

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Stackyard Hollow - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Subject: POLREP #8
Progress - Initiation of Removal Action
Stackyard Hollow
Z3MD
Wheeling, WV
Latitude: 40.0772533 Longitude: -80.7054597

To:
From: Michael Towle, On-Scene Coordinator
Date: 7/6/2015
Reporting Period: 5/28/2015 through 7/6/2015

1. Introduction

1.1 Background

Site Number:	Z3MD	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	OPA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Assessment
NPL Status:		Operable Unit:	
Mobilization Date:		Start Date:	1/14/2014
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	WVDEP
FPN#:	E14302	Reimbursable Account #:	

1.1.1 Incident Category

Oil discharge into navigable waters of the United States from an abandoned oil production facility consisting of at least one well.

1.1.2 Site Description

The subject Site consists of a discharge of oil into a flowing perennial tributary of Wheeling Creek located in Ohio County, West Virginia. The tributary is mapped in Stackyard Hollow (noted as Stackyard Run in property deeds) and exists (at the location of the discharge) within a box culvert constructed over the flowing water. Stackyard Run discharges to Wheeling Creek which is a tributary of the Ohio River in Wheeling, WV. The oil discharges through a pipe, from around this pipe, and directly through the stone wall of the box culvert into Stackyard Run. The source of the oil has been determined to be at least one abandoned and leaking oil well found underneath a nearby residential dwelling. The well is about 25 feet from the flowing water of Stackyard Run and at the end of the above-mentioned pipe. The well is a component of an on-shore production facility that may contain 5 wells and relating equipment according to documents (deeds and leases) reviewed by the OSC.

1.1.2.1 Location

The discharge point for the oil onto the flowing waters of Stackyard Run is located in a box culvert beneath a residential structure located along Joan Street, Wheeling, Ohio County, WV 26003.

1.1.2.2 Description of Threat

A discharge of oil from an abandoned oil production facility continues to enter the waters of Stackyard Hollow. A nearby abandoned and leaking oil/gas well was known to have discharged about 1 to 2 gallons per day before it was properly plugged. The subject well, which exists under the residential structure, includes, minimally, a 10+ inch outer casing found to be full of volatile oily liquids. Abandoned oil wells in the area have discharged or intermittently unloaded their contents. The subject well is producing enough gas to imply that the oil-bearing formation(s) are active enough to enable the subject well to unload its contents. There is no suitable containment on the subject well; the OSC believes that it is possible to construct a device on the well that may serve to contain a good portion of any discharge.

Based upon available information, the OSC had determined that the facility poses a substantial threat of immediate discharge to the navigable waters of a minor discharge (est 1 to 5 BBLs) of oil and a continuing

threat to discharge a gallon or more of oil per day. Of more immediate concern and threat to people is the discharge of gas and oil into the currently occupied residential structure - the well is under the building and is being vented up through the building. Continued monitoring of the situation between October 2014 and May 2015 indicates that the daily discharge of oil is likely not as high as originally estimated (1 gallon) and is likely closer to 1 pint.

The abandoned well is currently discharging oil into Stackyard Hollow and releasing natural gas into the multi-residential structure. The release of natural gas is a function of the discharge of oil from the abandoned well. Therefore, the discharge from the abandoned well poses an imminent and substantial threat to public health and welfare, and in absence of a viable Responsible Party to conduct the actions necessary to protect public health and welfare, federal removal response action are required.

Since September 2014, the OSC has undertaken defensive actions to abate and mitigate the discharge of oil into Stackyard Hollow; has to the extent practicable attempted to identify potentially responsible parties; has consulted with senior lead agency officials and readily available authorities regarding issues outside the OSC's specific technical expertise; and is currently evaluating options to address the complex threats posed by the incident and to further initiate a plan of action to complete the required federal removal response action.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

See prior POLREPS.

The OSC has continued Assessment activities at the Site. Levels of oil and volatile organic compounds have been routinely monitored in the building and/or Stackyard Run every few days or so. Absorbent materials have been placed and changed when needed.

Between May 28, 2015 and the end of June, the levels of organic compounds in the building have ranged up to 48 ppm. The Lower Explosive Limit (LEL) is mostly 0%, but some meters have detected up to approximately 10% LEL near the location of the well. These values have been detected very close to the location of the well and at ground level. Levels in the remainder of the building space (e.g., breathing zone) and exterior locations are much lower due to dilution and venting.

In June 2015, the amount of oil on Stackyard Run has mainly presented itself as a rainbow or silver sheen. Heavy sheening on June 4th resulted in the deployment of additional absorbent materials. Oil globules are also noted near the point of discharge.

The presence of the occupied structure atop the well, the difficulties in removing the building to fully access the well, the very close proximity of residents and utilities to the leaking well, the limited space available to conduct response actions, and the poor condition of the culvert will make effective removal actions particularly difficult to undertake. The cost of the types of available response actions are also being weighed against the threats. On May 29th, the OSC evaluated the options and documented a decision to proceed with certain actions involving an attempt to address the leaking well while working inside the building and thereby minimizing further damage to the structure.

All actions considered the safety of responders, safety of residents, effectiveness of operations, probability of success, and cost (considering the magnitude of the threat). The OSC provided NPFC with an evaluation of the options and an Oil Removal Project Plan on May 29, 2015.

The owner of the building continues to assist EPA and WVDEP through maintenance of building ventilation and direct ventilation of the well to the outside. This activity continues to contribute to the present level of safety in the building.

The OSC continues to define a substantial threat to the navigable waters. In addition, the Agency for Toxic Substances and Disease Registry evaluated the situation and finds the incident to pose a public health hazard requiring continuing monitoring and relocation of the occupants of the structure. The City of Wheeling Health Department has also made similar recommendations. The residents have since been relocated by the owner of the property.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

At this time, an abandoned oil/gas well has been identified under the structure, the pipe from the culvert has been determined to originate from the area of the subject well, the temporary vent stack continues to suitably allow gas to exit the structure, Oil has been found migrating within and alongside the pipe between the well and the culvert. EPA continues to monitor the air and maintain containment and removal of oil from Stackyard Hollow.

2.1.2 Response Actions to Date

See Prior POLREPs for activities through May 27, 2015.

EPA continued routine air monitoring within and outside of the structure. The monitoring is necessary to assure that elevated LEL does not exist in the structure and that the owner can modify ventilation to reduce the levels. To date, ventilation has been adjusted several times (mostly due to cold weather adjustments) to allow for both proper heating and proper ventilation of the area of the well. LEL and VOC readings continue to indicate effective ventilation and suitable conditions for residents.

The levels of organic compounds in the building have recently ranged up to 48 ppm. The Lower Explosive Limit has typically been 0% after re-packing of the well. Levels in the breathing spaces of the building and exterior are much lower due to dilution and venting and are less than 1 ppm.

Recently, the amount of oil on Stackyard Run has continued to be variable, but an increase on June 4th necessitated additional absorbent materials. The OSC continues to arrange for deployment and maintenance, as needed, of absorbent pads and boom to contain and remove oil.

The OSC submitted an evaluation of alternatives and an Oil Removal Project Plan to NPFC on May 29, 2015. The OSC requested an increase to the FPN Ceiling and arranged for response contractors to conduct removal actions as itemized in the May 29 Oil Removal Project Plan. The Removal Action will entail installation of a control device on the well, removal of oil and debris from the well using non-traditional technologies while controlling gas emissions, and attempts to plug the well to an attainable depth sufficient to stop the flow of oil and gas into Stackyard Run and the structure. The activities are planned to occur within the structure without further damage thereto. The activity will rely on vacuum trucks to control flows of oil and gas and to remove debris. The EPA OSC has coordinated the proposed activity with the owner and local officials during a meeting held June 22. The OSC has also coordinated the activity with the State. Actions are scheduled to begin the week of July 13, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The OSC continues evaluation of available information. There is no specific map of the oil facility along Joan Street. A Sanborn fire insurance map from 1922 shows several wells along Joan Street likely including the subject well. A geologic map from 1968 shows that all wells near Stackyard Run are abandoned.

Through a courthouse deed and lease search, the well was found to exist on Lots # 4 and #5 alongside Stackyard Run.

A facility is described to mean any structure, group of structures, equipment, or device which is used to explore for, drill for, produce, store, handle, transfer, process, or transport oil.

The owner / operator is defined (very simply) to be the owner or operator of a facility including any person owning or operating the facility. The owner or operator of any abandoned facility is the person who owned or operated the facility immediately prior to its abandonment.

For an on-shore facility, the Responsible Parties are any persons owning or operating the facility (except for a government owner transferring rights under a lease agreement). For an abandoned facility (2701(32)(F)), the responsible party is the person who would have been responsible immediately prior to abandonment.

The OSC has conducted effort to identify potentially Responsible Parties for this incident to the extent practicable.

A lease agreement executed May 28, 1910 between Hilton (lessor) and Seybold (lessee) contained, among other things, the following terms and conditions:

1. One year term and as much longer as oil or gas is found in paying quantities.
2. A requirement to drill a well within 4 months.
3. 1/8th part or share of the oil to be paid to the lessor.
4. The right for the lessor to drill and operate for oil, lay and maintain pipelines, and build structures.
5. The right to remove, at any time, any machinery, structures, or fixtures placed by the lessor.

All terms and conditions of the lease extend to the heirs, successors, executors, administrators, and assigns of the two parties.

An oil well ("the well") was installed at the incident location (along Joan Street adjacent to Stackyard Run) sometime prior to June 1911 as referenced in a document conveying 3/4th interest in the producing well from Seybold (lessor) to Octo Oil Company. The remaining 1/4th interest was conveyed to Octo Oil Company in 1913. The well was subject to the rights, terms and conditions of the 1910 lease agreement.

The well was part of an on-shore oil and/or gas production facility ("on-shore production facility"). Other wells which were part of the on-shore production facility were subject to the terms and conditions of other lease agreements. In 1916, the Octo Oil Company conveyed several wells and the rights under several lease agreements (including the well and relating 1910 lease agreement) to Glenwood Oil and Gasoline Company.

A map of the area dated 1922 depicts several wells along Stackyard Run. A trustee of the Glenwood Oil and Gasoline Company conveyed the real and personal property of Glenwood Oil and Gasoline Company to A. Schmidt in 1923. The conveyance included wells and equipment and leases covering several different pieces of land (owned by different landowners), a gasoline plant and station, and several parcels of land.

The primary terms of the various leases and agreements relating to the on-shore production facility were expired by 1921.

In 1923 and 1925, Schmidt sold parts of the former Glenwood Oil and Gasoline Company property (specifically identified as certain parcels of land) to others. The well is located on one of these parcels.

A map dated 1968 identifies several abandoned wells in the area of Stackyard Run indicating the abandonment of the on-shore production facility (no official record of such activity was required by the State prior to 1929). The facility was likely abandoned by the early 1920s as the area became a part of the City of Wheeling and was developed for residential use. Additionally, the primary lease terms and agreements providing the rights to operate for oil along Stackyard Run were expired by 1921.

Documentation to verify the ownership and operational status of the well is scant. Records were not

required by the State until 1929. The State of West Virginia Department of Environmental Protection ("WVDEP") considers the abandoned well oil and/or gas well to be an "orphan" well (e.g. no known or otherwise viable owner/operator).

The well was identified as a producing well in 1911 and was passed to an oil company (Glenwood Oil and Gasoline Company) that may have operated the well in 1916. The Glenwood Oil and Gasoline Company sold its properties through a trustee in 1923 and that is the likely time period during which the well and the relating on-shore production facility were abandoned. Other wells in the area have been found to be properly plugged indicating proper actions by the owners/operators. Wells in the area of Stackyard Run are identified as "abandoned" on a map produced in 1968. In any event, a building was constructed on top of the remains of the well in 1964 indicating that the remains of the on-shore production facility had already been removed from the land by 1964.

The OSC concludes that the Glenwood Oil and Gasoline Company was likely the last owner/operator of the well/facility and that A. Schmidt was the last specific documented owner of the well/facility (likely abandoned). The OSC concludes that these entities are potential Responsible Parties. Glenwood Oil and Gasoline Company no longer exists. A. Schmidt is deceased. Persons identified in the will of A. Schmidt are deceased. The OSC was unable to send a notice to suspected discharger to these entities.

A multi-unit residential structure was constructed over the location of the well in 1964. Neither the abandoned well nor the abandoned on-shore production facility were appurtenant to the multi-unit residential structure based upon direct observations by the OSC (i.e., not physically or obviously connected in any way). A formed and poured concrete slab was installed as the foundation for the multi-unit residential structure and this slab was poured directly atop and a few inches from the top of the well providing no access thereto. The well was abandoned at some point in time prior to the construction of the structure used for residential purposes.

The abandoned well was located within the perimeter of the formed and poured concrete slab. At the time of the forming and pouring of the concrete slab, the well casing may have been exposed and visible at, above or below the ground surface. A 6-inch diameter pipe was found below the slab of the building running from the location of the down-gradient side of the abandoned well to (and through the wall of) a box culvert surrounding Stackyard Run. This pipe may have served to divert any fluids from the well towards and into the nearby perennial stream (a/k/a Stackyard Run; note that the pipe was found without protection and full of dirt and debris as well as oily material).

The abandoned well is currently discharging oil into Stackyard Run and releasing oil and natural gas into the multi-unit residential structure. The oil migrates up the well and from unknown locations adjacent to the well (likely a compromised casing) and into the surrounding soils between the well and Stackyard Run. Some oil also somehow enters the pipe and directly discharges to Stackyard Run. Stackyard Run is a navigable waterway of the United States.

The Person(s) who performed the construction of the multi-unit residential structure, were also likely aware of the existence of the abandoned well. The slab of the building and the soil drainage pipes from the building are very close to the position of the well. A section of 6-inch diameter pipe (unknown purpose) was also found running from immediately adjacent to the well (although not connected) towards and through the wall of a box culvert surrounding Stackyard Run. It appears that the 6-inch diameter pipe may have once served to carry fluids from the location of the well towards Stackyard Run. This pipe was placed before the slab of the building was poured although there was no precautions taken to assure the pipe remained open resulting in dirt, debris and concrete to be located within. The 6-inch pipe is not a part of the foundation of the building.

The constructors of the building in 1964 were likely the last persons to have seen the well prior to it being discovered under the slab of the multi-unit residential structure. The Person(s) who poured the concrete slab and who may have placed the 6-inch diameter pipe, may have information relating to the abandonment of the well and may have conducted a deliberate action to divert or discharge fluids from the well to Stackyard Run and/or to otherwise fill the wellbore with debris. The Karnell Company was dissolved in 1967 and its owner, and owner of the subject property on which the building was constructed (N. Karnell) is deceased. The OSC is unable to send Karnell Company or its owner a notice of suspected discharger.

The property was held by a trust benefitting the wife of N. Karnell until 2003 when it passed to a relative and his company. The property then passed in 2009 outside the Karnell family.

The current owner of the land and the multi-unit residential structure (since 2011) became aware of the problem(s) associated with the abandoned well sometime in 2013 as oil entered the residential building. The OSC initiated a preliminary assessment in January 2014. After investigations suggested the potential for a leaking oil well under the building, the owner of the multi-unit residential structure broke through the concrete slab around the perimeter of the well on the advice of the OSC. The well was then verified. The owner, with the advice of the OSC and WVDEP, installed a ventilation system to exhaust volatile organic compounds (VOCs) from the well to locations outside the structure to reduce the chance of fire and explosion.

The current owner of the land and multi-unit residential structure states that he was unaware of an oil well on the property until discovered under the building in 2014. There is no record of the well with the WVDEP. The deed records for the property do not mention an oil well, oil activity, or relating reservations since 1925. The well was not mentioned in a title search relating to the property. The structure has been built over the position of the well since 1964. The last persons to have likely seen the well were those that constructed the building in 1964. The OSC does not conclude that the present owner of the structure was an owner or operator of the well or facility defined to be the structure, group of structures, equipment, or device used to explore for, drill for, produce, store, handle, transfer, process, or transport oil.

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>
oil	solids	55-gallon drum			X

2.2 Planning Section

2.2.1 Anticipated Activities

Continue to monitor air for elevated LEL or VOCs that may threaten safety within the structure or health of occupants.

Continue to contain oil and maintain absorbent materials on Stackyard Run.

Initiate oil removal actions by removing oil and debris from the well. Control gas emissions. The course of action is described in the OPA 90 Oil Removal Project Plan.

2.2.1.1 Planned Response Activities

Install Control device on the well. This device will rely on a pour of cement to hold it in place as the casing is not amenable to accepting a traditional device. The device will allow for access into the well casing and attachment to a high power vacuum system to both control fluids and remove debris.

Notify nearby residents.

Install air ventilation and air/fluid control systems and initiate monitoring to protect residents and responders.

Connect high power vacuum systems to the well to remove/control fluids and emissions and to remove debris from the well. Rely on vacuum systems to remove debris to attainable depth. Such depth is presently uncertain since the condition, depth, casing depth, etc. are completely unknown. Continue until actions can effectively stop the flow of oil into the waterway or re-group for alternative actions. It is most likely that the actions will not result in the complete plugging of the well to total depth. The response team will need to evaluate the situation routinely during implementation.

2.2.1.2 Next Steps

Actions are planned to begin the week of July 13, 2015.

2.2.2 Issues

The structure is used as a residence for several people (the building is divided into 4 units). Gas emissions will need to be monitored to assure safety of residents and responders.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

EPA will perform monitoring of emissions from the activities throughout implementation. Increasing levels will result in a shut down of operations.

Ventilation and control systems will be emplaced to minimize the potential for excessive emissions or a buildup of emissions.

2.5.2 Liaison Officer

EPA is coordinating with various entities associated with the City of Wheeling. This coordination will continue throughout the implementation of the action. The OSC briefed the City during a meeting on June 22.

2.5.3 Information Officer

EPA will coordinate with the City and the owner of the property and inform residents of upcoming oil removal activities that will occur in the middle of a residential neighborhood.

3. Participating Entities

No information available at this time.

4. Personnel On Site

No information available at this time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information**6.1 Internet location of additional information/report**

www.epaossc.org/stackyardhollow

7. Situational Reference Materials

No information available at this time.