

Not for Scientists Only!

Remember Your Smart Moves. (See p. 35.) Take it Slowly!

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In order to track the clean-up of the land around Charbert Dye (see p. 28), the people of Alton, Rhode Island, look at charts like the ones you see below. At first, these charts might seem too complicated – like only a scientist could understand them! But take your time and see if you can make sense of them.

Name of well
See map for location

Contamination above this level represents a violation of the law.

µg = micrograms = one millionth of a gram.
L = Liter
Read this as "micrograms of contaminant per liter of groundwater."

One of many testing methods

How deep the well is
(Below Ground Surface)

Contamination above the **Preventive Action Limit** requires attention. This level is the target for cleanup.

The lab equipment used cannot detect the contaminant at levels below this amount.

These rows are the lab's findings for the contaminants in the sample.

Name of well See map for location	How deep the well is (Below Ground Surface)	One of many testing methods	Contamination above this level represents a violation of the law.	Contamination above the Preventive Action Limit requires attention. This level is the target for cleanup.	µg = micrograms = one millionth of a gram. L = Liter Read this as "micrograms of contaminant per liter of groundwater."	The lab equipment used cannot detect the contaminant at levels below this amount.	These rows are the lab's findings for the contaminants in the sample.	Date											
								Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009			
								Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit		
GZ-19 Deep Aquifer Monitoring Well Screen From 25'-30' BGS EPA 8260			RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	VOLATILE ORGANICS													
						cis-1,2-Dichloroethene	70	35	ug/L	4.6	1.0	<	250	4.2	1.0	<	250	<	250
						1,1,1-Trichloroethane	200	100	ug/L	13	1.0	<	250	9.0	1.0	<	250	<	250
						Trichloroethene	5	2.5	ug/L	260	1.0	390	250	200	1.0	<	250	<	250
						Tetrachloroethene	5	2.5	ug/L	16,000	1.0	20,000	250	19,000	1.0	16,000	250	8,400	250

On Oct 1, lab tests showed 16,000 µg of Tetrachloroethene per Liter

The amount of Trichloroethene in January was less than the detection limit of 250 µg/L. There may be 100 or 200 µg/L. No one knows because it's below the equipment's ability to detect it.

But three months later, TCE was below 3 µg/L.

Name of well See map for location	How deep the well is (Below Ground Surface)	One of many testing methods	Contamination above this level represents a violation of the law.	Contamination above the Preventive Action Limit requires attention. This level is the target for cleanup.	µg = micrograms = one millionth of a gram. L = Liter Read this as "micrograms of contaminant per liter of groundwater."	The lab equipment used cannot detect the contaminant at levels below this amount.	These rows are the lab's findings for the contaminants in the sample.	Date											
								Baseline 1/2/2008		04/01/2008		07/07/2008		10/01/2008		01/05/2009			
								Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit		
GP-28 Shallow Aquifer Monitoring Well Screen From 3'-15' BGS EPA 8260			RIDEM GA Groundwater Objectives	RIDEM Groundwater Quality PALs	Units	VOLATILE ORGANICS													
						Vinyl Chloride	2	1	ug/L	1,200	5.0	180	2.5	<	1.0	10	1.0	140	1.0
						cis-1,2-Dichloroethene	70	35	ug/L	1,400	5.0	200	2.5	6.2	1.0	2.9	1.0	940	1.0
						Trichloroethene	5	2.5	ug/L	<	5.0	<	2.5	<	1.0	<	1.0	350	1.0
						Tetrachloroethene	5	2.5	ug/L	<	5.0	<	2.5	<	1.0	<	1.0	2,900	1.0

Vinyl chloride causes cancer in humans. According to test results at GP-28, how is the clean-up affecting vinyl chloride levels? Follow the tips on p. 28 and the hints above to help you interpret the data.
