



Underground Injection Control: Vickery Environmental, Inc.

Facility Name: Vickery Environmental, Inc.

Facility Location: 3956 State Route 412
Vickery, Ohio 43464

Ohio UIC Permit Numbers: UIC-03-72-009-PTO-I (Well #2)
UIC-03-72-011-PTO-I (Well #4)
UIC-03-72-012-PTO-I (Well #5)
UIC-03-72-013-PTO-I (Well #6)

Vickery Environmental, Inc. (VEI) located near Vickery, Ohio currently operates four (4) Class I hazardous underground injection wells. Three (3) other injection wells have been plugged and abandoned at this facility. Deep well injection activities were initiated at this site in 1976 by Ohio Liquid Disposal, Inc. (OLD). VEI, the successor to Chemical Waste Management and Waste Management of Ohio (WMO), acquired the facility from OLD in 1978. Waste Management however has remained the owner/operator of the injection wells since 1978. VEI is operated as a commercial waste disposal facility. The wells are used to dispose of liquid industrial wastes and hazardous wastes generated off site by other companies, as well as storm waters and leachate generated on site. The wastes disposed include waste pickle liquor from iron and steel production facilities, recycling operations process water, incinerator scrubber water, site remediation storm water, leachate recovered from other solid waste facilities and on-site generated storm water and leachate. Some of these liquid wastes are considered hazardous due to their corrosivity ($\text{pH} < 2$) and toxicity caused by the presence of certain waste stream constituents. The waste stream is injected into the Mount Simon Sandstone at depths of approximately 2,800 feet below ground level.

The four VEI injection wells are used for waste disposal on an as-needed basis. On average, one or two wells are in operation at any one time. The injection rate typically averages between forty (40) and ninety (90) gallons per minute (gpm) for each well in operation. The combined maximum injection rate may not exceed 240 gpm by permit. Through August 31, 2014, cumulative injection totaled 410.2 million gallons for Well #2, 202.4 million gallons for Well #4, 432.3 million gallons for Well #5 and 373.4 million gallons for Well #6. The total volume injected at the site, including fluids injected in Wells #1, #1A and #3 prior to their closure, is approximately 1.661 billion gallons. Additional data concerning the VEI wells is listed in Table I.

The Mt. Simon injection zone is separated from the lowermost source of drinking water by approximately 1,600 feet of shale, limestone, dolomite, siltstone and sandstone. U.S. EPA gave conditional approval of VEI's federal Land Ban Petition (or No Migration Petition) on August 8, 1990. The information and mathematical modeling included in the Petition justify, with a reasonable degree of certainty, U.S. EPA's determination that the injected waste will not migrate vertically out of the designated injection zone and not more than five miles laterally from the well in a period of 10,000 years.

On September 24, 2014, VEI's permits to operate were renewed by Ohio EPA for a six year term and will expire on September 24, 2020.

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Table 1

Well No.	Drilled*	Began Operation	Max. Injection Pressures	Annulus Pressure**	Total Depth***
1		<i>Plugged and abandoned in April 1986</i>			
1A		<i>Plugged and abandoned in December 1987</i>			
2	1976	3/77	751 psi	50 psi > IP	2,952 feet
3		<i>Plugged and abandoned in July 1987</i>			
4	1976	8/77	788 psi	50 psi > IP	2,902 feet
5	1980	10/81	748 psi	50 psi > IP	2,938 feet
6	1980	8/81	750 psi	50 psi > IP	2,922 feet

* Well construction completed

** Annulus pressure must be at least fifty (50) psi greater than injection pressure (IP).

*** Total depth measured from ground level.