Appendix J: Risk Register for the Macondo Well

				Risk	k Register for Project:	Macondo		Last Updated:	20-Jun-09	8											
				Meta	Mark Continue Date	General				Last U	adata	Dea	-Response		ř š			Post-Respons		-	
O D	ata	Risk																			
o. Ct	heck	Opp.	Cate	gory :	Risk/Opportunity Name	Event Description / Impact	Owner	Risk Status	Actions	Ву	Date	Impact Type	Impact Level	Prob.	Manageability	Rating	Impact Type	Impact Level	Prob.	Rating	Notes
1 6	ок	T	ND8	v	Well Control	Potential well control problem, risk of loaing the wellbore in a uncontrolled situation	Mark Hafe	Accepted	0	Mark Haffe	17-Jun-09	Cost	Medium	Moderate	High	Mod.	Cost	Medium	Moderate	Mad	Casing program design to mitigal seques.
2 6	ок	T.	ND8	e	Complex overburden	Multiple shallow water flow units, faults & potential gas.	Craig Scherochel	Accepted		Mark Hafe	27-Apr-09	Cost	Medium	Low	Medium	Low	Cost	Medium	Very Low	V. Low	Picked the best location to mitig
3 6	ок	7	ND8	P	PP/FG uncertainty	stuck pipe which lead to possible loss of hole section end/or	Marty Albertin	Accepted		Mark Hafle	27-Apr-09	Cost	Medium	Moderate	High	Mod.	Cost	Medjum	Low	Low	Name :
4 0	ок	7	NDS	v	Wellbore stability	eeti. Kicka identified in the offsets. Drilling through any self/sediment interface may encountee problems with shales sloughing/silumping into the well bone.	Mark Hafe	Dormant		Mark Haffe	27-Apr-06	Cost	Low	Low	Medium	N. Low					Primarily a risk with set exit. We chose a location without set. EPTG welfore stability study to determine if minimum MW will cause welfore breakout.
5 (СК	Ť	NOS	7	Tight folk, stuck pipe	Offset well (Rigel) encountered problems with stuck jobs at 8500°	Mark Haffe	Accepted		Mark Hefe	27-Apr-09	Cost	Medium	Low	Medium	Low	Cost	* Nedlem	Low	Line	Instability. We are every of it and will more the situation while drilling. This entails sidetecking the well. Conditioning the well or unning onesing. Weight vs. depti will be monitored to help decision in pulling casing. Decision these on way for
	OH.	Ť	NDS.	N	dass Transport Deposits (MTD)	Can be shallow water flow units when buried deeper than about 500 ft in deepwater settings, may be over pressured. Way here quite variable and propriets. Not deal shrink to set casing store. Evaluate the setting deepth of rag shoes with respect to the deepth of MTDs deepfind geophysicity and in offset wells. Here pump and dump much ready to ME SWF white differs, increase.	Binh Van Nguyen	Accepted		Mark Hefe	13-May-05	Cost	Low	Low	Medium	V. Low	Cost	Low	Low	V. Low	identified them and are owere.
7 0	OK.	T:	NDS:	R	leduced wireline program	Loss of data or limited data collection as a result of well problems or borehola environmental conditions.	Team.	Accepted		Team	13-May-00	Schedule	Medium	Low	High	Low					Talking just about the M56.
	ok.	Ť	ND8	ı	and Circulation	Lost circulation indentified in the offsets. Risk to time and cost.	Mark Hafe	Active		Mark Hafe	17-Jun-09	Cost	Low	Moderate	Medium	Lów					Loss circulation is possible with narrow PPFG window. Keep mu- weight on the light side and have robust loss circulation contingen- plan in place.
9 (ok.	Ť	ND8	N	serrow PPFG window	habele had a narrow PPPG windows (Miscene): If must weight and hole conditions are not mentioned carefully the series begin to experience substantial losses to the formation of the well may flow back.	Marty Albertin	Accepted		Mark Hefte	17-Jun-09	Cost	Medium	Moderate	Hah	Mod	Cost	Medium	Moderate	Mod	Keep MW as close to PP as possible. Two confingency shin- ers available if necessary, 9-3/8" liner, use LWD tool possible to get real time pressure samples.
	OR .					Humbares and storms often exceed folerances, and the rig	100000						07-470-014								Have a Humbara plan which is updated daily during Humbara season with T-times and other
31 0	OK .	10	NDS .	8	turricane	must unlatch and move to safer conditions Loop and eddy conditions occur almost throughout the year i	Team	Accepted		Mark Hafle	20-May-00	Schedule	Medium	Moderate	Low	Mod.	Schedule	Medium.	Moderate	Mod	requirements needed to secure the well. Suspending before pee hurricans season.
12 6	OK.	*	ND8	1.	crop and Eddy currents	many CoM deep water areas. Delays caused by high current velocities can be very costly.	Team	Accepted		Mark Haffe	20-May-06	Schedule	Medium	Moderate	Low	Mod.	Schedule	Medium	Low	Low	Our location is further North
13 (OK.	Ť.	ND8		rydrate buildup on weithead / connector	Potential for hydrate buildup around connectors preventing unlatching	Mark Hafe	Accepted		Mark Hafle	20-May-00	Schedule	Low	Low	High	V. Low	Schedule	Low	Low	V.Low	Several mitigations in place sho the event occur
14 (ок	Ť	NOS		Shallow wateriges flows	Uncontrolled shallow water and gas flows prior to riser installation could undermine and crafter the difficenties. See company overburden.	Mark Hafe	Accepted		Mark Hafie	20-Jun-06	Cost	High	Low	High	Mod	Cost	Migh	Low	Wod	Sec 25" for isolation, gain farmation integrity to allow Fast titll process through 22" section Sec 22" casing above notices it said package to have SOP rippied up prar to crossing serveth SOF potential. 25" and 22" will be found conented.
15 (OH.	T	ND8	. 1	ost arili centerrespud	Welfheed Subsidence, attack pipe, surface fracture, TOS rubble zone: potential risk for collegs/sequesting of all	Mark Hade	Accepted		Mark Haffe	17-Jun-09	Cost	High	Low	High	Mod	Cost	High	Very Low	Low	28" for added support.
18 6	ОК	1	ND8	8	Jamos Atlack	conductors Cumbo due to pump end dump	Mark Hafe	Accepted		Mark Haffe	17-Jun-09	Cost	Low	Moderate	High	Low	Cost	Low	Moderate	Low	Chonto in the offsets
	OK	Ť	NDS		Shallow deplation		Marty Albertin	Accepted		Mark Haffe	20-May-00	Cost	Medium	Low	Medium	Low	Cost	Medium	Low	Low	Monitor pressures. Spot Stress Cage meterial prior to running casino. Have 16° essino patch
18 (ок	Ť	Planning	2 B	OP Issue	Potential for the BCP stack to cause NPT on the well.	Trent Fleece	Accepted		Twen	17-Jun-09	Schedule	High	Love	Medium	Mod.	Schedule	High	Low	Mod	contingency evelopie. Doing some PM's while the Bolion the surface. Good get some new equipment vesus refurbish if things go long. Numerous simulations show
19 (OK.	*	Planning	2	formal favolation	Risk of a good carriest job on the 0-78° Production String	Mark Hafe	Active		Tearn	17-Jun-09	Cost	Medium	Moderate	Mah	Mod					Numerous simulations show expendable is only option. The sands will be attess caged and, for purpose censerting design is to used with low circulating rate will be used to keep ECD's belo fracture pressure.
20 0	OK.	*	Planning	8	shock & Vibration	Risk of down hole tool fallures due to shock and vioration.	Mark Haffe	Accepted		Team	17-Jun-09	Cost	Medium	Low	High	Low	Cust	Medium	Very Low	V. Low	Fit for purpose BHA's designed each hole section incorporating DW GoM SPU lessons learned
21 0	OK:	Ţ	Planning	A	Course Pressure Build-up	Risk of cealing feiture during the production phase of the well.	Mark Hafe	Accepted		Mark Hefte	17-Jun-09	Production	High	Low	Medium	Mod.	Cust	High	Low	Mod	Rich Miller in EPTG did a well specific design to mitigate APB saues. This well design incorporates three 16" rupture d subs.
22 0	OK:	T:	Planning		Compection	Cesting feiture late in life due to reservoir compaction.	Mark Hafe	Active		Mark Hafle	17-Jun-09	Production	Low	Very Low	Low	V. Low				1	Steve Wison does not see any compaction risk at the tabele location. Any compaction would late in the due to reservoir
25 0	OK:	T-	Planning	E	xpendable issues	Risk of tubular exspansion faiture.	Mark Hafe	Accepted		Mark Hefte	17-Jun-09	Cost	Medium	Low	Medium	Low	Cost	Medium	Low	Low	drawdown.
24 6	OK		-															-			

Risk Rating Matrix - customize the matrix in the SETUP worksheet

	Type of Impact											
	Health & Safety	Environment: Threats	Environment: Opportunities	Reputation: Threats	Reputation: Opportunities	Cost	Schedule	Production	Reserves	NPV		
	One or more fatalities	Damage long- term and/or extensive	::=:	Outrage. Prosecution. Possible loss of operating license	Commended by NGO at international level. Global recognition	> 10 SM	> 12.75 days	> 0.1 of Project Production*	> 0.15 of Project Reserves*	> 0.1 of Project NPV*		Very High
Level	Serious injury or DAFWC. HiPo	Short-term damage within facility boundary	Long-term and/or extensive improvement	Involvement of regulator	Commended by NGO at national level. Recognition within country	3 - 10 \$M	3.4 - 12.75 days	0.03 - 0.1 of Project Production*	0.04 - 0.15 of Project Reserves*	0.03 - 0.1 of Project NPV*		High
Impact	Recordable injury, first aid, serious occurrence	Rapid on-site clean-up	Short-term improvement within facility boundary	Complaints from local community	Commended by NGO at local level. Recognition within area	1 - 2 SM	0.85 - 3.4 days	0.01 - 0.03 of Project Production*	0.01 - 0.04 of Project Reserves*	0.01 - 0.03 of Project NPV*		Medium
	No impact	No impact	Minor enhancement	Minimal impact	recognised positive contribution within BP	< 1 \$M	< 0.85 days	< 0.01 of Project Production*	< 0.01 of Project Reserves*	< 0.01 of Project NPV*		Low

Pr				

Very Low	Could only occur as the result of multiple, independent system or control failures. Future occurrence is thought most unlikely. No comparable occurrence is known.
Low	Could result from a plausible combination of system or control failures. Would probably occur if the system were to be operated for long enough. Comparable events are known to have occurred in the past.
Moderate	Could result from the failure of a single system or control. Could be expected to occur if this operation were repeated regularly. Comparable events are within the team's direct experience.
High	Uncontrolled. Will occur whenever circumstances are unfavorable. Comparable events are frequent.

	manage at 1		Probability	/ Frequency	
Prob-In	pact Grid	Very Low < 1%	Low 1 - 5%	Moderate 5 - 25%	High > 25%
	Very High	Mod.	High	V. High	V. High
Level	High	Low	Mod.	High	V. High
Impact Level	Medium	V. Low	Low	Mod.	High
	Low	V. Low	V. Low	Low	Mod.

Manageability

Low	Project Management Team can only influence impact. Risk reduction measures are unlikely to be cost-effective.
Medium	Project Management Team can influence probability and / or impact. Risk reduction measures will be roughly cost-neutral.
High	Project Management Team can control probability and / or impact. Risk reduction measures will be highly cost-effective