

UNITED STATES DEPARTMENT OF THE INTERIOR
 MINERALS MANAGEMENT SERVICE
 GULF OF MEXICO REGION
ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: **28-MAY-2009** TIME: **0250** HOURS

2. OPERATOR: **Devon Energy Production Company, Inc.**

REPRESENTATIVE: **Fontenot, Codi**

TELEPHONE: **(337) 269-4558**

CONTRACTOR: **Seadrill 41 Limited**

REPRESENTATIVE: **Price, Gary**

TELEPHONE: **(337) 739-2120**

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

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

6. OPERATION:

4. LEASE: **G19545**

AREA: **KC** LATITUDE: **26.69**
 BLOCK: **291** LONGITUDE: **-92.62**

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

5. PLATFORM:

RIG NAME: **SEADRILL WEST SIRIUS**

6. ACTIVITY:

- EXPLORATION (POE)
- DEVELOPMENT/PRODUCTION (DOCD/POD)

8. CAUSE:

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

7. TYPE:

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

- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

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

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

9. WATER DEPTH: **5851** FT.

10. DISTANCE FROM SHORE: **200** MI.

11. WIND DIRECTION: **SE**
 SPEED: **17** M.P.H.

12. CURRENT DIRECTION:
 SPEED: M.P.H.

13. SEA STATE: **4** FT.

17. DESCRIBE IN SEQUENCE HOW ACCIDENT HAPPENED:

On May 28, 2009, at approximately 0200 hours, on Devon Energy Production Company, L.P.'s Lease OCS-G 19545, Keathley Canyon 291 Well# 1 Seadrill West Sirius rig, 223.3 barrels (bbl) of Rheliant Synthetic Based Whole Mud (RSBM) was unintentionally discharged into the Gulf of Mexico (GOM). The RSBM consisted of 46% (102.72 bbl) Rheliant™ System mixture. This discharge was a result of an incorrect valve lineup on the hydraulic supply to the Diverter Control Unit (DCU).

Additionally, it is noted that prior to discovering this incorrect valve line-up, returns were lost during cementing operations on this well as the 13 5/8" intermediate casing was being run and subsequently cemented. At no time during these operations was there any evidence that the trip tank was not being properly monitored. Following hanging off the 13 5/8" casing into the wellhead, however, losses from the trip tank should have stopped. Upon additional inspection, the problem was identified to be the sealing element on the telescopic slip joint. The trip tank circulating pump was shut off and the fluid level in the slip joint was allowed to fall just below the leaking element. The flow from the leaking element ceased at 0300 hour on 5-28-09.

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

Improper seal of the telescopic slip joint resulted from the lack of hydraulic supply pressure, causing the undesirable loss of RSBM into the GOM. Further investigation revealed that the hydraulic supply block valve #37.5, used to energize the telescopic slip joint and diverter system, was inadvertently left closed following recent maintenance operations. As the system pressure bled off there was inadequate pressure to seal the slip joint packer and flow line seal, resulting in the aforementioned release.

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

Due to the Drilling Team's (DT's) failure to follow required startup procedures following maintenance operations, hydraulic supply valve # 37.5 was closed resulting in no hydraulic supply to the accumulator bottle system that supplies high volume pressure to the diverter and telescopic slip joint systems. Furthermore, the diverter accumulator pressure high/low alarm failed to operate, as designed, possibly preventing earlier discovery of the RSBM leakage.

20. LIST THE ADDITIONAL INFORMATION:

The lessee has already implemented the following corrective measures to prevent the reoccurrence of this event:

*The DT reestablished system hydraulic pressure stopping RSBM losses as confirmed by monitoring the trip tank.

*Valve alignment on hydraulic power unit (HPU) has been color-coded for easier identification for the normally open and normally closed valves. Detailed signs indicating proper valve alignment have been installed.

*Subsea engineer tour sheets have been modified to reflect HPU valve alignment and working pressures were added so that an item out of tolerance can be easily identified.

*Subsea engineer tour sheets will be maintained for one year to track HPU operation trends.

*HPU audible alarms have been installed at the driller and toolpusher workstations.

*Management implemented additional policies to require the DT to address all alarms.

In addition to the aforementioned corrective measures, a well-designed lockout/tagout program would prevent the DT from inadvertently leaving any valve in an undesired position.

21. PROPERTY DAMAGED:

No damages

NATURE OF DAMAGE:

NA

ESTIMATED AMOUNT (TOTAL):

\$

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

The MMS Lafayette District office makes no recommendations to the MMS Regional Office of Safety Management (OSM).

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

INC E-100 is issued "After the Fact" to document that Devon Energy Production Company, L.P. failed to prevent unauthorized discharge of pollutants into offshore waters. Devon Energy Production Company, L.P. failed to ensure required procedures for start-up of the Hydraulic Power Unit (HPU) were followed, thereby resulting in the unauthorized discharge of 223.3 bbl of RSBM.

Devon Energy Production Company, L.P. is advised to submit a letter of explanation addressing the aforementioned INC., and its plans for eliminating future incidents of this nature to the MMS Lafayette District.

25. DATE OF ONSITE INVESTIGATION:

18-JUN-2009

26. ONSITE TEAM MEMBERS:

Wade Guillotte / Marty Rinaudo /
Ron Ashford / Johnny Serrette /

29. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

Elliott S. Smith

APPROVED

DATE: 27-JUL-2009

POLLUTION ATTACHMENT

1. VOLUME: GAL 223.3 BBL

YARDS LONG X YARDS WIDE

APPEARANCE: **BARELY VISIBLE**

2. TYPE OF HYDROCARBON RELEASED: OIL
 DIESEL
 CONDENSATE
 HYDRAULIC
 NATURAL GAS
 OTHER Rheliant synthetic based mud

3. SOURCE OF HYDROCARBON RELEASED: **Leak from slip joint packer seal**

4. WERE SAMPLES TAKEN? **NO**

5. WAS CLEANUP EQUIPMENT ACTIVATED? **NO**

IF SO, TYPE: SKIMMER
 CONTAINMENT BOOM
 ABSORPTION EQUIPMENT
 DISPERSANTS
 OTHER _____

6. ESTIMATED RECOVERY: GAL BBL

7. RESPONSE TIME: HOURS

8. IS THE POLLUTION IN THE PROXIMITY OF AN ENVIRONMENTALLY SENSITIVE AREA (CLASS I)? **NO**

9. HAS REGION OIL SPILL TASK FORCE BEEN NOTIFIED? **NO**

10. CONTACTED SHORE: **NO** IF YES, WHERE:

11. WERE ANY LIVE ANIMALS OBSERVED NEAR: **NO**

12. WERE ANY OILED OR DEAD ANIMALS OBSERVED NEAR SPILL: **NO**