

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
PACIFIC OCS REGION

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 12-AUG-2006 TIME: 1000 HOURS

2. OPERATOR: Arguello Inc.

REPRESENTATIVE:
TELEPHONE:
CONTRACTOR:
REPRESENTATIVE:
TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING DEVICE
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER H2S release

3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR
ON SITE AT TIME OF INCIDENT:

6. OPERATION:

4. LEASE: P00450

AREA: SM LATITUDE:
BLOCK: 6524 LONGITUDE:

- PRODUCTION
- DRILLING
- WORKOVER
- COMPLETION
- HELICOPTER
- MOTOR VESSEL
- PIPELINE SEGMENT NO.
- OTHER

5. PLATFORM: HIDALGO
RIG NAME:

6. ACTIVITY: EXPLORATION (POE)
 DEVELOPMENT/PRODUCTION
(DOCD/POD)

8. CAUSE:

7. TYPE:

- HISTORIC INJURY
- REQUIRED EVACUATION 5
- LTA (1-3 days)
- LTA (>3 days)
- RW/JT (1-3 days)
- RW/JT (>3 days)
- Other Injury

- EQUIPMENT FAILURE
- HUMAN ERROR
- EXTERNAL DAMAGE
- SLIP/TRIP/FALL
- WEATHER RELATED
- LEAK
- UPSET H2O TREATING
- OVERBOARD DRILLING FLUID
- OTHER _____

- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

- 9. WATER DEPTH: 430 FT.
- 10. DISTANCE FROM SHORE: 6 MI.
- 11. WIND DIRECTION:
SPEED: M.P.H.
- 12. CURRENT DIRECTION:
SPEED: M.P.H.
- 13. SEA STATE: FT.
- 14. PICTURES TAKEN: NO
- 15. STATEMENT TAKEN: NO

- LWC HISTORIC BLOWOUT
 UNDERGROUND
 SURFACE
 DEVERTER
 SURFACE EQUIPMENT FAILURE OR PROCEDURES

COLLISION HISTORIC >\$25K <=\$25K

17. INVESTIGATION FINDINGS:

During the course of trying to correct a process upset, an operator inadvertently opened the wrong valve. This valve was not associated with the process upset but was ultimately the cause of the gas release. On the day of the incident, the activity level was very high. Operations personnel were dealing with a number of issues including among other things, hot work permits with the drilling rig demobilization, and the condensate stabilizer vessel (V-5) level problems. The condensate stabilizer vessel (V-5) overflows to the vapor recovery unit suction scrubber (V-10).

At 0803 hours, the vapor recovery unit suction scrubber (V-10) went to a Level Alarm High (LAH) condition due to carryover from the condensate stabilizer (V-5). One of the operators was instructed by the acting Head Operator (HO) to reroute the flow around the condensate stabilizer (V-5) to the dirty oil storage vessels (V-71 and V-72) to stop the carryover in order to clear the alarm. The rerouting operation requires manipulating three valves: a two inch bypass valve near the end of the Wemco, the outlet valve at the condensate stabilizer (V-5), and the condensate inlet valve on the mezzanine deck. The operator that was called had received training on this procedure previously but noted to the HO that he needed help performing the rerouting procedure due to his limited experience in the gas area. The acting HO directed an instrument technician who was familiar with the operation to help the operator. The instrument technician joined the operator near the Wemco. This is the location of the two inch valve which is one of the three valves necessary to reroute the flow around the condensate stabilizer (V-5). At this location there is also a four inch valve from production deck drain tank (T-72) and the sump deck drain tank (T-74) to the dirty oil storage vessels (V-71 and V-72). This four inch valve is clearly marked with a large tag hanging from the valve handle that reads "do not operate this valve unless you have read the SOP", but the operator does not recall seeing the tag during the process upset. The operator had manipulated one of these valves and believed he asked the instrument technician whether he should manipulate the second valve. The operator recalls that the instrument technician replied affirmatively resulting in both the correct two inch valve and the incorrect four inch valve being opened. The check valve in the four inch line did not have a positive seal and as a result, condensate flashed into the open deck drain system. This condensate in upstream processing equipment has an H₂S concentration level of approximately 20,000 ppm.

The vapors traveled to the drill deck near the area where five Nabors employees were working. They smelled H₂S before the alarm came in and began evacuating to their safe briefing area at the quarters. At about that time, 0815 hrs, GDXE 7D-71 (H₂S gas sensor on the main deck/drill deck) came in at 10 PPM and sounded the alarm. The five Nabors employees walked over a drain on the main deck coming from the sub-base area to the stairway and were exposed to toxic gas. One of the Nabors employees went to his knees and was grabbed by the collar by a co-worker and pulled to safety. ODXE 7D-71 alarmed ten minutes after the LAH on the vapor recovery unit suction scrubber V-10. GDXE 7D-71 was in alarm from 0815 to 0826. The ITO called a full muster and all personnel reported to their safe briefing areas. Emergency response teams were sent out to find and isolate the cause of the release. One of the operators checked the four inch valve near the Wemco, found it open, and immediately closed it. Once the valve was closed the release quickly dissipated. The five affected Nabors employees were able to get up to their rooms and get their air packs on but felt weaker as time went on. At that time, they were examined by the onboard SECORP medic who administered oxygen to all of them. All five hands received medical attention and then were evacuated to Marian Medical Center. Two of the five affected employees required an IV fluid treatment as a precaution to avoid dehydration due to vomiting. They were all released that evening with no work restrictions or lasting effects.

18. LIST THE PROBABLE CAUSE(S) OF ACCIDENT:

The cause of the accident was human error. An operator inadvertently opened the wrong valve.

19. LIST THE CONTRIBUTING CAUSE(S) OF ACCIDENT:

All of the operators have been trained on the condensate rerouting operation, but this process is not frequently done and an SOP did not exist. The two valves described above are in close proximity to each other at the end of the Wemco. The two inch valve is used in the re-route procedure, and the four inch valve is used for pumping the production deck drain tank (T-72) and the sump deck drain tank (T-74) to the dirty oil storage vessels (V-11 and V-72).

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

No property was damaged

NATURE OF DAMAGE:

NA

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The four inch valve has been chained closed and locked. An SOP has been written and reviewed with all personnel for rerouting flow around the condensate stabilizer (V-5) to the dirty oil storage vessels (V-71 and V-72). The 3-way snap acting valve (dump valve) which was the cause of the process upset was found to have seal material that is not compatible with its service. The operator feels that this was causing the valve to remain closed when receiving a signal to dump. It has been replaced with a unit that has the correct seals. The operator is researching and is in the process of drawing up a plan for complete removal of the condensate bypass line from any tie in to the deck drain system. All condensate will be rerouted to the dirty oil storage vessels (V-71 and V-72) with a common line. While this will eliminate 112 S-laden condensate from getting into the drain system, there could still be a problem with gas coming back from dirty oil storage vessels (V-71 and V-72) if the four inch valve was left open too long after pumping up from the sump deck in an Emergency Operating Procedure (EOP). To resolve this issue the operator will replace the existing metal flapper check valve in the four inch line with a plug type check valve that will provide a positive seal.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

The operator failed to follow proper procedures (Posted SOP).

25. DATE OF ONSITE INVESTIGATION:

28. ACCIDENT CLASSIFICATION:

12-AUG-2001

MINOR

NO

26. ONSITE TEAM MEMBERS:

Scott Drewery /

29. ACCIDENT INVESTIGATION

PANEL FORMED:

30. DISTRICT SUPERVISOR:

OCS REPORT:

Phillip R. Schroeder

27. OPERATOR REPORT ON FILE: YES

APPROVED

DATE:

20-SEP-2006

