

Date, Location, and Description of Incidents Where Blind-Shears Rams Either Helped Control or May Have Helped Control a Blowout

Incident #	Date	Block / Lease #	Description of Incident
1	6/23/77	Eugene Island 307 G 2110	Blowout while running dual completion string. Tubing was 84 feet above the drill floor when well began blowing through the tubing. The tubing safety valve could not be installed so blind rams were closed but only crimped the tubing. Crew evacuated the rig safely. The blowout was controlled later that day. The Investigation Report recommended that the U.S. Geological Survey require shear rams on all BOP stacks.
2	7/20/77	West Cameron 110 OCS 081	Blowout occurred during workover operations. Well began to flow while pulling out of the hole. Drill string safety valve was installed but could not be closed. Blind rams were closed to restrict the flow but had no effect. There were no injuries. Well Control Team secured well 4 days later.
3	11/26/77	Eugene Is. 307 G 2110	Well blew out while running into the hole during completion operations. All of the BOP's were closed but the well continued to flow. The flow was too great to stab the drill string safety valve. After 6 hours of attempting to diminish the flow through the drill pipe the crew was able to install and close the drill string safety valve.
4	8/4/78	Grand Isle 41 G 0129	Blowout occurred during completion operations. Well began to flow through drill pipe and the drill string safety valve was installed. However the crew did not close the safety valve because the wrench was not found. After 15 minutes, the driller regained control of the well by closing blind-shear rams. There were no injuries.
5	3/5/79	S. Marsh Island 281 G 2600	While attempting to correct lost returns and stuck pipe problems, the well began to flow. The crew could not close the drill string safety valve when the well kicked the final time. There were eight fatalities and considerable damage to rig. The USCG Investigation Report (Oil & Gas Journal, p. 148, Nov. 17, 1980) concluded that shear rams could prevent similar casualties in the future.
6	8/24/80	Vermilion 348 G 2271	The well kicked while making up gravel pack assembly. The blind and pipe rams were closed on 4 1/2" pipe portion of gravel pack assembly but did not seal the well. The drilling rig and portion of platform were destroyed. There were four minor injuries in the crew evacuation. The well bridged 37 days later.
7	1/12/81	High Island 38 G 4077	Blowout occurred while circulating out a kick. The well blew out through the neck on the swivel. The lower kelly cock was left 12 feet above the drill floor and was not closed. The blowout lasted approximately 12 hours, catching fire towards the end of the incident. Three people suffered overexposure after the evacuation and one later died.
8	7/26/81	South Pelto 18 G 3589	Blowout during completion operations. While circulating mud, the well kicked. Crew closed upper kelly cock but it leaked. After all efforts to control the well were exhausted the operator closed blind-shear rams and evacuated platform. Gas leaked through the blind-shear rams but the rig never caught fire. Well was controlled 4 days later. One person suffered a broken leg and bruises during the evacuation.
9	10/5/81	Eugene Island 273 G 0987	Blowout occurred when the tubing parted during completion operations. The well was controlled after 38.5 hours by installing and closing blind-shear rams. The Investigation Report recommended that BOP stacks have blind-shear rams for completion operations. There were no injuries during the evacuation.
10	11/28/81	Viosca Knoll 900 G 2445	Blowout occurred during workover operations. The well kicked while pulling out of the hole. The BOP's were closed, but the flow through the drill string was too great to stab the drill string safety valve. The blowout lasted 24 hours. There was some pollution but no injuries and minimal damages.
11	4/19/82	Galveston 391 G 3740	Blowout occurred while completing the well. A drill string safety valve could not be installed because the drill pipe was above the monkey board. Well bridged over in 3 hours. There were no injuries and only minimal damage to the platform and rig.
12	5/15/82	S. Marsh Island 155 G 4110	While circulating a kick, an explosion and fire occurred under the rig floor and at the shale shaker. Blind-shear rams were activated and the well was shut in. Three people suffered minor injuries during the evacuation.

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13	7/14/82	West Cameron. 65 G 2825	Fishing operation when well began to kick. While attempting to control kick, the stand pipe blew out and the drilling crew could not close either of the kelly valves. Jackup rig was destroyed and the blowout continued for 57 days. There were no injuries.
14	12/17/82	West Delta 70 G 0182	Blowout occurred while working over well with a snubbing unit. Blowout pushed top of workstring to a point 30 feet above the highest object on the platform. Blowout was stopped after repeated attempts to function the shear rams.
15	10/20/83	Eugene Island 10 G 2892	While controlling a kick during a workover, gas began to leak from the threads in the crossover sub and the drill string safety valve. The leak increased as the valve was closed, forcing the abandonment of the rig. The well was killed 6 days later. There was major damage to the rig but no injuries.
16	12/3/85	West Cameron 648 G 4268	Blowout during workover. Crew unable to stab workstring safety valve into the workstring when fluid began flowing. Three people were injured trying to stab the safety valve. The rig was destroyed and the platform heavily damaged by fire. The blowout lasted 47 days. The Investigation Report recommended that Order 6 be revised to require blind-shear rams in BOP stack during workovers.
17	3/20/87	Vermilion 226 G 5195	Blowout during completion activities. Blowout through the drill pipe and drill string safety valve failed. The well control team killed the well by installing blind-shear rams and shutting in the well. There were no injuries and only minor damage during the 3-day blowout. The Accident Investigation Report recommended the installation of blind-shear rams in BOP stacks.
18	5/30/90	Brazos A-23 G 3938	Blowout occurred during testing operations. The blind-shear rams were closed but failed as the rig was being jacked up to clear tubing from the blind rams. Blind rams were closed but gas flowed until well control team killed the well. There were no injuries and only minor damages during the 2-day blowout.
19	9/9/90	Eugene Island 296 G 2105	During workover operations, well began to flow through tubing after running one stand of collars and one stand of tubing into the well. Crew made at least four unsuccessful attempts to install full opening safety valve. The BOP's were closed but did not stop the blowout. There were eight injuries and rig damage during the 4-day blowout.
20	1/24/96	Eugene Island 380 G 2327	During completion operations, the well began to flow while the tubing was extended above the BOP stack. Crew tried to stab the top drive into the top of the tubing but the flow prevented the connection. The driller closed the blind rams to reduce the flow but that did not help. When gas began to flow out of the top of the tubing the drilling crew closed the pipe rams and annular preventer and evacuated the rig. During the evacuation of the rig and platform the well caught fire. Fire destroyed the rig substructure and derrick and severely damaged other parts of the rig. MMS' investigation report recommended that blind-shear rams be required in surface BOP stacks.
21	5/31/97	East Cameron 83 G 8641	Blowout during completion operations. Well control team replaced pipe rams with blind-shear rams but found that the tool joint was opposite the rams. There were no injuries, pollution, or fire. Well was out of control for 19 days.
22	12/2/99	SM 58 G01194	Blowout occurred while running a gravel pack assembly during completion activities. The gravel pack was across the BOP stack when the well began to flow. The BOP's were closed but did not stop the blowout. The well bridged over the next day.
23	7/6/01	Eugene Island 277 OCS-G 10744	Blowout occurred during a workover operations. Well flowed uncontrolled through the drill pipe and ruptured pressure safety valve on the mud pump. The area around the rig equipment and drill floor became inundated with a hazardous accumulation of gas and formation sand thus forcing all personnel to evacuate to a standby boat. There were no injuries and only minor damages to the rig.

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24	7/13/01	Brazos 417 OCS-G 22190	Blowout occurred during drilling operations. The well kicked and flowed up the drill pipe. The rig floor safety valve was stabbed but would not close with 2 men applying torque to the handle. The 2 men were burned on their arms and back by the hot mud. Because of the hot temperature of the mud, the men had to put on slicker suits and were sprayed with water to continue working on the rig floor. The mudflow increased until it was shooting over the top of the derrick. Gas began to flow with the mud from the drill pipe and it became unsafe to work on the rig floor. The crew was ordered to abandon the rig. After the rig was abandoned, it was discovered that the ADTI night supervisor was missing. The Coast Guard searched for two days but the person was never found. The BOP stack, casing and drill pipe were damaged by high pressure gas and sand that flowed from the well. The rig was also damaged by the gas and sand flow.

Additional Information on Blowout Duration, Damages, Costs, Pollution, & Injuries

Incident #	Duration of incident	BS Ram	Rig Type	Activity, Damages, and Estimated Cost	Relief Well	Pollution	Injuries /Fatalities
1	52.5 hours	No	?	Completion, gas kick circulated with rig equipment, evacuation costs activity, gas blowout, minimal damages other than evacuation costs and killing operations with rig equipment	No	None	None
2	4 days	No	Jack-up	Workover, well control team called on location, costs associated with 4 days of control efforts	No	Sheen noted on ocean surface	None
3	6 hours	No	Platform	Completion, appears to minimal damage	No	None	None
4	15 minutes	Yes	?	Completion, blind shear rams were activated and cut the drill pipe to shut in the well, gas kick circulated with rig equipment, minimal cost	No	None	None
5	25 hours	No	Platform	Drilling, damages to the drilling rig and subsidiary equipment estimated at \$2.5 million, living quarters destroyed, spray barge deployed, explosion occurred before personnel evacuated	No	Sheen noted in vicinity of rig	8 fatalities
6	37 days	No	Platform	Completion, the upper deck of the platform, the drilling rig and the living quarters were destroyed, personnel evacuated, Jet Barge and Boots and Coats hired to control well, Rowan Midland semisubmersible used to drill relief well	Yes, drilled 4000' ESE of blowout well to depth of ~ 5150', 33 days	Sheen noted on ocean surface, mobilized spill response vessel	4 minor injuries – minor abrasions to feet
7	2 days	No	Submersible	Drilling, fire damage to the rig, personnel evacuated	No	None	3 suffered over-exposure to cold, 1 died

8	9 days	Yes	Jack-up	Completion, gas kick circulated with replacement BOP and pump, bent/damaged drill string, spray boats, well control team, and derrick barge deployed	No	Large sheen – up to 2 miles long by ½ mile wide near platform, fast response pollution control unit dispatched	2 personnel admitted to hospital for x rays, one broken leg, the other had minor bruises and abrasions
9	38.5 hours	yes	Platform	Completion, gas kick circulated after installing blind-shear rams, 2 spray boats deployed, personnel evacuated	No	None, fast response pollution control unit dispatched	None
10	1 day	No	Platform	Workover, gas kick circulated with rig equipment, personnel evacuated, minimal cost	No	64 barrels of oil covering an area 9 miles long by 4 miles wide, fast response pollution control unit dispatched	None
11	8 hours	No	Platform	Completion, drilling block fell on accumulator shed when blowout cut drilling line, well control team called on location to manually close blind rams, spray boat deployed, 33 personnel evacuated, contracted snubbing unit to circulate kick 3 days later, minimal damage	Arrangements made but not used	None	None
12	18.5 hours (blind-shear rams stopped blowout immediately)	Yes	Platform	Drilling, circulated gas kick through choke and degasser, gas ignited under rig damaging mud and degasser lines and burning mud logging unit and electrical wiring insulation, 37 personnel evacuated, drilling personnel returned to platform and killed well	No	None	3 minor injuries, 2 received minor burns to the hands, 1 twisted knee
13	57 days	No	Jack-up	Workover, circulating kick with rig equipment when gas and condensate began blowing from the standpipe/kelly hose, both kelly cocks failed to close, 3 spray boats deployed, personnel evacuated, well control team called on location, jackup rig and derrick destroyed	?	Sheen ½ mile diameter around the rig,	None
14	18 hours	Yes	Snubbing	Workover and snubbing, no discussion of damages or injuries	No	Fast response vessel called	None apparently
15	6.5 days	No	Submersible	Workover, TIW valve leaked while circulating kick, 40 personnel evacuated, 46 marine vessels secured and mobilized to the site, spray boats deployed, gas flow ignited 2 days after blowout and derrick collapsed one hour later, rig damage - \$3,135,000, well costs - \$4,470,000, killed well with rig equipment	No	None	None

16	48 days	No	Platform	<p>Workover, gas flowing uncontrolled from workstring, personnel evacuated, spray boats deployed, fire destroyed drilling rig, well killed with pumps on derrick barge, replaced 13 wellheads and flowlines in well bay</p> <p>Production was restored on 8/20/86, average daily production prior to the blowout was 330 bbl of condensate and 71,200,00 cubic feet of gas</p>	2 relief wells, activity suspended on #1 (semi) after 50 days, #2 (jackup) after 37 days	Light sheen 1 mile wide by 5 miles long	Minor chemical burns to 3 rig personnel
17	56 hours	Yes	Platform	Production test, test manifold broke allowing gas flow from workstring, 30 personnel evacuated, 2 spray boats deployed, barge used as work base by well control contractor, estimated property damage is \$150,000 (from MMS report)	No	60 barrels condensate, sheen 100 yards wide by 5.5 miles long	None
18	46 hours	Yes	Jack-up	Completion, well testing - blind-shear rams failed after taking 9,000 psi but allowed driller to close blind rams, gas ran through kill line and ruptured line to mud pumps, 51 personnel evacuated, 2 fire monitoring boats deployed, well control contractor killed well, estimated total cost of equipment damage, hired support personnel and equipment, lost rig time and clean-up equipment is \$350,000 (1990 \$)	No	12 bbl of oil based mud, mostly contained on rig	None
19	Well bridged after 4 days	No	Platform	Workover, unsuccessful installing safety valve, BOP's would not close, \$250,000 (1990 \$) in damages	No	8 barrels condensate spilled on water	8 injuries
20	14 days	No	Platform	Completion, ran gravel pack assembly and screen, completion fluid flowed from tubing, could not connect topdrive, 45 personnel evacuated, well ignited, 2 spray boats deployed, derrick barge used as operational base for at least 14 days, fire destroyed drilling rig, minor damage to platform	No	None	None
21	19 days	No	Jack-up	Completion, well flowed completion fluid and gas, personnel evacuated, well control contractor hired, jackup barge on location ~ 4 days, installed but could not close blind-shear ram over tool joint, killed well with rig equipment, MMS Report estimated damages at \$0, daily operating and relief well costs incurred during blowout were at least \$2.7 million	Yes, drilled to 1020' and released after 15 days	None	None

22	Well bridged after 22 hours, took 7 days to kill well	No	Platform	Drilling, 2 firefighting vessels on location, 2 derrick barges on location (one is DP), jackup rig moved in preparation to drill relief well, costs estimated to be \$437,000 (amount from the report - that may include all costs or just include platform damage)	No	None	4 injuries – 2 minor back injuries, 1 shoulder sprain, and 1 hearing injury due to acute exposure to loud noise
23	1 day	No	Platform	Workover, kick noted and well shut-in, pumped into well until mud pump PSV released at 4200psi, personnel evacuated, well control contractor closed TIW valve and BOP annular and pipe rams, minimal damage resulted, platform rig removed, jackup rig later moved in to kill well	No	1.56 gallons spilled, fast response pollution control unit dispatched	None
24	22 days	No	Jack-up	Drilling, drill pipe began to flow, stabbed safety valve, would not close, mud flow too strong to stab drill pipe, personnel evacuated, well control contractor secured the rig, 2 spray boats deployed, sand cuts in casing allowed water influx to kill flow, well abandoned, water damage to recording instruments and quarters flooring	Yes, drilled with jackup, well reached TD in 42 days, used as replacement well		2 received arm and back burns from 150 degree drilling mud, 1 fatality