UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
GULF OF MEXICO REGION

ACCIDENT INVESTIGATION REPORT

For Public Release

1. OCCURRED
   DATE: **10-APR-2013** TIME: **0415** HOURS

2. OPERATOR: **Pisces Energy LLC**
   REPRESENTATIVE:
   TELEPHONE:
   CONTRACTOR:
   REPRESENTATIVE:
   TELEPHONE:

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

4. LEASE: **G17921**
   AREA: **VR** LATITUDE:
   BLOCK: **356** LONGITUDE:

5. PLATFORM: **A**
   RIG NAME: **ROWAN LOUISIANA**

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

7. TYPE:
- [ ] HISTORIC INJURY
  - [ ] REQUIRED EVACUATION
  - [ ] LTA (1-3 days)
  - [ ] LTA (>3 days
  - [ ] RW/JT (1-3 days)
  - [ ] RW/JT (>3 days)
  - [ ] Other Injury
- [ ] FATALITY
- [ ] POLLUTION
- [ ] FIRE
- [ ] EXPLOSION
- LWC
  - [ ] HISTORIC BLOWOUT
  - [ ] UNDERGROUND
  - [ ] SURFACE
  - [X] DEVERTER
  - [ ] SURFACE EQUIPMENT FAILURE OR PROCEDURES
- COLLISION [ ] HISTORIC [ ] >$25K [ ] <=$25K
- [ ] STRUCTURAL DAMAGE
- [ ] CRANE
- [ ] OTHER LIFTING DEVICE
- [ ] DAMAGED/DISABLED SAFETY SYS.
- [ ] INCIDENT >$25K
- [ ] H2S/15MIN./20PPM
- [ ] REQUIRED MUSTER
- [X] SHUTDOWN FROM GAS RELEASE
- [ ] OTHER

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

8. CAUSE:
- [X] 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: **93** MI.

11. WIND DIRECTION: **SSE**
    SPEED: **20** M.P.H.

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

13. SEA STATE: **5** FT.

17. INVESTIGATION FINDINGS:-

On 09-APR-2013 the Rowan Louisiana was on location at VR-356 drilling a development well for Pisces Energy. While drilling at 677' measured depth (MD) returns were lost, the driller pulled two stands of drill pipe back into the 24" drive pipe and reestablished returns. A total of 585 barrels of drilling fluid was lost during the event.

On 10-APR-2013 at approximately 4:45 AM a shallow gas flow was encountered at 1,484' MD/1,300' true vertical depth (TVD). The rig personnel immediately closed the diverter and opening both diverter lines to discharge returns from the well. Pumping of well control fluids into the well commenced at a rate of 16.7 barrels per minute while taking returns through the diverter lines. The returns consisted mostly of water with occasional spurts of gas. Shortly after pumping commenced a fuse for the driller's control panel blew shutting down the mud pumps. After the pumps were restored pumping resumed at a reduced rate of 8.3 barrels per minute without returns at the surface indicating a zone in the well had broken down. A gain of about 500 psi pump pressure was observed indicating that the well had bridged off. In an effort to keep the hole full of well control fluid, pumping down both the drill pipe and annulus, commenced at a combined reduced rate of 3.5 barrels per minute.

On 11-APR-2013 the rig continued pumping down the annulus and drill pipe of the well to keep the hole full, a lost circulation material (LCM) pill was pumped every two hours.

On 12-APR-2013 the pumps were shut off to determine the static fluid level in the well. The fluid level in the annulus appeared to stabilize at sea level with no gas present. Noise and Temperature logs showed that the fluid loss occurred at 850'MD which was approximately 250' below the drive pipe shoe. A sonic log was run and indicated the drill pipe was free down to 1,300'MD. An obstruction was found in the drill pipe which prevented the tool from going any deeper. The drill pipe was then severed with wireline at 1,282'MD at the deepest tool joint accessible approximately 200' above the wells MD. Circulation was established down the drill pipe with returns up the annulus.

On 13-APR-2013 through 16-APR-2013 76 barrels of cement was pumped through the severed drill pipe. The cement plug was then tagged at 870'MD. The directional bottom hole assembly was run in the hole and drilling continued from 873'MD to 1,213'MD. A 13.375" conductor was set and cemented at 1,213'MD.

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

A shallow gas zone was encountered at 1484' MD resulting in an uncontrolled flow of fluids through the diverter system.

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

While drilling at 677' MD returns were lost. A total of 585 barrels of drilling fluid was lost during the event.

20. LIST THE ADDITIONAL INFORMATION:

The following caution was emphasized on the application for permit to drill (APD) for drilling the conductor hole:
The geologic review indicated that shallow gas may be encountered at 1,080'MD, 1,110'MD, 1,195'MD and 1,290'MD.

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

Lake Charles District has no recommendations.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **NO**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

N/A

25. DATE OF ONSITE INVESTIGATION:

26-APR-2013

26. ONSITE TEAM MEMBERS:

Bill Olive / Carl Matte / Mitchell Klumpp /

29. ACCIDENT INVESTIGATION PANEL FORMED:

OCS REPO

30. DISTRICT SUPERVISOR:

Williamson, Larry

APPROVED DATE: **02-JUL-2013**