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: | STRUCTURAL DAMAGE |
| | 09-JAN-2015 TIME: 1000 HOURS | X CRANE |
| _ | | OTHER LIFTING DEVICE - |
| 2. | OPERATOR: - ANKOR Energy LLC | DAMAGED/DISABLED SAFETY SYS. |
| | REPRESENTATIVE: TELEPHONE: | $\mathbf{\overline{x}}$ INCIDENT >\$25K Damage to heel section. |
| | | H2S/15MIN./20PPM |
| | CONTRACTOR: - Nabors Drilling Inc REPRESENTATIVE: - | REQUIRED MUSTER |
| | TELEPHONE: - | SHUTDOWN FROM GAS RELEASE |
| | IEDEPHONE: - | OTHER |
| 3. | OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR ON SITE AT TIME OF INCIDENT: | 6. OPERATION: |
| | | PRODUCTION |
| | | X DRILLING |
| 4. | LEASE: G28351 | WORKOVER |
| | AREA: MC LATITUDE: 28.93725 | COMPLETION |
| | BLOCK: 21 LONGITUDE: -88.912 | HELICOPTER |
| | | MOTOR VESSEL |
| 5. | PLATFORM: - B SIMBA | PIPELINE SEGMENT NO. |
| | RIG NAME: NABORS MODS 200 | OTHER |
| 6 | ACTIVITY: X EXPLORATION (POE) | 8. CAUSE: |
| 0. | ACTIVITY: X EXPLORATION (POE) DEVELOPMENT/PRODUCTION | _ |
| | (DOCD/POD) | EQUIPMENT FAILURE |
| 7. | TYPE: | HUMAN ERROR |
| | HISTORIC INJURY - | EXTERNAL DAMAGE SLIP/TRIP/FALL |
| | REQUIRED EVACUATION | WEATHER RELATED |
| | LTA (1-3 days) | |
| | \Box LTA (>3 days) | UPSET H20 TREATING |
| | $\square RW/JT (1-3 days)$ | OVERBOARD DRILLING FLUID |
| | RW/JT (>3 days) | OTHER |
| | Other Injury- | |
| | □ FATALITY | 9. WATER DEPTH: 668 FT. |
| | POLLUTION | |
| | FIRE | 10. DISTANCE FROM SHORE: 37 MI. |
| | EXPLOSION | |
| | LWC 🗖 HISTORIC BLOWOUT | 11. WIND DIRECTION: W |
| | UNDERGROUND | SPEED: 10 M.P.H. |
| | SURFACE | |
| | DEVERTER | 12. CURRENT DIRECTION: |
| | SURFACE EQUIPMENT FAILURE OR PROCEDURES | SPEED: M.P.H. |
| | | |
| | COLLISION HISTORIC >\$25K <pre><=\$25K</pre> | 13. SEA STATE: FT. |
| | | |

EV2010R-

On 6-JAN-2015 the crane began smoking during lifting operations (Crew A). It was determined that the turbo charger was malfunctioning. At this time crane operations were suspended. A Mechanic from Sparrows Crane Service was brought on board to begin repairs. No additional crane operations (lifts) took place during Crew A's hitch.

On 8-JAN-2015 there was a crew change. Crew B's day Crane Operator arrived on location and began assisting the Sparrows Crane Mechanic who was replacing the turbo charger. After repairs were completed the crane was put back into service. At 1800 hours, Crew B's night Crane Operator came on tour and made three lifts during his shift. He stated that the crane boom was not bent when he came on tour after conducting a Daily/Pre-Use Crane Inspection.

On 9-JAN-2015 at 0600 hours, Crew B's day Crane Operator came back on tour. While conducting his Daily/Pre-Use Crane Inspection he stated the Derrick Hand called and needed another tote tank lifted to the chemical deck. After completing the lift, he then completed his crane inspection. The Crane Operator then swung the crane boom toward the rig floor to remove a bag of trash. When the Crane Operator began to boom over the load, the boom pawl locked-in. (The boom pawl is a safety device on the crane winch which will prevent the freefall of the crane boom if the winch brakes fail). After the boom pawl locked-in, the Crane Operator stated that he looked toward the crane winches. It was at that point he noticed the bent boom heel. (The boom heel is the closest section of the crane boom to the crane housing). After the crane was inspected by the deck Foreman and the Rig Manager, all crane operations were shut down. Upon completing a full crane inspection, it was concluded that the crane boom came into contact with the boom stops at a time that is unknown.

After further inspection, the high angle kick-out or boom hoist high limiter on the crane body was found to be adjusted all the way in, rendering this safety device non-operational. With the high angle kick-out adjusted in all the way, there were no other safety measures in place to stop the crane boom from striking the boom pad and damaging the boom heel. Both Crane Operators initialed the Daily/Pre-Use Crane Inspection form verifiying the the high angle boom kick-out was checked for proper operation from 7-JAN-15 thru 13-JAN-15.

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

The high angle kick-out or boom hoist high limiter on the crane body was found to be adjusted all the way in, rendering this safety device non-operational.

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

Both Crane Operators (day and night) initialed the Daily/Pre-Use Crane Inspection form verifying the high angle boom kick-out was checked for proper operation from 1-7-15 thru 1-13-15. NOTE: The form states Initial = OK and No = Discrepancy.

20. LIST THE ADDITIONAL INFORMATION:

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21. PROPERTY DAMAGED:

Crane Boom

NATURE OF DAMAGE:

Bent Boom Heel

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ESTIMATED AMOUNT (TOTAL): \$44,934

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The New Orleans District has no recommendations at this time.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

I-112 (W) (30CFR 250.108)

At the time of incident investigation, it was confirmed that the boom hoist high limiter or shut-off was inoperable. This caused the crane boom to strike the boom pad damaging the boom heel.

25. DATE OF ONSITE INVESTIGATION:

06-JAN-2015

26. ONSITE TEAM MEMBERS:

Earl Roy / Steven Flynn /

29. ACCIDENT INVESTIGATION PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED DATE: 30-JUL-2015

INJURY/FATALITY/WITNESS ATTACHMENT

| x OPERATOR REPRESENTATIVE CONTRACTOR REPRESENTATIVE OTHER | | INJURY FATALITY WITNESS | |
|---|----|-------------------------------|------|
| NAME : | | | |
| HOME ADDRESS: | | | |
| CITY: | ST | ATE: | |
| MMS - FORM 2010 | | | PAGE |

INJURY/FATALITY/WITNESS ATTACHMENT

| WORK PHONE: | TOTAL OFFSHORE EXPERIENCE: | YE |
|-----------------------|----------------------------|-----|
| EMPLOYED BY: ANKOR | Energy LLC / 03059 | |
| BUSINESS ADDRESS: | | |
| CITY: | STATE : | |
| ZIP CODE: | JIAIL. | |
| | | |
| OPERATOR REPRESENTA | ATIVE INJURY | |
| X CONTRACTOR REPRESEN | NTATIVE FATALITY | |
| OTHER | X WITNESS | |
| NAME : | | |
| HOME ADDRESS: | | |
| CITY: | STATE: | |
| WORK PHONE: | TOTAL OFFSHORE EXPERIENCE: | YE. |
| EMPLOYED BY: Nabors | Drilling Inc. / 20360 | |
| BUSINESS ADDRESS: | | |
| CITY: | STATE: | |
| | | |

Crane/Other Material-Handling Equipment Attachment

Equipment Information

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Installation date: 22-MAY-2014 -Manufacturer: TITAN -Manufacture date: 25-JUN-1997 -Make/Model: 12000 / B-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? 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 occured during this incident.(e.g. cable parted, sticking control valve, etc.) High angle kick-out If sling/loose gear failure occurred does operator have a sling/loose gear inspection program in place? N Type of lift: DD For crane only: Type of crane: HYDRAULIC Boom angle at time of incident: Degrees: 60 Radius: 40 What was load limit at that angle? 0 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? GARBAGE BAG

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.)

Empty Chemical sacks

Approximate weight of load being lifted: 40

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

Was the load identified with the correct or approximate weight? ${f N}$

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.)

Lift started at chemical deck walkway and finished at pipe rack. When the crane operator was raising the boom to lift the load from the chemical deck; it was at that point the crane operator stated he noticed that the boom was bent. No one on the facility knows exactly when this incident occurred. (At least that is what was stated).

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? NA

Was a lifeline available and utilized? NA

List property lost overboard.

Rigger/Operator Information

Has rigger had rigger training? y. If yes, date of last training: 19-FEB-2014. How many years of rigger experience did rigger have? 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? 11 How much sleep did rigger have in the 24 hours preceding this incident? 8 Was rigger on medication when incident occurred? N Were all personnel involved in the lift drug tested immediately following this incident?

Operator: N Rigger: N Other: NO

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

Υ-

Does operator wear glasses or contact lenses? ${\tt N}\,\text{-}\,$

If so, were glasses or contacts in use at time of the incident? $\ensuremath{\,N}\xspace$ -

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 and Radio/VHF

For crane only:

What crane training institution did crane operator attend?

SPARROW

Where was institution located? **ROBERT, LA** Was operator qualified on this type of crane? **Y**

MMS - FORM 2010 EV2010R How much actual operational time did operator have on this particular crane involved in this incident?

Years: 0 Months 8

List recent crane operator training dates. 9/20/2013

For other material-handling equipment only:

Has operator been trained to operate the lifting device involved in the incident? ${\tt N}$

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. н 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-DEC-2014 Who performed the last inspection? COTTRO WHITFIELD Was inspection conducted in-house or by a 3rd party? ΙH Who qualified the inspector? SPARROWS Does operators' policy require load or pull test prior to heavy lift? N Which type of test was conducted prior to heavy lift? P Load test: 05-JUN-2014 Date of last pull test: 05-JUN-2014 Results: **P** If fail explain why: Boom angle: 67 Min. and 82 Max.degrees Radius: 45 min. and 20 Max. Test Parameters: Boom angle: 0 Radius: 0 What was the date of most recent crane maintenance performed? 09-JAN-2015 Who performed crane maintenance? (Please clarify persons name or company name.) SPARROWS Was crane maintenance performed in-house or by a third party? TP. What type of maintenance was performed? -

replacing turbo charger

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?

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Safety Management Systems

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

Does the company's safety management program address crane/other materialhandling equipment operations?

Y

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

Company conducts a pre-use crane inspection every 12-hours.

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?

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? 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?

Y

Additional observations or concerns:

It is unknown exactly when crane boom damage occurred.