

Summary: Well Control and Marine Safety Drills Conducted on the *DWH*

January 31, 2010 to April 18, 2010

Well Control Drill

Marine Safety Drill

Function Diverter

Date	Time	Type of Drill	Report Type	Trial Ex.
1/31/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 29893, 51276, 51484, 51219
1/31/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 29893, 51276, 51484, 51219
1/31/10	10:00	Fire	Safety Drill Report	29893, 51276, 51484
1/31/10	10:13	Abandon Ship	Safety Drill Report	29893, 51276, 51484
2/5/10	12:00	Emergency Ballast	Safety Drill Report	51278
2/6/10	Night	Unscheduled Well Control	IADC DDR	43009
2/7/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	43010, 571, 595, 4746, 51278
2/7/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	43010, 571, 595, 4746, 51278
2/7/10	10:00	Fire	Safety Drill Report	51278
2/7/10	10:12	Abandon Ship	Safety Drill Report	51278
2/8/10	Day	Unscheduled Well Control	IADC DDR	43011
2/9/10	1:45	Function Diverter	IADC DDR	43012
2/10/10	2:56	Function Diverter	IADC DDR	43013
2/11/10	Day	Unscheduled Well Control	IADC DDR	43014
2/12/10	Night	Unscheduled Well Control	IADC DDR	43015
2/13/10	Day	Unscheduled Well Control	IADC DDR	43016
2/13/10	Night	Unscheduled Well Control	IADC DDR	43016
2/14/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 43017
2/14/10	Night	Unscheduled Well Control	IADC DDR	43017
2/14/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 43017
2/14/10	10:00	Fire	Safety Drill Report	51278
2/14/10	10:16	Abandon Ship	Safety Drill Report	51278
2/16/10	Night	Unscheduled Well Control	IADC DDR	41042

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Date	Time	Type of Drill	Report Type	Trial Ex.
2/17/10	Day	Unscheduled Well Control	IADC DDR	41044
2/17/10	20:36	Function Diverter	IADC DDR	41044
2/21/10	Day	Unscheduled Well Control	IADC DDR	41050
2/21/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 41050
2/21/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 41050
2/21/10	10:00	Fire	Safety Drill Report	51278
2/21/10	10:16	Abandon Ship	Safety Drill Report	51278
2/23/10	9:47	Man Overboard	Safety Drill Report	51278
2/23/10	16:00	ISPS	Safety Drill Report	51278
2/24/10	Night	Unscheduled Well Control	IADC DDR	50969
2/25/10	6:20	Function Diverter	IADC DDR	43023
2/26/10	Day	Unscheduled Well Control	IADC DDR	50967
2/28/10	Day	Scheduled Well Control	IADC DDR	571, 595, 4746, 51278, 43029
2/28/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	43029
2/28/10	10:00	Helicopter Emergency	Safety Drill Report	51278
2/28/10	10:00	Fire	Safety Drill Report	51278
2/28/10	10:20	Abandon Ship	Safety Drill Report	51278
3/1/10	Day	Unscheduled Well Control	IADC DDR	43004
3/2/10	Night	Unscheduled Well Control	IADC DDR	41028
3/4/10	Day	Unscheduled Well Control	IADC DDR	41030
3/4/10	15:40	Function Diverter	IADC DDR	41030
3/5/10	Day	Unscheduled Well Control	IADC DDR	1412
3/5/10	Night	Unscheduled Well Control	IADC DDR	1412
3/6/10	Day	Unscheduled Well Control	IADC DDR	41032
3/7/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 1430

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Date	Time	Type of Drill	Report Type	Trial Ex.
3/7/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 2302, 1430
3/7/10	10:00	Fire	Safety Drill Report	51277
3/7/10	10:12	Abandon Ship	Safety Drill Report	51277
3/8/10	Day	Unscheduled Well Control	IADC DDR	41034
3/13/10	22:00	Emergency Ballast	Safety Drill Report	51277
3/14/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 41040
3/14/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 41040
3/14/10	10:00	Fire	Safety Drill Report	51277
3/14/10	10:12	Abandon Ship	Safety Drill Report	51277
3/15/10	21:15	Function Diverter	IADC DDR	41041
3/16/10	Day	Unscheduled Well Control	IADC DDR	1418
3/21/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 1421
3/21/10	Night	Scheduled Well Control	Safety Drill Report	571, 595, 4746, 51277
3/21/10	10:00	Fire	Safety Drill Report	51277
3/21/10	10:15	Abandon Ship	Safety Drill Report	51277
3/22/10	Night	D5 Well Control Drill	IADC DDR	41053
3/22/10	2:45	Function Diverter	IADC DDR	41053
3/23/10	Day	Unscheduled Well Control	IADC DDR	43020
3/24/10	Day	Unscheduled Well Control	IADC DDR	43022
3/27/10	8:00	Emergency Ballast	Safety Drill Report	51277
3/27/10	8:00	Function Diverter	IADC DDR	60743
3/27/10	16:30	D5 Well Control Drill	IADC DDR	60743
3/28/10	10:00	Fire	Safety Drill Report	51277
3/28/10	10:15	Abandon Ship	Safety Drill Report	51277

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Function Diverter

Date	Time	Type of Drill	Report Type	Trial Ex.
3/28/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 43030
3/28/10	Night	Unscheduled Well Control	IADC DDR	43030
3/28/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 43030
3/29/10	Day	Unscheduled Well Control	IADC DDR	43031
3/30/10	Night	Unscheduled Well Control	IADC DDR	41054
4/2/10	Night	Unscheduled Well Control	IADC DDR	51330
4/3/10	21:30	Function Diverter	IADC DDR	41057
4/4/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 50335, 51332
4/4/10	Night	Unscheduled Well Control	IADC DDR	51332
4/4/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 50335, 51332
4/4/10	10:00	Fire	Safety Drill Report	2342, 3929, 50335
4/4/10	10:22	Abandon Ship	Safety Drill Report	2342, 3929, 50335
4/9/10	Day	Unscheduled Well Control	IADC DDR	51336
4/9/10	Night	Unscheduled Well Control	IADC DDR	51336
4/10/10	Day	Unscheduled Well Control	IADC DDR	51337
4/10/10	Night	Unscheduled Well Control	IADC DDR	51337
4/10/10	8:30	Function Diverter	IADC DDR	51337
4/11/10	Day	Scheduled Well Control	Safety Drill Report	571, 595, 4746, 50335
4/11/10	10:00	Fire	Safety Drill Report	2342, 3929, 50335
4/11/10	10:26	Abandon Ship	Safety Drill Report	2342, 3929, 50335
4/12/10	8:22	Emergency Ballast	Safety Drill Report	50335
4/14/10	10:41	Man Overboard	Safety Drill Report	50335
4/15/10	Day	Unscheduled Well Control	IADC DDR	51342
4/17/10	Day	Unscheduled Well Control	IADC DDR	50970

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Function Diverter

Date	Time	Type of Drill	Report Type	Trial Ex.
4/17/10	10:15	Abandon Ship	Safety Drill Report	2342, 3929, 50335
4/17/10	1:25	Function Diverter	IADC DDR	50970
4/18/10	Day	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 4746, 5039, 50335, 51151
4/18/10	Night	Unscheduled	IADC DDR	51151
4/18/10	Night	Scheduled Well Control	Safety Drill Report / IADC DDR	571, 595, 3788, 4746, 50335, 51151
4/18/10	10:01	Fire	Safety Drill Report	2342, 3929, 50335
4/19/10	Night	Scheduled Well Control	IADC DDR	51388

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Function Diverter

Date	Drill Type	Time	Description of Drill	Comments	Report Type	Trial Exhibit
1/31/10	Fire Drill	10:00	Signal sounded for a simulated class B fire starboard aft. All non-essential personnel muster at primary muster stations while Fire Teams 1 and 2 muster and report to starboard aft main deck and simulate extinguishing fire with foam. Fire Station #1 pressurized with a Y-connection and lined up to two foam eductors. 100 gallons of foam discharged in hose training. Fire Pumps 1 and 2 utilized for pressure. Bridge Team simulates securing power and ventilation in the areas as well as simulation of transferring power to the starboard engine rooms to avoid ingestion of smoke through supply ventilation.	All mustered in a timely manner and were able to expedite the line up to foam. Fire teams moved in an orderly manner and were adequately trained in the use of the AFFF foam eductors.	Safety Drill Report	29893, 51276, 51484
1/31/10	Well Control Drill	10:00	Weekly well Control Audit	11,787 sacks of barite on board. Discussed upcoming operations of drilling new well and possible hazards of shallow gas kick. Drilling through a gas bearing formation requires extreme caution. Because of the difficulty in early detection of an influx while drilling top hole sections and the shallow nature of the hole. It may be decided to either shut-in or to divert. Discussed the roles and responsibilities of each individual crew member during a well control situation. Discussed the importance of inspecting all well control related equipment each tour.	Safety Drill Report / IADC DDR	571, 595, 4746, 29893, 51276, 51484, 51219
1/31/10	Abandon Ship Drill	10:13	Signal sounded for simulated abandonment on vessels PA/GA. All non-essential personnel muster at lifeboats 1 and 2. Lifeboats left in stowed position due to incimate weather.	All mustered in a timely manner. SOLAS training conducted on the deployment and use of life rafts and life raft davits.	Safety Drill Report	29893, 51276, 51484
1/31/10	Well Control Drill	22:30	Weekly well Control Audit	14,082 sacks of barite on board. Discussed the roles and responsibilities of each crew member for a well control event. Discussed the importance of trip tank volumes or return flow. The hydrostatic pressure in the well bore will always be reduced to some extent when the drill string or down hole tools are pulled from well bore. Causes of swabbing: high pulling speeds, tight annulus or restricted annulus clearance, and mud density in use is close to formation pressure. Lost circulation occurs when the drilling fluid level can drop and reduction in hydrostatic pressure in the well bore may cause primary well control, causes: cavernous or vugular formation.	Safety Drill Report / IADC DDR	571, 595, 4746, 29893, 51276, 51484, 51219
2/5/10	Emergency Ballast Drill	12:00	Damage occurs to the port fwd column compartments resulting in the flooding of the following port fwd voids: Lower Cable Trunk, CP2, CP3, and CP6. This is one of the worst case scenarios according to the DWH Ops Manual.	The rig will list 3.07° to the port and 1.68° to the bow and the draft will increase to 23.49m. The total displacement will be 53098.64 tons. CONTROL Notify Captain and OIM of situation. STEPS Make an emergency PA announcement to clear PF Column and Pontoon. Notify ECR, Drill Floor, and ET to standby. Notify Deck Foreman to secure all crane activity. Close WT Doors PF Close all WT Dampers PF - See notes below. Conduct a load & damage stability condition. Monitor all bilge alarms. WT Dampers - Close WT Dampers from F&G outputs aft: Zones: 39 43 47 48 55 59 63 WT Doors Port Fwd - Worst Case - Close all WT Door Port Fwd Ballast Pumps - Ballast Pump #1 Ballast Pump #2 Ballast Pump #4 Counter ballast - This was determined by the use of the Auto Ballast function in the OMC loading program. The results will bring the rig to a 22.86m draft with a 0.0° heel and trim. The new displacement.	Safety Drill Report	51278
2/6/10	Well Control Drill	Night	Well Control Tripping Drill		IADC Daily Drilling Report	43009
2/7/10	Fire Drill	10:00	Signal sounded for fire and emergency on the vessels whistle and PA/GA for a simulated class B fire starboard forward. All non-essential personnel muster at primary muster stations. Fire Team #2 musters and reports to the starboard crane pedestal and runs out hoses from fire station #9 with a foam eductor. Hose training conducted with AFFF Foam. Bridge simulates securing power and ventilation.	Muster completed in a timely manner. Quick response by Fire Team #2 allowed for ample hose training. Vari-Nozzle utilized and produced better foam than using the regular fire nozzle.	Safety Drill Report	51278
2/7/10	Abandon Ship Drill	10:12	Signal sounded on vessel PA/GA for abandonment. All non-essential personnel muster at primary stations. SOLAS Training conducted on the proper use of Life rings and response to man overboard. Lifeboats lowered as part of weekly inspection.	Mustered in a timely manner and no safety concerns noted.	Safety Drill Report	51278
2/7/10	Well Control Drill	10:30	Weekly Well Control Audit: Discussed upcoming operations of drilling out cement plug and shoe track with 10-15 feet of new hole formation. Discussed drilling through high pressure sands and possibility of encountering well control situation according to offset well data. Discussed the importance of monitoring all pit volumes, pump pressures, flowback during connections. Discussed the roles and responsibilities of each individual crew member as it pertains to well control. Discussed the importance of inspecting all well control equipment.	11,097 sack of barite on board.	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 43010

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2/7/10	Well Control Drill	22:30	Weekly Well Control Audit	11,097 sack of barite on board. Discussed the responsibilities of each crew member for a well control event. Discussed the BOPs and the equipment must be function tested every 7 days or during the 1st trip after the 7 interval. The intent is that the test be done when practical near the 7 day and will depend on the type of operation being carried out or still to be carried out. The period between function tests must not exceed a maximum of 14 days.	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 43010
2/8/10	Well Control Drill	Day	Well Control Tripping Drill		IADC Daily Drilling Report	43011
2/9/10	Function Diverter	1:45	Function Test Diverter from Driller's Control Panel on Blue Pod at 1:45 Hours. Flow Through Diverter Overboard Lines on Starboard and Port Side.		IADC Daily Drilling Report	43012
2/10/10	Function Diverter	2:56	Diverter Function Test from Toolpusher's Control Panel on Yellow Pod		IADC Daily Drilling Report	43013
2/11/10	Well Control Drill	Day	Well Control Tripping Drill		IADC Daily Drilling Report	43014
2/12/10	Well Control Drill	Night	D5 Well Control Drill		IADC Daily Drilling Report	43015
2/13/10	Well Control Drill	Day	Well Control Tripping Drill		IADC Daily Drilling Report	43016
2/13/10	Well Control Drill	Night	Well Control Tripping Drill		IADC Daily Drilling Report	43016
2/14/10	Fire Drill	10:00	Sounded alarm for Fire and Emergency on the PA/GA and whistle for a simulated fire at the Starboard Loading Station. Crew mustered at Fire and Emergency stations. Fire Teams #1 and #2 conducted a simulated attack using hoses from Fire Stations #5 and #9	Teams need to bring the correct equipment with them when they come to the staging area. Crews did not bring nozzles for the hoses that they brought with them.	Safety Drill Report	51278
2/14/10	Abandon Ship Drill	10:16	Sounded alarm for Abandonment on PA/GA. Crew mustered at Lifeboats #1 & #2. Lifeboat #1 had had the engine started, run ahead, and run astern. Lifeboat #2 was lowered, raised and secured.	Drill went smoothly.	Safety Drill Report	51278
2/14/10	Well Control Drill	10:30	Weekly Well Control Audit	14,290 sacks of barite on board suitable safety valves made up with the appropriate X-O subs to fit all drillpipe and connections must be on the drill floor in accessible place and always in the open position. The closing/opening wrench must be readily available for immediate use and there must be correct means of lifting, and IBOP valve must be kept on the drill floor should it become necessary to string into hole.	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 43017
2/14/10	Well Control Drill	22:30	Weekly Well Control Audit: Discuss upcoming operations of drilling out cement following squeeze operation. Discussed drilling through high pressure sands and possibility of encountering well control situation according to offset well data. Discussed the importance of monitoring all pit volumes, pump pressures, flowback during connections. Discussed the roles and responsibilities of each individual crew members as it pertains to well control. Discussed the importance of inspecting all well control equipment.	14,290 Sacks of barite on board	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 43017
2/14/10	Well Control Drill	Night	Well Control Tripping Drill		IADC Daily Drilling Report	43017
2/16/10	Well Control Drill	Night	Well Control Drill		IADC Daily Drilling Report	41042
2/17/10	Well Control Drill	Day	Pit Drill		IADC Daily Drilling Report	41044
2/17/13	Function Diverter	20:36	Function Diverter		IADC Daily Drilling Report	41044
2/21/10	Well Control Drill	10:00	Weekly Well Control Drill and Audit: 8,756 sacks of barite on board. Discussed with crew roles and responsibilities. Discussed Sec. 3 subsec. 1, 2,3 lost circulation. When lost circulation occurs, the drilling fluid level can drop and a reduction in hydrostatic pressure in the well bore may cause the loss of primary well control. Loss of circulation may result from one or more of the following: cavernous or vugular formations, naturally fractured formation, restricted annulus.	N/A	20:36 Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 41050

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2/21/10	Fire Drill	10:00	Sounded alarm for Fire and Emergency on PA/GA and whistle for a simulated class B fire in the port crane engine compartment. Crew mustered at Fire and Emergency stations. Fire Team #1 conducted simulated boundary cooling using hose from Fire Station #7 while Fire Team #2 conducted hose training using hose from Fire Station #1. Training was conducted with the crane operators on the use of the fixed CO2 system.	Fire Team #1 took longer than normal to don gear and arrive at the staging area. The teams also need to wait for their hoses to be pressurized before going "into the fire."	Safety Drill Report	51278
2/21/10	Abandon Ship Drill	10:16	Sounded alarm for abandonment on the PA/GA whistle. Crew mustered at Lifeboats #1 and #2. Lifeboat #1 had the engine started, run ahead and run astern. Training conducted on the use of the life raft davit and life rafts.	No boats were lowered for training due to weather.	Safety Drill Report	51278
2/21/10	Well Control Drill	22:00	Weekly Well Control Audit	Sacks of barite on board 8,756. Discuss loss of riser drilling fluid column on floating rig operations, the loss of the drilling fluid column in the riser may result in a reduction of hydrostatic pressure in the wellbore and may cause the loss of primary well control. Also discussed lost circulation. When lost circulation occur, the drilling fluid level can drop and reduction in hydrostatic pressure in the wellbore may cause the loss of primary well control.	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 41050
2/23/10	Man Overboard Drill	9:47	Drill initiated by telling a roustabout that he observed a person falling overboard. He told one of his coworkers to call the bridge while pointing at the simulated victim. Announcement made on the PA/GA, and the rescue boat mustered at the forward lifeboat deck. Crew of the OSV Damon B. Bankston was involved in the drill and conducted their own drill. The starboard crane was swung out and the personnel basket attached. The rescue boat crew conducted training on donning gear and procedures.	The boat was not lowered due to weather. Rescue boat training was conducted by the crew on deck.	Safety Drill Report	51278
2/23/10	ISPS Drill	16:00	Placed a bomb simulation in the port pontoon during the night. The Bosun discovered the "bomb" while making his daily inspection of the pontoon and notified the Bridge.	The Bosun showed good awareness while making his rounds.	Safety Drill Report	51278
2/24/10	Well Control Drill	Night	Trip Drill		IADC Daily Drilling Report	50969
2/25/10	Function Diverter	6:20	Function Diverter at 6:20 hours on blue pod from Driller Panel.		IADC Daily Drilling Report	43023
2/26/10	Well Control Drill	Night	Pit Drill		IADC Daily Drilling Report	50967
2/28/10	Well Control Drill	10:00	Weekly Well Control Audit: Discussed with crew roles and responsibilities. Discussed sec. 2 sub-sec. 4. Casing setting depth. A casing string setting point is vital to well control. Setting casing to high may leave weak zones exposed in the subsequent open hole section. Casing setting depth is made in reference to anticipation formation pressure, and fracture gradient. Also discussed lost circulation and causes, excessive run speeds, etc.	N/A	Safety Drill Report / IADC DDR	571, 595, 4746, 51278, 43029
2/28/10	Helicopter Emergency Drill	10:00	Sounded alarm for Fire and Emergency on PA/GA and whistle for a simulated helicopter crash on the helideck. Fire Teams #1 and #2 conducted training on the use of the foam monitors, semi-portable extinguishers and activation of alarms. The medical team conducted training on mass casualty triage.	Drill conducted with coordination of several teams worked well.	Safety Drill Report	51278
2/28/10	Fire Drill	10:00	Sounded alarm for Fire and Emergency on PA/GA and whistle for a simulated helicopter crash on the helideck. Fire Teams #1 and #2 conducted training on the use of the foam monitors, semi-portable extinguishers and activation of alarms. The medical team conducted training on mass casualty triage.	This drill had a large number of people involved, but went smoothly.	Safety Drill Report	51278
2/28/10	Abandon Ship Drill	10:20	Sounded alarm for PA/GA and whistle for Abandonment. Crew mustered at Lifeboats #3 and #4. Lifeboat #3 was lowered, raised and secured. Lifeboat #4 had the engine started, run ahead and run astern. Training conducted on the use of the line throwing apparatus.	Used alternative muster stations.	Safety Drill Report	51278
2/28/10	Well Control Drill	Night	Weekly well control audit		IADC Daily Drilling Report	43029
3/1/10	Well Control Drill	Day	Trip Drill		IADC Daily Drilling Report	43004
3/2/10	Well Control Drill	Night	Trip Drill, Pit Drill		IADC Daily Drilling Report	41028
3/4/13	Well Control Drill	Day	Trip Drill		IADC Daily Drilling Report	41030
3/4/10	Function Diverter	15:40	Function Test Diverter from Toolpusher Panel on yellow pod		IADC Daily Drilling Report	41030

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Function Diverter

	Well Control Drill	Marine Safety Drill	Function Diverter		
3/5/10	Well Control Drill	Day	Trip Drill		IADC Daily Drilling Report 1412
3/5/10	Well Control Drill	Night	Trip Drill		IADC Daily Drilling Report 1412
3/6/10	Well Control Drill	Day	Pit Drill		IADC Daily Drilling Report 41032
3/7/10	Fire Drill	10:00	Signal sounded for the fire and emergency on vessels whistle and PA/GA. Simulated class C fire at the Buckle Unit on port aft main deck. All nonessential personnel mustered at primary muster stations. Fire Team #1 mustered and reported to the scene staging on the port aft main deck. Fire Team #1 simulated securing power, ventilation and approach to the fire and utilizing dry powder to extinguish the fire. After simulated that the fire had been extinguished a re flash watch was simulated and Fire Team #1 debriefed on the exercise. Fire Team #2 mustered and reported to Fire Station #9 to run out a fire hose and charge to full pressure. Full pressure was applied for an extended period of time in order to perform tests on Fire Pump #1 after recent maintenance.	There was some confusion with the new muster lists as this was the first time the new lists generated within GMS have been used. All tests on Fire Pump #1 proved that Fire Pump #1 is ready for service and in good order.	Safety Drill Report 51277
3/7/10	Abandon Ship Drill	10:12	Signal sounded for abandonment on vessel PA/GA. All nonessential personnel muster at primary muster stations. Lifeboats 1,2,3, and 4 lowered after the drills by the marine department. Lifeboat engines not functioned due to the risk of high gas levels from well.	Muster took an excessive amount of time due to confusion with the new style muster lists generated within GMS. These items have been addressed and will be monitored in the next drill.	Safety Drill Report 51277
3/7/10	Well Control Drill	11:00	Well control audit	12,083 Sacks of barite onboard. Discussed the reason and importance of doing a leak off or fit test. Such a test will establish the strength of the formation at the shoe and the integrity of the cement job at the shoe, which is used to determine the maximum mud weight the open hole can withstand to reach the next casing point. The test pressure should not exceed 70% of the minimum yield of the weakest casing, allowing for mud weight differential (inside/behind the casing string).	Safety Drill Report / IADC DDR 571, 595, 4746, 51277, 1430
3/7/10	Well Control Drill	22:00	Weekly Well Control Audit: 12,083 sacks of barite on board. Discussed roles and responsibilities with crew. Also discussed sec. 5 sub-section 1 Kick Detection while Drilling. The first positive indicator that the well is flowing is an increase in return flow. Increase in pit volumes is a positive indicator. Another indicator is well flowing during connections. Drilling breaks are another and defined as a doubling or halving of the ROP sustained over a 5' interval.	N/A	Safety Drill Report / IADC DDR 571, 595, 2302, 4746, 51277, 1430
3/8/10	Well Control Drill	Day	Pit Drill		IADC Daily Drilling Report 41034
3/13/10	Emergency Ballast Drill	22:00	Well control situation deballasting to maintain draft a bilge sensor goes off. Pipeline before check valve and after ballast pump #1 burst	Control measures: send personnel down to investigate, close WT doors, WT dampers. Run sump pumps in space notify engineers of operating sump pump so that they can run OWS.	Safety Drill Report 51277
3/14/10	Fire Drill	10:00	Signal sounded for Fire and Emergency on the vessels whistle and PA/GA for a simulated class C fire in the upper thruster dive room for thruster #6. All non-essential personnel muster at primary muster stations while Fire Team #1 musters and reports to the scene of the drill scenario. Fire Team #2 musters and conducts hose training with Fire Station #3. Fire Team #1 simulates an approach to the fire and is briefed on the necessity to utilize the stairs rather than the elevator during any emergency situation. Training conducted on the proper use of the sound powered phones in the event that there is a loss of radio contact or the power is lost. Fire team #1 simulates extinguishing the fire with the use of CO2 and is briefed in alternate access routes and boundary areas.	Fire Team #1 also briefed on the proper use of minimal yet effective amounts of water in order to reduce the risk of stability issues. Also water would only be used on a C Class fire once confirmation is made that power is secured. Fire teams were asked to note the distance that hoses would have to be run in the event that access to the space is not available without the use of a fire team and protection from an applicator or low velocity fog.	Safety Drill Report 51277
3/14/10	Abandon Ship Drill	10:12	Signal sounded for abandonment on vessels PA/GA. All non-essential personnel muster at primary muster stations while Fire team #1 continues to debrief on the Fire and Emergency Drills. Lifeboat #2 lowered, raised and secured. Lifeboat #2 returned to service.	Lifeboats mustered in a timely manner. Lifeboat engines not run due to the current well control situation and high gas levels. SOLAS Training conducted on the proper use of onboard fire extinguishing systems and the location of fire alarm controls.	Safety Drill Report 51277
3/14/10	Well Control Drill	10:30	Weekly Well Control Audit: Discussed the wait and weight method during a well kill - a kill mud is prepared and is pumped from surface to the bit while following a calculated drillpipe pressure drop schedule. Once the kill mud enters the annulus, a constant drillpipe pressure is maintained until the kill mud arrives at surface. Discussed the importance of monitoring and recording pressures; including drillpipe pressure, SICP, BOP, LMRP pressures. Discussed the roles and responsibilities of each individual crew member during a well control situation.	14,365 sacks of barite on board	Safety Drill Report / IADC DDR 571, 595, 4746, 51277, 41040

Summary: Well Control and Marine Safety Drills Conducted on the *DWH*
January 31, 2010 to April 18, 2010

Well Control Drill

Marine Safety Drill

Function Diverter

	Well Control Drill	Marine Safety Drill	Function Diverter			
3/14/10	Well Control Drill	22:30	Weekly Well Control Audit	14,365 sacks of barite on board. Discussed the roles and responsibilities of each crew member for a well control event. Discussed that the BOPs and equipment must be function tested every 7 days or during the first trip after the seven interval. The intent is that the test be done when practical near the seventh day and will depend on the type of operations being carried out or still being carried out.	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 41040
3/15/10	Function Diverter	21:15	Function Test Diverter at 21:15 hours from toolpusher control panel on yellow pod.		IADC Daily Drilling Report	41041
3/16/10	Well Control Drill	Day	Trip Drill		IADC Daily Drilling Report	1418
3/21/10	Fire Drill	10:00	Signal sounded for simulated class A fire in rm. 302 on the vessels whistle and PA/GA. All non-essential personnel muster at indoor muster stations due to incimate weather. Fire Team #1 musters and stages in the Port Fwd change room to formulate a plan of attack for the fire. Fire Team #1 enters the space and is briefed on the different means of securing ventilation, boundary cooling, priority of the initial entry and searching for people in the space. Discussion was held on the various equipment that is available for combating a fire in this space as well as in similar spaces. All were briefed on the functions of the sprinkler system as well as the need to use minimal amounts of water in order to preserve stability of the vessel. Fire Team #2 mustered and trained in the proper donning of Bunker Suits and SCBAs.	Response was very timely. Communication was broken between Fire Team #1 and both the bridge and Chief Mate. Fire Team #1's leader was encouraged to conduct a quality radio function check before moving to the scene of the emergency.	Safety Drill Report	51277
3/21/10	Abandon Ship Drill	10:15	Signal sounded for abandonment on vessels PA/GA. All non-essential personnel mustered at inside muster stations due to incimate weather. 10:21 Complete Muster is reported. SOLAS Training conducted on the H2S alarm system and appropriate action to take in the event of the presence of H2S.	Muster conducted in a timely manner. Lifeboat left in the stowed position due to incimate whether.	Safety Drill Report	51277
3/21/10	Well Control Drill	10:30	Weekly Well Control Audit: Discussed upcoming operations of drilling out cement, float collar, and shoe track. Discussed the importance of monitoring and recording all pit volume totals, pump pressures, flow back during connections, and return flowback. Discussed the importance of inspecting all well control surface equipment prior to any drilling / tripping operations. Discussed the roles and responsibilities of each individual crew member as it pertains to a well control situation.	12,576 sacks of barite on board.	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 1421
3/21/10	Well Control Drill	22:30	Well Control Audit	12,576 sacks of barite on board. Discussed the roles and responsibilities of each crew member for a well control event. We discussed the hole must be kept full at all times using a trip tank of calibrated pit. Accurate hole fill records must be kept during trips. The on-tour toolpusher should be on the rig floor for a minimum of the first 10 stands while tripping out of the hole of until the bit is inside the case. If the hole does not take the correct volume of mud, or if the driller has any doubt, the pipe must be run immediately and cautiously back to bottom and bottoms-up circulated.	Safety Drill Report	571, 595, 4746, 51277
3/22/10	Well Control Drill	Night	D5 Well Control Drill		IADC Daily Drilling Report	41053
3/22/10	Function Diverter	2:45	Function Diverter from Driller's Control Panel on Blue Pod at 2:45 Hrs.		IADC Daily Drilling Report	41053
3/23/10	Well Control Drill	Day	Pit Drill		IADC Daily Drilling Report	43020
3/24/10	Well Control Drill	Day	Trip Drill		IADC Daily Drilling Report	43022
3/27/10	Emergency Ballast Drill	8:00	Hands On - Port forward solenoid cabinet and ballast panel operation. Notify appropriate personnel. Radio Check - VHF CH 65 Swap ballast system to LOCAL. Verify with bridge. Double check line-up & valve tag numbers. Swap back to REMOTE. Drill floor pressure testing - NO BALLASTING! Port Forward - 28.5M level - ballast panel & solenoid cabinet port forward - Ballast Pump No. 1 - In Passive, Locked-Out, and Isolated. Valves: XV 320042 Ballast Pump Suction Passive, HV 320061 Ballast Pump Discharge Passive, XV320048 Port Fwd Sea Chest. Port forward sea chest operated locally from the ballast panel and solenoid cabinet.	Port forward sea chest operated locally from the ballast panel and solenoid cabinet.	Safety Drill Report	51277
3/27/10	Function Diverter	8:00	Diverter Functioned		IADC Daily Drilling Report	60743
3/27/10	Well Control Drill	16:30	Perform D-5 Drill as per BP requirement. Monitor active for gains or losses.		IADC Daily Drilling Report	60743

Summary: Well Control and Marine Safety Drills Conducted on the *DWH*
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Well Control Drill

Marine Safety Drill

Function Diverter

3/28/10	Fire Drill	10:00	Signal sounded for Fire and Emergency on the vessels whistle and PA/GA. Simulated class B fire on the helideck. All non-essential personnel muster at secondary muster stations. Fire Team #1 musters and reports to the helideck for training in the proper use of the helideck foam system. The port fire monitor on the helideck was exercised utilizing the foam pump. Discussion also held on the importance of manning the monitors until you are absolutely positive that the system is properly shutdown. Failure to man the monitor could result in injury due to a monitor not being controlled. Fire Team #2 musters and leads out a hose and applies full pressure from the port aft fire station. Both fire pumps 1 and 2 utilized.	Mustered in a timely fashion. Secondary muster stations were utilized due to the fact that this is how it would be handled in the event of a real emergency on the helideck in order to protect personnel. Electricians performed PMs on the Foam Pump while the exercise was ongoing. The Bosun was part of the drill as he is normally the HLO and would be the first responder/team leader in the event of a helicopter emergency.	Safety Drill Report	51277
3/28/10	Abandon Ship Drill	10:15	Signal sounded for abandonment on the vessels PA/GA. All non-essential personnel muster at secondary lifeboat stations with proper PPE and donning life preservers.	Muster at lifeboats 3 and 4 due to simulated fire on helideck for Fire and Emergency Drills. All mustered in a timely manner. SOLAS Training not conducted this week.	Safety Drill Report	51277
3/28/10	Well Control Drill	10:30	Weekly Well Control Drill	The mud pit volumes and mud density must be continuously monitored. All measuring instruments must be calibrated and in good condition to detect any change in active volume. The most reliable indicator generally remains the flow out sensor. If there is any inadequacy in the measuring instruments, extra personnel must be assigned to ensure adequate monitoring of mud volumes.	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 43030
3/28/10	Well Control Drill	23:30	Weekly Well Control Drill: Discussed current operations of drilling 10 5/8" hole section and kick detection while drilling. Drilling breaks is a doubling or halving of the ROP sustained over a 5' interval. Increase in flow rate and/or pit volume is positive indicator that a kick is occurring. Variation in pump pressure may occur when low density formation fluids flow into the annulus. Well flow during connection may occur due to the hydrostatic reduction in bottom hole pressure. Discussed the roles and responsibilities of each individual crew member during a well control situation.	10,734 sacks of barite on board.	Safety Drill Report / IADC DDR	571, 595, 4746, 51277, 43030
3/28/10	Well Control Drill	Night	Pit Drill		IADC Daily Drilling Report	43030
3/29/10	Well Control Drill	Day	Pit Drill		IADC Daily Drilling Report	43031
3/30/10	Well Control Drill	Night	Trip Drill		IADC Daily Drilling Report	41054
4/2/10	Well Control Drill	Night	Well Control Drill, Pit Drill		IADC Daily Drilling Report	51330
4/3/10	Function Diverter	21:30	Function Diverter at 21:30 hrs from Toolpusher's control panel on yellow pod.		IADC Daily Drilling Report	41057
4/4/10	Well Control Drill	10:00	Weekly Well Control Audit: Barite on board 10,317 sacks. Discussed with crew roles and responsibilities. Discussed Sec. 5 subsection 1, Detecting a Kick. A Kick is a flow of formation fluid and or gas into well bore. The first positive indicator that the well is flowing is an increase in return flow rate. A gain in pit volumes is another positive indicator that a kick occurred. A drilling break is defined as a doubling or halving of the ROP sustained over 5' interval. All drilling breaks must be flow checked. Even if a flow check is negative, circulating bottoms-up may be advisable before continuing to drill ahead.	N/A	Safety Drill Report / IADC DDR	571, 595, 4746, 50335, 51332
4/4/10	Fire Drill	10:00	Sounded alarm on PA/GA and whistle for a simulated Class C fire in the ROV control van. Crew mustered at Fire and Emergency stations. Fire Team #1 made II simulated attack using portable CO2 fire extinguishers.	While the fire drill was occurring, all of the PA/GA alarm speakers and alert lights were surveyed.	Safety Drill Report	2342, 3929, 50335
4/4/10	Abandon Ship Drill	10:22	Sounded alarm for abandonment on PA/GA and whistle. Crew mustered at Lifeboats #1 and #2. Lifeboat #1 was lowered, raised and secured. Lifeboat #2 had the engine started, run ahead, and run astern. Training conducted on the operation of the lifeboats.	During the abandonment drill part of the crew was checking PA/GA alarm speakers and alert beacons.	Safety Drill Report	2342, 3929, 50335
4/4/10	Well Control Drill	10:30	Weekly Well Control Audit	8,756 sack of barite on board. Discuss loss of riser drilling fluid column on floating rig operation, the loss of the drilling fluid in the riser may result in a reduction of hydrostatic pressure in the wellbore and may cause the loss of primary well control. Also discussed lost circulation. When lost circulation occurs, the drilling fluid level can drop and a reduction in hydrostatic pressure in the wellbore may cause the loss of primary well control.	Safety Drill Report / IADC DDR	571, 595, 4746, 50335, 51332
4/4/10	Well Control Drill	Night	Pit Drill		IADC Daily Drilling Report	51332
4/9/10	Well Control Drill	Day	Pit Drill		IADC Daily Drilling Report	51336

Summary: Well Control and Marine Safety Drills Conducted on the *DWH*

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		Well Control Drill					
4/9/10	Well Control Drill	Night	Pit Drill			IADC Daily Drilling Report	51336
4/10/10	Well Control Drill	Day	Trip Drill			IADC Daily Drilling Report	51337
4/10/10	Well Control Drill	Night	Pit Drill			IADC Daily Drilling Report	51337
4/10/10	Function Diverter	8:30	Function Diverter from Toolpusher pael on yellow pod			IADC Daily Drilling Report	51337
4/11/10	Well Control Drill	10:00	Discussed with crew roles and responsibilities. Discussed sec. 7 sub-section. 1 4.2. Wireline operations are conducted using drilling fluid as primary means of pressure control BOP's as secondary control. It is the responsibility of the driller to monitor the well during logging operations. This must be done by continuous circulation over the hole using the trip tank system. Flow occurs BOPs are to be closed and wireline unit notified.	16,239 sacks of barite		Safety Drill Report	571, 595, 4746, 50335
4/11/10	Fire Drill	10:00	Sounded alarm for Fire and Emergency on PA/GA and whistle for a simulated class B fire in Engine Room #1. Crew mustered at Fire and Emergency stations. Fire Team #1 made conducted training on the use of the portable foam eductors and the use of the fixed CO2 system. Fire Team #2 conducted hose training using hose from Fire Station #1 and simulated boundary cooling on the port aft main deck.	Reviewed the authorization procedure for the use of the fixed CO2 system emphasizing the role that the Captain plays in the process.		Safety Drill Report	2342, 3929, 50335
4/11/10	Abandon Ship Drill	10:26	Sounded alarm for Abandonment on PA/GA and whistle. Crew mustered Lifeboats #1 and #2. Training conducted on the use of SARTs, EPIRBs, GMDSS VHF radios and the consequences of hypothermia.	Lifeboats not lowered due to weather.		Safety Drill Report	2342, 3929, 50335
4/11/10	Well Control Drill	Night	Weekly Well Control Drill			IADC Daily Drilling Report	51338
4/12/10	Emergency Ballast Drill	8:22	To maintain vessel stability after PORT HIPAP sustains damage during seismic operations, and causes flooding of the PORT access tunnel.	SCOPE For the purpose of this drill we will assume that the port HIPAP was accidentally left deployed during the detonation of seismic charges. Our first priority is to contain the flooding by ensuring that water tight doors and dampers are closed in the affected area. Once the flooding has been contained, we will attempt to regain vessel stability by pumping out 10/P ballast tank until the list incurred by the flood has been corrected. After running stability calculations using "Ocean Motions" software; We have determined that total flooding of the port access tunnel voids, along with the port hydrophone well would mean an ingress of approx. 300mt of sea water. This would cause the vessel to list approximately 1.8 degrees to port. This condition could be mitigated by pumping approx. 50% of the volume out of 10/P ballast tank. As a safety precaution we intend to line up 10/P through the SF ballast pump using the crossovers, incase any water has entered the PORT side pump rooms as a result of the flooding.		Safety Drill Report	50335
4/12/10	Well Control Drill	10:30	Well Control Drill	16,239 Sacks of Barite on board, during logging operations it is the responsibility of the driller to continuously monitor the well during logging operations. This must be done by continuous circulation over the hole using the trip tank system before any wireline operation begins. All drilling personnel must be involved in a safety briefing during which responsibilities must be clearly defined and sufficiently detailed instructions must be given to drilling personnel to enable them to close the well.		Safety Drill Report	571, 595, 4746, 50335
4/14/10	Man Overboard Drill	10:41	Mustered boat crew on the forward lifeboat deck. Crew boarded the boat and lowered halfway to the water. Boat raised and secured. Training conducted in the use of restraints and the use of the remote lowering cable.	Training was conducted in conjunction with the annual inspection of the lifeboats by Fassmer technician.		Safety Drill Report	50335
4/15/10	Well Control Drill	Day	Trip Drill			IADC Daily Drilling Report	51342
4/17/10	Well Control Drill	Day	Trip Drill			IADC Daily Drilling Report	50970
4/17/10	Abandon Ship Drill	10:15	Signal Sounded for Abandonment on vessels whistle and PA/GA. All non-essential personnel muster at the primary muster stations. Lifeboats lowered as part of weekly inspection. All limit switched tested on ascent to the stowed position and boats left ready for immediate use.	All mustered in a timely manner. No SOLAS training for this weeks drill conducted.		Safety Drill Report	2342, 3929, 50335
4/17/10	Function Diverter	1:25	Function Diverter at 1:25 Hrs from Drillers Control Panel on blue pod.			IADC Daily Drilling Report	50970

Summary: Well Control and Marine Safety Drills Conducted on the *DWH*
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Well Control Drill

Marine Safety Drill

Function Diverter

4/18/10	Fire Drill	10:01	Signal sounded for are Fire and Emergency on the vessels PA/GA and whistle. All non-essential personnel muster at primary muster stations. Fire Teams 1 and 2 muster and report to Fire Station #2 muster station in response to a simulated class B fire in the cuttings box on the starboard alt deck. Fire Station #3 led out in an attempt to apply full pressure only to find a leak in the fire hose. (Fire hose has been changed out with a new hose) Two Fire Team personnel are suited up in full bunker gear in order to practice properly donning the fire fighting gear. Simulated the use of foam to extinguish the fire. All were debriefed on the proper donning of fire gear as well as the need to properly secure ventilation and be aware of alternate areas that could be affected.	All were mustered in a very timely manner. The ruptured hose was good practice for response to the need to change out a hose in a hurry.	Safety Drill Report	2342, 3929, 50335
4/18/10	Well Control Drill	10:00	Weekly well control drill 15,426 sacks of barite on board.	Discuss roles and responsibilities with the crew. Also discuss kick during cement jobs. Kicks that occur while cementing are the results of reducing the hydrostatic pressure during the operation. Well have been lost due to improperly designed cement slurries and spacers.	Safety Drill Report / IADC DDR	571, 595, 3788, 4746, 50335, 51151
4/18/10	Well Control Drill	10:30	Well Control Audit	15,900 sack of barite onboard. Discussed well control responsibilities with each crew member. Discussed the procedures for shutting in on casing. The immediate priority is to shut in the well. (NOTE: Reduce annular/ram operating pressure to account for size and type of casing across the BOP). The most suitable control technique can only be determined after assessing the particular conditions at the rig site. The subsequent options available can be summarized as follows: X-O to drillpipe (unless the current casing string weight is too great) and strip to bottom to kill the well. X-O to drillpipe, strip in until the drillpipe is in the stack. Perform a top kill, drop the casing, and shear the casing.	Safety Drill Report / IADC DDR	571, 595, 4746, 5039, 50335, 51151
4/18/10	Well Control Drill	Night	Trip Drill		IADC Daily Drilling Report	51151