

From: Coltrin, George  
Sent: Thu Aug 24 19:06:59 2006  
To: Deepwater Horizon, Formen; Butler, Carl H; Hafle, Mark E; Lirette, Nicholas J  
Subject: FW: BOP Shear Rams  
Importance: Normal  
Attachments: 5000sheardata.xls

here is data for Shear-Blind and Casing Shear Rams on the rig.

the Casing Shear Rams should be able to shear the 6-5/8" HWDP in an emergency scenario.

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**From:** subsea [mailto:subsea@dwh.rig.deepwater.com]  
**Sent:** Friday, February 10, 2006 4:27 PM  
**To:** Deepwater Horizon, Formen; Coltrin, George  
**Subject:** FW: BOP Shear Rams

George,

Here is the information that you were asking about.

Mark Hay  
Subsea Eng.  
Deepwater Horizon  
Rig – 713-232-8262  
Fax – 713-232-8268  
subsea@dwh.rig.deepwater.com

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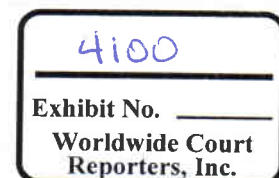
-----Original Message-----

**From:** Bowles, Tom T [mailto:Thomas.Bowles@bp.com]  
**Sent:** Friday, June 17, 2005 6:10 AM  
**To:** Deepwater Horizon, Formen; Halvorson, Kathleen; Louviere, Robert  
**Cc:** Coltrin, George; Skelton, Jake; Toolpusher@dwh.rig.deepwater.com; OIM@dwh.rig.deepwater.com  
**Subject:** FW: BOP Shear Rams

Bob Louviere, - Thanks for sharing this information from Steve..... Copy distribution to all involved....  
Referenced shear ram capabilities for high strength drill pipe landing strings on future BP wells, Bonsai and Kaskida.....  
Tom.....

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**From:** Louviere, Robert



**Sent:** Thursday, June 16, 2005 6:43 PM  
**To:** Coltrin, George; Halvorson, Kathleen; Bowles, Tom T  
**Cc:** Skelton, Jake  
**Subject:** FW: BOP Shear Rams

FYI.

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**From:** Donohue, Steve [mailto:SDonohue@houston.deepwater.com]  
**Sent:** Thursday, June 16, 2005 3:45 PM  
**To:** Louviere, Robert ; Holst, Katy  
**Cc:** Keeton, John  
**Subject:** RE: BOP Shear Rams

Bob,

Can't cut it with the SBR shear rams, but can cut it with the casing shears. See attached chart. Although 50.4 S135, 6 5/8" pipe is not listed, 40.9 is, and this is already out of the pressure range for the SBR's. Note, the Horizon has 4,000 psi available to both the casing shears and SBR's if required.

Regards

Steve

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-----Original Message-----

**From:** Louviere, Robert [mailto:louvr1@bp.com]  
**Sent:** Thursday, June 16, 2005 3:40 PM  
**To:** Holst, Katy  
**Cc:** jkeeton@houston.deepwater.com; sdonohue@houston.deepwater.com  
**Subject:** BOP Shear Rams

Katy,

Basic question has come up regarding BOP shear rams: will the rams shear 6-5/8" 50.4# 0.813 WT S-135 landing string if required for any unforeseen reason? Asked a few folks here at BP, but no one was definite in their response.

Please clarify.

Thanks,

*Bob Louviere*

*Sr. Drilling Engineering Consultant*

*BP GOM Deepwater Exploration*

*Phone: (281) 366-3980*

*Cell: (337) 258-5114*

**Cameron 18-3/4" 15M TL BOP**

Size (in)	Weight (ppf)	Grade	Minimum Yield (psi)	I.D. (in)	Wall (in)	Shear Pressure (psi) @ Ambient		Shear Pressure (psi) @ 5000psi Wellbore		Shear Pressure (psi) @ 10,000psi Wellbore	
						18" Piston with Shear Blind Rams	28" Piston with Casing Shear Rams	18" Piston with Shear Blind Rams	28" Piston with Casing Shear Rams	18" Piston with Shear Blind Rams	28" Piston with Casing Shear Rams
Casing											
13.375	68	L80	80000	12.415	0.480	4418	1715	5165	2005	5912	2295
9.625	47	L80	80000	8.681	0.472	3084	1197	3831	1487	4578	1777
7	29	L80	80000	6.184	0.408	1920	745	2667	1035	3414	1325
Drill String											
3.5	12.95	S135	135000	2.750	0.375	1412	548	2159	838	2905	1128
3.5	13.3	S135	135000	2.764	0.368	1388	539	2135	829	2882	1119
3.5	25.3	HWDP	55000	2.062	0.719	981	381	1728	671	2475	961
5	19.5	S135	135000	4.276	0.362	2022	785	2769	1075	3516	1365
5	49.3	HWDP	55000	3.000	1.000	1963	762	2710	1052	3457	1342
6.625	40.9	S135	135000	5.345	0.640	4614	1791	5361	2081	6108	2371
6.625	70.5	HWDP	55000	4.500	1.063	2900	1126	3647	1416	4394	1706
Drill Collars											
4.75	50	Drill Collar	110000	2.000	1.375	N/A	1768	N/A	2058	N/A	2348
6.5	91	Drill Collar	110000	2.813	1.844	N/A	3271	N/A	3561	N/A	3850
8	150	Drill Collar	100000	2.813	2.594	N/A	4857	N/A	5147	N/A	5437
9.5	216	Drill Collar	100000	3.000	3.250	N/A	7036	N/A	7326	N/A	7615

Note 1: Shear pressures in GREEN are within 5000psi operating system limitation and the geometry of the ram.

Note 2: Shear pressures in RED are outside the operating system capacity and/or the geometry of the ram.

Note 3: All shear pressures listed are calculated values. Actual shear pressures may differ due to variations in tubular mechanical properties, age or condition of tubular, and condition of ram blades.

Note 4: Calculated pressures in excess of 2700 psi should be verified by an actual shear test.

Above information is relative to Transocean's Deepwater Horizon MODU.. htb 6/17/2005