

July 3, 2025

Mr. Michael Smith, P.E.
Land Quality Bureau
Iowa Department of Natural Resources
6200 Park Avenue, Suite 200
Des Moines, Iowa 50321



**RE: 2025 Semi-Annual Water Quality Notification
North Central Iowa Regional Sanitary Landfill 94-SDP-01-75P**

Dear Mr. Smith:

Note for Spring 2025

The laboratory experienced an equipment failure in March 2025, which led to a delay in reporting the water quality results. The laboratory digested the metals samples upon receipt but did not analyze the sample until the new equipment was certified by the State laboratory. Any questions related to the emergency equipment replacement should be directed to Microbac Laboratory, Newton, Iowa.

The timeline for reporting for this site is as follows:

Sample collection: April 8, 2025
Delivery to laboratory: April 9, 2025
Metals sample digested: April 28, 2025
Metals Analyses: June 20, 2025
Results reported by laboratory: June 24, 2025
Statistical Report Completed: July 3, 2025

The delays consumed 77 calendar days (April 9, 2025 - June 24, 2025).

Hydrologic Monitoring System Plan (HMSP)

At the North Central Iowa Regional Solid Waste Agency (NCIRSWA) Landfill, the following monitoring wells are included in the HMSP; MW-10A, MW-10B, MW-18, MW-20, MW-21R, MW-22, MW-25, MW-28, MW-29, MW-30, MW-31, MW-32, GU-2, GU-3, GU-4, GU-5, and GU-6. All monitoring points are in the detection monitoring system, except MW-21R which is in the assessment monitoring program.

The approved Statistical Evaluation Plan includes intrawell evaluation of water quality samples obtained from the HMSP wells. There are thirteen (13) independent measurements in background at MW-10A, MW-10B, MW-18, MW-20, and MW-22. There are eight (8) independent measurements in background at MW-21R and MW-30 which is the minimum number needed to complete the intrawell statistical evaluations herein. Currently less than the minimum eight (8) independent measurements for the comprehensive statistics are available in the background data at MW-25 (7 episodes completed), MW-28 (6 episodes completed), MW-29 (1 episode completed), MW-31 (3 episodes completed), MW-32 (3

episodes completed), GU-2 (4 episodes completed), GU-3 (7 episodes completed), GU-4 (4 episodes completed), GU-5 (2 episodes completed), and GU-6 (2 episodes completed).

The results presented for those inorganic compounds with fewer than thirteen (13) measurements in the background are considered preliminary until the background is completed. Time series graphs are attached for MW-25, MW-28, MW-29, MW-31, MW-32, GU-2, GU-3, GU-4, GU-5, and GU-6 until the minimum eight (8) rounds of data are available for background at each of the monitoring points.

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

Wells in the Detection Monitoring System

Verified **inorganic compound** concentrations that exceed the Limits: **None**.

Verified **VOC** concentrations that exceed the Limits: **None**.

Wells in the Assessment Monitoring System

Verified **inorganic compound** concentrations that exceed the Limits: **MW-21R - arsenic**.

Verified **VOC** concentrations that exceed the Limits: **None**.

Historic Appendix II Compound Detections (None to date)

Bis (2-ethylhexyl)phthalate (ug/L)*

Date	MW-21R
4/11/14	NT
10/28/14	NT
3/31/15	NT
9/25/15	NT
4/13/16	NT
9/30/16	NT
4/20/17	NT
10/19/2017	NT
10/15/2018	NT
4/9/2019	NT
10/9/2019	NT
4/1/2020	NT
10/5/2020	NT
4/13/2021	NT
10/21/2021	NT
4/19/2022	<6
10/18/2022	NT
4/11/2023	<6
10/5/2023	NT
4/23/2024	NT
10/11/2024	NT
4/8/2025	NT

ND = Non-detected NT = Not Tested

* Even though there have been no Appendix II detections, bis (2-ethylhexyl)phthalate is reported (non-detected) since it is the most commonly detected compound in the Appendix II list.

Current Appendix II Compound Detections

None

Wells in the Corrective Action Monitoring System

Not Applicable.

Wells returning to the Detection Monitoring System

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 2025 will be fully evaluated in the Annual Water Quality Report in accordance with the unnumbered permit amendments dated May 22, 2013, July 10, 2014, and IAC 567-113.10(10).

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

Sincerely,

HLW Engineering Group

A handwritten signature in blue ink, appearing to read "Todd Whipple".

Todd Whipple, CPG
Project Manager

cc: *Mark Campbell, COO*
Jason Potts, Landfill Operations Manager

**Results of the Ground Water Statistics
for North Central Iowa Regional Landfill**

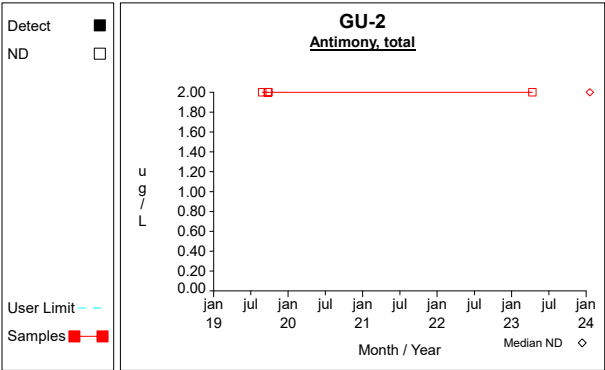
First Semi-Annual Monitoring Event in 2025

Prepared for:
North Central Iowa Regional Solid Waste Agency (NCIRSWA)
Fort Dodge, Iowa

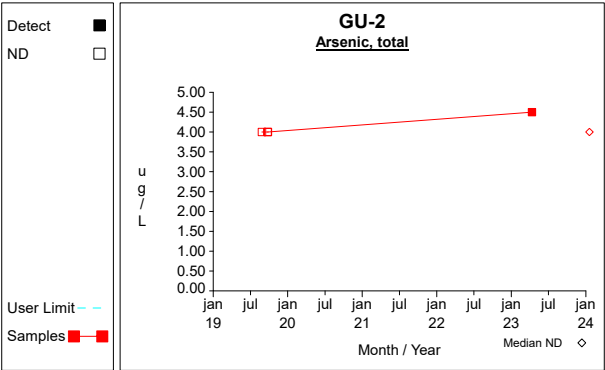
Prepared by:
Jeffrey A. Holmgren
Otter Creek Environmental Services, L.L.C.
Elgin, IL
(847) 464-1355

July 2025

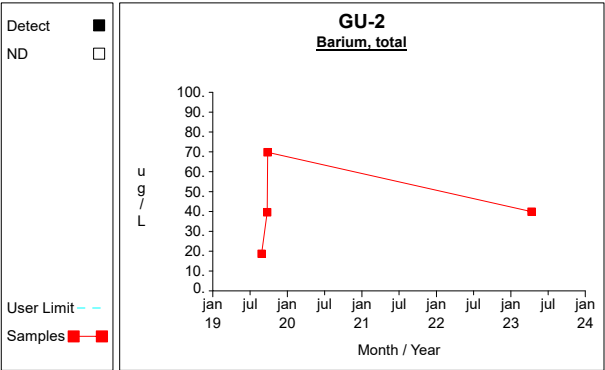
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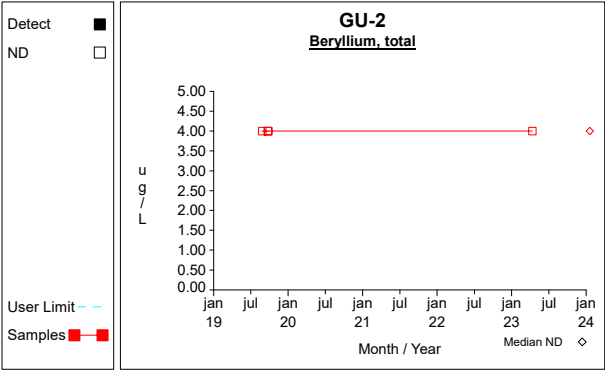
Graph 1



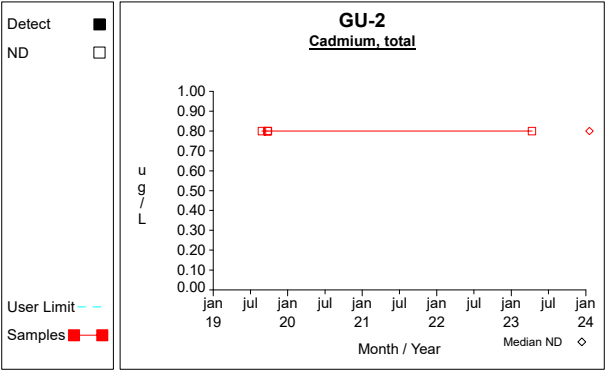
Graph 2



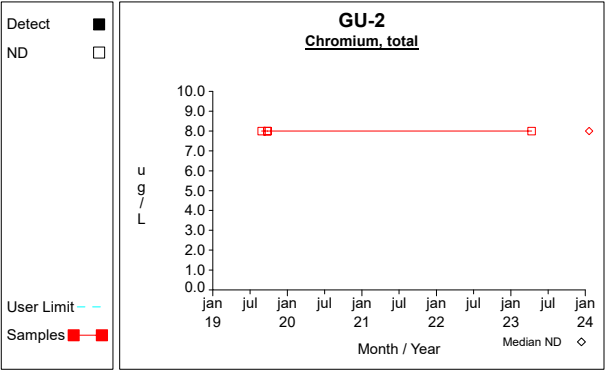
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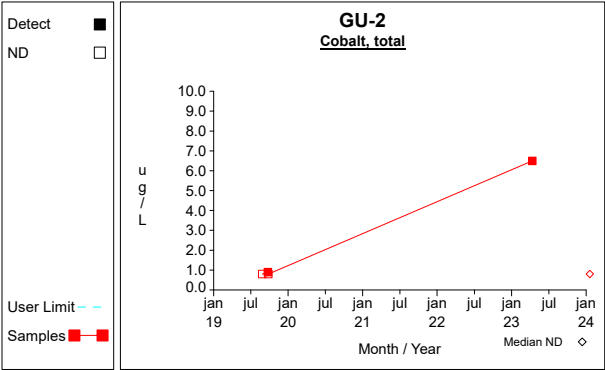
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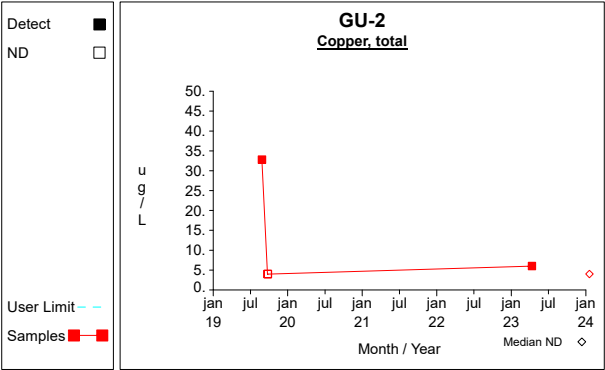
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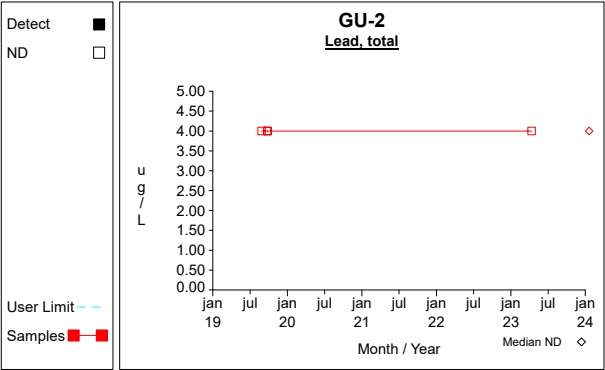
Graph 6



Graph 7

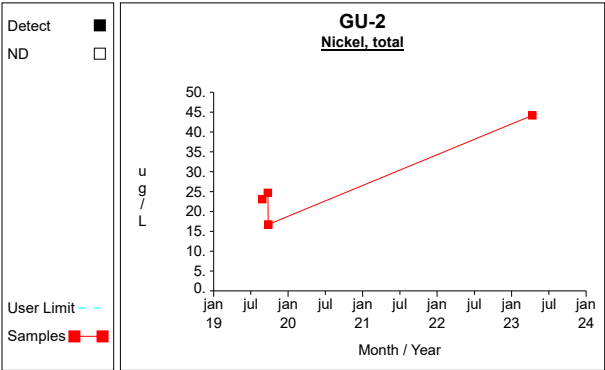


Graph 8

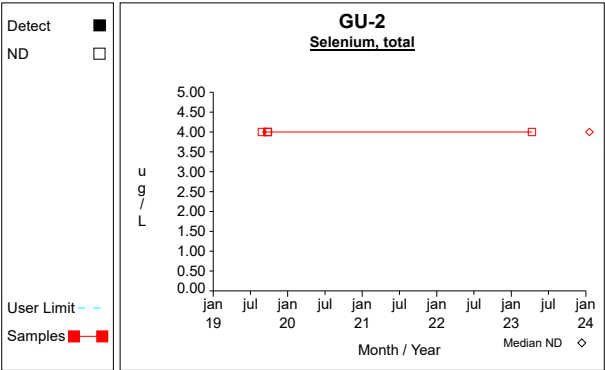


Graph 9

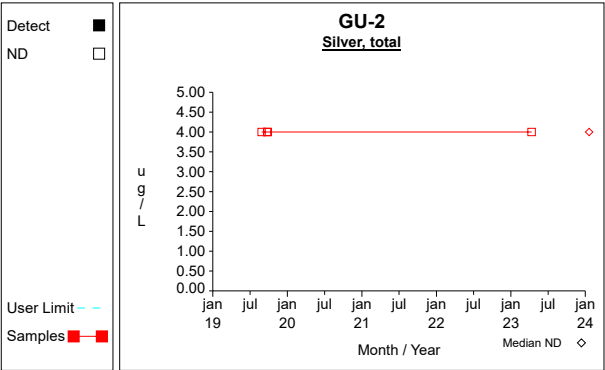
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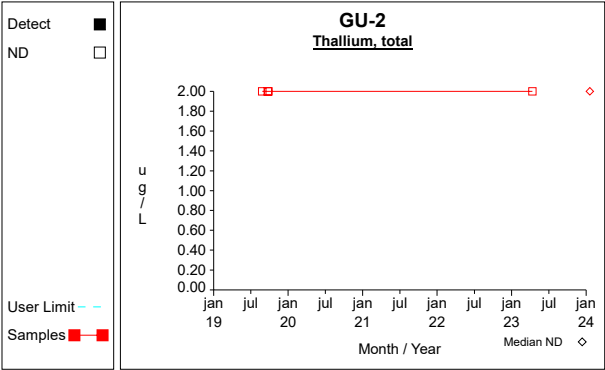
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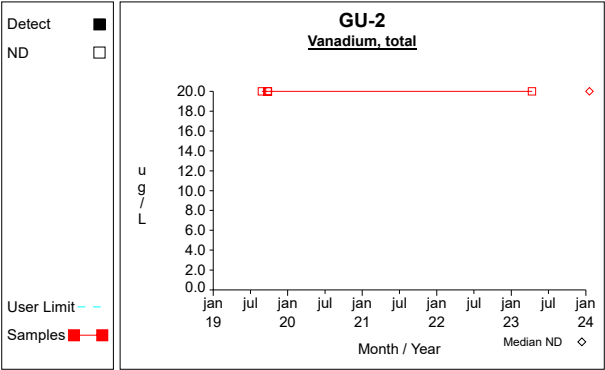
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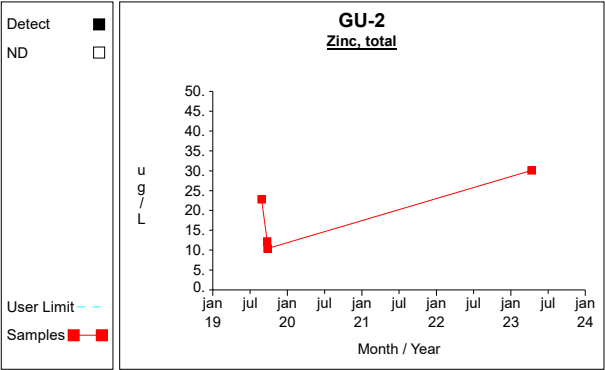
Graph 12



Graph 13

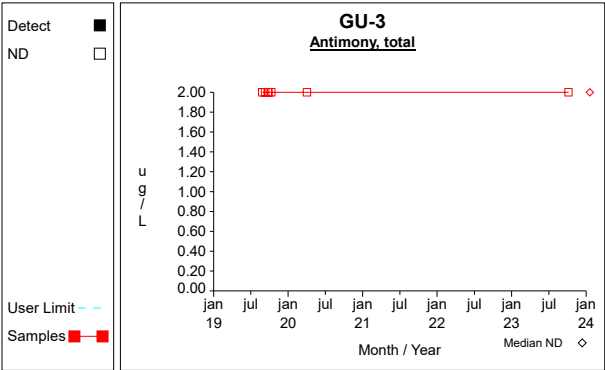


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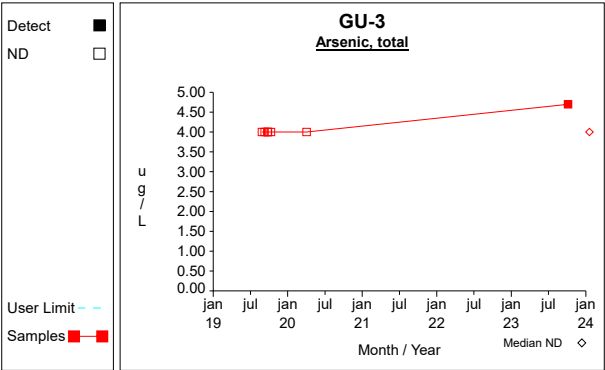


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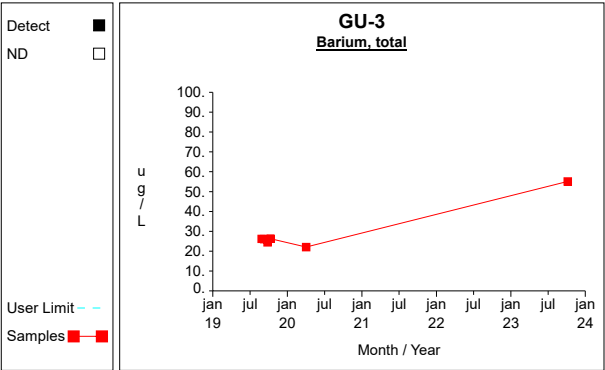
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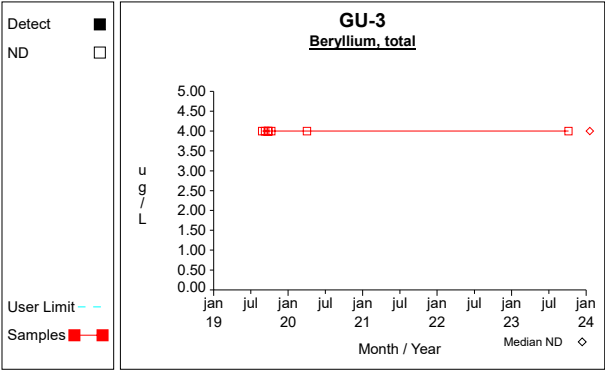
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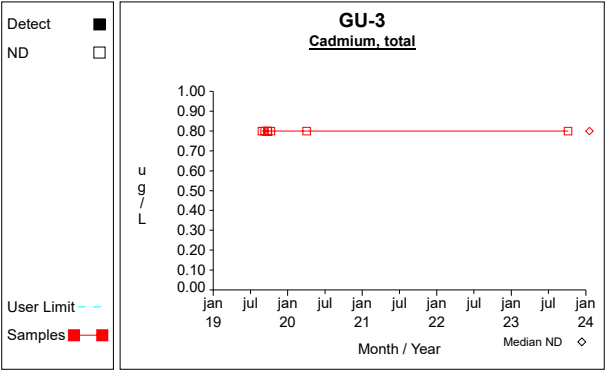
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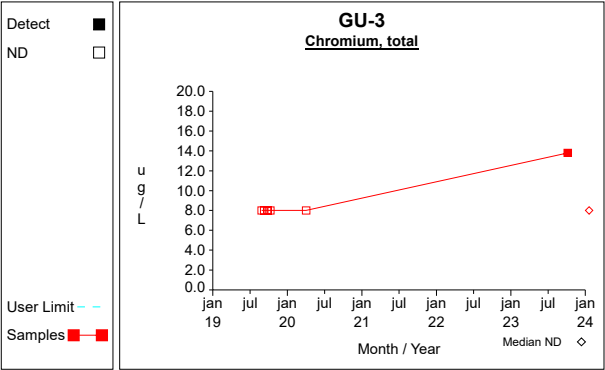
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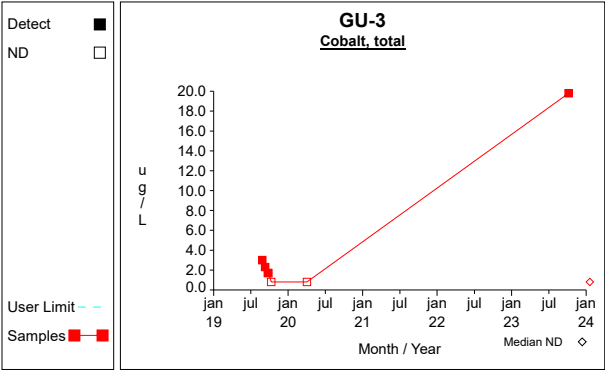
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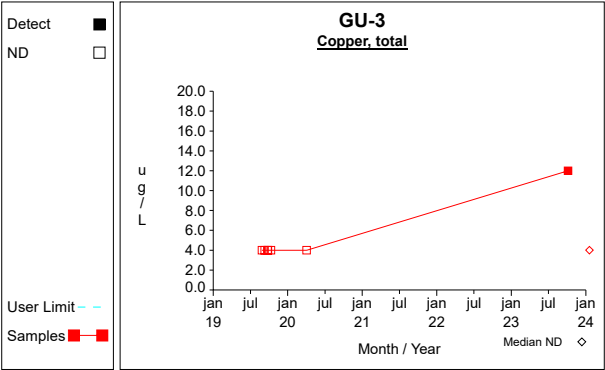
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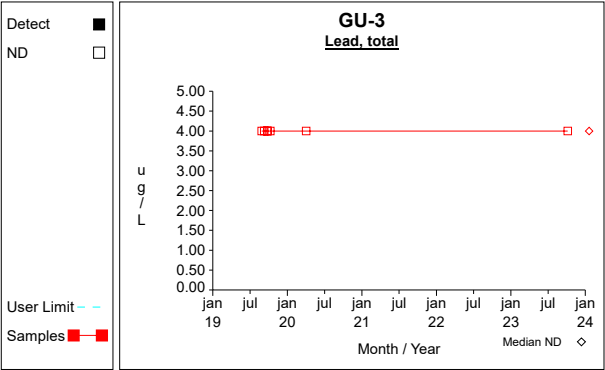
Graph 21



Graph 22

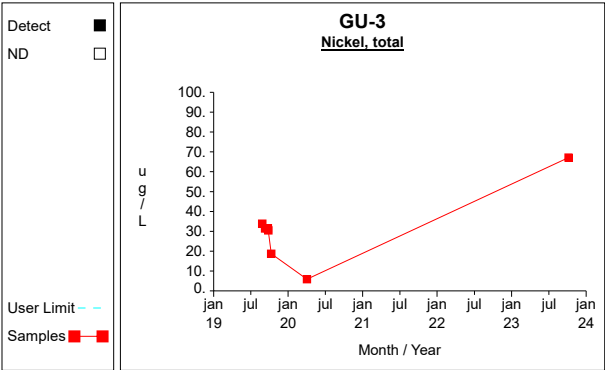


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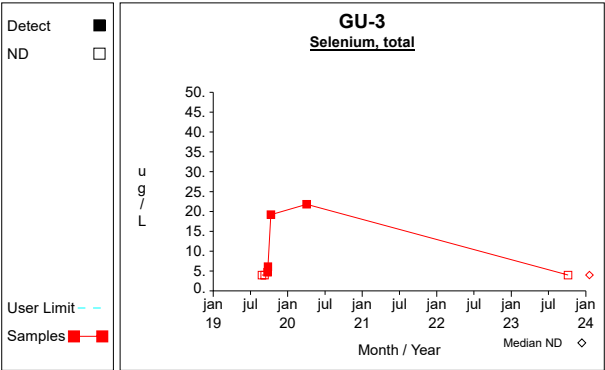


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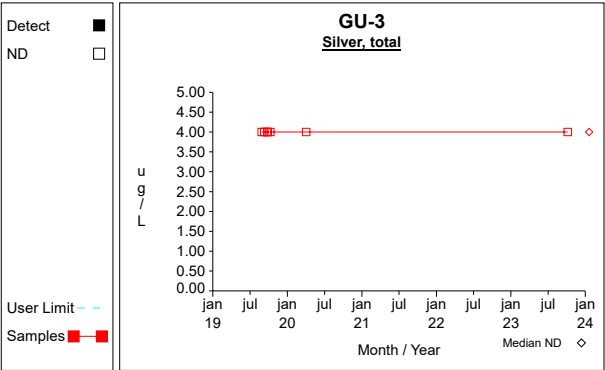
Time Series



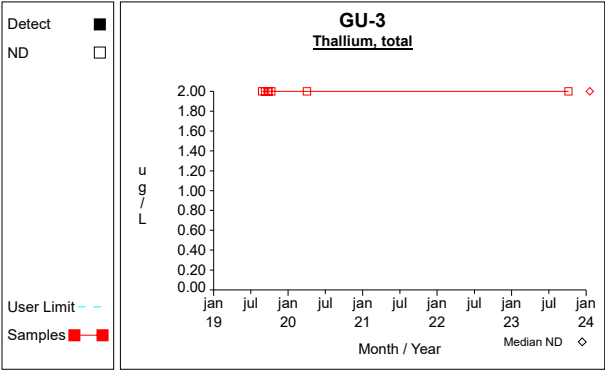
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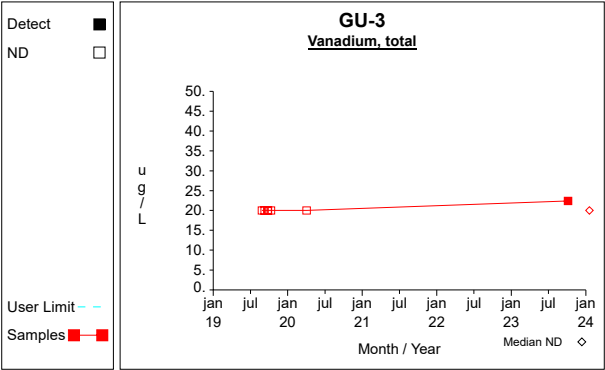
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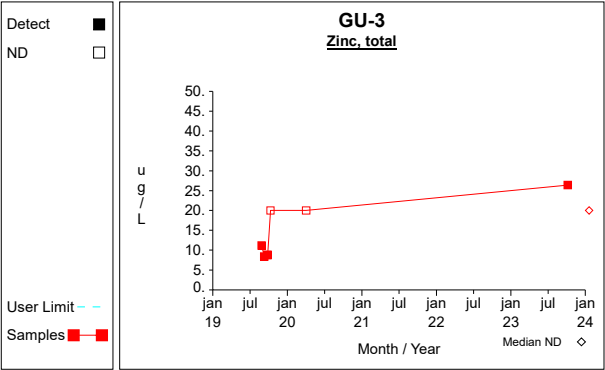
Graph 27



Graph 28

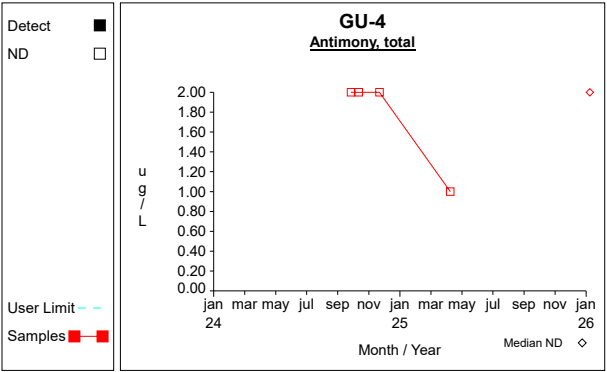


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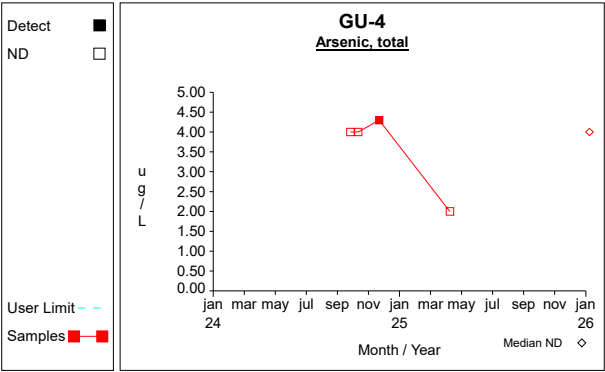


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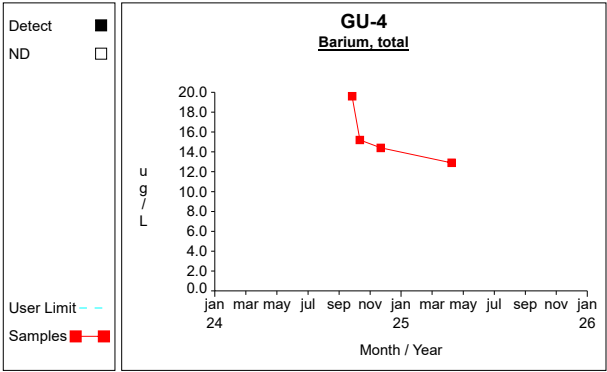
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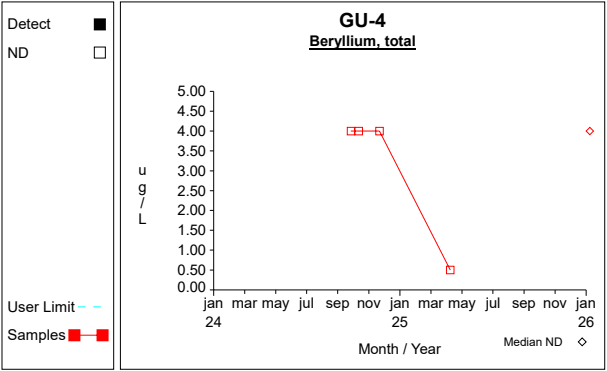
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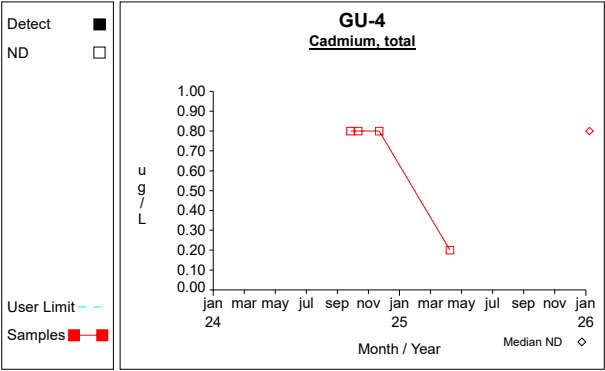
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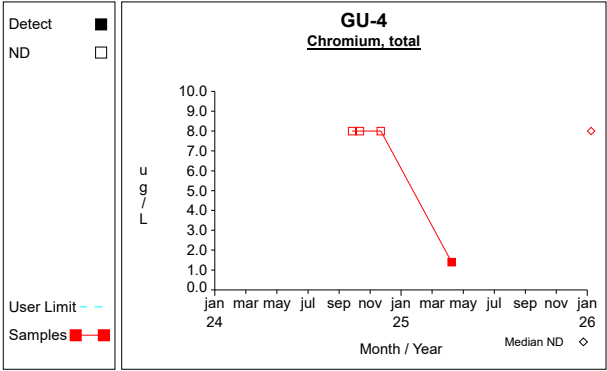
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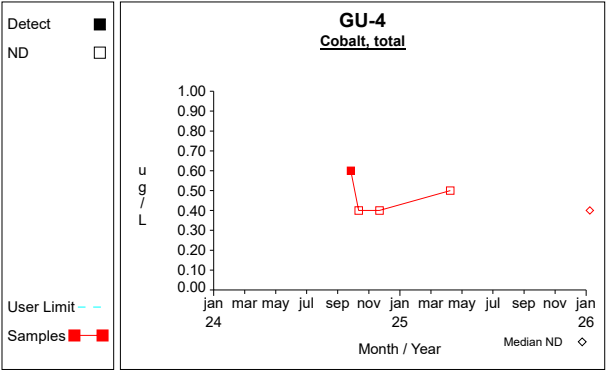
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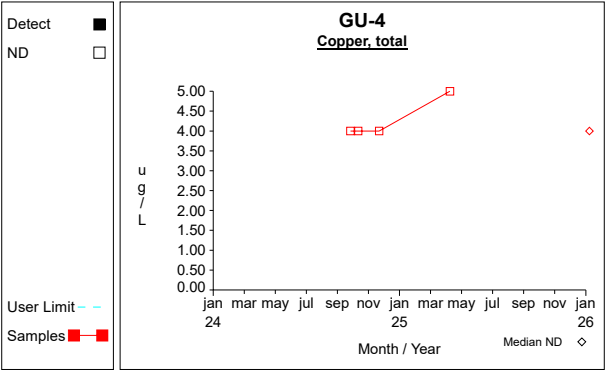
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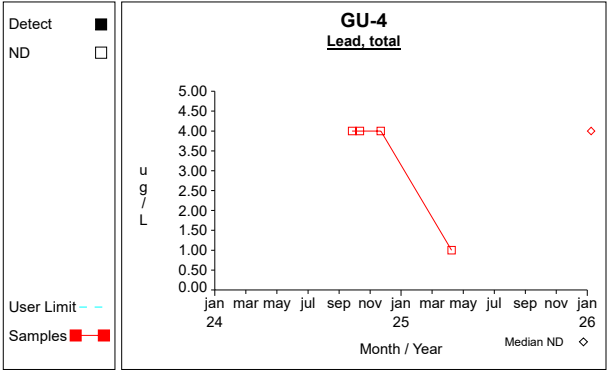
Graph 36



Graph 37

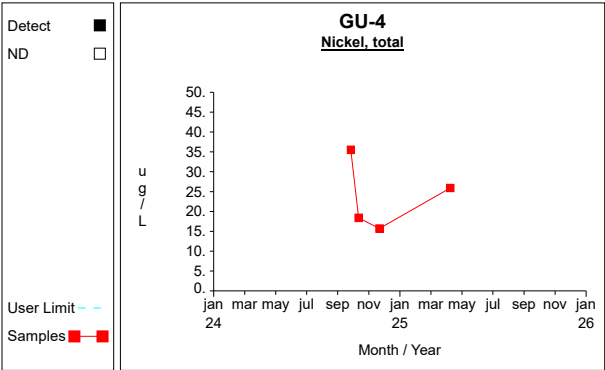


Graph 38

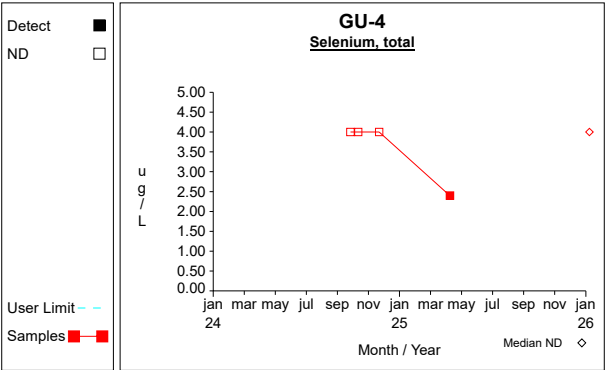


Graph 39

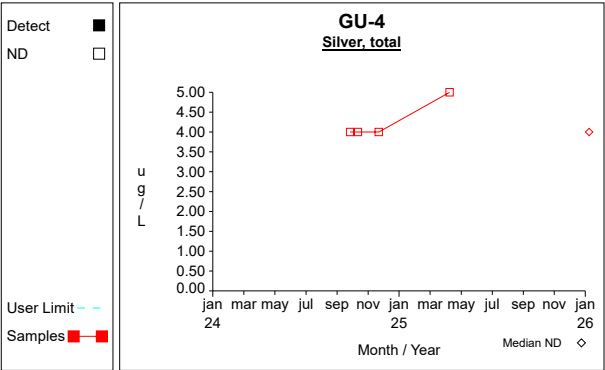
Time Series



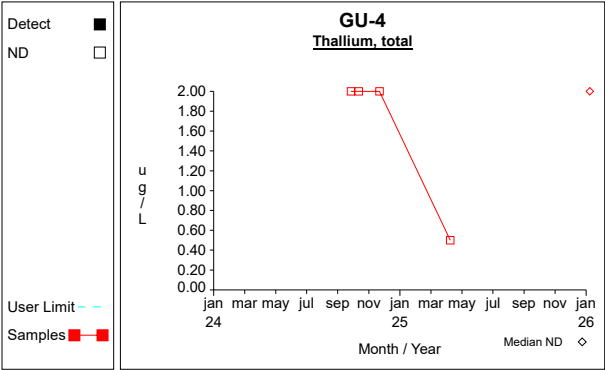
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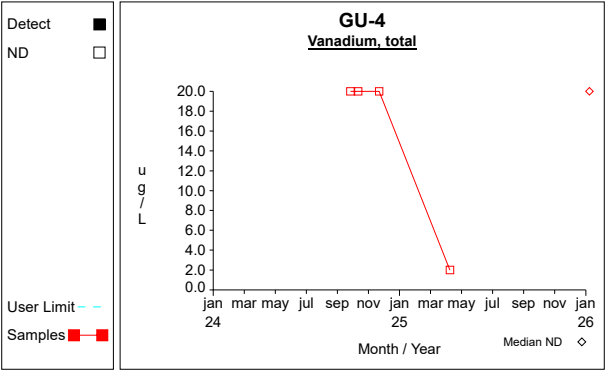
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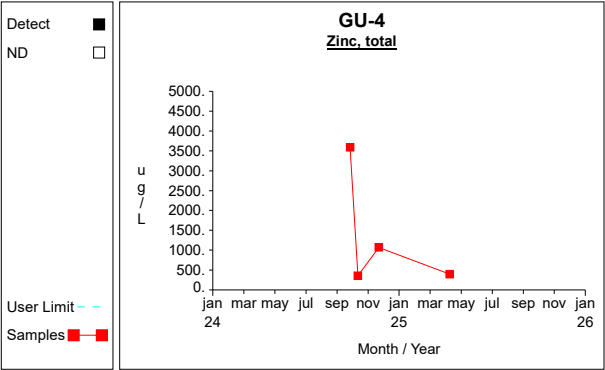
Graph 42



Graph 43

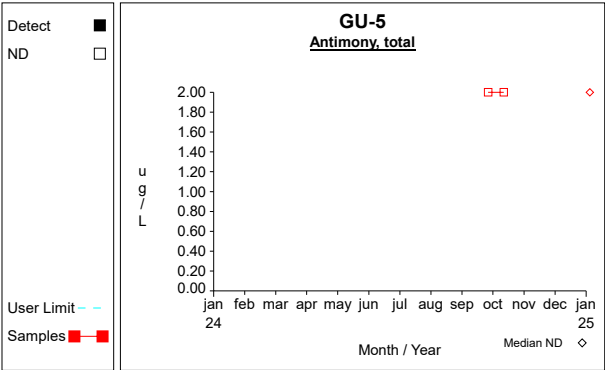


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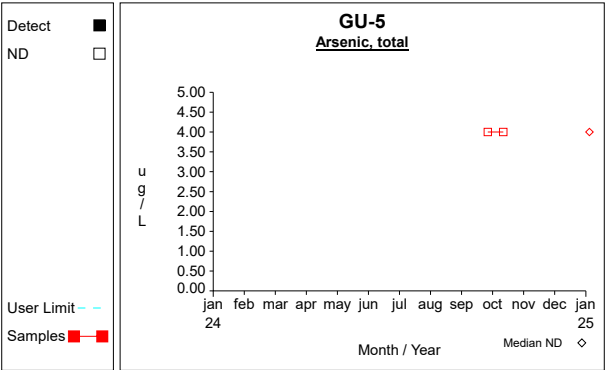


Graph 45

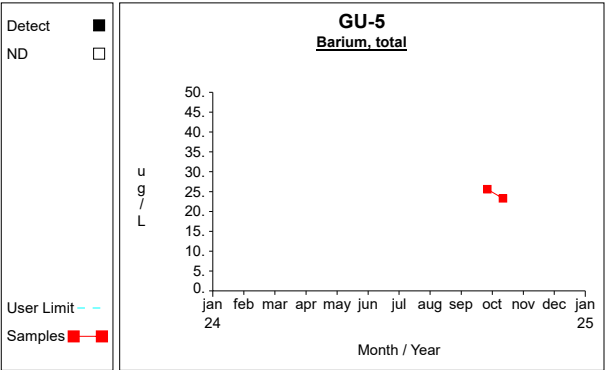
Time Series



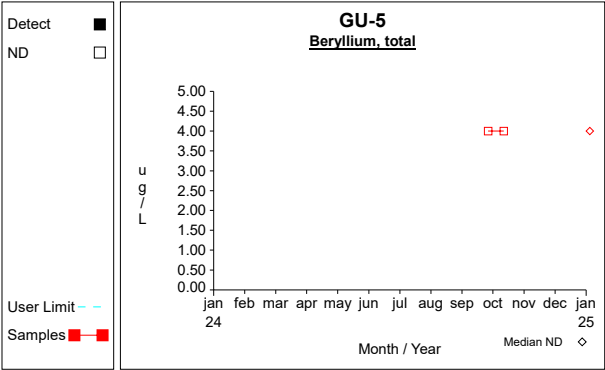
Graph 46



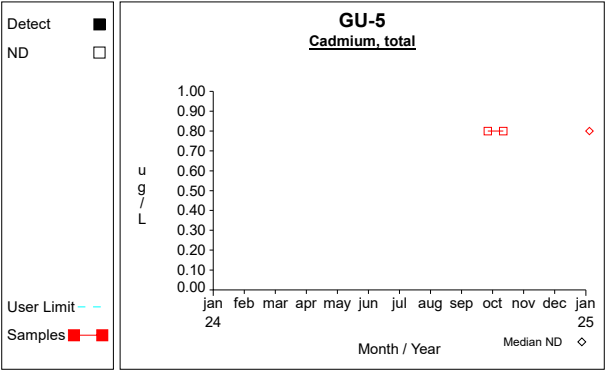
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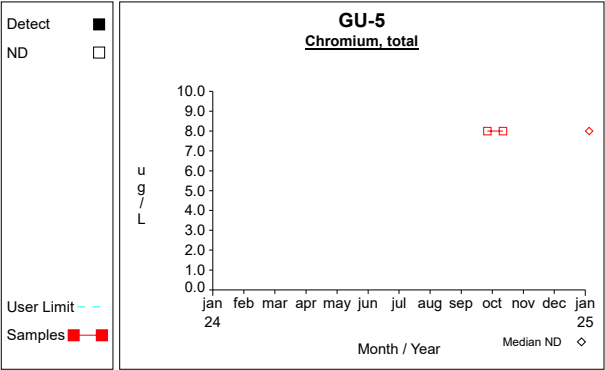
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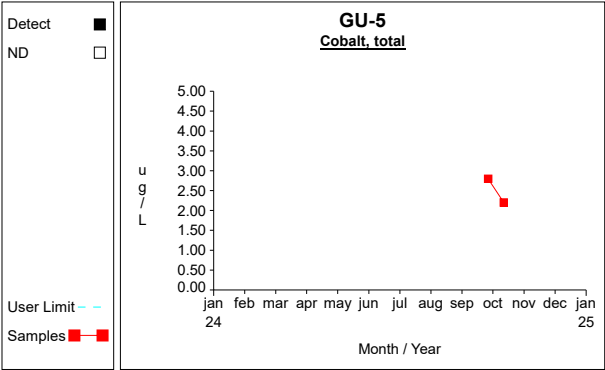
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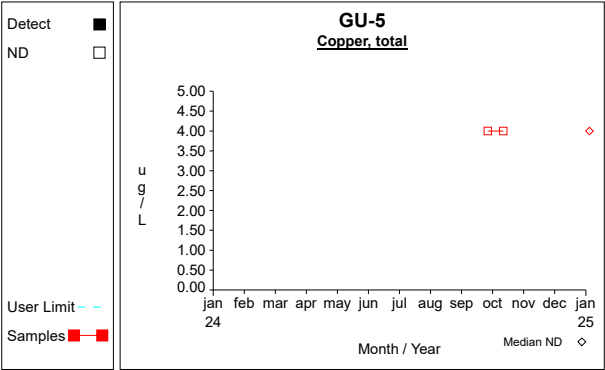
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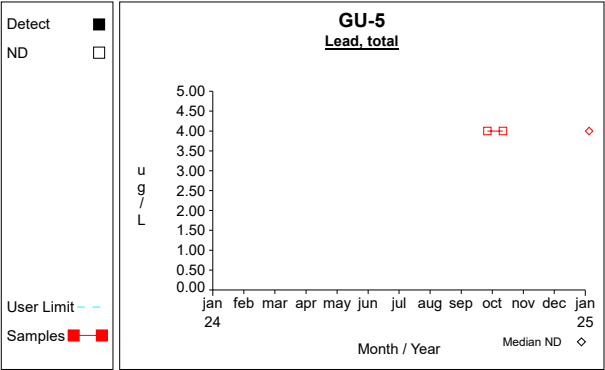
Graph 51



Graph 52

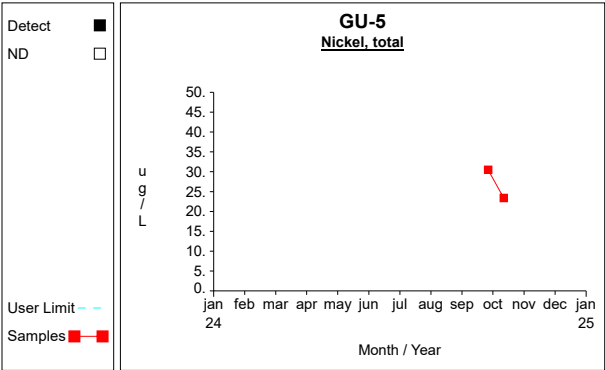


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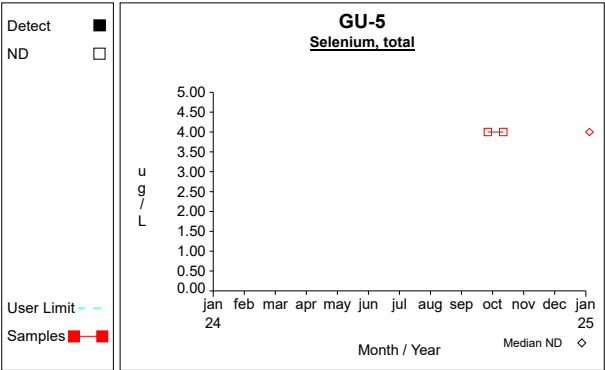


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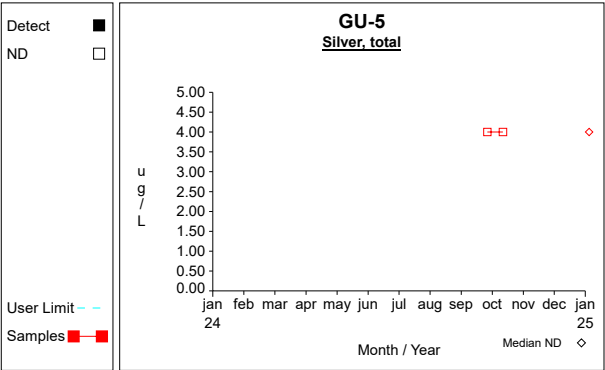
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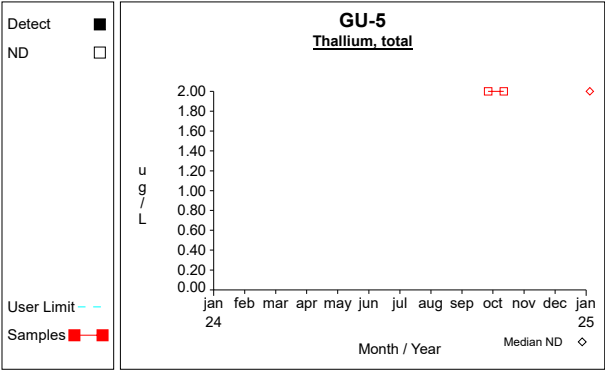
Graph 55



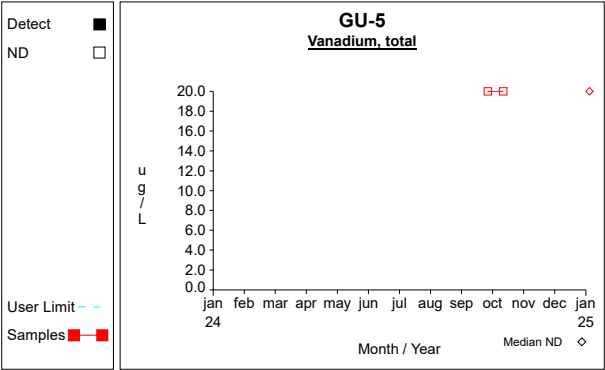
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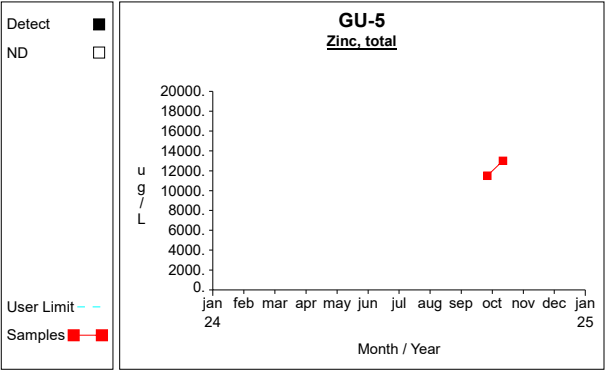
Graph 57



Graph 58

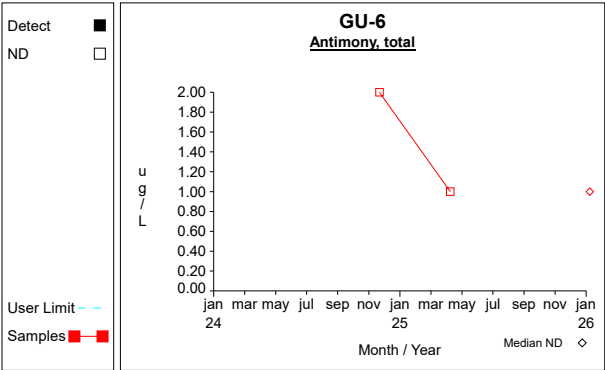


Graph 59

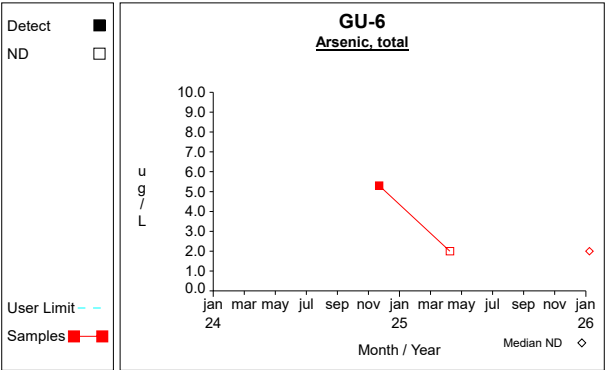


Graph 60

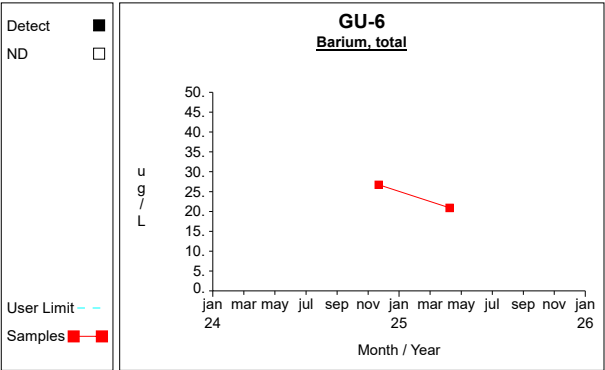
Time Series



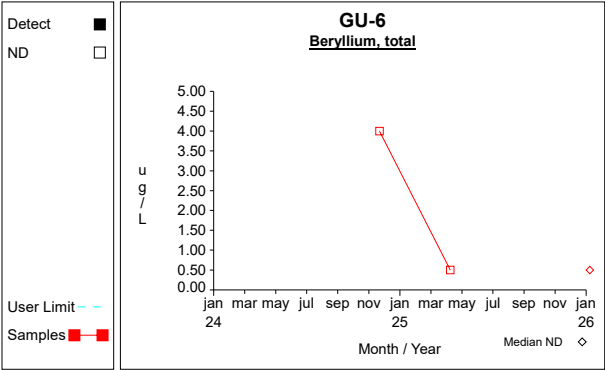
Graph 61



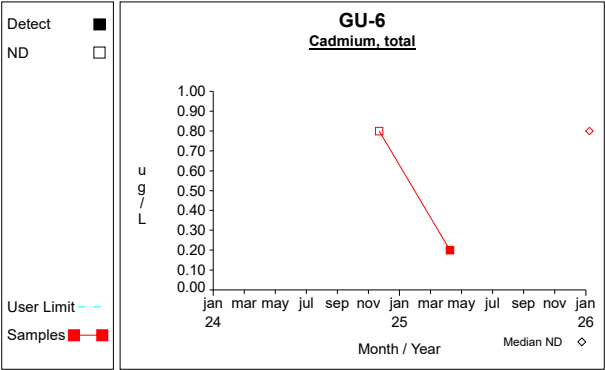
Graph 62



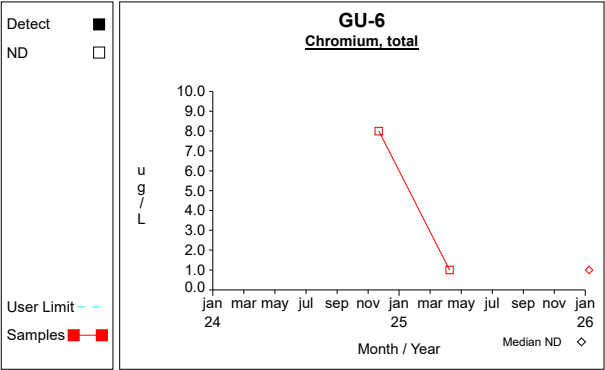
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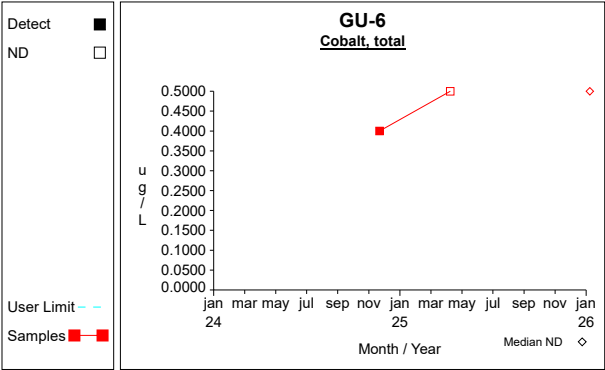
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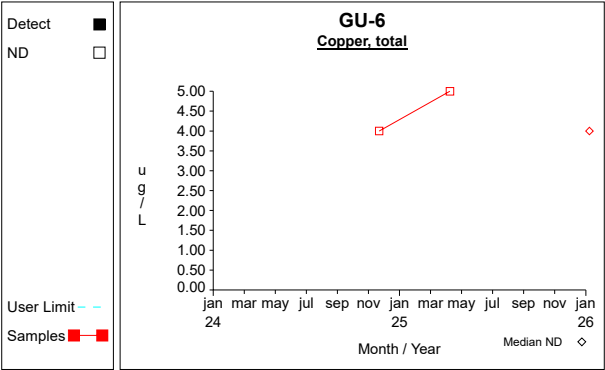
Graph 65



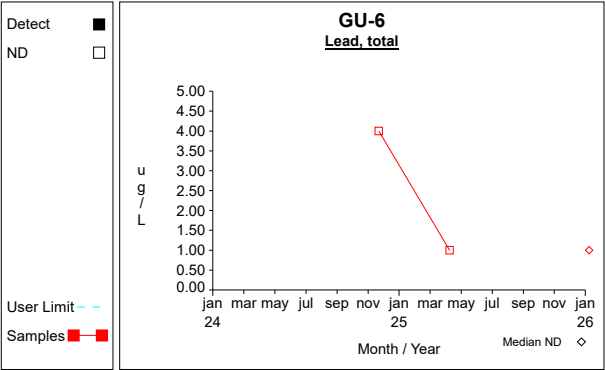
Graph 66



Graph 67

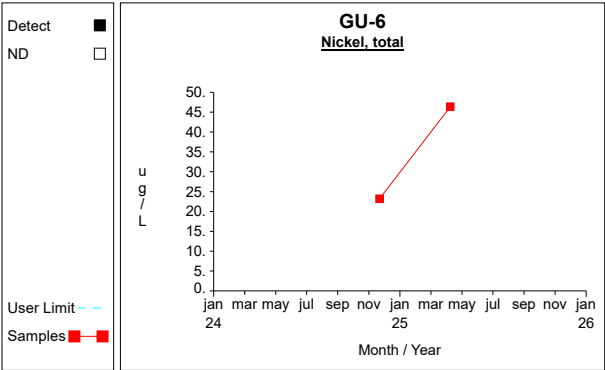


Graph 68

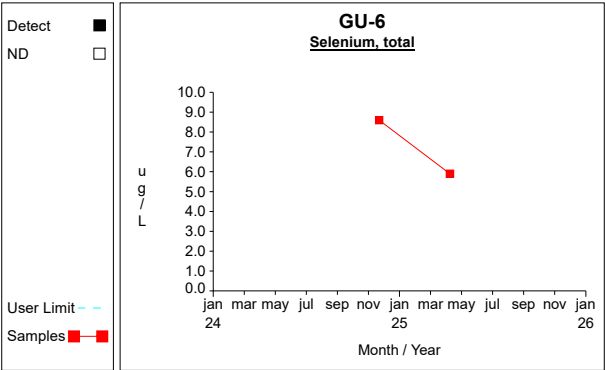


Graph 69

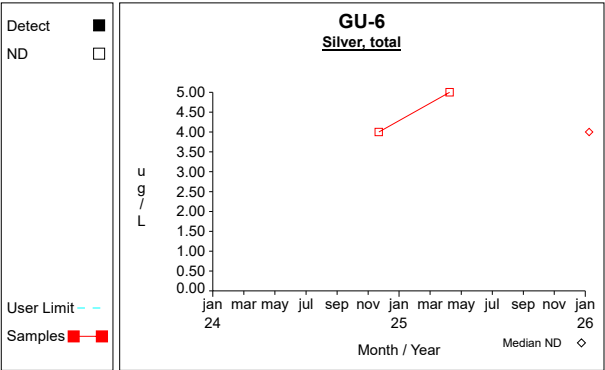
Time Series



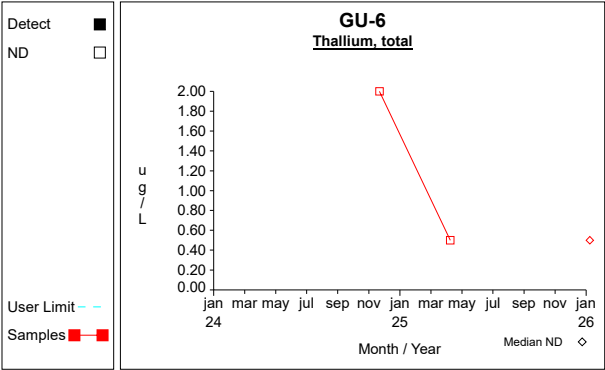
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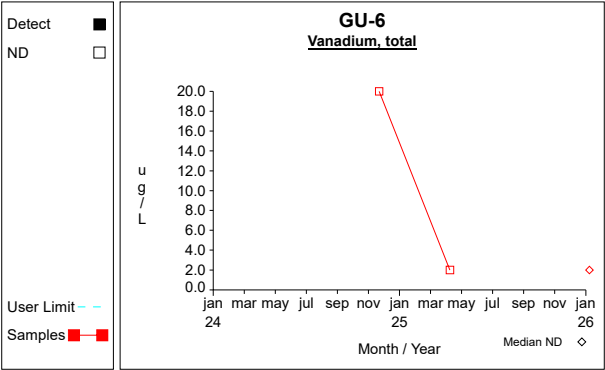
Graph 71



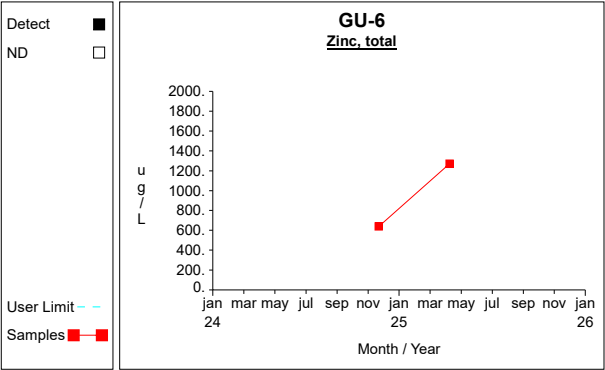
Graph 72



Graph 73

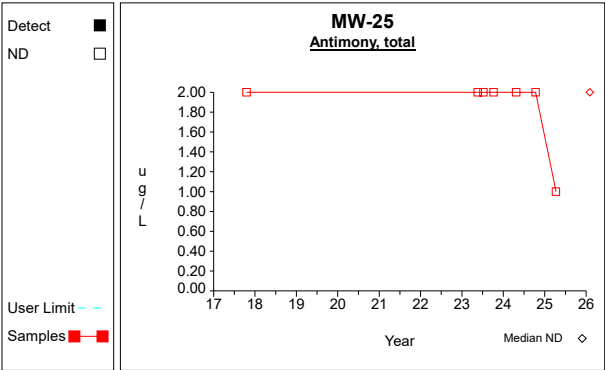


Graph 74

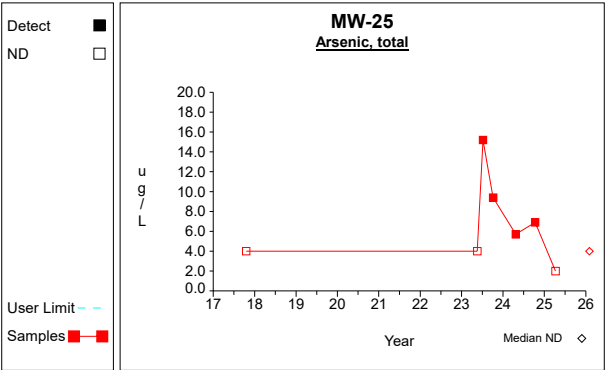


Graph 75

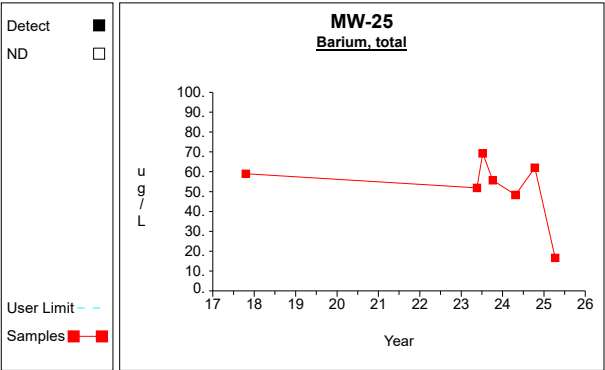
Time Series



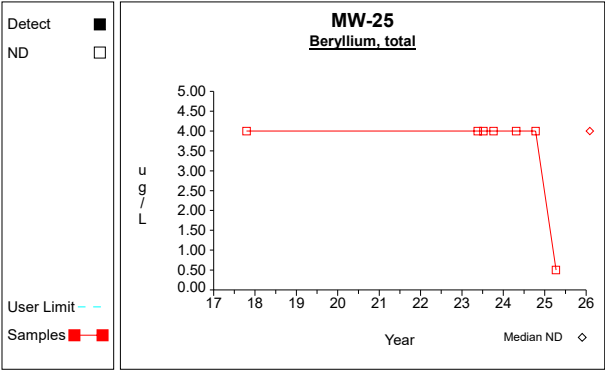
Graph 91



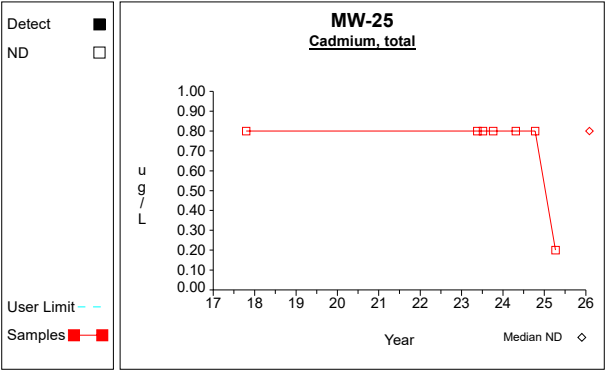
Graph 92



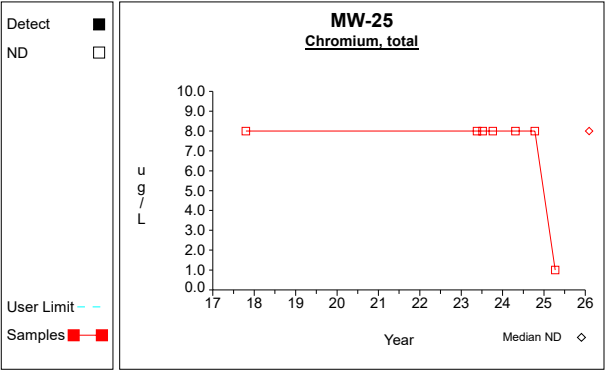
Graph 93



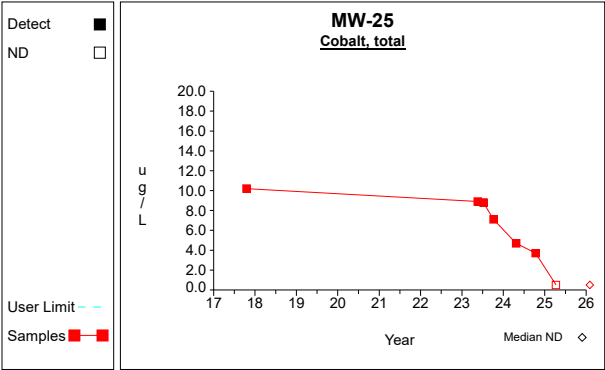
Graph 94



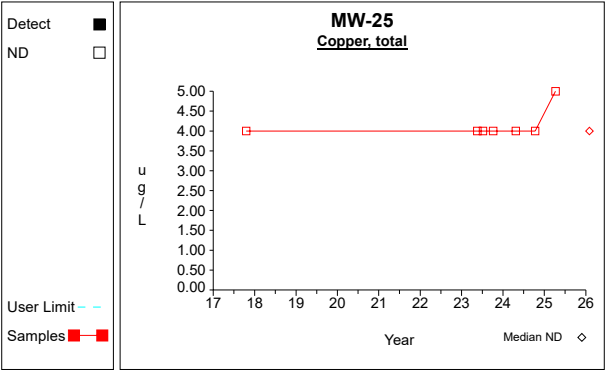
Graph 95



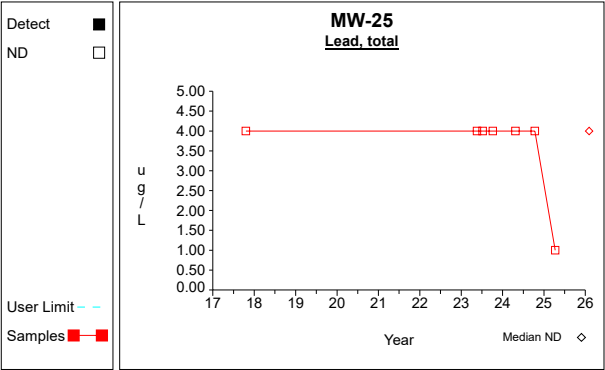
Graph 96



Graph 97

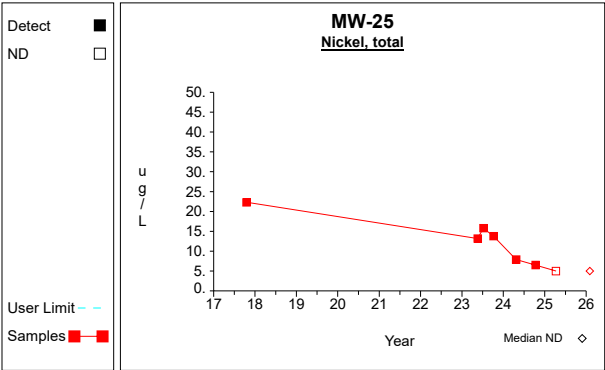


Graph 98

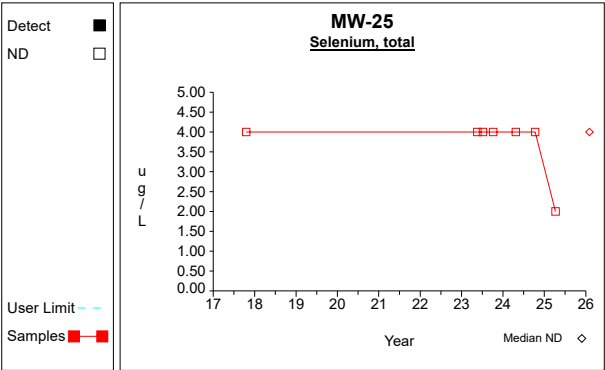


Graph 99

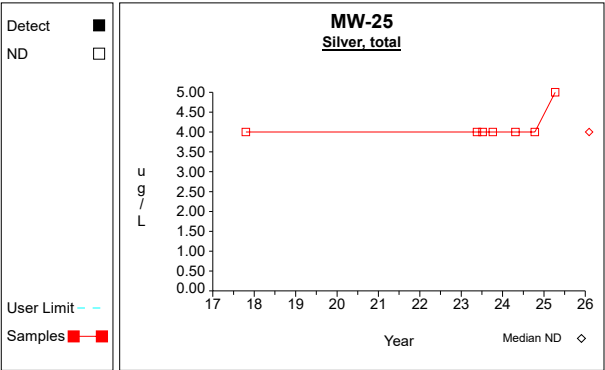
Time Series



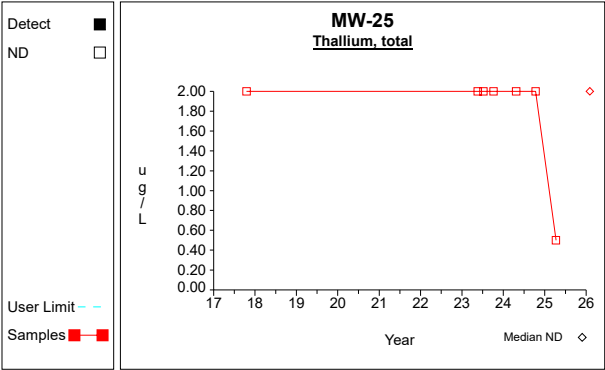
Graph 100



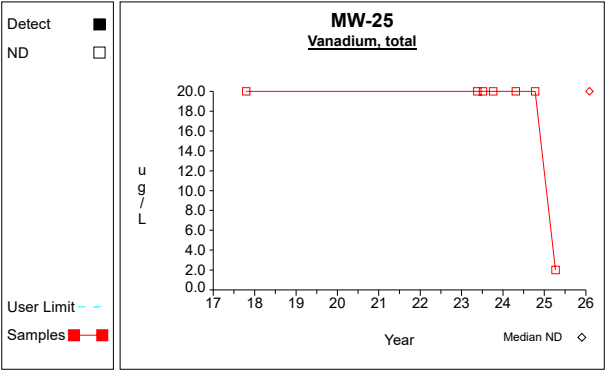
Graph 101



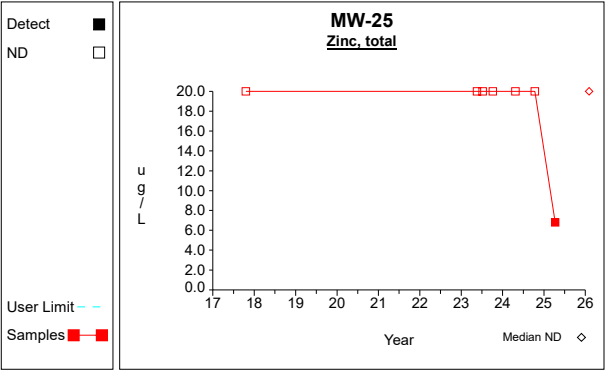
Graph 102



Graph 103

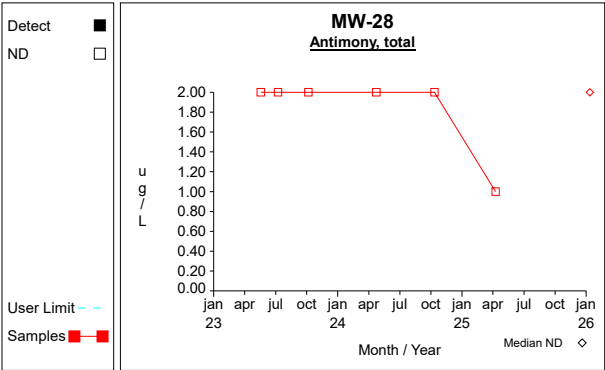


Graph 104

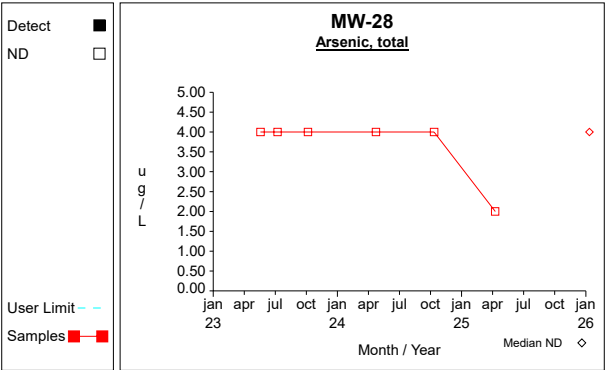


Graph 105

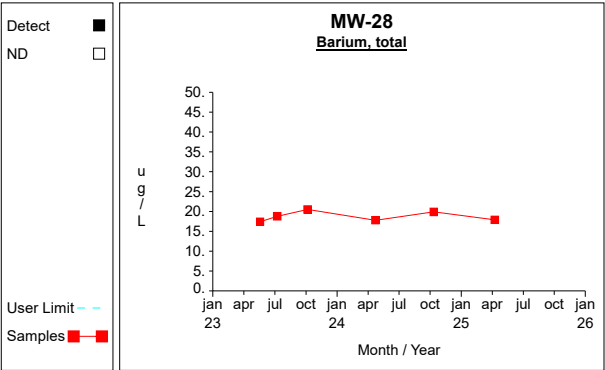
Time Series



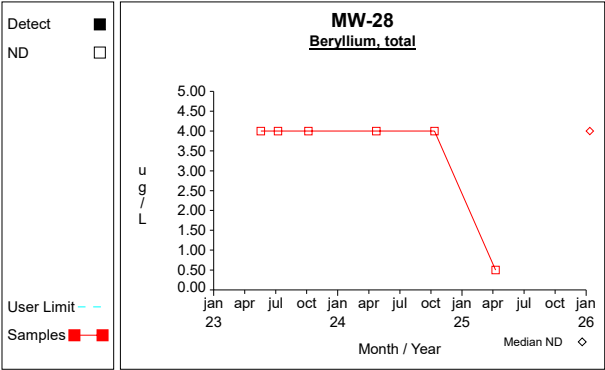
Graph 106



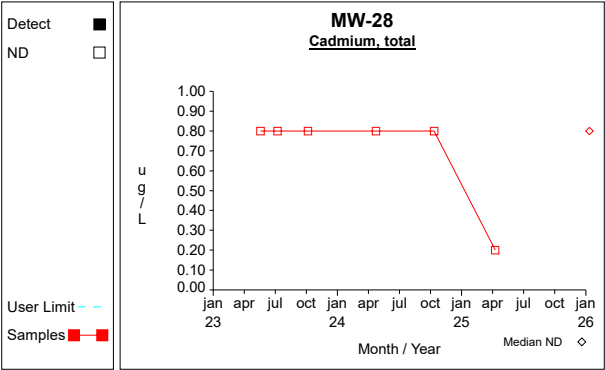
Graph 107



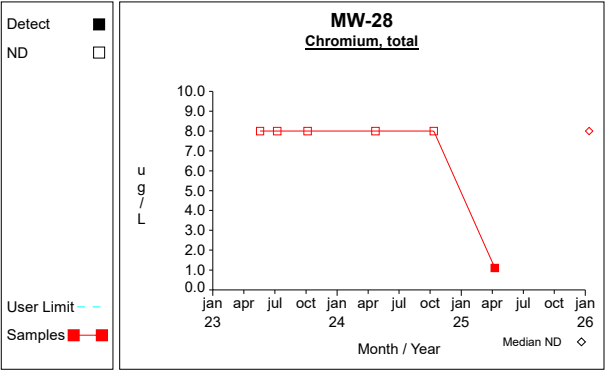
Graph 108



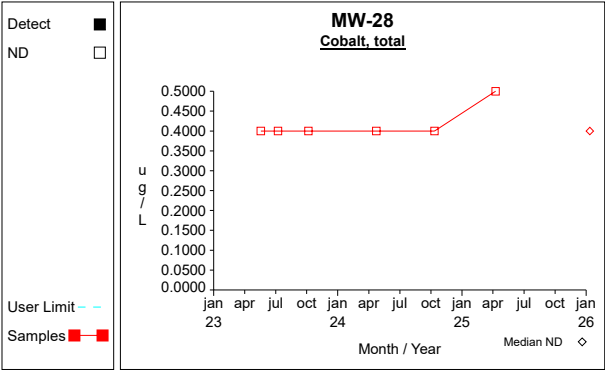
Graph 109



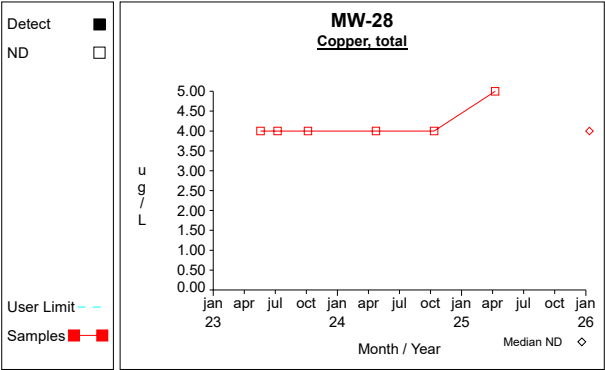
Graph 110



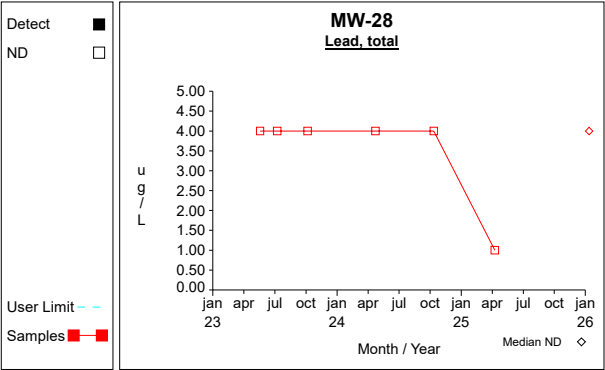
Graph 111



Graph 112

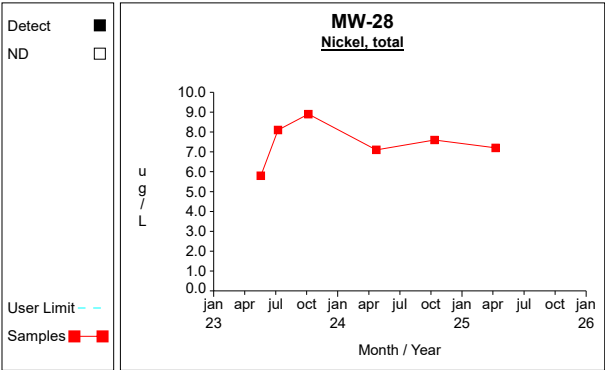


Graph 113

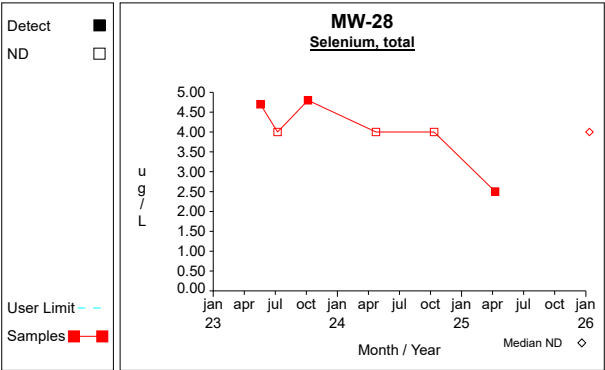


Graph 114

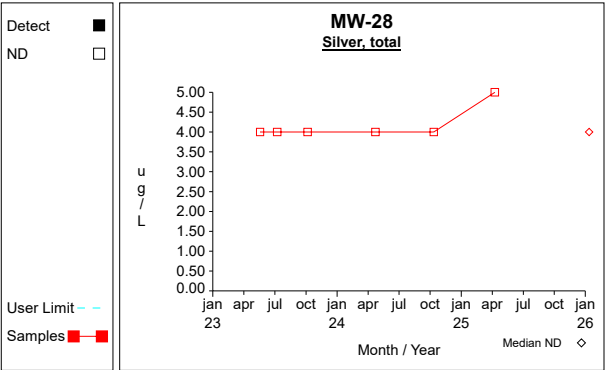
Time Series



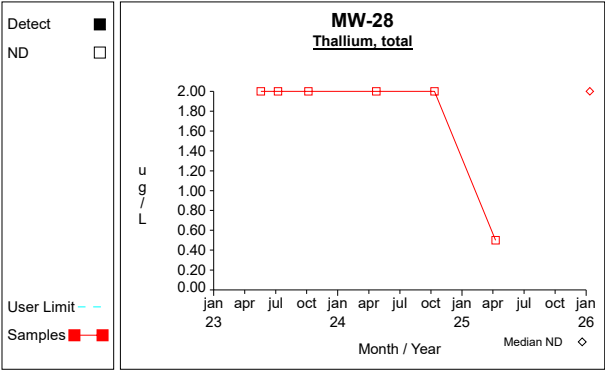
Graph 115



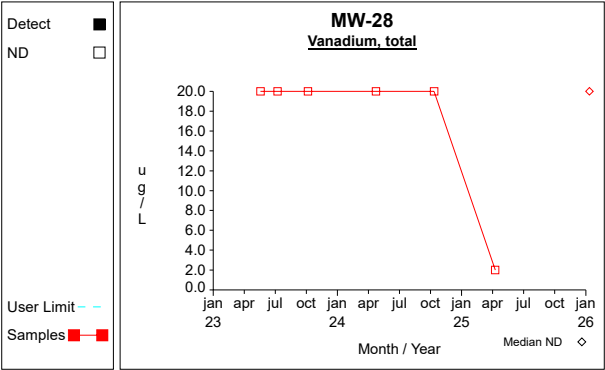
Graph 116



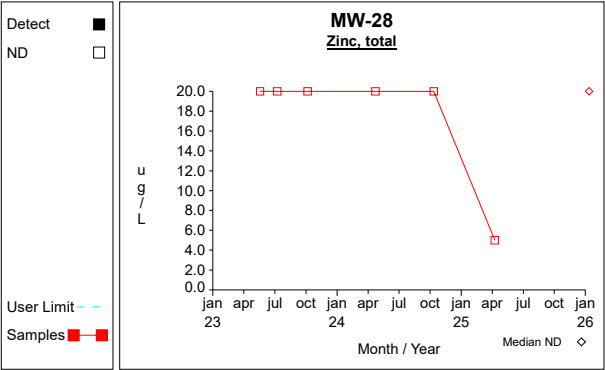
Graph 117



Graph 118

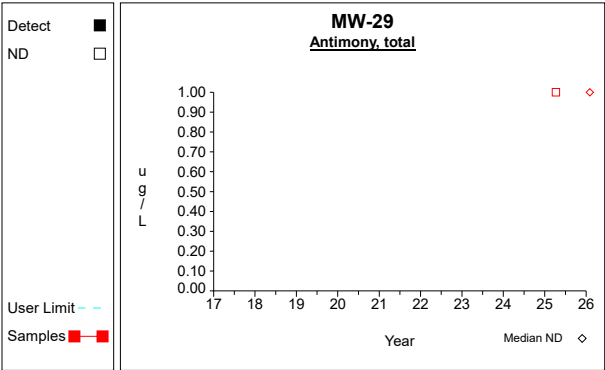


Graph 119

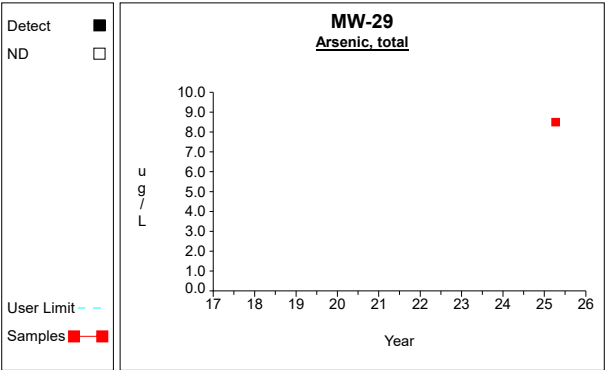


Graph 120

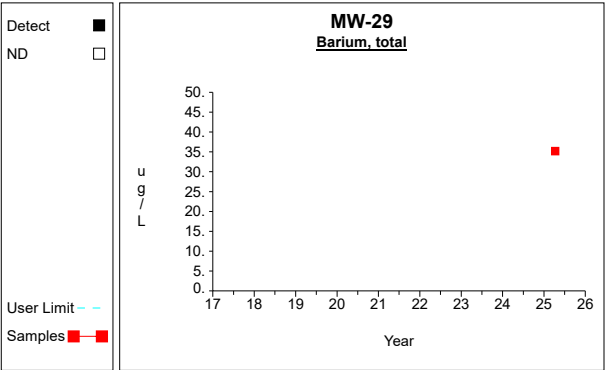
Time Series



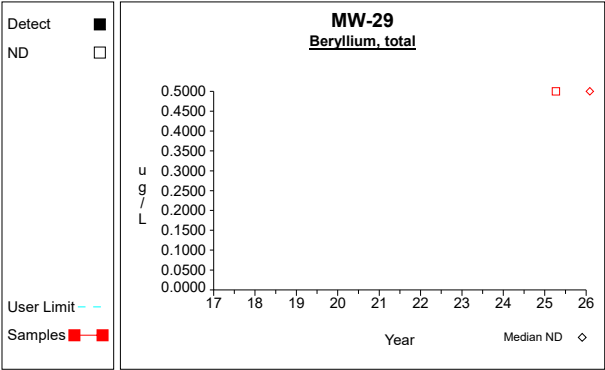
Graph 121



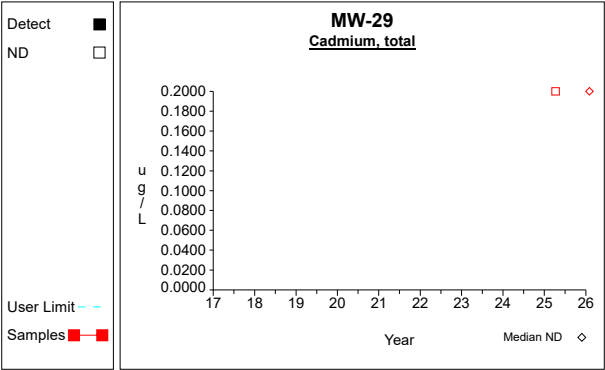
Graph 122



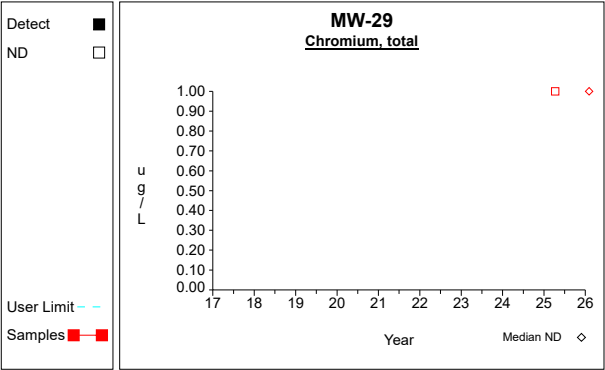
Graph 123



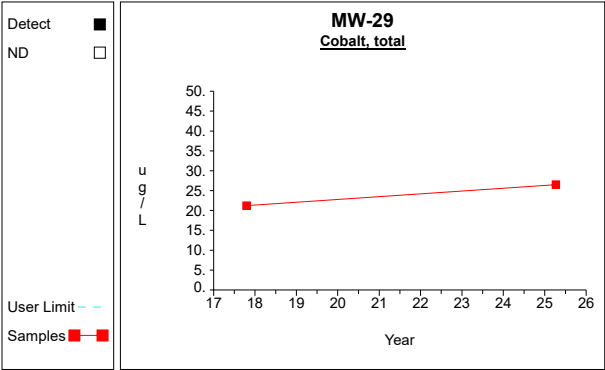
Graph 124



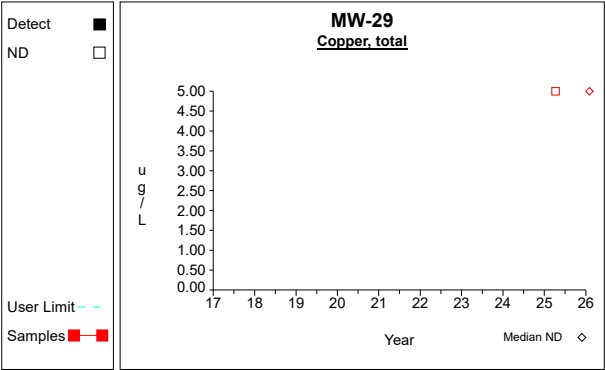
Graph 125



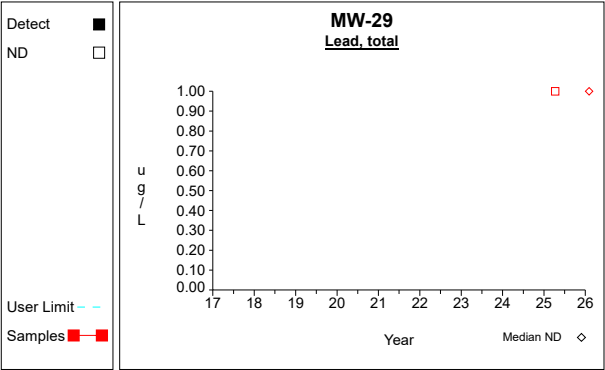
Graph 126



Graph 127

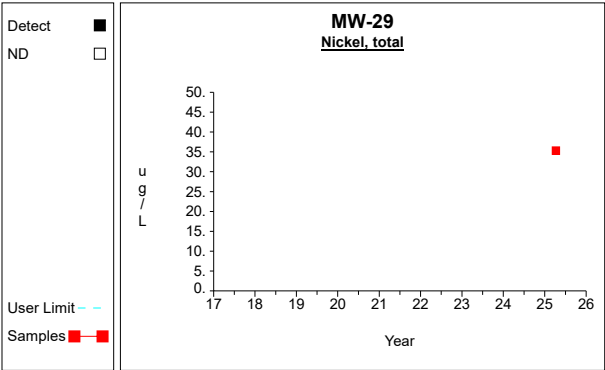


Graph 128

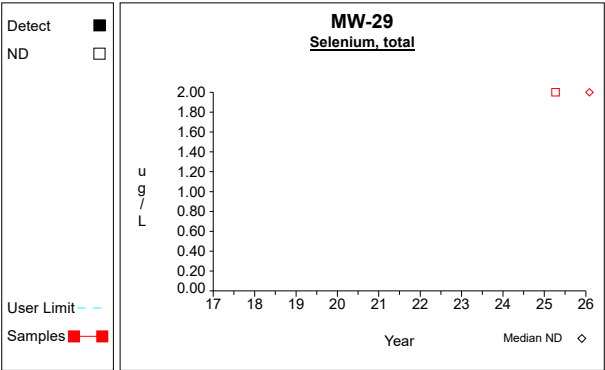


Graph 129

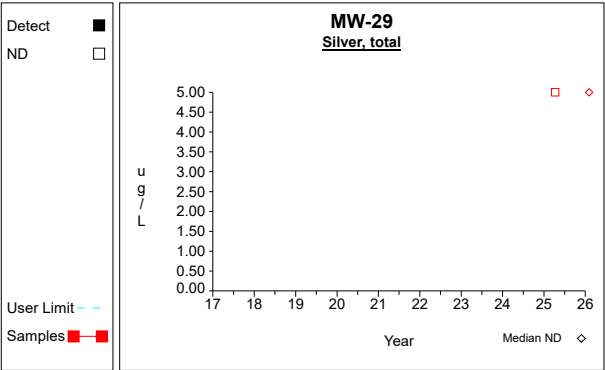
Time Series



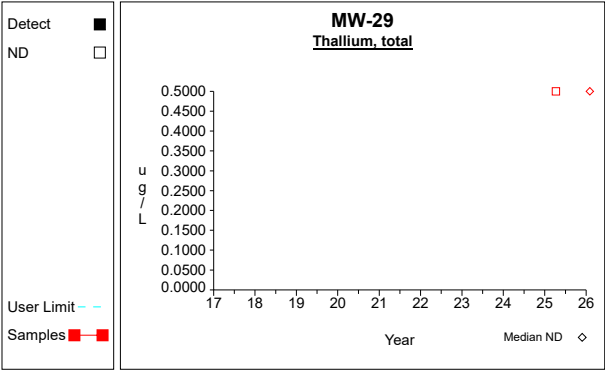
Graph 130



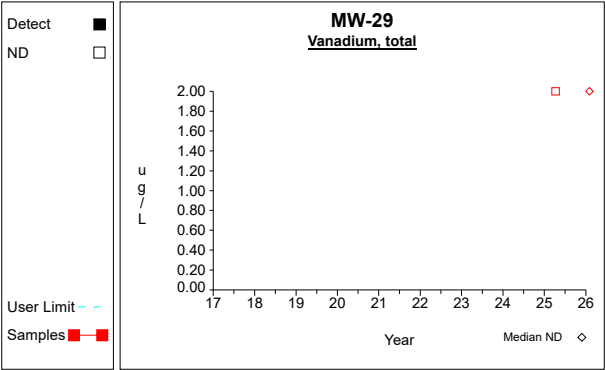
Graph 131



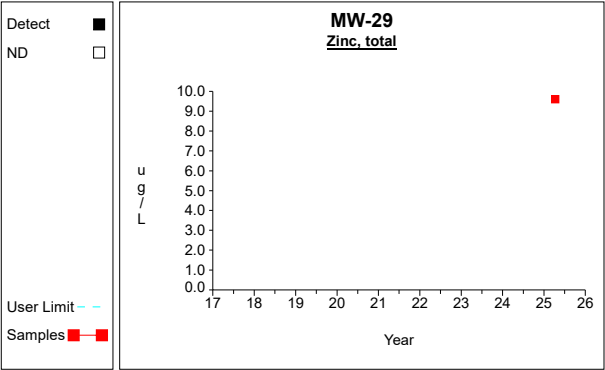
Graph 132



Graph 133

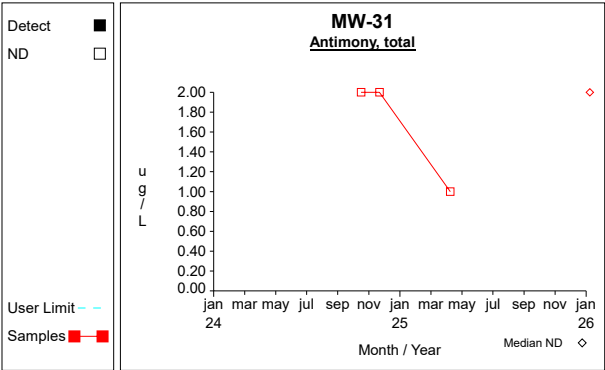


Graph 134

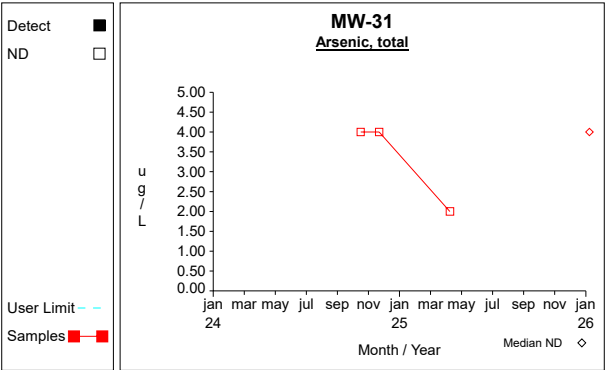


Graph 135

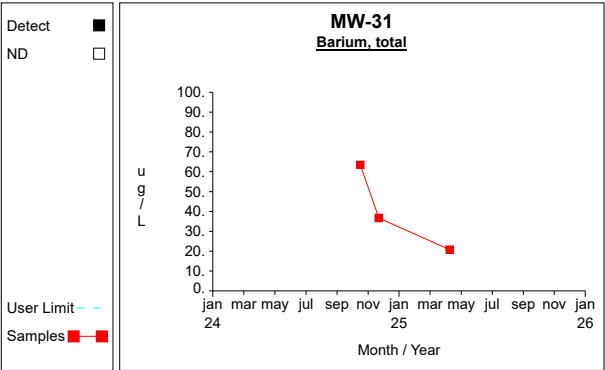
Time Series



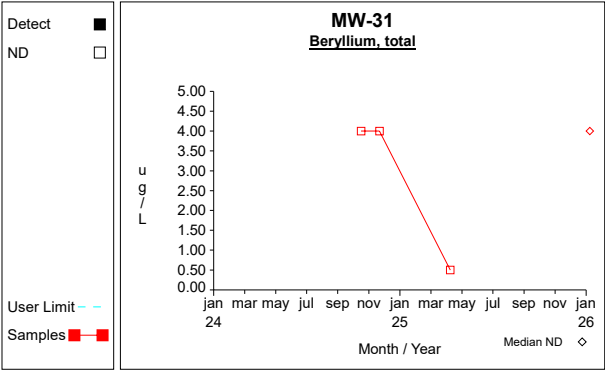
Graph 136



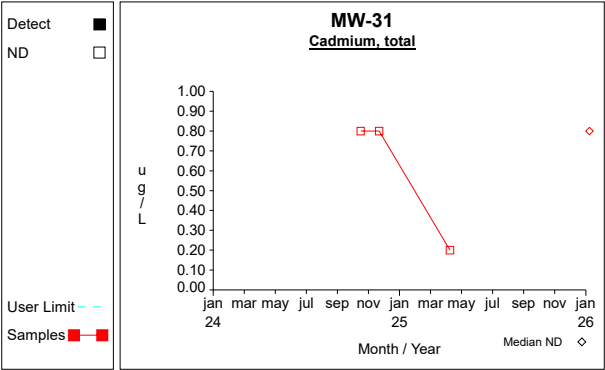
Graph 137



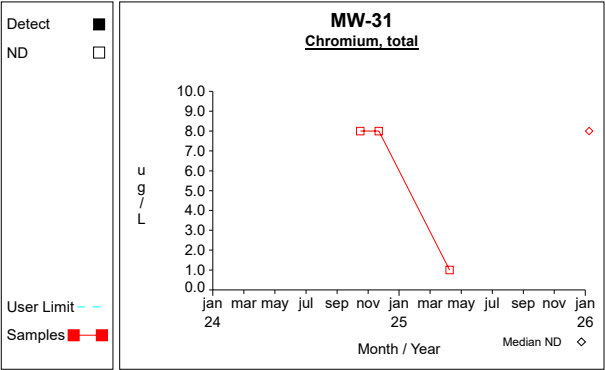
Graph 138



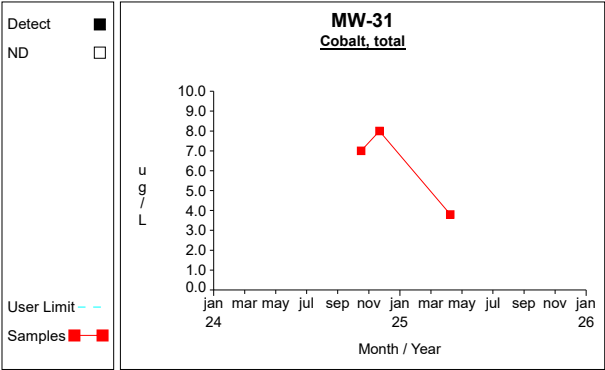
Graph 139



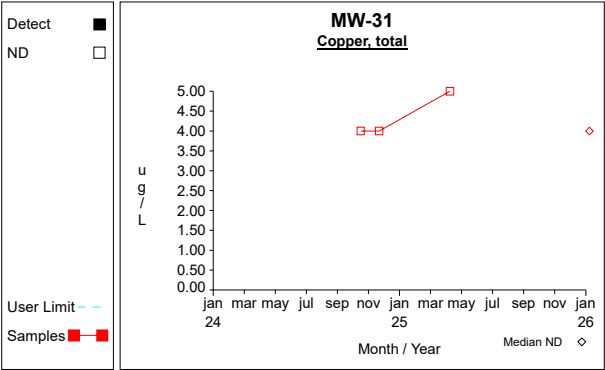
Graph 140



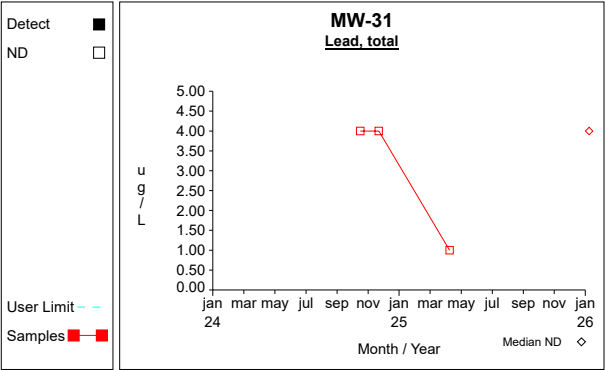
Graph 141



Graph 142

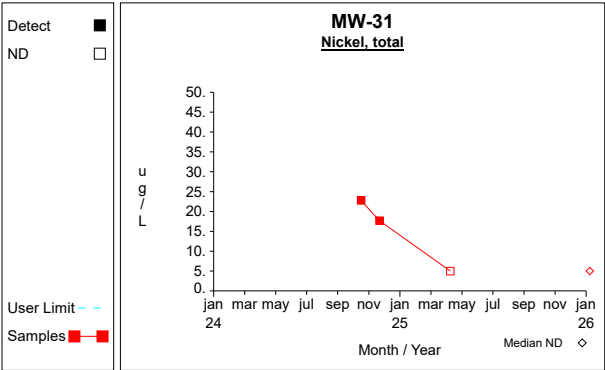


Graph 143

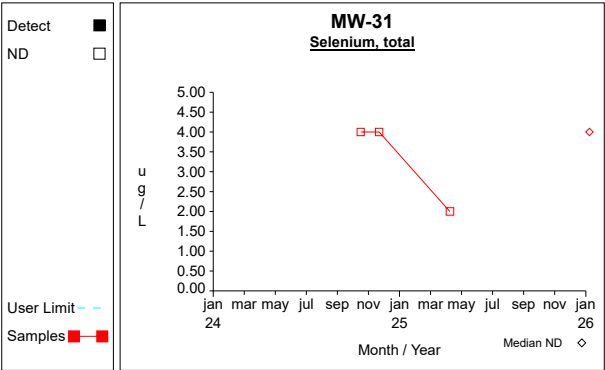


Graph 144

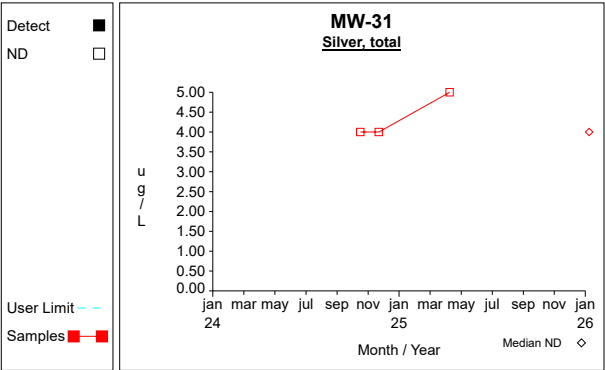
Time Series



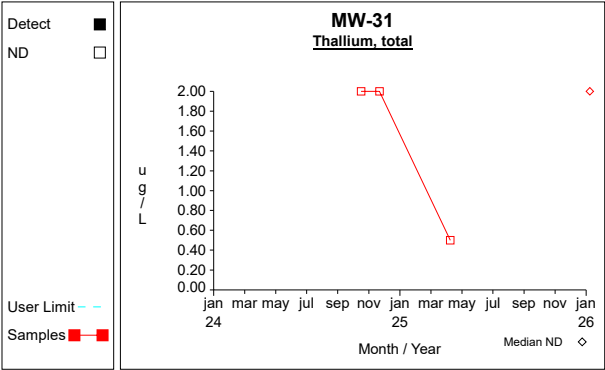
Graph 145



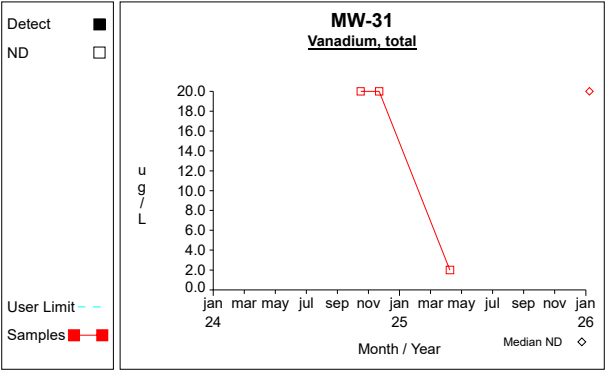
Graph 146



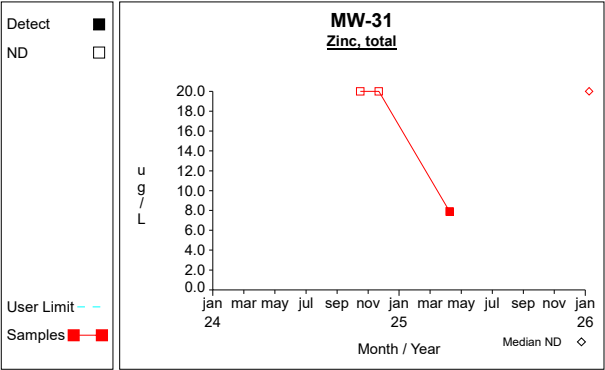
Graph 147



Graph 148

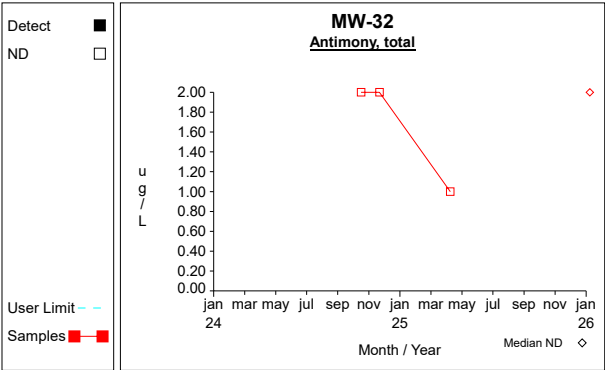


Graph 149

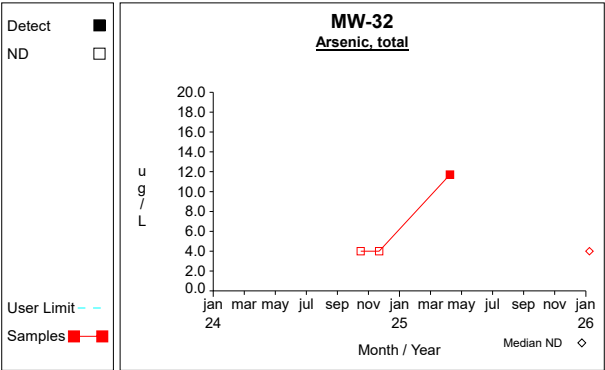


Graph 150

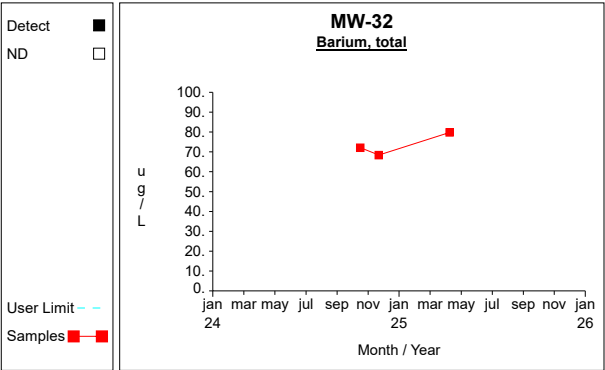
Time Series



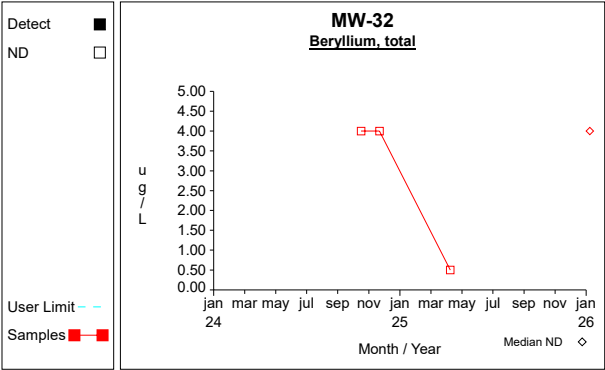
Graph 151



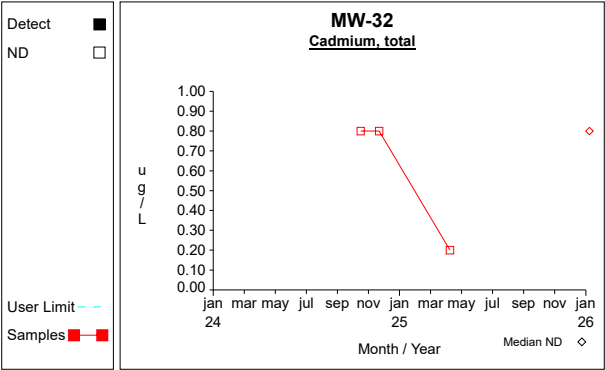
Graph 152



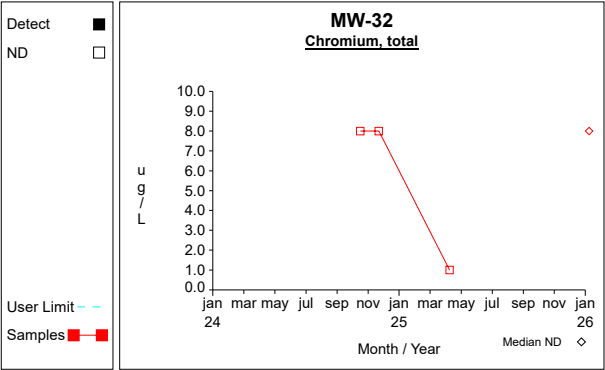
Graph 153



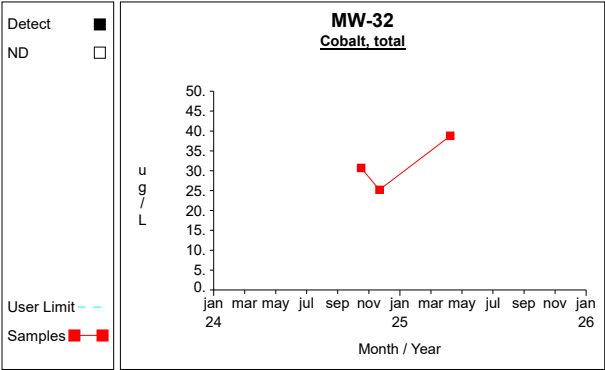
Graph 154



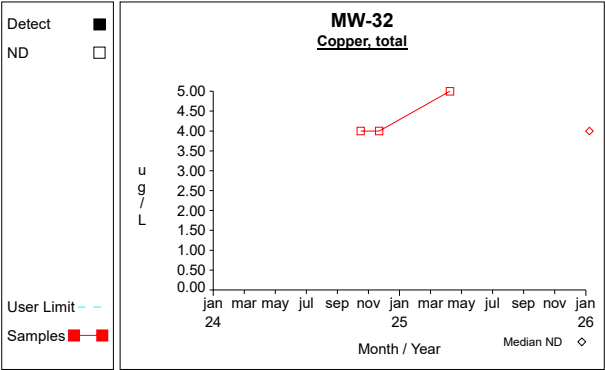
Graph 155



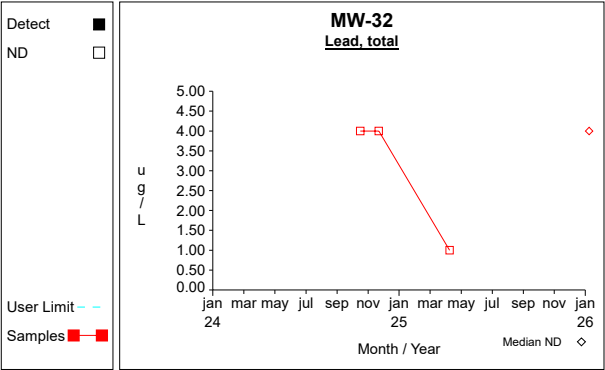
Graph 156



Graph 157

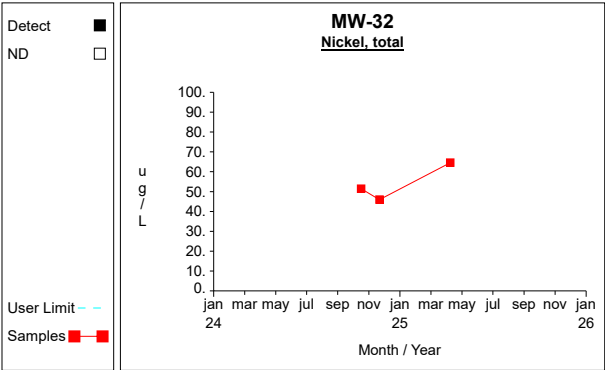


Graph 158

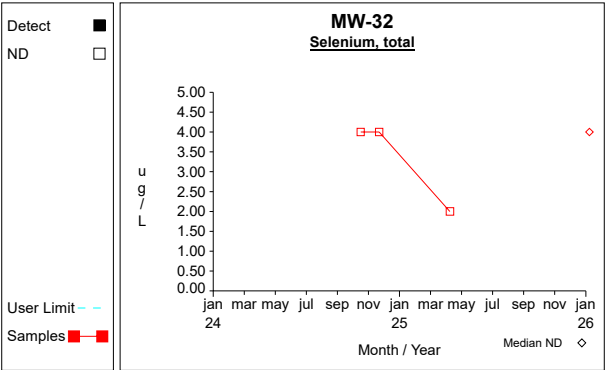


Graph 159

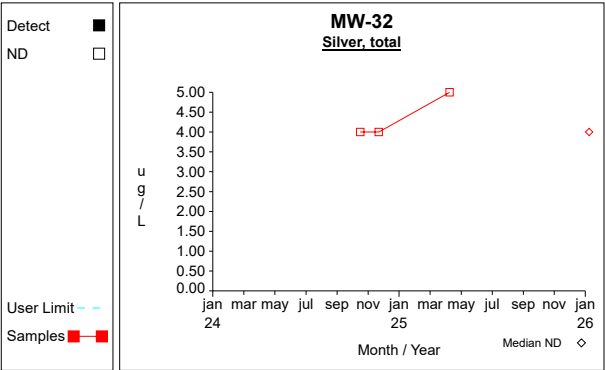
Time Series



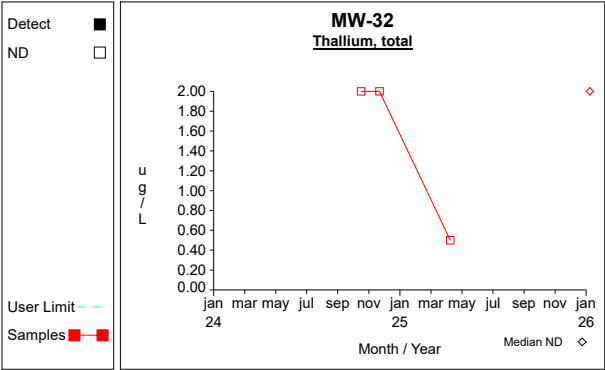
Graph 160



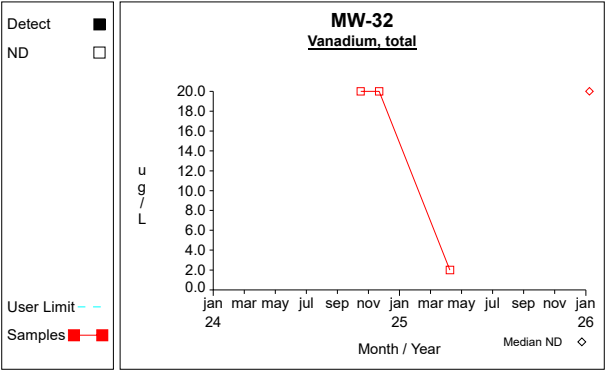
Graph 161



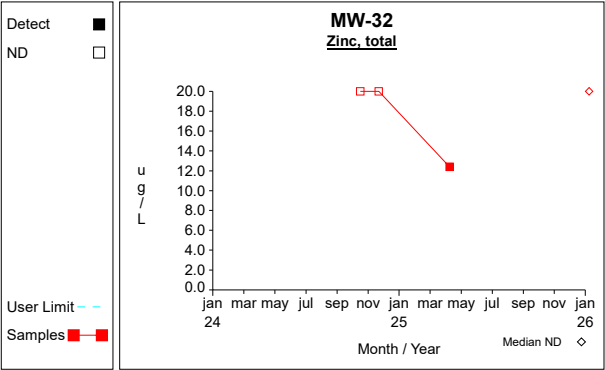
Graph 162



Graph 163



Graph 164



Graph 165