

Fall 2023 Summary Report

LRI Landfill Residential Drinking Water Well Sampling

December 2023
Drinking Water Program
Residential Water Sampling Project



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Summary

BACKGROUND

This report summarizes the water quality sampling event conducted in Fall 2023.

All drinking water wells within one-half (1/2) mile of the LRI Landfill boundary are eligible for free water quality sampling once a year. Substances chosen for testing by the Health Department are to assess groundwater quality. These tests can show information about possible groundwater impacts from the landfill.

Property owners have their well water sampled in the Fall of each year and participation is voluntary.

Water samples are tested annually for twenty characteristics and substances, including conductivity, pH, ammonia, nitrate, chloride, iron, manganese, magnesium and coliform bacteria. In addition to the annual water quality tests, participants will have their water tested every five years for 'Volatile Organic Compounds' (VOCs). Starting in Spring 2015, members of the Woodbrook Homeowners Association are eligible for annual VOC testing because of their legal settlement over the relocation of Woodbrook Road (317th Street East).

Although coliform bacteria in groundwater from a landfill is unusual, the Health Department included coliform bacteria testing as part of the sampling program. These tests are included because of the known health effects of bacterial contamination in drinking water.

The Health Department requires the landfill operator to maintain an on-site groundwater monitoring program. This on-site monitoring program has been in effect since 1999 and every 3 months the landfill samples and tests nine wells around the perimeter of the landfill property. All groundwater monitoring data from these wells is available from the Health Department.

FALL 2023 SAMPLING EVENT

The Fall 2023 event collected water samples at 42 properties between October 16-19, 2023. Am Test Laboratories performed bacteriological analyses and OnSite Environmental Inc. performed organic and inorganic chemical analyses. Fall 2023 participants received detailed water quality test results in December 2023. No landfill-related impacts to groundwater quality were identified from the water quality test results.

A complete list of water quality test results is in **Table 1**.

The Fall 2023 sampling event tested VOC water samples from 26 residential wells. Two properties had detections of VOCs and Health Department staff contacted the homeowner to resample their water. Lab results showed no detections for VOCs in the second sample.

The remaining Fall 2023 water quality test results are consistent with water quality test results from previous sampling events. The results show groundwater near the landfill is still typical of groundwater chemistry in Pierce County. Iron and manganese levels are consistently above the

secondary standards set by the Washington State Department of Health. Elevated iron and manganese levels are typical of groundwater conditions throughout much of Pierce County due to the underlying geology.

The Washington State Department of Health considers iron and manganese a “secondary contaminant.” Secondary contaminants pose aesthetic problems rather than health concerns. High levels of iron and manganese can give water a metallic taste, cause odors and can cause brown or black staining of porcelain fixtures exposed to the water.

Tables 1 and 2 show the water quality sample results. Results that exceed the state water quality standards are shown in bold and highlighted. For quality control purposes, duplicate samples were taken at four locations. **Tables 3 and 4** show the results of the quality control samples.

BACTERIA

During this sampling event, 4 of the 42 wells tested had bacteria present in their well water (bacteria in the water is shown as an “unsatisfactory” test result and indicated as a “U” on Table 1). Coliform bacteria can be a common problem in drinking water wells. If there is concern about bacteria in a well, we recommend shock chlorination as this will typically resolve the issue.

CONTACTS

For questions about this report or the sample results, please contact the Health Department’s Drinking Water Program.

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TABLE 1: Fall 2023 Water Quality Result

Chemical or Analyte----->

		Dissolved Metals											Total Metals		General Chemistry								
Site	Sample Date	Arsenic	Barium	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Vanadium	Zinc	Iron	Manganese	Ammonia	Chloride	Nitrate	Nitrite	Sulfate	Total Dissolved Solids	Conductivity	Bacteria	pH
MCL		0.01	2		1.3								0.3	0.05		250	10	1	250	500	700		
SR0117337	10/16/2023	0.0044	ND	24	ND	ND	9.7	0.16	2.4	9.6	ND	ND	0.66	0.16	ND	2.1	ND	ND	ND	150	240	S	7.5
SR0117339	10/18/2023	0.0041	ND	23	ND	ND	6.5	0.11	2.2	9	ND	ND	0.44	0.13	ND	2.9	ND	ND	ND	170	230	S	7.9
SR0117362	10/18/2023	ND	ND	10	ND	ND	5.7	ND	ND	6.7	ND	ND	ND	ND	ND	3.7	0.82	ND	ND	170	150	S	6.8
SR0117445	10/16/2023	ND	ND	11	ND	ND	5.6	ND	ND	5.7	ND	ND	ND	ND	ND	3.2	1.3	ND	ND	130	150	S	7.1
SR0117447	10/16/2023	ND	ND	11	0.064	ND	7.7	ND	1.4	6	ND	ND	ND	ND	ND	2.4	1.5	ND	ND	ND	170	S	9.5
SR0117449	10/19/2023	ND	ND	20	ND	ND	7.2	0.13	ND	12	ND	ND	0.39	0.13	ND	2.4	ND	ND	ND	97	200	S	7.9
SR0117450	10/17/2023	ND	ND	20	ND	ND	6.3	0.05	1.9	10	ND	0.049	0.32	0.059	ND	3.2	ND	ND	ND	130	220	U	7.7
SR0117451	10/18/2023	ND	ND	23	0.018	ND	15	0.62	1.5	16	ND	ND	ND	0.73	0.087	3.8	0.25	ND	34	180	350	S	6.9
SR0117459	10/16/2023	ND	ND	14	ND	0.21	6.6	0.15	ND	9.7	ND	ND	0.7	0.16	ND	2.1	ND	ND	ND	140	180	S	7.2
SR0117478	10/19/2023	ND	ND	15	ND	0.38	6.5	0.16	1.2	10	ND	ND	1.1	0.17	ND	3.3	ND	ND	ND	72	190	S	7.7
SR0117479	10/19/2023	ND	ND	14	ND	ND	6.4	0.14	ND	9.1	ND	ND	0.4	0.15	ND	2.5	ND	ND	ND	73	160	S	7.6
SR0117480	10/16/2023	ND	ND	16	ND	0.21	8.8	0.49	ND	16	ND	ND	0.72	0.48	ND	2.1	ND	ND	ND	170	230	S	7.1
SR0120518	10/17/2023	0.0035	ND	ND	ND	ND	ND	ND	ND	44	ND	ND	0.068	ND	ND	2.5	ND	ND	ND	140	210	S	8.5
SR0120529	10/19/2023	ND	ND	14	ND	ND	6.9	0.15	ND	9	ND	ND	0.94	0.16	ND	2.5	ND	ND	ND	97	160	S	7.6
SR0120543	10/18/2023	ND	ND	ND	ND	ND	ND	ND	1.3	110	ND	ND	ND	ND	ND	150	1.9	ND	ND	400	650	U	6.2
SR0120549	10/18/2023	ND	ND	16	ND	ND	6.6	0.13	ND	10	ND	0.037	0.43	0.14	ND	2.4	ND	ND	ND	150	190	S	7.8
SR0120559	10/16/2023	0.0039	ND	16	ND	ND	5.7	0.091	ND	11	ND	ND	0.39	0.095	ND	ND	ND	ND	ND	110	180	S	7.5
SR0120631	10/16/2023	ND	ND	17	ND	ND	7.5	0.14	1.3	15	ND	ND	0.49	0.14	ND	ND	ND	ND	ND	130	230	S	7.3
SR0120633	10/17/2023	ND	ND	15	ND	0.068	5.4	0.14	ND	11	ND	ND	0.23	0.15	ND	2.0	ND	ND	ND	120	180	S	7.9
SR0120634	10/18/2023	ND	ND	9.8	ND	0.097	5.7	ND	ND	5.9	ND	ND	0.22	ND	ND	ND	0.11	ND	ND	170	140	S	7.2
SR0120642	10/17/2023	ND	ND	11	ND	ND	7.4	ND	1.4	6.6	0.013	0.027	0.73	0.011	ND	2.7	0.085	ND	ND	130	160	S	7.2
SR0120647	10/19/2023	ND	ND	15	ND	0.38	6.3	0.17	ND	12	ND	0.025	1.1	0.17	ND	2.3	ND	ND	ND	83	180	U	7.8
SR0120938	10/18/2023	ND	ND	14	0.04	ND	6.9	ND	1.2	7.7	ND	ND	ND	ND	ND	8.8	2.8	ND	ND	200	190	S	6.6
SR0126808	10/18/2023	ND	ND	11	0.013	ND	10	ND	1.2	6.8	ND	ND	ND	ND	0.058	6.5	3.9	ND	5.5	230	210	S	6.6
SR0126809	10/19/2023	0.0047	ND	17	ND	ND	5.7	0.1	ND	8.5	ND	ND	0.19	0.11	ND	2.9	ND	ND	ND	32	170	S	7.9
SR0133431	10/17/2023	ND	ND	14	ND	0.85	6.5	0.056	ND	14	ND	ND	1.6	0.068	ND	2.2	ND	ND	ND	120	190	S	7.4
SR0138417	10/19/2023	ND	ND	16	ND	ND	6	0.12	ND	12	ND	ND	ND	0.12	ND	2.3	ND	ND	ND	83	180	S	7.7
SR0142928	10/19/2023	ND	ND	12	ND	2	7.5	0.1	1.6	7.6	ND	ND	2.7	0.11	ND	2.8	ND	ND	ND	93	160	S	7.3
SR0145751	10/18/2023	ND	ND	16	ND	ND	6.4	ND	ND	10	ND	ND	0.2	ND	ND	2.4	0.068	ND	ND	140	190	S	7.8
SR0154486	10/19/2023	ND	ND	13	ND	ND	5.8	0.23	ND	7.7	ND	ND	0.21	0.21	ND	2.6	ND	ND	ND	35	140	S	7.8
SR0169703	10/18/2023	0.0092	ND	20	ND	ND	7.4	0.66	1.3	13	ND	ND	1.6	0.83	0.78	3.4	ND	ND	ND	170	250	S	7.4
SR0170781	10/19/2023	0.0065	ND	31	ND	0.062	15	0.71	3.6	14	ND	ND	2.6	0.66	0.74	4.3	ND	ND	ND	200	320	S	7.4
SR0192658	10/16/2023	0.0042	ND	ND	ND	ND	ND	ND	ND	55	ND	ND	ND	ND	ND	4.7	ND	ND	ND	160	260	S	6.8
SR0192724	10/16/2023	ND	ND	15	ND	1.2	7	0.22	ND	15	ND	ND	1.5	0.21	ND	2.1	ND	ND	ND	130	190	S	7.1
SR0198408	10/17/2023	ND	ND	16	ND	0.084	7.9	0.58	ND	13	ND	ND	2.4	0.7		2.1	ND	ND	ND	120	230	S	7.3
SR0198809	10/17/2023	ND	ND	17	ND	ND	8.1	0.13	ND	7.3	ND	ND	10	0.24	ND	5.5	ND	ND	ND	130	200	S	7.6
SR0205003	10/16/2023	ND	ND	14	ND	0.1	8.3	0.023	1.7	7.1	ND	ND	0.84	0.014	ND	17	0.12	ND	ND	130	160	U	7.0
SR0217737	10/18/2023	ND	ND	ND	ND	ND	ND	ND	ND	38	ND	ND	0.19	ND	ND	2.0	ND	ND	ND	140	160	S	8.0
SR0254903	10/16/2023	ND	ND	13	ND	ND	9.6	ND	1.6	6.6	ND	ND	ND	ND	ND	3.0	1.8	ND	ND	130	190	S	6.8
SR0277945	10/19/2023	ND	ND	16	ND	ND	7.2	0.073	1.5	7.2	ND	ND	0.1	0.07	ND	2.3	1.6	ND	ND	130	180	S	7.1

TABLE 1: Fall 2023 Water Quality Result

Chemical or Analyte----->

		Dissolved Metals											Total Metals		General Chemistry								
Site	Sample Date	Arsenic	Barium	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Vanadium	Zinc	Iron	Manganese	Ammonia	Chloride	Nitrate	Nitrite	Sulfate	Total Dissolved Solids	Conductivity	Bacteria	pH
MCL		0.01	2		1.3								0.3	0.05		250	10	1	250	500	700		
SR0289614	10/17/2023	ND	ND	16	ND	0.95	6.5	0.13	ND	10	ND	ND	1.5	0.14	ND	2.4	ND	ND	ND	130	190	S	7.7
SR0289616	10/17/2023	ND	ND	12	ND	0.17	5.6	0.11	ND	7.6	ND	ND	1.7	0.16	ND	2.7	ND	ND	ND	110	160	S	7.7

Units of measurement = Parts Per Million (mg/L), except for bacteria, conductivity, and pH

ND = Not detected at the specified laboratory detection limit

U = Unsatisfactory (bacteria are present in the sample)

S = Satisfactory

E = E. coli present

MCL = Maximum Contamination Level

Please refer to the “Water Quality and Abbreviation and Notes” page for information about the terms used on this table.

TABLE 3: Fall 2023 Water Quality Duplicate Results

Chemical or Analyte----->

		Dissolved Metals											Total Metals		General Chemistry								
Site	Sample Date	Arsenic	Barium	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Vanadium	Zinc	Iron	Manganese	Ammonia	Chloride	Nitrate	Nitrite	Sulfate	Total Dissolved Solids	Conductivity	Bacteria	pH
MCL		0.1	2		1.3							5	0.3	0.05		250	10	1	250	500	700		
SR0117447	10/16/2023	ND	ND	11	0.06	ND	7.5	ND	1.3	5.9	ND	ND	ND	ND	ND	2.3	1.5	ND	ND	120	170	S	7.0
SR0120543	10/18/2023	ND	ND	ND	ND	ND	ND	ND	1.4	110	ND	ND	ND	ND	ND	160	1.9	ND	ND	400	640	U	6.1
SR0198408	10/17/2023	ND	ND	17	ND	0.32	8.1	0.6	ND	13	ND	ND	2.6	0.76	ND	2.3	0.077	ND	ND	150	230	S	7.3
SR0277945	10/19/2023	ND	ND	17	ND	ND	7.8	0.074	1.6	7.7	ND	ND	0.16	0.076	ND	2.5	1.6	ND	ND	87	180	S	7.1

Units of measurement = Parts Per Million (mg/L)
ND = Not detected at the specified laboratory detection limit
MCL = Maximum Contamination Level
MCL exceedances for Iron and Manganese do not pose a health risk.
Please refer to the “Water Quality and Abbreviation and Notes” page for information about the terms used on this tabl

TABLE 4: Fall 2023 Water Quality VOC Duplicate Results

	MCL	SR0120543	SR0277945
1,1,1,2-Tetrachloroethane	---	ND	ND
1,1,1-Trichloroethane	0.2	ND	ND
1,1,2,2-Tetrachloroethane	---	ND	ND
1,1,2-Trichloroethane	---	ND	ND
1,1-Dichloroethane	1	ND	ND
1,1-Dichloroethene	---	ND	ND
1,1-Dichloropropene	---	ND	ND
1,2,3-Trichlorobenzene	---	ND	ND
1,2,3-Trichloropropane	---	ND	ND
1,2,4-Trichlorobenzene	---	ND	ND
1,2,4-Trimethylbenzene	---	ND	ND
1,2-Dibromo-3-chloropropane	---	ND	ND
1,2-Dichlorobenzene	---	ND	ND
1,2-Dichloroethane	0.5	ND	ND
1,2-Dichloropropane	0.6	ND	ND
1,3,5-Trimethylbenzene	---	ND	ND
1,3-Dichlorobenzene	---	ND	ND
1,3-Dichloropropane	---	ND	ND
1,4-Dichlorobenzene	4	ND	ND
2,2-Dichloropropane	---	ND	ND
2-Butanone	---	ND	ND
2-Chlorotoluene	---	ND	ND
2-Hexanone	---	ND	ND
4-Chlorotoluene	---	ND	ND
Acetone	---	ND	ND
Benzene	1	ND	ND
Bromobenzene	---	ND	ND
Bromochloromethane	0.3	ND	ND
Bromoform	5	ND	ND
Bromomethane	---	ND	ND
Carbon Disulfide	---	ND	ND
Carbon Tetrachloride	0.3	ND	ND
CFC-11	---	ND	ND
CFC-12	---	ND	ND
Chlorobenzene	---	ND	ND
Chloroethane	---	ND	ND
Chloroform	7	ND	ND
Chloromethane	---	ND	ND
Cis-1,2-Dichloroethene	---	ND	ND
Cis-1,3-Dichloropropene	---	ND	ND
Dibromochloromethane	---	ND	ND
Dibromomethane	---	ND	ND
Dichlorobromomethane	---	ND	ND
Ethylbenzene	---	ND	ND
Ethylene dibromide	---	ND	ND
Hexachlorobutadiene	---	ND	ND
Isopropylbenzene	---	ND	ND
m, p-Xylene	---	ND	ND
Methyl Iodide	---	ND	ND
Methyl Isobutyl Ketone	---	ND	ND
Methyl t-Butyl Ether	---	ND	ND
Methylene Chloride	5	ND	ND
Naphthalene	---	ND	ND
n-Butylbenzene	---	ND	ND
n-Propylbenzene	---	ND	ND
o-Xylene	---	ND	ND
p-Isopropyltoluene	---	ND	ND
sec-Butylbenzene	---	ND	ND
Styrene	---	ND	ND
tert-Butylbenzene	---	ND	ND
Tetrachloroethene	---	ND	ND
Toluene	---	ND	ND
Trans-1,2-Dichloroethene	---	ND	ND
Trans-1,3-Dichloropropene	---	ND	ND
Trichloroethene	---	ND	ND
Vinyl Acetate	---	ND	ND
Vinyl Chloride	0.02	ND	ND

Units of measurement = Parts per Billion (ug/L)
ND = Not detected at the specified laboratory detection limit
MCL = Maximum Contamination Level

TABLE 4: Fall 2023 Water Quality VOC Resample Results

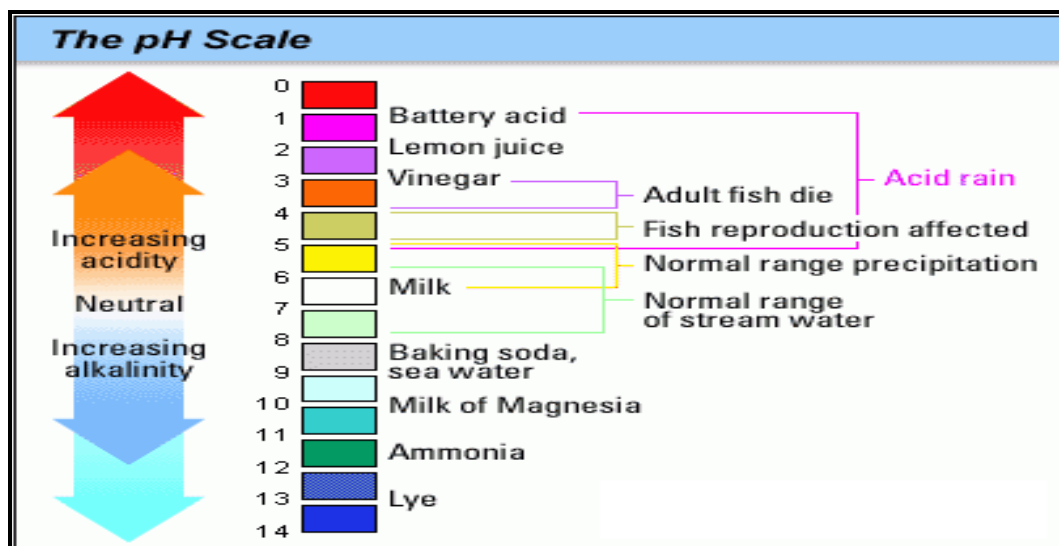
Resample 12/05/2023	MCL	SR0126808	SR0145751
1,1,1,2-Tetrachloroethane	---	ND	ND
1,1,1-Trichloroethane	0.2	ND	ND
1,1,2,2-Tetrachloroethane	---	ND	ND
1,1,2-Trichloroethane	---	ND	ND
1,1-Dichloroethane	1	ND	ND
1,1-Dichloroethene	---	ND	ND
1,1-Dichloropropene	---	ND	ND
1,2,3-Trichlorobenzene	---	ND	ND
1,2,3-Trichloropropane	---	ND	ND
1,2,4-Trichlorobenzene	---	ND	ND
1,2,4-Trimethylbenzene	---	ND	ND
1,2-Dibromo-3-chloropropane	---	ND	ND
1,2-Dichlorobenzene	---	ND	ND
1,2-Dichloroethane	0.5	ND	ND
1,2-Dichloropropane	0.6	ND	ND
1,3,5-Trimethylbenzene	---	ND	ND
1,3-Dichlorobenzene	---	ND	ND
1,3-Dichloropropane	---	ND	ND
1,4-Dichlorobenzene	4	ND	ND
2,2-Dichloropropane	---	ND	ND
2-Butanone	---	ND	ND
2-Chlorotoluene	---	ND	ND
2-Hexanone	---	ND	ND
4-Chlorotoluene	---	ND	ND
Acetone	---	ND	ND
Benzene	1	ND	ND
Bromobenzene	---	ND	ND
Bromochloromethane	0.3	ND	ND
Bromoform	5	ND	ND
Bromomethane	---	ND	ND
Carbon Disulfide	---	ND	ND
Carbon Tetrachloride	0.3	ND	ND
CFC-11	---	ND	ND
CFC-12	---	ND	ND
Chlorobenzene	---	ND	ND
Chloroethane	---	ND	ND
Chloroform	7	ND	ND
Chloromethane	---	ND	ND
Cis-1,2-Dichloroethene	---	ND	ND
Cis-1,3-Dichloropropene	---	ND	ND
Dibromochloromethane	---	ND	ND
Dibromomethane	---	ND	ND
Dichlorobromomethane	---	ND	ND
Ethylbenzene	---	ND	ND
Ethylene dibromide	---	ND	ND
Hexachlorobutadiene	---	ND	ND
Isopropylbenzene	---	ND	ND
m, p-Xylene	---	ND	ND
Methyl Iodide	---	ND	ND
Methyl Isobutyl Ketone	---	ND	ND
Methyl t-Butyl Ether	---	ND	ND
Methylene Chloride	5	ND	ND
Naphthalene	---	ND	ND
n-Butylbenzene	---	ND	ND
n-Propylbenzene	---	ND	ND
o-Xylene	---	ND	ND
p-Isopropyltoluene	---	ND	ND
sec-Butylbenzene	---	ND	ND
Styrene	---	ND	ND
tert-Butylbenzene	---	ND	ND
Tetrachloroethene	---	ND	ND
Toluene	---	ND	ND
Trans-1,2-Dichloroethene	---	ND	ND
Trans-1,3-Dichloropropene	---	ND	ND
Trichloroethene	---	ND	ND
Vinyl Acetate	---	ND	ND
Vinyl Chloride	0.02	ND	ND

Units of measurement = Parts per Billion (ug/L)
ND = Not detected at the specified laboratory detection limit
MCL = Maximum Contamination Level

Resample Duplicate 12/05/2023	MCL	SR0145751
1,1,1,2-Tetrachloroethane	---	ND
1,1,1-Trichloroethane	0.2	ND
1,1,2,2-Tetrachloroethane	---	ND
1,1,2-Trichloroethane	---	ND
1,1-Dichloroethane	1	ND
1,1-Dichloroethene	---	ND
1,1-Dichloropropene	---	ND
1,2,3-Trichlorobenzene	---	ND
1,2,3-Trichloropropane	---	ND
1,2,4-Trichlorobenzene	---	ND
1,2,4-Trimethylbenzene	---	ND
1,2-Dibromo-3-chloropropane	---	ND
1,2-Dichlorobenzene	---	ND
1,2-Dichloroethane	0.5	ND
1,2-Dichloropropane	0.6	ND
1,3,5-Trimethylbenzene	---	ND
1,3-Dichlorobenzene	---	ND
1,3-Dichloropropane	---	ND
1,4-Dichlorobenzene	4	ND
2,2-Dichloropropane	---	ND
2-Butanone	---	ND
2-Chlorotoluene	---	ND
2-Hexanone	---	ND
4-Chlorotoluene	---	ND
Acetone	---	ND
Benzene	1	ND
Bromobenzene	---	ND
Bromochloromethane	0.3	ND
Bromoform	5	ND
Bromomethane	---	ND
Carbon Disulfide	---	ND
Carbon Tetrachloride	0.3	ND
CFC-11	---	ND
CFC-12	---	ND
Chlorobenzene	---	ND
Chloroethane	---	ND
Chloroform	7	ND
Chloromethane	---	ND
Cis-1,2-Dichloroethene	---	ND
Cis-1,3-Dichloropropene	---	ND
Dibromochloromethane	---	ND
Dibromomethane	---	ND
Dichlorobromomethane	---	ND
Ethylbenzene	---	ND
Ethylene dibromide	---	ND
Hexachlorobutadiene	---	ND
Isopropylbenzene	---	ND
m, p-Xylene	---	ND
Methyl Iodide	---	ND
Methyl Isobutyl Ketone	---	ND
Methyl t-Butyl Ether	---	ND
Methylene Chloride	5	ND
Naphthalene	---	ND
n-Butylbenzene	---	ND
n-Propylbenzene	---	ND
o-Xylene	---	ND
p-Isopropyltoluene	---	ND
sec-Butylbenzene	---	ND
Styrene	---	ND
tert-Butylbenzene	---	ND
Tetrachloroethene	---	ND
Toluene	---	ND
Trans-1,2-Dichloroethene	---	ND
Trans-1,3-Dichloropropene	---	ND
Trichloroethene	---	ND
Vinyl Acetate	---	ND
Vinyl Chloride	0.02	ND

Water Quality Abbreviations and Notes:

Analyte:	The chemical or metal tested for in the water sample.
Result:	The level of the chemical or mineral detected by the laboratory in this water sample.
ND:	Non-Detect, the chemical or metal was not detected in this water sample.
Unit:	The unit of measure reported by the laboratory.
mg/l:	milligrams per liter, or 1 part per million.
MCL:	“Maximum Contaminant Level”. The water quality standard established by state or federal regulation.
#/100ml:	The number of bacteria colonies detected in 100 milliliters of water. Note: An MCL of “0.00” means that there should be no bacteria detected in the water sample.
uS/cm:	microSiemens per centimeter, a measurement of the ability of the water to conduct an electrical charge (sometimes reported as microMhos). Used to help determine the presence of some chemical ions.
pH:	A numerical measure of the level of acidity or alkalinity of the water. See the table below.



ppb:	Parts per billion often expressed as micrograms per liter (ug/L)
Unit:	The unit of measure reported by the laboratory.
#/100ml:	Unit of measure for <i>Bacteria</i> test, the number of bacteria colonies detected in 100 milliliters of water. Note: An MCL of “0/100” means that there should be zero bacteria detected in the 100-milliliter water sample.
(---):	The Environmental Protection Agency and/or the Centers for Disease Control and Prevention have not established a health-risk based maximum contaminant level (MCL) for this chemical, metal, or property.

APPENDIX A

Sampling for Volatile Organic Compounds

In 2007, several program participants and members of the Graham Land Use Advisory Commission asked why ‘volatile organic compounds’ (VOCs) had not been included in the original LRI Landfill residential drinking water sampling program. They asked to have the sampling program modified to include testing for these volatile organic compounds. Because of the request and inquiries, the sampling program changed to include 68 VOCs for analysis.

The program modification included a provision to test each participating well every five-year period for VOCs. This modification began during the Fall 2007 sampling event with the testing of nine residential wells for VOCs.

Where do VOCs come from?

Common artificial sources of VOCs are many and varied, but can include paint thinners, dry cleaning solvents, and some constituents of petroleum-based fuels (e.g., gasoline and natural gas). Landfills, through the anaerobic digestion of waste generates methane gas, which is also considered a VOC.