

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

1. OCCURRED

DATE: **06-FEB-2006** TIME: **0230** HOURS

2. OPERATOR: **ExxonMobil Oil Corporation**

REPRESENTATIVE: **Karry Gaspard**

TELEPHONE: **(281) 654-1110**

3. LEASE: **G01083**

AREA: **WD** LATITUDE:

BLOCK: **73** LONGITUDE:

4. PLATFORM: **A**

RIG NAME

5. ACTIVITY: EXPLORATION(POE)

DEVELOPMENT/PRODUCTION
(DOCD/POD)

6. TYPE: FIRE

EXPLOSION

BLOWOUT

COLLISION

INJURY NO. 0

FATALITY NO. 0

POLLUTION

OTHER _____

7. OPERATION: PRODUCTION

DRILLING

WORKOVER

COMPLETION

MOTOR VESSEL

PIPELINE SEGMENT NO. _____

OTHER _____

8. CAUSE: EQUIPMENT FAILURE

HUMAN ERROR

EXTERNAL DAMAGE

SLIP/TRIP/FALL

WEATHER RELATED

LEAK

UPSET H2O TREATING

OVERBOARD DRILLING FLUID

OTHER _____

9. WATER DEPTH: **168** FT.

10. DISTANCE FROM SHORE: **22** MI.

11. WIND DIRECTION: **NW**

SPEED: **10** M.P.H.

12. CURRENT DIRECTION:

SPEED: M.P.H.

13. SEA STATE: FT.

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

Robert Williford

CITY: **Cutoff** STATE: **LA**

TELEPHONE: **(504) 561-4613**

CONTRACTOR:

CONTRACTOR REPRESENTATIVE/
SUPERVISOR ON SITE AT TIME OF INCIDENT:

Curtis Pitre

CITY: **LaRose** STATE: **LA**

TELEPHONE: **(985) 228-0055**

17. DESCRIBE IN SEQUENCE HOW ACCIDENT HAPPENED:

At the time of the incident normal production operations were being conducted and the night operator had been in the compression building at approximately 1:30 AM. At approximately 2:20 AM on February 6, 2006, an audible process alarm at the West Delta 73 Platform was triggered by the # 5 compressor shutting down. The night operator on duty proceeded to the compression building to investigate the cause of the shut down. Upon arrival at the building, the night operator witnessed smoke, visible fire and the dumping of the CO2 system inside the building. The night operator immediately notified the quarters building to sound the general alarm and activated the Emergency Shut Down (ESD). Everyone onboard (approximately 68 personnel) mustered as required and a team of 5 employees was dispatched to assist the night operator with extinguishing any remaining fire and smoldering debris. The safety systems performed as designed. CO2 in combination with the ventilation system shut down and the ESD was able to suppress the bulk of the fire. Two, of the five compressors in the building, as well as, control panels, cables, wall/ceiling insulation, gantry beams and turbine air intakes were badly damaged.

Investigation Findings:

The investigation revealed an apparent mechanical failure of a bronze manually operated isolation valve for the panel fuel gauge. This device in question was attached to a 0.25 inch stainless steel tubing line operating at 150 PSIG. The product in the line was fuel gas with a composition of 96% Methane.

The auto ignition temperature of this fuel gas is less than 1100 degrees F.

The external skin temperature of the combustion chamber of the # 5 compressor under normal operating conditions is 1140 F.

There was no evidence of elevated gas levels or any evidence of a pressure wave and/or explosion at the scene.

The position of the broken valve was directly in line with the flange bolts of the discharge check valve on the # 5 compressor. After the fire it was observed that five (5) of the twelve (12) bolts on the 8-inch flange were no longer tight.

Observations indicate that a relatively small fire had occurred opposite of the bronze valve and in the direction of the flange bolts of the discharge check valve. Observations of the damaged area indicate a very large fire in the opposite direction away from the discharge flange.

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

It is concluded that when the valve stem failed at the threads, the gas mixture was released and ignited by contacting the external skin (temperature of 1140 F) of the combustion chamber of the # 5 compressor.

Based upon the evidence at the scene the initial fire would have been relatively small and directed away from the area which sustained the most severe damage. However, the

position of the broken valve was directly in line with the flange bolts of the discharge check valve on the # 5 compressor. It is believed that the initial fire went undetected for several minutes heating up the flange bolts to a point where the 8" flange separated releasing gas at 1100 PSIG into the compressor building. This theory is supported by the observation after the fire that five (5) of the twelve (12) bolts on the flange were no longer tight. This second release and fire most likely caused the bulk of the damage within the building. This second fire would have been the one that raised the temperature to a level which actuated the CO2 I Fire Loop system which in conjunction with the ESD extinguished the primary fire.

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

The mechanical failure of the valve was possibly due to the misuse while closing or opening the valve with a wrench, for the wheel or handle on the valve was missing and the valve stem was bent.

21. PROPERTY DAMAGED: NATURE OF DAMAGE:
Compressor building, 4-Turbins, wiring, Fire and Water Damage
control panels, and piping

ESTIMATED AMOUNT (TOTAL): \$3,200,000

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

No recommendation to MMS.

The New Orleans District concurs with Operators recommendations to prevent recurrence.

The West Delta 73 A Platform is a 1960's vintage platform which explains why the bronze valve was in service. ExxonMobil is aware that all new installations or valve replacements are required to be stainless steel.

ExxonMobil will issue a Safe Operations Alert (SOA) to all ExxonMobil platforms notifying them that instrument fuel gas valves exhibiting visible exterior damage (missing or broken handles, galled thread and/or bent stems, etc.) should be replaced at the first available opportunity.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

None

25. DATE OF ONSITE INVESTIGATION:

10-FEB-2006

26. ONSITE TEAM MEMBERS:

Stephen Lucky /

29. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

DDykes for T. Trosclair

APPROVED

DATE: 10-APR-2006

FIRE/EXPLOSION ATTACHMENT

1. SOURCE OF IGNITION: **External Skin (Temp. of 1140 F) of the combustion chamber of the # 5 compressor**

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

3. FUEL SOURCE: **Failed bronze operated isolation valve for the panel fuel gauge.**

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 **Water Hose**