate the flow restriction associated with the HIT. HIT left stabbed into casing shear close hose and vall shut. Mil 36 ROV to start pressuring up to charge Atlantis accumulator. Charge up to 4000 psi.
April 29, 2010	8:00	TSH	Sub C1 and C2 are monitoring plume from Riser bend crack. Near and far views.
April 29, 2010	11:00	TSH	Sub C2 is monitoring plume from Riser bend crack. Near and far views.
April 29, 2010	13:15	TSH	Sub C2 is monitoring plume from Riser bend crack. Near and far views.
April 29, 2010	15:30	TSH	Sub C2 is monitoring plume from Riser bend crack. Sub C1 is hanging out because of a tether problem.
April 29, 2010	16:15	TSH	Sub C1 is monitoring plume from Riser bend crack. Sub C2 is attempting to connect the other end of the hose into the Atlantis accumulator panel.
April 29, 2010	16:30	TSH	Sub C1 is monitoring plume from Riser bend crack. Sub C2 has connect the other end of the hose into the Atlantis accumulator panel.
April 29, 2010	17:40	SWG	At time of activating casing shear Sub C 1 saw a noticeable decrease in flow rate at the riser bend, but then resumed.
April 29, 2010	17:40 to 21:00	SWG	Sub C1 is monitoring plume from Riser bend crack. Sub C2 was monitoring pressure (3600 psi) at the accumulator during and immediately post casing shear activation, then begin to arrange tooling.
April 29, 2010	21:15 to 21:45	SWG	BOA Sub C2 (Mil 36) ROV stab into ROV panel at Blind shear close circuit. Pressure up to 5500 psi. No drop off in pressure or plume change to indicate any further movement of blind shears. Allow pressure to bleed down to 3000 psi, then pressure back up to 5500 psi. No changes. Bleed off to 0 psi.
April 29, 2010	22:00 to 24:00	SWG	BOA Mil 36 begin cleaning around LMRP to identify upper annular close circuit hoses to cut for 1-1/2" HIT to stab into. Hose thought to be from Yellow pod (definitive identification not possible due to hoses wrap around stack and framing) cut and pulled out from among other hoses.
April 30, 2010	0:00 to 5:00	SWG	BOA Mil 37 surfacing for tether issues. After OI 3 #2 took over riser bend crack plume monitoring; BOA Mil 36 began inspection of LMRP - checking slow oil leak (droplets) from one glycol injection port and connector indicator rod positions. No evidence of oil source from below LMRP funnel. Indicator rods suggest complete latch. BOP and LMRP bullseyes both suggest ~ 1/2 degree. Thermal survey conducted on riser.

Date	Time, hrs	Engineer	Comment
April 30, 2010	5:00 to 6:45	SWG	BOA Sub C1 & C2 assisting in attempt to function upper annulars.
April 30, 2010	6:45 to 7:00	SWG	BOA Sub C1 cutting hose to HIT tool so it can be retrieve via crane for inspection and repair. C2 standing by at accumulator package.
April 30, 2010	7:00	TSH	Need to trip HIT tool. Attempt to cut HIT tool off by cutting hose. Blade broke.
April 30, 2010	8:45	TSH	Attempting to cut hose to HIT tool.
April 30, 2010	9:05	TSH	Successfully cut hose. Retrieve HIT tool with hose end.
April 30, 2010	10:20	TSH	BOA Sub C reports that they will need to remachine the HIT tool to work with hose.
April 30, 2010	10:20 to 13:00	TSH	BOA Sub C remachining the HIT tool to work with hose (for Upper Annular). Go back to bottom. Attempt to repressure casing shears. Leak on hose. Move back to upper annular operation.
April 30, 2010	13:00 to 15:25	TSH	BOA Sub C subs working on attempt to close the upper annular. Sub C1 is at accumulator. Sub C2 is plugging in hot stab at stack.
April 30, 2010	15:25	TSH	Attempt to close upper annular. The HIT tool started to leak. All stop.
April 30, 2010	16:00	TSH	BOA Sub C2 unstab HIT tool. BOA Sub C1 is standing by at accumulator.
April 30, 2010	16:50	TSH	BOA Sub C2 recut hose to upper annular to improve end.. BOA Sub C1 is standing by at accumulator.
April 30, 2010	17:00	TSH	BOA Sub C1 (Mil 37) will surface for retooling. BOA Sub C2 (Mil 36) is standing by at accumulator.
April 30, 2010	17:00 to 24:00	SWG	BOA Sub C2 (Mil 36) standing by at accumulator. BOA Sub C1 (Mil 37) re-tooled for Parker HIT and dive.
May 1, 2010	0:00 to 1:30	SWG	Mil 37 slide Parker clamp over cut hose to upper annular and then move back to accumulator.
May 1, 2010	1:30 to 4:30	SWG	Mil 36 stab Parker HIT into cut upper annulus hose and then tighten Parker clamp. Mil 37 at accumulator
May 1, 2010	4:30 to 5:30	SWG	Standby while other ROVs re-positioned at monitoring points (plumes & LMRP connector). Pressure up to attempt to close annular, but leak at HIT.
May 1, 2010	5:30 to 9:00	TSH	Re-tighten Parker clamp and then wait on other ROVs to get in monitoring position. Having problems with feed from BOA Sub C feed.
May 1, 2010	9:00 to 10:20	TSH	Decide to proceed with audio comms only. Positioning correct people in place. Video feeds back. Re-attempt. Leaked again. Decide to tighten to max since we have a bigger clamp now on bottom. 2nd clamp broke. Will move on to using more robust Parker clamp that is now available.
May 1, 2010	10:20 to 12:00	TSH	Found a new leak on part of the upper annular circuit on the Horizon BOPE. Need to tighten.
May 1, 2010	12:00 to 13:30	TSH	Finished tightening fitting on UA circuit. Attempt test by pressuring up system. Fitting on UA circuit still leaked. The BB Parker HIT tool held pressure (~2300 psi). Discuss options.
May 1, 2010	13:30 to 14:40	TSH	Finished re-tightening the fitting on the UA circuit hose.

Date	Time, hrs	Engineer	Comment
May 1, 2010	14:45	TSH	Attempt to function UA. System holding tight initially. Fluid leaking from pod area (not unexpected). It takes 45 gallons to fully close upper annulars. Have a small leak at the Parker BB HIT tool.
May 1, 2010	15:05	TSH	At 14:45, we started a new attempt to close our upper annulars. Thus far, our system appears to be tight. We are able to apply 3000 psi with the SS accumulator. We see some dye leaking but it appears to be coming from the center of the pod which would be expected if we actually are functioning the annular. It will take 45 gallons to fully close the annulars. We do not know how fast we are generating this volume, but it is probably at a low rate due to hookup and pressure in the wellbore. No change in flow yet.
May 1, 2010	15:13	TSH	We are still trying to understand our leaks. It appears to a small leak on a valve block. It is slowly bleeding off. No change to the plumes.
May 1, 2010	15:30	TSH	Our pressure is holding but we don't appear to be changing the flow any.
May 1, 2010	15:45	TSH	Pulled stab at accumulator to bleed off pressure. Watching dye.
May 1, 2010	16:00 to 24:00	SWG	Mil 36 ROV surface to repair manipulator arm and wait on new Parker clamp. Mil 37 ROV attempting to cut hose from yellow pod to lower annular close circuit, but having difficulty keeping other hoses out of the way. At 22:15, while cutting, blade broke (hose ~ 3/4" cut). While waiting on new blade to be sent down in the basket, survey pod hot stab
May 2, 2010	0:00 to 1:00	SWG	Mil 37 stab into receptacle tied into new hose on casing shear rams and attempt to close ram. Encounter leak. Terminate operation while waiting on proper tooling.
May 2, 2010	1:00 to 3:15	SWG	Mil 37 get screen shots of electrical wet connect (evaluating option to try to tie-in to BOP stack pressure, temperature gauge) resume cutting hose from yellow pod to lower annular and broke 2nd blade.
May 2, 2010	3:15 to 5:00	SWG	Tried to cut hose to allow HIT access to lower annular closure circuit. Saw broke, while waiting attempted to close casing shears, but encountered a leaky fitting. Performed several surveys for future options: thermal survey of drive pipe & BOP stack (riser being done at report time); inspect choke & kill line clamps for removal (below coflex hoses); inspect electrical hot stab (for option to be able to tie into BOP stack pressure, temperature gauge). Broke a second blade - desired cut location has tough access with several other hoses in the vicinity. Install new wand & hose for coil tubing dispersant pumping and perform flow check at report time. Plan to collect plume samples at 05:00
May 2, 2010	6:00	TSH	Successfully cut hose to lower annular (from yellow pod).
May 2, 2010	6:00 to 7:15	TSH	BOA Sub C1 installing hookup on HIT tool/clamp on hose for lower annular. BOA Sub C2 attempting to tighten leaking connection casing shears.
May 2, 2010	7:15 to 8:00	TSH	BOA Sub C1 still installing hookup on HIT tool/clamp on hose for lower annular. BOA Sub C2 finished tightening leaking connection casing shears.

Date	Time, hrs	Engineer	Comment
May 2, 2010	9:00 to 10:45	TSH	Re-pressurize casing shear rams. Leak from shuttle valve (this is good). Process is slow when only using ROV pump. Stop to line up to use accumulator.
May 2, 2010	10:45 to 11:15	TSH	Ready to function casing shears with accumulator. Start pumping. Pressure up to 4700 psi. Isolate pressure. No visible change in any plumes.
May 2, 2010	11:15 to 1:00	TSH	Mil 37 is reporting manipulator problems. Switched out with Mil 42. Mil 37 is now monitoring riser bend plume. Mil 36 standing by a accumulator panel.
May 2, 2010	13:00 to 14:00	TSH	Mil 36 is opens accumulator to close lower annular. Mil 37 is monitoring riser bend plume.
May 2, 2010	14:00 to 15:00	TSH	Mil 36 is opens accumulator to close lower annular. Pump up to and held pressure for 45 minutes. Mil 37 is monitoring riser bend plume.
May 2, 2010	15:00 to 17:00	SWG	Mil 36 inspect & photo BOP for pressure, temperature wet connect; upper pipe ram shuttle valve assembly close circuit hose and fitting arrangement (assess cut hose vs. back out fitting). Mil 37 surfacing for tooling change out.
May 2, 2010	17:00 to 20:00	SWG	Mil 36 back out clamp on lower annular yellow pod close hose and assess condition of hose. Surface to exam clamp and pick up new grinder to make fresh cut on hose. Mil 37 on surface.
May 2, 2010	20:00 to 24:00	SWG	Mil 36 swap out bladder. Mil 37 on surface.
May 3, 2010	0:00 to 4:35	SWG	Mil 36 cut hose (00:30 to 01:50); slide on clamp (02:30); insert HIT (02:47); tighten clamp (03:30). Block in pressure on upper annular and take hose from accumulator to newly made up lower annular HIT & clamp; then charge up accumulator. Mil 37 back on bottom. Attempt to close lower annular but major leak (appears HIT pulled out from clamp.
May 3, 2010	4:35 to 6:15	TSH	Attempting to tighten HIT bolts with Mil 37. Mil 36 at accumulator standing by.
May 3, 2010	6:15 to 8:30	TSH	Finished reinstalling HIT and tighten bolts with Mil 37. Leak is actually on fitting on hot line to stack. Will be difficult to tighten. Mil 36 at accumulator standing by. Make another attempt to close lower annular.
May 3, 2010	8:30 to 10:30	TSH	Mil 37 completely down. Mil 36 had to help Mil 37 get back to its' cage for resurface and repair.
May 3, 2010	10:30 to 12:30	TSH	Mil 37 back on deck for repairs. Mil 36 on bottom.
May 3, 2010	12:30 to 14:00	TSH	Mil 36 on bottom completing survey of BOPE.
May 3, 2010	14:00 to 15:00	TSH	BOA Sub C (Ray Picard) reports that hose from the ROV intervention stab may be plumbed incorrectly. It appears that it is plumbed to inverted lower test rams. The BSR appears to be plumbed correctly. Boat directed to traced all lines to verify how they are plumbed.
May 3, 2010	15:00 to 15:45	TSH	BOA Sub C reports back that all other lines are plumbed correctly with the exception of the line mentioned above. This line is plumbed to the inverted lower test ram instead of the middle pipe rams. Don King with Cameron verifies the line is plumbed to the lower (test) rams.

Date	Time, hrs	Engineer	Comment
May 3, 2010	15:45 to 24:00	SWG	Mil 37 still on surface. Mil 36 back out hose 78 B (that goes to middle VBRs close circuit) from blue pod @ 19:00. working on making up fitting to be able to connect and pump in. Having trouble aligning hoses and called OI 3 Mil 42 in to assist. Mil 36 holding a section of hose with each manipulator and Mil 42 attempt to apply wrench to fitting to make up.
May 4, 2010	0:00 to 04:00	SWG	Mil 36 still trying to make up connection on hose from close side of middle VBR, not successful yet. Mil 37 diving with tools for drill pipe overshot and additional tools for Mil 36.
May 4, 2010	04:00 to 06:00	SWG	Mil 37 start drill pipe overshot make-up (slip retainer pins out by 04:30, working on hold down bolts with high torque wrench) and Mil 36 resume trying to make up middle VBR hose to pressure source.
May 4, 2010	06:00 to 07:30	TSH	Mil 37 continue drill pipe overshot make-up on hold down bolts with high torque wrench. Unable to make up fitting, so Mil 36 back out to allow OI 3 Maxx 3 to cut hose blue pod to middle VBR close circuit.
May 4, 2010	07:30 to 08:30	TSH	Mil 37 finished tightening hold down bolts with high torque wrench. Slips should be set. Move to energize packoff. Mil 36 is inserted HIT tool on VBR hose. All stop. Mil 36 was using the wrong HIT tool. The team wants to use the Parker tool.
May 4, 2010	08:30 to 9:30	TSH	Mil 36 is prepping to energize packoff on SOWH. Slips should be set. Mil 37 is waiting on Parker HIT tool for VBR hose. They are at the heliport on their way to BOA.
May 4, 2010	9:30 to 10:45	TSH	Mil 36 is energizing packoff on SOWH. Slips should be set. Mil 37 is now working on removing the Yellow pod (install shackle). Securing rigging for same.
May 4, 2010	10:45 to 12:30	TSH	Both Mil 36 and Mil 37 attempt to energizing packoff on SOWH using zero leak impact wrenches. Having difficulting get tools to mate up. Mil 36 will surface (12:30pm) to review zero leak adaptor. Slips should be set. The Parker HIT tools is still in Houma at heliport. The chopper has been weathered in. Hope to leave within the hour.
May 4, 2010	12:30 to 15:00	TSH	Mil 36 redeployed. Visibility has started to deteriorate. Mil 37 completed some test rigging work for removing the Yellow pod.
May 4, 2010	15:00 to 16:00	TSH	Parker HIT tooling has arrived. Prepping for deployment subsea. Receive approval to start pod removal.
May 4, 2010	15:00 to 16:00	TSH	Prep to deploy HIT tooling for VBR function. Plan how to start cutting Yellow pod. Rig up shackle for removal.
May 4, 2010	16:00 to 19:00	SWG	BOA Mil 36 attempting to make up packing element, but impact wrench failure. Mil 37 waiting on Parker HIT and clamps to be lowered.
May 4, 2010	19:00 to 21:15	SWG	BOA Mil 36 surface for impact wrench
May 4, 2010	21:30	SWG	BOA Mil 37 insert Parker HIT into hose to middle VBR close circuit
May 4, 2010	22:00	SWG	BOA Mil 36 resume torque up of drill pipe overshot packing element lockscrews
May 4, 2010	22:35	SWG	BOA Mil 37 gets first Parker clamp installed over hose and Parker HIT

Date	Time, hrs	Engineer	Comment
May 4, 2010	22:45	SWG	BOA Mil 36 increase torque pressure to 1500 psi for drill pipe overshot packing element lockscrews
May 4, 2010	23:40	SWG	BOA Mil 37 make up second Parker clamp installed over hose and Parker HIT
May 5, 2010	0:00	SWG	BOA Mil 36 finish tighten lockscrews on drill pipe overshot packing element
May 5, 2010	0:30	SWG	BOA Mil 37 stab hose from Middle VBR Parker HIT into junction plate (connected to accumulator)
May 5, 2010	1:05	SWG	BOA Mil 36 tighten gland nuts around lockscrews for drill pipe overshot packing element
May 5, 2010	1:40	SWG	BOA Mil 36 try to pressure test drill pipe overshot packing element. Leak at 4000 psi. Fluid seen at lower flange, no test fluid distinguishable at plume end. Elect to proceed.
May 5, 2010	2:25 to 3:00	SWG	BOA Mil 36 monitor drill pipe plume while OI 3 Maxx 3 close valve on drill pipe overshot. **Drill pipe plume stopped !**
May 5, 2010	3:00 to 5:15	SWG	Move ROVs to monitor middle pipe ram closure. With 4000 psi on accumulator, BOA Mil 37 open valve O-1 on accumulator (4:00); BOA Mil 36 monitor Parker HIT and clamp, seeing 3500 psi. No evidence of venting at either pod, no evidence or ram moving. No change to plume. After 10 minutes (4:10), shut O-1 valve on accumulator. Accumulator pressure 3850. After 5 minutes (4:15) open O-1 valve, Parker HIT seeing 3300 psi, same observation of pods, plumes. After 5 minutes (4:20), shut O-1 valve. BOA Mil 36 fly BOP stack and trace lines from middle VBRs. Confirm (Ray Picard) hose 78 disconnected at blue pod. At 5:00 open O-1 valve again, same observations.
May 5, 2010	5:15 to 6:00	SWG	BOA ROVs making preparations for yellow pod removal.
May 5, 2010	6:00 to 9:30	TSH	BOA ROVs making preparations for yellow pod removal. Confirmed pod stand is now on deck. Verified pod locks are retracted. Mil 37 cuts MUX cable first. Done at 07:30. Cut first of three 1/2" pilot lines at 07:50. Repaired ROV hot stab line. Cut second and third lines 08:30. Start cut on 1.5" hydraulic supply line. This was done in slightly different order from procedure because of proximity to lines.
May 5, 2010	9:30 to 10:30	DTP	09:30 Splash MIL 36. At 9:40 pull all but 1 electronic cable away with Mil 37. At 10:20, Mil 36 begin working on cutting main 1.5" supply hose to the pod. Complete initial cut of supply hose at 10:30. ROVs standing by to discuss plan forward and prep ROVs. 12:15 Mil 36 and Mil 37 untangling line for hot stab line. At 12:45, Mil 37 insert hot stab on to top of yellow pod. Pressure up on hot stab (settle out to 2200 psi). Adjust to 2000 psi. At 13:15 MIL 36 begins working to cut last line before put a charge on retract. Complete cutting of last line (90deg). Working to locate debris covers. At 14:00
May 5, 2010	10:30 to 14:00	DTP	open valve to put charge on retract, monitor w/ mil 37 and see panel raise (~ 14") indicating stingers are de-engerized and ready to pull.

Date	Time, hrs	Engineer	Comment
May 5, 2010	14:00 to 17:30	DTP	Monitor Accumulator pressure w/ Mil 36 (2,000 psi). Crane shut down waiting on hellicopoter ops. Begin to run down with crane line /hook at 15:10. Mil 37 being used to guide down the hook. At 17:07 hook is at the yellow pod. Work to attach hook to yelllow pod with Mil 36. Hook Attached. At 17:25 begin pulling yellow pod, monitor with MIL 36 (Hot Stab still in, not pulling hot stab out until the yellow pod is pulled away from BOPS). Move out away from BOP. Pull hot stab.
May 5, 2010	17:30 to 20:30	DTP	Mil 37 is monitoring the yellow pod as it is being pulled to surface. At 18:00, Mil 36 is monitoring setting of debris cap. At 18:15 debris cap set in place over yellow pod receptacle. Mil 37 follow the yellow pod as it is being pulled to the surface. Pod on surface @ 20:00. Mil 36 investigate lower annular hose fittings (leak from the other day) to see if better access to tighten now that yellow pod removed, but access still limited by blue pod. Mil 36 then standby at BOP stack.
May 5, 2010	20:30 to 21:30	SWG	Mil 36 investigate access to lower annular hoses that leaked, since yellow pod removed. Access still limited by blue pod though.
May 5, 2010	21:30 to 24:00	SWG	Mil 36 inspecting choke & kill coflex hoses and gathering / orgaqnizing tools.
May 6, 2010	0:00 to 3:00	SWG	Mil 36 use Oceaneering position indicator tool to confirm positions of Upper & Lower, Inner & Outer, Choke and Kill valves. All closed. Confirm position of choke & kill (vertical) isolation valves. Both open.
May 6, 2010	3:00 to 6:00	SWG	Mil 36 tighten lock screws (on packing elements) on the drill pipe overshot
May 6, 2010	6:00 to 8:00	SMJ	Mil 36 tested packing elements 5min at 5500psi w/ 400psi drop. Unlatch ROV from overshot.
May 6, 2010	10:30 to 11:00	SMJ	Mil 36 performed a visual verification that the LMRP and the mini-connectors on the choke and kill lines are locked into position.
May 6, 2010	11:00 to 17:00	SMJ	Mil 36 monitoring flex joint plume
May 6, 2010	15:00 to 18:00	SMJ	Mil 37 preparing for C/K override
May 6, 2010	18:00 to 22:00	SWG	Mil 36 and Mil 37 spot distribution manifold and connect hose to accumulator and install stabs and hoses for choke & kill isolation valve close operation
May 6, 2010	22:00 to 23:00	SWG	Mil 37 inspect and take screen shots of choke and kill isolation valve hoses and shuttle assemblies
May 6, 2010	23:00 to 24:00	SWG	Mil 36 & Mil 37 move distribution manifold and tool basket around to make room for future placement of junk shot skid
May 7, 2010	0:00 to 6:00	SWG	Mil 36 and Mil 37 test hoses and stabs from distribution manifold and standing by.
May 7, 2010	6:00 to 11:00	SMJ	Mil 36 and Mil 37 con't testing hoses and stabs from distribution manifold.
May 7, 2010	11:00 to 16:00	SMJ	Mil 37 on surface getting equipped to verify coffer dam positioning if needed
May 7, 2010	11:00 to 16:00	SMJ	Mil 36 standing by on bottom.
May 7, 2010	17:00 to 24:00	SMJ	Mil 36 performing LBL survey of existing subsea equipment. Splash mil 37 to assist in verifying coffer dam positioning

Date	Time, hrs	Engineer	Comment
May 8, 2010	0:00 to 6:00	SWG	Surface Mil 36. Mil 37 take over survey of existing subsea equipment
May 8, 2010	6:00 to 8:00	SMJ	Mil 37 monitoring flex joint plume. Mil 36 at surface
May 8, 2010	8:00 to 13:30	SMJ	Mil 37 on surface equipping with caliper tools for measuring boost line to be cut.
May 8, 2010	9:00 to 10:00	SMJ	Mil 36 on bottom with cutting assembly for cutting the boost line
May 8, 2010	15:30 to 17:00	SMJ	Mil 37 on bottom with caliper tools and inspecting/measuring the boost line (4.62-4.68"OD). Mil 36 cutting the boost line above the 3rd clamp from the top of the BOP's (3-ft section cut out)
May 8, 2010	17:00 to 19:00	SWG	Mil 36 having trouble inserting the de-burring tool fully into the cut boost line. Surface tools and cut section of boost line. Grind OD of de-burr tool slightly to reduce OD. Mil 37 standby.
May 8, 2010	19:00 to 21:30	SWG	Mil 36 ops suspended. Boost line 3.81" ID ; de-burr tool 3.79" OD; plug is 3.75" OD. Grind OD of de-burr tool. Mil 37 standby.
May 8, 2010	21:30 to 22:50	SWG	Mil 36 Use de-burr tool to prep bost line. Mil 37 standby.
May 8, 2010	22:50 to 24:00	SWG	Mil 36 insert P, T sensor into boost line and attempt to make up set bolts. Impact wrench does not appear to be working properly. Must surface ROV. Mil 37 standby.
May 9, 2010	0:00 to 04:00	SWG	Mil 36 swap out impact wrench & dive. Set bolts on boost line P, T gauge assembly. Mil 37 standby.
May 9, 2010	04:00 to 7:30	SWG	Mil 37 mate up and pressure test pack-off for boost line P, T gauge assembly to 5000 psi. Appears a very slight leak coming out of plug initially. Block in pressure to isolate from pump and perform 15 minute test. No pressure drop. Bleed off and attempt test again. Repeat of slight wisp of test fluid during pressure up then appears to "seat" and hold pressure. Elect to further tighten set bolts (05:40). Mil 36 standby
May 9, 2010	07:30 to 15:00	SMJ	Mil 37 retesting pack-off for boost line P, T gauge assembly to 5000 psi. Mil 36 assisting. Test successful. When backing off the test port, ROV hit and bent the gauge tube. Analyzing damage.
May 9, 2010	15:00 to 16:30	SMJ	Mil 37 retesting pack-off for boost line to 5000 psi using another gauge system that was also tied in. Attempting to verify that both damaged gauge and the new one are reading same pressure. Mil 36 assisting.
May 9, 2010	16:30 to 20:00	SMJ	Preparing Mil 36 & 37 and cut hydraulic lines to open and close sides of Boost Line valve allowing access. Lose video feed from BOA Sub C. Mil 36 surfaces.
May 9, 2010	20:00 to 22:00	SWG	Mil 37 standby for Herc 14 to identify blue pod line (to Choke & Kill isolation valves), then moves in to cut hose, but has hydraulic leak on grinder. Grinders to be swapped out via crane basket.
May 9, 2010	22:00 to 24:00	SWG	Mil 36 on surface and Mil 37 standing by.
May 10, 2010	0:00 to 1:20	SWG	Mil 36 dive at 0:45 hrs and basket on bottom with replacement grinders. Mil 37 make cut @ 1:20 hrs on blue pod hose to close side of Choke & Kill isolation valve circuit.

Date	Time, hrs	Engineer	Comment
May 10, 2010	1:20 to 7:00	SWG	Mil 36 making up a Parker insert (~ 2:00 hrs), but hose is frayed. Houston and Parker rep view screen shot and decide hose needs to be re-cut (~ 2:30 hrs), while Mil 37 making up a Parker insert (~ 2:00 hrs) and clamp on the close side of the Choke & Kill isolation valve circuit. Mil 36 and Mil 37 switch positions (~3:00 hrs) and Mil 37 can re-cut boost line valve hose. Mil 36 attempting to make up Parker barb and clamp, but having difficulty (need three manipulator arms one each for hose; barb; and to close / turn T handle on clamp). Move to boost line valve (~4:15 hrs). Mil 36 insert barb into hase and hold each, while Mil 37 comes in with clamp.
May 10, 2010	7:00 to 9:00	SMJ	Mil 36 working to override the boost valve. Found leaking hose. Postpone overriding boost valve.
May 10, 2010	9:00 to 11:00	SMJ	Mill 36 and Mil 37 overrode the C/K isolation valves placing them in the closed position. Valves were tied into the Blue pod control system.
May 10, 2010	11:00 to 18:00	SMJ	Mil 36 broke a manipulator and returning to surface. Mil 37 on bottom preparing for C/K demolition. Decision made to override boost valve before C/K demolition.
May 10, 2010	18:00 to 24:00	DTP	Mil 37 on bottom preping for boost line override. Mil 37 to surface. Mil 37 diving with new, advanced stinger for boost line. Mil 37 to bottom with basket at 19:40. Mil 37 working to install new Parker insertion tool / hose assembly and fittings into open and close lines to mud boost isolation valve. Having trouble with putting on Parker clamp on 1st hose. Mil 37 continue to install Parker clamp. Mil 36 continue to be repaired
May 11, 2010	00:00 to 04:45	DTP	Mil 37 installing parker clamp on 1st hose. (Port A, boost line valve close hose) At 00:30 parker clamp secured on Parker hose assembly. Mil 36 back to bottom at 00:45 . Mil 37 install hot stab and preparing to energize "A" port by applying 2000 psi to confirm that valve is already closed. (should not see any movement on the actuator). At 01:00 begin to pressure up and found leak in blue hose about 1' from the Parker clamp. Possibly at the end of the barb. Will need to re-cut the hose. At 2:00, Mil 36 and Mil 37 working to re-cut blue hose. Mil 36 stabing barb into re-cut blue hose. Mil 37 tether coflex clamps and bring to surface for modification. Mil 36 work to install Parker clamp. Mil 37 begin to assist in parker clamp installation. Mil 36 and Mil 37 Having trouble installing Parker Hose clamp, tedious operation. Complete installation and securing of 1st Parker Hose Clamp at 04:25. Discuss if hose in on barb far enough still after Parker clamp installation. Looks ok.
May 11, 2010	04:45 to 05:30	DTP	Mil 36 and Mil 37 work to install Hot stab. At 05:05 begin to pressure up. No leaks noticed at clamp assembly. Energize port A by applying 1500 psi to confirm that valve is closed. At 1500 psi confirm that there is no movement on actuator indicating that the valve is closed. There is some fluid venting, pressure on gage at A port is ~ 1200 psi. At 5:20 find that some fluid is venting out of B port. Begin to work on B port assembly (boost line valve open hose)
May 11, 2010	05:30 to 9:00	SMJ	Mil 36 working to stab 2nd Parker hose assembly into blue hose for port B (open) assembly. Successfully stabbed hose. Installed clamp. Hose leaked on test. Prepare to recut.

Date	Time, hrs	Engineer	Comment
May 11, 2010	9:00 to 15:00	SMJ	Mil 37 returning to surface with telemetry problems. Mil 36 to pull 37 back to the cage and attempt to cut the boost hose, but unsuccessful. Needs to surface to equip w/ a different saw for cutting and repair hendered arm.
May 11, 2010	15:00 to 18:00	SMJ	Mil 36 back on bottom preparing for boost line override. Mil 37 still at surface.
May 11, 2010	18:00 to 20:00	DTP	At 18:00 Mil 36 installing Parker clamp for port B (open) side line for boost line ops. Mil 37 at surface. Mil 36 hot stab parker hose assembly. At 18:50, Mil 36 fire A port to 1500 psi to confirm pressure integrity of assembly. (OI3 Mil 42 monitoring actuator and Herc 14 is monitoring gauge) Confirm that not seeing any leaks. Seeing pressure at clamp gauge but not at ROV gauge. ROV gauge not working properly, switch ROV gauge. Vent pressure off port A. At 18:58, fire B port (open) to 1500 psi. Tail rod moving on actuator indicating that boost line valve is opening. **Reading 400 psi at the boost line after valve is opened**. (Does not include hydrostatic of the seawater). Hold for 30 mins. Vent pressure on B port to zero at 19:30. Mud boost line successfully closed. Pressure up to 1500 psi on A port (close). Bleed off pressure. Disconnect hot stab. Mil 37 still at surface.
May 11, 2010	20:00 to 24:00	DTP	Mil 36 open valve to boost line to bleed pressure to zero. Close valve and pressure build back up to 400 psi. Re-open valve and pressure went to zero. Close valve and pressure slowly building back up to 400 psi. Decision made to leave valve closed and monitor. Mil 36 preparing for installation of choke and kill coflexip hose "come a long system". Get slings from basket. Mil 36 installing modified choke and kill coflexip hose clamps. Mil 37 standby.
May 12, 2010	00:00 to 5:00	DTP	Mil 36 and Mil 37 installing modified coflexip choke hose clamps. Mil 36 continue to rig up coflexip line clamps. Mil 36 and Mil 37 working on rigging up come-a-long. (lost video feed in Houston of BOA ROVs). Rig up super grinder on Mil 36 . Mil 37 visually confirm that choke isolation valve is closed at 3:30. At 3:38, Mil 36 begin to cut lower choke coflexip line termination. Mil 37 giving an additional view of the cut. Mil 37 check that gauge still reading 400 psi at 04:00. Mil 36 continue cutting. At 04:15, Mil 36 replace blade and continue to cut.
May 12, 2010	5:00 to 10:00	SMJ	Mil 36 and Mil 37 continue to cut choke coflexip lower termination. Fluid venting as cut through the ID. Mil 36 and 37 standing by.
May 12, 2010	10:00 to 14:00	SMJ	Mil 36 attempting choke termination cut w/ bigger blade. Mil 37 monitoring. Mil 36 completed the cut at 11:30. Mil 37 moved in to cut kill coflexip lower termination.
May 12, 2010	14:00 to 18:00	SMJ	Mil 36 developed a leak while attempting kill line cut. Needs to surface. Mil 37 standby.
May 12, 2010	18:00 to 22:00	DTP	Mil 36 and Mil 37 resume cutting of kill line coflexip lower termination. Complete cutting at 18:20. Line venting fluid. Loosen ROV come-a-long going to the choke coflexip hose and position hose to designated storage location. At 19:00, Mil 36 and Mil 37 begin to cut nuts/bolts to remove clamps on kill line cut-off coflexip hose stub. At 19:15, have cut nuts off on one side Mil 36 and Mil 37 retrieving clamp that fell into mud at seafloor and wait on nut cutter tool to cut remaining nuts.

Date	Time, hrs	Engineer	Comment
May 12, 2010	22:00 to 24:00	DTP	Mil 36 and Mil 37 wait at depth for nut cutter tool to cut remaining nuts. (being sent down in basket) Mil 36 and Mil 37 resume cutting of kill line hose clamp nuts with nut cutter tool. Clamp removed at 01:30. Rig up to pump glycol into the kill line above the closed isolation valve. Attempt to push hose down inside line. Could only get down ~ 1.5'. Mil 37 pump seawater to wash down ~ 6-7 feet until could not go down anymore. Mil 37 Pump glycol at 3:35. Mil 36 remove hub dutchman and AX
May 13, 2010	0:00 to 5:00	DTP	gasket. Mil 36 and Mil 37 clean hub and install debris cap.
May 13, 2010	05:00 to 8:00	DTP	Mil 36 surface for maintenance. Mil 37 rig up come-a-longs for c/k jumper installation.
May 13, 2010	8:00 to 13:30	SMJ	Mil 37 rigging the stack for "Top Kill" jumper (coflex) hose installation. Mil 36 at surface.
May 13, 2010	13:30 to 17:00	SMJ	Mil 37 and Mil 36 at surface. Mil 37 equipping for further "Top Kill" installation on the stack
May 13, 2010	17:00 to 24:00	SMJ / DTP	Vessel is preparing to run "Top Kill" jumper (coflex) hose. Mil 36 still on surface. As of 18:30, BOA has one of the jumper (coflex) hoses hung into the water. MII 36 and Mil 37 standby
May 14, 2010	0:00 to 5:00	DTP	Mil 36 dive. At 04:00, Mil 36 close isolation valve 7 at distribution panel. Mil 36 function test of valves at stack in preparation for flexible jumper installation.
May 14, 2010	5:00 to 13:00	DTP	Mil 36 and Mil 37 operating valves at the Top Kill manifold and monitoring dredging operations.
May 14, 2010	13:00 to 14:00	SMJ	Preparing to install 150-ft jumpers from the Top Kill manifold to the BOP stack.
May 14, 2010	14:00 to 16:00	SMJ	Splash first 150-ft jumper. Mil 37 monitoring jumper descent. Mil 36 at surface for repair. At 16:00 Mil 36 splashed to assist with jumper installation.
May 14, 2010	16:00 to 24:00	DTP	Mil 37 and Mil 36 preparing to install 150' kill line jumper from BOP stack to manifold. At 19:20, green light given that there will be a sufficient time window to work on landing jumper onto BOP. Mil 36 and Mil 37 guide jumper goose neck towards BOP. Heave causing problems with positioning jumpers.
May 15, 2010	0:00 to 5:00	DTP	Mil 36 and Mil 37 having trouble with jumper getting twisted as they attempt to move the jumper to the BOP stack. Assist jumper back to surface to re configure rigging.
May 15, 2010	05:00 to 8:30	DTP/SMJ	Mil 36 and Mil 37 continue to bring 150' jumper to surface
May 15, 2010	8:30 to 18:00	SMJ	Mil 36 and Mil 37 on surface. Installing under rollers on BOA SubC
May 15, 2010	18:00 to 24:00	DTP	Mil 36 and Mil 37 on surface. Installing under rollers on BOA SubC
May 16, 2010	0:00 to 5:00	DTP	Mil 36 and Mil 37 on surface. Installing under rollers on BOA SubC
May 16, 2010	5:00 to 11:30	MM	Standing by for the Enterprise
May 16, 2010	11:30 to 17:00	MM	Repositioning to the East of the Enterprise 700' circle to deploy the jumpers. Mill 36 monitoring the lowering of the 150ft kill line jumper into the water. Mill 37 installing the digital pressure sensor at the mud boost line. Digital gauge not working. Mill 36 move to cycle the mud boost valve to read the analog pressure gauge in an attempt to troubleshoot the digital gauge.
May 16, 2010	17:00 to 17:45	DTP/MM	Lost video feed (storm)

Date	Time, hrs	Engineer	Comment
May 16, 2010	17:45 to 19:00	DTP	Mil 36 and Mil 37 prepare for cycling boost line valves. At 18:45 attempt to actuate the boost line valve. Boost line valve is not actuating. Believe that line may be hydrated up.
May 16, 2010	19:00 to 22:30	DTP	Mil 36 and Mil 37 bringing down the 150' flexible kill line jumper. At 22:00, Mil 36 and Mil 37 connect to methanol skid on the seafloor and pump methanol into the jumper.
May 16, 2010	22:30 to 24:00	DTP	Mil 36 and Mil 37 begin final approach to BOP with jumper. Mil 37 remove debris cap from kill side hub at BOP stack.
May 17, 2010	0:00 to 03:00	DTP	Mil 36 and Mil 37 guide kill line jumper into place. At 0:05, kill line jumper hydraulic connector is landed on the kill line hub on the BOP stack. Mil 37 attempting to align hydraulic connector with hub. Unable to fully latch hydraulic actuator. Mil 36 to surface to repair hot stab hose. Having trouble aligning the hydraulic connector in the same plane as the hub for actuation. Mil 36 dive.
May 17, 2010	03:00 to 05:00	DTP	Mil 36 back at depth. At 3:15, Mil 36 hot stab and actuate hydraulic connector to locked position. At 3:20, confirm that the hydraulic connector for the kill line jumper is locked onto the hub. Attempt to secure kill line jumper gooseneck in place with a ROV come-a-long, but come-along not working properly. Maintain 1 ROV at gooseneck at the BOP stack to monitor the bend at the gooseneck while the other side of the hose is being connected.
May 17, 2010	05:00 to 07:00	JW	Mil 36 and Mil 37 assisting goosneck of kill line jumper towards the top kill manifold.
May 17, 2010	07:00 to 12:30	JW	Kill line Jumper connected at 07:00, MIL 36 and Mil 37 brought back to surface. Mil 36 splashed at 10:45 to overboard the Choke Line's 150' flexible jumper.
May 17, 2010	12:30 to 14:30	JW	150' Jumper for Flex line for Choke Line at 500-ft, challenges orienting it. Mil 37 at Boost Line of BOP's to test if it is plugged by Hydrate or gauge is bad. 14:30 Choke Jumper on depth, Mill36 waiting on second ROV for installation.
May 17, 2010	14:30 to 17:00	JW	Mil 36 standing by with Jumper. Mil 37 diagnosing Boost line, found loose connector on gauge, ran out of fluid in bladder at 15:00 before test complete to see if that returned gauge to operation. Mil 37 return to help with 150' Jumper hook up to Choke.
May 17, 2010	17:00 to 18:30	DTP	Mil 36 and Mil 37 guiding choke line flexible jumper toward BOP. At 17:40, Mil 37 found that accumulator skid may be in the way of the flexible choke jumper that is being guided toward the BOP. (Skid found to be in different location than shown on navigation screen/ previous survey) There are 20 m between the skid and the BOP. Decision made that it will not be in the way. Mil 36 and MIL 37 guide choke line flexible jumper to the BOP stack
May 17, 2010	18:30 to 19:30	DTP	Mil 36 and Mil 37 make final approach with the flexible choke jumper to the choke side hub on the BOP stack. Mil 36 supporting goose neck while Mil 37 guiding hydraulic connector. Land hydraulic connector on top of hub at 19:15. Orient hydraulic connector to get it aligned with the choke side hub. Pressure up to close hydraulic connector at 19:20. Mil 37 attempt to verify position. At 19:30, Choke line jumper hydraulic connector is locked to the choke hub on the BOP stack.

Date	Time, hrs	Engineer	Comment
May 17, 2010	19:30 to 21:15	DTP	Mil 36 and Mill 37 release crane hook and work to attach come-a-long to secure the gooseneck on the choke line jumper to the BOP stack. Having problems with one of the ROV chain come-a-longs. Continue to tighten come-a-long.
May 17, 2010	21:15 to 24:00	DTP	Mil 36 and Mil 37 guide choke line jumper towards the top kill manifold.
May 18, 2010	0:00 to 1:00	DTP	Mil 36 and Mil 37 guide choke line jumper towards the top kill manifold. At 0:30 land choke jumper hydraulic connector to the choke hub on top of the top kill manifold. At 0:45 pressure up to lock hydraulic connector.
May 18, 2010	1:00 to 5:00	DTP	BOA lower down 1st buoyancy module. (1of 4) Module to depth at 03:10. Mil 36 and Mil 37 install 1st buoyancy module on goose neck of jumper. BOA lower down 2nd module.
May 18, 2010	05:00 to 06:30	JW	Continue to lower down 2nd module, installed at 06:30 on the kill line. Both kill modules on, Mil37 bringing 2 gauge packs to BOP's.
May 18, 2010	06:30 to 09:25	JW	Mil 36 finished installing buoyancy modules on Choke side at 09:30. Mil 37 started **pressure testing kill line** jumper at 06:50 to 8,500 psi, test called good at 07:15.
May 18, 2010	09:25 to 10:45	JW	Mil 36 moved methanol skid and Mil 37 **pressure up Choke Jumper** to 8,200 psi at 09:27. Psi at 8,000 at 9:43. Psi at 7,800 at 10:05 test called good
May 18, 2010	10:45 to 17:00	JW	BOA Sub C ROV's moved out of way, prep 450-ft jumpers
May 18, 2010	17:00 to 24:00	JW/DPT	BOA Sub C ROV's moved out of way, prep 450-ft jumpers
May 19, 2010	0:00 to 5:00	DTP	BOA Sub C ROV's moved out of way, prep 450-ft jumpers
May 19, 2010	05:30 to 17:00	JW	Overboarding the first 450-ft Jumper (actually splashed first end at 09:00 - slow going as they add the buoyancy modules, had safety stand-down)
May 19, 2010	17:00 to 21:10	DTP	BOA lower down 1st 450-ft jumper to transfer depth (~ 500ft) and prepare for transfer to Q-4000
May 19, 2010	21:10 to 22:00	DTP	Mil 36 and Mil 37 guide 450' jumper to Q-4000 XLS09 ROV at 21:10. Attach jumper to Q-4000 winch crane line.
May 19, 2010	22:00 to 24:00	DTP	Mil 36 and Mil 37 to surface.
May 20, 2010	0:00 to 5:00	DTP	BOA vessel working to deploy the 2nd LDIS 450' flexible jumper.
May 20, 2010	05:00 to 15:00	JW	BOA vessel working to deploy the 2nd LDIS 450' flexible jumper (in water by 9AM) and handed off to Q4000. Standby to while it is connected to 'Y" block and watch lowered to sea floor.
May 20, 2010	15:00 to 17:00	JW	Run LBL Survey of MUX line from the BOP's
May 20, 2010	17:00TO 24:00	JFR	Survey Complete, Monitor Kink in riser at well. 3 leaks. Check latch on Choke line connector, photograph position of latch indicator. Mil 37 recovered for repairs. Mil 36 deployed
May 21, 2010	24:00 to 05:00	JFR	Measured choke and kill line connector installations, surveyed and measured holes/splits on riser kink holes. LDL Position fixes for Top Kill Team.
May 21, 2010	05:00 to 12:00	JW	Mil 36 & Mil 37 Working on Subsea Accumulator Skid, locating & connecting hoses. Replace Boyancy module on 150' Flex Joint Gooseneck at BOP Kill Line.

Date	Time, hrs	Engineer	Comment
May 21, 2010	12:00 to 16:30	JW	Mil 36 Surfaced, Mil 37 standing by at Subsea Accumulator Skid, then escorted a Tool basket to bottom. Mil 37 took snapshots of LMRP mini-collet connectors on both Choke/Kill side starting +/- 1645hrs.
May 21, 2010	17:00 to 24:00	JFR	Monitor plume above stack. Survey Lower Flex Joint area for containment team (2300-2400).
May 22, 2010	24:00 to 05:00	JFR	Monitor plume above stack.
May 22, 2010	05:00 to 1700	JW	Monitor plume above stack. Make inspection of Riser and DP. Detailed inspections of BOP's.
May 22, 2010	17:00 to 24:00	JFR	Transfer Equipment to OI-3 Transit to Decon
May 23, 2010			Out of Field

Date	Time, hrs	Engineer	Comment
April 30, 2010	16:00	TSH	IronHorse on location. XLX 10 on bottom to monitor effects of applying SS dispersant to plume at riser end crater. XLX 9 still on deck.
April 30, 2010	17:23	TSH	XLX 10 finished the pre-dispersant sonar survey.
April 30, 2010	17:30	TSH	XLX 10 monitoring riser end plume.
April 30, 2010	18:30	SWG	XLX 10 conduct sonar scan of riser plume (off bottom)
April 30, 2010	21:30	SWG	XLX 10 conduct sonar scan of riser plume (off bottom)
April 30, 2010	22:30 to 24:00	SWG	After dispersant pumping stopped with coil tubing on Scandi Neptune, standby and monitor riser end plume (off bottom)
May 1, 2010	0:00 to 4:15	SWG	Standby and monitor riser end plume (off bottom)
May 1, 2010	4:15 to 5:30	SWG	ROVs positioned for upper annular closure attempt. XLX 9 ROV on drill pipe plume. XLX 10 ROV on riser bend plume.
May 1, 2010	5:30 to 12:00	TSH	ROVs positioned for upper annular closure attempt. XLX 9 ROV on drill pipe plume. XLX 10 ROV on riser bend plume.
May 1, 2010	12:00 to 16:00	TSH	ROVs positioned for upper annular closure attempt. XLX 9 ROV on drill pipe plume. XLX 10 ROV on riser bend plume.
May 1, 2010	16:00 to 24:00	SWG	XLX 9 ROV Standby and monitor Drill Pipe plume (back out on occasion to allow OI 3 ROVs access. XLX 10 ROV Standby and monitor riser bend plume
May 2, 2010	0:00 to 2:30	SWG	XLX 9 ROV Standby and monitor Drill Pipe plume (back out on occasion to allow OI 3 ROVs access. XLX 10 ROV Standby and monitor riser bend plume
May 2, 2010	2:30 to 5:00	SWG	XLX 9 ROV back out to cage and standby to allow drill pipe overshot wellhead to be transferred from Joe Griffin workboat to Iron Horse. XLX 10 ROV Standby and monitor riser bend plume
May 2, 2010	5:00 to 11:00	TSH	XLX 9 ROV back out to cage and standby to allow drill pipe overshot wellhead to be transferred from Joe Griffin workboat to Iron Horse. XLX 10 ROV Standby and monitor riser bend plume
May 2, 2010	5:00 to 11:00	TSH	XLX 9 ROV to shoot additional sonar over the riser/crater plume. XLX 10 ROV Standby and monitor riser bend plume
May 2, 2010	11:00 to 13:00	TSH	XLX 9 ROV to monitor drill pipe plume. XLX 10 ROV Standby and monitor riser bend plume
May 2, 2010	13:00 to 15:00	TSH	XLX 9 ROV to monitor drill pipe plume. XLX 10 ROV Standby and monitor riser bend plume
May 2, 2010	15:00 to 24:00	SWG	Attempt to overboard drill pipe overshot wellhead assembly @ 19:00 and 20:00 but unsuccessful due to high seas. XLX 9 ROV to monitor drill pipe plume. XLX 10 ROV conduct debris survey and then standby (perform sonar survey occasionally at riser end plume to assess dispersant
May 3, 2010	0:00 to 5:00	SWG	XLX 9 ROV to monitor drill pipe plume. XLX 10 ROV Standby
May 3, 2010	5:00 to 9:00	TSH	XLX 9 ROV to monitor riser/crater plume. XLX 10 ROV completing a survey of the drill riser.
May 3, 2010	9:00 to 11:00	TSH	Plan to re-start attempt to overboard Overshot tool. Splash same. On way to bottom.
May 3, 2010	11:00 to 12:30	TSH	XLX 9 back on deck. XLX 10 is prepping for OS tool operation.

Date	Time, hrs	Engineer	Comment
May 3, 2010	12:30 to 14:00	TSH	XLX 10 is completing installation of slip-on wellhead. XLX 9 is still on deck.
May 3, 2010	14:00 to 15:20	TSH	XLX 10 is marking the drill pipe for installation of slip-on wellhead. XLX 9 is on bottom.
May 3, 2010	15:20 to 16:45	TSH	XLX 10 has marked the drill pipe for installation of slip-on wellhead. XLX 9 is prepping to reshoot a sonar survey on the riser/crater plume.
May 3, 2010	16:45 to 19:00	SWG	Both subs are working to land OS wellhead on drill pipe. Overshot slipped on at 18:30
May 3, 2010	19:00 to 24:00	SWG	XLX 9 has to surface camera lens has almost no visibility due to oil deflected while slipping on overshot. Then standing by. Some confusion as to the whereabouts of the high torque wrench (possibly on Enterprise or DD 3)
May 4, 2010	0:00 to 06:00	SWG	XLX 9 move to drill pipe overshot plume and monitor starting ~ 00:30 hrs. XLX 10 monitoring riser seafloor plume off seafloor.
May 4, 2010	06:00 to 09:00	TSH	XLX 9 @ TMS. XLX 10 finished their sonar survey of seafloor plume.
May 4, 2010	09:00 to 12:30	TSH	XLX 9 @ TMS. XLX 10 finished their sonar survey of seafloor plume.
May 4, 2010	12:30 to 17:00	TSH	XLX 9 @ TMS. XLX 10 @ TMS.
May 4, 2010	17:00 to 24:00	SWG	XLX 9 and XLX 10 standing by
May 5, 2010	00:00 to 02:25	SWG	XLX 9 and XLX 10 standing by
May 5, 2010	02:25 to 05:00	SWG	XLX 9 move to pod & check yellow and blue during middle VBR closure attempt, then back away and standby. XLX 10 at flex joint / riser bend plume
May 5, 2010	05:00 to 08:00	TSH	XLX 9 move to riser monitoring. XLX 10 at flex joint / riser bend plume
May 5, 2010	8:00 to 15:00	DTP	Feed not coming through. AS per ROV operator on XL10 at 13:20 Plume looks to be ligher colored / possibly more gas. Working to get a better feed. Still no video on XLX9 or XLX10.
May 5, 2010	15:00 to 17:00	DTP	Frugo going to Iron Horse to calibrate. XLX 10 moving to position to survey riser. Still working on video feed. (not working in Houston).
May 5, 2010	17:00 to 24:00	SWG	XLX 9 standing by, XLX 10 surveying riser. Getting feed in Houston (restored ~ 19:30)
May 6, 2010	0:00 to 6:00	SWG	Vessel move and make preparation to set out compatts for Q-4000
May 6, 2010	6:00 to 11:00	SMJ	All four (4) compatts are install on seafloor for the Q-4000
May 6, 2010	11:00 to 22:00	SMJ	XLX 9 and XLX 10 performing riser survey. Riser has changed orientation significantly and near vertical section is laying over toward the northwest (but still not all laying on the seafloor)
May 6, 2010	22:00 to 24:00	SWG	ROVs on surface and vessel move.
May 7, 2010	0:00 to 03:30	SWG	ROVs in water and calibrating transponders, then wait for OI 3 Mil 42 to finish setting marker bouys at crater (for landing cofferdam).
May 7, 2010	3:30 to 6:00	SWG	XLX 10 getting fix and positions for marker buoys.
May 7, 2010	6:00 to 11:30	SMJ	XLX 9 and XLX 10 positioning marker buoys for coffer dam.
May 7, 2010	11:30 to 16:00	SMJ	XLX 9 and XLX 10 performing LBL (Long Base Line) survey to confirm buoy positioning.
May 7, 2010	16:00 to 24:00	SMJ	XLX 9 and XLX 10 performing LBL survey of riser

Date	Time, hrs	Engineer	Comment
May 8, 2010	0:00 to 6:00	SWG	XLX 9 and XLX 10 performing LBL survey of riser. Completed a vessel move @ 3:00. Maximum height of riser above seafloor is now only ~200 ft.
May 8, 2010	6:00 to 24:00	SMJ	XLX 9 and XLX 10 continuing LBL survey of riser to see if continuing to lay down. Max height 162 ft
May 9, 2010	0:00 to 1:00	SWG	XLX 9 and XLX 10 continuing LBL survey of riser to see if continuing to lay down
May 9, 2010	1:00 to 6:00	SWG	Iron Horse vessel move, then start debris field survey
May 9, 2010	6:00 to 9:00	SMJ	Finished field survey and moving to start LBL riser survey
May 9, 2010	9:00 to 20:00	SMJ	Start LBL riser survey
May 9, 2010	20:00 to 24:00	SWG	XLX 9 and XLX 10 standing by
May 10, 2010	0:00 to 5:00	SWG	XLX 9 and XLX 10 standing by
May 10, 2010	5:00 to 19:30	SMJ / DTP	Vessel is preparing to swap places w/ the Poseidon. Vessel move complete at 19:30.
May 10, 2010	19:30 to 24:00	DTP	XLX10 conducting riser survey
May 11, 2010	0:00 to 1:30	DTP	XLX10 conducting riser survey
May 11, 2010	1:30 to 05:30	DTP	Iron Horse vessel moving out of field and starting transfer of Fugro equipment to Poseidon
	Out of Field		

Date	Time, hrs	Engineer	Comment
April 20, 2010	22:31	TSH	Vessel begin transit to DW Horizon to assist with rescue efforts.
April 21, 2010	0:00 to 21:00	TSH	Vessel assisting in DW Horizon relief efforts ROV on deck.
April 21, 2010	21:00	TSH	ROV deploys to BOP
April 21, 2010	23:30	TSH	ROV at BOPE. Attempted to cut SS pin (Autoshear - designed to close blind shear rams and ST lock for BSRs) without success.
April 22, 2010	1:15	TSH	Attempt to close blind shear rams by pumping into hot stab. No success
April 22, 2010	2:45	TSH	Pulled all PBOF lines per instructions from Transocean (Ramsey) 4 electric cables removed to simulate deadman activation (designed to close blind shear rams).
April 22, 2010	3:45	TSH	Instructed by TOI rep to remove hot stab and move back from BOPE.
April 22, 2010	4:30	TSH	Transfer equipment and personnel to OI3.
April 22, 2010	4:30 to 10:19	TSH	Standing by until 10:19 when the DW Horizon sunk.
April 22, 2010	13:25	TSH	Standing by until 13:25. Deploy ROV to BOPE.
April 22, 2010	14:28	TSH	ROV at BOPE but visibility extremely poor.
April 22, 2010	18:05	TSH	ROV inspecting BOPE, but visibility very poor. BOPE bullseye at 0 deg.
April 22, 2010	18:05 to 24:00	TSH	ROV inspecting BOPE and riser. Riser bent over at 330 deg heading above LMRP
April 23, 2010	0:00 to 3:00	TSH	ROV inspecting BOPE and riser.
April 23, 2010	3:00 to 4:34	TSH	Recover ROV to vessel.
April 23, 2010	4:34 to 7:25	TSH	Vessel moves to position to survey 18" export line from Nakika ?
April 23, 2010	7:25 to 15:10	TSH	Deploy ROV and survey 18" export line. Lost telemetry. Recover ROV.
April 23, 2010	15:10 to 19:08	TSH	Troubleshoot telemetry problems.
April 23, 2010	19:08 to 24:00	TSH	Resume and complete survey of 18" export line. Recover ROV to deck.
April 24, 2010	All day	TSH	Transit to Fourchon for crew change and retooling.
April 25, 2010	0:00 to 14:30	TSH	Transit back to MC 252.
April 25, 2010	14:30 to 15:10	TSH	Perform calibration and pre-dive checks.
April 25, 2010	15:10 to 24:00	TSH	Deploy ROV and continue survey of area around DW Horizon incident.
April 26, 2010	0:00 to 5:05	TSH	Continue survey of gas export line. Recover ROV.
April 26, 2010	5:05 to 10:58	TSH	Standing by. Prep to dive to recover DW Horizon compats.
April 26, 2010	10:58 to 24:00	TSH	Continuing to recovered DW Horizon compats.
April 27, 2010	0:00 to 1:30	TSH	Continuing recovering DW Horizon compats.
April 27, 2010	0:00 to 5:00	TSH	Unable to locate one compatt. Transit to DD3 to deploy it's compatts.
April 27, 2010	5:00 to 10:00	TSH	Finish transit to DD3
April 27, 2010	10:00 to 22:00	TSH	Receive compatts from DD3 and transit back to MC 252
April 27, 2010	22:00 to 24:00	TSH	Deploy ROV at MC 252 to set out compatts for DD3
April 28, 2010	0:00 to 24:00	TSH	Deploy ROV at MC 252 to set out compatts for DD3

Date	Time, hrs	Engineer	Comment
April 29, 2010	0:00 to 24:00	TSH	Deploy ROV at MC 252 to set out compatts for DD3. Perform maintenance.
April 30, 2010	0:00 to 24:00	TSH	Perform maintenance. Wait on orders.
May 1, 2010	0:00 to 24:00	TSH	Perform maintenance. Wait on orders.
May 2, 2010	0:00 to 24:00	TSH	Perform maintenance. Wait on orders.
May 3, 2010	0:00 to 24:00	SWG	Reposition compatts.
May 4, 2010	0:00 to 24:00	SWG	Deploy compatts
	Out of Field		

Date	Time, hrs	Engineer	Comment
April 20, 2010	22:30	TSH	Max Chouest receive May day call from DW Horizon (6 miles away). Begins transit to DWH location.
April 20, 2010	23:00	TSH	Max Chouest arrives on DW Horizon location. Rig on fire.
April 20, 2010	23:30 to 24:00	TSH	Max Chouest receives phone call requesting help to disconnect via ROV intervention. Max-Chouest replies ready to assist.
April 21, 2010	0:00 to 8:00	TSH	Assist with fire/rescue. Awaiting further instructions.
April 21, 2010	8:00 to 10:30	TSH	Transit to and from Ocean Endeavour to pickup personnel and tooling.
April 21, 2010	10:30 to 15:40	TSH	Hold planning and safety meetings to prep for intervention operation.
April 21, 2010	16:30 to 17:05	TSH	Cut 1" control yellow control hose to middle ram. Unable to reach blue hose.
April 21, 2010	17:05 to 18:45	TSH	Move to ROV panel. Plug into pipe ram close. All stop due to pump failure. Resurface for repairs.
April 21, 2010	18:45 to 21:35	TSH	Repair pump. Redeploy. Take additional pictures of stack.
April 21, 2010	21:35 to 22:25	TSH	Place hot stab into pipe ram close port. Shut ball valve to test. Pressure test good.
April 21, 2010	22:25 to 22:40	TSH	Place hot stab into blind shear ram port. Pumping and monitoring pressures.
April 21, 2010	22:40 to 24:00	TSH	Surface sub to deck for retooling.
April 22, 2010	0:00 to 3:00	TSH	Redeploy. Install and test SS grinder. Back at BOPE.
April 22, 2010	3:00 to 4:40	TSH	Stab into and pump on Blind Shear Ram close circuit. Pump. Stop. Take pictures of Auto Shear Valve (designed to close blind shear rams).
April 22, 2010	4:40 to 6:00	TSH	Attempt to cut Auto Shear Valve stem (designed to close blind shear rams) with SS grinder. No success.
April 22, 2010	6:00 to 6:45	TSH	Per instructions from Captain Jimbo, return sub to deck of boat.
April 22, 2010	10:41	TSH	Horizon rolled over and sank.
April 22, 2010	13:40	TSH	Transfer 17D hot stab to BOA Sub C vessel.
	Out of Field		

Date	Time, hrs	Engineer	Comment
April 26, 2010	18:54	TSH	Our next operation will be attempting the Intensifier Blind Shear Closure. This will be done by one of the two BOA Sub C ROVs. At 1854 hrs, both of these ROVs are still on the deck preparing for this operation. In case you are not aware, this operation will re-attempt to close the blind shear ram, only with more pressure (5000 psi) this time
April 26, 2010	19:00	TSH	The Scandia Neptune ROV is currently watching the plume. No change since I have been watching it at 1500 hrs
April 26, 2010	19:30	TSH	Held procedure review for CTU Super Shear Ram closure in TOI room. Reviewed risk and potential regrets of operation.
April 26, 2010	20:35	TSH	BOA Sub C 1 (Millennium 37) splashed and descending to stack. The BOA Sub C 2 (Millennium 36) splashed at 2045 hrs.
April 26, 2010	21:00	TSH	Mil 37 ROV on bottom.
April 26, 2010	21:15	TSH	Mil 36 ROV on bottom.
April 26, 2010	21:20	TSH	CTU Super Shear Ram closure procedure was reviewed with MMS in Houston. I wasn't present so I don't know how this went.
April 26, 2010	21:45	TSH	Mil 36 and 37 ROVs prepping for Intensifier BSC. Connect bladder to ROV for fluid supply. Purge line. Plug-in hot stab.
April 26, 2010	21:50	TSH	Pressure up to 3500 psi. Dropped off to 3300 psi. Still pumping but can't seem to pressure up above this. Start looking for leaks.
April 26, 2010	21:58	TSH	Still haven't found any leaks. Pump pressure still falling, at 2350 psi.
April 26, 2010	22:02	TSH	Shut pumps off, pressure is holding at 2350 psi.
April 26, 2010	22:08	TSH	Try to pump up again. Pressure up 3700 psi, looking for leaks. Pressure is climbing slowly. Pumps can only do 3-4 gpm, cavity volume should be 30-40 gals.
April 26, 2010	21:21	TSH	Kick on intensifiers. Pressure only going up slightly.
April 26, 2010	22:30	TSH	We have not found any leaks. The hot stab pressure is slowly increasing. Some speculation is that we are slowly cripping some pipe with the rams.
April 26, 2010	22:40	TSH	It appears the pump output is stalled at 4 ksi. It tested to 5 ksi on deck before being splashed.
April 26, 2010	22:47	TSH	After we blocked in the hot stab, we lost about 500 psi. Pressure continuing to bleed off. Troubleshooting issue.
April 26, 2010	22:56	TSH	After bleeding off to 2000 psi, we restarted pumping with intensifiers. Pressured up to 3500, then leveled off. We are just not getting the pressure output we expected.
April 26, 2010	23:03	TSH	Discussing options while still pumping. We might be simply be bypassing fluid by the intensifier back to the bladder at 4 ksi.
April 26, 2010	23:05	TSH	Found leak on sequence valve on shear ram. Discussion on exactly what is leaking.

Date	Time, hrs	Engineer	Comment
April 26, 2010	23:18	TSH	Decide to trip the ROV to change the relief setting on the bypass on the intensifier. We plan to increase the relief setting from 5.5 ksi to at least 8.5 ksi. This is so we can get more pressure to the hot stab.
April 27, 2010	0:20	SWG	BOA Sub C 2 tracing hydraulic lines on the stack particularly the previous potential leak area on the ST lock operating side.
April 27, 2010	2:00	SWG	Discussion about risks associated with attempting to operate blind shears with greater than 3000 psi. Cameron advised 3000 psi WP rated bonnets (and hoses / piping) are actually tested to 5000 psi as part of FAT, so they didn't have concerns. System was last tested in the field to 3000 psi (Feb, 2010) prior to getting on the well. Cameron estimates 4700 psi pressure required for blind shear to cut 6-5/8" DP (with up to full 15,000 psi wellbore pressure).
April 27, 2010	2:50	SWG	BOA SUB C 1 ROV ~ 300 meters off bottom
April 27, 2010	3:00	SWG	BOA SUB C 1 ROV on bottom
April 27, 2010	3:10	SWG	BOA SUB C 1 ROV Stab into dummy receptacle and test to 8400 psi
April 27, 2010	3:17	SWG	BOA SUB C 1 ROV Stab into blind shear close circuit. BOA SUB C 2 ROV monitoring ST lock hydraulic piping
April 27, 2010	3:22	SWG	BOA SUB C 1 ROV pressure up with CAT pump to 4400 psi. Seeing small plume of hydraulic fluid at ST lock with BOA SUB C 2 ROV. BOA SUB C 1 ROV swap to intensifer and gradually bump up pressure to 5000 psi. BOA SUB C 2 ROV still observing hydraulic fluid (but obviously able to "outrun"). No indication of a shear occurring (sudden drop in pressure, then gradual increase). Note: Observed pressure response is what you would expect if already sheared; also what you would expect if rams are not moving.
April 27, 2010	3:24	SWG	Stop pumping and allow pressure to bleed down to 4000 psi.
April 27, 2010	3:28	SWG	Pump back up to 5000 psi and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:31	SWG	Pump back up to 5000 psi a third time and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:34	SWG	Pump back up to 5000 psi a fourth time and shut-in. Swim BOA SUB C 2 ROV around to other side of BOP stack. No indiction of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:37	SWG	Pump back up to 5000 psi a fifth time and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:40	SWG	Pump back up to 5000 psi a sixth time and shut-in. No indication of shear. Allow to bleed back to 4000 psi.
April 27, 2010	3:44	SWG	Pump back up to 5000 psi a seventh time and shut-in. No indication of shear. Allow to bleed back to 4000 psi.

Date	Time, hrs	Engineer	Comment
April 27, 2010	3:45	SWG	John Bednar update - no change in oil plume as observed by other ROVs. Will continue cycling blind shear operations until 04:00 hrs, then retrieve ROV to make way for coil tubing operation from Skandi vessel.
April 27, 2010	3:53	SWG	Actively bleed down to 0 psi.
April 27, 2010	4:02	SWG	Pump back up to 5000 psi (eighth time) and shut-in. No indication of shear.
April 27, 2010	4:06	SWG	Actively bleed down to 0 psi. Plan to have conference call at 04:30 to discuss JSA for coil tubing operation of the casing shear.
April 27, 2010	8:00	SWG	BOA SUB C 2 ROV attempting to cut non-collapsable hose leading to close side of the casing shears ("Super" shears). Blade broke. Estimated 2/3 to 3/4 of the way through. Surfacing the ROV.
April 27, 2010	9:15	TSH	BOA Sub C2 ROV back on deck for modifications. BOA Sub C1 watching stack.
April 27, 2010	9:27	TSH	BOA Sub C2 ROV back in water headed for bottom.
April 27, 2010	10:00	TSH	BOA Sub C2 ROV back on bottom.
April 27, 2010	10:10	TSH	Start attempting to cut super shear hose.
April 27, 2010	10:13	TSH	Cut on hose was successful.
April 27, 2010	10:30	TSH	Prepping insertion tool for stabbing cut hose. Skandi Neptune moving into location with CT.
April 27, 2010	11:00	TSH	Concern about design and size of ports on insertion tool. Discussed with Tony Emmerson. Skandi still moving into location.
April 27, 2010	11:10	TSH	We will perform an open water test with the CT BHA to gauge control on rates and pressures.
April 27, 2010	11:45	TSH	Hooked up CTU to insertion tool. Will complete crew change before attempting open water pump test through tool.
April 27, 2010	12:07	TSH	Finished crew change.
April 27, 2010	12:15	TSH	Start open water pump test through tool.
April 27, 2010	12:45	TSH	Still conducting open water test. Concerned about flow rate and backpressure through insertion tool. Finished test with large pump. Will complete similar test with smaller pump.
April 27, 2010	13:30	TSH	Completed open water test with small pump. Will bleed off and proceed to attempt test.
April 27, 2010	14:00	TSH	Insertion tool in place. Going through procedure to mate insertion tool with hose.
April 27, 2010	14.15	TSH	Having difficulty getting insertion tool to stay seated in hose. Small leak appear around mandrel. Decide to back out tool to re-attempt seating procedure.
April 27, 2010	14:30	TSH	After disconnecting hose, inspection showed the end of hose was damaged beyond being usable. Proceed to recut hose.
April 27, 2010	15:00	TSH	Finish recutting line. Attempt to dress off end of hose to increase chances of good seat.
April 27, 2010	15:45	TSH	Re-insert tool. Make 5-6 counterclockwise turns to effect seat.
April 27, 2010	16:20	TSH	Found leak at shuttle valve indicating some movement. However, having trouble generating enough rate to fulling shift valve.

Date	Time, hrs	Engineer	Comment
April 27, 2010	17:00	TSH	Suspect we are getting flow through the tool because we have a leak on the opposite side of the stack at the shuttle valve. The shuttle valve is only partially shifted so there are ports open on both sides of it. Brainstorming on ways to get more flow to the tool to fully shift the shuttle valves.
April 27, 2010	18:00	SWG	Cut another section of the casing shear hose off and brought sample to surface. Surfacing ROV, will attempt to modify hot stab tool to increase flow through.
April 27, 2010	22:00	SWG	Jump BOA SUB C 2 ROV to attempt to function casing shear rams with ROV pumps, not coil tubing and HIT (Hose Insertion Tool)
April 27, 2010	23:06	SWG	BOA SUB C 2 ROV on bottom.
April 28, 2010	0:30	SWG	With BOA SUB C 2 ROV monitoring pods, BOA SUB C 1 ROV pumped up on casing shear close "cut" hose. Pressure up to 2400 psi with CAT pump and seeing control fluid venting at both blue & yellow pods indicating flow past shuttle valve (shuttle in neutral position). Surface test of ROV and stab indicated flow rate of ~ 4 gpm versus normal pod function of greater than 60 gpm.
April 28, 2010	0:45	SWG	Close ball valve and pressure up on casing shear close circuit to 3000 psi, then open ball valve trying to provide a "surge" against the shuttle valve. Again saw control line fluid plume on the pods.
April 28, 2010	1:14	SWG	Decision made to abort solely ROV efforts and proceed with coil tubing pumping with the modified (bored out for larger flow rate) HIT. Also beginning fabrication of hose clamps to be able to isolate hoses to yellow & blue pods.
April 28, 2010	1:49	SWG	Start pumping with coil (ball valve isolating shuttle valve).
April 28, 2010	2:03	SWG	Pump pressure up to 4800 psi and open ball valve. Observe venting at both pods. Pressure stabilizing at ~ 1 gpm and 3350 psi.
April 28, 2010	2:17	SWG	Continue pumping ~ 1 gpm. Gauge on HIT increasing slowly to 3600 psi. Surface pump upset, causing shut down. Close HIT ball valve.
April 28, 2010	2:26	SWG	Pump back up to 4800 psi and open ball valve. Observe venting at both pods. Pressure slowly declining while continue to pump.
April 28, 2010	2:35	SWG	Surface pump upset, causing shut down. Pressure ~ 3200 psi. Shut HIT ball valve.
April 28, 2010	2:46	SWG	Resume pumping, at 4800 psi open ball valve. Observe venting at both pods.
April 28, 2010	2:52	SWG	Continue pumping ~ 1 gpm. Pressure slowly declining to 2400 psi. Shut down pump and shut-in on surface (final pressure 2300 psi). Will set pop off for "big" pump to 5000 psi.
April 28, 2010	3:35	SWG	Start pumping with "big" pump. Pump pressure and HIT gauge pressure brought up to 5000 psi. Venting fluid on both pods.
April 28, 2010	4:02	SWG	Shut down pumps. Shut in at surface

Date	Time, hrs	Engineer	Comment
April 28, 2010	5:20	SWG	BOA SUB C 2 ROV inspect BOP stack. Based on tail rod positions, Inner and Outer Lower and Upper Kill fail safe valves are not in the open position. Visually you cannot distinguish between fully closed and pinched (nearly closed) positions (~ 1/3 " difference). Also no heat anomaly (indication of flow) observed above either set of fail safes. Kill line test valve appears open (as it should be - fail safe open).
April 28, 2010	5:49	SWG	BOA SUB C 2 ROV inspect BOP stack. Based on tail rod positions, Inner and Outer Lower and Upper Choke fail safe valves are not in the open position. Visually you cannot distinguish between fully closed and pinched (nearly closed) positions (~ 1/3 " difference). Also no heat anomaly (indication of flow) observed above either set of fail safes. Choke line test valve appears open (as it should be - fail safe open). Choke line fail safes below the Lower Annular also are not in the open position.
April 28, 2010	12:00	TSH	BOA SUB C 2 ROVs move away from stack area so OI3 sub can complete temperature surveys on choke, kill, and boost lines.
April 28, 2010	13:10	TSH	BOA SUB C 2 ROVs start to move back into stack area after OI3 sub completed temperature surveys.
April 28, 2010	13:30	TSH	Sub C2 attempting to pull hose from HIT tool. Having NO success. Decide to cut hose to accelerate progress. We will need to recover HIT tool to remove stub.
April 28, 2010	14:00	TSH	BOA Sub C1 begin attempt to stab 3/4" high flow rate wand into hose (1" ID). Very tight fit. Make good insertion of wand.
April 28, 2010	14:38	TSH	Begin pumping through wand from ROV Cat pump with seawater.
April 28, 2010	15:10	TSH	No success in see flow to shift shuttle valve. BOA Sub C 1 to disengage to make room for Skandi Neptune to attempt Atlantis accumulator option.
April 28, 2010	15:10	TSH	Start to move Skandi Neptune into place to deploy and operate Atlantis accumulator.
April 28, 2010	15:00 to 19:00	SWG	Deploy accumulator package. Neptune Scandi Herc - 6 ROV rigging up and testing to pump and charge up accumulator, leak discovered. Herc -6 ROV needs to surface. Decision to let BOA Mil - 36 perform charge pumping of accumulator.
April 28, 2010	19:00 to 21:30	SWG	Dive Mil 36 and tie-in
April 28, 2010	21:30 to 22:45	SWG	Mil 36 ROV charges up accumulator to 4000 psi. Mil 37 ROV to use wand tool inserted ~ 2-1/2 ft into casing shear close "cut" hose with manipulator arm trying to "hold" hose closed around wand. Herc 14 ROV at ball valve control on accumulator package and Herc 6 ROV to observe pods.
April 28, 2010	22:45 to 23:15	SWG	Open ball valve from accumulator and surge through wand tool into casing shear closed circuit. At both pods see some evidence of pink hydraulic fluid which is the color of fluid on the open side of the casing shear. Conclusion is shuttle valve shifted and ram started to close. As accumulator bled down unable to maintain pressure through "loose" connection with wand tool.

Date	Time, hrs	Engineer	Comment
April 28, 2010	23:15 to 24:00	SWG	Stop pumping. Close ball valve to isolate accumulator. Allow pressure to bleed from system (casing shear rams likely moving back open), while ROV start swapping around to use HIT (Hose Insertion Tool)
April 29, 2010	1:00	SWG	Start pumping with Mil 36 through HIT tool into casing shear close circuit.
April 29, 2010	1:30 to 2:00	SWG	Leak at LMRP / riser flex joint appears to have increased (being monitored by OI 3).
April 29, 2010	2:20	SWG	Pump at 4000 to 4500 psi, stopping every 10-15 minutes to see if any pressure building (and trapped) in casing shear close circuit. All 5 presure checks showed 0 psi. Both pods have slight plume of green (less than yesterday). Some question as to whether the ROV duplex pump is functioning properly. HIT still seems to be providing too much of a restriction. Terminating this operation.
April 29, 2010	2:25	SWG	Begin making preparations to move boats and ROVs around to allow OI 3 ROV to install a hose into a fitting and eliminate the flow restriction associated with the HIT. HIT left stabbed into casing shear close hose and vall shut. Mil 36 ROV to start pressuring up to charge Atlantis accumulator.
April 29, 2010	6:40	TSH	Stu and Tim have switched out for the day.
April 29, 2010	9:00	TSH	Meeting on a new option which will replace an existing pod with a new pod being designed by Cameron which would have full EH Mux capabilities. This might give us full control of the original BOPE functionality. Discussion on what resources are needed (power capabilities, hydraulic capabilities, etc.). One consideration for this is the utilizing the Q4000. BP has been told that it would be available in two days. Equipment to operationalize this option is thought to be 3-4 days away.
April 29, 2010	10:00	TSH	Visit to TOI room from Interior Secretary Ken Salazar.
April 29, 2010	10:10	TSH	Continue to work on determining which line we want to disconnect first. Map lines out with OI3 sub.
April 29, 2010	10:45	TSH	After mapping lines and a long discussion, it was decided to first unbolt the line to the Blue pod to try this option. The Yellow pod line was much more difficult to get to, and we don't lose much doing this. This was discussed with Harry Thierens, Mike Byrd, John Hughes, Eric M. and Billy Stringfellow and decision what reached.
April 29, 2010	10:50	TSH	Start to attempt to disconnect Blue pod line on shuttle valve with a wrench.
April 29, 2010	11:23	TSH	Successfully removed blue control line.
April 29, 2010	12:36	TSH	Attempt to connect new hose to blue pod fitting on shuttle valve assembly. The other end of this hose will be connected to the Atlantis accumulator. Having problems starting connection. Will surface OI3 sub to fix problem.
April 29, 2010	13:10	TSH	OI3 Sub back in water headed to bottom with repaired fitting.
April 29, 2010	14:45	TSH	OI3 Sub back at shuttle valve attempting to connect new hose.

Date	Time, hrs	Engineer	Comment
April 29, 2010	16:15	TSH	OI3 Sub has successfully connected new hose at shuttle valve. It appears wrench tight.
April 29, 2010	16:30	TSH	OI3 Sub has move the HIT which is still stabbed into the super shear hose into the open position. This will allow the ROV to follow up the accumulator blast if needed.
April 29, 2010	17:15	TSH	Doing last minute checks to ensure we are lined up correctly. Prep to fire accumulators and keep pumping with ROV.
April 29, 2010	17:25	TSH	Start procedure to close casing shear with accumulator and ROV pump.
April 29, 2010	17:40	TSH	It appears that the super shears has sheared something. The flow from the riser bend crack temporarily reduced significantly. It then resumed. This isn't unexpected since these rams are not sealing.
April 29, 2010	18:25	SWG	Scandi Neptune Herc 14 ROV survey DP plume - no apparent change, possibly slightly smaller. Then survey and stay to monitor at end of riser (crater in the ground) plume. Appears reduced because able to see some components more clearly
April 29, 2010	21:15 to 21:45	SWG	BOA Sub C2 (Mil 36) ROV stab into ROV panel at Blind shear close circuit. Pressure up to 5500 psi. No drop off in pressure or plume change to indicate any further movement of blind shears. Allow pressure to bleed down to 3000 psi, then pressure back up to 5500 psi. No changes. Bleed off to 0 psi.
April 29, 2010	22:00 to 24:00	SWG	IO3 ROVs back away from BOP stack to allow BOA Mil 36 ROV vertical access to swim up to LMRP and annulars. BOA Mil 36 begin cleaning around LMRP to identify annular close circuit hoses to cut for 1-1/2" HIT to stab into. Hose cut and pulled out from among other hoses. HIT being lowered on crane line.
April 30, 2010	0:00 to	SWG	BOA Mil 37 surfacing for tether issues. After OI 3 #2 took over riser bend crack plume monitoring; BOA Mil 36 began inspection of LMRP - checking slow oil leak from one glycol injection port and connector indicator rod positions.
April 30, 2010	1:15	SWG	OI3 # 1 monitor riser bend plume; OI3 # 2 monitor drill pipe plume; Skandi Neptune Herc 6 on deck; Skandi Neptune Herc 14 monitor riser seafloor plume; BOA Mil 37 on deck for tether repair; BOA Mil 36 inspecting LMRP & flex joint
April 30, 2010	1:55	SWG	BOA Mil 36 conducting thermal survey of riser.
April 30, 2010	3:15 to 4:30	SWG	Risk discussion of closing upper annular impact on LMRP connector.
April 30, 2010	5:55	SWG	Close ball valve on casing shear HIT. Close neddle valve @ accumulator. Pull stab from casing shear HIT.
April 30, 2010	6:15	TSH	Checked trapped pressure on casing shear HIT hose.
April 30, 2010	6:30	TSH	Stab hose from accumulator into HIT hose (in upper annular).
April 30, 2010	6:45	TSH	Attempt to pressure up to close upper annular. Observe leak at HIT/upper annular hose connection. All stop.
April 30, 2010	7:00	TSH	Need to trip HIT tool. Attempt to cut HIT tool off by cutting hose. Blade broke.

Date	Time, hrs	Engineer	Comment
April 30, 2010	8:45	TSH	Attempting to cut hose to HIT tool.
April 30, 2010	9:05	TSH	Successfully cut hose. Retrieve HIT tool with hose end.
April 30, 2010	10:20	TSH	BOA Sub C reports that they will need to remachine the HIT tool to work with hose.
April 30, 2010	10:20 to 13:00	TSH	BOA Sub C remachining the HIT tool to work with hose. Go back to bottom. Attempt to repressure casing shears. Leak on hose. Move on to upper annular operation.
April 30, 2010	13:00 to 15:25	TSH	BOA Sub C subs working on attempt to close the upper annular. Sub C1 is at accumulator. Sub C2 is plugging in hot stab at stack.
April 30, 2010	15:25	TSH	Attempt to close upper annular. The HIT tool started to leak. All stop.
April 30, 2010	16:20 to 22:30	SWG	Skandi Neptune Herc 14 holding wand for coil tubing injection of dispersant at riser seafloor plume, while Iron Horse XLX 10 monitors plume above the seabed and shoots occasional sonar
April 30, 2010	17:00 to 24:00	SWG	OI3 Mil 42 monitoring riser bend plume while Maxx3 surfaces and gets re-tooled for drill pipe cutting operation.
April 30, 2010	17:00 to 24:00	SWG	BOA Mil 36 surfaced and re-tooling for Parker HIT, BOA Mil 37 standing by at accumulator.
May 1, 2010	0:00 to 4:30	SWG	Mil 37 slide Parker clamp over cut hose to upper annular and then move back to accumulator. Mil 36 dive. Mil 36 stab Parker HIT into cut upper annulus hose and then tighten Parker clamp. Mil 37 at accumulator
May 1, 2010	4:30 to 5:30	SWG	Position ROVs as follows: Skandi Neptune Herc 14 at riser seabed plume; OI3 Mil 42 at LMRP connector glycol port; OI3 Maxx3 diving with saw to cut drill pipe; Iron Horse XLX 9 at drill pipe plume; Iron Horse XLX 10 at riser bend leak; BOA Mil 36 at Parker HIT at annular hose; BOA Mil 37 at accumulator.
May 1, 2010	5:30 to 7:00	SWG	Leak at Parker HIT and Re-tighten Parker clamp and then wait on other ROVs to get in monitoring position: Iron Horse XLX 9 @ drill pipe plume; Iron Horse XLX 10 @ riser bend; Skandi Neptune Herc 6 on deck under repair; Skandi Neptune Herc 14 @ riser seafloor plume; OI 3 Mil 42 @ LMRP connector glycol port; OI 3 Maxx 3 backed off and standing by; BOA Mil 37 @ accumulator; BOA Mil 36 at Parker HIT on upper annular.
May 1, 2010	7:00 to 9:00	TSH	Re-tighten Parker clamp. Test clamp after re-tighten and continue to repeat until we get a good test. Problems with video feed from BOA Sub C. OI 3 Maxx # ROV cut tool joint off of wellhead
May 1, 2010	9:00 to 10:20	TSH	Decide to proceed with audio comms only. Positioning correct people in place. Video feeds back. Re-attempt. Leaked again. Decide to tighten to max since we have a bigger clamp now on bottom. 2nd clamp broke. Will move on to using more robust Parker clamp that is now available.
May 1, 2010	10:20 to 12:00	TSH	Stab Parker HIT tool into upper annular hose. Broke two tools when tightening. Replace out with more robust Parker HIT BB tool. Leak on upper annular circuit (UA) was reported. Leak is on hose fitting to surge bottle. Attempt to tighten fitting. OI 3 Maxx 3 ROV grind to bevel drill pipe cut edge.

Date	Time, hrs	Engineer	Comment
May 1, 2010	12:00 to 13:30	TSH	Finished tightening fitting on UA circuit. Attempt test by pressuring up system. Fitting on UA circuit still leaked. The BB Parker HIT tool held pressure (~2300 psi). Discuss options.
May 1, 2010	13:30 to 14:40	TSH	Finished re-tightening the fitting on the UA circuit hose.
May 1, 2010	14:45	TSH	Attempt to function UA. System holding tight initially. Fluid leaking from pod area (not unexpected). It takes 45 gallons to fully close upper annulars. Have a small leak at the Parker BB HIT tool.
May 1, 2010	15:05	TSH	At 14:45, we started a new attempt to close our upper annulars. Thus far, our system appears to be tight. We are able to apply 3000 psi with the SS accumulator. We see some dye leaking but it appears to be coming from the center of the pod which would be expected if we actually are functioning the annular. It will take 45 gallons to fully close the annulars. We do not know how fast we are generating this volume, but it is probably at a low rate due to hookup and pressure in the wellbore. No change in flow yet.
May 1, 2010	15:13	TSH	We are still trying to understand our leaks. It appears to a small leak on a valve block. It is slowly bleeding off. No change to the plumes.
May 1, 2010	15:30	TSH	Our pressure is holding but we don't appear to be changing the flow any.
May 1, 2010	15:45	TSH	Pulled stab at accumulator to bleed off pressure. Watching dye.
May 1, 2010	16:00 to 24:00	SWG	Repair Mil 36 ROV & manufacture new Parker clamp; survey choke & kill lines; tighten fitting on a hose to upper annular (required larger wrench); further grinding at drill pipe cut; cut hose to lower annulus (required 2nd blade); continue to monitor all 3 plumes
May 2, 2010	0:00 to 5:00	SWG	Tried to cut hose to allow HIT access to lower annular closure circuit. Saw broke, while waiting attempted to close casing shears, but encountered a leaky fitting. Performed several surveys for future options: thermal survey of drive pipe & BOP stack (riser being done at report time); inspect choke & kill line clamps for removal (below coflex hoses); inspect electrical hot stab (for option to be able to tie into BOP stack pressure, temperature gauge). Broke a second blade - desired cut location has tough access with several other hoses in the vicinity. Install new wand & hose for coil tubing dispersant pumping and perform flow check at report time. Plan to collect plume samples at 05:00
May 2, 2010	6:00	TSH	Successfully cut hose to lower annular.
May 2, 2010	9:00 to 10:45	TSH	Re-pressurize casing shear rams. Leak from shuttle valve (this is good). Process is slow when only using ROV pump. Stop to line up to use accumulator.
May 2, 2010	10:45 to 11:15	TSH	Ready to function casing shears with accumulator. Start pumping. Pressure up to 4700 psi. Isolate pressure. No visible change in any plumes.
May 2, 2010	11:15 to 13:00	TSH	Mil 37 is reporting manipulator problems. Switched out with Mil 42. Mil 37 is now monitoring riser bend plume. Mil 36 standing by a accumulator panel.

Date	Time, hrs	Engineer	Comment
May 2, 2010	13:00 to 15:00	TSH	Mil 37 is reporting manipulator problems. Switched out with Mil 42. Mil 37 is now monitoring riser bend plume. Mil 36 standing by a accumulator panel.
May 2, 2010	15:00 to 24:00	SWG	Perform various inspections and screen shots for potential future operations: OI 3 Maxx 3 blue pod removal; padeyes for LMRP removal; riser for hot tap (injection of dispersant); Mil 36 P,T wet connect removal; upper pipe ram shuttle valve close circuit hose and fitting arrangement (cut vs back out fitting).
May 2, 2010	17:00 to 20:00	SWG	Mil 36 back out clamp on lower annular yellow pod close hose and assess condition of hose. Surface to exam clamp and pick up new grinder to make fresh cut on hose. Mil 37 on surface.
May 2, 2010	20:00 to 24:00	SWG	Mil 36 swap out bladder. Mil 37 on surface.
May 2, 2010	15:00 to 24:00	SWG	Attempt to overboard drill pipe overshot wellhead assembly @ 19:00 and 20:00 but unsuccessful due to high seas. XLX 9 ROV to monitor drill pipe plume. XLX 10 ROV conduct debris survey and then standby (perform sonar survey occasionally at riser end plume to assess dispersant
May 2, 2010	15:00 to 24:00	SWG	Herc 14 holding wand for coil tubing injection of dispersant. Herc 6 monitor riser plume, surfaced temporarily to allow workboat to come alongside and offload two totes of dispersant.
May 3, 2010	0:00 to 3:45	SWG	Herc 14 holding wand for pumping 5 gpm of dispersant @ 01:30. Herc 14 blown off position by plume and damage wand @ 03:00. Shut down pumping to swap out wand. Resume pumping @ 03:28; get blown off position again and elect to surface for wand replacement.
May 3, 2010	0:00 to 4:35	SWG	Mil 36 cut hose (00:30 to 01:50); slide on clamp (02:30); insert HIT (02:47); tighten clamp (03:30). Block in pressure on upper annular and take hose from accumulator to newly made up lower annular HIT & clamp; then charge up accumulator. Mil 37 back on bottom. Attempt to pressure up & large leak as stab came out of clamp.
May 3, 2010	0:00 to 5:00	SWG	XLX 9 ROV to monitor drill pipe plume. XLX 10 ROV Standby
May 3, 2010	0:00 to 5:00	SWG	Maxx 3 standby at BOP stack; Mil 42 monitor riser bend plume.
May 3, 2010	3:45 to 5:00	SWG	Skandi Neptune Herc 14 back on bottom and injection resumes @ 5:00 at 1 gpm.
May 3, 2010	5:00 to 10:00	TSH	Transfer of additional disperant from Pat Tillman. Skandi Neptune Herc 14 increased injection to 5 gpm @ 0630 hrs. Herc 6 standing by. Mil 37 (BOA) is dead. Mil 36 (BOA) helping it get back in cage.
May 3, 2010	10:00 to 13:00	TSH	Transfer of additional disperant from Pat Tillman. Skandi Neptune Herc 14 increased injection to 5 gpm @ 0630 hrs. Herc 6 standing by. Mil 37 (BOA) is dead. Mil 36 (BOA) helping it get back in cage. Iron Horse overboards drill pipe overshot.
May 3, 2010	14:00 to 15:00	TSH	BOA Sub C (Ray Picard) reports that hose from the ROV intervention stab may be plumbed incorrectly. It appears that it is plumbed to inverted lower test rams. The BSR appears to be plumbed correctly. Boat directed to traced all lines to verify how they are plumbed.

Date	Time, hrs	Engineer	Comment
May 3, 2010	15:00 to 15:45	TSH	BOA Sub C reports back that all other lines are plumbed correctly with the exception of the line mentioned above. This line is plumbed to the inverted lower test ram instead of the middle pipe rams. Don King with Cameron verifies the line is plumbed to the lower (test) rams.
May 3, 2010	15:45 to 24:00	SWG	BOA Mil 36 back out hose (that goes to middle VBRs close circuit) from blue pod @ 19:00. working on making up fitting to be able to connect and pump in. Having trouble aligning hoses and called OI 3 Mil 42 in to assist. Skandi Neptune Herc 14 continues to inject dispersant at riser crater plume @ ~ 5 gpm (since ~ 08:30). OI 3 Mil 42 snap off 4 bolts holding BOP (middle VBR) P, T electric wet connect cable and pull cable loose, then attempt to assist BOA Mil 36. Iron Horse XLX 9 and XLX 10 mark pipe and work overshot onto drill pipe.
May 4, 2010	0:00 to 02:40	SWG	OI 3 Maxx 3 dive and make up BOP P,T wet connect. Appears to have mated successfully. Diagnostics suggest adequate voltage being delivered, but no analog signal being received from P, T transducer(s).
May 4, 2010	0:00 to 06:00	SWG	Mil 36 still trying to make up connection on hose from close side of middle VBR, not successful yet. Mil 37 diving with tools for drill pipe overshot and additional tools for Mil 36.
May 4, 2010	0:00 to 06:00	SWG	Herc 14 continues to inject dispersant at riser crater plume increase to ~ 9 gpm at 01:15, reduced back to 5 gpm @ 05:15. Herc 6 on surface for maintenance, then start collecting samples @ ~ 04:30.
May 4, 2010	0:00 to 06:00	SWG	Iron Horse XLX 9 and XLX 10 monitoring plumes
May 4, 2010	02:40 to 06:00	SWG	Mil 42 surveying yellow pod for removal requirements and surface for manipulator repair. Maxx 3 conduct tracerco survey of riser and standby.
May 4, 2010	06:00 to 12:00	TSH	OI 3 Mil 42 ROV completes temp survey on riser/bend plume. Maxx 3 is on deck under repair. BOA Mil 36 ROVs finished setting slips on drill pipe overshot. Having problems energizing packoff due to issue with zero leak impact wrenches. BOA Mil 37 ROV continued trying to make up middle VBRs hose to pressure source. Correct tools for VBR hose is stuck in Houma due to weather. Skandi Neptune ROV received authorization to continue to inject dispersant into riser seafloor plume. Injection has been fairly continuous.
May 4, 2010	12:00 to 15:00	TSH	OI 3 prepping to cut C/K lines at the crater plume. BOA attempted to complete makeup of slip-on wellhead. However, issues with zero leak impact wrenches. Attempting to resolve. Skandi took safety standown at 14:00. Stop injection of dispersant. IronHorse is standing by.

Date	Time, hrs	Engineer	Comment
May 4, 2010	15:00 to 17:00	TSH	Received approval to start cutting lines for Yellow pod removal at 16:00. Skandi restarted SS injection of dispersant at 16:54. OI3 moving forward to cut C/K lines at crater plume. Decided to pump in impact wrench to finish makeup of slip-on wellhead. This will mean an extra trip for the sub.
May 4, 2010	17:00 to 18:00	TSH	BOA Mil 36 attempting to make up packing element, but impact wrench failure. Mil 37 waiting on Parker HIT and clamps to be lowered.

Date	Time, hrs	ROV Vessel	Comment
			Unsuccessful ROV HIT w/ Accumulator
April 29, 2010	22:00 to 24:00	BOA Sub C	BOA Mil 36 begin cleaning around LMRP to identify upper annular close circuit hoses to cut for 1-1/2" HIT to stab into. Hose thought to be from Yellow pod (definitive identification not possible due to hoses wrap around stack and framing) cut and pulled out from among other hoses.
April 30, 2010	5:00 to 6:45	BOA Sub C	BOA Sub C1 & C2 assisting in attempt to function upper annulars.
April 30, 2010	6:45 to 7:00	BOA Sub C	BOA Sub C1 cutting hose to HIT tool so it can be retrieve via crane for inspection and repair. C2 standing by at accumulator package.
			Unsuccessful ROV Modfied HIT w/ Accumulator
April 30, 2010	10:20 to 13:00	BOA Sub C	BOA Sub C remachining the HIT tool to work with hose (for Upper Annular). Go back to bottom. Attempt to repressure casing shears. Leak on hose. Move back to upper annular operation.
April 30, 2010	13:00 to 15:25	BOA Sub C	BOA Sub C subs working on attempt to close the upper annular. Sub C1 is at accumulator. Sub C2 is plugging in hot stab at stack.
April 30, 2010	15:25	BOA Sub C	Attempt to close upper annular. The HIT tool started to leak. All stop.
			Unsuccessful ROV Parker Clamp & HIT w/ Accumulator
April 30, 2010	17:00 to 24:00	BOA Sub C	BOA Sub C2 (Mil 36) standing by at accumulator. BOA Sub C1 (Mil 37) re-tooled for Parker HIT and dive.
May 1, 2010	0:00 to 1:30	BOA Sub C	Mil 37 slide Parker clamp over cut hose to upper annular and then move back to accumulator.
May 1, 2010	1:30 to 4:30	BOA Sub C	Mil 36 stab Parker HIT into cut upper annulus hose and then tighten Parker clamp. Mil 37 at accumulator
May 1, 2010	4:30 to 5:30	BOA Sub C	Standby while other ROVs re-positioned at monitoring points (plumes & LMRP connector). Pressure up to attempt to close annular, but leak at HIT.
May 1, 2010	5:30 to 9:00	BOA Sub C	Re-tighten Parker clamp and then wait on other ROVs to get in monitoring position. Having problems with feed from BOA Sub C feed.
May 1, 2010	9:00 to 10:20	BOA Sub C	Decide to proceed with audio comms only. Positioning correct people in place. Video feeds back. Re-attempt. Leaked again. Decide to tighten to max since we have a bigger clamp now on bottom. 2nd clamp broke. Will move on to using more robust Parker clamp that is now available.
			Successful ROV Modified Parker Clamp & HIT w/ Accumulator
May 1, 2010	10:20 to 12:00	BOA Sub C	Found a new leak on part of the upper annular circuit on the Horizon BOPE. Need to tighten.
May 1, 2010	12:00 to 13:30	BOA Sub C	Finished tightening fitting on UA circuit. Attempt test by pressuring up system. Fitting on UA circuit still leaked. The BB Parker HIT tool held pressure (~2300 psi). Discuss options.
May 1, 2010	13:30 to 14:40	BOA Sub C	Finished re-tightening the fitting on the UA circuit hose.
May 1, 2010	14:45	BOA Sub C	Attempt to function UA. System holding tight initially. Fluid leaking from pod area (not unexpected). It takes 45 gallons to fully close upper annulars. Have a small leak at the Parker BB HIT tool.

Date	Time, hrs	ROV Vessel	Comment
May 1, 2010	15:05	BOA Sub C	At 14:45, we started a new attempt to close our upper annulars. Thus far, our system appears to be tight. We are able to apply 3000 psi with the SS accumulator. We see some dye leaking but it appears to be coming from the center of the pod which would be expected if we actually are functioning the annular. It will take 45 gallons to fully close the annulars. We do not know how fast we are generating this volume, but it is probably at a low rate due to hookup and pressure in the wellbore. No change in flow yet.
May 1, 2010	14:30 to 16:00	OI 3	In position for upper annulus closure attempt. Maxx 3 backed off and standing by; Mil 42 monitoring LMRP connector glycol port.
May 1, 2010	15:30	BOA Sub C	Our pressure is holding but we don't appear to be changing the flow any.
			Re-Close / Confirm Closure w/ Accumulator
May 3, 2010	0:00 to 4:35	BOA Sub C	Mil 36 cut hose (00:30 to 01:50); slide on clamp (02:30); insert HIT (02:47); tighten clamp (03:30). Block in pressure on upper annular and take hose from accumulator to newly made up lower annular HIT & clamp; then charge up accumulator. Mil 37 back on bottom. Attempt to close lower annular but major leak (appears HIT pulled out from clamp.

Date	Time, hrs	ROV Vessel	Comment
			Unsuccessful Attempt ROV Modfied HIT w/ Accumulator (HIT Leak)
01/05/2010	16:00 to 24:00	BOA Sub C	Mil 36 ROV surface to repair manipulator arm and wait on new Parker clamp. Mil 37 ROV attempting to cut hose from yellow pod to lower annular close circuit, but having difficulty keeping other hoses out of the way. At 22:15, while cutting, blade broke (hose ~ 3/4" cut). While waiting on new blade to be sent down in the basket, survey pod hot stab
01/05/2010	16:00 to 24:00	OI 3	After leak discovered (during Upper Annular closure attempt), Mil 42 ROV survey choke & kill umbilicals and clamps and rigid conduit line to assess ROV access to disconnect. Then attempt to tighten fitting on lower annular. Need larger wrench. While waiting on wrench to be lowered, start temperature survey. Obtain readings on Drive pipe below wellhead. Tighten fitting with new wrench, then perform additional grinding on drill pipe cut to satisfaction of drill pipe overshot wellhead service tech. Maxx 3 ROV attempt to mark drill pipe for swallow mark (for overshot wellhead valve).
02/05/2010	3:15 to 5:00	BOA Sub C	Tried to cut hose to allow HIT access to lower annular closure circuit. Saw broke, while waiting attempted to close casing shears, but encountered a leaky fitting. Performed several surveys for future options: thermal survey of drive pipe & BOP stack (riser being done at report time); inspect choke & kill line clamps for removal (below coflex hoses); inspect electrical hot stab (for option to be able to tie into BOP stack pressure, temperature gauge). Broke a second blade - desired cut location has tough access with several other hoses in the vicinity. Install new wand & hose for coil tubing dispersant pumping and perform flow check at report time. Plan to collect plume samples at 05:00
02/05/2010	6:00	BOA Sub C	Successfully cut hose to lower annular (from yellow pod).
02/05/2010	7:15 to 8:00	BOA Sub C	BOA Sub C1 still installing hookup on HIT tool/clamp on hose for lower annular. BOA Sub C2 finished tightening leaking connection casing shears.
02/05/2010	12:30 to 13:30	OI 3	Mil 42 now at BOPE stack to plug in ROV panel to lower annular; Maxx 3 monitor effluent from lower annular close attempt.
02/05/2010	13:30 to 14:30	OI 3	Attempt to pressure up with accumulator to close lower annular. Leak on HIT/hose connection. All stop.
02/05/2010	14:00 to 15:00	BOA Sub C	Mil 36 is opens accumulator to close lower annular. Pump up to and held pressure for 45 minutes. Mil 37 is monitoring riser bend plume.
02/05/2010	14:30 to 15:00	OI 3	Attempt to pressure up with accumulator to close lower annular. Small leak on stab in (clamp?).
02/05/2010	17:00 to 20:00	BOA Sub C	Mil 36 back out clamp on lower annular yellow pod close hose and assess condition of hose. Surface to exam clamp and pick up new grinder to make fresh cut on hose. Mil 37 on surface.
03/05/2010	0:00 to 4:35	BOA Sub C	Mil 36 cut hose (00:30 to 01:50); slide on clamp (02:30); insert HIT (02:47); tighten clamp (03:30). Block in pressure on upper annular and take hose from accumulator to newly made up lower annular HIT & clamp; then charge up accumulator. Mil 37 back on bottom. Attempt to close lower annular but major leak (appears HIT pulled out from clamp.
			Unsuccessful Attempt ROV Modfied HIT w/ Accumulator (BOP Fitting Leak)

Date	Time, hrs	ROV Vessel	Comment
03/05/2010	5:00 to 11:00	OI 3	Maxx 3 re-positioned to observe 2nd attempt to close lower annular at BOP stack; Mil 42 monitor riser bend plume. Maxx 3 surfaces for maintenance. Mil 42 having issues. Will return to cage. Maxx 3 will accompany Mil 42 back to it's cage at 11:00. We will temporarily lose our riser bend plume monitoring.
03/05/2010	6:15 to 8:30	BOA Sub C	Finished reinstalling HIT and tighten bolts with Mil 37. Leak is actually on fitting on hot line to stack. Will be difficult to tighten. Mil 36 at accumulator standing by. Make another attempt to close lower annular.
			Leaking BOP Fitting Hose Tracing
05/05/2010	20:30 to 21:30	BOA Sub C	Mil 36 investigate access to lower annular hoses that leaked, since yellow pod removed. Access still limited by blue pod though.
			Unsuccessful Attempt to Close Blind Shear Rams
21/04/2010	22:25 to 22:40	Max Chouest	Place hot stab into blind shear ram port. Pumping and monitoring pressures.
			Unsuccessful Attempt to Close Blind Shear Rams
21/04/2010	23:30	C-Express	ROV at BOPE. Attempted to cut SS pin (Autoshear - designed to close blind shear rams and ST lock for BSRs) without success.
22/04/2010	1:15	C-Express	Attempt to close blind shear rams by pumping into hot stab. No success
22/04/2010	2:45	C-Express	Pulled all PBOF lines per instructions from Transocean (Ramsey) 4 electric cables removed to simulate deadman activation (designed to close blind shear rams).
			Unsuccessful Attempt to Close Blind Shear Rams
22/04/2010	3:00 to 4:40	Max Chouest	Stab into and pump on Blind Shear Ram close circuit. Pump. Stop. Take pictures of Auto Shear Valve (designed to close blind shear rams).
22/04/2010	4:40 to 6:00	Max Chouest	Attempt to cut Auto Shear Valve stem (designed to close blind shear rams) with SS grinder. No success.
			Cut Auto Shear Pin to Close Blind Shear Rams
22/04/2010	6:25 to 8:23	BOA Sub C	Splash Mil 37 and move to BOPE. Cut push rod 07:32 to 07:38 to activate autoshear (designed to close blind shear rams). Inspect LMRP. Mil 36 plugs into hot stab on stack for blind shear rams close circuit. Start pumping with no observation of pressure buildup. Leave area due to instability of rig.
			ROV Panel Hot Stab to Close Blind Shear Rams
26/04/2010	11:00 to 12:00	BOA Sub C	Mil 37 (BOA Sub C 1) ROV attempting to actuate blind shear rams via ROV panel by pumping up to 5000 psi, while Mil 36 (BOA Sub C 2) monitors drill pipe and riser plumes. No change in plumes.
26/04/2010	21:50	BOA Sub C	Mil 37 Pressure up to 3500 psi on blind shear ram close circuit. Dropped off to 3300 psi. Still pumping but can't seem to pressure up above this. Start looking for leaks.
26/04/2010	22:12	BOA Sub C	Kick on intensifiers. Pressure only going up slightly.
26/04/2010	23:18	BOA Sub C	Decide to trip the ROV to change the relief setting on the bypass on the intensifier. We plan to increase the relief setting from 5.5 ksi to at least 8.5 ksi. This is so we can get more pressure to the hot stab.

Date	Time, hrs	ROV Vessel	Comment
27/04/2010	3:22	BOA Sub C	BOA SUB C 1 (Mil 37) ROV pressure up with CAT pump to 4400 psi. Seeing small plume of hydraulic fluid at ST lock with BOA SUB C 2 ROV. BOA SUB C 1 ROV swap to intensifer and gradually bump up pressure to 5000 psi. BOA SUB C 2 ROV still observing hydraulic fluid (but obviously able to "outrun"). No indication of a shear occurring (sudden drop in pressure, then gradual increase). Note: Observed pressure response is what you would expect if already sheared; also what you would expect if rams are not moving.
27/04/2010	4:02	BOA Sub C	Pump back up to 5000 psi (eighth time) and shut-in. No indication of shear.
			ROV Panel Hot Stab to Re-Close Blind Shear Rams
29/04/2010	21:15 to 21:45	BOA Sub C	BOA Sub C2 (Mil 36) ROV stab into ROV panel at Blind shear close circuit. Pressure up to 5500 psi. No drop off in pressure or plume change to indicate any further movement of blind shears. Allow pressure to bleed down to 3000 psi, then pressure back up to 5500 psi. No changes. Bleed off to 0 psi.
			Blind Shear Rams Hose Tracing
03/05/2010	14:00 to 15:00	BOA Sub C	BOA Sub C (Ray Picard) reports that hose from the ROV intervention stab may be plumbed incorrectly. It appears that it is plumbed to inverted lower test rams. The BSR appears to be plumbed correctly. Boat directed to traced all lines to verify how they are plumbed.
			Survey of Shear Ram locking Pin Bonnet
13/05/2010	00:00 to 5:00	OI3	Maxx3 completing survey of leak at kink in riser. Measure width of the 2 leaking holes at riser kink and take pictures. At 1:20, Maxx3 and Mil 42 (tied to source) begin gamma ray plate survey of shear ram locking pin bonnet. At 02:15 Maxx3 and Mil 42 begin gamma ray plate survey on riser kink area. Complete all but 2 plate surveys at riser kink. At 3:45 stop plate surveys and take plates to basket. Mil 42 and Maxx3 to surface. Will prepare for dredging at crater plume

Date	Time, hrs	ROV Vessel	Comment
			Unsuccessful Attempt to Close Blind Shear Rams
April 21, 2010	22:25 to 22:40	Max Chouest	Place hot stab into blind shear ram port. Pumping and monitoring pressures.
			Unsuccessful Attempt to Close Blind Shear Rams
April 21, 2010	23:30	C-Express	ROV at BOPE. Attempted to cut SS pin (Autoshear - designed to close blind shear rams and ST lock for BSRs) without success.
April 22, 2010	1:15	C-Express	Attempt to close blind shear rams by pumping into hot stab. No success
April 22, 2010	2:45	C-Express	Pulled all PBOF lines per instructions from Transocean (Ramsey) 4 electric cables removed to simulate deadman activation (designed to close blind shear rams).
			Unsuccessful Attempt to Close Blind Shear Rams
April 22, 2010	3:00 to 4:40	Max Chouest	Stab into and pump on Blind Shear Ram close circuit. Pump. Stop. Take pictures of Auto Shear Valve (designed to close blind shear rams).
April 22, 2010	4:40 to 6:00	Max Chouest	Attempt to cut Auto Shear Valve stem (designed to close blind shear rams) with SS grinder. No success.
			Cut Auto Shear Pin to Close Blind Shear Rams
April 22, 2010	6:25 to 8:23	BOA Sub C	Splash Mil 37 and move to BOPE. Cut push rod 07:32 to 07:38 to activate autoshear (designed to close blind shear rams). Inspect LMRP. Mil 36 plugs into hot stab on stack for blind shear rams close circuit. Start pumping with no observation of pressure buildup. Leave area due to instability of rig.
			ROV Panel Hot Stab to Close Blind Shear Rams
April 26, 2010	11:00 to 12:00	BOA Sub C	Mil 37 (BOA Sub C 1) ROV attempting to actuate blind shear rams via ROV panel by pumping up to 5000 psi, while Mil 36 (BOA Sub C 2) monitors drill pipe and riser plumes. No change in plumes.
April 26, 2010	21:50	BOA Sub C	Mil 37 Pressure up to 3500 psi on blind shear ram close circuit. Dropped off to 3300 psi. Still pumping but can't seem to pressure up above this. Start looking for leaks.
April 26, 2010	22:12	BOA Sub C	Kick on intensifiers. Pressure only going up slightly.
April 26, 2010	23:18	BOA Sub C	Decide to trip the ROV to change the relief setting on the bypass on the intensifier. We plan to increase the relief setting from 5.5 ksi to at least 8.5 ksi. This is so we can get more pressure to the hot stab.
April 27, 2010	3:22	BOA Sub C	BOA SUB C 1 (Mil 37) ROV pressure up with CAT pump to 4400 psi. Seeing small plume of hydraulic fluid at ST lock with BOA SUB C 2 ROV. BOA SUB C 1 ROV swap to intensifer and gradually bump up pressure to 5000 psi. BOA SUB C 2 ROV still observing hydraulic fluid (but obviously able to "outrun"). No indication of a shear occurring (sudden drop in pressure, then gradual increase). Note: Observed pressure response is what you would expect if already sheared; also what you would expect if rams are not moving.
April 27, 2010	4:02	BOA Sub C	Pump back up to 5000 psi (eighth time) and shut-in. No indication of shear.

Date	Time, hrs	ROV Vessel	Comment
			ROV Panel Hot Stab to Re-Close Blind Shear Rams
April 29, 2010	21:15 to 21:45	BOA Sub C	BOA Sub C2 (Mil 36) ROV stab into ROV panel at Blind shear close circuit. Pressure up to 5500 psi. No drop off in pressure or plume change to indicate any further movement of blind shears. Allow pressure to bleed down to 3000 psi, then pressure back up to 5500 psi. No changes. Bleed off to 0 psi.
			Blind Shear Rams Hose Tracing
May 3, 2010	14:00 to 15:00	BOA Sub C	BOA Sub C (Ray Picard) reports that hose from the ROV intervention stab may be plumbed incorrectly. It appears that it is plumbed to inverted lower test rams. The BSR appears to be plumbed correctly. Boat directed to traced all lines to verify how they are plumbed.
			Survey of Shear Ram locking Pin Bonnet
May 13, 2010	00:00 to 5:00	OI3	Maxx3 completing survey of leak at kink in riser. Measure width of the 2 leaking holes at riser kink and take pictures. At 1:20, Maxx3 and Mil 42 (tied to source) begin gamma ray plate survey of shear ram locking pin bonnet. At 02:15 Maxx3 and Mil 42 begin gamma ray plate survey on riser kink area. Complete all but 2 plate surveys at riser kink. At 3:45 stop plate surveys and take plates to basket. Mil 42 and Maxx3 to surface. Will prepare for dredging at crater plume

Date	Time, hrs	ROV Vessel	Comment
			Unsuccessful Coil Tubing HIT (Hose Insertion Tool)
April 27, 2010	8:00	BOA Sub C	BOA SUB C 2 (Mil 36) ROV attempting to cut non-collapsable hose leading to close side of the casing shears ("Super" shears), from BOP accumulator bottle rack (Hose J72). Blade broke. Estimated 2/3 to 3/4 of the way through. Surfacing the ROV.
April 27, 2010	10:13	BOA Sub C	Cut on hose was successful.
April 27, 2010	12:45	BOA Sub C	Still conducting open water test. Concerned about flow rate and backpressure through insertion tool. Finished test with large pump. Will complete similar test with smaller pump.
April 27, 2010	13:30	BOA Sub C	Completed open water test with small pump. Will bleed off and proceed to attempt test.
April 27, 2010	15:45	BOA Sub C	Re-insert tool. Make 5-6 counterclockwise turns to effect seat.
April 27, 2010	16:20	BOA Sub C	Pumping through coil and HIT into casing shear close "hose", but, found leak at shuttle valve indicating some movement. However, having trouble generating enough rate to fully shift shuttle valve.
April 27, 2010	18:00	BOA Sub C	Cut another section of the casing shear hose off and brought sample to surface. Surfacing ROV, will attempt to modify hose insertion tool to increase flow through.
			Unsuccessful ROV HIT (Hose Insertion Tool)
April 28, 2010	0:30	BOA Sub C	With BOA SUB C 2 (Mil 36) ROV monitoring pods, BOA SUB C 1 (Mil 37) ROV pumped up on casing shear close "cut" hose. Pressure up to 2400 psi with CAT pump and seeing control fluid venting at both blue & yellow pods indicating flow past shuttle valve (shuttle in neutral position). Surface test of ROV and stab indicated flow rate of ~ 4 gpm versus normal pod function of greater than 60 gpm.
April 28, 2010	1:14	BOA Sub C	Decision made to abort solely ROV efforts and proceed with coil tubing pumping with the modified (bored out for larger flow rate) HIT. Also beginning fabrication of hose clamps to be able to isolate hoses to yellow & blue pods.
			Unsuccessful Coil Tubing Modified HIT (Hose Insertion Tool)
April 28, 2010	1:49	BOA Sub C	Start pumping with coil (ball valve isolating shuttle valve). Mil 37 @ HIT
April 28, 2010	2:03	BOA Sub C	Pump pressure up to 4800 psi and open ball valve. Observe venting at both pods. Pressure stabilizing at ~ 1 gpm and 3350 psi.
			Unsuccessful ROV Wand
April 28, 2010	14:00	BOA Sub C	BOA Sub C1 (Mil 37) begin attempt to stab 3/4" high flow rate wand into hose (1" ID) for casing shear close circuit. Very tight fit. Make good insertion of wand.
April 28, 2010	14:38	BOA Sub C	Begin pumping through wand from ROV Cat pump with seawater.
April 28, 2010	15:10	BOA Sub C	No success in see flow to shift shuttle valve. BOA Sub C 1 to disengage to make room for Skandi Neptune to attempt Atlantis accumulator option.
			Move Shuttle Valve ROV Wand w/ Accumulator

Date	Time, hrs	ROV Vessel	Comment
April 28, 2010	21:30 to 22:45	BOA Sub C	Mil 36 ROV charges up accumulator to 4000 psi. Mil 37 ROV to use wand tool inserted ~ 2-1/2 ft into casing shear close "cut" hose with manipulator arm trying to "hold" hose closed around wand. Herc 14 ROV at ball valve control on accumulator package and Herc 6 ROV to observe pods.
April 28, 2010	22:45 to 23:15	BOA Sub C	Open ball valve from accumulator and surge through wand tool into casing shear closed circuit. At both pods see some evidence of pink hydraulic fluid which is the color of fluid on the open side of the casing shear. Conclusion is shuttle valve shifted and ram started to close. As accumulator bled down unable to maintain pressure through "loose" connection with wand tool.
			Unsuccessful ROV Modfied HIT w/ Accumulator
April 29, 2010	1:00	BOA Sub C	Start pumping with Mil 36 through HIT tool into casing shear close circuit.
April 29, 2010	2:20	BOA Sub C	Pump at 4000 to 4500 psi, stopping every 10-15 minutes to see if any pressure building (and trapped) in casing shear close circuit. All 5 presure checks showed 0 psi. Both pods have slight plume of green (less than yesterday). Some question as to whether the ROV duplex pump is functioning properly. HIT still seems to be providing too much of a restriction. Terminating this operation.
April 29, 2010	2:25	BOA Sub C	Begin making preparations to move boats and ROVs around to allow OI 3 ROV to install a hose into a fitting and eliminate the flow restriction associated with the HIT. HIT left stabbed into casing shear close hose and vall shut. Mil 36 ROV to start pressuring up to charge Atlantis accumulator. Charge up to 4000 psi.
			Successful Made Up New Hose Fitting w/ Accumulator
April 29, 2010	8:45 to 10:50	OI 3	ROVs working on re-configuring SS hoses. Map control lines from Gilmore shuttle valves (on casing / "super" shears to determine which one goes to the Blue pod and which goes to the Yellow pod.
April 29, 2010	10:50	OI 3	Start to disconnect Blue pod line on shuttle valve (of casing / "super" shear).
April 29, 2010	11:23	OI 3	Successfully removed blue control line.
April 29, 2010	12:36	OI 3	Attempt to connect new hose to blue pod fitting on shuttle valve assembly. The other end of this hose will be connected to the Atlantis accumulator. Having problems starting connection. Will surface OI3 sub to fix problem.
April 29, 2010	16:15	OI 3	OI3 Sub has successfully connected new hose at shuttle valve. It appears wrench tight.
April 29, 2010	16:30	OI 3	OI3 Sub has move the HIT which is still stabbed into the super shear hose (from BOP bottle package) into the open position.
April 29, 2010	16:30 to 22:00	OI 3	OI3 sub1 monitoring pressure closed in on the casing shear close circuit holding @ 4200 - 4300 psi. OI3 Sub2 monitoring pod vent line
April 29, 2010	17:40	BOA Sub C	At time of activating casing shear Sub C 1 saw a noticeable decrease in flow rate at the riser bend, but then resumed.

Date	Time, hrs	ROV Vessel	Comment
April 29, 2010	17:40 to 21:00	BOA Sub C	Sub C1 is monitoring plume from Riser bend crack. Sub C2 was monitoring pressure (3600 psi) at the acumulator during and immediately post casing shear activation, then begin to arrange tooling.
			Unsuccessful ROV Attempt to Re-Close Casing Shear Rams
April 30, 2010	10:20 to 13:00	BOA Sub C	BOA Sub C remachining the HIT tool to work with hose (for Upper Annular). Go back to bottom. Attempt to repressure casing shears. Leak on hose. Move back to upper annular operation.
			Successful ROV to Re-Close Casing Shear Rams
May 2, 2010	0:00 to 1:00	BOA Sub C	Mil 37 stab into receptacle tied into new hose on casing shear rams and attempt to close ram. Encounter leak. Terminate operation while waiting on proper tooling.
May 2, 2010	3:15 to 5:00	BOA Sub C	Tried to cut hose to allow HIT access to lower annular closure circuit. Saw broke, while waiting attempted to close casing shears, but encountered a leaky fitting. Balance of log entry not relevant to Casing Shear Rams
May 2, 2010	7:15 to 8:00	BOA Sub C	BOA Sub C1 still installing hookup on HIT tool/clamp on hose for lower annular. BOA Sub C2 finished tightening leaking connection casing shears.
May 2, 2010	9:00 to 10:45	BOA Sub C	Re-pressurize casing shear rams. Leak from shuttle valve (this is good). Process is slow when only using ROV pump. Stop to line up to use accumulator.
May 2, 2010	10:45 to 11:15	BOA Sub C	Ready to function casing shears with accumulator. Start pumping. Pressure up to 4700 psi. Isolate pressure. No visible change in any plumes.
			Yellow Pod used to Re-Close Casing Shear Rams
May 25, 2010	11:00 to 11:45	Q-4000	Casing Shear Rams functioned closed, no change in plume.

Date	Time, hrs	ROV Vessel	Comment
			Upper VBR Hose Tracing
May 2, 2010	15:00 to 17:00	BOA Sub C	Mil 36 inspect & photo BOP for pressure, temperature wet connect; upper pipe ram shuttle valve assembly close circuit hose and fitting arrangement (assess cut hose vs. back out fitting). Mil 37 surfacing for tooling change out.
May 26, 2010	11:00 to xxx	SMJ	Mill 21 functioned upper pipe rams closed. Mil 22 is monitioring flex jt. plume.

Date	Time, hrs	ROV Vessel	Comment
			"Erroneous" Attempt to Close Middle Pipe (VBR) Ram via ROV Hot Stab
April 21, 2010	16:30 to 17:05	Max Chouest	Cut 1" control yellow control hose to middle to middle ram. Unable to reach blue hose.
April 21, 2010	17:05 to 18:45	Max Chouest	Move to ROV panel. Plug into pipe ram close. All stop due to pump failure. Resurface for repairs. **NOTE: Determined on 5/3/10 that ROV panel hot stab hose was routed to Lower Pipe (Test) VBRs and not to Middle Pipe VBRs.**
			"Erroneous" Attempt to Close Middle Pipe (VBR) Ram via ROV Hot Stab
April 25, 2010	8:00 to 10:00	BOA Sub C	Mil 37 plug hot stab into "pipe rams closed" receptacle. Pump pressure buildup to 2000 psi attempting to close middle pipe rams. No change in flow status of well. **NOTE: Determined on 5/3/10 that ROV panel hot stab hose was routed to Lower Pipe (Test) VBRs and not to Middle Pipe VBRs.**
April 25, 2010	10:00 to 20:00	BOA Sub C	Performing scans while waiting on equipment. Transfer bladder equipment from C-Courageous. Prep to resume ram closure ops.
April 25, 2010	20:00 to 24:00	BOA Sub C	Mil 36 operate bladder valve and Mil 37 plug hot stab into "pipe rams closed" receptacle. Pump in with bladder assist in attempt to close middle pipe rams, but no change in well status. Found a lose fitting. Prep to tighten fitting.
April 26, 2010	0:00 to 10:00	BOA Sub C	Tighten lose fitting. Test and survey for indication of successful repair. Found 2nd leak.
April 26, 2010	10:00 to 11:00	BOA Sub C	Stab into ROV panel for middle pipe ram closure and presure up to 3350 psi Pressure holding suggesting middle pipe rams closed. **NOTE: Determined on 5/3/10 that ROV panel hot stab hose was routed to Lower Pipe (Test) VBRs and not to Middle Pipe VBRs.**
			Middle VBR Hose Tracing
May 3, 2010	14:00 to 15:00	BOA Sub C	BOA Sub C (Ray Picard) reports that hose from the ROV intervention stab may be plumbed incorrectly. It appears that it is plumbed to inverted lower test rams. The BSR appears to be plumbed correctly. Boat directed to traced all lines to verify how they are plumbed.
May 3, 2010	15:00 to 15:45	BOA Sub C	BOA Sub C reports back that all other lines are plumbed correctly with the exception of the line mentioned above. This line is plumbed to the inverted lower test ram instead of the middle pipe rams. Don King with Cameron verifies the line is plumbed to the lower (test) rams.
			Unsuccessful Disconnect Hose from Middle VBRs shuttle valve assy at Blue Pod
May 3, 2010	15:45 to 24:00	BOA Sub C	Mil 37 still on surface. Mil 36 back out hose 78 B (that goes to middle VBRs close circuit) from blue pod @ 19:00. working on making up fitting to be able to connect and pump in. Having trouble aligning hoses and called OI 3 Mil 42 in to assist. Mil 36 holding a section of hose with each manipulator and Mil 42 attempt to apply wrench to fitting to make up.
May 3, 2010	22:15 to 24:00	OI 3	Mil 42 move over to assist Mil 36 (need 3rd arm) with make-up of fitting for hose from middle VBR close circuit.

Date	Time, hrs	ROV Vessel	Comment
May 4, 2010	06:00 to 07:30	BOA Sub C	Mil 37 continue drill pipe overshot make-up on hold down bolts with high torque wrench. Unable to make up fitting, so Mil 36 back out to allow OI 3 Maxx 3 to cut hose blue pod to middle VBR close circuit.
			Cut Hose from Middle VBRs shuttle valve assy at Blue Pod
May 4, 2010	06:00 to 14:30	OI 3	Maxx 3 trace blue hose to VBR. Prep to cut hose for HIT tool insertion. Cut hose. Dress off. OI3 will clear out for the BOA to insert HIT. Mil 42 completing temp survey at plume.
			Attempt to Close Middle Pipe (VBR) Ram via ROV HIT
May 5, 2010	3:00 to 5:15	BOA Sub C	Move ROVs to monitor middle pipe ram closure. With 4000 psi on accumulator, BOA Mil 37 open valve O-1 on accumulator (4:00); BOA Mil 36 monitor Parker HIT and clamp, seeing 3500 psi. No evidence of venting at either pod, no evidence or ram moving. No change to plume. After 10 minutes (4:10), shut O-1 valve on accumulator. Accumulator pressure 3850. After 5 minutes (4:15) open O-1 valve, Parker HIT seeing 3300 psi, same observation of pods, plumes. After 5 minutes (4:20), shut O-1 valve. BOA Mil 36 fly BOP stack and trace lines from middle VBRs. Confirm (Ray Picard) hose 78 disconnected at blue pod. At 5:00 open O-1 valve again, same observations.

Date	Time, hrs	ROV Vessel	Comment
			"Inadvertent" Closure of Lower Pipe (Test) Ram via ROV Hot Stab
April 21, 2010	17:05 to 18:45	Max Chouest	Move to ROV panel. Plug into pipe ram close. All stop due to pump failure. Resurface for repairs. **NOTE: Determined on 5/3/10 that ROV panel hot stab hose was routed to Lower Pipe (Test) VBRs and not to Middle Pipe VBRs.**
			"Inadvertent" Closure of Lower Pipe (Test) Ram via ROV Hot Stab
April 25, 2010	8:00 to 10:00	BOA Sub C	Mil 37 plug hot stab into "pipe rams closed" receptacle. Pump pressure buildup to 2000 psi attempting to close middle pipe rams. No change in flow status of well. **NOTE: Determined on 5/3/10 that ROV panel hot stab hose was routed to Lower Pipe (Test) VBRs and not to Middle Pipe VBRs.**
April 25, 2010	10:00 to 20:00	BOA Sub C	Performing scans while waiting on equipment. Transfer bladder equipment from C-Courageous. Prep to resume ram closure ops.
April 25, 2010	20:00 to 24:00	BOA Sub C	Mil 36 operate bladder valve and Mil 37 plug hot stab into "pipe rams closed" receptacle. Pump in with bladder assist in attempt to close middle pipe rams, but no change in well status. Found a lose fitting. Prep to tighten fitting.
April 26, 2010	0:00 to 10:00	BOA Sub C	Tighten lose fitting. Test and survey for indication of successful repair. Found 2nd leak.
April 26, 2010	10:00 to 11:00	BOA Sub C	Stab into ROV panel for middle pipe ram closure and presure up to 3350 psi Pressure holding suggesting middle pipe rams closed. **NOTE: Determined on 5/3/10 that ROV panel hot stab hose was routed to Lower Pipe (Test) VBRs and not to Middle Pipe VBRs.**
			Lower Pipe (Test) VBR Hose Tracing
May 3, 2010	14:00 to 15:00	BOA Sub C	BOA Sub C (Ray Picard) reports that hose from the ROV intervention stab may be plumbed incorrectly. It appears that it is plumbed to inverted lower test rams. The BSR appears to be plumbed correctly. Boat directed to traced all lines to verify how they are plumbed.
May 3, 2010	15:00 to 15:45	BOA Sub C	BOA Sub C reports back that all other lines are plumbed correctly with the exception of the line mentioned above. This line is plumbed to the inverted lower test ram instead of the middle pipe rams. Don King with Cameron verifies the line is plumbed to the lower (test) rams.

Date	Time, hrs	ROV Vessel	Comment
			Visual Inspection of Tail Rod Position
April 28, 2010	5:20	BOA Sub C	BOA SUB C 2 (Mil 36) ROV inspect BOP stack. Based on tail rod positions, Inner and Outer Lower and Upper Kill fail safe valves are not in the open position. Visually you cannot distinguish between fully closed and pinched (nearly closed) positions (~ 1/3 " difference). Also no heat anomaly (indication of flow) observed above either set of fail safes. Kill line test valve appears open (as it should be - fail safe open).
April 28, 2010	5:49	BOA Sub C	BOA SUB C 2 ROV inspect BOP stack. Based on tail rod positions, Inner and Outer Lower and Upper Choke fail safe valves are not in the open position. Visually you cannot distinguish between fully closed and pinched (nearly closed) positions (~ 1/3 " difference). Also no heat anomaly (indication of flow) observed above either set of fail safes. Choke line test valve appears open (as it should be - fail safe open). Choke line fail safes below the Lower Annular also are not in the open position.
			Visual Inspection of C & K Clamps to Umbilical Hoses
May 1, 2010	16:00 to 24:00	OI 3	Mil 42 ROV survey choke & kill umbilicals and clamps and rigid conduit line to assess ROV access to disconnect. Balance of report entry not relevant to choke and kill lines
			Depth Gauge Confirmation of Tail Rod Position
May 5, 2010	21:30 to 24:00	BOA Sub C	Mil 36 inspecting choke & kill coflex hoses and gathering / orgaqnizing tools.
May 6, 2010	0:00 to 3:00	BOA Sub C	Mil 36 use Oceaneering position indicator tool to confirm positions of Upper & Lower, Inner & Outer, Choke and Kill valves. All closed. Confirm position of choke & kill (vertical) isolation valves. Both open.
			Visual Inspection of C & K Mini-Connectors
May 6, 2010	10:30 to 11:00	BOA Sub C	Mil 36 performed a visual verification that the LMRP and the mini-connectors on the choke and kill lines are locked into position.
			Override C & K Isolation Valves
May 10, 2010	9:00 to 11:00	BOA Sub C	Mill 36 and Mil 37 overrode the C/K isolation valves placing them in the closed position. Valves were tied into the Blue pod control system.
			C & K Coflexip line Demolition
May 10, 2010	16:00 to 21:30	OI 3	Mil 42 preparing to installing clamps on LMRP coflexip lines going to C/K lines for demolition. Mill 42 installing clamps (4) on coflexip lines. At 18:36 Mil 42 retooling. Mil 42 attaching chains and ROV "come-along" to clamps on coflexip. One of the clamps would not tighten properly. Mil 42 swap out clamp and tighten. Mil 42 installing second come-a-long. When tightening come-a-long, 3 of the 4 clamps are still slipping even though the clamps are bottomed out (tightened all the way). Decision to take all 4 clamps off and bring to surface to modify. Mil 42 begin to remove clamps

Date	Time, hrs	ROV Vessel	Comment
May 11, 2010	22:00 to 24:00	OI 3	Maxx3 prep and discuss plan for working on choke and kill coflexip line demolition. Lowering slings from surface. Maxx 3 retrieving and installing modified coflexip hose clamps. Mil 42 retrieve slings.
May 11, 2010	20:00 to 24:00	BOA Sub C	Mil 36 open valve to boost line to bleed pressure to zero. Close valve and pressure build back up to 400 psi. Re-open valve and pressure went to zero. Close valve and pressure slowly building back up to 400 psi. Decision made to leave valve closed and monitor. Mil 36 preparing for installation of choke and kill coflexip hose "come a long system". Get slings from basket. Mil 36 installing modified choke and kill coflexip hose clamps. Mil 37 standby.
May 12, 2010	00:00 to 5:00	OI 3	Mil 42 and Maxx 3 installing kill coflexip clamps. Having trouble installing clamps. Mil 42 and Maxx3 begin to install slings and ROV come-a-long. Having trouble with tightening come-a-long. Mil 42 check gauge to ensure choke and kill isolation valves are closed. Gauge reading 2000 psi. Valves closed. Maxx3 intstall coflexip line clamps. Mil 42 and Maxx3 rig up 2nd come-a long to coflexip hose clamps on kill side and tighten.
May 12, 2010	00:00 to 5:00	BOA Sub C	Mil 36 and Mil 37 installing modified coflexip choke hose clamps. Mil 36 continue to rig up coflexip line clamps. Mil 36 and Mil 37 working on rigging up come-a-long. (lost video feed in Houston of BOA ROVs). Rig up super grinder on Mil 36 . Mil 37 visually confirm that choke isolation valve is closed at 3:30. At 3:38, Mil 36 begin to cut lower choke coflexip line termination. Mil 37 giving an additional view of the cut. Mil 37 check that gauge still reading 400 psi at 04:00. Mil 36 continue cutting. At 04:15, Mil 36 replace blade and continue to cut.
May 12, 2010	5:00 to 8:00	OI 3	Mil 42 and Maxx 3 continue to adjust kill coflexip clamps and come-a-long rigging. At 5:35, Maxx 3 ensure kill line isolation valve is closed. At 5:52, Maxx3 starting cut of the kill coflexip lower hose termination. At 5:56 vent very small amount of fluid when cut into hose ID. Continue to cut. Mil 42 going to surface to install TracerCo and Gamma Ray.
May 12, 2010	5:00 to 10:00	BOA Sub C	Mil 36 and Mil 37 continue to cut choke coflexip lower termination. Fluid venting as cut through the ID. Mil 36 and 37 standing by.
May 12, 2010	8:00 to 14:00	OI 3	Maxx 3 attempting to finish cutting the lower choke coflexip termination. Unsuccessful. Surface Maxx 3 to pick up spreader. Mil 42 performing TracerCo survey of lower kill line and gamma ray of the ram bonnet.
May 12, 2010	10:00 to 14:00	BOA Sub C	Mil 36 attempting choke termination cut w/ bigger blade. Mil 37 monitoring. Mil 36 completed the cut at 11:30. Mil 37 moved in to cut kill coflexip lower termination.
May 12, 2010	14:00 to 16:00	OI 3	Mil 42 finished TracerCo survey's and surfacing to equip for Gamma survey of rams and riser kink. Maxx 3 splashing w/ grinder and spreader bar to cut C/K line clamps.
May 12, 2010	14:00 to 18:00	BOA Sub C	Mil 36 developed a leak while attempting kill line cut. Needs to surface. Mil 37 standing by.

Date	Time, hrs	ROV Vessel	Comment
May 12, 2010	16:00 to 20:00	OI 3	Maxx 3 grinding off nuts on choke line clamps in order to remove the clamps. Complete grinding of 1st set of nuts at 17:30. Maxx3 retrieving lanyard and attaching it to the cut clamps. Continue cutting nuts/bolts on other side. At 19:55 clamp removed. (attached to lanyard). Dropped clamp after removal. Mil 42 at surface preparing for gamma ray plate survey of riser.
May 12, 2010	18:00 to 22:00	BOA Sub C	Mil 36 and Mil 37 resume cutting of kill line coflexip lower termination. Complete cutting at 18:20. Line venting fluid. Loosen ROV come-a-long going to the choke coflexip hose and position hose to designated storage location. At 19:00, Mil 36 and Mil 37 begin to cut nuts/bolts to remove clamps on kill line cut-off coflexip hose stub. At 19:15, have cut nuts off on one side Mil 36 and Mil 37 retrieving clamp that fell into mud at seafloor and wait on nut cutter tool to cut remaining nuts.
May 12, 2010	20:00 to 24:00	OI 3	Maxx3 remove hub "dutchman" at 20:38. AX Gasket fell onto flange on stack. Decision made to push AX gasket off flange with Maxx3 and let it fall. Pushed off Ax gasket at 21:10. Maxx3 clean flange. At 22:00 nut cutter tool, hot stab for glycol, and gamma ray plate survey tool source loaded into basket, begin lowering down. Mil 42 dive.
May 12, 2010	22:00 to 24:00	BOA Sub C	Mil 36 and Mil 37 wait at depth for nut cutter tool to cut remaining nuts. (being sent down in basket)
May 13, 2010	0:00 to 5:00	BOA Sub C	Mil 36 and Mil 37 resume cutting of kill line hose clamp nuts with nut cutter tool. Clamp removed at 01:30. Rig up to pump glycol into the kill line above the closed isolation valve. Attempt to push hose down inside line. Could only get down ~ 1.5'. Mil 37 pump seawater to wash down ~ 6-7 feet until could not go down anymore. Mil 37 Pump glycol at 3:35. Mil 36 remove hub dutchman and AX gasket. Mil 36 and Mil 37 clean hub and install debris cap.
May 13, 2010	05:00 to 8:00	BOA Sub C	Mil 36 surface for maintenance. Mil 37 rig up come-a-longs for c/k jumper installation.
May 13, 2010	8:00 to 13:30	BOA Sub C	Mil 37 rigging the stack for "Top Kill" jumper (coflex) hose installation. Mil 36 at surface.
May 13, 2010	13:30 to 17:00	BOA Sub C	Mil 37 and Mil 36 at surface. Mil 37 equipping for further "Top Kill" installation on the stack
May 13, 2010	17:00 to 24:00	BOA Sub C	Vessel is preparing to run "Top Kill" jumper (coflex) hose. Mil 36 still on surface. As of 18:30, BOA has one of the jumper (coflex) hoses hung into the water. MII 36 and Mil 37 standby
May 14, 2010	0:00 to 5:00	BOA Sub C	Mil 36 dive. At 04:00, Mil 36 close isolation valve 7 at distribution panel. Mil 36 function test of valves at stack in preparation for flexible jumper installation.
			Attach Flexilbe Jumpers to Choke and Kill Line Hubs
May 14, 2010	13:00 to 14:00	BOA Sub C	Preparing to install 150-ft jumpers from the Top Kill manifold to the BOP stack.
May 14, 2010	14:00 to 16:00	BOA Sub C	Splash first 150-ft jumper. Mil 37 monitoring jumper descent. Mil 36 at surface for repair. At 16:00 Mil 36 splashed to assist with jumper installation.

Date	Time, hrs	ROV Vessel	Comment
May 14, 2010	16:00 to 24:00	BOA Sub C	Mil 37 and Mil 36 preparing to install 150' kill line jumper from BOP stack to manifold. At 19:20, green light given that there will be a sufficient time window to work on landing jumper onto BOP. Mil 36 and Mil 37 guide jumper goose neck towards BOP. Heave causing problems with positioning jumpers.
May 15, 2010	0:00 to 5:00	BOA Sub C	Mil 36 and Mil 37 having trouble with jumper getting twisted as they attempt to move the jumper to the BOP stack. Assist jumper back to surface to re configure rigging.
May 15, 2010	05:00 to 8:30	BOA Sub C	Mil 36 and Mil 37 continue to bring 150' jumper to surface.
May 16, 2010	19:00 to 22:30	BOA Sub C	Mil 36 and Mil 37 bringing down the 150' flexible kill line jumper. At 22:00, Mil 36 and Mil 37 connect to methanol skid on the seafloor and pump methanol into the jumper.
May 16, 2010	22:30 to 24:00	BOA Sub C	Mil 36 and Mil 37 begin final approach to BOP with jumper. Mil 37 remove debris cap from kill side hub at BOP stack.
May 17, 2010	0:00 to 03:00	BOA Sub C	Mil 36 and Mil 37 guide kill line jumper into place. At 0:05, kill line jumper hydraulic connector is landed on the kill line hub on the BOP stack. Mil 37 attempting to align hydraulic connector with hub. Unable to fully latch hydraulic actuator. Mil 36 to surface to repair hot stab hose. Having trouble aligning the hydraulic connector in the same plane as the hub for actuation. Mil 36 dive.
May 17, 2010	03:00 to 05:00	BOA Sub C	Mil 36 back at depth. At 3:15, Mil 36 hot stab and actuate hydraulic connector to locked position. At 3:20, confirm that the hydraulic connector for the kill line jumper is locked onto the hub. Attempt to secure kill line jumper gooseneck in place with a ROV come-a-long, but come-along not working properly. Maintain 1 ROV at gooseneck at the BOP stack to monitor the bend at the gooseneck while the other side of the hose is being connected.
May 17, 2010	05:00 to 07:00	BOA Sub C	Mil 36 and Mil 37 assisting goosneck of kill line jumper towards the top kill manifold.
May 17, 2010	07:00 to 12:30	BOA Sub C	Kill line Jumper connected at 07:00, MIL 36 and Mil 37 brought back to surface. Mil 36 splashed at 10:45 to overboard the Choke Line's 150' flexible jumper.
May 17, 2010	12:30 to 14:30	BOA Sub C	150' Jumper for Flex line for Choke Line at 500-ft, challenges orienting it. Mil 37 at Boost Line of BOP's to test if it is plugged by Hydrate or gauge is bad. 14:30 Choke Jumper on depth, Mill36 waiting on second ROV for installation.
May 17, 2010	14:30 to 17:00	BOA Sub C	Mil 36 standing by with Jumper. Mil 37 diagnosing Boost line, found loose connector on gauge, ran out of fluid in bladder at 15:00 before test complete to see if that returned gauge to operation. Mil 37 return to help with 150' Jumper hook up to Choke.
May 17, 2010	17:00 to 18:30	BOA Sub C	Mil 36 and Mil 37 guiding choke line flexible jumper toward BOP. At 17:40, Mil 37 found that accumulator skid may be in the way of the flexible choke jumper that is being guided toward the BOP. (Skid found to be in different location than shown on navigation screen/ previous survey) There are 20 m between the skid and the BOP. Decision made that it will not be in the way. Mil 36 and MIL 37 guide choke line flexible jumper to the BOP stack

Date	Time, hrs	ROV Vessel	Comment
May 17, 2010	18:30 to 19:30	BOA Sub C	Mil 36 and Mil 37 make final approach with the flexible choke jumper to the choke side hub on the BOP stack. Mil 36 supporting goose neck while Mil 37 guiding hydraulic connector. Land hydraulic connector on top of hub at 19:15. Orient hydraulic connector to get it aligned with the choke side hub. Pressure up to close hydraulic connector at 19:20. Mil 37 attempt to verify position. At 19:30, Choke line jumper hydraulic connector is locked to the choke hub on the BOP stack.
May 17, 2010	19:30 to 21:15	BOA Sub C	Mil 36 and Mill 37 release crane hook and work to attach come-a-long to secure the gooseneck on the choke line jumper to the BOP stack. Having problems with one of the ROV chain come-a-longs. Continue to tighten come-a-long.
May 17, 2010	21:15 to 24:00	DTP	Mil 36 and Mil 37 guide choke line jumper towards the top kill manifold.
May 18, 2010	0:00 to 1:00	DTP	Mil 36 and Mil 37 guide choke line jumper towards the top kill manifold. At 0:30 land choke jumper hydraulic connector to the choke hub on top of the top kill manifold. At 0:45 pressure up to lock hydraulic connector.
May 18, 2010	1:00 to 5:00	DTP	BOA lower down 1st buoyancy module. (1of 4) Module to depth at 03:10. Mil 36 and Mil 37 install 1st buoyancy module on goose neck of jumper. BOA lower down 2nd module.
May 18, 2010	05:00 to 06:30	JW	Continue to lower down 2nd module, installed at 06:30 on the kill line. Both kill modules on, Mil37 bringing 2 gauge packs to BOP's.
May 18, 2010	06:30 to 09:25	JW	Mil 36 finished installing buoyancy modules on Choke side at 09:30. Mil 37 started pressure testing kill line jumper at 06:50 to 8,500 psi, test called good at 07:15.
May 18, 2010	09:25 to 10:45	JW	Mil 36 moved methanol skid and Mil 37 pressure up Choke Jumper to 8,200 psi at 09:27. Psi at 8,000 at 9:43. Psi at 7,800 at 10:05 test called good
May 20, 2010	00:45 to 2:30	DTP	Mil 42 Deploy acoustic pressure / temperature transmitters at goosenecks of both the kill and choke line jumpers at the BOP stack. Both sensor deployed, but not plugged in due to Noise / interference issues. Maxx3 at surface.
May 20, 2010	3:45 to 5:00	DTP	Mil 42 monitor leak at leak at riser kink. Maxx3 at depth with the hydrate remediation skid at 4:15. Maxx 3 begin work to remove hydrate in the mud boost line. Mil 42 begin making final connections for acoustic P/T transmitters.

Date	Time, hrs	ROV Vessel	Comment
			Cut Middle Pipe Ram Hose
April 21, 2010	16:30 to 17:05	Max Chouest	Cut 1" control yellow control hose to middle to middle ram. Unable to reach blue hose.
			Trace Casing ("Super") Shear Ram Hose
April 29, 2010	8:45 to 10:50	OI 3	ROVs working on re-configuring SS hoses. Map control lines from Gilmore shuttle valves (on casing / "super" shears to determine which one goes to the Blue pod and which goes to the Yellow pod.
			Cut Hose to Upper Annulus (Assumed to be from Yellow Pod)
April 29, 2010	22:00 to 24:00	BOA Sub C	BOA Mil 36 begin cleaning around LMRP to identify upper annular close circuit hoses to cut for 1-1/2" HIT to stab into. Hose thought to be from Yellow pod (definitive identification not possible due to hoses wrap around stack and framing) cut and pulled out from among other hoses.
			Cut Hose to Lower Annulus
May 1, 2010	16:00 to 24:00	BOA Sub C	Mil 36 ROV surface to repair manipulator arm and wait on new Parker clamp. Mil 37 ROV attempting to cut hose from yellow pod to lower annular close circuit, but having difficulty keeping other hoses out of the way. At 22:15, while cutting, blade broke (hose ~ 3/4" cut). While waiting on new blade to be sent down in the basket, survey pod hot stab
May 2, 2010	6:00	BOA Sub C	Successfully cut hose to lower annular (from yellow pod).
			Yellow Pod Removal
May 4, 2010	02:40 to 06:00	OI 3	Mil 42 surveying yellow pod for removal requirements, but may need to surface for manipulator repair. Maxx 3 conduct tracerco survey of riser and standing by.
May 4, 2010	12:30 to 15:00	BOA Sub C	Mil 36 redeployed. Visibility has started to deteriorate. Mil 37 completed some test rigging work for removing the Yellow pod.
May 4, 2010	15:00 to 16:00	BOA Sub C	Prep to deploy HIT tooling for VBR function. Plan how to start cutting Yellow pod. Rig up shackle for removal.
May 5, 2010	6:00 to 9:30	BOA Sub C	BOA ROVs making preparations for yellow pod removal. Confirmed pod stand is now on deck. Verified pod locks are retracted. Mil 37 cuts MUX cable first. Done at 07:30. Cut first of three 1/2" pilot lines at 07:50. Repaired ROV hot stab line. Cut second and third lines 08:30. Start cut on 1.5" hydraulic supply line. This was done in slightly different order from procedure because of proximity to lines.
May 5, 2010	9:30 to 10:30	BOA Sub C	09:30 Splash MIL 36. At 9:40 pull all but 1 electronic cable away with Mil 37. At 10:20, Mil 36 begin working on cutting main 1.5" supply hose to the pod. Complete initial cut of supply hose at 10:30.

Date	Time, hrs	ROV Vessel	Comment
May 5, 2010	10:30 to 14:00	BOA Sub C	ROVs standing by to discuss plan forward and prep ROVs. 12:15 Mil 36 and Mil 37 untangling line for hot stab line. At 12:45, Mil 37 insert hot stab on to top of yellow pod. Pressure up on hot stab (settle out to 2200 psi). Adjust to 2000 psi. At 13:15 MIL 36 begins working to cut last line before put a charge on retract. Complete cutting of last line (90deg). Working to locate debris covers. At 14:00 open valve to put charge on retract, monitor w/ mil 37 and see panel raise (~ 14") indicating stingers are de-engerized and ready to pull.
May 5, 2010	14:00 to 17:30	BOA Sub C	Monitor Accumulator pressure w/ Mil 36 (2,000 psi). Crane shut down waiting on hellicopoter ops. Begin to run down with crane line /hook at 15:10. Mil 37 being used to guide down the hook. At 17:07 hook is at the yellow pod. Work to attach hook to yelllow pod with Mil 36. Hook Attached. At 17:25 begin pulling yellow pod, monitor with MIL 36 (Hot Stab still in, not pulling hot stab out until the yellow pod is pulled away from BOPS). Move out away from BOP. Pull hot stab.
May 5, 2010	17:30 to 20:30	BOA Sub C	Mil 37 is monitoring the yellow pod as it is being pulled to surface. At 18:00, Mil 36 is monitoring setting of debris cap. At 18:15 debris cap set in place over yellow pod receptacle. Mil 37 follow the yellow pod as it is being pulled to the surface. Pod on surface @ 20:00. Mil 36 investigate lower annular hose fittings (leak from the other day) to see if better access to tighten now that yellow pod removed, but access still limited by blue pod. Mil 36 then standby at BOP stack.
			Yellow Pod Refurbishment
May 9, 2010	0:00 to	Q-4000	Venom ROV continue to "garden hoe" hydrates from under mud mats. XLS-9 ROV use auger to probe and clean out ports on pyramid roof. At 01:00 the Q-4000 tool pusher reported the yellow POD had been fully function tested and was ready to run.
			Re-Deploy Yellow Pod
May 18, 2010	04:00 to 05:00	Q-4000	Q 4000 has yellow pod in the water at 300'. Venom and XLS9 following down the yellow pod for re-deployment. (stoping for clamps to MUX / hot line on 50' intervals)
May 18, 2010	05:00 to 12:00	Q-4000	Q 4000 has yellow pod handed off to main rotary at 750-ft by 09:00. Clump weight added. Yellow Pod run on DP. Venom and XLS9 following down the yellow pod for re-deployment. At +/- 2,000-ft at 12:00.
May 18, 2010	12:00 to 16:00	Q-4000	Venom and XLS9 following down the yellow pod for re-deployment. On depth at 16:00 hrs
May 18, 2010	16:00 to 18:00	Q-4000	Q4000 standing by, waiting for OI3 to move, to gain access to BOP's
May 18, 2010	18:00 to	Q-4000	Q 4000 moving in to location towards the BOPs. At , Q4000 has the yellow pod near the BOP stack.
			Yellow Pod used to Re-energize connectors and Re-Close Casing Shear Rams

Date	Time, hrs	ROV Vessel	Comment
May 25, 2010	11:00 to 11:45	Q-4000	Tested Operation of Yellow Pod and re-energized the Mini-connector, LMRP & Wellhead connectors to 1,500-psi from the Q4000. Went to "Latch" on the mini-connector (step 6 on section 1.7 of PR4105) at 1122hrs. Casing Shear Rams functioned closed, no change in plume.

Date	Time, hrs	ROV Vessel	Comment
			No Impact on Blue Pod
April 21, 2010	16:30 to 17:05	Max Chouest	Cut 1" control yellow control hose to middle ram. Unable to reach blue hose.
			Disconnect Hose from Blue Pod at Casing Shear Ram shuttle valve assy
April 29, 2010	8:45 to 10:50	OI 3	ROVs working on re-configuring SS hoses. Map control lines from Gilmore shuttle valves (on casing / "super" shears to determine which one goes to the Blue pod and which goes to the Yellow pod.
April 29, 2010	10:50	OI 3	Start to disconnect Blue pod line on shuttle valve (of casing / "super" shear).
April 29, 2010	11:23	OI 3	Successfully removed blue control line.
			Cut Hose to Upper Annulus (Assumed to be from Yellow Pod)
April 29, 2010	22:00 to 24:00	BOA Sub C	BOA Mil 36 begin cleaning around LMRP to identify upper annular close circuit hoses to cut for 1-1/2" HIT to stab into. Hose thought to be from Yellow pod (definitive identification not possible due to hoses wrap around stack and framing) cut and pulled out from among other hoses.
			Cut Hose to Lower Annulus (High Confidence to be from Yellow Pod)
May 1, 2010	16:00 to 24:00	BOA Sub C	Mil 36 ROV surface to repair manipulator arm and wait on new Parker clamp. Mil 37 ROV attempting to cut hose from yellow pod to lower annular close circuit, but having difficulty keeping other hoses out of the way. At 22:15, while cutting, blade broke (hose ~ 3/4" cut). While waiting on new blade to be sent down in the basket, survey pod hot stab
May 2, 2010	6:00	BOA Sub C	Successfully cut hose to lower annular (from yellow pod).
			Disconnect Hose from Middle VBRs shuttle valve assy at Blue Pod
May 3, 2010	15:45 to 24:00	BOA Sub C	Mil 37 still on surface. Mil 36 back out hose (that goes to middle VBRs close circuit) from blue pod @ 19:00. working on making up fitting to be able to connect and pump in. Having trouble aligning hoses and called OI 3 Mil 42 in to assist. Mil 36 holding a section of hose with each manipulator and Mil 42 attempt to apply wrench to fitting to make up.
			Cut Hose from Middle VBRs shuttle valve assy at Blue Pod
May 4, 2010	06:00 to 07:30	BOA Sub C	Mil 37 continue drill pipe overshot make-up on hold down bolts with high torque wrench. Unable to make up fitting, so Mil 36 back out to allow OI 3 Maxx 3 to cut hose blue pod to middle VBR close circuit.
May 4, 2010	06:00 to 14:30	OI 3	Maxx 3 trace blue hose to VBR. Prep to cut hose for HIT tool insertion. Cut hose. Dress off. OI3 will clear out for the BOA to insert HIT. Mil 42 completing temp survey at plume.
			Transfer control of the C/K Isolation Valves to the Blue Pod
May 10, 2010	9:00 to 11:00	SMJ	Mill 36 and Mil 37 overrode the C/K isolation valves placing them in the closed position. Valves were tied into the Blue pod control system.

6/3/210 Time	Choke (/64)	Pressure (psi)
6/3/10 21:10	12	1800
6/3/10 21:21	16	1820
6/3/10 21:41	16	1741
6/3/10 21:58	16	1665
6/3/10 22:18	16	1577
6/3/10 22:45	16	1460
6/3/10 23:15	16	1358
6/4/10 0:30	24	1347
6/4/10 1:12	24	1360