



NEW MEXICO ENVIRONMENT DEPARTMENT



DOE Oversight Bureau

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

121 Tijeras Ave., NE Suite 1000
Albuquerque, NM 87102
Phone (505) 383-2073 Fax (505) 222-9510
www.nmenv.state.nm.us

RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

Groundwater Monitoring at Sandia National Laboratories/New Mexico Tijeras Arroyo Groundwater Conducted by NMED DOE OB for FFY 2011 Q-2

The New Mexico Environment Department (NMED) DOE Oversight Bureau (Bureau) has compiled and assessed groundwater data collected during February and March 2011. The Bureau collected groundwater samples from Tijeras Arroyo Groundwater (TAG) monitoring wells TA2-SW1-320, TA2-W-01, TA2-W-19, TA2-W-26, TA2-W-27, TJA-2, TJA-3, TJA-4, TJA-6, TJA-7, and WYO-4. 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 nitrate-nitrite as Nitrogen and volatile organic compounds (VOCs). Several samples analyzed for nitrate-nitrite as N were detected at or above the EPA MCL of 10 mg/L. Trichloroethylene (TCE) was detected above the EPA MCL of 5 µg/L at monitoring well WYO-4.

Data Assessment

All groundwater samples were collected and analyzed in accordance with U.S. Environmental Protection Agency (EPA) protocols. Data results are compared to applicable Maximum Contaminant Levels (MCLs) from the EPA National Primary Drinking Water Regulations (40 CFR 141).

Results

Analytical results for nitrate-nitrite as Nitrogen are presented in Table-1. Nitrate concentrations were detected at or above the EPA MCL of 10 mg/L at monitoring wells TA2-SW1-320 (22 mg/L), TA2-W-19 (10 mg/L), TJA-2 (10 mg/L), TJA-4 (29 mg/L) and TJA-7 (23 mg/L).

Volatile organic compounds (VOCs) detected above the method detection limits (MDLs) are presented in Table-2. All samples were detected below established MCLs, except trichloroethylene (TCE). Monitoring well WYO-4 had a TCE concentration of 7 µg/L.

Response

Questions or comments should be addressed to Chris Armijo by phone at (505) 383-2070, by e-mail at chris.armijo1@state.nm.us, or to the address in the letterhead.

Enclosure: (1) Table-1 Nitrate-Nitrite as Nitrogen Results
(2) Table-2 Detected Volatile Organic Compounds Results

Distribution: Karen Agogino, POC, DOE/SSO
David Rast, DOE/SSO
Karen Oden, DOE/SSO
Tim Jackson, SNL/NM Groundwater
Michael Skelly, SNL/NM Groundwater
Susan Lucas Kamat, Bureau Chief, DOE OB

File: SGE42.Groundwater Monitoring. TAG. FFY 2011 Q-2

Acknowledgment:

This material is based upon work supported by the Department of Energy Office of Environmental Management under Award Number *DE-EM0002420*.

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

This page intentionally left blank.

Table-1 NMED DOE OB FFY 2011 Q-2 Tijeras Arroyo Groundwater Quality Results: Nitrate-Nitrite as N
U.S. EPA MCL for Nitrate is 10 mg/L

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	NMED Analytical Method
TA2-SW1-320 18-Feb-11	Nitrate-Nitrite as N	22	2	0.27		EPA:300.0
TA2-W-01 22-Feb-11	Nitrate-Nitrite as N	4.5	2	0.27		EPA:300.0
TA2-W-19 24-Feb-11	Nitrate-Nitrite as N	10	2	0.27		EPA:300.0
TA2-W-19 24-Feb-11 Dup	Nitrate-Nitrite as N	10	2	0.27		EPA:300.0
TA2-W-26 23-Feb-11	Nitrate-Nitrite as N	4.9	2	0.27		EPA:300.0
TA2-W-27 17-Feb-11	Nitrate-Nitrite as N	4.1	2	0.27		EPA:300.0
TJA-2 28-Feb-11	Nitrate-Nitrite as N	10	2	0.27		EPA:300.0
TJA-3 21-Feb-11	Nitrate-Nitrite as N	2.5	2	0.27		EPA:300.0
TJA-4 25-Feb-11	Nitrate-Nitrite as N	29	2	0.27		EPA:300.0
TJA-6 16-Feb-11	Nitrate-Nitrite as N	2.4	2	0.27		EPA:300.0
TJA-7 3-Mar-11	Nitrate-Nitrite as N	23	2	0.27		EPA:300.0
WYO-4 2-Mar-11	Nitrate-Nitrite as N	3	2	0.27		EPA:300.0

Table-2 NMED DOE OB FFY 2011 Q-2 Tijeras Arroyo Groundwater Quality Results: Detected Volatile Organic Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	EPA MCL (µg/L)	PQL (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
TA2-W-01 22-Feb-11	Tetrachloroethylene	0.34	5	1	0.23	J	SW-846:8260B
	Trichloroethylene	1.2	5	1	0.19		SW-846:8260B
TA2-W-19 24-Feb-11	Chloromethane	0.8	NE	5	0.2	J	SW-846:8260B
	Dichloroethane[1,1-]	0.37	NE	1	0.17	J	SW-846:8260B
	Dichloroethene[cis-1,2-]	0.53	70	1	0.18	J	SW-846:8260B
	Trichloroethylene	2.8	5	1	0.19		SW-846:8260B
TA2-W-19 24-Feb-11 Dup	Dichloroethane[1,1-]	0.4	NE	1	0.17	J	SW-846:8260B
	Dichloroethene[cis-1,2-]	0.52	70	1	0.18	J	SW-846:8260B
	Trichloroethylene	2.9	5	1	0.19		SW-846:8260B
TA2-W-26 23-Feb-11	Chloroform	0.33	NE	1	0.16	J	SW-846:8260B
	Dichloroethene[cis-1,2-]	0.4	70	1	0.18	J	SW-846:8260B
	Dichloroethylene[1,1-]	0.26	7	1	0.23	J	SW-846:8260B
	Tetrachloroethylene	0.97	5	1	0.23	J	SW-846:8260B
	Trichloroethylene	0.9	5	1	0.19	J	SW-846:8260B
TA2-W-27 17-Feb-11	Chloroform	0.16	NE	1	0.16	J	SW-846:8260B
	Tetrachloroethylene	1	5	1	0.23		SW-846:8260B
	Trichloroethylene	0.85	5	1	0.19	J	SW-846:8260B
TJA-2 28-Feb-11	Dichloroethane[1,1-]	0.45	NE	1	0.17	J	SW-846:8260B
	Dichloroethene[cis-1,2-]	0.62	70	1	0.18	J	SW-846:8260B
	Trichloroethylene	3.5	5	1	0.19		SW-846:8260B
TJA-7 3-Mar-11	Trichloroethylene	0.43	5	1	0.19	J	SW-846:8260B
WYO-4 2-Mar-11	Carbon Disulfide	0.38	NE	1	0.18	J	SW-846:8260B
	Dichloroethane[1,1-]	0.7	NE	1	0.17	J	SW-846:8260B
	Dichloroethene[cis-1,2-]	2.3	70	1	0.18		SW-846:8260B
	Trichloroethylene	7	5	1	0.19		SW-846:8260B

J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL).