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

1. OCCURRED
   DATE: 08-JAN-2009 TIME: 0130 HOURS
   STRUCTURAL DAMAGE
   CRANE
   OTHER LIFTING DEVICE
   DAMAGED/DISABLED SAFETY SYS.
   INCIDENT >$25K
   H2S/15MIN./20PPM
   REQUIRED MUSTER
   SHUTDOWN FROM GAS RELEASE
   OTHER

2. OPERATOR: Apache Corporation
   REPRESENTATIVE: Dugas, David
   TELEPHONE: (337) 354-8124
   CONTRACTOR: Helmerich & Payne
   REPRESENTATIVE: Deer, Wade
   TELEPHONE: (800) 647-5338
   OTHER LIFTING DEVICE
   DAMAGED/DISABLED SAFETY SYS.
   REQUIRED MUSTER
   SHUTDOWN FROM GAS RELEASE
   OTHER

3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR
   ON SITE AT TIME OF INCIDENT:
   TELEPHONE:
   Required evacuation
   Weather related
   Leak
   Upset H2O treating
   Overboard drilling fluid
   Other

4. LEASE: G21685
   AREA: ST LATITUDE: 
   BLOCK: 308 LONGITUDE: 
   Production
   Drilling
   Workover
   Completion
   Helicopter
   Motor vessel
   Pipeline segment no.
   Other

5. PLATFORM: A (Tarantula)
   RIG NAME: H&P 105
   Exploration(POE)
   Development/Production(DOCD/POD)
   Other activity

6. ACTIVITY:
   Exploration(POE)
   Development/Production(DOCD/POD)
   Other activity

7. TYPE:
   Historic injury
   Required evacuation
   LTA (1-3 days)
   LTA (>3 days)
   RW/JT (1-3 days)
   RW/JT (>3 days)
   Other injury
   Patality
   Pollution
   Fire
   Historic blowout
   Underground
   Surface
   Deverter
   Surface equipment failure or procedures
   Collision
   Historic
   >$25K
   <=$25K

8. CAUSE:
   Equipment failure
   Human error
   External damage
   Slip/trip/fall
   Weather related
   Leak
   Upset H2O treating
   Overboard drilling fluid
   Other

9. WATER DEPTH: 484 FT.

10. DISTANCE FROM SHORE: 66 MI.

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

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

13. SEA STATE: FT.
17. DESCRIBE IN SEQUENCE HOW ACCIDENT HAPPENED:

With routine circulating and conditioning operations in progress, the driller's instrument display indicated flow had stopped from the mud pumps, indicating a loss of power to the pumps. At the same time, rig personnel noticed smoke coming from the rig's engine room. As two rig hands approached the engine room, fire was observed coming from the #3 engine. The rig's fire alarm was sounded and the platform's Emergency Shut Down (ESD) system was activated to shut-in the production process. The well was overbalanced with no flow observed after the mud pumps lost power. The well was secured with the closing of the Blow Out Preventer (BOP). Rig and platform personnel mustered, but did not evacuate, while the initial response team assembled and responded to the fire. The fire was contained after approximately one hour by using hand held extinguishers and light water from the platforms fire water system. The damage was confined to the engine room. Four of the rig's crew were treated for minor smoke inhalation with no other injuries and no fatalities or pollution.

The rig's power was able to be restored, in part, with power returning to engine's #1 & #2 in order to reestablish circulation in the well. The well remained in a circulation and monitoring condition until all repairs were made to the engine room and the rig's power system was restored in full. All repairs and recommissioning was completed on 12-Jan-09. All used dry chemical was replenished and drilling operations resumed.

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

A failed check valve assembly on the #3 engine's diesel return line resulted in fuel escaping. The uncontained fuel came into contact with the engine and was ignited by its heat.

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

It was discovered that some of the threads on the connection for the check valve assembly were partially flattened. The nature of the damage to the threads gives way to an external side-loading force having been applied to the area. The specific nature of the force and exactly when it occurred is unknown.

20. LIST THE ADDITIONAL INFORMATION:

The manufacturer of the engine is Caterpillar and the model is 3516B. The last complete engine report was from the previous day with no documented abnormal conditions or leaks with the engine. The engine was originally placed in service in April of 2006. The engine was running continuously since 5-Jan-09. As a result of not knowing the source of the force responsible for the check valve assembly damage, guards have been installed around the area on all the engines at each respective offshore location.

The engine was running at the time the fire was discovered and did not stop until the fuel was shut off. An automatic fuel shut-off valve will be installed on the diesel supply lines and connected to the emergency engine stop system, in addition to the manual valves already in place. A remote emergency engine stop station will be installed outside the engine room, in addition to the stations located on the engines.
Additional fire water hose reels will be installed at each end of the engine room and tied into the platform firewater system.

The check valve assembly was replaced and the same was inspected on engines #1 & #2 with each being deemed fit for service but are scheduled to be replaced. An inspection procedure will be added to the rig's preventative maintenance program. The failed check valve assembly was sent to the manufacturer for a full failure analysis.

The specific hand held dry chemical extinguishers consisted of: 3-30# ABC, 1-30# BC, 3-5# ABC, 2-10# ABC, and 16-20# ABC.

The operator supplied report may be viewed under Attachment B and pictures taken under Attachment C.
21. PROPERTY DAMAGED:  
Engine main wiring harness, control boards, rubber hoses. Engine room wiring and lighting. Cold start air compressor, air dryer, various tools and items stored in engine room.

NATURE OF DAMAGE:  
Burning / melting and heat deformation.

ESTIMATED AMOUNT (TOTAL): $200,000

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:  
Due to the nature of the event, the Houma District has no recommendations to the GOMR at this time.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

25. DATE OF ONSITE INVESTIGATION:  
08-JAN-2009

26. ONSITE TEAM MEMBERS:  
James Richard / Freddie Mosely /

29. ACCIDENT INVESTIGATION PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:  
Bryan A. Domangue

APPROVED  
DATE: 16-MAR-2009
1. SOURCE OF IGNITION:  **Heat from rig's engine.**

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

3. FUEL SOURCE:  **Broken return fuel line for engine.**

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

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