SNOHOMISH COUNTY
Public Works

M E M O R A N D U M

DATE: **4/28/26**

TO: **Sunny Becker, PE, Washington State Department of Ecology**

FROM: **Snohomish County Public Works Dept., Solid Waste Division**

SUBJECT: **Environmental Monitoring Summary Report, Second Semiannual and 2025 Annual Summary Report**

Snohomish County Solid Waste (County) has prepared this letter report to document the ongoing environmental monitoring activities performed at the former Emander Landfill/McCollum Park (Site) during the second half (July-December) of 2025 and summarize the environmental monitoring activities for 2025.

The following activities were performed during the current monitoring period:

Landfill Gas System Operation and Monitoring

- The County operates a passive sparker/blower driven landfill gas flare system at the Site. Weekly flare system inspections were performed throughout the monitoring period. Up to 31% methane was measured in the flare manifold during weekly monitoring during the second half of 2025, and the flare was operating as designed throughout 2025. See attached field inspection forms (Attachment 1) for details.
- Quarterly monitoring of five gas probes (designated GP-14 through GP-16 and GP-18 and GP-19) and the flare manifold was performed during the second half of 2025 on August 20 and December 3, 2025. During the second half of 2025, none of the gas probes contained detectable concentrations of methane, and methane was not detected in the flare manifold. During the four quarterly landfill gas monitoring events performed in 2025, only one methane concentration of 12% was measured at the flare manifold during the second quarter. See the quarterly monitoring forms in Attachment 2 for details.

Groundwater Monitoring

- Quarterly groundwater monitoring was performed at five shallow zone monitoring wells (BH-03A, BH-05, BH-06, BH-07, and BH-08) and eight deep zone monitoring wells (MW-12, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, and MW-20) during the third and fourth quarter 2025

monitoring events on September 9 and 10 and December 16 and 17, 2025. The groundwater sampling field sheets are included as Attachment 3.

- Groundwater flow conditions in the shallow and deep zones beneath the site during 2025 groundwater monitoring events are shown on figures 3A through 3H. In general, the groundwater flow direction during the third and fourth quarter events (south-southeast to southwest) and gradient (0.0045 to 0.0059 foot per foot [ft/ft] in the shallow zone and 0.0008 to 0.0011 ft/ft in the deep zone) were consistent with historical data for the site. The groundwater gradient, velocity, and flow direction calculations for all four quarters of 2025 are included in Attachment 4.
- Groundwater results were compared to the concentration limits in Chapter 173-200 WAC, "Water Quality Standards for Groundwaters".
    - As shown on the attached Tables, exceedances to the groundwater standards in shallow zone wells during the second semiannual monitoring period and the entirety of 2025 were limited to six inorganic constituents – conductivity, pH, sodium, dissolved arsenic, dissolved iron, and dissolved manganese (in one or more wells). Organic constituents that exceeded their respective water quality standards in shallow zone wells during the second semiannual monitoring period included acrylonitrile and vinyl chloride during the third quarter and vinyl chloride during the fourth quarter of 2025.
        - Other VOCs detected in shallow groundwater samples during the second semiannual 2025 groundwater monitoring events included acetone, benzene, chlorobenzene, chloromethane, cis-1,2-dichloroethene (cis-1,2-DCE), and toluene. None of these constituent concentrations exceeded any applicable groundwater standards.
    - As shown on the attached Tables, exceedances to the groundwater standards in deep zone wells during the second semiannual monitoring period and the entirety of 2025 were limited to five inorganic constituents – conductivity, pH, sodium, dissolved arsenic, and dissolved manganese (in one or more wells). Organic constituents that exceeded their respective water quality standards in shallow zone wells during the second semiannual monitoring period included vinyl chloride during the third quarter and fourth quarters of 2025.
        - Other VOCs detected in deep groundwater samples during the second semiannual 2025 groundwater monitoring events include acetone and cis-1,2-DCE. No groundwater standards have been established for those compounds.
- Statistical analysis is performed using DUMPStat Statistical Software (Version 3.0 by Robert D. Gibbons Ltd., 2018) to determine statistical exceedances and identify statistically significant concentration trends based on historical concentration data. Per Ecology and Snohomish Health District request on similar projects, the statistical prediction limits for each groundwater zone are updated in the first quarter of the year and

subsequent data sets are compared against that prediction limit for the remainder of that year.

- Statistically significant concentration trends were noted in all sampled shallow zone wells during the second semiannual 2025 monitoring events. Decreasing trends in the shallow zone outnumbered increasing trends 20 to 10 during the third quarter and 21 to 12 during the fourth quarter. Prediction limit exceedances were noted in all five sampled shallow zone wells during the second half of 2025 and were most frequently noted for alkalinity, bicarbonate, conductivity, magnesium, sodium, arsenic, and manganese. Organic constituents that exceeded their respective prediction limits in the shallow zone during the third and fourth quarters included chlorobenzene, cis-1,2-dichloroethene, toluene, and vinyl chloride.
- Statistically significant concentration trends were noted in all sampled deep zone wells during the second semiannual 2025 monitoring events. Decreasing trends in the deep zone outnumbered increasing trends 33 to 26 during the third quarter and 32 to 28 during the fourth quarter. Prediction limit exceedances were noted in all eight sampled deep zone wells during the second half of 2025, although they were mostly limited to the downgradient wells. Inorganic constituent prediction limit exceedances in the deep zone were most frequently noted for alkalinity, bicarbonate, conductivity, nitrite, sodium, arsenic, iron, and manganese. Organic constituents that exceeded their respective prediction limits in the deep zone during the third and fourth quarters were limited to vinyl chloride.

Deviations from Scope

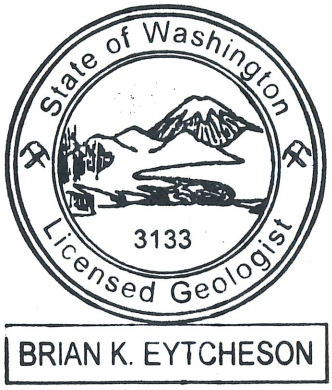
- During both monitoring events, upgradient shallow zone well MW-11 did not contain sufficient water for sampling.
- Acetone was detected in several shallow and deep zone wells during the third and fourth quarter 2025 monitoring events. Since acetone is a common laboratory contaminant and was detected in the trip blank associated with those monitoring events, the acetone detections appear to be the result of cross-contamination imparted during analysis. These results have been flagged “B” on the attached Tables.
- A low detection of benzene was noted in the laboratory method blank for the fourth quarter groundwater analyses. The low concentrations of benzene detected in shallow sample BH-07 during the fourth quarter may be the result of cross-contamination imparted during analysis. That result has been flagged “B” on the attached Tables.

If you have any questions regarding this report, please don’t hesitate to contact us.

Sincerely,

Brian K. Eytcheson, LG
Snohomish County Solid Waste

Attachments:
Groundwater Analytical Summary Tables
Figures
Attachment 1 – Flare Field Inspection Forms
Attachment 2 – Gas Probe Monitoring Field Sheets
Attachment 3 – Groundwater Sampling Field Sheets
Attachment 4 – Groundwater Flow Calculations
Attachment 5 – Statistical Time Series Plots



Groundwater Analytical Summary Tables

Groundwater Analytical Summary - Shallow Wells: First Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																						Upgradient Wells									
				BH-03A					BH-05					BH-06					BH-07					BH-08					MW-10					MW-11				
				3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/19/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch		D	V	Tr	Ch		D	V	Tr	Ch
CONVENTIONAL CHEMISTRY PARAMETERS (mg/L)																																			
Alkalinity (as CaCO3)	lognor	35.8048	--	84.0		V	I	N	39.8		V			67.8		V			391		V	D	N	32.2		P	D	N	Well not accessible					Insufficient water for sampling				
Ammonia Nitrogen	nonpar	0.023	--	0.02	U				0.25		V			2.02		V	I	N	37.6		E	D	N	0.02	U											
Bicarbonate	lognor	35.8048	--	84.0		V	I	N	39.8		V			67.8		V			391		V	D	N	32.2		P	D	N									
Calcium, Dissolved	normal	14.9503	--	12.4					14.6		P			16.2		V			56.5		V	D	N	12.2				Y									
Chemical Oxygen Demand	nonpar	49	--	10	U				10	U				10	U				22.2					10	U											
Chloride	normal	11.2896	250	7.01					25.9		E	I	N	5.74					14.6		V	D	N	24.0		E	I	N									
Conductivity (umhos/cm)	normal	179.0531	700	196		V			186		V			198		V			834		V	D	N	166												
Magnesium, Dissolved	normal	6.9761	--	12.3		V			6.37		P			7.83		V			15.8		V	D	N	6.46												
Nitrate Nitrogen (mg-N/L)	lognor	6.8489	10	0.02	U		D	N	0.034					0.02	U				0.077					0.813				Y								
Nitrite Nitrogen (mg-N/L)	normal	0.015	1	0.002	U				0.002	U				0.004					0.002					0.002	U											
pH (std units)	normal	4.55-6.79	6.5-8.5	6.38			D	Y	5.73					5.99					6.55					5.29			D	N								
Potassium, Dissolved	lognor	2.4973	--	1.34					2.27		P			6.04		V		Y	33.9		V	D	N	0.832												
Sodium, Dissolved	normal	8.8627	20	10.8		V	I	N	8.59		P	I	N	5.19					16.6		V	D	N	8.23			I	Y								
Sulfate	lognor	46.6996	250	6.64			D	N	8.77					17.5					2.30				Y	6.43			D	N								
Total Dissolved Solids	normal	139.4063	500	129					116					126		P			332		V	D	N	89.0												
Total Organic Carbon	nonpar	3.0141	--	0.5					3.3		V			8.6		V			7.2		V			0.8		P										
DISSOLVED METALS EPA Methods 200.7/200.8 (mg/L)																																			
Antimony	nonpar	0.0004	0.006	0.000104					0.0001	U				0.0001	U				0.0001	U				0.0001	U				Well not accessible					Insufficient water for sampling				
Arsenic	normal	0.0003	0.00005	0.000548		V			0.004239		V			0.005416		V			0.01393		V			0.0001												
Barium	normal	0.0588	1	0.01	U				0.017					0.027					0.59		V	D	N	0.01	U											
Beryllium	nonpar	0.0005	0.004	0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U											
Cadmium	nonpar	0.0002	0.005	0.00005	U				0.00005	U				0.00005	U				0.00005	U				0.00005	U											
Chromium	nonpar	0.005	0.05	0.02	U				0.02	U	P			0.02	U				0.025		E			0.02	U											
Cobalt	nonpar	0.005	--	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U											
Copper	nonpar	0.015	1	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U											
Iron	normal	0.284	0.3	0.03	U				4.46		V			2.12		V			8.2		V			0.207												
Lead	normal	0.0002	0.05	0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U											
Manganese	lognor	0.5258	0.05	0.066				Y	0.658		V			0.747		V			4.23		V	D	N	0.01	U											
Nickel	nonpar	0.005	0.1	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U											
Selenium	nonpar	0.0007	0.01	0.0005	U				0.0005	U				0.0005	U				0.003461		V			0.0005	U											
Silver	nonpar	0.0002	0.05	0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U											
Thallium	nonpar	0.0001	0.002	0.00005	U				0.00005	U				0.00005	U				0.00005	U				0.00005	U											
Vanadium	nonpar	0.01	--	0.02	U				0.02	U				0.029	B	E			0.02	U				0.02	U											
Zinc	nonpar	0.011	5	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U											
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L)																																			
1,1,1-Trichloroethane	NA	--	200	1	U				1	U				1	U				1	U				1	U				Well not accessible					Insufficient water for sampling				
1,1,2,2-Tetrachloroethane	NA	--	--	1	U				1	U				1	U				1	U				1	U											
1,1,2-Trichloroethane	NA	--	--	2	U				2	U				2	U				2	U				2	U											
1,1-Dichloroethane	nonpar	1.0	1	1	U				1	U				1	U				1	U				1	U											
1,1-Dichloroethylene	NA	--	--	1	U				1	U				1	U				1	U				1	U											
1,2,3-Trichloropropane	NA	--	--	1	U				1	U				1	U				1	U				1	U											
1,2-Dibromo-3-chloropropane	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U											
1,2-Dibromoethane	NA	--	0.001	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U											

Groundwater Analytical Summary - Shallow Wells: First Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																						Upgradient Wells									
				BH-03A					BH-05					BH-06					BH-07					BH-08					MW-10					MW-11				
				3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/19/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch		D	V	Tr	Ch		D	V	Tr	Ch
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L) (cont.)																																			
1,2-Dichlorobenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				Well not accessible					Insufficient water for sampling				
1,2-Dichloroethane	nonpar	0.5	0.5	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
1,2-Dichloropropane	NA	--	0.6	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
1,4-Dichlorobenzene	nonpar	--	4	1	U				1	U				1	U				1	U				1	U													
2-Butanone	NA	--	--	5	U				5	U				5	U				5	U				5	U													
2-Hexanone	NA	--	--	2	U				2	U				2	U				2	U				2	U													
4-Methyl-2-Pentanone (MIBK)	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Acetone	NA	--	--	5	U				5	U				5	U				5	U				5	U													
Acrylonitrile	NA	--	0.07	0.05	U				0.05	U				0.05	U				0.21					0.05	U													
Benzene	nonpar	1.0	1	0.1	U				0.1	U				0.1	U				**0.32**					0.1	U													
Bromodichloromethane	nonpar	0.3	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Bromoform	NA	--	5	2	U				2	U				2	U				2	U				2	U													
Bromomethane	NA	--	--	2	U				2	U				2	U				2	U				2	U													
Carbon Disulfide	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Carbon Tetrachloride	NA	--	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Chlorobenzene	nonpar	0.2	--	0.03	U				0.36		V			0.03	U	P	I	Y	1.4		V			0.03	U													
Chlorodibromomethane	NA	--	0.5	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U													
Chloroethane	NA	--	--	0.02	U				0.02	U				0.02	U				0	U				0.02	U													
Chloroform	nonpar	1.0	7	1	U				1	U				1	U				1	U				1	U													
Chloromethane	NA	--	--	**0.99**					0.1	U				**0.93**					0	U				0.1	U													
cis-1,2-Dichloroethene	nonpar	0.2	--	0.53		V			0.1					0.44		E			0.25		V			0.03	U													
cis-1,3-Dichloropropene	nonpar	0.2	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
Dibromomethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Ethylbenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U													
m,p-Xylene	NA	--	--	5	U				5	U				5	U				5	U				5	U													
Methyl Iodide	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Methylene Chloride	nonpar	4.4	5	3	U				3	U				3	U				3	U				3	U													
o-Xylene	nonpar	1.0	--	1.5	U				1.5	U				1.5	U				1.5	U				1.5	U													
Styrene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U													
Tetrachloroethylene	NA	--	0.8	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
Toluene	nonpar	1.0	--	2	U				2	U				2	U				2.18		E			2	U													
trans-1,2-Dichloroethene	NA	--	--	1	U				1	U				1	U				1	U				1	U													
trans-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
trans-1,4-Dichloro-2-butene	nonpar	5.0	--	2	U				2	U				2	U				2	U				2	U													
Trichlorethene (1,1,2-Trichloroethylene)	NA	--	3	2	U				2	U				2	U				2	U				2	U													
Trichlorofluoromethane	NA	--	--	2	U				2	U				2	U				2	U				2	U													
Vinyl Acetate	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Vinyl Chloride	nonpar	0.01	0.02	0.11		V			0.05		V			0.10		V			0.29		V			0.01	U													

D: U = Indicates compound was not detected at the given reporting limit; B = the analyte was found in the associated method blank at a level that is significant relative to the sample result

V: E= Exceedance, waiting verification based on subsequent lab data; V= Exceedance verified based on previous lab data; P=Passed, previous exceedance not verified based on current lab data

Tr: I=increasing Trend, D=Decreasing Trend;

Ch: Y indicates a change in trend from previous quarter; N means no change in trend.

The groundwater standards listed are based on the Washington Administrative Code (WAC) 173-200 groundwater limits as modified by the TMS 91-11 standards - the most restrictive of the two is used.

Values in **purple** exceed the prediction limit; indicates that a value exceeded the Groundwater Standards

NA: Not applicable - too few data points to evaluate statistically

Groundwater Analytical Summary - Deep Wells: First Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																																Upgradient Wells									
				MW-12					MW-14					MW-16					MW-17					MW-18					MW-19					MW-20					MW-13					MW-15				
				3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/19/25	D	V	Tr	Ch	3/19/25	D	V	Tr	Ch	3/19/25	D	V	Tr	Ch		D	V	Tr	Ch	3/19/25	D	V	Tr	Ch
CONVENTIONAL CHEMISTRY PARAMETERS (mg/L)																																													
Alkalinity (as CaCO3)	nonpar	123	--	164		V	I	N	57.0					282		V		Y	121					508		V	D	N	83			D	Y	81.2			D	N	Well not accessible	123			I	N
Ammonia Nitrogen	nonpar	0.094	--	0.02	U				0.02	U				0.056				Y	7.68		V	D	N	0.059					0.02	U				0.02	U				0.02	U				
Bicarbonate	nonpar	123	--	164		V	I	N	57.0					282		V			121					508		V	D	N	83			D	Y	81.2			D	N		123			I	N
Calcium, Dissolved	normal	24.269	--	29.2		V	I	N	13.3					45.8		V	D	N	20.5			I	N	64.7		V	D	N	15.3			D	N	17.2			D	N		23.2				
Chemical Oxygen Demand	nonpar	55	--	10	U				10	U				10	U				11.3					10	U				10	U				10	U				10	U				
Chloride	normal	12.4	250	9.83			D	N	10.8					8.4					12.5		V	I	N	5.94			D	N	10.9					17.4		V	I	N		9.86				
Conductivity (umhos/cm)	nonpar	320	700	399		V	I	N	167					536		V			334		E			876		V	D	N	213					237						318			I	N
Magnesium, Dissolved	normal	23.0115	--	28.4		V	I	N	6.76					45.4		V			15.9			I	N	72.5		V	D	N	14.6			D	N	15.2			D	N		22.7			I	N
Nitrate Nitrogen (mg-N/L)	normal	4.0952	10	0.339			I	N	0.362					0.02	U				0.02	U				0.02	U				0.508					0.76						3.12			I	Y
Nitrite Nitrogen (mg-N/L)	nonpar	0.002	1	0.004		V			0.003		V			0.003		V			0.002	U				0.003		E			0.004		V			0.003		V				0.002	U			
pH (std units)	normal	5.96-8.26	6.5-8.5	6.85					5.70		V			6.65			D	N	6.63			D	Y	7.11					7.15					7.11						7.35				
Potassium, Dissolved	nonpar	3.38	--	3.86		V	I	N	1.06					2.34					7.33		V			3.99		V	D	N	1.65					1.54						3.18				
Sodium, Dissolved	normal	8.4651	20	9.02		V	I	N	9.72		V	I	N	9.85		V	I	Y	8.45					22.1		V	D	N	7.47					7.88						8.13				
Sulfate	normal	18.3953	250	15.0					8.13					2.41			D	N	22.9		E	D	N	1.29					7.63			D	N	6.86			D	N		15.2				
Total Dissolved Solids	normal	236.8897	500	231			I	N	108					332		V	D	N	177					512		V	D	N	128					137						179				
Total Organic Carbon	nonpar	16.1	--	0.5	U				1.7					0.5	U				4.2					4.5			D	N	0.5	U				0.5	U					0.5	U			
DISSOLVED METALS EPA Methods 200.7/200.8 (mg/L)																																													
Antimony	nonpar	0.0007	0.006	0.0001	U				0.0001	U				0.0001	U				0.0001	U				0.0001	U				0.0001	U				0.0001	U				Well not accessible	0.000109				
Arsenic	nonpar	0.0026	0.00005	0.001718					0.000274					0.0204		V			0.008958		V	I	N	0.01502		V			0.000661					0.00046						0.002217				
Barium	nonpar	0.0206	1	0.018			I	N	0.01					0.021		E			0.03		V			0.04		V	D	N	0.01			D	N	0.011						0.01	U		D	Y
Beryllium	nonpar	0.0005	0.004	0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U					0.0002	U			
Cadmium	nonpar	0.0001	0.005	0.00005	U				0.00005	U				0.00005	U				0.00005	U				0.00005	U				0.00005	U				0.00005	U					0.00005	U			
Chromium	nonpar	0.025	0.05	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U					0.02	U			
Cobalt	nonpar	0.005	--	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U					0.01	U			
Copper	nonpar	0.01	1	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U					0.02	U			
Iron	nonpar	0.02	0.3	0.179		E			0.03	U				0.324		V			0.03	U	P	I	N	0.03	U		D	N	0.071		E			0.03	U					0.03	U			
Lead	nonpar	0.0004	0.05	0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U					0.0002	U			
Manganese	nonpar	0.007	0.05	0.01	U				0.098		V			2.43		V			2.19		V	I	N	1.94		V	D	N	0.015		E			0.01	U					0.01	U			
Nickel	nonpar	0.014	0.1	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U					0.01	U			
Selenium	lognor	0.0015	0.01	0.000715					0.0005	U				0.00092					0.0005	U				0.0005	U				0.0005	U				0.0005	U					0.001186				
Silver	nonpar	0.0003	0.05	0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U				0.0002	U					0.0002	U			
Thallium	nonpar	0.0001	0.002	0.00005	U				0.00005	U				0.00005	U				0.00005	U				0.00005	U				0.00005	U				0.00005	U					0.00005	U			
Vanadium	nonpar	0.024	--	0.02	U				0.02	U				0.02	U				0.048	B	E			0.054	B	E			0.02	U				0.02	U					0.063	B			
Zinc	nonpar	0.022	5	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U					0.02	U			
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L)																																													
1,1,1-Trichloroethane	NA	--	200	1	U				1	U				1	U				1	U				1	U				1	U				1	U				Well not accessible	1	U			
1,1,2,2-Tetrachloroethane	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,1,2-Trichloroethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U					2	U			
1,1-Dichloroethane	nonpar	1.0	1	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,1-Dichloroethylene	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2,3-Trichloropropane	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2-Dibromo-3-chloropropane	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U					0.03	U			
1,2-Dibromoethane	NA	--	0.001	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U					0.01	U			
1,2-Dichlorobenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2-Dichloroethane	NA	--	0.5	0.03	U				0.03	U				0.03	U				0.03	U				0.12					0.03	U				0.03	U					0.03	U			
1,2-Dichloropropane	nonpar	0.6	0.6	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U					0.02	U			
1,4-Dichlorobenzene	nonpar	1.0	4	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
2-Butanone	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U					5	U			
2-Hexanone	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U					2	U			

Groundwater Analytical Summary - Deep Wells: First Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																												Upgradient Wells									
				MW-12					MW-14					MW-16					MW-17					MW-18					MW-19					MW-20					MW-13					MW-15				
				3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/18/25	D	V	Tr	Ch	3/19/25	D	V	Tr	Ch	3/19/25	D	V	Tr	Ch	3/19/25	D	V	Tr	Ch		D	V	Tr	Ch	3/19/25	D	V	Tr	Ch
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L) (cont.)																																													
4-Methyl-2-Pentanone (MIBK)	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U				Well not accessible					3	U			
Acetone	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U									5	U			
Acrylonitrile	NA	--	0.07	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U									0.05	U			
Benzene	nonpar	1.0	1	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U									0.1	U			
Bromodichloromethane	nonpar	0.3	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Bromoform	NA	--	5	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Bromomethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Carbon Disulfide	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Carbon Tetrachloride	NA	--	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Chlorobenzene	nonpar	0.2	--	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Chlorodibromomethane	NA	--	0.5	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U									0.1	U			
Chloroethane	NA	--	--	0.02	U				0.02	U				0.02	U				0	U				0.02	U				0.02	U				0.02	U									0.02	U			
Chloroform	nonpar	1.0	7	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
Chloromethane	NA	--	--	0.1	U				0.1	U				0.1	U				0	U				0.1	U				0.1	U				0.1	U									0.1	U			
cis-1,2-Dichloroethene	NA	--	--	0.03	U				0.03	U				**1.36**					0.03	U				**0.61**					0.03	U				0.03	U									0.03	U			
cis-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Dibromomethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Ethylbenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
m,p-Xylene	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U									5	U			
Methyl Iodide	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Methylene Chloride	nonpar	7.4	5	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
o-Xylene	nonpar	1.0	--	1.5	U				1.5	U				1.5	U				1.5	U				1.5	U				1.5	U				1.5	U									1.5	U			
Styrene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Tetrachloroethylene	NA	--	0.8	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Toluene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
trans-1,2-Dichloroethene	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
trans-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
trans-1,4-Dichloro-2-butene	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Trichlorethene (1,1,2-Trichloroethylene)	NA	--	3	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Trichlorofluoromethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Vinyl Acetate	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Vinyl Chloride	nonpar	0.01	0.02	0.01	U				0.01	U				**0.23**		V			0.01	U				**1.06**		V	D	Y	**0.02**		E			0.01	U									0.01	U			

D: U = Indicates compound was not detected at the given reporting limit; B = the analyte was found in the associated method blank at a level that is significant relative to the sample result

V: E= Exceedance, waiting verification based on subsequent lab data; V= Exceedance verified based on previous lab data; P=Passed, previous exceedance not verified based on current lab data

Tr: I=increasing Trend, D=Decreasing Trend;

The groundwater standards listed are based on the Washington Administrative Code (WAC) 173-200 groundwater limits as modified by the TMS 91-11 standards - the most restrictive of the two is used.

Values in **purple** exceed the prediction limit; indicates that a value exceeded the Groundwater Standards

NA: Not applicable - too few data points to evaluate statistically

Groundwater Analytical Summary - Shallow Wells: Second Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																						Upgradient Wells									
				BH-03A					BH-05					BH-06					BH-07					BH-08					MW-10					MW-11				
				6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/4/25	D	V	D	N	6/3/25	D	V	D	N		D	V	Tr	Ch		D	V	Tr	Ch
CONVENTIONAL CHEMISTRY PARAMETERS (mg/L)																																					
Alkalinity (as CaCO3)	lognor	35.8048	--	81.4		V	I	N	60.0		V			73.0		V			380		V	D	N	35.0			D	N	Well not accessible					Insufficient water for sampling				
Ammonia Nitrogen	nonpar	0.023	--	0.02	U				0.363		V			3.61	D	V	I	N	41.5	D	V	D	N	0.02	U												
Bicarbonate	lognor	35.8048	--	81.4		V	I	N	60.0		V			73.0		V			380		V	D	N	35.0			D	N										
Calcium, Dissolved	normal	14.9503	--	11.2					18.2		E			17.8		V			54.2		V	D	N	10.4													
Chemical Oxygen Demand	nonpar	49	--	10	U				10	U				18.7					11.3					10	U												
Chloride	normal	11.2896	250	6.73					29.5	D	V	I	N	8.58	D				13.5	D	V	D	N	15.7	D	V	I	N										
Conductivity (umhos/cm)	normal	179.0531	700	192		V			228		V			203		V			809		V	D	N	142													
Magnesium, Dissolved	normal	6.9761	--	10.3		V			7.54		E			7.48		V			14.3		V	D	N	5.18													
Nitrate Nitrogen (mg-N/L)	lognor	6.8489	10	0.02	U			Y	0.02	U				0.02	U				0.108					0.681													
Nitrite Nitrogen (mg-N/L)	normal	0.015	1	0.002	U				0.004					0.005					0.006					0.002	U												
pH (std units)	normal	4.55-6.79	6.5-8.5	6.49			D	N	5.83			D	Y	6.08					6.52					5.34			D	N										
Potassium, Dissolved	lognor	2.4973	--	1.30			I	Y	2.65		E			7.70		V			32.5		V	D	N	0.748													
Sodium, Dissolved	normal	8.8627	20	9.27		V	I	N	9.10		E	I	N	5.39					15.3		V	D	N	7.01			I	N										
Sulfate	lognor	46.6996	250	7.41			D	N	9.54					4.05					0.93					7.23			D	N										
Total Dissolved Solids	normal	139.4063	500	128					151		E			154		E			307		V	D	N	88.0													
Total Organic Carbon	nonpar	3.0141	--	0.68					3.88		V			8.45		V			7.92		V			0.9													
DISSOLVED METALS EPA Methods 200.7/200.8 (µg/L)																																					
Antimony	nonpar	0.4	6	0.103					0.1	U				0.1	U				0.1	U				0.1	U				Well not accessible					Insufficient water for sampling				
Arsenic	normal	0.3	0.05	0.533		V			3.794		V			10.52		V			11.21	B	V			0.19													
Barium	normal	58.8	1000	10	U				20					35					535		V	D	N	10	U												
Beryllium	nonpar	0.5	4	0.2	U				0.2	U				0.2	U				0.2	U				0.2	U												
Cadmium	nonpar	0.2	5	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U												
Chromium	nonpar	5	50	20	U				20	U				20	U				20	U	P			20	U												
Cobalt	nonpar	5	--	10	U				10	U				10	U				10	U				10	U												
Copper	nonpar	15	1000	20	U				20	U				20	U				20	U				20	U												
Iron	normal	284	300	30	U				3670		V			2880		V			5700		V			30	U	P											
Lead	normal	0.2	50	0.2	U				0.2	U				0.2	U				0.2	U				0.2	U												
Manganese	lognor	525.8	50	81		V			902		V			851		V			3830		V	D	N	10	U												
Nickel	nonpar	5	100	10	U				10	U				10	U				10	U				10	U												
Selenium	nonpar	0.7	10	0.5	U				0.665					0.5	U				4.359		V			0.5	U												
Silver	nonpar	0.2	50	0.2	U				0.2	U				0.2	U				0.2	U				0.2	U												
Thallium	nonpar	0.1	2	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U												
Vanadium	nonpar	10	--	20	U				20	U				20	U	P			20	U				20	U												
Zinc	nonpar	11	5000	20	U				20	U				20	U				20	U				20	U												
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L)																																					
1,1,1-Trichloroethane	NA	--	200	1	U				1	U				1	U				1	U				1	U				Well not accessible					Insufficient water for sampling				
1,1,2,2-Tetrachloroethane	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,1,2-Trichloroethane	NA	--	--	2	U				2	U				2	U				2	U				2	U												
1,1-Dichloroethane	nonpar	1.0	1	1	U				1	U				1	U				1	U				1	U												
1,1-Dichloroethylene	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,2,3-Trichloropropane	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,2-Dibromo-3-chloropropane	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U												
1,2-Dibromoethane	NA	--	0.001	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U												

Groundwater Analytical Summary - Shallow Wells: Second Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																						Upgradient Wells									
				BH-03A					BH-05					BH-06					BH-07					BH-08					MW-10					MW-11				
				6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/4/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch		D	V	Tr	Ch		D	V	Tr	Ch
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L) (cont.)																																			
1,2-Dichlorobenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				Well not accessible					Insufficient water for sampling				
1,2-Dichloroethane	nonpar	0.5	0.5	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
1,2-Dichloropropane	NA	--	0.6	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
1,4-Dichlorobenzene	nonpar	--	4	1	U				1	U				1	U				1	U				1	U													
2-Butanone	NA	--	--	5	U				5	U				5	U				5	U				5	U													
2-Hexanone	NA	--	--	2	U				2	U				2	U				2	U				2	U													
4-Methyl-2-Pentanone (MIBK)	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Acetone	NA	--	--	**47.8**	B				**29.5**	B				**31.6**	B				**18.7**	B				**18.8**	B													
Acrylonitrile	NA	--	0.07	0.05	U				0.05	U				0.05	U				0.38	B				0.05	U													
Benzene	nonpar	1.0	1	0.1	U				0.1	U				0.1	U				**0.4**	B				0.1	U													
Bromodichloromethane	nonpar	0.3	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Bromoform	NA	--	5	2	U				2	U				2	U				2	U				2	U													
Bromomethane	NA	--	--	2	U				2	U				2	U				2	U				2	U													
Carbon Disulfide	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Carbon Tetrachloride	NA	--	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Chlorobenzene	nonpar	0.2	--	0.03	U				**0.14**		P			**0.34**		E	I	N	**2.76**		V			0.03	U													
Chlorodibromomethane	NA	--	0.5	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U													
Chloroethane	NA	--	--	0.02	U				0.02	U				0.02	U				0	U				0.02	U													
Chloroform	nonpar	1.0	7	1	U				1	U				1	U				1	U				1	U													
Chloromethane	NA	--	--	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U													
cis-1,2-Dichloroethene	nonpar	0.2	--	0.03	U	P			0.03	U				0.03	U	P			**0.35**		V			0.03	U													
cis-1,3-Dichloropropene	nonpar	0.2	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
Dibromomethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Ethylbenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U													
m,p-Xylene	NA	--	--	5	U				5	U				5	U				5	U				5	U													
Methyl Iodide	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Methylene Chloride	nonpar	4.4	5	9.58		E			3	U				7.06		E			3	U				3	U													
o-Xylene	nonpar	1.0	--	1.5	U				1.5	U				1.5	U				1.5	U				1.5	U													
Styrene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U													
Tetrachloroethylene	NA	--	0.8	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
Toluene	nonpar	1.0	--	2	U				2	U				2	U				2	U	P			2	U													
trans-1,2-Dichloroethene	NA	--	--	1	U				1	U				1	U				1	U				1	U													
trans-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
trans-1,4-Dichloro-2-butene	nonpar	5.0	--	2	U				2	U				2	U				2	U				2	U													
Trichlorethene (1,1,2-Trichloroethylene)	NA	--	3	2	U				2	U				2	U				2	U				2	U													
Trichlorofluoromethane	NA	--	--	2	U				2	U				2	U				2	U				2	U													
Vinyl Acetate	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Vinyl Chloride	nonpar	0.01	0.02	0.01	U	P			0.01	U	P			0.01	U	P			**2.78**		V			0.01	U													

D: U = Indicates compound was not detected at the given reporting limit; B = the analyte was found in the associated method blank at a level that is significant relative to the sample result

V: E= Exceedance, waiting verification based on subsequent lab data; V= Exceedance verified based on previous lab data; P=Passed, previous exceedance not verified based on current lab data

Tr: I=increasing Trend, D=Decreasing Trend;

Ch: Y indicates a change in trend from previous quarter; N means no change in trend.

The groundwater standards listed are based on the Washington Administrative Code (WAC) 173-200 groundwater limits as modified by the TMS 91-11 standards - the most restrictive of the two is used.

Values in **purple** exceed the prediction limit; indicates that a value exceeded the Groundwater Standards

NA: Not applicable - too few data points to evaluate statistically

Groundwater Analytical Summary - Deep Wells: Second Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																														Upgradient Wells									
				MW-12					MW-14					MW-16					MW-17					MW-18					MW-19					MW-20					MW-13					MW-15				
				6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/4/25	D	V	Tr	Ch	6/4/25	D	V	Tr	Ch	6/4/25	D	V	Tr	Ch		D	V	Tr	Ch	6/4/25	D	V	Tr	Ch
CONVENTIONAL CHEMISTRY PARAMETERS (mg/L)																																													
Alkalinity (as CaCO3)	nonpar	123	--	170		V	I	N	56.8					288		V			127		E			523		V	D	N	79.6			D	N	82.6			D	N	Well not accessible	120			I	N
Ammonia Nitrogen	nonpar	0.094	--	0.02	U				0.02	U				0.041					8.87	D	V	D	N	0.067					0.035					0.02	U					0.02	U				
Bicarbonate	nonpar	123	--	170		V	I	N	56.8					288		V			127		E			523		V	D	N	79.6			D	N	82.6			D	N		120			I	N
Calcium, Dissolved	normal	24.269	--	27.0		V	I	N	11.5					42.8		V	D	N	20.6			I	N	60.1		V	D	N	14.5			D	N	16.0			D	N		22.7			I	Y
Chemical Oxygen Demand	nonpar	55	--	10	U				10	U				10	U				10	U				10	U				10	U				10	U					10	U				
Chloride	normal	12.4	250	9.71			D	N	9.61					8.62					15.0	D	V	I	N	6.1			D	N	14.4	D	E			17.8	D		I	N		10.3	D				
Conductivity (umhos/cm)	nonpar	320	700	390		V	I	N	163					542		V			349		V			835		V	D	N	218					244						322			I	N
Magnesium, Dissolved	normal	23.0115	--	24.9		V	I	N	5.95					39.6		V			15.5			I	N	63.2		V	D	N	13.2			D	N	13.6			D	N		20.9			I	N
Nitrate Nitrogen (mg-N/L)	normal	4.0952	10	3.5			I	N	0.359					0.02	U				0.02	U				0.02	U				0.539					0.701						3.19			I	Y
Nitrite Nitrogen (mg-N/L)	nonpar	0.002	1	0.003		V			0.003		V			0.004		V			0.002	U				0.004		V			0.004		V			0.003		V				0.002	U				
pH (std units)	normal	5.96-8.26	6.5-8.5	6.90					5.79		V	D	Y	6.69			D	N	6.65			D	N	7.21					7.26					7.20						7.37					
Potassium, Dissolved	nonpar	3.38	--	3.82		V	I	N	1.05					2.33					7.24		V			3.81		V		Y	1.63					1.52						3.30			I	Y
Sodium, Dissolved	normal	8.4651	20	7.92		P	I	N	8.17		P	I	N	8.8		V	I	N	7.84					19.7		V	D	N	6.73					7.06						7.87			I	Y
Sulfate	normal	18.3953	250	15.3			I	Y	8.29					2.39			D	N	27.5		V		Y	0.86					7.53			D	N	7.02			D	N		15.7					
Total Dissolved Solids	normal	236.8897	500	246		V	I	N	119					316		V	D	N	198					498		V	D	N	121			D	Y	151						187					
Total Organic Carbon	nonpar	16.1	--	0.5	U				0.5	U				1.78					3.92					5.36			D	N	0.55					0.5	U					0.5	U				
DISSOLVED METALS EPA Methods 200.7/200.8 (µg/L)																																													
Antimony	nonpar	0.7	6	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				Well not accessible	0.1	U				
Arsenic	nonpar	2.6	0.05	1.954					0.326					20.87		V			9.186		V	I	N	15.28	B	V			0.77	B				0.302	B					2.397	B				
Barium	nonpar	20.6	1000	17			I	N	10	U				19		P			31		V			37		V	D	N	10			D	N	10						10					Y
Beryllium	nonpar	0.5	4	0.2	U				0.2	U				0.2	U				0.2	U				0.2	U				0.2	U				0.2	U					0.2	U				
Cadmium	nonpar	0.1	5	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U					0.05	U				
Chromium	nonpar	25	50	20	U				20	U				20	U				20	U				20	U				20	U				20	U					20	U				
Cobalt	nonpar	5	--	10	U				10	U				10	U				10	U				10	U				10	U				10	U					10	U				
Copper	nonpar	10	1000	20	U				20	U				20	U				20	U				20	U				20	U				20	U					20	U				
Iron	nonpar	20	300	30	U	P			30	U				30	U	V			30	U		I	N	62		E	D	N	30	U	P			30	U					30	U				
Lead	nonpar	0.4	50	0.2	U				0.2	U				0.2	U				0.2	U				0.2	U				0.2	U				0.2	U					0.617					
Manganese	nonpar	7	50	10	U				52		V			2210		V			2120		V	I	N	1780		V	D	N	10	U	P			10	U		I	Y		10	U				
Nickel	nonpar	14	100	10	U				10	U				10	U				10	U				10	U				10	U				10	U					10	U				
Selenium	lognor	1.5	10	0.605					0.5	U				0.782					0.5	U				0.892					0.5	U				0.5	U					1.299					
Silver	nonpar	0.3	50	0.2	U				0.2	U				0.2	U				0.2	U				0.2	U				0.2	U				0.2	U					0.2	U				
Thallium	nonpar	0.1	2	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U					0.05	U				
Vanadium	nonpar	24	--	20	U				20	U				20	U				20	U	P			20	U	P			20	U				20	U					20	U				
Zinc	nonpar	22	5000	20	U				20	U				20	U				20	U				20	U				20	U				20	U					20	U				
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L)																																													
1,1,1-Trichloroethane	NA	--	200	1	U				1	U				1	U				1	U				1	U				1	U				1	U				Well not accessible	1	U				
1,1,2,2-Tetrachloroethane	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U				
1,1,2-Trichloroethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U					2	U				
1,1-Dichloroethane	nonpar	1.0	1	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U				
1,1-Dichloroethylene	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U				
1,2,3-Trichloropropane	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U				
1,2-Dibromo-3-chloropropane	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U					0.03	U				
1,2-Dibromoethane	NA	--	0.001	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U					0.01	U				
1,2-Dichlorobenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U				
1,2-Dichloroethane	NA	--	0.5	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U					0.03	U				
1,2-Dichloropropane	nonpar	0.6	0.6	0.02	U				0.02	U				**0.16**					0.02	U				0.02	U				0.02	U				0.02	U					0.02	U				
1,4-Dichlorobenzene	nonpar	1.0	4	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U				
2-Butanone	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U					5	U				
2-Hexanone	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U					2	U				

Groundwater Analytical Summary - Deep Wells: Second Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																																Upgradient Wells									
				MW-12					MW-14					MW-16					MW-17					MW-18					MW-19					MW-20					MW-13					MW-15				
				6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/3/25	D	V	Tr	Ch	6/4/25	D	V	Tr	Ch	6/4/25	D	V	Tr	Ch	6/4/25	D	V	Tr	Ch		D	V	Tr	Ch	6/4/25	D	V	Tr	Ch
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L) (cont.)																																													
4-Methyl-2-Pentanone (MIBK)	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U				Well not accessible					3	U			
Acetone	NA	--	--	**11.9**	B				**16.5**	B				**21.8**	B				**24**	B				**19.2**	B				**19.3**	B				**14.8**	B									**20**	B			
Acrylonitrile	NA	--	0.07	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U									0.05	U			
Benzene	nonpar	1.0	1	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U									0.1	U			
Bromodichloromethane	nonpar	0.3	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Bromoform	NA	--	5	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Bromomethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Carbon Disulfide	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Carbon Tetrachloride	NA	--	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Chlorobenzene	nonpar	0.2	--	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Chlorodibromomethane	NA	--	0.5	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U									0.1	U			
Chloroethane	NA	--	--	0.02	U				0.02	U				0.02	U				0	U				0.02	U				0.02	U				0.02	U									0.02	U			
Chloroform	nonpar	1.0	7	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
Chloromethane	NA	--	--	0.1	U				0.1	U				0.1	U				0	U				0.1	U				0.1	U				0.1	U									0.1	U			
cis-1,2-Dichloroethene	NA	--	--	0.03	U				0.03	U				**0.59**					0.03	U				**0.7**					0.03	U				0.03	U									0.03	U			
cis-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Dibromomethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Ethylbenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
m,p-Xylene	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U									5	U			
Methyl Iodide	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Methylene Chloride	nonpar	7.4	5	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
o-Xylene	nonpar	1.0	--	1.5	U				1.5	U				1.5	U				1.5	U				1.5	U				1.5	U				1.5	U									1.5	U			
Styrene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Tetrachloroethylene	NA	--	0.8	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Toluene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
trans-1,2-Dichloroethene	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
trans-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
trans-1,4-Dichloro-2-butene	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Trichlorethene (1,1,2-Trichloroethylene)	NA	--	3	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Trichlorofluoromethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Vinyl Acetate	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Vinyl Chloride	nonpar	0.01	0.02	0.01	U				0.01	U				0.01	U	P			0.01	U				**6.97**		V	D	Y	0.01	U	P			0.01	U									0.01	U			

D: U = Indicates compound was not detected at the given reporting limit; B = the analyte was found in the associated method blank at a level that is significant relative to the sample result

V: E= Exceedance, waiting verification based on subsequent lab data; V= Exceedance verified based on previous lab data; P=Passed, previous exceedance not verified based on current lab data

Tr: I=increasing Trend, D=Decreasing Trend;

The groundwater standards listed are based on the Washington Administrative Code (WAC) 173-200 groundwater limits as modified by the TMS 91-11 standards - the most restrictive of the two is used.

Values in **purple** exceed the prediction limit; indicates that a value exceeded the Groundwater Standards

NA: Not applicable - too few data points to evaluate statistically

Groundwater Analytical Summary - Shallow Wells: Third Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																						Upgradient Wells									
				BH-03A					BH-05					BH-06					BH-07					BH-08					MW-10					MW-11				
				9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/10/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch		D	V	Tr	Ch		D	V	Tr	Ch
CONVENTIONAL CHEMISTRY PARAMETERS (mg/L)																																			
Alkalinity (as CaCO3)	lognor	35.8048	--	80.6		V	I	N	133	D	V			183	D	V			357		V	D	N	37.0		E	D	N	Well not accessible					Insufficient water for sampling				
Ammonia Nitrogen	nonpar	0.023	--	0.01	U				0.601		V			5.06	D	V	I	N	47.9	D	V	D	N	0.005	U												
Bicarbonate	lognor	35.8048	--	80.6		V	I	N	133		V			183		V			357		V	D	N	37.0		E	D	N										
Calcium, Dissolved	normal	14.9503	--	12.3					42.2		V			45.6		V			40.9		V	D	N	11.4													
Chemical Oxygen Demand	nonpar	49	--	10	U				22.2					15					28.9					10	U												
Chloride	normal	11.2896	250	6.97	D				31.9	D	V	I	N	17.9	D	E			15.0	D		D	N	16.0	D	V	I	N										
Conductivity (umhos/cm)	normal	179.0531	700	201		V			449		V			528		V			875		V	D	N	155													
Magnesium, Dissolved	normal	6.9761	--	11.2		V			17.1		V			22		V			11.4		V	D	N	5.77													
Nitrate Nitrogen (mg-N/L)	lognor	6.8489	10	0.02	U				0.0838					0.0294					0.09					0.582													
Nitrite Nitrogen (mg-N/L)	normal	0.015	1	0.003					0.004					0.004					0.003					0.026		E											
pH (std units)	normal	4.55-6.79	6.5-8.5	6.29			D	N	5.84			D	N	5.97					6.05					4.95			D	N										
Potassium, Dissolved	lognor	2.4973	--	1.3			I	N	4.16		V			10.5		V			30.8		V	D	N	0.722													
Sodium, Dissolved	normal	8.8627	20	10.7		V	I	N	15		V	I	N	12.2		E			13.1		V	D	N	7.95			I	N										
Sulfate	lognor	46.6996	250	7.34	D		D	N	20.4	D				38.6	D				1.08	D				6.99	D		D	N										
Total Dissolved Solids	normal	139.4063	500	126					262		V			293		V			374		V	D	N	63.0													
Total Organic Carbon	nonpar	3.0141	--	0.78					6.8		V			8.04		V			17.5		V			1.0													
DISSOLVED METALS EPA Methods 200.7/200.8 (µg/L)																																			
Antimony	nonpar	0.4	6	0.113					0.1	U				0.1	U				0.1	U				0.1	U				Well not accessible					Insufficient water for sampling				
Arsenic	normal	0.3	0.05	0.553		V			4.781		V			7.076		V			11.79		V			0.103													
Barium	normal	58.8	1000	8.0	J				46					65		E			422		V	D	N	5.0	J												
Beryllium	nonpar	0.5	4	0.125	U				0.125	U				0.125	U				0.125	U				0.125	U												
Cadmium	nonpar	0.2	5	0.022	J				0.015	J				0.007	U				0.007	U				0.01	J												
Chromium	nonpar	5	50	17	U				17	U				17	U				17	U				17	U												
Cobalt	nonpar	5	--	2.0	U				2.0	U				2.0	U				2.0	U				2.0	U												
Copper	nonpar	15	1000	10	U				10	U				10	U				10	U				10	U												
Iron	normal	284	300	23	U				11100		V			1630		V			2750		V	D	Y	23	U												
Lead	normal	0.2	50	0.06	U				0.06	U				0.06	U				0.06	U				0.06	U												
Manganese	lognor	525.8	50	98					2270		V			1670		V			2890		V	D	N	7.0	U												
Nickel	nonpar	5	100	3.0	U				3.0	U				3.0	U				3.0	U				3.0	U												
Selenium	nonpar	0.7	10	0.074	U				0.931		V			0.852		E			1.472		V			0.074	U												
Silver	nonpar	0.2	50	0.041	U				0.041	U				0.041	U				0.041	U				0.041	U												
Thallium	nonpar	0.1	2	0.043	U				0.043	U				0.043	U				0.043	U				0.043	U												
Vanadium	nonpar	10	--	20	U				20	U				20	U				20	U				20	U												
Zinc	nonpar	11	5000	9.0	U				9.0	U				9.0	U				9.0	U				9.0	U												
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L)																																			
1,1,1-Trichloroethane	NA	--	200	1	U				1	U				1	U				1	U				1	U				Well not accessible					Insufficient water for sampling				
1,1,2,2-Tetrachloroethane	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,1,2-Trichloroethane	NA	--	--	2	U				2	U				2	U				2	U				2	U												
1,1-Dichloroethane	nonpar	1.0	1	1	U				1	U				1	U				1	U				1	U												
1,1-Dichloroethylene	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,2,3-Trichloropropane	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,2-Dibromo-3-chloropropane	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U												
1,2-Dibromoethane	NA	--	0.001	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U												

Groundwater Analytical Summary - Shallow Wells: Third Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																						Upgradient Wells									
				BH-03A					BH-05					BH-06					BH-07					BH-08					MW-10					MW-11				
				9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/10/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch		D	V	Tr	Ch		D	V	Tr	Ch
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L) (cont.)																																			
1,2-Dichlorobenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				Well not accessible					Insufficient water for sampling				
1,2-Dichloroethane	nonpar	0.5	0.5	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
1,2-Dichloropropane	NA	--	0.6	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
1,4-Dichlorobenzene	nonpar	--	4	1	U				1	U				1	U				1	U				1	U													
2-Butanone	NA	--	--	5	U				5	U				5	U				5	U				5	U													
2-Hexanone	NA	--	--	2	U				2	U				2	U				2	U				2	U													
4-Methyl-2-Pentanone (MIBK)	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Acetone	NA	--	--	**7.49**	B				**15.8**	B				**11.0**	B				**14.0**	B				**18.6**	B													
Acrylonitrile	NA	--	0.07	0.05	U				0.05	U				0.05	U				0.42					0.05	U													
Benzene	nonpar	1.0	1	0.1	U				0.1	U				0.1	U				**0.45**					0.1	U													
Bromodichloromethane	nonpar	0.3	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Bromoform	NA	--	5	2	U				2	U				2	U				2	U				2	U													
Bromomethane	NA	--	--	2	U				2	U				2	U				2	U				2	U													
Carbon Disulfide	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Carbon Tetrachloride	NA	--	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Chlorobenzene	nonpar	0.2	--	0.03	U				1.21		E			1.03		V	I	Y	2.74					0.03	U													
Chlorodibromomethane	NA	--	0.5	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U													
Chloroethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Chloroform	nonpar	1.0	7	1	U				1	U				1	U				1	U				1	U													
Chloromethane	NA	--	--	0.1	U				0.1	U				0.1	U				**0.43**					0.1	U													
cis-1,2-Dichloroethene	nonpar	0.2	--	**0.48**		V			**0.26**		E			**0.19**					**0.37**		V			0.03	U													
cis-1,3-Dichloropropene	nonpar	0.2	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
Dibromomethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Ethylbenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U													
m,p-Xylene	NA	--	--	5	U				5	U				5	U				5	U				5	U													
Methyl Iodide	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Methylene Chloride	nonpar	4.4	5	3	U	P			3	U				3	U	P			3	U				3	U													
o-Xylene	nonpar	1.0	--	1.5	U				1.5	U				1.5	U				1.5	U				1.5	U													
Styrene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U													
Tetrachloroethylene	NA	--	0.8	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
Toluene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U													
trans-1,2-Dichloroethene	NA	--	--	1	U				1	U				1	U				1	U				1	U													
trans-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
trans-1,4-Dichloro-2-butene	nonpar	5.0	--	2	U				2	U				2	U				2	U				2	U													
Trichlorethene (1,1,2-Trichloroethylene)	NA	--	3	2	U				2	U				2	U				2	U				2	U													
Trichlorofluoromethane	NA	--	--	2	U				2	U				2	U				2	U				2	U													
Vinyl Acetate	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Vinyl Chloride	nonpar	0.01	0.02	0.29		E			0.58		V			0.15		E			1.0		V			0.01	U													

D: U = Indicates compound was not detected at the given reporting limit; B = the analyte was found in the associated method blank at a level that is significant relative to the sample result

V: E= Exceedance, waiting verification based on subsequent lab data; V= Exceedance verified based on previous lab data; P=Passed, previous exceedance not verified based on current lab data

Tr: I=increasing Trend, D=Decreasing Trend;

Ch: Y indicates a change in trend from previous quarter; N means no change in trend.

The groundwater standards listed are based on the Washington Administrative Code (WAC) 173-200 groundwater limits as modified by the TMS 91-11 standards - the most restrictive of the two is used.

Values in **purple** exceed the prediction limit; indicates that a value exceeded the Groundwater Standards

NA: Not applicable - too few data points to evaluate statistically

Groundwater Analytical Summary - Deep Wells: Third Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																														Upgradient Wells									
				MW-12					MW-14					MW-16					MW-17					MW-18					MW-19					MW-20					MW-13					MW-15				
				9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/10/25	D	V	Tr	Ch	9/10/25	D	V	Tr	Ch	9/10/25	D	V	Tr	Ch		D	V	Tr	Ch	9/10/25	D	V	Tr	Ch
CONVENTIONAL CHEMISTRY PARAMETERS (mg/L)																																													
Alkalinity (as CaCO3)	nonpar	123	--	173		V	I	N	59.0					284		V			144		V			509		V	D	N	77.2			D	N	86.2			D	N	Well not accessible	118			I	N
Ammonia Nitrogen	nonpar	0.094	--	0.005	U				0.005	U				0.049					9.08	D	V	D	N	0.028					0.005	U				0.005	U				0.005	U				
Bicarbonate	nonpar	123	--	173		V	I	N	59.0					284		V			144		V			509		V	D	N	77.2			D	N	86.2			D	N		118			I	N
Calcium, Dissolved	normal	24.269	--	29.9		V	I	N	12.7			D	Y	42.6		V	D	N	23.8			I	N	50.8		V	D	N	11.6			D	N	12.6			D	N		18.1				Y
Chemical Oxygen Demand	nonpar	55	--	10	U				10	U				10	U				11.3					10	U		D	N	10	U				10	U					10	U				
Chloride	normal	12.4	250	10.2	D			Y	9.32	D				8.6	D				14.2	D	V	I	N	6.33	D		D	N	12.7	D	V	I	Y	15.6	D	V	I	N		10.3	D				
Conductivity (umhos/cm)	nonpar	320	700	414		V	I	N	170					569		V			398		V			911		V	D	N	212					242						318			I	N
Magnesium, Dissolved	normal	23.0115	--	27.3		V	I	N	7.29					38.7		V			17.9			I	N	56.1		V	D	N	10.6			D	N	11			D	N		17.1			I	N
Nitrate Nitrogen (mg-N/L)	normal	4.0952	10	3.76			I	N	0.36					0.02	U				0.02	U				0.02	U				0.702					0.834						3.62			I	N
Nitrite Nitrogen (mg-N/L)	nonpar	0.002	1	0.004		V			0.004		V			0.006		V			0.002					0.002		P			0.006		V			0.004		V				0.002				
pH (std units)	normal	5.96-8.26	6.5-8.5	6.87					5.78		V	D	N	6.64			D	N	6.60			D	N	6.63					6.52					6.41						6.69				
Potassium, Dissolved	nonpar	3.38	--	3.78		V	I	N	1.11					2.08					7.64		V			3.45		V			1.31					1.23						2.63			I	N
Sodium, Dissolved	normal	8.4651	20	9.19		E	I	N	8.98		E		Y	9.48		V	I	N	9.2		E			18.3		V	D	N	5.6					5.91						6.36				Y
Sulfate	normal	18.3953	250	15.5	D		I	N	8.91	D		I	Y	2.37	D		D	N	29.3	D	V			0.94	J				8.08	D		D	N	7.76	D		D	N		16.5	D				
Total Dissolved Solids	normal	236.8897	500	226		P	I	N	102					296		V	D	N	222					487		V	D	N	141			D	N	120						186				
Total Organic Carbon	nonpar	16.1	--	0.21	U				0.45	J				3.15					5.5					5.84			D	N	0.38	J				0.33	J					0.21	U				
DISSOLVED METALS EPA Methods 200.7/200.8 (µg/L)																																													
Antimony	nonpar	0.7	6	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				Well not accessible	0.1	U			
Arsenic	nonpar	2.6	0.05	1.712					0.367					19.52		V			7.728		V	I	N	14.56		V			0.611					0.46						2.152				
Barium	nonpar	20.6	1000	19			I	N	10					19					36		V			34		V	D	N	8.0	J		D	N	9.0	J					8.0	J			
Beryllium	nonpar	0.5	4	0.125	U				0.125	U				0.125	U				0.125	U				0.125	U				0.125	U				0.125	U					0.125	U			
Cadmium	nonpar	0.1	5	0.022	J				0.013	J				0.017	J				0.014	J				0.008	J				0.009	J				0.011	J					0.011	J			
Chromium	nonpar	25	50	17	U				17	U				17	U				17	U				17	U				17	U				17	U					17	U			
Cobalt	nonpar	5	--	2.0	U				2.0	U				2.0	U				2.0	U				2.0	U				2.0	U				2.0	U					2.0	U			
Copper	nonpar	10	1000	10	U				10	U				10	U				10	U				10	U				10	U				10	U					10	U			
Iron	nonpar	20	300	23	U				23	U				61		V			69		E		Y	118		V	D	N	23	U				23	U					23	U			
Lead	nonpar	0.4	50	0.06	U				0.06	U				0.06	U				0.06	U				0.06	U				0.06	U				0.06	U					0.06	U			
Manganese	nonpar	7	50	7.0	U				44		V			2260		V			2500		V	I	N	1510		V	D	N	7.0	U			Y	7.0	U					7.0	U			
Nickel	nonpar	14	100	3.0	U				3.0	U				3.0	U				3.0	U				3.0	U				3.0	U				3.0	U					3.0	U			
Selenium	lognor	1.5	10	0.518					0.074	U				0.376	J				0.074	U				0.269	J				0.15	J				0.074	U					0.669				
Silver	nonpar	0.3	50	0.041	U				0.041	U				0.041	U				0.041	U				0.041	U				0.041	U				0.041	U					0.041	U			
Thallium	nonpar	0.1	2	0.043	U				0.043	U				0.043	U				0.043	U				0.043	U				0.043	U				0.043	U					0.043	U			
Vanadium	nonpar	24	--	20	U				20	U				20	U				20	U				20	U				20	U				20	U					20	U			
Zinc	nonpar	22	5000	9.0	U				9.0	U				9.0	U				9.0	U				9.0	U				9.0	U				9.0	U					9.0	U			
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L)																																													
1,1,1-Trichloroethane	NA	--	200	1	U				1	U				1	U				1	U				1	U				1	U				1	U				Well not accessible	1	U			
1,1,2,2-Tetrachloroethane	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,1,2-Trichloroethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U					2	U			
1,1-Dichloroethane	nonpar	1.0	1	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,1-Dichloroethylene	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2,3-Trichloropropane	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2-Dibromo-3-chloropropane	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U					0.03	U			
1,2-Dibromoethane	NA	--	0.001	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U					0.01	U			
1,2-Dichlorobenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2-Dichloroethane	NA	--	0.5	0.03	U				0.03	U				0.03	U				0.03	U				0.17					0.03	U				0.03	U					0.03	U			
1,2-Dichloropropane	nonpar	0.6	0.6	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U					0.02	U			
1,4-Dichlorobenzene	nonpar	1.0	4	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
2-Butanone	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U					5	U			
2-Hexanone	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U					2	U			

Groundwater Analytical Summary - Deep Wells: Third Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																												Upgradient Wells									
				MW-12					MW-14					MW-16					MW-17					MW-18					MW-19					MW-20					MW-13					MW-15				
				9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/9/25	D	V	Tr	Ch	9/10/25	D	V	Tr	Ch	9/10/25	D	V	Tr	Ch	9/10/25	D	V	Tr	Ch		D	V	Tr	Ch	9/10/25	D	V	Tr	Ch
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L) (cont.)																																													
4-Methyl-2-Pentanone (MIBK)	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U				Well not accessible					3	U			
Acetone	NA	--	--	**24**	B				**35.7**	B				5	U				**15.9**	B				**18.5**	B				**36.6**	B				**12.4**	B									**25.8**	B			
Acrylonitrile	NA	--	0.07	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U									0.05	U			
Benzene	nonpar	1.0	1	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U									0.1	U			
Bromodichloromethane	nonpar	0.3	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Bromoform	NA	--	5	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Bromomethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Carbon Disulfide	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Carbon Tetrachloride	NA	--	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Chlorobenzene	nonpar	0.2	--	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Chlorodibromomethane	NA	--	0.5	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U									0.1	U			
Chloroethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Chloroform	nonpar	1.0	7	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
Chloromethane	NA	--	--	0.1	U				0.1	U				0.1	U				0.1	U				0.20					0.1	U				0.1	U									0.1	U			
cis-1,2-Dichloroethene	NA	--	--	0.03	U				0.03	U				**1.5**					0.03	U				**0.74**					0.03	U				0.03	U									0.03	U			
cis-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Dibromomethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Ethylbenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
m,p-Xylene	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U									5	U			
Methyl Iodide	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Methylene Chloride	nonpar	7.4	5	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
o-Xylene	nonpar	1.0	--	1.5	U				1.5	U				1.5	U				1.5	U				1.5	U				1.5	U				1.5	U									1.5	U			
Styrene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Tetrachloroethylene	NA	--	0.8	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Toluene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
trans-1,2-Dichloroethene	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
trans-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
trans-1,4-Dichloro-2-butene	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Trichlorethene (1,1,2-Trichloroethylene)	NA	--	3	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Trichlorofluoromethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Vinyl Acetate	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Vinyl Chloride	nonpar	0.01	0.02	0.01	U				0.01	U				**0.51**		E			0.01	U				**2.43**		V			0.01	U				0.01	U									0.01	U			

D: U = Indicates compound was not detected at the given reporting limit; B = the analyte was found in the associated method blank at a level that is significant relative to the sample result

V: E= Exceedance, waiting verification based on subsequent lab data; V= Exceedance verified based on previous lab data; P=Passed, previous exceedance not verified based on current lab data

Tr: I=increasing Trend, D=Decreasing Trend;

The groundwater standards listed are based on the Washington Administrative Code (WAC) 173-200 groundwater limits as modified by the TMS 91-11 standards - the most restrictive of the two is used.

Values in **purple** exceed the prediction limit; indicates that a value exceeded the Groundwater Standards

NA: Not applicable - too few data points to evaluate statistically

Groundwater Analytical Summary - Shallow Wells: Fourth Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																						Upgradient Wells									
				BH-03A					BH-05					BH-06					BH-07					BH-08					MW-10					MW-11				
				12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch		D	V	Tr	Ch		D	V	Tr	Ch
CONVENTIONAL CHEMISTRY PARAMETERS (mg/L)																																			
Alkalinity (as CaCO3)	lognor	35.8048	--	96.4		V	I	N	79.8		V			139		V			274		V	D	N	40.2		V	D	N	Well not accessible					Insufficient water for sampling				
Ammonia Nitrogen	nonpar	0.023	--	0.014	U				0.303		V			3.98		V	I	N	24.2	D	V	D	N	0.015	J												
Bicarbonate	lognor	35.8048	--	96.4		V	I	N	79.8		V			139		V			274		V	D	N	40.2		V	D	N										
Calcium, Dissolved	normal	14.9503	--	13.5					21.9		V			32.6		V			38.5		V	D	N	12.0													
Chemical Oxygen Demand	nonpar	49	--	10	U				10	U				18.7					10	U				10	U												
Chloride	normal	11.2896	250	6.53					8.52		P	I	N	11.3					10.1	D	P	D	N	10.7		P	I	N										
Conductivity (umhos/cm)	normal	179.0531	700	212		V			259		V			352		V			632		V	D	N	157													
Magnesium, Dissolved	normal	6.9761	--	12.7		V			9.06		V			13.6		V			8.84		V	D	N	5.89													
Nitrate Nitrogen (mg-N/L)	lognor	6.8489	10	0.02	U				0.02	U				0.02	U				0.02	U				2.73													
Nitrite Nitrogen (mg-N/L)	normal	0.015	1	0.003					0.002					0.005					0.006					0.004		P											
pH (std units)	normal	4.55-6.79	6.5-8.5	6.40			D	N	5.57			D	N	5.73					5.93					5.04			D	N										
Potassium, Dissolved	lognor	2.4973	--	1.38			I	N	2.94		V			9.55		V	I	Y	22.6		V	D	N	0.921													
Sodium, Dissolved	normal	8.8627	20	11.9		V	I	N	12.3		V	I	N	14.1		V	I	Y	13.9		V	D	N	8.41			I	N										
Sulfate	lognor	46.6996	250	5.93			D	N	33.5					18.7					2.58	D		D	Y	10.9			D	N										
Total Dissolved Solids	normal	139.4063	500	124					170		V			209		V			248		V	D	N	81.0													
Total Organic Carbon	nonpar	3.0141	--	0.78					5.09		V			9.09		V			4.93		V			1.36													
DISSOLVED METALS EPA Methods 200.7/200.8 (µg/L)																																			
Antimony	nonpar	0.4	6	0.102					0.1	U				0.1	U				0.1	U				0.1	U				Well not accessible					Insufficient water for sampling				
Arsenic	normal	0.3	0.05	0.552		V			4.652		V			9.421		V			10.79		V			0.123													
Barium	normal	58.8	1000	7.992					23.2					64.93		V			392.1		V	D	N	7.291													
Beryllium	nonpar	0.5	4	0.125	U				0.125	U				1.252	U				0.125	U				0.125	U												
Cadmium	nonpar	0.2	5	0.018	J				0.011	J				0.007	U				0.016	J				0.029	J												
Chromium	nonpar	5	50	0.265					0.517					2.546					2.001					0.533													
Cobalt	nonpar	5	--	0.58					1.377					3.173					2.233					0.101													
Copper	nonpar	15	1000	0.295					0.196	J				1.12	J				0.156	J				0.958													
Iron	normal	284	300	23.3	U				5410		V			5800		V			7090		V	D	N	23.3	U												
Lead	normal	0.2	50	0.06	U				0.06	U				0.06	U				0.06	U				0.06	U												
Manganese	lognor	525.8	50	79.62					916.5		V			1360		V			2294		V	D	N	0.397													
Nickel	nonpar	5	100	2.514					3.292					4.419					4.817					1.014													
Selenium	nonpar	0.7	10	0.106	J				0.165	J	P			1.395	J	V			0.625		P			0.074	U												
Silver	nonpar	0.2	50	0.041	U				0.041	U				0.408	U				0.041	U				0.041	U												
Thallium	nonpar	0.1	2	0.043	U				0.043	U				0.043	U				0.043	U				0.043	U												
Vanadium	nonpar	10	--	2.586					0.45	J				3.496	J				0.266	U				0.647													
Zinc	nonpar	11	5000	0.202	U				0.229	J				2.023	U				0.367	J				0.222	J												
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L)																																			
1,1,1-Trichloroethane	NA	--	200	1	U				1	U				1	U				1	U				1	U				Well not accessible					Insufficient water for sampling				
1,1,2,2-Tetrachloroethane	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,1,2-Trichloroethane	NA	--	--	2	U				2	U				2	U				2	U				2	U												
1,1-Dichloroethane	nonpar	1.0	1	1	U				1	U				1	U				1	U				1	U												
1,1-Dichloroethylene	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,2,3-Trichloropropane	NA	--	--	1	U				1	U				1	U				1	U				1	U												
1,2-Dibromo-3-chloropropane	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U												
1,2-Dibromoethane	NA	--	0.001	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U												

Groundwater Analytical Summary - Shallow Wells: Fourth Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																						Upgradient Wells									
				BH-03A					BH-05					BH-06					BH-07					BH-08					MW-10					MW-11				
				12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch		D	V	Tr	Ch		D	V	Tr	Ch
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L) (cont.)																																			
1,2-Dichlorobenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				Well not accessible					Insufficient water for sampling				
1,2-Dichloroethane	nonpar	0.5	0.5	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
1,2-Dichloropropane	NA	--	0.6	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
1,4-Dichlorobenzene	nonpar	--	4	1	U				1	U				1	U				1	U				1	U													
2-Butanone	NA	--	--	5	U				5	U				5	U				5	U				5	U													
2-Hexanone	NA	--	--	2	U				2	U				2	U				2	U				2	U													
4-Methyl-2-Pentanone (MIBK)	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Acetone	NA	--	--	5	U				5	U				**6.26**	B				**6.99**	B				5	U													
Acrylonitrile	NA	--	0.07	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U													
Benzene	nonpar	1.0	1	0.1	U				0.1	U				0.1	U				**0.15**	B				0.1	U													
Bromodichloromethane	nonpar	0.3	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Bromoform	NA	--	5	2	U				2	U				2	U				2	U				2	U													
Bromomethane	NA	--	--	2	U				2	U				2	U				2	U				2	U													
Carbon Disulfide	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Carbon Tetrachloride	NA	--	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Chlorobenzene	nonpar	0.2	--	0.03	U				0.53		V			0.75		V	I	Y	1.01		V			0.03	U													
Chlorodibromomethane	NA	--	0.5	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U													
Chloroethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Chloroform	nonpar	1.0	7	1	U				1	U				1	U				1	U				1	U													
Chloromethane	NA	--	--	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U													
cis-1,2-Dichloroethene	nonpar	0.2	--	0.62		V			**0.16**		P			0.15					0.23		V			0.03	U													
cis-1,3-Dichloropropene	nonpar	0.2	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
Dibromomethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U													
Ethylbenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U													
m,p-Xylene	NA	--	--	5	U				5	U				5	U				5	U				5	U													
Methyl Iodide	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Methylene Chloride	nonpar	4.4	5	3	U				3	U				3	U				3	U				3	U													
o-Xylene	nonpar	1.0	--	1.5	U				1.5	U				1.5	U				1.5	U				1.5	U													
Styrene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U													
Tetrachloroethylene	NA	--	0.8	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
Toluene	nonpar	1.0	--	2	U				2	U				5.25		E			2	U				2	U													
trans-1,2-Dichloroethene	NA	--	--	1	U				1	U				1	U				1	U				1	U													
trans-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U													
trans-1,4-Dichloro-2-butene	nonpar	5.0	--	2	U				2	U				2	U				2	U				2	U													
Trichlorethene (1,1,2-Trichloroethylene)	NA	--	3	2	U				2	U				2	U				2	U				2	U													
Trichlorofluoromethane	NA	--	--	2	U				2	U				2	U				2	U				2	U													
Vinyl Acetate	NA	--	--	3	U				3	U				3	U				3	U				3	U													
Vinyl Chloride	nonpar	0.01	0.02	0.64		V			0.37		V			0.33		V			1.21		V			0.01	U													

D: U = Indicates compound was not detected at the given reporting limit; B = the analyte was found in the associated method blank at a level that is significant relative to the sample result

V: E= Exceedance, waiting verification based on subsequent lab data; V= Exceedance verified based on previous lab data; P=Passed, previous exceedance not verified based on current lab data

Tr: I=increasing Trend, D=Decreasing Trend;

Ch: Y indicates a change in trend from previous quarter; N means no change in trend.

The groundwater standards listed are based on the Washington Administrative Code (WAC) 173-200 groundwater limits as modified by the TMS 91-11 standards - the most restrictive of the two is used.

Values in **purple** exceed the prediction limit; indicates that a value exceeded the Groundwater Standards

NA: Not applicable - too few data points to evaluate statistically

Groundwater Analytical Summary - Deep Wells: Fourth Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																														Upgradient Wells									
				MW-12					MW-14					MW-16					MW-17					MW-18					MW-19					MW-20					MW-13					MW-15				
				12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch
CONVENTIONAL CHEMISTRY PARAMETERS (mg/L)																																												
Alkalinity (as CaCO3)	nonpar	123	--	174		V	I	N	56.6					281		V			131		V			501		V	D	N	78.2			D	N	85.6			D	N	Well not accessible	119			I	N
Ammonia Nitrogen	nonpar	0.094	--	0.014	U				0.014	U				0.061					6.54		V	D	N	0.038					0.014	U				0.014	U				0.014	U			
Bicarbonate	nonpar	123	--	174		V	I	N	56.6					281		V			131		V			501		V	D	N	78.2			D	N	85.6			D	N		119			I	N
Calcium, Dissolved	normal	24.269	--	29.7		V	I	N	13.5					44.2		V	D	N	19.9			I	N	57.8		V	D	N	13.9			D	N	15.2			D	N		21.8			I	Y
Chemical Oxygen Demand	nonpar	55	--	10	U				10	U				10	U				10	U				10	U		D	N	10	U				10	U					10	U			
Chloride	normal	12.4	250	9.86					10.9					8.18			I	Y	10.9		P	I	N	6.19			D	N	15.0		V	I	N	15.1		V	I	N		10.3				
Conductivity (umhos/cm)	nonpar	320	700	409		V	I	N	166					530		V			340		V			881		V	D	N	214					227						321			I	N
Magnesium, Dissolved	normal	23.0115	--	27.3		V	I	N	6.35					41		V			14.8			I	N	56.6		V	D	N	11.4			D	N	11.9			D	N		18.8			I	N
Nitrate Nitrogen (mg-N/L)	normal	4.0952	10	4.03			I	N	0.356					0.02	U				0.02	U				0.02	U				0.89					0.738						3.55			I	N
Nitrite Nitrogen (mg-N/L)	nonpar	0.002	1	0.006		E			0.005		E			0.007		V			0.006		E			0.004					0.009		V			0.006		E				0.004				
pH (std units)	normal	5.96-8.26	6.5-8.5	6.75			D	Y	5.69		V	D	N	6.60			D	N	6.49			D	N	6.64					6.46					6.42						6.61				
Potassium, Dissolved	nonpar	3.38	--	3.75		V	I	N	1.05					2.18					7.41		V			3.75		V			1.48					1.41						3.08				Y
Sodium, Dissolved	normal	8.4651	20	9.15		V	I	N	10		V	I	Y	9.83		V	I	N	8.57		V			22.1		V	D	N	6.6					7.01						7.56				
Sulfate	normal	18.3953	250	15.9			I	N	9.18			I	N	2.33			D	N	23.9		V			0.26	U				7.53			D	N	7.43			D	N		16.8				
Total Dissolved Solids	normal	236.8897	500	235			I	N	115					302		V	D	N	194					494		V	D	N	145				Y	435		E				194				
Total Organic Carbon	nonpar	16.1	--	0.21	U				0.49	J				1.67					4.27					4.27			D	N	0.21	U				0.21	U					0.21	U			
DISSOLVED METALS EPA Methods 200.7/200.8 (µg/L)																																												
Antimony	nonpar	0.7	6	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				Well not accessible	0.101				
Arsenic	nonpar	2.6	0.05	1.756					0.26					19.83		V			8.965		V	I	N	16.0		V			0.671					0.507						2.309				
Barium	nonpar	20.6	1000	17.14			I	N	8.763					18.7					28.22		V			38.39		V	D	N	9.914			D	N	10.36						9.479				
Beryllium	nonpar	0.5	4	0.125	U				0.125	U				0.125	U				0.125	U				0.125	U				0.125	U				0.125	U					0.125	U			
Cadmium	nonpar	0.1	5	0.014	J				0.018	J				0.011	J				0.012	J				0.012	J				0.009	J				0.011	J					0.016	J			
Chromium	nonpar	25	50	2.543					0.204					0.753					0.519					2.421					0.275					0.308						3.231				
Cobalt	nonpar	5	--	0.061	J				0.217					0.791					1.055					1.395					0.358					0.282						0.061	J			
Copper	nonpar	10	1000	0.377					0.16	J				0.076	J				0.282					0.45					0.228					0.223						0.405				
Iron	nonpar	20	300	23.3	U				23.3	U				23	U				23.3	U	P			140		V	D	N	23.3	U				23.3	U					23.3	U			
Lead	nonpar	0.4	50	0.06	U				0.06	U				0.06	U				0.06	U				0.06	U				0.06	U				0.06	U					0.06	U			
Manganese	nonpar	7	50	3.535					59.74		V			2084		V			1830		V	I	N	1632		V	D	N	5.802					5.177						2.74				
Nickel	nonpar	14	100	1.967					2.679					0.923					2.307					2.644					3.111					3.064						2.388				
Selenium	lognor	1.5	10	0.812					0.074	U				0.379	J				0.184	J				0.133	J				0.115	J				0.146	J					1.313				
Silver	nonpar	0.3	50	0.041	U				0.041	U				0.041	U				0.041	U				0.041	U				0.041	U				0.041	U					0.041	U			
Thallium	nonpar	0.1	2	0.043	U				0.043	U				0.043	U				0.043	U				0.043	U				0.043	U				0.043	U					0.043	U			
Vanadium	nonpar	24	--	6.878					2.107					0.266	U				0.727					0.804					3.246					2.648						7.331				
Zinc	nonpar	22	5000	0.202	U				0.202	U				0.202	U				0.202	U				0.202	U				0.398	J				0.202	U					0.202	U			
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L)																																												
1,1,1-Trichloroethane	NA	--	200	1	U				1	U				1	U				1	U				1	U				1	U				1	U				Well not accessible	1	U			
1,1,2,2-Tetrachloroethane	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,1,2-Trichloroethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U					2	U			
1,1-Dichloroethane	nonpar	1.0	1	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,1-Dichloroethylene	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2,3-Trichloropropane	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2-Dibromo-3-chloropropane	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U					0.03	U			
1,2-Dibromoethane	NA	--	0.001	0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U				0.01	U					0.01	U			
1,2-Dichlorobenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
1,2-Dichloroethane	NA	--	0.5	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U					0.03	U			
1,2-Dichloropropane	nonpar	0.6	0.6	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U					0.02	U			
1,4-Dichlorobenzene	nonpar	1.0	4	1	U				1	U				1	U				1	U				1	U				1	U				1	U					1	U			
2-Butanone	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U					5	U			
2-Hexanone	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U					2	U			

Groundwater Analytical Summary - Deep Wells: Fourth Quarter 2025
McCollum Park, Snohomish County, WA

	Statistical Method	Prediction Limit (a)	GW Stds 173-200	Downgradient Wells																																Upgradient Wells									
				MW-12					MW-14					MW-16					MW-17					MW-18					MW-19					MW-20					MW-13					MW-15				
				12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/16/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch	12/17/25	D	V	Tr	Ch		D	V	Tr	Ch	12/17/25	D	V	Tr	Ch
VOLATILE ORGANIC COMPOUNDS (VOCs) EPA Method 8260 (µg/L) (cont.)																																													
4-Methyl-2-Pentanone (MIBK)	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U				Well not accessible					3	U			
Acetone	NA	--	--	5	U				**5.04**	B				5	U				**5.32**	B				**5.22**	B				**5.46**	B				**5.63**	B									5	U			
Acrylonitrile	NA	--	0.07	0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U				0.05	U									0.05	U			
Benzene	nonpar	1.0	1	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U									0.1	U			
Bromodichloromethane	nonpar	0.3	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Bromoform	NA	--	5	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Bromomethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Carbon Disulfide	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Carbon Tetrachloride	NA	--	0.3	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Chlorobenzene	nonpar	0.2	--	0.03	U				0.03	U				0.03	U				**0.14**					0.03	U				0.03	U				0.03	U									0.03	U			
Chlorodibromomethane	NA	--	0.5	0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U				0.1	U									0.1	U			
Chloroethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Chloroform	nonpar	1.0	7	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
Chloromethane	NA	--	--	0.1	U				0.1	U				0.1	U				0.1	U				0.10	U				0.1	U				0.1	U									0.1	U			
cis-1,2-Dichloroethene	NA	--	--	0.03	U				0.03	U				**1.95**					**0.14**					**0.78**					0.03	U				0.03	U									0.03	U			
cis-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Dibromomethane	NA	--	--	0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U				0.02	U									0.02	U			
Ethylbenzene	nonpar	1.0	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
m,p-Xylene	NA	--	--	5	U				5	U				5	U				5	U				5	U				5	U				5	U									5	U			
Methyl Iodide	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Methylene Chloride	nonpar	7.4	5	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
o-Xylene	nonpar	1.0	--	1.5	U				1.5	U				1.5	U				1.5	U				1.5	U				1.5	U				1.5	U									1.5	U			
Styrene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Tetrachloroethylene	NA	--	0.8	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
Toluene	nonpar	1.0	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
trans-1,2-Dichloroethene	NA	--	--	1	U				1	U				1	U				1	U				1	U				1	U				1	U									1	U			
trans-1,3-Dichloropropene	NA	--	0.2	0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U				0.03	U									0.03	U			
trans-1,4-Dichloro-2-butene	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Trichlorethene (1,1,2-Trichloroethylene)	NA	--	3	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Trichlorofluoromethane	NA	--	--	2	U				2	U				2	U				2	U				2	U				2	U				2	U									2	U			
Vinyl Acetate	NA	--	--	3	U				3	U				3	U				3	U				3	U				3	U				3	U									3	U			
Vinyl Chloride	nonpar	0.01	0.02	0.01	U				0.01	U				**1.16**		V			**0.17**		V			**4.94**		V			0.01	U				0.01	U									0.01	U			

D: U = Indicates compound was not detected at the given reporting limit; B = the analyte was found in the associated method blank at a level that is significant relative to the sample result

V: E= Exceedance, waiting verification based on subsequent lab data; V= Exceedance verified based on previous lab data; P=Passed, previous exceedance not verified based on current lab data

Tr: I=increasing Trend, D=Decreasing Trend;

The groundwater standards listed are based on the Washington Administrative Code (WAC) 173-200 groundwater limits as modified by the TMS 91-11 standards - the most restrictive of the two is used.

Values in **purple** exceed the prediction limit; indicates that a value exceeded the Groundwater Standards

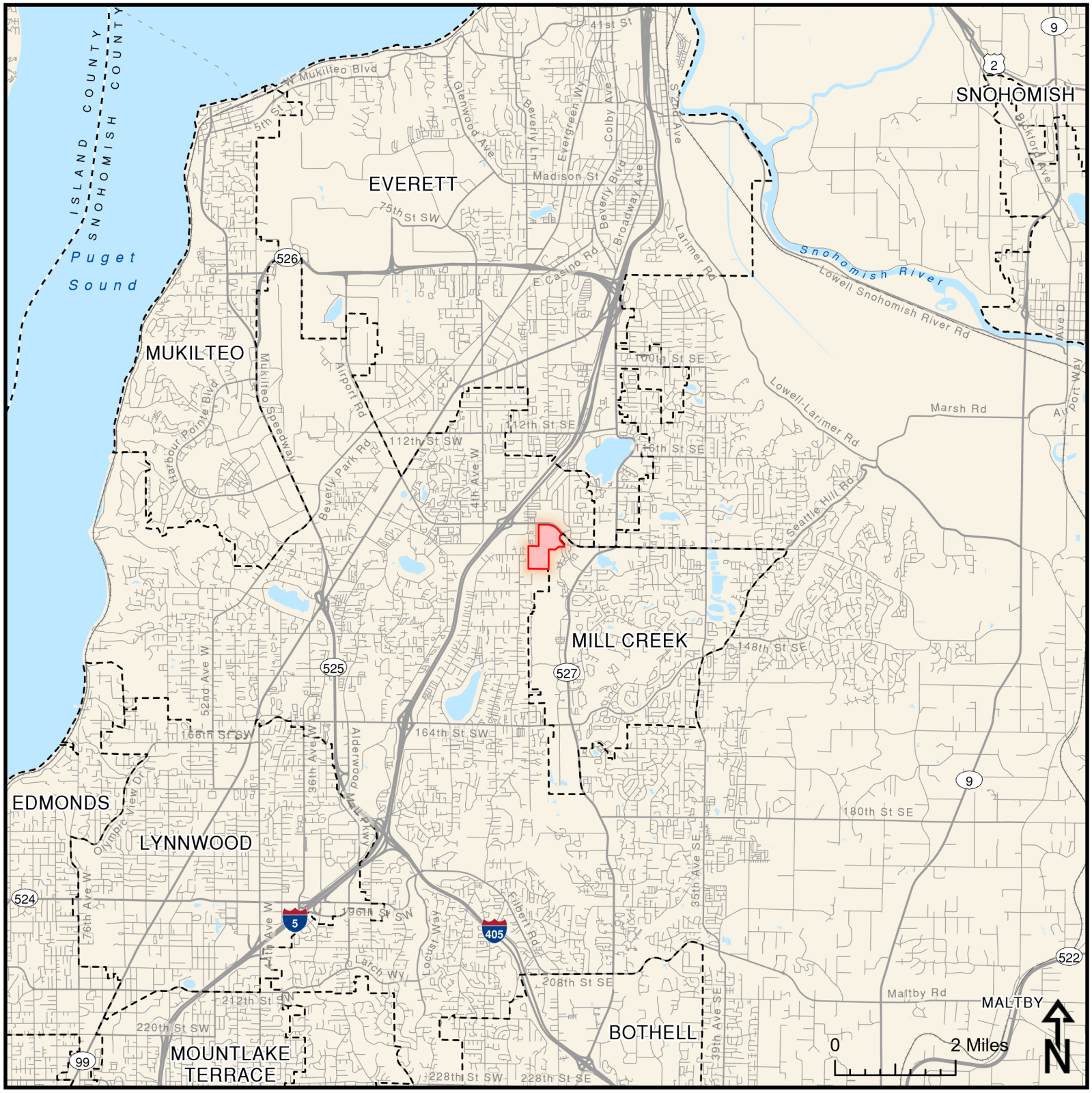
NA: Not applicable - too few data points to evaluate statistically

Figures

Figure 1

McCollum Park
(Emander Landfill)

Site Location



Subject Property Boundary

Snohomish County
Public Works
Solid Waste Division
Jan 2025

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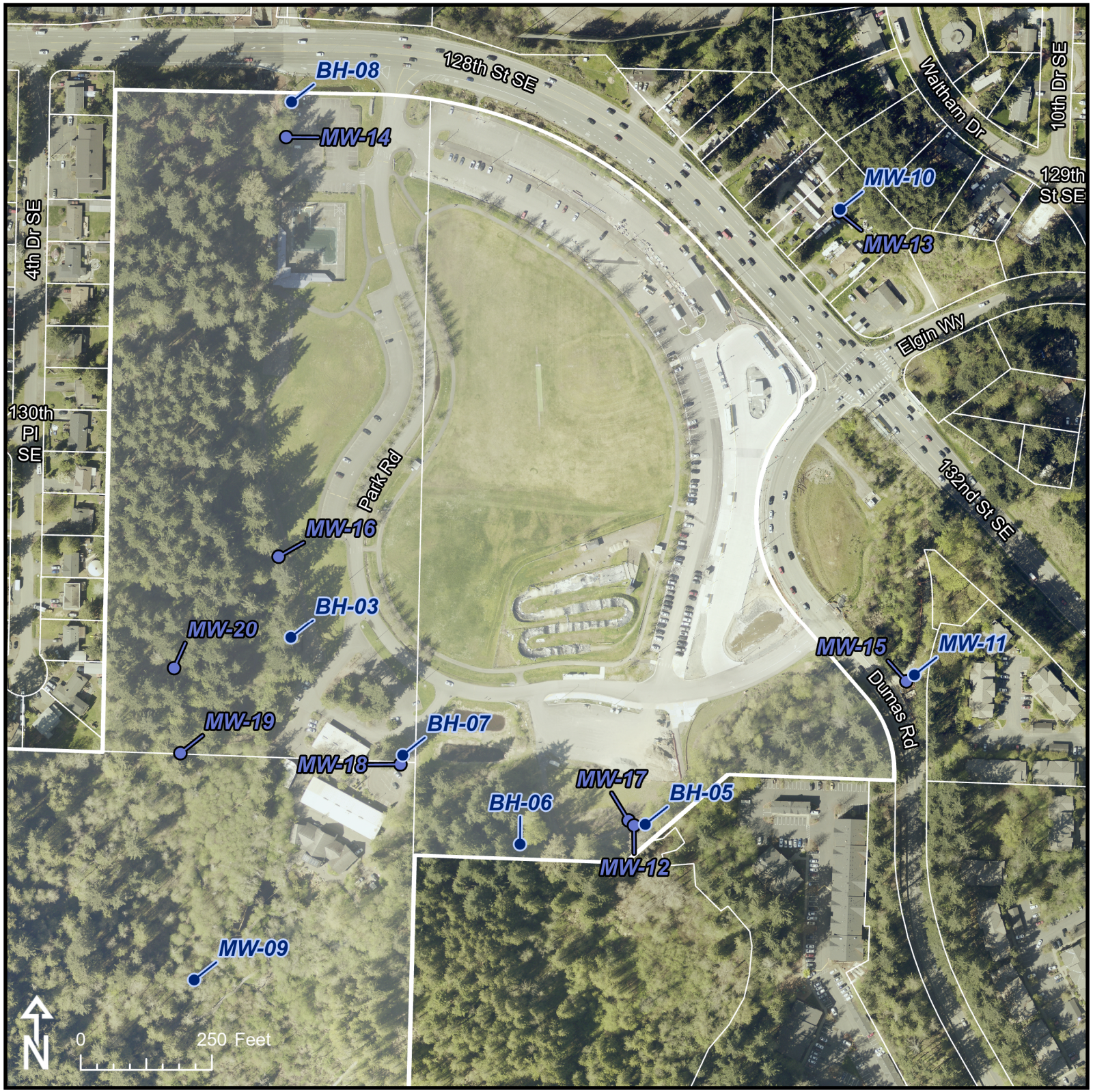


Figure 2

McCollum Park
(Emander Landfill)

Groundwater Monitoring Well Locations

Parcel Boundaries

Subject Property Boundary

Aquifer Unit

- Shallow Aquifer
- Deep Aquifer

Snohomish County
Public Works
Solid Waste Division
Jan 2025

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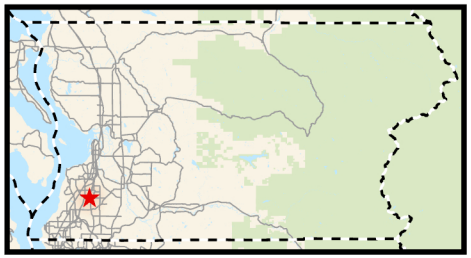


Figure 3a

McCollum Park Landfill

Shallow Aquifer Groundwater Contour Map First Quarter 2025



GROUNDWATER FLOW
0.0276 ft / day
10.07 ft / year
-120.33 degrees to the positive x-axis

PARCEL BOUNDARY

WELL LOCATION

CONTOURS

WELL ID	DATE	GW ELEVATION
BH-03	3/18/2025	377.66
BH-05	3/18/2025	378.02
BH-06	3/18/2025	377.59
BH-07	3/18/2025	378.06
BH-08	3/18/2025	382.90
MW-10	3/18/2025	NM
MW-11	3/18/2024	DRY

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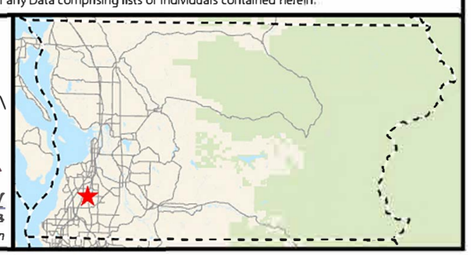


Figure 3b

McCollum Park Landfill

Deep Aquifer Groundwater Contour Map First Quarter 2025

GROUNDWATER FLOW
0.08656 ft / day
31.6 ft / year
-41.76 degrees to the positive x - axis

PARCEL BOUNDARY

WELL LOCATION

CONTOURS

WELL ID	DATE	GW ELEVATION
MW-12	3/18/2025	377.63
MW-14	3/18/2025	379.71
MW-15	3/18/2025	375.96
MW-16	3/18/2025	378.57
MW-17	3/18/2025	377.96
MW-18	3/18/2025	377.88
MW-19	3/18/2025	377.86
MW-20	3/18/2025	378.34

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Snohomish County
Public Works
Solid Waste Division

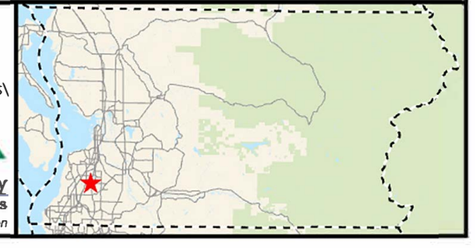


Figure 3c

McCollum Park Landfill

Shallow Aquifer Groundwater Contour Map Second Quarter 2025



GROUNDWATER FLOW
0.02694 ft / day
9.83 ft / year
-114.39 degrees to the positive x - axis

PARCEL BOUNDARY

WELL LOCATION

CONTOURS

WELL ID	DATE	GW ELEVATION
BH-03A	6/3/2025	377.15
BH-05	6/3/2025	377.08
BH-06	6/3/2025	376.69
BH-07	6/3/2025	377.32
BH-08	6/3/2025	382.47

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Snohomish County
Public Works
Solid Waste Division

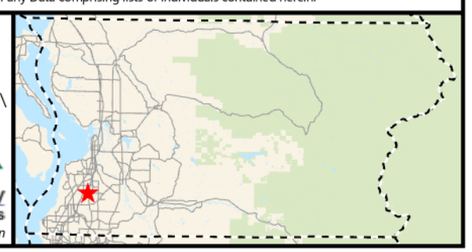


Figure 3d

McCollum Park Landfill

Deep Aquifer Groundwater Contour Map Second Quarter 2025



GROUNDWATER FLOW
0.09176 ft / day
33.49 ft / year
-103.13 degrees to the positive x - axis

PARCEL BOUNDARY

WELL LOCATION

CONTOURS

WELL ID	DATE	GW ELEVATION
MW-12	6/3/2025	376.97
MW-14	6/3/2025	378.88
MW-15	6/3/2025	377.64
MW-16	6/3/2025	377.93
MW-17	6/3/2025	376.95
MW-18	6/3/2025	377.07
MW-19	6/3/2025	376.79
MW-20	6/3/2025	376.98

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2025Q2

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Solid Waste Division

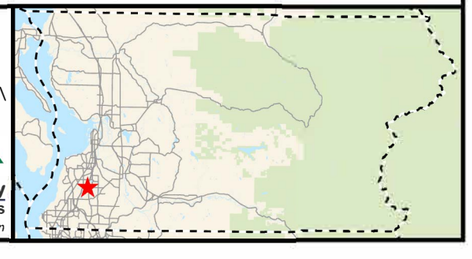
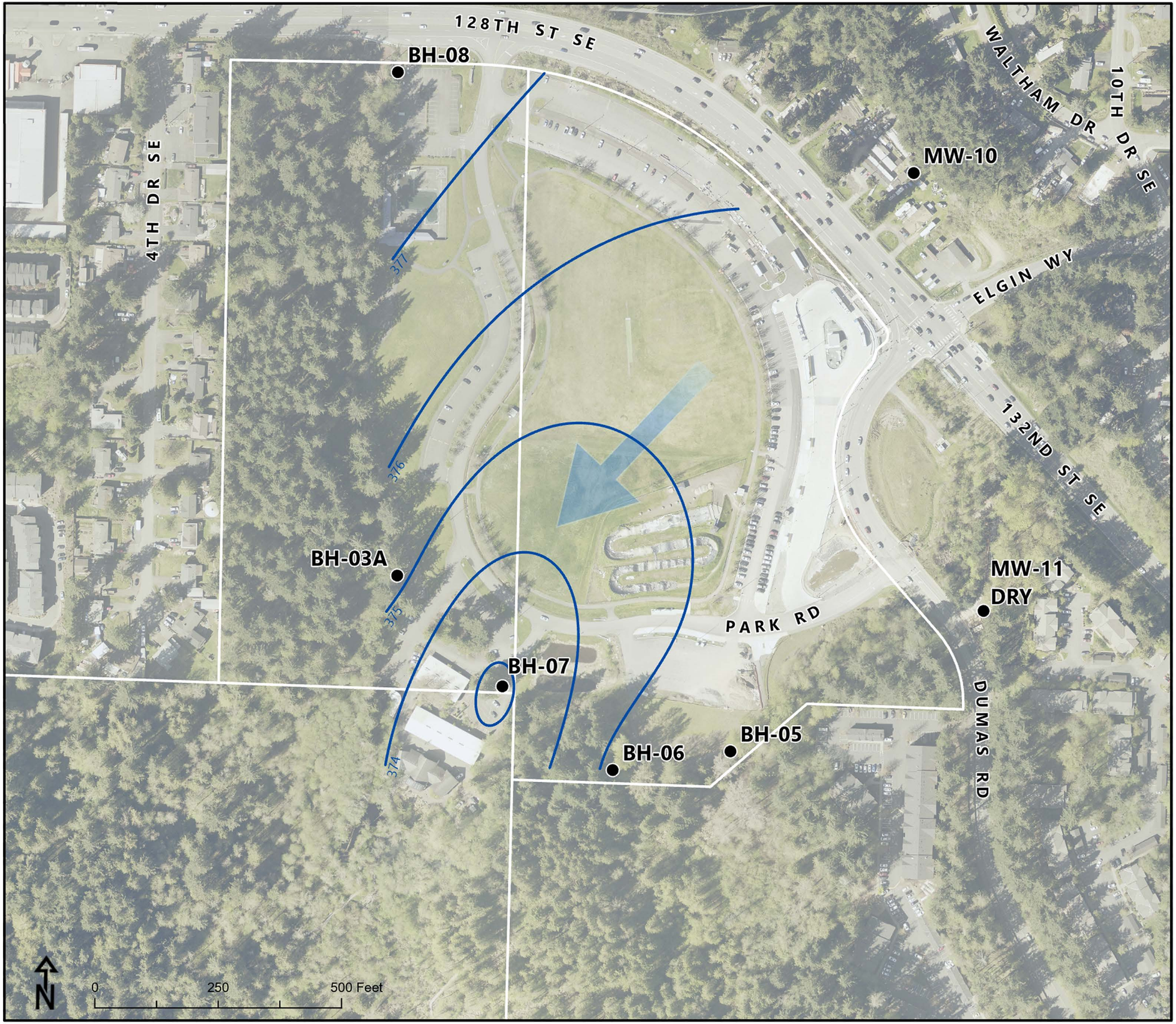


Figure 3e

McCollum Park Landfill

Shallow Aquifer Groundwater Contour Map Third Quarter 2025



GROUNDWATER FLOW
0.023 ft / day
8.38 ft / year
-133.35 degrees to the positive x - axis

PARCEL BOUNDARY

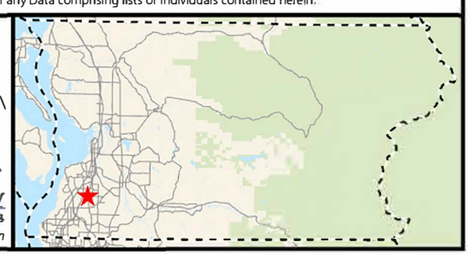
WELL LOCATION

CONTOURS

WELL ID	DATE	GW ELEVATION
BH-03A	9/9/2025	375.24
BH-05	9/9/2025	375.38
BH-06	9/9/2025	375.17
BH-07	9/9/2025	372.90
BH-08	9/9/2025	377.72
MW-10	9/9/2025	NM
MW-11	9/9/2025	DRY

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Date Created: 12/11/2025
File Location:
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Groundwater Contours\
2025Q3



Snohomish County
Public Works
Solid Waste Division

Figure 3f

McCollum Park Landfill

Deep Aquifer Groundwater Contour Map Third Quarter 2025

GROUNDWATER FLOW
0.058 ft / day
21.3 ft / year
-71.56 degrees to the positive x - axis

PARCEL BOUNDARY

WELL LOCATION

CONTOURS

WELL ID	DATE	GW ELEVATION
MW-12	6/3/2025	375.40
MW-13	6/3/2025	NM
MW-14	6/3/2025	376.84
MW-15	6/3/2025	374.85
MW-16	6/3/2025	376.01
MW-17	6/3/2025	375.54
MW-18	6/3/2025	375.10
MW-19	6/3/2025	375.40
MW-20	6/3/2025	375.69

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Date Created: 3/30/2026
File Location:
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Groundwater Contours\
2025Q4

Snohomish County
Public Works
Solid Waste Division



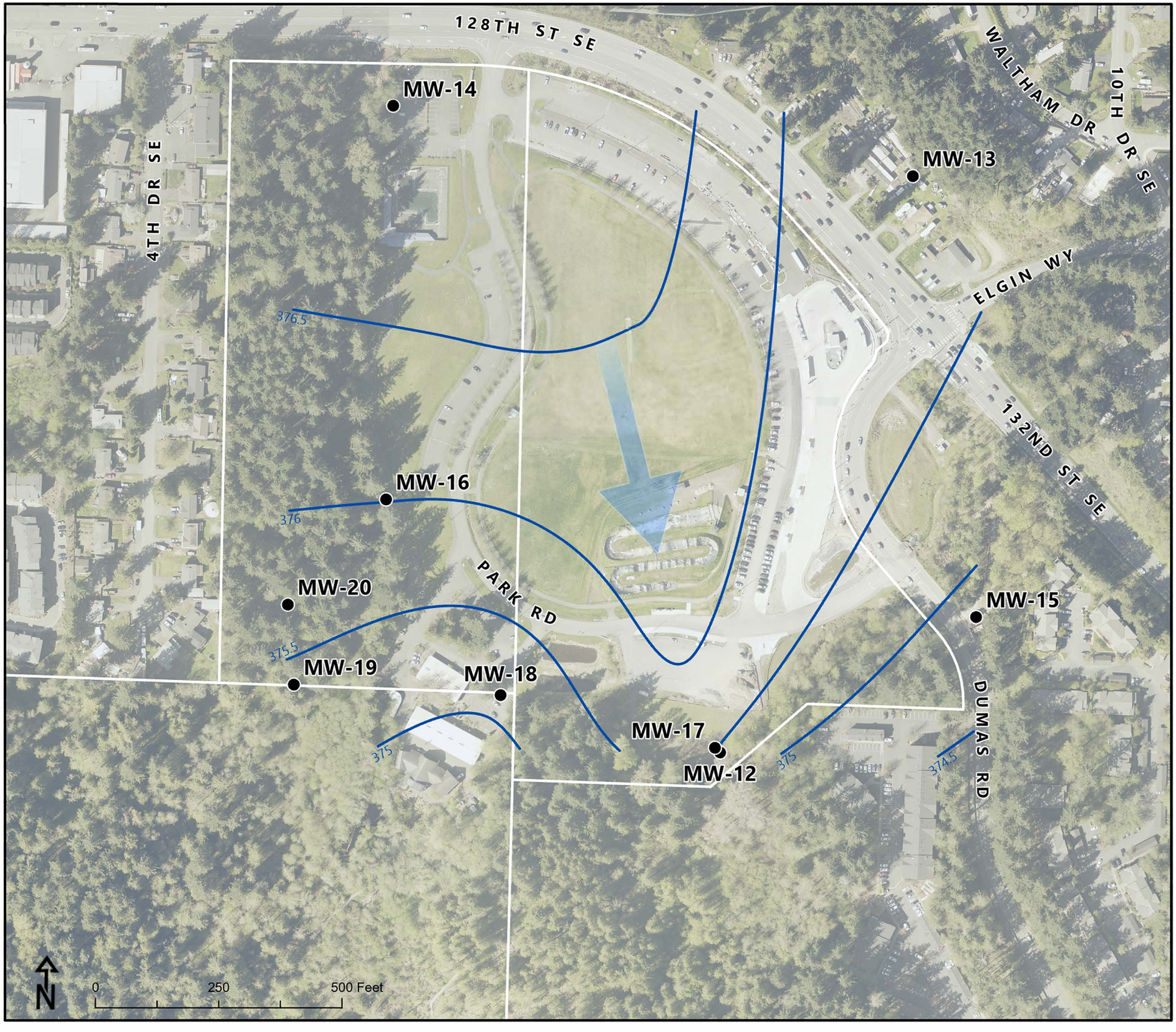


Figure 3g

McCollum Park Landfill

Shallow Aquifer Groundwater Contour Map Fourth Quarter 2025



GROUNDWATER FLOW
0.030 ft / day
11.13 ft / year
-126.50 degrees to the positive x - axis

PARCEL BOUNDARY

WELL LOCATION

CONTOURS

WELL ID	DATE	GW ELEVATION
BH-03A	12/16/2025	376.86
BH-05	12/16/2025	377.75
BH-06	12/16/2025	377.39
BH-07	12/16/2025	377.64
BH-08	12/16/2025	382.42
MW-10	12/16/2025	NM
MW-11	12/16/2025	DRY

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Date Created: 3/27/2026
File Location:
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Groundwater Contours\
2025Q4

Snohomish County
Public Works
Solid Waste Division

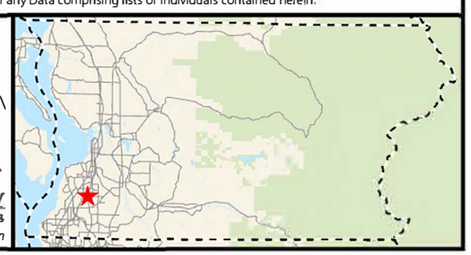
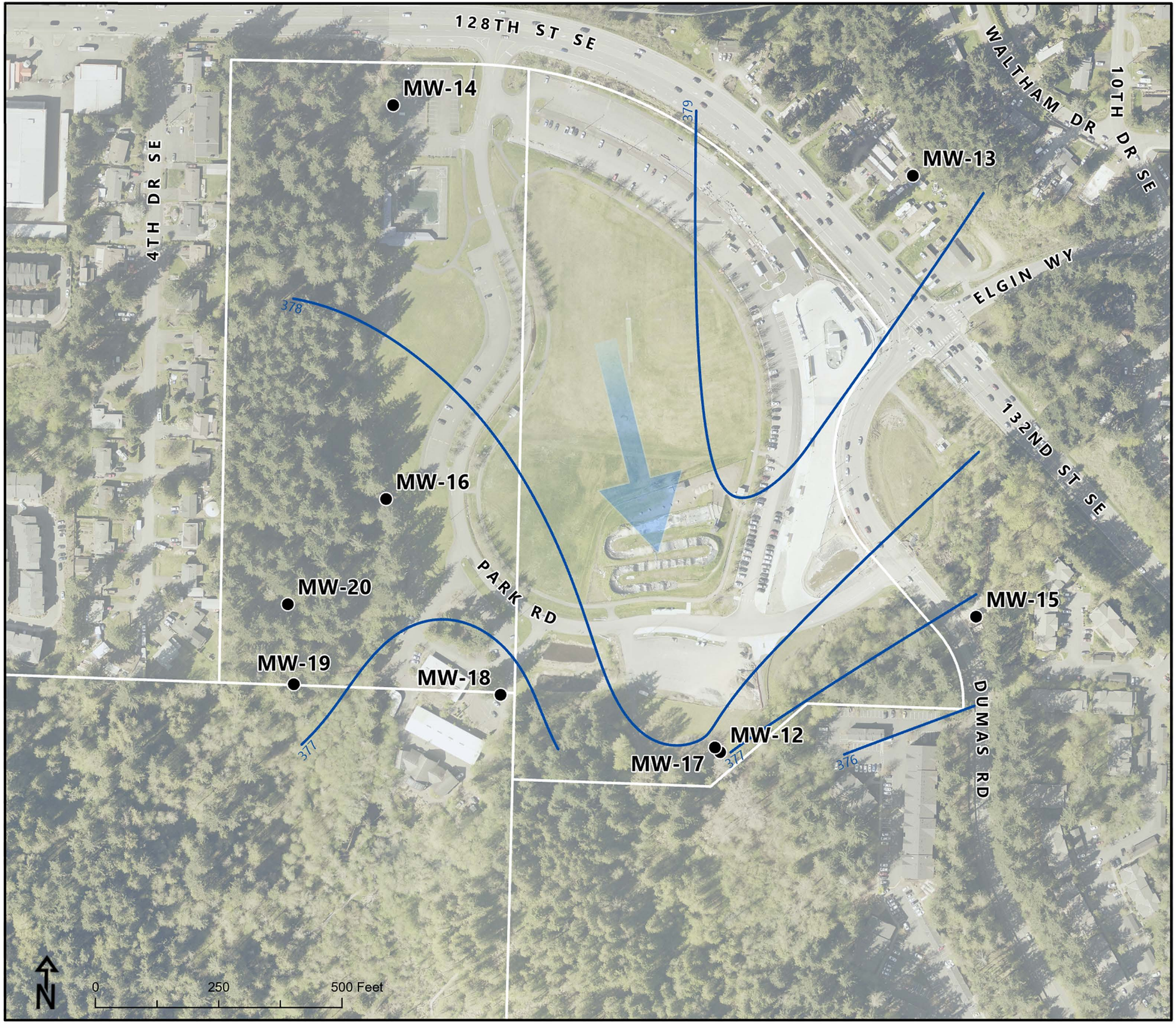


Figure 3h

McCollum Park Landfill

Deep Aquifer Groundwater Contour Map Fourth Quarter 2025



GROUNDWATER FLOW
0.040 ft / day
14.74 ft / year
-75.91 degrees to the positive x - axis

PARCEL BOUNDARY

WELL LOCATION

CONTOURS

WELL ID	DATE	GW ELEVATION
MW-12	12/16/2025	377.25
MW-13	12/16/2025	NM
MW-14	12/16/2025	378.26
MW-15	12/16/2025	376.81
MW-16	12/16/2025	377.56
MW-17	12/16/2025	377.59
MW-18	12/16/2025	376.68
MW-19	12/16/2025	377.26
MW-20	12/16/2025	377.44

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Groundwater Contours\
2025Q4



Snohomish County
Public Works
Solid Waste Division

Attachment 1

Flare Field Inspection Forms

Snohomish County Department of Public Works - Solid Waste Division

McCOLLUM PARK LANDFILL - WEEKLY GAS PROBE MONITORING DATA

DATE	MILITARY TIME	METHANE %	OXYGEN %	CO2 %	VELOCITY (Ft/Min)	LEL SENSORS	BL-1	BL-2	FLARE	Comments		READERS INITIALS
							Check if system is on					
12-27-24	0930	13	9	10	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.13	NO GAS TURNED OFF BL #1 NO SPARKER	TA
1-3-25	1400	35	0	17	—	MAN- 0 BLR- 0	OFF	OFF		GP 14 - 0 BAR- 29.30		ML AW
1-10-25	10:30	13	9	10	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.76	NO GAS - TURNED OFF BL #1 NO SPARK	TA
1-17-25	1023	0	21	0	—	MAN- 0 BLR- 0	Off	off	OUT	GP 14 - 0 BAR- 30.0	No gas NO SPARKS	AW/ML
1-24-25	0915	0	21	0	—	MAN- 0 BLR- 4/4.4	OFF	OFF	OUT	GP 14 - 0 BAR- 29.99	NO GAS SPARKER GOOD	TA
1-31-25	1110	35	1	16	—	MAN- 0 0 BLR- 26.5	OFF	OFF	OUT	GP 14 - 0 BAR- 29.24	STARTED FLARE W/BL #1 SPARK GOOD	TA
2-7-25	10:00	11	10	9	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.66	NO GAS, SPARK GOOD BYPASS VALVE FROZEN	TA
2-14-25	1115	0	22	0	—	MAN- 0 BLR- 0	OFF	OFF	OUT	GP 14 - 29.56 BAR- 0	NO GAS SPARK NOT WORKING	ML/TA
2-21-25	0850	0	21	0	—	MAN- 0 BLR- 0	OFF	OFF	OUT	GP 14 - 0 BAR- 29.70	NO GAS NO SPARK	TA
2-28-25	0930	0	21	0	—	MAN- 0 BLR- 0	OFF	OFF	OUT	GP 14 - 0 BAR- 29.72	NO GAS NO SPARK	TA
3-7-25	13:30	0	19	2	—	MAN- 0 BLR- 0	Off	off	Out	GP 14 - 0 BAR- 29.77	No gas No spark	AW/TA
3-14-25	0925	27	0	15	—	MAN- 0 BLR- 0	Off	off	ot	GP 14 - 0 BAR- 29.13	No Sparks blowers not working	TA/AW
3-21-25	0900	0	21	0	—	MAN- 0 BLR- 0	OFF	OFF	OUT	GP 14 - 0 BAR- 29.416	SPARK GOOD NO GAS	TA
3-28-25	1330	0	22	1	—	MAN- 0 BLR- 0	off	off	out	GP 14 - 0 BAR- 29.46	Sparker good, no gas	AW/ML
4-4-25	1415	10	7	10	—	MAN- 0 BLR- 0	on	off	Out	GP 14 - 0 BAR- 29.91	Sparker good No gas	AW/ML
4-11-25	1325	10	7	11	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.87	SPARKER GOOD NO GAS	TA/ML
4-18-25	1330	15	6	12	—	MAN- 0 0 BLR- 0 0	On	off	~~OUT~~	GP 14 - 0 BAR- 29.68	Sparker good, flare start w/ blower	AW

McCOLLUM PARK LANDFILL - WEEKLY GAS PROBE MONITORING DATA

DATE	MILITARY TIME	METHANE %	OXYGEN %	CO2 %	VELOCITY (Ft/Min)	LEL SENSORS	BL-1	BL-2	FLARE	Comments		READERS INITIALS
							Check if system is on					
4/29/25	1406	7	9	8	-	MAN- Ø BLR- Ø	ON	off	OUT	GP 14 - Ø BAR- 29.87	Spark good, no gas	AW
5-2-25	1410	17	4	13	—	MAN- Ø BLR- ---	ON	OFF	ON	GP 14 - Ø BAR- 29.46	SPARKER GOOD LEFT BL#1 ON	AW/TA
5-9-25	1325	12	9	10	-	MAN- Ø BLR- Ø	ON	off	OUT	GP 14 - Ø BAR- 29.70	Sparker good, turned BL#1 off	AW/ML
5-16-25	1115	18	5	12	—	MAN- --- BLR- Ø	ON	OFF	ON	GP 14 - Ø BAR- 29.65	SPARKER GOOD LEFT BL#1 ON	TA
5-21-25	1038	12	10	10	—	MAN- Ø BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.82	NO GAS, TURN OFF BL#1 - SPARKER GOOD	ML/TA/AW
5-30-25	1035	12	6	12	—	MAN- Ø BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.80	SPARK GOOD NOT ENOUGH GAS	ML/AW
6-6-25	1430	18	4	14	-	MAN- Ø BLR- Ø	ON	OFF	ON	GP 14 - Ø BAR- 29.59	Spark good, LEFT BL#1 ON	AW/ML
6-13-25	1400	11	10	10	905	MAN- Ø BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.65	SPARKER GOOD SHUT OFF BL#1	ML
6-20-25	1400	17	5	14	—	MAN- Ø BLR- Ø	ON	off	ON	GP 14 - Ø BAR- 29.42	Sparker good, Left Bl #1 on.	AW/ML
6-27-25	1355	10	10	10	—	MAN- Ø BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.68	Sparker good, Turned Bl #1 OFF	AW/TA
7-3-25	1400	13	9	11	—	MAN- -5.2 BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.63	SPARKER GOOD NO GAS, TURN BL#1 OFF	AW/TA
7-11-25	1435	12	7	12	—	MAN- Ø BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.75	Spark good, NO gas, turn BL#1 off	AW/TA
7-18-25	1335	9	10	9	—	MAN- Ø BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.57	Spark good No Gas, turn Bl #1 off	AW
7-25-25	1000	15	5	13	—	MAN- 3.1 BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.62	SPARK GOOD - NO GAS TURNED OFF BL#1	TA
8-1-25	1020	12	7	12	—	MAN- Ø BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.75	Spark good - No gas Turned off Bl #1	AW
8-8-25	1335	17	5	14	-	MAN- Ø BLR- Ø	ON	OFF	ON	GP 14 - Ø BAR- 29.75	Spark good. Fl on. Left Bl #1 on.	AW/TA
8-15-25	1340	12	9	12	-	MAN- Ø BLR- Ø	ON	OFF	OUT	GP 14 - Ø BAR- 29.41	Turn Bl #1 off, no gas. Spark good.	AW

McCOLLUM PARK LANDFILL - WEEKLY GAS PROBE MONITORING DATA

DATE	MILITARY TIME	METHANE %	OXYGEN %	CO2 %	VELOCITY (Ft/Min)	LEL SENSORS	BL-1	BL-2	FLARE	Comments		READERS INITIALS
							Check if system is on					
9-22	1350	17	6	14	-	MAN- 0 BLR- 0	ON	OFF	ON	GP 14 - 0 BAR- 29.60	Spark good - Left BL#1 on.	AW
9-29-25	1405	10	12	11	-	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.65	Spark good. No gas, turned BL #1 off.	AW
9-5-25	1350	31	5	12	—	MAN- 0 BLR- 0	OFF	OFF	ON	GP 14 - BAR- 29.43	RUNNING, TURN ON BL#1	ML
9-5-25	1400	18	4	15	—	MAN- 0 BLR- 0	ON	OFF	ON	GP 14 - 0 BAR- 29.43	STILL RUNNING, LEAVE BL#1 ON	ML
9-12-25	0940	10	11	11	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.57	No gas. Spark good. Turn BL #1 off	AW/ML
9-19-25	1115	16	5	14	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.52	SPARK GOOD. FLARE BURNING	ML/AW
9-26-25	1430	10	9	11	-	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.65	SPARK GOOD. SHUTOFF BL#1	ML
10-3-25	1330	10	11	12	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.72	Spark good, Turn off BL #1	AW
10-10-25	1410	12	9	13	-	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.41	Spark good. Turn BL #1 off	AW/TA
10-17-25	10:00	12	7	12	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.69	SPARKER GOOD SHUTOFF BL #1	TA
10-24-25	1330	19	4	15	—	MAN- 0 BLR- 0	ON	OFF	out	GP 14 - 0 BAR- 29.22	SPARKER GOOD	ML/TA
10-31-25	1340	12	10	12	515	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.53	TURN OFF BL#1 SPARK GOOD	ML/AW
11-7-25	1020	2	13	6	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.75	SPARKER GOOD NO GAS / TURN OFF BL#1	TA
11-14-25	ONA 1015	7	14	8	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.39	Spark good. No gas. Turn off BL #1	AW
11-21-25	1415	11	7	12	-	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.48	SPARK GOOD	ML
11-25-25	1335	13	9	12	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.75	SPARK GOOD - NO GAS TURN OFF BL#1	AW/TA
12-5-25	1355	11	10	9	—	MAN- 0 BLR- 0	ON	OFF	OUT	GP 14 - 0 BAR- 29.26	Spark good. Turned off BL #1	AW

McCOLLUM PARK LANDFILL - WEEKLY GAS PROBE MONITORING DATA

DATE	MILITARY TIME	METHANE %	OXYGEN %	CO2 %	VELOCITY (Ft/Min)	LEL SENSORS	BL-1	BL-2	FLARE	Comments		READERS INITIALS
							Check if system is on					
12-12-25	1045	14	5	12	—	MAN- ~~0~~ BLR- ~~0~~	ON	OFF	OFF	GP 14 - ~~0~~ BAR- 29.71	NOT ENOUGH GAS. SPARK GOOD	ML
12-19-25	0930	5	12	7	—	MAN- ~~0~~ BLR- ~~0~~	ON	OFF	OFF	GP 14 - ~~0~~ BAR- 29.25	NOT ENOUGH GAS. SPARKER GOOD.	TA
12-26-25	0930	15	11	10	—	MAN- ~~0~~ BLR- ~~0~~	ON	OFF	ON	GP 14 - ~~0~~ BAR- 29.15	Spark good. Left B1 #1 on.	AW
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		
						MAN- BLR-				GP 14 - BAR-		

Attachment 2

Gas Probe Monitoring Field Sheets

Snohomish County Department of Public Works

Solid Waste Division

Gas Probe Monitoring Data

QUARTERLY GAS ROUND
DATE: 02/14/25

Site	Location	Time (Military)	Methane (% VOL)	Oxygen (% VOL, % LEL, PPM)	Carbon Diox. (% VOL)	Velocity	Barometric Pressure	Comments
LK STEVENS	GP-1	0855	0%	21%	0%		29.62	
	GP-5	0905	0%	21%	1%		"	
	GP-4	0907	0%	13%	7%		"	
	GP-3	0910	0%	21%	0%		"	
	GP-2	0914	0%	21%	0%		"	
	Flare	0918	0%	22%	0%	12	"	
Site	**Location**	**Time (Military)**	**Methane (% VOL)**	**Oxygen (% VOL, % LEL, PPM)**	**Carbon Diox. (% VOL)**	**Velocity**	**Barometric Pressure**	**Comments**
BRYANT	GP-1(S)	1008	0%	22%	0%		29.68	
	GP-1(M)	1009	0%	22%	0%		"	
	GP-1(D)	1010	0%	22%	0%		"	
	GP-5	1005	0%	21%	1%		"	
	GP-6	1015	0%	22%	0%		"	
	Flare	1020	9%	11%	1%	10	"	
Site	**Location**	**Time (Military)**	**Methane (% VOL)**	**Oxygen (% VOL, % LEL, PPM)**	**Carbon Diox. (% VOL)**	**Velocity**	**Barometric Pressure**	**Comments**
McCOLLUM PARK	GP-18	1110	0%	21%	0%		29.56	
	GP-19	1114	0%	21%	0%		"	
	GP-14	1117	0%	21%	1%		"	
	GP-15	1120	0%	20%	1%		"	
	GP-16	1122	0%	22%	1%		"	
	Flare	1127	0%	22%	0%	20	"	

Methane/Oxygen Meter Used =	GEM 5000
Technician Name =	ML/TA
Page =	**1 of 2**

Snohomish County Department of Public Works

Solid Waste Division

Gas Probe Monitoring Data

QUARTERLY GAS ROUND
DATE: 05/21/25

Site	Location	Time (Military)	Methane (% VOL)	Oxygen (% VOL, % LEL, PPM)	Carbon Diox. (% VOL)	Velocity	Barometric Pressure	Comments
LK STEVENS	GP-1	0842	0%	21%	0%	-	30.02	
	GP-5	0846	0%	19%	3%	-	30.02	
	GP-4	0848	0%	11%	10%	-	30.02	
	GP-3	0851	0%	18%	2%	-	30.02	
	GP-2	0857	0%	20%	2%	-	30.02	
	Flare	0900	63%	2%	24%	10	30.02	
Site	**Location**	**Time (Military)**	**Methane (% VOL)**	**Oxygen (% VOL, % LEL, PPM)**	**Carbon Diox. (% VOL)**	**Velocity**	**Barometric Pressure**	**Comments**
BRYANT	GP-1(S)	0940	0%	21%	0%	-	30.03	
	GP-1(M)	0940	0%	21%	0%	-	30.03	
	GP-1(D)	0940	0%	21%	0%	-	30.03	
	GP-5	0940	0%	21%	0%	-	30.03	
	GP-6	0945	0%	21%	0%	-	30.03	
	Flare	0950	34%	0%	8%	--	30.03	Velocity meter not working.
Site	**Location**	**Time (Military)**	**Methane (% VOL)**	**Oxygen (% VOL, % LEL, PPM)**	**Carbon Diox. (% VOL)**	**Velocity**	**Barometric Pressure**	**Comments**
McCOLLUM PARK	GP-18	1030	0%	18%	4%	--	29.82	
	GP-19	1035	0%	19%	2%	--	29.82	
	GP-14	1038	0%	17%	5%	--	29.82	
	GP-15	1042	0%	20%	1%	--	29.82	
	GP-16	1047	0%	21%	1%	--	29.82	
	Flare	1050	12%	10%	10%	--	29.82	Velocity meter not working.

Methane/Oxygen Meter Used =	GEM 5000
Technician Name =	ML/AW/TA
Page =	**1 of 2**

Snohomish County Department of Public Works

Solid Waste Division

Gas Probe Monitoring Data

QUARTERLY GAS ROUND	
DATE:	**08/20/25**

Site	Location	Time (Military)	Methane (% VOL)	Oxygen (% VOL, % LEL, PPM)	Carbon Diox. (% VOL)	Velocity	Barometric Pressure	Comments
LK STEVENS	GP-1	0851	0%	21%	0%		30.01	
	GP-5	0854	0%	19%	3%		"	
	GP-4	0856	0%	17%	5%		"	
	GP-3	0858	0%	19%	2%		"	
	GP-2	0900	0%	20%	1%		"	
	Flare	0902	62%	4%	26%	12	"	
Site	**Location**	**Time (Military)**	**Methane (% VOL)**	**Oxygen (% VOL, % LEL, PPM)**	**Carbon Diox. (% VOL)**	**Velocity**	**Barometric Pressure**	**Comments**
BRYANT	GP-1(S)	0948	0%	21%	0%		30.03	
	GP-1(M)	0949	0%	21%	1%		"	
	GP-1(D)	0950	0%	21%	0%		"	
	GP-5	0946	0%	21%	0%		"	
	GP-6	0954	0%	21%	0%		"	
	Flare	0958	3%	10%	8%	10	"	
Site	**Location**	**Time (Military)**	**Methane (% VOL)**	**Oxygen (% VOL, % LEL, PPM)**	**Carbon Diox. (% VOL)**	**Velocity**	**Barometric Pressure**	**Comments**
McCOLLUM PARK	GP-18	1101	0%	21%	1%		29.86	
	GP-19	1103	0%	20%	3%		"	
	GP-14	1107	0%	18%	5%		"	
	GP-15	1110	0%	20%	2%		"	
	GP-16	1113	0%	20%	1%		"	
	Flare	1119	0%	21%	0%	20	"	

Methane/Oxygen Meter Used =	GEM 5000
Technician Name =	ML/AW
Page =	**1 of 2**

Snohomish County Department of Public Works

Solid Waste Division

Gas Probe Monitoring Data

QUARTERLY GAS ROUND	
DATE:	12/03/25

Site	Location	Time (Military)	Methane (% VOL)	Oxygen (% VOL, % LEL, PPM)	Carbon Diox. (% VOL)	Velocity	Barometric Pressure	Comments
LK STEVENS	GP-1	0915	0%	21%	0%		30.06	
	GP-5	0920	0%	21%	1%		"	
	GP-4	0923	0%	14%	5%		"	
	GP-3	0925	0%	21%	0%		"	
	GP-2	0945	0%	21%	0%		"	
	Flare	0948	64%	0%	26%	10	"	
Site	**Location**	**Time (Military)**	**Methane (% VOL)**	**Oxygen (% VOL, % LEL, PPM)**	**Carbon Diox. (% VOL)**	**Velocity**	**Barometric Pressure**	**Comments**
BRYANT	GP-1(S)	1025	0%	21%	0%		30.09	
	GP-1(M)	1026	0%	21%	0%		"	
	GP-1(D)	1027	0%	21%	0%		"	
	GP-5	1020	0%	20%	0%		"	
	GP-6	1032	0%	21%	0%		"	
	Flare	1040	5%	6%	1%	8	"	
Site	**Location**	**Time (Military)**	**Methane (% VOL)**	**Oxygen (% VOL, % LEL, PPM)**	**Carbon Diox. (% VOL)**	**Velocity**	**Barometric Pressure**	**Comments**
McCOLLUM PARK	GP-18	1117	0%	21%	0%		29.89	
	GP-19	1120	0%	21%	0%		"	
	GP-14	1122	0%	20%	1%		"	
	GP-15	1126	0%	15%	5%		"	
	GP-16	1130	0%	19%	2%		"	
	Flare	1135	0%	21%	0%	12	"	

Methane/Oxygen Meter Used =	GEM 5000
Technician Name =	ML/AW
Page =	1 of 2

Attachment 3

Groundwater Sampling Field Sheets

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22807 **Conditions:** Overcast
Date: 3/19/2025 **Site:** McCollum Park
Time: 10:43 AM **Location:** BH-07

Well Information:

Well Depth: 15.3 ft **Water Depth:** 5.89 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.51 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.54	892 µS	10.9	Clear	Very Fine				
Test 2	Grab	6.53	877 µS	10.9	Clear	Very Fine				
Test 3	Grab	6.55	870 µS	10.9	Clear	Very Fine				

Sampling:

Sample Depth: 6.01 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:15

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22806 **Conditions:** Overcast
Date: 3/19/2025 **Site:** McCollum Park
Time: 10:42 AM **Location:** MMW-18

Well Information:

Well Depth: 100.3 ft **Water Depth:** 6 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 15.09 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.95	846 µS	11.8	Clear	Fine				
Test 2	Grab	7.12	844 µS	11.6	Clear	Very Fine				
Test 3	Grab	7.11	842 µS	11.8	Clear	Very Fine				

Sampling:

Sample Depth: 6.71 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:00

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22805 **Conditions:** Overcast
Date: 3/19/2025 **Site:** McCollum Park
Time: 10:18 AM **Location:** MMW-19

Well Information:

Well Depth: 94.7 ft **Water Depth:** 1.51 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.91 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.91	212 µS	9.9	Clear	Fine				
Test 2	Grab	7.11	211 µS	10.4	Clear	Fine				
Test 3	Grab	7.15	210 µS	10.4	Clear	Fine				

Sampling:

Sample Depth: 2.01 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:40

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number:	22804	**Conditions:**	Overcast
Date:	3/19/2025	**Site:**	McCollum Park
Time:	9:53 AM	**Location:**	MMW-20

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: 5.18 ft **Sample Type:** Standard Ground - Water

Sample Time: 10:15

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: Split sample with 22803. See 22803 for field measurements.

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22803 **Conditions:** Overcast
Date: 3/19/2025 **Site:** McCollum Park
Time: 9:52 AM **Location:** MMW-20

Well Information:

Well Depth: 96.2 ft **Water Depth:** 5.16 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.57 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.85	243 µS	9.8	Clear	Fine				
Test 2	Grab	7.02	232 µS	10	Clear	Fine				
Test 3	Grab	7.11	234 µS	9.9	Clear	Fine				

Sampling:

Sample Depth: 5.18 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:15

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: Split sample with 22804.

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22802 **Conditions:** Overcast
Date: 3/19/2025 **Site:** McCollum Park
Time: 9:14 AM **Location:** MMW-15

Well Information:

Well Depth: 125.5 ft **Water Depth:** 25.9 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 15.94 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.99	332 µS	10.4	Clear	Very Fine				
Test 2	Grab	7.28	317 µS	10.4	Clear	Very Fine				
Test 3	Grab	7.35	319 µS	10.5	Clear	Very Fine				

Sampling:

Sample Depth: 25.95 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

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Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number:	22801	**Conditions:**	Overcast
Date:	3/19/2025	**Site:**	McCollum Park
Time:	9:12 AM	**Location:**	MMW-11

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: **Sample Type:**

Sample Time:

Sample Type	Sample Method	Volume	Bottle Type	Preservative

Notes: No sample, no water

Number of Bottles:

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22800 **Conditions:** Sunny
Date: 3/18/2025 **Site:** McCollum Park
Time: 10:14 AM **Location:** MMW-17

Well Information:

Well Depth: 47.6 ft **Water Depth:** 8.95 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 6.18 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.4	358 µS	9.9	Clear	Very Fine				
Test 2	Grab	6.6	350 µS	10.3	Clear	Very Fine				
Test 3	Grab	6.63	347 µS	10.4	Clear	Very Fine				

Sampling:

Sample Depth: 9.01 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:40

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22799 **Conditions:** Sunny
Date: 3/18/2025 **Site:** McCollum Park
Time: 9:17 AM **Location:** BH-05

Well Information:

Well Depth: 16.85 ft **Water Depth:** 7.31 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.53 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.77	199 µS	7.8	Clear	Fine				
Test 2	Grab	5.74	198 µS	7.8	Clear	Fine				
Test 3	Grab	5.73	198 µS	7.7	Clear	Fine				

Sampling:

Sample Depth: 7.31 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:10

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22798 **Conditions:** Sunny
Date: 3/18/2025 **Site:** McCollum Park
Time: 9:17 AM **Location:** MMW-12

Well Information:

Well Depth: 101.2 ft **Water Depth:** 8.68 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.8 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.38	392 µS	10.8	Clear	Fine				
Test 2	Grab	6.77	399 µS	10.6	Clear	Very Fine				
Test 3	Grab	6.85	397 µS	10.7	Clear	Very Fine				

Sampling:

Sample Depth: 8.61 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22797 **Conditions:** Sunny
Date: 3/18/2025 **Site:** McCollum Park
Time: 9:17 AM **Location:** BH-06

Well Information:

Well Depth: 14.4 ft **Water Depth:** 4.21 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.63 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6	213 µS	8.1	Clear	Fine				
Test 2	Grab	6	202 µS	8.1	Clear	Very Fine				
Test 3	Grab	5.99	202 µS	8.2	Clear	Fine				

Sampling:

Sample Depth: 4.31 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:00

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22796 **Conditions:** Sunny
Date: 3/18/2025 **Site:** McCollum Park
Time: 9:07 AM **Location:** BH-03A

Well Information:

Well Depth: 40.5 ft **Water Depth:** 5.89 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 5.54 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.28	200.2 µS	11.9	Clear	Very Fine				
Test 2	Grab	6.29	199.7 µS	13.2	Clear	Fine				
Test 3	Comp	6.38	198.3 µS	13.2	Clear	Fine				

Sampling:

Sample Depth: 5.95 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:45

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22795 **Conditions:** Sunny
Date: 3/18/2025 **Site:** McCollum Park
Time: 8:51 AM **Location:** MMW-16

Well Information:

Well Depth: 100.3 ft **Water Depth:** 5.11 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 15.23 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.08	541 µS	10.9	Clear	Very Fine				
Test 2	Grab	6.51	559 µS	10.7	Clear	Very Fine				
Test 3	Grab	6.65	568 µS	10.2	Clear	Very Fine				

Sampling:

Sample Depth: 5.38 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:15

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22794 **Conditions:** Sunny
Date: 3/18/2025 **Site:** McCollum Park
Time: 8:38 AM **Location:** MMW-14

Well Information:

Well Depth: 108.96 ft **Water Depth:** 13.94 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 15.2 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.58	165.6 µS	11.6	Clear	Fine				
Test 2	Grab	5.55	166 µS	11.2	Clear	Fine				
Test 3	Grab	5.7	168.5 µS	11.1	Clear	Very Fine				

Sampling:

Sample Depth: 14 ft **Sample Type:** Standard Ground - Water
Sample Time: 08:55

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

Snohomish County Solid Waste
Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22793 **Conditions:** Sunny
Date: 3/18/2025 **Site:** McCollum Park
Time: 8:29 AM **Location:** BH-08

Well Information:

Well Depth: 23 ft **Water Depth:** 12.81 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.63 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.41	166 µS	10.5	Clear	Medium				
Test 2	Grab	5.27	163.4 µS	10.1	Clear	Fine				
Test 3	Grab	5.29	161.8 µS	10.2	Clear	Fine				

Sampling:

Sample Depth: 15.33 ft **Sample Type:** Standard Ground - Water
Sample Time: 08:40

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Environmental Services Section
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Snohomish, WA 98296

Field Sampling Data

Sample Number:	22888	**Conditions:**	Overcast
Date:	6/4/2025	**Site:**	McCollum Park
Time:	11:00 AM	**Location:**	BH-07

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: 6.79 ft **Sample Type:** Priority Pollutants - Water

Sample Time: 11:05

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	ISCO	100	Clpl	NaOH
Bottle 2	Grab	ISCO	1000	Ambgl	None
Bottle 3	Grab	ISCO	1000	Ambgl	None
Bottle 4	Grab	ISCO	1000	Ambgl	None
Bottle 5	Grab	ISCO	40	Ambgl	H2SO4

Notes: Added bottle set. See field measurements on 22887.

Number of Bottles: 5

Operator/Witness: Trina Arnold **Sampler: Matt Lawless**

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Environmental Services Section
8915 Cathcart Way
Snohomish, WA 98296

Field Sampling Data

Sample Number: 22887 **Conditions:** Overcast
Date: 6/4/2025 **Site:** McCollum Park
Time: 11:00 AM **Location:** BH-07

Well Information:

Well Depth: 15.3 ft **Water Depth:** 6.63 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.39 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.57	901 µS	13.6	Clear	Very Fine				
Test 2	Grab	6.54	873 µS	13.1	Clear	Very Fine				
Test 3	Grab	6.52	874 µS	12.9	Clear	Very Fine				

Sampling:

Sample Depth: 6.79 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:05

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Trina Arnold **Sampler: Matt Lawless**

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Environmental Services Section
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Field Sampling Data

Sample Number: 22886 **Conditions:** Overcast
Date: 6/4/2025 **Site:** McCollum Park
Time: 10:36 AM **Location:** MMW-18

Well Information:

Well Depth: 100.3 ft **Water Depth:** 6.81 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.96 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	7.03	834 µS	13.5	Clear	Very Fine				
Test 2	Grab	7.09	837 µS	13.1	Clear	Very Fine				
Test 3	Grab	7.21	839 µS	13.3	Clear	Very Fine				

Sampling:

Sample Depth: 7.75 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:55

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Trina Arnold **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22885 **Conditions:** Overcast
Date: 6/4/2025 **Site:** McCollum Park
Time: 10:10 AM **Location:** MMW-19

Well Information:

Well Depth: 94.7 ft **Water Depth:** 2.58 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.74 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	7.22	207 µS	11.8	Clear	Very Fine				
Test 2	Grab	7.26	215 µS	11.3	Clear	Very Fine				
Test 3	Grab	7.26	215 µS	11.3	Clear	Very Fine				

Sampling:

Sample Depth: 2.39 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:25

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Trina Arnold **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22884 **Conditions:** Overcast
Date: 6/4/2025 **Site:** McCollum Park
Time: 9:46 AM **Location:** MMW-20

Well Information:

Well Depth: 96.2 ft **Water Depth:** 6.52 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.35 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	7.06	227 µS	11.4	Clear	Very Fine				
Test 2	Grab	7.2	235 µS	11.2	Clear	Very Fine				
Test 3	Grab	7.2	236 µS	11.5	Clear	Very Fine				

Sampling:

Sample Depth: 6.15 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:05

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Trina Arnold **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22883 **Conditions:** Overcast
Date: 6/4/2025 **Site:** McCollum Park
Time: 9:15 AM **Location:** MMW-15

Well Information:

Well Depth: 125.5 ft **Water Depth:** 24.22 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 16.2 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	7.2	304 µS	12.2	Clear	Very Fine				
Test 2	Grab	7.43	311 µS	11.8	Clear	Very Fine				
Test 3	Grab	7.37	310 µS	11.5	Clear	Very Fine				

Sampling:

Sample Depth: 25.43 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:35

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Trina Arnold **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number:	22882	**Conditions:**	Overcast
Date:	6/4/2025	**Site:**	McCollum Park
Time:	9:12 AM	**Location:**	MMW-11

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: **Sample Type:**

Sample Time:

Sample Type	Sample Method	Volume	Bottle Type	Preservative

Notes: Not enough water to sample.

Number of Bottles:

Operator/Witness: Trina Arnold **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22881 **Conditions:** Sunny
Date: 6/3/2025 **Site:** McCollum Park
Time: 10:25 AM **Location:** MMW-17

Well Information:

Well Depth: 47.6 ft **Water Depth:** 9.96 ft

Surface Measurements:

Flow Rate: 0 **Measure Method:**

Field Chemistry Tests:

Purge Volume: 6.02 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.48	374 µS	12.2	Clear	Very Fine				
Test 2	Grab	6.58	378 µS	11.3	Clear	Very Fine				
Test 3	Grab	6.65	380 µS	11.1	Clear	Very Fine				

Sampling:

Sample Depth: 9.79 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:45

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 22880 **Conditions:** Sunny
Date: 6/3/2025 **Site:** McCollum Park
Time: 10:15 AM **Location:** MMW-12

Well Information:

Well Depth: 101.2 ft **Water Depth:** 9.34 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.7 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.49	393 µS	13.1	Clear	Fine				
Test 2	Grab	6.82	400 µS	12	Clear	Fine				
Test 3	Grab	6.9	401 µS	11.9	Clear	Fine				

Sampling:

Sample Depth: 9.23 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22879 **Conditions:** Sunny
Date: 6/3/2025 **Site:** McCollum Park
Time: 10:09 AM **Location:** BH-05

Well Information:

Well Depth: 16.85 ft **Water Depth:** 8.25 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.38 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.8	244 µS	10.5	Clear	Fine				
Test 2	Grab	5.82	247 µS	9.5	Clear	Fine				
Test 3	Grab	5.83	250 µS	9	Clear	Very Fine				

Sampling:

Sample Depth: 8.44 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:15

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 22878 **Conditions:** Sunny
Date: 6/3/2025 **Site:** McCollum Park
Time: 9:54 AM **Location:** BH-06

Well Information:

Well Depth: 14.4 ft **Water Depth:** 5.11 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.49 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.03	231 µS	11.7	Clear	Very Fine				
Test 2	Grab	6.05	232 µS	10.9	Clear	Fine				
Test 3	Grab	6.08	235 µS	10.5	Clear	Very Fine				

Sampling:

Sample Depth: 5.28 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:10

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22877 **Conditions:** Sunny
Date: 6/3/2025 **Site:** McCollum Park
Time: 9:39 AM **Location:** BH-03A

Well Information:

Well Depth: 40.5 ft **Water Depth:** 6.4 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 5.46 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.2	191.3 µS	14.8	Clear	Fine				
Test 2	Grab	6.41	194 µS	13.7	Clear	Fine				
Test 3	Grab	6.49	196 µS	13.7	Clear	Fine				

Sampling:

Sample Depth: 6.51 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:50

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number:	22876	**Conditions:**	Sunny
Date:	6/3/2025	**Site:**	McCollum Park
Time:	9:06 AM	**Location:**	MMW-16

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: 6.38 ft **Sample Type:** Standard Ground - Water

Sample Time: 09:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: Split sample, see 22875 for field measurements.

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 22875 **Conditions:** Sunny
Date: 6/3/2025 **Site:** McCollum Park
Time: 9:05 AM **Location:** MMW-16

Well Information:

Well Depth: 100.3 ft **Water Depth:** 5.75 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 15.13 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.23	531 µS	13.8	Clear	Fine				
Test 2	Grab	6.59	545 µS	13.1	Clear	Fine				
Test 3	Grab	6.69	562 µS	12.9	Clear	Fine				

Sampling:

Sample Depth: 6.38 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: Split sample with 22876.

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 22874 **Conditions:** Sunny
Date: 6/3/2025 **Site:** McCollum Park
Time: 8:49 AM **Location:** MMW-14

Well Information:

Well Depth: 108.96 ft **Water Depth:** 14.77 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 15.07 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.6	163 µS	13.5	Clear	Fine				
Test 2	Grab	5.68	164 µS	12.9	Clear	Very Fine				
Test 3	Grab	5.79	164 µS	12.9	Clear	Very Fine				

Sampling:

Sample Depth: 14.73 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:05

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 22873 **Conditions:** Sunny
Date: 6/3/2025 **Site:** McCollum Park
Time: 8:39 AM **Location:** BH-08

Well Information:

Well Depth: 23 ft **Water Depth:** 13.24 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.56 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.26	137 µS	13.1	Clear	Medium				
Test 2	Grab	5.34	141 µS	11.7	Clear	Fine				
Test 3	Grab	5.34	143 µS	11	Clear	Fine				

Sampling:

Sample Depth: 16.01 ft **Sample Type:** Standard Ground - Water
Sample Time: 08:50

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 22964 **Conditions:** Sunny
Date: 9/10/2025 **Site:** McCollum Park
Time: 10:50 AM **Location:** BH-07

Well Information:

Well Depth: 15.3 ft **Water Depth:** 11.05 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 0.68 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.95	954 µS	16.2	Clear	Heavy				
Test 2	Grab	6.02	952 µS	16.3	Clear	Heavy				
Test 3	Grab	6.05	937 µS	16.2	Clear	Medium				

Sampling:

Sample Depth: 11.22 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:25

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22963 **Conditions:** Overcast
Date: 9/10/2025 **Site:** McCollum Park
Time: 10:36 AM **Location:** MMW-18

Well Information:

Well Depth: 100.3 ft **Water Depth:** 8.78 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.64 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.48	846 µS	13.5	Clear	Very Fine				
Test 2	Grab	6.66	851 µS	12.9	Clear	Very Fine				
Test 3	Grab	6.63	852 µS	13	Clear	Very Fine				

Sampling:

Sample Depth: 9.37 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:15

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22962 **Conditions:** Sunny
Date: 9/10/2025 **Site:** McCollum Park
Time: 10:00 AM **Location:** MMW-19

Well Information:

Well Depth: 94.7 ft **Water Depth:** 3.97 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.52 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.18	205 µS	11.5	Clear	Very Fine				
Test 2	Grab	6.54	208 µS	11.5	Clear	Very Fine				
Test 3	Grab	6.52	209 µS	11.2	Clear	Very Fine				

Sampling:

Sample Depth: 3.97 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22961 **Conditions:** Sunny
Date: 9/10/2025 **Site:** McCollum Park
Time: 9:33 AM **Location:** MMW-20

Well Information:

Well Depth: 96.2 ft **Water Depth:** 7.81 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.14 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.25	225 µS	11.9	Clear	Very Fine				
Test 2	Grab	6.44	230 µS	11.4	Clear	Very Fine				
Test 3	Grab	6.41	231 µS	11.2	Clear	Very Fine				

Sampling:

Sample Depth: 8.32 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:10

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number:	22960	**Conditions:**	Overcast
Date:	9/10/2025	**Site:**	McCollum Park
Time:	9:12 AM	**Location:**	MMW-15

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: 28.71 ft **Sample Type:** Standard Ground - Water

Sample Time: 09:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: Split sample, see 22959 for field measurements.

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22959 **Conditions:** Overcast
Date: 9/10/2025 **Site:** McCollum Park
Time: 9:10 AM **Location:** MMW-15

Well Information:

Well Depth: 125.5 ft **Water Depth:** 27.01 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 15.76 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.4	310 µS	12.8	Clear	Very Fine				
Test 2	Grab	6.69	316 µS	11.8	Clear	Very Fine				
Test 3	Grab	6.69	318 µS	11.9	Clear	Very Fine				

Sampling:

Sample Depth: 28.71 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: Split sample with 22960

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number:	22958	**Conditions:**	Overcast
Date:	9/10/2025	**Site:**	McCollum Park
Time:	9:09 AM	**Location:**	MMW-11

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: **Sample Type:**

Sample Time:

Sample Type	Sample Method	Volume	Bottle Type	Preservative

Notes: Dry

Number of Bottles:

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22957 **Conditions:** Overcast
Date: 9/9/2025 **Site:** McCollum Park
Time: 10:25 AM **Location:** MMW-17

Well Information:

Well Depth: 47.6 ft **Water Depth:** 11.37 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 5.8 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.35	364 µS	11.6	Clear	Very Fine				
Test 2	Grab	6.5	374 µS	11.3	Clear	Very Fine				
Test 3	Grab	6.6	372 µS	11.3	Clear	Very Fine				

Sampling:

Sample Depth: 11.11 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:10

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22956 **Conditions:** Overcast
Date: 9/9/2025 **Site:** McCollum Park
Time: 10:24 AM **Location:** MMW-12

Well Information:

Well Depth: 101.2 ft **Water Depth:** 10.91 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.45 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.47	372 µS	12.2	Clear	Very Fine				
Test 2	Grab	6.78	375 µS	12.2	Clear	Very Fine				
Test 3	Grab	6.87	373 µS	12.4	Clear	Very Fine				

Sampling:

Sample Depth: 10.97 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:55

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22955 **Conditions:** Overcast
Date: 9/9/2025 **Site:** McCollum Park
Time: 10:07 AM **Location:** BH-05

Well Information:

Well Depth: 16.85 ft **Water Depth:** 9.95 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.1 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.5	449 µS	11.5	Clear	Very Fine				
Test 2	Grab	5.69	445 µS	11.2	Clear	Very Fine				
Test 3	Grab	5.84	443 µS	11.2	Clear	Very Fine				

Sampling:

Sample Depth: 9.81 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:35

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22954 **Conditions:** Overcast
Date: 9/9/2025 **Site:** McCollum Park
Time: 9:58 AM **Location:** BH-06

Well Information:

Well Depth: 14.4 ft **Water Depth:** 6.63 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.24 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.83	532 µS	14.8	Clear	Very Fine				
Test 2	Grab	5.9	495 µS	12.4	Clear	Very Fine				
Test 3	Grab	5.97	493 µS	13.2	Clear	Very Fine				

Sampling:

Sample Depth: 6.39 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:20

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22953 **Conditions:** Overcast
Date: 9/9/2025 **Site:** McCollum Park
Time: 9:32 AM **Location:** BH-03A

Well Information:

Well Depth: 40.5 ft **Water Depth:** 8.31 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 5.15 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.13	181 µS	14.7	Clear	Very Fine				
Test 2	Grab	6.22	182 µS	13.9	Clear	Very Fine				
Test 3	Grab	6.29	182 µS	13.7	Clear	Very Fine				

Sampling:

Sample Depth: 8.44 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:05

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22952 **Conditions:** Overcast
Date: 9/9/2025 **Site:** McCollum Park
Time: 9:08 AM **Location:** MMW-16

Well Information:

Well Depth: 100.3 ft **Water Depth:** 7.67 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.82 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.08	501 µS	12.7	Clear	Very Fine				
Test 2	Grab	6.5	511 µS	12.5	Clear	Very Fine				
Test 3	Grab	6.64	509 µS	12.5	Clear	Very Fine				

Sampling:

Sample Depth: 7.81 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:45

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22951 **Conditions:** Overcast
Date: 9/9/2025 **Site:** McCollum Park
Time: 8:58 AM **Location:** MMW-14

Well Information:

Well Depth: 108.96 ft **Water Depth:** 16.81 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.74 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.3	153 µS	14	Clear	Fine				
Test 2	Grab	5.67	154 µS	13.1	Clear	Fine				
Test 3	Grab	5.78	153 µS	13.1	Clear	Fine				

Sampling:

Sample Depth: 16.81 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:20

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 22950 **Conditions:** Overcast
Date: 9/9/2025 **Site:** McCollum Park
Time: 8:48 AM **Location:** BH-08

Well Information:

Well Depth: 23 ft **Water Depth:** 17.99 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 0.8 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	4.82	139 µS	13.6	Clear	Heavy				
Test 2	Grab	4.95	139 µS	12.9	Clear	Heavy				

Sampling:

Sample Depth: **Sample Type:** Standard Ground - Water
Sample Time: 09:00

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: dry after 2 purges

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 23066 **Conditions:** Overcast
Date: 12/17/2025 **Site:** McCollum Park
Time: 10:29 AM **Location:** BH-07

Well Information:

Well Depth: 15.3 ft **Water Depth:** 6.31 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.44 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.42	341 µS	12.6	Clear	Fine				
Test 2	Grab	5.69	423 µS	13.8	Clear	Fine				
Test 3	Grab	5.93		14	Clear	Fine				

Sampling:

Sample Depth: 6.2 ft **Sample Type:** Priority Pollutants - Water
Sample Time: 11:00

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	ISCO	100	Clpl	NaOH
Bottle 2	Grab	ISCO	1000	Ambgl	None
Bottle 3	Grab	ISCO	1000	Ambgl	None
Bottle 4	Grab	ISCO	1000	Ambgl	None
Bottle 5	Grab	ISCO	40	Ambgl	H2SO4

Notes:

Number of Bottles: 5

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 23065 **Conditions:** Overcast
Date: 12/17/2025 **Site:** McCollum Park
Time: 10:28 AM **Location:** BH-07

Well Information:

Well Depth: 15.3 ft **Water Depth:** 6.31 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.44 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.42	341 µS	12.6	Clear	Fine				
Test 2	Grab	5.69	423 µS	13.8	Clear	Fine				
Test 3	Grab	5.93		14	Clear	Fine				

Sampling:

Sample Depth: 6.2 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:00

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 23064 **Conditions:** Overcast
Date: 12/17/2025 **Site:** McCollum Park
Time: 10:06 AM **Location:** MMW-18

Well Information:

Well Depth: 100.3 ft **Water Depth:** 7.2 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.9 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.39	851 µS	11.7	Clear	Fine				
Test 2	Grab	6.57	846 µS	11.8	Clear	Fine				
Test 3	Grab	6.64	842 µS	11	Clear	Very Fine				

Sampling:

Sample Depth: 6.61 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:45

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 23063 **Conditions:** Overcast
Date: 12/17/2025 **Site:** McCollum Park
Time: 9:41 AM **Location:** MMW-19

Well Information:

Well Depth: 94.7 ft **Water Depth:** 2.11 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.81 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.23	216 µS	10.3	Clear	Very Fine				
Test 2	Grab	6.51	219 µS	10.2	Clear	Very Fine				
Test 3	Grab	6.46	221 µS	10.1	Clear	Very Fine				

Sampling:

Sample Depth: 2.33 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:15

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 23062 **Conditions:** Overcast
Date: 12/17/2025 **Site:** McCollum Park
Time: 9:10 AM **Location:** MMW-20

Well Information:

Well Depth: 96.2 ft **Water Depth:** 6.06 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.42 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.76	224 µS	10.4	Clear	Very Fine				
Test 2	Grab	6.25	231 µS	10.3	Clear	Very Fine				
Test 3	Grab	6.42	229 µS	10	Clear	Very Fine				

Sampling:

Sample Depth: 6.66 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:55

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Field Sampling Data

Sample Number: 23061 **Conditions:** Overcast
Date: 12/17/2025 **Site:** McCollum Park
Time: 9:03 AM **Location:** MMW-15

Well Information:

Well Depth: 125.5 ft **Water Depth:** 25.05 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 16.07 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.14	313 µS	11.2	Clear	Very Fine				
Test 2	Grab	6.58	322 µS	10.2	Clear	Very Fine				
Test 3	Grab	6.61	324 µS	10.1	Clear	Very Fine				

Sampling:

Sample Depth: 24.06 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:20

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Snohomish, WA 98296

Field Sampling Data

Sample Number:	23060	**Conditions:**	Overcast
Date:	12/17/2025	**Site:**	McCollum Park
Time:	9:02 AM	**Location:**	MMW-11

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: **Sample Type:** Standard Ground - Water

Sample Time:

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: No water, no sample.

Number of Bottles: 8

Operator/Witness: Arianna Wald **Sampler: Matt Lawless**

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Snohomish, WA 98296

Field Sampling Data

Sample Number: 23059 **Conditions:** Precip - rain
Date: 12/16/2025 **Site:** McCollum Park
Time: 11:32 AM **Location:** MMW-17

Well Information:

Well Depth: 47.6 ft **Water Depth:** 9.32 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 6.12 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.22	321	11	Clear	Very Fine				
Test 2	Grab	6.44	320	11	Clear	Very Fine				
Test 3	Grab	6.49	319	11	Clear	Very Fine				

Sampling:

Sample Depth: 9.39 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:50

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

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Environmental Services Section
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Snohomish, WA 98296

Field Sampling Data

Sample Number: 23058 **Conditions:** Precip - rain
Date: 12/16/2025 **Site:** McCollum Park
Time: 11:24 AM **Location:** MMW-12

Well Information:

Well Depth: 101.2 ft **Water Depth:** 9.06 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.74 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.26	375	11.4	Clear	Very Fine				
Test 2	Grab	6.61	379	11.4	Clear	Very Fine				
Test 3	Grab	6.75	380	11.5	Clear	Very Fine				

Sampling:

Sample Depth: 9.1 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:40

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 23057 **Conditions:** Precip - rain
Date: 12/16/2025 **Site:** McCollum Park
Time: 11:07 AM **Location:** BH-05

Well Information:

Well Depth: 16.85 ft **Water Depth:** 7.58 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.48 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.31	270	10.7	Clear	Very Fine				
Test 2	Grab	5.55	255	10.7	Clear	Very Fine				
Test 3	Grab	5.57	254	10.7	Clear	Very Fine				

Sampling:

Sample Depth: 7.58 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:25

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 23056 **Conditions:** Precip - rain
Date: 12/16/2025 **Site:** McCollum Park
Time: 10:40 AM **Location:** BH-06

Well Information:

Well Depth: 14.4 ft **Water Depth:** 4.41 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.6 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.62	360	10.8	Clear	Very Fine				
Test 2	Grab	5.72	344	10.7	Clear	Very Fine				
Test 3	Grab	5.73	352	10.7	Clear	Very Fine				

Sampling:

Sample Depth: 4.46 ft **Sample Type:** Standard Ground - Water
Sample Time: 11:05

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 23055 **Conditions:** Precip - rain
Date: 12/16/2025 **Site:** McCollum Park
Time: 10:23 AM **Location:** BH-03A

Well Information:

Well Depth: 40.5 ft **Water Depth:** 6.69 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 5.41 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.07	203	13.1	Clear	Very Fine				
Test 2	Grab	6.26	201	13.3	Clear	Very Fine				
Test 3	Grab	6.4	200	13.4	Clear	Very Fine				

Sampling:

Sample Depth: 6.74 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:40

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 23054 **Conditions:** Precip - rain
Date: 12/16/2025 **Site:** McCollum Park
Time: 9:59 AM **Location:** MMW-16

Well Information:

Well Depth: 100.3 ft **Water Depth:** 6.12 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 15.07 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	6.1	497	12	Clear	Very Fine				
Test 2	Grab	6.45	510	11.9	Clear	Very Fine				
Test 3	Grab	6.6	517	11.8	Clear	Very Fine				

Sampling:

Sample Depth: 6.09 ft **Sample Type:** Standard Ground - Water
Sample Time: 10:15

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number:	23053	**Conditions:**	Precip - rain
Date:	12/16/2025	**Site:**	McCollum Park
Time:	9:37 AM	**Location:**	MMW-14

Well Information:

Well Depth: **Water Depth:**

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume:

Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time

Sampling:

Sample Depth: 15.39 ft **Sample Type:** Standard Ground - Water

Sample Time: 09:50

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: Split sample with 20352 - see sheet 20352 for field chemistry.

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 23052 **Conditions:** Precip - rain
Date: 12/16/2025 **Site:** McCollum Park
Time: 9:27 AM **Location:** MMW-14

Well Information:

Well Depth: 108.96 ft **Water Depth:** 15.39 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 14.97 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	5.28	157	12.1	Clear	Very Fine				
Test 2	Grab	5.66	157	12.2	Clear	Very Fine				
Test 3	Grab	5.69	157	12.1	Clear	Very Fine				

Sampling:

Sample Depth: 15.39 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:50

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes: Split sample with 23053

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

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Field Sampling Data

Sample Number: 23051 **Conditions:** Precip - rain
Date: 12/16/2025 **Site:** McCollum Park
Time: 9:15 AM **Location:** BH-08

Well Information:

Well Depth: 23 ft **Water Depth:** 13.29 ft

Surface Measurements:

Flow Rate: **Measure Method:**

Field Chemistry Tests:

Purge Volume: 1.55 gallons

	Type	pH	Cond	Temp	Color	Turbidity	Purge Vol	Water Depth	ORP	Time
Test 1	Grab	4.69	148	13.1	Clear	Very Fine				
Test 2	Grab	4.86	144	13.2	Clear	Very Fine				
Test 3	Grab	5.04	146	13.2	Clear	Very Fine				

Sampling:

Sample Depth: 15.21 ft **Sample Type:** Standard Ground - Water
Sample Time: 09:30

	Sample Type	Sample Method	Volume	Bottle Type	Preservative
Bottle 1	Grab	Dedicator	1000	Clpl	None
Bottle 2	Grab	Dedicator	250	Clpl	HNO3R
Bottle 3	Grab	Dedicator	250	Clpl	H2SO4
Bottle 4	Grab	Dedicator	250	Clpl	HNO3
Bottle 5	Grab	Dedicator	40	Glass	HCL
Bottle 6	Grab	Dedicator	40	Glass	HCL
Bottle 7	Grab	Dedicator	40	Glass	HCL
Bottle 8	Grab	Dedicator	40	Glass	HCL

Notes:

Number of Bottles: 8

Operator/Witness: Matt Lawless **Sampler: Trina Arnold**

Attachment 4

Groundwater Flow Calculations

Site: **McCollum Park/Former Emander Landfill - Shallow Aquifer, 1st Quarter 2025**

Measurement Date: **3/18/2025**

	[**X**] matrix			[**D**] matrix
Well ID	**X-axis**	**Y-axis**	**GW Elev.**	D
BH-03A	222.89	1076.77	**377.66**	1
BH-05	899.19	716.67	**378.02**	1
BH-06	658.91	680.07	**377.59**	1
BH-07	436.29	849.69	**378.06**	1
BH-08	223.90	2097.01	**382.90**	1
6	0	0	**0**	1
7	0	0	0	1
8	0	0	0	1
9	0	0	0	1
10	0	0	0	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1
14	0	0	0	1
15	0	0	0	1
16	0	0	0	1
17	0	0	0	1
18	0	0	0	1
19	0	0	0	1
20	0	0	0	1

Pt

222.89	899.19	658.91	436.3	223.9	0	0	0
1076.77	716.67	680.07	849.7	2097.01	0	0	0
377.66	378.02	377.59	378.1	382.9	0	0	0

{[P]t[P]}

1532865.17	2172760.475	923561.4
2172760.475	7254968.763	2058535
923561.3755	2058535.113	717642.2

{[P]t[P]}'

5.67654E-06	2.00321E-06	-1.3E-05
2.00321E-06	1.44759E-06	-6.7E-06
-1.30515E-05	-6.7304E-06	3.75E-05

{[P]t[P]}'[P]t

-0.00150679	0.001606198	0.000175	-8E-04	0.000474304	0	0	0
-0.000536576	0.000294492	-0.00024	-4E-04	0.000907069	0	0	0
0.00400455	-0.00238507	0.000981	0.003	-0.002678746	0	0	0

{[P]t[P]}'[P]t [D] = [**A**] matrix

A	-7.2794E-06
B	-1.2444E-05
C	0.002684581

Well MW-10 was inaccessible and not gauged/sampled.

Well MW-11 was dry

Groundwater Gradient:	**0.0054**	
Conductivity (ft/day):	**1.542**	
Effective porosity:	**30%**	
GW velocity:	**0.02760**	**ft/day**
	10.07	**ft/year**
Flow direction:	**-120.33**	**degrees from the positive x-axis**

This spreadsheet is from the paper, "A Spreadsheet Method For Estimating Hydraulic Gradient With Heads From Multiple Wells" submitted to Ground Water, March, 2002. To use the program, enter the coordinates for the well locations in the columns labeled x and y (part of the [**X**] matrix), and the water levels in the z column. The matrices are automatically updated and the gradient magnitude and direction are calculated in cell H36 and H41.

Site: **McCollum Park/Former Emander Landfill - Deep Aquifer, 1st Quarter 2025**

Measurement Date: **3/18/2025**

	[**X**] matrix			[**D**] matrix
Well ID	**X-axis**	**Y-axis**	**GW Elev.**	D
MW-12	881.62	719.01	**377.63**	1
MW-14	213.79	2027.73	**379.71**	1
MW-15	1401.93	991.00	**375.96**	1
MW-16	193.95	1231.98	**378.57**	1
MW-17	867.27	723.98	**377.96**	1
MW-18	430.16	834.63	**377.88**	1
MW-19	11.87	855.95	**377.86**	1
MW-20	0.3	1017.5	**378.34**	1
9	0	0	0	1
10	0	0	0	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1
14	0	0	0	1
15	0	0	0	1
16	0	0	0	1
17	0	0	0	1
18	0	0	0	1
19	0	0	0	1
20	0	0	0	1

Well MW-13 was inaccessible and not gauged/sampled.

Pt

881.62	213.79	1401.93	194	867.27	430.2	11.87
719.01	2027.73	991	1232	723.98	834.6	856
377.63	379.71	375.96	378.6	377.96	377.9	377.9

{[P]t[P]}

3763320.181	3693033.096	1509539
3693033.096	10117230.98	3177852
1509538.546	3177851.815	1143012

{[P]t[P]}'

6.36254E-07	2.50056E-07	-1.54E-06
2.50056E-07	8.78291E-07	-2.77E-06
-1.5355E-06	-2.7721E-06	1.06E-05

{[P]t[P]}'[P]t

0.000160877	6.00274E-05	0.000563	-1E-04	0.000152483	-1E-04	-4E-04
-0.000194875	0.0007818	0.000179	8E-05	-0.000195013	-2E-04	-3E-04
0.000659717	-0.00192067	-0.000911	3E-04	0.000671476	0.001	0.002

{[P]t[P]}'[P]t [D] = [**A**] matrix

A	3.29335E-06
B	-2.9404E-06
C	0.002649389

Groundwater Gradient:	**0.0017**	
Conductivity (ft/day):	**15.584**	
Effective porosity:	**30%**	
GW velocity:	**0.08656**	**ft/day**
	31.60	**ft/year**
Flow direction:	**-41.76**	**degrees from the positive x-axis**

This spreadsheet is from the paper, "A Spreadsheet Method For Estimating Hydraulic Gradient With Heads From Multiple Wells" submitted to Ground Water, March, 2002. To use the program, enter the coordinates for the well locations in the columns labeled x and y (part of the [**X**] matrix), and the water levels in the z column. The matrices are automatically updated and the gradient magnitude and direction are calculated in cell H36 and H41.

Site: **McCollum Park/Former Emander Landfill - Shallow Aquifer, 2nd Quarter 2025**

Measurement Date: **6/3/2025**

	[**X**] matrix			[**D**] matrix
Well ID	**X-axis**	**Y-axis**	**GW Elev.**	D
BH-03A	222.89	1076.77	**377.15**	1
BH-05	899.19	716.67	**377.08**	1
BH-06	658.91	680.07	**376.69**	1
BH-07	436.29	849.69	**377.32**	1
BH-08	223.90	2097.01	**382.47**	1
6	0	0	0	1
7	0	0	0	1
8	0	0	0	1
9	0	0	0	1
10	0	0	0	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1
14	0	0	0	1
15	0	0	0	1
16	0	0	0	1
17	0	0	0	1
18	0	0	0	1
19	0	0	0	1
20	0	0	0	1

Pt

222.89	899.19	658.91	436.3	223.9	0	0	0
1076.77	716.67	680.07	849.7	2097.01	0	0	0
377.15	377.08	376.69	377.3	382.47	0	0	0

{[P]t[P]}

1532865.17	2172760.475	921590.3
2172760.475	7254968.763	2055170
921590.3124	2055169.743	714980.5

{[P]t[P]}'

5.66234E-06	2.00145E-06	-1.31E-05
2.00145E-06	1.44956E-06	-6.75E-06
-1.30517E-05	-6.7465E-06	3.76E-05

{[P]t[P]}'[P]t

-0.001505251	0.001604383	0.000176	-8E-04	0.00047299	0	0	0
-0.000537492	0.000294573	-0.000237	-4E-04	0.000907535	0	0	0
0.004012715	-0.00238734	0.000981	0.003	-0.002683391	0	0	0

{[P]t[P]}'[P]t [D] = [**A**] matrix

A	-5.8202E-06
B	-1.2837E-05
C	0.002688823

Well MW-10 was inaccessible and not gauged/sampled.

Well MW-11 was dry

Groundwater Gradient:	**0.0052**	
Conductivity (ft/day):	**1.542**	
Effective porosity:	**30%**	
GW velocity:	**0.02694**	**ft/day**
	9.83	**ft/year**
Flow direction:	**-114.39**	**degrees from the positive x-axis**

This spreadsheet is from the paper, "A Spreadsheet Method For Estimating Hydraulic Gradient With Heads From Multiple Wells" submitted to Ground Water, March, 2002. To use the program, enter the coordinates for the well locations in the columns labeled x and y (part of the [**X**] matrix), and the water levels in the z column. The matrices are automatically updated and the gradient magnitude and direction are calculated in cell H36 and H41.

Site: **McCollum Park/Former Emander Landfill - Deep Aquifer, 2nd Quarter 2025**

Measurement Date: **6/3/2025**

	[**X**] matrix			[**D**] matrix
Well ID	**X-axis**	**Y-axis**	**GW Elev.**	D
MW-12	881.62	719.01	**376.97**	1
MW-14	213.79	2027.73	**378.88**	1
MW-15	1401.93	991.00	**377.64**	1
MW-16	193.95	1231.98	**377.93**	1
MW-17	867.27	723.98	**376.95**	1
MW-18	430.16	834.63	**377.07**	1
MW-19	11.87	855.95	**376.79**	1
MW-20	0.3	1017.5	**376.98**	1
9	0	0	0	1
10	0	0	0	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1
14	0	0	0	1
15	0	0	0	1
16	0	0	0	1
17	0	0	0	1
18	0	0	0	1
19	0	0	0	1
20	0	0	0	1

Pt

881.62	213.79	1401.93	194	867.27	430.2	11.87
719.01	2027.73	991	1232	723.98	834.6	856
376.97	378.88	377.64	377.9	376.95	377.1	376.8

{[P]t[P]}

3763320.181	3693033.096	1509773
3693033.096	10117230.98	3172864
1509772.864	3172863.729	1139457

{[P]t[P]}'

6.41334E-07	2.55575E-07	-1.56E-06
2.55575E-07	8.81717E-07	-2.79E-06
-1.56142E-06	-2.7938E-06	1.07E-05

{[P]t[P]}'[P]t

0.000160565	6.37561E-05	0.000563	-2E-04	0.000152663	-1E-04	-4E-04
-0.0001939	0.000784004	0.000177	8E-05	-0.000193129	-2E-04	-3E-04
0.000658007	-0.00193506	-0.000907	3E-04	0.000666314	0.001	0.002

Well MW-13 was inaccessible and not gauged/sampled.

{[P]t[P]}'[P]t [D] = [**A**] matrix

A	-1.0686E-06
B	-4.5825E-06
C	0.002663867

Groundwater Gradient:	**0.0018**	
Conductivity (ft/day):	**15.584**	
Effective porosity:	**30%**	
GW velocity:	**0.09176**	**ft/day**
	33.49	**ft/year**
Flow direction:	**-103.13**	**degrees from the positive x-axis**

This spreadsheet is from the paper, "A Spreadsheet Method For Estimating Hydraulic Gradient With Heads From Multiple Wells" submitted to Ground Water, March, 2002. To use the program, enter the coordinates for the well locations in the columns labeled x and y (part of the [**X**] matrix), and the water levels in the z column. The matrices are automatically updated and the gradient magnitude and direction are calculated in cell H36 and H41.

Site: **McCollum Park/Former Emander Landfill - Shallow Aquifer, 3rd Quarter 2025**

Measurement Date: **9/9/2025**

	[**X**] matrix			[**D**] matrix
Well ID	**X-axis**	**Y-axis**	**GW Elev.**	D
BH-03A	222.89	1076.77	**375.24**	1
BH-05	899.19	716.67	**375.38**	1
BH-06	658.91	680.07	**375.17**	1
BH-07	436.29	849.69	**372.90**	1
BH-08	223.90	2097.01	**377.72**	1
6	0	0	0	1
7	0	0	0	1
8	0	0	0	1
9	0	0	0	1
10	0	0	0	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1
14	0	0	0	1
15	0	0	0	1
16	0	0	0	1
17	0	0	0	1
18	0	0	0	1
19	0	0	0	1
20	0	0	0	1

Pt

222.89	899.19	658.91	436.3	223.9	0	0	0
1076.77	716.67	680.07	849.7	2097.01	0	0	0
375.24	375.38	375.17	372.9	377.72	0	0	0

{[P]t[P]}

1532865.17	2172760.475	915642.5
2172760.475	7254968.763	2037145
915642.4995	2037144.64	704194.5

{[P]t[P]}'

5.68677E-06	1.9881E-06	-1.31E-05
1.9881E-06	1.42938E-06	-6.72E-06
-1.31456E-05	-6.7201E-06	3.8E-05

{[P]t[P]}'[P]t

-0.001524523	0.001603684	0.000167	-7E-04	0.000476958	0	0	0
-0.000539401	0.00028949	-0.000239	-4E-04	0.000904251	0	0	0
0.004075573	-0.00238962	0.001007	0.003	-0.002699671	0	0	0

{[P]t[P]}'[P]t [D] = [**A**] matrix

A	-8.282E-06
B	-8.773E-06
C	0.002700767

Well MW-10 was inaccessible and not measured

Well MW-11 was dry

Groundwater Gradient:	**0.0045**	
Conductivity (ft/day):	**1.542**	
Effective porosity:	**30%**	
GW velocity:	**0.023**	**ft/day**
	8.38	**ft/year**
Flow direction:	**-133.35**	**degrees from the positive x-axis**

This spreadsheet is from the paper, "A Spreadsheet Method For Estimating Hydraulic Gradient With Heads From Multiple Wells" submitted to Ground Water, March, 2002. To use the program, enter the coordinates for the well locations in the columns labeled x and y (part of the [**X**] matrix), and the water levels in the z column. The matrices are automatically updated and the gradient magnitude and direction are calculated in cell H36 and H41.

Site: **McCollum Park/Former Emander Landfill - Deep Aquifer, 3rd Quarter 2025**

Measurement Date: **9/9/2025**

	[**X**] matrix			[**D**] matrix
Well ID	**X-axis**	**Y-axis**	**GW Elev.**	D
MW-12	881.62	719.01	**375.40**	1
MW-14	213.79	2027.73	**376.84**	1
MW-15	1401.93	991.00	**374.85**	1
MW-16	193.95	1231.98	**376.01**	1
MW-17	867.27	723.98	**375.54**	1
MW-18	430.16	834.63	**375.10**	1
MW-19	11.87	855.95	**375.40**	1
MW-20	0.3	1017.5	**375.69**	1
9	0	0	0	1
10	0	0	0	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1
14	0	0	0	1
15	0	0	0	1
16	0	0	0	1
17	0	0	0	1
18	0	0	0	1
19	0	0	0	1
20	0	0	0	1

Well MW-13 was inaccessible and not measured

Pt

881.62	213.79	1401.93	194	867.27	430.2	11.87
719.01	2027.73	991	1232	723.98	834.6	856
375.4	376.84	374.85	376	375.54	375.1	375.4

{[P]t[P]}

3763320.181	3693033.096	1501582
3693033.096	10117230.98	3157301
1501581.668	3157300.644	1128628

{[P]t[P]}'

6.38977E-07	2.52447E-07	-1.56E-06
2.52447E-07	8.78078E-07	-2.79E-06
-1.55634E-06	-2.7923E-06	1.08E-05

{[P]t[P]}'[P]t

0.000160597	6.20111E-05	0.000563	-2E-04	0.000152465	-1E-04	-4E-04
-0.000194306	0.000782239	0.000177	8E-05	-0.000193956	-2E-04	-3E-04
0.000662515	-0.0019369	-0.000913	3E-04	0.000672479	0.001	0.002

{[P]t[P]}'[P]t [D] = [**A**] matrix

A	9.4829E-07
B	-2.8441E-06
C	0.002669069

Groundwater Gradient:	**0.0011**	
Conductivity (ft/day):	**15.584**	
Effective porosity:	**30%**	
GW velocity:	**0.058**	**ft/day**
	21.30	**ft/year**
Flow direction:	**-71.56**	**degrees from the positive x-axis**

This spreadsheet is from the paper, "A Spreadsheet Method For Estimating Hydraulic Gradient With Heads From Multiple Wells" submitted to Ground Water, March, 2002. To use the program, enter the coordinates for the well locations in the columns labeled x and y (part of the [**X**] matrix), and the water levels in the z column. The matrices are automatically updated and the gradient magnitude and direction are calculated in cell H36 and H41.

Site: **McCollum Park/Former Emander Landfill - Shallow Aquifer, 4th Quarter 2025**

Measurement Date: **12/16/2025**

	[**X**] matrix			[**D**] matrix
Well ID	**X-axis**	**Y-axis**	**GW Elev.**	D
BH-03A	222.89	1076.77	**376.86**	1
BH-05	899.19	716.67	**377.75**	1
BH-06	658.91	680.07	**377.39**	1
BH-07	436.29	849.69	**377.64**	1
BH-08	223.90	2097.01	**382.42**	1
6	0	0	0	1
7	0	0	0	1
8	0	0	0	1
9	0	0	0	1
10	0	0	0	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1
14	0	0	0	1
15	0	0	0	1
16	0	0	0	1
17	0	0	0	1
18	0	0	0	1
19	0	0	0	1
20	0	0	0	1

Pt

222.89	899.19	658.91	436.3	223.9	0	0	0
1076.77	716.67	680.07	849.7	2097.01	0	0	0
376.86	377.75	377.39	377.6	382.42	0	0	0

{[P]t[P]}

1532865.17	2172760.475	922717.8
2172760.475	7254968.763	2055981
922717.7864	2055980.748	715998.8

{[P]t[P]}'

5.69818E-06	2.0107E-06	-1.31E-05
2.0107E-06	1.44957E-06	-6.75E-06
-1.3117E-05	-6.7536E-06	3.77E-05

{[P]t[P]}'[P]t

-0.001508153	0.001609799	0.000172	-8E-04	0.00047607	0	0	0
-0.000536158	0.000295679	-0.000238	-4E-04	0.000907229	0	0	0
0.004009491	-0.00239603	0.000989	0.003	-0.002684507	0	0	0

{[P]t[P]}'[P]t [D] = [**A**] matrix

A	-9.4961E-06
B	-1.2834E-05
C	0.002691638

Well MW-10 was inaccessible and not measured

Well MW-11 was dry

Groundwater Gradient:	**0.0059**	
Conductivity (ft/day):	**1.542**	
Effective porosity:	**30%**	
GW velocity:	**0.030**	**ft/day**
	11.13	**ft/year**
Flow direction:	**-126.50**	**degrees from the positive x-axis**

This spreadsheet is from the paper, "A Spreadsheet Method For Estimating Hydraulic Gradient With Heads From Multiple Wells" submitted to Ground Water, March, 2002. To use the program, enter the coordinates for the well locations in the columns labeled x and y (part of the [**X**] matrix), and the water levels in the z column. The matrices are automatically updated and the gradient magnitude and direction are calculated in cell H36 and H41.

Site: **McCollum Park/Former Emander Landfill - Deep Aquifer, 4th Quarter 2025**

Measurement Date: **12/16/2025**

	[**X**] matrix			[**D**] matrix
Well ID	**X-axis**	**Y-axis**	**GW Elev.**	D
MW-12	881.62	719.01	**377.25**	1
MW-14	213.79	2027.73	**378.26**	1
MW-15	1401.93	991.00	**376.81**	1
MW-16	193.95	1231.98	**377.56**	1
MW-17	867.27	723.98	**377.59**	1
MW-18	430.16	834.63	**376.68**	1
MW-19	11.87	855.95	**377.26**	1
MW-20	0.3	1017.5	**377.44**	1
9	0	0	0	1
10	0	0	0	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1
14	0	0	0	1
15	0	0	0	1
16	0	0	0	1
17	0	0	0	1
18	0	0	0	1
19	0	0	0	1
20	0	0	0	1

Well MW-13 was inaccessible and not measured

Pt

881.62	213.79	1401.93	194	867.27	430.2	11.87
719.01	2027.73	991	1232	723.98	834.6	856
377.25	378.26	376.81	377.6	377.59	376.7	377.3

{[P]t[P]}

3763320.181	3693033.096	1509045
3693033.096	10117230.98	3171538
1509044.812	3171537.685	1139184

{[P]t[P]}'

6.39498E-07	2.52423E-07	-1.55E-06
2.52423E-07	8.76318E-07	-2.77E-06
-1.54988E-06	-2.7741E-06	1.07E-05

{[P]t[P]}'[P]t

0.000160596	6.23057E-05	0.000563	-2E-04	0.000152147	-1E-04	-4E-04
-0.000193901	0.000781576	0.000177	8E-05	-0.000194111	-2E-04	-3E-04
0.000658251	-0.00192643	-0.000907	3E-04	0.000670327	0.001	0.002

{[P]t[P]}'[P]t [D] = [**A**] matrix

A	5.02331E-07
B	-2.0015E-06
C	0.002654919

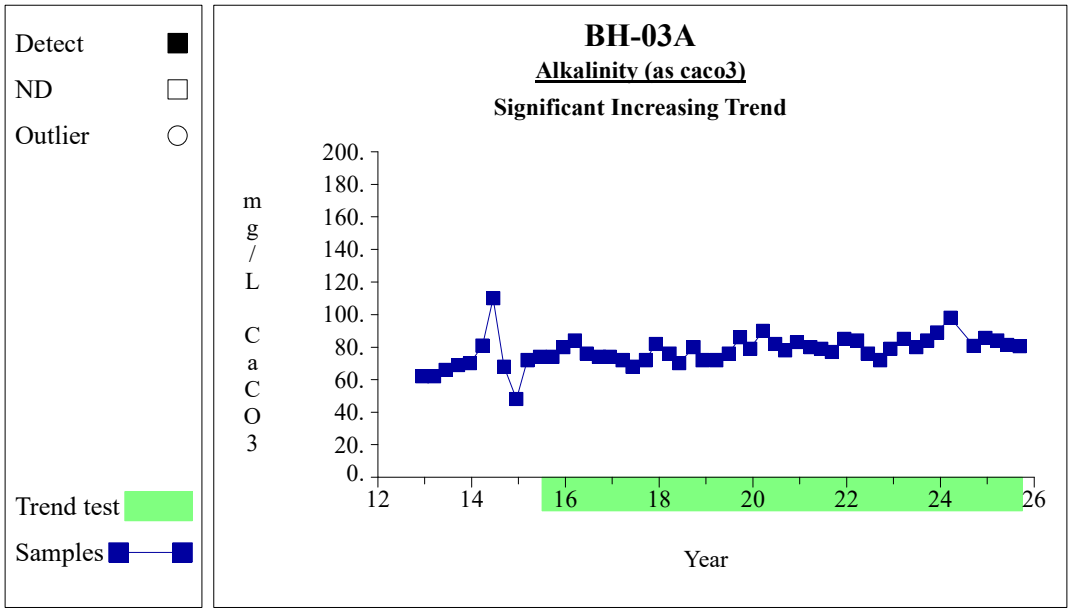
Groundwater Gradient:	**0.0008**	
Conductivity (ft/day):	**15.584**	
Effective porosity:	**30%**	
GW velocity:	**0.040**	**ft/day**
	14.74	**ft/year**
Flow direction:	**-75.91**	**degrees from the positive x-axis**

This spreadsheet is from the paper, "A Spreadsheet Method For Estimating Hydraulic Gradient With Heads From Multiple Wells" submitted to Ground Water, March, 2002. To use the program, enter the coordinates for the well locations in the columns labeled x and y (part of the [**X**] matrix), and the water levels in the z column. The matrices are automatically updated and the gradient magnitude and direction are calculated in cell H36 and H41.

Attachment 5

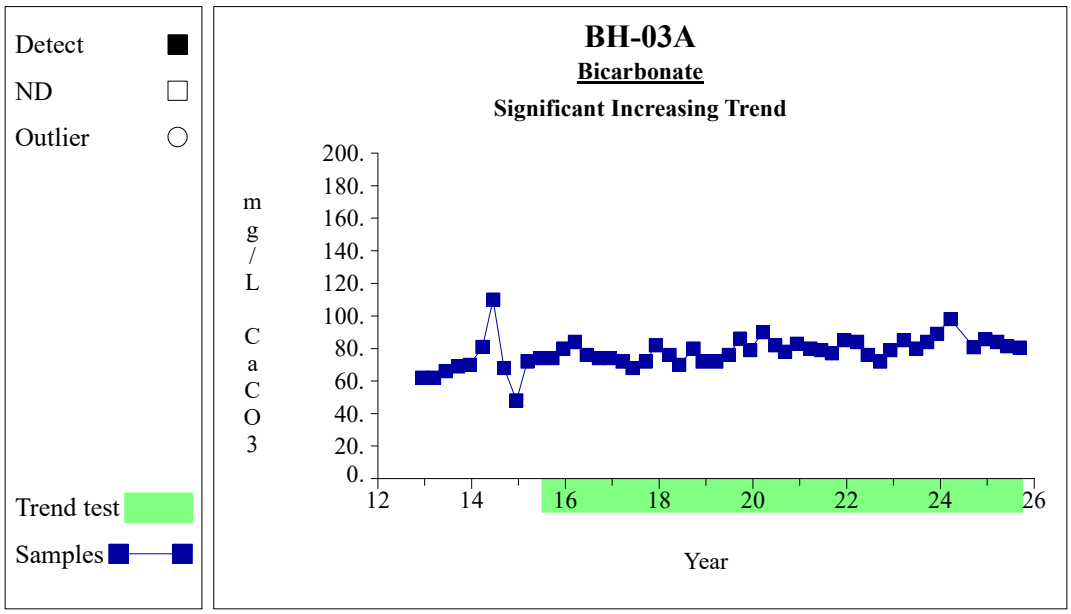
Statistical Time Series Plots

Time Series



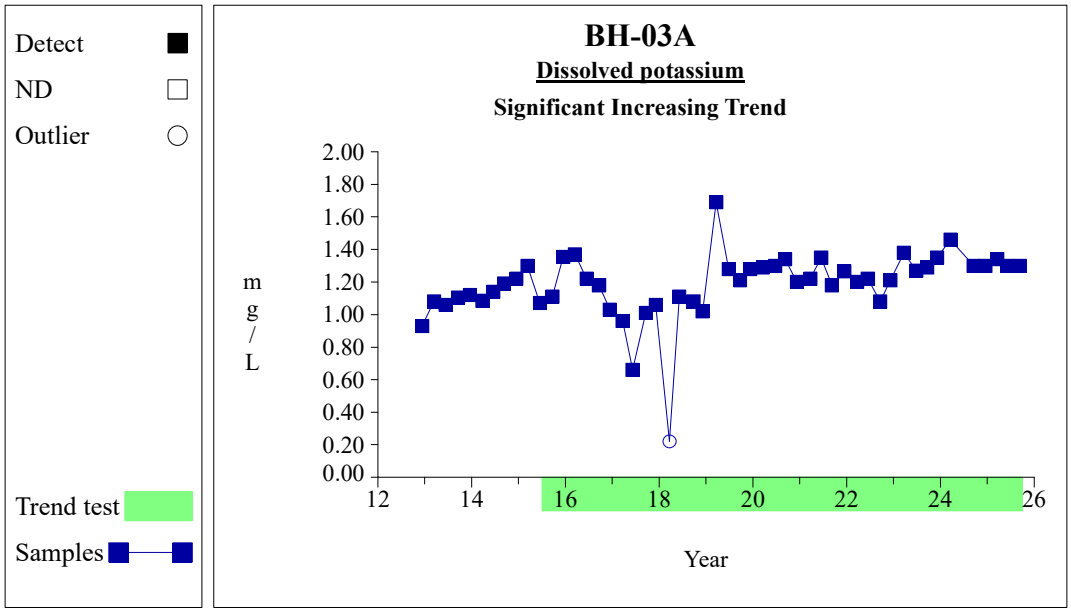
Graph 5

Time Series



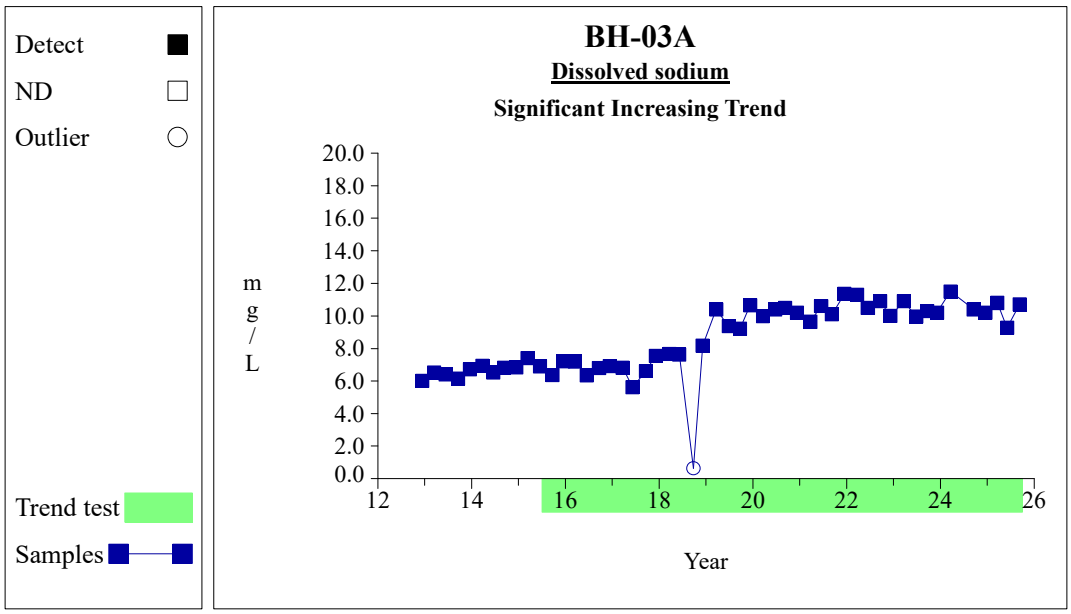
Graph 8

Time Series



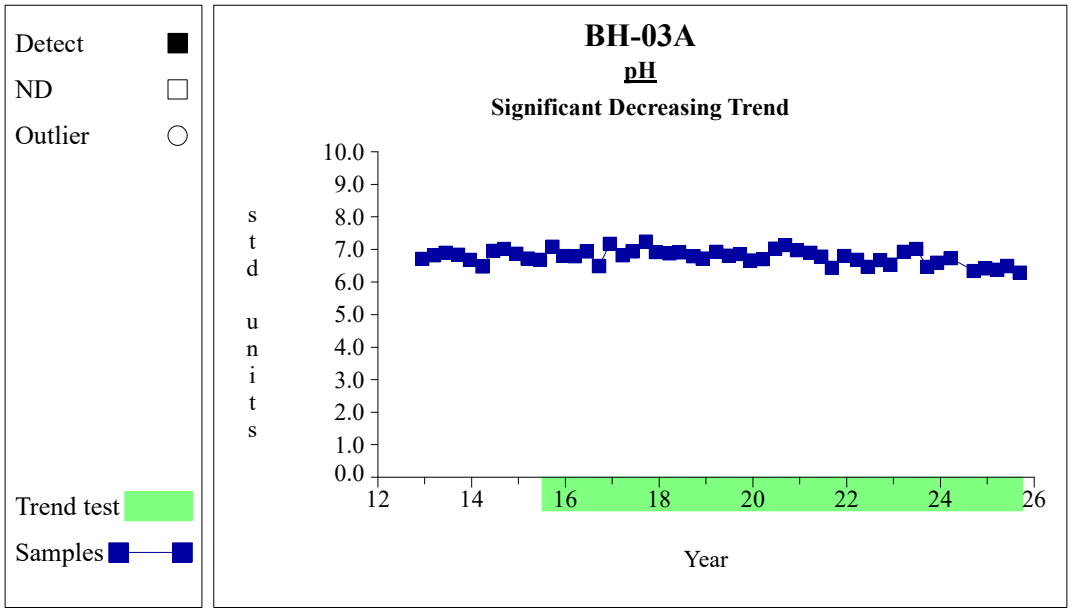
Graph 31

Time Series



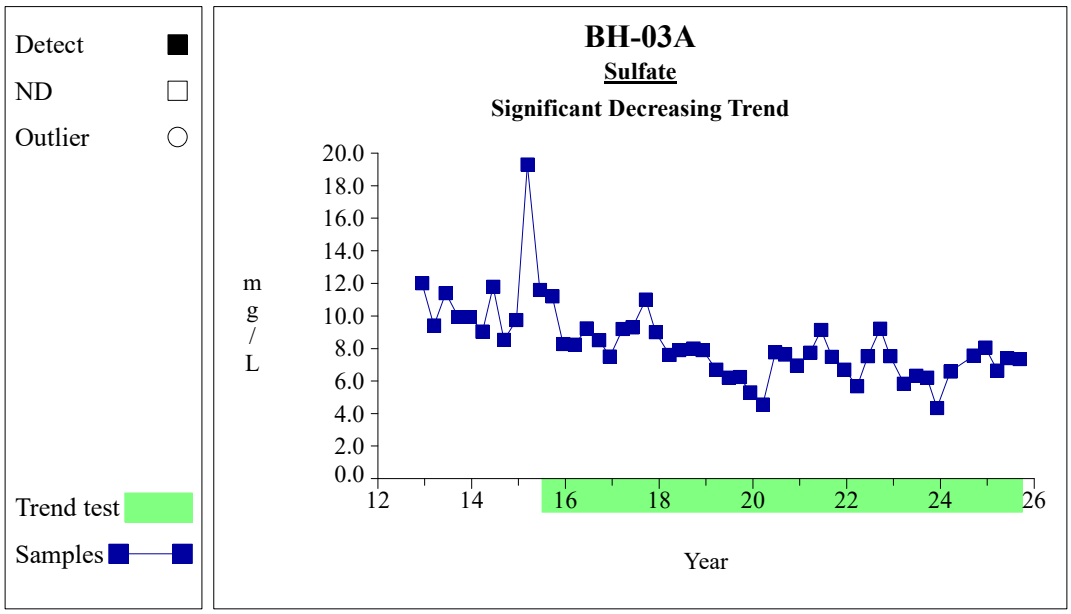
Graph 34

Time Series



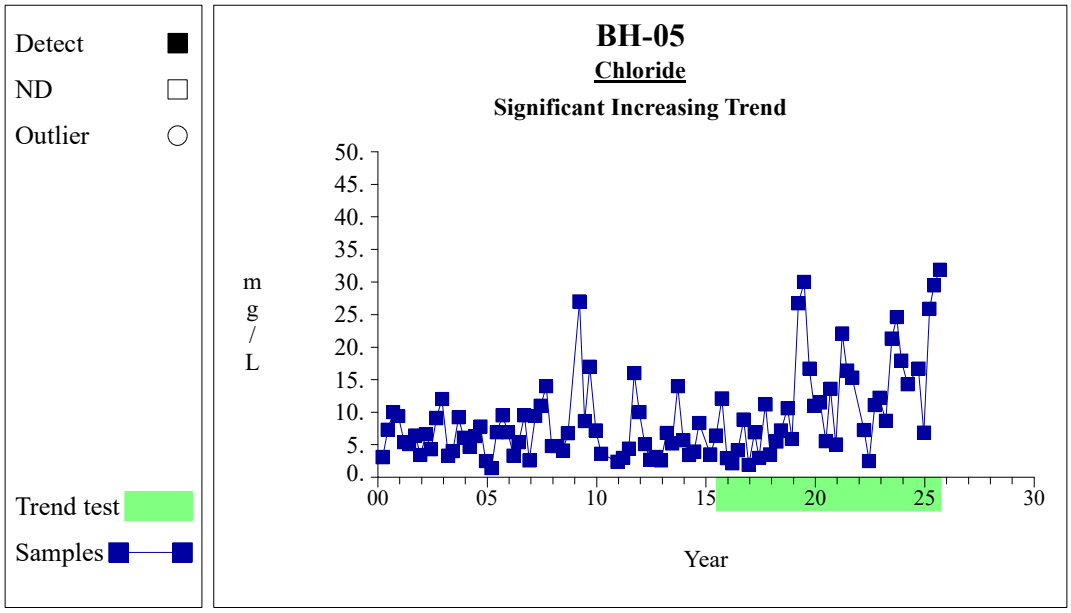
Graph 43

Time Series



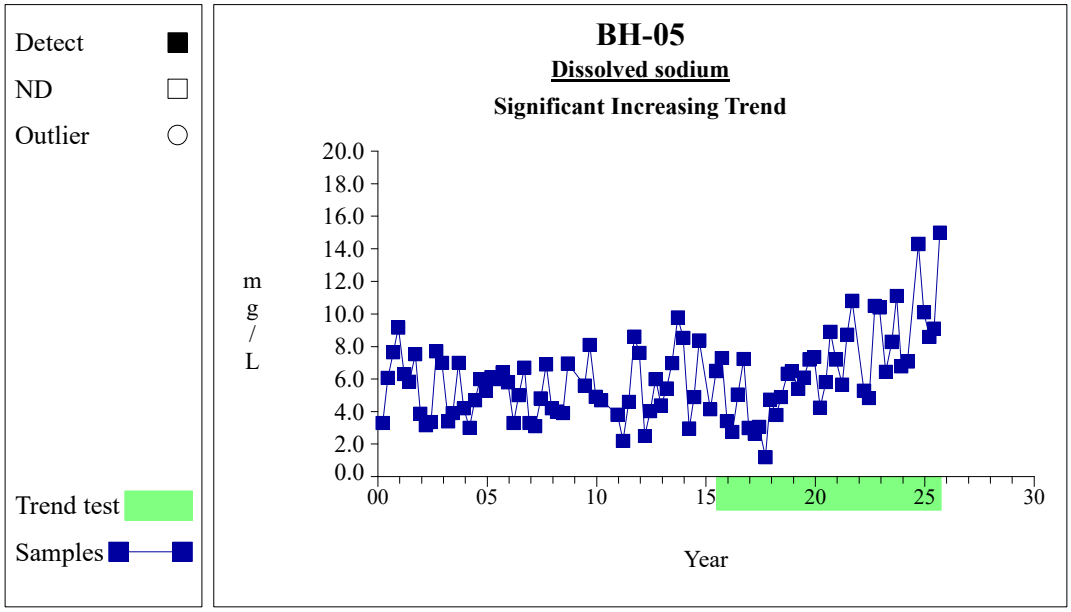
Graph 45

Time Series



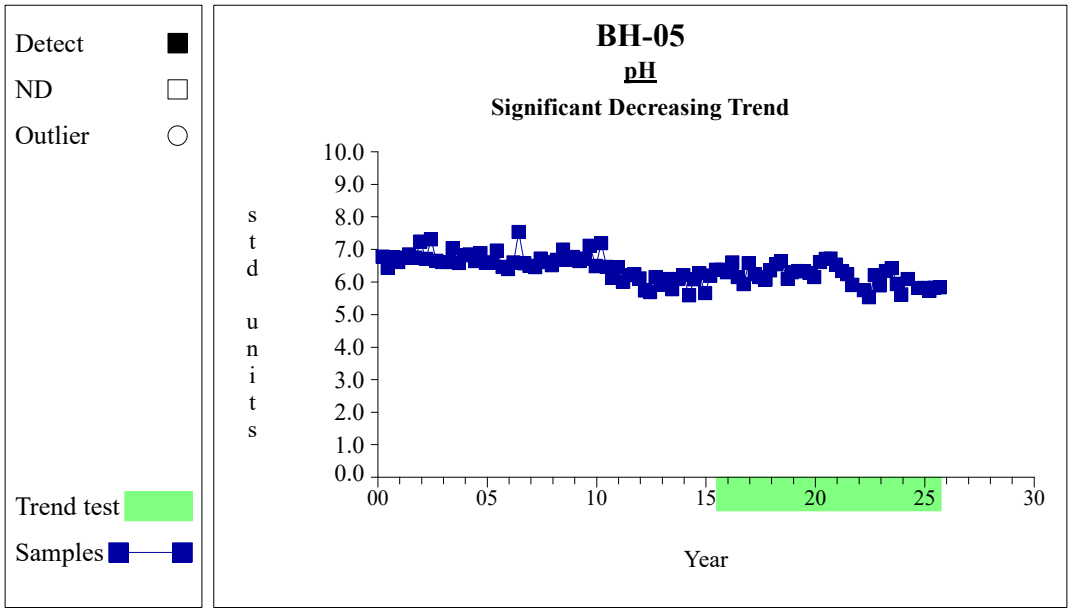
Graph 62

Time Series



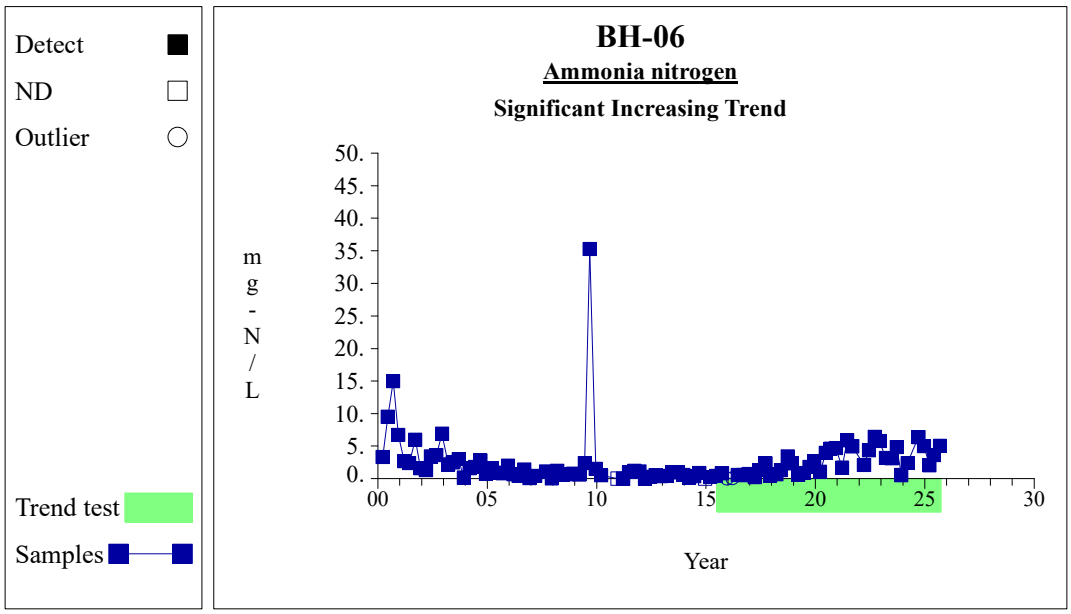
Graph 85

Time Series



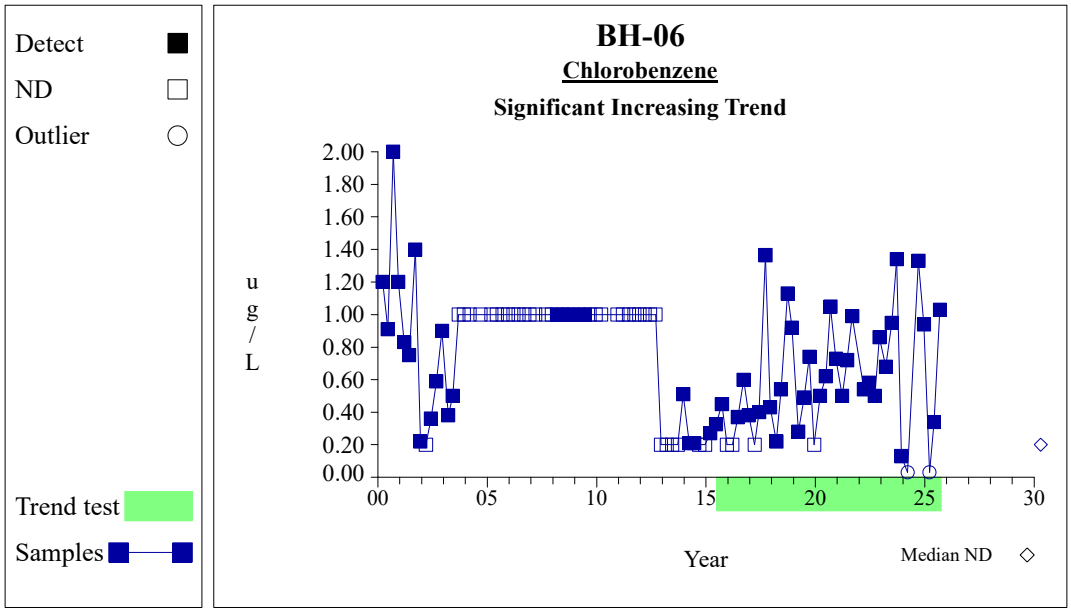
Graph 94

Time Series



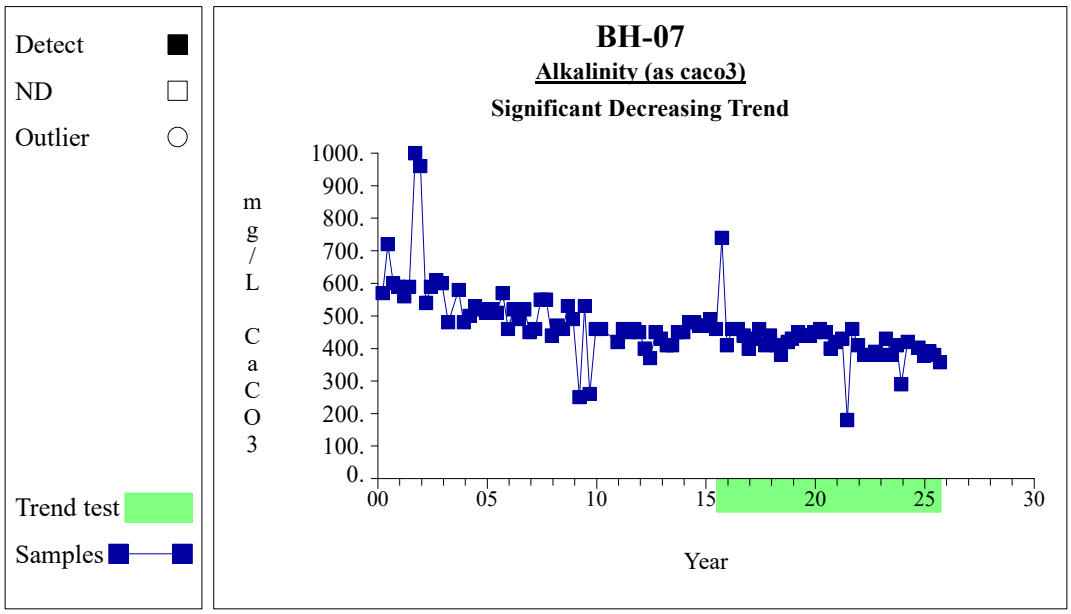
Graph 108

Time Series



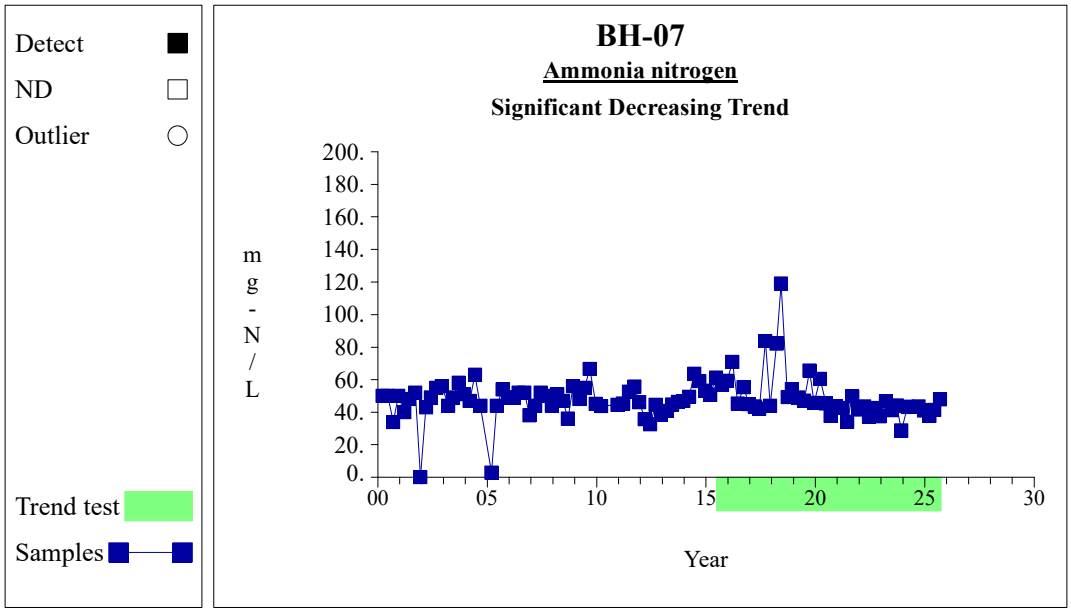
Graph 114

Time Series



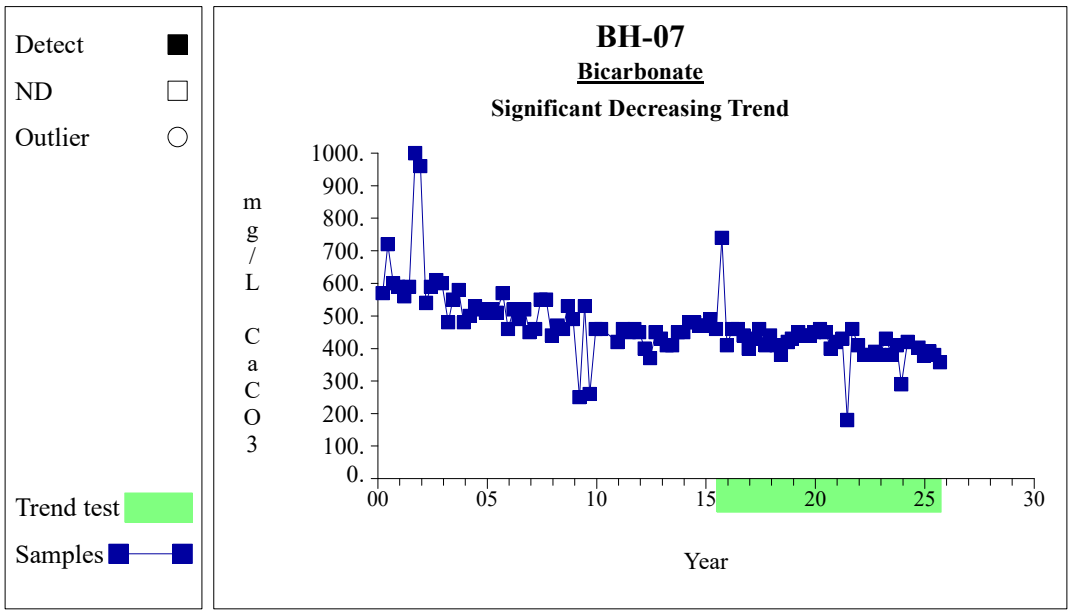
Graph 158

Time Series



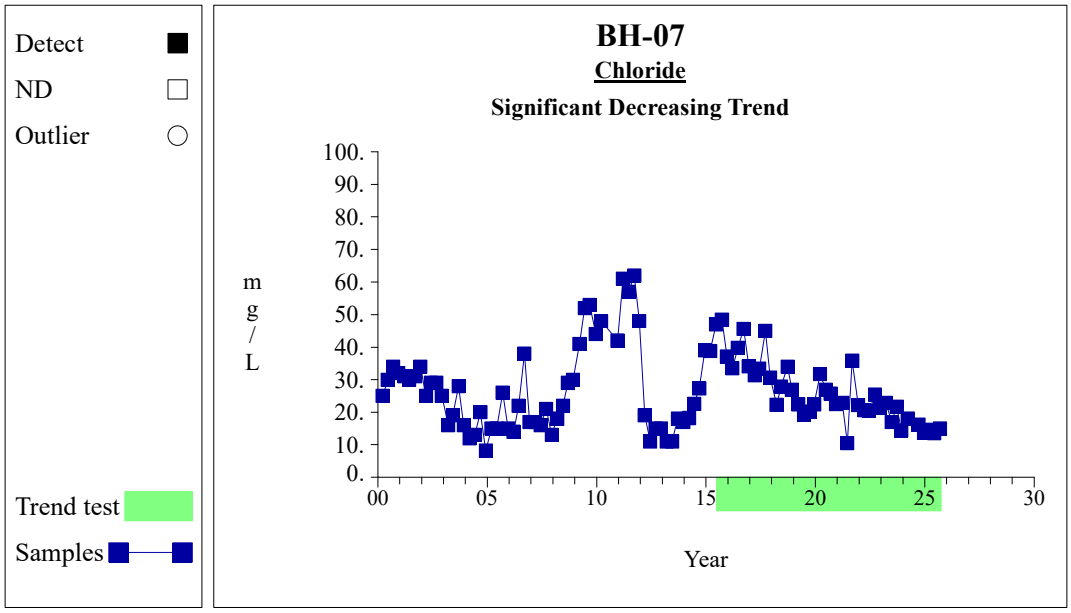
Graph 159

Time Series



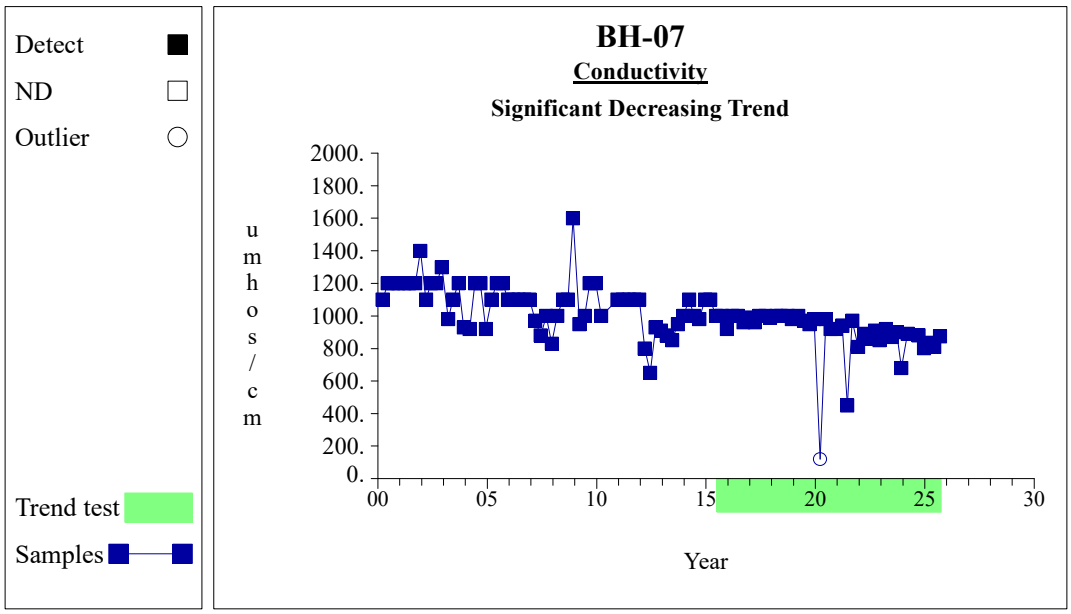
Graph 161

Time Series



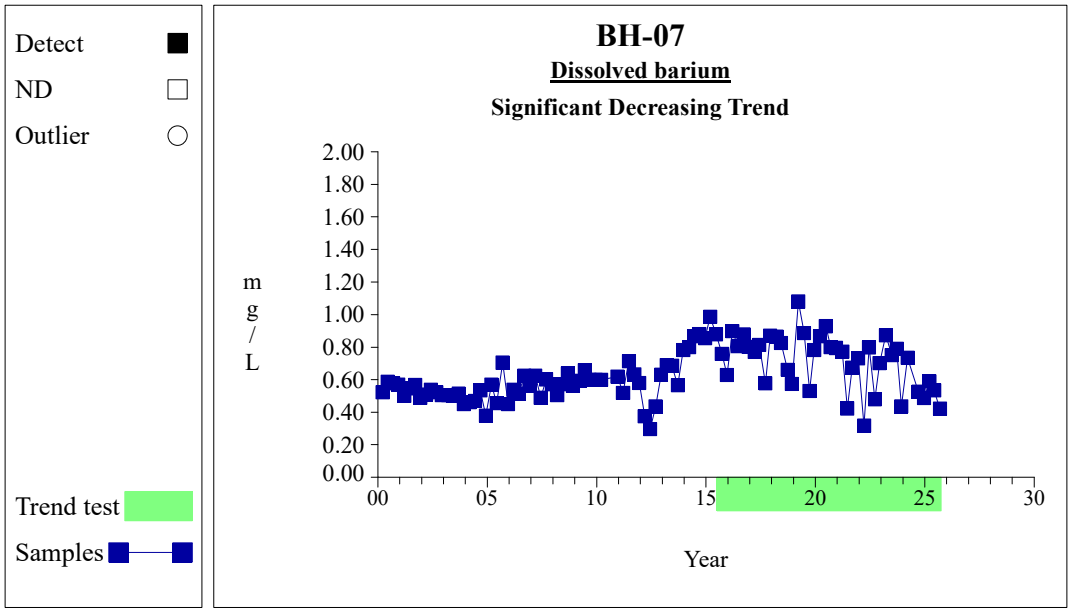
Graph 164

Time Series



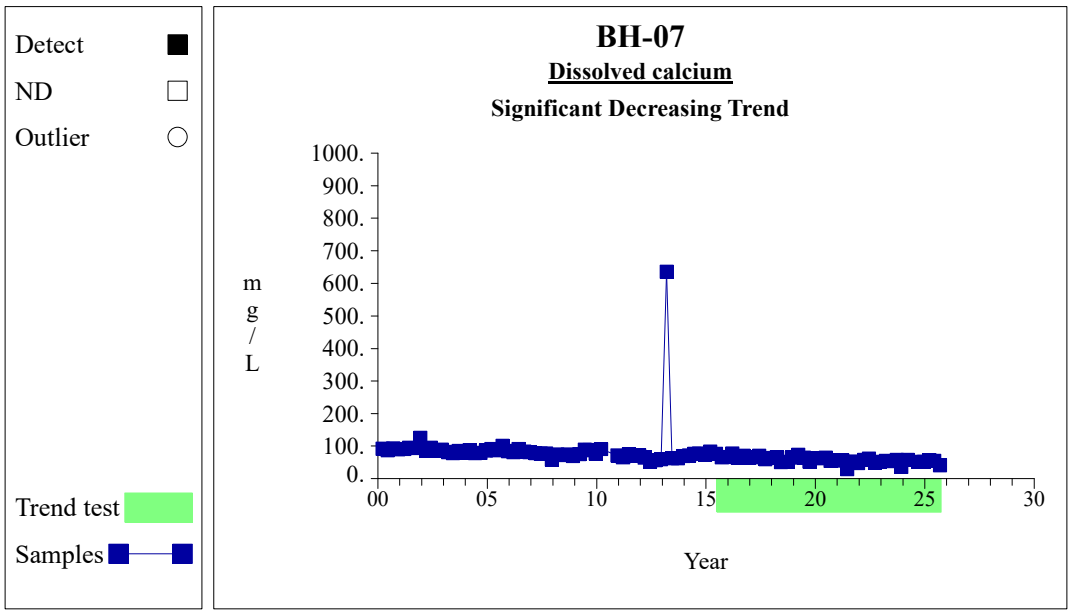
Graph 169

Time Series



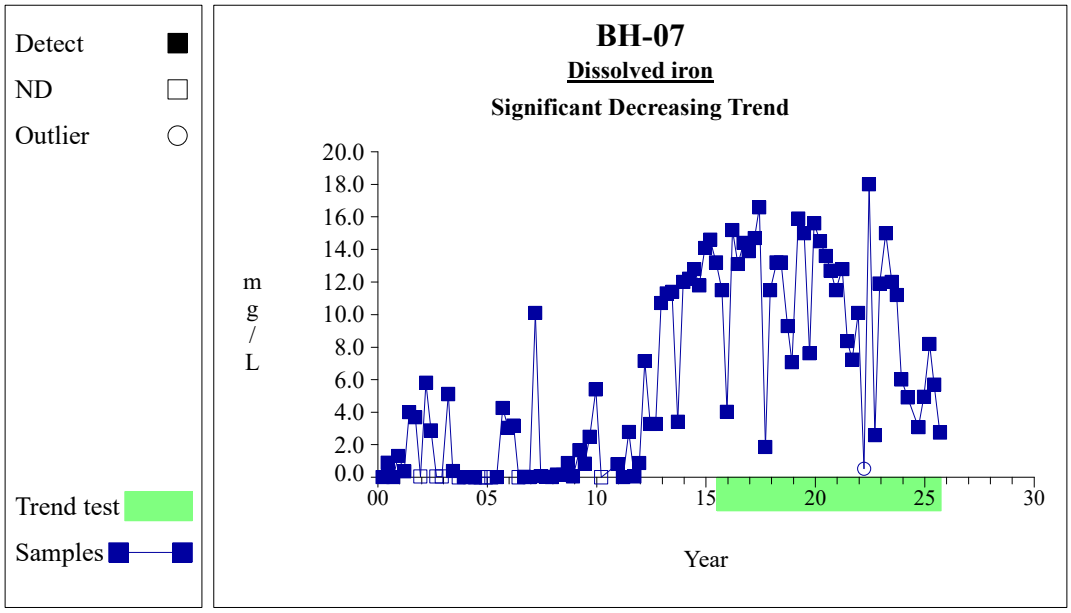
Graph 172

Time Series



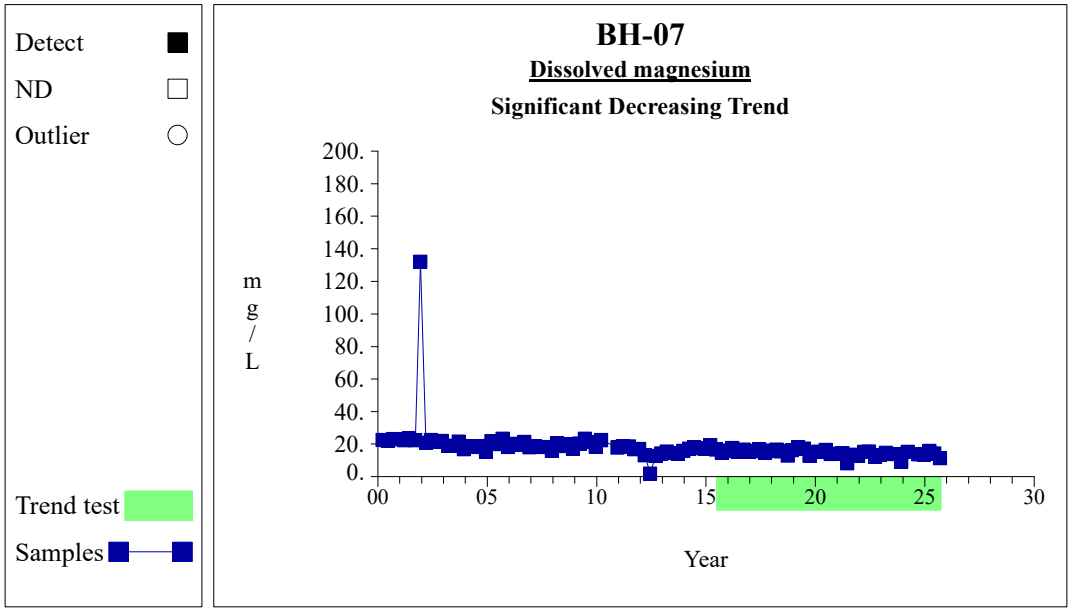
Graph 175

Time Series



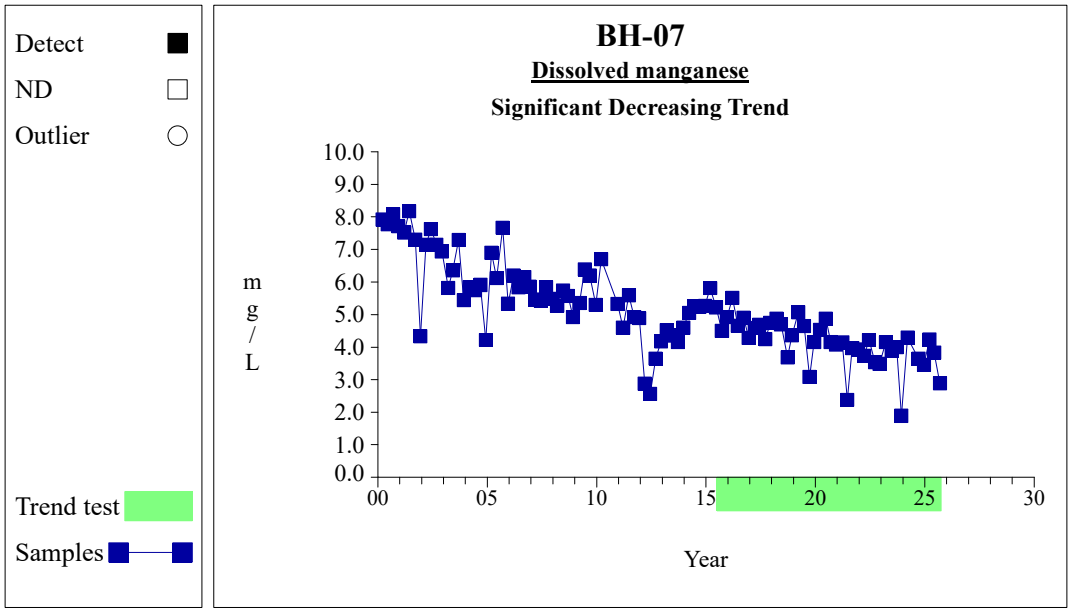
Graph 179

Time Series



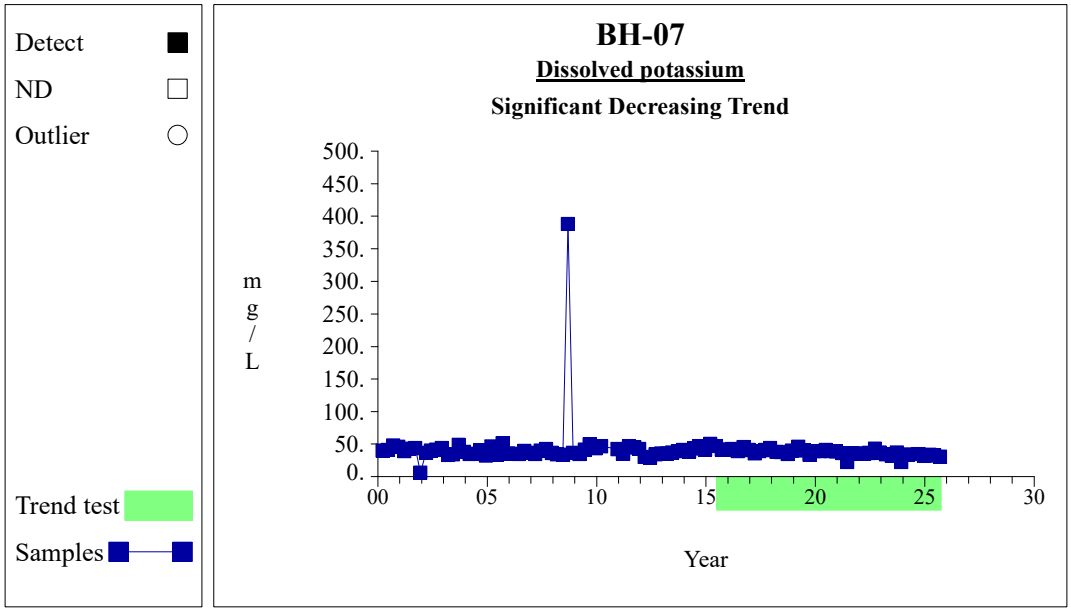
Graph 181

Time Series



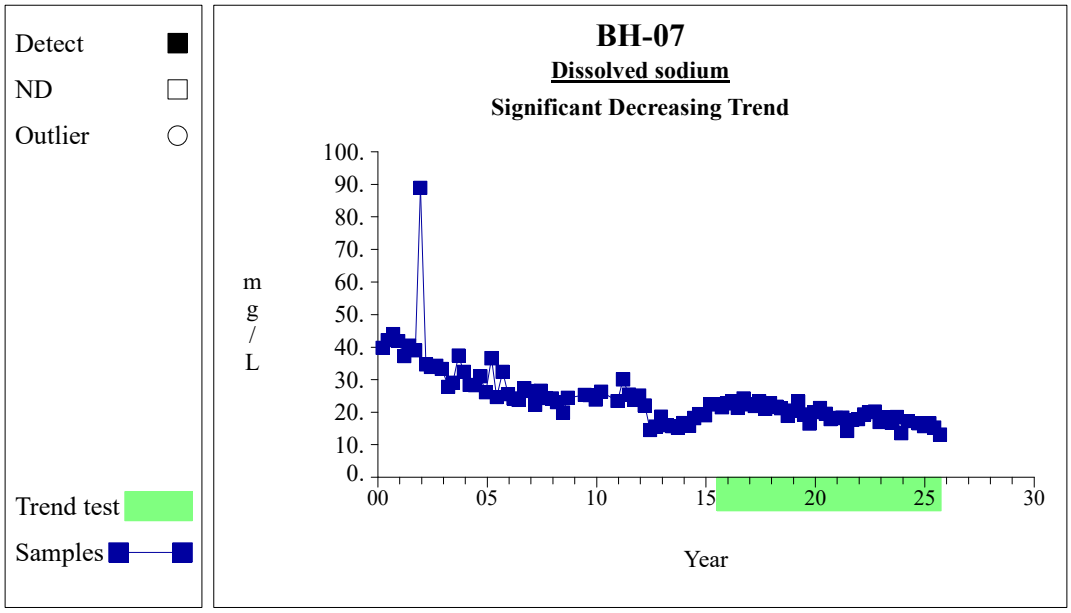
Graph 182

Time Series



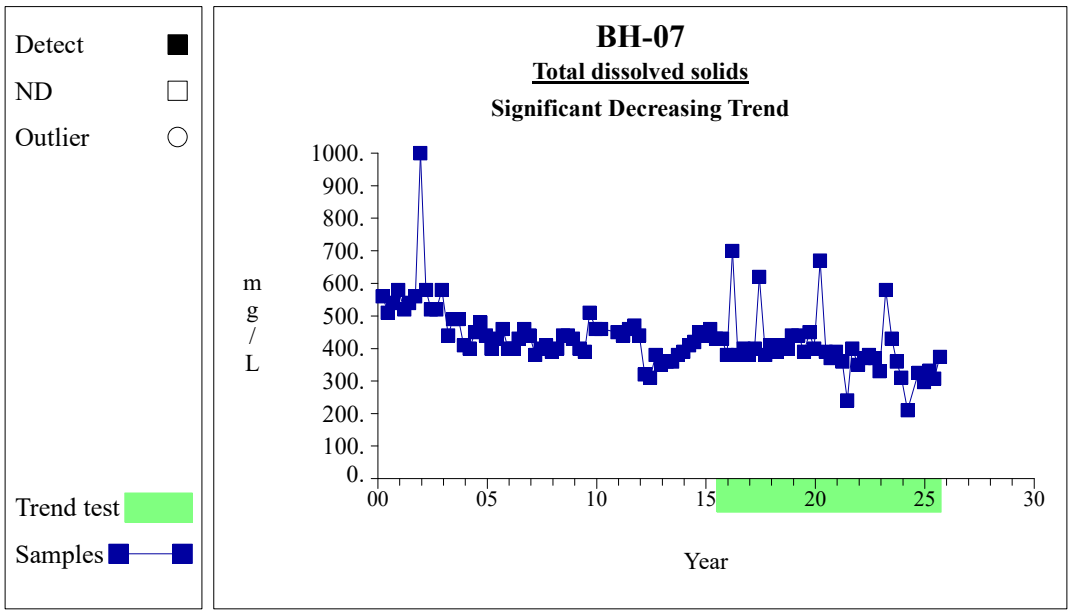
Graph 184

Time Series



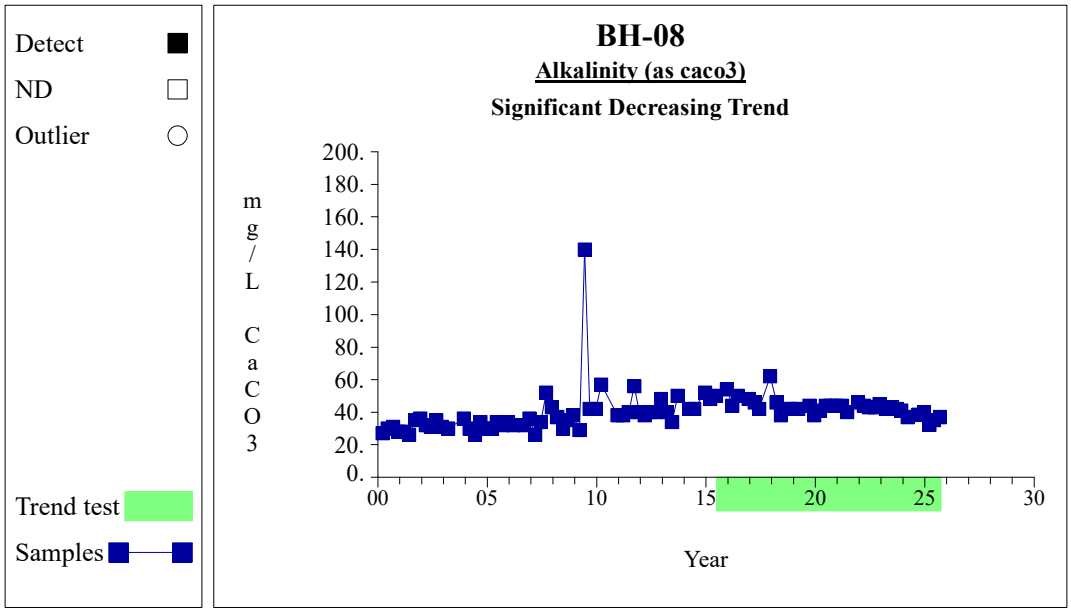
Graph 187

Time Series



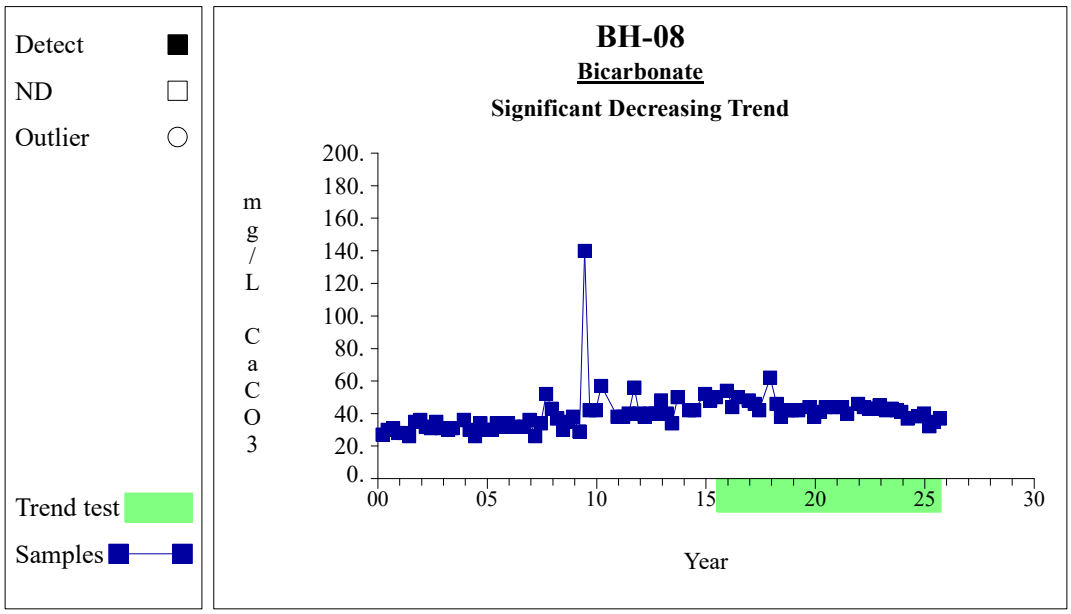
Graph 200

Time Series



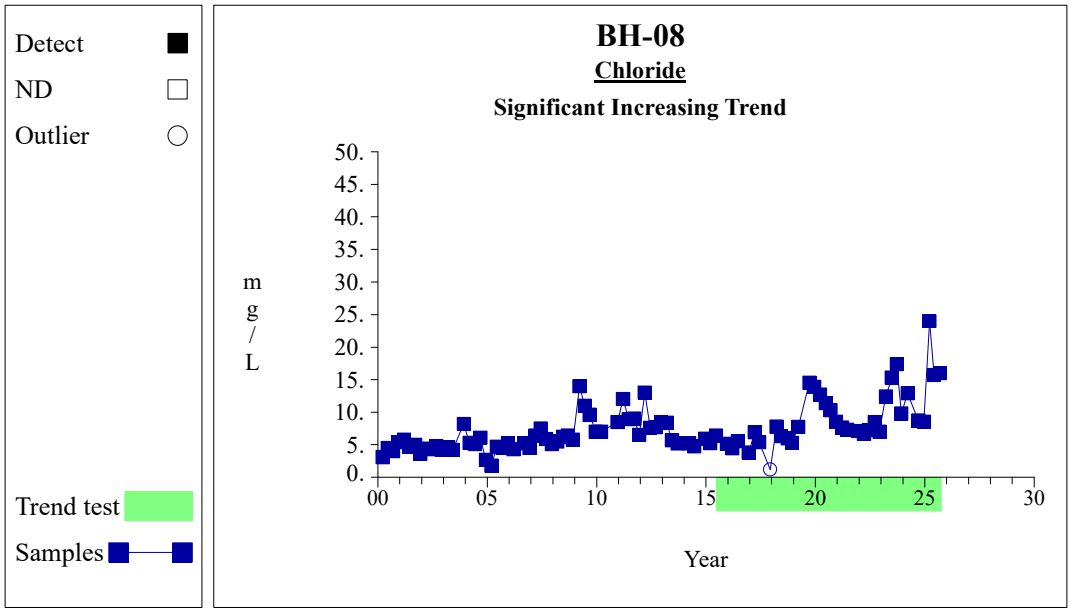
Graph 209

Time Series



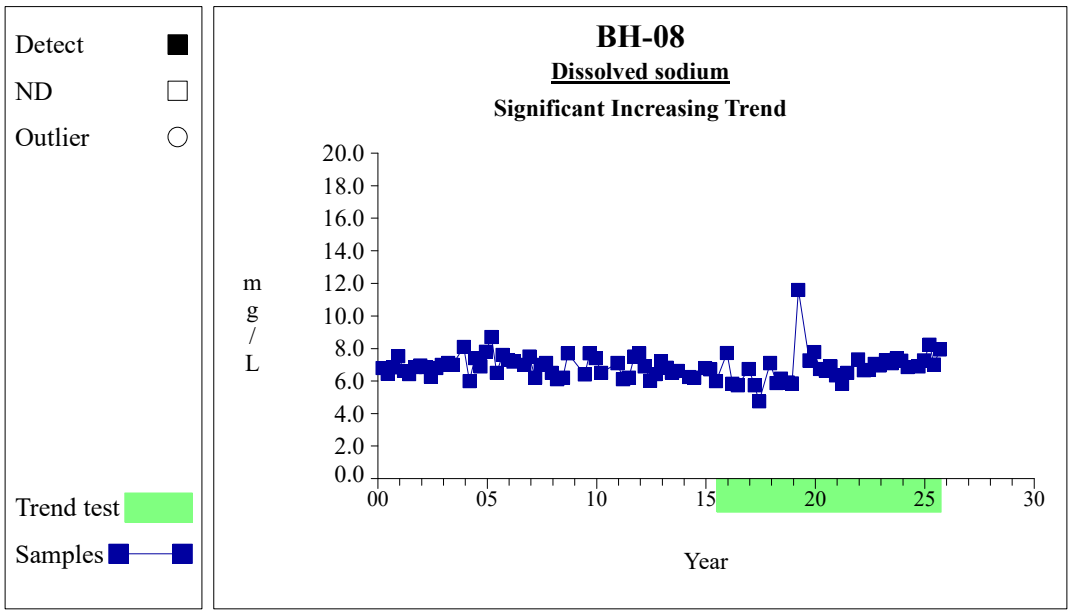
Graph 212

Time Series



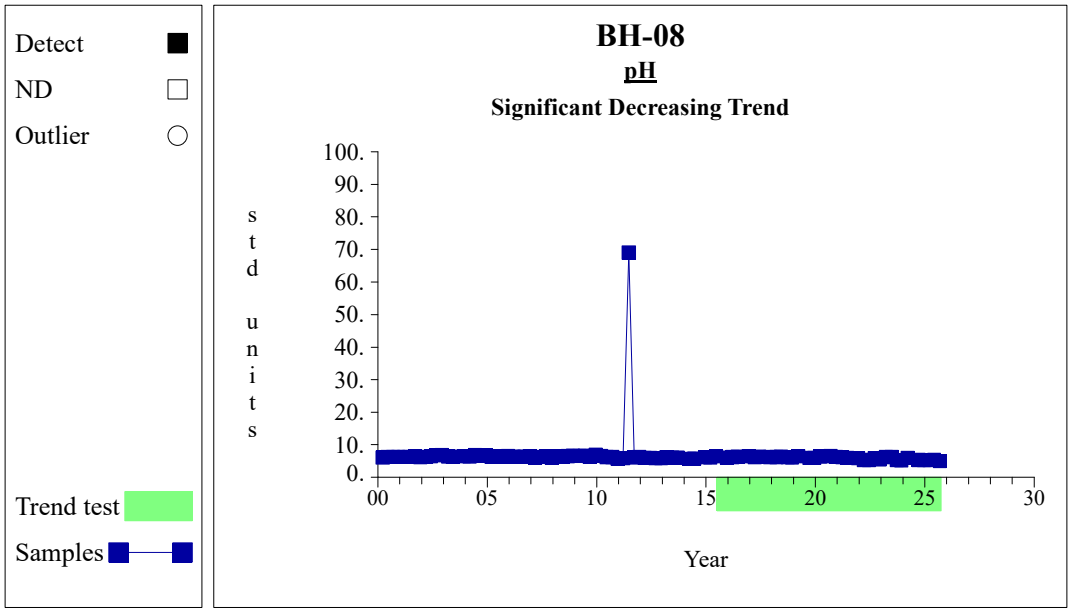
Graph 215

Time Series



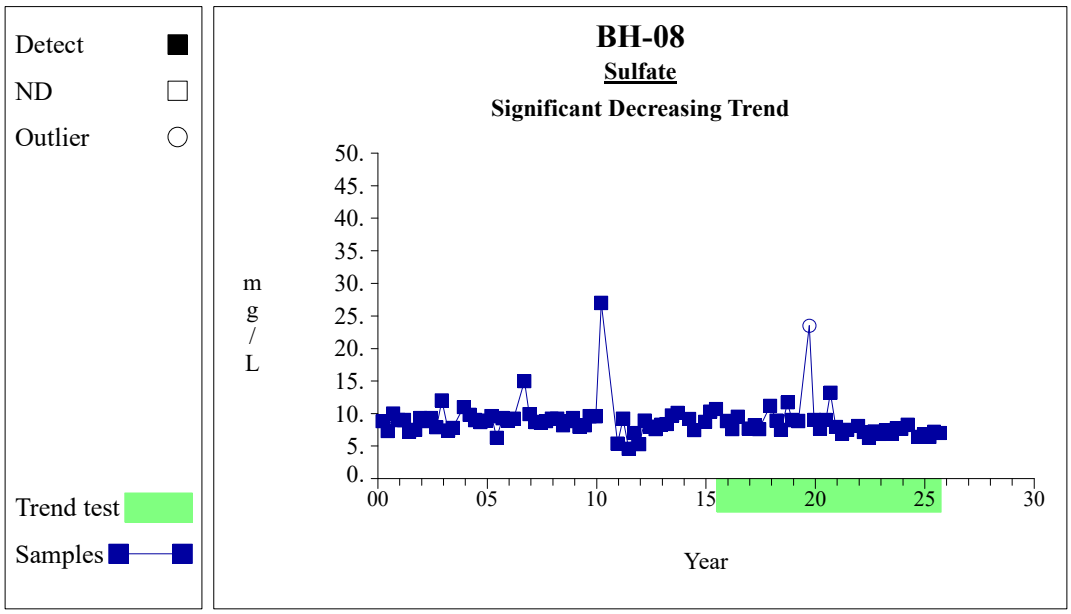
Graph 238

Time Series



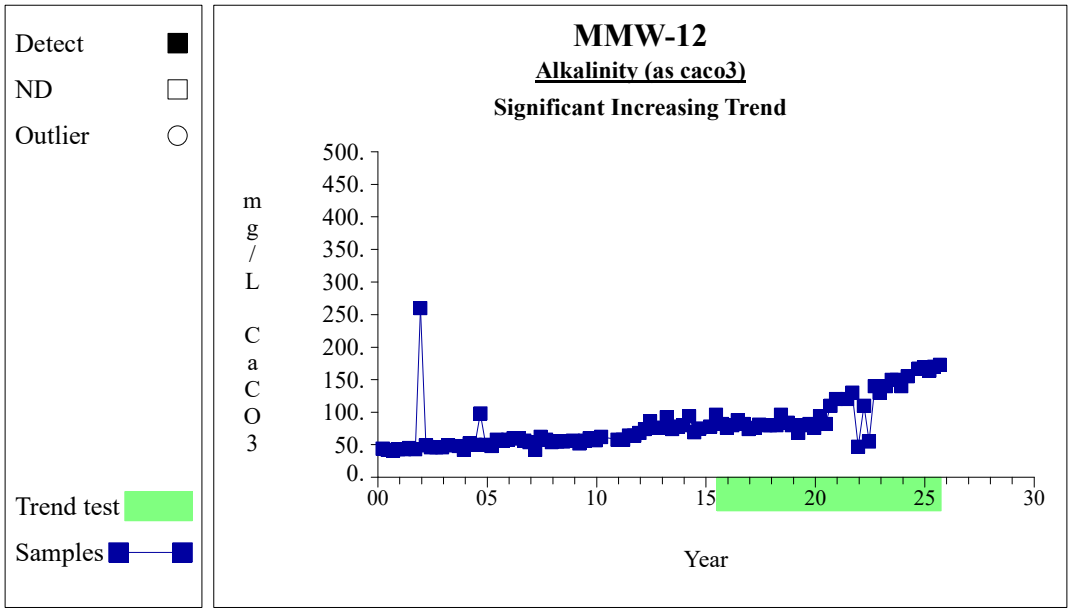
Graph 247

Time Series



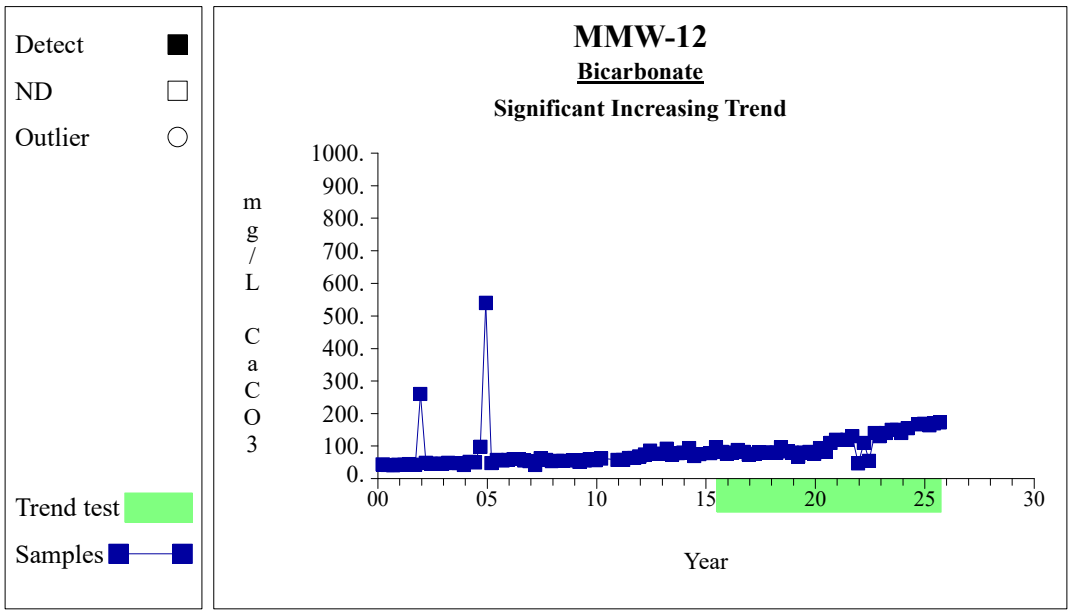
Graph 249

Time Series



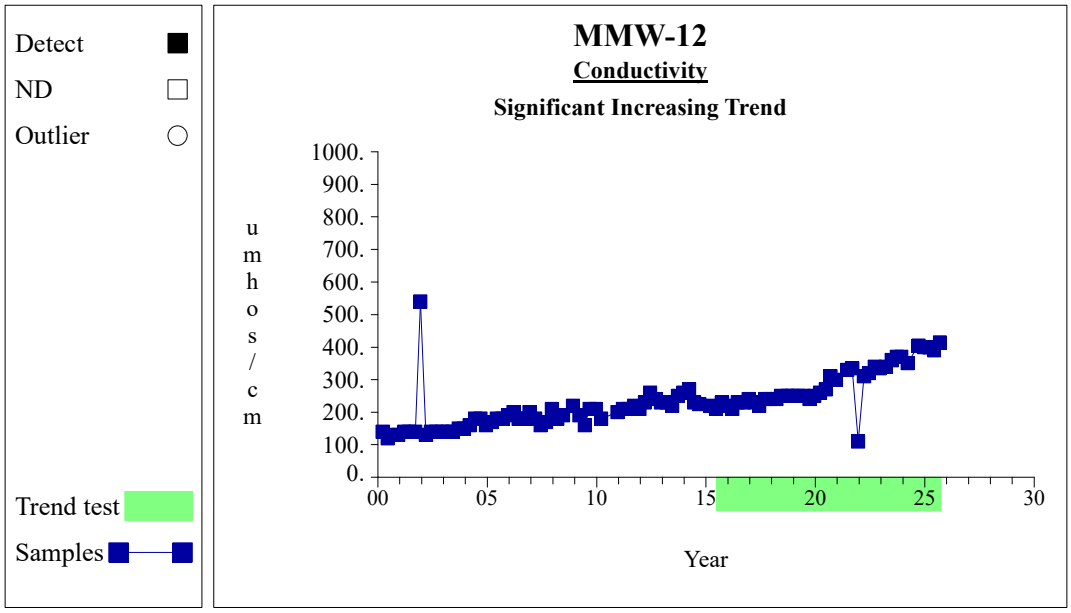
Graph 5

Time Series



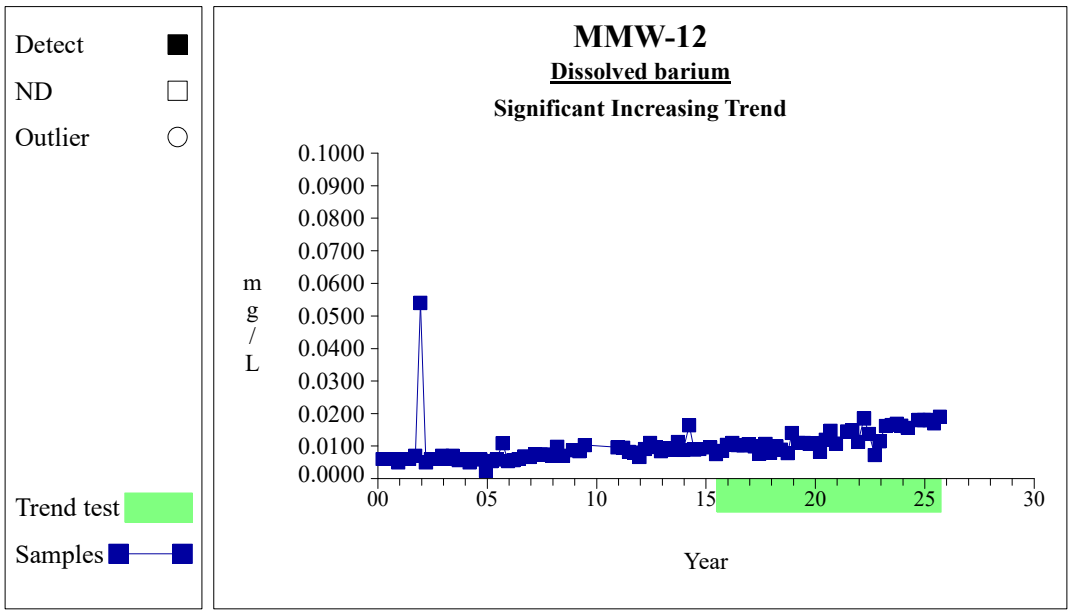
Graph 8

Time Series



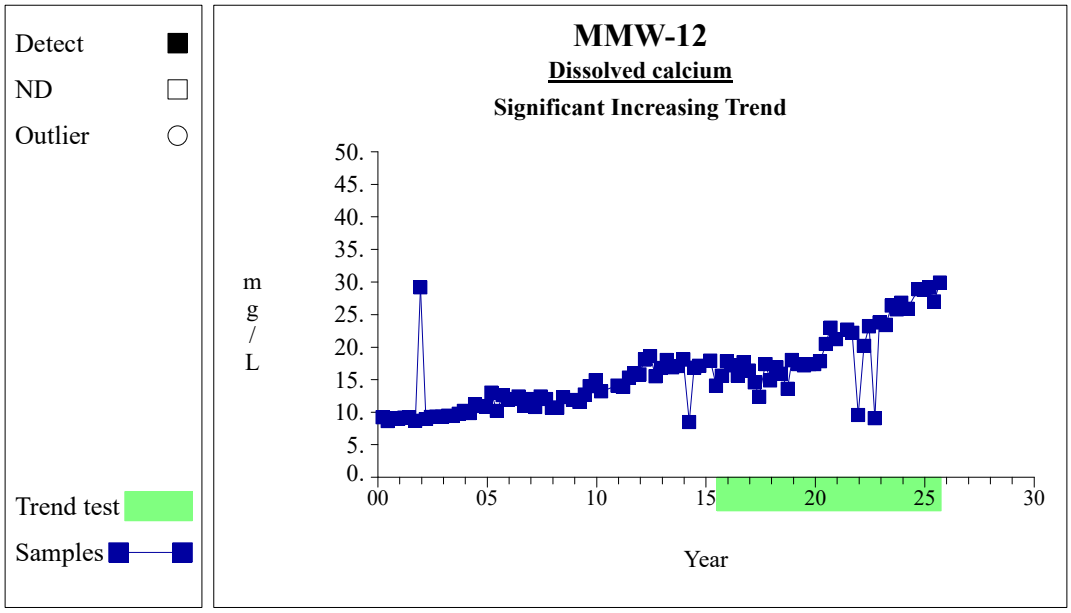
Graph 14

Time Series



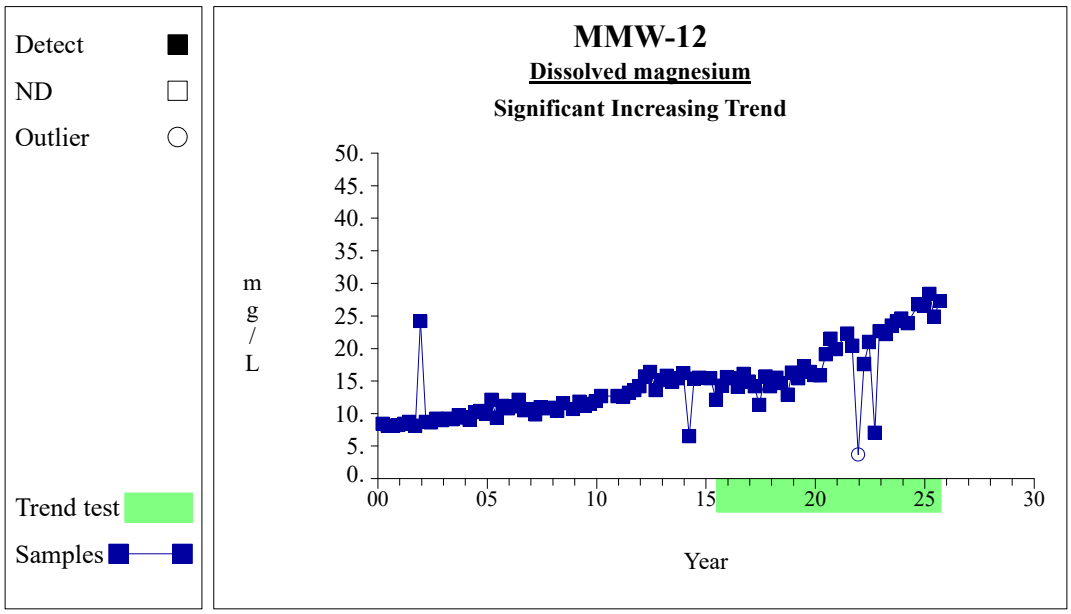
Graph 17

Time Series



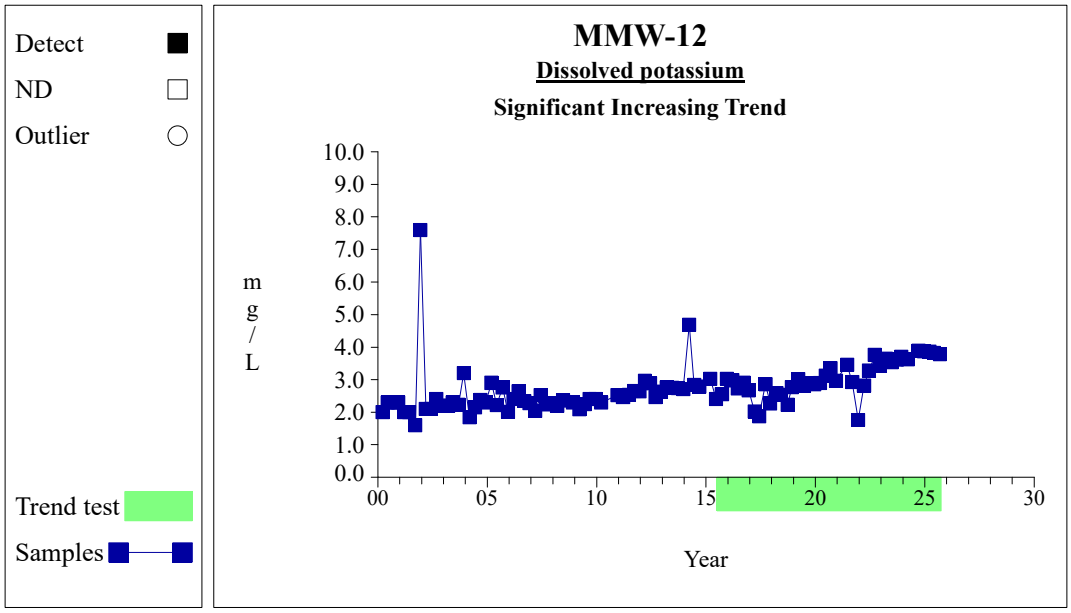
Graph 20

Time Series



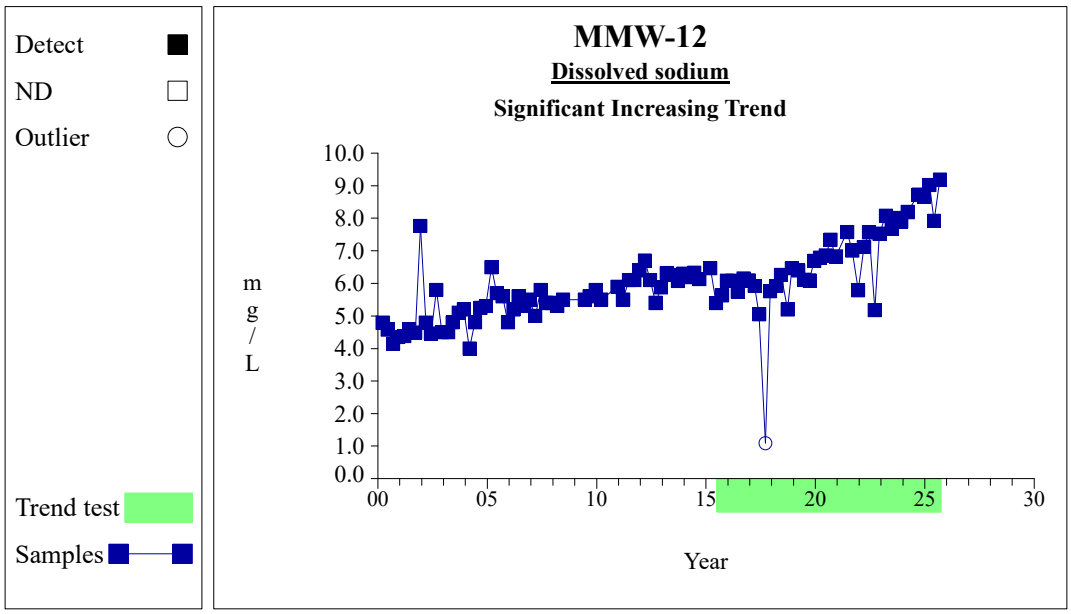
Graph 26

Time Series



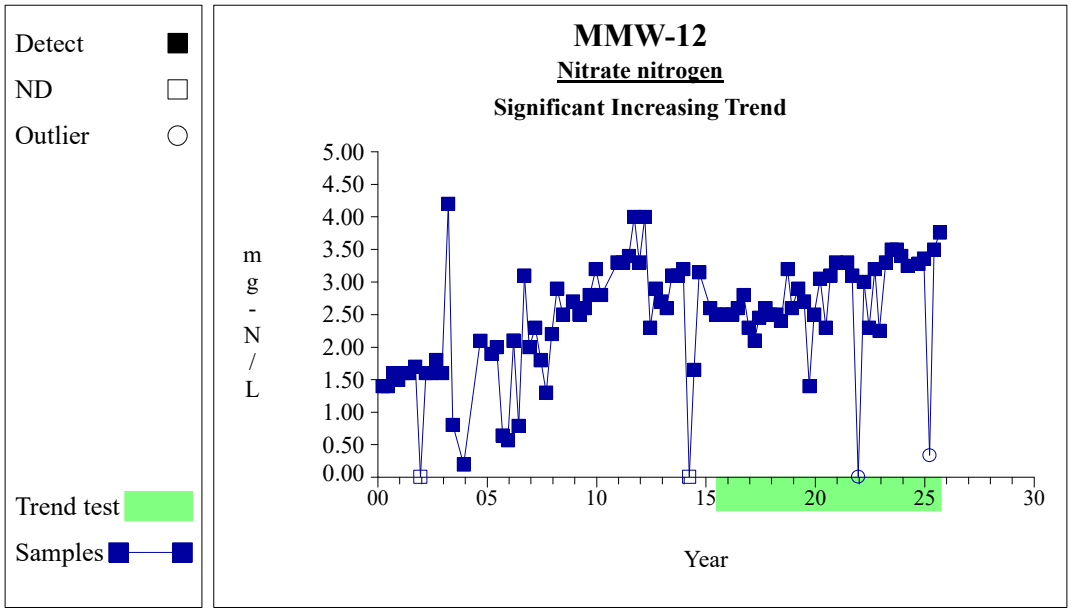
Graph 29

Time Series



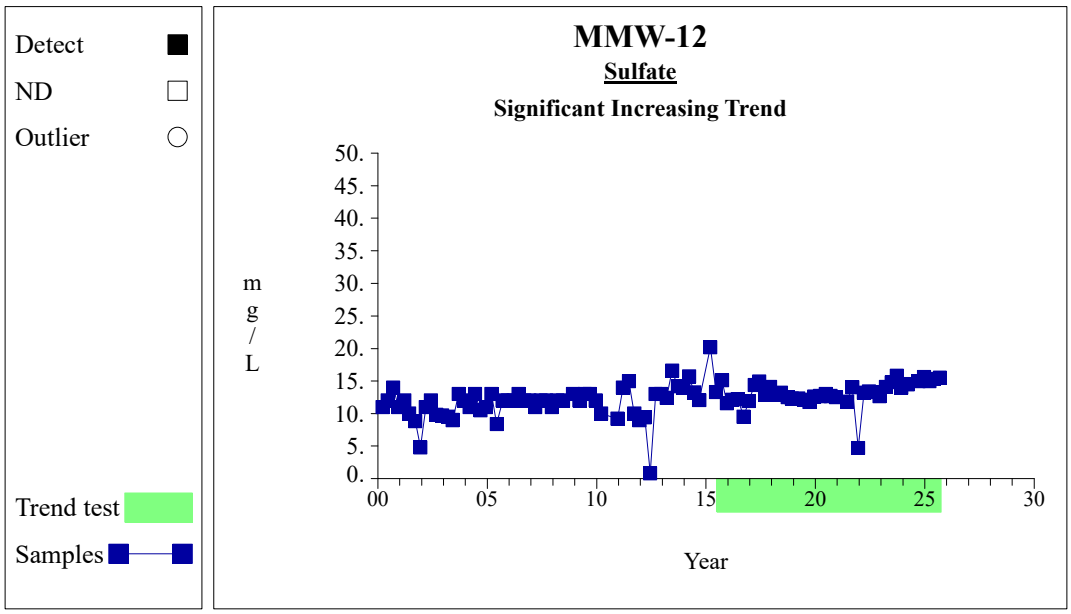
Graph 32

Time Series



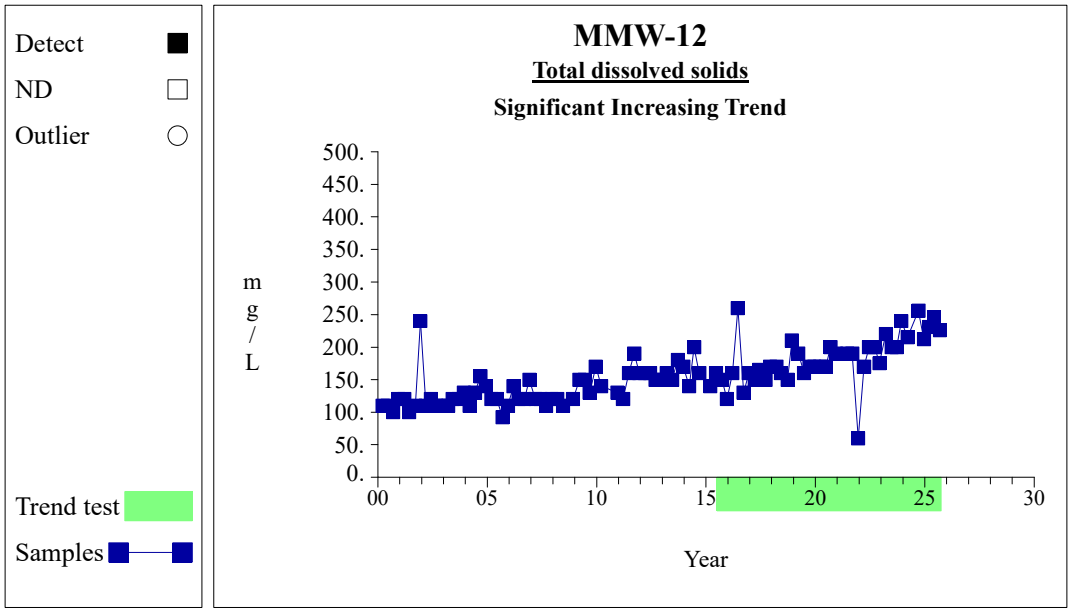
Graph 38

Time Series



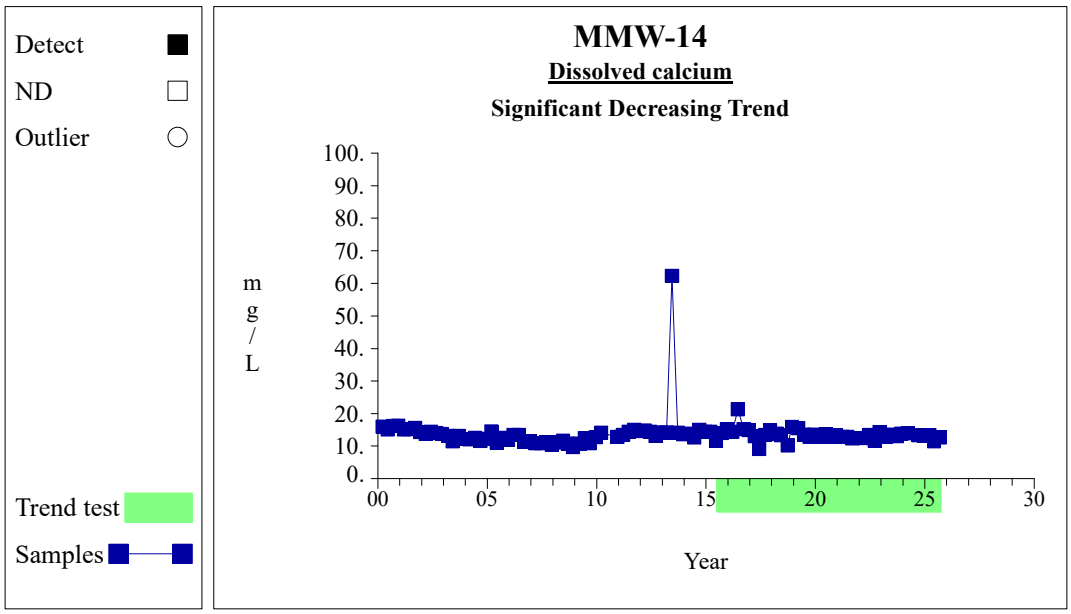
Graph 43

Time Series



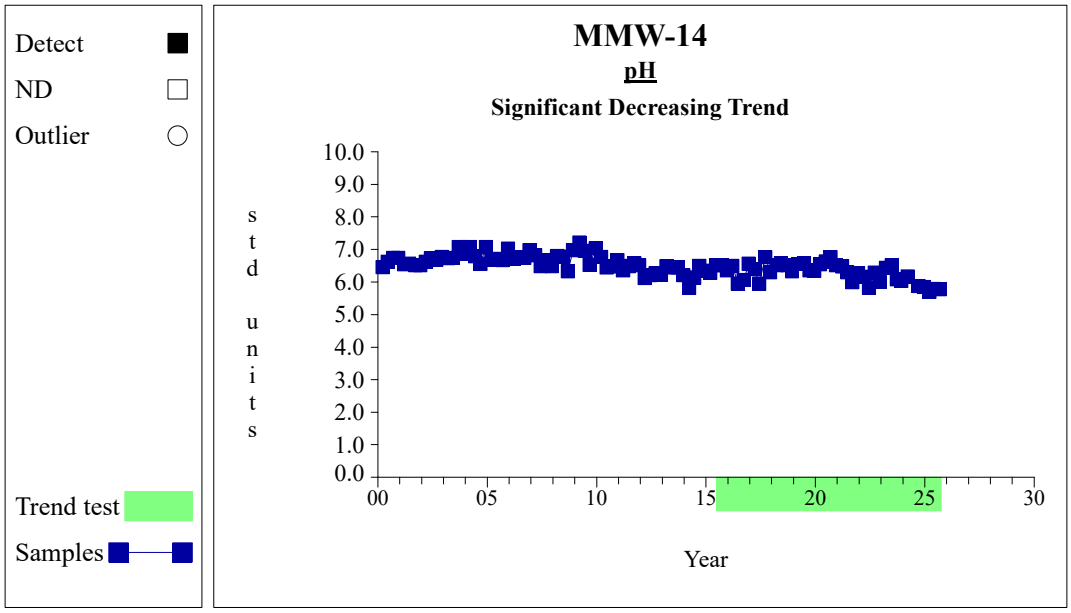
Graph 45

Time Series



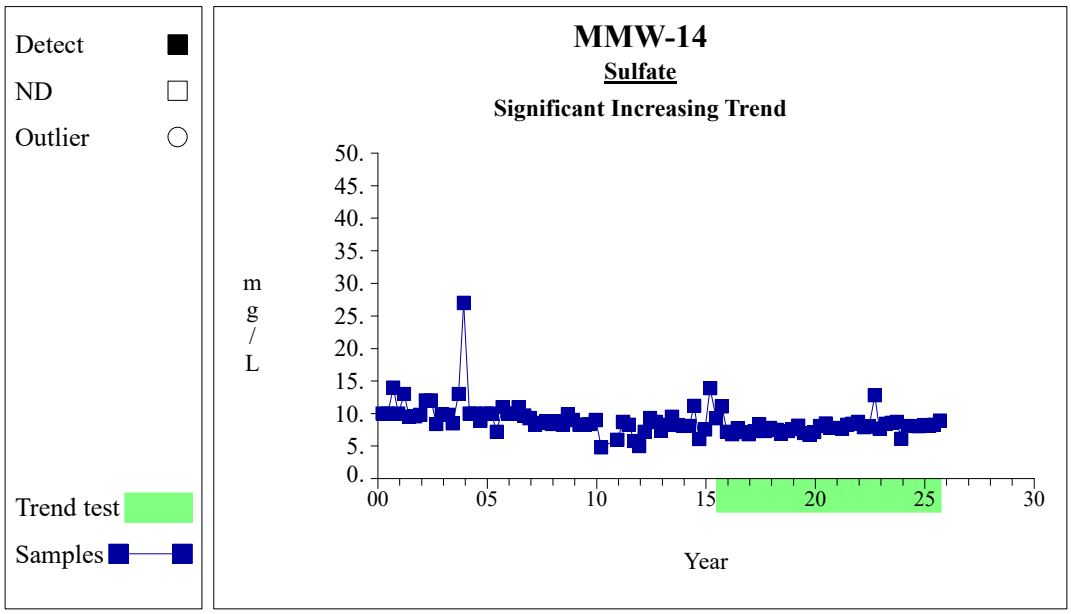
Graph 116

Time Series



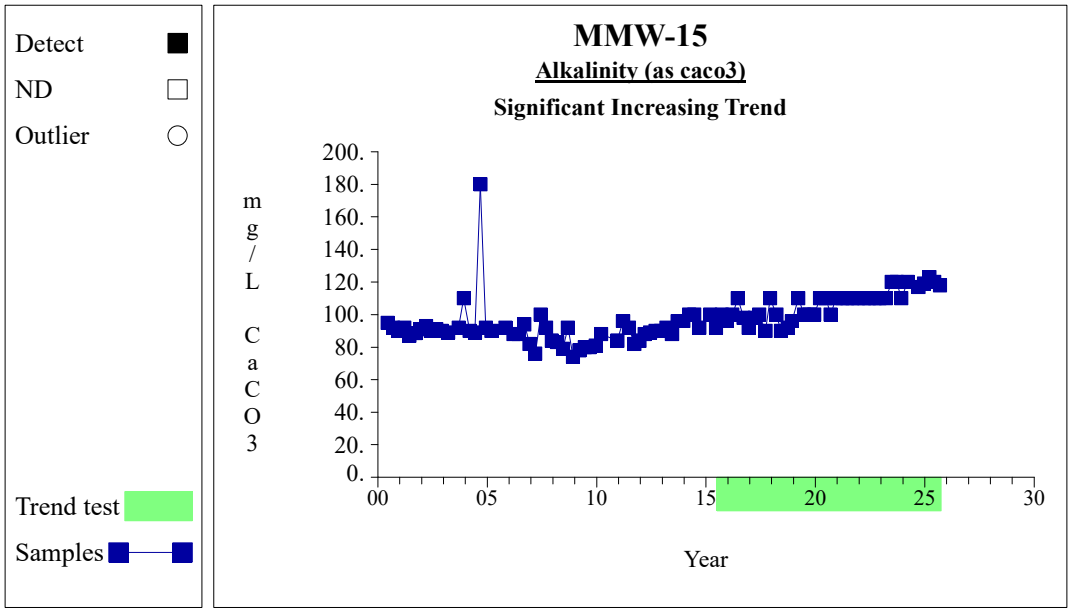
Graph 137

Time Series



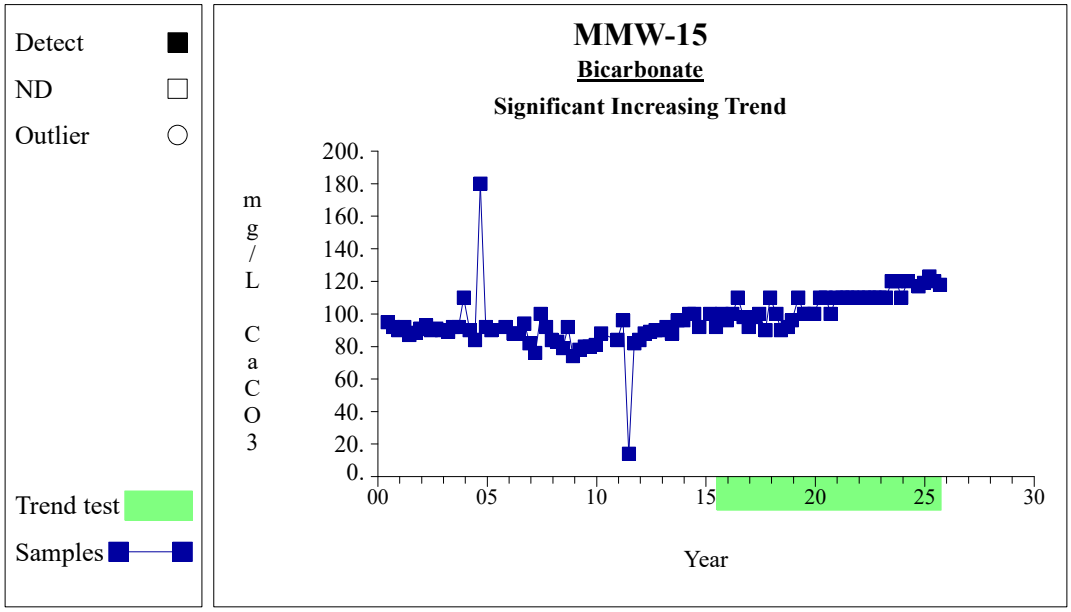
Graph 139

Time Series



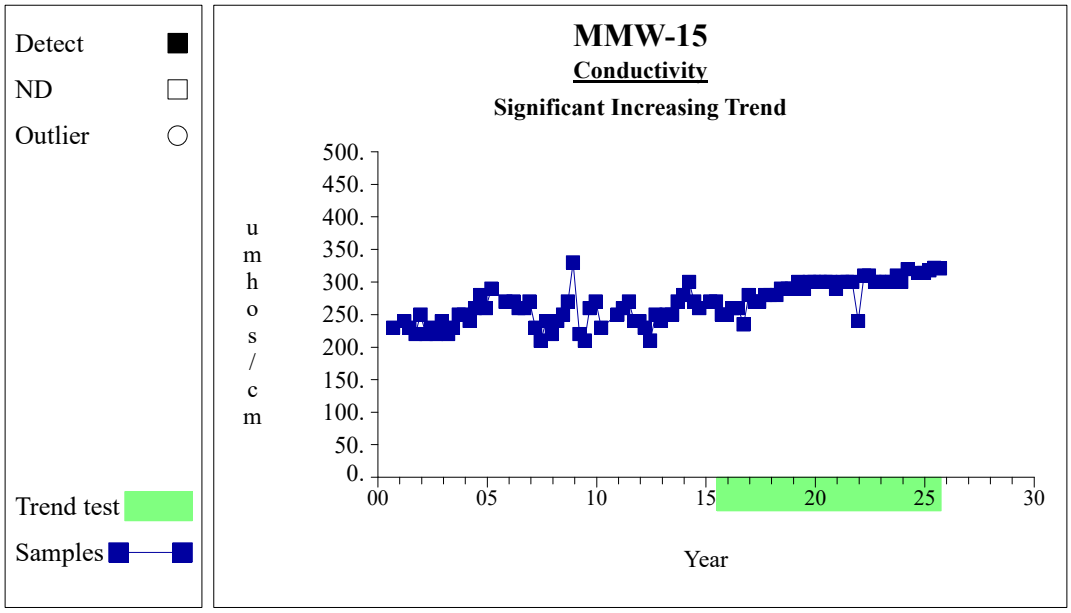
Graph 149

Time Series



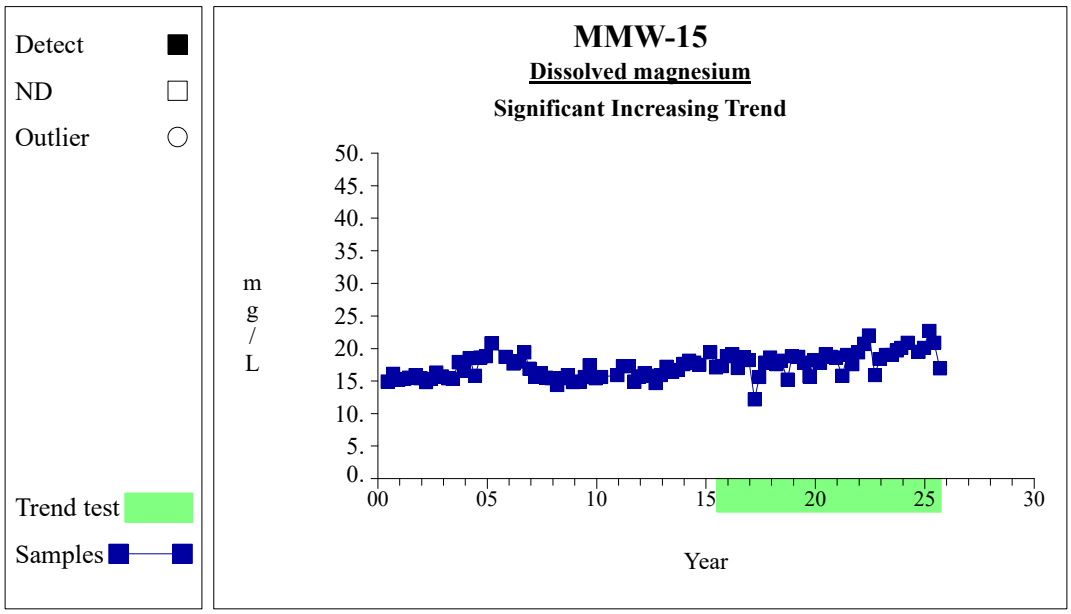
Graph 152

Time Series



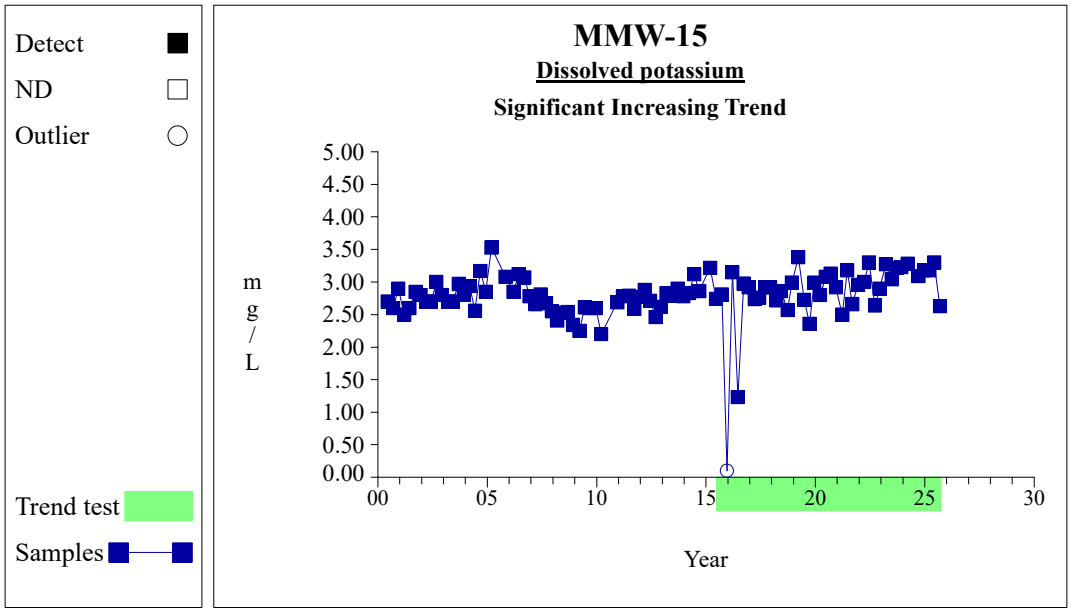
Graph 158

Time Series



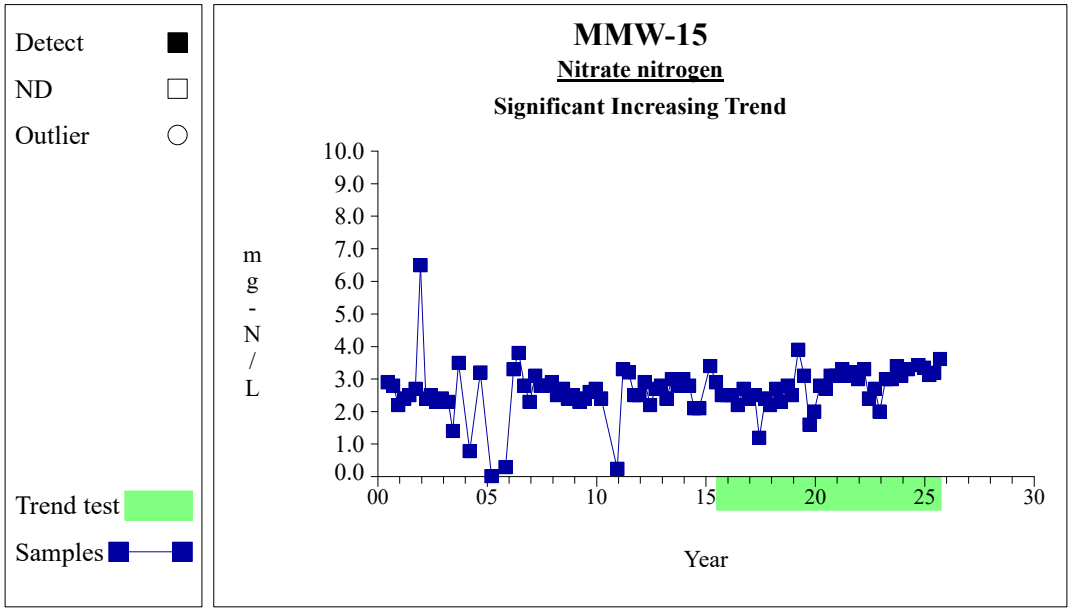
Graph 170

Time Series



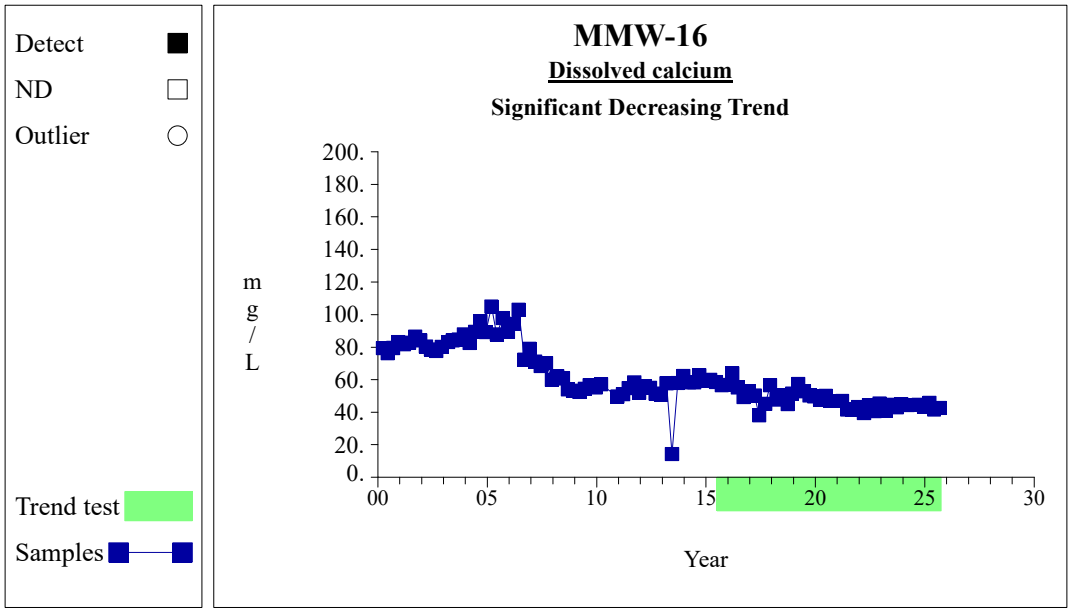
Graph 173

Time Series



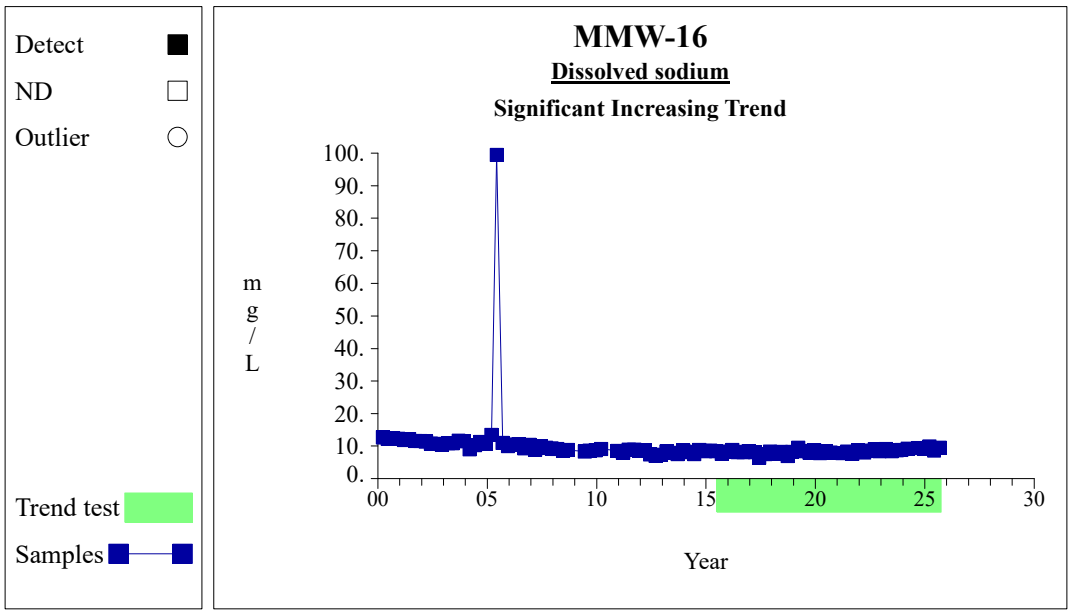
Graph 182

Time Series



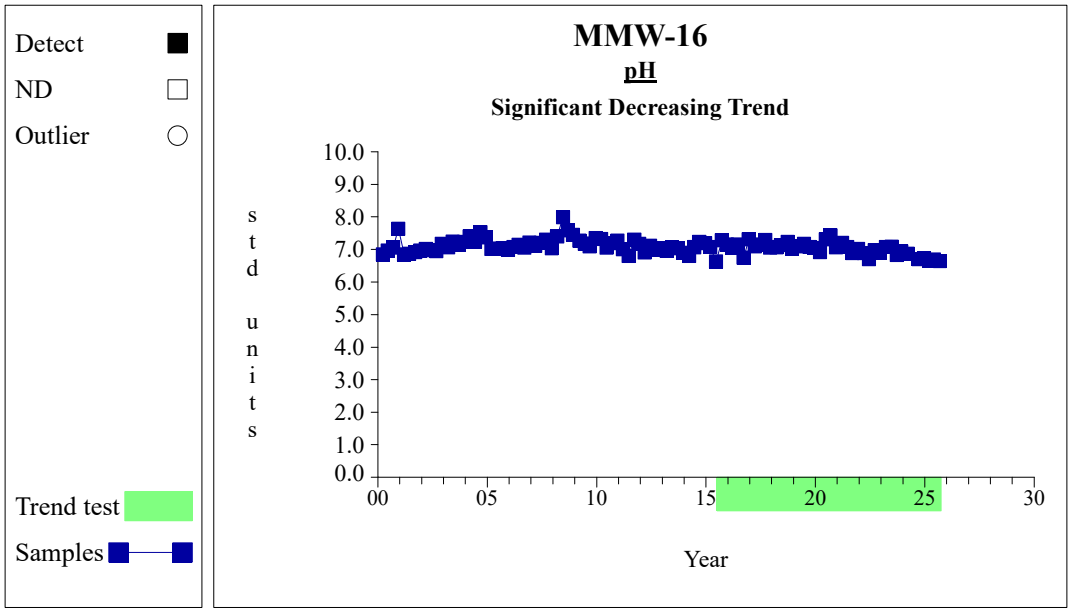
Graph 212

Time Series



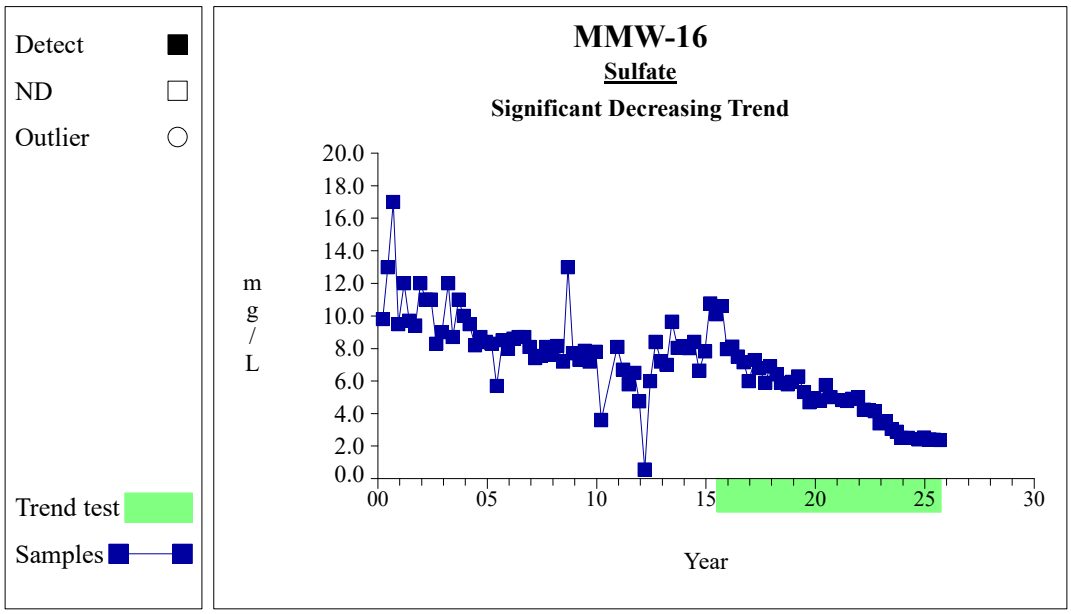
Graph 224

Time Series



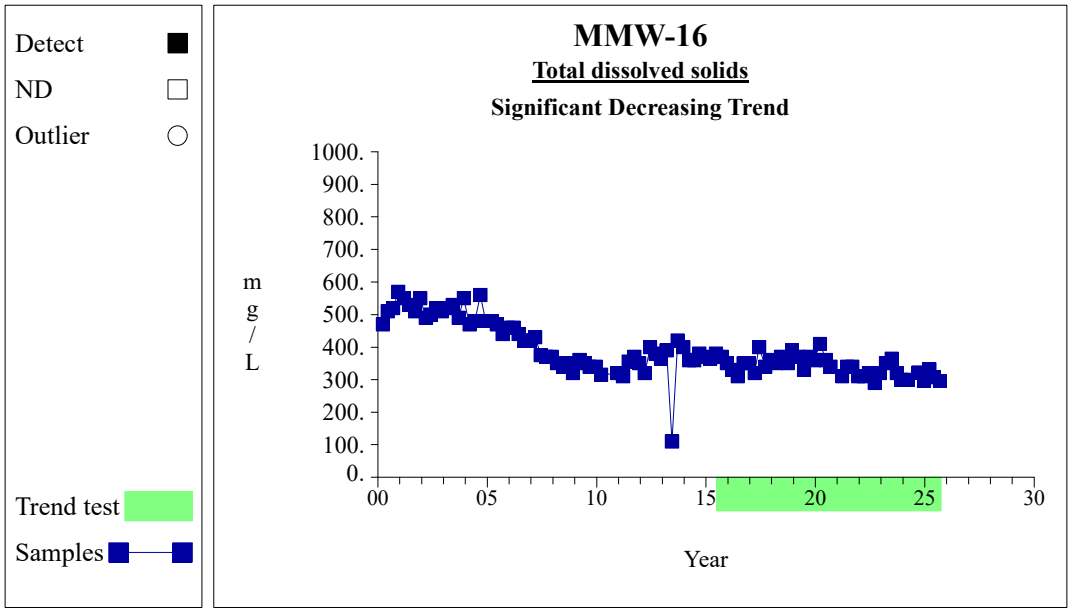
Graph 233

Time Series



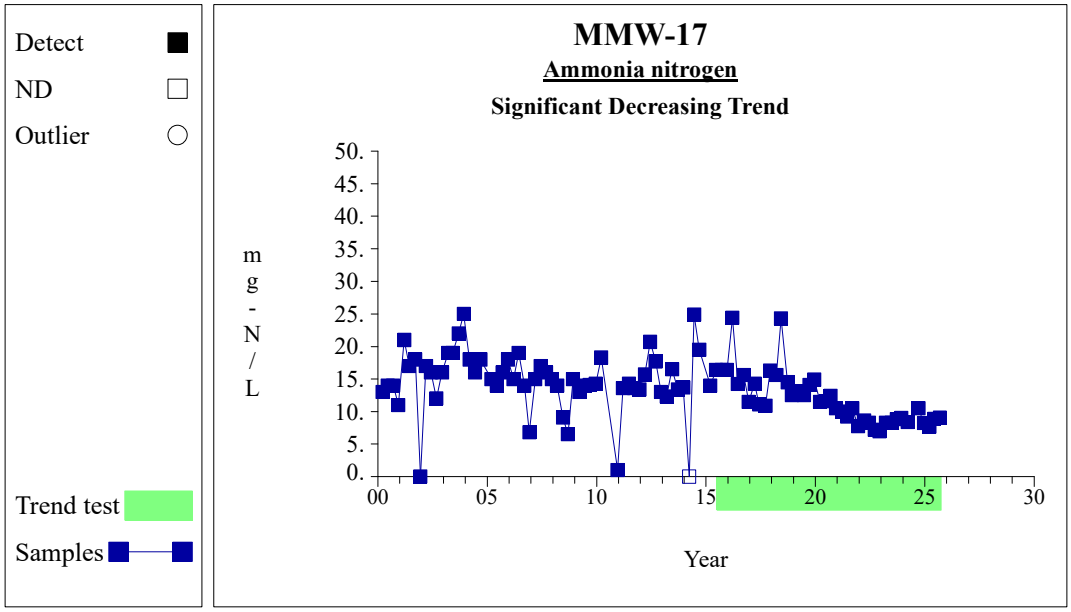
Graph 235

Time Series



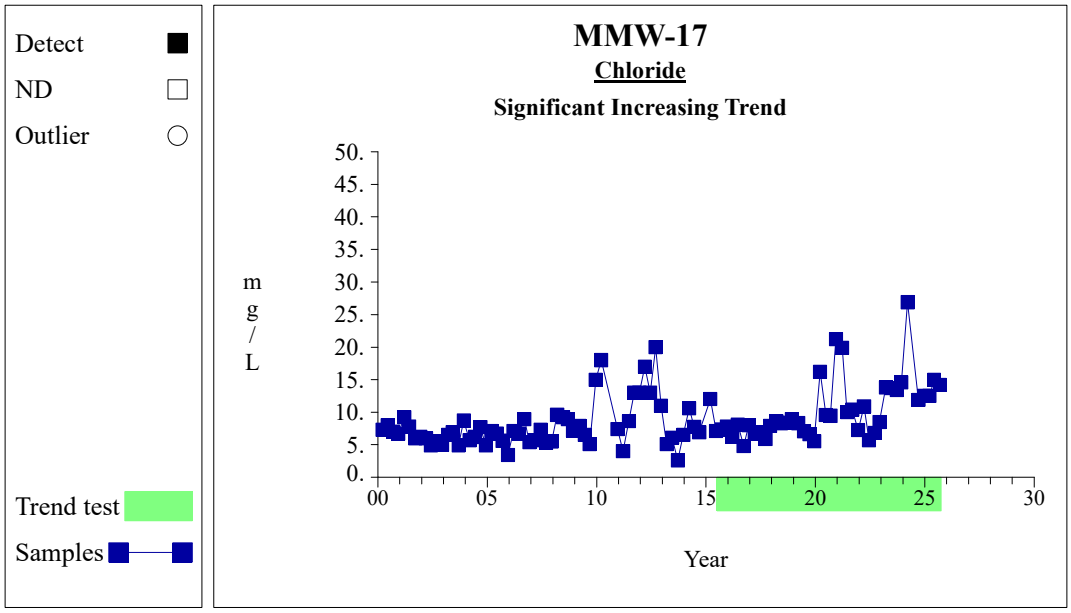
Graph 237

Time Series



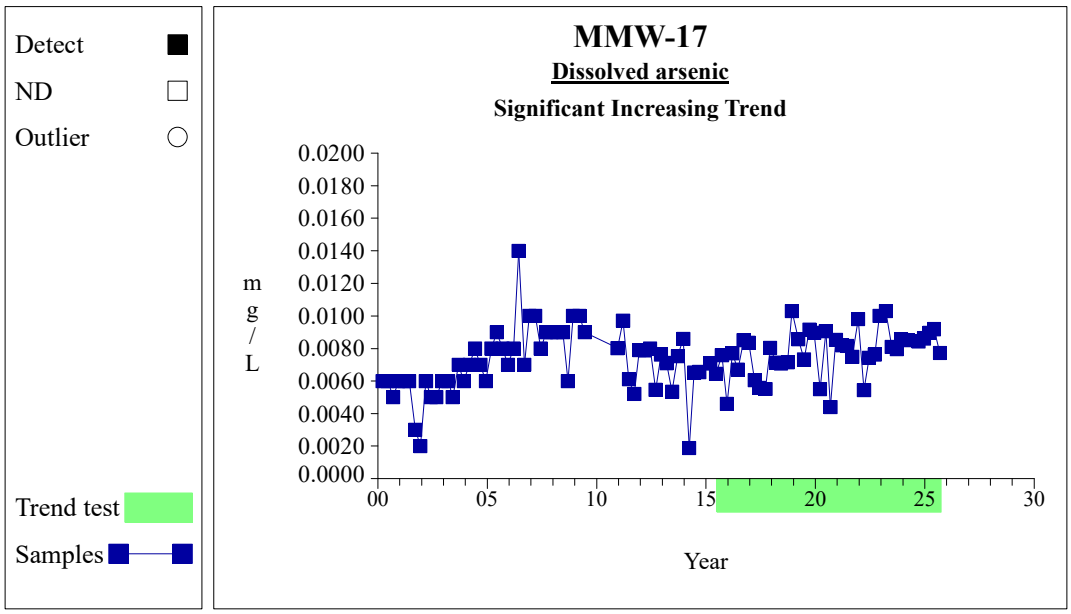
Graph 246

Time Series



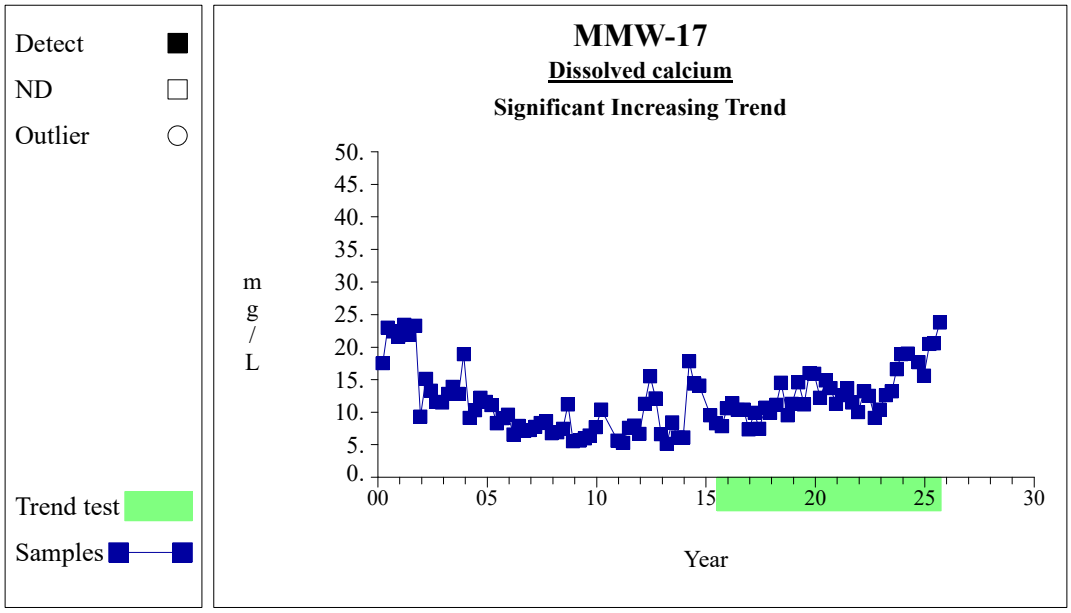
Graph 251

Time Series



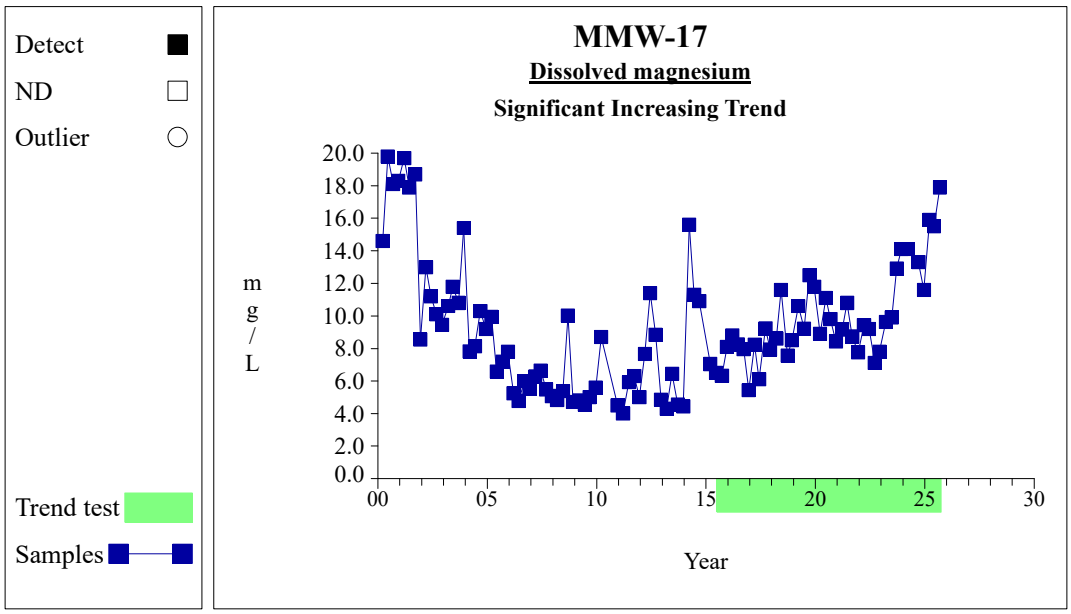
Graph 256

Time Series



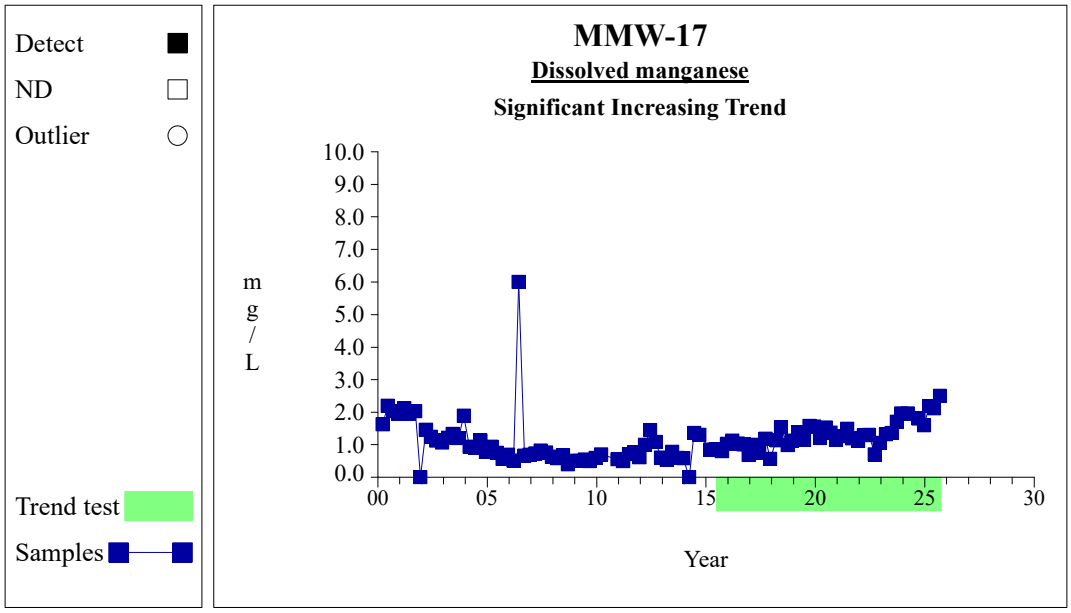
Graph 260

Time Series



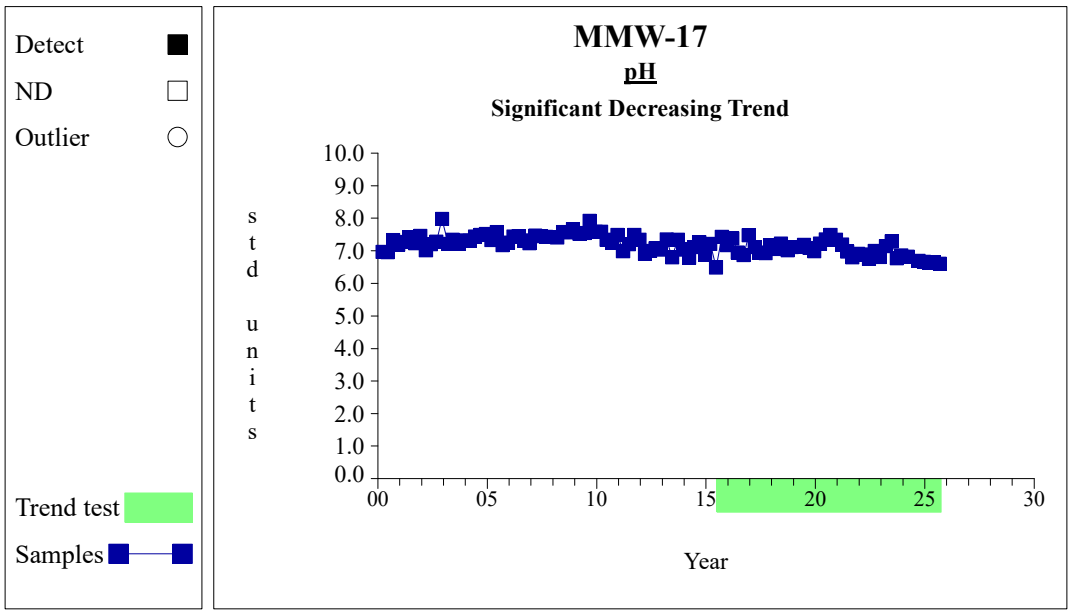
Graph 266

Time Series



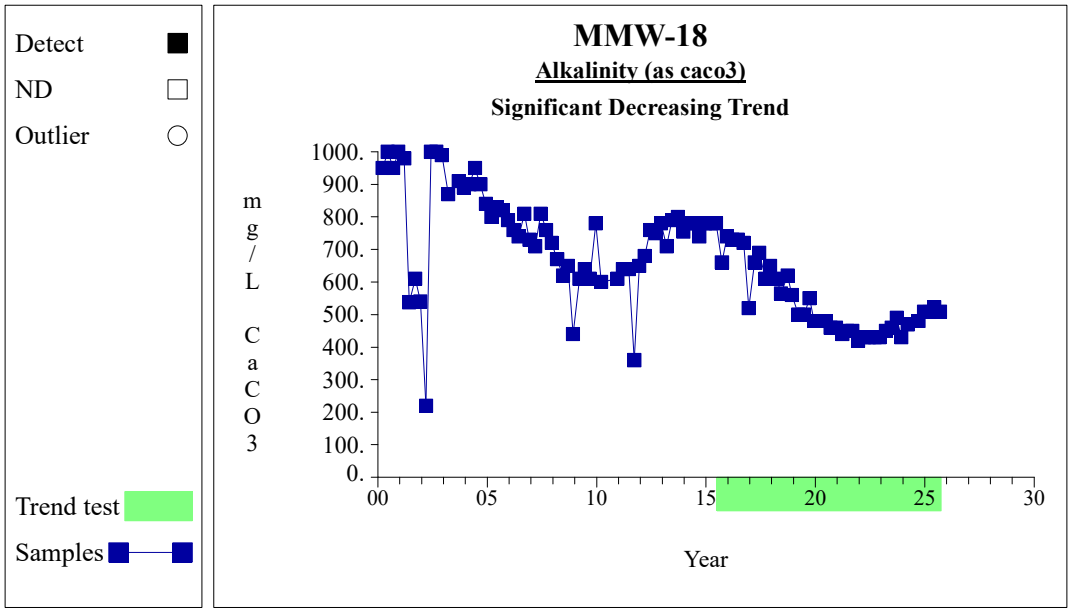
Graph 267

Time Series



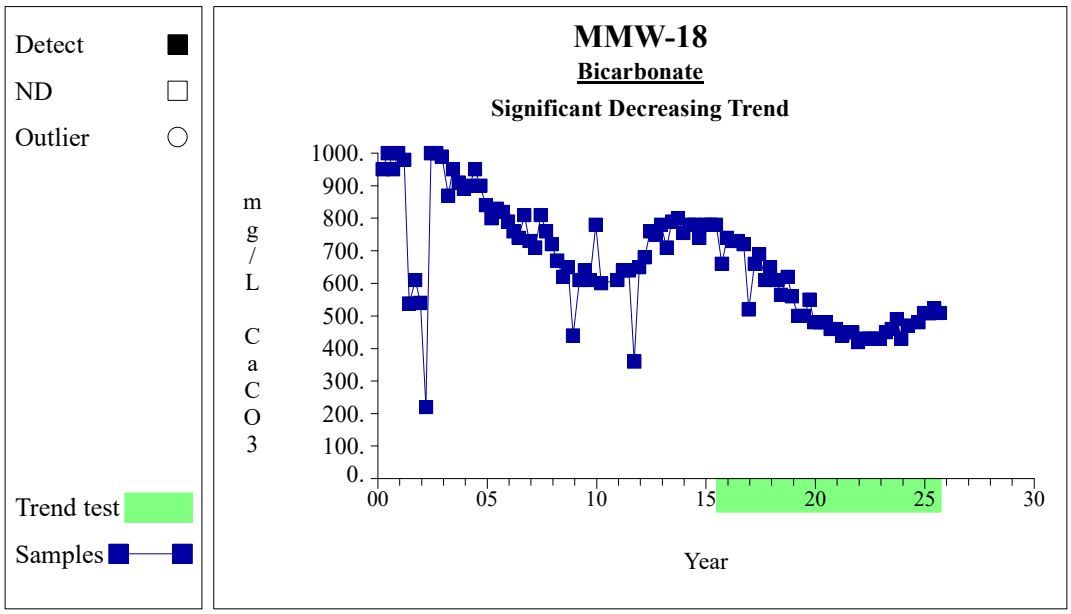
Graph 281

Time Series



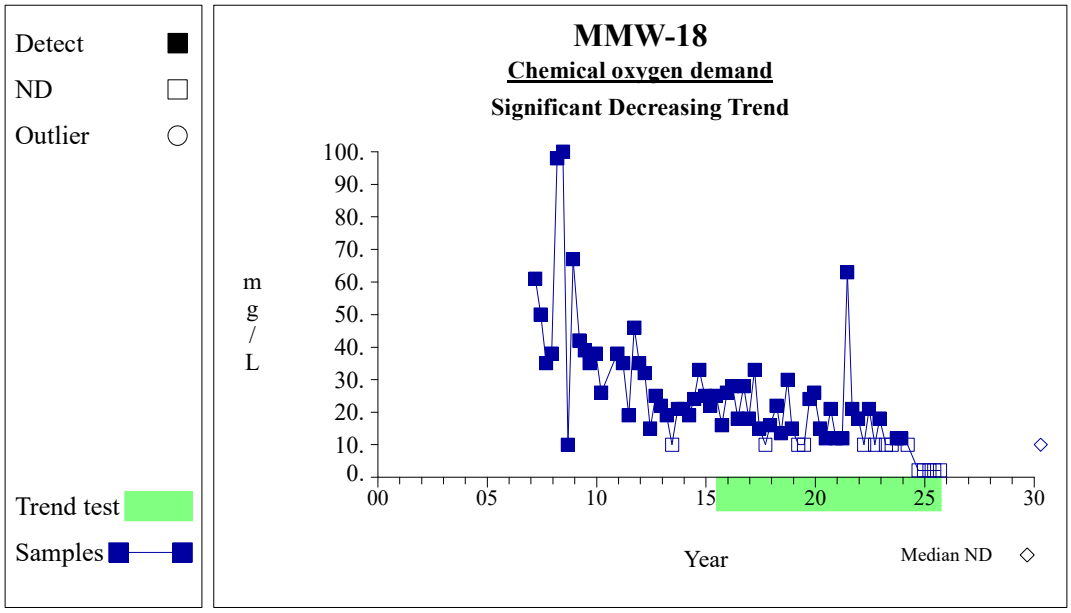
Graph 293

Time Series



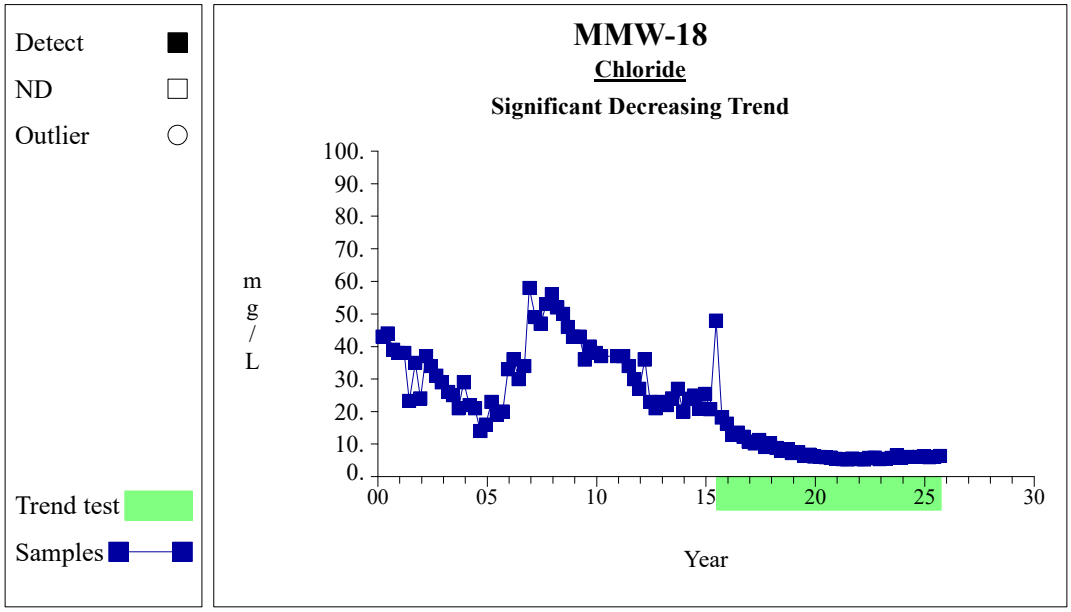
Graph 296

Time Series



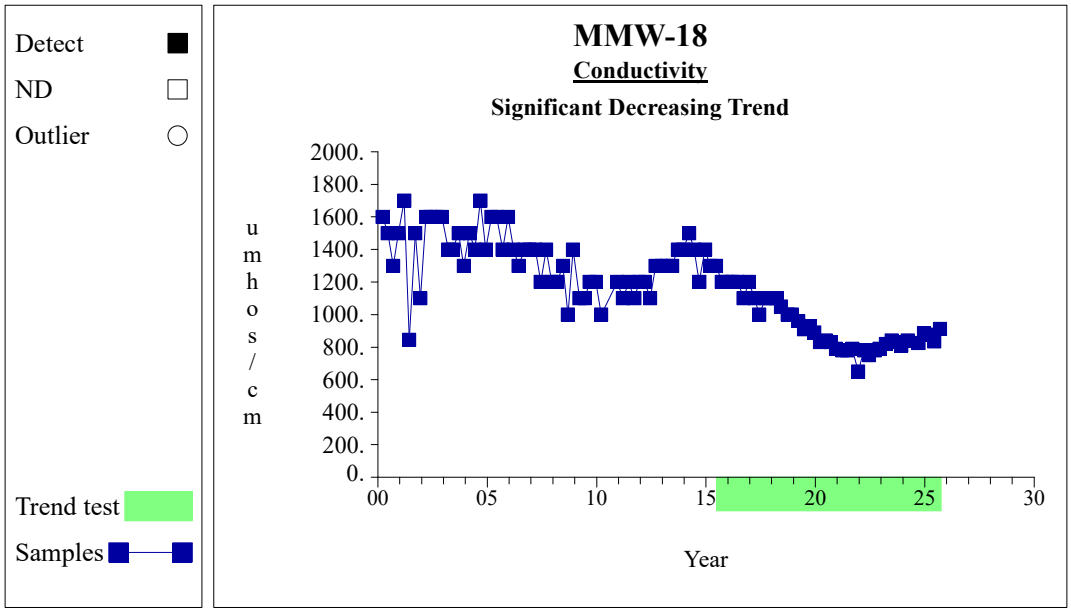
Graph 298

Time Series



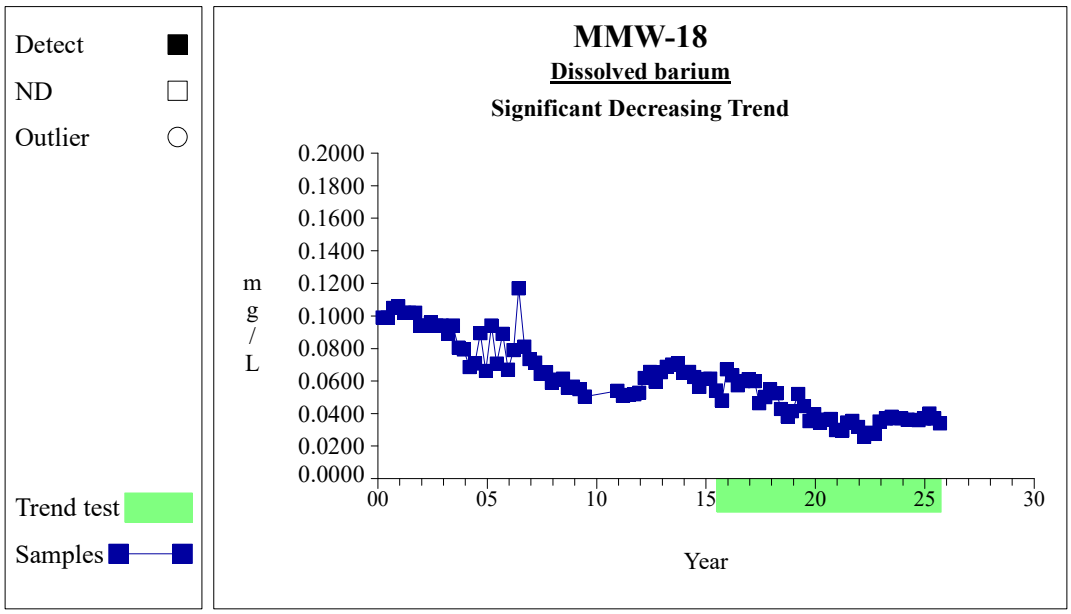
Graph 299

Time Series



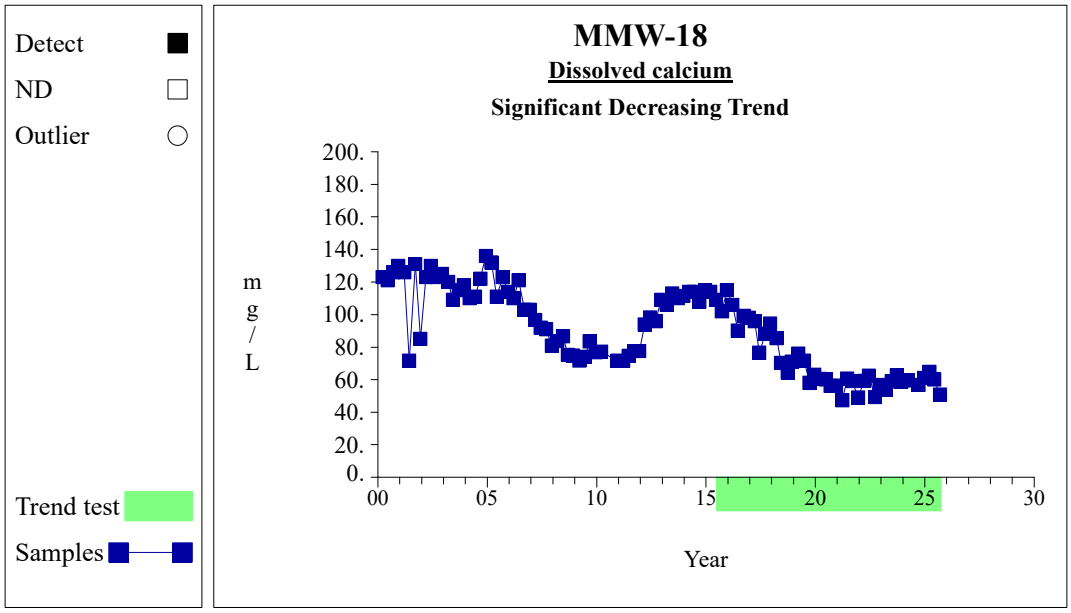
Graph 302

Time Series



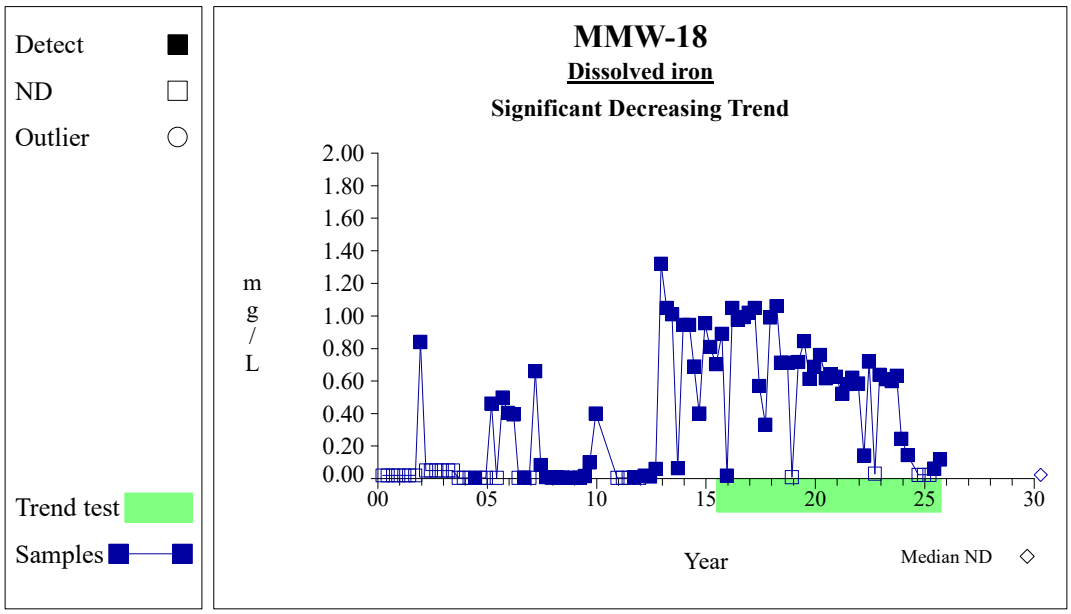
Graph 305

Time Series



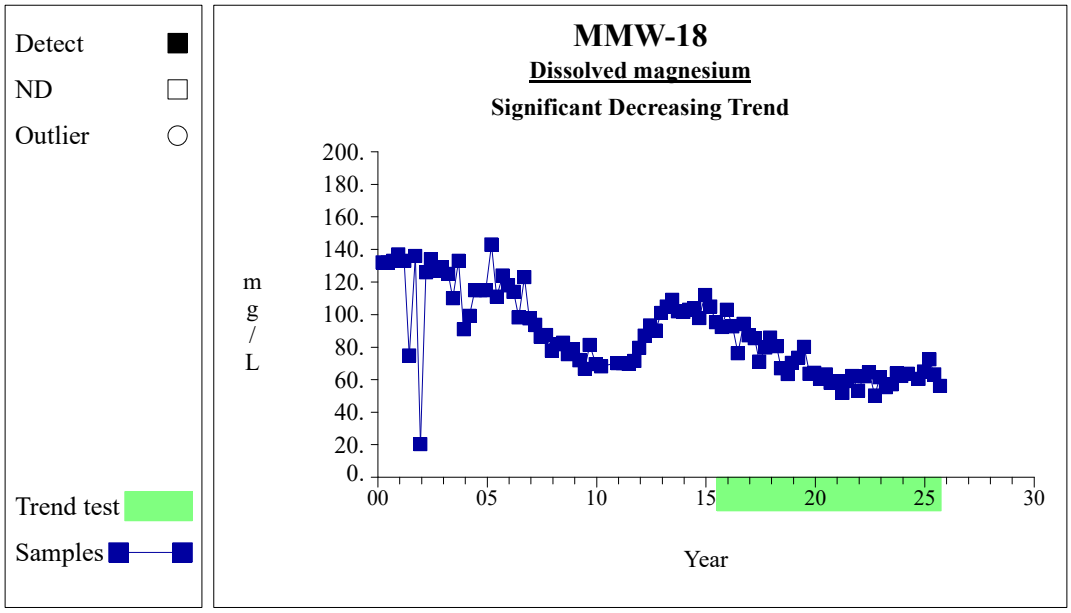
Graph 308

Time Series



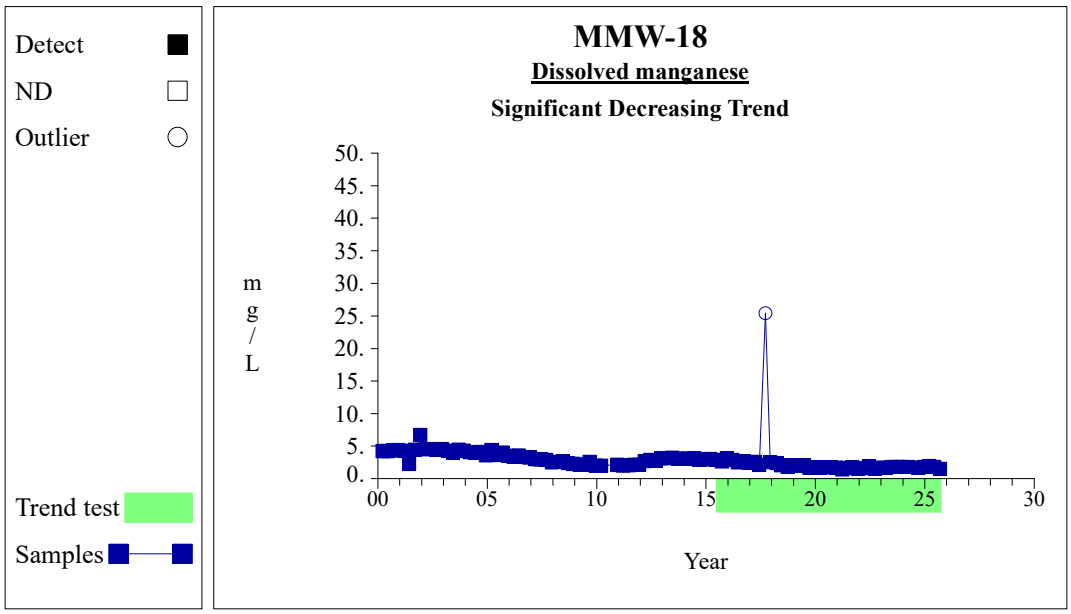
Graph 312

Time Series



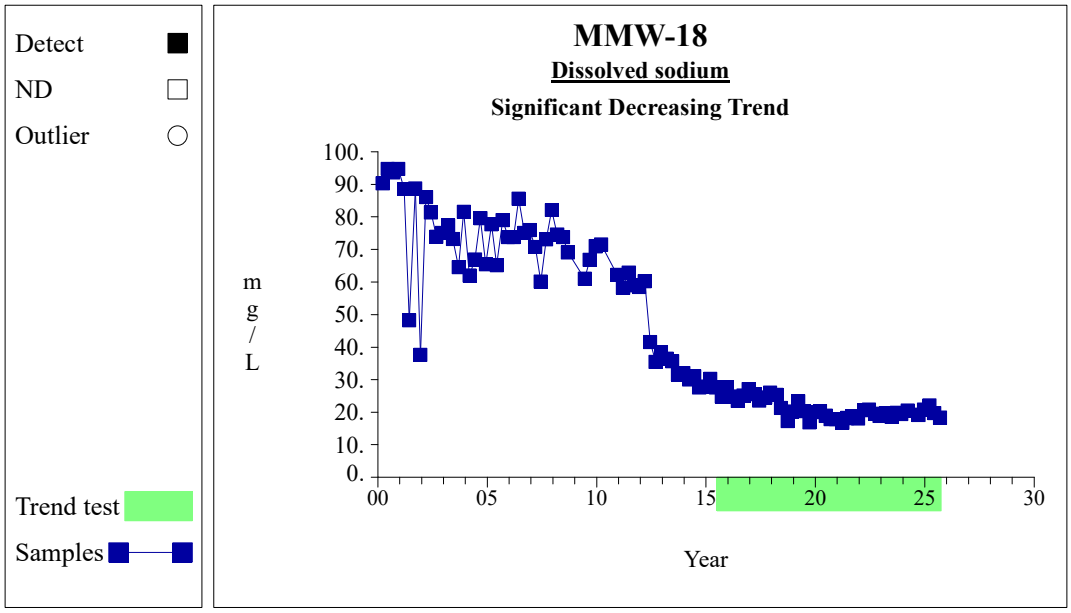
Graph 314

Time Series



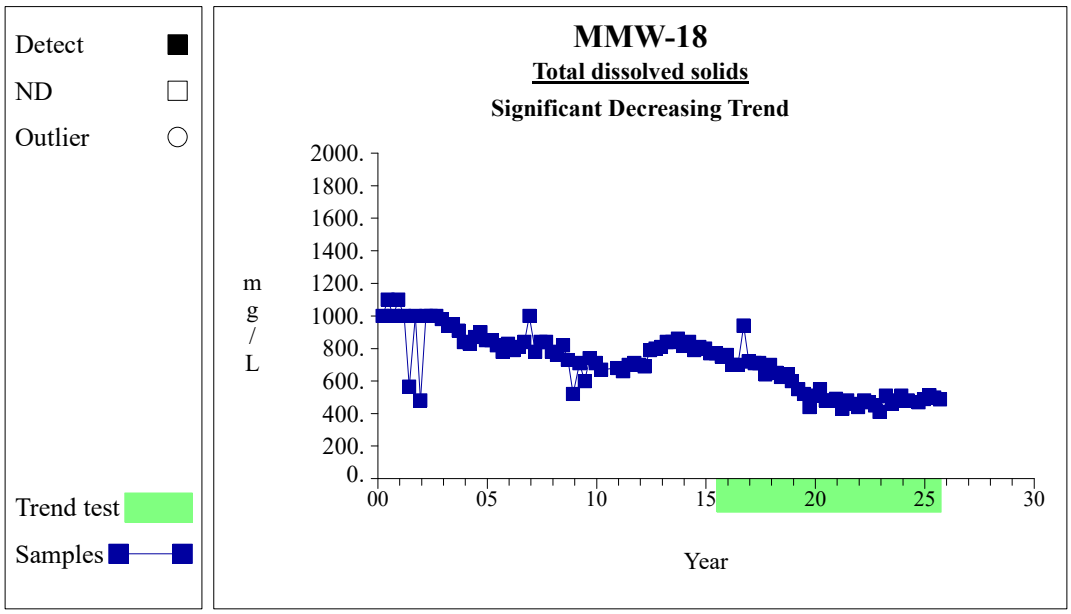
Graph 315

Time Series



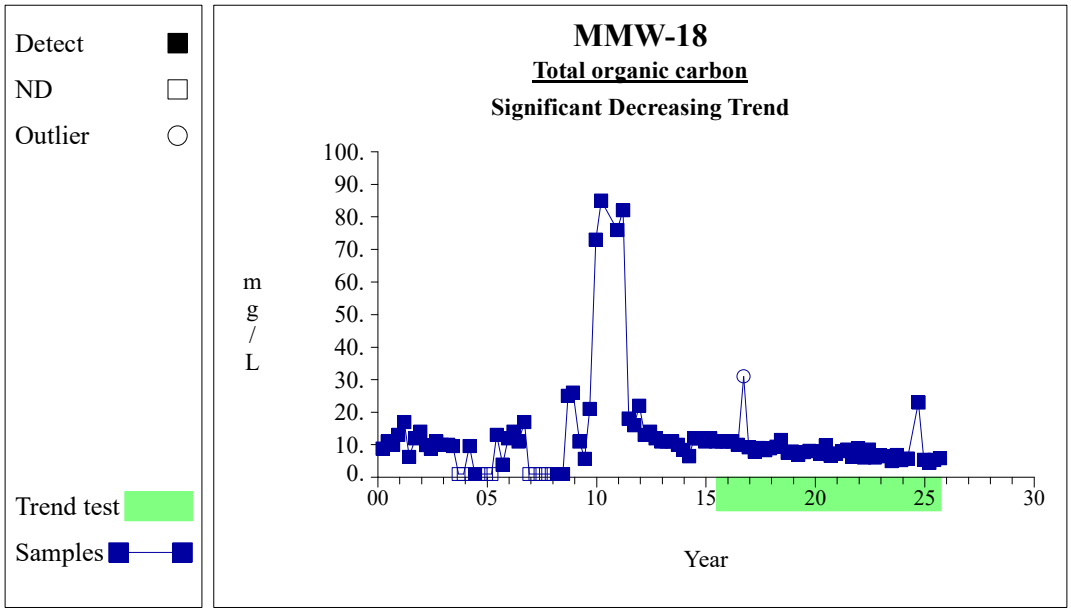
Graph 320

Time Series



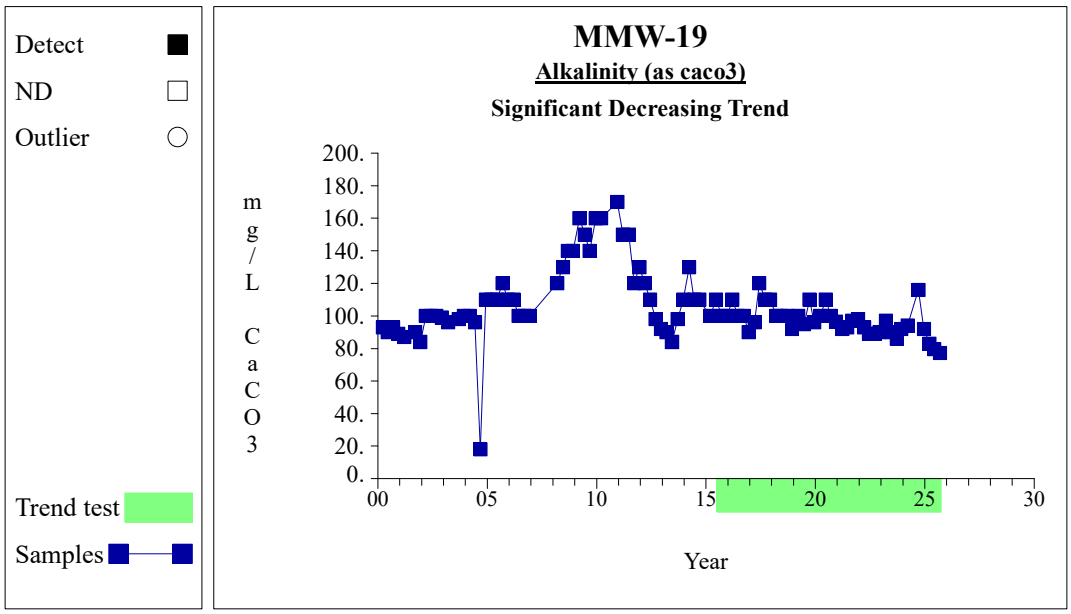
Graph 333

Time Series



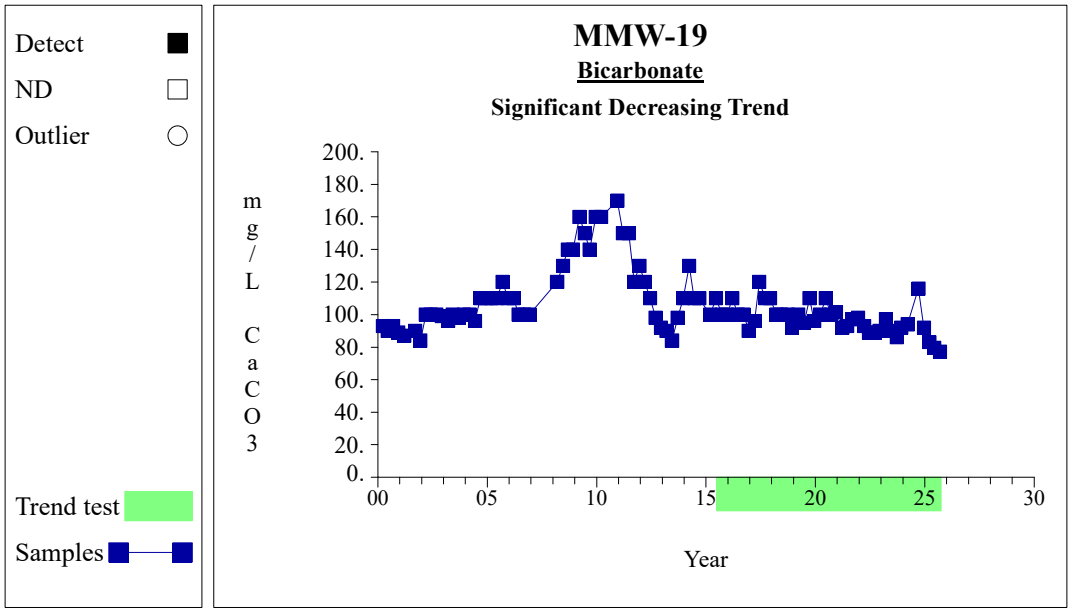
Graph 334

Time Series



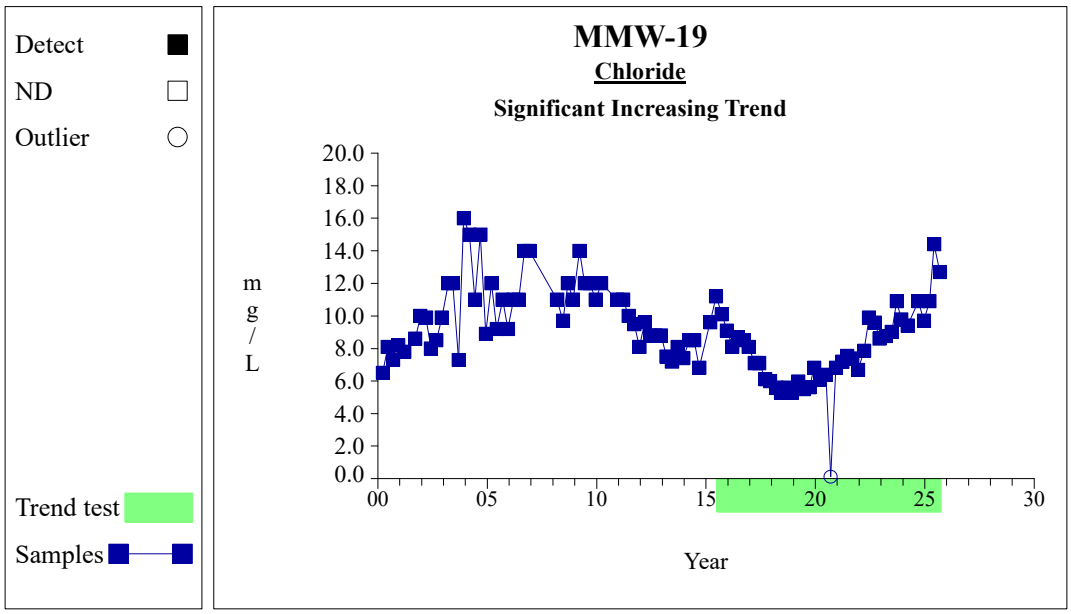
Graph 341

Time Series



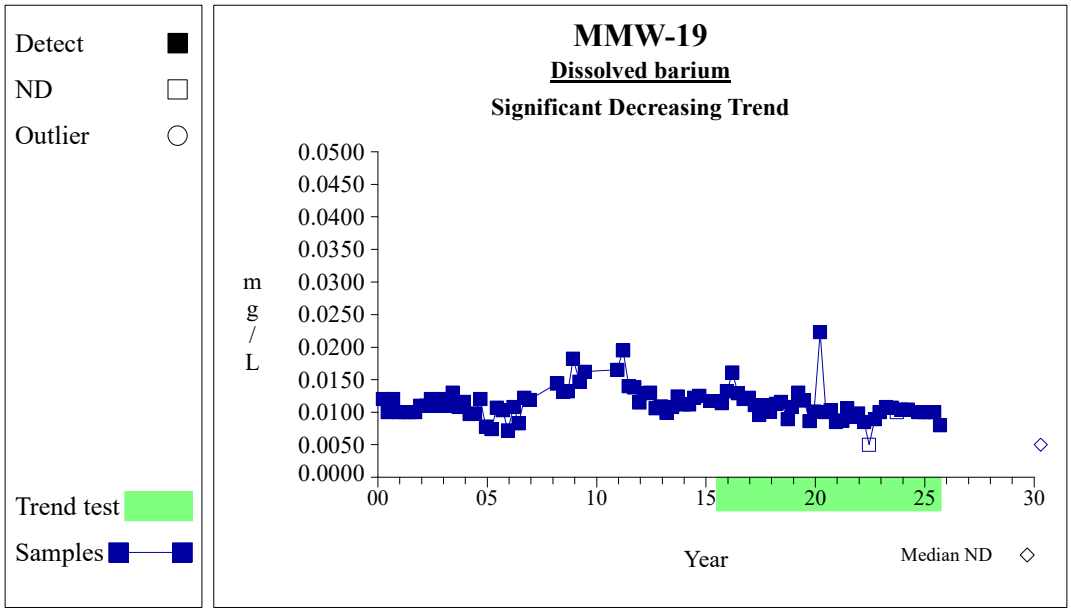
Graph 344

Time Series



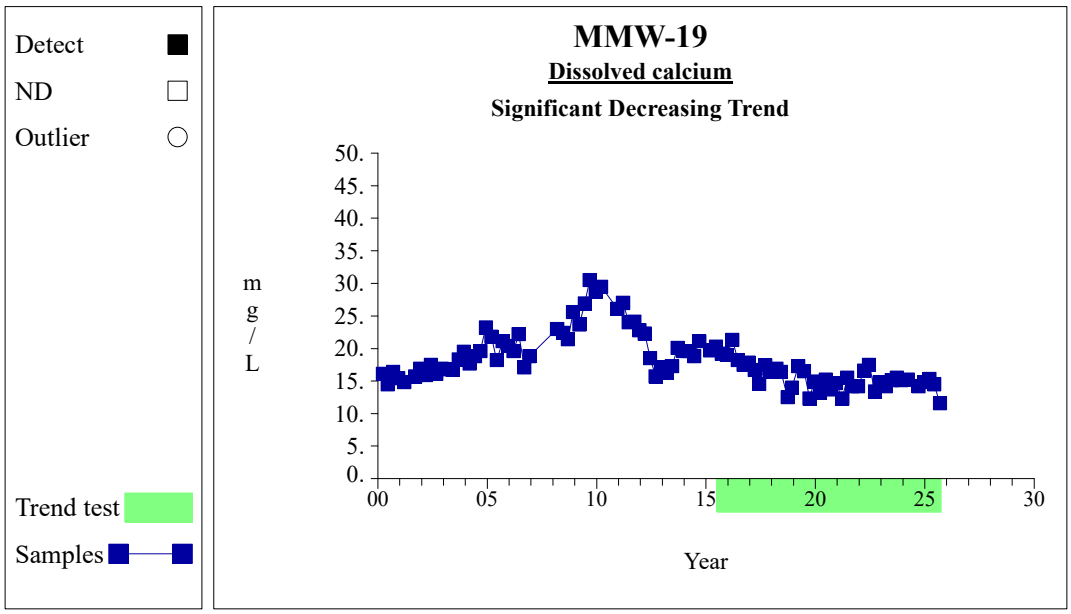
Graph 347

Time Series



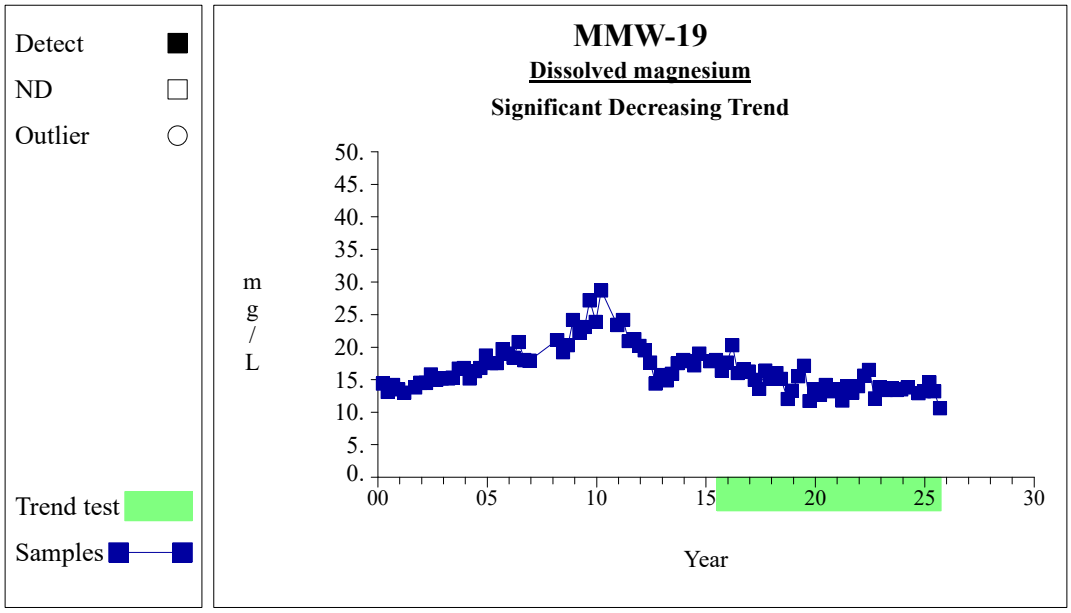
Graph 353

Time Series



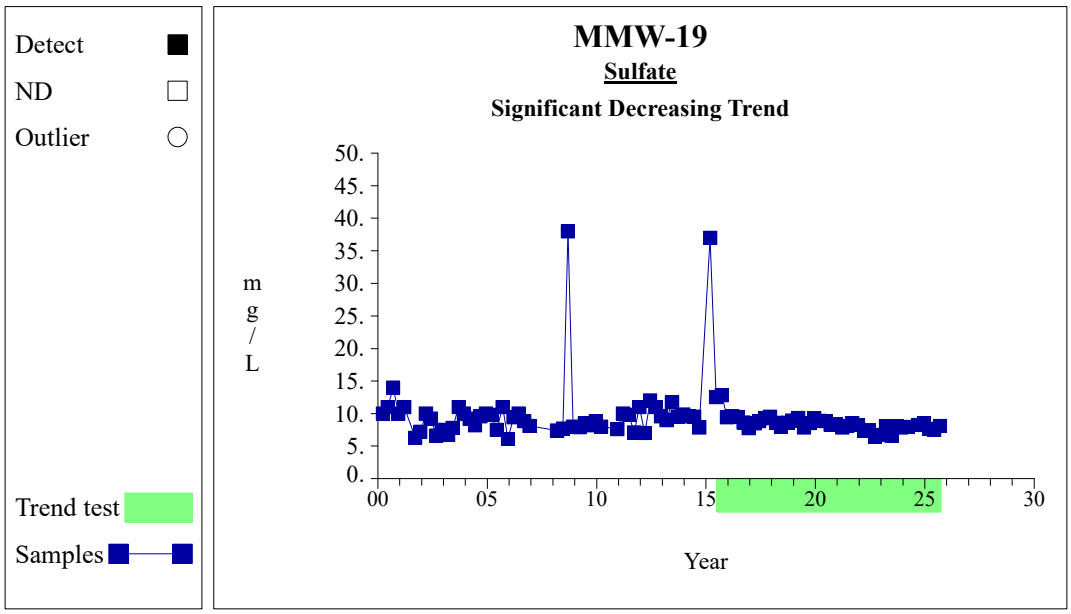
Graph 356

Time Series



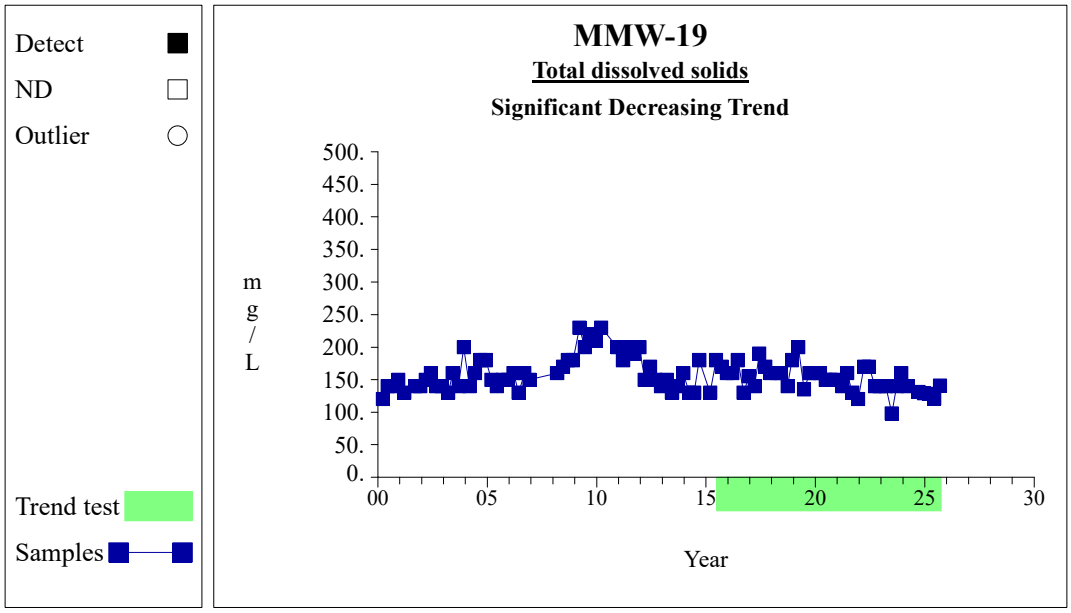
Graph 362

Time Series



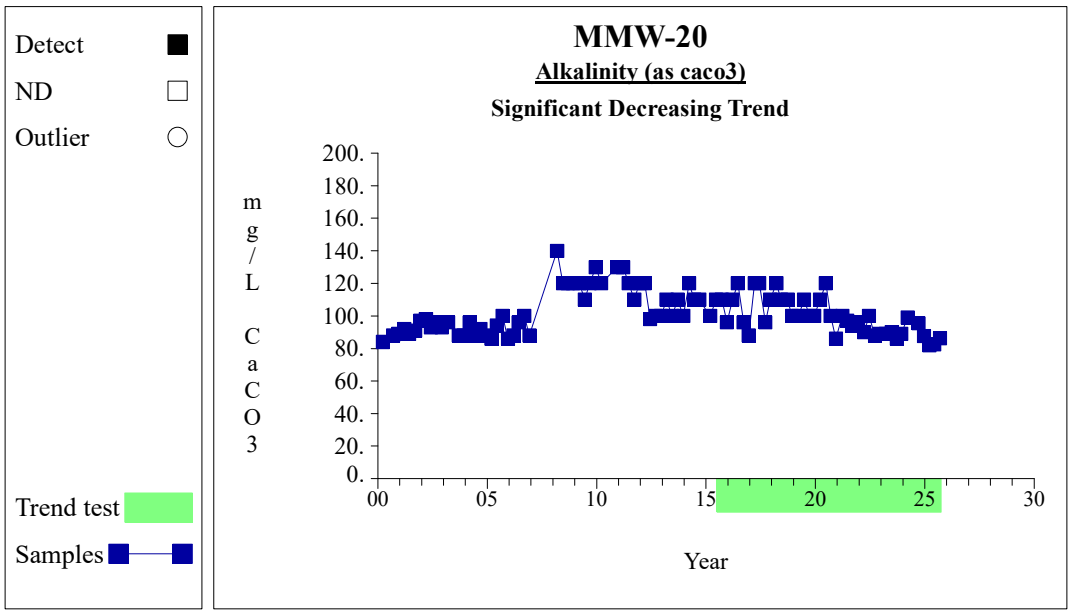
Graph 379

Time Series



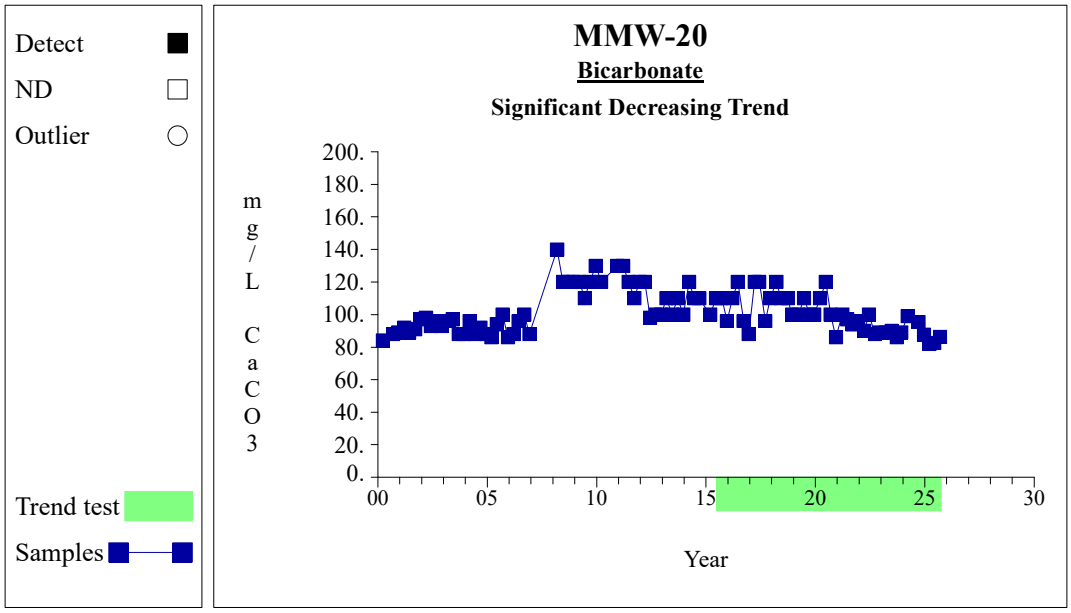
Graph 381

Time Series



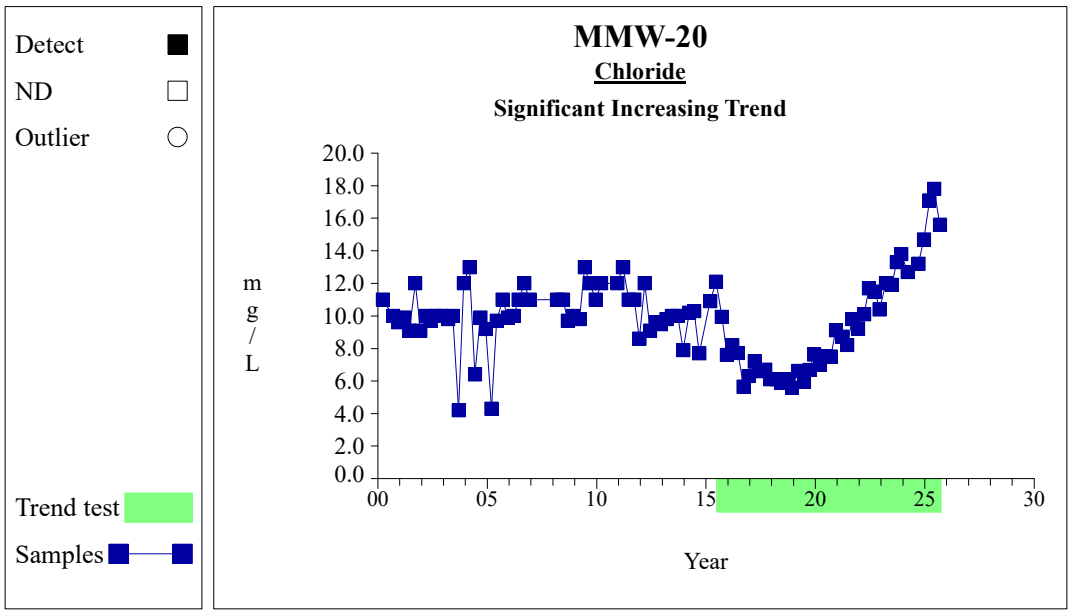
Graph 389

Time Series



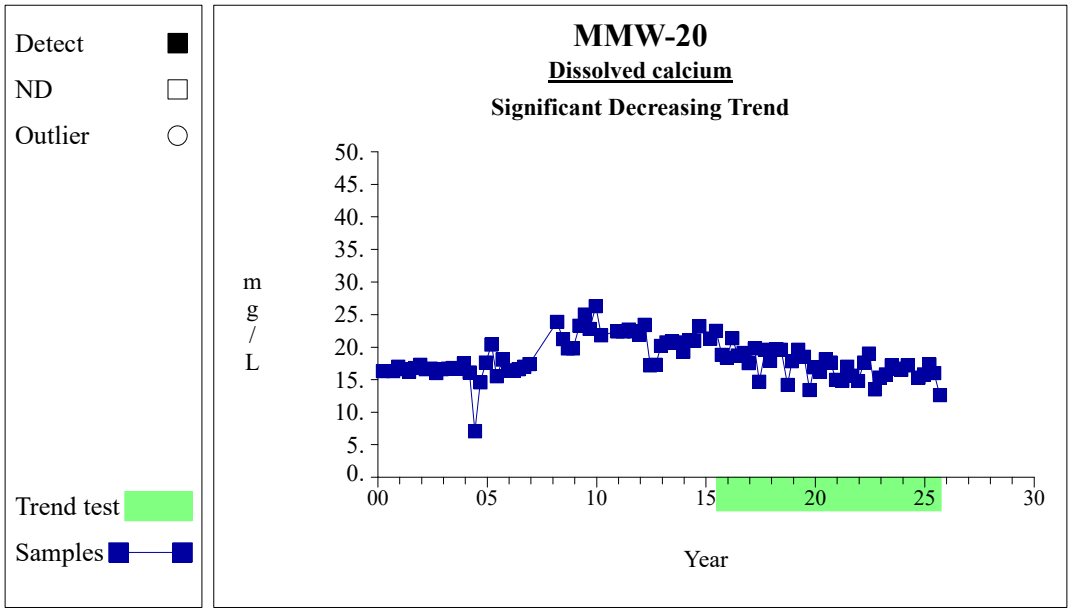
Graph 392

Time Series



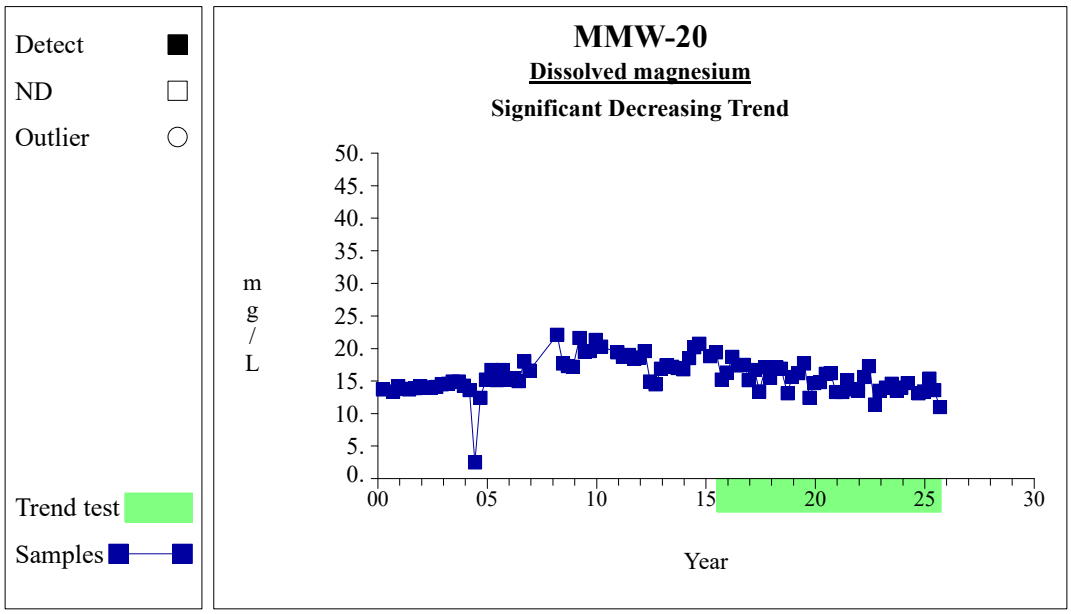
Graph 395

Time Series



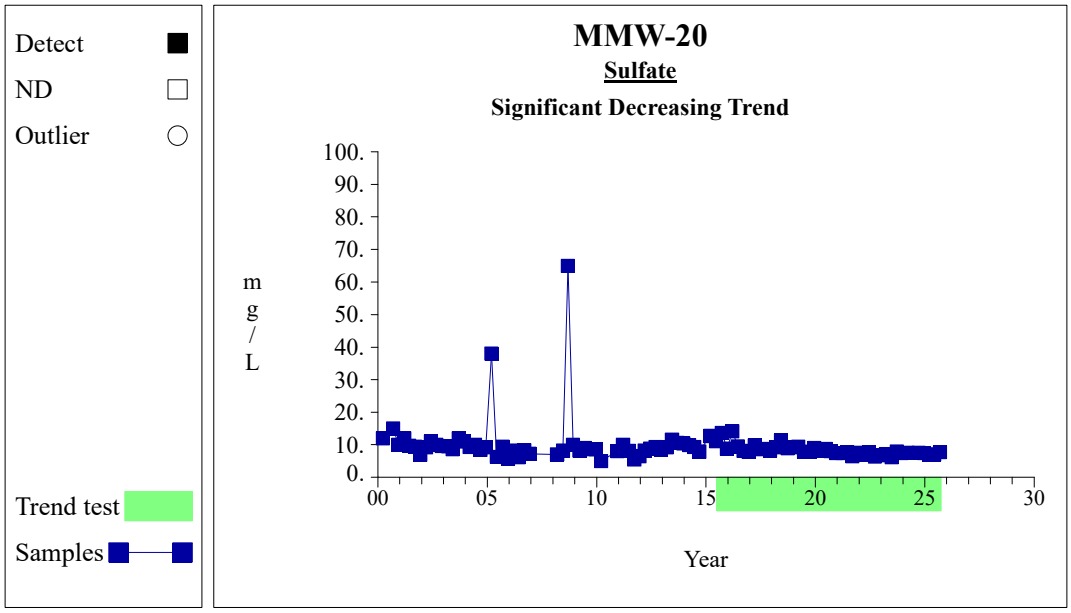
Graph 404

Time Series



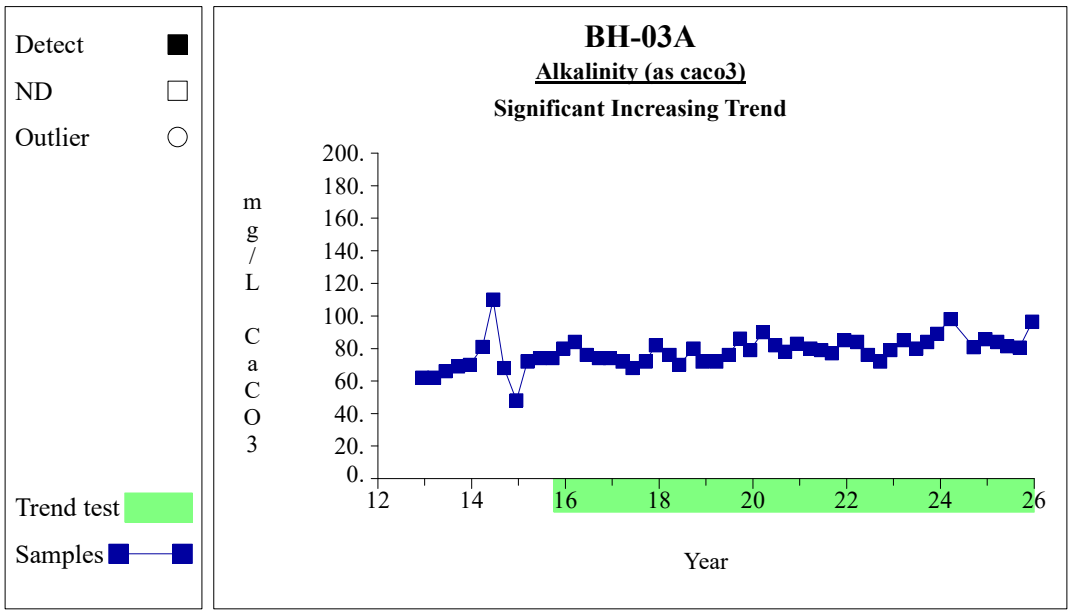
Graph 410

Time Series



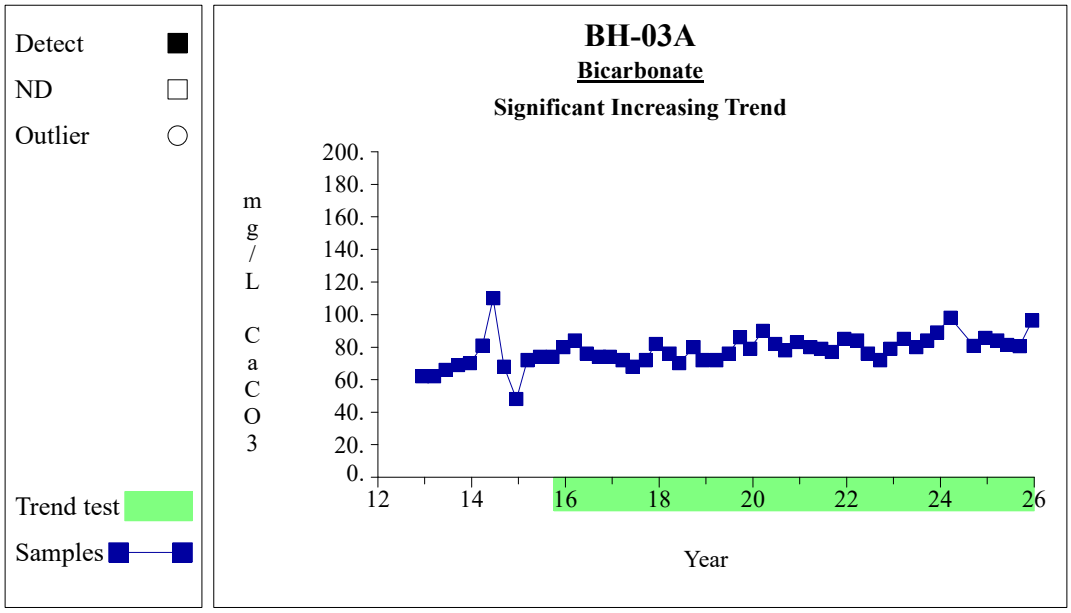
Graph 427

Time Series



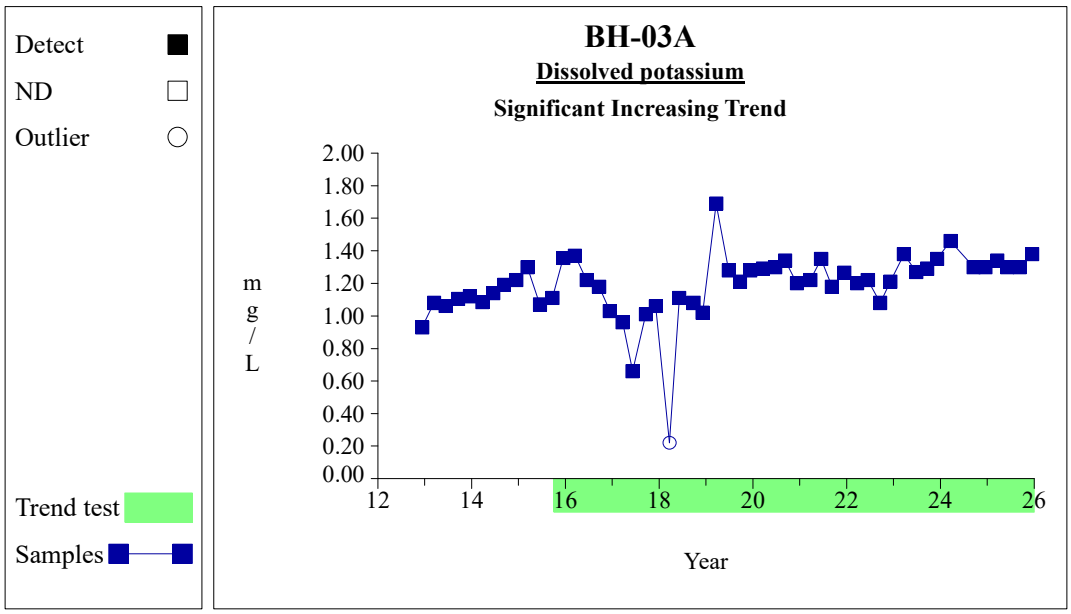
Graph 5

Time Series



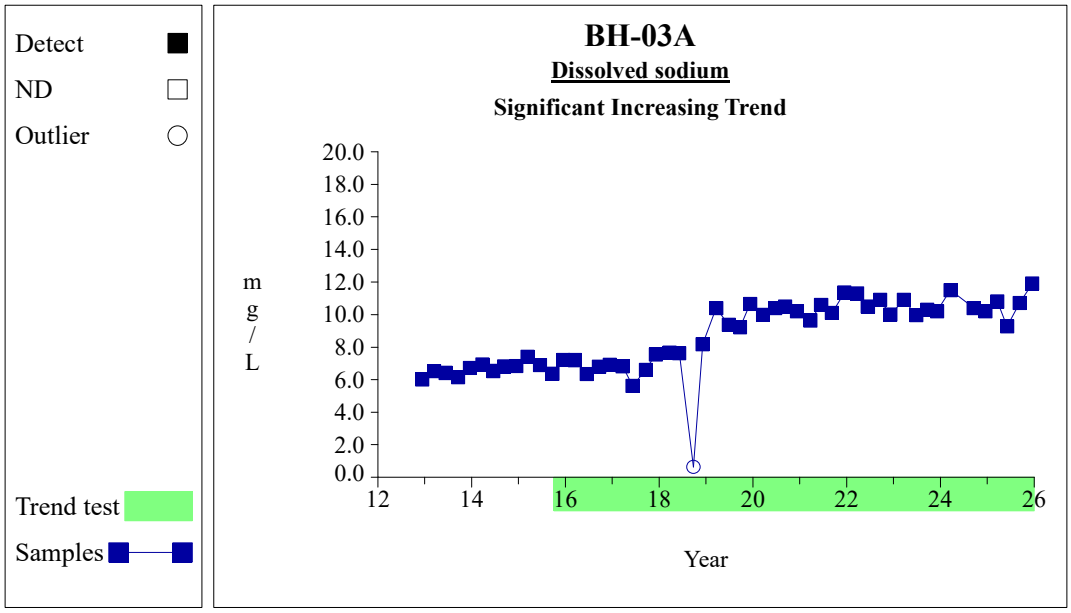
Graph 8

Time Series



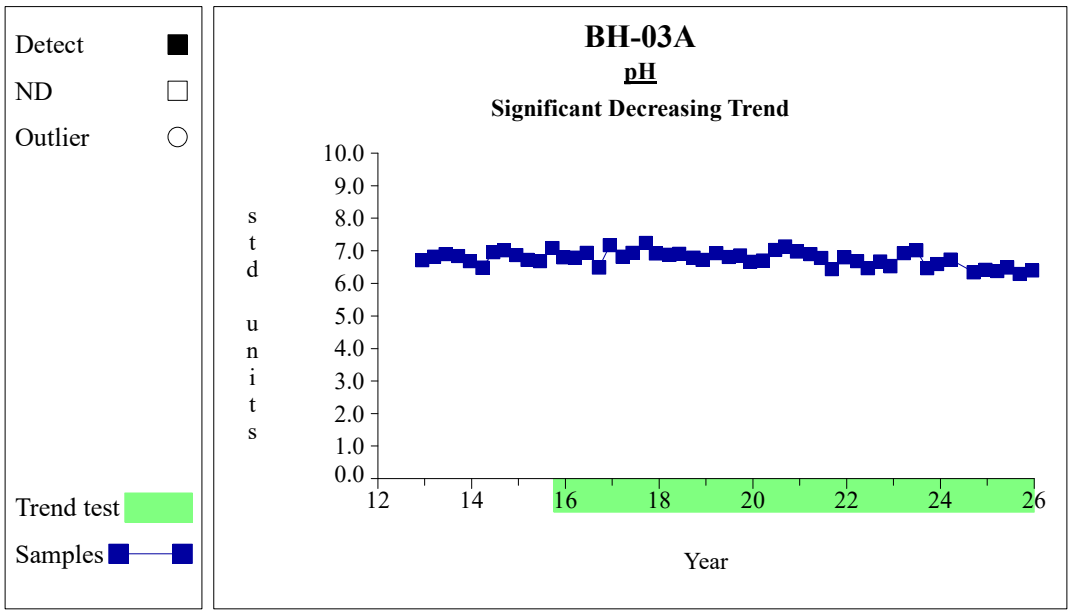
Graph 31

Time Series



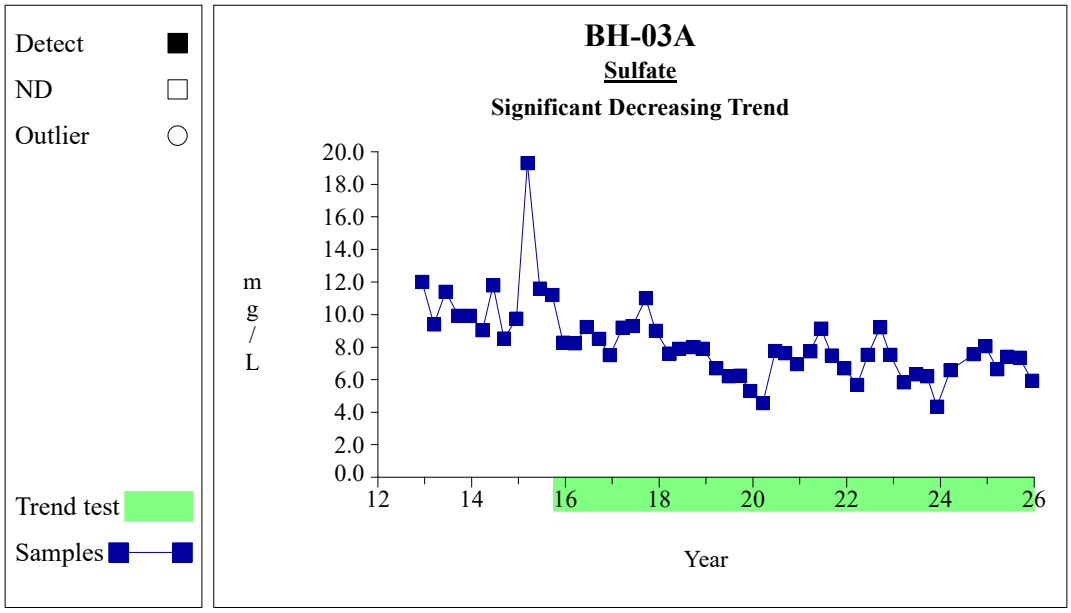
Graph 34

Time Series



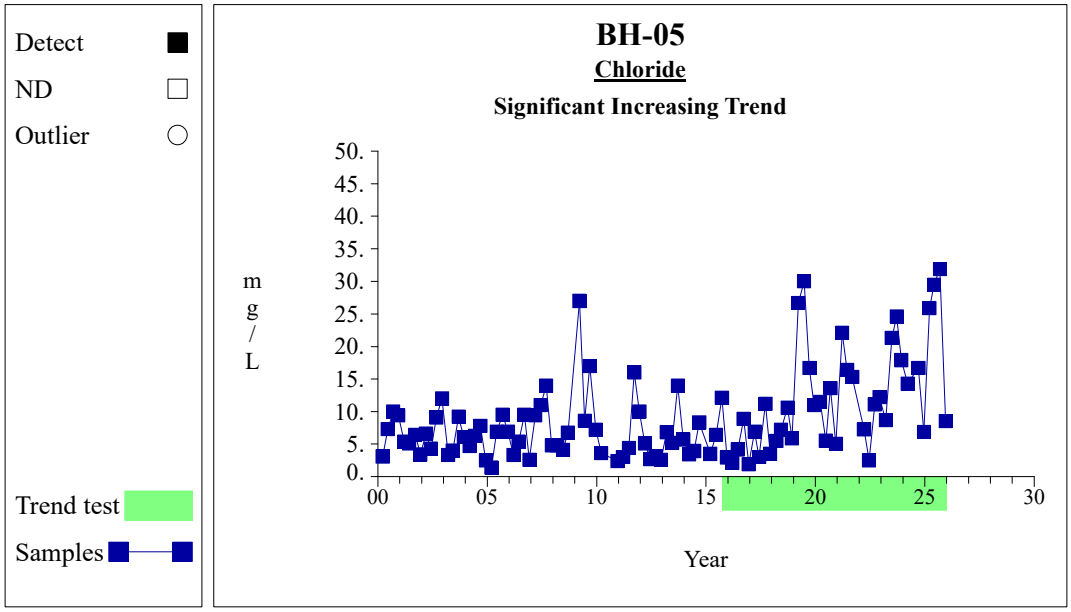
Graph 43

Time Series



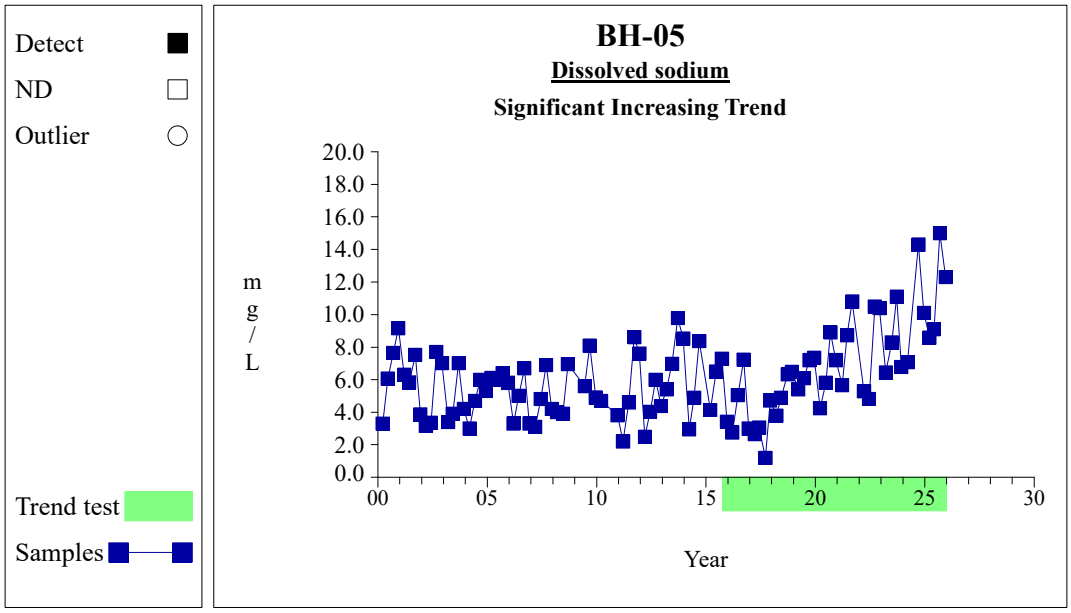
Graph 45

Time Series



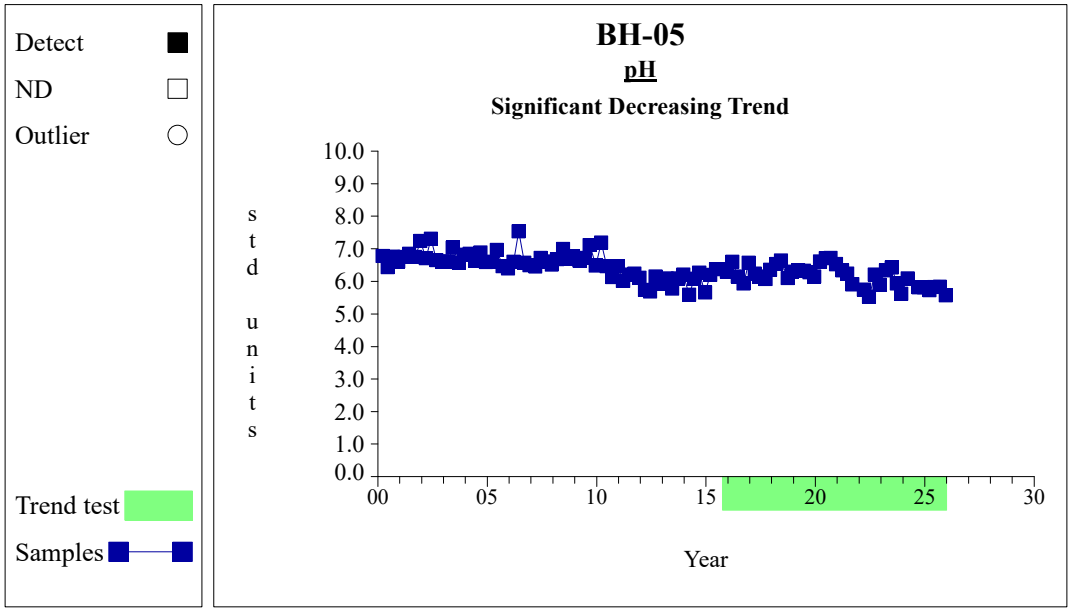
Graph 62

Time Series



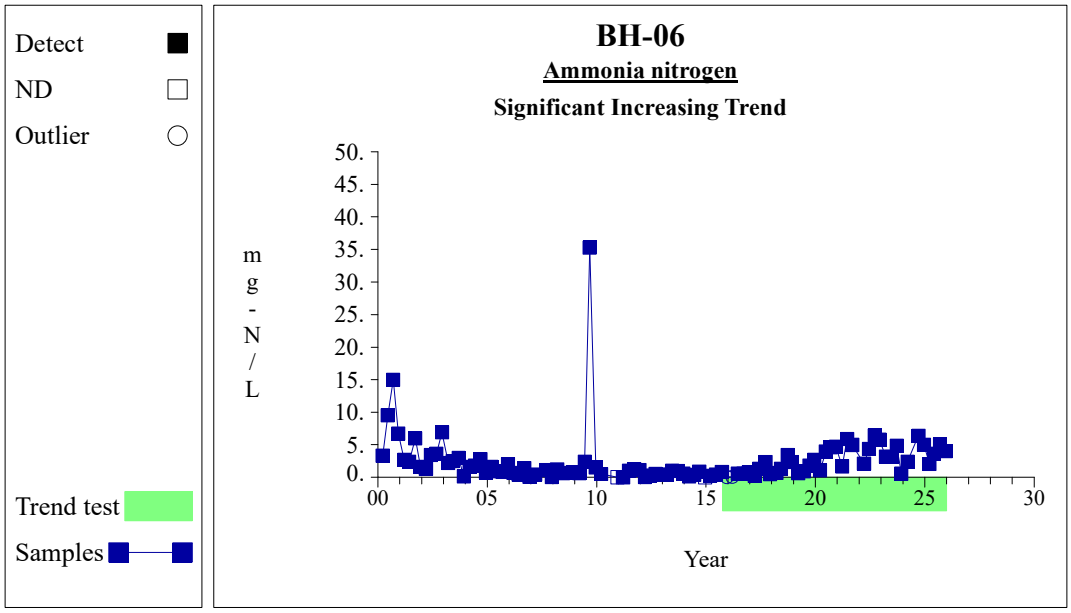
Graph 85

Time Series



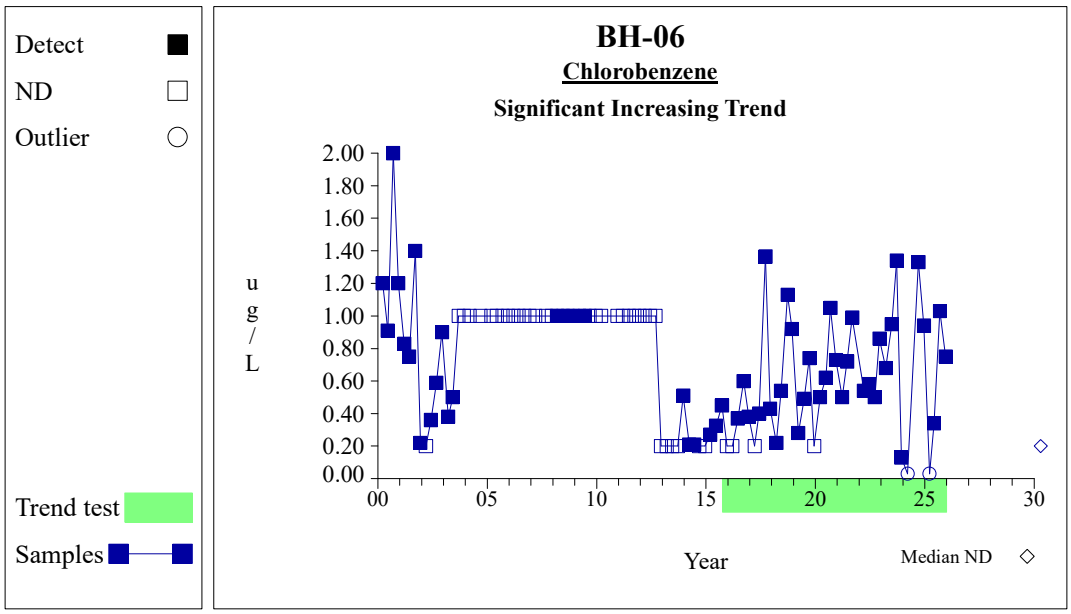
Graph 94

Time Series



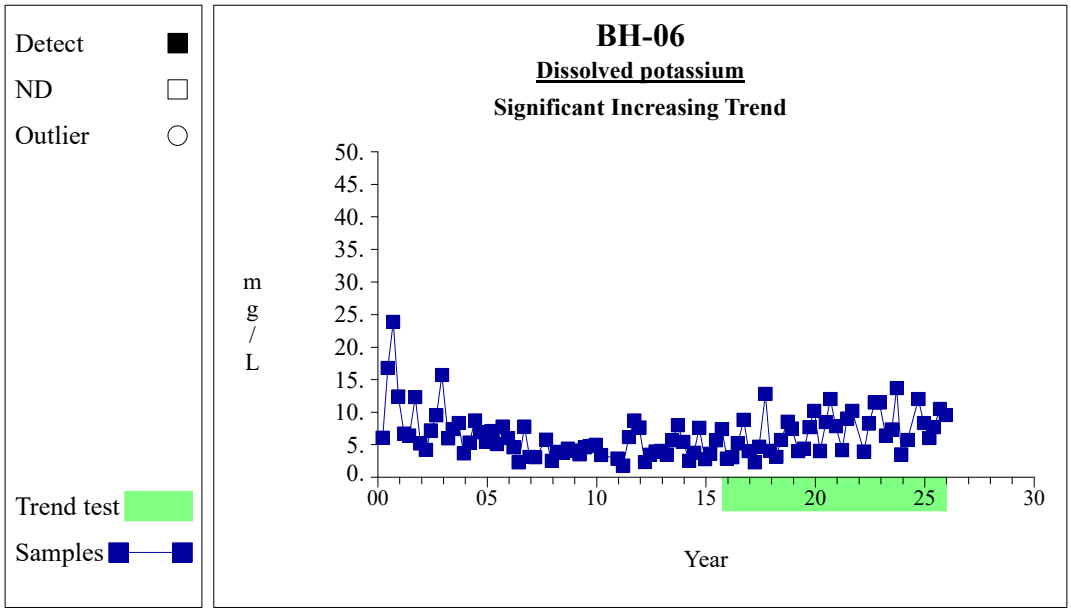
Graph 108

Time Series



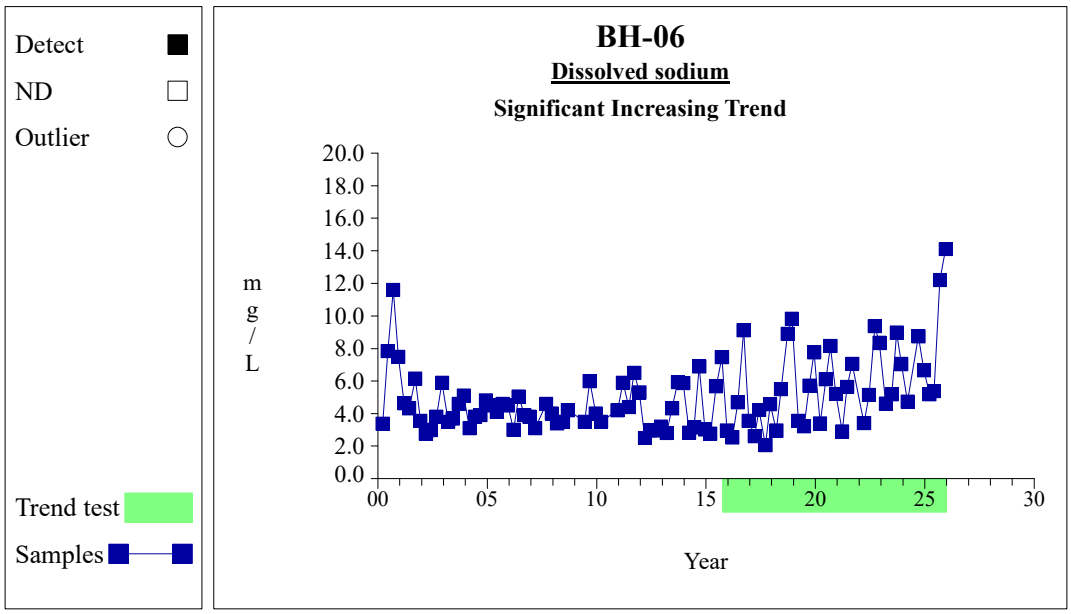
Graph 114

Time Series



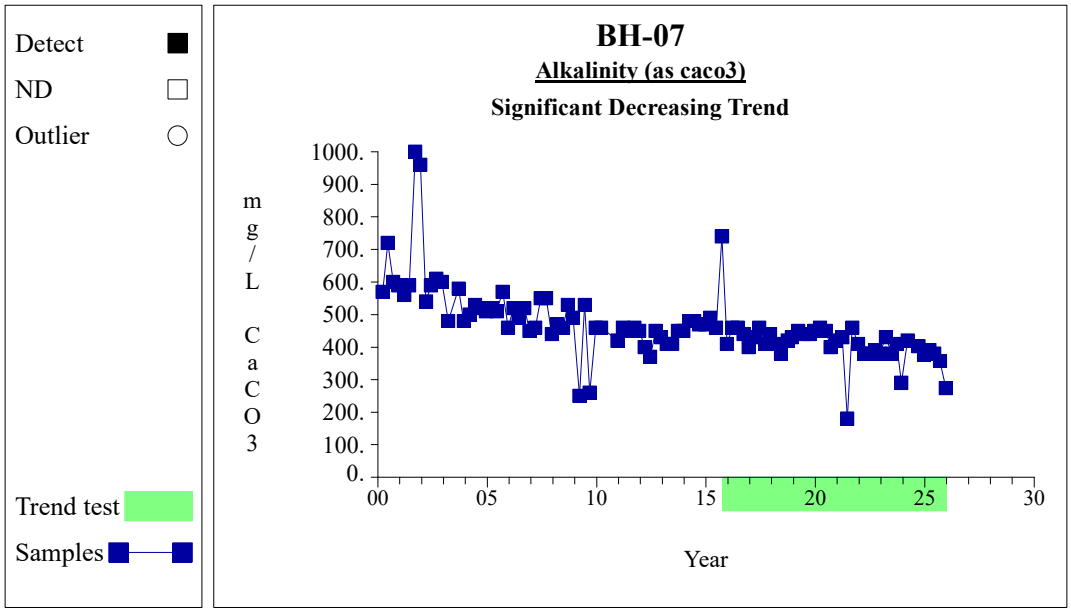
Graph 133

Time Series



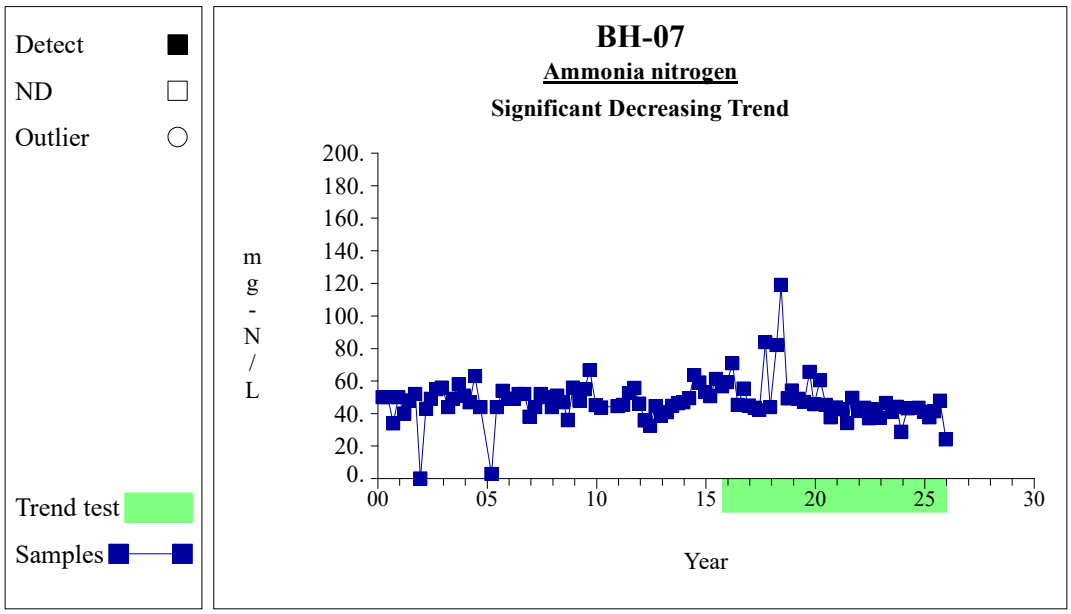
Graph 136

Time Series



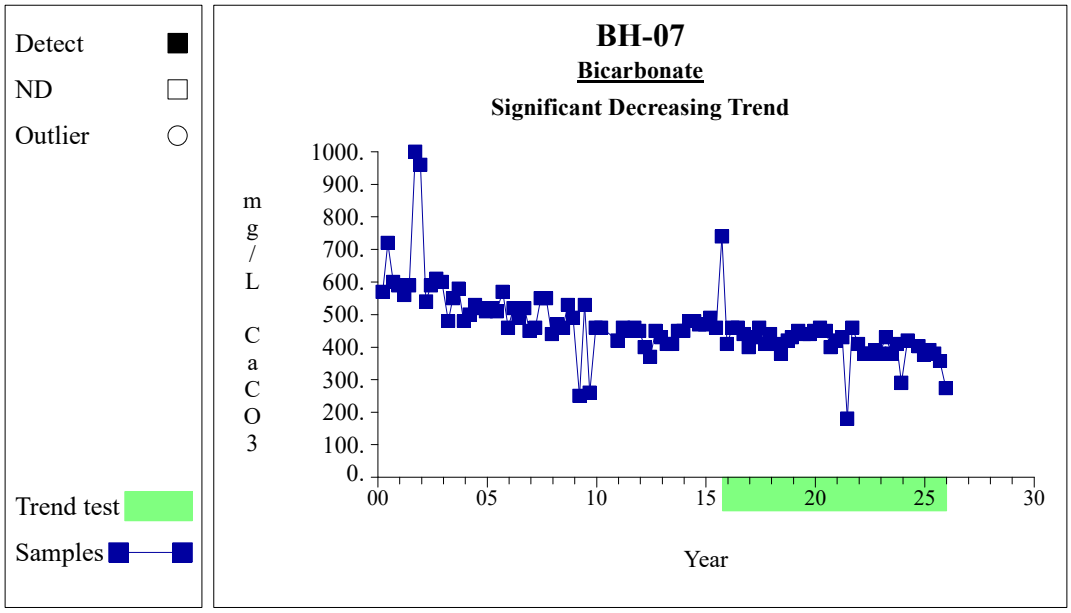
Graph 158

Time Series



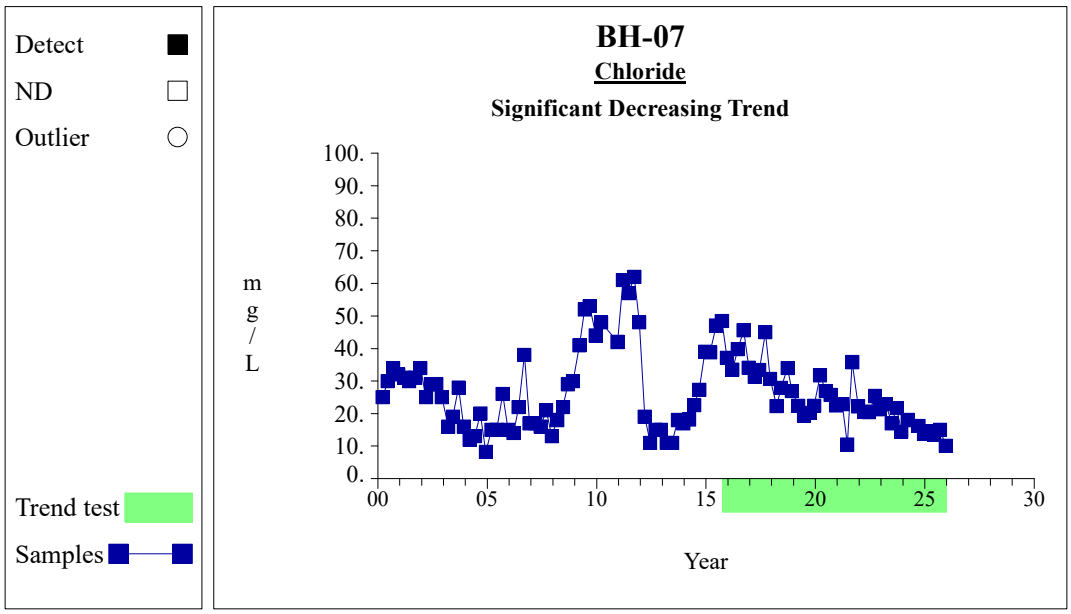
Graph 159

Time Series



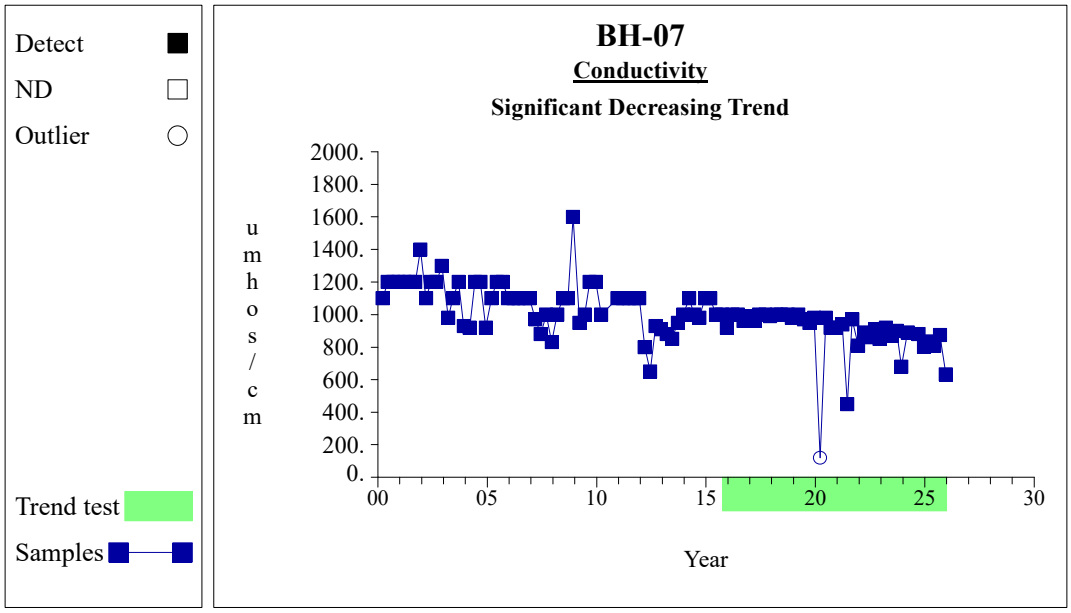
Graph 161

Time Series



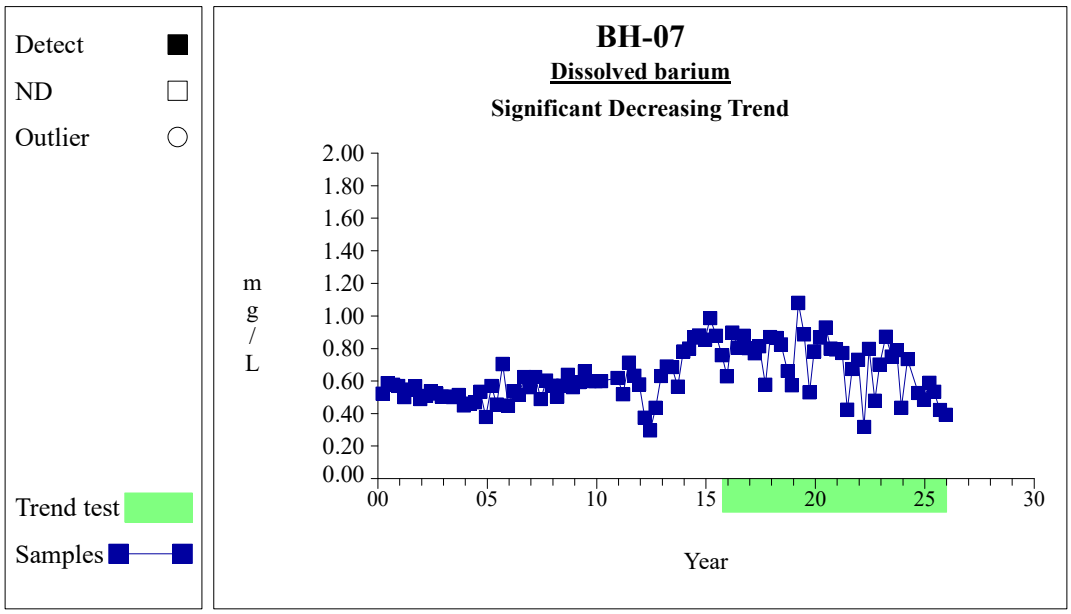
Graph 164

Time Series



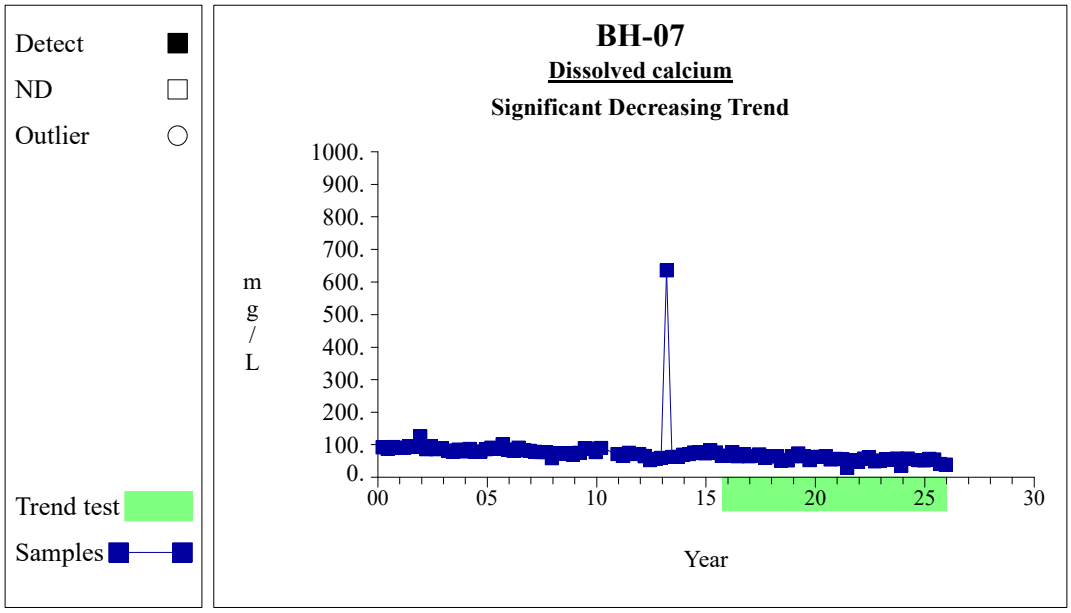
Graph 169

Time Series



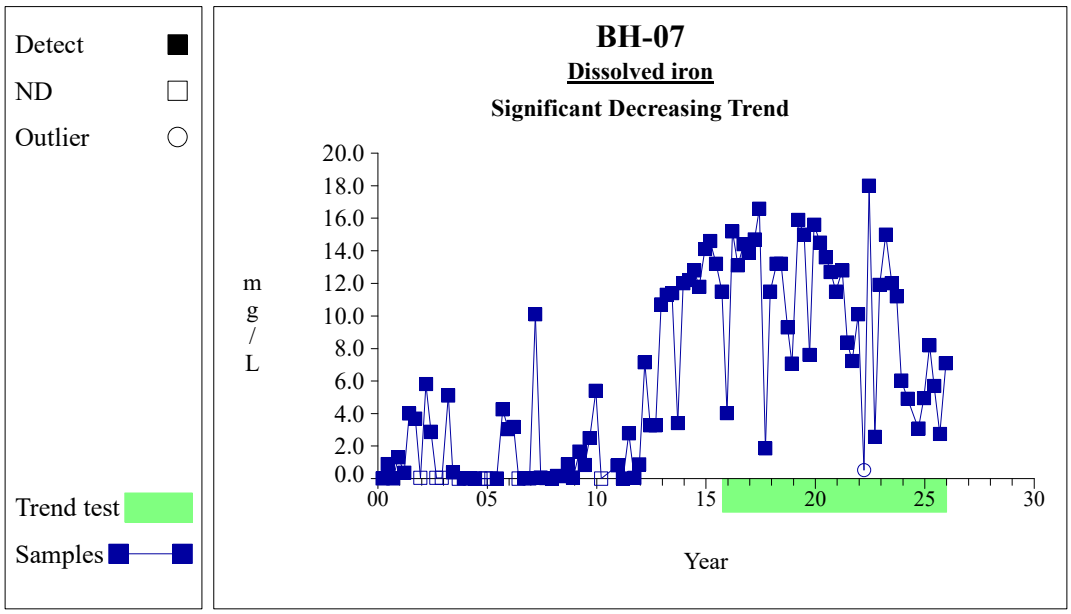
Graph 172

Time Series



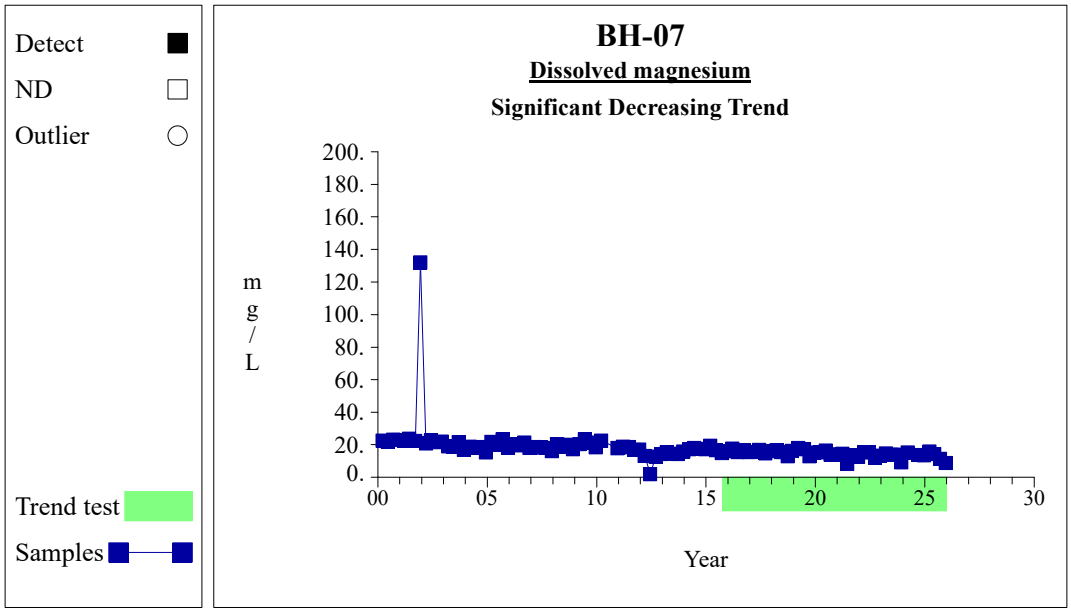
Graph 175

Time Series



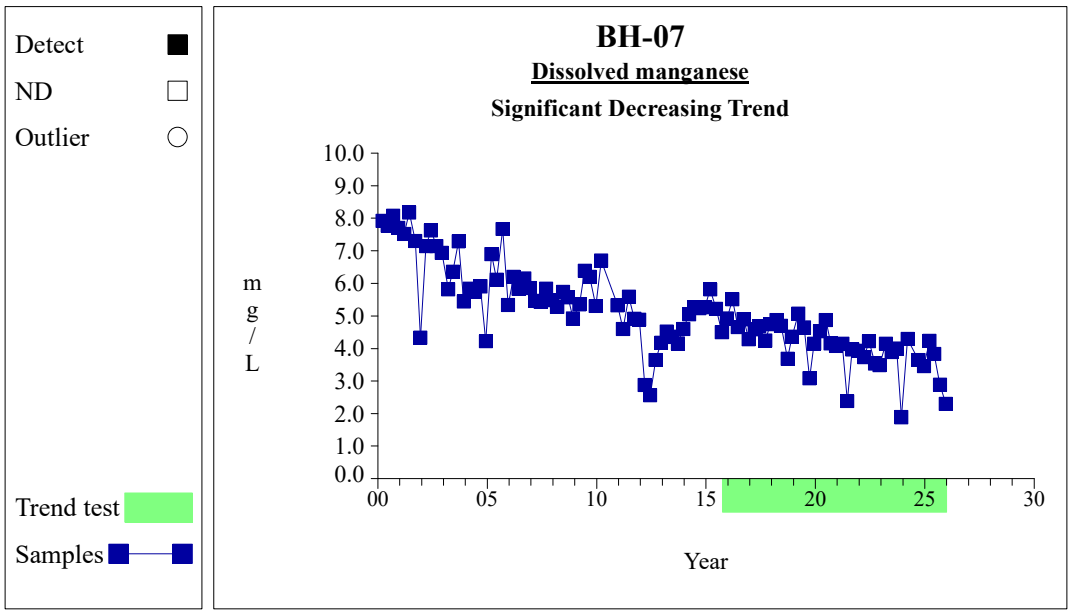
Graph 179

Time Series



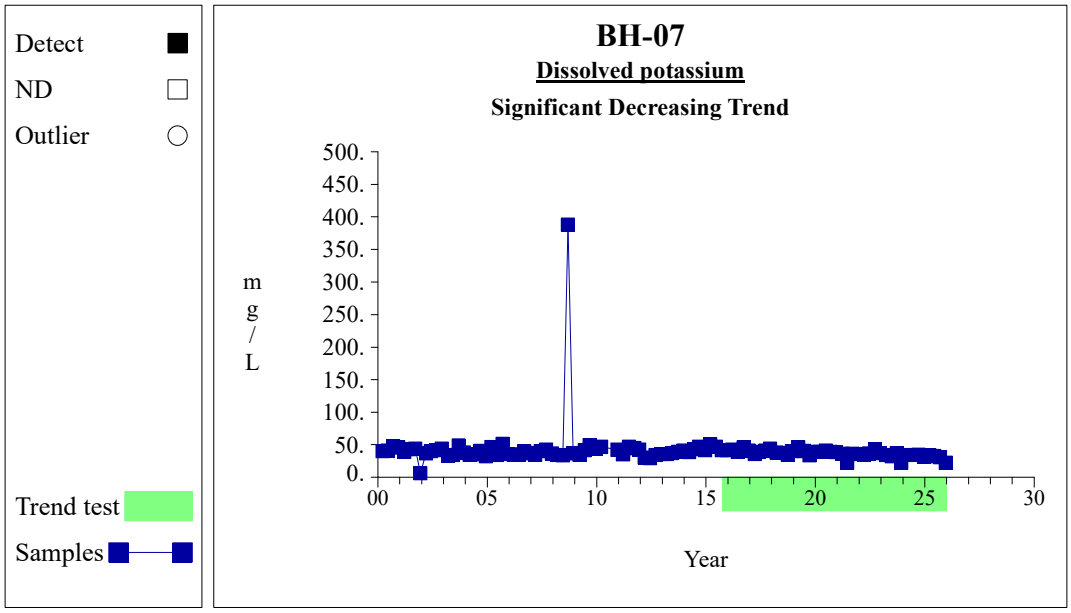
Graph 181

Time Series



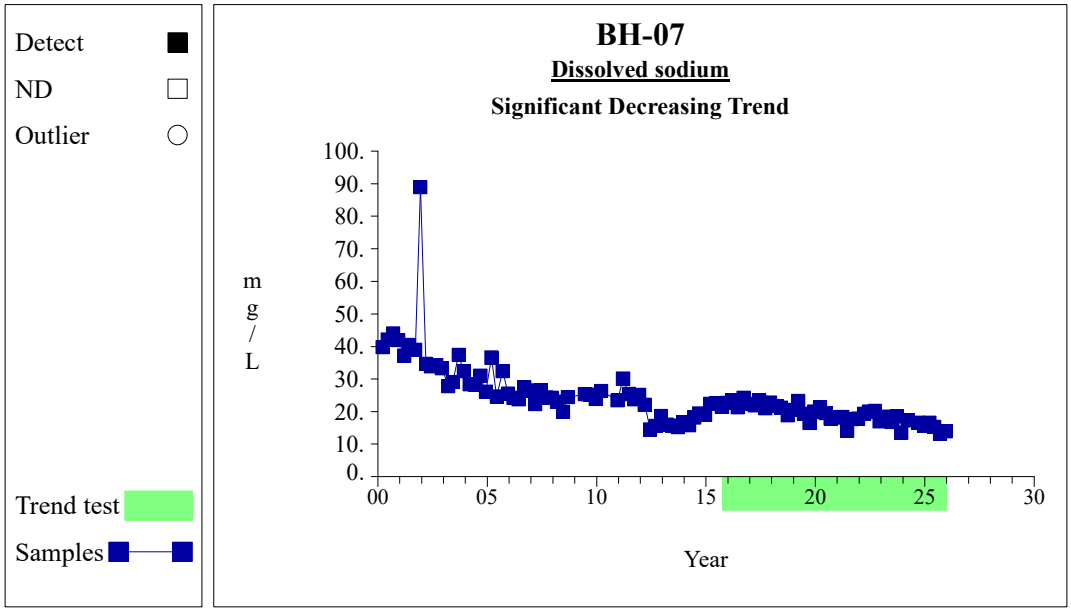
Graph 182

Time Series



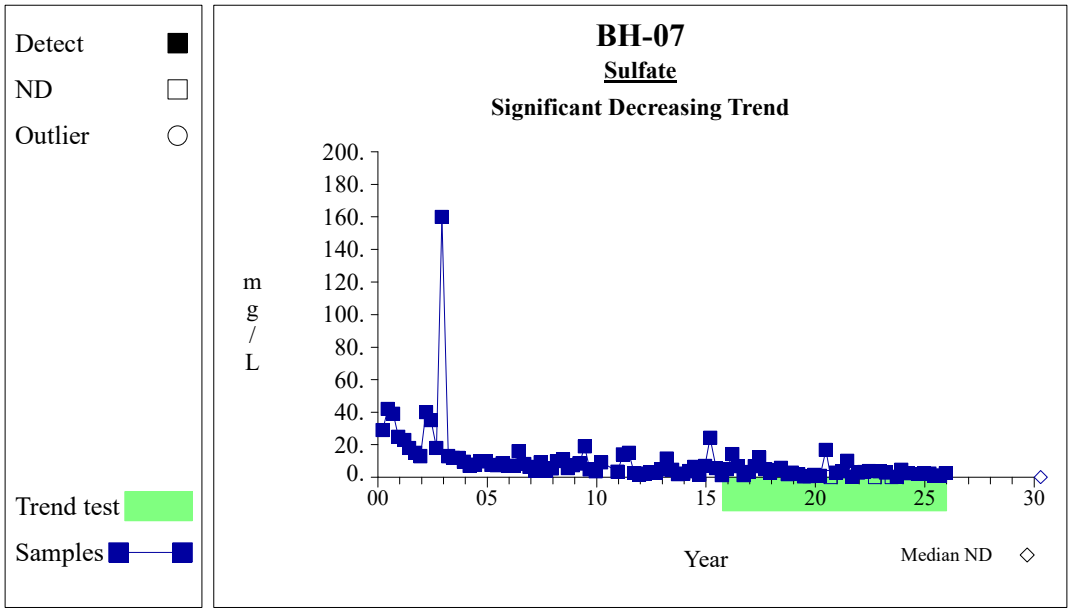
Graph 184

Time Series



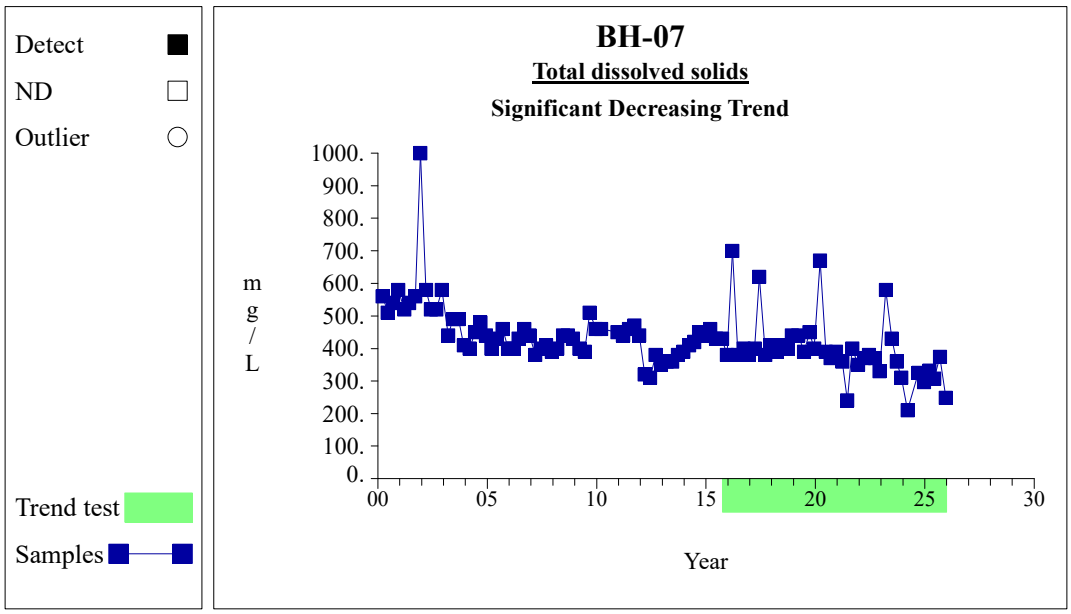
Graph 187

Time Series



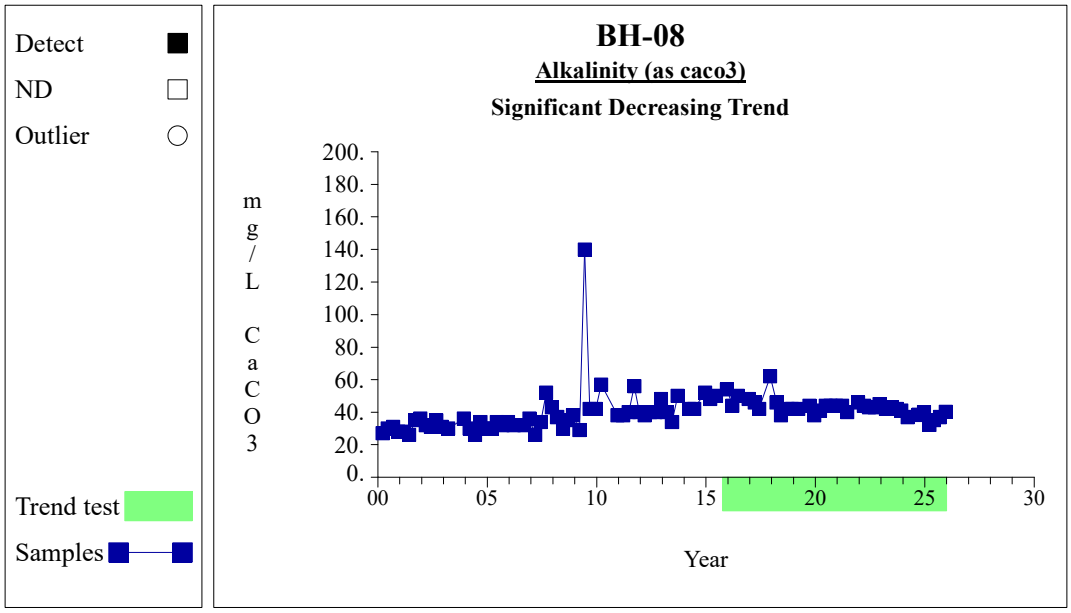
Graph 198

Time Series



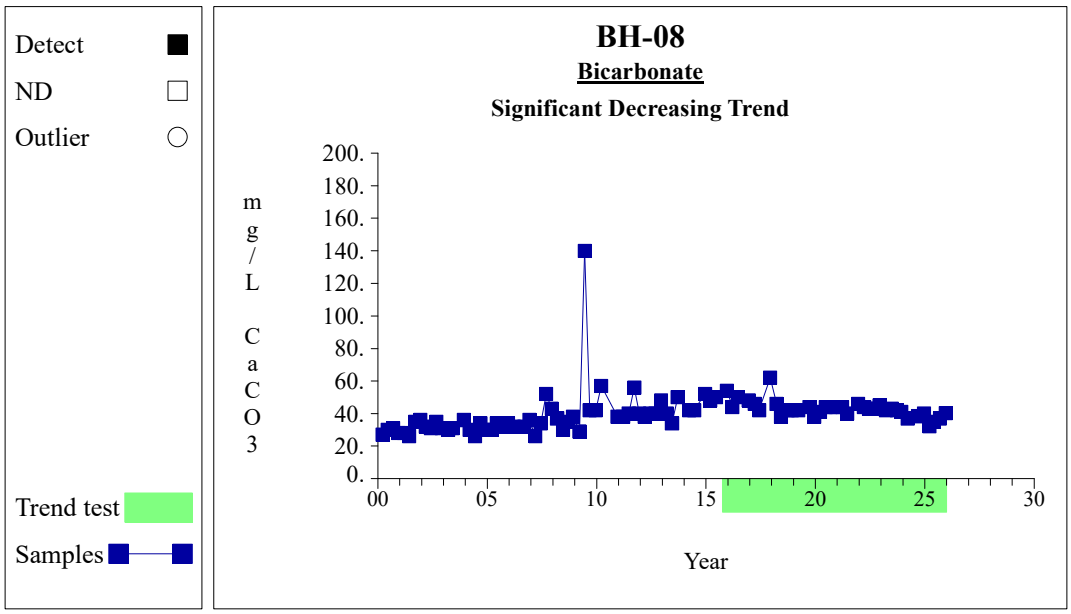
Graph 200

Time Series



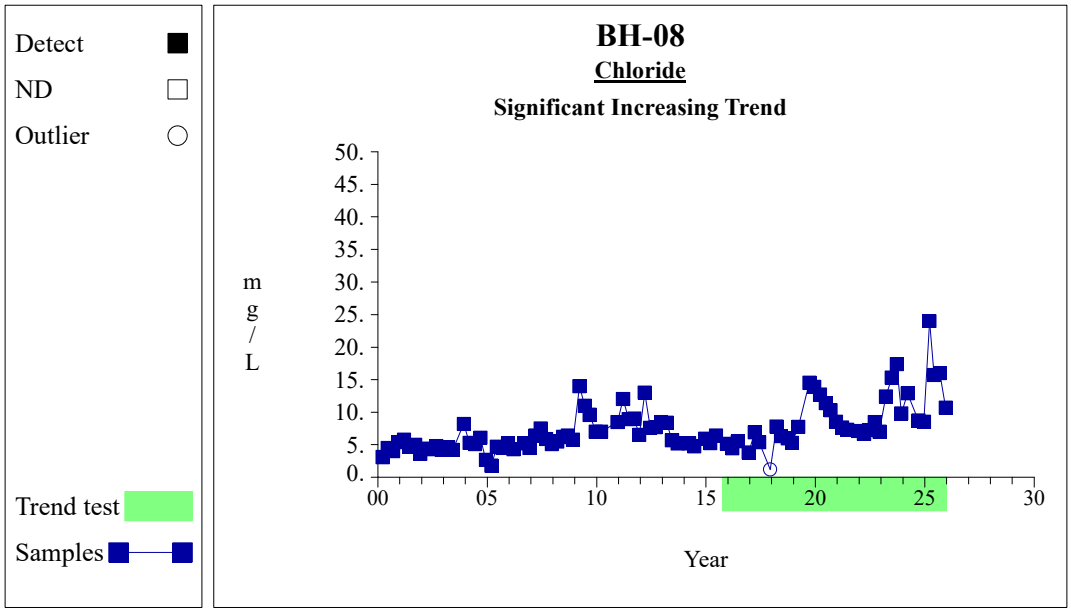
Graph 209

Time Series



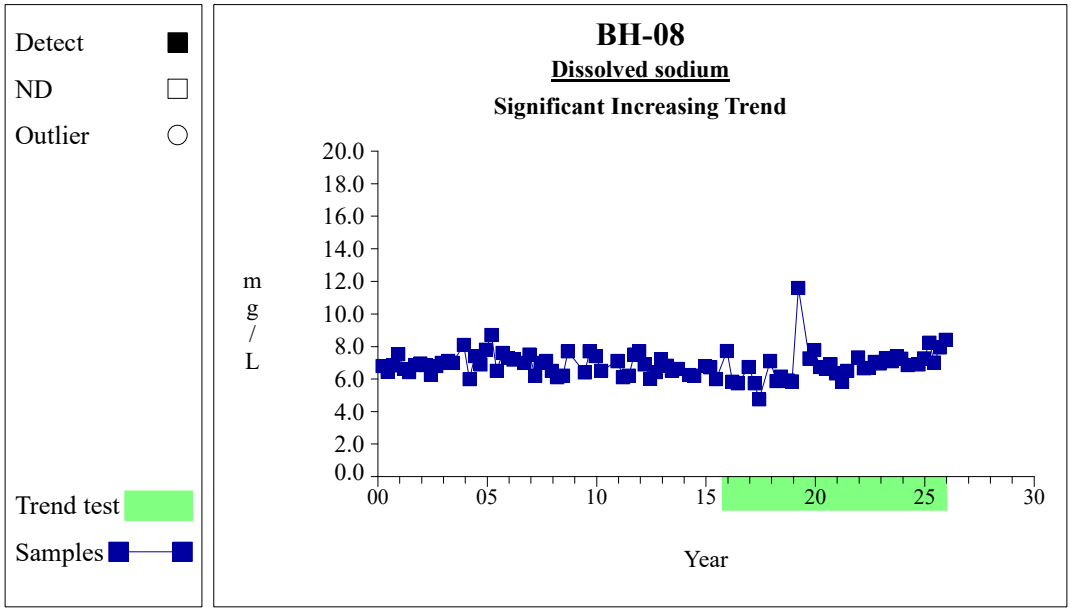
Graph 212

Time Series



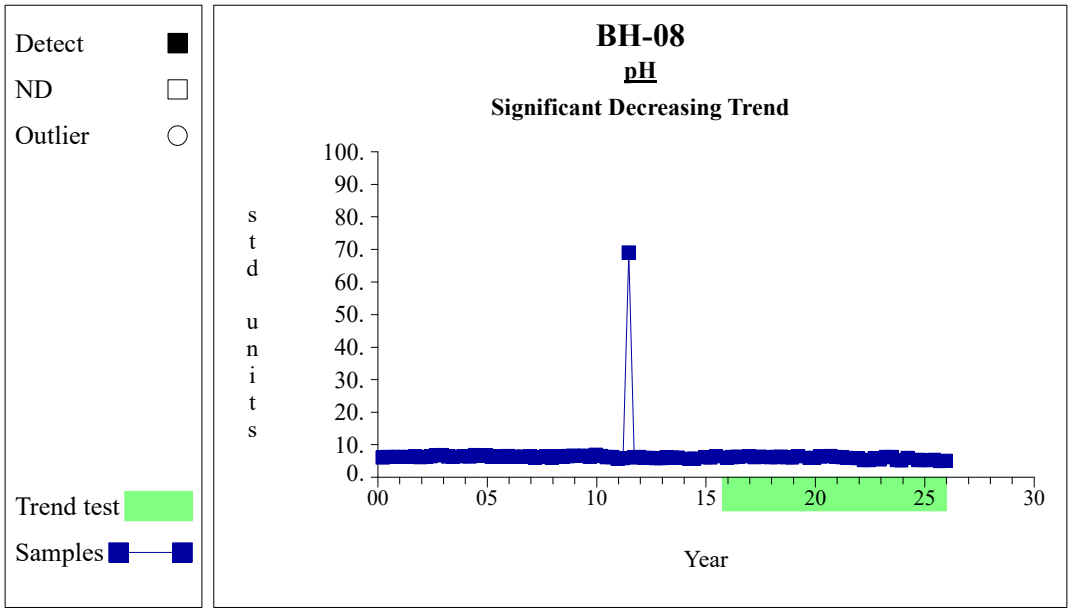
Graph 215

Time Series



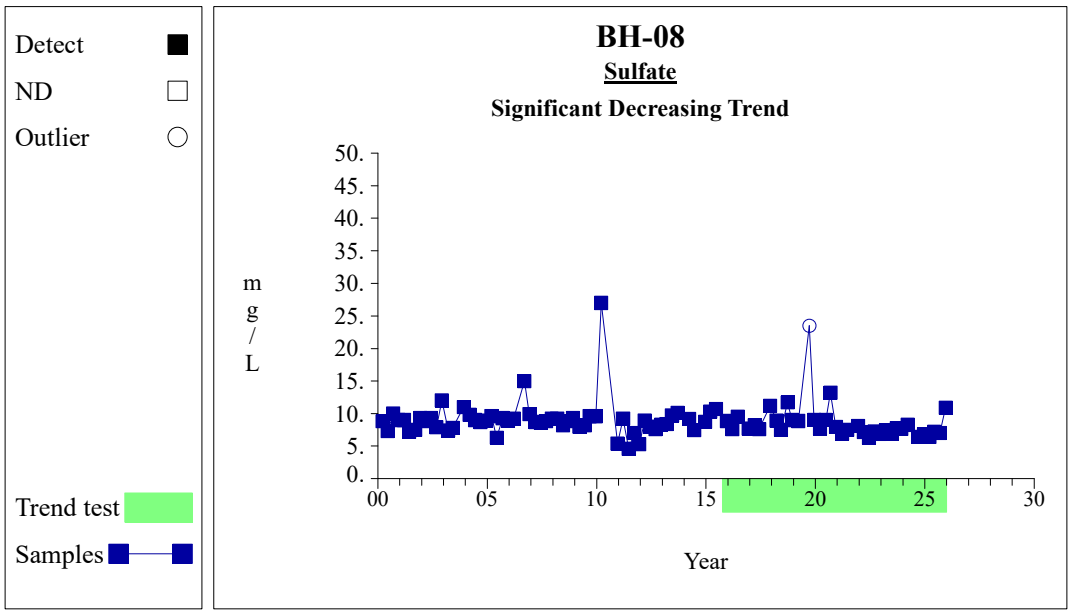
Graph 238

Time Series



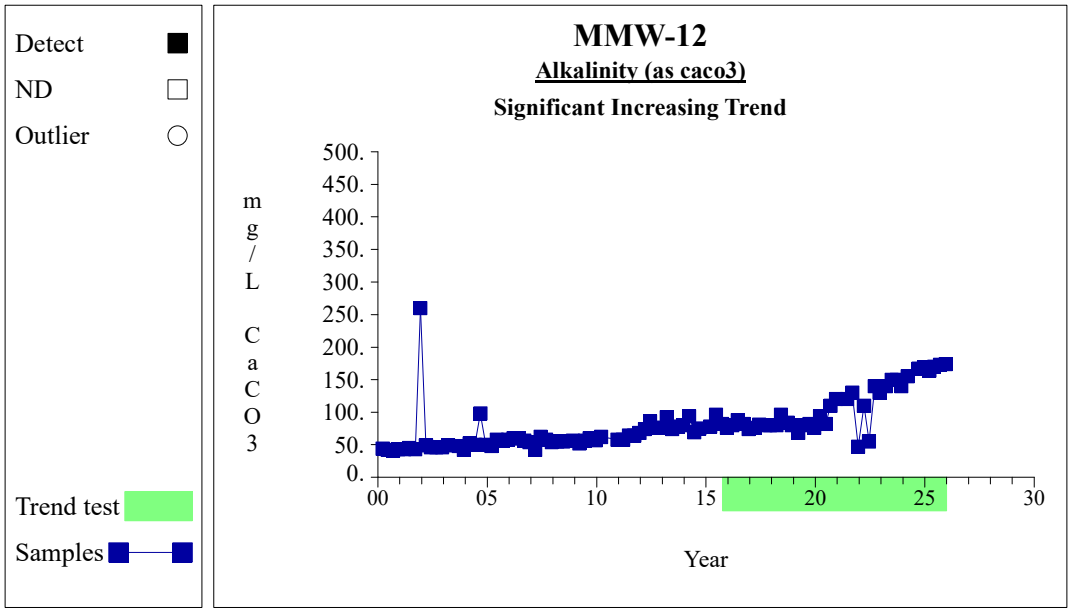
Graph 247

Time Series



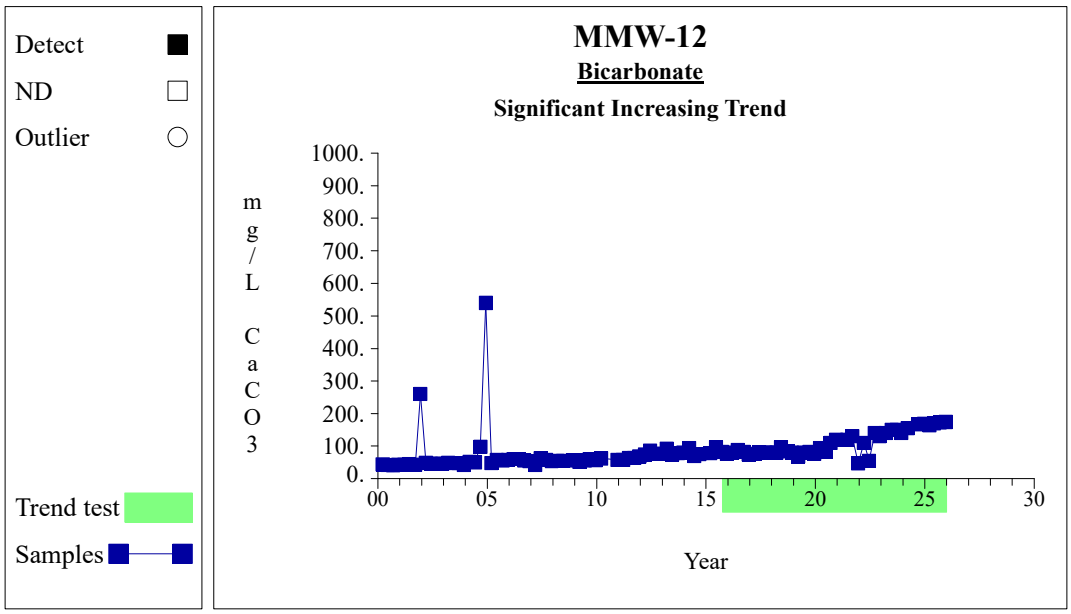
Graph 249

Time Series



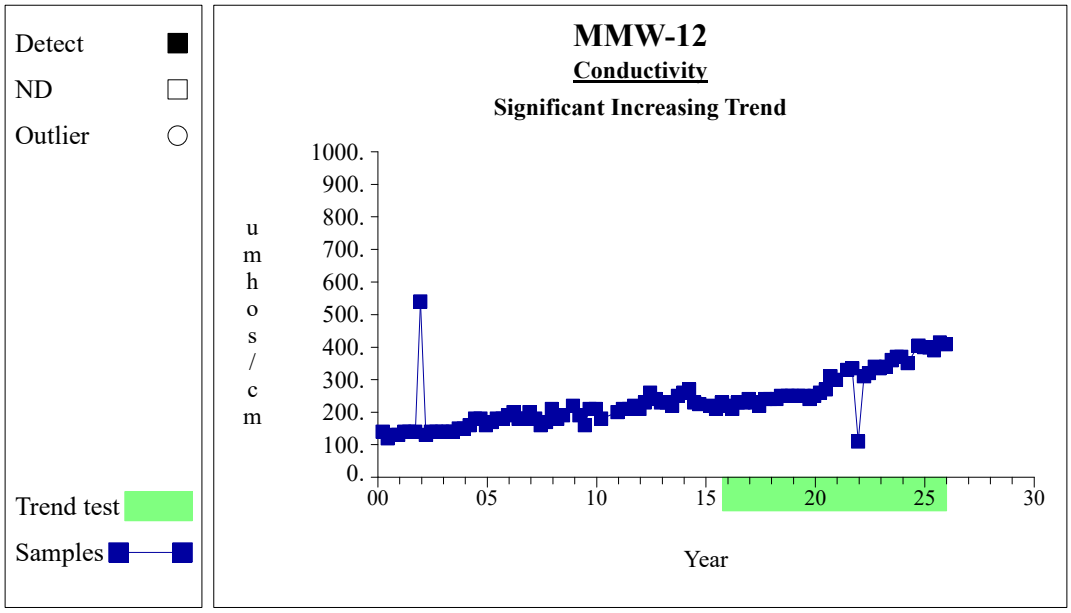
Graph 5

Time Series



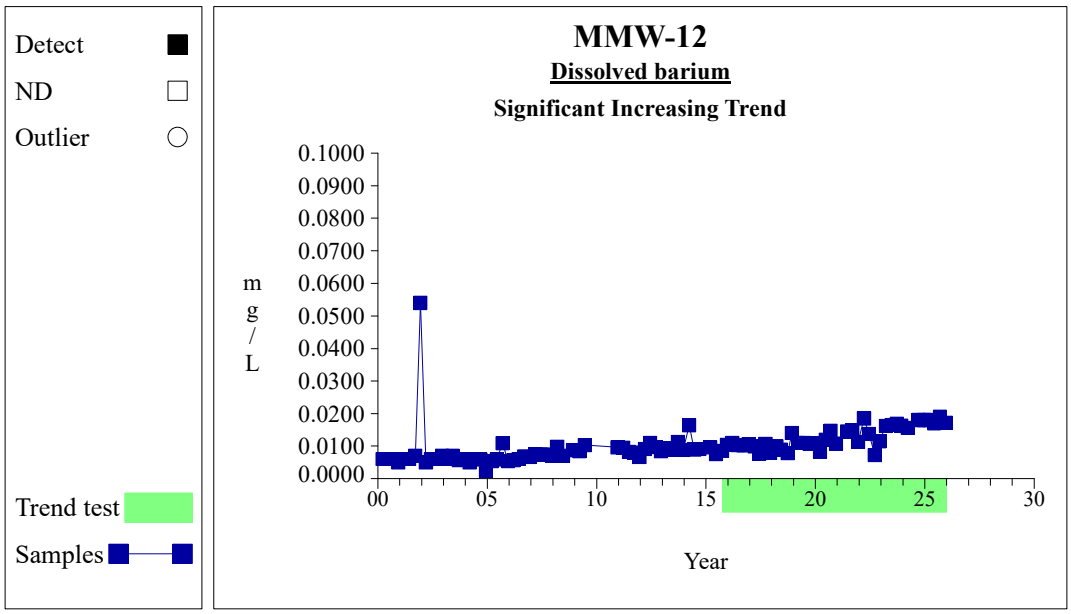
Graph 8

Time Series



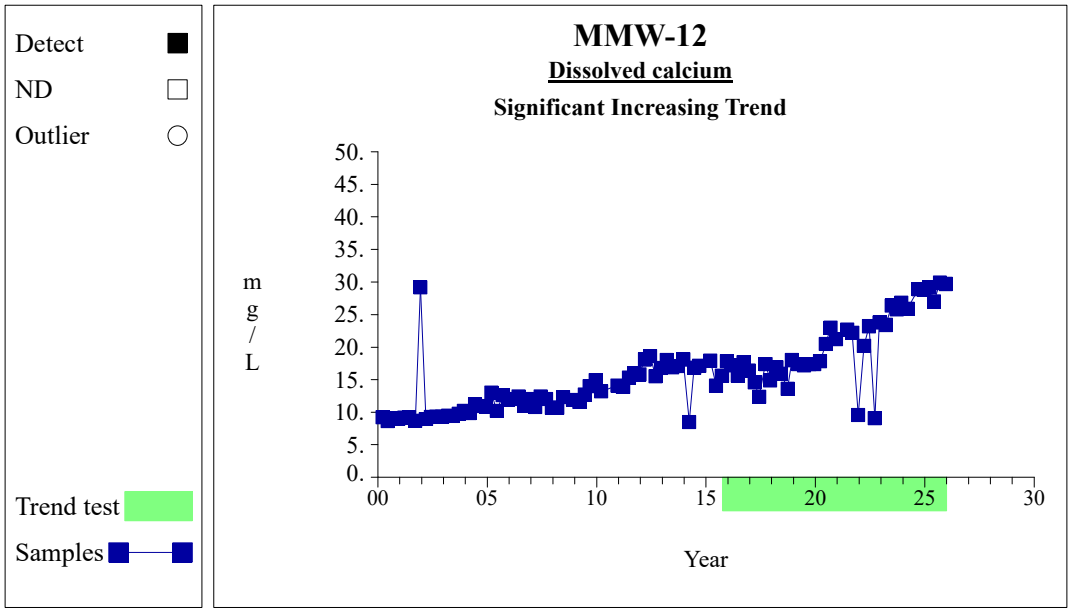
Graph 14

Time Series



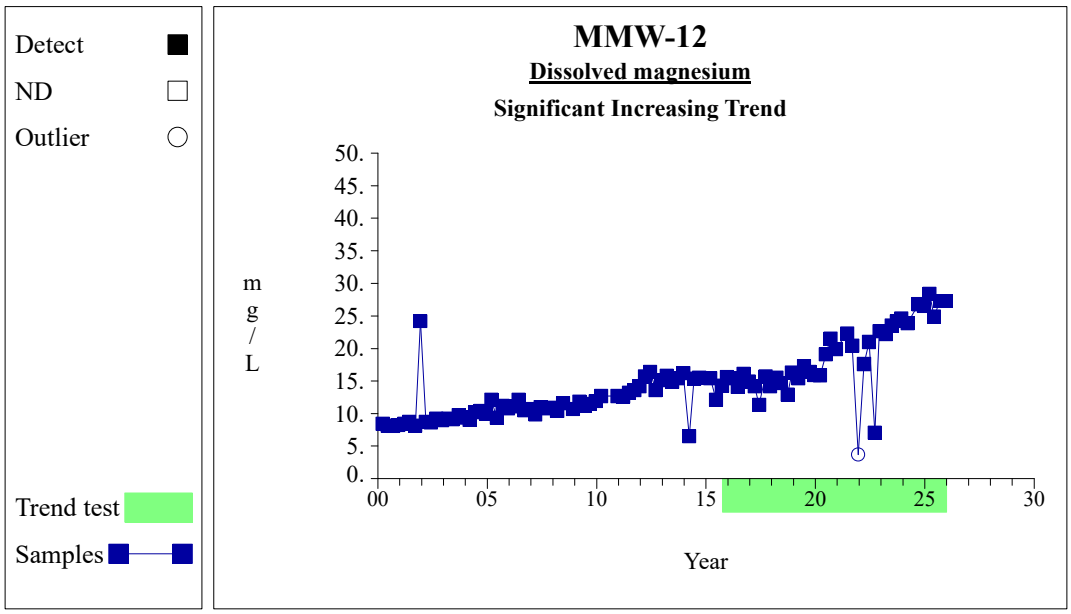
Graph 17

Time Series



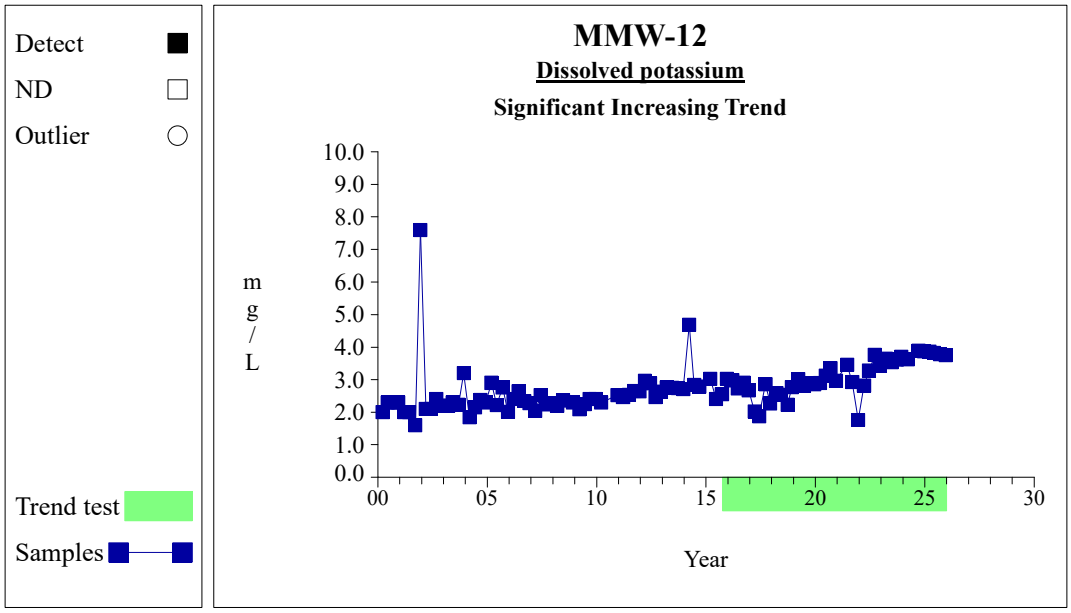
Graph 20

Time Series



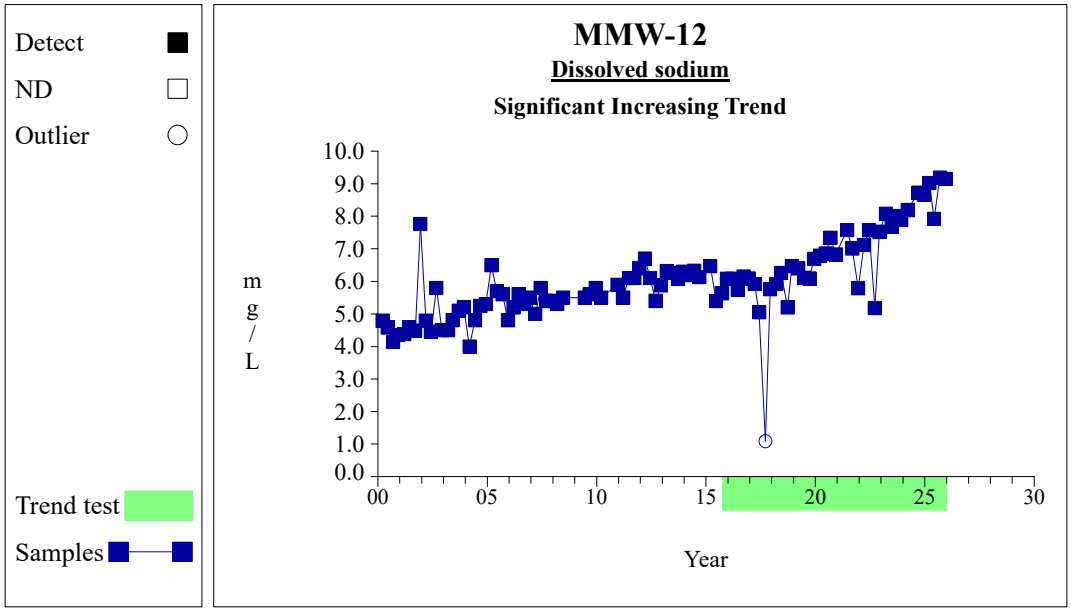
Graph 26

Time Series



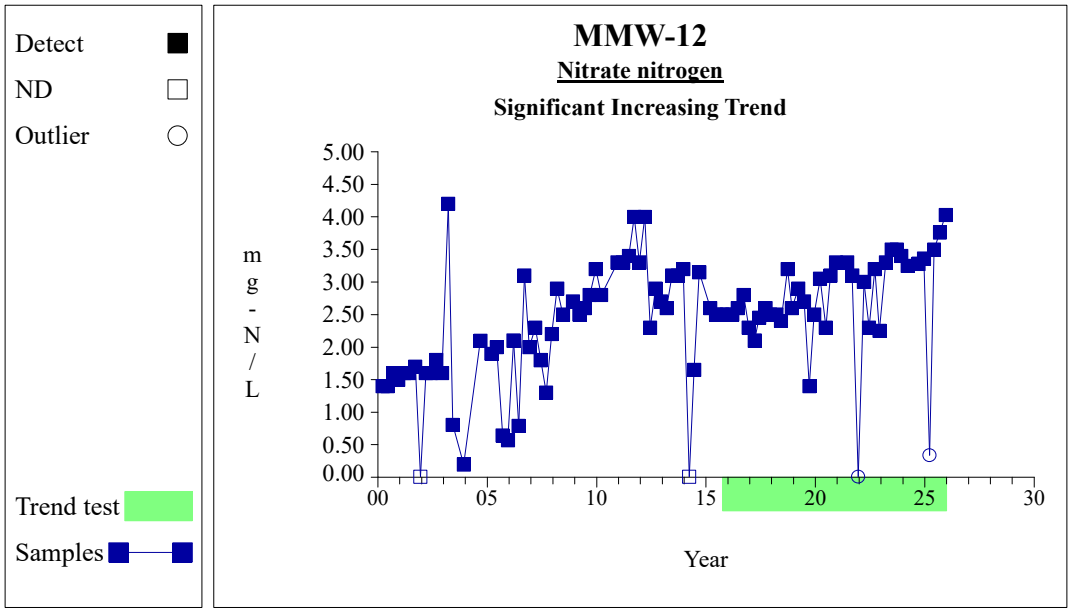
Graph 29

Time Series



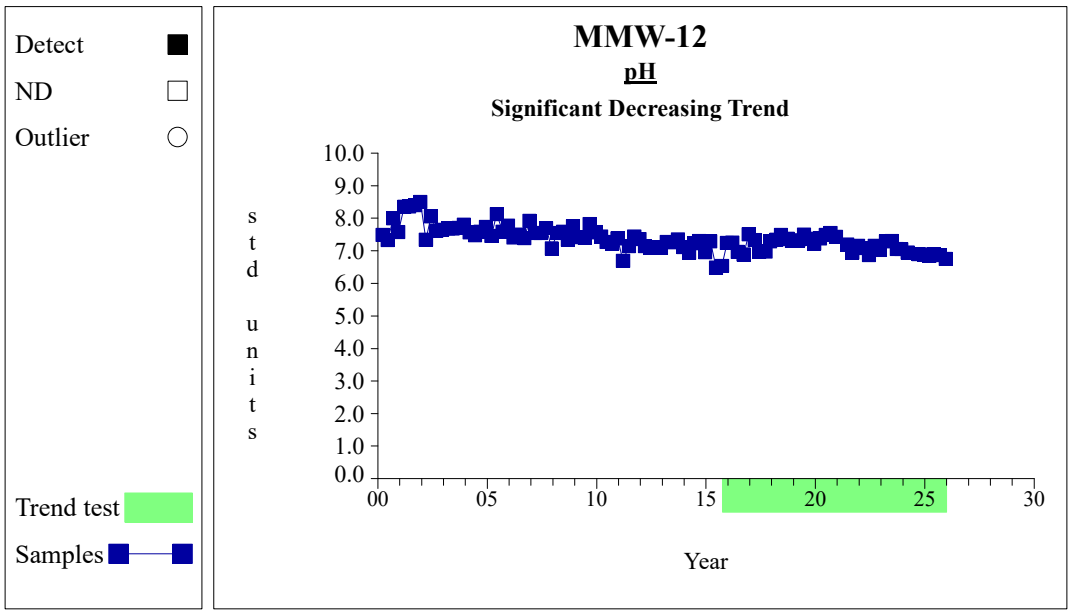
Graph 32

Time Series



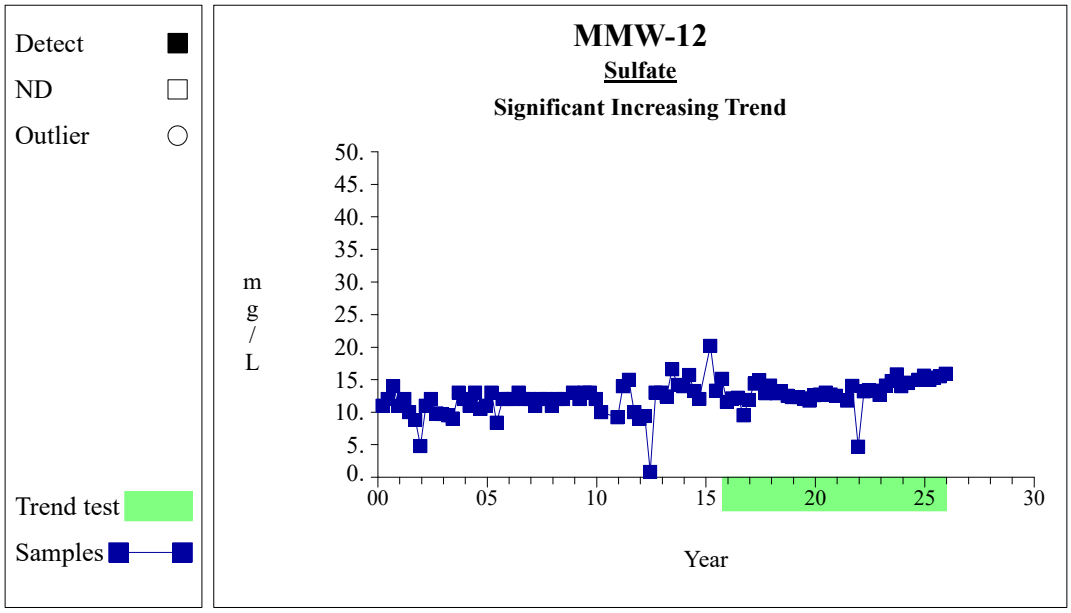
Graph 38

Time Series



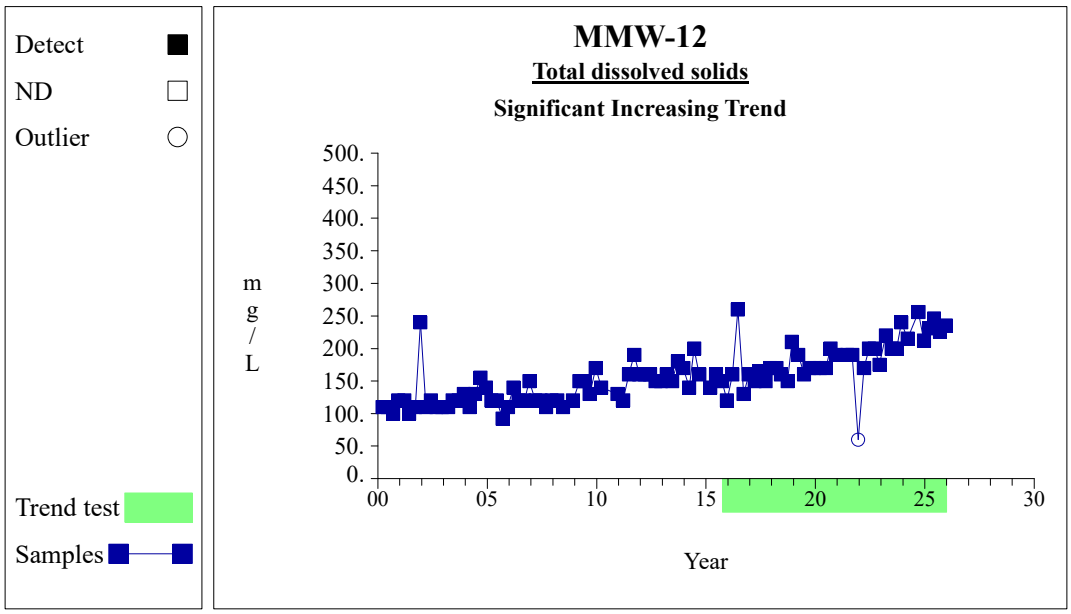
Graph 41

Time Series



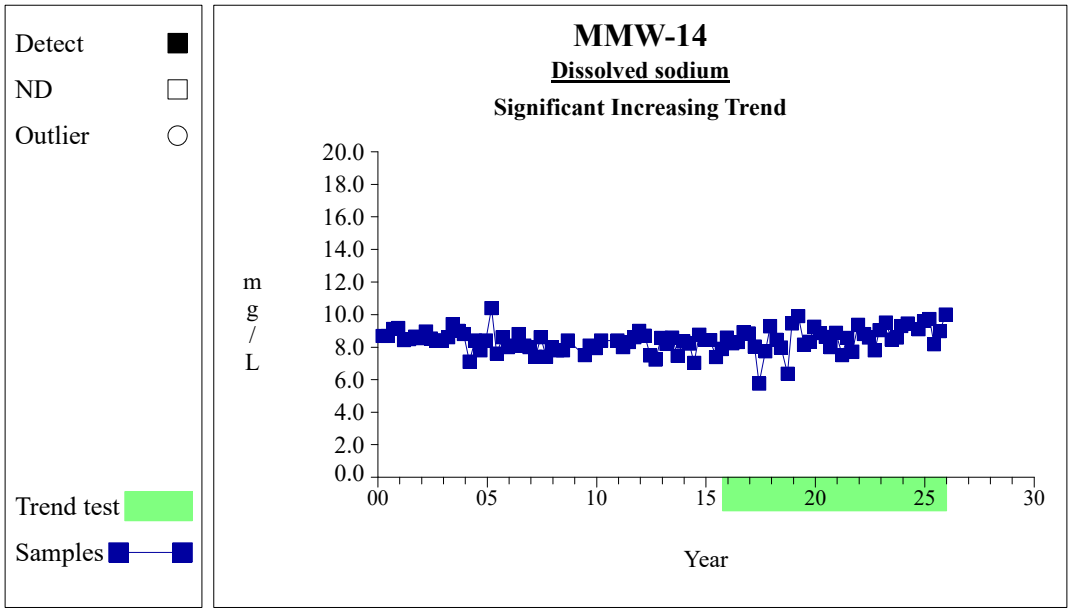
Graph 43

Time Series



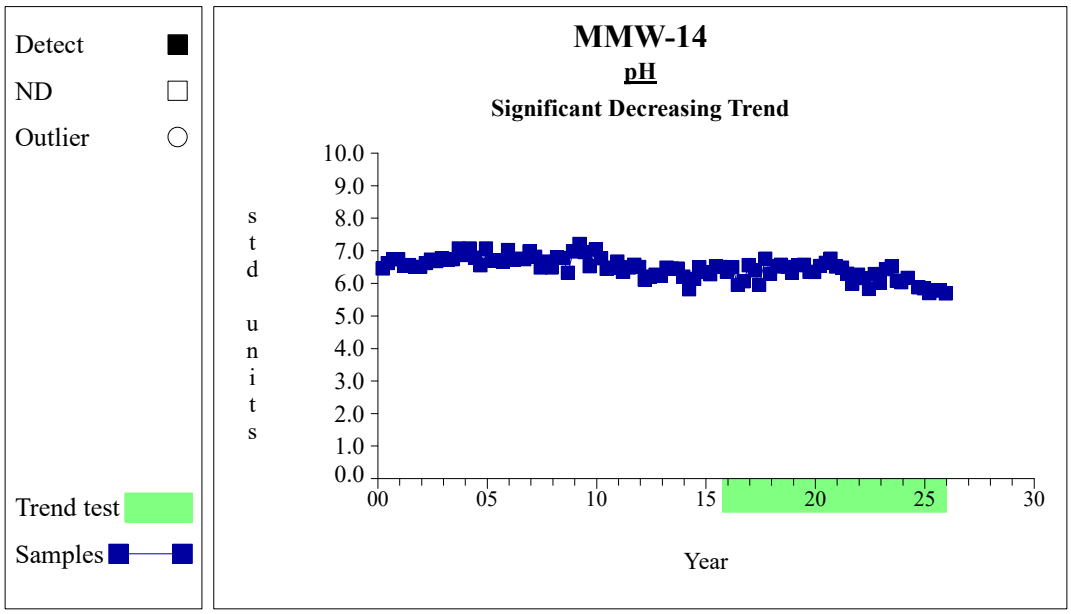
Graph 45

Time Series



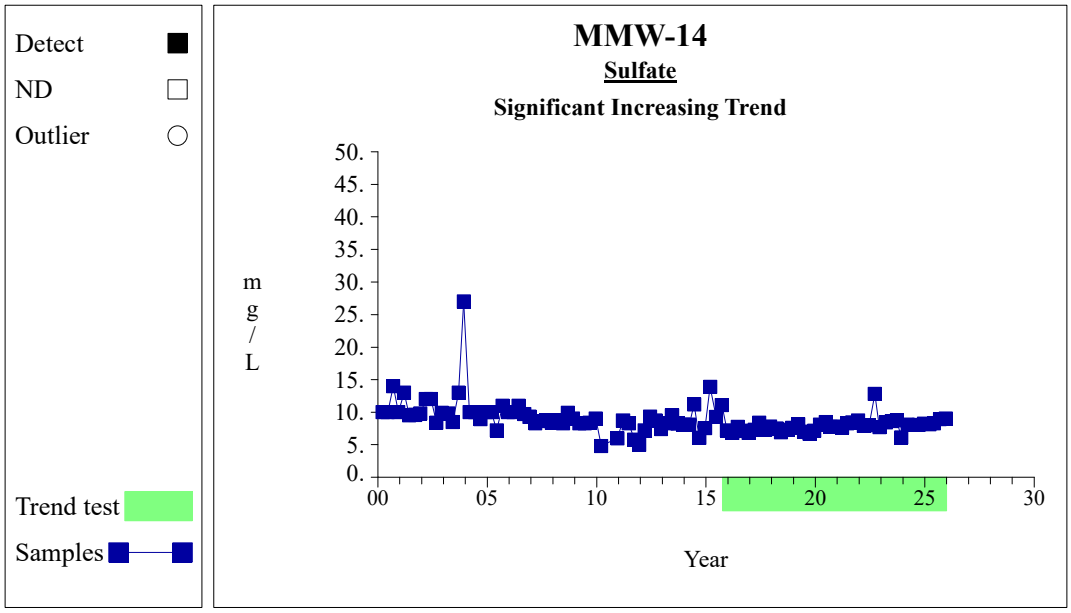
Graph 128

Time Series



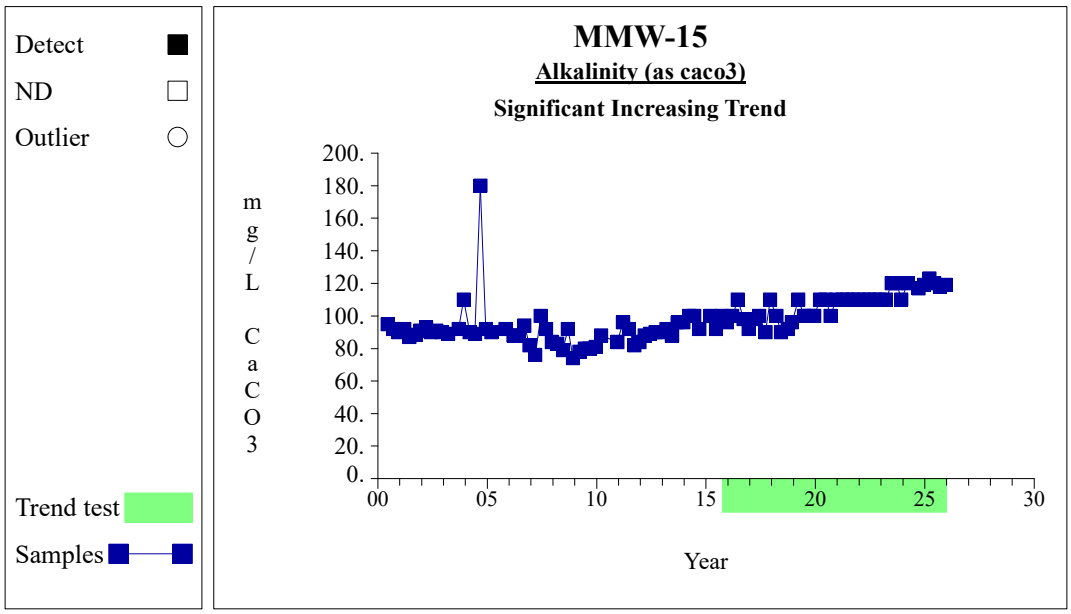
Graph 137

Time Series



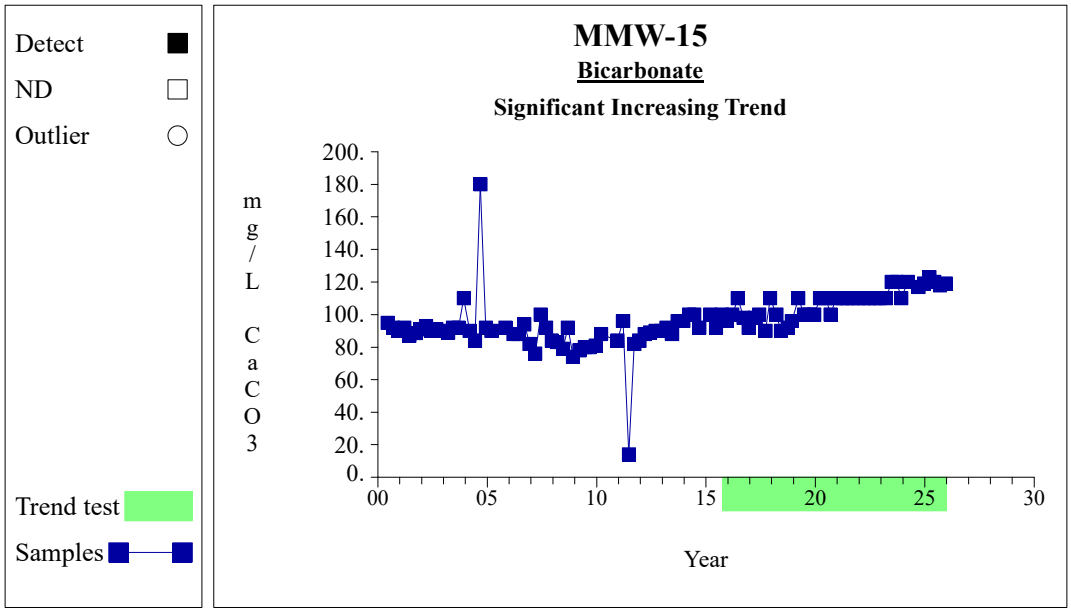
Graph 139

Time Series



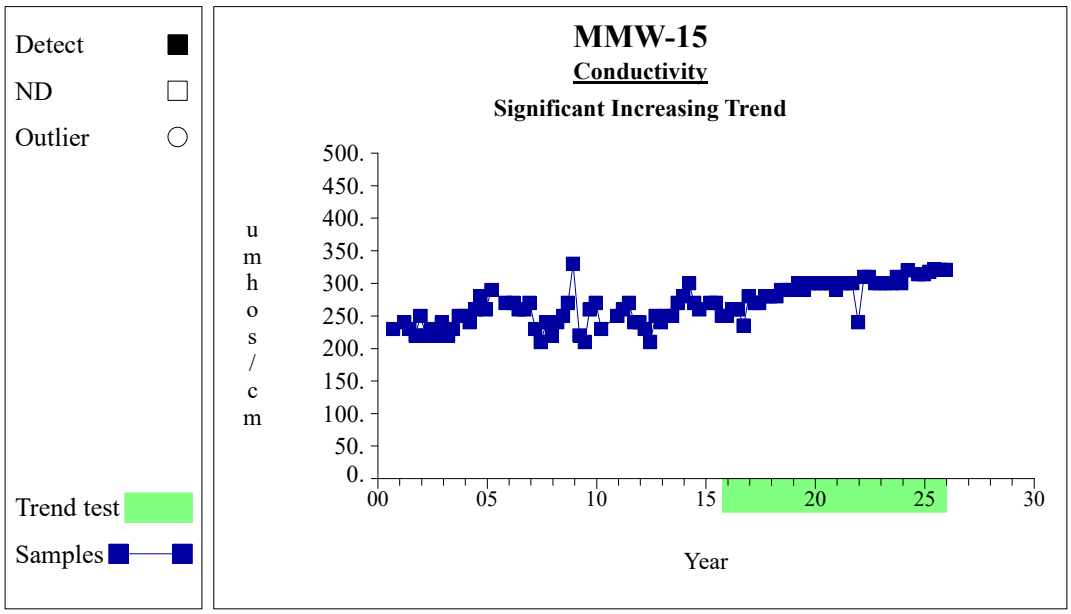
Graph 149

Time Series



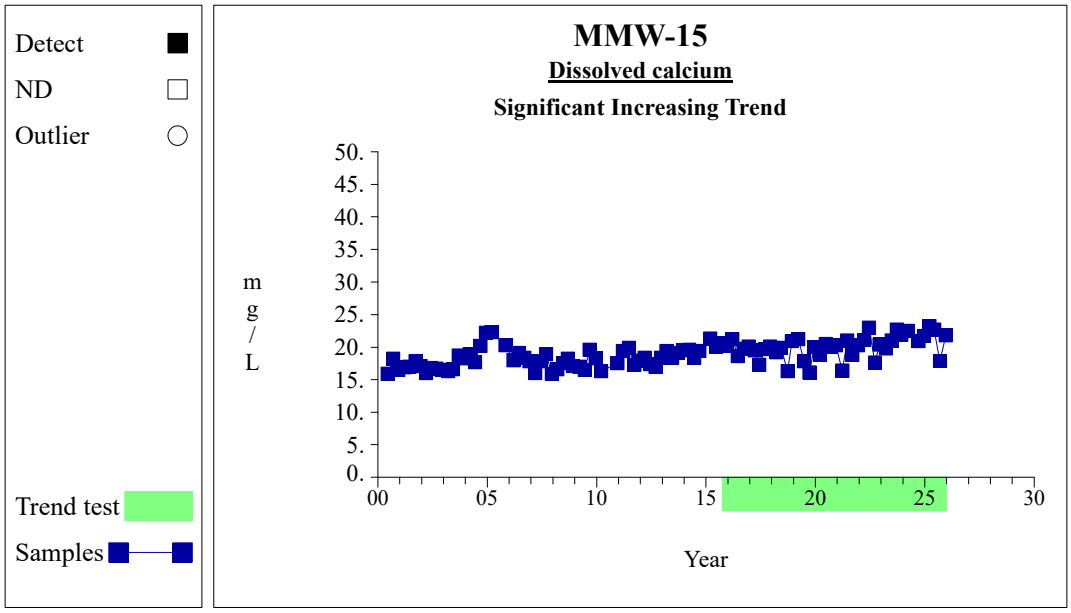
Graph 152

Time Series



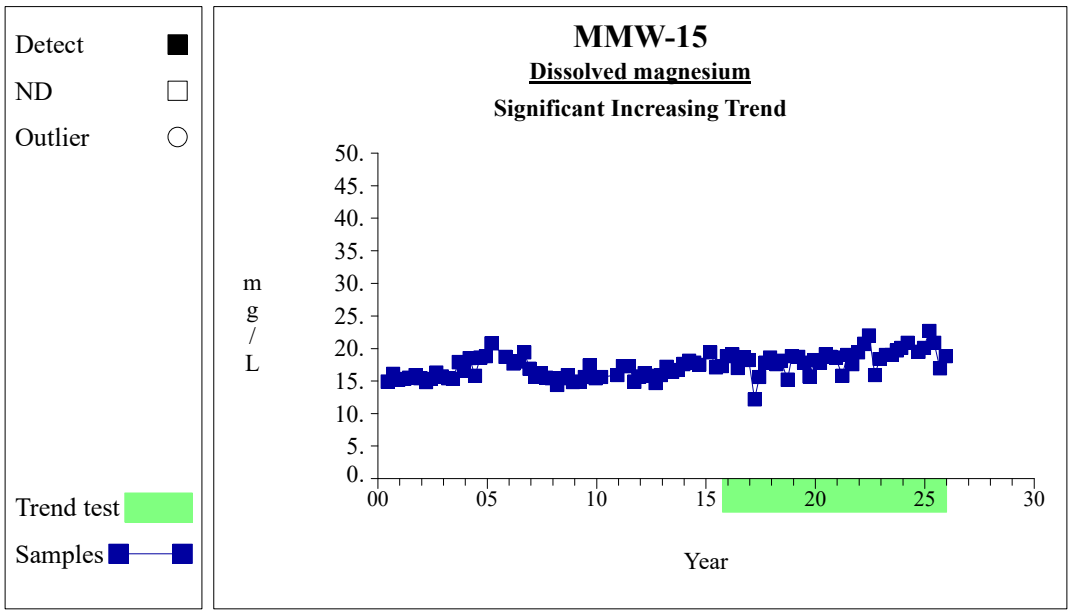
Graph 158

Time Series



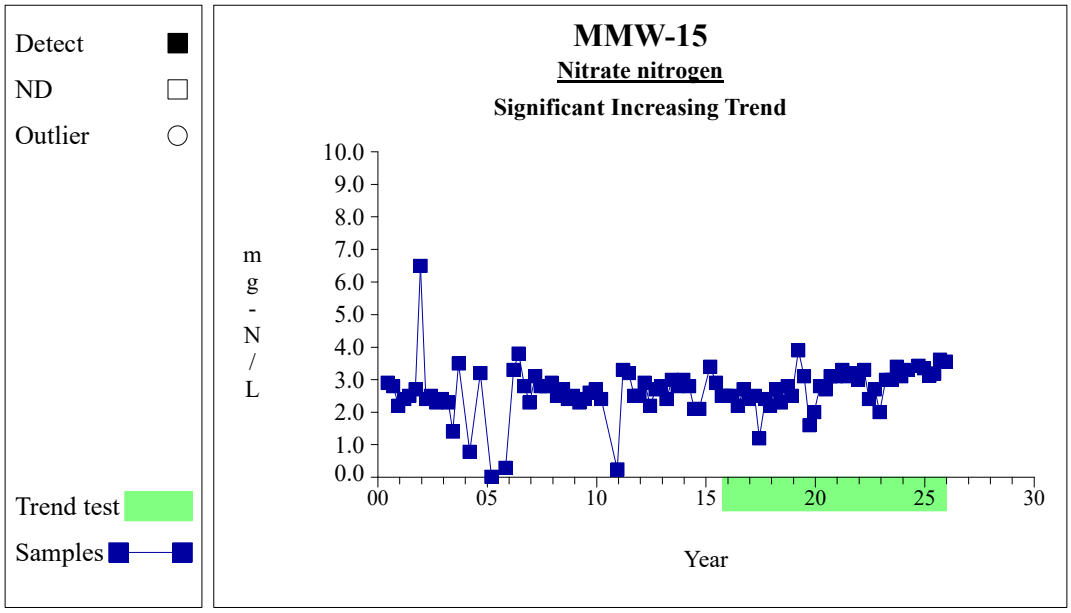
Graph 164

Time Series



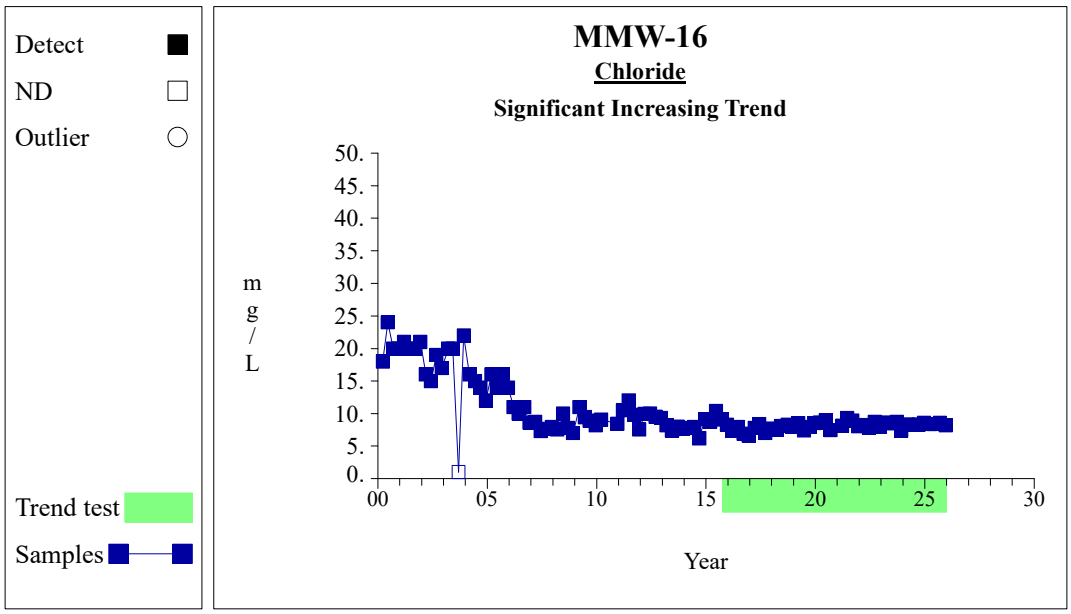
Graph 170

Time Series



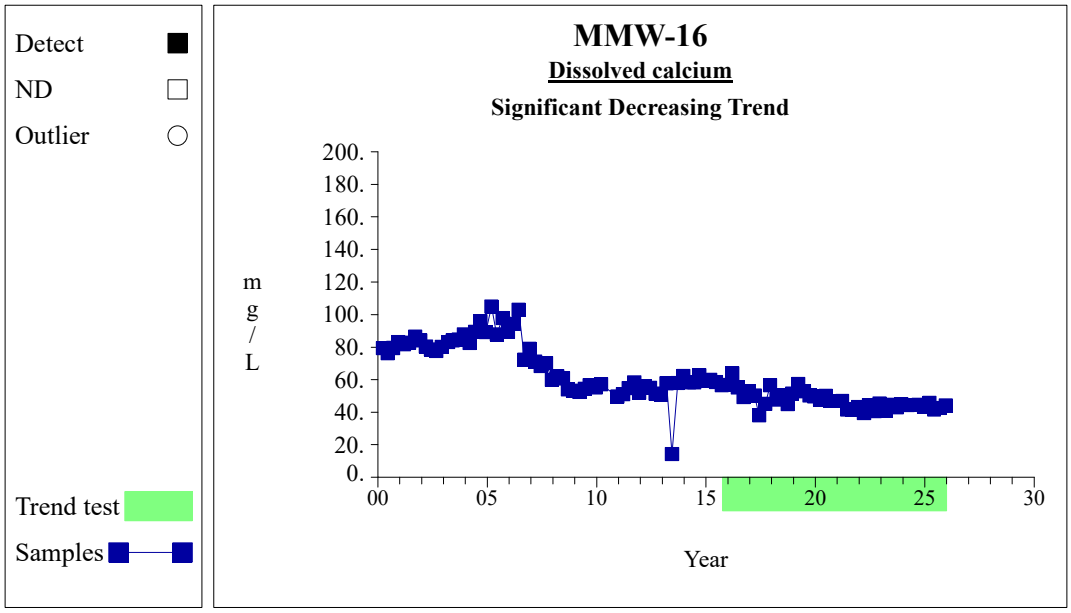
Graph 182

Time Series



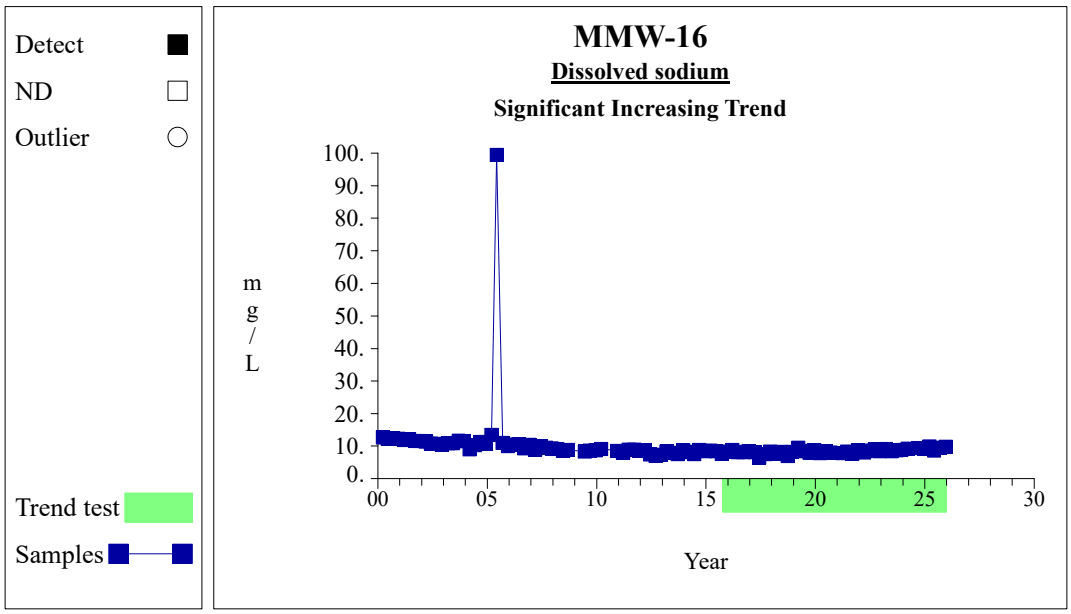
Graph 203

Time Series



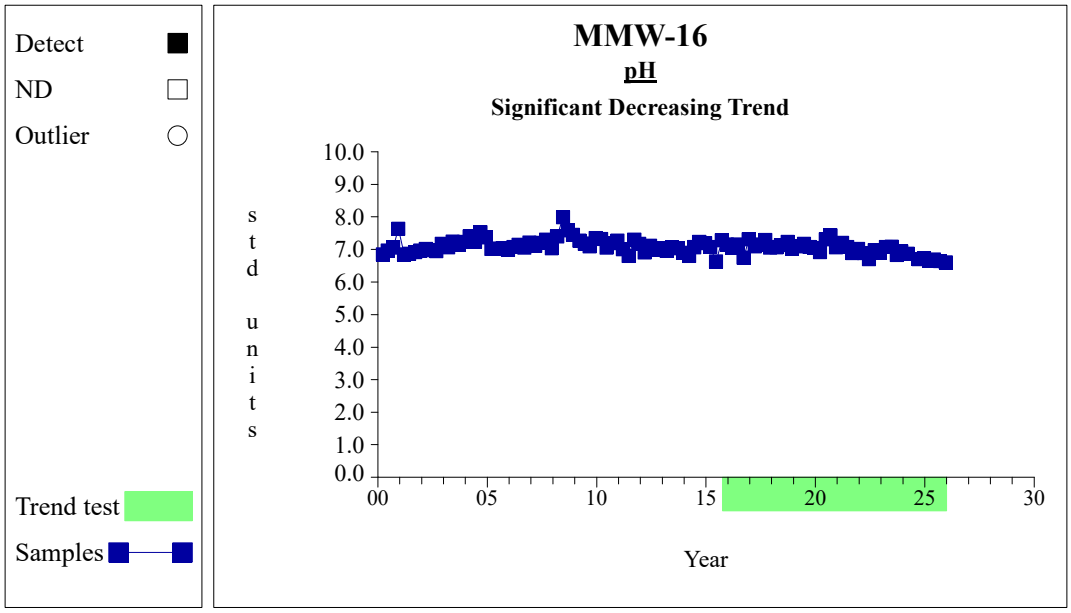
Graph 212

Time Series



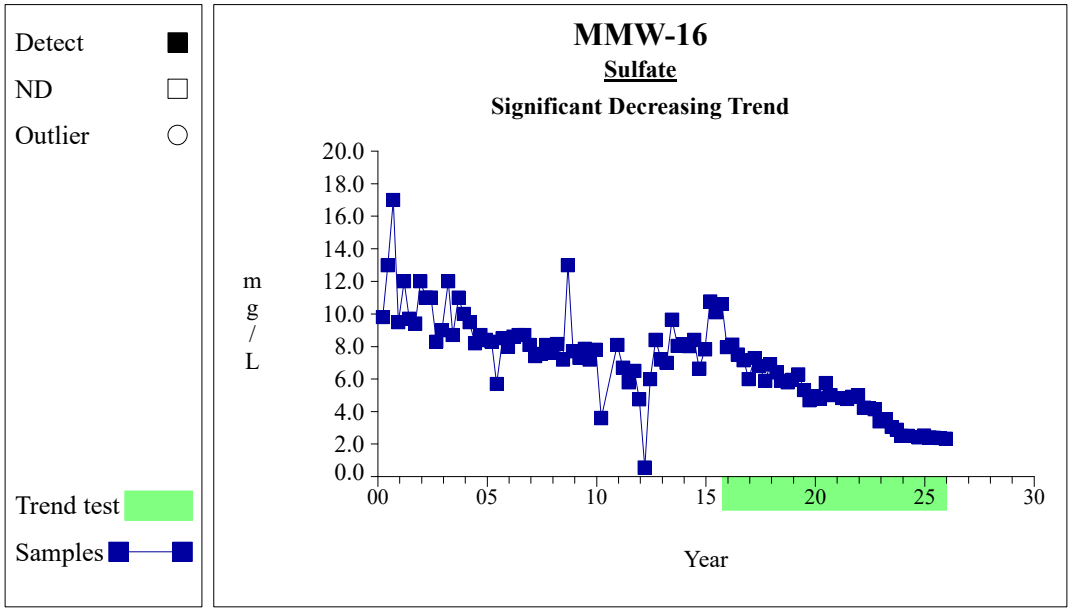
Graph 224

Time Series



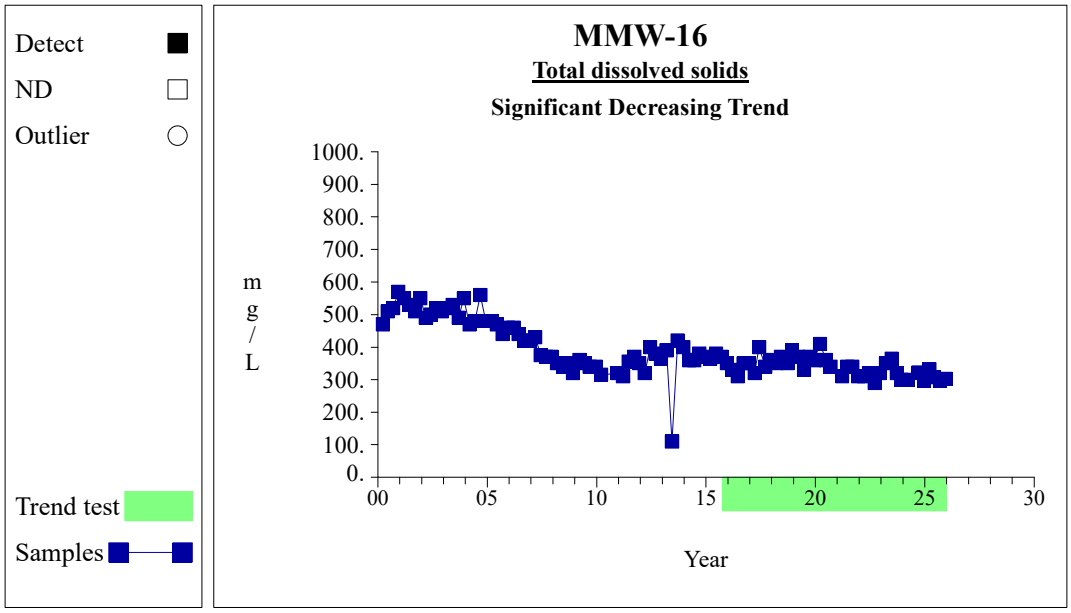
Graph 233

Time Series



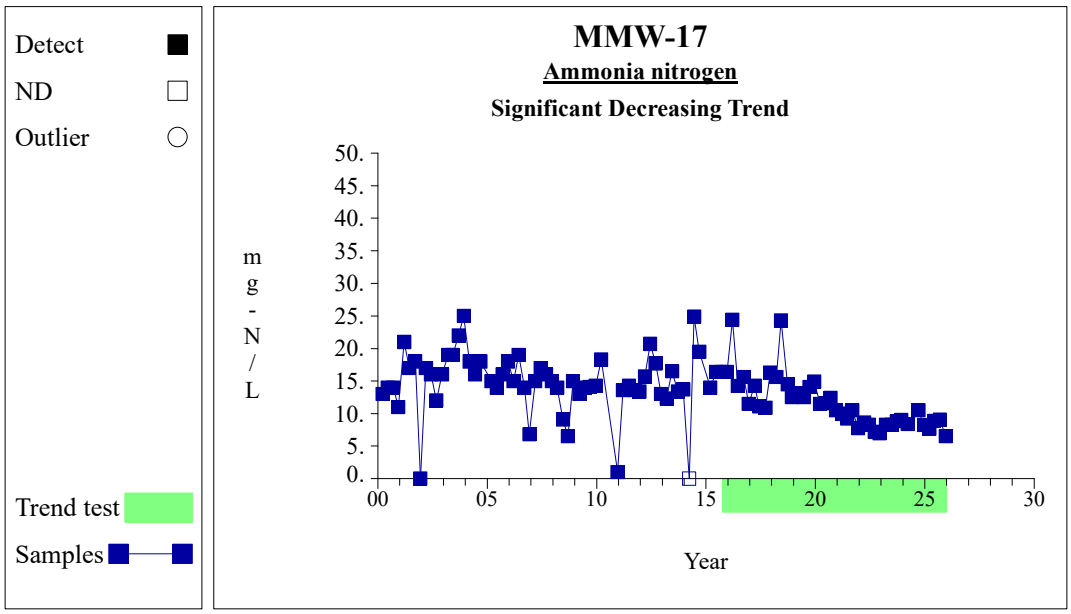
Graph 235

Time Series



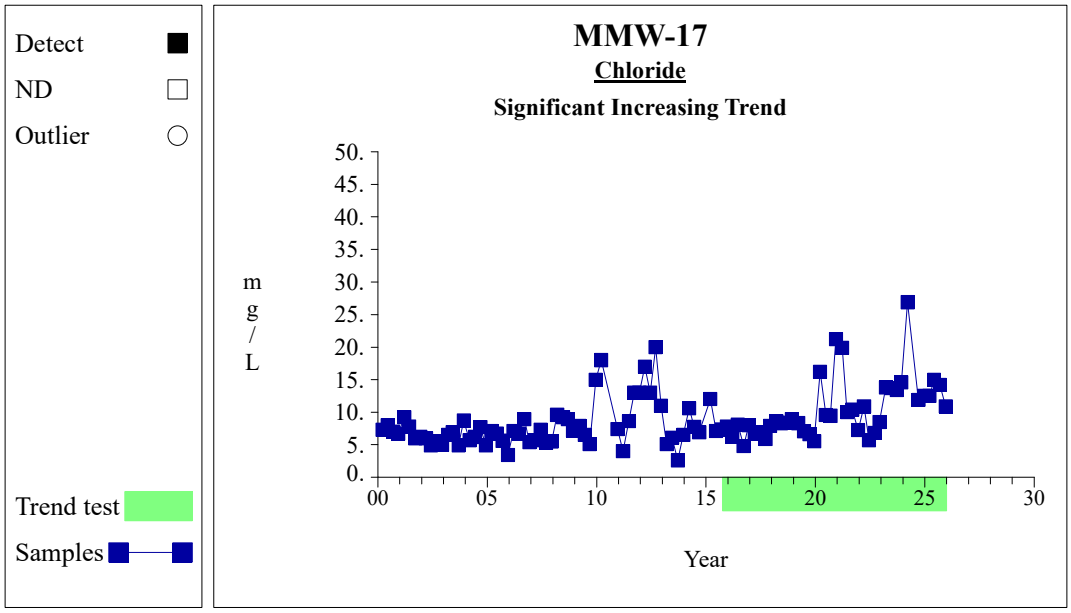
Graph 237

Time Series



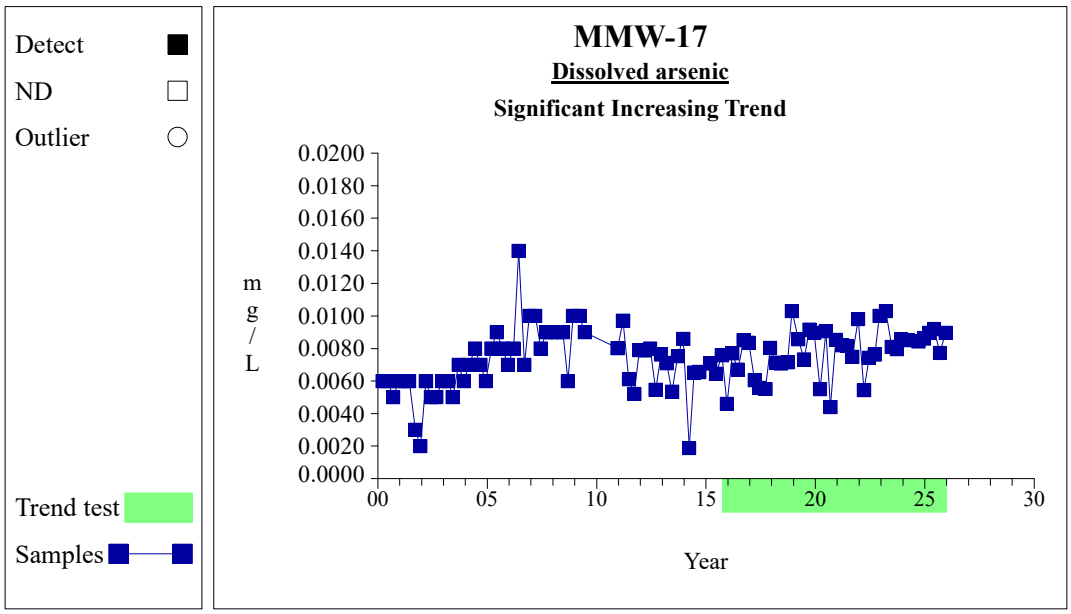
Graph 246

Time Series



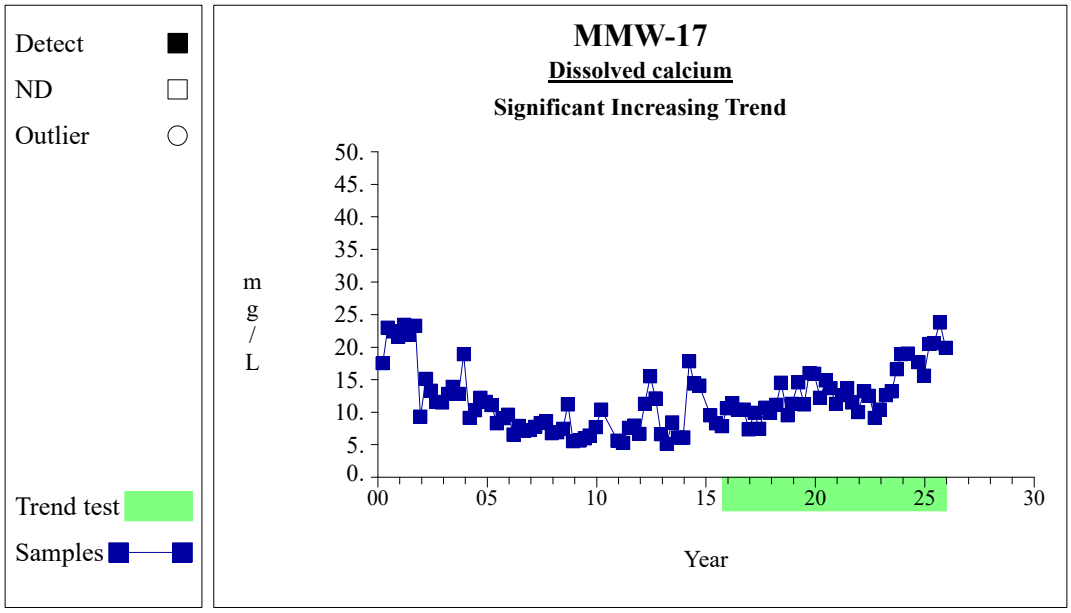
Graph 251

Time Series



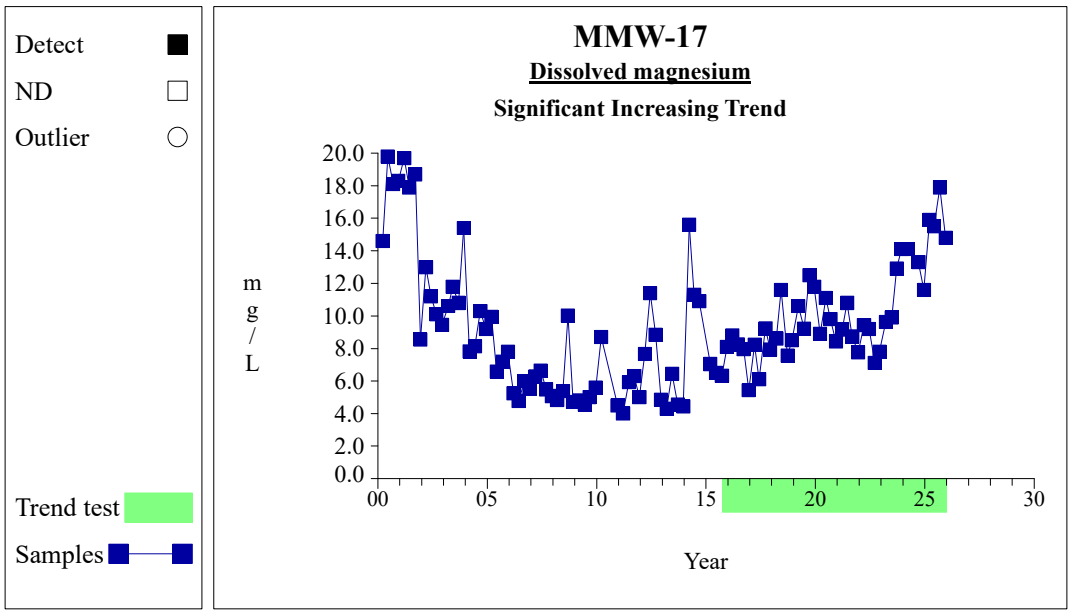
Graph 256

Time Series



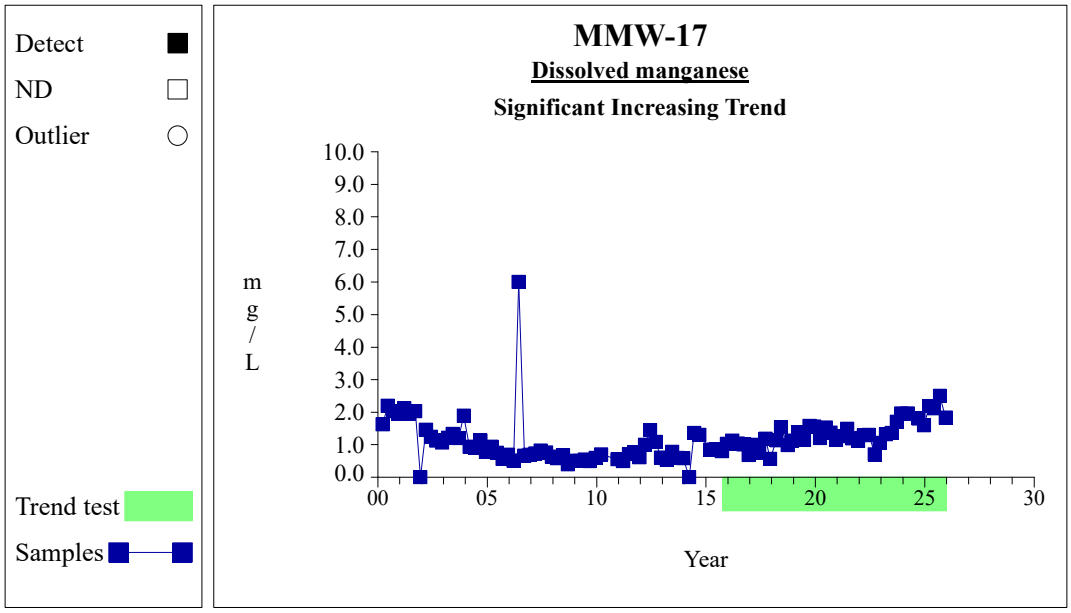
Graph 260

Time Series



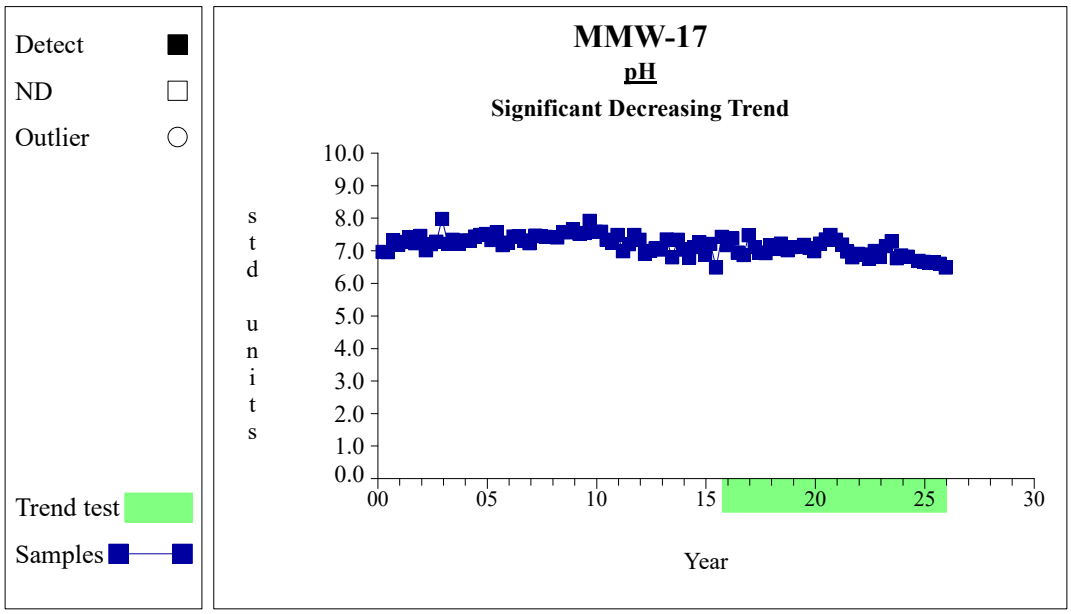
Graph 266

Time Series



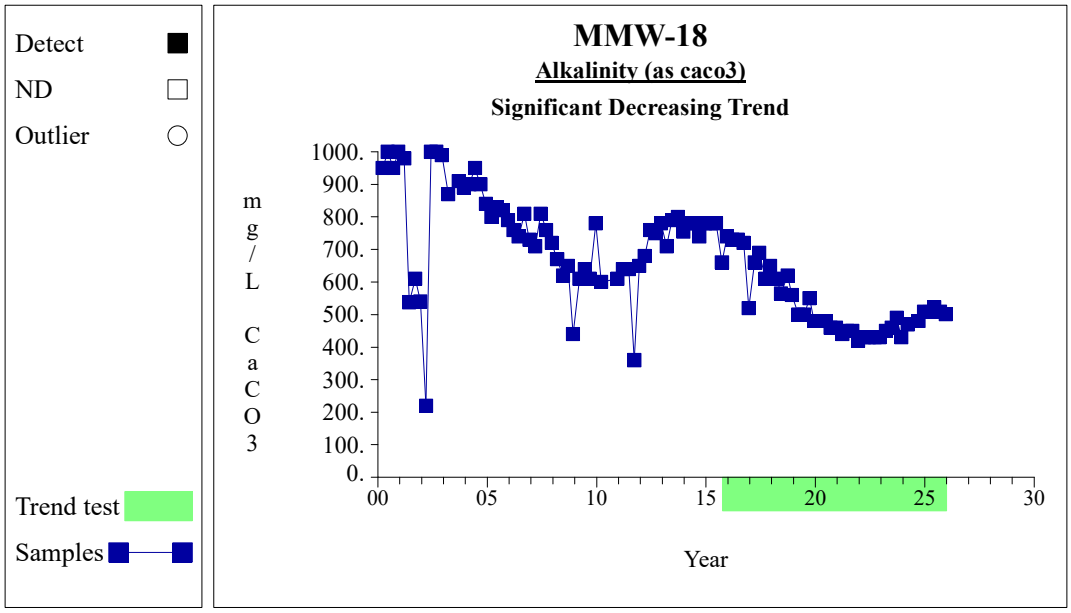
Graph 267

Time Series



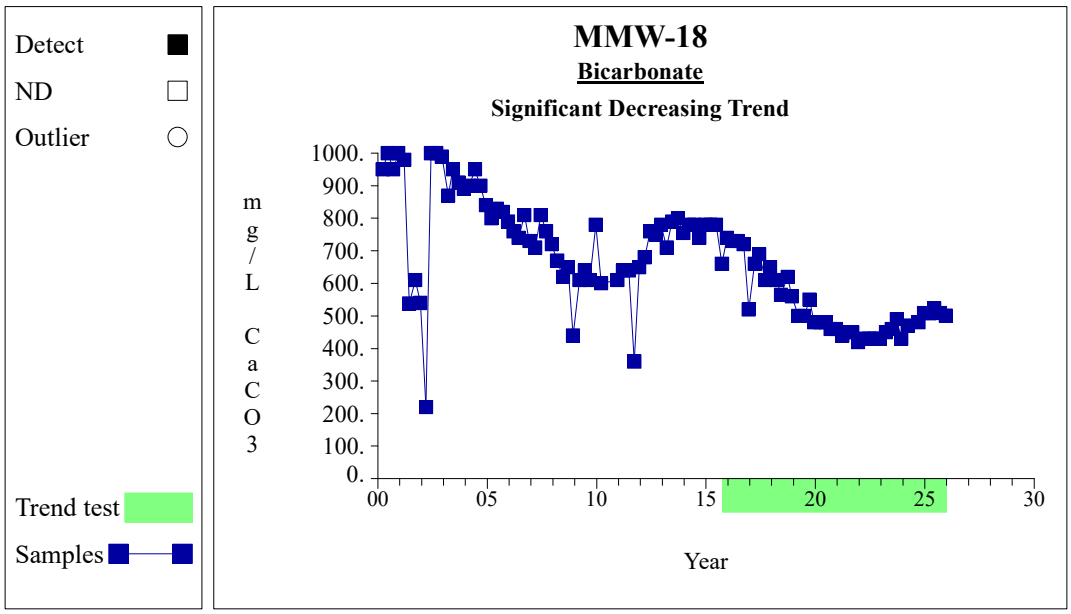
Graph 281

Time Series



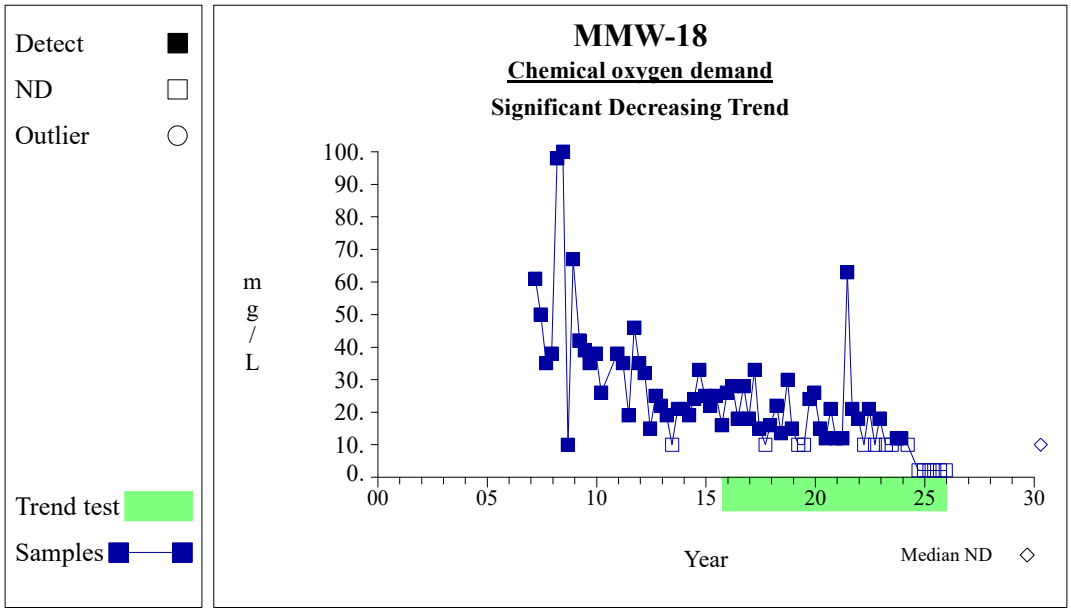
Graph 293

Time Series



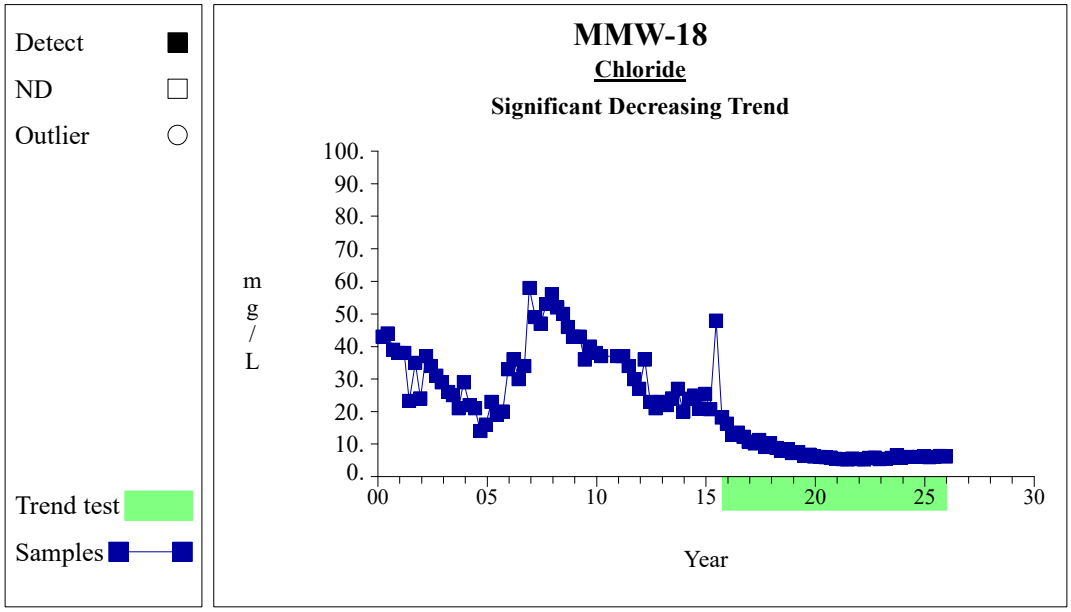
Graph 296

Time Series



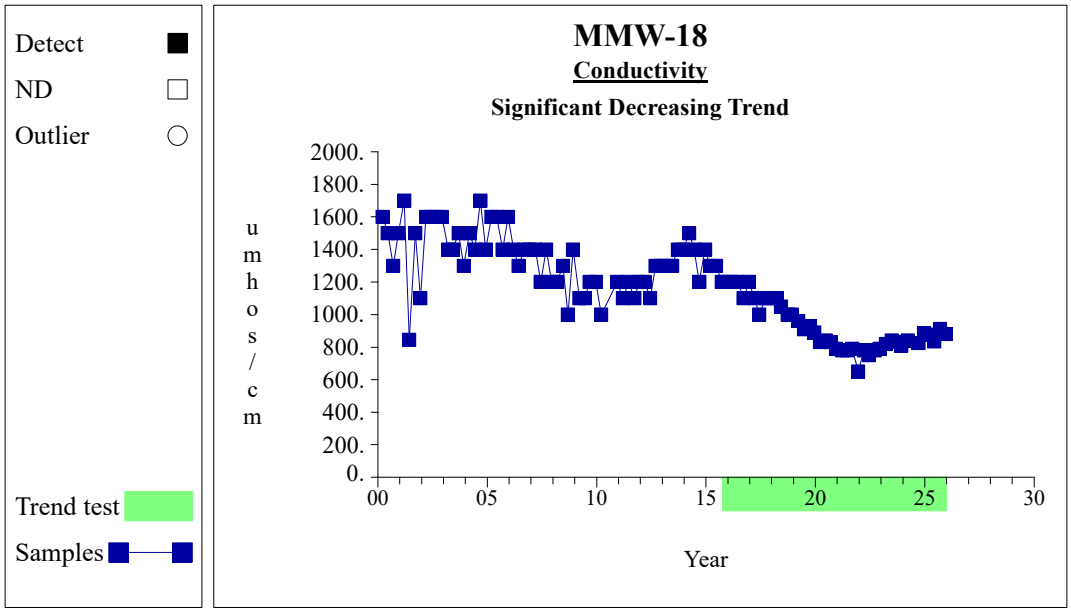
Graph 298

Time Series



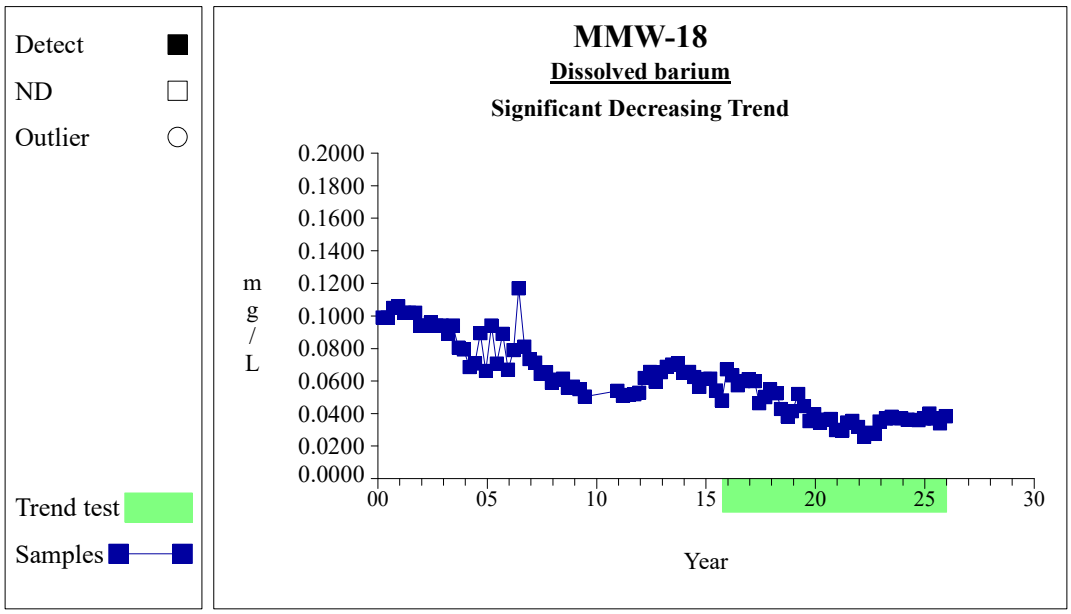
Graph 299

Time Series



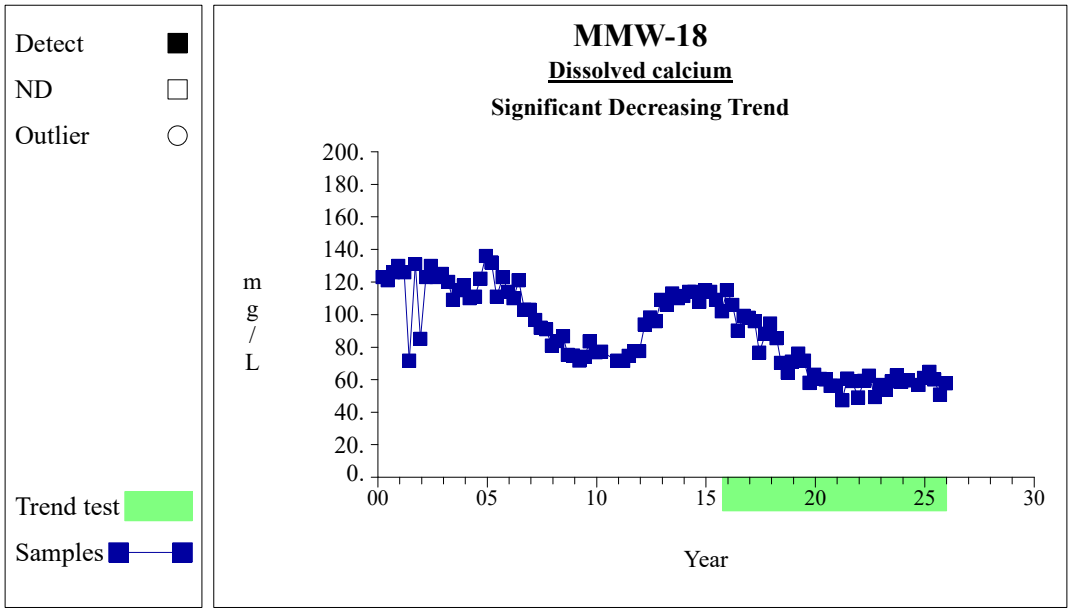
Graph 302

Time Series



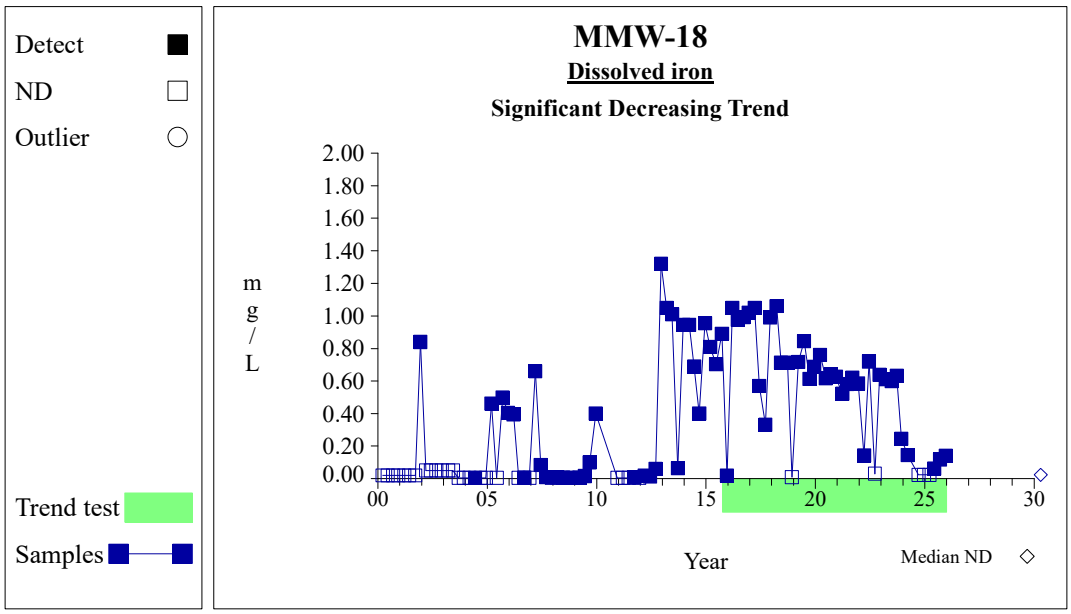
Graph 305

Time Series



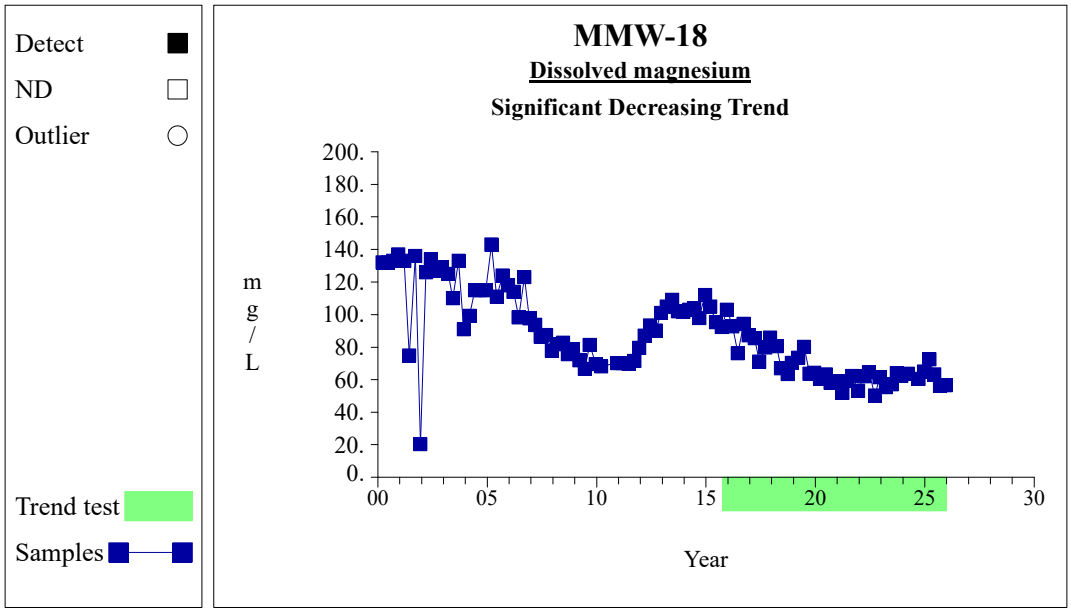
Graph 308

Time Series



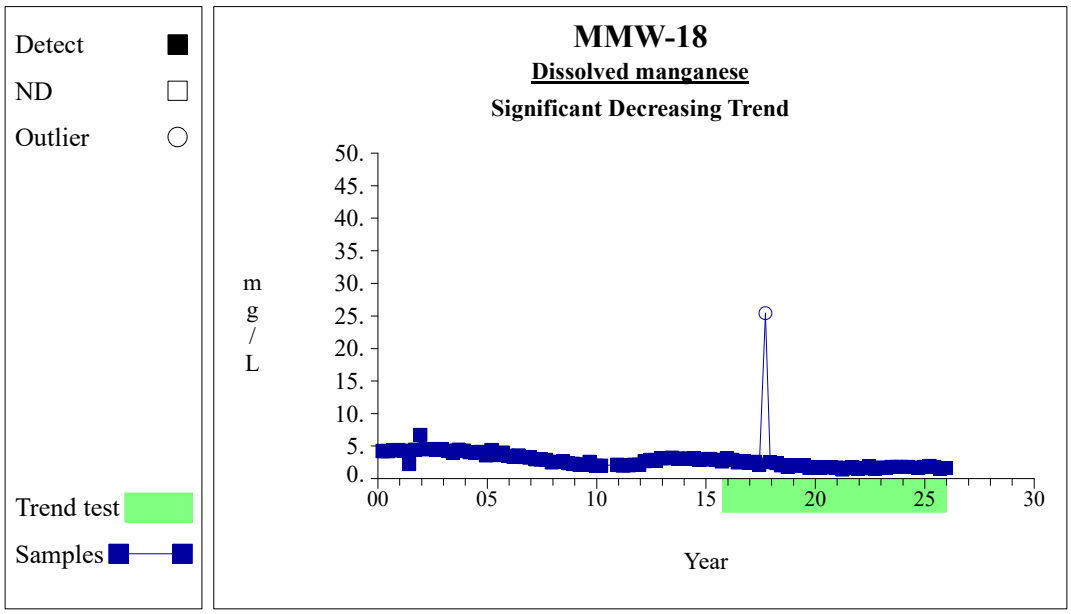
Graph 312

Time Series



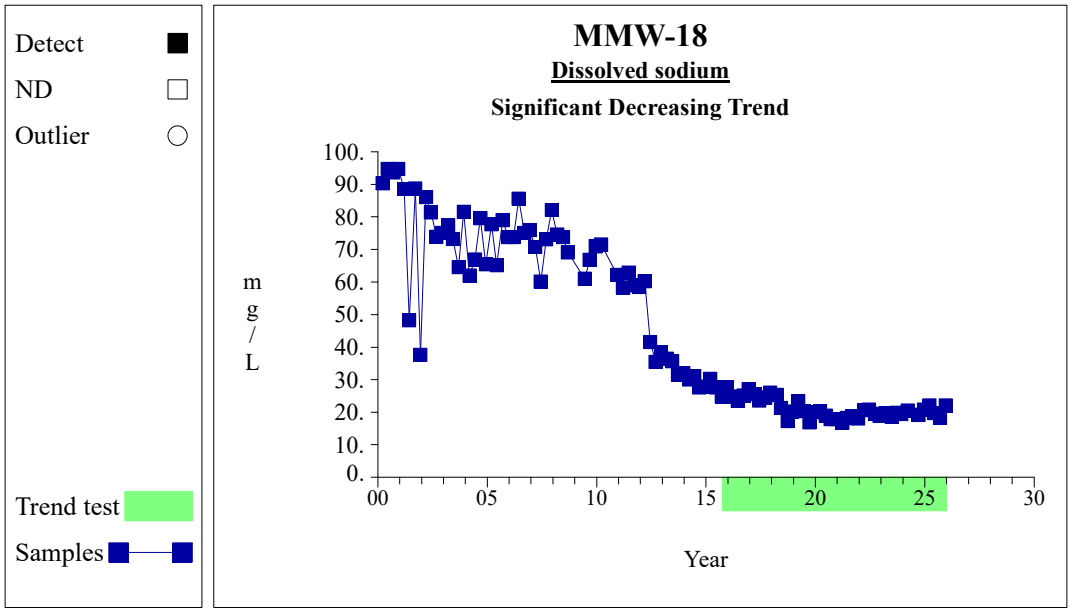
Graph 314

Time Series



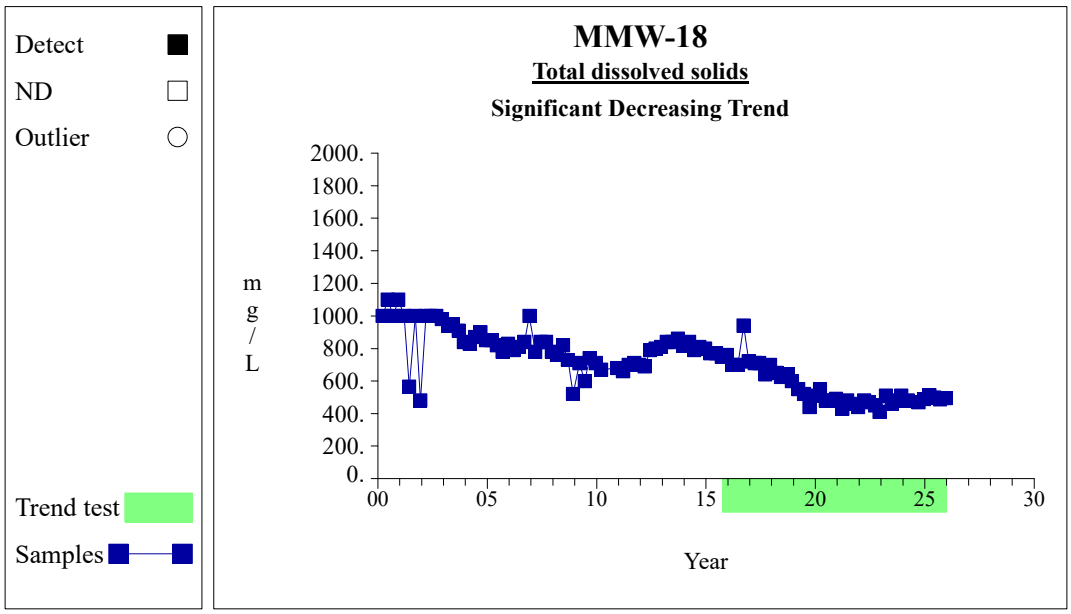
Graph 315

Time Series



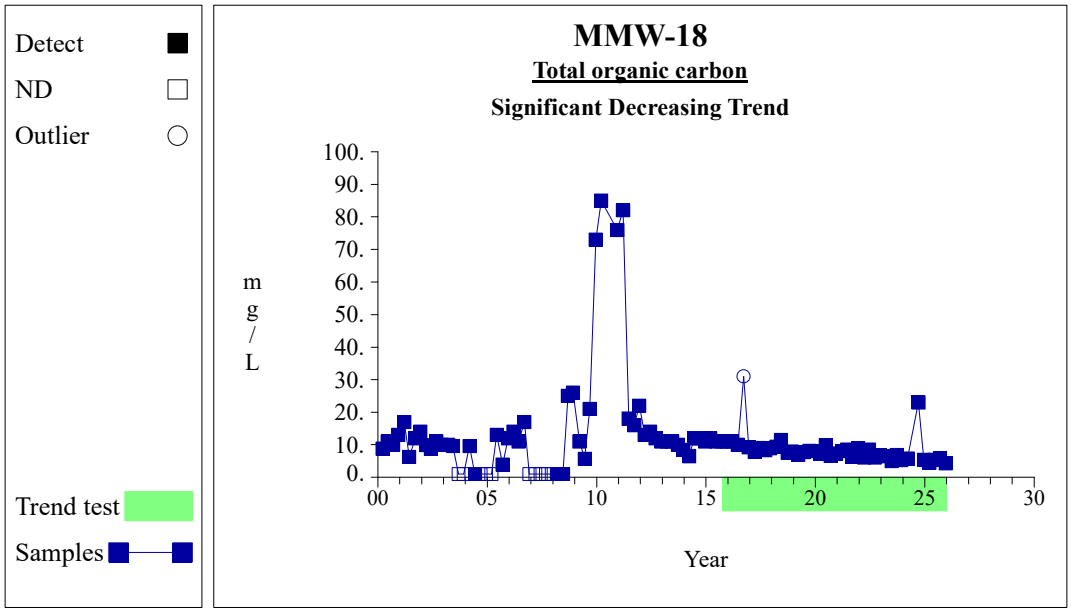
Graph 320

Time Series



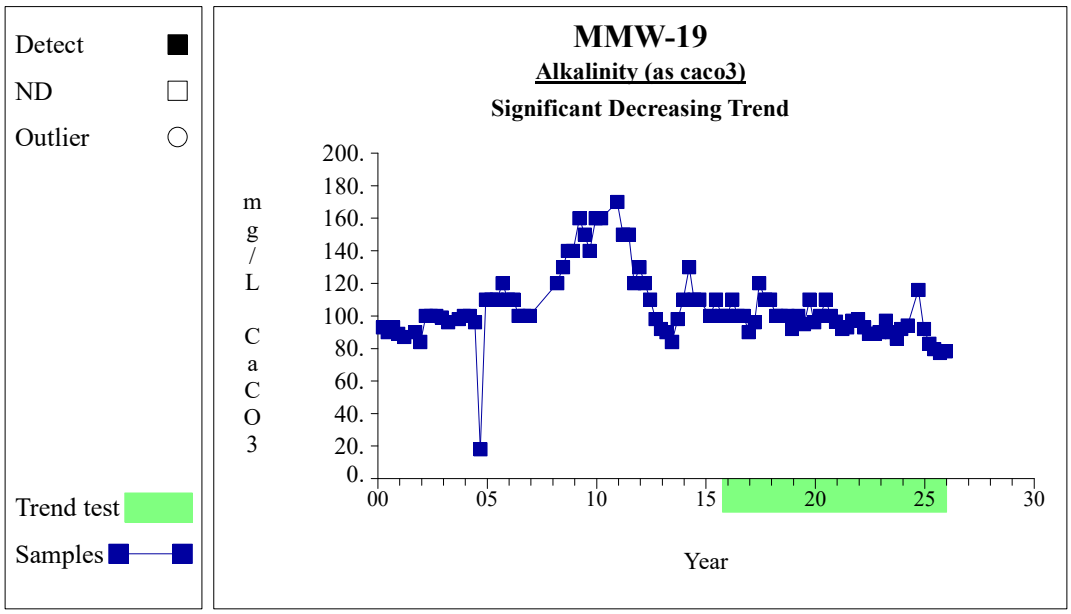
Graph 333

Time Series



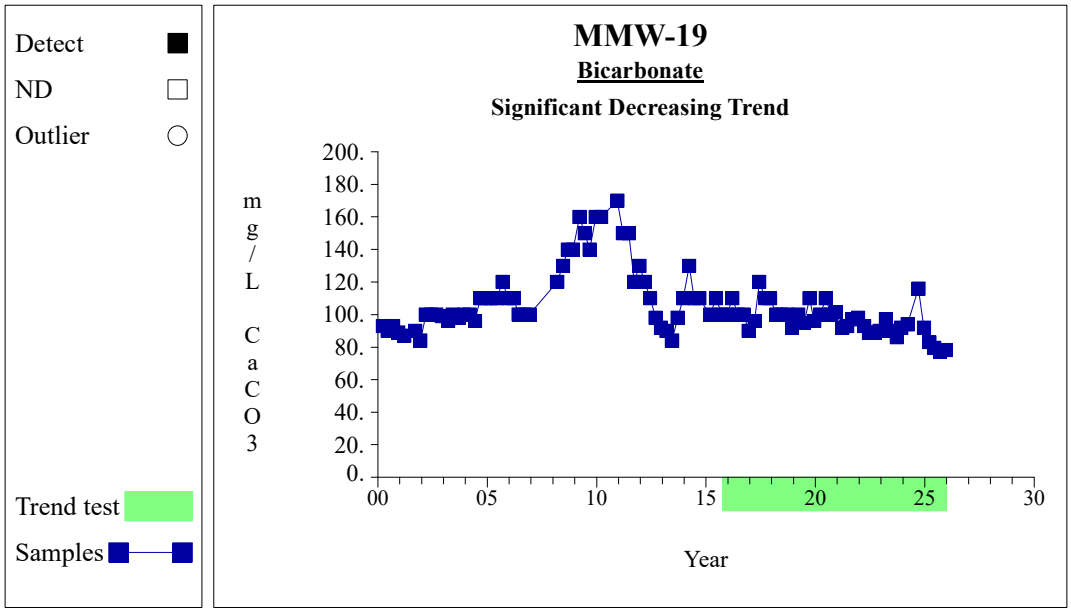
Graph 334

Time Series



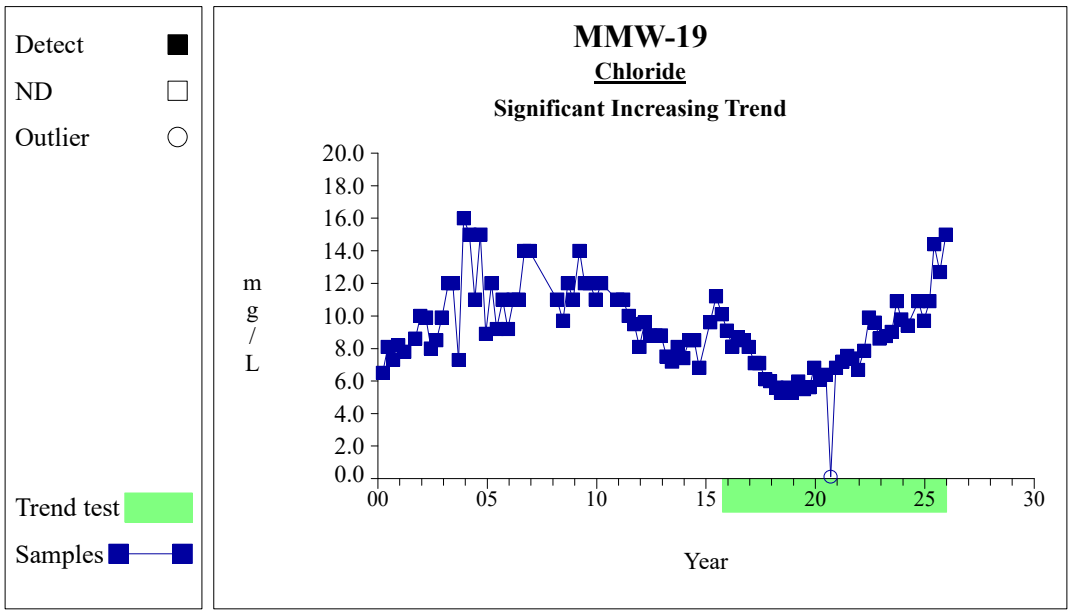
Graph 341

Time Series



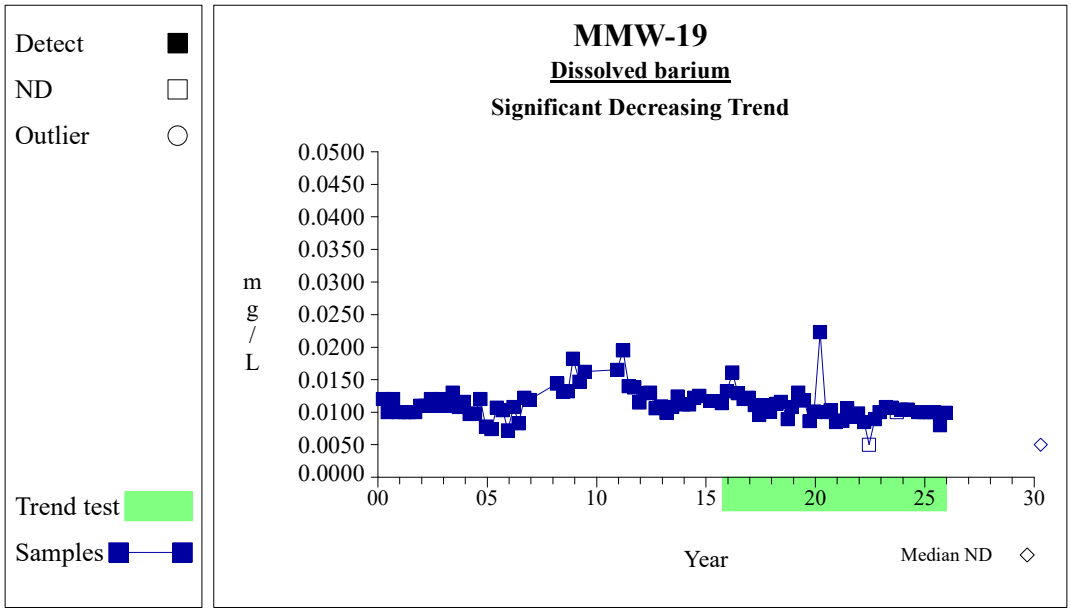
Graph 344

Time Series



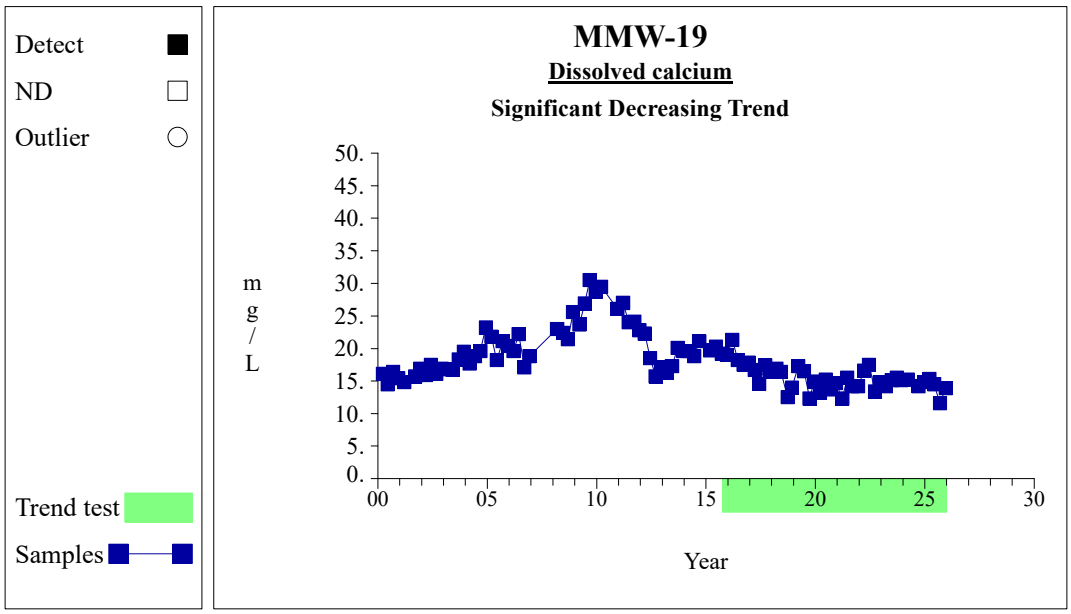
Graph 347

Time Series



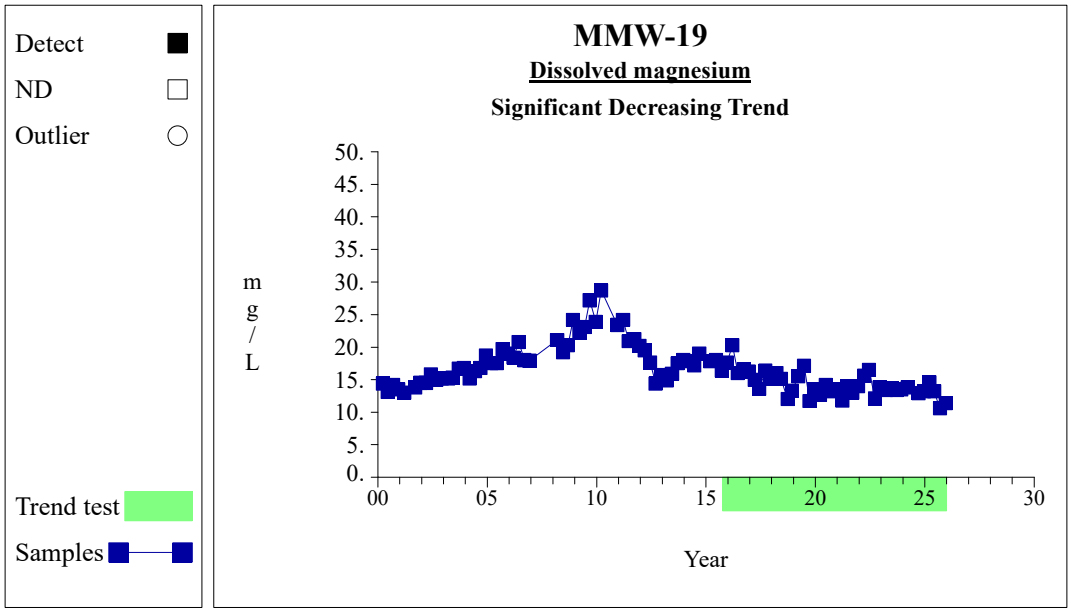
Graph 353

Time Series



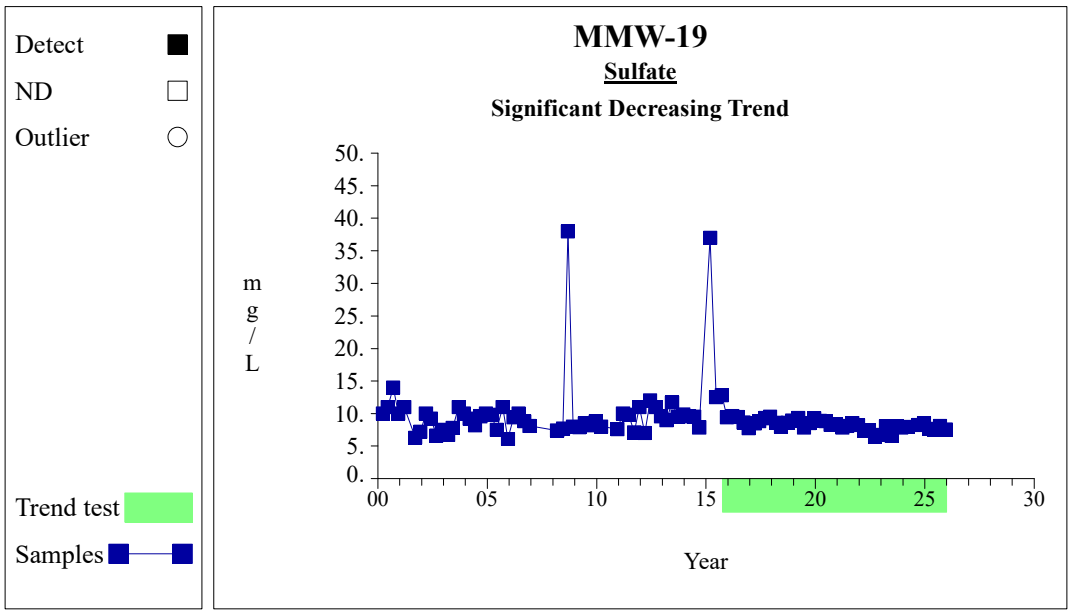
Graph 356

Time Series



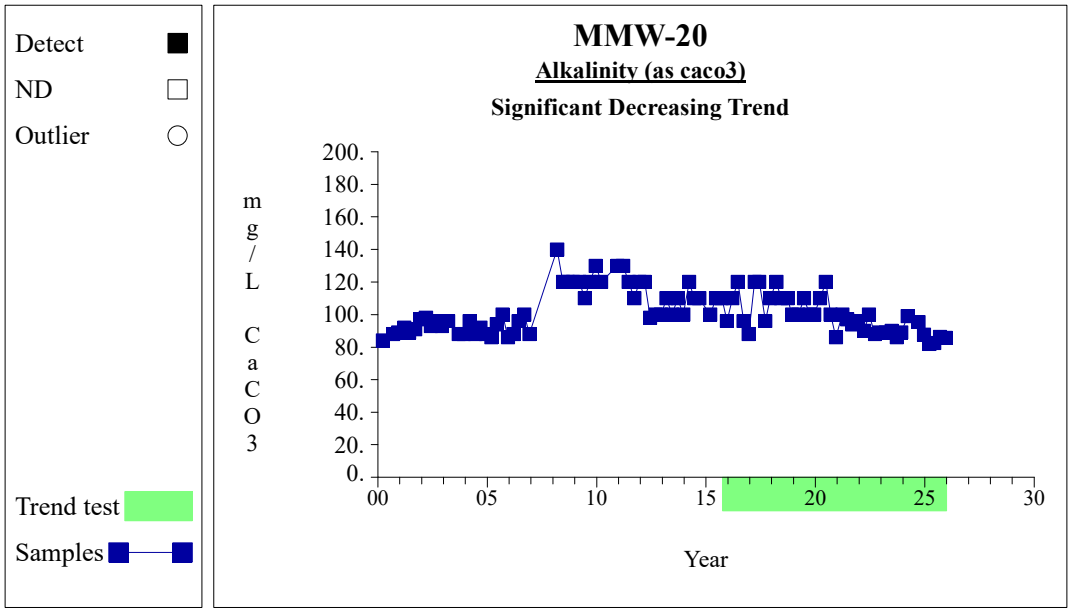
Graph 362

Time Series



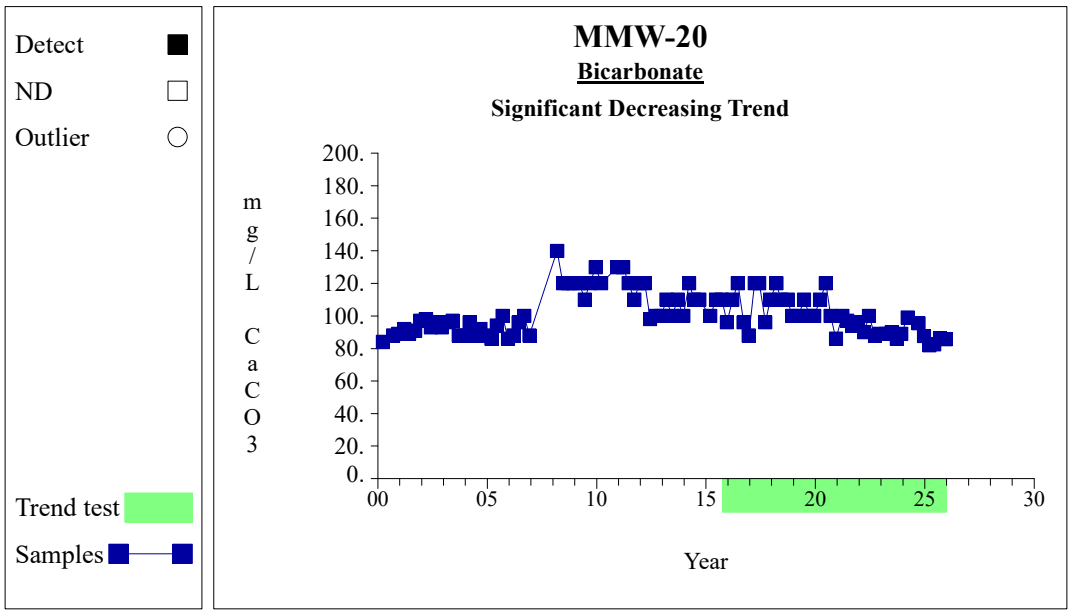
Graph 379

Time Series



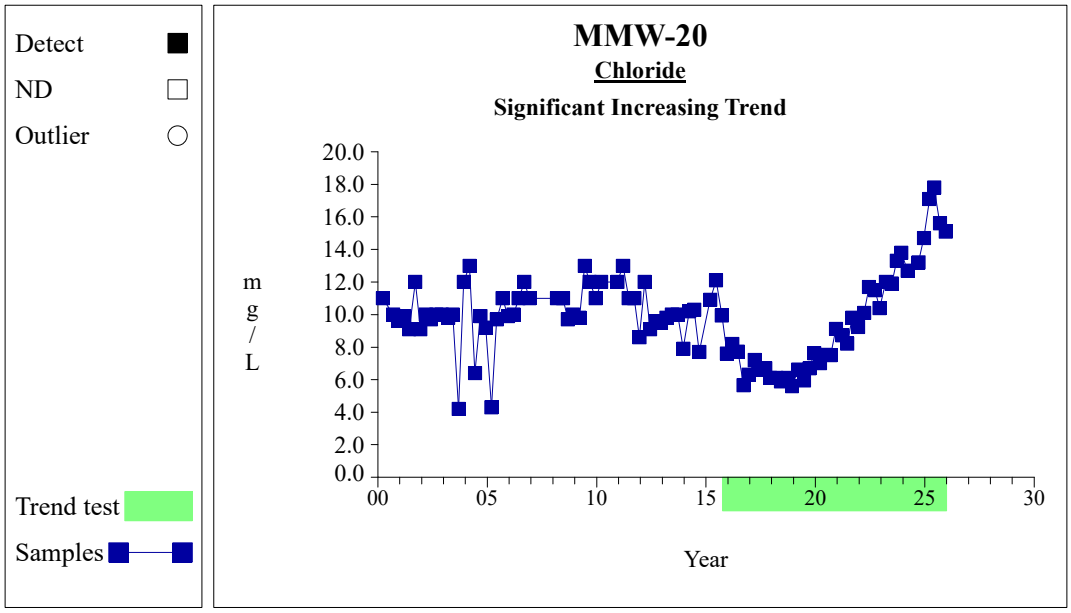
Graph 389

Time Series



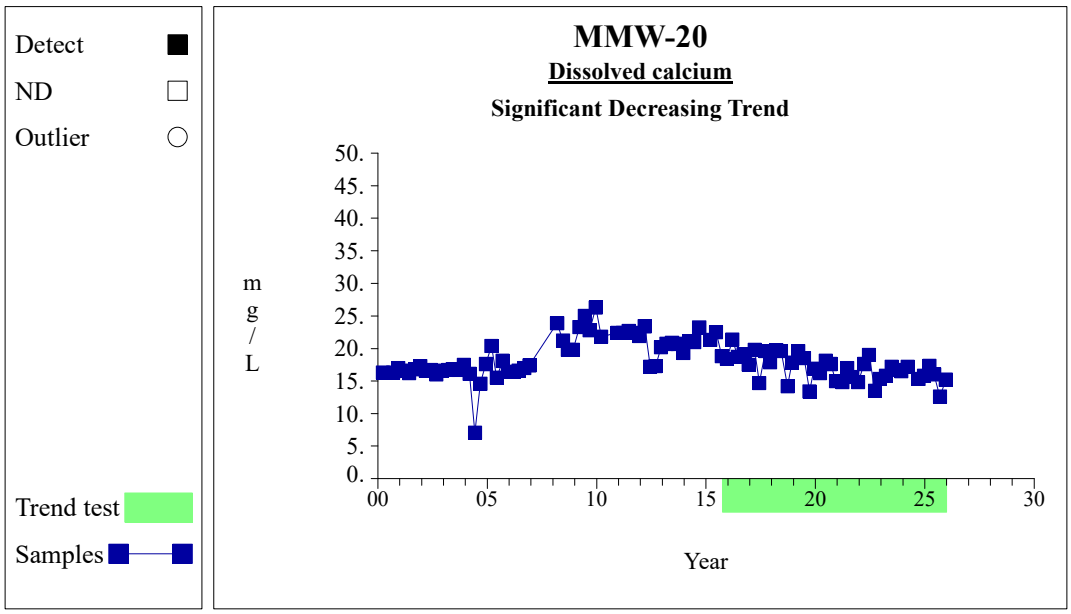
Graph 392

Time Series



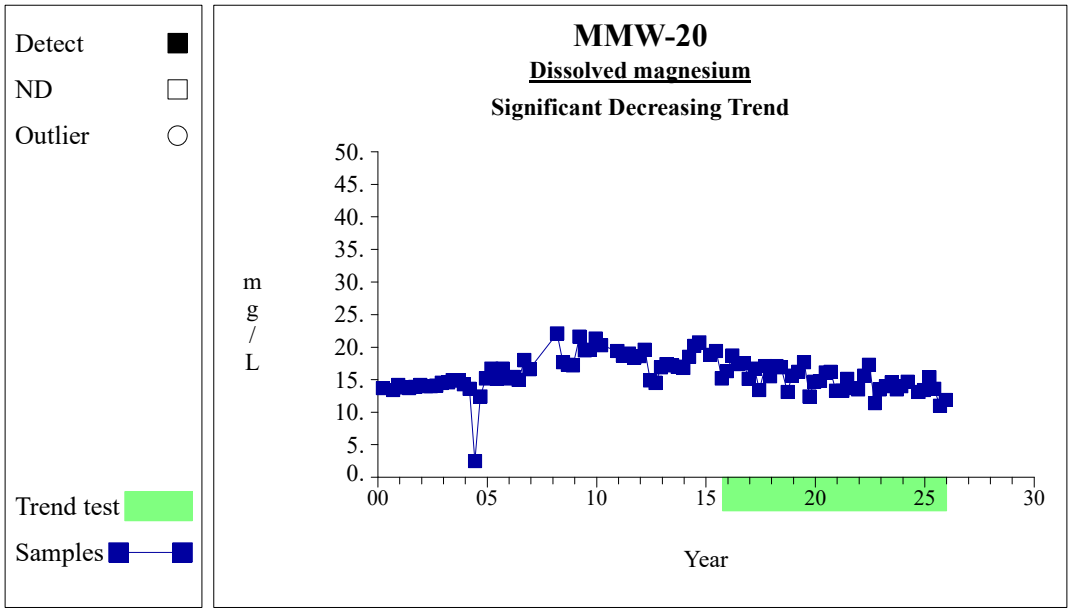
Graph 395

Time Series



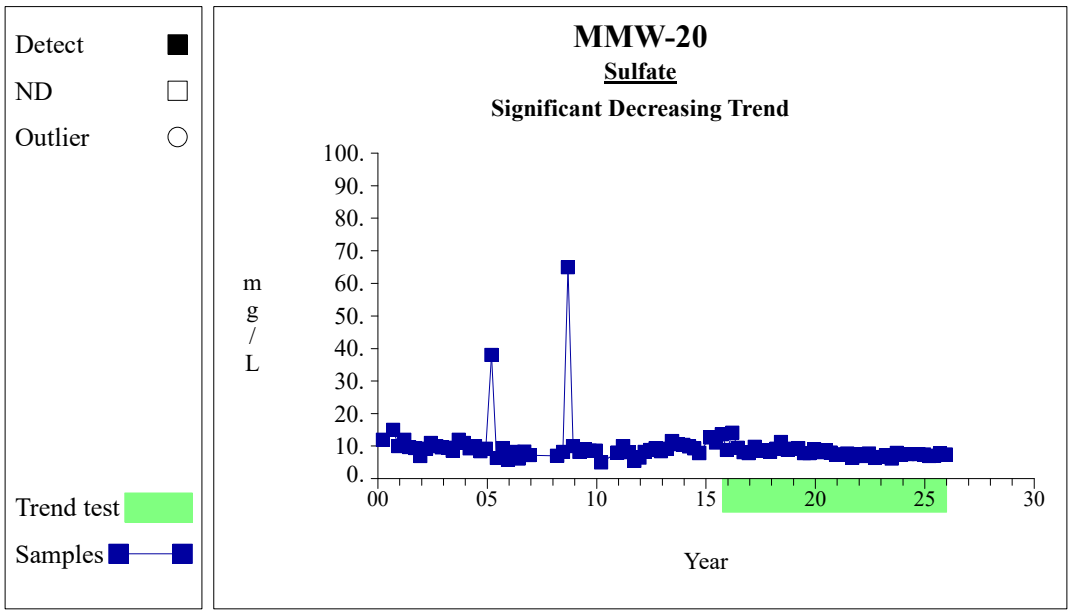
Graph 404

Time Series



Graph 410

Time Series



Graph 427