

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

1. OCCURRED

DATE: **25-FEB-2005** TIME: **1043** HOURS

2. OPERATOR: **The Houston Exploration Company**

REPRESENTATIVE: **Dalton Thibodeaux**

TELEPHONE: **(337) 356-0119**

3. LEASE: **G02900**

AREA: **EI** LATITUDE:

BLOCK: **261** LONGITUDE:

4. PLATFORM: **A**

RIG NAME

5. ACTIVITY: EXPLORATION(POE)

DEVELOPMENT/PRODUCTION
(DOCD/POD)

6. TYPE: FIRE

EXPLOSION

BLOWOUT

COLLISION

INJURY NO. _____

FATALITY NO. _____

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 Weather related

9. WATER DEPTH: **166** FT.

10. DISTANCE FROM SHORE: **62** MI.

11. WIND DIRECTION: **NE**

SPEED: **20** M.P.H.

12. CURRENT DIRECTION: **NE**

SPEED: **3** M.P.H.

13. SEA STATE: **3** FT.

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

None

CITY:

STATE:

TELEPHONE:

CONTRACTOR: **Grasso Production Management**

CONTRACTOR REPRESENTATIVE/
SUPERVISOR ON SITE AT TIME OF INCIDENT:

Dalton Thibodeaux

CITY: **Jennings**

STATE: **LA**

TELEPHONE: **(337) 356-0119**

17. DESCRIBE IN SEQUENCE HOW ACCIDENT HAPPENED:

The Houston Exploration Company (THEC) experienced a fire onboard the Eugene Island 261, A platform at approximately 10:00 hours on February 25, 2005. There were no injuries to personnel. THEC reported one minor (.02 gallons) pollution incident to the National Response Center on February 25, 2005. Damage was moderate and restricted to the compressor and generator located in the southwest corner of the top deck of the platform. The fire was extinguished within minutes with portable and wheel unit chemical extinguishers.

The following documents the sequence of events just prior to the carry over of liquids from the high pressure vent system:

Snubbing unit re-completion operations on Well A-13 had just been completed and the snubbing unit moved off location. Well A-13 was loaded up with completion fluids and unable to flow on its own. The A-13 well was lined up to flow for clean up to the test separator. Leaking threads on a ½ inch weld-a-let for a ½ inch valve on the intermediate pressure (IP) header were detected and operations were shut down to repair the leak. The weld-a-let leak was thought to have been corrected by replacing the existing 1/2 inch needle valve with a 1/2 inch needle valve that had a longer threaded stem. Once the leak was corrected, the IP system was recharged and operations were again initiated to unload the A-13 well. Platform operators lined up the test separator to flare with the back pressure valve set at 0 psi. The pressure safety high and low (PSH/L) sensors and level safety high (LSH) were bypassed, flagged and monitored at the master panel by the "B" production operator. The Lead operator pressured up on Well A-13 with 1000 psi from the gas lift supply. The Lead operator lined up the header system from the well to the test header and placed the A-13 well in bypass. The A-13 well was being monitored by The Houston Exploration Company (THEC) consultant. The THEC consultant began opening Well A-13 to the test separator and from the test separator to the high pressure vent scrubber. The initial leaking ½ inch weld-a-let and needle valve on the IP separator began leaking gas a second time at a high volume. Wells A-6 and A-11 producing into the IP system were shut in by the Lead operator.

The following documents the sequence of events that resulted in the carry over of fluids from the high pressure vent system:

"A high fluid level was experienced in the high pressure vent scrubber and a level safety high (LSH) shut in sounded an alarm. The source of the accumulated high fluid level in the high pressure vent scrubber was a carry over of completion fluids from the test separator that were being generated by unloading Well A-13. Total platform shut in began to occur.

"The THEC consultant was instructed and initiated the manual shut in of Well A-13 since it was locked open.

"Once the THEC consultant shut in Well A-13, He elected to open up the IP header to the high pressure vent system to relieve the pressure off the leaking ½ inch weld-a-let connection on the IP header.

"At or about the same time the THEC consultant opened up the IP header to the high pressure vent system, the gas compressor shut down and the compressor blow down valve (BDV) opened up sending all the compressed gas from the compressor to the high pressure vent system.

"Produced fluids and gas flooded the high pressure vent system.

The following documents the sequence of events that resulted in the fire:

"High pressure blow down gas from the compressor and liquid hydrocarbons collected in the high pressure vent system are discharged to atmosphere via the flare boom located on the northwest corner of the platform.

"Prevailing winds carried the liquid hydrocarbons from the tip of the flare boom back onto the platform top deck and onto the generator and compressor.

"High temperature from either the compressor exhaust systems or the generator exhaust systems ignited the liquid hydrocarbons. The resulting fire was immediate.

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

Liquid hydrocarbons that were discharged from the flare boom came in contact with the hot surfaces of the exhaust systems of the gas compressor and/or generator resulting in ignition..

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

The test separator was being operated as a "0" pressure vessel with the pressure safety high and low (PSH/L) sensors and level safety high (LSH) in a bypassed mode to enhance the flow back of completion fluids from the loaded up Well A-13. The test separator PSH/L sensors and LSH were being monitored at the master panel by Grasso Production Management (GPM) B operator Jarriid Armentor. The failure to hold sufficient back pressure on the test separator to dump liquids to the low pressure (LP) separator resulted in additional fluid and gas carry over to the vent scrubber when Well A-13 kicked hard.

Prevailing winds carried the liquid hydrocarbons from the tip of the flare boom back onto the platform top deck and onto the generator and compressor.

Platform operators failed to accurately determine the source of the initial leak on the IP header weld-a-let. Failure to accurately determine and properly correct the weld-a-let leak generated a second more intense leak in the IP header weld-a-let. The second leak in the IP header weld-a-let further contributed to the carry over of the vent scrubber due to the THEC consultant opening the IP header to the vent scrubber in an attempt to relieve the pressure on the leaking weld-a-let.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Burned and charred

Compressor unit, generator unit,
platform electrical system, and
pneumatic instrument system.

ESTIMATED AMOUNT (TOTAL): \$365,000

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The Houston Exploration Company (THEC) recommended the following:

1. Review the platform's HP vent scrubber and flare boom. Ensure adequate protection from all possible sources of gas that can be handled without pulling liquids through the flare scrubber.

MMS recommended the following to The Houston Exploration Company:

1. Convert the manual liquid drain for the HP vent scrubber to automatic discharge pumps with level controllers.
2. Install a restriction device in the compressor blow down piping upstream of the vent system to assist in controlling the high pressure blow down surge of compressed gas when the compressor shuts down.
3. Charged the operator with assuring that the HP vent scrubber is designed and installed to prevent liquid carry over.

Based on the unique design and operating characteristics of the HP vent scrubber, the Lafayette District recommends that the TAOS section review the vessel design features to determine that liquids are sufficiently scrubbed and discharged to prevent carry over when operating in atmospheric service.

The inlet stream enters from the top into a vented chamber then imparts a rotation to the gas stream as it leaves the inlet chamber. This makes the vessel operate similar to a centrifuge (similar to a de-sander on a rig). Liquid is "slung" to the outside of the vessel and the center of the vessel is relatively liquids free.

The "scrubbed gas" exits low in the vessel but enters the outlet piping about mid-way up the vessel through an internal riser pipe. This internal riser pipe supposedly gives the vessel a much greater liquid operating level than is indicated by external appearance. The level safety high (LSH) is set to trip between nozzles C1 and C2 which is 2 feet below the top of the gas outlet piping. The liquid in the vent scrubber was pumped down manually at the time of the carry over and resulting fire.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

None

25. DATE OF ONSITE INVESTIGATION:

28-FEB-2005

26. ONSITE TEAM MEMBERS:

**Tom Basey / Mike Hebert / Maxie
Lambert /**

29. ACCIDENT INVESTIGATION
PANEL FORMED:

OCS REPORT:

30. DISTRICT SUPERVISOR:

Elliott Smith

APPROVED

DATE: **28-APR-2005**

POLLUTION ATTACHMENT

1. VOLUME: **.02** GAL BBL
YARDS LONG X YARDS WIDE
APPEARANCE: **SILVERY SHEEN**
2. TYPE OF HYDROCARBON RELEASED: OIL
 DIESEL
 CONDENSATE
 HYDRAULIC
 NATURAL GAS
 OTHER _____
3. SOURCE OF HYDROCARBON RELEASED: **Vent boom**
4. WERE SAMPLES TAKEN? **NO**
5. WAS CLEANUP EQUIPMENT ACTIVATED? **NO**
IF SO, TYPE: SKIMMER
 CONTAINMENT BOOM
 ABSORPTION EQUIPMENT
 DISPERSANTS
 OTHER _____
6. ESTIMATED RECOVERY: **0** GAL BBL
7. RESPONSE TIME: **0** 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**