

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

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 23-OCT-2009 TIME: 1045 HOURS

2. OPERATOR: Nexen Petroleum U.S.A. Inc.

REPRESENTATIVE: Miller, Karl
TELEPHONE: (337) 735-2504

CONTRACTOR: Ensco Offshore Co.
REPRESENTATIVE: Morganelli, Jason
TELEPHONE: (281) 560-8524

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

4. LEASE: G26315

AREA: GC LATITUDE:
BLOCK: 512 LONGITUDE:

5. PLATFORM:

RIG NAME: ENSCO 8501

6. ACTIVITY:

EXPLORATION (POE)
 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
 DEVERTER
 SURFACE EQUIPMENT FAILURE OR PROCEDURES

COLLISION HISTORIC >\$25K <=\$25K

STRUCTURAL DAMAGE
 CRANE
 OTHER LIFTING DEVICE Pipe Handler
 DAMAGED/DISABLED SAFETY SYS.
 INCIDENT >\$25K
 H2S/15MIN./20PPM
 REQUIRED MUSTER
 SHUTDOWN FROM GAS RELEASE
 OTHER

6. OPERATION:

PRODUCTION
 DRILLING
 WORKOVER
 COMPLETION
 HELICOPTER
 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 _____

9. WATER DEPTH: 3612 FT.

10. DISTANCE FROM SHORE: 119 MI.

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

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

13. SEA STATE: 1 FT.

17. INVESTIGATION FINDINGS:

On 23 October 2009 at approximately 1015 hours, 65 feet of Blowout Preventer (BOP) test assembly dropped onto the rig floor in preparation to test the BOPs. The 65 feet of BOP test assembly, weighing approximately 5100 pounds, was assembled on the rig floor's starboard fox hole and consisted of two full opening safety valves, one side entry sub, and 55 feet of 6 5/8-inch drill pipe. Rig personnel raised the assembly out of the starboard fox hole using the rig's horizontal to Vertical Pipe Handler (HTV) and began moving the assembly towards the catwalk machine. The objective was to land the assembly in the catwalk and bring it to the well center in order to use the elevators on the traveling block to lift the assembly. As the HTV was traversed towards the catwalk machine, the BOP test assembly fell approximately 45 feet with the pin end landing inside the catwalk machine and the box end coming to rest near the rotary table while striking the iron roughneck guide track. There were no injuries sustained from this incident since all personnel were clear of the danger area as per the Job Safety Analysis (JSA) and work instruction documents developed for the task. A safety stand-down was held with all personnel involved as well as the crews coming on tower.

An investigation by Nexen and Ensco determined that:

- The assembly length and/or configuration was too long for the HTV.
- The HTV guide roller and grip roller jaws were forced open because the length and weight of the BOP test assembly overloaded the HTV.
- The Operator's manual for the HTV has no horizontal load rating limitations for the length of pipe handled, and personnel did not consider this hazard.
- Clear operating parameters and equipment design limits were not established as part of on-the-job training.

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

The assembly length and/or configuration was too long for the HTV, and the HTV guide roller and grip roller jaws were forced open when the BOP test assembly length and weight overloaded the HTV.

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

1. The Operator's manual for the HTV has no horizontal load rating limitations for the length of pipe handled.
2. Clear operating parameters and equipment design limits were not established as part of on-the-job training.

20. LIST THE ADDITIONAL INFORMATION:

The following steps have since been implemented to prevent recurrence:

- * The Original Equipment Manufacturer (OEM) issued a world-wide product information bulletin to demonstrate four pipe scenarios and the proper location of the HTV for lifting.
- * It has been determined that only single joints of pipe should be transferred from the horizontal to vertical position and vice versa.
- * A sign is posted at the HTV controls stating, "HTV will only be used to handle a single joint of drill pipe or drill collar."
- * The Drilling Contractor will ensure that all personnel authorized to run the HTV have a clear understanding that only one joint of pipe will be handled at a time.
- * The OEM will update manual to convey clear operating limits and guidelines.
- * The OEM will provide a training guide and internal Field Service Technicians on the subject equipment.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

The box end of the test assembly.
The Iron Roughneck track.
Rollers and Dies in the HTV.

Dropped objects.

ESTIMATED AMOUNT (TOTAL): \$100,000

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

Due to the nature of this incident, the Houma District has no recommendations to the Regional Office of Safety Management (OSM).

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: NO

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

N/A

25. DATE OF ONSITE INVESTIGATION:

26. ONSITE TEAM MEMBERS:

Josh Ladner / Ben Coco /

29. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

Bryan A. Domangue

APPROVED

DATE: 16-MAR-2010

Crane/Other Material-Handling Equipment Attachment

Equipment Information

Installation date: 24-APR-0009

Manufacturer: NATIONAL OILWELL VARCO (NOV)

Manufacture date: 03-JAN-0008

Make/Model: HTV MACHINE / T6283-4907

Any modifications since manufactured? Describe and include date(s).

What was the maximum lifting capacity at the time of the lift?

Static: Dynamic:

Was a tag line utilized during the lift? **N**

Were there any known documented deficiencies prior to conducting the lift? If yes, what were the deficiencies?

List specific type of failure that occurred during this incident. (e.g. cable parted, sticking control valve, etc.)

If sling/loose gear failure occurred does operator have a sling/loose gear inspection program in place?

Type of lift:

Load Information

What was being lifted? **BOP TEST ASSEMBLY**

Description of what was being lifted (e.g. 10 joints of 2 3/8-inch pipe, ten 500-lb. sacks of sand, 2 employees, etc.)

2 full opening safety valves, 1 side entry sub, and 55' of 6 5/8" drill pipe

Approximate weight of load being lifted: **5100**

Was crane/lifting device equipped with an operable weight indicator? **N**

Was the load identified with the correct or approximate weight? **N**

Where was the lift started, where was it destined to finish, and at what point in the lift did the incident occur? Give specific details (e.g. pipe rack, riser cart, drill floor, etc.)

move assembly from stb fox hole to catwalk to transfer to rig floor

If personnel was being lifted at the time of this incident, give specific details of lifting device and riding apparatus in use (e.g. 1) crane-personnel basket, 2) air hoist-boatswain chair, other)

Were personnel wearing a safety harness?

Was a lifeline available and utilized?

List property lost overboard.

Rigger/Operator Information

Has rigger had rigger training?

If yes, date of last training:

How many years of rigger experience did rigger have?

How many hours was the operator on duty prior to the incident?

Was operator on medication when incident occurred? **N**

How many hours was the rigger on duty prior to the incident?

How much sleep did rigger have in the 24 hours preceding this incident?

Was rigger on medication when incident occurred?

Were all personnel involved in the lift drug tested immediately following this incident?

Operator: **N** Rigger: Other:

While conducting the lift, was line of sight between operator and load maintained?

N

Does operator wear glasses or contact lenses? **N**

If so, were glasses or contacts in use at time of the incident? **N**

Does operator wear a hearing aid? **N**

If so, was operator using hearing aid at time of the incident? **N**

What type of communication system was being utilized between operator and rigger at time of this incident?

For crane only:

What crane training institution did crane operator attend?

Where was institution located?

Was operator qualified on this type of crane? **N**

How much actual operational time did operator have on this particular crane involved in this incident?

Years:

Months:

List recent crane operator training dates.

For other material-handling equipment only:

Has operator been trained to operate the lifting device involved in the incident? **Y**

How many years of experience did operator have operating the specific type of lifting device involved in the incident?

For other material-handling equipment only:

Was equipment visually inspected before the lift took place? **Y**

What is the manufacture's recommendation for performing periodic inspection on the equipment involved in this incident?

Weekly, Monthly, and Quarterly

Safety Management Systems

Does the company have a safety management program in place? **N**

Does the company's safety management program address crane/other material-handling equipment operations?

N

Provide any remarks you may have that applies to the company's safety management program and this incident?

Did operator fill out a Job Safety Analysis (JSA) prior to job being performed?

Y

Did operator have an operational or safety meeting prior to job being performed?

Y

What precautions were taken by operator before conducting lift resulting in incident?

Procedures in place for crane/other material-handling equipment activities:

Did operator have procedures written? **N**

Did procedures cover the circumstances of this incident? **N**

Was a copy available for review prior to incident? **N**

Were procedures available to MMS upon request? **Y**

Is it documented that operator's representative reviewed procedures before conducting lift?

N

Additional observations or concerns: