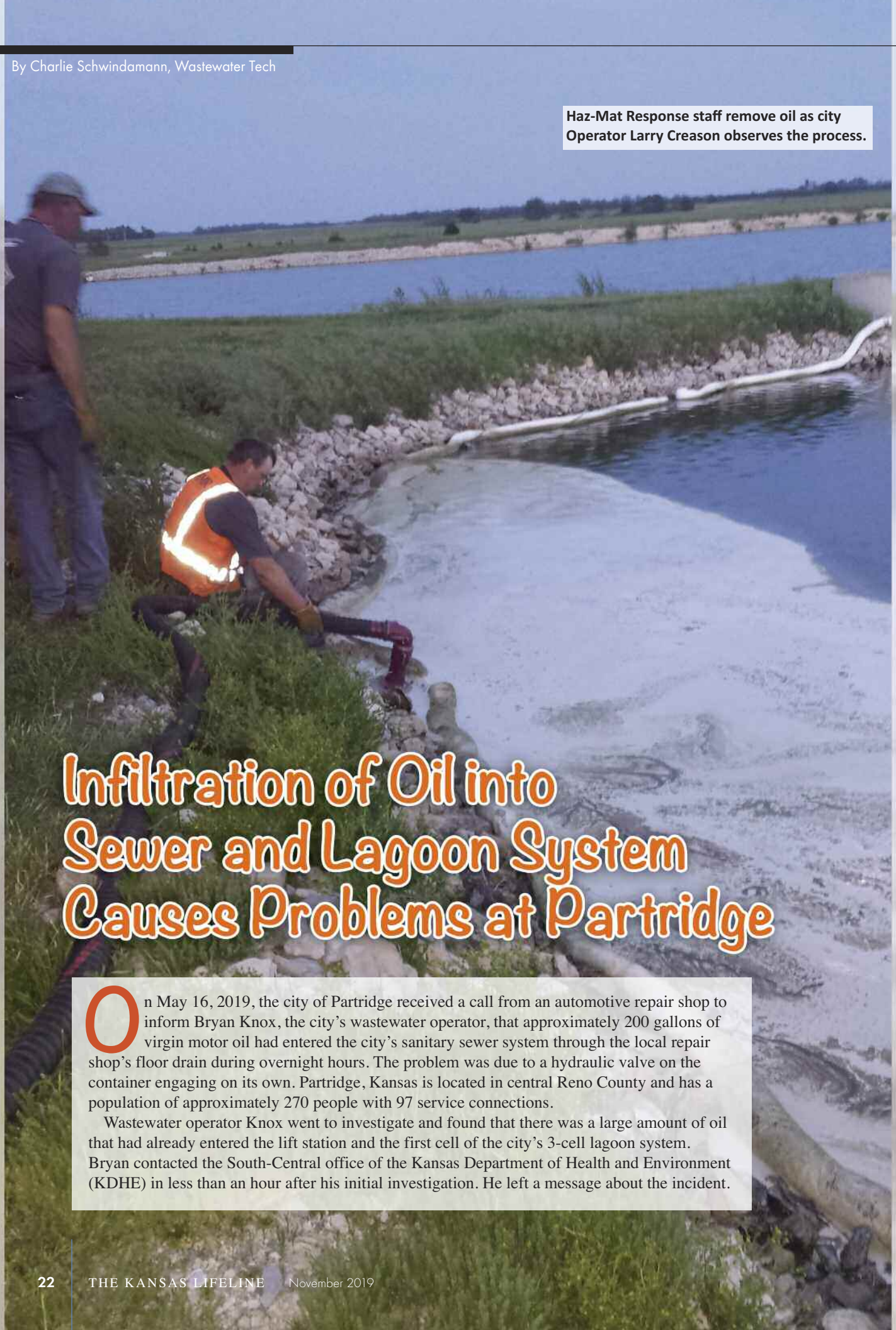
By Charlie Schwindamann, Wastewater Tech



Haz-Mat Response staff remove oil as city Operator Larry Creason observes the process.

Infiltration of Oil into Sewer and Lagoon System Causes Problems at Partridge

On May 16, 2019, the city of Partridge received a call from an automotive repair shop to inform Bryan Knox, the city's wastewater operator, that approximately 200 gallons of virgin motor oil had entered the city's sanitary sewer system through the local repair shop's floor drain during overnight hours. The problem was due to a hydraulic valve on the container engaging on its own. Partridge, Kansas is located in central Reno County and has a population of approximately 270 people with 97 service connections.

Wastewater operator Knox went to investigate and found that there was a large amount of oil that had already entered the lift station and the first cell of the city's 3-cell lagoon system. Bryan contacted the South-Central office of the Kansas Department of Health and Environment (KDHE) in less than an hour after his initial investigation. He left a message about the incident.

All discharging wastewater systems are required to report such incidents in the Standard Conditions, Part 20, of their Kansas Water Pollution Control and National Pollutant Discharge Elimination Systems Permit. It states, "Oil and Hazardous Substance Liability: Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under 33USC section 1321 or KSA 65-164 et seq. A municipal permittee shall promptly notify the Division by telephone upon discovering crude oil or any oil derivative in its sewer system or wastewater treatment facility." I read through several non-discharging permits and did not see this requirement. I believe even non-discharging systems should also contact KDHE immediately if they have oil or hazardous material entering the collection system or treatment facility.

KDHE Environmental Specialist Sabrina Cantrell soon returned the system's call. She discussed what options were available and how best to address the situation. She and Operator Knox concluded that deploying booms (oil absorbent socks) into the lagoons was the best immediate action to take. Reno County Emergency Management was contacted by Sabrina on behalf of the city for assistance.

Within an hour, the Hutchinson Fire Department arrived and deployed the booms to contain the oil to Cell 1.

Operator Knox contacted me mid-afternoon for additional guidance. I recommended that after the cleanup was completed, 25 pounds of enzymes should be introduced into Cell 1. I also suggested containing the oil to Cell 1 by use of a gate or plug. Bryan informed me that this had already been done. Containing the oil or any hazardous material is usually the first step to consider in an emergency.

Haz-Mat Response from Great Bend, a contractor that deals specifically with oil and other hazards, was hired to aid in the cleanup efforts. The city continued to remove oil from Cell 1 with absorbent booms and skimming of oil where possible.

Oil was found in the main lift station after the city was notified by the local business.

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Booms were deployed in the lagoons to stop the spread of the oil to the other cells. These oil absorbent socks are designed to only absorb oil as they float on the water.

This photo, taken on August 26, shows no adverse effects on treatment.

Haz-Mat Response arrived on scene later the same evening and began pumping oil sludge from the lift station. This process was continued until the nearly four inches of oil and sludge were removed. Next, their efforts turned towards lagoon Cell 1 where pumping continued as they removed saturated booms and deployed new booms as necessary. This work concluded at 11:15 p.m.

The next morning, May 17, work began again on lagoon Cell 1 as more oil and sludge were removed from the

Emergency Response Training by KRWA

KRWA will be hosting three emergency response training sessions in November. They are on November 5 at Grandview Plaza, November 6 at Stockton, and November 7 at Ellsworth. These sessions are excellent sessions for new as well as experienced system personnel.

Also, every system should have an emergency response plan and vulnerability assessment. However, these plans will be required by EPA based on system size. They are as follows:

- Serving 100,000 or more: March 31, 2020
- Serving 50,000 to 99,999: December 31, 2021
- Serving more than 3,300 but less 50,000: June 30, 2021

Systems are able to update their existing plans and vulnerability assessments, but the plans MUST have the new information required by EPA that can be found at this link:
https://www.epa.gov/?waterresilience/?americas-water-infrastructure-act-2018-risk-assessments-and-emergency-response-plans

Haz-Mat Response from Great Bend, Kansas assisted on the project cleanup.

surface and additional booms were replaced. By 9:00 a.m. Haz-Mat Response finished the work and left the scene.

Over the next several days operators Bryan Knox and Larry Creason continued replacing the used booms with new ones and closely monitoring the lagoon for any adverse conditions.

It appeared to the operators that by May 19th that any damage to the working conditions of lagoon system had been adverted. The oil sheen on the surface of the first cell was hardly detectable at that time and the froth from the oil water mixed was non-existent. On June 3, a five-gallon bucket of enzymes and 15 gallons of oxidizer were introduced into the first cell. The intent was to help boost the functions of the bacteria just in case of any adverse effect on the treatment.

Samples were taken on June 4, 2019 for analysis to determine if any damage to the working conditions of the lagoon system had occurred. The test results were received on June 10. They indicated that no harm to the treatment system had occurred.

The cost of materials, labor, and contractor fees of approximately $6,513 were billed to the business. The city was required to obtain a special permit to dispose of the materials to the county landfill. The booms and other absorbent materials were placed in bags and barrels then taken to the landfill.

I believe that the quick notification and responses by the business owner to the city, the city to KDHE, and KDHE to the Reno County Emergency Management, Hutchinson Fire Dept. and the contractor Haz-Mat Response averted significant issues with the wastewater treatment and collection system.

Something that should be considered in any emergency is that Kansas is a National Incident Management System (NIMS) compliant state. To receive any funding assistance through FEMA in case of a declared state emergency such as tornado, flood, Ice/snow storms, etc., employees are required to be NIMS certified. These employees are usually superintendents, administrators and clerks, and must be certified in NIMS to the minimum of the 100, 200, 700, and 800 courses. These courses can be taken on-line at https://training.fema.gov/nims/. Though it is not required for elected officials it is highly recommended. For more details about who should take these courses contact your county emergency management office.

Charlie Schwindamann has been Wastewater Tech at KRWA since September 1999. Charlie holds Class II Water and Class I Wastewater Operator certification. He has also served as a member of the Marysville, Kansas city council.