

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Safety and Environmental Enforcement
GULF OF MEXICO REGION

ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: 31-JUL-2011 TIME: 0749 HOURS

2. OPERATOR: Merit Energy Company, LLC
REPRESENTATIVE: Chad Brister
TELEPHONE: (972) 628-1564
CONTRACTOR: Chet Morrison Contractors, L.L.
REPRESENTATIVE: Jerome Shaw
TELEPHONE: (985) 850-2705

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

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

6. OPERATION:

4. LEASE: G02274
AREA: VR LATITUDE:
BLOCK: 369 LONGITUDE:

- PRODUCTION
- DRILLING
- WORKOVER
- COMPLETION
- HELICOPTER
- MOTOR VESSEL
- PIPELINE SEGMENT NO.
- OTHER

5. PLATFORM: A
RIG NAME:

6. ACTIVITY: EXPLORATION(POE)
 DEVELOPMENT/PRODUCTION
(DOCD/POD)

8. CAUSE:

7. TYPE:
 HISTORIC INJURY
 REQUIRED EVACUATION
 LTA (1-3 days)
 LTA (>3 days)
 RW/JT (1-3 days)
 RW/JT (>3 days)
 Other Injury

- EQUIPMENT FAILURE
- HUMAN ERROR
- EXTERNAL DAMAGE
- SLIP/TRIP/FALL
- WEATHER RELATED
- LEAK
- UPSET H2O TREATING
- OVERBOARD DRILLING FLUID
- OTHER Aux. cable parted

FATALITY
 POLLUTION
 FIRE
 EXPLOSION

LWC HISTORIC BLOWOUT
 UNDERGROUND
 SURFACE
 DEVERTER
 SURFACE EQUIPMENT FAILURE OR PROCEDURES

9. WATER DEPTH: 305 FT.
10. DISTANCE FROM SHORE: 96 MI.
11. WIND DIRECTION: S
SPEED: 4 M.P.H.
12. CURRENT DIRECTION: S
SPEED: 2 M.P.H.
13. SEA STATE: FT.

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

17. INVESTIGATION FINDINGS:

On July 31, 2011, at approximately 8:00 a.m., a basket containing scaffolding material was lifted by the platform crane from the main deck of the platform to be relocated on a lower level of the facility. The load was approximately 12-15 feet off the deck when the auxiliary cable on the crane parted. The parted cable resulted in the load falling between a crew building and the handrail on the lower deck. The basket contacted the out-of-service lifeboat davit and came to rest on the deck between the handrail and the building. The davit, handrails, decking and underlying structural members were damaged when the basket and scaffolding material impacted these components. No personnel were injured as a result of the incident.

On August 1, 2011, BOEMRE Lake Charles District inspectors conducted an onsite investigation into the incident. The investigation team discovered that the last annual crane inspection on this crane was performed on July 24, 2011. During the inspection a pull test was performed on the main hoist to 45,060 pounds and the auxiliary hoist was tested to the maximum safe working load limit of 6,000 pounds. The total weight of the basket and scaffolding material was not posted on the load and subsequent to the incident determined to be 8,740 pounds. The lessee's crane operation policy specifies that "loads in excess of 5,000 pounds shall be clearly marked on the load. Where possible, the markings should be visible from the crane." In addition the lessee's crane operation policy states that "heavy lifts are those whose weights are within 10% of the maximum rated offboard/onboard capacity of the crane at any given boom angle". Furthermore, number one in Section 6.3.1 Qualification of a "Heavy" Lift of the lessees crane operation and maintenance manual states, "1. Identify the weight of the load to be lifted." The BOEMRE investigation also determined that a load chart and an operable weight indicator were available in the crane cab at the time of the incident. Based on these finding it appears that the weight of the load was based on an assumption by all parties involved in making the lift and not based on factual information.

A Job Safety Analysis (JSA) related to crane and boat safety was conducted on the morning of July 31, 2011, but since the load involved in the incident was not deemed a "heavy/identified lift", the crew did not conduct a specific JSA/lift plan to address the basket with the scaffolding material; therefore, the nine steps in Section 6.3.5 Making the Lift of the lessees crane operation and maintenance manual were not followed. Specifically, those of utmost important in this case being: 1)"emphasis that no one will get under the load at any time, 2) the path that the lifted object will take once it leaves the boat or platform to its landing position, and 3) the Flagman positions on the platform to direct the load to its final position."

A post-incident inspection by a third party crane company was conducted on August 1, 2011. The crane mechanics findings are as follows: The core wire rope strands associated with the auxiliary hoist cable were corroded, lacked lubrication and found to be very brittle and easily broken. Measurements taken determined that the auxiliary hoist cable parted in an area where there was evidence of engine exhaust soot found on the crane boom. The mechanic also found reduced diameter readings in the area near the break, indicating that the cable was worn. Although there was adequate lubrication on the outside of the auxiliary cable, the internal physical appearance of the cable appeared to lack the proper preventative maintenance. Furthermore, upon request the lessee was unable to provide documentation of when the auxiliary cable was last replaced.

\$5,000

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

The auxiliary hoist cable has a safe working load limit of 6,000 pounds; therefore, was overloaded to the point that the cable parted when the crane operator lifted a basket of scaffolding material weighting 8,740 pounds.

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

1. Human error by all parties involved in the lifting operations to include:

- * Failure to accurately identify load weight to ensure that no overload condition existed.
- * Failure to follow safe lifting policies and procedures set forth by all parties involved in the lifting operations.

2. Physical appearance of the internal core strains associated with the auxiliary cable revealed lack of lubrication and corrosion which indicated possible lack of preventative maintenance.

20. LIST THE ADDITIONAL INFORMATION:

The crane operator should:

- * Accurately identify load weight and use proper hoisting techniques to safely lift loads as per company guidelines as well as API RP 2D and API Spec 2C.
- * Follow lifting policies and procedures set forth by all parties involved in the lifting operations.
- * Provide more frequent and stringent practices for inspection and replacement of wire rope.
- * Provide more detail in pre-job JSA meetings to accurately identify and mitigate hazards.

21. PROPERTY DAMAGED:

Platform handrails, lifeboat davit on platform, crane cable, as well as basket containing scaffolding material. Some structural damage to platform under lifeboat davit area was also found to be present.

NATURE OF DAMAGE:

Bending and distortion of handrails, lifeboat davit, and structural beams under deck impact area.

22. ~~RECOMMENDATIONS TO PREVENT RECCURANCE~~ NARRATIVE:

The Lake Charles District has no recommendations for the Agency.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

G-110 - Unsafe workmanlike operations by all parties involved in the lifting operation resulted in a catastrophic failure of the auxiliary hoist cable. The crew failed to take the necessary precautions to prevent overloading of the auxiliary hoist cable as follows:

- * Failure to accurately identify load weight to ensure that no overload condition existed.
- * Failure to follow safe lifting policies and procedures set forth by all parties involved in the lifting operations.

25. DATE OF ONSITE INVESTIGATION:

01-AUG-2011

26. ONSITE TEAM MEMBERS:

**Scott Mouton / Darron Miller / Carl
Matte /**

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

Larry Williamson

APPROVED

DATE: **18-OCT-2011**

Crane/Other Material-Handling Equipment Attachment

Equipment Information

Installation date: **01-JUN-1980**

Manufacturer: **AMERICAN AERO**

Manufacture date: **01-MAY-1980**

Make/Model: **AMERICAN AERO / OMB450B-100**

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:

For crane only:

Type of crane: **HYDRAULIC**

Boom angle at time of incident: Degrees: **47** Radius: **30**

What was load limit at that angle? **6000**

Crane equipped with: **F**

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

If load line involved, what configuration is the load block: **1** part.

Load Information

What was being lifted? **BASKET**

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.)

4x16 basket containing scaffolding materials

Approximate weight of load being lifted: **8740**

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

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.)

relocate basket from upper deck to lower level

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? **Y**

If yes, date of last training: **21-JUL-2011**

How many years of rigger experience did rigger have? **1**

How many hours was the operator on duty prior to the incident? **2**

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

How many hours was the rigger on duty prior to the incident? **2**

How much sleep did rigger have in the 24 hours preceding this incident? **12**

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?

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?

HAND SIGNAL

For crane only:

What crane training institution did crane operator attend?

ADVANCED SAFETY TRAINING

Where was institution located? **HOUMA LA**

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: 0

Months 0

List recent crane operator training dates.

04 JUNE 2009

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.

I

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

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

What was the date of the last inspection? **24-JUL-2011**

Who performed the last inspection? **GULF CRANE SERVICES**

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

Who qualified the inspector? **GULF CRANE SERVICES**

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

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

Date of last pull test: **24-JUL-2011** Load test: **24-JUL-2011**

Results: **P**

If fail explain why:

Fast line pull tested to 6000lbs., Load line pull tested to 45,060lbs

Test Parameters: Boom angle: **75** Radius: **30**

What was the date of most recent crane maintenance performed? **24-JUL-2011**

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

GULF CRANE SERVICES

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

What type of maintenance was performed?

Annual Inspection

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?

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

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?

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

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?

Did procedures cover the circumstances of this incident?

Was a copy available for review prior to incident?

Were procedures available to MMS upon request?

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

Additional observations or concerns: