

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

ACCIDENT INVESTIGATION REPORT

1. OCCURRED
DATE: **19-MAY-2004** TIME: **0830** HOURS

2. OPERATOR: **Spinnaker Exploration Company, L.L.C.**
REPRESENTATIVE: **Ben Benson**
TELEPHONE: **(985) 781-0804**

3. LEASE: **G23193**
AREA: **HI** LATITUDE: **29.45619221**
BLOCK: **47** LONGITUDE: **-93.89212937**

4. PLATFORM: **A**
RIG NAME

5. ACTIVITY: EXPLORATION(POE)
 DEVELOPMENT/PRODUCTION (DOC/POD)

6. TYPE: FIRE
 EXPLOSION
 BLOWOUT
 COLLISION
 INJURY NO. 2
 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 Human Error

9. WATER DEPTH: **38** FT.
10. DISTANCE FROM SHORE: **15** MI.
11. WIND DIRECTION: **NE**
SPEED: **12** M.P.H.
12. CURRENT DIRECTION: **S**
SPEED: **2** M.P.H.
13. SEA STATE: **3** FT.
14. PICTURES TAKEN: **YES**
15. STATEMENT TAKEN **YES**
16. OPERATOR REPRESENTATIVE/
SUPERVISOR ON SITE AT TIME OF INCIDENT:
Gary Pierce
CITY: **Houston** STATE: **TX**
TELEPHONE: **(713) 759-1770**
CONTRACTOR:
CONTRACTOR REPRESENTATIVE/
SUPERVISOR ON SITE AT TIME OF INCIDENT:
CITY: STATE:
TELEPHONE:

17. DESCRIBE IN SEQUENCE HOW ACCIDENT HAPPENED:

On Wednesday, May 19, 2004, at about 0735, a fire broke out on Spinnaker's High Island (HI) Block 47 A platform. Two contract workers were injured. The Production foremen works for the Wood Group. The well on this platform has a shut in pressure of psi and produces with a FTP of psi. The well produces about MMCF/D, bbls of condensate and bbls of water per day. The well also has an H2S component of about ppm, and a content.

The activities at the time of the incident included bleeding down the flow line and removing the hydraulic controlled choke and the choke seat from the choke body. The SSV located on the tree had been closed from the control panel, allowing for the flow line and sand knockout to be bled down. No other valves on the tree or flow line were closed except those downstream of the choke body to isolate the pressure in the production equipment. The cap was then removed from the choke body in order to remove the choke seat. At this time, Byron King apparently mistakenly opened the control switch for the SSV and allowed the full wellhead pressure to flow through the open ended choke body. At that instant, Mr. , still at the control panel, realized his mistake and then closed the control switch for the SSV. The lag time interval between opening and then closing the SSV with the control switch is esitimated to be about 20 to 45 seconds depending on his reaction time. In this interval, the full well volume was blowing from the open choke body toward the living quarters.

The wind was blowing from the Southeast to the Northwest which allowed the gas vapor to blow over the meter run house and generator house. The Generator is assumed to be the point of ignition of the gas, and it was consumed in the resulting fire along with the adjacent meter run house, meter runs and telemetry. The direction of the blast from the open choke body was directly toward the living quarters located about 25-30' away from the open choke body, and the living quarters were rapidly consumed in the blaze. The contract injured man with the burns worked for E S & H and was in the living quarters at the time of the incident, while the other contract man working for Schooner Chokes sustained the broken bone when he jumped to the lower deck.

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

In the instant that Byron King switched open the SSV, he realized his error, and then switched to close the SSV. Grasping the magnitude of the fire, Byron King then left the well control panel, ran down the adjacent stairs and closed the ESD switch located at the lower deck level. The time lag in the activation of the ESD would have been about one and one-half minutes to full closure. The blast of gas out of the open choke body which was about 2 feet above the deck was like a blow torch aimed directly toward the living quarters. The living quarters were constructed of aluminum, and it and its contents were completely destroyed along with the adjacent 2-300 gallon plastic fresh water tank next to the living quarters. No dry chemical system, deluge water system or safety shut down sysem could have saved the living quarters or anything else within the blast flame direction from the choke body within the closing time of the SSV. The 150 pound dry chemical wheeled unit adjacent to the living quarters would not have slowed the blaze. There was no fire wall or shield (such as an A-60 barrier) located between the choke manifold, production equipment, meter runs, and the living quarters.

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

The main cause of the fire appears to be the inadvertent opening of the SSV at the

control panel while the choke body cap was removed. There were three valves that could have been closed that would have prevented this fire; the master valve, the swab valve, or the "wing valves" on the swab flow line ahead of the sand knockout. None of these manual valves were closed, and there was nothing to hold back the full wellhead pressure from discharging through the open choke body.

20. LIST THE ADDITIONAL INFORMATION:

There is no fired equipment on this platform. From the wellhead, the gas travels through the sand knockout to the choke manifold at full wellhead pressure. After the pressure cut at the choke, it then goes through the fin-fan unit to cool ahead of the separator. It is then separated, measured and delivered to the pipeline. The condensate is measured separately and returned to the wet pipeline. The generators and living quarters can be considered the only sources of ignition. The well on this platform has a shut in pressure of psi and produces with a FTP of psi. The well produces about MMCF/D, bbls of condensate and bbls of water per day. The well also has a H2S component of about ppm, and a content. There was no pollution.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

The major items destroyed in the fire were the living quarters building with its contents, the meter run house, meter runs and telemetry systems, and the main generator. There appears to be no structural damage; only smoke and paint damage.

ESTIMATED AMOUNT (TOTAL): \$800,000

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

The Lake Jackson District has no recommendation for MMS.

The following are the recommendations made to the operator by the Lake Jackson District office:

A. Require a list of valves on the tree and production equipment to be manually closed prior to any pressure bleed down for any piece of equipment to be removed, repaired or replaced. These valves would be in addition to closing of any automatic valve that might be opened or closed from the control panel. There was no automatic control shut-down valve on the swab valve line to the sand knockout, or the sandknock out itself. There apparently were not any safety control pilots or controls on the swab line or sand knockout.

B. Change the location of the choke manifold to the lower deck, or to the edge of the platform so that any escaping gas would naturally be directed away from the living quarters building, generator and/or platform.

C. Disconnect the existing flow line from the swab valve to the sand knockout, and install this line to either wing of the tree which would allow another level of pressure control. This would allow the proper use of the swab valve to be used as a swab valve with available bottom hole connection.

D. Provide a fire wall or shield (such as an A-60 barrier) between all of the production equipment and the living quarters. Remove and isolate all flammable equipment and material away from the living quarters.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENTS

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

The addition of the flow line from the swab valve to the sand knockout, and the sand knock itself are not described the current approved process flow diagram or safe chart at the time of the fire. There appears to be no safety shut down system devices on the sand knockout or swab flow line.

The flow line from the sand knockout to the choke manifold was installed with screwed fittings and hammer unions. There was no approval for this installation for the use of 2-inch piping with screwed fittion at wellhead pressures at the time of the fire.

25. DATE OF ONSITE INVESTIGATION:

28. ACCIDENT CLASSIFICATION:

21-MAY-2004

26. ONSITE TEAM MEMBERS:

29. ACCIDENT INVESTIGATION

Harry J. FitzGibbon /

PANEL FORMED: NO

OCS REPORT:

27. OPERATOR REPORT ON FILE:

30. DISTRICT SUPERVISOR:

Pausina for Smith

APPROVED

DATE: 10-AUG-2004

FIRE/EXPLOSION ATTACHMENT

1. SOURCE OF IGNITION **Natural gas released from open choke body.**

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

3. FUEL SOURCE: **Gas well**

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

INJURY/FATALITY/WITNESS ATTACHMENT

OPERATOR REPRESENTATIVE INJURY
 CONTRACTOR REPRESENTATIVE FATALITY
 OTHER _____ WITNESS

NAME:

HOME ADDRESS:

CITY:

STATE:

WORK PHONE:

TOTAL OFFSHORE EXPERIENCE:

YEARS

EMPLOYED BY: **Environmental Health & Safety, Inc 21590**

BUSINESS ADDRESS: **111 Venture Boulevard**

CITY: **Houma**

STATE: **LA**

ZIP CODE: **70360**

OPERATOR REPRESENTATIVE INJURY
 CONTRACTOR REPRESENTATIVE FATALITY
 OTHER _____ WITNESS

NAME:

HOME ADDRESS:

CITY:

STATE:

WORK PHONE:

TOTAL OFFSHORE EXPERIENCE:

YEARS

EMPLOYED BY: **Schooner Petroleum Services, Inc/ 21588**

BUSINESS ADDRESS: **9837 Windmill Park Lane**

CITY: **Houston**

STATE: **TX**

ZIP CODE: **77064**