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: **28-OCT-2015** TIME: **0255** HOURS

2. OPERATOR: **Chevron U.S.A. Inc.**
   REPRESENTATIVE:
   TELEPHONE:
   CONTRACTOR: **Transocean Offshore**
   REPRESENTATIVE:
   TELEPHONE:

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

4. LEASE: **G26693**
   AREA: **GB** LATITUDE:
   BLOCK: **978** LONGITUDE:

5. PLATFORM:
   RIG NAME: **T.O. DISCOVERER INDIA**

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

7. TYPE:
- [ ] HISTORIC INJURY
- [X] REQUIRED EVACUATION **1**
- [ ] LTA (1-3 days)
- [X] LTA (>3 days **1**
- [ ] RW/JT (1-3 days)
- [ ] RW/JT (>3 days)
- [ ] Other Injury
- [ ] FATALITY
- [ ] POLLUTION
- [ ] FIRE
- [ ] EXPLOSION

LWC
- [ ] HISTORIC BLOWOUT
- [ ] UNDERGROUND
- [ ] SURFACE
- [ ] 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
- [ ] 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: **3803** FT.

10. DISTANCE FROM SHORE: **225** MI.

11. WIND DIRECTION: **WSW**
    SPEED: **10** M.P.H.

12. CURRENT DIRECTION: **NNE**
    SPEED: **2** M.P.H.

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

CHIEF MECHANIC/INJURED PERSON (IP) AND MECHANIC WERE IN THE PROCESS OF REMOVING A GEAR BOX COUPLING AND MUD AGITATOR SHAFT TO REPAIR A LEAKING OIL SEAL FROM THE GEARBOX ON SURFACE/ACTIVE PIT S6. IP AND MECHANIC HAD LIFTED GEAR BOX WITH TAPERED COUPLING AND AGITATOR SHAFT ATTACHED IN ORDER TO PLACE SAFETY CLAMP (DRILL COLLAR CLAMP) ON THE AGITATOR SHAFT BEFORE SEPARATING THE AGITATOR SHAFT FROM THE GEARBOX. PRIOR TO SECURING SAFETY CLAMP, THE CREW MEMBERS INSTALLED THE SUPPORT BEAMS WITH ALL THREAD AROUND THE AGITATOR SHAFT; THEY PERFORMED THIS STEP OUT OF SEQUENCE AS OUTLINED IN THE WRITTEN RISK ASSESSMENT (WRA). IP AND CREW MEMBER DETERMINED THE SAFETY CLAMP NEEDED TO BE ADJUSTED TO A SMALLER SIZE AFTER THEY INITIALLY TRIED TO SECURE THE CLAMP AS IDENTIFIED IN STEP 8 IN THE WRA. THE MECHANIC LEFT THE WORK AREA TO RETRIEVE A PAIR OF PLIERS NEEDED TO MAKE THE ADJUSTMENT ON THE SAFETY CLAMP. WHILE DOING SO, THE IP CHECKED TO SEE IF HE HAD THE PROPER SIZE ALLEN WRENCH. THE WRA IDENTIFIED THE SPECIFIC TOOL HE NEEDED, A 19MM ALLEN WRENCH. WITHOUT THE SAFETY CLAMP INSTALLED, THE IP PUT THE ALLEN WRENCH ONTO AN ALLEN BOLT HEAD ON THE AGITATOR SHAFT WHICH WAS SOMEWHAT CORRODED, AND PROCEEDED TO TAP THE ALLEN WRENCH WITH A HAMMER INTO THE BOLT HEAD. AS THE IP WAS HAMMERING, THE AGITATOR SHAFT AND COUPLING (WEIGHING APPROXIMATELY 750 POUNDS) SEPARATED FROM THE GEAR BOX OUTPUT SHAFT AND FELL DOWNWARD. THE IP'S FOURTH AND FIFTH FINGERS ON HIS LEFT HAND WERE SMASHED AND PINNED UNDER THE WEIGHT OF THE SHAFT BETWEEN THE END OF THE ALLEN WRENCH AND SUPPORT BEAMS INSTALLED BELOW. THE IP LOST HIS FOURTH FINGER DOWN TO THE FIRST KNUCKLE AND HIS FIFTH FINGER WAS BADLY CRUSHED AND BROKEN. IP WAS EVACUATED VIA MEDIVAC TO CRESCENT CITY HOSPITAL IN NEW ORLEANS, LOUISIANA. THE IP RECEIVED TREATMENT AND HAD HIS FOURTH FINGER AMPUTATED DOWN TO HIS FIRST KNUCKLE AND HIS FIFTH FINGER WAS RECONSTRUCTED.

THE IP, AS MENTIONED BY THE OIM, LEAD DRILL SITE MANAGER, AND SENIOR TOOLPUSHER; SHOULD HAD BEEN WEARING HIS IMPACT GLOVES DURING THIS STAGE OF THE REPAIR. THE IP WAS WORKING ON THE AGITATOR SHAFT AND COUPLING WITHOUT THE SAFETY CLAMP PROPERLY IN PLACE. THE SUPPORT BEAMS WERE PUT IN PLACE PRIOR TO THE SAFETY CLAMP BEING CORRECTLY SECURED. THE IP AND MECHANIC INVOLVED DID NOT FOLLOW THE JOB STEPS AS OUTLINED IN THE WRA. THE MECHANIC DID NOT STOP THE IP FROM WORKING ON THE AGITATOR ASSEMBLY WITHOUT THE SAFETY CLAMP IN PLACE, THUS; NOT UTILIZING STOP WORK AUTHORITY AND NOT CALLING FOR A “TIME OUT” FOR WORKING OUTSIDE OF THE PLAN CREATING A HAZARDOUS WORK ENVIRONMENT LEADING TO AN INJURY OCCURRENCE. THE TOOL LIST IN THE WRA IDENTIFIED A 19MM ALLEN WRENCH WAS NEEDED FOR THE JOB TASK. THE IP CHECKED TO SEE IF HIS WRENCH WOULD FIT THE BOLT EVEN THOUGH THE WRA OUTLINED WHAT SIZE TOOLS WOULD BE NEEDED FOR THE JOB. THE IP WAS NOT INVOLVED WITH THE WRA, AND HE WAS ALSO THE SUPERVISOR OF THE TASK. PERSONNEL DEVIATED FROM THE SEQUENTIAL JOB STEPS AS OUTLINED IN THE WRA. THE MECHANIC PRINTED THE IP’S NAME ON THE WRA. THE IP NEVER SIGNED THE WRA.

TRANSOCEAN AND LESSEE HAD PRIOR KNOWLEDGE OF SUDDEN UNEXPECTED SEPARATION OF THE AGITATOR GEARBOX OUTPUT SHAFT FROM AGITATOR SHAFT TAPERED COUPLING. ON THREE DIFFERENT OCCASIONS DATING BACK TO 2010, AGAIN IN 2014, AND AGAIN IN 2015 SUDDEN UNEXPECTED SEPARATION OF THE AGITATOR SHAFT FROM THE OUTPUT SHAFT ON THE GEARBOX OCCURRED. TRANSOCEAN HAD PRIOR KNOWLEDGE OF TWO AGITATOR SHAFTS SEPARATING UNEXPECTEDLY ON THE DISCOVERER INDIA. THERE WERE NO ADDITIONAL PRECAUTIONARY MEASURES TAKEN TO MITIGATE THE HAZARD OF UNEXPECTED COUPLING FAILURE CAUSING SEPARATION OF THE AGITATOR SHAFT FROM THE GEARBOX OUTPUT SHAFT WHILE PERSONNEL WERE PERFORMING REPAIRS ON THIS EQUIPMENT. PROCEDURES AND WRA’S WERE NOT UPDATED TO INCLUDE THESE HAZARDS, CAUSING THREAT OF INJURY TO PERSONNEL.

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

LESSEE FAILED TO MITIGATE THE HAZARDS ASSOCIATED WITH UNEXPECTED SEPARATION OF THE AGITATOR SHAFT AND GEARBOX NOT IDENTIFIED BY THE MANUFACTURER'S PROCEDURES, AFTER MULTIPLE UNEXPECTED SEPARATIONS ON THE DISCOVERER INDIA AND MULTIPLE PRODUCT SAFETY BULLETINS FROM THE MANUFACTURER. CREW MEMBERS NOT FOLLOWING COMPANY POLICY IN REGARDS TO EACH PARTICIPATING MEMBER OF A JOB TASK MUST SIGN THE WRA INDIVIDUALLY. FAILURE OF IP FOLLOWING MAUFACTURER'S PROCEDURE IN THE PERFORMANCE OF THE TASK.

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

LESSEE'S PRIOR KNOWLEDGE OF UNEXPECTED AND SUDDEN SEPARATIONS OF THE AGITATOR SHAFT AND GEARBOX.

20. LIST THE ADDITIONAL INFORMATION:

None.

21. PROPERTY DAMAGED:

None

NATURE OF DAMAGE:

None

ESTIMATED AMOUNT (TOTAL): **$**

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

No recommendations from the Lake Jackson District at this time.

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

G-111(C): 30 CFR 250.107
G-110(C): 30 CFR 250.107(a)

25. DATE OF ONSITE INVESTIGATION:

30-OCT-2015

26. ONSITE TEAM MEMBERS:

John Orsini / Casey Conklin /

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

OCS REPORT:

30. DISTRICT SUPERVISOR:

John McCarroll