

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

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 30-SEP-2009 TIME: 1055 HOURS

2. OPERATOR: Chevron U.S.A. Inc.  
REPRESENTATIVE: Dardar, Jay  
TELEPHONE: (713) 372-1337  
CONTRACTOR: Transocean Offshore  
REPRESENTATIVE: Owens, Robert  
TELEPHONE: (832) 587-6880

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING DEVICE
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K \$100,000
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER

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

4. LEASE: G20082  
AREA: GC LATITUDE:  
BLOCK: 640 LONGITUDE:

6. OPERATION:

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

5. PLATFORM:  
RIG NAME: T.O. DISCOVERER CLEAR LEADER

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: 4292 FT.

10. DISTANCE FROM SHORE: 125 MI.

11. WIND DIRECTION: N  
SPEED: 1 M.P.H.

12. CURRENT DIRECTION: N  
SPEED: 1 M.P.H.

13. SEA STATE: FT.

17. INVESTIGATION FINDINGS:

Upon completing Blowout Preventer (BOP) testing and before resuming drilling operations, the rig experienced a fire alarm and partial loss of power as a result of an electrical failure in the Dynamic Position (DP) system. The event led to all six thrusters going offline with the rig drifting 15-1/2 ft off location, and personnel having to muster for potential rig evacuation. Power was quickly restored to the rig's DP system where its position was reestablished and personnel returned to duty.

The drill string was positioned for hang off in the BOPs and the preliminary Emergency Disconnect Sequence (EDS) was initiated. Once the incident was determined to be under control the EDS was suspended and well drilling operations resumed.

The rig's fire team responded to the alarm where they discovered flames and smoke to be coming from electrical cabinets located in a Motor Control Center (MCC) room for the rig's DP control system. The team secured the scene and an investigation into the event commenced. The affected devices were isolated from the DP system for repairs, with the unaffected DP system devices capable of maintaining station during rig operations.

The investigation led to the discovery of several electrical cabinets and associated components having sustained electrical fire damage. Cracks found in the cooling system for the electrical controls allowed water to enter the cabinets leading to failure of the electrical devices. The cracks appeared to be heat induced as a result of voltage fluctuations from power demand. Subsequent to the event the logic for the electrical controls of the DP system have been modified to better respond to power demands. These modifications have also been made to other Transocean rigs that utilize the same system.

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

Heat induced cracks found in the electrical control's cooling system allowed water to enter resulting in failure of the electrical devices that controlled the rig's DP system.

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

Power demand voltage fluctuations affected the DP system's logic electrical controls for thruster operation and performance. This caused an irregular functioning of the breakers for the electrical control's bus system.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

6-Power Stacks  
4-Water lines and associated connections  
and clamps  
2-Capacitor Banks  
1-Cabinet Heater

Electrical Burn

ESTIMATED AMOUNT (TOTAL): \$100,000

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

Due to the specific nature of this event, the Houma District has no recommendations to the Regional Office.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:

26. ONSITE TEAM MEMBERS:

Ben Coco /

29. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

Bryan A. Domangue

APPROVED

DATE: 24-DEC-2009

# FIRE/EXPLOSION ATTACHMENT

1. SOURCE OF IGNITION: **Electrical**

2. TYPE OF FUEL:
- GAS
  - OIL
  - DIESEL
  - CONDENSATE
  - HYDRAULIC
  - OTHER **High voltage**

3. FUEL SOURCE: **Voltage fluctuations from power demand**

4. WERE PRECAUTIONS OR ACTIONS TAKEN TO ISOLATE  
KNOWN SOURCES OF IGNITION PRIOR TO THE ACCIDENT ? **NO**

5. TYPE OF FIREFIGHTING EQUIPMENT UTILIZED:
- HANDHELD
  - WHEELED UNIT
  - FIXED CHEMICAL
  - FIXED WATER
  - NONE
  - OTHER