

# ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: **05-AUG-2025** TIME: **0740** HOURS

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

2. OPERATOR: **Cantium, LLC**

REPRESENTATIVE:  
TELEPHONE:  
CONTRACTOR:  
REPRESENTATIVE:  
TELEPHONE:

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

4. LEASE: **00370**

AREA: **BM** LATITUDE:  
BLOCK: **3** LONGITUDE:

5. PLATFORM: **KN**

RIG NAME:

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

7. TYPE:

INJURIES:

- |   |          |            |
|---|----------|------------|
| <input type="checkbox"/> HISTORIC INJURY                | OPERATOR | CONTRACTOR |
| <input checked="" type="checkbox"/> REQUIRED EVACUATION | <b>1</b> |            |
| <input type="checkbox"/> LTA (1-3 days)                 |          |            |
| <input checked="" type="checkbox"/> LTA (>3 days)       | <b>1</b> |            |
| <input type="checkbox"/> RW/JT (1-3 days)               |          |            |
| <input type="checkbox"/> RW/JT (>3 days)                |          |            |
| <input type="checkbox"/> FATALITY                       |          |            |
| <input type="checkbox"/> Other Injury                   |          |            |

- POLLUTION
- FIRE
- EXPLOSION

- LWC  HISTORIC BLOWOUT  
 UNDERGROUND  
 SURFACE  
 DEVERTER  
 SURFACE EQUIPMENT FAILURE OR PROCEDURES

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

8. OPERATION:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> PRODUCTION | <input type="checkbox"/> TEMP ABAND     |
| <input type="checkbox"/> DRILLING              | <input type="checkbox"/> PERM ABAND     |
| <input type="checkbox"/> WORKOVER              | <input type="checkbox"/> DECOM PIPELINE |
| <input type="checkbox"/> COMPLETION            | <input type="checkbox"/> DECOM FACILITY |
| <input type="checkbox"/> HELICOPTER            | <input type="checkbox"/> SITE CLEARANCE |
| <input type="checkbox"/> MOTOR VESSEL          |   |
| <input type="checkbox"/> PIPELINE SEGMENT NO.  |   |
| <input type="checkbox"/> OTHER                 |   |

9. CAUSE:

- EQUIPMENT FAILURE
- HUMAN ERROR
- EXTERNAL DAMAGE
- SLIP/TRIP/FALL
- WEATHER RELATED
- LEAK
- UPSET H2O TREATING
- OVERBOARD DRILLING FLUID
- OTHER \_\_\_\_\_

10. WATER DEPTH: **39** FT.

11. DISTANCE FROM SHORE: **4** MI.

12. WIND DIRECTION:  
SPEED: M.P.H.

13. CURRENT DIRECTION:  
SPEED: M.P.H.

14. SEA STATE: FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

**Incident Summary:**

On August 5, 2025, Cantium, LLC (Cantium) notified the Bureau of Safety and Environmental Enforcement (BSEE) Houma District Office that an injured person (IP) had been evacuated from platform "KN/13/KN-Flare Pile" (KN) located within Block 3 of the Bay Marchand Area (BM 3 KN), Lease OCS-00370, approximately 5 miles offshore in the Gulf of America. Cantium reported that during transfer of personnel from platform KN to the crew boat, the personnel basket suddenly fell 6'-15' before it came to an abrupt stop approximately 25' above the water. The IP remained inside the personnel basket during and after the uncontrolled descent and sustained injuries to his lower right extremity and back. Following the incident, the Crane Operator (CO) was able to utilize the crane to lift the personnel basket back onto the top deck of BM 3 KN where the IP's injuries were accessed and first aid was administered. The evacuation faced delays due to weather, helicopter availability, and miscommunication. The IP was evacuated via the crew boat to C-Port 1 in Port of Fourchon, LA, transported via ambulance to meet a helicopter, and flown to University Medical Center (UMC) in New Orleans, LA for further diagnosis and treatment. The crane and scene of the incident were immediately secured, and a preservation order was issued by BSEE.

**Sequence of Key Events:**

Approximately four months prior to the incident, on April 10, 2025, a crane contractor (crane contractor #1) Crane Mechanic (CM#1) completed an Annual Crane Inspection at BM 3 KN. After completion of the inspection on April 15, 2025, a Cantium Health, Environment, and Safety Coordinator (HESC) signed a "Deficiency Summary" provided to them by the CM#1. By the date of the incident on August 5th, 2025, one of the six deficiencies remained uncorrected.

On August 5, 2025, at 7:30 am, the seas were optimal and slick calm as personnel transfer operations began at the BM 3 KN facility.

The plan was to utilize the crane's auxiliary (aux) hoist to lower one individual, a Cantium Production Operator (the IP), to the crew boat "Motor Vessel (MV) Titus" and then retrieve another individual, an I & E Technician (I & E Tech).

The CO positioned the personnel basket over open water, engaged the swing brake, and boomed down in preparation for lowering the basket.

The CO actuated the aux line lever to begin lowering the basket, but nothing happened. Then suddenly the personnel basket fell 6'-15' before coming to an abrupt stop, resulting in a noticeable jolt and recoil of the basket. The IP yelled loudly in pain as he was forced downward to his knees within the basket as the basket arrested before bouncing upwards.

The IP held onto the personnel basket webbing but could not stand back on his feet. The IP communicated to the CO that his foot was broken and that he was experiencing significant back pain. The CO believed the incident was caused by the failure of the aux winch/hoist and determined that lowering the IP further could pose additional risk, including the possibility of the IP entering the water, and elected to reposition the basket back onto the platform.

The I & E Tech aboard the MV Titus observed the free fall and subsequent rebound of the basket. As the CO lifted the IP back onto the top deck of BM 3 KN, the I & E Tech utilized a swing rope to board BM 3 KN and assist in attending to the IP. The CO utilized the aux winch to lift the basket high enough to clear the handrail and swung back over the deck of the platform. Due to the CO being reluctant to utilize the aux winch to line down function, and as he saw he was able, the CO chose to simply lower the boom of the crane until the personnel basket landed safely onto the top deck of BM 3 KN.

The IP, being unable to stand, sat down in the basket as he awaited support from the CO and I & E Tech. They retrieved a chair from the office and brought it out on deck near the personnel basket to transfer the IP into the chair.

The I & E Tech called Cantium's nearby Grand Isle 37 "R" (GI 37 R) facility at 7:56 am to report the incident and that the crane was out of service and unavailable to assist

in the evacuation. As a result of the notification, a plan was enacted and the MV Titus was directed to relocate to GI 37 R (approximately 10 minutes travel time from BM 3 KN) to pick up the Cantium Foreman (Foreman) and HSEC and then return to BM 3 KN to assess the best method of and assist with evacuation of the IP.

At 8:02 am, the Cantium Production Manager (PM) called the Main Pass (MP) Area Foreman (MP Foreman) at the MP 142 C facility where a Cantium contracted field helicopter was stationed. The MP Foreman and PM discussed aircraft availability and the MP Foreman reported it was currently raining in the area but could send the helicopter when rain stopped. The flight time from MP 142 C to BM 3 KN was estimated to be 45 minutes. The PM requested that the helicopter be prepared to depart MP 142 C when weather allowed. At 8:13 am, the PM called the helicopter dispatcher to check on the availability of other aircraft. When the dispatcher informed the PM that it would take 2.5 hours to arrive at BM 3 KN, the second aircraft was then declined due to the amount of time it would take to transport the IP and the PM continued to look for faster methods of transport for the IP.

A call was placed to a second helicopter contractor at 8:18 am and a helicopter was reported to be available in Abbeville, LA with a 45 minute flight after fueling. Arrangements were made to reserve the aircraft and to wait on call back within minutes for the "green light" to depart for BM 3 KN.

At approximately 8:20 am, the Foreman and HSEC arrived to BM 3 KN via MV Titus. The IP's boot had to be cut off due to significant swelling and visible deformity of the foot. An ice pack was applied to the IP's right foot/ankle, and the Foreman fashioned a splint and wrapped it with an ace bandage. At that time, the IP's condition was not believed to be critical, but the field communicated to Cantium leadership that the IP's foot was seriously injured and that the IP was experiencing pain in his lower back. The decision was made to secure the IP in the stokes litter.

Available evacuation options were discussed between the PM, Foreman, and IP, including the need for a medical evacuation (med evac) flight. The IP advised he wanted whichever option was fastest. However, due to BM 3 KN's heliport rating of 8000 lbs not meeting the med evac helicopter requirements, this meant the IP would have to be winched up into the hovering med evac helicopter. The IP refused the med evac option because he did not want "another winch to fail him".

At 8:22 am, the MP Foreman at MP 142 C called and said that the weather had cleared and the field helicopter could fly. The Production Manager (PM) instructed the Cantium Foreman to have the field helicopter head to BM 3 KN.

At 8:30 am, Cantium contacted Terrebonne General to discuss protocol for landing at the hospital helipad.

The PM was notified that the field helicopter departed MP 142 C for BM 3 KN at 9:00 am. Delay was caused by the need to fuel up and the pilot preparing for flight.

The MP 142 C field helicopter arrived at BM 3 KN at 9:45 am. Just prior to arrival of the MP field helicopter, the Foreman, HSEC, CO, and I & E Tech carried the IP in the stokes litter up several flights of stairs to the deck just below the heliport and were ready to put the IP on the helicopter as it arrived. Once the helicopter was shut down, the IP was brought up to the heliport and at that time it was realized that: 1. The stokes litter could not fit into the helicopter and 2. The IP could not sit up and needed to remain in the stokes litter due to his pain and injuries. The four men set the IP down on the heliport deck next to the helicopter and contacted the PM in attempt to identify an evacuation method suitable for the IP's condition.

At 10:00 am, the PM learned that Cantium's standard field helicopter had been swapped out the day prior for a different aircraft. The replacement aircraft could not accommodate the stokes litter. Cantium also reported up until this point, it was not communicated to those assisting in planning the evacuation that the IP could not sit up and needed to remain in the stokes litter.

At 10:08 am, the PM called a Med Evac aircraft company to see if they had any aircraft available that could land on BM 3 KN 8000 lb. helipad.

At 10:14 am, all options for evacuation were re-evaluated. The options identified were transporting a Lift Boat to BM 3 KN in order to evacuate the IP via the catwalk

transfer, overwater boat transfer, and the med evac hoist if unable to land the med evac helicopter on the heliport.

At 10:20 am, after reviewing sea conditions, the Boat Captain's comfort level, and discussing evacuation options with the IP, all parties made the decision to perform an overwater boat transfer from the BM 3 KN Boat Landing to the M/V Titus. This plan included an additional 20 to 30 minute delay in evacuation time, because it required that the MV Titus return to GI 37 R to pick up two more individuals to assist in the overwater boat transfer.

After the two additional workers arrived at BM 3 KN, the six men began the task of carrying the IP down from the heliport to the Boat Landing. After taking several breaks along the way between flights of stairs, they reached the Boat Landing. The Boat Captain pinned the MV against the platform, positioning the MV as close as possible to help mitigate the risks of the overwater transfer. Then two men swung onto the MV Titus and positioned themselves to safely transfer the IP to the MV Titus. The IP remained in the stokes litter and was placed on the floor of the boat cabin in the air conditioning during transport

At approximately 11:30 am, the MV Titus arrived at C-Port 1 and Emergency Medical Services (EMS), police, and fire departments were awaiting the IP's arrival. After EMS evaluated the IP's condition, the IP was transported via ambulance from the C-Port 1 Dock to a nearby heliport in Fourchon, where the IP was evacuated via med evac helicopter around 12:15 pm.

The IP arrived at UMC at approximately 12:45 pm where he underwent treatment.

#### BSEE Investigation:

On August 5, 2025, at 1:34 pm, verbal notification was made by Cantium via telephone to the BSEE Houma District regarding an injury during crane operations at BM 3 KN at 7:30 am that required evacuation of an Injured Person (IP). Cantium's initial report to BSEE stated the following:

"IP was on a personnel basket being transferred from platform to the M/V Titus. The crane aux winch free fell around 15 feet and then came to a sudden stop. IP fell to his knees within the basket. Crane operator was able to regain function of the crane and set the IP back onto the platform."

Within hours of this notification, the BSEE Houma District coordinated the selection, transport, and arrival of two BSEE Houma District Inspectors to BM 3 KN to begin investigative efforts. The BSEE Inspectors took pictures of the BM 3 KN crane and verified the crane was taken out of service prior to their departure. At 5:01 pm, on August 5, 2025, BSEE issued a Preservation Order informing Cantium to secure the scene of the incident until BSEE could return to resume the Incident Follow-Up (IF) investigation efforts. Cantium confirmed receipt of the BSEE Preservation order by 5:48 pm that same day.

The BSEE Houma District Accident Investigators (AI's) continued to engage in communication with Cantium via phone, email, and submission of documents by Cantium into the BSEE Incident Reporting system "eWell".

On August 6, 2025, BSEE AIs flew offshore to BM-3 KN to investigate the scene of the incident, review records, and obtain witness statements from the CO and all personnel present at the time of the incident. BSEE AI's took additional pictures and met and spoke with personnel present during the incident. BSEE AIs noted loose, unevenly stacked wire rope lays on the aux winch.

BSEE's records review at BM 3 KN revealed that on April 10, 2025, a crane contractor sent CM#1 and his helper offshore to begin an Annual Crane Inspection on the BM 3 KN Crane, a 40' box boom. By the end of the day on April 11, 2025, the CM#1 completed a "Deficiency Summary" that documented six issues discovered during the Annual Crane Inspection. The CM#1 provided a description of each issue and assigned an Inspection Code to each numbered deficiency. Of the six deficiencies discovered, four were assigned Inspection Code "MR" which referenced that "Items Inspected Require Maintenance" and two were assigned "RR" that meant "Items inspected Require Repair". Two of the six deficiencies (Deficiency Numbers 1 and 5) were found in violation of Cantium policy entitled "Cantium Offshore Crane Operation and Maintenance Program".

The crane remained in service.

After completion of the BM 3 KN Annual Crane Inspection on April 15, 2025, the Cantium's Health, Environment, and Safety Coordinator (HESC) signed the Deficiency Summary provided to them by the CM#1. Though the Deficiency Summary was never updated to reflect it, Deficiency Number 3 was corrected on April 15, 2025. The crane remained in service.

On May 24, 2025, Deficiency Numbers 1, 5, and 6 were corrected. Per Cantium policy, running wire ropes will be changed every three years. Records indicated to the CM#1 that the auxiliary (aux) wire rope should have been replaced by November 4, 2023 (Deficiency Number 1), and main wire rope should have been replaced by April 5, 2021 (Deficiency Number 5).

Despite the identification of the deficiencies, neither of the cables were placed out of service by the CM#1 on April 11, 2025, or on April 15, 2025, when the Cantium HESC signed the Deficiency Summary.

Cantium policy entitled "Cantium Offshore Crane Operation and Maintenance Program" states on "Deficiencies": "minor deficiencies will be recorded and repaired on the spot or with a short time period usually (30 days)". Deficiency Number 6 was described as "ENGINE AIR STARTER HAS NUMEROUS CRACK ON HOUSING RECOMMEND REPLACE".

BSEE discovered that by the date of the incident on August 5th, 2025, one of the six deficiencies had not been corrected from the previous Annual Crane Inspection's Deficiency Summary provided to Cantium and signed by their HESC on April 15, 2025- Deficiency Number 4. Deficiency Number 4 was assigned Inspection Code "MR" and described by the CM#1 in the Deficiency Summary as "AUX BOOM TIP SHEAVE HAS SLOP IN BEARING RECOMMEND REPLACE SHEAVE AND BEARING".

On August 7, 2025, BSEE AIs flew to BM-3 KN to witness a separate contract company (crane contractor #2) CM (CM#2) conduct the post-incident inspection of the crane. Cantium engaged CM#2 to perform an independent inspection as part of Cantium's investigation. After initial pictures were taken by the CM#2, the personnel basket was disconnected from the aux ball. The CM#2 inspected and tested the aux winch braking system. Brake testing was repeated with no indications of malfunction. Aux winch testing was prompted primarily by Cantium's initial incident report to BSEE and interviews with personnel at BM-3 KN which implicated the aux winch as a possible cause of the incident. The Anti-Two Block (ATB) device on the aux line was tested, and it successfully functioned as designed during multiple tests. As part of the inspection, the aux ball was lowered to the waterline, and no significant issues were found with the wire rope.

During the inspection, the CM#2 reported to BSEE AI's that the aux sheave and aux sheave pin were badly worn and "walled out" with notable excessive play and debris including metal shavings. The aux sheave bearings were described by the CM#2 as "shot". The CM#2 reported to BSEE that he believed the cause of the incident was the outermost aux sheave at the boom tip locking up, causing wire rope to pile on the winch, before freeing and causing the uncontrolled descent of the personnel basket.

The CM#2's post-incident inspection findings were documented within the Quarterly Inspection Report that was completed on August 12, 2025. The SCM#2's report documented that during the Quarterly Inspection, the main winch was discovered to have been in service since October 8, 2012, and had been outside of service limitations prescribed by manufacturer recommendations since October 8, 2017. In the Quarterly Inspection Report, the CM#2 reported he "did not find any parts requests" for replacement of the aux sheave and pin despite Cantium claiming in their Root Cause Analysis Report (RCA) that repair of the aux boom tip sheave and bearing were "in queue for repairs but uncorrected at time of incident".

BSEE AIs continued IF efforts onshore at the crane contractor #2's facility in Houma, Louisiana on August 13, 2025, where they witnessed the teardown inspection of the aux sheave assembly.

On August 18, 2025, BSEE AI's and additional BSEE Houma District personnel returned to the same crane contractor #2's facility to witness aux wire rope inspection, aux winch testing, the aux winch teardown inspection, and additional inspection of the aux sheave.

On August 18 and 19, 2025, a Cantium HESC provided BSEE AIs with contact information

for both the IP and the CM#1 who completed the last Annual Crane Inspection at BM 3 KN on April 15, 2025. That day BSEE scheduled and completed interviews over the phone from the BSEE Houma District Office with the CM#1, the crane contractor #1 Foreman at the time of the incident, and the IP.

The CM#1 told BSEE AI's that when he arrived to begin the Annual Crane Inspection at BM 3 KN on April 11, 2025, it was his "first time out there". The CM#1 stated the Cantium HESC signed his Deficiency Summary on 4/15/25. The CM#1 told BSEE (as was indicated in his report) that he did write the aux sheave up, but he did not take it out of service because he did not think it was that bad.

The crane contractor #1 Crane Foreman told BSEE that the aux sheave was never ordered because he did not know which sheave to order. The crane contractor #1 Crane Foreman told BSEE that he could not produce any documentation to support that crane contractor #1 had ever emailed Cantium a parts requisite or entered it into any Cantium interface system such as the crane contractor #1 Crane Foreman described. On page 9 of 10 of the CM#2's Quarterly Inspection report dated August 12, 2025, the CM#2 documented that he "Did not find any parts request for parts". In Cantium's RCA Report on page 3 of 6, Cantium specified that the Aux Boom Tip Sheave and Bearing "were in queue for repairs but uncorrected at time of incident."

Cantium reported to BSEE that on August 20, 2025, they conducted further interviews with BM Field team members. BSEE asked Cantium to provide documentation to support these interview efforts, but Cantium provided none. These interviews reportedly led Cantium to explore the aux line dead end loop (API loop) and the Anti-two block (ATB) device on the BM-3 KN crane and developed a theory that the aux line dead loop hung on the ATB. On August 20, 2025, a Cantium Operator visually inspected the ATB and observed scratches and gouges on the top surface of the striker plate. BSEE was not notified of Cantium's further investigative efforts or findings until September 4, 2025.

On August 21, 2025, the Cantium PM emailed BSEE the following: Crane Contractor #2 "reached out this morning related to your request for the sheave report. To ensure a thorough and reliable investigation, I respectfully ask that any requests for information, inspections, or interviews be made through Cantium." That same day, Cantium removed the ATB assembly from the BM-3 KN crane, boxed up the ATB assembly with custody transfer documents, and shipped the ATB assembly to crane contractor #3 on August 22, 2025. The BSEE Houma District was not notified of the relocation of the ATB assembly. In the Cantium "Root Cause Summary Report of Analysis" (RCA) it was documented that due to miscommunication, the ATB was never inspected by crane contractor #2.

On September 4, 2025, Cantium provided the BSEE Houma District AIs with an update via email that informed BSEE that Cantium had furthered their investigation beyond the aux sheave. They reported to BSEE that they had identified scarring on the ATB block housing and began looking into a possible scenario regarding the API loop being hung on the ATB.

Cantium also informed BSEE that they had engaged another crane maintenance company-crane contractor #3 and stated they would be using crane contractor #3 as an additional resource of Subject Matter Experts (SME's) to assist with the RCA.

Crane contractor #3 provided the following background information at the beginning of their inspection report completed on September 8, 2025: "Cantium contacted crane contractor #3 in reference to a crane incident involving the platform crane on the BM 3 KN facility. A chain of custody was enacted. The Tip Sheave and Relief valve were received at the crane contractor #3 facility on September 4, 2025 (shipped from crane contractor #2). The tip sheave and anti-two-block were received at the crane contractor #3 Facility on 9-5-25 (shipped from crane contractor #2).

During crane contractor #3's evaluation of aux tip sheave/pin and bearing, they noted that the crane boom tip uses a nylon sheave with an MR 40 bearing and MI 32 inner race. Inspection revealed it was evident that the bearing no longer had the "pressed" fit but now had substantial wear causing the bearing outer diameter to spin inside of the sheave instead of staying stationary as it was designed. Measurements showed a 0.035-inch clearance between the bearing and sheave bore, confirming the loss of fit. The inner race and tip pin showed little to no wear and functioned properly. The bearing

rotated freely within the sheave- an abnormal condition indicating failure of the press-fit design.

On September 11, 2025, BSEE emailed Cantium a Request for Additional Information (RFI) via email and informed Cantium that BSEE needed to inspect the ATB assembly at crane contractor #3 "as soon as possible". On September 12, 2025, Cantium informed BSEE that crane contractor #3 would be available for inspection of the ATB on September 16, 2025. Crane contractor #3 created what they referred to as "a simulation" using the ATB and sheave assembly from the BM-3 KN crane mounted in a fabricated jig and secured to an overhead hoist. A 9/16" wire rope—matching the crane's—was routed through the sheave system, connected to a winch on a test stand, and attached to a 1,300 lb. test weight via a wedge socket. The tare weight (empty weight) of the personnel basket involved is approximately 1,050 lbs., the weight of the basket itself without any personnel or additional load. During the IF on August 6, 2025, it was reported to BSEE by the CO, Cantium Foreman and Cantium HESC that the IP weighed approximately 250 lbs.

With a Cantium representative present at the crane contractor #3 facility on September 15, 2025, the team operated the winch hydraulically to repeatedly raise and lower the test weight to evaluate performance of the sheave. Cantium reported to BSEE that during the evaluation, the sheave rolled under a load with no binding or unusual noise. Cantium also reported he bearing was loose within the sheave, and it rotated freely both under load and without.

BSEE AIs traveled to crane contractor #3's facility on September 16, 2025, and observed the simulation. One BSEE AI pointed out to the crane contractor #3 and Cantium Representatives that it would have been good to have also seen a replication of the API Loop hanging up on the ATB under the same load. BSEE asked Cantium/crane contractor #3 to inform BSEE if they ever decided to do so. BSEE was never contacted regarding a re-enactment of the API loop hanging up on the ATB.

Cantium notified BSEE via email on October 22, 2025, that the BM 3 KN crane was ready to be returned to full service. Documentation provided by Cantium reflected that all necessary corrections were complete, inspected, and load tested by certified crane contractor #2 CMS with supporting inspection and test reports provided.

On March 16, 2026, BSEE received an update on the status of the IP. The IP had undergone extensive and ongoing medical treatment spanning approximately seven months (August 2025 through March 2026), totaling over 60 physical therapy sessions, multiple hospital and emergency visits, and at least four surgical procedures related to a severe trimalleolar ankle fracture, spinal injuries (T12, L2, and L4-L5 pars defect), and a vascular injury to the lower extremity. Continued care has included orthopedic, neurosurgical, vascular, and dermatological treatment, along with advanced imaging (CTA, MRI) and interventional procedures such as spinal injection therapy. The IP continues to experience persistent pain, neurological symptoms, and complications including vascular and dermatological conditions, with additional treatment and potential surgical intervention still under evaluation.

During BSEE's review of Cantium's RCA Report, BSEE noted that Cantium stated in their "Sequence of Events" on page 2 of 6 that "The crane operator stated he observed the IP was not wearing the optional quick release safety lanyard at the time of the incident." In Cantium's "Key Points from initial statements" on page 3 of 6 of the same report, Cantium notes that the "Rider was not latched in".

BSEE requested documentation from Cantium that supported these claims due to BSEE finding no evidence of the IP not being secured to the personnel basket. BSEE spoke with the CO in-person on two separate occasions following the incident and the CO made no mention of it to BSEE. Additionally, Cantium provided a signed, witnessed statement to BSEE from the CO that made no mention of the IP not being clipped in. On March 20, 2026, Cantium reported to BSEE that no formal witness statement was collected specific to that observation.

On page 4 of 6 of Cantium's RCA Report it stated: "Following the August 18th crane contractor #2's winch and sheave assembly inspections, further interviews with BM field team members took place. This revealed that the aux line dead end loop had previously been mentioned to be abnormally large. Aside from general observation, it is unclear what led to the loop being identified as too large - according to KN crane operators, there

had been no incidents of the loop ever getting hung up. However, from this observation developed the theory that the abnormally sized loop had gotten hung up on something during the lift." BSEE requested that Cantium provide documentation supporting their claims of reported observations of the dead-end loop being over-sized. On March 20, 2025, Cantium provided response indicating that these observations were identified during discussions with field personnel as part of the investigation into potential causes and admitted they had no documentation in this regard.

In response to BSEE's question regarding when crane contractor #3 and crane contractor #2 were hired by Cantium to begin maintenance of the cranes in the fleet, Cantium reported both crane contractor #3 and crane contractor #2 were approved vendors prior to the incident but pointed out that neither company was providing routine crane maintenance at the time of the incident. Following the incident, Cantium reported they now utilized both companies to conduct audits across their fields and had subsequently replaced the previous crane maintenance provider (crane contractor #1) on September 9, 2025, assigning maintenance responsibilities between crane contractor #3 and crane contractor #2 by field.

**BSEE Conclusion:**

While each investigation contributed relevant information, no single investigation established a conclusive and reproducible root cause. During the investigation, it became clear that there was a lack of communication from the time the Annual Crane Inspection Deficiency Summary was signed by the Cantium HESC on April 15, 2025, and the date of the incident on August 5, 2025. CM#2 reported following the incident, he could not find record indicating the aux sheave and bearing assembly were ordered despite recommendations to replace it and despite Cantium's claim in their RCA Report that the repair to the aux sheave and bearing were "in queue". BSEE discovered examples during inspection of the crane maintenance records that multiple crane components had not been maintained according to manufacturer's recommendations or Cantium's Crane Policy.

In response to this incident, Cantium provided the following corrective actions: Cantium conducted third party audits of the entire Cantium crane fleet, replaced Cantium's primary crane maintenance service provider, executed hazard hunts to evaluate dead-end terminations on all Cantium cranes and confirmed all terminations met API RP2D recommendations. In regard to Cantium's installation of protective measures to prevent potential snag points, Cantium provided the following update:

- \*Nylon striker plates are installed on 100% of in-service Cantium auxiliary lines;
- \*Several Cantium cranes had striker plates installed prior to incident; \*12 Striker plates were installed post incident; \*3 striker plates remain to be installed on OOS Cantium aux lines prior to their return to service.

Cantium has also provided an update to enhancements to their maintenance oversight processes which include the following: \*Fixed schedules and improved 3rd party technician continuity and \*Company alignment of crane oversight and maintenance roles. Cantium reported to BSEE that they are currently developing strategies to better utilize Cantium's internal resources to manage the oversight and maintenance of our entire crane fleet, specifically to ensure prompt follow up on identified deficiencies. Cantium reported they also plan to provide additional training for personnel on personnel transfer procedures and awareness.

Review of the timeline of events regarding the evacuation of the IP, reveals miscommunication and a lack of emergency response preparedness. There were several examples exhibited within the timeline of the evacuation that strongly suggest the IP's evacuation was delayed due to failure to plan for these events prior to the incident. BSEE recommends Cantium review their emergency plans and procedures to ensure a more efficient response in the event of future evacuations.

BSEE reviewed and evaluated the investigative efforts conducted by Cantium, crane contractor #2, and crane contractor #3, including their methodologies, testing procedures, and conclusions. BSEE determined that the auxiliary winch and braking system were functional and did not exhibit mechanical failure.

BSEE determined that the auxiliary sheave assembly exhibited wear and degradation; however, testing conducted did not demonstrate a failure or binding condition resulting in uncontrolled descent. The anti-two-block (ATB) system was also determined

to be operational, with evidence of contact observed but without confirmed operational impact.

BSEE noted that conclusions suggesting the auxiliary sheave or ATB interaction as the cause of the incident were not supported by reproducible testing or demonstrated failure mechanisms. BSEE also noted that no testing was performed by Cantium or crane contractor #3 to replicate the proposed interaction between the auxiliary line dead-end loop and the ATB assembly.

BSEE further identified a disparity between verbal statements provided by crane contractor #2's personnel during inspection activities and the conclusions documented in their formal report. Crane contractor #2 indicated that they were instructed to remain objective and not include root cause opinions in their written report. Based on review of all investigative efforts, BSEE determined that no single investigation established a conclusive and reproducible root cause of the incident.

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

1. Equipment Failure - Inadequate preventative maintenance/Inadequate equipment repair- the crane's aux hoist system was operated with documented mechanical deficiencies including excessive wear and degradation of the aux boom tip sheave and bearing assembly. These conditions were identified during prior inspections and confirmed during post-incident evaluations. Though this theory was not proven with certainty, the degraded condition of these components may have contributed to abnormal hoisting system behavior and is considered a primary factor in the incident.
2. Equipment Failure - Flawed equipment design or construction: The ATB's design allows for wire rope to snag and foul on the striker plate.

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

1. Communication - Inadequate Coordination Between Operator & Maintenance Contractor: The investigation identified inconsistencies in communication and documentation between Cantium and third-party maintenance providers regarding the status of repairs to the aux sheave assembly. The absence of documented repair tracking or confirmation may have contributed to the unresolved condition and future incidents if not corrected.
2. Supervision - No or inadequate supervision: Inspection findings identified multiple areas of degradation within the crane system, including the aux sheave, bearings, and other components. The continued operation of the crane under these conditions indicates insufficient oversight and prioritization of maintenance activities. The Cantium HESC signing the Deficiency Summary on April 15, 2025, indicates he was made aware that crane components were out of compliance with both manufacturer recommendations but also in contradiction with Cantium's Crane Policy and prescribed service limitations of vital crane components.
3. Management Systems - Inadequate emergency procedures: Review of the timeline of events regarding the evacuation of the IP reveals miscommunication and a lack of emergency response preparedness. There were several examples exhibited within the timeline of the evacuation that strongly suggest the IP's evacuation was delayed due to failure to plan for these events prior to the incident. BSEE recommends Cantium review their emergency plans and procedures to ensure a more efficient response in the event of future evacuations.

20. LIST THE ADDITIONAL INFORMATION:

n/a

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Total \$9,010.00. \*Auxiliary Line Wire Rope - \$3,500; \*Auxiliary Line Sheave - \$990; \*Striker Plate - \$850; \*10/15/2025 Labor (wire rope + sheave replacement) - \$3,670

Auxiliary Line Wire Rope, Auxiliary Line Sheave, Striker Plate, Labor (wire rope and sheave replacement)

## 22. RECOMMENDATIONS TO PREVENT RECCURANCE NARRATIVE:

The BSEE Houma District recommends that a Safety Alert regarding this incident should be considered addressing the following: Timely correction of identified crane inspection deficiencies, particularly those involving critical hoisting components, implementation of formal tracking systems to ensure identified deficiencies are corrected and verified, improved communication and accountability between operators and third-party maintenance providers, adherence to equipment preservation requirements during active investigations, reinforcement of inspection and maintenance practices for aux hoist systems used in personnel transfer operations, and Emergency Response procedures.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **NO**

## 24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

**None**

## 25. DATE OF ONSITE INVESTIGATION:

**05-AUG-2025**

## 28. ACCIDENT CLASSIFICATION:

## 26. Investigation Team Members/Panel Members:

## 29. ACCIDENT INVESTIGATION PANEL FORMED:

**NO**

OCS REPORT:

## 27. OPERATOR REPORT ON FILE:

## 30. DISTRICT SUPERVISOR:

**Amy Gresham**

APPROVED

DATE:

**13-APR-2026**