8/19/05

Five-Year Review Report
Addendum
Ramapo Landfill Superfund Site
Rockland County
Town of Ramapo, New York

Prepared by:

United States Environmental Protection Agency
Region 2
New York, New York

August 2005

EXECUTIVE SUMMARY

A five-year review for the Ramapo Landfill Superfund site, located in the Town of Ramapo, Rockland County, New York, was completed in December 2004. This review raised a concern regarding elevated levels of antimony in downgradient drinking water wells. Based upon the collection of new samples and using a lower laboratory detection limit, it has been concluded that antimony is not present in downgradient drinking water wells. The remedy is functioning as intended by the decision documents and protects human health and the environment.

I. Five-Year Review Process

A second five-year review for the Ramapo Landfill Superfund site, located in the Town of Ramapo, Rockland County, New York, was completed in December 2004. A review of sample results for the review period (1999-2004) indicated the presence of elevated levels of antimony in drinking water wells during an October 2003 sampling event and sporadically at other times. It was, however, unclear whether the elevated concentrations of antimony detected in these wells were site-related or were due to the analytical procedures. This was due to the fact that the laboratory's detection limit for antimony was greater than the state standard of 3 micrograms per liter (µg/l)[1].

In May 2005, all of the drinking water wells were resampled and a lower laboratory detection limit (0.4 µg/l) was used. Antimony was not detected in any of the samples (see Table 1).

There were three recommendations contained in Table 8 of the December 2004 five-year review report. The first recommendation suggested that additional monitoring wells be installed and a conceptual or analytical model of the site groundwater contaminants be developed. The second recommendation pertained to collecting additional groundwater samples and analyzing them using a lower laboratory detection limit for antimony. The third recommendation identified follow up actions that would be taken should it be determined that the drinking water standard for antimony is exceeded. Since the levels of antimony detected in the downgradient drinking water wells are below the drinking water standard, the second and third recommendations no longer apply. Therefore, Table 8 of the December 2004 five-year review is being replaced by the attached Table 2. The observations and suggestions to resolve the issues contained in Table 7 of the December 2004 review remain and are unchanged by this addendum.

II. Protectiveness Statement

The implemented remedy for the Ramapo Landfill Superfund site protects human health and the environment. There are no exposure pathways that could result in unacceptable risks and none are expected, as long as the site use does not change and the implemented engineered, institutional, and access controls that are currently in place continue to be properly operated, monitored, and maintained.

---

[1] NYSDEC Water Quality Standards and Guidance Value (T.O.G.S. 1.1.1) (WQSGV). WQSGVs are the highest level of contaminant that is allowed in drinking water. They are promulgated standard that apply to public water systems and are intended to protect human health by limiting the levels of contaminants in drinking water.

III. Next Review

The next five-year review for the Ramapo Landfill Superfund site is required by December 2009, five years from the original five-year review report's approval date.

Approved:

William McCabe, Deputy Director
Emergency and Remedial Response Division

8/19/05
Date

III. Next Review

The next five-year review for the Ramapo Landfill Superfund site is required by December 2009, five years from the original five-year review report's approval date.

Approved:

William J. McCabe, Deputy Director
Emergency and Remedial Response Division

Date

Table 1: Antimony Sampl[illegible]esults for the Review Period						
Sample Date	**Drinking Water Well**					
	PW-1	**PW-2**	**SVWC-93**	**SVWC-94**	**SVWC-95**	**SVWC-96**
Mar 1999	ND	2.8	NA	NA	NA	NA
Jun 1999	ND	ND	ND	ND	ND	ND
Sep 1999	ND	ND	NA	NA	NA	NA
Jul 2000	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4
Sep 2000	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5
Dec 2000	<4.7	<5.5 N	<5.5 N	<5.5 N	<5.5 N	<5.5 N
Mar/Apr 2001	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7
Jul 2001	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7
Oct 2001	<4.7	<4.7	NA	NA	NA	NA
Mar 2002	7.4 U	**9.3 B**	**8 B**	**11.4 B**	7.4 U	7.4 U
Jul/Aug 2002	5.3 U	5.3 U	**8.1 B**	5.3 U	5.3 U	5.3 U
Oct 2002	5.3U,N	5.3U,N	**17.2 B,N**	**5.5 B,N**	5.3 U,N	5.3 U,N
Apr 2003	5 U	**9.3 B**	5 U	5 U	5 U	5 U
Jul 2003	5.5 U	**10.1 B**	5.5 U	5.5 U	5.5 U	**7.1 B**
Oct 2003	**9.5 B**	**19.4 B**	**8.6 B**	**7.1 B**	**13.6 B**	**11.1 B**
Mar 2004	5.8U	5.8U	5.8U	5.8U	5.8U	5.8U
May 2005	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U

Legend

Values in **bold** indicate an exceedance of applicable water quality standards, guidance values, and/or Preliminary Remediation Goals.
ND= Not detected
NA=Not analyzed
N=Spiked sample recovery not within control limits
U=Denotes that the compound was analyzed for, but not detected at the detection limit listed.
B=The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit

Table 2: Recommendations and Follow-Up Actions

Issue	Recommendations and Follow-Up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
The current monitoring well network does not allow for a determination of a groundwater capture zone nor give early warning regarding potential contaminant migration to downgradient drinking water wells.	Additional monitoring wells need to be installed and sampled and a conceptual or analytical model of the site groundwater contaminants needs to be developed.	PRP	NYSDEC	5/05	N	N