

UNITED STATES DEPARTMENT OF THE INTERIOR -
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT -
GULF OF MEXICO REGION -

ACCIDENT INVESTIGATION REPORT

For Public Release

1. OCCURRED

DATE: 16-MAR-2015 TIME: 1630 HOURS

2. OPERATOR: Chevron U.S.A. 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

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

6. OPERATION:

4. LEASE: G02719

AREA: HI LATITUDE:

BLOCK: A 582 LONGITUDE: -

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

5. PLATFORM: - C

RIG NAME:

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

8. CAUSE:

7. TYPE:

- HISTORIC INJURY -
 - REQUIRED EVACUATION
 - 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

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

9. WATER DEPTH: 327 FT.

10. DISTANCE FROM SHORE: 86 MI.

11. WIND DIRECTION: -
SPEED: M.P.H.

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

13. SEA STATE: FT.

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

On 16 March 2015 at approximately 14:48 hours a backfire/explosion occurred at Chevron USA's High Island (HI) A582 'C' facility, Lease G-02719. Production Operators were preparing to bring the platform back on line after performing monthly Emergency Shut Down (ESD) testing. During startup, one Operator observed the purge timer on Ambitrol Heater (AH) EAL-1510 was not counting down and contacted the Supervisory Control and Data Acquisition (SCADA) Technician for assistance. The SCADA Technician determined the firing air pressure was not getting above the set point to start the purge timer. While examining the AH, the linkage to the air/fuel ratio valve was observed to be disconnected and Stop Work Authority (SWA) was initiated. After the work permit was revised, the SCADA Technician reconnected the air/fuel ratio valve linkage and hooked up a Combustion Analyzer to the exhaust stack to monitor Oxygen (O2) levels. The AH start sequence was initiated and the O2 level went up to 21% indicating the AH was purged. The AH went into ignition, flame was established, and the O2 level went down to approximately 3% as it should. The AH was shut down and restarted to verify proper function. The O2 level indicated a proper purge of 21% O2 which started the ignition sequence. The SCADA Technician was monitoring the O2 level. The O2 level slowly drifted down as ignition was believed to be established then fell rapidly with no increase in temperature. The SCADA Technician suspected something was wrong and signaled the Operator to shut down the AH, at which time the unit back fired and dislodged the cover of the AH.

The investigation determined there was an inadequate purge of air within the Ambitrol Heater Cabin before ignition of the burner due to the previous combustion run. The Programmable Logic Controller (PLC) allowed excess fuel to be introduced into the Ambitrol Heater Cabin during the ignition sequence. The AH had a documented history of performance issues with the air/fuel ratio valve reliability. Maintenance records confirmed numerous repairs had been performed on the air/fuel ratio valve. Review of SCADA record trends indicate the air valve remained closed during the air purge cycle allowing an explosive fuel mixture to accumulate in the Ambitrol Heater Cabin causing the unit to back fire during ignition. No personnel injury, environmental incident, or fire resulted from the event.

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

An inadequate purge of air within the Ambitrol Heater Cabin allowed an explosive fuel mixture to accumulate.

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

Poor reliability of the air/fuel ratio valve. -
The PLC allowed excess fuel to be introduced into the Ambitrol Heater Cabin during the ignition sequence. -
There was an inadequate purge of air within the Ambitrol Heater Cabin before ignition of the burner due to the previous combustion run. -

20. LIST THE ADDITIONAL INFORMATION:

No personnel injury, environmental incident, or fire resulted from the event.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

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ESTIMATED AMOUNT (TOTAL): **\$23,600**

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **NO**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:

24-MAR-2015

26. ONSITE TEAM MEMBERS:

Ed Keown / Marco DeLeon /

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

Stephen P. Martinez

APPROVED

DATE: **08-JUL-2015**

FIRE/EXPLOSION ATTACHMENT

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1. SOURCE OF IGNITION: **Ambitrol Heater pilot light -**

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

3. FUEL SOURCE: **Fuel gas system**

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