Date	Time, hrs	Event Status	ROV	K1/K2 (Skandi) Pressure BLUE/ GREEN	Choke (Skandi) Pressure BOP RED	BOP (Skandi) Pressure BOP BLACK	Helix & Q4000 Status	Tempature/ Noise	Observation
July 13, 2010	13:14	Time Calibration (Skandi, Challenger, BOA;Q4000;Chouest Holiday)	Open	2137.5/2198.25	2173.48	5066.01	Producing	n/a	blue/green/red/black : 2137.5/2198.25/2173.48/5066.01
July 13, 2010	13:25	Checking ROV Pressure Readings/Data Transmission							
July 13, 2010	13:35	BOA (Mill 22&21) Check Status HC Connector Panel							Can see the Latch Gauge
July 13, 2010	13:44	BOA (MiL 36) - 3 Sonar Sweeps							
July 13, 2010	13:58	Setup BOA & Skandi to displace with glycol							
July 13, 2010	14:38	**TEST** TURN CK +5							
July 13, 2010	14:43	**TEST** TURN CK -5 (counter clockwise)							
July 13, 2010	15:00	**TEST** TURN CK +10							
July 13, 2010	15:06	**TEST** TURN CK -9 (estimated 1turn to fully open)							Estimated 1 turn remaining to fully open. BOA picking up another torque tool.
July 13, 2010	15:14	TESTING lines with pumping glycol							
July 13, 2010	15:18	Visually confirmed glycol at the end of the hot stab							
July 13, 2010	15:40	Pump off and testing hose							Glycol line is not building pressure; testing
July 13, 2010	15:45	SHUT DOWN							Richard Lynch SHUT DOWN; Request to do more calculations on shut-in maximum Pressures
July 14, 2010	14:00	Preparing ROVs							
July 14, 2010	14:30	ROV Test Runs							
July 14, 2010	14:40	Filling up the hub with glycol and preparing for turns							
July 14, 2010	14:53	Review roles w/ ROVs							
July 14, 2010	14:57	GIVEN THE GO AHEAD		2132.62 / 2198.39	2173.48	5066.00			2132.62 / 2198.39 / 2173.48 / 5066.00
July 14, 2010	14:58	Preparing Q4000							
July 14, 2010	15:03	Opts note #1 - Q4000 Ramp Down							
July 14, 2010	15:15	Q4000 Production down to 4500							
July 14, 2010	15:18	Q4000 Production is Shut down							
July 14, 2010	15:19	Q4000 Pressure 1442psi topside		2135.10 / 2198.25	2173.48	5066.00			2135.10 / 2198.25 / 2173.48 / 5066.00
July 14, 2010	15:34	6 minutes confirmed on the sonar data							
July 14, 2010	15:38	Upper Choke Gas Vent Valve is Closed - BOP							
July 14, 2010	15:54	Inner valve closed on the choke side of the BOP							
July 14, 2010	15:58	Confirm Upper Choke inner & outer valves are shut	BOA(M21)						
July 14, 2010	16:20	Pump Glycol & sucked into the outlet of the choke							
July 14, 2010	16:22	Move to panel	BOA(M21)						
July 14, 2010	16:26	Opening the isolation valveS on either side of the C&K valves							Note: Time is off on the Challenger.
July 14, 2010	16:32	Altering Dispersant Wand to the outlet of the choke	SKD (H14)						Helix does not have ROVs therefore, is commicated shut down proc. w/ Q4000 via radio coms. HP no production.
July 14, 2010		#2 MANIPULATE 3 RAM CAPPING STACK							16:47 Received call from conf call operator.
July 14, 2010	16:48	Working on video feed	BOA(M22)						
July 14, 2010	16:53	Instruction to start turning valve	OLCH (30)						
July 14, 2010	16:56	Bypass on the subsea manifold closed (Shut the middle ram) - return flow through choke		2311.06 / 2376.70	2322.26	5193.51			2311.06 / 2376.70 / 2322.26 / 5193.51
July 14, 2010	17:00	Leak below the flange at the choke assembly - moving ROVs to see	SKD (H14)						
July 14, 2010	17:07	Repressure connector to lock in place							
July 14, 2010	17:12	Order close outer wing valve on choke side capping stack	OLCH (30)						
July 14, 2010	17:15	Moving ROV to prepare for closure	OLCH (30)						
July 14, 2010	17:25	Instruction to fire hydraulics...							
July 14, 2010	17:40	Setting up choke panel							
July 14, 2010	17:44	Altering Dispersant Wand	SKD (H6)						
July 14, 2010	17:46	Opening the outer valve and watching pressure	OLCH (30)						
July 14, 2010	17:48	CONFIRM closure of outer wing valve on choke side - Prevent Washout	BOA (M22)	2558.45 / 2625.00	2602.74	5335.35			2558.45 / 2625.00 / 2602.74 / 5335.35
July 14, 2010	18:32	Checking on the lack connector							
July 14, 2010	18:38	Checking on verticality of the stack	BOA (M22)						
July 14, 2010	19:01	Setting up crane at surface to deploy subsea							
July 14, 2010	19:05	Confirm Time with BOA							
July 14, 2010	20:12	New choke in the water at 950'	Skandi						
July 14, 2010	21:30	choke line opened in preparation of HP1 starting up							
July 14, 2010	22:30	HP1 started containment					started		
July 14, 2010	23:17	Q4000 started containment					started		
July 14, 2010	23:59	Q4000 pressure stabalized		2330 / 2410	2400	5200.00	Producing		
July 14, 2010	23:58	Strap on the choke cut							
July 14, 2010	0:00	Old Choke off							
July 14, 2010									
July 14, 2010									
July 14, 2010									
PLAN		2.1.2. Isolate HP-1							

Date	Time, hrs	Event Status	ROV	K1/K2 (Skandi) Pressure BLUE/ GREEN	Choke (Skandi) Pressure BOP RED	BOP (Skandi) Pressure BOP BLACK	Helix & Q4000 Status	Tempature/ Noise	Observation
PLAN		**2.2. Manipulate 3 Ram Capping Stack for Well Integrity Test**							Note: Reference procedure "2200-T2-DO-PR-4242 Capping Stack ROV Procedures" for any opening/closing of the choke line or kill line valves and operating CS Rams.
PLAN		1. Open outer choke line valve (CSOC) on 3 Ram Capping Stack.							
PLAN		2. Open outer kill line valve (CSOK) on 3 Ram Capping Stack.							
PLAN		3. Confirm DR30 choke on the choke line of the 3 Ram Capping Stack is fully open. Reference document 2200-T2-DO-PR-4242 for operating detail of the DR30 choke.The Capping Stack installation team will provide an Ops Note to ensure that Choke Valve is fully							
PLAN		4. Close the middle ram on 3 Ram Capping Stack, leaving uncollected hydrocarbons venting to sea through the 3-in CS choke and kill lines.							
PLAN		5. Record pressure in 3 Ram Capping Stack and base of Horizon BOP with CS ram closed.							
PLAN		6. Close the CS outer kill line valve (CSOK).							Note: Point forward, the duration of pressure measurements will be determined by Well Integrity Test SPA.
PLAN		7. Use hose to fill 3 Ram CS kill line between outer isolation kill valve (CSOK) and 3-in Cameron connector with glycol.							
PLAN		8. Record pressure in 3 Ram Capping Stack before starting to close DR30 choke on choke line.							
PLAN		9. DR30 choke closure increments and timescales for subsequent progress to test well integrity will be provided by Well Integrity Test SPA observing build up of pressure at base of Horizon BOP and in 3 Ram Capping Stack (Record pressures at each location)							Note: Pressure under closed CS ram could rise by up to 500-psi depending on flow rate. In this event containment start-up would occur above seabed ambient pressure. Note: Prior to continuing this procedure, monitor and record pressure as per Well Integrit
PLAN		10. Observe for any gross leakage on Horizon BOP, 3 Ram Capping Stack, or seabed. ROVs will be monitoring the Horizon BOP body, the capping stack, and the sea bed during the integrity testing period. Be prepared to open, as directed by Well Integrity Test							
		RAMP UP PROCEDURES							
		Q4000							
		HP1							

Frequency		Items to record
Notable Change & every 5 minute		Data system status & changes
"		Data readings summary including notiable changes
"		Valve Status
Notable Changes		Reports/information from seabed monitoring
"		Reports/information from Capping Stack & BOP Monitoring
"		Hydrate issues & Remediation
"		ROV assisgnments
"		Containment vessels status/actions
"		Relevant printouts

SUGGESTED RECORDED ITEMS

Date	Time, hrs	Event Status	ROV	K1/K2 (Skandi) Pressure BLUE/ GREEN	Choke (Skandi) Pressure RED	BOP (Skandi) Pressure BOP BLACK	Helix & Q4000 Status	Tempature/ Noise	Observation
July 15, 2010	0:20	Inspecting the hub to confirm its status							
July 15, 2010	1:45	Choke 2 attempted to be put on the hub. The heave prevented a fit and choke had to be pulled back to surface							
July 15, 2010	1:54	3 ram stach choke pressure drops by 170 psi: Now reads ambient. ROV activity may have knocked off the com pannel			2175				
July 15, 2010	4:23	Trevor Smith suggestion to replace the faulty instrument assembly if we can			2175				
July 15, 2010	4:55	Marcus has put a call into the vessels to find out the new gauge trasmitter information. Will get that during day. Marcus's replacement with confirm with Trevor H.							
July 15, 2010	5:30	One of the two gauges on the Kill line (blue) has stopped reading							
July 15, 2010	5:40	Choke 2 is installed and latched							
July 15, 2010	6:15	Blue Sensor							
	7:00	Ashish and Michael Shift change							
July 15, 2010	7:19	START TEST OF TORQUE TOOL 0.7 turn complete		2320.12 / 2386.12	2184.04	5202.40	Producing Total 23K BOD		2320.12 / 2386.12 / 2184.04 / 5202.40
July 15, 2010	7:20	TEST CLOSE +0.5 turn (over turned at to .7 and came back .2)							
July 15, 2010	7:23	TEST CLOSE +1 turn; take counter to 21	BOA(ML36)						Note: ~30sec-1min delay in the ROV video feed
July 15, 2010	7:25	TEST CLOSE +0.5 turn; take counter 21.5	BOA(ML36)						
July 15, 2010	7:26	TEST CLOSE +1 turn; take counter to 22.5	BOA(ML36)						
July 15, 2010	7:28	TEST OPEN -1 turn; take counter to 21.5							
July 15, 2010	7:30	TEST OPEN -0.5 turn; take counter to 21.0							
July 15, 2010	7:32	TEST OPEN -1.5 turns; take counter to 19.5							
July 15, 2010	7:35	TEST OPEN -1.5 turns; take counter to 18.0							
July 15, 2010	7:37	Pull out Torque Tool & move out of way	BOA(ML36)						
July 15, 2010	7:37	Bring in ROV to start glycol flush	BOA(ML21)						
July 15, 2010	7:48	Once ML21 finishes glycol procedure switch glycol over to ML22							
July 15, 2010	8:10	Preparing to pull choke pressure transducer	BOA(ML21)						
July 15, 2010	8:13	Two isolation valves closed and vent is open							
July 15, 2010	8:43	Preparing Skandi Neptune ROV 2 (H6) to collect data							
July 15, 2010	8:50	Pressure Transducer removed	BOA(ML22)						
July 15, 2010	9:15	Setting up Big Ears looking at Wellhead	BOA(ML37)						
July 15, 2010	9:31	Insert Pressure Transducer on the Choke (Red) Tag 206	BOA(ML22)	2340.88 / 2404.5	2211.78	5247.77			2340.88 / 2404.5 / 2211.78 / 5247.77
July 15, 2010	9:39	Skandi confirm Fugro pressure readings							
July 15, 2010	9:57	Instruction to open vent valve and monitor returns	BOA(ML21)						
July 15, 2010	10:00	Confirm pressure drop	BOA(ML21)						
July 15, 2010	10:09	Skandi H6; Getting ready to move postion for dispersant	SKD(H6)						
July 15, 2010	10:24	Olympic Challenger (ROVmonitoring outlet panel	OLC (U30)						
July 15, 2010	10:28	Altering flow to the Capping Stack and monitoring outlet pressure							
July 15, 2010	10:28	Close outer kill valve to isolation and monitor	BOA(ML21)						
July 15, 2010	10:37	Monitoring fluid on seal and confirmed hydraulic (clear) fluid (NO LEAKS)	BOA(ML21)						
July 15, 2010	10:39	#2.1.2 Procedure - Instruction to ramp down Q4000 (Manny)							
July 15, 2010	10:51	Q4000 Shut down/ moving ROV to confirm the choke vent valve is closed	BOA(ML21)						
July 15, 2010	10:56	Confirmed 1850psi shut-in pressure on the choke vent valve	BOA(ML21)						
July 15, 2010	10:57	Skandi confirmed all three pressures are reading	SKD(H6)						
July 15, 2010	11:04	Move BOA ML 22 to varify gas vent valve on the choke is closed	BOA(ML22)						
July 15, 2010	11:24	Confirmed Helix is shut down (communicated via radio coms not ROVs)							
July 15, 2010	11:28	Isolating pressure on the capping stack by shutting F4 valve	OLC (U30)						
July 15, 2010	11:30	Move ROV OLC UHD-30 to sonar position	OLC (U30)						
July 15, 2010	11:31	Upper inner and outer valves have been reconfirmed by the Q4000							
July 15, 2010	11:33	Move ML 21 to glycol line and ML 22 to check valves on choke side							
July 15, 2010	11:35	Move ML 22 to LMRP to check							
July 15, 2010	11:46	Injecting glycol into the kill line outlet	BOA(ML21)						
July 15, 2010	12:12	Skandi report intermittent signal on Red 206 (Choke) pressure transducer	SKD(H6)						Daniel confirms importance of data to Skandi H6 & believes the intermittent data is due/to location of the ROV
July 15, 2010	12:17	Sonar setup with ML21							
July 15, 2010	12:20	Prepare to operate choke - ML 36; BOA ML 22 Monitoring mudline; ML21 Sonar Sweeps;							
July 15, 2010	12:26	Instructions to ROV							
July 15, 2010	12:26	ML 36 Ready to start Choke							
July 15, 2010	**12:29**	**Confirm +1 turn clockwise choke; counter at 4.7**	BOA(ML36)	2993.31 / 3069.20		4688.10			
July 15, 2010	**12:30**	**Confirm +1 turn clockwise choke; counter at 5.7**	BOA(ML36)	3000.00 / 3075		4693.95			
July 15, 2010	**12:36**	**Confirm +0.5 turn clockwise choke; counter at 6.2**	BOA(ML36)	3018.75 / 3092.83		4700.00			
July 15, 2010	**12:42**	**Confirm +0.5 turn clockwise choke; counter at 6.7**	BOA(ML36)	3057.75 / 3131.55		4717.72			
July 15, 2010	12:48	Check on BOP pressure and reposition ROV	SKD(H6)						
July 15, 2010	12:53	Checking on 301, 202, 203, 206; Confirmed 206 is intermittent	SKD(H6)						

Date	Time, hrs	Event Status	ROV	K1/K2 (Skandi) Pressure BLUE/ GREEN	Choke (Skandi) Pressure RED	BOP (Skandi) Pressure BOP BLACK	Helix & Q4000 Status	Tempature/ Noise	Observation
July 15, 2010	**12:55**	**Confirm +0.5 turn clockwise choke; counter at 7.2**	BOA(ML36)	3153.35 / 3224.95		4768.50			12:55 - 3153.35 / 3224.95 / no red / 4768.50
July 15, 2010	**13:04**	**Confirm +0.5 turn clockwise choke; counter at 7.7**	BOA(ML36)	3300.76 / 3379.40		4855.05			
July 15, 2010	**13:11**	**Confirm +0.5 turns clockwise choke; counter at 8.2**	BOA(ML36)	3561.88 / 3641.03		4995.91			3561.88 / 3641.03 / no red / 4995.91
July 15, 2010	13:15	Check with Fugro on data quality and confirmed data is good	SKD(H6)						
July 15, 2010	**13:19**	**Confirm +0.5 turn clockwise choke; counter at 8.7**	BOA(ML36)	3925.31 / 4024.49		5184.94			Total of 5 turns = 8.7 on counter.
July 15, 2010	**13:33**	**Confirm +0.5 turn clockwise choke; counter at 9.2**	BOA(ML36)	4540.34 / 4637.96		5609.75			
July 15, 2010	13:34	Skandi confirms data collection is good	SKD(H6)						
July 15, 2010	13:35	Coms Check (BOA DS, BOA Sub, Skandi, Challenger, Q4000)							
July 15, 2010	**13:41**	**Confirm +0.5 turn clockwise choke; counter at 9.7**	BOA(ML36)	4900.53 / 5097.65		5882.61			Total of 6 turns = 9.7
July 15, 2010	**13:53**	**Confirm +0.5 turn clockwise choke; counter at 10.2**	BOA(ML36)	6085.86 / 6195.18		6849.67			
July 15, 2010	13:53	Instruction - ML 21 fly stack and observe	BOA(ML21)						
July 15, 2010	13:59	ML 21 is 1400' and observing stack	BOA(ML21)						
July 15, 2010	**14:04**	**Confirm +0.5 turn clockwise choke; counter at 10.7**	BOA(ML36)	6286.08 / 6391.34		7027.52			Total of 7 turns = 10.7
July 15, 2010	**14:12**	**Confirm +0.5 turn clockwise choke; counter at 11.2**	BOA(ML36)	6427.76 / 6535.73		7157.40			14:12 - 6427.76 / 6535.73 / no red / 7157.40
	14:18	Skandi Neptune H6 - Pumps on dispersant shut down	SKD(H6)						
July 15, 2010	**14:20**	**Confirm +0.5 turn clockwise choke; counter at 11.7 and STANDBY**	BOA(ML36)	6468.75 / 6578.10		7199.61			14:20 - 6468.75 / 6578.1 / no red / 7199.61
July 15, 2010	**14:22**	**Confirm +0.5 turn clockwise choke; counter at 12.0 and total of 8.3 full turns SHUT IN**		6492.12 / 6600.00		7219.00			Operator asked for 0.5 turns which resulted in 0.3 turns with Total = 12.0 on the counter
July 15, 2010	14:24	Glycol going to position							
July 15, 2010	14:25	View the top of stack - Skandi Neptune (H14) in route	SKD(H14)						
July 15, 2010	14:34	Pull torque tool out of stack	BOA(ML36)						
July 15, 2010	14:47	Displace seawater from the choke vent	BOA(ML21)						
July 15, 2010	14:53	Negative reports from sonar and visual H6 & H14							
July 15, 2010	14:53	Skandi (H14) set down wand							
July 15, 2010	14:56	Start setting up ROVs to view wellhead and seafloor							
July 15, 2010	15:00	Complete glycol flush	BOA(ML21)						
July 15, 2010	16:23	Skandi Neptune H6 - Confirming 206 pressure transducer is intermittent	SKD(H6)						
July 15, 2010	23:35	Pressures monitoring		6567.38 / 6684.34		7206.50			
July 15, 2010									
July 15, 2010									
PLAN		2.1.2. Isolate HP-1							
PLAN		**2.2. Manipulate 3 Ram Capping Stack for Well Integrity Test**							Note: Reference procedure "2200-T2-DO-PR-4242 Capping Stack ROV Procedures" for any opening/closing of the choke line or kill line valves and operating CS Rams.
PLAN		1. Open outer choke line valve (CSOC) on 3 Ram Capping Stack.							
PLAN		2. Open outer kill line valve (CSOK) on 3 Ram Capping Stack.							
PLAN		3. Confirm DR30 choke on the choke line of the 3 Ram Capping Stack is fully open. Reference document 2200-T2-DO-PR-4242 for operating detail of the DR30 choke.The Capping Stack installation team will provide an Ops Note to ensure that Choke Valve is fully							
PLAN		4. Close the middle ram on 3 Ram Capping Stack, leaving uncollected hydrocarbons venting to sea through the 3-in CS choke and kill lines.							
PLAN		5. Record pressure in 3 Ram Capping Stack and base of Horizon BOP with CS ram closed.							
PLAN		6. Close the CS outer kill line valve (CSOK).							Note: Point forward, the duration of pressure measurements will be determined by Well Integrity Test SPA.
PLAN		7. Use hose to fill 3 Ram CS kill line between outer isolation kill valve (CSOK) and 3-in Cameron connector with glycol.							
PLAN		8. Record pressure in 3 Ram Capping Stack before starting to close DR30 choke on choke line.							
PLAN		9. DR30 choke closure increments and timescales for subsequent progress to test well integrity will be provided by Well Integrity Test SPA observing build up of pressure at base of Horizon BOP and in 3 Ram Capping Stack (Record pressures at each location)							Note: Pressure under closed CS ram could rise by up to 500-psi depending on flow rate. In this event containment start-up would occur above seabed ambient pressure. Note: Prior to continuing this procedure, monitor and record pressure as per Well Integrit
PLAN		10. Observe for any gross leakage on Horizon BOP, 3 Ram Capping Stack, or seabed. ROVs will be monitoring the Horizon BOP body, the capping stack, and the sea bed during the integrity testing period. Be prepared to open, as directed by Well Integrity Test							
		RAMP UP PROCEDURES							
		Q4000							
		HP1							

Date	Time, hrs	Event Status	ROV	K1/K2 (Skandi) Pressure BLUE/ GREEN	Choke (Skandi) Pressure RED	BOP (Skandi) Pressure BOP BLACK	Helix & Q4000 Status	Tempature/ Noise	Observation

Frequency		Items to record
Notable Change & every 5 minute		Data system status & changes
"		Data readings summary including notiable changes
"		Valve Status
Notable Changes		Reports/information from seabed monitoring
"		Reports/information from Capping Stack & BOP Monitoring
"		Hydrate issues & Remediation
"		ROV assisgnments
"		Containment vessels status/actions
"		Relevant printouts

SUGGESTED RECORDED ITEMS

General Preparation

Action/event	Procedure reference	Time occurred	Confirmed by	SPA	
Pressure measurement available from base of BOP to ProcessNet	4464 section 1.2	5:00	Dave Brookes	Michael Byrd / Dave Brookes	
Pressure measurement available from 3 ram stack to ProcessNet	4464 section 1.2			Michael Byrd / Dave Brookes	
Go / no go for next step via Trevor Hill to John Hughes	**Note**			Trevor Hill / Bill Grames	
ROV in place for 3 Ram stack valve activation	4464 section 1.2			John Hughes / Rupen Doshi	
ROVs in place for stack survey	4464 section 1.2			John Hughes / Rupen Doshi	
ROVs in place for seabed survey	4464 section 1.2		John Hughes	John Hughes / Rupen Doshi	Start 13:57
ROV in place for glycol	4464 section 1.2		Daniel/Doug - ROV ops	John Hughes / Rupen Doshi	
Confirm SPAs / nominees are in place in ROV room (Horizon BOP, 3 ram stack, seabed, data, recording)			Richard Lynch	Trevor Hill / Bill Grames	
Confirm drill choke, choke inner valve and kill inner valve on 3 ram stack are open	4464 section 1.1 diagram		Trevor Smith/ROV ops	Jim Wellings / Trevor Smith	
Go / no go for integrity test via Richard Lynch	4464 section 2		Richard Lynch	Trevor Hill / Bill Grames	
Use hose to fill 3 Ram CS kill line from outer kill valve (CSOK) and choke line from outer choke valve (CSOC)	4464 Ops note # 3		John Hughes	John Hughes / Rupen Doshi	
Shut down and isolate Q4000 and HP	4464 sections 2.1.1 and 2.1.2 4464 Ops note # 1		Manny - Q4000	Jane Gates / Eric Jacobsen	7/15/2010 10:39
Close Horizon BOP gas vent and upper kill inner and outer valves	4464 Ops note # 4			Bill Kirton / Bill Grames	

3 Ram Stack preparation (SPA Trevor Hill)

Action/event	Procedure reference	Time occurred	Confirmed by	Value (psi) (K1/K2/CK/BOP)	Comments
Open outer choke line valve (CSOC) on 3 Ram Capping Stack (glycol already added)	4464 (Section 2.2. #1) 4242 (Section 5.3.1)				13:14 blue/green/red/black : 2137.5/2198.25/2173.48/5066.01 F6
Open outer kill line valve (CSOK) on 3 Ram Capping Stack (glycol already added)	4464 (Section 2.2. #2) 4242 (Section 5.2.1)				
Confirm DR30 choke on the choke line of the 3 Ram Capping Stack is fully open (Ref: 4242 for operating detail of the DR30 choke). The Capping Stack installation team will provide an Ops Note to ensure that Choke Valve is fully open during landing/installation.	4464 (Section 2.2. #3)				
Close the middle ram on 3 Ram Capping Stack, leaving uncollected hydrocarbons venting to sea through the 3-in CS choke and kill lines.	4464 (Section 2.2. #4) 4242 (Section 7.1.1)				
Record pressure in 3 Ram Capping Stack and base of Horizon BOP with CS ram closed.	4464 (Section 2.2. #5)				
Point forward, the duration of pressure measurements will be determined by Well Integrity Test SPA.	*Note*				
Close the CS outer kill line valve (CSOK).	4464 (Section 2.2. #6) 4242 (Section 5.2.2)				
Use hose to fill 3 Ram CS kill line between outer isolation kill valve (CSOK) and 3-in Cameron connector with glycol.	4464 (Section 2.2. #7) 4242 (Section 6)				
Record pressure in 3 Ram Capping Stack before starting to close DR30 choke on choke line.	4464 (Section 2.2. #8)				
Pressure under closed CS ram could rise by up to 500-psi depending on flow rate. In this event containment start-up would occur above seabed ambient pressure.	*Note*				
Monitor and record pressure as per Well Integrity Test SPA.					
Choke closure (see next worksheet) - clockwise to close	4464 (Section 2.2. #9) 4242 (Section 8)				
Seabed stack survey	4464 (Section 2.2. #10)				

Closing Choke

Choke movement

# Turns	1		2		3		4		5		6		7		8		9		10	
Full		12:29		12:30		12:42		13:04		13:19		13:41		14.04		14:20				
Half					12:36		12:55		13:11		13.33		13.53		14:12		14:22			
Pressure, psi (Bottom BOP)	4688.1		4693.95		4717.72		4855.05		5184.94		5882.61		7027.52		7199.61		7219			
Pressure, psi (Skandi-kill-Green)	3069.2		3075		3131.55		3379.4		4024.49		5097.65		6391.34		6578.1		6600			

Choke movement (cont)

# Turns	11		12		13		14		15		16		17				18				18.75		
Full																							
Half																							
Pressure, psi																							

Note:

Turns	First five turns have no effect on flow
Pressure	Pause when pressure in 3 ram stack reaches 5500 psi for stack integrity check
Pressure	Pause when pressure in 3 ram stack reaches 6500 psi for single phase equilibration and stack integrity check

Closed Choke

Action/event	Procedure reference	Time occurred	Confirmed by	SPA
Use hose to fill 3 Ram CS choke line between outer isolation choke valve (CSOC) with glycol.	4464 (Ops note 3) 4242 (Section 6)			

Closed-in Period

Action/event			
Pressure monitoring			
Stack monitoring			
Seabed monitoring			

Date	Time, hrs	Event Status	Choke Status	K1/K2 (Skandi) Pressure BOP BLUE/ GREEN	Choke (Skandi) Pressure BOP RED	BOP (Skandi) Pressure BOP BLACK	Helix & Q4000 Status	Tempature/ Noise	Observation
July 13, 2010	13:14	Time Calibration (Skandi, Challenger, BOA;Q4000;Chouest Holiday)	Open	2137.5/2198.25	2173.48	5066.01	Producing	n/a	blue/green/red/black : 2137.5/2198.25/2173.48/5066.01
July 13, 2010	13:25	Checking ROV Pressure Readings/Data Transmission							
July 13, 2010	13:35	BOA (Mill 22&21) Check Status HC Connector Panel							Can see the Latch Gauge
July 13, 2010	13:44	BOA (MiL 36) - 3 Sonar Sweeps							
July 13, 2010	13:58	Setup BOA & Skandi to displace with glycol							
July 13, 2010	14:38	**TEST** TURN CK +5							
July 13, 2010	14:43	**TEST** TURN CK -5 (counter clockwise)							
July 13, 2010	15:00	**TEST** TURN CK +10							
July 13, 2010	15:06	**TEST** TURN CK -9 (estimated 1turn to fully open)							Estimated 1 turn remaining to fully open. BOA picking up another torque tool.
July 13, 2010	15:14	TESTING lines with pumping glycol							
July 13, 2010	15:18	Visually confirmed glycol at the end of the hot stab							
July 13, 2010	15:40	Pump off and testing hose							Glycol line is not building pressure; testing
July 13, 2010	15:45	SHUT DOWN							Richard Lynch SHUT DOWN; Request to do more calculations on shut-in maximum Pressures
July 14, 2010									
PLAN		**2.1. Isolate Q4000 and/or HP1**							
PLAN		2.1.1. Isolate Q4000							
PLAN		2.1.2. Isolate HP-1							
PLAN		**2.2. Manipulate 3 Ram Capping Stack for Well Integrity Test**							Note: Reference procedure "2200-T2-DO-PR-4242 Capping Stack ROV Procedures" for any opening/closing of the choke line or kill line valves and operating CS Rams.
PLAN		1. Open outer choke line valve (CSOC) on 3 Ram							
PLAN		2. Open outer kill line valve (CSOK) on 3 Ram Capping Stack.							
PLAN		3. Confirm DR30 choke on the choke line of the 3 Ram Capping Stack is fully open. Reference document 2200-T2-DO-PR-4242 for operating detail of the DR30 choke.The Capping Stack installation team will provide an Ops Note to ensure that Choke Valve is fully open during landing/installation.							
PLAN		4. Close the middle ram on 3 Ram Capping Stack, leaving uncollected hydrocarbons venting to sea through the 3-in CS choke and kill lines.							
PLAN		5. Record pressure in 3 Ram Capping Stack and base of Horizon BOP with CS ram closed.							
PLAN		6. Close the CS outer kill line valve (CSOK).							Note: Point forward, the duration of pressure measurements will be determined by Well Integrity Test SPA.
PLAN		7. Use hose to fill 3 Ram CS kill line between outer isolation kill valve (CSOK) and 3-in Cameron connector with glycol.							

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PLAN		8. Record pressure in 3 Ram Capping Stack before starting to close DR30 choke on choke line.							
PLAN		9. DR30 choke closure increments and timescales for subsequent progress to test well integrity will be provided by Well Integrity Test SPA observing build up of pressure at base of Horizon BOP and in 3 Ram Capping Stack (Record pressures at each location). See attachment 5 for DR30 choke diagram. Choke increments will be made in steps of one half turn, or of one full turn. The step amount will be followed by a request 'to open' or 'to close'.							Note: Pressure under closed CS ram could rise by up to 500-psi depending on flow rate. In this event containment start-up would occur above seabed ambient pressure. Note: Prior to continuing this procedure, monitor and record pressure as per Well Integrity Test SPA.
PLAN		10. Observe for any gross leakage on Horizon BOP, 3 Ram Capping Stack, or seabed. ROVs will be monitoring the Horizon BOP body, the capping stack, and the sea bed during the integrity testing period. Be prepared to open, as directed by Well Integrity Test SPA, the DR30 choke if any leakage occurs on Horizon BOP, 3 Ram Capping Stack, or seabed, or if pressure at base of Horizon BOP does not rise as expected. Ensure that ROV has good hold on 3 Ram Capping Stack at all times.							
		RAMP UP PROCEDURES							
		Q4000							
		HP1							

Frequency		Items to record
Notable Change & every 5 minute		Data system status & changes
"		Data readings summary including notiable changes
"		Valve Status
Notable Changes		Reports/information from seabed monitoring
"		Reports/information from Capping Stack & BOP Monitoring
"		Hydrate issues & Remediation
"		ROV assisgnments
"		Containment vessels status/actions
"		Relevant printouts

SUGGESTED RECORDED ITEMS

Re-Open