

April 22, 2026

Alexis Slade, Environmental Engineer  
Land Quality Bureau - Iowa Department of Natural Resources  
6200 Park Avenue, Suite 200  
Des Moines, Iowa 50321



**RE: 2026 Semi-Annual Water Quality Notification  
SCISWA Sanitary Landfill 63-SDP-02-77P**

Dear Ms. Slade:

**Hydrologic Monitoring System Plan (HMSP)**

At the SCISWA Sanitary Landfill the following monitoring wells are included in the HMSP for the facility (per the Permit Revision #3 dated October 23, 2025 (Doc #114543)):

Background Wells

MW-307  
MW-312  
MW-390

Downgradient Wells/Points

MW-300 (Detection Monitoring Program)  
MW-303 (Detection Monitoring Program)  
MW-304 (Detection Monitoring Program)  
MW-313 (Detection Monitoring Program)  
MW-335 (Detection Monitoring Program)  
MW-344 (*Assessment* Monitoring Program)  
MW-380 (Detection Monitoring Program)  
MW-381 (Detection Monitoring Program)  
MW-382R (*Assessment* Monitoring Program)  
MW-601 (Detection Monitoring Program)\*  
MW-602 (Detection Monitoring Program)\*  
MW-604 (Detection Monitoring Program)\*\*  
MW-605 (Detection Monitoring Program)\*\*  
GU-4A (Detection Monitoring Program)

\* MW-601 and MW-602 have been sampled semi-annually since March 9, 2020 to establish background prior to waste disposal. Analytical testing has also included AMD parameters. Statistical evaluations are by both interwell and intrawell methods.

\*\* MW-604 and MW-605 were installed prior to waste acceptance in the Cell NW1/NW2 Expansion. Analytical testing has included detection monitoring and AMD parameters. Statistical evaluations are by both interwell and intrawell methods.

Alternate Source Demonstration (ASD) Acid Mine Drainage (AMD) Points

MW-300  
MW-303  
MW-304  
MW-313  
MW-335  
MW-344  
MW-380  
MW-381  
MW-382R  
MW-601  
MW-602  
MW-604  
MW-605  
GU-4A  
Surface Water SW-1

Baseline Water Quality Monitoring Prior to Landfill Expansion

MW-603 - sampled semi-annually since March 9, 2020

Detection and assessment monitoring continues in accordance with the HMSP as approved in Special Provision 4 of the Permit Revision #3 dated October 23, 2025 (Doc #114543).

**Alternate Source Demonstration related to Acid Mine Drainage**

An Alternate Source Demonstration (ASD) related to metals was completed in 2014 (Doc #79861). The ASD indicates that acid mine drainage (AMD) is the contributing factor associated with the inorganic groundwater impacts historically identified in most monitoring well locations, making spatial variability impractical to sufficiently quantify. AMD is characterized by low pH levels combined with elevated metals and elevated sulfate concentrations in groundwater. With IDNR approval, intrawell statistical evaluations (along with interwell statistical methods) are employed. It is recognized that the intrawell control limits and the interwell prediction limits are at times elevated above the groundwater protection standards (GWPS) published in Iowa Administrative Code (IAC) 567, Chapter 137. In these instances, Site-Specific GWPS are developed and are equal to the elevated control/prediction limit value.

Based on the ASD, continued acid mine drainage constituent monitoring is required and Assessment of Corrective Measures activities are not required at wells impacted by AMD. Statistically Significant Increases (SSI) and Significantly Significant Levels (SSL) for inorganic constituents would only be realized in monitoring points where AMD effects are minor (below SSI/SSL levels) and where both SSI/SSL are identified by both intrawell and interwell statistical methods at a monitoring point. The AMD impacts are addressed in Special Provision 4.k. of the Permit Revision #3 dated October 23, 2025 (Doc #114543).

AMD is evaluated using the water quality parameters alkalinity (as calcium carbonate), aluminum, iron, sulfate, and pH at site monitoring wells, at GU-4A, and at SW-1. The Spring, 2026 Acid Mine Drainage constituents are summarized in the Table below. Based on the AMD testing results summarized below, all wells demonstrate the impacts of AMD. It follows that Assessment of Corrective Action for

inorganic compounds is again deferred based on the on-going AMD effects and the resulting absence of verified inorganic SSI and/or SSL.

Results of the AMD (yellow highlights indicate a value that exceeds a standard):

Monitoring Location	pH	Alkalinity (CaCO <sub>3</sub> )	Aluminum	Iron	Sulfate
	(S.U.)	(mg/L)	(ug/L)	(ug/L)	(mg/L)
MW-300	5.8	130	582	156,000	3,380
MW-303	6.5	616	<50	1,040	298
MW-304	6.8	380	<50	2,260	37.4
MW-307	5.7	42	167	263,000	2,140
MW-312	6.2	342	<50	3,210	743
MW-313	6.9	572	<50	4,560	310
MW-335	6.4	552	<50	4,870	2,920
MW-344	5.8	243	<50	13,300	2,380
MW-380	3.5	17	3,290	36,800	1,730
MW-381	6.5	189	<50	<100	864
MW-382R	6.9	420	<50	<100	1,300
MW-390	6.0	173	<50	121,000	1,770
GU-4A	5.8	37	55.2	185,000	2,510
SW-1	Dry	Dry	Dry	Dry	Dry
MW-601	6.3	234	<50	19,300	972
MW-602	5.6	56	<50	85,100	2,120
MW-603	6.4	381	<50	43,000	2,960
MW-604	5.9	115	<50	91,400	2,660
MW-605	Dry	Dry	Dry	Dry	Dry
Limit	≤ 6.5	1000	100	300	100

Time Series Plots of AMD constituents through March 2026 are attached.

Review of the Time Series Plots of the AMD constituents indicates the following trends:

Sulfate demonstrates decreasing trends at MW-307, MW-380, and MW-381.

Sulfate demonstrates an increasing trend at MW-603.

Aluminum demonstrates an increasing trend at MW-300.

Aluminum demonstrates a decreasing trend at MW-380.

Alkalinity demonstrates increasing trends at MW-382R and MW-601.

Alkalinity demonstrates decreasing trends at MW-300 and MW-603.

Iron demonstrates decreasing trends at MW-307 and MW-604.

pH indicates a decreasing trend at MW-312.

**Notification of Results of Spring Sampling, Analysis, and Statistical Evaluation**

Well in the Detection Monitoring System

Verified *Intrawell Control Limit* exceedances **for inorganic** compounds:

**MW-300** - beryllium, cobalt, nickel, zinc

**MW-304** - chromium

**MW-312** - barium

Verified *Interwell Prediction Limit* exceedances **for inorganic** compounds:

**MW-300** - beryllium, cobalt, nickel

**MW-303** - barium

**MW-304** - barium

**MW-380** - beryllium, cadmium, cobalt, copper, nickel

**MW-602** - cobalt, nickel

**MW-604** - nickel

Verified *Interwell Prediction Limit (double quantification rule)* exceedances **for VOC** include:

**None**

Well in the Assessment Monitoring System

Verified *Intrawell Control Limit* exceedances **for inorganic** compounds:

**None**

Verified *Interwell Prediction Limit* exceedances **for inorganic** compounds:

**MW-344** - cobalt

Verified *Interwell Prediction Limit (double quantification rule)* exceedances **for VOC** include:

**MW-344** - benzene (1.2 ug/L), cis-1,2-dichloroethene (2.4 ug/L)

Historic Appendix II Compound Detections (green highlights = full Appendix II events):

Dichlorodifluoromethane (ug/L)

(green highlights = a full Appendix II sample)

Date	MW-344	MW-382R
Mar-2012	<3	3.11
Sep-2012	<3	<5
Mar-2013	NT	2.4J
Sep-2013	<3	2.73J
Apr-2014	NT	2.14J
Sep-2014	NT	2.7J
Mar-2015	NT	1.59J
Sep-2016	NT	<3
Mar-2016	NT	<1
Oct-2016	NT	1.77J
Mar-2017	NT	1.86J
Sep-2017	NT	0.898J
Mar-2018	NT	1.11J
Oct-2018	<3	0.962J
Mar-2019	NT	NT
Sep-2019	NT	NT
Mar-2020	NT	NT
Sep-2020	NT	NT
Apr-2021	NT	NT
Oct-2021	NT	NT
Apr-2022	NT	NT
9/1/2022	NT	NT
3/6/2023	NT	NT
9/29/2023	<1	<1
3/19/2024	NT	NT
10/3/2024	NT	NT
3/25/2025	NT	NT
9/15/2025	NT	NT
3/25/2026	NT	NT

Bis(2-ethylhexyl)phthalate (ug/L)  
 (green highlights = a full Appendix II sample)

Date	MW-344	MW-382R
Mar-2012	<10	<10
Sep-2012	<10	<10
Mar-2013	NT	NT
Sep-2013	<10	<10
Apr-2014	NT	NT
Sep-2014	NT	NT
Mar-2015	NT	NT
Sep-2016	NT	NT
Mar-2016	NT	NT
Oct-2016	NT	NT
Mar-2017	NT	NT
Sep-2017	NT	NT
Mar-2018	NT	NT
Oct-2018	<6	<6
Mar-2019	NT	NT
Sep-2019	NT	NT
Mar-2020	NT	NT
Sep-2020	NT	NT
Apr-2021	NT	NT
Oct-2021	NT	NT
Apr-2022	NT	NT
9/1/2022	NT	NT
3/6/2023	NT	NT
9/29/2023	<6	<b>16.0</b>
3/19/2024	NT	<6
10/3/2024	NT	<6
3/25/2025	NT	NT
9/15/2025	NT	NT
3/25/2026	NT	NT

Tin (mg/L)

(green highlights = a full Appendix II sample)

Date	MW-344	MW-382R
Mar-2012	<0.1	<0.1
Sep-2012	<0.1	<0.1
Mar-2013	NT	NT
Sep-2013	<b>0.605</b>	<b>0.606</b>
Apr-2014	<0.1	<0.1
Sep-2014	<b>0.0935J</b>	<b>0.153</b>
Mar-2015	<b>0.0815</b>	<b>0.0377</b>
Sep-2016	<0.2	<0.1
Mar-2016	<0.000255	<0.00255
Oct-2016	<0.000832	<0.00832
Mar-2017	NT	<0.00162
Sep-2017	<0.00162	<0.00162
Mar-2018	<0.00648	<b>0.015J</b>
Oct-2018	<0.00130	<0.00130
Mar-2019	<0.00180	NT
Sep-2019	NT	NT
Mar-2020	NT	NT
Sep-2020	NT	NT
Apr-2021	NT	NT
Oct-2021	NT	NT
Apr-2022	NT	NT
9/1/2022	NT	NT
3/6/2023	NT	NT
9/29/2023	<0.020	<0.020
3/19/2024	NT	NT
10/3/2024	NT	NT
3/25/2025	NT	NT
9/15/2025	NT	NT
3/25/2026	NT	NT

Current Appendix II Compound Detections:

None

Corrective Actions Summary:

Conditions confirm that acid mine drainage impacts are endemic to the site and the approved alternate source demonstrated for the *inorganic compound* concentrations continues to be appropriately applied at this site. Corrective Actions for VOC are **not required** at MW-344 or MW-382R based on the evaluation of the 95% Lower Confidence Limits at MW-344 and MW-382R.

Wells returning to detection monitoring:

None.

This notification is intended to satisfy requirements of Iowa Administrative Code (IAC) 567-113.10(5)"c"(1); 113.10(6)"d"(1); and 113.10(6)"g".

The water quality results for the Spring of 2026 will be fully evaluated in the Annual Water Quality Report (AWQR) in accordance with IAC 567-113.10(10) due January 31, 2027.

Please feel free to contact our office at (515) 733-4144 with any questions you may have.

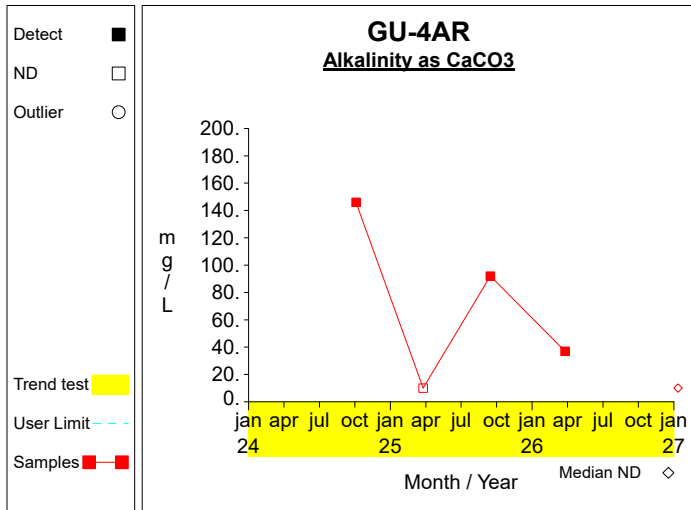
Sincerely,  
**HLW Engineering Group**



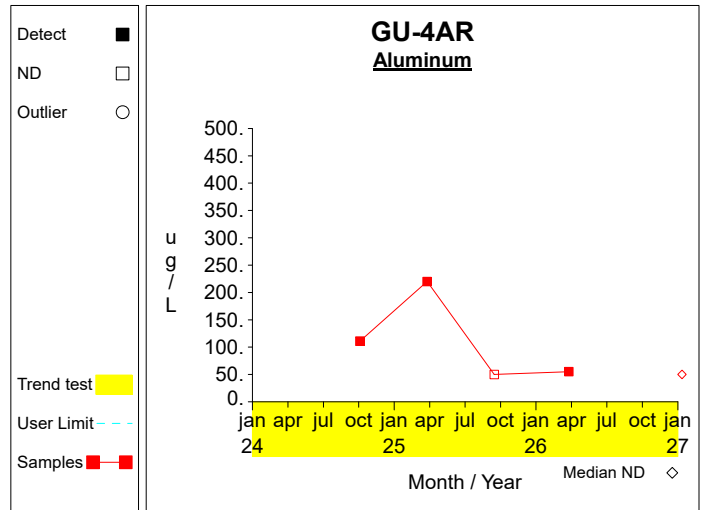
Todd Whipple, CPG  
Project Manager

cc: *Jennifer Murphy, Executive Director*

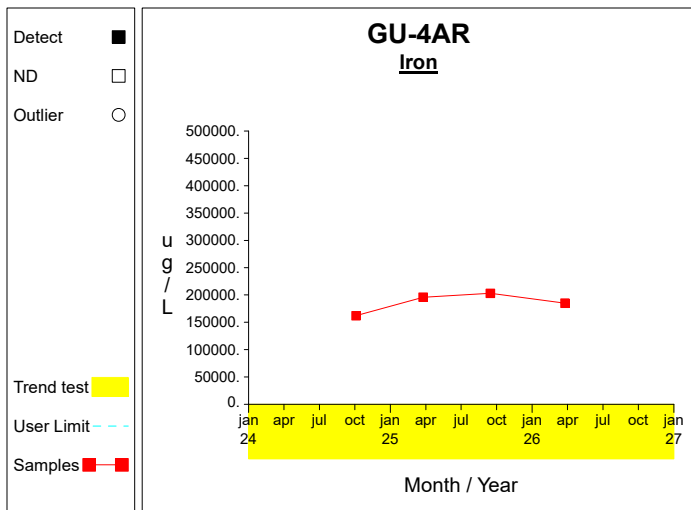
# Time Series



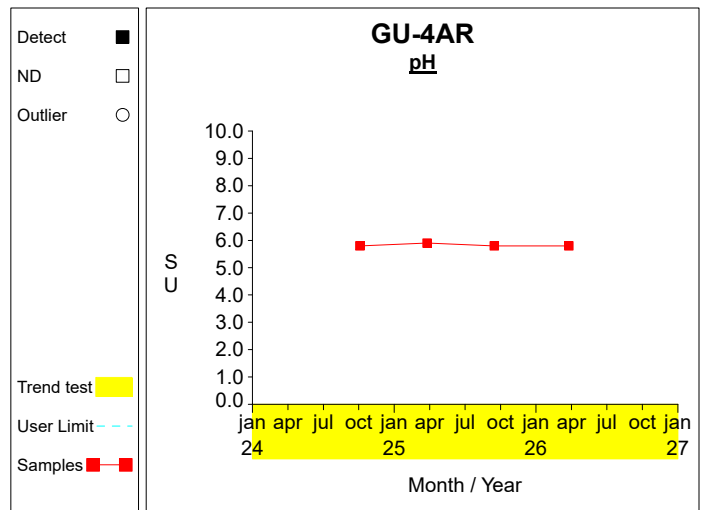
Graph 1



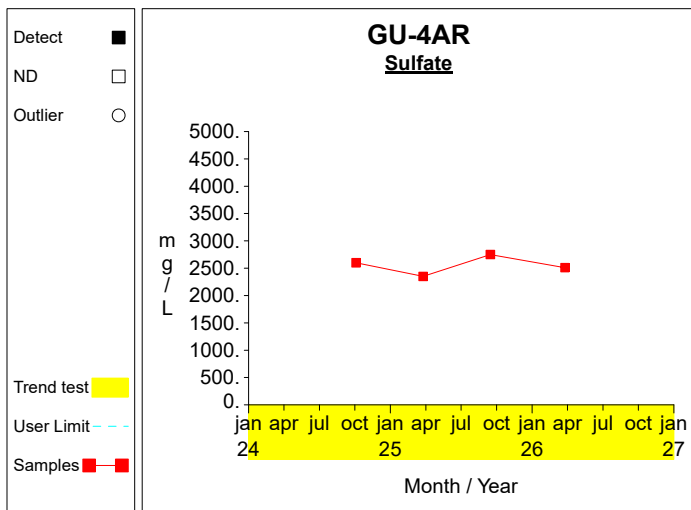
Graph 2



Graph 3

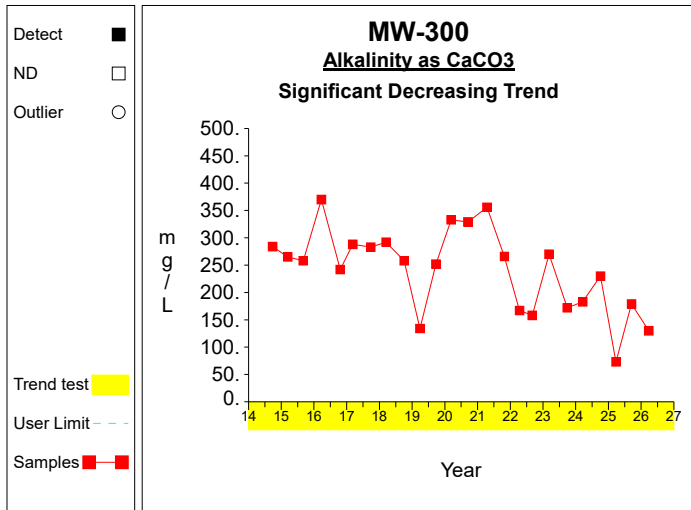


Graph 4

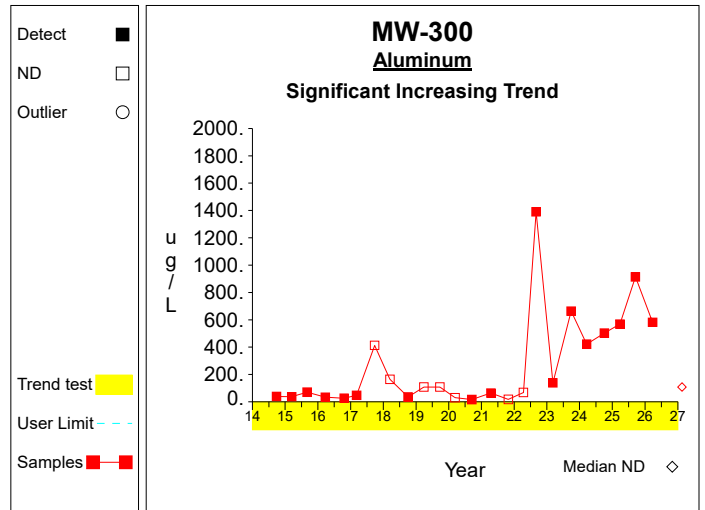


Graph 5

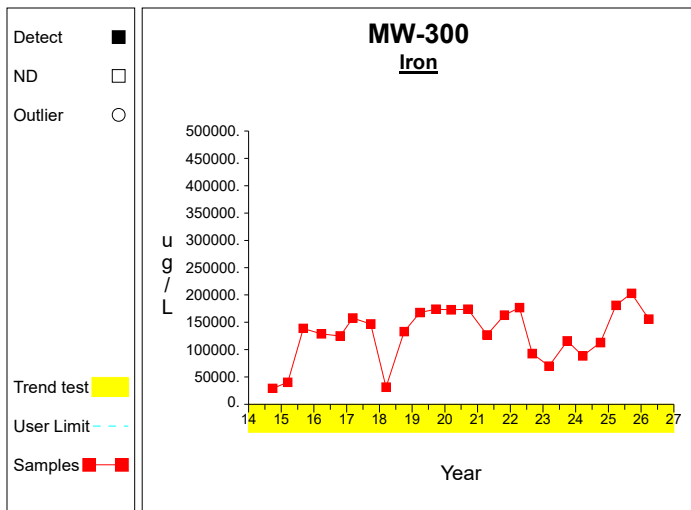
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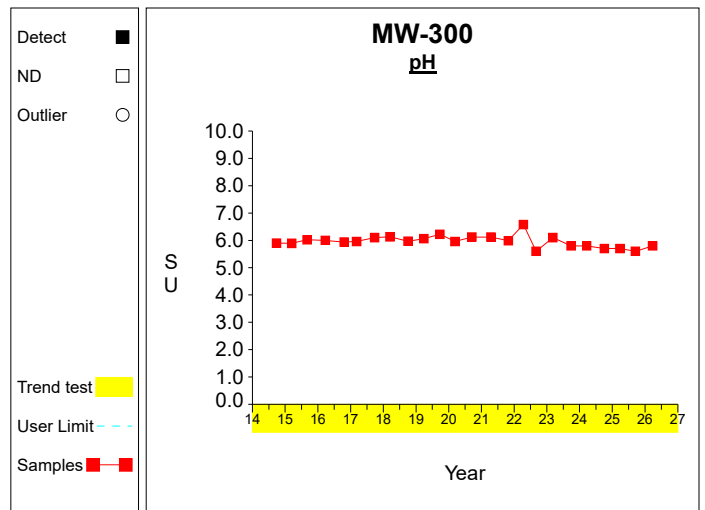
**Graph 6**



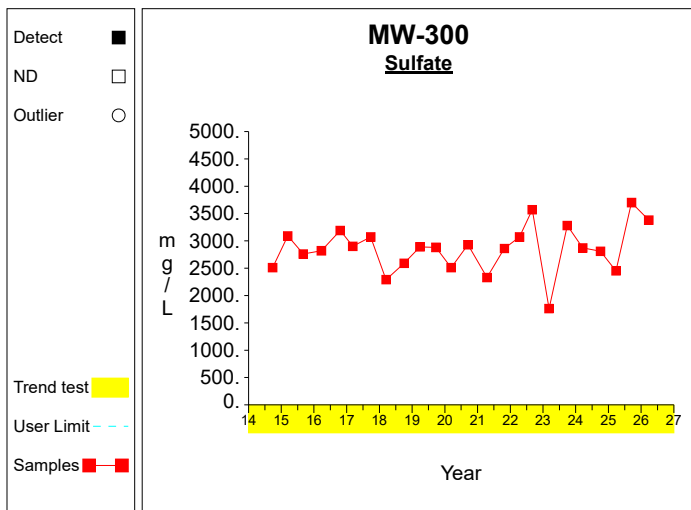
**Graph 7**



**Graph 8**

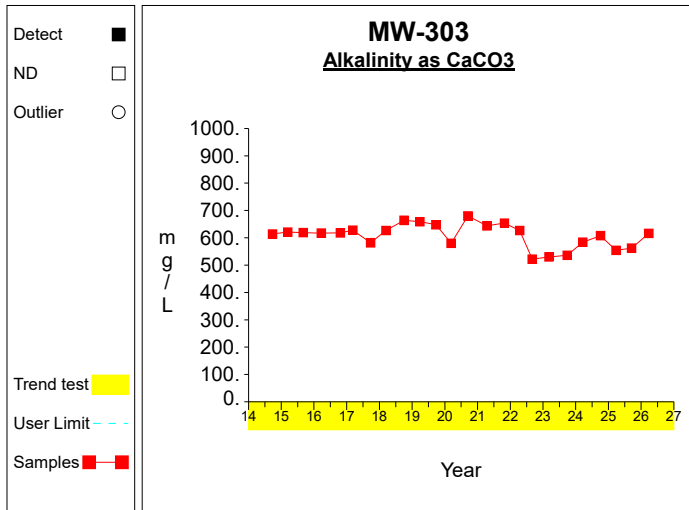


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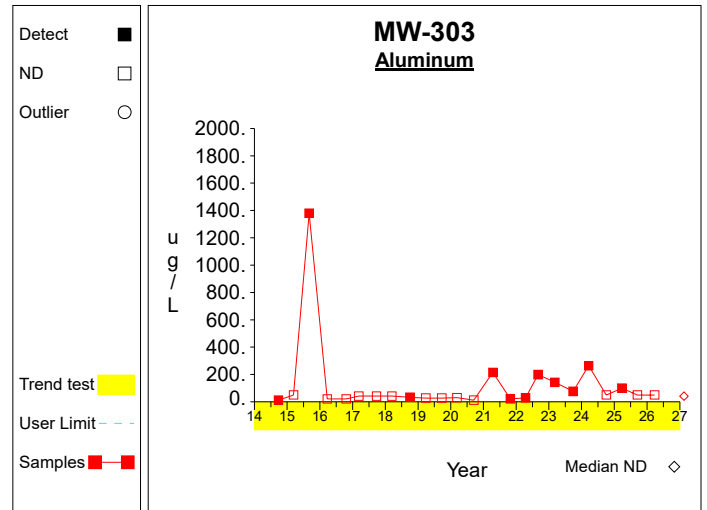


**Graph 10**

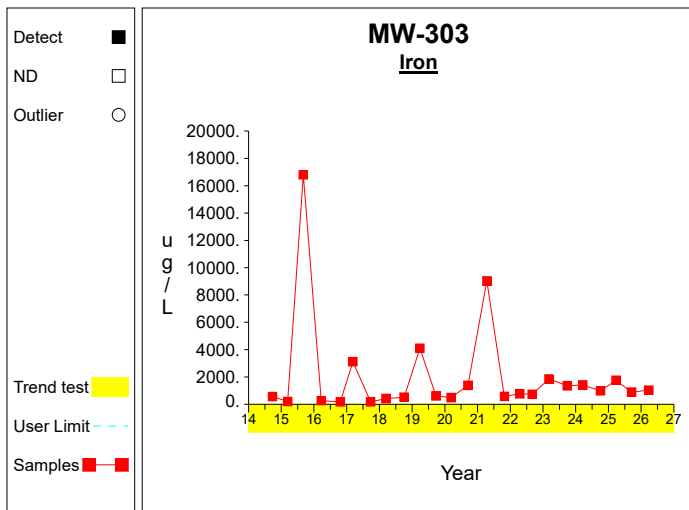
## Time Series



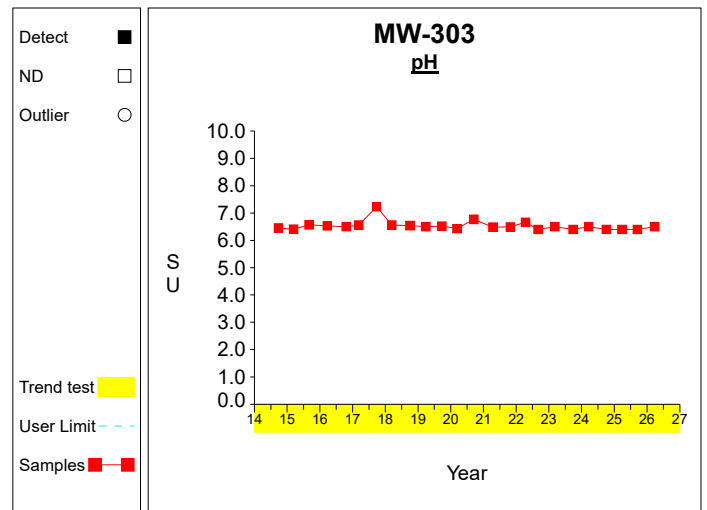
**Graph 11**



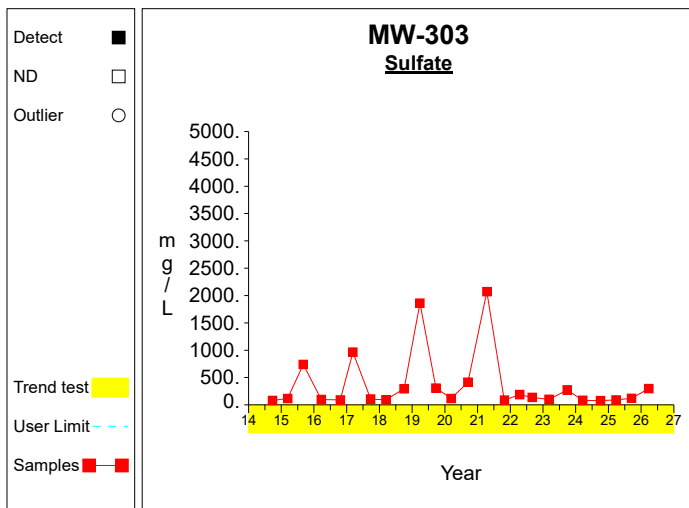
**Graph 12**



**Graph 13**

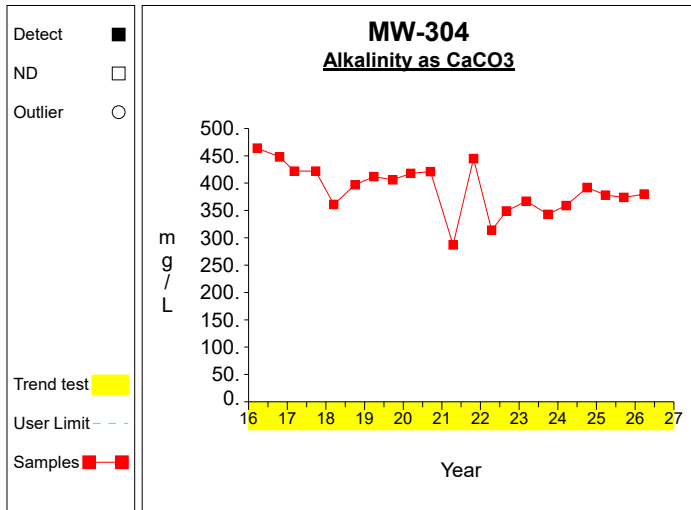


**Graph 14**

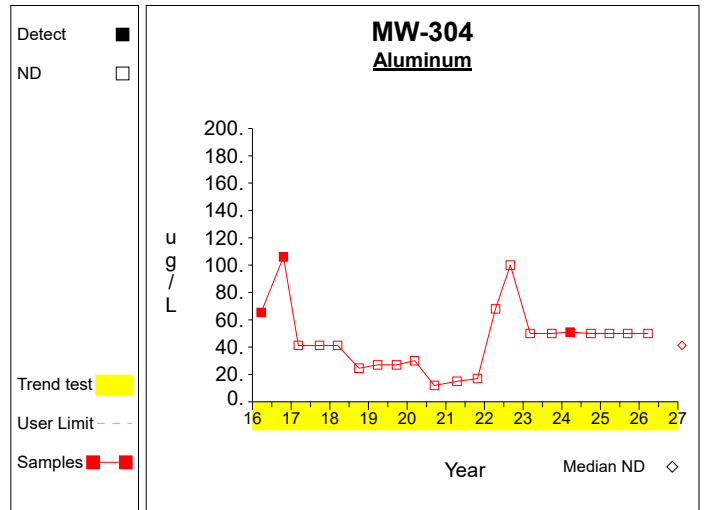


**Graph 15**

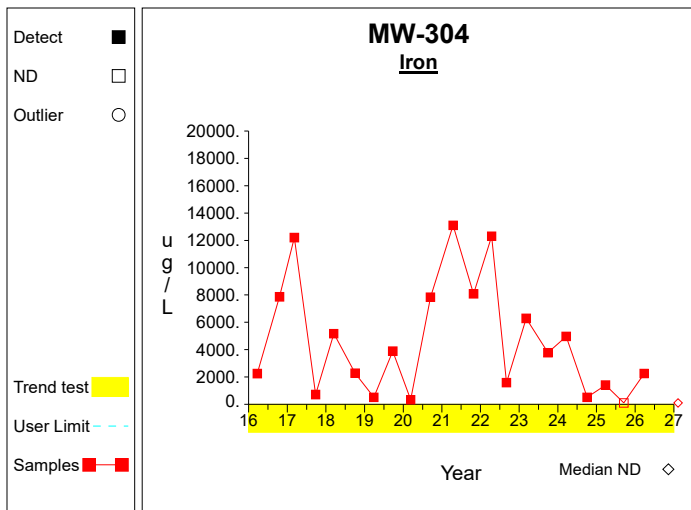
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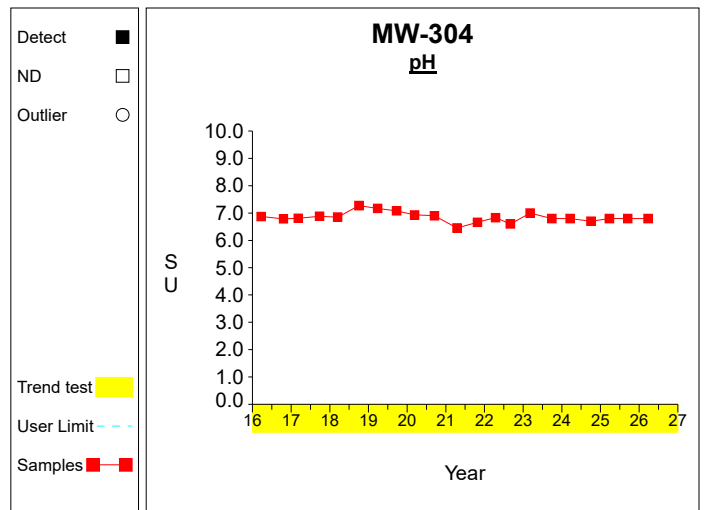
**Graph 16**



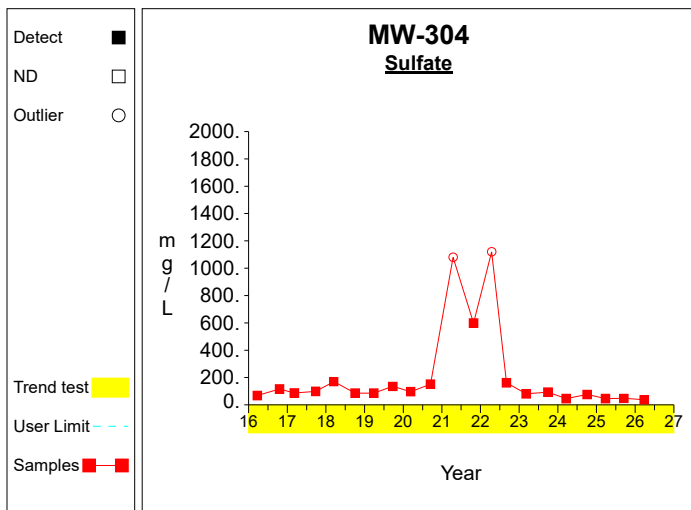
**Graph 17**



**Graph 18**

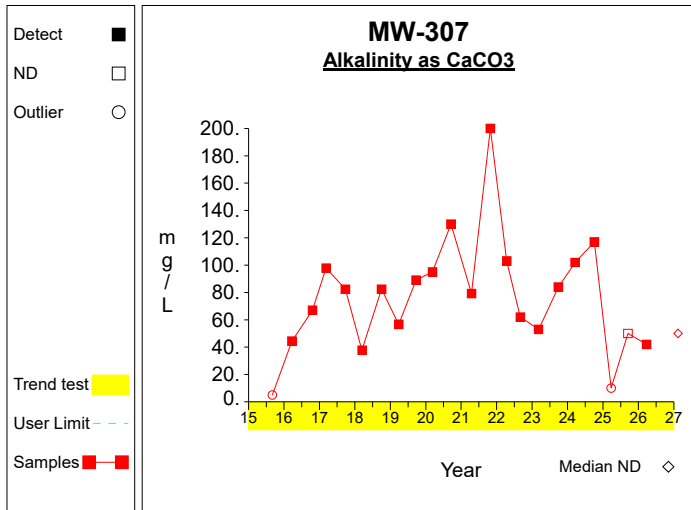


**Graph 19**

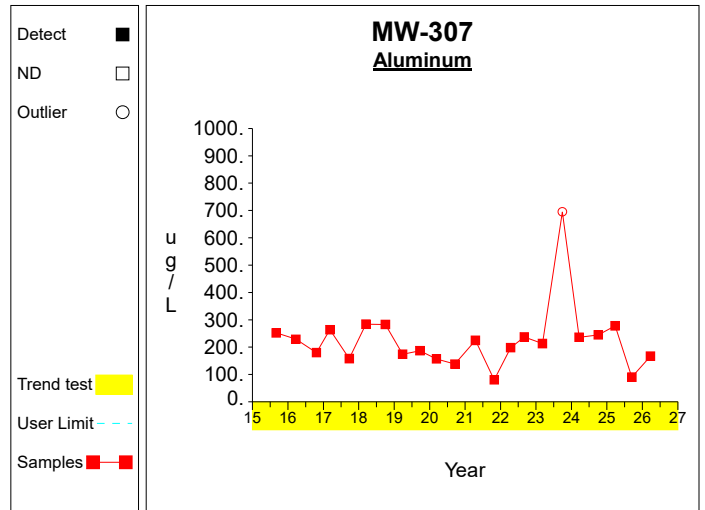


**Graph 20**

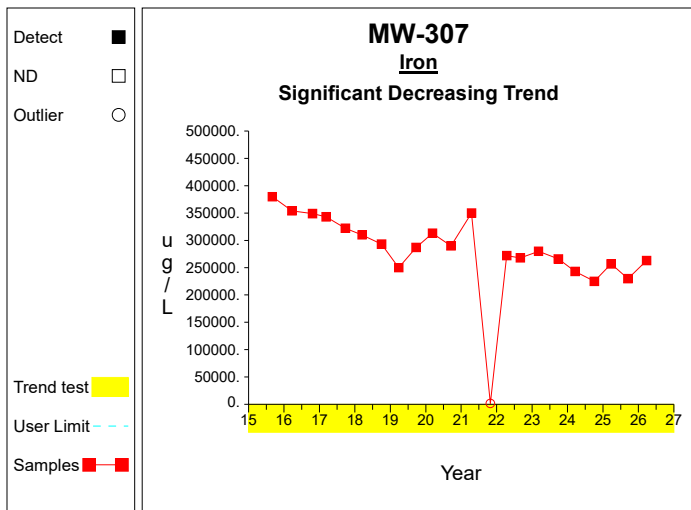
# Time Series



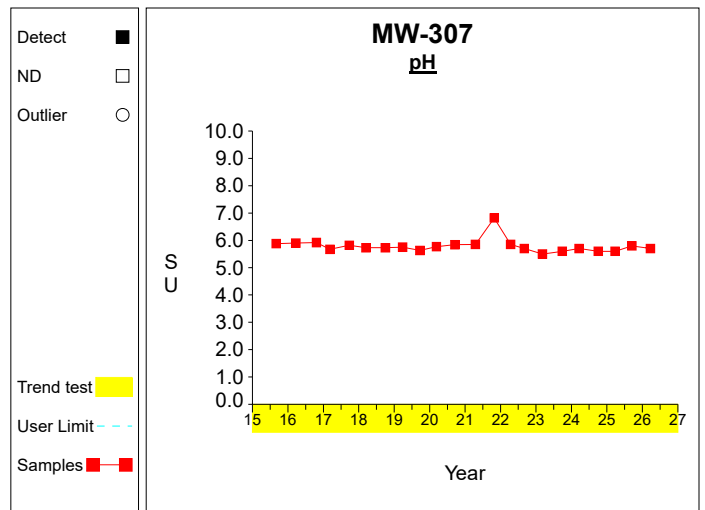
Graph 21



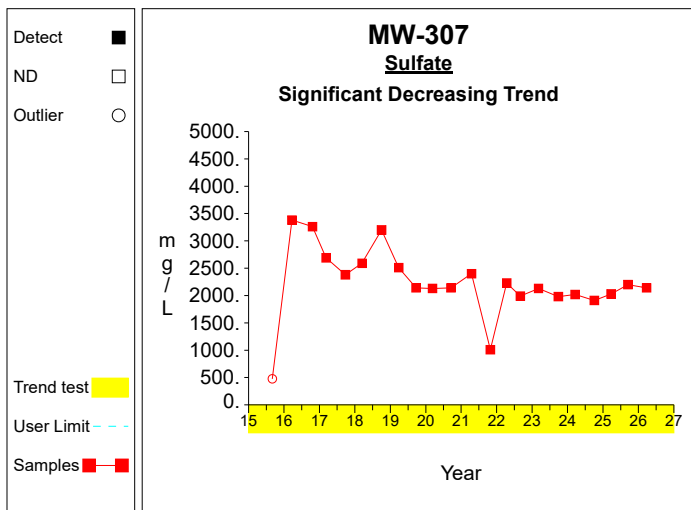
Graph 22



Graph 23

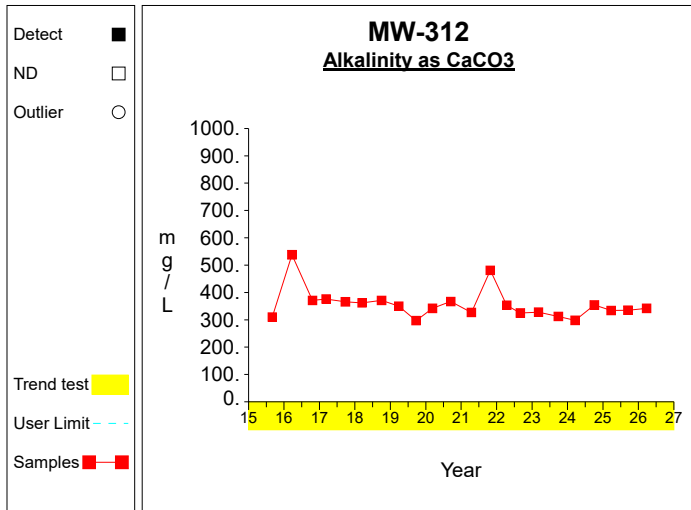


Graph 24

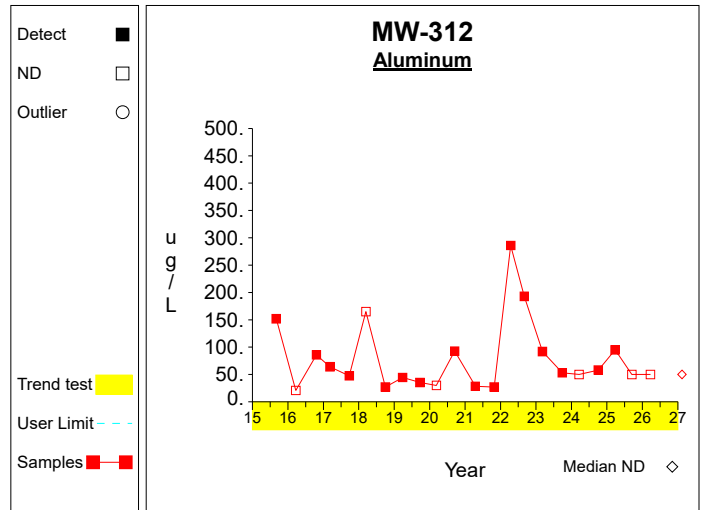


Graph 25

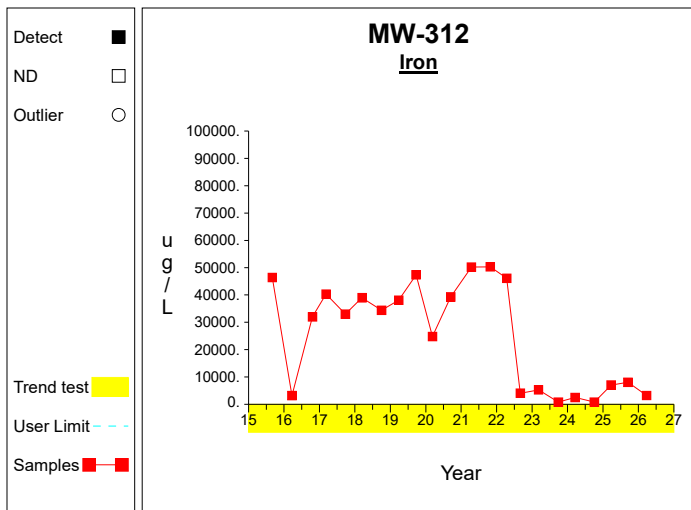
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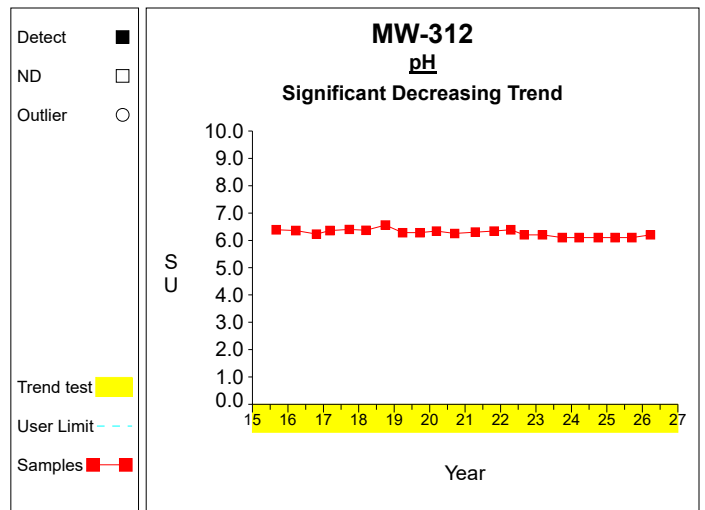
**Graph 26**



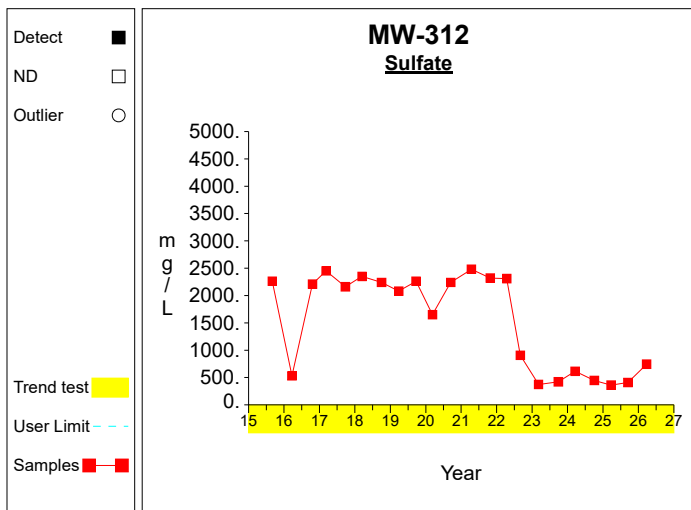
**Graph 27**



**Graph 28**

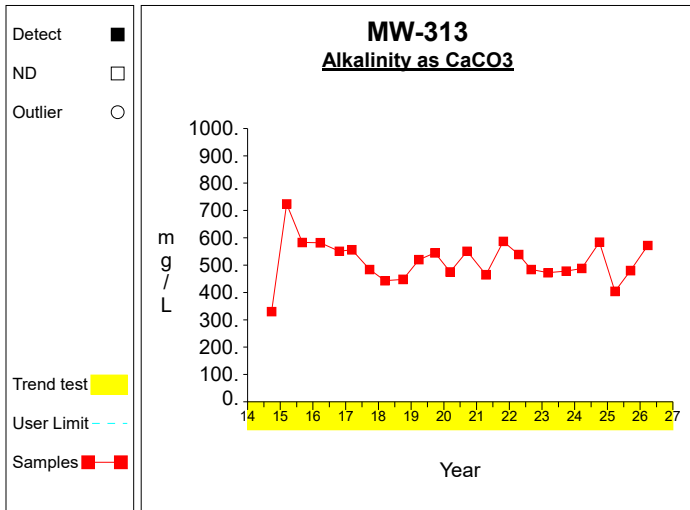


**Graph 29**

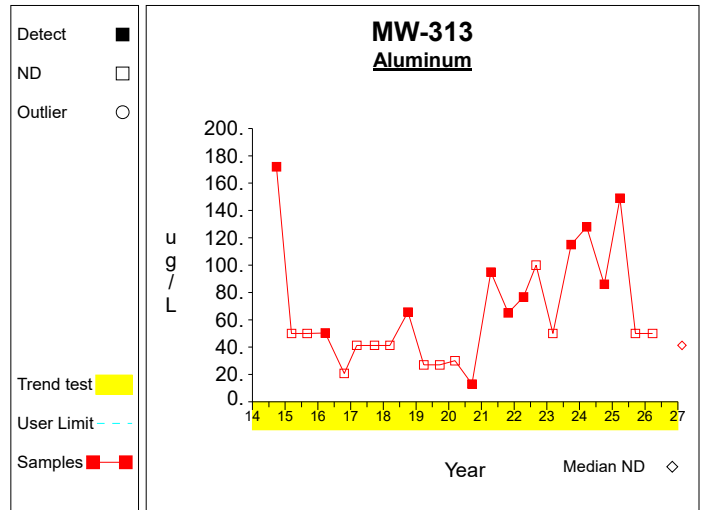


**Graph 30**

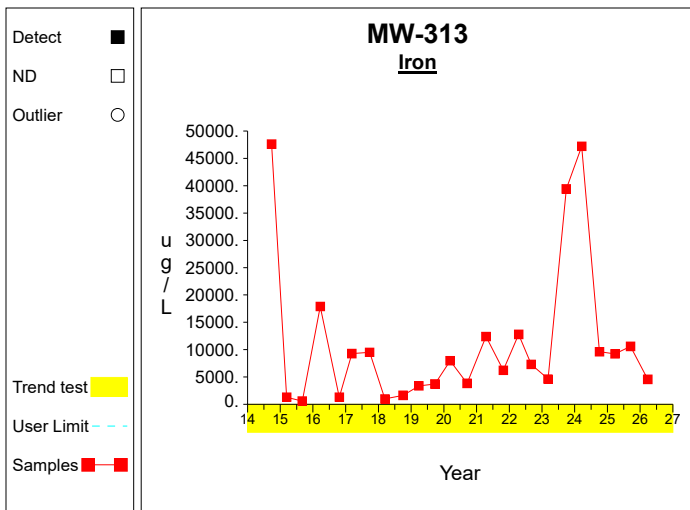
## Time Series



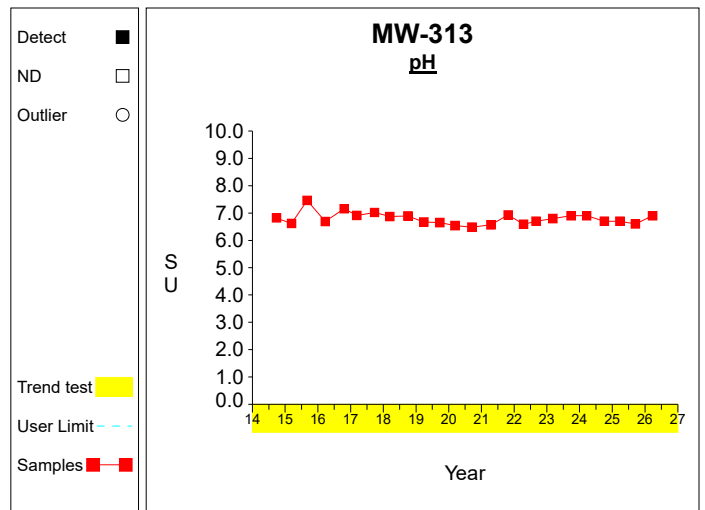
**Graph 31**



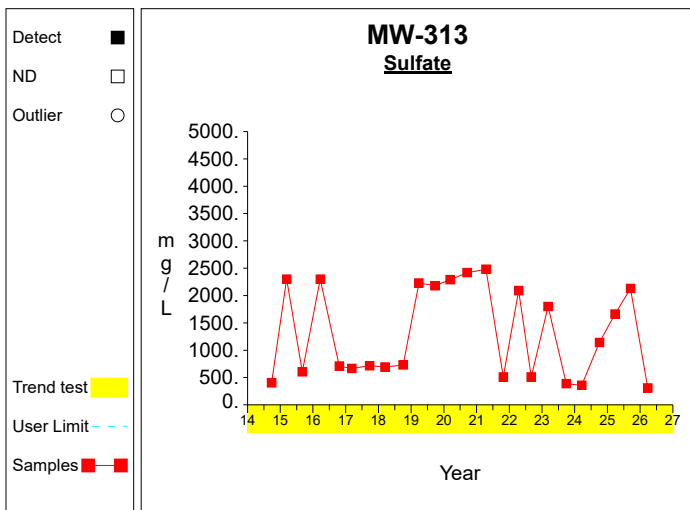
**Graph 32**



**Graph 33**

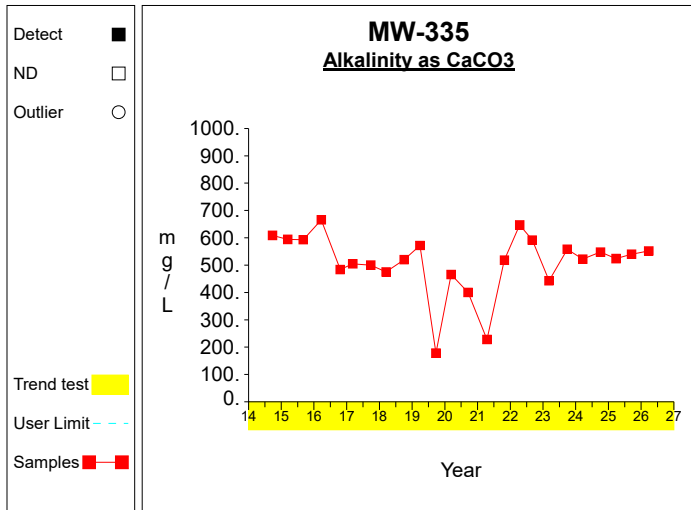


**Graph 34**

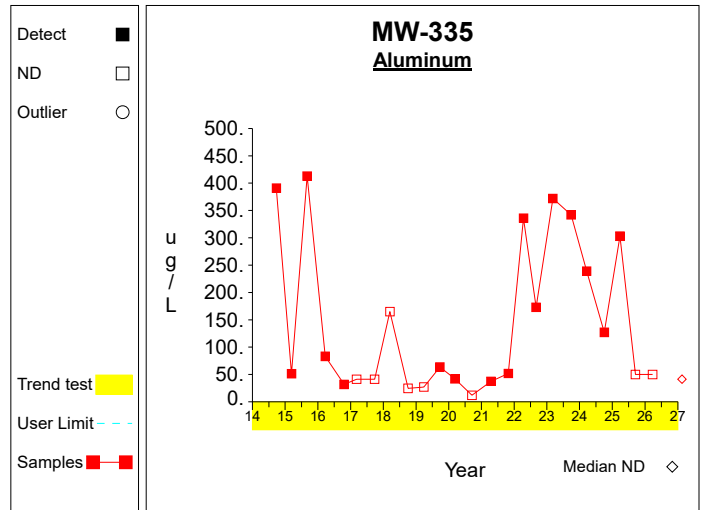


**Graph 35**

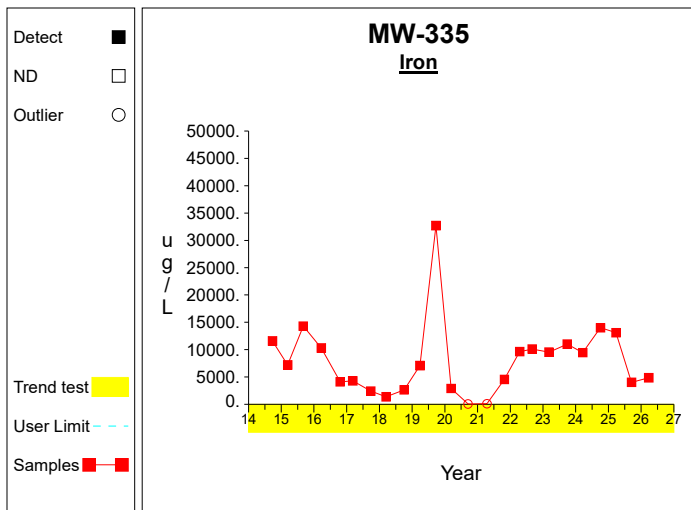
## Time Series



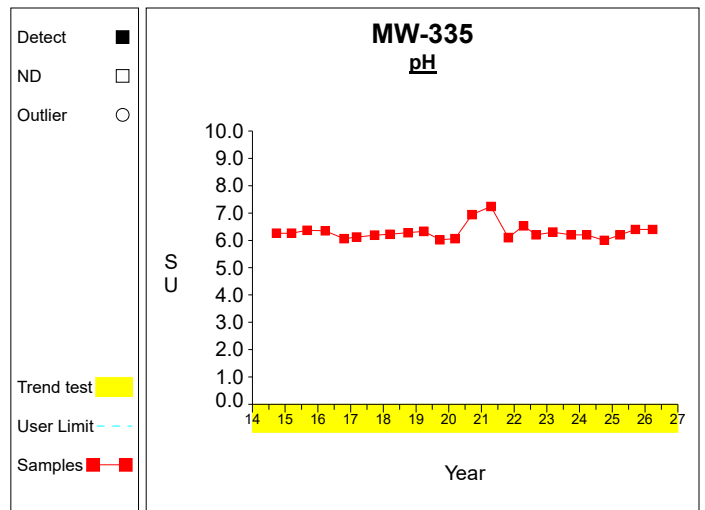
**Graph 36**



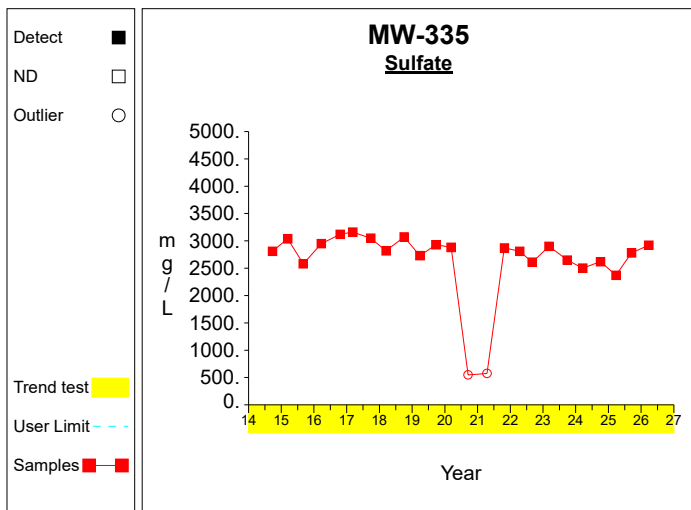
**Graph 37**



**Graph 38**

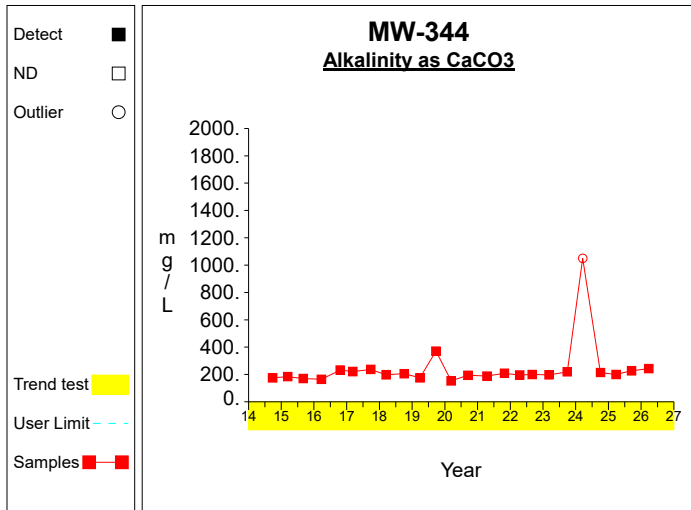


**Graph 39**

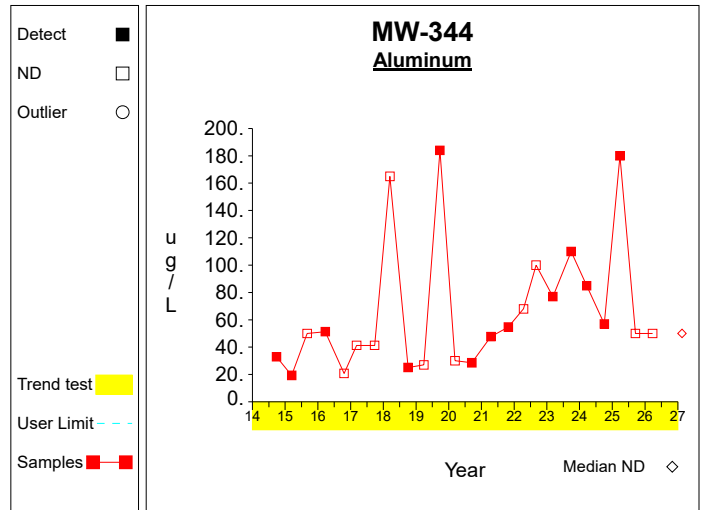


**Graph 40**

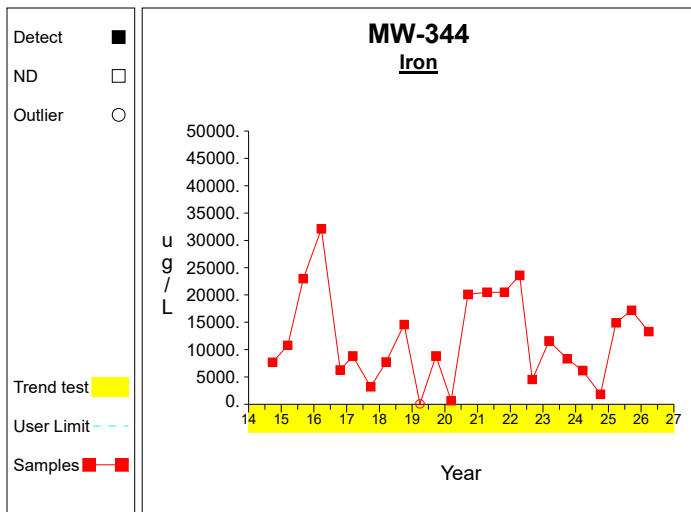
## Time Series



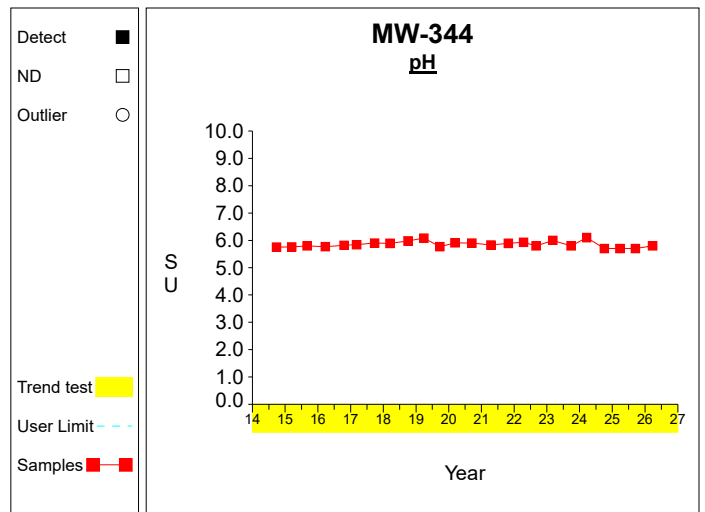
**Graph 41**



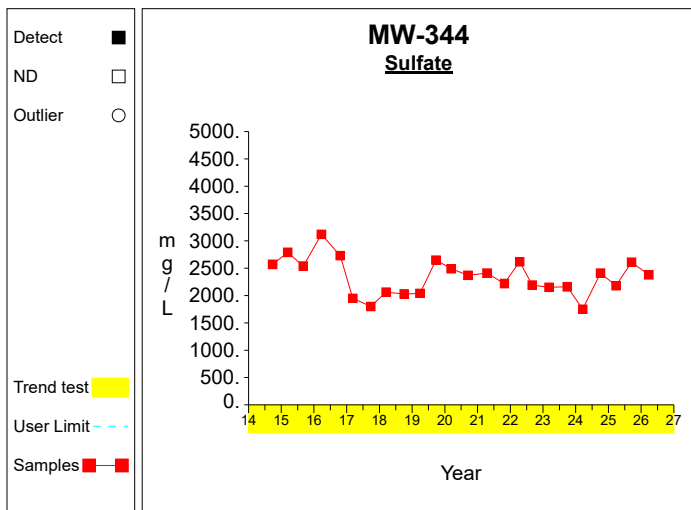
**Graph 42**



**Graph 43**

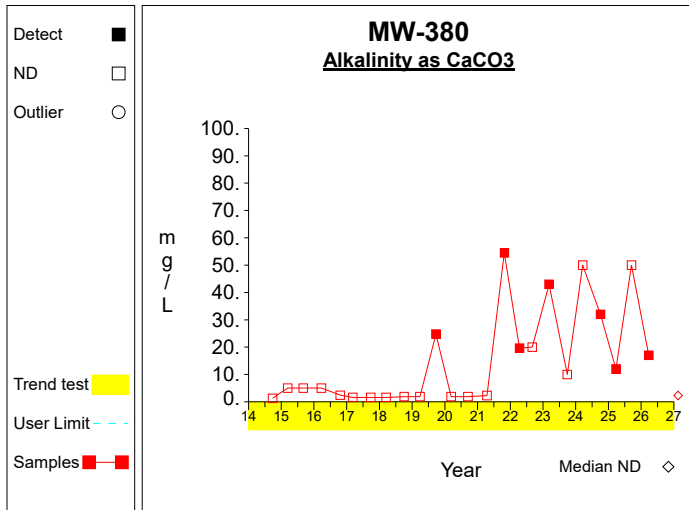


**Graph 44**

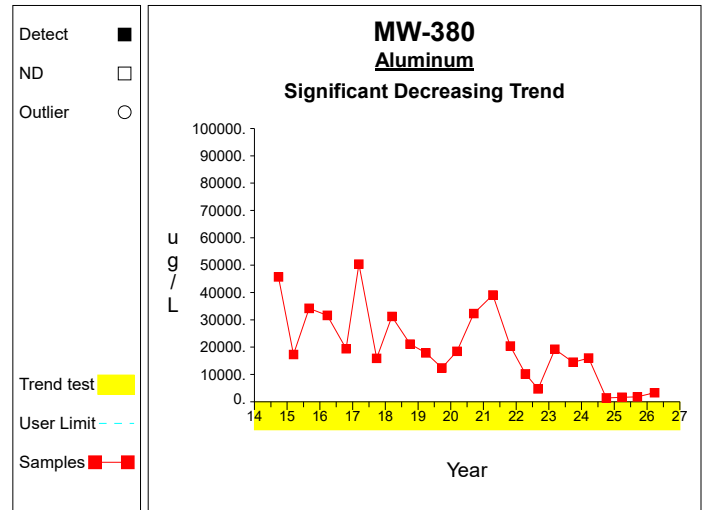


**Graph 45**

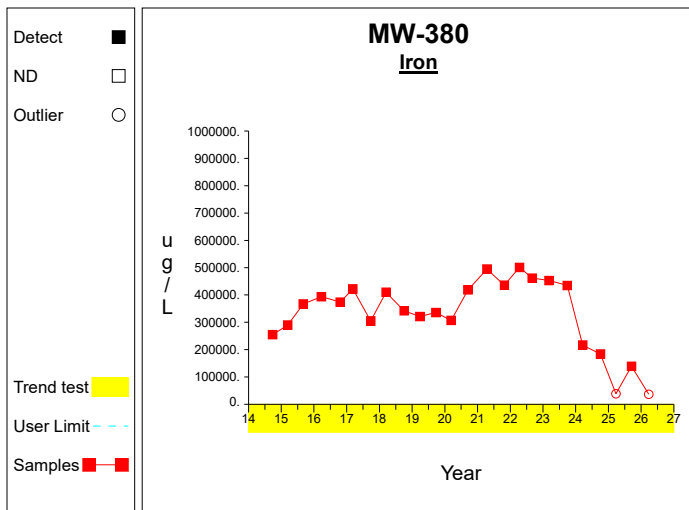
# Time Series



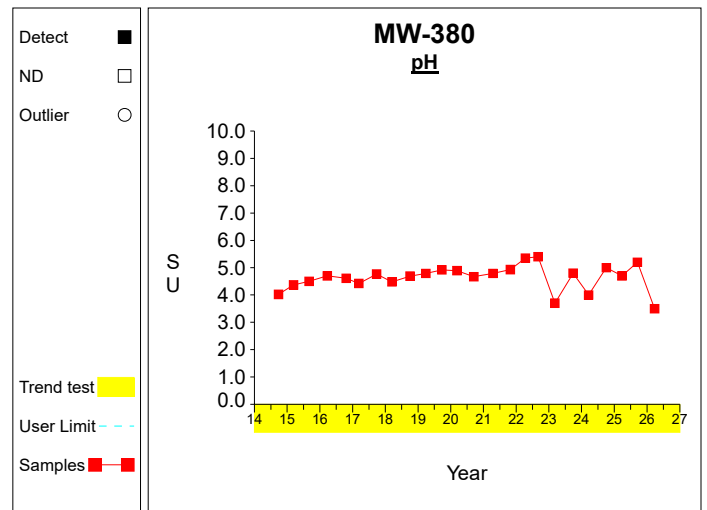
**Graph 46**



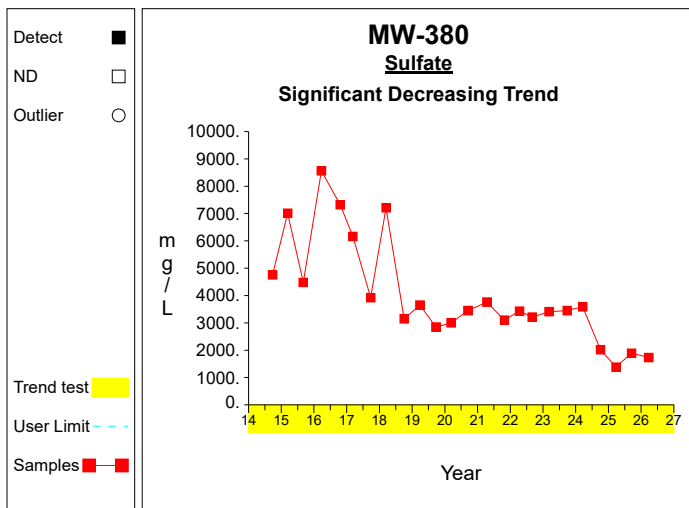
**Graph 47**



**Graph 48**

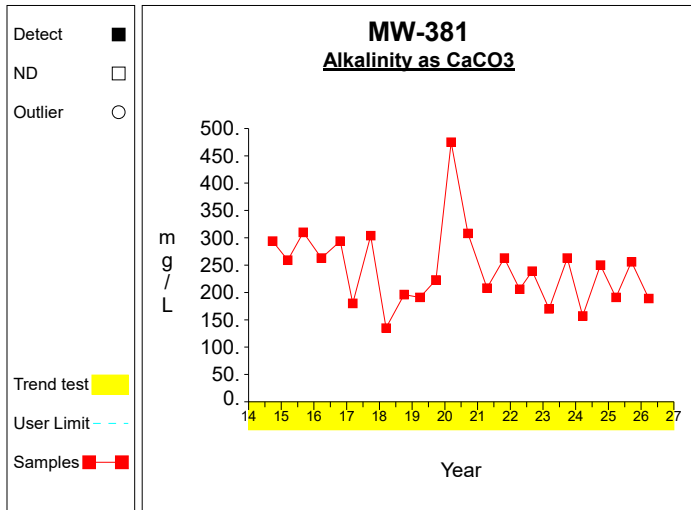


**Graph 49**

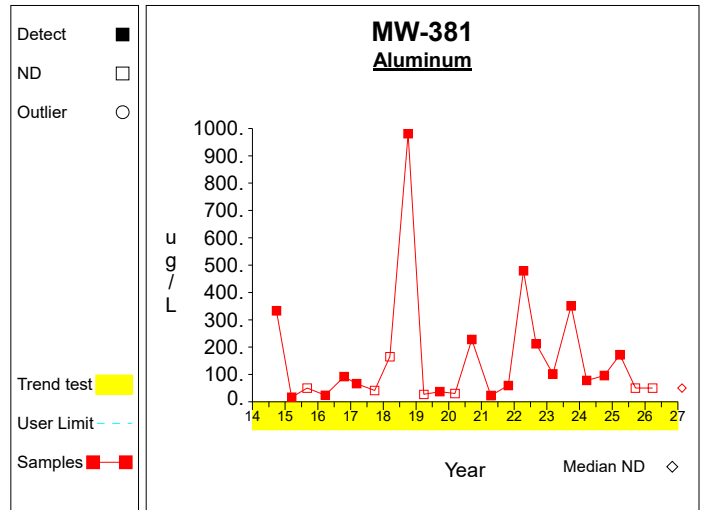


**Graph 50**

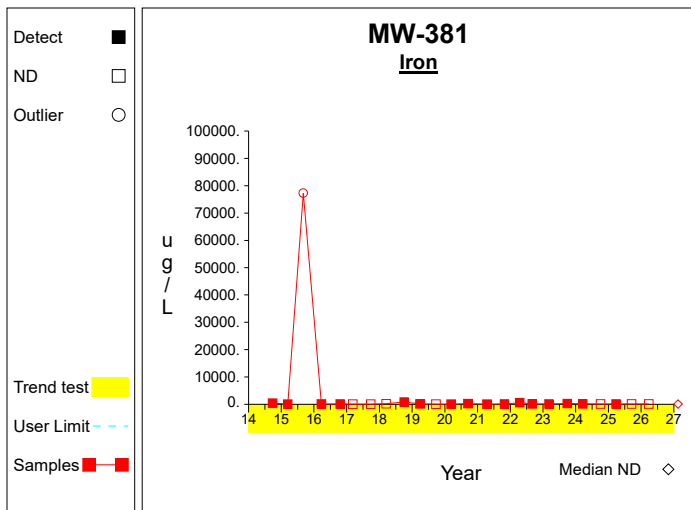
## Time Series



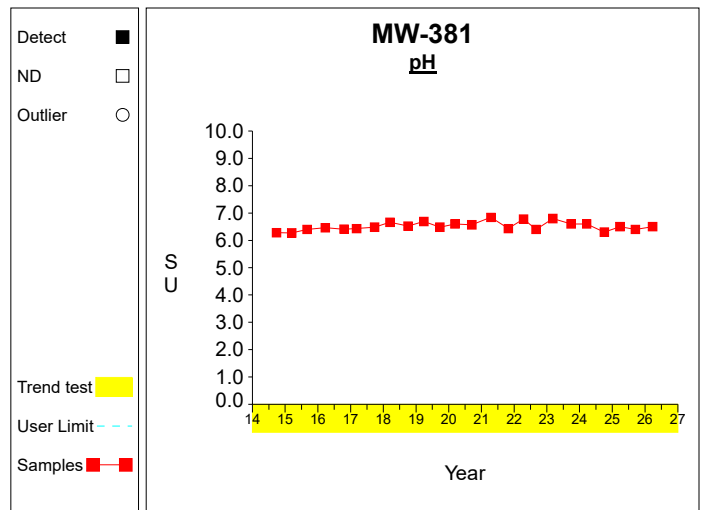
**Graph 51**



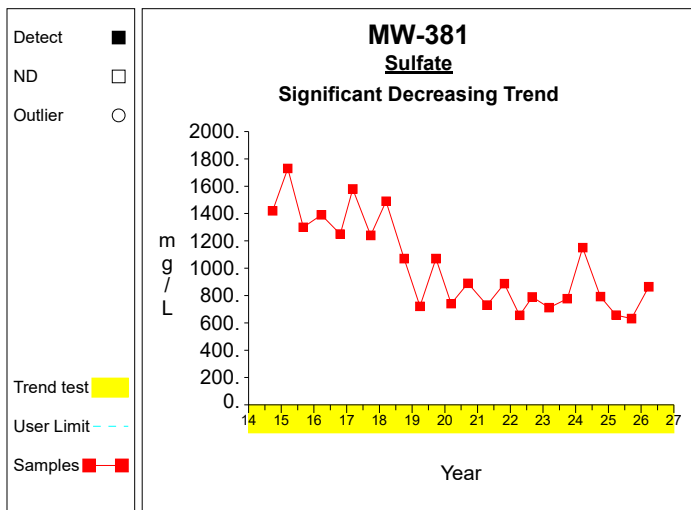
**Graph 52**



**Graph 53**

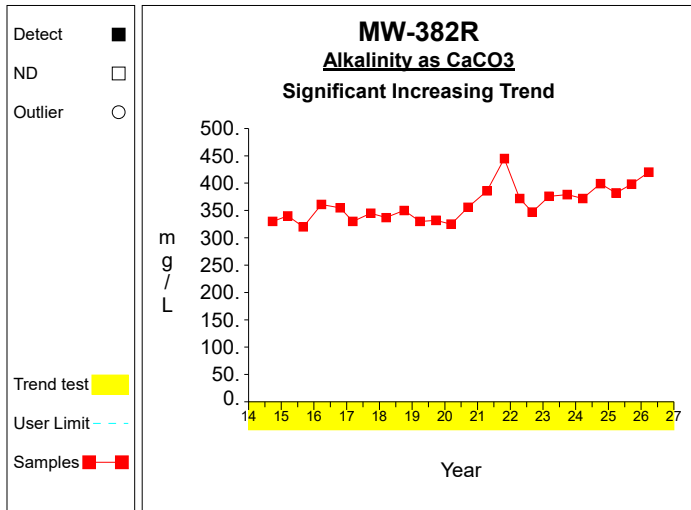


**Graph 54**

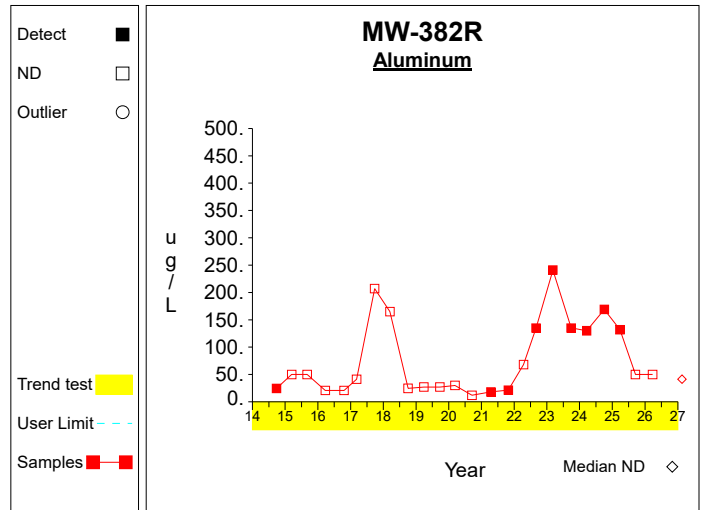


**Graph 55**

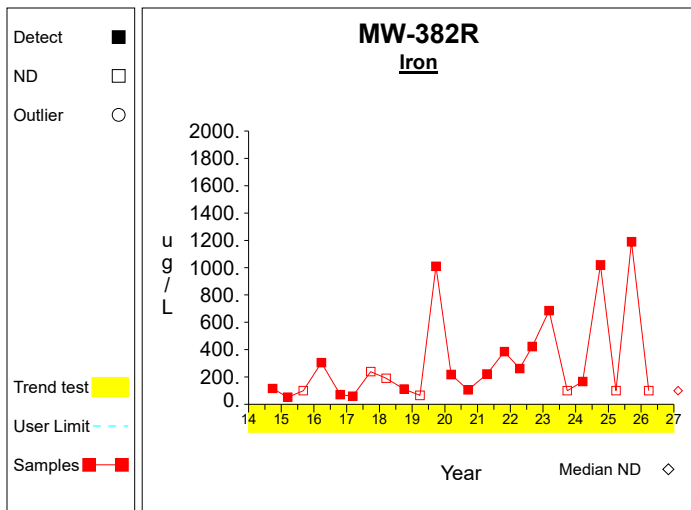
# Time Series



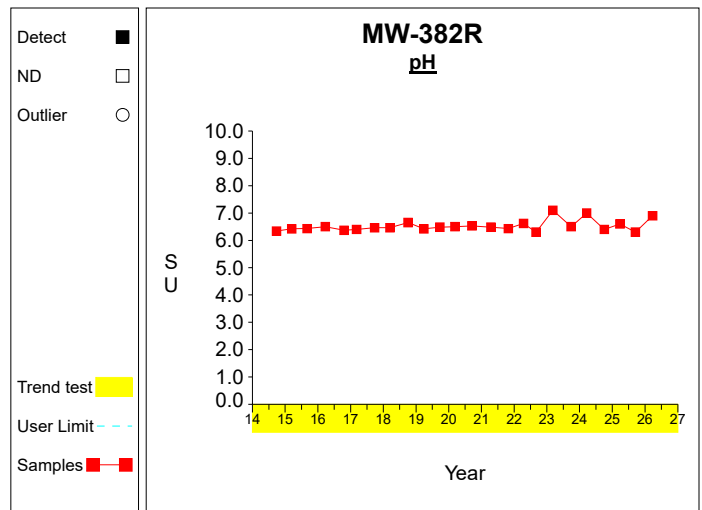
Graph 56



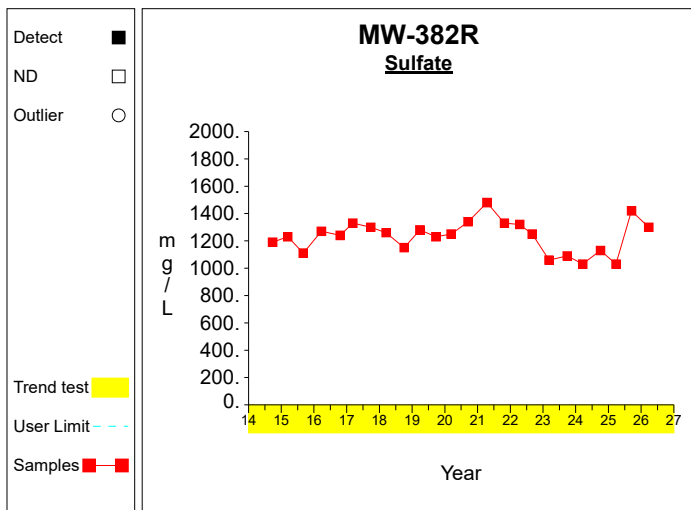
Graph 57



Graph 58

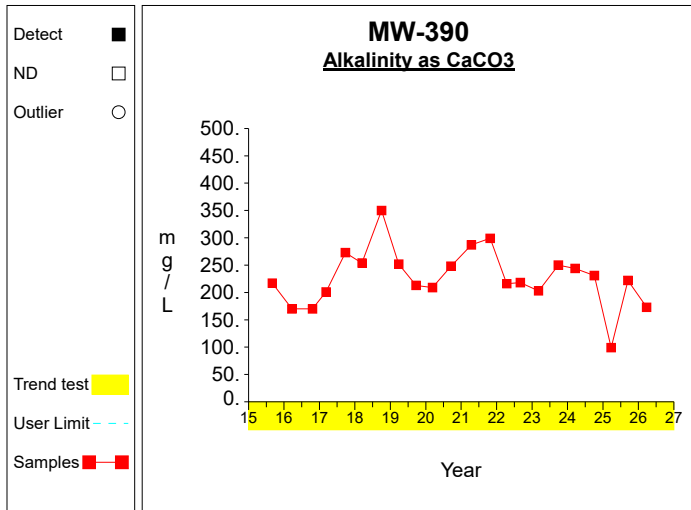


Graph 59

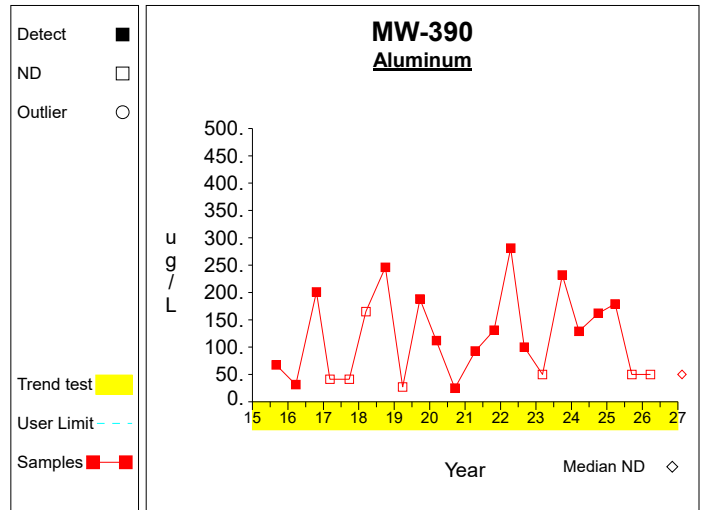


Graph 60

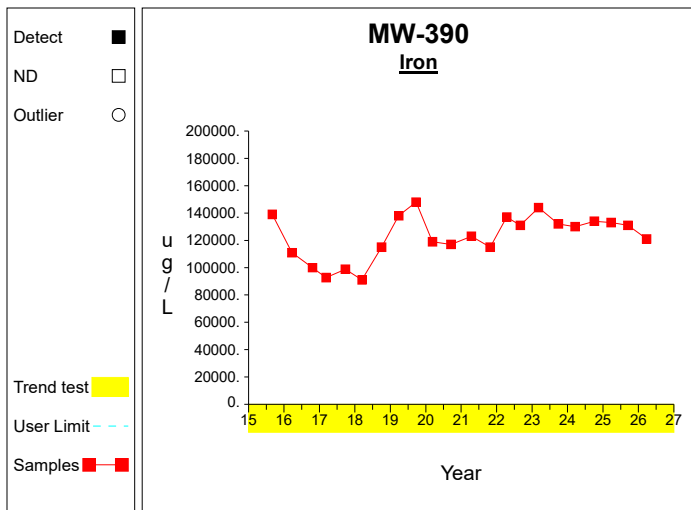
## Time Series



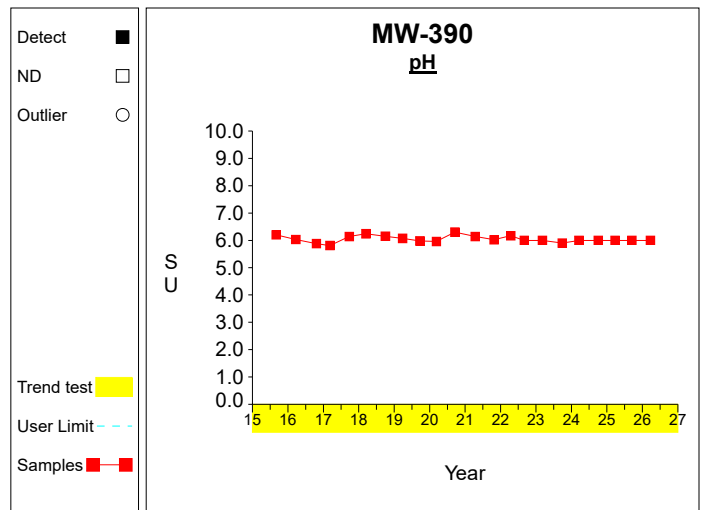
**Graph 61**



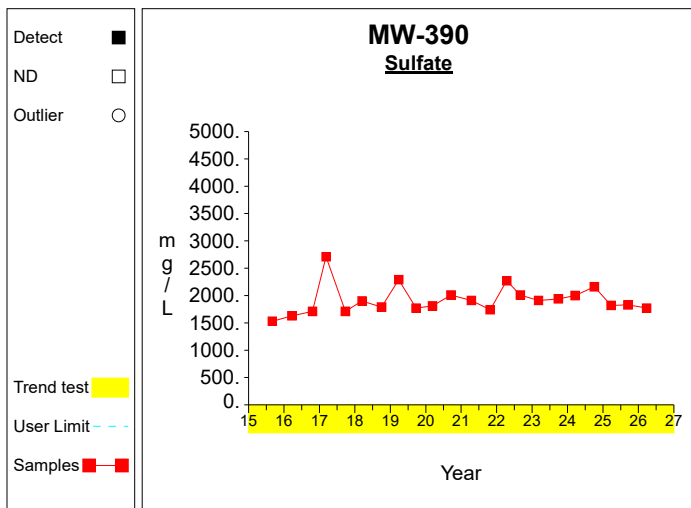
**Graph 62**



**Graph 63**

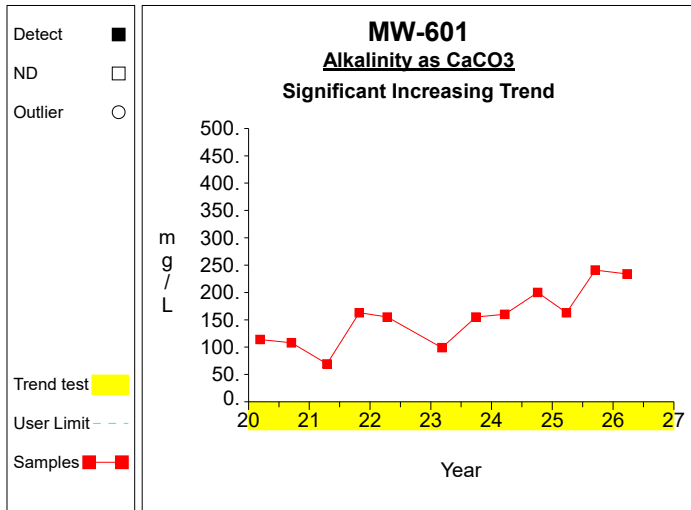


**Graph 64**

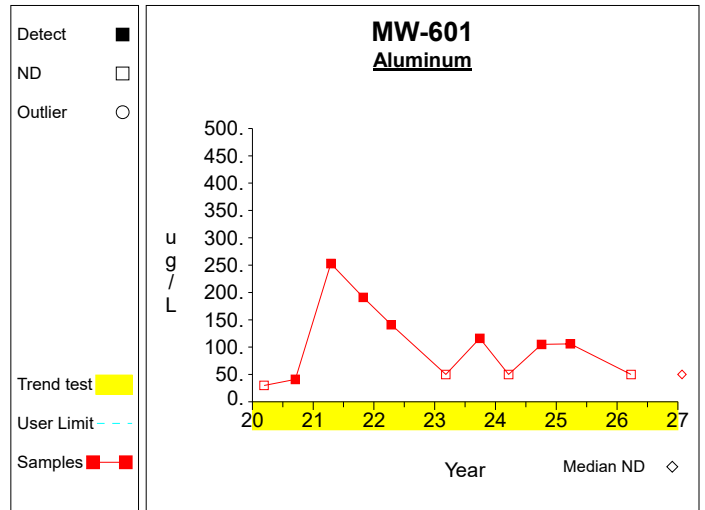


**Graph 65**

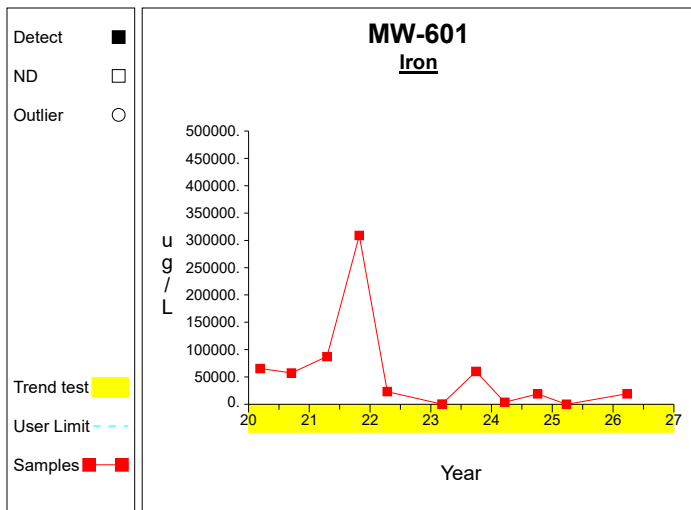
# Time Series



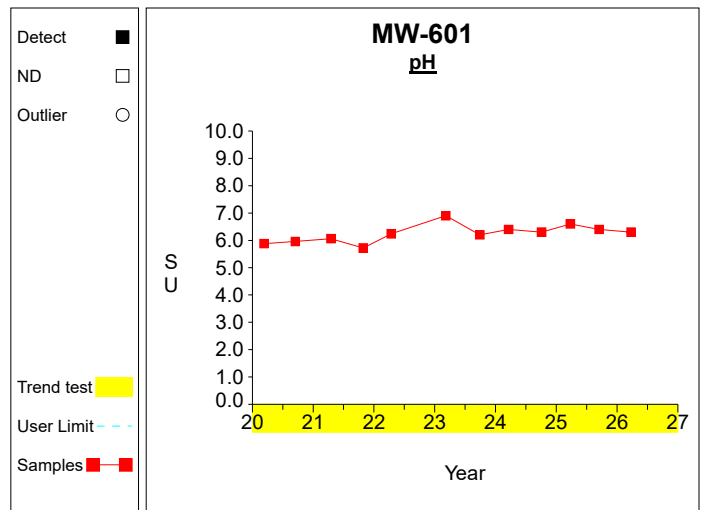
Graph 66



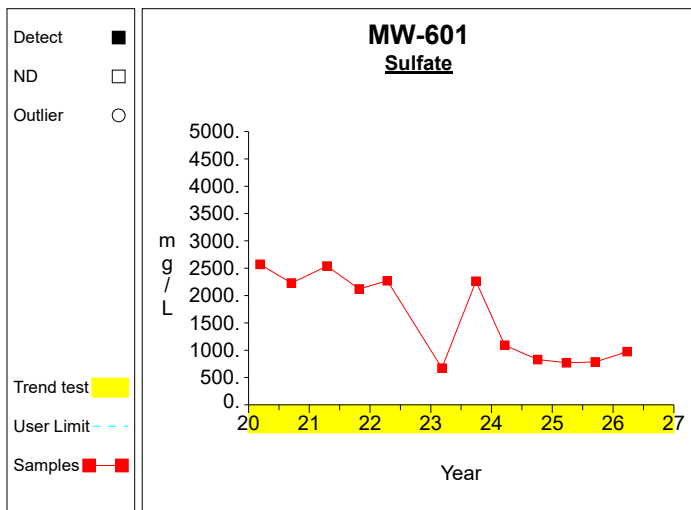
Graph 67



Graph 68

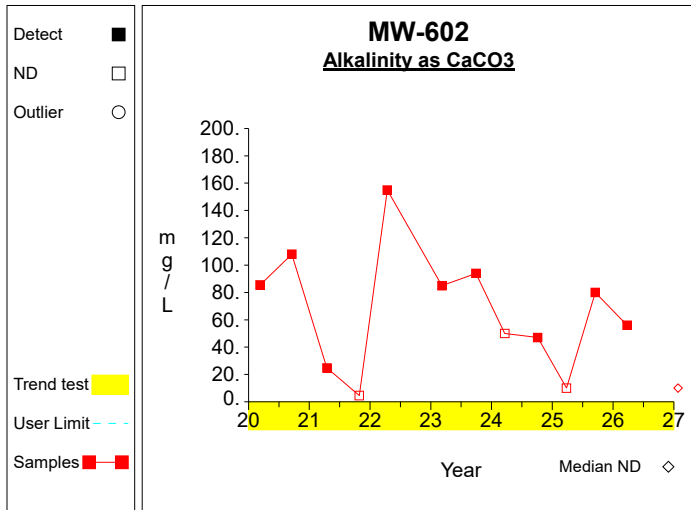


Graph 69

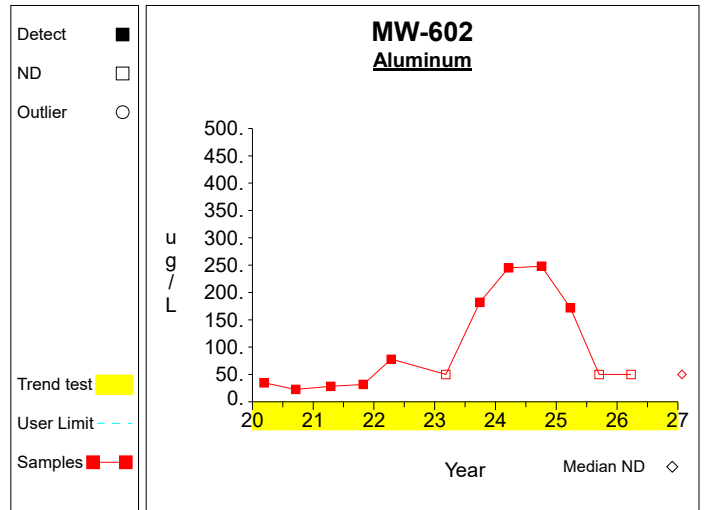


Graph 70

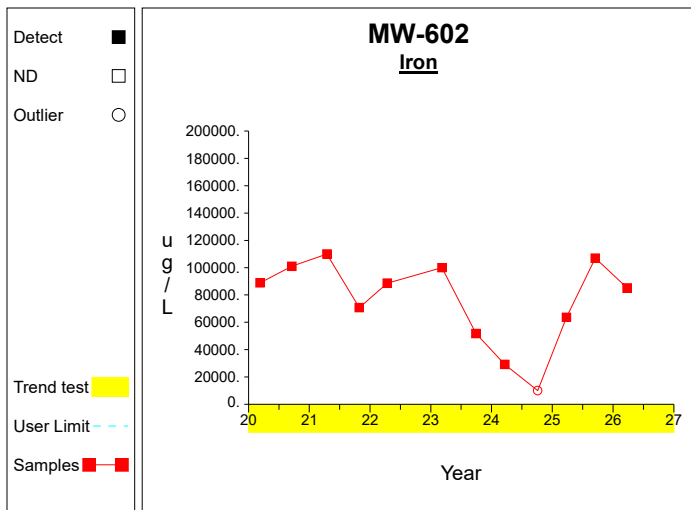
# Time Series



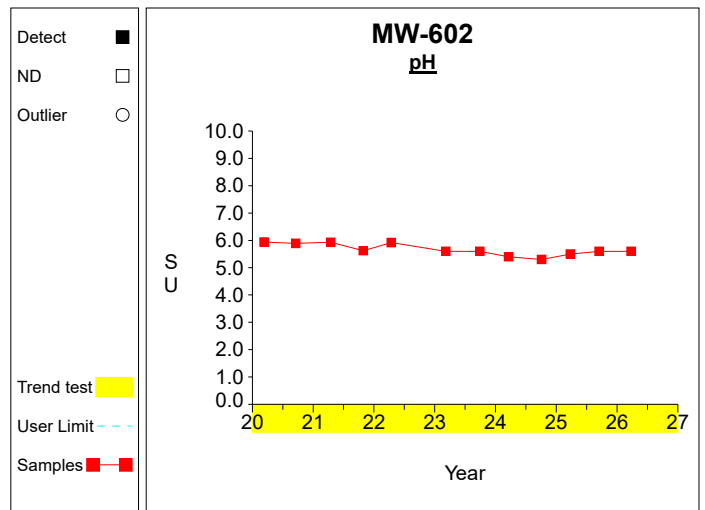
Graph 71



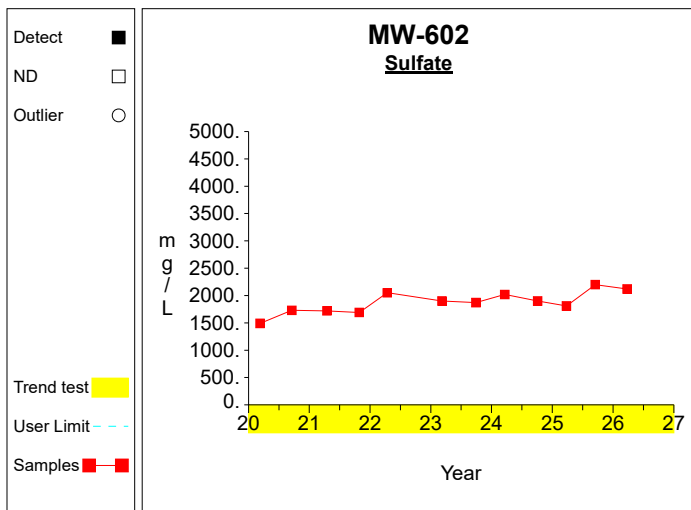
Graph 72



Graph 73

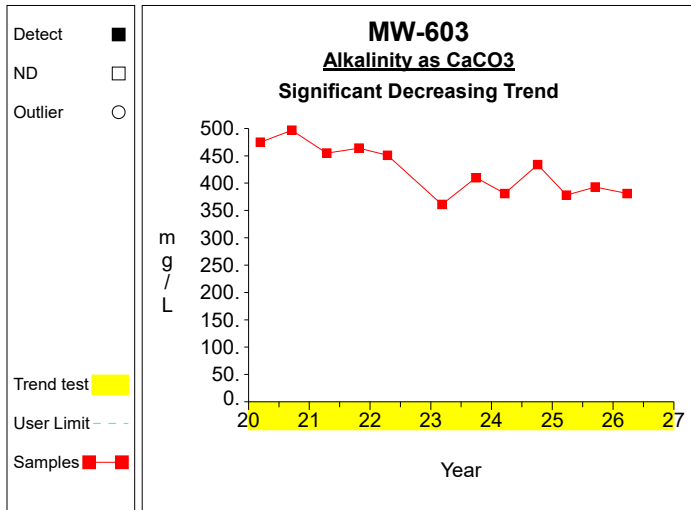


Graph 74

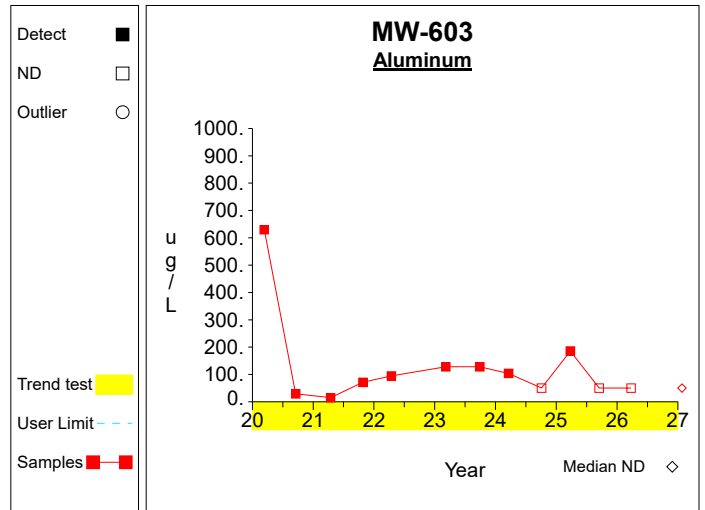


Graph 75

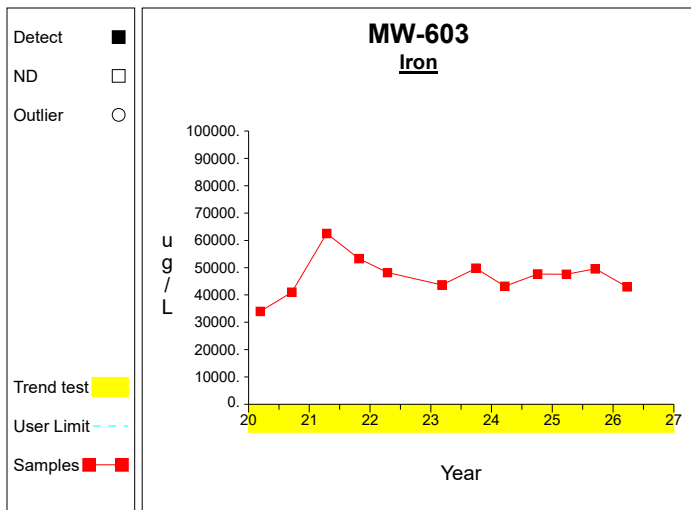
# Time Series



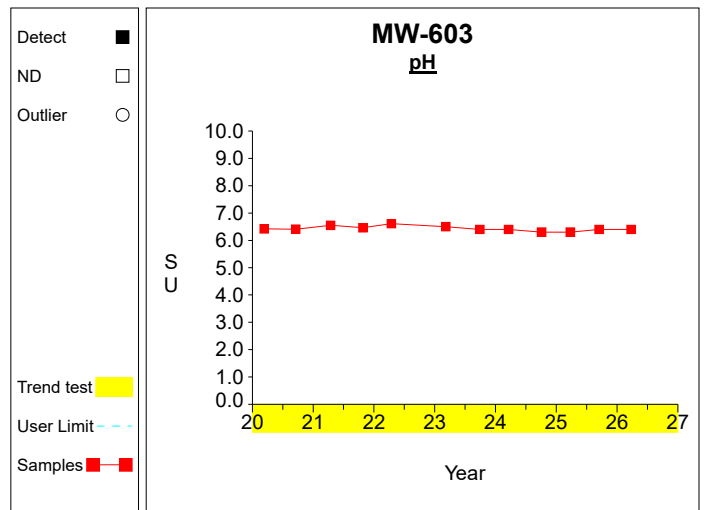
**Graph 76**



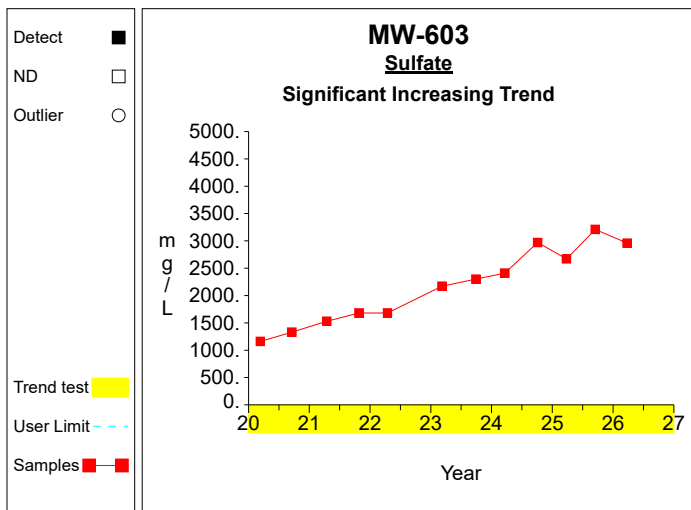
**Graph 77**



**Graph 78**

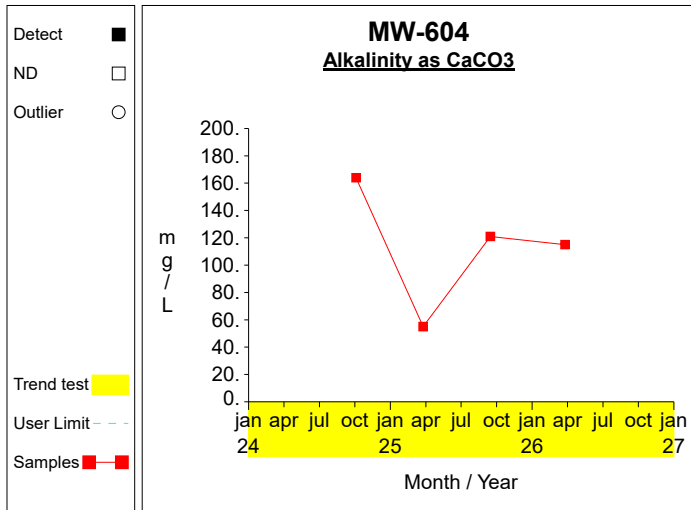


**Graph 79**

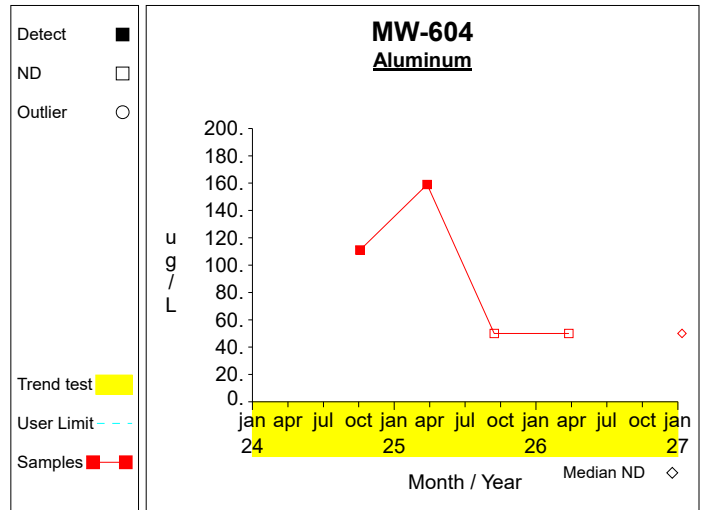


**Graph 80**

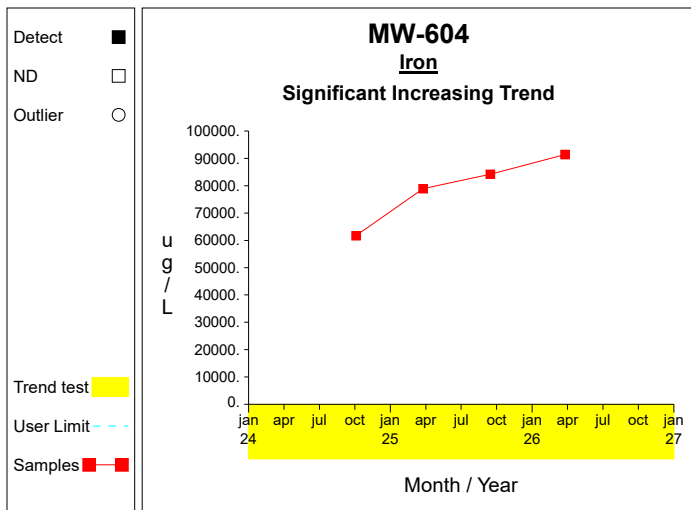
## Time Series



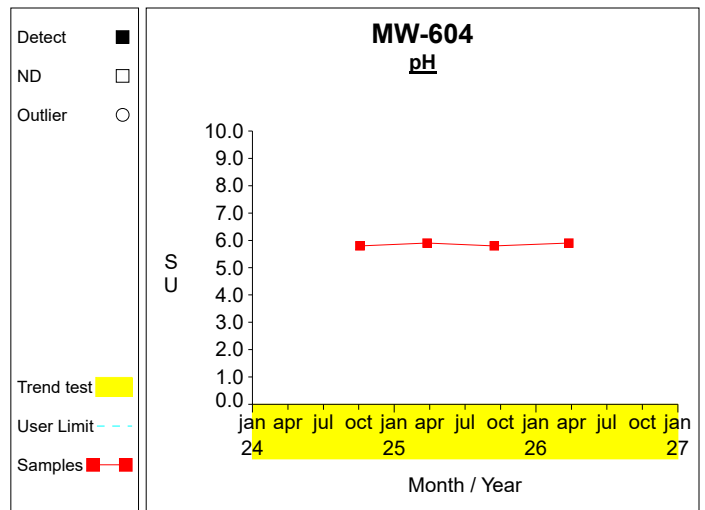
**Graph 81**



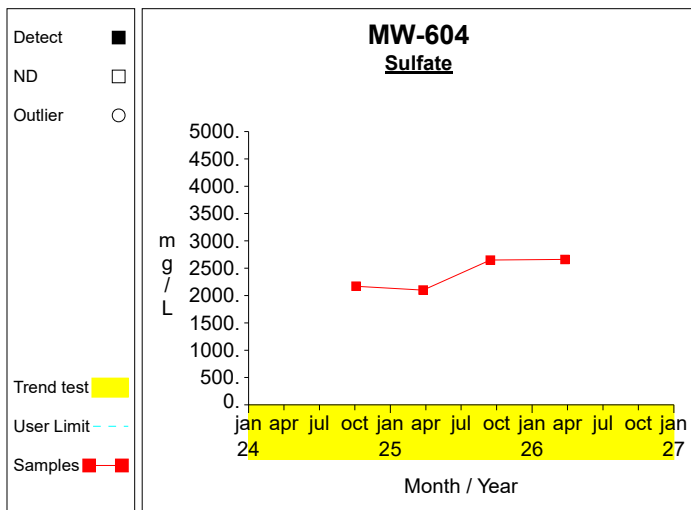
**Graph 82**



**Graph 83**

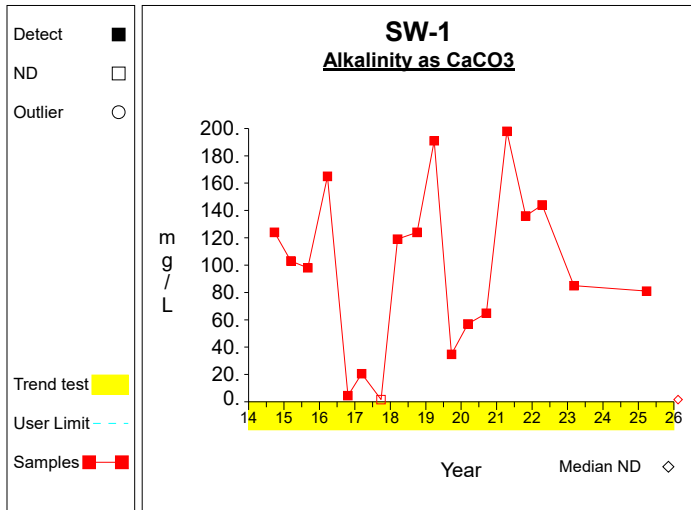


**Graph 84**

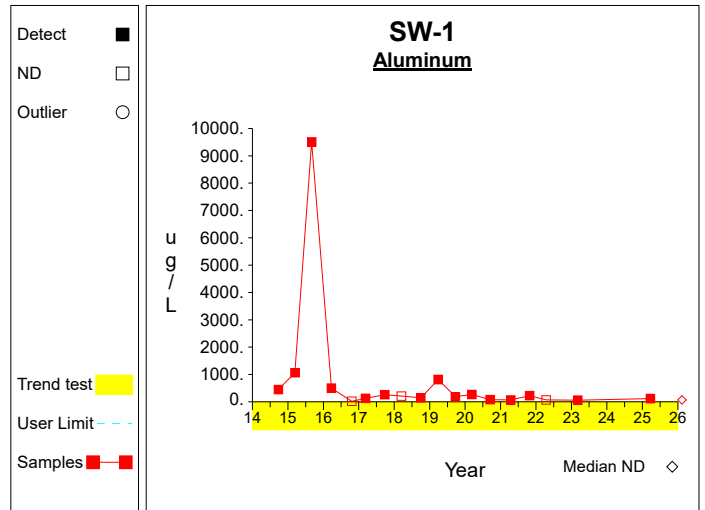


**Graph 85**

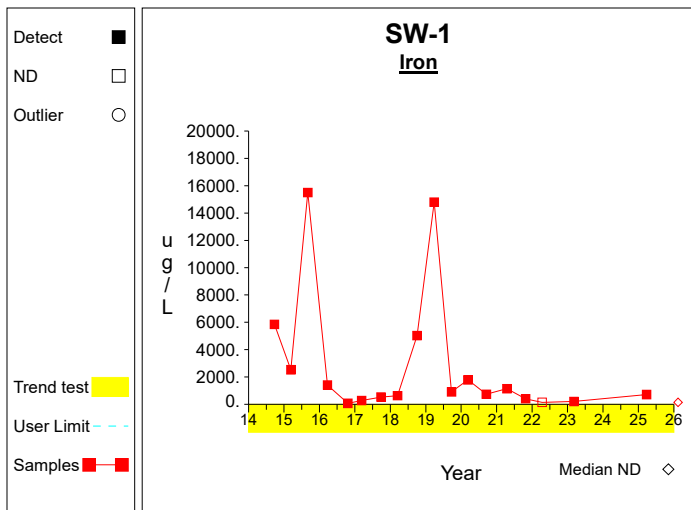
# Time Series



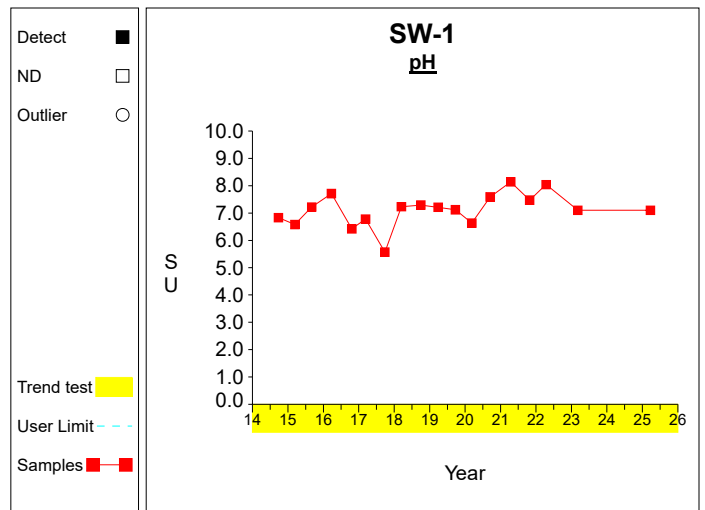
**Graph 86**



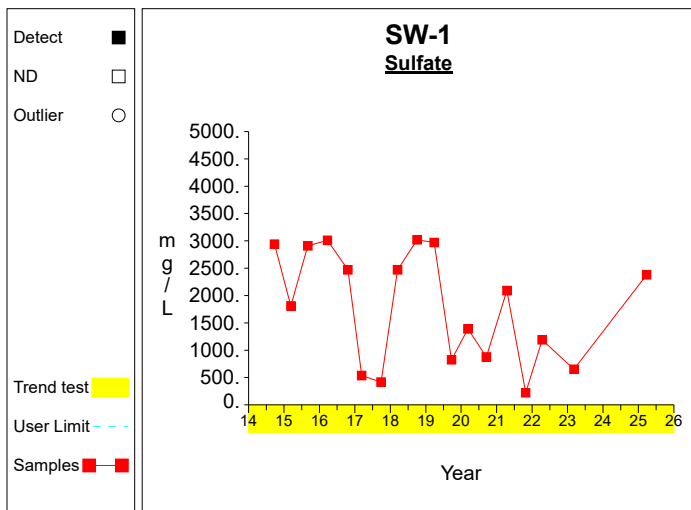
**Graph 87**



**Graph 88**



**Graph 89**



**Graph 90**