

ABANDONED AND ORPHAN OIL AND GAS WELLS AND THE WELL PLUGGING PROGRAM

INTRODUCTION

Since the first commercial oil well was drilled in Pennsylvania in 1859, it is estimated that as many as 300,000 to 760,000 oil and gas wells have been drilled in the state.^{1, 2} A significant number of these wells were drilled prior to modern well permitting and plugging requirements, and it is estimated that somewhere between 100,000 and 560,000 oil and gas wells remain unaccounted for in state records. Historical plugging practices and materials used have not always been adequate to ensure protection of the commonwealth's water resources. As a result, a significant number of wells still pose a potential threat to human health and the environment.

Because of the recognized human health and the environmental risks, oil and gas operators are required to plug abandoned wells, except for those which have been granted inactive status. An abandoned well is defined by the Oil and Gas Act (citation) as:

- Any well that has not been used to produce, extract, or inject any gas, petroleum, or other liquid within the preceding 12 months, or
- Any well for which the equipment necessary for production, extraction, or injection has been removed, or
- Any well, considered dry, not equipped for production within 60 days after drilling, re-drilling, or deepening.

The Oil and Gas Act defines an orphan well as “A well abandoned prior to April 18, 1985, that has not been affected or operated by the present owner or operator and from which the present owner, operator, or lessee has received no economic benefit other than as a landowner or recipient of a royalty interest from the well.”

Orphan wells or abandoned wells, where no responsible party can be identified, are eligible to be plugged by the Department of Environmental Protection's (DEP) Abandoned and Orphaned Well Plugging Program. Plugging priority is determined through a site investigation that assigns a numeric score based on risk. Higher risk wells are plugged before lower risk wells.

THE DEP ABANDONED AND ORPHAN WELL PLUGGING PROGRAM

The 1984 Oil and Gas Act established permit surcharges to fund the Abandoned and Orphan Well Plugging Program. DEP plugged its first abandoned well in 1989. The 2012 update of the Oil and Gas Act continued the permit surcharge provision. Surcharges are assigned to two different funds, orphan well plugging fund and abandoned well plugging fund. The abandoned well surcharge is \$50, regardless of well type; and the orphan well surcharge is \$200 for gas well permits and \$100 for oil well permits.

REPORTING ABANDONED OR ORPHAN WELLS

If an abandoned well is found, notification to the appropriate DEP district office is required within 60 days of discovery. The attached map illustrates district office coverage areas. Upon notification, DEP will investigate the well to determine if it qualifies as an abandoned or orphan well.

¹ Than, Ker; Kang, Mary; Jackson, Robert (14 November 2016). [Stanford Study of Abandoned Oil and Gas Wells Reveals New Ways of Identifying and Fixing the Worst Methane Emitters.](#)

² Dilmore, Robert M. (17 August 2015). [Spatial and Temporal Characteristics of Historical Oil and Gas Wells in Pennsylvania: Implications for New Shale Gas Resources.](#) *Environ Sci Technol* 49 (20): 12015-12023.

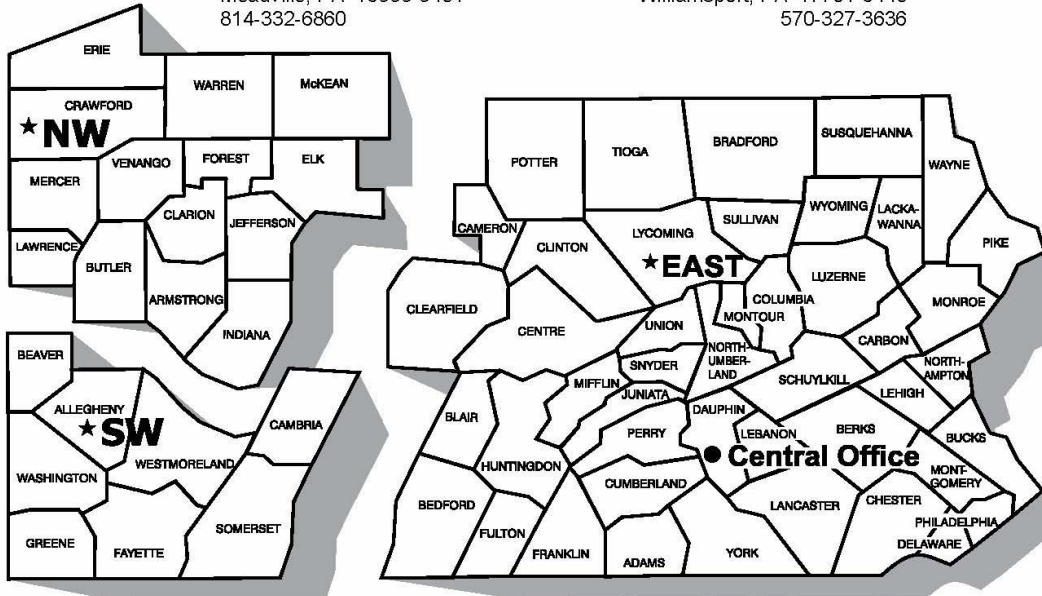
Oil and Gas Districts

★ **Northwest District**

230 Chestnut St.
Meadville, PA 16335-3481
814-332-6860

★ **Eastern District**

208 West Third St.
Williamsport, PA 17701-6448
570-327-3636



★ **Southwest District**

400 Waterfront Drive
Pittsburgh, PA 15222-4745
412-442-4024

● **Central Office**

Bureau of Oil and Gas Planning and Program Management
P.O. Box 8765
Harrisburg, PA 17105-8765
717-772-2199

For more information, visit www.dep.pa.gov/O&G_factsheets.