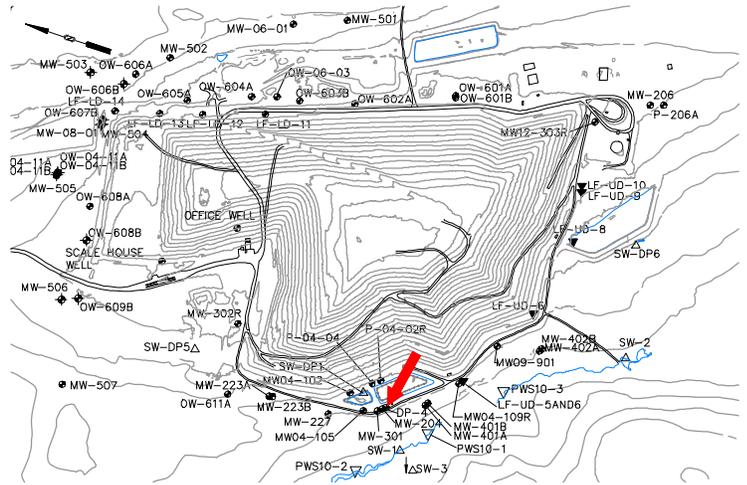


Well Description

DP-4 is located downgradient of the landfill and former leachate pond and monitors groundwater quality within the overburden.

Screen Interval: **18.5 ft. to 24.5 ft.**
 Sampled: **1 Time Annually(field parameters only)**
 Sampled Since: **01/30/04**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

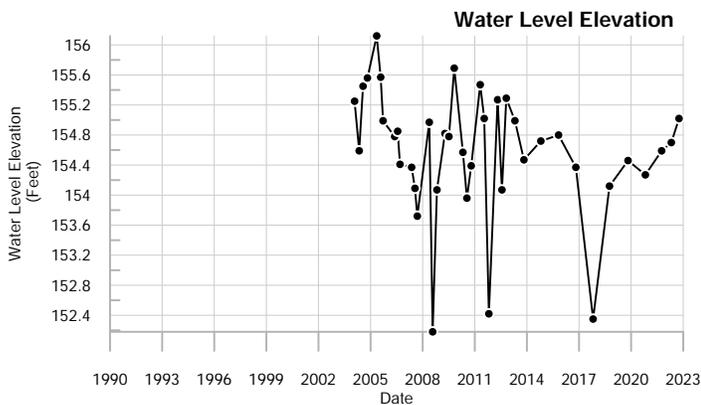
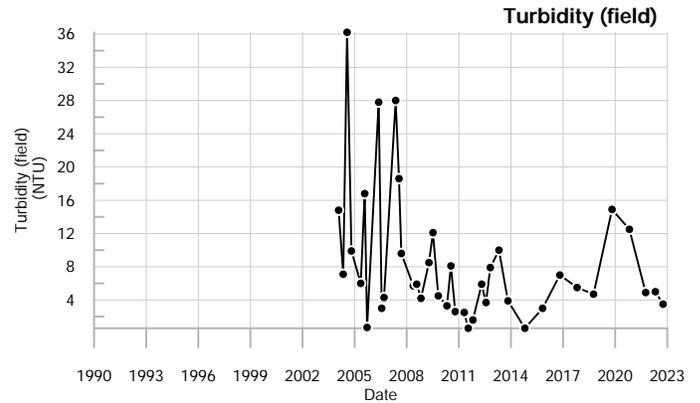
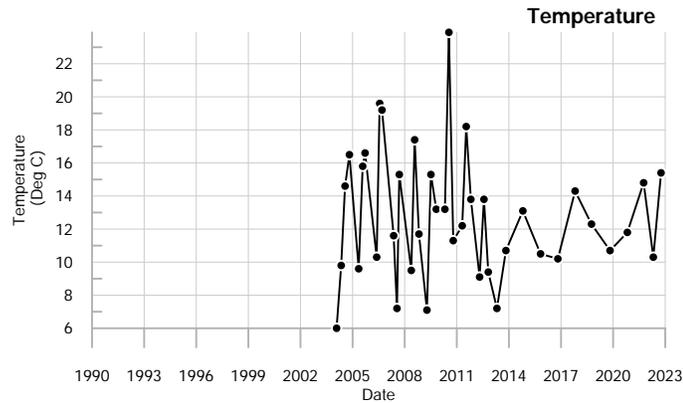
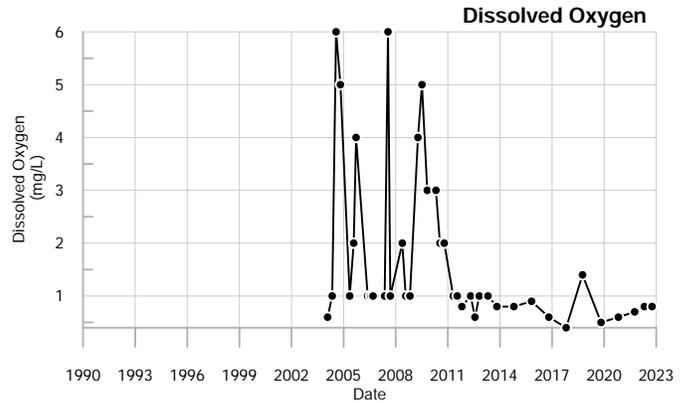
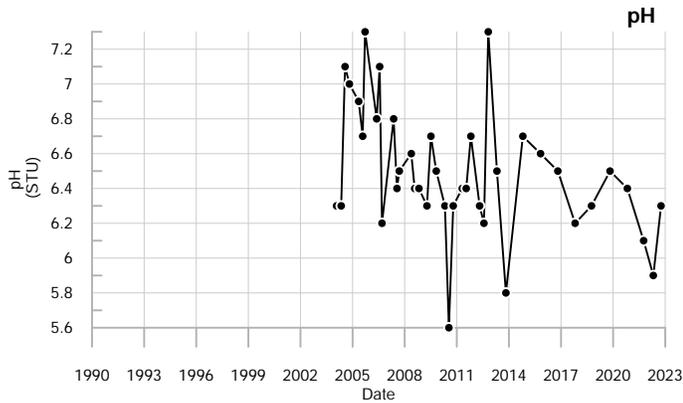
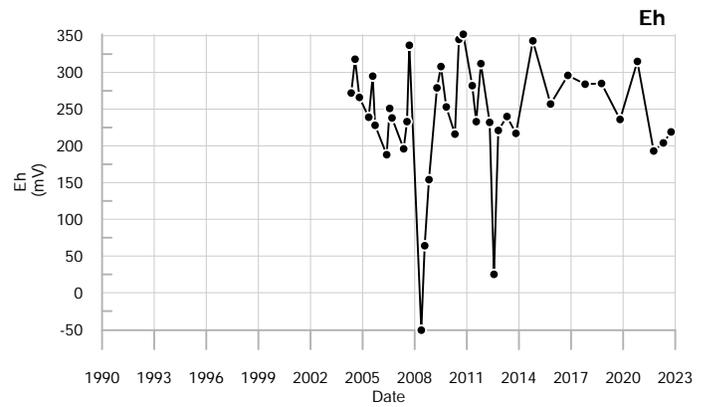
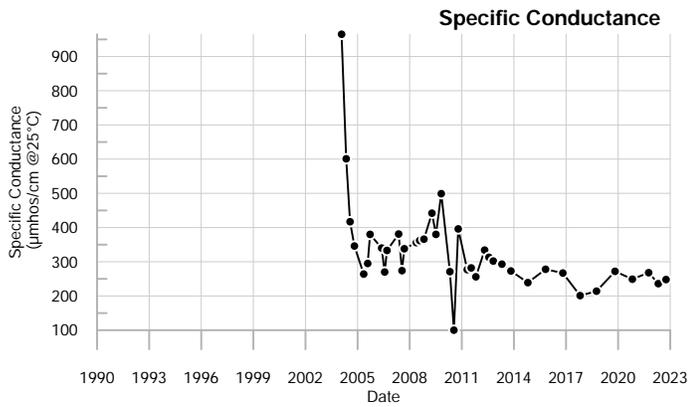
Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		236		248	100	965	330 ± 22		38
pH (STU)		5.9		6.3	5.6	7.3	6.5 ± 0.059		38
Temperature (Deg C)		10.3		15.4	6	23.9	13 ± 0.63		38
Water Level Elevation (Feet)		154.7		155.02	152.18	156.12	150 ± 0.14		38
Eh (mV)		204		219	-51	352	240 ± 14		37
Dissolved Oxygen (mg/L)		0.8		0.8	0.4	6	1.8 ± 0.26		38
Turbidity (field) (NTU)		5		3.5	0.6	36.2	8.6 ± 1.3		38

underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022
 Q4= 10 - 2022



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

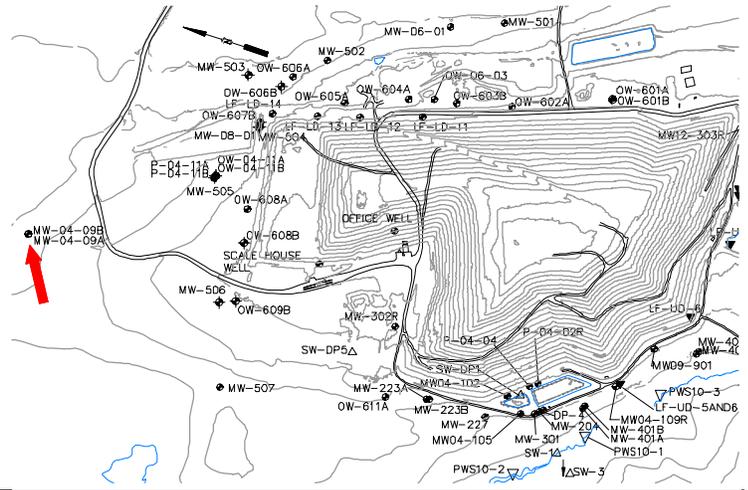


DP-4
Juniper Ridge Landfill

Well Description

MW-04-09A monitors bedrock groundwater downgradient and north of the landfill expansion.

Screen Interval: **38 ft. to 39 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **Feb-20**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		284	306	270	187	to 389	340 ± 32		6
pH (STU)		7.4	↓7	7.4	7.2	to 8.7	7.9 ± 0.2		6
Temperature (Deg C)		7.1	9.5	8.4	6.5	to 14.9	10 ± 1.3		6
Water Level Elevation (Feet)	↑164.83	↓160.6	162.4		160.78	to 164.66	160 ± 0.6		6
Eh (mV)		156	↑189	↑370	26	to 162	72 ± 24		6
Dissolved Oxygen (mg/L)		3.4	1	0.4	0.2	to 8.2	2.1 ± 1.2		6
Turbidity (field) (NTU)		3	2	↓0.6	0.8	to 81.2	17 ± 13		6
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.008	0.0061 ± 0.000		7
Calcium (mg/L)	↑24	↑24	23		19	to 23	21 ± 0.58		7
Copper (mg/L)	↑0.0054	0.0039	0.003 U		0.003 U	to 0.004	0.0031 ± 0.000		7
Iron (mg/L)	↓0.2	↓0.07	↓0.11		0.22	to 1.4	0.66 ± 0.17		7
Magnesium (mg/L)		7	7.3	↓6.5	6.6	to 7.5	7 ± 0.15		7
Manganese (mg/L)		0.2	0.2	0.26	0.14	to 0.33	0.26 ± 0.028		7
Potassium (mg/L)		3	3.3	↓2.1	2.6	to 3.6	3.1 ± 0.15		7
Sodium (mg/L)	37	32	30		19	to 53	35 ± 5		7
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	↑0.53	0.2 U	to 0.25 U	0.24 ± 0.008		6
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5 ± 0		6
Nitrite/Nitrate - (N) (mg/L)	↑0.051	0.05 U	↑0.14		0.05 U	to 0.05 U	0.05 ± 4E-10		6
Total Dissolved Solids (mg/L)		223	223	↓150	203	to 272	240 ± 9		6
Total Suspended Solids (mg/L)		5.3	↓2.5 U	4 U	3.3	to 93	34 ± 14		6
Sulfate (mg/L)		62	65	54	2 U	to 96	66 ± 14		6
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 1.1	0.28 ± 0.16		6
Alkalinity (CaCO3) (mg/L)		99	95	95	84	to 100	92 ± 2.4		6
Organic Carbon (mg/L)		3.7	3.2	↓1.6	3	to 7.1	4.4 ± 0.62		6
Chloride (mg/L)		4.4	4.8	4.3	4.1	to 5.9	5.3 ± 0.27		6
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 8E-10		6
Methane (ug/L)		20 U	20 U	20 U	20 U	to 20 U	20 ± 0		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

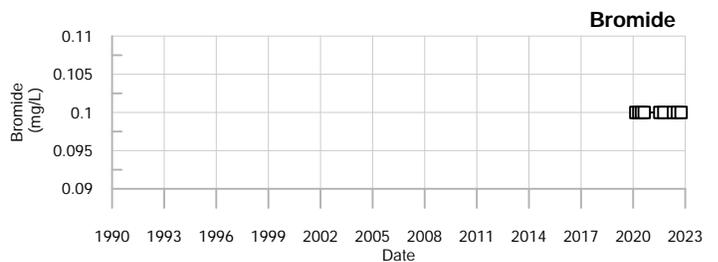
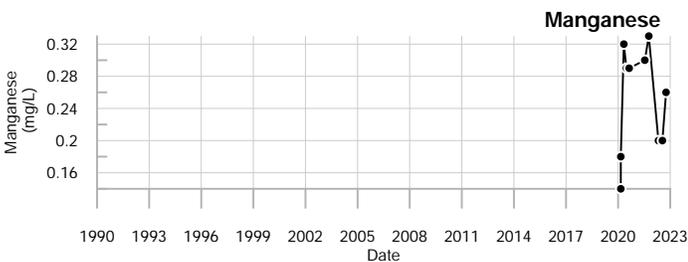
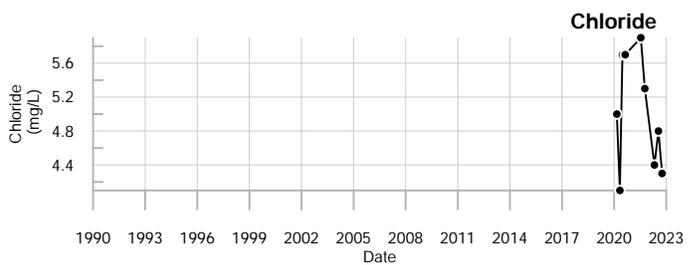
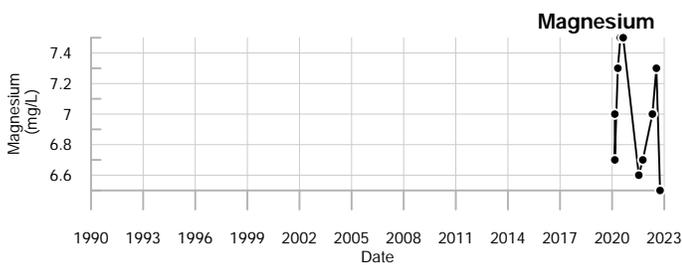
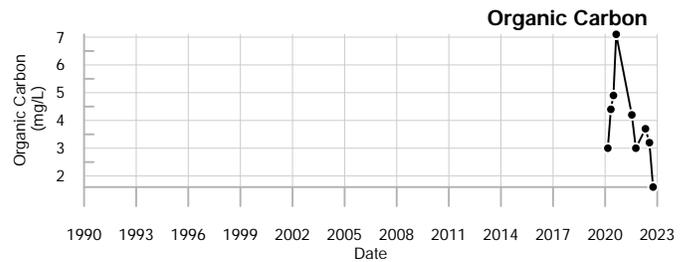
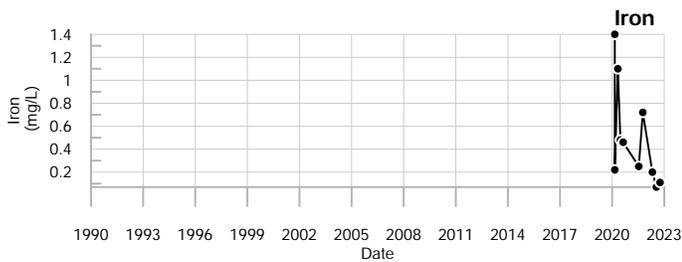
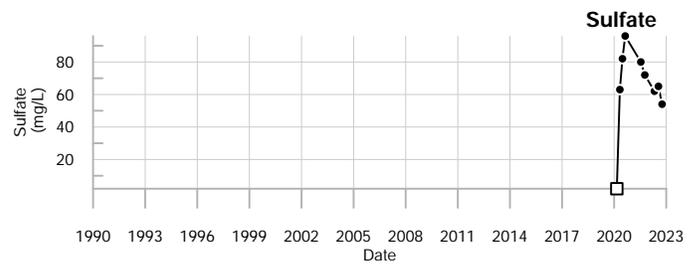
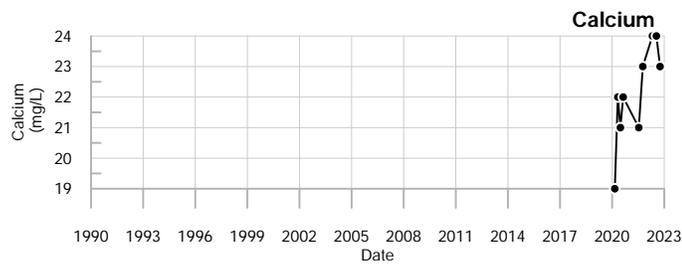
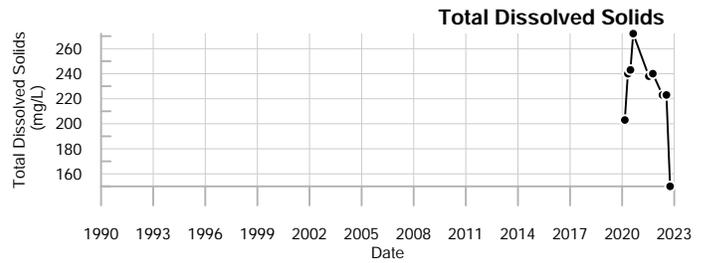
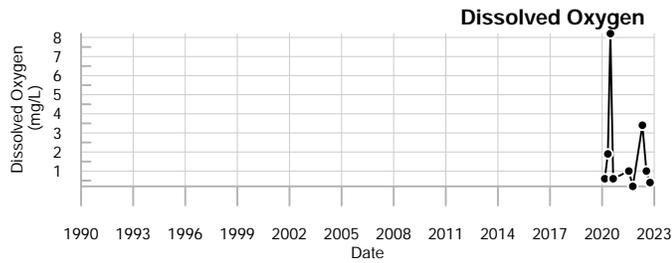
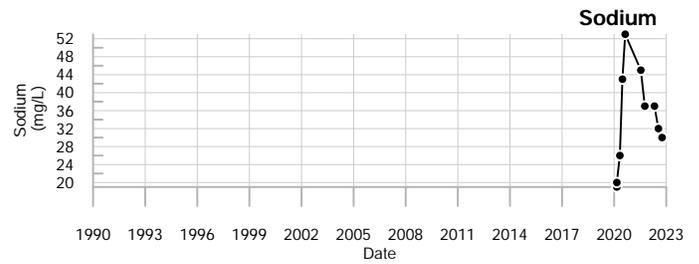
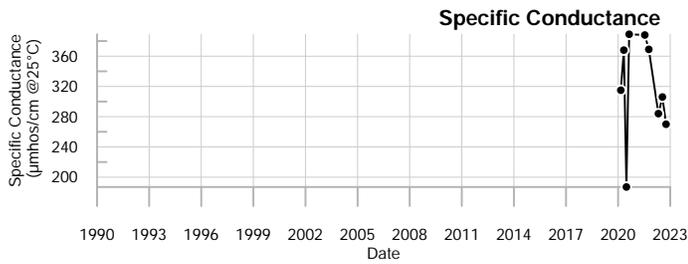
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

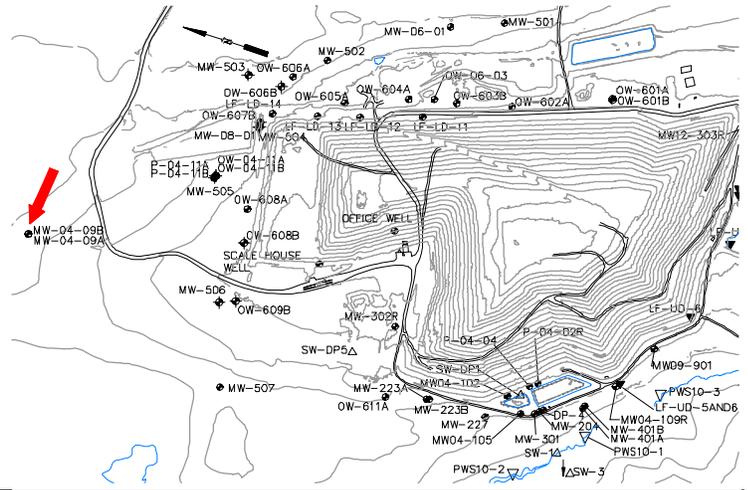


MW-04-09A
Juniper Ridge Landfill

Well Description

MW-04-09B monitors overburden groundwater downgradient and north of the landfill expansion

Screen Interval: **14 ft. to 15 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **Feb-20**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		89	104	↑139	89 to 127		110 ± 5.3		6
pH (STU)		6.6	6.9	7.4	6.6 to 7.4		7 ± 0.12		6
Temperature (Deg C)		6.2	10.9	9.9	5.3 to 12.1		9.7 ± 1.3		6
Water Level Elevation (Feet)	↑165.33	↓160.53		162.53	160.82 to 164.82		160 ± 0.63		6
Eh (mV)		247	256	316	235 to 417		330 ± 25		6
Dissolved Oxygen (mg/L)		8.6	7.4	↓3.4	7.2 to 10.5		8.9 ± 0.53		6
Turbidity (field) (NTU)		4.6	3.8	↓0.3	0.7 to 11.1		5 ± 1.9		6
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U to 0.005		0.005 ± 3E-11		6
Calcium (mg/L)		9.3	9.5	9.7	8.1 to 11		9.1 ± 0.48		6
Copper (mg/L)		0.003 U	0.003 U	0.003 U	0.003 U to 0.003 U		0.003 ± 2E-11		6
Iron (mg/L)	↓0.07	↓0.13		0.24	0.14 to 0.32		0.23 ± 0.028		6
Magnesium (mg/L)		3.7	3.6	3.8	3.1 to 4.1		3.6 ± 0.13		6
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U to 0.05 U		0.05 ± 4E-10		6
Potassium (mg/L)	↑1.5	↑1.3		0.71	0.7 to 1		0.82 ± 0.054		6
Sodium (mg/L)		5.1	5	4.6	4 to 5.6		4.9 ± 0.27		6
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U to 0.05 U		0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	↑0.57	0.2 U to 0.28		0.25 ± 0.011		6
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U to 0.5 U		0.5 ± 0		6
Nitrite/Nitrate - (N) (mg/L)		0.068	0.055	↑0.16	0.05 U to 0.08		0.066 ± 0.005		6
Total Dissolved Solids (mg/L)		82	93	↓42	81 to 103		88 ± 3.3		6
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U to 4.3		3 ± 0.28		6
Sulfate (mg/L)		3.7	3.3	3.8	2 U to 7.3		5 ± 0.77		6
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U to 0.1 U		0.1 ± 8E-10		6
Alkalinity (CaCO3) (mg/L)	↓39	↓39		44	41 to 52		45 ± 1.7		6
Organic Carbon (mg/L)	↓1 U	↓1 U		↓1 U	2 U to 2 U		2 ± 0		6
Chloride (mg/L)	↑4.3	↑4.3		↑4.4	2.8 to 4		3.5 ± 0.18		6
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U to 0.1 U		0.1 ± 8E-10		6
Methane (ug/L)		20 U	20 U	20 U	20 U to 20 U		20 ± 0		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

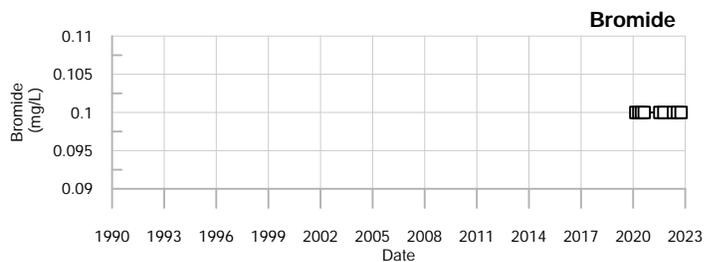
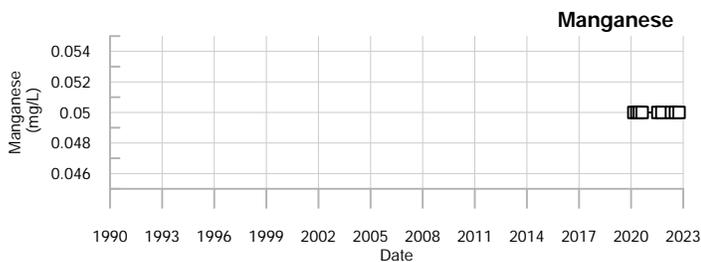
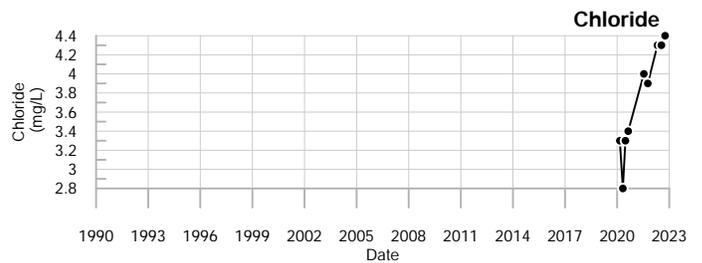
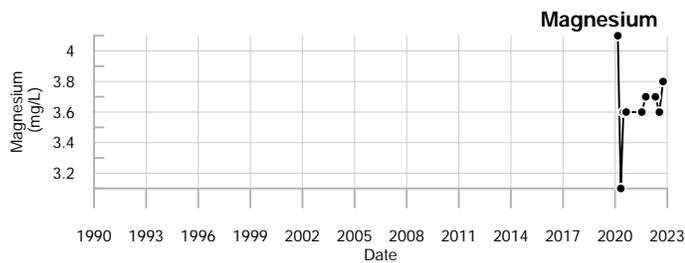
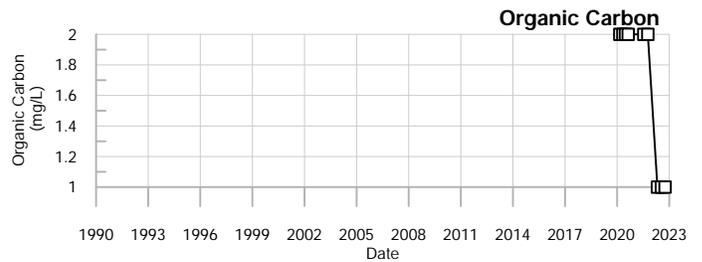
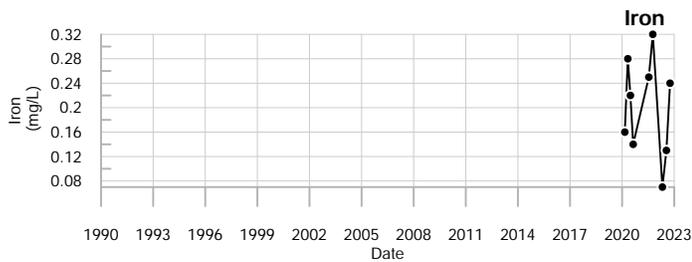
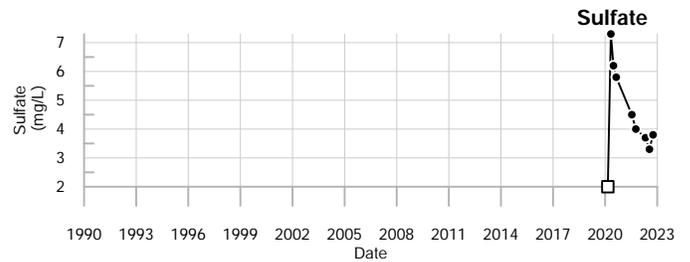
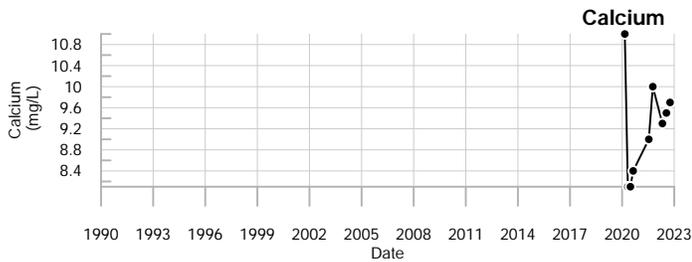
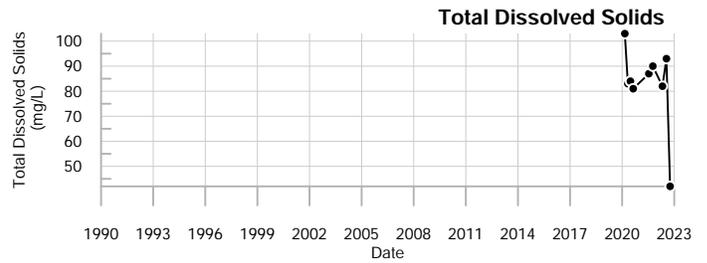
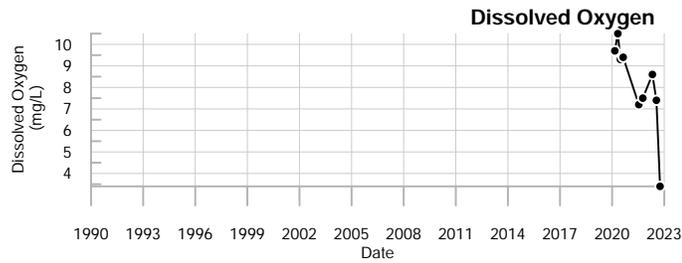
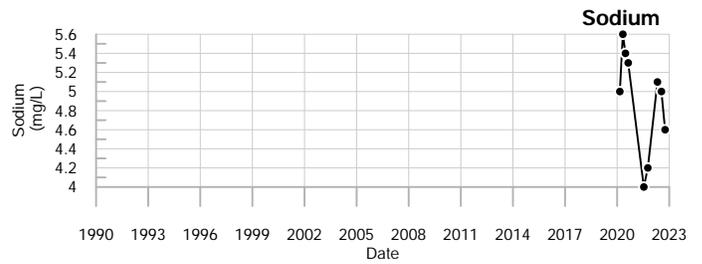
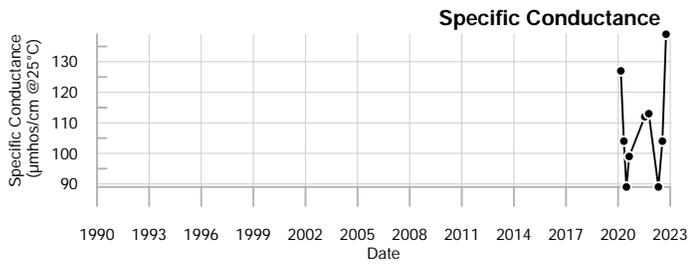
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

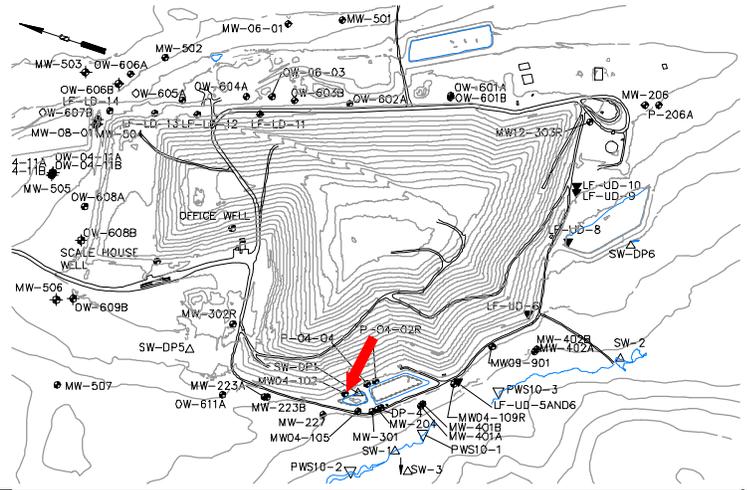


MW-04-09B
Juniper Ridge Landfill

Well Description

MW04-102 monitors groundwater in the overburden downgradient of the landfill and upgradient of Stormwater Detention Pond-1.

Screen Interval: **10 ft. to 15 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **01/18/2005**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		195	207	210	193	320	230 ± 2.8		52
pH (STU)		7.7	7.6	7.3	6.2	8.4	7.8 ± 0.06		52
Temperature (Deg C)		7.5	16	15	4	20.1	12 ± 0.59		52
Water Level Elevation (Feet)		163.32	↓ 160.3	161.92	161.8	167.62	160 ± 0.16		52
Eh (mV)		202	201	279	-8	476	310 ± 12		52
Dissolved Oxygen (mg/L)		5.4	3.7	5.3	1	7.5	3.8 ± 0.2		52
Turbidity (field) (NTU)		2.6	2.7	1.5	0	8.1	1.5 ± 0.2		52
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	0.017	0.0053 ± 0.000		52
Calcium (mg/L)		30	27	29	23.5	31.2	26 ± 0.22		52
Iron (mg/L)		0.05 U	0.06	0.059	0.02 U	0.19	0.054 ± 0.005		52
Magnesium (mg/L)		7.6	7.2	7.1	6.3	8.1	7 ± 0.054		52
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	0.09	0.04 ± 0.002		52
Potassium (mg/L)		2.4	1.6	1.7	1.2	3.2	1.8 ± 0.051		52
Sodium (mg/L)		8.4	7.2	6.9	6.3	11	7.7 ± 0.14		52
Total Kjeldahl Nitrogen (mg/L)		0.51	0.2 U	0.2 U	0.2 U	3.8	0.48 ± 0.072		52
Nitrite/Nitrate - (N) (mg/L)		0.16	0.07	0.11	0.05 U	2 U	0.21 ± 0.094		21
Total Dissolved Solids (mg/L)		126	139	↓ 91	116	151	130 ± 1.1		52
Total Suspended Solids (mg/L)		2.5 U	3	4 U	2.5 U	5	3.6 ± 0.1		52
Sulfate (mg/L)		12	10	8.8	5.7	14.5	11 ± 0.31		52
Bicarbonate Alkalinity (CaCO3) (mg/L)		100	100	100	73	110	100 ± 0.72		52
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5	5.3	1.9 ± 0.13		52
Chloride (mg/L)		1	1.2	1.1	1 U	3.5	1.8 ± 0.08		52
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.03 U	0.2 U	0.11 ± 0.009		31

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

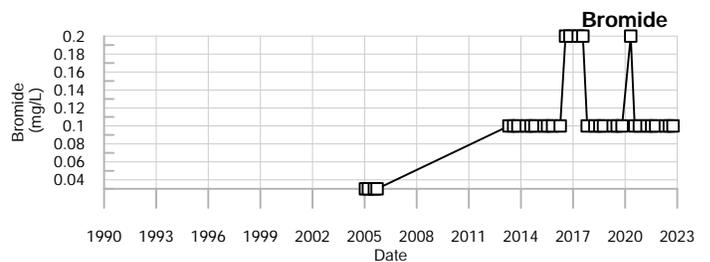
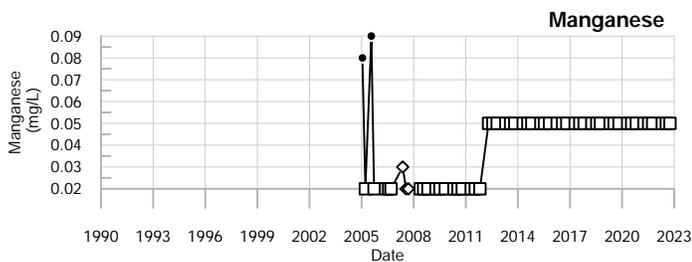
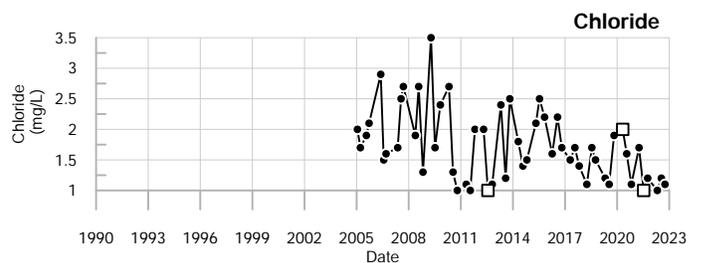
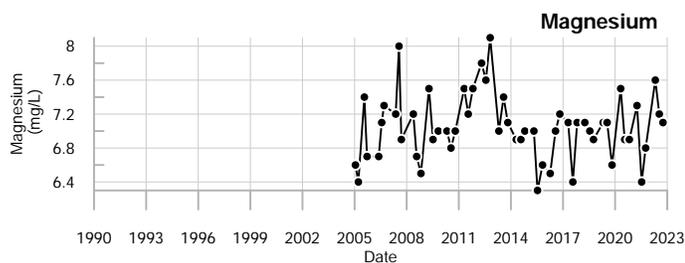
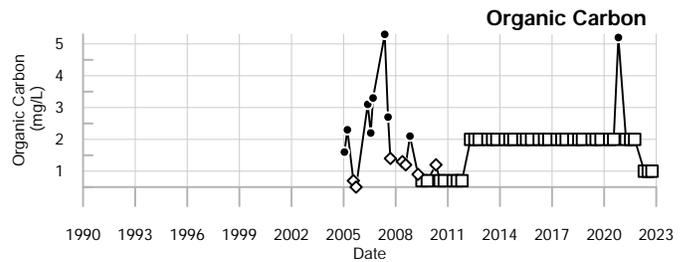
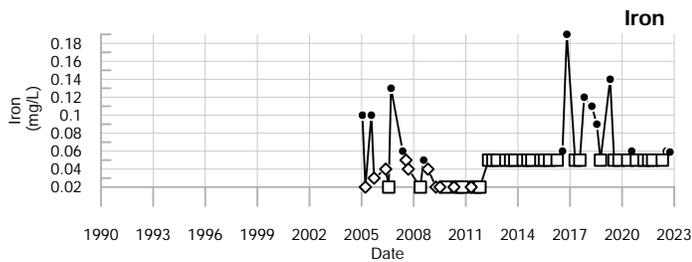
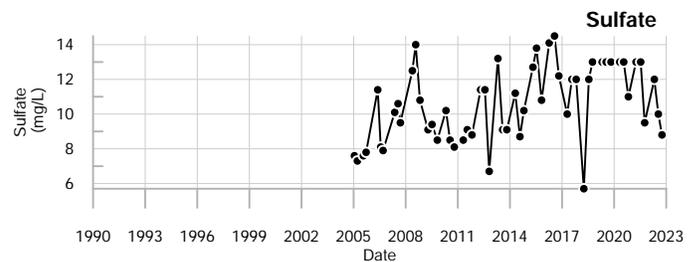
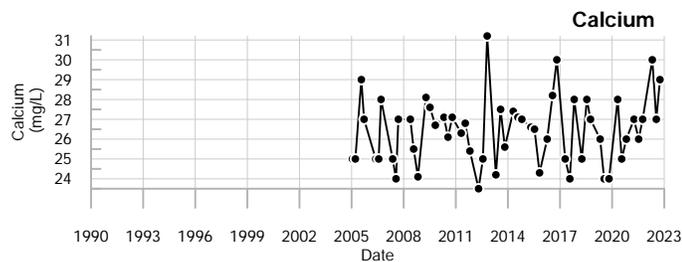
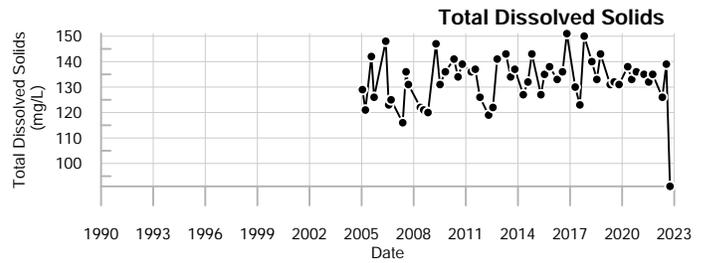
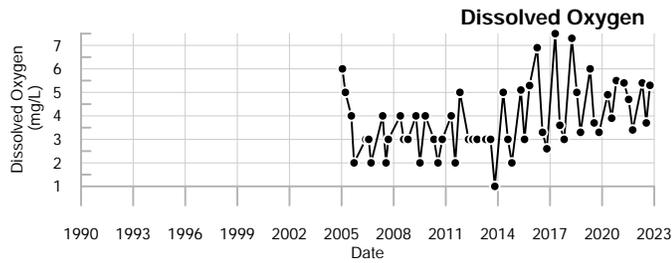
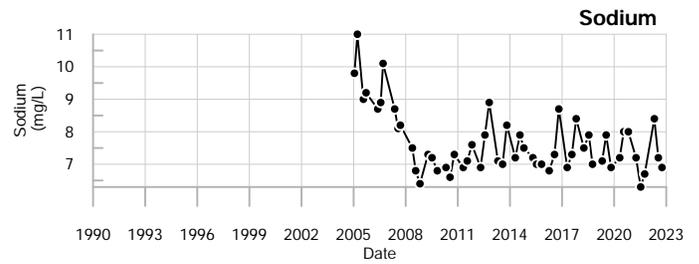
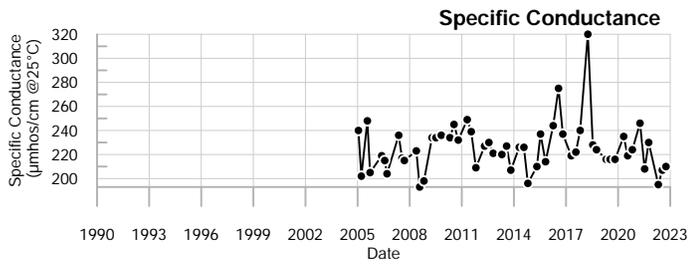
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022		DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

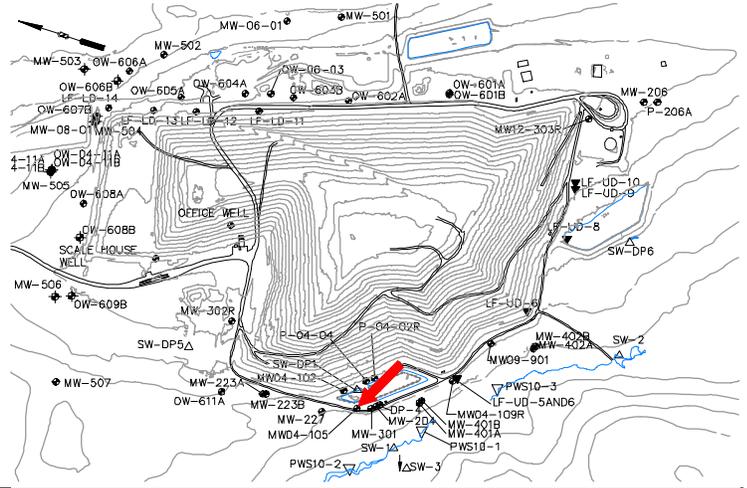


MW04-102
Juniper Ridge Landfill

Well Description

MW04-105 monitors groundwater in the overburden downgradient of the landfill and Stormwater Detention Pond-1.

Screen Interval: **14.8 ft. to 19.8 ft.**
 Sampled: **1 Time Annually(field parameters only)**
 Sampled Since: **01/17/2005**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↓207		316	217	to 703	360 ± 18		35
pH (STU)		6.5		6.5	6.1	to 7.7	6.9 ± 0.058		35
Temperature (Deg C)		10		14.1	6.7	to 23.8	12 ± 0.58		35
Water Level Elevation (Feet)		157.59		157.09	156.39	to 159.79	160 ± 0.13		35
Eh (mV)		211		180	-7	to 447	300 ± 14		35
Dissolved Oxygen (mg/L)		2.6		0.3	0.3	to 4	1.2 ± 0.18		35
Turbidity (field) (NTU)		2.3		2	0	to 3.7	0.92 ± 0.15		35

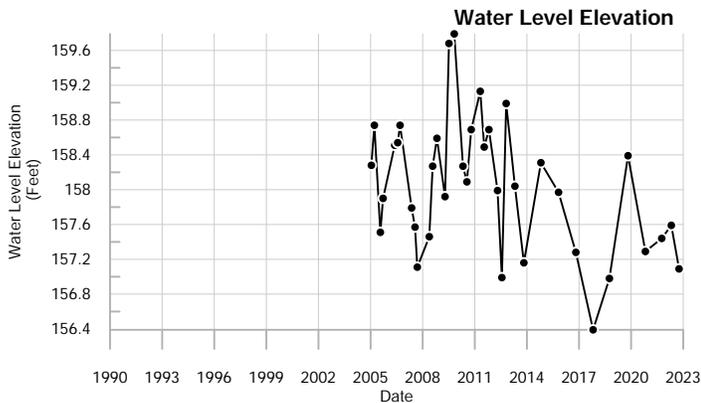
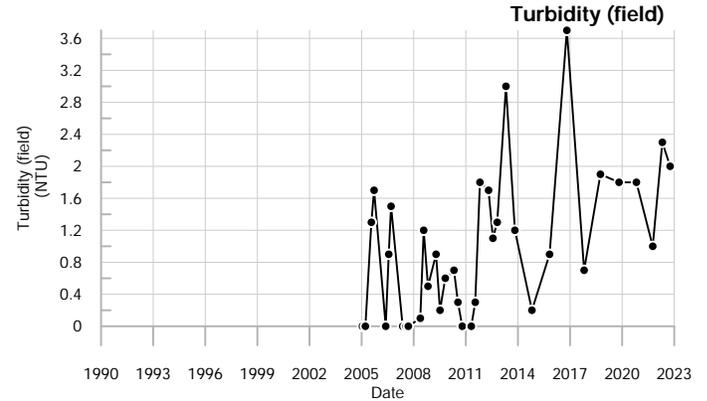
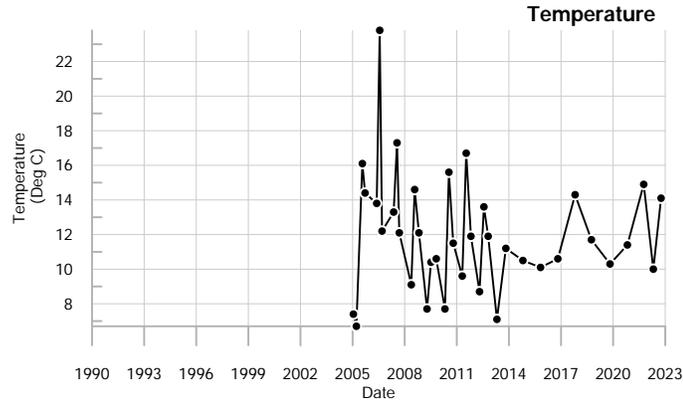
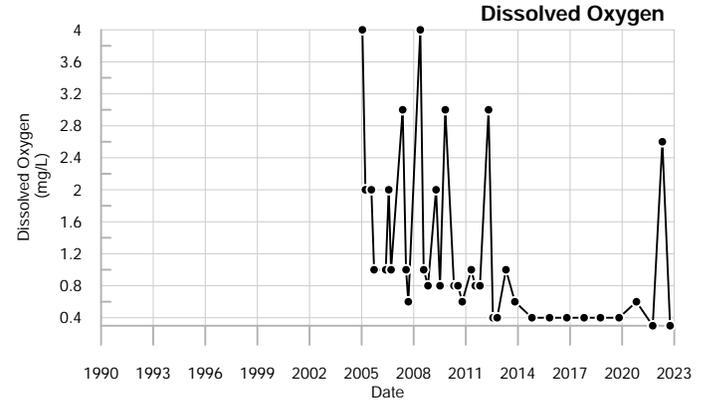
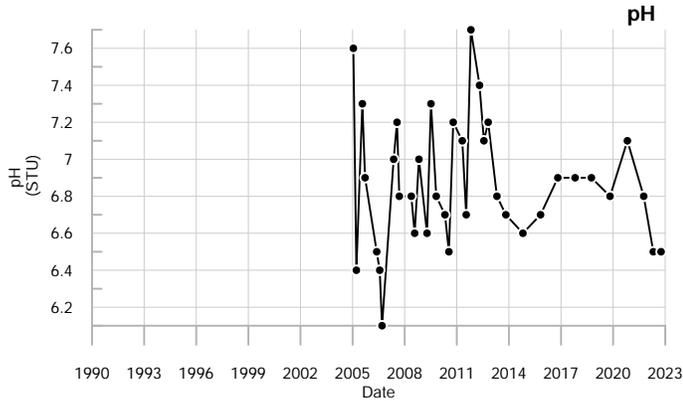
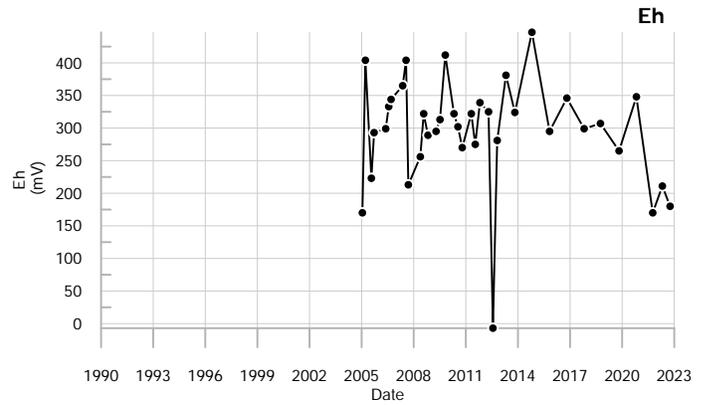
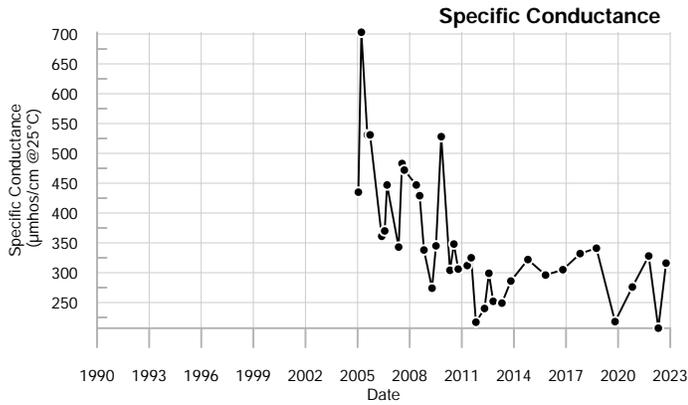
underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022
 Q4= 10 - 2022



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

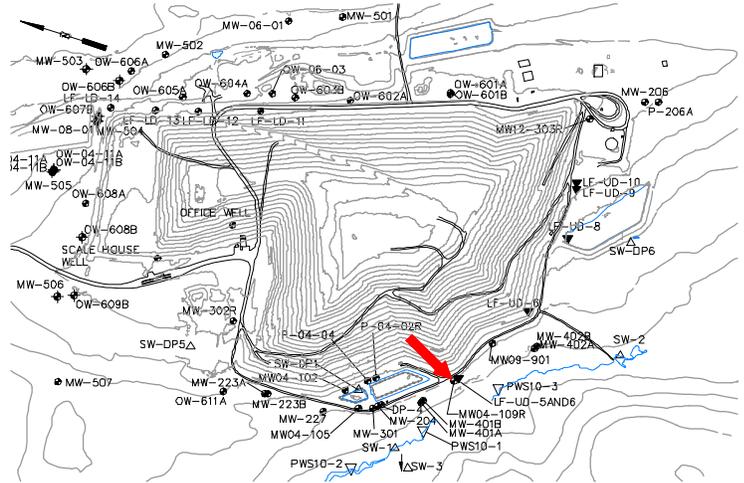


MW04-105
Juniper Ridge Landfill

Well Description

MW04-109R is located to the south of Cell #5 of the landfill and near Manhole #5. This well monitors water quality within the overburden downgradient of the landfill.

- Screen Interval: **15 ft. to 20 ft.**
- Sampled: **3 Times Annually**
- Sampled Since: **12/08/2009**
- Material Screened: **Overburden**
- Well Condition: **Good**
- Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		314	370	345	237	to 556	420 ± 8.3		37
pH (STU)		6.5	↓6.2	6.3	6.3	to 7.9	6.7 ± 0.042		37
Temperature (Deg C)		9.7	21.9	9.3	5.9	to 21.9	13 ± 0.78		37
Water Level Elevation (Feet)		153.83	152.63	153.08	151.51	to 154.46	150 ± 0.11		37
Eh (mV)		250	202	273	-478	to 419	280 ± 27		37
Dissolved Oxygen (mg/L)		2.7	0.7	0.8	0.1 U	to 4.3	0.99 ± 0.14		37
Turbidity (field) (NTU)		2	1.5	1.4	0	to 2.9	0.98 ± 0.15		37
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 U	to 0.033	0.012 ± 0.001		37
Calcium (mg/L)		57	56	58	50.3	to 77.2	61 ± 0.94		37
Iron (mg/L)		0.05 U	0.05	0.05 U	0.02 U	to 0.05 U	0.045 ± 0.002		37
Magnesium (mg/L)		11	13	11	9.4	to 14.3	12 ± 0.19		37
Manganese (mg/L)		0.17	0.83	1.1	0.02	to 1.4	0.55 ± 0.081		37
Potassium (mg/L)		↑2.6	1.8	1.9	1.7	to 2.5	2 ± 0.034		37
Sodium (mg/L)		6.6	6.4	6.6	6.1	to 10.6	7.9 ± 0.2		37
Total Kjeldahl Nitrogen (mg/L)		0.25	0.32	0.2 U	0.2 U	to 0.92	0.38 ± 0.024		37
Nitrite/Nitrate - (N) (mg/L)		0.052	0.05 U	0.12	0.05 U	to 2 U	0.21 ± 0.094		21
Total Dissolved Solids (mg/L)		232	244	↑650	224	to 310	260 ± 2.8		37
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	to 4 U	3.4 ± 0.12		37
Sulfate (mg/L)		6	6.4	5.9	2.6	to 55	9.6 ± 1.3		37
Bicarbonate Alkalinity (CaCO3) (mg/L)		190	190	↓180	184	to 233	200 ± 2		37
Organic Carbon (mg/L)		1.7	1.7	1.6	1.2	to 54	3.4 ± 1.4		37
Chloride (mg/L)		3.7	5.7	3.3	1 U	to 15.9	6.2 ± 0.47		37
Bromide (mg/L)		0.15	0.18	0.13	0.1 U	to 0.25	0.17 ± 0.008		27

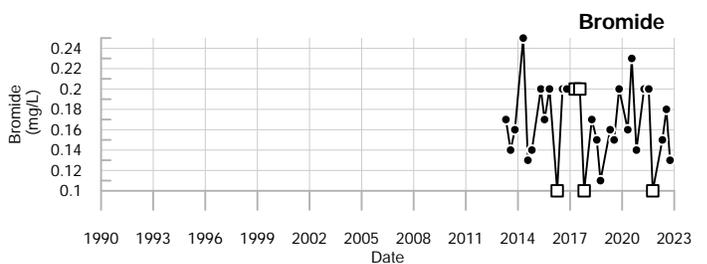
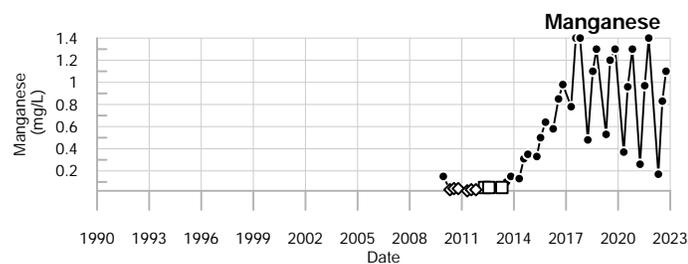
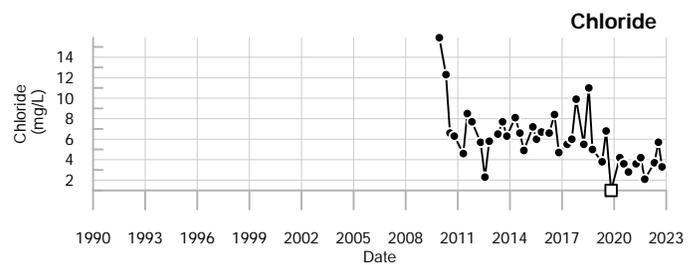
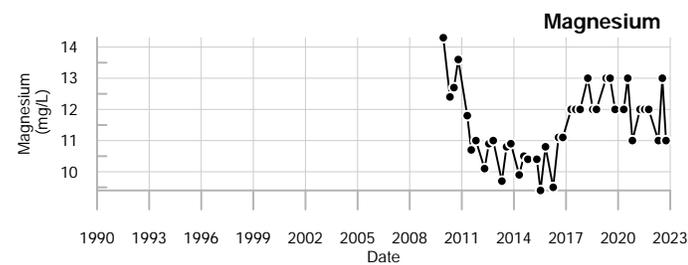
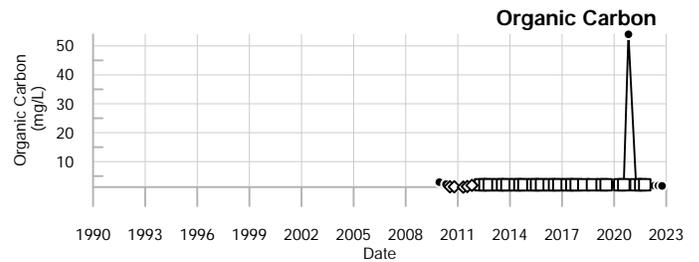
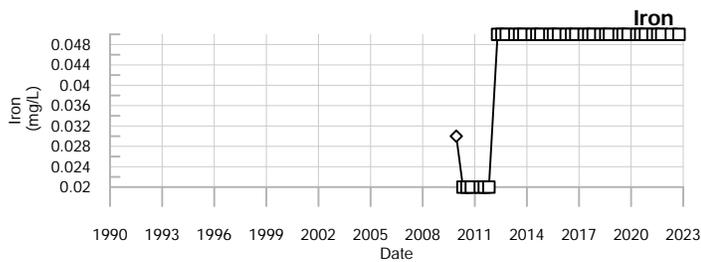
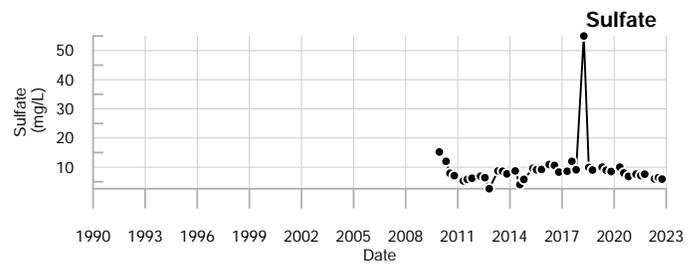
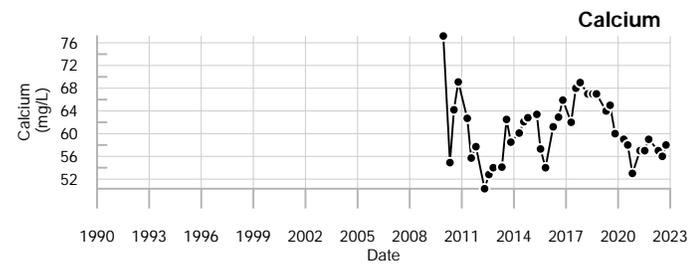
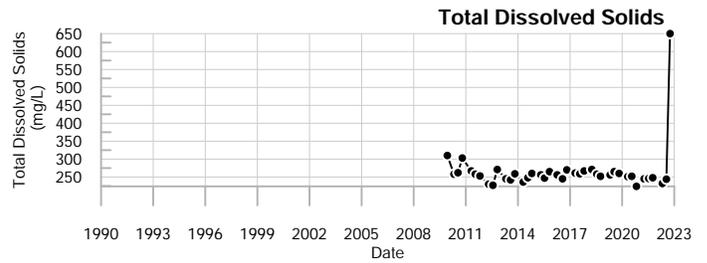
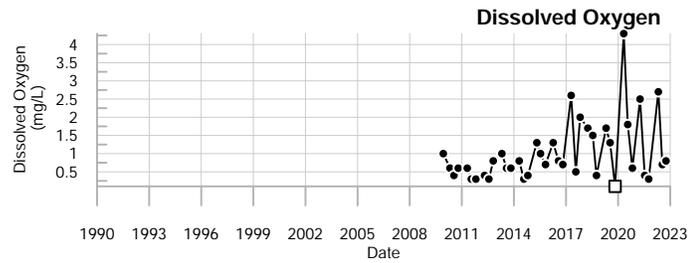
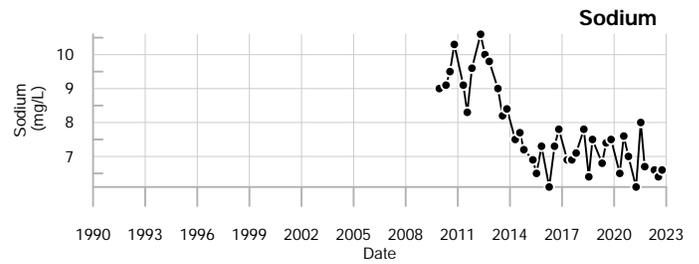
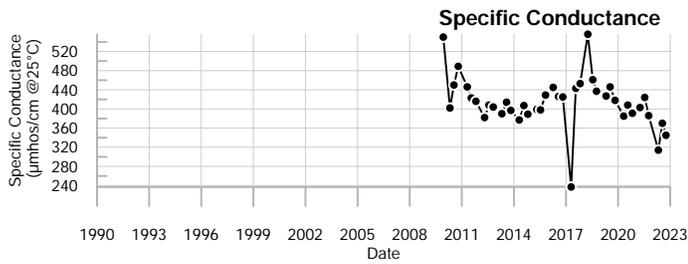
underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
 Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022		DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
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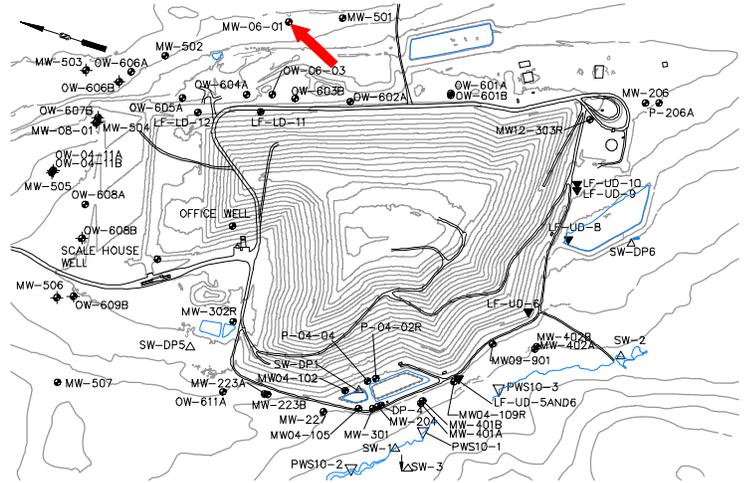


MW04-109R
Juniper Ridge Landfill

Well Description

MW06-01 monitors overburden groundwater downgradient and east of the landfill expansion.

Screen Interval: **10 ft. to 20 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **Apr-18**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↑162	↑149	↑154		67 to 111		91 ± 3.3		13
pH (STU)		6.3	6.9	7.2	6.1 to 8.1		7.1 ± 0.19		13
Temperature (Deg C)		8	12.2	11.4	6.4 to 18.1		10 ± 0.92		13
Water Level Elevation (Feet)			164.301	163.951	162.881 to 165.951		160 ± 0.36		9
Eh (mV)		424	325	355	219 to 508		370 ± 19		13
Dissolved Oxygen (mg/L)	↓2.5	↓1.8	↓1.8		3.9 to 13		8.9 ± 0.68		13
Turbidity (field) (NTU)	0.2	0.2	0.3		0.1 to 3.5		0.89 ± 0.34		13
Arsenic (mg/L)	0.005 U	0.005 U	0.005 U		0.005 U to 0.005 U		0.005 ± 4E-11		13
Calcium (mg/L)	↑23	↑21	↑21		8.4 to 13		9.9 ± 0.43		13
Copper (mg/L)			0.003 U	0.003 U	0.003 U to 0.003 U		0.003 ± 0		2
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U to 0.66		0.097 ± 0.047		13
Magnesium (mg/L)	↑6.2	↑6.4	↑5.6		2.4 to 3.6		2.9 ± 0.11		13
Manganese (mg/L)	0.05 U	0.05 U	0.05 U		0.05 U to 0.05 U		0.05 ± 3E-10		13
Potassium (mg/L)	↑1.7	↑0.98	0.61		0.4 to 0.9		0.52 ± 0.039		13
Sodium (mg/L)	↑5.9	↑4.8	↑4		2.5 to 3.5		3 ± 0.091		13
Boron (mg/L)			0.05 U	0.05 U	0.05 U to 0.05 U		0.05 ± 0		1
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U to 0.25 U		0.25 ± 0.004		13
Ammonia (N) (mg/L)			0.5 U		0.5 U to 0.5 U		0.5 ± 0		2
Nitrite/Nitrate - (N) (mg/L)		0.23	↑0.27	↑0.34	0.05 U to 0.26		0.14 ± 0.015		13
Total Dissolved Solids (mg/L)	↑129	↑128	↑140		50 to 98		69 ± 4		13
Total Suspended Solids (mg/L)		2.5 U	2.5 U	↑4 U	2.5 U to 2.5 U		2.5 ± 0		13
Sulfate (mg/L)		2.5	2.5	2.3	2 U to 9.2		3.2 ± 0.51		13
Sulfide (mg/L)			0.1 U		0.1 U to 0.1 U		0.1 ± 0		2
Bicarbonate Alkalinity (CaCO3) (mg/L)	↑69				23 to 40		33 ± 1.7		9
Alkalinity (CaCO3) (mg/L)			↑62	↑67	31 to 32		32 ± 0.29		4
Organic Carbon (mg/L)	↓1 U	↓1 U	↓1 U		2 U to 4.9		2.2 ± 0.22		13
Chloride (mg/L)	↑12	↑13	↑12		1.3 to 11		7.3 ± 0.73		13
Bromide (mg/L)	↑0.2	0.1 U	↑0.14		0.1 U to 0.1 U		0.1 ± 6E-10		13
Methane (ug/L)			↑62		20 U to 20 U		20 ± 0		1

underlined/bold - values exceed a regulatory standard listed below.

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Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

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Comments

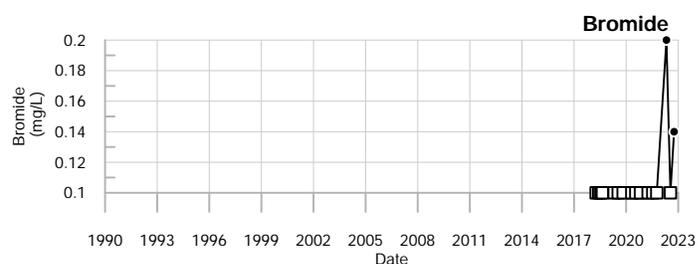
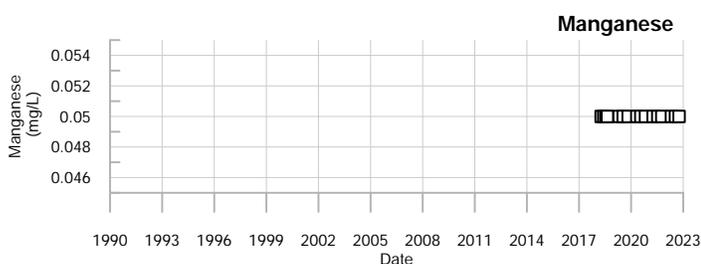
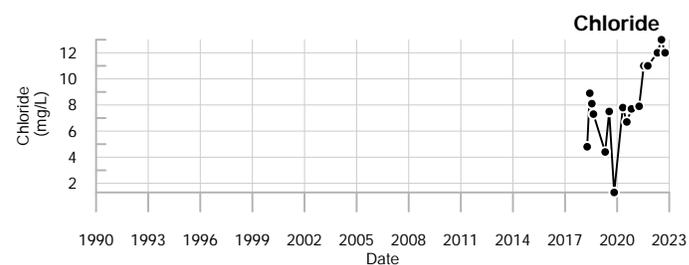
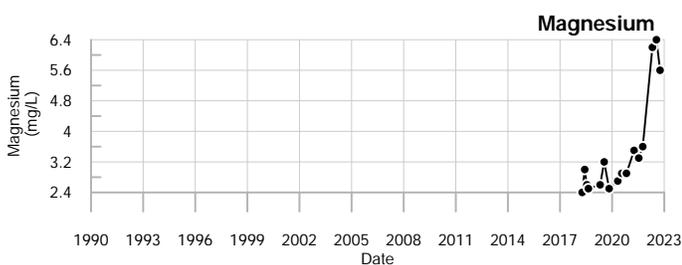
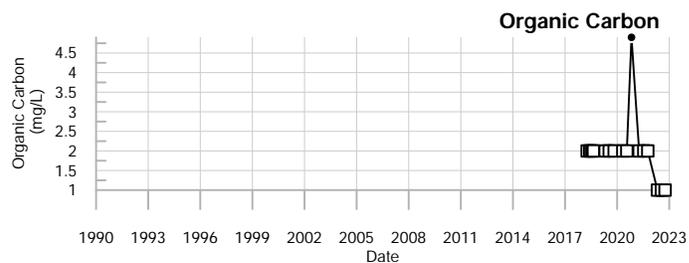
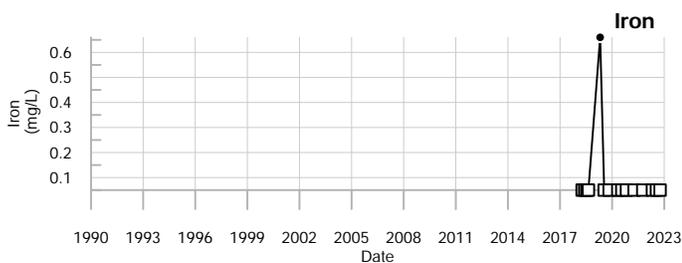
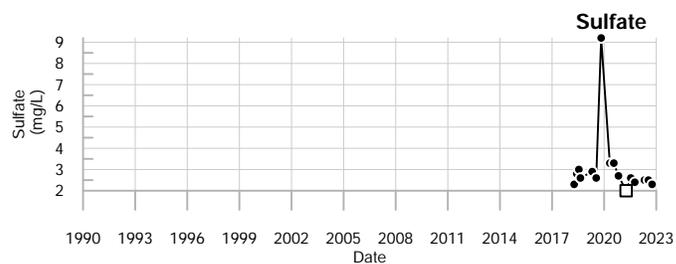
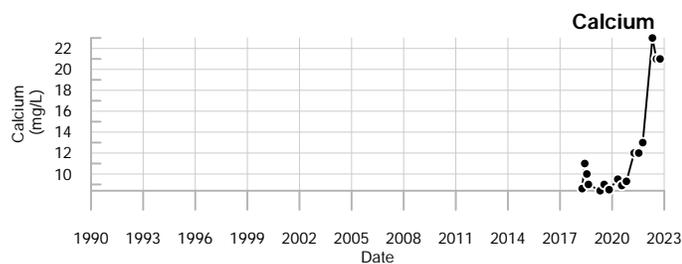
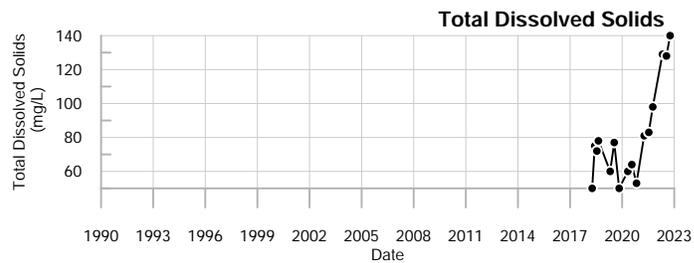
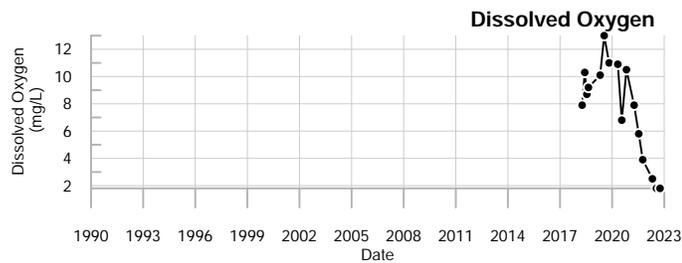
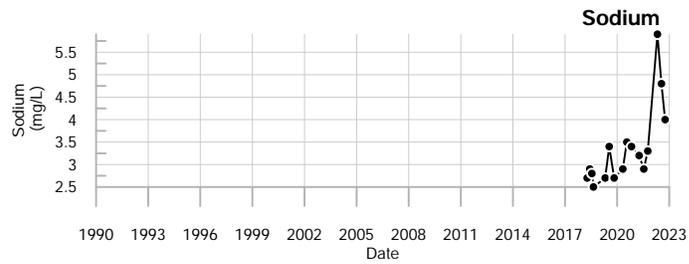
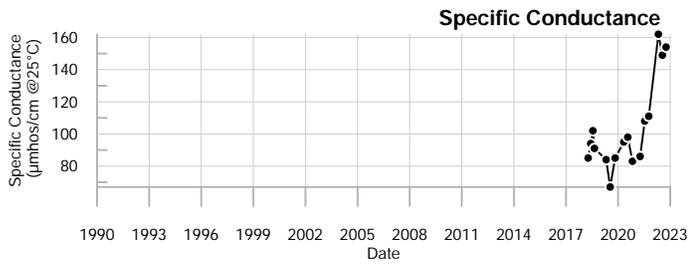
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Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

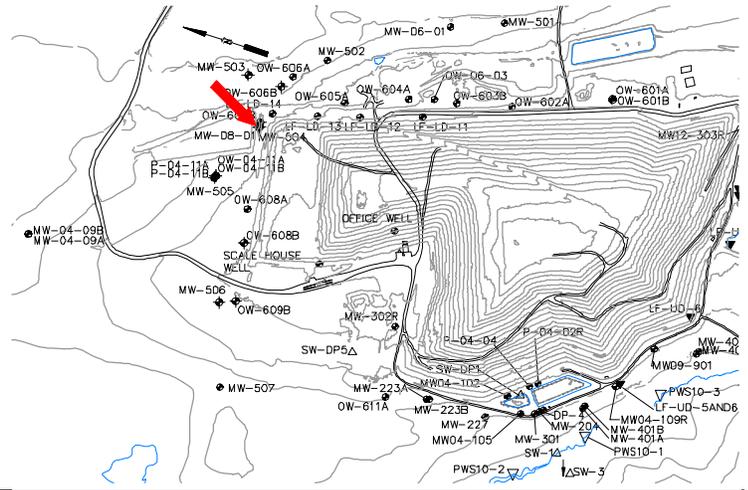


MW06-01
Juniper Ridge Landfill

Well Description

MW-08-01 monitors bedrock groundwater downgradient of and north of the landfill expansion.

Screen Interval: **117 ft. to 127 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **2/9/2021**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		210	↓183	↑243	188	to 229	200 ± 7.4		5
pH (STU)		7.8	7.6	7.1	7.1	to 8.4	7.7 ± 0.25		5
Temperature (Deg C)		8.8	↑17.4	↑11.9	5.7	to 11.6	9.3 ± 1.1		5
Water Level Elevation (Feet)		↓154.26	↓153.61	↓153.56	160.71	to 161.33	160 ± 0.11		5
Eh (mV)		↓134	169	217	155	to 343	240 ± 42		5
Dissolved Oxygen (mg/L)		1.5	1.2	1.6	0.9	to 4.5	2 ± 0.64		5
Turbidity (field) (NTU)		↑13	↑5.9	↑6.6	0.5	to 5.2	2.3 ± 0.84		5
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.005	0.005 ± 3E-11		5
Calcium (mg/L)		↑18	↑19	↑23	11	to 14	13 ± 0.49		5
Copper (mg/L)		0.003 U	↑0.005	0.003 U	0.003 U	to 0.003 U	0.003 ± 2E-11		5
Iron (mg/L)		↑0.4	↑0.4	0.18	0.05 U	to 0.32	0.1 ± 0.054		5
Magnesium (mg/L)		↑3.4	↑4.1	↑4.5	2.8	to 3.2	3 ± 0.073		5
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05 ± 4E-10		5
Potassium (mg/L)		↑2.7	↑2.6	↑1.5	1.1	to 1.3	1.3 ± 0.04		5
Sodium (mg/L)		32	↓20	↓18	26	to 35	29 ± 1.8		5
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)		↑0.38	0.2 U	0.24	0.2 U	to 0.25 U	0.23 ± 0.012		5
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.087	↑1.3	0.05 U	to 0.089	0.061 ± 0.008		5
Total Dissolved Solids (mg/L)		↑179	↓135	↓130	141	to 162	150 ± 3.7		5
Total Suspended Solids (mg/L)		↑31	3	↑6.4	2.5 U	to 4.7	3.1 ± 0.44		5
Sulfate (mg/L)		19	14	16	12	to 19	15 ± 1.4		5
Sulfide (mg/L)		0.1 U	↑0.3 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 8E-10		5
Alkalinity (CaCO3) (mg/L)		↑96	↓86	↓89	90	to 95	92 ± 0.97		5
Organic Carbon (mg/L)		↓1 U	↓1 U	↓1.1	2 U	to 2 U	2 ± 0		5
Chloride (mg/L)		5.9	4.2	↑7.3	2.9	to 6.9	4.6 ± 0.68		5
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 8E-10		5
Methane (ug/L)		20 U	20 U	20 U	20 U	to 20 U	20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

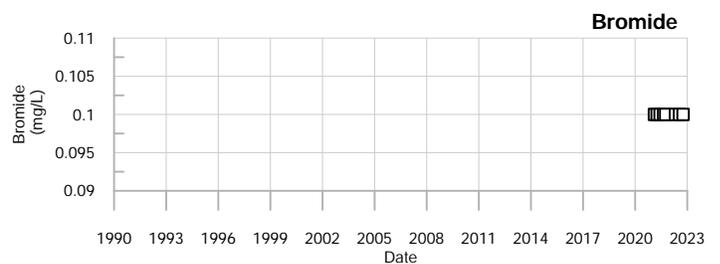
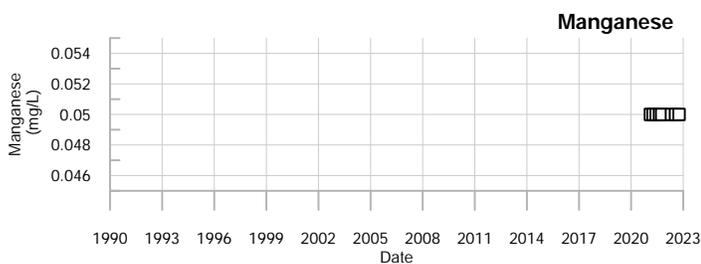
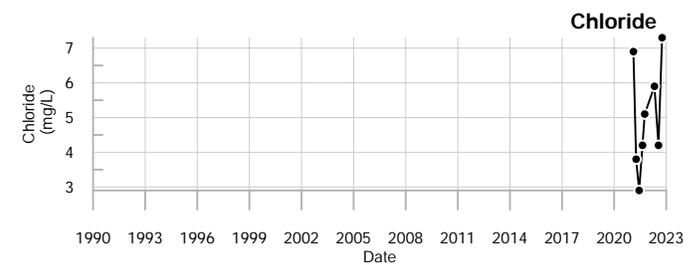
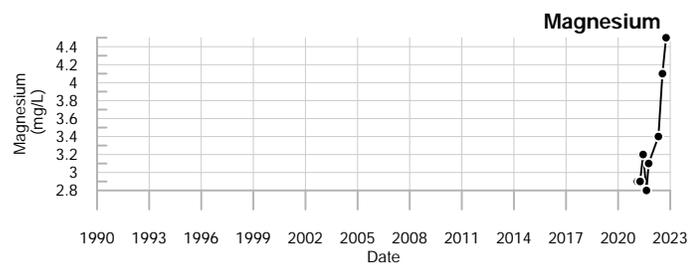
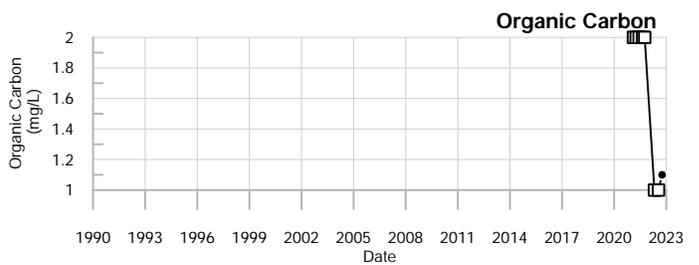
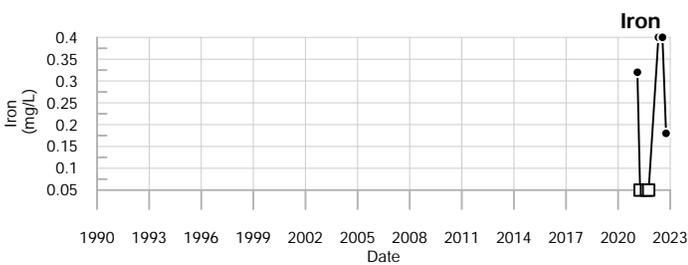
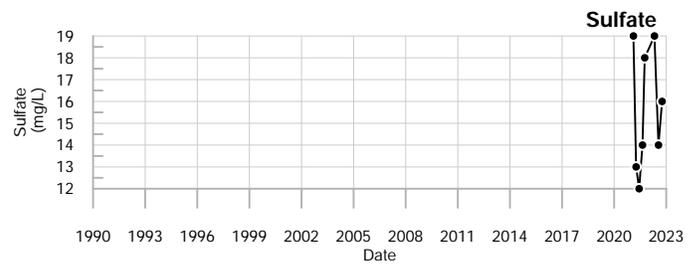
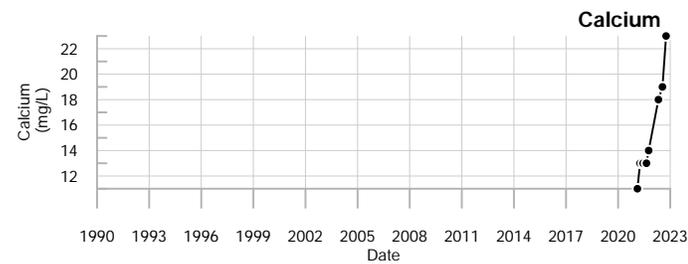
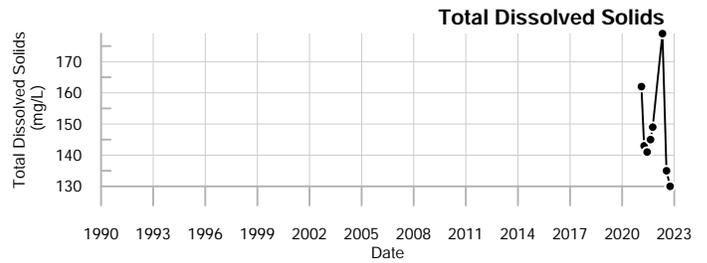
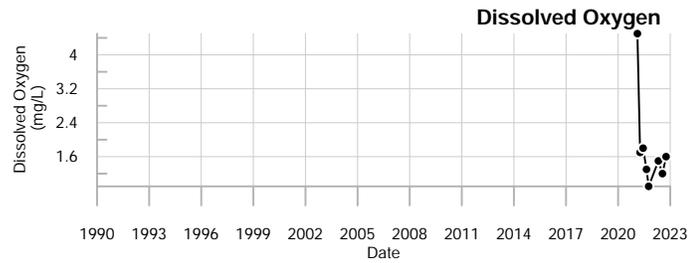
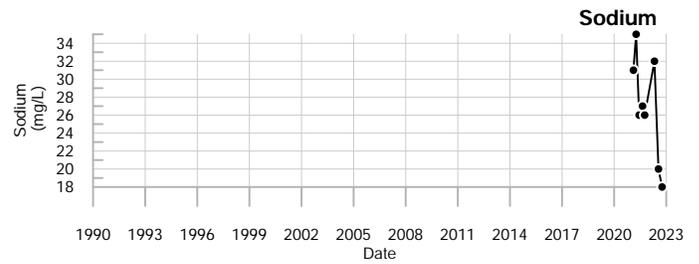
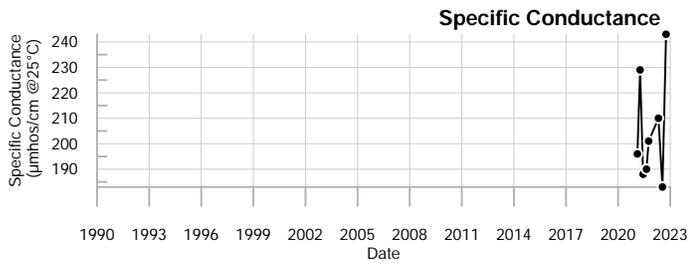
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

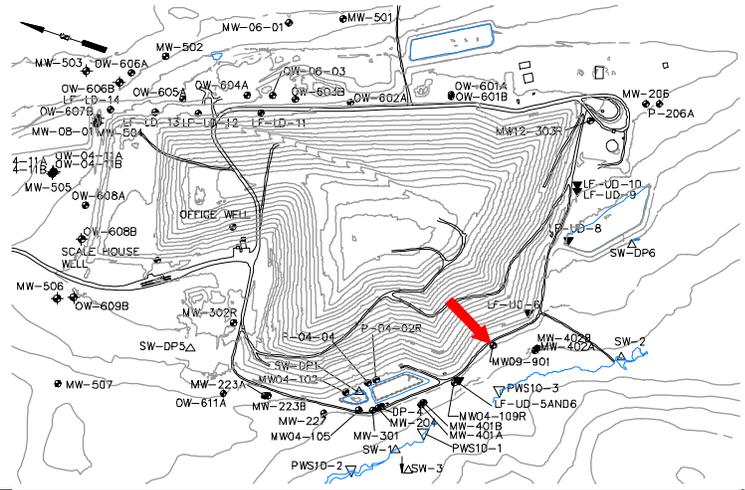


MW-08-01
Juniper Ridge Landfill

Well Description

MW09-901 is located to the south of Cell #5 and detention pond #2 of the landfill. This well monitors water quality within the overburden downgradient of the landfill.

Screen Interval: **15 ft. to 20 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **12/08/2009**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		342	348	286	178	to 482	300 ± 13		37
pH (STU)		6.3	↓6.2	6.3	6.3	to 8.4	7.3 ± 0.094		37
Temperature (Deg C)		9.9	18.1	12.8	4.6	to 20.4	13 ± 0.64		37
Water Level Elevation (Feet)		158.95	156.1	157.3	153.18	to 159.21	160 ± 0.26		37
Eh (mV)		260	211	309	20	to 464	320 ± 14		37
Dissolved Oxygen (mg/L)		1.4	0.2	0.8	0.1 U	to 5.4	2.2 ± 0.27		37
Turbidity (field) (NTU)		1.9	1.6	1.2	0	to 10.1	1.8 ± 0.29		37
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 U	to 0.019	0.0073 ± 0.000		37
Calcium (mg/L)		53	47	39	18.8	to 58	36 ± 2		37
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.18	0.05 ± 0.004		37
Magnesium (mg/L)		↑16	14	11	5.4	to 14	9.7 ± 0.5		37
Manganese (mg/L)		0.05 U	0.06	0.05 U	0.02 U	to 0.39	0.061 ± 0.01		37
Potassium (mg/L)		2.1	1.6	↓1.4	1.5	to 2.6	2.1 ± 0.059		37
Sodium (mg/L)		8.9	8.7	7.8	4.9	to 17.4	9.3 ± 0.48		37
Total Kjeldahl Nitrogen (mg/L)		0.31	↓0.22	↓0.2 U	0.24	to 1.5	0.39 ± 0.036		37
Nitrite/Nitrate - (N) (mg/L)		0.44	0.05 U	0.12	0.05 U	to 2 U	0.32 ± 0.096		21
Total Dissolved Solids (mg/L)		↑240	212	↑270	103	to 235	180 ± 7.7		37
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	to 4	3.4 ± 0.12		37
Sulfate (mg/L)		12	11	8.4	4.6	to 47	13 ± 1.1		37
Bicarbonate Alkalinity (CaCO3) (mg/L)		180	170	140	75	to 180	130 ± 6.3		37
Organic Carbon (mg/L)		1.3	1.2	2.2	0.7 U	to 39	2.8 ± 1		37
Chloride (mg/L)		14	7.8	6.4	1 U	to 14	4.5 ± 0.46		37
Bromide (mg/L)		0.28	0.28	0.21	0.1 U	to 0.32	0.17 ± 0.014		27

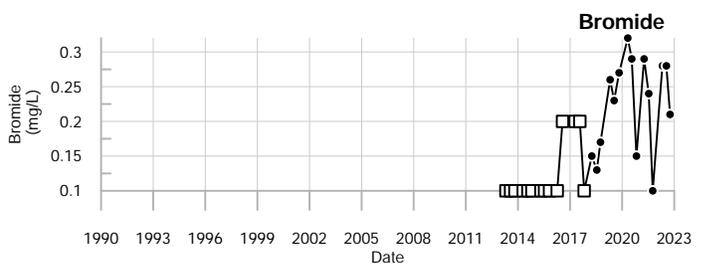
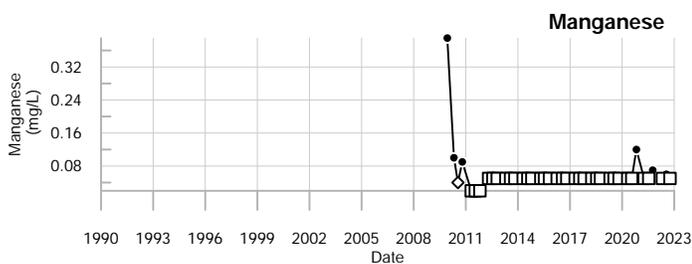
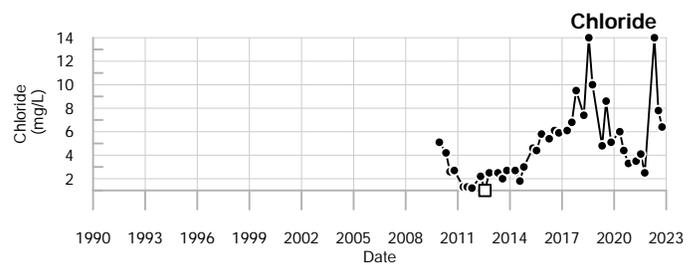
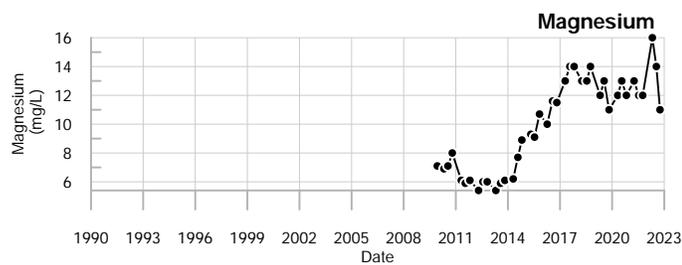
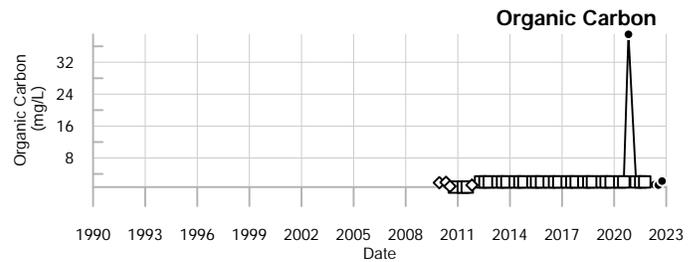
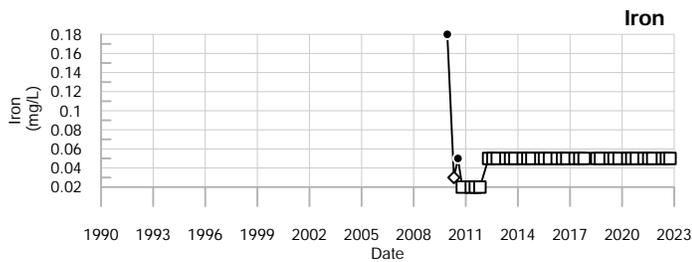
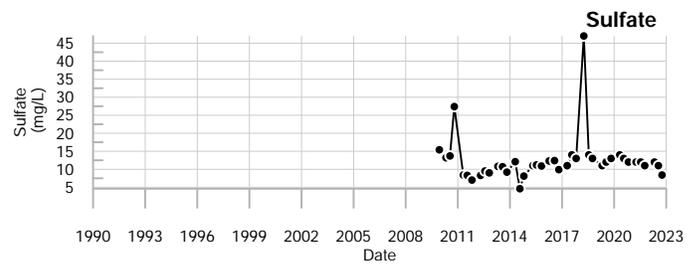
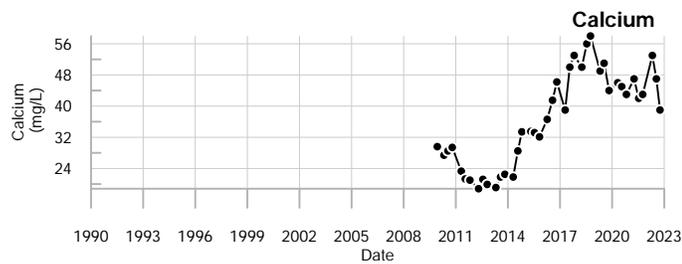
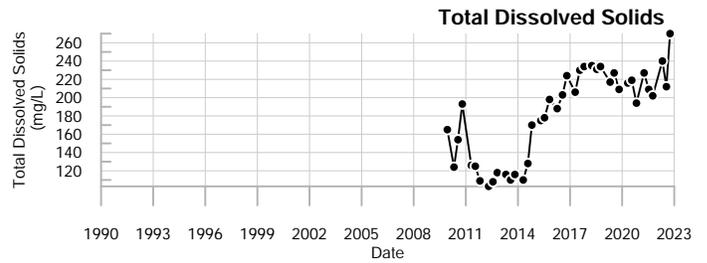
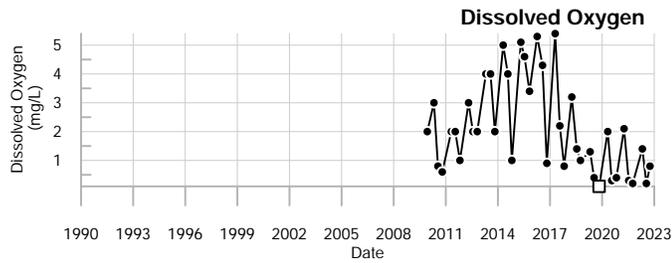
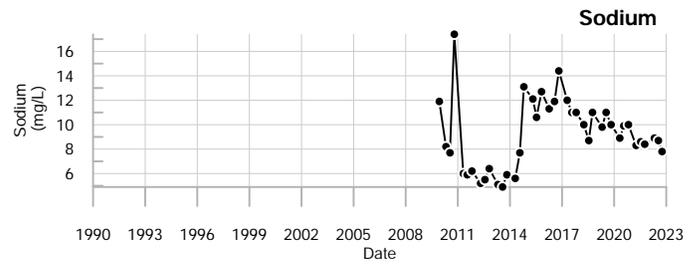
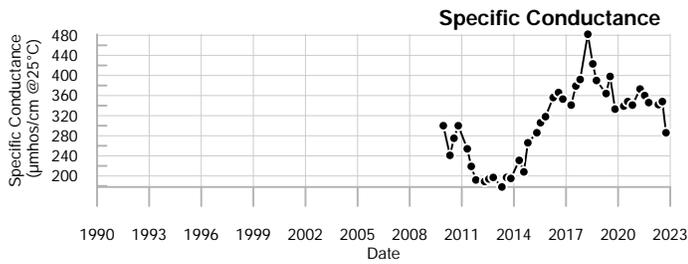
underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
 Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022		DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

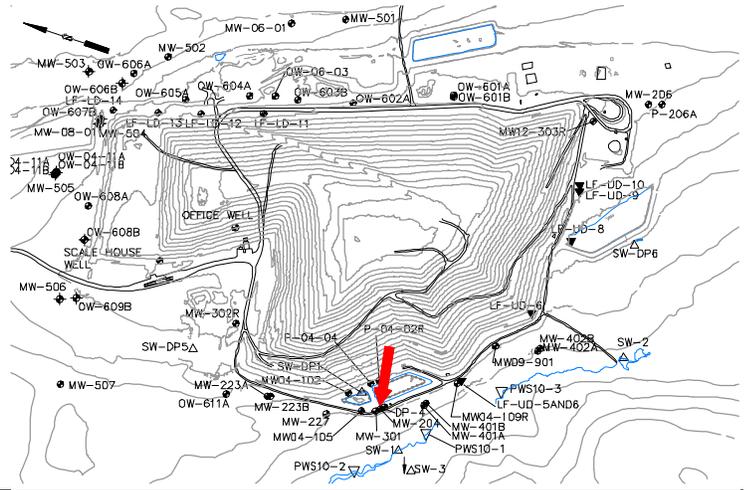


MW09-901
Juniper Ridge Landfill

Well Description

MW-204 monitors the overburden water quality downgradient from the landfill.

Screen Interval: **13.8 ft. to 18.8 ft.**
 Sampled: **1 Time Annually(field parameters only)**
 Sampled Since: **11/13/90**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

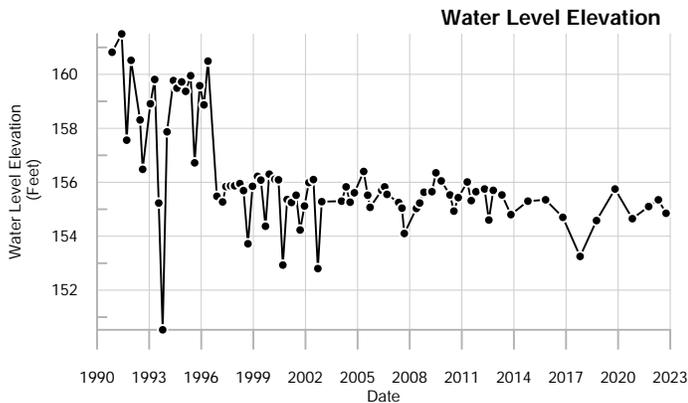
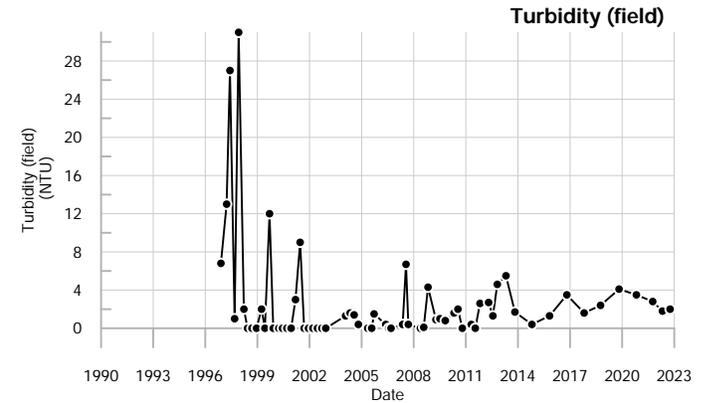
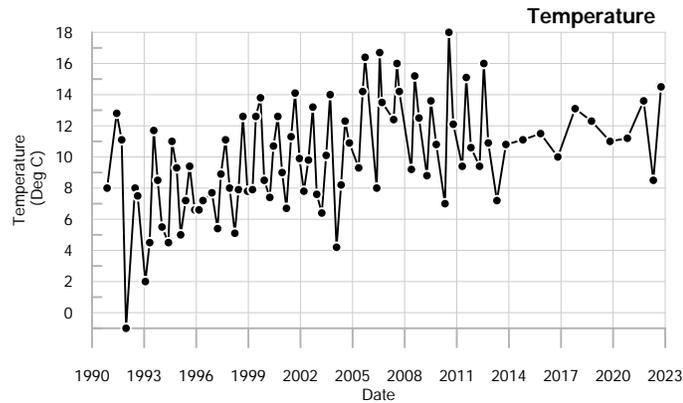
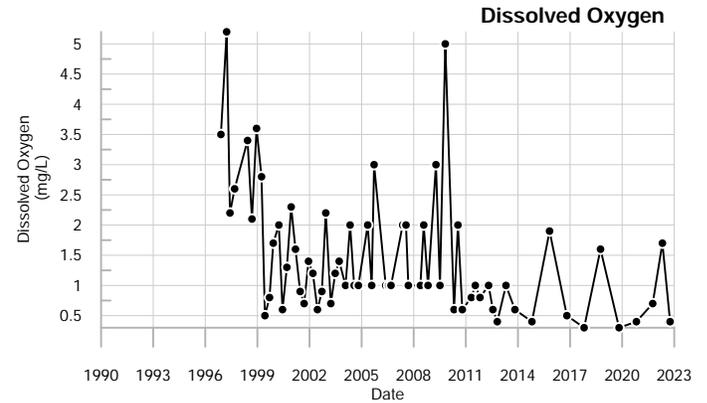
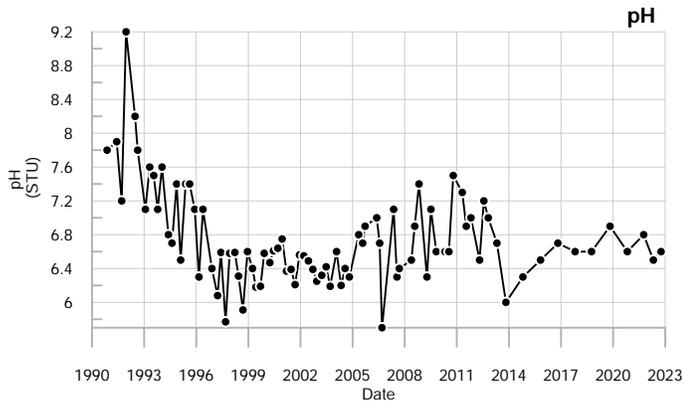
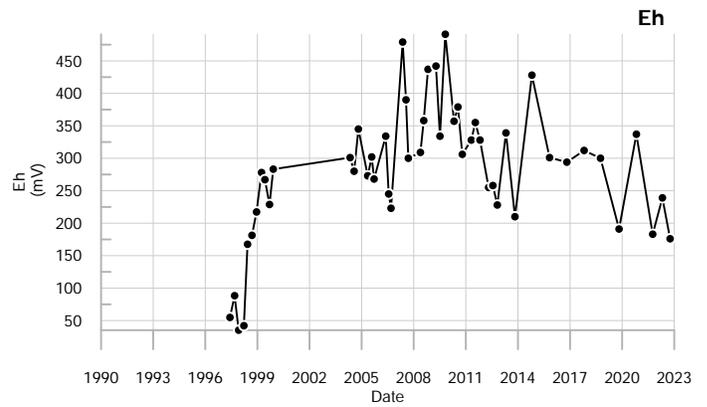
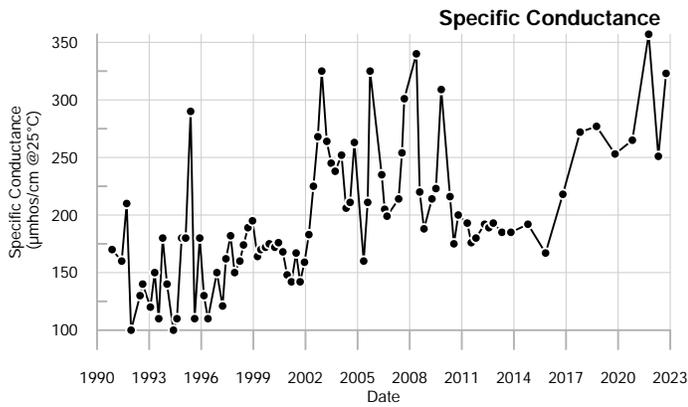
Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		251		323	100	357	200 ± 6.1		86
pH (STU)		6.5		6.6	5.7	9.2	6.8 ± 0.06		86
Temperature (Deg C)		8.5		14.5	-1	18	10 ± 0.37		86
Water Level Elevation (Feet)		155.35		154.85	150.53	161.5	160 ± 0.21		83
Eh (mV)		239		176	35.2	491	280 ± 15		48
Dissolved Oxygen (mg/L)		1.7		0.4	0.3	5.2	1.5 ± 0.13		64
Turbidity (field) (NTU)		1.8		2	0	31	2.7 ± 0.7		63

underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022
 Q4= 10 - 2022



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

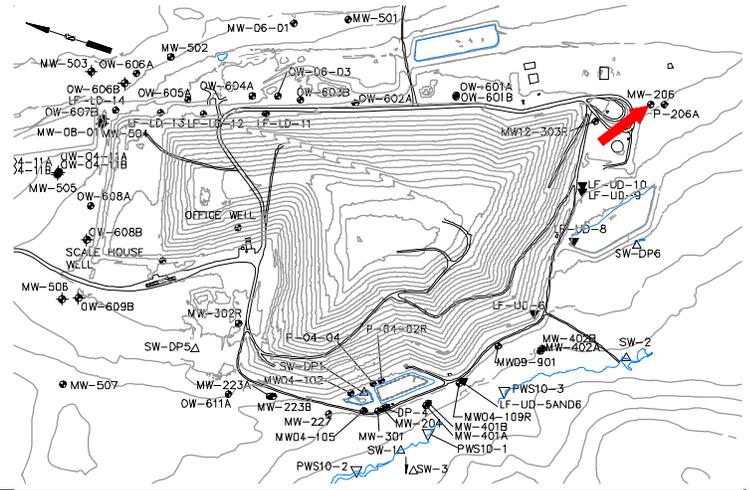


MW-204
Juniper Ridge Landfill

Well Description

MW-206 monitors overburden water quality upgradient of the landfill.

Screen Interval: **15 ft. to 20 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **04/27/93**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		139	143	↑323	89	to 269	140 ± 2.3		94
pH (STU)		7.9	7.4	6.6	6.2	to 8.6	7.9 ± 0.048		94
Temperature (Deg C)		7.6	14.5	14.5	2.9	to 17.5	9.6 ± 0.34		94
Water Level Elevation (Feet)		199.44	192.47	194.77	186.1	to 201.59	200 ± 0.36		91
Eh (mV)		192	186	176	-334	to 464	260 ± 15		65
Dissolved Oxygen (mg/L)		6.9	5.5	↓0.4	2	to 10.9	6.9 ± 0.22		80
Turbidity (field) (NTU)		2.3	4.6	2	0	to 40	2.4 ± 0.58		79
Arsenic (mg/L)		0.005 U	0.0055	0.005 U	0.001	to 0.022	0.0073 ± 0.000		54
Calcium (mg/L)		20	18	18	13	to 27.2	16 ± 0.21		81
Copper (mg/L)		0.003 U	0.003 U	0.0063	0.001 U	to 0.02 U	0.0051 ± 0.001		32
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.012	to 1.2	0.14 ± 0.022		87
Magnesium (mg/L)		5.6	5.3	5	2.7	to 6.9	4.7 ± 0.06		81
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.003	to 0.32	0.036 ± 0.004		87
Potassium (mg/L)		2.3	0.81	0.78	0.3	to 2.5	0.82 ± 0.043		54
Sodium (mg/L)		5.9	4.5	4.6	3.7	to 25	5.4 ± 0.24		87
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)		0.5 UH	0.2 U	0.2 U	0.15 U	to 2.4	0.54 ± 0.068		59
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.07	to 2	0.26 ± 0.059		35
Nitrite/Nitrate - (N) (mg/L)		0.096	0.082	0.13	0.05 U	to 2 U	0.28 ± 0.09		21
Total Dissolved Solids (mg/L)		94	101	↓23	30	to 190	90 ± 2.4		87
Total Suspended Solids (mg/L)		2.5 U	2.5	4 U	2.5 U	to 37	4.9 ± 0.65		54
Sulfate (mg/L)		2 U	2 U	2 U	0.2	to 5 U	2 ± 0.12		87
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 6E-10		7
Alkalinity (CaCO3) (mg/L)		68	↑72	70	68	to 70	69 ± 1		2
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 9	1.8 ± 0.15		87
Chloride (mg/L)		2.3	2.5	2	0.8	to 10 U	2.6 ± 0.29		87
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 1.2	0.16 ± 0.041		27
Methane (ug/L)		20 U	20 U	20 U	20 U	to 20 U	20 ± 0		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

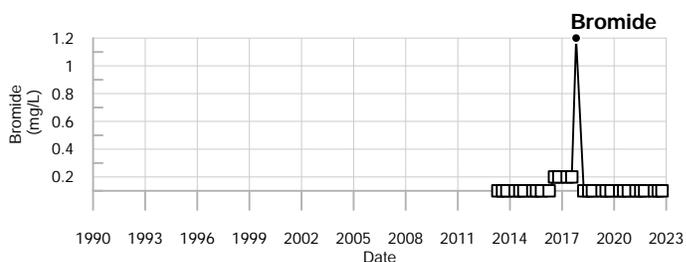
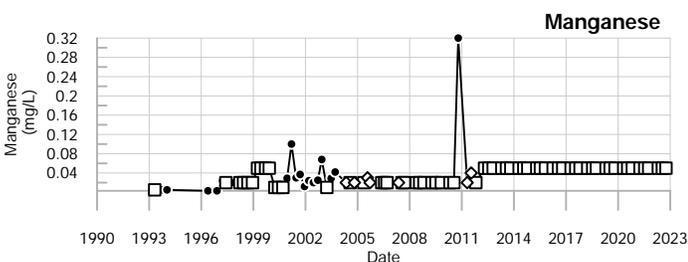
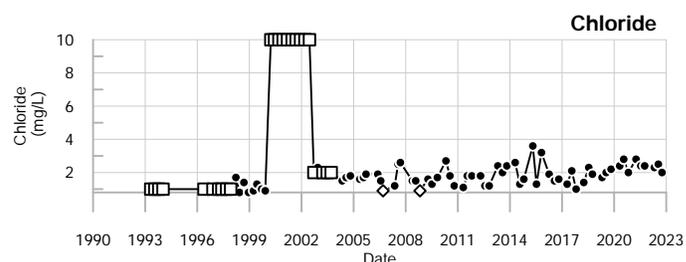
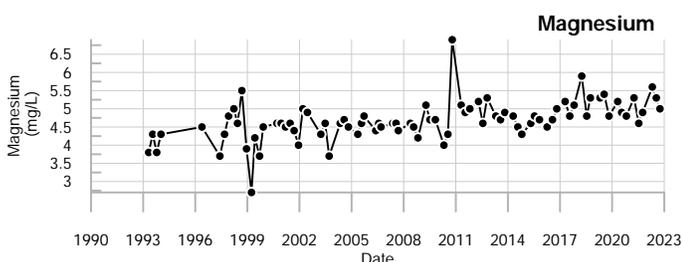
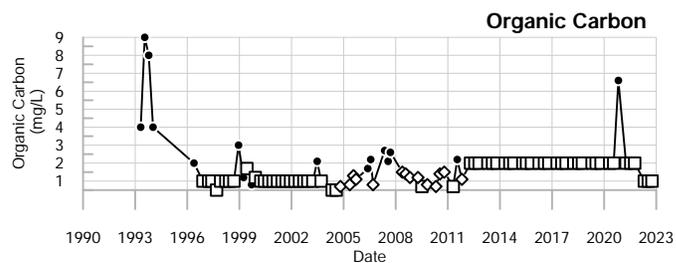
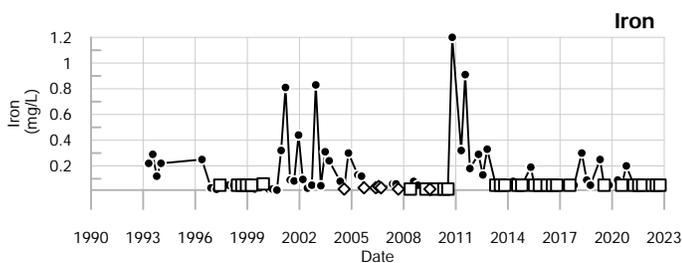
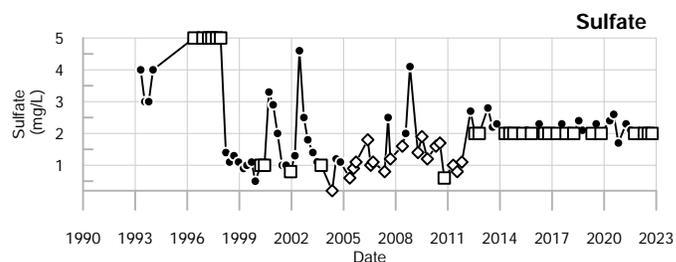
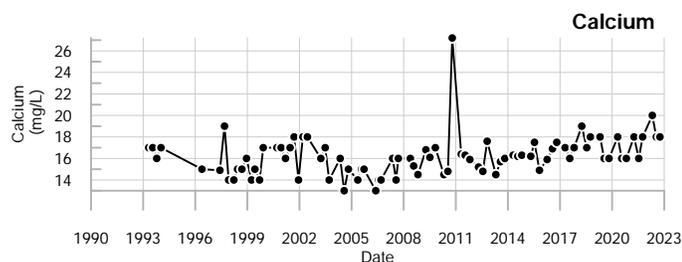
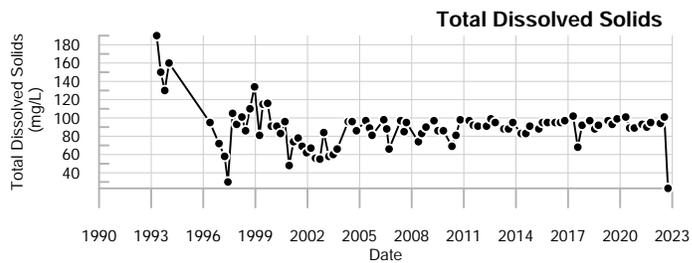
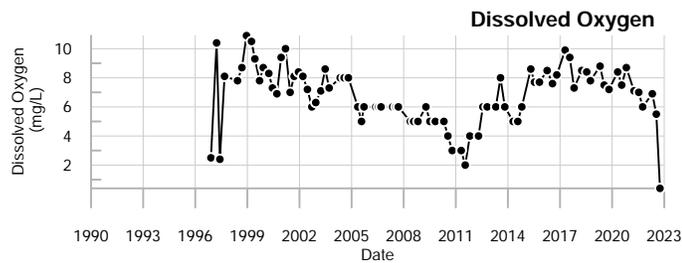
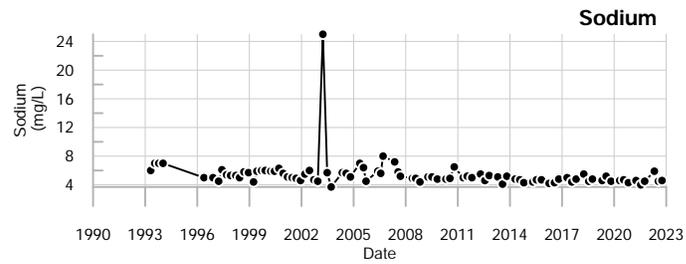
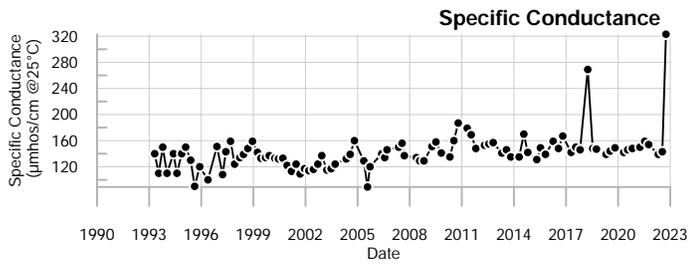
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

		Abbrev.	Type	Standard
Q1= 1 - 2022	UH = Not Detected above the laboratory reporting limit. Analyzed outside			
Q2= 4 - 2022	U = Not Detected above the laboratory reporting limit.	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

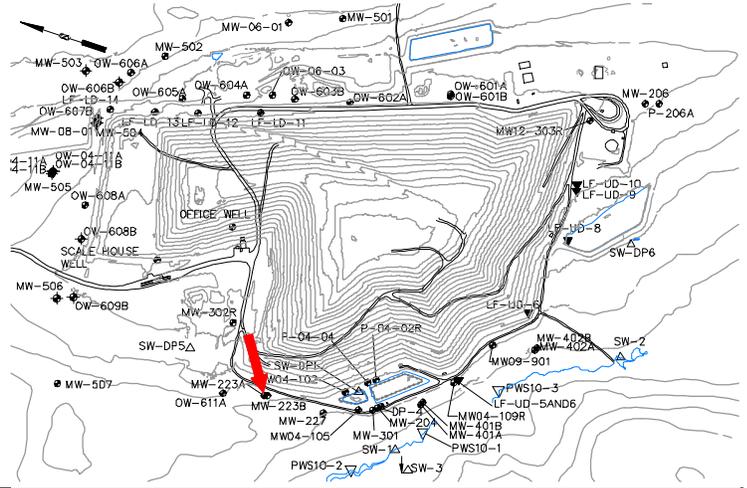


MW-206
Juniper Ridge Landfill

Well Description

MW-223A monitors the bedrock water quality downgradient of the landfill.

Screen Interval: **28 ft. to 33 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **11/12/90**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		506	576	578	79	to 651	290 ± 17		96
pH (STU)		7.2	7.1	7	6.1	to 8.4	7.4 ± 0.034		96
Temperature (Deg C)		7.2	13.8	9.8	4.5	to 16.2	9.5 ± 0.27		96
Water Level Elevation (Feet)		174.64	171.54	173.54	169.83	to 176.4	170 ± 0.12		93
Eh (mV)		158	127	216	-345	to 445	270 ± 15		65
Dissolved Oxygen (mg/L)		0.2	0.2	0.2	0.1 U	to 9.4	3 ± 0.26		79
Turbidity (field) (NTU)		2.3	1.3	1.3	0	to 999	17 ± 13		77
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.034	0.0063 ± 0.000		54
Calcium (mg/L)		110	110	↑120	23	to 110	50 ± 3		84
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.005	to 120	1.4 ± 1.4		88
Magnesium (mg/L)		↑12	↑12	↑12	2.3	to 11	5.6 ± 0.33		84
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.001	to 4	0.074 ± 0.045		88
Potassium (mg/L)		↑1.9	0.94	0.99	0.4	to 1.3	0.78 ± 0.025		54
Sodium (mg/L)		6.6	5.8	5.9	1.8	to 9.8	4 ± 0.13		88
Total Kjeldahl Nitrogen (mg/L)		0.61	0.47	0.5	0.15 U	to 0.8	0.36 ± 0.017		63
Nitrite/Nitrate - (N) (mg/L)		0.69	0.72	0.86	0.17	to 2 U	0.63 ± 0.074		21
Total Dissolved Solids (mg/L)		375	370	↑460	36	to 387	190 ± 11		88
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	to 4 U	3.6 ± 0.092		54
Sulfate (mg/L)		19	19	19	2.9	to 59	8.4 ± 0.8		88
Bicarbonate Alkalinity (CaCO3) (mg/L)		260	↑270	260	86	to 260	160 ± 7.3		54
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 44	1.9 ± 0.49		88
Chloride (mg/L)		27	27	26	1 U	to 57.6	16 ± 1.7		88
Bromide (mg/L)		0.14	0.14	0.15	0.1 U	to 0.23	0.14 ± 0.009		27

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

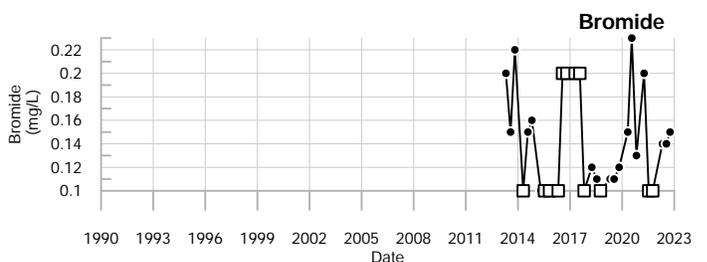
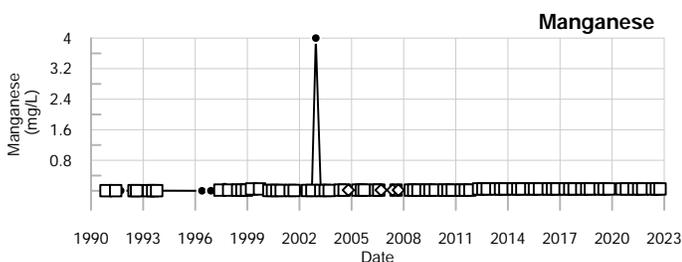
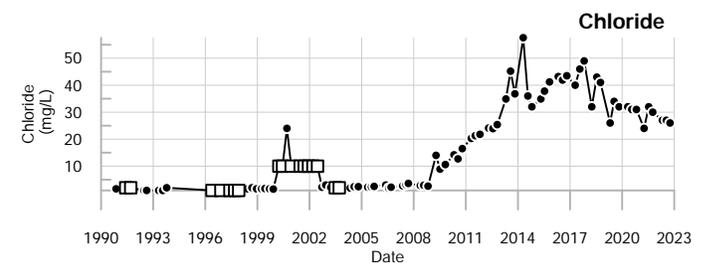
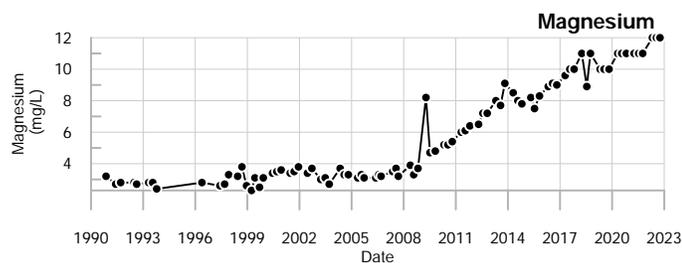
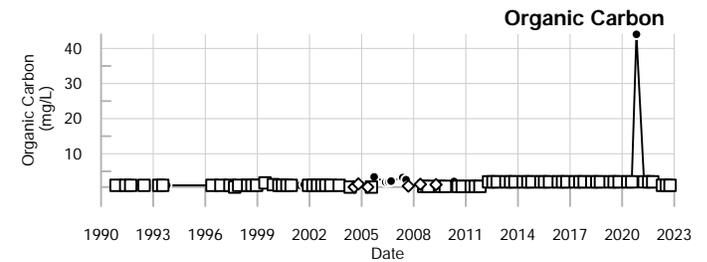
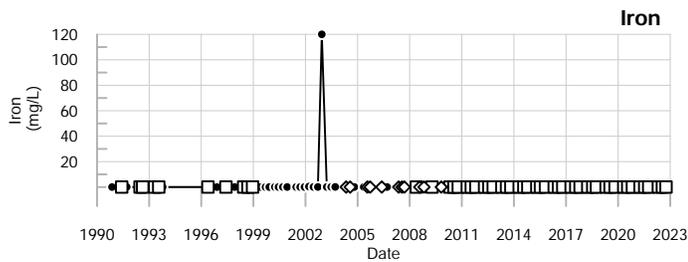
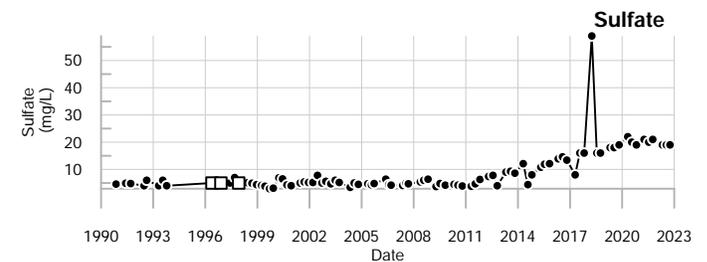
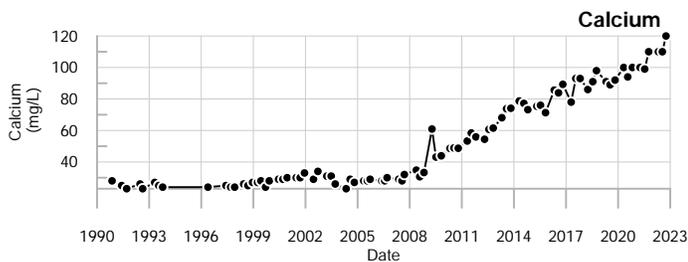
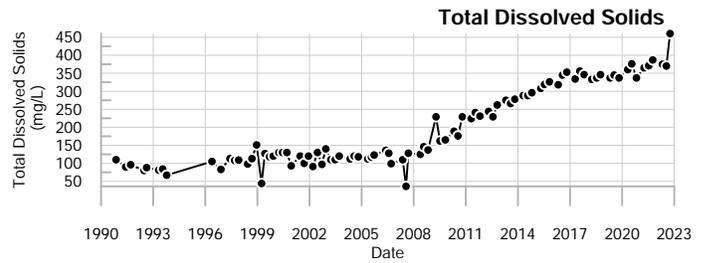
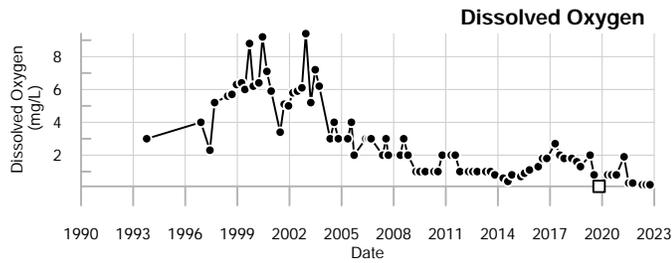
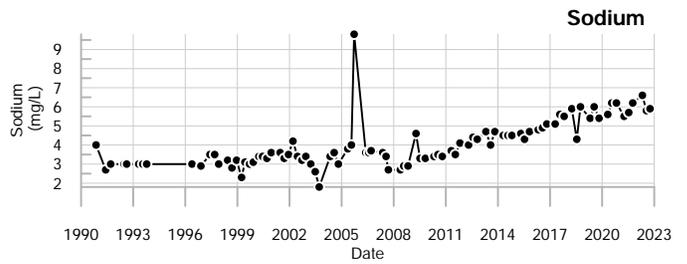
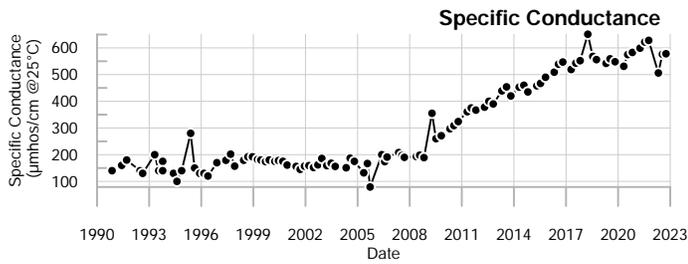
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022		DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL

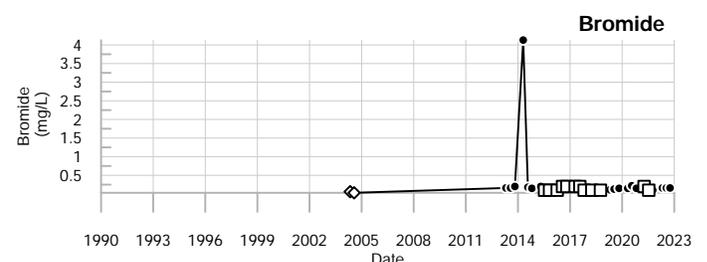
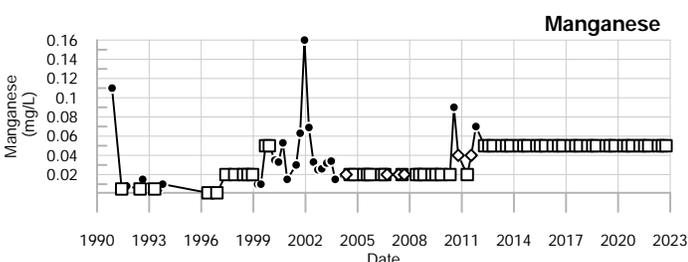
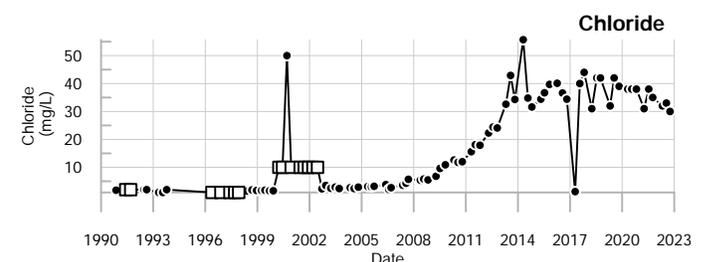
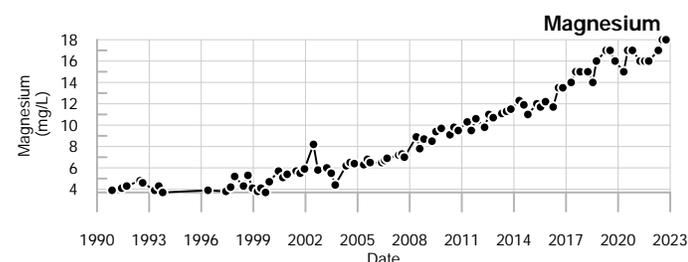
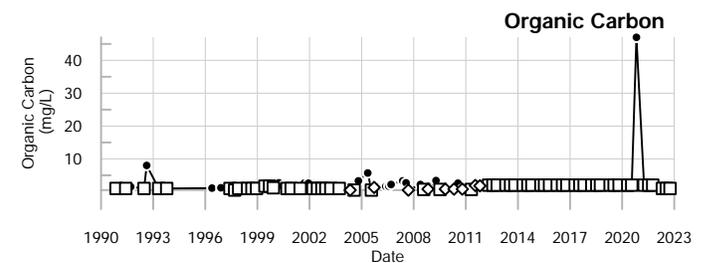
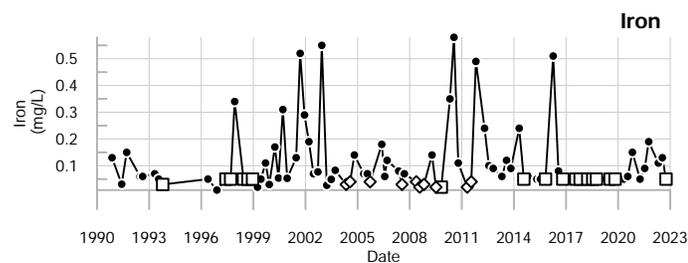
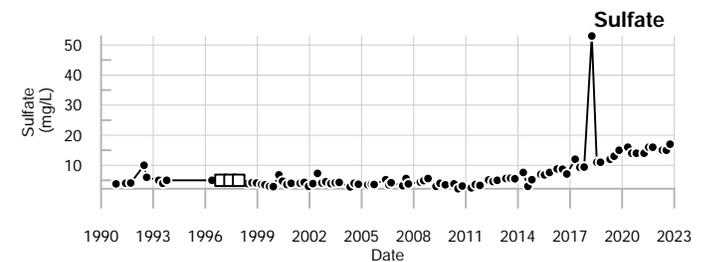
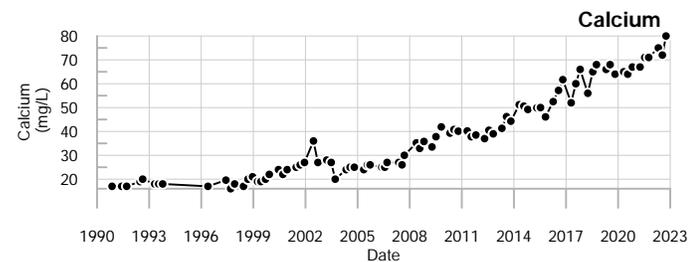
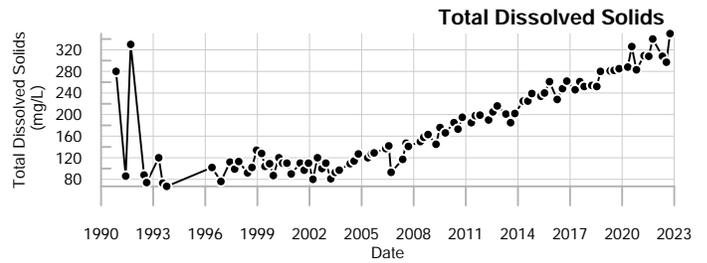
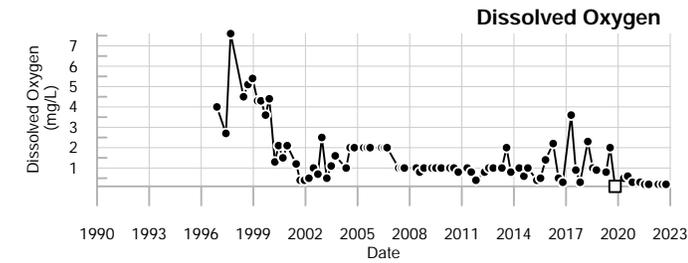
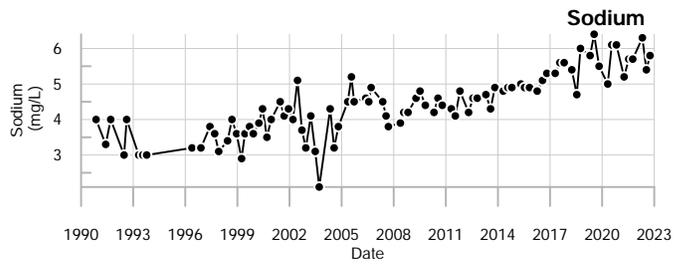
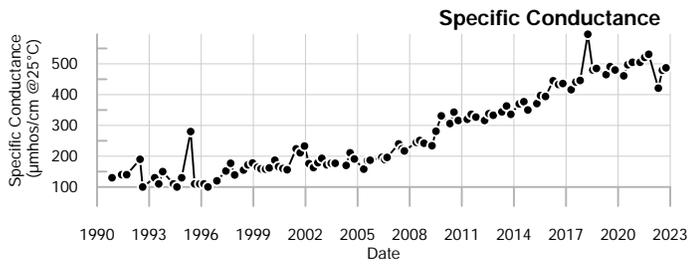


LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



MW-223A
Juniper Ridge Landfill



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

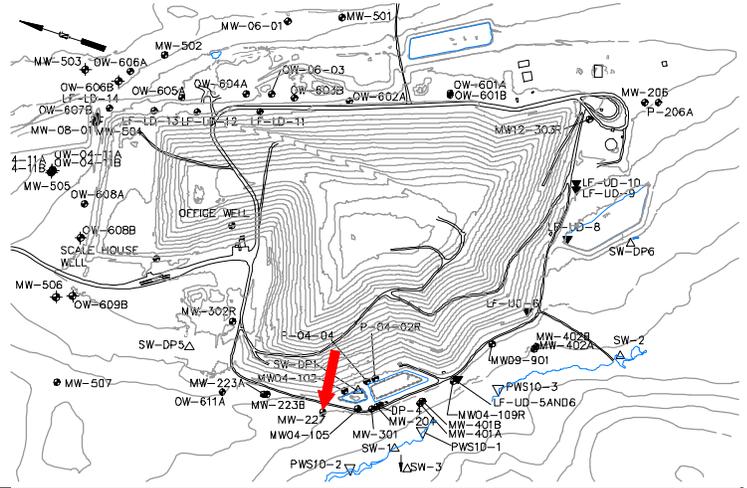


MW-223B
Juniper Ridge Landfill

Well Description

MW-227 monitors water quality in the overburden downgradient of the landfill.

Screen Interval: **15 ft. to 20 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **11/13/90**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		169	174	178	90	310	180 ± 2.8		97
pH (STU)		7.7	7.7	7.5	6.2	8.9	8 ± 0.043		97
Temperature (Deg C)		6.2	13.1	11.3	1	16.8	9.8 ± 0.34		97
Water Level Elevation (Feet)		159.63	158.33	159.38	149.5	161.09	160 ± 0.21		94
Eh (mV)		224	129	219	-455	411	260 ± 16		65
Dissolved Oxygen (mg/L)		3.4	0.6	0.3	0.1 U	8.7	2.3 ± 0.18		80
Turbidity (field) (NTU)		3.1	3.2	2	0	962	14 ± 12		78
Arsenic (mg/L)		0.0097	0.011	0.0091	0.007	0.024	0.014 ± 0.000		54
Calcium (mg/L)		26	24	26	16	26	22 ± 0.19		85
Iron (mg/L)		0.05 U	0.11	0.1	0.008	0.65	0.074 ± 0.01		91
Magnesium (mg/L)		5.9	6	5.6	3.6	6	5.3 ± 0.047		85
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.004	0.17	0.034 ± 0.003		91
Potassium (mg/L)		↑ 1.9	1	1.2	0.6	1.6	1 ± 0.021		54
Sodium (mg/L)		5.9	5.1	5.2	3.1	11	6.3 ± 0.14		91
Total Kjeldahl Nitrogen (mg/L)		0.35	0.2 U	0.23	0.15 U	1	0.36 ± 0.018		64
Nitrite/Nitrate - (N) (mg/L)		0.051	0.05 U	0.11	0.05 U	2 U	0.2 ± 0.095		21
Total Dissolved Solids (mg/L)		115	130	190	59	222	110 ± 2.4		91
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	10	3.8 ± 0.14		54
Sulfate (mg/L)		12	12	11	1.3	17.3	11 ± 0.27		91
Bicarbonate Alkalinity (CaCO3) (mg/L)		82	85	84	75	90	80 ± 0.41		54
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	42	2.4 ± 0.5		91
Chloride (mg/L)		1.2	1.3	1.2	1 U	22.9	2.8 ± 0.36		91
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.12 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

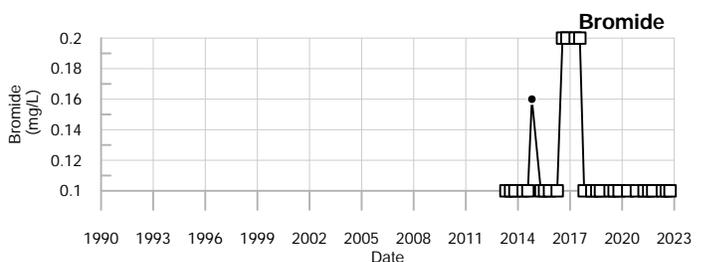
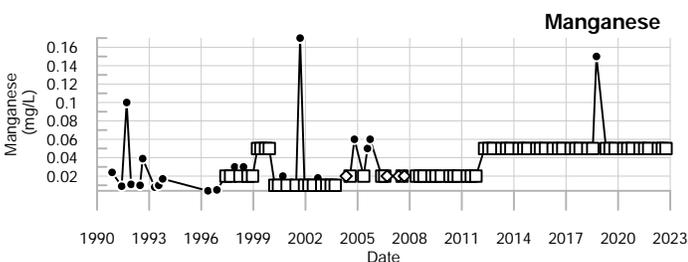
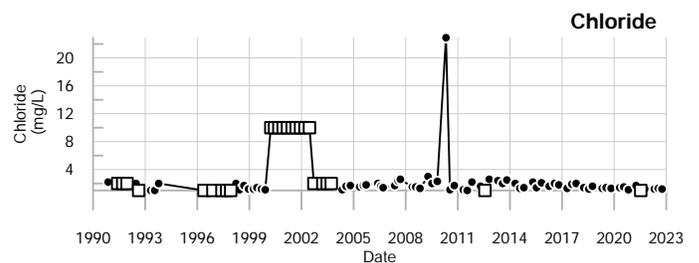
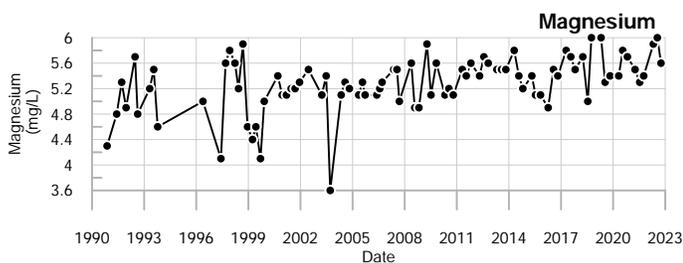
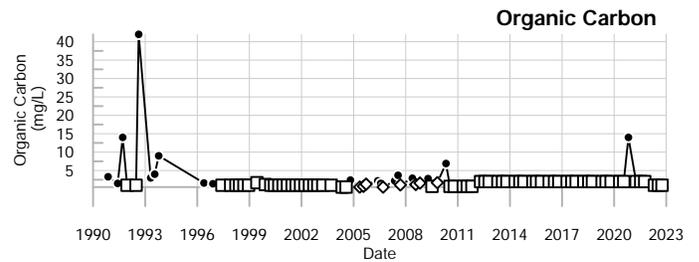
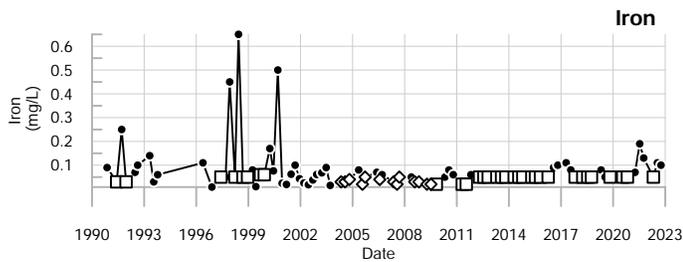
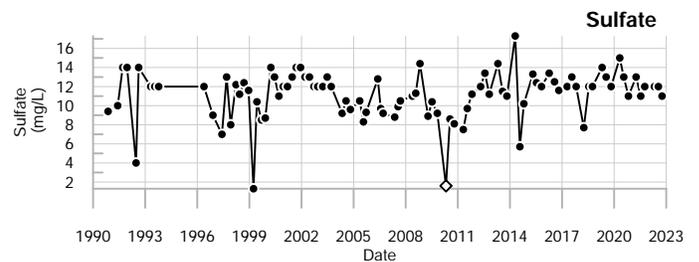
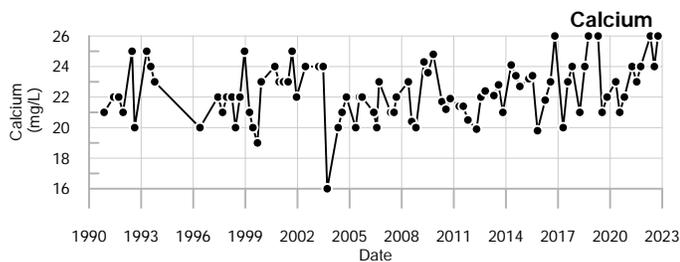
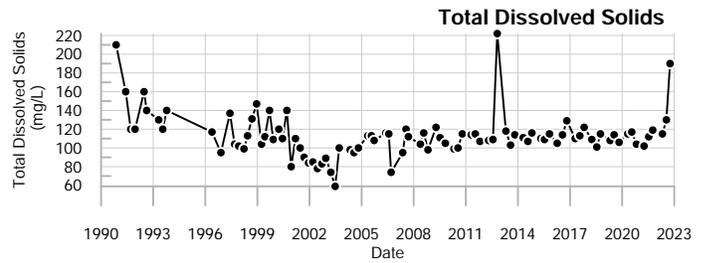
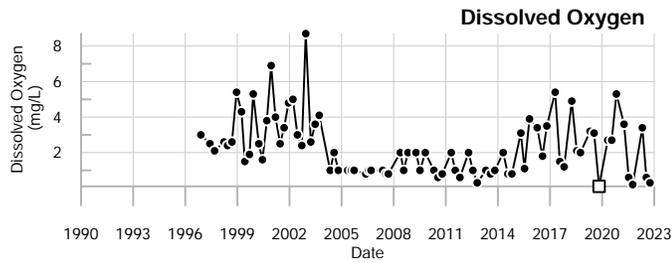
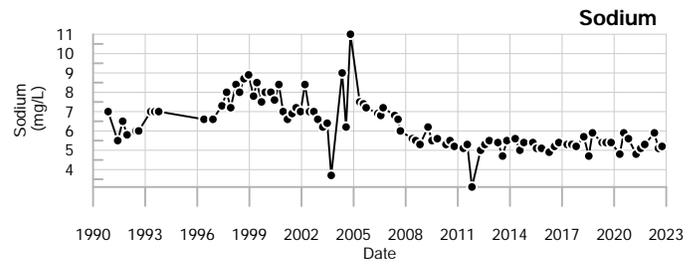
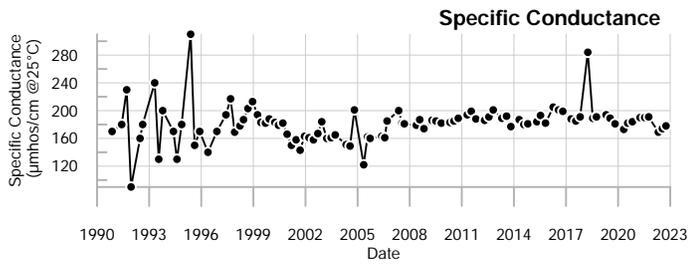
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022		DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

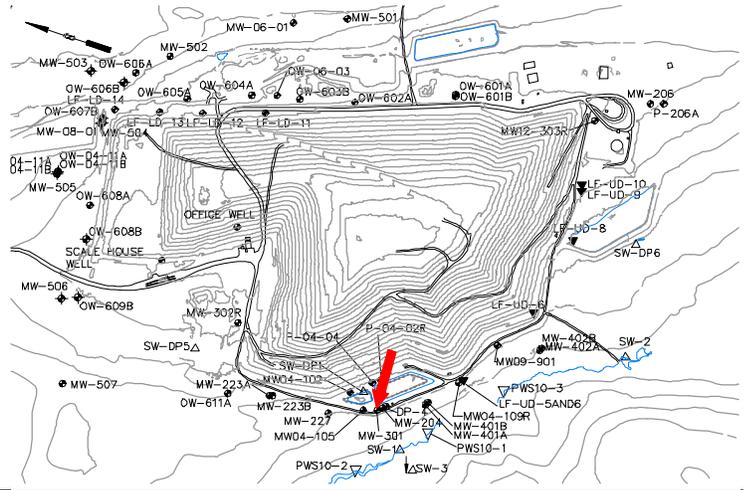


MW-227
Juniper Ridge Landfill

Well Description

MW-301 monitors the water quality within the bedrock downgradient of the landfill.

Screen Interval: **162.7 ft. to 182.7 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **11/25/96**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		219	238	242	82	340	190 ± 5.1		77
pH (STU)		7.9	7.8	7.3	6.2	8.4	7.8 ± 0.054		77
Temperature (Deg C)		9.6	15.3	12.2	3.2	19.1	11 ± 0.41		77
Water Level Elevation (Feet)		165.76	164.41	162.91	161.16	166.36	160 ± 0.22		71
Eh (mV)		96	41	92	25	471	270 ± 13		64
Dissolved Oxygen (mg/L)		0.3	0.1	0.2	0.1	5.5	1.9 ± 0.2		75
Turbidity (field) (NTU)		2.8	2.3	2	0	18	2.1 ± 0.37		74
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001	0.018	0.0057 ± 0.000		53
Calcium (mg/L)		28	26	24	14.9	31.4	20 ± 0.38		73
Iron (mg/L)		0.05 U	0.05 U	0.13	0.011	1.59	0.15 ± 0.025		77
Magnesium (mg/L)		6.6	6.5	5.9	2.5	7.1	4.8 ± 0.099		73
Manganese (mg/L)		0.05	0.1	0.13	0.001	0.18	0.038 ± 0.003		77
Potassium (mg/L)		↑1.7	0.86	0.73	0.4	1.2	0.76 ± 0.018		53
Sodium (mg/L)		↑15	14	12	6.8	14.2	11 ± 0.23		77
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.15 U	0.6	0.37 ± 0.016		53
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	2 U	0.2 ± 0.095		21
Total Dissolved Solids (mg/L)		158	163	88	66	171	120 ± 2.7		77
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	21	5.8 ± 0.65		53
Sulfate (mg/L)		17	17	↓3.9	4.9	19	13 ± 0.42		77
Bicarbonate Alkalinity (CaCO3) (mg/L)		74	82	75	70	91	76 ± 0.46		53
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	16	1.8 ± 0.22		77
Chloride (mg/L)		21	22	8.5	1 U	26	6.7 ± 0.84		77
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.12 ± 0.007		26

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

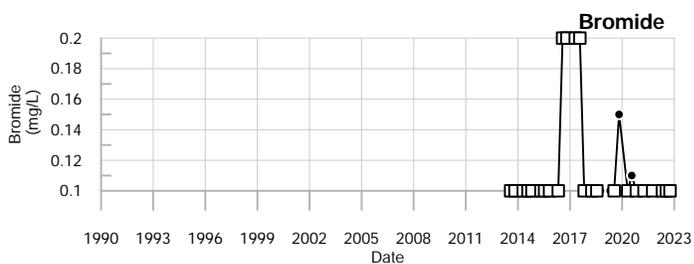
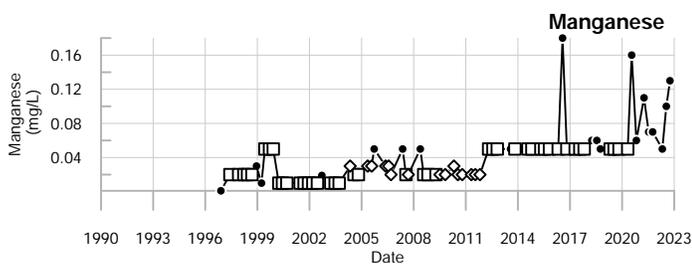
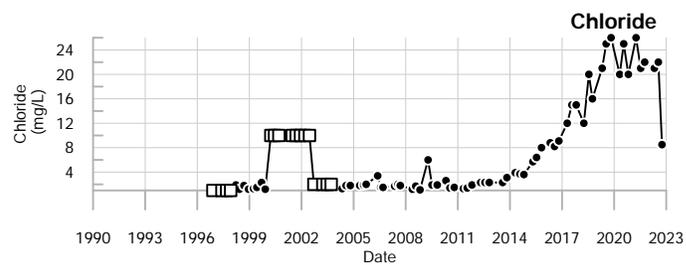
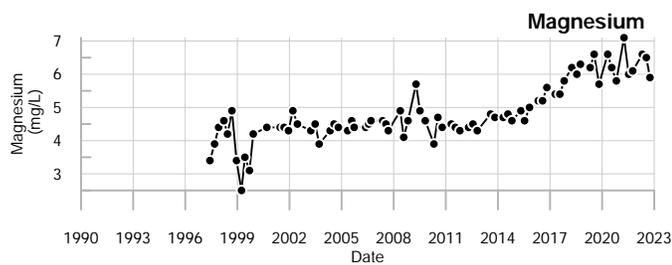
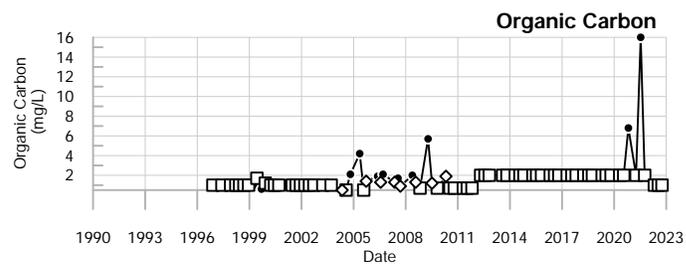
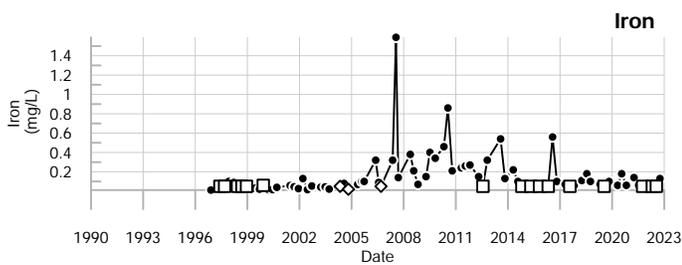
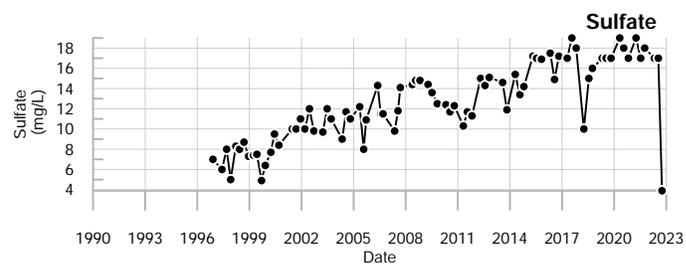
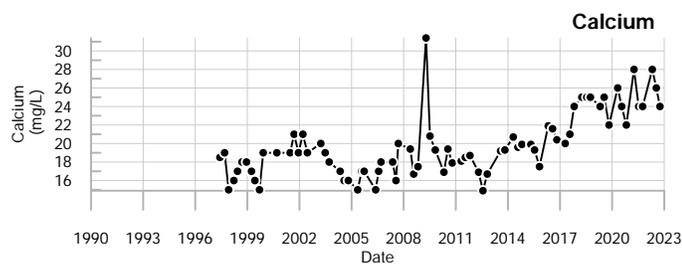
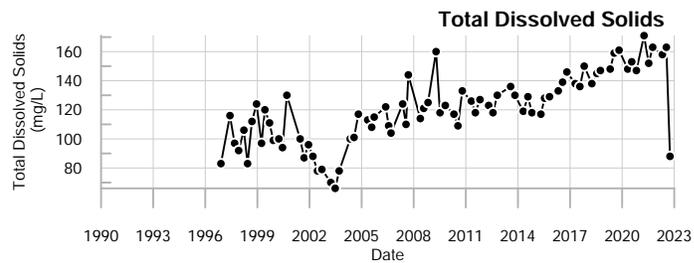
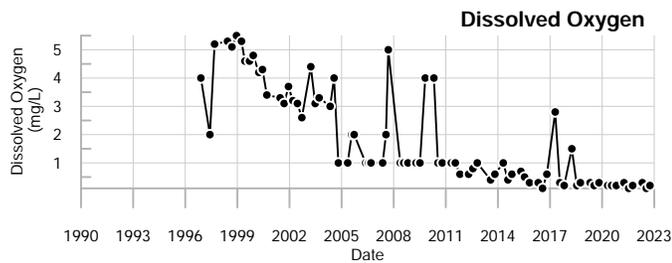
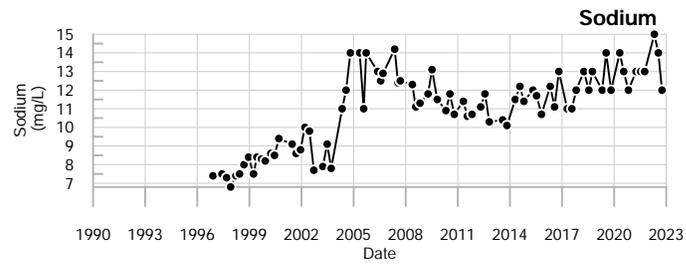
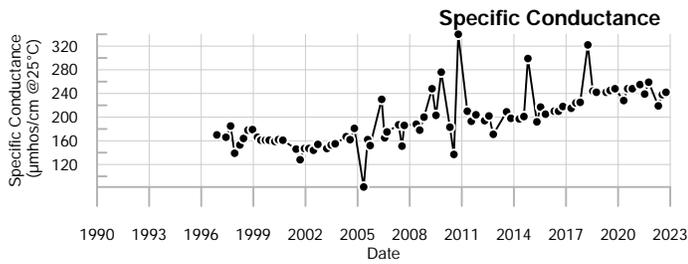
Comments

Q1=	Q2=	Q3=	Q4=	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
1 - 2022	4 - 2022	7 - 2022	10 - 2022		DWA	GW	Health-Based Drinking Water Advisory
					LHA	GW	EPA Lifetime Health Advisory
					MCL	GW	MCL

Data Group: 533

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LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

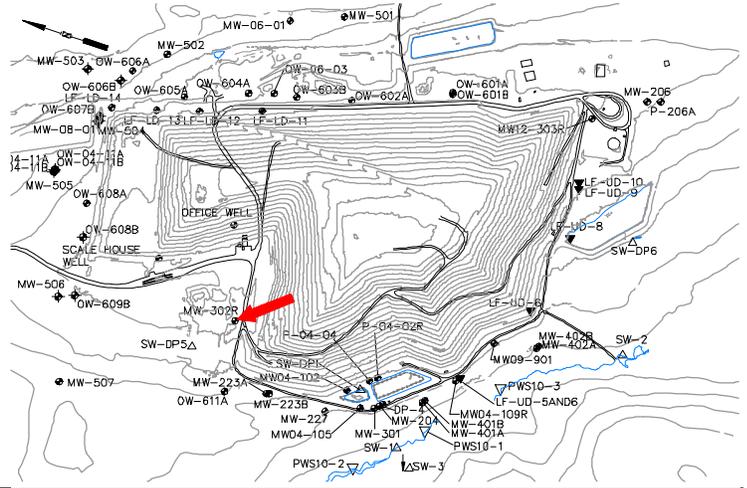


MW-301
Juniper Ridge Landfill

Well Description

MW-302R monitors the water quality in the shallow bedrock beside the landfill, but not directly downgradient of the landfill.

Screen Interval: **19.5 ft. to 29.5 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **05/20/2008**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		272	471	DE	167	to 851	390 ± 25		42
pH (STU)		5.8	6.3	DE	5.7	to 7.1	6.6 ± 0.043		42
Temperature (Deg C)		7.2	13.6	DE	5.9	to 13.6	10 ± 0.37		42
Water Level Elevation (Feet)		199.36	189.96	DE	187.26	to 202.74	200 ± 0.7		42
Eh (mV)		268	↓211	DE	223	to 546	340 ± 11		42
Dissolved Oxygen (mg/L)		0.9	↓0.6	DE	0.9	to 9	3.7 ± 0.35		42
Turbidity (field) (NTU)		2.5	2.2	DE	0	to 5.5	1.6 ± 0.18		42
Arsenic (mg/L)		0.005 U	0.005 U	DE	0.002 U	to 0.015	0.0063 ± 0.000		42
Calcium (mg/L)		44	67	DE	17.6	to 140	43 ± 3.4		42
Iron (mg/L)		0.05 U	0.05 U	DE	0.02 U	to 0.19	0.049 ± 0.004		42
Magnesium (mg/L)		3.8	6.2	DE	1.4	to 8.6	3.4 ± 0.24		42
Manganese (mg/L)		0.05 U	0.05 U	DE	0.02 U	to 0.1	0.044 ± 0.003		42
Potassium (mg/L)		1.6	1.4	DE	0.5	to 2.4	1 ± 0.056		42
Sodium (mg/L)		16	24	DE	6	to 35	19 ± 1.1		42
Total Kjeldahl Nitrogen (mg/L)		↓0.2 U	↓0.2 U	DE	0.25 U	to 1.2	0.4 ± 0.028		42
Nitrite/Nitrate - (N) (mg/L)		1.2	0.71	DE	0.05 U	to 2 U	0.48 ± 0.096		21
Total Dissolved Solids (mg/L)		204	319	DE	78	to 506	230 ± 12		42
Total Suspended Solids (mg/L)		2.5 U	2.5 U	DE	2.5 U	to 5 U	3.5 ± 0.12		42
Sulfate (mg/L)		13	30	DE	5.6	to 38	18 ± 1.3		42
Bicarbonate Alkalinity (CaCO3) (mg/L)		85	150	DE	43	to 330	82 ± 8.4		42
Organic Carbon (mg/L)		1 U	1.3	DE	0.7 U	to 64	3.8 ± 1.6		42
Chloride (mg/L)		31	48	DE	12.8	to 91.3	46 ± 3.1		42
Bromide (mg/L)		0.23	0.23	DE	0.1 U	to 0.5 U	0.15 ± 0.016		27

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

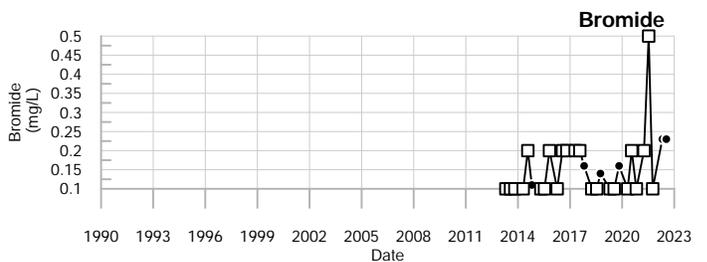
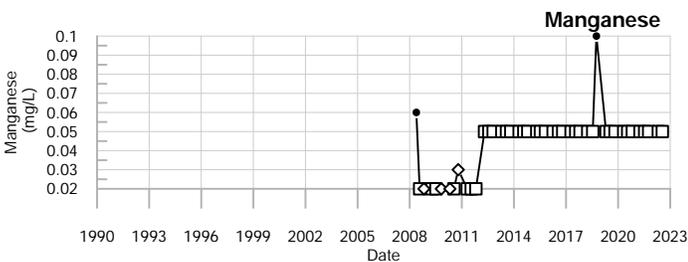
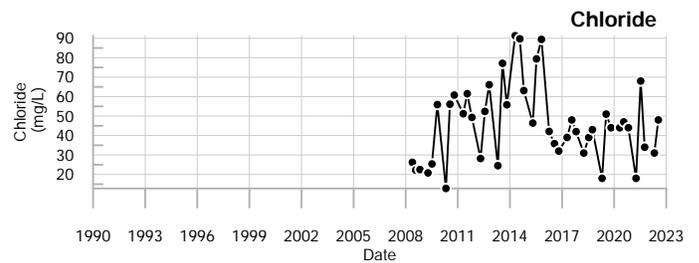
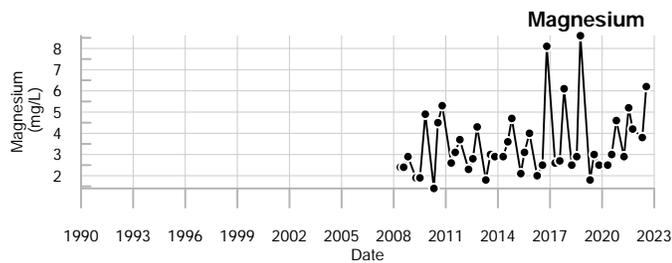
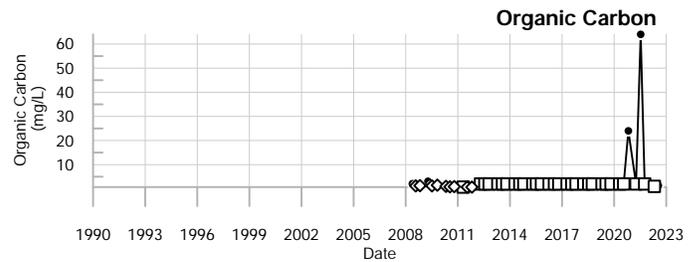
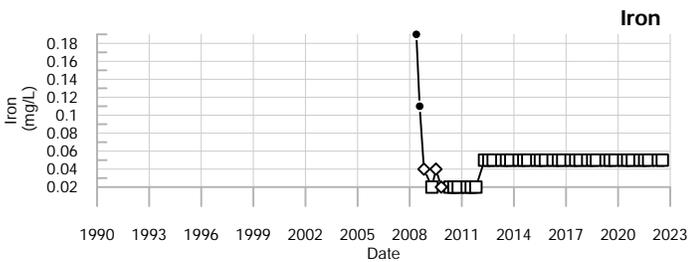
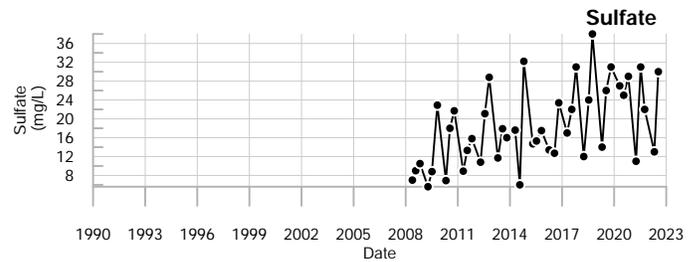
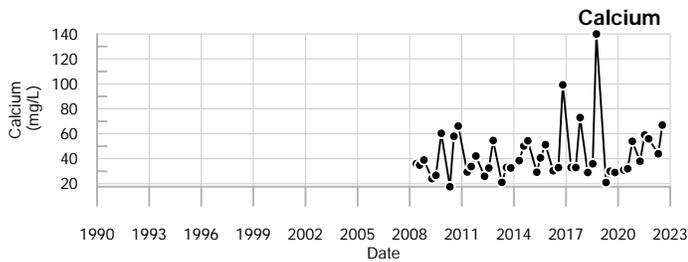
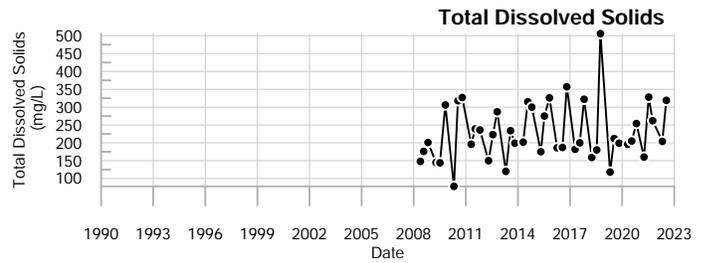
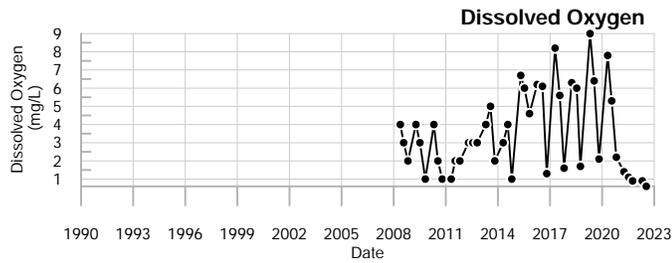
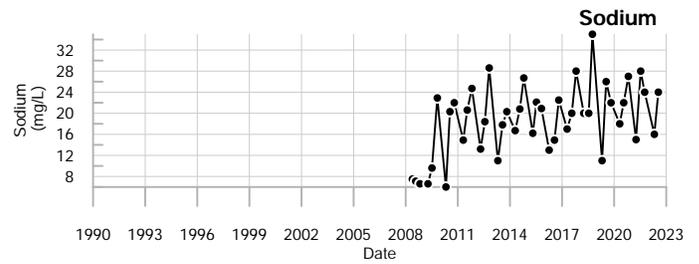
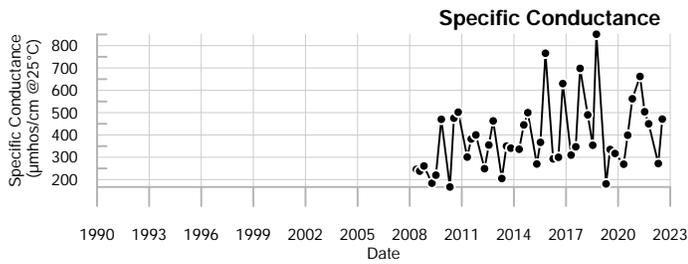
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022	DE = Decommissioned Location	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

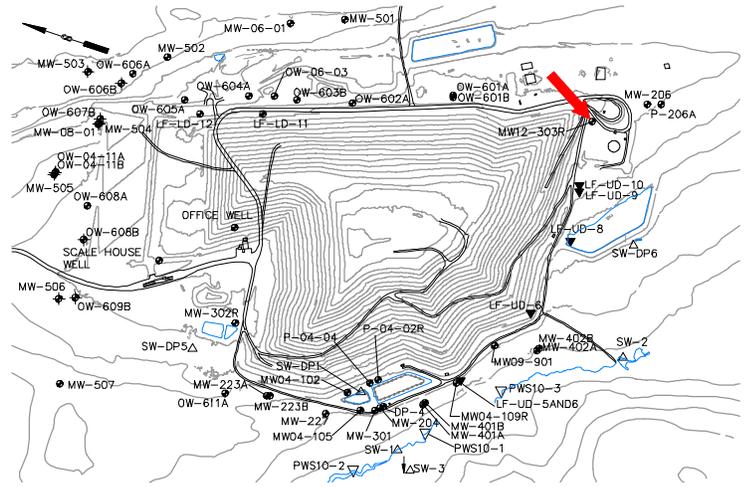


MW-302R
Juniper Ridge Landfill

Well Description

MW12-303R was installed in September 2012 to replace MW-303. MW12-303R monitors the background water quality at the site upgradient of the landfill.

Screen Interval: **30.4 ft. to 40.4 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **10/23/12**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		277	373	401	33	to 1711	220 ± 28		82
pH (STU)		5.8	6.7	6.3	5.7	to 7.5	6.6 ± 0.045		82
Temperature (Deg C)		10.5	16.5	13.7	5.3	to 17.5	10 ± 0.31		82
Water Level Elevation (Feet)		181.24	178.29	175.74	175.49	to 188.12	180 ± 0.36		79
Eh (mV)		317	222	268	1	to 497	290 ± 14		65
Dissolved Oxygen (mg/L)		5.9	5	3.2	0.2	to 12.7	5.4 ± 0.45		81
Turbidity (field) (NTU)		7.7	8.8	5	0	to 999	22 ± 13		79
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.036	0.0063 ± 0.000		54
Calcium (mg/L)		33	41	43	2.8	to 160	23 ± 2.9		77
Iron (mg/L)		0.35	0.21	0.13	0.018	to 2.29	0.13 ± 0.032		82
Magnesium (mg/L)		4.8	16	12	0.61	to 22	5.5 ± 0.47		77
Manganese (mg/L)		0.27	0.24	0.11	0.01 U	to 3.13	0.11 ± 0.041		82
Potassium (mg/L)		2.7	1.6	2	0.2	to 5.7	1.8 ± 0.19		54
Sodium (mg/L)		22	16	22	1.9	to 110	13 ± 2		82
Total Kjeldahl Nitrogen (mg/L)		0.36	0.78	0.42	0.15 U	to 2	0.53 ± 0.049		54
Nitrite/Nitrate - (N) (mg/L)		0.78	0.72	1.1	0.05 U	to 12	1.7 ± 0.58		22
Total Dissolved Solids (mg/L)		205	250	180	11	to 1016	150 ± 17		82
Total Suspended Solids (mg/L)		15	7.5	4.8	2.5 U	to 130	7.6 ± 2.5		54
Sulfate (mg/L)		26	25	28	0.8	to 430	12 ± 5.3		82
Bicarbonate Alkalinity (CaCO3) (mg/L)		62	150	120	22	to 162	85 ± 5.6		54
Organic Carbon (mg/L)		4.7	1.2	4.1	0.5 U	to 34	2.7 ± 0.48		82
Chloride (mg/L)		35	12	34	1 U	to 220	20 ± 3.7		82
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.03 U	to 2.4	0.3 ± 0.08		29

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

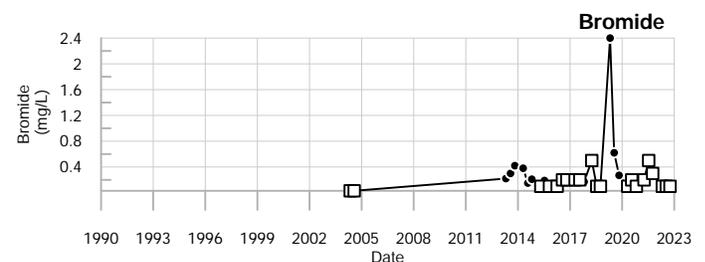
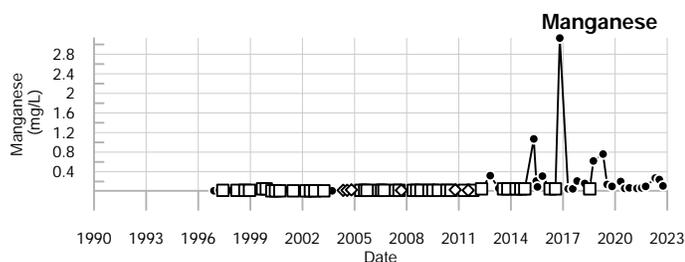
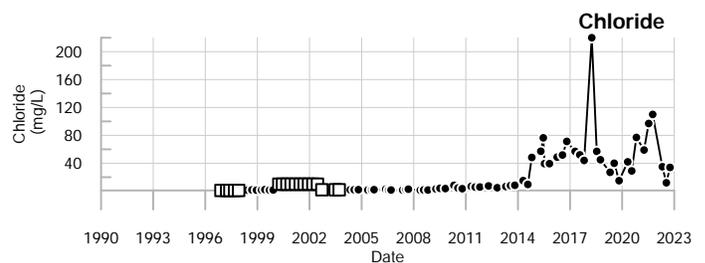
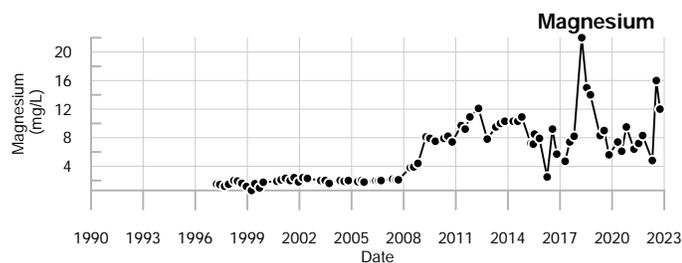
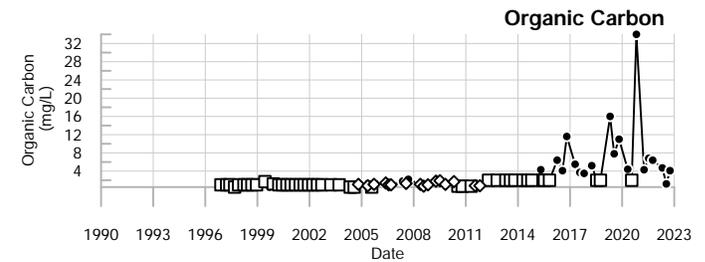
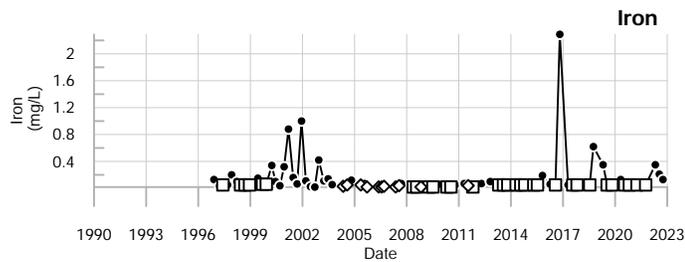
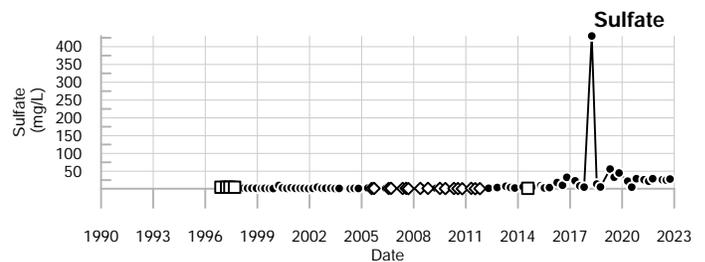
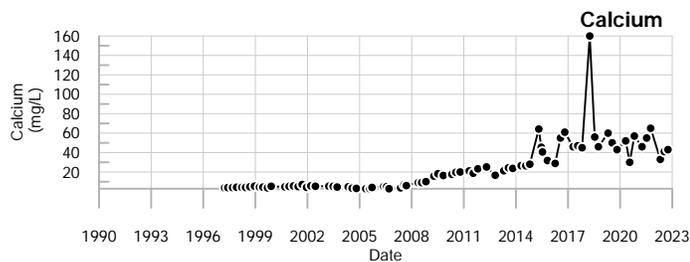
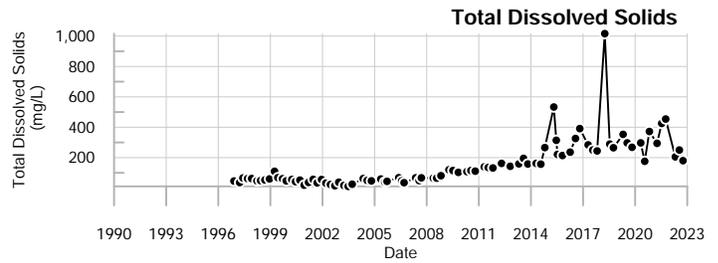
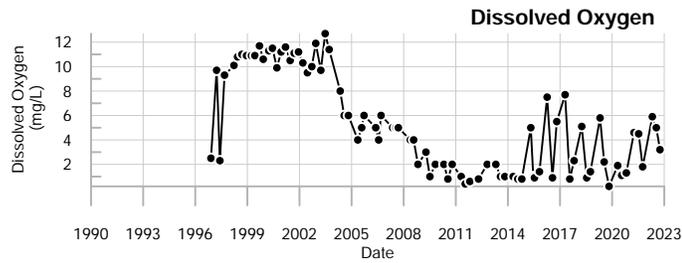
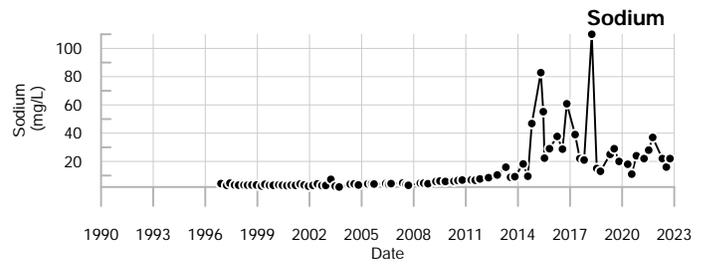
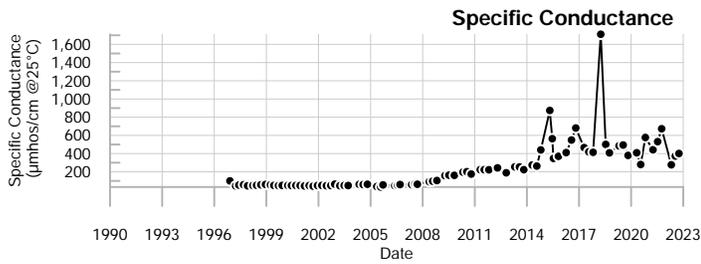
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022		DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

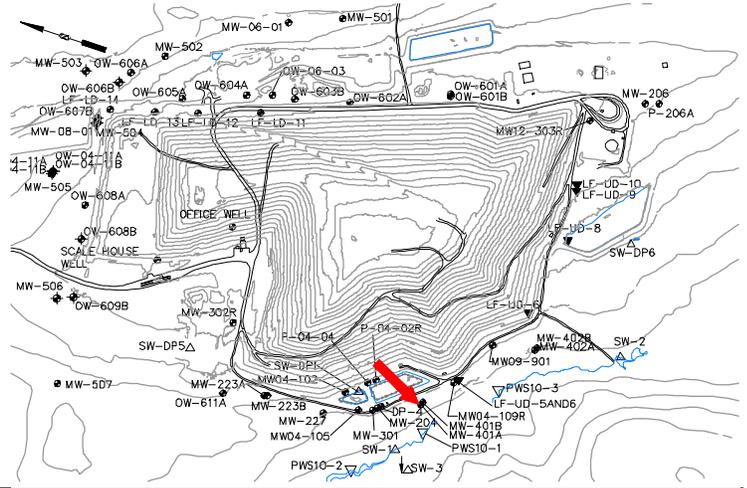


MW-303 & MW12-303R
Juniper Ridge Landfill

Well Description

MW-401A monitors bedrock water quality downgradient of the landfill and former leachate pond.

Screen Interval: **98.8 ft. to 108.8 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **07/29/04**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		128	132	134	73	to 303	130 ± 4		53
pH (STU)		6.7	7.7	7	6.6	to 8.6	7.9 ± 0.066		53
Temperature (Deg C)		7.4	10.3	9.4	6.6	to 17.8	9.6 ± 0.28		53
Water Level Elevation (Feet)		154.72	149.48	150.23	148.11	to 155.96	150 ± 0.31		53
Eh (mV)		222	189	332	152	to 516	320 ± 12		53
Dissolved Oxygen (mg/L)		3.9	4.2	4.9	1.2	to 11.1	5.3 ± 0.2		53
Turbidity (field) (NTU)		0.1	0.2	0.1	0	to 4.9	0.57 ± 0.12		53
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.018	0.0059 ± 0.000		53
Calcium (mg/L)		↑21	↑19	↑19	11	to 18	15 ± 0.21		53
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.07	0.042 ± 0.002		53
Magnesium (mg/L)		↑5.4	↑5.2	↑5	3.7	to 4.9	4.2 ± 0.045		53
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.05 U	0.038 ± 0.002		53
Potassium (mg/L)		↑1.8	0.81	0.77	0.3	to 1.4	0.72 ± 0.023		53
Sodium (mg/L)		5.2	4.1	4	3.2	to 5.2	4 ± 0.06		53
Total Kjeldahl Nitrogen (mg/L)		↓0.21	0.27	↓0.2 U	0.24	to 1.1	0.4 ± 0.024		53
Nitrite/Nitrate - (N) (mg/L)		0.078	0.096	0.12	0.05 U	to 1 U	0.18 ± 0.049		21
Total Dissolved Solids (mg/L)		105	111	77 H	68	to 116	90 ± 1.2		53
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	to 7	3.7 ± 0.11		53
Sulfate (mg/L)		4.2	4	↑16	2 U	to 5	3.6 ± 0.12		53
Bicarbonate Alkalinity (CaCO3) (mg/L)		58	64	62	51	to 64	59 ± 0.43		53
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 9.6	2.1 ± 0.21		53
Chloride (mg/L)		↑7.9	↑8.1	↑21	1	to 6.8	2.6 ± 0.19		53
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.12 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

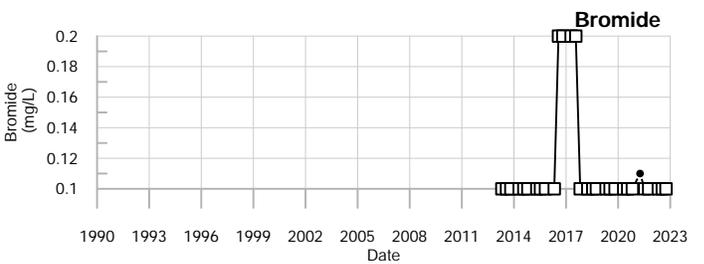
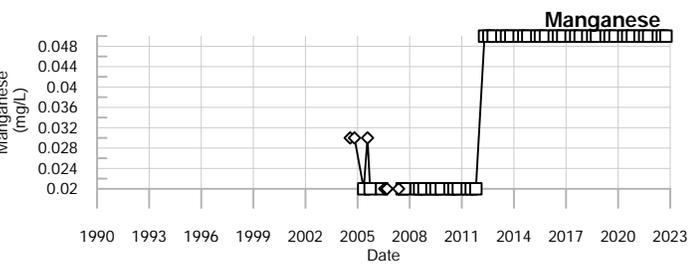
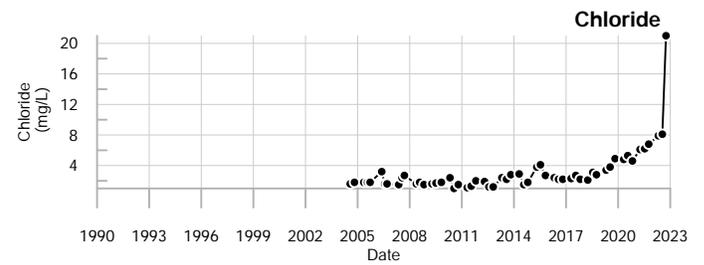
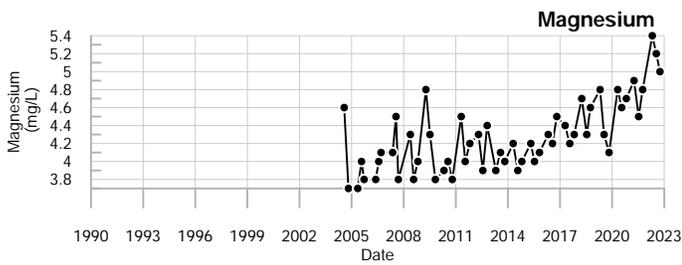
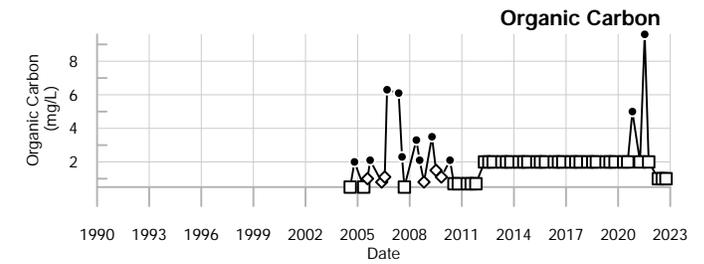
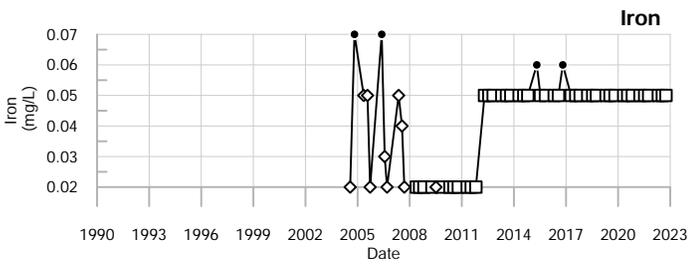
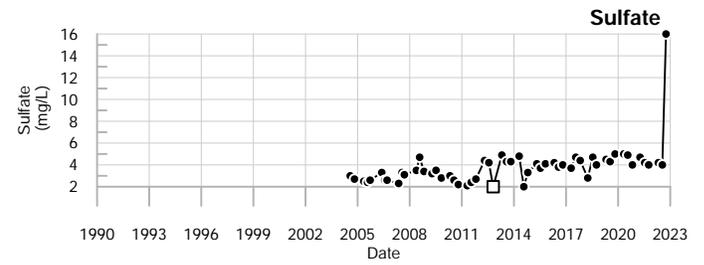
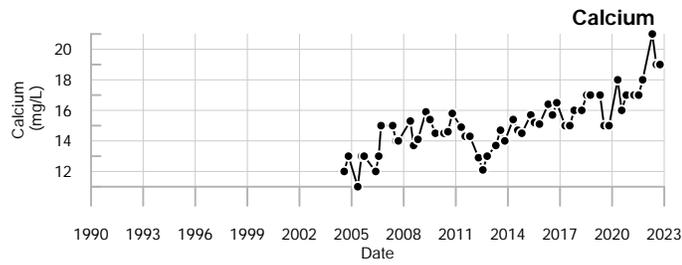
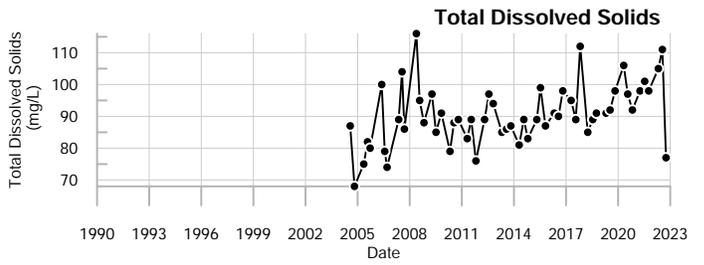
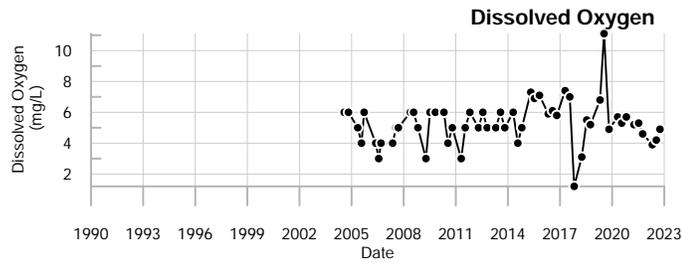
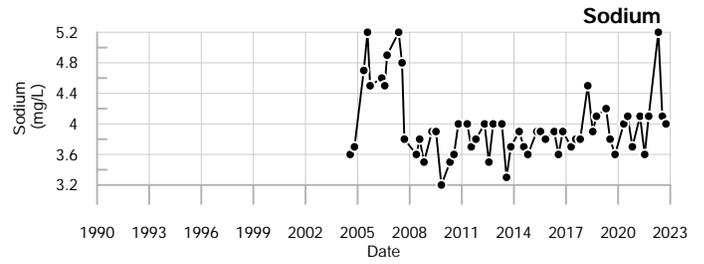
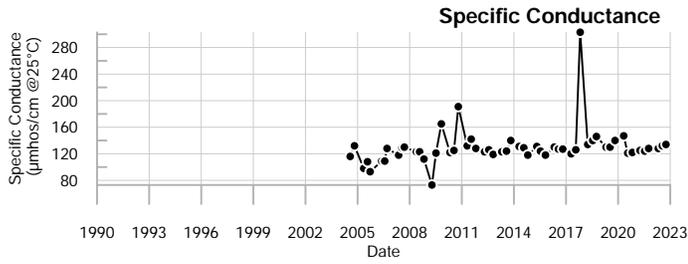
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022	H = Analyzed outside U.S.EPA's recommended hold time.	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

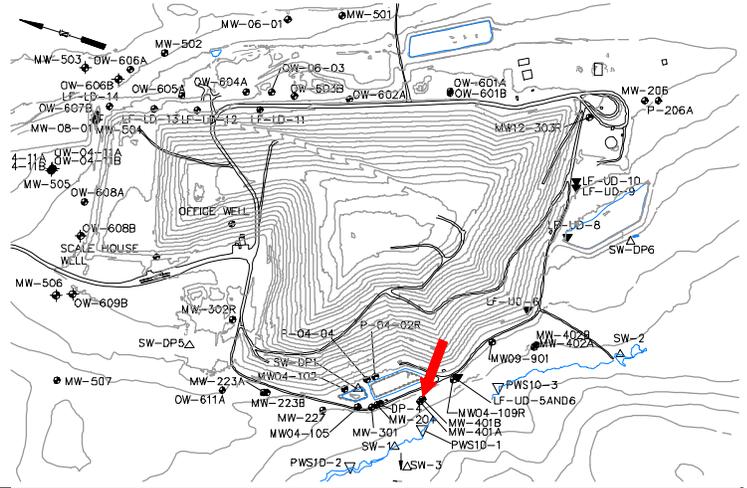


MW-401A
Juniper Ridge Landfill

Well Description

MW-401B is located downgradient of the landfill and former leachate pond and monitors groundwater quality in the overburden.

Screen Interval: **10 ft. to 20 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **07/29/04**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		270	281	290	180 to 699		350 ± 15		53
pH (STU)		6.6	6.4	6.7	5.9 to 7.7		6.8 ± 0.054		53
Temperature (Deg C)		6.7	9.9	10.4	5.9 to 16.1		9.4 ± 0.29		53
Water Level Elevation (Feet)		150.69	149.29	150.82	148.47 to 151.12		150 ± 0.076		53
Eh (mV)		213	169	213	-33 to 417		180 ± 13		53
Dissolved Oxygen (mg/L)		0.2	0.2	3.5	0.1 to 5		0.82 ± 0.12		53
Turbidity (field) (NTU)		0.1	0.5	0.2	0 to 6.7		1.1 ± 0.18		53
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 to 0.058		0.016 ± 0.002		53
Calcium (mg/L)		42	40	45	25.3 to 100		41 ± 2		53
Iron (mg/L)		1.3	1.2	1.3	0.19 to 19		2.6 ± 0.43		53
Magnesium (mg/L)		11	11	11	8 to 36		12 ± 0.66		53
Manganese (mg/L)		0.11	0.1	0.11	0.05 to 2.9		0.33 ± 0.074		53
Potassium (mg/L)		2.2	1.4	1.4	0.9 to 3.2		1.4 ± 0.066		53
Sodium (mg/L)		11	11	11	9.7 to 33		15 ± 0.79		53
Total Kjeldahl Nitrogen (mg/L)		0.5	0.2 U	0.41	0.2 U to 3.2		0.46 ± 0.058		53
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U to 1 U		0.15 ± 0.052		21
Total Dissolved Solids (mg/L)		190	210	150 H	142 to 488		220 ± 9.3		53
Total Suspended Solids (mg/L)		2.5 U	2.5	4 U	2.5 U to 36		4.8 ± 0.67		53
Sulfate (mg/L)		10	9.7	10	5.3 to 69.2		17 ± 1.7		53
Bicarbonate Alkalinity (CaCO3) (mg/L)		150	160	160	108 to 245		150 ± 4.3		53
Organic Carbon (mg/L)		1 U	1 U	1 U	0.7 U to 49		3.7 ± 0.97		53
Chloride (mg/L)		4.5	4.7	5.3	1 U to 40.5		14 ± 1.2		53
Bromide (mg/L)		0.18	0.18	0.18	0.1 U to 0.24		0.18 ± 0.008		27

underlined/bold - values exceed a regulatory standard listed below.

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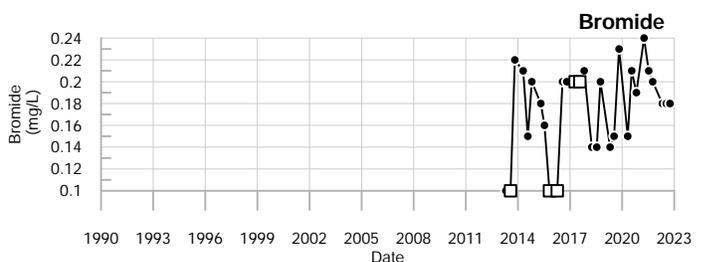
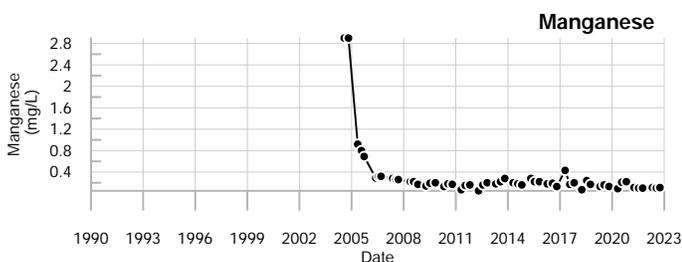
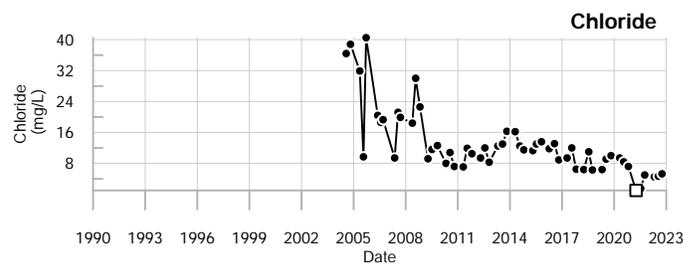
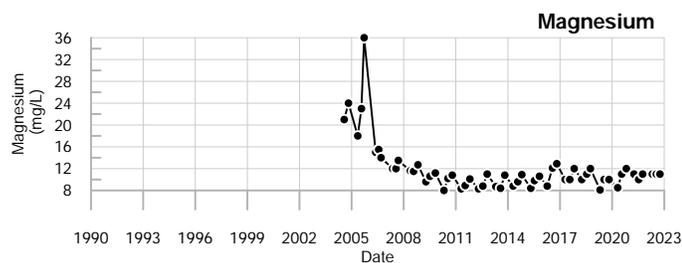
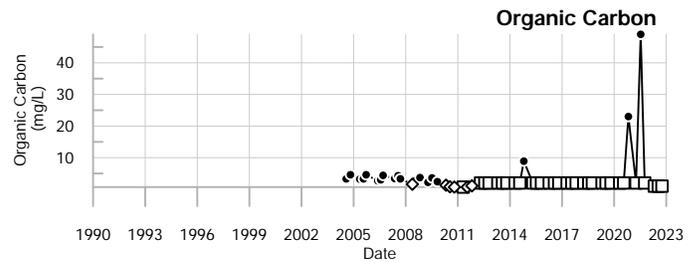
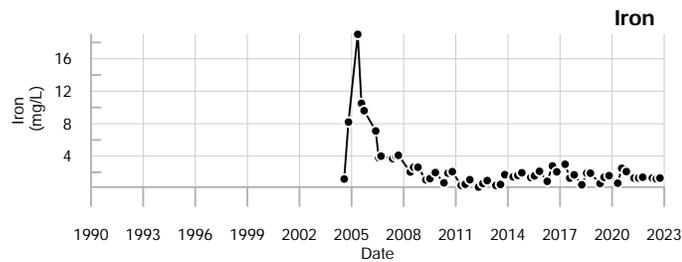
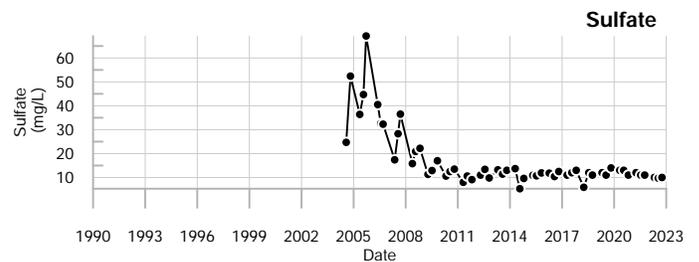
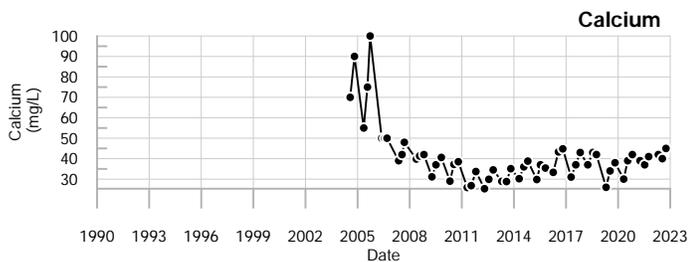
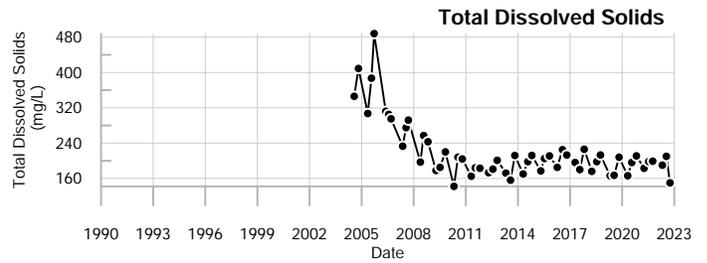
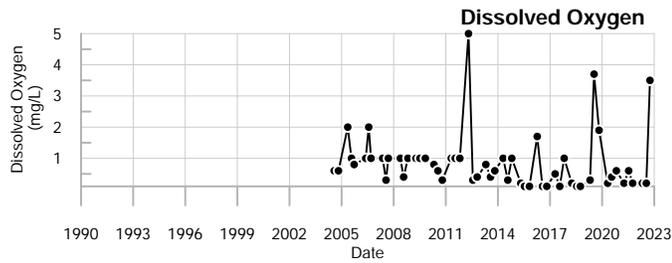
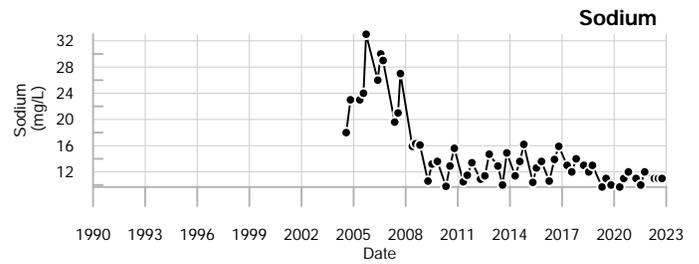
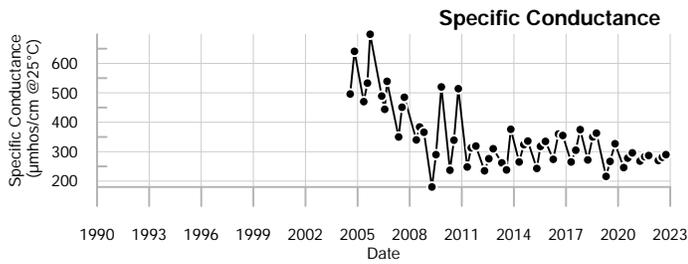
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022	H = Analyzed outside U.S.EPA's recommended hold time.	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL

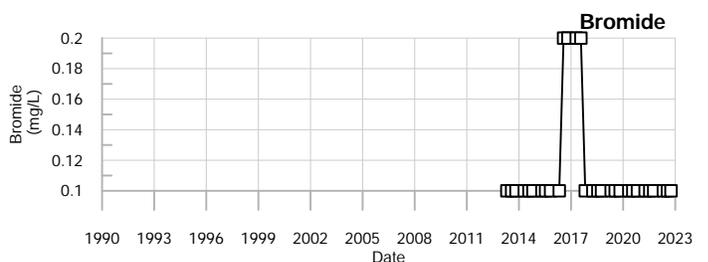
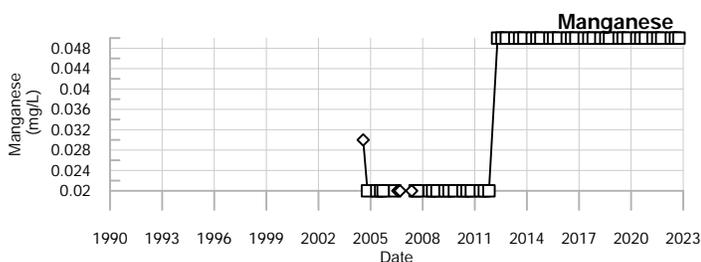
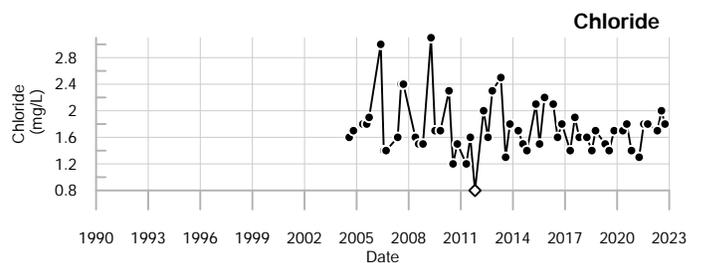
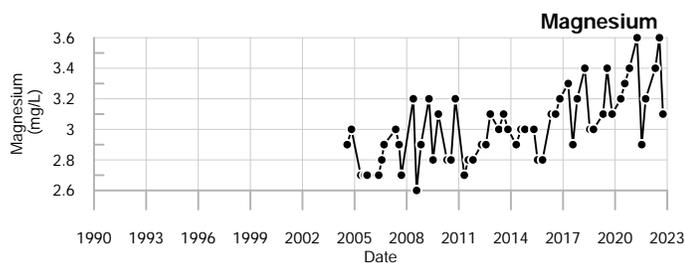
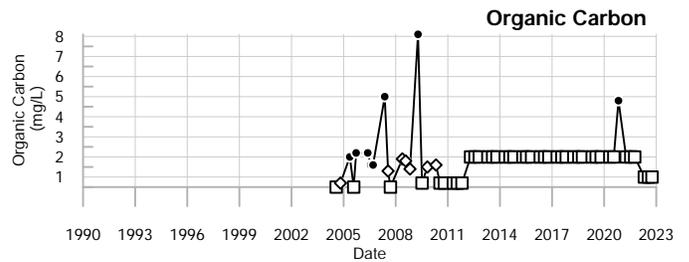
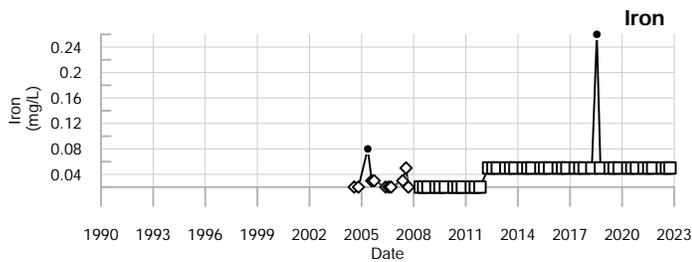
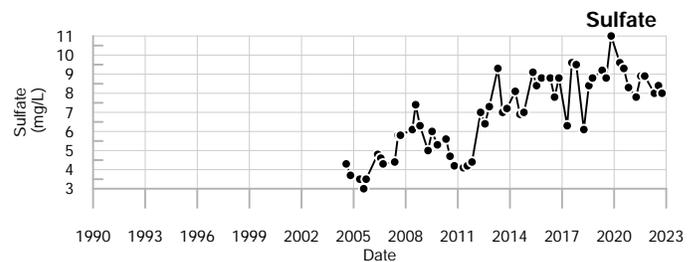
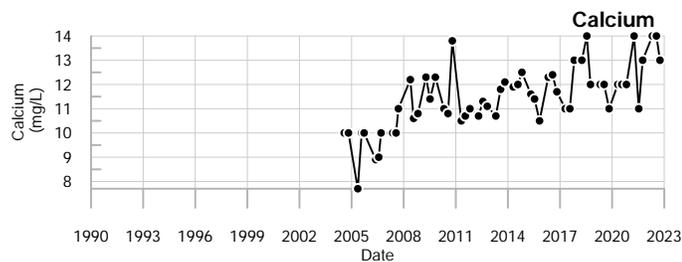
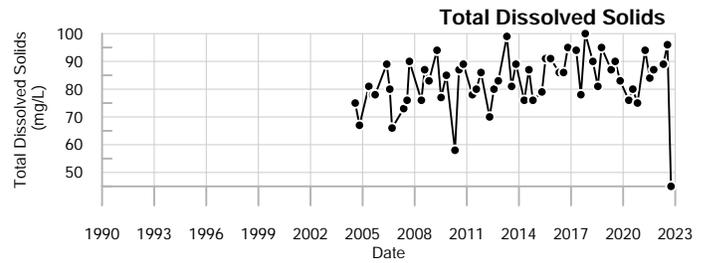
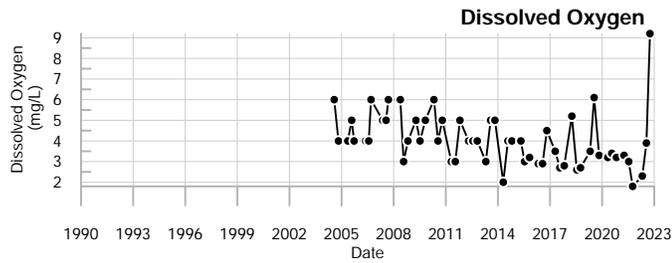
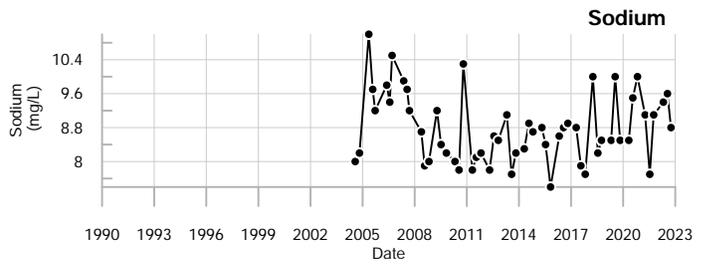
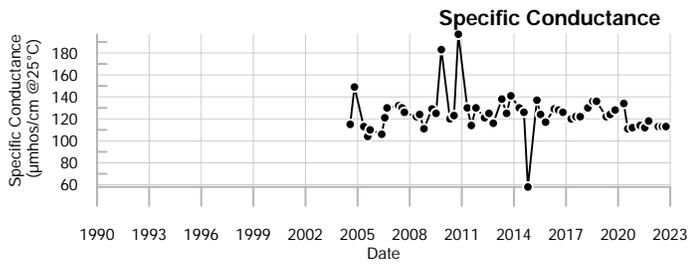


LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



MW-401B
Juniper Ridge Landfill



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

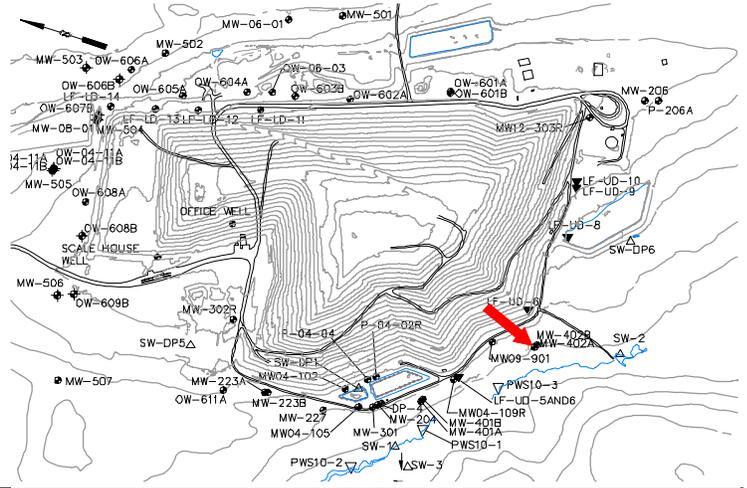


MW-402A
Juniper Ridge Landfill

Well Description

MW-402B monitors water quality within the overburden downgradient of the landfill.

Screen Interval: **12 ft. to 22 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **07/29/04**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		130	158	131	96	to 246	150 ± 2.8		53
pH (STU)		7.8	7.9	7.6	7	to 9.2	8.4 ± 0.063		53
Temperature (Deg C)		7.8	9.4	10.7	5.2	to 13.8	9.2 ± 0.28		53
Water Level Elevation (Feet)		150.14	148.25	148.54	146.92	to 150.56	150 ± 0.12		53
Eh (mV)		191	233	251	11	to 467	250 ± 13		53
Dissolved Oxygen (mg/L)		0.2	0.2	1.5	0.1	to 6.8	0.77 ± 0.14		53
Turbidity (field) (NTU)		0.1	0.5	0.2	0	to 3.5	0.5 ± 0.11		53
Arsenic (mg/L)		0.017	↓ 0.0099	0.016	0.01	to 0.031	0.018 ± 0.000		53
Calcium (mg/L)		16	↑ 22	16	13	to 18	15 ± 0.15		53
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.22	0.046 ± 0.005		53
Magnesium (mg/L)		5.1	↑ 7.4	4.6	4.5	to 5.9	5 ± 0.038		53
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.05	0.038 ± 0.002		53
Potassium (mg/L)		1.3	1.4	0.61	0.4	to 2.2	0.7 ± 0.035		53
Sodium (mg/L)		8.8	9.7	8	7.6	to 12	8.6 ± 0.12		53
Total Kjeldahl Nitrogen (mg/L)		0.41	0.2 U	0.2 U	0.2 U	to 0.61	0.37 ± 0.015		53
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.054	0.05 U	to 2 U	0.19 ± 0.095		21
Total Dissolved Solids (mg/L)		93	122	66 H	64	to 124	94 ± 1.3		53
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	to 35	4.5 ± 0.61		53
Sulfate (mg/L)		8.9	8.9	9.8	2.3	to 44.9	9.1 ± 0.73		53
Bicarbonate Alkalinity (CaCO3) (mg/L)		65	↑ 85	69	34	to 79	67 ± 0.75		53
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 6.1	1.9 ± 0.15		53
Chloride (mg/L)		1.2	2	1.2	1	to 26.5	2.6 ± 0.56		53
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.12 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

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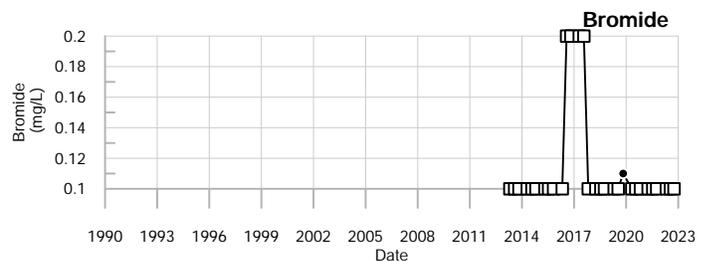
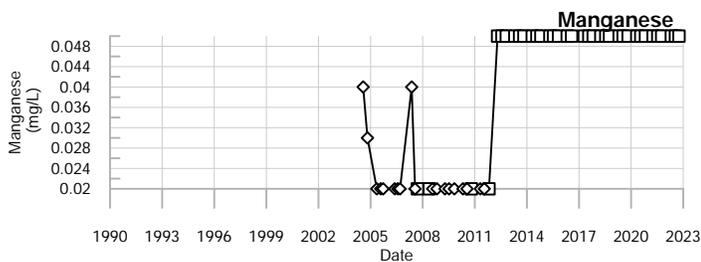
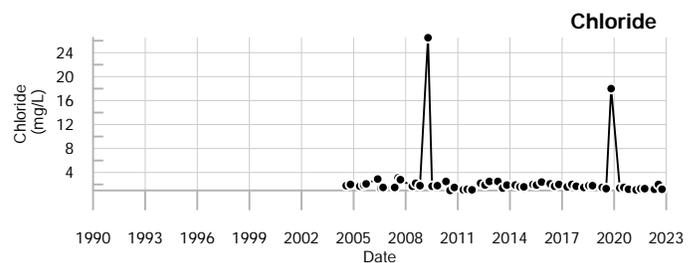
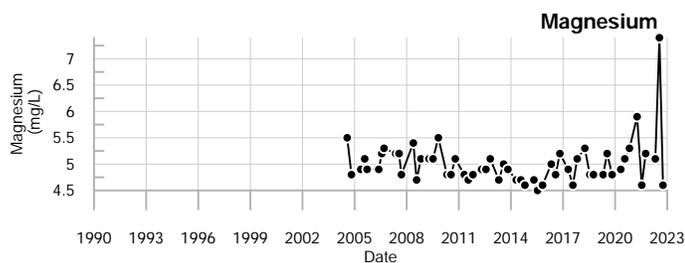
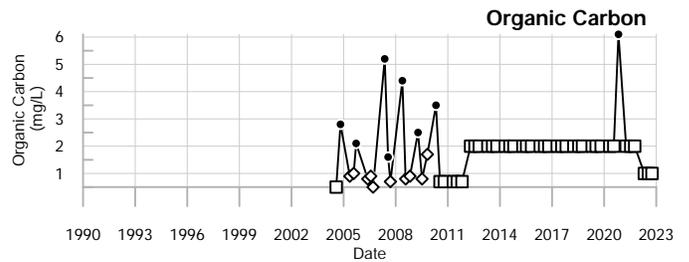
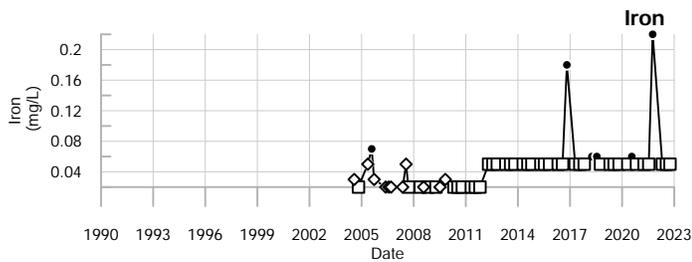
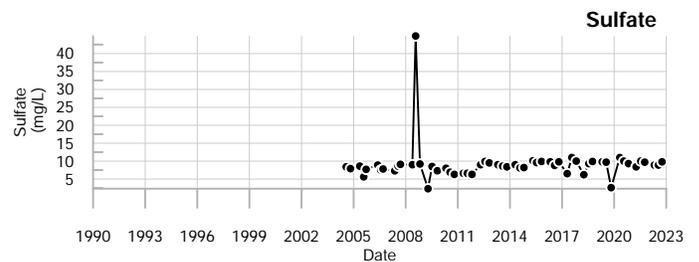
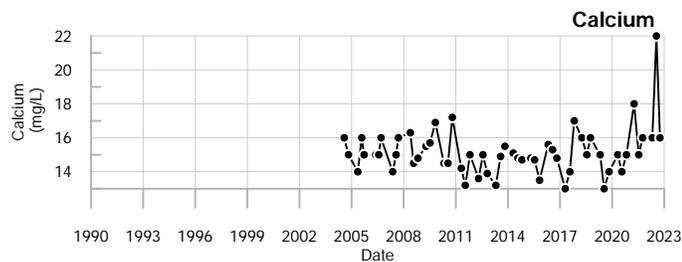
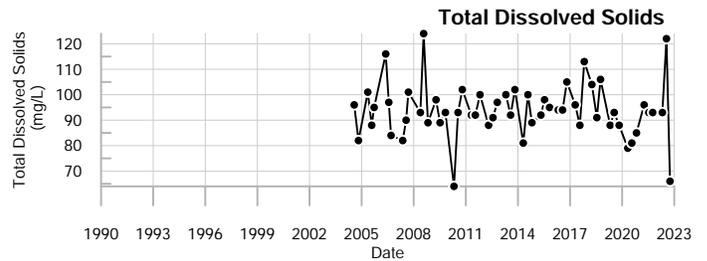
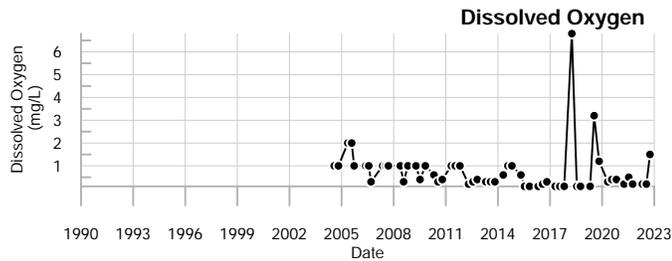
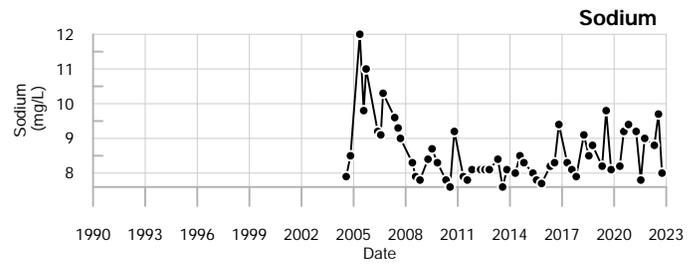
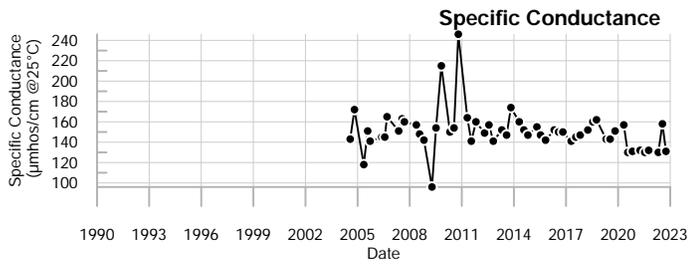
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022	H = Analyzed outside U.S.EPA's recommended hold time.	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



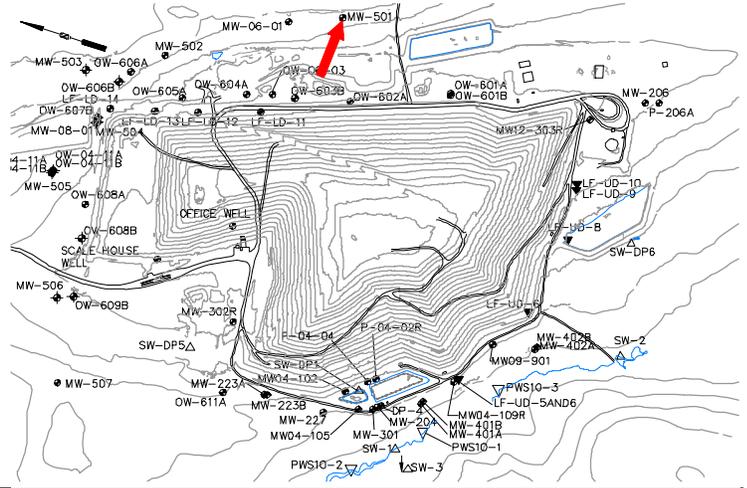
MW-402B
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

MW-501 monitors bedrock groundwater downgradient and east of the landfill expansion.

Screen Interval: **57 ft. to 67 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **Apr-18**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		231	212	221	157	to 367	240 ± 17		13
pH (STU)		7	7	6.9	6	to 8.8	7.3 ± 0.2		13
Temperature (Deg C)		8.1	8.7	12.6	6.5	to 15.5	9.7 ± 0.68		13
Eh (mV)		411	329	366	200	to 553	350 ± 26		13
Dissolved Oxygen (mg/L)		2.8	3.9	2.3	0.9	to 13.3	5.8 ± 0.84		13
Turbidity (field) (NTU)		0.1	0.2	0.3	0.1	to 3.9	0.82 ± 0.34		13
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.009	0.0059 ± 0.000		13
Calcium (mg/L)		37	35	34	21	to 60	36 ± 3.2		13
Copper (mg/L)		0.003 U	0.003 U	0.003 U	0.003 U	to 0.003 U	0.003 ± 0		4
Iron (mg/L)		0.05 U	0.05 U	0.051	0.05 U	to 0.17	0.06 ± 0.009		13
Magnesium (mg/L)		7.5	7.9	6.7	4.7	to 9.2	6.3 ± 0.38		13
Manganese (mg/L)		0.05	0.05 U	0.05	0.05 U	to 0.21	0.065 ± 0.012		13
Potassium (mg/L)		↑2.4	↑1.3	0.73	0.6	to 1.1	0.8 ± 0.038		13
Sodium (mg/L)		↑6.7	5.3	4.3	3.5	to 6.4	4.7 ± 0.25		13
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05 ± 0		3
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	↑0.42	0.2 U	to 0.33	0.25 ± 0.008		13
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5 ± 0		4
Nitrite/Nitrate - (N) (mg/L)		0.32	0.32	0.45	0.077	to 0.57	0.27 ± 0.034		13
Total Dissolved Solids (mg/L)		179	170	160	105	to 247	160 ± 11		13
Total Suspended Solids (mg/L)		2.5 U	2.5 U	↑4 U	2.5 U	to 2.5 U	2.5 ± 0		13
Sulfate (mg/L)		3.9	3.7	3.8	2	to 47	6.8 ± 3.4		13
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 0		4
Alkalinity (CaCO3) (mg/L)		↑110	100	100	83	to 100	93 ± 3.1		6
Organic Carbon (mg/L)		↓1 U	↓1 U	↓1 U	2	to 22	3.9 ± 1.5		13
Chloride (mg/L)		13	14	13	2.4	to 24	13 ± 1.6		13
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.12	0.1 ± 0.002		13
Methane (ug/L)		20 U	20 U	20 U	20 U	to 20 U	20 ± 0		3

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

MW-501

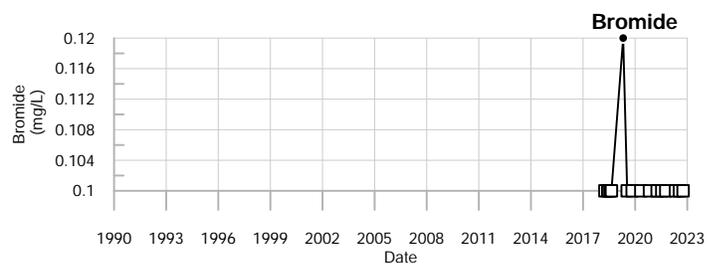
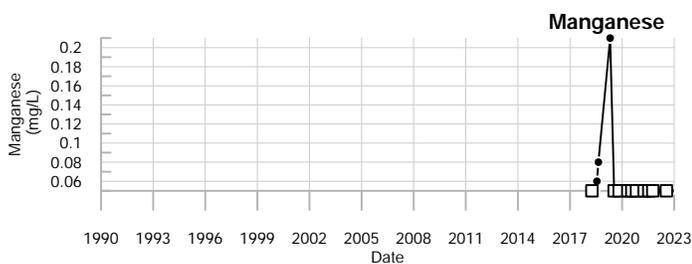
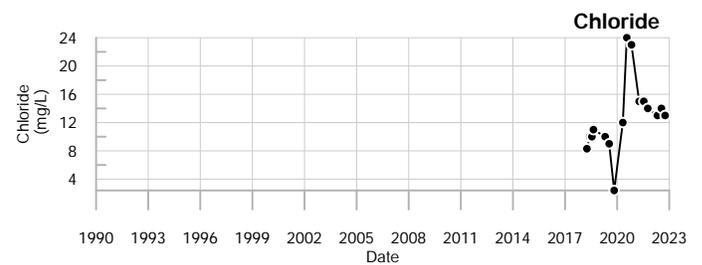
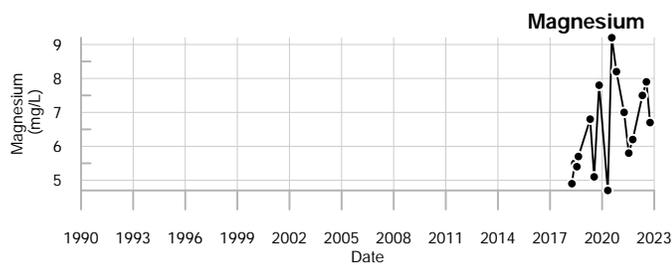
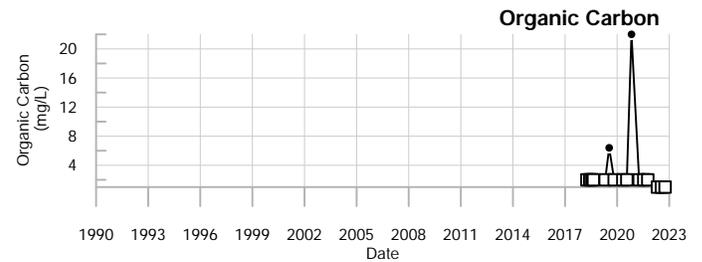
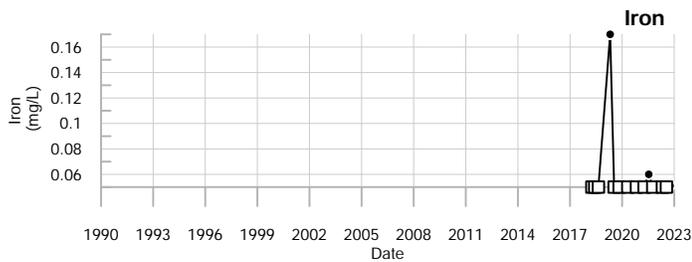
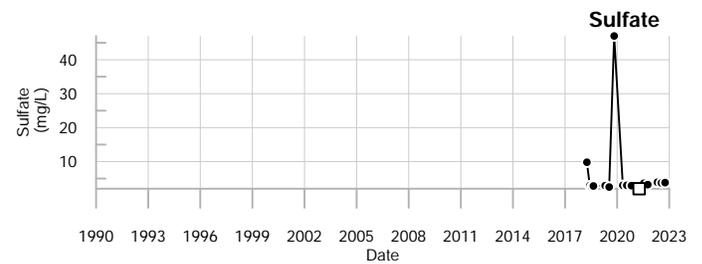
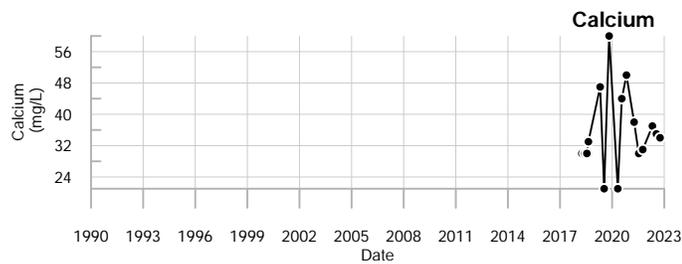
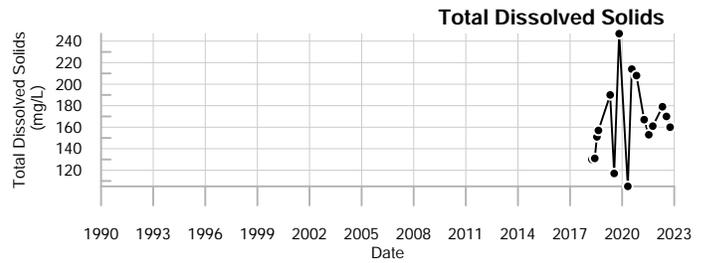
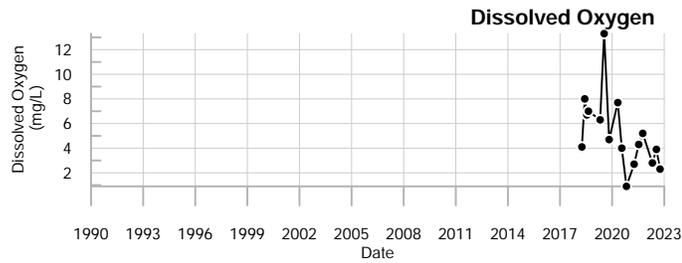
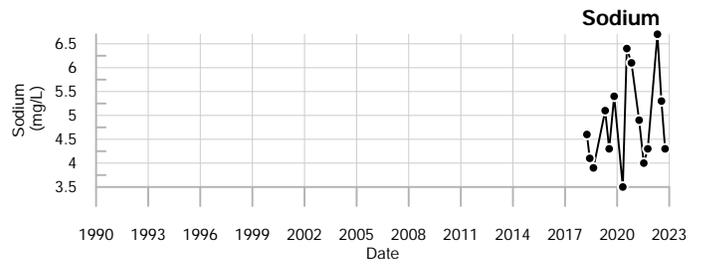
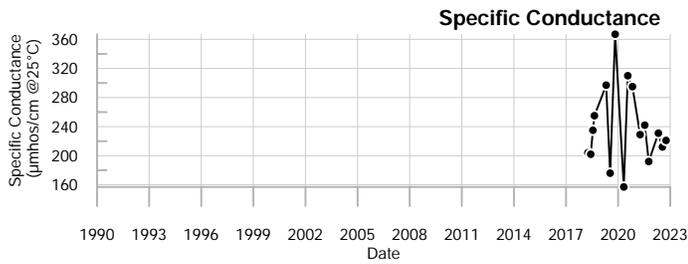
Juniper Ridge Landfill

MW-501

annual stats 2022 G2

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

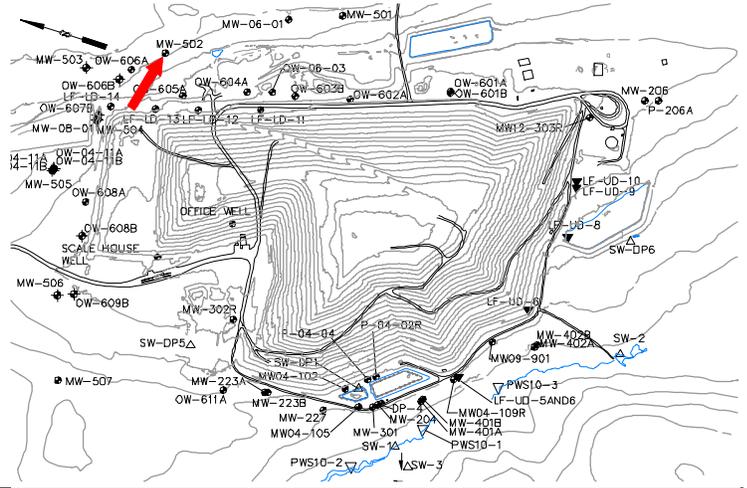


MW-501
Juniper Ridge Landfill

Well Description

MW-502 monitors bedrock groundwater downgradient and east of the landfill expansion.

Screen Interval: **38 ft. to 43 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **Feb-20**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓256	331	351	351	280	to 389	330 ± 15		6
pH (STU)	↓7.3	7.4	7.5	7.5	7.4	to 8.4	7.9 ± 0.16		6
Temperature (Deg C)		9.1	12.7	10.8	7.2	to 18.7	13 ± 2		6
Eh (mV)	↑404	279	334	334	249	to 390	310 ± 22		6
Dissolved Oxygen (mg/L)		3.3	2.1	↓1.7	2	to 5.8	3.3 ± 0.58		6
Turbidity (field) (NTU)	↓0.1	0.7	0.3	0.3	0.2	to 1.2	0.52 ± 0.17		6
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.005 U	0.005 ± 3E-11		6
Calcium (mg/L)		45	61	↑69	34	to 64	45 ± 5.3		6
Copper (mg/L)		0.003 U	0.003 U	0.003 U	0.003 U	to 0.003 U	0.003 ± 2E-11		6
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.13	0.063 ± 0.013		6
Magnesium (mg/L)		7.8	↑10	9.7	6.3	to 9.8	7.9 ± 0.62		6
Manganese (mg/L)		0.05 U	0.05 U	0.17	0.05 U	to 0.2	0.075 ± 0.025		6
Potassium (mg/L)	↑2	↑1.7	1.3	1.3	0.9	to 1.4	1.2 ± 0.076		6
Sodium (mg/L)	↑6.3	5.9	↑6.3	6.3	4.8	to 6.1	5.3 ± 0.19		6
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)	↑0.75	0.2 U	↑0.49	0.49	0.2 U	to 0.25 U	0.24 ± 0.008		6
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5 ± 0		6
Nitrite/Nitrate - (N) (mg/L)		0.16	0.077	0.16	0.05 U	to 0.23	0.13 ± 0.029		6
Total Dissolved Solids (mg/L)		204	223	250	166	to 250	200 ± 14		6
Total Suspended Solids (mg/L)		2.5 U	2.5 U	↑4 U	2.5 U	to 3	2.6 ± 0.083		6
Sulfate (mg/L)		3.4	4	4.7	2 U	to 4.9	3.9 ± 0.42		6
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 8E-10		6
Alkalinity (CaCO3) (mg/L)		120	160	↑200	110	to 190	140 ± 15		6
Organic Carbon (mg/L)	↓1 U	↓1 U	↓1	1	2 U	to 2 U	2 ± 0		6
Chloride (mg/L)		17	17	15	13	to 21	18 ± 1.4		6
Bromide (mg/L)		0.16	0.26	0.31	0.14	to 0.33	0.22 ± 0.032		6
Methane (ug/L)	↓20 U	↓20 U	↓20 U	20 U	37	to 190	110 ± 77		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

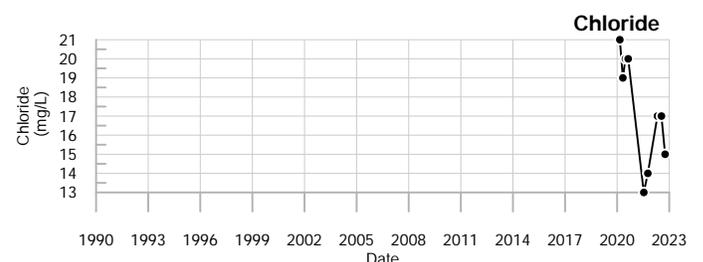
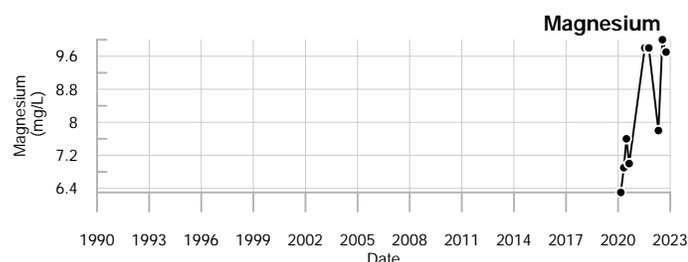
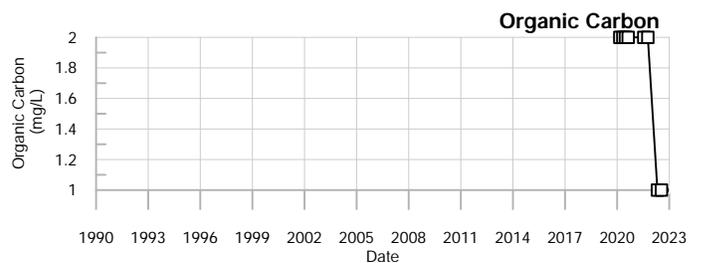
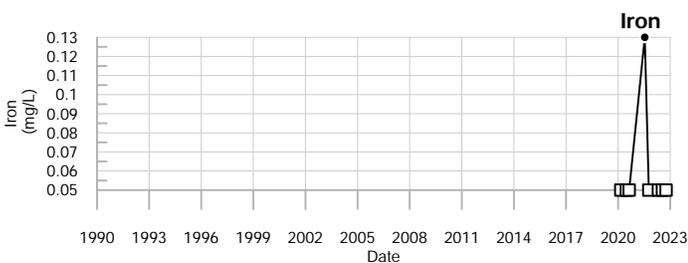
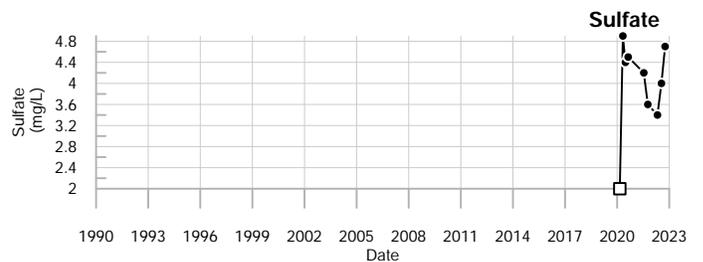
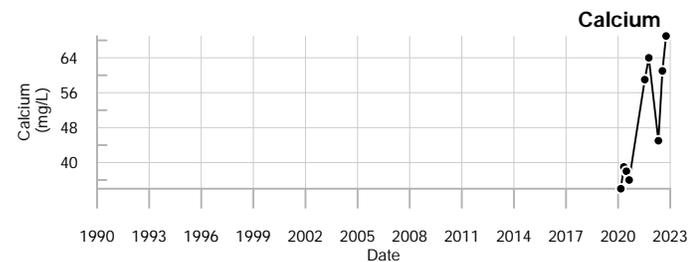
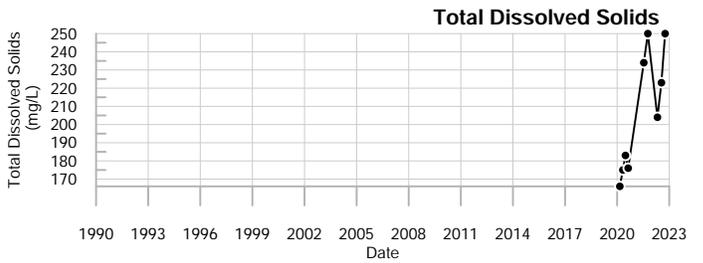
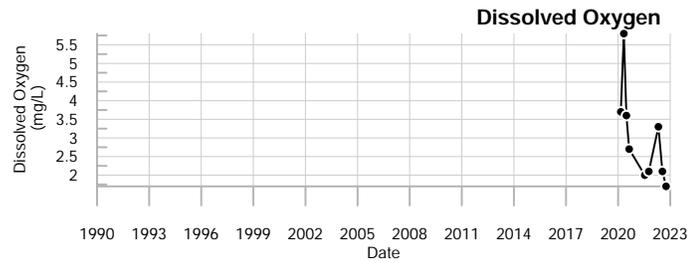
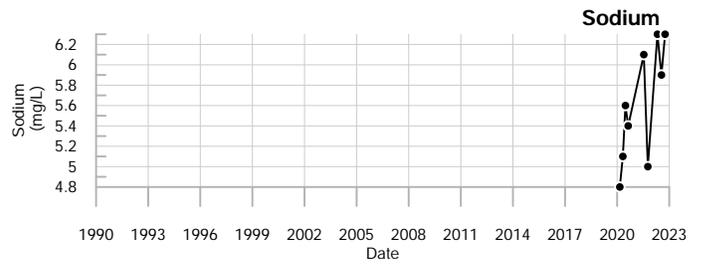
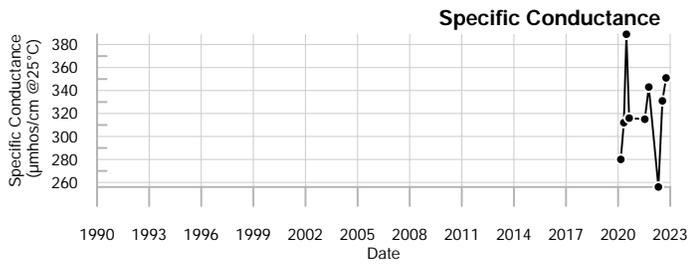
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

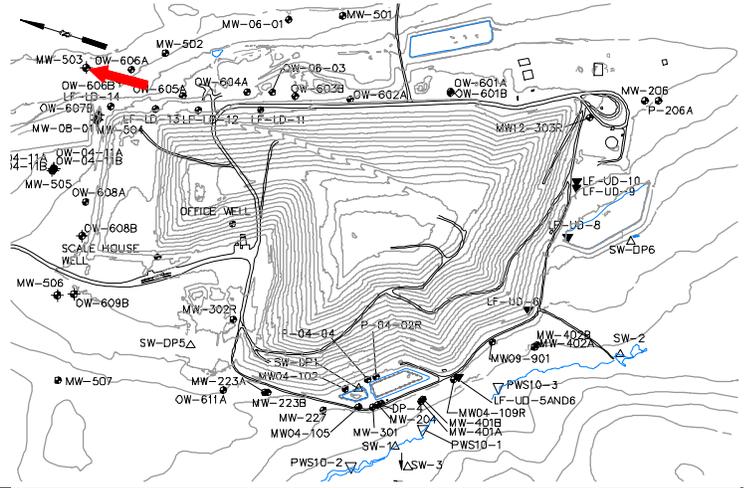
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



Well Description

MW-503 monitors bedrock groundwater downgradient of and north of the landfill expansion.

Screen Interval: **60 ft. to 70 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **2/9/2021**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		205	↑224	↑217	138 to 207		190 ± 13		5
pH (STU)		7.5	7.6	7.4	6.6 to 7.9		7.4 ± 0.21		5
Temperature (Deg C)		9.6	10.4	9.1	6.5 to 12.3		9.9 ± 1.1		5
Eh (mV)		369	278	339	233 to 398		320 ± 28		5
Dissolved Oxygen (mg/L)		3.6	↓1.2	1.7	1.6 to 5.3		2.8 ± 0.64		5
Turbidity (field) (NTU)		0.2	1	0.2	0.2 to 1.1		0.54 ± 0.16		5
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U to 0.005		0.005 ± 3E-11		5
Calcium (mg/L)		31	↑37	↑32	25 to 31		29 ± 1		5
Copper (mg/L)		0.003 U	0.003 U	↑0.0041	0.003 U to 0.003 U		0.003 ± 2E-11		5
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U to 0.05 U		0.05 ± 4E-10		5
Magnesium (mg/L)		↑7.6	↑9.4	↑7.7	6.5 to 7.4		7.1 ± 0.15		5
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U to 0.05 U		0.05 ± 4E-10		5
Potassium (mg/L)		↑2	↑1.6	0.96	0.8 to 1		0.92 ± 0.037		5
Sodium (mg/L)		↑7.3	↑7	5.6	4.9 to 5.6		5.2 ± 0.12		5
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U to 0.05 U		0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)		↑0.58	0.2 U	↑0.41	0.2 U to 0.25 U		0.23 ± 0.012		5
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U to 0.5 U		0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)		0.11	↓0.09	0.15	0.093 to 0.15		0.12 ± 0.009		5
Total Dissolved Solids (mg/L)		153	↑164	↑250	140 to 153		150 ± 2.2		5
Total Suspended Solids (mg/L)		2.5 U	2.5 U	↑4 U	2.5 U to 2.5 U		2.5 ± 0		5
Sulfate (mg/L)		↓7.3	↓6.9	↓6.8	7.4 to 12		8.9 ± 0.81		5
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U to 0.1 U		0.1 ± 8E-10		5
Alkalinity (CaCO3) (mg/L)		↑96	↑120	↑110	83 to 91		88 ± 1.6		5
Organic Carbon (mg/L)		↓1 U	↓1 U	↓1 U	2 U to 2 U		2 ± 0		5
Chloride (mg/L)		↓11	↓6.1	↓6.4	13 to 17		15 ± 0.84		5
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U to 0.1 U		0.1 ± 8E-10		5
Methane (ug/L)		20 U	20 U	20 U	20 U to 20 U		20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

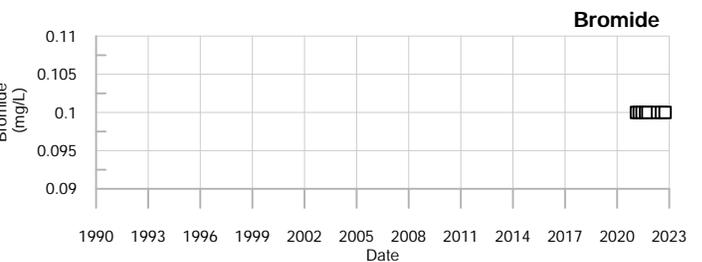
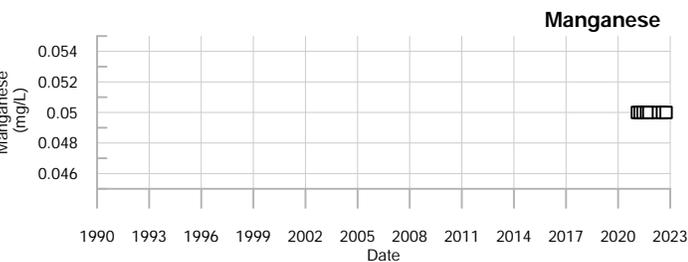
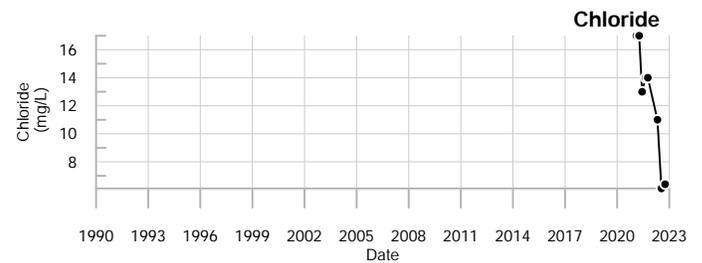
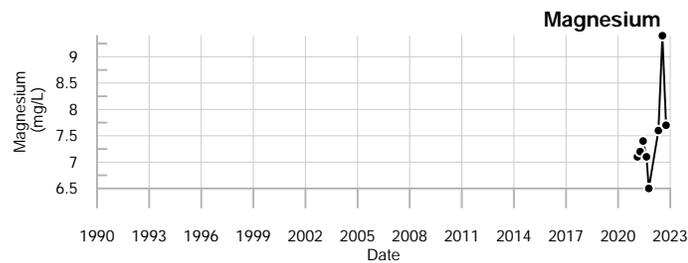
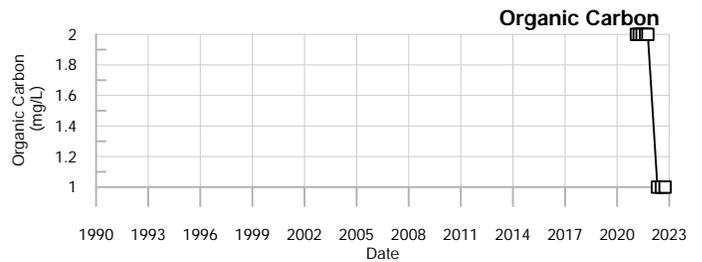
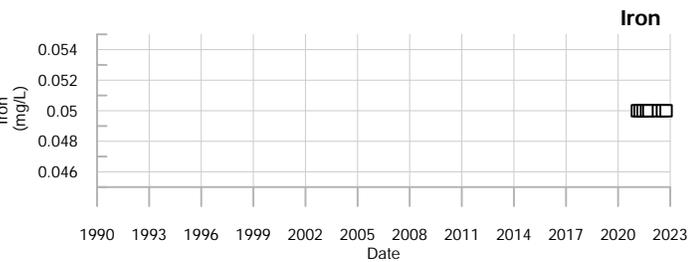
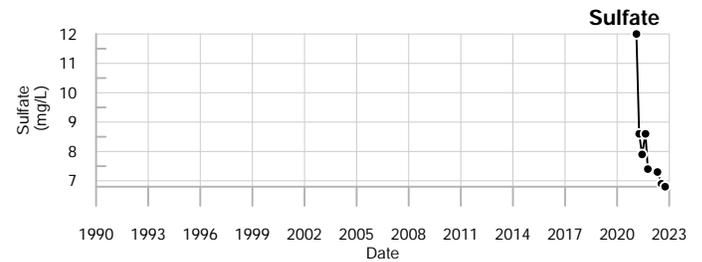
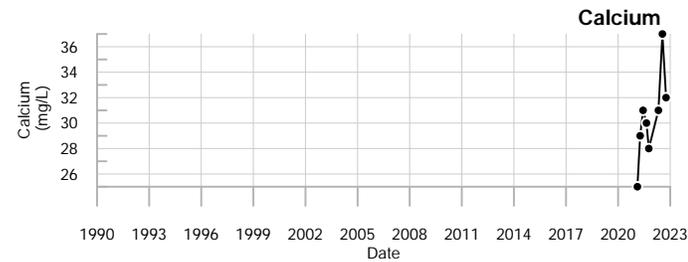
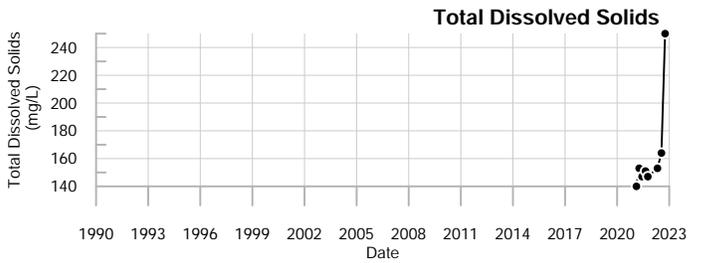
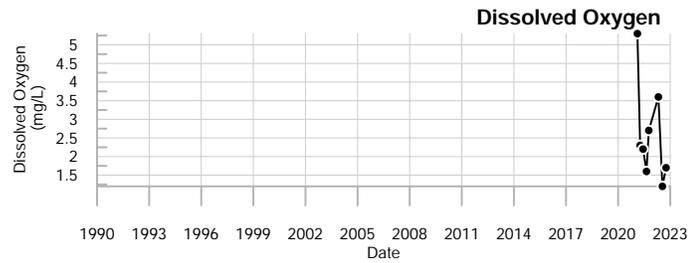
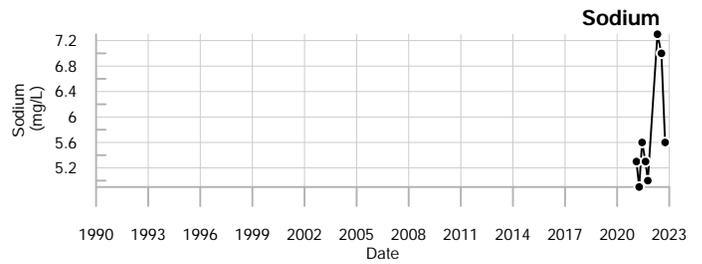
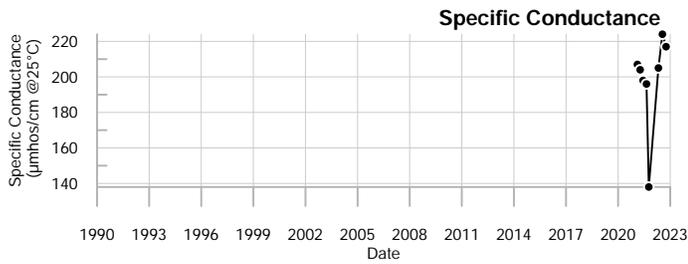
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

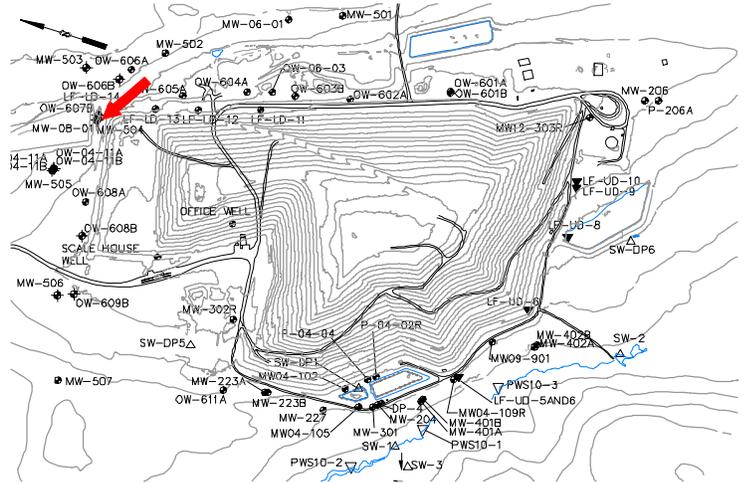


MW-503
Juniper Ridge Landfill

Well Description

MW-504 monitors bedrock groundwater downgradient of and north of the landfill expansion.

Screen Interval: **71.5 ft. to 81.5 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **2/9/2021**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		104	!	106	103	to 139	120 ± 6.4		5
pH (STU)		8	!	↓7.4	7.6	to 8.4	7.9 ± 0.17		5
Temperature (Deg C)		9.4	!	10.4	5.9	to 14.6	10 ± 1.5		5
Water Level Elevation (Feet)	↓150.509	!	↓149.109		156.679	to 157.609	160 ± 0.17		5
Eh (mV)		223	!	↑339	156	to 337	240 ± 34		5
Dissolved Oxygen (mg/L)		7.3	!	3	2.8	to 7.3	5.6 ± 0.82		5
Turbidity (field) (NTU)		3.8	!	3.7	0.6	to 3.9	2.2 ± 0.64		5
Arsenic (mg/L)		0.005 U	!	0.005 U	0.005 U	to 0.006	0.0054 ± 0.000		5
Calcium (mg/L)		14	!	15	12	to 16	14 ± 0.66		5
Copper (mg/L)		0.003 U	!	↑0.015	0.003 U	to 0.003 U	0.003 ± 2E-11		5
Iron (mg/L)		0.12	!	↑6	0.05 U	to 0.17	0.088 ± 0.022		5
Magnesium (mg/L)		4	!	↑5.8	3.6	to 4.6	4.1 ± 0.16		5
Manganese (mg/L)		0.06	!	↑ 0.89	0.05 U	to 0.13	0.076 ± 0.017		5
Potassium (mg/L)	↑1.8	!	↑2		0.9	to 1.4	1.1 ± 0.086		5
Sodium (mg/L)		7.5	!	↓6.1	6.2	to 12	8.3 ± 1.2		5
Boron (mg/L)		0.05 U	!	0.05 U	0.05 U	to 0.05 U	0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)	↑1.5	!	↑1.8		0.2 U	to 0.26	0.24 ± 0.011		5
Ammonia (N) (mg/L)		0.5 U	!	0.5 U	0.5 U	to 0.5 U	0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)		0.078	!	↑0.22	0.05 U	to 0.091	0.069 ± 0.008		5
Total Dissolved Solids (mg/L)		92	!	↓15	92	to 112	100 ± 3.3		5
Total Suspended Solids (mg/L)	↑34	!	↑110		3.7	to 25	8.7 ± 4.1		5
Sulfate (mg/L)	↓5.4	!	↓5.4		5.8	to 14	7.7 ± 1.6		5
Sulfide (mg/L)		0.1 U	!	↑0.2 U	0.1 U	to 0.1 U	0.1 ± 8E-10		5
Alkalinity (CaCO3) (mg/L)	↓58	!	↓58		62	to 65	63 ± 0.51		5
Organic Carbon (mg/L)	↓1 U	!	↓1 U		2 U	to 2 U	2 ± 0		5
Chloride (mg/L)		1.1	!	1.2	1.1	to 3.2	1.6 ± 0.39		5
Bromide (mg/L)		0.1 U	!	0.1 U	0.1 U	to 0.1 U	0.1 ± 8E-10		5
Methane (ug/L)		20 U	!	20 U	20 U	to 20 U	20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

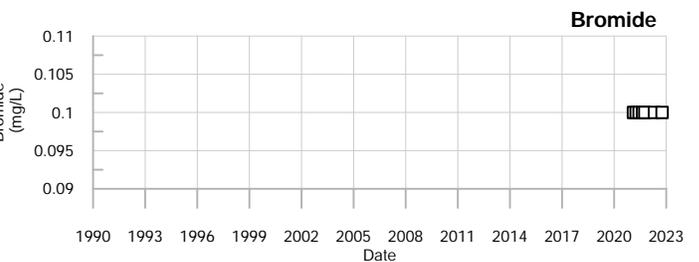
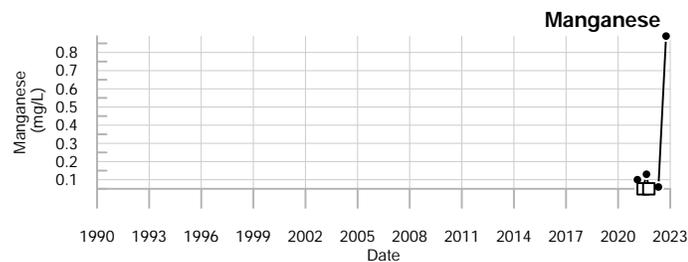
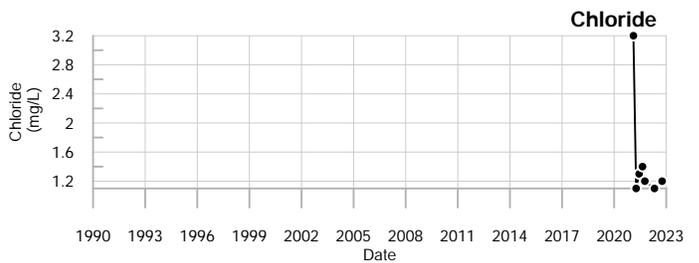
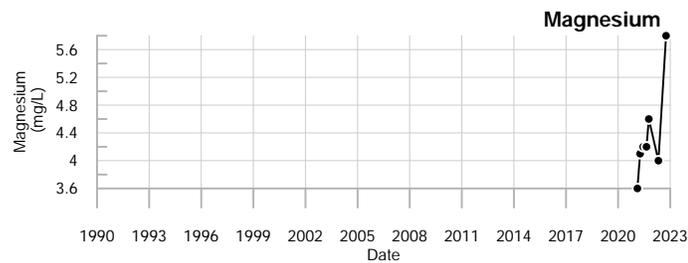
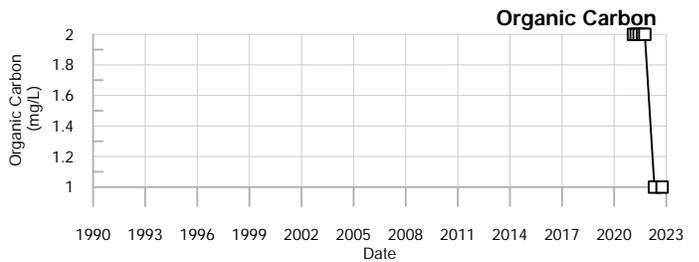
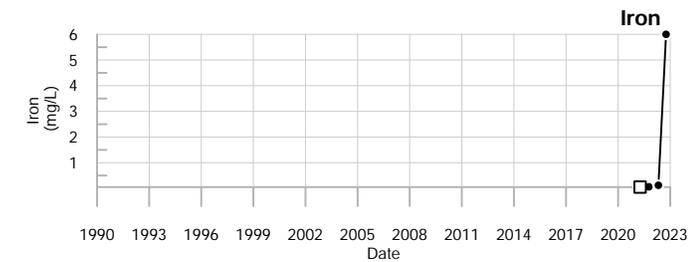
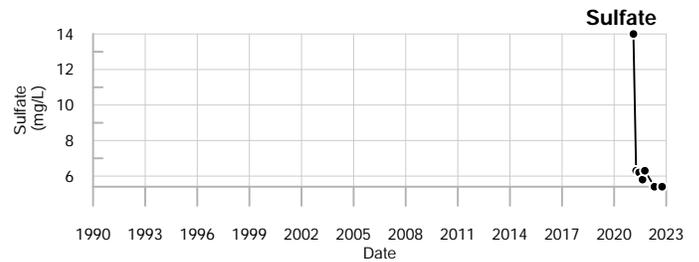
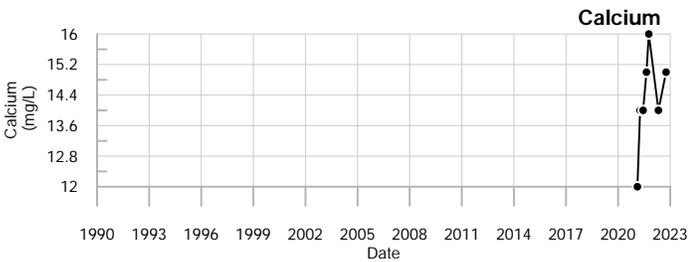
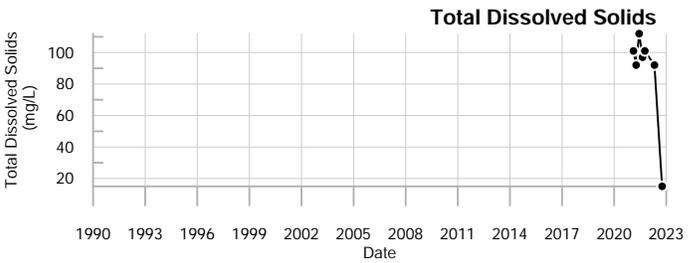
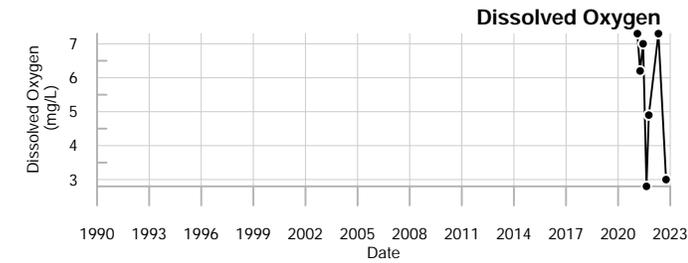
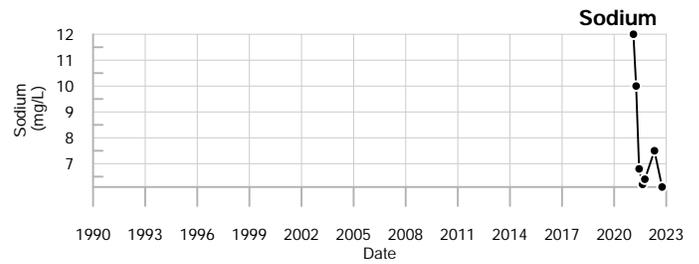
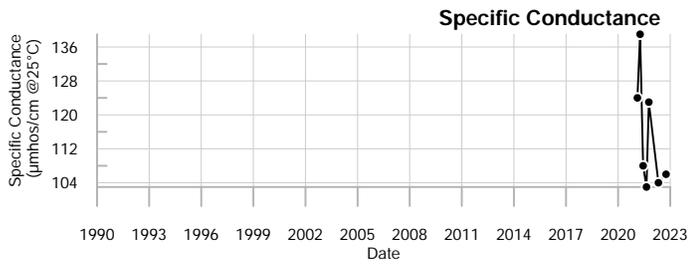
↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

U = Not Detected above the laboratory reporting limit.
! = The sampling location was damaged or destroyed.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

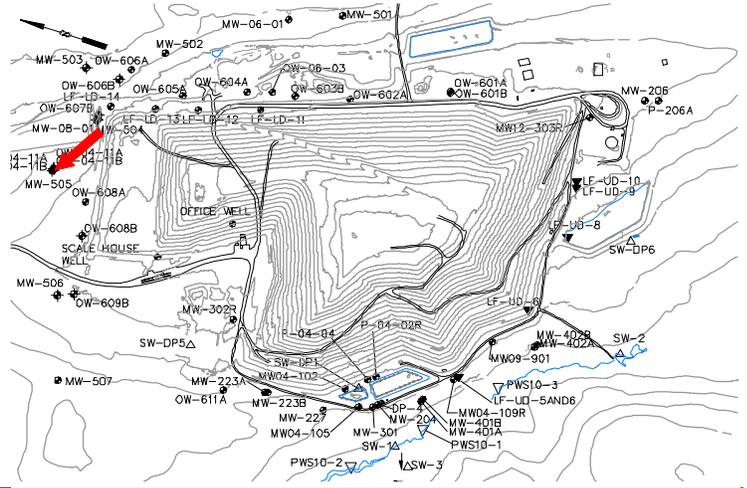


MW-504
Juniper Ridge Landfill

Well Description

MW-505 monitors bedrock groundwater downgradient of and north of the landfill expansion.

Screen Interval: **72.2 ft. to 82.2 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **2/10/2021**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓242	↓242	↓212		244	to 329	280 ± 16		5
pH (STU)		7.7	↓6.9	7.4	7.1	to 7.9	7.6 ± 0.14		5
Temperature (Deg C)		7.7	↑13.3	9.8	5.1	to 13.1	9.8 ± 1.4		5
Water Level Elevation (Feet)		188.236	↓181.486	↓182.566	183.636	to 188.236	190 ± 0.79		5
Eh (mV)		88	283	182	25	to 346	100 ± 61		5
Dissolved Oxygen (mg/L)	↓0.3	↓0.7	↓0.4		0.9	to 2.2	1.5 ± 0.24		5
Turbidity (field) (NTU)	↓0.3	↑6.4	0.6		0.5	to 4.5	1.5 ± 0.75		5
Arsenic (mg/L)		0.0052	0.005 U	0.005 U	0.005 U	to 0.006	0.0052 ± 0.000		5
Calcium (mg/L)		20	20	↑22	17	to 21	19 ± 0.66		5
Copper (mg/L)		0.003 U	↑0.0032	0.003 U	0.003 U	to 0.003 U	0.003 ± 2E-11		5
Iron (mg/L)	↑0.9	0.32	0.24		0.1	to 0.35	0.17 ± 0.045		5
Magnesium (mg/L)		7	6.9	6.8	5.9	to 7	6.4 ± 0.18		5
Manganese (mg/L)	↓0.29	↓0.26	↓0.25		0.39	to 0.73	0.55 ± 0.063		5
Potassium (mg/L)	↑1.4	↑1.9	1.1		1	to 1.3	1.2 ± 0.049		5
Sodium (mg/L)	33	↓22	↓21		27	to 55	37 ± 4.8		5
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.26	0.2 U	to 0.29	0.25 ± 0.014		5
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	↑0.16	0.05 U	to 0.065	0.057 ± 0.003		5
Total Dissolved Solids (mg/L)		189	↓160	↓63	174	to 237	200 ± 10		5
Total Suspended Solids (mg/L)		3	2.5 U	4 U	2.5 U	to 4	2.8 ± 0.29		5
Sulfate (mg/L)		40	↓35	↓28	37	to 55	46 ± 2.9		5
Sulfide (mg/L)		0.32	0.17	0.1 U	0.1 U	to 0.61	0.31 ± 0.084		5
Alkalinity (CaCO3) (mg/L)		94	90	93	88	to 110	96 ± 3.7		5
Organic Carbon (mg/L)		2.3	↓1.5	↓1.3	2 U	to 3.5	2.4 ± 0.29		5
Chloride (mg/L)	↓6	↓4.2	↓3.3		6.5	to 22	13 ± 2.6		5
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 8E-10		5
Methane (ug/L)		20 U	20 U	20 U	20 U	to 20 U	20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

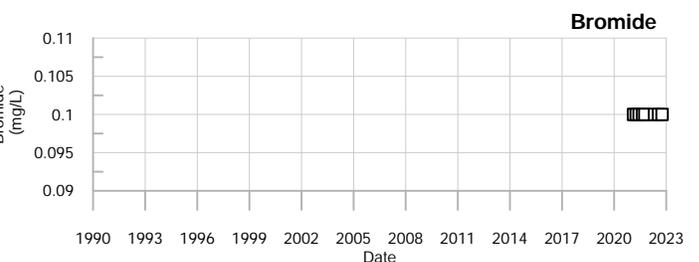
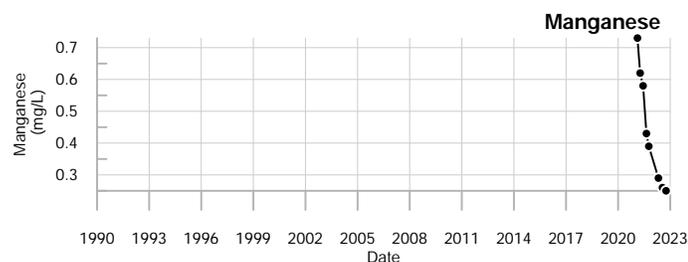
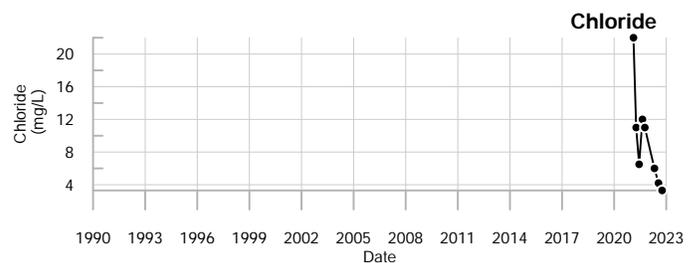
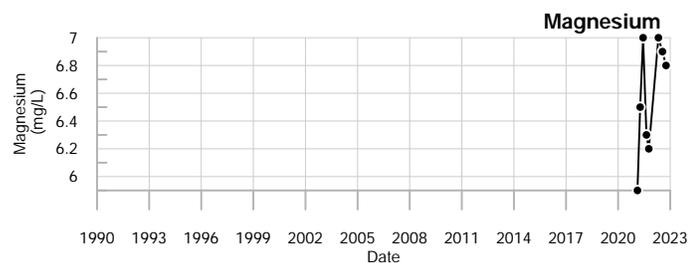
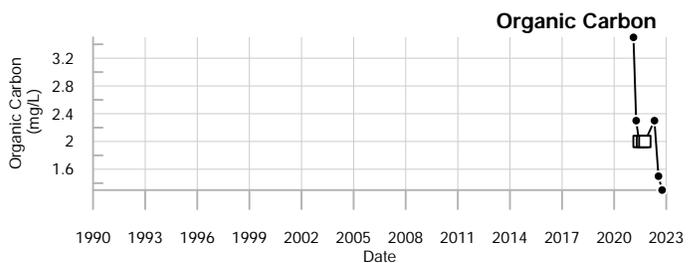
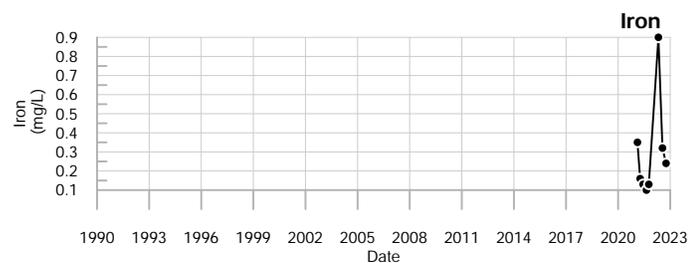
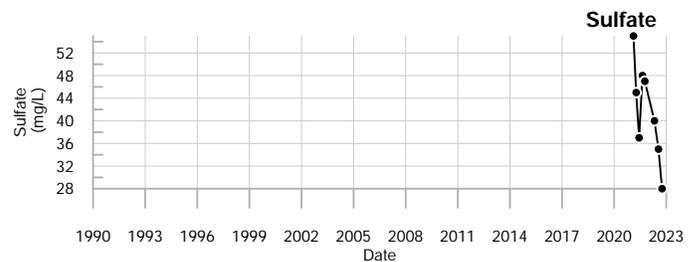
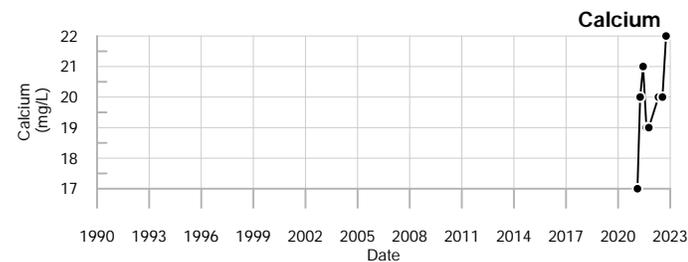
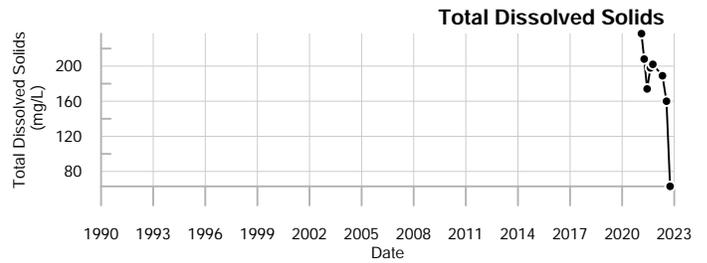
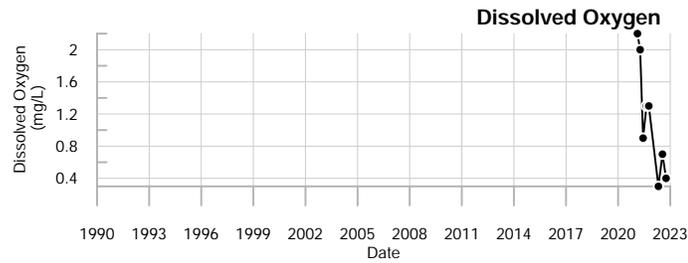
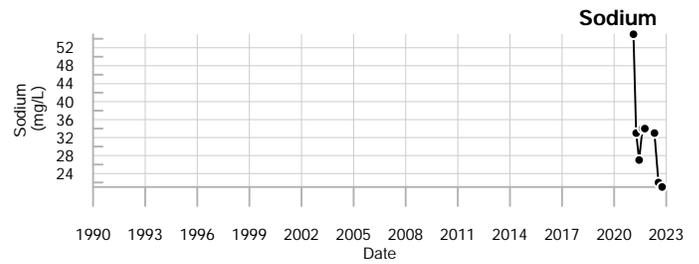
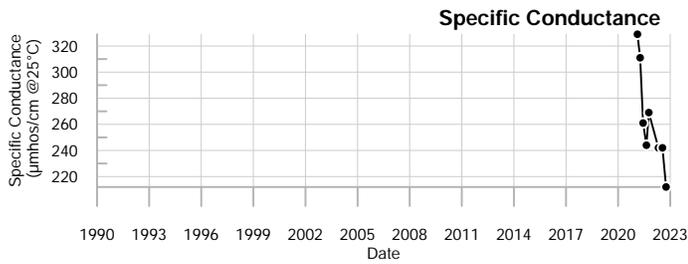
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

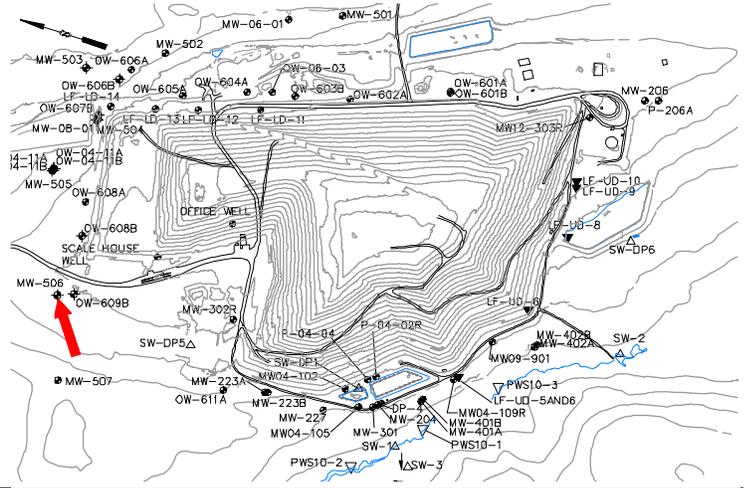
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



Well Description

MW-506 monitors bedrock groundwater downgradient of and northwest of the landfill expansion.

Screen Interval: **50 ft. to 60 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **2/18/2021**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓499	↓551	↓496	↓496	660	to 837	750 ± 35		5
pH (STU)	7.5	8.1	7.5	7.5	7.2	to 8.8	7.8 ± 0.29		5
Temperature (Deg C)	8.6	11	8	8	5.1	to 16.8	12 ± 2		5
Water Level Elevation (Feet)	172.758	↓167.658	169.758	169.758	169.488	to 173.258	170 ± 0.53		6
Eh (mV)	↓28	71	103	103	42	to 254	130 ± 47		5
Dissolved Oxygen (mg/L)	1.5	3.1	↑4.7	↑4.7	0.9	to 3.4	2.2 ± 0.41		5
Turbidity (field) (NTU)	↑15.2	↑10.5	↑8.6	↑8.6	0.8	to 7.5	4.2 ± 1.3		5
Arsenic (mg/L)	0.0075	↑0.0094	0.0068	0.0068	0.005 U	to 0.009	0.0064 ± 0.000		5
Calcium (mg/L)	24	↓20	↓19	↓19	23	to 34	28 ± 2		5
Copper (mg/L)	0.003 U	↑0.0052	↑0.0051	↑0.0051	0.003 U	to 0.003 U	0.003 ± 2E-11		5
Iron (mg/L)	0.38	↑0.8	↑0.71	↑0.71	0.11	to 0.51	0.26 ± 0.066		5
Magnesium (mg/L)	7.9	7.4	7.1	7.1	7	to 8.7	7.8 ± 0.27		5
Manganese (mg/L)	↓0.49	↓0.39	↓0.32	↓0.32	0.67	to 1.1	0.87 ± 0.079		5
Potassium (mg/L)	2	1.3	↓1.1	↓1.1	1.2	to 2.6	1.7 ± 0.26		5
Sodium (mg/L)	↓100	↓83	↓79	↓79	110	to 200	130 ± 17		5
Boron (mg/L)	0.05 U	0.05 U	↑0.069	↑0.069	0.05 U	to 0.06	0.052 ± 0.002		5
Total Kjeldahl Nitrogen (mg/L)	0.61	↑2.2	↑3.8	↑3.8	0.2 U	to 0.82	0.36 ± 0.12		5
Ammonia (N) (mg/L)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)	0.057	0.05 U	↑0.17	↑0.17	0.05 U	to 0.06	0.053 ± 0.002		5
Total Dissolved Solids (mg/L)	↓410	↓360	↓270	↓270	487	to 802	580 ± 61		5
Total Suspended Solids (mg/L)	↑130	↑47	↑61	↑61	2.5 U	to 24	13 ± 4.4		5
Sulfate (mg/L)	130	100	110	110	2 U	to 340	170 ± 54		5
Sulfide (mg/L)	1	0.44	0.23	0.23	0.1 U	to 1.5	0.6 ± 0.26		5
Alkalinity (CaCO3) (mg/L)	140	140	140	140	120	to 140	130 ± 4		5
Organic Carbon (mg/L)	↓11	13	↓5.7	↓5.7	13	to 25	17 ± 2.2		5
Chloride (mg/L)	↓14	↓8.8	↓7.1	↓7.1	19	to 57	33 ± 7.6		5
Bromide (mg/L)	0.3 U	0.1 U	0.1 U	0.1 U	0.1 U	to 0.5 U	0.18 ± 0.08		5
Methane (ug/L)	20 U	20 U	20 U	20 U	20 U	to 20 U	20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

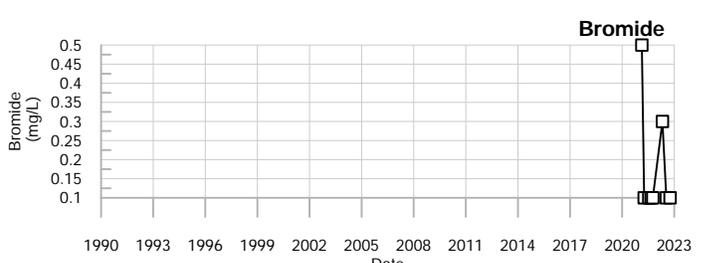
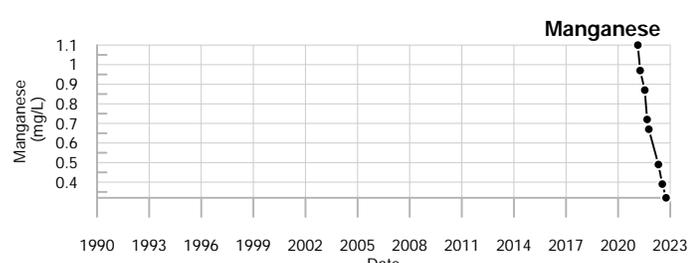
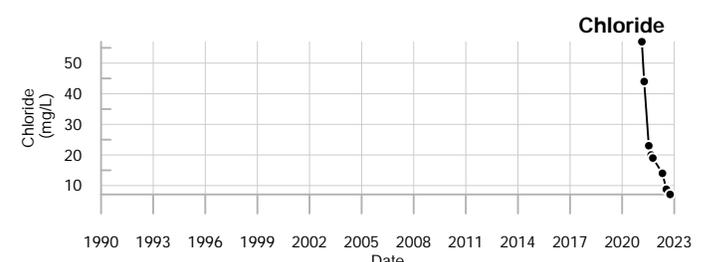
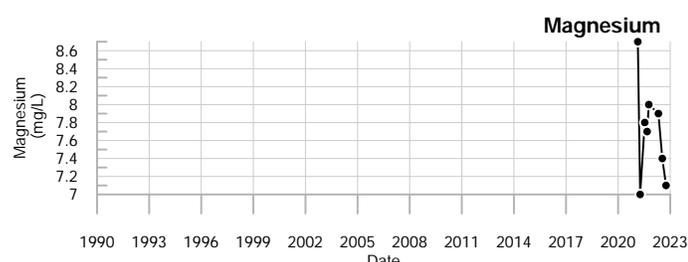
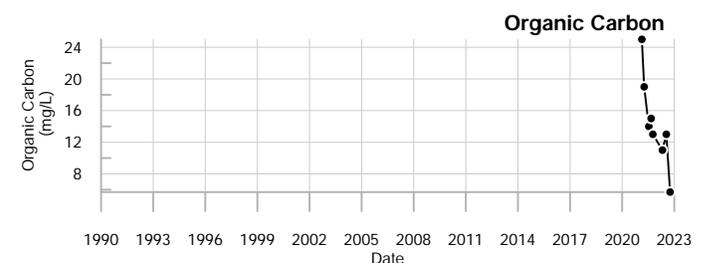
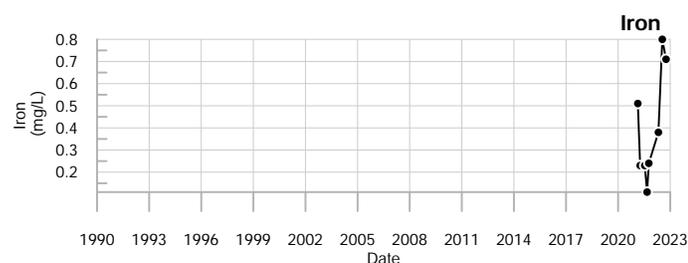
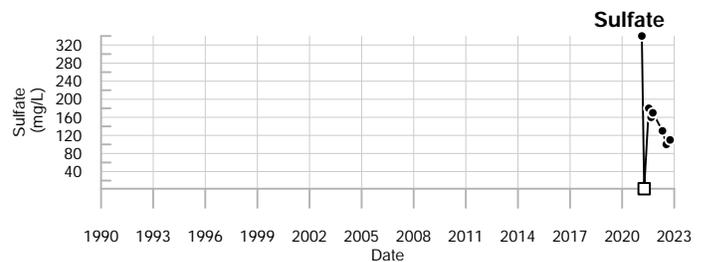
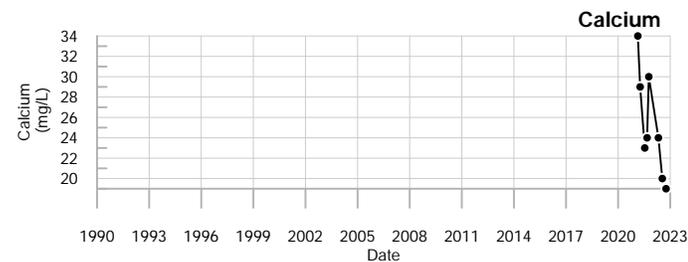
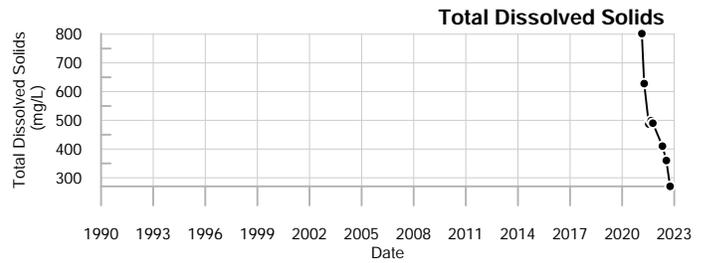
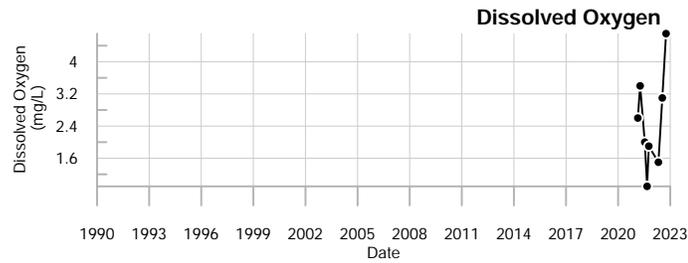
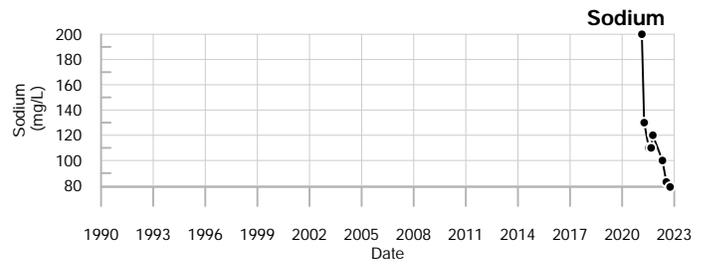
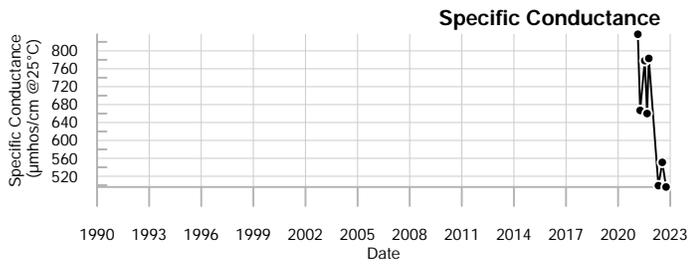
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



MW-506
Juniper Ridge Landfill

Well Description

MW-507 monitors bedrock groundwater downgradient and west of the landfill expansion.

Screen Interval:

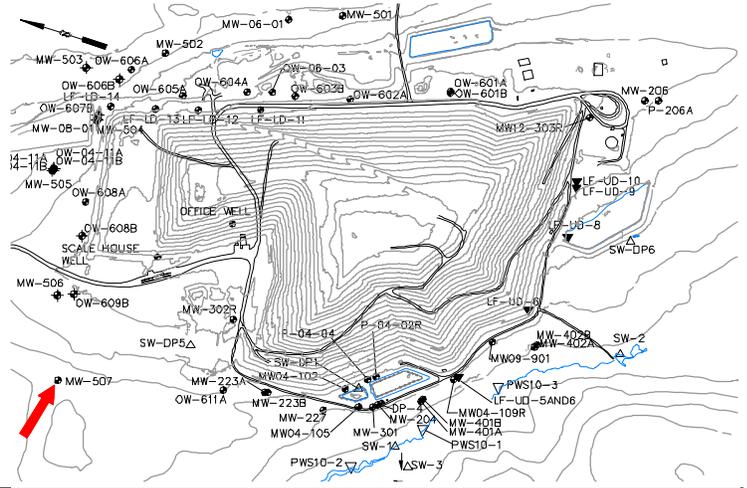
Sampled: **2 Times Annually**

Sampled Since: **Apr-18**

Material Screened: **Bedrock (Open Borehole)**

Well Condition: **Good**

Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓90	272	324	↑324	219	to 318	250 ± 16		6
pH (STU)	6.8	6.7	↓6.6		6.7	to 7.8	7.2 ± 0.18		6
Temperature (Deg C)	7.4	12.3	11.8		4.1	to 13.9	10 ± 1.4		6
Water Level Elevation (Feet)	↑174.69	170.51	171.98		169.31	to 174.63	170 ± 0.8		6
Eh (mV)	↑427	↓230	261		252	to 299	280 ± 8.4		6
Dissolved Oxygen (mg/L)	6.2	3.5	↓2		3.1	to 6.3	4.8 ± 0.53		6
Turbidity (field) (NTU)	↓0.3	2.6	2.4		0.9	to 6.1	3.5 ± 0.79		6
Arsenic (mg/L)	0.005 U	0.005 U	0.005 U		0.005 U	to 0.007	0.0053 ± 0.000		6
Calcium (mg/L)	↓16	↑44	↑52		22	to 38	33 ± 2.4		6
Copper (mg/L)	0.003 U	0.003 U	0.003 U		0.003 U	to 0.003 U	0.003 ± 0		4
Iron (mg/L)	↑0.86	0.3	0.074		0.05 U	to 0.68	0.28 ± 0.12		6
Magnesium (mg/L)	↓2.2	↑6.1	↑6.6		2.7	to 5.2	4.1 ± 0.35		6
Manganese (mg/L)	0.05 U	0.05 U	0.05 U		0.05 U	to 0.05 U	0.05 ± 4E-10		6
Potassium (mg/L)	↑1	↑1.1	↑0.75		0.5	to 0.6	0.53 ± 0.021		6
Sodium (mg/L)	2.7	↑4.9	↑6.4		2.5	to 4.3	3.6 ± 0.26		6
Boron (mg/L)	0.05 U	0.05 U	0.05 U		0.05 U	to 0.05 U	0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)	0.24	0.2 U	↑0.37		0.2 U	to 0.25 U	0.24 ± 0.008		6
Ammonia (N) (mg/L)	0.5 U	0.5 U	0.5 U		0.5 U	to 0.5 U	0.5 ± 0		4
Nitrite/Nitrate - (N) (mg/L)	0.051	0.061	↑0.21		0.05 U	to 0.088	0.064 ± 0.007		6
Total Dissolved Solids (mg/L)	↓69	190	150		106	to 451	220 ± 50		6
Total Suspended Solids (mg/L)	↑4.7	2.5 U	↑4 U		2.5 U	to 2.7	2.5 ± 0.033		6
Sulfate (mg/L)	3.1	2.9	3.3		2 U	to 4.3	3.4 ± 0.31		6
Sulfide (mg/L)	0.1 U	0.1 U	0.1 U		0.1 U	to 0.1 U	0.1 ± 0		4
Alkalinity (CaCO3) (mg/L)	↓47	↑86	↑110		61	to 85	75 ± 3.8		6
Organic Carbon (mg/L)	↓1 U	↓1 U	↓1 U		2 U	to 2 U	2 ± 0		6
Chloride (mg/L)	↓1.2	37	37		6.9	to 43	25 ± 5		6
Bromide (mg/L)	0.1 U	0.1 U	0.1 U		0.1 U	to 0.1 U	0.1 ± 8E-10		6
Methane (ug/L)	20 U	20 U	20 U		20 U	to 20 U	20 ± 0		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

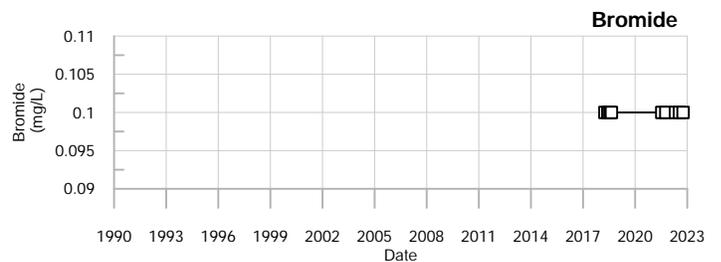
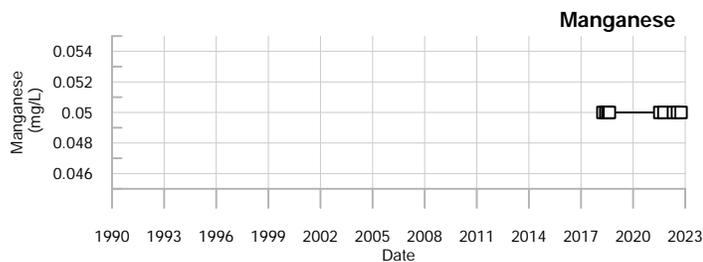
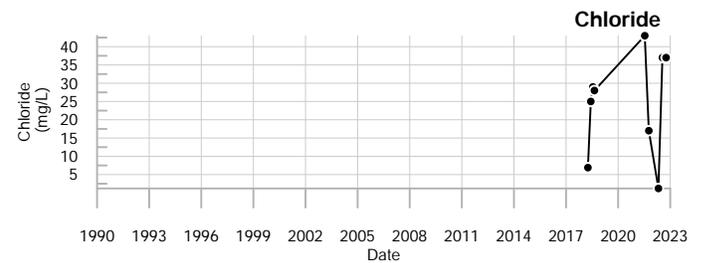
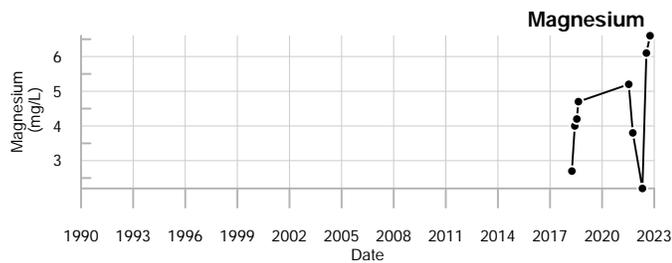
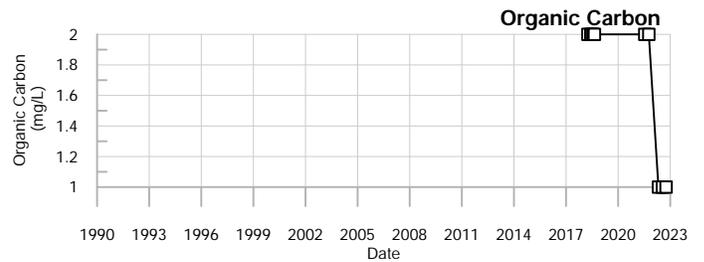
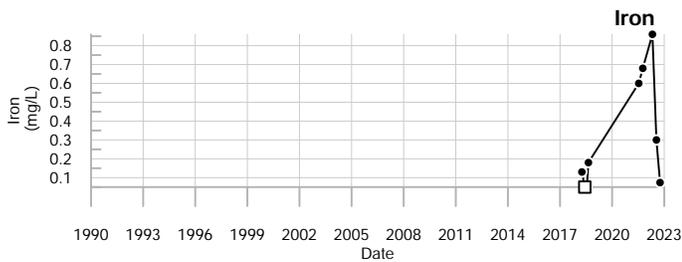
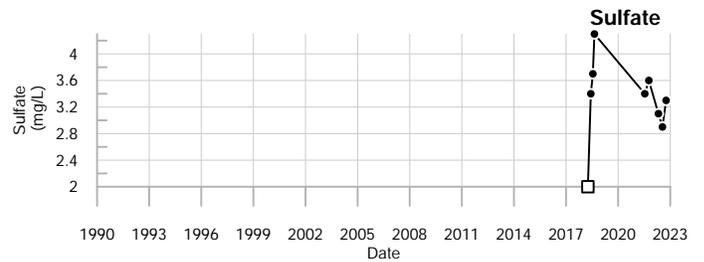
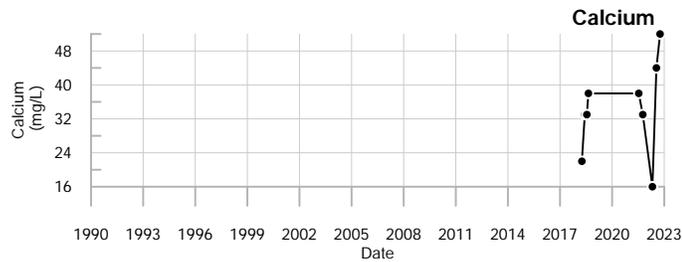
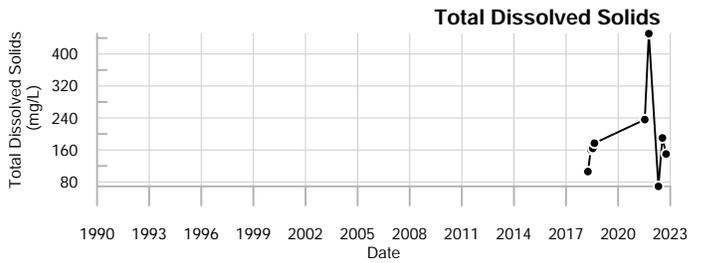
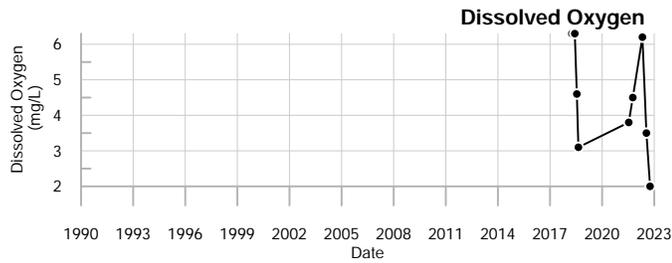
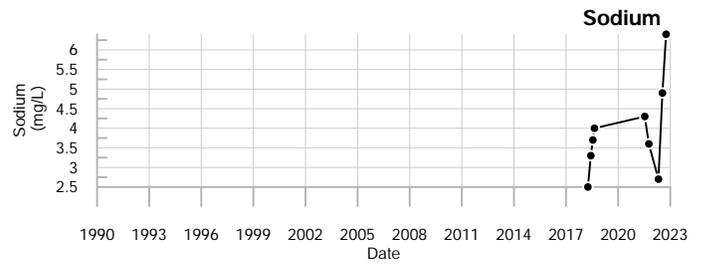
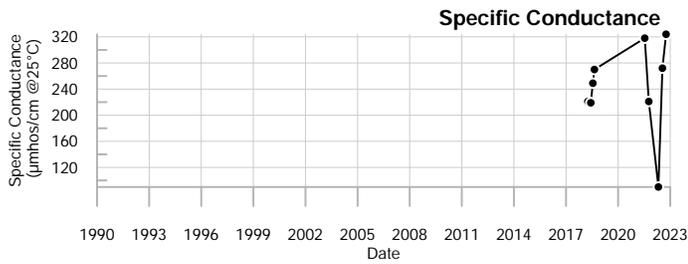
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



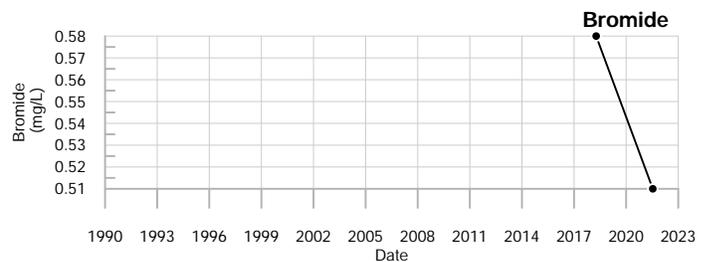
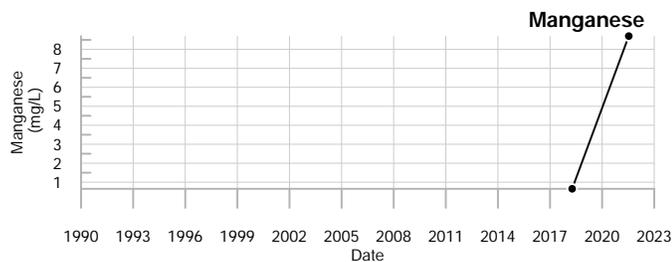
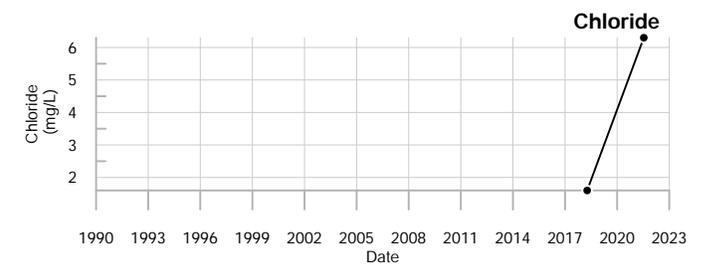
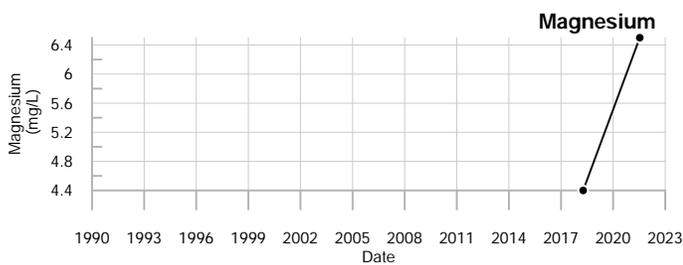
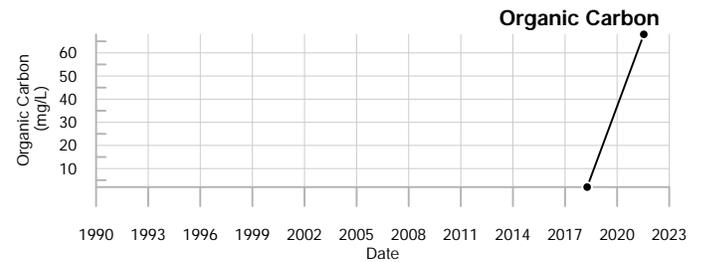
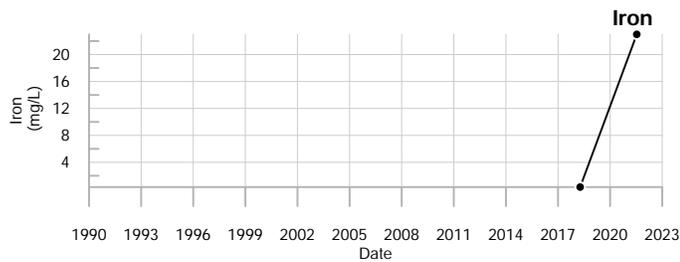
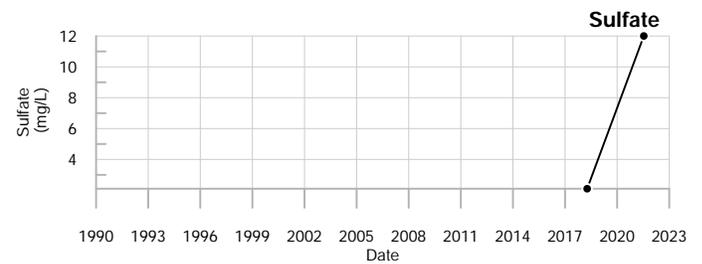
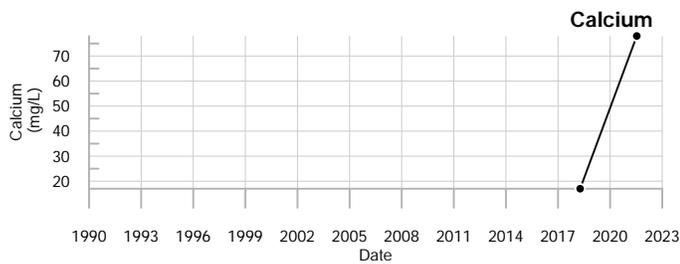
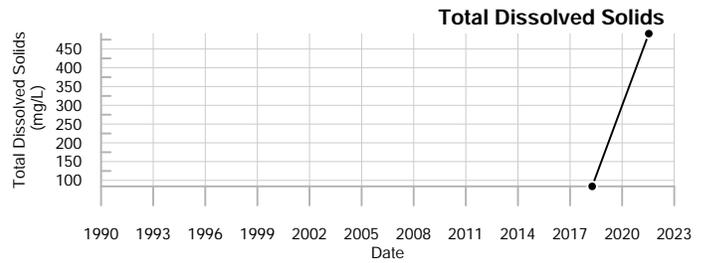
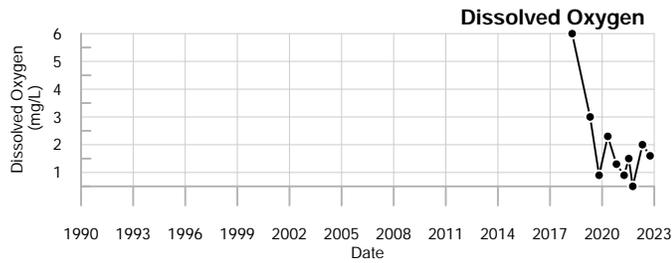
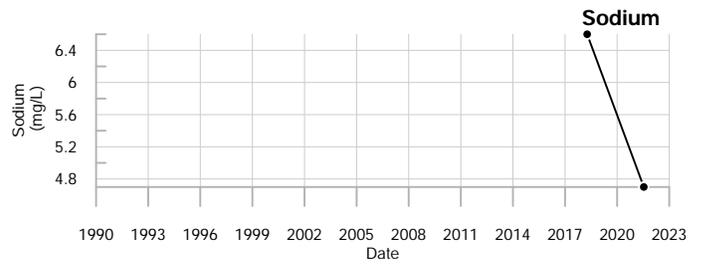
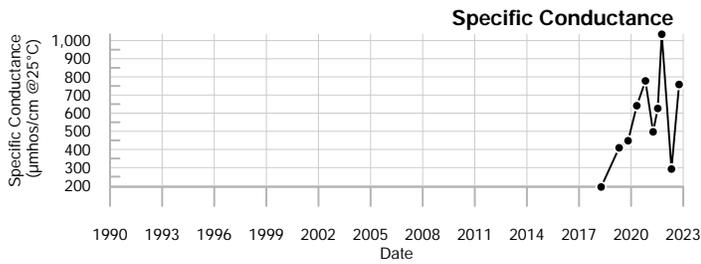
MW-507
Juniper Ridge Landfill

Juniper Ridge Landfill

annual stats 2022 G2

*Only field parameters are collected during the summer and fall sampling events.

Q#	Date	Notes	Area	Sample Type	Standard
Q1=	1 - 2022	I = The sampling location yielded insufficient quantity to collect a sample			
Q2=	4 - 2022		DWA	GW	Health-Based Drinking Water Advisory
Q3=	7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4=	10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

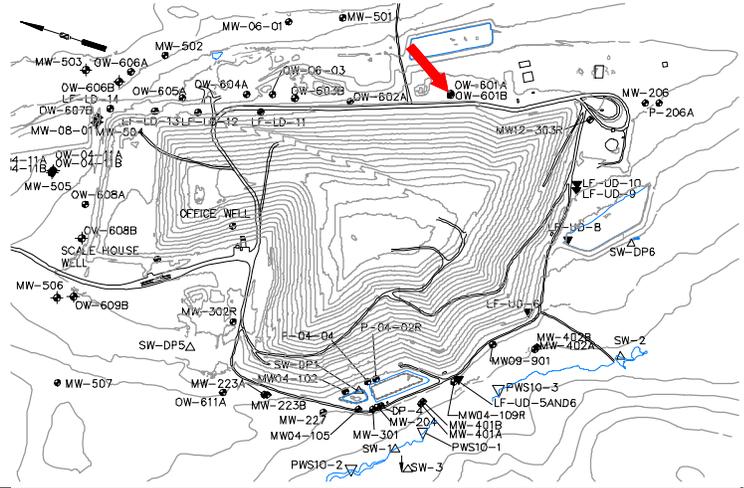


OW-06-03
Juniper Ridge Landfill

Well Description

OW-601A monitors bedrock groundwater downgradient and east of the landfill expansion.

Screen Interval: **88 ft. to 98 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **Apr-18**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		362	420	426	311	to 434	380 ± 11		13
pH (STU)		6.6	6.7	6.6	5.9	to 7.7	7.1 ± 0.12		13
Temperature (Deg C)		8.8	↑17.7	9.9	6.4	to 14.2	11 ± 0.68		13
Water Level Elevation (Feet)		181.19	178.09	175.59	175.34	to 182.34	180 ± 0.62		13
Eh (mV)		236	176	241	164	to 402	270 ± 21		13
Dissolved Oxygen (mg/L)		1.5	1.7	2.7	0.9	to 7.9	3 ± 0.57		13
Turbidity (field) (NTU)		2.7	↓1.5	2	1.7	to 1355	110 ± 100		13
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005	0.005 ± 2E-11		8
Calcium (mg/L)			↑52		36	to 47	41 ± 1.3		8
Copper (mg/L)			↑0.004		0.003 U	to 0.003 U	0.003 ± 0		4
Iron (mg/L)			0.05 U		0.05 U	to 0.97	0.33 ± 0.14		8
Magnesium (mg/L)			↑13		8.8	to 12	11 ± 0.39		8
Manganese (mg/L)			0.05 U		0.05 U	to 0.29	0.16 ± 0.032		8
Potassium (mg/L)			↑2.8		1.8	to 2.5	2.1 ± 0.096		8
Sodium (mg/L)			21		6.6	to 25	12 ± 2.1		8
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 0		1
Total Kjeldahl Nitrogen (mg/L)			↓0.2 U		0.25 U	to 0.86	0.34 ± 0.086		7
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5 ± 0		3
Nitrite/Nitrate - (N) (mg/L)			↑0.62		0.18	to 0.45	0.31 ± 0.038		7
Total Dissolved Solids (mg/L)			↑264		180	to 244	210 ± 8.3		7
Total Suspended Solids (mg/L)			2.5 U		2.5 U	to 7100	1100 ± 1000		7
Sulfate (mg/L)			15		2.1	to 25	9.2 ± 2.8		7
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 0		3
Alkalinity (CaCO3) (mg/L)			↑170		120	to 160	130 ± 7.3		5
Organic Carbon (mg/L)			↓1 U		2 U	to 42	7.7 ± 5.7		7
Chloride (mg/L)			26		16	to 27	22 ± 1.5		7
Bromide (mg/L)			0.24		0.13	to 1.1	0.29 ± 0.13		7
Methane (ug/L)			20 U		20 U	to 20 U	20 ± 0		1

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-601A

Juniper Ridge Landfill

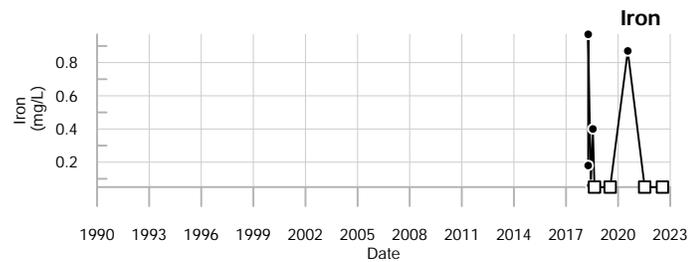
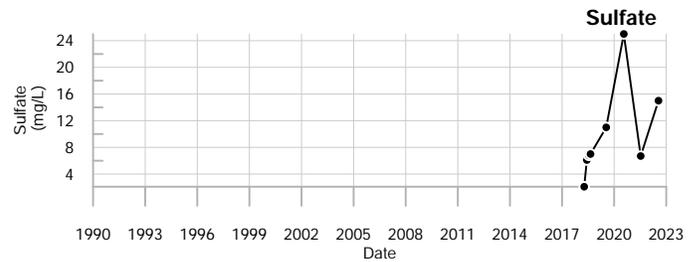
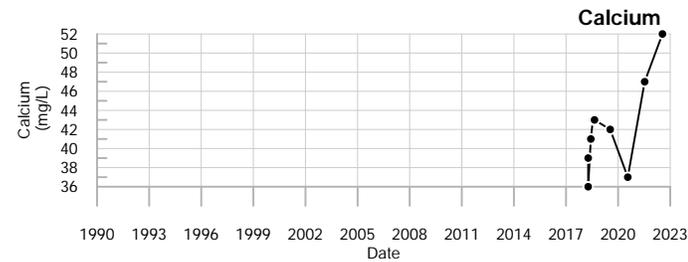
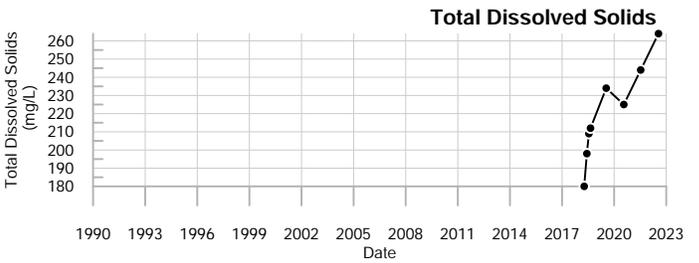
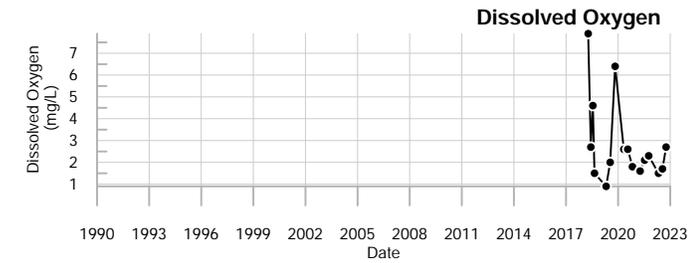
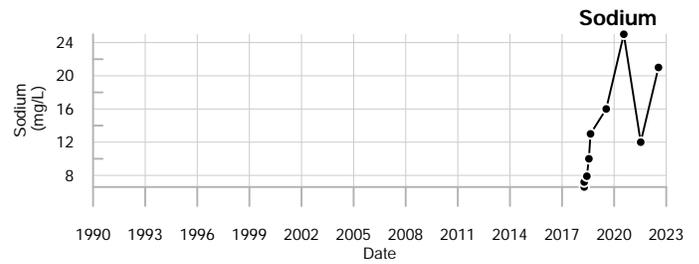
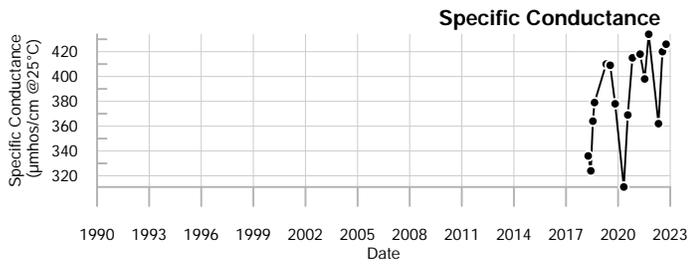
OW-601A

annual stats 2022 G2

*Only field parameters are collected during the summer and fall sampling events.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

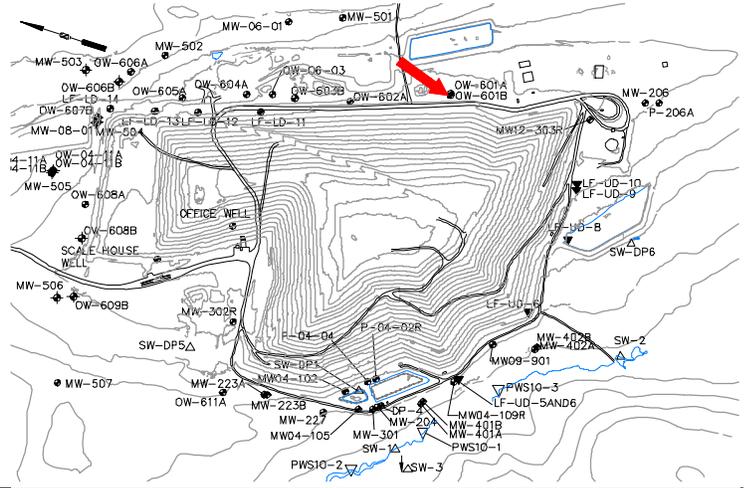
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



Well Description

OW-601B monitors overburden groundwater downgradient and east of the landfill expansion.

Screen Interval: **51 ft. to 61 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **Apr-18**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓296	336	391	391	312	to 403	360 ± 7		13
pH (STU)		5.9	6.2	6	5.9	to 6.8	6.4 ± 0.067		13
Temperature (Deg C)		8.1	13.7	11	7.7	to 14.7	11 ± 0.59		13
Water Level Elevation (Feet)		180.7	177.7	175.2	174.95	to 181.95	180 ± 0.61		13
Eh (mV)		293	↓220	293	222	to 406	320 ± 16		13
Dissolved Oxygen (mg/L)		2.5	2.9	3.3	1.4	to 5.5	3.2 ± 0.29		13
Turbidity (field) (NTU)		2.3	2.1	1.2	1	to 7.6	3.6 ± 0.58		13
Arsenic (mg/L)			0.005 U		0.005 U	to 0.007	0.0054 ± 0.000		7
Calcium (mg/L)			↑44		34	to 40	37 ± 0.92		7
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003 ± 4E-11		3
Iron (mg/L)			0.05 U		0.05 U	to 0.74	0.26 ± 0.089		7
Magnesium (mg/L)			↑14		11	to 13	12 ± 0.3		7
Manganese (mg/L)			0.05 U		0.05 U	to 1	0.28 ± 0.14		7
Potassium (mg/L)			↑2		1.2	to 1.9	1.6 ± 0.11		7
Sodium (mg/L)			8.1		6.8	to 8.7	7.8 ± 0.27		7
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 0		1
Total Kjeldahl Nitrogen (mg/L)			↓0.2 U		0.25 U	to 0.25 U	0.25 ± 0		7
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5 ± 0		3
Nitrite/Nitrate - (N) (mg/L)			0.34		0.23	to 0.58	0.44 ± 0.055		7
Total Dissolved Solids (mg/L)			237		184	to 277	230 ± 13		7
Total Suspended Solids (mg/L)			11		2.5 U	to 16	5.6 ± 1.8		7
Sulfate (mg/L)			2.1		2 U	to 10 U	3.9 ± 1.1		7
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 0		3
Alkalinity (CaCO3) (mg/L)			110		88	to 120	110 ± 5.5		5
Organic Carbon (mg/L)			↓1 U		2 U	to 55	9.6 ± 7.6		7
Chloride (mg/L)			48		22	to 61	38 ± 5		7
Bromide (mg/L)			0.3		0.16	to 0.5 U	0.25 ± 0.043		7
Methane (ug/L)			20 U		20 U	to 20 U	20 ± 0		1

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

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Juniper Ridge Landfill

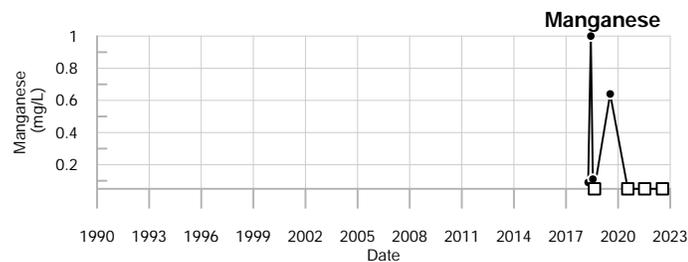
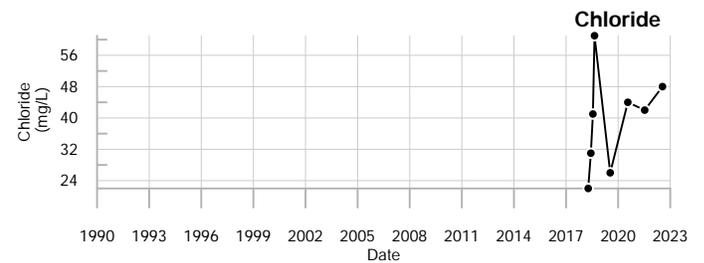
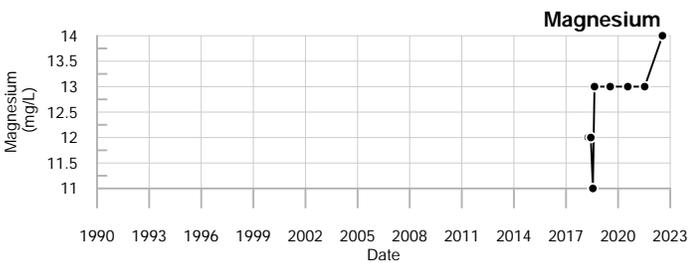
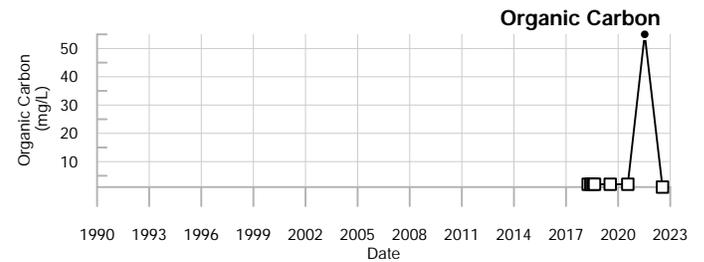
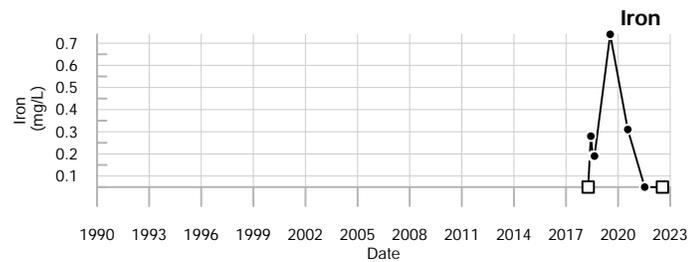
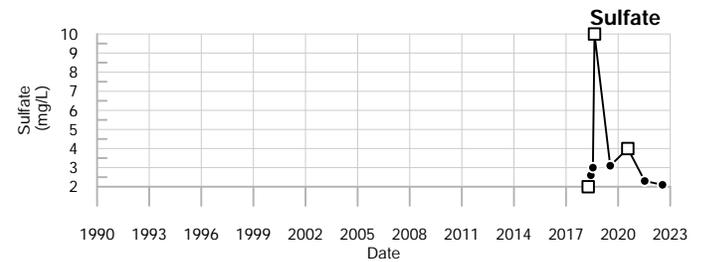
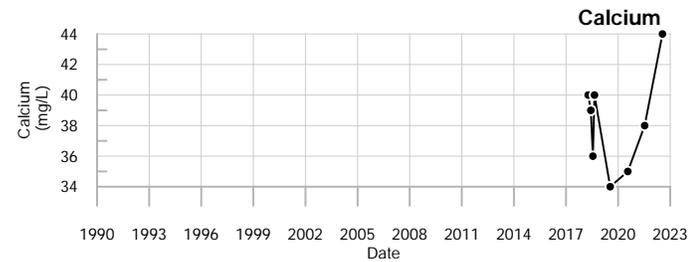
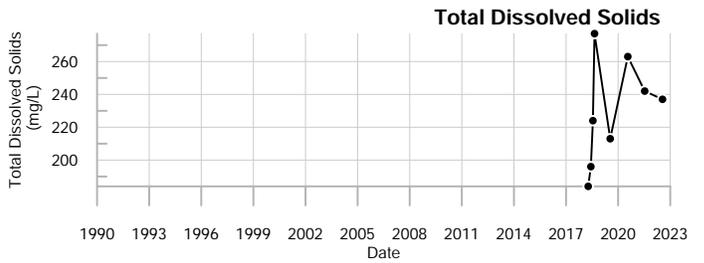
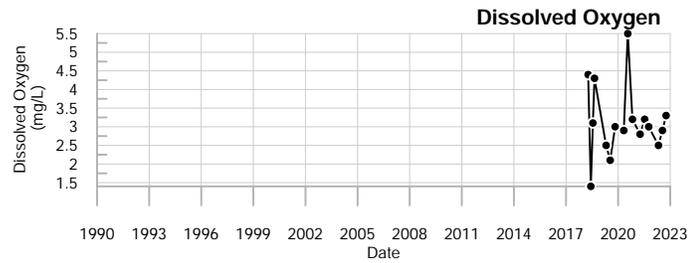
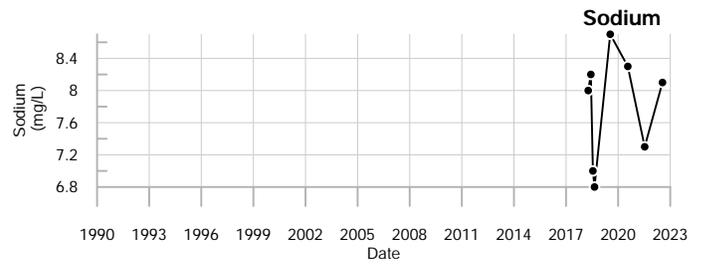
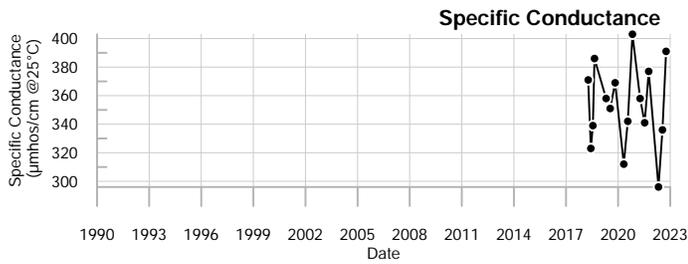
*Only field parameters are collected during the summer and fall sampling events.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

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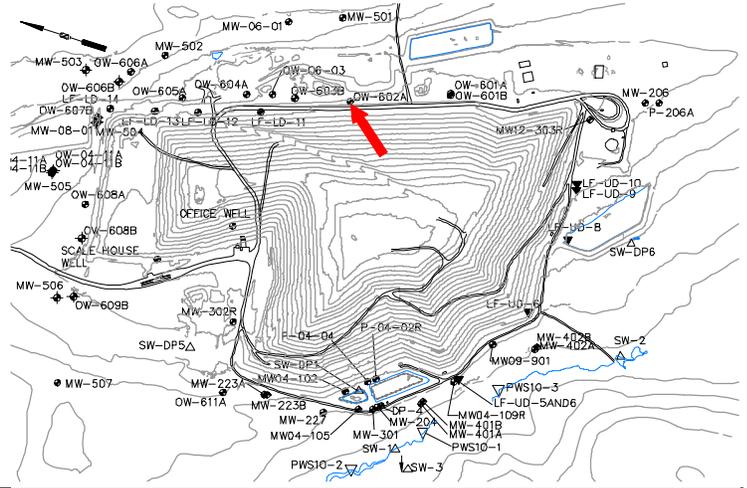
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



Well Description

OW-602A monitors bedrock groundwater downgradient and east of the landfill expansion.

Screen Interval: **52 ft. to 62 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **Apr-18**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		312	313	328	93	to 336	170 ± 19		13
pH (STU)		↓6.2	6.5	↓6.2	6.5	to 8.2	7.1 ± 0.12		13
Temperature (Deg C)		↓5.2	9.8	9.2	6.5	to 17.5	9.6 ± 0.76		13
Water Level Elevation (Feet)		177.77	175.17	173.37	173.27	to 183.25	180 ± 0.81		13
Eh (mV)		270	↓183	247	184	to 467	310 ± 21		13
Dissolved Oxygen (mg/L)		2.9	↓0.8	1.1	1	to 12.9	7.7 ± 0.99		13
Turbidity (field) (NTU)		2.7	1.4	1.1	0.5	to 3.7	1.5 ± 0.25		13
Arsenic (mg/L)			0.005 U		0.005 U	to 0.008	0.0054 ± 0.000		7
Calcium (mg/L)			↑50		13	to 36	19 ± 2.9		7
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003 ± 4E-11		3
Iron (mg/L)			0.05 U		0.05 U	to 0.1	0.057 ± 0.007		7
Magnesium (mg/L)			↑11		2.8	to 7.7	4.1 ± 0.63		7
Manganese (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 3E-10		7
Potassium (mg/L)			↑1.3		0.4	to 0.6	0.49 ± 0.034		7
Sodium (mg/L)			↑5.8		2.5	to 4.1	3 ± 0.21		7
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 0		1
Total Kjeldahl Nitrogen (mg/L)			↓0.2 U		0.25 U	to 0.72	0.32 ± 0.066		7
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5 ± 0		3
Nitrite/Nitrate - (N) (mg/L)			0.76		0.05 U	to 0.9	0.24 ± 0.11		7
Total Dissolved Solids (mg/L)			↑214		59	to 165	100 ± 12		7
Total Suspended Solids (mg/L)			2.5 U		2.5 U	to 2.5 U	2.5 ± 0		7
Sulfate (mg/L)			3.2		2.4	to 4.6	3.7 ± 0.35		7
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 0		3
Alkalinity (CaCO3) (mg/L)			↑140		44	to 110	58 ± 13		5
Organic Carbon (mg/L)			↓1 U		2 U	to 36	6.9 ± 4.9		7
Chloride (mg/L)			↑20		2.3	to 16	10 ± 1.8		7
Bromide (mg/L)			↑0.33		0.1 U	to 0.17	0.11 ± 0.01		7
Methane (ug/L)			↓20 U		41	to 41	41 ± 0		1

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-602A

Juniper Ridge Landfill

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*Only field parameters are collected during the summer and fall sampling events.

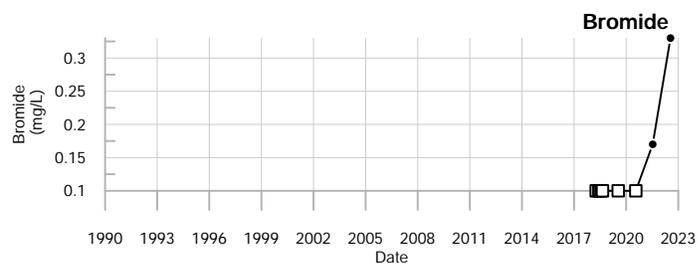
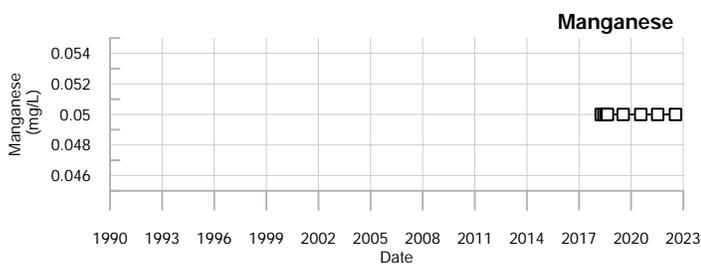
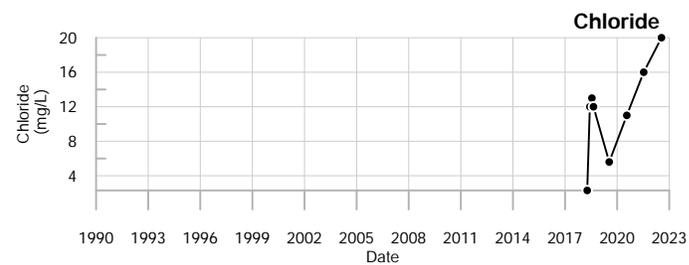
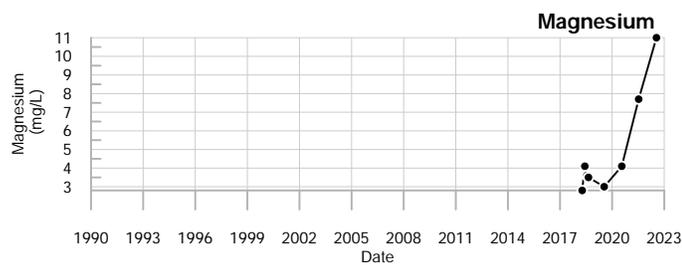
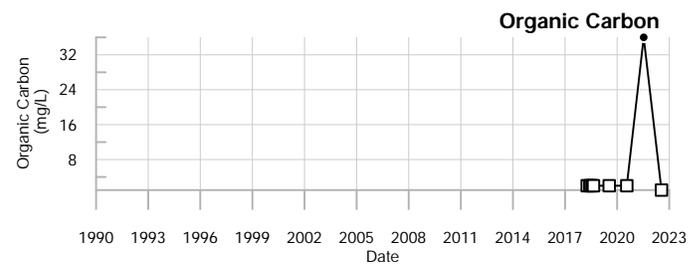
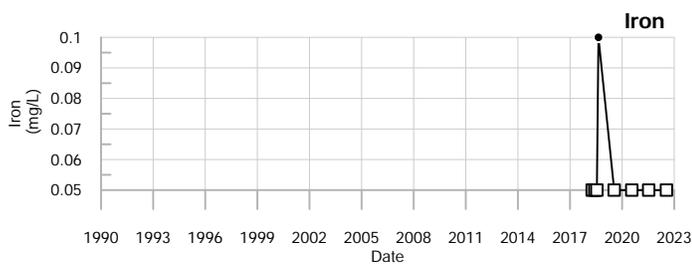
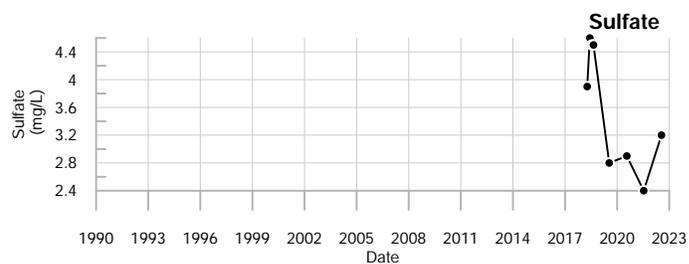
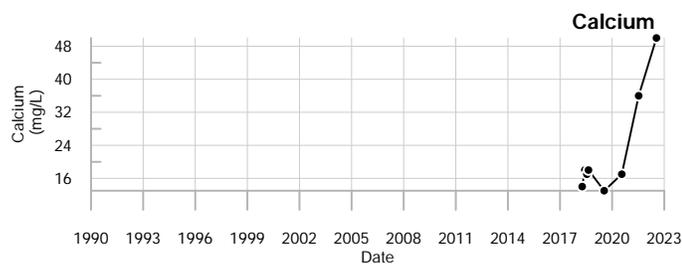
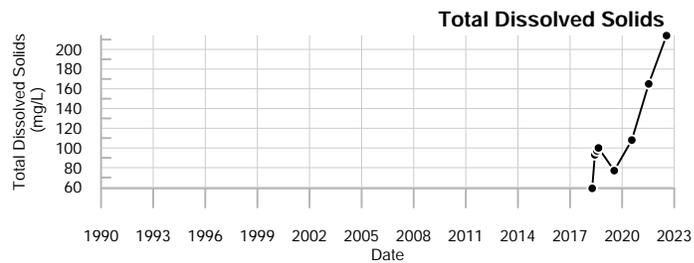
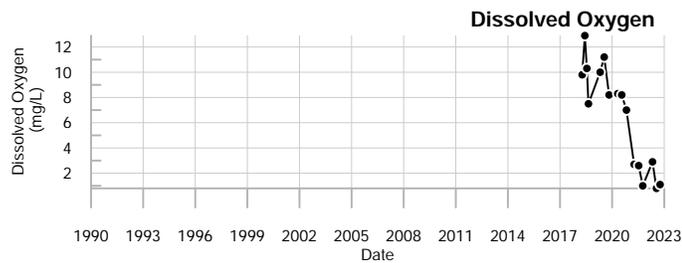
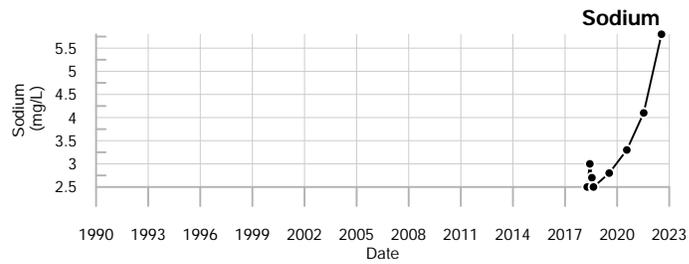
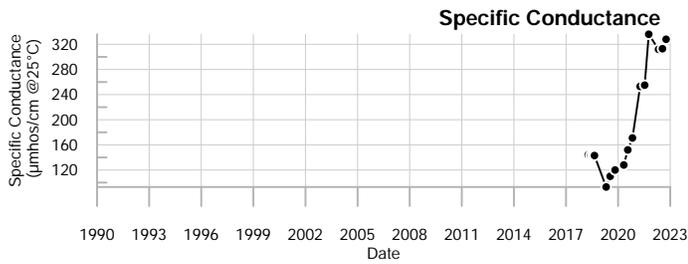
Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



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Juniper Ridge Landfill

OW-603B

Juniper Ridge Landfill

*Only field parameters are collected during the summer and fall sampling events.

Q1= 1 - 2022 D = The sampling location was dry.

Q2= 4 - 2022

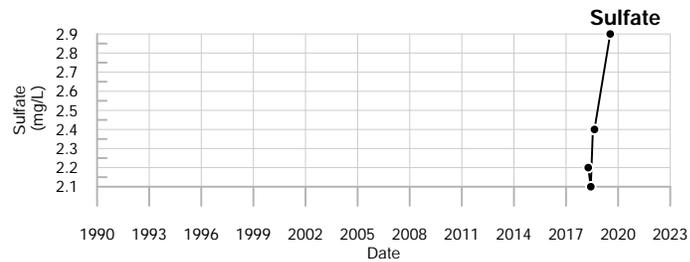
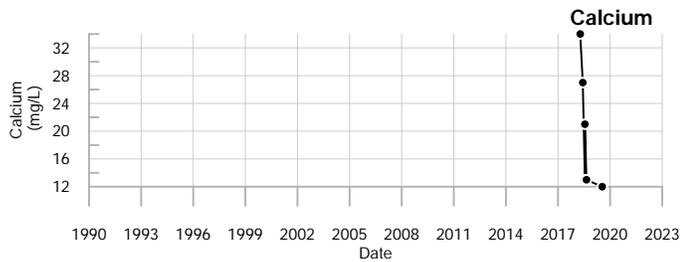
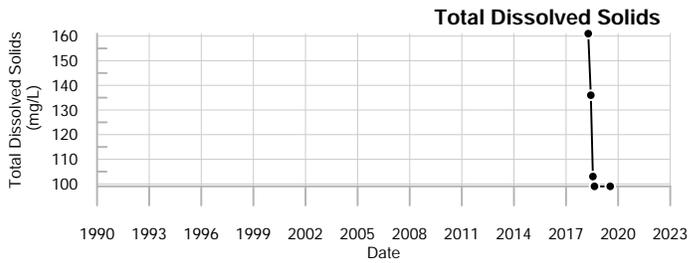
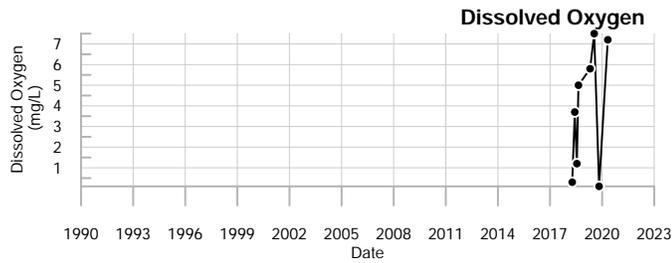
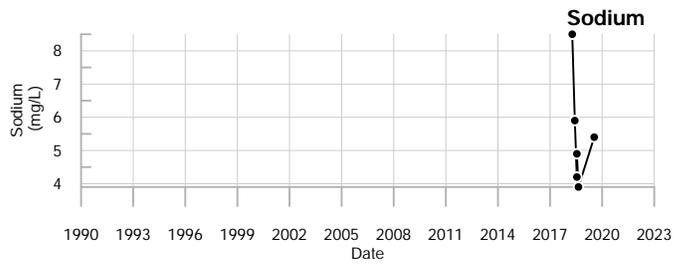
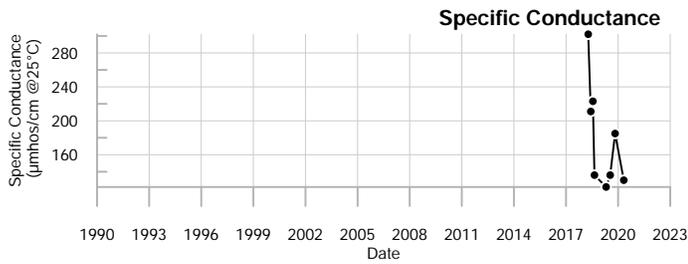
Q3= 7 - 2022

Q4= 10 - 2022

OW-603B

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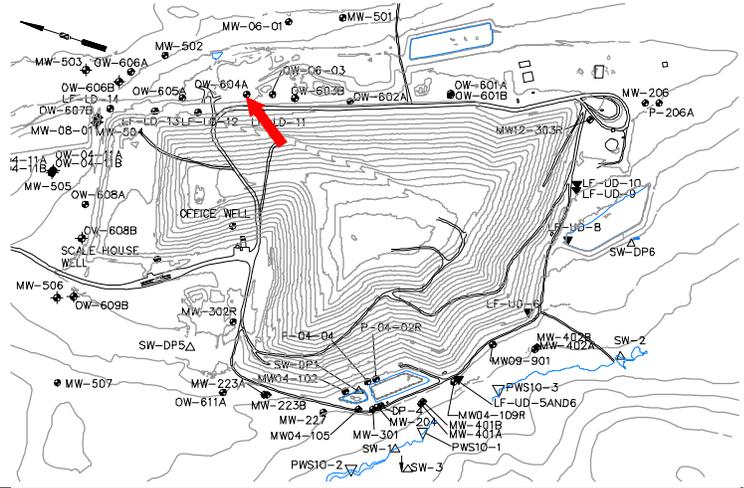
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



Well Description

OW-604A monitors bedrock groundwater downgradient and east of the landfill expansion.

Screen Interval: **39 ft. to 49 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **Apr-18**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		233	↑272	↑280	78 to 233		140 ± 14		13
pH (STU)		6	↓5.9	6.2	6 to 7.8		6.5 ± 0.14		13
Temperature (Deg C)		7.4	16.7	13.5	6.2 to 16.9		11 ± 1.1		13
Water Level Elevation (Feet)		177.2	173.8	173.15	172.9 to 184.5		180 ± 0.92		13
Eh (mV)		296	265	260	234 to 548		360 ± 24		13
Dissolved Oxygen (mg/L)		3.7	3	3.6	0.1 U to 7.5		4.7 ± 0.58		13
Turbidity (field) (NTU)		4.3	2	1.9	1.2 to 10.9		3.3 ± 0.73		13
Arsenic (mg/L)			0.005 U		0.005 U to 0.007		0.0053 ± 0.000		7
Calcium (mg/L)			↑38		8.9 to 23		14 ± 2		7
Copper (mg/L)			0.003 U		0.003 U to 0.003 U		0.003 ± 4E-11		3
Iron (mg/L)			0.05		0.05 U to 0.05 U		0.05 ± 3E-10		7
Magnesium (mg/L)			↑9		2.3 to 5.9		3.7 ± 0.53		7
Manganese (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 3E-10		7
Potassium (mg/L)			↑3.1		0.5 to 0.7		0.57 ± 0.029		7
Sodium (mg/L)			↑9.8		2.7 to 4.7		3.7 ± 0.3		7
Boron (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 0		1
Total Kjeldahl Nitrogen (mg/L)			0.5		0.25 U to 0.62		0.31 ± 0.052		7
Ammonia (N) (mg/L)			0.5 U		0.5 U to 0.5 U		0.5 ± 0		3
Nitrite/Nitrate - (N) (mg/L)			↑4		0.16 to 2.4		0.68 ± 0.3		7
Total Dissolved Solids (mg/L)			↑190		62 to 145		93 ± 11		7
Total Suspended Solids (mg/L)			2.5		2.5 U to 3		2.6 ± 0.071		7
Sulfate (mg/L)			2.4		2.4 to 3.5		2.8 ± 0.16		7
Sulfide (mg/L)			0.1 U		0.1 U to 0.1 U		0.1 ± 0		3
Alkalinity (CaCO3) (mg/L)			↑110		36 to 84		51 ± 9.2		5
Organic Carbon (mg/L)			↓1 U		2 U to 2 U		2 ± 0		7
Chloride (mg/L)			↑11		1.1 to 6		2.7 ± 0.71		7
Bromide (mg/L)			↑0.12		0.1 U to 0.1		0.1 ± 6E-10		7
Methane (ug/L)			20 U		20 U to 20 U		20 ± 0		1

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-604A

Juniper Ridge Landfill

OW-604A

annual stats 2022 G2

*Only field parameters are collected during the summer and fall sampling events.

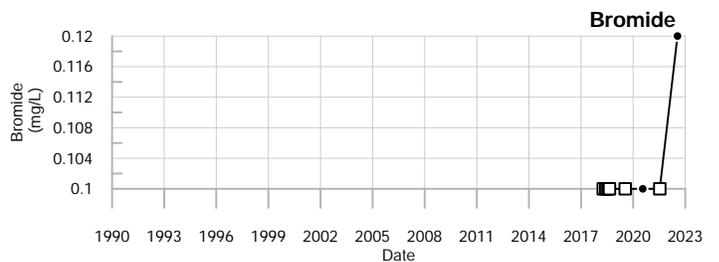
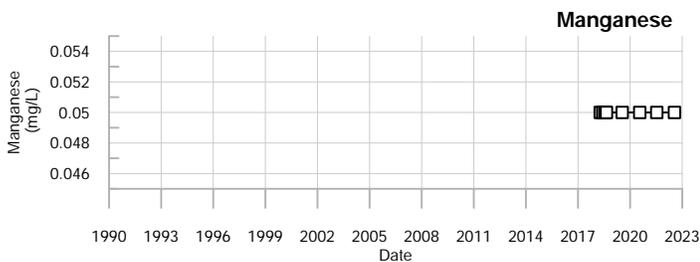
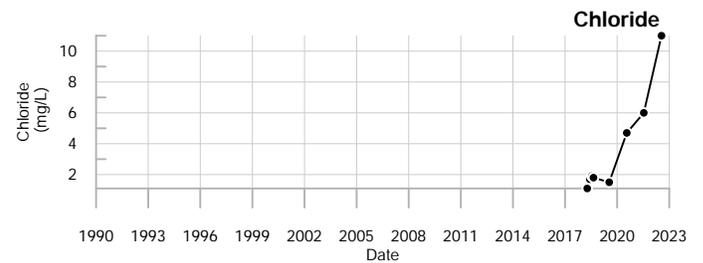
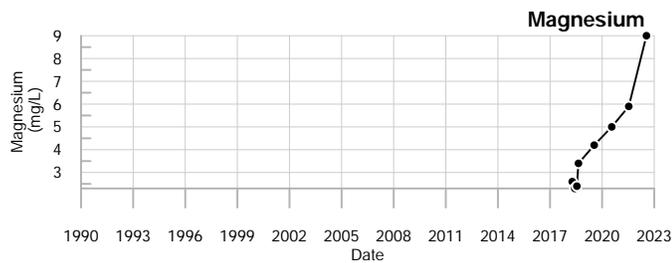
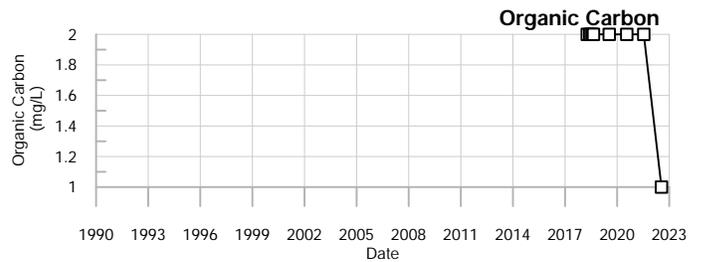
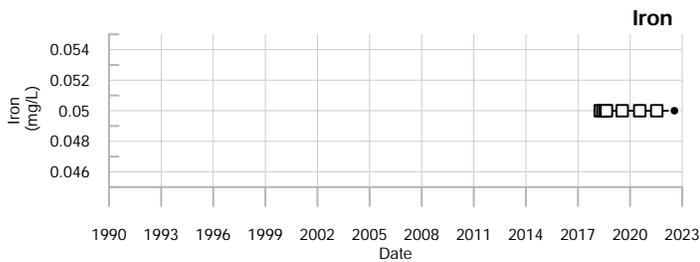
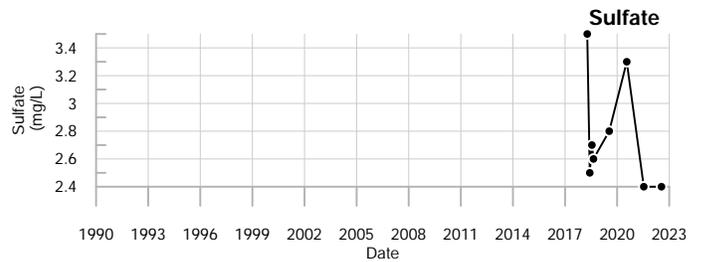
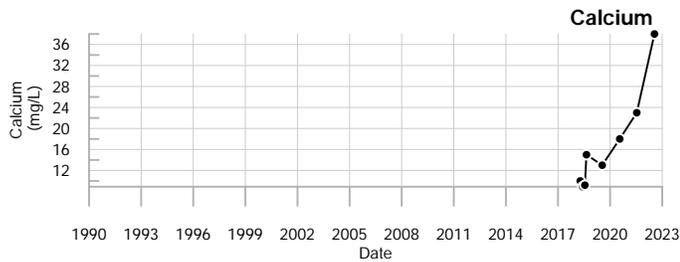
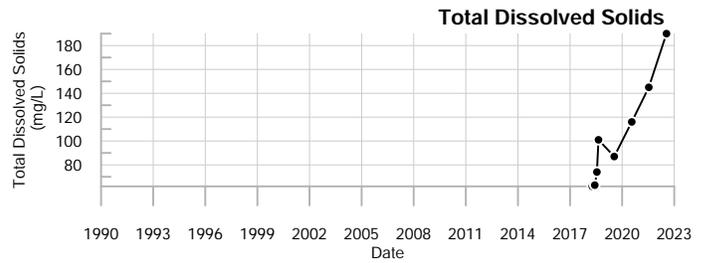
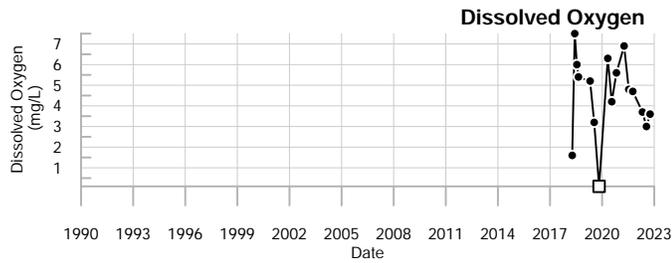
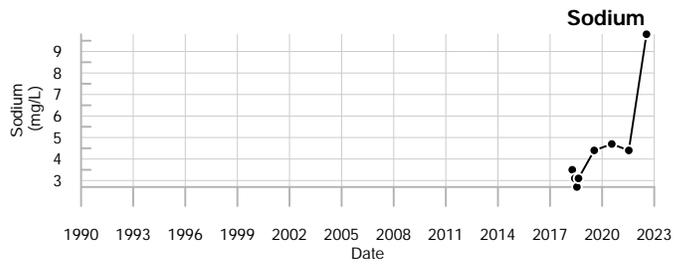
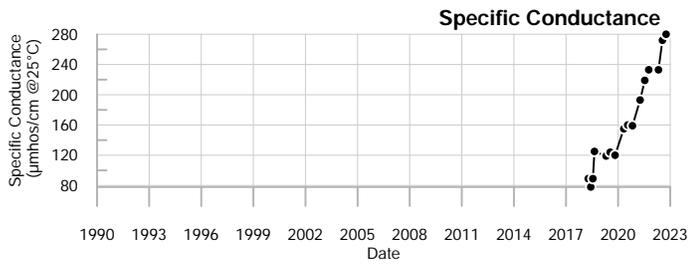
Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

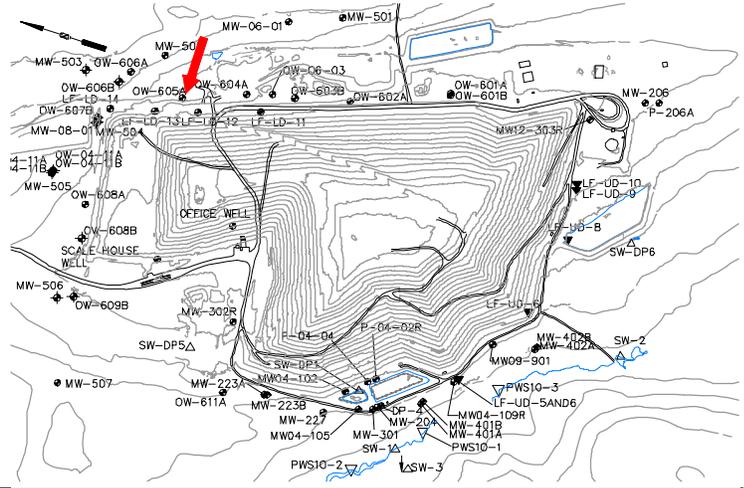


OW-604A
Juniper Ridge Landfill

Well Description

OW-605A monitors bedrock groundwater downgradient and east of the landfill expansion.

Screen Interval: **60 ft. to 260 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **Apr-2018**
 Material Screened: **Bedrock (Open Borehole)**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↑218	↑235	↑237		134 to 194		160 ± 10		6
pH (STU)		6.8	↓6.4	7.1	6.8 to 7.7		7.3 ± 0.12		6
Temperature (Deg C)		↓7.5	13.2	10	7.7 to 14.4		11 ± 1		6
Water Level Elevation (Feet)	↑165.26	↑164.46	↑164.43		161.51 to 163.54		160 ± 0.35		6
Eh (mV)	↑397	↑334	↑378		230 to 286		250 ± 9.3		6
Dissolved Oxygen (mg/L)		1.7	↓1.3	1.8	1.4 to 7.5		5.4 ± 1.1		6
Turbidity (field) (NTU)		↓0.2	5.8	0.6	0.5 to 8.9		4.9 ± 1.4		6
Arsenic (mg/L)			0.005 U		0.005 U to 0.005		0.005 ± 3E-11		6
Calcium (mg/L)			↑39		17 to 33		22 ± 2.9		6
Copper (mg/L)			↑0.015		0.003 U to 0.003 U		0.003 ± 0		4
Iron (mg/L)			0.8		0.1 to 1.4		0.4 ± 0.2		6
Magnesium (mg/L)			↑9.1		3.8 to 7.4		5.1 ± 0.63		6
Manganese (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 4E-10		6
Potassium (mg/L)			↑0.89		0.4 to 0.6		0.48 ± 0.031		6
Sodium (mg/L)			↑6.3		3.4 to 5.6		4.3 ± 0.42		6
Boron (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U to 0.25 U		0.24 ± 0.008		6
Ammonia (N) (mg/L)			0.5 U		0.5 U to 0.5 U		0.5 ± 0		4
Nitrite/Nitrate - (N) (mg/L)			0.13		0.086 to 0.23		0.14 ± 0.026		6
Total Dissolved Solids (mg/L)			↓61		91 to 151		120 ± 9.7		6
Total Suspended Solids (mg/L)			↑35		2.5 U to 3.7		2.7 ± 0.2		6
Sulfate (mg/L)			2 U		2 U to 3.4		2.7 ± 0.24		6
Sulfide (mg/L)			0.1 U		0.1 U to 0.1 U		0.1 ± 0		4
Alkalinity (CaCO3) (mg/L)			↓27		52 to 100		68 ± 9.3		6
Organic Carbon (mg/L)			↓1 U		2 U to 2 U		2 ± 0		6
Chloride (mg/L)			13		9.4 to 13		11 ± 0.53		6
Bromide (mg/L)			0.1 U		0.1 U to 0.1		0.1 ± 8E-10		6
Methane (ug/L)			↑430		20 U to 20 U		20 ± 0		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-605A

Juniper Ridge Landfill

OW-605A

annual stats 2022 G2

*Only field parameters are collected during the summer and fall sampling events.

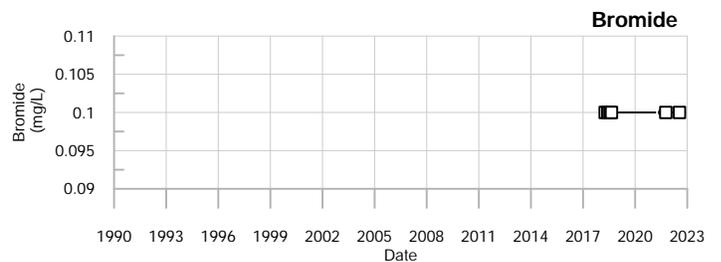
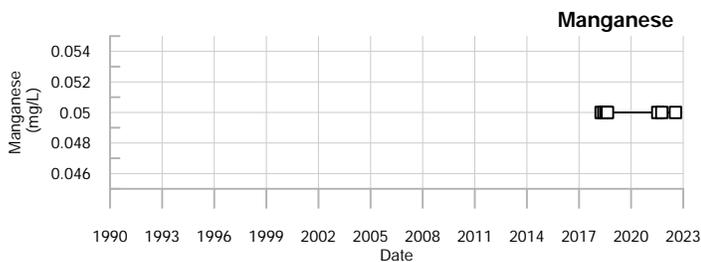
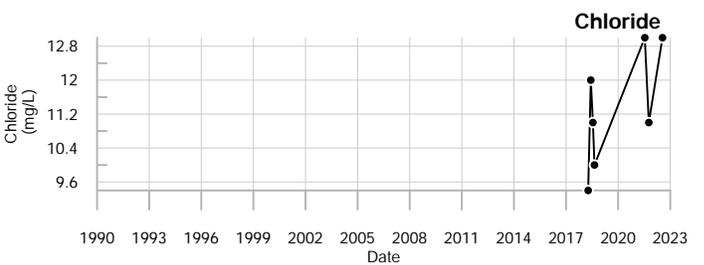
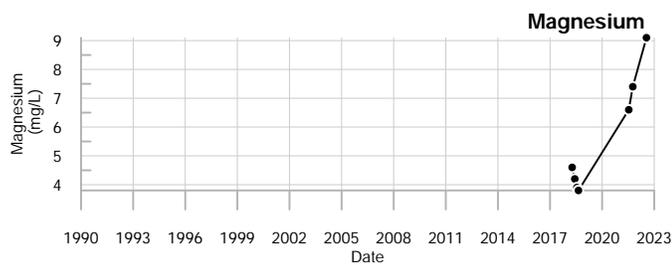
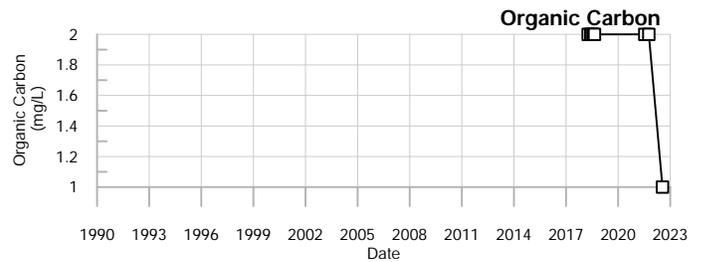
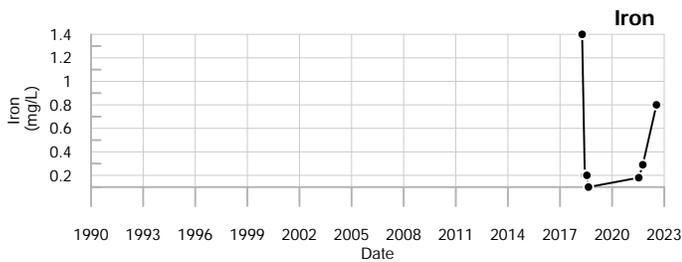
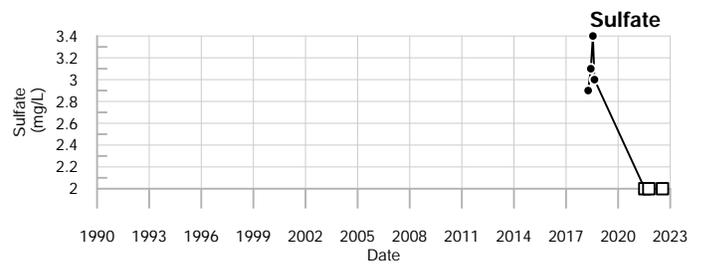
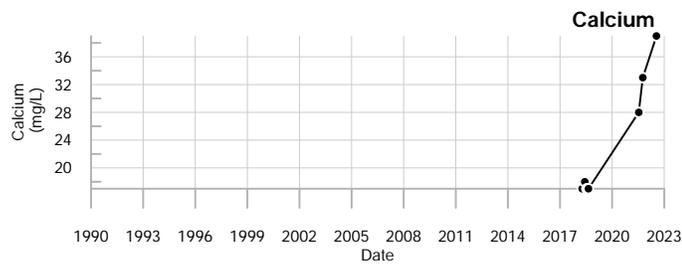
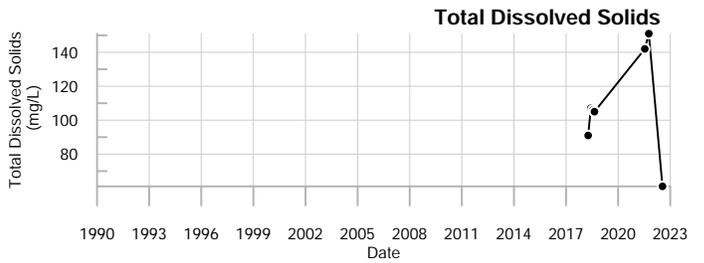
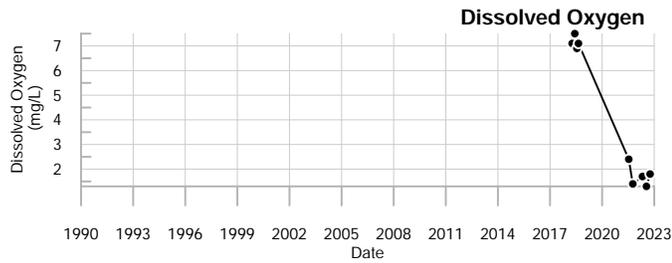
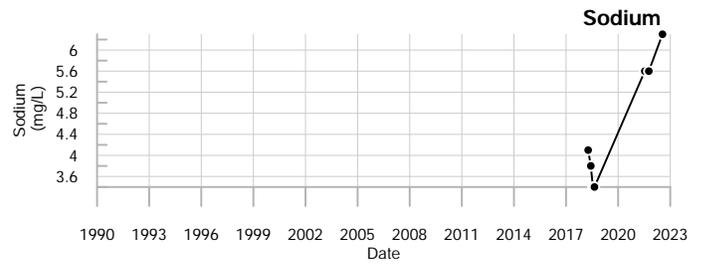
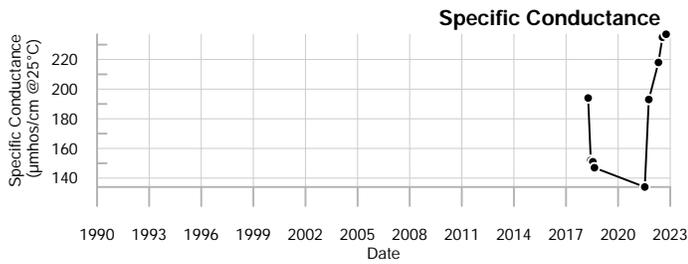
Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

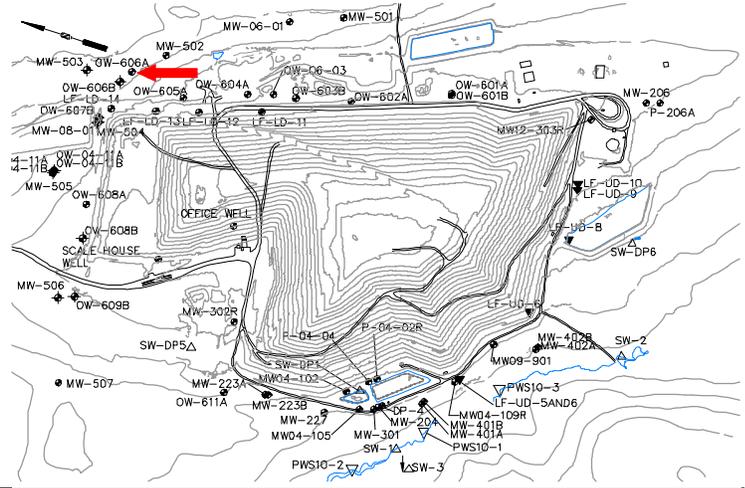


OW-605A
Juniper Ridge Landfill

Well Description

OW-606A monitors bedrock groundwater downgradient and east of the landfill expansion.

Screen Interval: **40 ft. to 240 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **Apr-2018**
 Material Screened: **Bedrock (Open Borehole)**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		296	291	↓167	287	to 427	340 ± 21		6
pH (STU)	↓7.6		7.8	↓7.4	7.7	to 8.4	8 ± 0.11		6
Temperature (Deg C)		7.8	9.1	11.9	5.5	to 13	9.6 ± 1.1		6
Water Level Elevation (Feet)				155.67	No historical data for Water Level Elevation.				
Eh (mV)	↑395		295	↑384	248	to 372	300 ± 21		6
Dissolved Oxygen (mg/L)		3.3	3.3	↓3	3.3	to 4.6	4 ± 0.18		6
Turbidity (field) (NTU)	↓0.2		0.5	1.2	0.3	to 3.1	1.3 ± 0.5		6
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005	0.005 ± 3E-11		6
Calcium (mg/L)			↑47		38	to 44	41 ± 0.95		6
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003 ± 0		4
Iron (mg/L)			0.06		0.05 U	to 3.5	0.7 ± 0.56		6
Magnesium (mg/L)			↑11		8.4	to 9.7	9 ± 0.24		6
Manganese (mg/L)			0.07		0.05 U	to 0.11	0.06 ± 0.01		6
Potassium (mg/L)			↑1.6		1	to 1.2	1.1 ± 0.031		6
Sodium (mg/L)			9.6		8.3	to 10	8.9 ± 0.28		6
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.25 U	0.24 ± 0.008		6
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5 ± 0		4
Nitrite/Nitrate - (N) (mg/L)			↓0.26		0.3	to 0.49	0.38 ± 0.035		6
Total Dissolved Solids (mg/L)			204		195	to 234	220 ± 7.6		6
Total Suspended Solids (mg/L)			2.5 U		2.5 U	to 16	4.8 ± 2.3		6
Sulfate (mg/L)			8.3		7.6	to 36	13 ± 4.7		6
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 0		4
Alkalinity (CaCO3) (mg/L)			110		91	to 110	99 ± 3.5		6
Organic Carbon (mg/L)			↓1 U		2 U	to 2 U	2 ± 0		6
Chloride (mg/L)			36		36	to 44	40 ± 1.5		6
Bromide (mg/L)			↑0.13		0.1 U	to 0.12	0.1 ± 0.003		6
Methane (ug/L)			20 U		20 U	to 20 U	20 ± 0		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-606A

Juniper Ridge Landfill

OW-606A

annual stats 2022 G2

*Only field parameters are collected during the summer and fall sampling events.

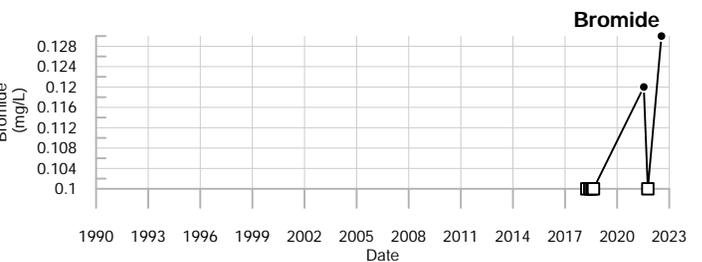
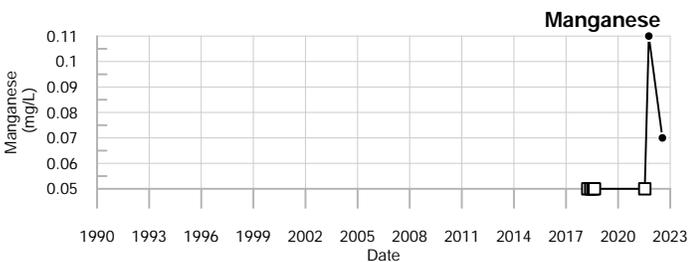
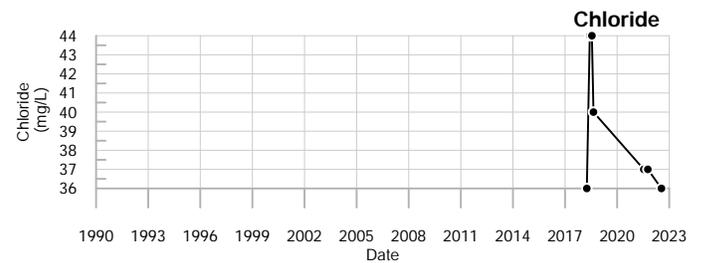
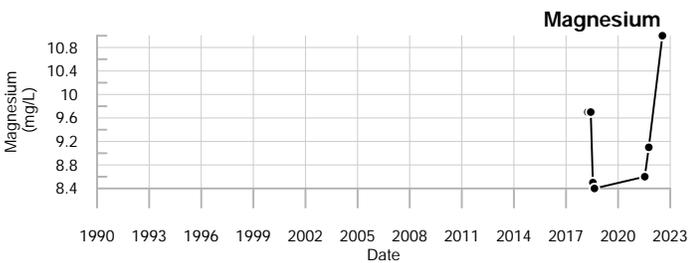
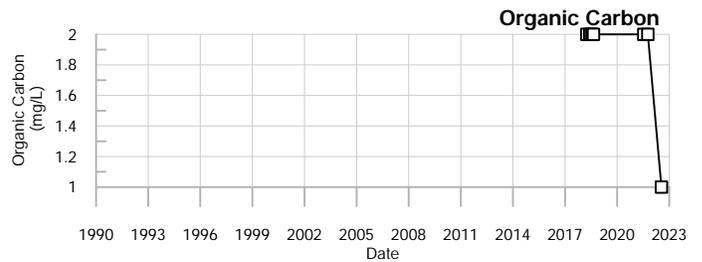
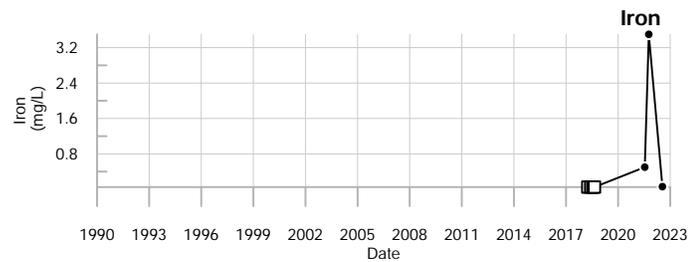
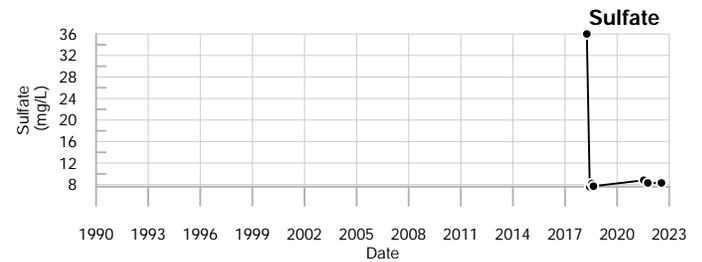
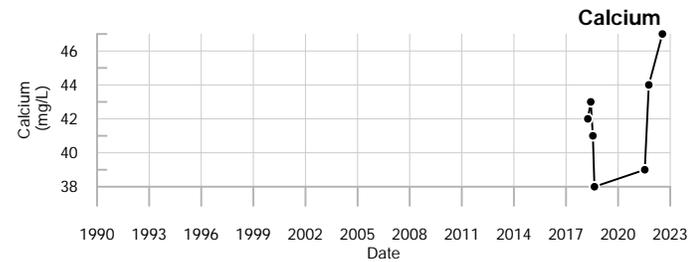
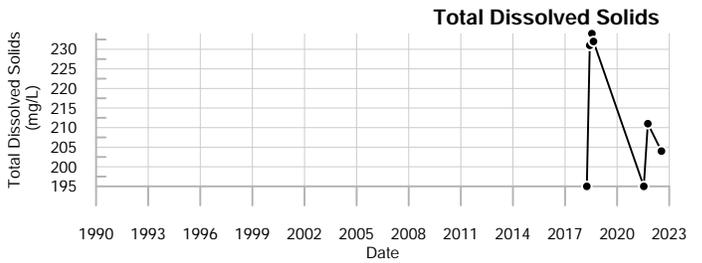
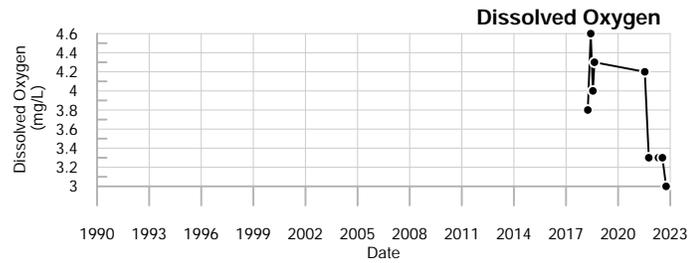
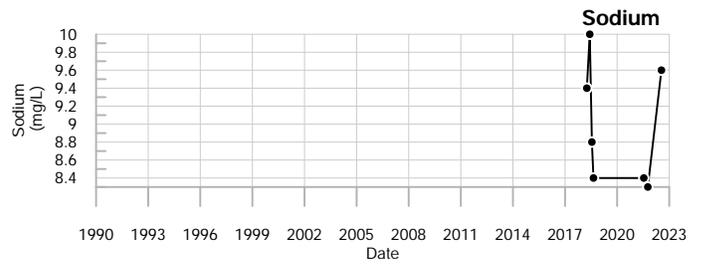
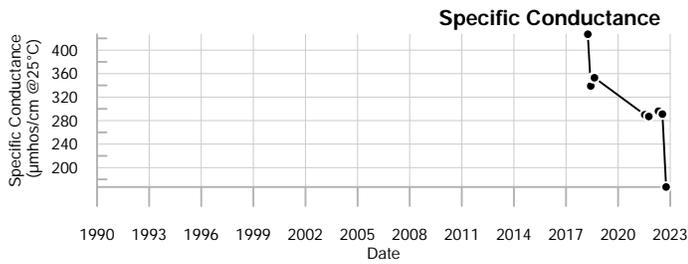
Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

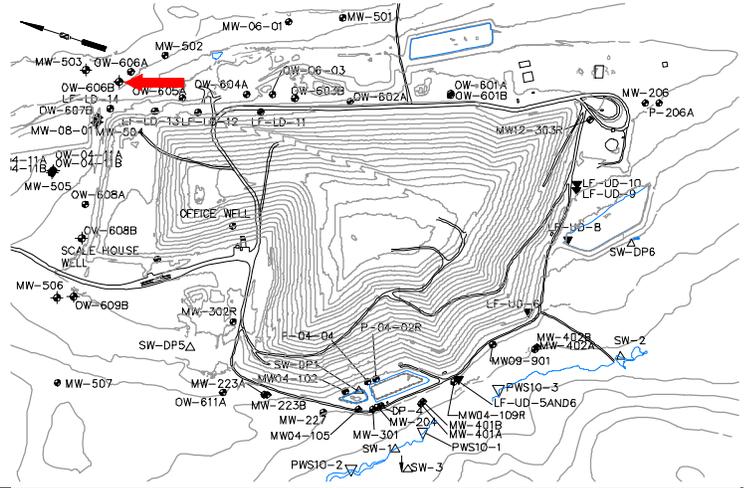


OW-606A
Juniper Ridge Landfill

Well Description

OW-606B monitors overburden/bedrock groundwater downgradient of and northwest of the landfill expansion.

Screen Interval: **7 ft. to 12.7 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **2/9/2021**
 Material Screened: **Overburden/Bedrock**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↑240	157		↑291	155 to 234		180 ± 14		5
pH (STU)	↓6.9	7.4		7.7	7.1 to 7.7		7.3 ± 0.11		5
Temperature (Deg C)		9.7	13.3	8.7	5.5 to 17.1		12 ± 1.9		5
Water Level Elevation (Feet)		162.576	162.156		161.586 to 162.846		160 ± 0.22		6
Eh (mV)		350	329	↑362	162 to 352		290 ± 35		5
Dissolved Oxygen (mg/L)	↓1.2	3.9		↓1.9	2.4 to 3.9		3.1 ± 0.24		5
Turbidity (field) (NTU)	↓0.4	7.1		↓0.3	0.5 to 9.2		2.9 ± 1.7		5
Arsenic (mg/L)			0.005 U		0.005 U to 0.005 U		0.005 ± 3E-11		5
Calcium (mg/L)			23		19 to 28		23 ± 1.5		5
Copper (mg/L)			0.003 U		0.003 U to 0.003 U		0.003 ± 2E-11		5
Iron (mg/L)			0.72		0.09 to 1.4		0.45 ± 0.24		5
Magnesium (mg/L)			5.3		4.2 to 5.7		4.9 ± 0.26		5
Manganese (mg/L)			0.05		0.05 U to 0.58		0.16 ± 0.11		5
Potassium (mg/L)			↑2.1		1.5 to 1.7		1.6 ± 0.037		5
Sodium (mg/L)			7.1		5.1 to 21		8.8 ± 3.1		5
Boron (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U to 0.33		0.26 ± 0.021		5
Ammonia (N) (mg/L)			0.5 U		0.5 U to 0.5 U		0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)			0.11		0.05 U to 0.12		0.089 ± 0.012		5
Total Dissolved Solids (mg/L)			175		118 to 286		160 ± 32		5
Total Suspended Solids (mg/L)			150		6.3 to 880		190 ± 170		5
Sulfate (mg/L)			↓5.3		5.9 to 33		12 ± 5.3		5
Sulfide (mg/L)			0.1 U		0.1 U to 0.5 U		0.2 ± 0.078		5
Alkalinity (CaCO3) (mg/L)			72		60 to 120		76 ± 11		5
Organic Carbon (mg/L)			↓1 U		2 U to 2 U		2 ± 0		5
Chloride (mg/L)			↓14		15 to 18		16 ± 0.6		5
Bromide (mg/L)			0.1 U		0.1 U to 0.12		0.11 ± 0.004		5
Methane (ug/L)			20 U		20 U to 20 U		20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-606B

Juniper Ridge Landfill

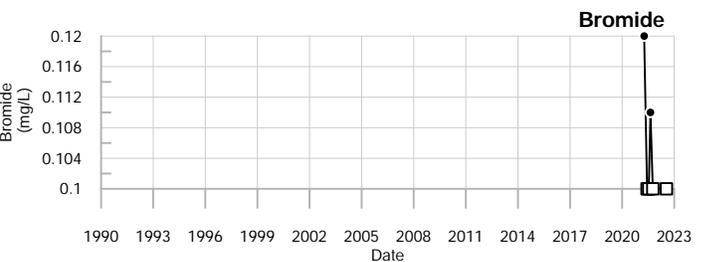
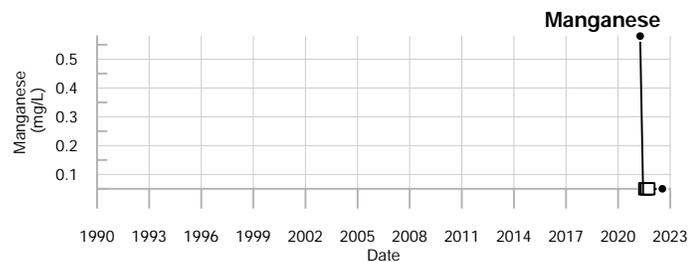
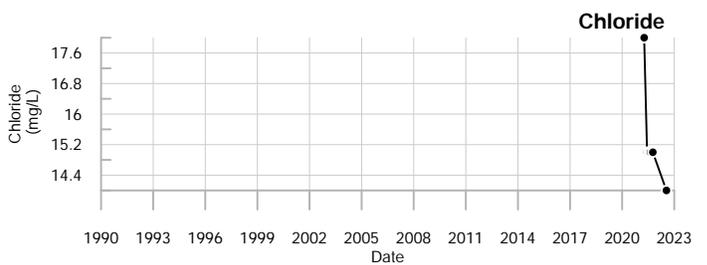
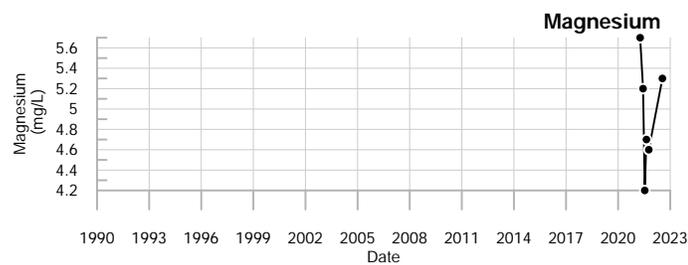
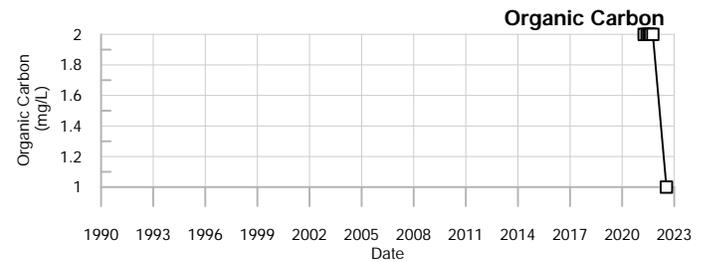
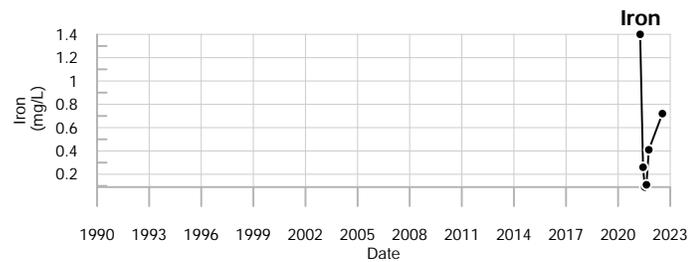
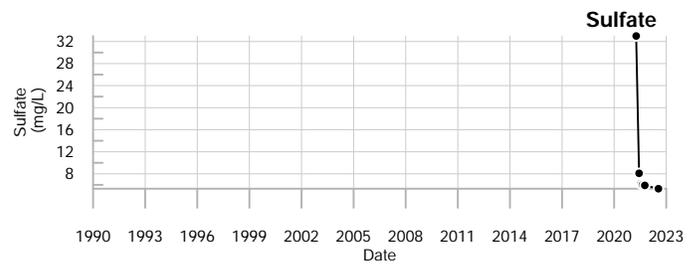
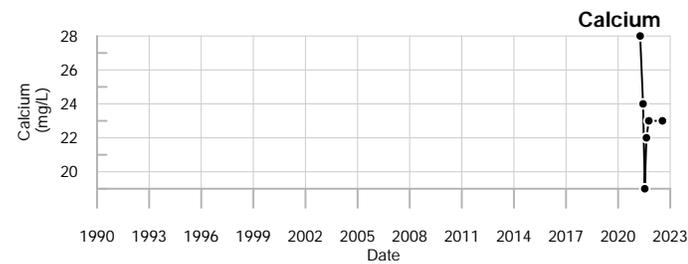
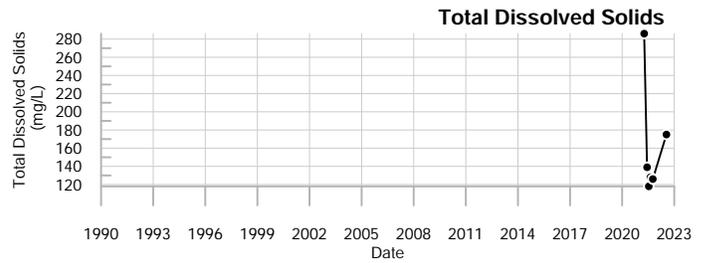
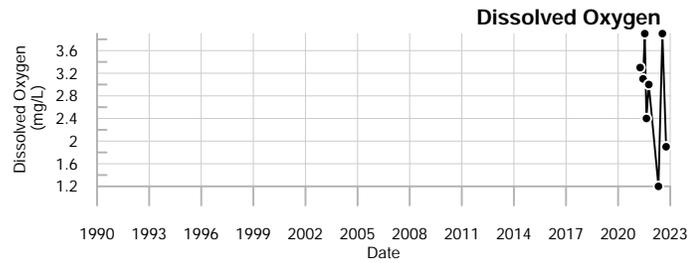
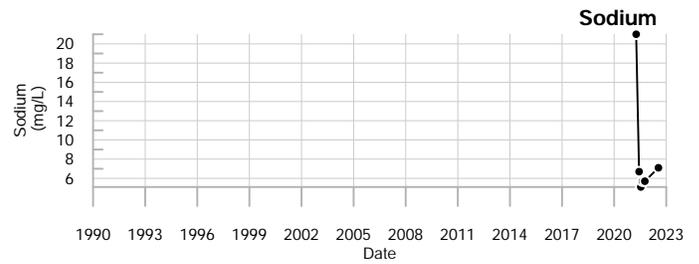
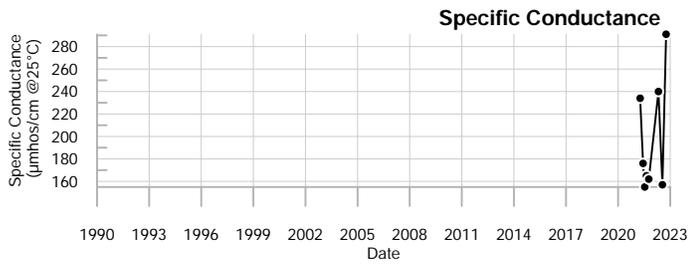
*Field parameters only are monitored in the spring and fall.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL

OW-606B

annual stats 2022 G2



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

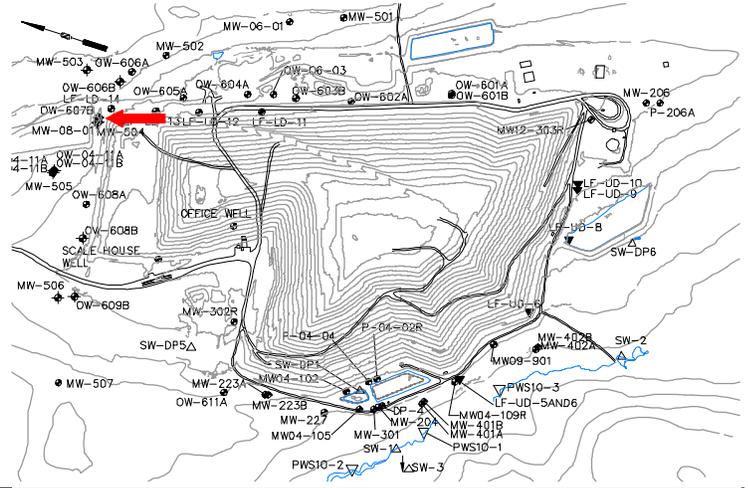


OW-606B
Juniper Ridge Landfill

Well Description

OW-607B monitors overburden groundwater downgradient of and north of the landfill expansion.

Screen Interval: **41 ft. to 51 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **2/9/2021**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		143	161	142	129	to 172	150 ± 7.8		5
pH (STU)		7.2	7.6	7.3	7.1	to 7.8	7.5 ± 0.15		5
Temperature (Deg C)		6.4	↑22.5	9.9	4.9	to 17.1	11 ± 2		5
Water Level Elevation (Feet)	↓158.777	↓154.377	↓154.857		163.077	to 166.977	160 ± 0.63		5
Eh (mV)		191	↓86	↑349	105	to 322	220 ± 35		5
Dissolved Oxygen (mg/L)		2.9	1.1	0.9	0.5	to 3.3	2 ± 0.52		5
Turbidity (field) (NTU)	↑14.5	↑12.1	2.1		0.3	to 2.5	1.2 ± 0.41		5
Arsenic (mg/L)			↓0.005 U		0.007	to 0.009	0.0076 ± 0.000		5
Calcium (mg/L)			19		15	to 19	18 ± 0.68		5
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003 ± 2E-11		5
Iron (mg/L)			↑0.18		0.05 U	to 0.08	0.056 ± 0.006		5
Magnesium (mg/L)			↑6		5.2	to 5.8	5.4 ± 0.11		5
Manganese (mg/L)			↑0.09		0.05 U	to 0.05 U	0.05 ± 4E-10		5
Potassium (mg/L)			↑1.5		0.9	to 1.2	1 ± 0.055		5
Sodium (mg/L)			↑5.3		4.2	to 5.2	4.5 ± 0.19		5
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.25 U	0.23 ± 0.012		5
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)			↑0.088		0.05 U	to 0.08	0.063 ± 0.006		5
Total Dissolved Solids (mg/L)			↑111		89	to 105	98 ± 3		5
Total Suspended Solids (mg/L)			↑32		2.5 U	to 4.7	3 ± 0.43		5
Sulfate (mg/L)			4.3		3.3	to 6	4.7 ± 0.5		5
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 8E-10		5
Alkalinity (CaCO3) (mg/L)			↓38		64	to 81	69 ± 3.1		5
Organic Carbon (mg/L)			↓1 U		2 U	to 2 U	2 ± 0		5
Chloride (mg/L)			1.3		1.3	to 2.6	1.8 ± 0.22		5
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 8E-10		5
Methane (ug/L)			20 U		20 U	to 20 U	20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-607B

Juniper Ridge Landfill

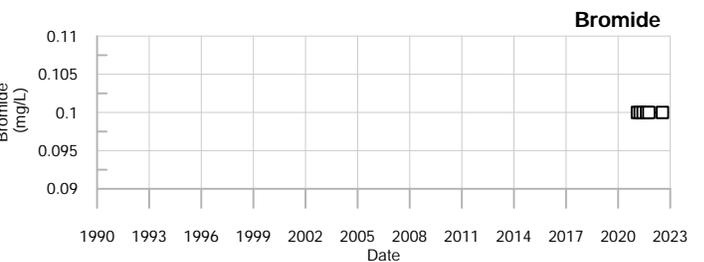
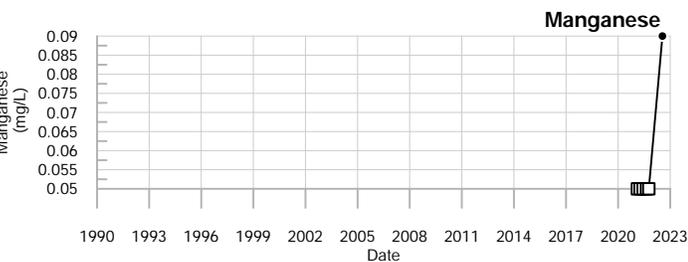
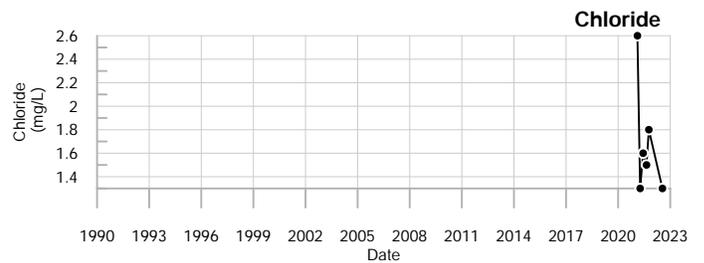
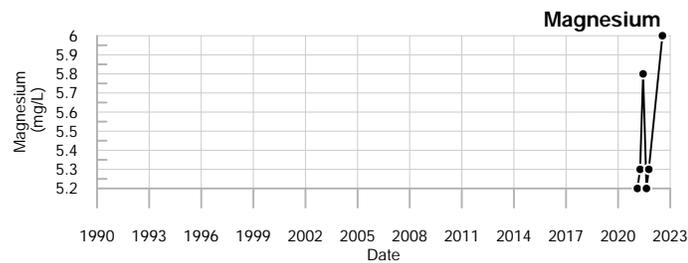
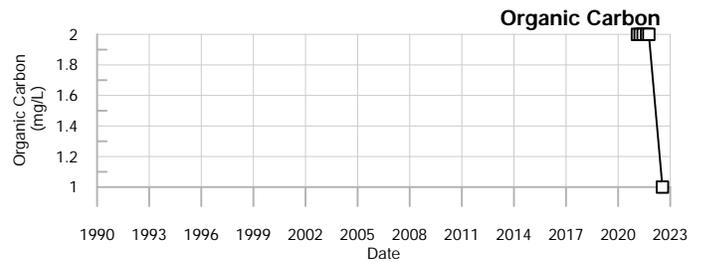
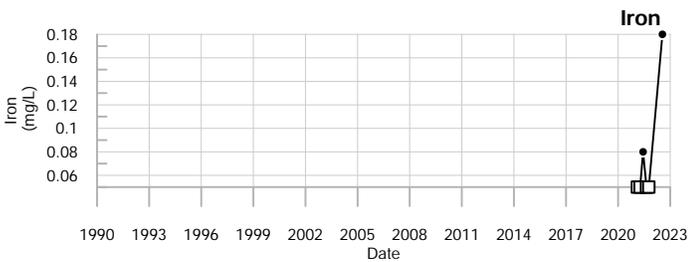
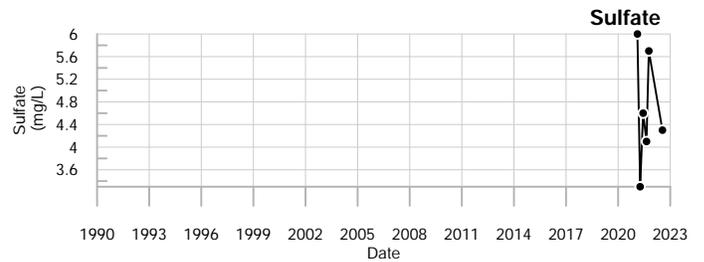
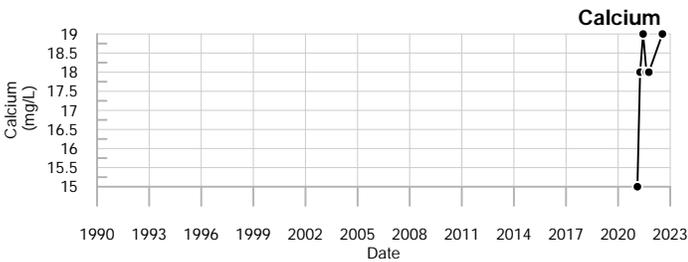
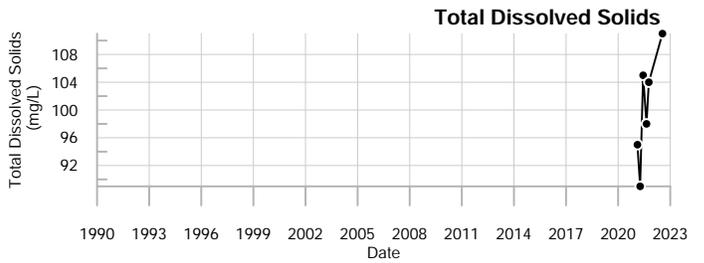
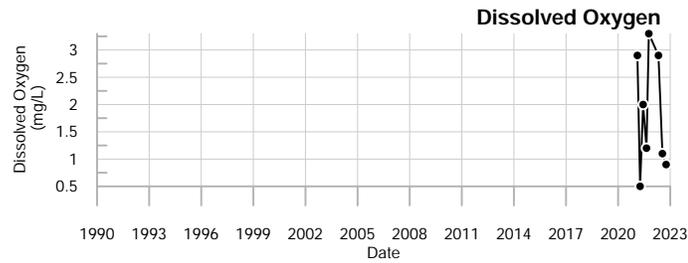
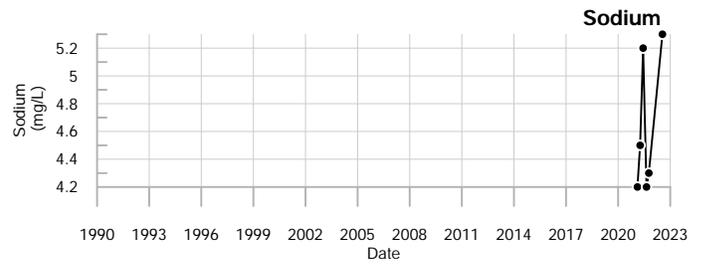
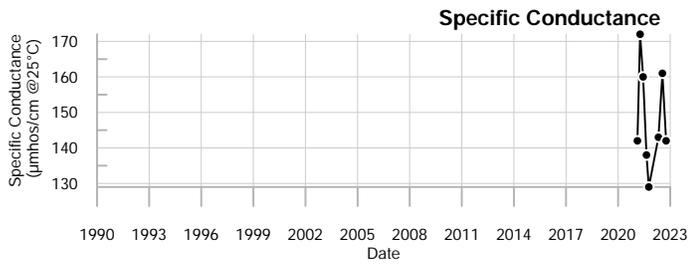
*Field parameters only are monitored in the spring and fall.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL

OW-607B

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LEGEND

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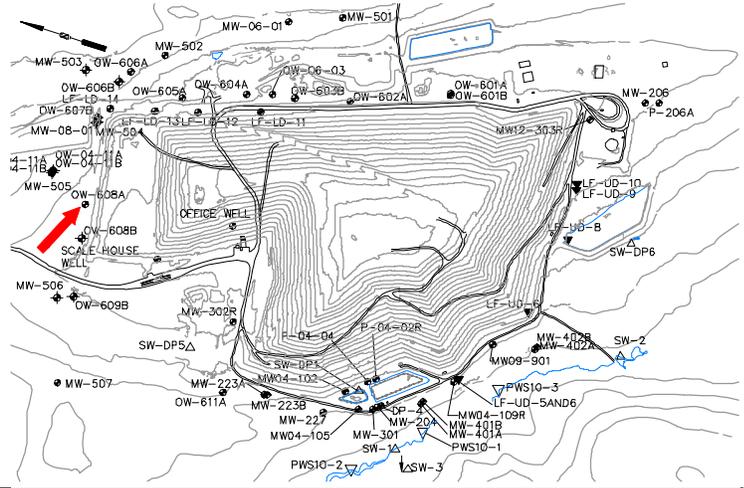


OW-607B
Juniper Ridge Landfill

Well Description

OW-608A monitors bedrock groundwater downgradient and north of the landfill expansion.

Screen Interval: **60 ft. to 260 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **Apr-2018**
 Material Screened: **Bedrock (Open Borehole)**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		169	188	196	127	to 205	190 ± 12		6
pH (STU)		7.8	8.3	7.9	7.8	to 8.6	8.2 ± 0.12		6
Temperature (Deg C)		8.3	13.8	15	7.5	to 15.5	11 ± 1.2		6
Water Level Elevation (Feet)		159.51	↓ 158.61	↓ 158.81	159.15	to 160.89	160 ± 0.27		6
Eh (mV)		9	29	60	5	to 320	120 ± 53		6
Dissolved Oxygen (mg/L)		↓ 0.2	0.5	0.5	0.3	to 6.4	1.8 ± 1		6
Turbidity (field) (NTU)		9.6	↑ 12.5	9.5	1.2	to 10.3	7 ± 1.5		6
Arsenic (mg/L)			0.005 U		0.005 U	to 0.008	0.0057 ± 0.000		6
Calcium (mg/L)			19		10	to 21	16 ± 1.7		6
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003 ± 0		4
Iron (mg/L)			3.6		0.53	to 7.4	4.2 ± 1		6
Magnesium (mg/L)			↑ 6.7		4.7	to 6.4	5.7 ± 0.27		6
Manganese (mg/L)			0.05		0.05 U	to 0.16	0.073 ± 0.018		6
Potassium (mg/L)			↑ 1.4		0.9	to 1.1	0.97 ± 0.033		6
Sodium (mg/L)			14		12	to 15	14 ± 0.5		6
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.37	0.26 ± 0.023		6
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5 ± 0		4
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.077	0.058 ± 0.004		6
Total Dissolved Solids (mg/L)			↑ 132		95	to 127	110 ± 5.1		6
Total Suspended Solids (mg/L)			11		2.5 U	to 15	8.5 ± 2		6
Sulfate (mg/L)			6		2 U	to 7.2	5.3 ± 0.8		6
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 0		4
Alkalinity (CaCO3) (mg/L)			↑ 130		72	to 95	87 ± 4.5		6
Organic Carbon (mg/L)			↓ 1 U		2 U	to 2 U	2 ± 0		6
Chloride (mg/L)			1.9		1.2	to 4.1	2.1 ± 0.45		6
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 8E-10		6
Methane (ug/L)			20 U		20 U	to 140	80 ± 60		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-608A

Juniper Ridge Landfill

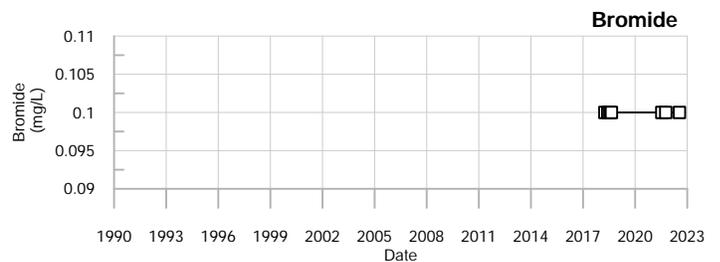
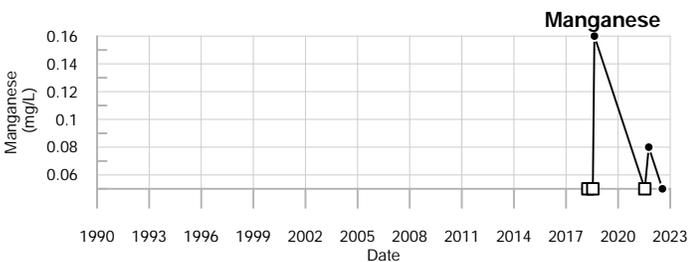
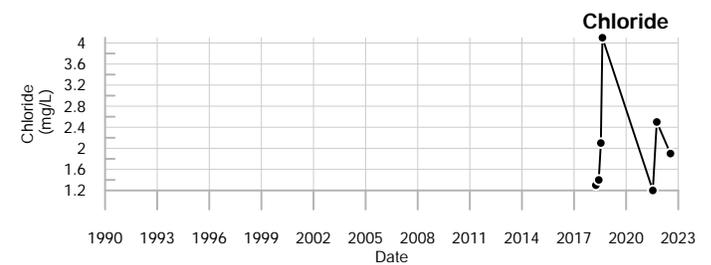
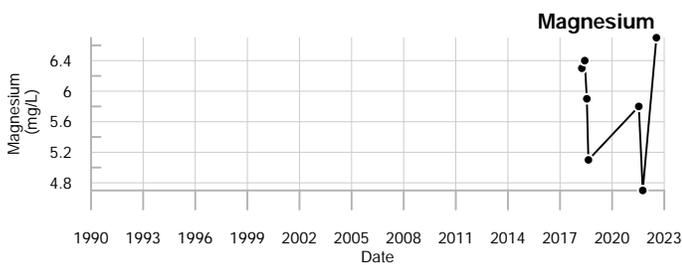
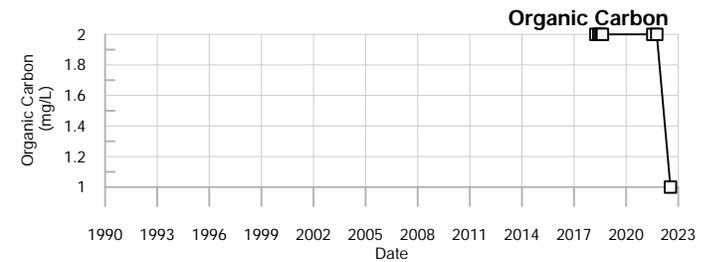
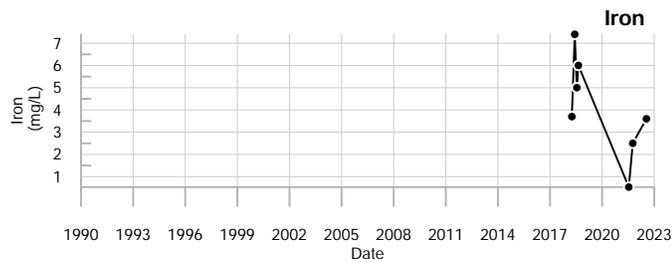
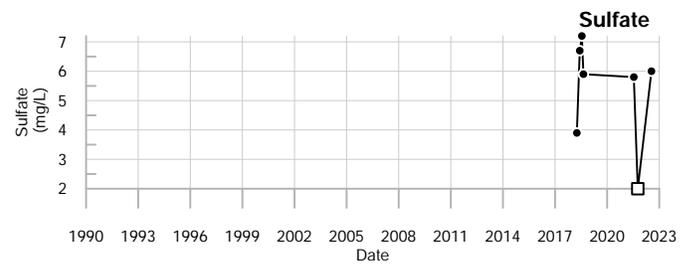
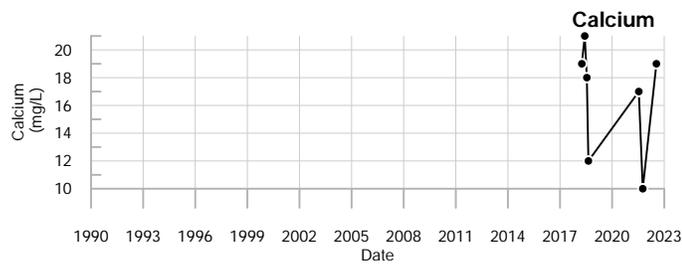
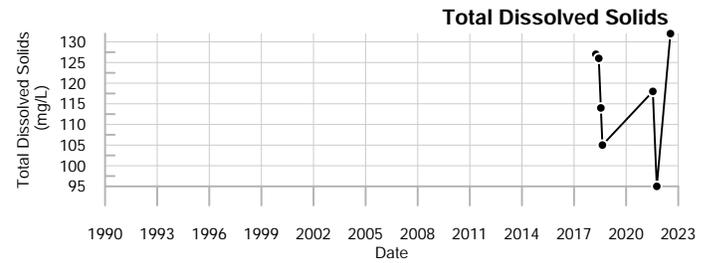
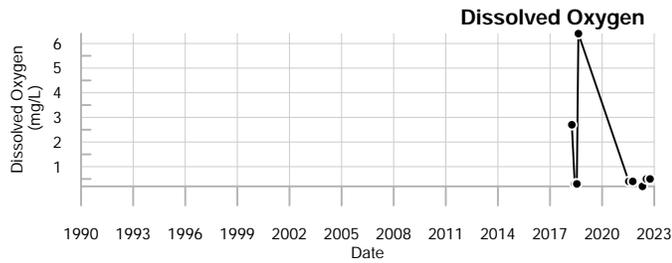
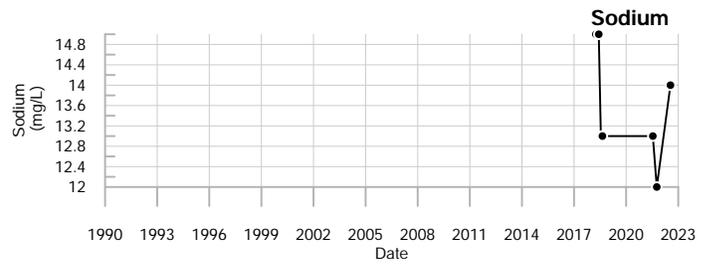
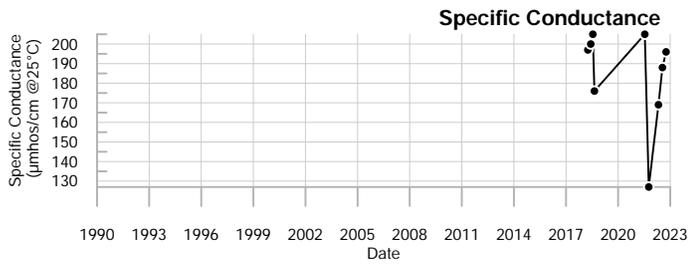
OW-608A

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*Only field parameters are collected during the summer and fall sampling events.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
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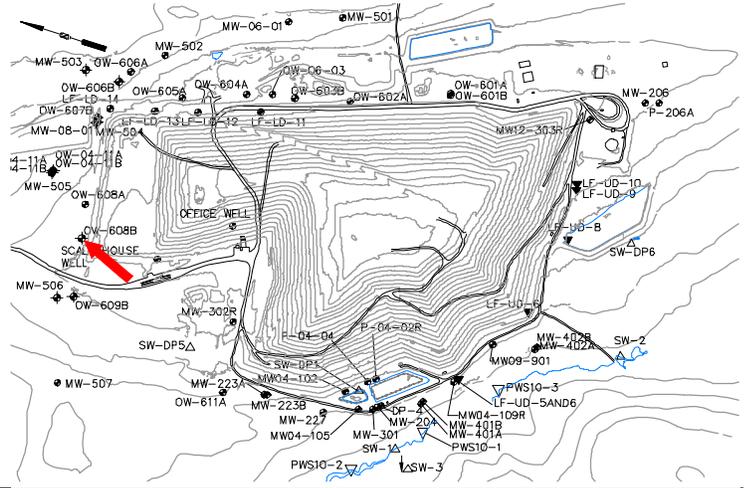


OW-608A
Juniper Ridge Landfill

Well Description

OW-608B monitors overburden groundwater downgradient of and northwest of the landfill expansion.

Screen Interval: **33.5 ft. to 43.5 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **2/10/2021**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓219	264	251	251	228	to 272	250 ± 8.2		5
pH (STU)		7.9	8.2	8.1	6.8	to 8.4	7.7 ± 0.27		5
Temperature (Deg C)		7.7	↑15.5	12.9	5.6	to 14.5	11 ± 1.8		5
Water Level Elevation (Feet)		195.134	↓192.404	↓193.104	193.874	to 197.054	200 ± 0.55		5
Eh (mV)		124	↓12	↓34	45	to 284	160 ± 48		5
Dissolved Oxygen (mg/L)		0.5	0.3	0.2	0.2	to 1.4	0.8 ± 0.21		5
Turbidity (field) (NTU)		↑5.1	↑3.5	↑4.5	0.8	to 3.2	2 ± 0.42		5
Arsenic (mg/L)			↓0.0067		0.008	to 0.009	0.0086 ± 0.000		5
Calcium (mg/L)			16		15	to 17	16 ± 0.45		5
Copper (mg/L)			0.003 U		0.003 U	to 0.007	0.0038 ± 0.000		5
Iron (mg/L)			0.05 U		0.05 U	to 0.88	0.29 ± 0.16		5
Magnesium (mg/L)			8.9		7.7	to 8.9	8.4 ± 0.27		5
Manganese (mg/L)			↓0.05 U		0.12	to 0.24	0.16 ± 0.023		5
Potassium (mg/L)			↑1.4		0.9	to 1.1	1 ± 0.037		5
Sodium (mg/L)			28		22	to 33	28 ± 1.8		5
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.25 U	0.23 ± 0.01		5
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.066	0.055 ± 0.003		5
Total Dissolved Solids (mg/L)			156		142	to 223	180 ± 14		5
Total Suspended Solids (mg/L)			2.5 U		2.5 U	to 31	8.4 ± 5.6		5
Sulfate (mg/L)			25		21	to 41	34 ± 3.8		5
Sulfide (mg/L)			0.1 U		0.1 U	to 0.5 U	0.18 ± 0.08		5
Alkalinity (CaCO3) (mg/L)			98		97	to 110	100 ± 2.3		5
Organic Carbon (mg/L)			↓1 U		2 U	to 2 U	2 ± 0		5
Chloride (mg/L)			2		1.9	to 6	3.7 ± 0.75		5
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 8E-10		5
Methane (ug/L)			20 U		20 U	to 20 U	20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

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Comments

OW-608B

Juniper Ridge Landfill

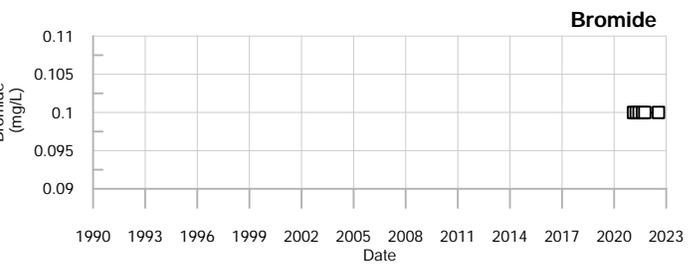
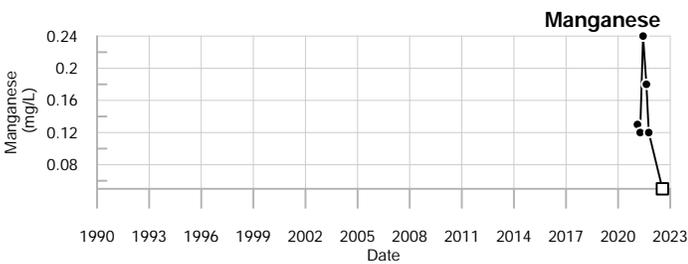
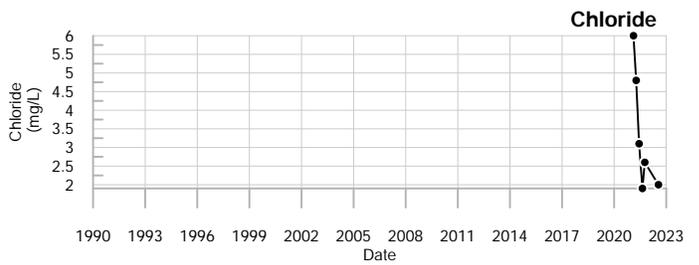
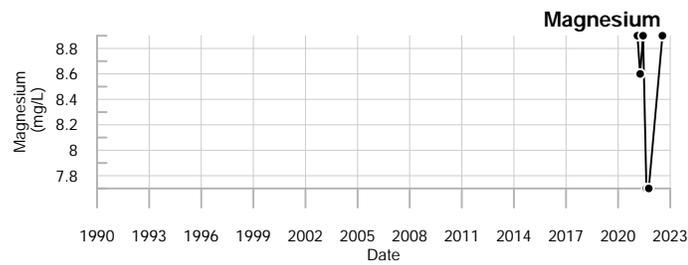
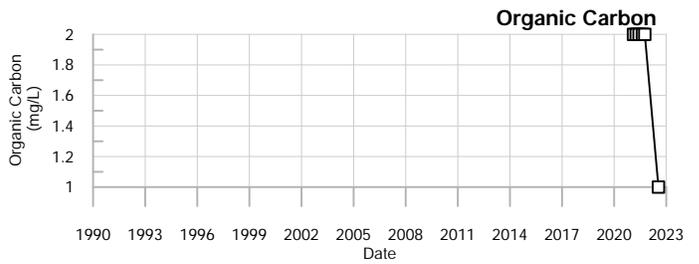
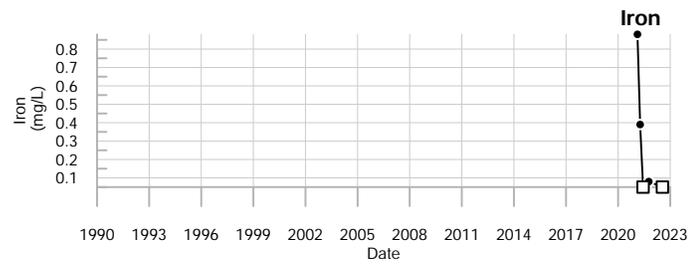
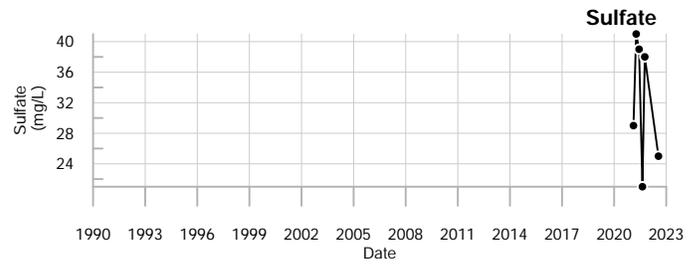
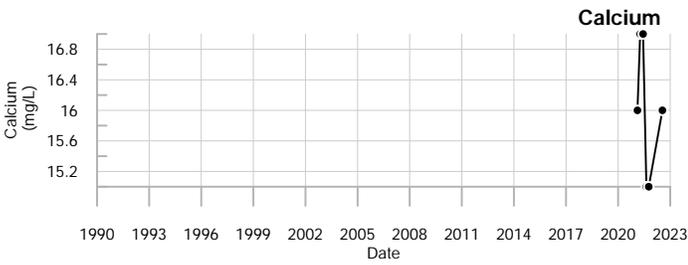
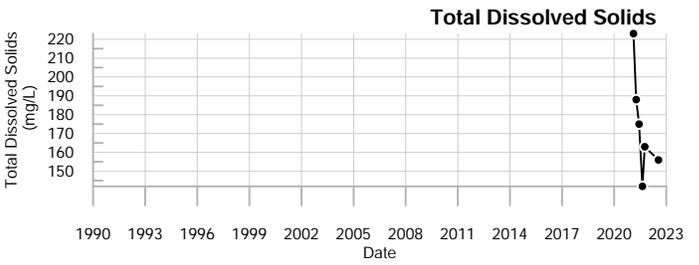
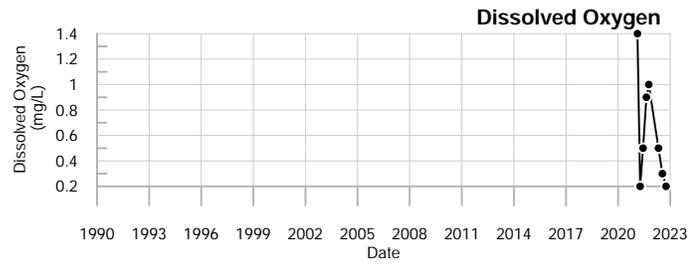
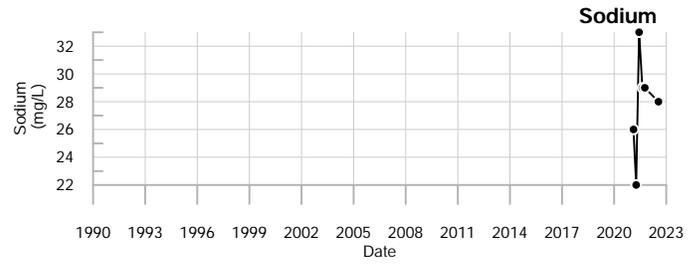
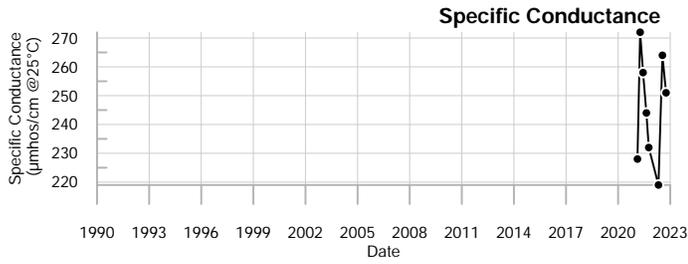
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Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL

OW-608B

annual stats 2022 G2



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

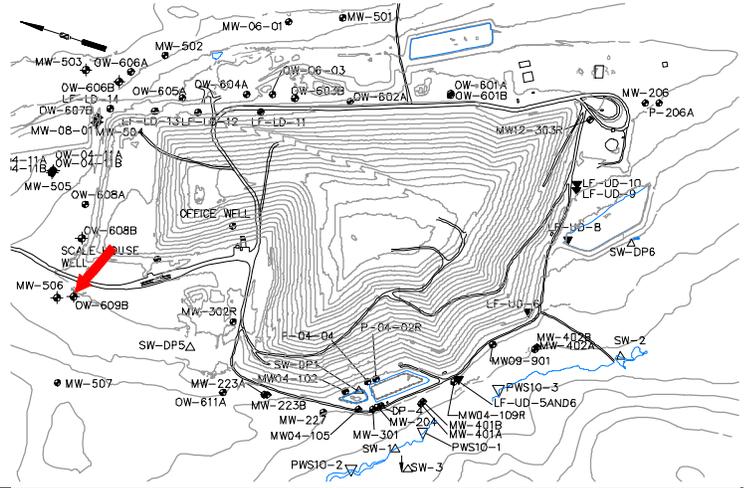


OW-608B
Juniper Ridge Landfill

Well Description

OW-609B monitors overburden groundwater downgradient of and northwest of the landfill expansion.

Screen Interval: **39 ft. to 49 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **2/10/2021**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓226	334	318	318	271	to 477	400 ± 37		5
pH (STU)	6.9	7.6	7.6	↑7.8	6.8	to 7.7	7.4 ± 0.16		5
Temperature (Deg C)	7.6	↑12.5	8.8	8.8	6.2	to 12	9.6 ± 1.1		5
Water Level Elevation (Feet)	200.127	↓194.277	196.777	196.777	194.697	to 206.627	200 ± 2.1		5
Eh (mV)	206	131	↓71	↓71	105	to 315	230 ± 35		5
Dissolved Oxygen (mg/L)	1	0.4	0.4	0.4	0.3	to 7	2.4 ± 1.3		5
Turbidity (field) (NTU)	11.5	3.8	2.7	2.7	1.2	to 32.4	11 ± 5.7		5
Arsenic (mg/L)			0.0077	0.0077	0.005 U	to 0.008	0.0058 ± 0.000		6
Calcium (mg/L)		↓17	17	17	19	to 25	22 ± 1.1		6
Copper (mg/L)			0.003 U	0.003 U	0.003 U	to 0.004	0.0032 ± 0.000		6
Iron (mg/L)			0.49	0.49	0.28	to 0.71	0.44 ± 0.067		6
Magnesium (mg/L)			7.9	7.9	1.9	to 7.9	4.9 ± 1.2		6
Manganese (mg/L)		↓0.09	0.09	0.09	0.25	to 0.51	0.38 ± 0.042		6
Potassium (mg/L)			1.3	1.3	1.1	to 1.5	1.4 ± 0.063		6
Sodium (mg/L)			42	42	23	to 81	52 ± 9.2		6
Boron (mg/L)			0.05 U	0.05 U	0.05 U	to 0.05 U	0.05 ± 4E-10		6
Total Kjeldahl Nitrogen (mg/L)			↑0.84	0.84	0.2 U	to 0.49	0.29 ± 0.051		5
Ammonia (N) (mg/L)			0.5 U	0.5 U	0.5 U	to 0.5 U	0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)			0.05 U	0.05 U	0.05 U	to 0.068	0.057 ± 0.004		5
Total Dissolved Solids (mg/L)		↓209	209	209	246	to 543	340 ± 53		5
Total Suspended Solids (mg/L)			5.5	5.5	3.7	to 15	7.7 ± 2		5
Sulfate (mg/L)			39	39	21	to 97	59 ± 13		5
Sulfide (mg/L)			0.1 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 8E-10		5
Alkalinity (CaCO3) (mg/L)			110	110	71	to 120	99 ± 11		5
Organic Carbon (mg/L)		↓1.5	1.5	1.5	2 U	to 5.5	3.1 ± 0.64		5
Chloride (mg/L)		↓23	23	23	31	to 51	37 ± 3.5		5
Bromide (mg/L)			0.1 U	0.1 U	0.1 U	to 0.1 U	0.1 ± 8E-10		5
Methane (ug/L)			20 U	20 U	20 U	to 20 U	20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-609B

Juniper Ridge Landfill

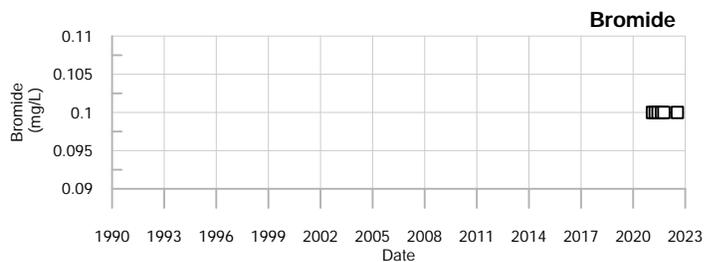
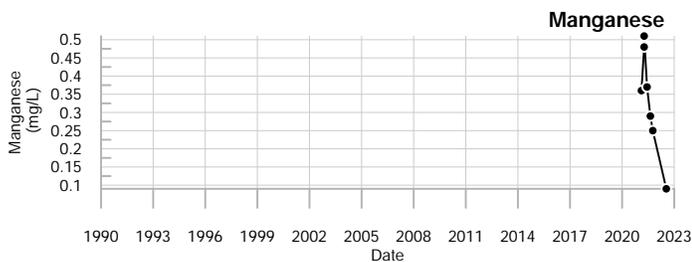
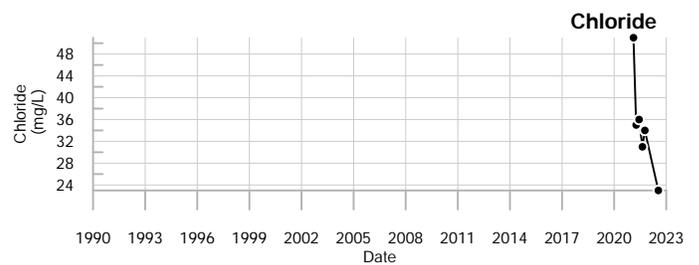
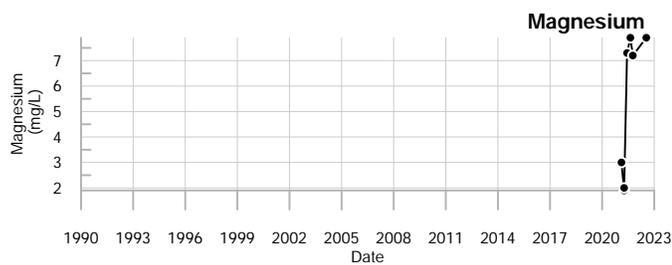
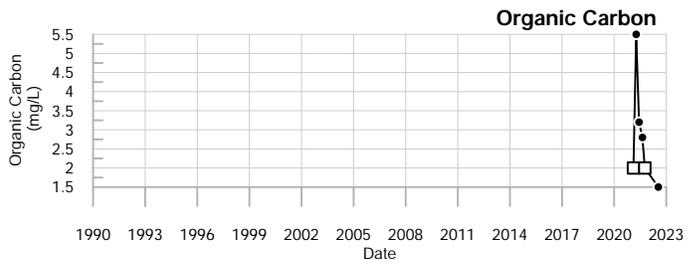
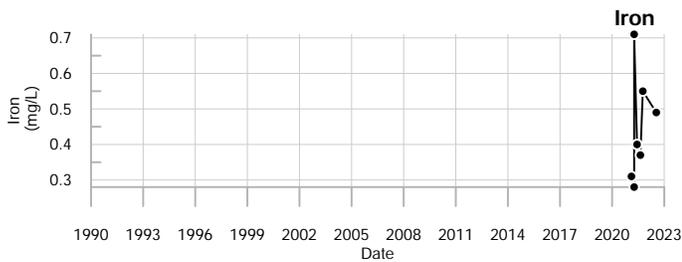
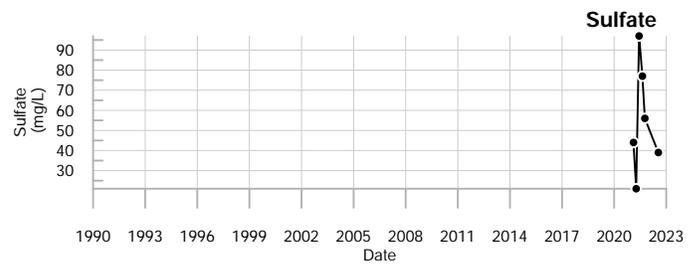
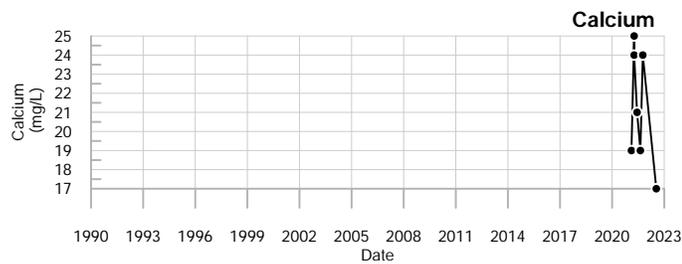
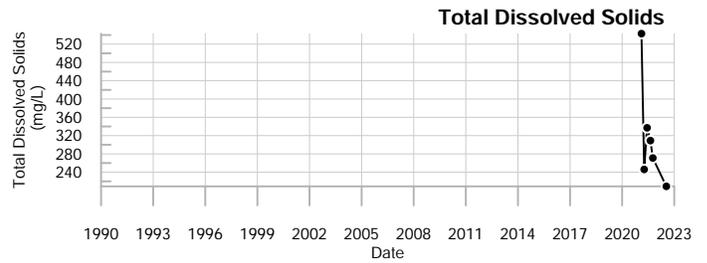
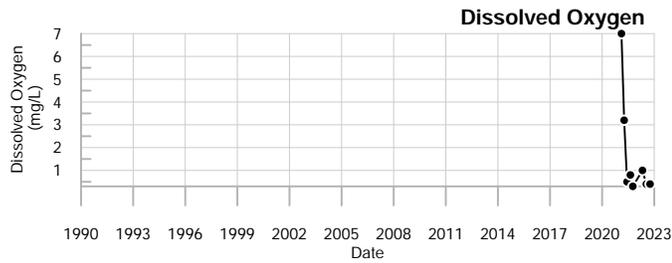
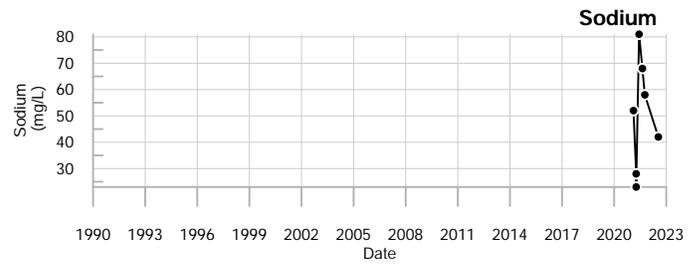
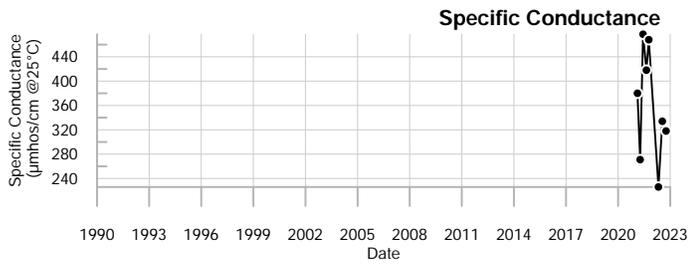
*Field parameters only are monitored in the spring and fall.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL

OW-609B

annual stats 2022 G2



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

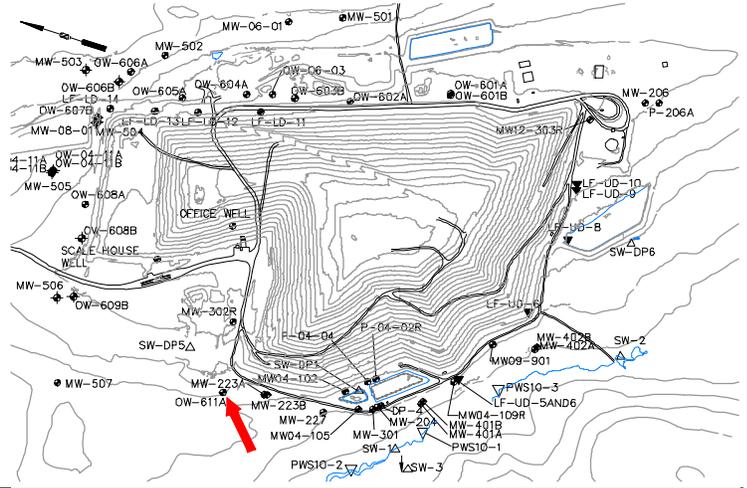


OW-609B
Juniper Ridge Landfill

Well Description

OW-611A monitors bedrock groundwater downgradient and west of the landfill expansion.

Screen Interval: **20 ft. to 220 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **Apr-2018**
 Material Screened: **Bedrock (Open Borehole)**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓370	416	↓378		393 to 502		440 ± 21		6
pH (STU)	6.8	↓6.6	6.9		6.8 to 7.2		7 ± 0.054		6
Temperature (Deg C)	8.3	12.4	9.8		7 to 13.4		10 ± 0.97		6
Water Level Elevation (Feet)	↑177.61	174.8	175.48		174.12 to 176.85		180 ± 0.47		6
Eh (mV)	↓227	253	↑388		243 to 366		300 ± 22		6
Dissolved Oxygen (mg/L)	4.2	3.7	↓2		3.5 to 5.6		4.3 ± 0.36		6
Turbidity (field) (NTU)	3.4	2.5	0.5		0.4 to 5.5		3.1 ± 0.71		6
Arsenic (mg/L)			0.005 U		0.005 U to 0.007		0.0053 ± 0.000		6
Calcium (mg/L)		↑66			52 to 61		57 ± 1.5		6
Copper (mg/L)			0.003 U		0.003 U to 0.003 U		0.003 ± 0		4
Iron (mg/L)			0.18		0.05 U to 0.65		0.23 ± 0.091		6
Magnesium (mg/L)		↑7.3			5 to 6.3		5.7 ± 0.21		6
Manganese (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 4E-10		6
Potassium (mg/L)		↑1.5			0.8 to 1.1		0.95 ± 0.043		6
Sodium (mg/L)		↑18			12 to 16		14 ± 0.7		6
Boron (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)		↑0.32			0.2 U to 0.28		0.25 ± 0.011		6
Ammonia (N) (mg/L)			0.5 U		0.5 U to 0.5 U		0.5 ± 0		4
Nitrite/Nitrate - (N) (mg/L)		↑0.85			0.33 to 0.55		0.46 ± 0.031		6
Total Dissolved Solids (mg/L)			277		233 to 301		260 ± 10		6
Total Suspended Solids (mg/L)			2.5 U		2.5 U to 2.5 U		2.5 ± 0		6
Sulfate (mg/L)		17			13 to 40		19 ± 4.2		6
Sulfide (mg/L)			0.1 U		0.1 U to 0.1 U		0.1 ± 0		4
Alkalinity (CaCO3) (mg/L)			140		110 to 140		130 ± 4.3		6
Organic Carbon (mg/L)		↓1 U			2 U to 2 U		2 ± 0		6
Chloride (mg/L)			44		31 to 48		42 ± 2.6		6
Bromide (mg/L)			0.1 U		0.1 U to 0.1 U		0.1 ± 8E-10		6
Methane (ug/L)			20 U		20 U to 20 U		20 ± 0		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

OW-611A

Juniper Ridge Landfill

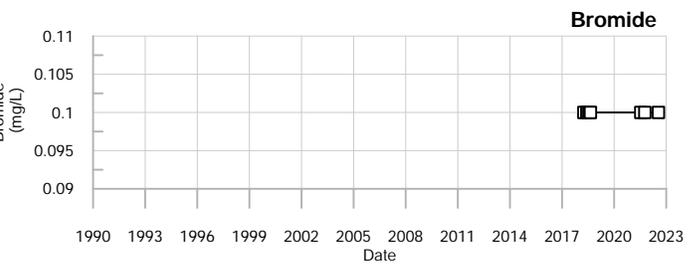
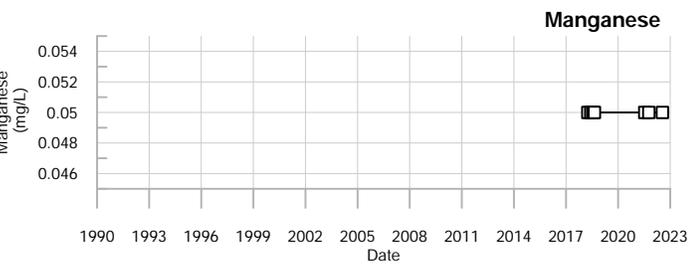
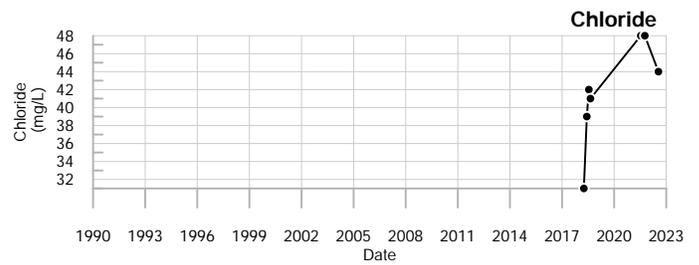
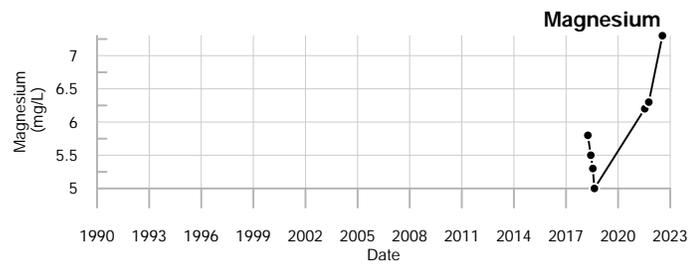
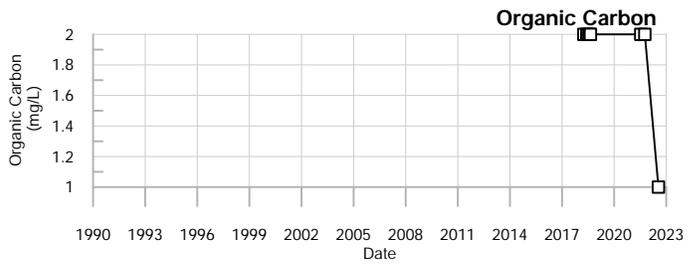
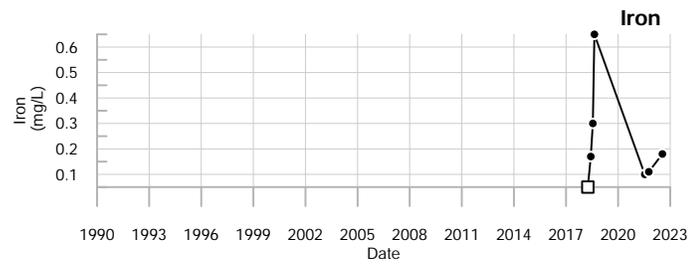
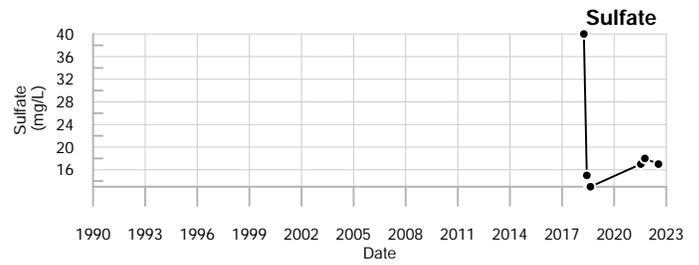
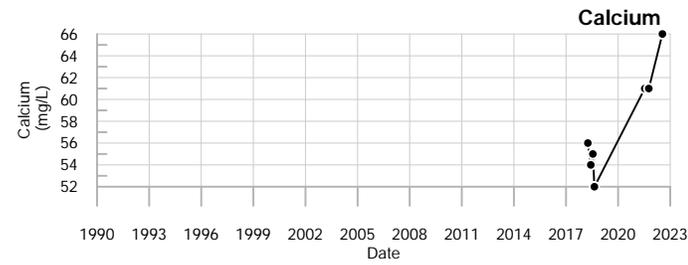
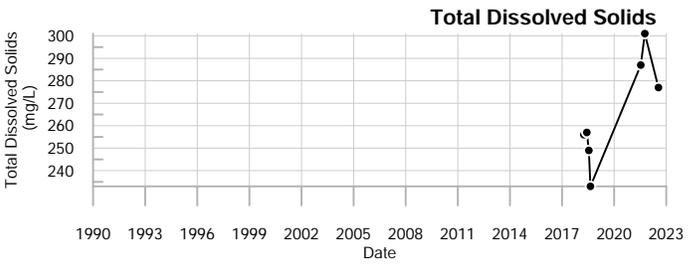
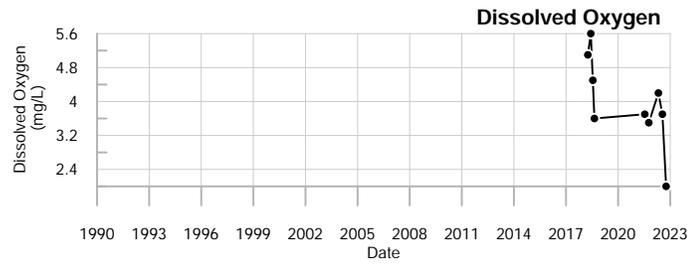
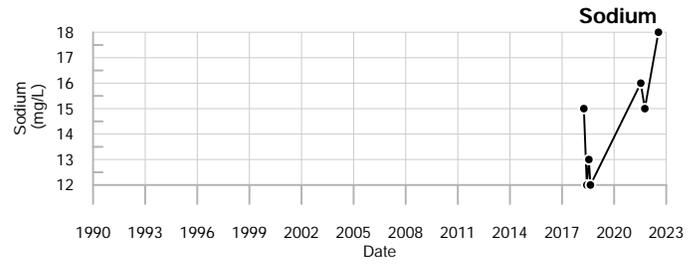
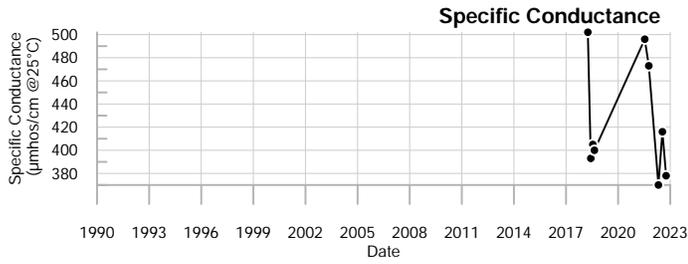
OW-611A

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*Only field parameters are collected during the summer and fall sampling events.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
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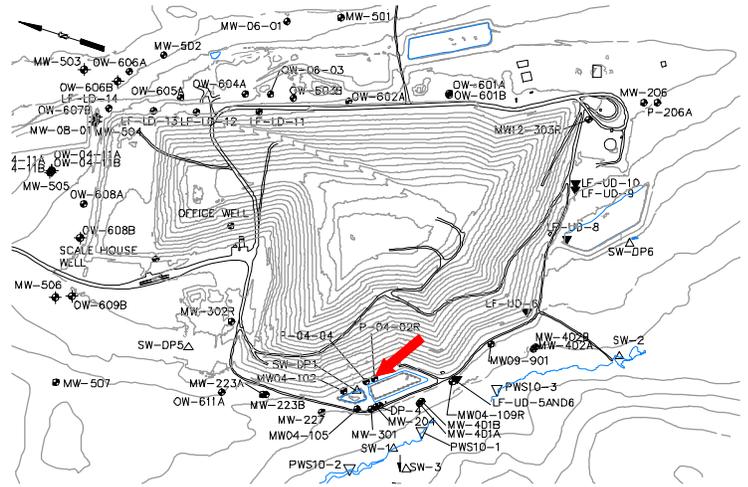


OW-611A
Juniper Ridge Landfill

Well Description

P-04-02R monitors the water quality in the overburden downgradient of the landfill, between the former leachate pond and the landfill toe. P-04-02R replaced well P-04-02 in 2015. Survey info received on 2/1/2019

Screen Interval: **27.13 ft. to 32.13 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **7/15/15**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓260	274	274	↓229	274	to 772	450 ± 34		20
pH (STU)	7.5	7.7	7.7	↓6.3	7.1	to 8.3	7.9 ± 0.068		20
Temperature (Deg C)	9.3	15.1	15.1	13	8.4	to 15.4	12 ± 0.46		20
Water Level Elevation (Feet)	159.17	↓156.57	156.57	157.72	156.82	to 159.92	160 ± 0.22		20
Eh (mV)	219	↓103	103	288	118	to 470	320 ± 19		20
Dissolved Oxygen (mg/L)	3.4	1.5	1.5	0.5	0.2	to 7.1	3 ± 0.45		20
Turbidity (field) (NTU)	3.5	1.8	1.8	2.4	0.5	to 18.2	2.5 ± 0.89		20
Arsenic (mg/L)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	to 0.016	0.0075 ± 0.000		24
Calcium (mg/L)	20	22	22	28	17.5	to 37	27 ± 0.92		24
Iron (mg/L)	0.44	0.08	0.08	0.21	0.05 U	to 1.52	0.13 ± 0.061		24
Magnesium (mg/L)	5.4	6.3	6.3	7.2	4.3	to 10.2	7.6 ± 0.26		24
Manganese (mg/L)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	to 0.21	0.058 ± 0.007		24
Potassium (mg/L)	2.2	1.6	1.6	1.7	1.5	to 2.5	1.9 ± 0.061		24
Sodium (mg/L)	42	39	39	↓27	29	to 112	62 ± 4.7		24
Total Kjeldahl Nitrogen (mg/L)	0.5	↓0.2 U	0.2	↓0.22	0.25 U	to 0.5	0.34 ± 0.027		20
Nitrite/Nitrate - (N) (mg/L)	0.15	0.087	0.087	0.18	0.05 U	to 2 U	0.2 ± 0.098		20
Total Dissolved Solids (mg/L)	202	202	202	210	188	to 456	280 ± 20		20
Total Suspended Solids (mg/L)	12	2.5 U	2.5	12	2.5 U	to 26	4.6 ± 1.2		20
Sulfate (mg/L)	22	23	23	11	9	to 158	73 ± 10		20
Bicarbonate Alkalinity (CaCO3) (mg/L)	140	140	140	120	82	to 170	130 ± 4.2		20
Organic Carbon (mg/L)	↓1 U	↓1 U	1	↓1.4	2 U	to 32.5	5.5 ± 2		20
Chloride (mg/L)	↓1.5	↓1.5	1.5	↓1 U	1.6	to 42.5	7.8 ± 2.1		20
Bromide (mg/L)	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	to 0.4 U	0.14 ± 0.021		20

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

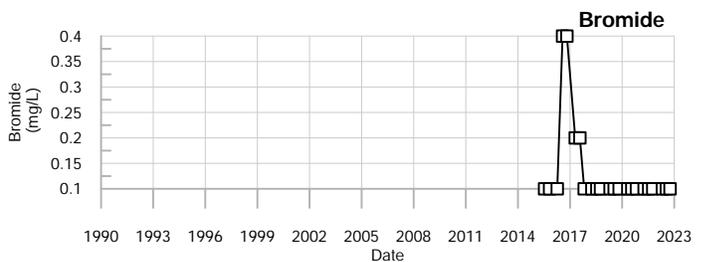
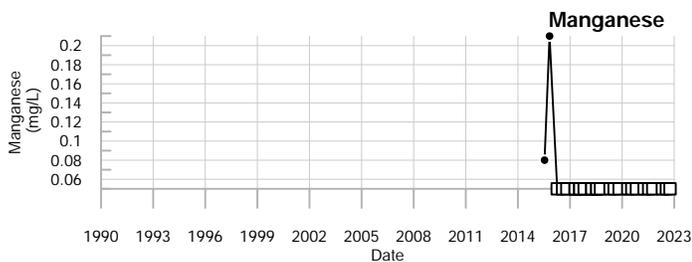
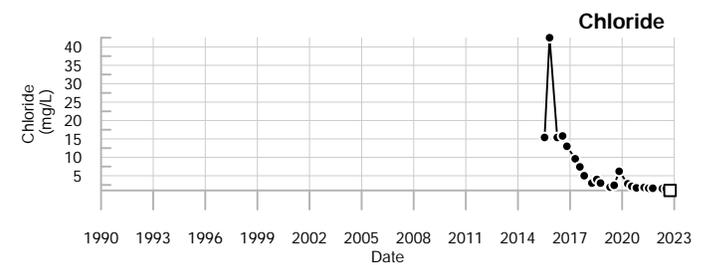
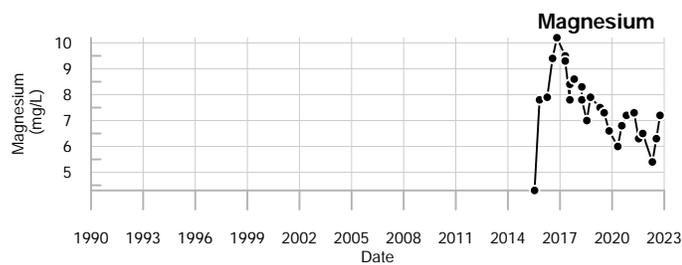
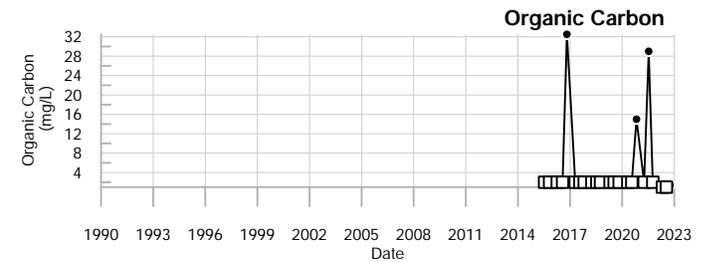
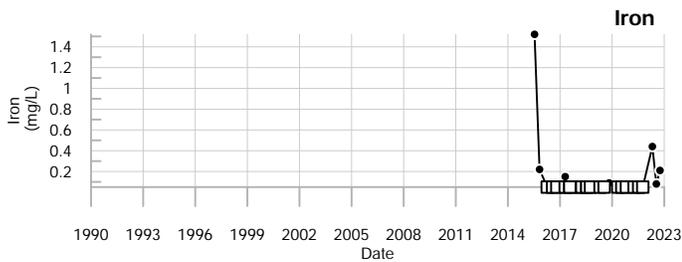
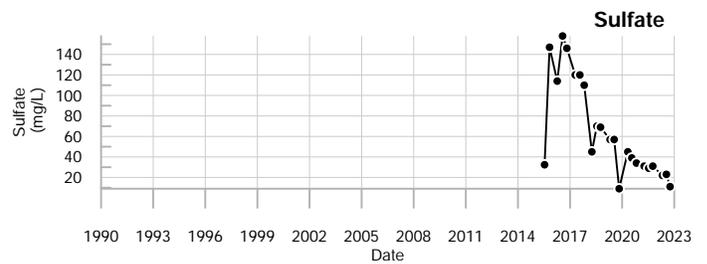
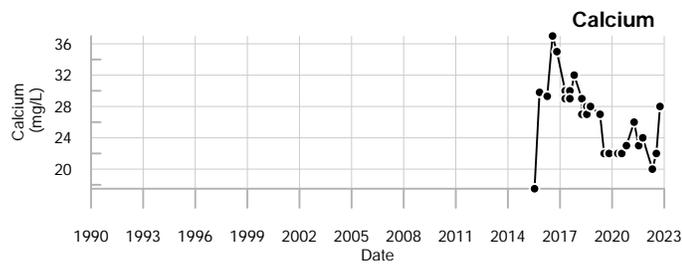
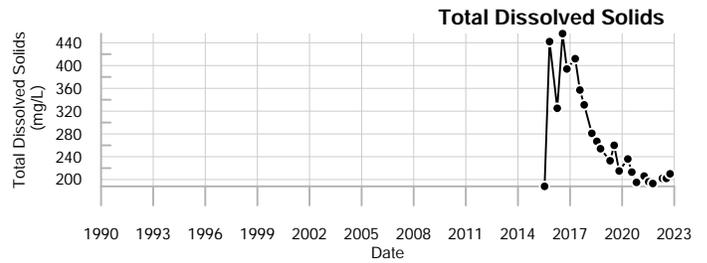
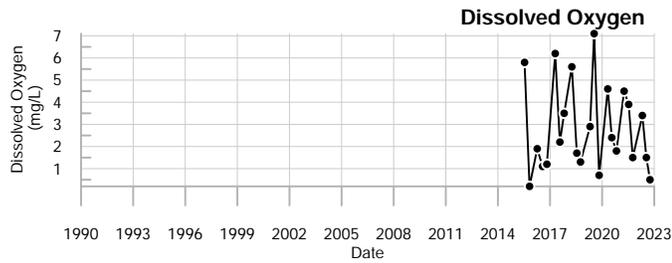
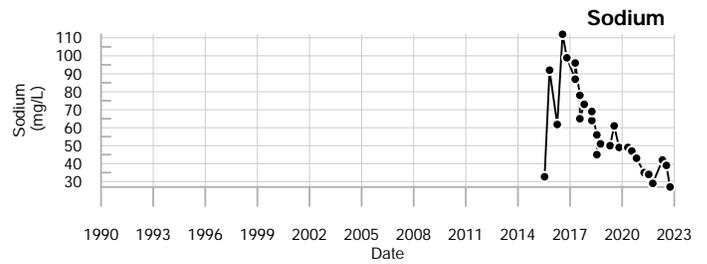
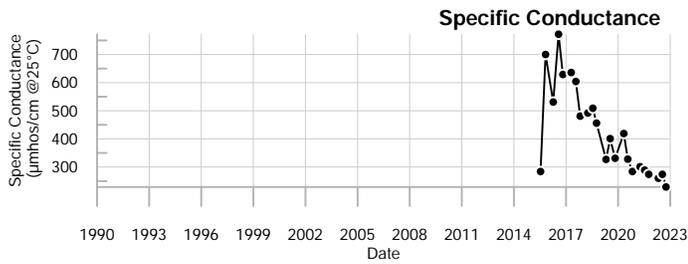
Comments

Q#	Date	Value	Qualifier	Abbrev.	Type	Standard
Q1=	1 - 2022	U	Not Detected	U	GW	Health-Based Drinking Water Advisory
Q2=	4 - 2022			DWA	GW	Health-Based Drinking Water Advisory
Q3=	7 - 2022			LHA	GW	EPA Lifetime Health Advisory
Q4=	10 - 2022			MCL	GW	MCL

Data Group: 533

Printed: 4/10/2023 14:32





LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

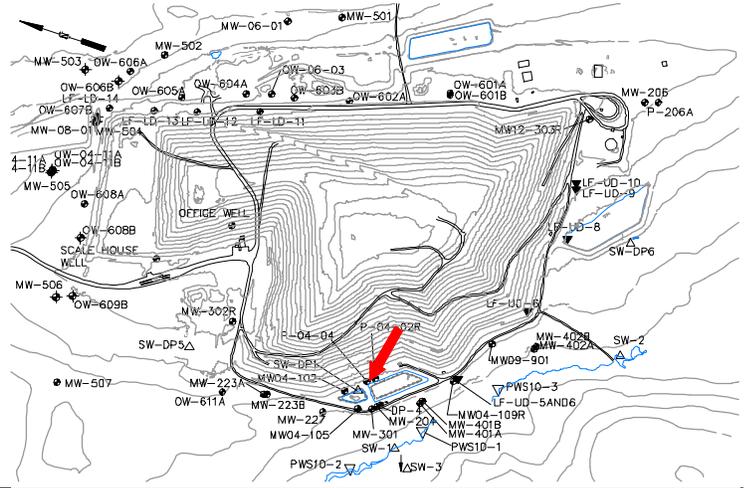


P-04-02R
Juniper Ridge Landfill

Well Description

P-04-04 monitors the water quality in the overburden downgradient of the landfill, between the former leachate pond and landfill toe.

Screen Interval: **27.21 ft. to 32.21 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **02/05/04**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		175	194	194	148	to 405	190 ± 4.9		56
pH (STU)		7.6	7.8	6.7	6.2	to 8.4	7.8 ± 0.056		56
Temperature (Deg C)		9	14	13.3	3.4	to 19.5	12 ± 0.44		56
Water Level Elevation (Feet)		160.4	157.43	158.73	140.18	to 161.85	160 ± 0.45		56
Eh (mV)		231	↓ 115	256	151	to 520	320 ± 11		54
Dissolved Oxygen (mg/L)		6.1	2.8	1.8	1	to 7.7	3.9 ± 0.23		56
Turbidity (field) (NTU)		2.8	4.7	1.7	0	to 162	4 ± 2.9		56
Arsenic (mg/L)		0.005	0.005	0.005 U	0.001	to 0.014	0.0069 ± 0.000		56
Calcium (mg/L)		26	28	27	11	to 58.1	23 ± 0.71		56
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.93	0.058 ± 0.016		56
Magnesium (mg/L)		6.1	↑ 6.9	6	4.8	to 6.5	5.4 ± 0.049		56
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.12	0.04 ± 0.003		56
Potassium (mg/L)		2.1	1.4	1.3	0.9	to 4.6	1.5 ± 0.064		56
Sodium (mg/L)		5	4.8	4.3	3.6	to 73	6.5 ± 1.3		56
Total Kjeldahl Nitrogen (mg/L)		0.46	0.54	0.2 U	0.17	to 0.9	0.4 ± 0.02		54
Nitrite/Nitrate - (N) (mg/L)		0.14	0.1	0.22	0.05 U	to 2 U	0.24 ± 0.092		21
Total Dissolved Solids (mg/L)		136	134	160	92	to 287	120 ± 3.4		56
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	to 21	4 ± 0.33		56
Sulfate (mg/L)		7.5	9	8.4	4.1	to 28.8	9.1 ± 0.56		56
Bicarbonate Alkalinity (CaCO3) (mg/L)		77	83	77	72	to 153	81 ± 1.6		56
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 18	2 ± 0.31		56
Chloride (mg/L)		↑ 10	↑ 11	↑ 11	0.9	to 9.7	2.9 ± 0.3		56
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

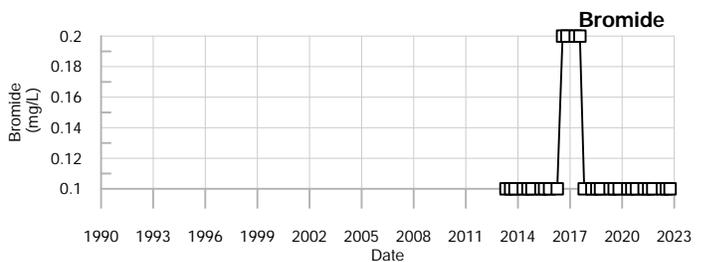
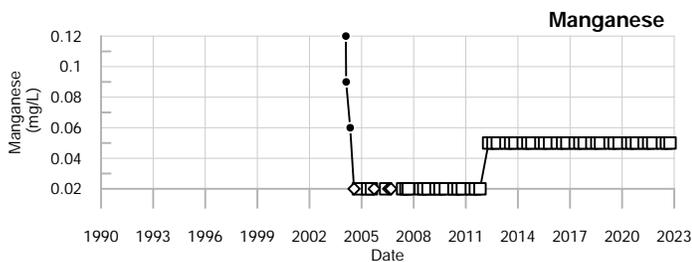
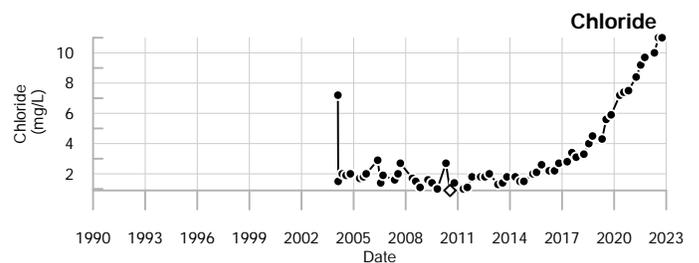
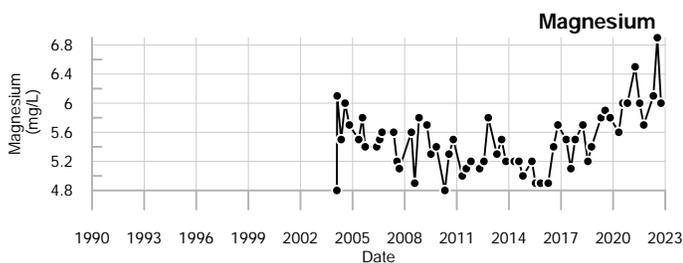
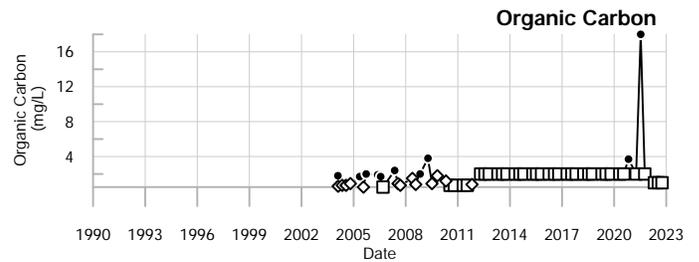
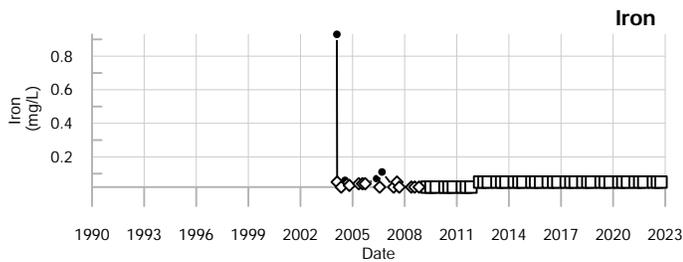
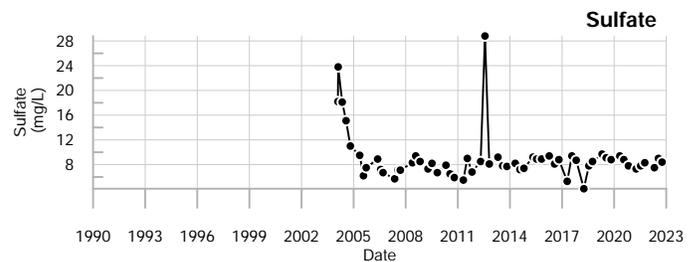
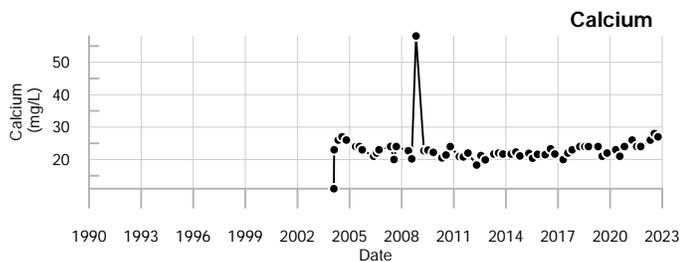
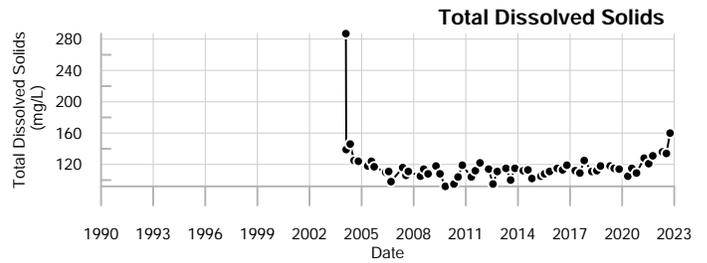
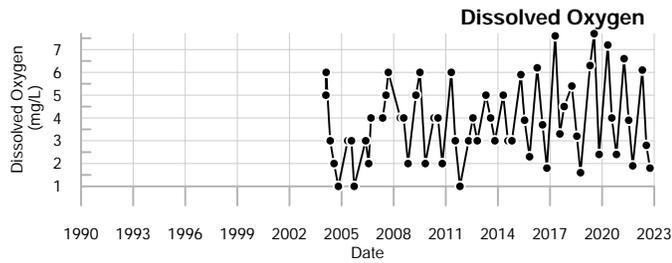
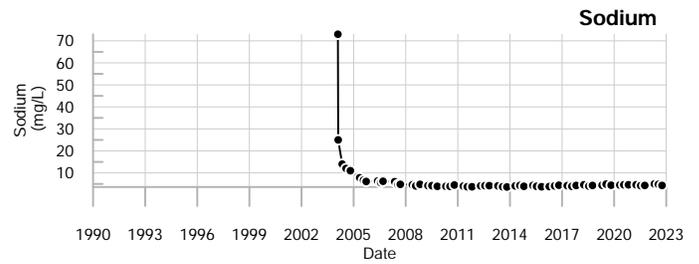
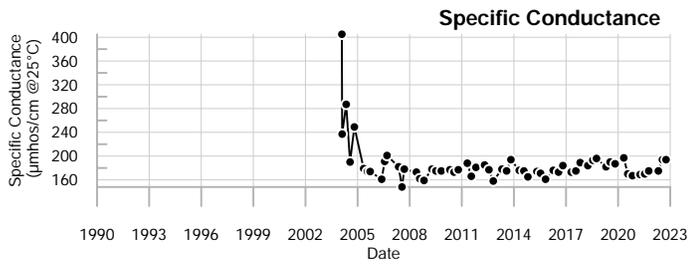
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022		DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

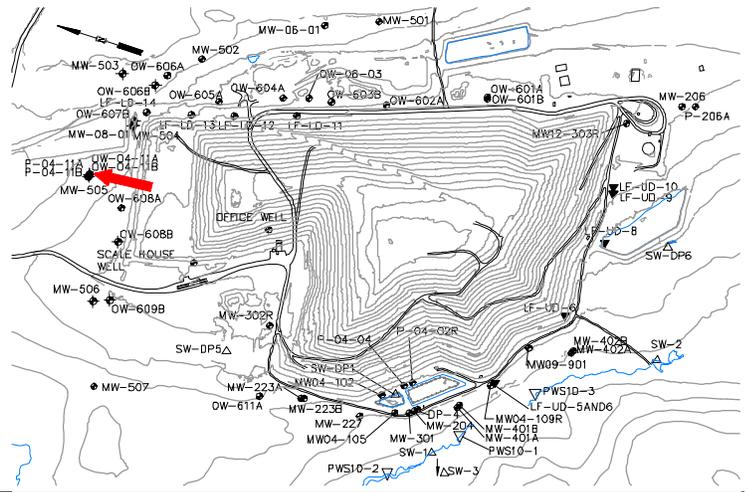


P-04-04
Juniper Ridge Landfill

Well Description

P-04-11A monitors overburden groundwater downgradient of and north of the landfill expansion.

Screen Interval: **48.5 ft. to 49.5 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **2/10/2021**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		117	101	114	75	to 126	110 ± 9.9		5
pH (STU)		7.3	6.6	7.5	5.9	to 7.8	7 ± 0.32		5
Temperature (Deg C)		7.8	↑15.7	8.3	5.3	to 14.1	9.7 ± 1.6		5
Water Level Elevation (Feet)	↑186.417	178.497	179.117		175.86	to 185.197	180 ± 1.5		5
Eh (mV)		200	274	↑392	140	to 385	260 ± 48		5
Dissolved Oxygen (mg/L)	↑6.9	↓1.3	↓2.2		2.8	to 5.3	4.1 ± 0.5		5
Turbidity (field) (NTU)	↓0.2	3.2	0.8		0.3	to 3.3	1.4 ± 0.51		5
Arsenic (mg/L)	0.011	↓0.005 U			0.011	to 0.015	0.013 ± 0.000		5
Calcium (mg/L)		13	12		10	to 13	12 ± 0.58		5
Copper (mg/L)		0.003 U	↑0.0075		0.003 U	to 0.003 U	0.003 ± 2E-11		5
Iron (mg/L)		0.08	↑1.2		0.05 U	to 0.62	0.16 ± 0.11		5
Magnesium (mg/L)		2.8	2.8		2.3	to 2.9	2.7 ± 0.13		5
Manganese (mg/L)		0.05 U	↑0.06		0.05 U	to 0.05 U	0.05 ± 4E-10		5
Potassium (mg/L)	↑1.3	↑1.3			0.7	to 0.9	0.82 ± 0.037		5
Sodium (mg/L)		12	11		9.4	to 13	11 ± 0.61		5
Boron (mg/L)		0.05 U	0.05 U		0.05 U	to 0.05 U	0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)	↑6.1	0.2 U			0.2 U	to 0.55	0.3 ± 0.063		5
Ammonia (N) (mg/L)		0.5 U	0.5 U		0.5 U	to 0.5 U	0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)		0.17	↓0.1		0.17	to 0.34	0.21 ± 0.032		5
Total Dissolved Solids (mg/L)	↓95	↓95			97	to 120	110 ± 3.8		5
Total Suspended Solids (mg/L)		6.3	↑65		2.5 U	to 7	3.4 ± 0.9		5
Sulfate (mg/L)	↓3.8	4.2			4.2	to 5	4.5 ± 0.14		5
Sulfide (mg/L)		0.1 U	0.1 U		0.1 U	to 0.1 U	0.1 ± 8E-10		5
Alkalinity (CaCO3) (mg/L)	↓63	↓59			67	to 75	70 ± 1.4		5
Organic Carbon (mg/L)	↓1 U	↓1 U			2 U	to 2 U	2 ± 0		5
Chloride (mg/L)	↓1.5	↑2.3			1.6	to 2.2	1.8 ± 0.11		5
Bromide (mg/L)		0.1 U	0.1 U		0.1 U	to 0.1 U	0.1 ± 8E-10		5
Methane (ug/L)		20 U	20 U		20 U	to 20 U	20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Juniper Ridge Landfill

annual stats 2022 G2

*Field parameters only are monitored in the spring and fall.

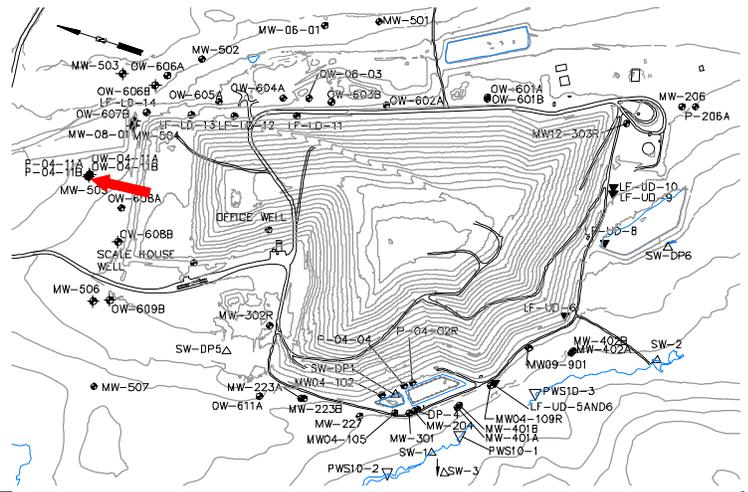
Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL

Well Description

P-04-11B monitors overburden groundwater downgradient of and north of the landfill expansion.

Screen Interval: **9 ft. to 10 ft.**
 Sampled: **3 Times Annually***
 Sampled Since: **2/10/2021**
 Material Screened: **Overburden**
 Well Condition: **Good**
 Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↑54	D	D	D	48 to 53		51 ± 0.86		5
pH (STU)		6.8	D	D	5.9 to 7.3		6.5 ± 0.27		5
Temperature (Deg C)		6.5	D	D	2.8 to 18		11 ± 2.6		5
Water Level Elevation (Feet)		185.647	D	D	175.08 to 188.447		180 ± 2.5		5
Eh (mV)	↓285	D	D	D	290 to 434		370 ± 25		5
Dissolved Oxygen (mg/L)		7.8	D	D	3.2 to 8.7		5.2 ± 0.99		5
Turbidity (field) (NTU)	↓0.4	D	D	D	1.5 to 8.1		4.4 ± 1.3		5
Arsenic (mg/L)		0.005 U	D	D	0.005 U to 0.005 U		0.005 ± 3E-11		5
Calcium (mg/L)		3.2	D	D	2.5 to 3.2		2.9 ± 0.14		5
Copper (mg/L)		0.003 U	D	D	0.003 U to 0.003 U		0.003 ± 2E-11		5
Iron (mg/L)		0.17	D	D	0.13 to 0.29		0.17 ± 0.03		5
Magnesium (mg/L)		1.2	D	D	1 to 1.2		1.1 ± 0.037		5
Manganese (mg/L)		0.05 U	D	D	0.05 U to 0.05 U		0.05 ± 4E-10		5
Potassium (mg/L)	↑0.87	D	D	D	0.3 to 0.4		0.32 ± 0.02		5
Sodium (mg/L)	↑5.8	D	D	D	3.6 to 4.2		4 ± 0.11		5
Boron (mg/L)		0.05 U	D	D	0.05 U to 0.05 U		0.05 ± 4E-10		5
Total Kjeldahl Nitrogen (mg/L)	↓0.2 U	D	D	D	0.24 to 0.31		0.26 ± 0.013		5
Ammonia (N) (mg/L)		0.5 U	D	D	0.5 U to 0.5 U		0.5 ± 0		5
Nitrite/Nitrate - (N) (mg/L)	↑0.096	D	D	D	0.05 U to 0.085		0.059 ± 0.007		5
Total Dissolved Solids (mg/L)		62	D	D	52 to 67		61 ± 2.5		5
Total Suspended Solids (mg/L)		40	D	D	16 to 47		28 ± 6.8		5
Sulfate (mg/L)	↓2	D	D	D	2.9 to 3.6		3.2 ± 0.12		5
Sulfide (mg/L)		0.1 U	D	D	0.1 U to 0.1 U		0.1 ± 8E-10		5
Alkalinity (CaCO3) (mg/L)	↓7.9	D	D	D	11 to 13		12 ± 0.37		5
Organic Carbon (mg/L)	↓1 U	D	D	D	2 U to 2 U		2 ± 0		5
Chloride (mg/L)	↑8.9	D	D	D	4.7 to 7.5		5.6 ± 0.53		5
Bromide (mg/L)		0.1 U	D	D	0.1 U to 0.1 U		0.1 ± 8E-10		5
Methane (ug/L)		20 U	D	D	20 U to 20 U		20 ± 0		5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

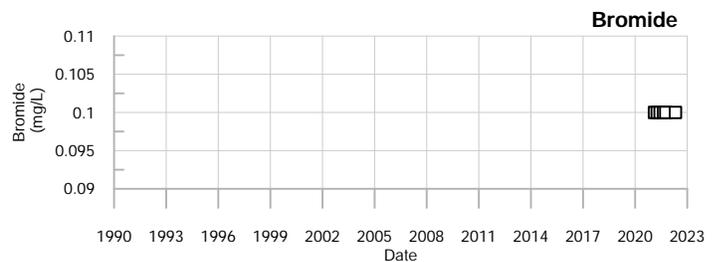
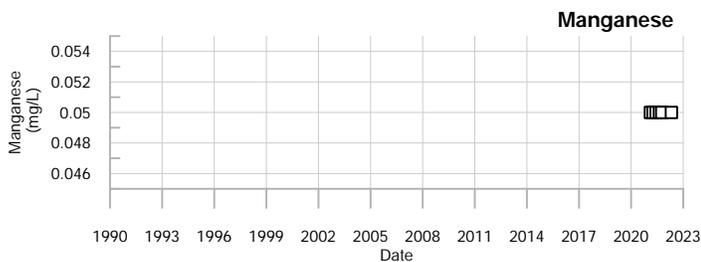
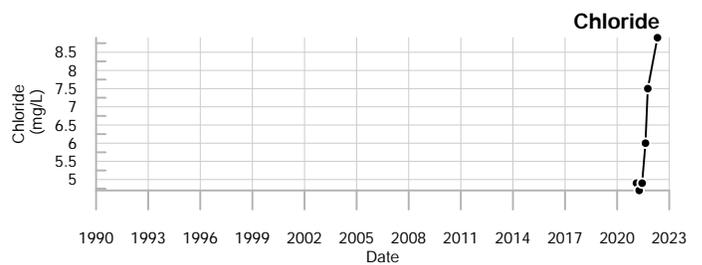
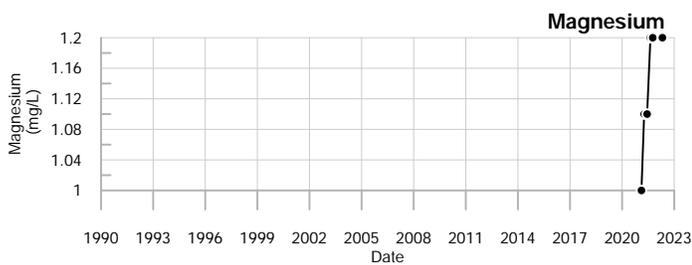
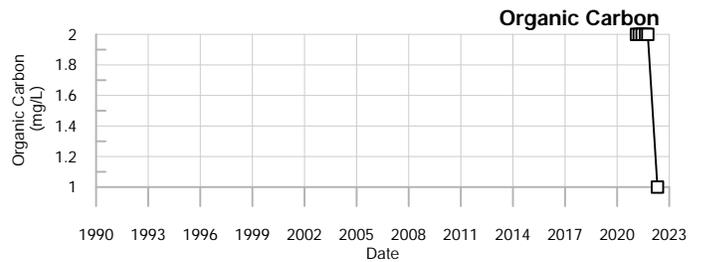
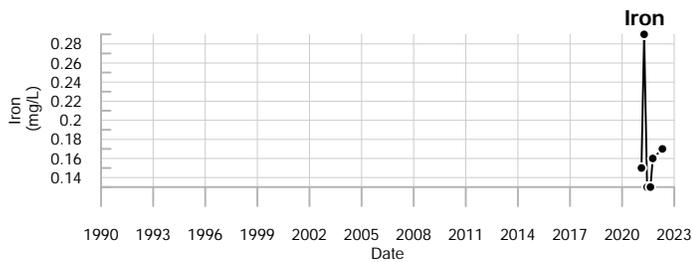
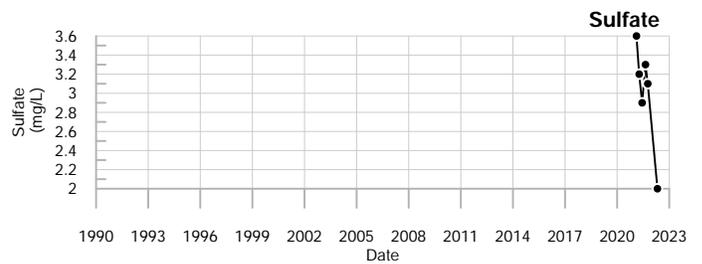
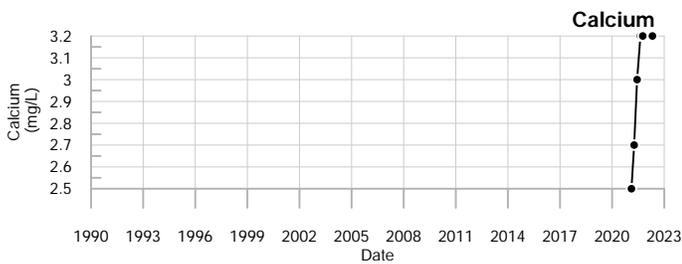
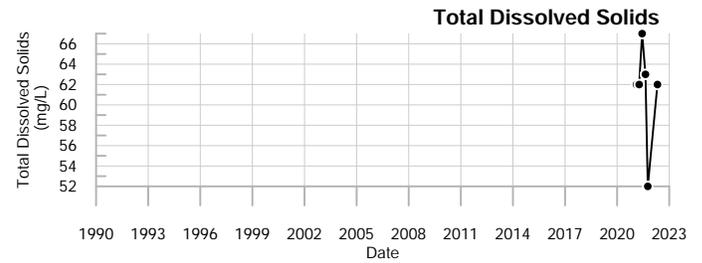
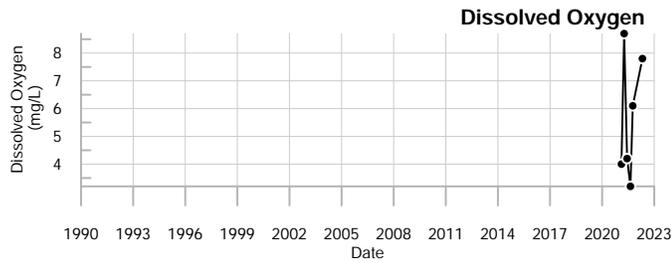
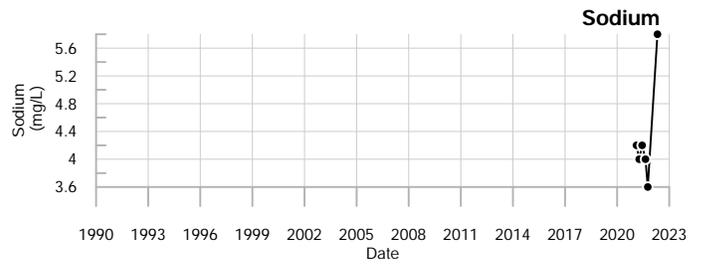
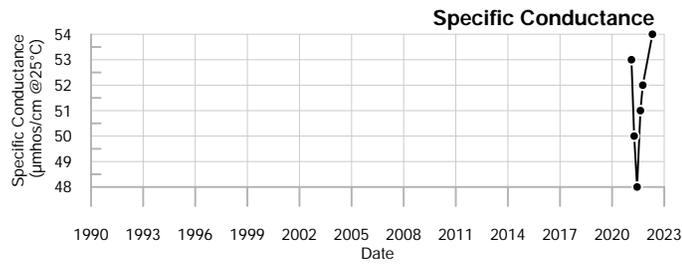
Juniper Ridge Landfill

annual stats 2022 G2

*Field parameters only are monitored in the spring and fall.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2022 D = The sampling location was dry.
Q3= 7 - 2022
Q4= 10 - 2022

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

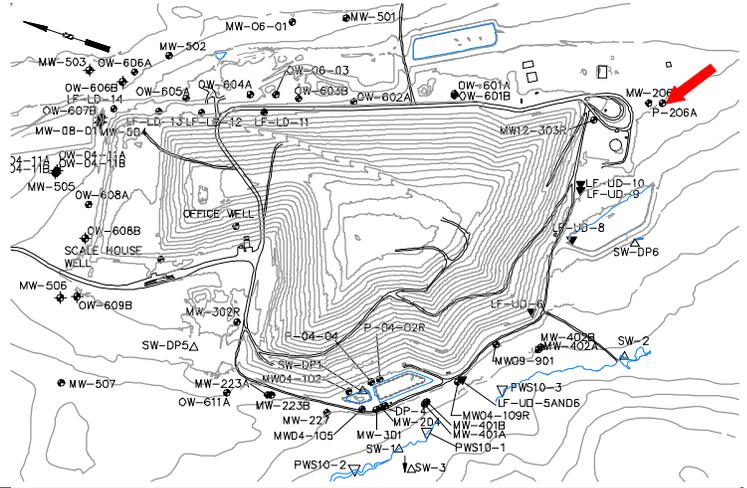


P-04-11B
Juniper Ridge Landfill

Well Description

P-206A monitors bedrock water quality upgradient of the landfill.

Screen Interval: **85.5 ft. to 90.5 ft.**
 Sampled: **3 Times Annually**
 Sampled Since: **7/31/2013**
 Material Screened: **Bedrock**
 Well Condition: **Good**
 Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		207	263	214	120 to 317		190 ± 10		26
pH (STU)		6.5	6.7	7.6	6.3 to 11.8		7.7 ± 0.18		26
Temperature (Deg C)		8.4	17.6	8	4.6 to 19.5		11 ± 0.77		26
Water Level Elevation (Feet)		177.64	176.25	176.01	169.81 to 184.61		180 ± 0.64		27
Eh (mV)		224	171	278	63 to 352		190 ± 18		26
Dissolved Oxygen (mg/L)		2.9	1.9	3.9	0.6 to 6.8		3.3 ± 0.27		26
Turbidity (field) (NTU)		1.9	1.3	2.5	0.8 to 9.3		3.6 ± 0.52		26
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U to 0.022		0.0083 ± 0.000		24
Calcium (mg/L)		25	26	↑27	11.1 to 26		19 ± 0.99		24
Copper (mg/L)			0.003 U		0.003 to 0.003		0.003 ± 0		1
Iron (mg/L)		↓0.07	0.1	↓0.08	0.1 to 16.8		2.3 ± 0.8		24
Magnesium (mg/L)		8.1	↑8.6	8	3.1 to 8.2		5.2 ± 0.3		24
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U to 0.31		0.12 ± 0.013		24
Potassium (mg/L)		1.4	1.1	0.98	0.8 to 1.6		1.1 ± 0.037		24
Sodium (mg/L)		7	7.7	7.4	6.7 to 11		8.5 ± 0.23		24
Boron (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 0		1
Total Kjeldahl Nitrogen (mg/L)		0.44	↓0.2 U	↓0.2 U	0.25 U to 0.6		0.34 ± 0.03		17
Ammonia (N) (mg/L)			0.5 U		0.5 U to 0.5 U		0.5 ± 0		1
Nitrite/Nitrate - (N) (mg/L)		0.33	0.15	0.24	0.05 U to 0.7		0.17 ± 0.048		20
Total Dissolved Solids (mg/L)		139	↑158	120 H	95 to 149		130 ± 3.5		17
Total Suspended Solids (mg/L)		5.3	2.5 U	4 U	2.5 U to 57		13 ± 3.5		17
Sulfate (mg/L)		2.8	4.6	3.5	2 U to 4.8		2.4 ± 0.14		24
Sulfide (mg/L)			0.1 U		0.1 U to 0.1 U		0.1 ± 0		1
Bicarbonate Alkalinity (CaCO3) (mg/L)		73		87	61 to 88		73 ± 2		16
Alkalinity (CaCO3) (mg/L)			↑80		66 to 66		66 ± 0		1
Organic Carbon (mg/L)		↓1 U	↓1 U	↓1 U	2 U to 2 U		2 ± 0		17
Chloride (mg/L)		20	21	21	3.3 to 24		16 ± 1.5		24
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U to 0.2 U		0.12 ± 0.011		17
Methane (ug/L)			20 U		20 U to 20 U		20 ± 0		1

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

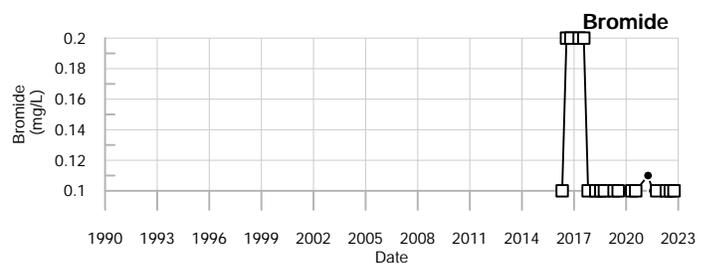
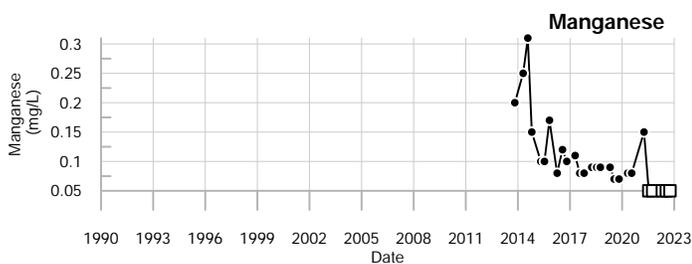
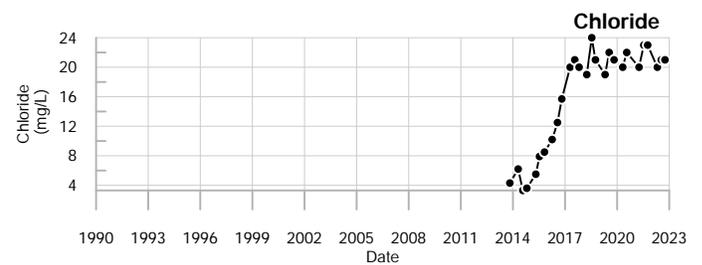
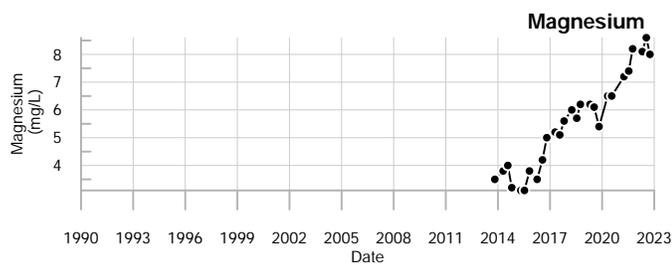
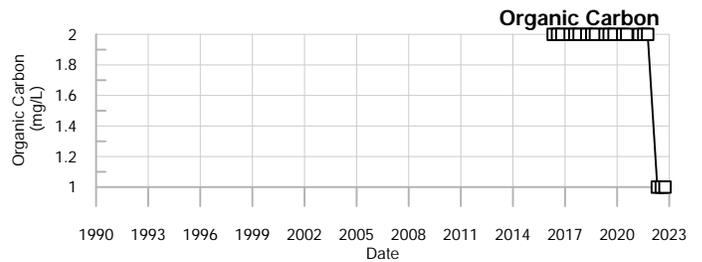
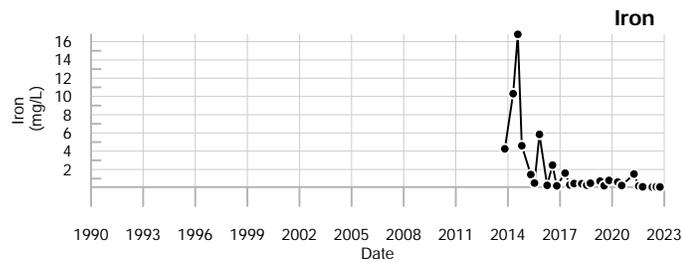
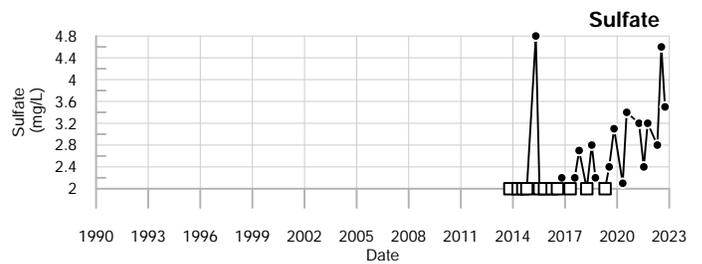
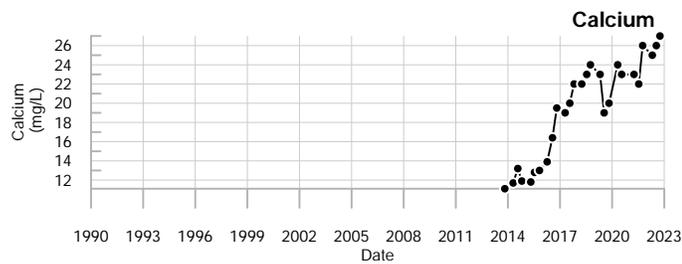
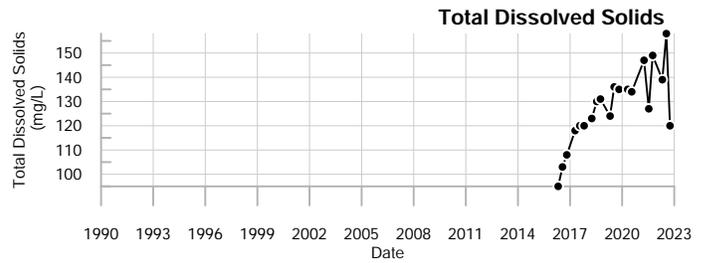
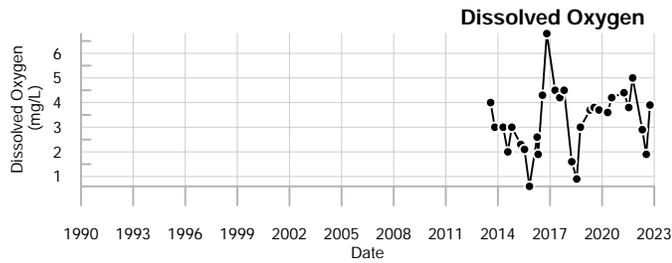
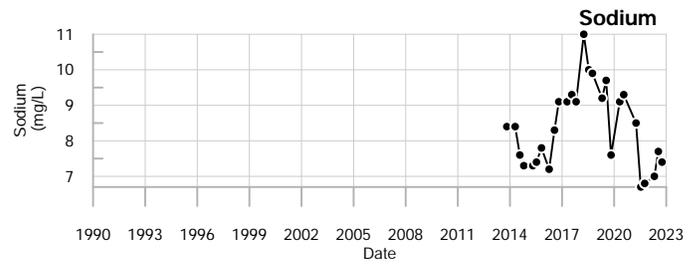
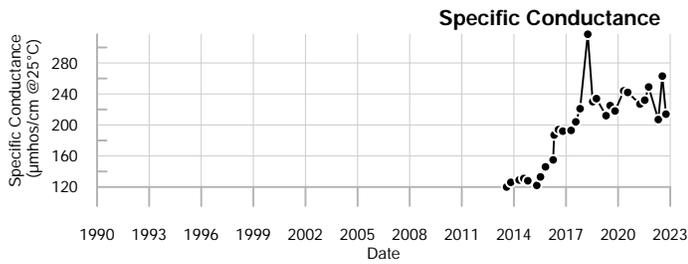
Comments

Data Group: 533

Printed: 4/10/2023 14:32



Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022	H = Analyzed outside U.S.EPA's recommended hold time.	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



P-206A
Juniper Ridge Landfill

Well Description

PWS10-1 is a pore water sampling location along the unnamed tributary to Pushaw stream. PWS10-1 is downgradient of the landfill.

Screen Interval:

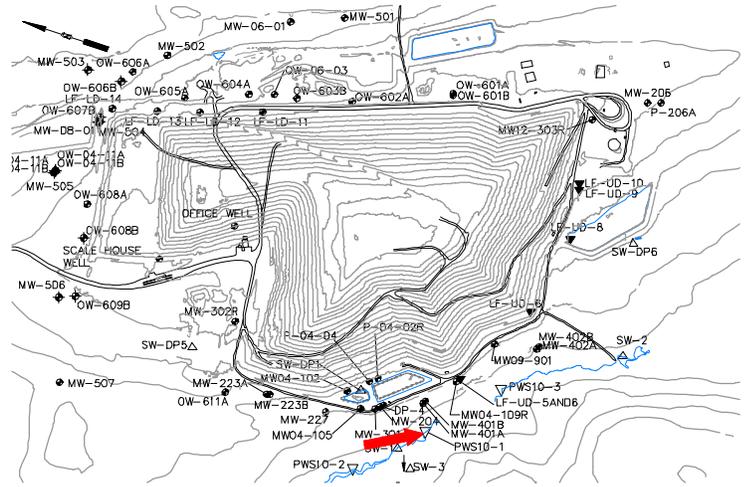
Sampled: **3 Times Annually**

Sampled Since: **04/26/2010**

Material Screened:

Well Condition: **NA**

Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		226	100	175	67	to 438	200 ± 14		36
pH (STU)		6.3	5.6	6.5	5.3	to 7.2	6.3 ± 0.074		36
Temperature (Deg C)		7.6	22.7	12.2	2.7	to 25	13 ± 1.1		36
Eh (mV)		177	204	300	-38	to 818	220 ± 26		36
Dissolved Oxygen (mg/L)		0.6	0.5	6.5	0	to 9.5	2.3 ± 0.38		36
Turbidity (field) (NTU)		↓0.2	1	2.1	1	to 20	4 ± 0.67		36
Arsenic (mg/L)		0.01 U	0.005 U	0.005 U	0.002 U	to 0.019	0.0075 ± 0.000		36
Calcium (mg/L)		26	9.8	25	6.8	to 38.1	21 ± 1.5		36
Iron (mg/L)		13	2.2	3.2	0.07	to 30.3	4.2 ± 0.88		36
Magnesium (mg/L)		8.1	3	7.3	2.3	to 12.7	6.6 ± 0.46		36
Manganese (mg/L)		2	0.35	1.3	0.05 U	to 2.6	0.43 ± 0.095		36
Potassium (mg/L)		1.3	1.5	1.6	0.4	to 2.8	1.1 ± 0.098		36
Sodium (mg/L)		6.7	7	7.5	2.8	to 10	7.2 ± 0.27		36
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 2 U	0.21 ± 0.094		21
Total Phosphorus Mixed Forms (PO4 and		0.23	0.09	0.07	0.03	to 0.52	0.12 ± 0.018		36
Total Dissolved Solids (mg/L)		184	121	110 H	87	to 197	140 ± 5.6		36
Total Suspended Solids (mg/L)		83	6	14	2.5 U	to 786	53 ± 22		36
Sulfate (mg/L)		2.1	2 U	4.7	1	to 15	4.2 ± 0.54		36
Bicarbonate Alkalinity (CaCO3) (mg/L)		81	38	81	21	to 130	77 ± 5.3		36
Organic Carbon (mg/L)		24	20	17	3.8	to 35	13 ± 1.4		36
Chloride (mg/L)		5.5	10	5.1	2.4	to 22.9	9.5 ± 0.71		36
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.12 ± 0.007		27
Methane (ug/L)		1100	2200	240	20 U	to 4600	650 ± 300		15

underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

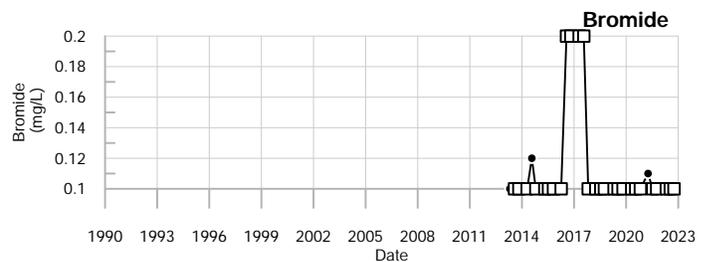
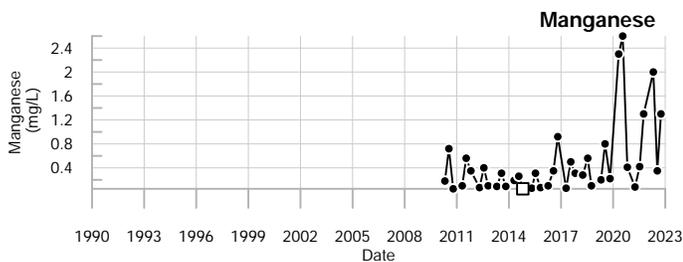
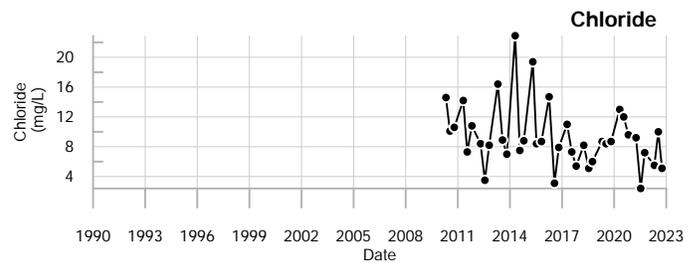
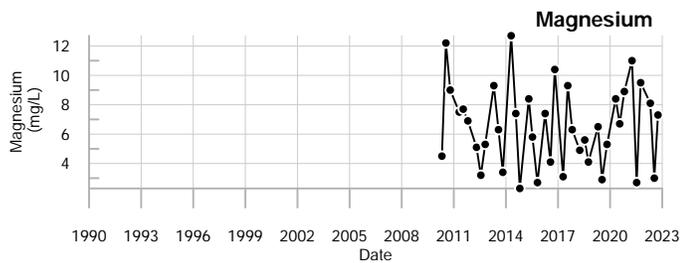
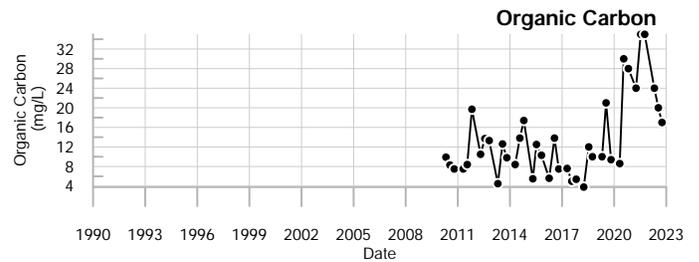
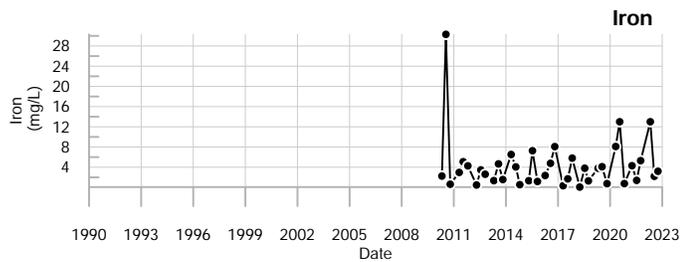
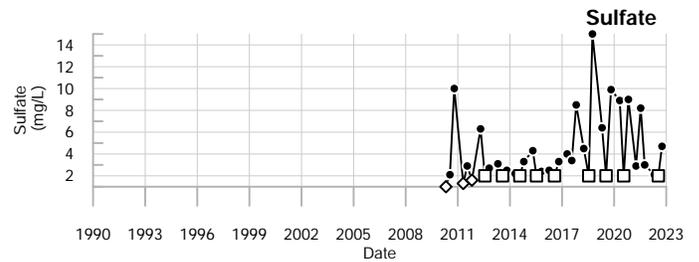
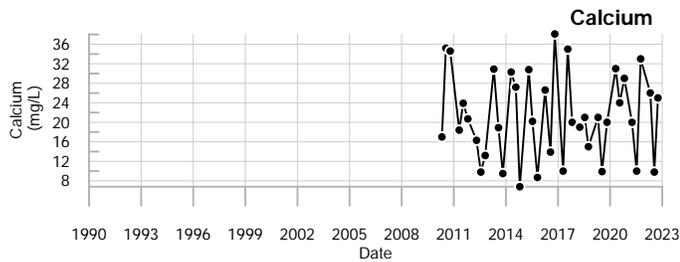
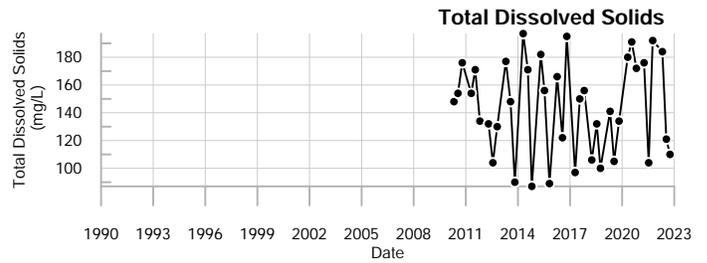
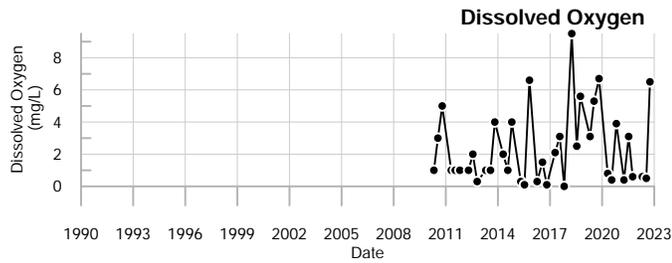
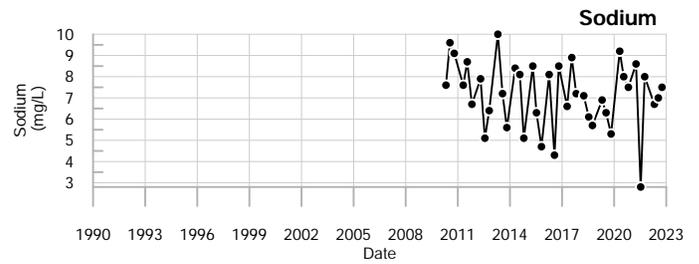
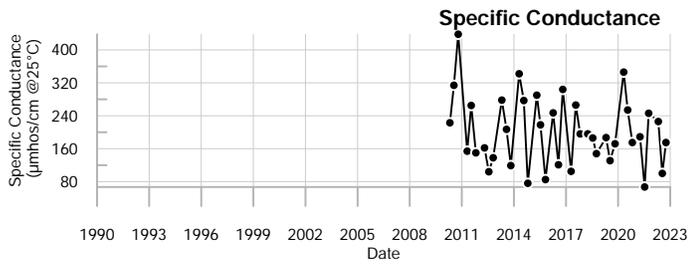
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022	H = Analyzed outside U.S.EPA's recommended hold time.	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



PWS10-1
Juniper Ridge Landfill

Well Description

PWS10-2 is a pore water sampling location along the unnamed tributary to Pushaw stream. PWS10-2 is downgradient of the landfill.

Screen Interval:

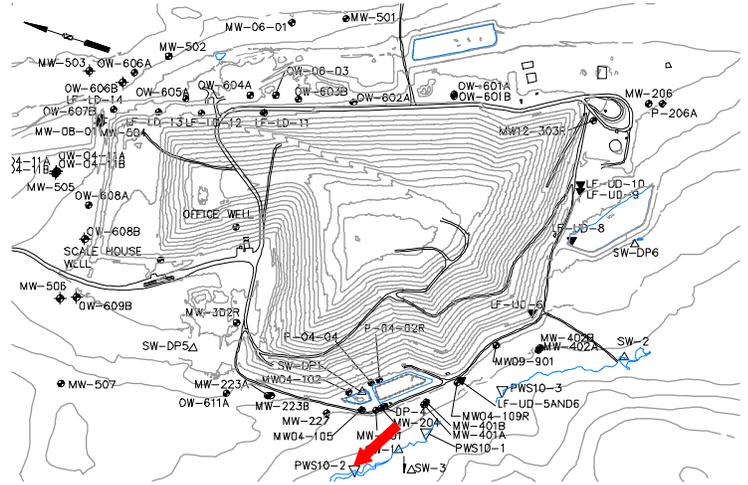
Sampled: **3 Times Annually**

Sampled Since: **04/26/2010**

Material Screened:

Well Condition: **NA**

Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		86	82	94	63	276	120 ± 7.2		35
pH (STU)		6.8	5.5	7.3	5.4	7.6	6.4 ± 0.11		35
Temperature (Deg C)		7.9	22.4	17.1	1.3	26.7	13 ± 1.2		35
Eh (mV)		287	235	391	-5	492	250 ± 22		35
Dissolved Oxygen (mg/L)		7.5	0.3	1.6	0.2	11.3	4.3 ± 0.51		35
Turbidity (field) (NTU)		↓0.3	3.1	2.3	0.5	6.5	2.8 ± 0.26		35
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 U	0.015	0.0059 ± 0.000		35
Calcium (mg/L)		7.4	↓5.3	9.4	5.7	29	11 ± 0.72		35
Iron (mg/L)		0.26	2.3	2.1	0.05 U	13.8	2.2 ± 0.42		35
Magnesium (mg/L)		1.9	1.7	2.1	1.2	4.7	2.7 ± 0.17		35
Manganese (mg/L)		0.05 U	0.05	0.32	0.02 U	0.94	0.17 ± 0.033		35
Potassium (mg/L)		↑2.4	1.9	1.5	0.3 U	1.9	0.85 ± 0.077		35
Sodium (mg/L)		↑8.3	5.7	3.4	1.6	7.8	4.3 ± 0.24		35
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05	0.05 U	2 U	0.21 ± 0.099		20
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.18	0.04 U	0.02	0.22	0.055 ± 0.006		35
Total Dissolved Solids (mg/L)		79	105	47 H	38	119	86 ± 3		35
Total Suspended Solids (mg/L)		2.5 U	3	7.2	2.5 U	327	32 ± 11		35
Sulfate (mg/L)		3.2	2 U	4.1	1.6	19	5.5 ± 0.71		35
Bicarbonate Alkalinity (CaCO3) (mg/L)		16	23	27	9.3	64	31 ± 2.4		35
Organic Carbon (mg/L)		10	20	14	2.6	26	10 ± 0.93		35
Chloride (mg/L)		13	9.5	4	2.8	19.8	7.2 ± 0.64		35
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.12 ± 0.007		26
Methane (ug/L)		20 U	↑4800	92	20 U	690	130 ± 45		15

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

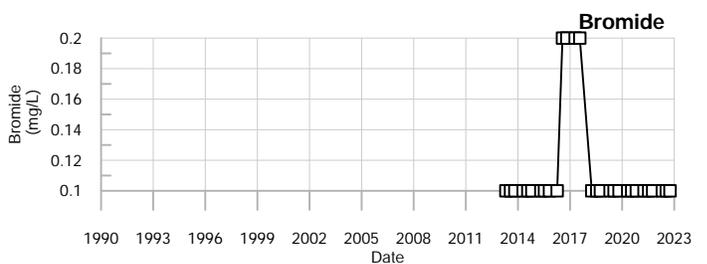
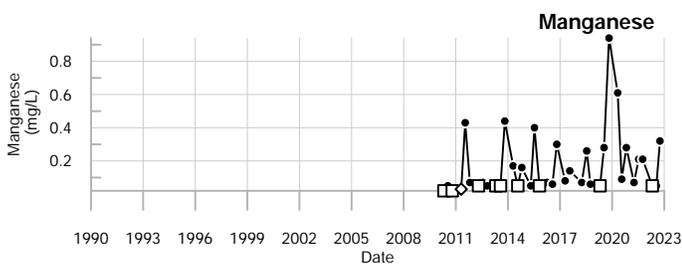
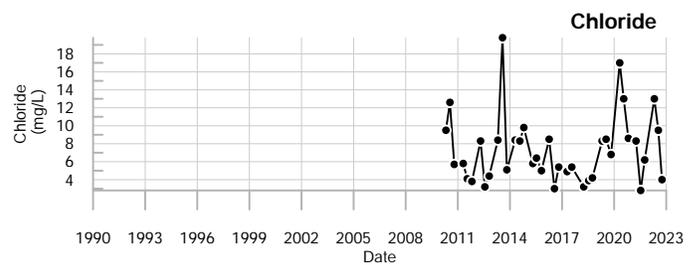
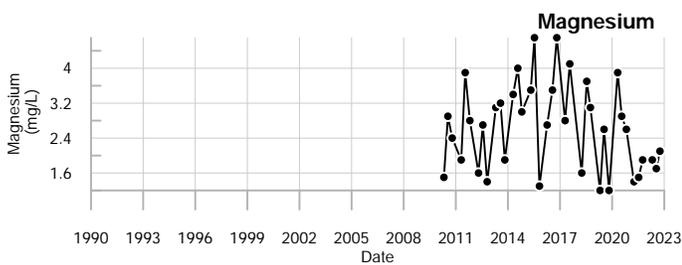
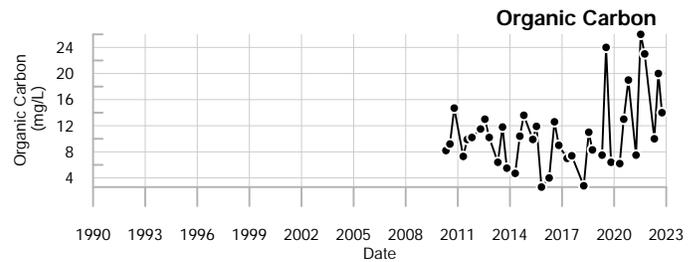
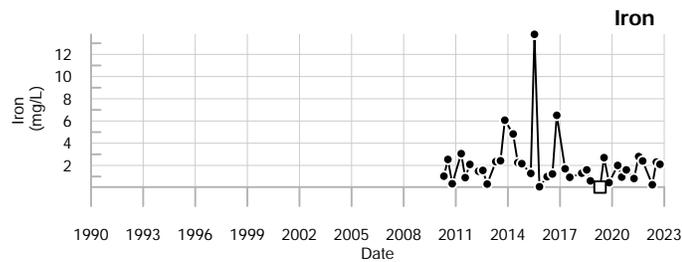
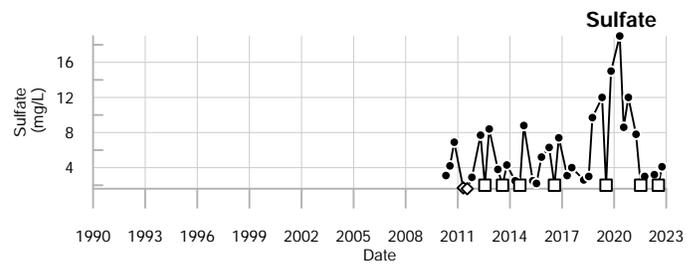
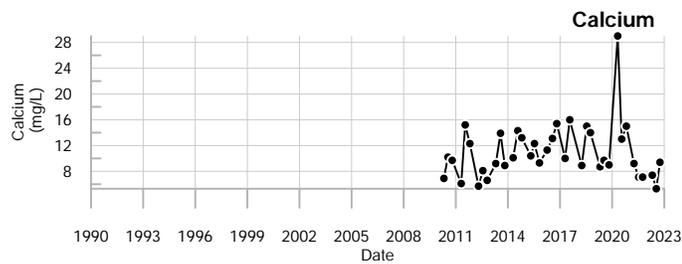
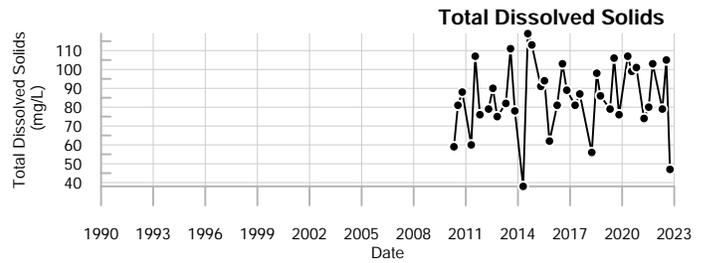
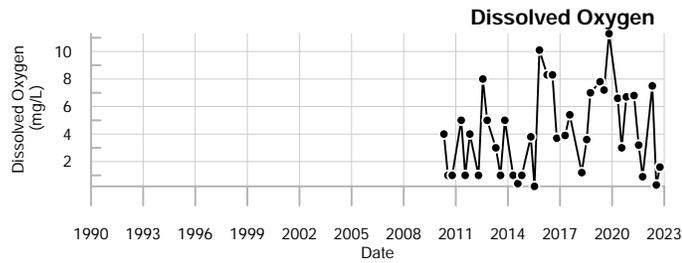
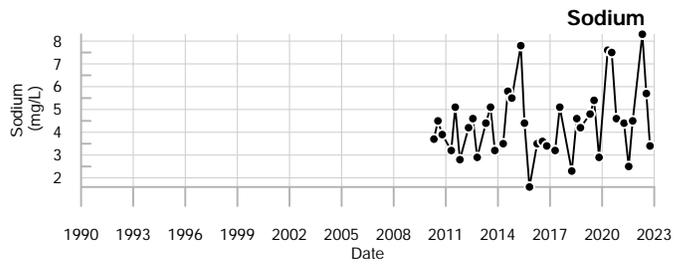
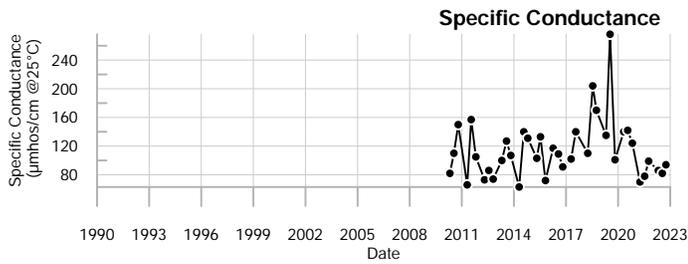
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022	H = Analyzed outside U.S.EPA's recommended hold time.	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



PWS10-2
Juniper Ridge Landfill

Well Description

PWS10-3 is a pore water sampling location along the unnamed tributary to Pushaw stream. PWS10-3 is downgradient of the landfill.

Screen Interval:

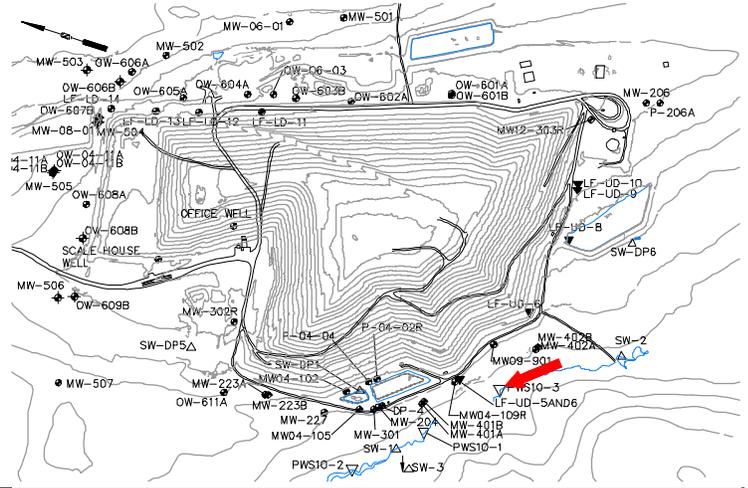
Sampled: **3 Times Annually**

Sampled Since: **04/26/2010**

Material Screened:

Well Condition: **NA**

Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		79	112	74	42	222	110 ± 8.8		33
pH (STU)		6.2	5.8	6.4	5	7.4	6.1 ± 0.11		33
Temperature (Deg C)		7.9	22.6	11	2.7	26.8	13 ± 1.2		33
Eh (mV)		341	163	317	-7	540	260 ± 22		33
Dissolved Oxygen (mg/L)		3.5	0.5	6.4	0.3	10.3	4.3 ± 0.52		33
Turbidity (field) (NTU)		↓0.6	1	2.2	0.8	18.3	4.1 ± 0.57		33
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 U	0.011	0.0057 ± 0.000		33
Calcium (mg/L)		9.3	11	9.6	3	25	9.6 ± 0.92		33
Iron (mg/L)		0.45	11	4.9	0.17	20.8	3.5 ± 0.77		33
Magnesium (mg/L)		3.3	4	2.8	0.7	5	2.8 ± 0.18		33
Manganese (mg/L)		0.14	0.58	0.2	0.02	2.8	0.34 ± 0.094		33
Potassium (mg/L)		2.1	1.1	0.67	0.1	2.6	0.65 ± 0.082		33
Sodium (mg/L)		5.6	3.1	2.8	0.5	8.6	4.3 ± 0.26		33
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.13	0.05 U	2 U	0.31 ± 0.13		18
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.1	0.04	0.03	0.5	0.11 ± 0.02		33
Total Dissolved Solids (mg/L)		91	117	83 H	29	141	94 ± 4.3		33
Total Suspended Solids (mg/L)		2.5 U	25	10	2.5 U	489	41 ± 15		33
Sulfate (mg/L)		2 U	2 U	2 U	0.6 U	47.3	4.9 ± 1.5		33
Bicarbonate Alkalinity (CaCO3) (mg/L)		30	46	30	5.8	87	32 ± 3.7		33
Organic Carbon (mg/L)		16	19	21	2 U	41	15 ± 1.6		33
Chloride (mg/L)		5.7	3	3	1 U	15	4.7 ± 0.51		33
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.11 ± 0.007		24
Methane (ug/L)		20 U	1300	250	20 U	4000	370 ± 260		15

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

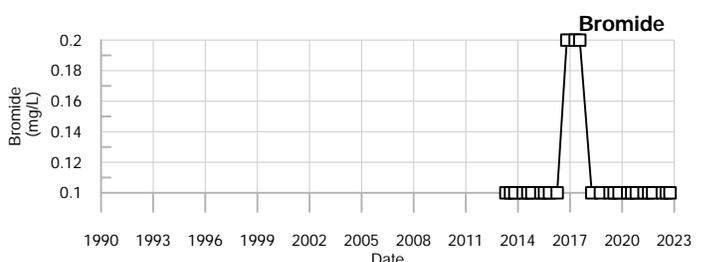
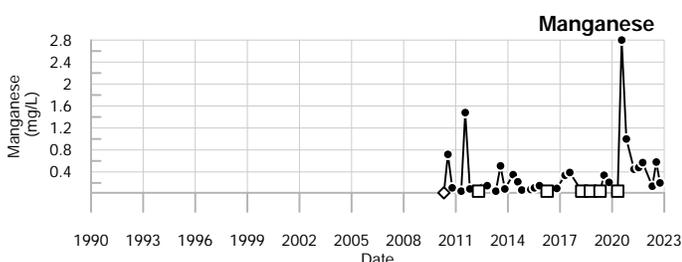
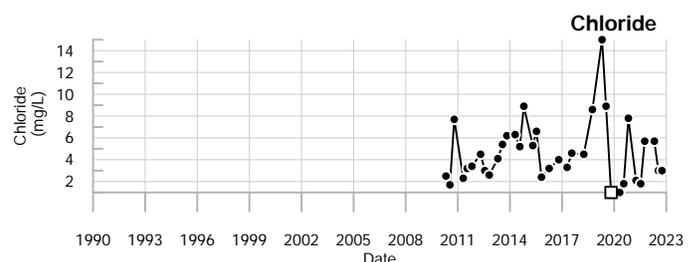
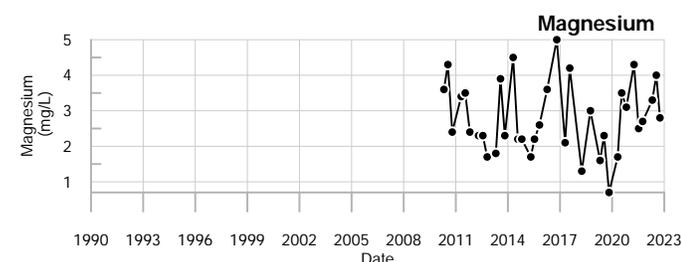
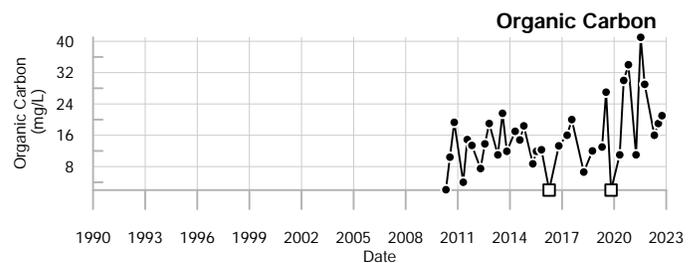
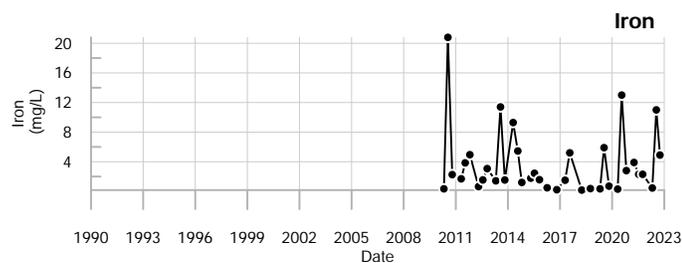
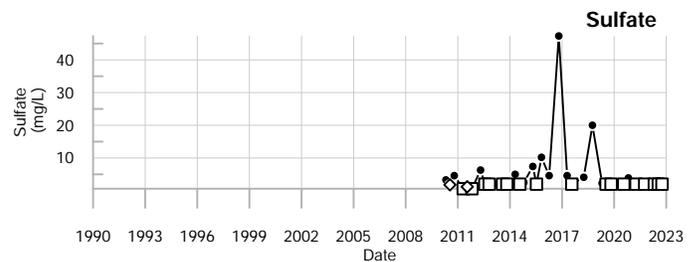
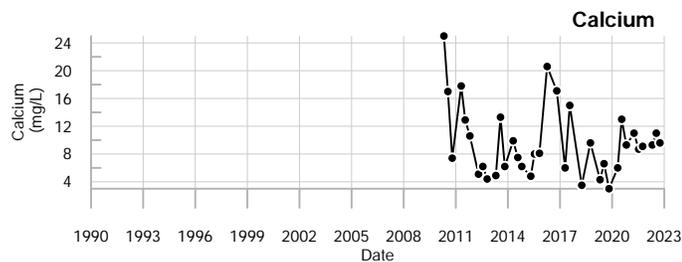
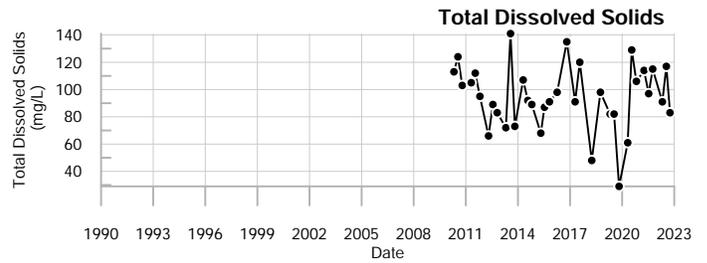
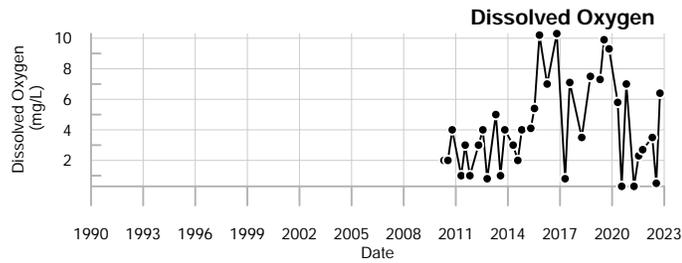
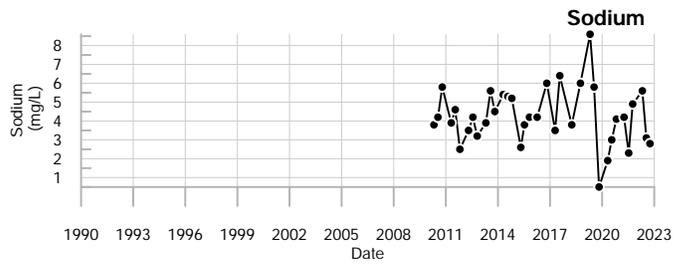
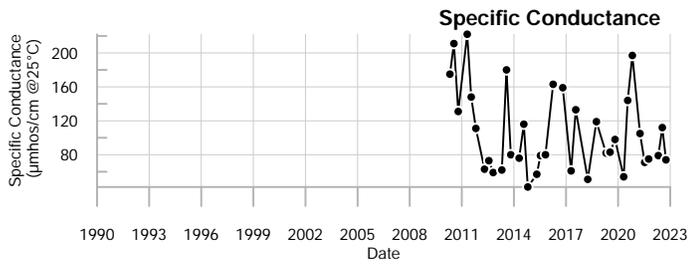
Applicable Limits:

Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q1= 1 - 2022	U = Not Detected above the laboratory reporting limit.	Abbrev.	Type	Standard
Q2= 4 - 2022	H = Analyzed outside U.S.EPA's recommended hold time.	DWA	GW	Health-Based Drinking Water Advisory
Q3= 7 - 2022		LHA	GW	EPA Lifetime Health Advisory
Q4= 10 - 2022		MCL	GW	MCL



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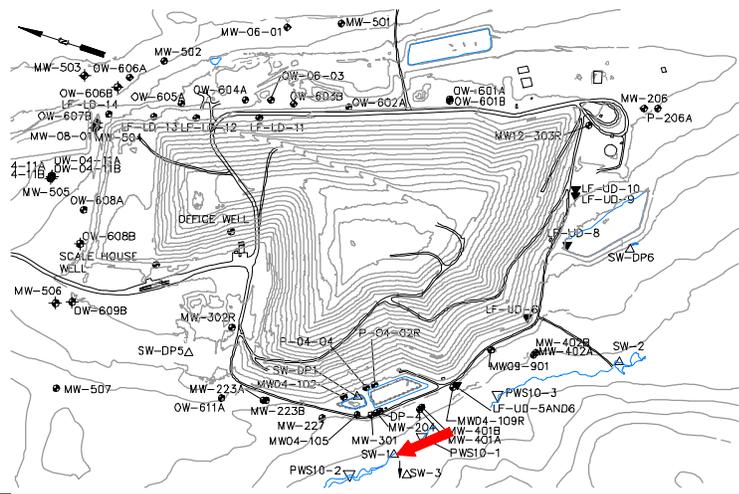
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



PWS10-3
Juniper Ridge Landfill

Well Description

SW-1 is located downgradient of the landfill and monitors surface water quality in an unnamed tributary to Pushaw Stream.



Sampled: **3 Times Annually**
 Sampled Since: **11/13/90**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		162	130	192	10	to 345	110 ± 6.5		95
pH (STU)		6.7	6.7	7	5.8	to 8.2	6.9 ± 0.058		95
Temperature (Deg C)		10.3	23.2	15.6	0	to 27.5	12 ± 0.77		95
Eh (mV)		292	283	301	52.7	to 549	300 ± 14		64
Dissolved Oxygen (mg/L)		7.7	3.3	2.6	0.6	to 15.1	5.2 ± 0.29		93
Turbidity (field) (NTU)		1.3	2.7	2.2	0	to 175	5.2 ± 2.4		74
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001	to 0.012	0.0048 ± 0.000		53
Calcium (mg/L)		24	13	26	3.1	to 48	12 ± 0.96		83
Iron (mg/L)		0.13	5	2.5	0.07	to 19.4	2 ± 0.32		88
Magnesium (mg/L)		6.4	3.6	7.3	0.21	to 11	3.3 ± 0.24		83
Manganese (mg/L)		0.05	0.9	1.2	0.001	to 4.8	0.25 ± 0.061		88
Potassium (mg/L)		1.6	1.8	1.7	0.1	to 5	1.1 ± 0.14		53
Sodium (mg/L)		6.5	6.9	7.3	2.9	to 12	5.8 ± 0.2		88
Nitrite/Nitrate - (N) (mg/L)		0.19	0.05 U	0.097	0.05 U	to 2 U	0.22 ± 0.094		21
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.27	0.26	0.01 U	to 0.95	0.095 ± 0.019		65
Total Dissolved Solids (mg/L)		136	118	200	30	to 235	94 ± 4.3		88
Total Suspended Solids (mg/L)		8.7	140	19	2.5 U	to 1490	66 ± 31		53
Sulfate (mg/L)		5	2 U	5.1	0.2	to 17	3.8 ± 0.36		88
Bicarbonate Alkalinity (CaCO3) (mg/L)		80	30	96	10.6	to 170	45 ± 5.1		53
Organic Carbon (mg/L)		7.6	21	19	4.5	to 49	13 ± 0.64		88
Biochemical Oxygen Demand (mg/L)		2	19	9	1 U	to 20	4.4 ± 0.35		65
Chloride (mg/L)		8.9	9.9	6.1	1 U	to 27.6	8.1 ± 0.5		88
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.12 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

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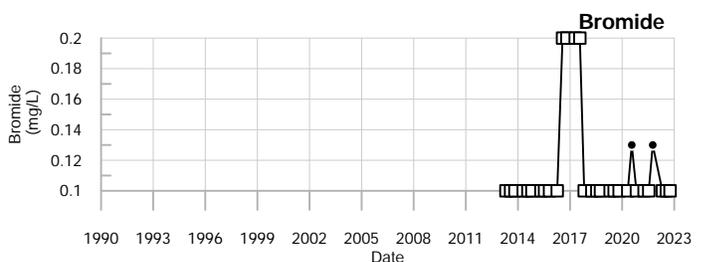
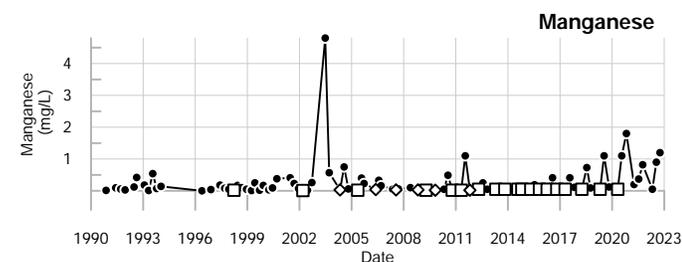
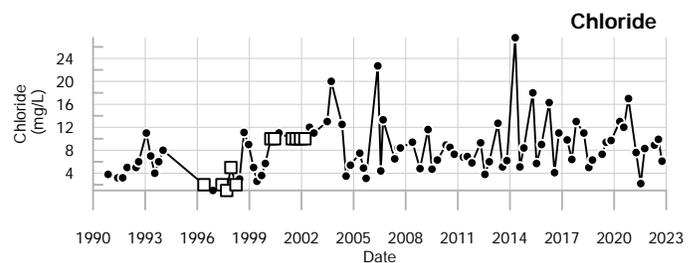
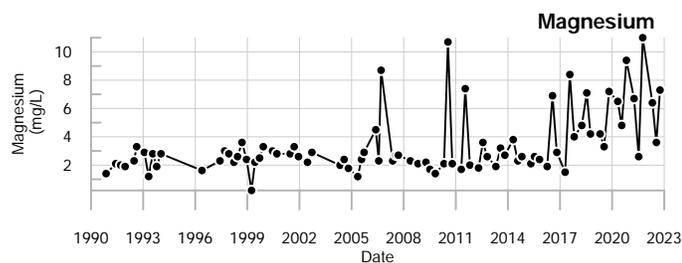
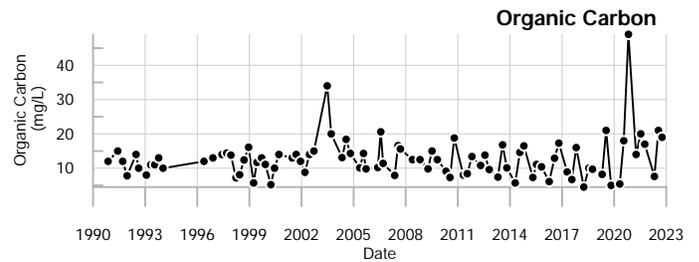
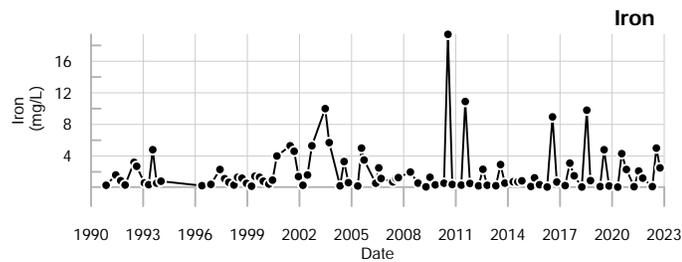
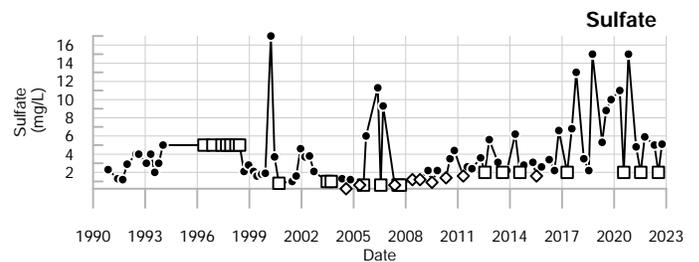
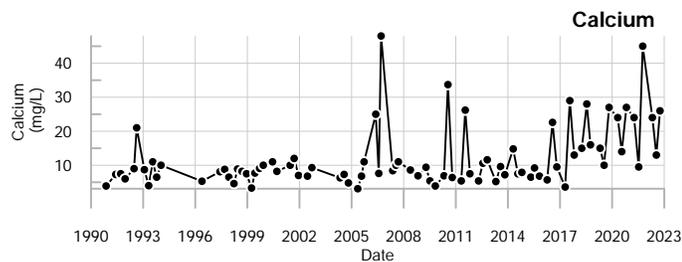
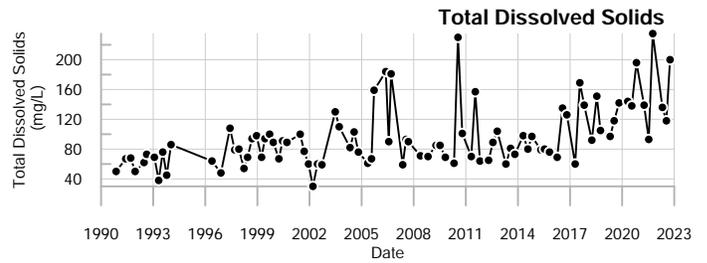
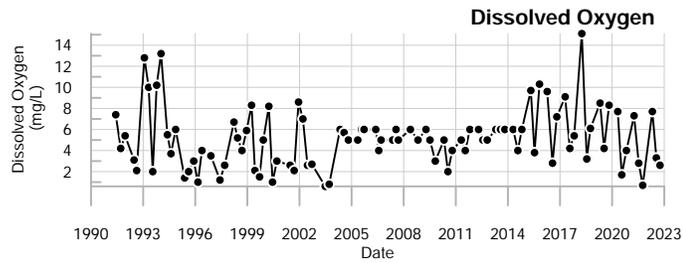
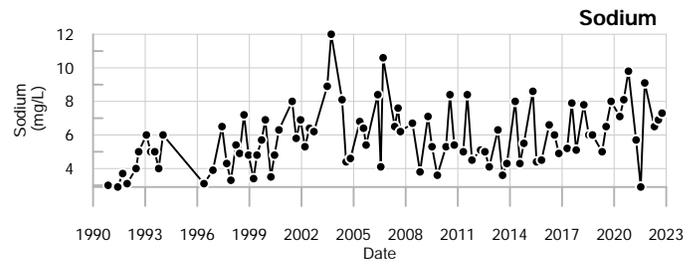
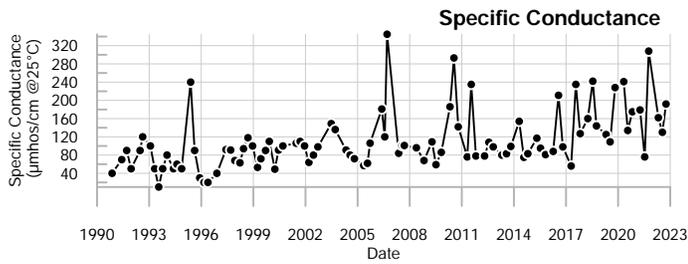
Applicable Limits:

Chloride MFCCC=230 mg/L, Iron MFCCC=1 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022 U = Not Detected above the laboratory reporting limit. Abbrev. Type Standard
 Q3= 7 - 2022 MFCCC SW MDEP Freshwater ccc (Criterion Continuou
 Q4= 10 - 2022



LEGEND

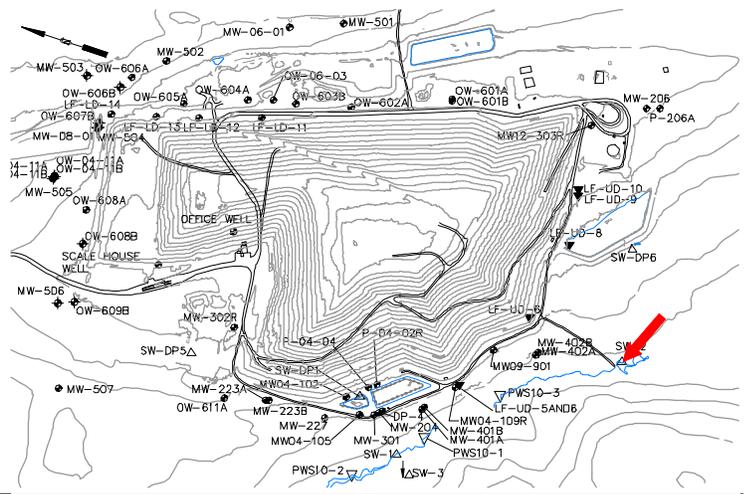
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



SW-1
Juniper Ridge Landfill

Well Description

SW-2 is located upgradient of the landfill and monitors surface water quality in an unnamed tributary to Pushaw Stream.



Sampled: **3 Times Annually**
 Sampled Since: **11/13/90**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		73	67	64	10	150	74 ± 2.4		101
pH (STU)		6.5	6.5	6.2	5.42	8.5	6.7 ± 0.063		103
Temperature (Deg C)		6.8	25.8	12.6	0	29.6	13 ± 0.85		102
Eh (mV)		375	323	373	69.2	516	320 ± 13		65
Dissolved Oxygen (mg/L)		6.5	4.2	2.7	0.4	13.7	4.7 ± 0.27		101
Turbidity (field) (NTU)		1.9	0.8	1.8	0	10	1.8 ± 0.22		77
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	0.011	0.0041 ± 0.000		54
Calcium (mg/L)		5.2	6.3	6.8	0.1 U	11	5.9 ± 0.22		89
Iron (mg/L)		0.2	0.58	0.62	0.03 U	8.8	1.1 ± 0.11		95
Magnesium (mg/L)		2.1	2.3	2.2	0.1 U	3.7	2.1 ± 0.065		89
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.003	0.43	0.091 ± 0.008		95
Potassium (mg/L)		1.2	0.3 U	0.3 U	0.1 U	1.7	0.54 ± 0.045		54
Sodium (mg/L)		6.1	5.1	4.2	1 U	14	5.4 ± 0.21		95
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.12	0.05 U	2 U	0.2 ± 0.095		21
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.04	0.04 U	0.01	0.43	0.054 ± 0.008		68
Total Dissolved Solids (mg/L)		72	104	120	2	131	73 ± 2.2		95
Total Suspended Solids (mg/L)		2.5 U	2.5 U	4 U	2.5 U	89	10 ± 2.2		54
Sulfate (mg/L)		2	2.5	2	0.1 U	9.2	2.2 ± 0.17		95
Bicarbonate Alkalinity (CaCO3) (mg/L)		14	22	21	8.5	46	19 ± 1.1		54
Organic Carbon (mg/L)		8.3	18	17	1 U	30	14 ± 0.54		95
Biochemical Oxygen Demand (mg/L)		1 U	2 U	2 U	1 U	42	4.7 ± 0.63		67
Chloride (mg/L)		12	6.2	4.5	2 U	23	8.1 ± 0.46		95
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.11 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

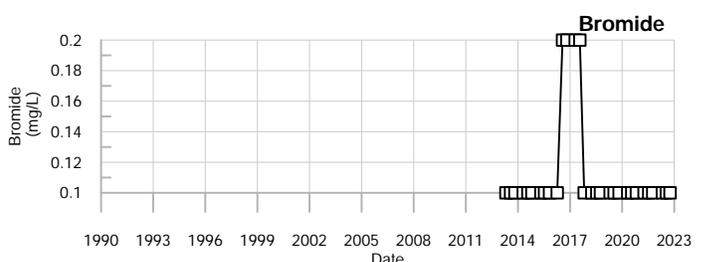
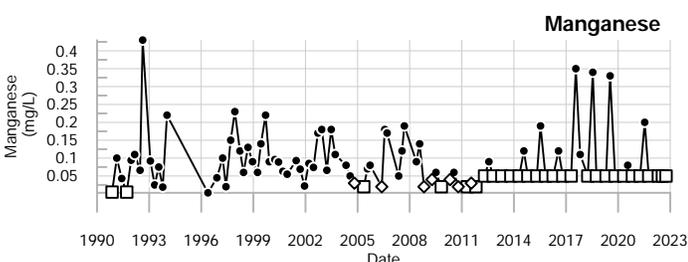
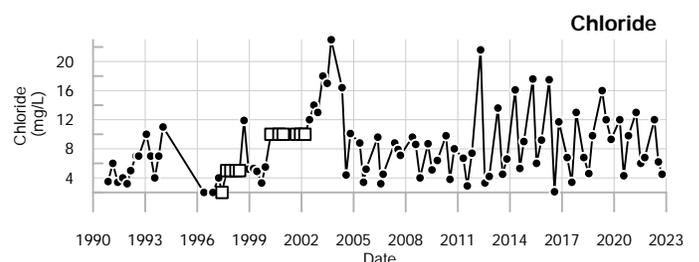
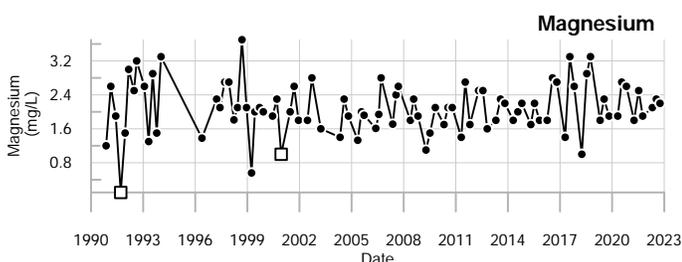
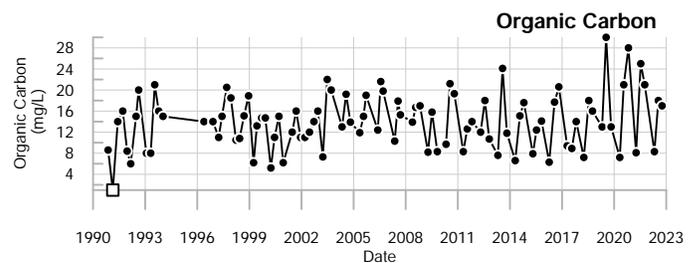
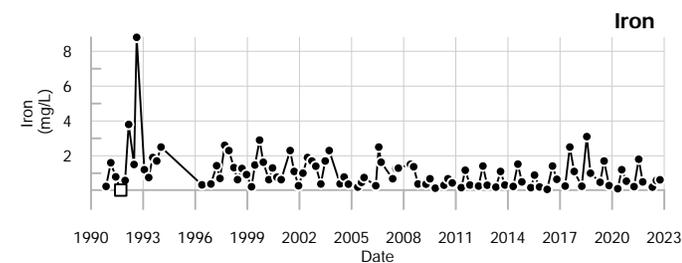
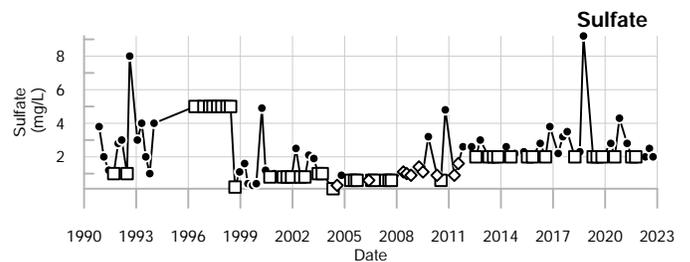
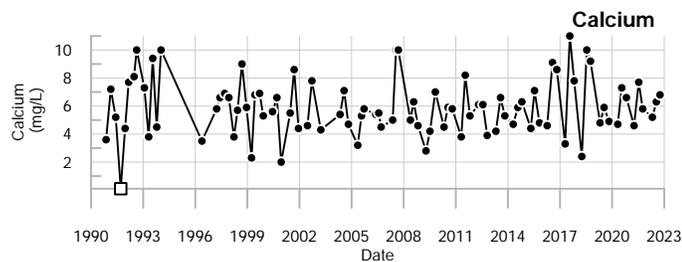
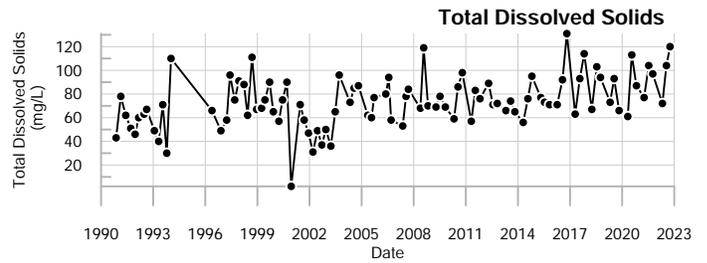
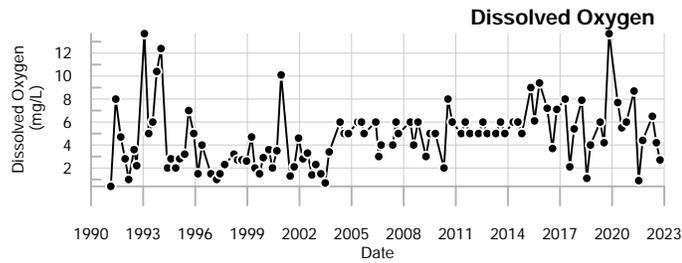
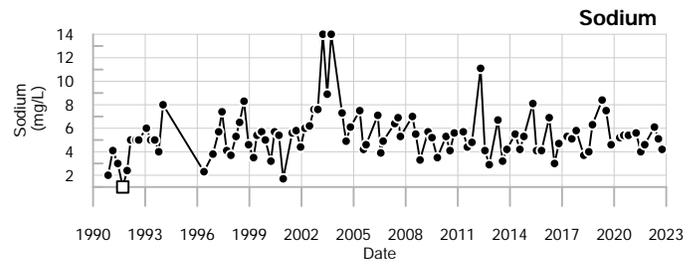
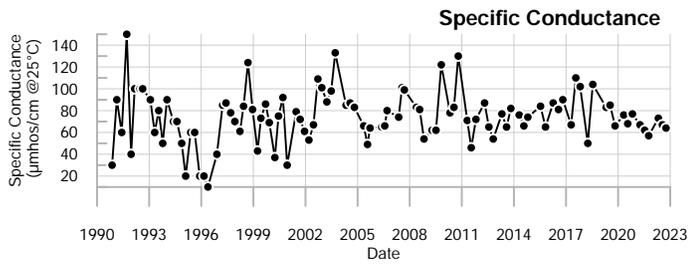
Applicable Limits:

Chloride MFCCC=230 mg/L, Iron MFCCC=1 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022 U = Not Detected above the laboratory reporting limit. Abbrev. Type Standard
 Q3= 7 - 2022 MFCCC SW MDEP Freshwater ccc (Criterion Continuou
 Q4= 10 - 2022



LEGEND

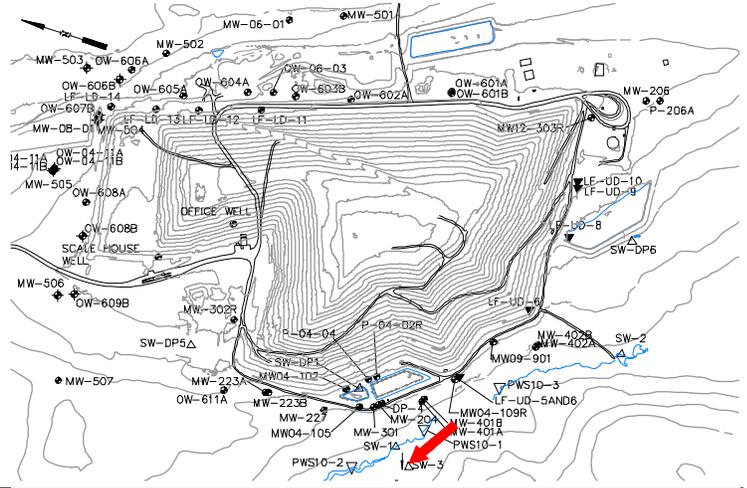
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



SW-2
Juniper Ridge Landfill

Well Description

SW-3 is located downgradient of the landfill and monitors surface water quality in an unnamed tributary of Pushaw Stream.



Sampled: **3 Times Annually**
 Sampled Since: **05/26/94**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		63	109	89	20	151	82 ± 2.8		88
pH (STU)		7.2	7.3	7.9	5.4	8.8	6.9 ± 0.075		88
Temperature (Deg C)		9.8	22.6	9.5	0	27.4	12 ± 0.78		88
Eh (mV)		332	322	333	23.8	507	310 ± 13		66
Dissolved Oxygen (mg/L)		7.9	3.6	5	1	12.6	5.9 ± 0.29		87
Turbidity (field) (NTU)		1.1	0.8	0.9	0	16	1.6 ± 0.26		76
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	0.008	0.0039 ± 0.000		54
Calcium (mg/L)		5	9	9.4	2.8	12	6.9 ± 0.25		80
Iron (mg/L)		0.3	1.8	0.52	0.17	3.5	0.88 ± 0.073		87
Magnesium (mg/L)		1.4	2.2	2.3	0.47	3.1	1.9 ± 0.064		80
Manganese (mg/L)		0.05 U	0.28	0.05 U	0.004	1.3	0.16 ± 0.024		87
Potassium (mg/L)		2.2	0.83	1.5	0.2	2.4	0.69 ± 0.055		54
Sodium (mg/L)		8.3	↑ 12	4.5	2.4	11	4.8 ± 0.15		87
Nitrite/Nitrate - (N) (mg/L)		0.055	0.096	0.19	0.05 U	2 U	0.21 ± 0.094		21
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.04	0.04 U	0.01 U	0.4	0.043 ± 0.006		63
Total Dissolved Solids (mg/L)		65	116	68	31	210	74 ± 2.5		87
Total Suspended Solids (mg/L)		2.5 U	12	4 U	2.5 U	17	4.3 ± 0.37		54
Sulfate (mg/L)		2.3	2 U	6.1	0.4	35	3.9 ± 0.49		87
Bicarbonate Alkalinity (CaCO3) (mg/L)		13	30	27	10	43	22 ± 1.2		54
Organic Carbon (mg/L)		9.2	12	10	5.7	40	12 ± 0.47		87
Biochemical Oxygen Demand (mg/L)		1 U	2 U	2 U	1 U	7	3.9 ± 0.23		63
Chloride (mg/L)		11	18	5.9	1 U	20	7 ± 0.39		87
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.12 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

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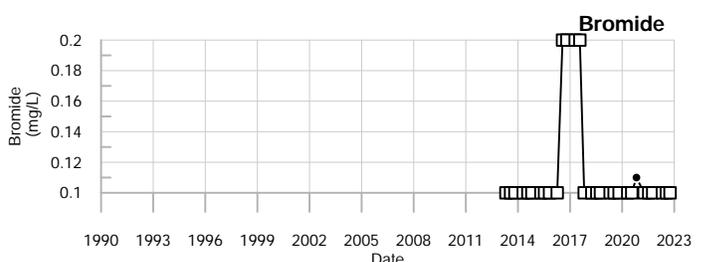
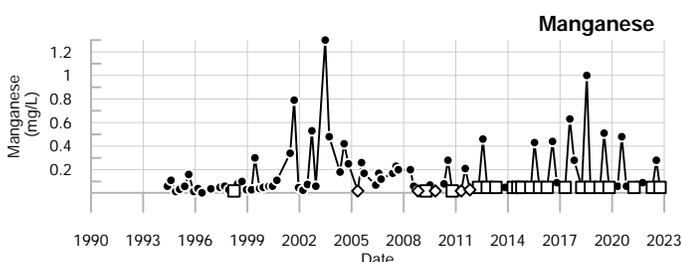
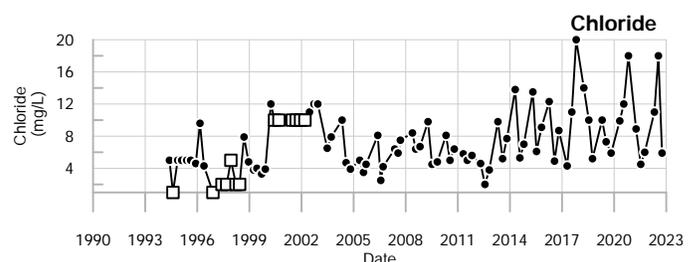
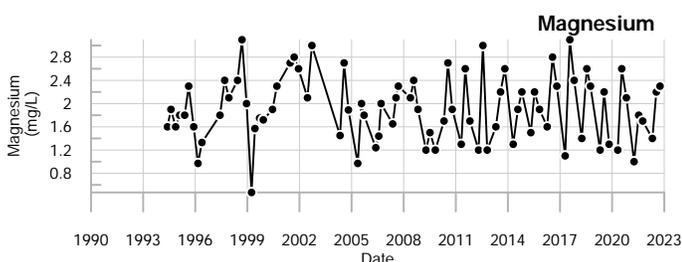
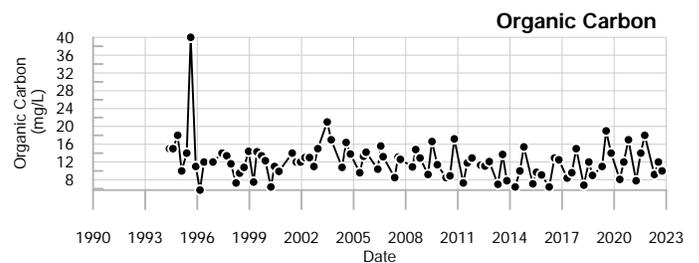
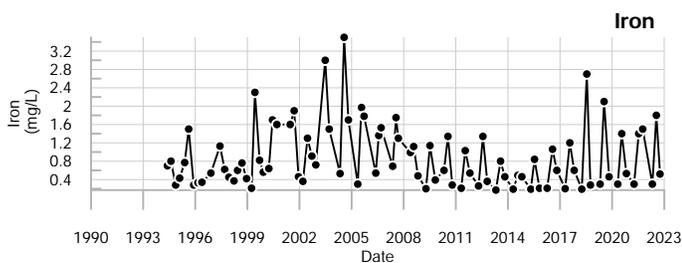
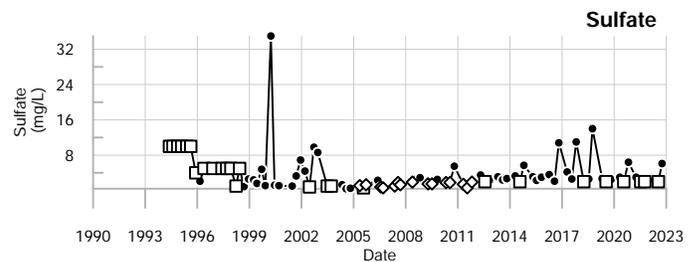
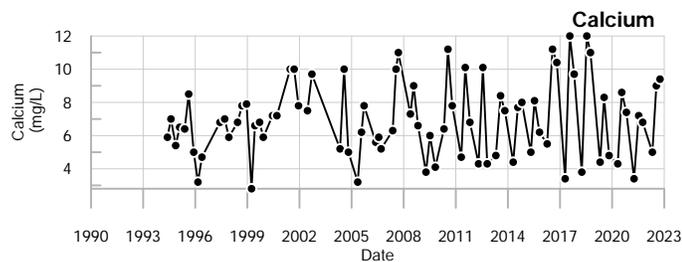
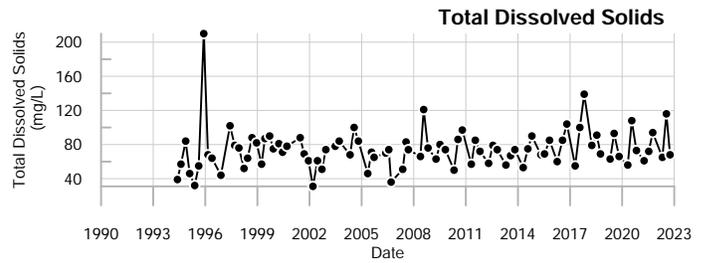
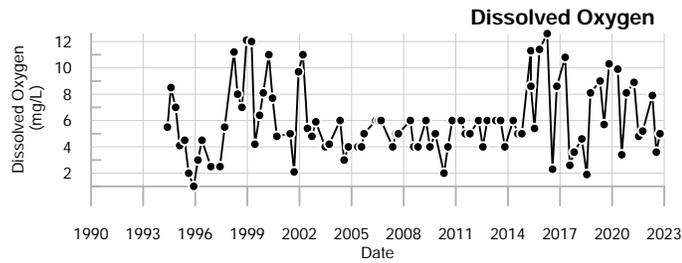
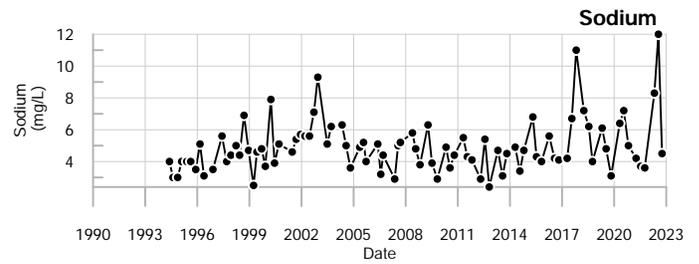
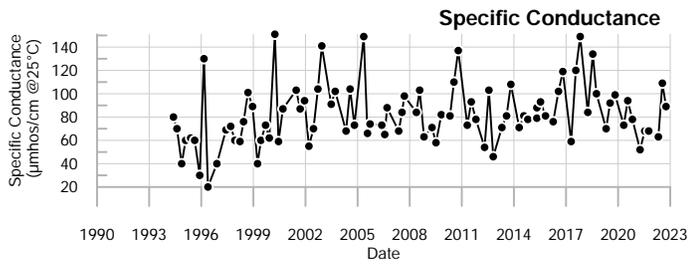
Applicable Limits:

Chloride MFCCC=230 mg/L, Iron MFCCC=1 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022 U = Not Detected above the laboratory reporting limit. Abbrev. Type Standard
 Q3= 7 - 2022 MFCCC SW MDEP Freshwater ccc (Criterion Continuou
 Q4= 10 - 2022



LEGEND

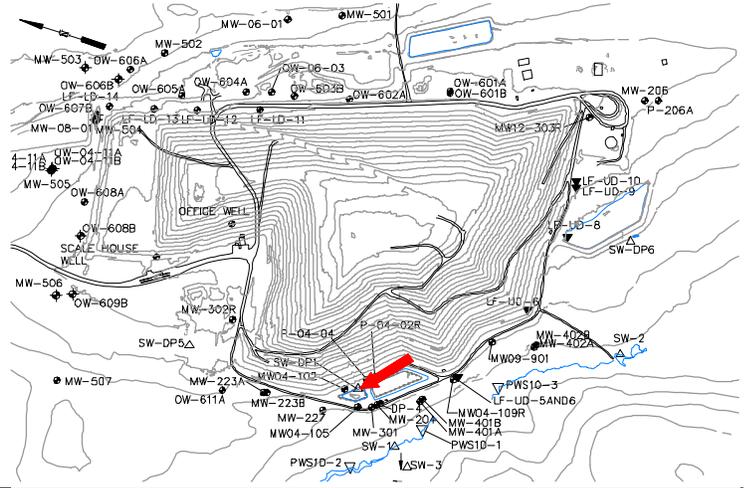
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



SW-3
Juniper Ridge Landfill

Well Description

SW-DP1 is located in Detention Pond #1 which is situated to the north of the former leachate pond.



Sampled: **3 Times Annually**
 Sampled Since: **05/03/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		123	176	150	34	to 439	140 ± 11		54
pH (STU)		7.1	6.7	7.4	6.3	to 9.4	7.5 ± 0.098		54
Temperature (Deg C)		10.8	27.5	14.5	1.9	to 31.1	17 ± 1		54
Eh (mV)		343	312	332	200	to 486	330 ± 9.8		54
Dissolved Oxygen (mg/L)		7	2.9	4.6	0.8	to 12.5	6.8 ± 0.29		54
Turbidity (field) (NTU)		0.6	2.7	1.2	0	to 28.1	3.4 ± 0.7		54
Arsenic (mg/L)		0.005 U	0.005	0.005 U	0.001 U	to 0.013	0.0045 ± 0.000		54
Calcium (mg/L)		21	31	27	3.8	to 40	18 ± 1.1		54
Iron (mg/L)		1.1	1.8	0.88	0.05	to 6.4	0.68 ± 0.14		54
Magnesium (mg/L)		1.7	2.7	2.5	0.4	to 7.6	2.6 ± 0.21		54
Manganese (mg/L)		0.21	0.48	0.1	0.02	to 0.88	0.11 ± 0.021		54
Potassium (mg/L)		2	3.6	2.6	0.3 U	to 25	2.7 ± 0.58		54
Sodium (mg/L)		3.9	4.5	2.5	0.8	to 27	4.3 ± 0.69		54
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.052	0.13	0.05 U	to 2 U	0.24 ± 0.095		21
Total Phosphorus Mixed Forms (PO4 and		0.12	0.14	0.04	0.01 U	to 0.24	0.056 ± 0.006		54
Total Dissolved Solids (mg/L)		101	192	110	44	to 262	100 ± 6.8		54
Total Suspended Solids (mg/L)		26	33	9.6	2.5 U	to 115	12 ± 2.5		54
Sulfate (mg/L)		↑32	↑44	↑36	0.2	to 30	9.8 ± 0.87		54
Bicarbonate Alkalinity (CaCO3) (mg/L)		28	49	40	7.2	to 170	48 ± 4		54
Organic Carbon (mg/L)		2.8	4.4	2.2	2 U	to 13.3	4 ± 0.37		54
Chloride (mg/L)		5.2	7.2	2.9	1 U	to 79	6.6 ± 1.4		54
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 1.1	0.16 ± 0.037		27

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

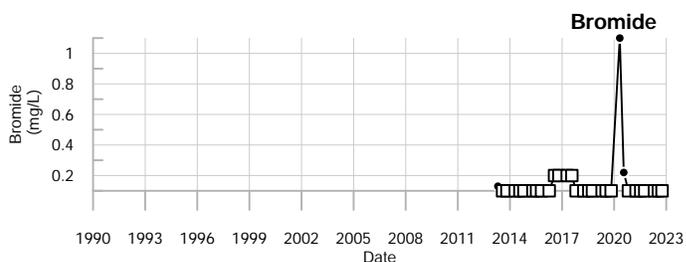
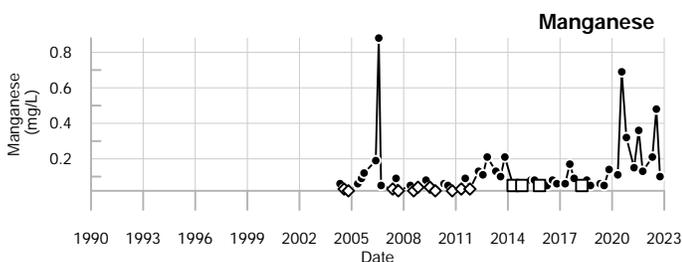
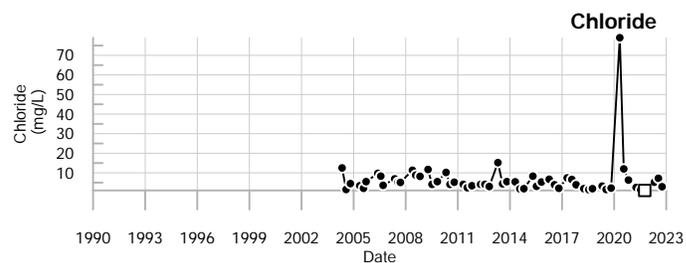
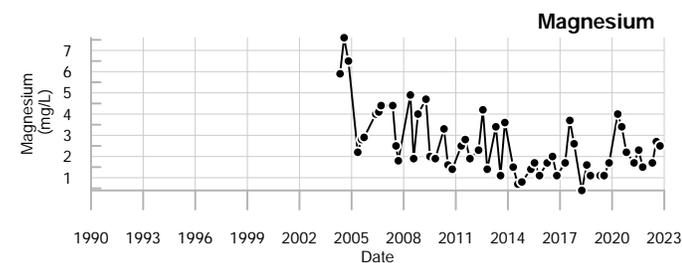
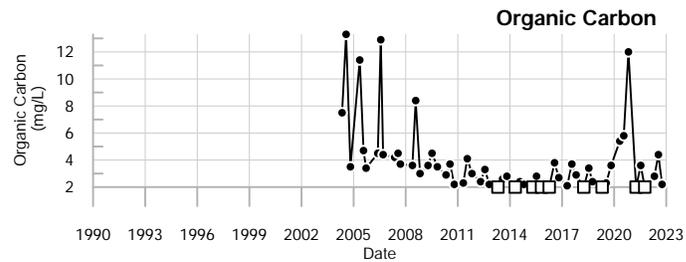
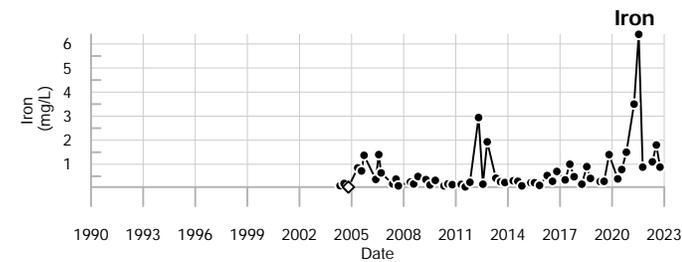
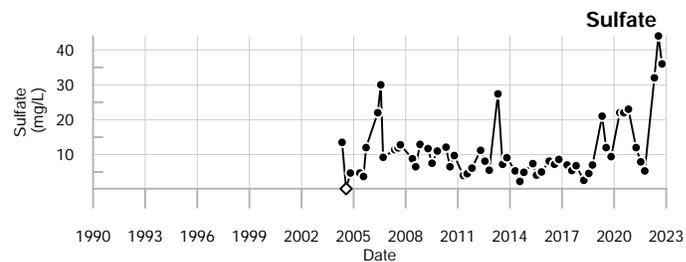
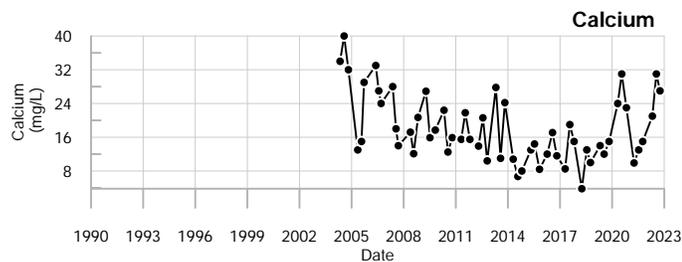
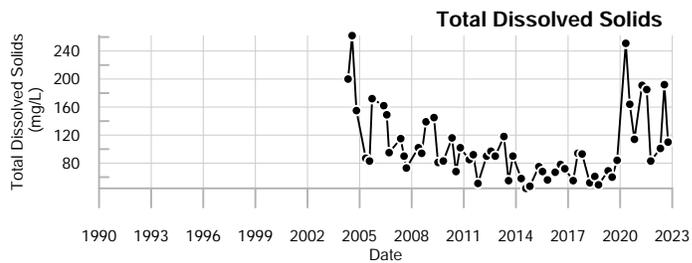
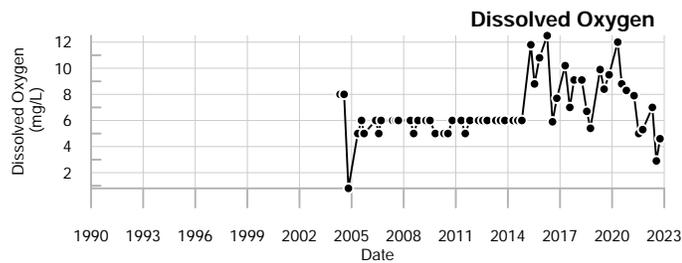
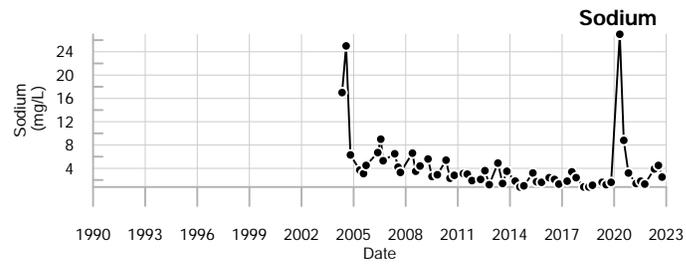
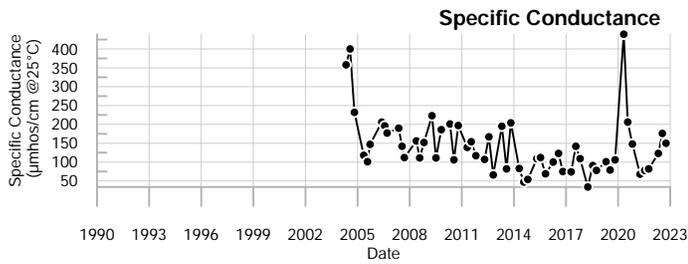
Applicable Limits:

Chloride MFCCC=230 mg/L, Iron MFCCC=1 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022 U = Not Detected above the laboratory reporting limit. Abbrev. Type Standard
 Q3= 7 - 2022 MFCCC SW MDEP Freshwater ccc (Criterion Continuou
 Q4= 10 - 2022



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



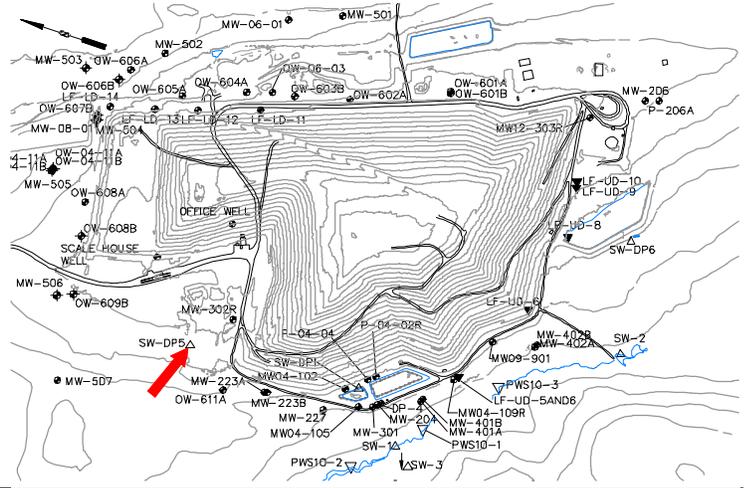
SW-DP1
Juniper Ridge Landfill

Well Description

Sample collected from outfall on the west side of Detention Pond #5.

Sampled: **3 Times Annually**
 Sampled Since: **4/23/2013**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		195	D	D	51	208	120 ± 11		18
pH (STU)		7	D	D	6.9	8.5	7.7 ± 0.12		18
Temperature (Deg C)		11.1	D	D	8.7	30.7	18 ± 2		18
Eh (mV)		333	D	D	218	459	320 ± 17		18
Dissolved Oxygen (mg/L)		7.6	D	D	5	15.2	8.3 ± 0.66		18
Turbidity (field) (NTU)		1.2	D	D	0.4	9.8	2 ± 0.52		18
Arsenic (mg/L)		0.005 U	D	D	0.005 U	0.01	0.0058 ± 0.000		18
Calcium (mg/L)		29	D	D	5.3	29	17 ± 1.4		18
Iron (mg/L)		0.93	D	D	0.23	5.2	1 ± 0.31		18
Magnesium (mg/L)		↑2.6	D	D	0.5	1.8	1.2 ± 0.092		18
Manganese (mg/L)		0.17	D	D	0.05 U	0.52	0.17 ± 0.029		18
Potassium (mg/L)		↑3.5	D	D	0.6	2.6	1.5 ± 0.12		18
Sodium (mg/L)		↑9.7	D	D	0.9	8.6	2.7 ± 0.45		18
Nitrite/Nitrate - (N) (mg/L)		0.075	D	D	0.05 U	2 U	0.29 ± 0.15		13
Total Phosphorus Mixed Forms (PO4 and		0.05	D	D	0.04 U	0.23	0.07 ± 0.01		18
Total Dissolved Solids (mg/L)		↑155	D	D	47	137	95 ± 5.7		18
Total Suspended Solids (mg/L)		8	D	D	2.5 U	97	21 ± 5.6		18
Sulfate (mg/L)		↑46	D	D	2.5	38.1	20 ± 2.7		18
Bicarbonate Alkalinity (CaCO3) (mg/L)		37	D	D	9	57	30 ± 2.9		18
Organic Carbon (mg/L)		4.8	D	D	2 U	6.8	3.3 ± 0.38		18
Chloride (mg/L)		16	D	D	1 U	20.9	5.7 ± 1.4		18
Bromide (mg/L)		0.1 U	D	D	0.1 U	0.2 U	0.11 ± 0.006		18

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

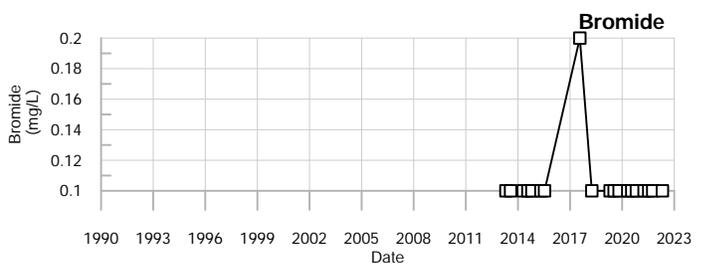
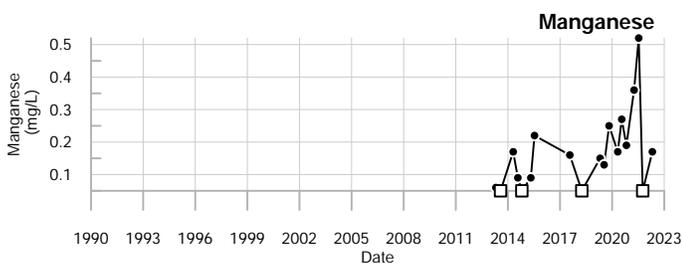
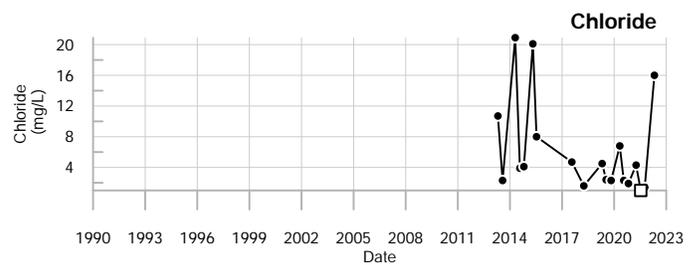
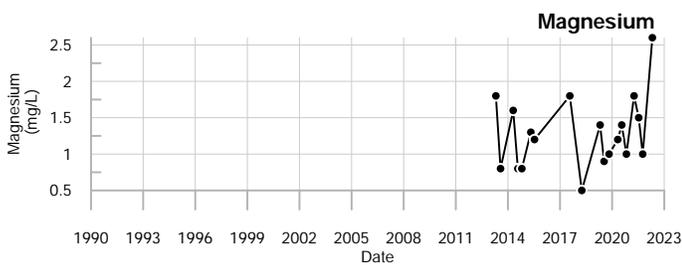
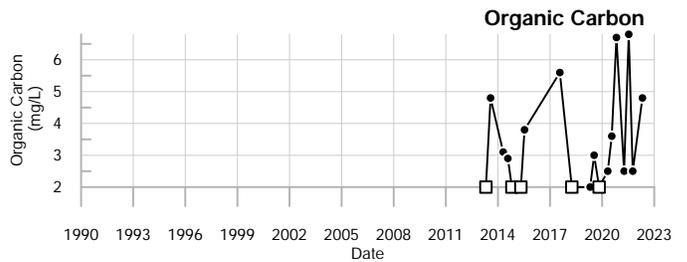
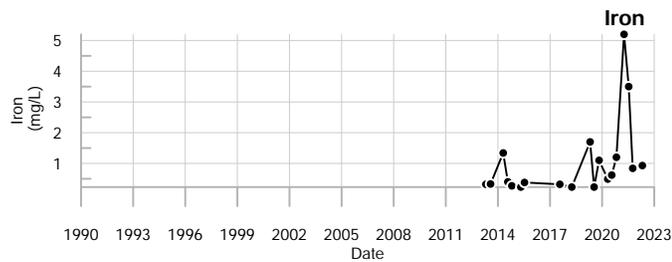
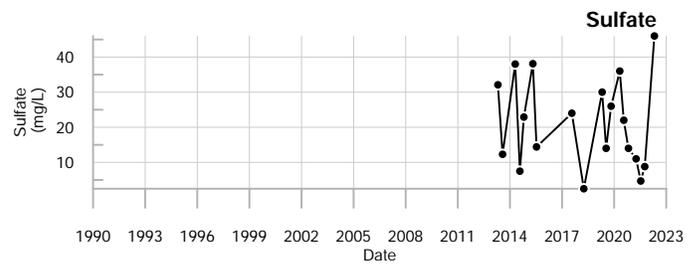
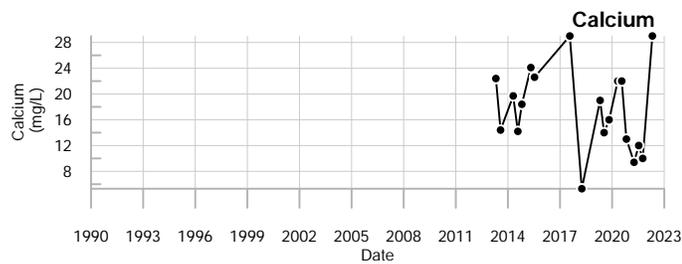
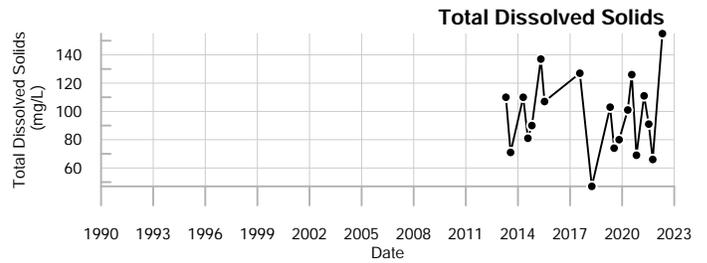
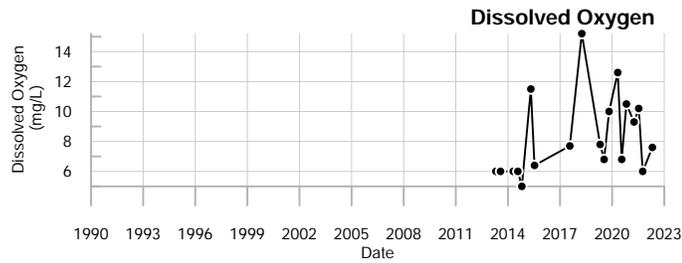
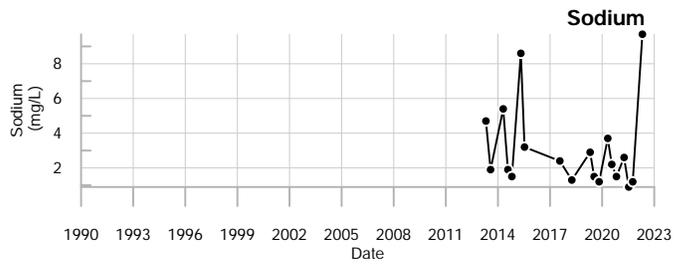
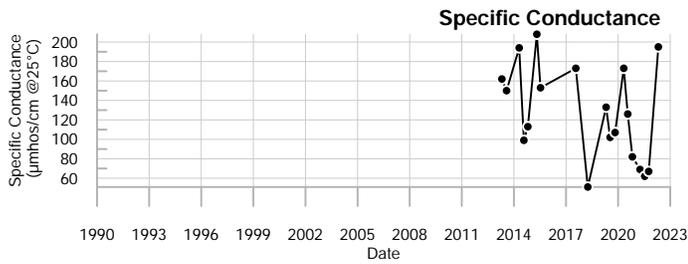
Applicable Limits:

Chloride MFCCC=230 mg/L, Iron MFCCC=1 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022 U = Not Detected above the laboratory reporting limit. Abbrev. Type Standard
 Q3= 7 - 2022 D = The sampling location was dry. MFCCC SW MDEP Freshwater ccc (Criterion Continuou
 Q4= 10 - 2022



LEGEND

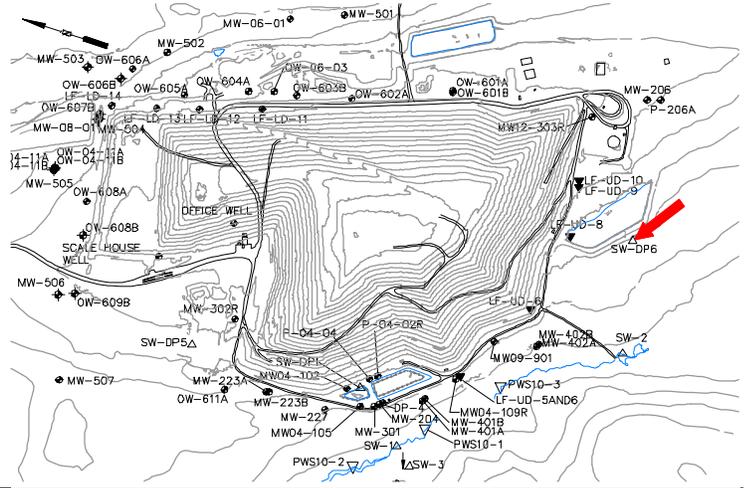
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



SW-DP5
Juniper Ridge Landfill

Well Description

SW-DP6 is located in Detention Pond #6, which is situated to the south of the landfill and west of the leachate storage tank.



Sampled: **3 Times Annually**
 Sampled Since: **10/27/2009**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↓36	44	44	44	38	to 427	120 ± 14		37
pH (STU)		7.3	6.4	7.6	6.1	to 8.4	7.2 ± 0.099		37
Temperature (Deg C)		11.6	28.9	16.7	2.4	to 29.6	16 ± 1.4		37
Eh (mV)		288	348	323	212	to 547	360 ± 13		37
Dissolved Oxygen (mg/L)		8.2	↓3.9	4.8	4.5	to 11.7	6.9 ± 0.34		37
Turbidity (field) (NTU)		1.5	2.1	2.6	0	to 12	2.5 ± 0.4		37
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 U	to 0.011	0.0052 ± 0.000		37
Calcium (mg/L)		↓3.8	6.8	6.6	3.9	to 63.3	13 ± 1.9		37
Iron (mg/L)		0.49	2.3	2.1	0.1	to 3.05	0.9 ± 0.12		37
Magnesium (mg/L)		0.7	1.5	1.1	0.7	to 7.3	1.8 ± 0.2		37
Manganese (mg/L)		0.05 U	0.35	0.09	0.05 U	to 0.96	0.14 ± 0.033		37
Potassium (mg/L)		1.7	1.9	1.5	0.7	to 3.4	1.6 ± 0.11		37
Sodium (mg/L)		2.3	1.3	1.3	1.1	to 7.5	3.2 ± 0.28		37
Nitrite/Nitrate - (N) (mg/L)		0.12	0.05 U	0.14	0.05 U	to 2 U	0.19 ± 0.095		21
Total Phosphorus Mixed Forms (PO4 and		0.04	↑0.15	0.1	0.03	to 0.14	0.057 ± 0.005		37
Total Dissolved Solids (mg/L)		42	107	55	38	to 323	91 ± 9		37
Total Suspended Solids (mg/L)		6.7	36	16	2.5 U	to 54	11 ± 2.1		37
Sulfate (mg/L)		3.8	4.8	5.5	2 U	to 155	19 ± 4.1		37
Bicarbonate Alkalinity (CaCO3) (mg/L)		10	20	16	6	to 75	22 ± 2.9		37
Organic Carbon (mg/L)		4.1	5.2	3.4	2.1	to 11.9	5.2 ± 0.34		37
Chloride (mg/L)		1.9	1 U	1.2	1 U	to 22.3	7.1 ± 0.92		37
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

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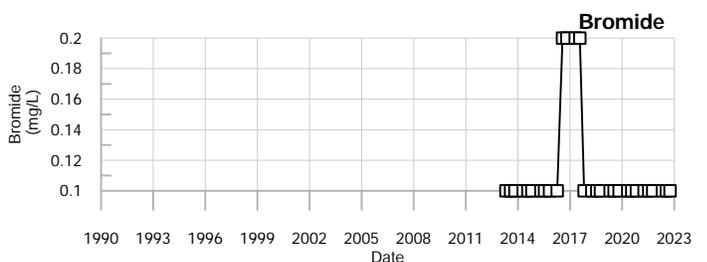
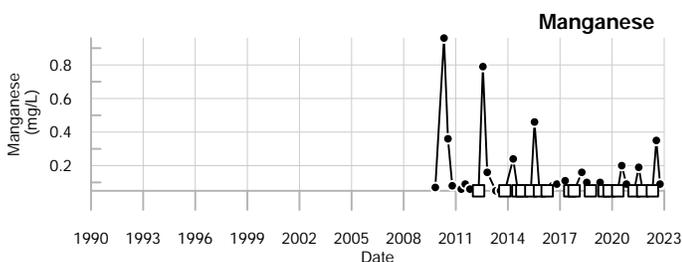
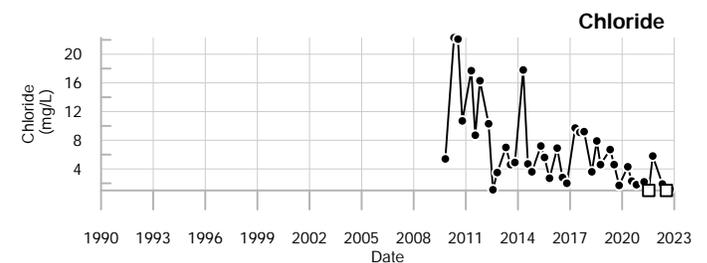
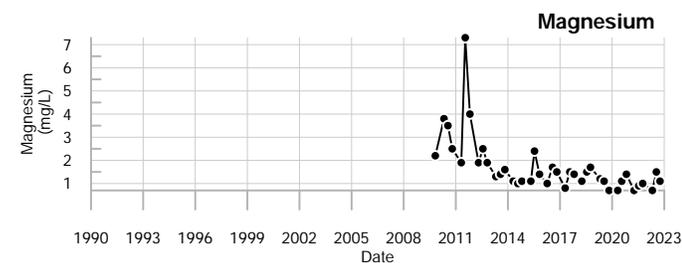
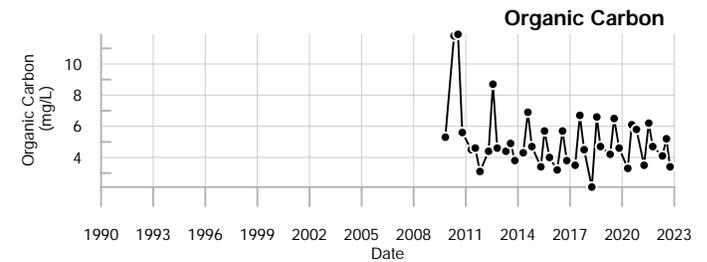
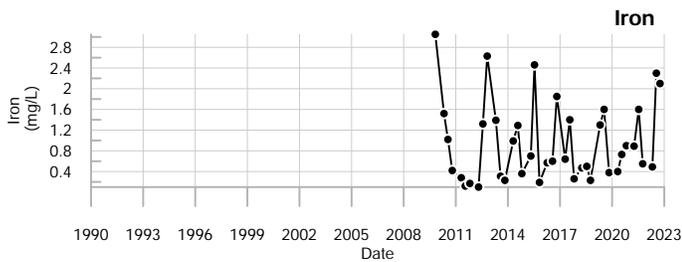
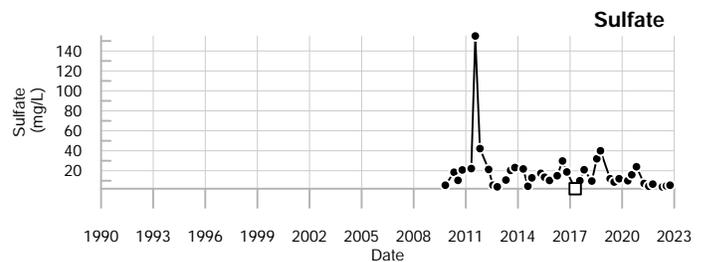
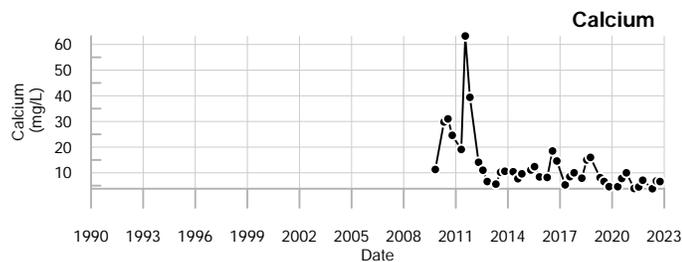
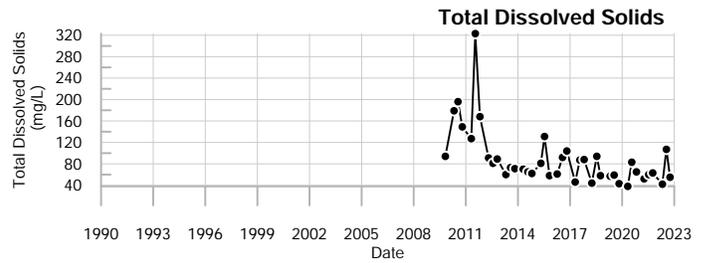
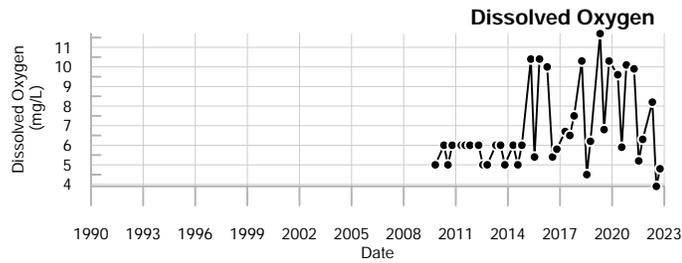
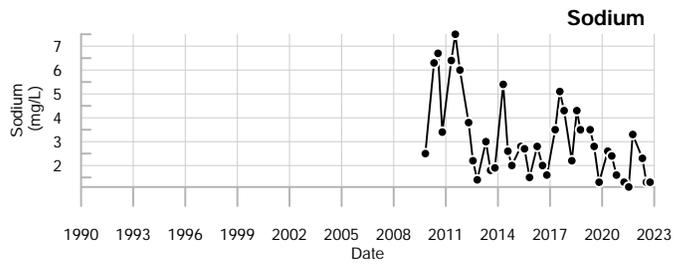
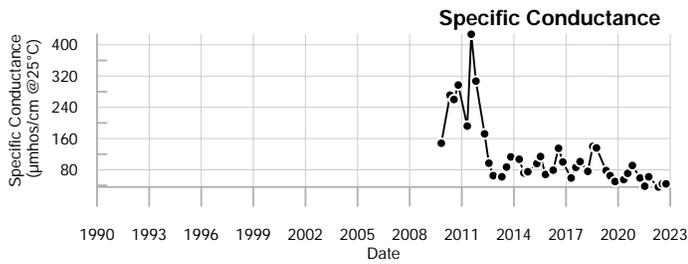
Applicable Limits:

Chloride MFCCC=230 mg/L, Iron MFCCC=1 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2022 U = Not Detected above the laboratory reporting limit. Abbrev. Type Standard
 Q3= 7 - 2022 MFCCC SW MDEP Freshwater ccc (Criterion Continuou
 Q4= 10 - 2022



LEGEND

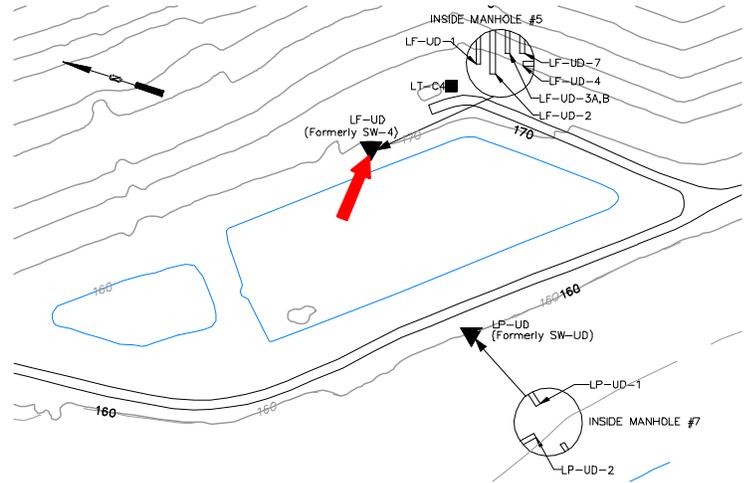
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



SW-DP6
Juniper Ridge Landfill

Well Description

Manhole #5 composite sample



Sampled:

Sampled Since: **See comments below**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	292	483	449	423	101	to 504	370 ± 7.8		99
pH (STU)	7.2	8	7.6	7.8	6.7	to 8.4	7.4 ± 0.042		99
Temperature (Deg C)	15.6	20.7	22.7	9.2	3.2	to 29.7	17 ± 0.53		99
Eh (mV)	350	343	365	328	304	to 446	370 ± 2.9		99
Dissolved Oxygen (mg/L)	9	8	7	6	4	to 10	6.9 ± 0.13		97
Turbidity (field) (NTU)	8.9	↑625.23	9.9	8.7	0	to 181.1	8.1 ± 2.5		98
Alkalinity (CaCO3) (field) (mg/L)	80	↑325	↑300	200	55	to 250	170 ± 4.4		98

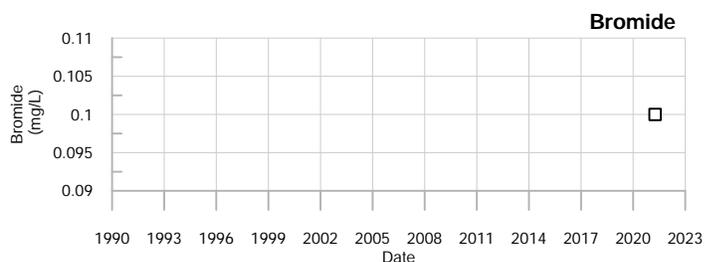
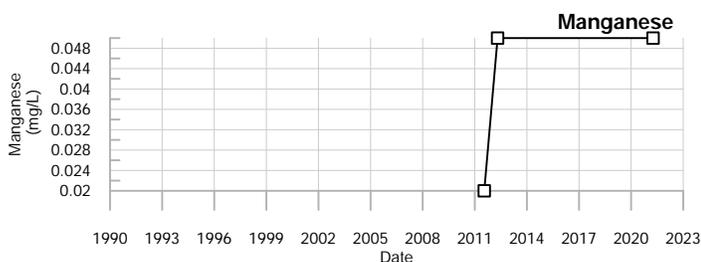
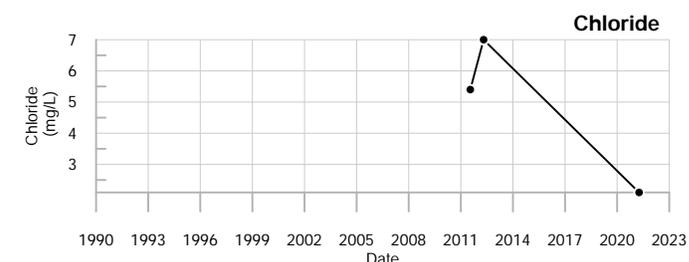
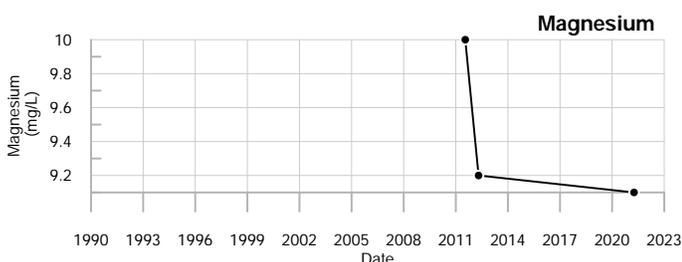
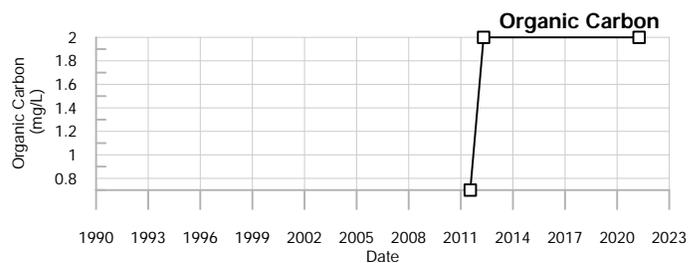
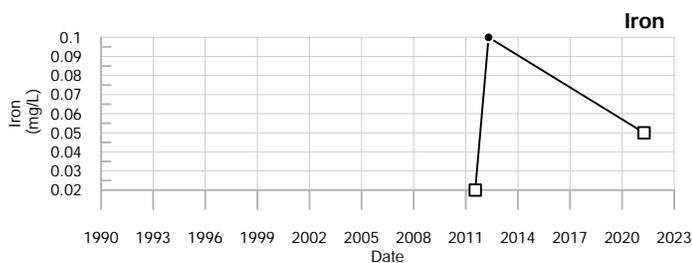
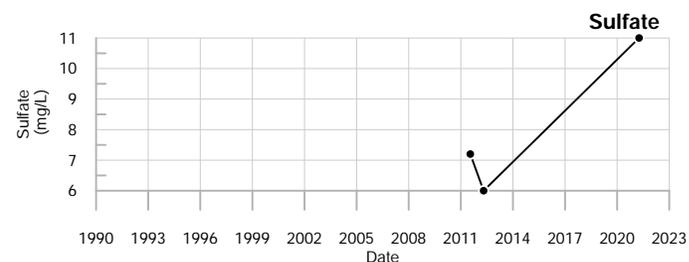
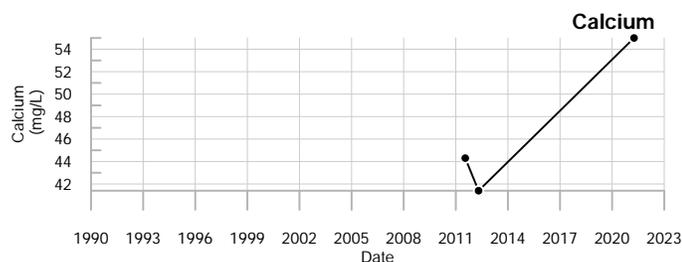
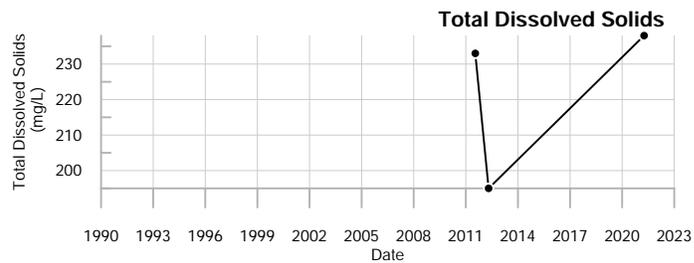
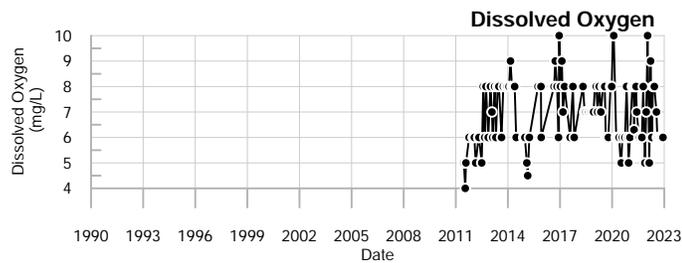
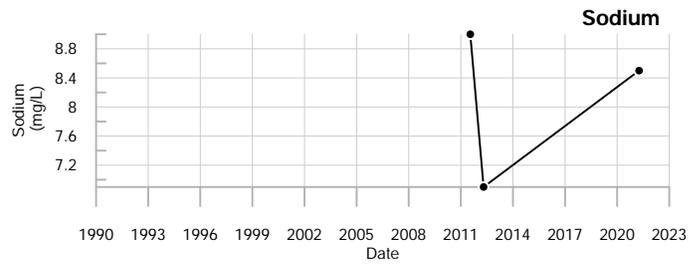
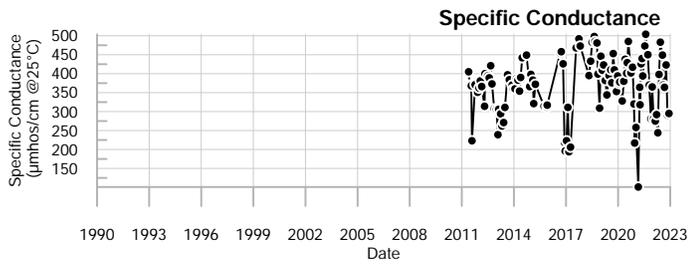
underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

During times when LF-UD-1, LF-UD-2, LF-UD-3A & B, LF-UD-4, and LF-UD-7 have not been able to be sampled separately due to pipe submergence, LF-COMP has been collected from manhole #5. Field parameters are measured at this location during some monthly monitoring rounds by NEWSME.

- Q1= 1 - 2022
- Q2= 4 - 2022
- Q3= 7 - 2022
- Q4= 10 - 2022



LEGEND

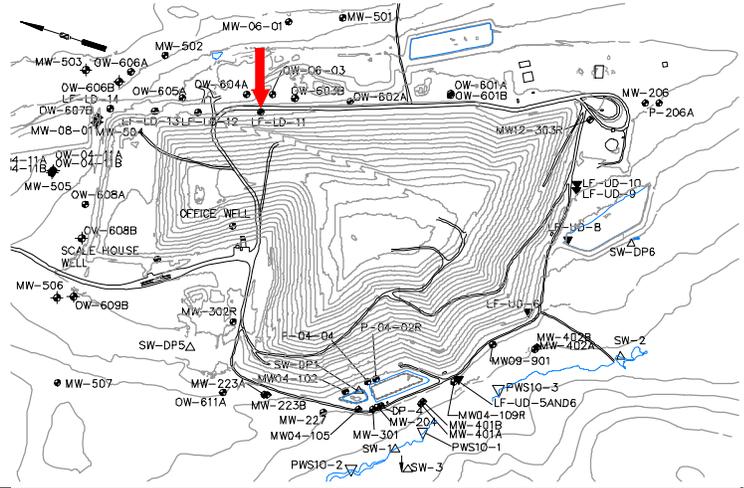
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-COMP
Juniper Ridge Landfill

Well Description

LF-LD-11 monitors the leak detection system for Cell 11 from the Cell 11 leak detection system pump station.



Sampled: **Annually in summer***
 Sampled Since: **Apr-21**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	804	↑945	↑926	↑906	723 to 884		800 ± 17		12
pH (STU)	↑7.9	↑7.1	↑7.1	↑7.1	6.3 to 6.9		6.7 ± 0.057		12
Temperature (Deg C)	20.4	21.1	23.9	18.9	15.9 to 24.3		20 ± 0.87		12
Eh (mV)	367	339	366	335	130 to 420		290 ± 28		12
Dissolved Oxygen (mg/L)	↑9	↑8	↑6	↑6	1.5 to 5		3.4 ± 0.31		12
Turbidity (field) (NTU)	4.9	7	2.2	1.8	0.3 to 15		2.9 ± 1.2		12
Arsenic (mg/L)			0.005 U		0.005 U to 0.005 U		0.005 ± 0		2
Calcium (mg/L)			↑150		120 to 140		130 ± 10		2
Copper (mg/L)			↑0.006 U		0.003 U to 0.003 U		0.003 ± 0		2
Iron (mg/L)			↑0.17		0.05 U to 0.05 U		0.05 ± 0		2
Magnesium (mg/L)			↑33		26 to 28		27 ± 1		2
Manganese (mg/L)			↑0.56		0.06 to 0.18		0.12 ± 0.06		2
Potassium (mg/L)			↑7.8		7.1 to 7.2		7.2 ± 0.05		2
Sodium (mg/L)			↑12		10 to 11		11 ± 0.5		2
Boron (mg/L)			0.05 U		0.05 U to 0.05 U		0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)			↑0.68		0.38 to 0.56		0.47 ± 0.09		2
Ammonia (N) (mg/L)			0.5 U		0.5 U to 0.5 U		0.5 ± 0		2
Nitrite/Nitrate - (N) (mg/L)			↓0.31		0.55 to 0.71		0.63 ± 0.08		2
Total Dissolved Solids (mg/L)			↑597		494 to 541		520 ± 24		2
Total Suspended Solids (mg/L)			2.5 U		2.5 U to 2.5 U		2.5 ± 0		2
Sulfate (mg/L)			↑72		34 to 42		38 ± 4		2
Sulfide (mg/L)			0.1 U		0.1 U to 0.1 U		0.1 ± 0		2
Alkalinity (CaCO3) (mg/L)			↑470		430 to 450		440 ± 10		2
Alkalinity (CaCO3) (field) (mg/L)	500	500 <	500	350	125 to 500		350 ± 37		9
Organic Carbon (mg/L)			2		2 U to 2.2		2.1 ± 0.1		2
Chloride (mg/L)			↑3.2		1 U to 1 U		1 ± 0		2
Bromide (mg/L)			0.1 U		0.1 U to 0.1 U		0.1 ± 0		2
Methane (ug/L)			↓20 U		25 to 59		42 ± 17		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

LF-LD-11

Juniper Ridge Landfill

*Field parameters measured monthly by NEWSME.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.

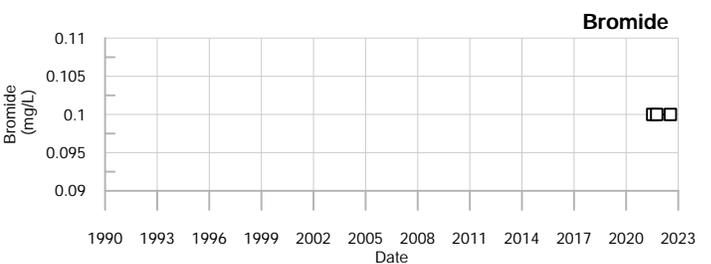
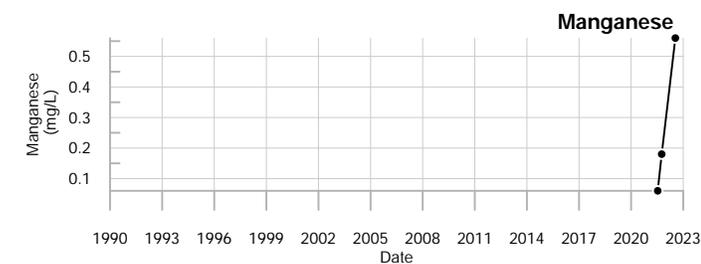
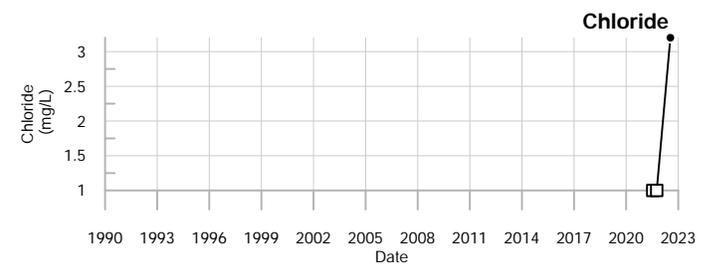
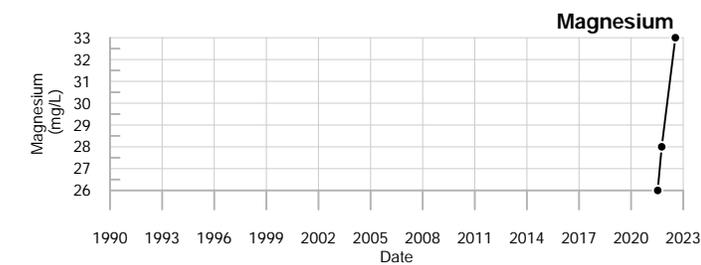
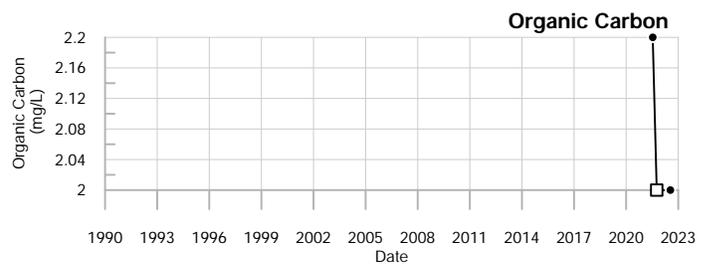
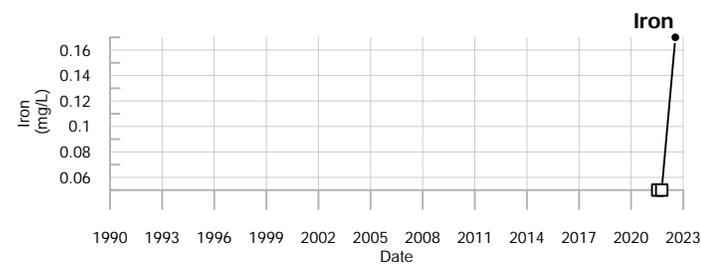
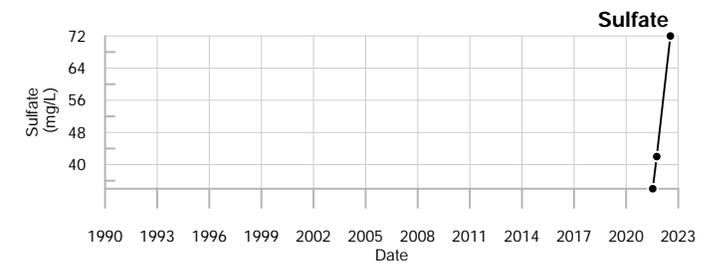
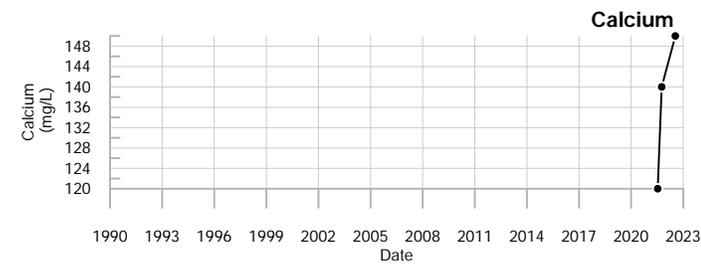
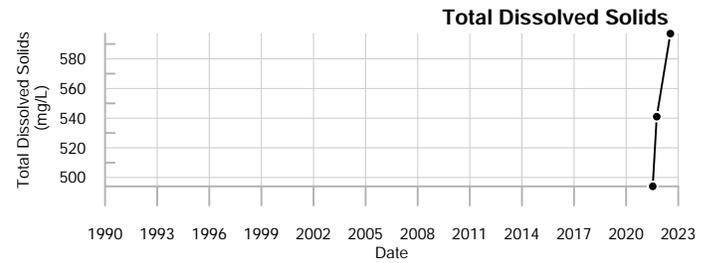
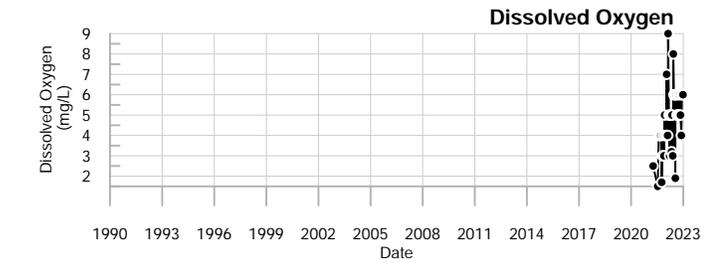
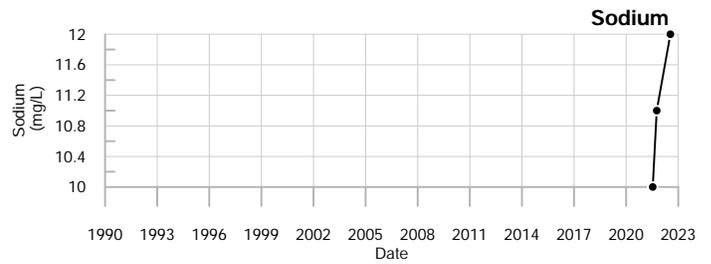
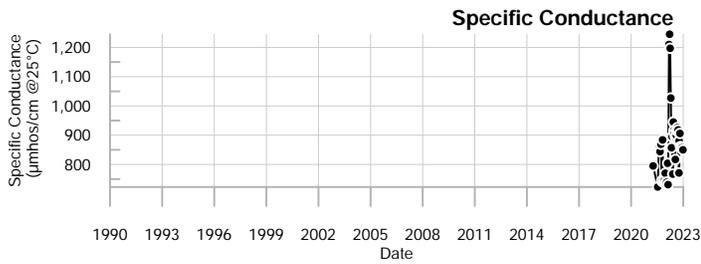
Q2= 4 - 2022 < = Less than specified amount

Q3= 7 - 2022

Q4= 10 - 2022

LF-LD-11

annual stats 2022 G2



LEGEND

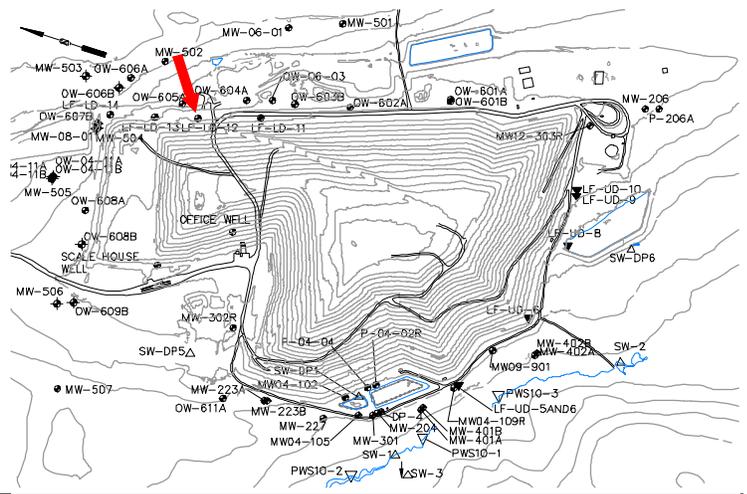
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-LD-11
Juniper Ridge Landfill

Well Description

LF-LD-12 monitors the leak detection system for Cell 12 from the Cell 12 leak detection system pump station



Sampled: **Annually in summer***
 Sampled Since: **Apr-21**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	627	581	553	574	369	to 737	590 ± 33		11
pH (STU)	↑6.8	6.5	↑6.9	↑6.7	4.3	to 6.5	6 ± 0.18		11
Temperature (Deg C)	19.2	21.3	23.3	19.9	16.8	to 23.9	20 ± 0.73		11
Eh (mV)	↓74	298	335	337	111	to 389	280 ± 28		11
Dissolved Oxygen (mg/L)	↑7	↑6	5	↑6	0.8	to 5	2.3 ± 0.37		11
Turbidity (field) (NTU)	↑47.8	6.5	3.4	3	0.2	to 8.8	4.2 ± 0.85		11
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005	0.005 ± 0		2
Calcium (mg/L)			86		47	to 91	69 ± 22		2
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003 ± 0		2
Iron (mg/L)			↑0.46		0.06	to 0.19	0.13 ± 0.065		2
Magnesium (mg/L)			16		8.1	to 16	12 ± 4		2
Manganese (mg/L)			↑5.3		0.77	to 3.3	2 ± 1.3		2
Potassium (mg/L)			4.5		3.2	to 4.5	3.9 ± 0.65		2
Sodium (mg/L)			7.8		7	to 9.2	8.1 ± 1.1		2
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05 ± 0		2
Total Kjeldahl Nitrogen (mg/L)			↑0.4		0.25	to 0.31	0.28 ± 0.03		2
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5 ± 0		2
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.063	0.057 ± 0.007		2
Total Dissolved Solids (mg/L)			343		240	to 397	320 ± 79		2
Total Suspended Solids (mg/L)			2.5 U		2.5 U	to 6.7	4.6 ± 2.1		2
Sulfate (mg/L)			41		31	to 48	40 ± 8.5		2
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 0		2
Alkalinity (CaCO3) (mg/L)			260		160	to 290	230 ± 65		2
Alkalinity (CaCO3) (field) (mg/L)	↑475	275	350	350	250	to 350	300 ± 16		8
Organic Carbon (mg/L)			3.6		2.4	to 3.8	3.1 ± 0.7		2
Chloride (mg/L)			↑2.2		1 U	to 1.5	1.3 ± 0.25		2
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1 ± 0		2
Methane (ug/L)			↑240		48	to 170	110 ± 61		2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

LF-LD-12

Juniper Ridge Landfill

*Field parameters measured monthly by NEWSME.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.

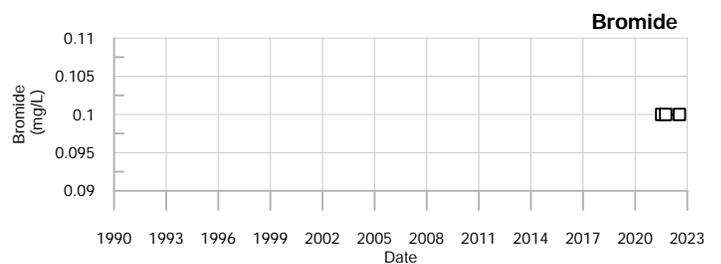
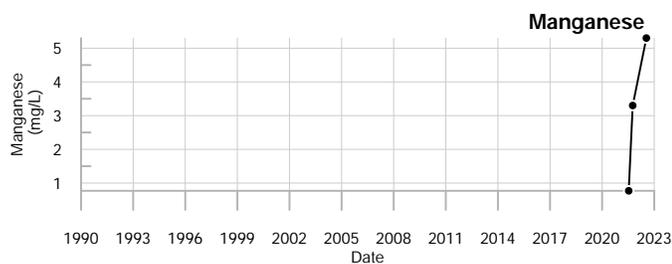
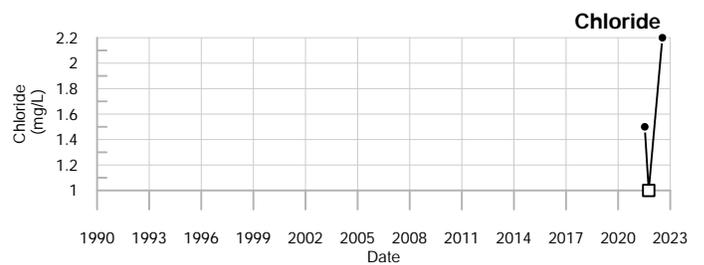
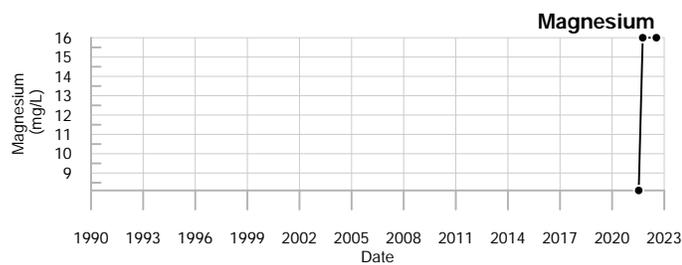
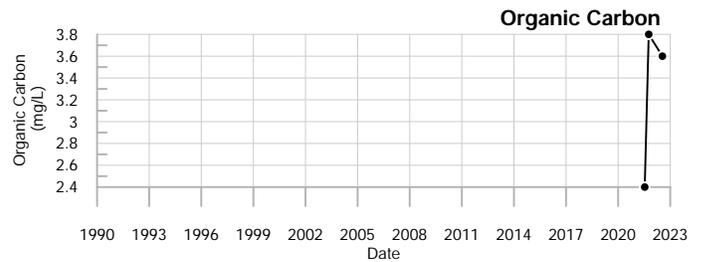
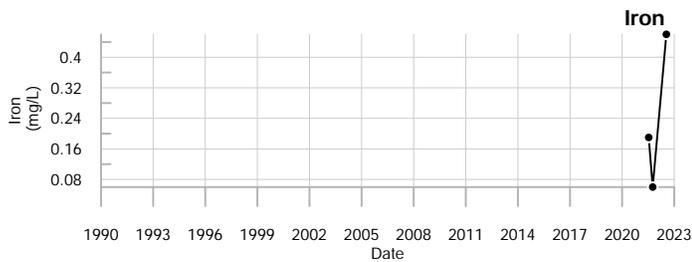
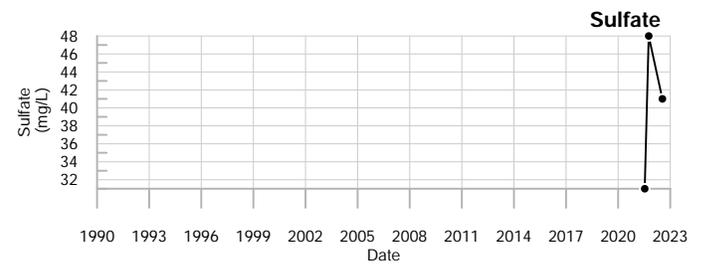
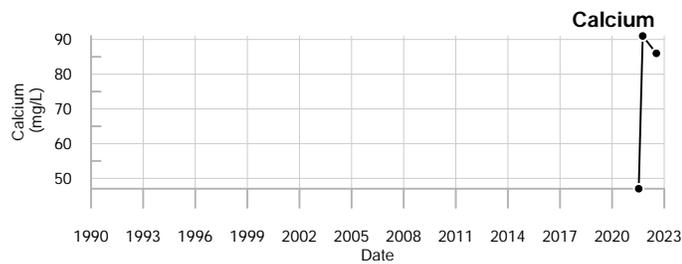
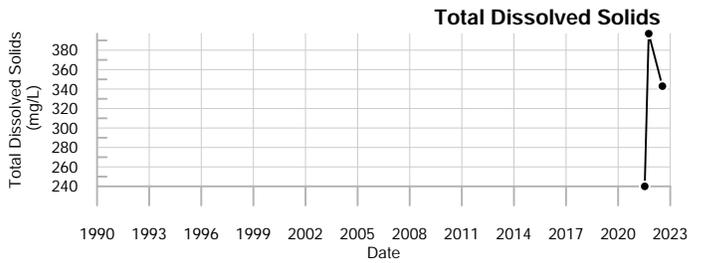
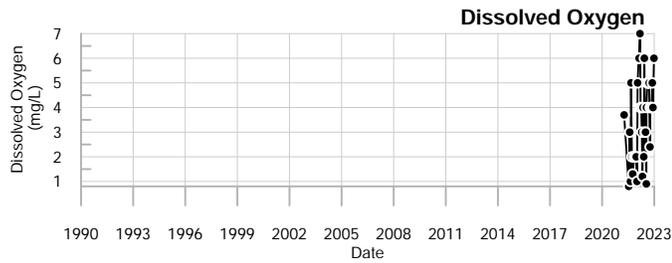
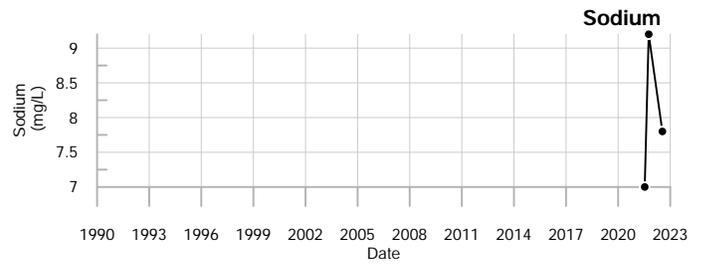
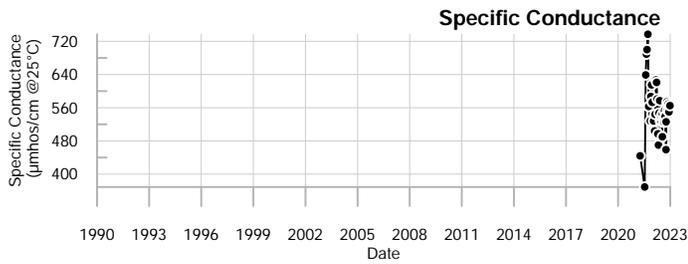
Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022

LF-LD-12

annual stats 2022 G2



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



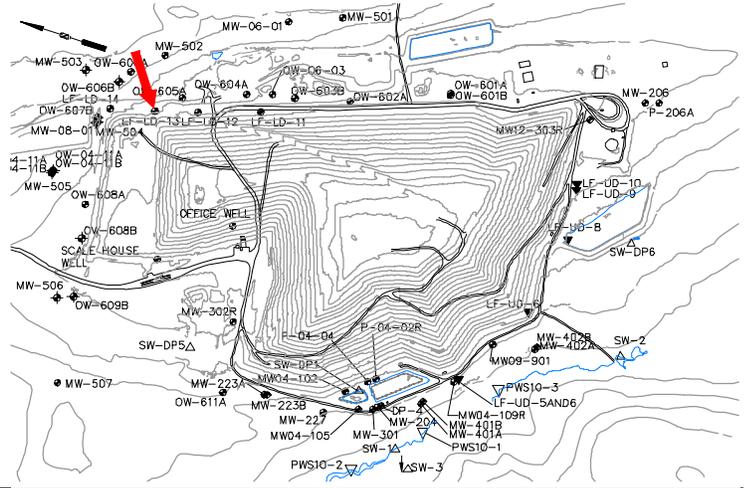
LF-LD-12
Juniper Ridge Landfill

Well Description

LF-LD-13 monitors the leak detection system for Cell 13 from the Cell 13 leak detection system pump station.

Sampled: **Annually in summer***
 Sampled Since: **9/14/2021**

Sampling Method:



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	340	341	376	346	226	to 381	290 ± 24		7
pH (STU)	7	6.9	7	↑7.2	6.3	to 7	6.7 ± 0.091		7
Temperature (Deg C)	19.1	↑27.9	↑23.1	19.8	17.2	to 22.7	19 ± 0.78		7
Eh (mV)	359	287	332	321	123	to 361	280 ± 39		7
Dissolved Oxygen (mg/L)	↑9	5	5	6	4	to 8	5.3 ± 0.71		6
Turbidity (field) (NTU)	2.6	2	9.8	9.4	0.9	to 209	32 ± 29		7
Arsenic (mg/L)			0.005 U				No historical data for Arsenic.		
Calcium (mg/L)			43				No historical data for Calcium.		
Copper (mg/L)			0.003 U				No historical data for Copper.		
Iron (mg/L)			0.05 U				No historical data for Iron.		
Magnesium (mg/L)			9				No historical data for Magnesium.		
Manganese (mg/L)			0.48				No historical data for Manganese.		
Potassium (mg/L)			4.1				No historical data for Potassium.		
Sodium (mg/L)			6.4				No historical data for Sodium.		
Boron (mg/L)			0.05 U				No historical data for Boron.		
Total Kjeldahl Nitrogen (mg/L)			0.29				No historical data for Total Kjeldahl Nitrogen.		
Ammonia (N) (mg/L)			0.5 U				No historical data for Ammonia (N).		
Nitrite/Nitrate - (N) (mg/L)			0.07				No historical data for Nitrite/Nitrate - (N).		
Total Dissolved Solids (mg/L)			207				No historical data for Total Dissolved Solids.		
Total Suspended Solids (mg/L)			2.5 U				No historical data for Total Suspended Solids.		
Sulfate (mg/L)			28				No historical data for Sulfate.		
Sulfide (mg/L)			0.1 U				No historical data for Sulfide.		
Alkalinity (CaCO3) (mg/L)			130				No historical data for Alkalinity (CaCO3).		
Alkalinity (CaCO3) (field) (mg/L)	90	90	↑250	↑200	70	to 125	88 ± 6.8		7
Organic Carbon (mg/L)			2.7				No historical data for Organic Carbon.		
Chloride (mg/L)			1.7				No historical data for Chloride.		
Bromide (mg/L)			0.1				No historical data for Bromide.		
Methane (ug/L)			53				No historical data for Methane.		

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

*Field parameters measured monthly by NEWSME.

LF-LD-13

Juniper Ridge Landfill

Q1= 1 - 2022

U = Not Detected above the laboratory reporting limit.

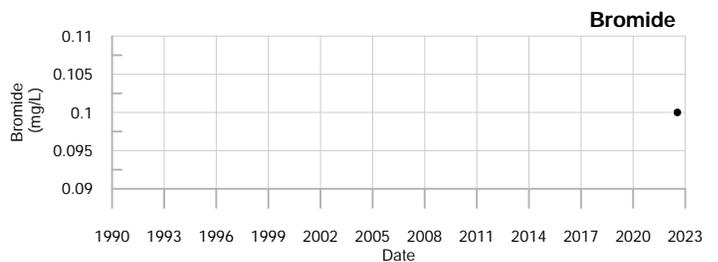
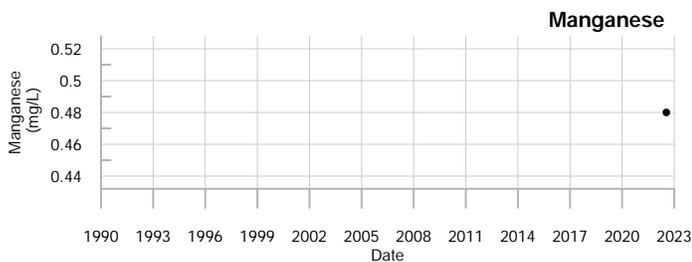
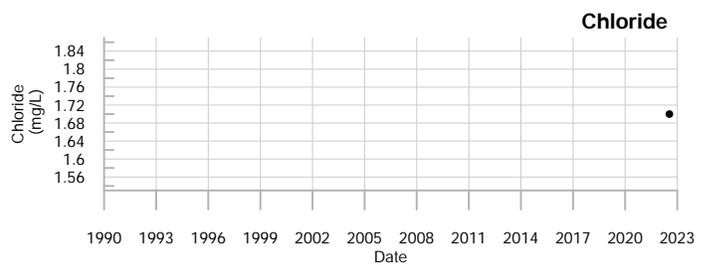
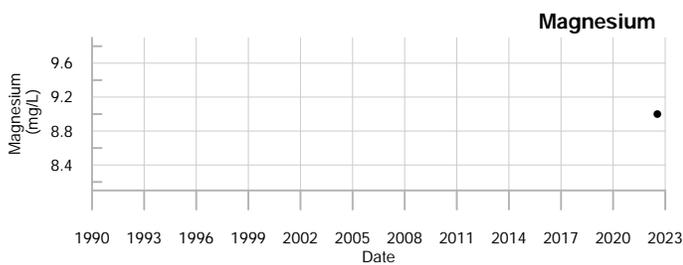
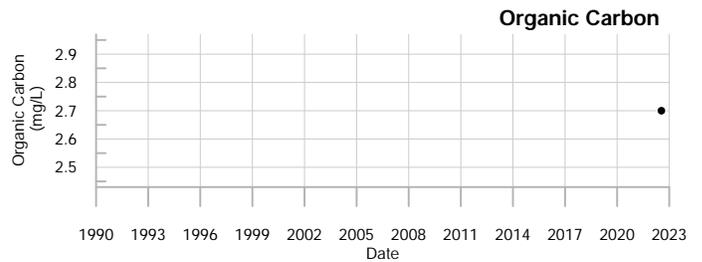
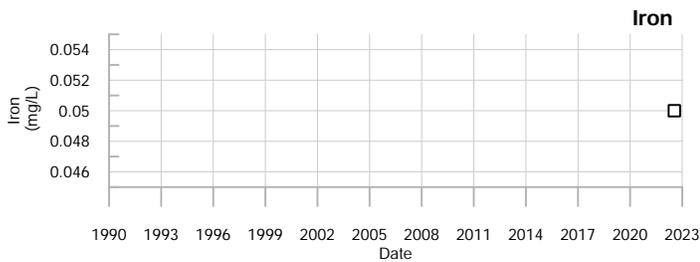
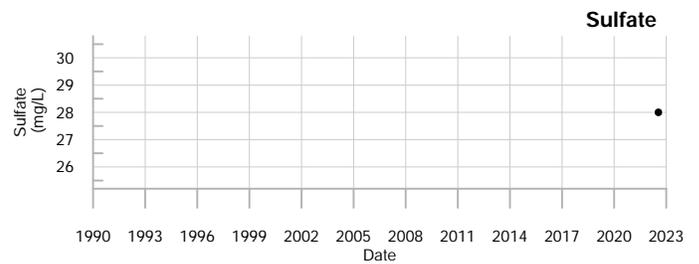
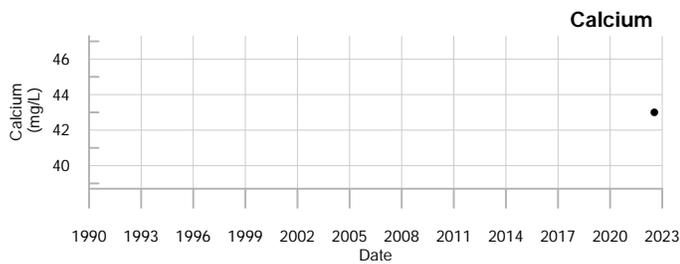
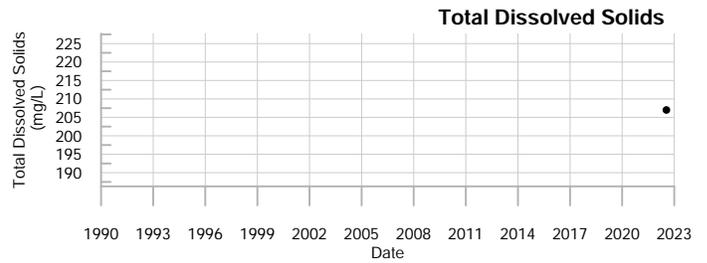
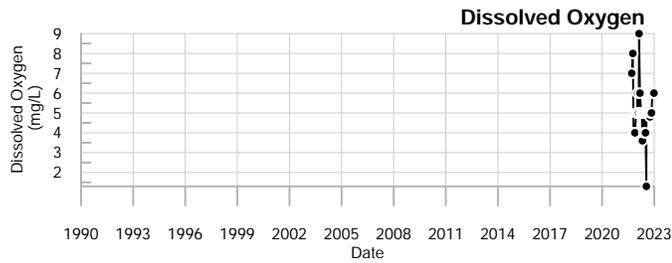
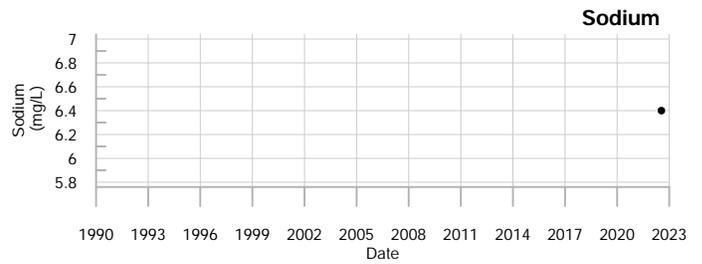
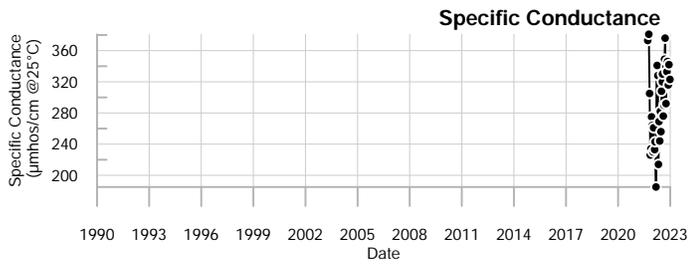
Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022

LF-LD-13

annual stats 2022 G2



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



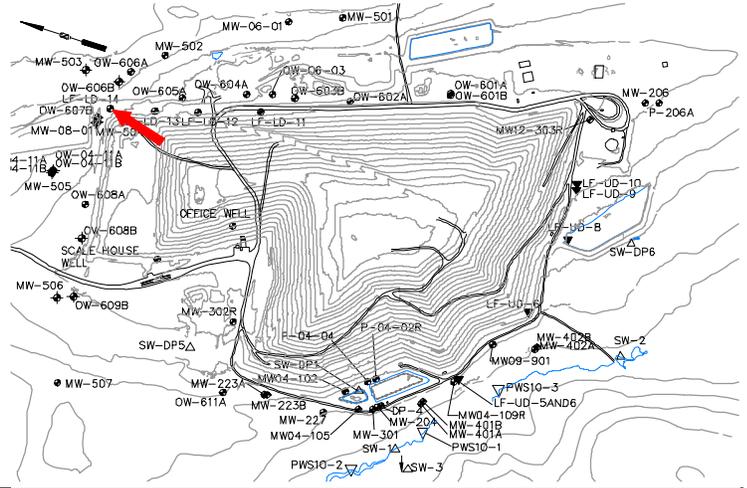
LF-LD-13
Juniper Ridge Landfill

Well Description

LF-LD-14 monitors the leak detection system for Cell 14 from the Cell 14 leak detection system pump station.

Sampled: **Annually in summer***
 Sampled Since: **7/26/2022**

Sampling Method:



Chemical Summary

Indicator Parameters	2022				Historical (-)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)			483	472	No historical data for Specific Conductance.				
pH (STU)			7.3	7.1	No historical data for pH.				
Temperature (Deg C)			22.2	19.5	No historical data for Temperature.				
Eh (mV)			294	308	No historical data for Eh.				
Dissolved Oxygen (mg/L)			6	6	No historical data for Dissolved Oxygen.				
Turbidity (field) (NTU)			5.5	4.7	No historical data for Turbidity (field).				
Alkalinity (CaCO3) (field) (mg/L)			250	275	No historical data for Alkalinity (CaCO3) (field).				

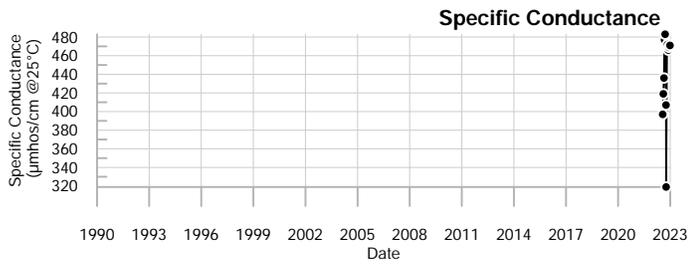
underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

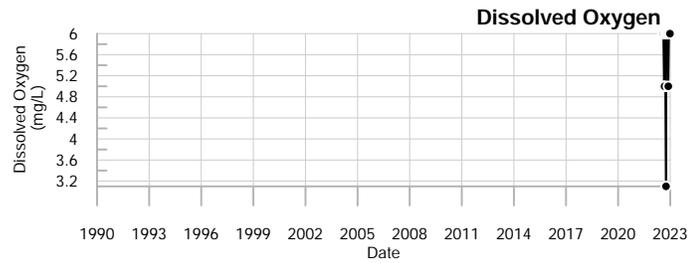
Comments

*Field parameters measured monthly by NEWSME.

- Q1= 1 - 2022
- Q2= 4 - 2022
- Q3= 7 - 2022
- Q4= 10 - 2022



No Data Found for Sodium



No Data Found for Total Dissolved Solids

No Data Found for Calcium

No Data Found for Sulfate

No Data Found for Iron

No Data Found for Organic Carbon

No Data Found for Magnesium

No Data Found for Chloride

No Data Found for Manganese

No Data Found for Bromide

LEGEND

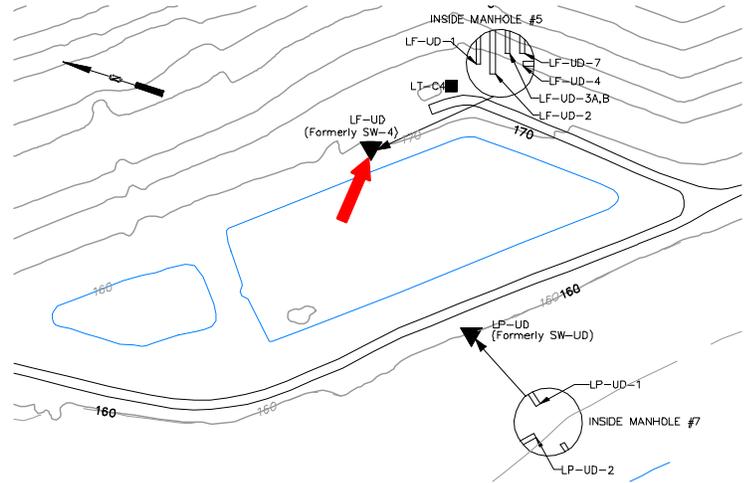
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-LD-14
Juniper Ridge Landfill

Well Description

LF-UD-1 monitors the landfill underdrain from Cell #1 at Manhole #5.



Sampled: **Monthly & 3 Times Annually**
 Sampled Since: **07/28/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	102 to 611		330 ± 6		139
pH (STU)	H8	H8	H8	H8	6.3 to 8.4		7.3 ± 0.042		139
Temperature (Deg C)	H8	H8	H8	H8	0.6 to 25.9		14 ± 0.44		139
Eh (mV)	H8	H8	H8	H8	173 to 524		340 ± 5.3		139
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	2 to 11		6.6 ± 0.14		138
Turbidity (field) (NTU)	H8	H8	H8	H8	0 to 8.1		1.1 ± 0.11		138
Arsenic (mg/L)		F6	F6	F6	0.001 to 0.015		0.0058 ± 0.000		30
Calcium (mg/L)		F6	F6	F6	25 to 58		43 ± 1.7		30
Iron (mg/L)		F6	F6	F6	0.02 U to 4.57		0.22 ± 0.15		30
Magnesium (mg/L)		F6	F6	F6	7.4 to 14		10 ± 0.29		30
Manganese (mg/L)		F6	F6	F6	0.02 U to 0.1		0.034 ± 0.004		30
Potassium (mg/L)		F6	F6	F6	1.8 to 4.1		3 ± 0.14		30
Sodium (mg/L)		F6	F6	F6	5.8 to 10		8 ± 0.19		30
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	0.07 to 2 U		0.52 ± 0.25		7
Total Phosphorus Mixed Forms (PO4 and		F6	F6	F6	0.01 U to 0.33		0.039 ± 0.011		30
Total Dissolved Solids (mg/L)		F6	F6	F6	130 to 290		200 ± 7.1		30
Total Suspended Solids (mg/L)		F6	F6	F6	2.5 U to 394		23 ± 13		30
Sulfate (mg/L)		F6	F6	F6	4.1 to 35		9.6 ± 1.2		30
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	110 to 179		150 ± 4.2		30
Alkalinity (CaCO3) (field) (mg/L)	H8	H8	H8		40 to 485		140 ± 4.2		132
Organic Carbon (mg/L)		F6	F6	F6	0.5 U to 6.4		1.9 ± 0.19		30
Chloride (mg/L)		F6	F6	F6	1.9 to 26		9.1 ± 1.5		30
Bromide (mg/L)		F6	F6	F6	0.1 U to 0.21		0.15 ± 0.014		11

underlined/bold - values exceed a regulatory standard listed below.

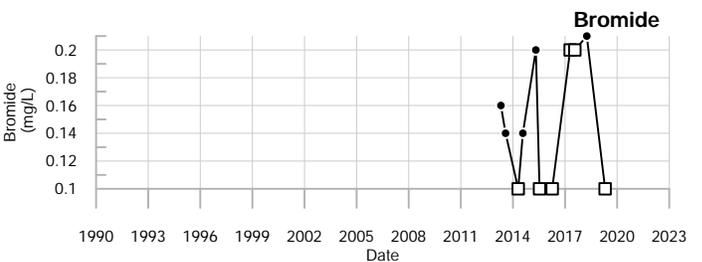
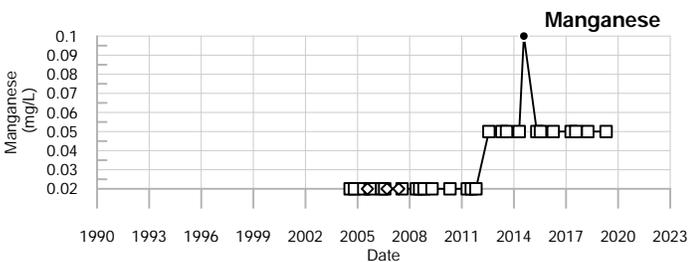
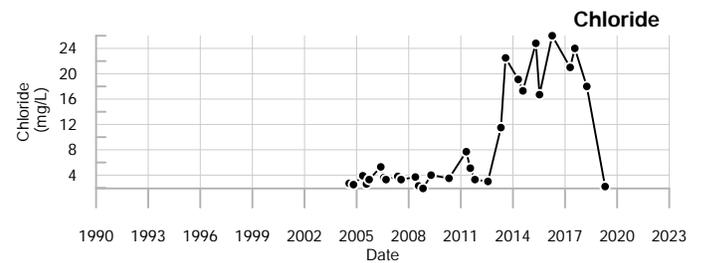
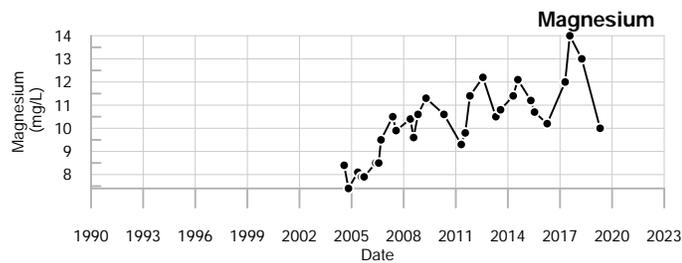
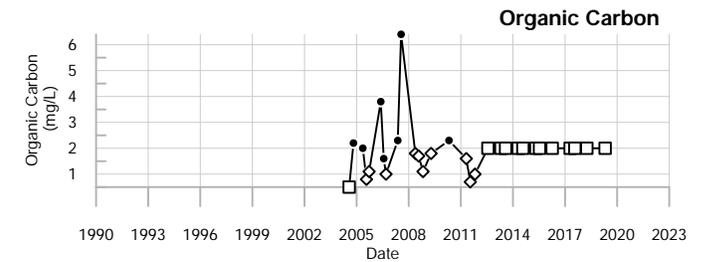
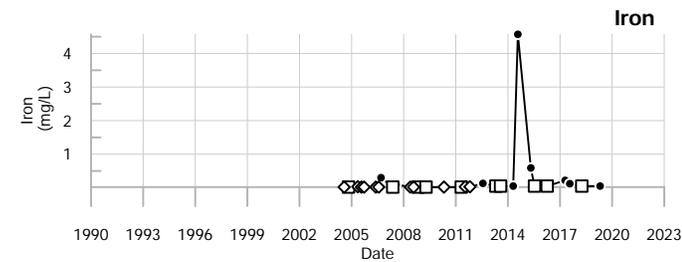
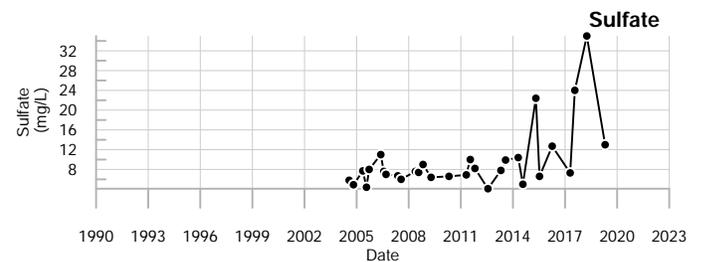
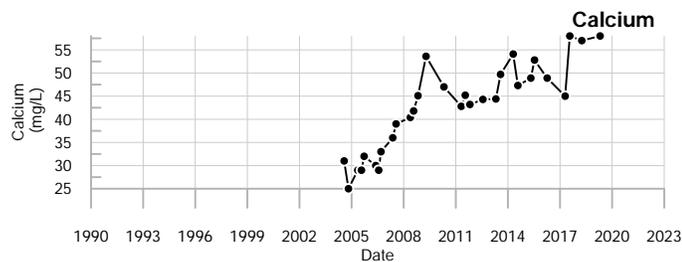
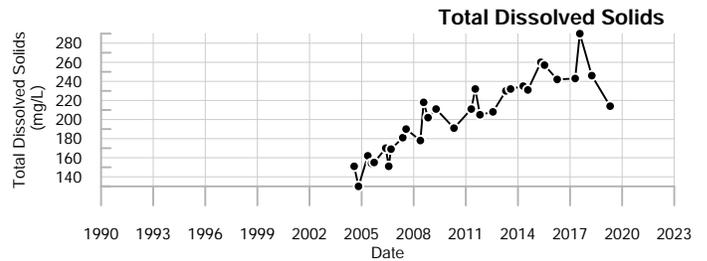
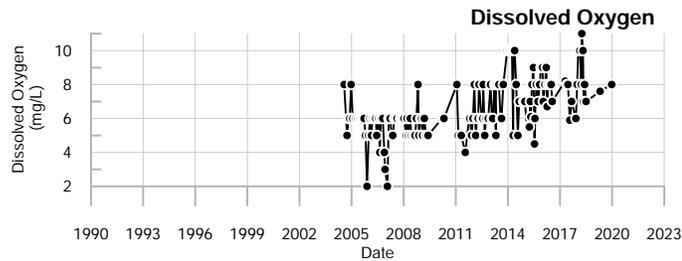
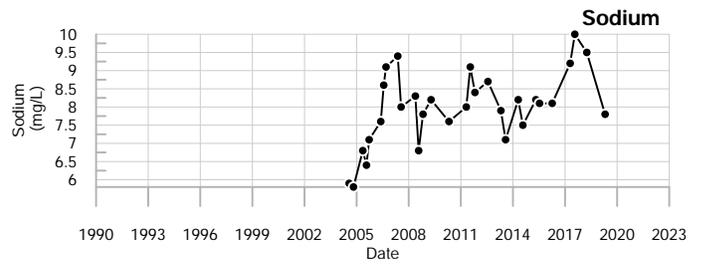
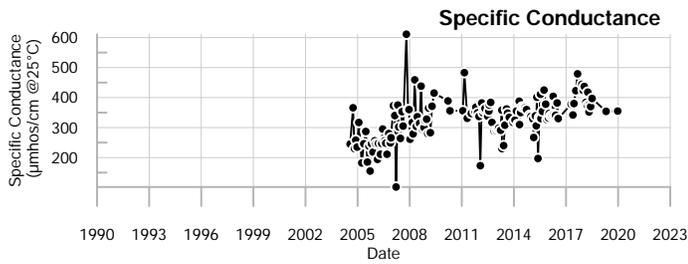
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↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 H8 = No flow from pipe. See LF-COMP for readings
- Q2= 4 - 2022 F6 = No flow. Sample not taken.
- Q3= 7 - 2022 D = The sampling location was dry.
- Q4= 10 - 2022



LEGEND

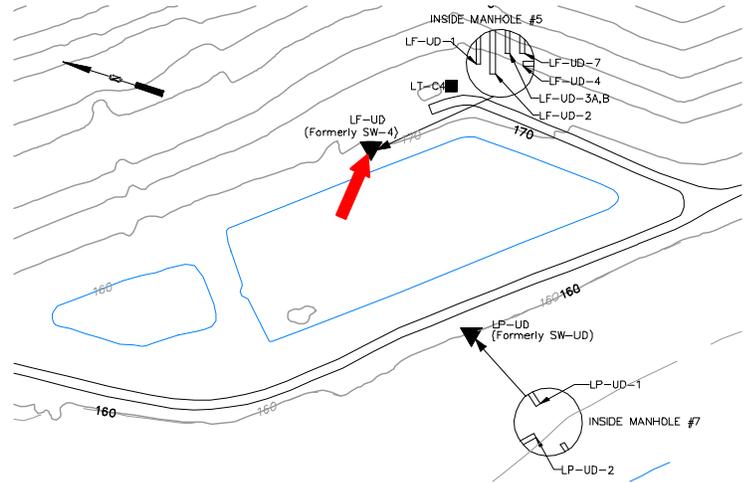
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-UD-1
Juniper Ridge Landfill

Well Description

LF-UD-2 monitors the landfill underdrain from Cell #2 at Manhole #5.



Sampled: **Monthly & 3 Times Annually**

Sampled Since: **07/28/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	134	to 709	330 ± 6.2		202
pH (STU)	H8	H8	H8	H8	6	to 8.5	7.5 ± 0.036		202
Temperature (Deg C)	H8	H8	H8	H8	2.2	to 28.4	16 ± 0.36		202
Eh (mV)	H8	H8	H8	H8	168	to 554	340 ± 4.8		202
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	2	to 10.2	6.4 ± 0.095		200
Turbidity (field) (NTU)	H8	H8	H8	H8	0	to 8.7	0.97 ± 0.1		201
Arsenic (mg/L)		F6	F6	F6	0.001 U	to 0.024	0.007 ± 0.000		46
Calcium (mg/L)		F6	F6	F6	20	to 71.5	45 ± 2.1		46
Iron (mg/L)		F6	F6	F6	0.02 U	to 2.5	0.14 ± 0.057		46
Magnesium (mg/L)		F6	F6	F6	6.1	to 15	10 ± 0.35		46
Manganese (mg/L)		F6	F6	F6	0.02 U	to 0.13	0.038 ± 0.003		46
Potassium (mg/L)		F6	F6	F6	1.9	to 5.4	3.2 ± 0.12		46
Sodium (mg/L)		F6	F6	F6	5.2	to 18.1	7.9 ± 0.4		46
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	0.05 U	to 2 U	0.35 ± 0.11		17
Total Phosphorus Mixed Forms (PO4 and		F6	F6	F6	0.01 U	to 0.66	0.049 ± 0.014		46
Total Dissolved Solids (mg/L)		F6	F6	F6	132	to 307	220 ± 8		46
Total Suspended Solids (mg/L)		F6	F6	F6	2.5 U	to 370	18 ± 8.1		46
Sulfate (mg/L)		F6	F6	F6	2 U	to 56	8.9 ± 1.4		46
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	92	to 230	150 ± 5.7		46
Alkalinity (CaCO3) (field) (mg/L)	H8	H8	H8		35	to 350	140 ± 3.1		183
Organic Carbon (mg/L)		F6	F6	F6	0.6	to 43	2.8 ± 0.93		46
Chloride (mg/L)		F6	F6	F6	1.7	to 41.2	12 ± 1.6		46
Bromide (mg/L)		F6	F6	F6	0.1 U	to 0.2	0.15 ± 0.009		23

underlined/bold - values exceed a regulatory standard listed below.

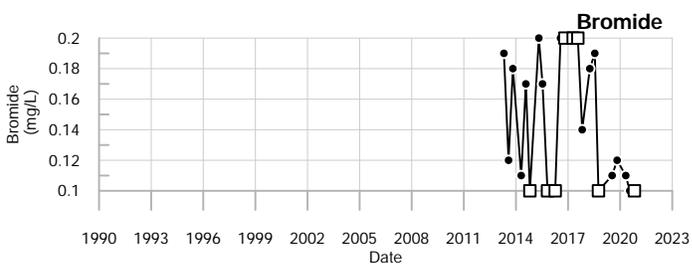
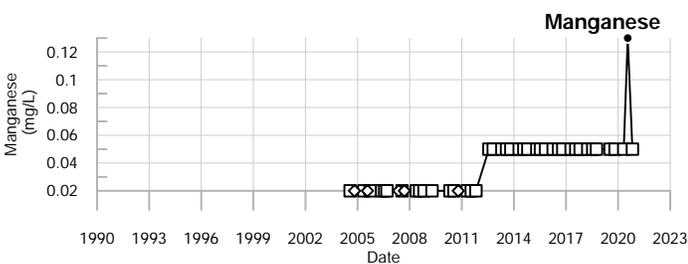
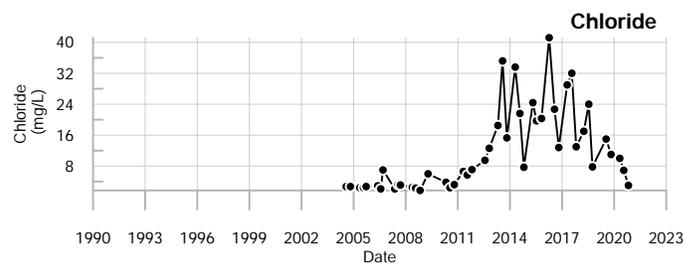
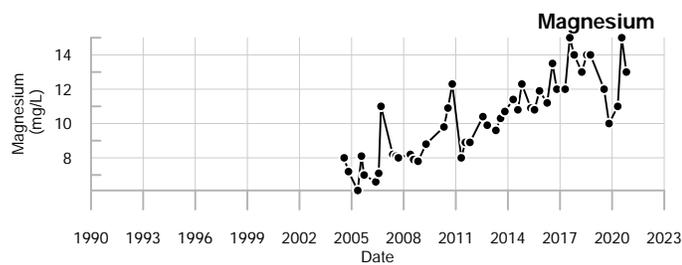
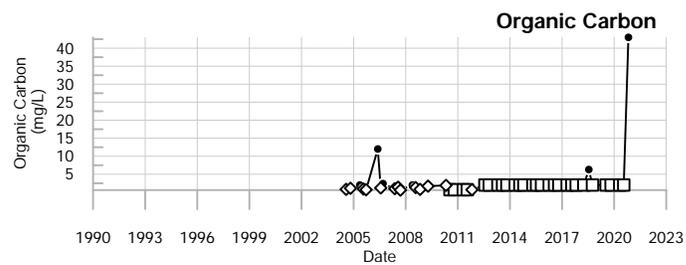
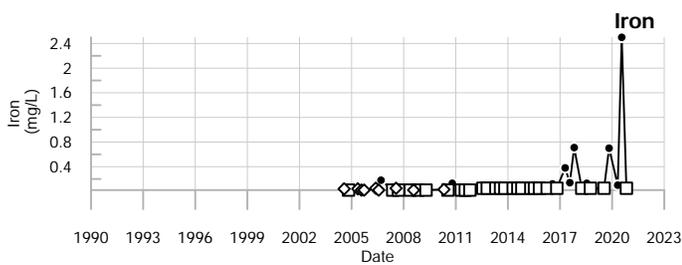
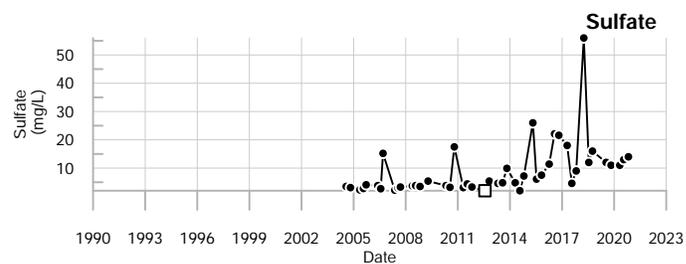
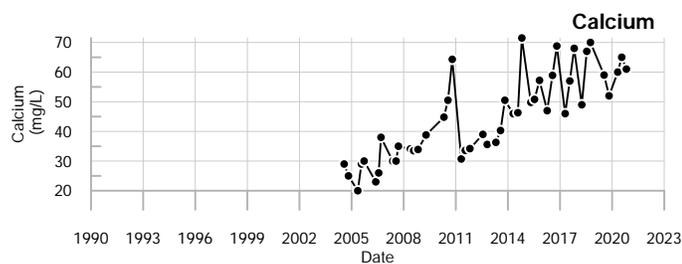
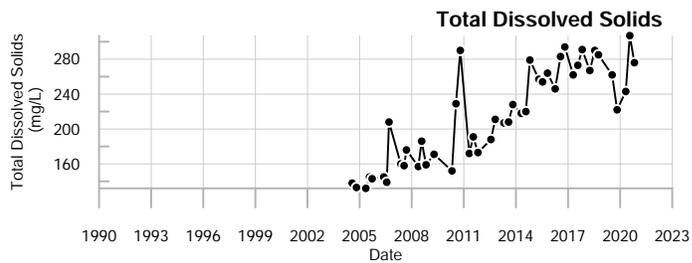
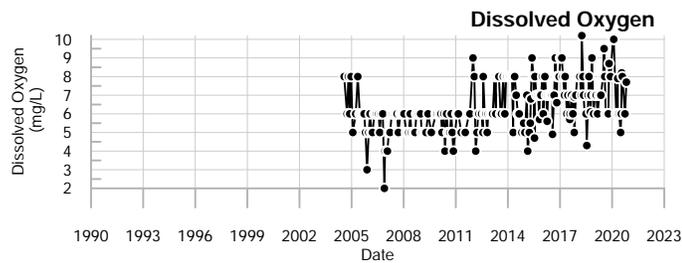
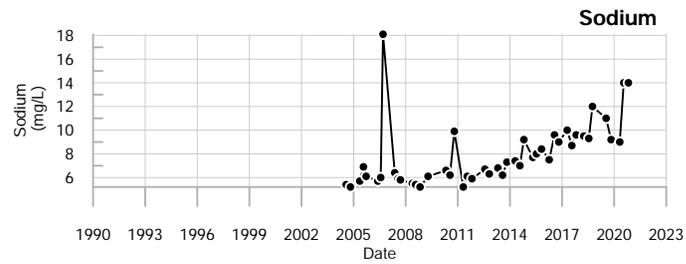
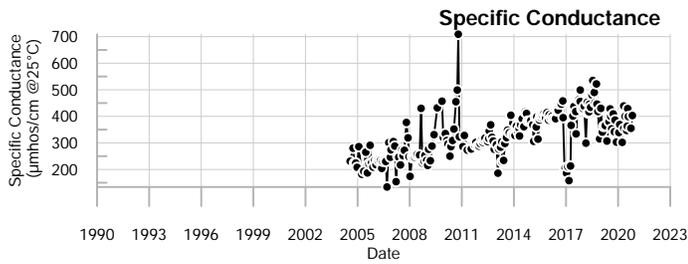
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↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 H8 = No flow from pipe. See LF-COMP for readings
- Q2= 4 - 2022 F6 = No flow. Sample not taken.
- Q3= 7 - 2022 D = The sampling location was dry.
- Q4= 10 - 2022



LEGEND

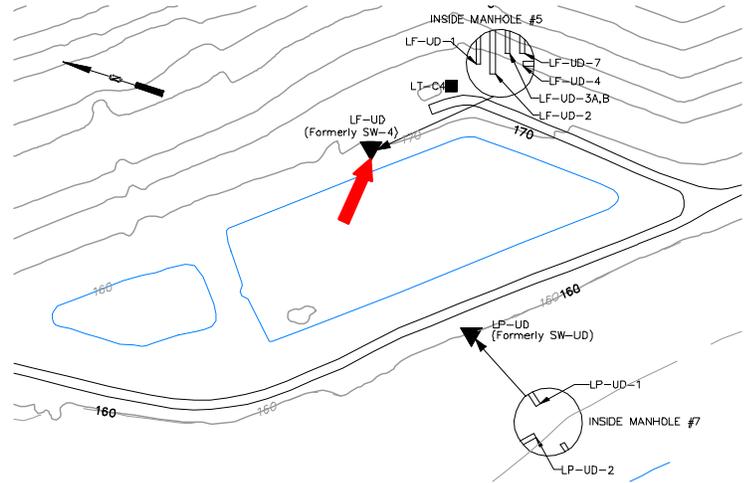
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-UD-2
Juniper Ridge Landfill

Well Description

LF-UD-3A, B monitors the landfill underdrains from cell 3A and cell 3B at Manhole #5.



Sampled: **Monthly and 3 Times Annually**
 Sampled Since: **July 2011**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	126	to 565	370 ± 19		27
pH (STU)	H8	H8	H8	H8	6.2	to 8.4	7.6 ± 0.12		27
Temperature (Deg C)	H8	H8	H8	H8	5	to 19.8	13 ± 0.82		27
Eh (mV)	H8	H8	H8	H8	94	to 447	290 ± 13		27
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	4	to 8	5.6 ± 0.14		27
Turbidity (field) (NTU)	H8	H8	H8	H8	0	to 5	0.9 ± 0.2		27
Arsenic (mg/L)		F6	F6	F6	0.003 U	to 0.01	0.0048 ± 0.001		5
Calcium (mg/L)		F6	F6	F6	46.4	to 69.9	56 ± 4.4		5
Iron (mg/L)		F6	F6	F6	0.02 U	to 0.02 U	0.02 ± 1E-10		5
Magnesium (mg/L)		F6	F6	F6	8.2	to 12.5	10 ± 0.81		5
Manganese (mg/L)		F6	F6	F6	0.02 U	to 0.12	0.048 ± 0.02		5
Potassium (mg/L)		F6	F6	F6	1.8	to 3.3	2.4 ± 0.31		5
Sodium (mg/L)		F6	F6	F6	6	to 9.5	8 ± 0.63		5
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	No historical data for Nitrite/Nitrate - (N).				
Total Phosphorus Mixed Forms (PO4 and		F6	F6	F6	0.01 U	to 0.01	0.01 ± 7E-11		5
Total Dissolved Solids (mg/L)		F6	F6	F6	163	to 263	230 ± 17		5
Total Suspended Solids (mg/L)		F6	F6	F6	4 U	to 4 U	4 ± 0		5
Sulfate (mg/L)		F6	F6	F6	8.3	to 16.3	13 ± 1.3		5
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	123	to 201	160 ± 15		5
Alkalinity (CaCO3) (field) (mg/L)	H8	H8	H8		85	to 475	180 ± 17		27
Organic Carbon (mg/L)		F6	F6	F6	1.2	to 4.8	3.4 ± 0.66		5
Chloride (mg/L)		F6	F6	F6	2.4	to 12.6	7.8 ± 1.7		5
Bromide (mg/L)		F6	F6	F6	No historical data for Bromide.				

underlined/bold - values exceed a regulatory standard listed below.

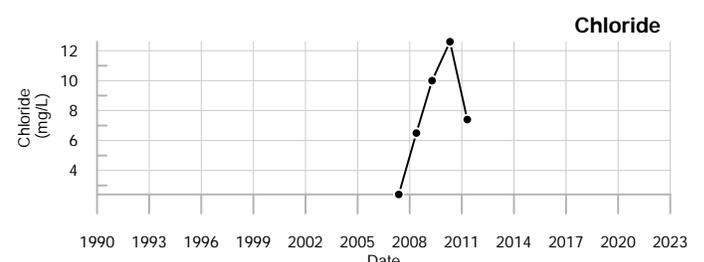
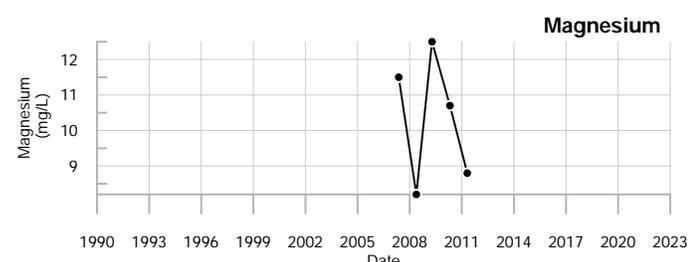
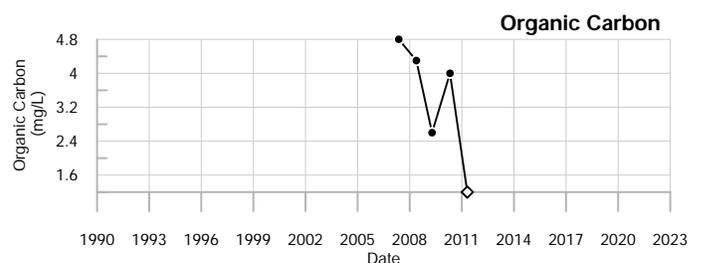
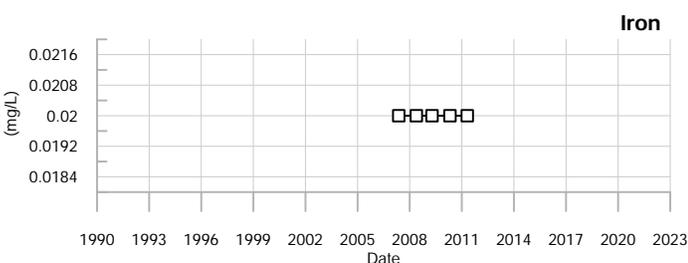
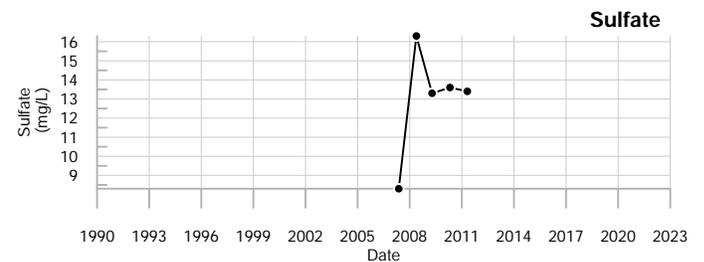
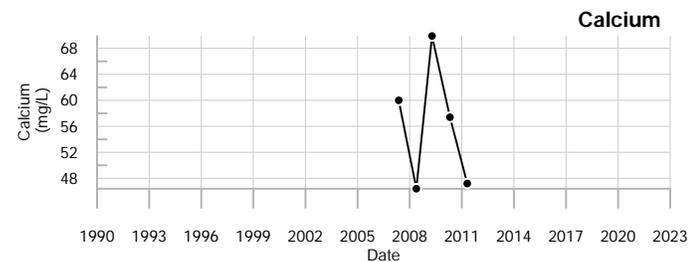
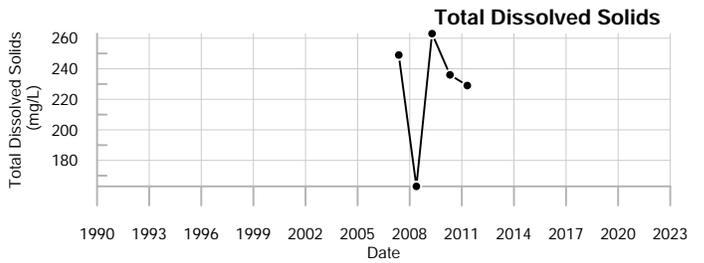
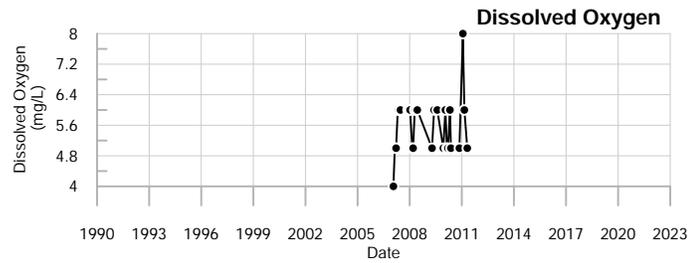
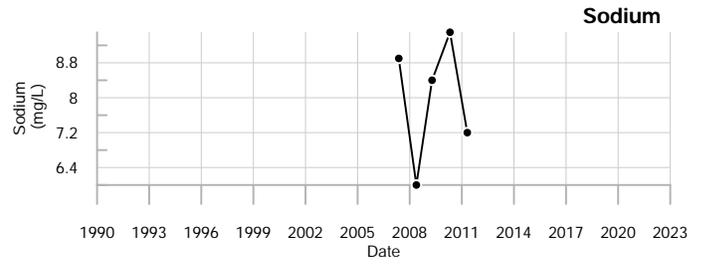
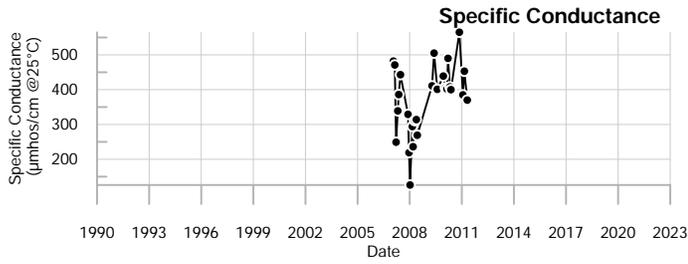
Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

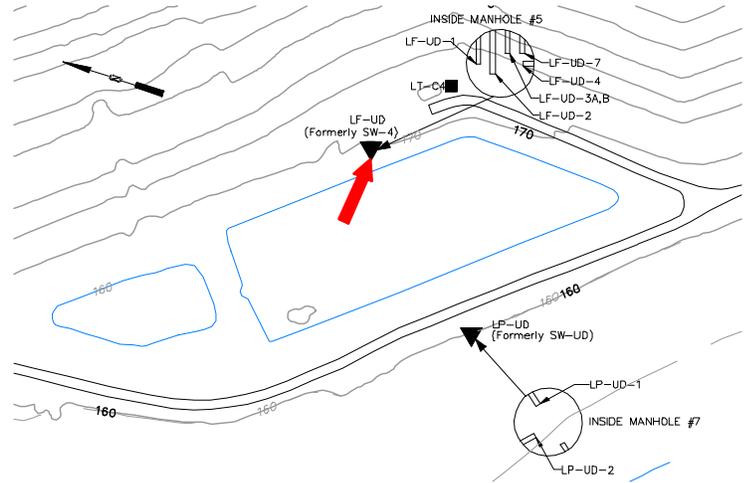
This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 H8 = No flow from pipe. See LF-COMP for readings
- Q2= 4 - 2022 F6 = No flow. Sample not taken.
- Q3= 7 - 2022 D = The sampling location was dry.
- Q4= 10 - 2022



Well Description

LF-UD-4 monitors the landfill underdrain from Cell #4 at Manhole #5.



Sampled: **Monthly & 3 Times Annually**
 Sampled Since: **03/11/2009**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	↓321	H8	↓153	327 to 562		420 ± 7.8		41
pH (STU)	H8	7.3	H8	7.4	6.9 to 8.3		7.5 ± 0.068		41
Temperature (Deg C)	H8	8	H8	10.4	4.5 to 30.7		17 ± 0.75		41
Eh (mV)	H8	265	H8	358	212 to 571		350 ± 13		41
Dissolved Oxygen (mg/L)	H8	7.3	H8	4.4	4 to 10.3		6.4 ± 0.26		41
Turbidity (field) (NTU)	H8	0.2	H8	0.3	0 to 9.1		0.94 ± 0.23		41
Arsenic (mg/L)		0.005 U	F6	0.005 U	0.002 to 0.014		0.0069 ± 0.000		14
Calcium (mg/L)		57	F6	64	44.8 to 75.7		57 ± 2.3		14
Iron (mg/L)		0.45	F6	0.37	0.02 U to 1.4		0.18 ± 0.096		14
Magnesium (mg/L)		↓9.4	F6	11	9.5 to 14		12 ± 0.43		14
Manganese (mg/L)		0.05 U	F6	0.05 U	0.02 U to 0.16		0.056 ± 0.008		14
Potassium (mg/L)		3.7	F6	4	3.4 to 5.8		4.1 ± 0.18		14
Sodium (mg/L)		7.9	F6	10	7.4 to 11		9.5 ± 0.29		14
Nitrite/Nitrate - (N) (mg/L)		↑0.41	F6	↑0.42	0.13 to 0.28		0.21 ± 0.02		8
Total Phosphorus Mixed Forms (PO4 and		0.08	F6	0.06	0.01 U to 0.18		0.049 ± 0.01		14
Total Dissolved Solids (mg/L)		227	F6	240	206 to 298		250 ± 6.8		14
Total Suspended Solids (mg/L)		25	F6	27	2.5 U to 210		30 ± 16		14
Sulfate (mg/L)		9.9	F6	11	2 U to 27		14 ± 2		14
Bicarbonate Alkalinity (CaCO3) (mg/L)		190	F6	200	136 to 210		180 ± 5.6		14
Organic Carbon (mg/L)		↓1 U	F6	↓1 U	2 U to 5.1		2.3 ± 0.22		14
Chloride (mg/L)		1.9	F6	↓1 U	1.3 to 24		11 ± 2		14
Bromide (mg/L)		0.1 U	F6	0.1 U	0.1 U to 0.2		0.15 ± 0.014		11

underlined/bold - values exceed a regulatory standard listed below.

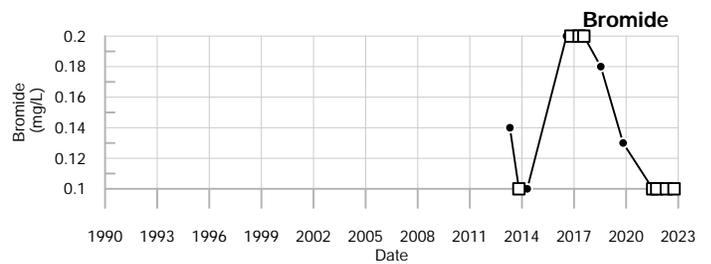
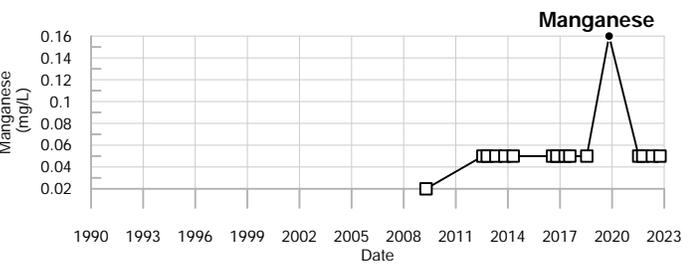
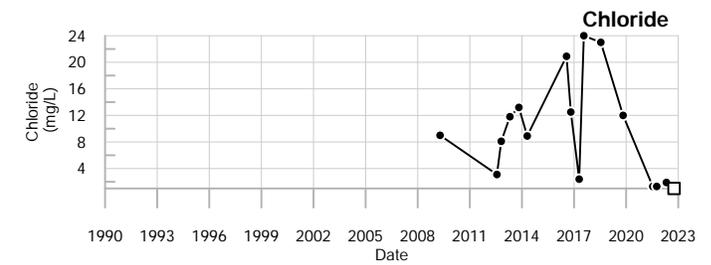
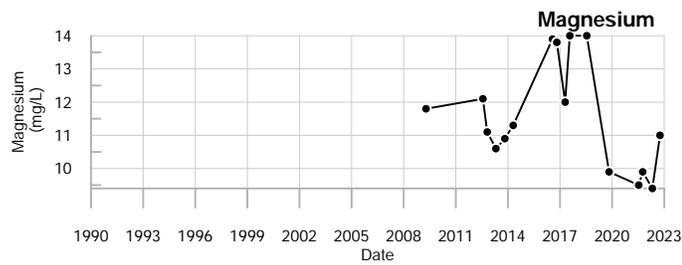
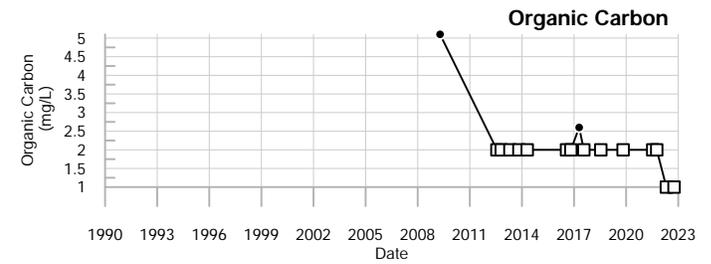
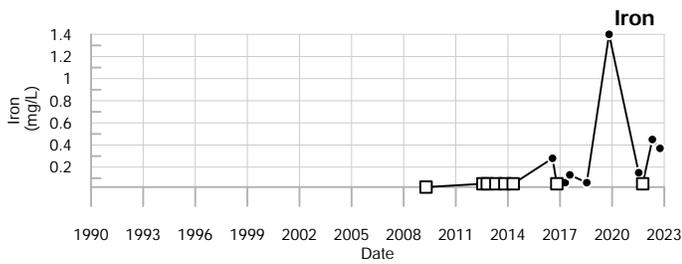
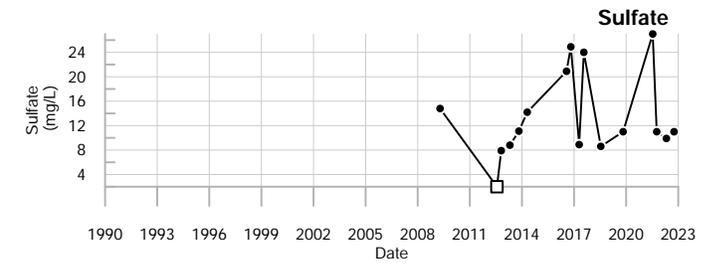
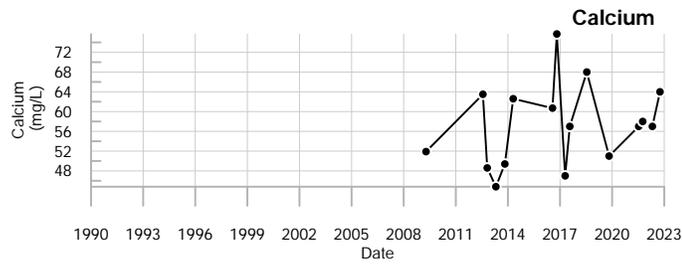
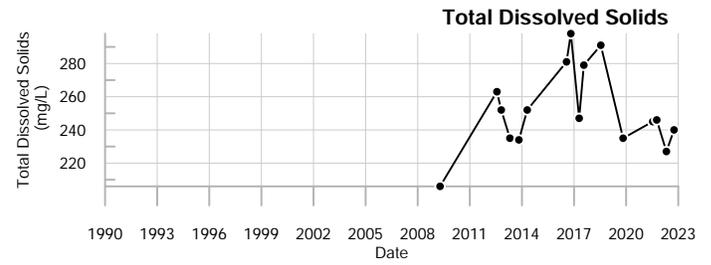
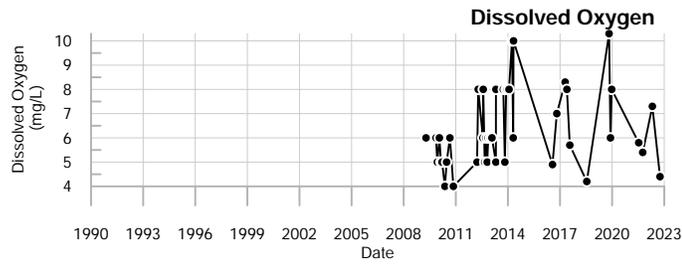
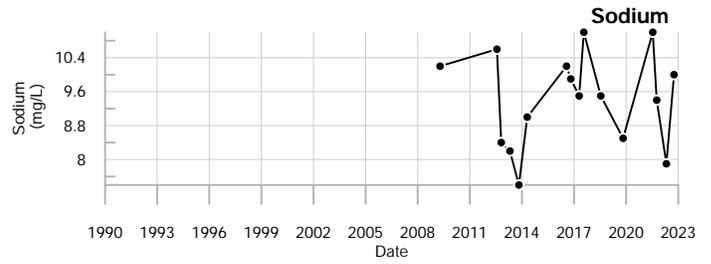
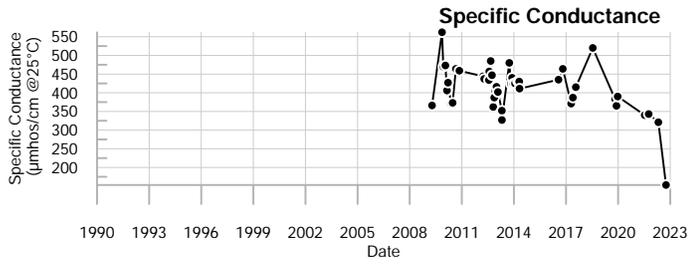
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↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.
- Q2= 4 - 2022 H8 = No flow from pipe. See LF-COMP for readings
- Q3= 7 - 2022 F6 = No flow. Sample not taken.
- Q4= 10 - 2022 D = The sampling location was dry.



LEGEND

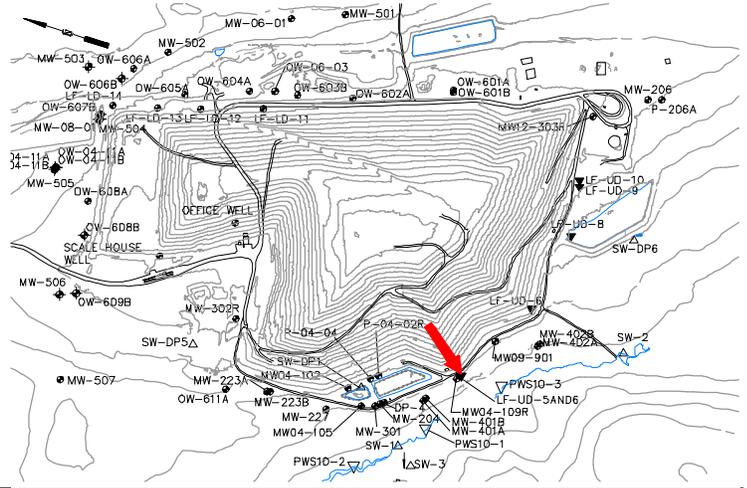
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-UD-4
Juniper Ridge Landfill

Well Description

LF-UD-5and6 monitors the landfill underdrain from Cell #5 and Cell #6(composite). This underdrain pipe is located southeast of MW04-109R.



Sampled: **3 Times Annually and Monthly**
 Sampled Since: **July 2011**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	316	365	390	330	117	to 652	370 ± 6.8		150
pH (STU)	8	8.3	8.3	8.4	6.7	to 8.5	7.8 ± 0.033		150
Temperature (Deg C)	7.4	9.8	23	9.9	4.2	to 26.5	16 ± 0.38		150
Eh (mV)	98	368	335	320	70	to 532	360 ± 4.5		149
Dissolved Oxygen (mg/L)	8	7.4	6	6	4	to 12.8	7.4 ± 0.13		148
Turbidity (field) (NTU)	6.3	↑57.7	50.5	8.9	0	to 51.3	3.2 ± 0.57		149
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.024	0.0091 ± 0.000		31
Calcium (mg/L)		44	56	52	38	to 71.3	53 ± 1.6		31
Iron (mg/L)		0.36	0.05 U	0.59	0.02 U	to 11.3	0.48 ± 0.36		31
Magnesium (mg/L)		11	13	11	8.4	to 15.4	11 ± 0.29		31
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.25	0.054 ± 0.007		31
Potassium (mg/L)		3.3	2.7	2.5	2.3	to 7	3.7 ± 0.22		31
Sodium (mg/L)		8.1	8.8	8.2	6.2	to 10.2	8.2 ± 0.18		31
Nitrite/Nitrate - (N) (mg/L)		0.13	0.1	0.21	0.05 U	to 0.5 U	0.19 ± 0.03		18
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.04 U	0.07	0.01	to 0.16	0.045 ± 0.004		31
Total Dissolved Solids (mg/L)		202	241	200	185	to 332	240 ± 6.6		31
Total Suspended Solids (mg/L)		5	2.5 U	16	2.5 U	to 154	18 ± 6.4		31
Sulfate (mg/L)		10	10	↓8.4	8.7	to 39	14 ± 1.1		31
Bicarbonate Alkalinity (CaCO3) (mg/L)		160	190	170	150	to 238	190 ± 4.6		31
Alkalinity (CaCO3) (field) (mg/L)	150	175	200	175	35	to 435	170 ± 4.7		129
Organic Carbon (mg/L)		↓1 U	↓1 U	↓1 U	1.5	to 2.5	2 ± 0.031		31
Chloride (mg/L)		2.5	2.9	2.1	1.5	to 6.2	2.9 ± 0.17		31
Bromide (mg/L)		0.12	0.15	0.11	0.1 U	to 0.2 U	0.13 ± 0.008		23

underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

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Comments

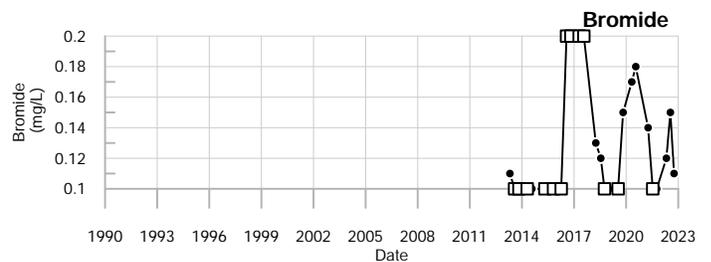
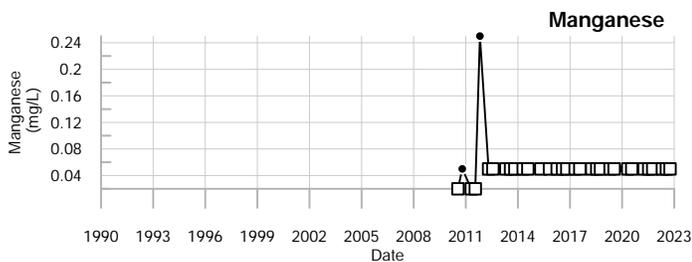
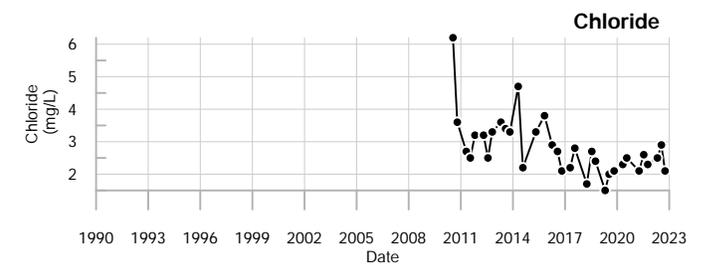
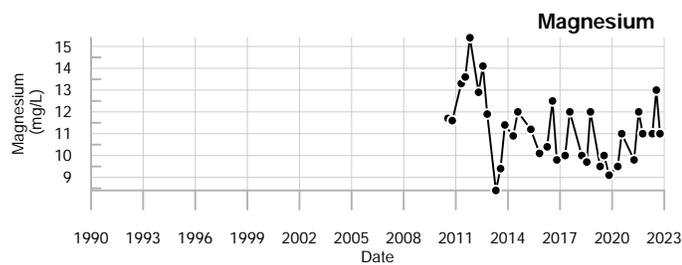
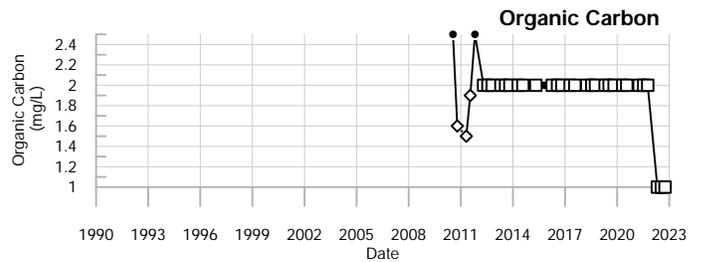
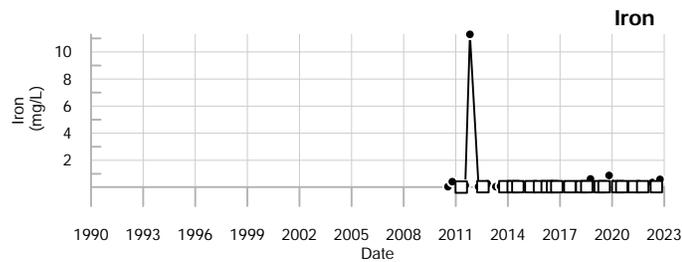
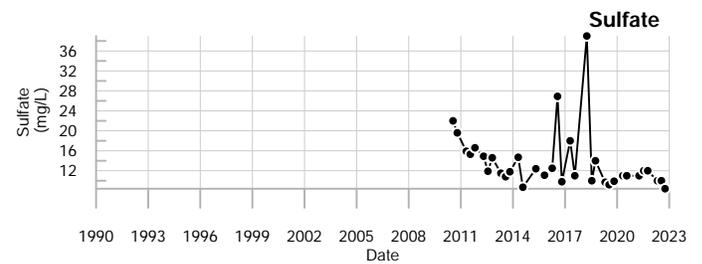
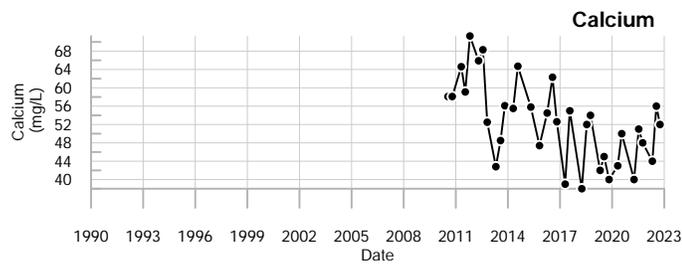
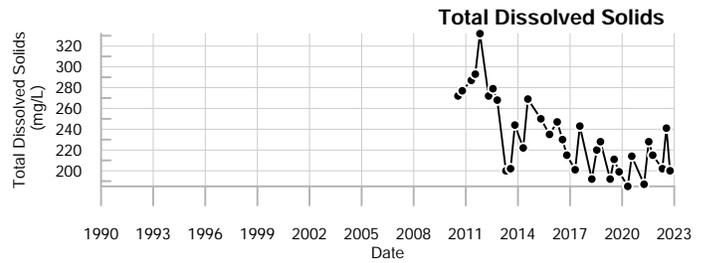
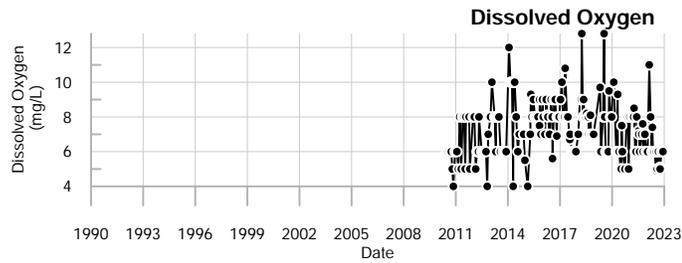
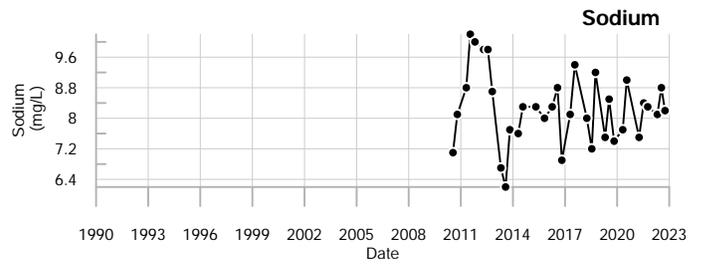
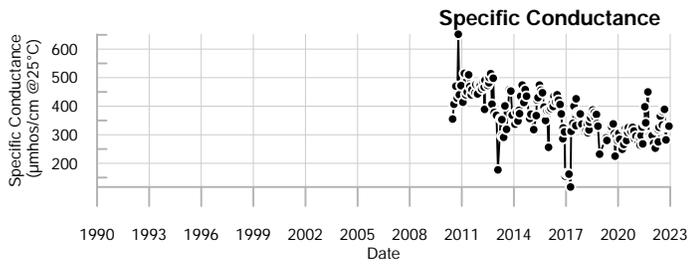
This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-UD-5and6
Juniper Ridge Landfill

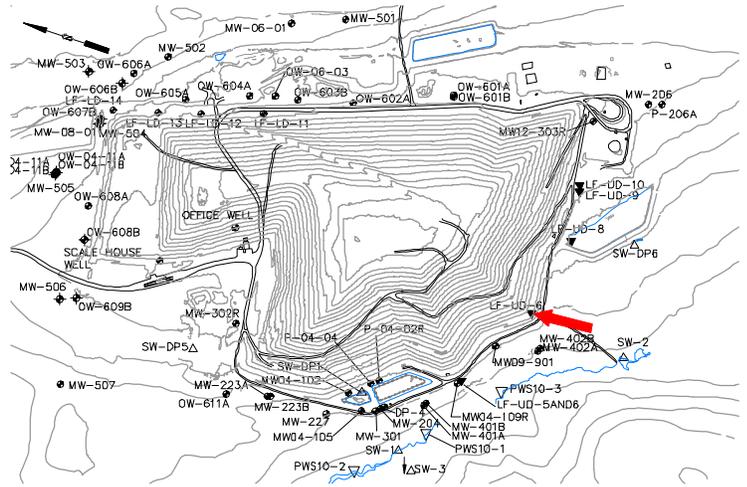
Well Description

LF-UD-6 monitors the landfill underdrain from Cell #6. This underdrain pipe is located along the south perimeter of the landfill.

Sampled: **Monthly and 3 Times Annually**

Sampled Since: **02/03/2011**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	F6	F6	F6	F6	70	to 1365	570 ± 23		115
pH (STU)	F6	F6	F6	F6	3.8	to 8.5	7.1 ± 0.087		114
Temperature (Deg C)	F6	F6	F6	F6	7.6	to 24.8	17 ± 0.36		115
Eh (mV)	F6	F6	F6	F6	140	to 605	380 ± 5.9		114
Dissolved Oxygen (mg/L)	F6	F6	F6	F6	3.6	to 10	6.4 ± 0.13		113
Turbidity (field) (NTU)	F6	F6	F6	F6	0.1	to 126.9	5.7 ± 1.3		114
Arsenic (mg/L)		F6	F6	F6	0.003	to 0.026	0.013 ± 0.002		27
Calcium (mg/L)		F6	F6	F6	24	to 160	73 ± 5.1		27
Iron (mg/L)		F6	F6	F6	0.02 U	to 6.28	0.29 ± 0.23		27
Magnesium (mg/L)		F6	F6	F6	2.9	to 25.4	15 ± 1.5		27
Manganese (mg/L)		F6	F6	F6	0.02 U	to 5.5	0.47 ± 0.24		27
Potassium (mg/L)		F6	F6	F6	1.7	to 20	4.7 ± 0.63		27
Sodium (mg/L)		F6	F6	F6	0.5	to 74.3	31 ± 5.8		27
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	1.4	to 130	20 ± 8.8		15
Total Phosphorus Mixed Forms (PO4 and		F6	F6	F6	0.01	to 5.7	0.49 ± 0.26		27
Total Dissolved Solids (mg/L)		F6	F6	F6	149	to 1255	420 ± 42		27
Total Suspended Solids (mg/L)		F6	F6	F6	2.5 U	to 150	15 ± 6.5		27
Sulfate (mg/L)		F6	F6	F6	2 U	to 143	51 ± 9		27
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	1.5 U	to 359	220 ± 24		27
Alkalinity (CaCO3) (field) (mg/L)	F6	F6	F6	F6	35	to 490	210 ± 11		92
Organic Carbon (mg/L)		F6	F6	F6	2 U	to 5	2.7 ± 0.14		27
Chloride (mg/L)		F6	F6	F6	1 U	to 18.2	7.5 ± 1.1		27
Bromide (mg/L)		F6	F6	F6	0.1 U	to 0.5 U	0.13 ± 0.02		21

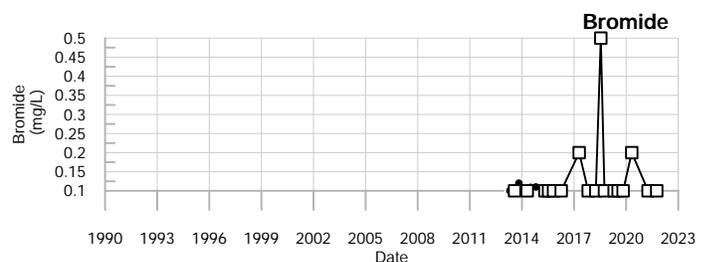
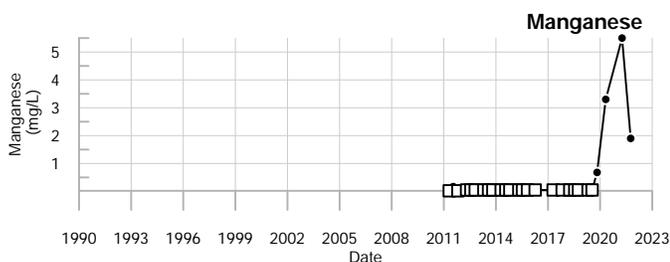
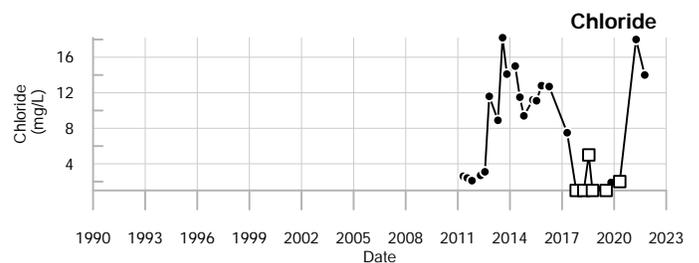
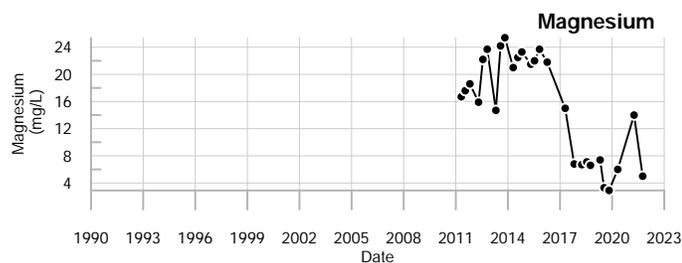
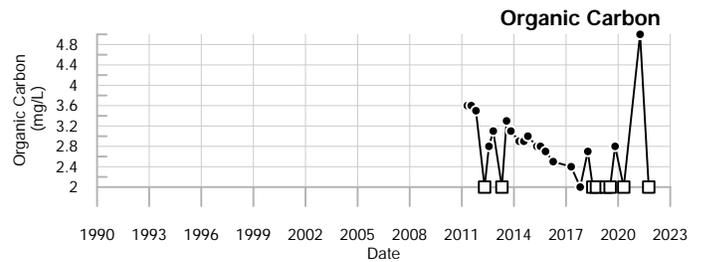
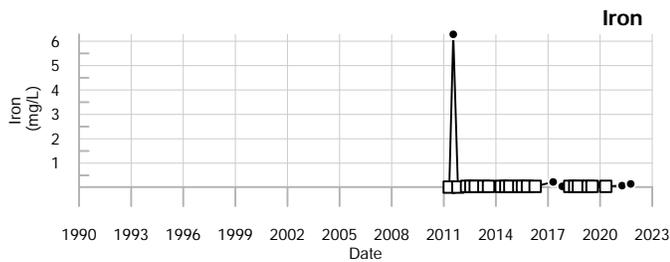
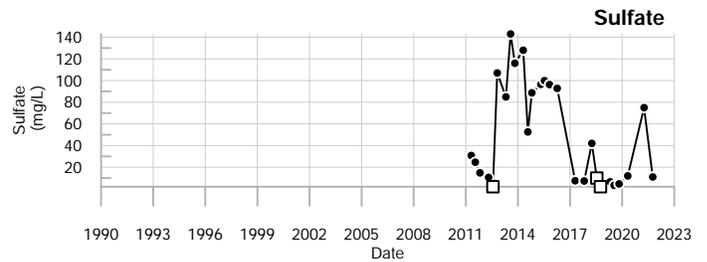
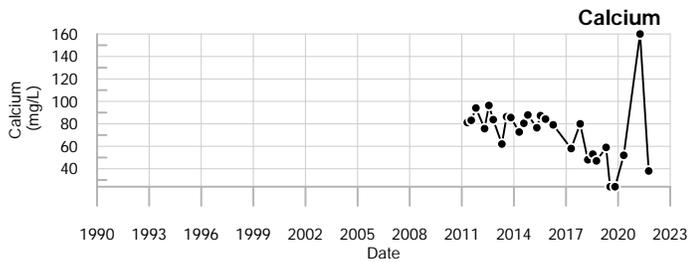
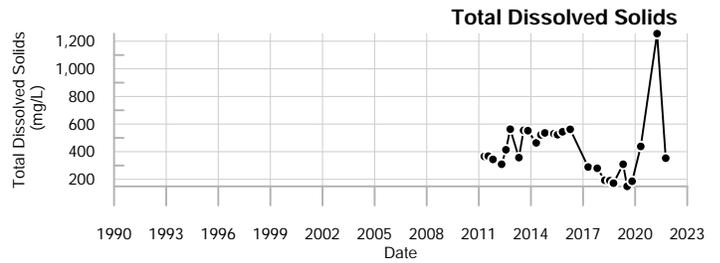
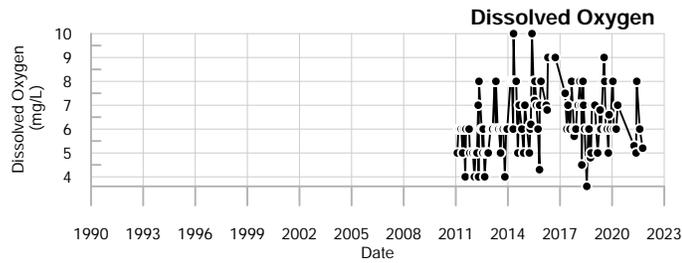
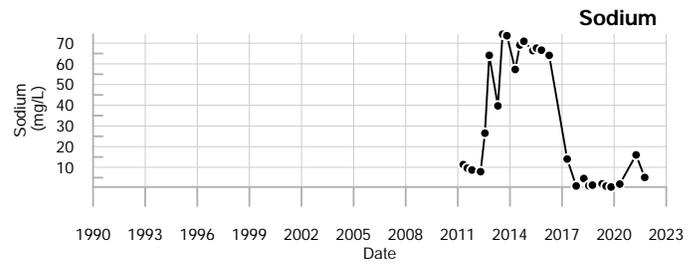
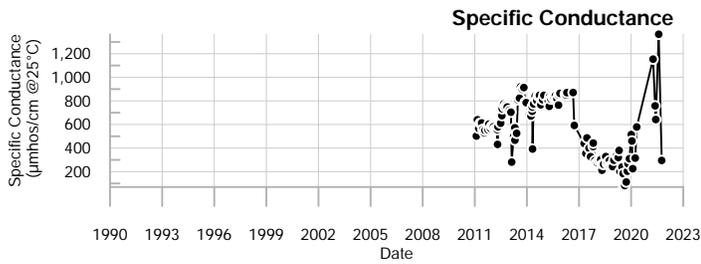
underlined/bold - values exceed a regulatory standard listed below. Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 F6 = No flow. Sample not taken.
- Q2= 4 - 2022 D = The sampling location was dry.
- Q3= 7 - 2022
- Q4= 10 - 2022



LEGEND

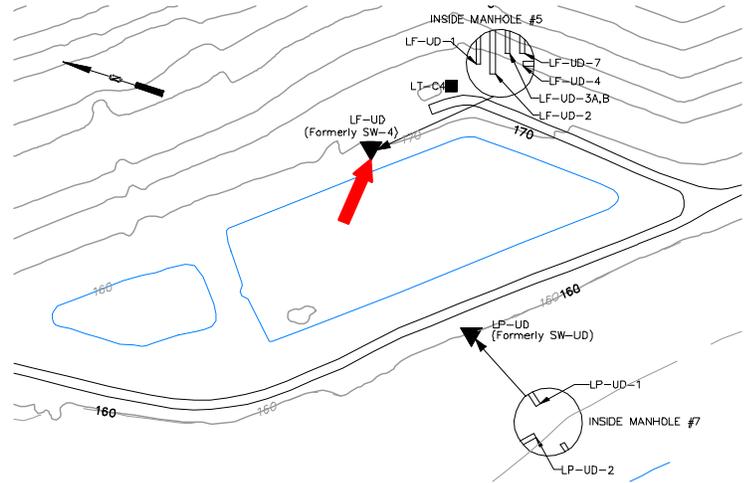
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-UD-6
Juniper Ridge Landfill

Well Description

LF-UD-7 monitors the landfill underdrain from Cell #7 and Manhole #5.



Sampled: **Monthly and 3 Times Annually**
 Sampled Since: **11/30/2011**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (-)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	No historical data for Specific Conductance.				
pH (STU)	H8	H8	H8	H8	No historical data for pH.				
Temperature (Deg C)	H8	H8	H8	H8	No historical data for Temperature.				
Eh (mV)	H8	H8	H8	H8	No historical data for Eh.				
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	No historical data for Dissolved Oxygen.				
Turbidity (field) (NTU)	H8	H8	H8	H8	No historical data for Turbidity (field).				
Arsenic (mg/L)		F6	F6	F6	No historical data for Arsenic.				
Calcium (mg/L)		F6	F6	F6	No historical data for Calcium.				
Iron (mg/L)		F6	F6	F6	No historical data for Iron.				
Magnesium (mg/L)		F6	F6	F6	No historical data for Magnesium.				
Manganese (mg/L)		F6	F6	F6	No historical data for Manganese.				
Potassium (mg/L)		F6	F6	F6	No historical data for Potassium.				
Sodium (mg/L)		F6	F6	F6	No historical data for Sodium.				
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	No historical data for Nitrite/Nitrate - (N).				
Total Phosphorus Mixed Forms (PO4 and Organic)		F6	F6	F6	No historical data for Total Phosphorus Mixed Forms (PO4 and Organic).				
Total Dissolved Solids (mg/L)		F6	F6	F6	No historical data for Total Dissolved Solids.				
Total Suspended Solids (mg/L)		F6	F6	F6	No historical data for Total Suspended Solids.				
Sulfate (mg/L)		F6	F6	F6	No historical data for Sulfate.				
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	No historical data for Bicarbonate Alkalinity (CaCO3).				
Alkalinity (CaCO3) (field) (mg/L)	H8	H8	H8		No historical data for Alkalinity (CaCO3) (field).				
Organic Carbon (mg/L)		F6	F6	F6	No historical data for Organic Carbon.				
Chloride (mg/L)		F6	F6	F6	No historical data for Chloride.				
Bromide (mg/L)		F6	F6	F6	No historical data for Bromide.				

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 H8 = No flow from pipe. See LF-COMP for readings
- Q2= 4 - 2022 F6 = No flow. Sample not taken.
- Q3= 7 - 2022 D = The sampling location was dry.
- Q4= 10 - 2022

No Data Found for
Specific Conductance

No Data Found for
Sodium

No Data Found for
Dissolved Oxygen

No Data Found for
Total Dissolved Solids

No Data Found for
Calcium

No Data Found for
Sulfate

No Data Found for
Iron

No Data Found for
Organic Carbon

No Data Found for
Magnesium

No Data Found for
Chloride

No Data Found for
Manganese

No Data Found for
Bromide

LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-UD-7
Juniper Ridge Landfill

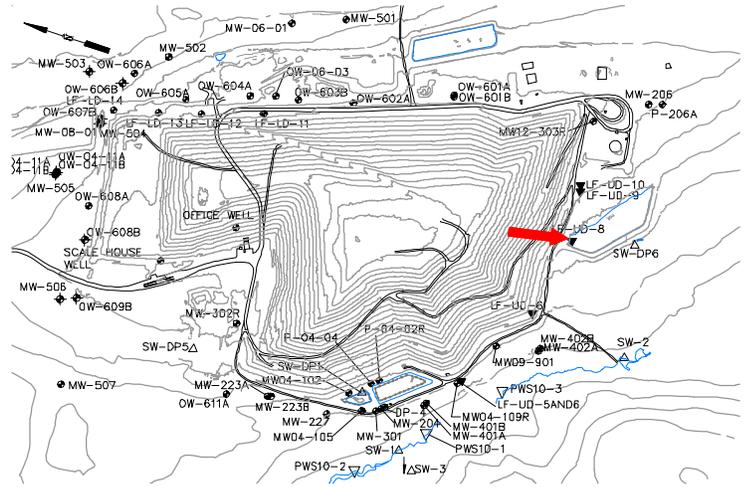
Well Description

LF-UD-8 monitors the landfill underdrain from Cell #8. This underdrain pipe is located along the southern perimeter of the landfill.

Sampled: **Monthly and 3 Times Annually**

Sampled Since: **4/23/2013**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	F6	H8	F6	F6	64	to 407	200 ± 32		17
pH (STU)	F6	H8	F6	F6	6.8	to 8.5	7.5 ± 0.13		17
Temperature (Deg C)	F6	H8	F6	F6	2.8	to 26.9	12 ± 1.5		17
Eh (mV)	F6	H8	F6	F6	235	to 568	370 ± 21		17
Dissolved Oxygen (mg/L)	F6	H8	F6	F6	5	to 10.9	7.6 ± 0.52		17
Turbidity (field) (NTU)	F6	H8	F6	F6	0.04	to 24.35	2.6 ± 1.4		17
Arsenic (mg/L)		F6	F6	F6	0.005 U	to 0.014	0.0069 ± 0.001		11
Calcium (mg/L)		F6	F6	F6	4.8	to 50.1	19 ± 5.4		11
Iron (mg/L)		F6	F6	F6	0.05 U	to 1.5	0.57 ± 0.14		11
Magnesium (mg/L)		F6	F6	F6	0.8	to 11.1	3.6 ± 1.3		11
Manganese (mg/L)		F6	F6	F6	0.05 U	to 0.15	0.069 ± 0.01		11
Potassium (mg/L)		F6	F6	F6	0.8	to 3.7	1.9 ± 0.36		11
Sodium (mg/L)		F6	F6	F6	1.3	to 7.3	3.8 ± 0.67		11
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	0.05 U	to 0.5 U	0.14 ± 0.073		6
Total Phosphorus Mixed Forms (PO4 and		F6	F6	F6	0.04 U	to 0.1	0.05 ± 0.006		11
Total Dissolved Solids (mg/L)		F6	F6	F6	42	to 222	100 ± 21		11
Total Suspended Solids (mg/L)		F6	F6	F6	4 U	to 43	9.2 ± 3.5		11
Sulfate (mg/L)		F6	F6	F6	4.6	to 49	14 ± 3.6		11
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	6	to 180	58 ± 22		11
Alkalinity (CaCO3) (field) (mg/L)	F6	H8	F6	F6	15	to 185	120 ± 18		11
Organic Carbon (mg/L)		F6	F6	F6	2 U	to 6.3	3.9 ± 0.48		11
Chloride (mg/L)		F6	F6	F6	2	to 14	5.2 ± 1		11
Bromide (mg/L)		F6	F6	F6	0.1 U	to 0.2 U	0.11 ± 0.009		11

underlined/bold - values exceed a regulatory standard listed below.

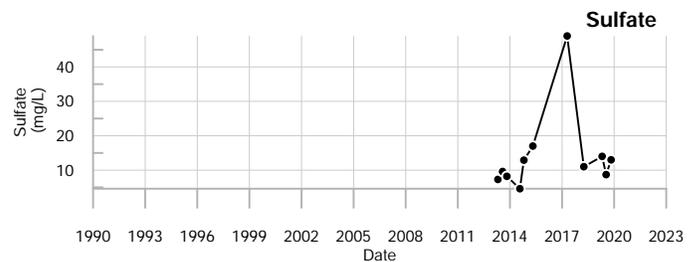
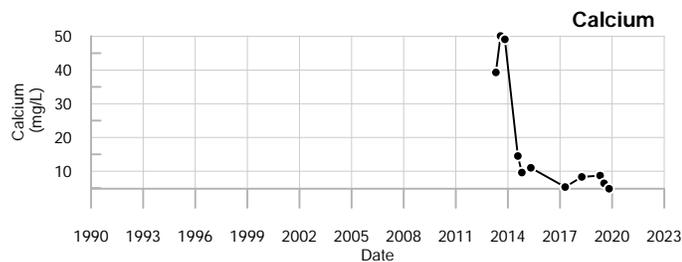
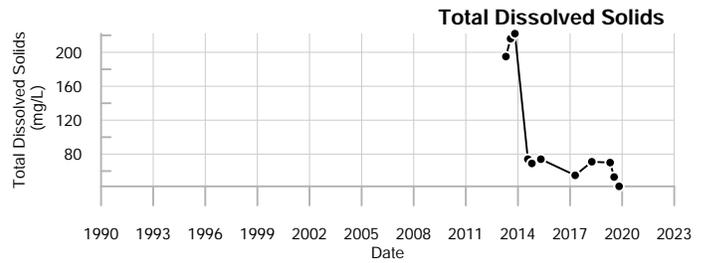
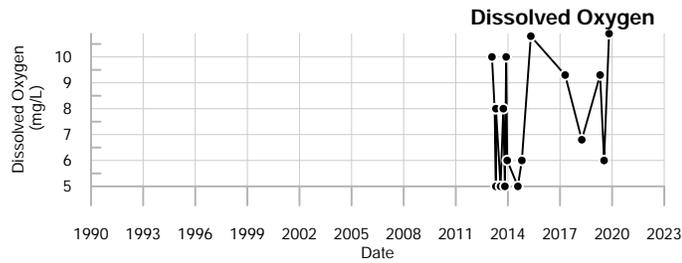
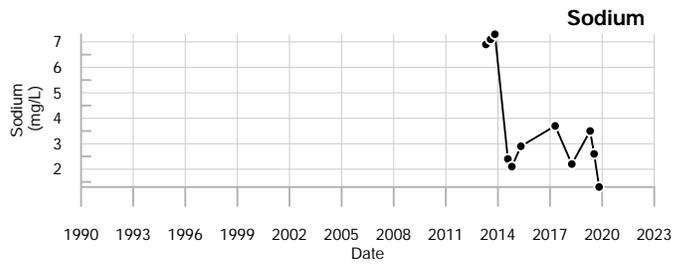
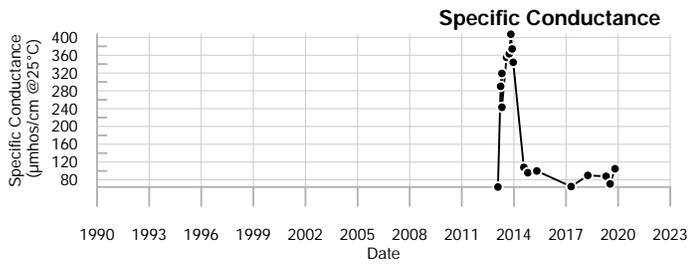
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↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 H8 = No flow from pipe. See LF-COMP for readings
- Q2= 4 - 2022 F6 = No flow. Sample not taken.
- Q3= 7 - 2022 D = The sampling location was dry.
- Q4= 10 - 2022

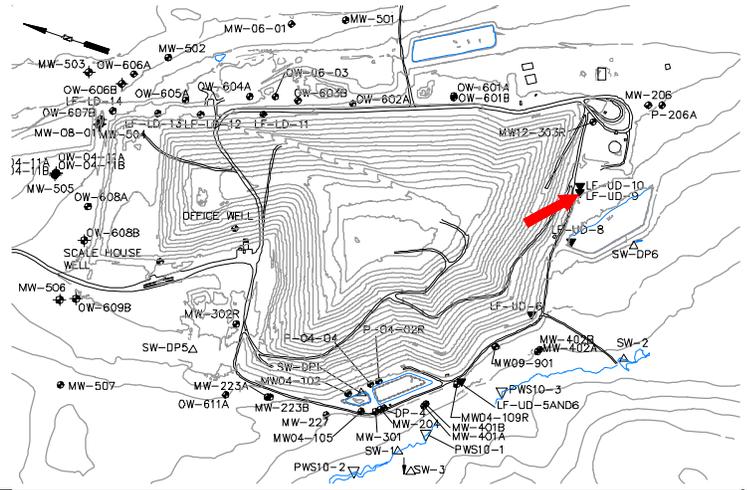


Well Description

LF-UD-9 monitors the landfill underdrain from Cell #9. This underdrain pipe is located along the southern perimeter of the landfill.

Sampled: **Monthly and 3 Times Annually**
 Sampled Since: **April 2016**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	F6	F6	F6	F6	135	to 292	200 ± 33		4
pH (STU)	F6	F6	F6	F6	6.6	to 7.6	7.2 ± 0.21		4
Temperature (Deg C)	F6	F6	F6	F6	7.1	to 15.1	10 ± 1.8		4
Eh (mV)	F6	F6	F6	F6	278	to 458	370 ± 37		4
Dissolved Oxygen (mg/L)	F6	F6	F6	F6	7	to 10.8	8.5 ± 0.91		4
Turbidity (field) (NTU)	F6	F6	F6	F6	1.2	to 49.6	26 ± 12		4
Arsenic (mg/L)		F6	F6	F6	0.007	to 0.007	0.007 ± 0		1
Calcium (mg/L)		F6	F6	F6	55	to 55	55 ± 0		1
Iron (mg/L)		F6	F6	F6	1.4	to 1.4	1.4 ± 0		1
Magnesium (mg/L)		F6	F6	F6	6.8	to 6.8	6.8 ± 0		1
Manganese (mg/L)		F6	F6	F6	0.06	to 0.06	0.06 ± 0		1
Potassium (mg/L)		F6	F6	F6	4.3	to 4.3	4.3 ± 0		1
Sodium (mg/L)		F6	F6	F6	6.5	to 6.5	6.5 ± 0		1
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	0.88	to 0.88	0.88 ± 0		1
Total Phosphorus Mixed Forms (PO4 and		F6	F6	F6	0.08	to 0.08	0.08 ± 0		1
Total Dissolved Solids (mg/L)		F6	F6	F6	224	to 224	220 ± 0		1
Total Suspended Solids (mg/L)		F6	F6	F6	57	to 57	57 ± 0		1
Sulfate (mg/L)		F6	F6	F6	11	to 11	11 ± 0		1
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	90	to 90	90 ± 0		1
Alkalinity (CaCO3) (field) (mg/L)	F6	F6	F6	F6	25	to 50 U	35 ± 7.6		3
Organic Carbon (mg/L)		F6	F6	F6	2.7	to 2.7	2.7 ± 0		1
Chloride (mg/L)		F6	F6	F6	5.1	to 5.1	5.1 ± 0		1
Bromide (mg/L)		F6	F6	F6	0.2 U	to 0.2 U	0.2 ± 0		1

underlined/bold - values exceed a regulatory standard listed below.

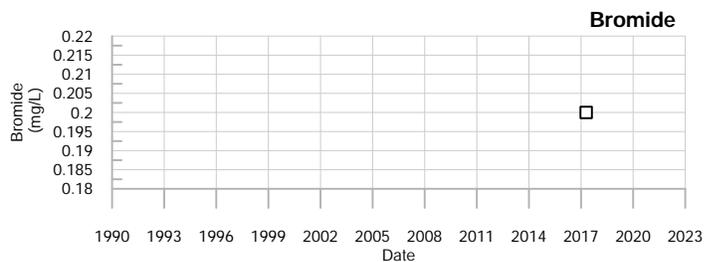
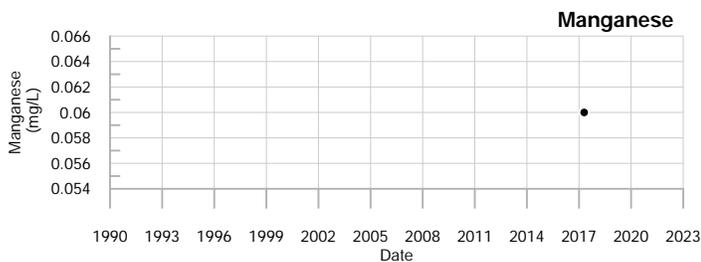
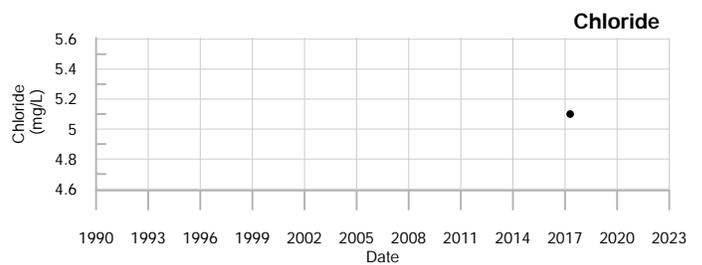
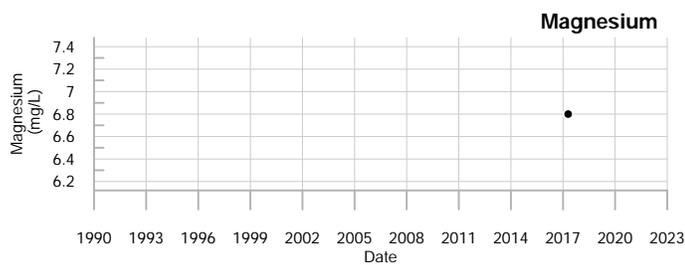
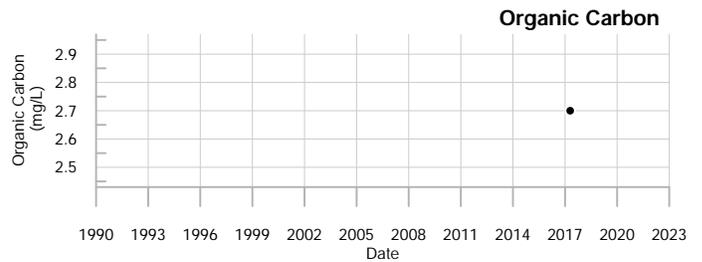
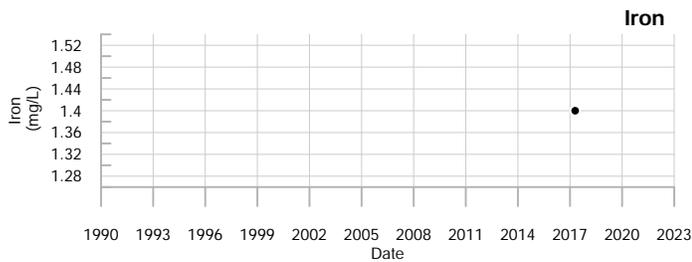
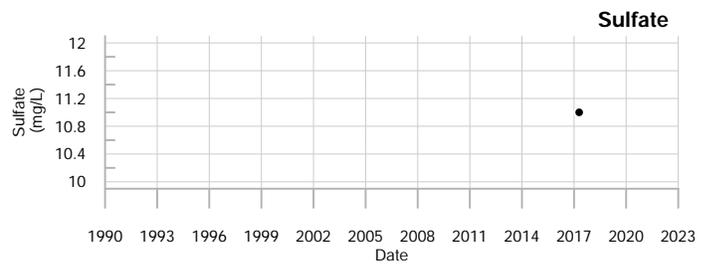
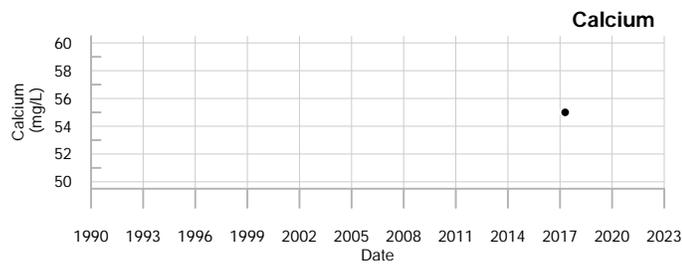
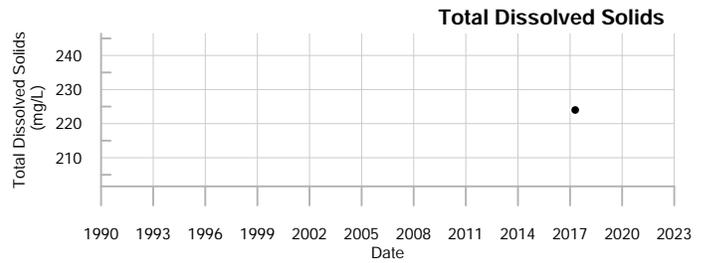
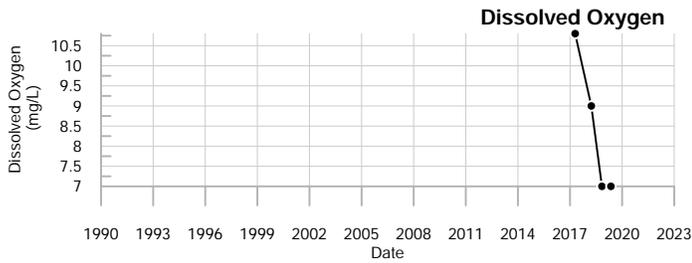
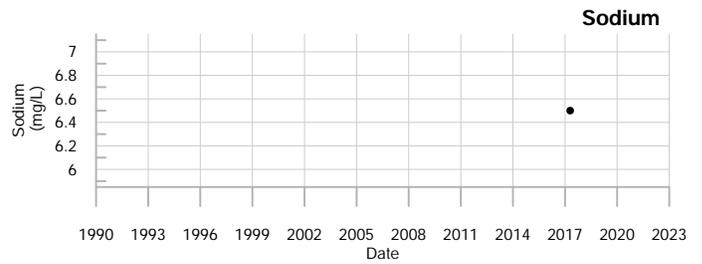
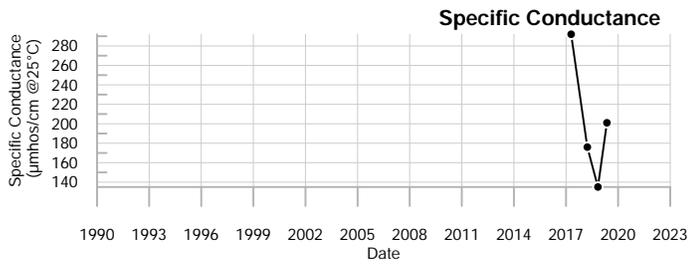
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↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 F6 = No flow. Sample not taken.
- Q2= 4 - 2022 D = The sampling location was dry.
- Q3= 7 - 2022
- Q4= 10 - 2022



LEGEND

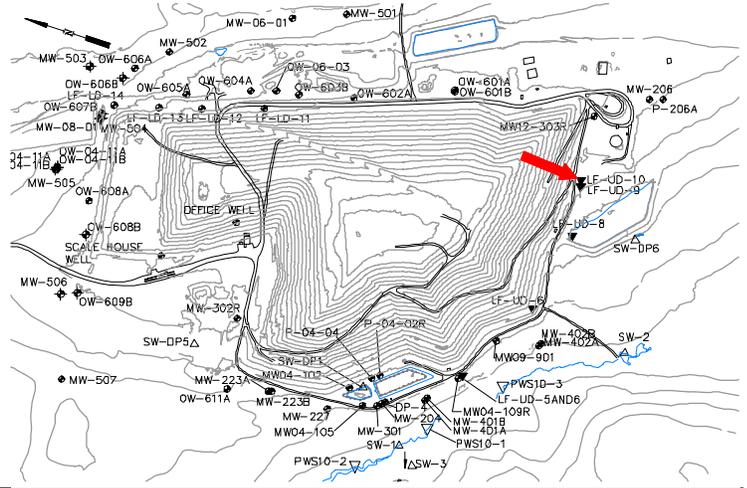
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-UD-9
Juniper Ridge Landfill

Well Description

LF-UD-10 monitors the landfill underdrain from Cell #10. This underdrain pipe is located along the southern perimeter of the landfill.



Sampled: **Monthly and 3 Times Annually**
 Sampled Since: **October 2017**

Sampling Method:

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	F6	F6	F6	F6	111	to 175	130 ± 14		4
pH (STU)	F6	F6	F6	F6	6.8	to 7.3	7.1 ± 0.12		4
Temperature (Deg C)	F6	F6	F6	F6	5.1	to 14.9	9.9 ± 2		4
Eh (mV)	F6	F6	F6	F6	295	to 455	390 ± 34		4
Dissolved Oxygen (mg/L)	F6	F6	F6	F6	7	to 9	7.8 ± 0.48		4
Turbidity (field) (NTU)	F6	F6	F6	F6	12.9	to 49.6	39 ± 8.8		4
Arsenic (mg/L)		F6	F6	F6	No historical data for Arsenic.				
Calcium (mg/L)		F6	F6	F6	No historical data for Calcium.				
Iron (mg/L)		F6	F6	F6	No historical data for Iron.				
Magnesium (mg/L)		F6	F6	F6	No historical data for Magnesium.				
Manganese (mg/L)		F6	F6	F6	No historical data for Manganese.				
Potassium (mg/L)		F6	F6	F6	No historical data for Potassium.				
Sodium (mg/L)		F6	F6	F6	No historical data for Sodium.				
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	No historical data for Nitrite/Nitrate - (N).				
Total Phosphorus Mixed Forms (PO4 and Organic)		F6	F6	F6	No historical data for Total Phosphorus Mixed Forms (PO4 and Organic).				
Total Dissolved Solids (mg/L)		F6	F6	F6	No historical data for Total Dissolved Solids.				
Total Suspended Solids (mg/L)		F6	F6	F6	No historical data for Total Suspended Solids.				
Sulfate (mg/L)		F6	F6	F6	No historical data for Sulfate.				
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	No historical data for Bicarbonate Alkalinity (CaCO3).				
Alkalinity (CaCO3) (field) (mg/L)	F6	F6	F6	F6	0	to 50 U	25 ± 14		3
Organic Carbon (mg/L)		F6	F6	F6	No historical data for Organic Carbon.				
Chloride (mg/L)		F6	F6	F6	No historical data for Chloride.				
Bromide (mg/L)		F6	F6	F6	No historical data for Bromide.				

underlined/bold - values exceed a regulatory standard listed below.

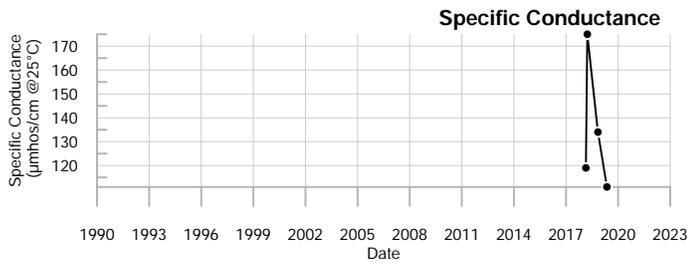
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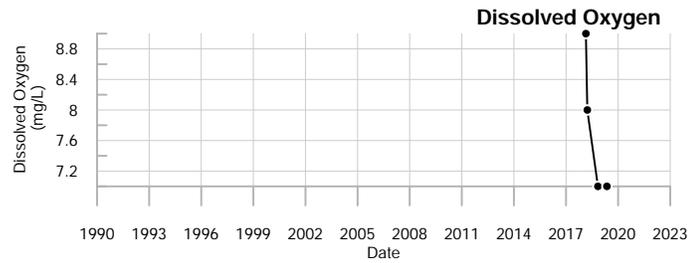
Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

- Q1= 1 - 2022 F6 = No flow. Sample not taken.
- Q2= 4 - 2022 D = The sampling location was dry.
- Q3= 7 - 2022
- Q4= 10 - 2022



No Data Found for Sodium



No Data Found for Total Dissolved Solids

No Data Found for Calcium

No Data Found for Sulfate

No Data Found for Iron

No Data Found for Organic Carbon

No Data Found for Magnesium

No Data Found for Chloride

No Data Found for Manganese

No Data Found for Bromide

LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LF-UD-10
Juniper Ridge Landfill

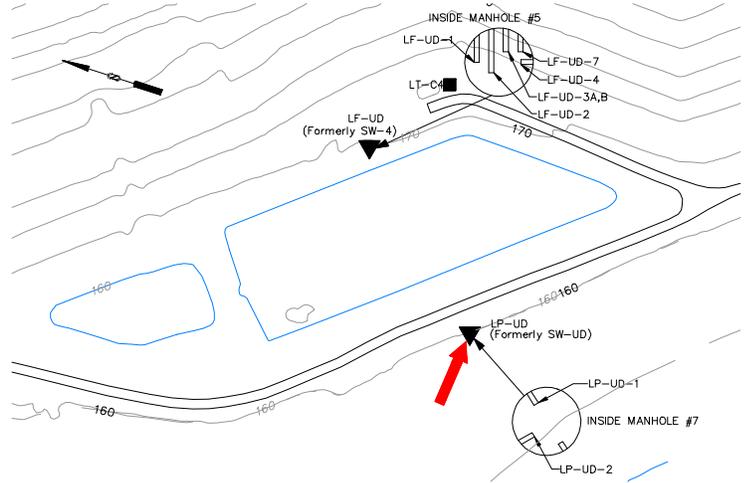
Well Description

Manhole #7 composite sample

Sampled: **See comments below**

Sampled Since: **10/27/04**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	288	328	336	320	92 to 665		300 ± 7.4		98
pH (STU)	7	7.3	7.2	7.1	6 to 8.4		7.1 ± 0.039		98
Temperature (Deg C)	15.4	21.1	22.2	9.2	3.4 to 25.1		15 ± 0.52		98
Eh (mV)	346	342	365	332	191 to 520		360 ± 4		98
Dissolved Oxygen (mg/L)	8	8	5	6	3 to 10		7 ± 0.16		96
Turbidity (field) (NTU)	5.6	↑42.7	5.9	2.8	0 to 21.3		1.6 ± 0.29		98
Alkalinity (CaCO3) (field) (mg/L)	150	175	175	175	75 to 260		140 ± 2.7		98

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

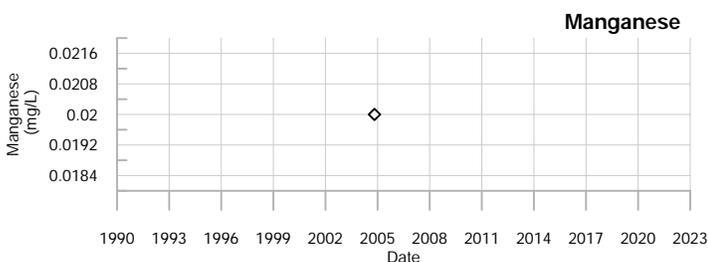
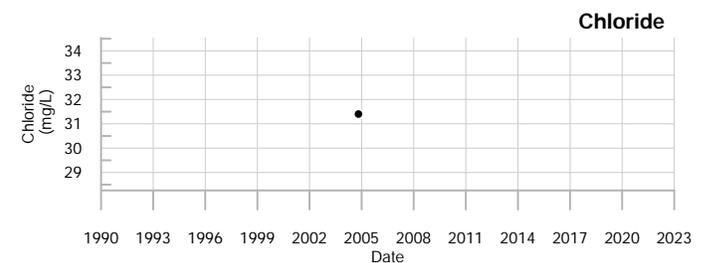
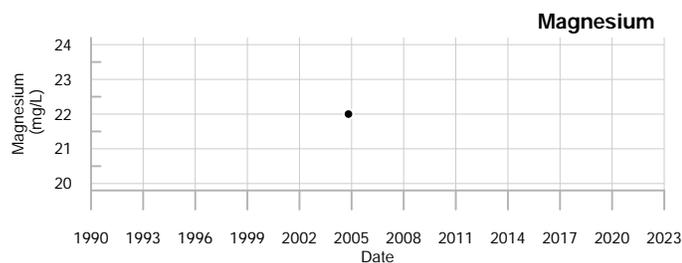
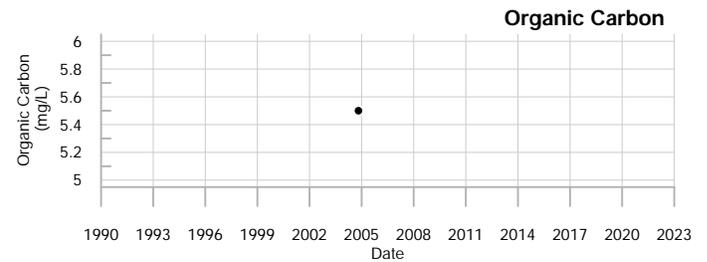
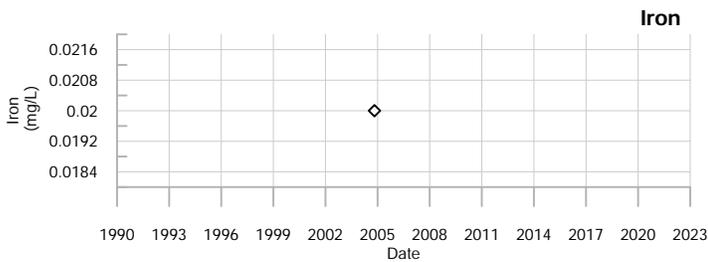
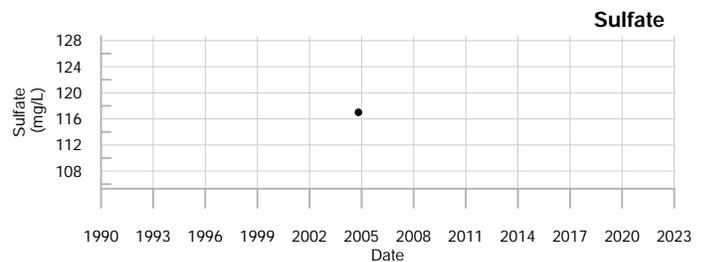
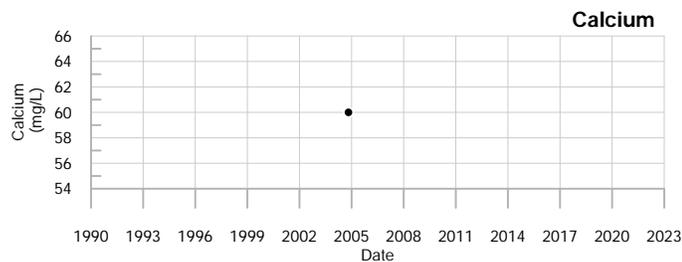
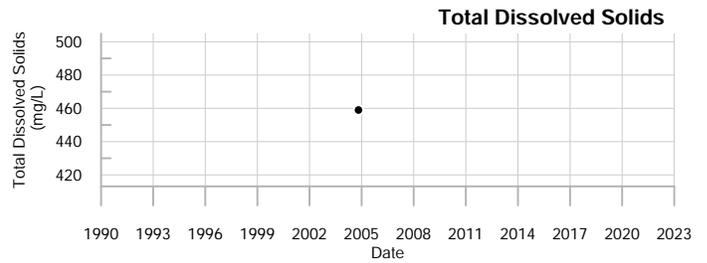
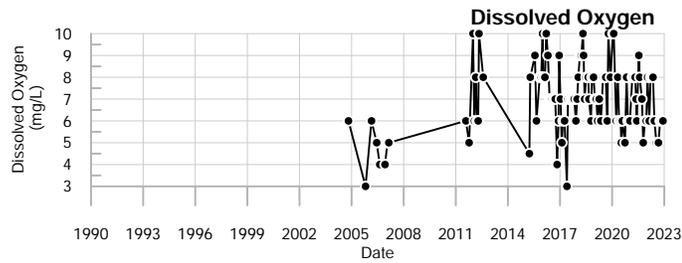
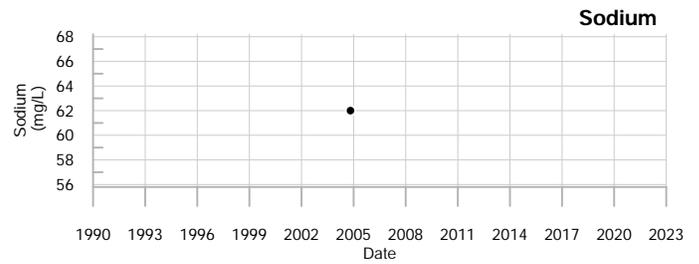
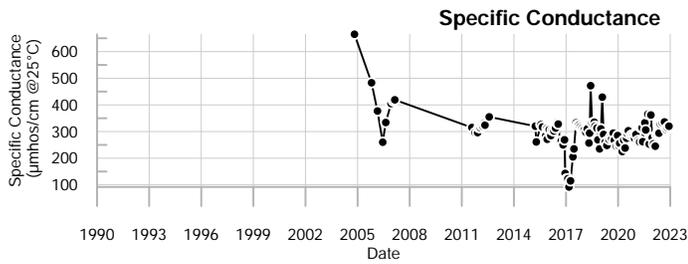
During times when LP-UD-1 and LP-UD-2 have not been able to be sampled separately due to pipe submergence, LP-COMP has been collected from manhole #7. Field parameters are measured at this location during some monthly monitoring rounds by NEWSME.

Q1= 1 - 2022 F6 = No flow. Sample not taken.

Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022



No Data Found for Bromide

LEGEND

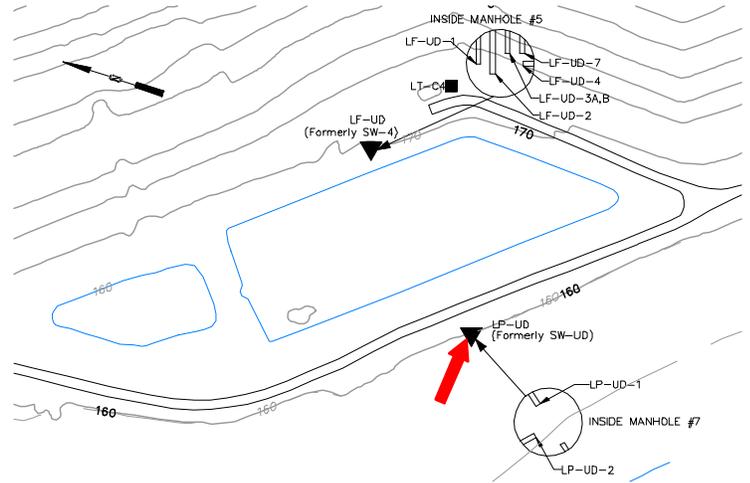
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LP-COMP
Juniper Ridge Landfill

Well Description

LP-UD-1 is located at Manhole #7 and monitors the leachate underdrain from the southern end of the former leachate pond.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **07/28/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H9	H9	H9	H9	241	to 517	340 ± 64		4
pH (STU)	H9	H9	H9	H9	6.7	to 7.1	6.9 ± 0.085		4
Temperature (Deg C)	H9	H9	H9	H9	6.2	to 20.4	14 ± 3.7		4
Eh (mV)	H9	H9	H9	H9	349	to 370	360 ± 4.8		4
Dissolved Oxygen (mg/L)	H9	H9	H9	H9	2.5	to 6	4.9 ± 0.83		4
Turbidity (field) (NTU)	H9	H9	H9	H9	0	to 11	4.1 ± 2.6		4
Arsenic (mg/L)		F6	F6	F6	0.005 U	to 0.005 U	0.005 ± 0		1
Calcium (mg/L)		F6	F6	F6	32	to 32	32 ± 0		1
Iron (mg/L)		F6	F6	F6	0.05	to 0.05	0.05 ± 0		1
Magnesium (mg/L)		F6	F6	F6	8.7	to 8.7	8.7 ± 0		1
Manganese (mg/L)		F6	F6	F6	0.05 U	to 0.05 U	0.05 ± 0		1
Potassium (mg/L)		F6	F6	F6	1.7	to 1.7	1.7 ± 0		1
Sodium (mg/L)		F6	F6	F6	5.5	to 5.5	5.5 ± 0		1
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	0.31	to 0.31	0.31 ± 0		1
Total Phosphorus Mixed Forms (PO4 and		F6	F6	F6	0.04 U	to 0.04 U	0.04 ± 0		1
Total Dissolved Solids (mg/L)		F6	F6	F6	163	to 163	160 ± 0		1
Total Suspended Solids (mg/L)		F6	F6	F6	2.5 U	to 2.5 U	2.5 ± 0		1
Sulfate (mg/L)		F6	F6	F6	23	to 23	23 ± 0		1
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	120	to 120	120 ± 0		1
Alkalinity (CaCO3) (field) (mg/L)	H9	H9	H9		125	to 150	130 ± 8.3		3
Organic Carbon (mg/L)		F6	F6	F6	2 U	to 2 U	2 ± 0		1
Chloride (mg/L)		F6	F6	F6	3.1	to 3.1	3.1 ± 0		1
Bromide (mg/L)		F6	F6	F6	0.1 U	to 0.1 U	0.1 ± 0		1

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

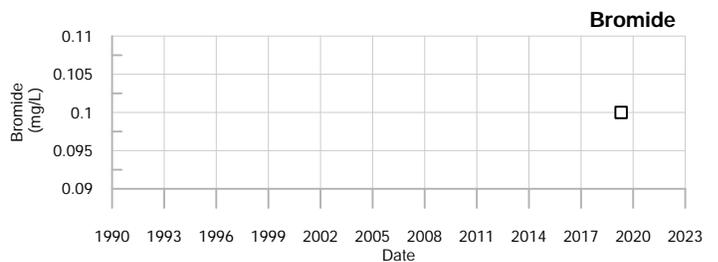
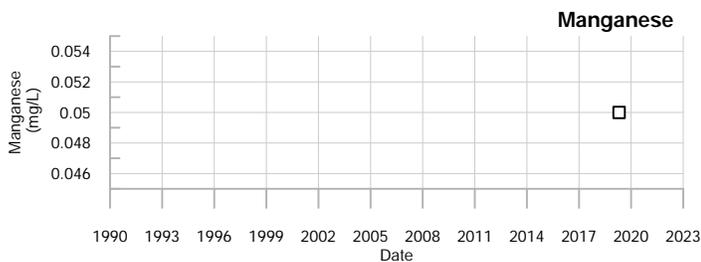
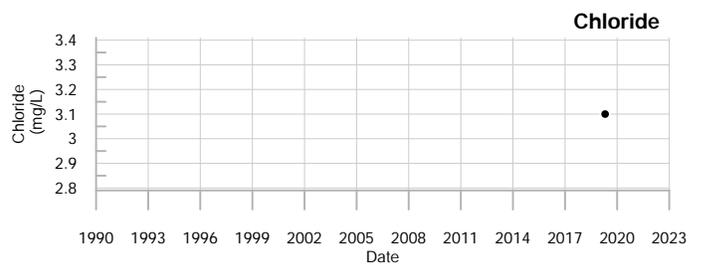
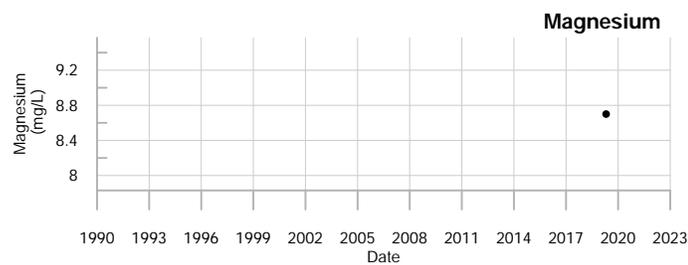
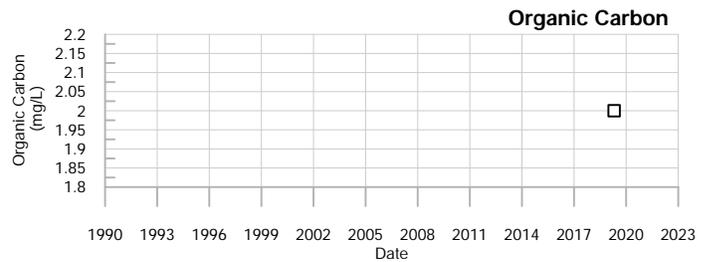
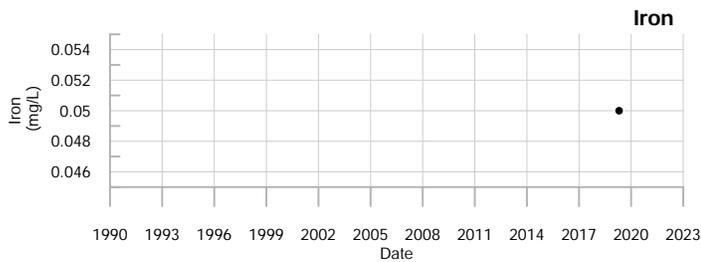
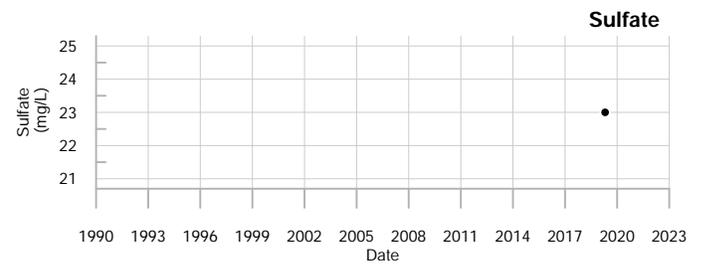
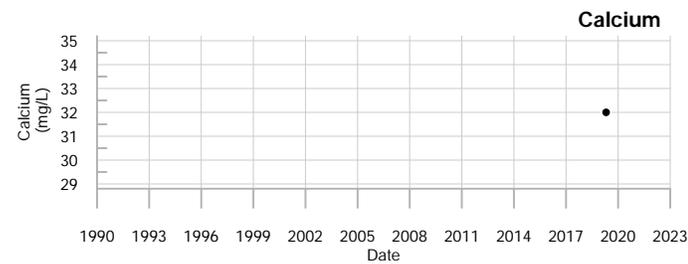
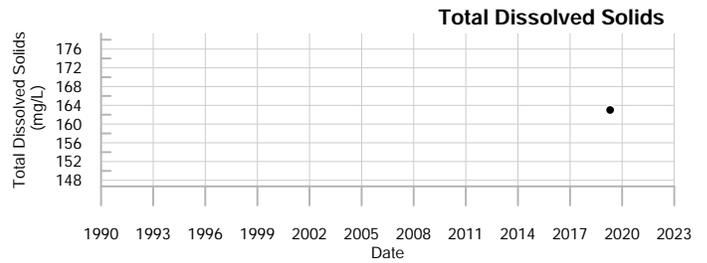
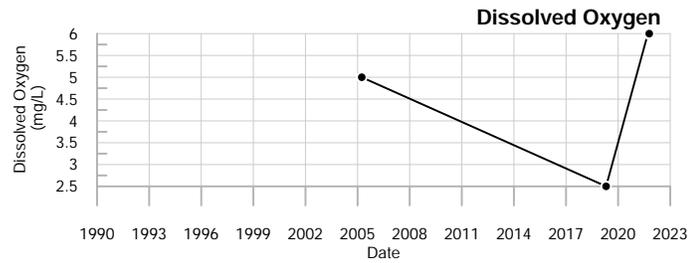
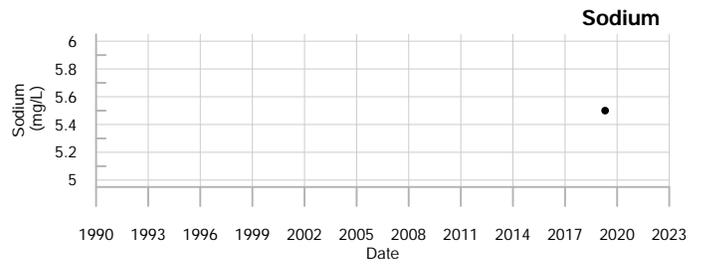
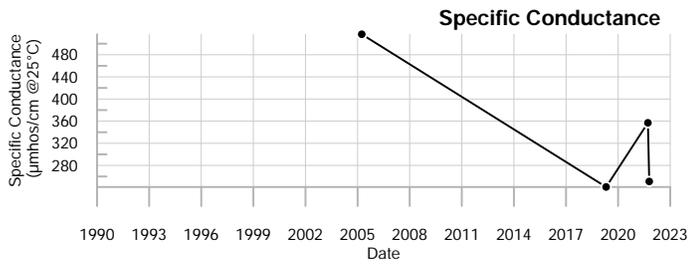
Q1= 1 - 2022 H9 = No flow from pipe. See LP-COMP for readings

Q2= 4 - 2022 F6 = No flow. Sample not taken.

D = The sampling location was dry.

Q3= 7 - 2022

Q4= 10 - 2022



LEGEND

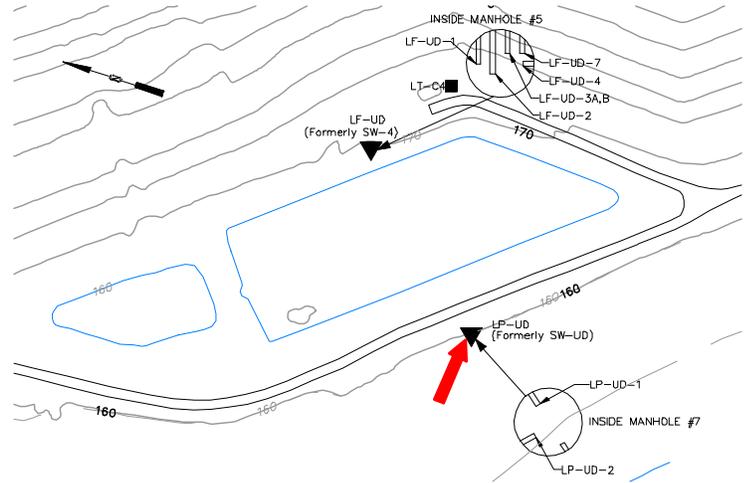
- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LP-UD-1
Juniper Ridge Landfill

Well Description

LP-UD-2 is located in Manhole #7 and monitors the water quality of the leachate underdrain on the north end of the former leachate pond.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **07/28/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	305	350	337	324	110	to 834	320 ± 5.4		205
pH (STU)	6.3	7.6	7.2	7.3	5.7	to 8.5	7.1 ± 0.027		205
Temperature (Deg C)	16	7.5	22.3	9.2	1.3	to 25.2	13 ± 0.36		205
Eh (mV)	354	339	365	373	157	to 520	340 ± 4.3		204
Dissolved Oxygen (mg/L)	9	8	5	8	1	to 12	6.7 ± 0.12		205
Turbidity (field) (NTU)	9.2	4.7	2.3	2.1	0	to 60	1.3 ± 0.31		204
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.024	0.0061 ± 0.000		53
Calcium (mg/L)		40	46	43	28.8	to 68.2	38 ± 1		53
Iron (mg/L)		0.05 U	0.18	0.081	0.02 U	to 2.86	0.17 ± 0.07		53
Magnesium (mg/L)		10	13	10	7.7	to 21	11 ± 0.3		53
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.8	0.062 ± 0.016		53
Potassium (mg/L)		2.3	2.4	2	1.7	to 25	3.3 ± 0.45		53
Sodium (mg/L)		5.9	7.5	6.5	5.5	to 58	11 ± 1.1		53
Nitrite/Nitrate - (N) (mg/L)		0.3	0.25	0.41	0.085	to 2 U	0.35 ± 0.087		21
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.04 U	0.04 U	0.01 U	to 0.17	0.034 ± 0.004		53
Total Dissolved Solids (mg/L)		185	215	180	151	to 455	200 ± 6.6		53
Total Suspended Solids (mg/L)		2.5 U	2.5	4 U	2.5 U	to 73	6.5 ± 1.6		53
Sulfate (mg/L)		8.1	9.4	7.5	2 U	to 116	14 ± 2.3		53
Bicarbonate Alkalinity (CaCO3) (mg/L)		140	170	150	90	to 229	140 ± 3.4		53
Alkalinity (CaCO3) (field) (mg/L)	220	175	200	175	30	to 350	140 ± 2.9		182
Organic Carbon (mg/L)		1 U	1 U	1 U	0.7 U	to 27	2.4 ± 0.49		53
Chloride (mg/L)		2.9	3.1	2.5	2.3	to 31.1	7.4 ± 0.63		53
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.12 ± 0.007		27

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

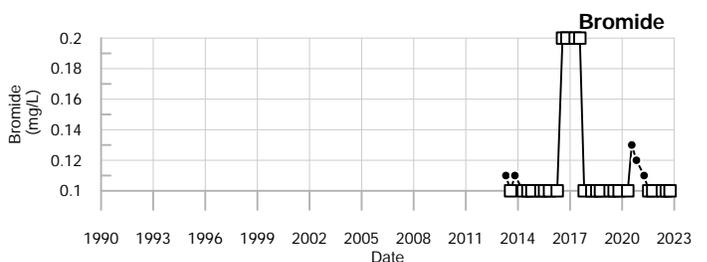
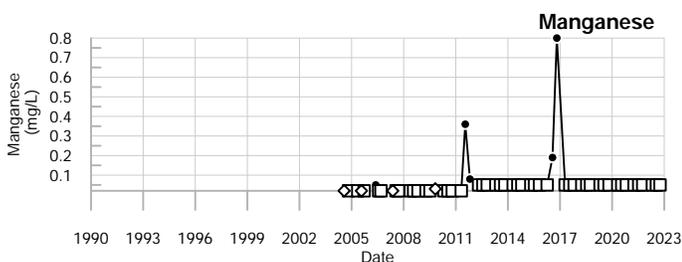
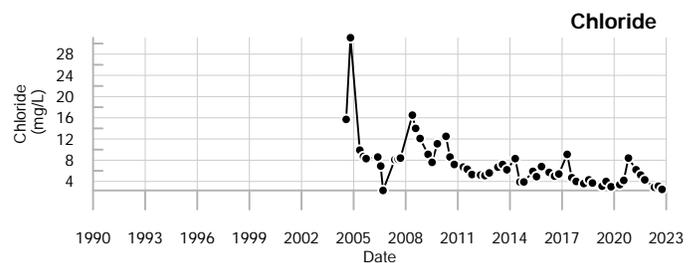
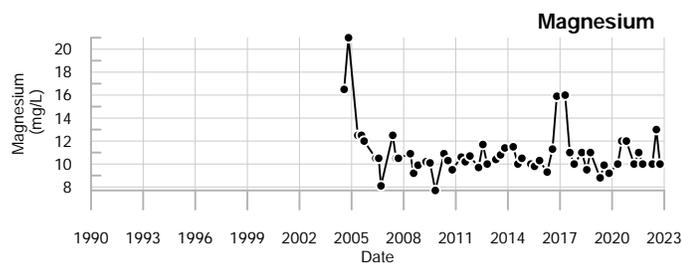
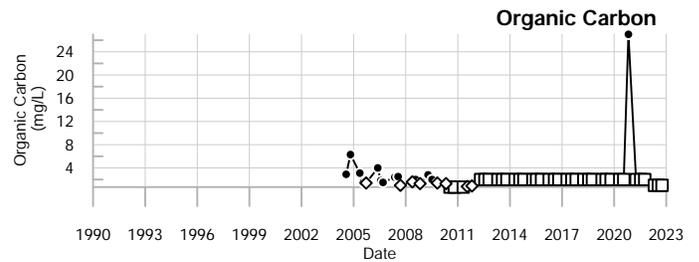
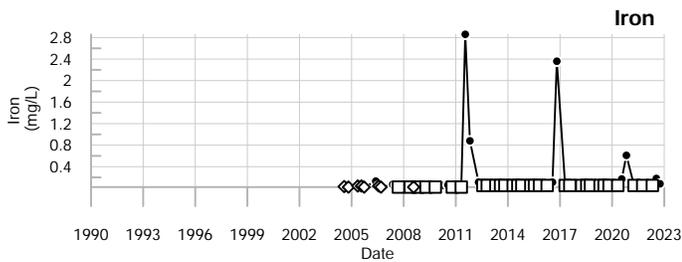
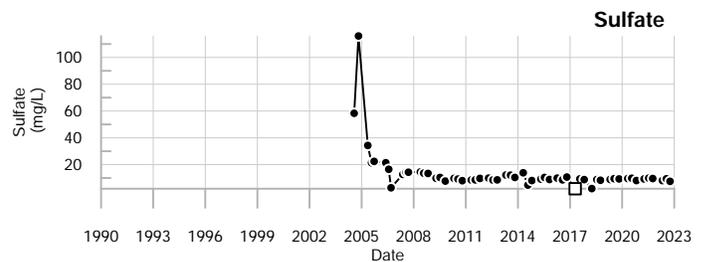
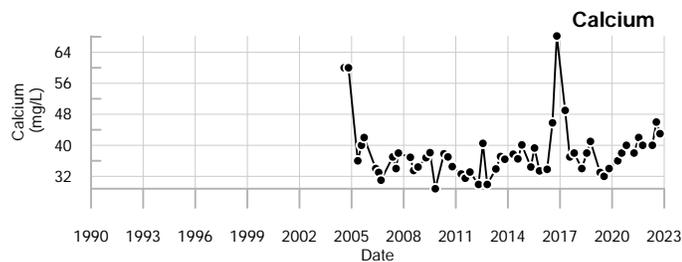
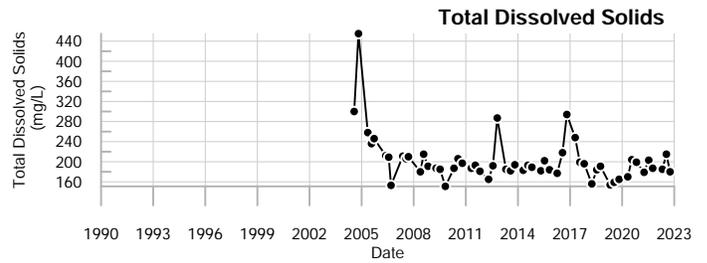
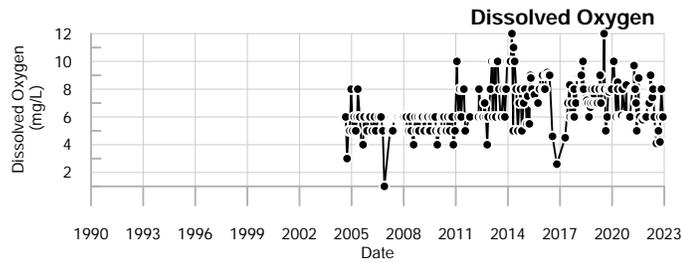
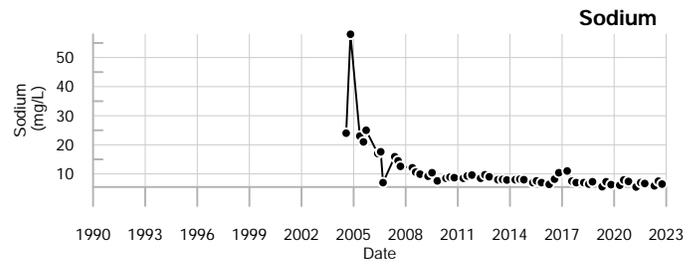
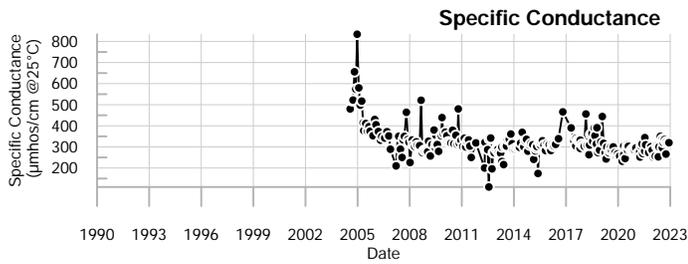
This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2022 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2022

Q3= 7 - 2022

Q4= 10 - 2022



LEGEND

- - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).



LP-UD-2
Juniper Ridge Landfill

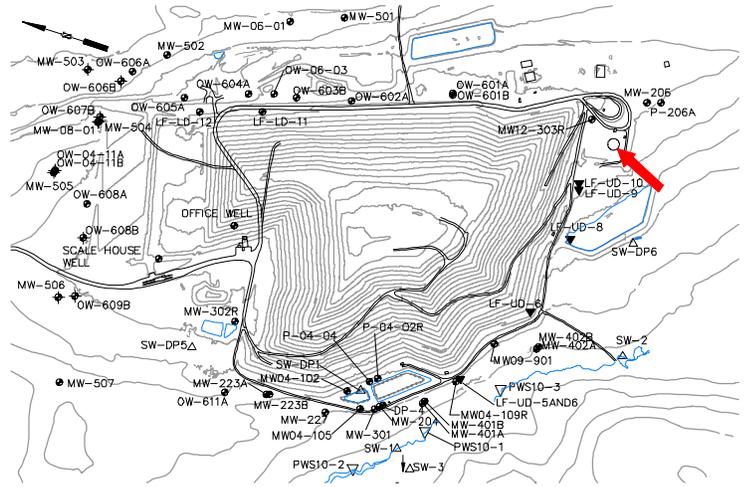
Well Description

Leachate collection location at leachate storage tank.

Sampled: **3 Times Annually**

Sampled Since: **07/30/2013**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2022				Historical (1/1/1980 - 12/31/2022)				
	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Nitrate (N) (mg/L)		30 U			5 U	to 1210	120 ± 50		25
Specific Conductance (µmhos/cm @25°C)		18909	22260	21263	11470	to 30700	22000 ± 790		39
pH (STU)		7.5	6.8	6.7	5.5	to 7.6	7 ± 0.073		39
Temperature (Deg C)		22.1	26.4	16.3	9.4	to 29	18 ± 0.87		39
Eh (mV)		46	-98	-62	-311	to 238	-1.4 ± 20		39
Dissolved Oxygen (mg/L)		↓0.2	FK	↓0.3	0.5	to 8	2.6 ± 0.62		14
Flow Rate (cfs)				0.0071	No historical data for Flow Rate.				
Aluminum (mg/L)		↑1.4			0.201	to 0.72	0.43 ± 0.05		13
Antimony (mg/L)		0.005 U			0.005 U	to 0.065	0.017 ± 0.005		13
Arsenic (mg/L)		0.4	0.42	0.33	0.059	to 0.6	0.22 ± 0.021		39
Barium (mg/L)		1			0.77	to 1.873	1.2 ± 0.084		13
Beryllium (mg/L)		0.0012 U			0.0002 U	to 0.0033	0.0014 ± 0.000		13
Cadmium (mg/L)		0.0055			0.0006 U	to 0.025	0.0058 ± 0.001		25
Calcium (mg/L)		250	230	250	200	to 1759	510 ± 52		39
Chromium (mg/L)		↑0.21			0.024	to 0.13	0.069 ± 0.01		13
Cobalt (mg/L)		0.011			0.01 U	to 0.05 U	0.026 ± 0.005		13
Copper (mg/L)		0.0059			0.003 U	to 0.093	0.022 ± 0.005		25
Iron (mg/L)		12	5.8	6.6	3.1	to 179	27 ± 5.4		39
Lead (mg/L)		0.006 U			0.002	to 0.095	0.025 ± 0.008		13
Magnesium (mg/L)		200	230	220	170	to 532	320 ± 15		39
Manganese (mg/L)		16	2.2	2.8	1.3	to 26	6.2 ± 1.1		39
Mercury (mg/L)		Y			0.0002 U	to 0.0005 U	0.00043 ± 4E-05		13
Nickel (mg/L)		0.043			0.022	to 0.304	0.096 ± 0.013		25
Potassium (mg/L)		1100	1100	1000	580	to 1982	1200 ± 59		39
Selenium (mg/L)		0.0082			0.005 U	to 0.098	0.031 ± 0.007		13
Silver (mg/L)		0.0026			0.0003	to 0.2	0.021 ± 0.015		13
Sodium (mg/L)		2400	2500	2100	1024	to 8135	2400 ± 190		39
Thallium (mg/L)		0.004 U			0.001 U	to 0.025	0.01 ± 0.002		13
Vanadium (mg/L)		0.01 U			0.01	to 0.1	0.036 ± 0.007		13
Zinc (mg/L)		0.014			0.011	to 0.604	0.12 ± 0.044		13
Tin (mg/L)		0.047			0.005 U	to 0.157	0.047 ± 0.014		13
Total Kjeldahl Nitrogen (mg/L)		970	990	1000	290	to 1400	770 ± 36		37
Ammonia (N) (mg/L)		750			74	to 840	570 ± 36		25
Nitrite/Nitrate - (N) (mg/L)			0.2 U	0.15	0.05 U	to 10 U	1.1 ± 0.72		14
Total Dissolved Solids (mg/L)		12340	13120	11000	13	to 19816	13000 ± 620		39
Total Suspended Solids (mg/L)		40	8	16	4.5	to 625	71 ± 17		39
Sulfate (mg/L)		200 U	20 U	50	10.4	to 2900	840 ± 140		39

LT-C4L & LT-C4LR**LT-C4L & LT-C4LR**

Juniper Ridge Landfill

annual stats 2022 G7

Sulfide (mg/L)	3.5			0.18 to 78	12 ± 3.6	24
Ca-mg Hardness (CaCO ₃) (mg/L)	1500			1300 to 6212	2300 ± 350	13
Bicarbonate Alkalinity (CaCO ₃) (mg/L)	3300	3500	3100	1370 to 4710	3000 ± 110	39
Alkalinity (CaCO ₃) (mg/L)	3300			1370 to 3700	2600 ± 190	13
Organic Carbon (mg/L)	430	470	370	110 to 2560	830 ± 110	39
Biochemical Oxygen Demand (mg/L)	150			39 to 4850	1300 ± 280	24
Chemical Oxygen Demand (mg/L)	2300			959 to 8110	3400 ± 430	25
Chloride (mg/L)	5700	6600	5700	2560 to 24300	11000 ± 830	39
Bromide (mg/L)	69	75	84	10 U to 188	67 ± 6.4	31
Cyanide (ug/L)	↑430			0.006 to 74	13 ± 6	13
Turbidity (field) (NTU)	D3	D3	D3	4.4 to 1733	440 ± 120	22

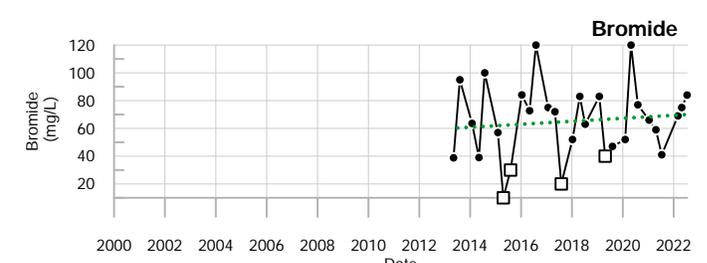
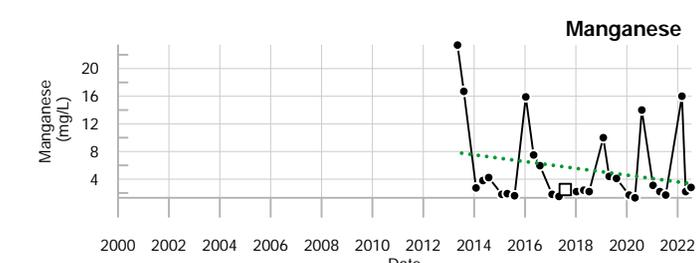
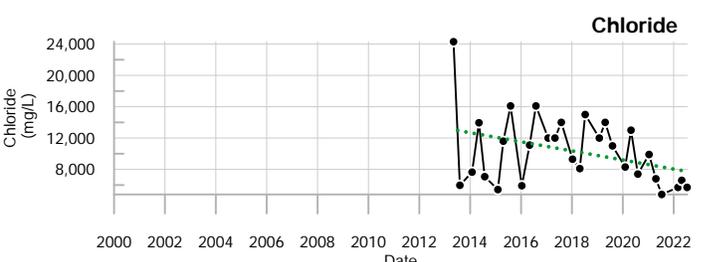
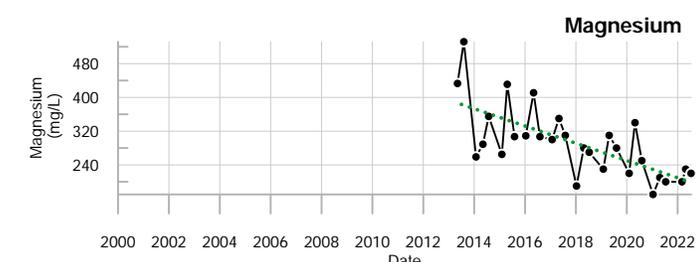
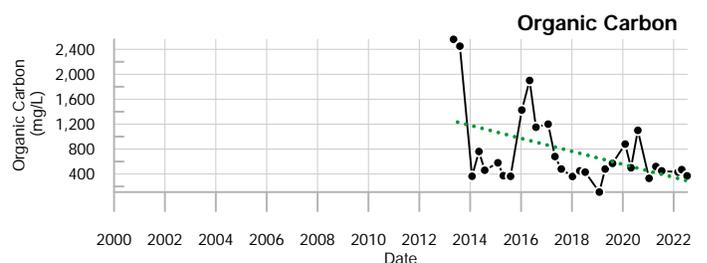
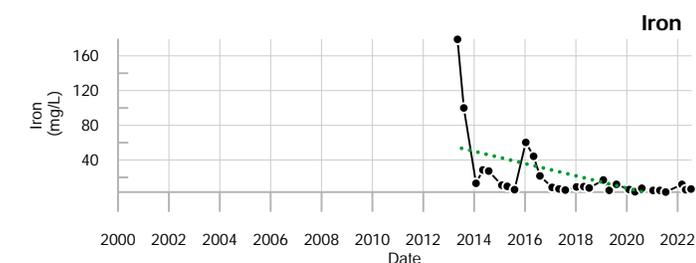
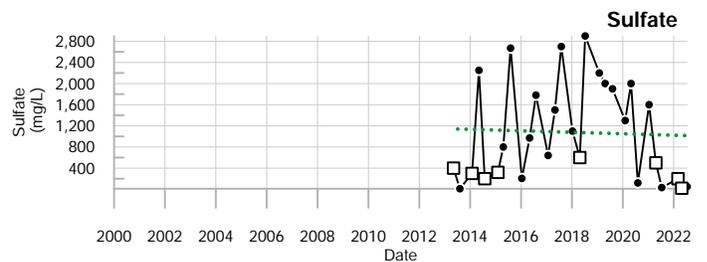
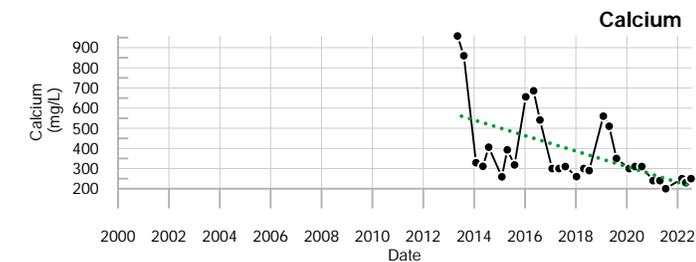
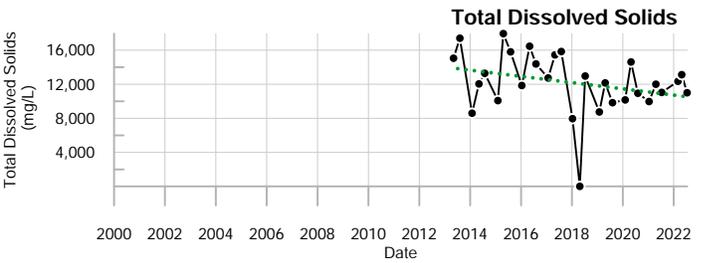
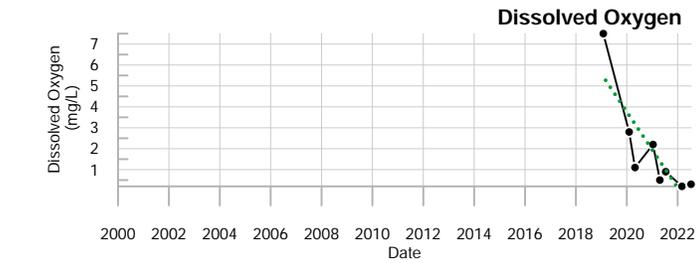
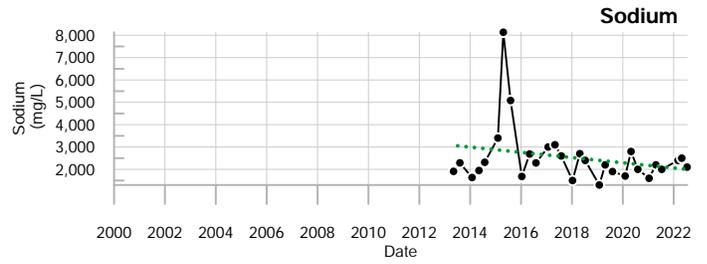
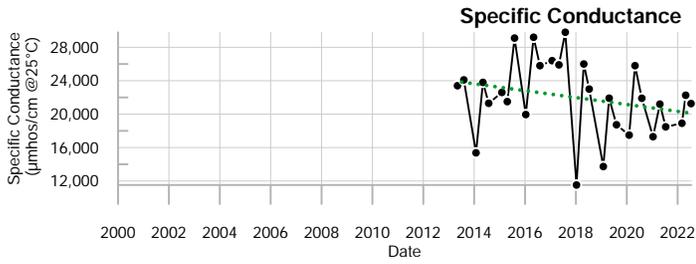
underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 5 - 2022 Y = Laboratory error, results not available.
 Q3= 7 - 2022 U = Not Detected above the laboratory reporting limit.
 Q4= 10 - 2022 FK = Outside range of available field kits.
 D3 = Sample too dark to take reading.



LEGEND
 □ - Below reporting Limit, Associate value is the reporting limit.
 ◇ - Estimated Value (J-flagged).
 --- - Linear Regression Fit Line.



LT-C4L & LT-C4LR
 Juniper Ridge Landfill

APPENDIX F

MANN-KENDALL TREND ANALYSIS RESULTS

**Summary of Mann-Kendall Trend Analysis
95% Confidence (alpha=0.05)
Juniper Ridge Landfill 2022**

3-yr trend: 1/1/2020 to 12/31/2022

5-yr trend: 1/1/2018 to 12/31/2022

LOCATION	Increasing Trends		Decreasing Trends		NoTrends	
	3 Year	5 Year	3 Year	5 Year	3 Year	5 Year
DP-4	Water Elev., WLE NGVD29ft	Water Elev., WLE NGVD29ft	Water Depth	Water Depth	Spec Cond, MP Elev	Spec Cond, pH, Temp, MP Elev, Eh, DO, Well Depth, TURB (fld)
LF-COMP	TURB (fld)	ALK (fld), TURB (fld)	Eh	Spec Cond	Spec Cond, pH, Temp, DO, ALK (fld)	pH, Temp, Eh, DO
LF-UD-4		NO2/NO3 - N		Spec Cond, pH, Cl, TURB (fld)		Temp, Eh, DO, Flow Rate, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, Bromide
LF-UD-5and6	Spec Cond, TURB (fld)	pH, Temp, ALK (fld), TURB (fld)	pH, Eh, OC	Spec Cond, Eh, DO, Flow Rate, OC	Temp, DO, Flow Rate, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, ALK (fld), Cl, Bromide, NO2/NO3 - N	As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, Cl, Bromide, NO2/NO3 - N
LP-COMP	Spec Cond, TURB (fld)	pH, Temp, ALK (fld)	pH, Eh	Spec Cond, DO	Temp, DO, ALK (fld)	Eh, TURB (fld)
LP-UD-2	Spec Cond, Temp, Ca, ALK (fld), TURB (fld)	Temp, Ca, TDS, HCO3, ALK (fld)	pH, DO, Flow Rate, OC	Spec Cond, Eh, TURB (fld)	Eh, As, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, Cl, Bromide, NO2/NO3 - N	pH, DO, Flow Rate, As, Fe, Mg, Mn, K, Na, TSS, SO4, OC, Cl, Bromide, NO2/NO3 - N
LT-C4LR	TKN	Ba, Cr, Ni, NH3 - N, TDS	DO, SO4, Cl	Ca, SO4, Cl	Spec Cond, pH, Temp, Eh, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, HCO3, OC, Bromide, NO2/NO3 - N	Spec Cond, pH, Temp, Eh, Al, Sb, As, Be, Cd, Co, Cu, Fe, Pb, Mg, Mn, K, Se, Ag, Na, Ti, V, Zn, Sn, TKN, NO3 - N, TSS, S=, Hard(CaMg), HCO3, ALK, OC, BOD5, COD, Bromide, CN, NO2/NO3 - N
MW04-102		Water Depth	Eh, SO4, OC	Spec Cond, pH, Water Elev., WLE NGVD29ft, Eh	Spec Cond, pH, Temp, MP Elev, Water Elev., WLE NGVD29ft, Water Depth, DO, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, HCO3, Cl, Bromide, TURB (fld), NO2/NO3 - N	Temp, MP Elev, DO, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N
MW04-105					Spec Cond, MP Elev, WLE NGVD29ft, Water Depth, Water Elev.	Spec Cond, pH, Temp, WLE NGVD29ft, MP Elev, Water Elev., Water Depth, Eh, DO, Well Depth, TURB (fld)
MW04-109R		Well Depth	Spec Cond, pH, SO4, HCO3	Spec Cond, pH, Eh, Ca, TDS, SO4, HCO3, NO2/NO3 - N	Temp, WLE NGVD29ft, Water Elev., MP Elev, Water Depth, Eh, DO, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	Temp, WLE NGVD29ft, Water Depth, MP Elev, Water Elev., DO, As, Fe, Mg, Mn, K, Na, TKN, TSS, OC, Cl, Bromide, TURB (fld)
MW06-01	Spec Cond, Ca, Mg, TDS, HCO3, Cl, NO2/NO3 - N	Spec Cond, Ca, Mg, K, Na, TDS, Cl, NO2/NO3 - N	DO, TKN, SO4, OC	DO, TKN	pH, Temp, Water Depth, Water Elev., MP Elev, WLE NGVD29ft, Eh, As, Fe, Mn, K, Na, TSS, Bromide, TURB (fld)	pH, Temp, MP Elev, WLE NGVD29ft, Water Elev., Water Depth, Eh, As, Fe, Mn, TSS, SO4, ALK, OC, Bromide, TURB (fld)
MW09-901		OC	pH, SO4	Spec Cond, pH, Eh, Well Depth, Ca, K, Na, SO4, NO2/NO3 - N	Spec Cond, Temp, WLE NGVD29ft, Water Elev., Water Depth, MP Elev, Eh, DO, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	Temp, Water Elev., WLE NGVD29ft, Water Depth, MP Elev, DO, As, Fe, Mg, Mn, TKN, TDS, TSS, HCO3, Cl, Bromide, TURB (fld)
MW12-303R		Water Depth		WLE NGVD29ft, Water Elev., Eh, K	Spec Cond, pH, Temp, Water Depth, Water Elev., WLE NGVD29ft, MP Elev, Eh, DO, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, pH, Temp, MP Elev, DO, Well Depth, As, Ca, Fe, Mg, Mn, Na, TKN, TDS, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N
MW-204					Spec Cond, Water Elev., WLE NGVD29ft, MP Elev, Water Depth, Well Depth	Spec Cond, pH, Temp, WLE NGVD29ft, MP Elev, Water Elev., Water Depth, Eh, DO, Well Depth, TURB (fld)

MW-206	Spec Cond	Cl	DO, SO4, OC	Eh, DO, As, Fe, TURB (fld), NO2/NO3 - N	pH, Temp, WLE NGVD29ft, MP Elev, Water Elev., Water Depth, Eh, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, pH, Temp, MP Elev, Water Depth, Water Elev., WLE NGVD29ft, Well Depth, Ca, Mg, Mn, K, Na, TKN, TDS, TSS, SO4, OC, Bromide
MW-223A	Ca, Mg, TKN, HCO3, NO2/NO3 - N	Ca, Mg, TDS, HCO3	pH, Eh, DO, OC, Cl	pH, Eh, DO, Cl	Spec Cond, Temp, Water Elev., MP Elev, Water Depth, WLE NGVD29ft, Well Depth, As, Fe, Mn, K, Na, TDS, TSS, SO4, Bromide, TURB (fld)	Spec Cond, Temp, WLE NGVD29ft, MP Elev, Water Elev., Water Depth, Well Depth, As, Fe, Mn, K, Na, TKN, TSS, SO4, OC, Bromide, TURB (fld), NO2/NO3 - N
MW-223B	Ca, HCO3	Ca, Fe, Mg, K, TDS, SO4, HCO3, Bromide	pH, DO, OC, Cl	pH, Eh, DO, Cl	Spec Cond, Temp, MP Elev, Water Elev., WLE NGVD29ft, Water Depth, Eh, Well Depth, As, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, SO4, Bromide, TURB (fld), Methane, NO2/NO3 - N	Spec Cond, Temp, MP Elev, WLE NGVD29ft, Water Elev., Water Depth, Well Depth, As, Mn, Na, TKN, TSS, OC, TURB (fld), Methane, NO2/NO3 - N
MW-227	Water Depth, Ca	Well Depth, Fe, TDS, HCO3, TURB (fld)	WLE NGVD29ft, Water Elev., As, OC	Spec Cond, pH, Eh, As	Spec Cond, pH, Temp, MP Elev, Eh, DO, Well Depth, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, SO4, HCO3, Cl, Bromide, TURB (fld), NO2/NO3 - N	Temp, Water Depth, WLE NGVD29ft, Water Elev., MP Elev, DO, Ca, Mg, Mn, K, Na, TKN, TSS, SO4, OC, Cl, Bromide, NO2/NO3 - N
MW-301	Water Depth	TDS	Water Elev., WLE NGVD29ft, Eh, TKN, SO4	Eh, DO, TKN, NO2/NO3 - N	Spec Cond, pH, Temp, MP Elev, DO, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, pH, Temp, Water Elev., WLE NGVD29ft, MP Elev, Water Depth, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld)
MW-302R	Ca, K, HCO3, NO2/NO3 - N	Ca, Mg, K, TDS, HCO3, Bromide, NO2/NO3 - N	Eh, DO	pH, Eh, DO	Spec Cond, pH, Temp, MP Elev, Water Elev., WLE NGVD29ft, Water Depth, As, Fe, Mg, Mn, Na, TKN, TDS, TSS, SO4, OC, Cl, Bromide, TURB (fld)	Spec Cond, Temp, WLE NGVD29ft, Water Depth, Water Elev., MP Elev, As, Fe, Mn, Na, TKN, TSS, SO4, OC, Cl, TURB (fld)
MW-401A	Spec Cond, Ca, Cl	Ca, Mg, TDS, HCO3, Cl	DO, TURB (fld)	pH, Eh, Well Depth, TURB (fld)	pH, Temp, Water Elev., WLE NGVD29ft, MP Elev, Water Depth, Eh, Well Depth, As, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, SO4, HCO3, OC, Bromide, NO2/NO3 - N	Spec Cond, Temp, Water Elev., WLE NGVD29ft, Water Depth, MP Elev, DO, As, Fe, Mn, K, Na, TKN, TSS, SO4, OC, Bromide, NO2/NO3 - N
MW-401B	Ca	K, HCO3	pH, As, SO4	pH, Eh, As, Cl, NO2/NO3 - N	Spec Cond, Temp, MP Elev, Water Elev., WLE NGVD29ft, Water Depth, Eh, DO, Well Depth, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, Temp, WLE NGVD29ft, Water Elev., Water Depth, MP Elev, DO, Well Depth, Ca, Fe, Mg, Mn, Na, TKN, TDS, TSS, SO4, OC, Bromide, TURB (fld)
MW-402A	Water Depth	Well Depth, Cl	pH, Water Elev., WLE NGVD29ft, As, TKN, OC	Spec Cond, pH, Eh, As, TKN	Spec Cond, Temp, MP Elev, Eh, DO, Well Depth, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, Cl, Bromide, TURB (fld), NO2/NO3 - N	Temp, Water Elev., Water Depth, MP Elev, WLE NGVD29ft, DO, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, Bromide, TURB (fld), NO2/NO3 - N
MW-402B	Ca		pH, OC	Spec Cond, pH, Eh, Cl	Spec Cond, Temp, Water Depth, MP Elev, WLE NGVD29ft, Water Elev., Eh, DO, Well Depth, As, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, SO4, HCO3, Cl, Bromide, TURB (fld), NO2/NO3 - N	Temp, Water Depth, MP Elev, WLE NGVD29ft, DO, Well Depth, As, Ca, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, SO4, HCO3, OC, Bromide, TURB (fld), NO2/NO3 - N
MW-501	SO4, NO2/NO3 - N	Mg, ALK, Cl, NO2/NO3 - N	OC	DO, TURB (fld)	Spec Cond, pH, Temp, MP Elev, Eh, DO, As, Ca, Fe, Mg, Mn, K, Na, TKN, TDS, TSS, Cl, Bromide, TURB (fld)	Spec Cond, pH, Temp, MP Elev, Eh, As, Ca, Cu, Fe, Mn, K, Na, TKN, NH3 - N, TDS, TSS, SO4, S=, OC, Bromide
MW-507		Na, ALK		pH, DO, OC		Spec Cond, Temp, WLE NGVD29ft, Water Elev., MP Elev, Water Depth, Eh, As, Ca, Cu, Fe, Mg, Mn, K, TKN, NH3 - N, TDS, TSS, SO4, S=, Cl, Bromide, TURB (fld), NO2/NO3 - N
OW-06-03				Eh	Spec Cond, pH, Temp, Water Elev., Water Depth, MP Elev, WLE NGVD29ft, Eh, DO, TURB (fld)	Spec Cond, pH, Temp, Water Depth, Water Elev., WLE NGVD29ft, MP Elev, DO, TURB (fld)
OW-601A	Spec Cond	Spec Cond, Water Depth, Mg, K, Na, TDS, SO4, ALK, NO2/NO3 - N	TURB (fld)	pH, WLE NGVD29ft, Water Elev., Mn, TSS	pH, Temp, WLE NGVD29ft, Water Elev., MP Elev, Water Depth, Eh, DO	Temp, MP Elev, Eh, DO, As, Ca, Fe, TKN, OC, Cl, Bromide, TURB (fld)

OW-601B		Water Depth, Mg, Bromide	Eh, TURB (fld)	Water Elev., WLE NGVD29ft, Eh	Spec Cond, pH, Temp, MP Elev, Water Depth, WLE NGVD29ft, Water Elev., DO	Spec Cond, pH, Temp, MP Elev, DO, As, Ca, Fe, Mn, K, Na, TKN, TDS, TSS, SO4, ALK, OC, Cl, TURB (fld), NO2/NO3 - N
OW-602A	Spec Cond	Spec Cond, Water Depth, Mg, Na, TDS, ALK	pH, DO	pH, WLE NGVD29ft, Water Elev., Eh, DO	Temp, Water Elev., Water Depth, MP Elev, WLE NGVD29ft, Eh, TURB (fld)	Temp, MP Elev, As, Ca, Fe, Mn, K, TKN, TSS, SO4, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N
OW-603B		Water Depth		Water Elev., WLE NGVD29ft	MP Elev	MP Elev
OW-604A	Spec Cond	Spec Cond, Water Depth, Ca, Mg, Na, TDS, ALK, Cl, NO2/NO3 - N	Eh, DO	Water Elev., WLE NGVD29ft, Eh	pH, Temp, MP Elev, Water Elev., WLE NGVD29ft, Water Depth, TURB (fld)	pH, Temp, MP Elev, DO, As, Fe, Mn, K, TKN, TSS, SO4, OC, Bromide, TURB (fld)
OW-605A		Water Elev., WLE NGVD29ft, Eh, Ca		pH, Water Depth, DO, TURB (fld)		Spec Cond, Temp, MP Elev, As, Cu, Fe, Mg, Mn, K, Na, TKN, NH3 - N, TDS, TSS, SO4, S=, ALK, OC, Cl, Bromide, NO2/NO3 - N
OW-606A		ALK		Spec Cond, pH, DO		Temp, Eh, As, Ca, Cu, Fe, Mg, Mn, K, Na, TKN, NH3 - N, TDS, TSS, SO4, S=, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N
OW-608A		Temp, Water Depth		Water Elev., WLE NGVD29ft, NO2/NO3 - N		Spec Cond, pH, MP Elev, Eh, DO, As, Ca, Cu, Fe, Mg, Mn, K, Na, TKN, NH3 - N, TDS, TSS, SO4, S=, ALK, OC, Cl, Bromide, TURB (fld)
OW-611A		Cl		pH, DO		Spec Cond, Temp, WLE NGVD29ft, Water Depth, MP Elev, Water Elev., Eh, As, Ca, Cu, Fe, Mg, Mn, K, Na, TKN, NH3 - N, TDS, TSS, SO4, S=, ALK, OC, Bromide, TURB (fld), NO2/NO3 - N
P-04-02R			Spec Cond, pH, DO, As, Na, SO4, HCO3, Cl	Spec Cond, pH, Eh, As, Mg, K, Na, TDS, SO4, Cl	Temp, Water Depth, Water Elev., WLE NGVD29ft, MP Elev, Eh, Well Depth, Ca, Fe, Mg, Mn, K, TKN, TDS, TSS, OC, Bromide, TURB (fld), NO2/NO3 - N	Temp, MP Elev, WLE NGVD29ft, Water Elev., Water Depth, DO, Well Depth, Ca, Fe, Mn, TKN, TSS, HCO3, OC, Bromide, TURB (fld), NO2/NO3 - N
P-04-04	Spec Cond, Ca, TDS, Cl	Well Depth, Ca, Mg, TDS, Cl	pH, Eh, DO	pH, Eh	Temp, Water Depth, WLE NGVD29ft, MP Elev, Water Elev., Well Depth, As, Fe, Mg, Mn, K, Na, TKN, TSS, SO4, HCO3, OC, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, Temp, Water Elev., WLE NGVD29ft, Water Depth, MP Elev, DO, As, Fe, Mn, K, Na, TKN, TSS, SO4, HCO3, OC, Bromide, TURB (fld), NO2/NO3 - N
P-206A	Mg	Water Depth, DO, Ca, Mg, TDS, SO4, HCO3, NO2/NO3 - N	Fe, OC	pH, Water Elev., WLE NGVD29ft, As, Fe, Mn, Na, OC	Spec Cond, pH, Temp, Water Depth, Water Elev., WLE NGVD29ft, MP Elev, Eh, DO, As, Ca, Mn, K, Na, TKN, TDS, TSS, SO4, HCO3, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, Temp, MP Elev, Eh, Well Depth, K, TKN, TSS, Cl, Bromide, TURB (fld)
PWS10-1		K, OC, Methane	Cl	NO2/NO3 - N	Spec Cond, pH, Temp, Eh, DO, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, Bromide, TURB (fld), Methane, NO2/NO3 - N	Spec Cond, pH, Temp, Eh, DO, As, Ca, Fe, Mg, Mn, Na, TDS, TSS, SO4, HCO3, Cl, Bromide, TURB (fld)
PWS10-2		K, Methane	Ca, SO4	Spec Cond, pH, Eh, NO2/NO3 - N	Spec Cond, pH, Temp, Eh, DO, As, Fe, Mg, Mn, K, Na, TDS, TSS, HCO3, OC, Cl, Bromide, TURB (fld), Methane, NO2/NO3 - N	Temp, DO, As, Ca, Fe, Mg, Mn, Na, TDS, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld)
PWS10-3		Ca, Fe, Mg, Mn, HCO3		Eh, SO4, NO2/NO3 - N	Spec Cond, pH, Temp, Eh, DO, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld), Methane, NO2/NO3 - N	Spec Cond, pH, Temp, DO, As, K, Na, TDS, TSS, OC, Cl, Bromide, TURB (fld), Methane
SW-1		Mn, K, BOD5		Eh, DO	Spec Cond, pH, Temp, Eh, DO, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, BOD5, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, pH, Temp, As, Ca, Fe, Mg, Na, TDS, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N
SW-2				pH	Spec Cond, pH, Temp, Eh, DO, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, BOD5, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, Temp, Eh, DO, Flow Rate, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, BOD5, Cl, Bromide, TURB (fld), NO2/NO3 - N

SW-3		K				Spec Cond, pH, Temp, Eh, DO, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, BOD5, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, pH, Temp, Eh, DO, Flow Rate, As, Ca, Fe, Mg, Mn, Na, TDS, TSS, SO4, HCO3, OC, BOD5, Cl, Bromide, TURB (fld), NO2/NO3 - N
SW-DP1		Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4	DO	pH, Eh, DO		Spec Cond, pH, Temp, Eh, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, Temp, As, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N
SW-DP5		Temp, Mg, OC				Spec Cond, pH, Temp, Eh, DO, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, SO4, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	Spec Cond, pH, Eh, DO, As, Ca, Fe, Mn, K, Na, TDS, TSS, SO4, HCO3, Cl, Bromide, TURB (fld), NO2/NO3 - N
SW-DP6		Fe, K	SO4	Spec Cond, Eh, Ca, Na, SO4, Cl		Spec Cond, pH, Temp, Eh, DO, As, Ca, Fe, Mg, Mn, K, Na, TDS, TSS, HCO3, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	pH, Temp, DO, As, Mg, Mn, TDS, TSS, HCO3, OC, Bromide, TURB (fld), NO2/NO3 - N
MW-04-09A	Eh, Ca, ALK		pH, As, Fe, TSS			Spec Cond, Temp, MP Elev, Water Elev., Water Depth, WLE NGVD29ft, DO, Cu, Mg, Mn, K, Na, TKN, NH3 - N, TDS, SO4, S=, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	
MW-04-09B	Cl		DO, OC			Spec Cond, pH, Temp, Water Depth, Water Elev., WLE NGVD29ft, MP Elev, Eh, As, Ca, Cu, Fe, Mg, Mn, K, Na, TKN, NH3 - N, TDS, TSS, SO4, S=, ALK, Bromide, TURB (fld), NO2/NO3 - N	
MW-502	Ca, Mg, K, Na, TDS, ALK		pH, DO			Spec Cond, Temp, Water Depth, Eh, As, Cu, Fe, Mn, TKN, NH3 - N, TSS, SO4, S=, OC, Cl, Bromide, TURB (fld), NO2/NO3 - N	

- Values below the laboratory PQL (non-detects) are divided by 2. All other data qualifiers are ignored but any associated value is used.
- Samples collected for data quality control are not analyzed.
- Data sets with less than 5 data points are not analyzed.
- Data sets with a period shorter than the intended period of analysis (e.g. 3-yr analysis or 5-yr analysis) are not analyzed.
- Significant events in historical data can affect the distribution in a way that compromises the assumption of a monotonic data set. Events could include the cessation of filtering, a spill, changing sampling protocols or analytical method changes that alter the detection limit.

REFERENCES:

State of Wisconsin, Department of Natural Resources, Remediation and Redevelopment Program Mann-Kendall Statistical Test, Form 4400-215 (2/2001)

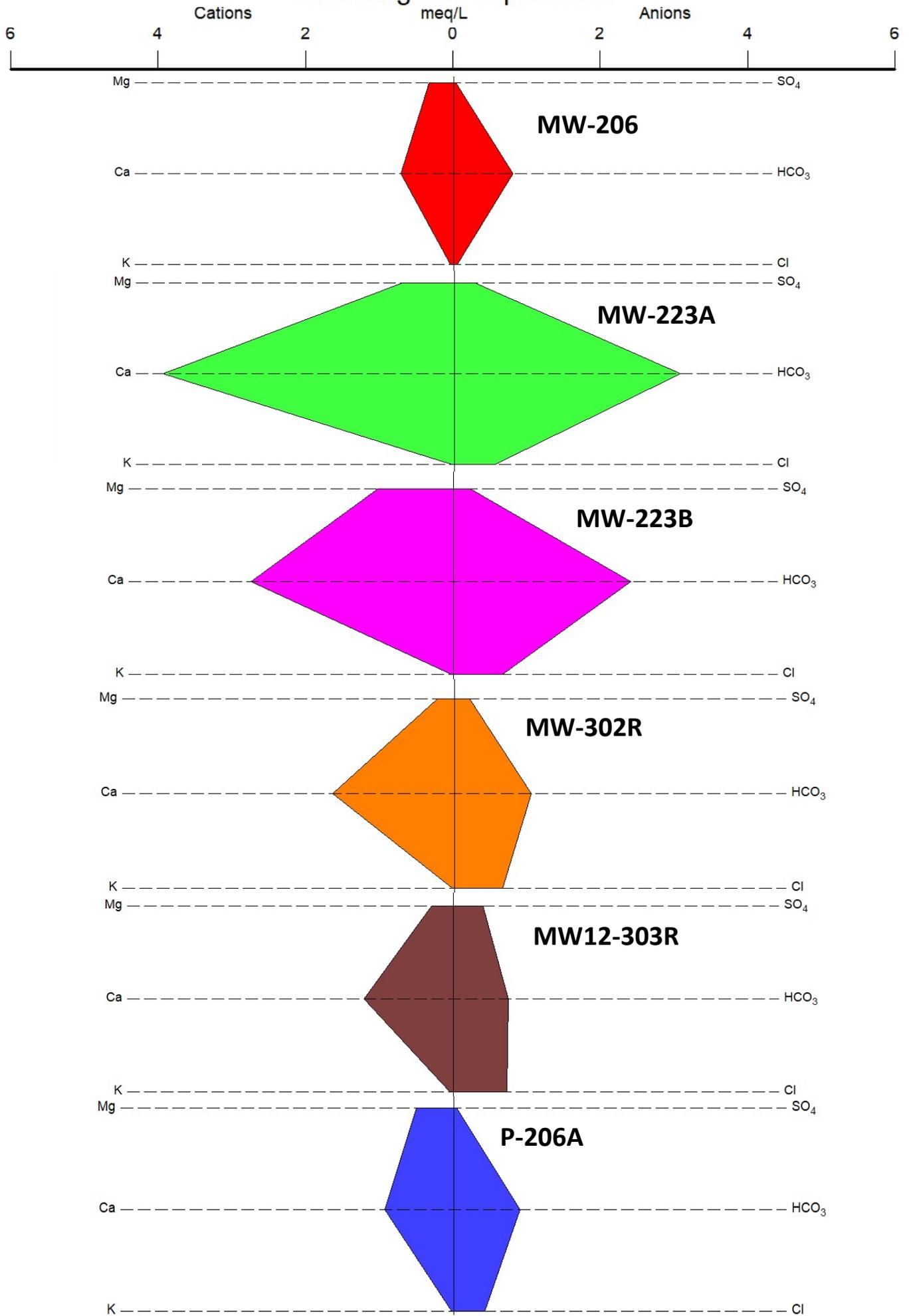
Gilbert, R.O., Statistical Methods for Environmental Pollution Monitoring, Van Nostrand Reinhold, 1987, pp. 204 – 240 and 272.

Hollander, M. and Wolfe, A.M Nonparametric Statistical Methods, John Wiley Sons, 1999

APPENDIX G

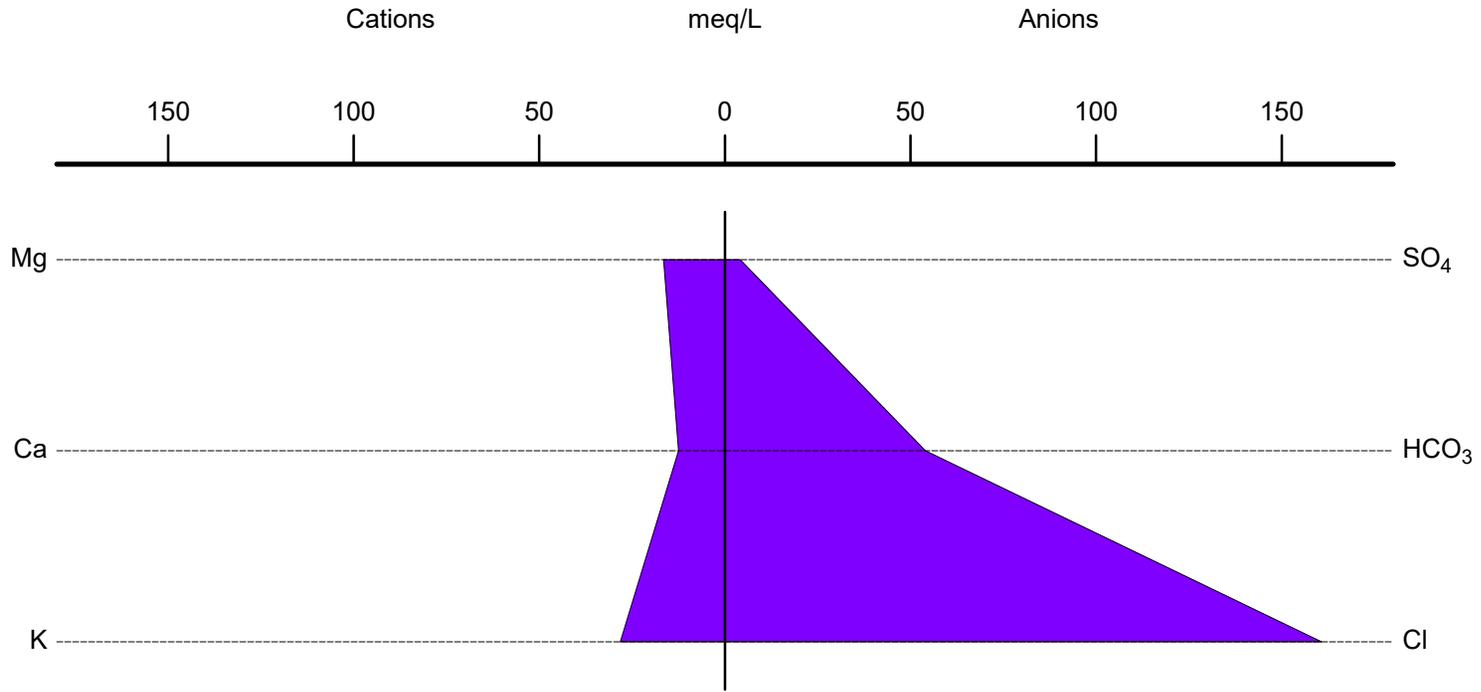
**STIFF AND PIPER DIAGRAMS FOR
MW-206, MW-223A, MW-223B, MW-302R,
MW12-303R, P-206A, AND LT-C4LR**

Stiff Diagram - April 2022

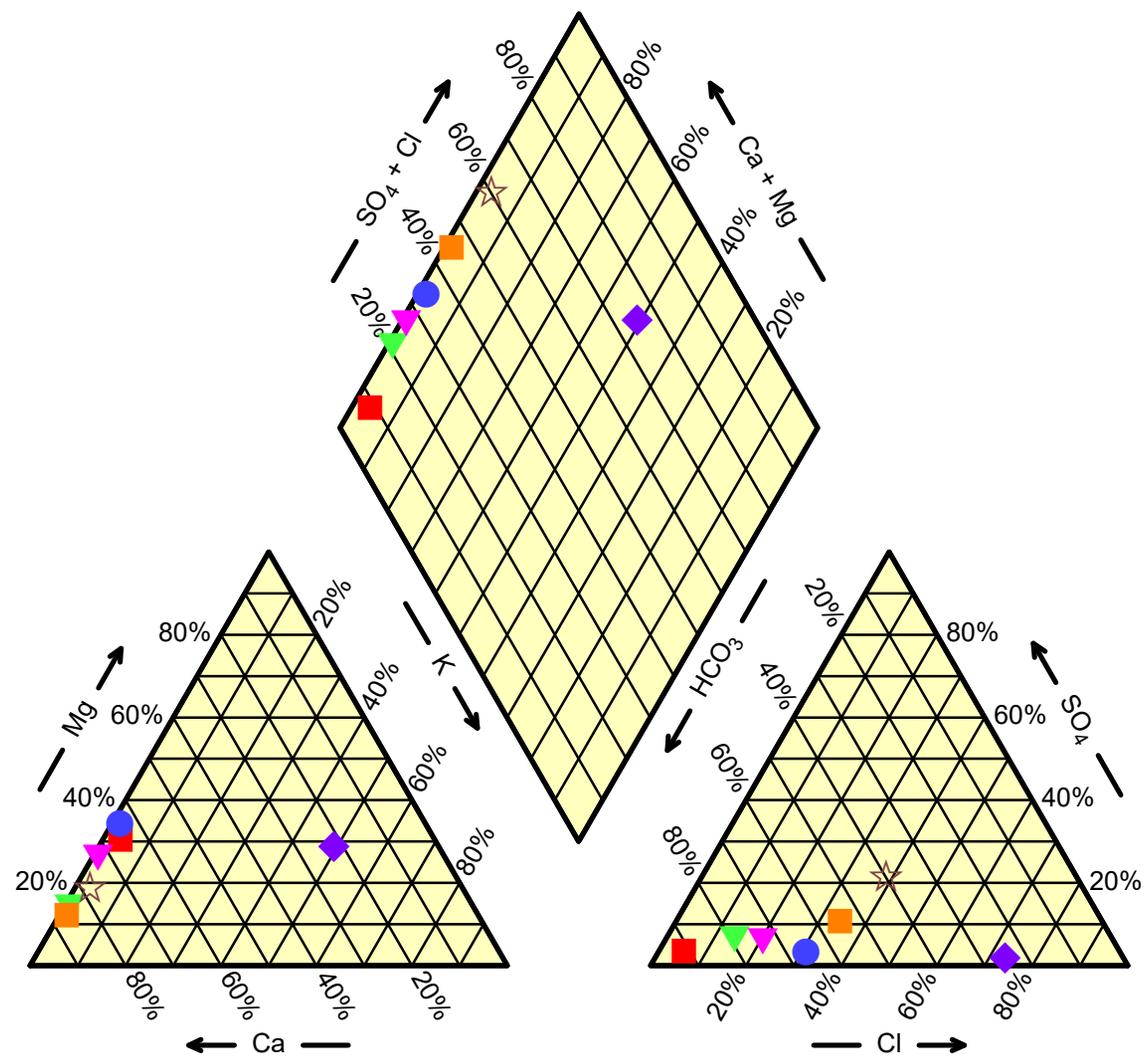
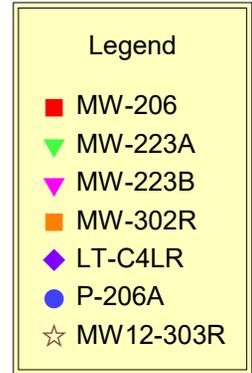


Stiff Diagram - May 2022

LT-C4LR



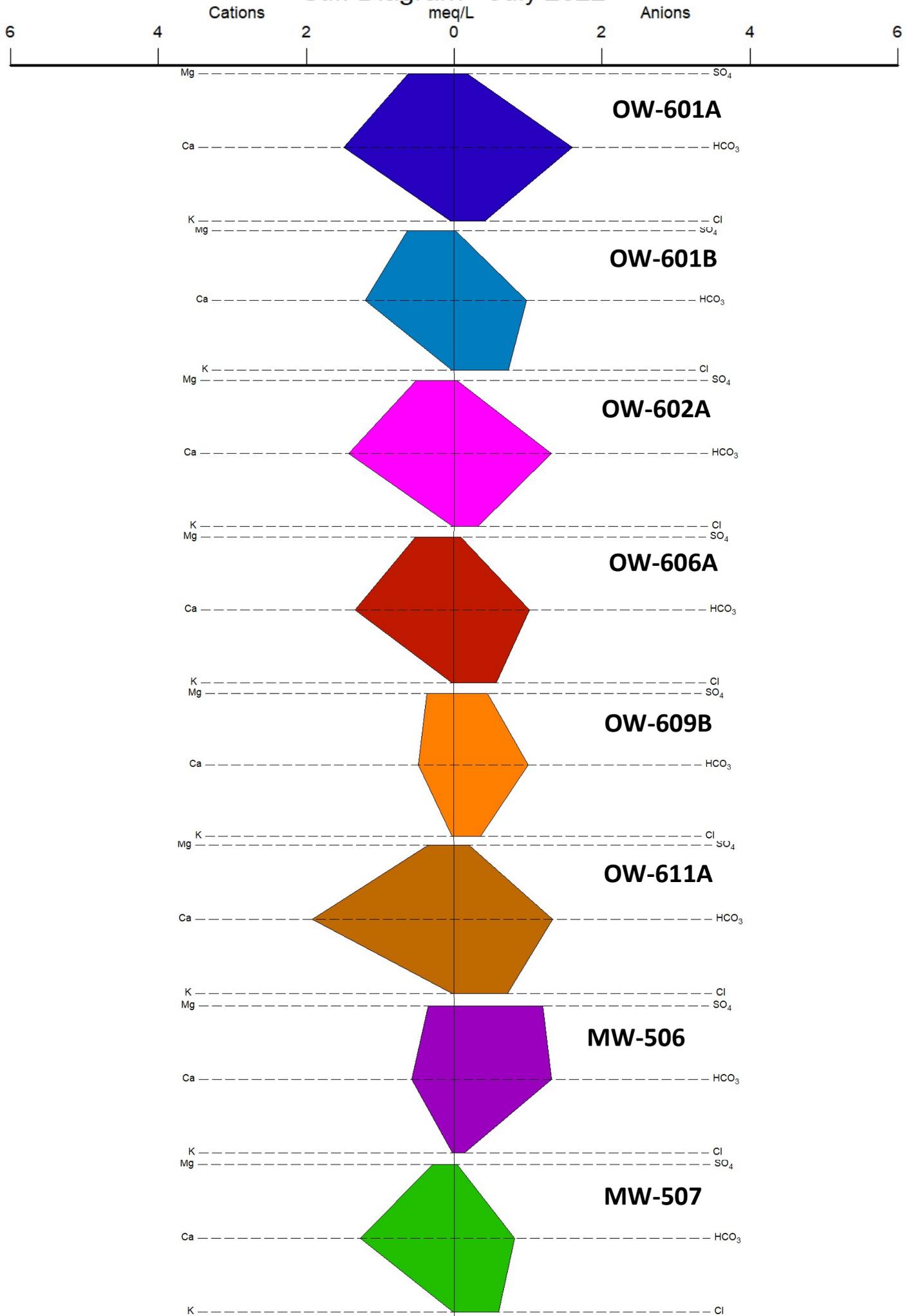
Piper Diagram - April/May 2022



APPENDIX H

**STIFF DIAGRAMS FOR OW-601A, OW-601B,
OW-602A, OW-606A, OW-609B, OW-611A,
MW-506 AND MW-507**

Stiff Diagram - July 2022



APPENDIX I

2022 AND HISTORICAL GAS MEASUREMENT DATA

SUMMARY REPORT

Methane - H2S - Oxygen - CO2 - Report

(DP-4)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide												
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.												
DP-4																		
4/24/2013	0.1 US	0.1 US	0	0	20.8	0												
7/31/2013	0.1 US	0.1 US	0	0	20.5	0												
10/30/2013	0.1 US	0.1 US	0	0	21.1	0												
4/21/2014	0.1 US	0.1 US	0	0	20.7	0												
7/30/2014	0.1 US	0.1 US	0	0	20.2	0												
10/21/2014	0.1 US	0.1 US	0	0	20.9	0												
4/29/2015	0.1 US	0.1 US	0	0	21.5	0												
7/14/2015	0.1 US	0.1 US	0	0	20.7	0												
10/27/2015	0.1 US	0.1 US	0	0	21.3	0												
4/6/2016	0.1 US	0.1 US	0	0	19.5	0												
7/25/2016	0.1 US	0.1 US	0	0	20.4	0												
10/25/2016	0.1 US	0.1 US	0	0	20.7	0												
4/18/2017	0.1 US	0.1 US	0	0	20.9	0												
7/25/2017	0.1 US	0.1 US	0	0	20.9	0												
10/23/2017	0.1 US	0.1 US	0	0	20.7	0												
4/3/2018	0.1 US	0.1 US	0	0	21	0												
7/16/2018	0.1 US	0.1 US	0	0	20.5	0												
10/1/2018	0.1 US	0.1 US	0	0	21.1	0												
4/23/2019	0.1 US	0.1 US	0	0	20.9	0												
7/15/2019	0.1 US	0.1 US	0	0	20.9	0												
10/28/2019	0.1 US	0.1 US	0	0	20.9	0												
4/27/2020	0.1 US	0.1 US	0	0	20.9	0												
7/20/2020	0.1 US	0.1 US	0	0	20.9	0												
10/26/2020	0.1 US	0.1 US	0	0	20.9	0												
4/5/2021	0.1 US	0.1 US	0	0	20.9	0												
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/4/2021	0.1 US	0.1 US	0	0	20.9	0												
4/25/2022	0.1 US	0.1 US	0	0	20.9	0												
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/3/2022	0.1 US	0.1 US	0	0	20.9	0												
LT-C4L & LT-C4LR																		
4/23/2013	0.1 US	0.1 US	0	0	20.6	0												
7/30/2013	0.1 US	0.1 US	0	0	20.6	0												
10/29/2013	0.1 US	0.1 US	0	0	21.4	0												
4/21/2014	0.1 US	0.1 US	0	0	20.8	0												
7/30/2014	0.1 US	0.1 US	0	0	20.1	0												
10/21/2014	0.1 US	0.1 US	0	0	20.8	0												
4/29/2015	0.1 US	0.1 US	0	0	22.4	0												
7/14/2015	0.1 US	0.1 US	0	0	20.6	0												
10/27/2015	0.1 US	0.1 US	0	0	21.3	0												
4/6/2016	0.1 US	0.1 US	0	0	19.6	0												
7/26/2016	0.1 US	0.1 US	0	0	20.3	0												
10/25/2016	0.1 US	0.1 US	0	0	20.6	0												
4/18/2017	0.1 US	0.1 US	0	0	20.9	0												
7/25/2017	0.1 US	0.1 US	0	0	20.9	0												
10/24/2017	0.1 US	0.1 US	0	0	20.7	0												
4/3/2018	0.1 US	0.1 US	0	0	20.9	0												

SUMMARY REPORT
Methane - H2S - Oxygen - CO2 - Report

(LT-C4L & LT-C4LR)		Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide										
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/16/2018	0.1 US	0.1 US	0	0	20.1	0											
10/1/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
LF-LD-11																	
7/19/2022	0.1 US	0.1 US	0	0	19.1	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LF-LD-12																	
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LF-LD-13																	
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LF-LD-14																	
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LF-UD																	
4/23/2013	0.1 US	0.1 US	0	0	20.6	0											
7/30/2013	0.1 US	0.1 US	0	0	20.9	0											
10/29/2013	0.1 US	0.1 US	0	0	20.5	0											
4/22/2014	0.1 US	0.1 US	0	0	20.3	0											
7/30/2014	0.1 US	0.1 US	0	0	20.5	0											
10/21/2014	0.1 US	0.1 US	0	0	20.9	0											
4/28/2015	0.1 US	0.1 US	0	0	24.8	0											
7/14/2015	0.1 US	0.1 US	0	0	20.1	0											
10/27/2015	0.1 US	0.1 US	0	0	22	0											
4/5/2016	0.1 US	0.1 US	0	0	20.3	0											
7/26/2016	0.1 US	0.1 US	0	0	20.7	0											
10/25/2016	0.1 US	0.1 US	0	0	20.6	0											
4/18/2017	0.1 US	0.1 US	0	0	20.9	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.6	0											
4/3/2018	0.1 US	0.1 US	0	0	21	0											
7/16/2018	0.1 US	0.1 US	0	0	17.2	0											
10/2/2018	0.1 US	0.1 US	0	0	20.9	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											

SUMMARY REPORT
 Methane - H2S - Oxygen - CO2 - Report

(LF-UD)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.8	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/19/2022	0.1 US	0.1 US	0	0	17.9	0											
LF-UD-5and6																	
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LF-UD-8																	
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LF-UD-9																	
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LF-UD-10																	
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LP-LD																	
4/23/2013	0.1 US	0.1 US	0	0	20.6	0											
7/30/2013	0.1 US	0.1 US	0	0	20.6	0											
10/29/2013	0.1 US	0.1 US	0	0	20.7	0											
4/22/2014	0.1 US	0.1 US	0	0	20.3	0											
7/30/2014	0.1 US	0.1 US	0	0	20.5	0											
10/21/2014	0.1 US	0.1 US	0	0	20.9	0											
4/28/2015	0.1 US	0.1 US	0	0	22.1	0											
7/14/2015	0.1 US	0.1 US	0	0	20.6	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/5/2016	0.1 US	0.1 US	0	0	20.3	0											
7/26/2016	0.1 US	0.1 US	0	0	18.9	0											
10/25/2016	0.1 US	0.1 US	0	0	20.6	0											
4/18/2017	0.1 US	0.1 US	0	0	20.9	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.7	0											
4/3/2018	0.1 US	0.1 US	0	0	21.1	0											
7/16/2018	0.1 US	0.1 US	0	0	20	0											
10/2/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											

SUMMARY REPORT
Methane - H2S - Oxygen - CO2 - Report

(LP-LD)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
LP-UD																	
4/23/2013	0.1 US	0.1 US	0	0	20.7	0											
7/30/2013	0.1 US	0.1 US	0	0	20.7	0											
10/29/2013	0.1 US	0.1 US	0	0	20.8	0											
4/22/2014	0.1 US	0.1 US	0	0	20.3	0											
7/30/2014	0.1 US	0.1 US	0	0	20.5	0											
10/21/2014	0.1 US	0.1 US	0	0	21.1	0											
4/28/2015	0.1 US	0.1 US	0	0	22.1	0											
7/14/2015	0.1 US	0.1 US	0	0	20.8	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/5/2016	0.1 US	0.1 US	0	0	20.3	0											
7/26/2016	0.1 US	0.1 US	0	0	20.4	0											
10/25/2016	0.1 US	0.1 US	0	0	20.7	0											
4/18/2017	0.1 US	0.1 US	0	0	20.9	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.6	0											
4/3/2018	0.1 US	0.1 US	0	0	21.1	0											
7/16/2018	0.1 US	0.1 US	0	0	20	0											
10/2/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/19/2022	0.1 US	0.1 US	0	0	20.7	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-04-09A																	
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/6/2021	0.1 US	0.1 US	0	0	20.9	0											
7/20/2022	0.1 US	0.1 US	0	0	20.9	0											
10/5/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-04-09B																	
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/6/2021	0.1 US	0.1 US	0	0	20.9	0											
7/20/2022	0.1 US	0.1 US	0	0	20.9	0											
10/5/2022	0.1 US	0.1 US	0	0	20.9	0											

SUMMARY REPORT
 Methane - H2S - Oxygen - CO2 - Report

(MW04-102)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
MW04-102																	
4/23/2013	0.1 US	0.1 US	0	0	20.8	0											
7/31/2013	0.1 US	0.1 US	0	0	20.7	0											
10/28/2013	0.1 US	0.1 US	0	0	20.8	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/30/2014	0.1 US	0.1 US	0	0	20.5	0											
10/21/2014	0.1 US	0.1 US	0	0	20.9	0											
4/29/2015	0.1 US	0.1 US	0	0	22.4	0											
7/14/2015	0.1 US	0.1 US	0	0	20.8	0											
10/27/2015	0.1 US	0.1 US	0	0	21.5	0											
4/5/2016	0.1 US	0.1 US	0	0	20.6	0											
7/26/2016	0.1 US	0.1 US	0	0	20.4	0											
10/25/2016	0.1 US	0.1 US	0	0	20.6	0											
4/19/2017	0.1 US	0.1 US	0	0	20.2	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/25/2017	0.1 US	0.1 US	0	0	20.7	0											
4/3/2018	0.1 US	0.1 US	0	0	21	0											
7/16/2018	0.1 US	0.1 US	0	0	20.5	0											
10/1/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW04-105																	
4/24/2013	0.1 US	0.1 US	0	0	20.8	0											
7/30/2013	0.1 US	0.1 US	0	0	20.5	0											
10/29/2013	0.1 US	0.1 US	0	0	21.5	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/30/2014	0.1 US	0.1 US	0	0	20.2	0											
10/21/2014	0.1 US	0.1 US	0	0	20.9	0											
4/28/2015	0.1 US	0.1 US	0	0	20.9	0											
7/14/2015	0.1 US	0.1 US	0	0	20.6	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/5/2016	0.1 US	0.1 US	0	0	20.6	0											
7/26/2016	0.1 US	0.1 US	0	0	20.5	0											
10/25/2016	0.1 US	0.1 US	0	0	20.7	0											
4/19/2017	0.1 US	0.1 US	0	0	20.4	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/23/2017	0.1 US	0.1 US	0	0	20.7	0											
4/3/2018	0.1 US	0.1 US	0	0	21	0											

SUMMARY REPORT
 Methane - H2S - Oxygen - CO2 - Report

(MW04-105)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide										
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.										
7/16/2018	0.1 US	0.1 US	0	0	20.6	0										
10/1/2018	0.1 US	0.1 US	0	0	21	0										
4/23/2019	0.1 US	0.1 US	0	0	20.9	0										
7/15/2019	0.1 US	0.1 US	0	0	20.9	0										
10/28/2019	0.1 US	0.1 US	0	0	20.9	0										
4/27/2020	0.1 US	0.1 US	0	0	20.8	0										
7/20/2020	0.1 US	0.1 US	0	0	20.9	0										
10/26/2020	0.1 US	0.1 US	0	0	20.9	0										
4/5/2021	0.1 US	0.1 US	0	0	20.9	0										
7/12/2021	0.1 US	0.1 US	0	0	20.9	0										
10/4/2021	0.1 US	0.1 US	0	0	20.9	0										
4/25/2022	0.1 US	0.1 US	0	0	20.9	0										
7/18/2022	0.1 US	0.1 US	0	0	20.9	0										
10/3/2022	0.1 US	0.1 US	0	0	20.9	0										
MW04-109R																
4/23/2013	0.1 US	0.1 US	0	0	20.8	0										
7/30/2013	0.1 US	0.1 US	0	0	20.4	0										
10/29/2013	0.1 US	0.1 US	0	0	21.2	0										
4/21/2014	0.1 US	0.1 US	0	0	20.7	0										
7/30/2014	0.1 US	0.1 US	0	0	20.5	0										
10/21/2014	0.1 US	0.1 US	0	0	20.9	0										
4/28/2015	0.1 US	0.1 US	0	0	20.7	0										
7/14/2015	0.1 US	0.1 US	0	0	20.6	0										
10/27/2015	0.1 US	0.1 US	0	0	21.5	0										
4/5/2016	0.1 US	0.1 US	0	0	20.6	0										
7/26/2016	0.1 US	0.1 US	0	0	20.5	0										
10/25/2016	0.1 US	0.1 US	0	0	20.7	0										
4/18/2017	0.1 US	0.1 US	0	0	20.9	0										
7/25/2017	0.1 US	0.1 US	0	0	20.9	0										
10/24/2017	0.1 US	0.1 US	0	0	20.6	0										
4/3/2018	0.1 US	0.1 US	0	0	21.1	0										
7/16/2018	0.1 US	0.1 US	0	0	20.4	0										
10/2/2018	0.1 US	0.1 US	0	0	21	0										
4/23/2019	0.1 US	0.1 US	0	0	20.9	0										
7/15/2019	0.1 US	0.1 US	0	0	20.9	0										
10/28/2019	0.1 US	0.1 US	0	0	20.9	0										
4/27/2020	0.1 US	0.1 US	0	0	20.9	0										
7/20/2020	0.1 US	0.1 US	0	0	20.9	0										
10/26/2020	0.1 US	0.1 US	0	0	20.9	0										
4/5/2021	0.1 US	0.1 US	0	0	20.9	0										
7/12/2021	0.1 US	0.1 US	0	0	20.9	0										
10/4/2021	0.1 US	0.1 US	0	0	20.9	0										
4/25/2022	0.1 US	0.1 US	0	0	20.9	0										
7/18/2022	0.1 US	0.1 US	0	0	20.9	0										
10/3/2022	0.1 US	0.1 US	0	0	20.9	0										
MW06-01																
4/22/2019	0.1 US															
4/23/2019		0.1 US	0	0	20.9	0										

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Methane - H2S - Oxygen - CO2 - Report

(MW06-01)		Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide										
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/29/2020	M	M	M	M	M	M											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/28/2022	0.1 US	0.1 US	0	0	20.9	0											
7/20/2022	0.1 US	0.1 US	0	0	20.9	0											
10/5/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-08-01																	
7/20/2022	0.1 US	0.1 US	0	0	20.9	0											
10/5/2022	0.1 US	0.1 US	0	0	20.9	0											
MW09-901																	
4/23/2013	0.1 US	0.1 US	0	0	20.7	0											
7/30/2013	0.1 US	0.1 US	0	0	20.8	0											
10/29/2013	0.1 US	0.1 US	0	0	21.2	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/30/2014	0.1 US	0.1 US	0	0	20.7	0											
10/21/2014	0.1 US	0.1 US	0	0	20.9	0											
4/28/2015	0.1 US	0.1 US	0	0	21.2	0											
7/14/2015	0.1 US	0.1 US	0	0	20.6	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/5/2016	0.1 US	0.1 US	0	0	20.6	0											
7/26/2016	0.1 US	0.1 US	0	0	20	0											
10/25/2016	0.1 US	0.1 US	0	0	20.7	0											
4/18/2017	0.1 US	0.1 US	0	0	20.8	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.6	0											
4/3/2018	0.1 US	0.1 US	0	0	21.1	0											
7/16/2018	0.1 US	0.1 US	0	0	20.4	0											
10/2/2018	0.1 US	0.1 US	0	0	21	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/28/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-204																	
4/24/2013	0.1 US	0.1 US	0	0	20.7	0											
7/31/2013	0.1 US	0.1 US	0	0	20.6	0											

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Methane - H2S - Oxygen - CO2 - Report

(MW-204)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide												
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.												
10/30/2013	0.1 US	0.1 US	0	0	21.1	0												
4/21/2014	0.1 US	0.1 US	0	0	20.7	0												
7/30/2014	0.1 US	0.1 US	0	0	20.3	0												
10/21/2014	0.1 US	0.1 US	0	0	20.9	0												
4/29/2015	0.1 US	0.1 US	0	0	21.4	0												
7/14/2015	0.1 US	0.1 US	0	0	20.8	0												
10/27/2015	0.1 US	0.1 US	0	0	21.3	0												
4/6/2016	0.1 US	0.1 US	0	0	19.5	0												
7/26/2016	0.1 US	0.1 US	0	0	20.4	0												
10/25/2016	0.1 US	0.1 US	0	0	20.6	0												
4/18/2017	0.1 US	0.1 US	0	0	20.9	0												
7/25/2017	0.1 US	0.1 US	0	0	20.4	0												
10/23/2017	0.1 US	0.1 US	0	0	20.7	0												
4/3/2018	0.1 US	0.1 US	0	0	20.9	0												
7/16/2018	0.1 US	0.1 US	0	0	20.6	0												
10/1/2018	0.1 US	0.1 US	0	0	19.8	0												
4/23/2019	0.1 US	0.1 US	0	0	20.9	0												
7/15/2019	0.1 US	0.1 US	0	0	20.9	0												
10/28/2019	0.1 US	0.1 US	0	0	20.9	0												
4/27/2020	0.1 US	0.1 US	0	0	20.9	0												
7/20/2020	0.1 US	0.1 US	0	0	20.8	0												
10/26/2020	0.1 US	0.1 US	0	0	20.9	0												
4/5/2021	0.1 US	0.1 US	0	0	20.9	0												
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/4/2021	0.1 US	0.1 US	0	0	20.9	0												
4/25/2022	0.1 US	0.1 US	0	0	20.9	0												
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/3/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-206																		
4/22/2013	0.1 US	0.1 US	0	0	20.5	0												
7/31/2013	0.1 US	0.1 US	0	0	20.6	0												
10/28/2013	0.1 US	0.1 US	0	0	20.8	0												
4/21/2014	0.1 US	0.1 US	0	0	20.6	0												
7/29/2014	0.1 US	0.1 US	0	0	20.2	0												
10/20/2014	0.1 US	0.1 US	0	0	20.9	0												
4/27/2015	0.1 US	0.1 US	0	0	21.9	0												
7/13/2015	0.1 US	0.1 US	0	0	21	0												
10/26/2015	0.1 US	0.1 US	0	0	21	0												
4/4/2016	0.1 US	0.1 US	0	0	20.8	0												
7/26/2016	0.1 US	0.1 US	0	0	20.5	0												
10/24/2016	0.1 US	0.1 US	0	0	20.7	0												
4/17/2017	0.1 US	0.1 US	0	0	21.2	0												
7/24/2017	0.1 US	0.1 US	0	0	20.9	0												
10/23/2017	0.1 US	0.1 US	0	0	20.7	0												
4/2/2018	0.1 US	0.1 US	0	0	20.8	0												
7/16/2018	0.1 US	0.1 US	0	0	20.3	0												
10/1/2018	0.1 US	0.1 US	0	0	20.9	0												
4/23/2019	0.1 US	0.1 US	0	0	20.9	0												
7/15/2019	0.1 US	0.1 US	0	0	20.9	0												

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Methane - H2S - Oxygen - CO2 - Report

(MW-206)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.8	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.8	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW11-207R																	
4/22/2013	0.1 US	0.1 US	0	0	20.6	0											
7/31/2013	0.1 US	0.1 US	0	0	20.7	0											
10/29/2013	0.1 US	0.1 US	0	0	20.8	0											
4/21/2014	0.1 US	0.1 US	0	0	20.3	0											
7/29/2014	0.1 US	0.1 US	0	0	20.4	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	22.4	0											
7/13/2015	0.1 US	0.1 US	0	0	20.9	0											
10/26/2015	0.1 US	0.1 US	0	0	21.5	0											
4/4/2016	0.1 US	0.1 US	0	0	20.3	0											
7/26/2016	0.1 US	0.1 US	0	0	20.5	0											
10/24/2016	0.1 US	0.1 US	0	0	20.5	0											
4/17/2017	0.1 US	0.1 US	0	0	21.4	0											
7/24/2017	0.1 US	0.1 US	0	0	20.9	0											
10/23/2017	0.1 US	0.1 US	0	0	20.8	0											
4/2/2018	0.1 US	0.1 US	0	0	20.9	0											
7/16/2018	!1	!1	!1	!1	!1	!1											
MW-223A																	
4/23/2013	0.1 US	0.1 US	0	0	20.8	0											
7/30/2013	0.1 US	0.1 US	0	0	19.9	0											
10/29/2013	0.1 US	0.1 US	0	0	21.2	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/30/2014	0.1 US	0.1 US	0	0	20.1	0											
10/21/2014	0.1 US	0.1 US	0	0	20.9	0											
4/28/2015	0.1 US	0.1 US	0	0	20.7	0											
7/14/2015	0.1 US	0.1 US	0	0	20.6	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/5/2016	0.1 US	0.1 US	0	0	20.6	0											
7/26/2016	0.1 US	0.1 US	0	0	20	0											
10/25/2016	0.1 US	0.1 US	0	0	20.6	0											
4/18/2017	0.1 US	0.1 US	0	0	20.9	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.6	0											
4/3/2018	0.1 US	0.1 US	0	0	21.1	0											
7/16/2018	0.1 US	0.1 US	0	0	20.2	0											
10/2/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											

SUMMARY REPORT
Methane - H2S - Oxygen - CO2 - Report

(MW-223A)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/28/2020	0.1 US	0.1 US	0	0	20.8	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-223B																	
4/23/2013	0.1 US	0.1 US	0	0	20.7	0											
7/30/2013	0.1 US	0.1 US	0	0	20	0											
10/29/2013	0.1 US	0.1 US	0	0	21.2	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/30/2014	0.1 US	0.1 US	0	0	20.1	0											
10/21/2014	0.1 US	0.1 US	0	0	20.9	0											
4/28/2015	0.1 US	0.1 US	0	0	20.7	0											
7/14/2015	0.1 US	0.1 US	0	0	20.6	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/5/2016	0.1 US	0.1 US	0	0	20.6	0											
7/26/2016	0.1 US	0.1 US	0	0	20.3	0											
10/25/2016	0.1 US	0.1 US	0	0	20.6	0											
4/18/2017	0.1 US	0.1 US	0	0	21	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.6	0											
4/3/2018	0.1 US	0.1 US	0	0	21.1	0											
7/16/2018	0.1 US	0.1 US	0	0	20.2	0											
10/2/2018	0.1 US	0.1 US	0	0	21.2	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/28/2020	0.1 US	0.1 US	0	0	20.8	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-227																	
4/23/2013	0.1 US	0.1 US	0	0	20.8	0											
7/30/2013	0.1 US	0.1 US	0	0	19.8	0											
10/29/2013	0.1 US	0.1 US	0	0	21.4	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/30/2014	0.1 US	0.1 US	0	0	20.1	0											

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 Methane - H2S - Oxygen - CO2 - Report

(MW-227)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
10/21/2014	0.1 US	0.1 US	0	0	20.9	0											
4/28/2015	0.1 US	0.1 US	0	0	20.8	0											
7/14/2015	0.1 US	0.1 US	0	0	20.7	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/5/2016	0.1 US	0.1 US	0	0	20.7	0											
7/26/2016	0.1 US	0.1 US	0	0	20.3	0											
10/25/2016	0.1 US	0.1 US	0	0	20.6	0											
4/18/2017	0.1 US	0.1 US	0	0	20.9	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.6	0											
4/3/2018	0.1 US	0.1 US	0	0	21	0											
7/16/2018	0.1 US	0.1 US	0	0	20.3	0											
10/2/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/28/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-304A																	
4/22/2013	0.1 US	0.1 US	0	0	20.6	0											
7/31/2013	0.1 US	0.1 US	0	0	20.6	0											
10/28/2013	0.1 US	0.1 US	0	0	20.9	0											
4/21/2014	0.1 US	0.1 US	0	0	20.5	0											
7/29/2014	0.1 US	0.1 US	0	0	20.4	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	21.9	0											
7/13/2015	0.1 US	0.1 US	0	0	20.6	0											
10/26/2015	0.1 US	0.1 US	0	0	21.3	0											
4/4/2016	0.1 US	0.1 US	0	0	20	0											
7/25/2016	0.1 US	0.1 US	0	0	20.7	0											
10/24/2016	0.1 US	0.1 US	0	0	20.5	0											
4/17/2017	0.1 US	0.1 US	0	0	21.4	0											
7/24/2017	0.1 US	0.1 US	0	0	20.9	0											
10/23/2017	0.1 US	0.1 US	0	0	20.7	0											
4/2/2018	0.1 US	0.1 US	0	0	20.9	0											
7/16/2018	11	11	11	11	11	11											
MW-301																	
4/22/2013	0.1 US	0.1 US	0	0	20.8	0											
7/31/2013	0.1 US	0.1 US	0	0	20.5	0											
10/30/2013	0.1 US	0.1 US	0	0	21.2	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											

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Methane - H2S - Oxygen - CO2 - Report

(MW-301)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/30/2014	0.1 US	0.1 US	0	0	20.3	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/29/2015	0.1 US	0.1 US	0	0	21	0											
7/14/2015	0.1 US	0.1 US	0	0	20.6	0											
10/27/2015	0.1 US	0.1 US	0	0	21.5	0											
4/6/2016	0.1 US	0.1 US	0	0	19.6	0											
7/27/2016	0.1 US	0.1 US	0	0	18.7	0											
10/25/2016	0.1 US	0.1 US	0	0	20.7	0											
4/19/2017	0.1 US	0.1 US	0	0	20.1	0											
7/25/2017	0.1 US	0.1 US	0	0	20.9	0											
10/25/2017	0.1 US	0.1 US	0	0	20.6	0											
4/3/2018	0.1 US	0.1 US	0	0	21	0											
7/16/2018	0.1 US	0.1 US	0	0	20.6	0											
10/1/2018	0.1 US	0.1 US	0	0	21.2	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-302R																	
4/22/2013	0.1 US	0.1 US	0	0	20.5	0											
7/31/2013	0.1 US	0.1 US	0	0	20.7	0											
10/28/2013	0.1 US	0.1 US	0	0	21	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/29/2014	0.1 US	0.1 US	0	0	20.3	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	21.9	0											
7/13/2015	0.1 US	0.1 US	0	0	20.9	0											
10/26/2015	0.1 US	0.1 US	0	0	21.3	0											
4/4/2016	0.1 US	0.1 US	0	0	20.6	0											
7/25/2016	0.1 US	0.1 US	0	0	20.5	0											
10/24/2016	0.1 US	0.1 US	0	0	20.6	0											
4/17/2017	0.1 US	0.1 US	0	0	21.3	0											
7/24/2017	0.1 US	0.1 US	0	0	20.9	0											
10/23/2017	0.1 US	0.1 US	0	0	20.7	0											
4/2/2018	0.1 US	0.1 US	0	0	20.8	0											
7/16/2018	0.1 US	0.1 US	0	0	20.5	0											
10/1/2018	0.1 US	0.1 US	0	0	19.8	0											
4/22/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											

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Methane - H2S - Oxygen - CO2 - Report

(MW-302R)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	DE	DE	DE	DE	DE	DE											
MW-303 & MW12-303R																	
4/22/2013	0.1 US	0.1 US	0	0	20.6	0											
7/29/2013	0.1 US	0.1 US	0	0	20.6	0											
10/28/2013	0.1 US	0.1 US	0	0	21.2	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/29/2014	0.1 US	0.1 US	0	0	20.2	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	21.9	0											
7/13/2015	0.1 US	0.1 US	0	0	21	0											
10/26/2015	0.1 US	0.1 US	0	0	21	0											
4/4/2016	0.1 US	0.1 US	0	0	20.6	0											
7/25/2016	0.1 US	0.1 US	0	0	20.4	0											
10/24/2016	0.1 US	0.1 US	0	0	20.6	0											
4/17/2017	0.1 US	0.1 US	0	0	21.3	0											
7/24/2017	0.1 US	0.1 US	0	0	20.9	0											
10/23/2017	0.1 US	0.1 US	0	0	20.7	0											
4/2/2018	0.1 US	0.1 US	0	0	21	0											
7/16/2018	0.1 US	0.1 US	0	0	20.9	0											
10/1/2018	0.1 US	0.1 US	0	0	20.9	0											
4/22/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.7	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-401A																	
4/22/2013	0.1 US	0.1 US	0	0	20.5	0											
7/29/2013	0.1 US	0.1 US	0	0	20.4	0											
10/28/2013	0.1 US	0.1 US	0	0	21.2	0											
4/21/2014	0.1 US	0.1 US	0	0	20.5	0											
7/29/2014	0.1 US	0.1 US	0	0	20.4	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	20.9	0											
7/13/2015	0.1 US	0.1 US	0	0	20.9	0											

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Methane - H2S - Oxygen - CO2 - Report

(MW-401A)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
10/26/2015	0.1 US	0.1 US	0	0	21.3	0											
4/6/2016	0.1 US	0.1 US	0	0	19.5	0											
7/25/2016	0.1 US	0.1 US	0	0	20.2	0											
10/24/2016	0.1 US	0.1 US	0	0	20.6	0											
4/17/2017	0.1 US	0.1 US	0	0	21.2	0											
7/24/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.6	0											
4/2/2018	0.1 US	0.1 US	0	0	20.9	0											
7/16/2018	0.1 US	0.1 US	0	0	20.4	0											
10/1/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
MW-401B																	
4/22/2013	0.1 US	0.1 US	0	0	20.5	0											
7/29/2013	0.1 US	0.1 US	0	0	20.4	0											
10/28/2013	0.1 US	0.1 US	0	0	21.2	0											
4/21/2014	0.1 US	0.1 US	0	0	20.5	0											
7/29/2014	0.1 US	0.1 US	0	0	20.4	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	20.9	0											
7/13/2015	0.1 US	0.1 US	0	0	20.9	0											
10/26/2015	0.1 US	0.1 US	0	0	21.3	0											
4/6/2016	0.1 US	0.1 US	0	0	19.5	0											
7/25/2016	0.1 US	0.1 US	0	0	20.3	0											
10/24/2016	0.1 US	0.1 US	0	0	20.6	0											
4/17/2017	0.1 US	0.1 US	0	0	21.2	0											
7/24/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.7	0											
4/2/2018	0.1 US	0.1 US	0	0	20.9	0											
7/16/2018	0.1 US	0.1 US	0	0	20.4	0											
10/1/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											

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Methane - H2S - Oxygen - CO2 - Report

(MW-401B)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide												
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.												
10/4/2021	0.1 US	0.1 US	0	0	20.9	0												
4/25/2022	0.1 US	0.1 US	0	0	20.9	0												
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/3/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-402A																		
4/22/2013	0.1 US	0.1 US	0	0	20.9	0												
7/31/2013	0.1 US	0.1 US	0	0	20.9	0												
10/30/2013	0.1 US	0.1 US	0	0	20.8	0												
4/21/2014	0.1 US	0.1 US	0	0	20.6	0												
7/30/2014	0.1 US	0.1 US	0	0	20.7	0												
10/22/2014	0.1 US	0.1 US	0	0	21	0												
4/29/2015	0.1 US	0.1 US	0	0	21.3	0												
7/15/2015	0.1 US	0.1 US	0	0	20.9	0												
10/28/2015	0.1 US	0.1 US	0	0	21.9	0												
4/6/2016	0.1 US	0.1 US	0	0	20	0												
7/27/2016	0.1 US	0.1 US	0	0	19.9	0												
10/26/2016	0.1 US	0.1 US	0	0	20.7	0												
4/19/2017	0.1 US	0.1 US	0	0	21.2	0												
7/26/2017	0.1 US	0.1 US	0	0	20.9	0												
10/24/2017	0.1 US	0.1 US	0	0	20.6	0												
4/4/2018	0.1 US	0.1 US	0	0	20.5	0												
7/16/2018	0.1 US	0.1 US	0	0	20.5	0												
10/1/2018	0.1 US	0.1 US	0	0	21	0												
4/23/2019	0.1 US	0.1 US	0	0	20.9	0												
7/15/2019	0.1 US	0.1 US	0	0	20.9	0												
10/28/2019	0.1 US	0.1 US	0	0	20.9	0												
4/27/2020	0.1 US	0.1 US	0	0	20.8	0												
7/20/2020	0.1 US	0.1 US	0	0	20.8	0												
10/26/2020	0.1 US	0.1 US	0	0	20.9	0												
4/5/2021	0.1 US	0.1 US	0	0	20.9	0												
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/4/2021	0.1 US	0.1 US	0	0	20.9	0												
4/25/2022	0.1 US	0.1 US	0	0	20.9	0												
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/3/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-402B																		
4/22/2013	0.1 US	0.1 US	0	0	20.9	0												
7/31/2013	0.1 US	0.1 US	0	0	20.9	0												
10/30/2013	0.1 US	0.1 US	0	0	20.8	0												
4/21/2014	0.1 US	0.1 US	0	0	20.6	0												
7/30/2014	0.1 US	0.1 US	0	0	20.7	0												
10/22/2014	0.1 US	0.1 US	0	0	21	0												
4/29/2015	0.1 US	0.1 US	0	0	21.3	0												
7/15/2015	0.1 US	0.1 US	0	0	20.9	0												
10/28/2015	0.1 US	0.1 US	0	0	21.9	0												
4/6/2016	0.1 US	0.1 US	0	0	20	0												
7/27/2016	0.1 US	0.1 US	0	0	19.9	0												
10/26/2016	0.1 US	0.1 US	0	0	20.7	0												

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Methane - H2S - Oxygen - CO2 - Report

(MW-402B)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide												
	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.												
4/19/2017	0.1 US	0.1 US	0	0	19.9	0												
7/26/2017	0.1 US	0.1 US	0	0	20.9	0												
10/24/2017	0.1 US	0.1 US	0	0	20.6	0												
4/4/2018	0.1 US	0.1 US	0	0	20.6	0												
7/16/2018	0.1 US	0.1 US	0	0	20.5	0												
10/1/2018	0.1 US	0.1 US	0	0	21	0												
4/23/2019	0.1 US	0.1 US	0	0	20.9	0												
7/15/2019	0.1 US	0.1 US	0	0	20.9	0												
10/28/2019	0.1 US	0.1 US	0	0	20.9	0												
4/27/2020	0.1 US	0.1 US	0	0	20.9	0												
7/20/2020	0.1 US	0.1 US	0	0	20.9	0												
10/26/2020	0.1 US	0.1 US	0	0	20.8	0												
4/5/2021	0.1 US	0.1 US	0	0	20.9	0												
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/4/2021	0.1 US	0.1 US	0	0	20.9	0												
4/25/2022	0.1 US	0.1 US	0	0	20.9	0												
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/3/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-501																		
4/23/2019	0.1 US	0.1 US	0	0	20.9	0												
7/15/2019	0.1 US	0.1 US	0	0	20.9	0												
10/28/2019	0.1 US	0.1 US	0	0	20.9	0												
4/29/2020	M	M	M	M	M	M												
7/20/2020	0.1 US	0.1 US	0	0	20.9	0												
10/26/2020	0.1 US	0.1 US	0	0	20.9	0												
4/5/2021	0.1 US	0.1 US	0	0	20.9	0												
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/4/2021	0.1 US	0.1 US	0	0	20.9	0												
4/28/2022	0.1 US	0.1 US	0	0	20.9	0												
7/20/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-502																		
7/13/2021	0.1 US	0.1 US	0	0	20.9	0												
10/6/2021	0.1 US	0.1 US	0	0	20.9	0												
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-503																		
7/20/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-505																		
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-506																		
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
MW-507																		

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Methane - H2S - Oxygen - CO2 - Report

(MW-507)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/6/2021	0.1 US	0.1 US	0	0	20.9	0											
7/20/2022	0.1 US	0.1 US	0	0	20.9	0											
10/5/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-06-03																	
4/23/2019	0.1 US	0.1 US	0	0	15.6	0											
7/15/2019	0.1 US	0.1 US	0	0	20.4	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/29/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	13	0.1 US	0	0	13.2	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/28/2022	0.1 US	0.1 US	0	0	20.9	0											
7/20/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-601A																	
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/29/2020	M	M	M	M	M	M											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.8	0											
7/12/2021	0.1 US	0.1 US	0	0	20.8	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/28/2022	0.1 US	0.1 US	0	0	20.9	0											
7/21/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-601B																	
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/29/2020	M	M	M	M	M	M											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/28/2022	0.1 US	0.1 US	0	0	20.9	0											
7/21/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-602A																	
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/29/2020	M	M	M	M	M	M											

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Methane - H2S - Oxygen - CO2 - Report

(OW-602A)		Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide										
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/28/2022	0.1 US	0.1 US	0	0	20.9	0											
7/21/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-602B																	
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-603B																	
4/23/2019	0.1 US	0.1 US	0	0	8.6	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/29/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	4.7	0											
10/26/2020	0.1 US	0.1 US	0	0	20.8	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/28/2022	0.1 US	0.1 US	0	0	20.9	0											
7/21/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-604A																	
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/29/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/28/2022	0.1 US	0.1 US	0	0	20.9	0											
7/21/2022	0.1 US	0.1 US	0	0	20.9	0											
10/6/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-605A																	
7/13/2021	0.1 US	0.1 US	0	0	20.9	0											
10/6/2021	0.1 US	0.1 US	0	0	20.9	0											
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/5/2022	0.1 US	0.1 US	0	0	20.9	0											
OW-606A																	
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/6/2021	0.1 US	0.1 US	0	0	20.9	0											
7/19/2022	0.1 US	0.1 US	0	0	20.9	0											
10/5/2022	0.1 US	0.1 US	0	0	20.9	0											

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 Methane - H2S - Oxygen - CO2 - Report

(OW-606B)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide												
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.												
OW-606B																		
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
7/19/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
OW-608A																		
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/6/2021	0.1 US	0.1 US	0	0	20.9	0												
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
OW-608B																		
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
OW-609B																		
7/18/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
OW-611A																		
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/6/2021	0.1 US	0.1 US	0	0	20.9	0												
7/20/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
P-04-02																		
4/22/2013	!	!	!	!	!	!												
P-04-02R																		
7/15/2015	0.1 US	0.1 US	0	0	20.8	0												
10/28/2015	0.1 US	0.1 US	0	0	21.9	0												
4/6/2016	0.1 US	0.1 US	0	0	21	0												
7/27/2016	0.1 US	0.1 US	0	0	19.6	0												
10/26/2016	0.1 US	0.1 US	0	0	20.8	0												
4/19/2017	0.1 US	0.1 US	0	0	20.2	0												
7/26/2017	0.1 US	0.1 US	0	0	20.9	0												
10/25/2017	0.1 US	0.1 US	0	0	20.7	0												
4/3/2018	0.1 US	0.1 US	0	0	21	0												
7/16/2018	0.1 US	0.1 US	0	0	20.3	0												
10/1/2018	0.1 US	0.1 US	0	0	21.1	0												
4/22/2019	0.1 US	0.1 US	0	0	20.9	0												
7/15/2019	0.1 US	0.1 US	0	0	20.9	0												
10/28/2019	0.1 US	0.1 US	0	0	20.9	0												
4/27/2020	0.1 US	0.1 US	0	0	20.9	0												
7/20/2020	0.1 US	0.1 US	0	0	20.9	0												
10/26/2020	0.1 US	0.1 US	0	0	20.9	0												
4/5/2021	0.1 US	0.1 US	0	0	20.9	0												
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/4/2021	0.1 US	0.1 US	0	0	20.9	0												
4/25/2022	0.1 US	0.1 US	0	0	20.9	0												
7/19/2022	0.1 US	0.1 US	0	0	20.9	0												
10/3/2022	0.1 US	0.1 US	0	0	20.9	0												

SUMMARY REPORT

Methane - H2S - Oxygen - CO2 - Report

(P-04-04)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide												
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.												
P-04-04																		
4/24/2013	0.1 US	0.1 US	0	0	20.8	0												
7/31/2013	0.1 US	0.1 US	0	0	20.4	0												
10/30/2013	0.1 US	0.1 US	0	0	20.7	0												
4/21/2014	0.1 US	0.1 US	0	0	20.7	0												
7/30/2014	0.1 US	0.1 US	0	0	20.6	0												
10/22/2014	0.1 US	0.1 US	0	0	20.9	0												
4/29/2015	0.1 US	0.1 US	0	0	21.7	0												
7/15/2015	0.1 US	0.1 US	0	0	20.8	0												
10/28/2015	0.1 US	0.1 US	0	0	21.9	0												
4/6/2016	0.1 US	0.1 US	0	0	21	0												
7/27/2016	0.1 US	0.1 US	0	0	19.6	0												
10/26/2016	0.1 US	0.1 US	0	0	20.8	0												
4/19/2017	0.1 US	0.1 US	0	0	21.2	0												
7/26/2017	0.1 US	0.1 US	0	0	20.9	0												
10/25/2017	0.1 US	0.1 US	0	0	20.6	0												
4/3/2018	0.1 US	0.1 US	0	0	21	0												
7/16/2018	0.1 US	0.1 US	0	0	20.3	0												
10/1/2018	0.1 US	0.1 US	0	0	21.1	0												
4/22/2019	0.1 US	0.1 US	0	0	20.9	0												
7/15/2019	0.1 US	0.1 US	0	0	20.9	0												
10/28/2019	0.1 US	0.1 US	0	0	20.9	0												
4/27/2020	0.1 US	0.1 US	0	0	20.9	0												
7/20/2020	0.1 US	0.1 US	0	0	20.9	0												
10/26/2020	0.1 US	0.1 US	0	0	20.9	0												
4/5/2021	0.1 US	0.1 US	0	0	20.9	0												
7/12/2021	0.1 US	0.1 US	0	0	20.9	0												
10/4/2021	0.1 US	0.1 US	0	0	20.9	0												
4/25/2022	0.1 US	0.1 US	0	0	20.9	0												
7/19/2022	0.1 US	0.1 US	0	0	20.9	0												
10/3/2022	0.1 US	0.1 US	0	0	20.9	0												
P-04-11A																		
7/20/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
P-04-11B																		
7/20/2022	0.1 US	0.1 US	0	0	20.9	0												
10/5/2022	0.1 US	0.1 US	0	0	20.9	0												
P-206A																		
7/31/2013	0.1 US	0.1 US	0	0	20.5	0												
10/28/2013	0.1 US	0.1 US	0	0	20.8	0												
4/21/2014	0.1 US	0.1 US	0	0	20.7	0												
7/29/2014	0.1 US	0.1 US	0	0	20.6	0												
10/20/2014	0.1 US	0.1 US	0	0	20.9	0												
4/27/2015	0.1 US	0.1 US	0	0	21.9	0												
7/13/2015	0.1 US	0.1 US	0	0	21	0												
10/26/2015	0.1 US	0.1 US	0	0	21	0												
4/4/2016	0.1 US	0.1 US	0	0	20.8	0												

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Methane - H2S - Oxygen - CO2 - Report

(P-206A)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/25/2016	0.1 US	0.1 US	0	0	20.5	0											
10/24/2016	0.1 US	0.1 US	0	0	20.7	0											
4/17/2017	0.1 US	0.1 US	0	0	21.2	0											
7/24/2017	0.1 US	0.1 US	0	0	20.9	0											
10/23/2017	0.1 US	0.1 US	0	0	20.7	0											
4/2/2018	0.1 US	0.1 US	0	0	20.8	0											
7/16/2018	0.1 US	0.1 US	0	0	20.3	0											
10/1/2018	0.1 US	0.1 US	0	0	20.9	0											
4/22/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.8	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/12/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
W Property Line A																	
4/24/2013	0.1 US	0.1 US	0	0	20.7	0											
7/30/2013	0.1 US	0.1 US	0	0	20.7	0											
10/29/2013	0.1 US	0.1 US	0	0	21.3	0											
4/21/2014	0.1 US	0.1 US	0	0	20.6	0											
7/30/2014	0.1 US	0.1 US	0	0	20.7	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	21.4	0											
7/15/2015	0.1 US	0.1 US	0	0	20.9	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/4/2016	0.1 US	0.1 US	0	0	20.6	0											
7/25/2016	0.1 US	0.1 US	0	0	20.2	0											
10/25/2016	0.1 US	0.1 US	0	0	20.7	0											
4/18/2017	0.1 US	0.1 US	0	0	20.8	0											
7/26/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.6	0											
4/4/2018	0.1 US	0.1 US	0	0	20.8	0											
7/16/2018	0.1 US	0.1 US	0	0	20.5	0											
10/1/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.9	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/13/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											

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(W Property Line A)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide											
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
W Property Line B																	
4/24/2013	0.1 US	0.1 US	0	0	20.7	0											
7/30/2013	0.1 US	0.1 US	0	0	20.7	0											
10/29/2013	0.1 US	0.1 US	0	0	21.3	0											
4/21/2014	0.1 US	0.1 US	0	0	20.7	0											
7/30/2014	0.1 US	0.1 US	0	0	20.6	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	21.4	0											
7/15/2015	0.1 US	0.1 US	0	0	20.9	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/4/2016	0.1 US	0.1 US	0	0	20.6	0											
7/25/2016	0.1 US	0.1 US	0	0	20.1	0											
10/25/2016	0.1 US	0.1 US	0	0	20.7	0											
4/18/2017	0.1 US	0.1 US	0	0	20.8	0											
7/26/2017	0.1 US	0.1 US	0	0	20.9	0											
10/24/2017	0.1 US	0.1 US	0	0	20.7	0											
4/4/2018	0.1 US	0.1 US	0	0	20.7	0											
7/16/2018	0.1 US	0.1 US	0	0	20.4	0											
10/1/2018	0.1 US	0.1 US	0	0	21.1	0											
4/23/2019	0.1 US	0.1 US	0	0	20.9	0											
7/15/2019	0.1 US	0.1 US	0	0	20.9	0											
10/28/2019	0.1 US	0.1 US	0	0	20.8	0											
4/27/2020	0.1 US	0.1 US	0	0	20.9	0											
7/20/2020	0.1 US	0.1 US	0	0	20.9	0											
10/26/2020	0.1 US	0.1 US	0	0	20.9	0											
4/5/2021	0.1 US	0.1 US	0	0	20.9	0											
7/13/2021	0.1 US	0.1 US	0	0	20.9	0											
10/4/2021	0.1 US	0.1 US	0	0	20.9	0											
4/25/2022	0.1 US	0.1 US	0	0	20.9	0											
7/18/2022	0.1 US	0.1 US	0	0	20.9	0											
10/3/2022	0.1 US	0.1 US	0	0	20.9	0											
S Property Line																	
4/24/2013	0.1 US	0.1 US	0	0	20.7	0											
7/30/2013	0.1 US	0.1 US	0	0	20.6	0											
10/29/2013	0.1 US	0.1 US	0	0	21.2	0											
4/21/2014	0.1 US	0.1 US	0	0	20.6	0											
7/30/2014	0.1 US	0.1 US	0	0	20.6	0											
10/20/2014	0.1 US	0.1 US	0	0	20.9	0											
4/27/2015	0.1 US	0.1 US	0	0	21.3	0											
7/15/2015	0.1 US	0.1 US	0	0	20.8	0											
10/27/2015	0.1 US	0.1 US	0	0	21.3	0											
4/4/2016	0.1 US	0.1 US	0	0	20.6	0											
7/25/2016	0.1 US	0.1 US	0	0	20	0											
10/25/2016	0.1 US	0.1 US	0	0	20.7	0											
4/18/2017	0.1 US	0.1 US	0	0	20.8	0											
7/26/2017	0.1 US	0.1 US	0	0	20.9	0											

SUMMARY REPORT
Methane - H2S - Oxygen - CO2 - Report

(S Property Line)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide	Hydrogen Sulfide (Ambient)	Oxygen	Carbon Dioxide									
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.									
10/24/2017	0.1 US	0.1 US	0	0	20.7	0									
4/4/2018	0.1 US	0.1 US	0	0	20.8	0									
7/16/2018	0.1 US	0.1 US	0	0	20.5	0									
10/1/2018	0.1 US	0.1 US	0	0	21	0									
4/23/2019	0.1 US	0.1 US	0	0	20.7	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/13/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									

Notes: TYPE - Sample Type Qualifier where D = Duplicate Sample.

Concentration Qualifier Notes:

- ! - The sampling location was damaged or destroyed.
- !1 - The sampling location was damaged or destroyed, and has been discontinued.
- DE - Decommissioned Location
- M - Results are missing or not reliable due to a meter malfunction.
- US - Not Detected above the reported reporting limit determined by interpreted instrument specification.

ATTACHMENT G
Landfill Gas Monitoring Evaluation

JUNIPER RIDGE LANDFILL

**2022 ANNUAL GAS MONITORING
EVALUATION**



Operated by NEWSME Landfill Operations, LLC
2828 Bennoch Road, Old Town, Maine 04468 • (207) 394-4372

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1.0 INTRODUCTION

In accordance with the Maine Department of Environmental Protection (MEDEP) Chapter 401, Solid Waste Management Rules, Section 401.4.D(4)(d), an evaluation of the gas monitoring results for Juniper Ridge Landfill's (JRL) past year, including a comparison of the past year's results to the previous year's results is provided below.

Throughout 2022, the following regular landfill gas (LFG) monitoring activities occurred at JRL: (1) well-tuning of LFG collection trenches and wells (well heads), (2) continuous flow and temperature measurement at the landfill gas combustion flare, and (3) landfill gas composition measurement during well-tuning activities at the landfill gas combustion flare.

Additionally, JRL is subject to 40 Code of Federal Regulations (CFR) Part 60 Subpart XXX (the New Source Performance Standards [NSPS] for Municipal Solid Waste [MSW] landfills) and the operational standards of 40 CFR Part 63 Subpart AAAA (the National Emission Standard for Hazardous Air Pollutants [NESHAP] for MSW landfills). Reports completed in accordance with NSPS requirements are submitted separately to the MEDEP Bureau of Air Quality.

On March 26, 2020, NESHAP Subpart AAAA was updated with changes required to take effect by September 2021. JRL began complying with the changes as of the issuance date of air emission license A-921-70-H-A (1/6/2021), including the increased default LFG operating temperature limit of 145 degrees Fahrenheit (°F).

2.0 WELL FIELD ACTIVITY

During 2022, well field activities consisted of the addition of new infrastructure, as well as discontinuing older infrastructure due to malfunction, insufficient methane production or redundancy. Anomalies associated with routine operation of the well field were also monitored. A summary is provided below.

2.1 Active, New, and Discontinued Well Heads

At the beginning of 2022, the JRL well field consisted of 189 active collection devices. During 2022, 20 gas collection trenches and 9 vertical wells were discontinued or replaced. Prior to discontinuing vertical wells, JRL first sought MEDEP approval. Prior to discontinuing gas collection trenches, which are designed as temporary collectors, JRL first notified MEDEP. Table 2-1 shows all well heads that were monitored during 2022, as well as their status as of the end of the year. By the end of 2022, 205 gas collection devices remained active.

Table 2-1 Well Heads Monitored at JRL, 2022

ID	Type	Status	ID	Type	Status
GW-33R-2	Gas Well	Active	JR-GW-71	Gas Well	Active
GW-43	Gas Well	Active	JR-GW-72	Gas Well	Active
JR-GW--I	Gas Well	Active	JR-GW-74	Gas Well	Active
JR-GW--L	Gas Well	Active	JR-GW-75	Gas Well	Active
JR-GW--S	Gas Well	Active	JR-GW-76	Gas Well	Active
JR-GW--U	Gas Well	Active	JR-GW-78	Gas Well	Active
JR-GW--V	Gas Well	Active	JR-GW-79	Gas Well	Active
JR-GW-03	Gas Well	Active	JR-GW-80	Gas Well	Active
JR-GW-04	Gas Well	Active	JR-GW-81	Gas Well	Active
JR-GW-05	Gas Well	Active	JR-GW-82	Gas Well	Active
JR-GW-09	Gas Well	Active	JR-GW-83	Gas Well	Active
JR-GW-11	Gas Well	Active	JR-GW-84	Gas Well	Active
JR-GW-13	Gas Well	Active	JR-GW-85	Gas Well	Active
JR-GW-18	Gas Well	Active	JR-GW-86	Gas Well	Active
JR-GW-26	Gas Well	Active	JR-GW-87	Gas Well	Active
JR-GW-28	Gas Well	Active	JR-GW-88	Gas Well	Active
JR-GW-29	Gas Well	Active	JR-GW-89	Gas Well	Active
JR-GW-34	Gas Well	Active	JR-GW-90	Gas Well	Active
JR-GW-35	Gas Well	Active	JR-GW-91	Gas Well	Active
JR-GW-37	Gas Well	Active	JR-GW-93	Gas Well	Active
JR-GW-38	Gas Well	Active	JR-GW-94	Gas Well	Active
JR-GW-40	Gas Well	Active	JR-GW-95	Gas Well	Active
JR-GW-41	Gas Well	Active	JR-GW-96	Gas Well	Active
JR-GW-42	Gas Well	Active	JR-GW-97	Gas Well	Active
JR-GW-44	Gas Well	Active	JR-GW-98	Gas Well	Active
JR-GW-46	Gas Well	Active	JR-GW-99	Gas Well	Active
JR-GW-47	Gas Well	Active	JR-GW-H2	Gas Well	Active
JR-GW-48	Gas Well	Active	JR-GW07R	Gas Well	Active
JR-GW-49	Gas Well	Active	JR-GW100	Gas Well	Active
JR-GW-52	Gas Well	Active	JR-GW101	Gas Well	Active
JR-GW-53	Gas Well	Active	JR-GW102	Gas Well	Active
JR-GW-55	Gas Well	Active	JR-GW104	Gas Well	Active
JR-GW-56	Gas Well	Active	JR-GW105	Gas Well	Active
JR-GW-58	Gas Well	Active	JR-GW107	Gas Well	Active
JR-GW-61	Gas Well	Active	JR-GW108	Gas Well	Active
JR-GW-62	Gas Well	Active	JR-GW109	Gas Well	Active
JR-GW-64	Gas Well	Active	JR-GW110	Gas Well	Active
JR-GW-65	Gas Well	Active	JR-GW111	Gas Well	Active
JR-GW-66	Gas Well	Active	JR-GW112	Gas Well	Active
JR-GW-68	Gas Well	Active	JR-GW113	Gas Well	Active
JR-GW-70	Gas Well	Active	JR-GW114	Gas Well	Active

Table 2-1 Well Heads Monitored at JRL, 2022 Cont.

ID	Type	Status	ID	Type	Status
JR-GW118	Gas Well	Active	JR-GW79B	Horizontal	Active
JR-GW120	Gas Well	Active	JR-LC-SE	Other	Active
JR-GW125	Gas Well	Active	JR-OP011	Other	Active
JR-GW128	Gas Well	Active	JR-OP012	Other	Active
JR-GW15R	Gas Well	Active	JR-OP013	Other	Active
JR-GW16R	Gas Well	Active	JR-OP014	Other	Active
JR-GW173	Gas Well	Active	JR-OP101	Other	Active
JR-GW175	Gas Well	Active	JR-OP12A	Other	Active
JR-GW176	Gas Well	Active	JR-OP901	Other	Active
JR-GW177	Gas Well	Active	JR1206S	Horizontal	Active
JR-GW183	Gas Well	Active	JR1207L	Horizontal	Active
JR-GW184	Gas Well	Active	JR1207S	Horizontal	Active
JR-GW185	Gas Well	Active	JR1208S	Horizontal	Active
JR-GW189	Gas Well	Active	JRCT1001	Horizontal	Active
JR-GW190	Gas Well	Active	JRCT1004	Horizontal	Active
JR-GW191	Gas Well	Active	JRCT1005	Horizontal	Active
JR-GW192	Gas Well	Active	JRCT1008	Horizontal	Active
JR-GW193	Gas Well	Active	JRCT1009	Horizontal	Active
JR-GW20R	Gas Well	Active	JRCT1010	Horizontal	Active
JR-GW23R	Gas Well	Active	JRCT1011	Horizontal	Active
JR-GW24R	Gas Well	Active	JRCT1101	Horizontal	Active
JR-GW25R	Gas Well	Active	JRCT1102	Horizontal	Active
JR-GW30R	Gas Well	Active	JRCT1103	Horizontal	Active
JR-GW32R	Gas Well	Active	JRCT1104	Horizontal	Active
JR-GW33R	Gas Well	Active	JRCT1105	Horizontal	Active
JR-GW42B	Gas Well	Active	JRCT1106	Horizontal	Active
JR-GW50B	Gas Well	Active	JRCT1107	Horizontal	Active
JR-GW50R	Gas Well	Active	JRCT1108	Horizontal	Active
JR-GW51B	Gas Well	Active	JRCT1109	Horizontal	Active
JR-GW51R	Gas Well	Active	JRCT1110	Horizontal	Active
JR-GW58B	Gas Well	Active	JRCT1111	Horizontal	Active
JR-GW59B	Gas Well	Active	JRCT1112	Horizontal	Active
JR-GW59R	Gas Well	Active	JRCT1113	Horizontal	Active
JR-GW60B	Gas Well	Active	JRCT1114	Horizontal	Active
JR-GW60R	Gas Well	Active	JRCT1115	Horizontal	Active
JR-GW68B	Gas Well	Active	JRCT1116	Horizontal	Active
JR-GW68R	Gas Well	Active	JRCT1117	Horizontal	Active
JR-GW69B	Gas Well	Active	JRCT1118	Horizontal	Active
JR-GW69R	Gas Well	Active	JRCT1120	Horizontal	Active
JR-GW76B	Gas Well	Active	JRCT1124	Horizontal	Active
JR-GW77R	Gas Well	Active	JRCT1202	Horizontal	Active
JR-GW78B	Gas Well	Active	JRCT1203	Horizontal	Active

Table 2-1 Well Heads Monitored at JRL, 2022 Cont.

ID	Type	Status	ID	Type	Status
JRCT1204	Horizontal	Active	JRGCT607	Horizontal	Active
JRCT1211	Horizontal	Active	JRGCT709	Horizontal	Active
JRCT1212	Horizontal	Active	JRGW22R2	Gas Well	Active
JRCT1213	Horizontal	Active	JRGW59R2	Gas Well	Active
JRCT1301	Horizontal	Active	JROP11NE	Other	Active
JRCT1302	Horizontal	Active	JR-GW--A	Gas Well	Discontinued
JRCT1303	Horizontal	Active	JR-GW-06	Gas Well	Discontinued
JRCT1304L	Horizontal	Active	JR-GW-10	Gas Well	Discontinued
JRCT1304S	Horizontal	Active	JR-GW-12	Gas Well	Discontinued
JRCT1305L	Horizontal	Active	JR-GW-16	Gas Well	Discontinued
JRCT1305S	Horizontal	Active	JR-GW-92	Gas Well	Discontinued
JRCT1306L	Horizontal	Active	JR-GW103	Gas Well	Discontinued
JRCT1306S	Horizontal	Active	JR-GW106	Gas Well	Discontinued
JRCT1307	Horizontal	Active	JR-GW19R	Gas Well	Discontinued
JRCT1308	Horizontal	Active	JR1205L	Horizontal	Discontinued
JRCT1309	Horizontal	Active	JR1205S	Horizontal	Discontinued
JRCT1310	Horizontal	Active	JR1206L	Horizontal	Discontinued
JRCT1311	Horizontal	Active	JR1208L	Horizontal	Discontinued
JRCT1401	Horizontal	Active	JRCT1002	Horizontal	Discontinued
JRCT1402	Horizontal	Active	JRCT1003	Horizontal	Discontinued
JRCT1403	Horizontal	Active	JRCT1006	Horizontal	Discontinued
JRCT1404	Horizontal	Active	JRCT1007	Horizontal	Discontinued
JRCT1405	Horizontal	Active	JRCT1119	Horizontal	Discontinued
JRCT1406	Horizontal	Active	JRCT1201	Horizontal	Discontinued
JRCT1407	Horizontal	Active	JRGCT3B1	Horizontal	Discontinued
JRCT1408	Horizontal	Active	JRGCT3B2	Horizontal	Discontinued
JRCT1409	Horizontal	Active	JRGCT604	Horizontal	Discontinued
JRGCT502	Horizontal	Active	JRGCT705	Horizontal	Discontinued
JRGCT503	Horizontal	Active	JRGCT708	Horizontal	Discontinued
JRGCT505	Horizontal	Active	JR-1209L	Horizontal	Discontinued
JRGCT508	Horizontal	Active	JR-1209S	Horizontal	Discontinued
JRGCT511	Horizontal	Active	JRCT1210	Horizontal	Discontinued
JRGCT601	Horizontal	Active	JRGCT2A1	Horizontal	Discontinued
JRGCT606	Horizontal	Active	JRGCT3A4	Horizontal	Discontinued

2.2 Changes and Anomalies in the Well Field

The facility was operated in accordance with NSPS requirements during the entirety of 2022. As discussed in Section 2.1, numerous collection trenches and wells were added and discontinued throughout 2022 as part of routine operations. Readings in excess of NESHAP thresholds for temperature and pressure were promptly addressed, and follow-ups were completed in accordance with NESHAP requirements. Excess readings were provided in separate reports to the MEDEP.

Due to the types of waste currently/previously disposed of at JRL (primarily construction debris, construction debris processing residuals, sludge, and ash), which tend to have higher decomposition temperatures than typical household waste, operating some of JRL's well heads according to NESHAP guidelines (with default gas temperature of 145 °F (62.8 °C)) has not always been possible. With that in mind, upon careful review by JRL staff and the MEDEP, several Higher Operating Value (HOV) allowances have been granted for temperature, up to 150 °F, to allow for proper gas collection to occur at these locations. JRL will continue to submit HOV requests as necessary to ensure continued compliance and a successful operation.

3.0 LANDFILL GAS COMPOSITION

During well-tuning activities, the composition of the landfill gas supplied to the flare was measured and concentrations of methane, carbon dioxide, and oxygen (CH₄, CO₂, O₂ respectively), and balance gas were recorded. During 2022, JRL staff operated the well field with the intent of: maintaining a target methane concentration in the range of 43%-48% (by volume) in the gas supplied to the flare, for both odor control and greenhouse gas reduction; and maintaining an oxygen concentration at satisfactory low levels (i.e. < 5%) in order to maintain high efficiency in the vacuum system and prevent possible landfill complications associated with oxygen infiltration. Balance gas levels are also monitored, as a confirmation of landfill collection efficiency and oxygen infiltration prevention. The concentration of carbon dioxide at the flare is not of great concern but is measured in addition to the more important levels of methane and oxygen.

Since gas composition is not measured daily, monthly average gas compositions at the flare were computed from routine measurements that occurred during well-tuning activities. The monthly average concentrations of methane and oxygen are shown in Figure 3-1. As can be seen, the concentration of CH₄ remained within the target range of 43%-48% for a majority of 2022. The average CH₄ concentration for 2022 was 44.9%, an 8 percent increase from the 2021 average concentration of 41.6%. This increase is likely attributable to hiring a professional well tuner in efforts to improve gas quality for the

future renewable natural gas project. The average oxygen concentration during 2022 was 0.6%, slightly higher than the 2021 average of 0.4%.

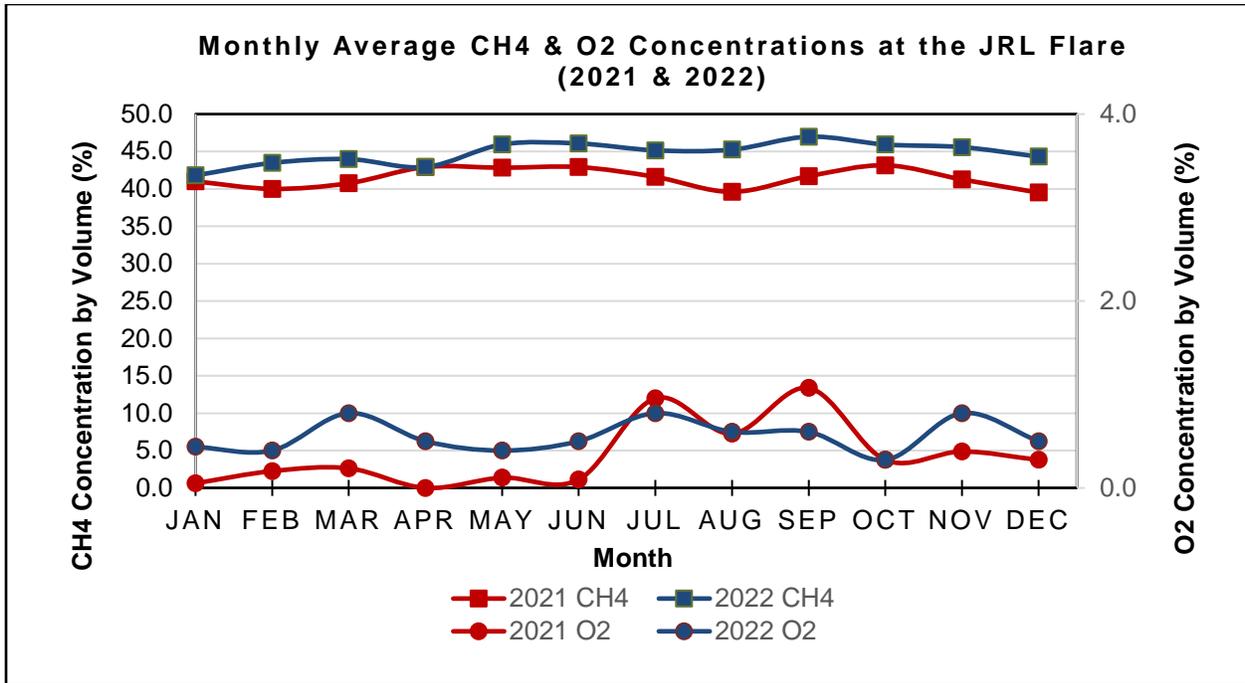


Figure 3-1 Monthly Average Landfill Gas Composition at JRL, 2021 & 2022

4.0 LANDFILL GAS FLOW

The flow of landfill gas supplied to the JRL flare and the Thiopaq® gas treatment system was measured and recorded on a continuous basis using a thermal flow meter. This data was then compiled for 2022 (and 2021 for comparison) and is summarized as total monthly flow and average flow in Table 4-1 and Figure 4-1. The average flow rate was calculated by taking the total monthly flow (in units of MMSCF)/(number of days in the month*1440 minutes/ 1 day). The result is an average flow rate (in units of SCFM) for any given month.

The total flow during 2022 was 1,179 million standard cubic feet (MMSCF), a decrease of approximately 8% from total flow of 1,283 MMSCF in 2021. This decrease is likely attributed to changes in target methane concentrations, in order to improve gas quality for the future renewable natural gas project.

Table 4-1 Volumetric Flow of Landfill Gas at JRL, 2021 & 2022

Month	Total Monthly Flow (MMSCF)		Average Flow Rate (SCFM)	
	2022	2021	2022	2021
Jan	116.9	108.2	2,618	2,424
Feb	108.3	105.1	2,687	2,608
Mar	101.8	97.2	2,280	2,177
Apr	88.1	86.4	2,039	2,000
May	97.1	92.4	2,174	2,069
Jun	89.8	97.6	2,080	2,258
Jul	97.9	101.8	2,194	2,281
Aug	97.5	131.4	2,185	2,943
Sep	98.8	119.6	2,287	2,769
Oct	105.8	111.5	2,369	2,497
Nov	81.7	116.9	1,890	2,706
Dec	95.7	114.6	2,145	2,566
Totals	1,179	1,283		
Average			2,246	2,442

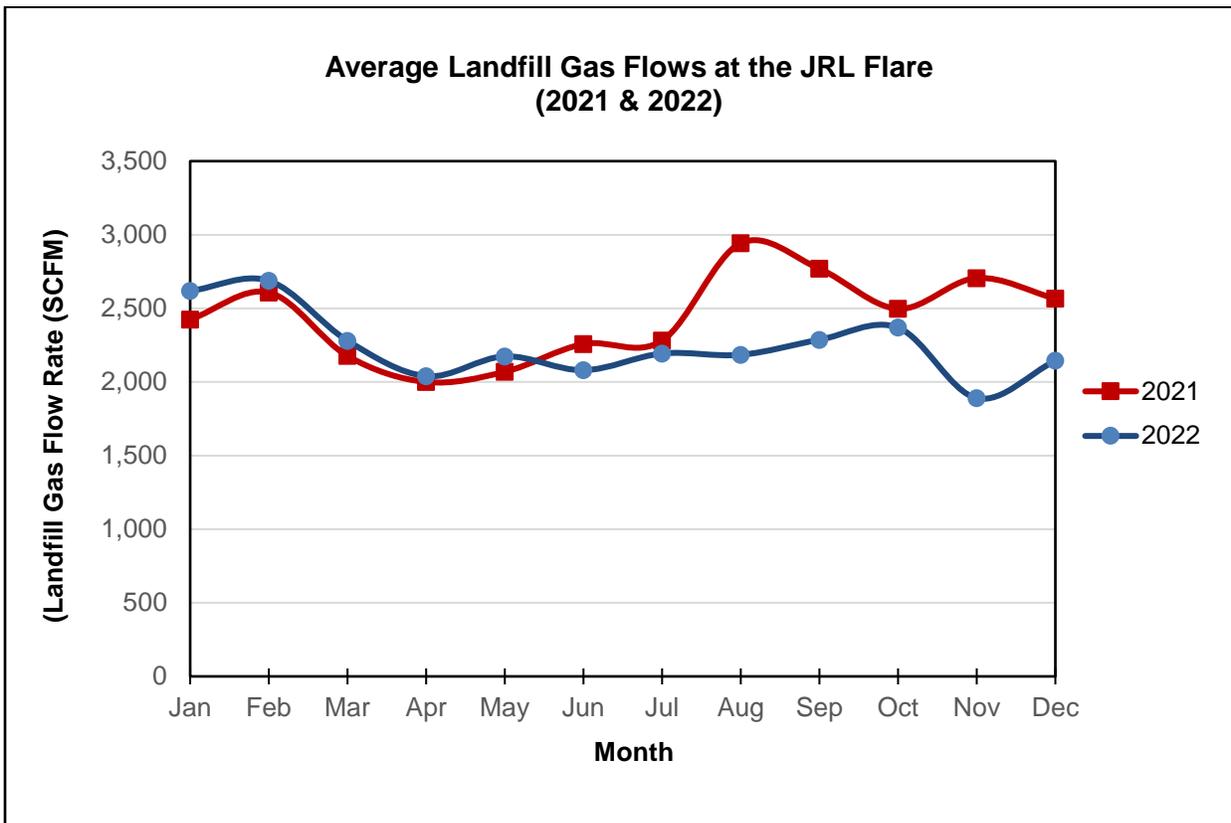


Figure 4-1 Monthly Average Landfill Gas Flow Rate at JRL, 2021 & 2022

5.0 ENERGY GENERATED BY METHANE COMBUSTION

JRL has a candlestick type flare which burns the methane (CH₄) present in the landfill gas. Methane has an approximate heating value of 1,005 BTU/SCF (BTU per standard cubic foot). Using this heating value, along with the methane concentrations and landfill gas flows presented in the previous sections, the energy generated by the combustion of methane in the JRL flare was calculated.

Table 5-1 shows the monthly totals of energy generated by CH₄ combustion, along with the average daily combustion energy for 2021 and 2022. Figures 5-1 and 5-2 further portray LFG energy combustion during its destruction through the use of the flare. The calculated total energy converted to heat by combustion at JRL during 2022 was approximately 530,107 MMBTUs, compared to approximately 535,088 MMBTUs in 2021, a decrease of approximately 1%. This change is a direct result of changes made to target methane concentrations which is further described in Section 4.0.

Table 5-1 Energy Generated by CH₄ Combustion at JRL, 2021 & 2022

Month	Monthly Total (MMBTUs)		Daily Average (MMBTUs/day)	
	2022	2021	2022	2021
January	49,096	44,593	1,584	1,438
February	47,335	42,267	1,691	1,523
March	44,991	39,805	1,451	1,284
April	38,002	37,258	1,267	1,242
May	44,811	39,755	1,446	1,282
June	41,600	42,077	1,387	1,403
July	44,432	42,570	1,433	1,373
August	44,347	52,281	1,431	1,686
September	46,640	50,129	1,555	1,671
October	48,815	48,338	1,575	1,559
November	37,407	48,469	1,247	1,616
December	42,631	45,474	1,375	1,467
Totals	530,107	535,088		
Average			1,453	1,467

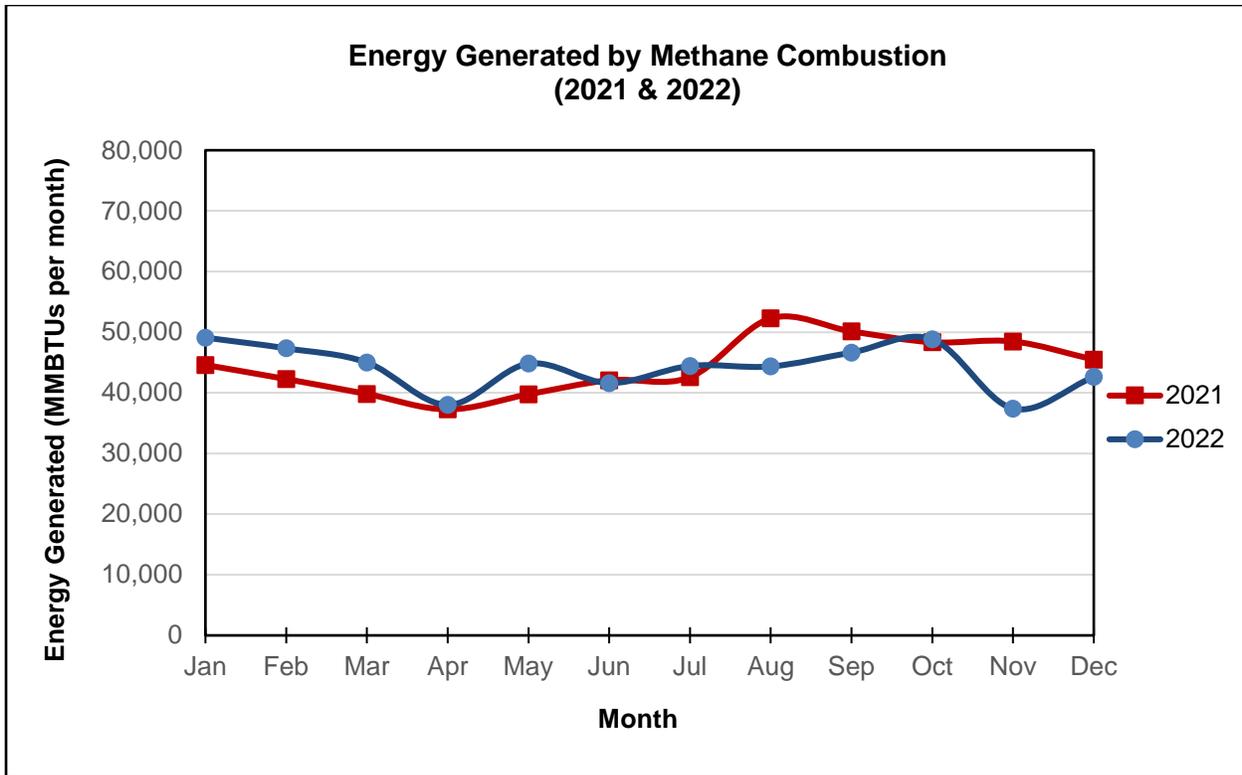


Figure 5-1 Energy Generated by CH₄ Combustion at the JRL Flare, 2021 & 2022

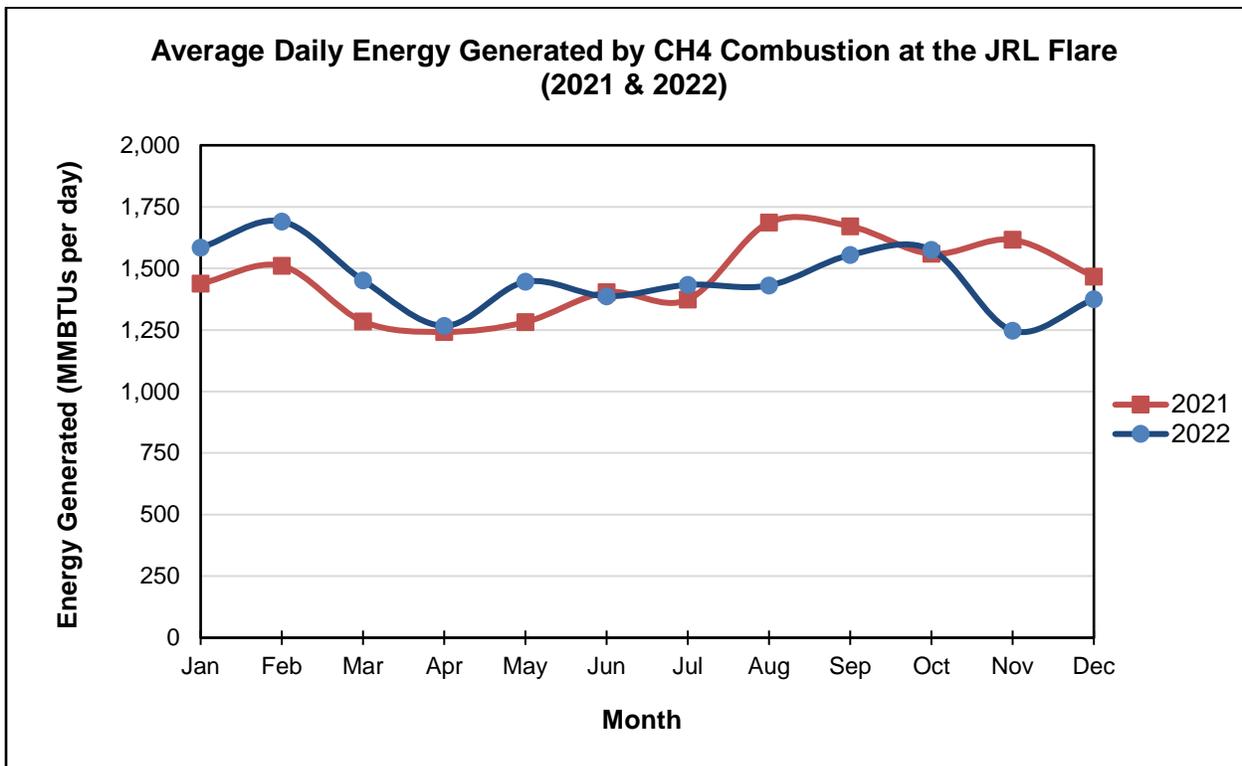


Figure 5-2 Avg. Daily Energy Generated by CH₄ Combustion at the JRL Flare, 2021 & 2022

6.0 SUMMARY

Throughout 2022, routine landfill gas (LFG) monitoring took place at various on-site gas management locations in accordance with NESHAP requirements, with results being submitted via electronic deliverable document to the MEDEP as required. At the beginning of 2022, the JRL well field consisted of 189 active collection devices. At the end of 2022, 205 collection devices remained active.

The average CH₄ concentration for 2022 was 44.9%, an 8 percent increase from the 2021 average concentration of 41.6%. This increase is likely attributable to hiring a professional well tuner in efforts to improve gas quality for the future renewable natural gas project. The average oxygen concentration during 2022 was 0.6%, slightly higher than the 2021 average of 0.4%.

The total flow during 2022 was 1,179 million standard cubic feet (MMSCF), a decrease of approximately 8% from total flow of 1,283 MMSCF in 2021. This decrease is likely attributed to changes in target methane concentrations, in order to improve gas quality for the future renewable natural gas project.

The calculated total energy converted to heat by combustion at JRL during 2022 was approximately 530,107 MMBTUs, compared to approximately 535,088 MMBTUs in 2021, a decrease of approximately 1%.

ATTACHMENT H

Landfill Air Monitoring Evaluation

JUNIPER RIDGE LANDFILL

2022 ANNUAL AIR MONITORING EVALUATION



Operated by NEWSME Landfill Operations, LLC
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1.0 INTRODUCTION

In accordance with the Maine Department of Environmental Protection (MEDEP) Chapter 401, Solid Waste Management Rules, Section 401.D(4)(e), NEWSME Landfill Operations, LLC evaluated the 2022 air monitoring results, including a comparison of the 2022 results to the previous year's results. Two types of air monitoring activities occurred at the Juniper Ridge Landfill (JRL) during 2022; (1) hydrogen sulfide (H_2S) monitoring at stationary continuous monitors; and (2) quarterly methane (CH_4) emission surface scans on the landfill's intermediate cover. The air monitoring was completed in general accordance with the procedures specified in the current JRL operations manual.

H_2S monitors are Honeywell® Analytics MDA Single Point Monitors (SPM) utilizing EP hydrides Chemcassettes® also provided by Honeywell®. Readings were taken at 15-minute intervals and data-logged. Monitors are located at four different off-site locations surrounding the landfill as shown in Figure 1-1.



Figure 1-1 Juniper Ridge Landfill H_2S Single Point Monitoring Locations

Methane scans were completed using a Micro FID® (flame ionizing detector) or similar mobile device (QED SEM-5000) and completed once every quarter by taking measurements along an approximate 30-meter spacing grid on the intermediate cover system. Measurements were also collected at cover penetrations in the pattern (i.e., gas collection piping, etc.) and at noticeable punctures, cracks, or holes in the intermediate cover.

Additionally, odor complaints from the 24-hour JRL odor complaint hotline for 2022 were summarized and compared to 2021 results.

2.0 STATIONARY H₂S MONITORING RESULTS

Using the four Honeywell Analytics SPMs located off-site (on the Access Road, West Coiley Road, 552 West Old Town Road (Route 43), and Old Stagecoach Road), real-time data is collected and recorded at 15-minute intervals. If at any time off-site monitors detect concentrations greater than 15 parts per billion (ppb), then scale house personnel are alerted by automated telephone messages. Personnel then report any alert to supervisory staff, who are responsible for reporting H₂S readings greater than 15 ppb in the facility's Monthly Status Report and to the Old Town Code Enforcement Officer if H₂S levels exceed 30 ppb.

The Honeywell Chemcassette® tapes utilized in the SPMs at JRL are capable of continuously detecting hydrogen sulfide levels down to 2 ppb and quantitatively measuring down to 4 ppb. The quantitation limit (4 ppb) is the lowest numerical value that can be determined with suitable precision and accuracy and the detection limit (2 ppb) is the lowest numerical value that can be reasonably estimated by the instrument (typically half the quantitation limit). The summarized data provided below is an average of readings, including non-detect (values less than 2 ppb) readings taken at each instrument, therefore the average values (monthly and annually) are typically less than the detection limit of the Chemcassettes®.

In 2022, data logged readings, along with SPM maintenance records and associated weather data from an on-site weather station were provided to the MEDEP on a periodic basis. SPM maintenance includes Chemcassette® change outs, which generally occur every 6 weeks, along with recommended maintenance performed by the manufacturer.

The annual average H₂S calculated values at the Access Road, 552 West Old Town Road, the Old Stagecoach Road, and the West Coiley Road SPMs are presented in Table 2-1 & Figure 2-1. Due to the vast number of non-detect readings, also known as zero readings, the average H₂S values for all four meters were below the detection limit of 2 ppb for both 2021 and 2022.

Table 2-1 Annual SPM H₂S Averages, 2021 & 2022

Juniper Ridge Landfill 2022 Annual SPM H₂S Averages					
Location	Bangor Wind Rose %¹	Bangor Wind Rose % plus 50% calm²	Non-Detect Readings	Average in ppb (Non-Detect = 0 ppb)	Average in ppb (Non-Detect = 1 ppb³)
Access Road	12.3%	20.9%	34,661	0.015	0.137
552 West Old Town Road	3.7%	12.3%	31,593	0.298	0.331
Old Stagecoach Road	7.2%	15.8%	29,884	0.438	0.500
West Coiley Road	13.3%	21.9%	28,440	0.532	0.640
Total Number of Readings in 2022: 34,746					
Juniper Ridge Landfill 2021 Annual SPM H₂S Averages					
Location	Bangor Wind Rose %¹	Bangor Wind Rose % plus 50% calm²	Non-Detect Readings	Average in ppb (Non-Detect = 0 ppb)	Average in ppb (Non-Detect = 1 ppb³)
Access Road	11.5%	19.8%	27,525	0.290	0.383
552 West Old Town Road	3.6%	11.9%	32,169	0.171	0.205
Old Stagecoach Road	6.0%	14.3%	32,939	0.084	0.142
West Coiley Road	15.0%	23.3%	31,911	0.150	0.291
Total Number of Readings in 2021: 33,921					

¹ Bangor Wind Rose percentage of time wind in direction of SPM.

² Bangor Wind Rose percentage of time wind in direction of SPM plus 50% of Calm.

³ Used 1 ppb instead of 0 for non-detect readings when the wind was in the direction of meter and 50% of time when the wind was calm; percentages are shown for each SPM in the second column.

In addition, the annual average H₂S values at these meters were also calculated using the most recent local wind direction and duration data from the Bangor International Airport Weather Station. Non-detect readings were replaced with a conservative estimate of half the detection limit of the SPM's, 1 ppb, for the percentage of time wind was in the direction of each meter, along with half of the total calm wind rose data. This data evaluation technique was developed in cooperation with the City of Old Town during the review of the JRL Expansion Application. These results are also presented in Table 2-1 and shown in Figure 2-2.

When comparing the 2021 and 2022 Annual SPM H₂S averages of the four SPMs located around JRL, three of four SPMs saw an increase during 2022. This was likely attributed to the change in waste mix and the greater volumes of sludge accepted at the site throughout the year. Although an increase was noticed, the average off-site H₂S levels remained very low during both 2021 and 2022. Monthly average H₂S calculated values for each location are shown in Figures 2-3 through 2-6 and should be used for comparative analysis only due to their low averages, below the quantitative and detection limits of the instruments. These averages were plotted via a simple average of the monthly readings, non-detect (zero) readings were not edited.

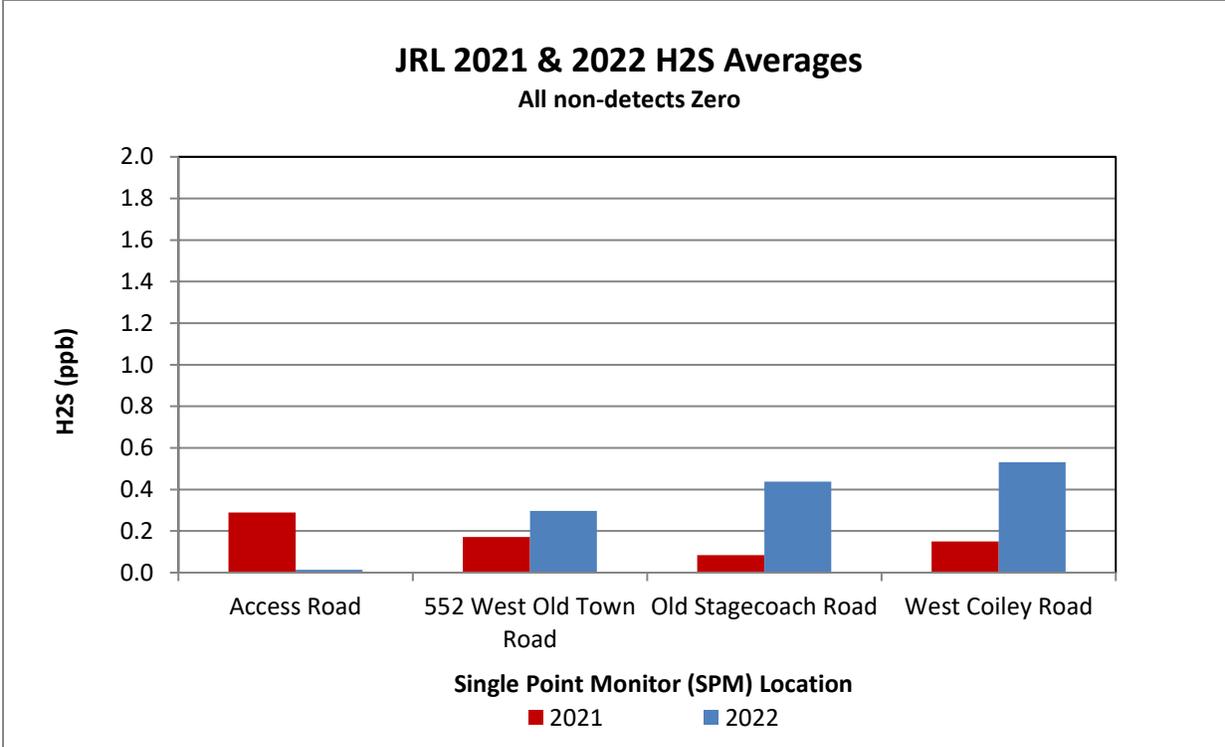


Figure 2-1 Annual Avg. H₂S readings at all four SPM locations, 2021 & 2022

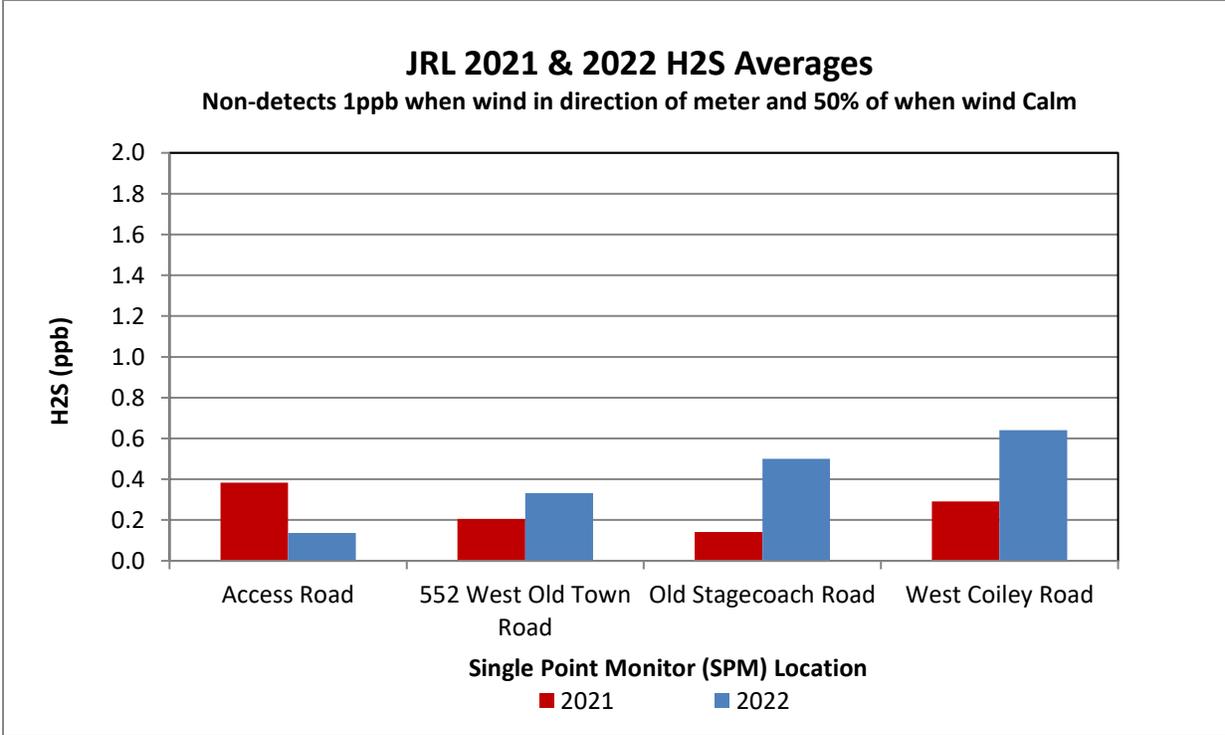


Figure 2-2 Annual Avg. H₂S readings at all four SPM locations with percentages of non-detects at 1 ppb based on wind rose data, 2021 & 2022

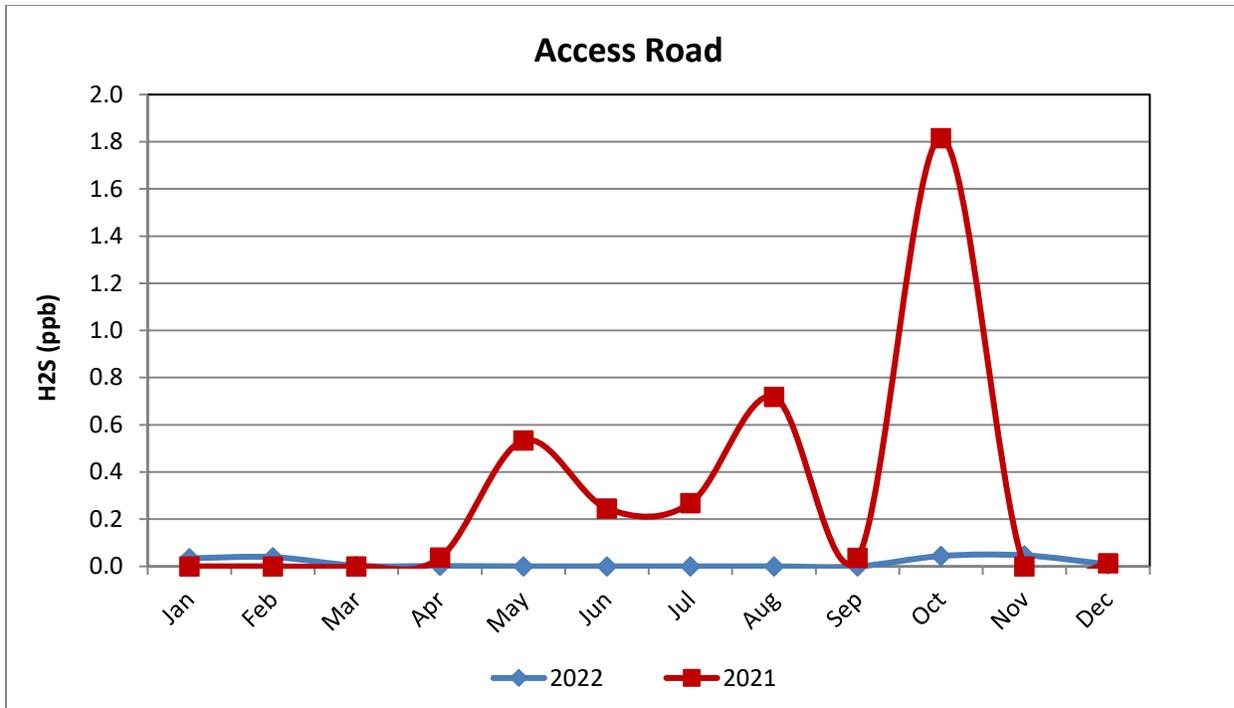


Figure 2-3 Monthly Avg. H₂S readings at the Access Road SPM, 2021 & 2022

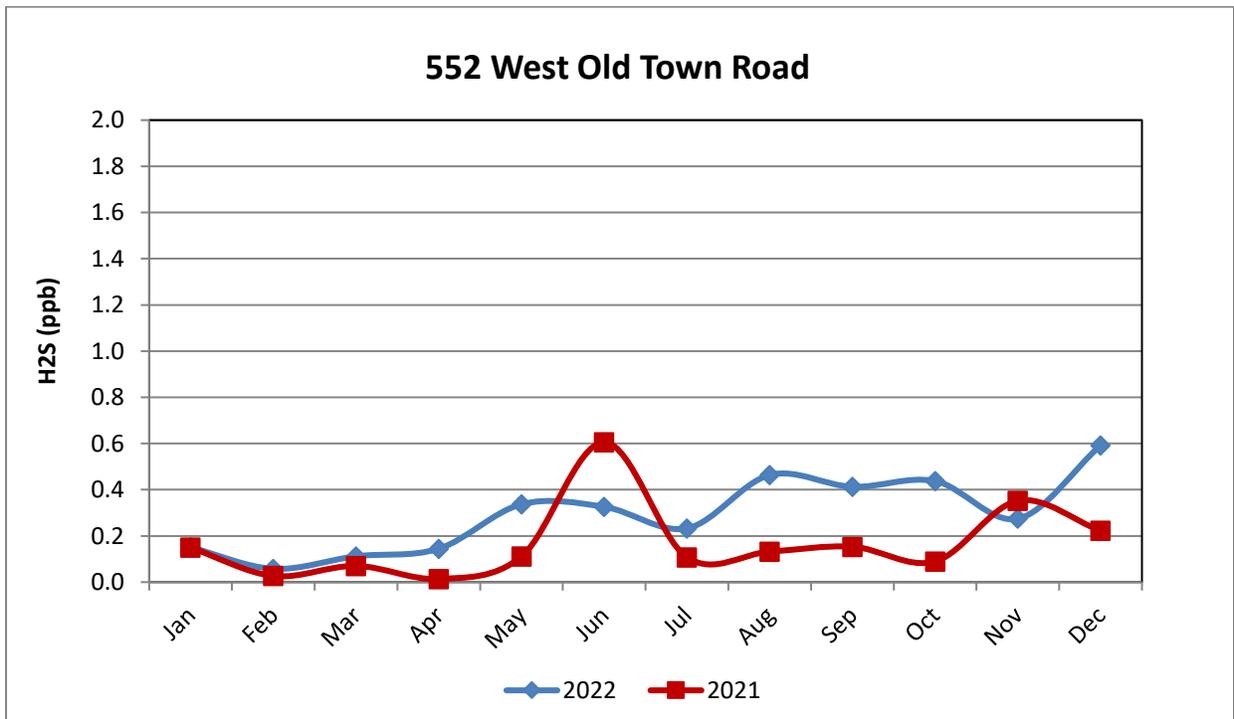


Figure 2-4 Monthly Avg. H₂S readings at the 552 West Old Town Road SPM, 2021 & 2022

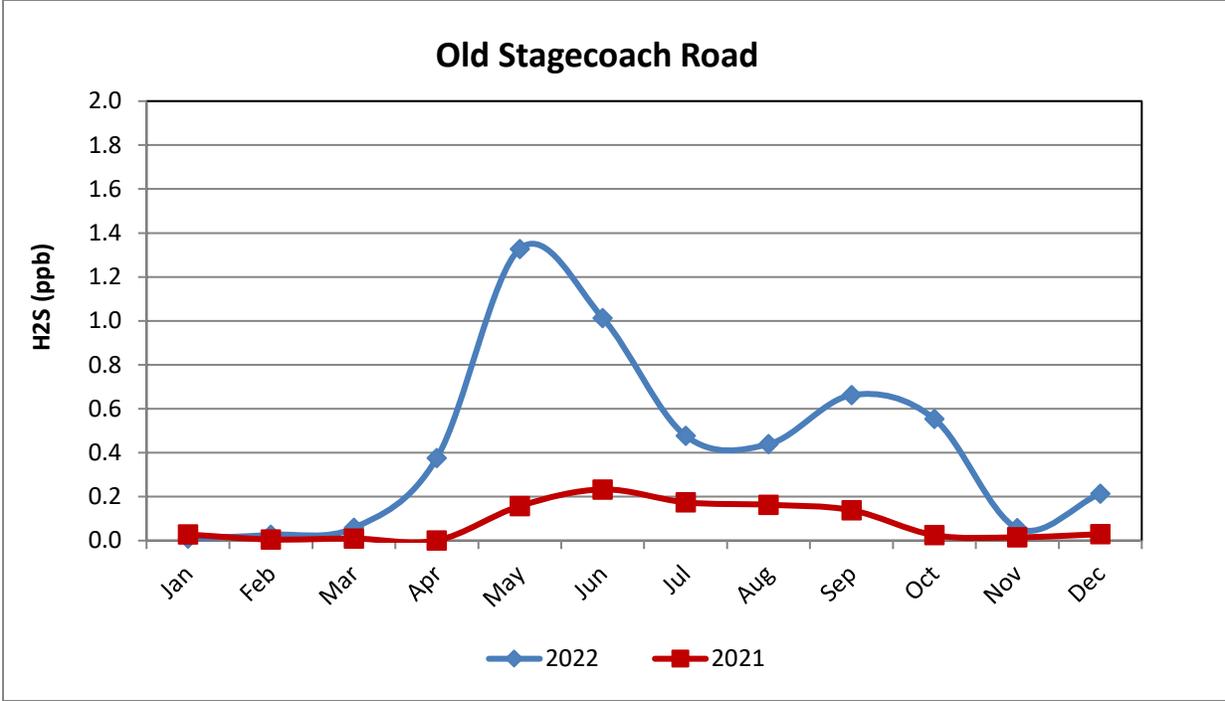


Figure 2-5 Monthly Avg. H₂S readings at the Old Stagecoach Road SPM, 2021 & 2022

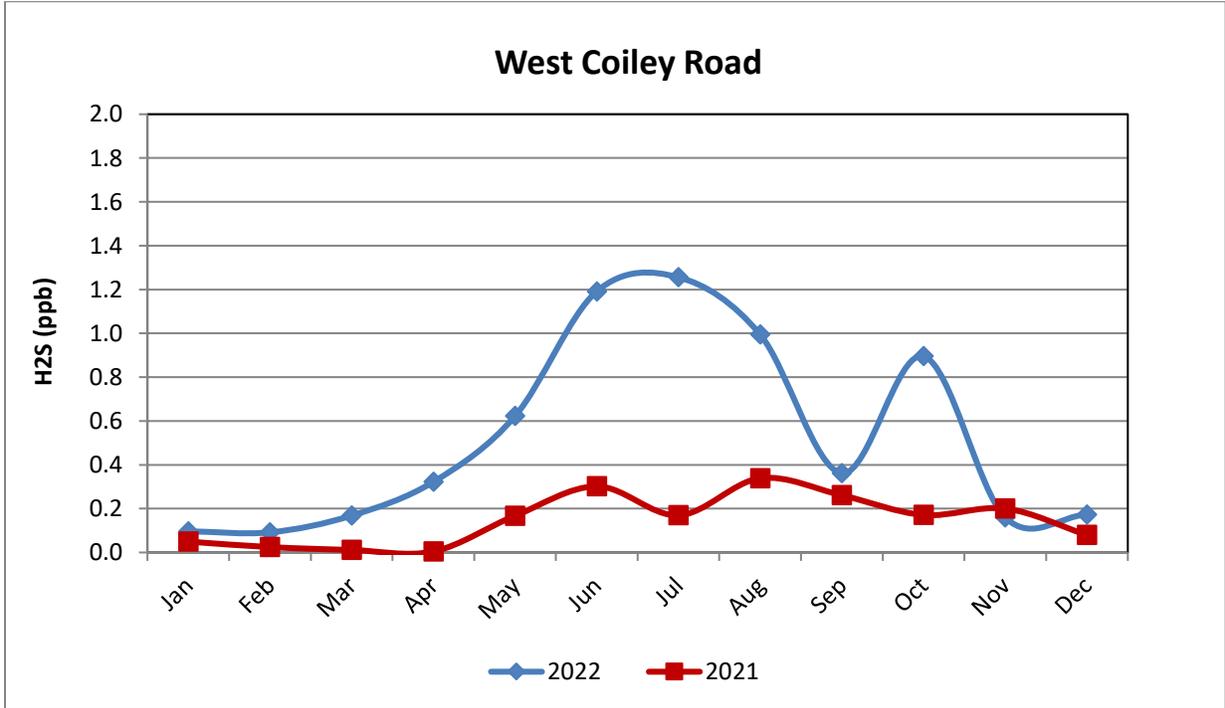


Figure 2-6 Monthly Avg. H₂S readings at the West Coiley Road SPM, 2021 & 2022

Instantaneous peak readings were identified during 2022 and 2021, to determine if any short duration H₂S episodes occurred. They are provided below in Table 2-2.

Table 2-2 Annual highest two readings at each SPM, 2021 & 2022

Juniper Ridge Landfill					
Hydrogen Sulfide Single Point Monitor					
Highest Two Annual Readings					
Year	Location	Date	Highest Reading (ppb)	Date	2 nd Highest Reading (ppb)
2022	Access Road	1/25/2022 18:32	13.24	1/25/2022 18:47	12.13
2022	552 West Old Town Road	12/22/2022 9:23	32.71	12/22/2022 9:08	31.59
2022	Old Stagecoach Road	3/25/2022 22:04	20.14	3/25/2022 22:19	15.24
2022	West Coiley Road	2/23/2022 6:00	20.36	2/23/2022 6:15	7.68
2021	Access Road	12/20/2021 17:30	6.12	5/14/2021 3:10	5.78
2021	552 West Old Town Road	12/30/2021 9:32	9.68	1/11/2021 19:07	9.23
2021	Old Stagecoach Road	6/29/2021 0:54	10.57	3/22/2021 0:24	10.23
2021	West Coiley Road	03/22/2021 19:27	16.40	1/7/2021 16:08	10.90

Throughout 2022, there were 13 H₂S readings above 15 ppb (which occurred periodically for 6 days) at the four off-site SPM's. This compares to 1 reading above 15 ppb during 2021. The MEDEP was notified of the occurrences, which were also noted as required in the JRL Monthly Status Reports. Of the 13 H₂S readings, 2 recorded above 30 ppb requiring Old Town Code Enforcement to be notified. JRL staff took immediate action to get the identified issues resolved.

On-site landfill gas management systems continue to function well in preventing off-site migration of H₂S.

3.0 ODOR COMPLAINTS

Complaints recorded via the 24-hour JRL complaint hotline are provided for 2022 and 2021 in Table 3-1 below. Detailed complaint logs were submitted as part of the facility's monthly reports to the MEDEP during 2022. During 2022, the JRL complaint hotline received a total of 35 landfill related complaints. 30 of which were related to odor, 3 noise, and 2 other. Of the 30 odor complaints, 29 were confirmed as likely coming from the landfill.

This is an increase from 2021, which received a total of 23 landfill related complaints. 22 of which were related to odor and 1 noise.

3 additional non-enforceable complaints were received during 2022. All 3 had nothing to do with landfill operations and therefore were not included in the 2022 totals.

Site visits were conducted if requested, to allow for complaint validity. Close attention was paid to complaints, which helped determine operational effectiveness of all odor control measures and/or systems. Changes were made to those measures and/or systems as necessary.

In 2022, 10 different individuals called in the 30 odor complaints. This compares to 11 individuals who called in 22 odor complaints during 2021.

Table 3-1 Summary of Complaints at Juniper Ridge Landfill, 2021 & 2022

2022 MONTH	OBJECT OF COMPLAINT						MONTH TOTAL
	ODOR	NOISE	LIGHTS	DUST	BIRDS	OTHER	
JAN.	5	0	0	0	0	0	5
FEB.	1	0	0	0	0	0	1
MAR.	1	0	0	0	0	0	1
APR.	0	1	0	0	0	0	1
MAY	0	0	0	0	0	0	0
JUN.	0	0	0	0	0	0	0
JUL.	0	1	0	0	0	0	1
AUG.	2	0	0	0	0	0	2
SEP.	3	0	0	0	0	0	3
OCT.	2	1	0	0	0	0	3
NOV.	6	0	0	0	0	1	7
DEC.	10	0	0	0	0	1	11
TOTALS	30	3	0	0	0	2	35

2021 MONTH	OBJECT OF COMPLAINT						MONTH TOTAL
	ODOR	NOISE	LIGHTS	DUST	BIRDS	OTHER	
JAN.	3	0	0	0	0	0	3
FEB.	1	0	0	0	0	0	1
MAR.	1	0	0	0	0	0	1
APR.	0	0	0	0	0	0	0
MAY	0	0	0	0	0	0	0
JUN.	0	0	0	0	0	0	0
JUL.	1	0	0	0	0	0	1
AUG.	2	0	0	0	0	0	2
SEP.	2	1	0	0	0	0	3
OCT.	4	0	0	0	0	0	4
NOV.	4	0	0	0	0	0	4
DEC.	4	0	0	0	0	0	4
TOTALS	22	1	0	0	0	0	23

4.0 CH₄ SURFACE SCANS

Landfill methane (CH₄) emission surface scans are performed to determine the effectiveness of intermediate landfill cover and landfill gas collections systems in controlling landfill gas migration. Quarterly surface scans were completed on the landfill intermediate cover at JRL during 2022 in accordance with the JRL Operations Manual and the requirements of the New Source Performance Standards (NSPS) for municipal solid waste (MSW) landfills contained in 40 Code of Federal Regulations (CFR) Part 60, Subpart WWW. Copies of the 2022 surface scans are kept on file and uploaded to Sanborn Head and Associates' Landfill Gas Management Suite (LFGMS).

Surface scans were completed in general accordance with the procedures outlined in NSPS, specifically Section 60.753(d) which states that each owner or operator of an MSW landfill with a gas collection and control system shall:

“Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage...”

Surface scans were completed using a Micro FID[®] (flame ionizing detector) or similar device (QED SEM-5000 portable methane detector, which NEWSME purchased in 2019). The Micro FID[®] device has a detection limit of 0.5 parts per million (ppm) and a concentration range of 0.5 to 50,000 ppm, while the QED SEM-5000 portable methane detector has the same detection limit but has a concentration range of 0.5 ppm to 100% methane. During 2022, a total of 5 readings above 500 ppm were detected during initial quarterly surface scans, compared to 12 which were detected during 2021. A quarterly breakdown is provided in Table 4-1. These readings and their locations have been documented, copies have been provided to the site supervisor, and necessary corrective actions have been taken. Follow-up was performed 10 days and 30 days after the initial reading in excess of 500 ppm or any subsequent reading in excess of 500 ppm.

Table 4-1 Readings above 500 ppm found during CH₄ Surface Scans, 2021 & 2022

Surface Scan Readings above 500 ppm					
	Q1	Q2	Q3	Q4	TOTAL
2022	3	1	0	1	5
2021	3	2	2	5	12

Most areas with readings above 500ppm were resolved on the first initial rescan and follow-up. These results demonstrate the effectiveness of the synthetic and soil intermediate cover system. Damage to cover boots for the gas extraction piping due to landfill consolidation and settlement continue to be the primary cause of readings above 500 ppm. These damages are repaired as soon as practical.

5.0 SUMMARY

Two types of air monitoring activities occurred at the Juniper Ridge Landfill (JRL) during 2022; (1) hydrogen sulfide H₂S monitoring with stationary continuous monitors and, (2) quarterly methane emission surface scans on the landfill intermediate cover.

When comparing the 2021 and 2022 Annual SPM H₂S averages of the four SPMs located around JRL, three of four SPMs saw an increase during 2022. This was likely attributed to the change in waste mix and the greater volumes of sludge accepted at the site throughout the year. Although an increase was noticed, the average off-site H₂S levels remained very low during both 2021 and 2022.

Throughout 2022, there were 13 H₂S readings above 15 ppb (which occurred periodically for 6 days) at the four off-site SPM's. This compares to 1 reading above 15 ppb during 2021. The MEDEP was notified of the occurrences, which were also noted as required in the JRL Monthly Status Reports. Of the 13 H₂S readings, 2 recorded above 30 ppb requiring Old Town Code Enforcement to be notified. JRL staff took immediate action to get the identified issues resolved. On site landfill gas management systems continue to function well in preventing off-site migration of H₂S

During 2022, the JRL complaint hotline received a total of 35 landfill related complaints. 30 of which were related to odor, 3 noise, and 2 other. Of the 30 odor complaints, 29 were confirmed as likely coming from the landfill. This is an increase from 2021, which received a total of 23 landfill related complaints. 22 of which were related to odor and 1 noise.

During 2022, a total of 5 readings above 500 ppm were detected during initial quarterly surface scans, compared to 12 which were detected during 2021. Repairs were promptly corrected. Follow-up readings confirmed the issues were resolved.

ATTACHMENT I

Geotechnical Monitoring Report



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**2022 Annual Geotechnical Landfill Inspection Report
Juniper Ridge Landfill
Old Town, Maine**

March 2023

Report to:

BGS/NEWSME Landfill Operations, LLC
Hampden, Maine

Casella Waste Systems, Inc.
Westbrook, Maine

Richard E. Wardwell, P.E., Ph.D.
Lake George, NY 12845

EXECUTIVE SUMMARY

This 2022 Annual Landfill Geotechnical Monitoring Report for the Juniper Ridge Landfill (JRL) summarizes the geotechnical conditions of the facility over the past year. These conditions were ascertained from monitoring that was performed to assure that the field behavior of the landfill continues to be consistent with parameters and assumptions used in the facility design. This report describes the geotechnical activities performed in accordance with the current Geotechnical Monitoring Plan (Appendix N of the Operations Manual) and Stability and Settlement Monitoring Plan (Section 3.1.5 of the Design Report), prepared and included as part of the JRL Expansion Application (SME 2015a) for a new solid waste license, as approved by the Board of Environmental Protection under Solid Waste License #S-020700-WD-BI-N and Natural Resources Protection Act #L-19015-TG-D-N dated 06/01/2017.

The geotechnical monitoring at JRL during 2022 emphasized weekly stability and settlement observations of the landfill surface made during operations, and an independent geotechnical inspection of the landfill surface and slope topography conducted on August 25, 2022. Other specific monitoring activities in 2022 included: (a) comparisons of semi-annual topographic surveys, (b) review of waste types, quantities, and location of waste placement, and (c) evaluation of fluid pressure data measured by an electronic transducers placed on the base of Cells 11 to 14 to indicate the leachate head on the liner and to track whether or not the leachate collection system performance is consistent with design assumptions.

This document supplements previous monitoring reports made through 2010 (REW 2005a, 2006, 2007a, 2008a, 2009, 2010), and subsequent landfill inspection reports from the last eleven years (REW 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021 and 2022). All monitoring data indicates that settlement and stability of the landfill waste is consistent with design parameters and assumptions. Information provided by the Cells 11 to 14 transducers demonstrate that the fluid levels in the leachate collection layer are at minimal levels, verifying that this drainage layer is performing as designed. No changes to the Geotechnical Monitoring Plan are proposed for geotechnical monitoring during 2023.

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- Appendix B – JRL Estimate of Landfill Capacity December 31, 2022
- Appendix C – Weekly/Monthly Landfill Inspection Form
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**2022 Annual Landfill Geotechnical Monitoring Report
Juniper Ridge Landfill Facility
Old Town, Maine**

1. INTRODUCTION

This 2022 Annual Landfill Geotechnical Monitoring Report has been prepared for the State of Maine’s Juniper Ridge Landfill (JRL), a facility that is owned by the State of Maine Bureau of General Services (BGS) and operated by NEWSME Landfill Operations, LLC. (NEWSME), a subsidiary of Casella Waste Systems Inc. (CWSI). The landfill site plan (Figure 1), is based on an aerial topographic survey performed on June 21, 2022.

This report describes the geotechnical activities performed in accordance with the current Geotechnical Monitoring Plan (Appendix N of the Operations Manual) and Stability and Settlement Monitoring Plan (Section 3.1.5 of the Design Report), prepared and included as part of the JRL Expansion Application (SME 2015a,b) for a new solid waste license, as approved by the Board of Environmental Protection under Solid Waste License #S-020700-WD-BI-N and Natural Resources Protection Act #L-19015-TG-D-N dated 06/01/2017. This report presents the results of this monitoring that verifies the consistency of the landfill’s geotechnical performance with design parameters and assumptions, and with the goals of the JRL Expansion Operations Manual (NEWSME 2022).

2. HISTORY OF LANDFILL DEVELOPMENT & MONITORING

JRL was initially developed by Fort James Operating Company (FJC), a subsidiary of Georgia-Pacific Corporation, for its private use in the disposal of treatment plant sludges and other wastes from its mill in Old Town, Maine. In 2004, the State of Maine, through the State Planning Office (SPO), agreed to purchase the landfill for disposal of other approved in-state wastes including: construction and demolition debris (CDD), oversized bulky waste (OBW), front end processing residue (FEPR), ash from waste incinerators, other ashes from industrial incinerators, bypass municipal solid waste (bypass MSW), and other miscellaneous wastes. This section discusses the history of landfill development at the site.

2.1 Fort James Operation

Approximately 68 acres of a 780-acre property was licensed by FJC as a secure landfill, and operated by FJC from 1996 until 2004 when the State of Maine purchased the landfill. During this period, JRL, then called the West Old Town Landfill (WOTL), was used mainly for disposal of combined sludge from FJC’s primary and secondary treatment plant in Old Town and fly ash from a biomass boiler at Eastern Paper’s mill in Lincoln. Placement of the sludge began in December 1996 along the western portion of Cell 1. By 2001, operations had moved to the east into Cell 2. Details relating to the geotechnical behavior of FJC’s sludge during the sequential landfill development is presented in previous reports (REW 2007a,b).



(ref: 06/21/22 aerial topographic survey)

Project No: 1751	Title: Site Plan Juniper Ridge Landfill		By: REW
	Project: 2022 Annual Landfill Geotechnical Monitoring Report		Checked: REW
Figure No: 1	Client: State of Maine BGS/NEWSME Landfill Operations LLC, Old Town, Maine		Date: March 2023
			Scale: ~1" = 375'

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2.2 State of Maine Purchase and Operations

In February 2004, the State of Maine, through the SPO, purchased the landfill from FJC. It selected CWSI through its subsidiary NEWSME, to operate the disposal of in-state wastes. Approximately 50,000 tons of sludge from FJC's Old Town mill were initially placed in landfill Cells 1 & 2 before the mill closed in 2006. To improve deposit stability, CWSI stabilized the existing sludge at the site by mixing it with approved in-state waste streams, i.e. CDD, OBW, FEPR, incinerator ash, bypass MSW, and other miscellaneous wastes. A detailed description of the test plots constructed to determine the geotechnical behavior of this waste and the sludge stabilization program were presented in previous annual monitoring reports (REW 2005a, 2006, 2007a, 2008a, 2009, 2010, 2011) and an annual geotechnical landfill inspection report (REW 2012).

Once the sludge stabilization program was completed by mid-2006, landfill operations moved into Cell 3A/B, followed sequentially with Cells 4-10 under MEDEP Solid Waste License #S-020700-WD-N-A. Deposited in these cells was a mixture of in-state wastes, which included but not limited to various percentages of CDD, MSW (Cells 3-10 only), bypass MSW, OBW, MSW incinerator ash and other ashes, CDD wood fines for cover, contaminated soils, WWTP/POTW sludge, lime mud and grit, oil spill debris, pulp mill waste, other approved miscellaneous special wastes.

In mid-2015, with the help of SME, BGS/NEWSME submitted JRL Expansion Application (SME 2015a,b) to the MEDEP. On June 6, 2017, that application was approved by the BEP under Solid Waste License #S-020700-WD-BI-N and Natural Resources Protection Act #L-19015-TG-D-N. During 2018, the first cell (Cell 11) of a 6-cell, 54 acre landfill expansion was constructed. As a result, a mixture of similar in-state wastes as described above for Cells 3-10, (excluding MSW for Expansion Cells 11-16) was approved. Based on performance to date, this mixture of wastes are stable at slopes up to 2.5H:1V. While the mixture from these waste streams are still highly compressible and subject to gas generation, the in-state waste mixture is more stable and less compressible than the waste-stabilized sludge based on more than 13 years of operational experience.

2.3 Overview of Past Geotechnical Monitoring

Once the stability of the waste-stabilized sludge was resolved (see MEDEP 2008; REW 2008b; 2008 GMR, REW 2009; 2010 GMR, REW 2011), the previous program (REW 2007b) was modified to represent the monitoring needs associated with current waste mixtures placed in a landfill founded on a firm soil (see 2011 GMR, REW 2012). Specifically, reliance on the extensive measurements of in-situ instruments was shifted to observation methodologies that are used to assure that the geotechnical performance of the landfill remained consistent with design analyses. This approach has been in service since 2010 and now applied to the most recent GMP included in the JRL Expansion Operations Manual (NEWSME 2022).

3. 2022 WASTE PLACEMENT AND OPERATION

In 2022, the majority of waste was placed in the landfill capacity of Cells 12, 13 & 14 (see Appendix F site photos #1-4, 24-29,41,42) with some supplemental waste placed on the northern landfill slope of Cells 3 and 7 (#18,19,24-28,41,42) to reestablish the final grades that had settled over the years. As summarized in Appendix A herein, waste composition during this period was dominated by forms of CDD, bypass MSW, OBW, MSW incinerator ash and other ashes, CDD wood fines for cover, contaminated soils, WWTP/POTW sludge, oil spill debris, pulp mill waste, other approved miscellaneous special wastes. By mid-year (when the aerial photography was made), approximately 35 feet of the mixed waste was placed in Cell 12, raising its grade to average elevation of approximately 345 ft. mean sea level (msl). Likewise, almost 100 feet of waste was placed in Cell 13 raising its average grade from 210 to 300 ft. by mid-year. Waste placement in Cell 14 initiated in August 2022 raised its average grade to 210 ft. by the end of June. During the summer and fall of 2022, waste placement continued into Cells 13 and 14 as well as some additional grading waste placed in Cells 1 to 3.

The remaining landfill capacity in Cells 1-14 at the end of 2022 is summarized in Appendix B. As the capacity of these cells is exhausted, expansion will continue in three additional landfill cells (i.e. Cells 15 to 17) located north of the existing operations. It is expected that future expansion cells will receive similar types and quantities of wastes placed in previous years during the operation of Cells 11 through 14.

4. 2022 GEOTECHNICAL LANDFILL MONITORING

During 2022, various monitoring was performed at JRL to ensure compliance with JRL's Solid Waste License #S-020700-WD-BI-N and Natural Resources Protection Act #L-19015-TG-D-N. Results of this monitoring verifies the consistency of the landfill's geotechnical performance with design parameters and assumptions, and with the goals of the JRL Expansion Operations Manual (NEWSME 2022). Specifically, geotechnical monitoring during this past year included: (1) visual observation of landfill slope stability, settlement, and general landfill conditions, (2) assessment of site aerial topographic surveys; (3) a review of waste types, quantities, location of waste placement, and filling sequences, and (4) evaluation of fluid levels in the leachate collection layers of Cells 11 to 14.

4.1 Landfill Observations

During 2022, performance of JRL was verified by routine weekly visual site inspections of the landfill during normal operations. A sample copy of the weekly/monthly inspection forms is presented in Appendix C (with copies of any specific inspection available upon request). Observations made during these inspections help confirm the corroboration of landfill performance with the design conditions used in the geotechnical analysis. In part, the revised stability and settlement analyses completed for the landfill design (REW 2005b, SME 2015b) were verified in the field by monitoring the type, quantity, rate, location, and condition of waste placement in accordance with the JRL Expansion Operations Manual (NEWSME 2022).

4.2 Annual Inspection

To supplement weekly operational observations, an annual geotechnical inspection of the landfill area (performed on August 25, 2022) focused on the overall condition of the landfill that specifically looked for evidence of cracking, localized depressions, erosion, leachate breakout on sideslopes, areas of ponded water, stressed vegetation, and toe heaving. As previously mentioned, normal operations were taking place in Cells 12 to 14 with some supplemental waste placed in Cells 1 to 3 and on the northern slope of Cells 3 & 7 to compensate for waste settlement of this surface. Synthetic Intermediate Cover Material (SICM) and, in small areas, earthen intermediate cover has been placed over the inactive portions of the landfill.

Geotechnical observations were made to confirm that waste placement procedures, sideslope construction, cover performance, and other construction/filling practices are consistent with the JRL Expansion Operations Manual (NEWSME 2022). An observation report, using the checklist presented in the current GMP, was filled out and is included in Appendix D of this report.

Inspection elements for assessment of geotechnical performance included:

Active Areas

- waste lift thickness
- active filling area slope angle
- final waste slope angle
- identification of areas with visible ponding, seepage, or indications of mass snow burial

Inactive Areas with Intermediate Cover (SICM or earthen material)

- overall surface and/or intermediate cover condition
- evidence of surface cracking
- localized surficial depressions in waste or cover surface
- erosion of cover material
- erosion of ditch linings
- leachate breakout on sideslopes
- areas of ponded water
- toe heaving
- grass kills
- gas venting

Geotechnical performance observations indicated that the landfill slopes were stable and that differential waste settlement was minor and can be managed to tolerable levels during final cover design. The active waste placement in Cells 1 to 3, 7, and 12 to 14 is performing as anticipated. At the time of the inspection, there were no indications of inconsistencies between site activities and JRL Expansion Operations Manual (NEWSME 2022).

4.3 Fluid Pressure Measurements

In accordance with the Board Order for the landfill expansion, a fluid pressure transducer was installed in the leachate collection layer of Cells 11 to 14 (at the location shown on Figure 1) to confirm system design by measuring fluid levels in this drainage layer. These instruments were placed at the bottom of the 12-inch sand layer of the leachate collection system that overlies the geocomposite layer of the containment liner.

To help determine the degree that the hydraulic head within the leachate collection layer is minimized, daily instrument readings were recorded during 2022 as presented in Appendix E. The small values demonstrate that the levels are minimal, verifying that the leachate collection at these locations in Cell 11 to 14 are performing in accordance with design.

4.4 Surveys

A topographic survey of the landfill surface was completed on June 21, 2022 using aerial photogrammetric methods. A spot check of surface elevations indicates that the waste slope angles are consistent with the project design and JRL Expansion Operations Manual (NEWSME 2022). Elevation contours for covered areas were visually examined for depressions, heaving, and ditch slope continuity. Consistent with site observations, these observations indicate that the landfill is performing as anticipated during design with no noticeable excessive differential settlements or instabilities. Exclusive of the excavation area in Cells 1 & 2, comparisons with the aerial survey made in June 2022 show no discernable differences in the overall topography of the landfill surface that would indicate large differential settlements or slope instabilities.

4.5 Modifications to the Geotechnical Monitoring Plan

As addressed the last two years, the current GMP (included as part of the JRL Expansion Operations Manual, NEWSME 2022), includes weekly routine inspections and an evaluation of fluid levels in the leachate collection layer of JRL expansion cells (i.e. Cells 11 to 17). No other modifications to the GMP are proposed for 2023.

5. SUMMARY

Geotechnical monitoring of JRL was performed to verify that the operations and field behavior of the facility is consistent with design analyses and geotechnical plans. Consistent with the modifications in 2008 and 2010, field observations of landfill activities were emphasized in assuring consistency with the JRL Expansion Operations Manual (NEWSME 2022) and, in the process, confirmed that there were no indications of potential slope instabilities or excessive differential settlements that might impact the performance of the facility.

In accordance with the current GMP (which is included as part of the JRL Expansion Operations Manual, NEWSME 2022), routine weekly visual site inspections of the landfill were made during normal operations in 2022. In addition, an aerial topographic survey of the facility was

conducted on June 21, 2022, and an annual geotechnical inspection was performed on August 25, 2022. This monitoring documented that the landfill is performing as anticipated with no excessive deformations, slope movements, unexplained ponded water, or leachate breakouts. Site observations made of the inactive areas and the operational activity in Cells 1 to 3 and 12 to 14 indicate that the landfill is performing as anticipated during design. Measurements of the fluid levels in the leachate collection system at the base of Cells 11 to 14 (as measured by the in-place transducers) indicate that the head on the liner system is minimal and is performing in accordance with design.

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APPENDIX A

Summary of Wastes Accepted at Juniper Ridge Landfill Report 2022

**Summary of Wastes Accepted at Juniper Ridge Landfill
Report Year 2022**

Waste Type #	Waste Types	Total (tons)	Origin	% Total Waste
1	Bypass MSW	276,619	Maine	29.6
2	CDD/MSW Processing Residue - OBW (Disposed of in the Original 2004 Permitted Footprint)	4,222	Maine	0.5
3	CDD/MSW Processing Residue - OBW (Disposed of in the Expansion Permitted Footprint) ⁴	74,950	Maine	8.0
4	CDD Processing Residue - Fines ¹	73,689	Maine	7.9
5	Mixed CDD	332,290	Maine	35.6
6	Wood from CDD ²	147	Maine	0.0
7	Residue/Trash from Single Stream	7,064	Maine	0.8
Special Wastes Types				
8	Burn Pile Ash and/or Hot Loads Area Ash	239	Maine	0.0
9	Burnt Structure Debris/Ash	1,828		0.2
10	Catch Basin Grit & Street Sweeping	680	Maine	0.1
11	Coal, Oil & Multi-fuel Boiler Ash	4,259	Maine	0.5
12	Contaminated Soil & Debris	20,977	Maine	2.2
13	Industrial (Miscellaneous)	525	Maine	0.1
14	Industrial WWTP Sludge	15,888	Maine	1.7
15	Leather Scraps	70	Maine	0.0
16	Lime Mud/Grit	4,784	Maine	0.5
17	MSW Incinerator Ash	29,502	Maine	3.2
18	Municipal WWTP/POTW Sludge	78,383	Maine	8.4
19	Non-Friable Asbestos	561	Maine	0.1
20	Non-Hazardous Chemical Related	1,033	Maine	0.1
21	Oil Spill Debris	1,037	Maine	0.1
22	Polyethylene & Cellulose Trimmings	1,917	Maine	0.2
23	Pulp Mill Waste	751	Maine	0.1
24	Sandblast Grit	533	Maine	0.1
25	Spoiled Foods	458	Maine	0.0
26	Sulfur Scrubbing Residues	545	Maine	0.1
27	Water/Air Filtration Media	10	Maine	0.0
28	WWTP Grit Screenings	692	Maine	0.1
SUBTOTAL WASTE TYPES 1-7		768,979	Maine	82.4
SUBTOTAL WASTE TYPES 8-28		164,670	Maine	17.6
GRAND TOTAL WASTE RECEIVED³		933,649	Maine	

1. Used as alternative daily cover (ADC).

2. Wood from CDD was received at the Juniper Ridge Landfill wood storage facility (ADC).

3. Total does not include purchased materials. Total derived from sum of higher significant digit numbers, not rounded whole numbers as provided in the above table.

4. On 11/29/21, MEDEP approved an increase of OBW in the Expansion area. The previous limit of 65,000 tons per year, set by expansion license #S-020700-WD-BI-N, was modified through solid waste minor revision #S-020700-WD-CM-M. The minor revision approved additional disposal of OBW to 82,203 tons for calendar year 2022.

5. CRM/MRC 20,384.99 tons, ecomaine 71,995.55 tons, PERC 171,657.61, MMWAC 12,580.61 tons.

APPENDIX B

JRL Estimate of Landfill Capacity December 31, 2022

Juniper Ridge Landfill

Estimate of Remaining Year-End Capacity for Years 2018 through 2022 Previously Reported Capacity Remaining vs Revised Capacity Remaining

CELL LOCATION	YEAR	PREVIOUSLY REPORT YEAR-END VALUES	REVISED YEAR-END VALUES (FEBRUARY 2023)	COMMENTS
Cells 1-10	2018	928,491	928,491	REASON FOR DIFFERENCE: NEGLECTED TO INCLUDE DEVELOPED CAPACITY IN CELL 11 - 17 CAPACITY FOR PREVIOUSLY REPORTED YEARS 2019 THROUGH 2021
Cells 11-17	2018	9,252,175	9,252,175	
Total	2018	10,180,666	10,180,666	
Cells 1-10	2019	724,268	724,268	
Cells 11-17	2019	7,849,531	8,619,531	
Total	2019	8,573,799	9,343,799	
Cells 1-10	2020	895,289	895,289	
Cells 11-17	2020	6,563,510	7,689,110	
Total	2020	7,458,799	8,584,399	
Cells 1-10	2021	751,191	751,191	
Cells 11-17	2021	5,433,016	6,543,716	
Total	2021	6,184,207	7,294,907	
Cells 1-10	2022	NA	720,538	
Cells 11-17	2022	NA	5,611,634	
Total	2022	NA	6,332,172	

**Juniper Ridge Landfill
Estimate of Remaining Capacity as of December 31, 2022**

This includes MSE Berm Capacity Just not ID'd here

	Values	Units	Source
Landfill Capacity Remaining in Cells 1-17 as of December 31, 2021	7,294,907	cy	Calculated 2022 capacity evaluation
Remaining Site Capacity as of June 21, 2022 in Expansion Cells 1 thru 17	6,973,000	cy	June 21, 2022 Site Survey
Tons Placed in Expansion Landfill Cells 1-17 (tons) between June 21, 2022 and December 31, 2022.	531,887.20	tons	JRL Records
Compaction used in Cells 1-17 between June 22, 2022 and December 31, 2022	0.83	ton/cy	JRL
Calculated Capacity Used in Cells 1-17 between June 22, 2022 and December 31, 2022 (CY)	640,828	cy	Calculation
Calculated Capacity Used in Cells 1-17 in 2022	962,735	cy	Calculation
Estimated Remaining Site Capacity in Cells 1-17 as of December 31, 2022	<u>6,332,172</u>	cy	Calculation (Total Permitted Remaining Capacity)
Estimated Remaining Cell 1 thru Cell 14 Capacity as of December 31, 2022	<u>1,289,872</u>	cy	Calculation (Developed Available)
Estimated Remaining Site Capacity in Cells 15-17 as of December 31, 2022	<u>5,042,300</u>	cy	Calculation (Undeveloped Available)

Wendy Plissey 01-16-2023
Compaction factor change from 0.93 to 0.83.

Cell 1 thru 14 Capacity Remaining reported as of 6-21-2022 of 1,930,700 cys minus capacity consumed to end of 2022.

Tons Disposed of in Landfill Cells 1 thru 10	77,251 Tons	Provided by JRL
Tons Disposed of in Landfill Cells 11 thru 14	856,399 Tons	Provided by JRL
Total Reported Tons Disposed of in Entire Landfill Cells 1 thru 14	933,650 Tons	Provided by JRL

Calculated based on a few overlapping tonnage reports

Appendix C

Weekly/Monthly Landfill Inspection Form

WEEKLY/MONTHLY INSPECTION FORM

Site Name/Company	Juniper Ridge Landfill/NEWSME Landfill Operations, LLC
Location	2828 Bennoch Road, Alton, Maine
Date of Visit	8-31-22
Inspector Name/Signature	Jeffrey Pelletier

Note: For weekly inspections, only Table 1 and Table 3 need to be completed. For monthly inspections, Tables 1, 2 and 3 need to be completed.

**Table 1
Inspection of Active Areas at the Facility**

Active Areas at the Facility			
Leachate	Is leachate observed on the ground, or leaking from tanks or piping, with evidence of or the potential to impact stormwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Comments (see below)
Access Roads	Are industrial materials, residue or trash observed on roads where vehicles enter or exit the active landfill with evidence of or the potential to impact stormwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Comments (see below)
MSW and CDD (windblown debris)	Is MSW and/or CDD on ground, tracking, blowing or whirling with evidence of or the potential to impact stormwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Comments (see below)
Borrow Pit	Is there evidence of tracking or erosion from site soil borrow areas with potential to impact stormwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Comments (see below)
Mobile Equipment	Is mobile equipment leaking oil or other liquids with evidence of or the potential to impact stormwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Comments (see below)

Active Areas at the Facility	
Comments	Active Area of Site looked good

Table 2
 Inspection of Stabilized Areas at the Facility

Stabilized Active Areas at the Facility			
Leachate	Is leachate observed on the ground, or leaking from tanks or piping, with evidence of or the potential to impact stormwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Comments (see below)
Access Roads	Are industrial materials, residue or trash observed on roads where vehicles enter or exit the active landfill with evidence of or the potential to impact stormwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Comments (see below)
MSW and CDD (windblown debris)	Is MSW and/or CDD on ground, tracking, blowing or whirling with evidence of or the potential to impact stormwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Comments (see below)
Comments	Stabilized Area of Site looked good		

Table 3
Inspection of Stormwater BMPs, Conveyances and Outfalls

BMP	Describe where any of the following were observed: <ul style="list-style-type: none"> • Any evidence that the BMP is not functioning properly.
Detention Pond 1	Good
Geomembrane Lined Storage Pond	Good
Detention Pond 2	Good
Detention Pond 6	Good
Litter Fence	Good
Lechate Storage Tank Containment Area	Good
Leachate Storage Tank Containment Area Riprap Outlet	Good
Leachate Loading Rack Catch Basin	Good
Detention Pond 9	Good
2,000-Gallon Underground Storage Tank	Good
Detention Pond 5	Good
Outfall No. 1	Good
Outfall No. 2	Good
Outfall No. 3	Good

Table 3
Inspection of Stormwater BMPs, Conveyances and Outfalls

BMP	Describe where any of the following were observed: <ul style="list-style-type: none"> Any evidence that the BMP is not functioning properly.
Outfall No. 4	Good
Outfall No. 5	Good
Outfall No. 6	Good
Outfall No. 7	Good

Table 4
New Potential Pollutant Source and/or Recommendations for Additional BMPs

Reference	Description	Schedule

Certification

<input checked="" type="checkbox"/> Site is in compliance with SWPPP and MSGP. <input type="checkbox"/> Site is not in compliance with SWPPP and MSGP and either structural control measure maintenance, additional controls, or modifications to the SWPPP are required.	
<i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
Name: Jeffrey Pelletier	Telephone: 207-249-8025
Signature: 	Date: 08-31-22

ROUTINE INSPECTION REPORT

Site Name/Company	Juniper Ridge Landfill/NEWSME Landfill Operations, LLC
Location	2828 Bennoch Road, Alton, Maine
Date of Visit	09-06-2022
Inspector Name/Signature	Justin Foran <i>Sub 2</i>
Weather	Fair

Does this inspection qualify as the one required annual inspection conducted during qualifying storm event? Yes No

Are there any new discharges or pollutants at the site? Yes No

**Table 1
Inspection of Potential Pollutant Sources (PPS)**

Description	
Industrial Activity or Area	<p>Describe where any of the following were observed:</p> <ul style="list-style-type: none"> • Any discharges present at the time of inspection; • Any evidence of pollutants entering the drain system or outfalls; • The condition of the outfalls, including any restricted flow; • Industrial materials, residue or trash on the ground; • Leaks or spills from industrial equipment, drums, barrels, tanks or other containers; • Offsite tracking of industrial or waste materials or sediment; and • Tracking or blowing of raw, final, or waste materials.
Scale House and Scale	✓
Office Building	✓
Soil Stockpile Areas	✓
Borrow Pit	✓
Wood Waste Handling Area	✓

Table 1
Inspection of Potential Pollutant Sources (PPS)

Maintenance Building	<i>oil spots on the floor of the shop</i>
Rubb Building	✓
LFG Treatment Facility	✓
Leachate Storage Tank	✓
Leachate Loading Rack	✓
Leachate Collection System	✓
Gravel Laydown Area	<i>oil spots under water truck parking spot on equipment line</i>
Employee Parking Area	✓
1,500-Gallon Gasoline Tank	✓
1,500-Gallon Diesel Tank	✓
2,500-Gallon Diesel Delivery Truck	✓
Access Roads	✓

Table 2
Inspection of Structural Control Measures and Outfalls

BMP	Describe where any of the following were observed: <ul style="list-style-type: none"> • Any evidence that the BMP is not functioning properly; • Any evidence of erosion; and • Industrial materials, residue, or trash.
Detention Pond 1	✓
Geomembrane Lined Storage Pond	✓
Detention Pond 2	✓
Detention Pond 6	✓
Litter Fence	✓
Leachate Storage Tank Containment Area	✓
Leachate Storage Tank Containment Area Riprap Outlet	✓
Leachate Loading Rack Catch Basin	✓
Detention Pond 9	✓
2,000-Gallon Underground Storage Tank	✓
Detention Pond 5	✓
Detention Pond 10	✓
Outfall No. 1	✓

Table 2
Inspection of Structural Control Measures and Outfalls

Outfall No. 2	✓
Outfall No. 3	✓
Outfall No. 4	✓
Outfall No. 5	✓
Outfall No. 6	✓
Outfall No. 7	✓

Table 3
Corrective Actions Required for PPS(s) and/or Existing Structural Control Measures

Reference	Description/Schedule	Date Completed
<i>see attached</i>	_____	_____

Table 4
Recommendation for New PPS(s) and/or Structural Control Measures

Reference	Description/Schedule	Date Completed

Table 5
Modifications Required to SWPPP or Site Plan

Reference	Description

Certification

<input checked="" type="checkbox"/> Site is in compliance with SWPPP and MSGP.	
<input type="checkbox"/> Site is not in compliance with SWPPP and MSGP and either structural control measure maintenance, additional controls, or modifications to the SWPPP are required.	
<i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
Name: Justin Form	Telephone: 207-385-5077
Signature: 	Date: 09-06-2022

CORRECTIVE ACTION REPORT

Site Name/Company: <i>Juniper Ridge Landfill Casella</i>	
Location: <i>2828 Bemoch Rd. Alton, ME</i>	
Contact Name: <i>Justin Ferran</i>	Contact Signature: <i>[Signature]</i>
Date of Discovery: <i>09-06-2022</i>	
Date of Corrective Action Initiation: <i>09-06-2022</i>	
Date of Corrective Action Completion: <i>09-06-2022</i>	
Condition Requiring Corrective Action	<i>Oil spots on maintenance building floor</i>
Immediate Measures Taken to Control	<i>cleaned oil spots with absorbant media (quicke dry) and a broom</i>
Measures Taken to Prevent Re-Occurrence	<i>clean up oil spots on an as needed basis with absorbant media</i>

Corrective actions must be completed within 14 days of the discovery of the condition. SWPPP modifications must be completed within 14 days of the completion of the corrective action. In the case of a spill, fill out Appendix E – Spill Report in addition to this form.

If it is not feasible to complete the corrective action within 14 days, please describe the reason and proposed schedule for completion: _____

If corrective actions cannot be completed within 45 days of discovery, MEDEP must be notified.

CORRECTIVE ACTION REPORT

Site Name/Company: <i>Juniper Ridge Landfill, Casella</i>	
Location: <i>2828 Bennock Rd. Alton, ME</i>	
Contact Name: <i>Justin Foran</i>	Contact Signature: <i>Job R</i>
Date of Discovery: <i>09-06-2022</i>	
Date of Corrective Action Initiation: <i>09-10-2022</i>	
Date of Corrective Action Completion: <i>09-10-2022</i>	
Condition Requiring Corrective Action	<i>oil spots under^{at} water truck parking spot in the gravel laydown yard</i>
Immediate Measures Taken to Control	<i>Notified maintenance of the situation. On 9/10 the soil around the spill was cleaned up and disposed of in the LF</i>
Measures Taken to Prevent Re-Occurrence	<i>Notified maintenance shop of Hydraulic fluid leaking from the machine. Repair the leak</i>

Corrective actions must be completed within 14 days of the discovery of the condition. SWPPP modifications must be completed within 14 days of the completion of the corrective action. In the case of a spill, fill out Appendix E - Spill Report in addition to this form.

If it is not feasible to complete the corrective action within 14 days, please describe the reason and proposed schedule for completion: _____

If corrective actions cannot be completed within 45 days of discovery, MEDEP must be notified.

Appendix D

Checklist: Annual Geotechnical Landfill Inspection

Table D-1
Checklist: Annual Geotechnical Inspection
2022 Annual Geotechnical Landfill Monitoring Report, Juniper Ridge Landfill, Old Town, Maine

Observation Date: 8/24/2022

Monitor Name: Richard E. Wardwell

Weather: mostly sunny, temperatures in mid to high 70's

Observation			Description (location, direction, appearance, etc.)	Proposed Action
Area	Sat.	Unsat		
Active Area				
location description	-	-	base of Cell 14 and the top of Cells 11/12/13 (photos #1-4, 25-29); fill grade along northern slope Cells 3/7 (#18,19,24-28,41,42)	n/a
slope stability	X			
waste lift thickness	X			
active slope angle	X		~2½:1 to 3:1	
erosion	X		none observed (N/O)	
leachate breakout	X		(N/O)	
ponded water	X		N/O	
toe heaving	X		N/O	
overall condition	X		stable slope appearance	
Inactive Area (Synthetic)				
location description	-	-	Synthetic Interim Cover Material (SICM) over most slopes except lower west slope	n/a
slope stability	X		isolated surface bulge associated with SICM anchor	
cracking	X		N/O	
erosion	X		N/O	
leachate breakout	X		N/O	
ponded water	X		N/O	
toe heaving	X		N/O	
overall condition	X		stable SICM slope appearance (see Photos #7-23,25,28,35-38)	
Interim Soil Cover				
location description	-	-	lower westerly slopes	n/a
overall surface condition	X		good grass/soil cover (see Photo #22,31-33,37-43)	
cracking	X		N/O	
erosion of cover material	X		N/O	
erosion of ditch linings	X		N/O	
leachate breakout	X		N/O	
ponded water	X		N/O	
toe heaving	X		N/O	
grass kills	X		N/O	
gas venting	X		N/O	
overall condition	X		good stable condition (see Photos #22,31-33,37-43)	

Appendix E

Cells 11 to 14 Fluid Pressure Data

JRL Cell Floor Transducer Readings Q1-2022

Date	Cell 11	Cell 12	Cell13	Cell14	Date	Cell 11	Cell12	Cell13	Cell14
1/1/2022	0.0642	0.0312	0.0286		2/16/2022	0.0624	0.0289	0.0339	
1/2/2022	0.0615	0.0310	0.0296		2/17/2022	0.0659	0.0305	0.0356	
1/3/2022	0.0592	0.0296	0.0304		2/18/2022	0.0606	0.0311	0.0388	
1/4/2022	0.0596	0.0290	0.0297		2/19/2022	0.0623	0.0293	0.0369	
1/5/2022	0.0648	0.0309	0.0287		2/20/2022	0.0590	0.0291	0.0379	
1/6/2022	0.0614	0.0307	0.0301		2/21/2022	0.0600	0.0291	0.0366	
1/7/2022	0.0616	0.0318	0.0307		2/22/2022	0.0625	0.0304	0.0365	
1/8/2022	0.0558	0.0295	0.0325		2/23/2022	0.0621	0.0309	0.0424	
1/9/2022	0.0648	0.0303	0.0290		2/24/2022	0.0590	0.0293	0.0391	
1/10/2022	0.0600	0.0307	0.0321		2/25/2022	0.0618	0.0289	0.0350	
1/11/2022	0.0566	0.0289	0.0328		2/26/2022	0.0630	0.0287	0.0341	
1/12/2022	0.0631	0.0296	0.0304		2/27/2022	0.0646	0.0298	0.0341	
1/13/2022	0.0628	0.0303	0.0310		2/28/2022	0.0600	0.0294	0.0377	
1/14/2022	0.0620	0.0311	0.0325		3/1/2022	0.0000	0.0293	0.0353	
1/15/2022	0.0583	0.0313	0.0348		3/2/2022	0.0000	0.0305	0.0370	
1/16/2022	0.0600	0.0290	0.0318		3/3/2022	0.0000	0.0296	0.0378	
1/17/2022	0.0658	0.0316	0.0299		3/4/2022	0.0000	0.0284	0.0366	
1/18/2022	0.0562	0.0299	0.0346		3/5/2022	0.0000	0.0296	0.0367	
1/19/2022	0.0600	0.0293	0.0329		3/6/2022	0.0000	0.0316	0.0358	
1/20/2022	0.0582	0.0296	0.0336		3/7/2022	0.0055	0.0314	0.0366	
1/21/2022	0.0574	0.0285	0.0335		3/8/2022	0.0000	0.0302	0.0404	
1/22/2022	0.0627	0.0293	0.0324		3/9/2022	0.0000	0.0302	0.0375	
1/23/2022	0.0643	0.0299	0.0317		3/10/2022	0.0000	0.0294	0.0372	
1/24/2022	0.0609	0.0294	0.0328		3/11/2022	0.0220	0.0303	0.0377	
1/25/2022	0.0617	0.0296	0.0329		3/12/2022	0.0660	0.0328	0.0376	
1/26/2022	0.0571	0.0290	0.0346		3/13/2022	0.0548	0.0281	0.0410	
1/27/2022	0.0614	0.0288	0.0326		3/14/2022	0.0624	0.0287	0.0385	
1/28/2022	0.0610	0.0295	0.0331		3/15/2022	0.0646	0.0300	0.0389	
1/29/2022	0.0628	0.0313	0.0345		3/16/2022	0.0644	0.0295	0.0379	
1/30/2022	0.0554	0.0290	0.0364		3/17/2022	0.0655	0.0297	0.0373	
1/31/2022	0.0563	0.0279	0.0350		3/18/2022	0.0640	0.0299	0.0388	
2/1/2022	0.0587	0.0283	0.0348		3/19/2022	0.0646	0.0295	0.0380	
2/2/2022	0.0635	0.0305	0.0339		3/20/2022	0.0656	0.0299	0.0381	
2/3/2022	0.0629	0.0312	0.0346		3/21/2022	0.0651	0.0309	0.0405	
2/4/2022	0.0608	0.0294	0.0349		3/22/2022	0.0634	0.0312	0.0423	
2/5/2022	0.0579	0.0290	0.0360		3/23/2022	0.0629	0.0292	0.0397	
2/6/2022	0.0591	0.0284	0.0352		3/24/2022	0.0652	0.0298	0.0382	
2/7/2022	0.0645	0.0305	0.0346		3/25/2022	0.0659	0.0309	0.0376	
2/8/2022	0.0660	0.0316	0.0347		3/26/2022	0.0665	0.0300	0.0383	
2/9/2022	0.0624	0.0305	0.0358		3/27/2022	0.0654	0.0297	0.0392	
2/10/2022	0.0651	0.0308	0.0343		3/28/2022	0.0636	0.0294	0.0408	
2/11/2022	0.0622	0.0300	0.0351		3/29/2022	0.0640	0.0301	0.0421	
2/12/2022	0.0634	0.0306	0.0355		3/30/2022	0.0648	0.0296	0.0402	
2/13/2022	0.0609	0.0299	0.0374		3/31/2022	0.0654	0.0291	0.0383	
2/14/2022	0.0607	0.0291	0.0365						
2/15/2022	0.0578	0.0283	0.0372						

JRL Cell Floor Transducer Readings Q2-2022

Date	Cell 11	Cell 12	Cell13	Cell14	Date	Cell 11	Cell12	Cell13	Cell14
4/1/2022	0.0654	0.0296	0.0386		5/18/2022	0.0660	0.0311	0.0419	
4/2/2022	0.0633	0.0304	0.0420		5/19/2022	0.0664	0.0295	0.0392	
4/3/2022	0.0660	0.0296	0.0393		5/20/2022	0.0645	0.0290	0.0395	
4/4/2022	0.0651	0.0303	0.0414		5/21/2022	0.0665	0.0303	0.0396	
4/5/2022	0.0644	0.0296	0.0408		5/22/2022	0.0667	0.0305	0.0401	
4/6/2022	0.0650	0.0291	0.0396		5/23/2022	0.0646	0.0304	0.0429	
4/7/2022	0.0642	0.0284	0.0393		5/24/2022	0.0660	0.0296	0.0402	
4/8/2022	0.0659	0.0299	0.0389		5/25/2022	0.0667	0.0297	0.0396	
4/9/2022	0.0666	0.0304	0.0390		5/26/2022	0.0675	0.0300	0.0391	
4/10/2022	0.0665	0.0308	0.0403		5/27/2022	0.0684	0.0304	0.0401	
4/11/2022	0.0647	0.0306	0.0412		5/28/2022	0.0673	0.0303	0.0407	
4/12/2022	0.0661	0.0304	0.0400		5/29/2022	0.0665	0.0302	0.0416	
4/13/2022	0.0654	0.0301	0.0399		5/30/2022	0.0676	0.0311	0.0410	
4/14/2022	0.0658	0.0297	0.0396		5/31/2022	0.0663	0.0300	0.0409	
4/15/2022	0.0653	0.0300	0.0395		6/1/2022	0.0679	0.0305	0.0403	
4/16/2022	0.0666	0.0302	0.0397		6/2/2022	0.0676	0.0300	0.0400	
4/17/2022	0.0643	0.0299	0.0409		6/3/2022	0.0673	0.0293	0.0401	
4/18/2022	0.0632	0.0292	0.0406		6/4/2022	0.0670	0.0294	0.0398	
4/19/2022	0.0657	0.0294	0.0383		6/5/2022	0.0671	0.0295	0.0406	
4/20/2022	0.0600	0.0284	0.0410		6/6/2022	0.0673	0.0294	0.0402	
4/21/2022	0.0644	0.0292	0.0392		6/7/2022	0.0683	0.0296	0.0393	
4/22/2022	0.0658	0.0312	0.0417		6/8/2022	0.0683	0.0295	0.0391	
4/23/2022	0.0653	0.0303	0.0416		6/9/2022	0.0673	0.0301	0.0397	
4/24/2022	0.0651	0.0300	0.0407		6/10/2022	0.0675	0.0289	0.0398	
4/25/2022	0.0660	0.0295	0.0396		6/11/2022	0.0677	0.0291	0.0399	
4/26/2022	0.0677	0.0300	0.0391		6/12/2022	0.0674	0.0291	0.0396	
4/27/2022	0.0673	0.0306	0.0399		6/13/2022	0.0682	0.0298	0.0399	
4/28/2022	0.0657	0.0319	0.0428		6/14/2022	0.0675	0.0296	0.0407	
4/29/2022	0.0662	0.0315	0.0431		6/15/2022	0.0671	0.0291	0.0402	
4/30/2022	0.0662	0.0306	0.0415		6/16/2022	0.0677	0.0287	0.0385	
5/1/2022	0.0658	0.0298	0.0403		6/17/2022	0.0685	0.0296	0.0393	
5/2/2022	0.0657	0.0294	0.0391		6/18/2022	0.0675	0.0290	0.0410	
5/3/2022	0.0659	0.0298	0.0392		6/19/2022	0.0674	0.0293	0.0414	
5/4/2022	0.0674	0.0305	0.0395		6/20/2022	0.0667	0.0282	0.0404	
5/5/2022	0.0669	0.0312	0.0409		6/21/2022	0.0671	0.0280	0.0396	
5/6/2022	0.0665	0.0303	0.0406		6/22/2022	0.0676	0.0279	0.0389	
5/7/2022	0.0652	0.0294	0.0400		6/23/2022	0.0680	0.0281	0.0393	
5/8/2022	0.0654	0.0296	0.0399		6/24/2022	0.0039	-0.0322	0.0403	
5/9/2022	0.0652	0.0295	0.0398		6/25/2022	0.0685	0.0288	0.0401	
5/10/2022	0.0658	0.0300	0.0398		6/26/2022	0.0685	0.0287	0.0394	
5/11/2022	0.0672	0.0306	0.0396		6/27/2022	0.0684	0.0284	0.0395	
5/12/2022	0.0671	0.0309	0.0397		6/28/2022	0.0675	0.0282	0.0407	
5/13/2022	-0.0003	0.0309	0.0389		6/29/2022	0.0678	0.0281	0.0396	
5/14/2022	0.0680	0.0315	0.0400		6/30/2022	0.0679	0.0286	0.0403	
5/15/2022	0.0678	0.0307	0.0398						
5/16/2022	0.0678	0.0311	0.0393						
5/17/2022	0.0672	0.0305	0.0397						

JRL Cell Floor Transducer Readings Q3-2022

Date	Cell 11	Cell 12	Cell13	Cell14	Date	Cell 11	Cell12	Cell13	Cell14
7/1/2022	0.0000	0.0288	0.0389		8/17/2022	0.0688	0.0281	0.0383	0.0149
7/2/2022	0.0000	0.0283	0.0398		8/18/2022	0.0689	0.0269	0.0376	0.0179
7/3/2022	0.0000	0.0284	0.0405		8/19/2022	0.0694	0.0270	0.0386	0.0185
7/4/2022	0.0000	0.0285	0.0404		8/20/2022	0.0697	0.0269	0.0377	0.0164
7/5/2022	0.0000	-0.0481	0.0186		8/21/2022	0.0693	0.0264	0.0371	0.0177
7/6/2022	0.0000	0.0181	-0.0916		8/22/2022	0.0694	0.0270	0.0377	0.0176
7/7/2022	0.0056	0.0278	0.0389		8/23/2022	0.0696	0.0272	0.0375	0.0160
7/8/2022	0.0000	0.0280	0.0371		8/24/2022	0.0694	0.0267	0.0374	0.0155
7/9/2022	0.0000	0.0281	0.0368		8/25/2022	0.0688	0.0269	0.0377	0.0194
7/10/2022	0.0000	0.0278	0.0357		8/26/2022	0.0693	0.0273	0.0371	0.0155
7/11/2022	0.0000	0.0278	0.0351		8/27/2022	0.0697	0.0265	0.0376	0.0191
7/12/2022	0.0000	0.0275	0.0353		8/28/2022	0.0696	0.0264	0.0369	0.0173
7/13/2022	0.0000	0.0277	0.0374		8/29/2022	0.0694	0.0269	0.0369	0.0186
7/14/2022	0.0000	0.0277	0.0363		8/30/2022	0.0697	0.0269	0.0368	0.0155
7/15/2022	0.0000	0.0276	0.0362		8/31/2022	0.0697	0.0269	0.0378	0.0183
7/16/2022	0.0000	0.0275	0.0351		9/1/2022	0.0691	0.0268	0.0381	0.0160
7/17/2022	0.0000	0.0278	0.0361		9/2/2022	0.0691	0.0262	0.0376	0.0172
7/18/2022	0.0000	0.0279	0.0360		9/3/2022	0.0699	0.0264	0.0370	0.0178
7/19/2022	0.0000	0.0282	0.0370		9/4/2022	0.0700	0.0267	0.0378	0.0178
7/20/2022	0.0000	0.0280	0.0370		9/5/2022	0.0702	0.0269	0.0376	0.0133
7/21/2022	0.0000	0.0272	0.0365		9/6/2022	0.0700	0.0268	0.0373	0.0149
7/22/2022	0.0000	0.0274	0.0379		9/7/2022	0.0675	0.0267	0.0370	0.0093
7/23/2022	0.0000	0.0275	0.0367		9/8/2022	0.0694	0.0266	0.0373	0.0073
7/24/2022	0.0000	0.0280	0.0367		9/9/2022	0.0698	0.0266	0.0375	0.0068
7/25/2022	0.0000	0.0275	0.0375		9/10/2022	0.0698	0.0266	0.0374	0.0083
7/26/2022	0.0000	0.0275	0.0384		9/11/2022	0.0703	0.0273	0.0374	0.0084
7/27/2022	0.0000	0.0278	0.0383		9/12/2022	0.0700	0.0273	0.0374	0.0109
7/28/2022	0.0000	0.0275	0.0378		9/13/2022	0.0701	0.0270	0.0372	0.0110
7/29/2022	0.0000	0.0275	0.0384		9/14/2022	0.0703	0.0269	0.0381	0.0110
7/30/2022	0.0000	0.0275	0.0393		9/15/2022	0.0702	0.0272	0.0395	0.0117
7/31/2022	0.0000	0.0273	0.0382		9/16/2022	0.0701	0.0270	0.0388	0.0095
8/1/2022	0.0660	0.0275	0.0380		9/17/2022	0.0701	0.0265	0.0371	0.0099
8/2/2022	0.0692	0.0274	0.0384		9/18/2022	0.0703	0.0268	0.0368	0.0100
8/3/2022	0.0685	0.0270	0.0388		9/19/2022	0.0703	0.0260	0.0369	0.0096
8/4/2022	0.0688	0.0273	0.0380		9/20/2022	0.0696	0.0268	0.0371	0.0086
8/5/2022	0.0681	0.0274	0.0389		9/21/2022	0.0703	0.0274	0.0371	0.0075
8/6/2022	0.0691	0.0272	0.0381		9/22/2022	0.0695	0.0276	0.0368	0.0069
8/7/2022	0.0694	0.0278	0.0381		9/23/2022	0.0704	0.0273	0.0391	0.0087
8/8/2022	0.0679	0.0272	0.0381		9/24/2022	0.0706	0.0277	0.0401	0.0106
8/9/2022	0.0685	0.0270	0.0383		9/25/2022	0.0709	0.0264	0.0369	0.0107
8/10/2022	0.0688	0.0271	0.0378		9/26/2022	0.0708	0.0263	0.0375	0.0127
8/11/2022	0.0688	0.0272	0.0376		9/27/2022	0.0705	0.0260	0.0266	0.0163
8/12/2022	0.0693	0.0272	0.0385		9/28/2022	0.0699	0.0258	-0.0356	0.0161
8/13/2022	0.0692	0.0271	0.0379	0.0098	9/29/2022	0.0000	0.0262	0.0384	0.0174
8/14/2022	0.0695	0.0272	0.0381	0.0231	9/30/2022	0.0000	0.0261	0.0375	0.0175
8/15/2022	0.0685	0.0268	0.0376	0.0152					
8/16/2022	0.0697	0.0267	0.0379	0.0190					

JRL Cell Floor Transducer Readings Q4-2022

Date	Cell 11	Cell 12	Cell13	Cell14	Date	Cell 11	Cell12	Cell13	Cell14
10/1/2022	0.0701	0.0261	0.0378	0.0186	11/17/2022	0.0722	0.0254	0.0384	0.0325
10/2/2022	0.0700	0.0253	0.0378	0.0200	11/18/2022	0.0724	0.0252	0.0384	0.0327
10/3/2022	0.0708	0.0257	0.0375	0.0202	11/19/2022	0.0718	0.0255	0.0385	0.0327
10/4/2022	0.0704	0.0260	0.0376	0.0207	11/20/2022	0.0713	0.0247	0.0383	0.0325
10/5/2022	0.0705	0.0265	0.0379	0.0208	11/21/2022	0.0700	0.0245	0.0379	0.0322
10/6/2022	0.0699	0.0266	0.0384	0.0217	11/22/2022	0.0706	0.0248	0.0384	0.0328
10/7/2022	0.0700	0.0263	0.0383	0.0225	11/23/2022	0.0712	0.0252	0.0388	0.0329
10/8/2022	0.0705	0.0261	0.0388	0.0237	11/24/2022	0.0719	0.0258	0.0385	0.0324
10/9/2022	0.0699	0.0256	0.0382	0.0238	11/25/2022	0.0722	0.0269	0.0388	0.0323
10/10/2022	0.0705	0.0256	0.0382	0.0256	11/26/2022	0.0721	0.0263	0.0399	0.0334
10/11/2022	0.0706	0.0257	0.0379	0.0264	11/27/2022	0.0727	0.0266	0.0391	0.0327
10/12/2022	0.0713	0.0261	0.0383	0.0272	11/28/2022	0.0700	0.0250	0.0393	0.0330
10/13/2022	0.0712	0.0258	0.0383	0.0284	11/29/2022	0.0701	0.0241	0.0384	0.0324
10/14/2022	0.0715	0.0256	0.0384	0.0300	11/30/2022	0.0755	0.0269	0.0386	0.0340
10/15/2022	0.0710	0.0271	0.0391	0.0306	12/1/2022	0.0699	0.0235	0.0385	0.0324
10/16/2022	0.0712	0.0267	0.0389	0.0302	12/2/2022	0.0703	0.0242	0.0386	0.0324
10/17/2022	0.0704	0.0266	0.0387	0.0305	12/3/2022	0.0750	0.0253	0.0380	0.0326
10/18/2022	0.0709	0.0263	0.0389	0.0316	12/4/2022	0.0718	0.0244	0.0392	0.0330
10/19/2022	0.0714	0.0254	0.0388	0.0330	12/5/2022	0.0721	0.0241	0.0385	0.0323
10/20/2022	0.0712	0.0248	0.0384	0.0327	12/6/2022	0.0721	0.0248	0.0393	0.0330
10/21/2022	0.0711	0.0253	0.0387	0.0321	12/7/2022	0.0727	0.0264	0.0401	0.0333
10/22/2022	0.0710	0.0257	0.0387	0.0322	12/8/2022	0.0730	0.0256	0.0402	0.0337
10/23/2022	0.0709	0.0263	0.0389	0.0323	12/9/2022	0.0009	-0.0393	-0.0268	0.0286
10/24/2022	0.0708	0.0266	0.0389	0.0327	12/10/2022	0.0714	0.0240	0.0381	0.0320
10/25/2022	0.0713	0.0268	0.0392	0.0330	12/11/2022	0.0724	0.0248	0.0379	0.0323
10/26/2022	0.0719	0.0275	0.0394	0.0336	12/12/2022	0.0729	0.0251	0.0384	0.0325
10/27/2022	0.0706	0.0256	0.0400	0.0338	12/13/2022	0.0734	0.0259	0.0389	0.0333
10/28/2022	0.0704	0.0257	0.0386	0.0331	12/14/2022	0.0712	0.0256	0.0394	0.0336
10/29/2022	0.0707	0.0264	0.0384	0.0329	12/15/2022	0.0726	0.0242	0.0381	0.0327
10/30/2022	0.0707	0.0265	0.0387	0.0330	12/16/2022	0.0727	0.0255	0.0385	0.0326
10/31/2022	0.0710	0.0266	0.0389	0.0333	12/17/2022	0.0733	0.0253	0.0385	0.0322
11/1/2022	0.0000	0.0266	0.0391	0.0340	12/18/2022	0.0738	0.0253	0.0388	0.0336
11/2/2022	0.0000	0.0260	0.0394	0.0341	12/19/2022	0.0733	0.0248	0.0388	0.0342
11/3/2022	0.0000	0.0262	0.0383	0.0333	12/20/2022	0.0720	0.0246	0.0385	0.0342
11/4/2022	0.0000	0.0266	0.0389	0.0337	12/21/2022	0.0725	0.0243	0.0376	0.0334
11/5/2022	0.0000	0.0264	0.0390	0.0338	12/22/2022	0.0720	0.0237	0.0366	0.0328
11/6/2022	0.0000	0.0260	0.0385	0.0334	12/23/2022	-0.0097	0.0192	0.0275	0.0248
11/7/2022	0.0000	-0.0409	-0.0315	0.0256	12/24/2022	0.0154	0.0050	-0.0532	0.0066
11/8/2022	0.0000	0.0261	0.0403	0.0344	12/25/2022	0.0732	0.0228	0.0376	0.0307
11/9/2022	0.0000	0.0261	0.0385	0.0328	12/26/2022	0.0719	0.0232	0.0387	0.0312
11/10/2022	0.0000	0.0263	0.0384	0.0325	12/27/2022	0.0726	0.0236	0.0394	0.0313
11/11/2022	0.0360	-0.0336	0.0424	0.0360	12/28/2022	0.0733	0.0243	0.0395	0.0311
11/12/2022	0.0706	0.0258	0.0392	0.0334	12/29/2022	0.0721	0.0242	0.0395	0.0313
11/13/2022	0.0717	0.0258	0.0388	0.0332	12/30/2022	0.0736	0.0254	0.0408	0.0316
11/14/2022	0.0693	0.0248	0.0391	0.0340	12/31/2022	0.0740	0.0259	0.0412	0.0317
11/15/2022	0.0708	0.0251	0.0383	0.0328					
11/16/2022	0.0720	0.0274	0.0385	0.0328					

Appendix F
Site Photographs



1. looking southwesterly along northern toe of Cell 14 (with soft layer placement)



2. looking westerly toward placement of soft layer into Cell 14



3. Cell 14 west border looking east towards waste placement in Cell 14



4. looking southwesterly along the lower eastern slope of Cells 13/12/11



5. looking southwesterly along mid-eastern slope of Cells 13/12/11



6. looking southeasterly across the lower eastern slope of Cells 12/11



7. looking southeasterly along the toe of the southeastern face of Cells 11



8. at the southeast corner, northwesterly up the lower slope of Cell 10



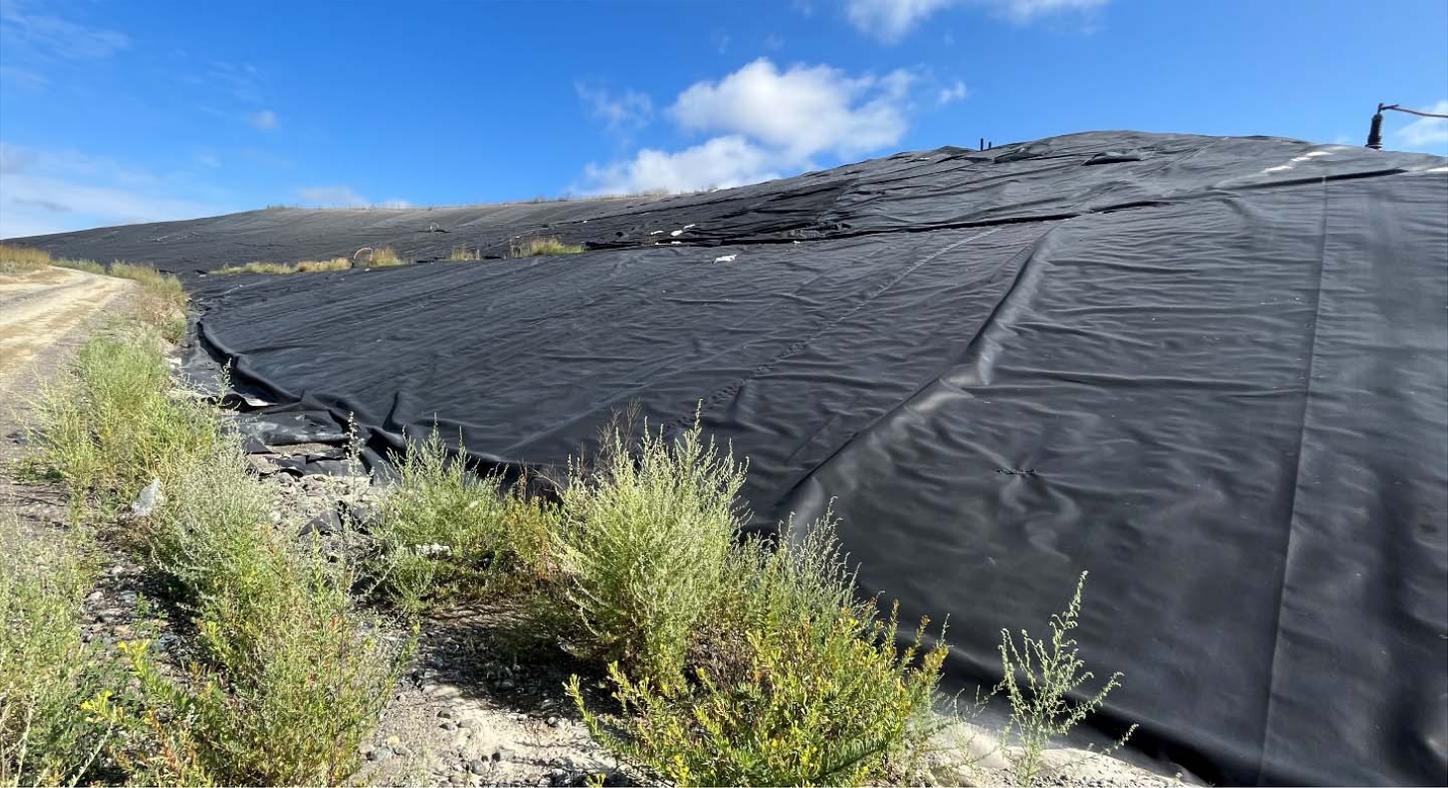
9. looking northwesterly at the mid-southern slope of Cell 10



10. looking westerly along lower south slope of Cell 10



11. Looking westerly along and down the southwestern slope of Cell 8



12. looking northwesterly along the upper south slope of Cells 10/8



13. looking southwesterly down the southwest slope of Cell 4/5



14. looking northwesterly along the lower slope of Cells 4/3A/2/1



15. looking northwesterly along the lower to mid-slope of Cells 4/3A/2/1



16. looking northwesterly along the mid to upper slope of Cells 3A/2/1



17. looking north along the upper slope of Cell 5/6



18. looking northwesterly down the top of the ridge formed on the northwest portion of the landfill (note right: supplemental waste placed to bring the settled northern slope of Cell 3 back to final grade)



19. looking northwesterly down the mid-level of the northwest ridge



20. looking west down the western slope of Cells 1/2/3A



21. looking southwesterly across the south western (foreground) & the north western slope of Cell 4



22. looking southeasterly along the upper & mid-slope of Cells 4/5



23. on the northwest peak of the landfill, looking southeasterly along the upper & mid-slope of Cells 4/5



24. on top of Cells 3/7 looking easterly towards the placement of supplemental waste (to bring the settled northern slope of Cell 3 back to final grade)



25. looking easterly towards the western slope of Cells 12/13



26. on the supplemental waste on Cell 7 looking easterly towards the western slope of Cells 12/13



27. on Cells 3/7 looking easterly towards the supplemental waste along the eastern portion of the landfill



28. top of Cell 7 looking north towards Cells 13 & 12



29. on top of Cell7 looking easterly towards active Cells 13/12



30. top of Cell 7 looking easterly



31. top of Cell 7 looking southeasterly



32. top of Cell 7 looking south southeasterly



33. top of Cell 7 looking south (with a good lookin' dude taking notes)



34. on top of Cell 11 looking easterly down newly located access road



35. top of Cell 11 looking south easterly along eastern slope of Cell 10



36. eastern slope of Cell 10 (showing membrane anchors)



37. southern landfill berm looking towards lower slope of Cell 10



38. southern landfill berm looking towards southwestern slope of Cells 4/5/6



39. looking towards western slope of Cells 1/2/3



40. looking easterly up western intercepting ditch for Cells 1/2/3A



41. at northwestern toe looking up closed Cells 2/1 & waste placement at top of northern slope



42. looking easterly at western slope of Cells 13/12 & northern slope waste placement on Cells 3/2/1



43. looking easterly towards active cell on Cells 13/12 and additional waste placement on northern slope of Cell 3/2/1

ATTACHMENT J

**Updated Closure and Post-Closure Cost
Estimates**

April 26, 2023

Mr. Jeffrey Pelletier
Environmental Compliance Manager
NEWSME Landfill Operations LLC
358 Emerson Mill Rd
Hampden, ME 04444

Subject: Update of Opinion of Capital Closure and Post-Closure Costs
Calendar Year 2023
Juniper Ridge Landfill
Old Town, Maine

Dear Jeffrey:

As requested by NEWSME Landfill Operations LLC (NEWSME), Sevee & Maher Engineers, Inc. (SME) has updated our opinion of capital closure and post-closure costs for the Juniper Ridge Landfill (JRL) in Old Town, Maine for calendar year 2023. The capital closure cost is for those cells that, as of the end of the calendar year 2023, have been or will be constructed and operational, but have not received final cover. These include Cells 1, 2, 3A, 3B, 4, 5, 6, 7, 11, 12, 13, 14, 15 and portions of Cells 8, 9, and 10. In total, these landfill cells have approximately 99.8 acres of area requiring future closure. This does not include the proposed 9 acres of Stage 1 Final Cover to be constructed in the southeast corner of the landfill in 2023. Our opinion of the capital closure cost to close the remaining 99.8 acres is \$31,343,000. This cost is based on a per-acre closure cost presented in Table 1, for a final cover consistent with the final waste grades and cover components requirements of Maine Department of Environmental Protection (MEDEP) Solid Waste Management Rules (SWMRs).

The post-closure monitoring and maintenance cost for the site is \$13,516,500 for the items presented in Table 2. The post-closure costs assume a 30-year post-closure period and are based on 2023 dollars.

Our opinion of closure and post-closure costs is based on the following assumptions.

1. The closure of the individual cells will consist of placing final cover over the areas of the developed landfill which have not received final cover. Note that operational costs such as placement and removal of intermediate cover, and operational waste grading are not included in the final cover costs presented herein. The cost to install an active gas collection system as part of closure is only included for landfill areas which currently do not have any active gas systems. It is assumed that the current systems will continue to operate during the post-closure period. In areas that currently do not have active gas collection, it is assumed that a gas extraction system will be installed as part of the final cover construction.
2. The final cover of these cells will consist of the components proposed in the Stage 1 Final Cover design report which are consistent with the current SWMRs. SME's opinion of closure costs is

based on our current understanding of site conditions and unit costs from NEWSME's Stage 1 Final Cover project which reflect cover construction on 2.5H to 1V and 3H to 1V side slopes.

3. Bids were received for Stage 1 Final Cover construction in February 2023 and the per acre closure cost table was updated to reflect bid prices.
4. The post-closure costs include landfill inspection, water quality monitoring, leachate management, general site maintenance, gas treatment and maintenance, and engineering for the entire facility. These post-closure costs are based on our current understanding of site conditions, and projections of both leachate and landfill gas quantity and quality, and costs associated with treatment and disposal. Actual post-closure costs will vary and are dependent upon the actual nature of site conditions at the time of closure, long-term management decisions of NEWSME and the Regulators, and other factors not evident at this time.

If there are any questions concerning our opinion of costs presented in this letter, please feel free to contact us.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.



Rhonda N. Forrester, P.E.
Project Manager

Attachments

- | | |
|---------|---|
| Table 1 | Opinion of Final Cover Costs for Juniper Ridge Landfill Developed Landfill Area as of December 2023 |
| Table 2 | Opinion of Post-Closure Monitoring and Maintenance Costs for Juniper Ridge Landfill Developed Landfill Area as of December 2023 |

cc: Wayne Boyd, NEWSME

TABLE 1

OPINION OF FINAL COVER COSTS FOR JUNIPER RIDGE LANDFILL
DEVELOPED LANDFILL AREA
AS OF DECEMBER 2023

JUNIPER RIDGE LANDFILL PER-ACRE FINAL COVER COSTS (GAS COLLECTION NEEDED) (Update 4/2023)				
ITEM	UNIT	QUANTITY	UNIT COST ⁽¹⁾	TOTAL
Mobilization	L.S.	1	\$26,300	\$26,300
Erosion Control	L.S.	1	\$3,100	\$3,100
Active Gas System	L.S.	1	\$24,300	\$24,300
Site Grading of 6" Bedding Sand	C.Y.	810	\$29.50	\$23,895
12" Compacted Till	C.Y.	1,620	\$26.50	\$42,930
Geosynthetic Clay Liner	SQ.FT.	43,560	\$0.84	\$36,600
40-mil Textured Geomembrane	SQ.FT.	43,560	\$0.74	\$32,230
250-mil Drainage Geocomposite	SQ.FT.	43,560	\$0.76	\$33,110
18" Vegetative Cover	C.Y.	2,430	\$29.50	\$71,685
Seed & Mulch	L.S.	1	\$17,200	\$17,200
Engineer/Const. Monitoring	L.S.	1	\$25,300	\$25,300
			Total	\$336,650

JUNIPER RIDGE LANDFILL PER-ACRE FINAL COVER COSTS (EXISTING GAS COLLECTION) (Update 4/2023)				
ITEM	UNIT	QUANTITY	UNIT COST ⁽¹⁾	TOTAL
Mobilization	L.S.	1	\$26,300	\$26,300
Erosion Control	L.S.	1	\$3,100	\$3,100
Site Grading of 6" Bedding Sand	C.Y.	810	\$29.50	\$23,895
12" Compacted Till	C.Y.	1,620	\$26.50	\$42,930
Geosynthetic Clay Liner	SQ.FT.	43,560	\$0.84	\$36,600
40-mil Textured Geomembrane	SQ.FT.	43,560	\$0.74	\$32,230
250-mil Drainage Geocomposite	SQ.FT.	43,560	\$0.76	\$33,110
18" Vegetative Cover	C.Y.	2,430	\$29.50	\$71,685
Seed & Mulch	L.S.	1	\$17,200	\$17,200
Engineer/Const. Monitoring	L.S.	1	\$25,300	\$25,300
			Total	\$312,350

Notes:

1. Unit costs based upon Third Party Construction Cost (Stage 1 Final Cover bid dated February 2023).

	Acres	Closure Cost
Area with existing gas collection that has to not received final cover (Cells 1 - 14)	92.8	\$28,986,000
Area without gas collection (Cell 15)	7	\$2,357,000
Total	99.8	\$31,343,000

TABLE 2

OPINION OF POST-CLOSURE MONITORING AND MAINTENANCE COSTS FOR JUNIPER RIDGE LANDFILL
DEVELOPED LANDFILL AREA AS OF DECEMBER 2023

ITEM	OPINION OF AVERAGE YEARLY COSTS	TOTAL COST FOR 30 YEAR PERIOD	ASSUMPTIONS
Leachate Collection, Transport and Disposal			
A. Electrical Costs to Operate Pump Stations	\$ 1,500	\$45,000	Assumes a 15 hp (75 percent efficiency) pump pumping for 765 hours per year with electrical costs of \$0.18 /kWhr.
B. Disposal Costs for Leachate Years 1-30	\$ 110,500	\$3,315,000	Leachate generation is estimated for a 30 year period beginning with 21.0 M gallons at year 1 and decreasing to 0.31 M gallons at year 30. Transportation cost of \$0.02408/gal.
C. Annual Leachate Testing	\$ 5,400	\$162,000	Annual cost for pretreatment testing.
	Subtotal Total	\$3,522,000	
Post Closure Water Quality Monitoring			
A.1 Collect Samples From 24 Wells, 11 Underdrains, 2 Leachate, 1 Leak Detection, 7 Surface Waters & 3 Pore Waters for 3 Rounds/Year & Methane Measurements From Wells 3 Times per Year	\$ 43,500	\$217,500	Assumes two rounds field parameters and one round detection monitoring parameters for years 1-5.
A.2 Collect Samples From 24 Wells, 11 Underdrains, 2 Leachate, 1 Leak Detection, 7 Surface Waters & 3 Pore Waters for 2 Rounds/Year & Methane Measurements From Wells 2 Times per Year	\$ 29,000	\$145,000	Assumes one round field parameters and one round detection monitoring parameters for years 6-10.
A.3 Collect Samples From 24 Wells, 11 Underdrains, 2 Leachate, 1 leak Detection, 7 Surface Waters & 3 Pore Waters for 1 Round/Year & Methane Measurements From Wells 1 Time per Year	\$ 14,500	\$290,000	Assumes one round detection monitoring parameters for years 11-30.
B.1 Analyses of 52 Samples 3 Times per Year	\$ 54,900	\$274,500	Assumes 24 wells, 11 underdrains, 2 leachate, 1 Leak Detection 7 surface, 3 pore water & 4 QA/QC.
B.2 Analyses of 52 Samples 2 Times per Year	\$ 36,600	\$183,000	Assumes 24 wells, 11 underdrains, 2 leachate, 1 leak detection, 7 surface, 3 pore water & 4 QA/QC.
B.3 Analyses of 52 Samples 1 Time per Year	\$ 18,300	\$366,000	Assumes 24 wells, 11 underdrains, 2 leachate, 1 leak detection, 7 surface, 3 pore water & 4 QA/QC.
C. Compile Data and Submit to MDEP	\$ 5,000	\$150,000	Assumes report prepared and submitted to MEDEP after each sampling round.
Subtotal Yearly Cost Years 1-5	\$ 103,400		
Subtotal Yearly Cost Years 6-10	\$ 70,600		
Subtotal Yearly Cost Years 11-30	\$ 37,800		
	Subtotal Total	\$1,626,000	
Landfill Inspection			
A. Monthly Site Walk Over & Report Generation	\$ 9,180	\$275,400	Assumes 9 hr. per month @ \$85/hr.
Subtotal	\$ 9,180	\$275,400	
Active Landfill Gas Extraction System			
A. Gas Collection Equipment Replacement	\$ 11,800	\$354,000	General equipment replacement including well heads, condensate pumps etc.
B. Flare Maintenance	\$ 6,100	\$183,000	Replacement of flare parts such as flame arrestor media etc.
C. Blower Maintenance	\$ 6,100	\$183,000	Routine inspection and maintenance of blower & control system.
D. System Operation and Inspection	\$ 5,800	\$174,000	General system operation & maintenance.
E. Well Tuning	\$ 11,200	\$336,000	Well tuning once per month.
F. Compliance Monitoring and Reporting	\$ 19,400	\$582,000	Includes Compliance Air Monitoring and Reporting.
G. Electrical Costs to Operate Blowers, Heat & Control Panel Years 1-30	\$ 62,000	\$1,860,000	Electricity for blowers assumes varying horsepower requirement as gas decreases @\$0.18/kWhr.
H. Landfill Gas Treatment Costs Years 1-30	\$ 86,400	\$2,592,000	Includes treatment cost for H2S removal to 1,000 ppm using Thiopaq system at a cost of \$2,200 per ton.
	Subtotal Total	\$6,264,000	
Landfill Maintenance			
A. Cover Maintenance Including Annual Mowing & Erosion Repair	\$ 9,000	\$270,000	Assumes 3 man crew 10 days/ year.
B.1 Pump Stations Inspections	\$ 12,870	\$386,100	Assumes 4.5 hr./ week @ \$55 per hour.
B.2 Pump Replacement Every Five Years (Not Annual Cost)	\$ 42,000	\$252,000	Assumes replacing 15 on-site pumps every 5 years at \$3,000 a piece.
C. General Site Maintenance	\$ 8,600	\$258,000	Assumes snow plowing 20 storms per year @ \$430 per storm.
D. Leachate Line Cleaning	\$ 27,000	\$540,000	Assumes leachate line cleaning once per year for years 1-10, then every other year, for years 11-30 @ \$27,000 per cleaning.
	Subtotal	\$ 99,470	\$1,706,100
Professional Services			
A. Engineering Services	\$ 4,100	\$123,000	General Services
	Subtotal	\$ 4,100	\$123,000
	TOTAL	\$13,516,500	

ATTACHMENT K
MSW Diversion

JRL 2022 Annual Report

Compliance with Condition 5 of #S-020700-WD-BC-A

(Casella MSW Landfilling Diversion)

Best efforts by Casella to divert MSW from landfilling at JRL to the greatest extent practicable:

5.A: A list and description of all diversion options evaluated and/or pursued by Casella, including currently operating Maine waste-to-energy facilities as options:

Diversion of MSW through Recycling

1. Casella's Zero-Sort program delivering MSW recyclables collected in Maine to the Casella processing facility in Lewiston.
2. Casella's cardboard recycling program wherein source separated cardboard is collected, baled, and marketed to end use recyclers.
3. Operation of the Casella Zero-Sort processing facility in Lewiston, Maine. Outreach to municipalities and businesses to encourage participation in Casella's Zero-Sort recycling program.

Diversion of MSW to Maine Incinerators and Processing Facilities

ecomaine:

Casella's Pine Tree Waste hauling companies collect and deliver Maine MSW and recycling materials to the ecomaine incinerator and single stream recycling facility.

MMWAC:

Casella's Pine Tree Waste hauling companies collect and deliver Maine MSW to the MMWAC incinerator.

PERC:

In 2019 an agreement was reached with PERC to annually deliver up to 107,000 tons of Maine MSW. This agreement included an additional 27,000 tons of Maine MSW delivered to PERC. This is more than half of the expected annual throughput at the PERC facility. In addition, in the 2019 agreement with PERC a new provision has been added that if Coastal Resource Management (CRM) cannot accept the commercial tons provided for in the CRM agreement that MSW from the Bangor and Waterville markets will be taken to PERC.

COASTAL RESOURCE MANAGEMENT:

In 2017 an agreement was reached with CRM to deliver 40,000 tons annually of Maine municipal solid waste to CRM's recycling and processing facility in Hampden, in addition to deliveries of collected material from Municipal Review Committee (MRC) communities by Pine Tree Waste.

SWAP AGREEMENT:

A collective agreement was reached between Pine Tree Waste, Inc., NEWSME Landfill Operations, LLC, Waste Management Disposal Services of Maine, Inc., Municipal Review Committee, Inc., and Coastal Resources of Maine, LLC, pursuant to which bypass MSW and oversized bulky waste collected from some MRC communities, primarily within the greater Bangor area, would be delivered to JRL rather than being delivered to the Crossroads Landfill, and an equivalent amount of MSW originating in Maine that otherwise would be delivered by Pine Tree to JRL would instead be delivered by Pine Tree to the Crossroads Landfill.

Diversion by Disposal at Other Landfills

Casella's Pine Tree Waste hauling companies (Bethel, Columbia, Fairfield, Hermon, Houlton, Mechanic Falls, Old Orchard Beach, Sanford, Scarborough, Waterville, and West Bath) collect Maine MSW and deliver to landfills other than Juniper Ridge: Bath, Brunswick, Fort Fairfield / Presque Isle (RWS), and Norridgewock, Maine, Lawrence Station, New Brunswick, and Berlin, New Hampshire.

5.B: A narrative detailing the specific efforts made by Casella to implement diversion options:

See narrative description in 5.A above.

5.C: A narrative describing the results of Casella's evaluation/pursuit of MSW diversion options, including the volume of waste and diversion destination of MSW successfully diverted and/or the specific reasons that MSW was not diverted to other destination options.

Maine MSW Recyclables Delivered to Casella Zero-Sort in Lewiston, ME

- Number of Maine municipalities participating in Casella's Zero-Sort program in calendar year 2022: 53
- Number of Maine businesses participating in Casella's Zero-Sort program in calendar year 2022: approx. 3,494
- Tons of Maine MSW recyclables processed in Casella's Zero-Sort program in calendar year 2022: 24,946 tons

Casella cardboard recycling

Fiber brokered and baled directly from Maine municipalities or Maine businesses in calendar year 2022:

- Brokered: 37,007 tons
- Baled: 18,022 tons

Maine MSW Delivered to Maine Incinerators and Processing Facilities in 2022

ecomaine:

- Single-stream recyclables: 14,032 tons
- MSW: 49,198 tons

MMWAC:

- Lewiston Zero-Sort processing residue: 179 tons
- MSW: 37,351 tons

PERC:

- MSW: 187,083 tons

CRM:

- MSW: 0 tons

Maine MSW Delivered to Landfills Other than Juniper Ridge in 2022

Bath Landfill:

- MSW: 1,377 tons

Brunswick Landfill:

- MSW: 0 tons

Fort Fairfield / Presque Isle Landfill (RWS):

- MSW: 12,981 tons

Norridgewock Landfill:

- MSW: 14,675 tons

Southwest New Brunswick Service Commission (Lawrence Station, NB):

- MSW: 11,089 tons

Total Maine MSW diverted from disposal at JRL in 2022 through efforts described above

- 407,941 tons

Total Maine, non-bypass MSW disposed at JRL in 2022

- 0 tons

MSW DIVERSION FROM JUNIPER RIDGE LANDFILL	2014	2015	2016	2017	2018	2019	2020	2021	2022
Maine MSW Recyclables Delivered to Casella Zero-Sort Facilities:									
Number of Maine municipalities participating in Casella Zero-Sort program:	52	62	64	63	59	43	44	43	53
Number of Maine businesses participating in Casella Zero-Sort program:	3,200	3,482	3,381	3,343	3,375	3,305	3,602	3,539	3,494
Tons of Maine MSW recyclables processed in Casella Zero-Sort program	25,026	28,688	35,851	30,263	30,376	28,876	28,302	31,484	24,946
Cardboard recycling: Fiber from Maine municipalities, businesses, or transfer									
Brokered:	37,385	53,244	55,903	47,613	53,445	54,126	46,442	22,055	37,007
Collected / Baled:	12,840	29,071	27,288	25,953	21,945	22,450	13,807	17,118	18,022
Maine MSW delivered by Casella to Maine incinerators or Processing Facilities									
a. ecomaine:									
i. Lewiston Zero-Sort processing residue:	97	329	-	-	-	-	-	-	-
ii. Single-stream recyclables:	42,506	11,430	11,934	11,697	11,127	10,149	12,694	13,708	14,032
iii. MSW:		41,130	45,837	48,295	48,047	49,073	55,030	60,872	49,198
b. MMWAC:									
i. Lewiston Zero-Sort processing residue:	-	1,742	2,777	3,080	484	-	-	-	179
ii. MSW:	147	32,212	35,384	37,707	36,949	38,961	37,171	38,854	37,351
c. PERC:									
i. Lewiston Zero-Sort processing residue:	-	-	-	-	2,608	1,343	-	-	-
ii. MSW:	89,902	89,054	79,443	76,477	96,124	114,008	116,209	189,709	187,083
d. CRM ¹									
						8,037	7,155	-	-
Maine MSW delivered by Casella to Maine landfills other than Juniper Ridge (tons):									
a. Bath Landfill:	388	6,097	5,740	5,445	4,747	3,210	1,199	1,402	1,377
i. Lewiston Zero-Sort processing residue:	-	-	-	-	603	-	-	-	-
b. Brunswick Landfill:	10,144	528	3,474	6,715	9,303	14,661	8,474	365	-
c. Fort Fairfield Landfill:	7,249	10,500	11,204	10,828	13,682	16,069	12,468	12,789	12,981
d. Norridgewock Landfill:	2,495	2,720	2,549	2,264	16,865	40,562	7,503	22,852	14,675
Maine MSW delivered by Casella to New Hampshire Landfills (tons):									
a. Berlin Landfill						11,804	11,830	-	-
Maine MSW delivered by Casella to Canada Landfill (tons):									
a. Southwest New Brunswick Service Commission	-	-	-	-	-	-	-	4,183	11,089
Total Maine MSW diverted from disposal at JRL through efforts described above (tons):									
	228,179	306,745	317,384	306,337	346,305	413,329	358,284	415,391	407,941
Total Non-Bypass Maine MSW disposed at JRL (tons):									
	36,878	57,521	69,934	77,673	82,805	79,910	55,470	-	-
1 A portion of the volume noted as MSW to CRM was previously reported as recycling, due to CRM's ability to process co-mingled MSW and recycling									