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: **17-SEP-2012** TIME: **1330** HOURS

2. OPERATOR: **Stone Energy Corporation**
REPRESENTATIVE:
TELEPHONE:
CONTRACTOR:
REPRESENTATIVE:
TELEPHONE:

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

4. LEASE: **00775**
AREA: **VR** LATITUDE:
BLOCK: **131** LONGITUDE:

5. PLATFORM: **CF**
RIG NAME:

6. ACTIVITY:
- [ ] EXPLORATION(POE)
- [X] 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
- [X] CRANE
- [ ] OTHER LIFTING DEVICE
- [ ] DAMAGED/DISABLED SAFETY SYS.
- [X] INCIDENT >$25K **$100000.00**
- [ ] H2S/15MIN./20PPM
- [ ] REQUIRED MUSTER
- [ ] SHUTDOWN FROM GAS RELEASE
- [ ] OTHER

6. OPERATION:
- [X] PRODUCTION
- [ ] DRILLING
- [ ] WORKOVER
- [ ] COMPLETION
- [ ] HELICOPTER
- [ ] MOTOR VESSEL
- [ ] PIPELINE SEGMENT NO.
- [X] OTHER **Construction**

8. CAUSE:
- [ ] EQUIPMENT FAILURE
- [X] HUMAN ERROR
- [ ] EXTERNAL DAMAGE
- [ ] SLIP/TRIP/FALL
- [ ] WEATHER RELATED
- [ ] LEAK
- [ ] UPSET H2O TREATING
- [ ] OVERBOARD DRILLING FLUID
- [ ] OTHER

9. WATER DEPTH: **57** FT.

10. DISTANCE FROM SHORE: **32** MI.

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

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

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

17. INVESTIGATION FINDINGS:

On September 17, 2012, an incident occurred at VR-131 CF platform which resulted in damage to the platform crane's boom. On the day of the incident a Job Safety Analysis (JSA) meeting was conducted to discuss offloading construction materials from a motor vessel (MV) onto the platform, which involved a third party construction crew. At ~1300hrs the contract crane operator (CO) was attempting to offload a tool building from the MV however; he failed to accurately identify the load weight and use proper hoisting techniques to safely lift loads as per API RP 2D 3.2.1(c) which stipulates "The Crane Operator should verify that the hook load is within the crane's applicable Onboard or Offboard Rated Load at the radius at which the load is to be lifted" and as a result this led to the failure of the crane's boom.

On September 18, 2012, the BSEE Lake Charles District began an accident investigation which included an onsite visitation. During this time it was discovered that a Crane Pre-Use had not been filled out prior to the days lifting operations and the parties involved failed to identify the weight of the load. Based on BSEE's evaluation of the cargo manifest, we discovered the weight of the tool building was 7,500 pounds and witnesses to the incident stated that the boom angle during the lift was from ~30 to ~40 degrees. An evaluation of the crane's load chart indicated that the load rating at these angles were from ~3,610 to ~4,500 pounds. Witnesses also reported that multiple lift attempts were made however, during these attempts the crane was unable to hoist the tool building onto the platform, which resulted in the crane being overloaded by ~3,900 pounds during the first attempt and ~3,000 pounds during the second attempt. These actions by the CO ultimately led to the boom failure. At no time was Stop Work Authority (SWA) exercised after the initial unsuccessful attempt to lift the load, which may have prevented the incident.

Based on written and/or verbal statements, the BSEE investigation team determined that the CO lifted the boom out of the rest and positioned the boom at an angle of ~30 degrees in preparation to offload the boat, and then waited for the boat to position under the load block. The CO then lowered the two part load block in close proximity to the load and the riggers attached the tool building to the crane's load hook. The CO raised the tool building ~20 feet off the deck of the boat and then the boat moved out from under the load. The CO attempted to hoist the load, but the load winch was incapable of lifting. The CO then attempted to raise the boom in an effort to increase the boom angle (i.e. "boom up") but the crane was incapable of lifting the excessive load while at a 30 degree boom angle. At this point the decision was made to place the load back on the boat. The Boat Captain repositioned the boat under the load as the CO lowered the tool building down onto the deck of the boat and then the tool building was unhooked from the crane without incident. The CO then made the decision to attempt the lift again and increased the boom angle between ~35 to ~40 degrees, but this boom angle only increased the dynamic load rating to ~4,500 pounds, which was still insufficient for lifting the tool building. As the CO lifted the tool building off the deck of the boat, the boom began bouncing up and down and the load swung uncontrollably, striking other equipment on the deck. Subsequently, the boat dropped in a wave's trough resulting in the load being completely separated from the boat and ultimately the boom being shock loaded which caused the boom to buckle. Thereafter, the CO lowered the tool building down onto the deck of the boat and the tool building was unhooked from the crane. The CO was able to raise the boom and place it back in the boom rest.

Upon further investigation, it was discovered that the company's written policy entitled "Offshore/Onshore Crane Operation and Maintenance Program" classified the load, attempting to be hoisted, as a "Heavy" lift. The CO as well as other responsible parties did not adhere to recommendations stipulated in the lessee's Safe Operating Procedures for offshore crane operations. Specifically, those of utmost importance in this case being: 1)"Identify the weight of the load stipulated in section 6.3.2, 2) the CO and job coordinator will have a final discussion on the lift and its safe accomplishment and the lift will be aborted if any person identifies a potential hazard stipulated in section 6.3.5, and 3) cargo manifests, showing both the loads and their weights (if over 5,000 pounds), shall be faxed from the shore-

base to the affected offshore facility and communicated to the CO so that he/she may prepare for the lift(s) stipulated in section 6.6.2". In addition, the JSA form presented to the BSEE representatives was generic in nature and neither mentioned anything regarding hazards and procedures associated with heavy lifts nor the crane's load capacity.

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

The CO attempted to lift a tool building weighing 7,500 pounds, while the crane boom was at an insufficient angle of approximately 30 degrees; thus, overloading the crane by ~3,900 pounds which is double its safe working load.

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

Human error by all parties involved which included the following:
1. Failure to accurately identify the load weight and use proper hoisting techniques to safely lift loads.
2. Failure to follow the lessee's Safe Operating Procedures.
3. Failure to perform a thorough JSA and identify all the potential hazards associated with the lifting operation
4. Failure to stop the job when identifying an abnormal lifting condition and mitigate risks involved before continuing with the operation

20. LIST THE ADDITIONAL INFORMATION:

AN I-143 was issued on September 18, 2012 to document the CO's failure to perform a pre-use inspection prior to the day's initial lifting operations

21. PROPERTY DAMAGED:	NATURE OF DAMAGE:
Crane box boom	**Boom was bent beyond repair**

ESTIMATED AMOUNT (TOTAL): **$100,000**

22. RECOMMENDATIONS TO PREVENT RECURRANCE 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:

I-102 The operator failed to follow proper crane operating practices for moving the load in accordance with API RP 2D, paragraph 3.2.1(c) which stipulates "The Crane Operator should verify that the hook load is within the crane's applicable

Onboard or Offboard Rated Load at the radius at which the load is to be lifted"

25. DATE OF ONSITE INVESTIGATION:

18-SEP-2012

26. ONSITE TEAM MEMBERS:

Darron Miller / Chad Chaffin / Wayne Webster /

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

OCS REPORT:

30. DISTRICT SUPERVISOR:

Larry Williamson

APPROVED DATE: **14-JAN-2013**

INJURY/FATALITY/WITNESS ATTACHMENT

[X] OPERATOR REPRESENTATIVE
[ ] CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

[ ] INJURY
[ ] FATALITY
[X] WITNESS

STATE:

TOTAL OFFSHORE EXPERIENCE: YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY: STATE:

ZIP CODE:

[ ] OPERATOR REPRESENTATIVE
[X] CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

[ ] INJURY
[ ] FATALITY
[X] 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: **08-JUL-1999**

Manufacturer: **ELEVATOR BOAT INC**

Manufacture date: **08-JUL-1999**

Make/Model: **EBIC20-50** / **C20-50-A23A**

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

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

Static: **11088** Dynamic: **11088**

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?

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

Boom Buckled

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

Type of lift: **MD**

For crane only:

Type of crane: **HYDRAULIC**

Boom angle at time of incident: Degrees: **35** Radius: **42**

What was load limit at that angle? **3600**

Crane equipped with: **L**

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

If load line involved, what configuration is the load block: **2** part.

Load Information

What was being lifted?

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.)

Approximate weight of load being lifted:

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.)

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? **6**

How many hours was the operator on duty prior to the incident? **7**

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

How many hours was the rigger on duty prior to the incident? **7**

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:

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?

HAND SIGNAL

For crane only:

What crane training institution did crane operator attend?

Where was institution located?

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.

12-OCT-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? **N**

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

What was the date of the last inspection?

Who performed the last inspection?

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

Who qualified the inspector?

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: **12-NOV-2010** Load test: **12-NOV-2010**

Results: **P**

If fail explain why:

Test Parameters: Boom angle: **78** Radius: **10**

What was the date of most recent crane maintenance performed? **12-AUG-2012**

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

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

What type of maintenance was performed?
changed fuel filters and replaced fan belt

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?

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? **Y**

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? **N**

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

N

Additional observations or concerns: