DOE Oversight Bureau, New Mexico Environment Department

**Groundwater Monitoring at
Sandia National Laboratories/New Mexico
Chemical Waste Landfill**

**Conducted by the
New Mexico Environment Department DOE Oversight Bureau
for FFY 2013 Q-4**

**Prepared by Chris Armijo, Geoscientist
Sandia Oversight Section
P.O. Box 5400 MS 1396
Albuquerque, NM 87185-5400
(505) 845-5823
chris.armijo1@state.nm.us**

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The purpose of this communication is to transmit groundwater data collected by the New Mexico Environment Department DOE Oversight Bureau from Chemical Waste Landfill groundwater monitoring wells during the fourth quarter of FFY 2013.

Introduction

The New Mexico Environment Department (NMED) DOE Oversight Bureau (DOE OB or Bureau) has compiled and assessed groundwater data collected during July 2013. The Bureau collected groundwater samples from Chemical Waste Landfill (CWL) groundwater monitoring wells CWL-MW9, CWL-MW10, and CWL-MW11. Split samples were collected using standard Sandia National Laboratories/New Mexico (SNL/NM) sampling procedures and equipment. Bureau samples were submitted to an independent analytical laboratory, where they were analyzed for total metals and volatile organic compounds. No samples exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) during this sampling event.

Data Assessment

All groundwater samples were collected and analyzed in accordance with EPA protocols. Data results are compared to applicable MCLs established by the U.S. EPA National Primary Drinking Water Regulations (40 CFR 141), National Primary Drinking Water Standards, EPA, July 2002.

Results

Analytical results for total target analyte list (TAL) metals are listed in Table-1. Samples were analyzed for total chromium and nickel only. All metal concentrations were below established EPA MCLs.

Analytical results for volatile organic compounds (VOCs) detected above the method detection limit (MDL) are listed in Table-2. No compounds were detected above the EPA MCL. Trichloroethylene (TCE) was detected above the method detection limit at monitoring well CWL-MW10 at concentration of 3.1 µg/L. Table-3 lists the laboratory method detection limits for the remaining VOCs.

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Table-1 NMED DOE OB FFY 2013 Q-4 Chemical Waste Landfill Groundwater Quality Results: Chromium and Nickel

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CWL-MW9 9-Jul-13	Chromium	0.0014	0.1	0.002	0.001	J	SW-846:6020
	Nickel	0.0001	NE	0.002	0.0001	U	SW-846:6020
CWL-MW10 12-Jul-13	Chromium	0.001	0.1	0.002	0.001	U	SW-846:6020
	Nickel	0.0011	NE	0.002	0.0001	J	SW-846:6020
CWL-MW10 12-Jul-13 Dup	Chromium	0.001	0.1	0.002	0.001	U	SW-846:6020
	Nickel	0.0012	NE	0.002	0.0001	J	SW-846:6020
CWL-MW11 10-Jul-13	Chromium	0.0024	0.1	0.002	0.001		SW-846:6020
	Nickel	0.00042	NE	0.002	0.0001	J	SW-846:6020

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

NE = Not Established

U = Not detected at the reporting limit or MDL.

Table-2 NMED DOE OB FFY 2013 Q-4 Chemical Waste Landfill Groundwater Quality Results: Detected Volatile Organic Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	EPA MCL (µg/L)	Quantitation Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
CWL-MW10 12-Jul-13	Trichloroethene	3.1	5	1	0.13		SW-846:8260B
CWL-MW10 12-Jul-13 Dup	Trichloroethene	3.2	5	1	0.13		SW-846:8260B

Table-3 NMED DOE OB FFY 2013 Q-4 Chemical Waste Landfill Groundwater Quality Results: Method Detection Limits for Volatile Organic Compounds

Analyte	MDL (µg/L)	Quantitation Limit (µg/L)	Analytical Method
4-Methyl-2-pentanone (MIBK)	0.18	2	SW-846:8260B
Acetone	2.1	10	SW-846:8260B
Benzene	0.13	1	SW-846:8260B
Bromodichloromethane	0.14	1	SW-846:8260B
Bromoform	0.1	1	SW-846:8260B
Bromomethane	0.29	1	SW-846:8260B
Butanone[2-]	0.35	2	SW-846:8260B
Carbon Disulfide	0.16	2	SW-846:8260B
Carbon Tetrachloride	0.15	1	SW-846:8260B
Chlorobenzene	0.12	1	SW-846:8260B
Chloroethane	0.34	1	SW-846:8260B
Chloroform	0.12	1	SW-846:8260B
Chloromethane	0.25	1	SW-846:8260B
Dibromochloromethane	0.13	1	SW-846:8260B
Dichloroethane[1,1-]	0.1	1	SW-846:8260B
Dichloroethane[1,2-]	0.22	1	SW-846:8260B
Dichloroethene[1,1-]	0.14	1	SW-846:8260B
Dichloroethene[cis-1,2-]	0.1	1	SW-846:8260B
Dichloroethene[trans-1,2-]	0.11	1	SW-846:8260B
Dichloropropane[1,2-]	0.15	1	SW-846:8260B
Dichloropropene[cis-1,3-]	0.22	1	SW-846:8260B
Dichloropropene[trans-1,3-]	0.08	1	SW-846:8260B
Ethylbenzene	0.1	1	SW-846:8260B
Hexanone[2-]	0.17	2	SW-846:8260B
Methylene Chloride	0.35	1	SW-846:8260B
Styrene	0.15	1	SW-846:8260B
Tetrachloroethane[1,1,2,2-]	0.09	1	SW-846:8260B
Tetrachloroethene	0.1	1	SW-846:8260B
Toluene	0.25	1	SW-846:8260B
Trichloroethane[1,1,1-]	0.19	1	SW-846:8260B
Trichloroethane[1,1,2-]	0.31	1	SW-846:8260B
Trichloroethene	0.13	1	SW-846:8260B
Vinyl acetate	0.21	2	SW-846:8260B
Vinyl Chloride	0.22	1	SW-846:8260B
Xylenes, Total	0.18	1	SW-846:8260B