

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND ENFORCEMENT
GULF OF MEXICO REGION

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: **30-AUG-2010** TIME: **1000** HOURS

2. OPERATOR:

Apache Corporation

REPRESENTATIVE: **Dugas, David**

TELEPHONE: **(337) 354-8124**

CONTRACTOR: **Helmerich & Payne**

REPRESENTATIVE: **Deer, Wade**

TELEPHONE: **(800) 647-5338**

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

4. LEASE: **G05800**

AREA: **EW** LATITUDE:

BLOCK: **826** LONGITUDE:

5. PLATFORM: **A**

RIG NAME: **H&P 100**

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
 DAMAGED/DISABLED SAFETY SYS.
 INCIDENT >\$25K **Supply vessel/crane aux.**
 H2S/15MIN./20PPM **winch**
 REQUIRED MUSTER
 SHUTDOWN FROM GAS RELEASE
 OTHER **Drill pipe/wire rope overboard**

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: **483** FT.

10. DISTANCE FROM SHORE: **54** MI.

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

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

13. SEA STATE: FT.

17. INVESTIGATION FINDINGS:

On 30-Aug-2010 at 1000 hours, the crane crew was utilizing a Unit 10,000 fixed pedestal crane to backload 10 joints of 4-inch drillpipe from the Helmerich & Payne (H&P) 100 rig's pipe rack to the Ada B Callais supply vessel. When the load reached the outboard west side of the platform, the crane operator initiated the hoist down control. Upon hearing a noise, he he immediately released the controls. The load began to free fall, resulting from failure of the crane's Braden CH150A auxiliary winch on the fast line. When the wire rope on the winch completely unspooled and reached the drum, the rope parted approximately 1-foot from the wedge that connects the wire rope to the drum. Both the bundle of drill pipe and wire rope contacted the rear of the vessel before falling into the water.

Subsequent to the incident, H&P sent the failed winch to National Oilwell VACRO (NOV) in Covington, Louisiana. On 7-Sep-2010, H&P witnessed the physical breakdown of the winch by NOV. NOV inspected the ring gear for fatigue cracks in the roots of the teeth and verified the gear's thickness. The investigation showed that the thickness was within specifications and there were no cracks in the ring gear teeth roots other than in the locations that failed. From this investigation, NOV concluded that the ring gear was not faulty; however, the ring gear was deemed previously overloaded and cracked in the location of failure. It was concluded that the initial cracks eventually led to the ring gear failure on the auxiliary winch; however, Apache has not been able to determine when/if the crane had ever been overloaded. Although the conclusion of the investigation was that the ring gear was cracked due to overloading, H&P could not pinpoint "if" or "when" the gear was actually overloaded.

Following the incident, Apache confirmed through an audit of H&Ps Drilling EH&S processes, that proper maintenance had been performed on the crane prior to the incident. Apache is confident that H&P had the necessary policies and procedures in place to minimize the chances of such an incident occurring again.

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

A ring gear failure on the auxiliary winch.

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

Initial stress cracking of the rig gear from possible previous overloading.

20. LIST THE ADDITIONAL INFORMATION:

1. The H&P 100 is a platform rig and, at the time of the incident, was aboard Apache's Ewing Banks 826 platform A.
2. The last crane inspection performed by NOV was performed six days prior to this incident.
3. No injuries occurred during this incident.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

There was damage to the supply vessel (M/V Ada B Callais) and the auxiliary winch on the crane.

The supply vessel had surface damage and the winch required replacement.

ESTIMATED AMOUNT (TOTAL): \$26,300

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The Houma District has no recommendations for the Regional Office of Safety Management.

Due to the conclusion that this incident occurred because of an unexpected failure of a mechanical component on the crane, the Houma District agrees with Apache's actions of having H&P conduct a investigation on the ring gear, making sure the crane maintenance was properly done prior to the incident and auditing H&P's EH&S processes.

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:

Casey Bisso /

29. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

Bryan A. Domangue

APPROVED

DATE: 27-JAN-2011

INJURY/FATALITY/WITNESS ATTACHMENT

OPERATOR REPRESENTATIVE

INJURY

CONTRACTOR REPRESENTATIVE

FATALITY

OTHER _____

WITNESS

NAME :

HOME ADDRESS :

CITY :

STATE :

WORK PHONE :

TOTAL OFFSHORE EXPERIENCE :

YEARS

EMPLOYED BY :

BUSINESS ADDRESS :

CITY :

STATE :

ZIP CODE :

OPERATOR REPRESENTATIVE

INJURY

CONTRACTOR REPRESENTATIVE

FATALITY

OTHER _____

WITNESS

NAME :

HOME ADDRESS :

CITY :

STATE :

WORK PHONE :

TOTAL OFFSHORE EXPERIENCE :

YEARS

EMPLOYED BY :

BUSINESS ADDRESS :

CITY :

STATE :

ZIP CODE :

Crane/Other Material-Handling Equipment Attachment

Equipment Information

Installation date: **24-SEP-1991**

Manufacturer: **UNIT/MARINER**

Manufacture date: **24-SEP-1991**

Make/Model: **UNIT / 10000**

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

None

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

Static: **12000** Dynamic: **12000**

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

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

None

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

Auxillary hoist winch failure.

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

Type of lift: **DM**

For crane only:

Type of crane: **HYDRAULIC**

Boom angle at time of incident: Degrees: **64** Radius: **44**

What was load limit at that angle? **12000**

Crane equipped with: **B**

Which line was in use at time of incident? **F**

If load line involved, what configuration is the load block: **0** part.

Load Information

What was being lifted? **PIPE**

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.)

10 joints of 4-inch drill pipe.

Approximate weight of load being lifted: **4410**

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

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

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.)

The 10 joints of drill pipe were initially lifted from the pipe rack & was destined to land on the supply vessel. When the crane operator initiated the hoist down control on the west outboard side of the platform, the drillpipe began to free fall slightly striking the back of the vessel & eventually landing in the water.

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)

N/A

Were personnel wearing a safety harness? **NA**

Was a lifeline available and utilized? **NA**

List property lost overboard.

10 JOINTS OF 4-INCH DRILLPIPE WITH WIRE ROPE

Rigger/Operator Information

Has rigger had rigger training? **Y**

If yes, date of last training: **20-MAR-2009**

How many years of rigger experience did rigger have? **4**

How many hours was the operator on duty prior to the incident? **3**

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

How many hours was the rigger on duty prior to the incident? **3**

How much sleep did rigger have in the 24 hours preceding this incident? **9**

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

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

Operator: **Y** Rigger: **N** Other:

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

Y

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?

RADIO/VHF

For crane only:

What crane training institution did crane operator attend?

PLATFORM CRANE SCHOOL

Where was institution located? **SLIDELL, LOUISIANA**

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

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

Years: 6

Months 0

List recent crane operator training dates.

31-OCT-2008

For other material-handling equipment only:

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

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

Inspection/Maintenance Information

For crane only:

Is the crane involved classified as Heavy, Moderate or Infrequent use.

H

Was pre-use inspection conducted? **Y**

For the annual/quarterly/monthly crane inspections, please fill out the following information:

What was the date of the last inspection? **24-AUG-2010**

Who performed the last inspection? **KURT OSE**

Was inspection conducted in-house or by a 3rd party? **TP**

Who qualified the inspector? **NATIONAL OILWELL VACRO**

Does operators' policy require load or pull test prior to heavy lift? **Y**

Which type of test was conducted prior to heavy lift? **P**

Date of last pull test: **26-AUG-2010** Load test: **01-JAN-1472**

Results: **P**

If fail explain why:

No Load test was conducted for this lift but, a date was required to be entered into TIMs.

Test Parameters: Boom angle: **71** Radius: **33**

What was the date of most recent crane maintenance performed? **18-AUG-2010**

Who performed crane maintenance? (Please clarify persons name or company name.)

RICHARD FINLEY, H&P DRILLING (MECHANIC)

Was crane maintenance performed in-house or by a third party? **IH**

What type of maintenance was performed?

Hydraulic filter was changed out.

For other material-handling equipment only:

Was equipment visually inspected before the lift took place?

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

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?

Y

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

Apache does have a Safety Management Program in place.

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?

1. Riggers maintained a safe distance from load transfer 2. The load was lowered over the water 3. Long tag lines were utalized during the lift.

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

Did operator have procedures written? **Y**

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

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

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:

The written procedures were located in the deck operator's office.