

POLREP 21
Tuscarora Oil Site
Intersection of Ely and River Roads
Solebury Township, Bucks County, Pennsylvania 18938

Attention:

EPA3 - RRC
G. Heston, EPA
F. Burns, EPA
P. Ryan, USCG-NPFC
S. Sinding, PADEP
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- I. **SITUATION** (as of March 11, 2015)
Event – Initiation of FPN E15308 and Continuing Assessment
 - A. The Tuscarora Oil Site (Site) is located in Solebury, Bucks County, Pennsylvania. The Site is the location of a Facility from which large volumes of oil were documented to have spilled, discharged, or burned from tanks and pipelines between approximately 1915 and 1938. The Facility is no longer operating and is mostly dismantled and removed. The area once comprising the facility is now predominantly residential property. Contamination of residential drinking water wells is documented since about 1941. Reports of petroleum-related contamination in residential wells and a surface water body near the Facility resurfaced in the early 1990s. An assessment of the oil discharges and associated odors has been conducted over many years. Involvement by an EPA OSC was initiated in 1993.
 - B. See POLREP 20 for background information relating to the history of operations at the Site.
 - C. Extensive characterization and investigation activity was conducted between 1993 and 1999 (See POLREP 20).
 - D. On January 4, 1999, the OSC documented the end of the EPA removal assessment of the Tuscarora Site (POLREP 18 and Final). Among other things, the OSC concluded that oil had not been observed discharging to the navigable water which makes involvement by EPA to address aspects of the Site potentially outside the authority of the EPA. Instead, PADEP was positioned to take the lead on the Site and work with a successor to one of the former operators of the facility to move the Site through characterization. Without an oil discharge to navigable water (or substantial threat thereof), EPA would have limited authority to respond to contamination of ground water by oil originating from the former oil Facility.
 - E. On August 5, 2002, local government reported oil odors associated with the footer drain detected July 30, 2002 (NRC Report 618993).

- F. An Oil Project was opened in 2004 (FPN E04322) with an initial ceiling of \$7,000. PADEP had contacted EPA to request assistance regarding the petroleum odors. On September 22, 2004, the OSC visited the Site with PADEP. Oil odor was detected, but no oil discharge was observed. Samples were collected and shipped for analysis by USCG Marine Safety Laboratory (Case 04-165). These actions are summarized in POLREP 19. The results indicate only that a light petroleum was detected in the water. Afterwards, EPA and its contractor initiated a search of deed information to define the facility. The EPA OSC also continued coordination with PADEP and others.
- G. On January 1, 2005, a resident reported to the PADEP a petroleum sheen and odors east of the Canal.
- H. Between 2005 and 2009, a successor (Pennzoil Quaker State (Shell for purposes of this Site)) to one of the former operators (National Transit Company) conducted characterization of certain portions of the former facility. Although petroleum products were identified in various environmental media, reports submitted to PADEP concluded that concentrations did not exceed Pennsylvania DEP Statewide Health Standards. These reports indicated the potential that ground water containing oil was likely migrating from the area of the former facility to a water body on which oil had been observed and with which oil odors are associated. This water body is a footer drain to a historical canal; the footer drain discharges to the Delaware River.
- I. Between May and November 2014, and in response to an observation of oil on the footer drain, EPA, PADEP, and a contractor for Shell coordinated and collected samples of oily material on the footer drain. See POLREP 20. The oil discharge was different (more substantial sheen) than previous observations by the OSC made on numerous occasions since the early 1990s. On November 11, 2014, the OSC received the analytical results from samples collected from the footer drain. Samples of the sheen atop the water showed low levels of organic contamination consistent with petroleum compounds (e.g., isopropylbenzene, methylcyclohexane, alkanes, alkenes, and TPH). Samples collected from a large amount of biomass also present in the footer drain did not show similar contaminants.
- J. The analytical data from the 2014 oil sheen event is similar to the analytical data collected from monitoring wells located west of River Road (e.g., 2005 Report by SAIC for Shell). This information, along with ground water flow direction information, indicates that oil-contaminated ground water located west of River Road is likely discharging into the footer drain and the cause of the odors and intermittent sheen events.

II. ACTIONS

- K. The OSC has visited the Site and examined publicly available aerial photographs of the Site taken between 1940 and the present. The locations from which oily material discharges onto the footer drain may align with certain components (e.g., pump house and nearby tanks) of the former facility and occur near to metal pipes (of unknown purpose) in the bank of the footer drain. There is very little information indicating the manner in which the former facility operated or its layout (beyond the position of various structures). Such information may indicate more precisely how oil or oil-contaminated ground water is entering the footer drain (e.g., via subsurface pipes, pipe trenches, former surface water drainage, normal ground water flow, etc.).
- L. Considering ground water flow information in available reports, it is plausible that oil contaminated ground water discharging to the footer drain is the cause of the discharge. Although the discharge of oil into the footer drain occurs intermittently and may not be likely to travel to the Delaware River (based upon current understanding), there is insufficient evaluation of the amount of oil upgradient to the discharge point (e.g., upon the ground water) and, thus, the potential that a discharge could occur which poses a more substantial threat is not presently completely evaluated.
- M. Beyond toxicity testing conducted in 1993 (when a discharge was not evident), there is no known evaluation of the magnitude of harm, if any, caused to the receiving stream, a tributary to the Delaware River.
- N. On January 22, 2015, the OSC and PADEP met to discuss Site characterization needs and an appropriate pathway for completing assessment activity associated with the Site. Shell would be offered the opportunity to assess the Site pursuant to State procedures. To date, no definitive agreement for characterization is available.
- O. On March 11, 2015, the OSC visited the Site and verified that oil odors and minor amounts of oily material continued to exist at the locations previously identified in the Fall of 2014. However, the amount of oily material on the water was significantly reduced indicating that the Fall 2014 sheening event may be concluded (for unknown reasons). The flow in the footer drain was substantially higher than last Fall (likely due to snow melt and season). After verifying Site conditions and in consideration of the attempt to close this Site in 1999, the observations of oil discharge in 2014, existing aerial photography, and the potential for additional discharge of unknown magnitude, the OSC opened FPN E15308 to enable for an assessment of the potential for additional discharge of oil into the footer drain and the magnitude of potential harm.

III. FUTURE ACTIONS

- A. The OSC will continue to coordinate with PADEP, Local Government entities, and Shell and will continue to do so in order to determine the extent of (and implement the conduct of) additional assessment or other activities required in order to conclude an Assessment of the Tuscarora Oil Site in accordance with the NCP.

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