Irwin, Trevor

From: ERFAX.ER, ERFAX.ER

Sent: Friday, January 29, 2021 6:47 PM

To: Anderson, Todd; Barienbrock, Andrew; Carleski, Richard; Chenault, Anthony; Cica, Vladimir; Dewulf,

Cynthia; DPS EMAWatch; DPS STACC; Eberle, Michael; Elder, Andrew; Enderle, Mardi; Factor, Laura; Gortner, Ed; Griesmer, Heidi; Hall, Brian; Hodanbosi, Robert; Johnson, Mark; Kavalec, Tiffani; Kempf, Tyler; Klei, Amy; Kollar, Kurt; Lauer, Heather; Lee, James; Lunsey, Archie; Mccarron, Mary; Mehl, James; Messer, Beth; Pierce, Dina; Sferra, James; Sigmon, Joshua; Stevenson, Laurie; Van Vlerah, Jennifer; Witherspoon, Melisa; Flagg, Russell; Harriff, Benjamin; Holmes, Christopher; Irwin, Trevor; Kallipolitis,

Harry

Cc: Irwin, Trevor; Harriff, Benjamin; Billman-Kotsko, Jodi

Subject: Red Email Update #5 Final Incident# 2101EPA0103, Noble County, Jackson Twp., unknown amount

of oil field brine released from a conventional oil well impacting air, land, and surface water

Red Email Update #5 Final Incident# 2101EPA0103, Noble County, Jackson Twp., unknown amount of oil field brine released from a conventional oil well impacting air, land, and surface water

ODNR notified the Ohio EPA Office of Emergency Response that operations today to control the well were not completely successful. ODNR and contractors will continue to efforts to control the well bore through the weekend. ODNR continues to manage the liquids on site with storage, staging and pumping and there is no new release to the environment.

ODNR will continue to share information with Ohio EPA Office of Emergency Response and we will remain engaged for ODNR's requests for technical assistance, field monitoring or other. This will be final update for this incident.

Submitted by: Jodi Billman-Kotsko, Manager, OER-GFO

Red Email Update #4 Incident# 2101EPA0103, Noble County, Jackson Twp., unknown amount of oil field brine released from a conventional oil well impacting air, land, and surface water Jan 28, 2021 10pm

OSC Irwin returned to the site to conduct stream monitoring. The OSC screened 11 locations along Taylor Fork, Keith Fork, Limestone Run and Olive Green Creek. Overall, the specific conductivity levels are dropping at the upper screening locations. The specific conductivity readings at the four (4) lower locations are slightly elevated.

The OSC met with ODNR regarding the incident. ODNR reported that readings in the watershed for chlorides has decreased. An estimated 8600 barrels (362,200 gallons) of liquid has been collected from in stream containment and installed pits near the well. Lines were ran from the pits near the well to two (2) on site storage tanks. ODNR's contractor has mobilized kill mud to the scene in preparation for stopping the release from the well. Well killing activities are anticipated to take place tomorrow, 1/29. ODNR's contractor will continue to manage the contained liquids for on site storage/staging and then disposal.

Submitted by: Trevor Irwin, OSC, OER-GFO

Red Email Update #3 Incident# 2101EPA0103, Noble County, Jackson Twp., unknown amount of oil field brine released from a conventional oil well impacting air, land, and surface water Jan 27, 2021 9:50pm

OSC Irwin returned to the site to conduct stream monitoring. The OSC screened the same locations as the previous two days as well as two additional locations further downstream in Olive Green Creek. All locations from 0.68 miles to 10.4 miles downstream of the source showed elevated readings for specific conductivity. The specific conductivity readings for the two lower sites, 15.06 miles and 18.12 miles downstream of the release, were normal.

ODNR updated the OSC regarding the removal of liquids from the scene. A total of 6,000 barrels (252,000 gallons) of liquid has been removed from containment. The pressure in the well has decreased to approximately 200 psi. ODNR and its contractors are hopeful that well killing activities will begin tomorrow, January 28th. ODNR's contractor installed containment measures around the well to limit the further release of brine into the watershed. ODNR reported that the brine entering Taylor Fork has been observed to be an estimated one (1) gallon per minute. ODNR's contractor will be installing lines from the containment structures near the well to carry brine to nearby holding tanks for ease of removal for disposal.

OSC Irwin will return to the incident tomorrow to conduct the same stream monitoring and to be available to ODNR for technical assistance for contingencies with regard to the plans for the well killing strategies. The next update will be sent tomorrow.

Submitted by: Trevor Irwin, OSC, OER-GFO and Jodi Billman-Kotsko, Manager, OER-GFO

Red Email Update #2 Incident# 2101EPA0103, Noble County, Jackson Twp., unknown amount of oil field brine released from a conventional oil well impacting air, land, and surface water Jan 26, 2021 6:50pm

OSC Irwin returned to the site today to conduct stream monitoring. The OSC screened Taylor Fork, Keith Fork and Olive Green Creek downstream of the source and containment for specific conductivity. The OSC screened the watershed 0.68 miles, 1.96 miles, 3.04 miles, 4.39 miles, 5.41 miles, 6.51 miles and 10.44 miles downstream of the source. All screening locations except the furthest location were found to have elevated readings for specific conductivity. The OSC will return to the site on 01/27 to conduct additional screenings.

ODNR Oil & Gas shared the progress of liquids removal: 1400 barrels (58,800 gallons) of liquid had been collected and removed for disposal. The well is still releasing liquid at an estimated 700 psi. and ODNR Oil & Gas is developing a plan to

possibly contain the liquids closer to the well site and then transfer the liquid to the storage tanks prior to removal for disposal.

OSC Irwin will return to the incident location tomorrow. The next update will be sent tomorrow or as new information becomes available.

Submitted by: Trevor Irwin, OSC, OER-GFO and Jodi Billman-Kotsko, Manager, OER-GFO

Red Email Update #1 Incident# 2101EPA0103, Noble County, Jackson Twp., unknown amount of oil field brine released from a conventional oil well impacting air, land, and surface water Jan 25, 2021 9:20pm

OSC's Irwin and Harriff arrived on-scene to find an uncontrolled conventional oil well spraying brine at a rate of approximately 1 barrel (42 gallons) a minute. During the initial responses by the RP and ODNR a large sump was dug to hold brine, however the sump was quickly filled. An earthen dam was constructed in Taylor Fork. The earthen dam was strengthened late this afternoon and overflow pipes were installed so that the dam would not be over-whelmed and destroyed from the continuous flow of brine. Removal of the brine laden water from the stream confluence has started and will be stored in the tanks on-site. The capacity of the on-stie tanks are 33600 gallons. The stored fluids will then be transported by vac truck to an injection well.

ODNR Wildlife was on-scene and documented dead fish in Taylor Fork. ODNR Wildlife estimated that 400 fish, salamanders and frogs were killed by the release. ODNR Wildlife found the dead animals in the upper ¾ mile stretch of Taylor Fork. No dead or stressed wildlife was observed further downstream in Taylor Fork.

Remedies for stopping the brine release are on-going. ODNR is the lead agency and Ohio EPA will support with technical advice as requested.

OSC Irwin will return to the incident tomorrow. The next update will be sent tomorrow or as new information becomes available.

Submitted by: Trevor Irwin, OSC, OER-GFO; Ben Harriff, OSC, OER-GFO; and Jodi Billman-Kotsko, Manager, OER-GFO

Initial Red Email 2101EPA0103, Noble County, Jackson Twp., unknown amount of oil field brine released from a conventional oil well impacting air, land, and surface water Jan 25, 2021 3:30pm

OER has elevated this incident from Orange to Red Email status due to the quantities of material released and the overall nature of the incident. Please see the previous Orange Email (below) to capture the entire evolving incident history. This initial red email contains some background information and begins with the operational period in sequence with the Orange Email sent at 7:54 am.

OSC's Trevor Irwin and Ben Harriff, GFO, conducted a delayed response to incident 2101EPA0000103, a release of an unknown amount of oil field brine from a conventional oil and gas well, Jackson Twp., Noble County. ODNR Oil & Gas notified the ER Spill Hotline of an uncontrolled release of brine from a well. The release is still active. ODNR is in the process of formulating a plan to stop the release of brine. The RP was initially engaged with the response but has since departed the scene. On scene are ODNR Oil & Gas, ODNR Wildlife, ODNR's contractor and Ohio EPA. ODNR mobilized an oil field service company to develop a plan to contain the release and properly manage the brine. The incident site is located within the Taylor Fork watershed. ODNR informed OSC Irwin that brine has entered Taylor Fork.

A review of the Ohio EPA Drinking Water Source Protection area indicates that there are no drinking water intakes that will be impacted by this release. There have been no evacuations and the County EMA is aware of the incident but are not on-scene.

OSC incident objectives: Survey the waterway to determine the extent of the impact; engage with ODNR and ODNR contractor regarding containment and management of the liquids collected from the waterway; collection of environmental samples as determined by Ohio EPA, ODNR and other response partners as needed; provide technical assistance on tactics that affect the environment from the to be implemented well kill operations; and determine compliance with applicable laws and regulations.

Due to limited communications in this particular area, the next update will be later this evening.

Submitted by: Trevor Irwin, OSC, OER-GFO and Jodi Billman-Kotsko, Manager, OER-GFO

Subject: Orange Email: 2101EPA0103, Noble County, Jackson Twp., unknown amount of oil field brine released from a conventional oil well impacting air, land, and surface water



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