

Venango PA Senior Environmental Corp

Fact Sheet:

Orphan Wells Project

Introduction:

The Orphan Wells Project began as a pilot program to encourage involvement of the Commonwealth's senior population in volunteering for environmental protection and stewardship activities. Specifically the project engages senior volunteers to locate abandoned oil and gas wells in Oil Creek State Park. The project, which started in May 2003, involved members of the Venango Pennsylvania Senior Environmental Corps (Venango PaSEC) to locate and mark suspected well locations and submit their data to DEP for evaluation. If DEP determines the well to be a hazard it is added to a list in the well plugging program and plugged.

History of Drilling Laws in PA:

The first commercial oil well was drilled in Pennsylvania in 1859 at a site along Oil Creek just south of Titusville. But it was not until 1956 that the State began permitting new drilling in coal areas and not until 1963 that all new drilling required a permit. The Oil and Gas Act of 1984 required well operators to register all oil and gas wells, which had not been registered under previous law. A 1992 amendment to the Oil and Gas Act allows DEP to designate an abandoned well, with no identifiable operator in the recent past, as an "orphan well". Orphan well status, when approved by DEP, exempts the landowner or leaseholder from the obligation to plug such wells. In the period before regulation, many wells were abandoned without proper plugging and there are few records of their exact location.



The Problems:

Abandoned wells are the source of many environmental hazards. The well bore acts as a conduit and allows materials from normally separate layers to combine. Gas from oil layers can come to the surface through the well bore and collect in buildings with explosive results. Gas can also contaminate drinking water wells. Surface runoff can use the well bore as a conduit to contaminate nearby water wells. Oil that reaches the surface from abandoned wells pollutes the soil and surface water. Oil and salt brine from the oil bearing layers can use the well bore to reach and pollute fresh water layers or discharge at the surface into nearby streams. In coal mining areas, well bores allow gas to reach mines and acidic mine water to reach the surface. Abandoned wells that collapse inward are a physical threat to outdoor enthusiasts



Well Plugging:

Gas wells may reach a depth of 5000 feet or more; oil wells are usually less than 1000 feet deep. A properly plugged well requires that the gas, oil and coal strata be isolated from one another and from the fresh water strata. To accomplish this, the well casing must be removed and the well bore cleaned. The bottom of the well is then filled with a non-porous material. In crucial portions of the well (such as gas and oil formations, coal seams and fresh water aquifers) a cement plug is needed to seal off those zones from each other. Aggregate material is placed between the plugs. This process is expensive.

Pa SEC Member Involvement:

Locating unregistered abandoned wells is a time consuming process. It can also be expensive if DEP staff or contracted employees are involved. The Orphan Wells Project provides trained volunteers to locate abandoned wells at minimal cost to the State. At this time project volunteers work in Oil Creek State Park and other public lands.

Well Hunters

Members of Venango PaSEC use a variety of equipment and techniques to locate abandoned wells. Each team is issued a GPS unit, compasses, topographic maps, camera, radios, tags, flag tape and posts. Team members walk a grid and visually inspect the area for signs of old wells. Old wells may appear as pumping jacks with pipes and rod lines attached. More frequently however remnants of the casing is all that can be seen. In some cases the casing has been removed or has decayed and only a partially open hole or “soft spot” remains. Really old wells may have collapsed inward and are only visible as a “bowl shaped” depression. When a well is located, team members use a GPS unit to determine the latitude and longitude. The location, description and condition of the well are recorded on a data sheet. The well is given a unique ID number and a high visibility yellow post is driven in at the location. A tag with the ID number is attached and the area is flagged with pink marking tape. Photographs of the well site are taken. After a well hunting trip, data sheets are copied and sent to DEP for evaluation.

Due to the rugged nature of the park, volunteers need sturdy walking boots, walking sticks and high visibility orange vests. Some team members also prefer to wear gaiters and brush pants to ward off the local barberry and multi-flora rose. Insect repellent and a first aid kit round out the well-dressed well hunter’s outfit.



**Come join us and become a Well Hunter.
It’s a walk in the park.**

Individual volunteers and groups are welcome.

Training and equipment are provided.

You can set your own schedule

For information about the Orphan Wells Project contact:



**RSVP Senior Corps Office
814-432-9723
email: kcramer@venango.pa.us**



**Venango Conservation District
1793 Cherrytree Road
Franklin PA 16323
lbowes@cescowildblue.com
814-678-2832**

**John Kolojejchick
Venango PaSEC
jkoloi@comcast.net
814-676-6435**