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

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

   DATE: **23-DEC-2004** TIME: **1420** HOURS

2. OPERATOR: **El Paso Production Oil & Gas Company**

   REPRESENTATIVE: **Ken Hunter**

   TELEPHONE: **(713) 445-9612**

3. LEASE: **G02910**

   AREA: **EI** LATITUDE:

   BLOCK: **327** LONGITUDE:

4. PLATFORM: **A**

   RIG NAME

5. ACTIVITY:
   - [ ] EXPLORATION(POE)
   - [X] DEVELOPMENT/PRODUCTION (DOCD/POD)

6. TYPE:
   - [X] FIRE
   - [X] EXPLOSION
   - [ ] BLOWOUT
   - [ ] COLLISION
   - [ ] INJURY NO. 0
   - [ ] FATALITY NO. 0
   - [ ] POLLUTION
   - [ ] OTHER

7. OPERATION:
   - [X] PRODUCTION
   - [ ] DRILLING
   - [ ] WORKOVER
   - [ ] COMPLETION
   - [ ] MOTOR VESSEL
   - [ ] PIPELINE SEGMENT NO.
   - [ ] OTHER

8. CAUSE:
   - [ ] EQUIPMENT FAILURE
   - [X] HUMAN ERROR
   - [ ] EXTERNAL DAMAGE
   - [ ] SLIP/TRIP/FALL
   - [ ] WEATHER RELATED
   - [ ] LEAK
   - [ ] UPSET H2O TREATING
   - [ ] OVERBOARD DRILLING FLUID
   - [ ] OTHER

9. WATER DEPTH: **262** FT.

10. DISTANCE FROM SHORE: **78** MI.

11. WIND DIRECTION: **N**

    SPEED: **40** M.P.H.

12. CURRENT DIRECTION:

    SPEED: M.P.H.

13. SEA STATE: FT.

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

    Ken Hunter / Baker Energy

    CITY: **Lafayette** STATE: **LA**

    TELEPHONE: **(713) 445-9612**

    CONTRACTOR:

    CONTRACTOR REPRESENTATIVE/ SUPERVISOR ON SITE AT TIME OF INCIDENT:

    F.J. Dubois, Sr./Quality Const

    CITY: **Lafayette** STATE: **LA**

    TELEPHONE: **(888) 640-1440**

17. DESCRIBE IN SEQUENCE HOW ACCIDENT HAPPENED:

a. Hot Work Permit issued at 6:00 hrs of the day of the incident. The permit covered burning, grinding, and electric tools. The hot work requirements included the use of gas monitors, "combustibles removed", "vents/drains sealed", and fire blankets.
b. The segment of piping to be removed was isolated from the rest of the process system by blinded flange joints. The blanket gas to the Float Cell (ABM-600) was cut off.
c. The area was surveyed with a portable gas detector.
d. The segment of piping to be removed was cut into manageable pieces using a cold cut saw.
e. The cold cut saw blade became dull before beginning the last cut.
f. The decision was made to make the last cut with a cutting torch.
g. The decision was made to not cover the Float Cell because the 25-35 knot winds were thought to reduce the risk of fire more effectively (by preventing a concentration of flammable vapor) than a fire blanket (which could allow a concentration of flammable vapors to form beneath it).
h. Cutting operations commenced with a torch on the last segment of piping. The location of the cut was four 4 feet, 2 inches directly north, and 8 feet above the north most vent opening of the Float Cell.
i. An explosion was heard by the construction crew, who then observed that the hatch covers had blown off the Float Cell. A small fire was burning inside the float cell.
j. The fire watch and welder foreman extinguished the fire in about one minute.

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

18. An air/hydrocarbon fuel mixture inside the Float Cell (ABM-600) was ignited by sparks from the cutting operation. It is most likely that a small hydrocarbon vapor leak around one of the Float Cell hatch cover gaskets came in contact with one of the sparks from the cutting operation. Such a trail of vapor could have acted as a "fuse", conducting the flame into the interior of the Float Cell, where the explosion occurred when the air/fuel mixture was ignited. Two vessel vents had flame arrestors, thus the vents can be ruled out as a potential flame path.

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

a. The blanket gas was shut off to reduce the chance of gas leaking from the interior of the Float Cell This allowed air to infiltrate into the vessel, creating a flammable mixture.
b. The Float Cell was not covered with a fire blanket, allowing sparks to contact the area near the hatch seals, nor were the flammable substances rendered inert. This is a violation of 30 CFR 250.113(a).

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

Float Cell - (ABM 0600)

NATURE OF DAMAGE:

Six Hatch Covers damaged

ESTIMATED AMOUNT (TOTAL): **$14,000**

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

A. MMS recommends that El Paso follow their "Welding and Burning Safe Practice Plan", as required by 30 CFR 250.109(a), when conducting any welding or spark producing activities, with particular attention paid to 1. and 2., below:

1. Prior to commencing cutting operations, immovable equipment should be protected with flame-proofed covers, shielded with metal or fire-resistant guards or curtains, or have their flammable substances rendered inert, as specified in El Paso's "Welding and Burning Safe Practice Plan" and in CFR 250.113(a).

2. Prior to commencing cutting operations, atmospheric tanks containing flammable materials should have their interiors rendered inert, and measures taken to prevent the infiltration of air.

B. It is also recommended that the Office of Safety Management issue a Safety Alert advising caution when conducting any welding or spark producing activities near hatch covers.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **YES**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

a. The Float Cell was not covered with a fire blanket, allowing sparks to contact the area near the hatch seals, nor were the flammable substances rendered inert. This is a violation of 30 CFR 250.113(a). This is also not in conformance with El Paso's "Welding and Burning Safe Practice Plan", a violation of 30 CFR 109(a).

b. The work, as a result of (a.), above, was not performed in a safe and workmanlike manner, and did not protect safety and property. This is a violation of 30 CFR 250.107(a)(1). An Incident of Non-Compliance was issued for this violation (G-110).

25. DATE OF ONSITE INVESTIGATION:

27-DEC-2004

26. ONSITE TEAM MEMBERS:

Robert Ranney / Johnny Serrette /

28. ACCIDENT CLASSIFICATION:

29. ACCIDENT INVESTIGATION PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

Elliott S. Smith

APPROVED

DATE: **17-FEB-2005**

FIRE/EXPLOSION ATTACHMENT

1. SOURCE OF IGNITION: **HOT SLAG**

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

3. FUEL SOURCE: **FLOAT CELL**

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
- [ ] FIXED WATER
- [ ] NONE
- [ ] OTHER