

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
GULF OF MEXICO REGION

ACCIDENT INVESTIGATION REPORT

For Public Release

1. OCCURRED			STRUCTURAL DAMAGE
DATE: 10-JAN-2022 TIME: 0600 HOURS			CRANE
2. OPERATOR: Fieldwood Energy Offshore LLC	REPRESENTATIVE:		OTHER LIFTING
TELEPHONE:			DAMAGED/DISABLED SAFETY SYS.
CONTRACTOR:	REPRESENTATIVE:		INCIDENT >\$25K
TELEPHONE:			H2S/15MIN./20PPM
			<input checked="" type="checkbox"/> REQUIRED MUSTER
			SHUTDOWN FROM GAS RELEASE
			OTHER
3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR	ON SITE AT TIME OF INCIDENT:		8. OPERATION:
4. LEASE: G01874	AREA: WD LATITUDE: 28.970623		<input checked="" type="checkbox"/> PRODUCTION
	BLOCK: 80	LONGITUDE: -89.500382	<input type="checkbox"/> DRILLING
5. PLATFORM: D	RIG NAME:		<input type="checkbox"/> WORKOVER
			<input type="checkbox"/> COMPLETION
6. ACTIVITY:	<input type="checkbox"/> EXPLORATION(POE) <input checked="" type="checkbox"/> DEVELOPMENT/PRODUCTION (DOCD/POD)		<input type="checkbox"/> HELICOPTER
7. TYPE: INJURIES:	OPERATOR		<input type="checkbox"/> MOTOR VESSEL
<input type="checkbox"/> HISTORIC INJURY	CONTRACTOR		<input type="checkbox"/> PIPELINE SEGMENT NO.
<input type="checkbox"/> REQUIRED EVACUATION			<input checked="" type="checkbox"/> OTHER Coiled Tubing
<input type="checkbox"/> LTA (1-3 days)			
<input type="checkbox"/> LTA (>3 days)			
<input type="checkbox"/> RW/JT (1-3 days)			
<input type="checkbox"/> RW/JT (>3 days)			
<input type="checkbox"/> FATALITY			
<input type="checkbox"/> Other Injury			
<input checked="" type="checkbox"/> POLLUTION			
<input type="checkbox"/> FIRE			
<input type="checkbox"/> EXPLOSION			
LWC	<input type="checkbox"/> HISTORIC BLOWOUT <input type="checkbox"/> UNDERGROUND <input checked="" type="checkbox"/> SURFACE <input type="checkbox"/> DEVERTER <input type="checkbox"/> SURFACE EQUIPMENT FAILURE OR PROCEDURES		9. CAUSE:
COLLISION	<input type="checkbox"/> HISTORIC	<input type="checkbox"/> >\$25K	<input checked="" type="checkbox"/> EQUIPMENT FAILURE
	<input type="checkbox"/> <=\$25K		<input type="checkbox"/> HUMAN ERROR
			<input type="checkbox"/> EXTERNAL DAMAGE
			<input type="checkbox"/> SLIP/TRIP/FALL
			<input type="checkbox"/> WEATHER RELATED
			<input checked="" type="checkbox"/> LEAK
			<input type="checkbox"/> UPSET H2O TREATING
			<input type="checkbox"/> OVERBOARD DRILLING FLUID
			<input type="checkbox"/> OTHER _____
10. WATER DEPTH:	102 FT.		
11. DISTANCE FROM SHORE:	18 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 10 January 2022, a well control and subsequent pollution event occurred in the Gulf of Mexico originating from West Delta (WD) Block 80, Platform 'D' on Lease OCS-G 01874 (Surface Location). The WD 80 D production platform was being maintained by QuarterNorth Energy (QNE) at the time of the incident. QNE was performing a coiled tubing operation to set a plug in the D-36 well due to a small leak from the tubing to the casing and out an alignment pin plug in the tubing head. The alignment pin plug had been leaking since 11 January 2021. During this operation, the casing to tubing communication became more pronounced. Initially the tubing pressure was 2400 psi while the innermost annulus (A Annulus) pressure was 50 psi. However, after the coiled tubing operations, the A Annulus pressure rose to 2000 psi. The higher pressure in the production casing caused excessive fluid returns to the platform's wet oil tank. This vessel was not able to pump down levels because there were no viable pipelines to accept fluid from the platform. An estimated 107 gallons (2.5 barrels) of hydrocarbons were spilled. No injuries occurred as a result of this incident.

SEQUENCE OF EVENTS:

On 11 January 2021, Fieldwood Energy LLC. (Fieldwood) noticed the alignment pin plug on the well's tubing head was leaking gas. According to the Person in Charge (PIC), notification from the field was made to the foreman, area superintendent, and area engineer. However, at this time Fieldwood failed to report the gas leak to the Bureau of Safety and Environmental Enforcement (BSEE) per the Notice to Lessees (NTL) No. 2019-N05. This gas leak out of the tubing head is also considered a loss of well control because there is no safety device that can be closed to prevent well fluids from reaching the surface and escaping. Fieldwood, on at least a daily frequency, bled pressure from the A Annulus through the casing valve to the atmosphere, which effectively prevented the alignment pin plug from leaking. According to a casing pressure request to BSEE, Fieldwood stated, a well operations contractor, Quality Engineering and Surveying's (QES) wireline crew was onboard 16 February 2021, to set a plug in the tubing for the D-36 well. During a gauge run, QES could not get below 150 feet due to scale and paraffin build up in the tubing. Fieldwood planned to get QES back out once the D-36 well returned to production to cut paraffin and to set a plug in the tubing. Cameron Tree Techs were on board 28 February 2021, to assess the leak. Cameron reported back to their office and communicated to a Fieldwood Engineer in the Houston Office.

According to Fieldwood's incident report in ewell, the leaking alignment pin plug was brought to the attention of Fieldwood's management team on 24 August 2021. With Hurricane Ida approaching in August 2021, Fieldwood determined that during a hurricane evacuation, personnel would not be able to bleed pressure from the casing daily. This would cause the alignment pin plug to leak hydrocarbons in an uncontrolled manner for the duration of the evacuation. On 24 August 2021, Fieldwood informed BSEE of the leak in the alignment pin plug. Fieldwood then obtained approval on 26 August 2021 to route a hose from the casing valve to the wet oil tank which connected to the vent scrubber's underwater vent. The purpose of this temporary modification was to allow liquids to be captured by platform vessels while gas could be vented to the atmosphere at a controlled pressure of 50 psi. Fieldwood also applied for a casing pressure departure on 26 August 2021 which was denied by BSEE Production Operations Support Section on 27 August 2021. The denial required Fieldwood to immediately remediate the well issues. The denial letter stated, "Based on these findings, the Bureau of Safety and Environmental Enforcement (BSEE) requires that you shut-in the well within 24 hours of receiving this denial. If you believe that shutting in your well will cause a safety issue, a request to keep the well on production while under a annular casing pressure "denial" must be submitted and approved by the appropriate BSEE district office." After Hurricane Ida, WD 80 D was re-manned and Fieldwood spent several weeks

Fieldwood relinquished Lease OCS-G 01449 (Bottom Location of Well D-36) on 26 October 2021. By letter dated 1 September 2021, Fieldwood informed the BSEE, that it would not be completing the required decommissioning for this lease. However, Fieldwood continued to perform Maintenance and Monitoring subject to the Transition Services Agreement (TSA) associated with Fieldwood's Confirmed Bankruptcy Plan, which requires Fieldwood to perform Maintenance and Monitoring on the infrastructure listed in the Order through midnight on 27 May 2022. QNE performed the Maintenance and Monitoring on behalf of Fieldwood.

In November 2021 Fieldwood submitted an Application for Permit to Modify (APM) to set a plug in the well and replace the leaking tubing spool. However, the initial wireline operation encountered scale and could not get below 454 feet. Next, Fieldwood submitted an APM in December 2021 for a coiled tubing operation to clean out scale to allow the plug to be set.

During this operation on 8 January 2022, the tool got stuck downhole and took several hours to be mechanically pulled, which caused stresses that may have caused larger communication from the production tubing to the A Annulus. The coiled tubing operation may have also caused a differential pressure across the packer due to pressure pulses bleeding through the non-sealing overshot. The pressure pulses and mechanical jarring during coiled tubing operations may have inadvertently caused the tubing/casing leak to become worse.

As a result of well intervention, on 10 January 2022, an increased flow of fluid and gas escaped through the casing valve to the wet oil tank and caused a pressure event within the tank and pollution. Photos of the wet oil tank show that oil was pushed out of the vent at the top of the tank and sprayed upwards at least 7 feet leaving residue on the beams above the tank. At this point, the wet oil tank and sump tank reached capacity and continued to spill oil into the Gulf for several hours. With ongoing pollution out of the wet oil tank and 2000 psi of gas leakage out of the alignment pin plug, QNE deemed the platform unsafe. QNE evacuated all 19 Personnel On Board (POB) by 1730 hours without injury.

On 11 January 2022, after weather conditions became more favorable in the morning, several contractors including Wild Well, Safezone, and Seal-Tite accompanied QNE personnel to board the platform while monitoring gas levels. At around 8:00 am, BSEE and QNE flew over the sheen, which was smaller than expected at 1 mile long, 50 yards wide, and silver in color. BSEE estimated the total volume of the sheen to be just over a gallon. In support of this low volume estimate, field personnel reported that fluid ceased to overflow from the wet oil tank as it had the day prior. The reduction in fluid returns to the platform could be due to properties of the well. After staging equipment for sealant injection, operations departed the platform safely before nightfall. At 1800 hours, a detailed procedure for sealant injection was developed and sent to BSEE for review.

On 12 January 2022, operators boarded the platform in the morning. In preparation for sealant injection, water was injected into the casing to test if the sealant would make its way to the leak point. Attempts to get water to the leak sight were unsuccessful. However, during this operation, apparently debris from the well became lodged in the pin hole and had effectively stopped the gas leak. BSEE and QNE flew over the sheen again. The sheen diminished throughout the day as the leak stopped and fluids were isolated at the casing. Personnel continued to monitor the wellhead until departing the facility at nightfall. Vessels remained in the area to monitor the platform overnight.

On 13 January 2022, operators boarded the platform and began staging equipment for de-

inventorying vessels to prevent potential pollution hazards. The gas leak remained plugged, and no sheen was observed throughout the day with BSEE and QNE overflights.

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On 14 January 2022 the wet oil tank fluids were pumped down to Marine Portable Tanks (MPT).

QNE continued to de-inventory tanks over the next several days.

On 24 January 2022 a clamp was installed on the alignment pin plug and tested for leakage.

On 26 January 2022, WD 80 D production operators observed water dripping from the 24" drive pipe bull plug at 1300 hours. The B Surface Casing (13-3/8") was observed at ~2000 psi. The previous day's reading was 192 psi. QNE Field Management and Houston Engineering were notified at 1400 hours. No gas or sheen was observed. QNE decided to demobilize crews and secure the platform. The generator and all power sources were shut down. WD 80 D was unmanned at 1556 hours by helicopter.

On 27 January 2022, QNE performed an overflight of the facility and discovered no sheen. QNE was able to get operators on the facility via swing rope from the Motor Vessel (M/V) Melissa later that morning to monitor the platform for hazardous gas and ensure it was safe for a helicopter to land. As no gas was observed, a green deck was given for the helicopter to drop off personnel and equipment. Power was restored to the platform shortly after personnel boarded. The A Production Casing (9-5/8") was observed to have 2150 psi. The B Surface Casing (13-3/8") was still observed at ~2000 psi, with little change from the day before. 1.6 gallons of water per hour was observed dripping out of the 24" drive pipe bull plug. QNE set up a containment pan beneath the drip to minimize pollution.

In general, the bull plug continued to leak with no pollution into Gulf of Mexico waters as QNE developed a plan to mitigate the D-36 well hazards.

On 30 January 2022, crews back loaded coiled tubing equipment onto a M/V. The BSEE Accident Investigator landed on the facility to perform an investigation of the incident and take photos. The Lift Boat (L/B) Great White arrived on location with temporary flowback equipment on board.

On 31 January 2022, the L/B completed its preload and was elevated to deck level. Next, on 1 February 2022, operations finished rigging up flowback equipment. Then on 2 February 2022, the flowback equipment was pressure tested.

From 3 February to 5 February 2022, operations performed diagnostic procedures with BSEE approval.

On 6 February 2022, the contractor SBS Energy Services (SBS) completed their platform survey for snubbing operations. Crews also installed a hydraulic choke and associated pumping iron.

From 7 February to 13 February 2022, QNE finished diagnostic procedures and began rigging up a snubbing unit to the well to set plugs.

On 14 February 2022, QNE received BSEE approval to set a Cast Iron Bridge Plug (CIBP) in the tubing and dump bail cement. Operations ran in hole with a CIBP on wireline and set it at 2,000 feet. Next, they performed a good positive and negative test on CIBP and dumped 20 feet of cement on top of the CIBP.

On 21 February 2022, the tree was removed. Next, on 4 March 2022, SBS recovered a total of 261 feet of 2-7/8" tubing from stripping and shearing operations; 3 joints

were recovered the day prior. Then, on 7 March 2022, SBS continued strip and shear operations with 624.24 feet of pipe recovered. Days later, on 9 March 2022, SBS continued strip and shear operations with 1,832 feet of pipe recovered. With work continuing, on 14 March 2022, SBS continued strip and shear operations with 2,026 feet of pipe recovered. Then, on 15 March 2022, SBS ran a retrievable bridge plug to 2,901 feet. Later, from 19 March 2022 to 28 March 2022, SBS perforated the 9-5/8" casing at 2885 ft, set a cement retainer at 2870 ft, circulated 500 ft of cement (2335-2885 ft) into the 9-5/8" x 13-3/8" annulus (B Annulus), bled the A and B Annuli to 0 psi, placed 50 ft of cement above the cement retainer with the top of cement at 2820 ft, tested the cement in the 9-5/8" casing to 1000 psi, and rigged down the snubbing unit. Finally, on 29 March 2022, after confirming A and B Annuli pressures were 0 psi; a new wellhead was installed and pressure tested to 3,000 psi. After this, BSEE required QNE and subsequently White Fleet Operating LLC (a designated agent for a predecessor lessee Hess) to monitor the casing pressures daily and report them to BSEE weekly. The casing pressure reports show that although both A and B Annuli bleed to 0 psi, the 9-5/8" casing (A Annulus) still builds pressure at a rate of ~100 psi per day to the original pressure of ~2200 psi and the B Annulus build pressure to ~100 psi.

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BSEE INVESTIGATION:

On 24 August 2021, BSEE received notification that on 11 January 2021, a plug on the D-36 well was found leaking gas into the atmosphere by a production operator while making rounds. In an email to BSEE on 25 August 2021, Fieldwood stated, "this incident was brought to the attention of the Fieldwood management team on August 24, 2021". Furthermore, the email states "The D36 casing plug leak was discovered on January 11, 2021, by the operators on board. Notification from the field was made to the foreman, area superintendent, and area engineer". BSEE is unsure about Fieldwood management's knowledge of the leak prior to 24 August 2021. However, BSEE has identified lack of communication within the Fieldwood organization to be a causal factor in allowing this wellhead failure to persist for several months without mitigation. Without knowledge of the leaking plug, BSEE conducted a Production Complete (annual) inspection on the facility on 16 July 2021. However, the leak was undetectable at the time of the inspection because the annulus was recently bled down. On 16 October 2021, a BSEE Accident Investigator (AI) and an Inspector flew to WD 80 D and gathered documents, witness statements, and took photographs of the D-36 well. On 30 November 2021, a G-110 Component Shut-in INC was issued to Fieldwood for not reporting the incident within 15 days. On 10 January 2022, BSEE received notification of a pollution event that occurred at WD 80 D during a coiled tubing operation to set a plug in the D-36 well. On 11 January 2022, a BSEE inspector conducted an overflight of the WD 80 D sheen (7.48 miles x 300 ft). As a result, an E-100 Shut-in INC was issued to Fieldwood.

BSEE identified several probable causes and contributing factors leading up to this incident. The 1st probable cause of the pollution is the tubing to casing communication downhole. The most likely cause of this communication stems from a well operation by Dynamic Resources LLC in 2013. In 2013, Dynamic cut the tubing at 3000 feet and set a packer and non-sealing overshot. At this time a new tubing hanger spool was installed on the wellhead. BSEE asserts that the most likely cause of tubing to casing communication is from the packer overshot assembly. Over time the communication became more pronounced. On 23 March 2020, Fieldwood reported a casing pressure of 1300 psi on the A casing. The leak was not so significant that pressure could not be bled down to zero within 24 hours through a half inch needle valve.

The 2nd probable cause of loss of containment is the wellhead's tubing head spool alignment pin plug failure. The failure of the alignment pin plug is likely due to corrosion. This corrosion was caused by a failure of the coating. The coating was not properly maintained by Fieldwood. Therefore, Fieldwood's failure to maintain proper coatings against the saltwater laden environment led to excessive corrosion and

The 3rd probable cause of the pollution was the Coiled Tubing operation performed by Fieldwood in January of 2022.

During this operation, the tool got stuck down hole and had to be mechanically pulled which caused stresses that may have caused larger communication to the A annulus. The coil tubing operation also may have caused a differential pressure across the packer due to pressure pulses bleeding through the non-sealing overshot. The pressure pulses and mechanical jarring during coil tubing operations may have inadvertently caused the casing leak to become worse. After this operation, annulus pressure was continuous and could not be bled down to zero through a half inch needle valve in 24 hours.

BSEE also identified several contributing factors of the leak. The 1st contributing factor was a build-up of scale and or paraffin within the well tubing. The well has had a history of scale being encountered during well operations. For example, an APM from 2012 states: "Dynamic Offshore Resources, LLC In October of 2012, slick line was rigged up on the well in an attempt to run a gauge ring to the perforations. However, scale was encountered. After about two weeks of broaching and reaching a depth of 6,084' WLM, the operation was aborted." Additionally, in 2021 Fieldwood attempted to set a plug to perform tree repair. However, this operation was aborted when the crew could not get past 454 feet due to scale. If scale had not continually been encountered during well operations, a plug could have likely been set deep enough to make a safe wellhead repair. This would have prevented future leaks and mitigated casing pressure issues.

The 2nd contributing factor was Fieldwood's lack of urgency to remediate the threats caused by this well. On 11 January 2021, Fieldwood noticed the alignment pin plug on the well tree was leaking gas. However, Fieldwood failed to perform an action to repair until November of 2021. Fieldwood could have explored options for a clamp, scale removal, or decommissioning operations as early as January of 2021 which would have greatly reduced the chance of a release.

The 3rd contributing cause of this pollution was a failure to report the gas leak to BSEE in January of 2021. The gas leak was not reported to BSEE until August of 2021 right before Hurricane IDA. If BSEE had knowledge of the leak, the agency would have prompted Fieldwood to remediate the issue.

An additional contributing factor was a failure of the coiled tubing operations team to account the possibility that their actions could exacerbate the fluid returns from the tubing to through the casing. Had the workover plan accounted for this possibility, the crew could have included additional vessels and fluid handling capacity to account for this.

In conclusion, BSEE identified several probable causes and contributing factors that led to this incident. Fieldwood's lack of mitigation, communication, and urgency to address the issues associated with the D-36 well played a major role in the events leading up to the incident.

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

- Equipment Failure - Flawed equipment design or construction: Packer assembly and overshot did not work from the start when it was installed in 2013.
- Equipment Failure - Inadequate preventive maintenance: The alignment pin failure was due to corrosion that was caused by Fieldwood's failure to maintain a proper coating in a corrosive environment.
- Human Performance Error - Inattention to task: During coiled tubing operations in

January 2022, a tool got stuck down hole and had to be mechanically pulled which caused stresses that may have caused larger communication to the A annulus.

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

- Equipment Failure - Inadequate preventive maintenance: The well has a history of scale and paraffin which are affected by changes in pressure, temperature, and/or in the composition.
- Communication - No or inadequate communication: Lessee failed to report the leak to BSEE in a timely matter. If BSEE had knowledge of the leak, the agency would have prompted Fieldwood to urgently remediate the issue. Lack of communication also led to a failure of Fieldwood management to act to remediate the issue timely.

20. LIST THE ADDITIONAL INFORMATION:

DATE OF ONSITE INVESTIGATION: OCT 2021/JAN 2022

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The BSEE New Orleans District has no recommendations for the Office of Incident Investigations at this time.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

- G-110: 'C' - DOES THE LESSEE PERFORM ALL OPERATIONS IN A SAFE AND WORKMAN LIKE MANNER AND PROVIDE FOR THE CONSERVATION OF PROPERTY AND THE ENVIRONMENT?
- E-100: 'S' - IS THE OPERATOR PREVENTING UNAUTHORIZED DISCHARGE OF POLLUTANTS INTO OFFSHORE WATERS?

25. DATE OF ONSITE INVESTIGATION:

28. ACCIDENT CLASSIFICATION:

29. ACCIDENT INVESTIGATION

26. INVESTIGATION TEAM MEMBERS:

PANEL FORMED: NO

Nathan Bradley (Accident Investigator)
/ Jonathan Connelly (Inspector) /
Nisbet Kelley (Inspector) /

OCS REPORT:

30. DISTRICT SUPERVISOR:

David Trocquet

27. OPERATOR REPORT ON FILE:

APPROVED
DATE:

13-SEP-2022

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