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Groundwater Monitoring at Sandia National Laboratories/New Mexico Mixed Waste Landfill Conducted by NMED DOE OB for FFY 2010 Q-4

The New Mexico Environment Department (NMED) DOE Oversight Bureau (Bureau) has compiled and assessed groundwater data collected in July 2010. The Bureau collected groundwater samples from Mixed Waste Landfill (MWL) groundwater monitoring wells MWL-MW7, MWL-MW8 and MWL-MW9. Split samples were collected using standard Sandia National Laboratories/New Mexico (SNL/NM or Sandia) sampling procedures and equipment. Bureau samples were submitted to an independent contract laboratory to be analyzed for target compound list volatile organic compounds (VOCs). No anomalies were detected in the groundwater results from samples collected at MWL monitoring wells. No analyte concentrations were detected above the minimum detection level.

Data Assessment

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 target compound list volatile organic compounds are listed in Table 1. No analyte concentrations were detected above the minimum detection level.

Conclusions

Data results from Sandia compare well with NMED results. No anomalies were detected in the groundwater results from samples collected at MWL monitoring wells. No samples were detected above the minimum detection level.

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 Volatile Organic Compounds Results
(2) Map-MWL Groundwater Monitoring Wells

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File: SGE42. Groundwater Monitoring. MWL. FFY 2010 Q-4

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Table 1- NMED DOE OB FFY 2010 Q-4 Mixed Waste Landfill Groundwater Quality Results: Volatile Organic Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	PQL (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
MWL-MW7 7-Jul-10	Acetone	3.8	20	3.8	U	SW-846:8260B
	Benzene	0.15	1	0.15	U	SW-846:8260B
	Bromodichloromethane	0.15	1	0.15	U	SW-846:8260B
	Bromoform	0.19	1	0.19	C,U	SW-846:8260B
	Bromomethane	0.22	2	0.22	U	SW-846:8260B
	Butanone[2-]	1.8	5	1.8	U	SW-846:8260B
	Carbon Disulfide	0.18	1	0.18	U	SW-846:8260B
	Carbon tetrachloride	0.19	1	0.19	U	SW-846:8260B
	Chlorobenzene	0.12	1	0.12	U	SW-846:8260B
	Chloroethane	0.26	1	0.26	U	SW-846:8260B
	Chloroform	0.16	1	0.16	U	SW-846:8260B
	Chloromethane	0.2	5	0.2	U	SW-846:8260B
	Dibromochloromethane	0.15	1	0.15	U	SW-846:8260B
	Dichloroethane[1,1-]	0.17	1	0.17	U	SW-846:8260B
	Dichloroethane[1,2-]	0.2	1	0.2	U	SW-846:8260B
	Dichloroethene[cis/trans-1,2-]	0.22	1	0.22	U	SW-846:8260B
	Dichloroethene[cis-1,2-]	0.18	1	0.18	U	SW-846:8260B
	Dichloroethylene[1,1-]	0.23	1	0.23	U	SW-846:8260B
	Dichloropropane[1,2-]	0.15	1	0.15	U	SW-846:8260B
	Dichloropropylene[cis-1,3-]	0.17	1	0.17	U	SW-846:8260B
	Dichloropropylene[trans-1,3-]	0.097	1	0.097	M1,U	SW-846:8260B
	Ethylbenzene	0.16	1	0.16	U	SW-846:8260B
	Hexanone[2-]	0.31	5	0.31	U	SW-846:8260B
	Methyl-2-pentanone[4-]	0.43	5	0.43	U	SW-846:8260B
	Methylene chloride	0.5	2	0.5	U	SW-846:8260B
	Styrene	0.15	1	0.15	U	SW-846:8260B
	Tetrachloroethane[1,1,2,2-]	0.12	1	0.12	M1,U	SW-846:8260B
	Tetrachloroethylene	0.23	1	0.23	U	SW-846:8260B
	Toluene	0.35	1	0.35	U	SW-846:8260B
	Trichloroethane[1,1,1-]	0.22	1	0.22	U	SW-846:8260B
	Trichloroethane[1,1,2-]	0.19	1	0.19	U	SW-846:8260B
	Trichloroethylene	0.19	1	0.19	U	SW-846:8260B
	Vinyl acetate	0.21	1	0.21	L,U	SW-846:8260B
	Vinyl chloride	0.24	1	0.24	U	SW-846:8260B
	Xylene (Total)	0.54	2	0.54	U	SW-846:8260B
	Xylene(m+p)	0.35	2	0.35	U	SW-846:8260B
	Xylene[1,2-]	0.19	1	0.19	U	SW-846:8260B

Notes

C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

L = Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.

M1 = The MS and/or MSD were above the acceptance limits due to sample matrix interference

U = Analyte not detected at or above the reporting limit or MDL, if MDL is specified.

Table 1- NMED DOE OB FFY 2010 Q-4 Mixed Waste Landfill Groundwater Quality Results: Volatile Organic Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	PQL (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
MWL-MW8 12-Jul-10	Acetone	3.8	20	3.8	U	SW-846:8260B
	Benzene	0.15	1	0.15	U	SW-846:8260B
	Bromodichloromethane	0.15	1	0.15	U	SW-846:8260B
	Bromoform	0.19	1	0.19	C,U	SW-846:8260B
	Bromomethane	0.22	2	0.22	U	SW-846:8260B
	Butanone[2-]	1.8	5	1.8	U	SW-846:8260B
	Carbon Disulfide	0.18	1	0.18	U	SW-846:8260B
	Carbon tetrachloride	0.19	1	0.19	U	SW-846:8260B
	Chlorobenzene	0.12	1	0.12	U	SW-846:8260B
	Chloroethane	0.26	1	0.26	U	SW-846:8260B
	Chloroform	0.16	1	0.16	U	SW-846:8260B
	Chloromethane	0.2	5	0.2	U	SW-846:8260B
	Dibromochloromethane	0.15	1	0.15	U	SW-846:8260B
	Dichloroethane[1,1-]	0.17	1	0.17	U	SW-846:8260B
	Dichloroethane[1,2-]	0.2	1	0.2	U	SW-846:8260B
	Dichloroethene[cis/trans-1,2-]	0.22	1	0.22	U	SW-846:8260B
	Dichloroethene[cis-1,2-]	0.18	1	0.18	U	SW-846:8260B
	Dichloroethylene[1,1-]	0.23	1	0.23	U	SW-846:8260B
	Dichloropropane[1,2-]	0.15	1	0.15	U	SW-846:8260B
	Dichloropropylene[cis-1,3-]	0.17	1	0.17	U	SW-846:8260B
	Dichloropropylene[trans-1,3-]	0.097	1	0.097	U	SW-846:8260B
	Ethylbenzene	0.16	1	0.16	U	SW-846:8260B
	Hexanone[2-]	0.31	5	0.31	U	SW-846:8260B
	Methyl-2-pentanone[4-]	0.43	5	0.43	U	SW-846:8260B
	Methylene chloride	0.5	2	0.5	U	SW-846:8260B
	Styrene	0.15	1	0.15	U	SW-846:8260B
	Tetrachloroethane[1,1,2,2-]	0.12	1	0.12	U	SW-846:8260B
	Tetrachloroethylene	0.23	1	0.23	U	SW-846:8260B
	Toluene	0.35	1	0.35	U	SW-846:8260B
	Trichloroethane[1,1,1-]	0.22	1	0.22	U	SW-846:8260B
	Trichloroethane[1,1,2-]	0.19	1	0.19	U	SW-846:8260B
	Trichloroethylene	0.19	1	0.19	U	SW-846:8260B
	Vinyl acetate	0.21	1	0.21	L,U	SW-846:8260B
	Vinyl chloride	0.24	1	0.24	U	SW-846:8260B
	Xylene (Total)	0.54	2	0.54	U	SW-846:8260B
	Xylene(m+p)	0.35	2	0.35	U	SW-846:8260B
	Xylene[1,2-]	0.19	1	0.19	U	SW-846:8260B

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Monitoring Well/ Sample Date	Analyte	Result (µg/L)	PQL (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
MWL-MW9 13-Jul-10	Acetone	3.8	20	3.8	U	SW-846:8260B
	Benzene	0.15	1	0.15	U	SW-846:8260B
	Bromodichloromethane	0.15	1	0.15	U	SW-846:8260B
	Bromoform	0.19	1	0.19	C,U	SW-846:8260B
	Bromomethane	0.22	2	0.22	U	SW-846:8260B
	Butanone[2-]	1.8	5	1.8	U	SW-846:8260B
	Carbon Disulfide	0.18	1	0.18	U	SW-846:8260B
	Carbon tetrachloride	0.19	1	0.19	U	SW-846:8260B
	Chlorobenzene	0.12	1	0.12	U	SW-846:8260B
	Chloroethane	0.26	1	0.26	U	SW-846:8260B
	Chloroform	0.16	1	0.16	U	SW-846:8260B
	Chloromethane	0.2	5	0.2	U	SW-846:8260B
	Dibromochloromethane	0.15	1	0.15	U	SW-846:8260B
	Dichloroethane[1,1-]	0.17	1	0.17	U	SW-846:8260B
	Dichloroethane[1,2-]	0.2	1	0.2	U	SW-846:8260B
	Dichloroethene[cis/trans-1,2-]	0.22	1	0.22	U	SW-846:8260B
	Dichloroethene[cis-1,2-]	0.18	1	0.18	U	SW-846:8260B
	Dichloroethylene[1,1-]	0.23	1	0.23	U	SW-846:8260B
	Dichloropropane[1,2-]	0.15	1	0.15	U	SW-846:8260B
	Dichloropropylene[cis-1,3-]	0.17	1	0.17	U	SW-846:8260B
	Dichloropropylene[trans-1,3-]	0.097	1	0.097	U	SW-846:8260B
	Ethylbenzene	0.16	1	0.16	U	SW-846:8260B
	Hexanone[2-]	0.31	5	0.31	U	SW-846:8260B
	Methyl-2-pentanone[4-]	0.43	5	0.43	U	SW-846:8260B
	Methylene chloride	0.5	2	0.5	U	SW-846:8260B
	Styrene	0.15	1	0.15	U	SW-846:8260B
	Tetrachloroethane[1,1,2,2-]	0.12	1	0.12	U	SW-846:8260B
	Tetrachloroethylene	0.23	1	0.23	U	SW-846:8260B
	Toluene	0.35	1	0.35	U	SW-846:8260B
	Trichloroethane[1,1,1-]	0.22	1	0.22	U	SW-846:8260B
	Trichloroethane[1,1,2-]	0.19	1	0.19	U	SW-846:8260B
	Trichloroethylene	0.19	1	0.19	U	SW-846:8260B
	Vinyl acetate	0.21	1	0.21	L,U	SW-846:8260B
	Vinyl chloride	0.24	1	0.24	U	SW-846:8260B
	Xylene (Total)	0.54	2	0.54	U	SW-846:8260B
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Monitoring Well/ Sample Date	Analyte	Result (µg/L)	PQL (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
MWL-MW9 13-Jul-10 DUP	Acetone	3.8	20	3.8	U	SW-846:8260B
	Benzene	0.15	1	0.15	U	SW-846:8260B
	Bromodichloromethane	0.15	1	0.15	U	SW-846:8260B
	Bromoform	0.19	1	0.19	C,U	SW-846:8260B
	Bromomethane	0.22	2	0.22	U	SW-846:8260B
	Butanone[2-]	1.8	5	1.8	U	SW-846:8260B
	Carbon Disulfide	0.18	1	0.18	U	SW-846:8260B
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	Dichloroethene[cis/trans-1,2-]	0.22	1	0.22	U	SW-846:8260B
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	Ethylbenzene	0.16	1	0.16	U	SW-846:8260B
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	Trichloroethane[1,1,1-]	0.22	1	0.22	U	SW-846:8260B
	Trichloroethane[1,1,2-]	0.19	1	0.19	U	SW-846:8260B
	Trichloroethylene	0.19	1	0.19	U	SW-846:8260B
	Vinyl acetate	0.21	1	0.21	L,U	SW-846:8260B
	Vinyl chloride	0.24	1	0.24	U	SW-846:8260B
	Xylene (Total)	0.54	2	0.54	U	SW-846:8260B
	Xylene(m+p)	0.35	2	0.35	U	SW-846:8260B
	Xylene[1,2-]	0.19	1	0.19	U	SW-846:8260B

Notes

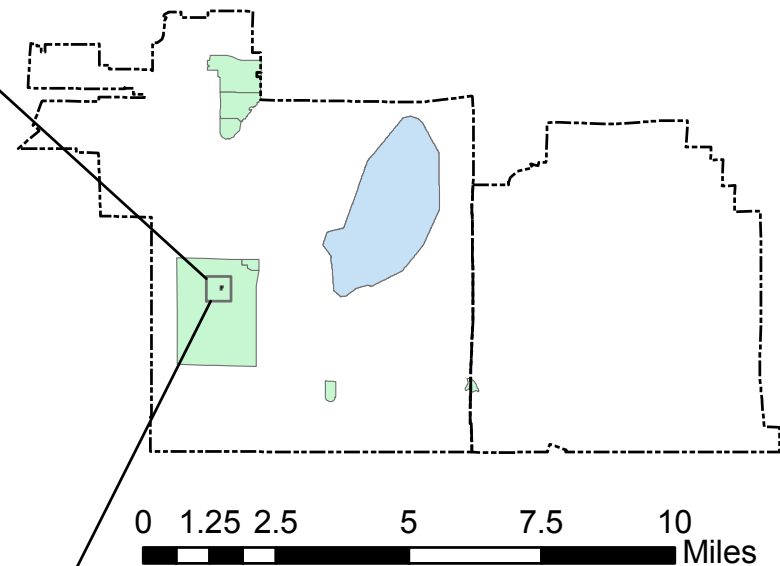
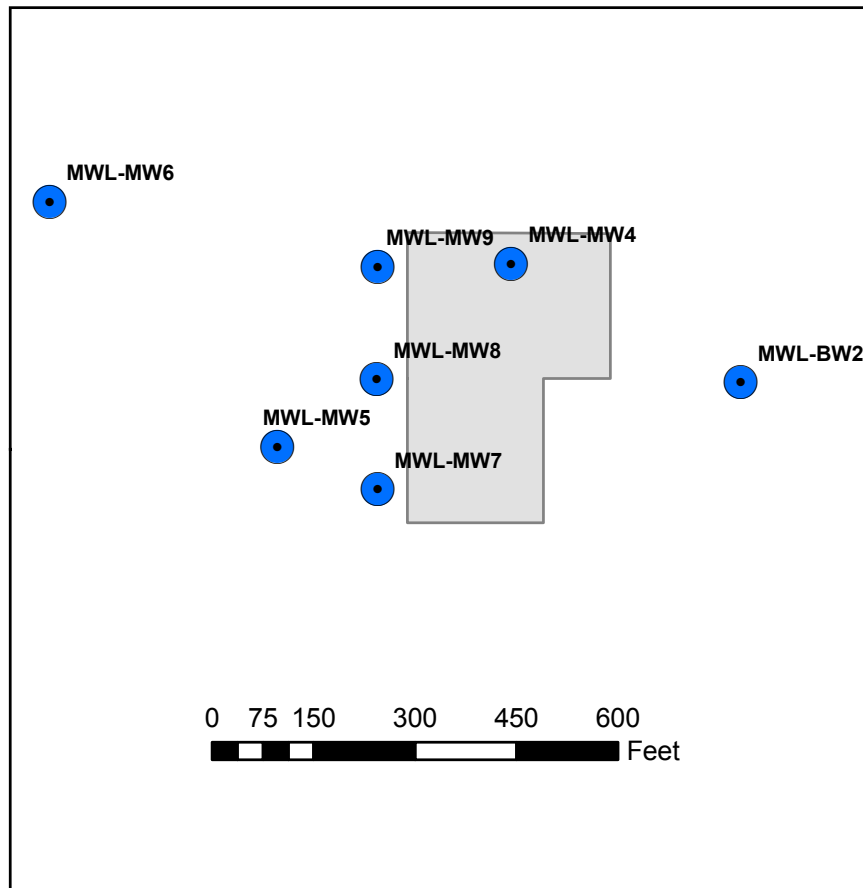
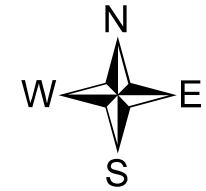
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Mixed Waste Landfill Monitoring Wells



Legend

- Mixed Waste Landfill
- Solar Tower
- Optical Range
- Manzano Base
- KAFB Boundary
- SNL Technical Areas

