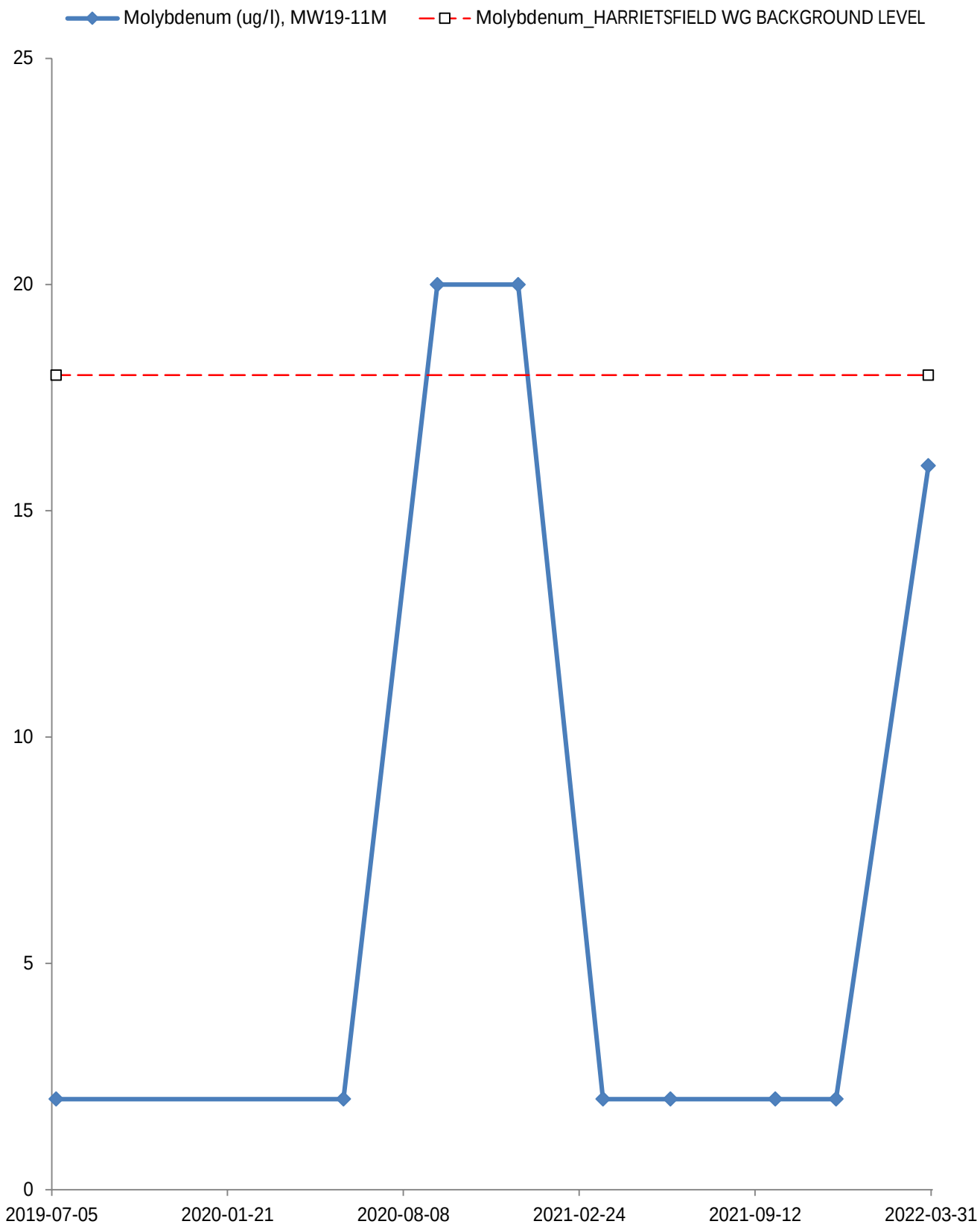
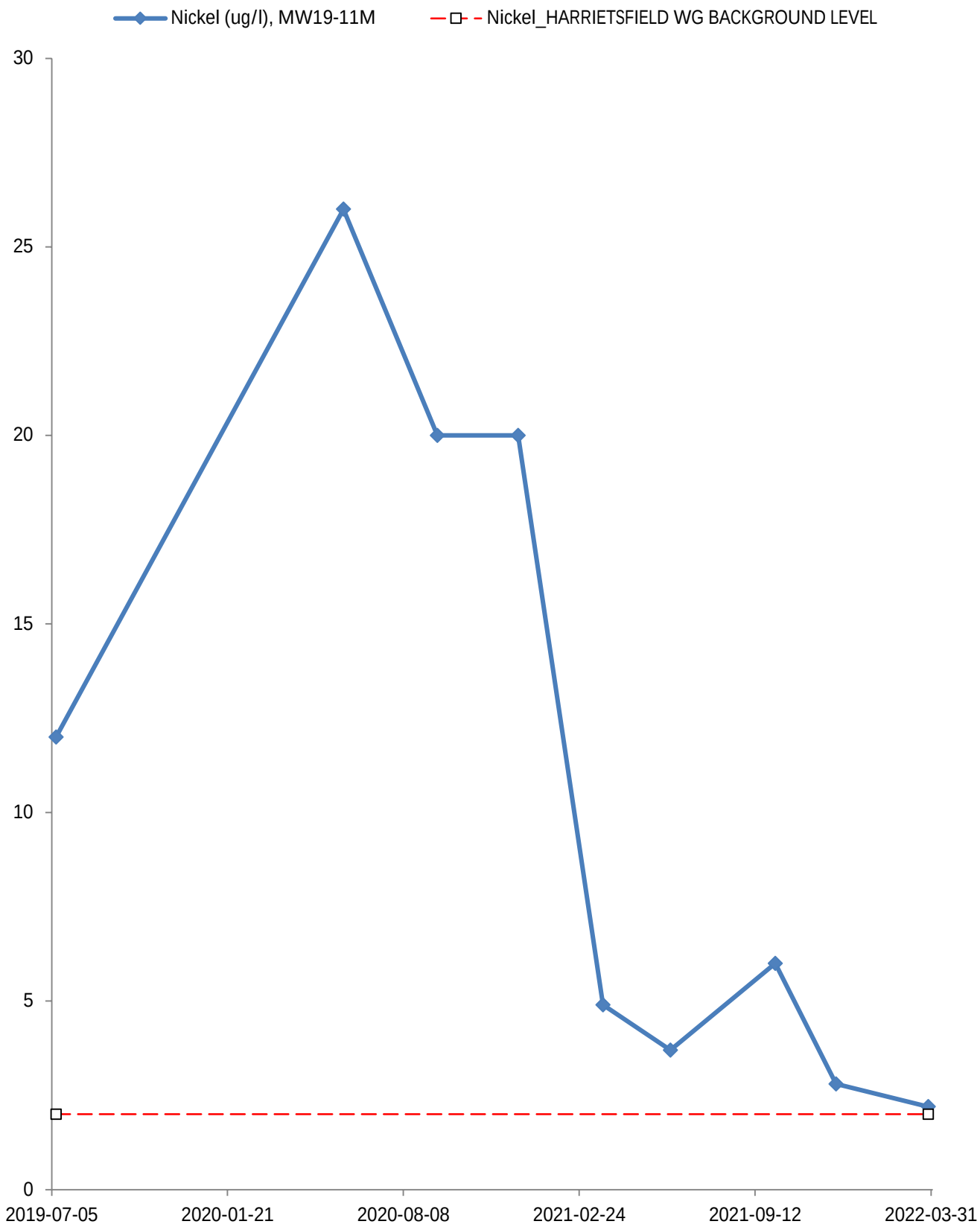
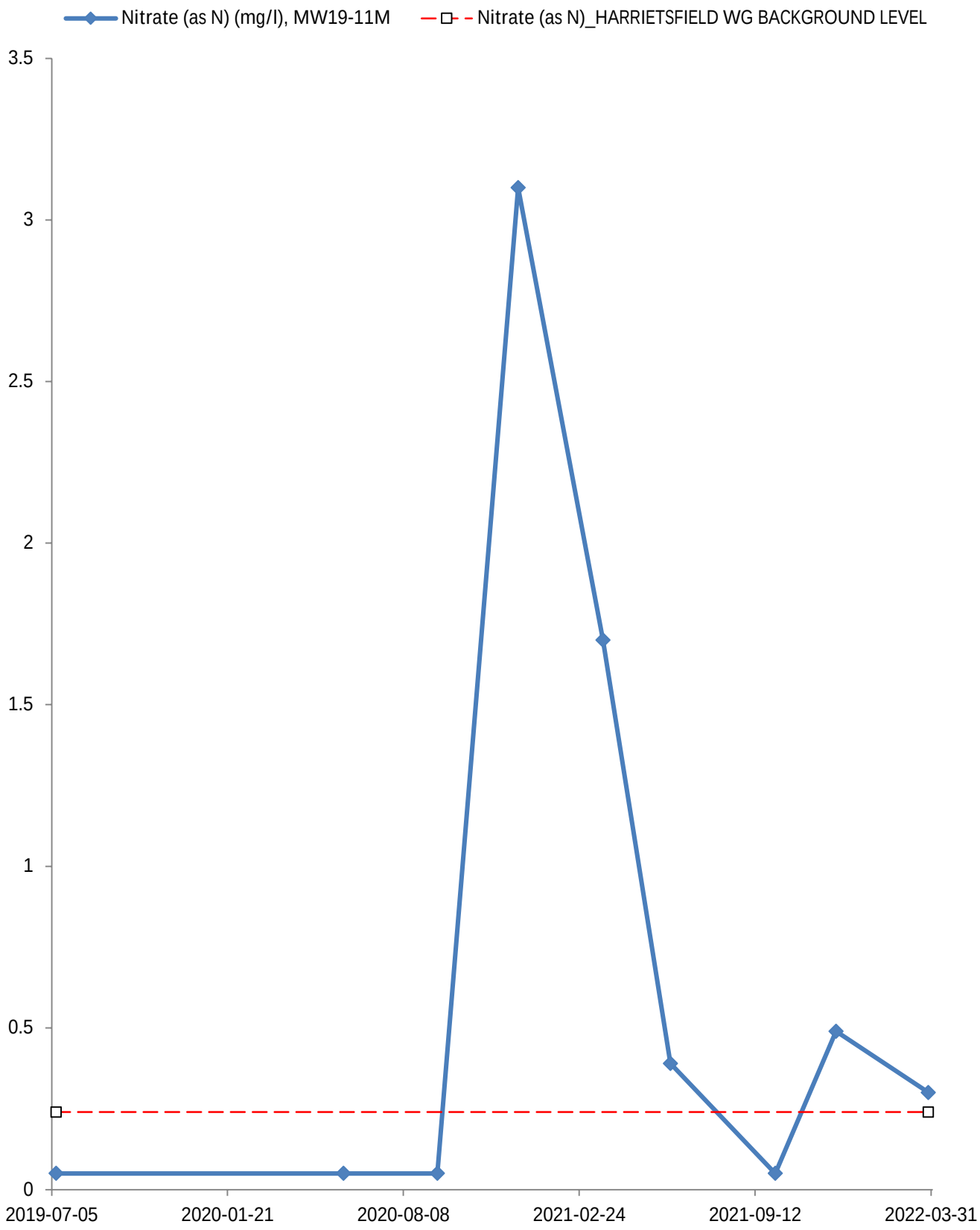
MW19-11M-Molybdenum



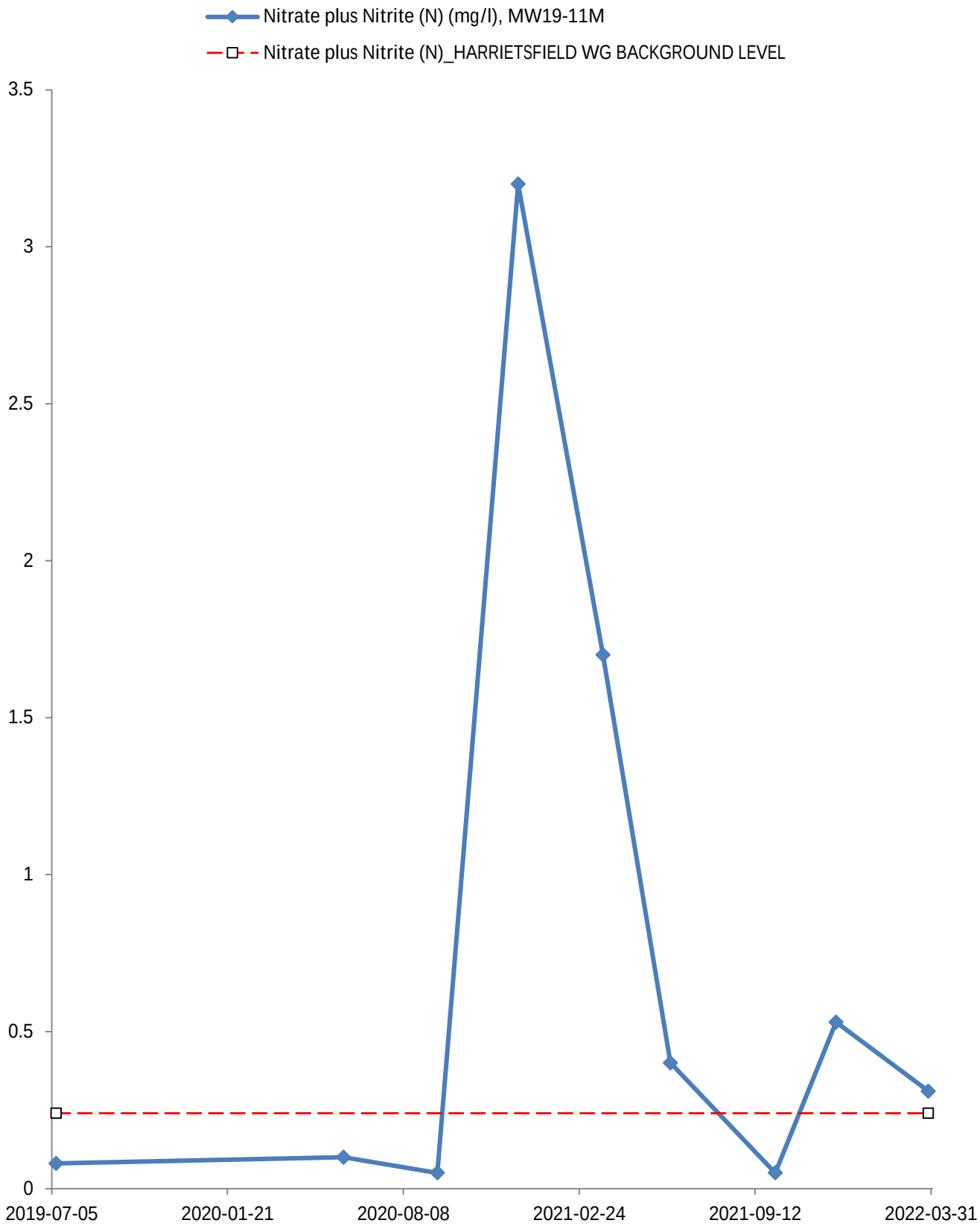
MW19-11M-Nickel



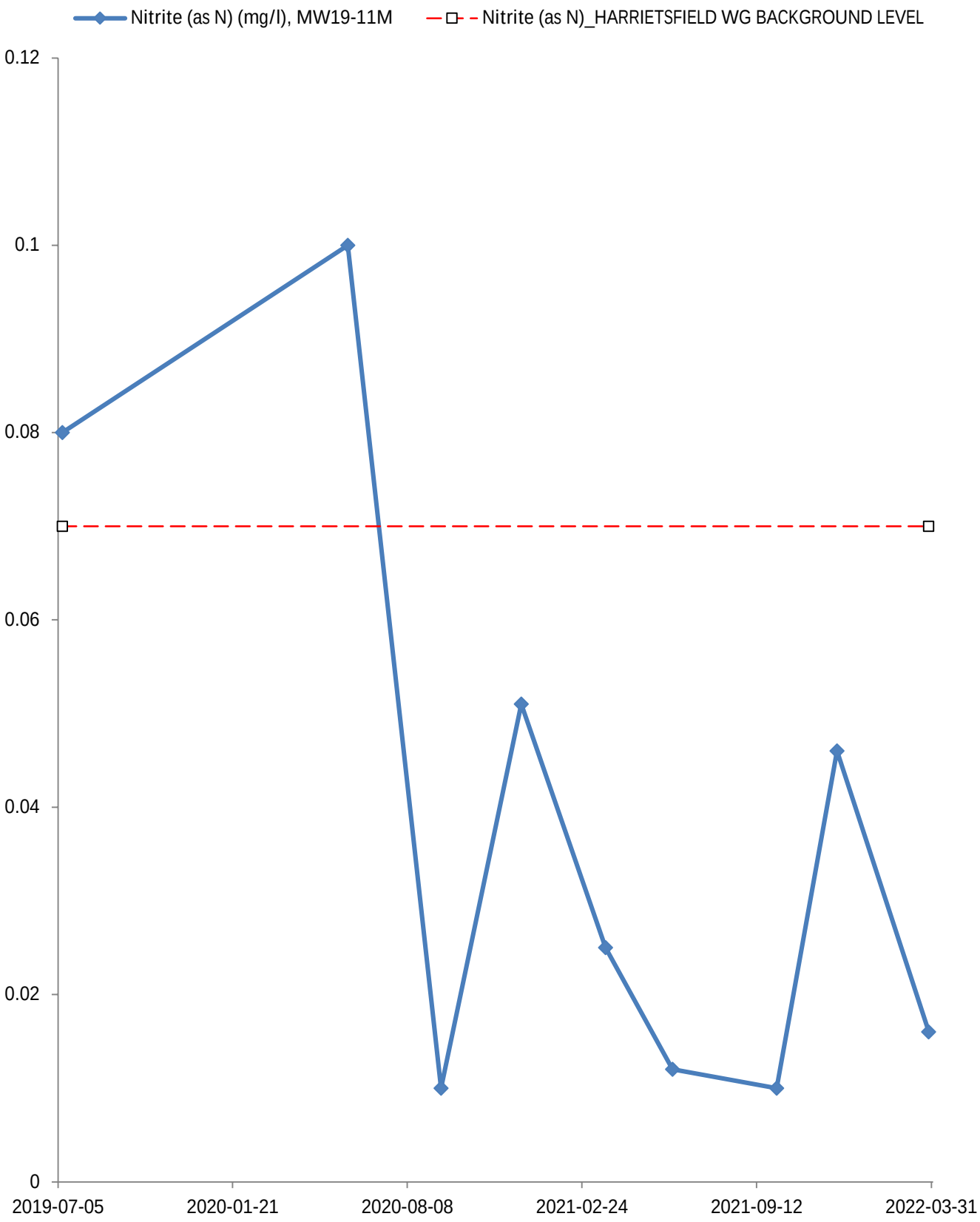
MW19-11M-Nitrate (as N)



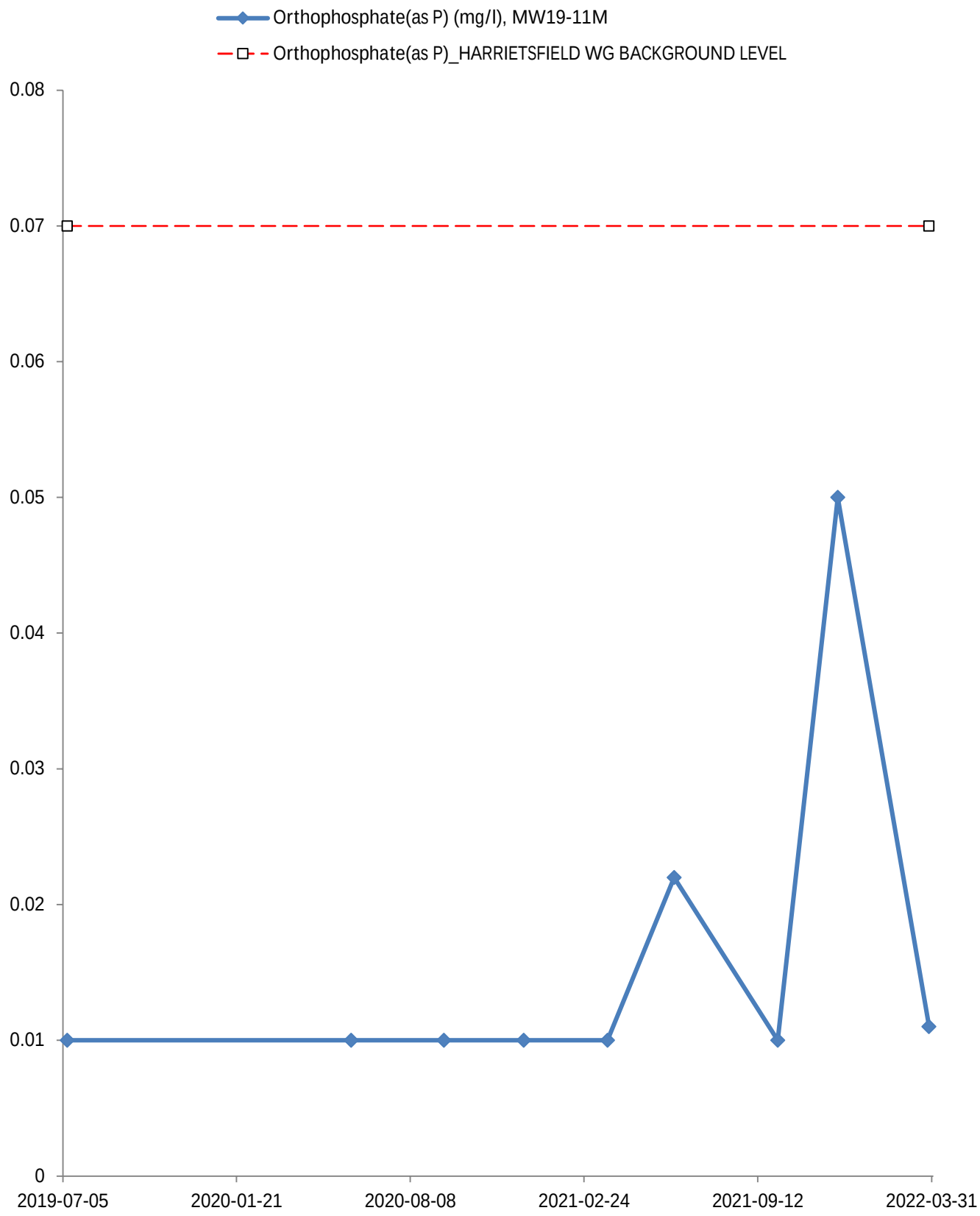
MW19-11M-Nitrate plus Nitrite (N)



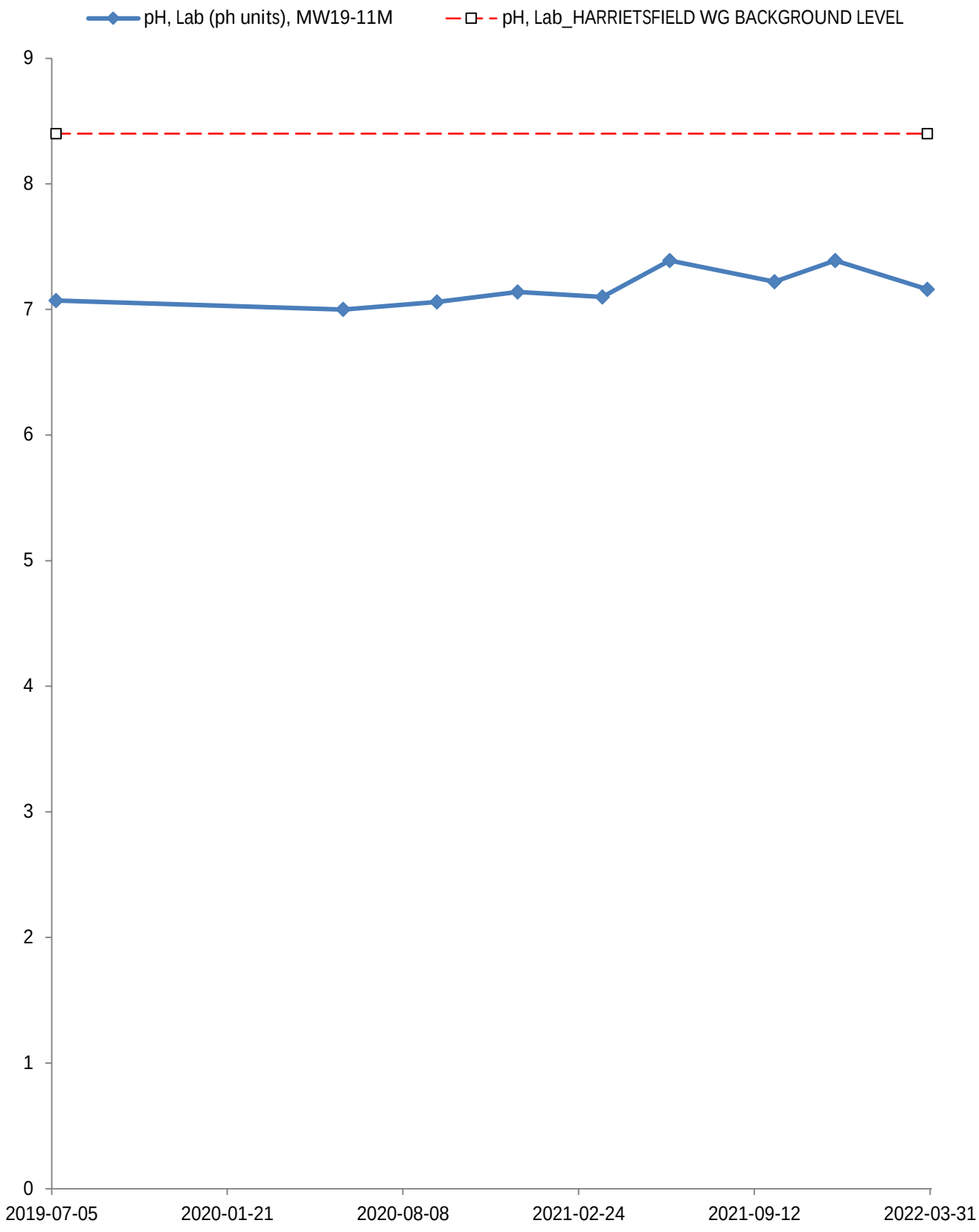
MW19-11M-Nitrite (as N)



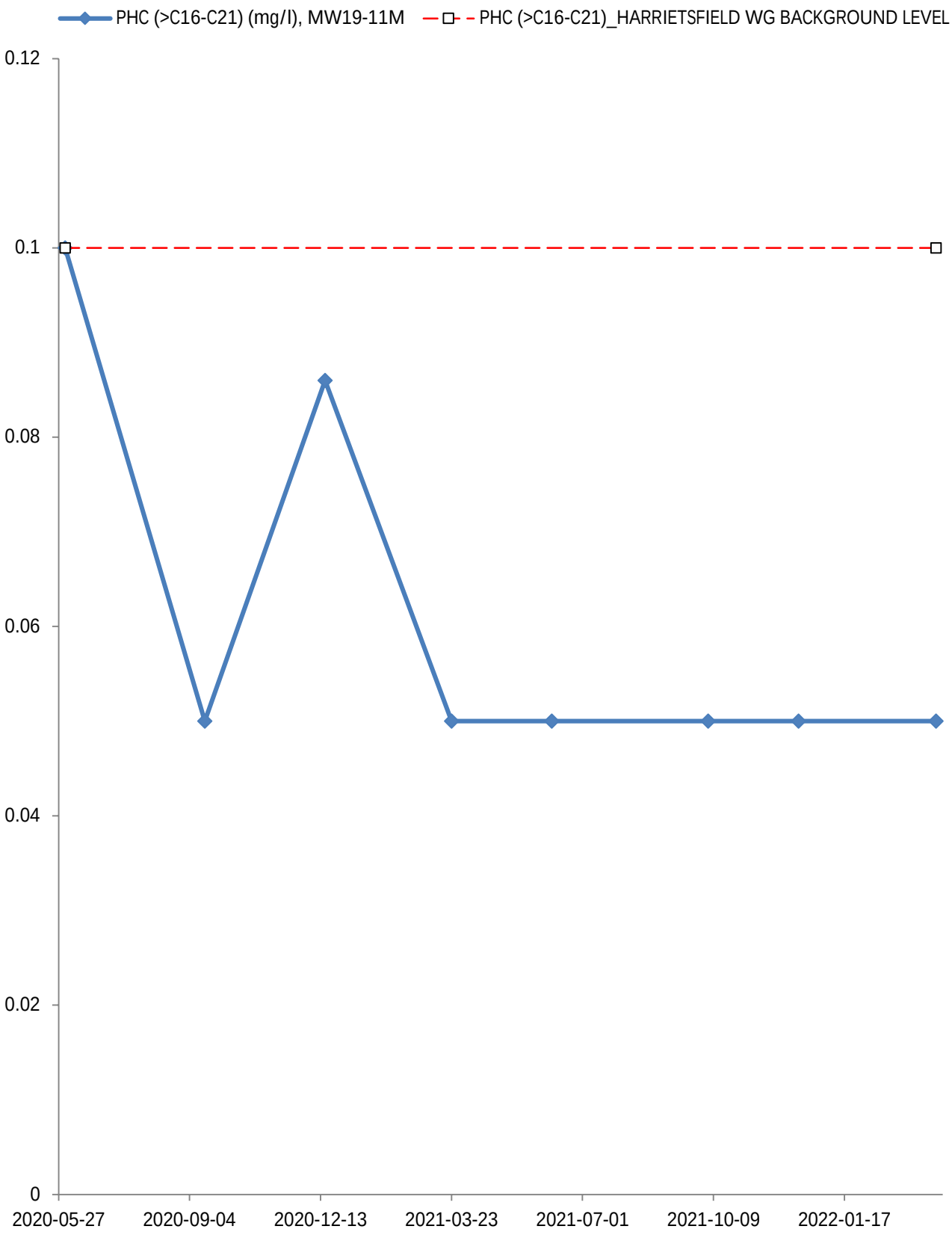
MW19-11M-Orthophosphate(as P)



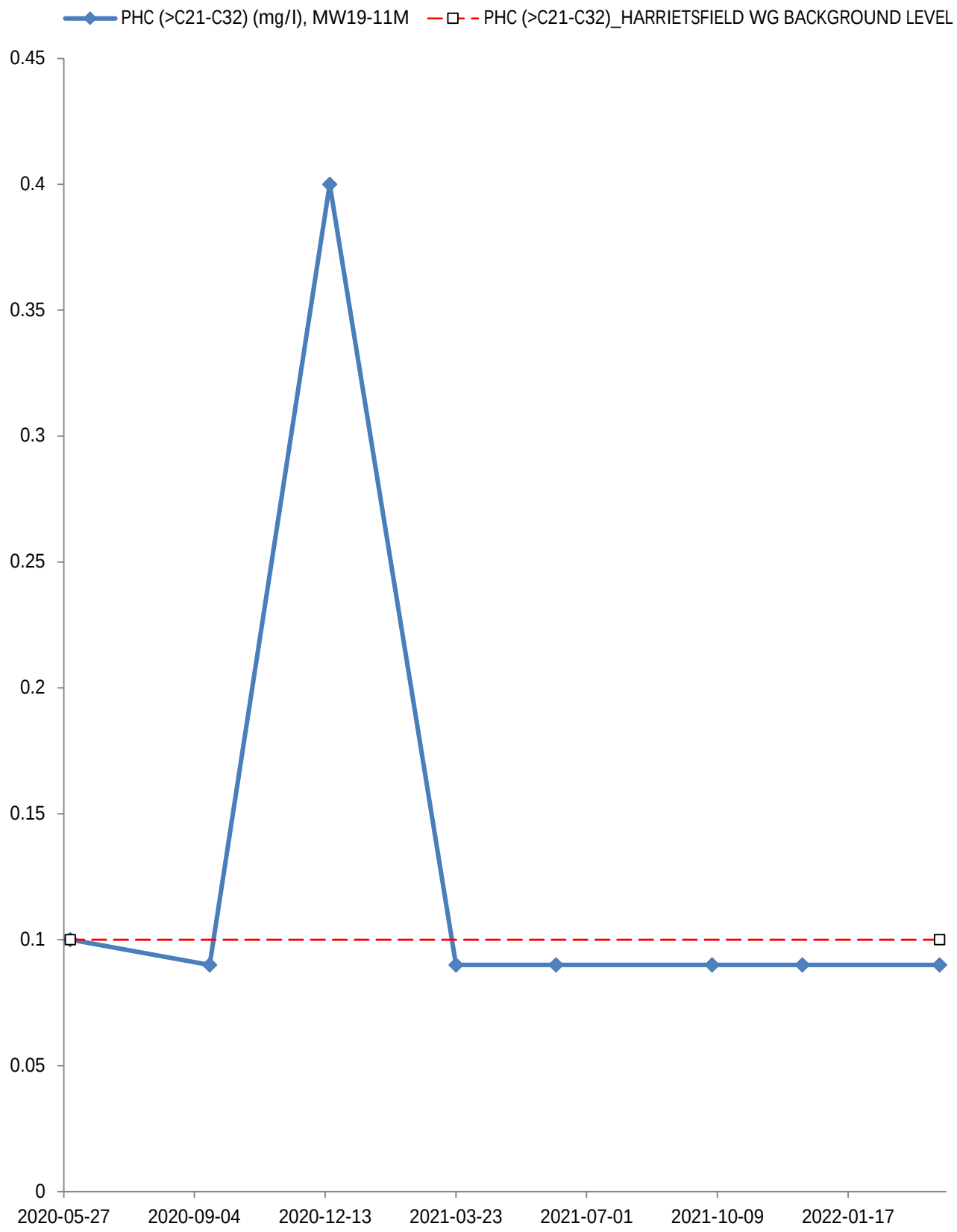
MW19-11M-pH, Lab



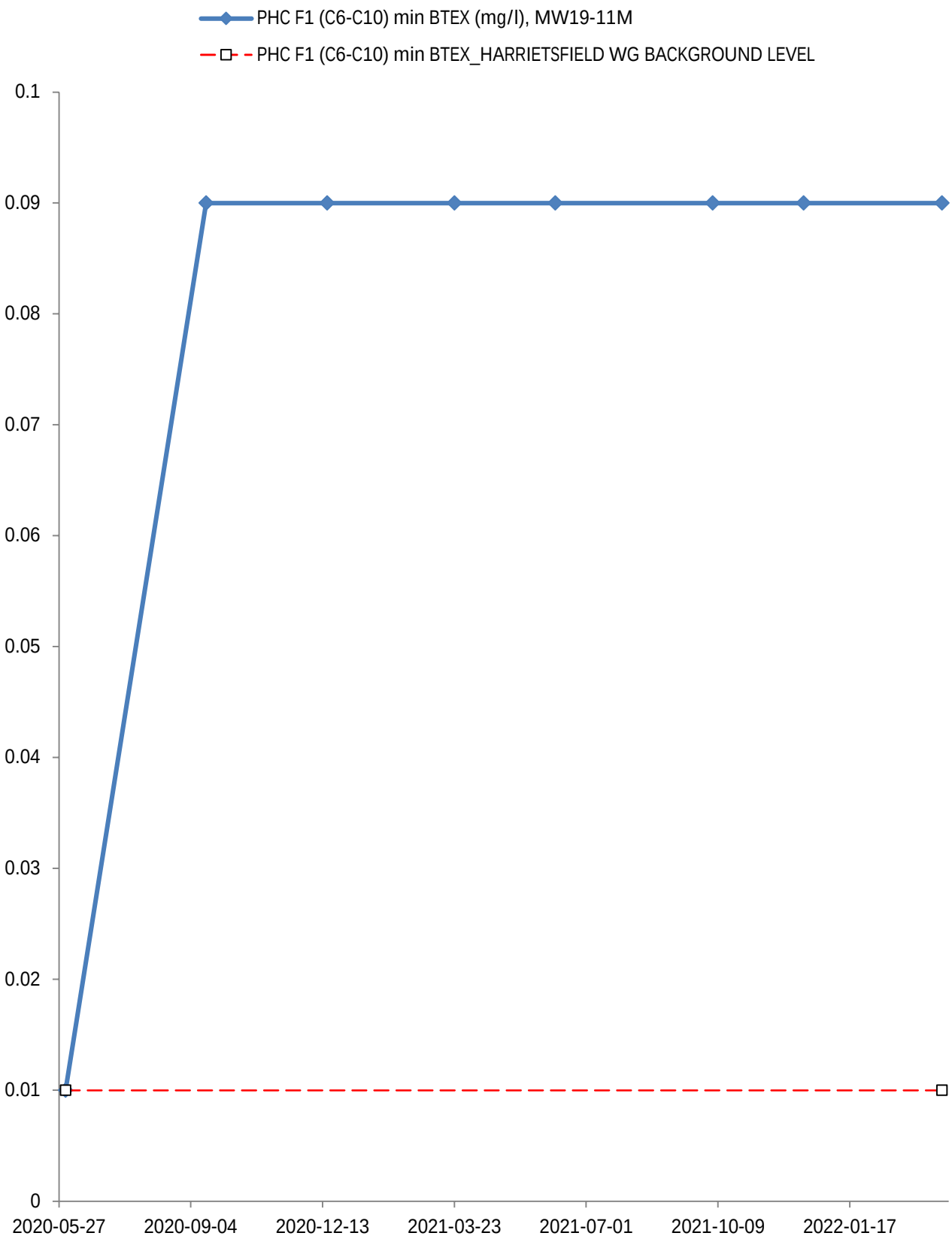
MW19-11M-PHC (>C16-C21)



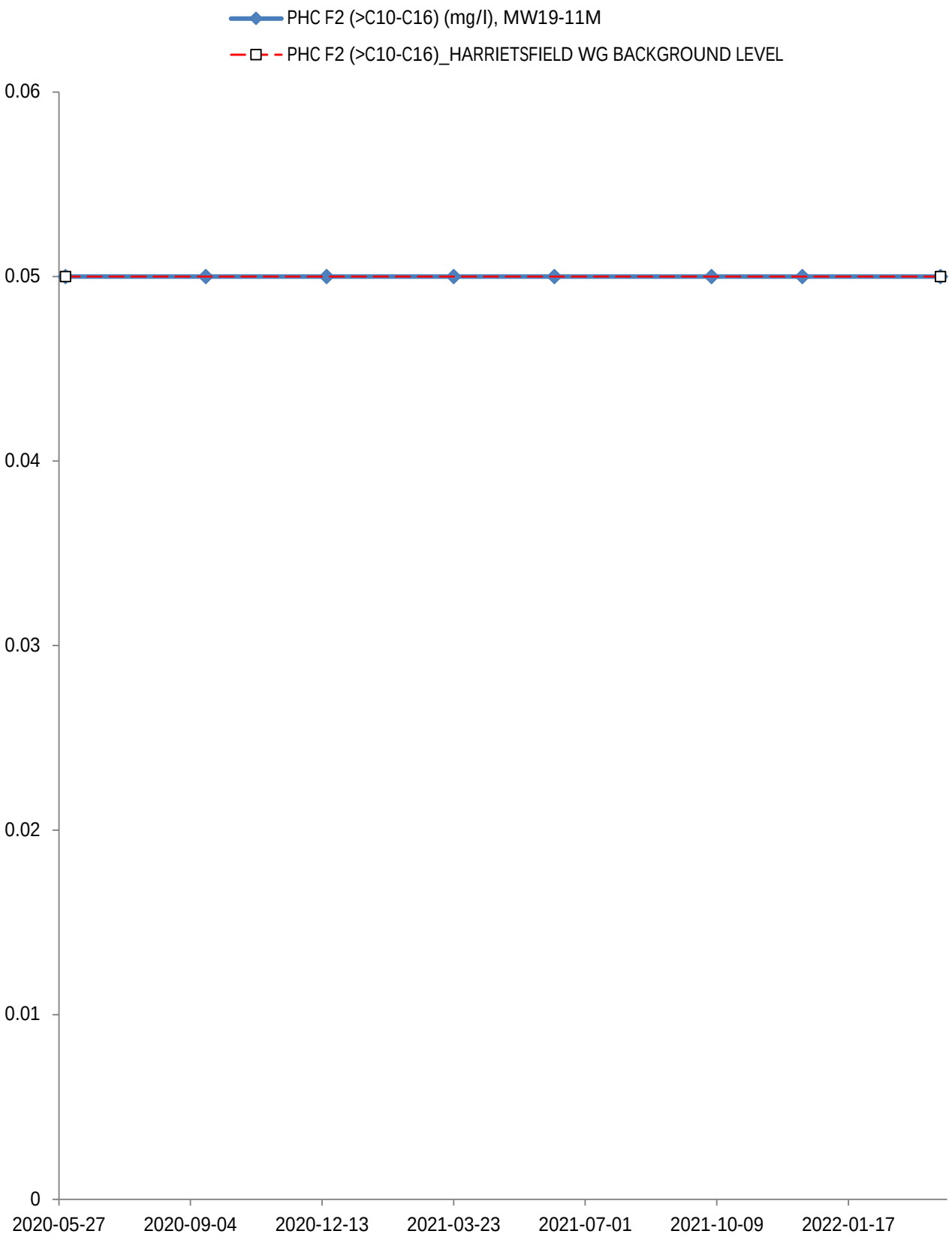
MW19-11M-PHC (>C21-C32)



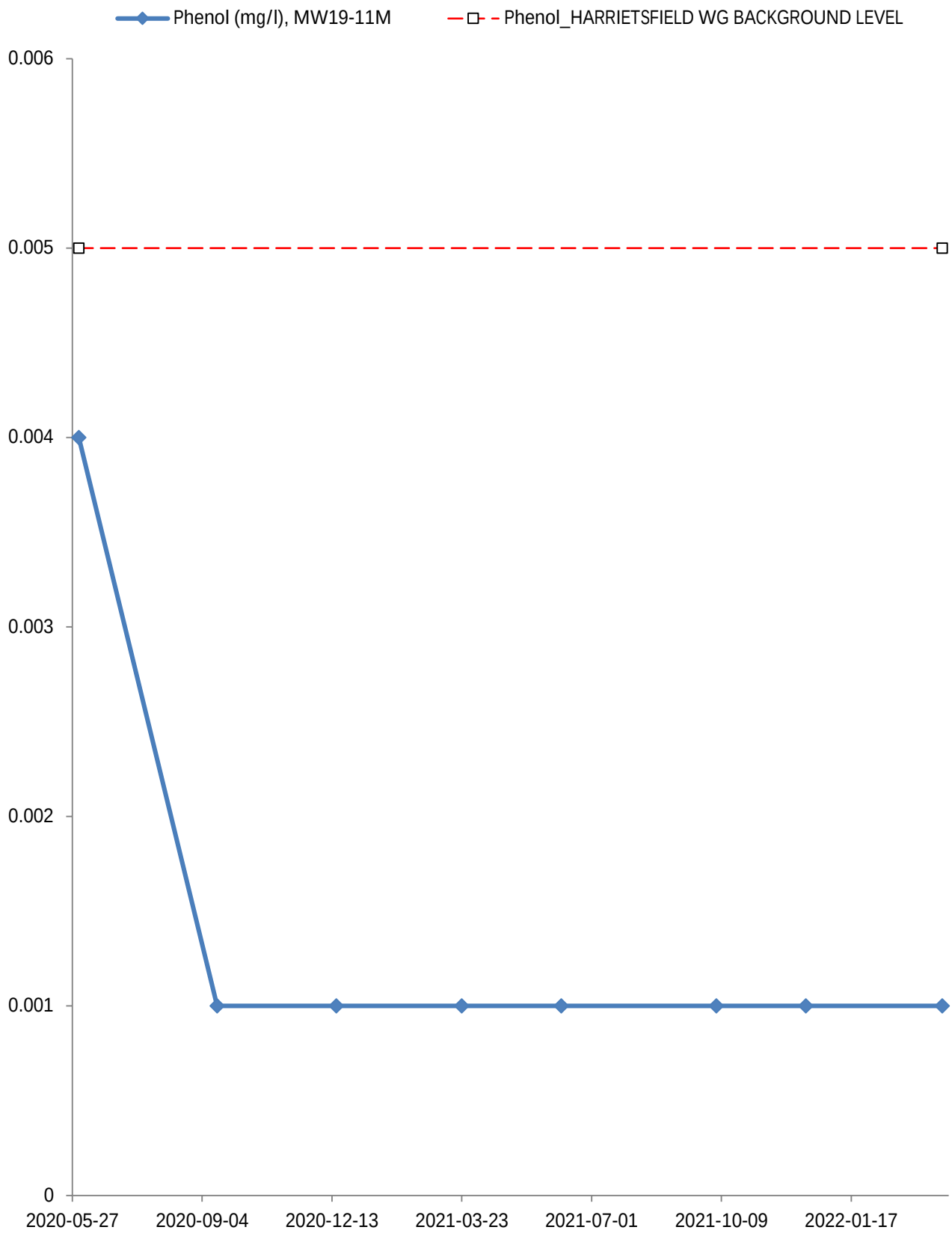
MW19-11M-PHC F1 (C6-C10) min BTEX



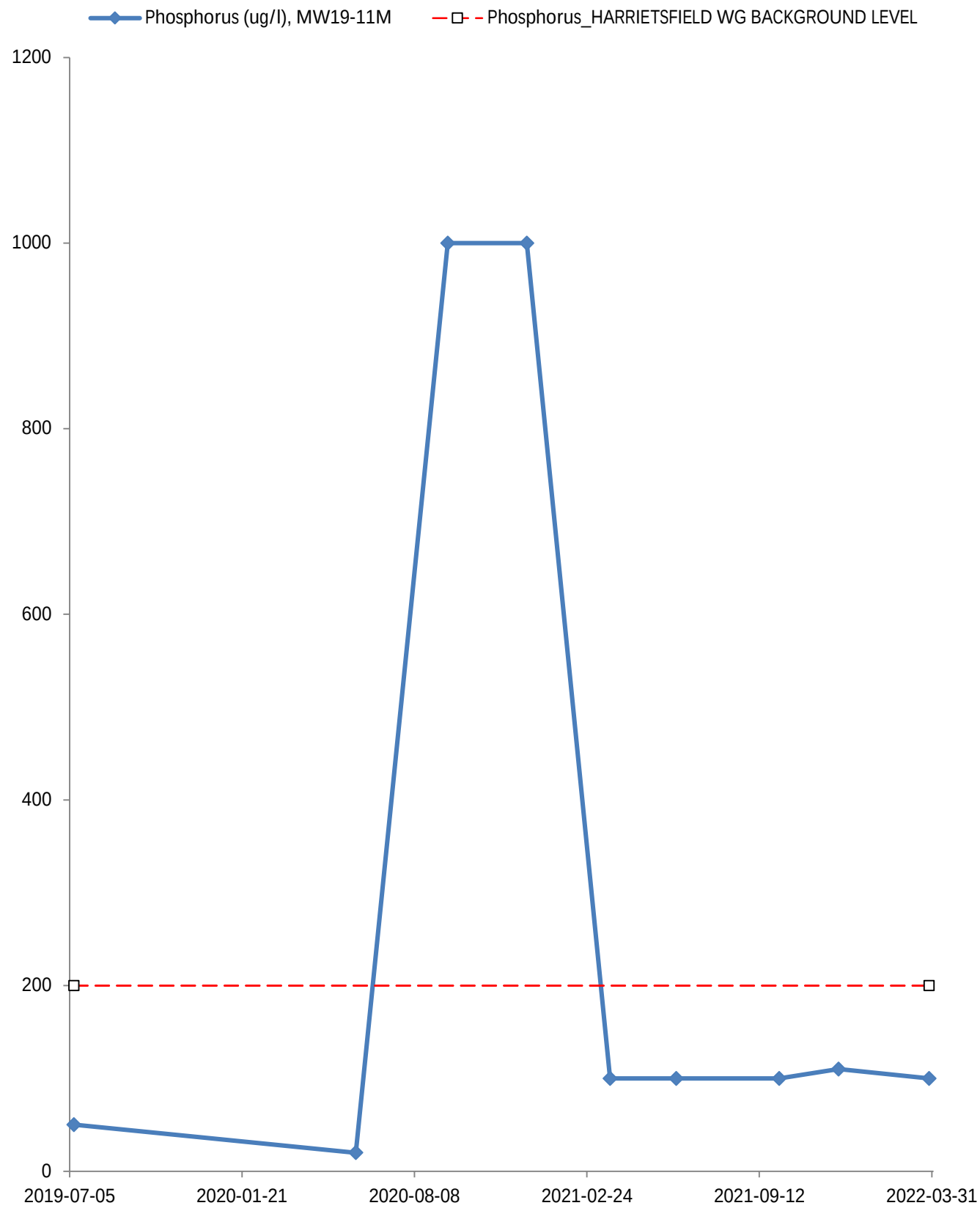
MW19-11M-PHC F2 (>C10-C16)



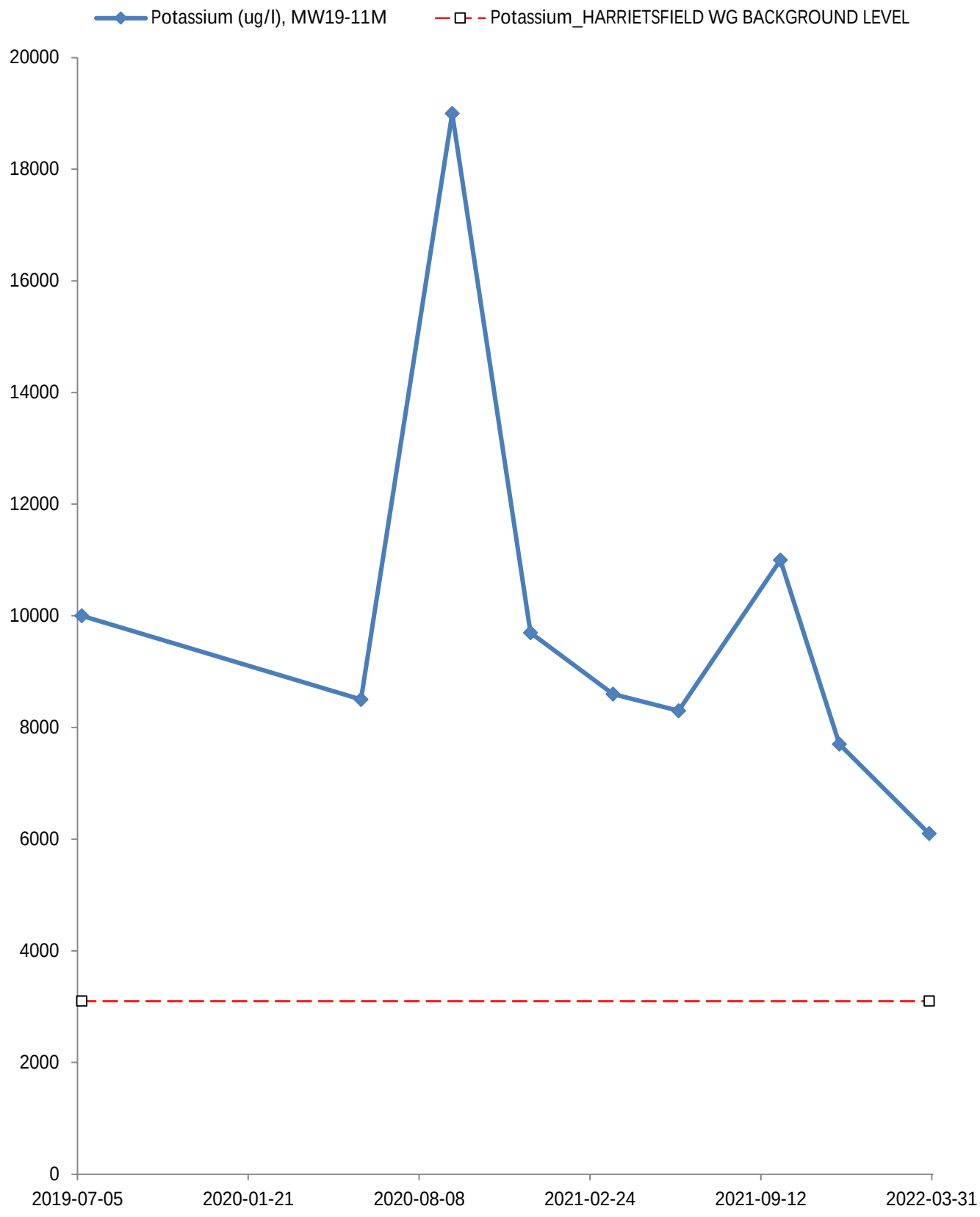
MW19-11M-Phenol



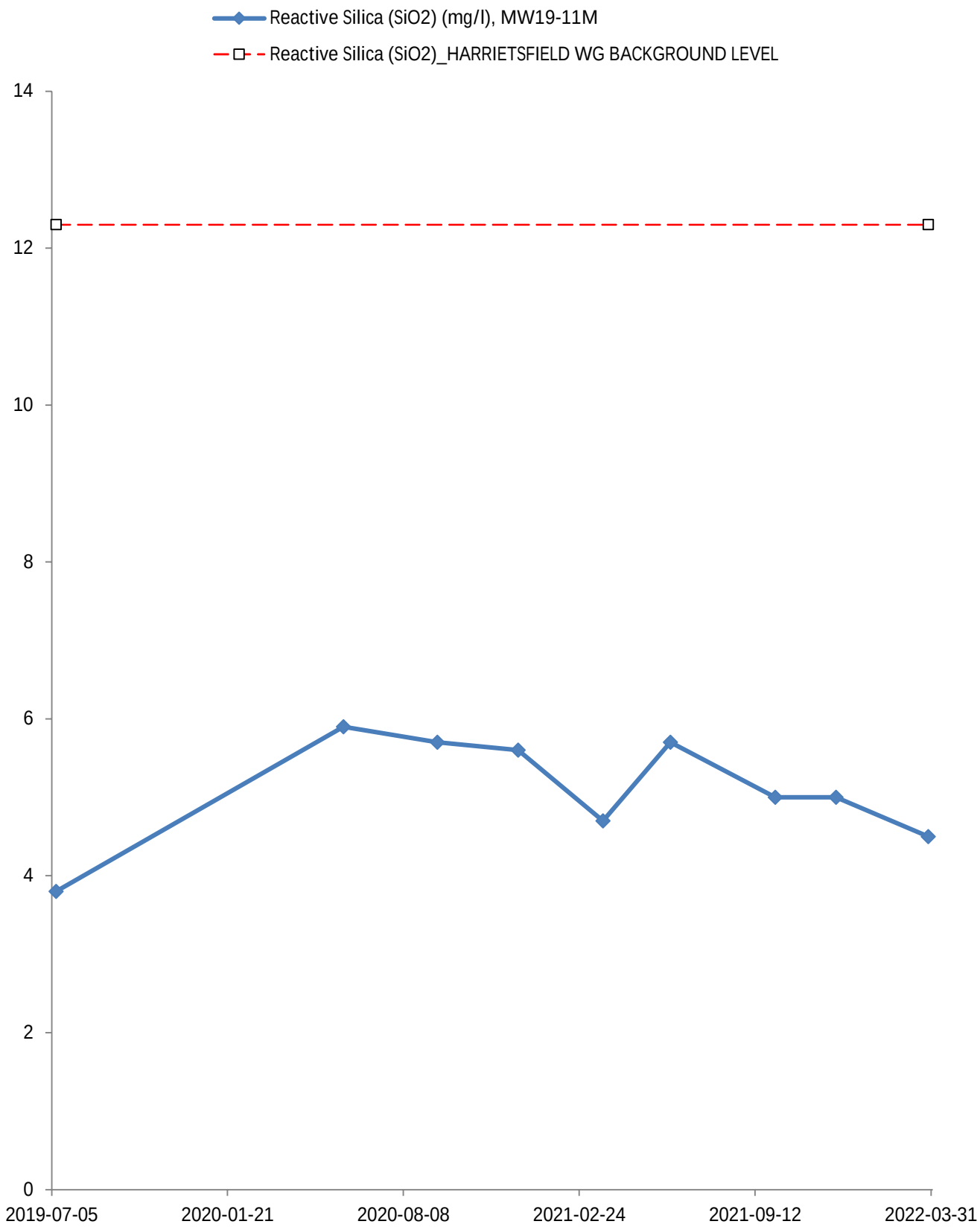
MW19-11M-Phosphorus



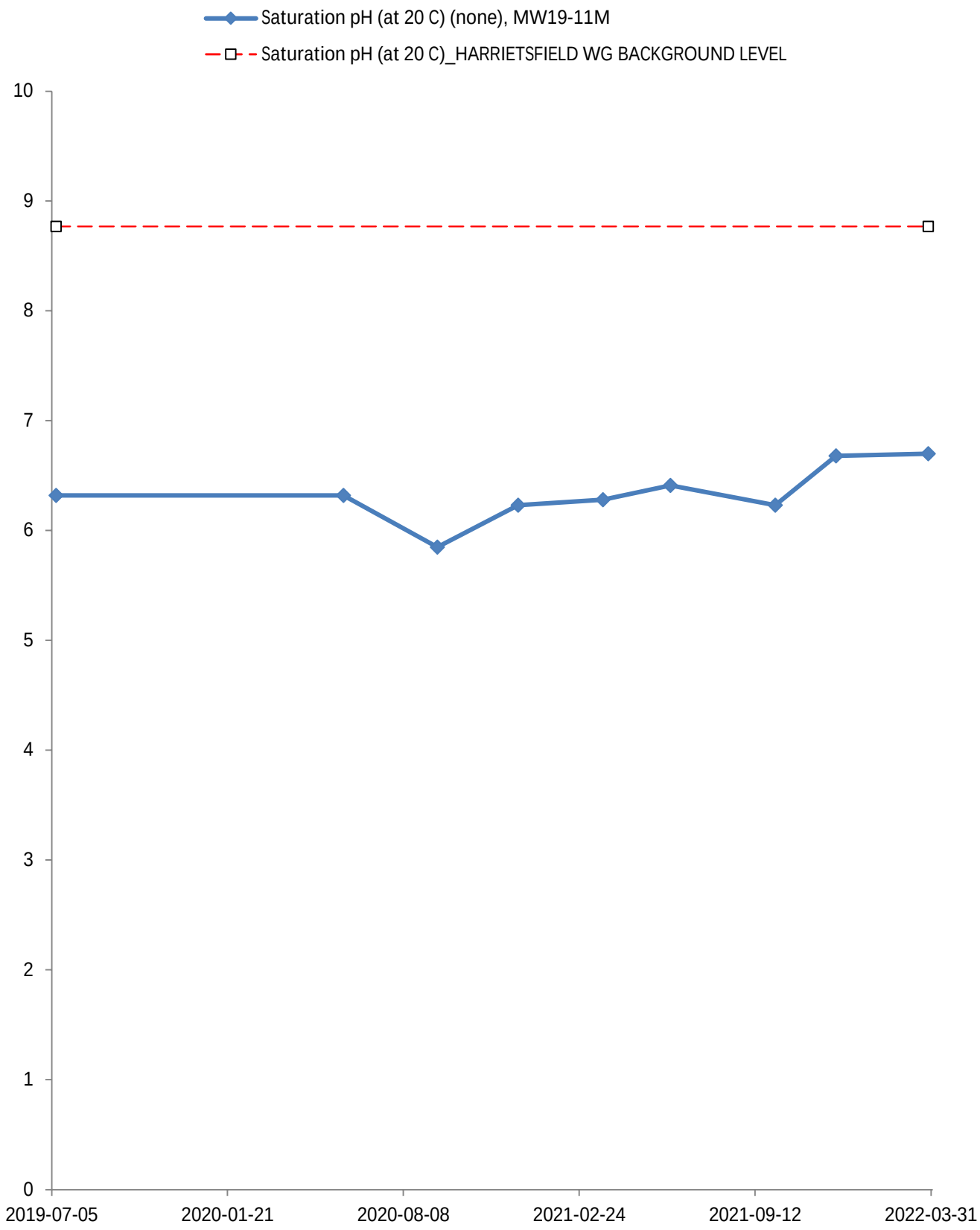
MW19-11M-Potassium



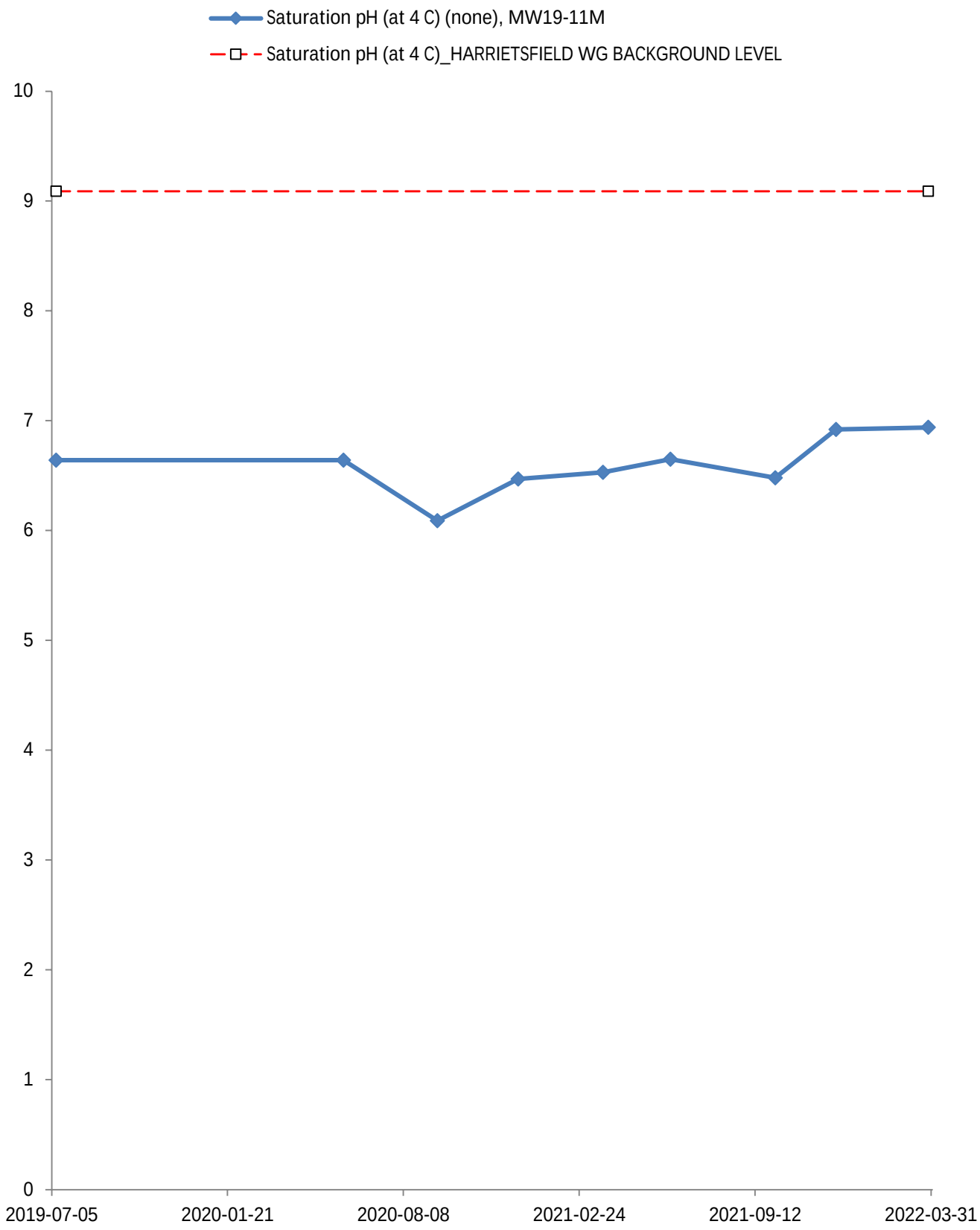
MW19-11M-Reactive Silica (SiO2)



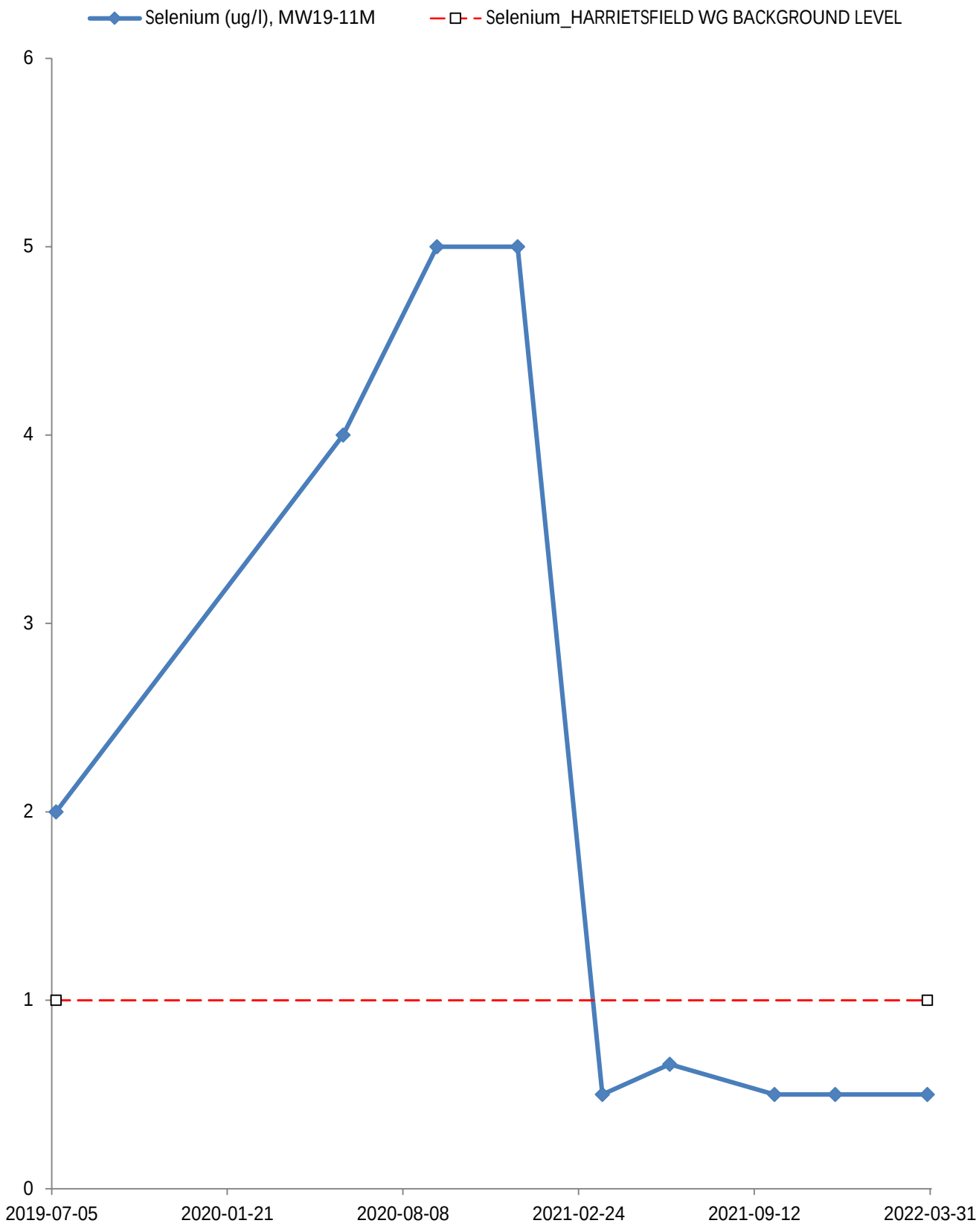
MW19-11M-Saturation pH (at 20 C)



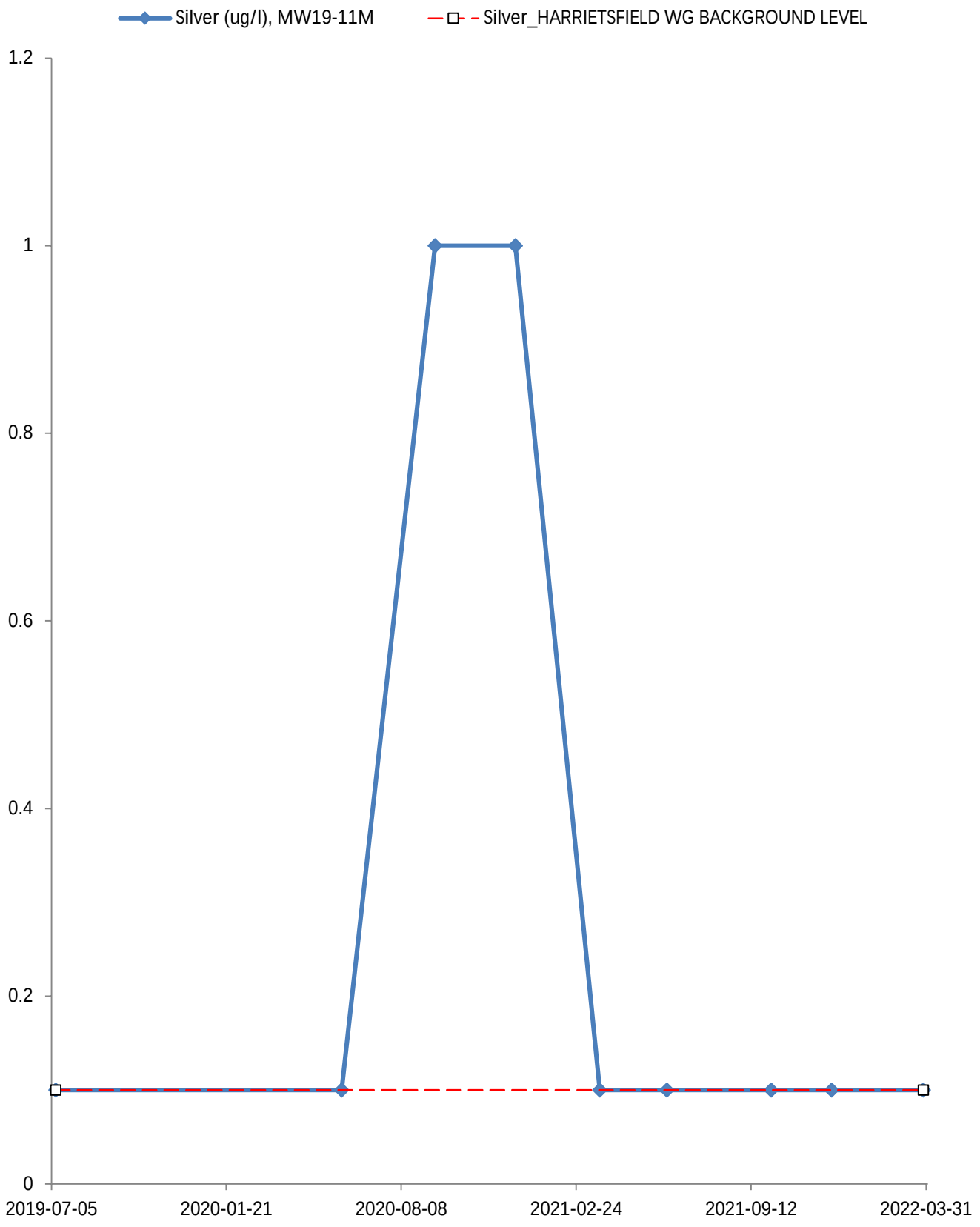
MW19-11M-Saturation pH (at 4 C)



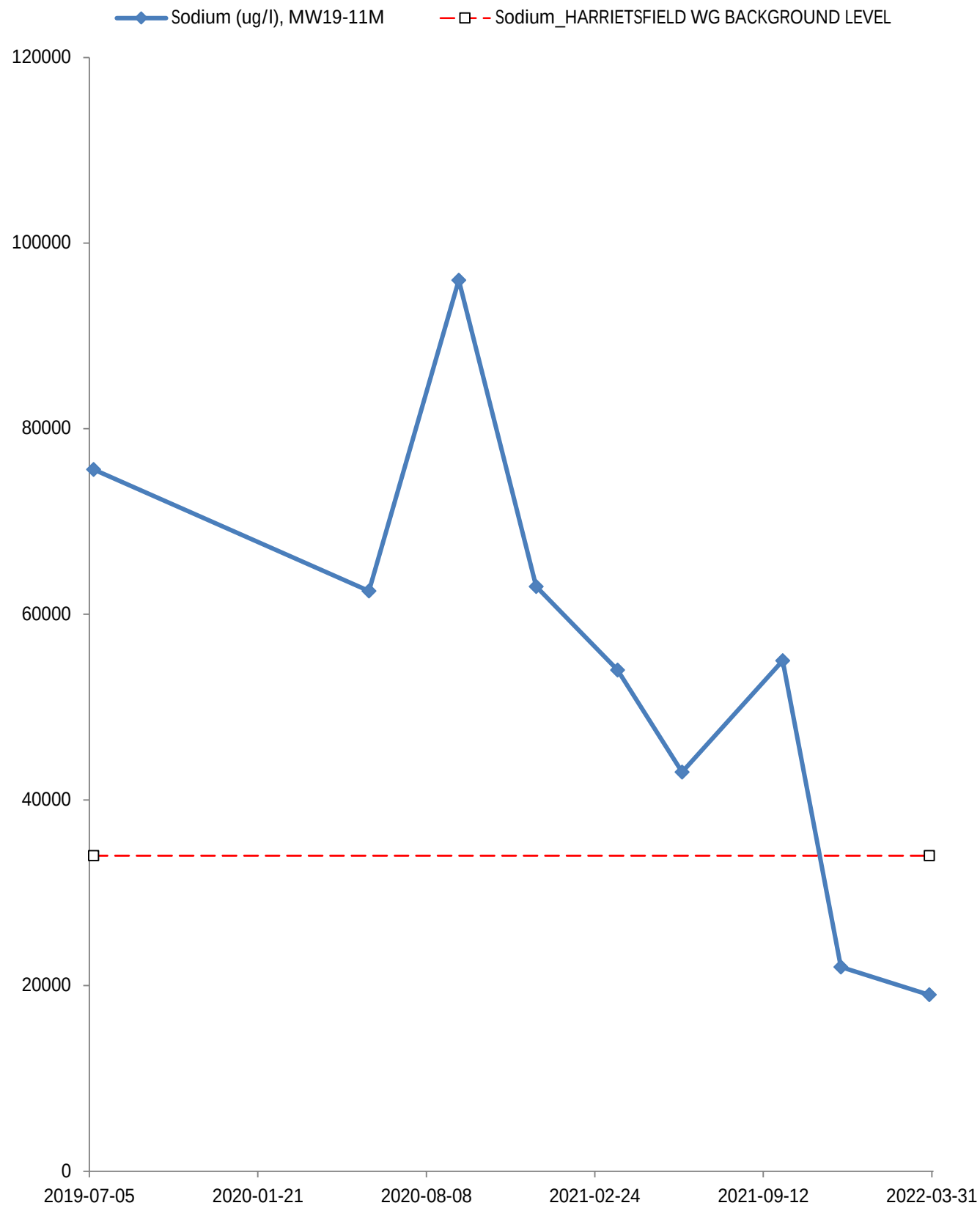
MW19-11M-Selenium



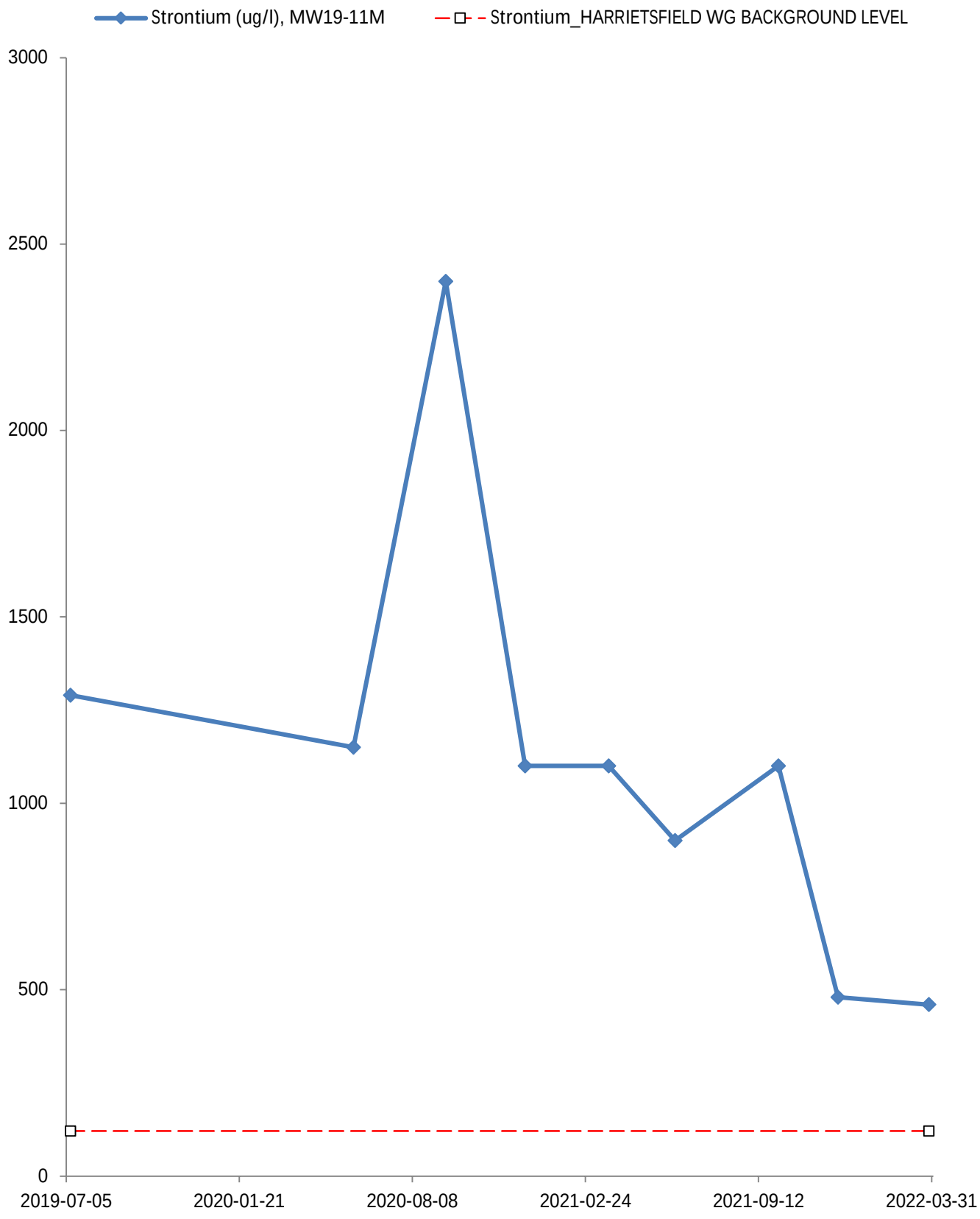
MW19-11M-Silver



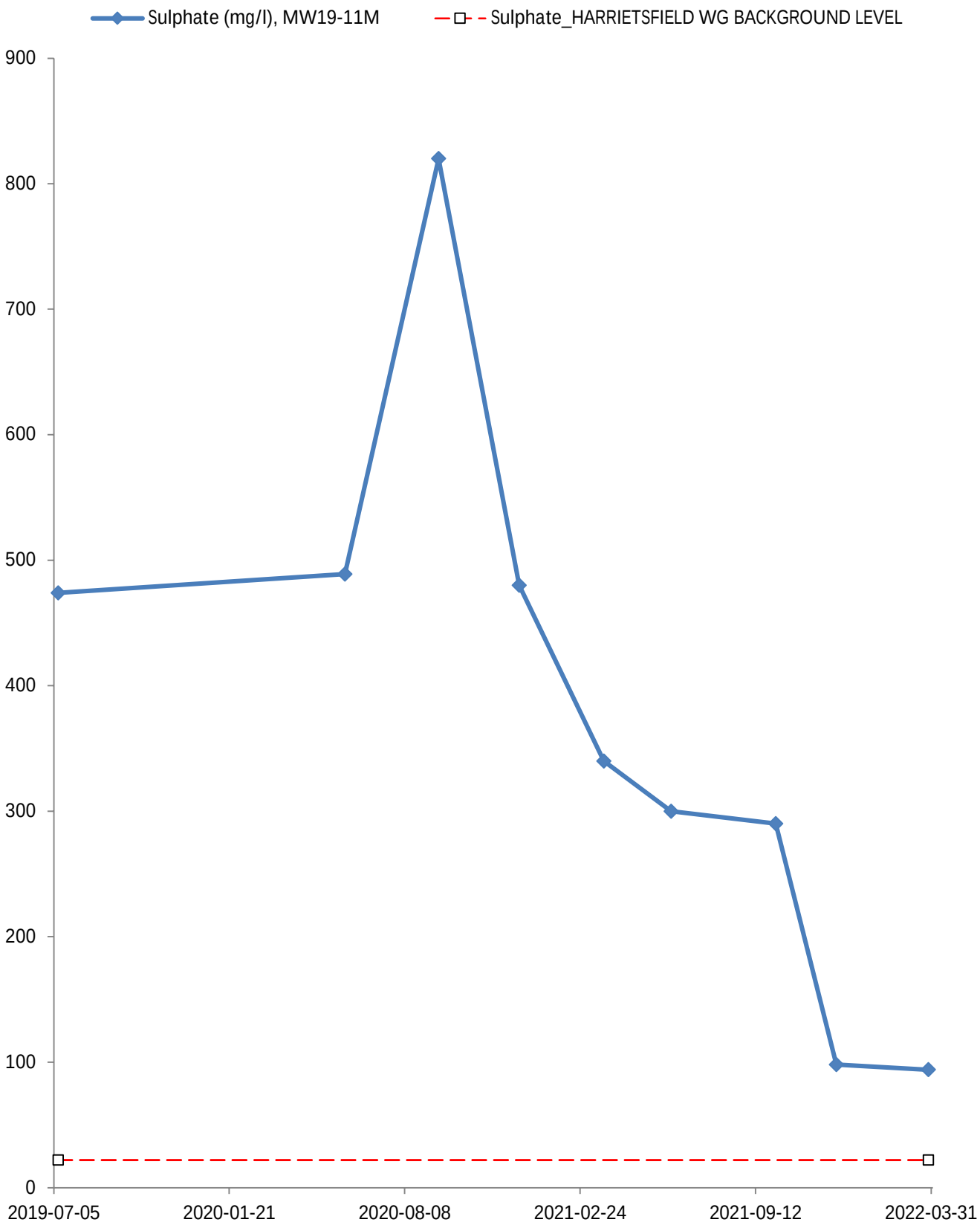
MW19-11M-Sodium



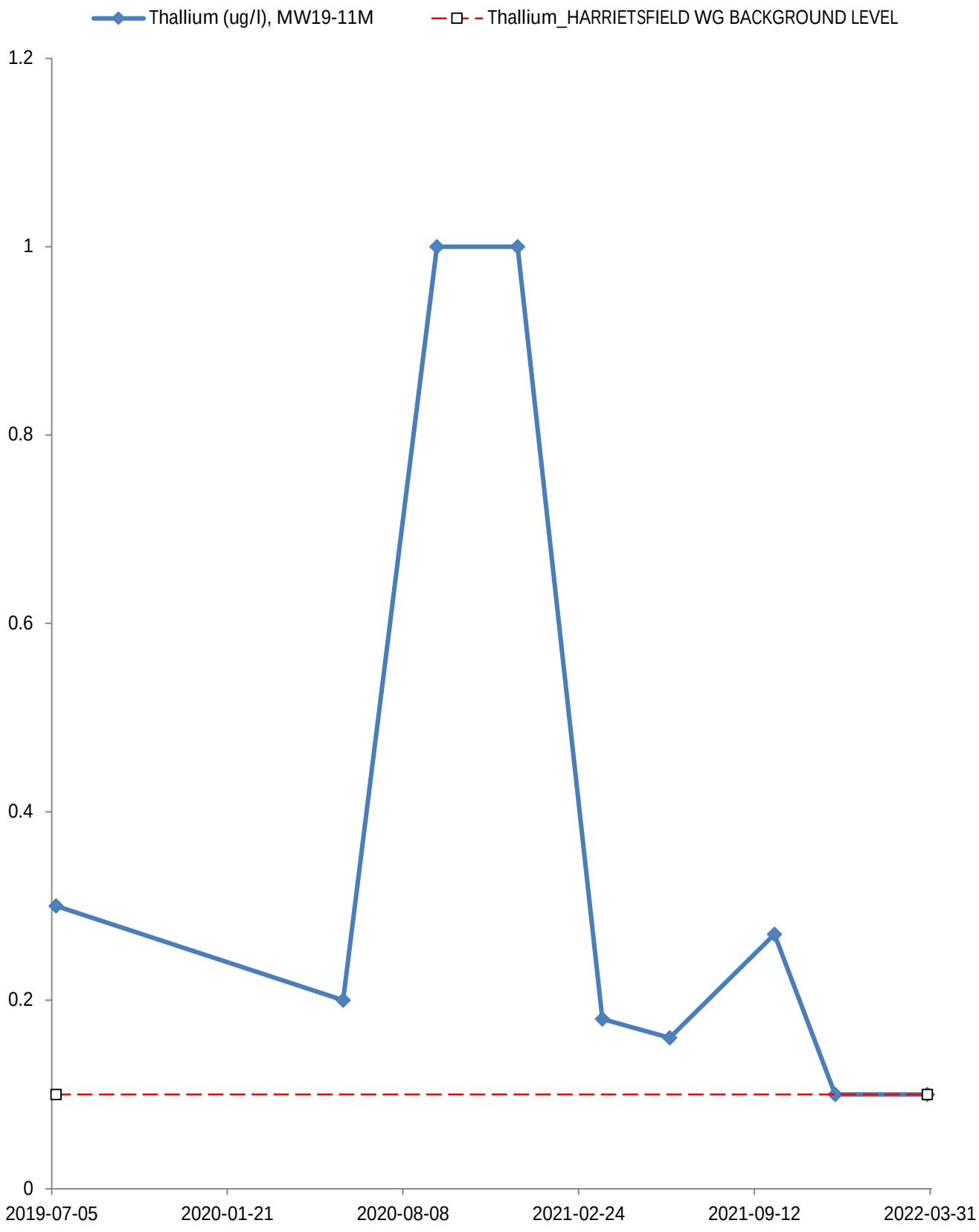
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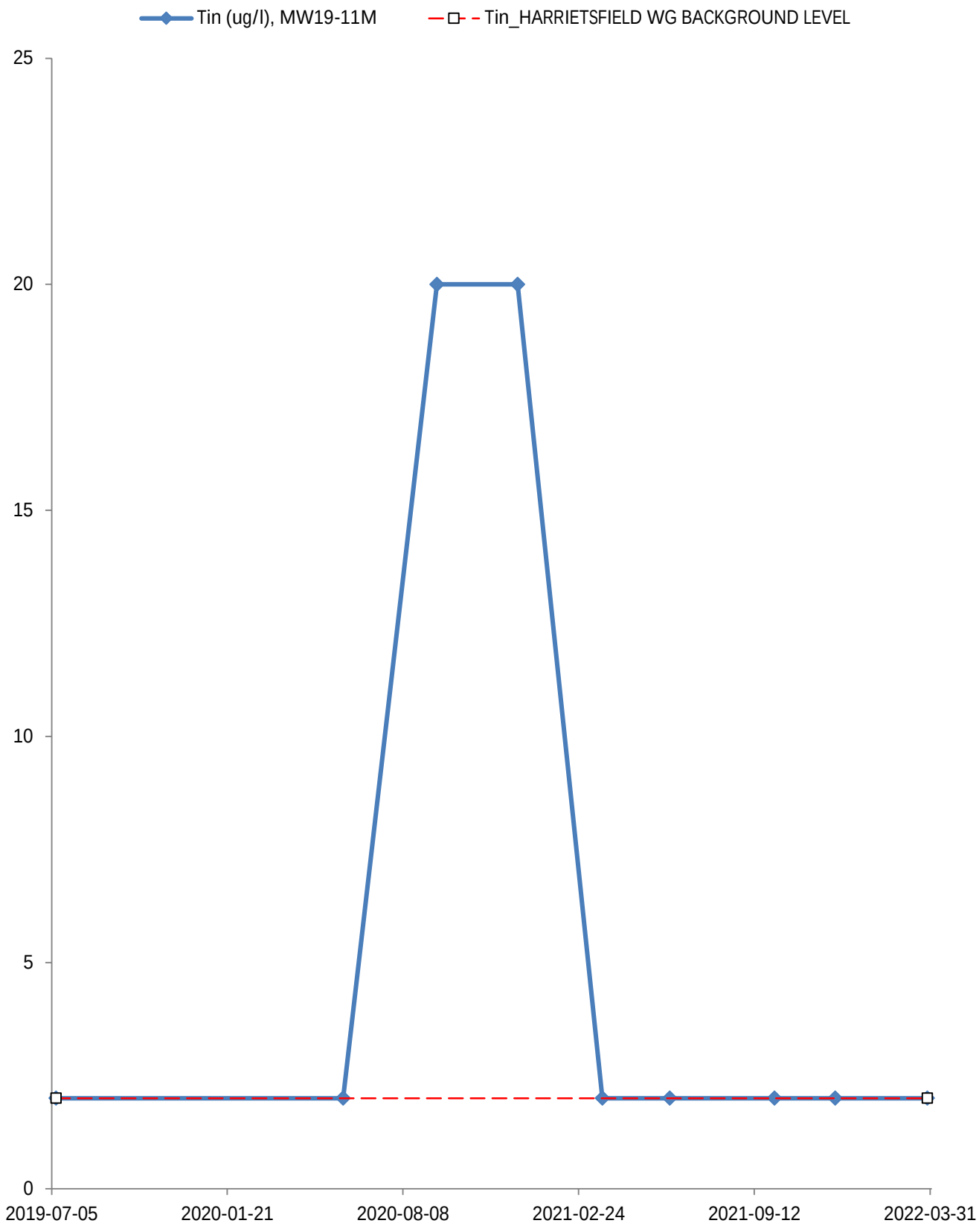
MW19-11M-Sulphate



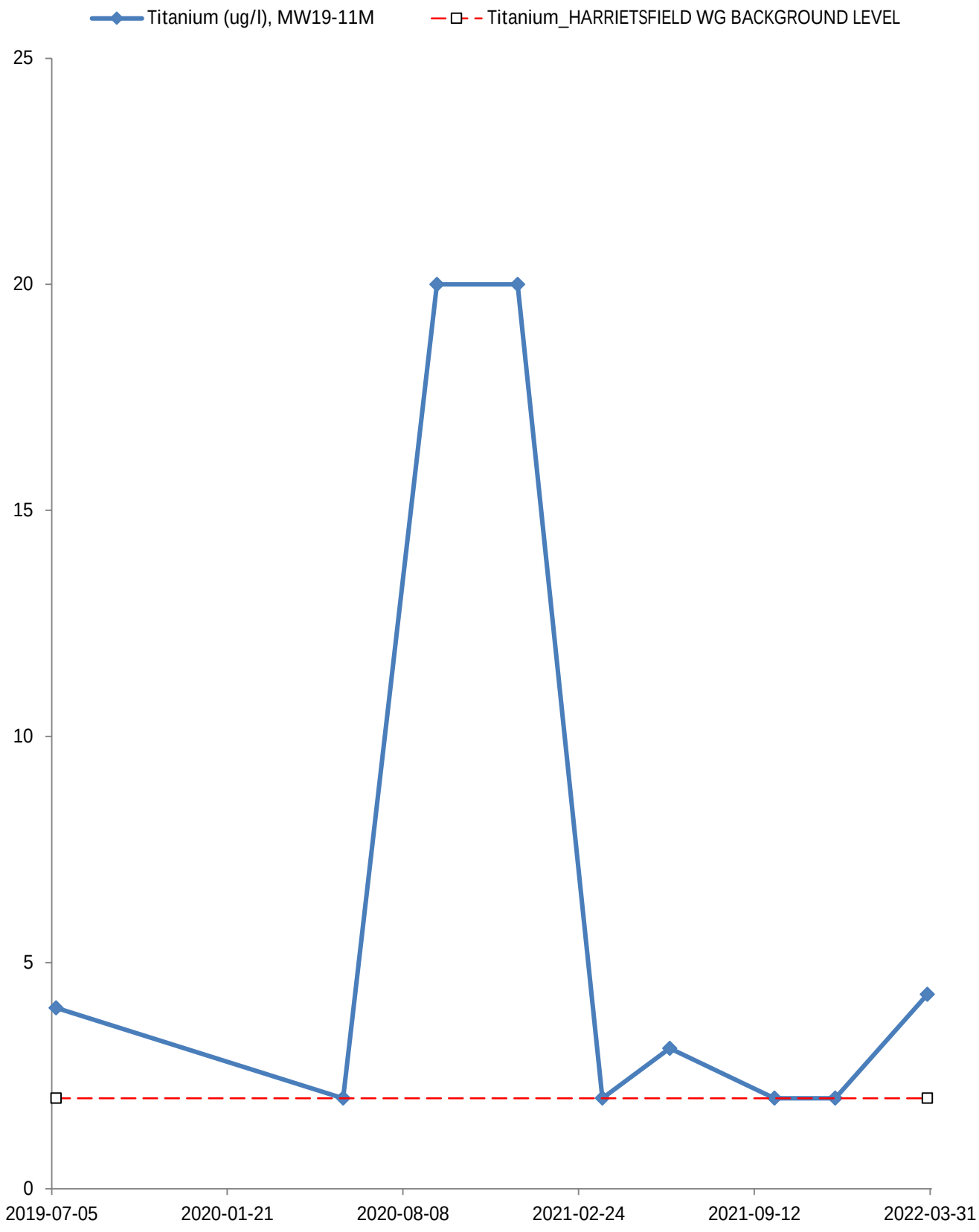
MW19-11M-Thallium



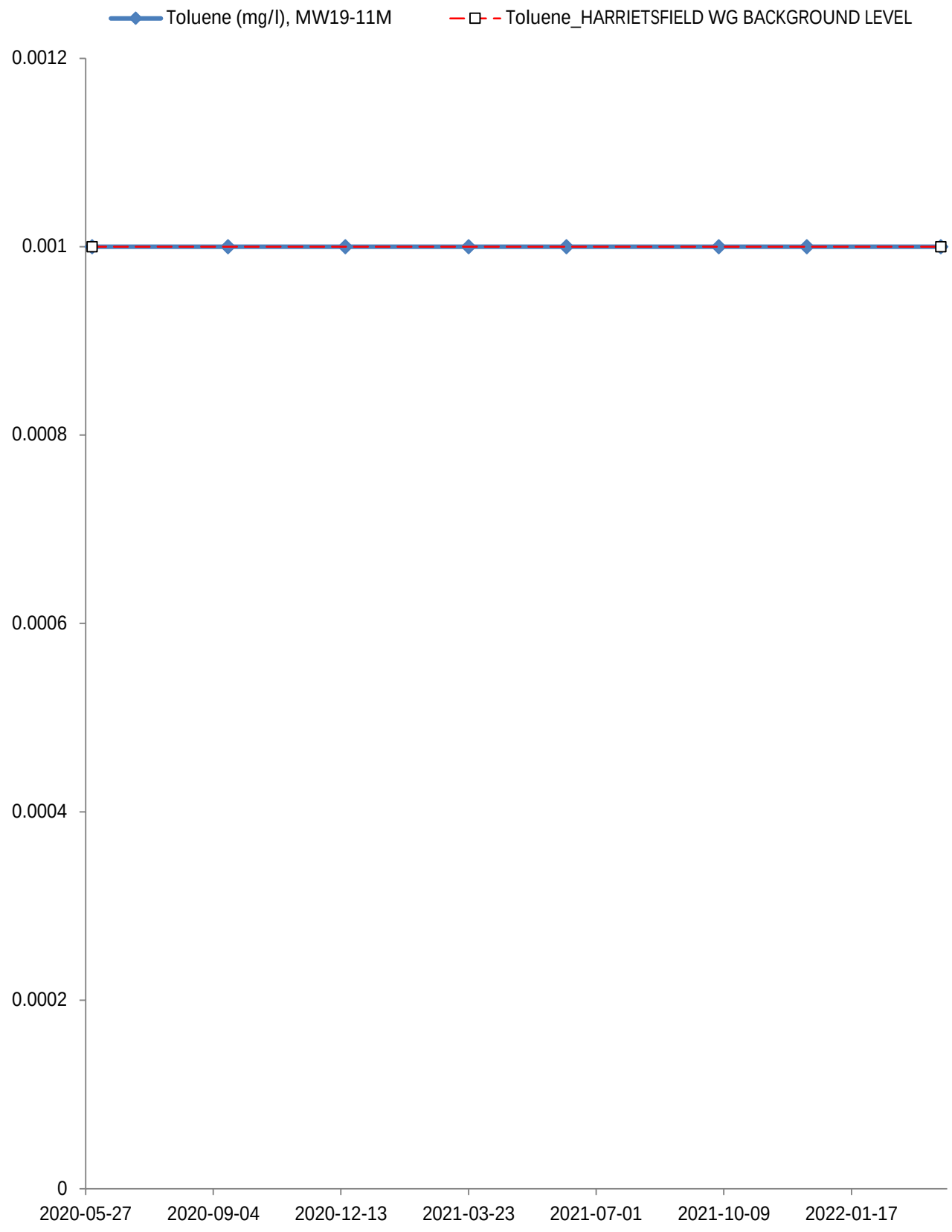
MW19-11M-Tin


Tin (ug/l), MW19-11M
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
25
20
15
10
5
0
2019-07-05
2020-01-21
2020-08-08
2021-02-24
2021-09-12
2022-03-31

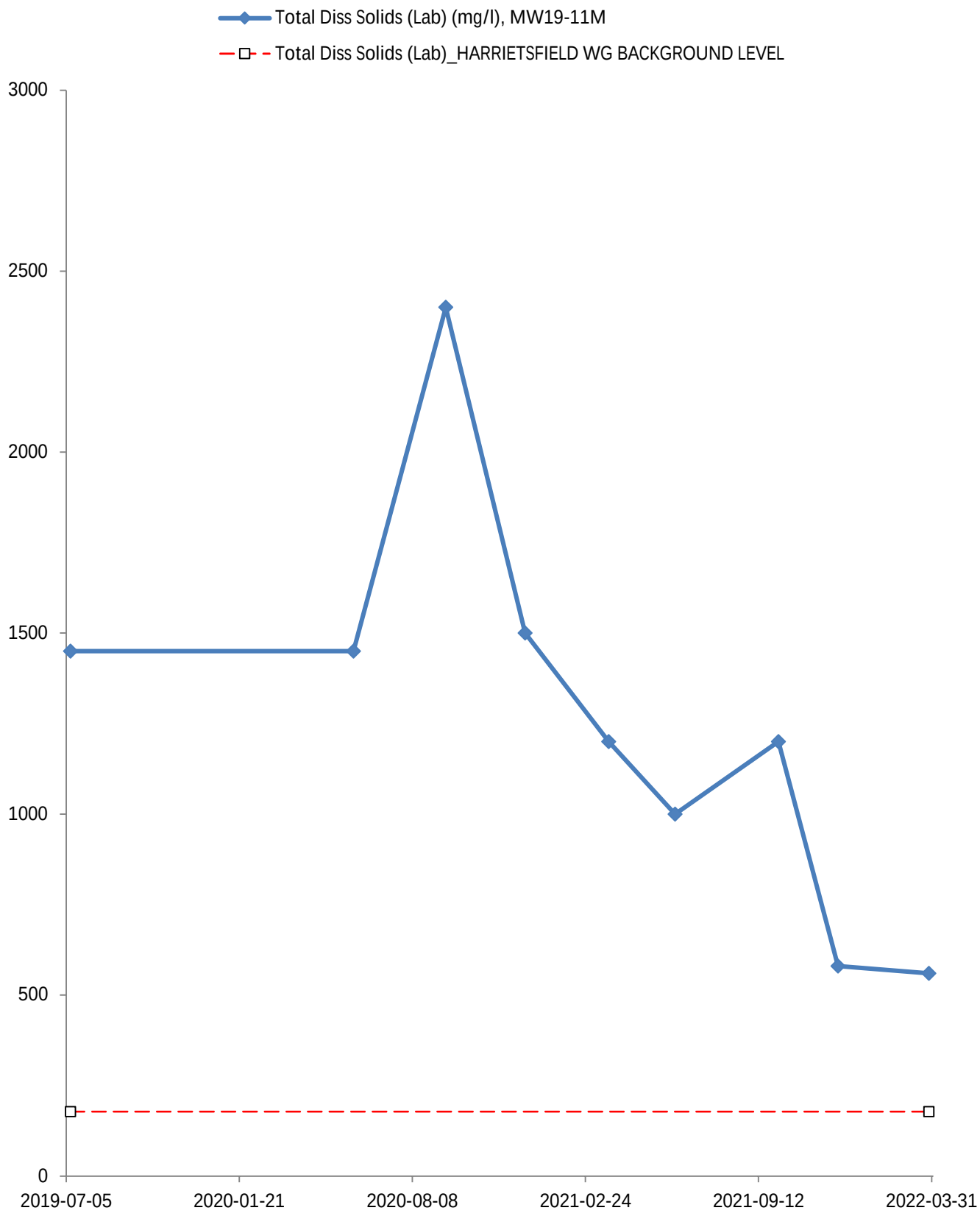
MW19-11M-Titanium



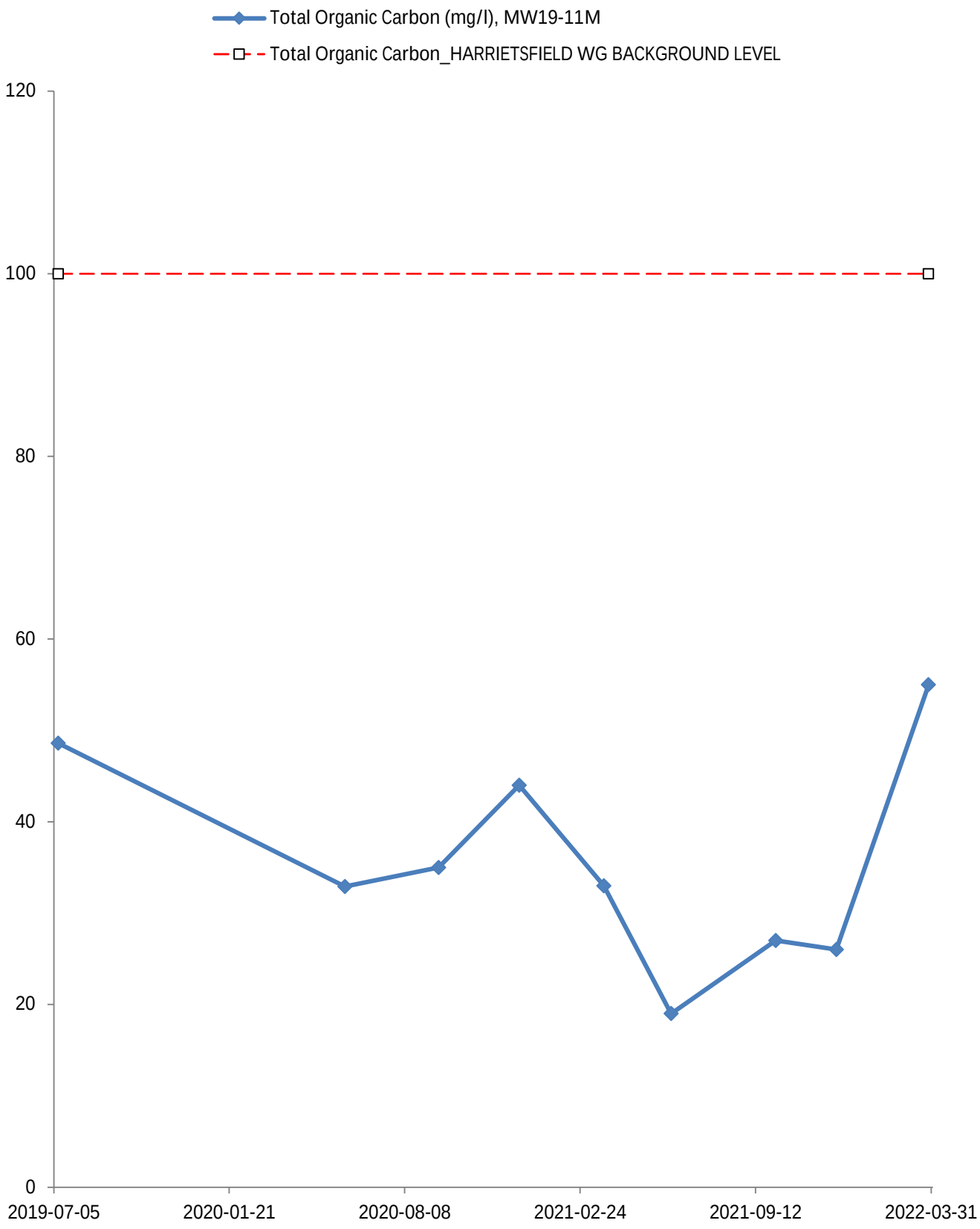
MW19-11M-Toluene



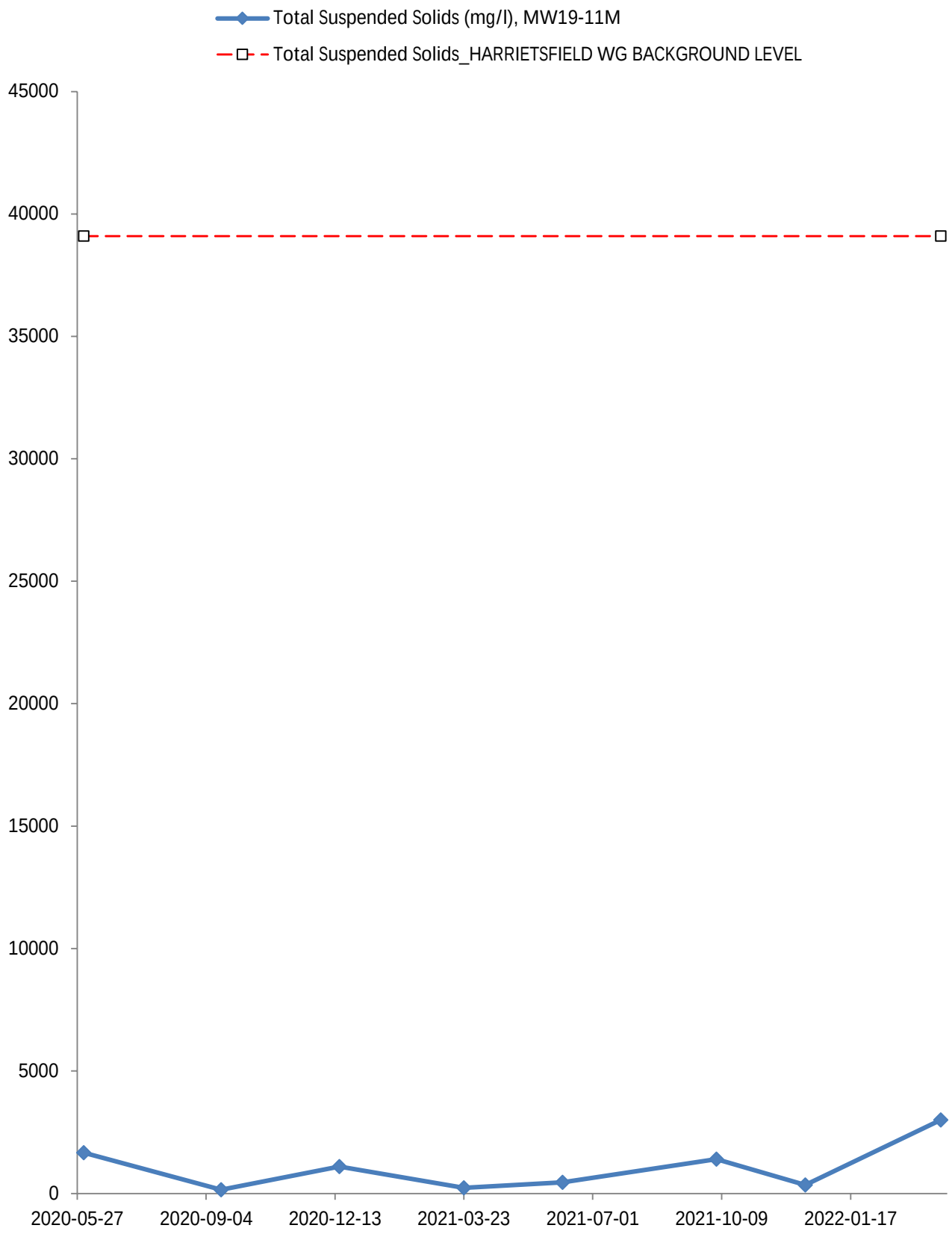
MW19-11M-Total Diss Solids (Lab)



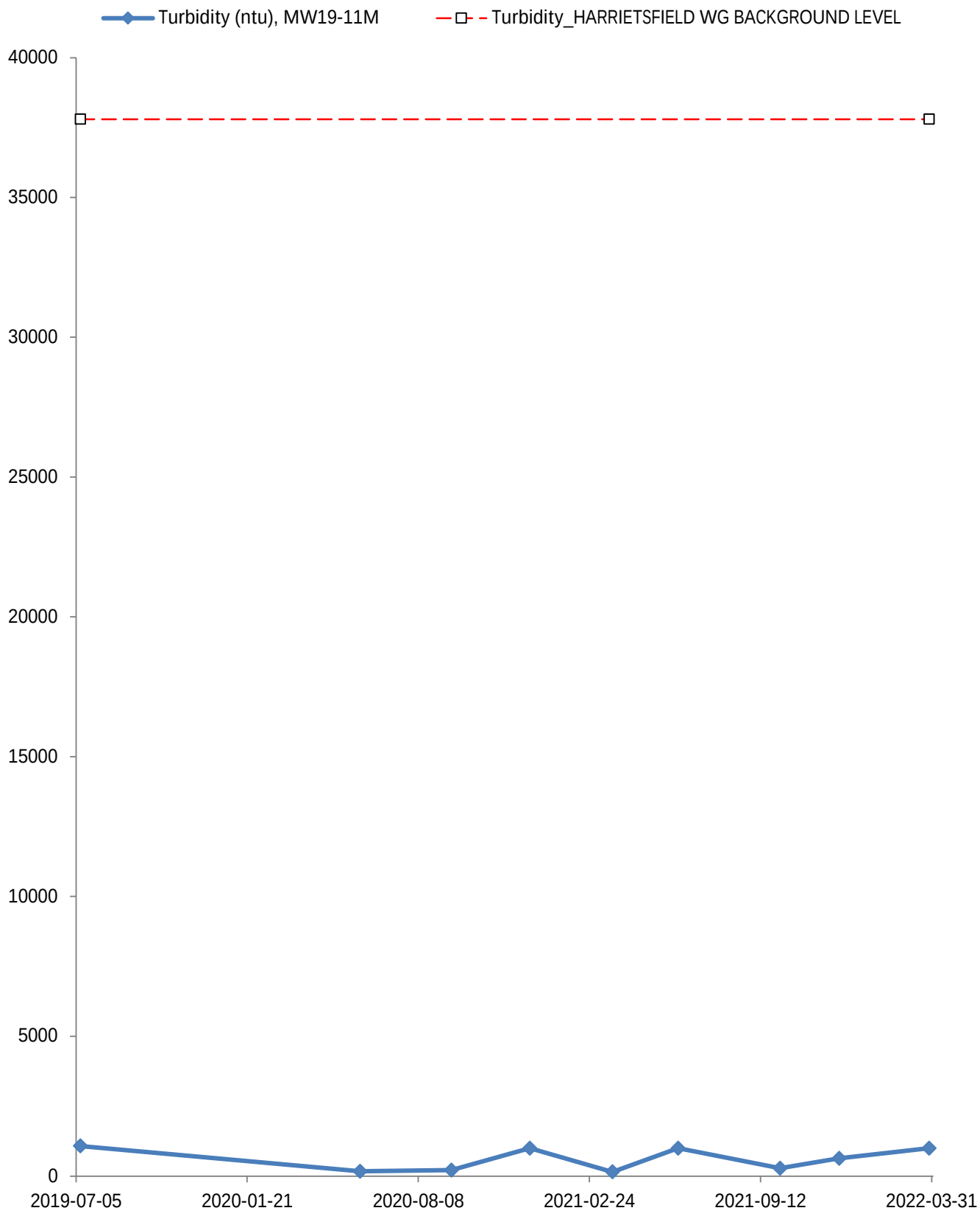
MW19-11M-Total Organic Carbon



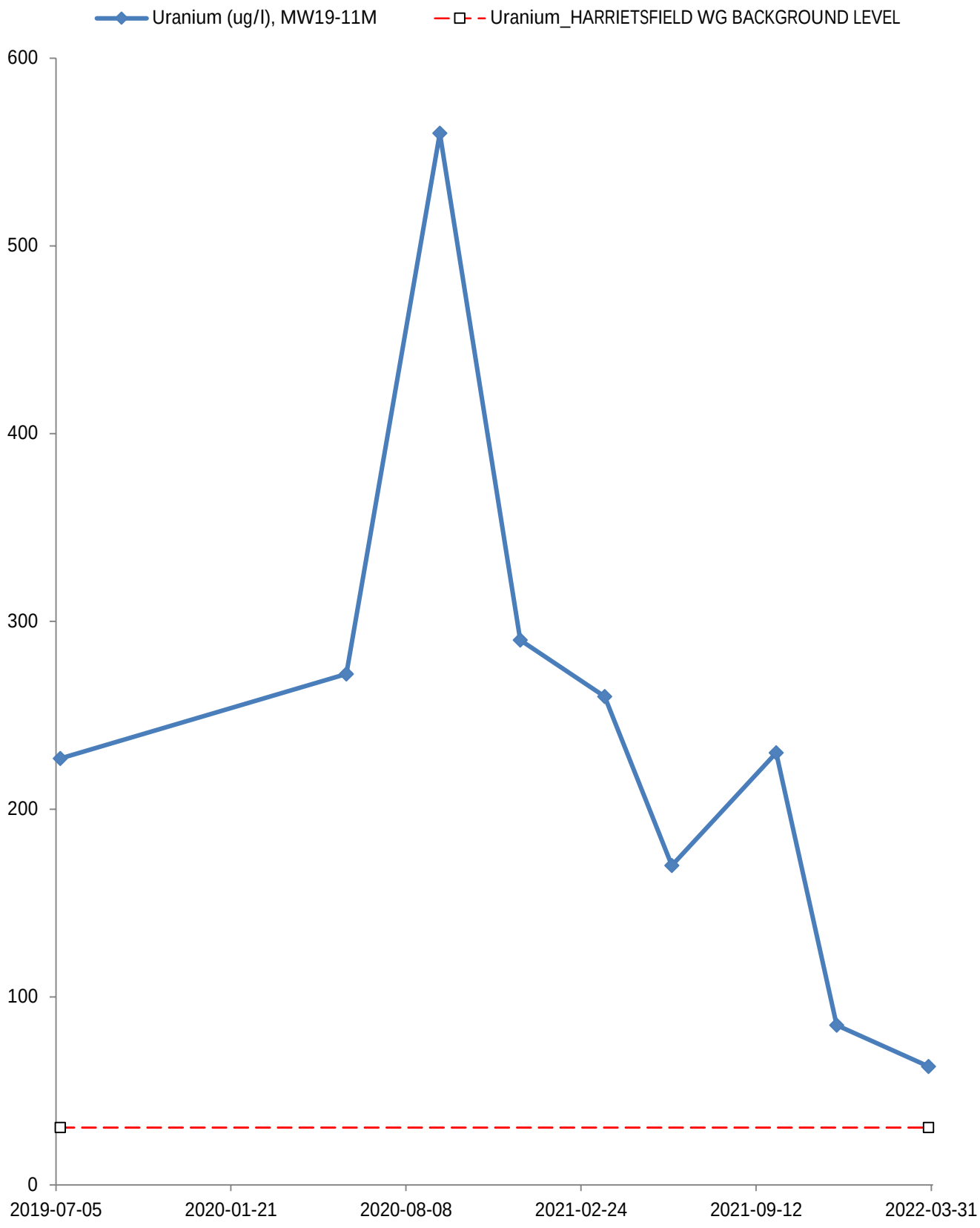
MW19-11M-Total Suspended Solids



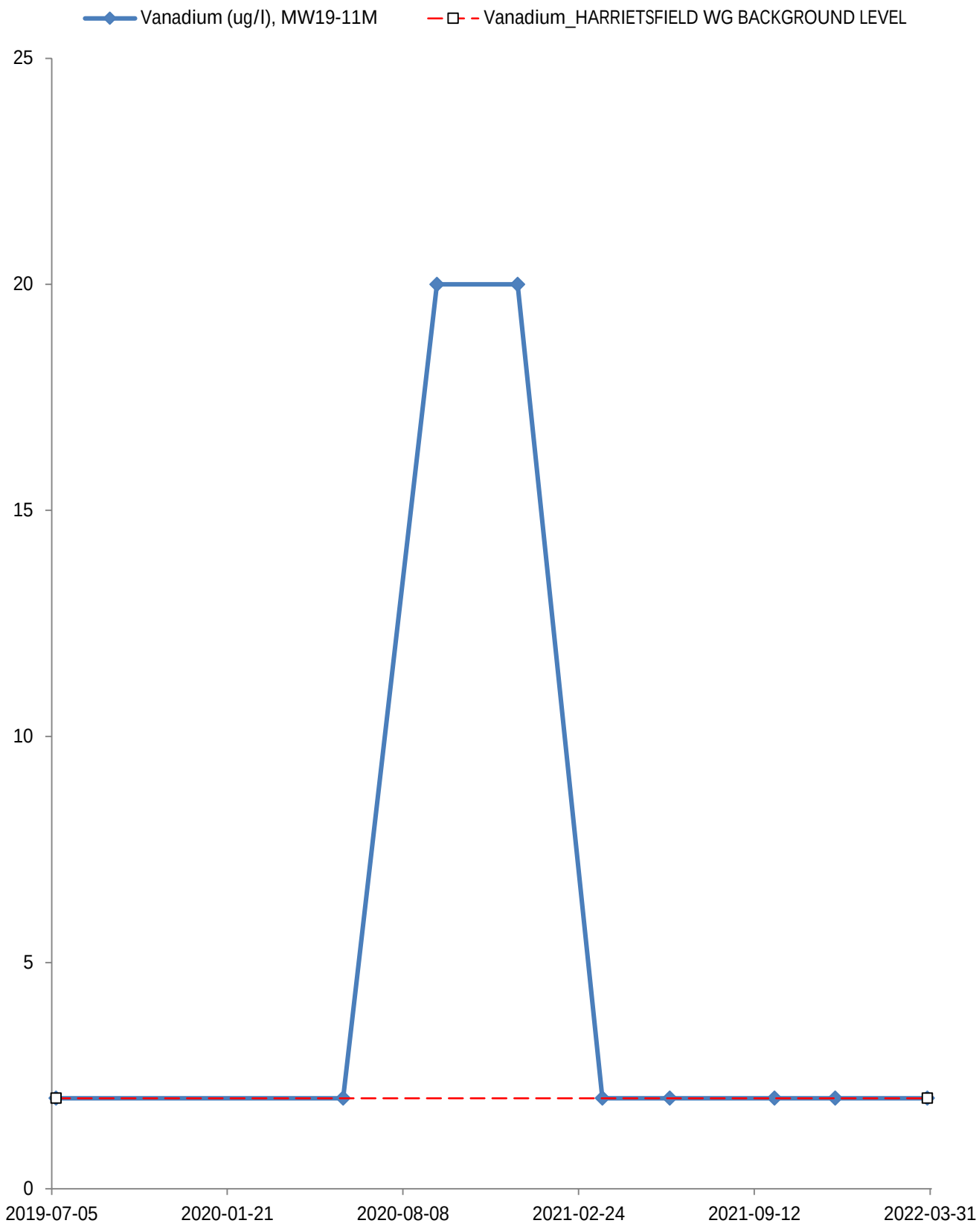
MW19-11M-Turbidity



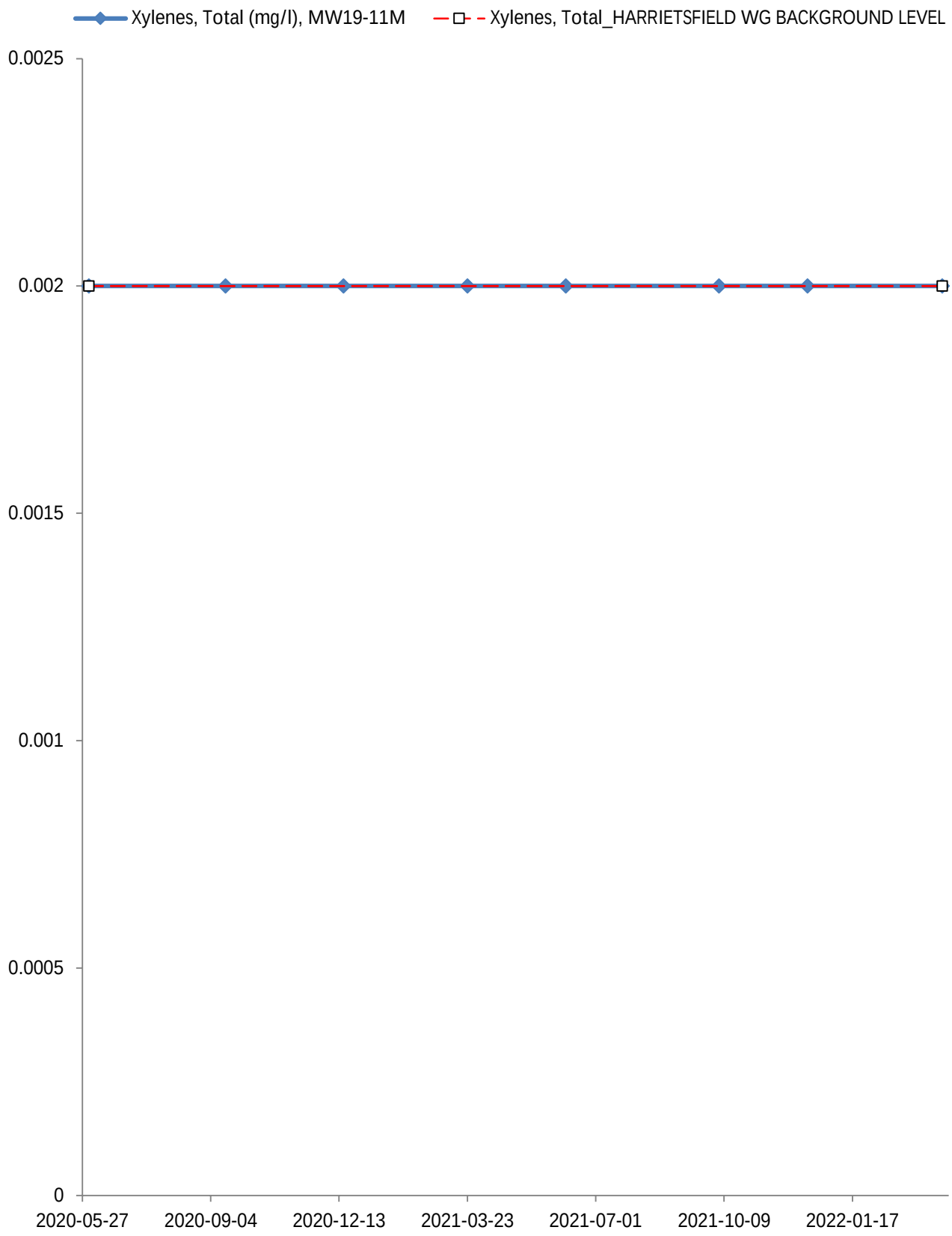
MW19-11M-Uranium



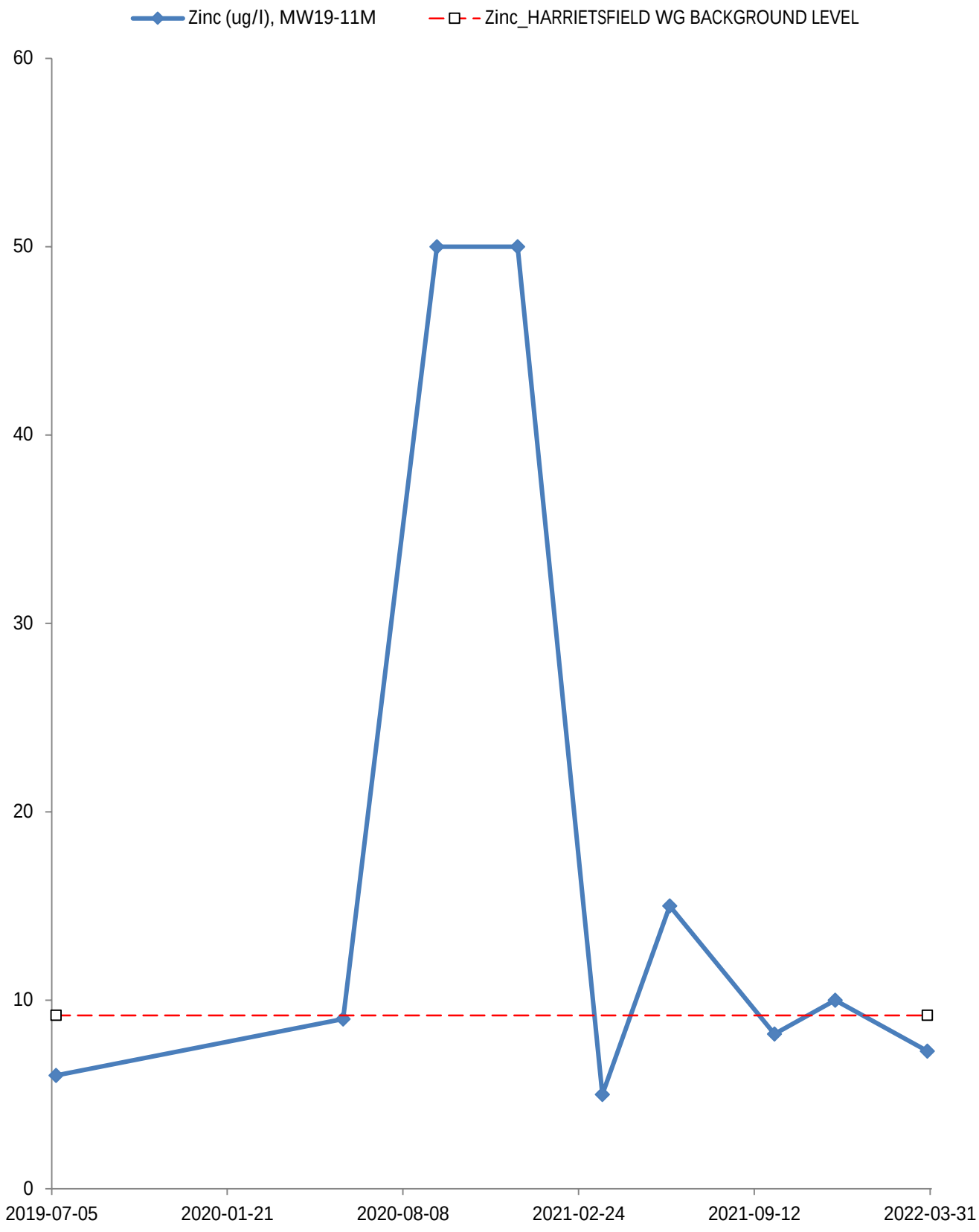
MW19-11M-Vanadium



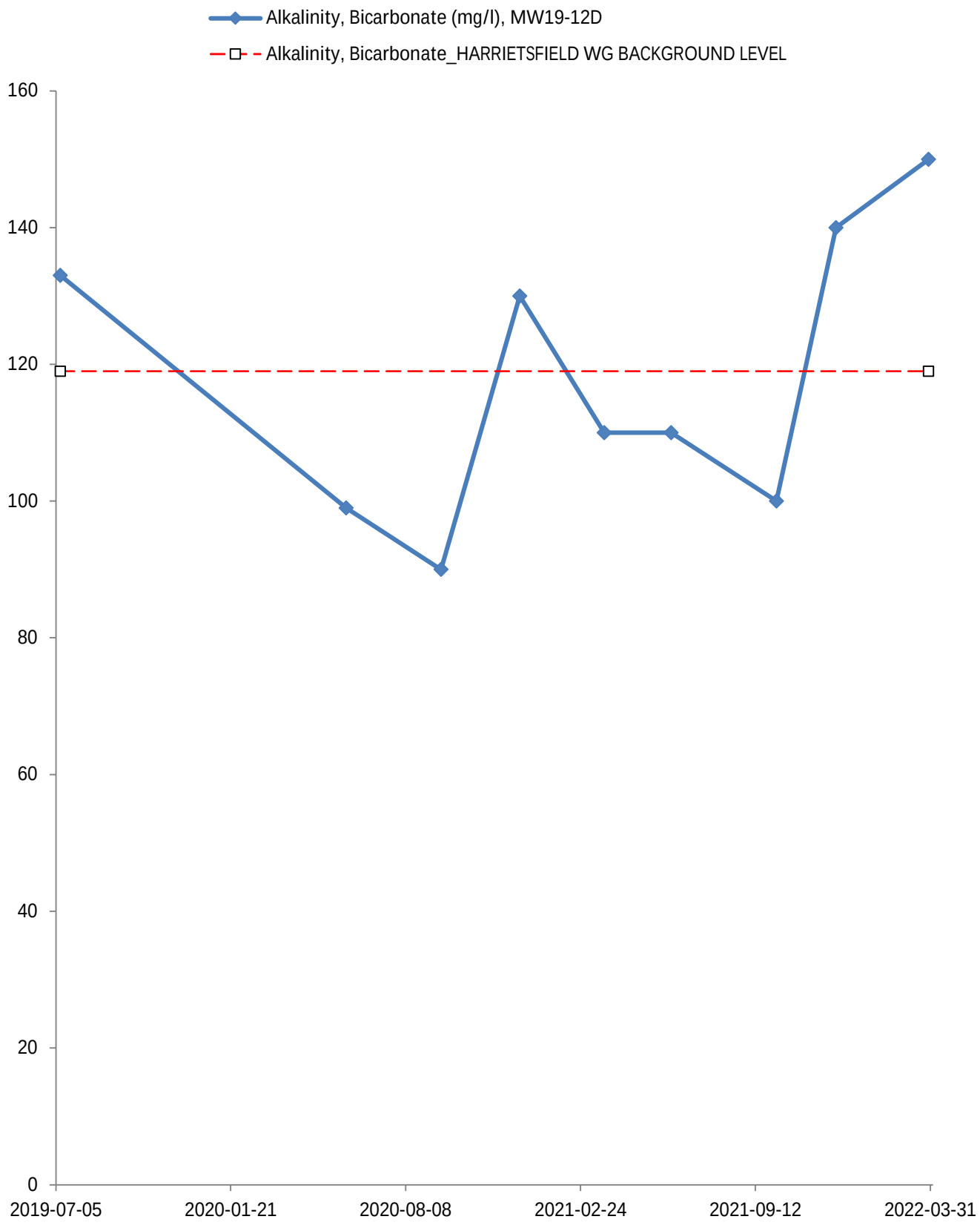
MW19-11M-Xylenes, Total



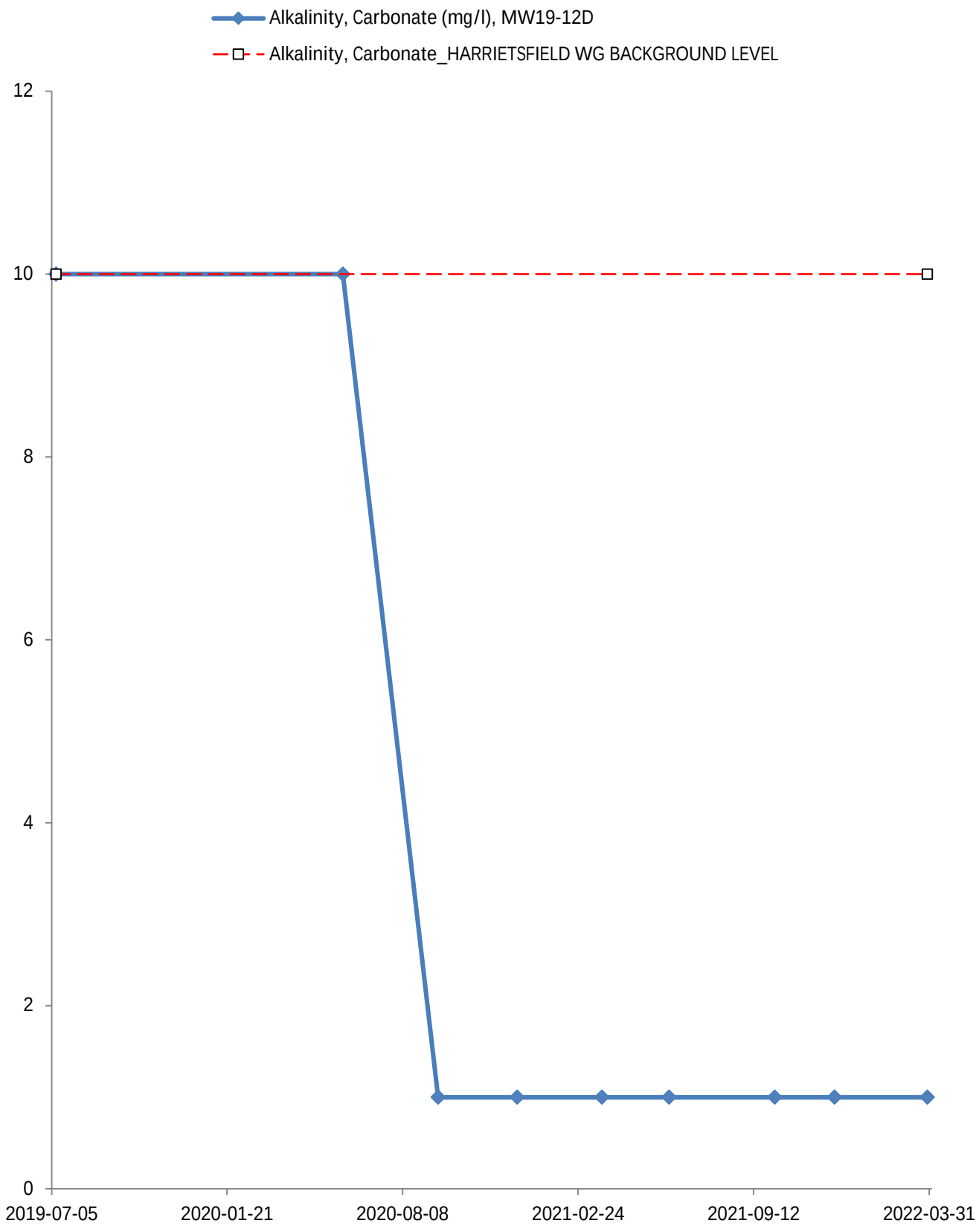
MW19-11M-Zinc



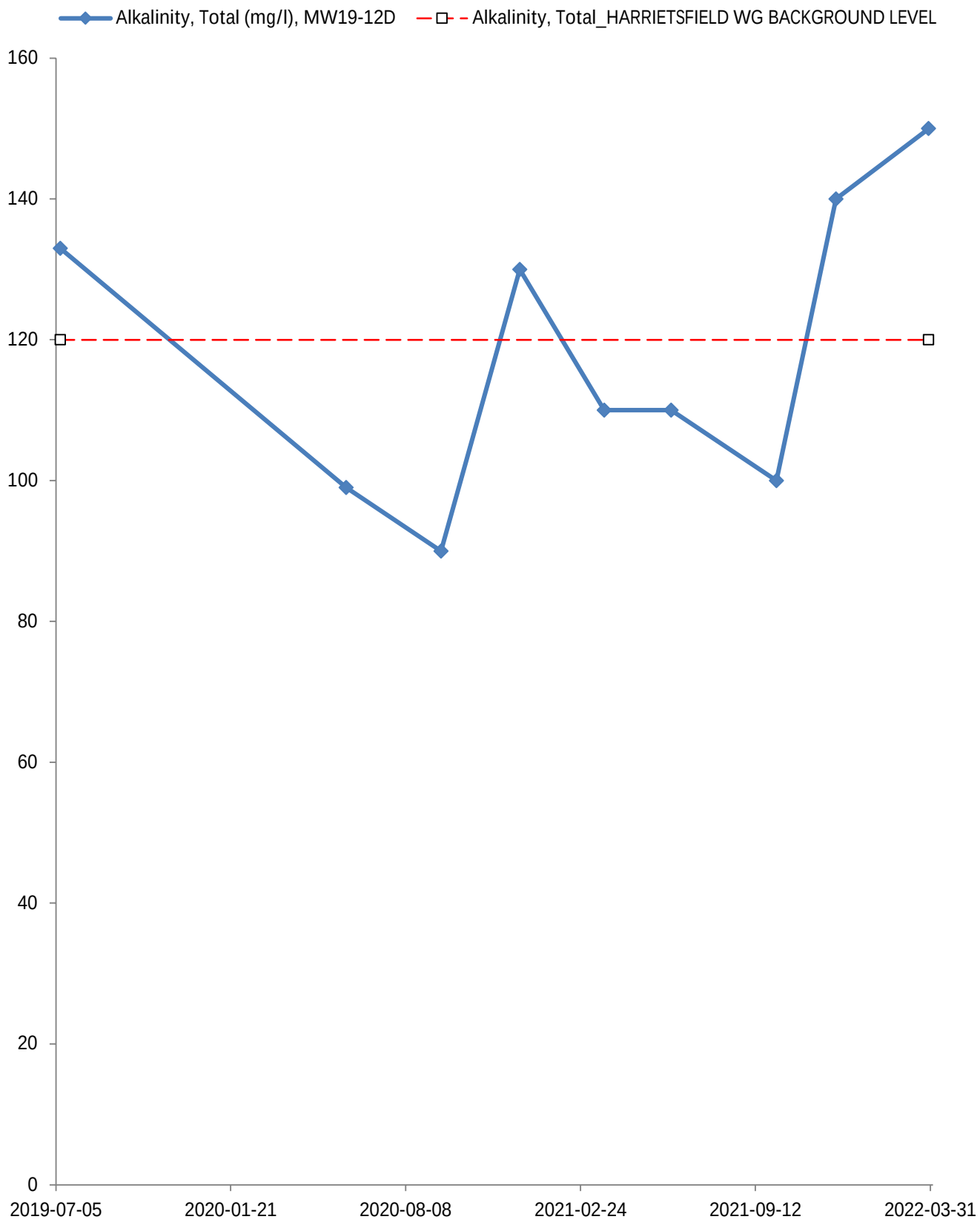
MW19-12D-Alkalinity, Bicarbonate



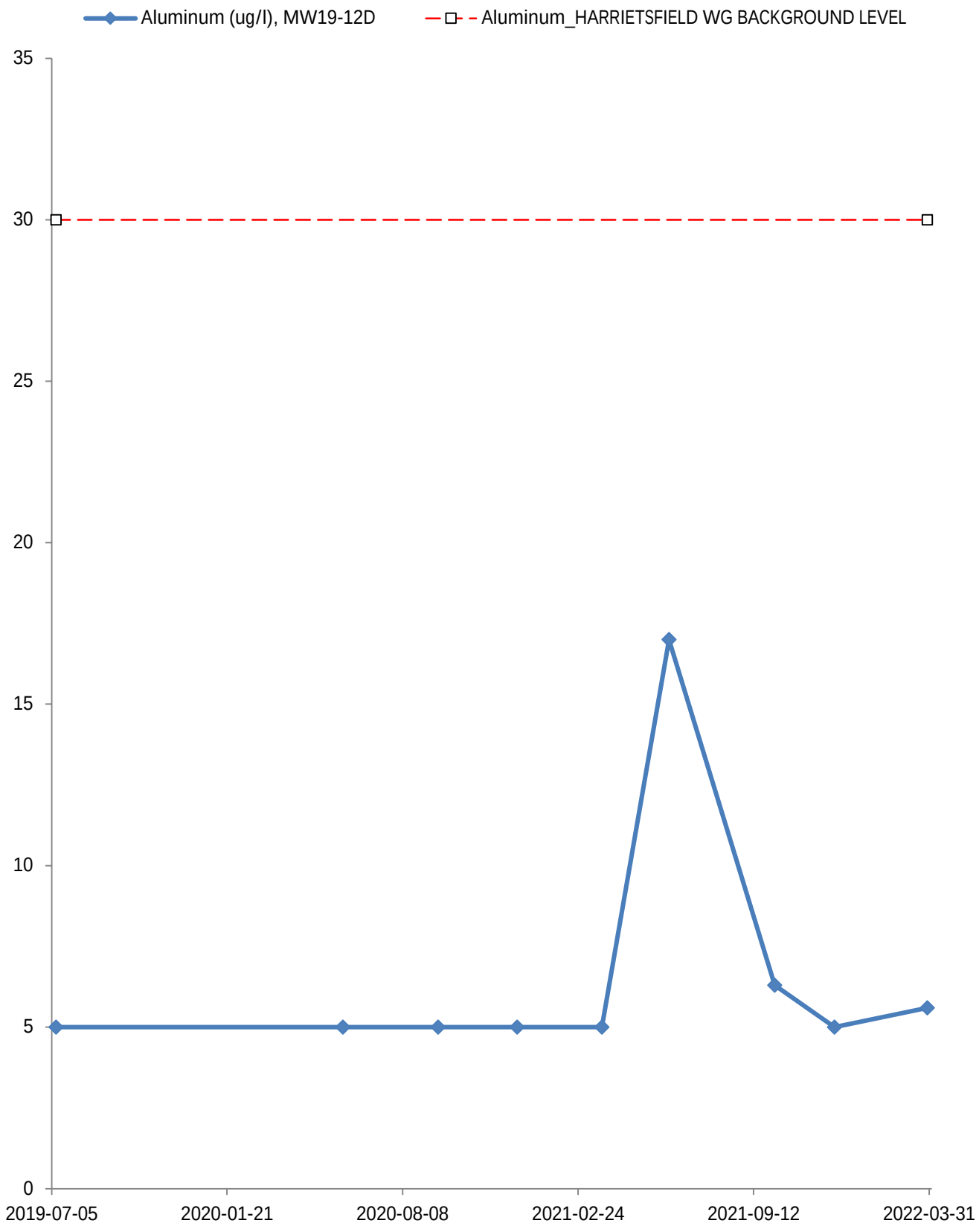
MW19-12D-Alkalinity, Carbonate



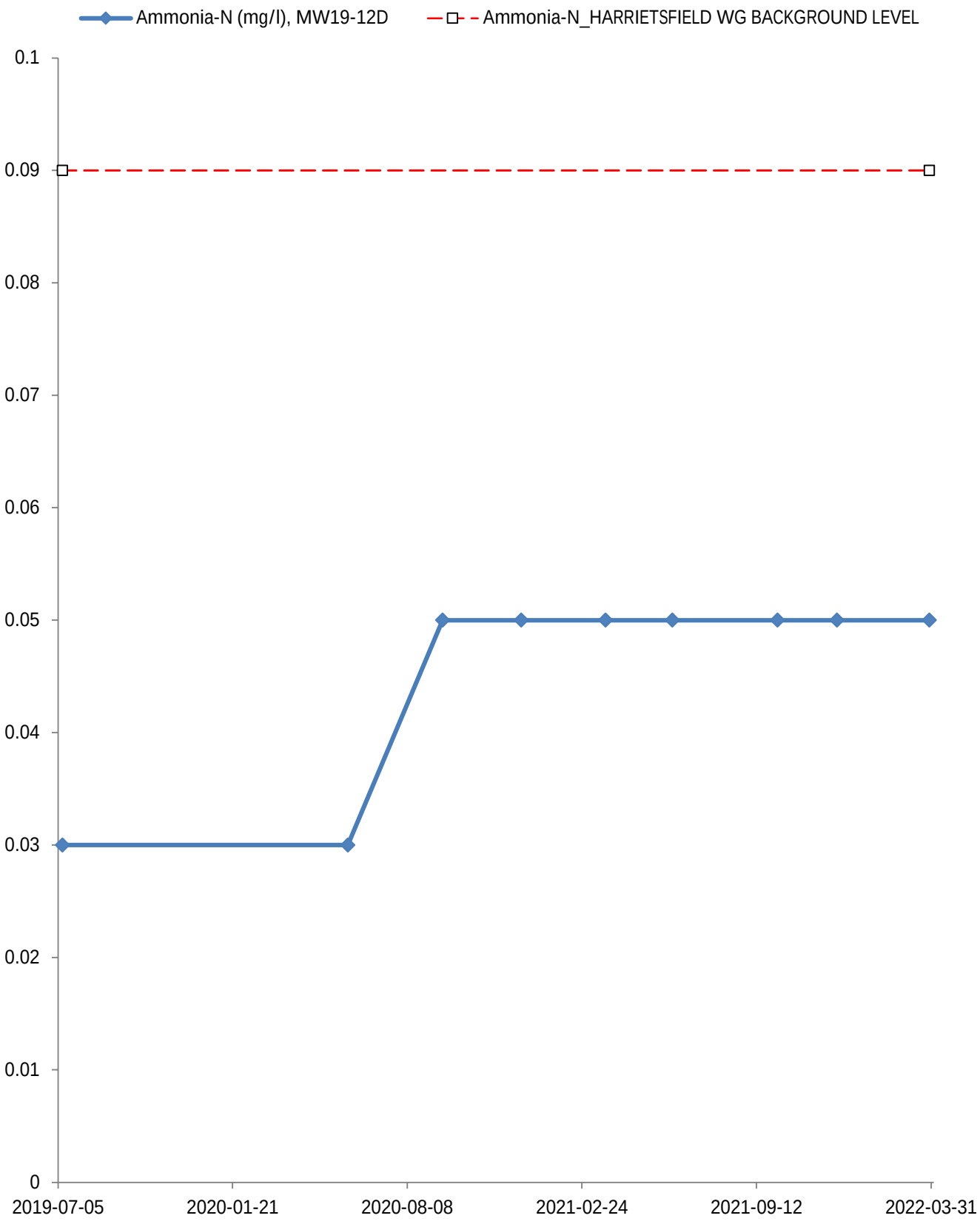
MW19-12D-Alkalinity, Total



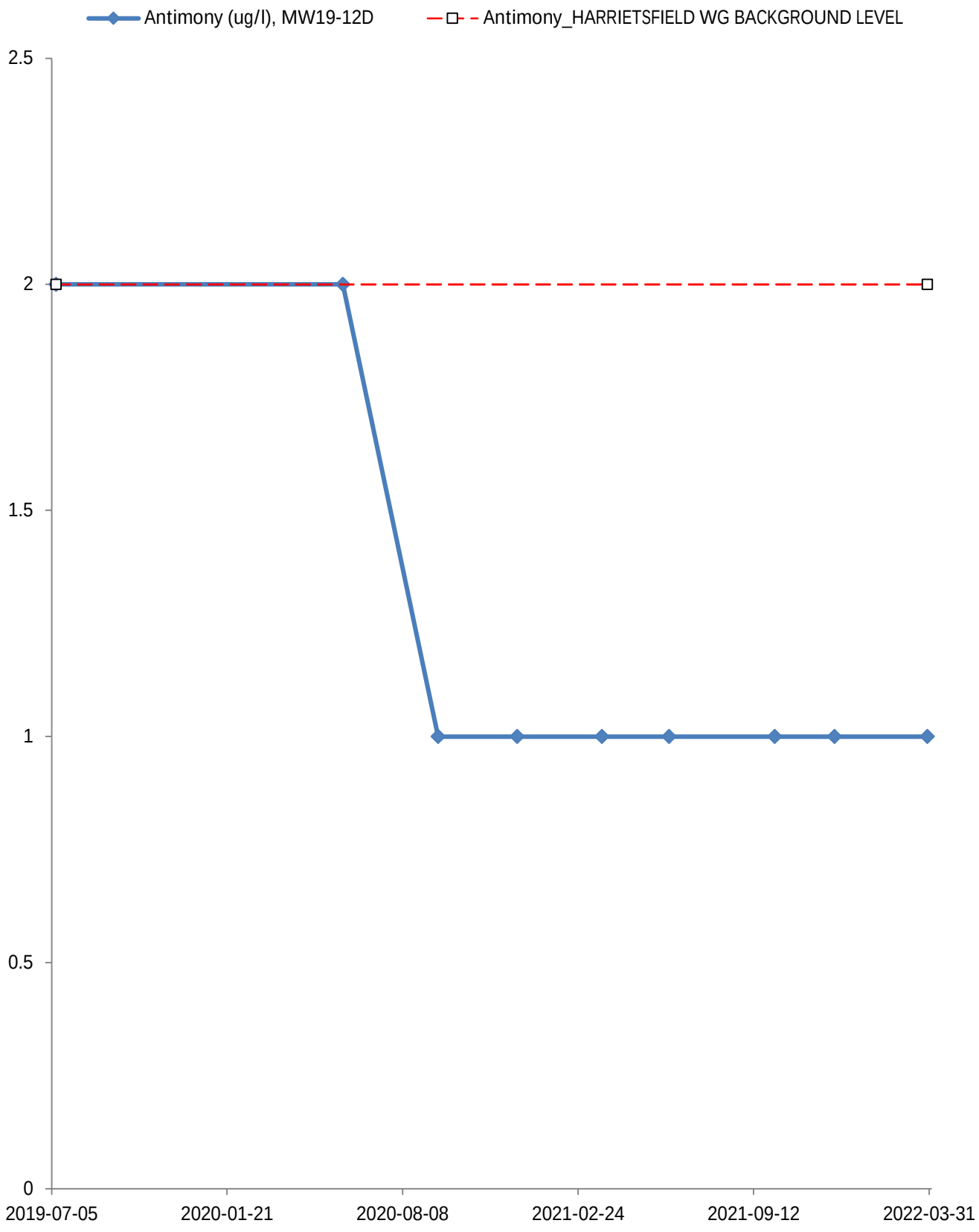
MW19-12D-Aluminum



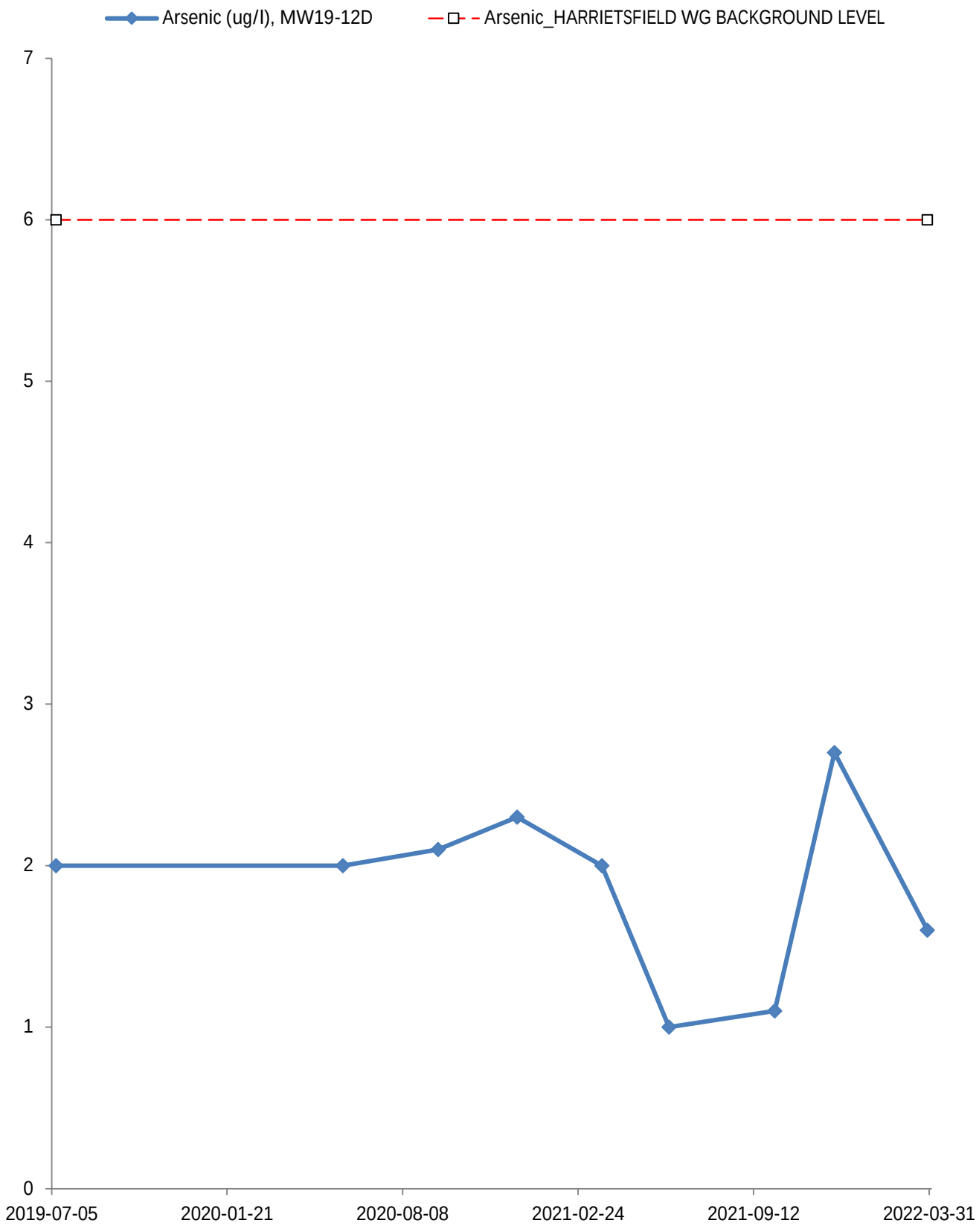
MW19-12D-Ammonia-N



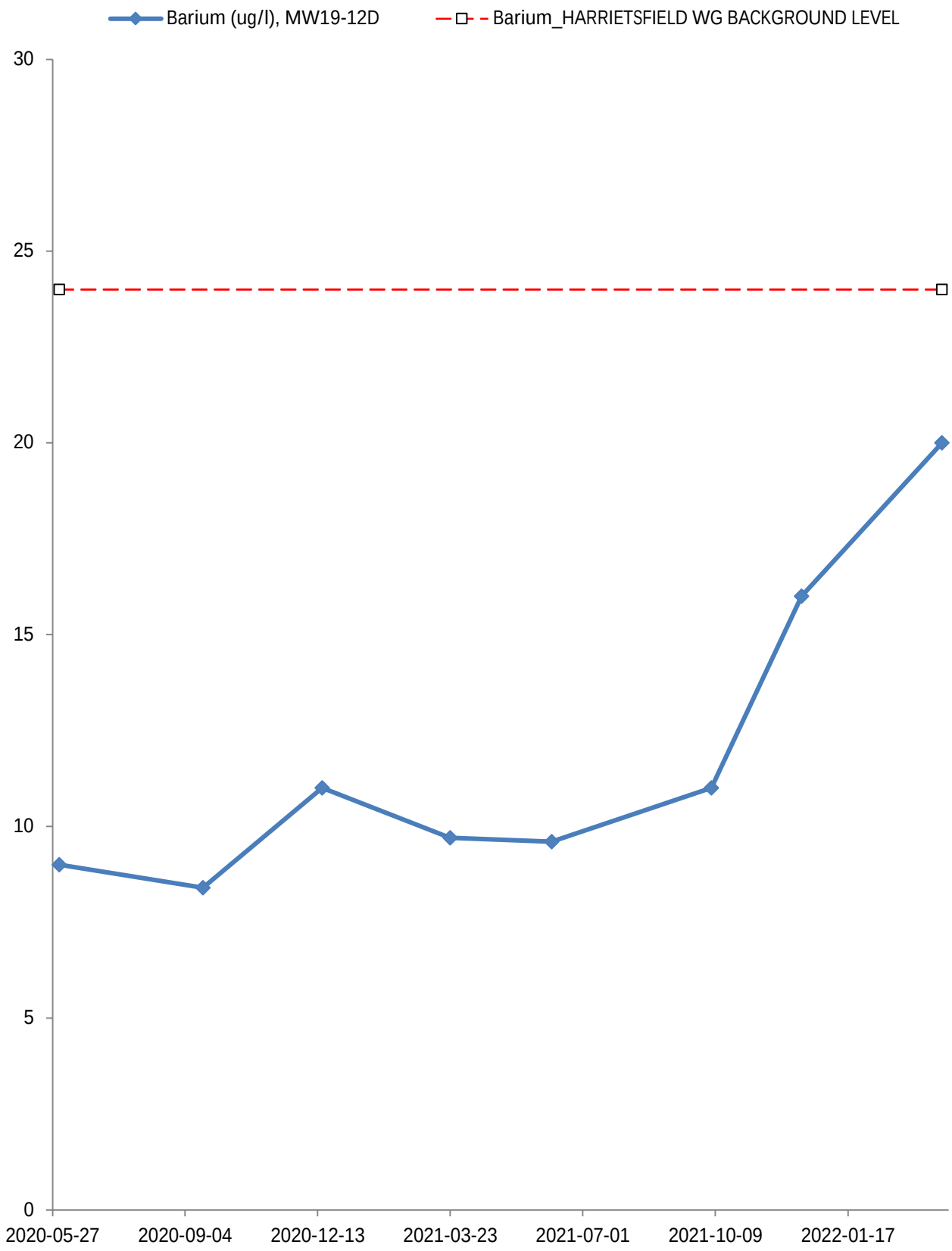
MW19-12D-Antimony



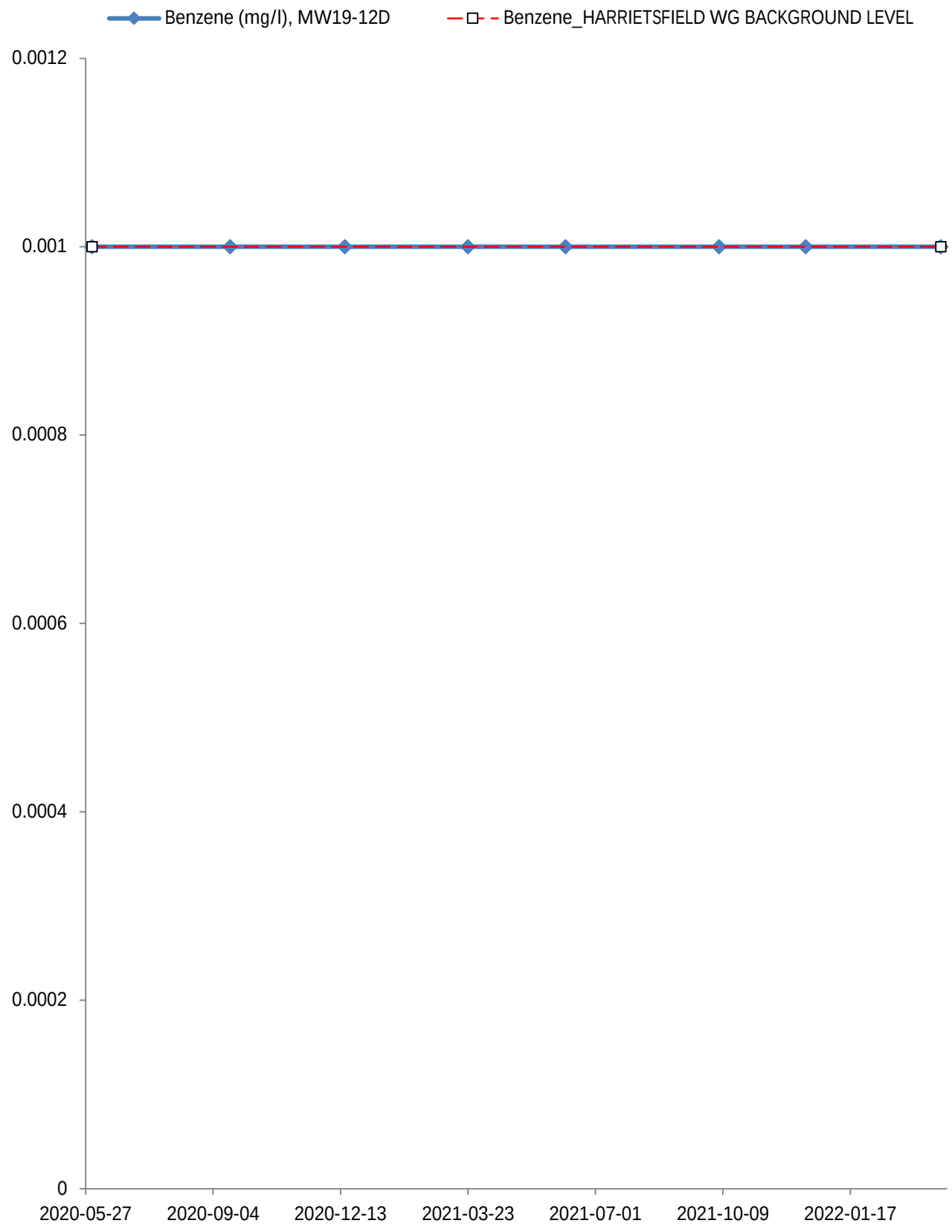
MW19-12D-Arsenic



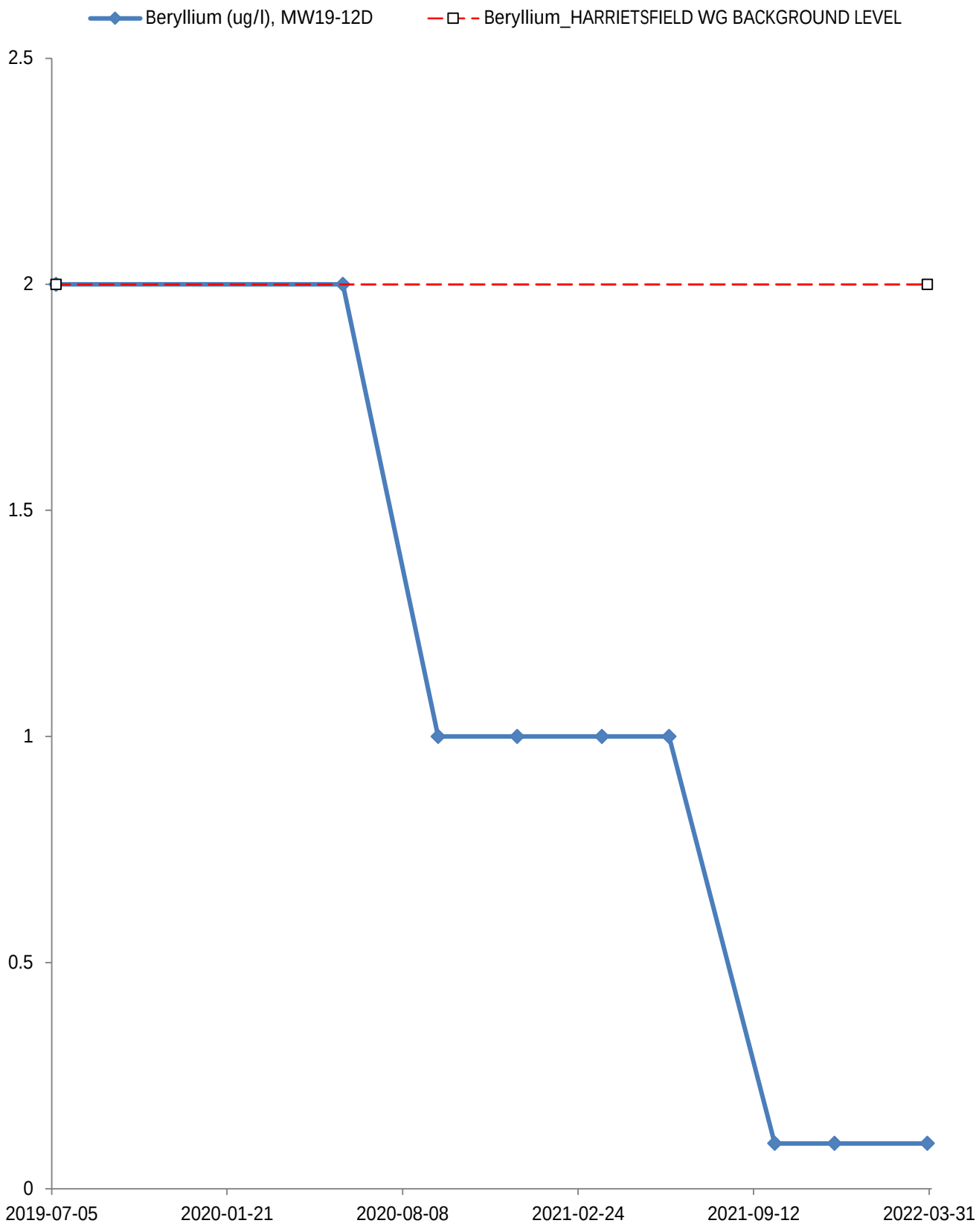
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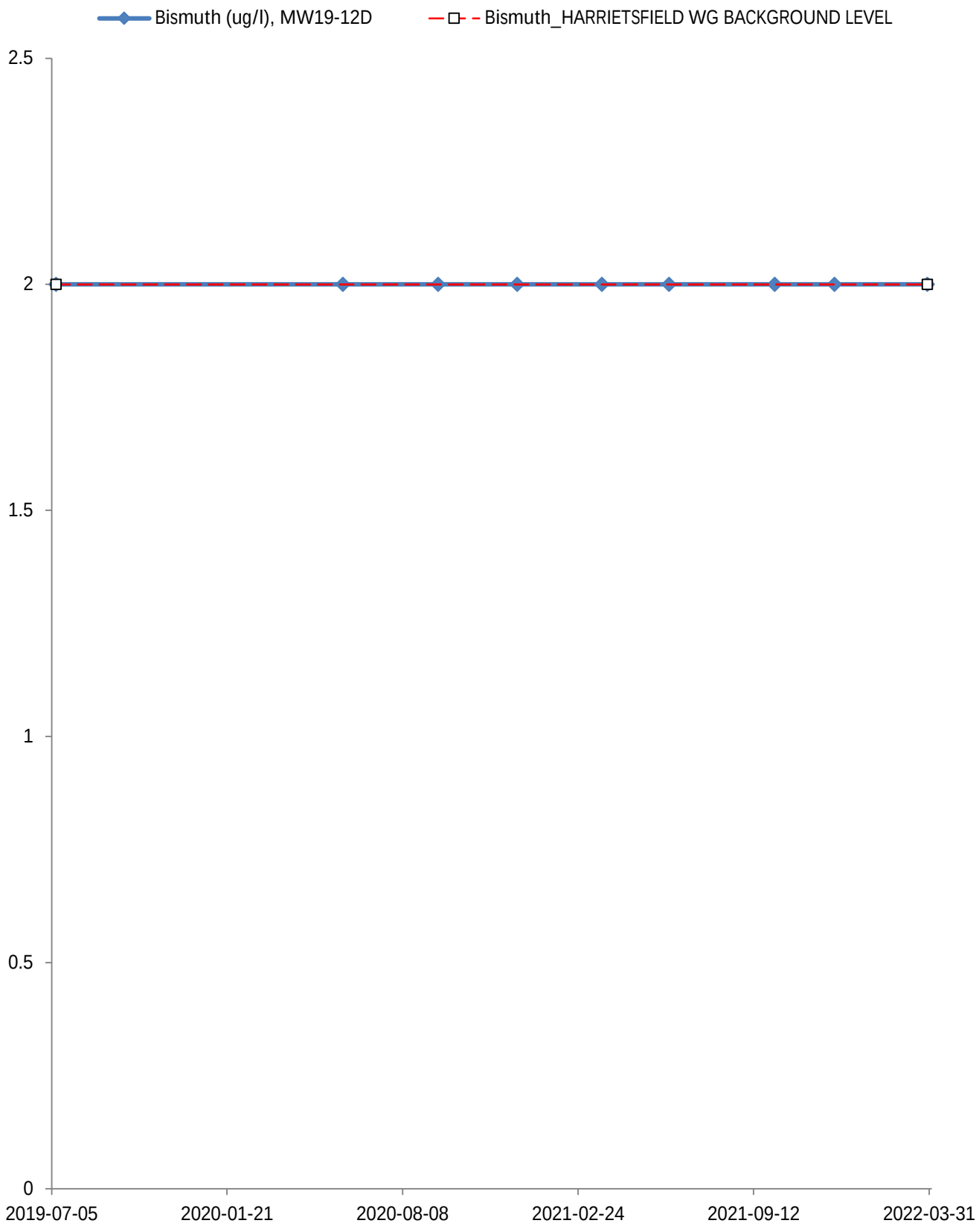
MW19-12D-Benzene



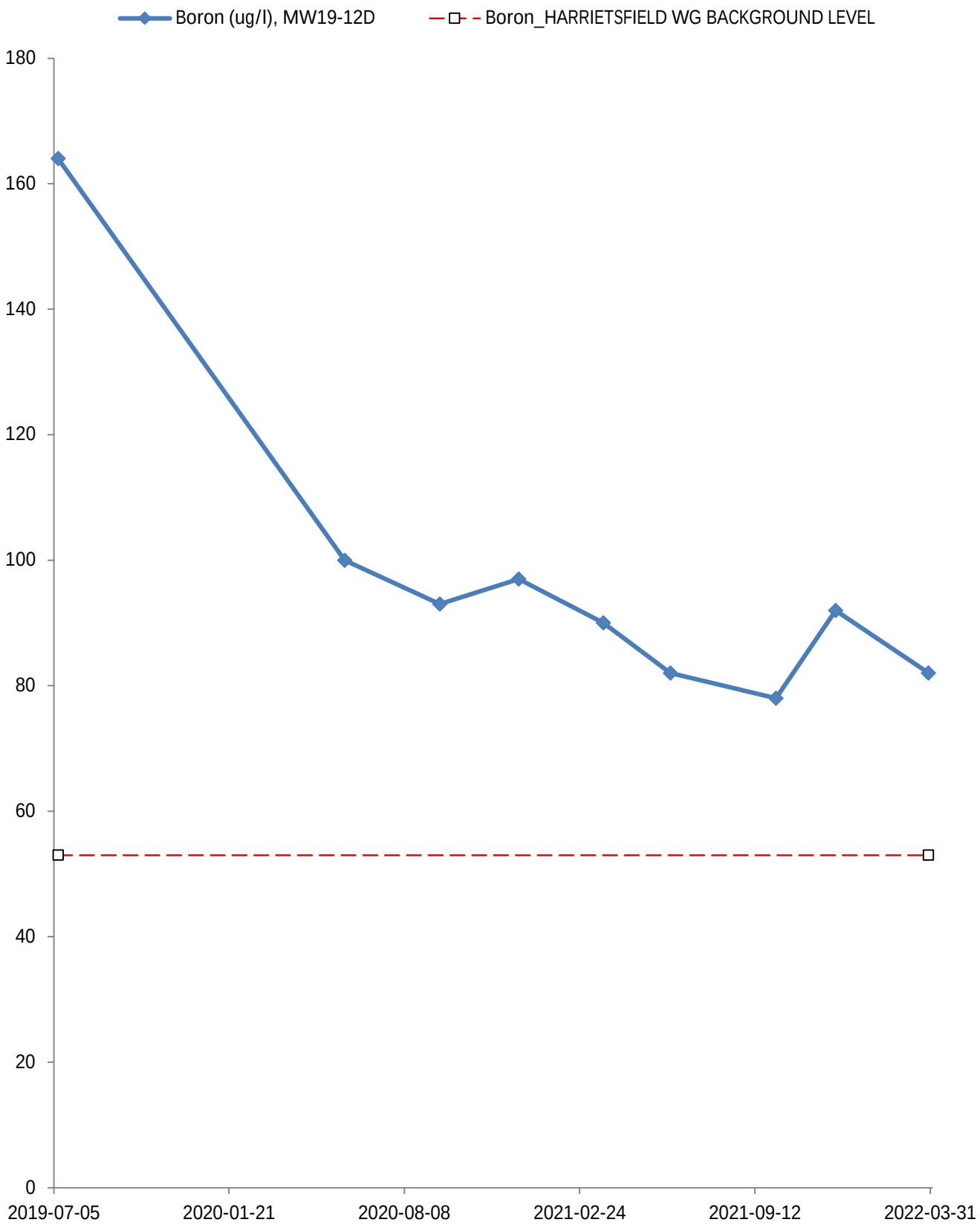
MW19-12D-Beryllium



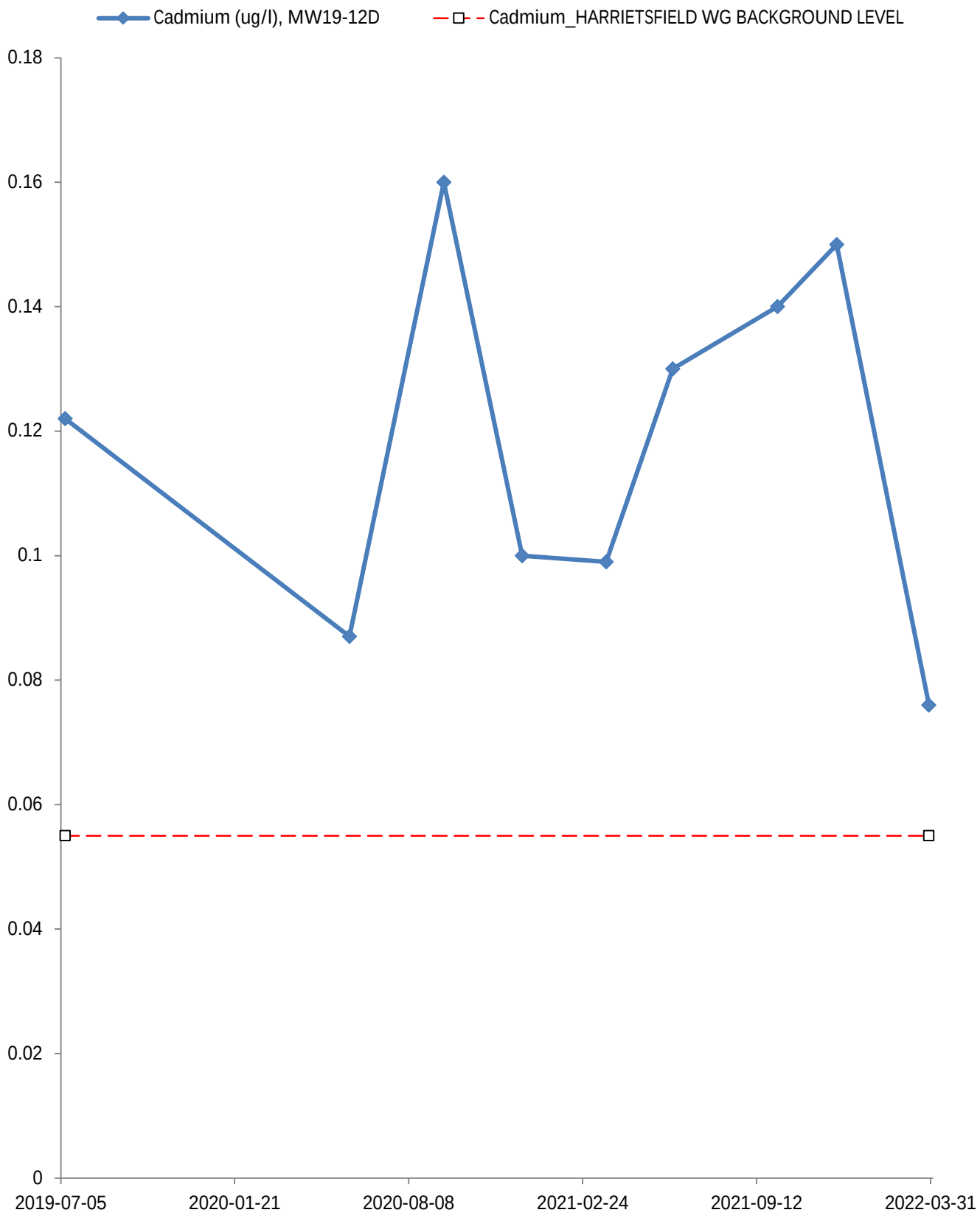
MW19-12D-Bismuth



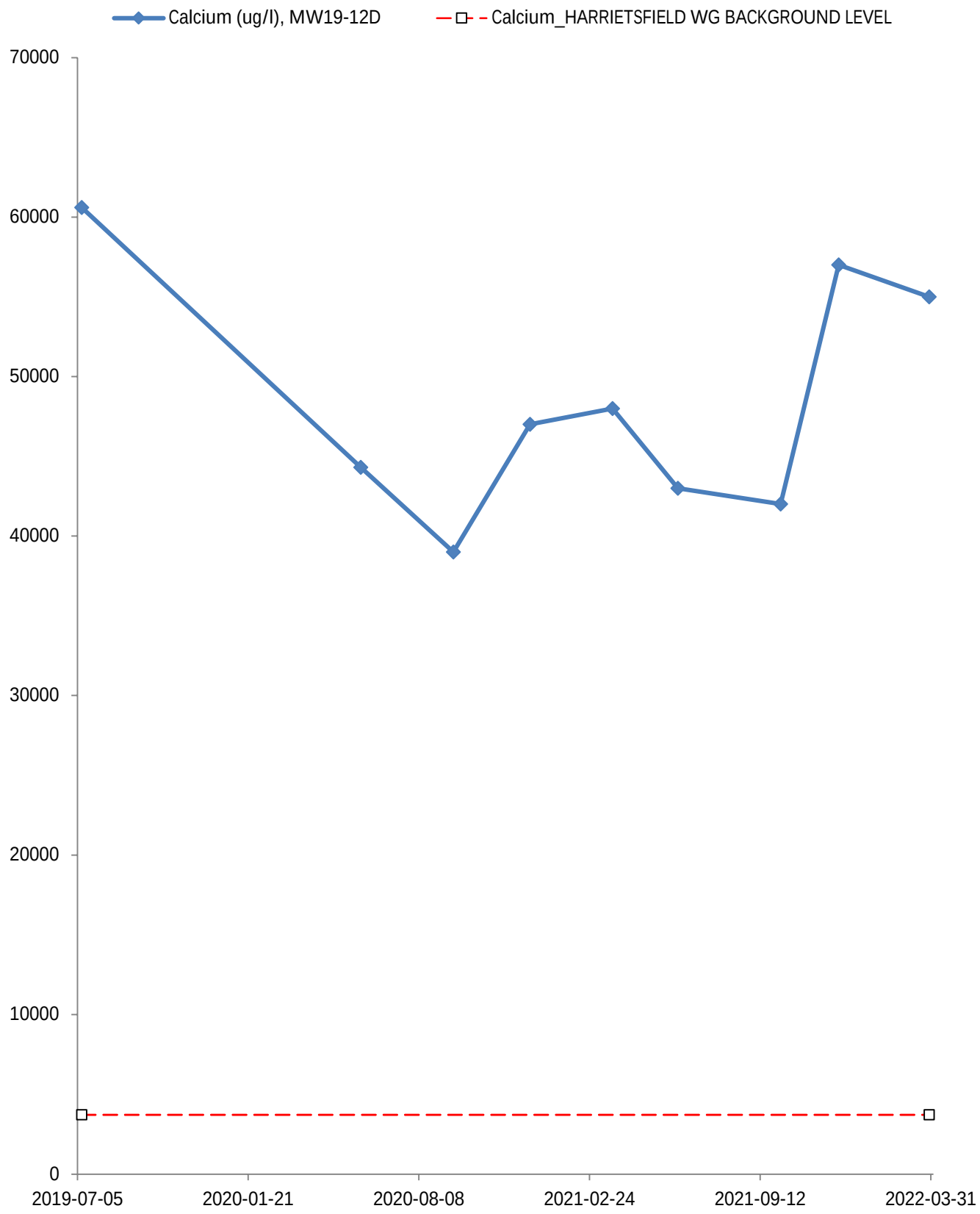
MW19-12D-Boron



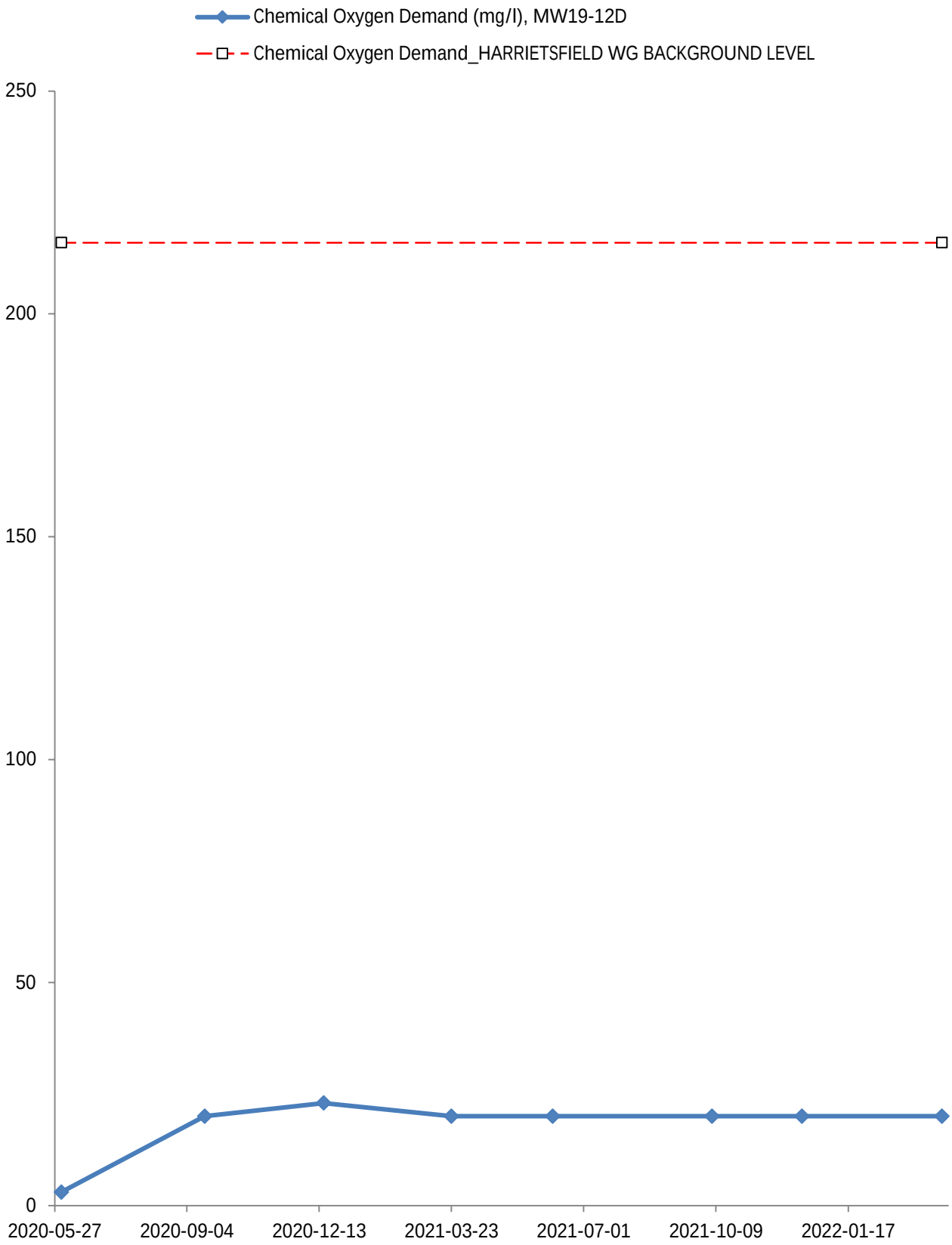
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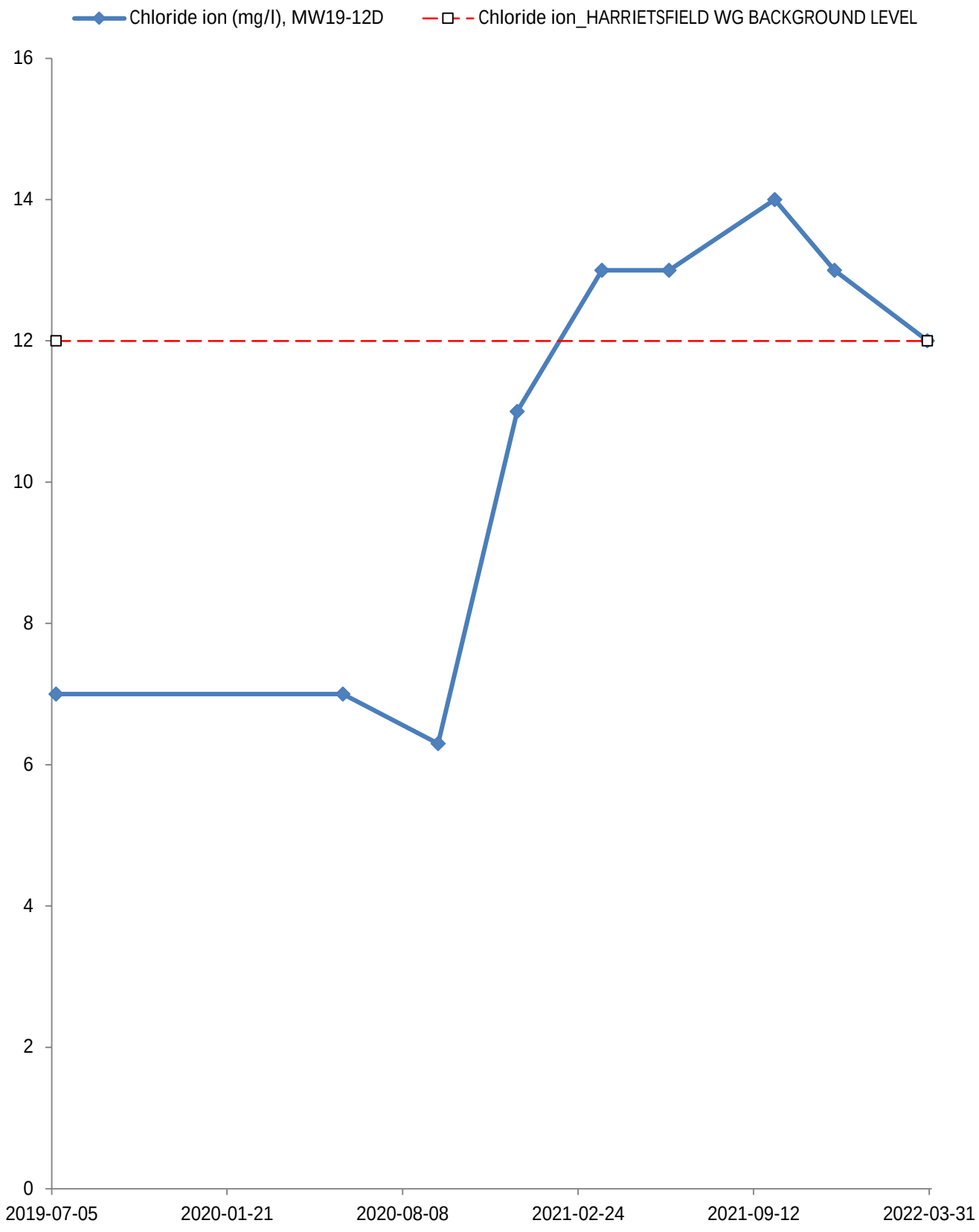
MW19-12D-Calcium



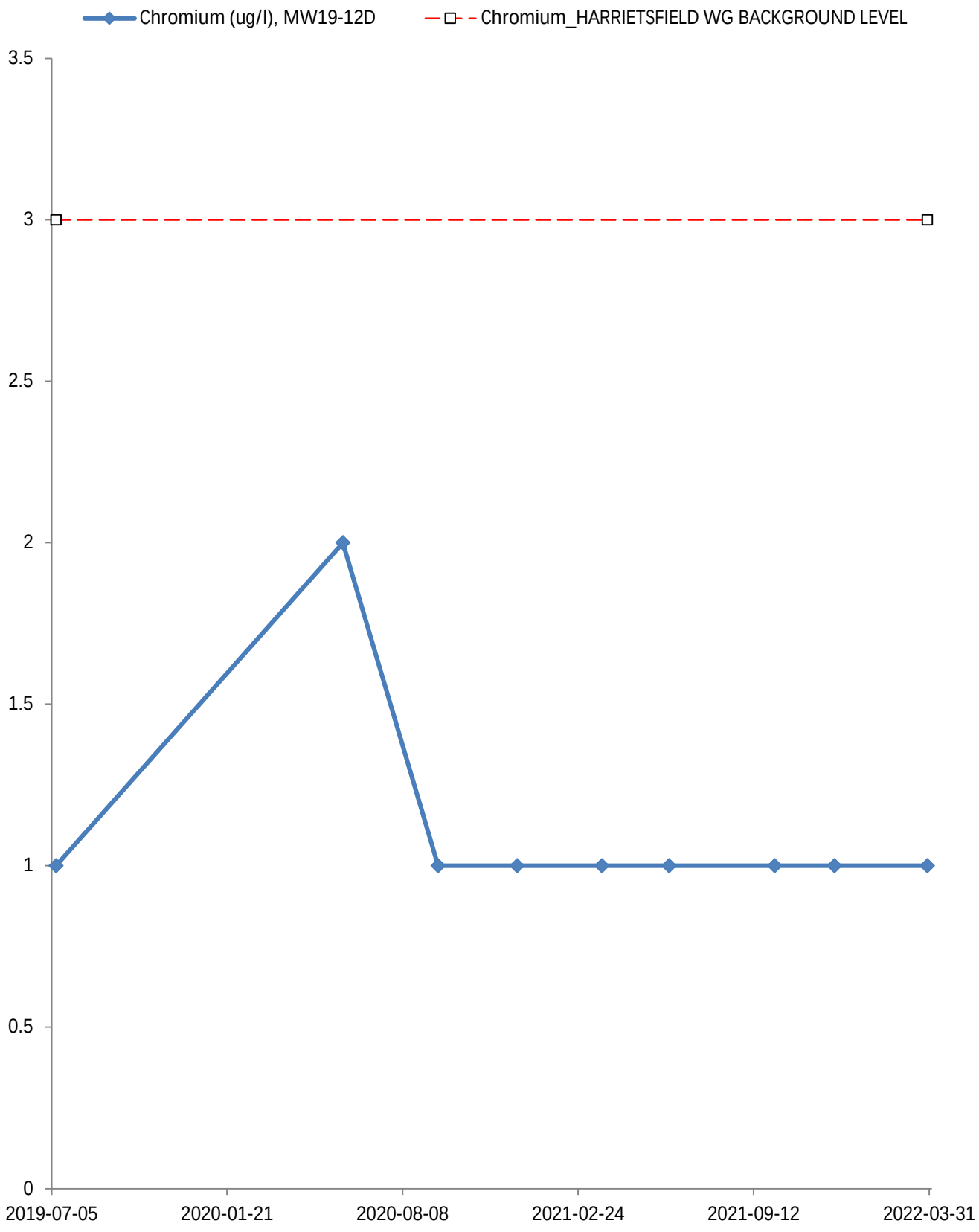
MW19-12D-Chemical Oxygen Demand



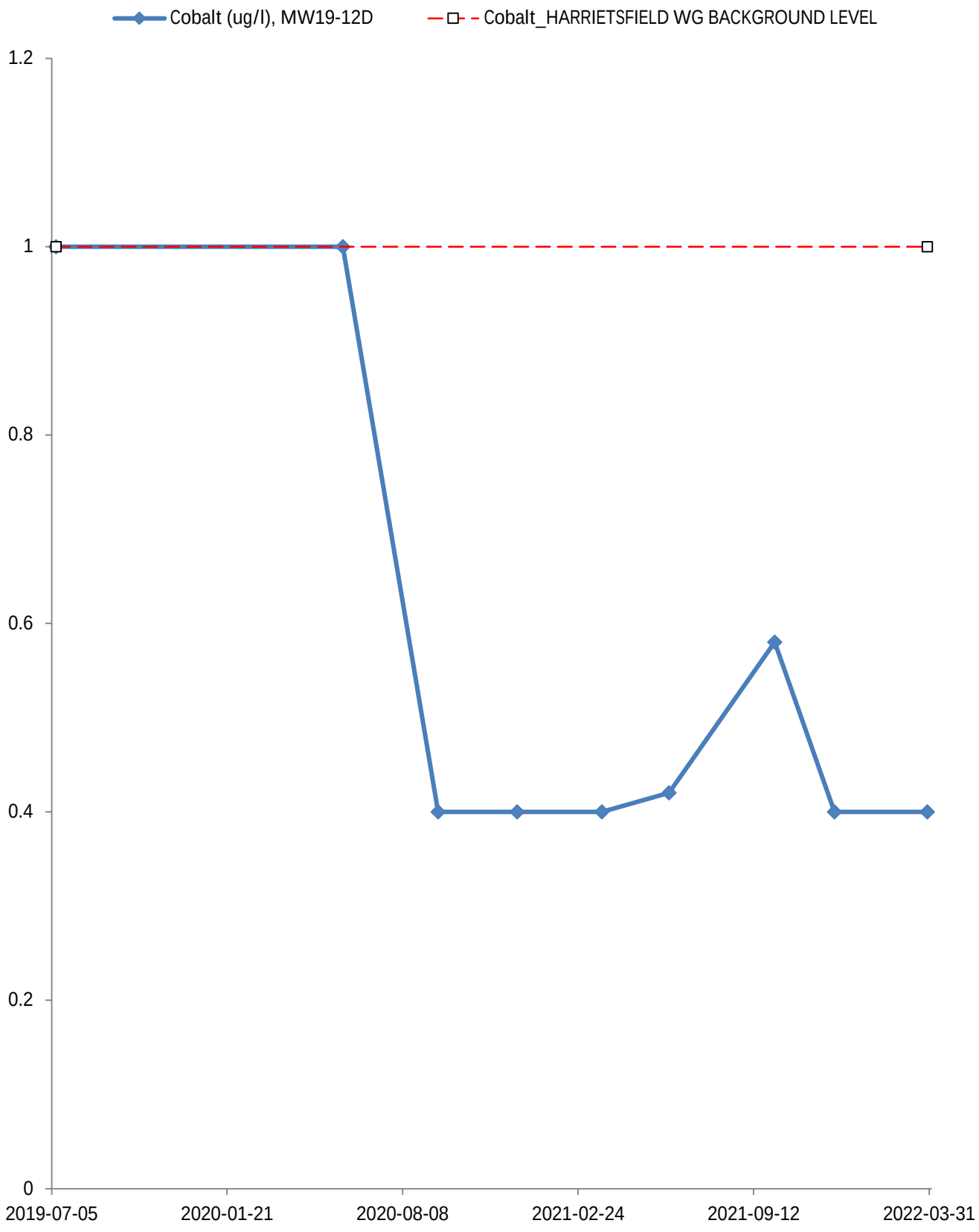
MW19-12D-Chloride ion



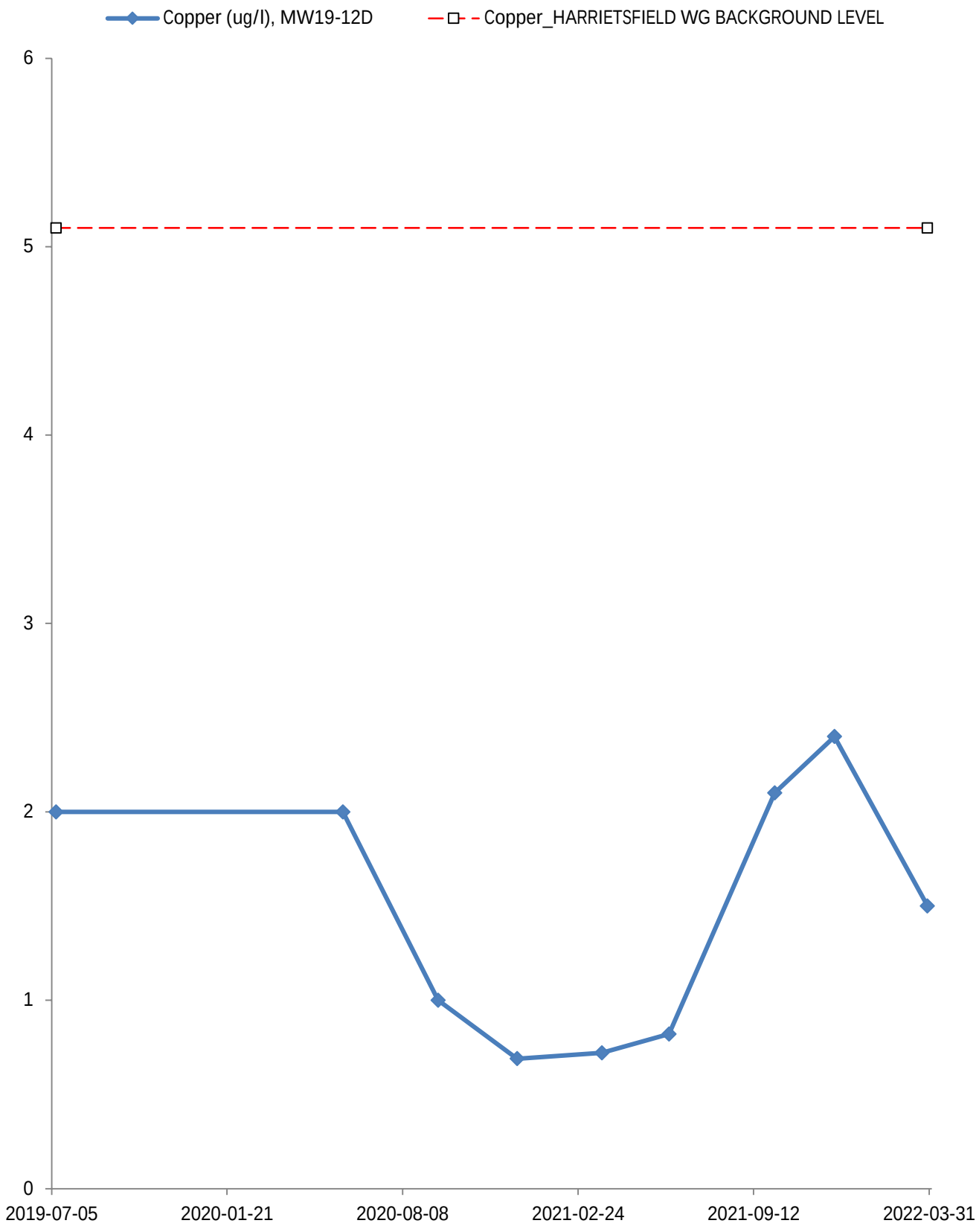
MW19-12D-Chromium



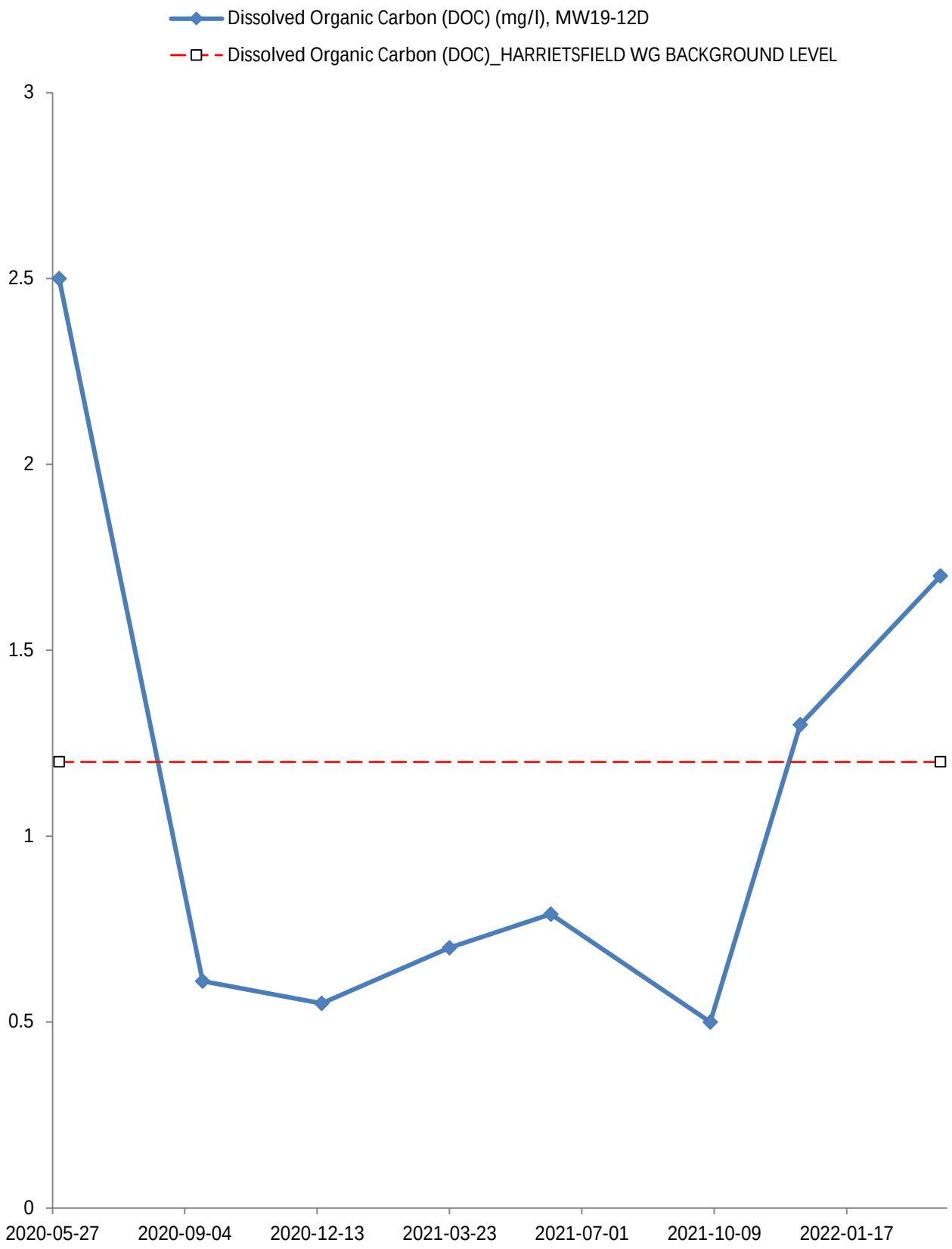
MW19-12D-Cobalt



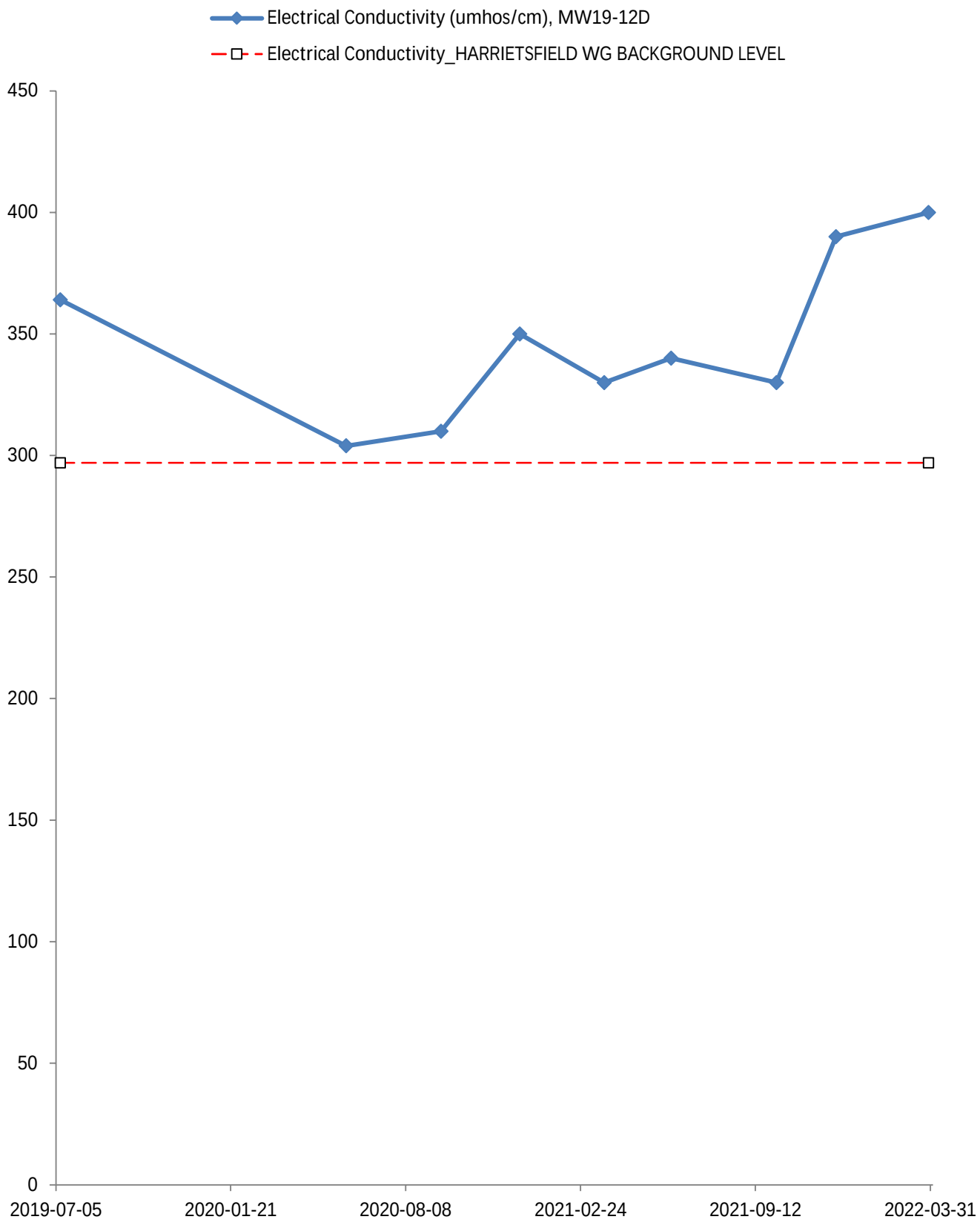
MW19-12D-Copper



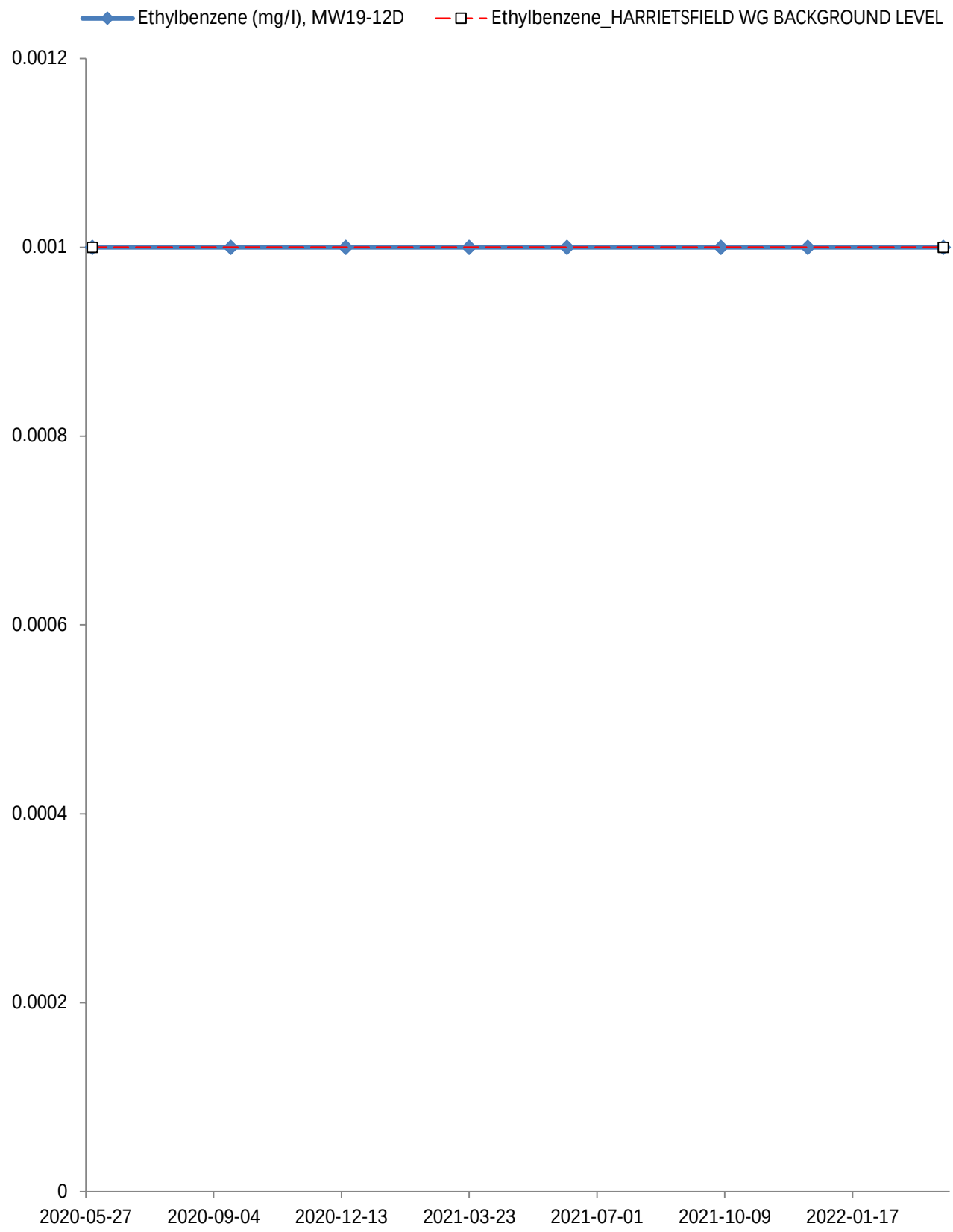
MW19-12D-Dissolved Organic Carbon7



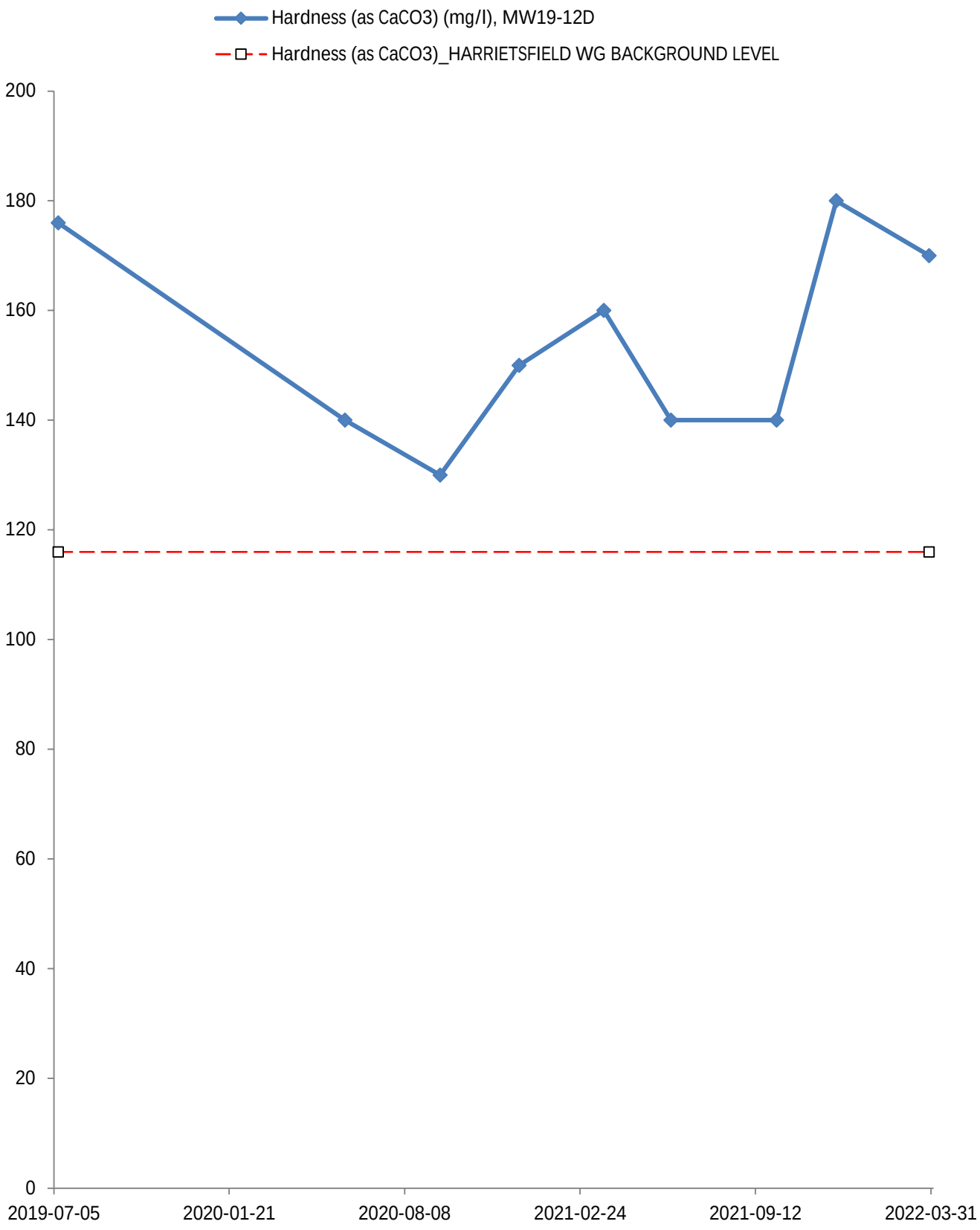
MW19-12D-Electrical Conductivity



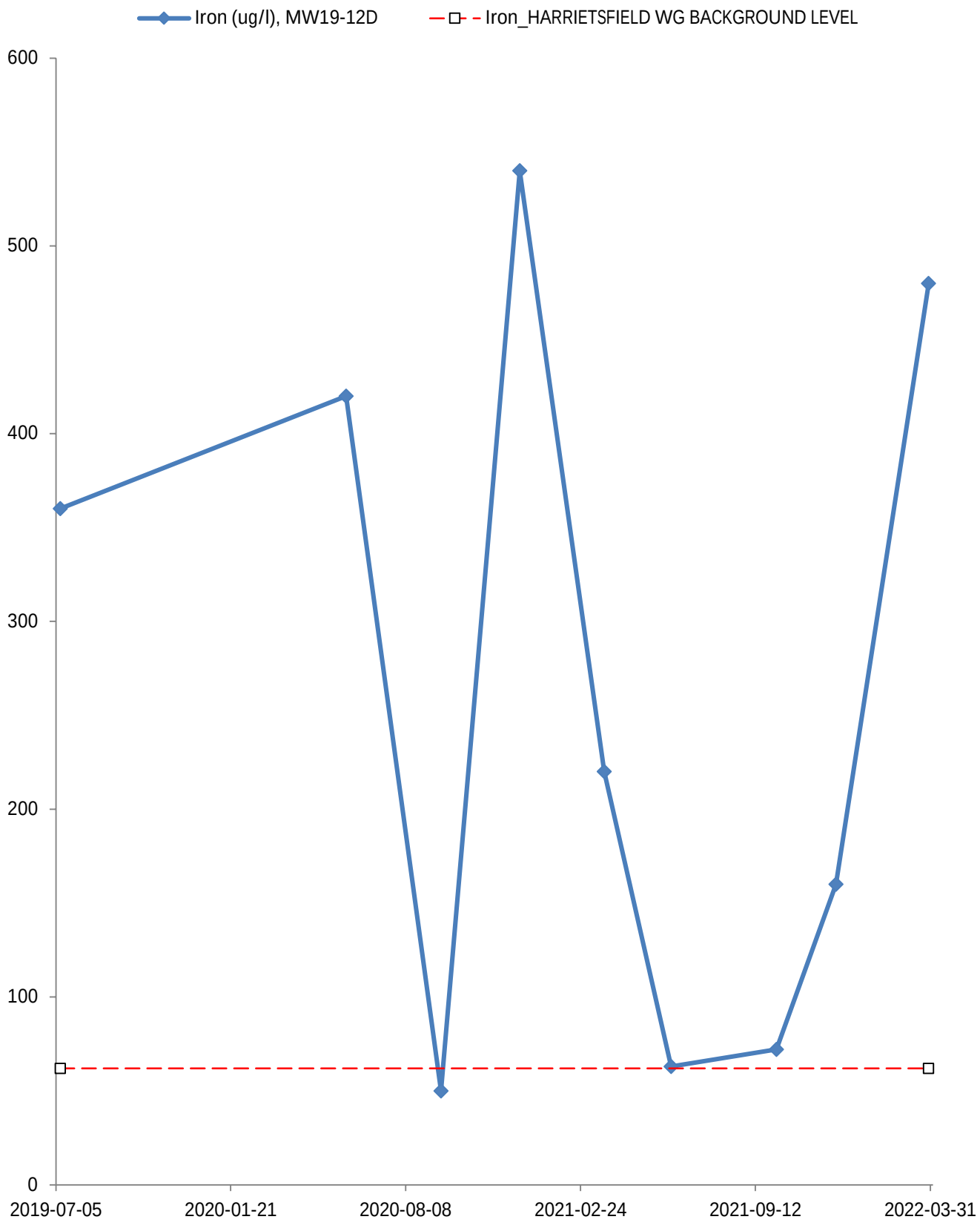
MW19-12D-Ethylbenzene



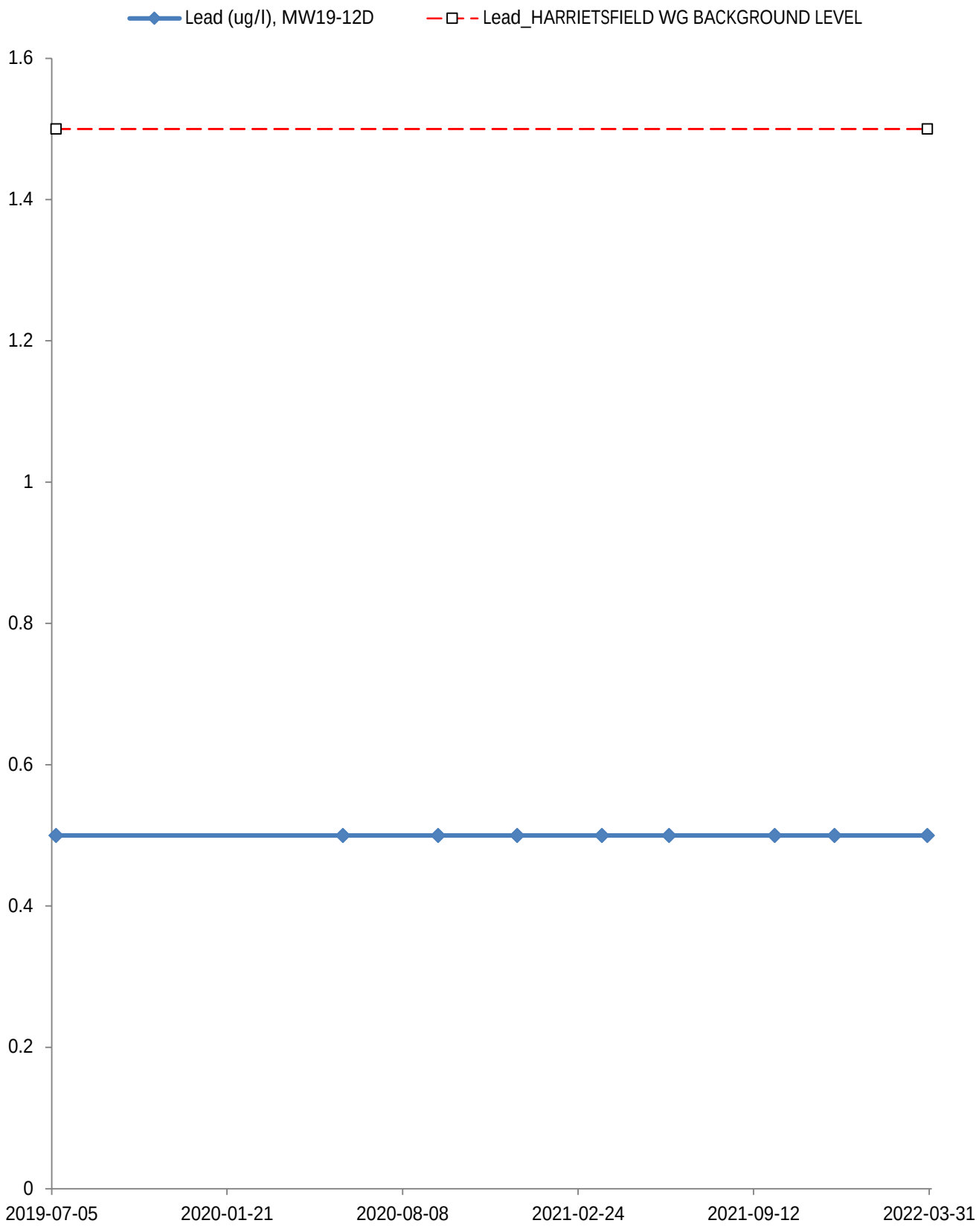
MW19-12D-Hardness (as CaCO3)



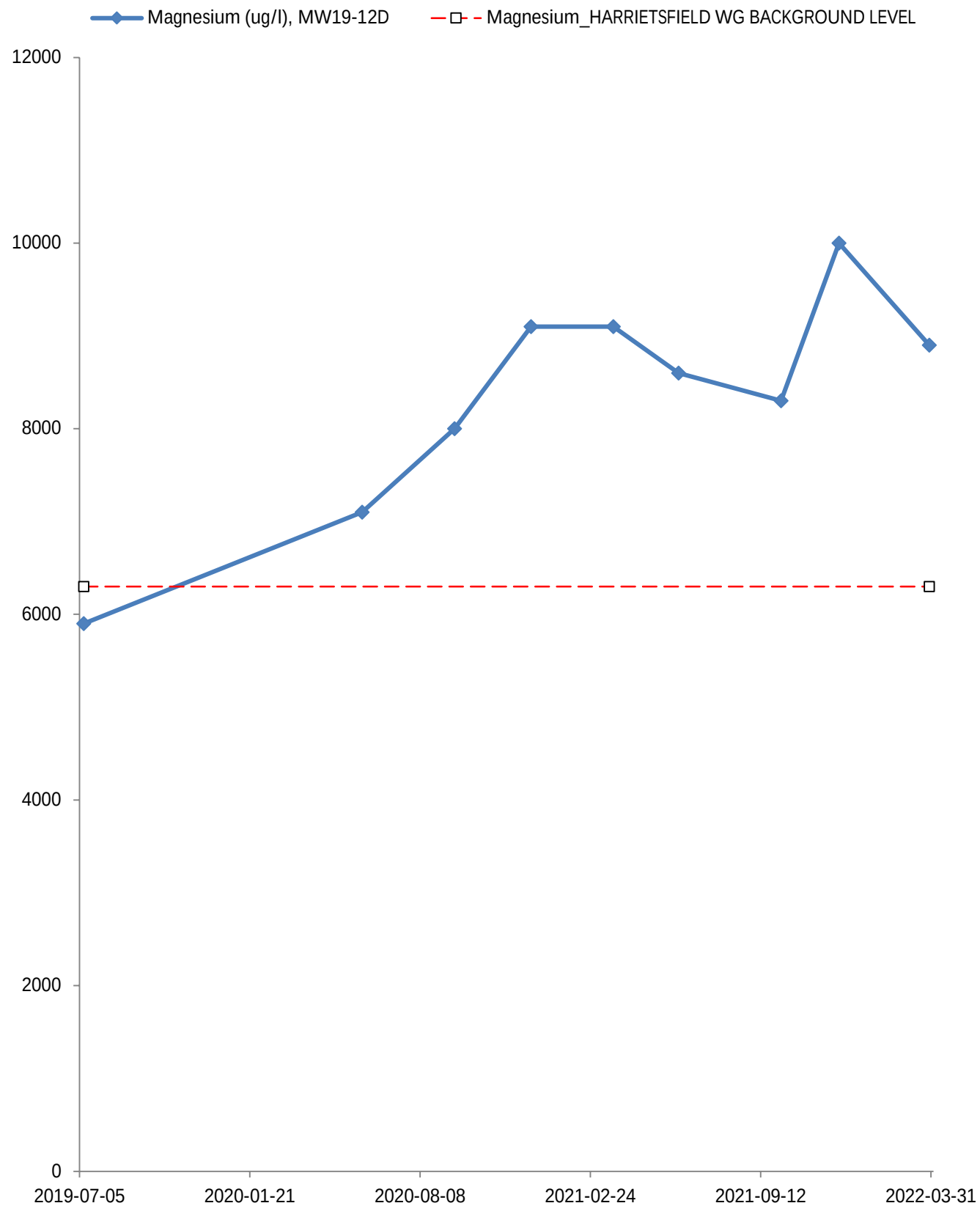
MW19-12D-Iron



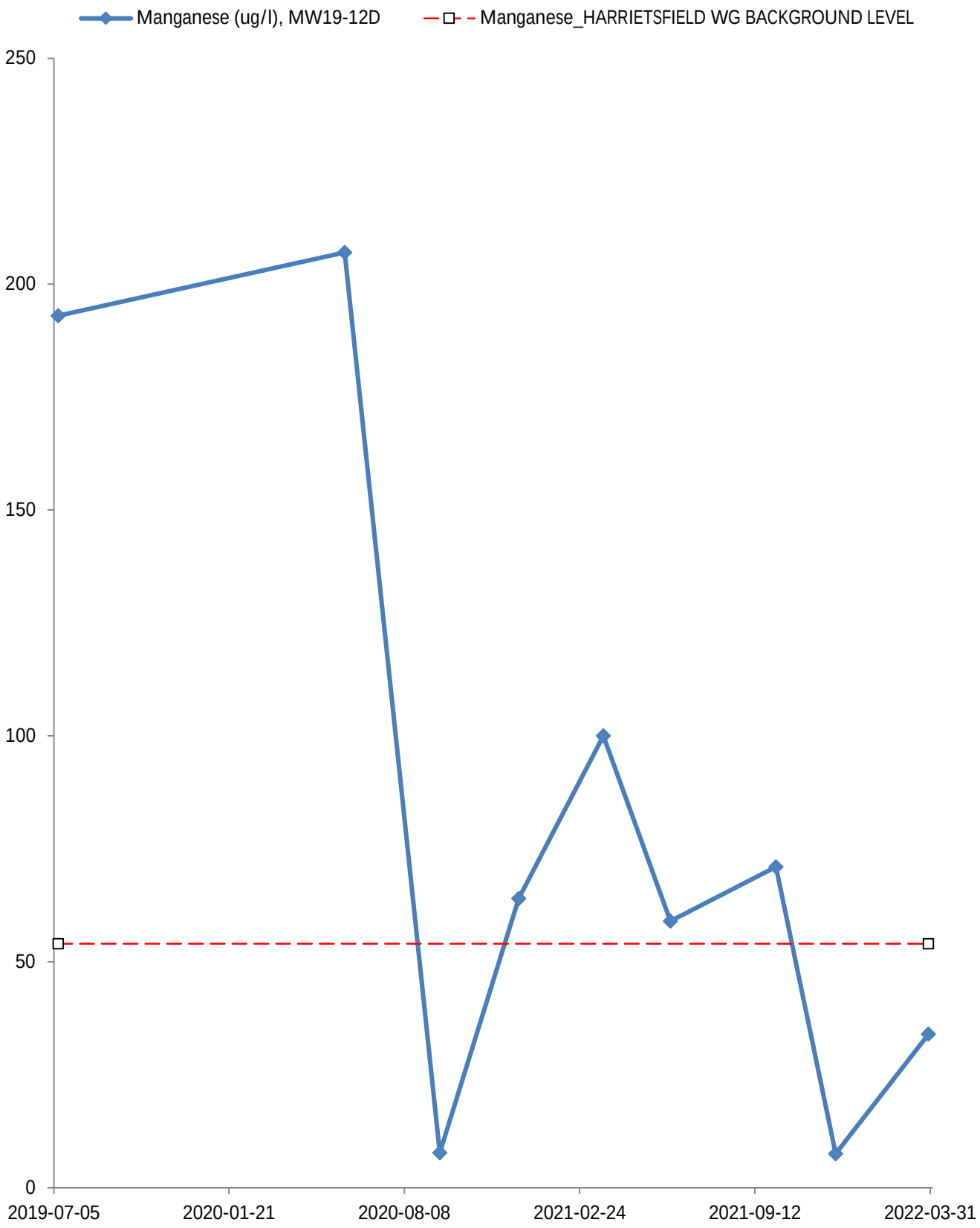
MW19-12D-Lead



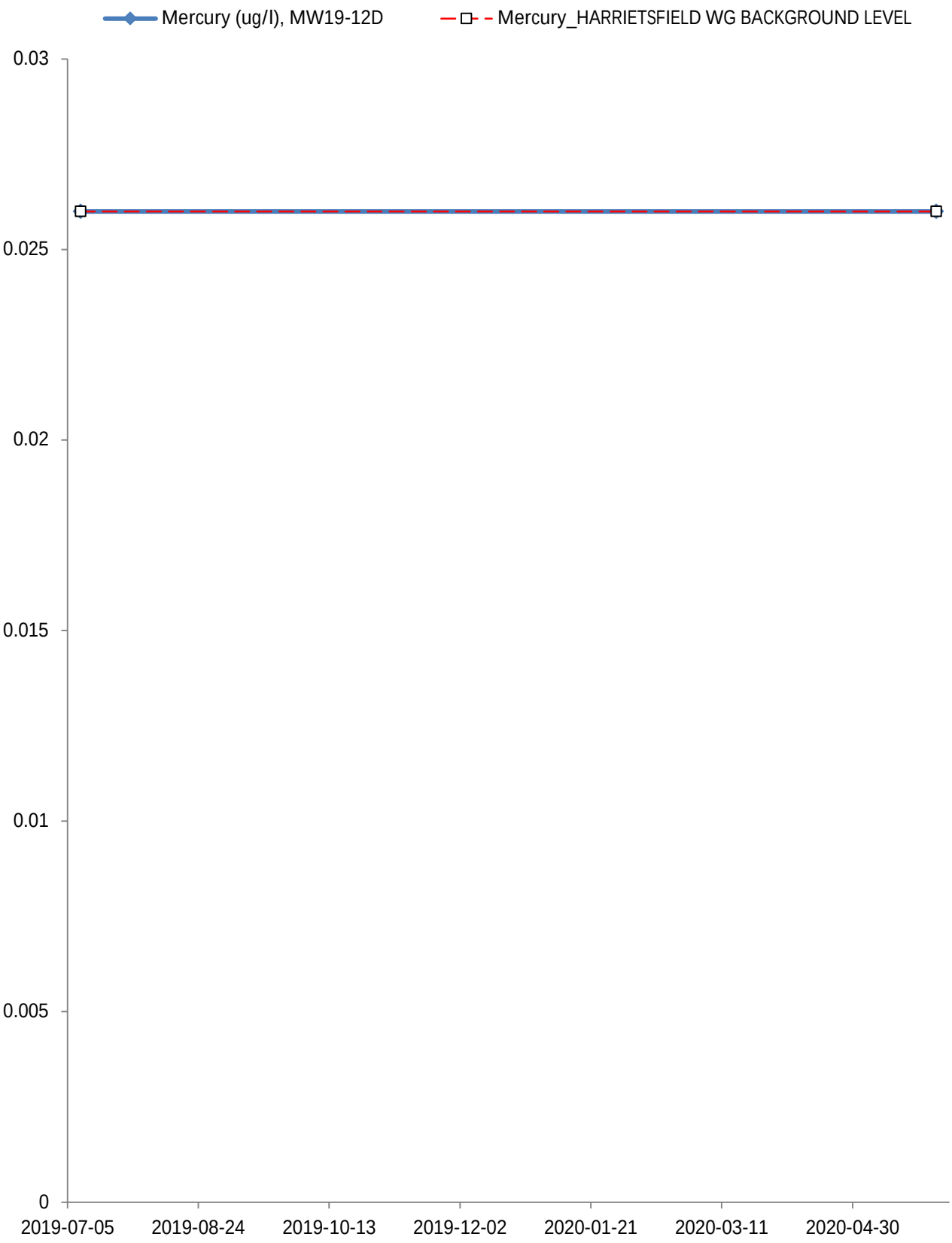
MW19-12D-Magnesium



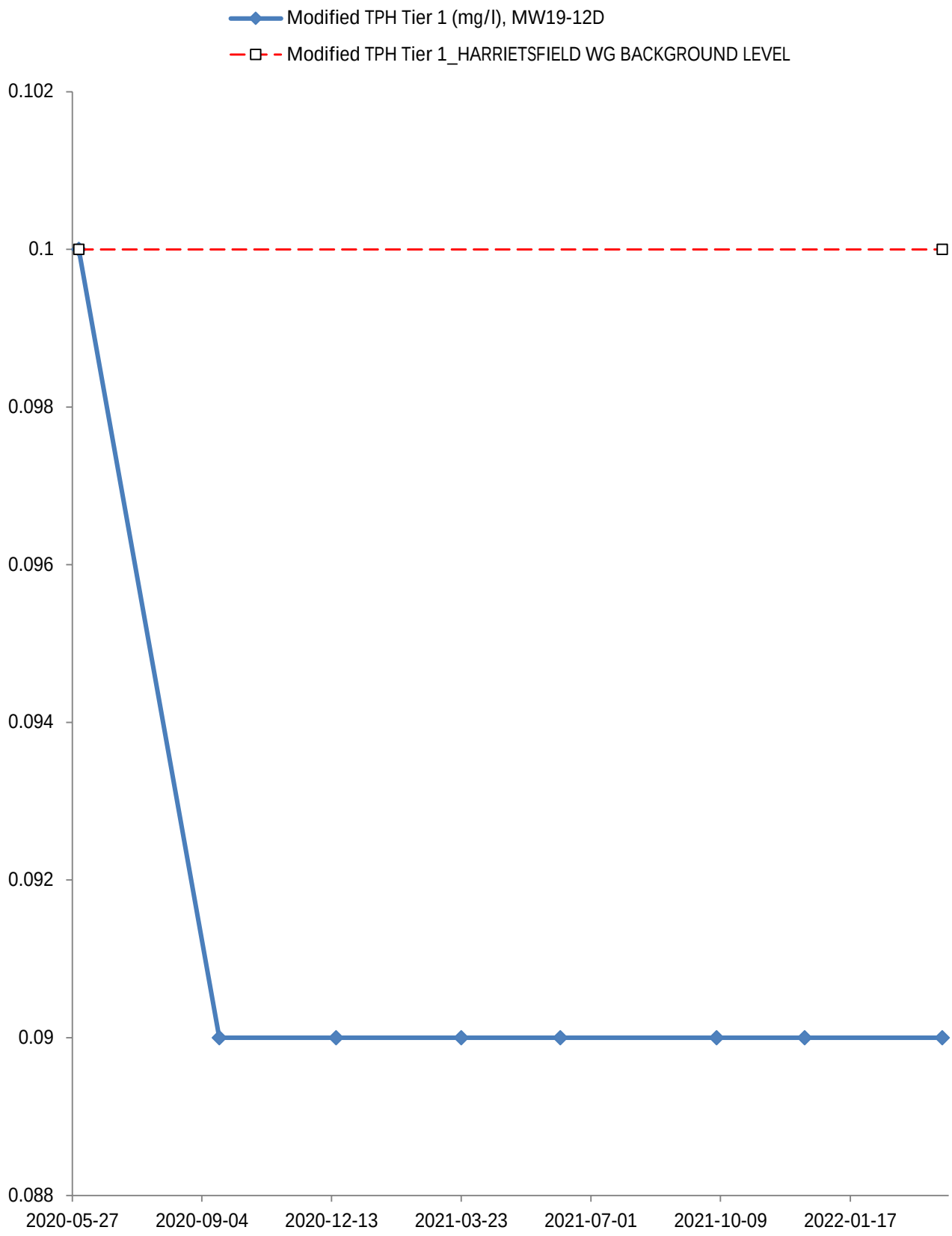
MW19-12D-Manganese



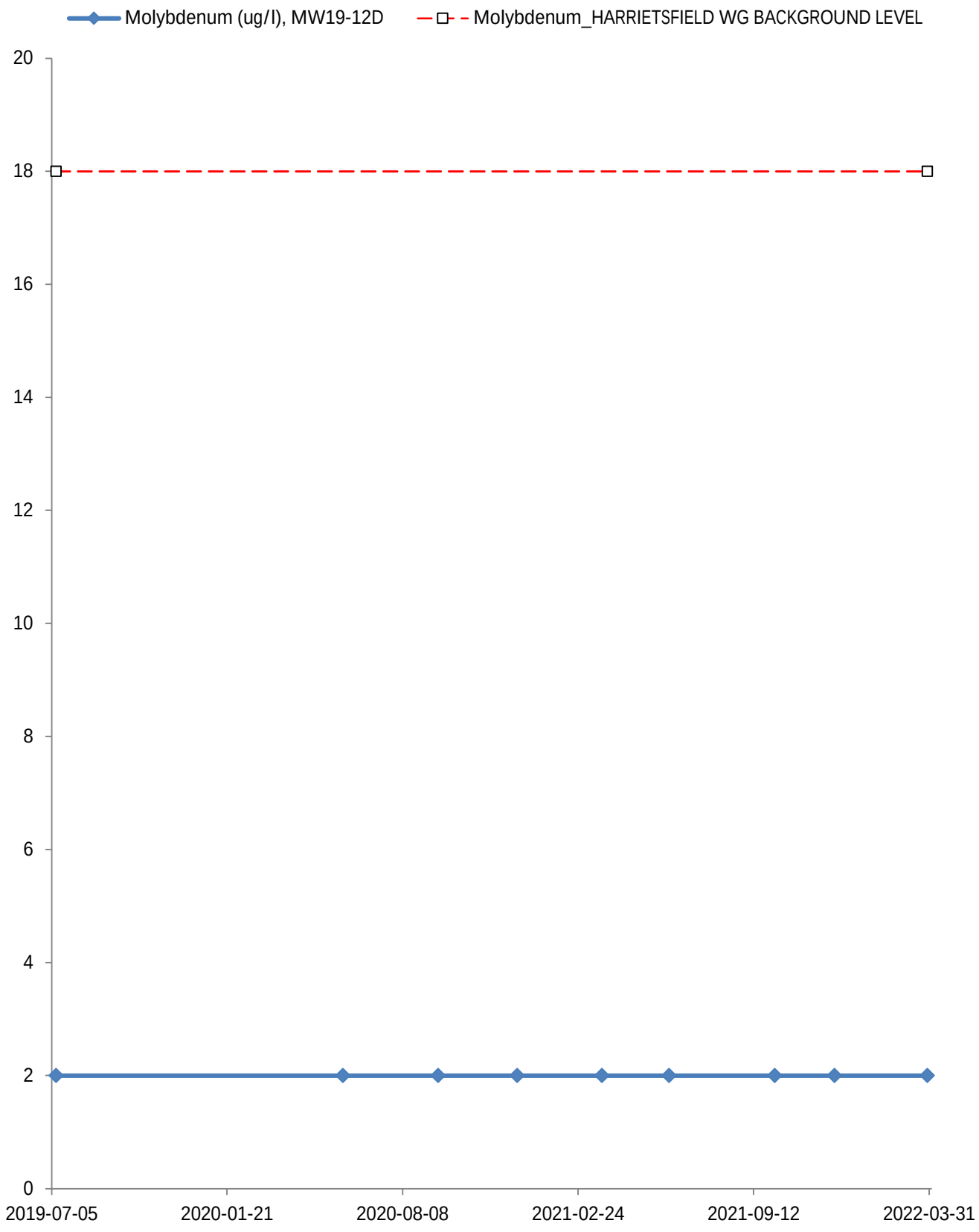
MW19-12D-Mercury



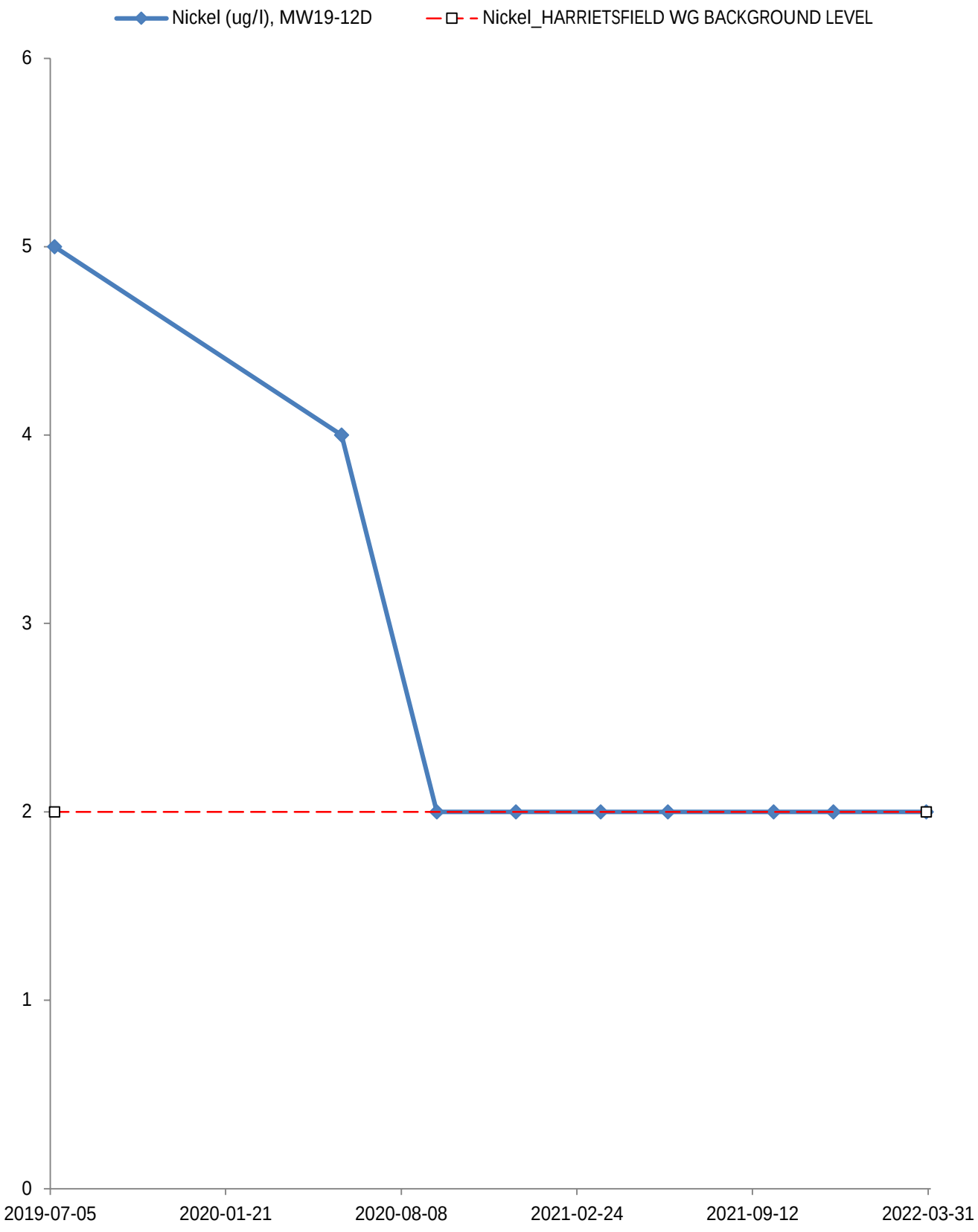
MW19-12D-Modified TPH Tier 1



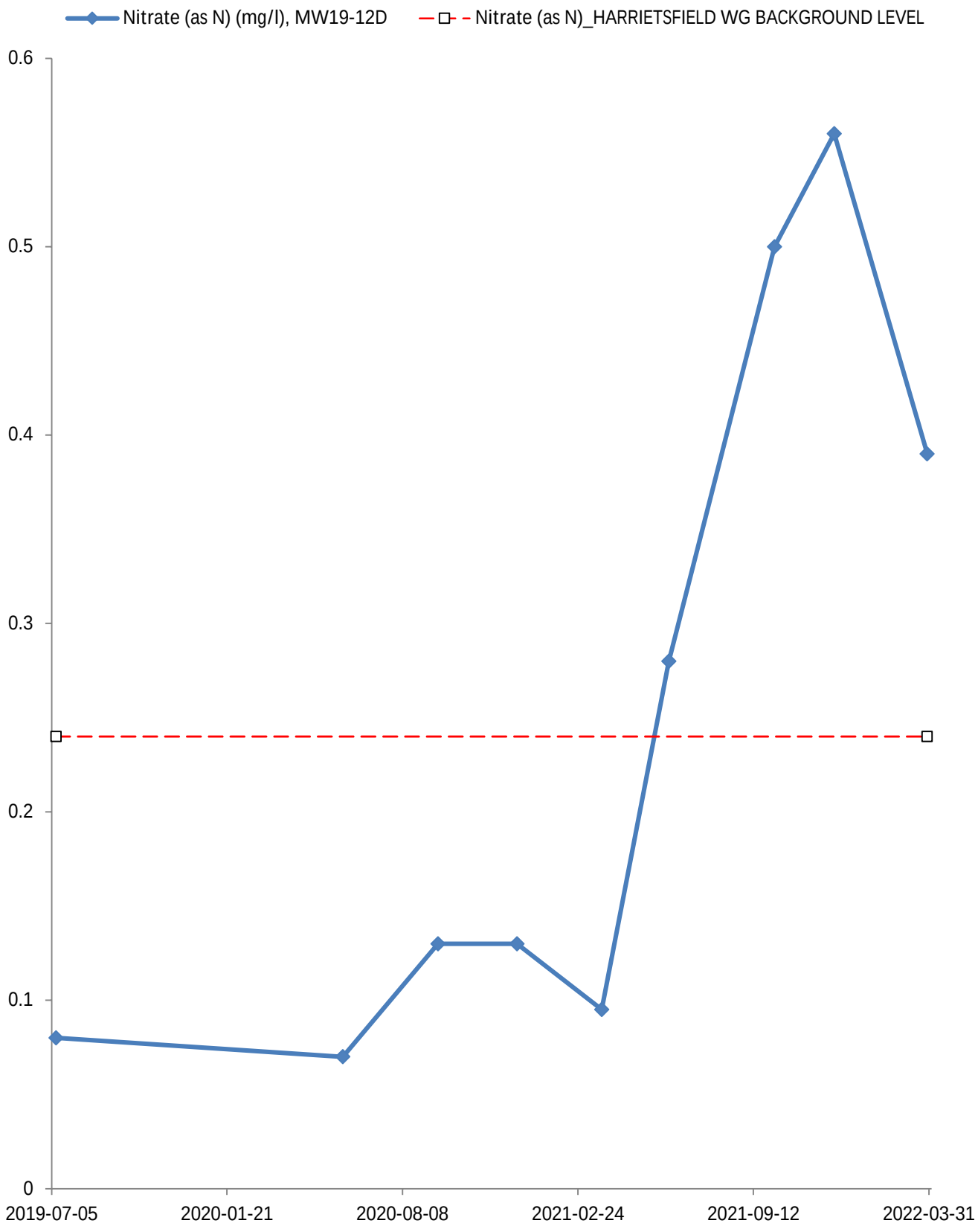
MW19-12D-Molybdenum



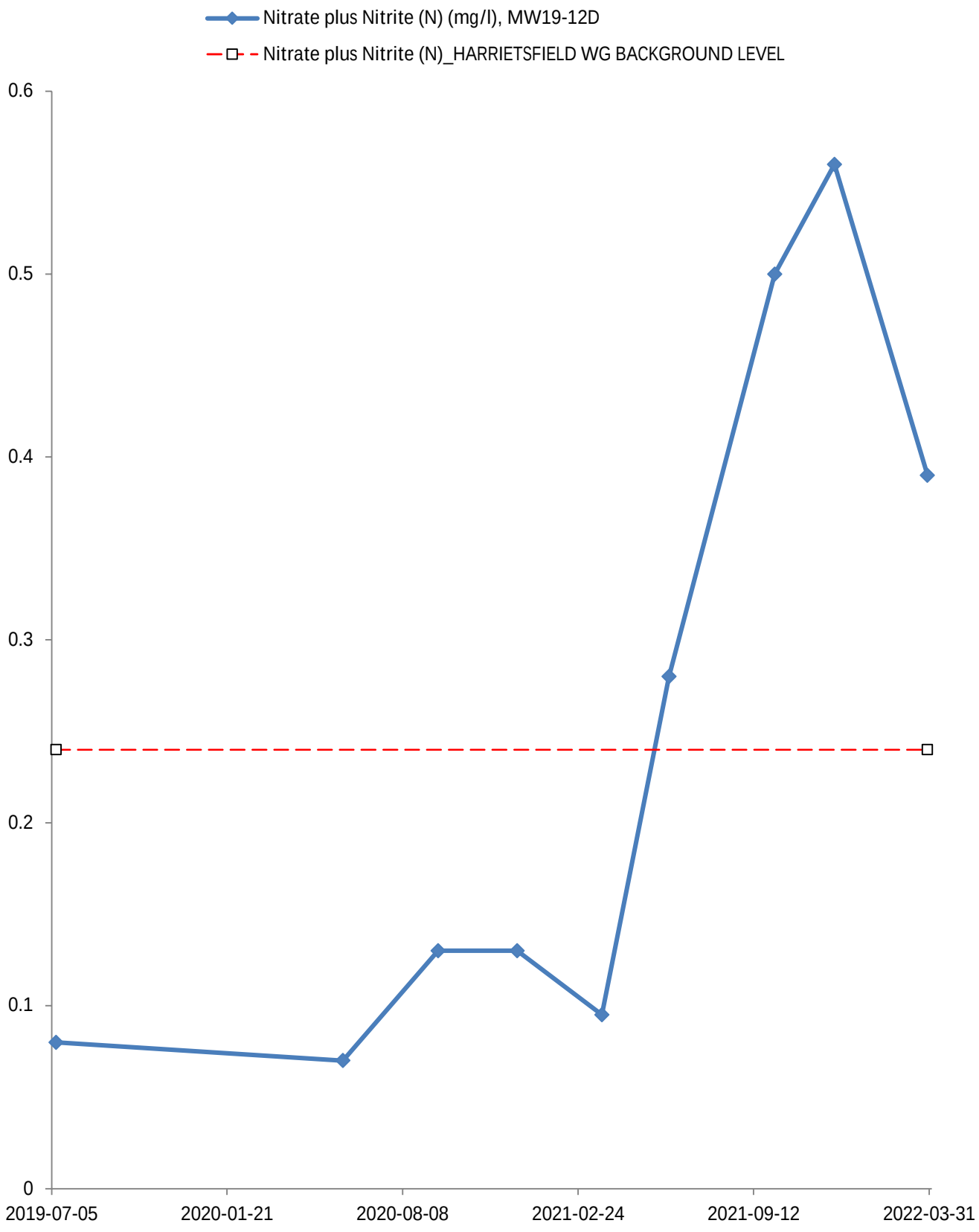
MW19-12D-Nickel



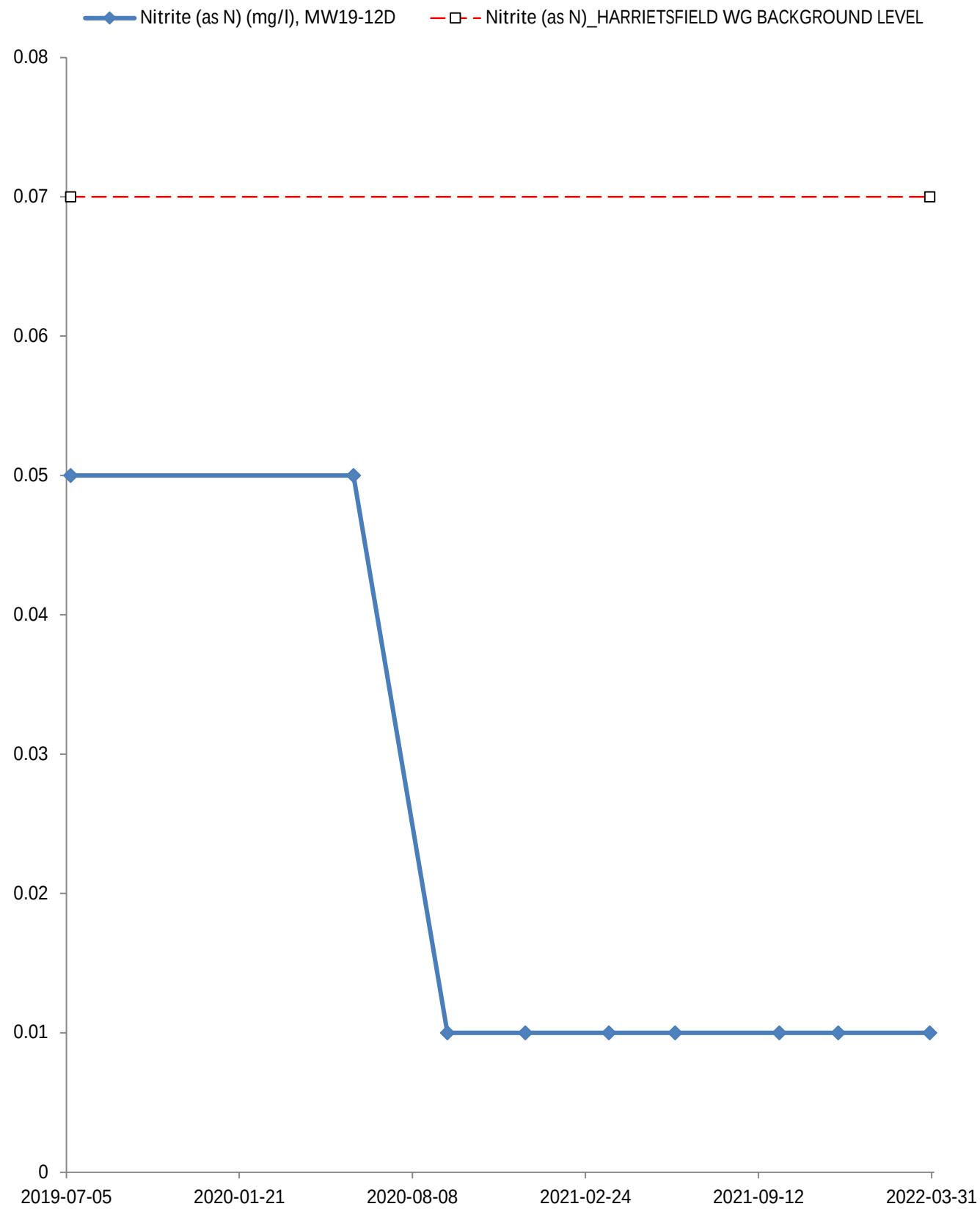
MW19-12D-Nitrate (as N)



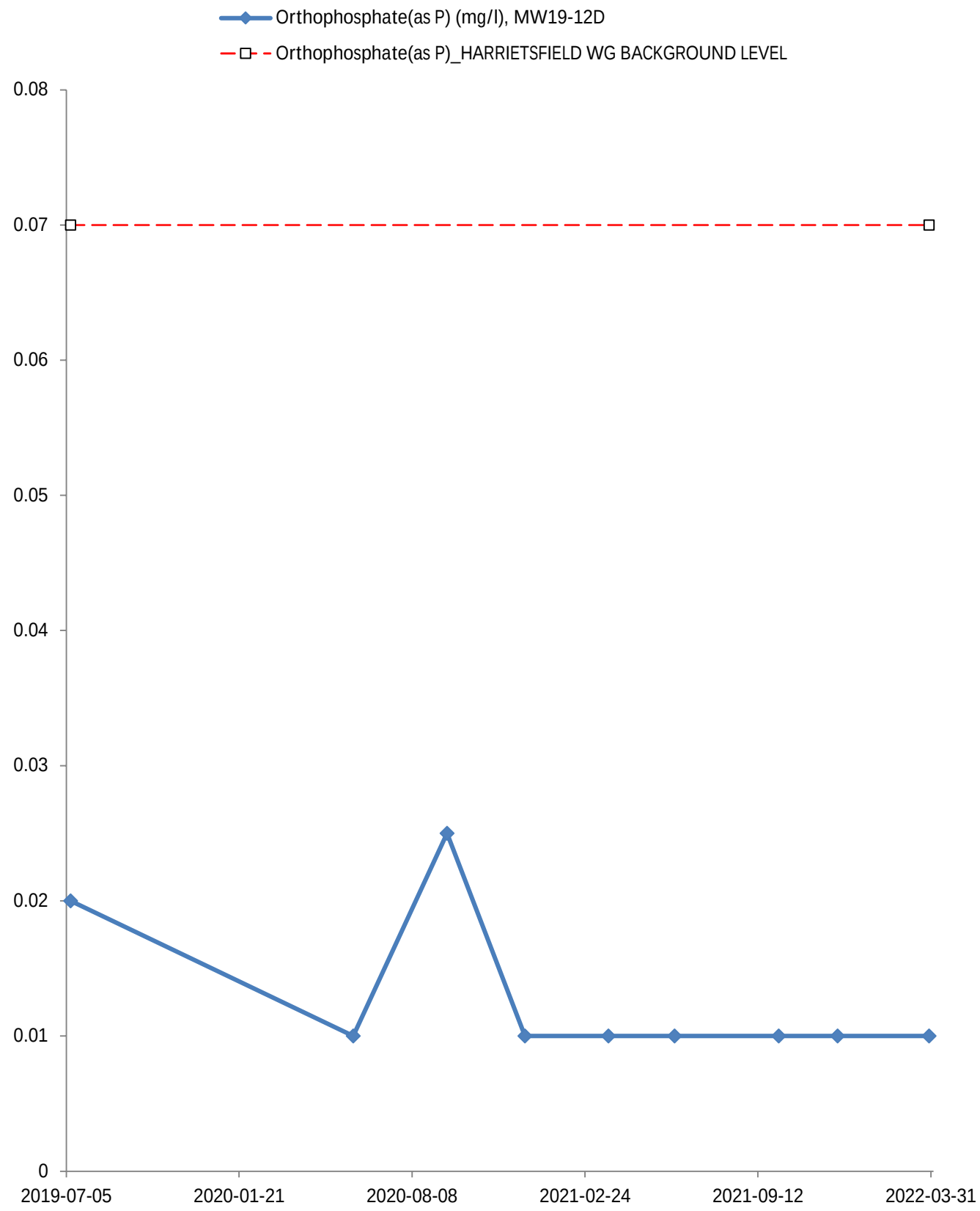
MW19-12D-Nitrate plus Nitrite (N)



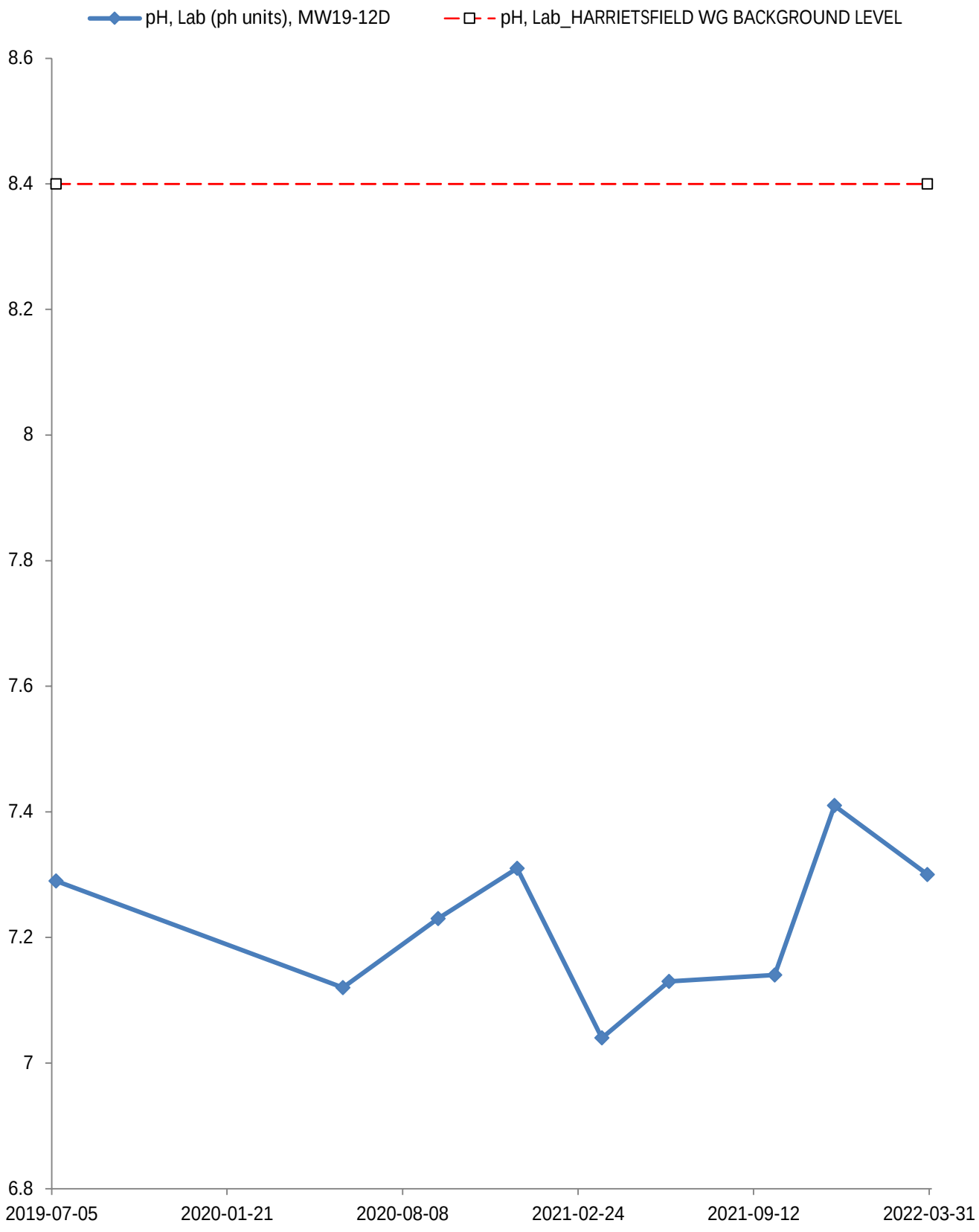
MW19-12D-Nitrite (as N)



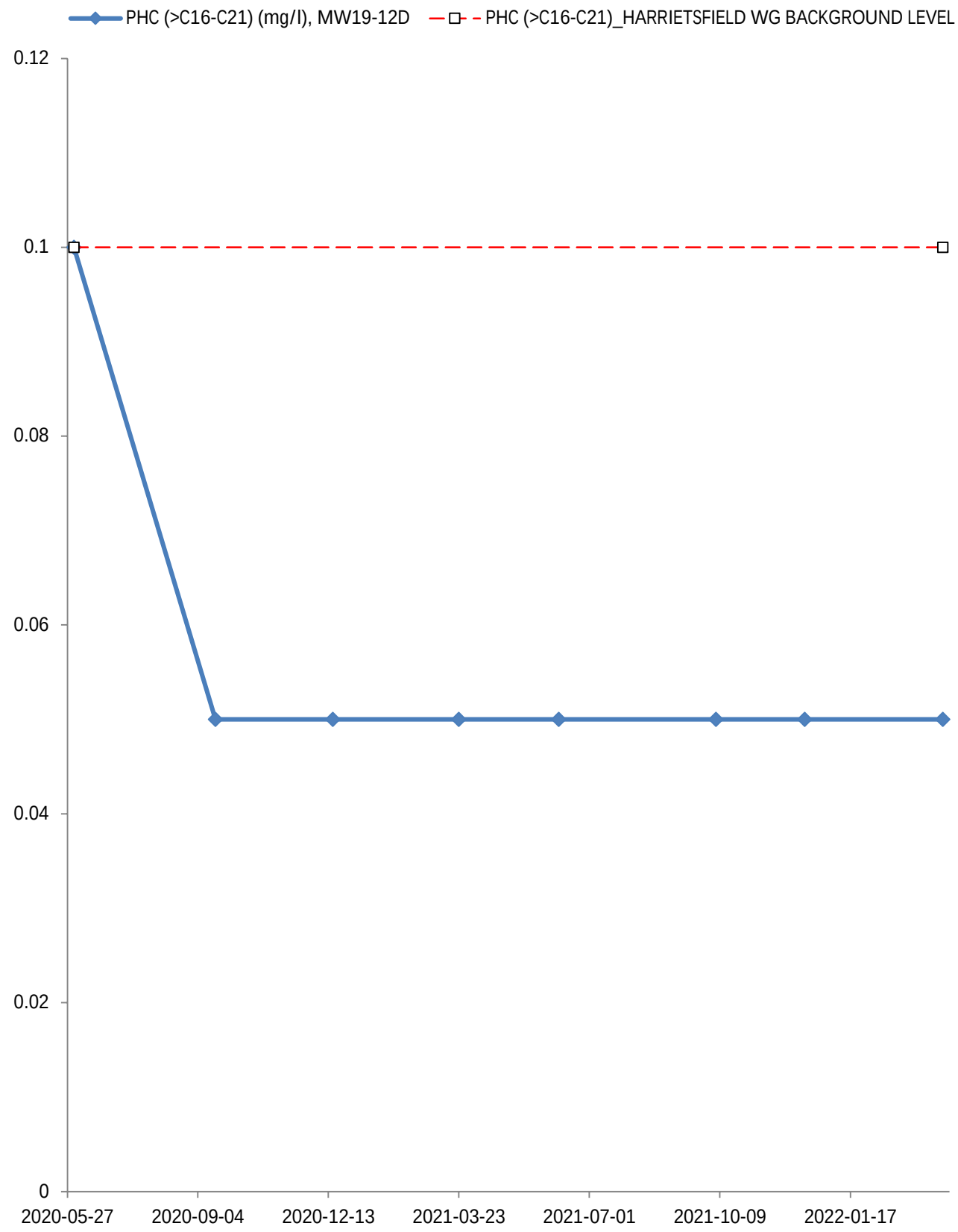
MW19-12D-Orthophosphate(as P)



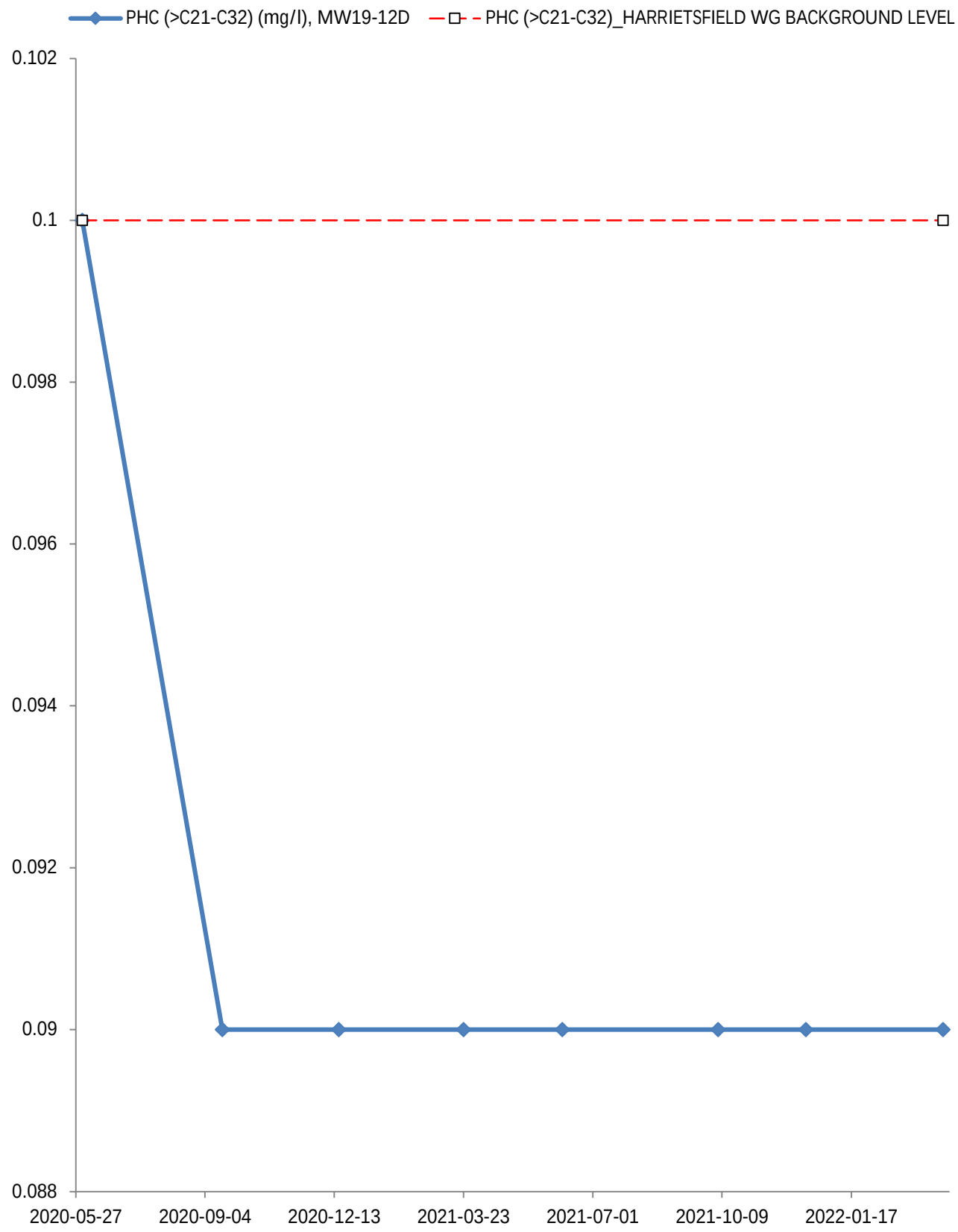
MW19-12D-pH, Lab



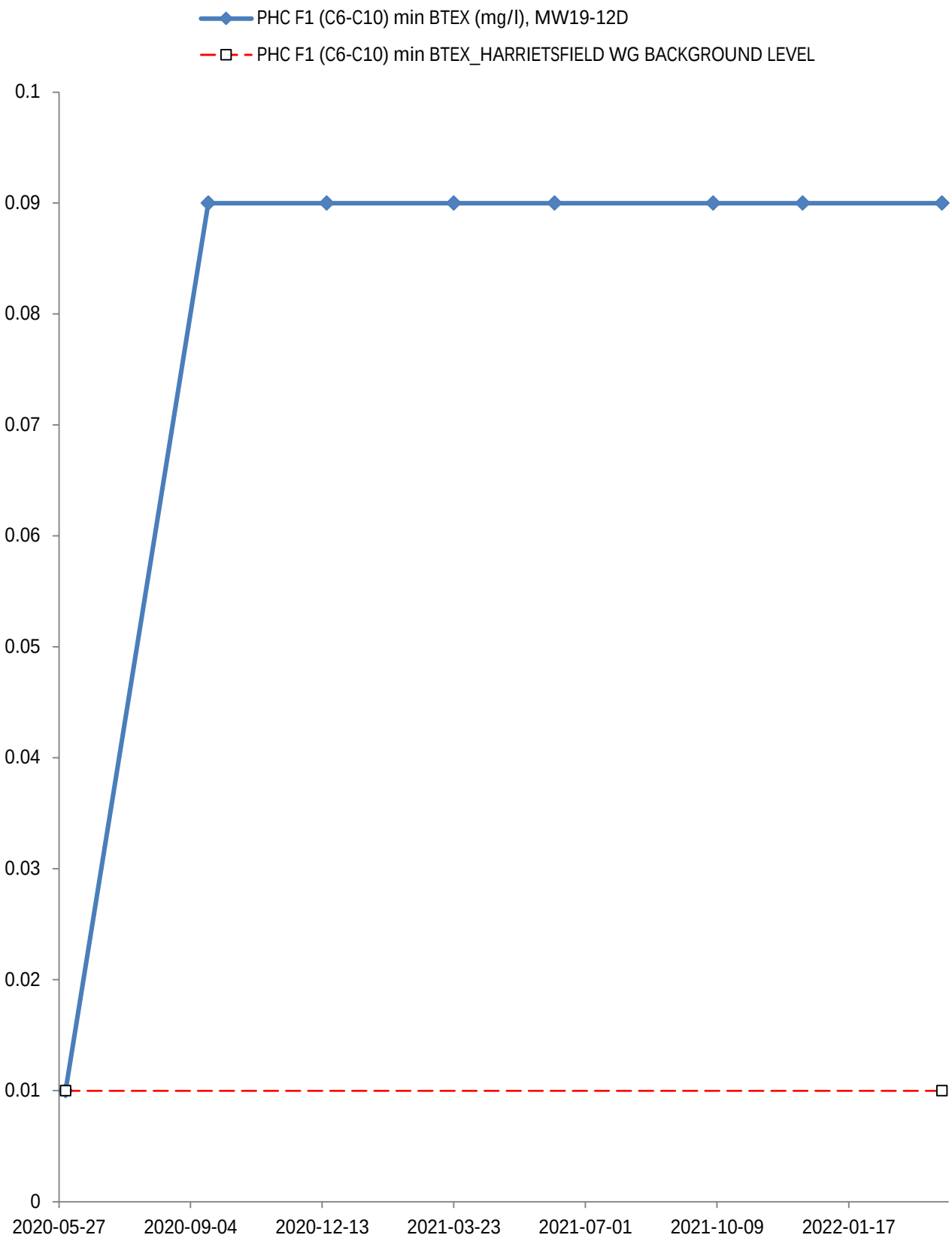
MW19-12D-PHC (>C16-C21)



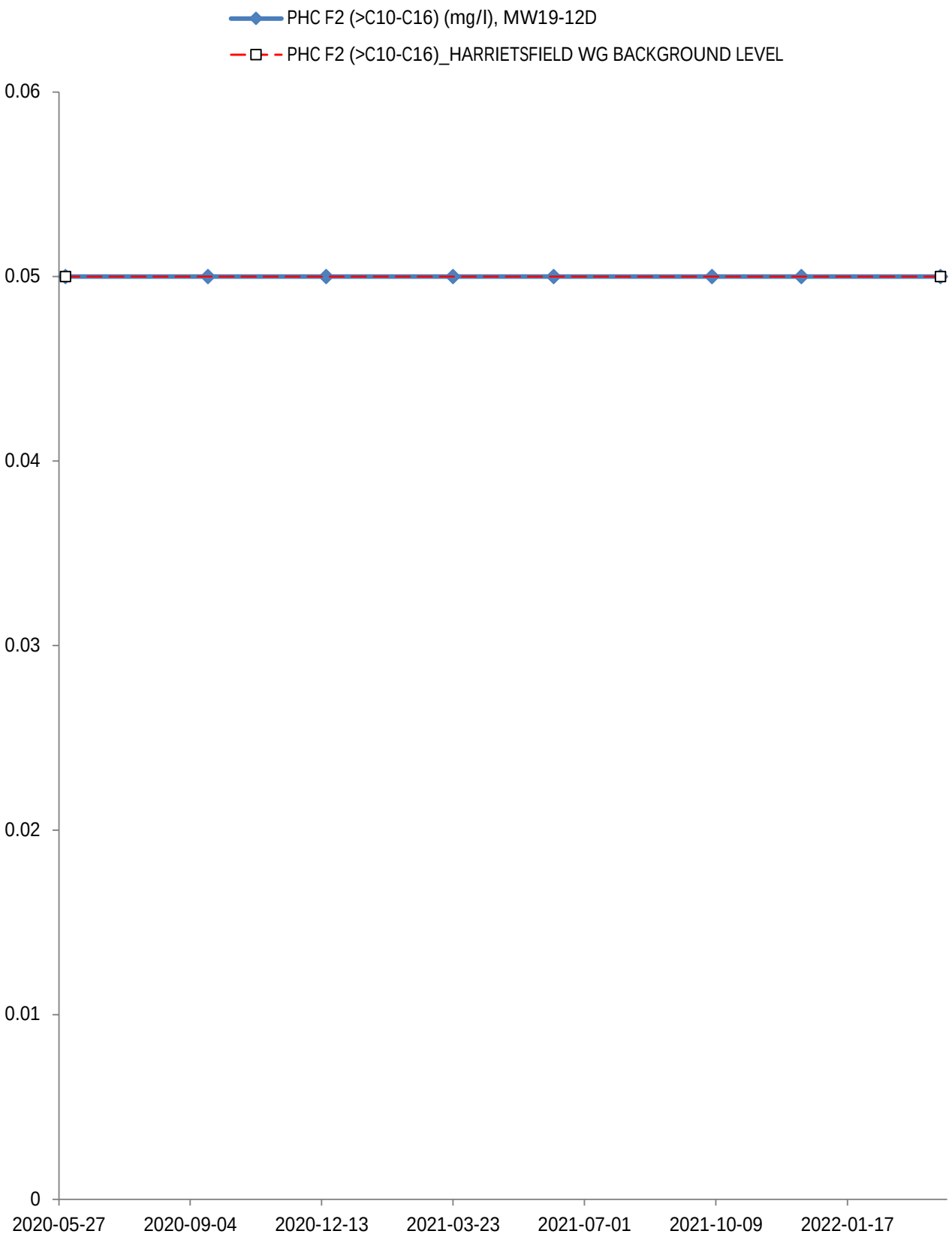
MW19-12D-PHC (>C21-C32)



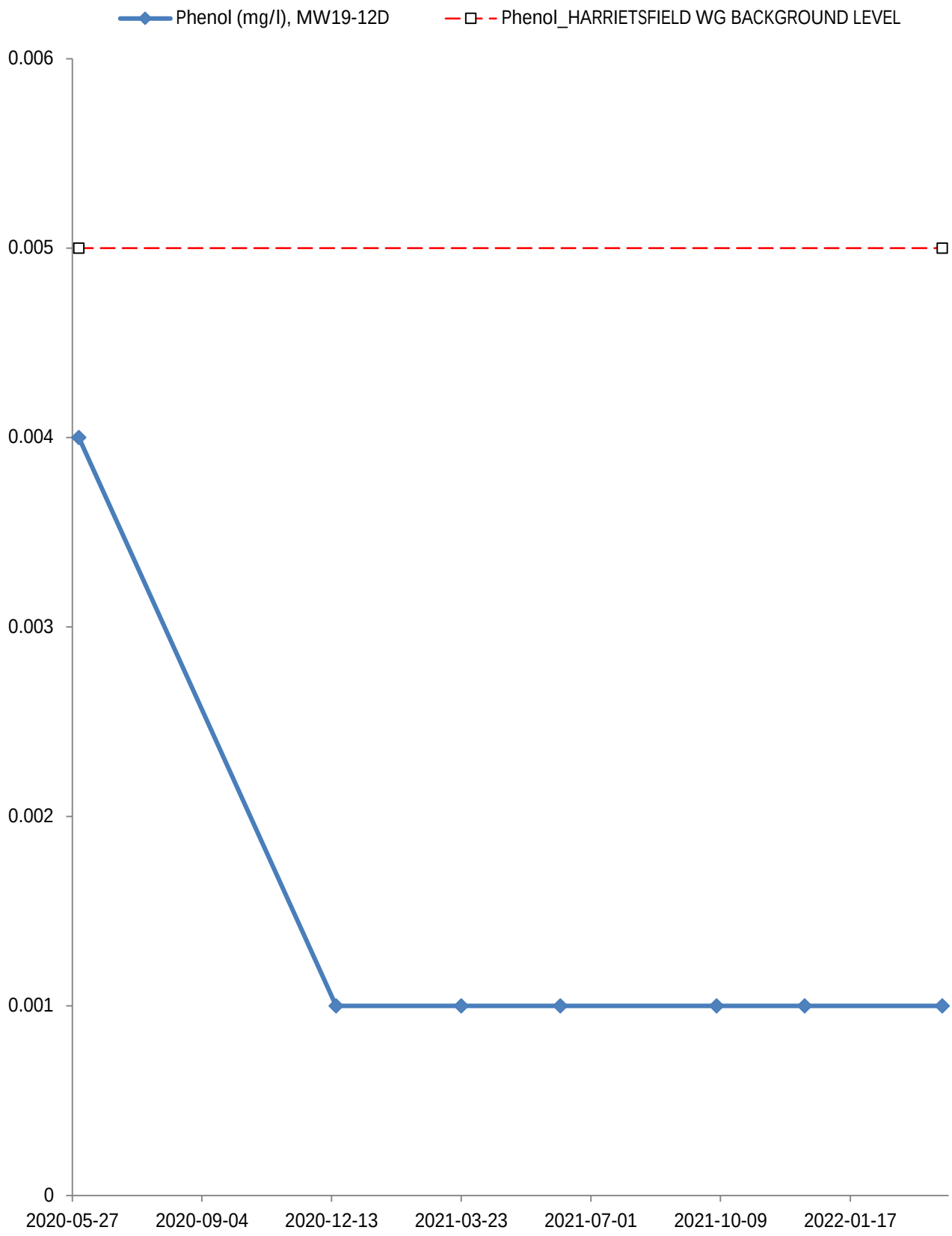
MW19-12D-PHC F1 (C6-C10) min BTEX



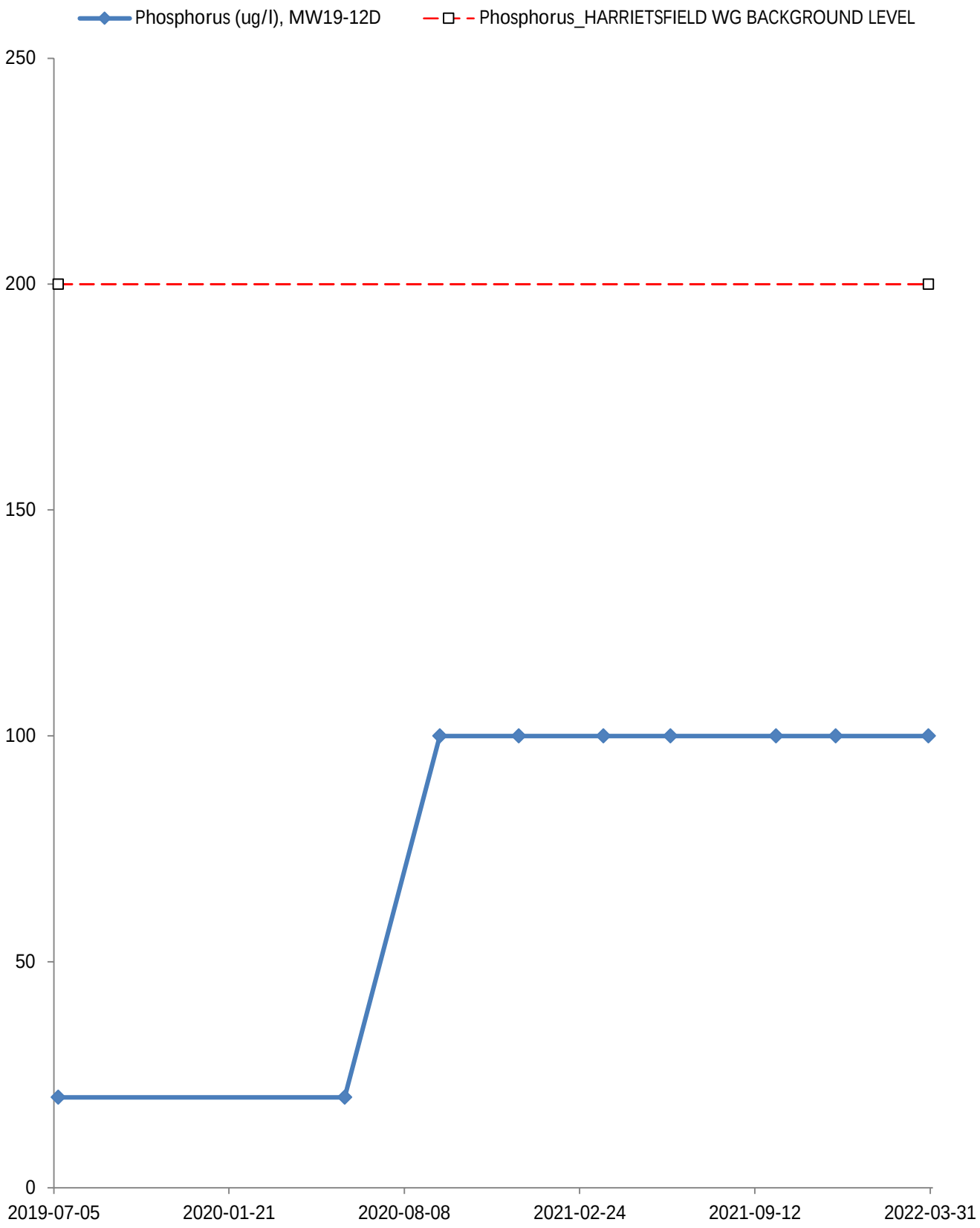
MW19-12D-PHC F2 (>C10-C16)



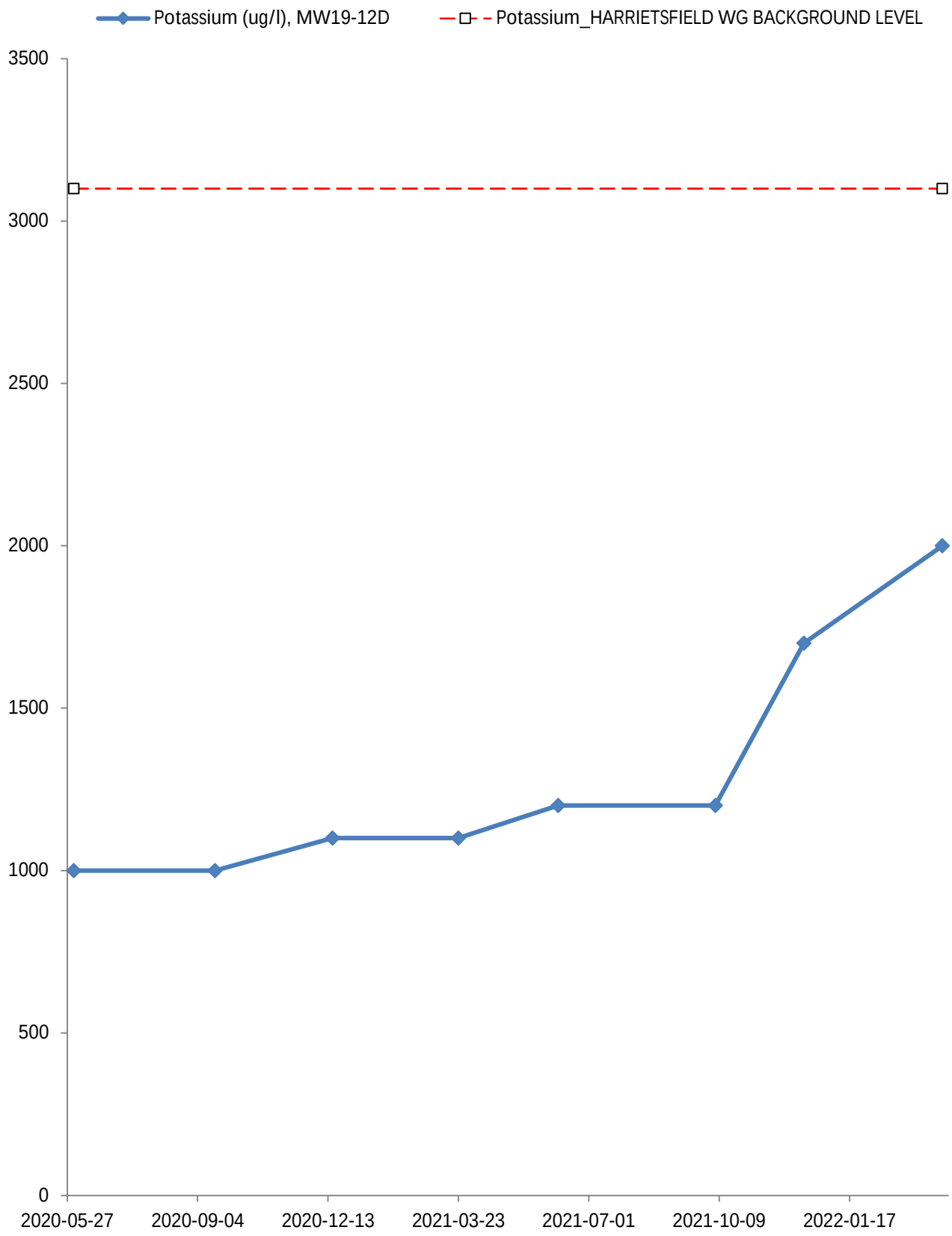
MW19-12D-Phenol



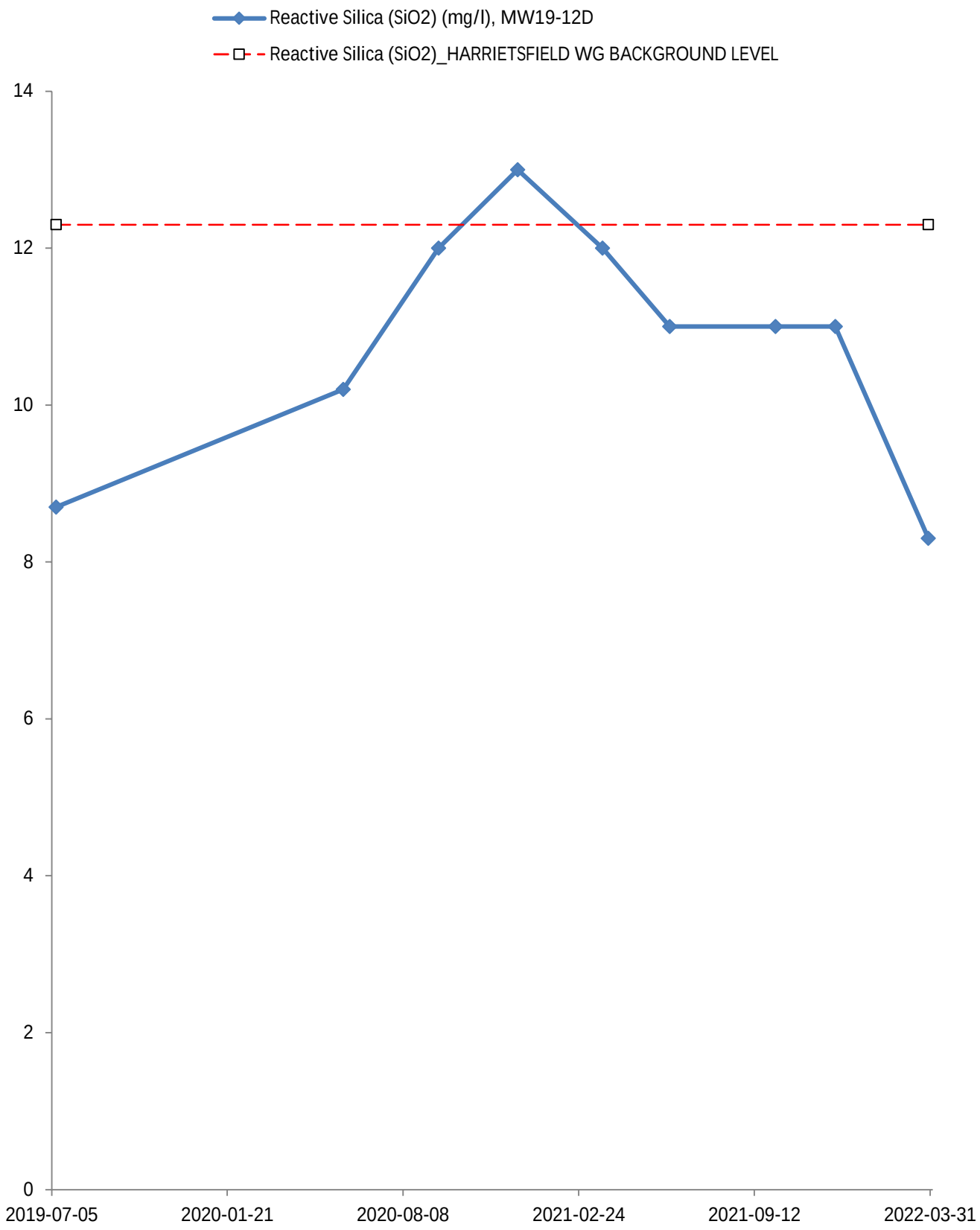
MW19-12D-Phosphorus



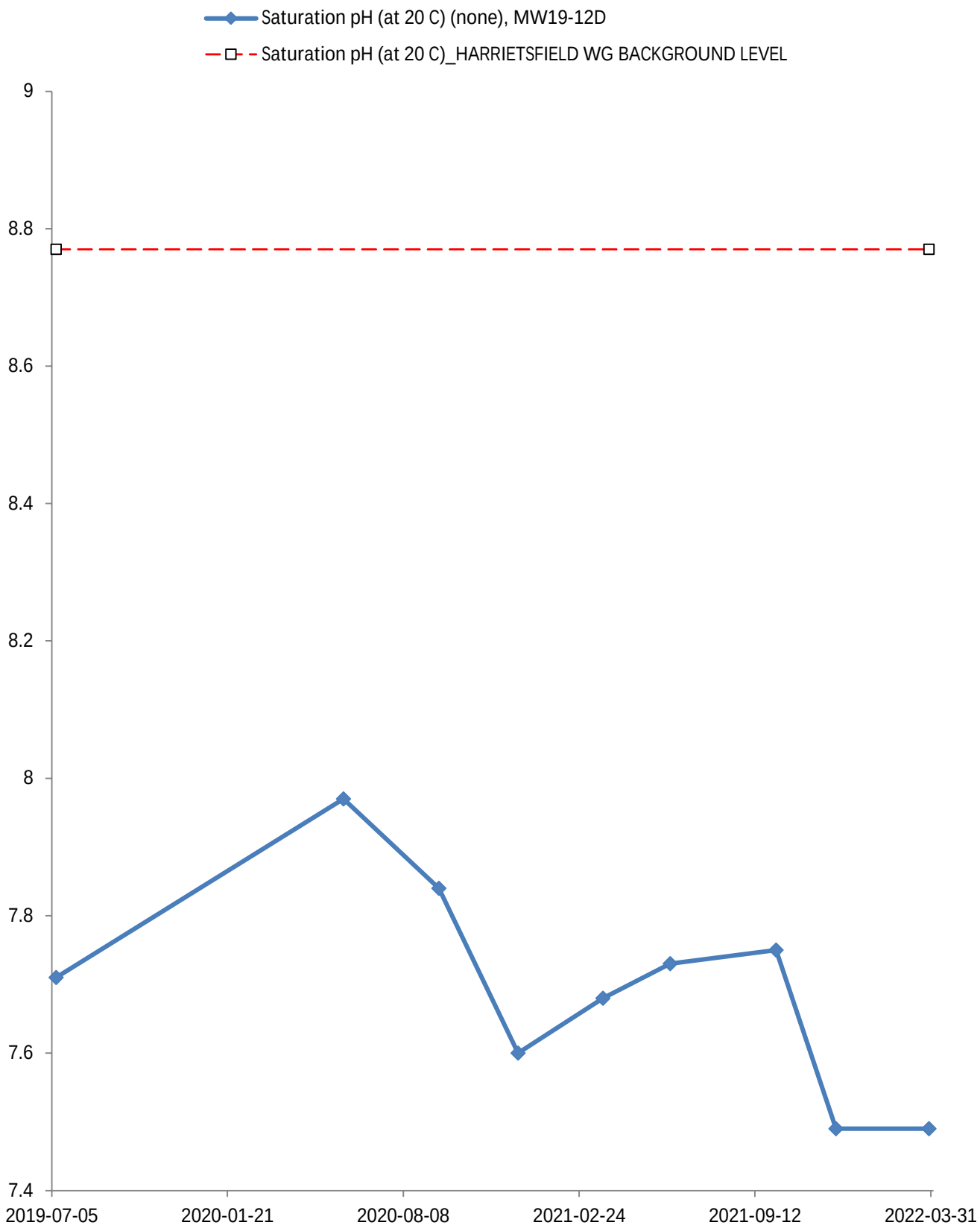
MW19-12D-Potassium



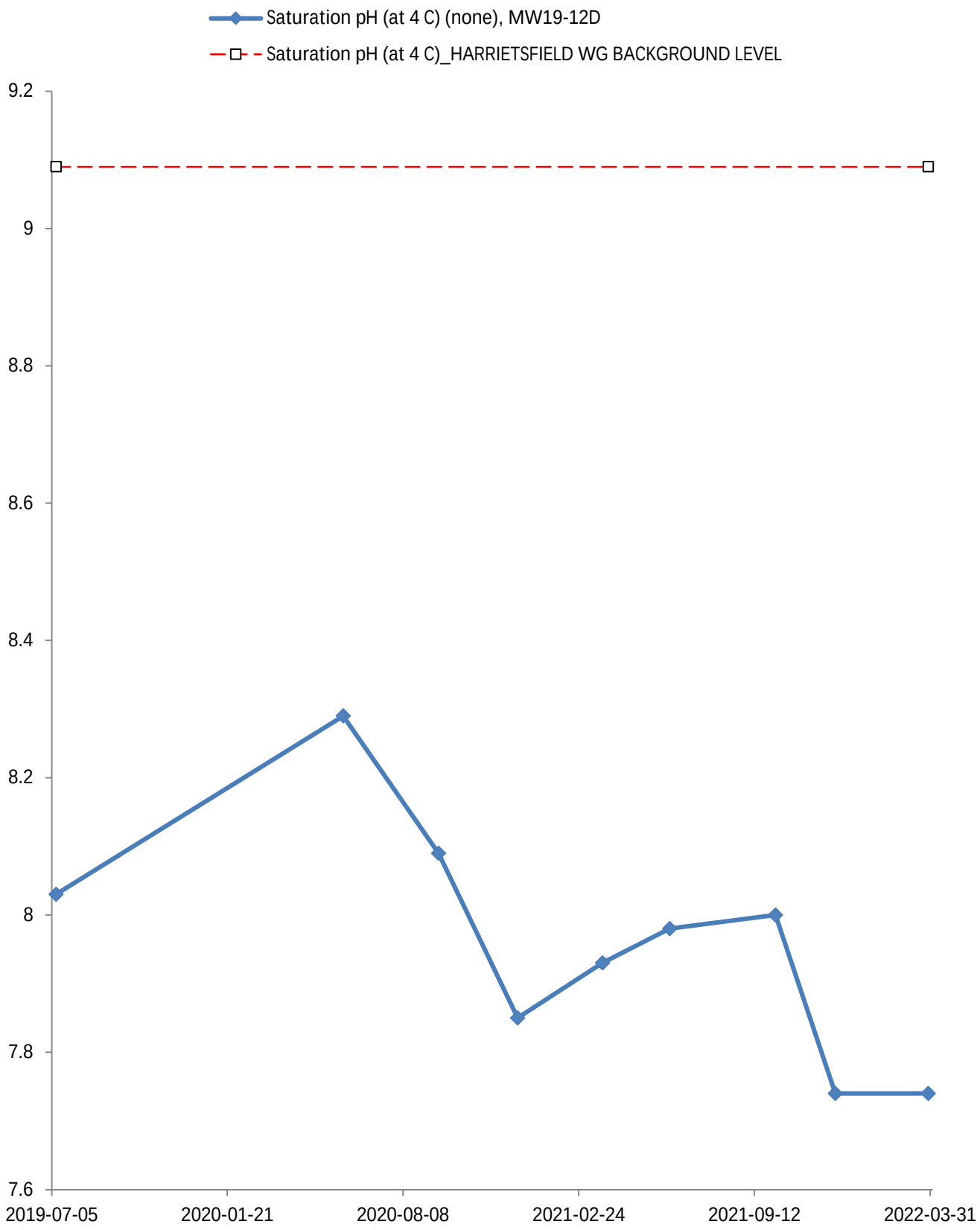
MW19-12D-Reactive Silica (SiO2)



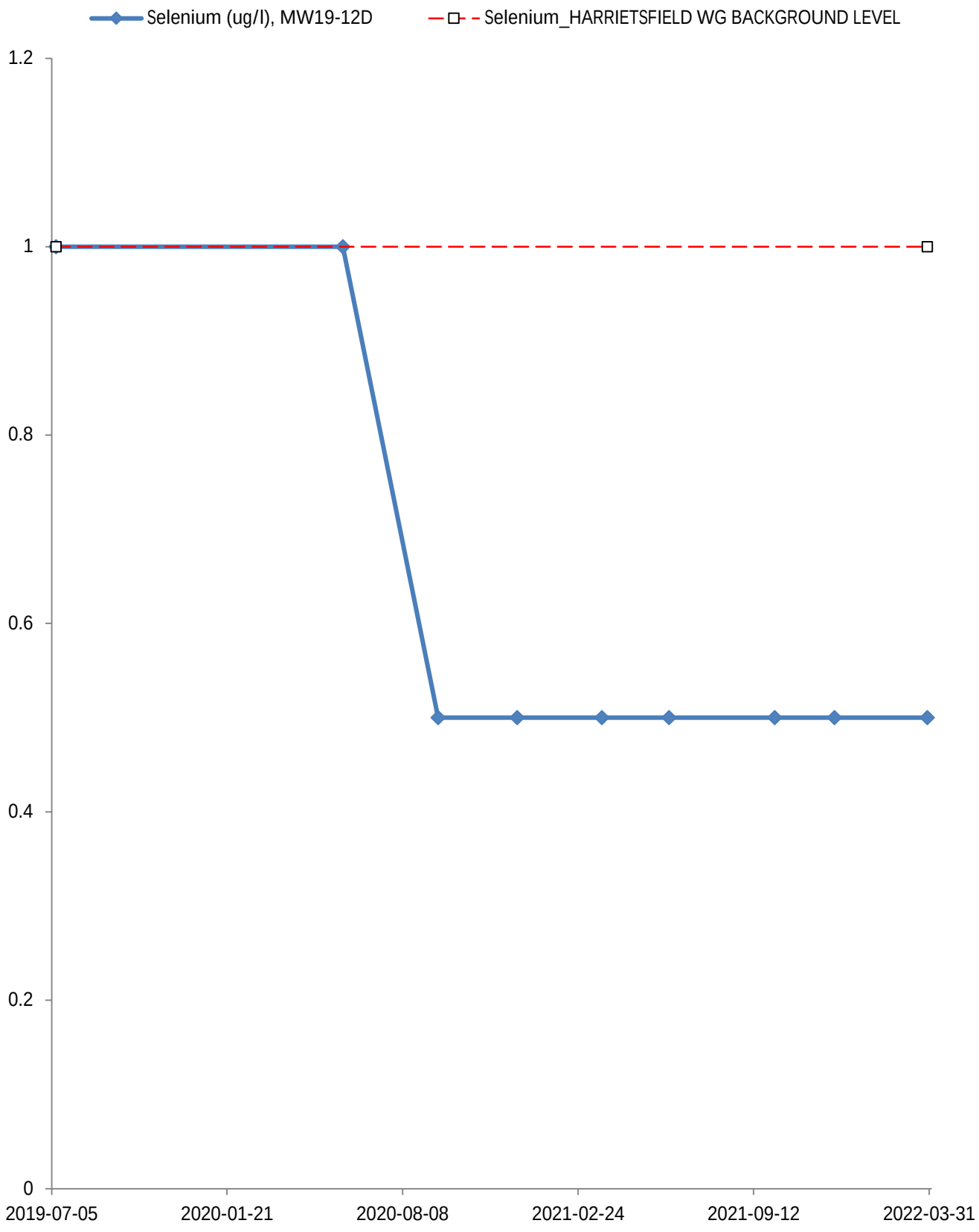
MW19-12D-Saturation pH (at 20 C)



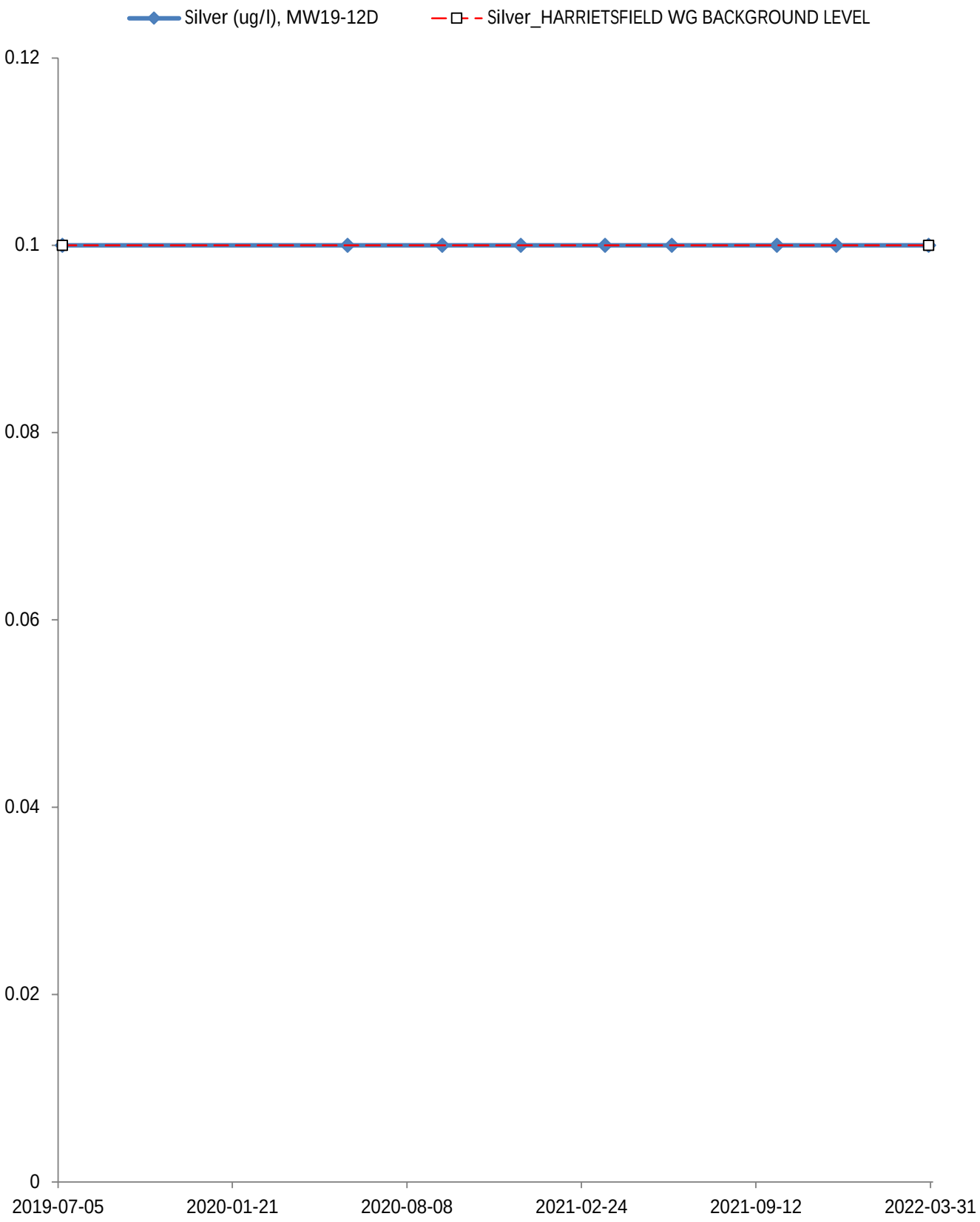
MW19-12D-Saturation pH (at 4 C)



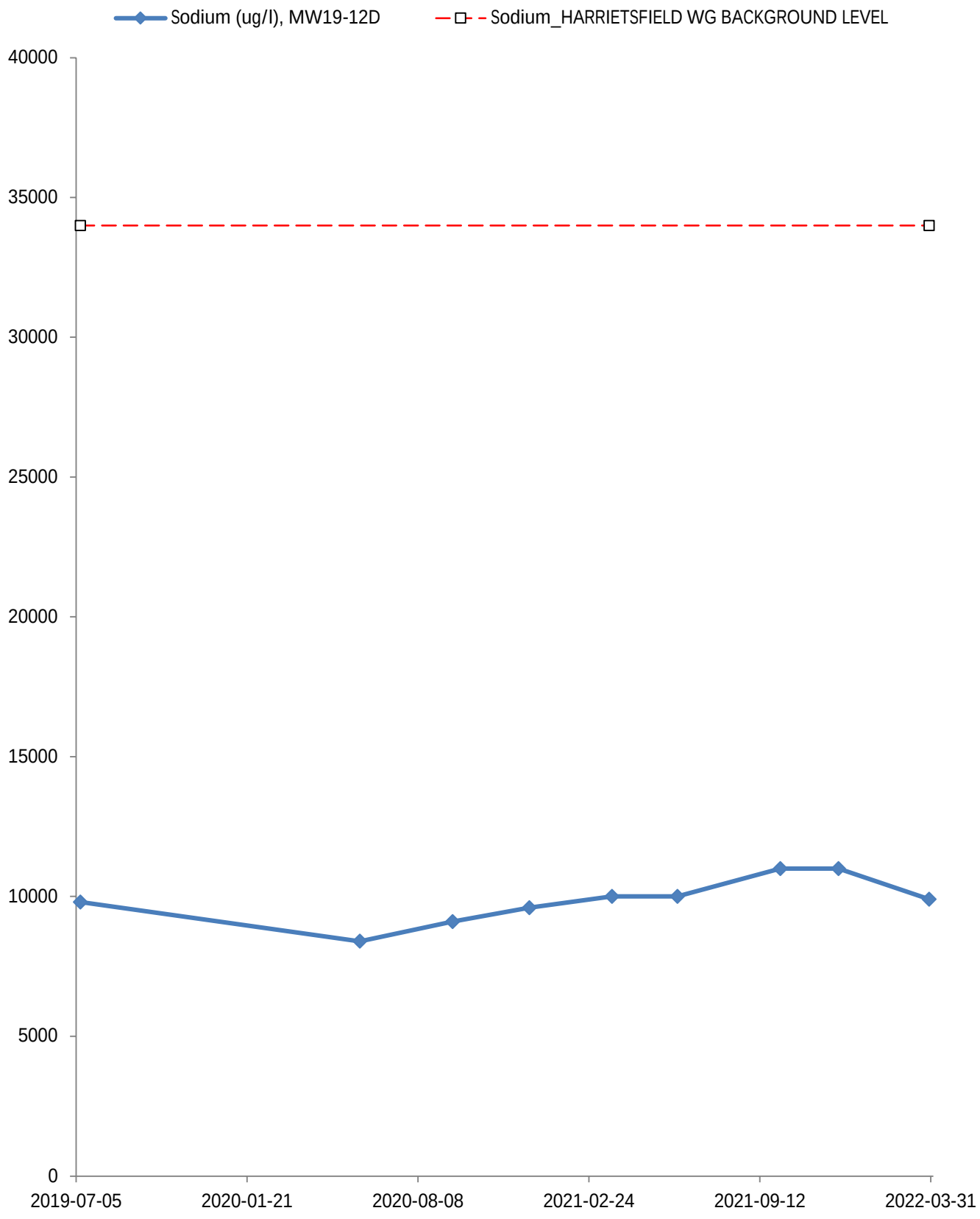
MW19-12D-Selenium



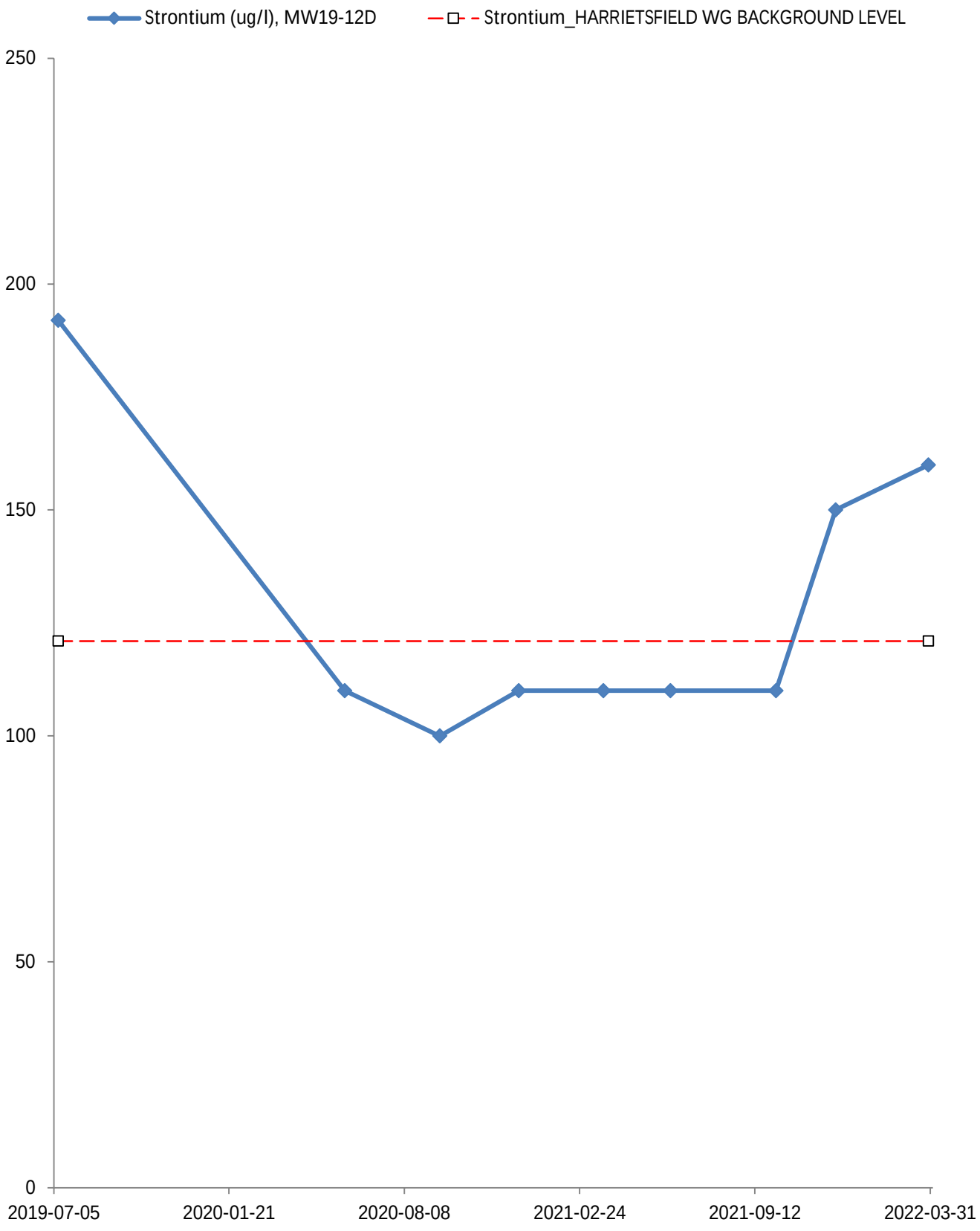
MW19-12D-Silver



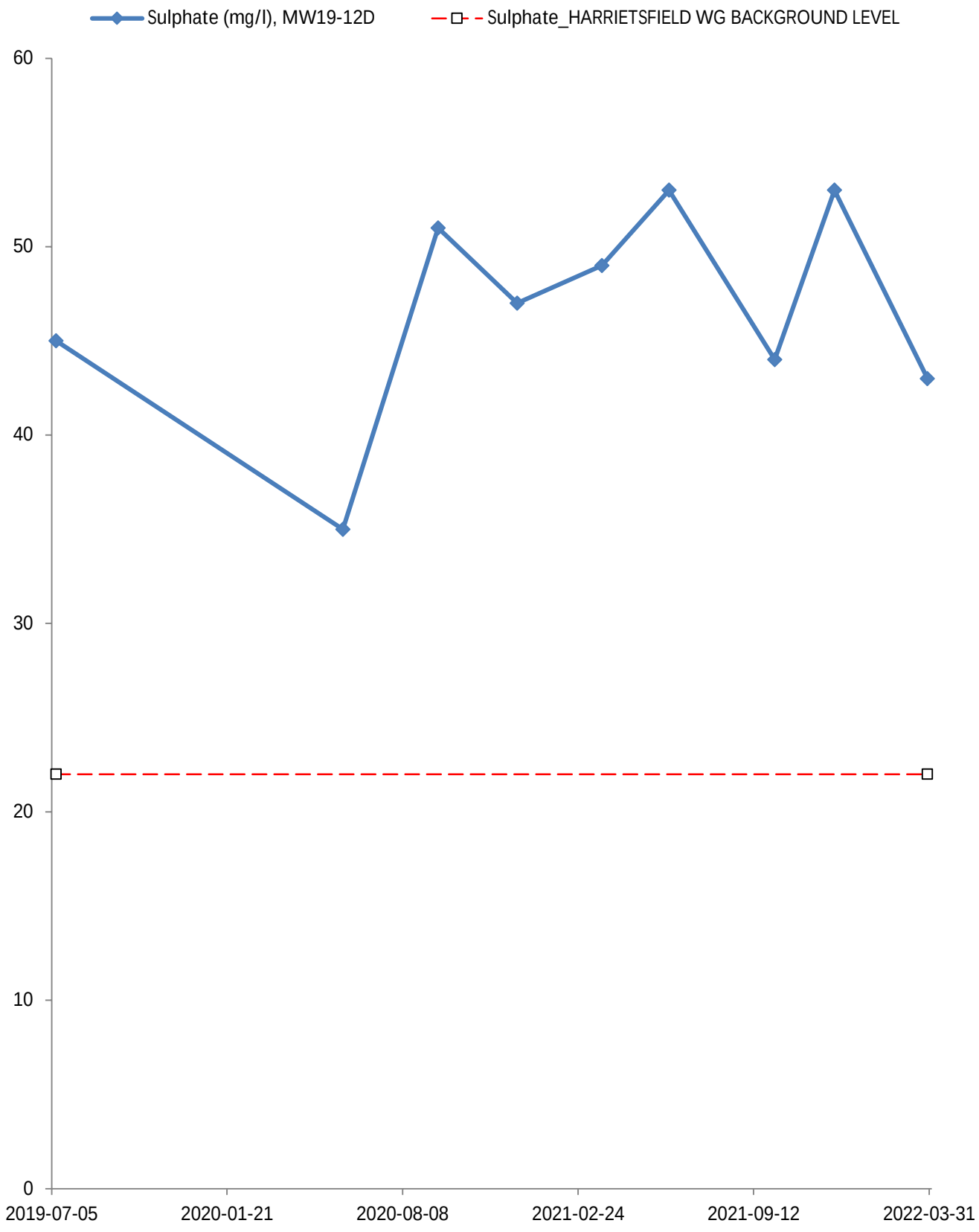
MW19-12D-Sodium



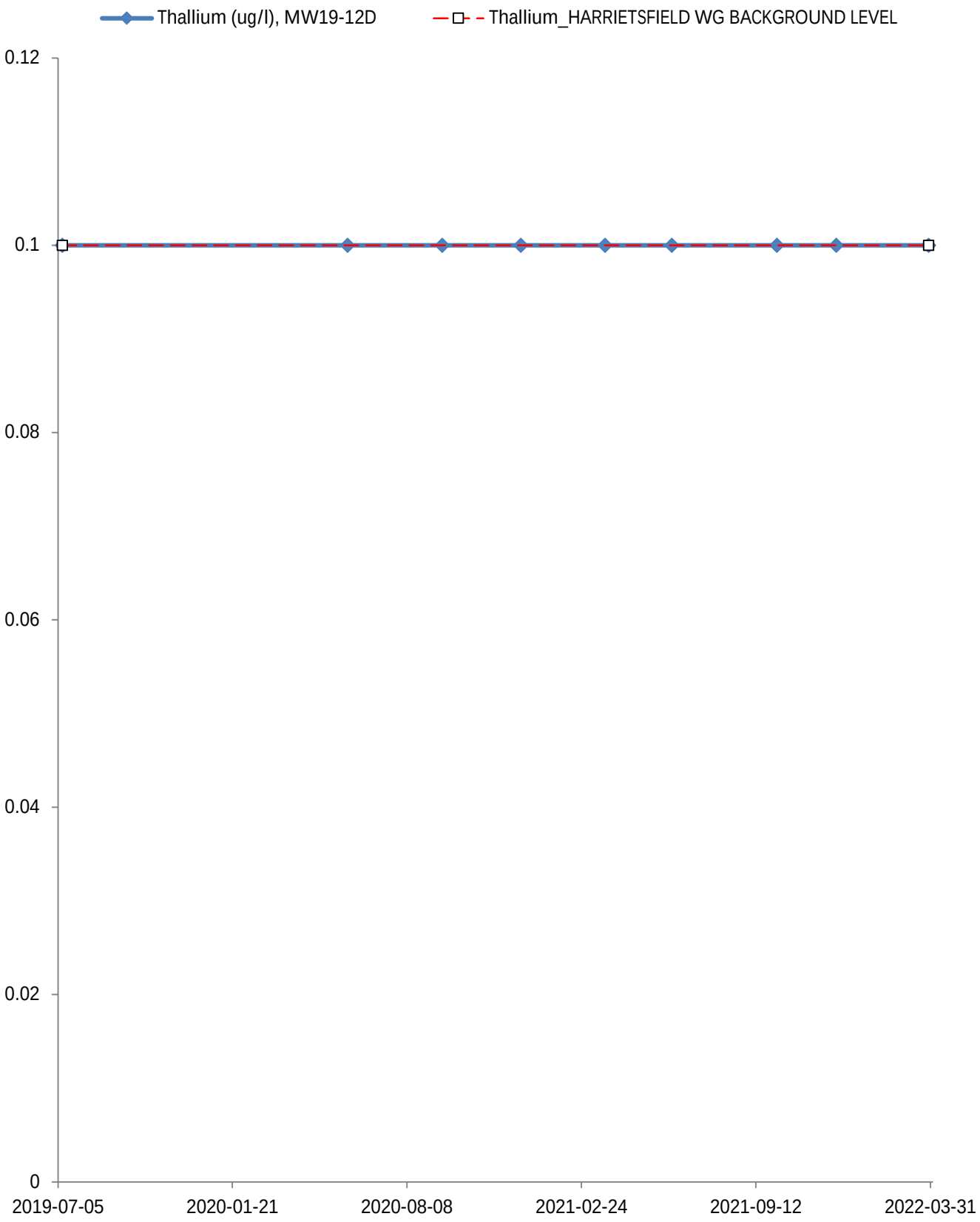
MW19-12D-Strontium



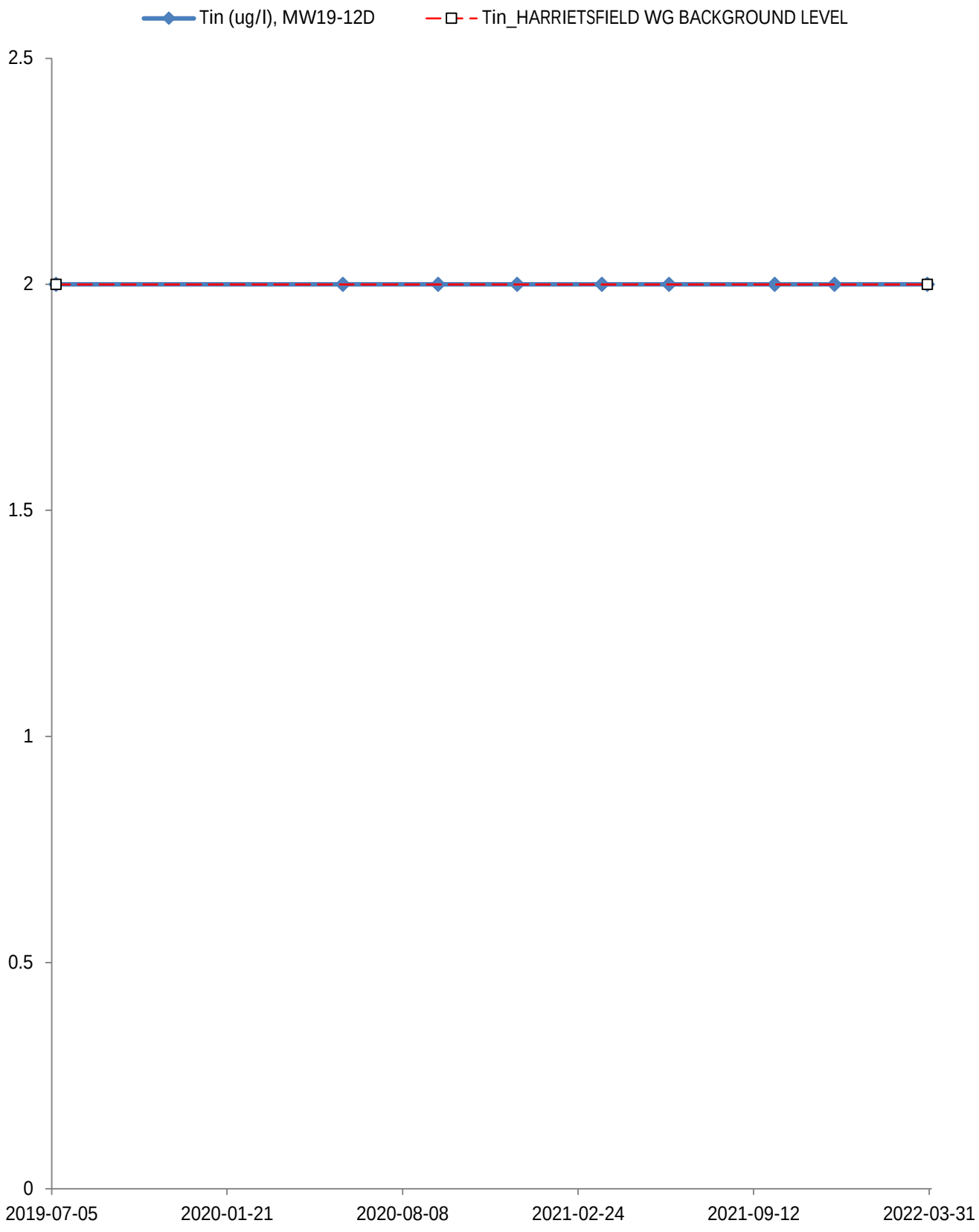
MW19-12D-Sulphate



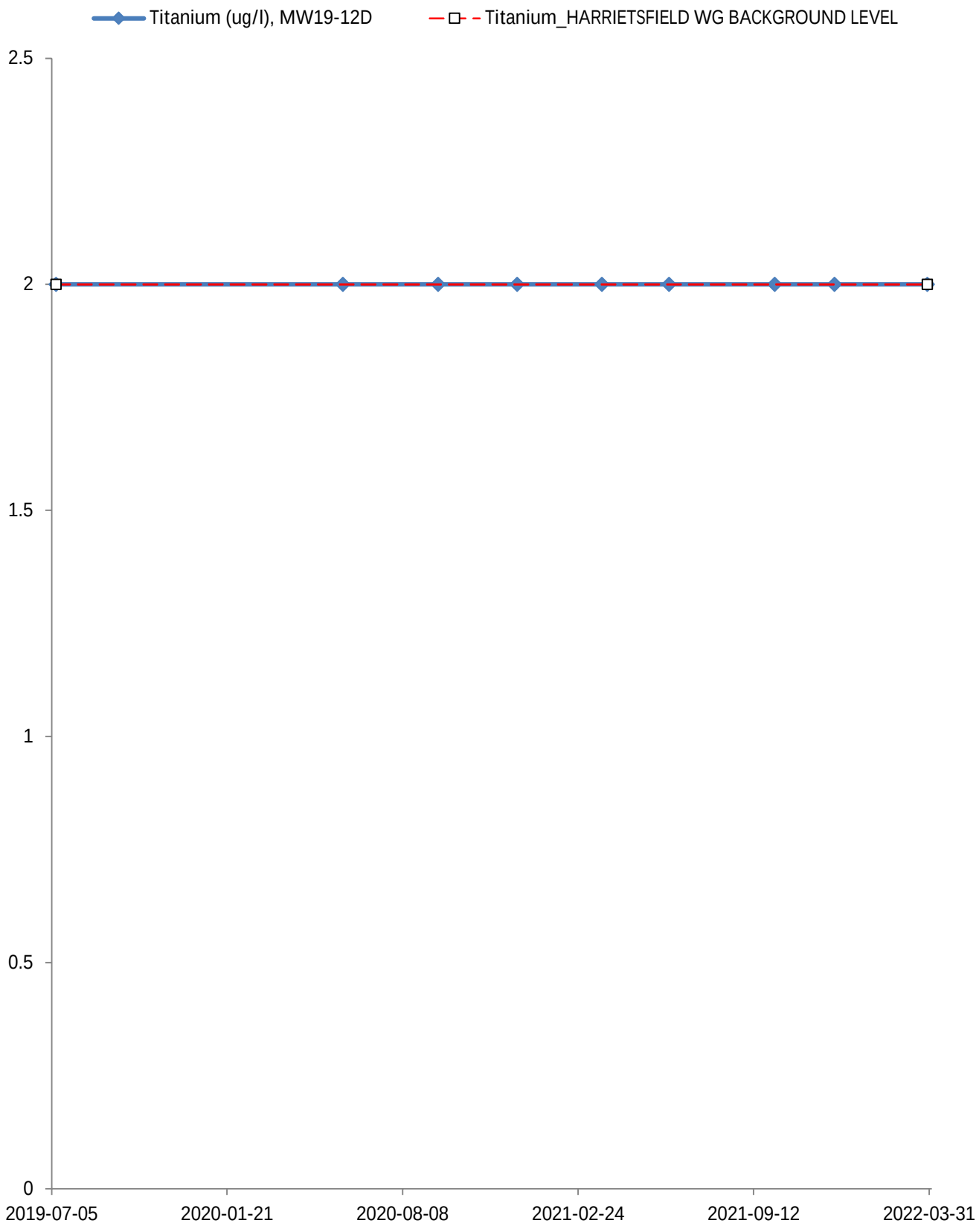
MW19-12D-Thallium



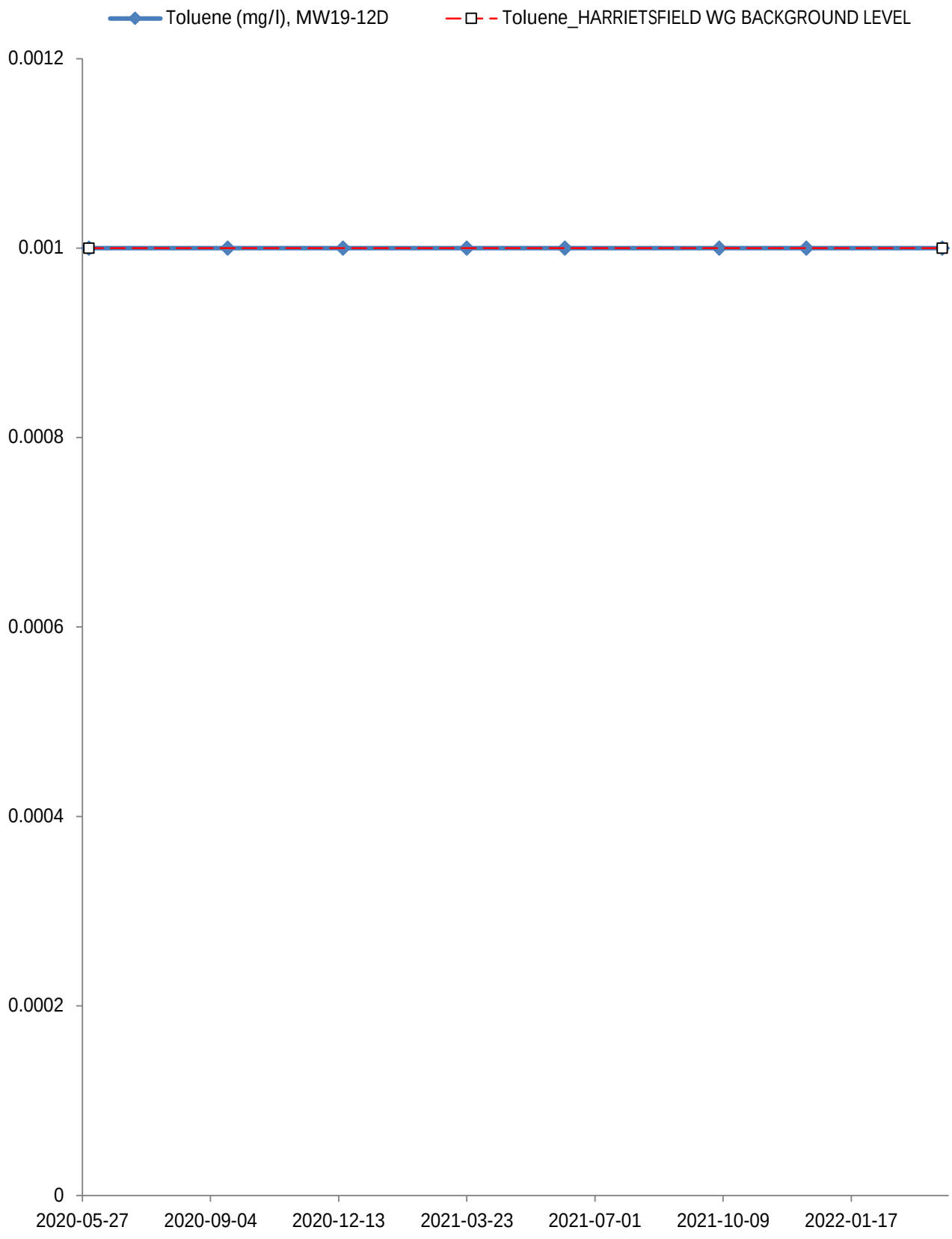
MW19-12D-Tin


Tin (ug/l), MW19-12D
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2019-07-05
2020-01-21
2020-08-08
2021-02-24
2021-09-12
2022-03-31

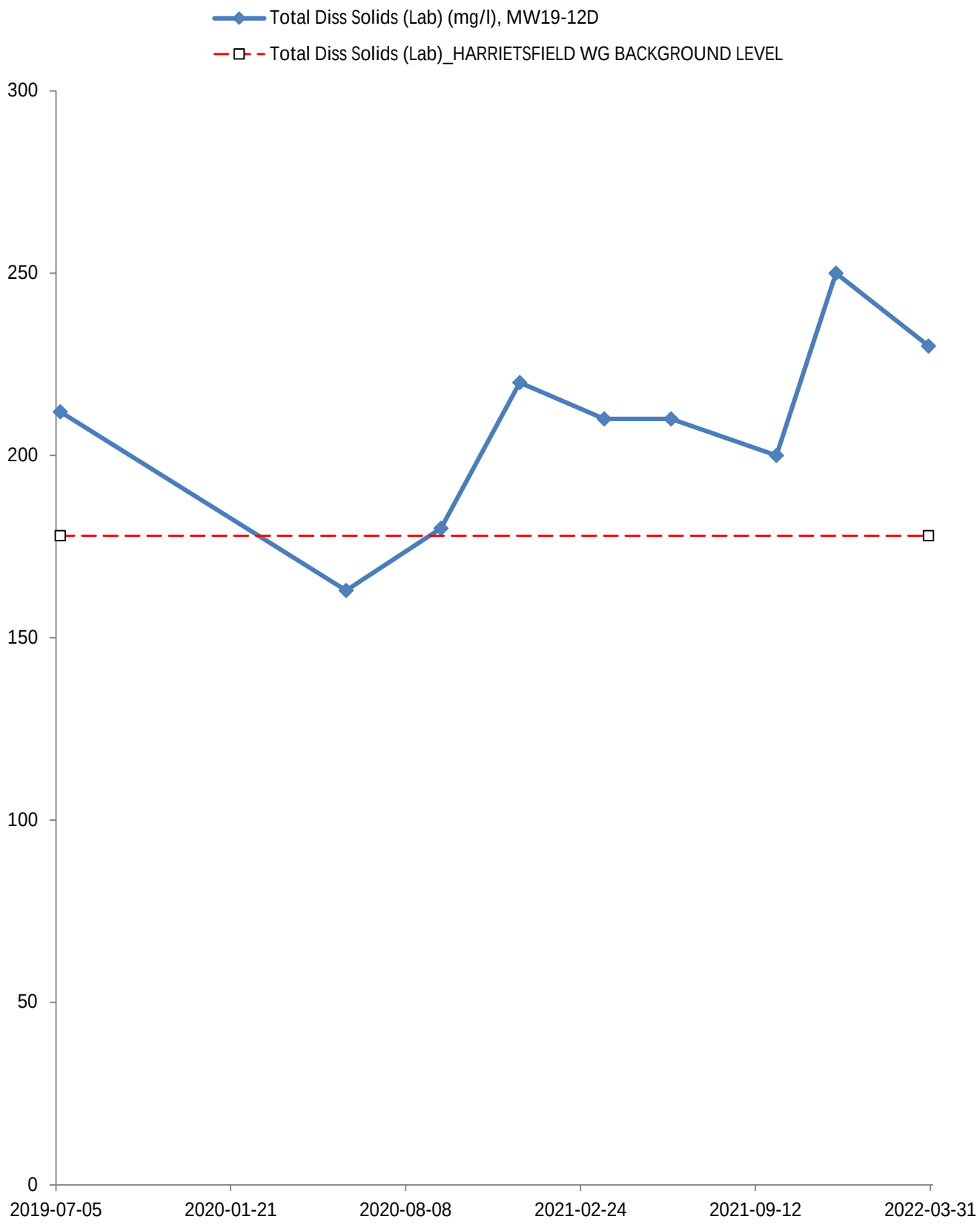
MW19-12D-Titanium



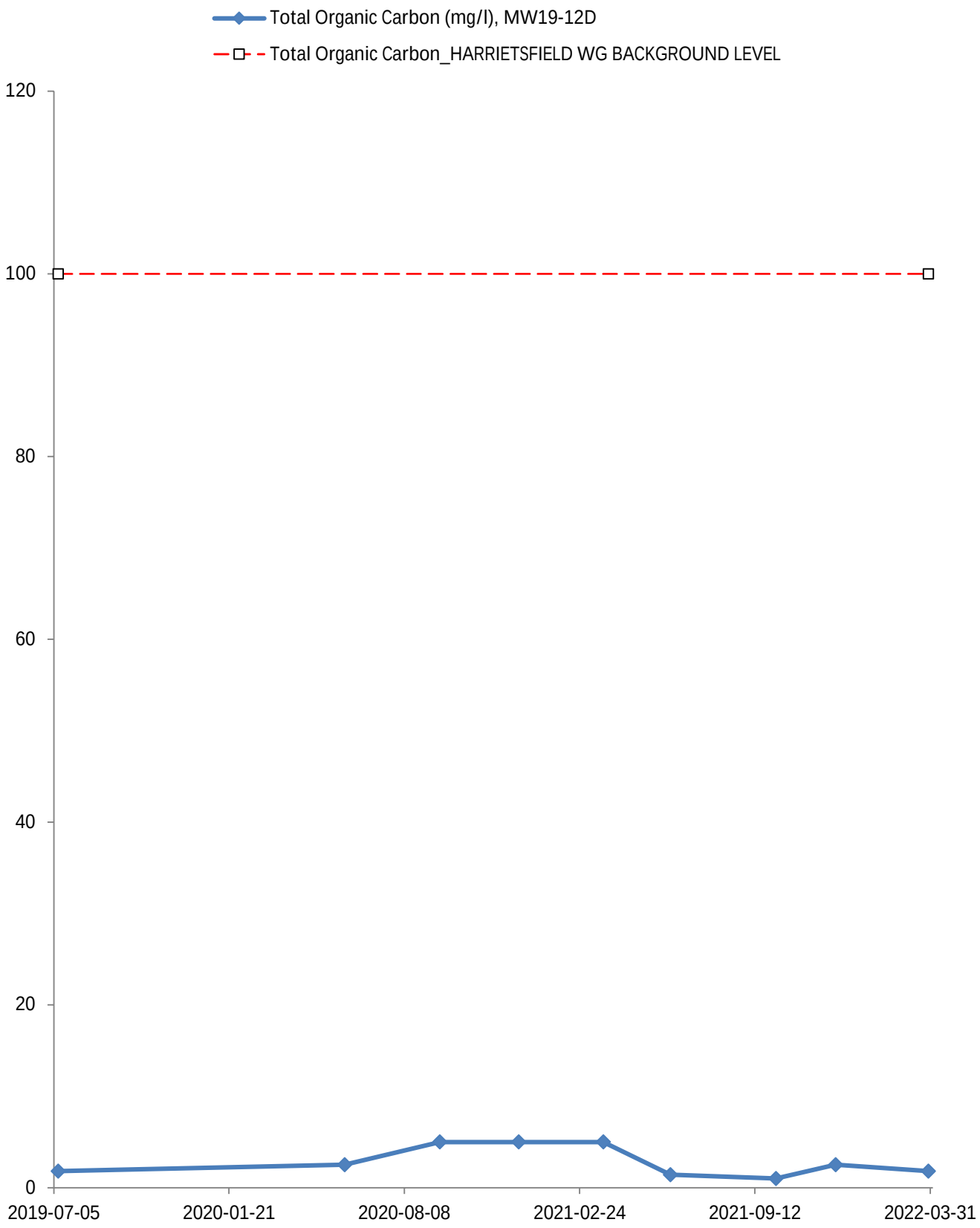
MW19-12D-Toluene



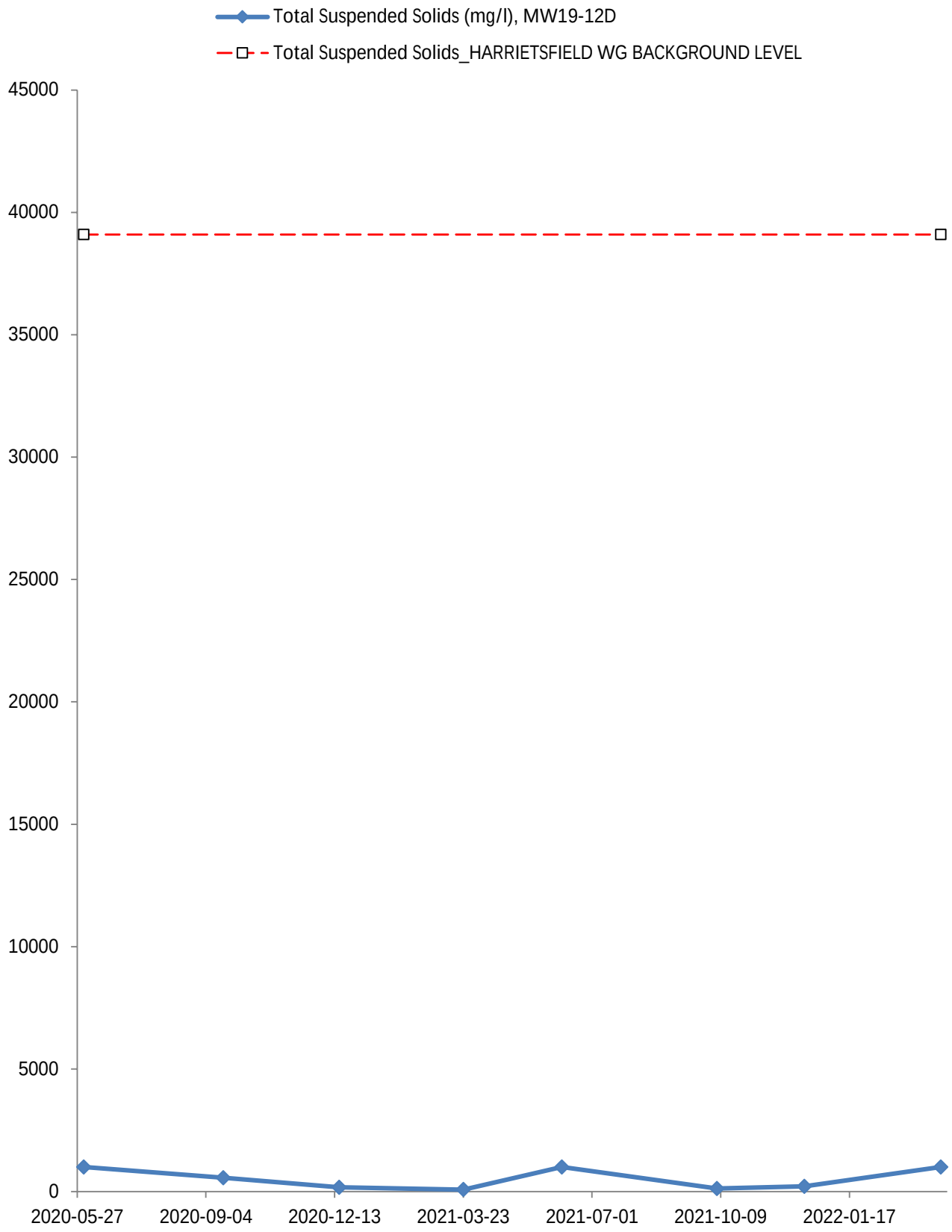
MW19-12D-Total Diss Solids (Lab)



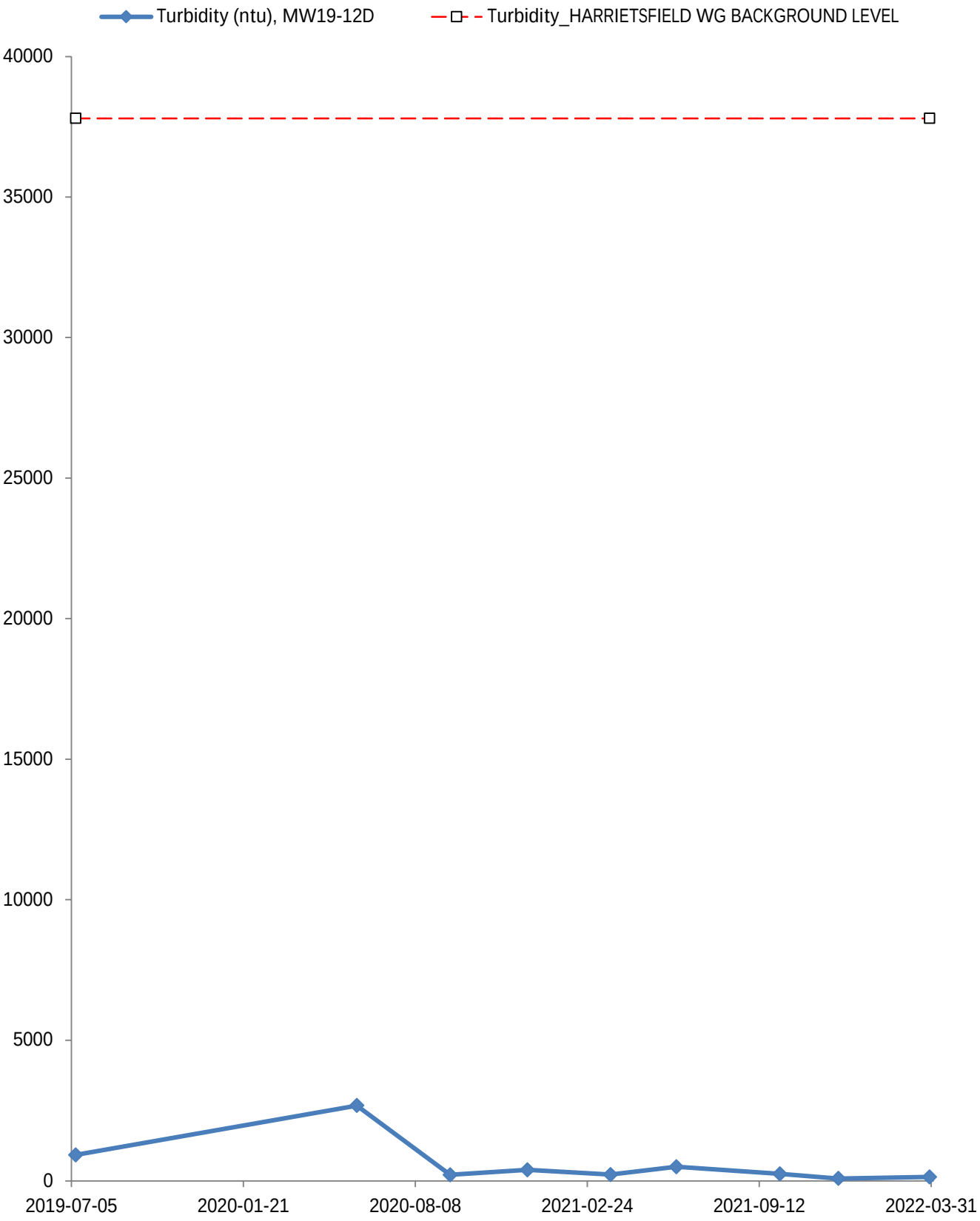
MW19-12D-Total Organic Carbon



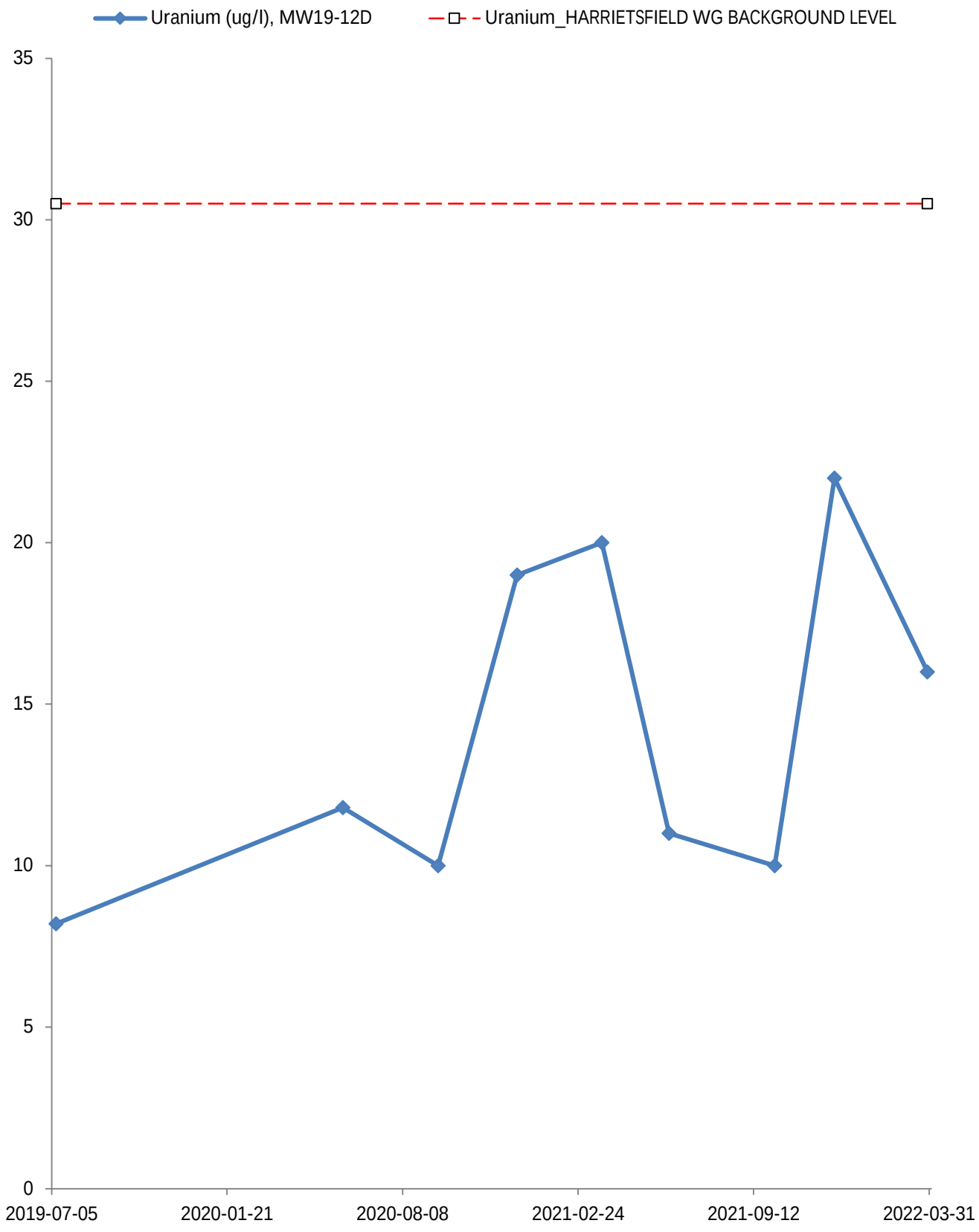
MW19-12D-Total Suspended Solids



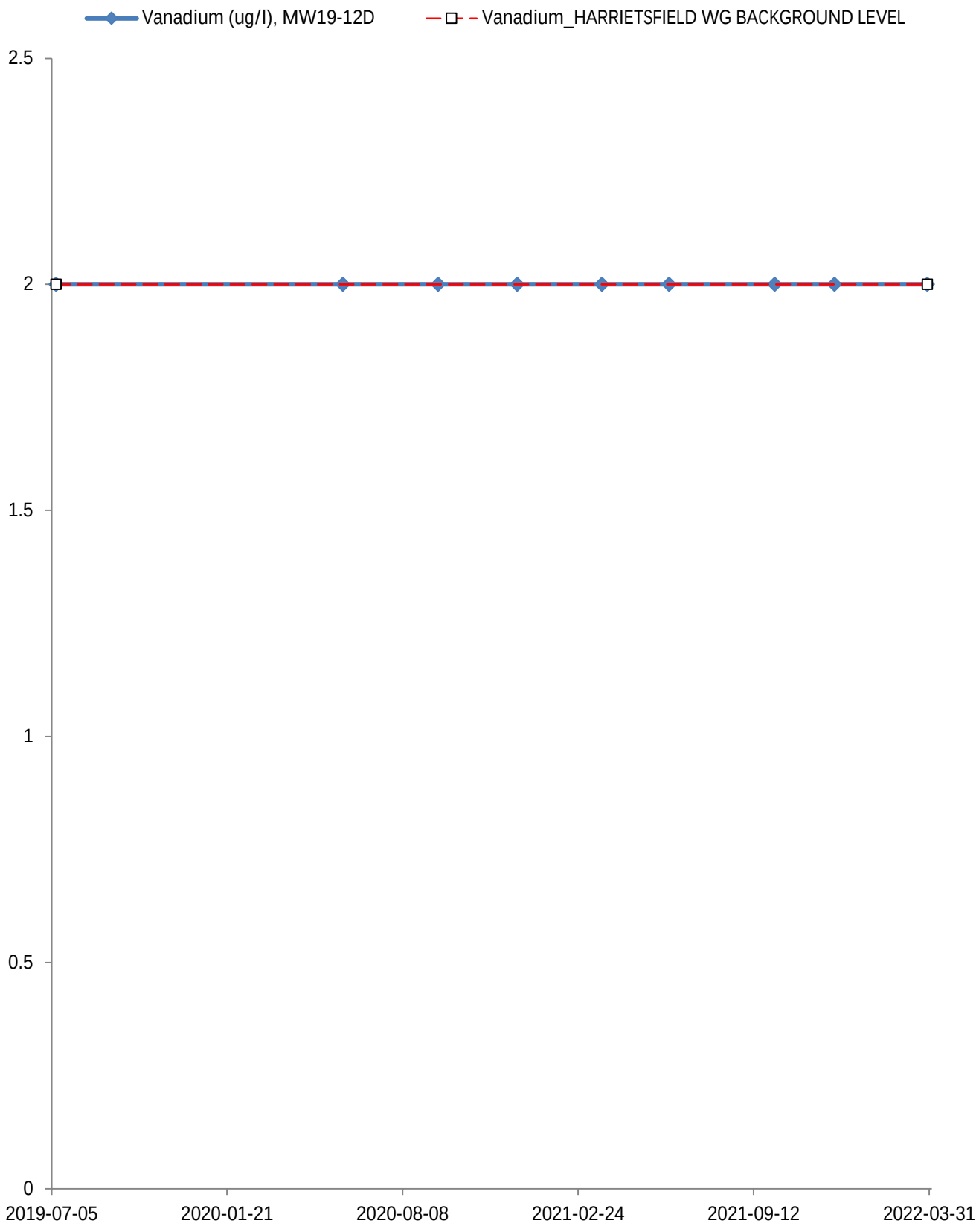
MW19-12D-Turbidity



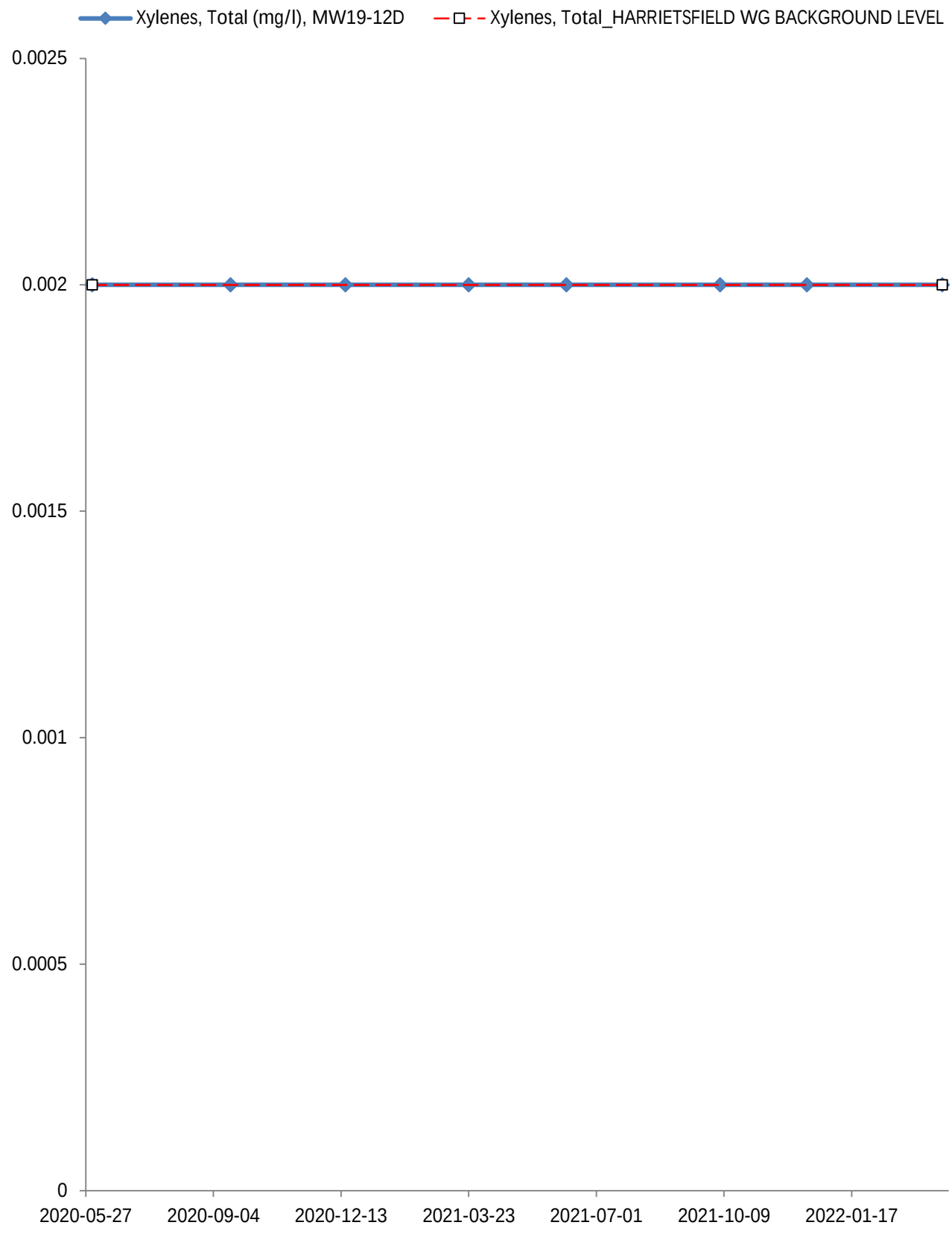
MW19-12D-Uranium



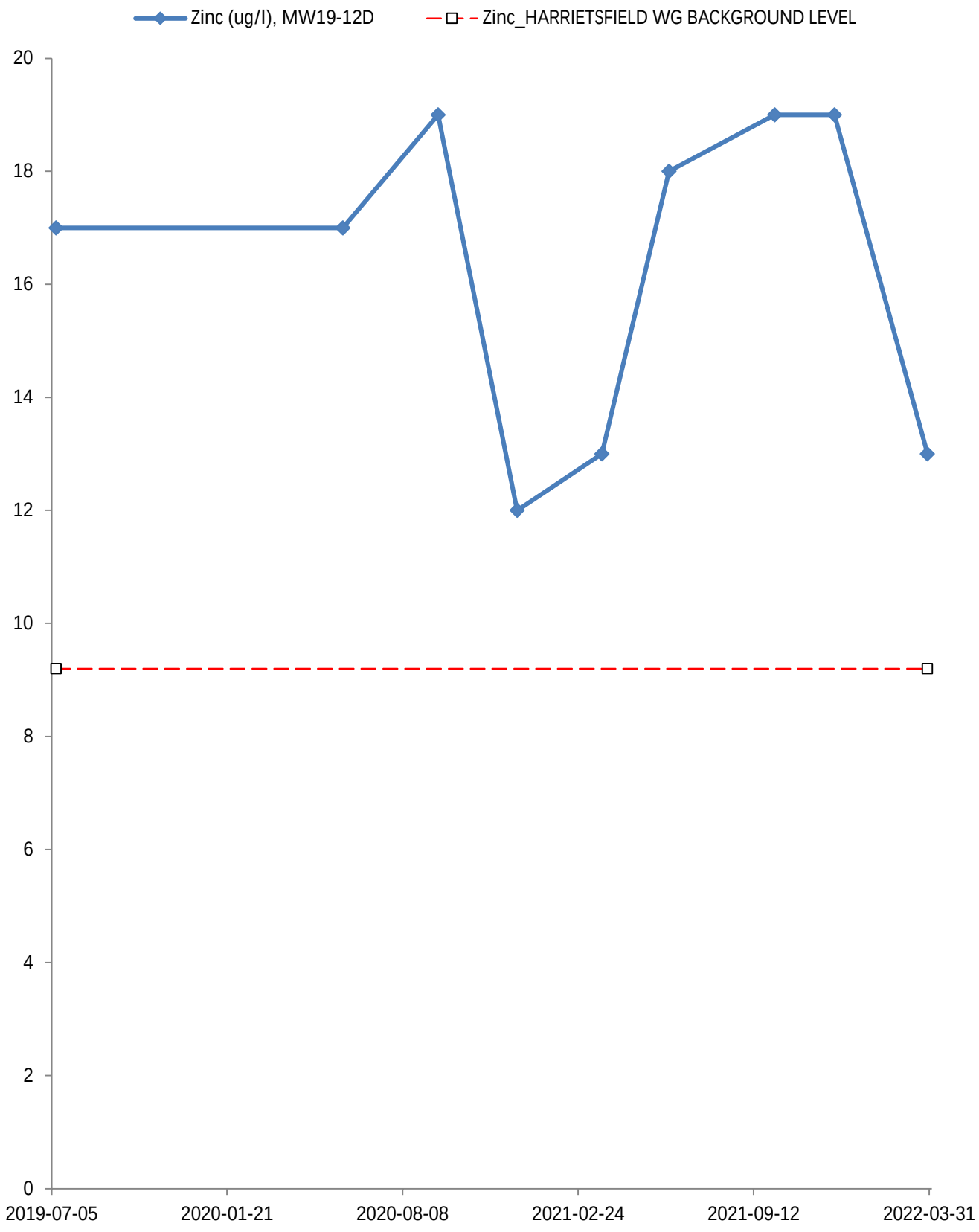
MW19-12D-Vanadium



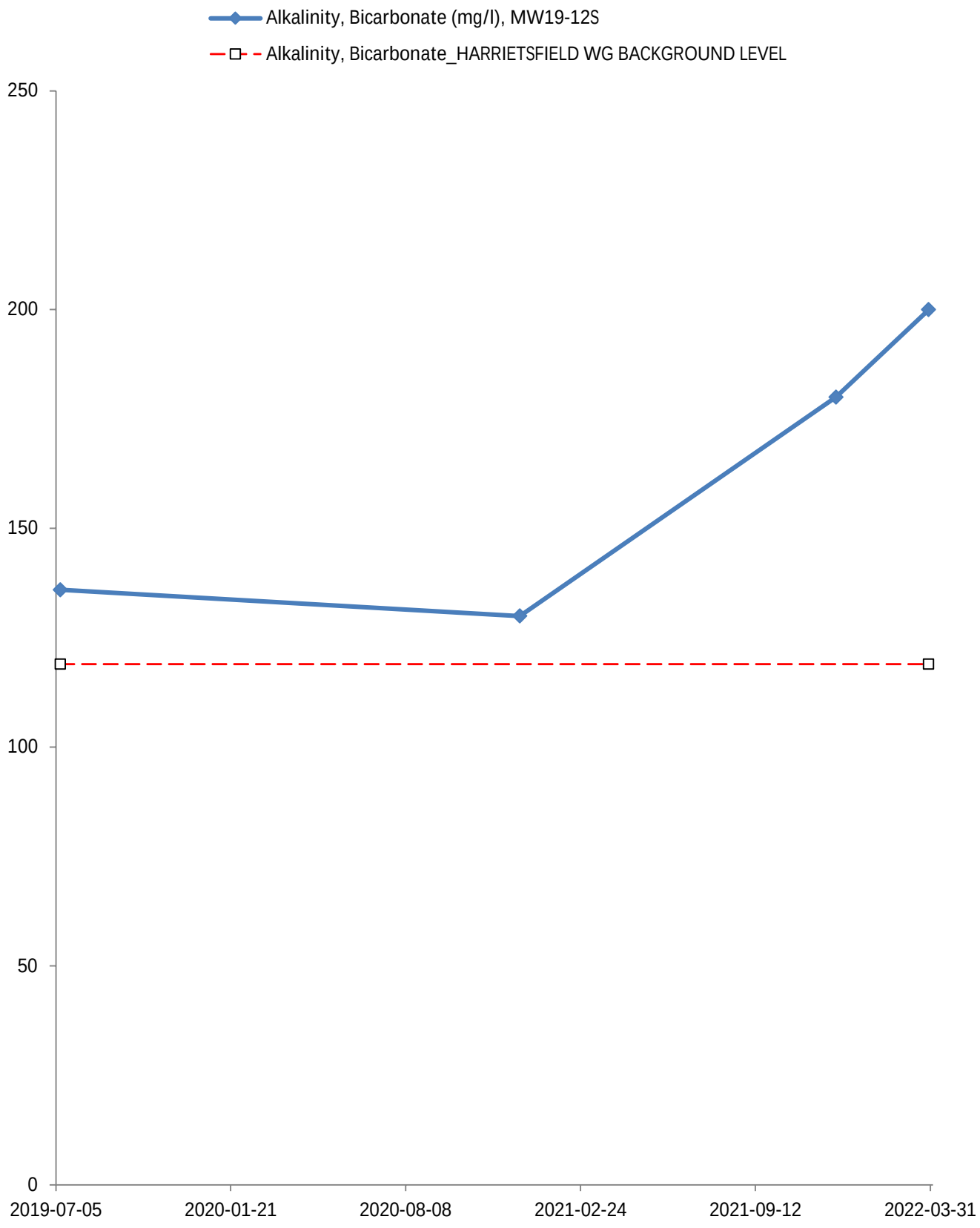
MW19-12D-Xylenes, Total



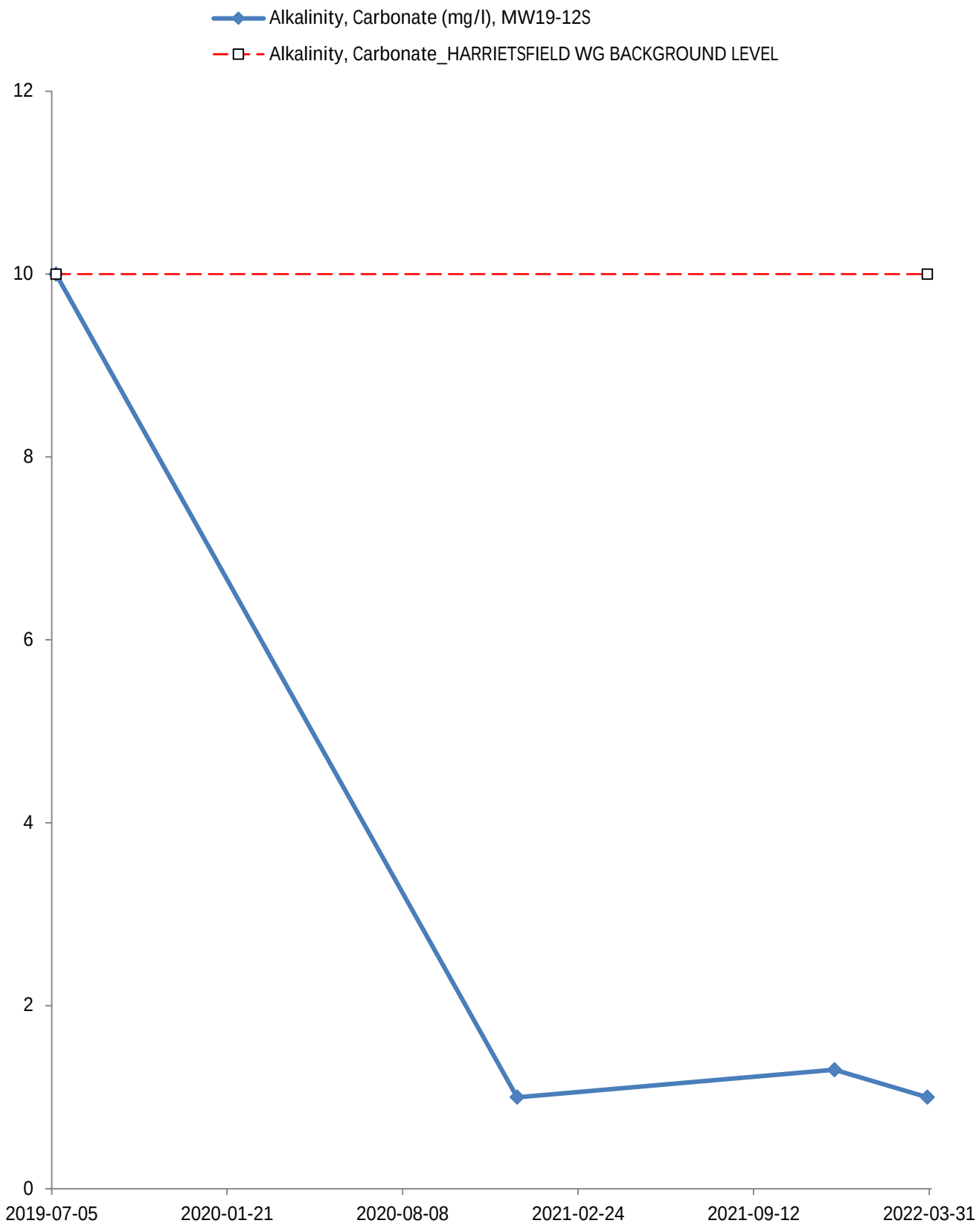
MW19-12D-Zinc



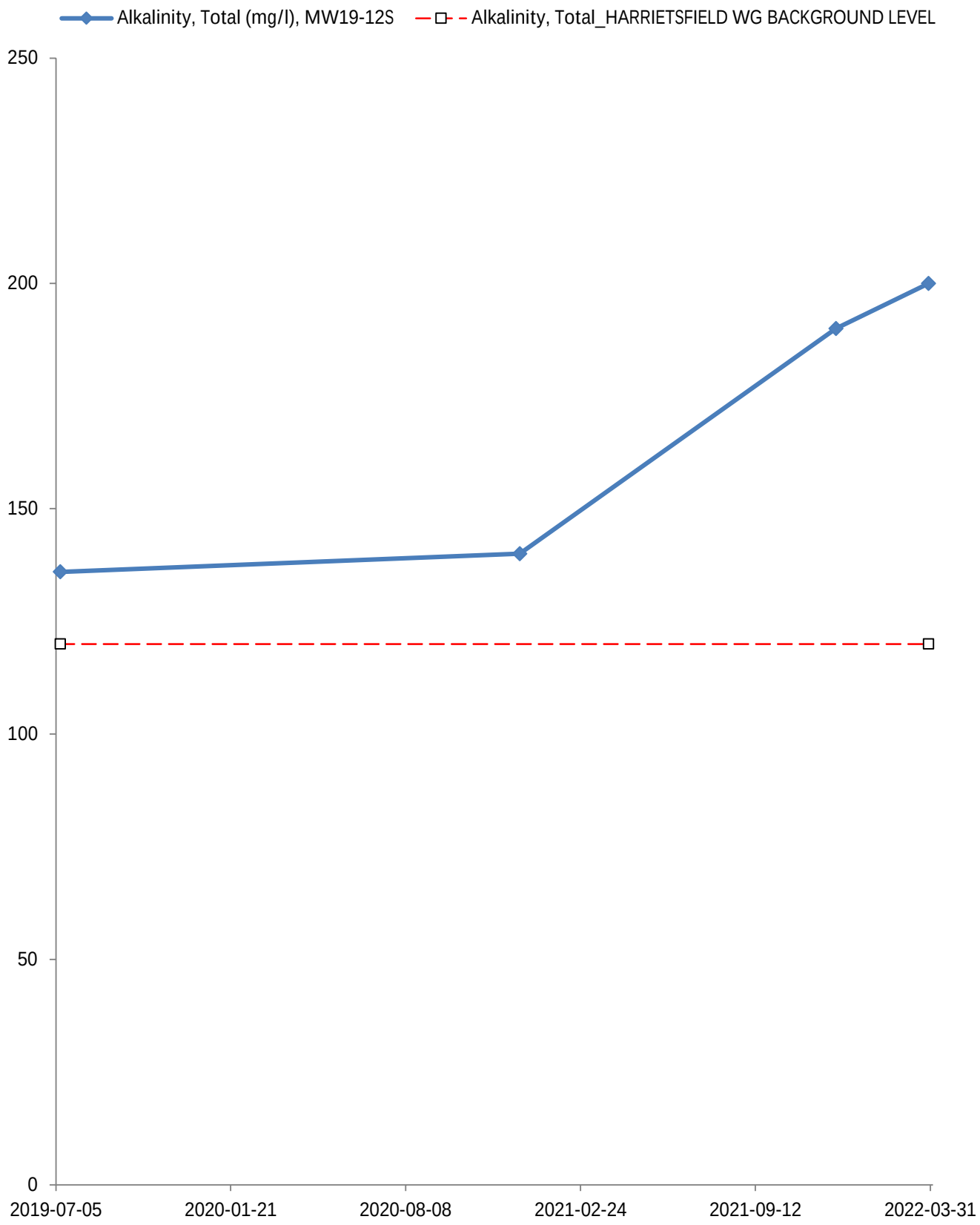
MW19-12S-Alkalinity, Bicarbonate



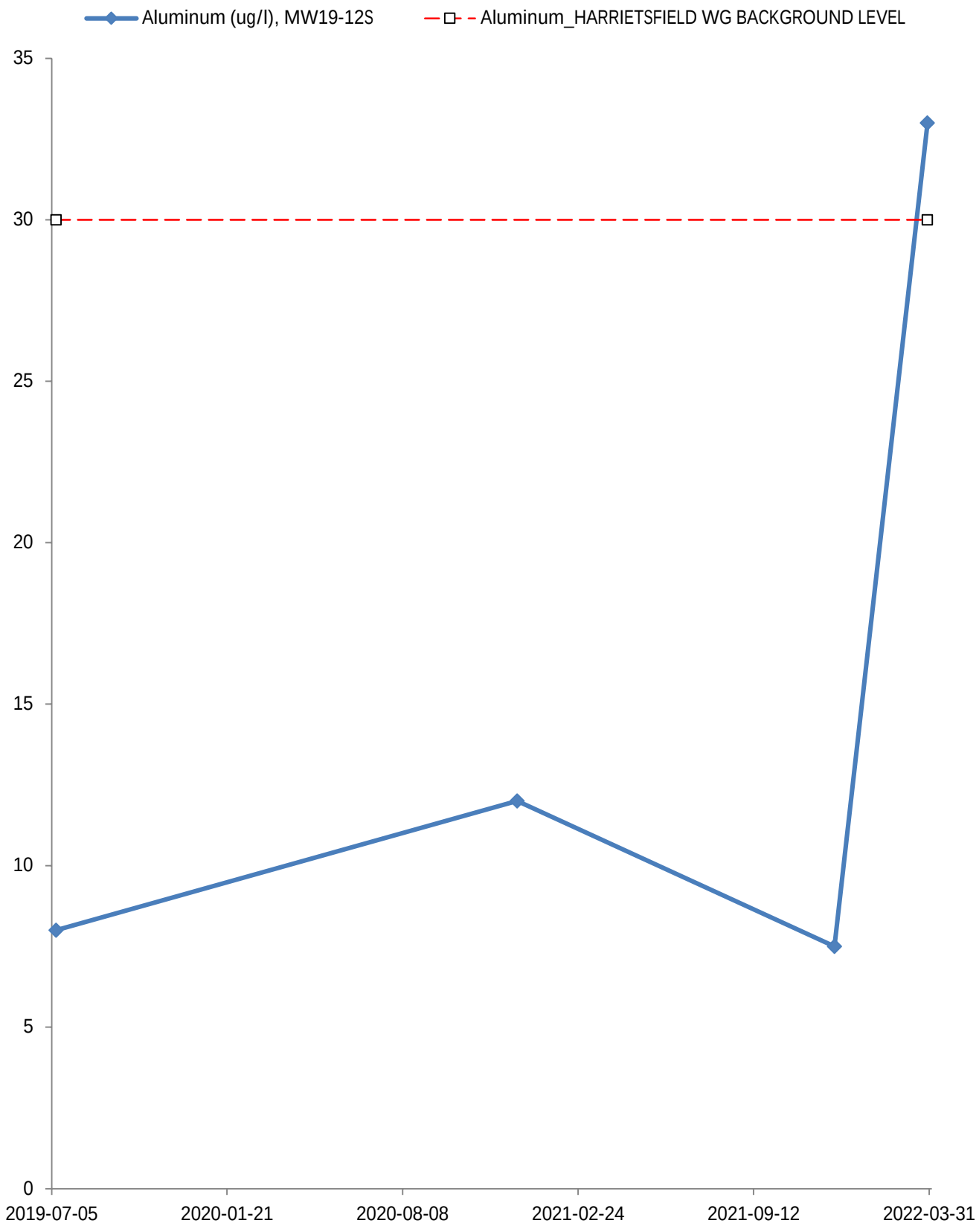
MW19-12S-Alkalinity, Carbonate



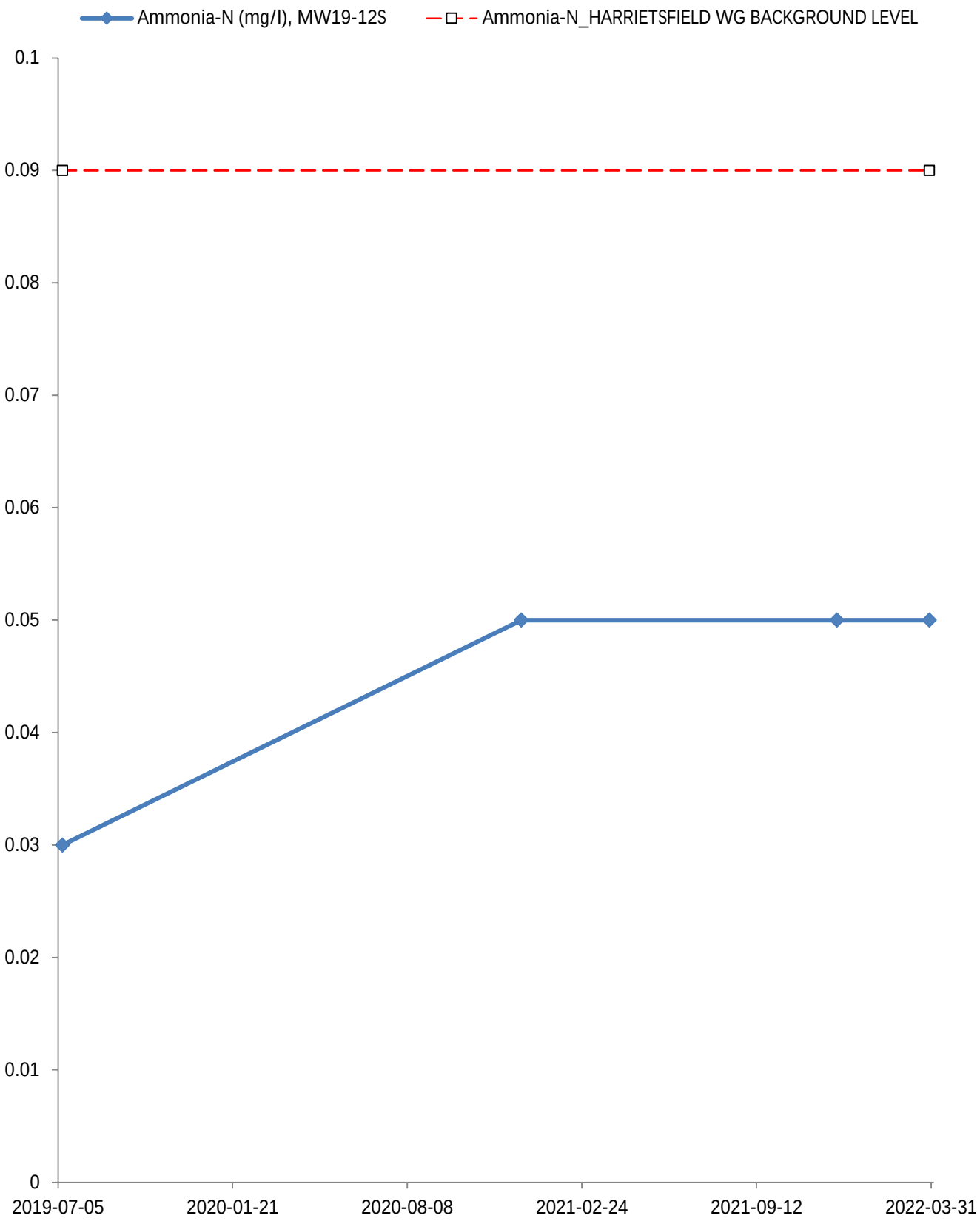
MW19-12S-Alkalinity, Total



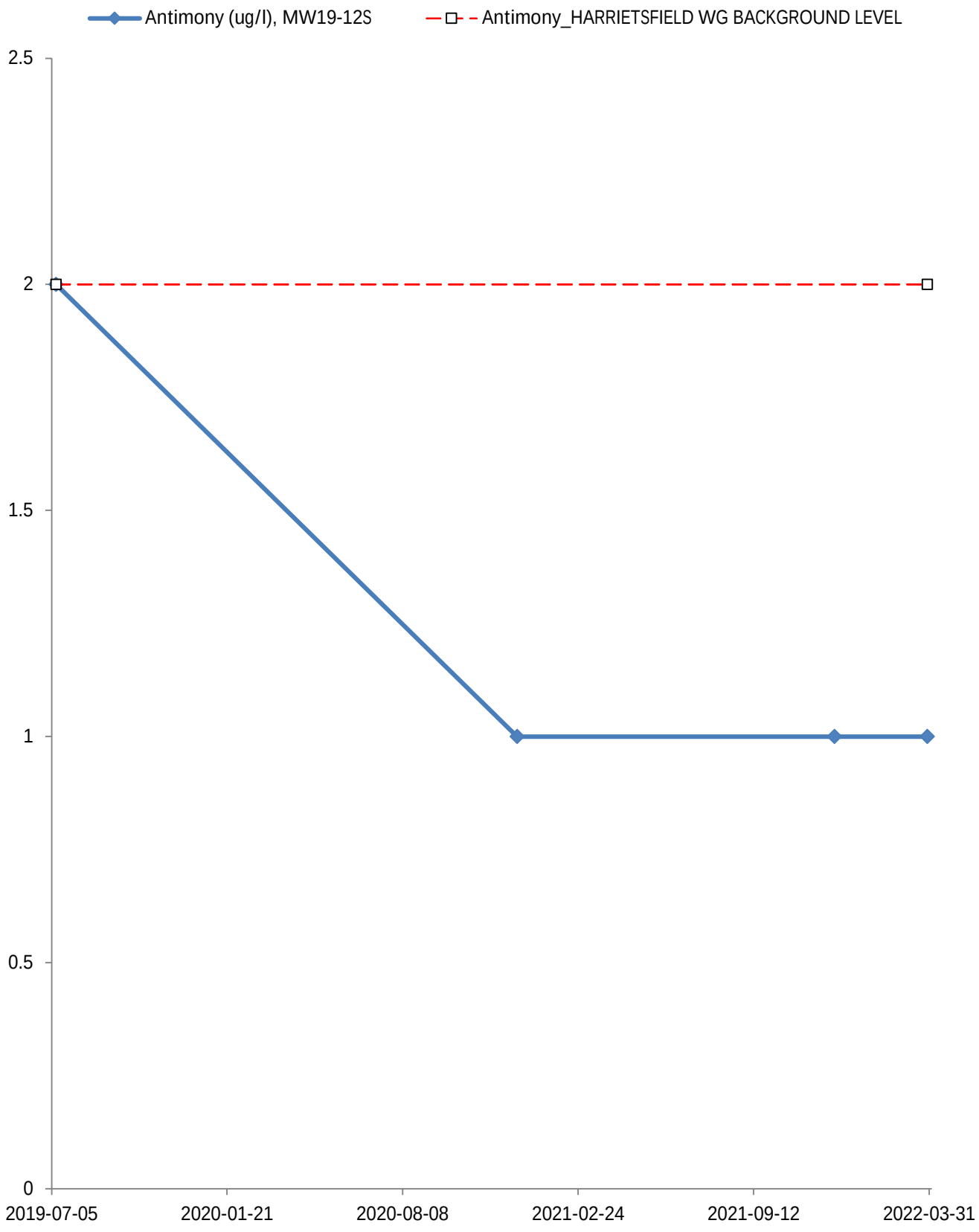
MW19-12S-Aluminum



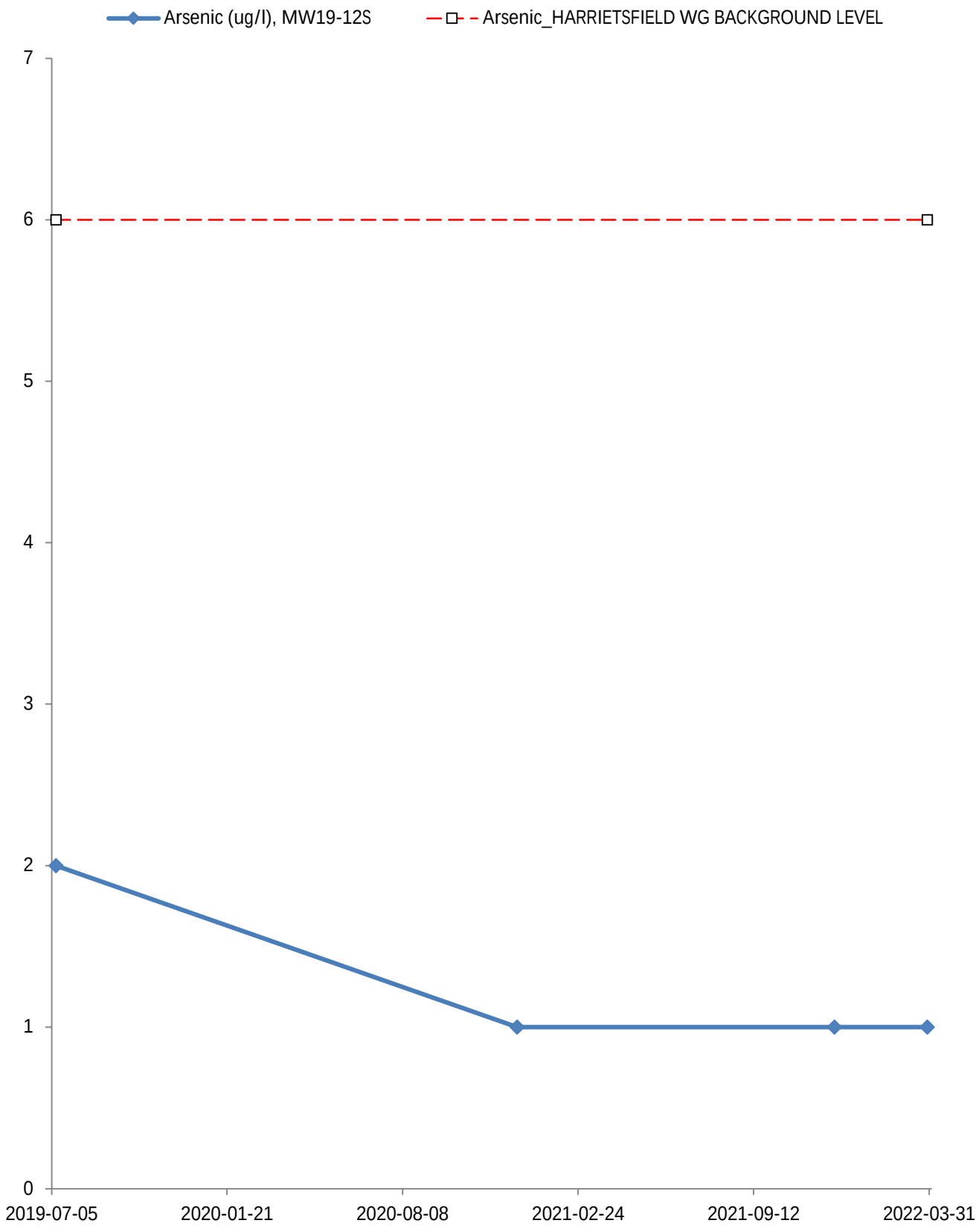
MW19-12S-Ammonia-N



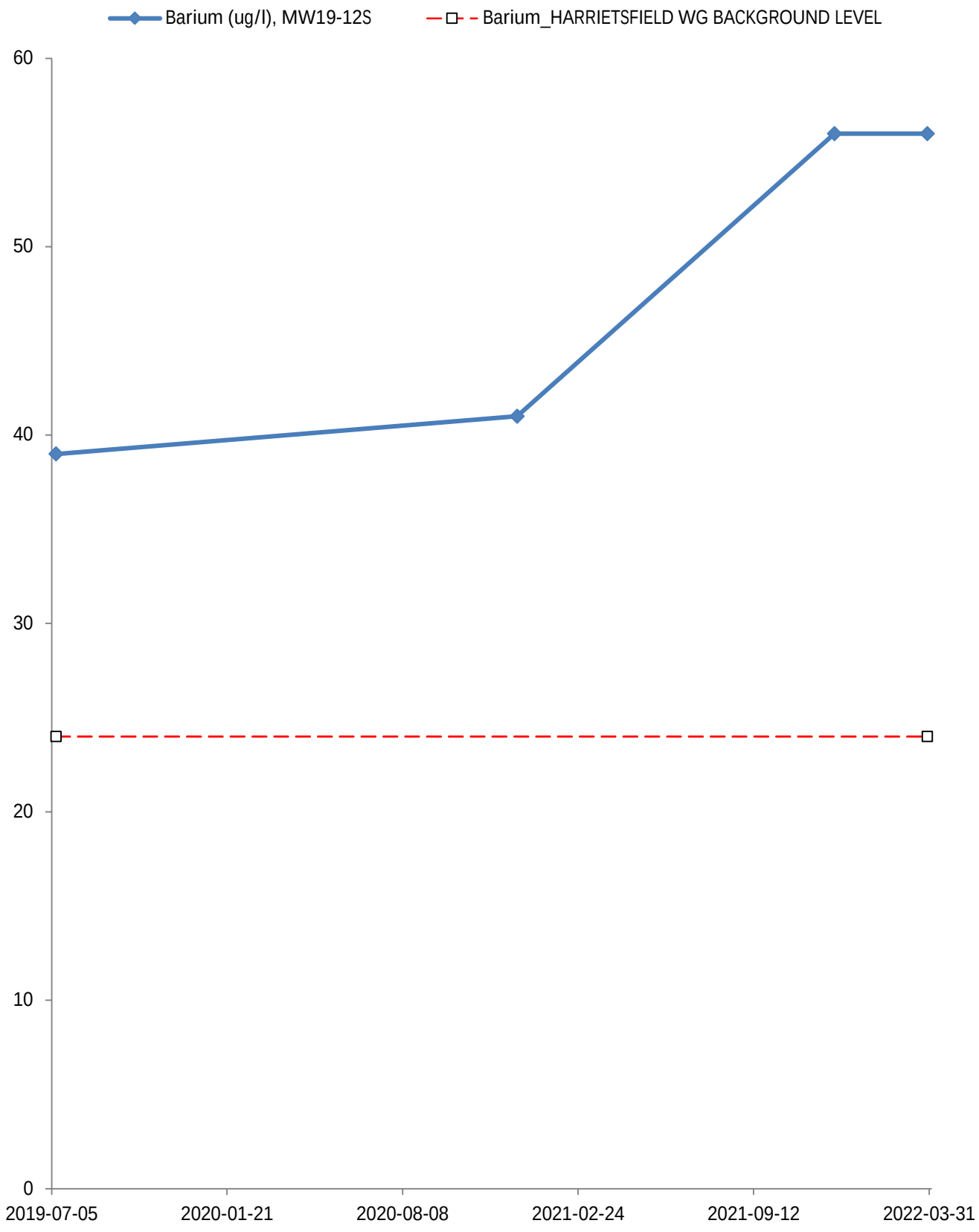
MW19-12S-Antimony



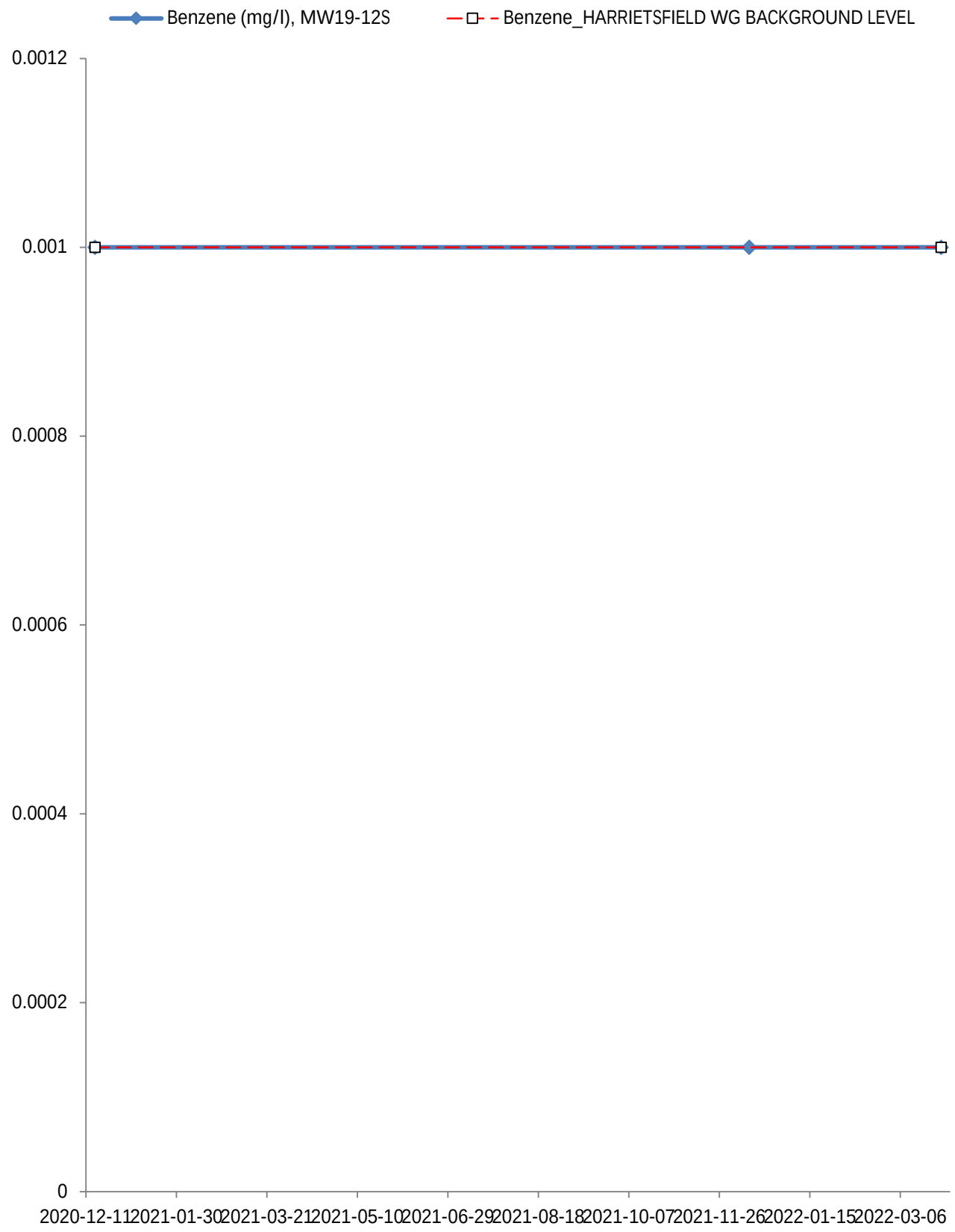
MW19-12S-Arsenic



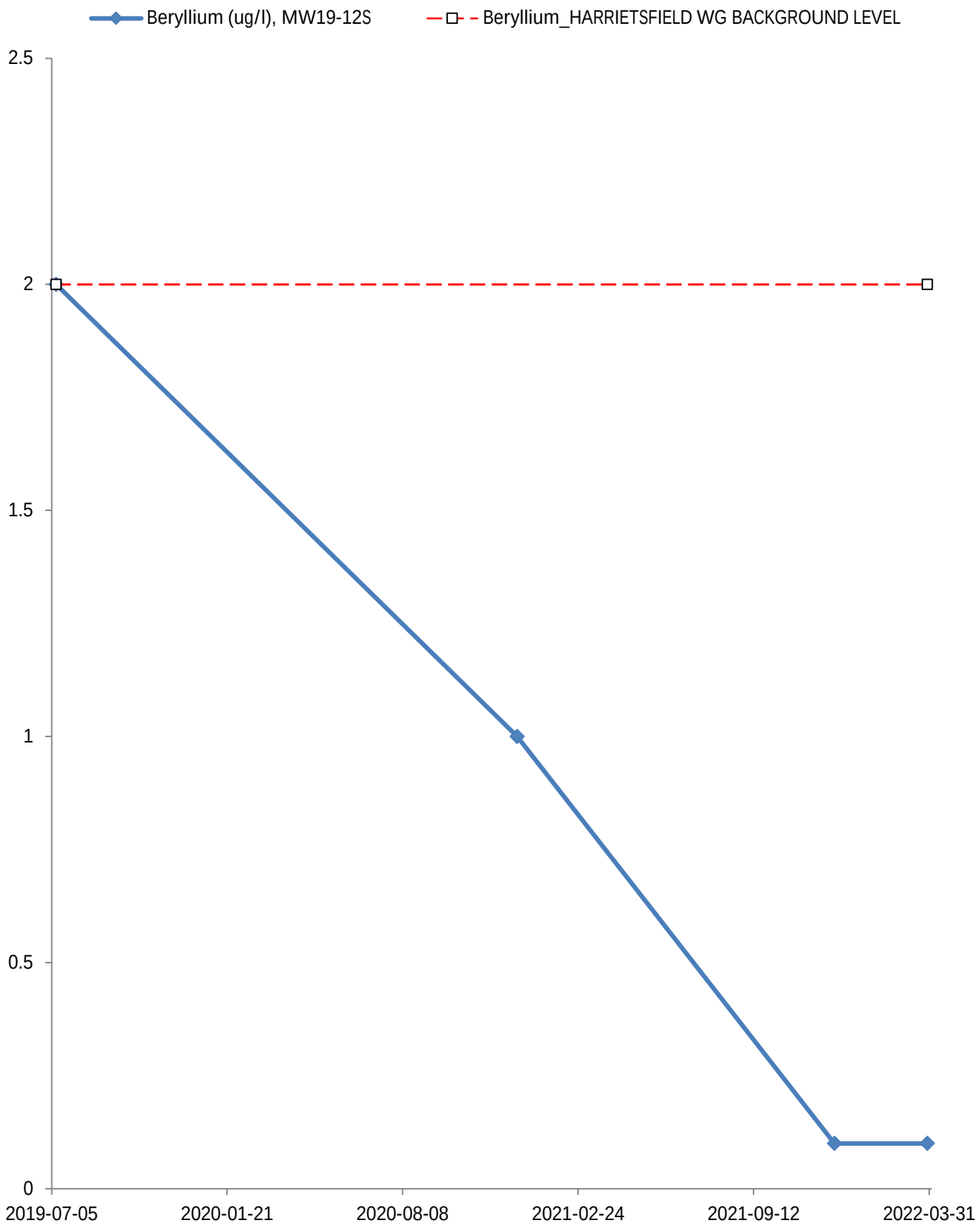
MW19-12S-Barium



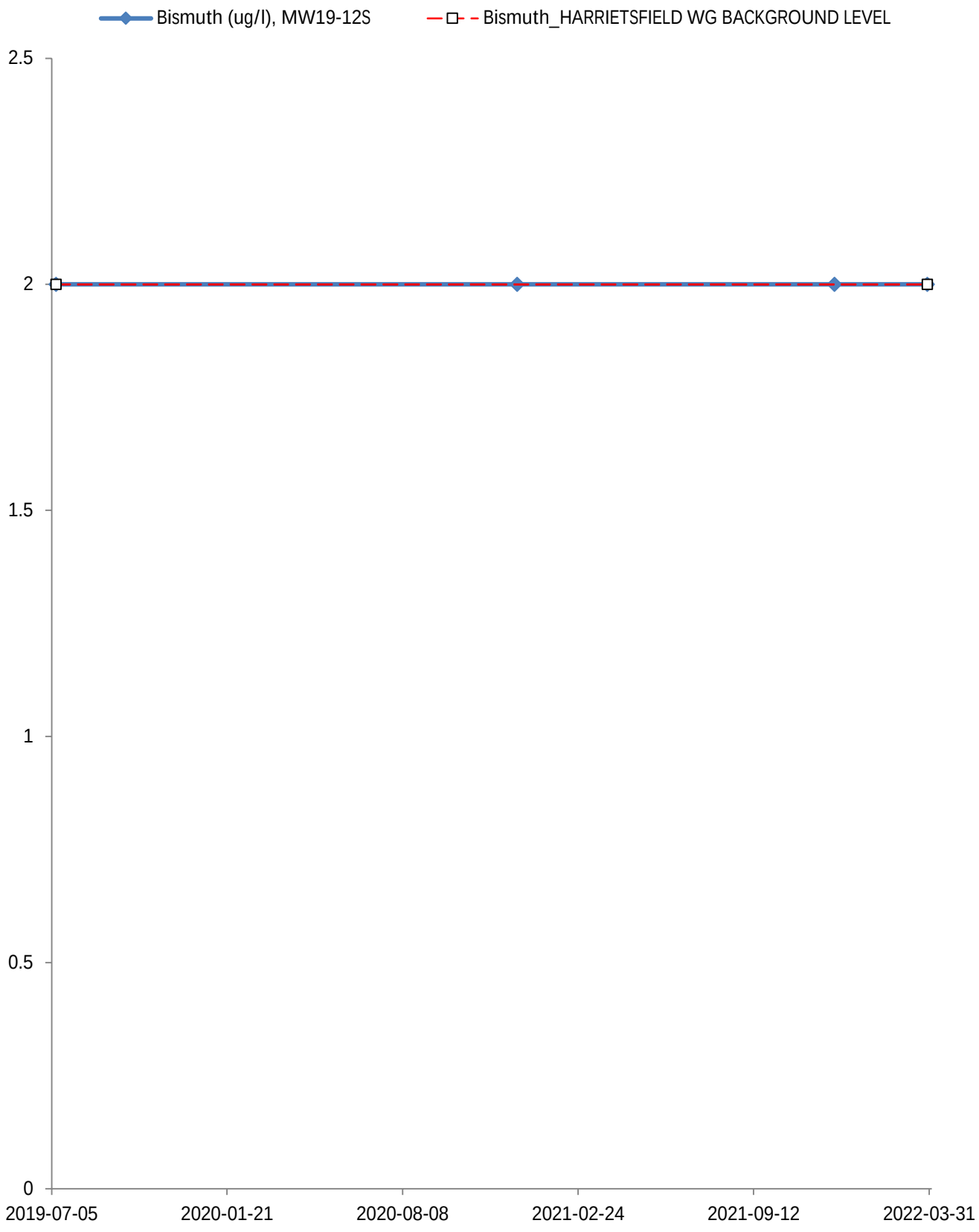
MW19-12S-Benzene



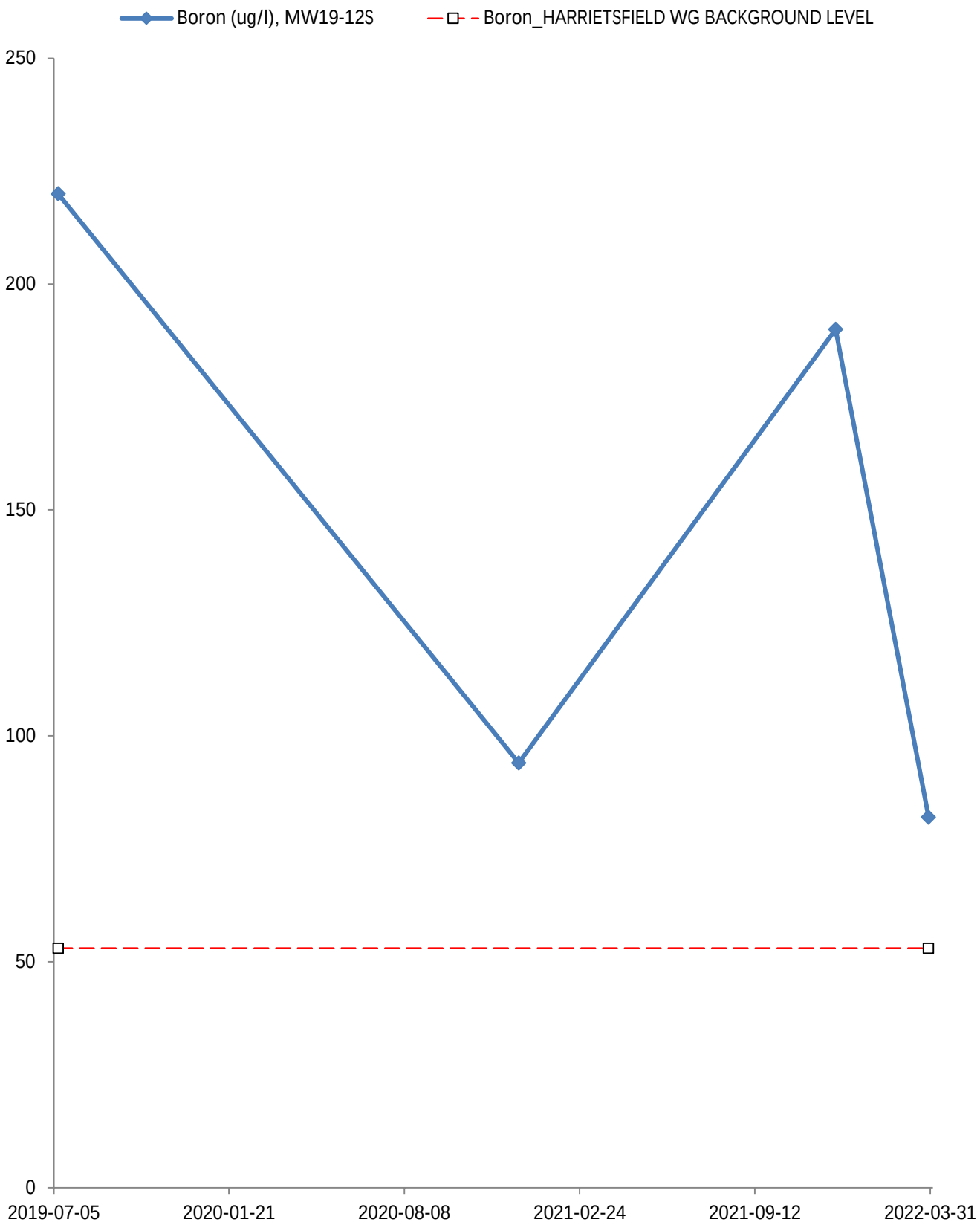
MW19-12S-Beryllium



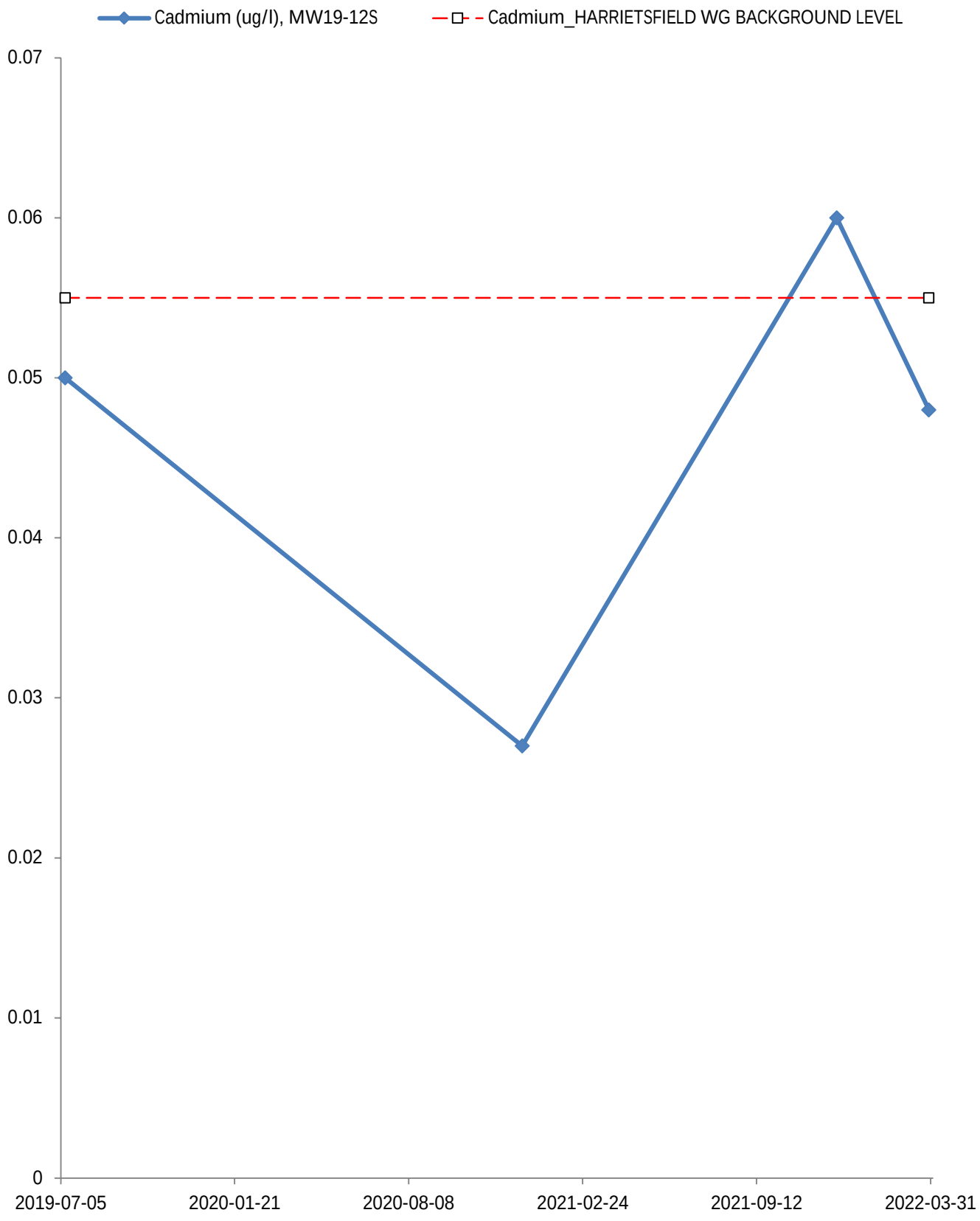
MW19-12S-Bismuth



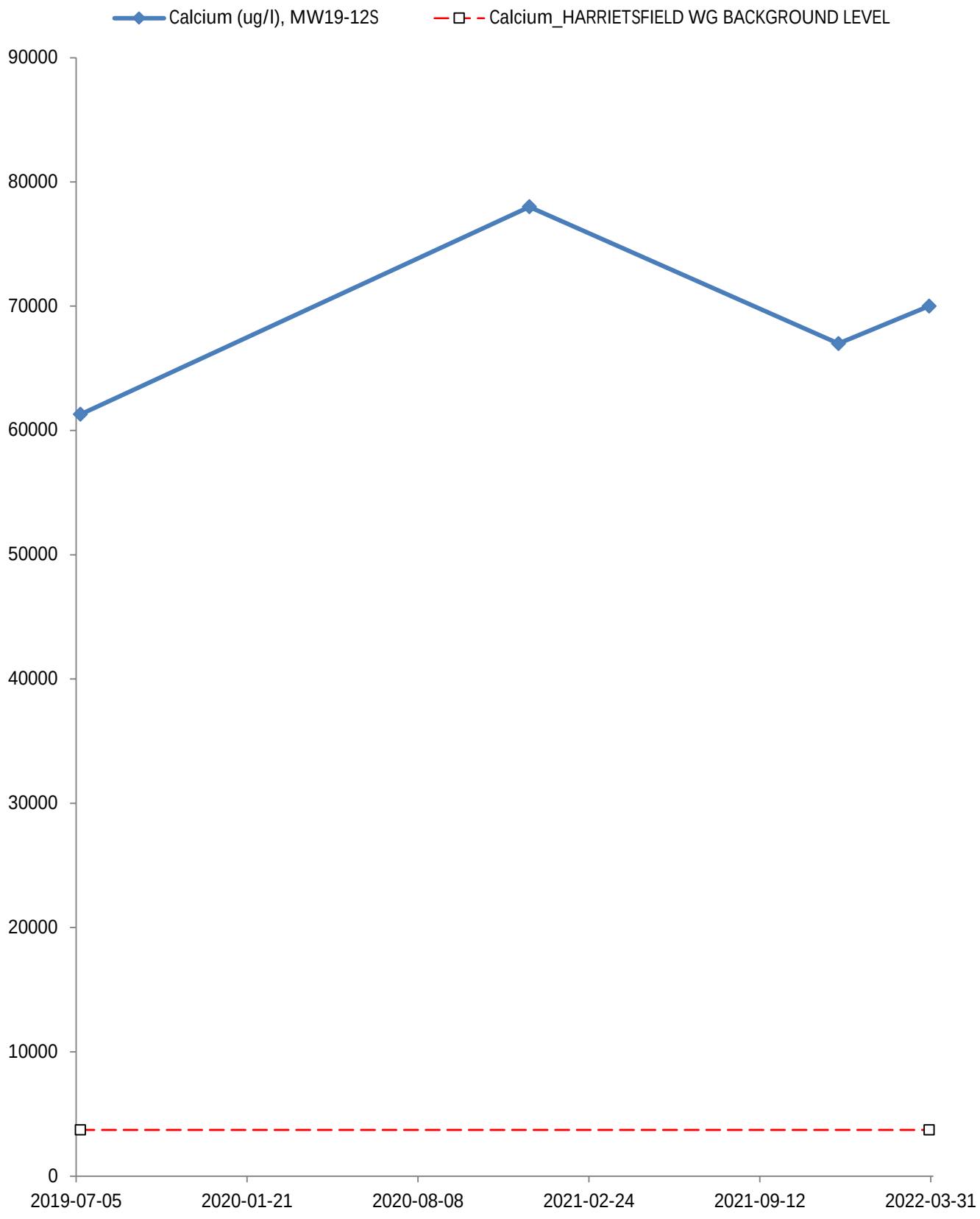
MW19-12S-Boron



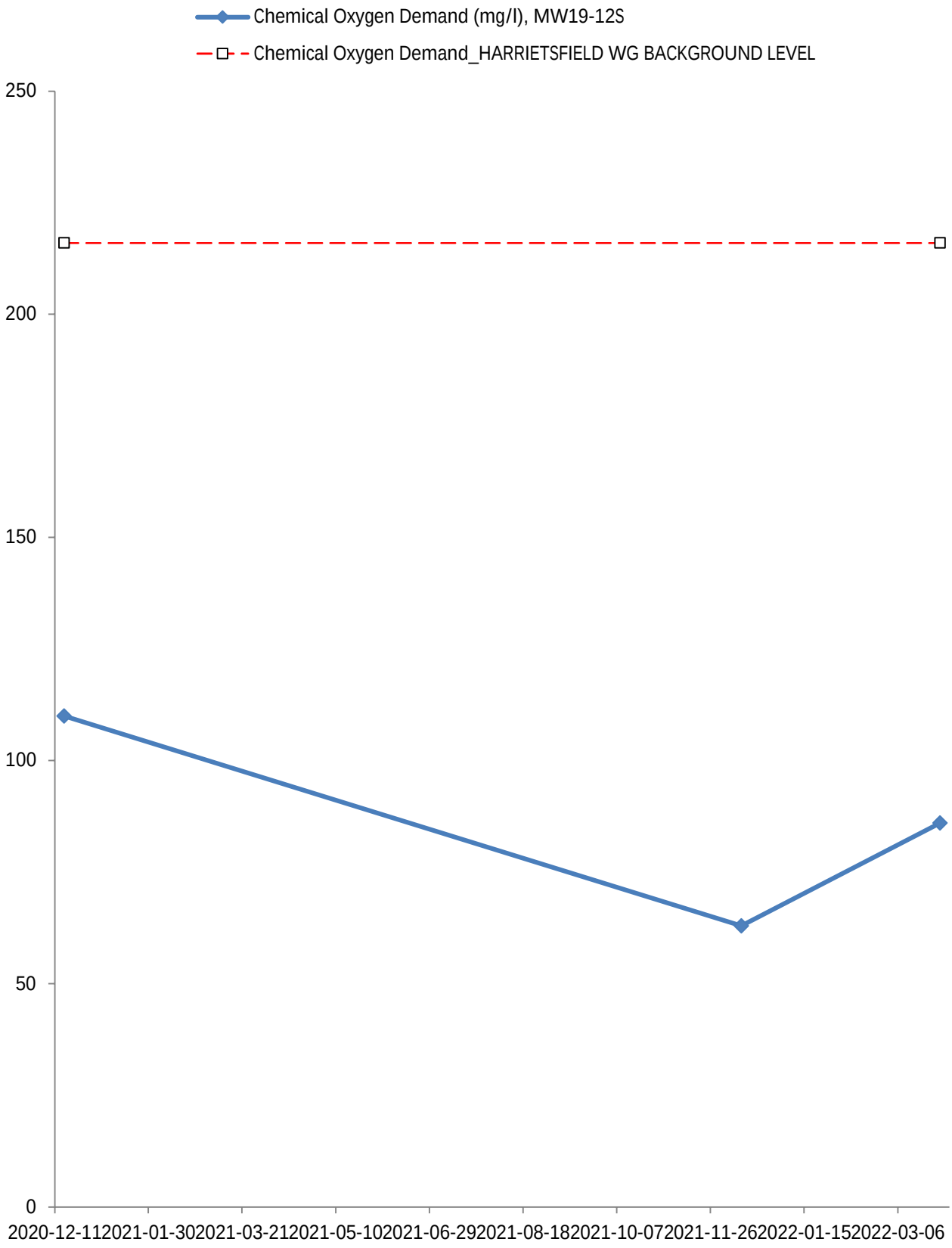
MW19-12S-Cadmium



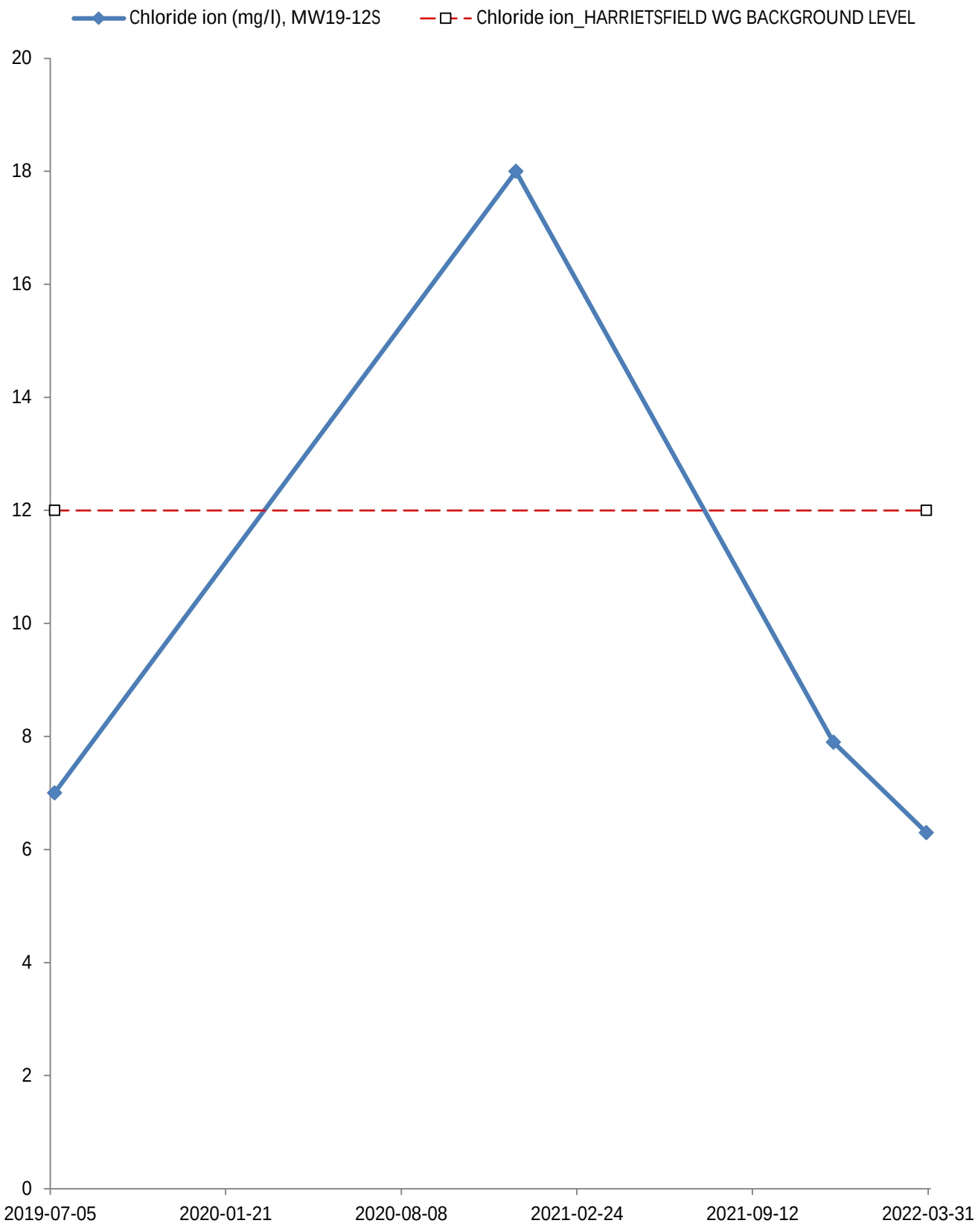
MW19-12S-Calcium



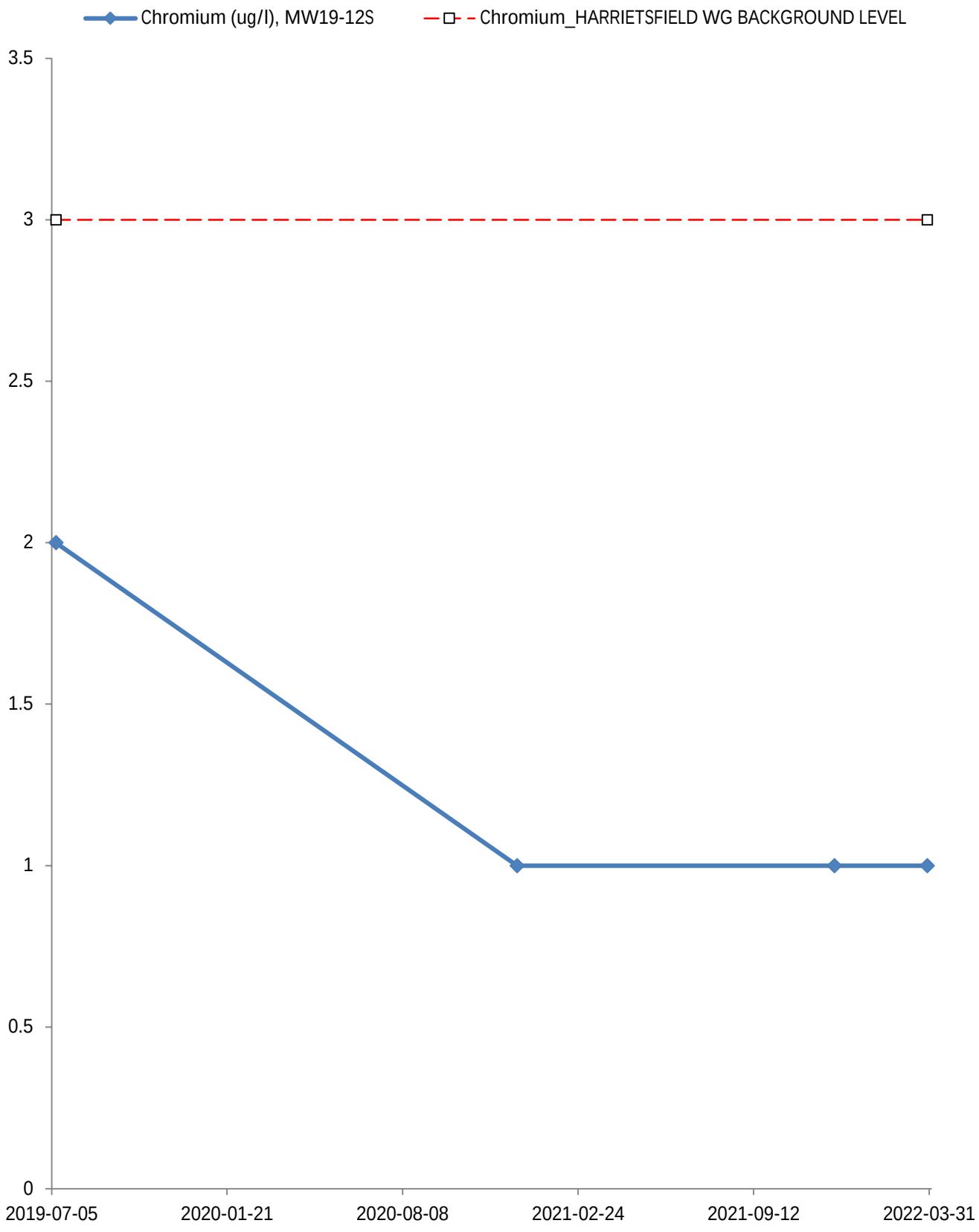
MW19-12S-Chemical Oxygen Demand



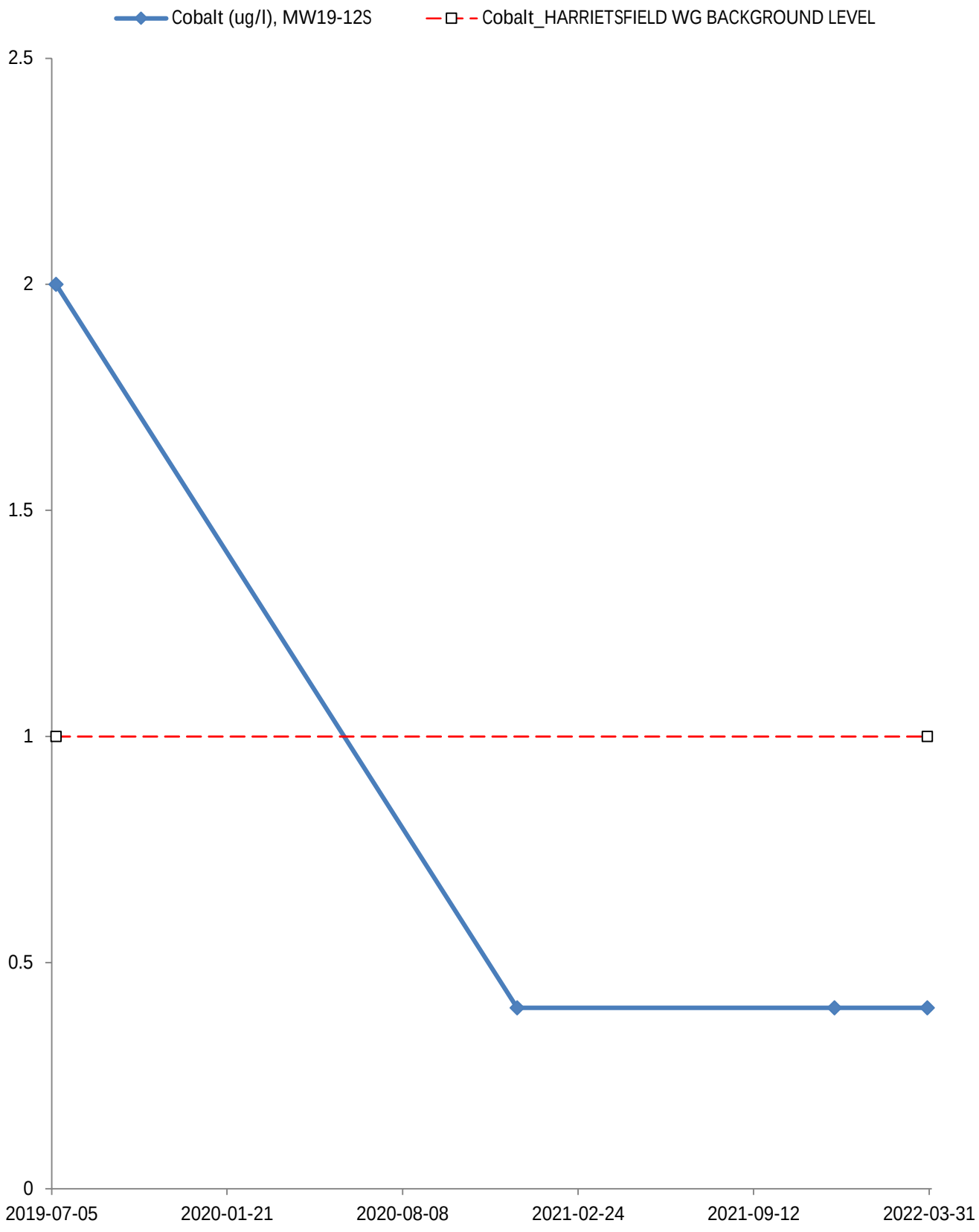
MW19-12S-Chloride ion



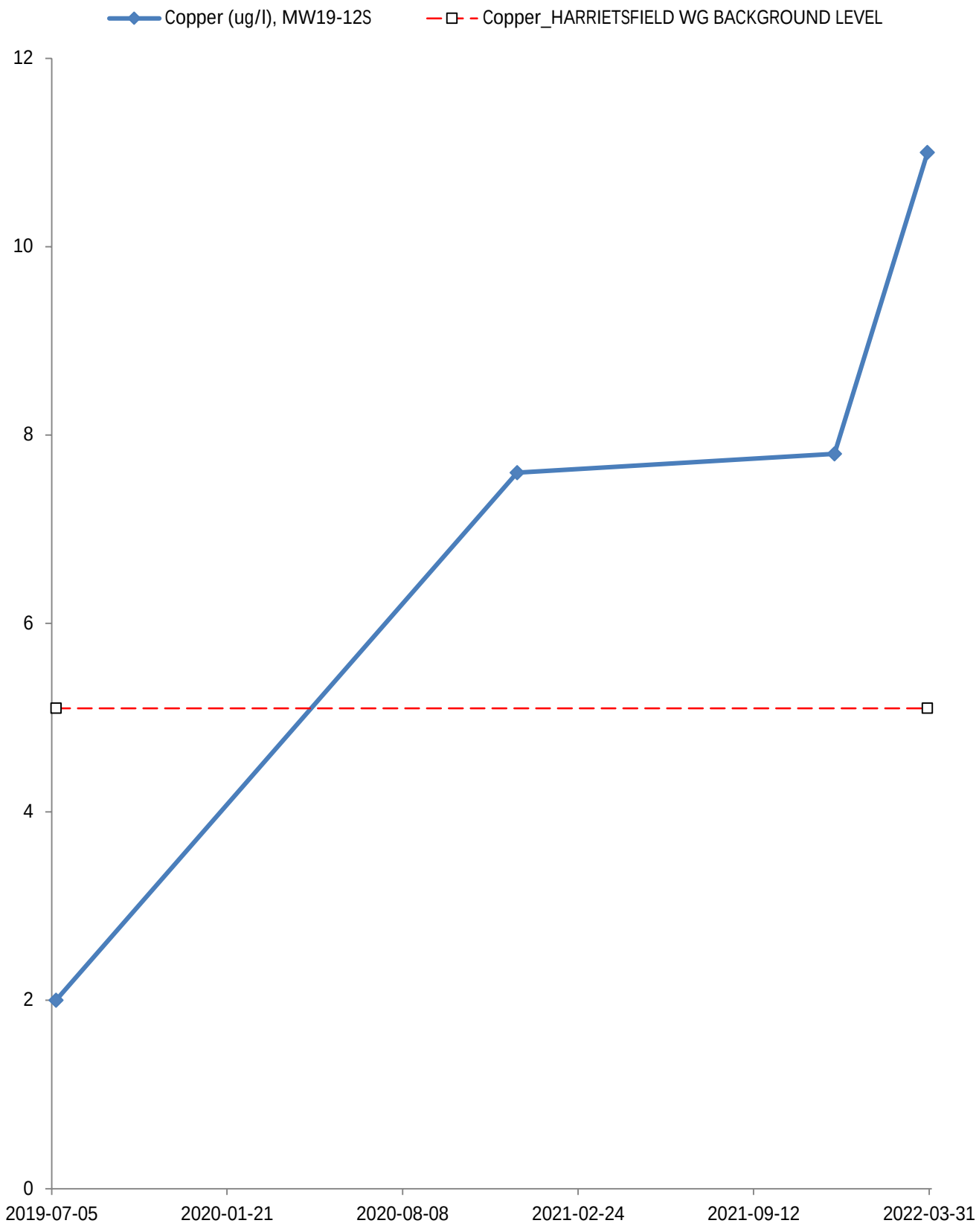
MW19-12S-Chromium



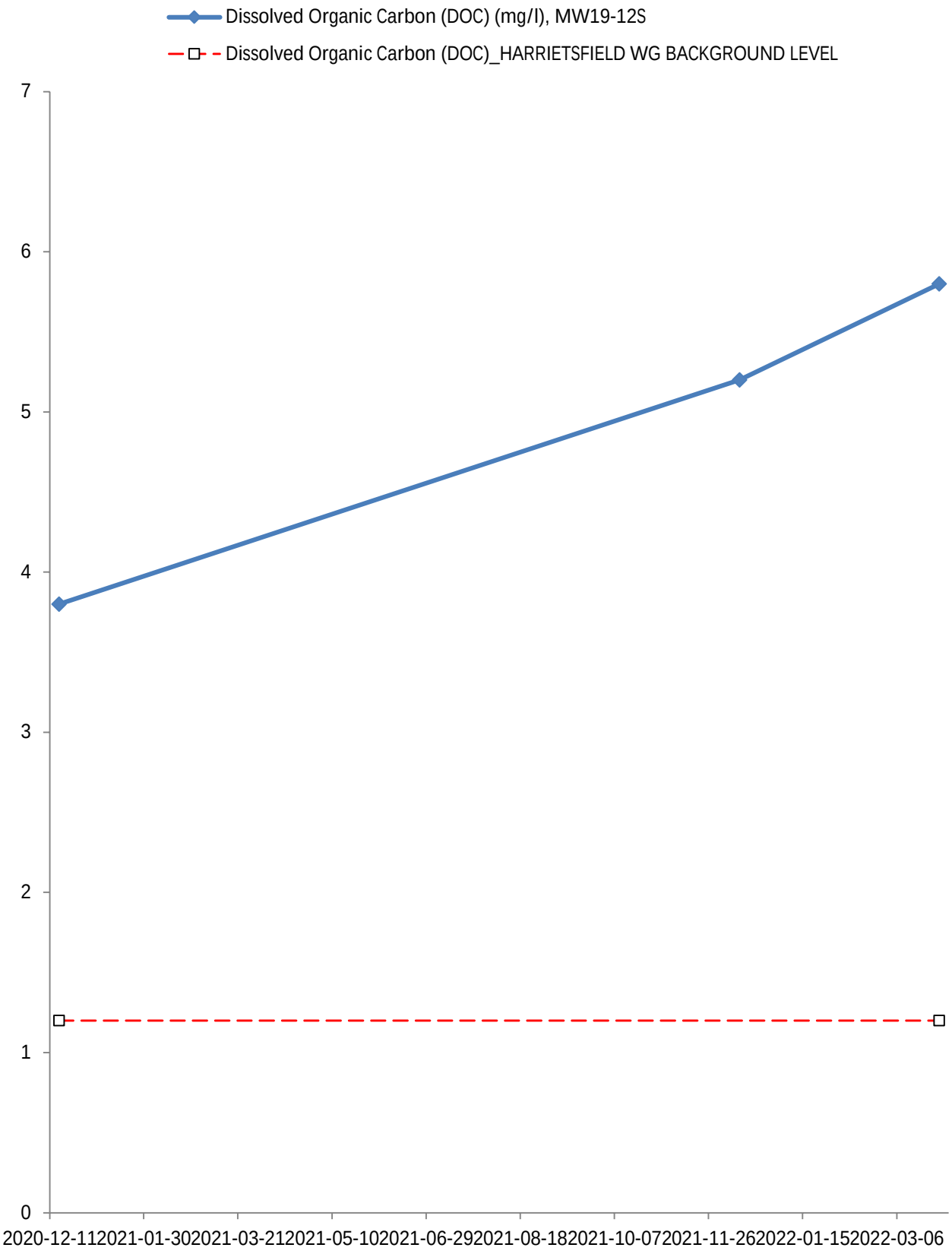
MW19-12S-Cobalt



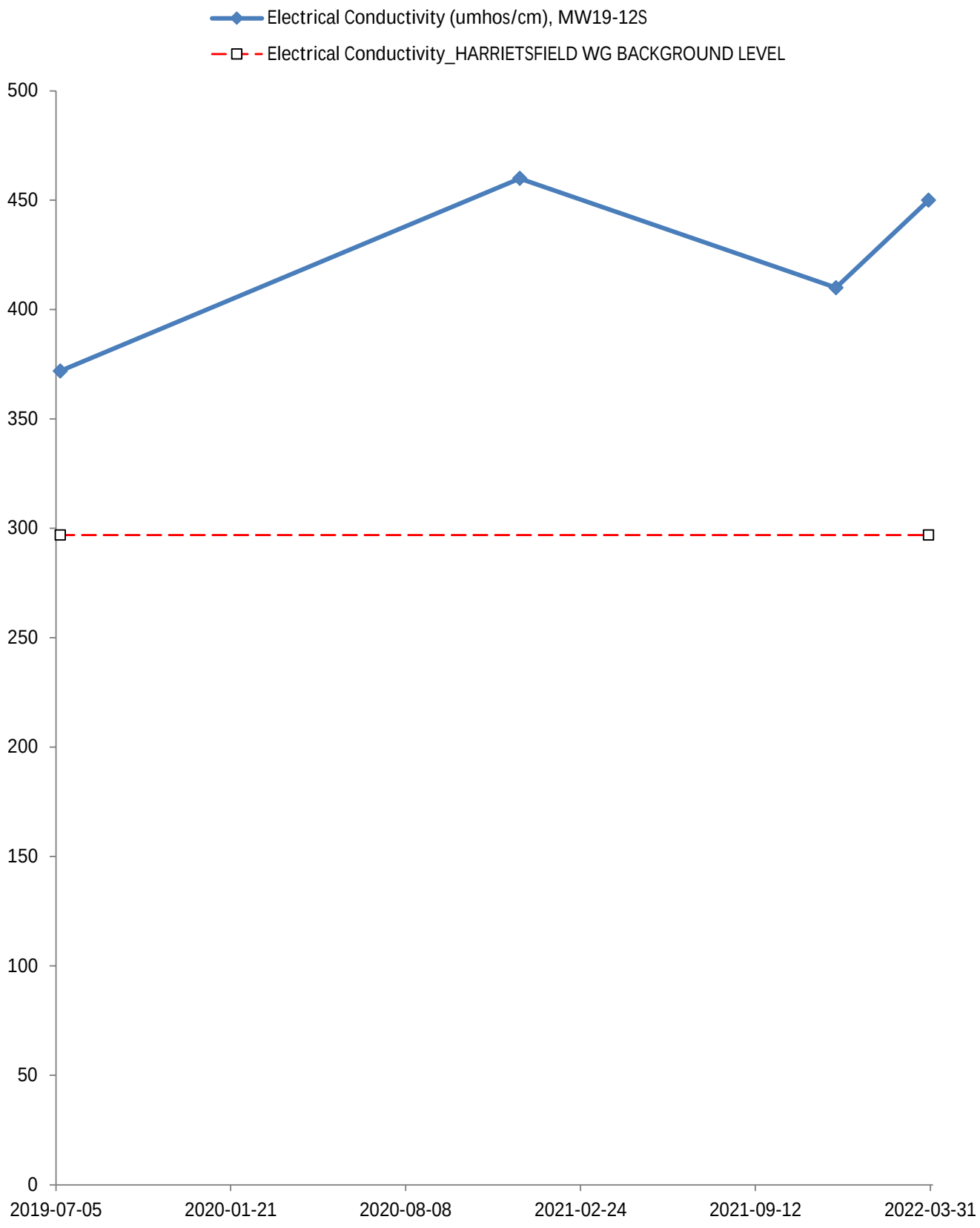
MW19-12S-Copper



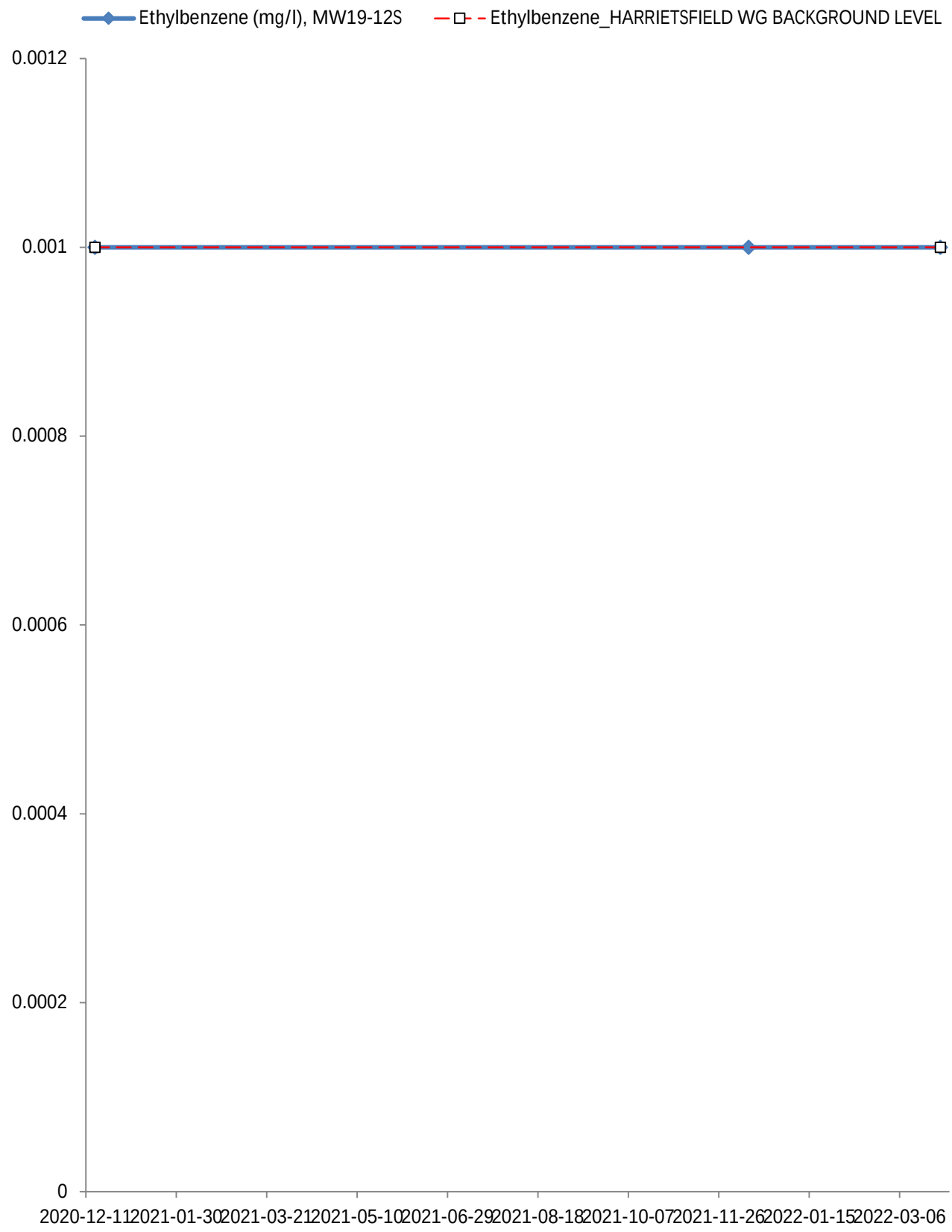
MW19-12S-Dissolved Organic Carbon7



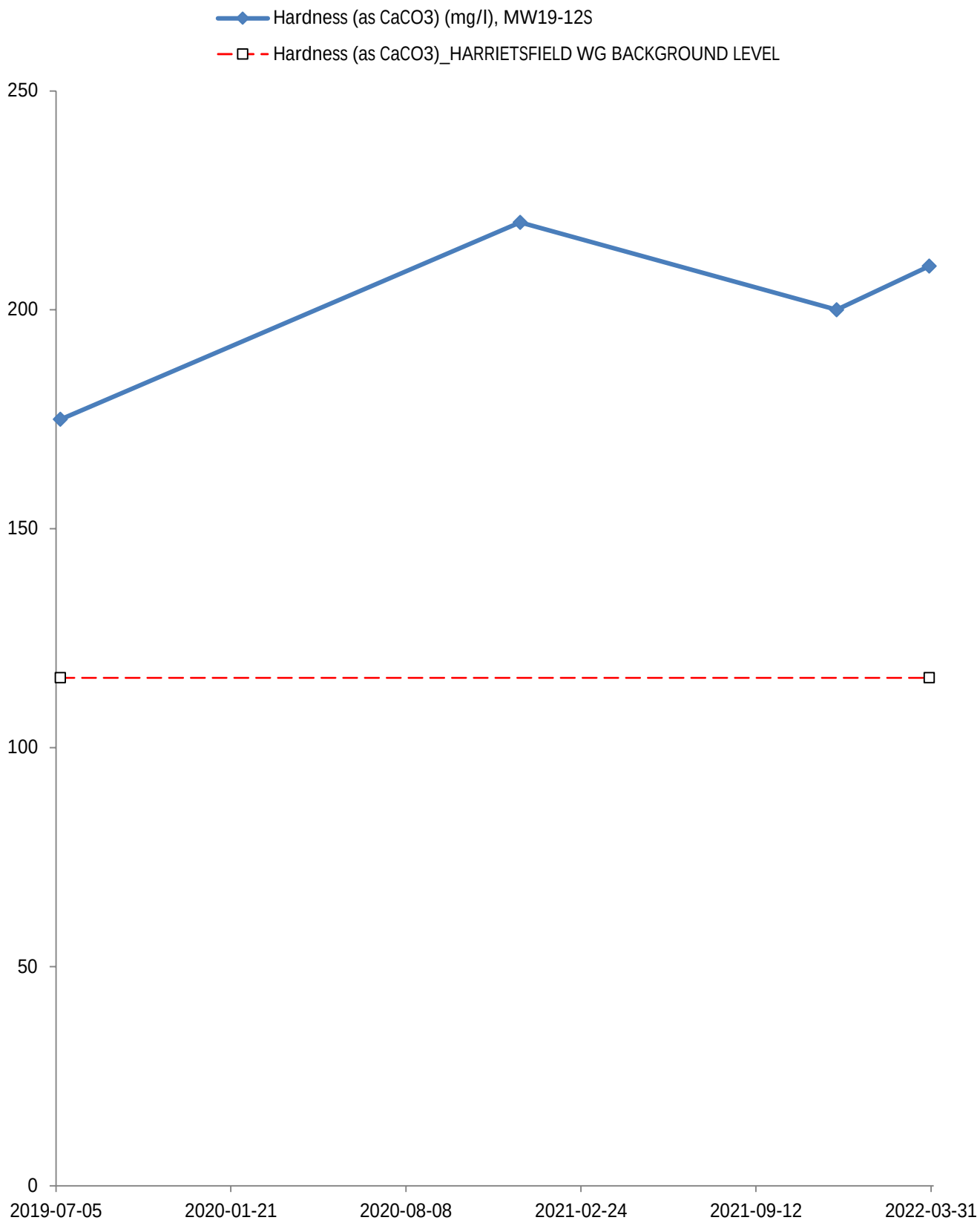
MW19-12S-Electrical Conductivity



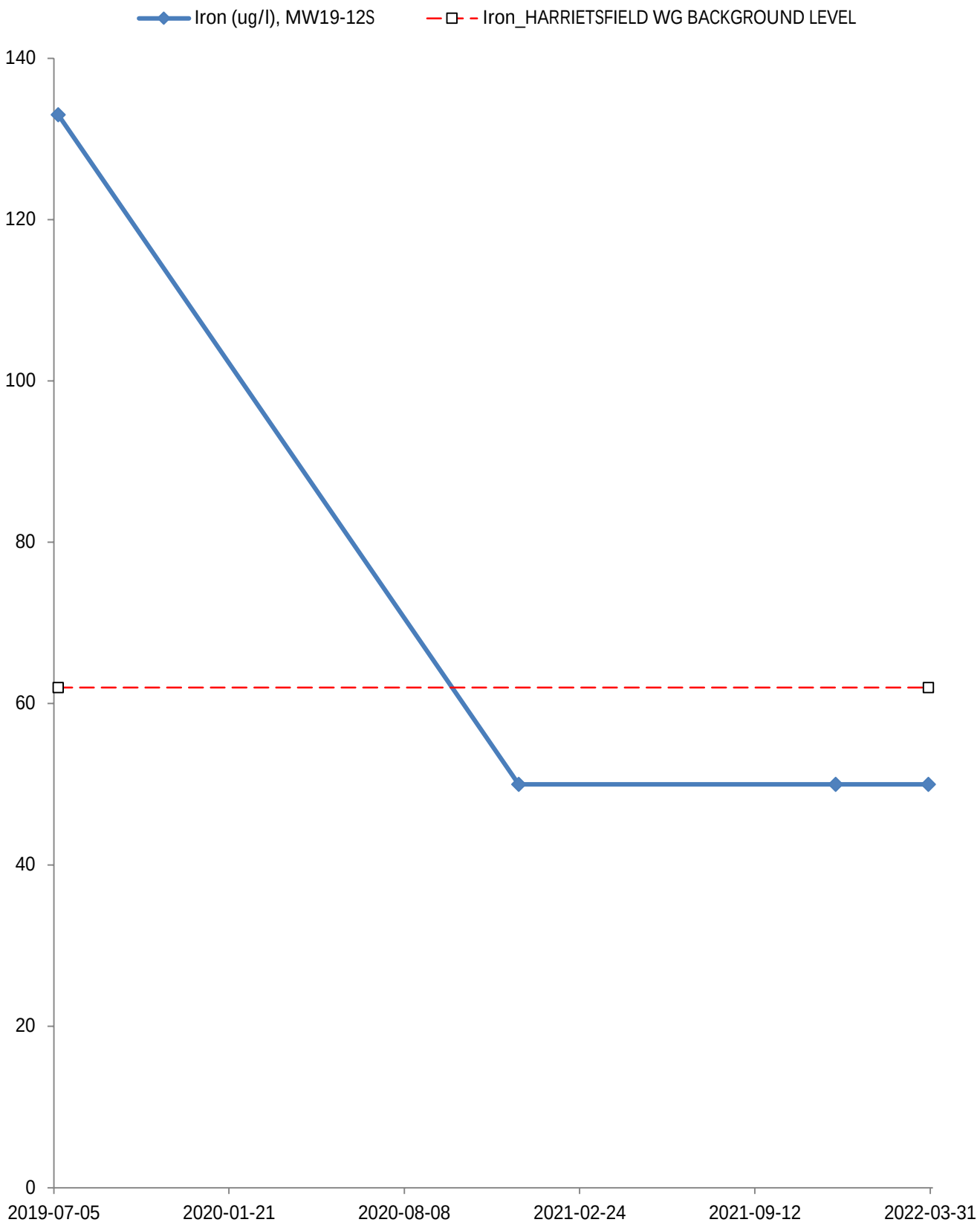
MW19-12S-Ethylbenzene



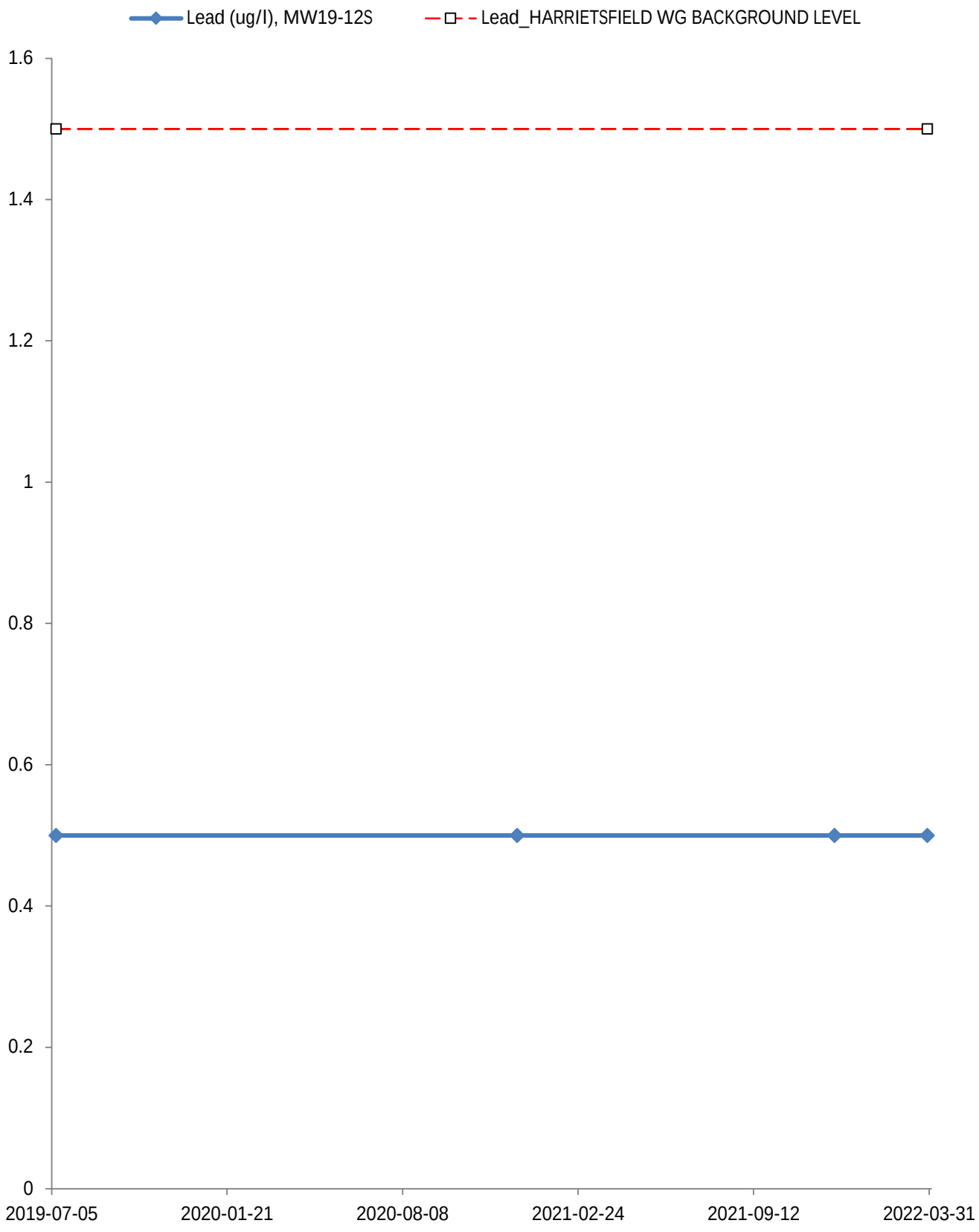
MW19-12S-Hardness (as CaCO3)



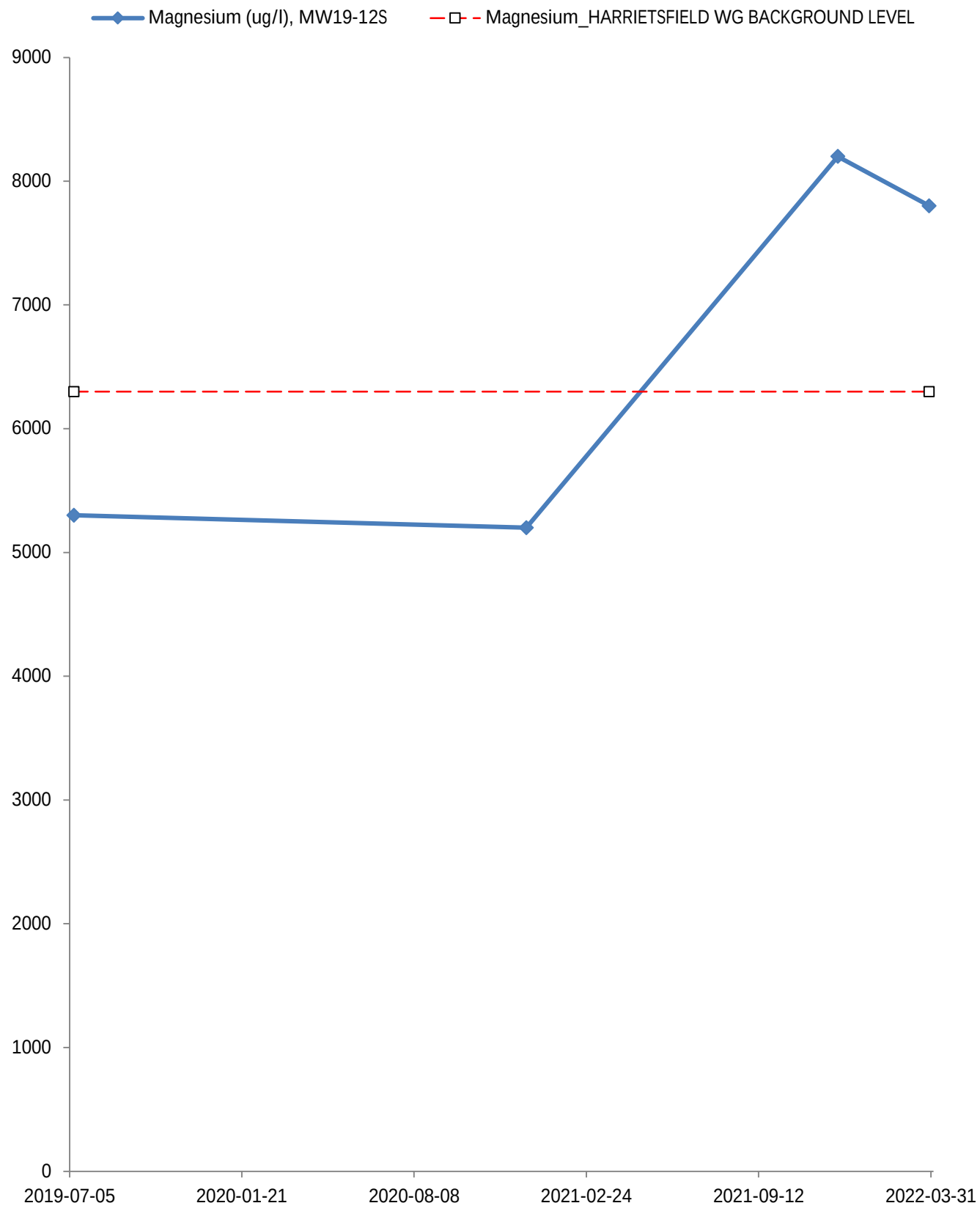
MW19-12S-Iron



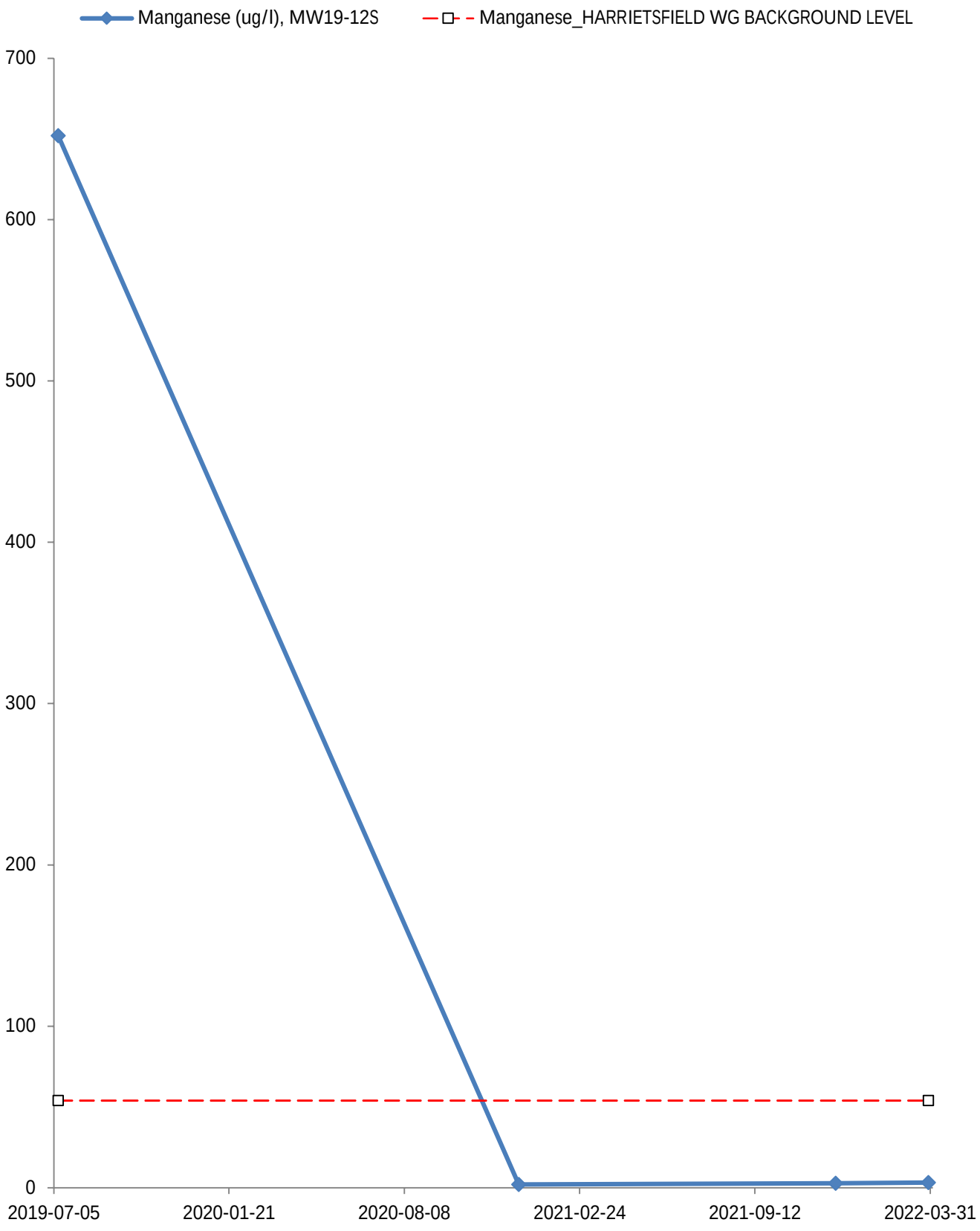
MW19-12S-Lead



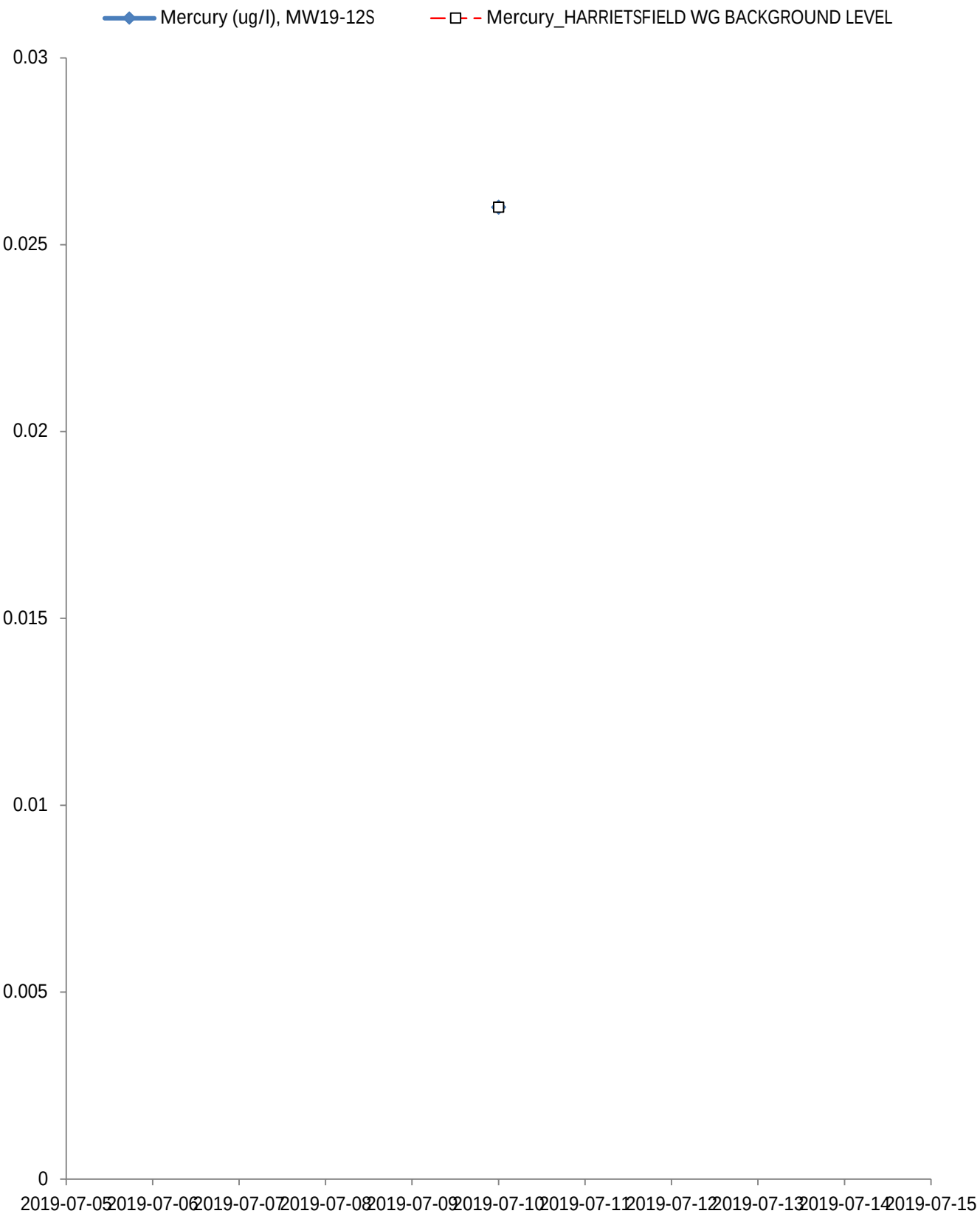
MW19-12S-Magnesium



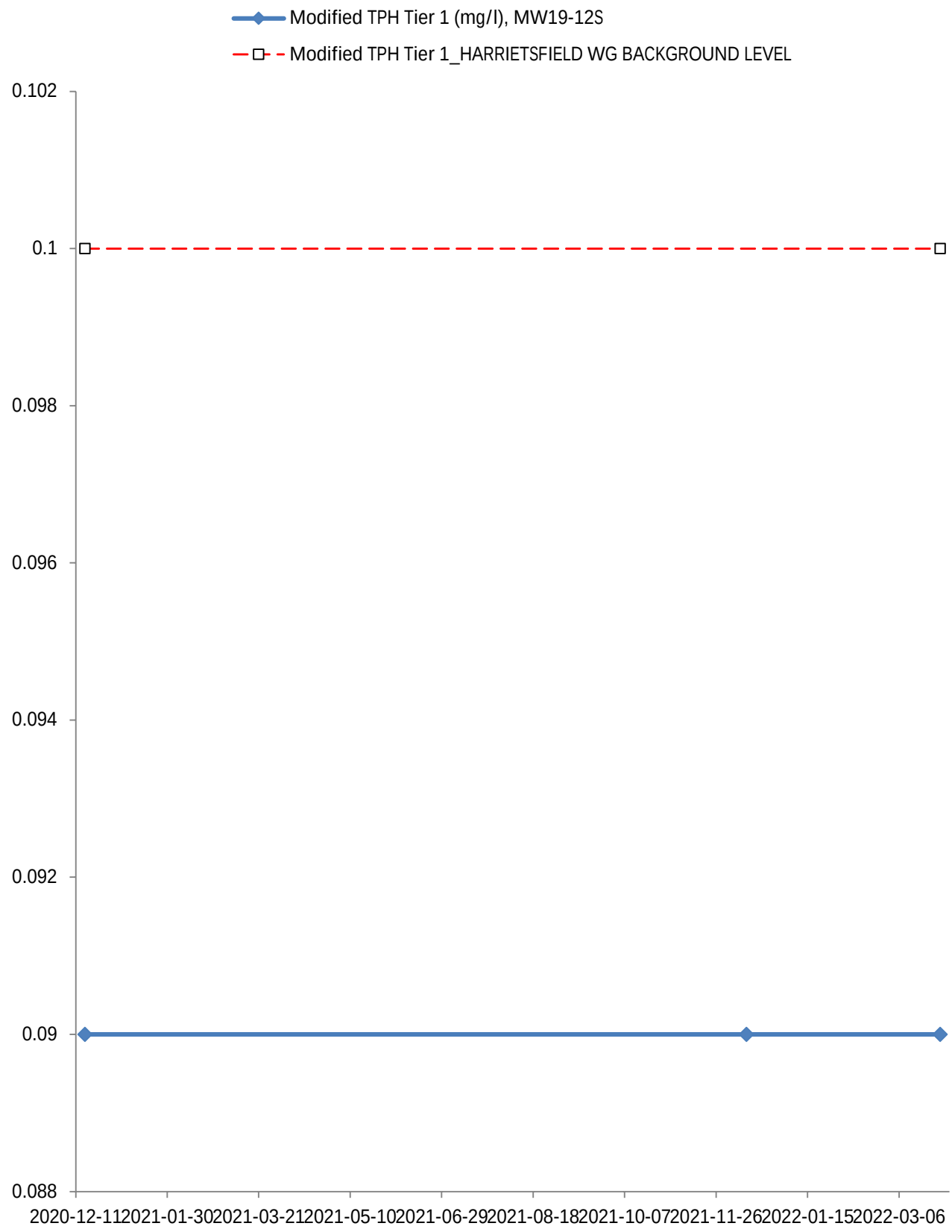
MW19-12S-Manganese



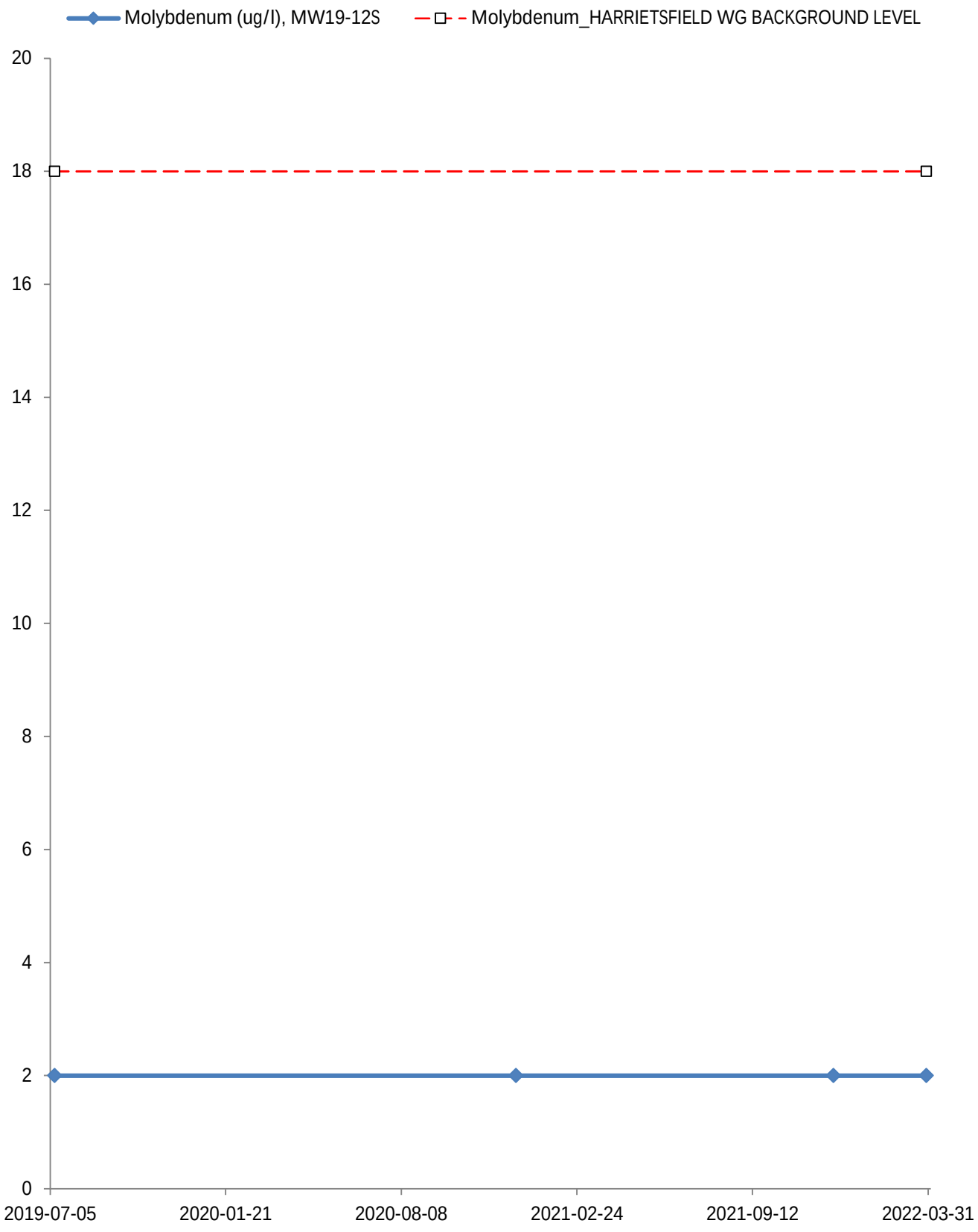
MW19-12S-Mercury



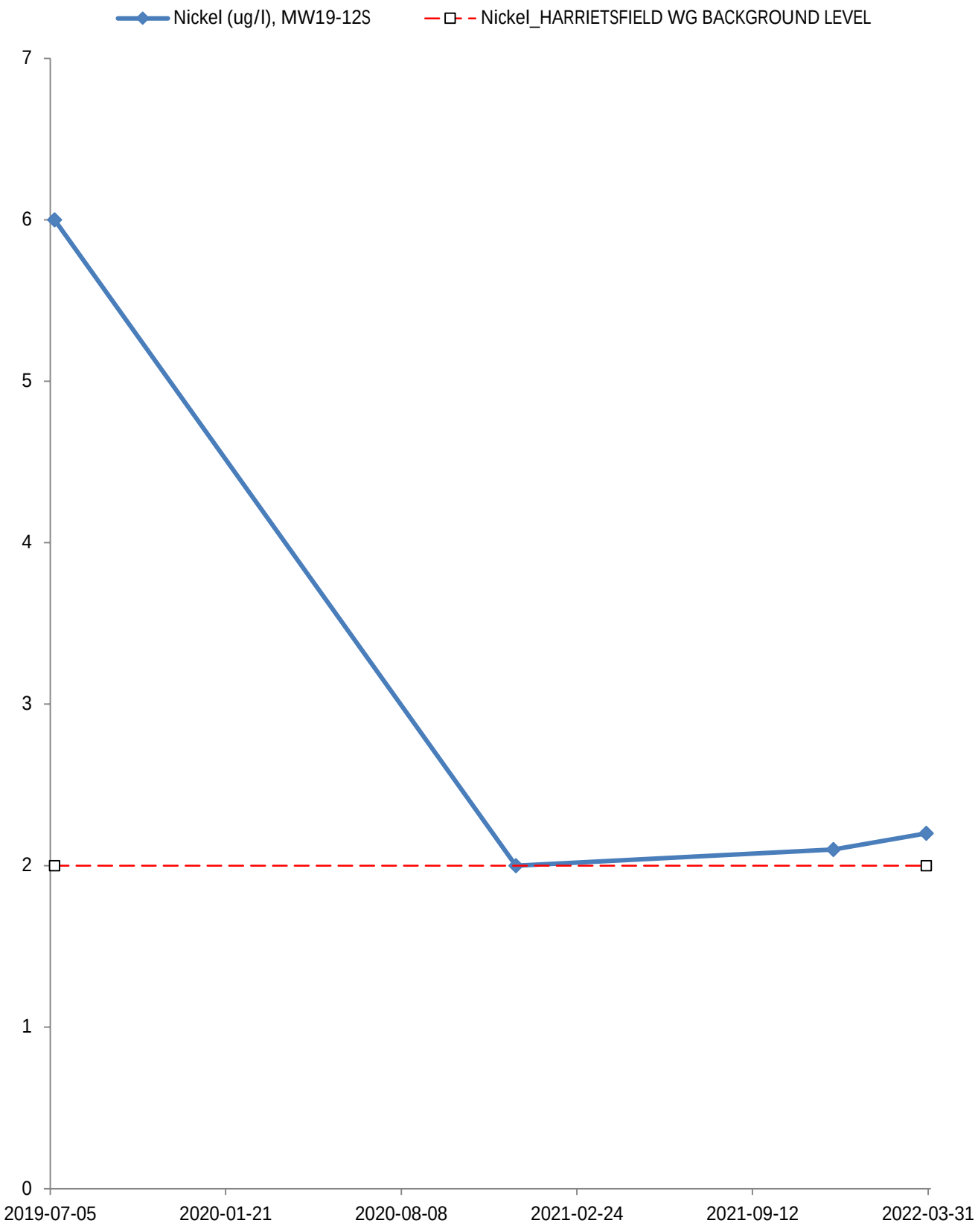
MW19-12S-Modified TPH Tier 1



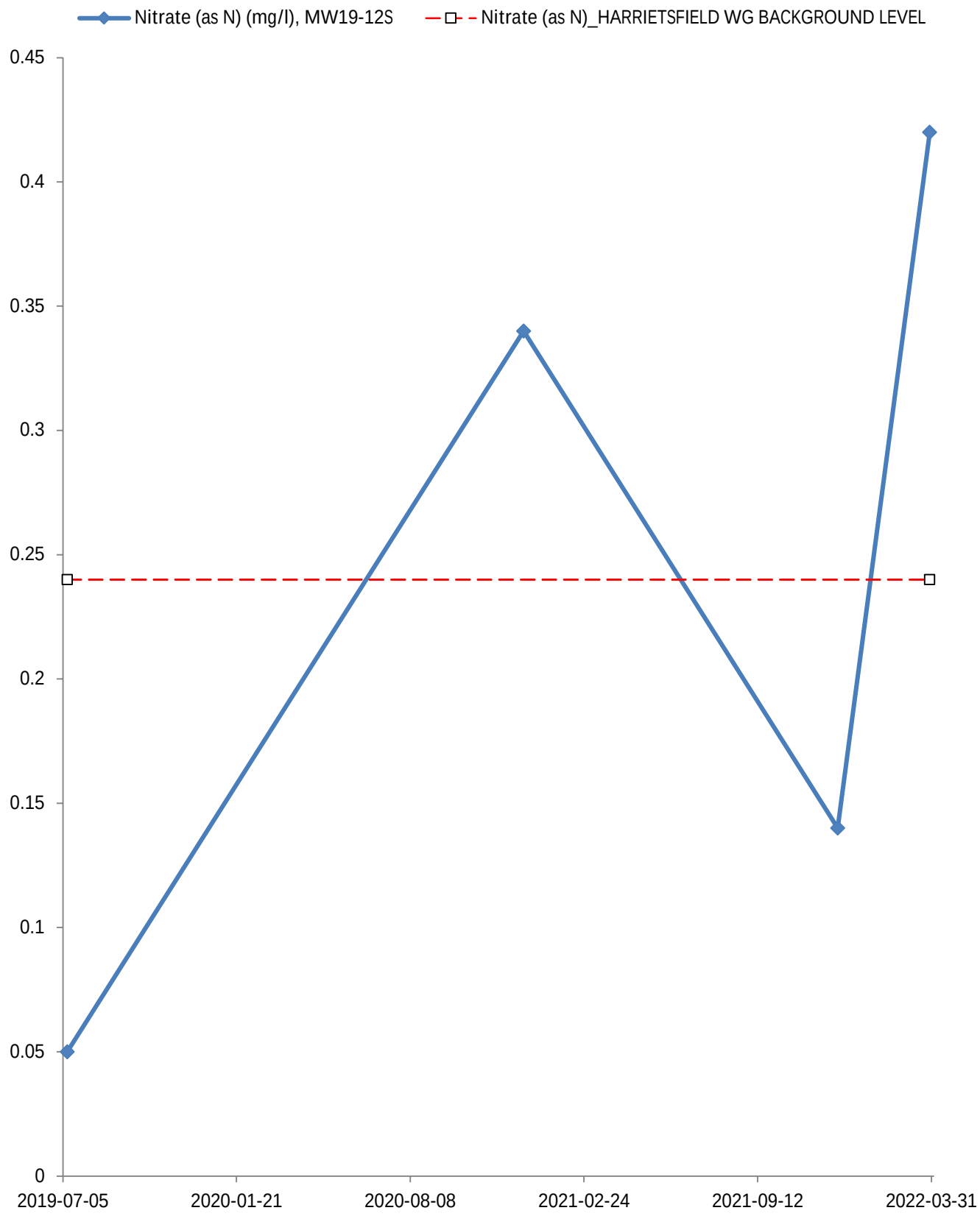
MW19-12S-Molybdenum



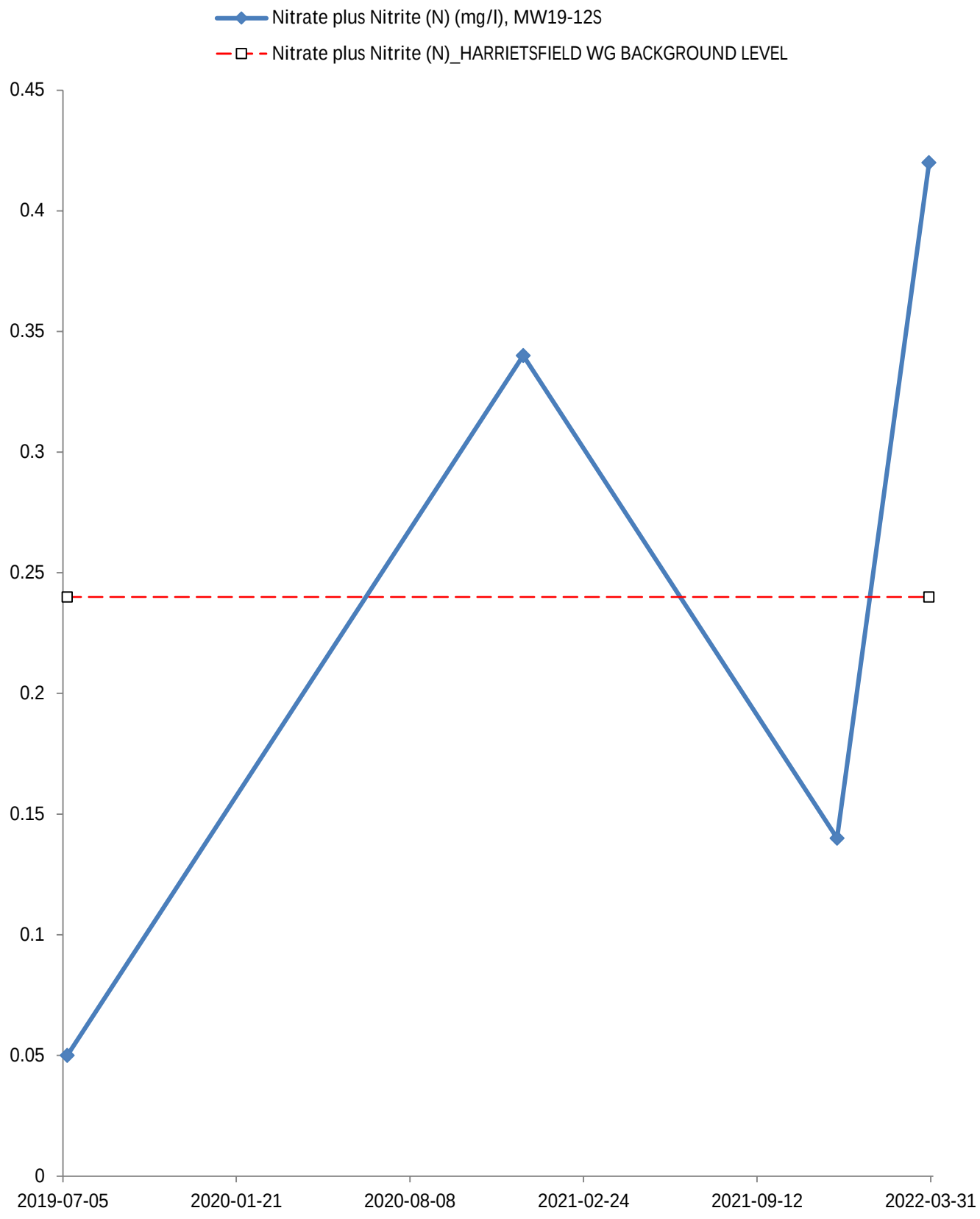
MW19-12S-Nickel



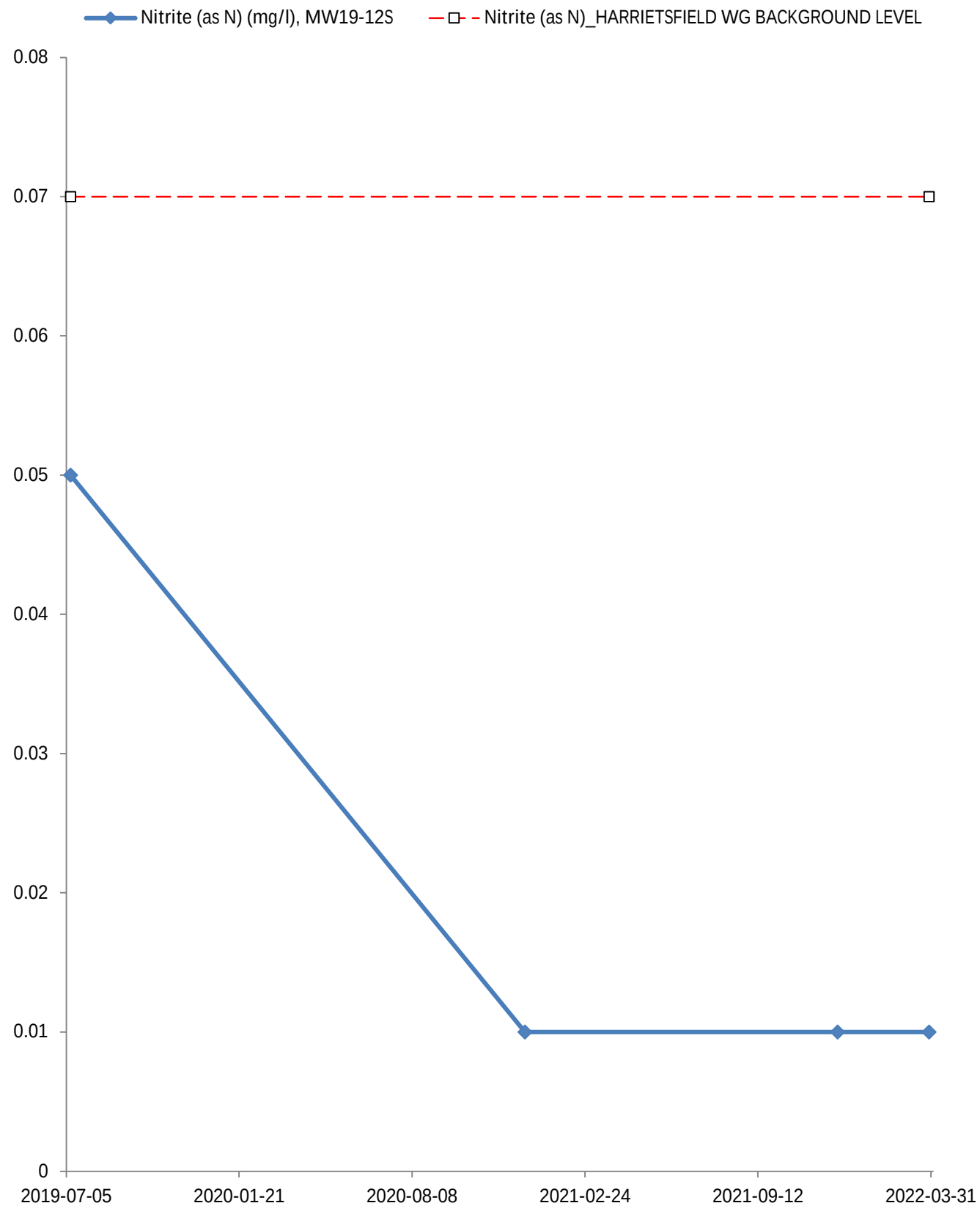
MW19-12S-Nitrate (as N)



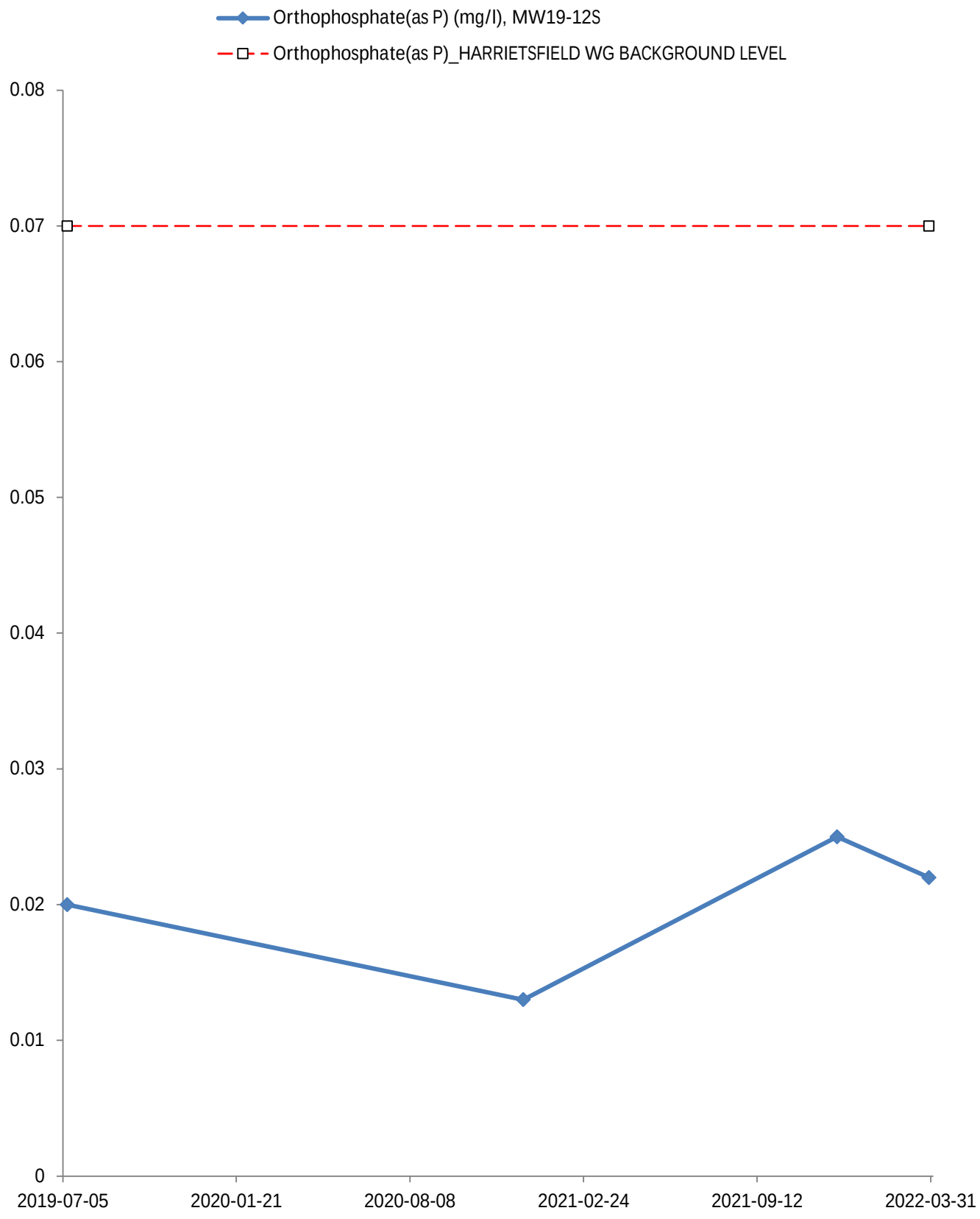
MW19-12S-Nitrate plus Nitrite (N)



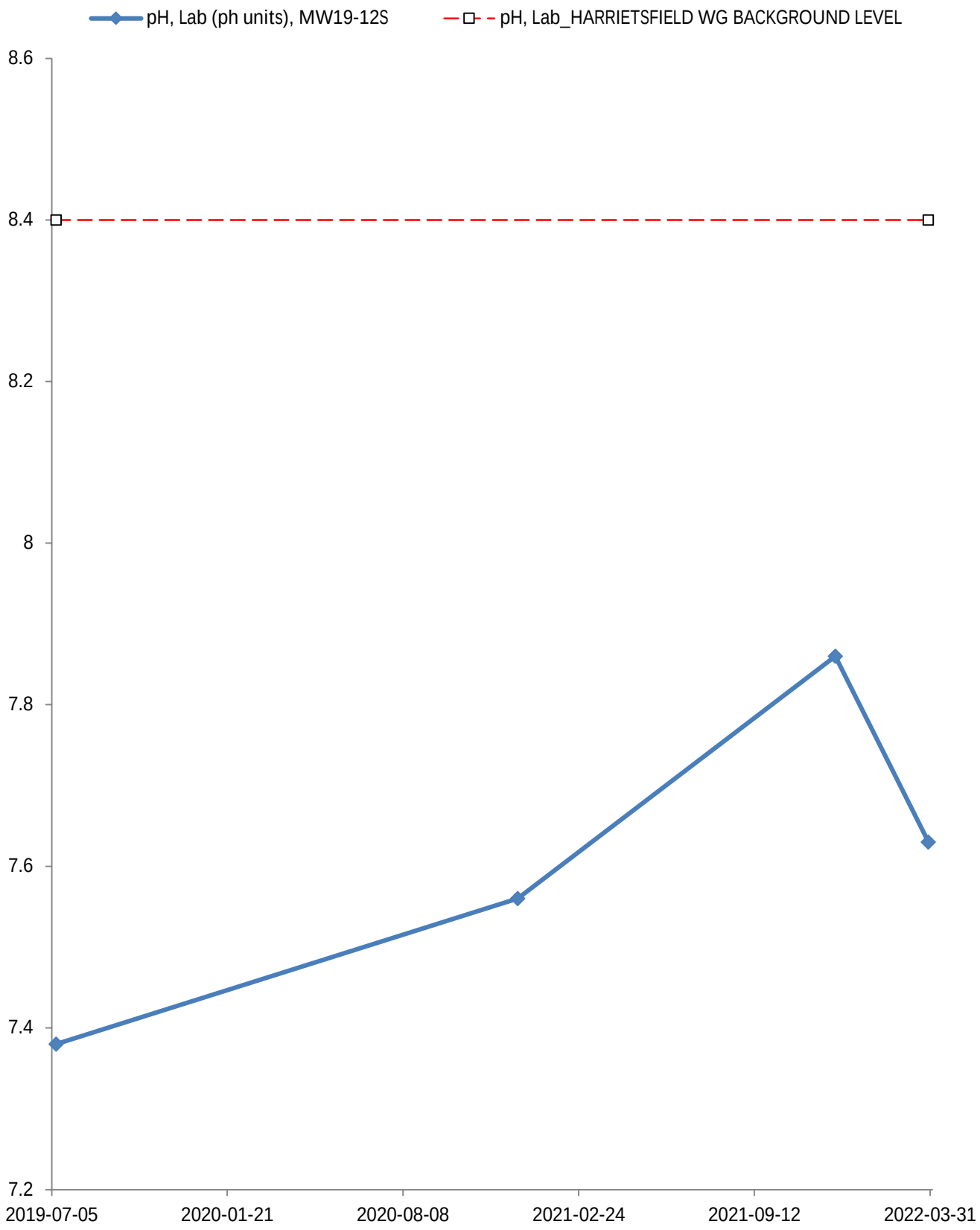
MW19-12S-Nitrite (as N)



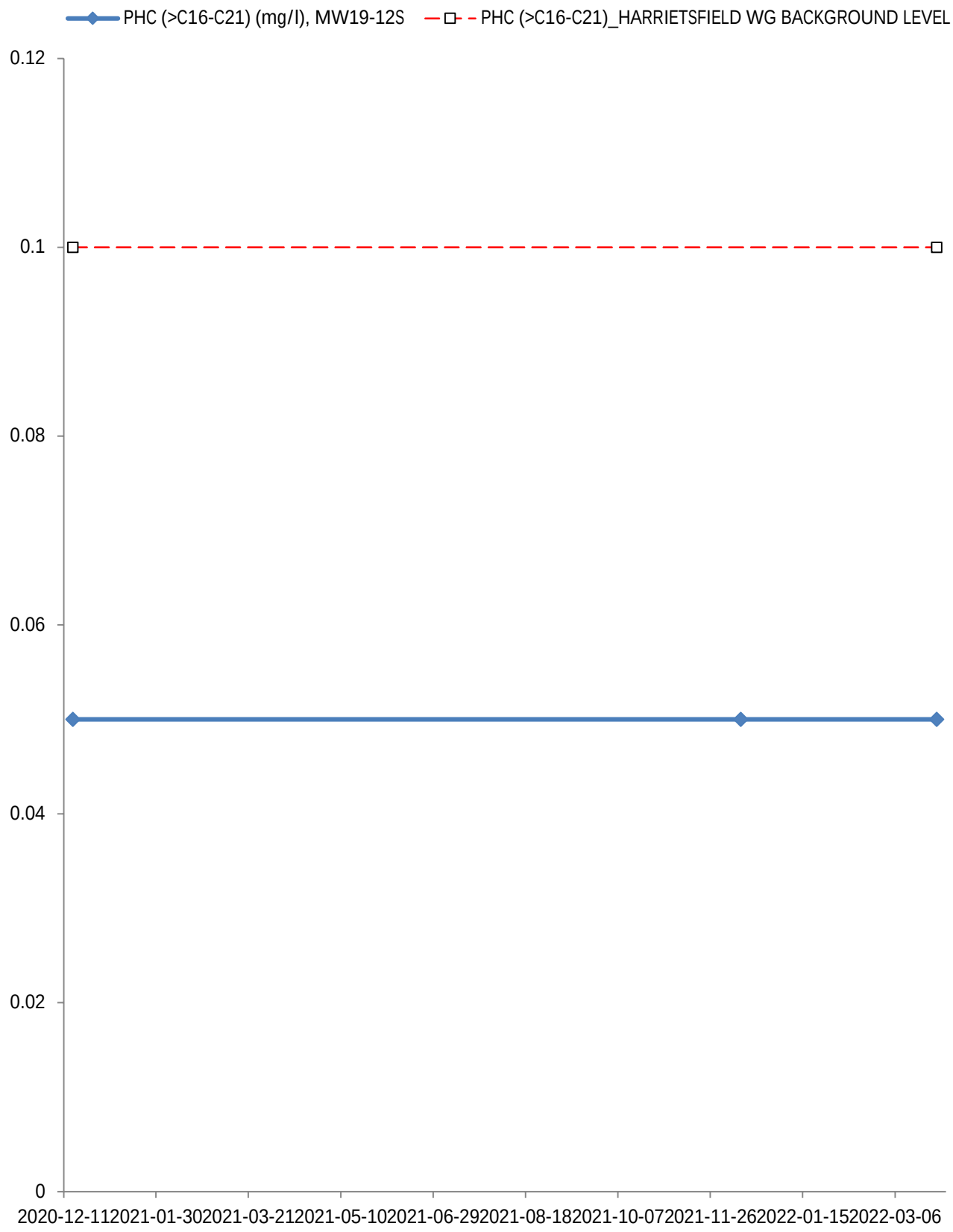
MW19-12S-Orthophosphate(as P)



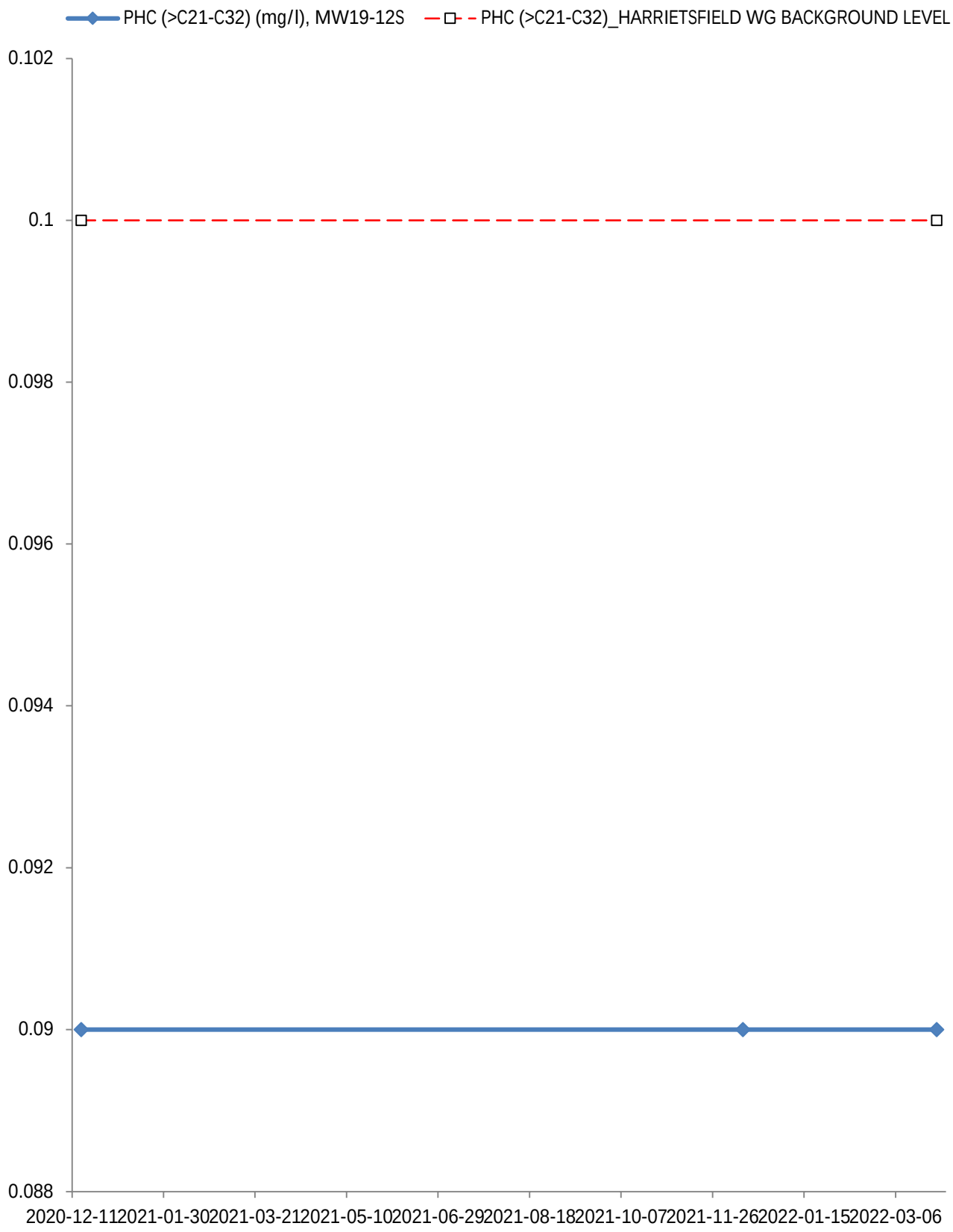
MW19-12S-pH, Lab



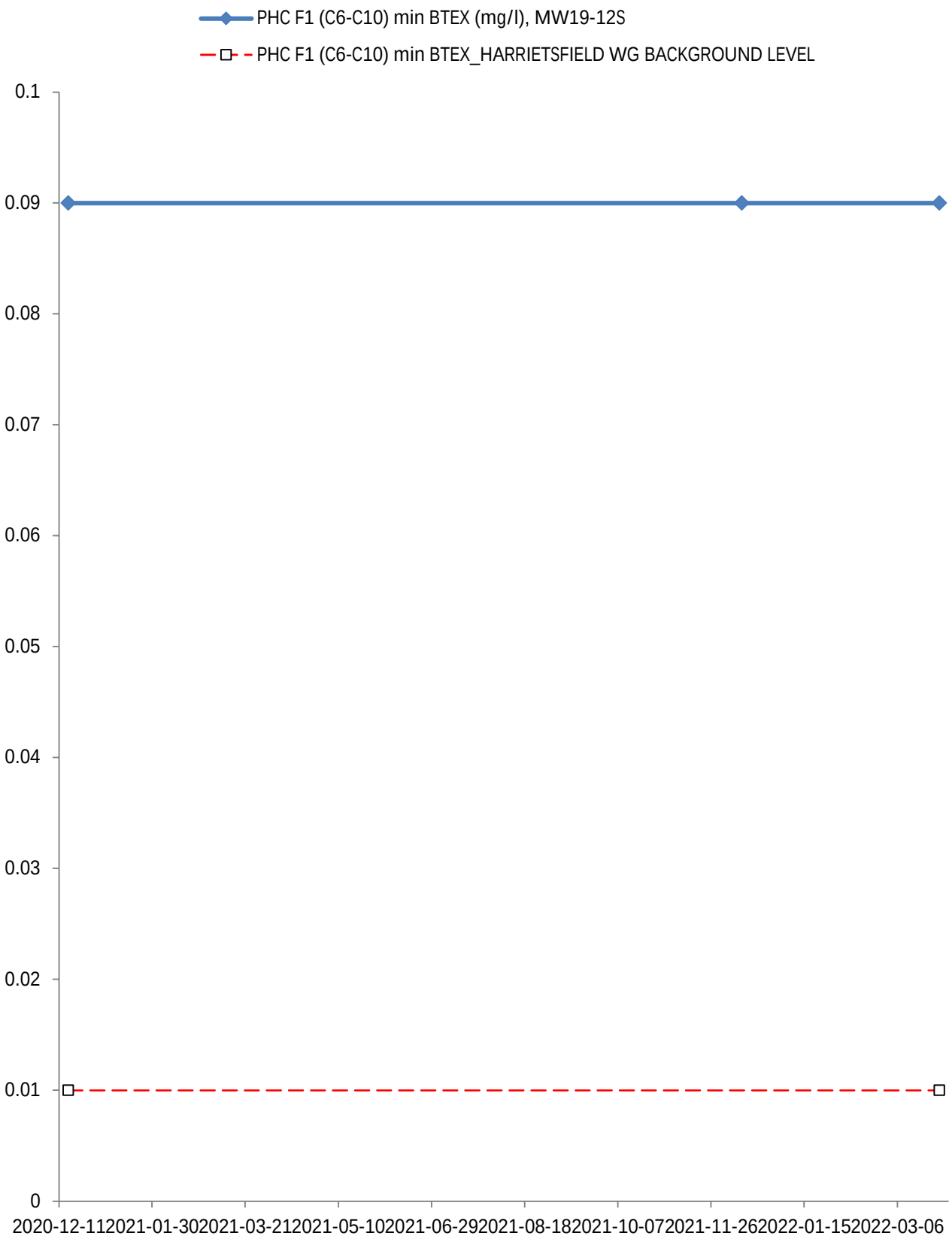
MW19-12S-PHC (>C16-C21)



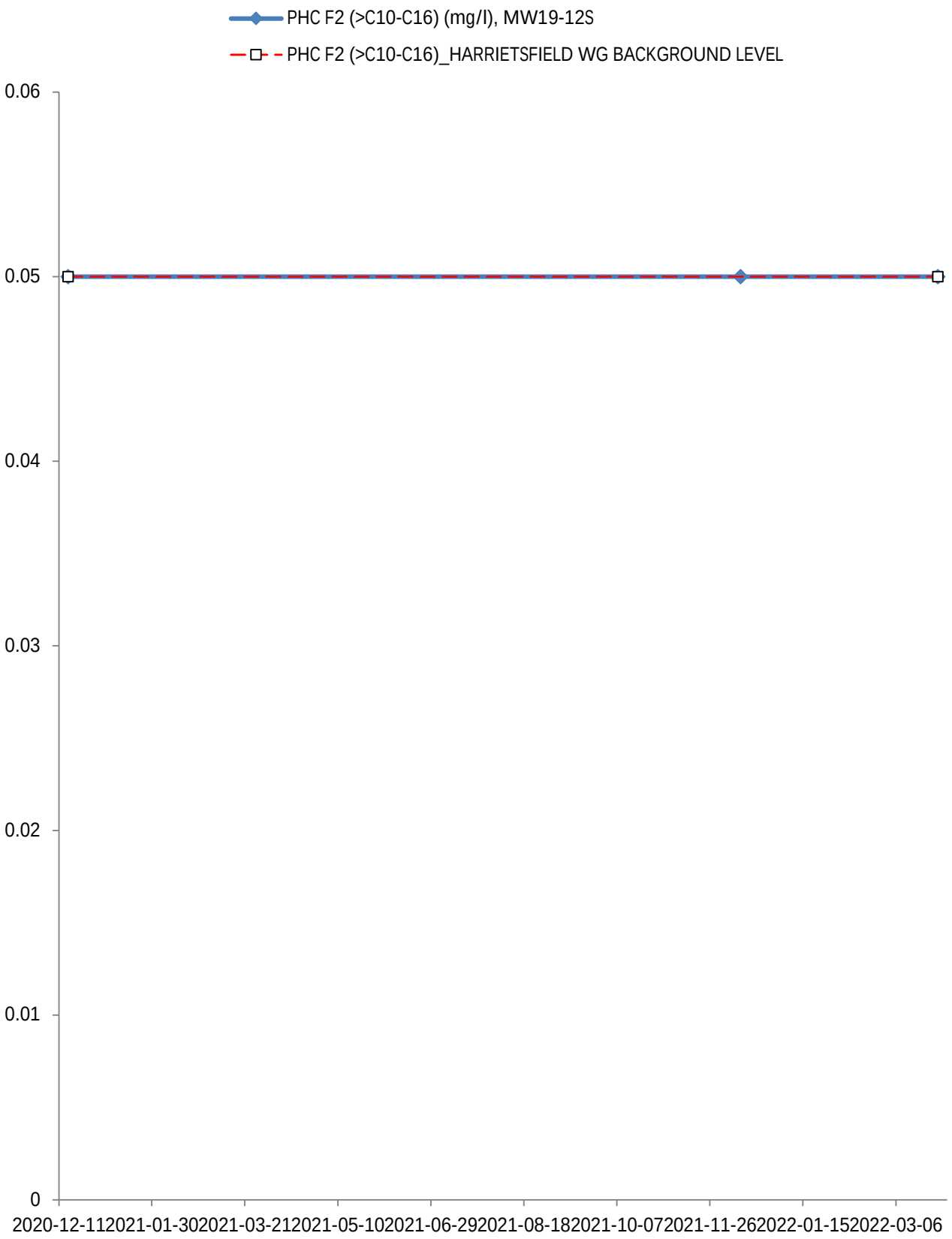
MW19-12S-PHC (>C21-C32)



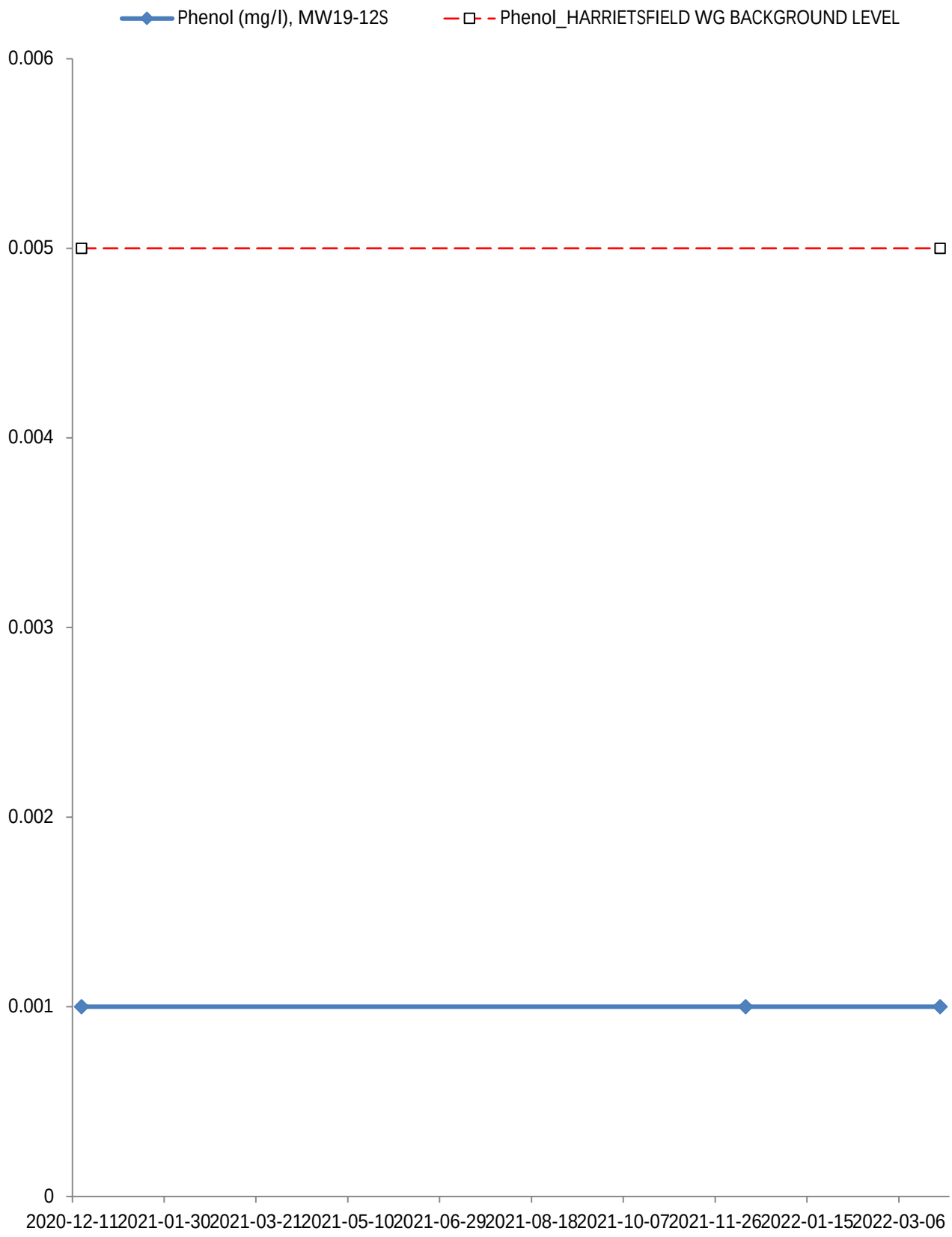
MW19-12S-PHC F1 (C6-C10) min BTEX



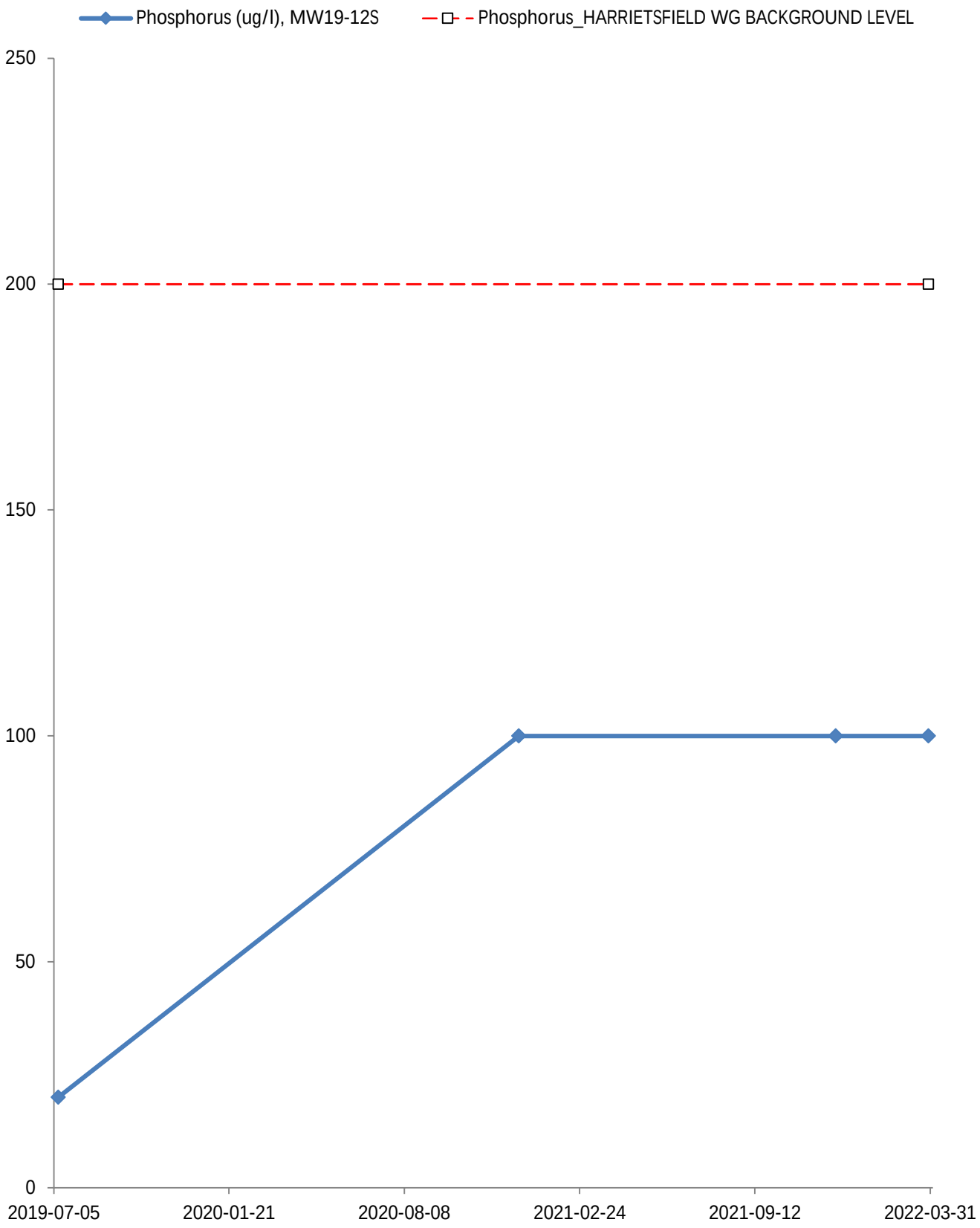
MW19-12S-PHC F2 (>C10-C16)



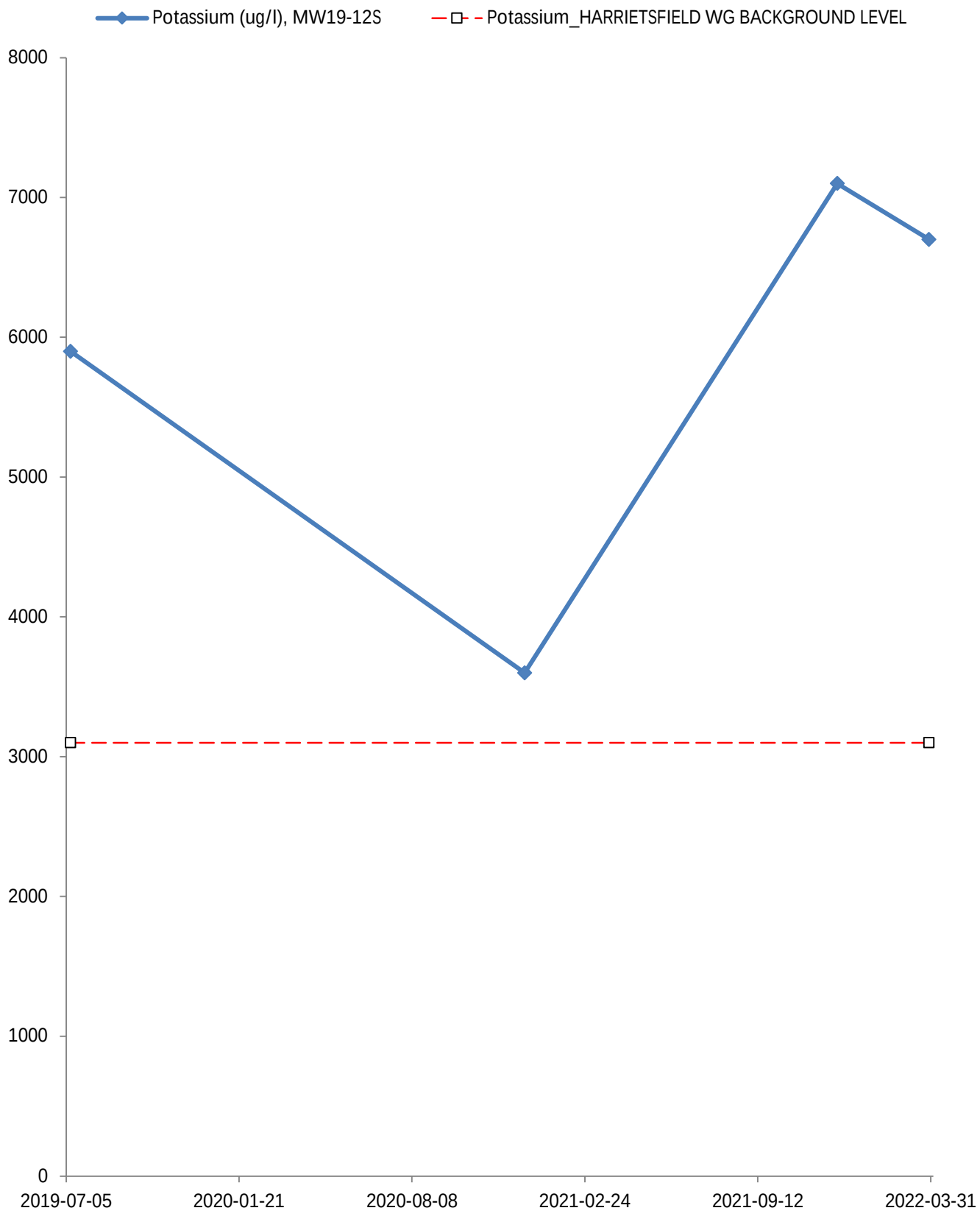
MW19-12S-Phenol



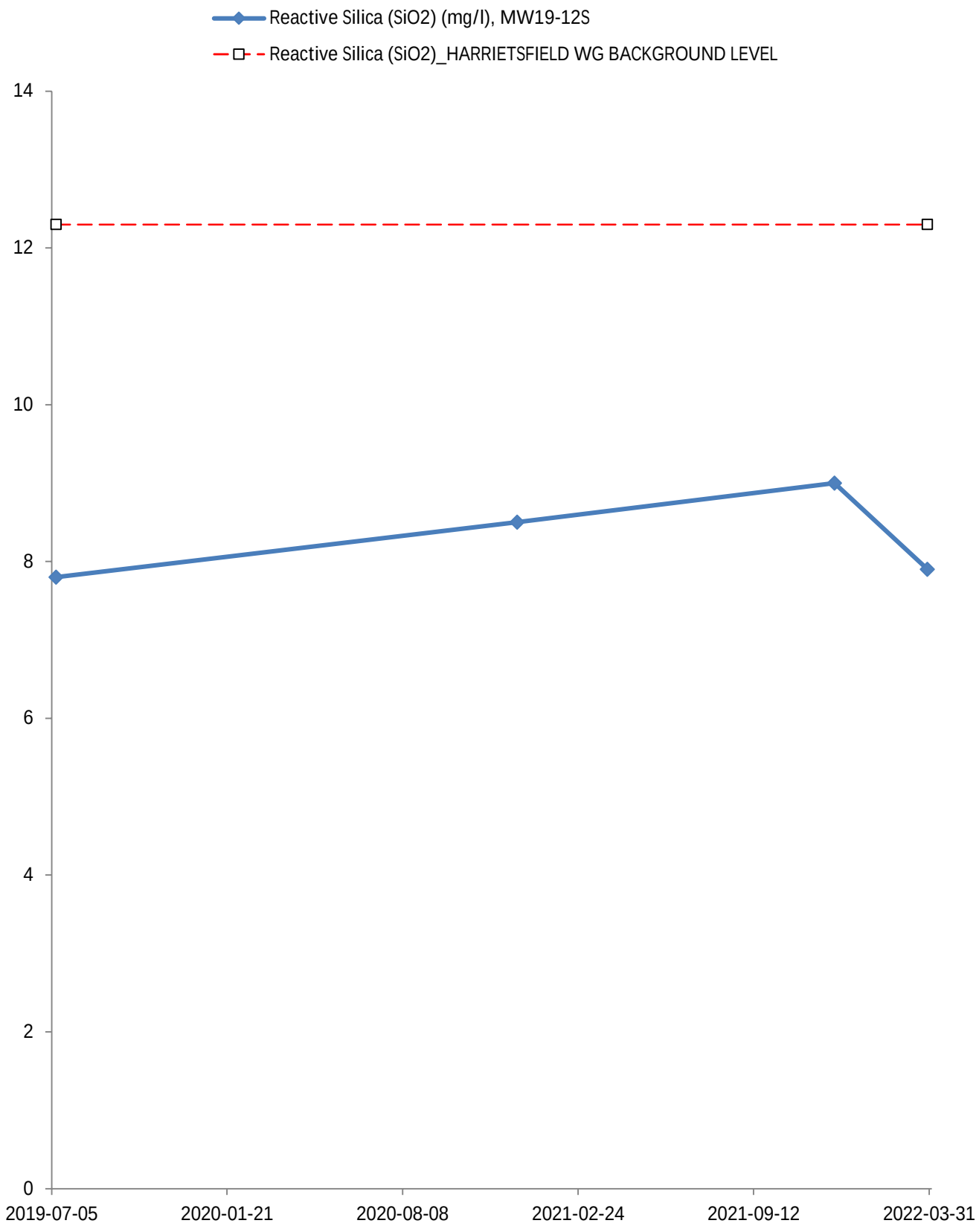
MW19-12S-Phosphorus



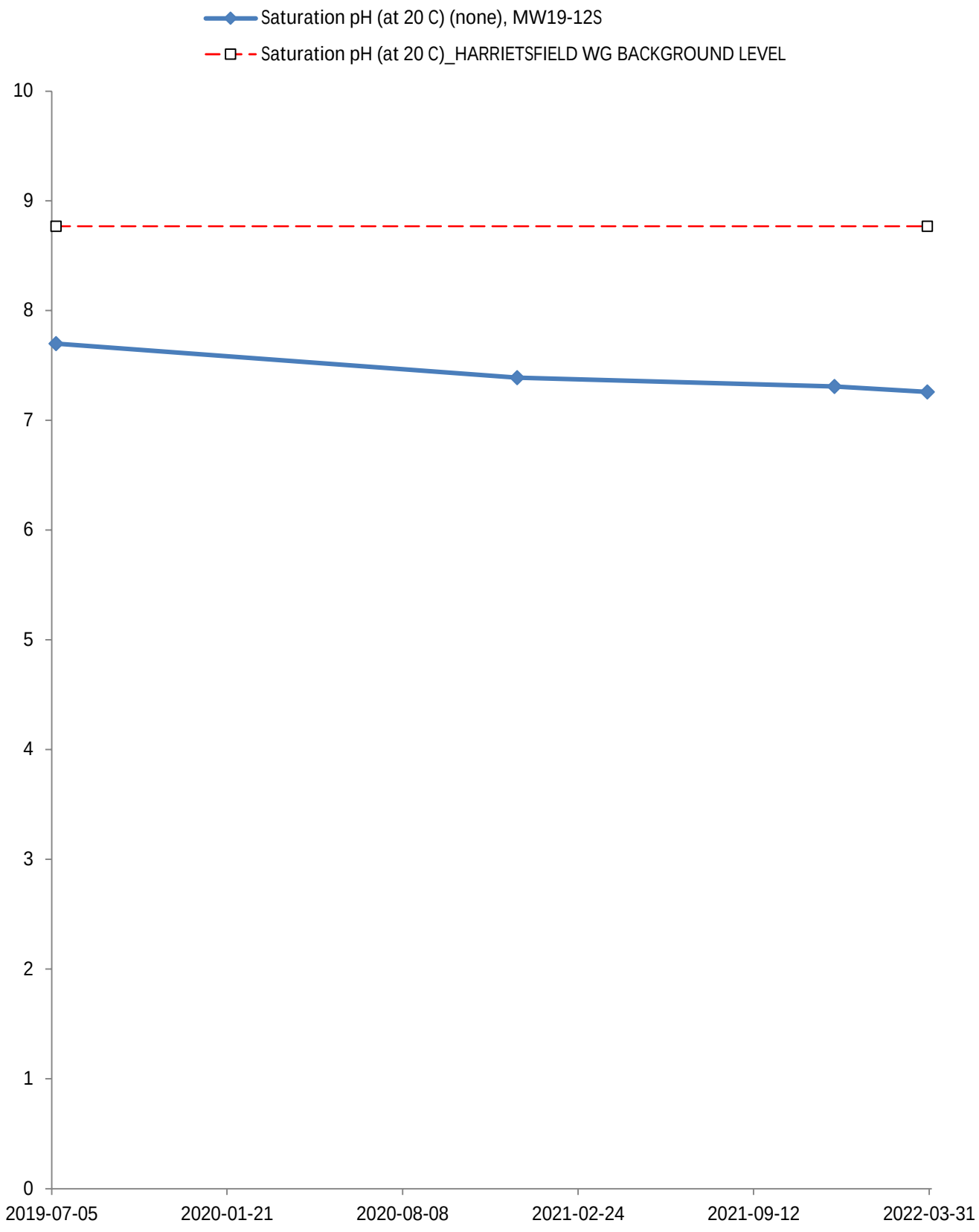
MW19-12S-Potassium



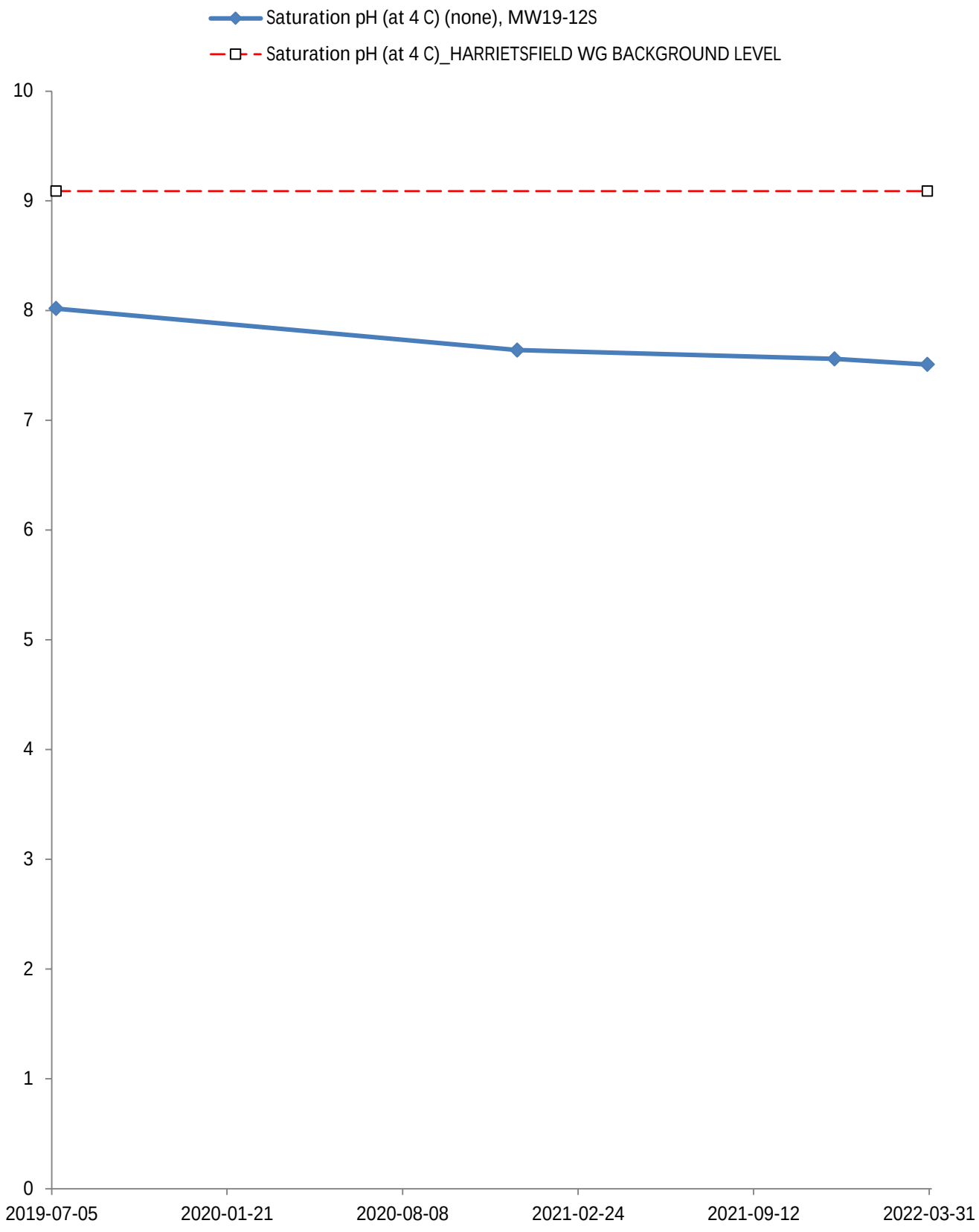
MW19-12S-Reactive Silica (SiO2)



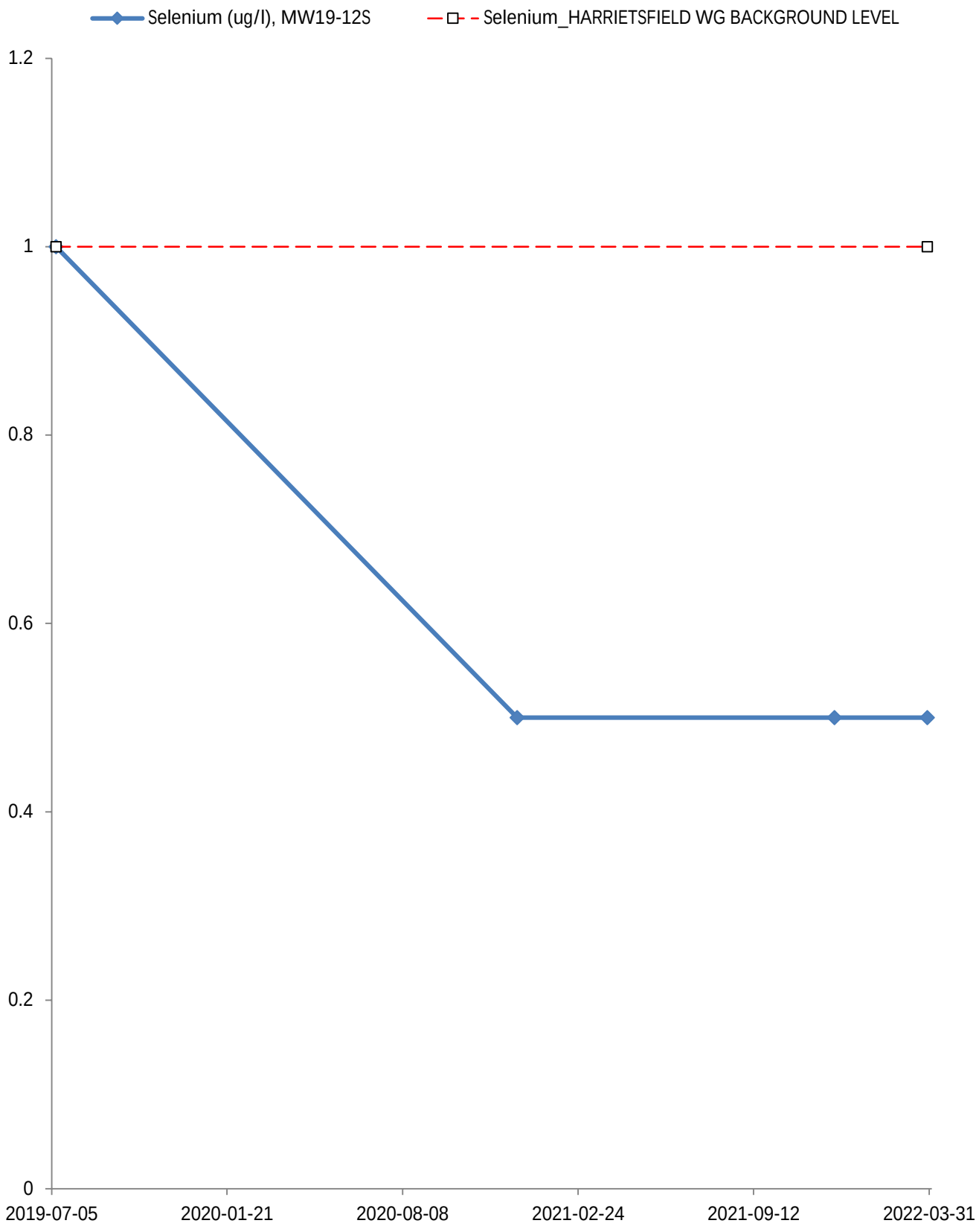
MW19-12S-Saturation pH (at 20 C)



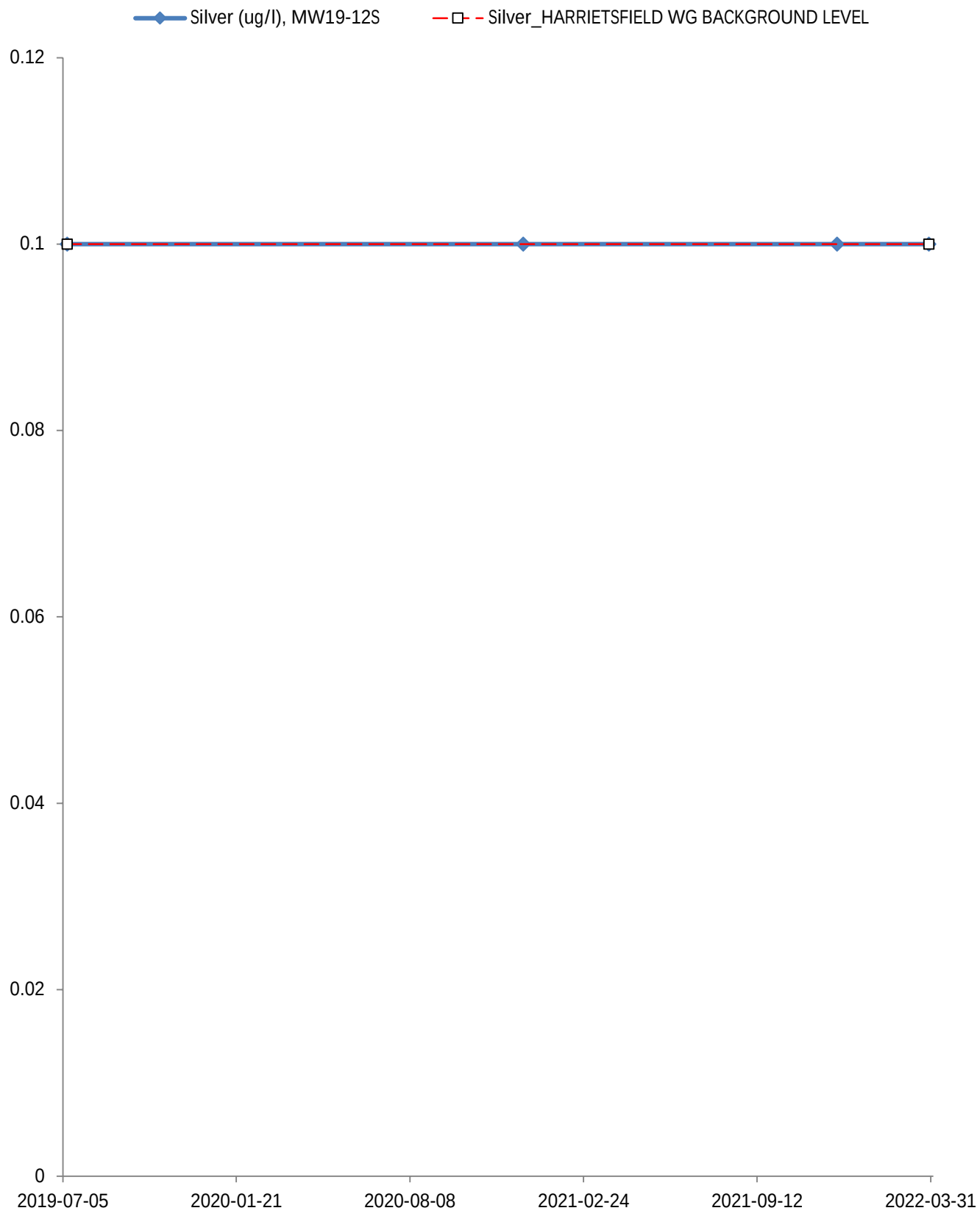
MW19-12S-Saturation pH (at 4 C)



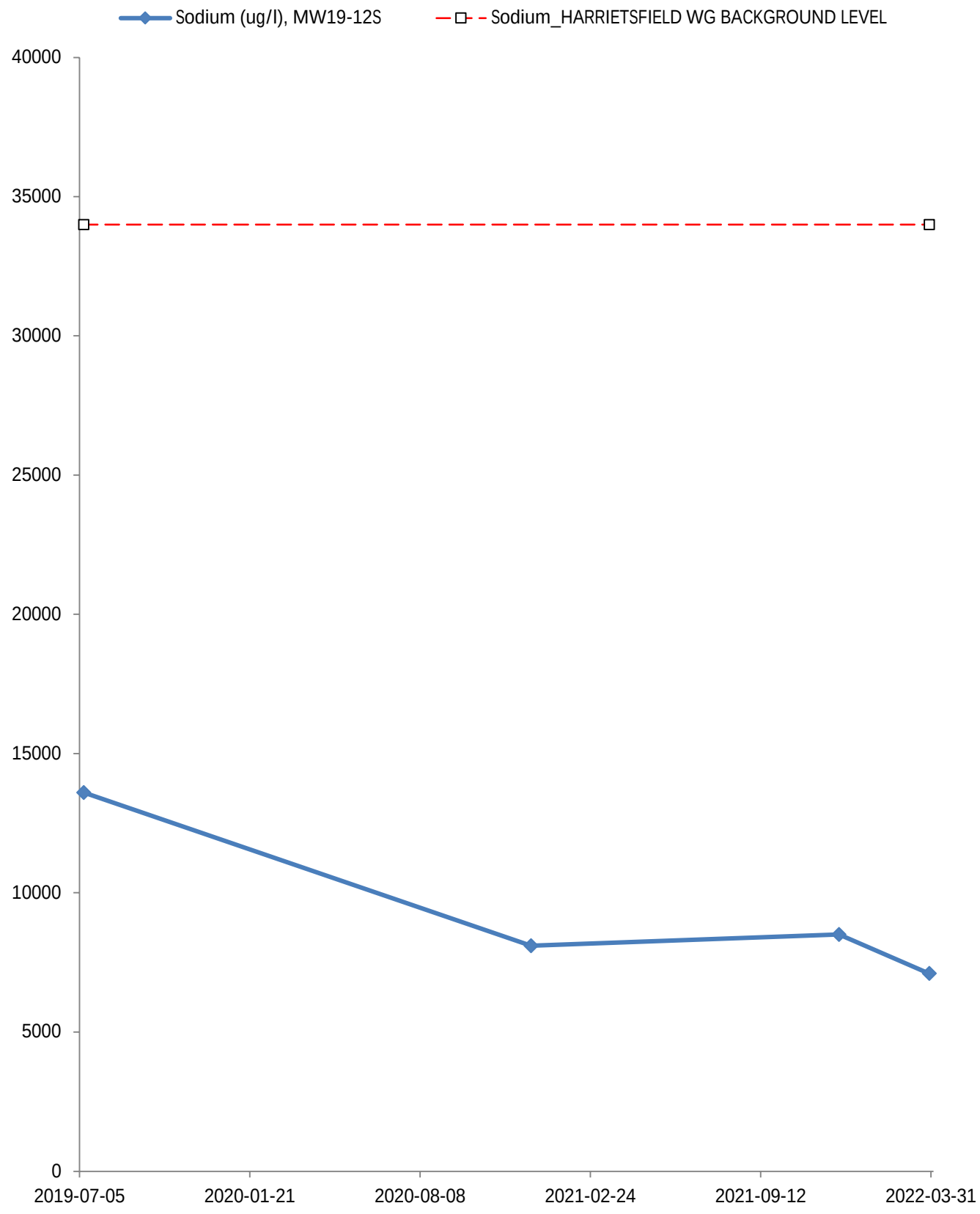
MW19-12S-Selenium



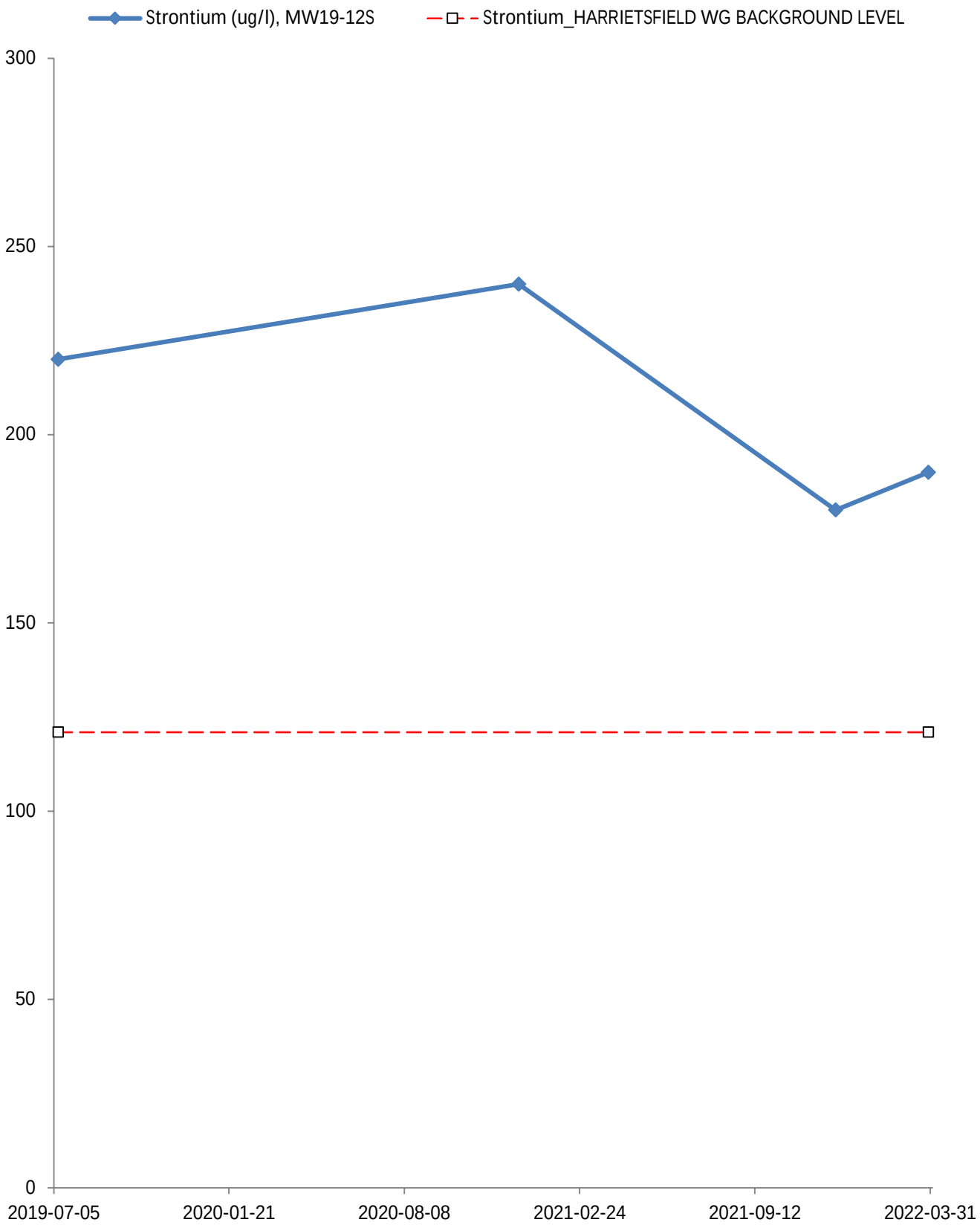
MW19-12S-Silver



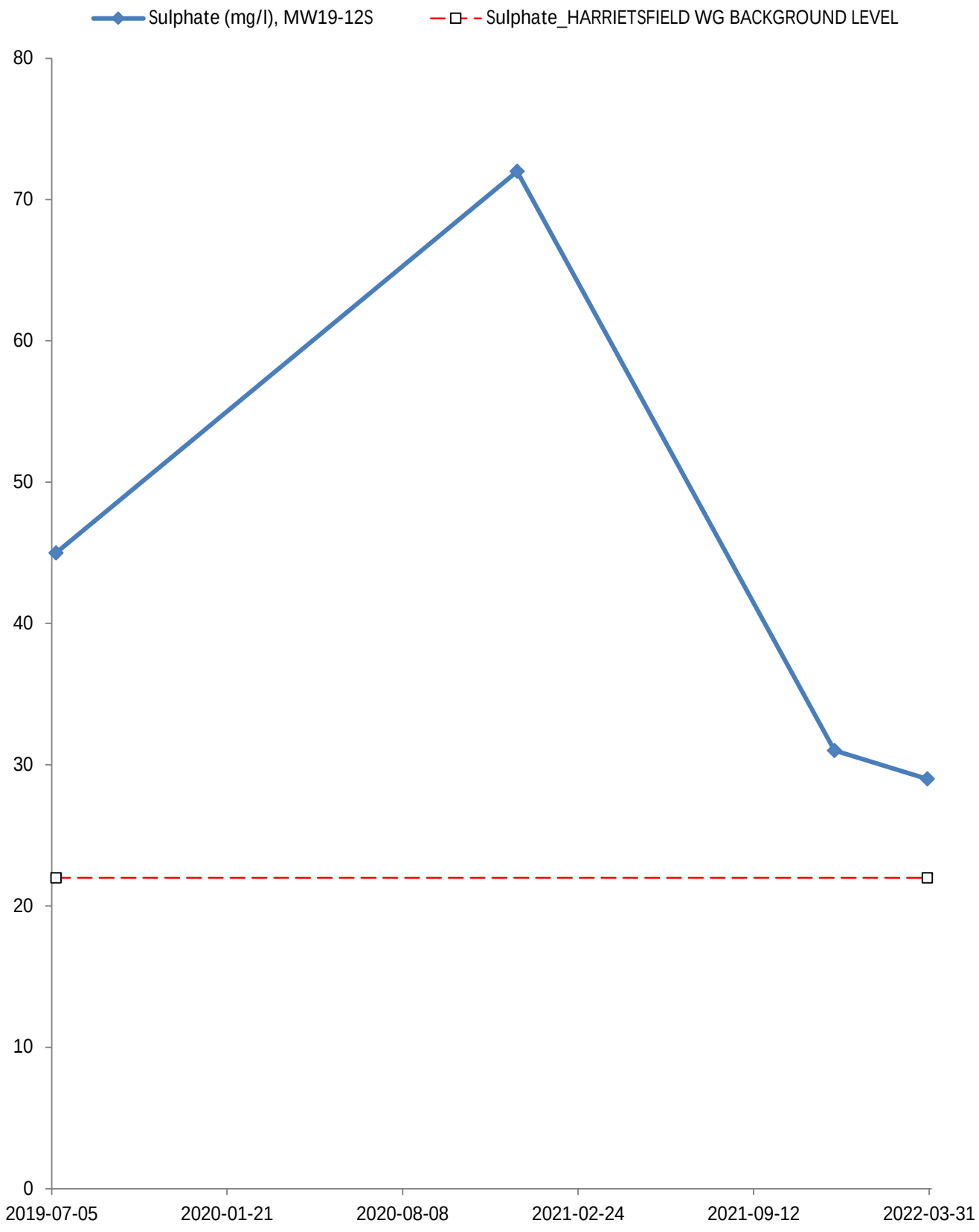
MW19-12S-Sodium



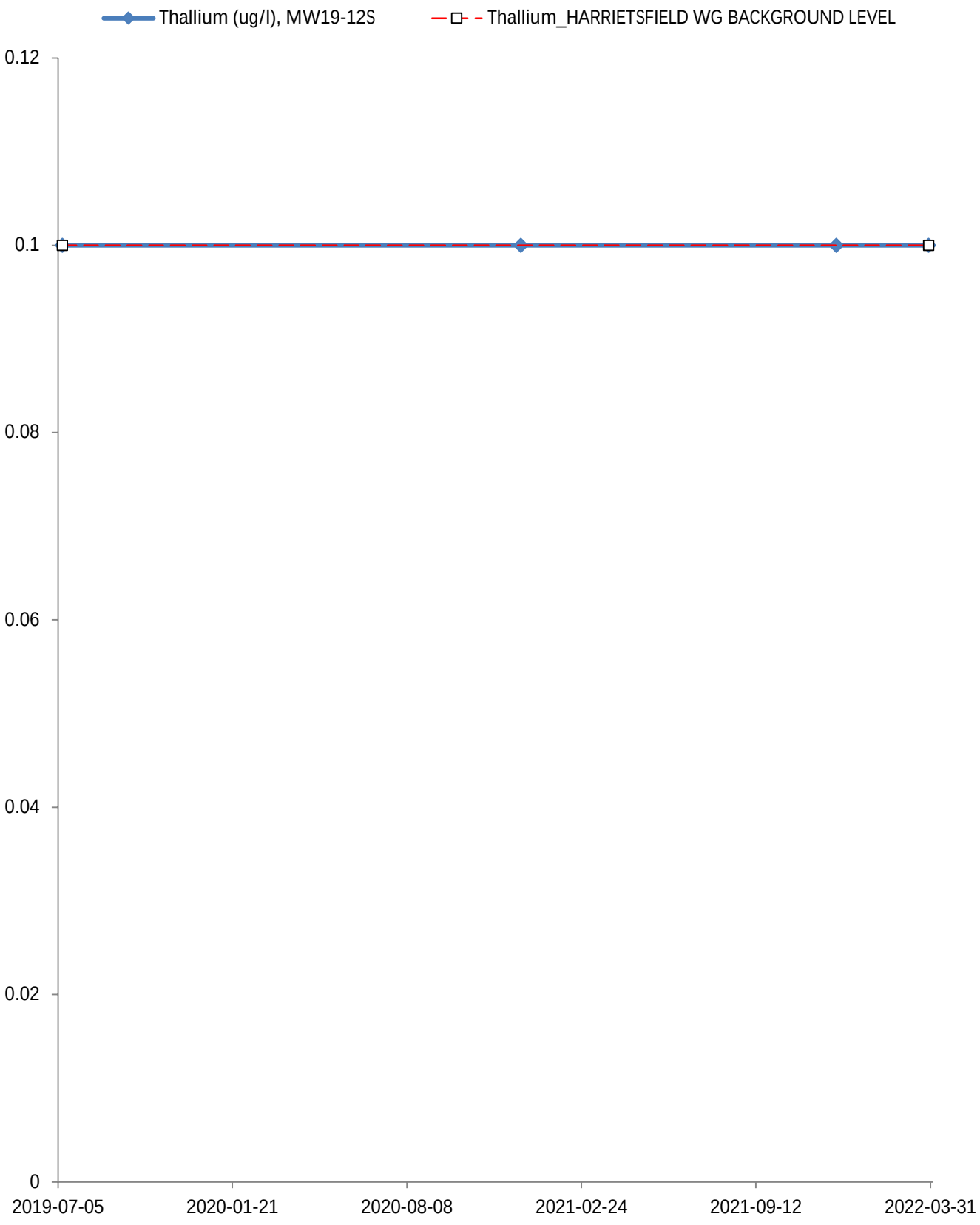
MW19-12S-Strontium



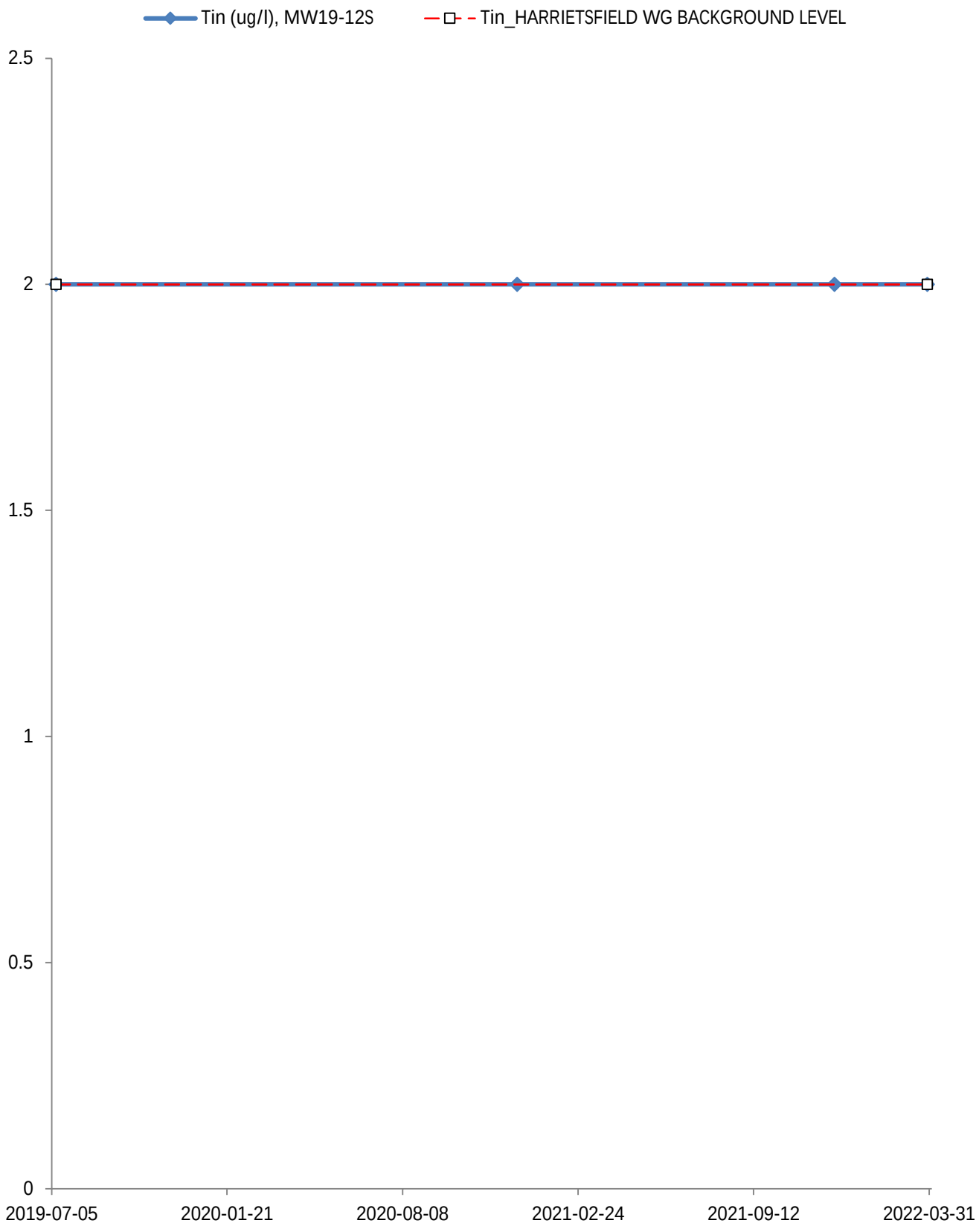
MW19-12S-Sulphate



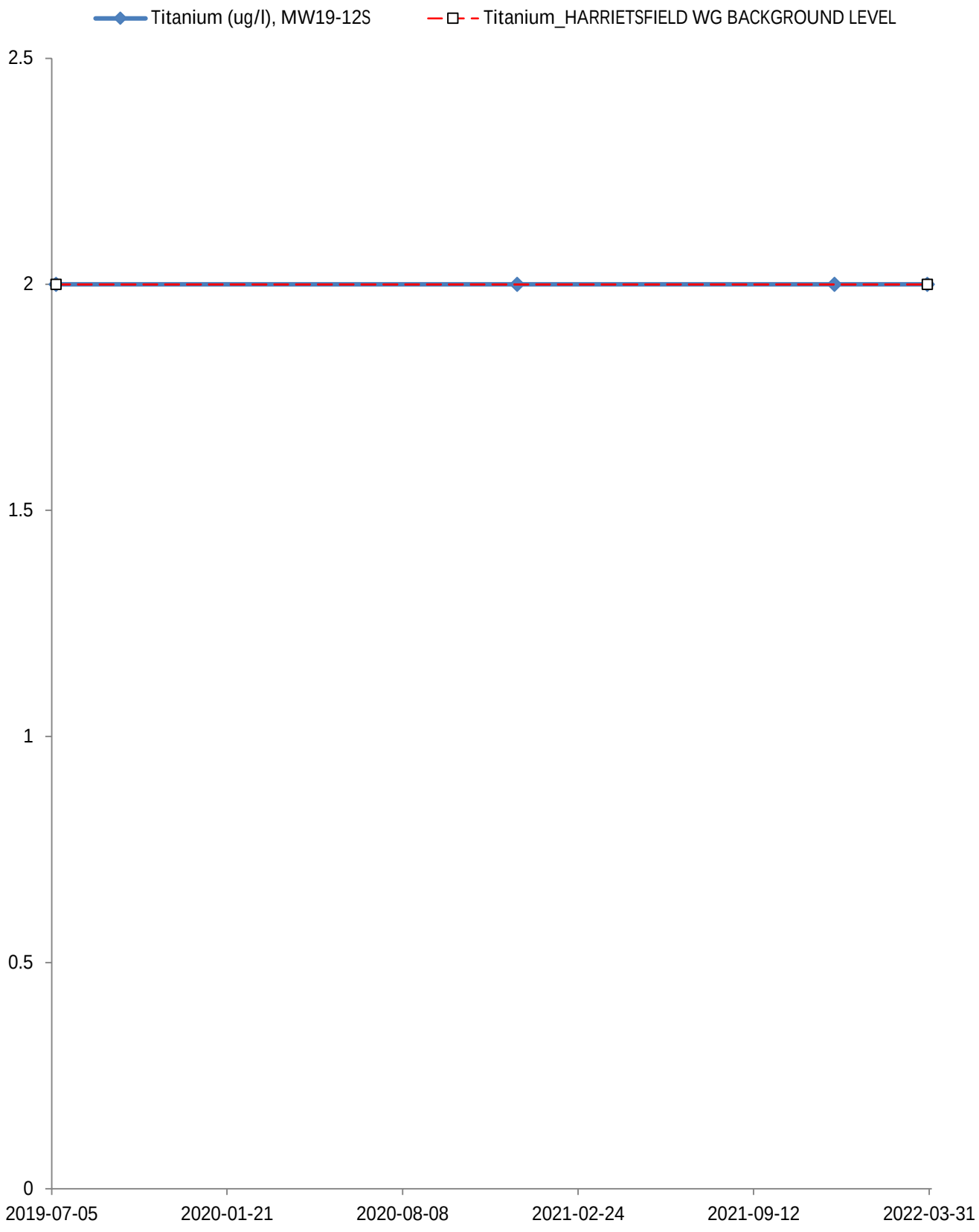
MW19-12S-Thallium



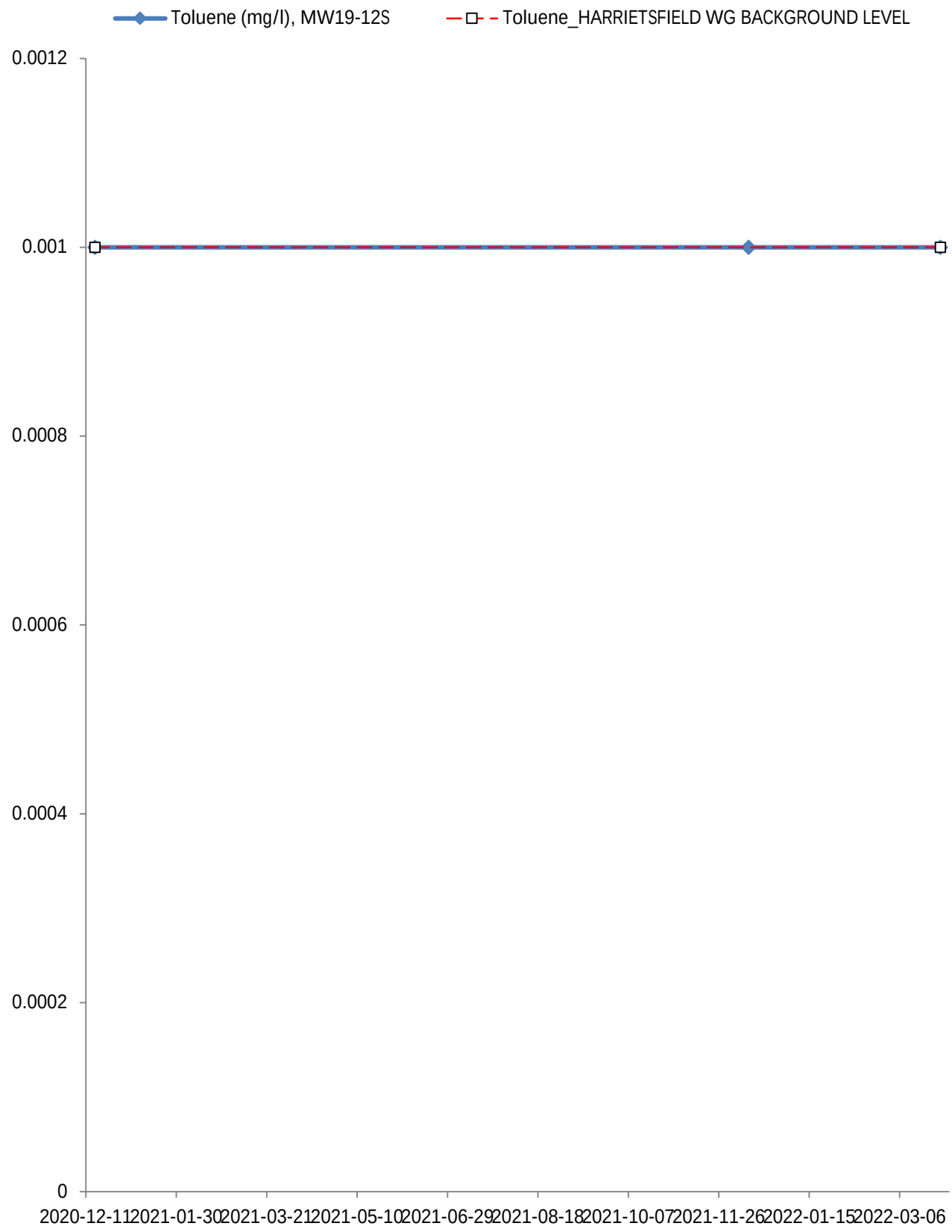
MW19-12S-Tin


Tin (ug/l), MW19-12S
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2019-07-05
2020-01-21
2020-08-08
2021-02-24
2021-09-12
2022-03-31

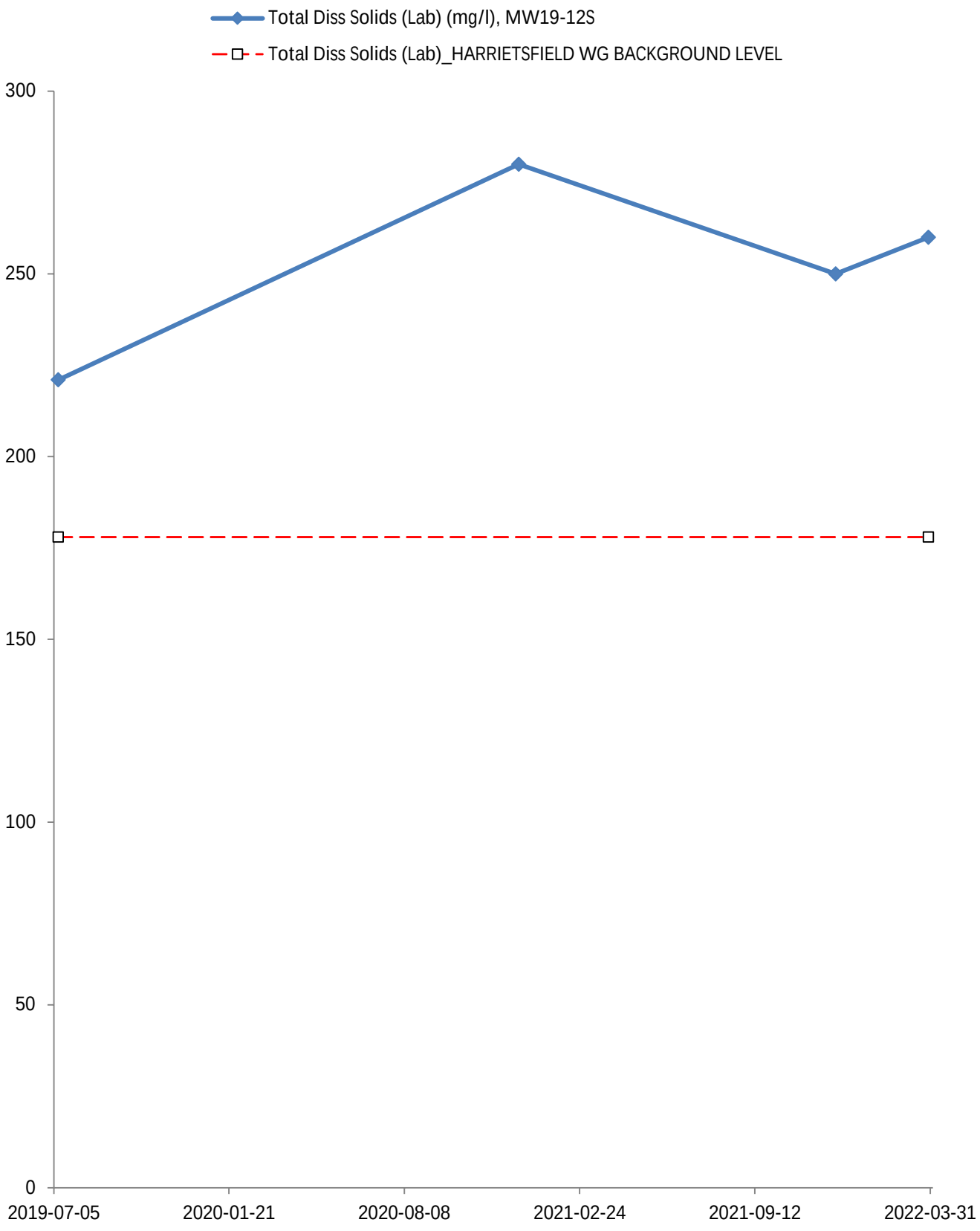
MW19-12S-Titanium



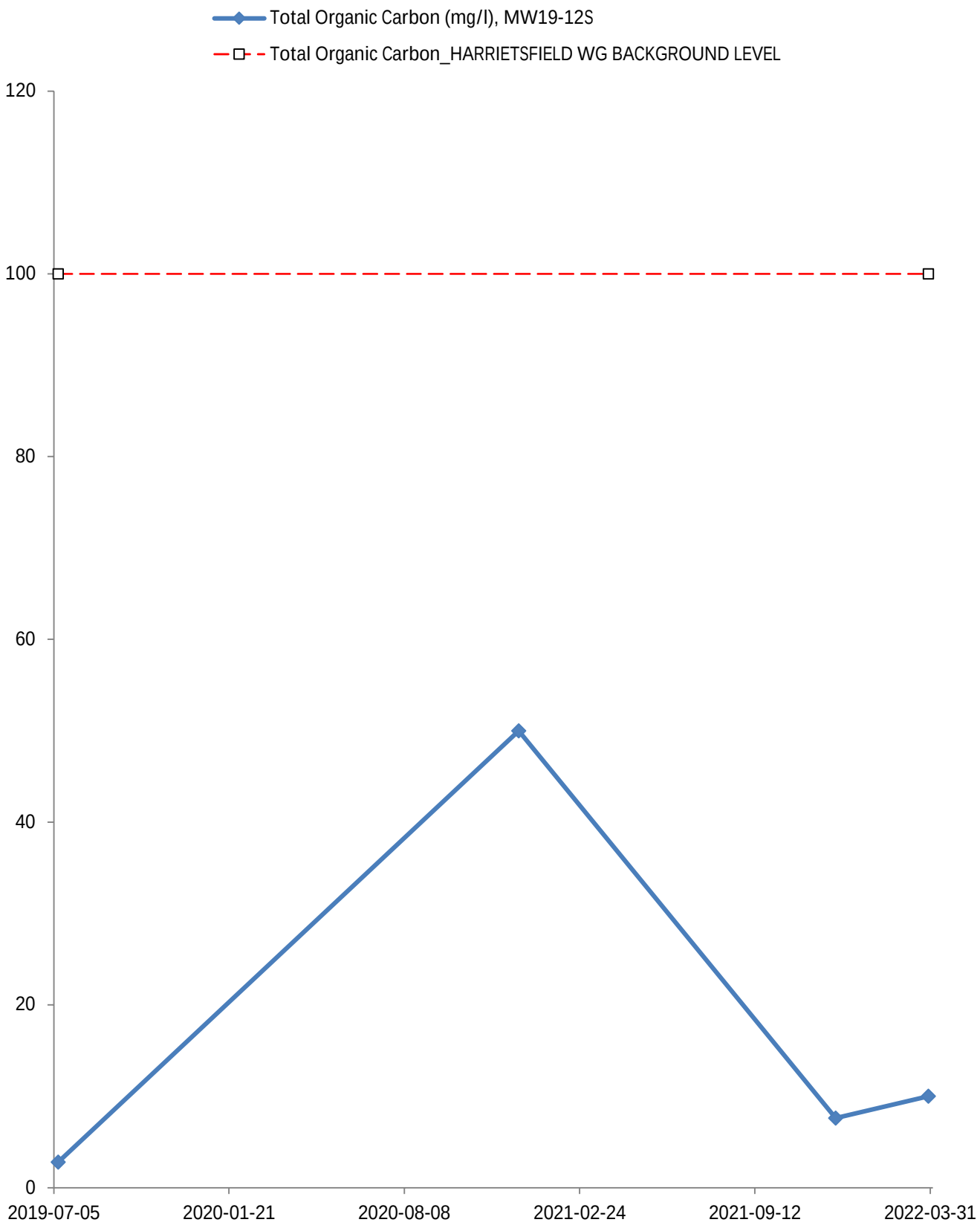
MW19-12S-Toluene



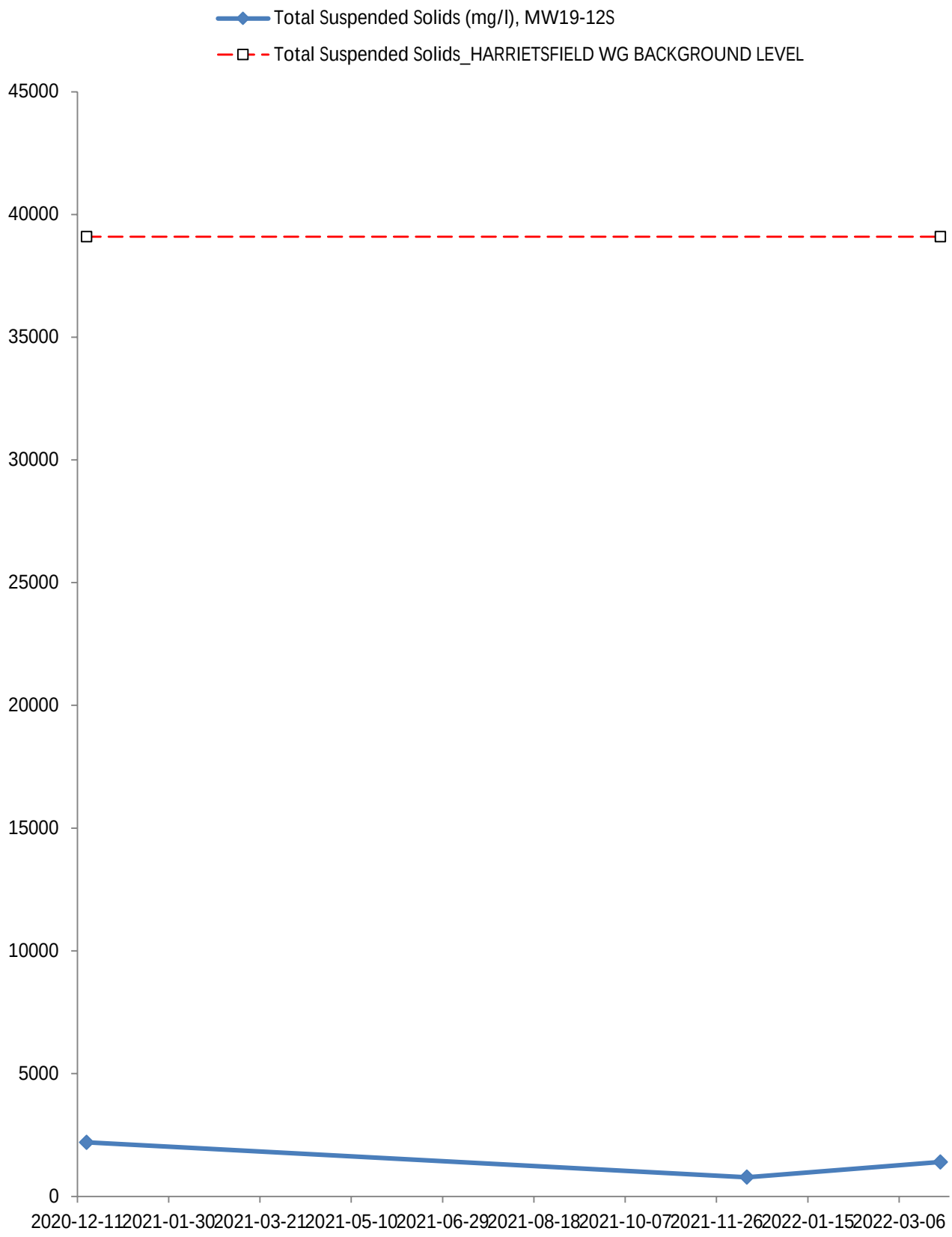
MW19-12S-Total Diss Solids (Lab)



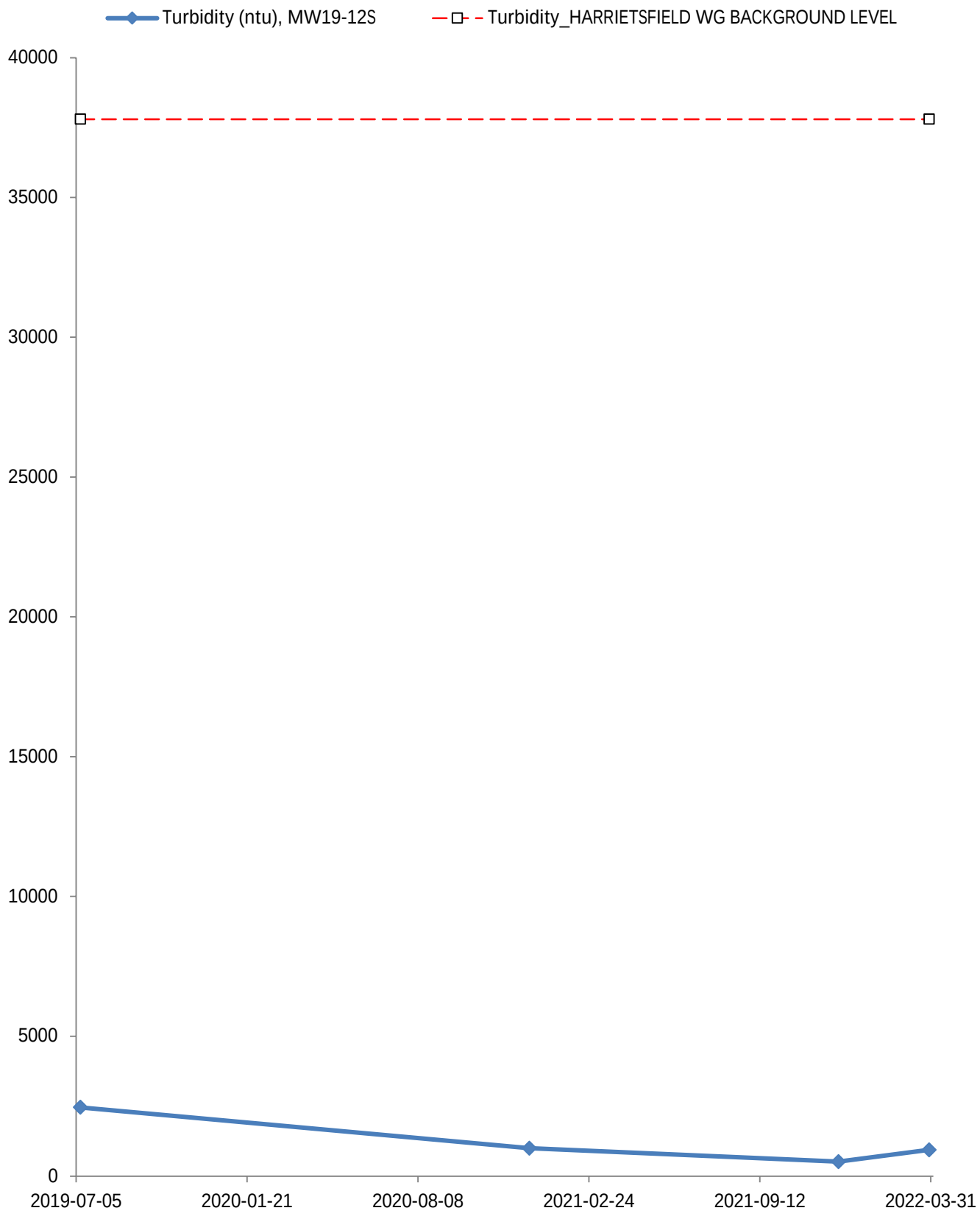
MW19-12S-Total Organic Carbon



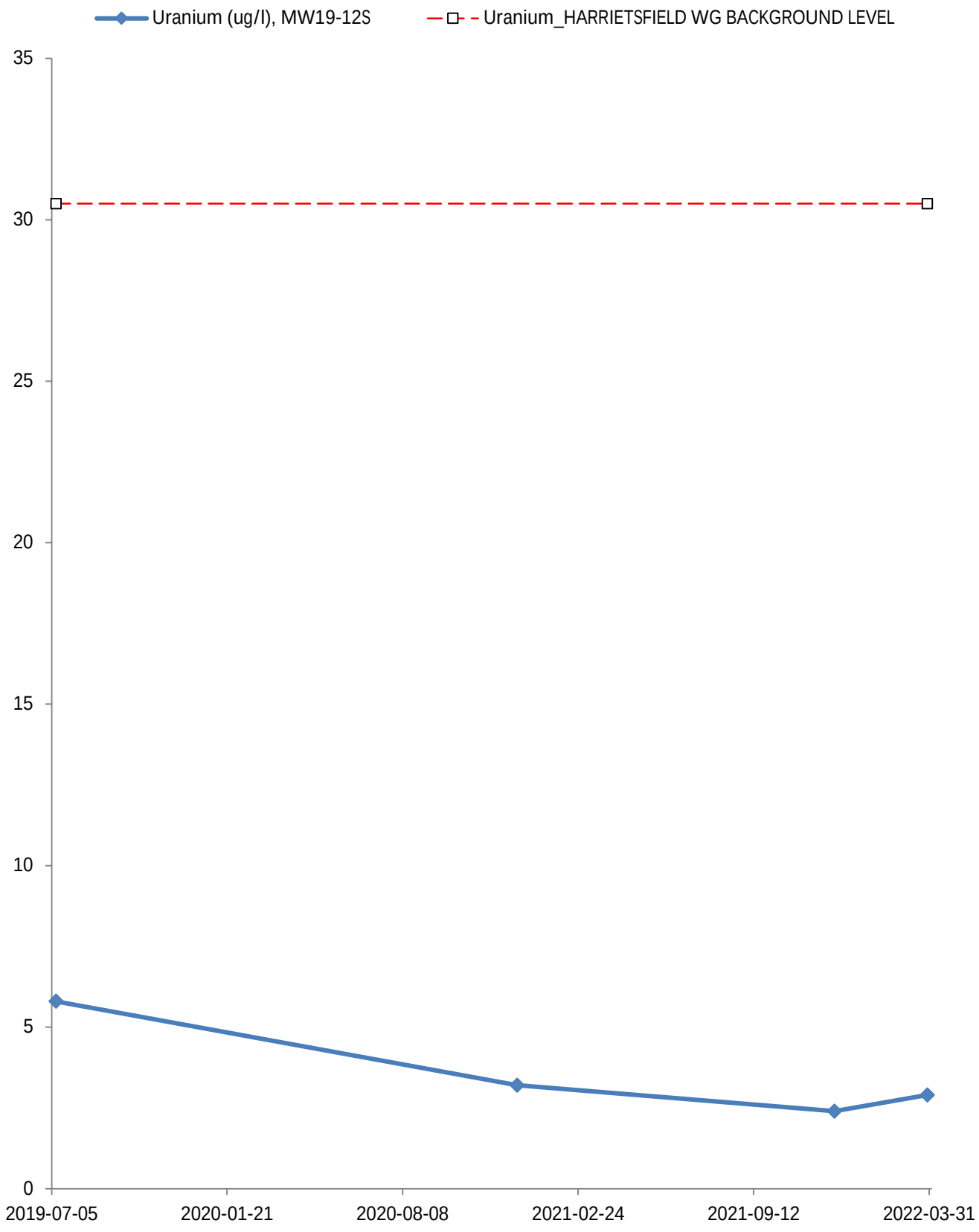
MW19-12S-Total Suspended Solids



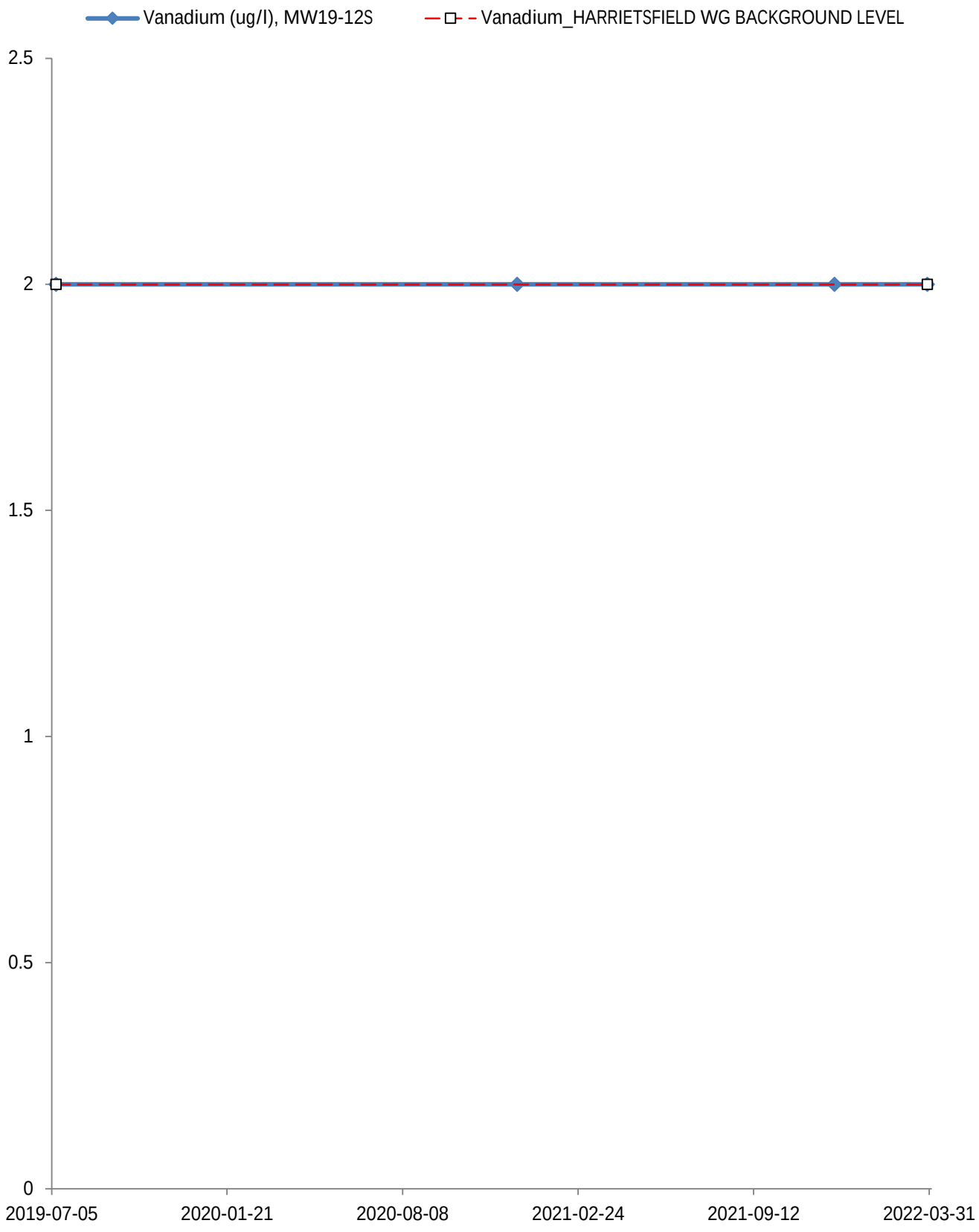
MW19-12S-Turbidity



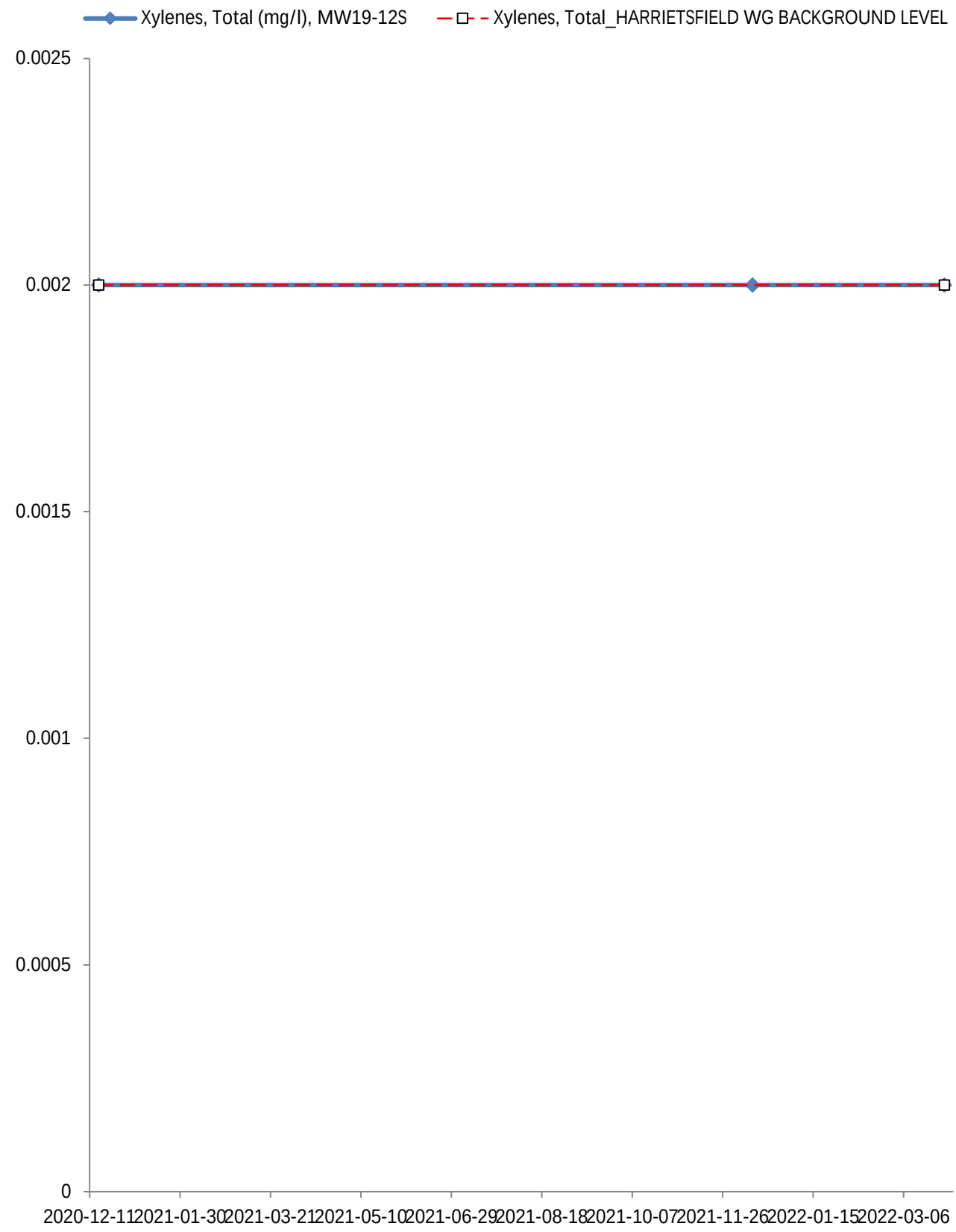
MW19-12S-Uranium



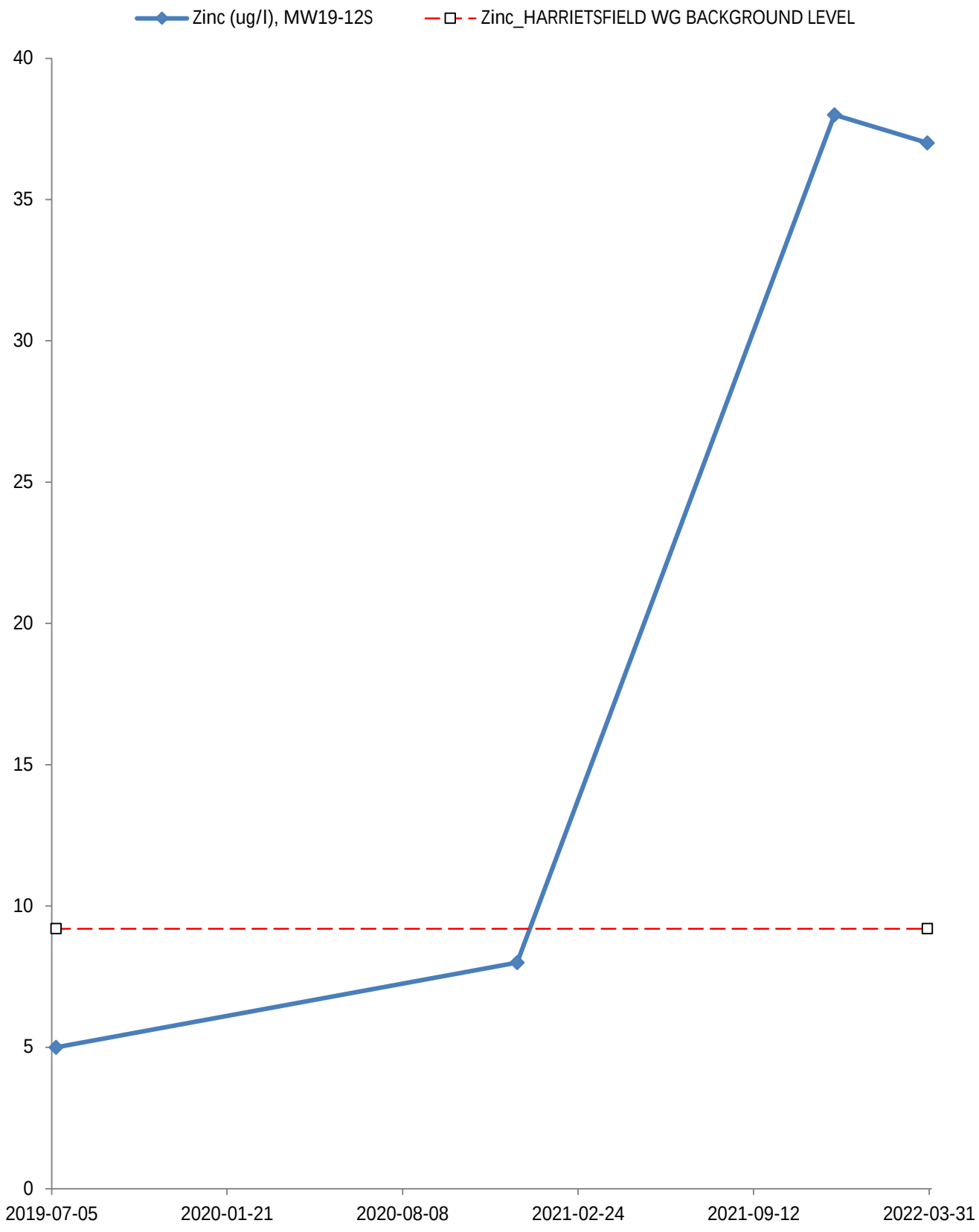
MW19-12S-Vanadium



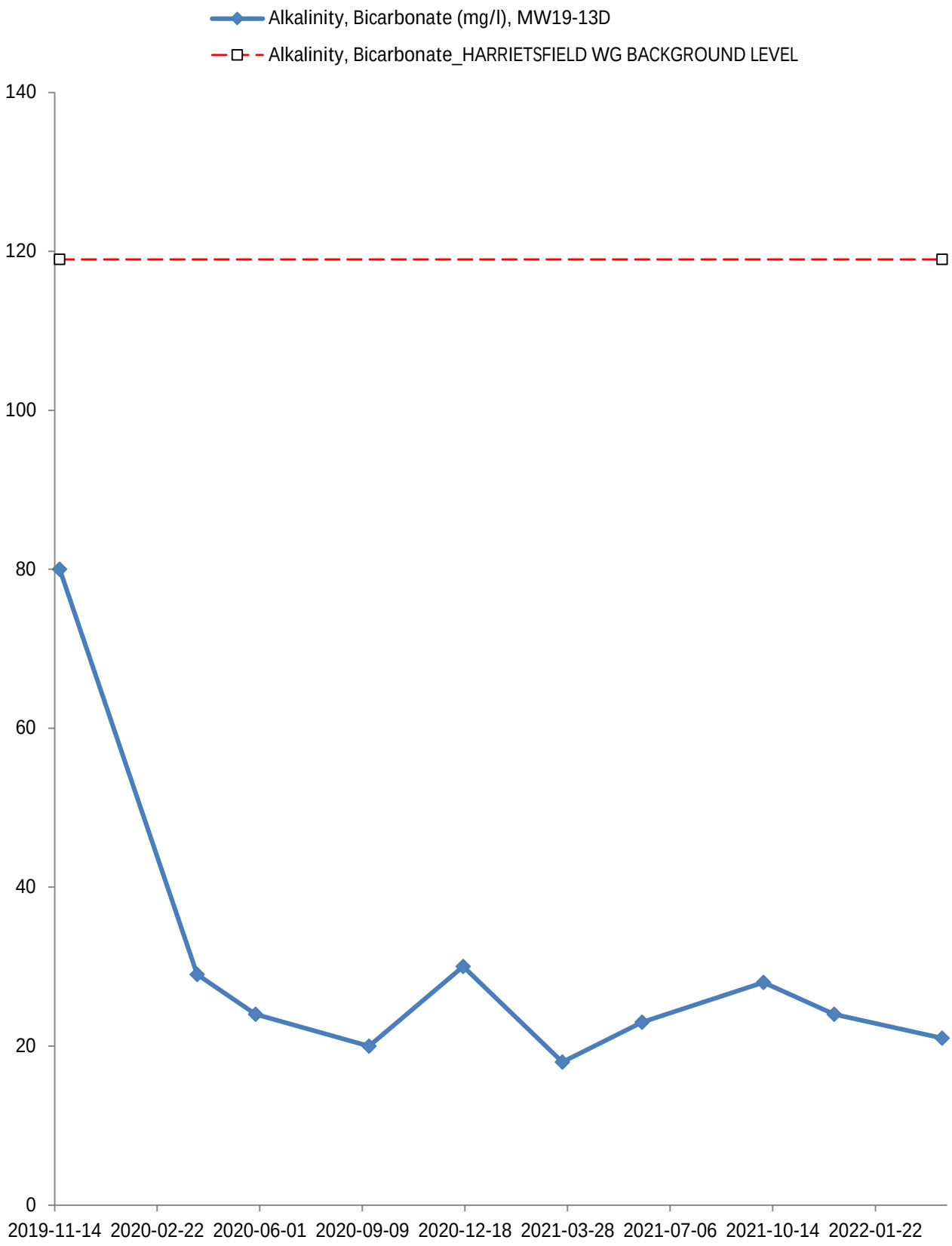
MW19-12S-Xylenes, Total



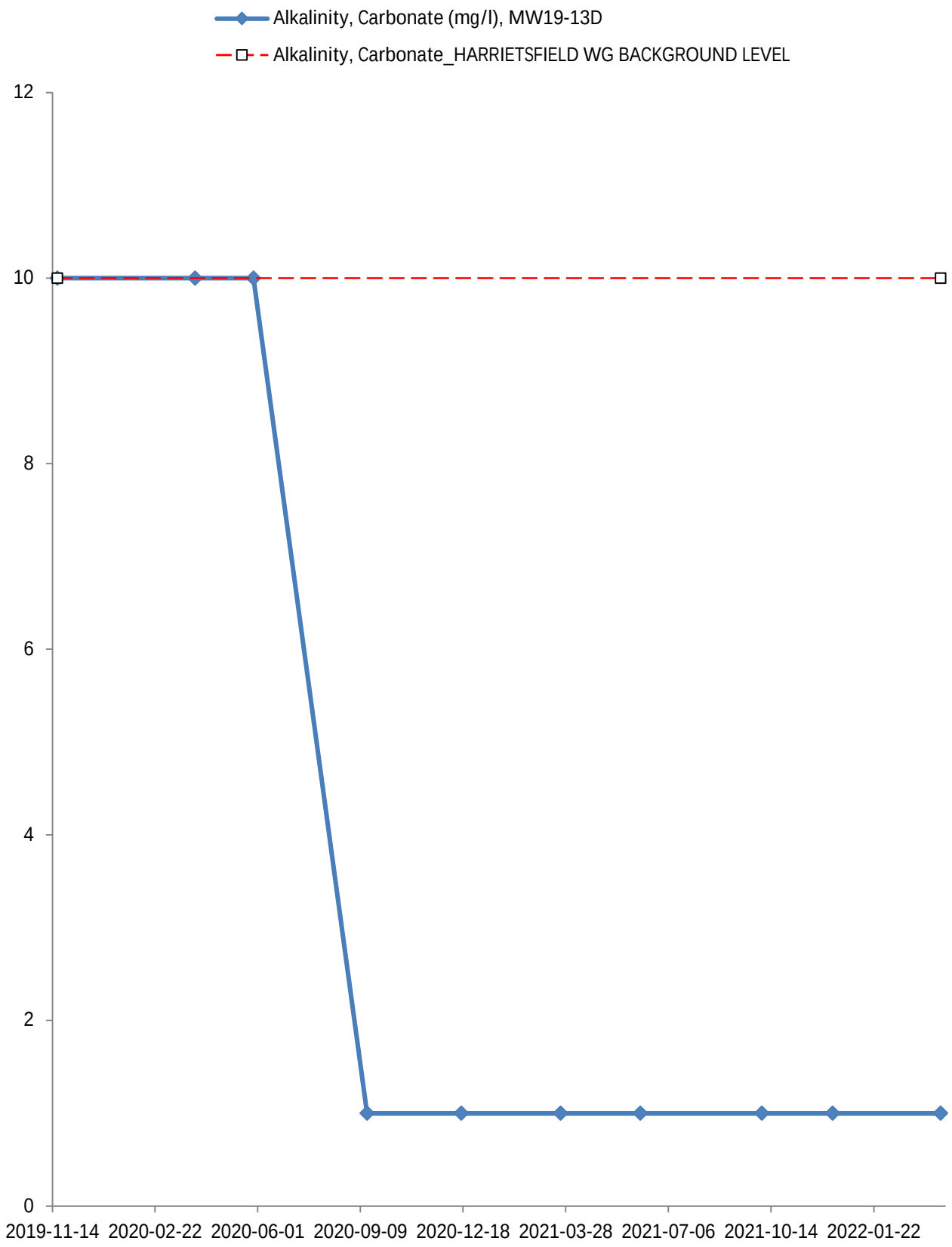
MW19-12S-Zinc



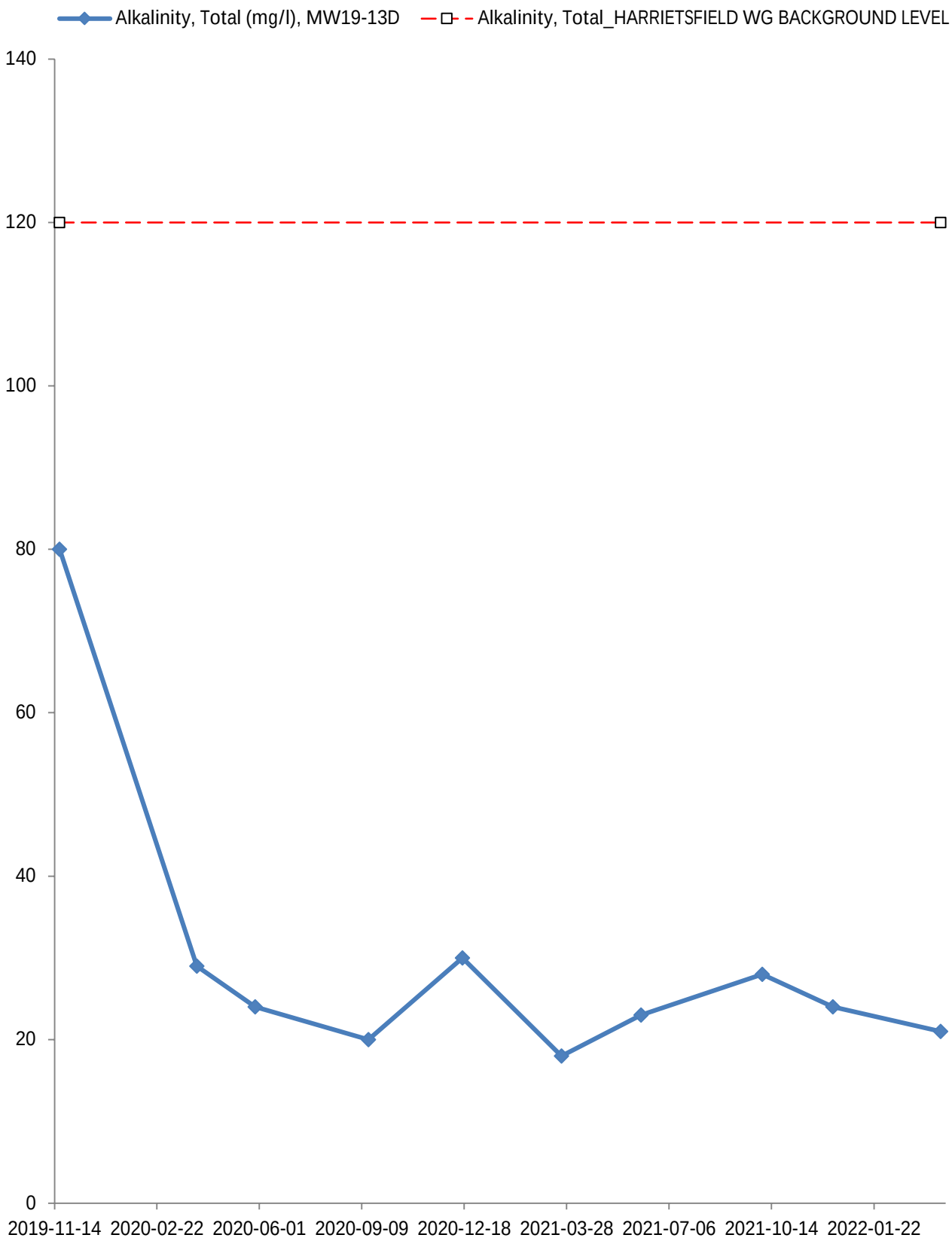
MW19-13D-Alkalinity, Bicarbonate



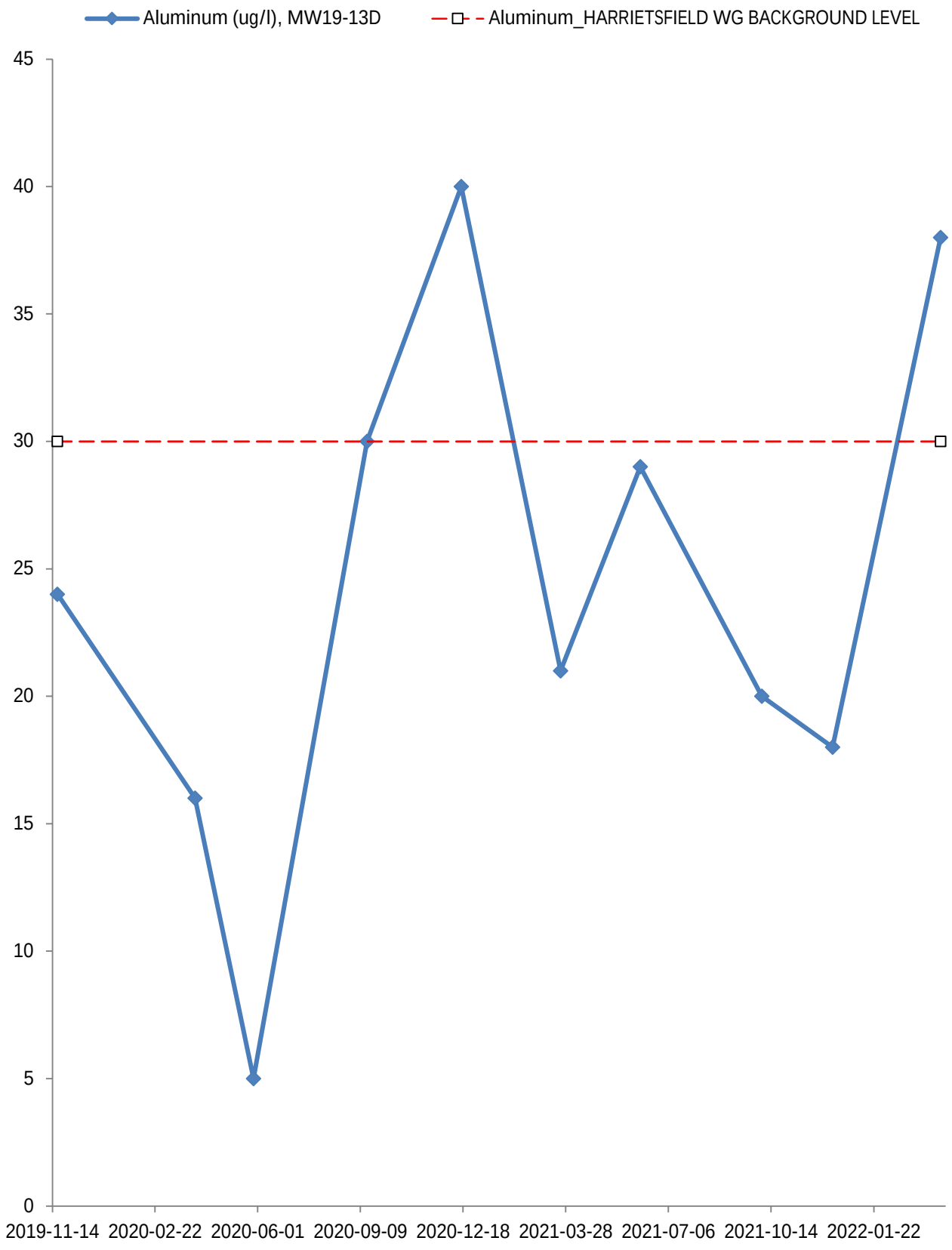
MW19-13D-Alkalinity, Carbonate



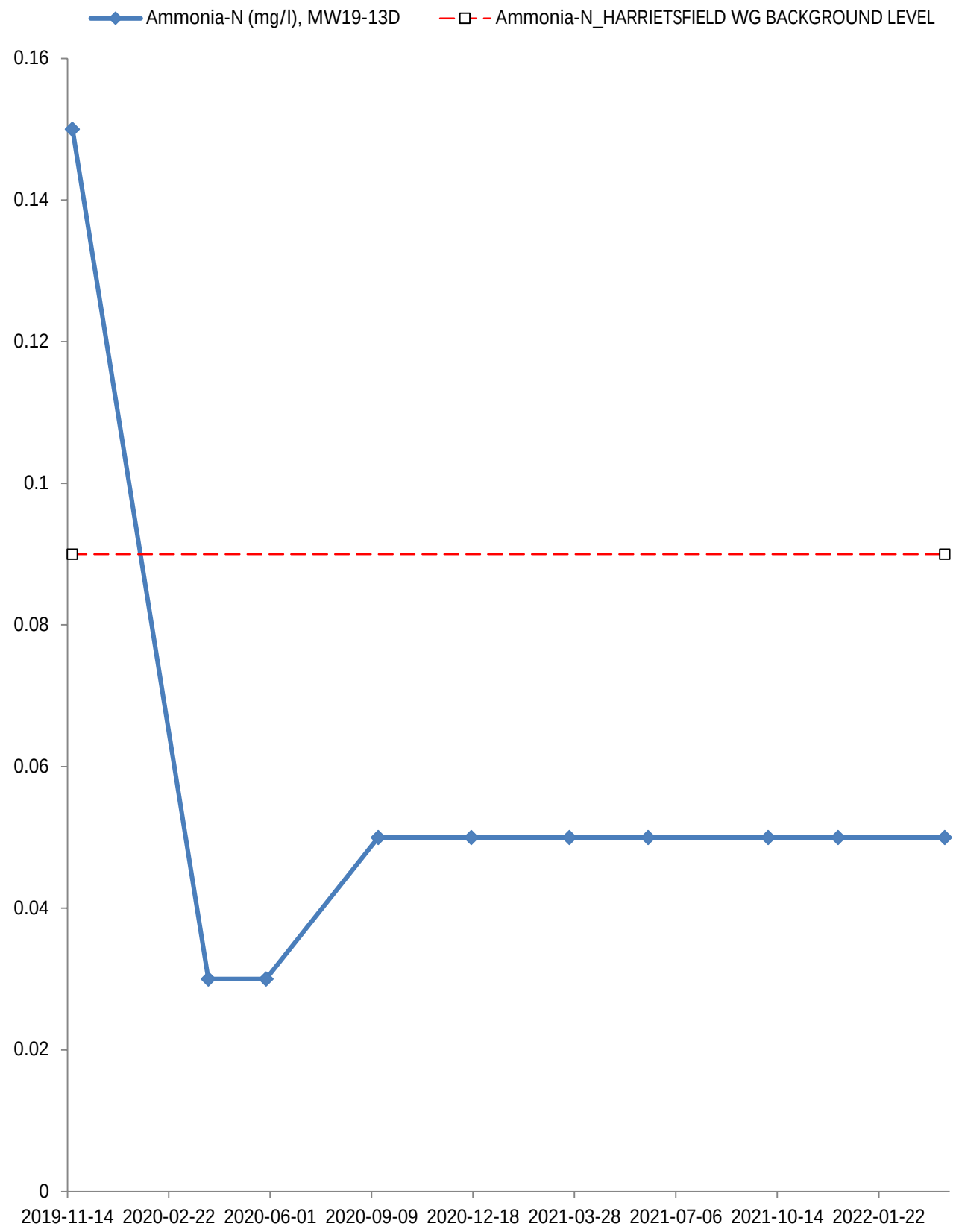
MW19-13D-Alkalinity, Total



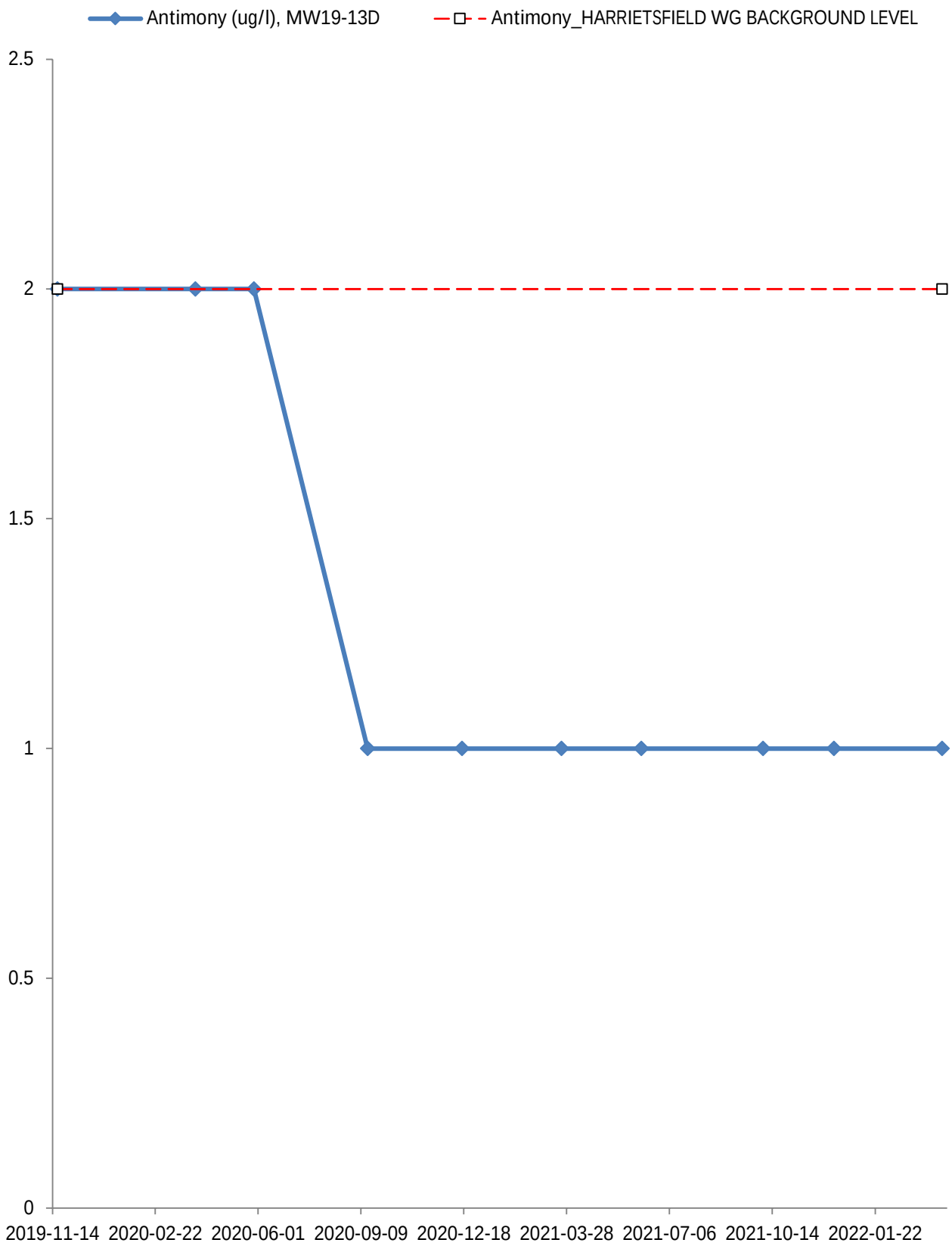
MW19-13D-Aluminum



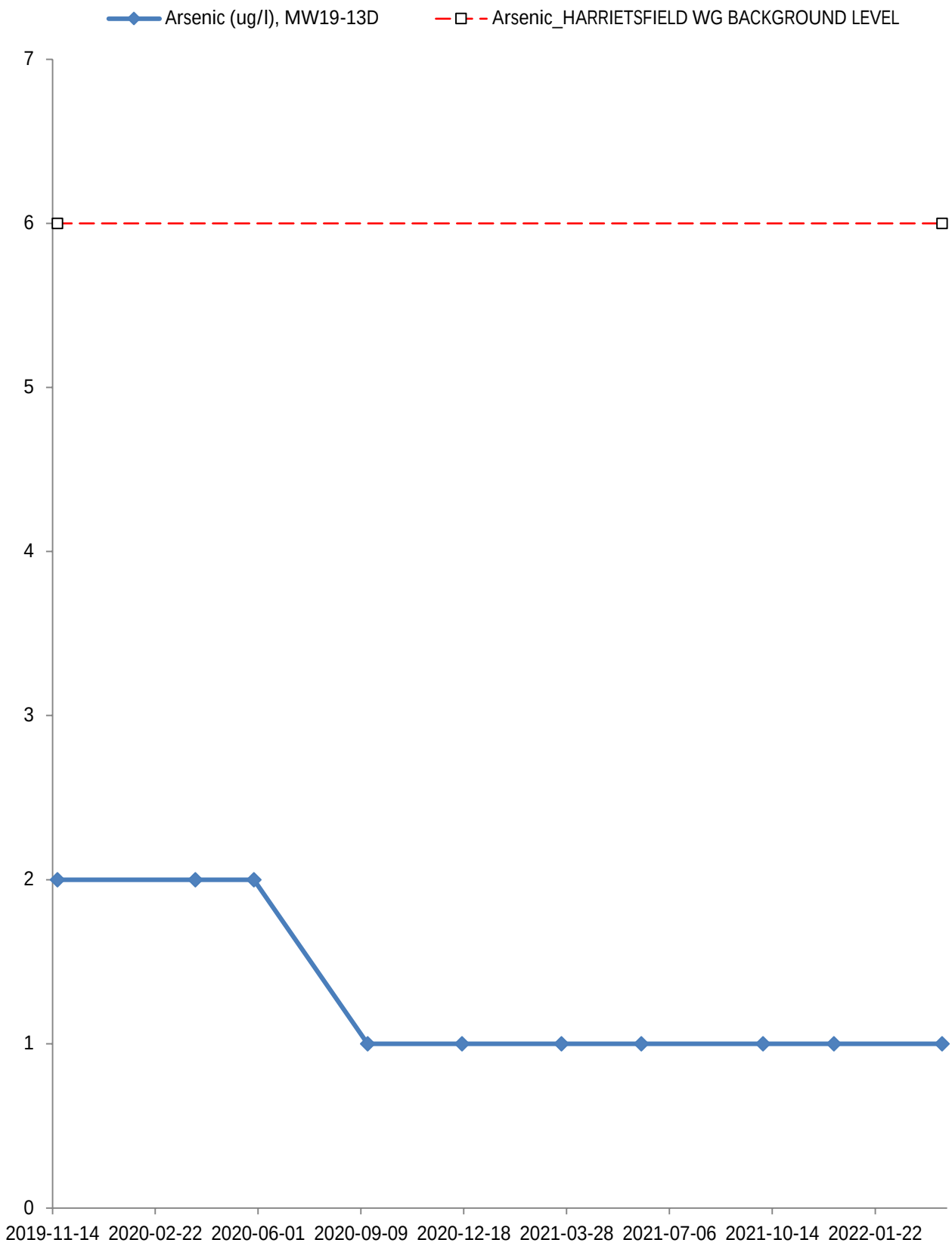
MW19-13D-Ammonia-N



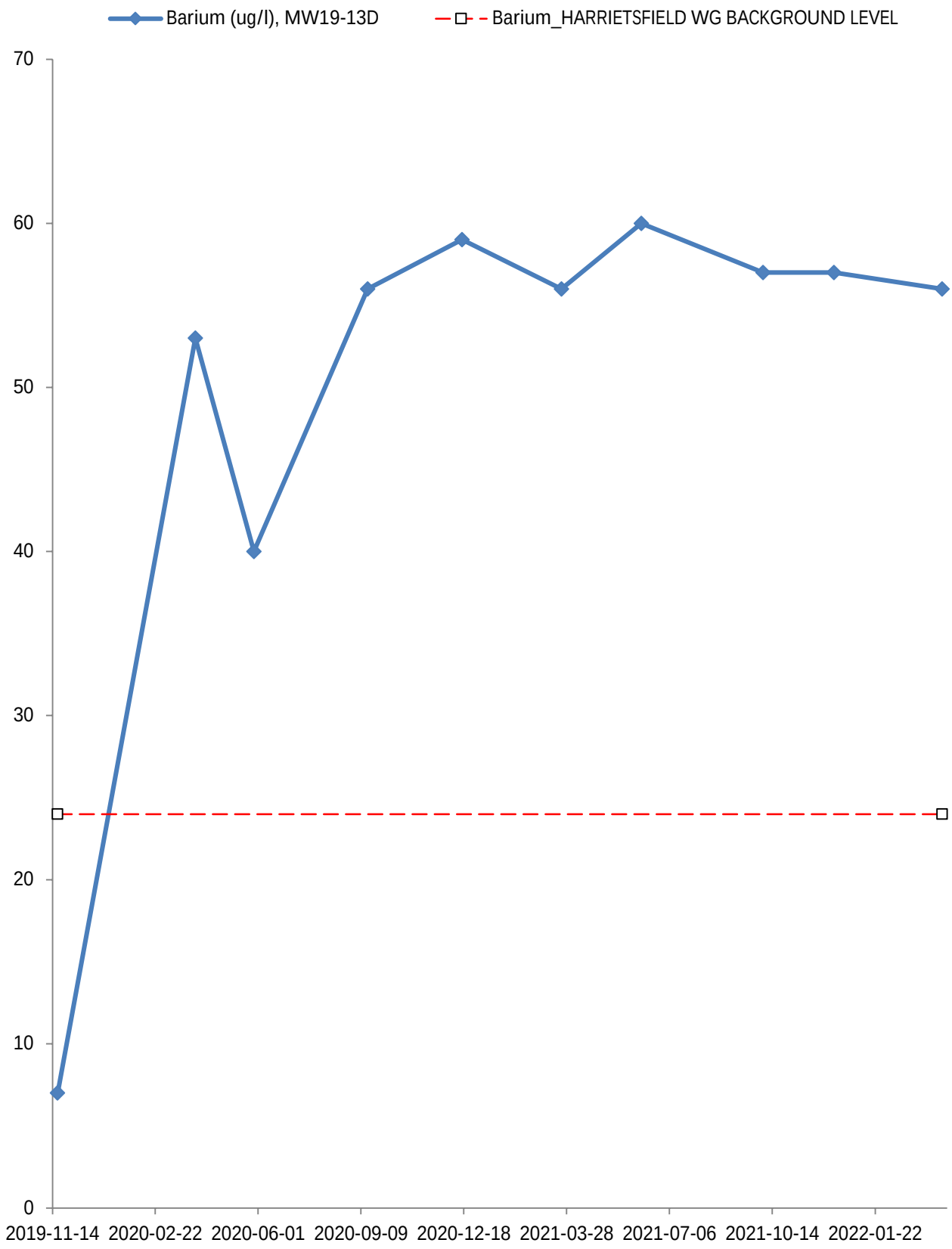
MW19-13D-Antimony



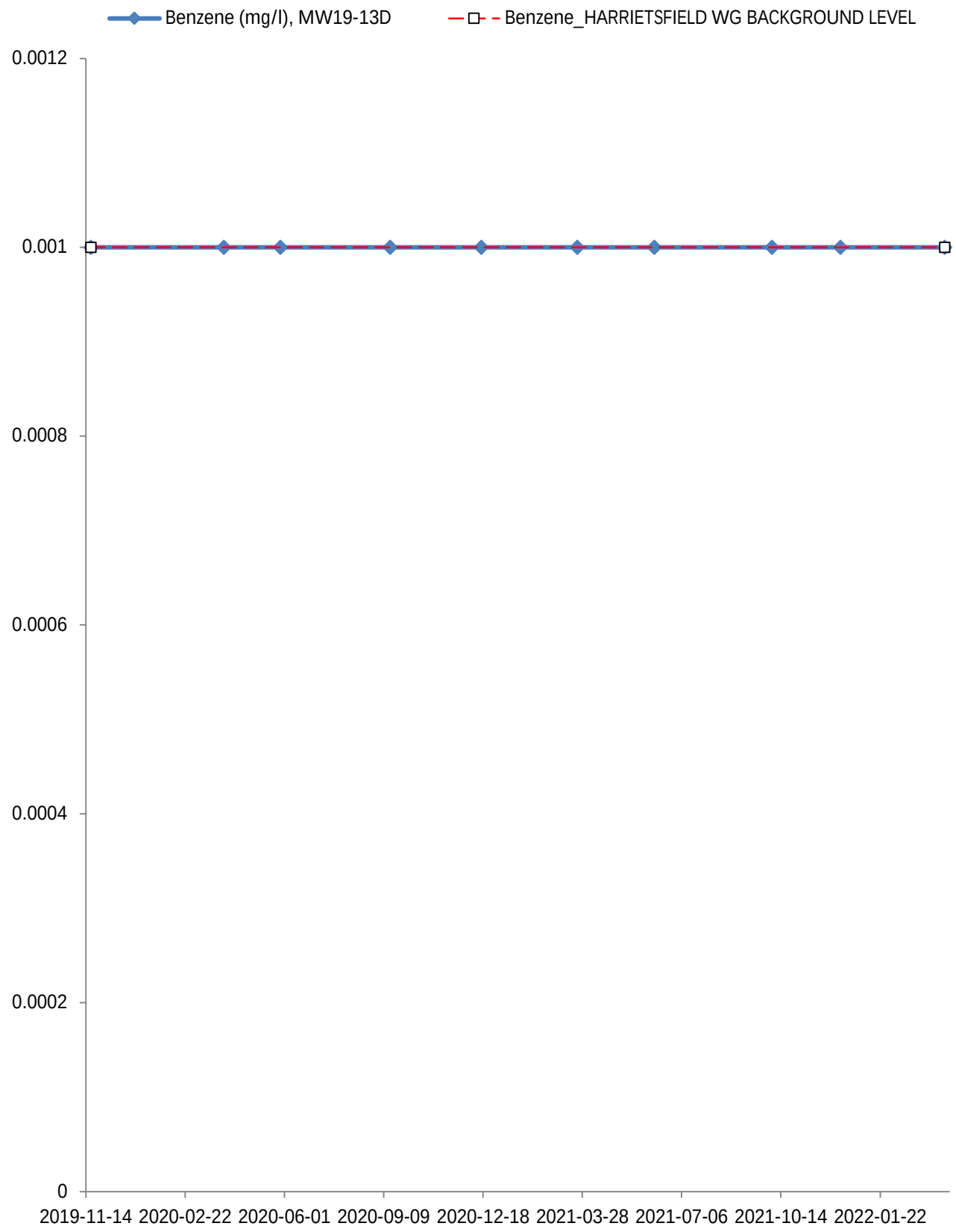
MW19-13D-Arsenic



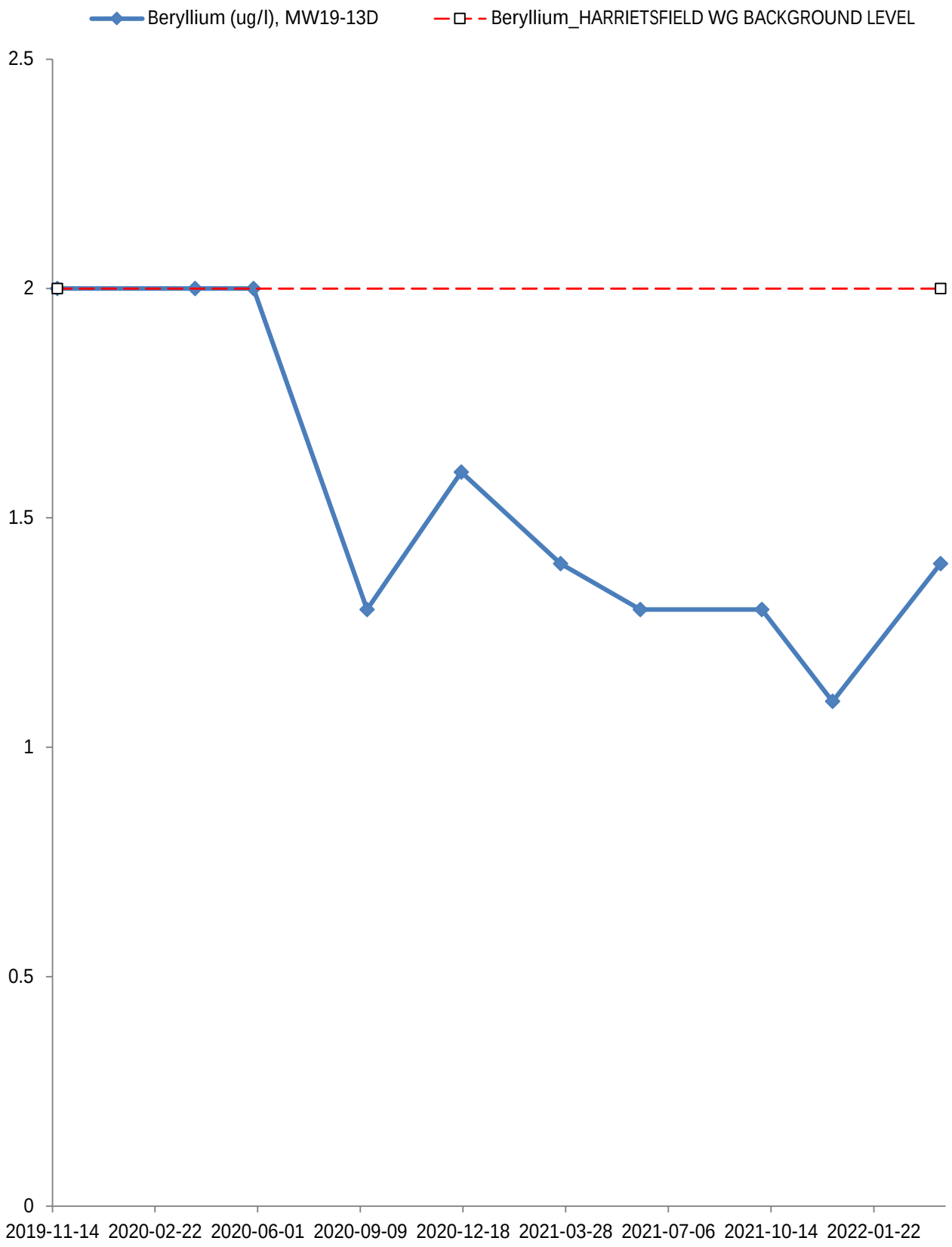
MW19-13D-Barium



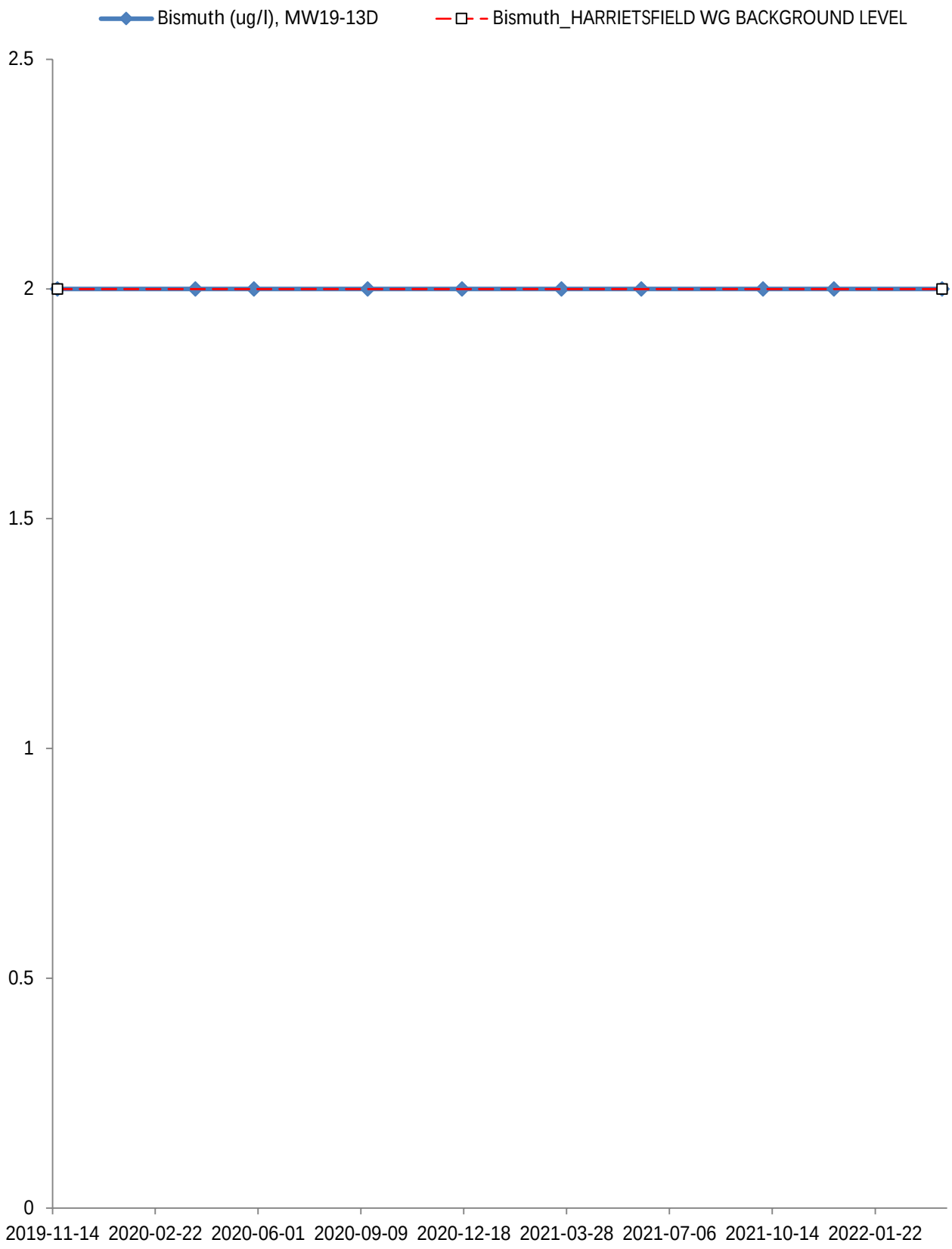
MW19-13D-Benzene



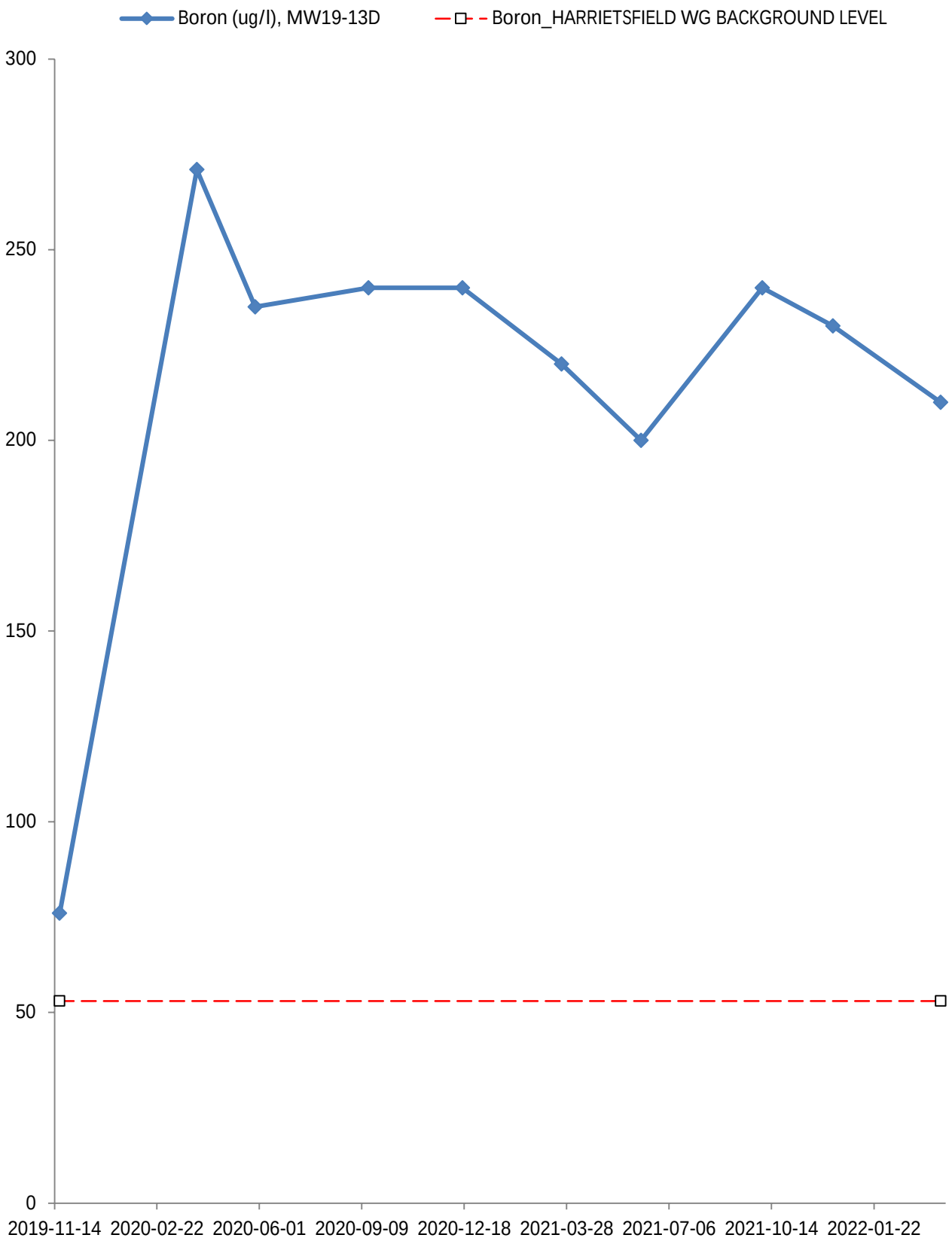
MW19-13D-Beryllium

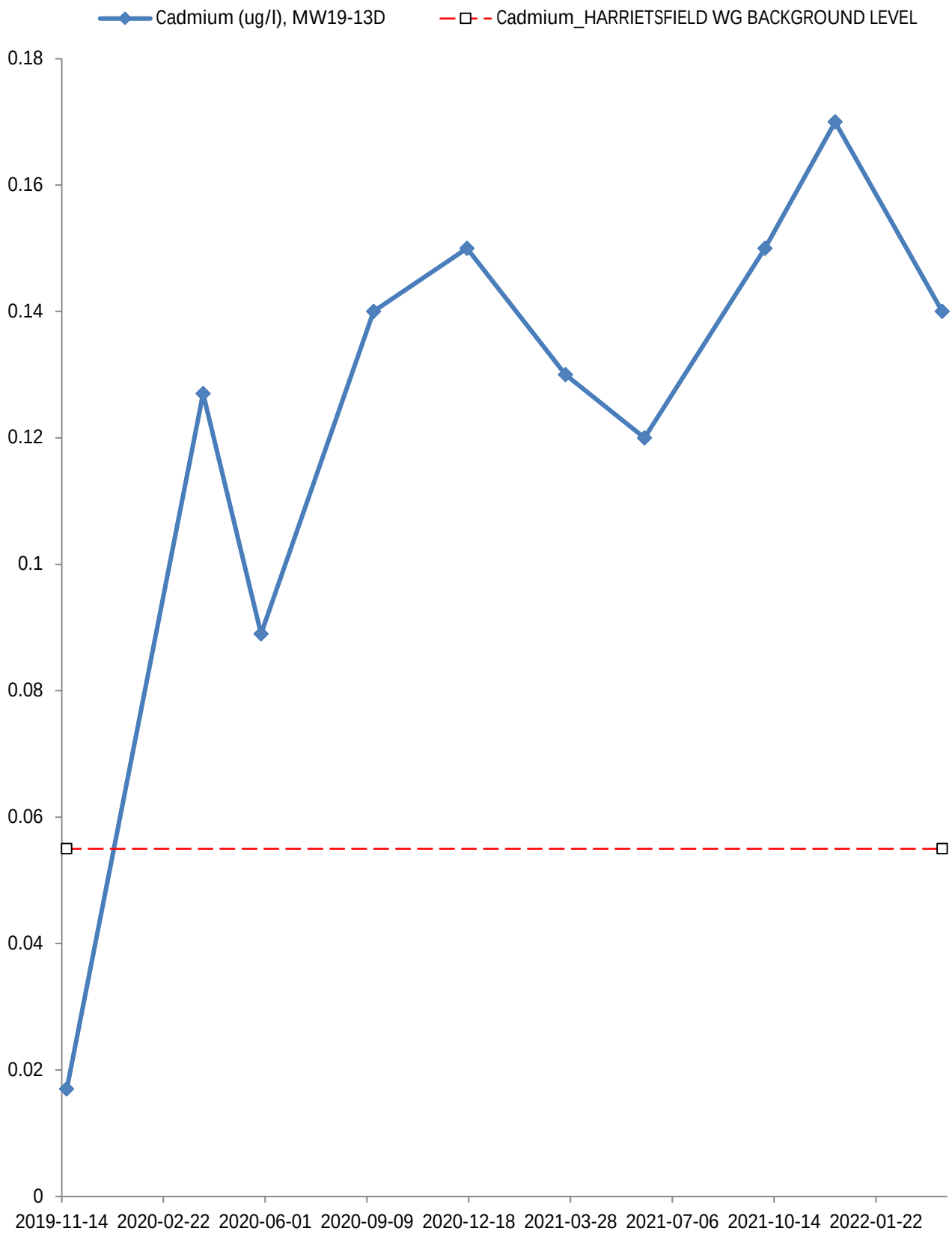


MW19-13D-Bismuth

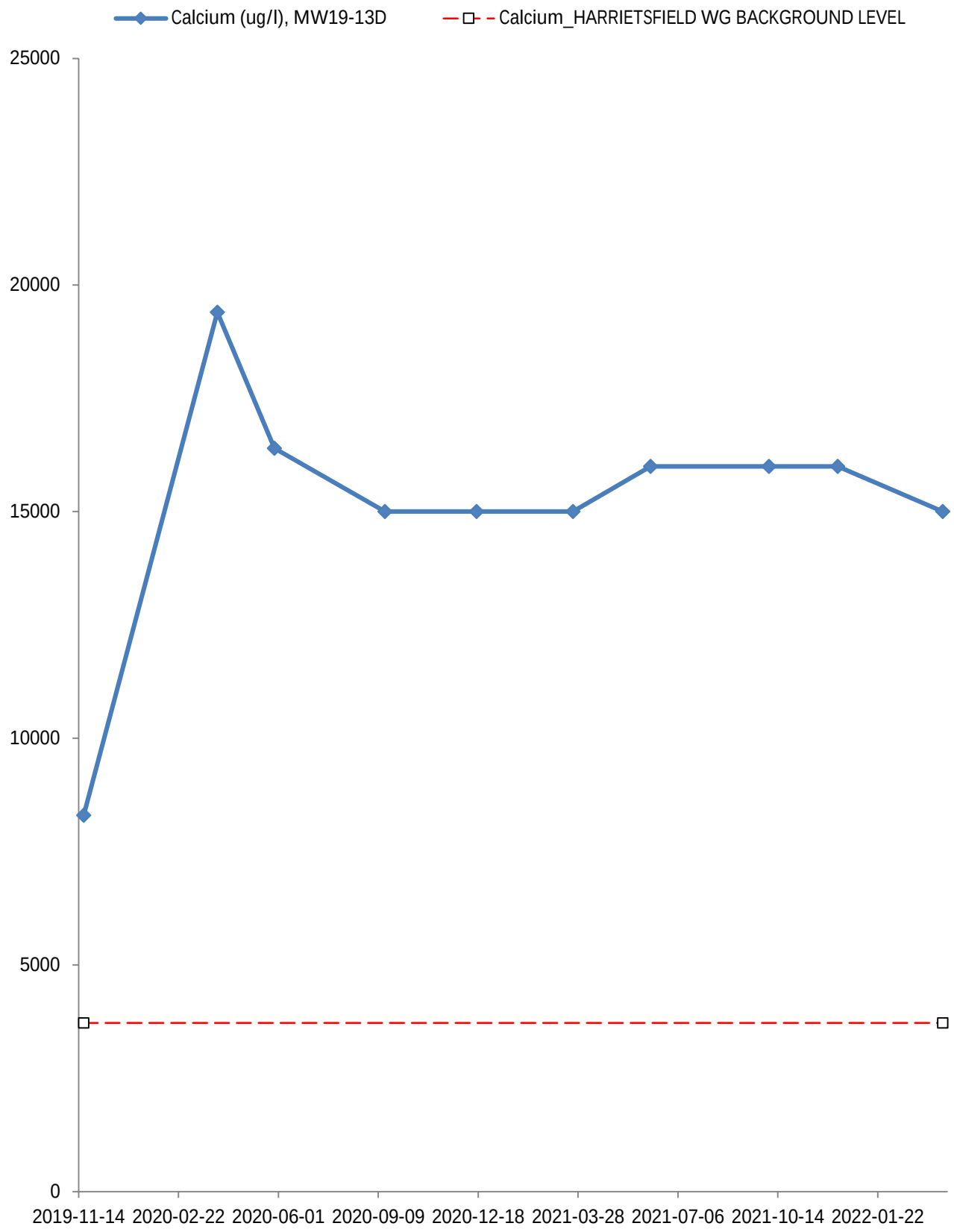


MW19-13D-Boron

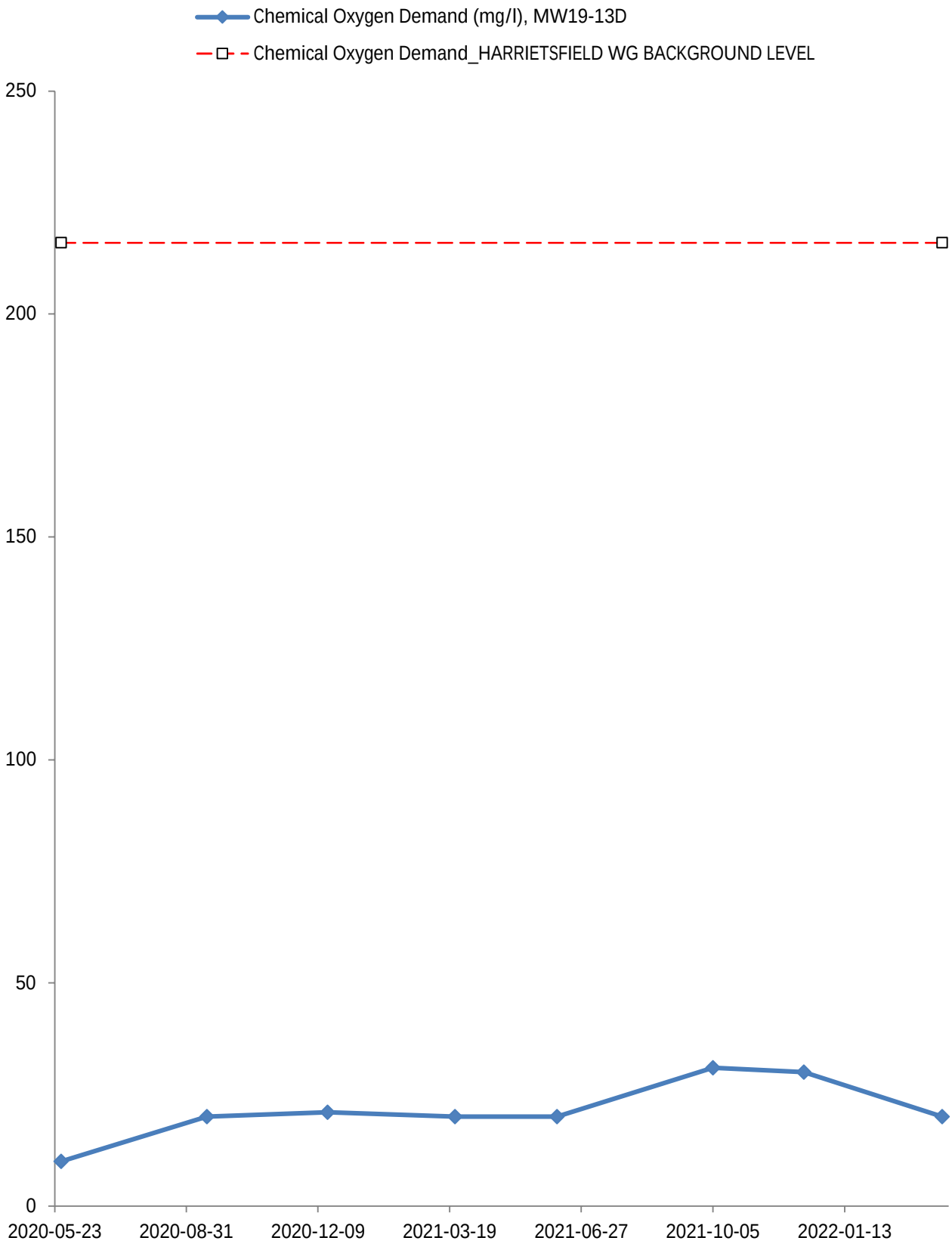



Cadmium (ug/l), MW19-13D
Cadmium_HARRIETSFIELD WG BACKGROUND LEVEL
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
2019-11-14
2020-02-22
2020-06-01
2020-09-09
2020-12-18
2021-03-28
2021-07-06
2021-10-14
2022-01-22

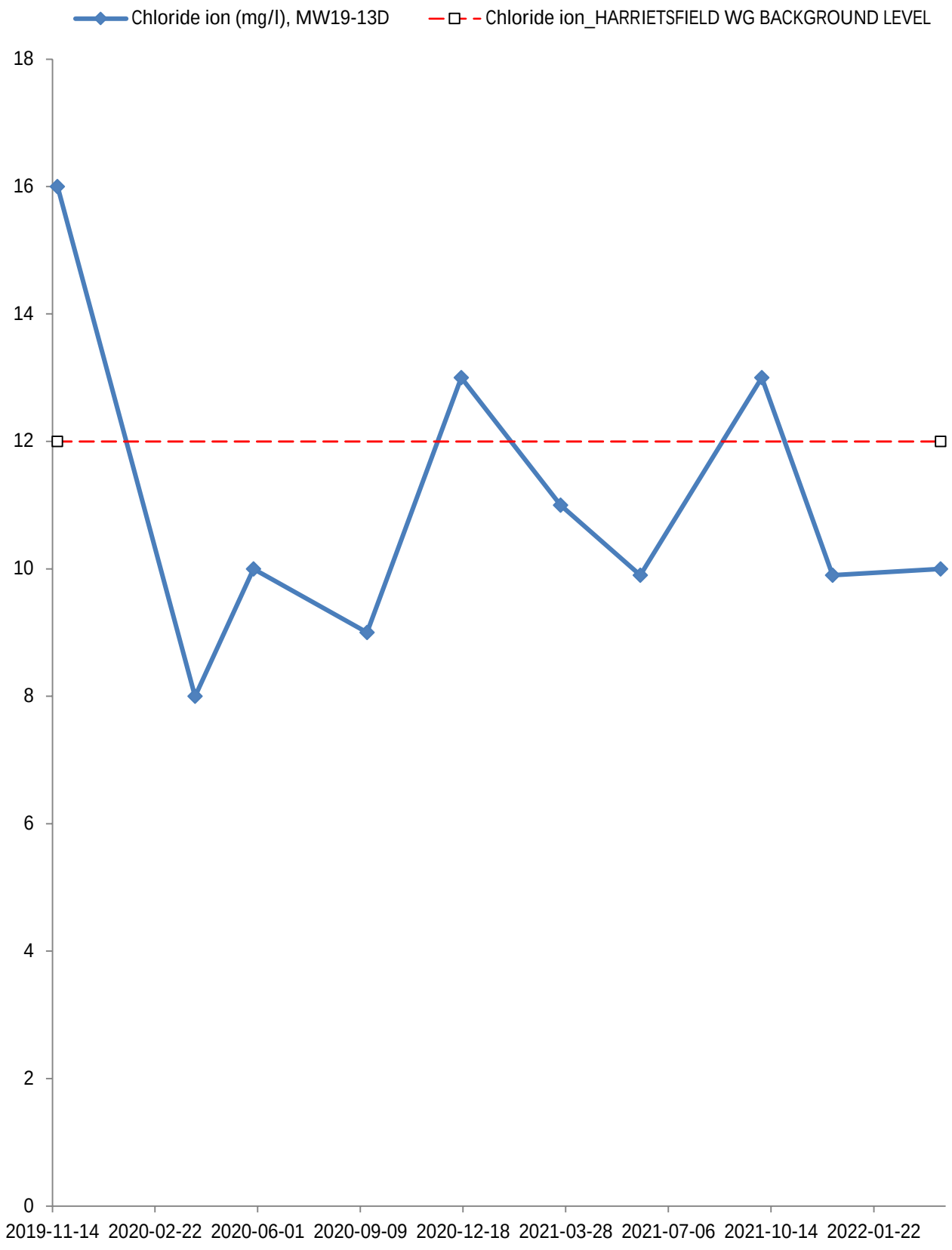
MW19-13D-Calcium



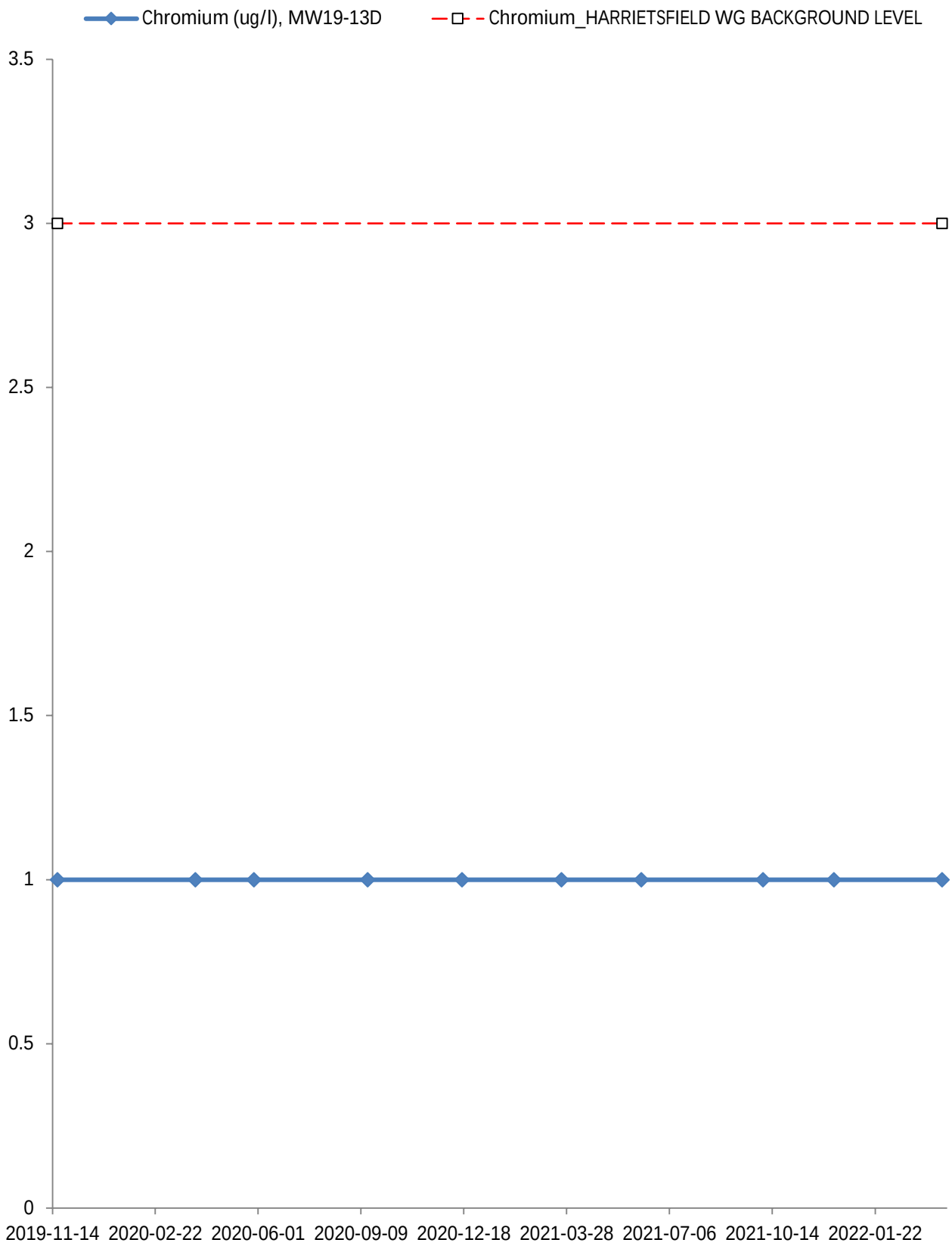
MW19-13D-Chemical Oxygen Demand



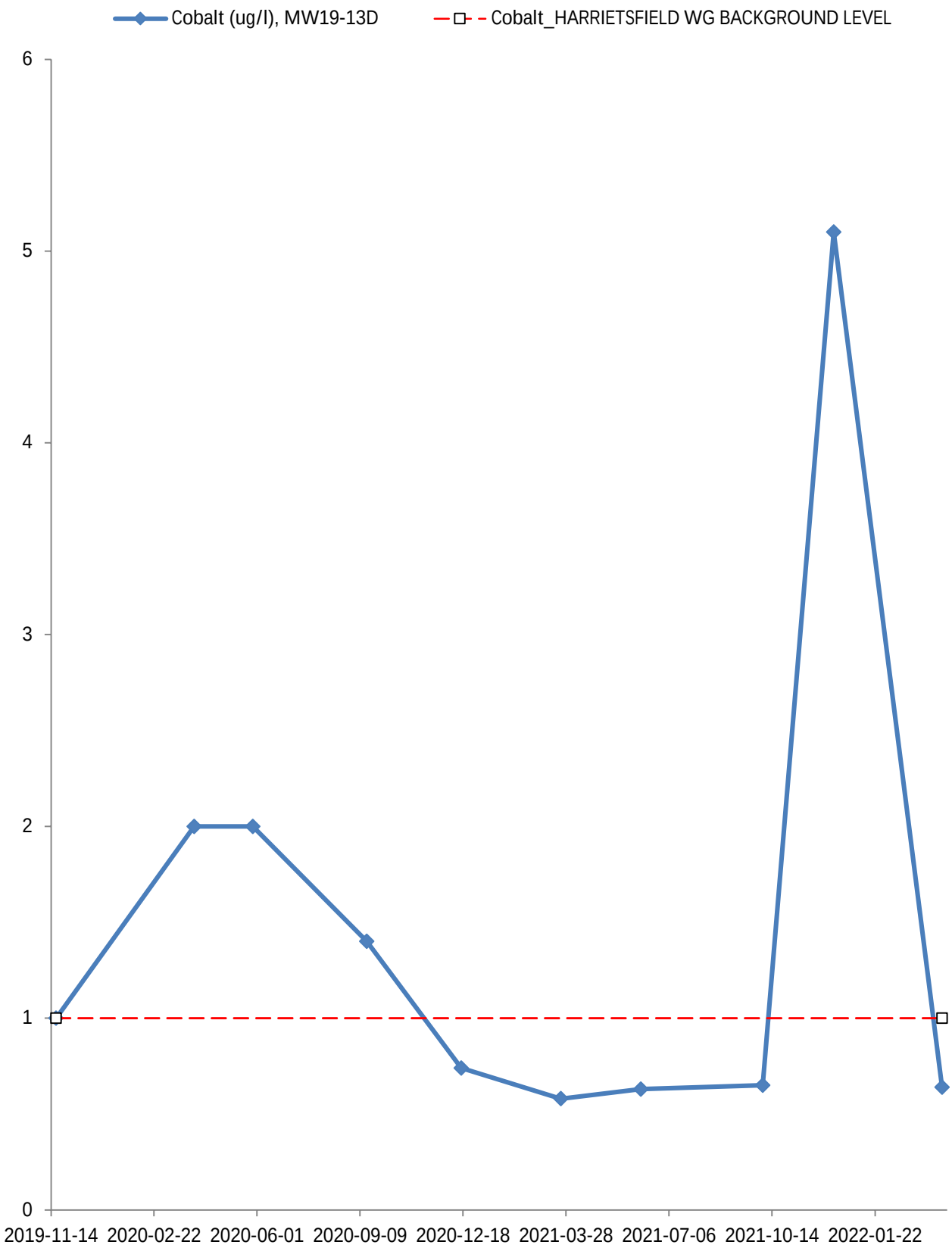
MW19-13D-Chloride ion



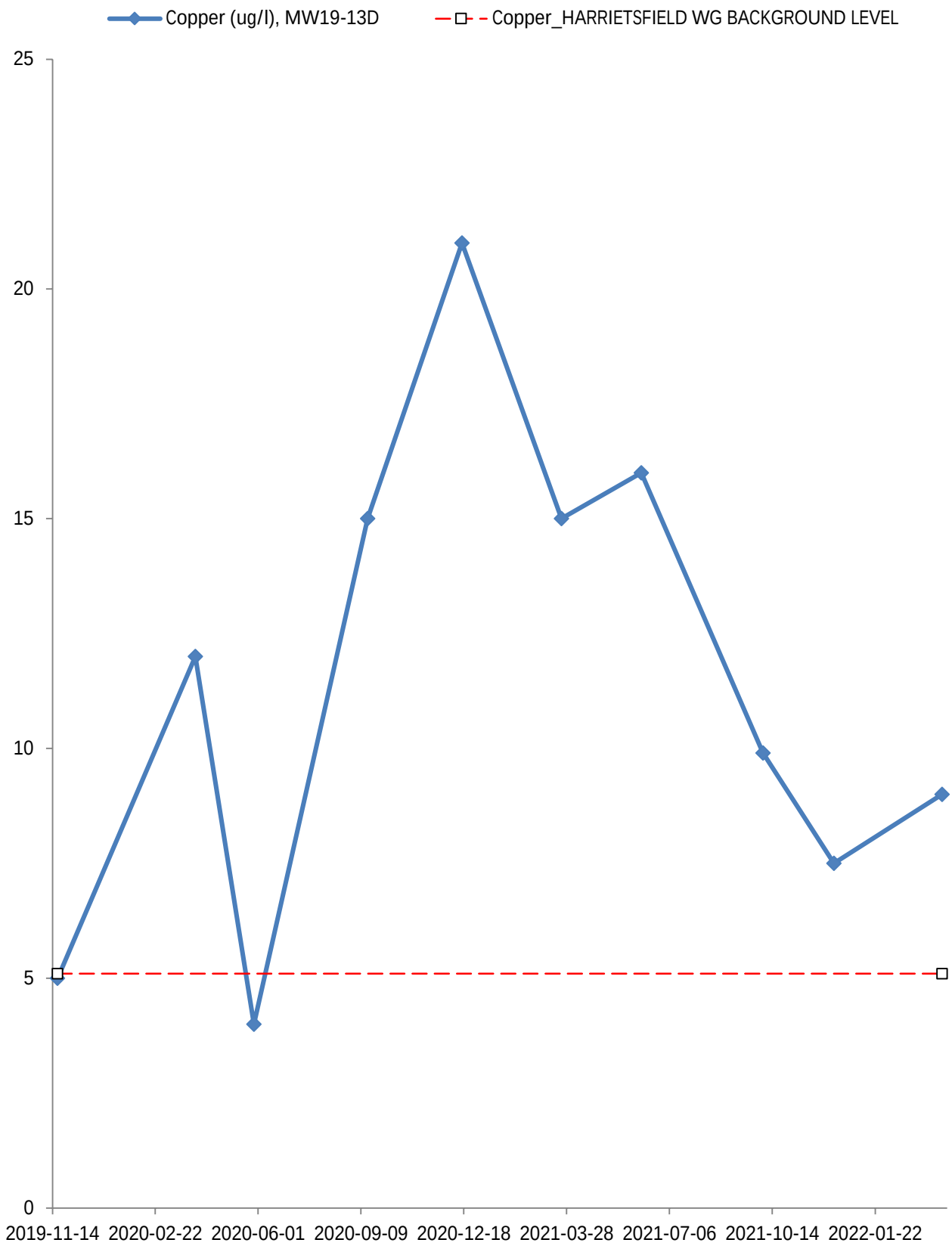
MW19-13D-Chromium



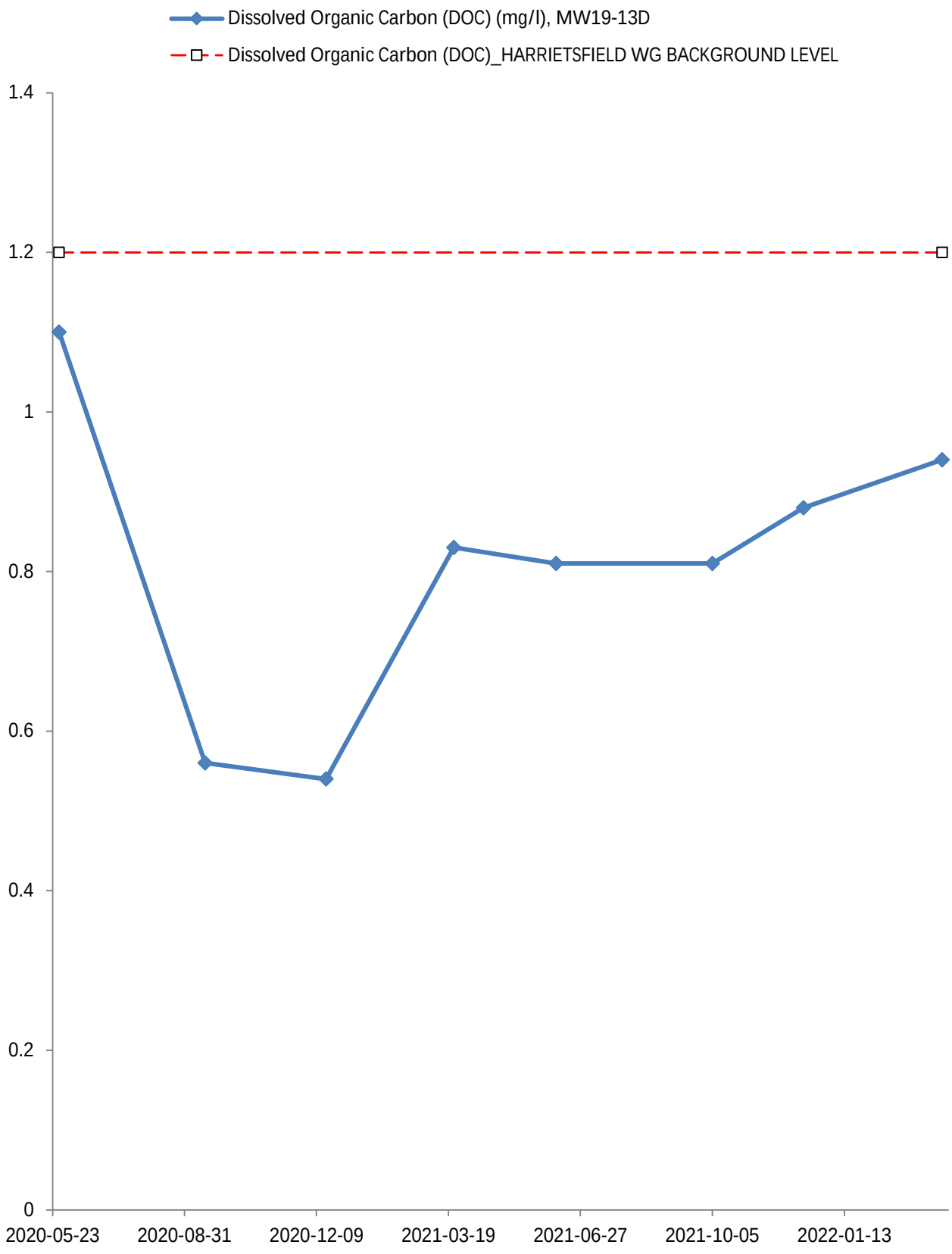
MW19-13D-Cobalt



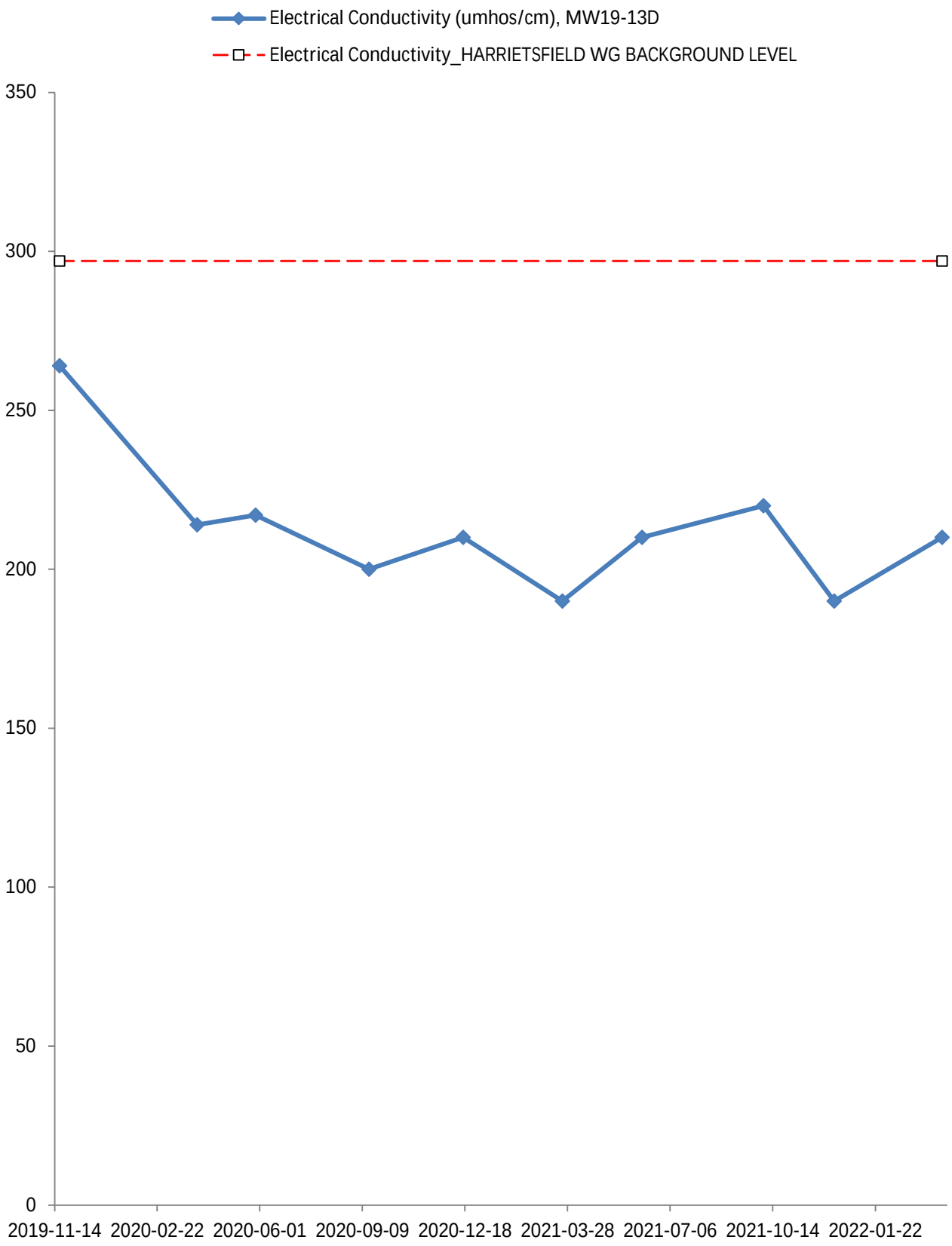
MW19-13D-Copper



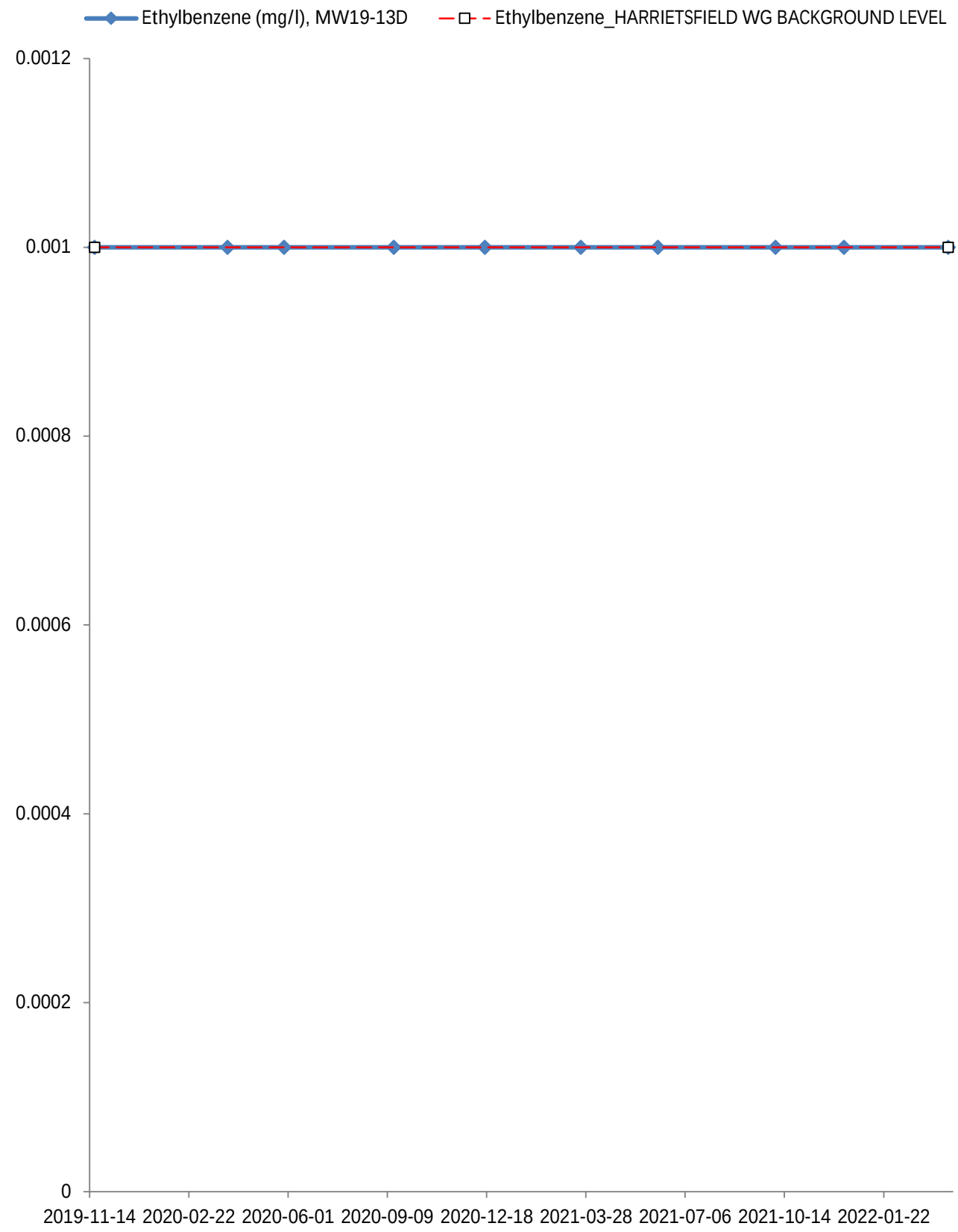
MW19-13D-Dissolved Organic Carbon7



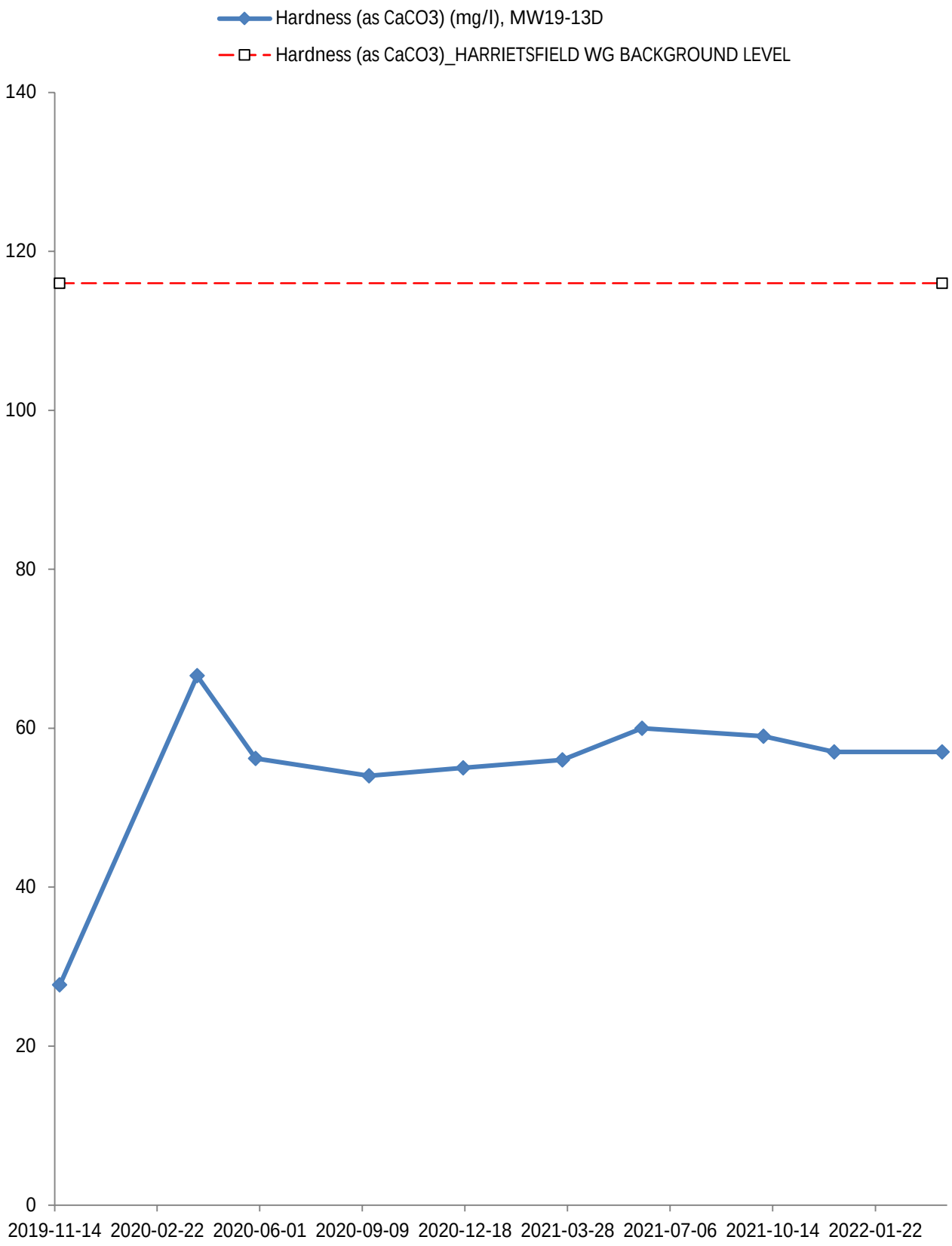
MW19-13D-Electrical Conductivity



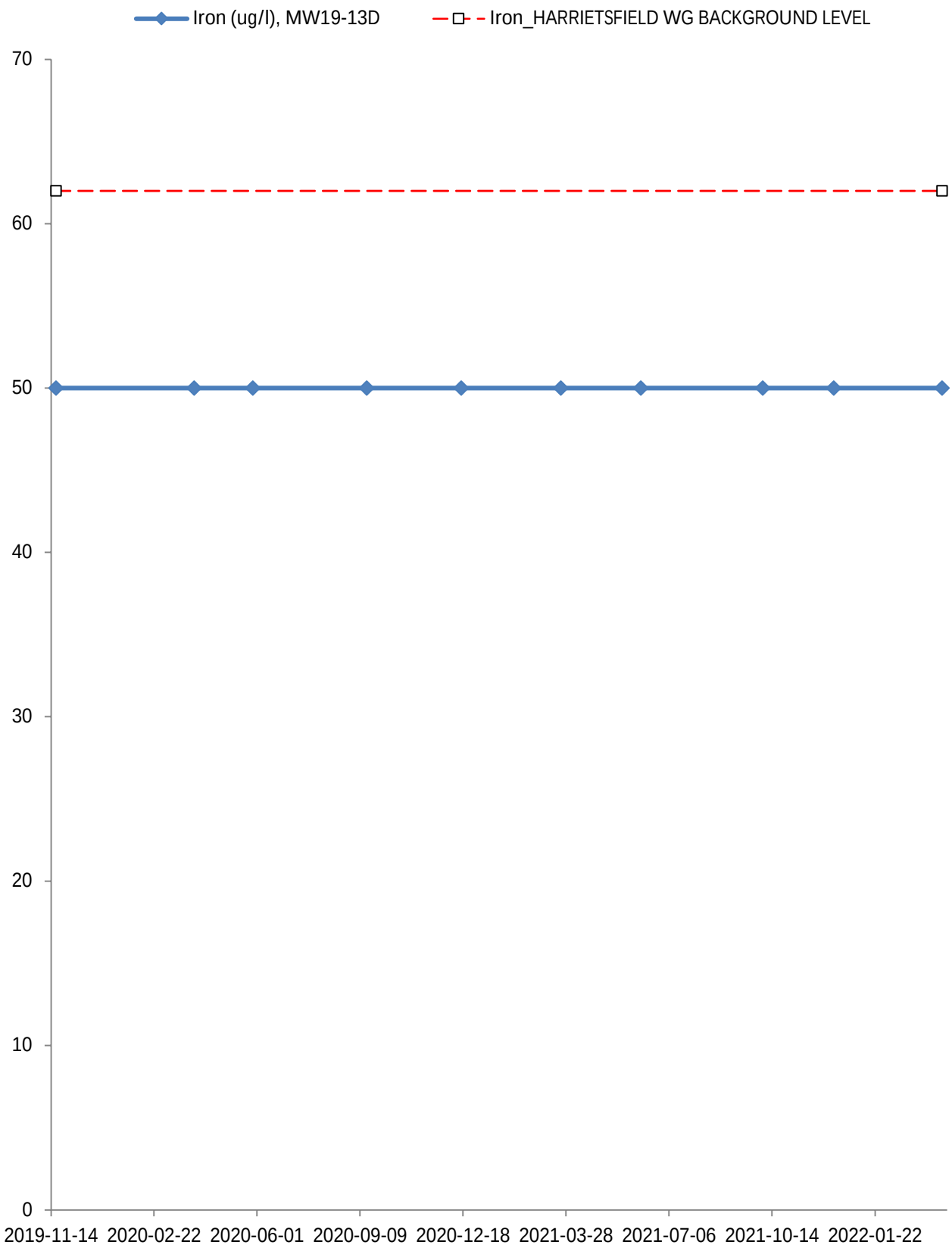
MW19-13D-Ethylbenzene



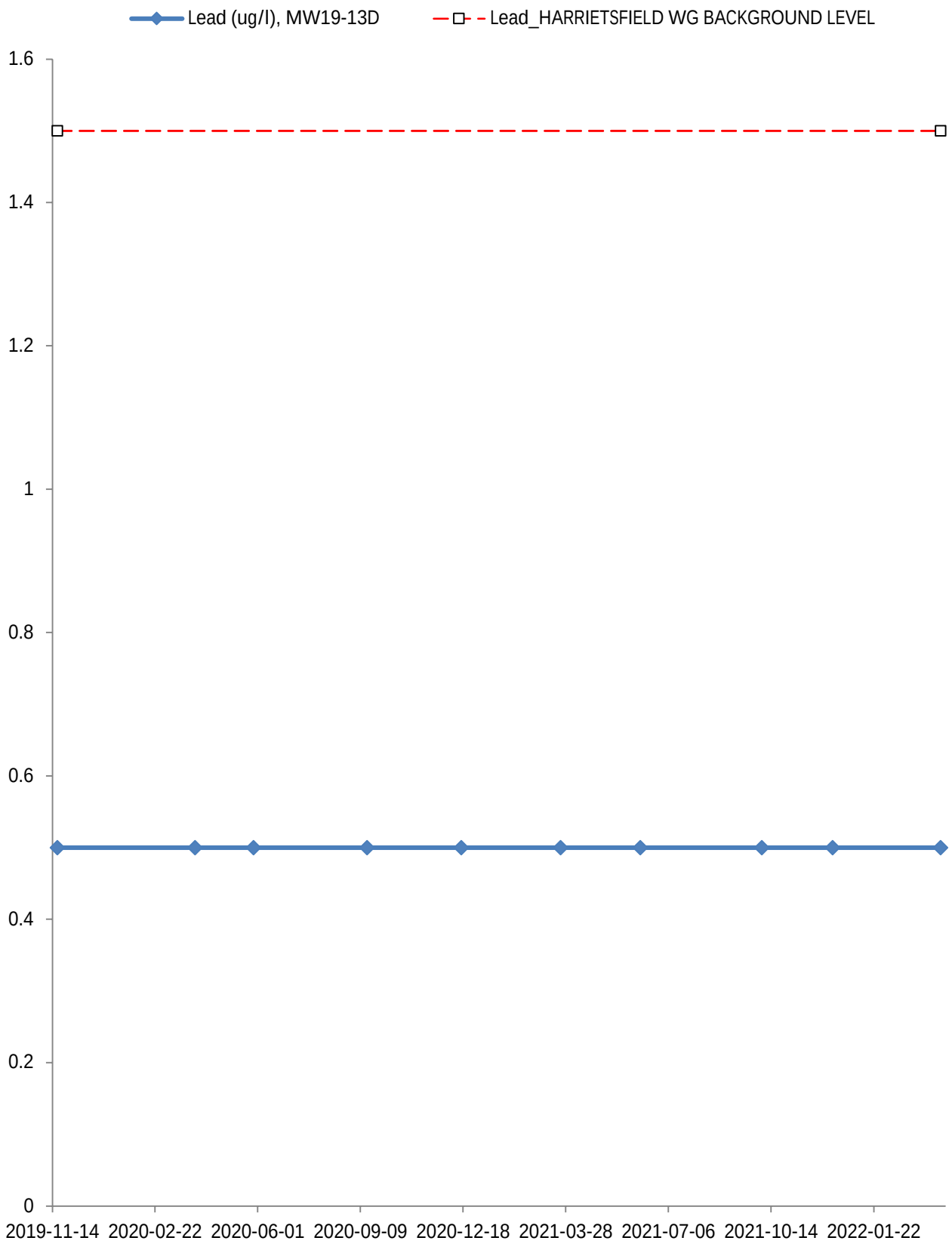
MW19-13D-Hardness (as CaCO3)



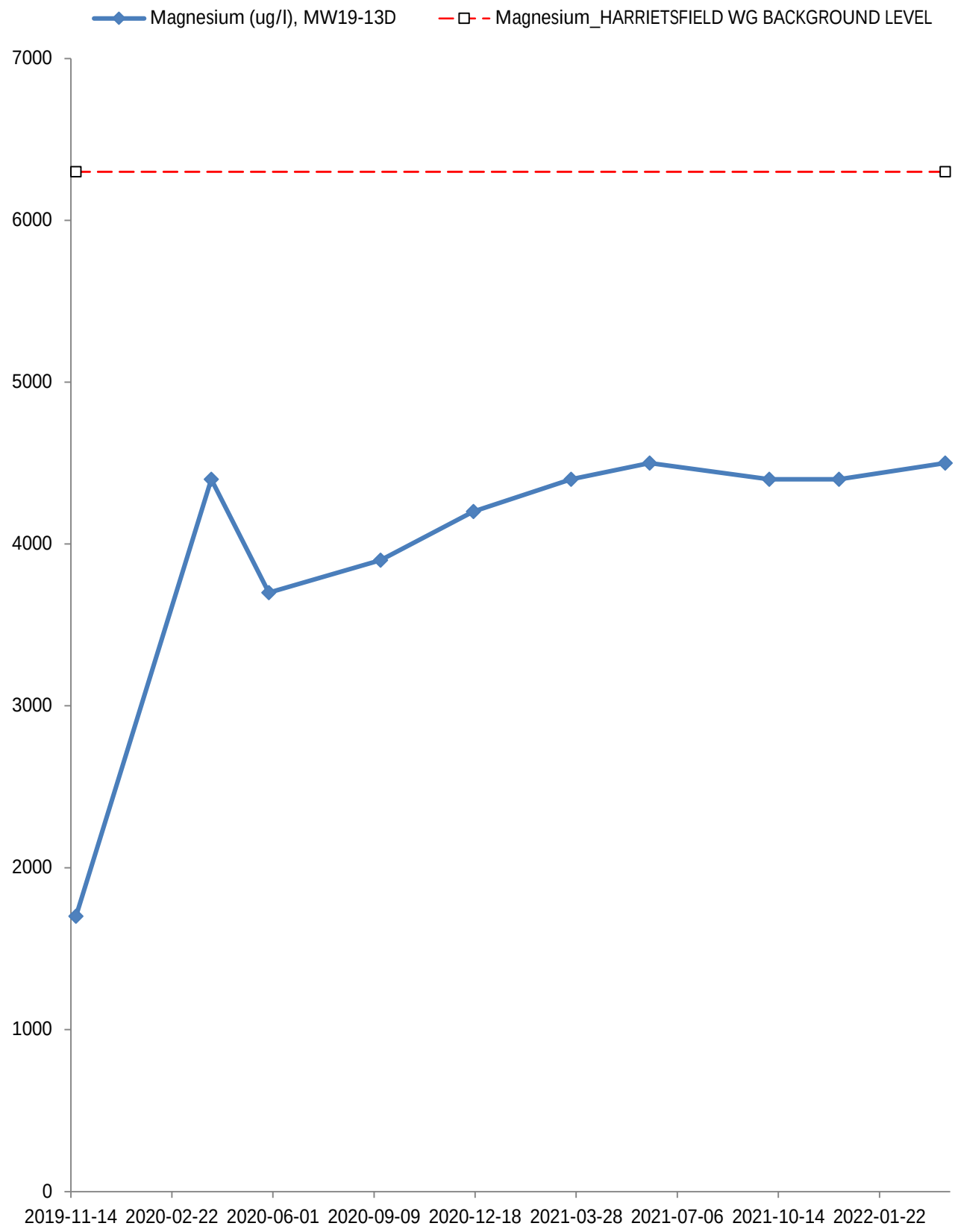
MW19-13D-Iron



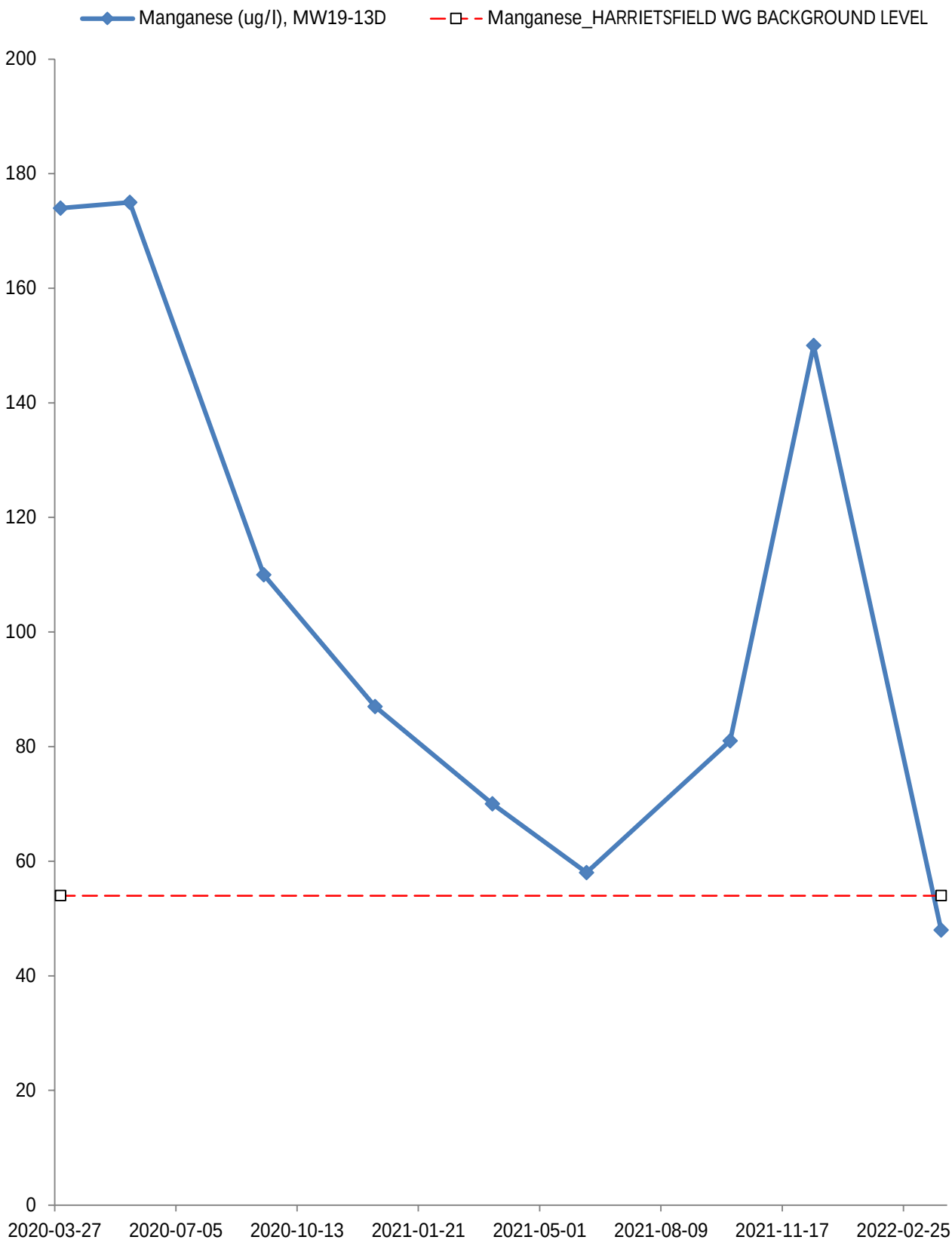
MW19-13D-Lead



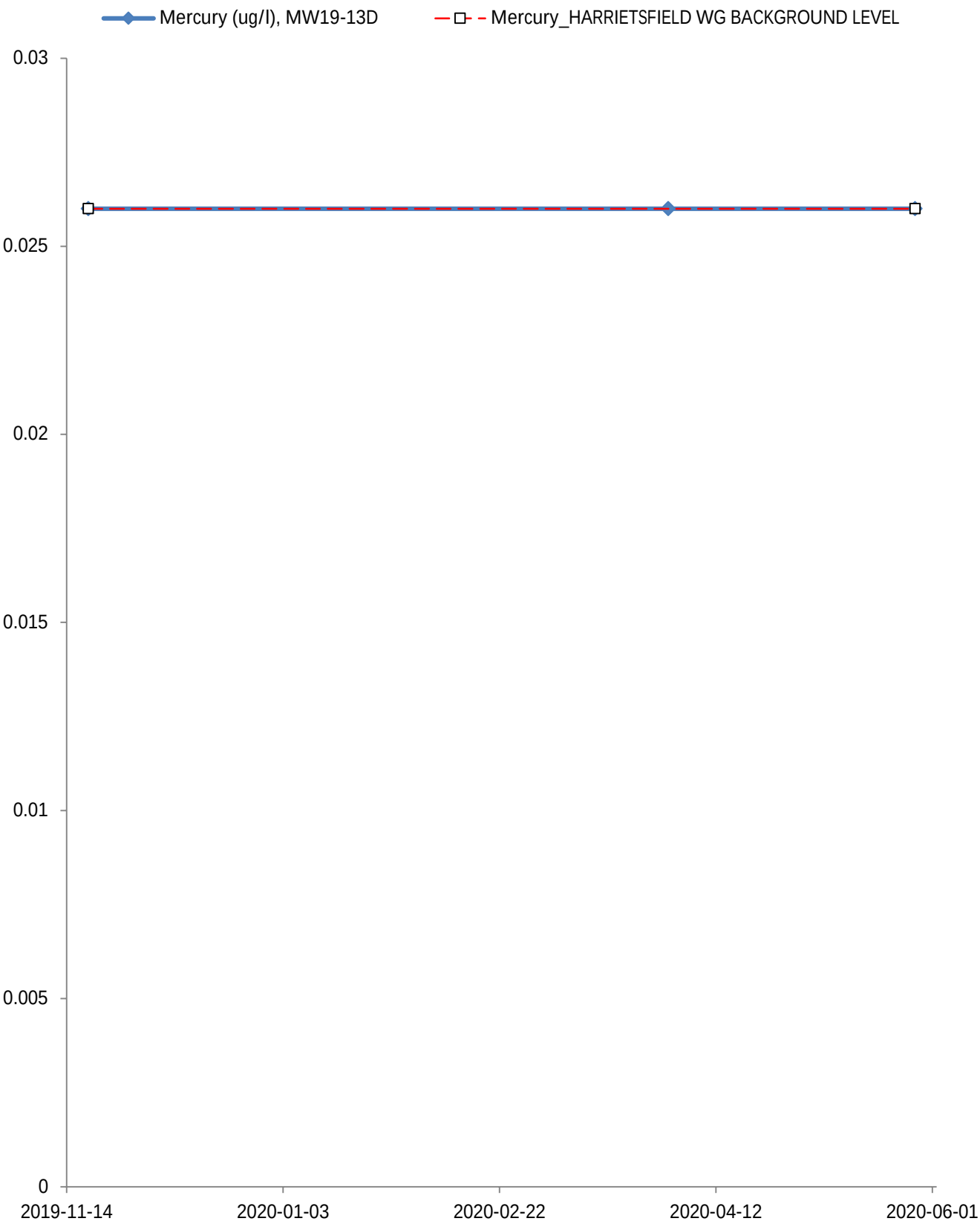
MW19-13D-Magnesium



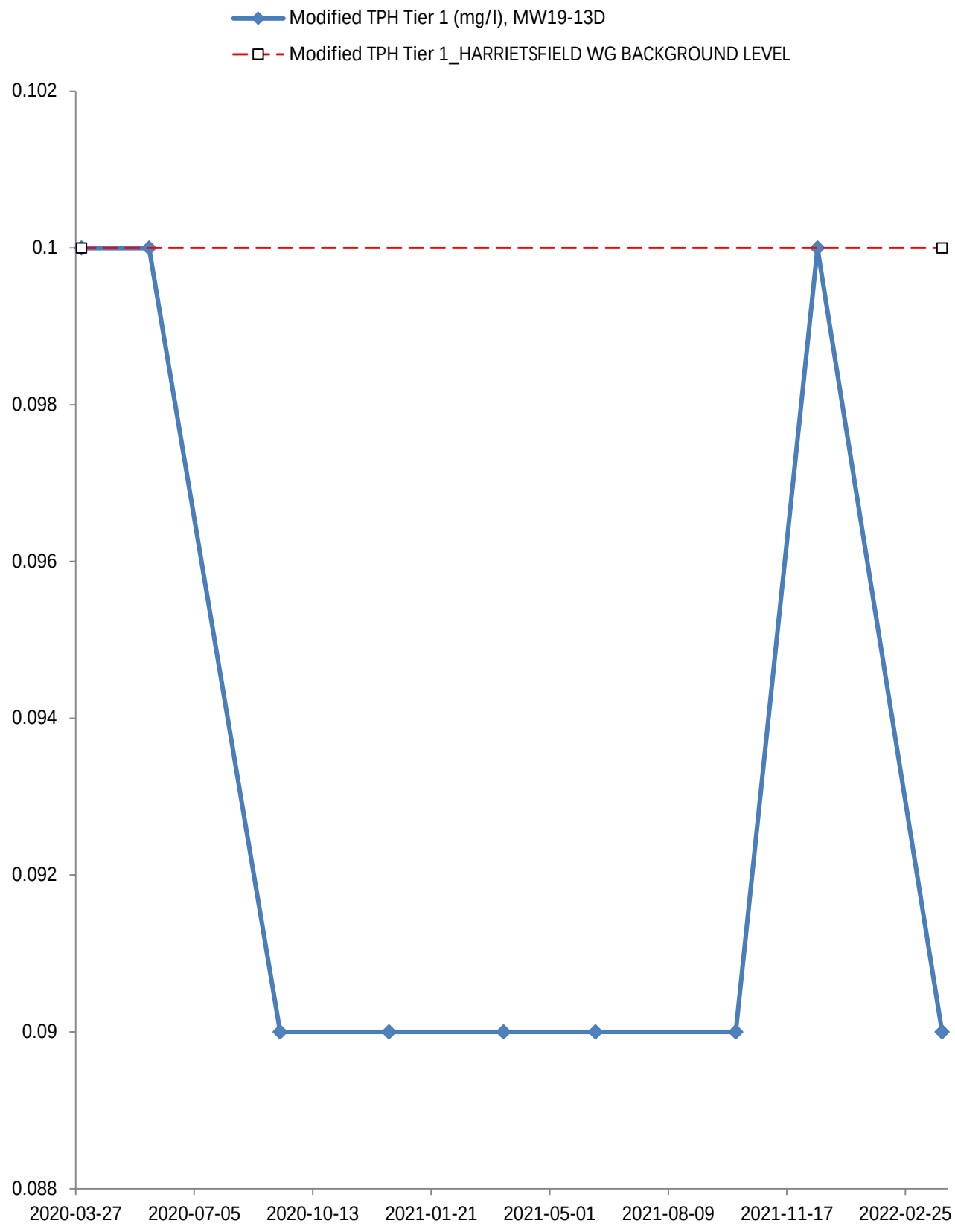
MW19-13D-Manganese



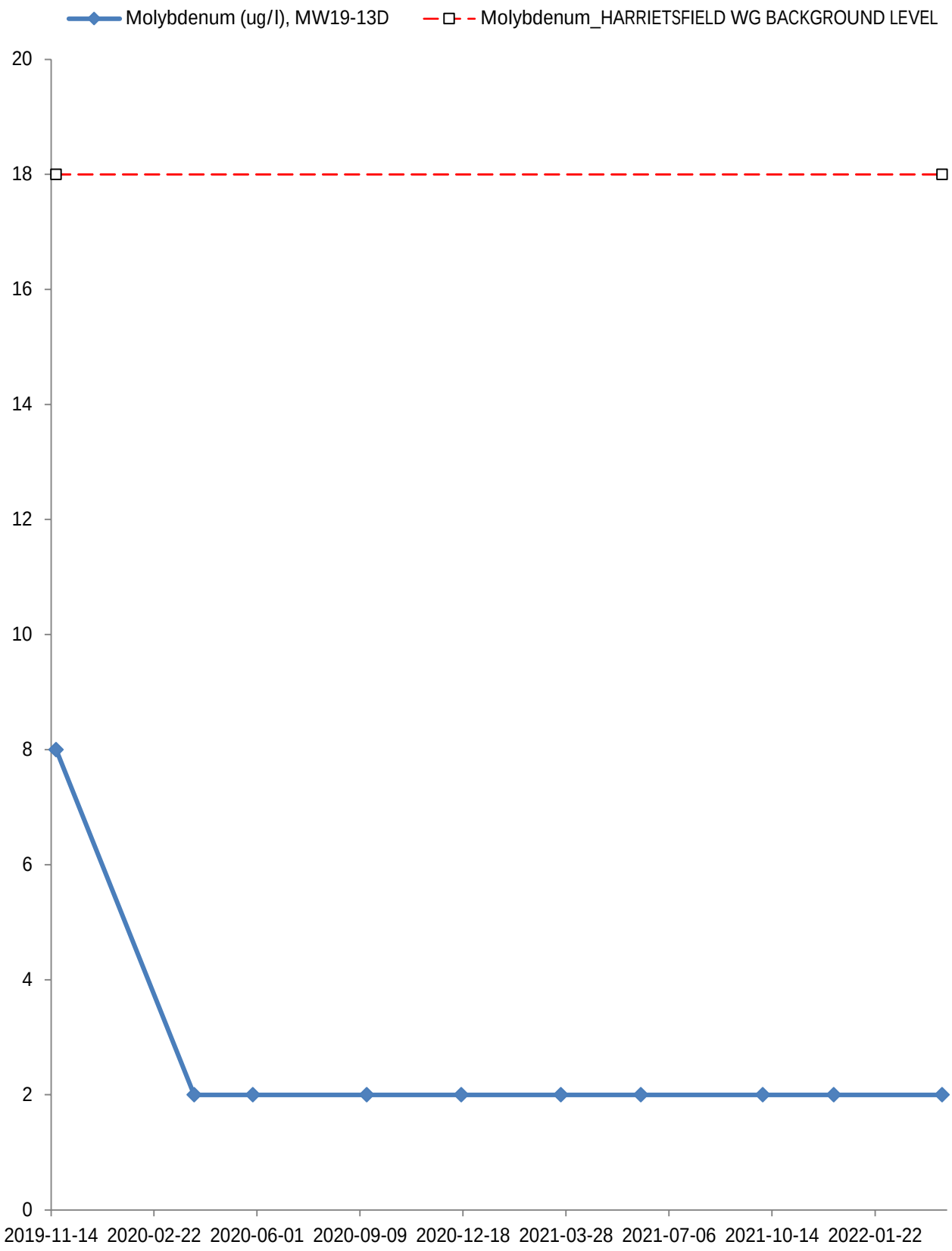
MW19-13D-Mercury



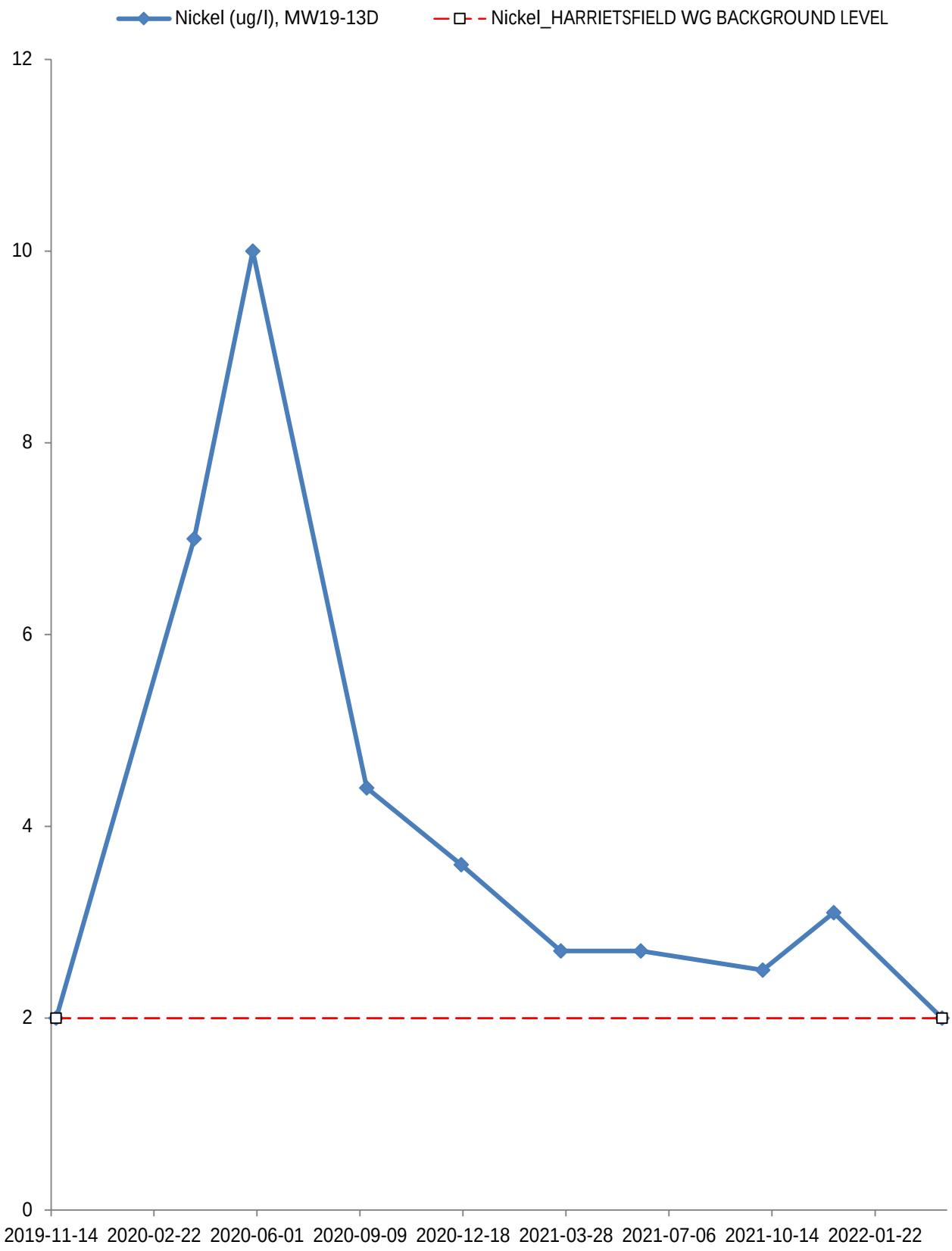
MW19-13D-Modified TPH Tier 1



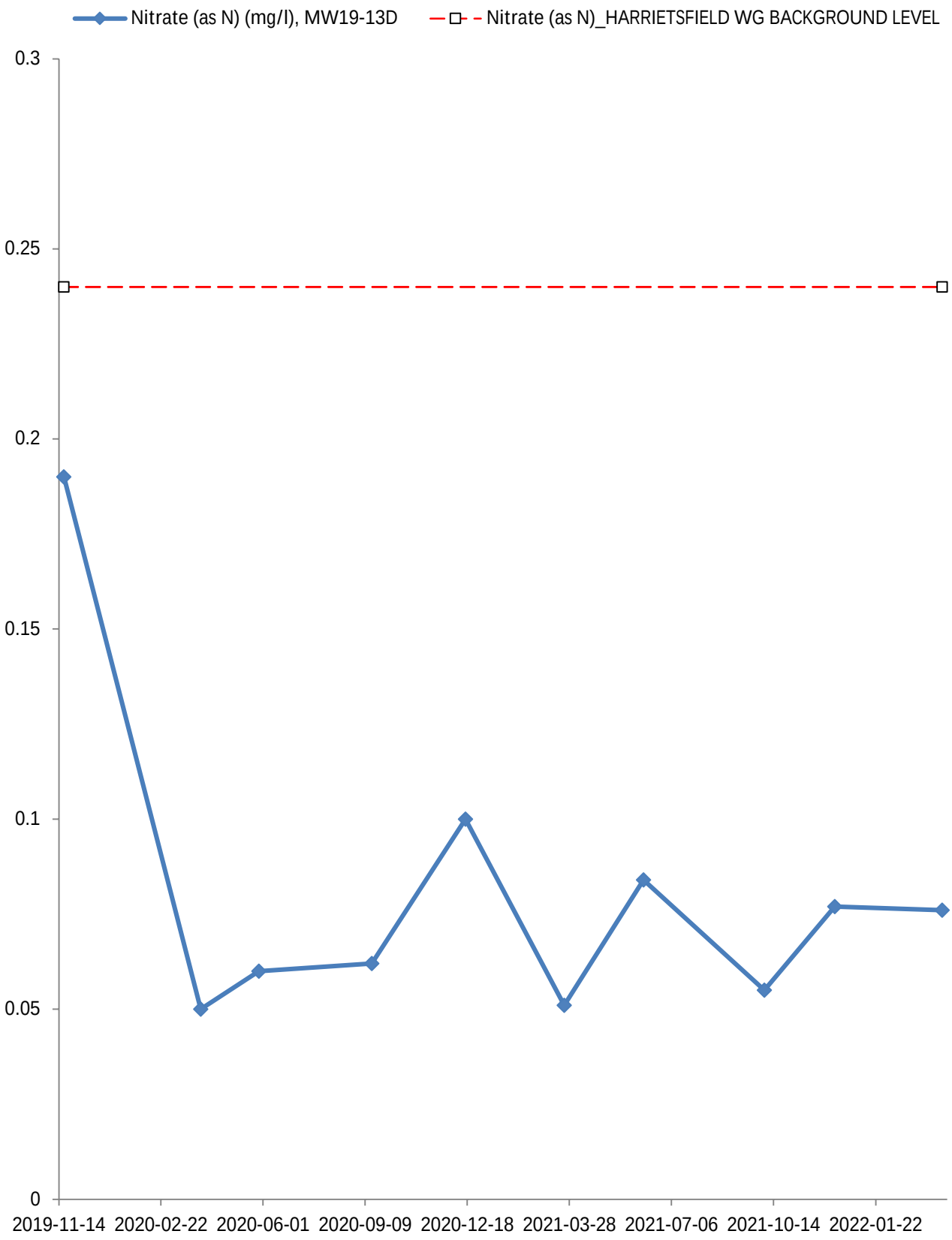
MW19-13D-Molybdenum



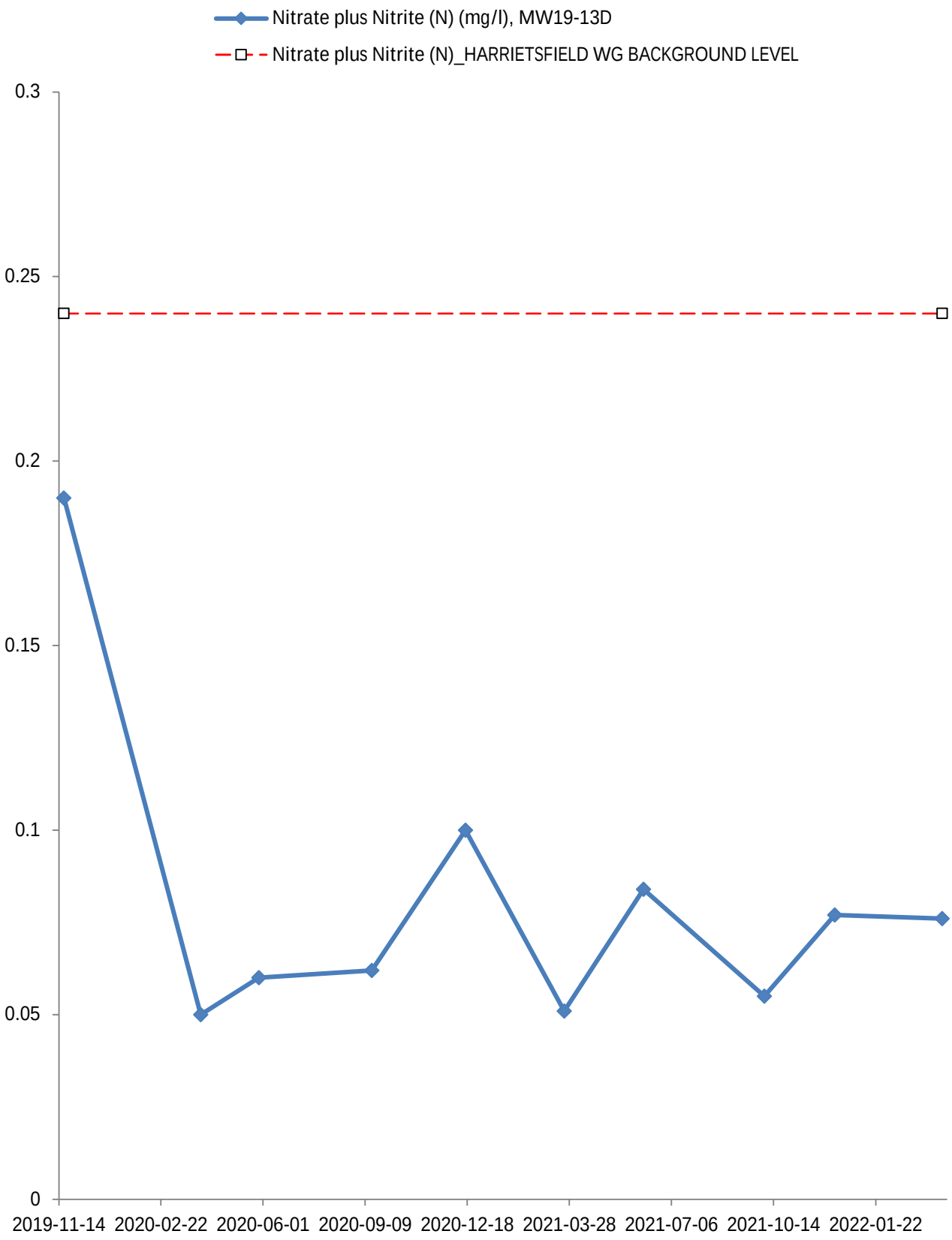
MW19-13D-Nickel



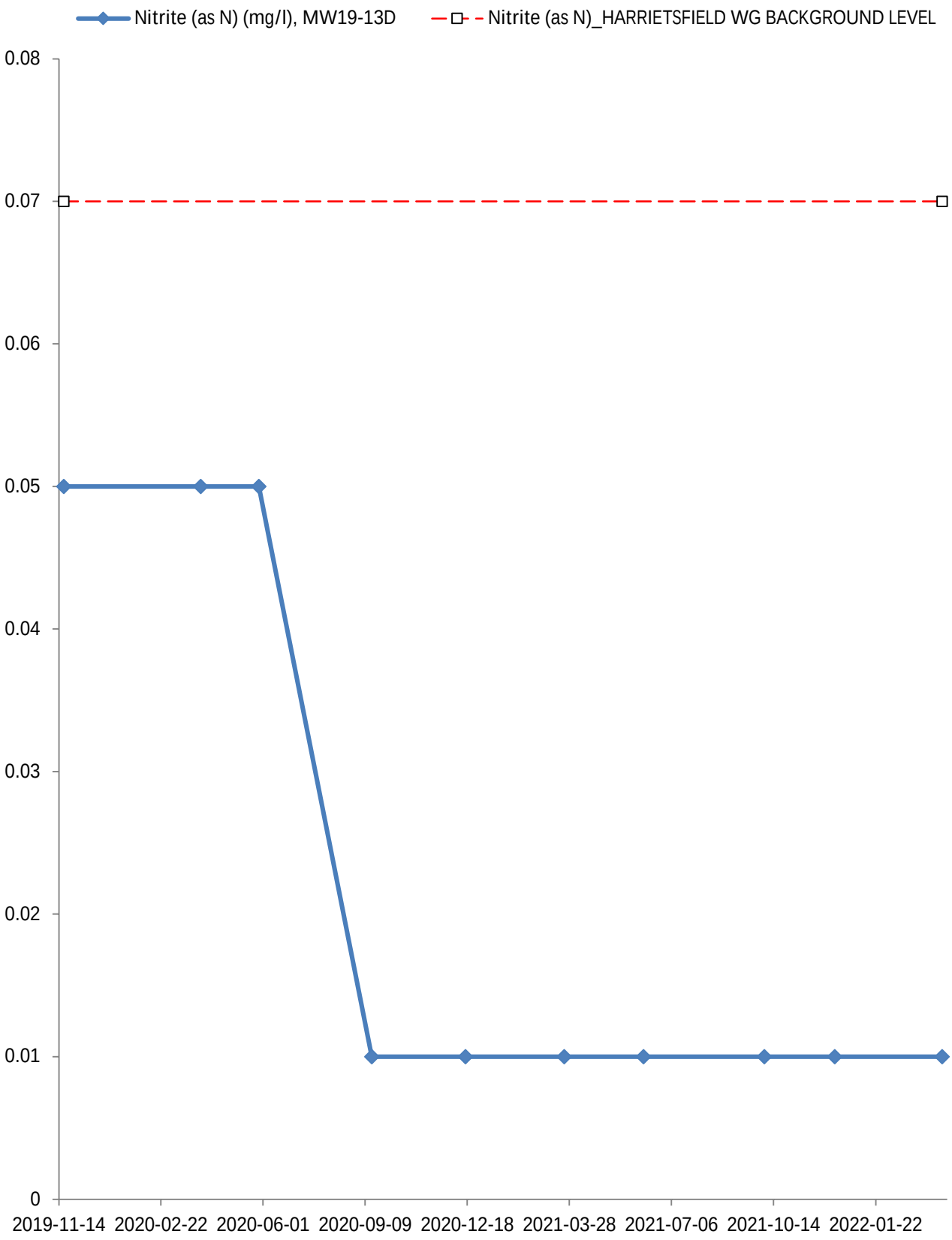
MW19-13D-Nitrate (as N)



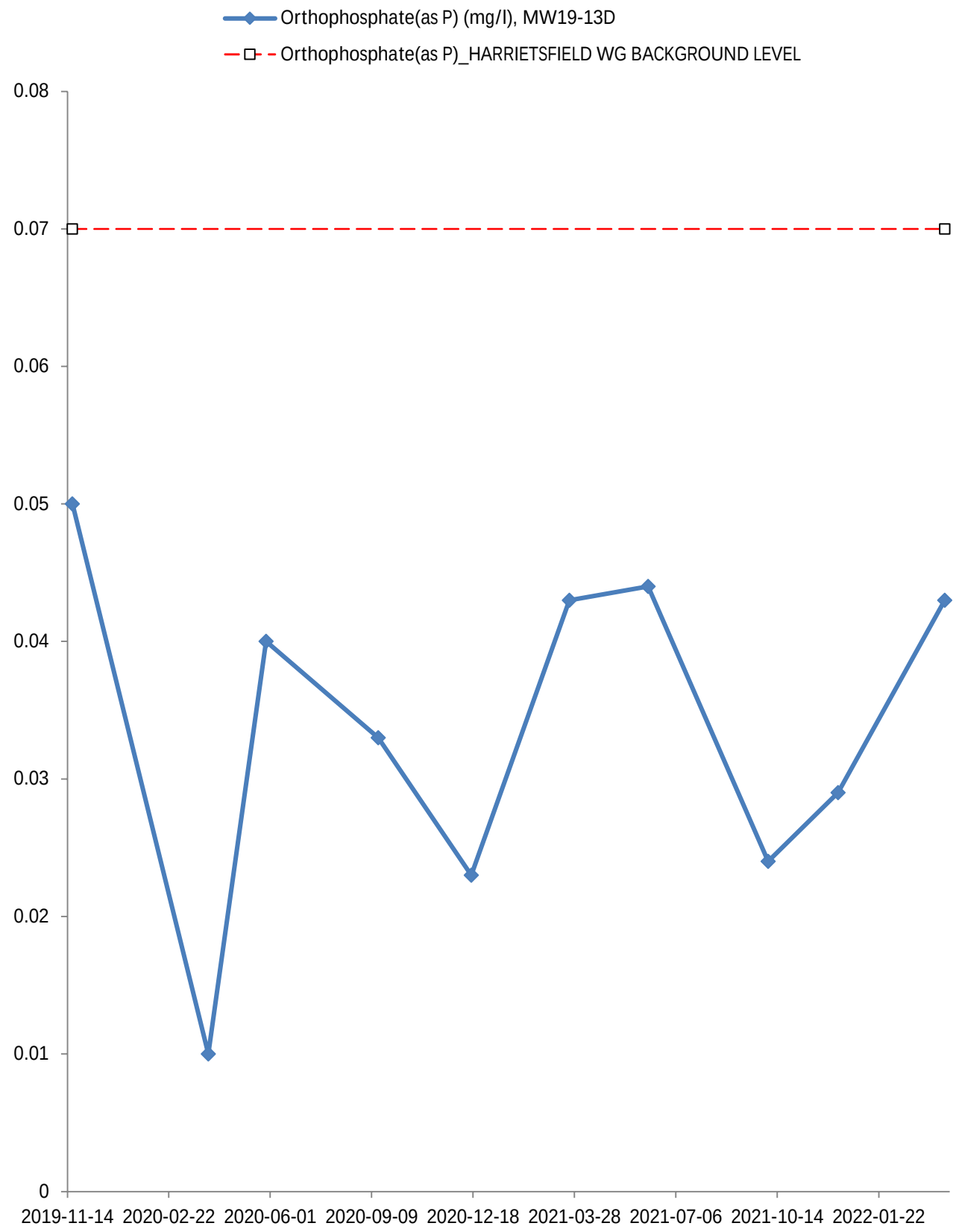
MW19-13D-Nitrate plus Nitrite (N)



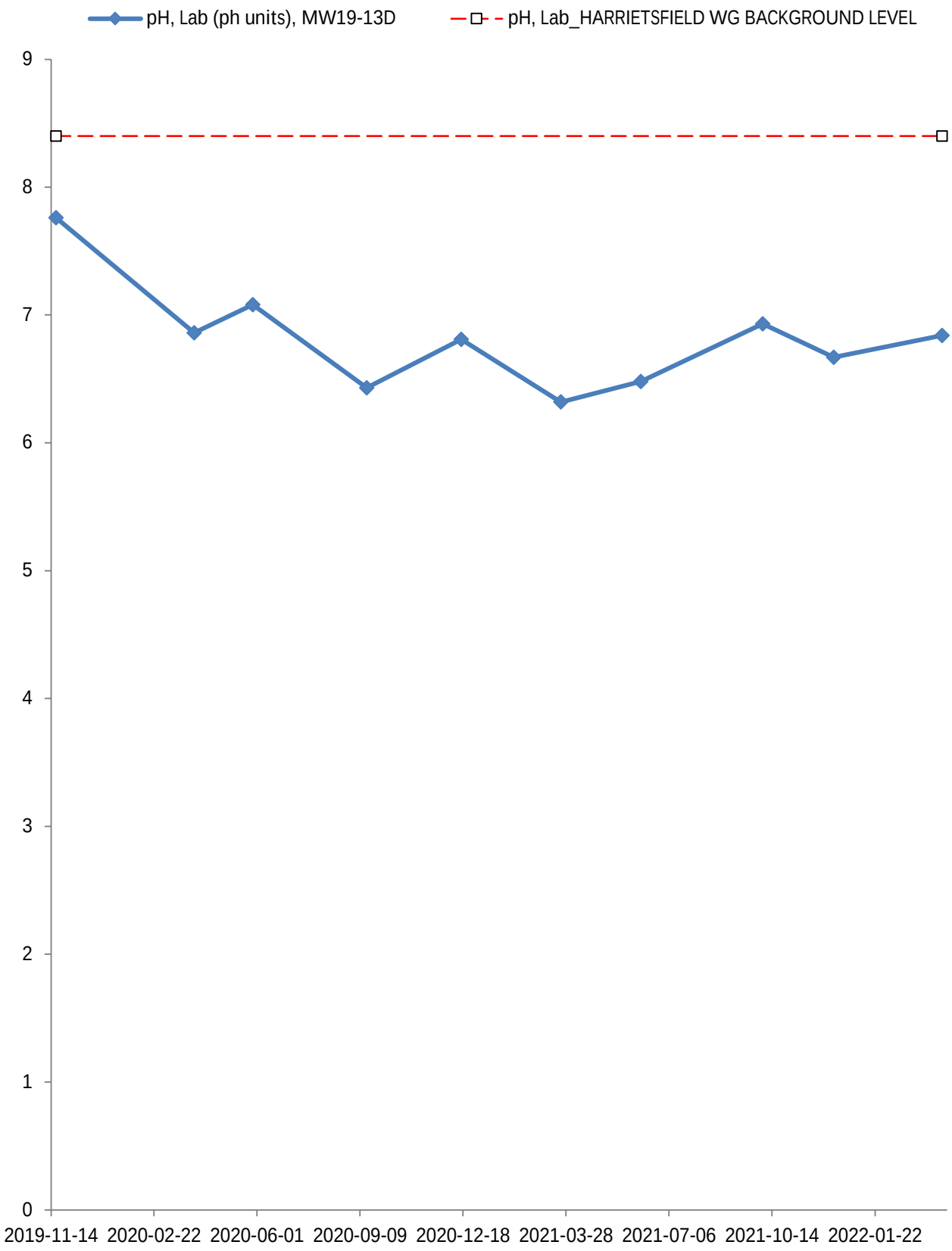
MW19-13D-Nitrite (as N)



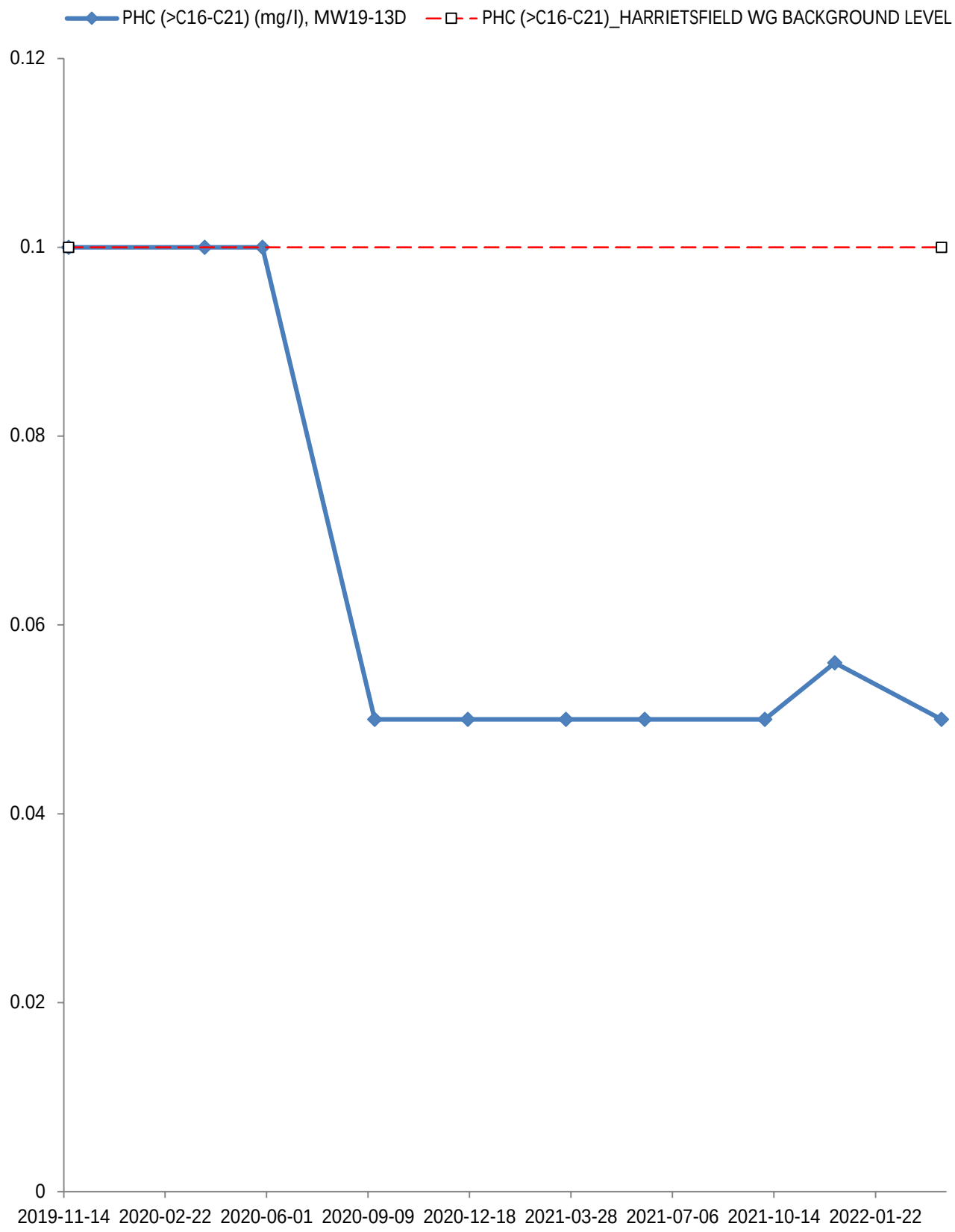
MW19-13D-Orthophosphate(as P)



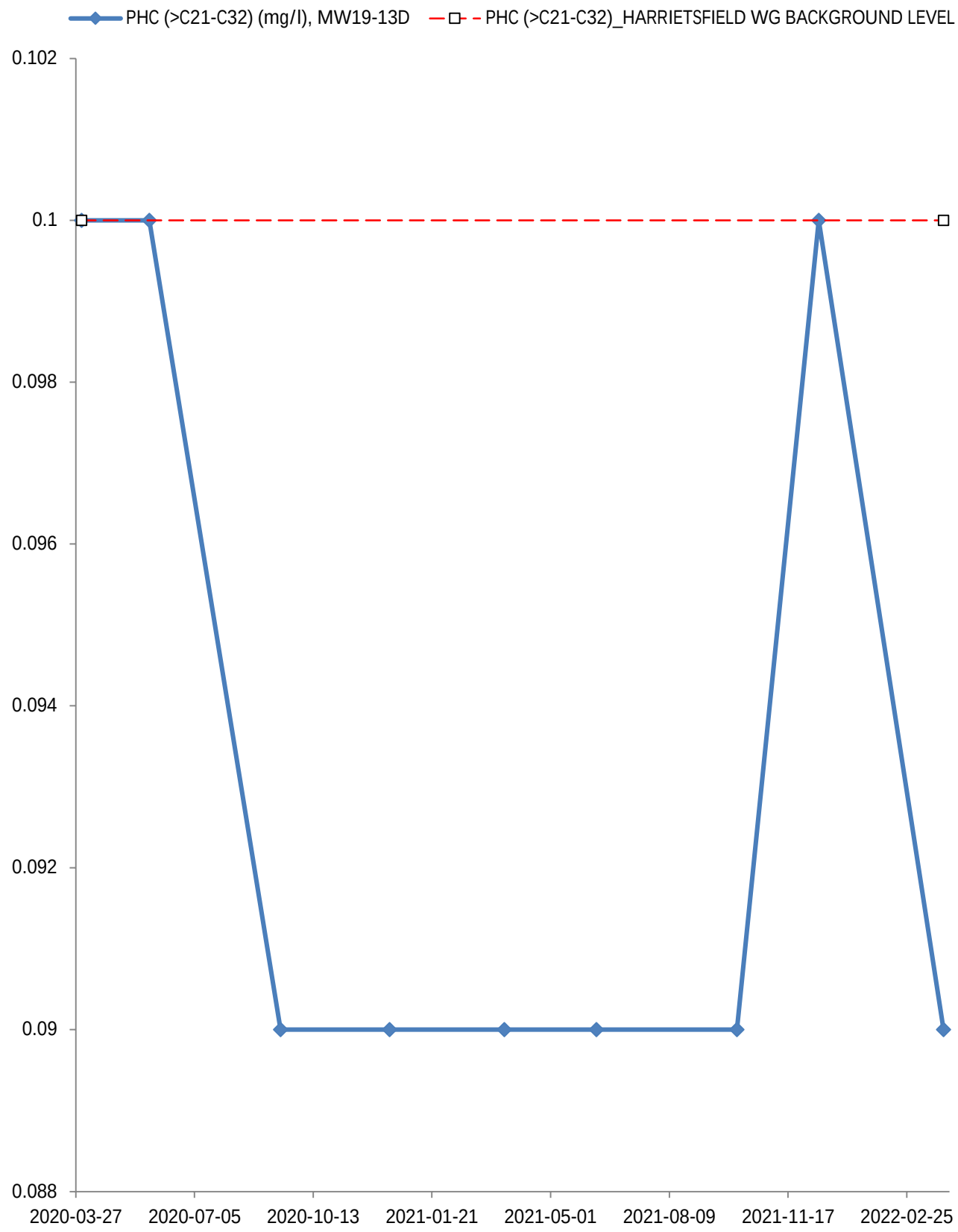
MW19-13D-pH, Lab



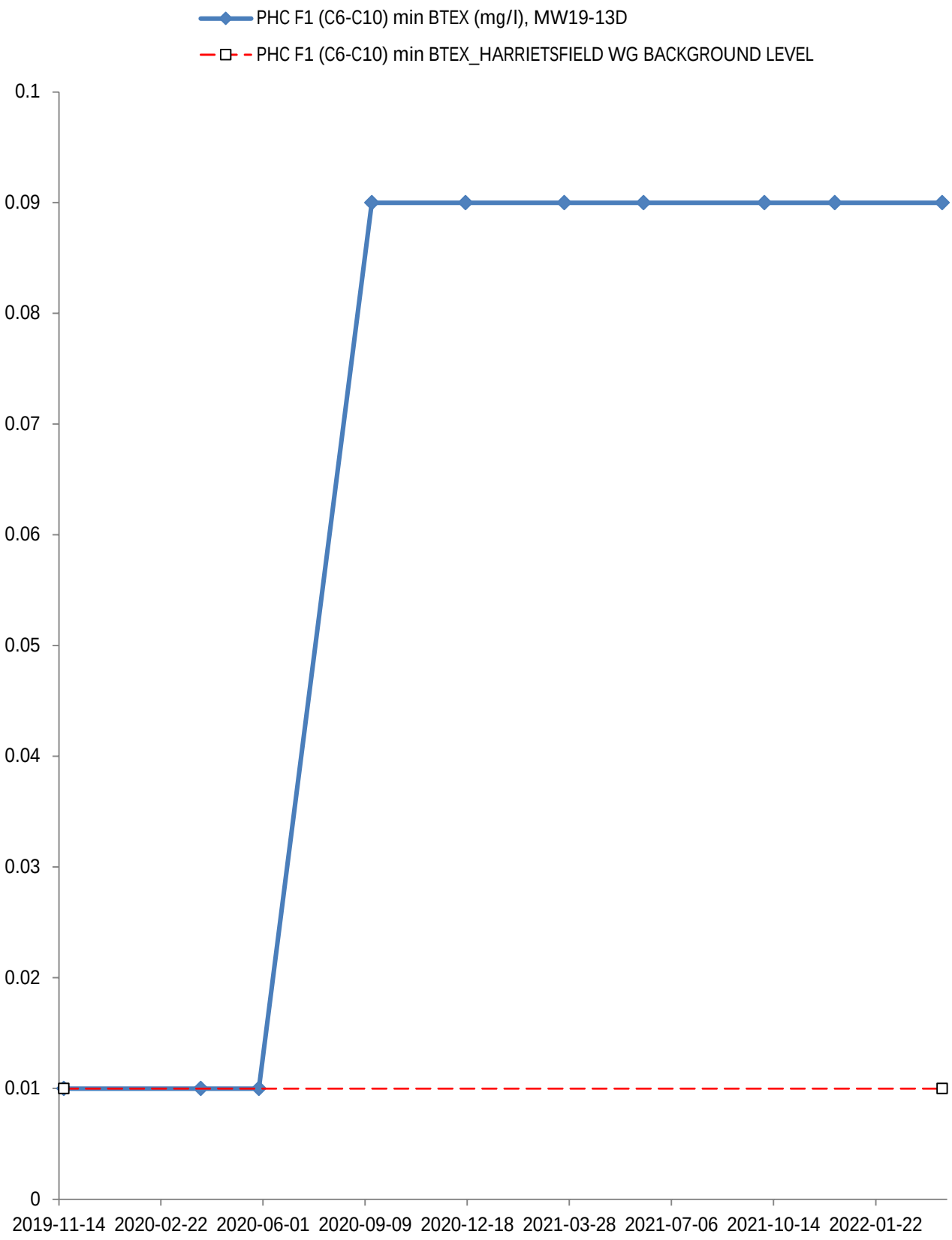
MW19-13D-PHC (>C16-C21)



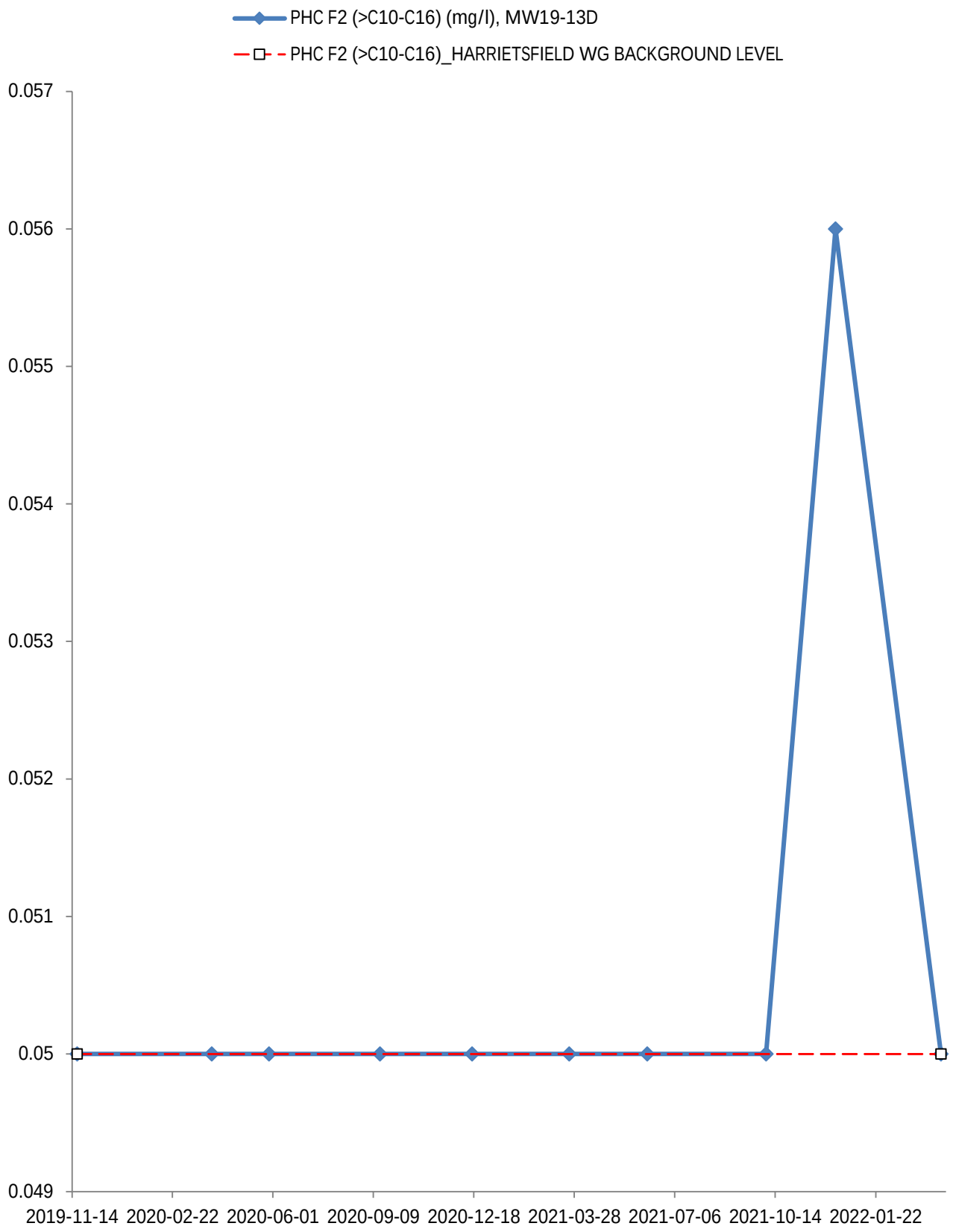
MW19-13D-PHC (>C21-C32)



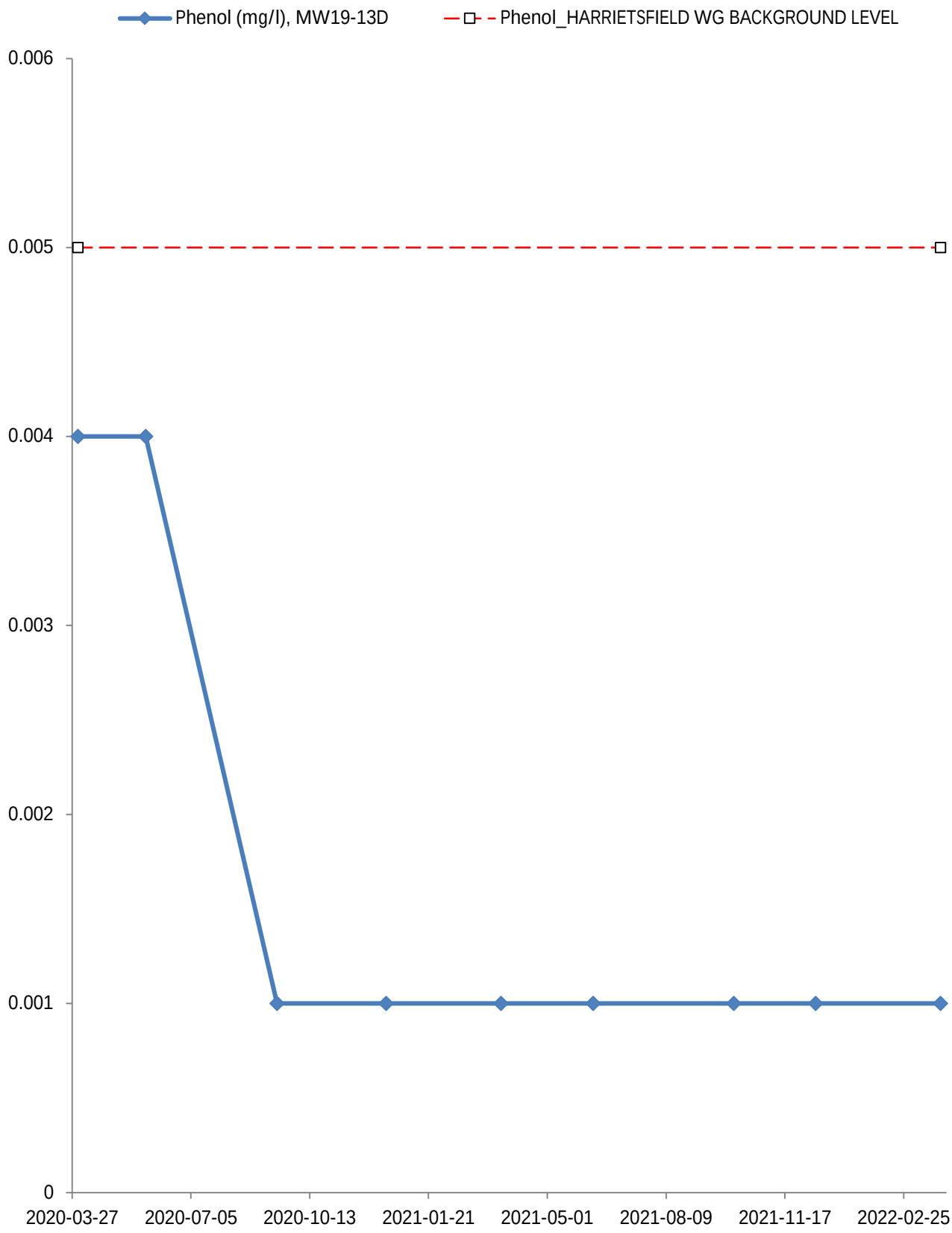
MW19-13D-PHC F1 (C6-C10) min BTEX



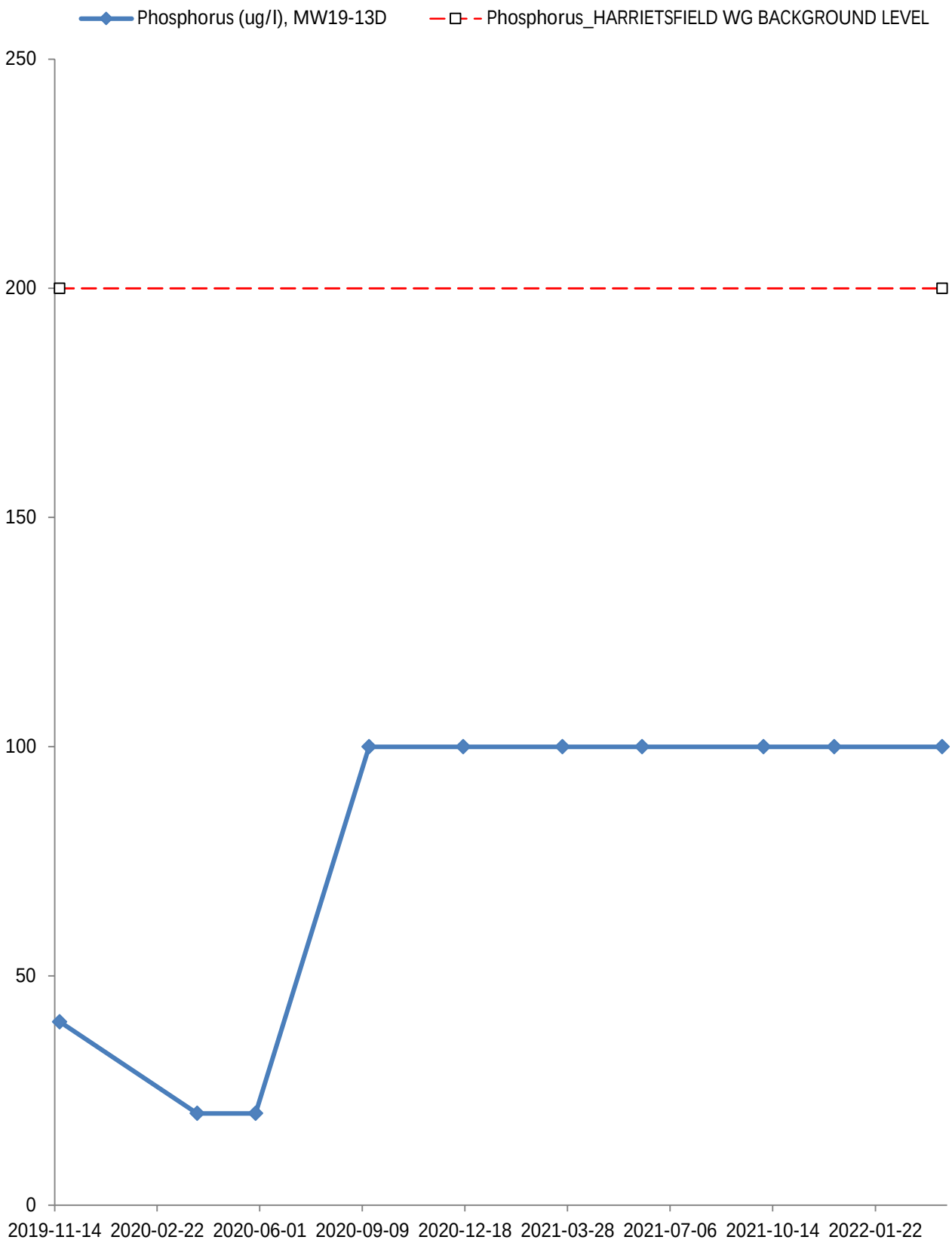
MW19-13D-PHC F2 (>C10-C16)



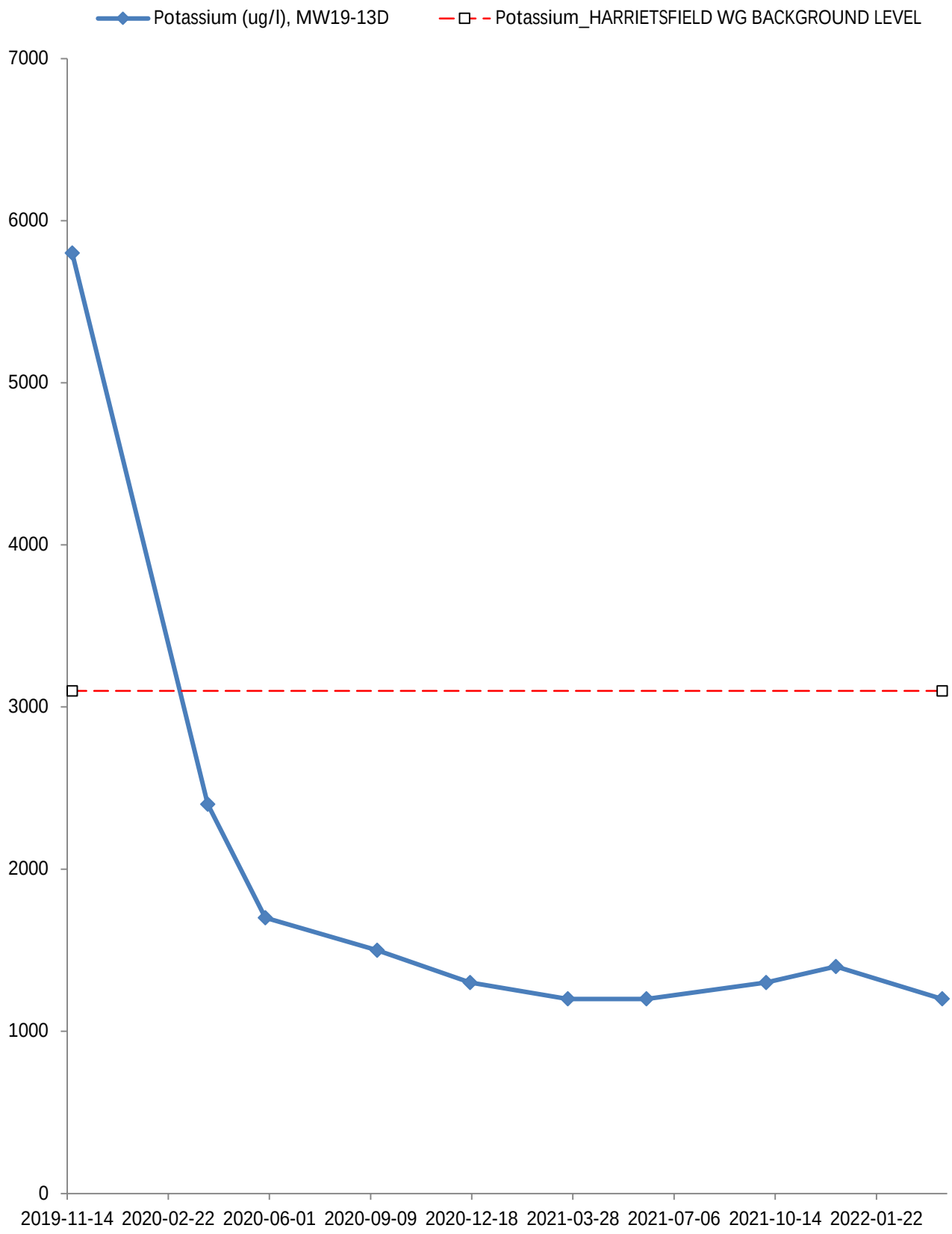
MW19-13D-Phenol



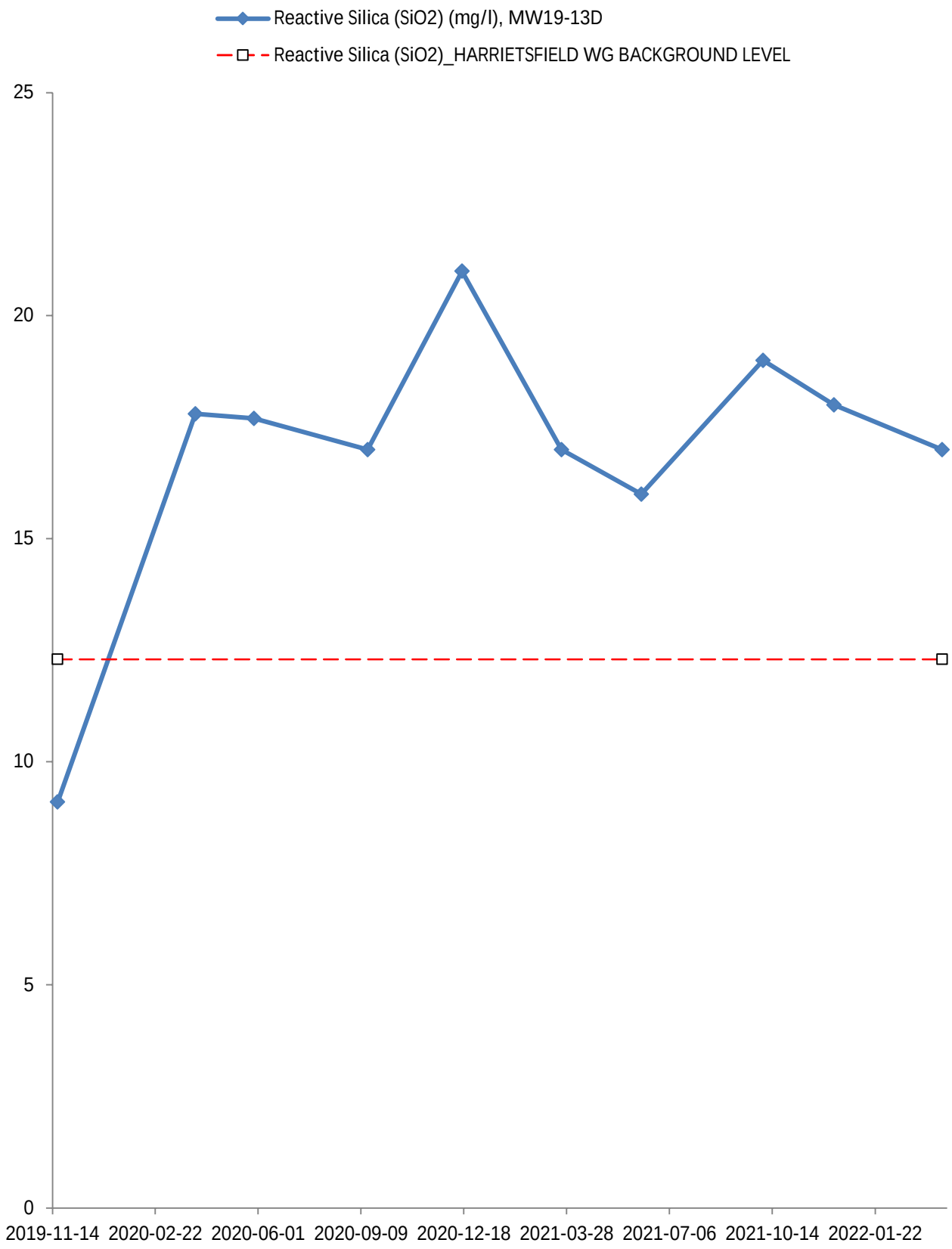
MW19-13D-Phosphorus



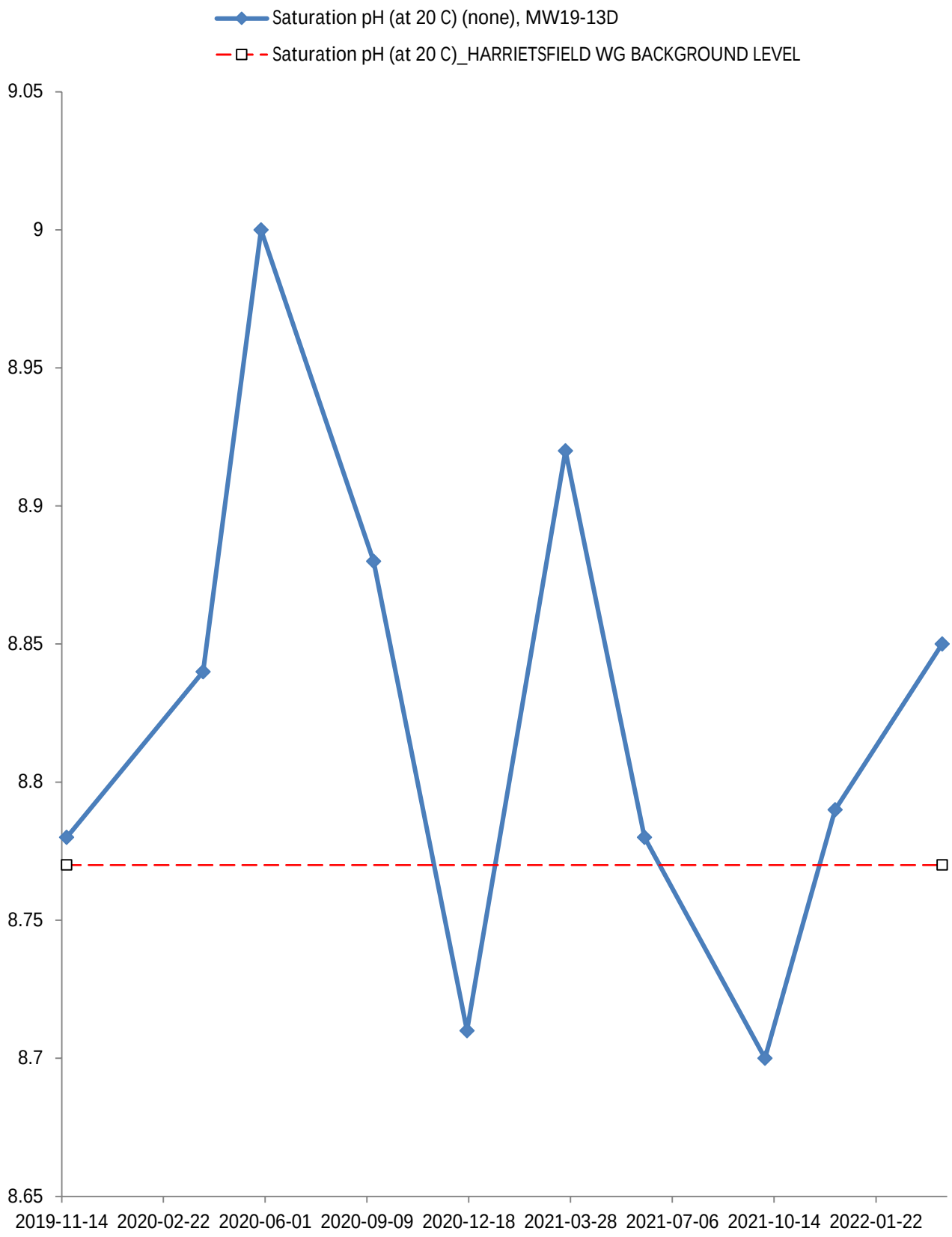
MW19-13D-Potassium



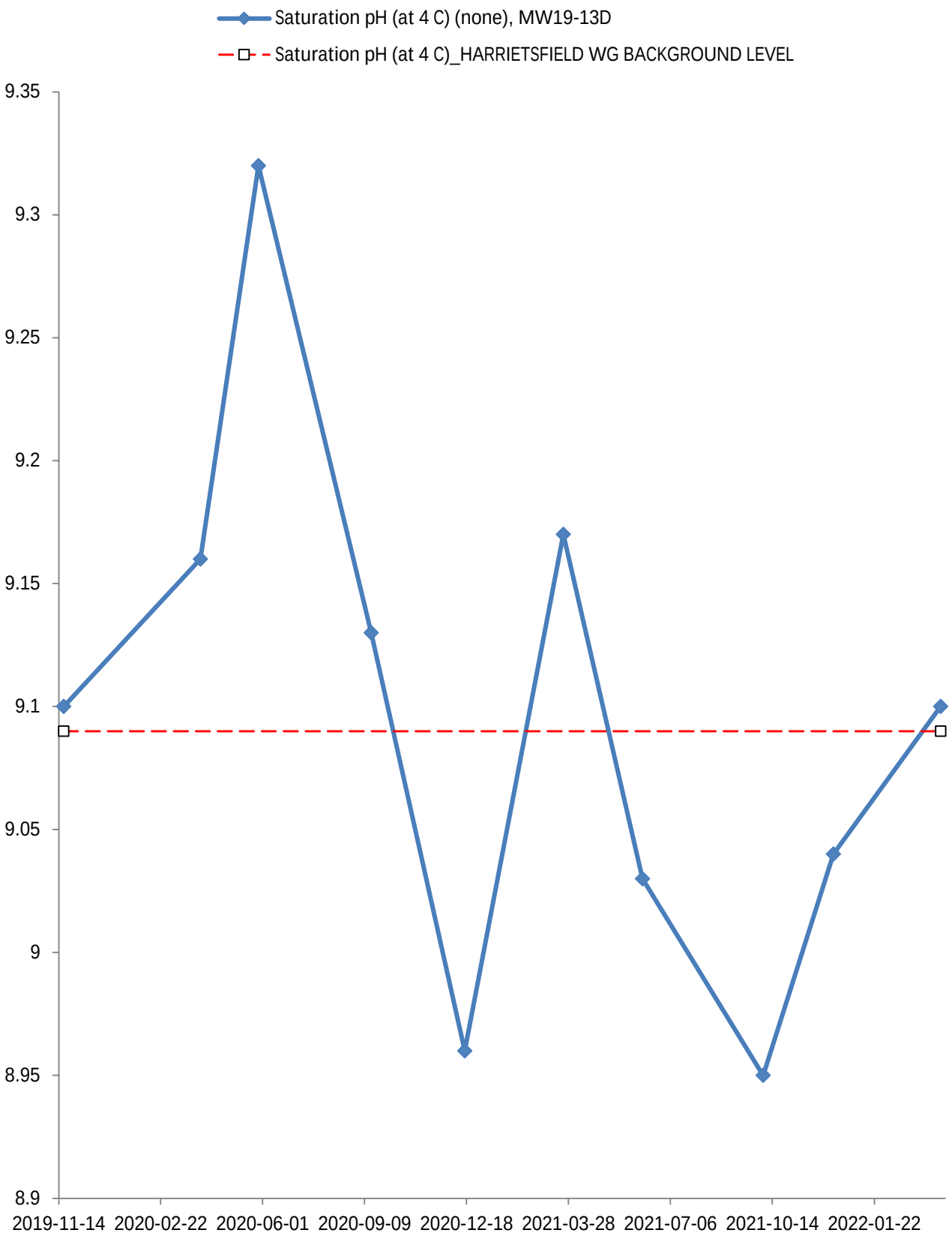
MW19-13D-Reactive Silica (SiO2)



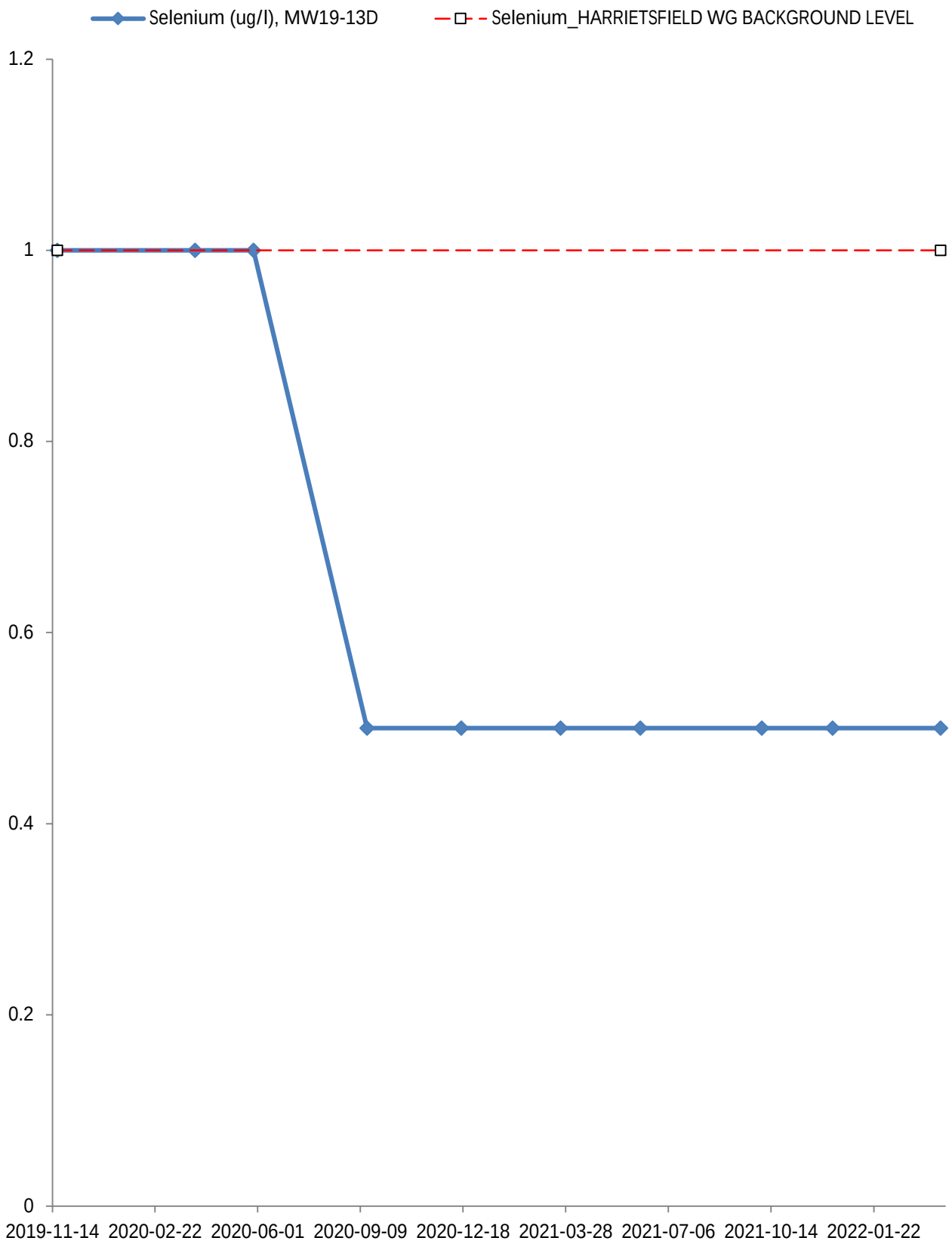
MW19-13D-Saturation pH (at 20 C)



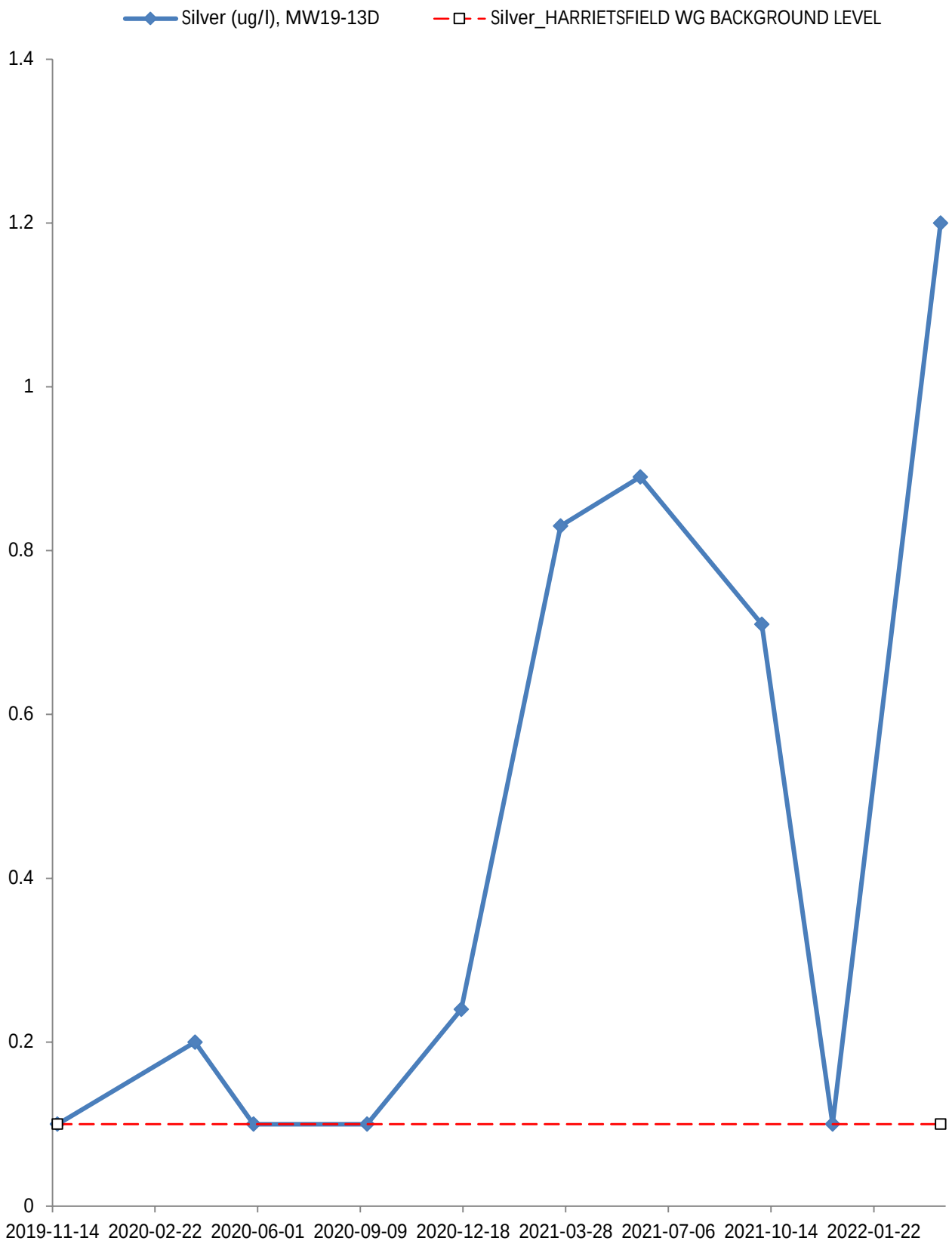
MW19-13D-Saturation pH (at 4 C)



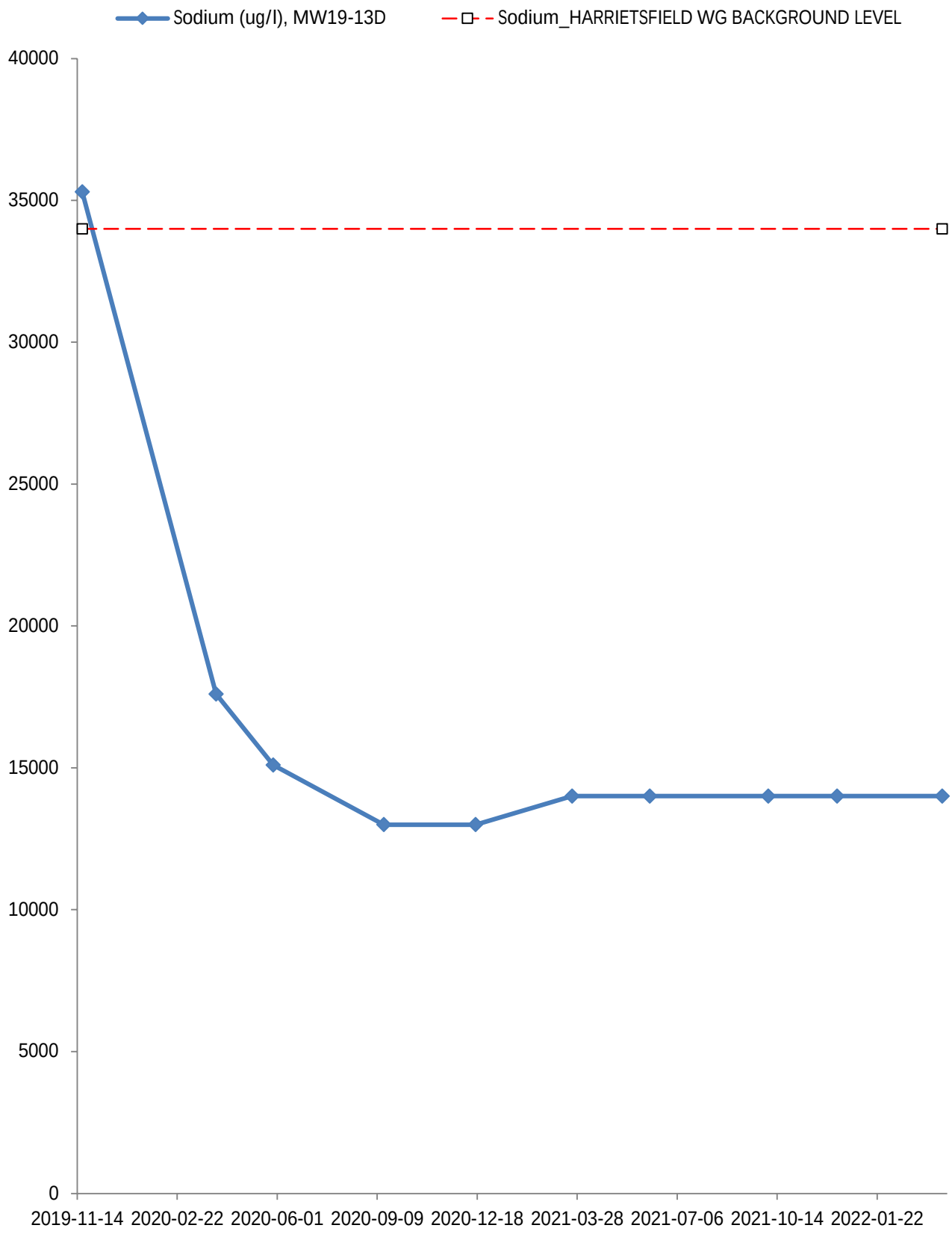
MW19-13D-Selenium



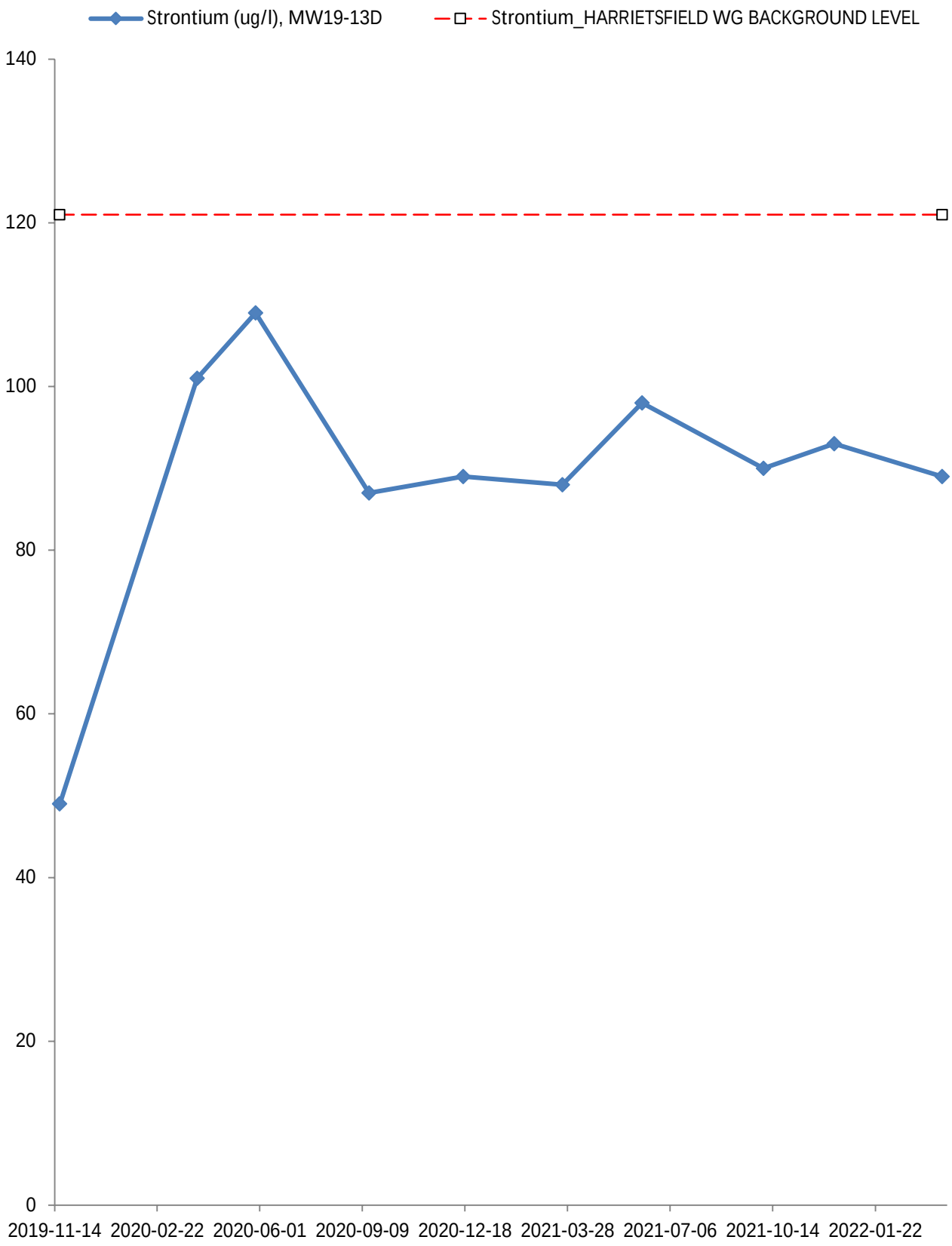
MW19-13D-Silver



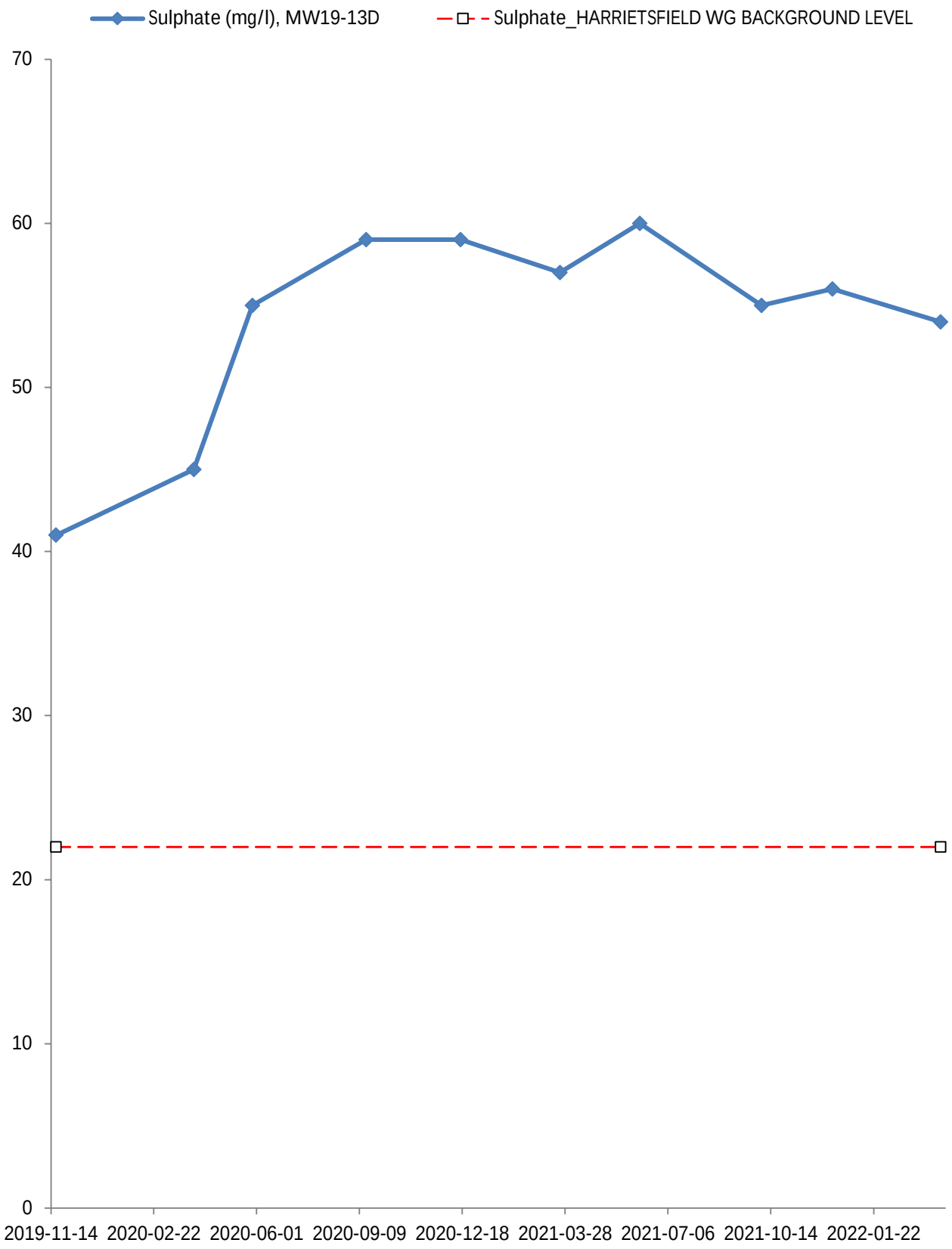
MW19-13D-Sodium



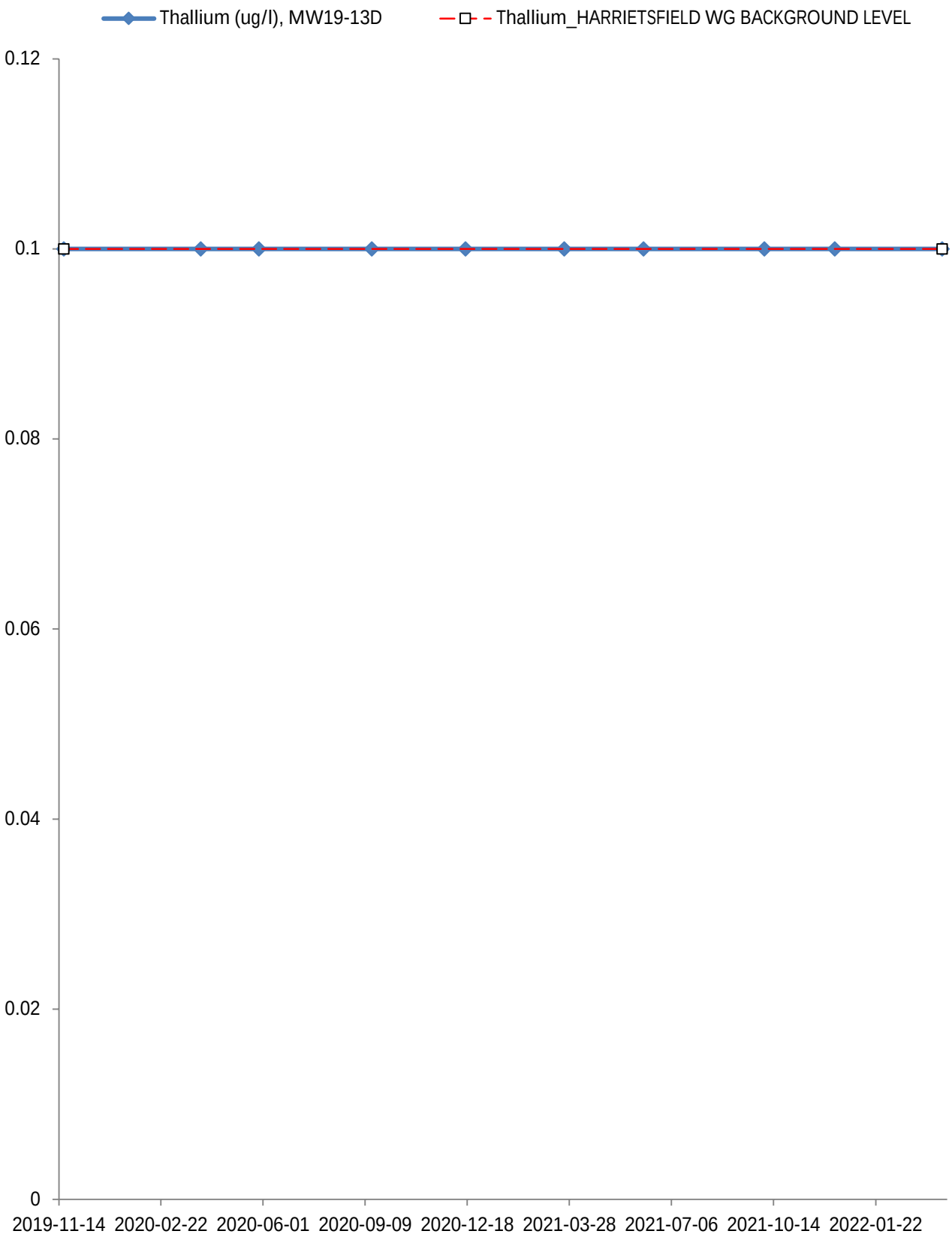
MW19-13D-Strontium



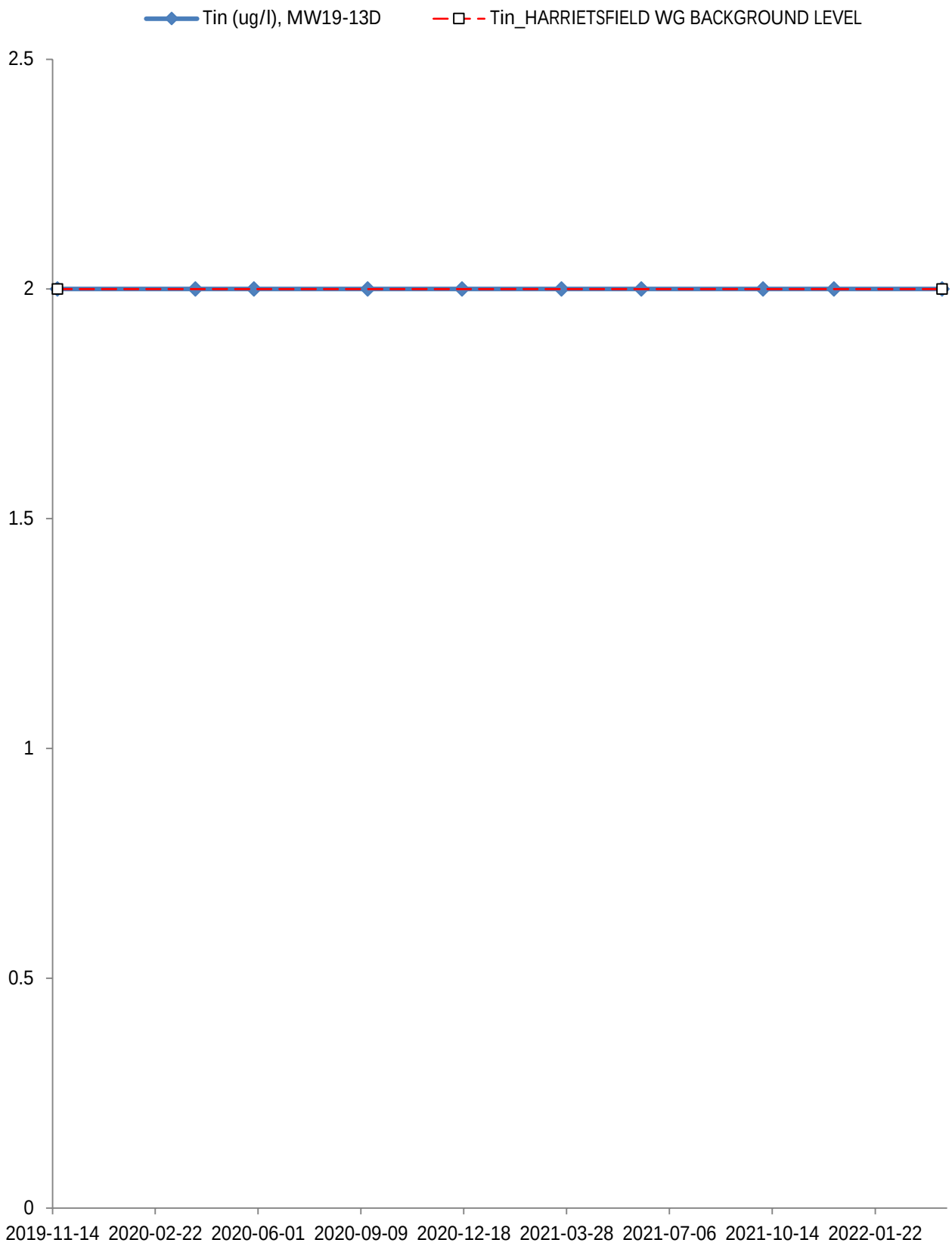
MW19-13D-Sulphate



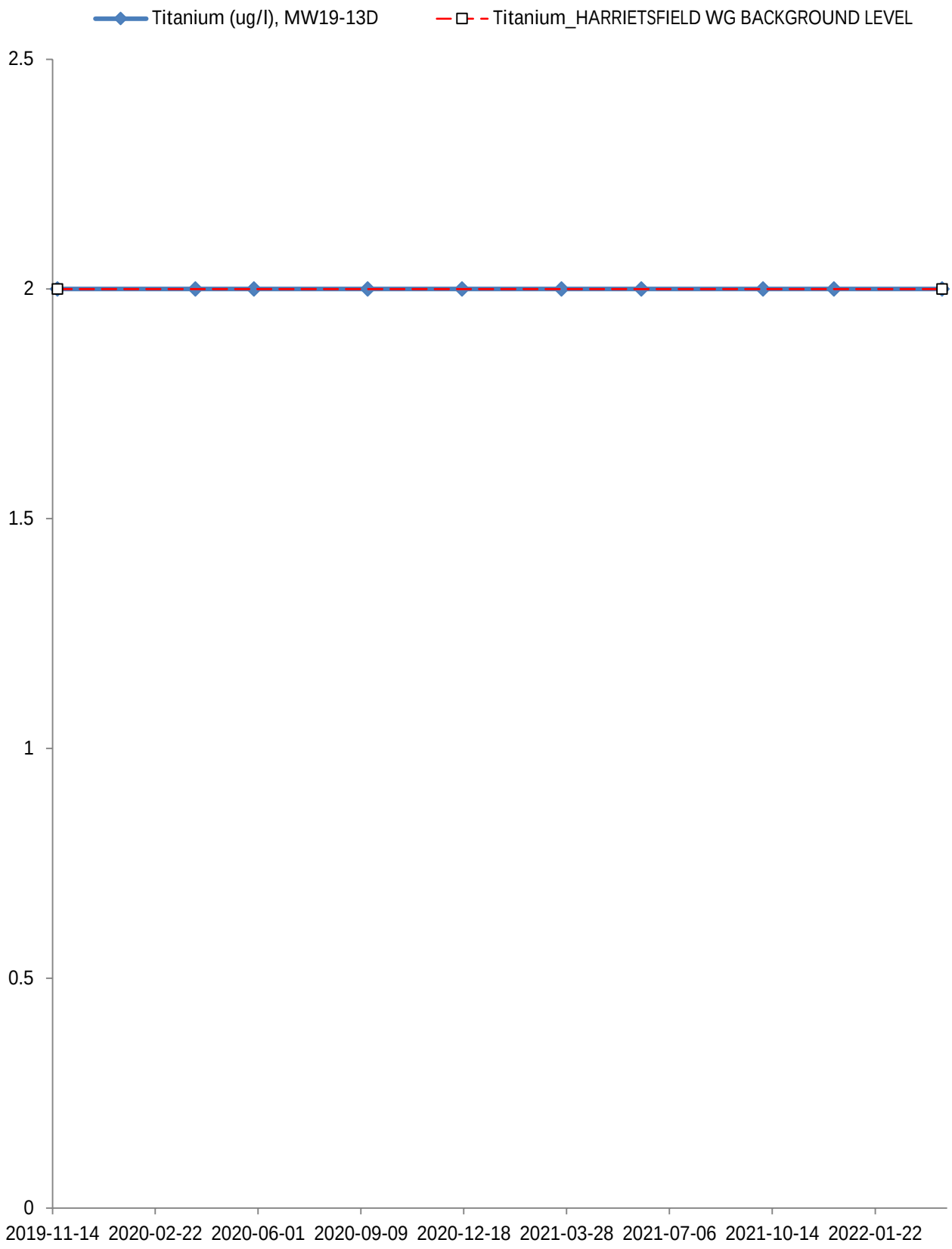
MW19-13D-Thallium



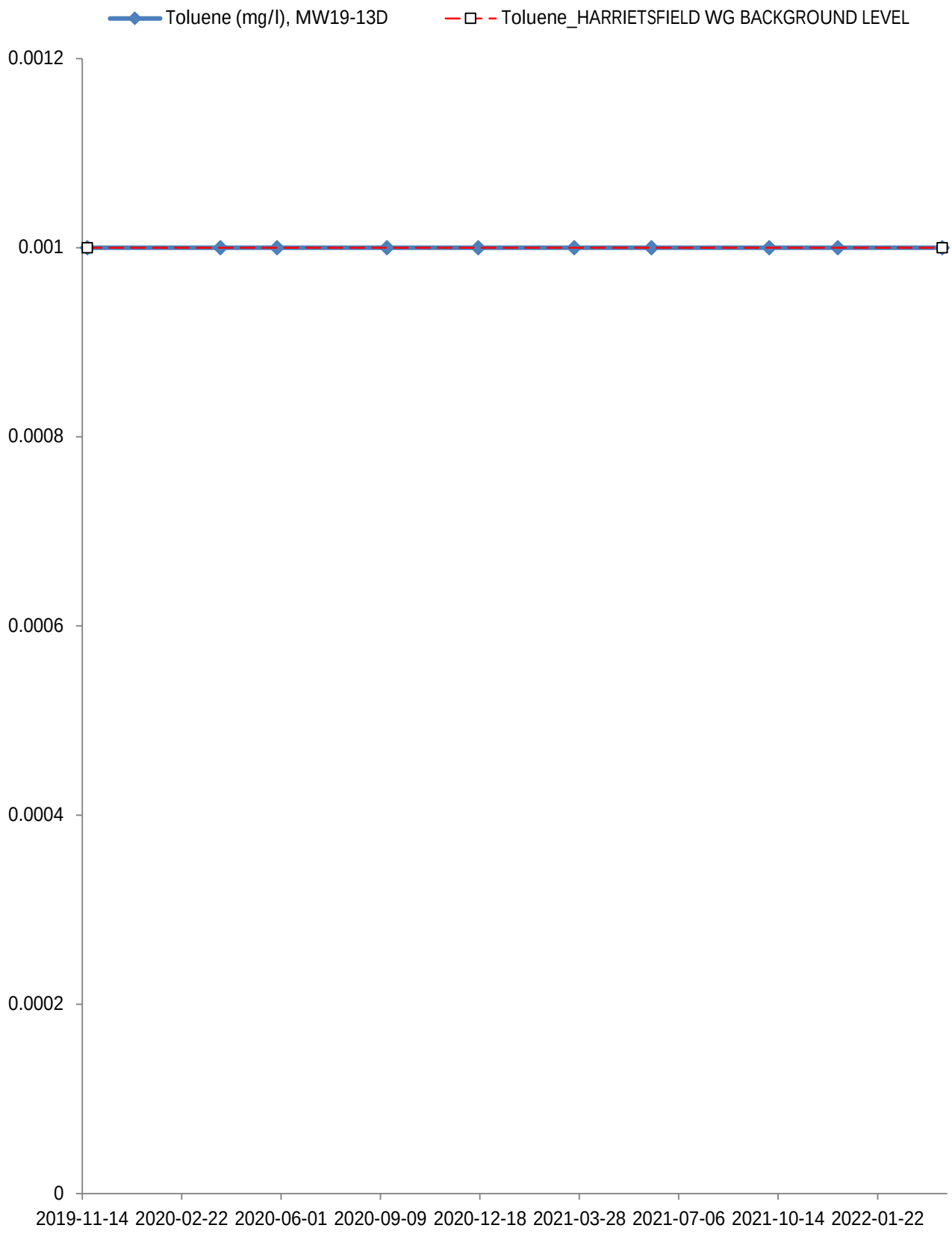
MW19-13D-Tin


Tin (ug/l), MW19-13D
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2019-11-14
2020-02-22
2020-06-01
2020-09-09
2020-12-18
2021-03-28
2021-07-06
2021-10-14
2022-01-22

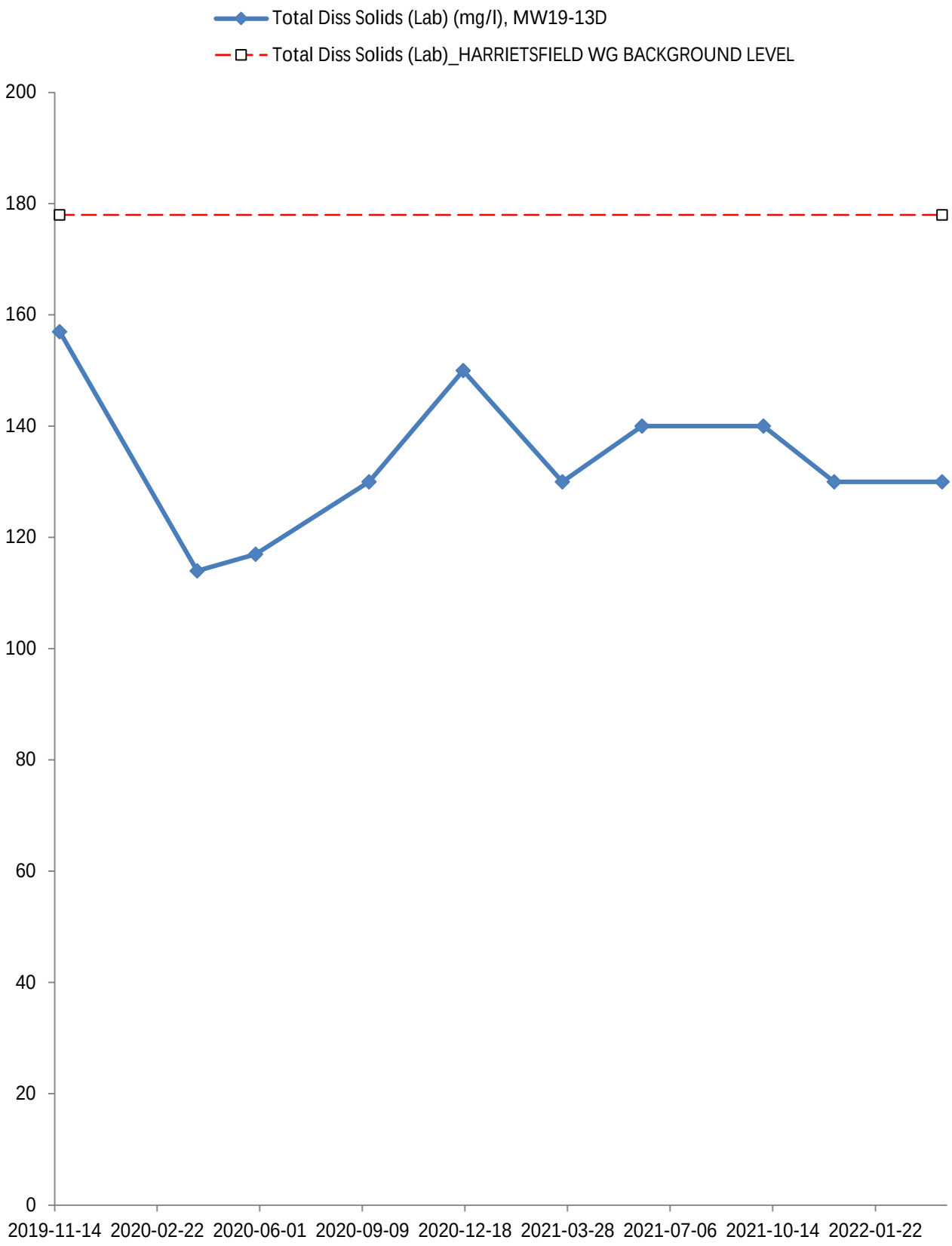
MW19-13D-Titanium



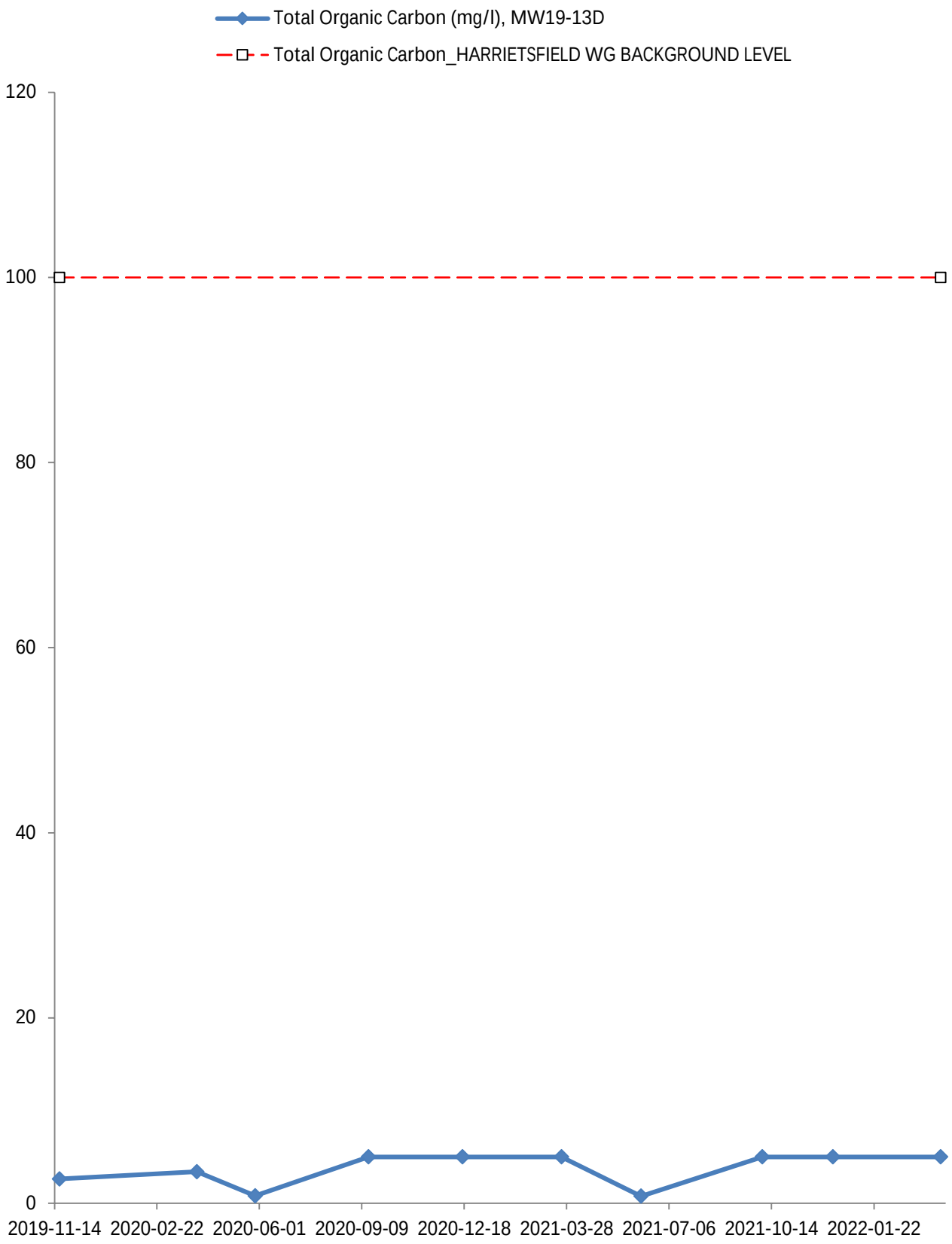
MW19-13D-Toluene



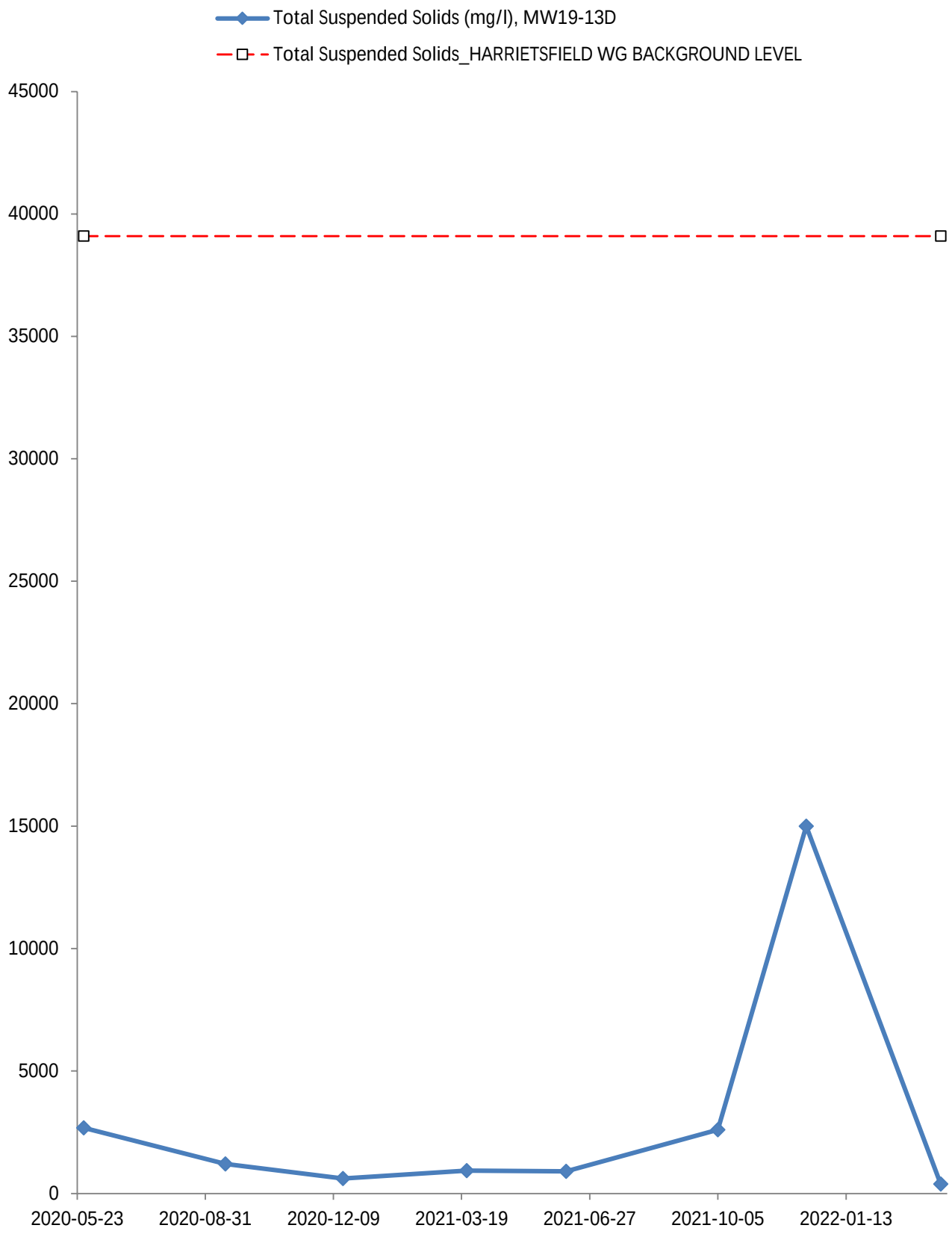
MW19-13D-Total Diss Solids (Lab)



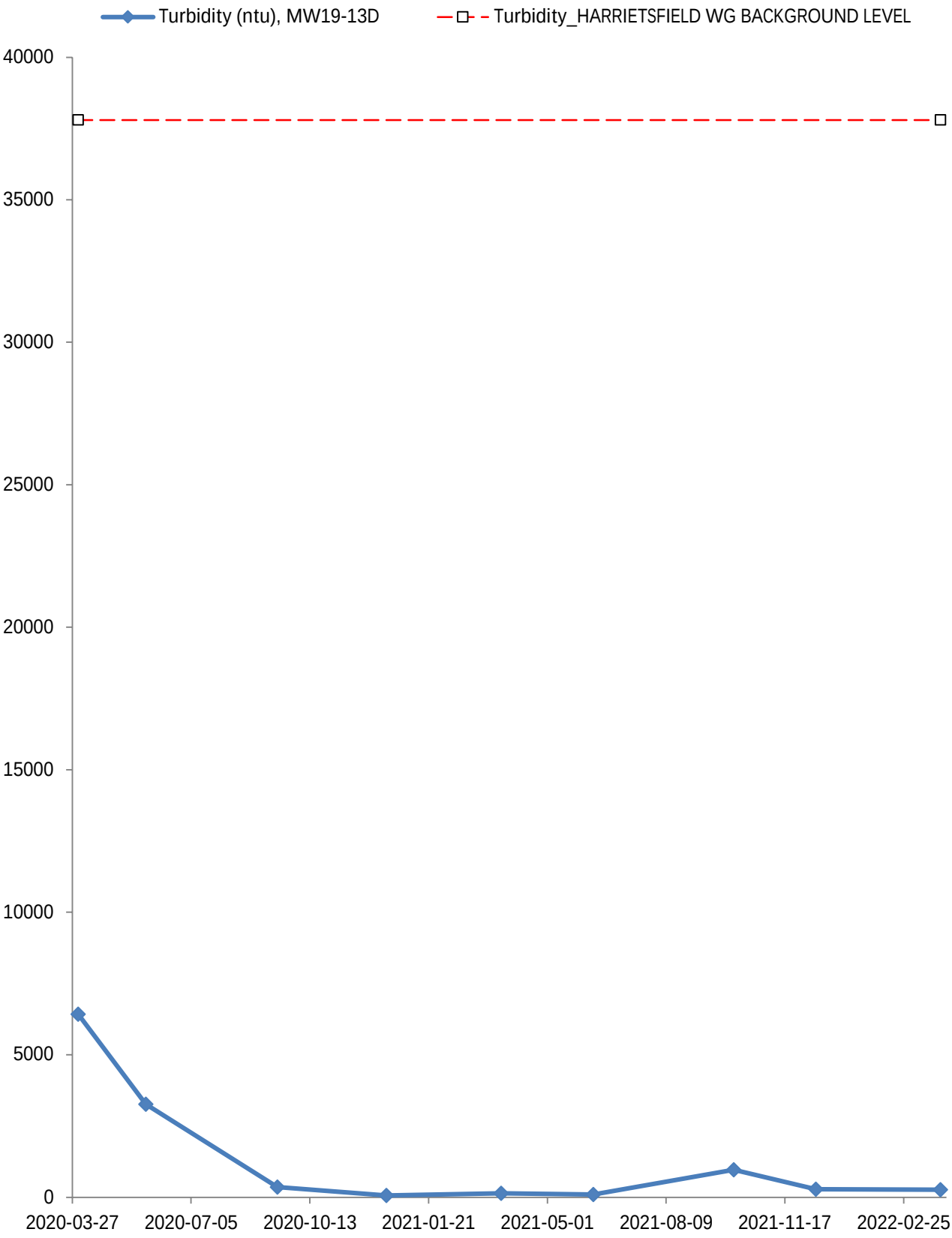
MW19-13D-Total Organic Carbon



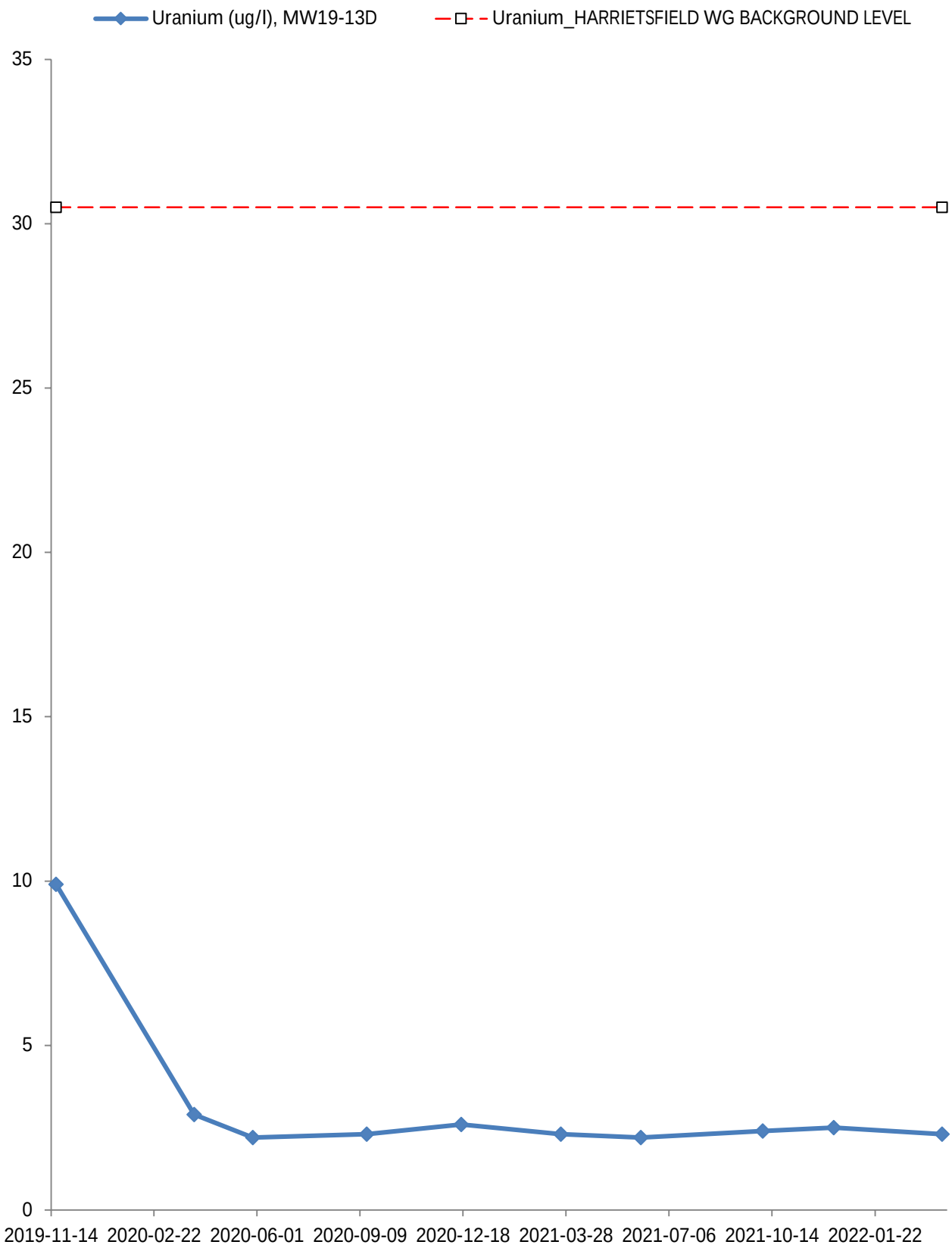
MW19-13D-Total Suspended Solids



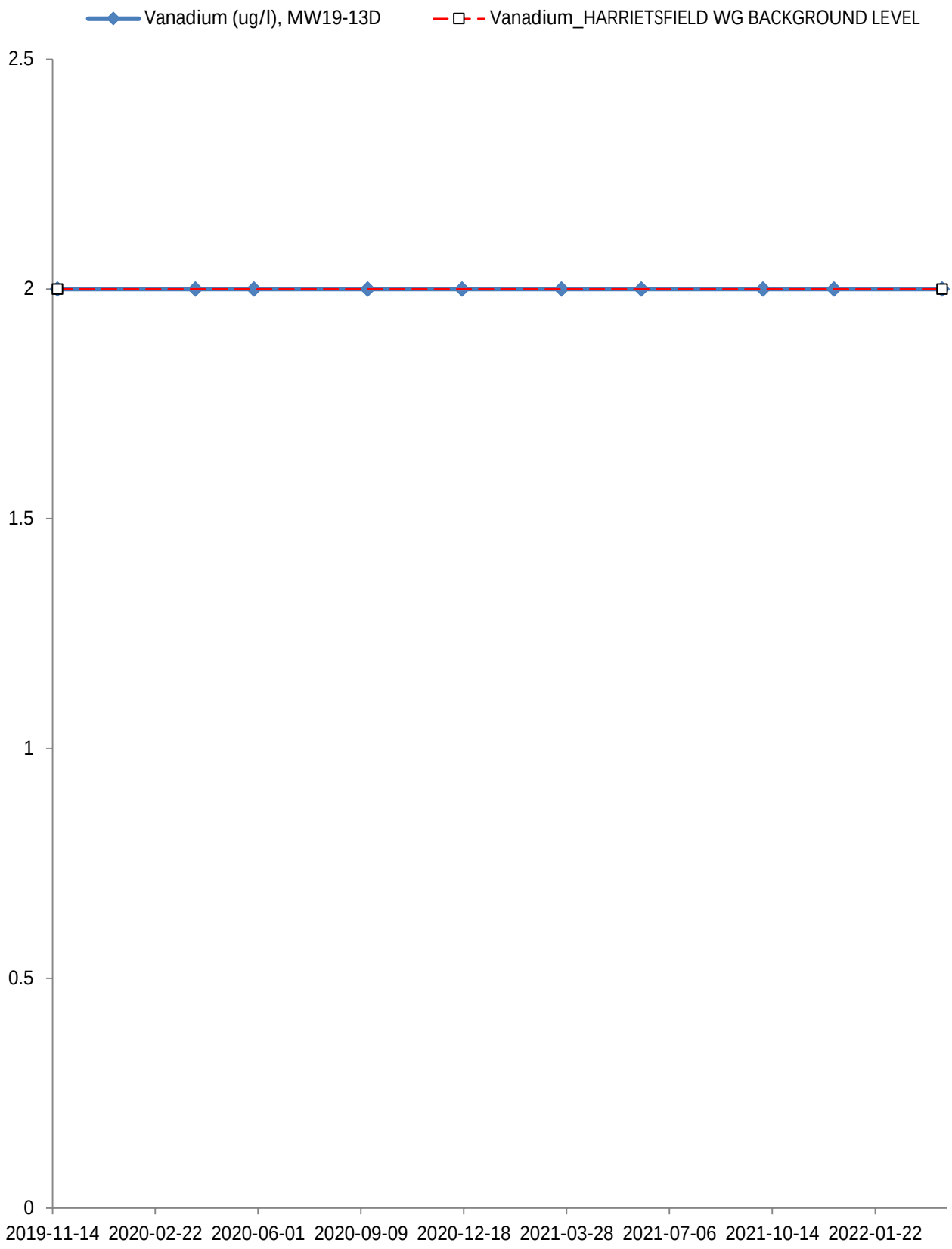
MW19-13D-Turbidity



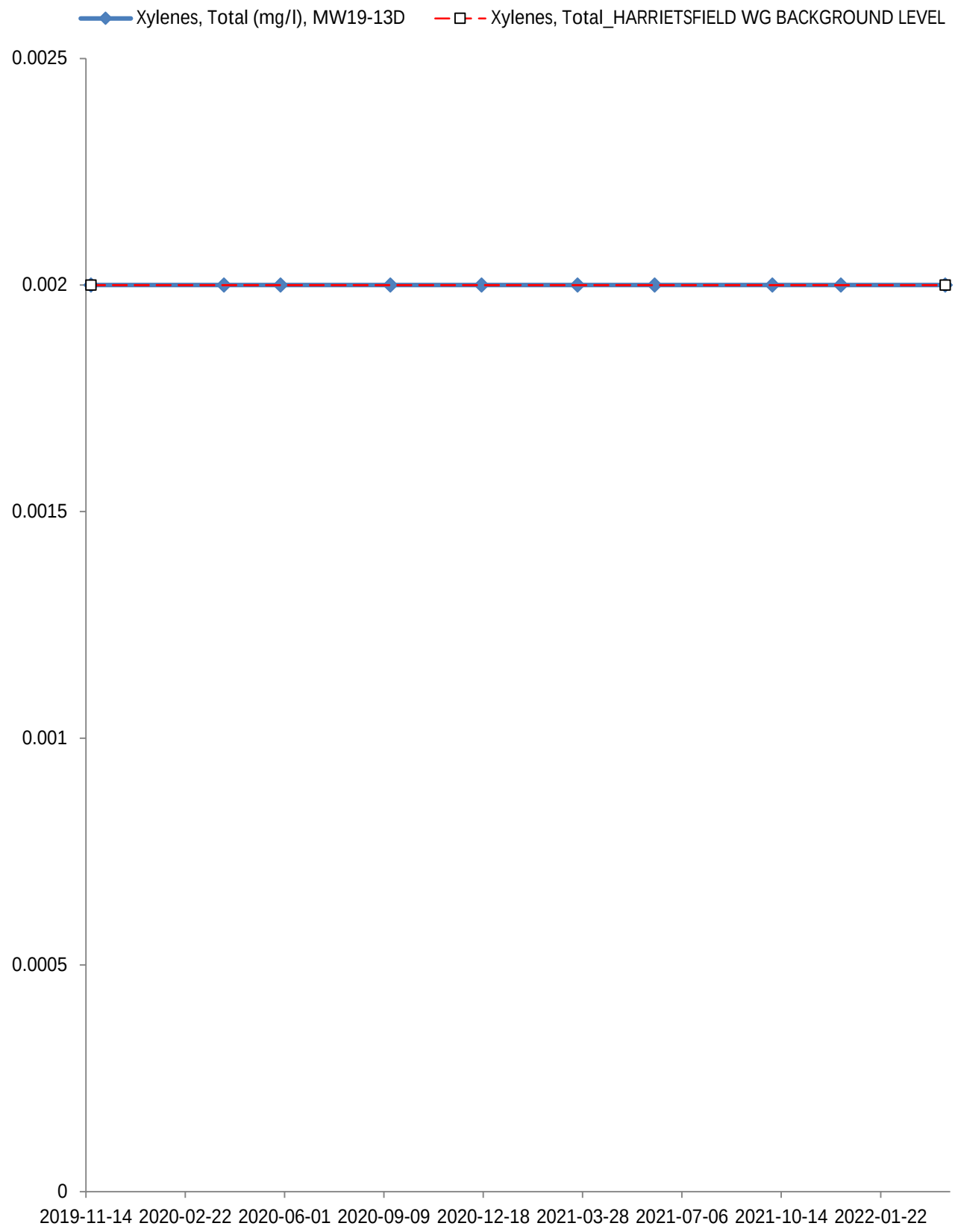
MW19-13D-Uranium



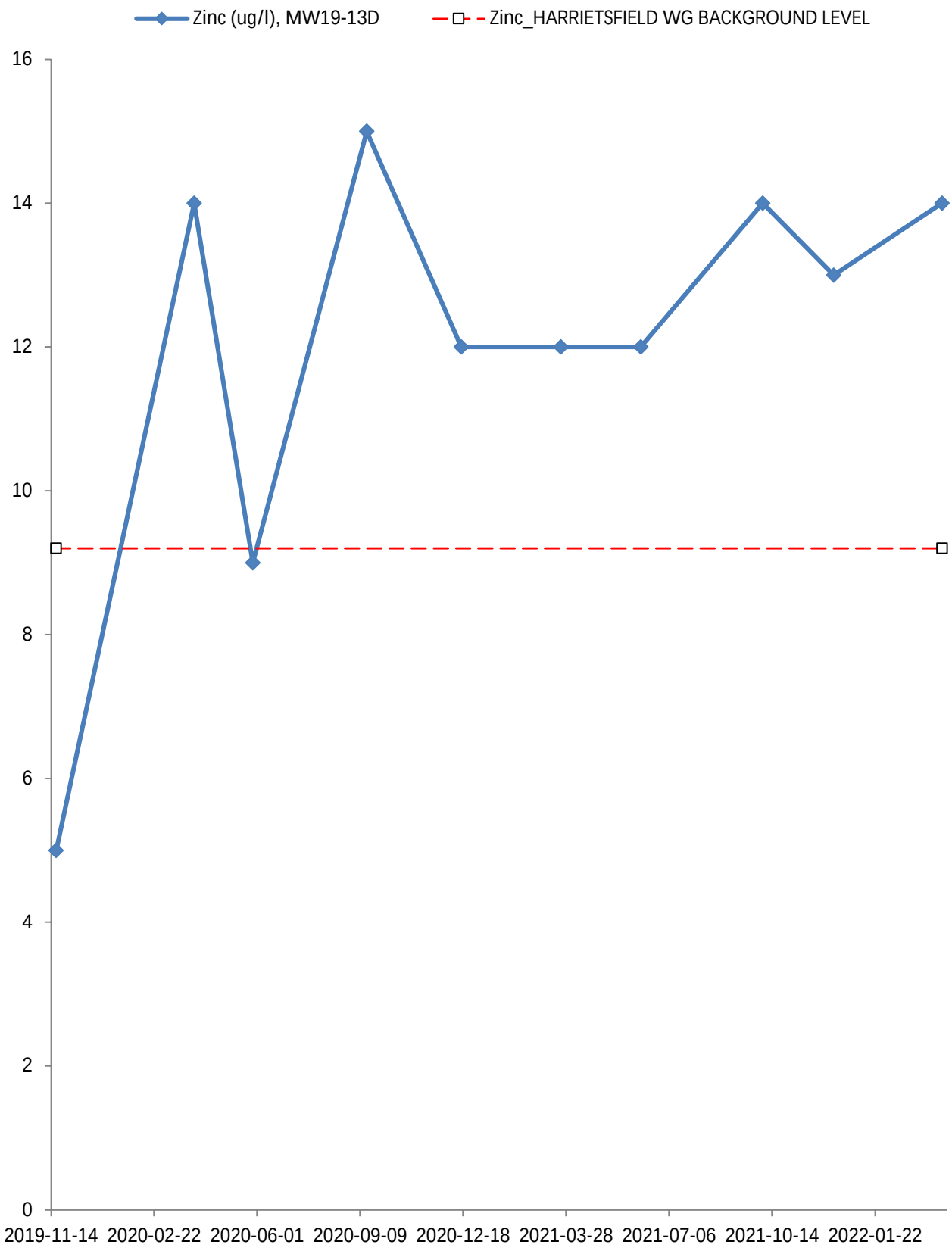
MW19-13D-Vanadium



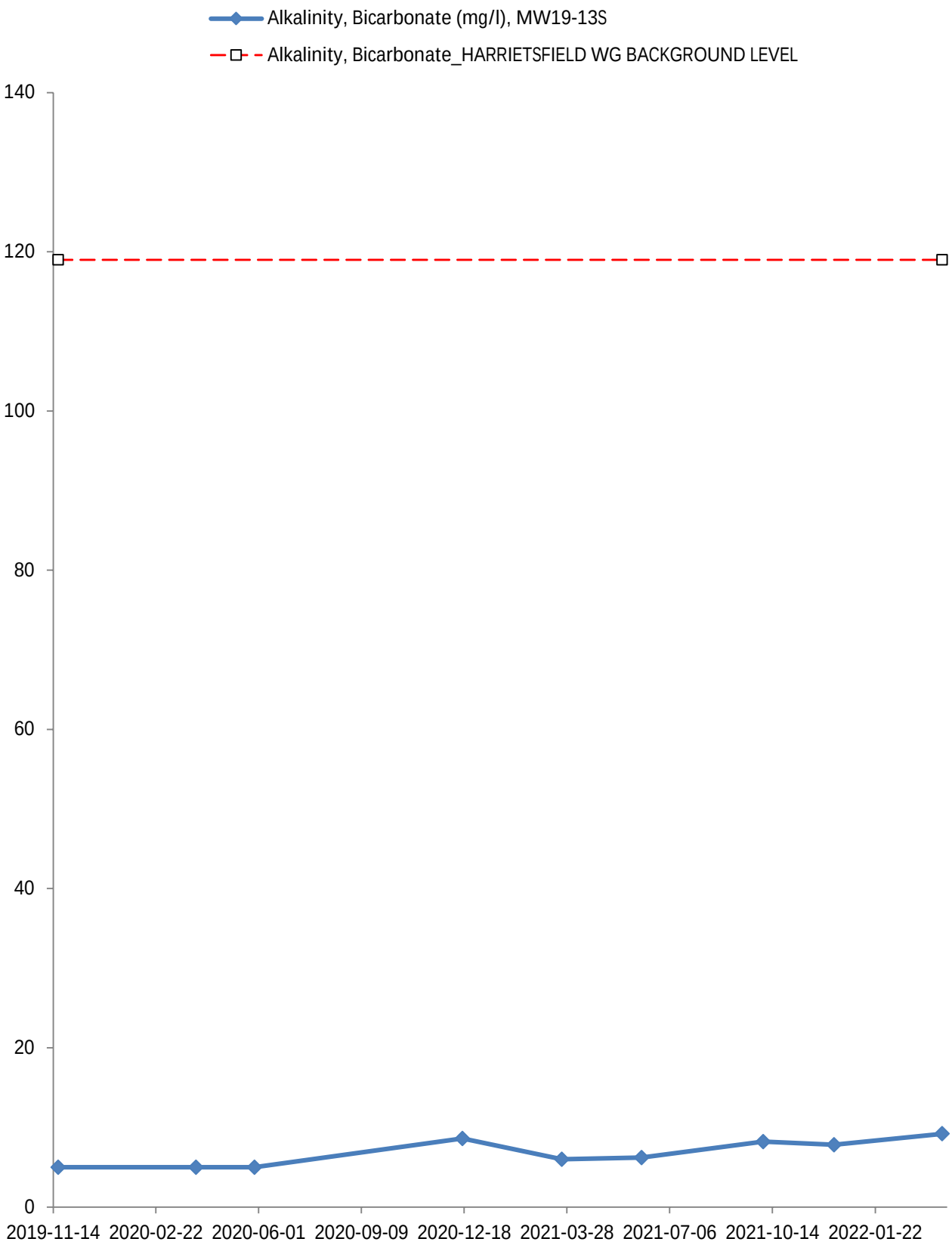
MW19-13D-Xylenes, Total



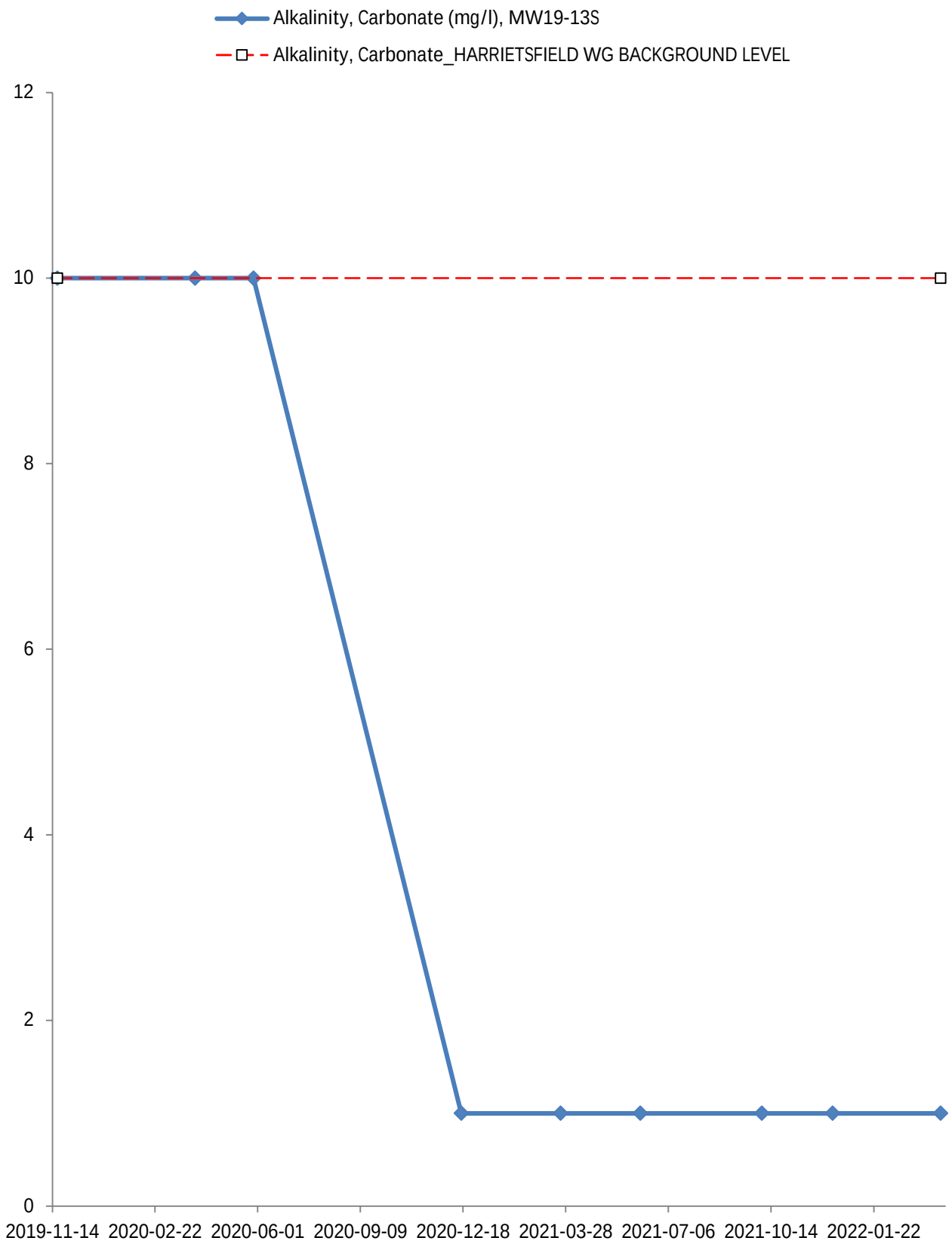
MW19-13D-Zinc



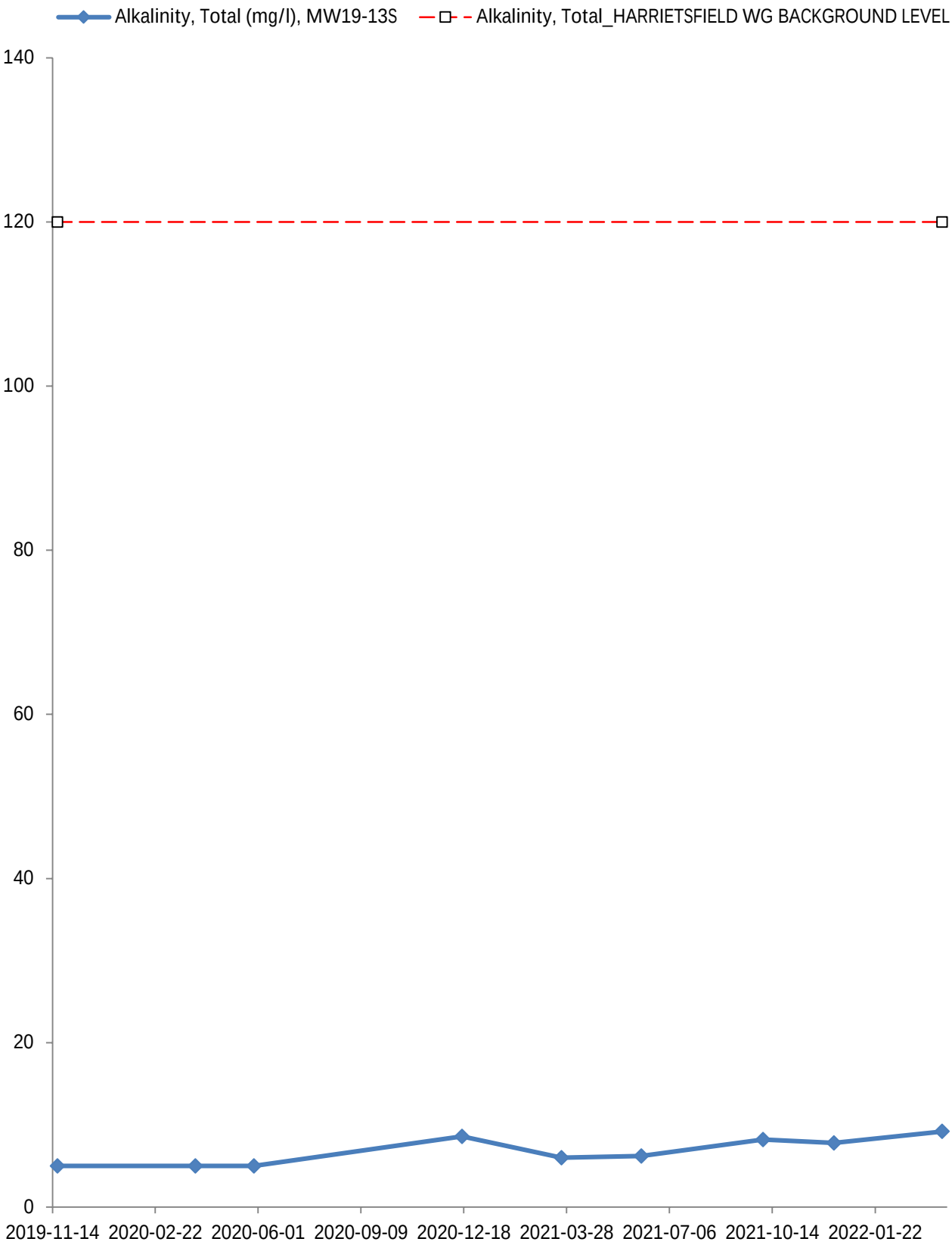
MW19-13S-Alkalinity, Bicarbonate



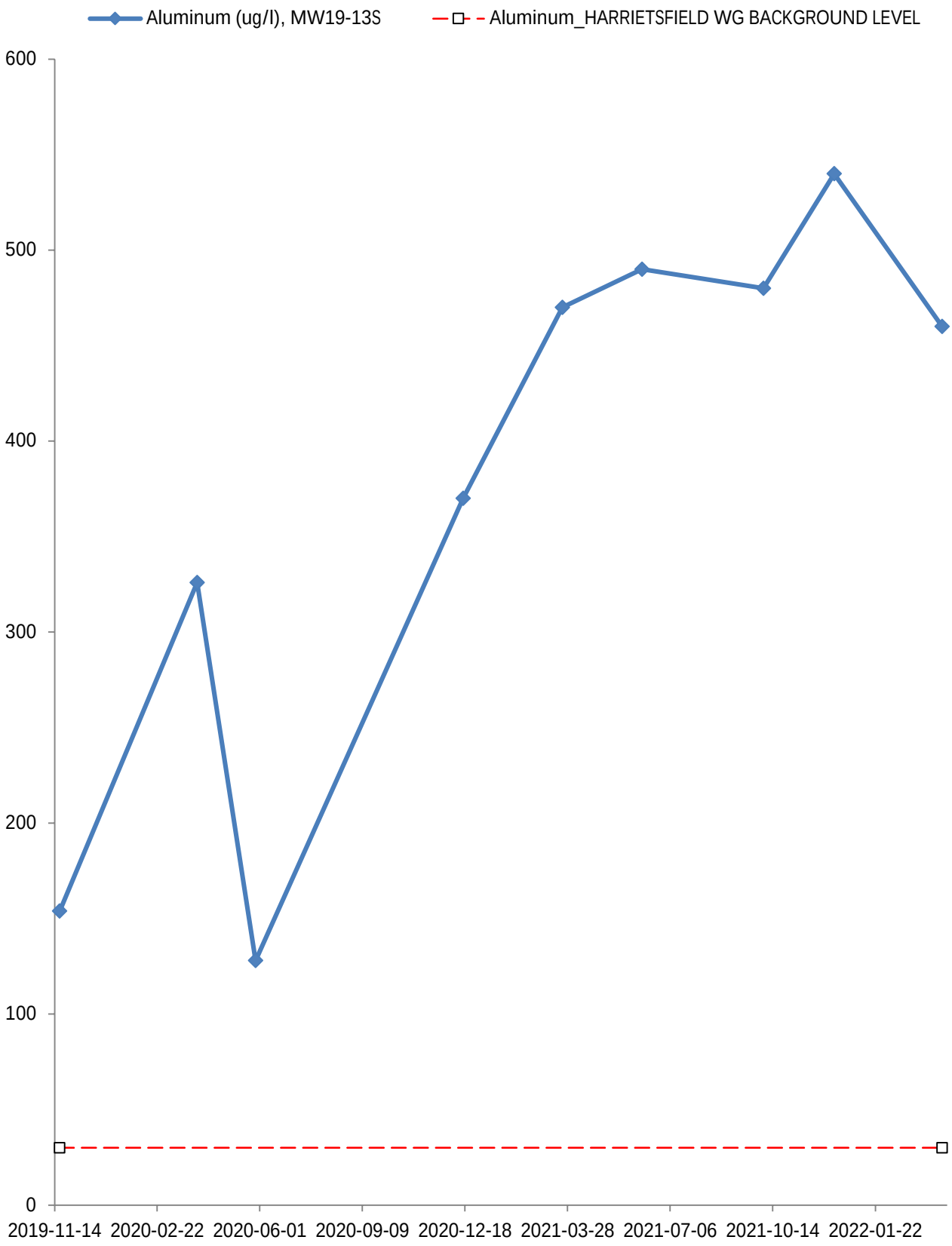
MW19-13S-Alkalinity, Carbonate



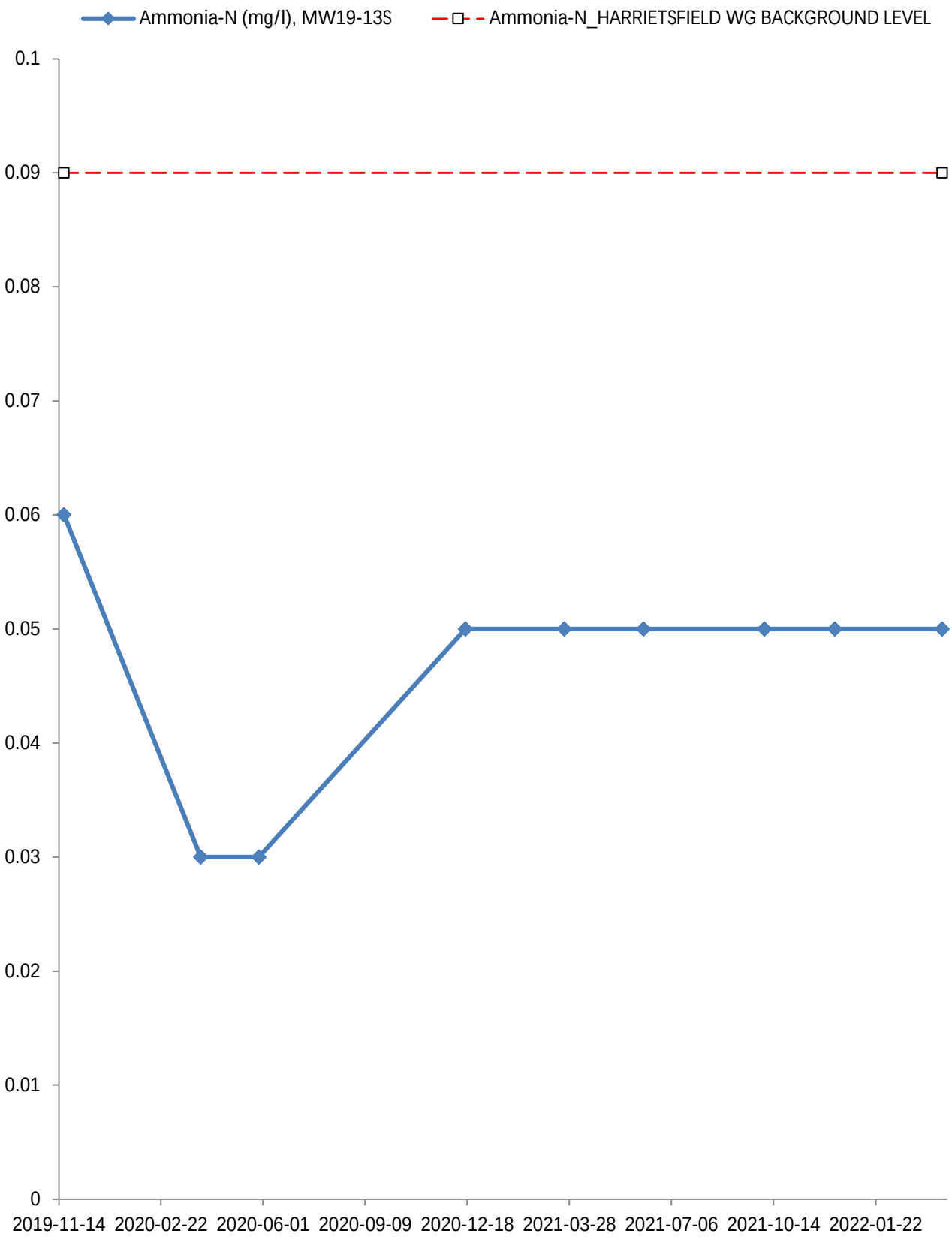
MW19-13S-Alkalinity, Total



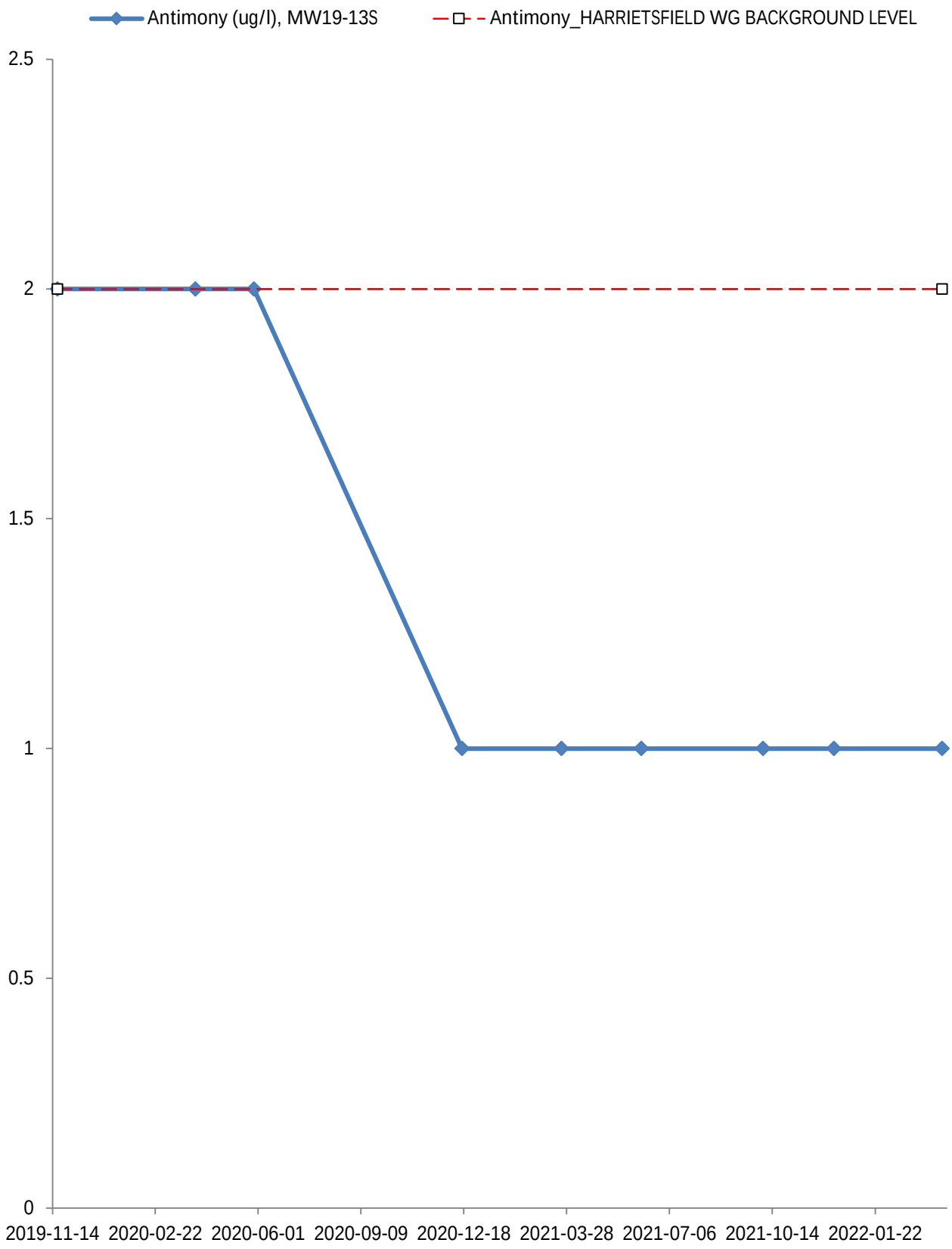
MW19-13S-Aluminum



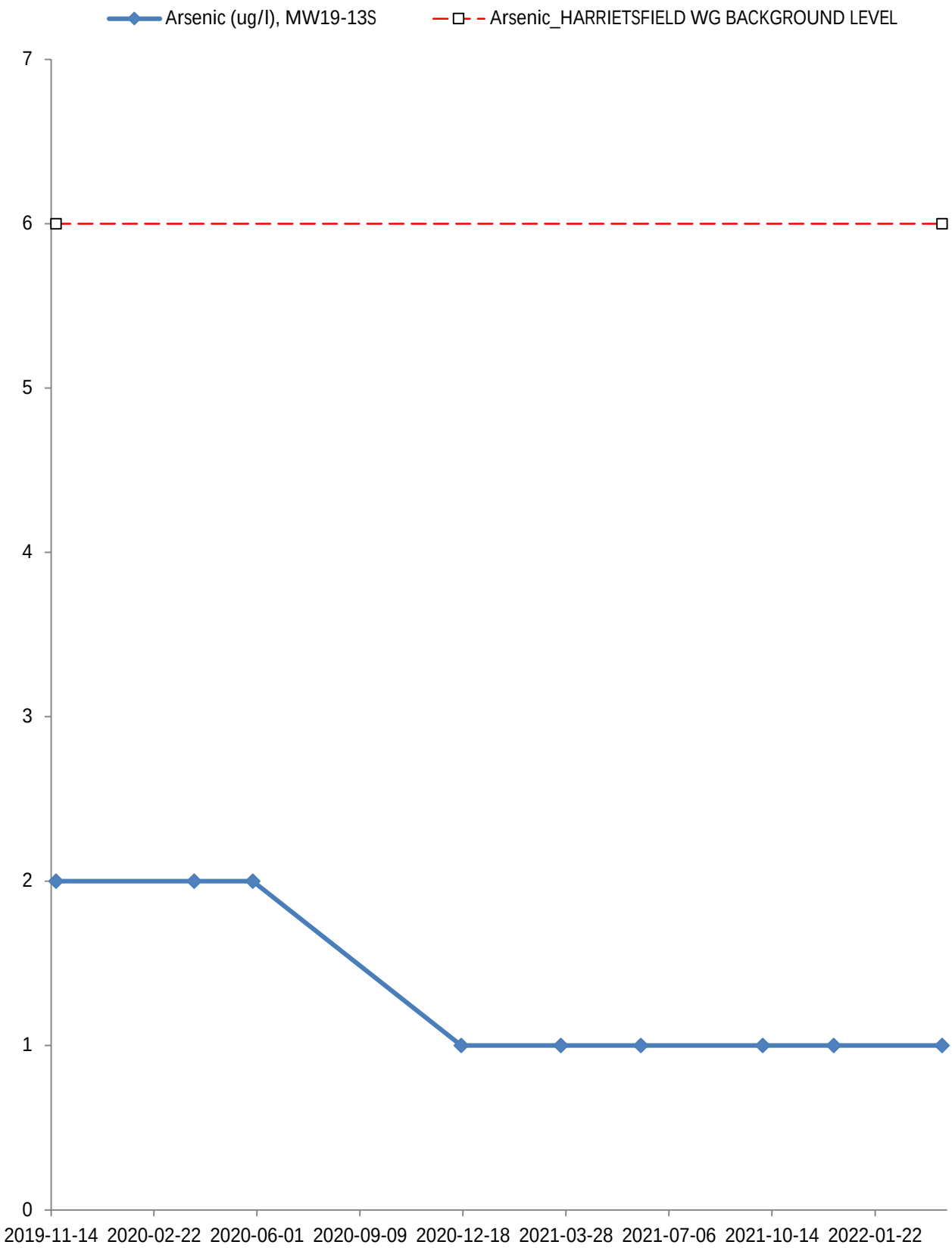
MW19-13S-Ammonia-N



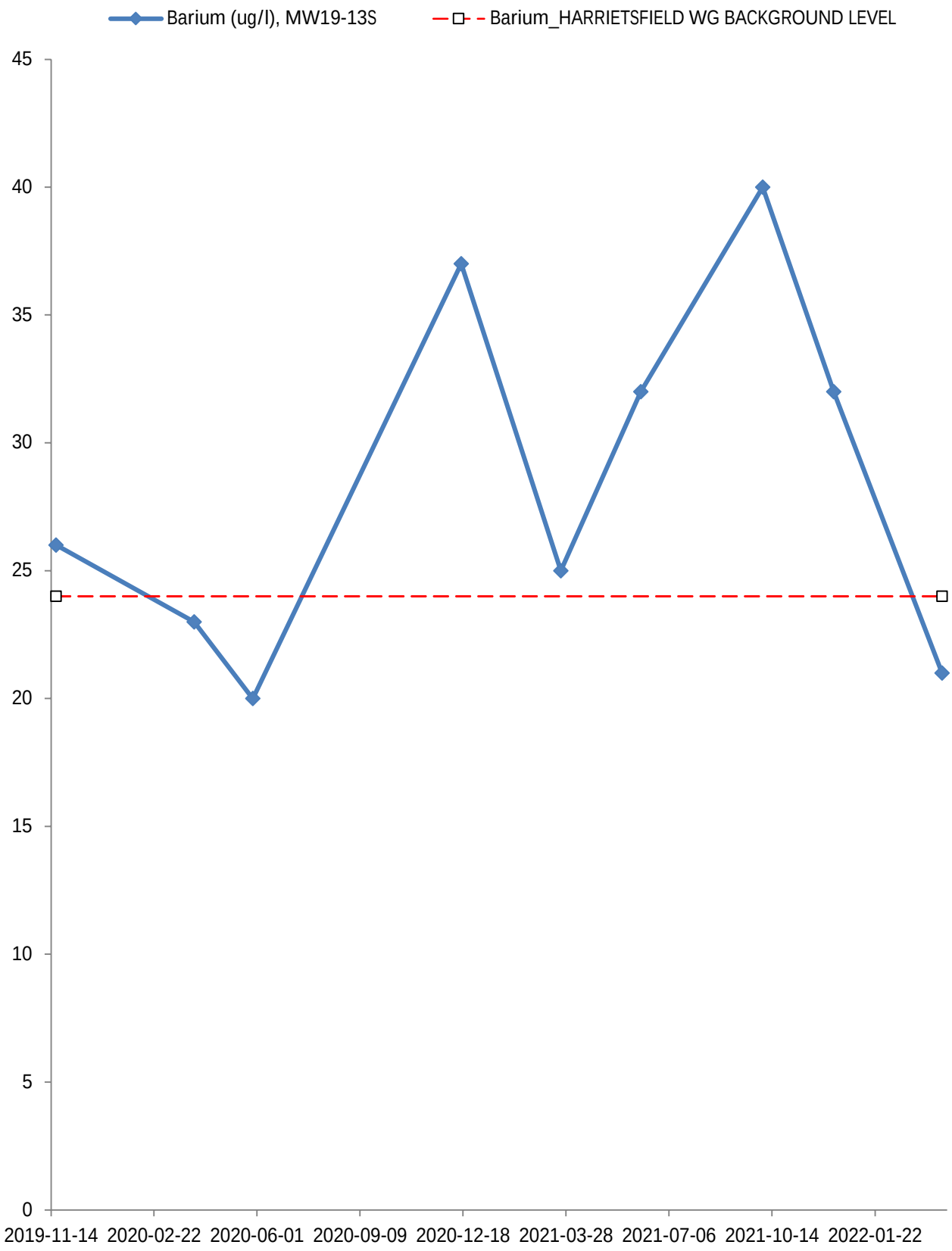
MW19-13S-Antimony



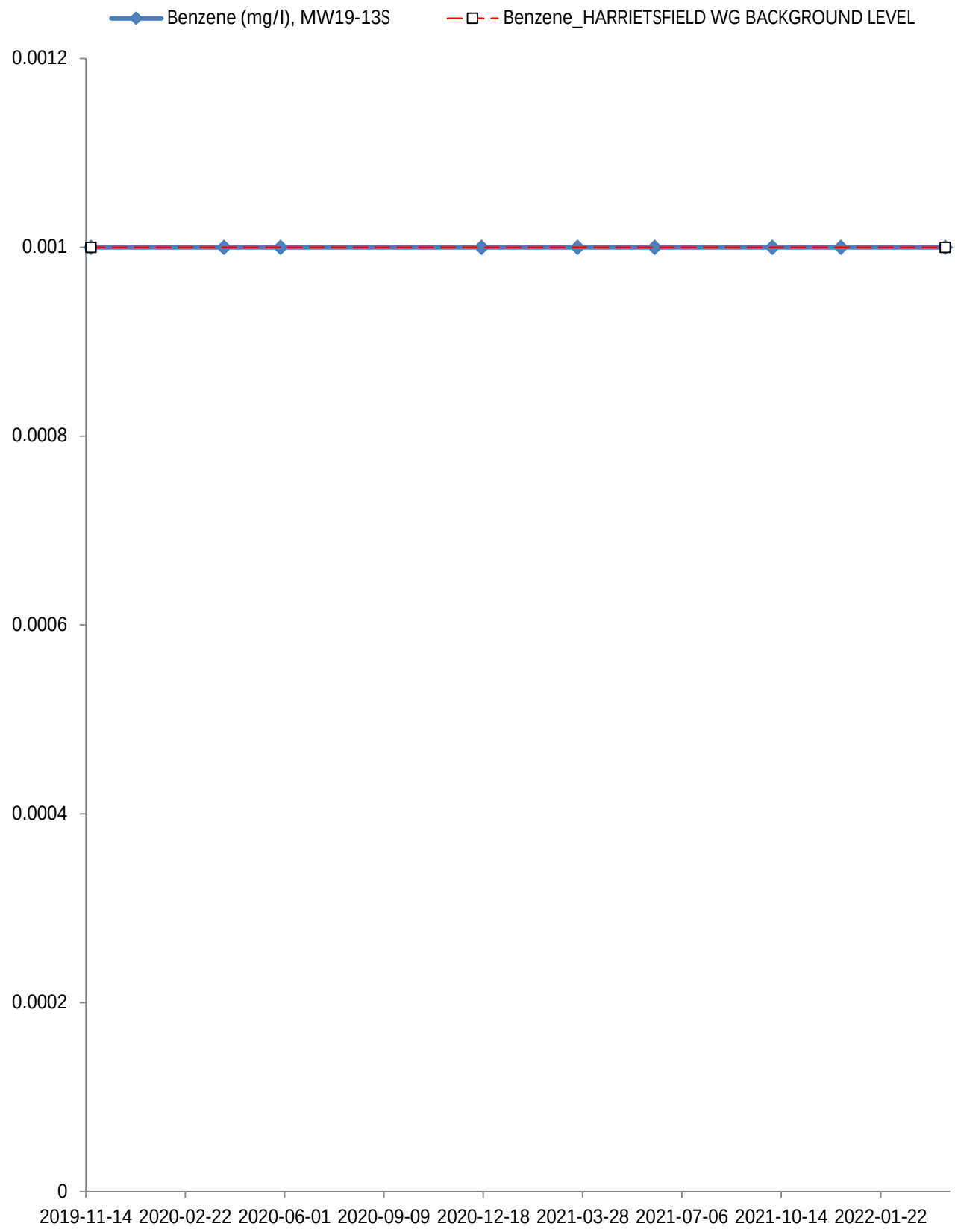
MW19-13S-Arsenic



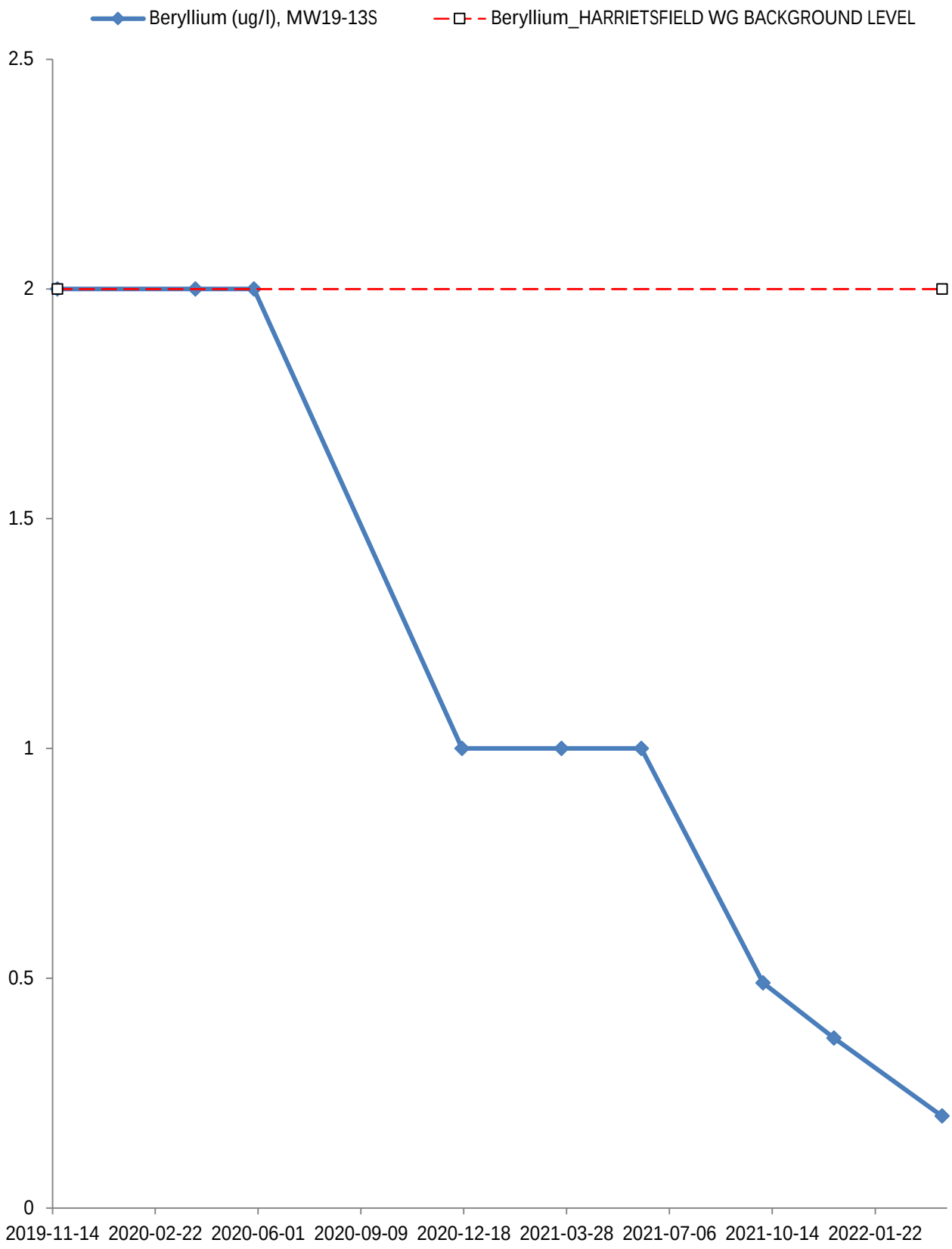
MW19-13S-Barium



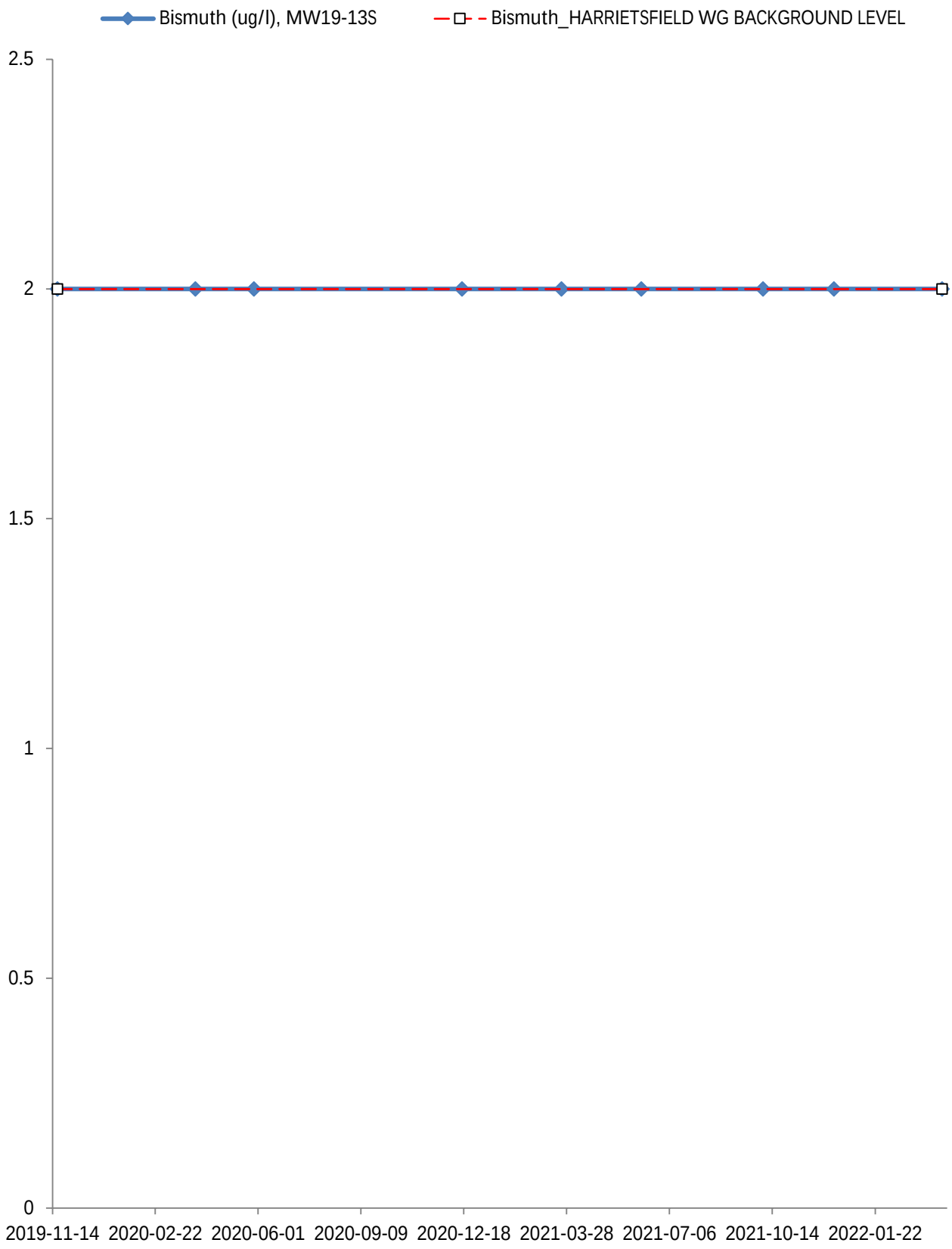
MW19-13S-Benzene



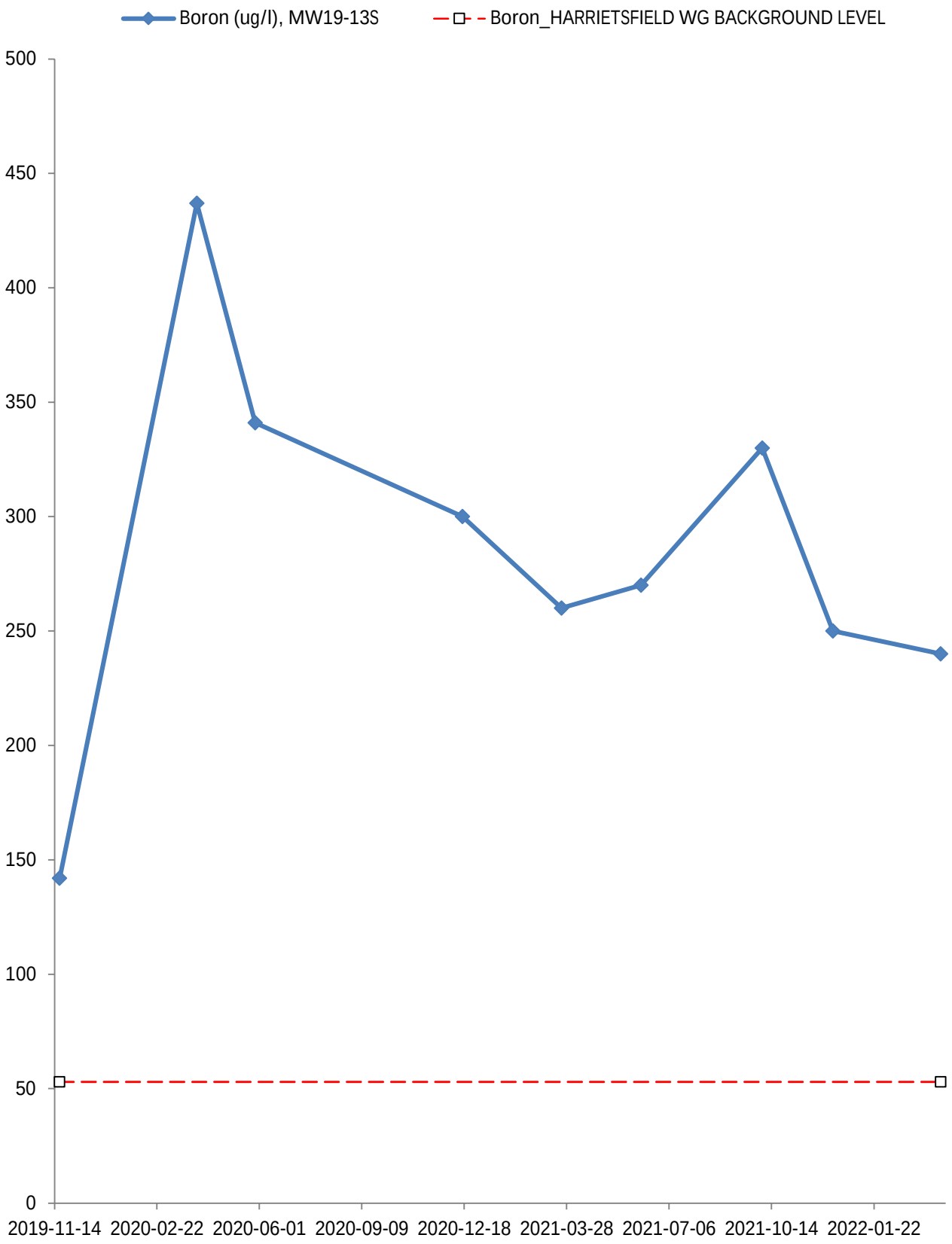
MW19-13S-Beryllium



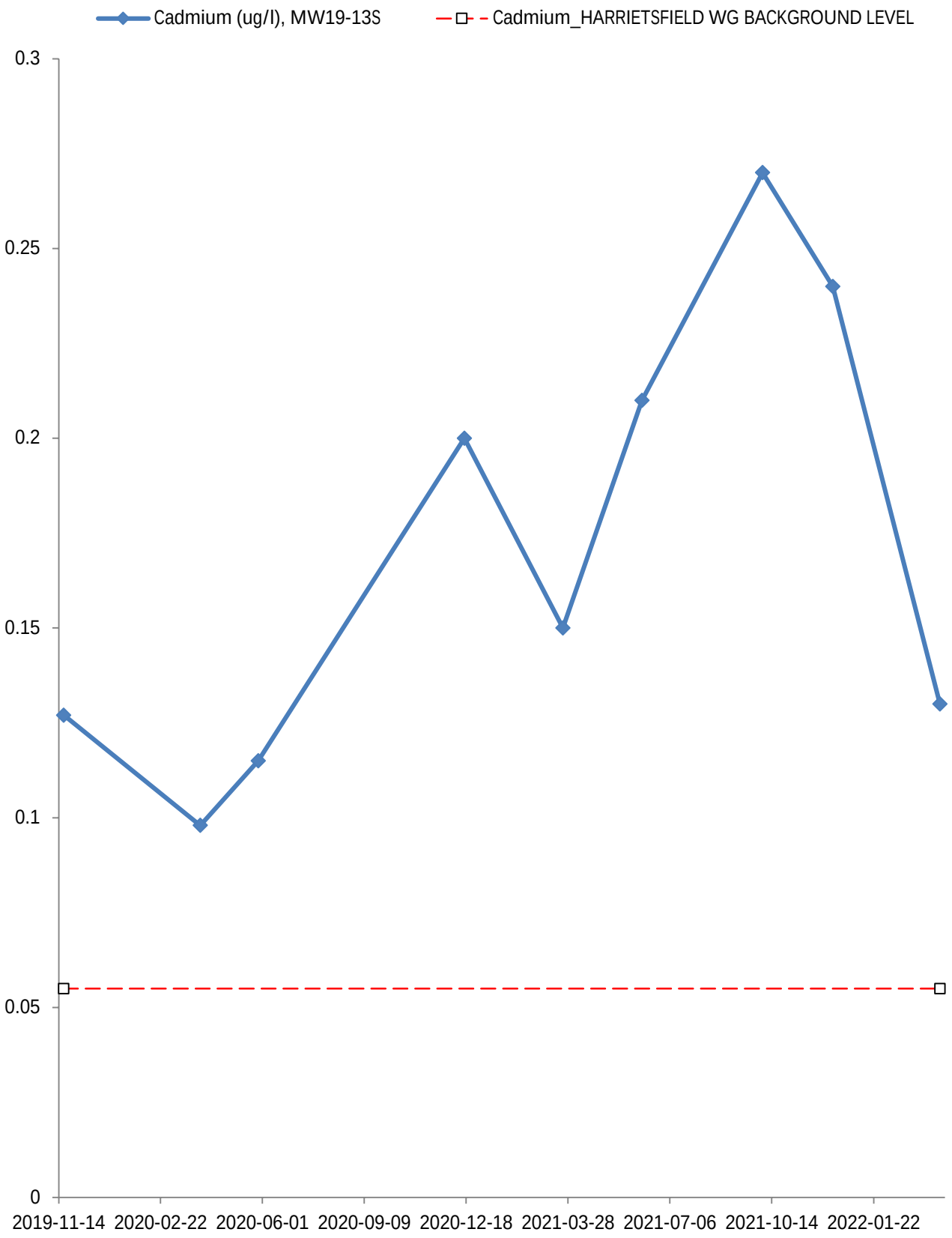
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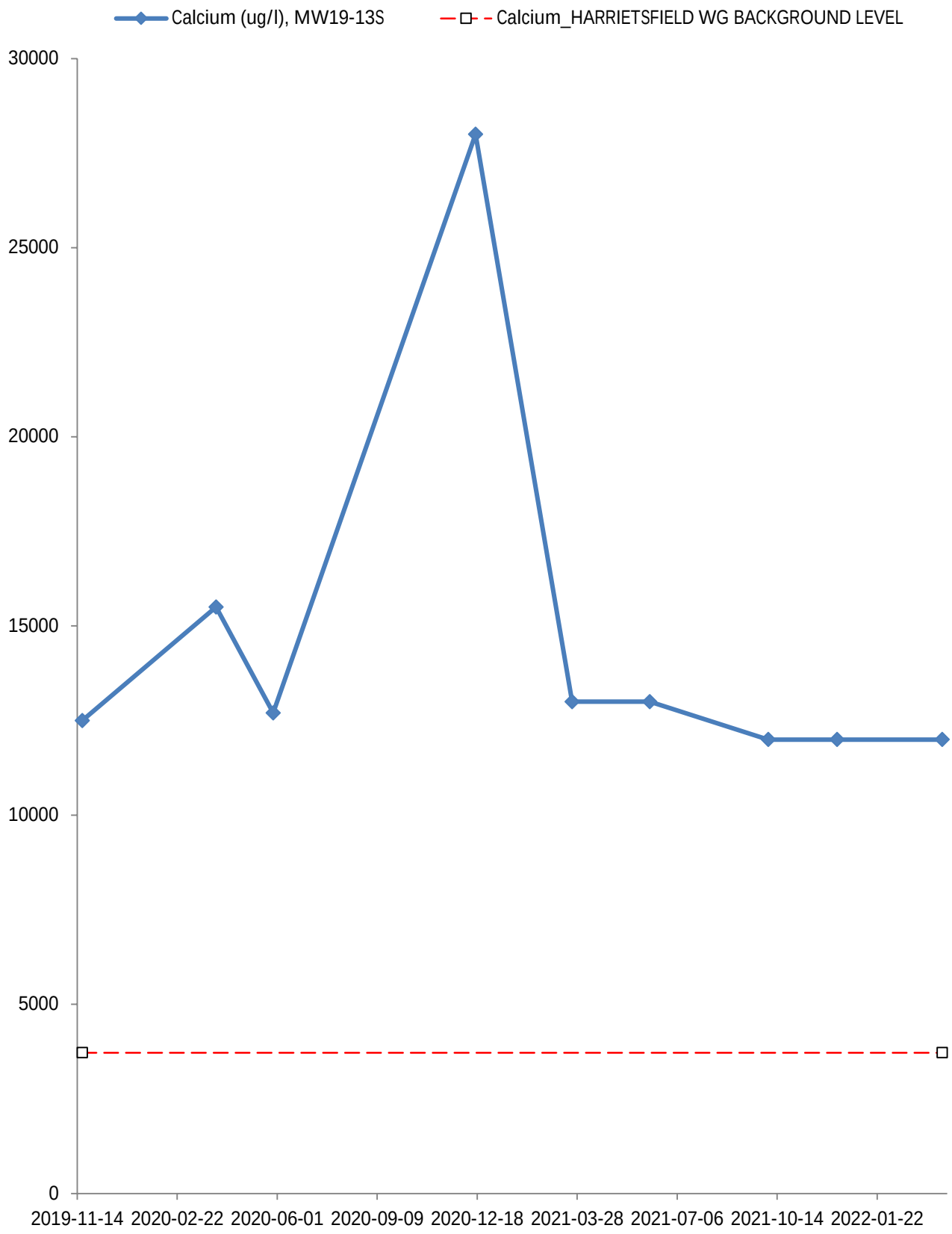
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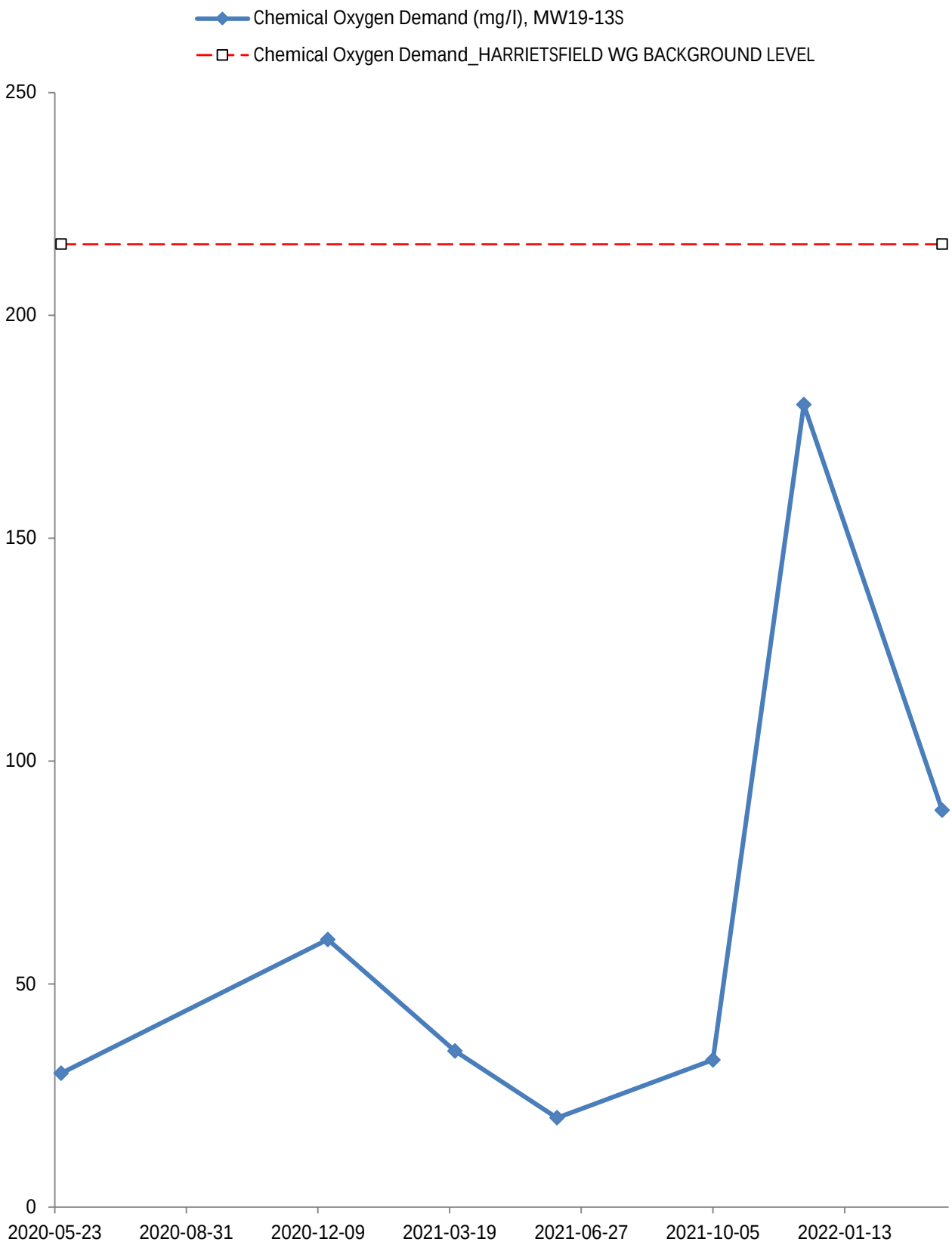
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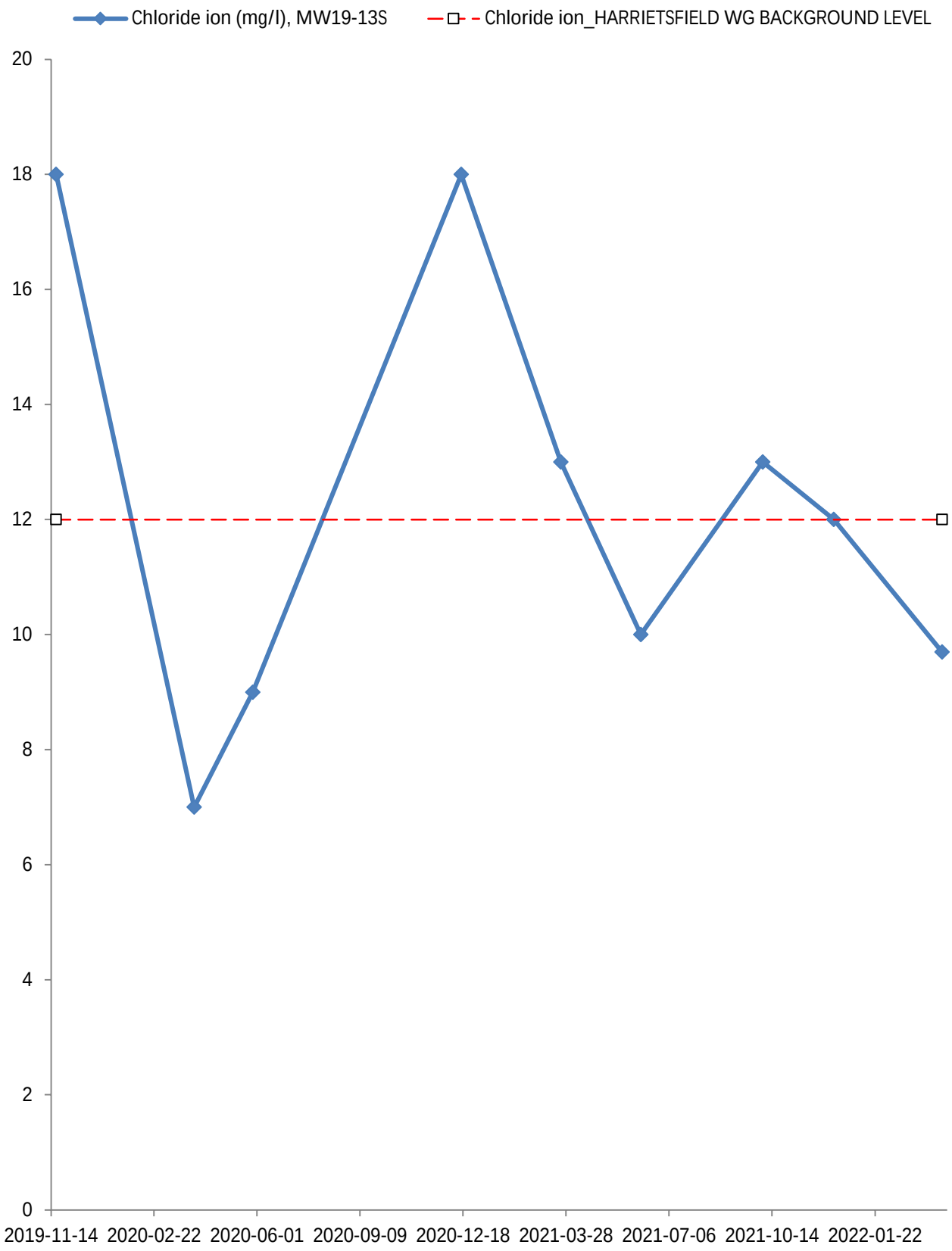
MW19-13S-Calcium



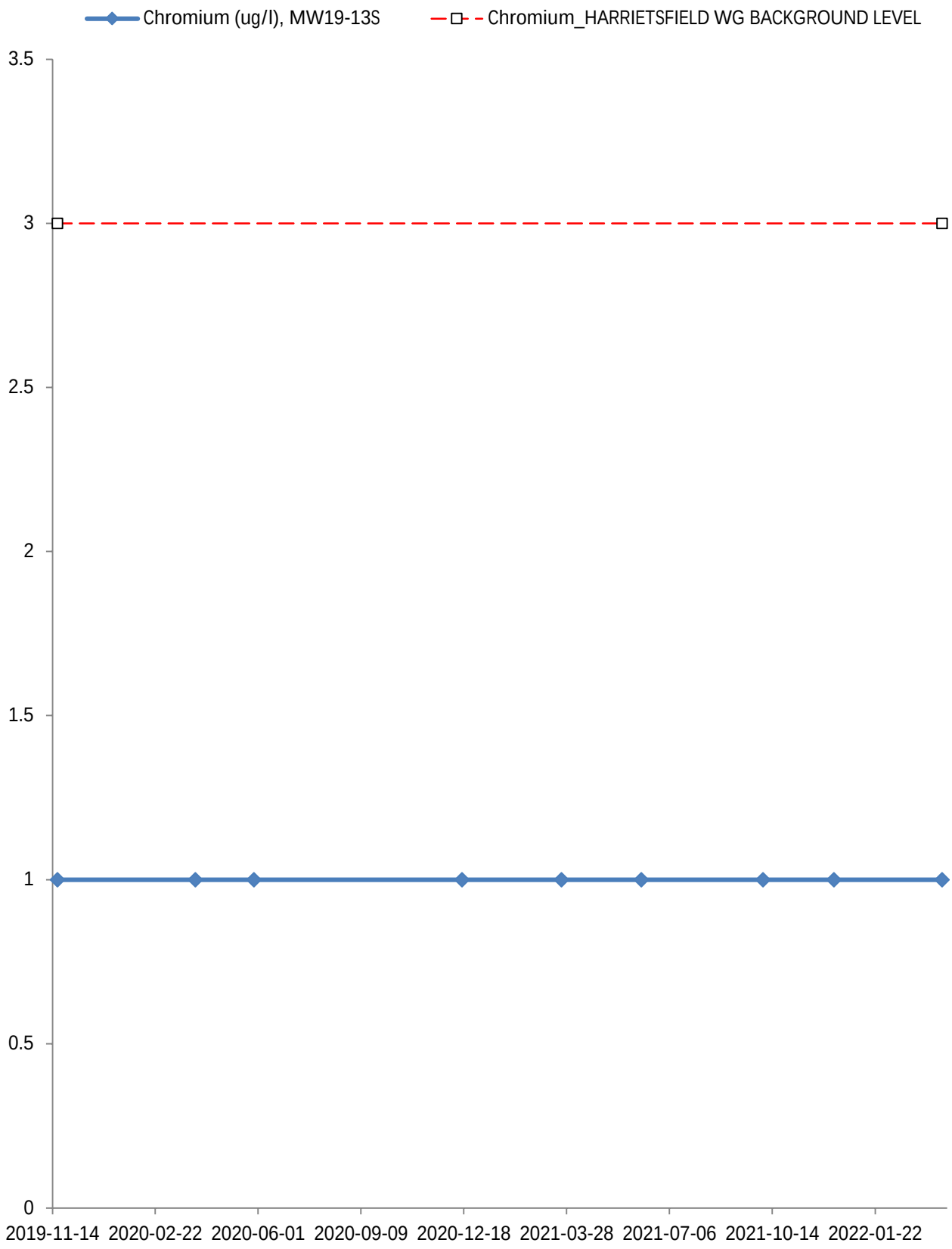
MW19-13S-Chemical Oxygen Demand



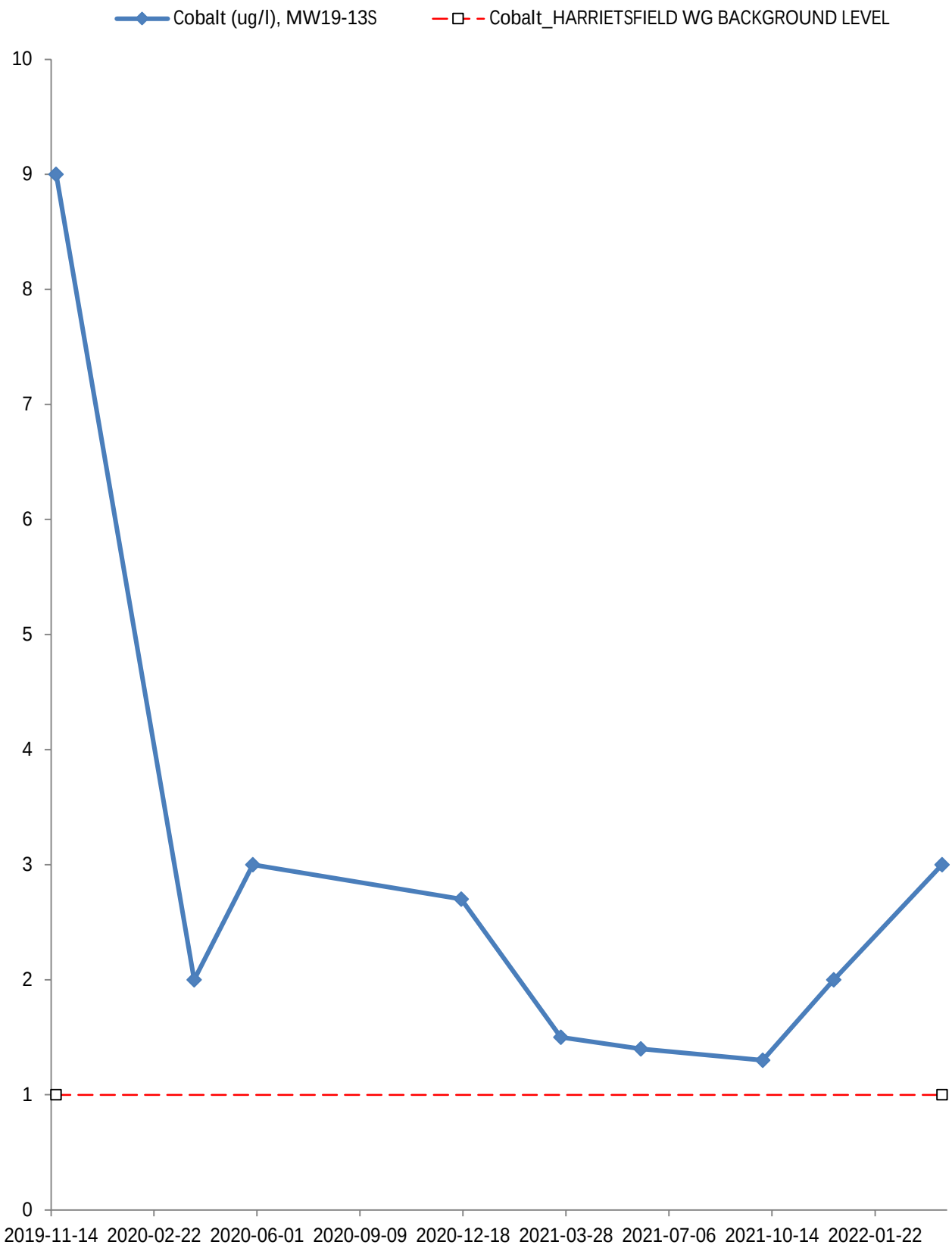
MW19-13S-Chloride ion



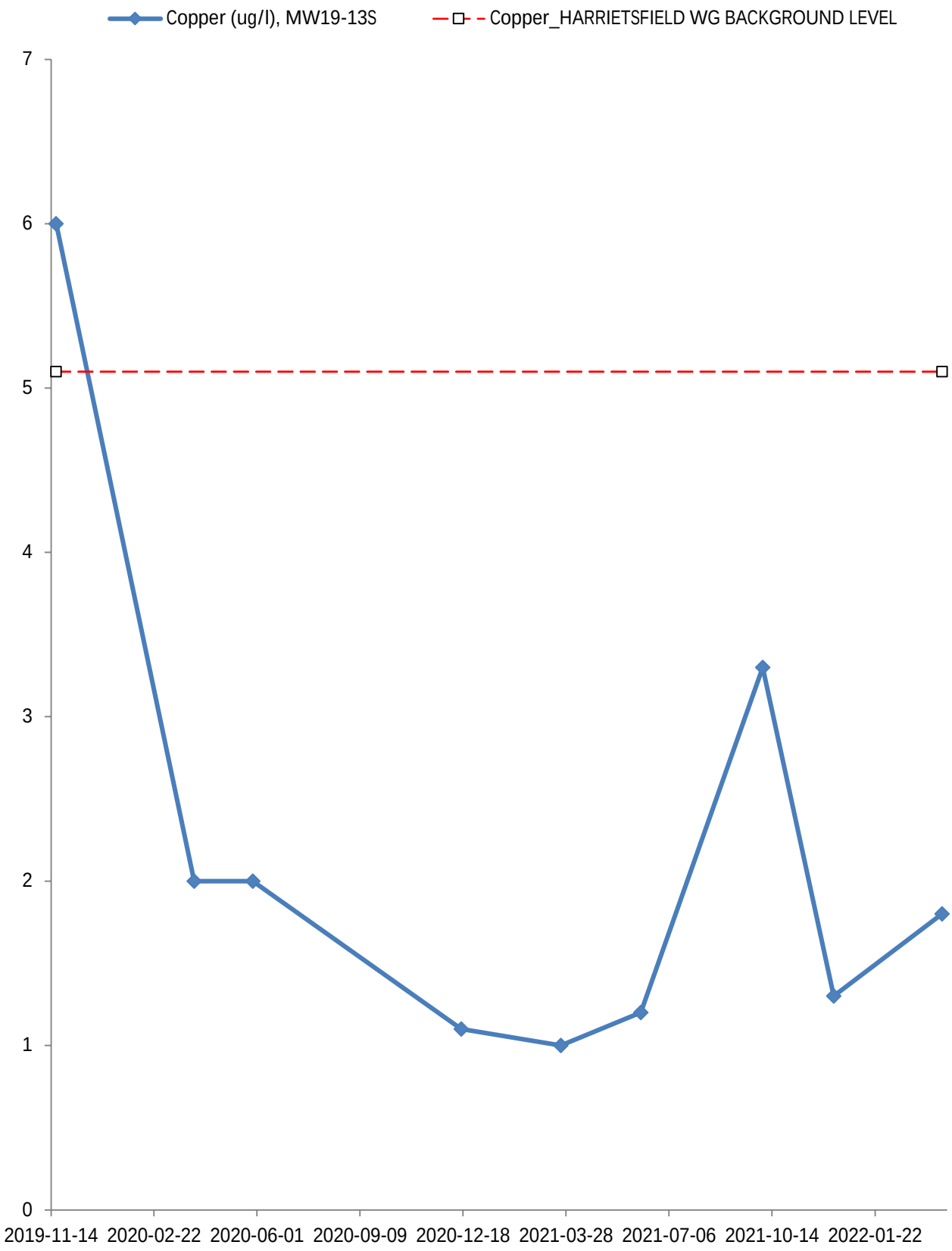
MW19-13S-Chromium



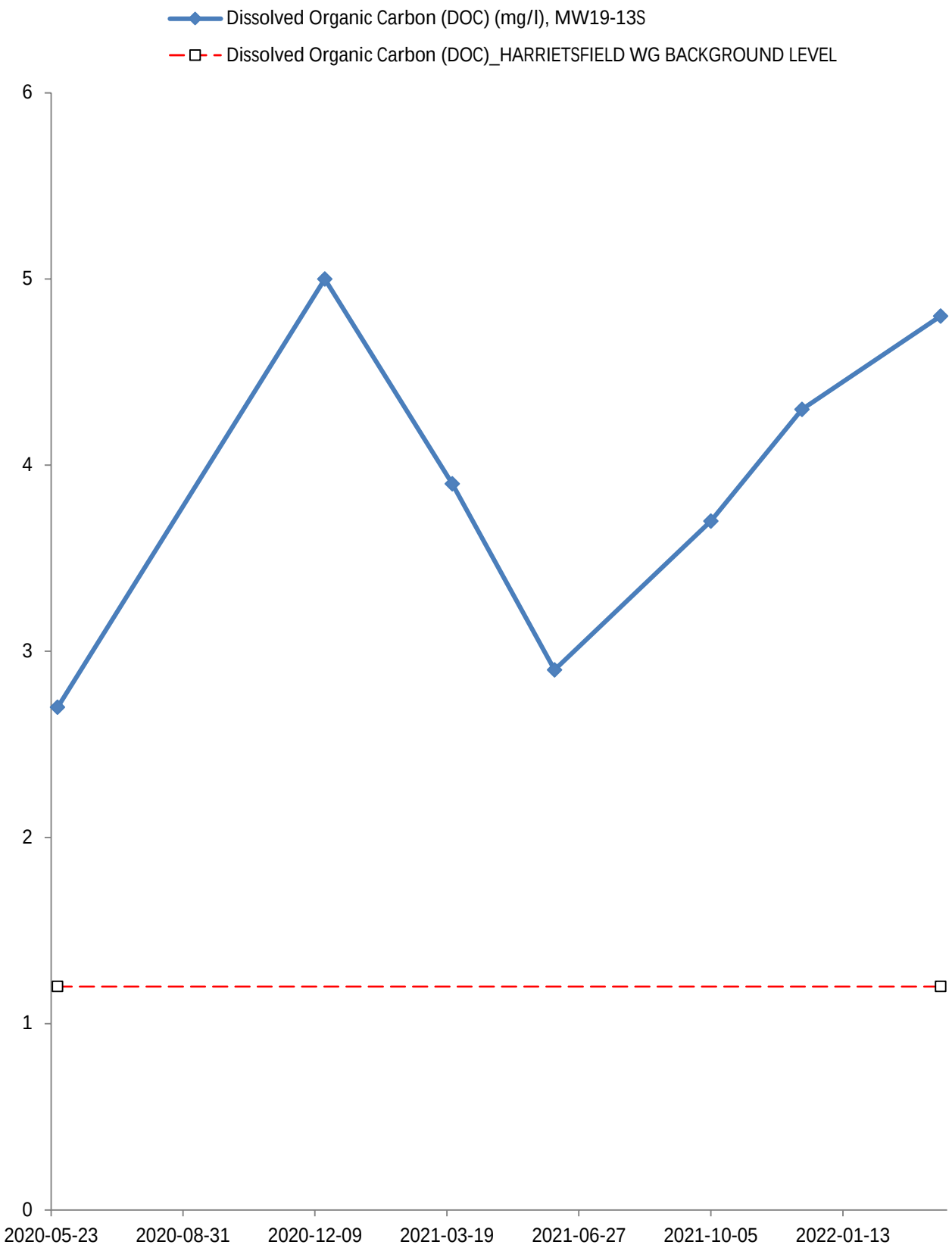
MW19-13S-Cobalt



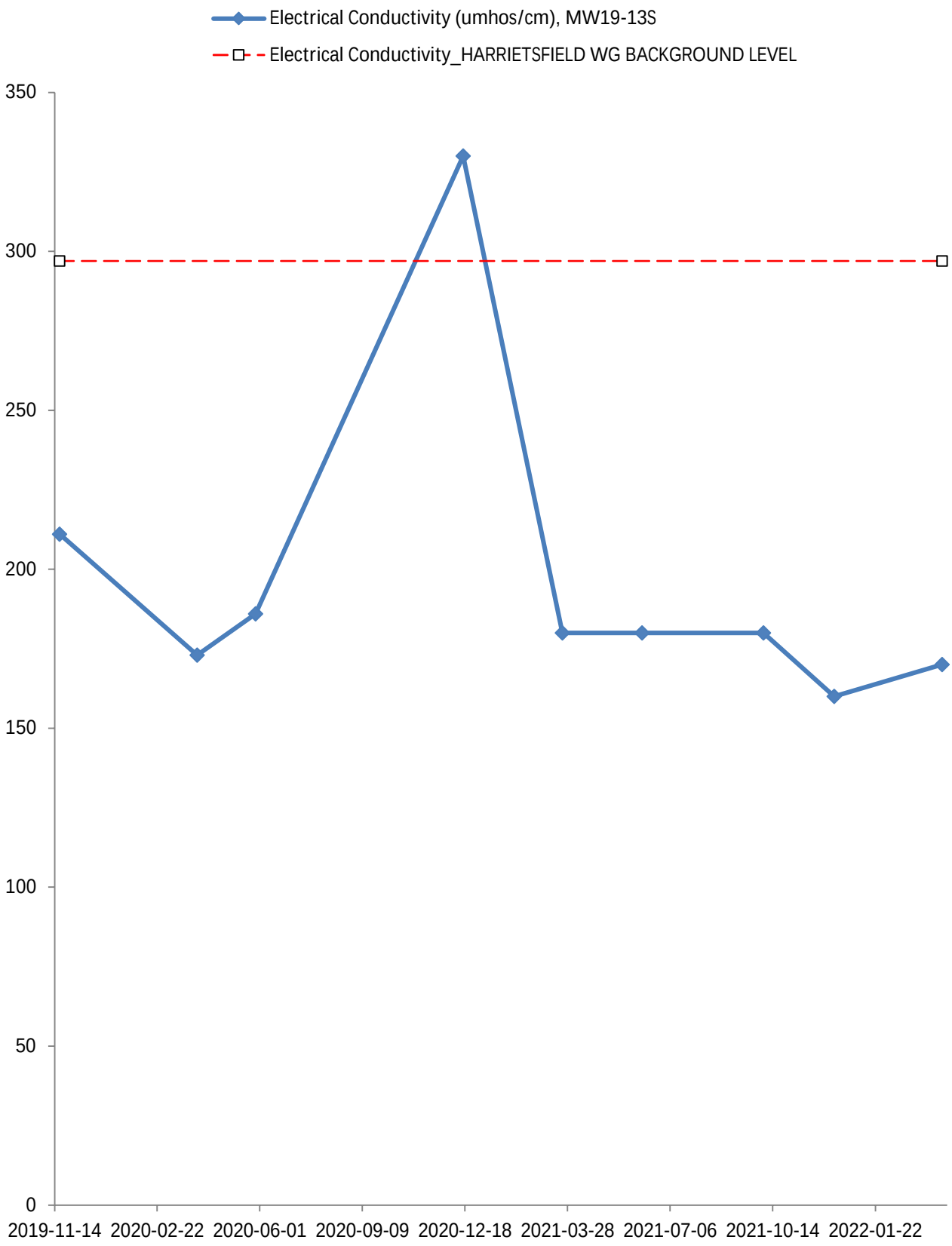
MW19-13S-Copper



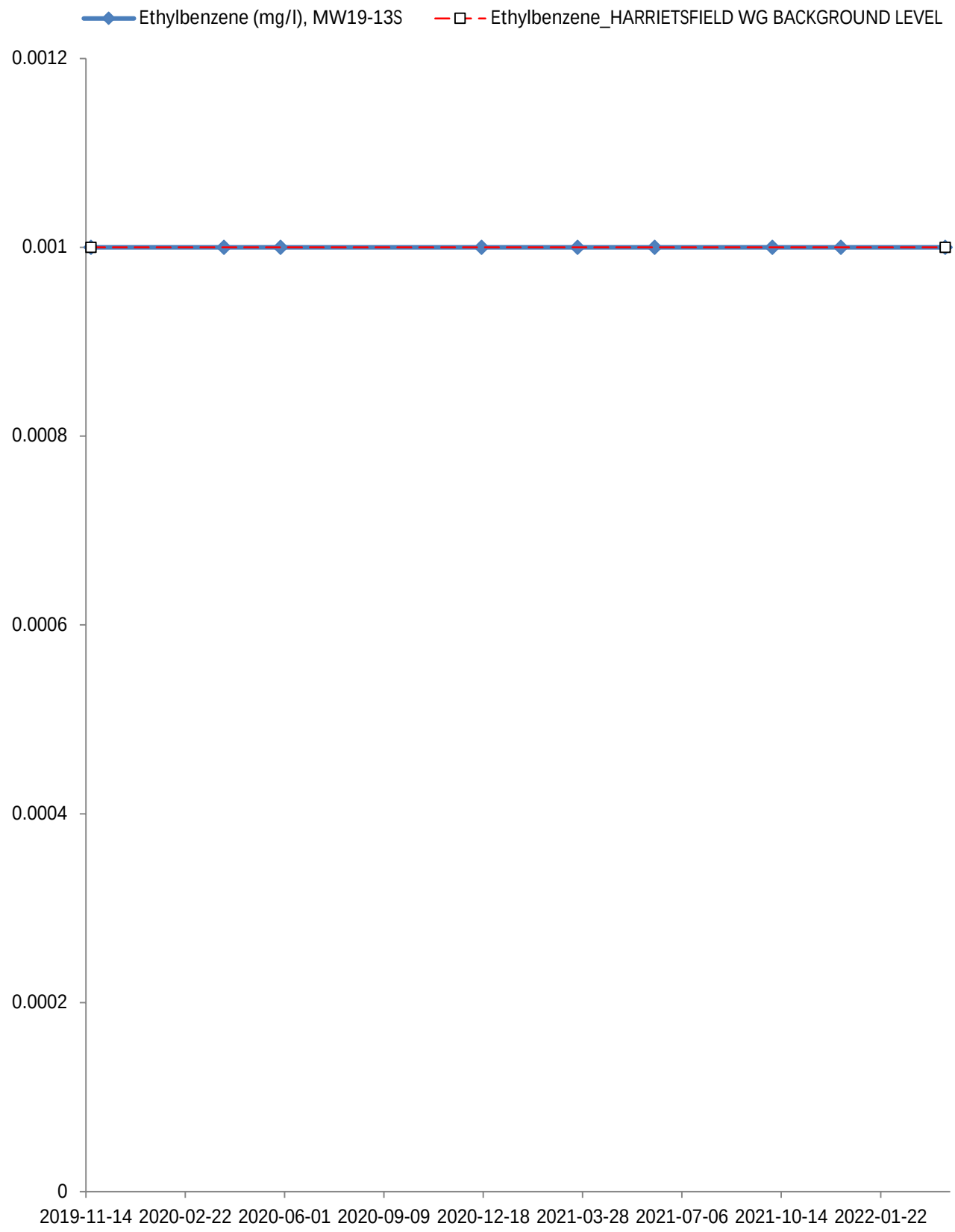
MW19-13S-Dissolved Organic Carbon7



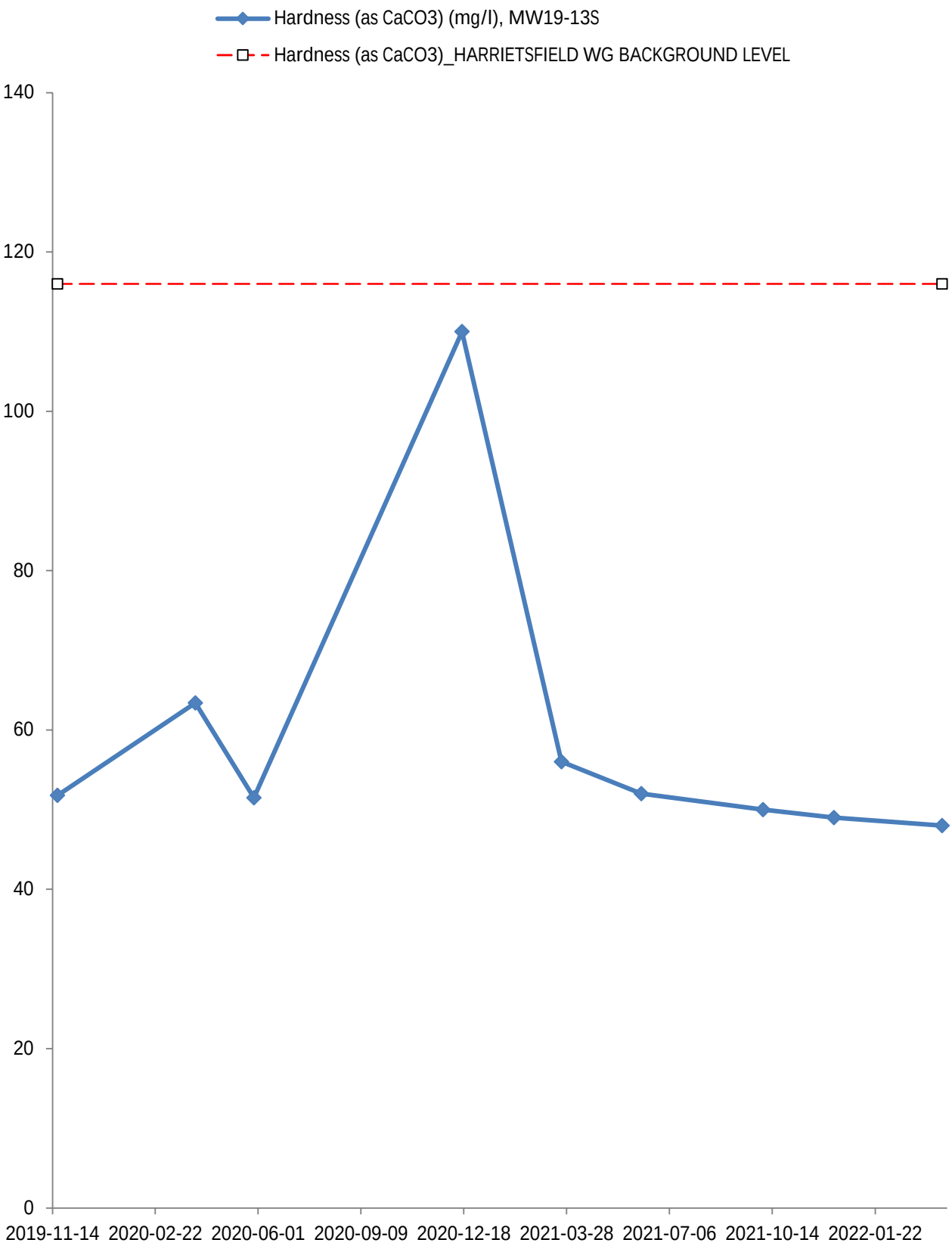
MW19-13S-Electrical Conductivity



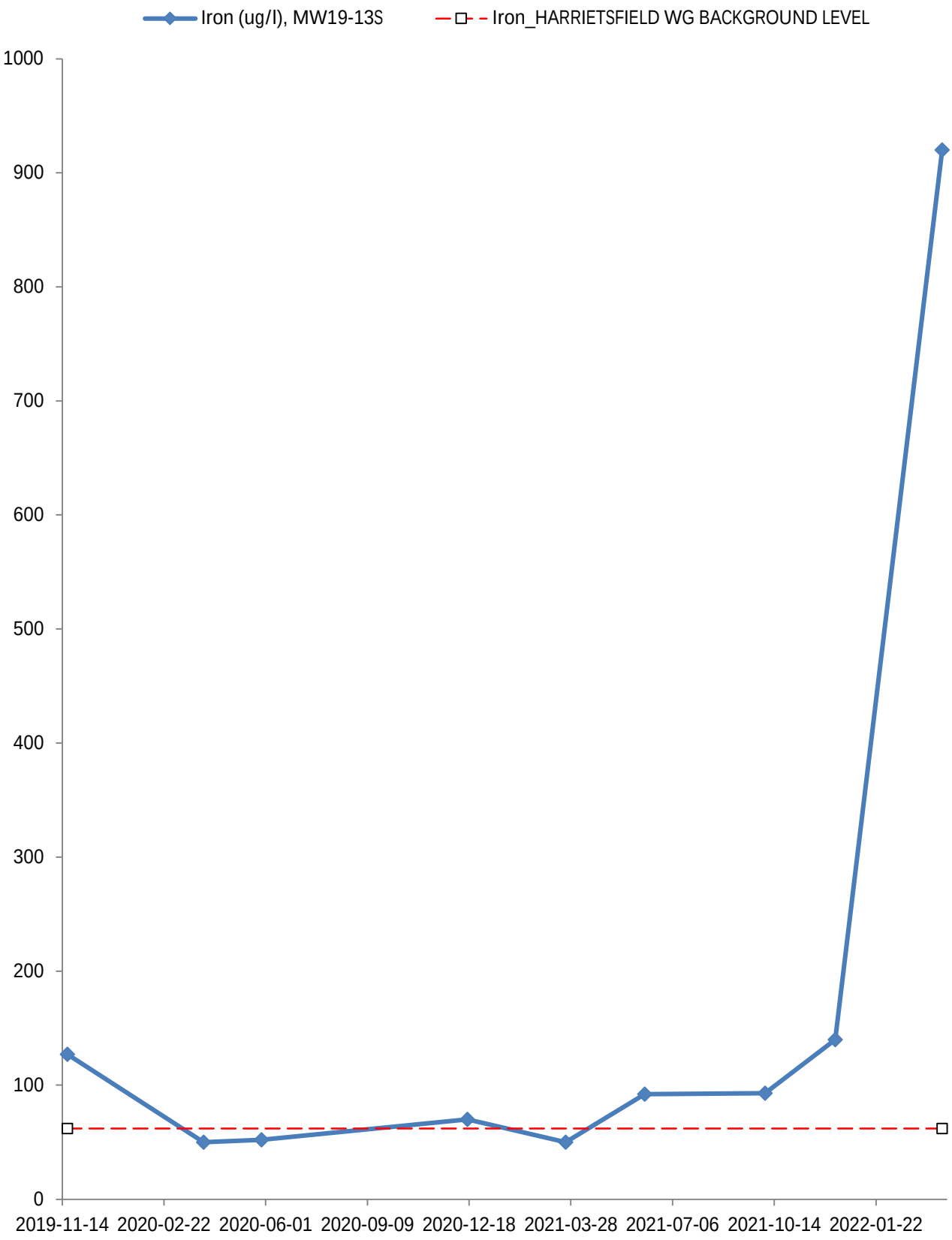
MW19-13S-Ethylbenzene



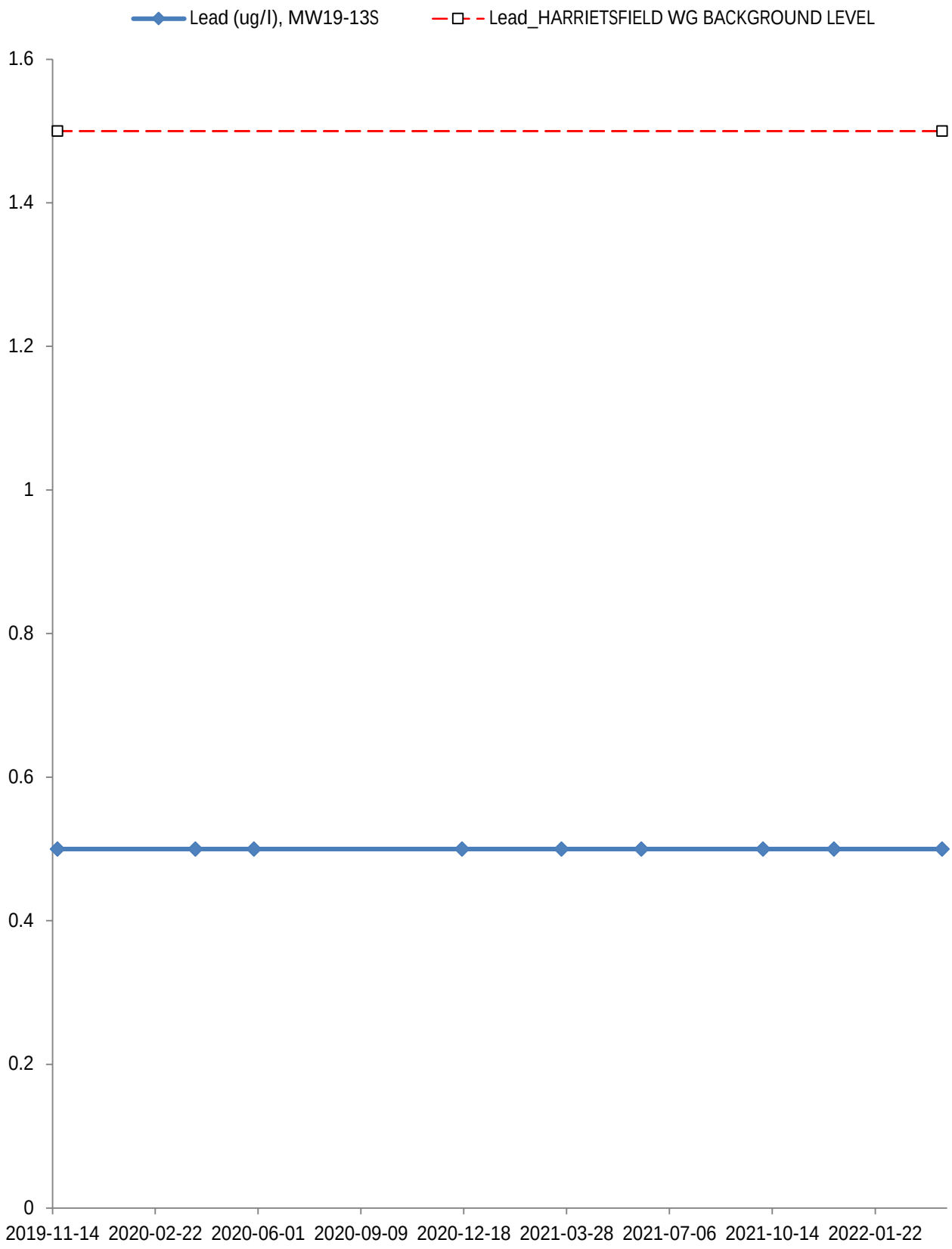
MW19-13S-Hardness (as CaCO3)



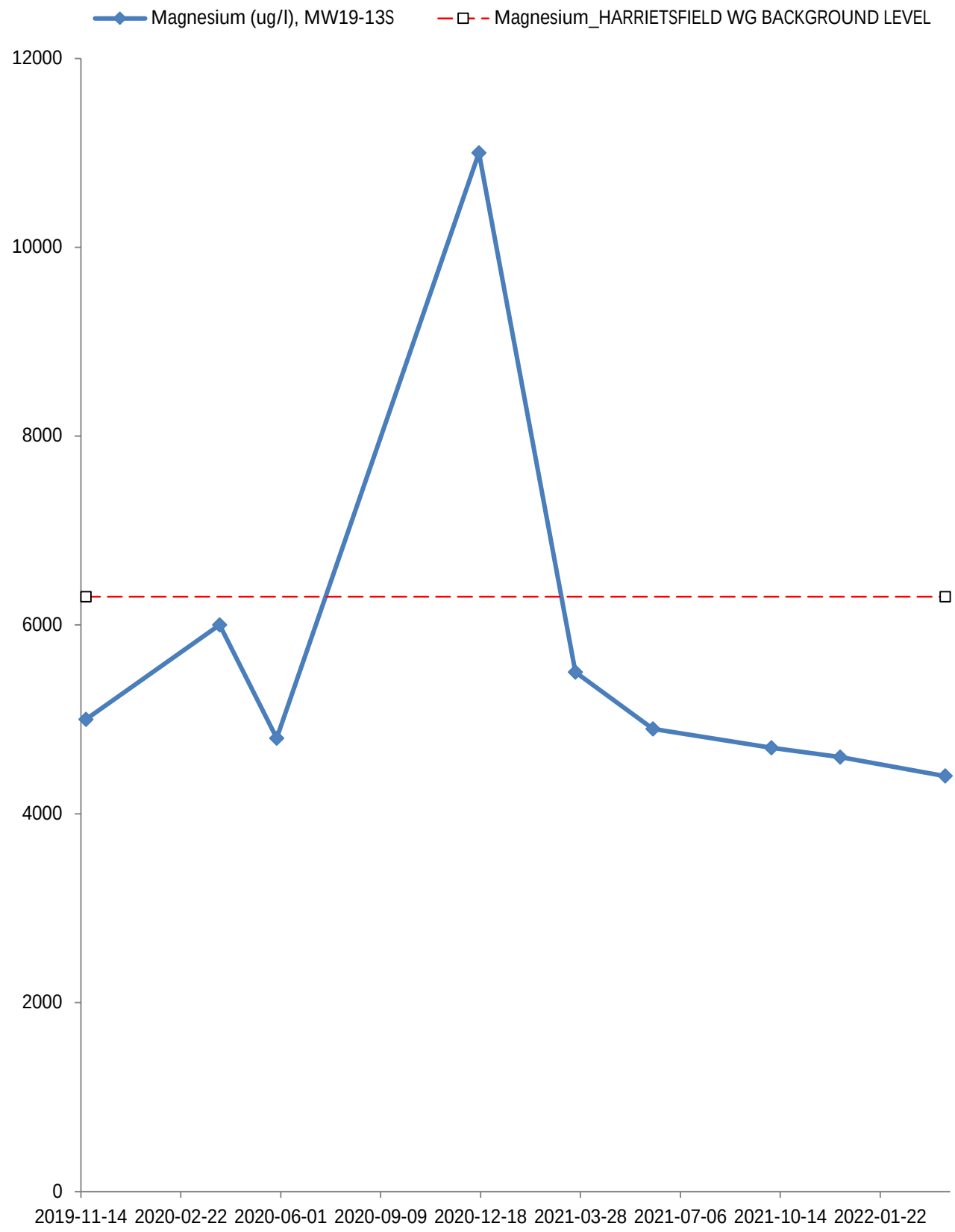
MW19-13S-Iron



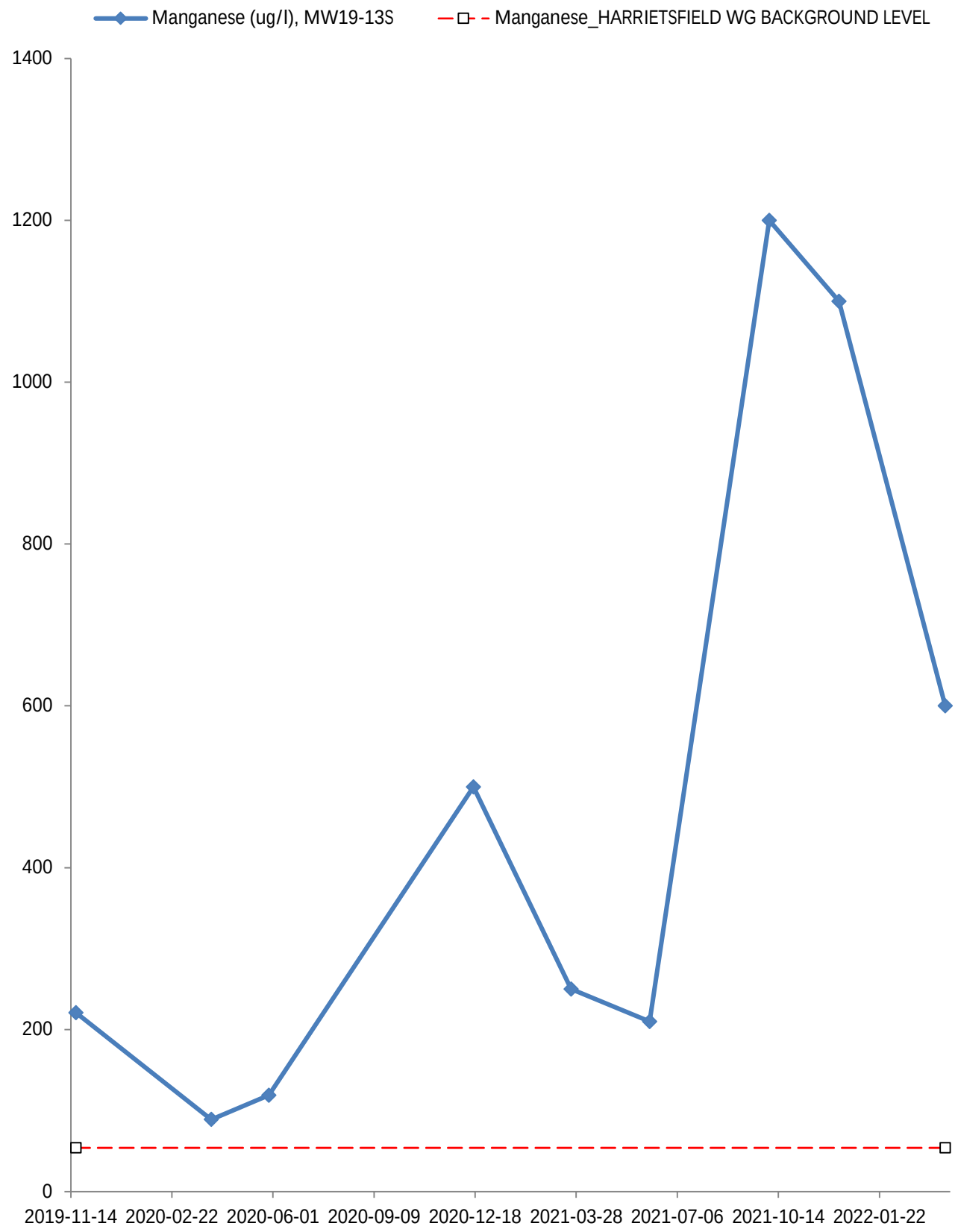
MW19-13S-Lead



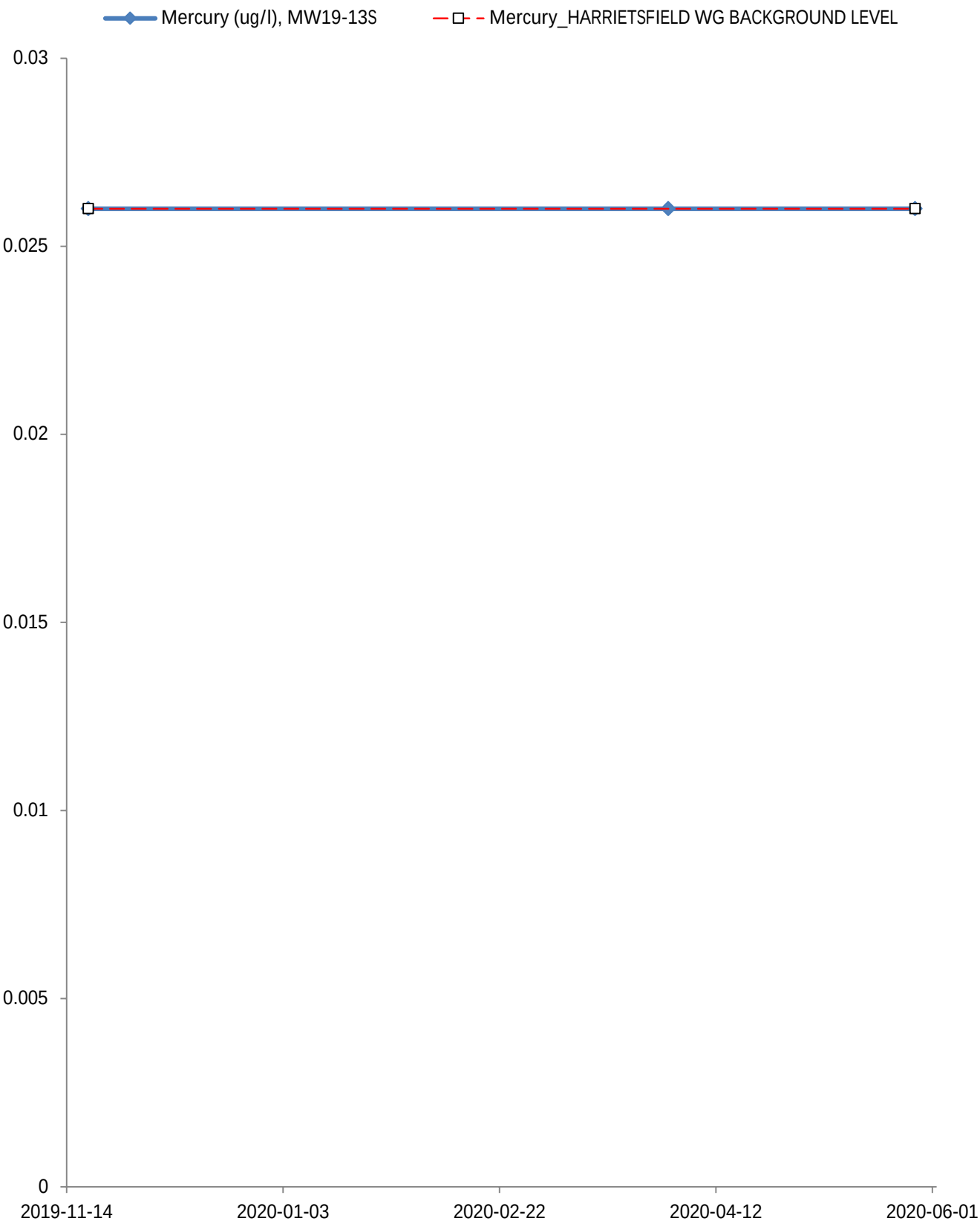
MW19-13S-Magnesium



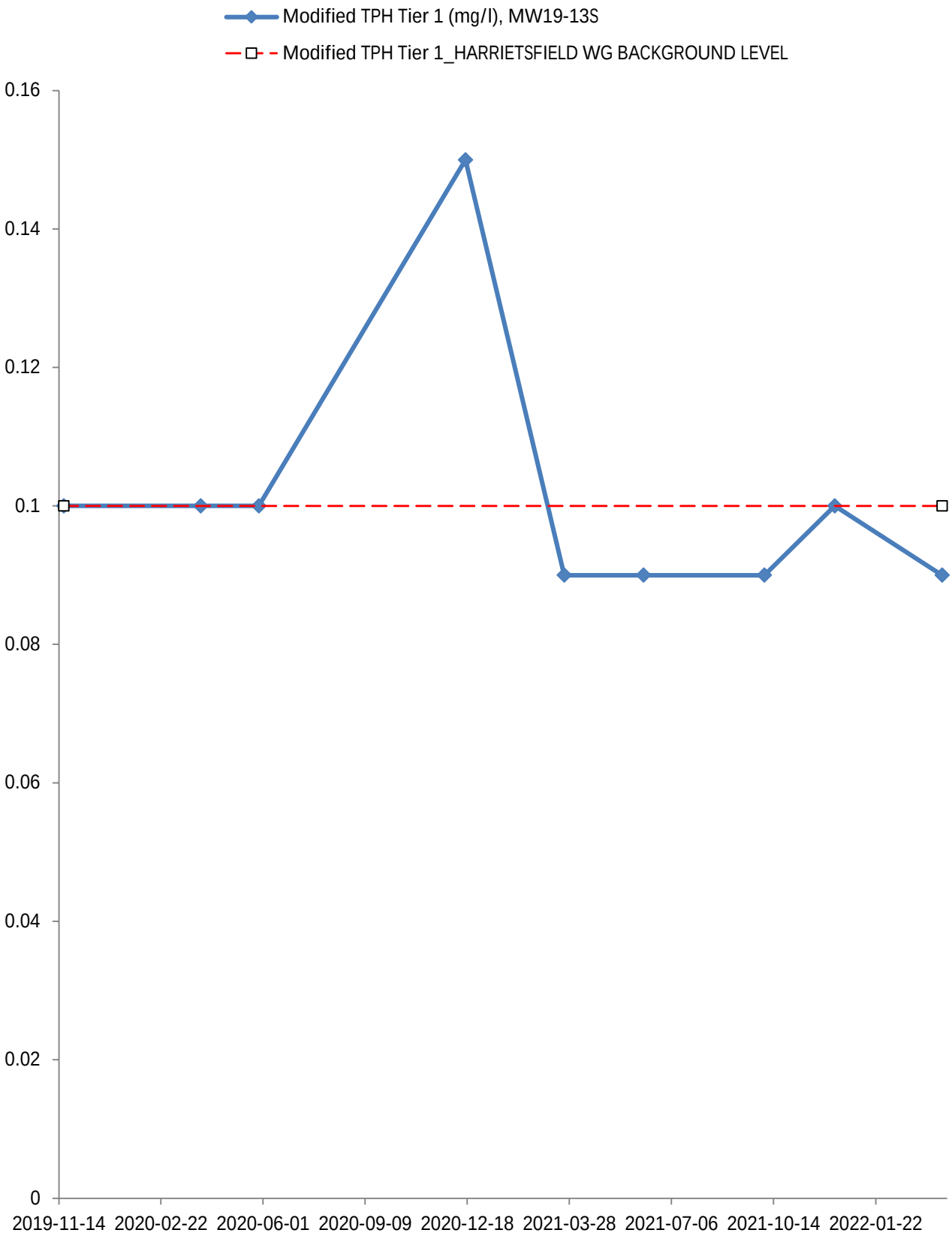
MW19-13S-Manganese



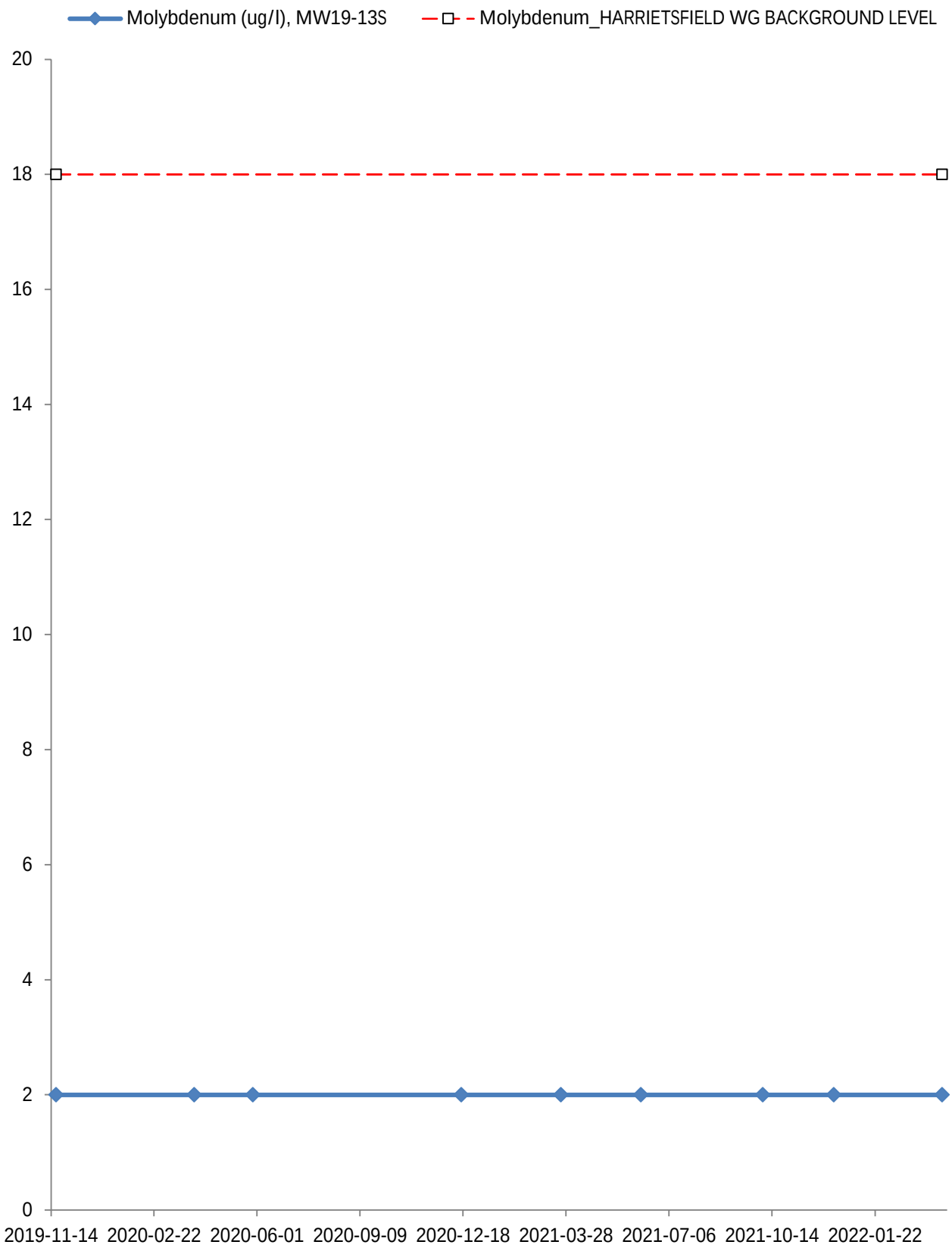
MW19-13S-Mercury



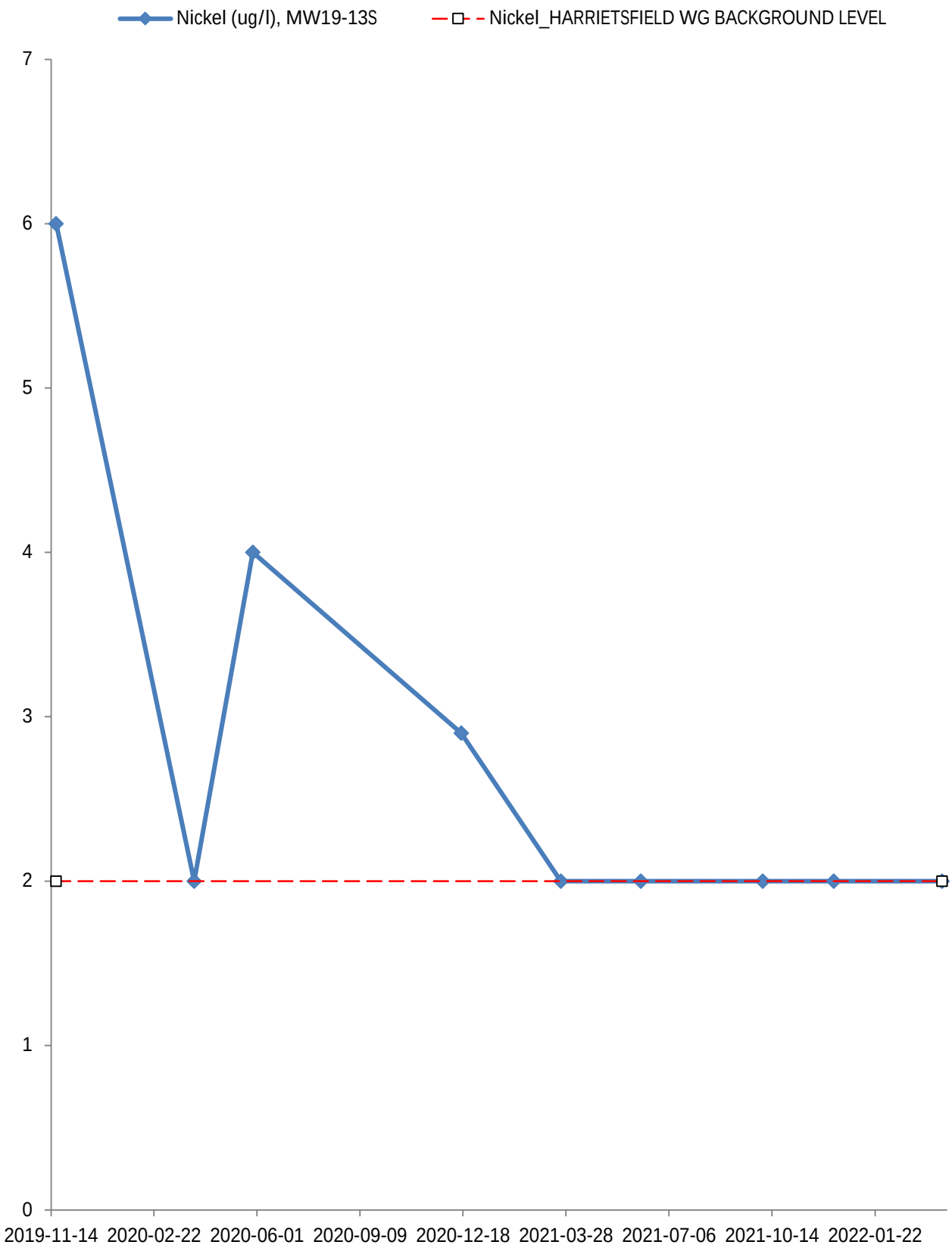
MW19-13S-Modified TPH Tier 1



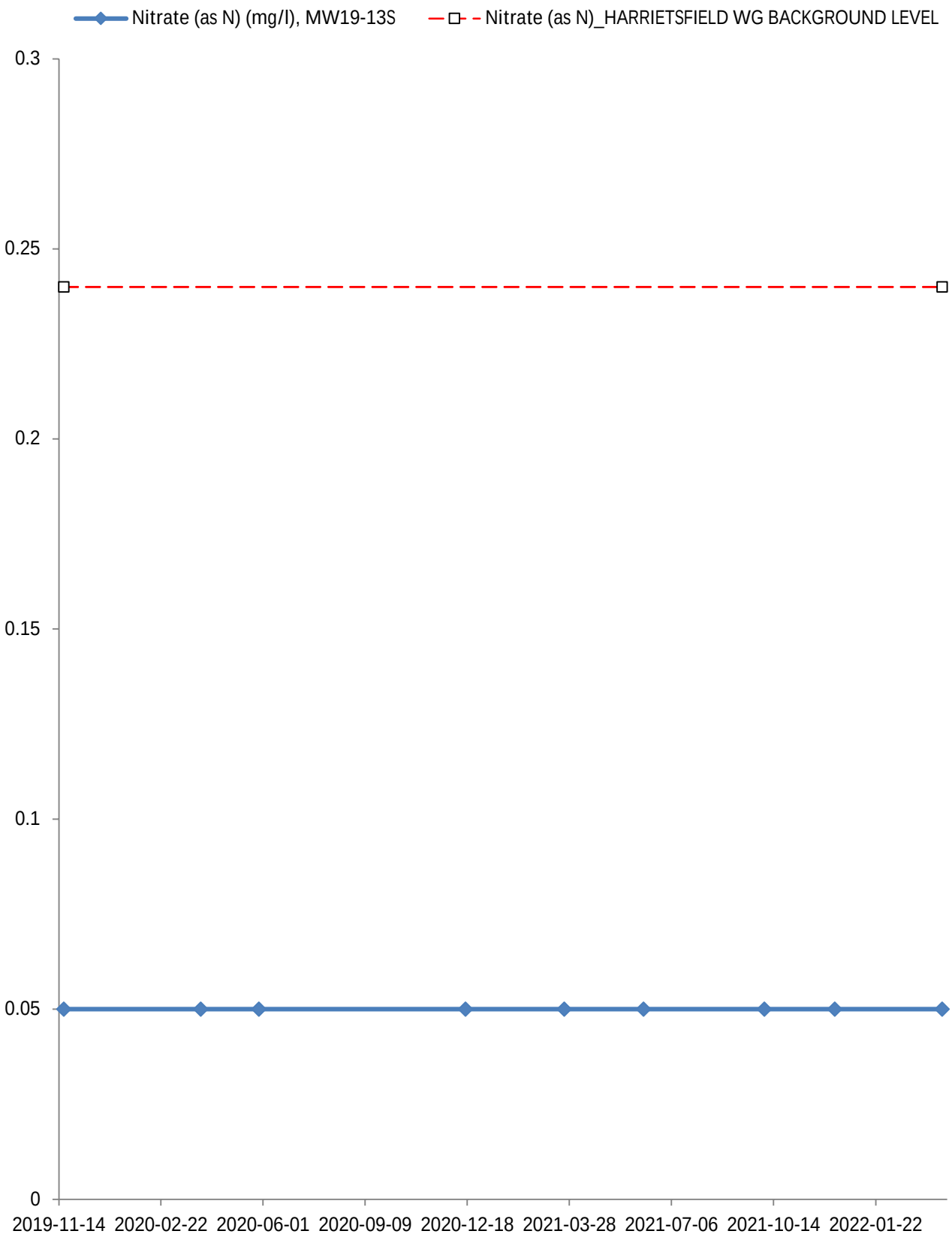
MW19-13S-Molybdenum



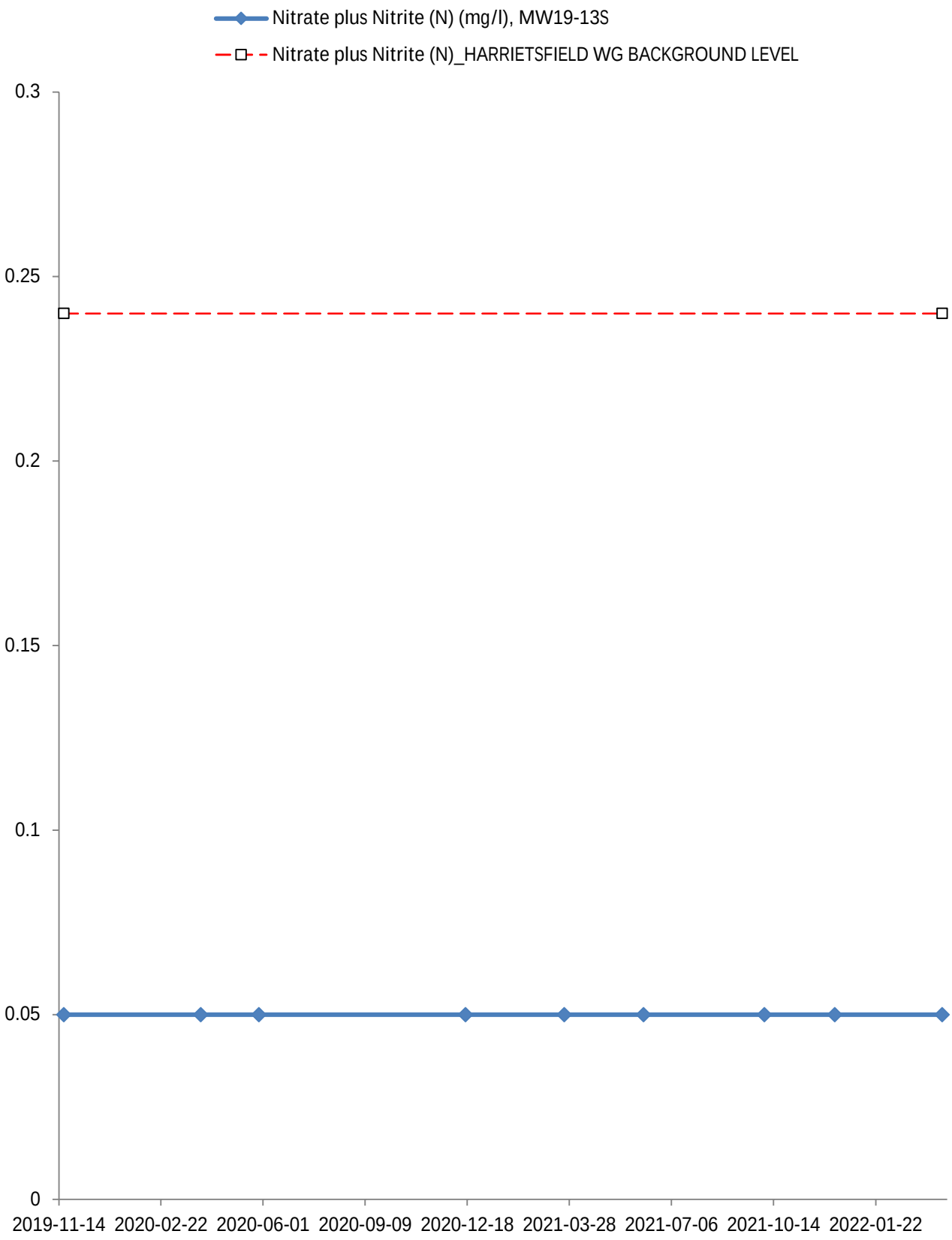
MW19-13S-Nickel



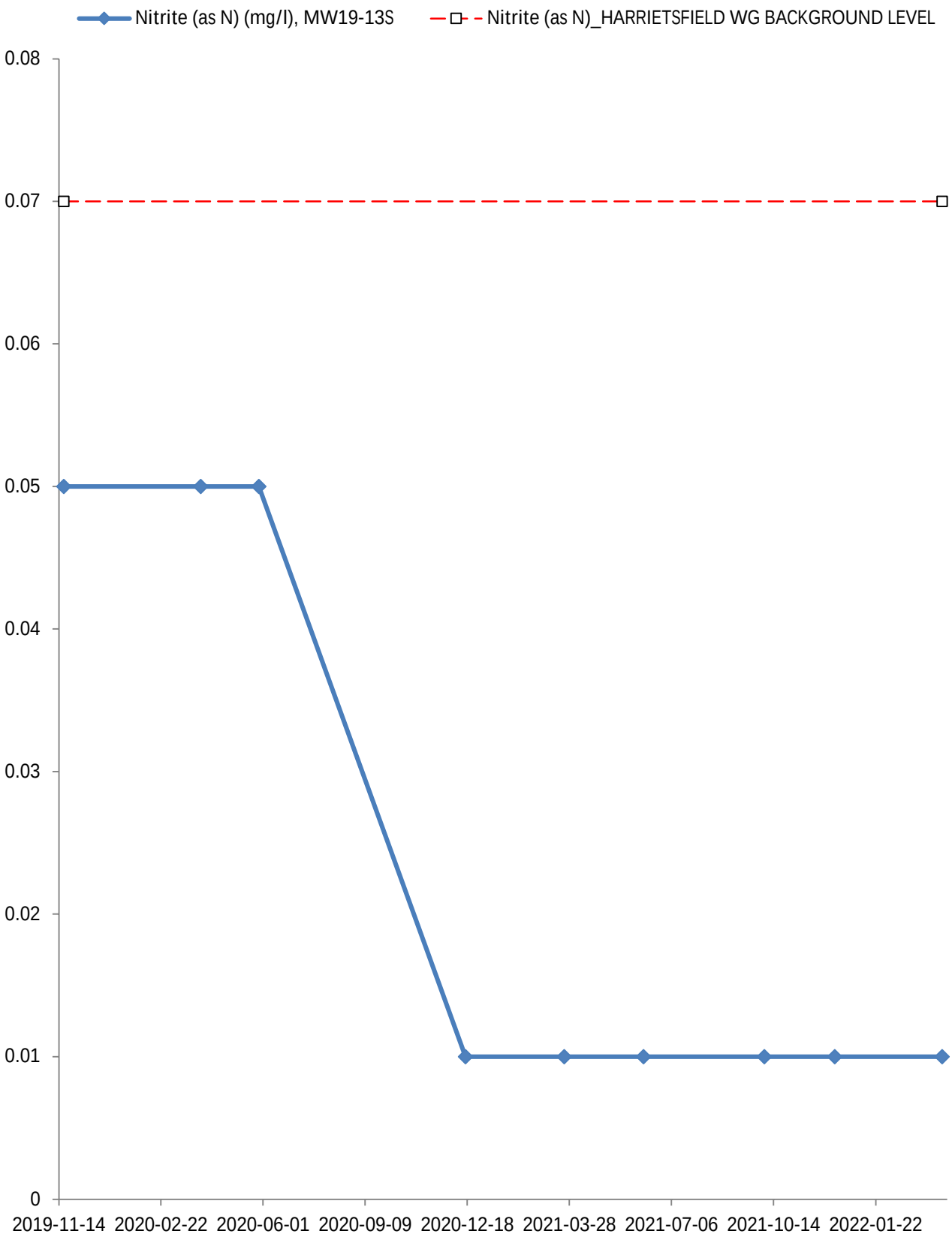
MW19-13S-Nitrate (as N)



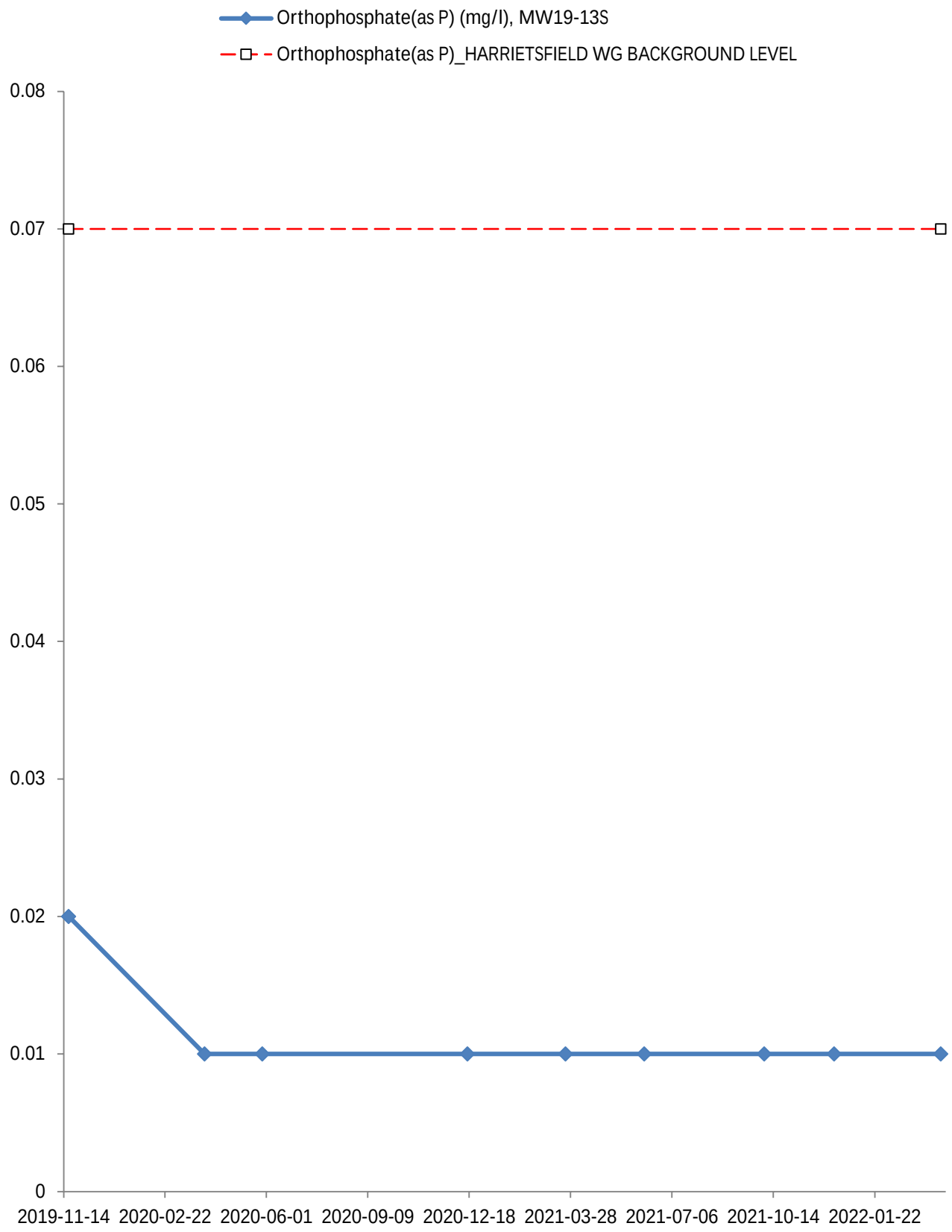
MW19-13S-Nitrate plus Nitrite (N)



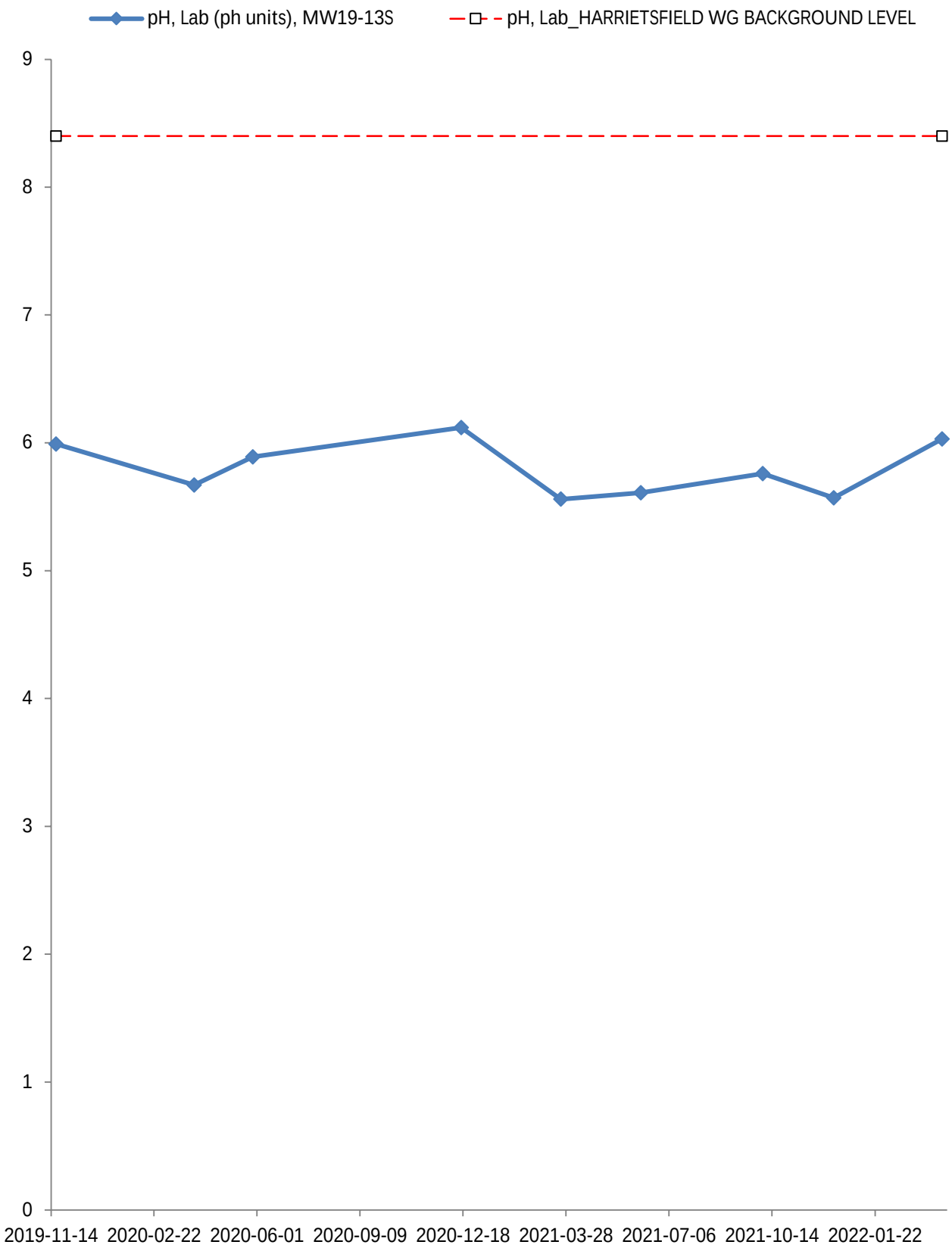
MW19-13S-Nitrite (as N)



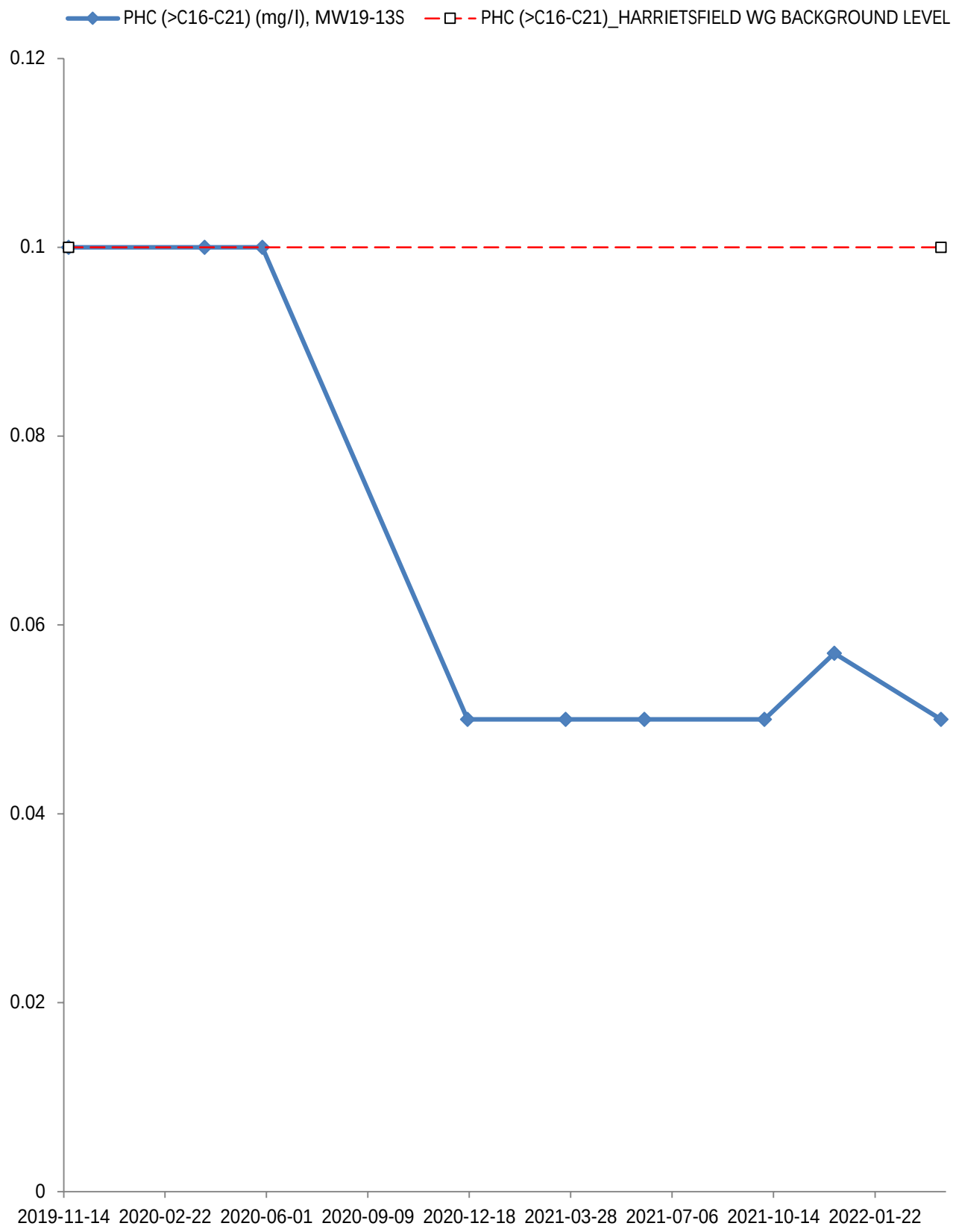
MW19-13S-Orthophosphate(as P)



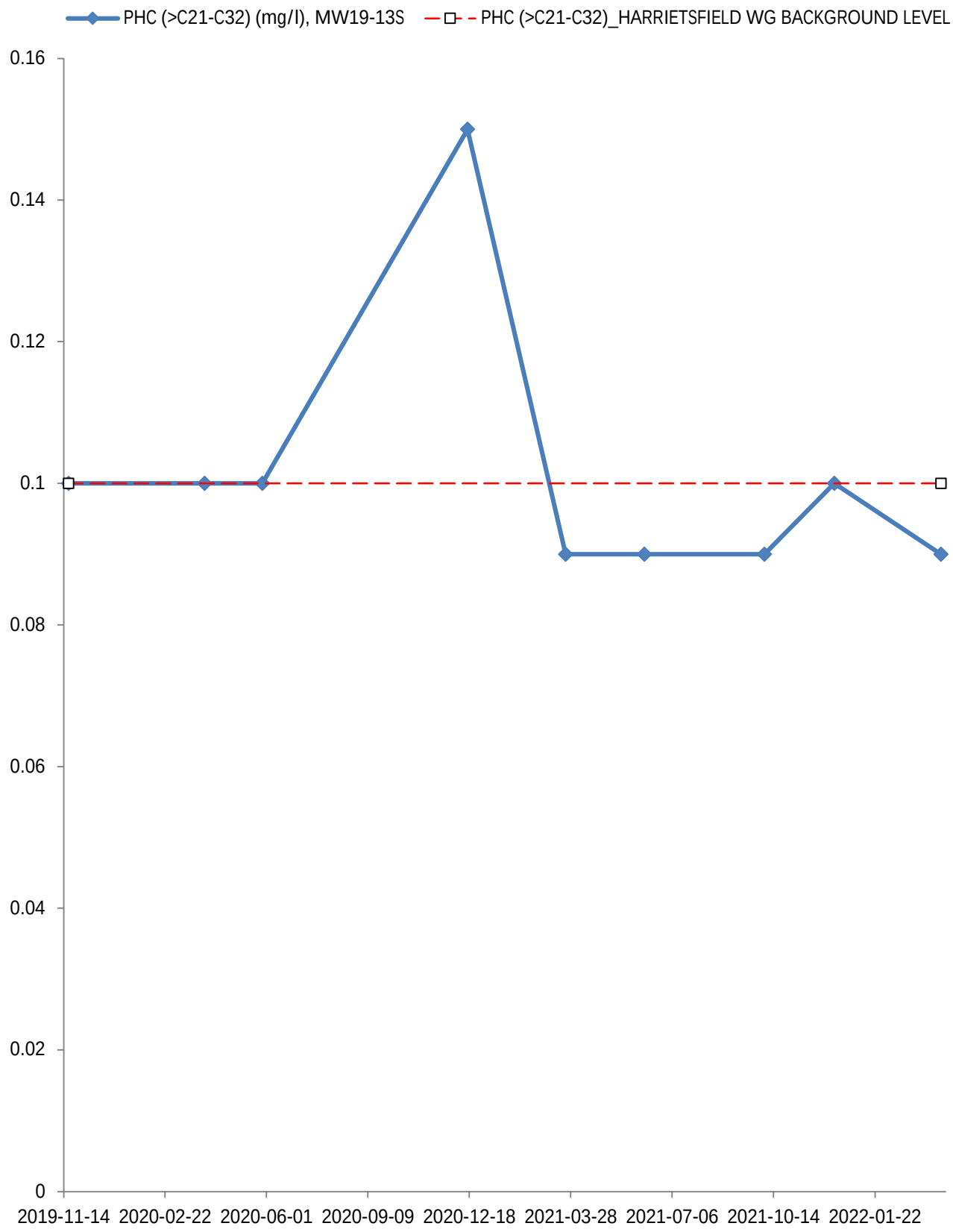
MW19-13S-pH, Lab



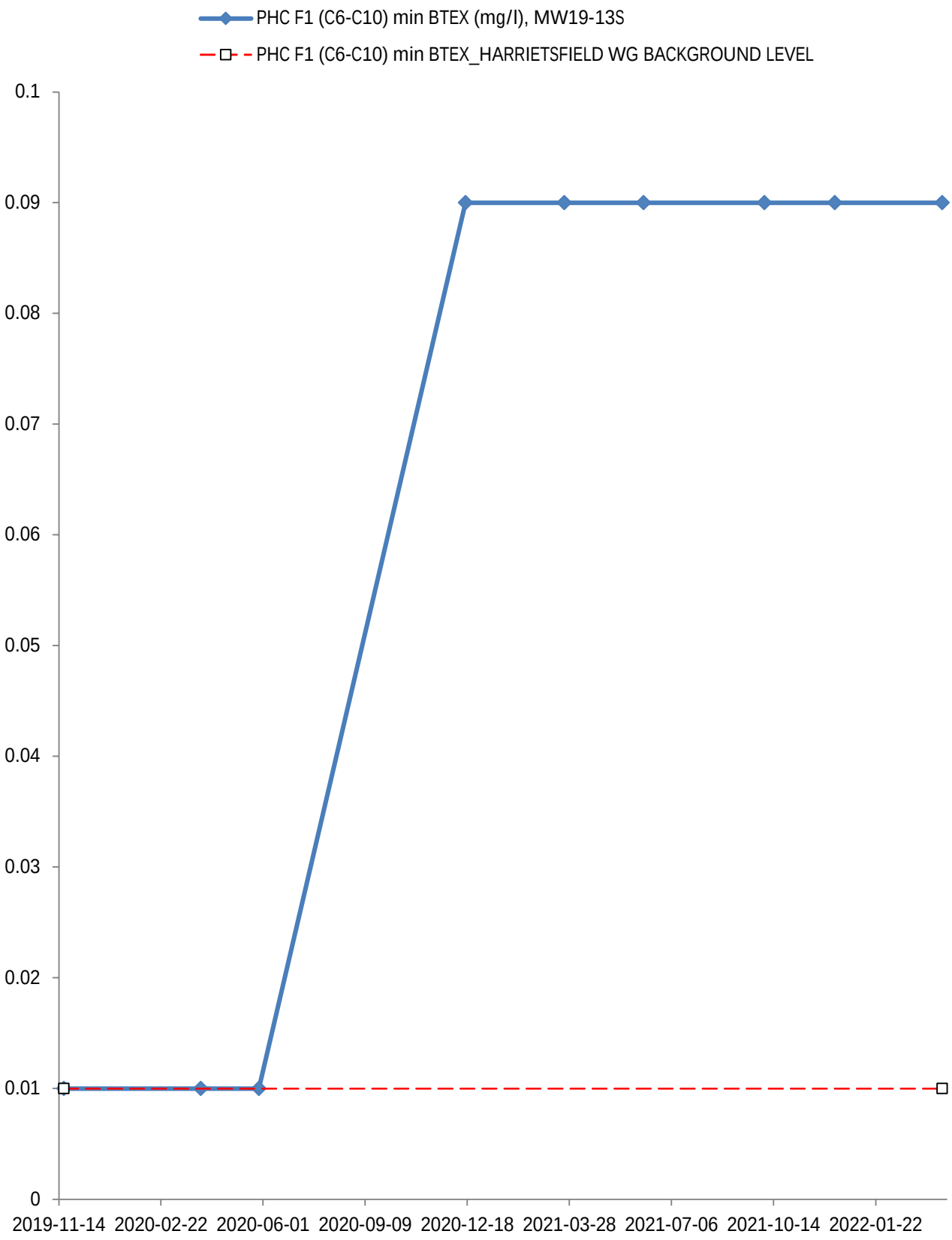
MW19-13S-PHC (>C16-C21)



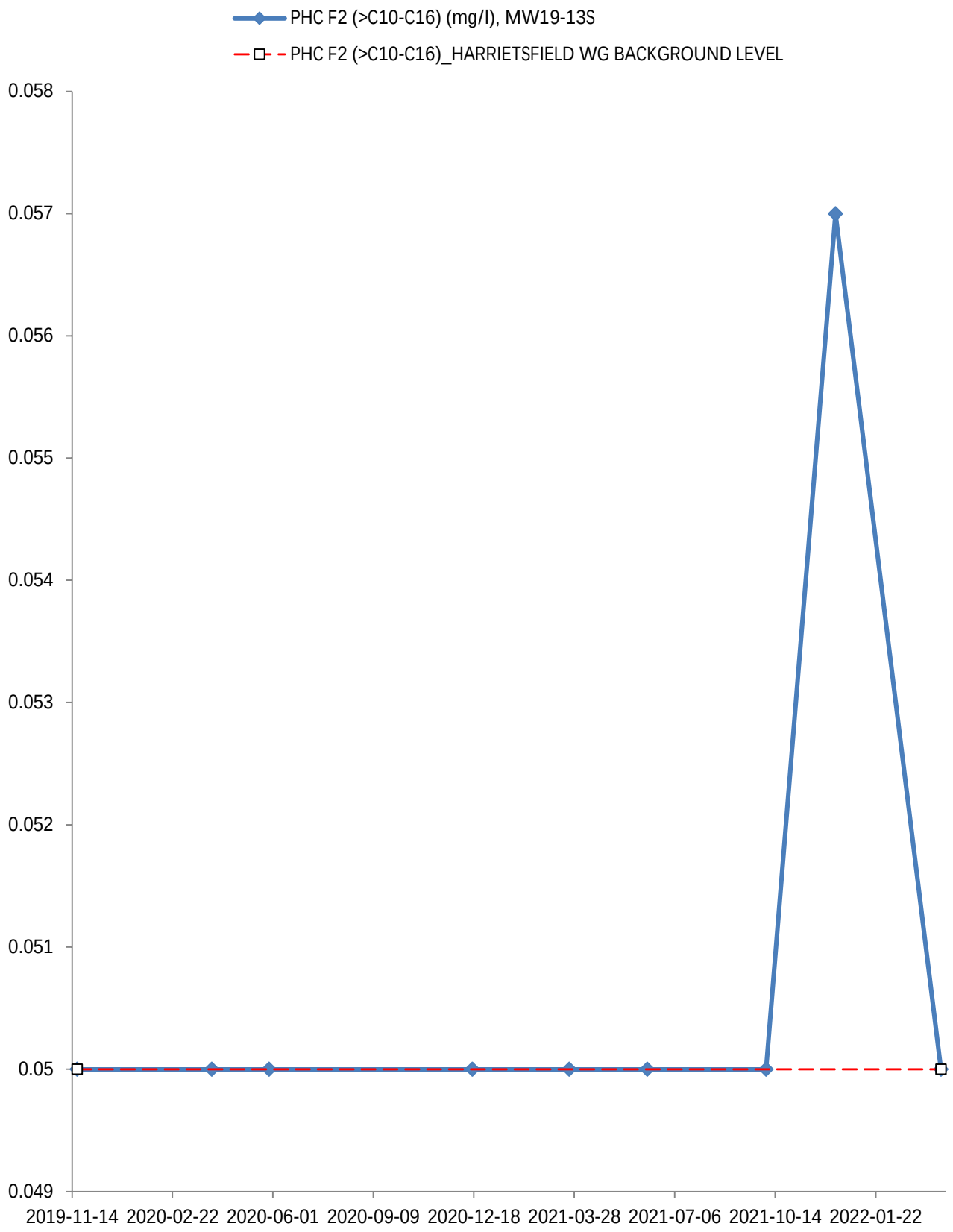
MW19-13S-PHC (>C21-C32)



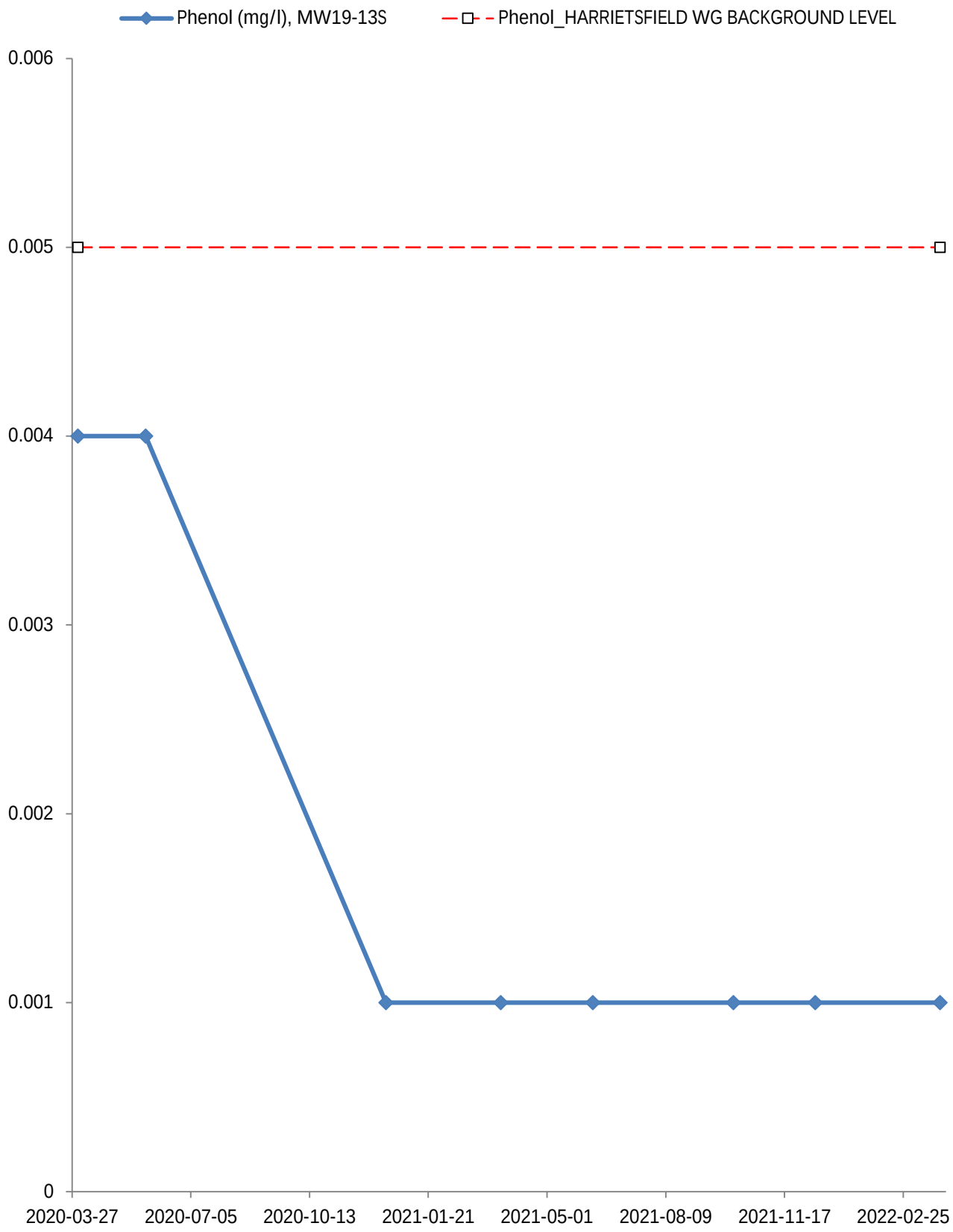
MW19-13S-PHC F1 (C6-C10) min BTEX



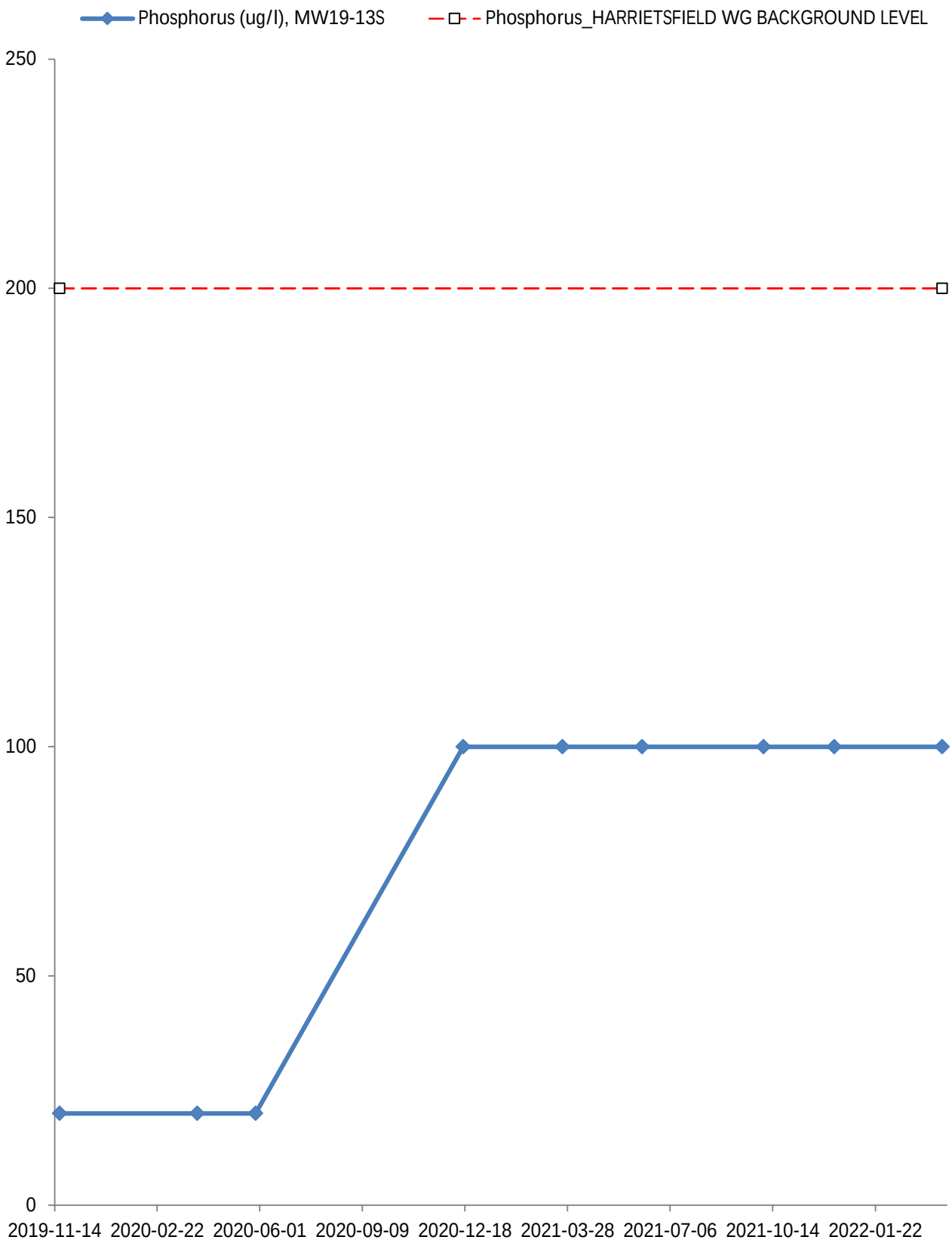
MW19-13S-PHC F2 (>C10-C16)



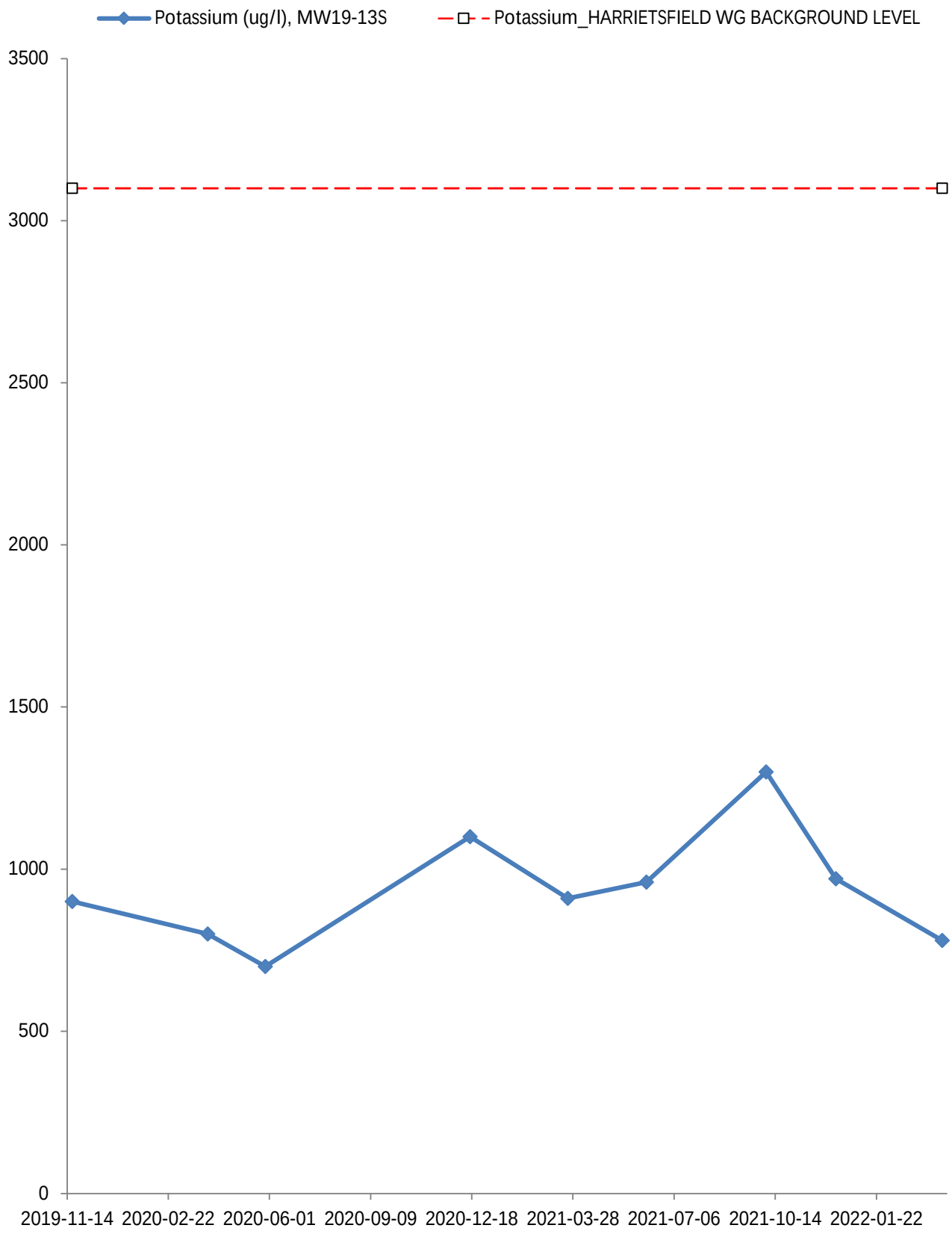
MW19-13S-Phenol



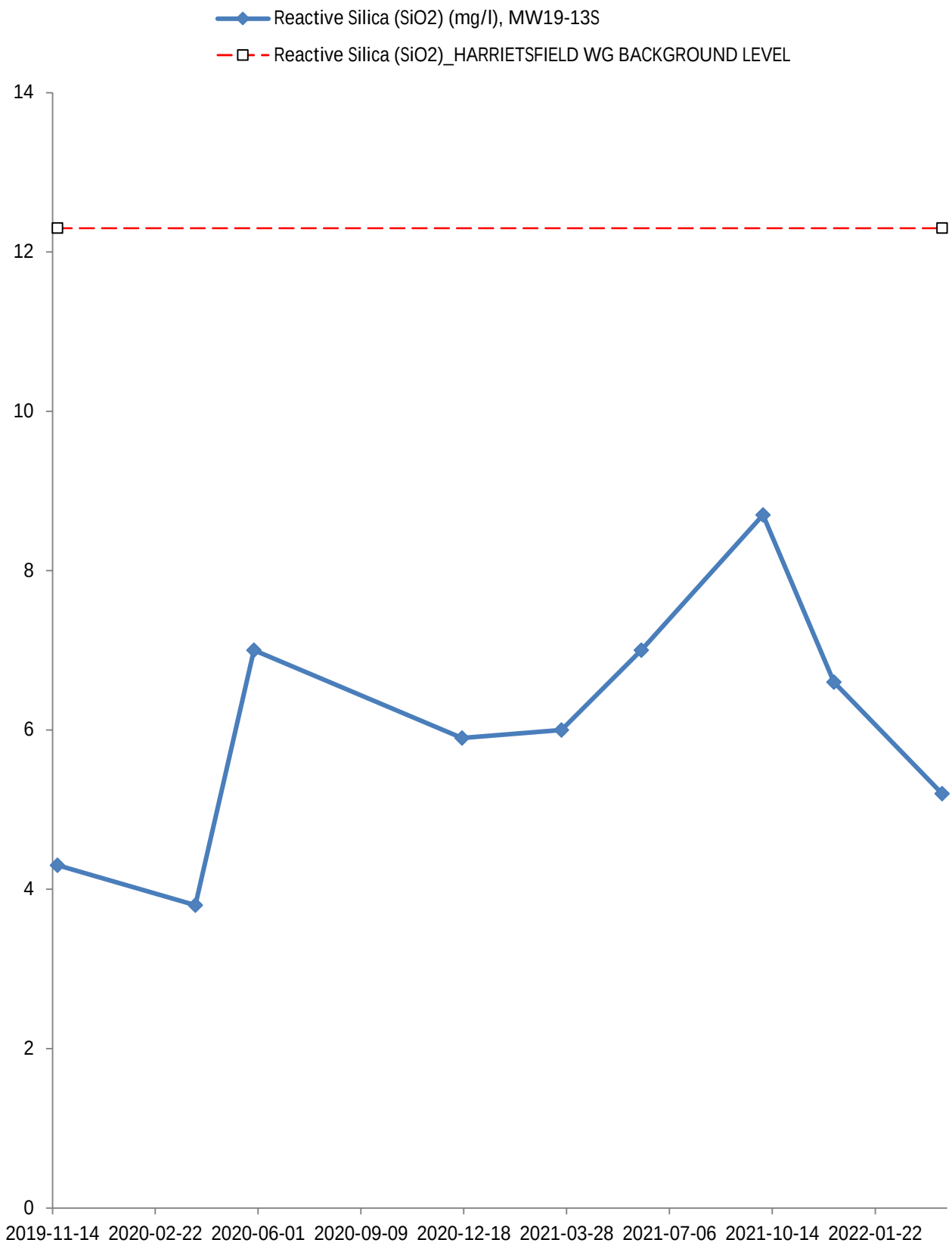
MW19-13S-Phosphorus



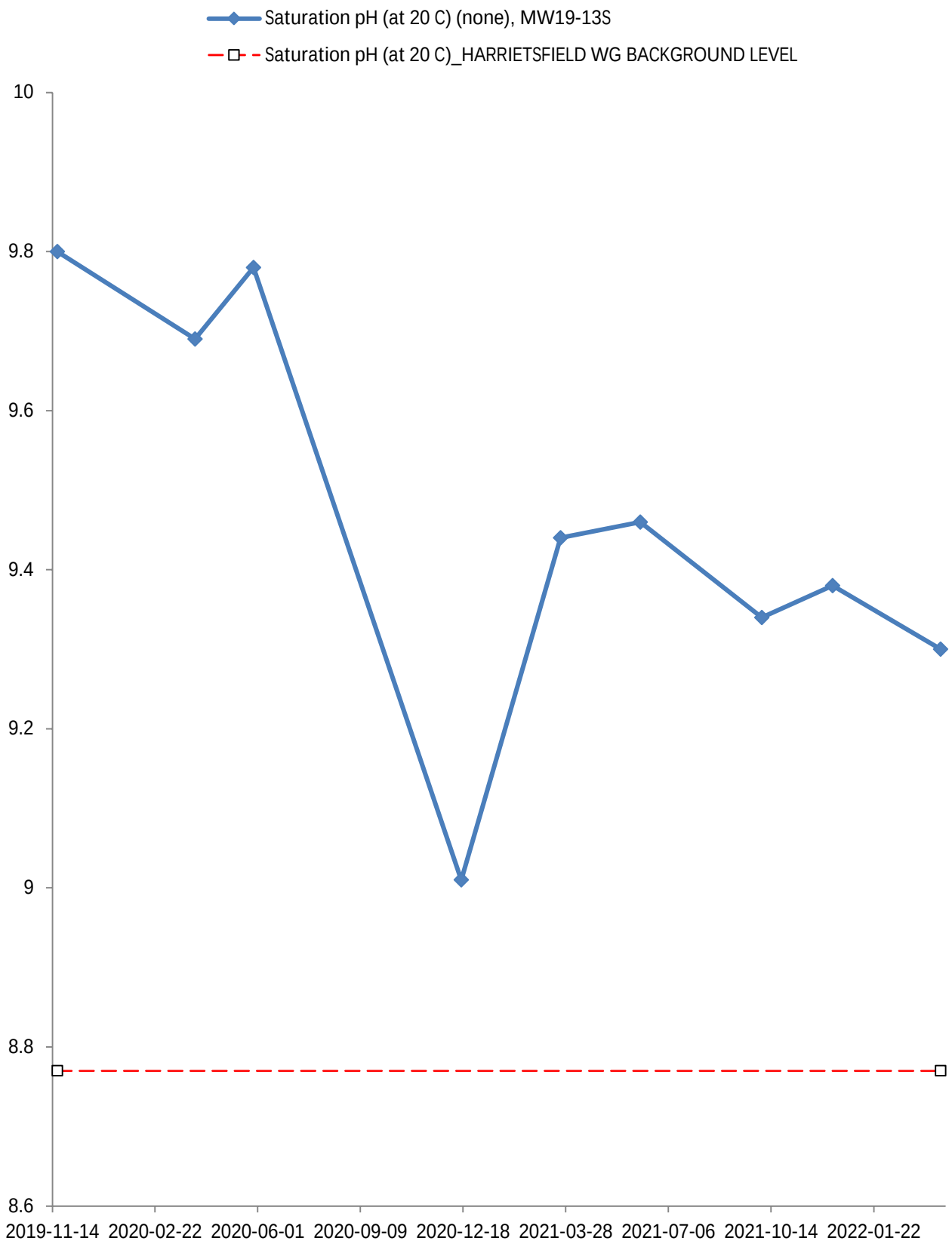
MW19-13S-Potassium



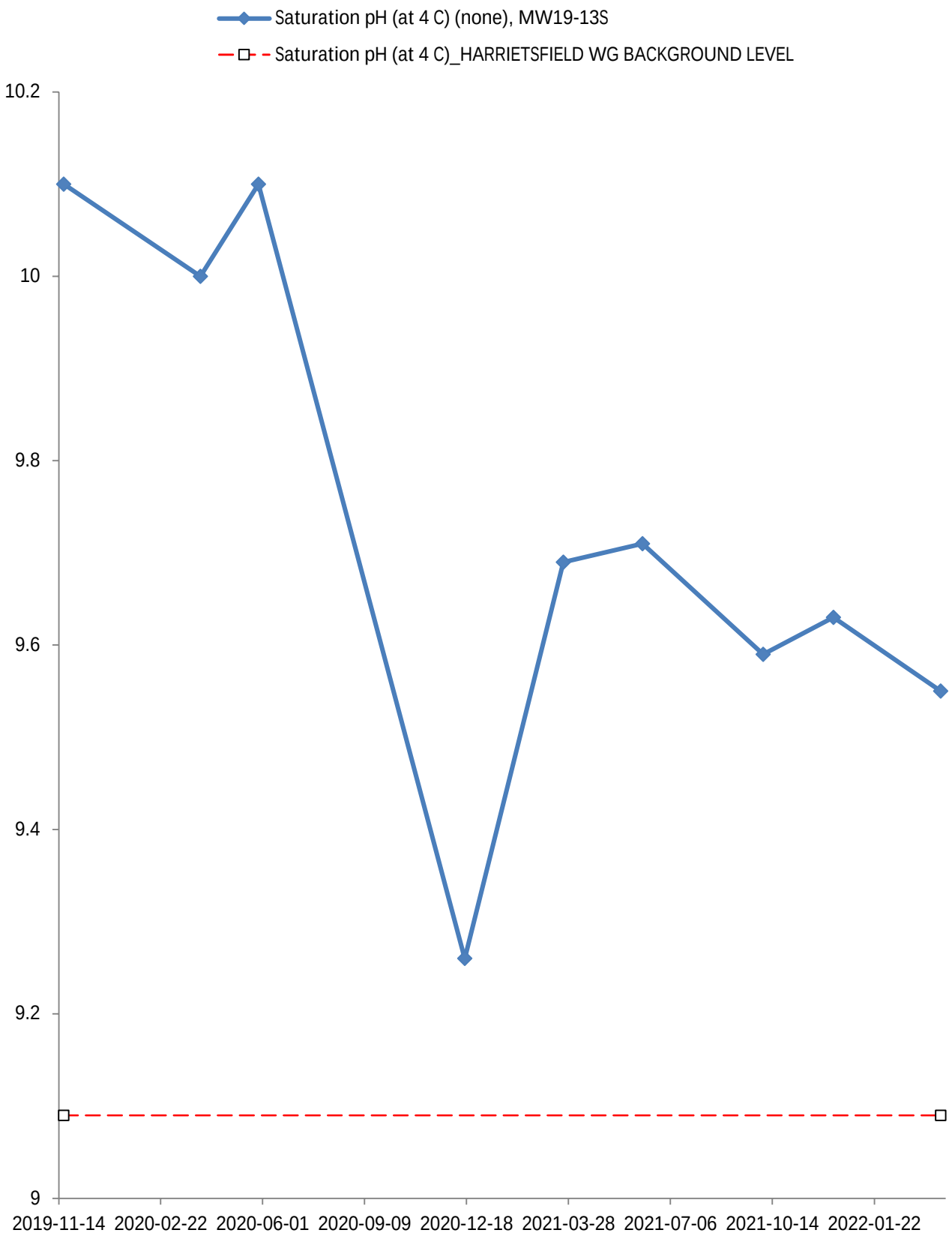
MW19-13S-Reactive Silica (SiO2)



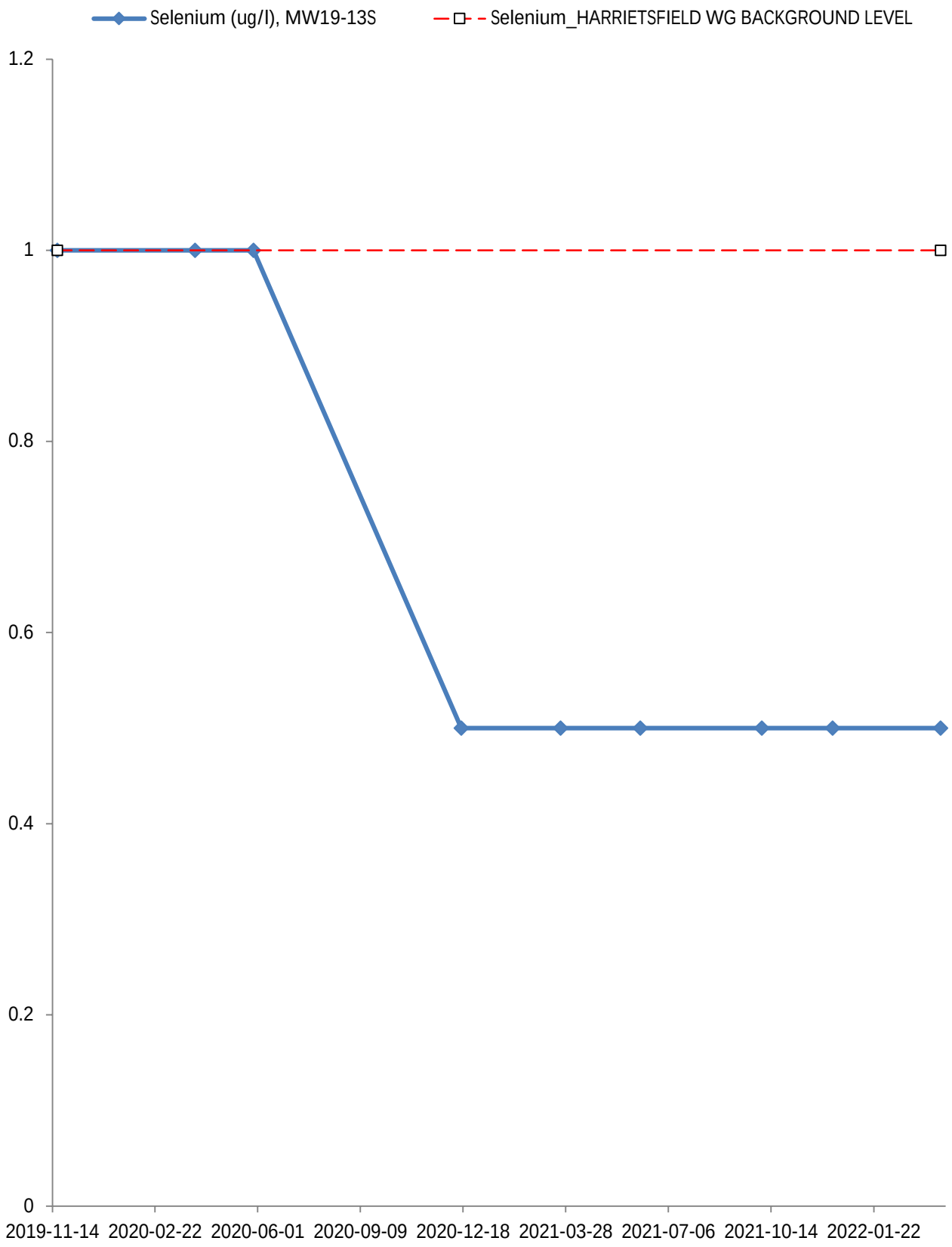
MW19-13S-Saturation pH (at 20 C)



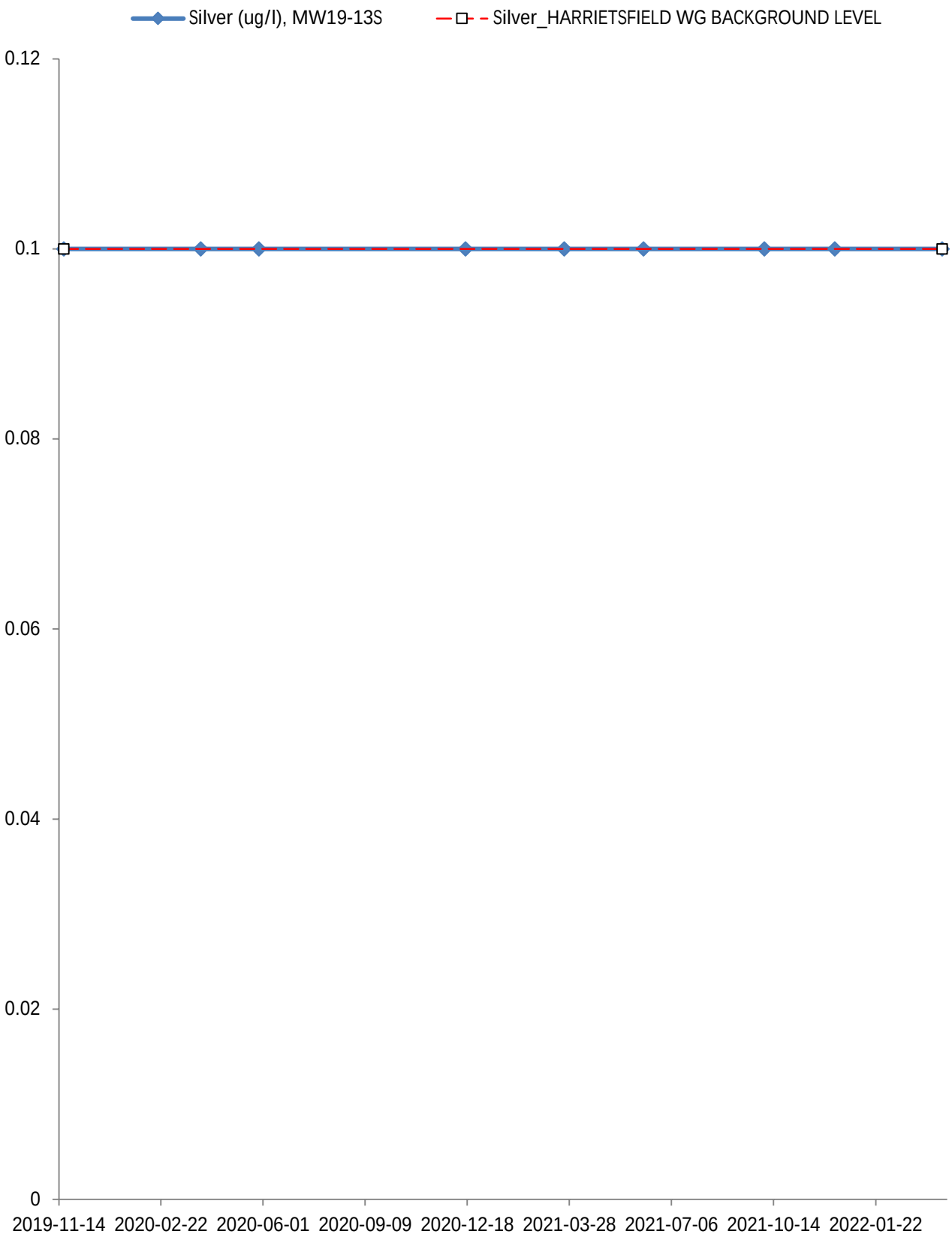
MW19-13S-Saturation pH (at 4 C)



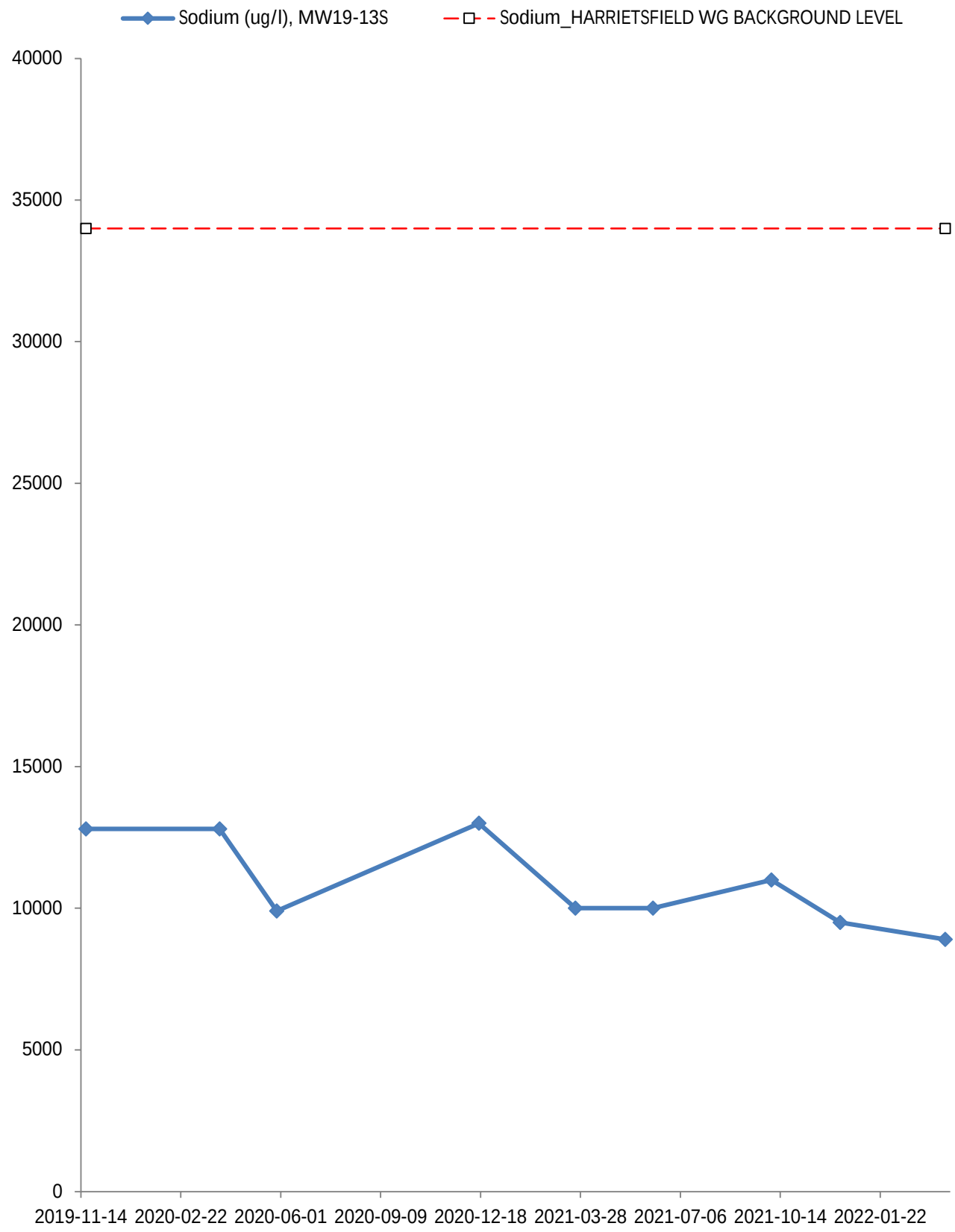
MW19-13S-Selenium



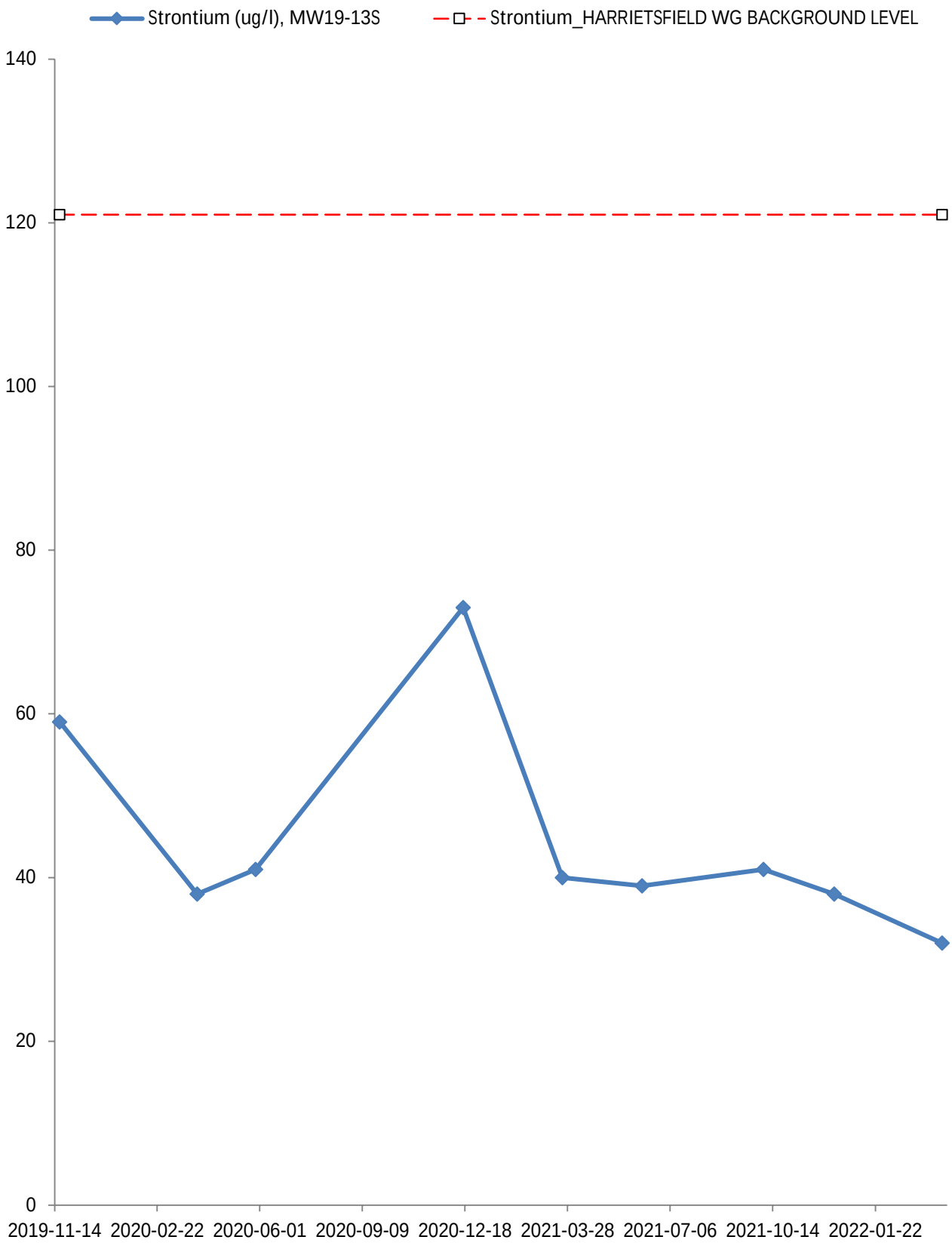
MW19-13S-Silver



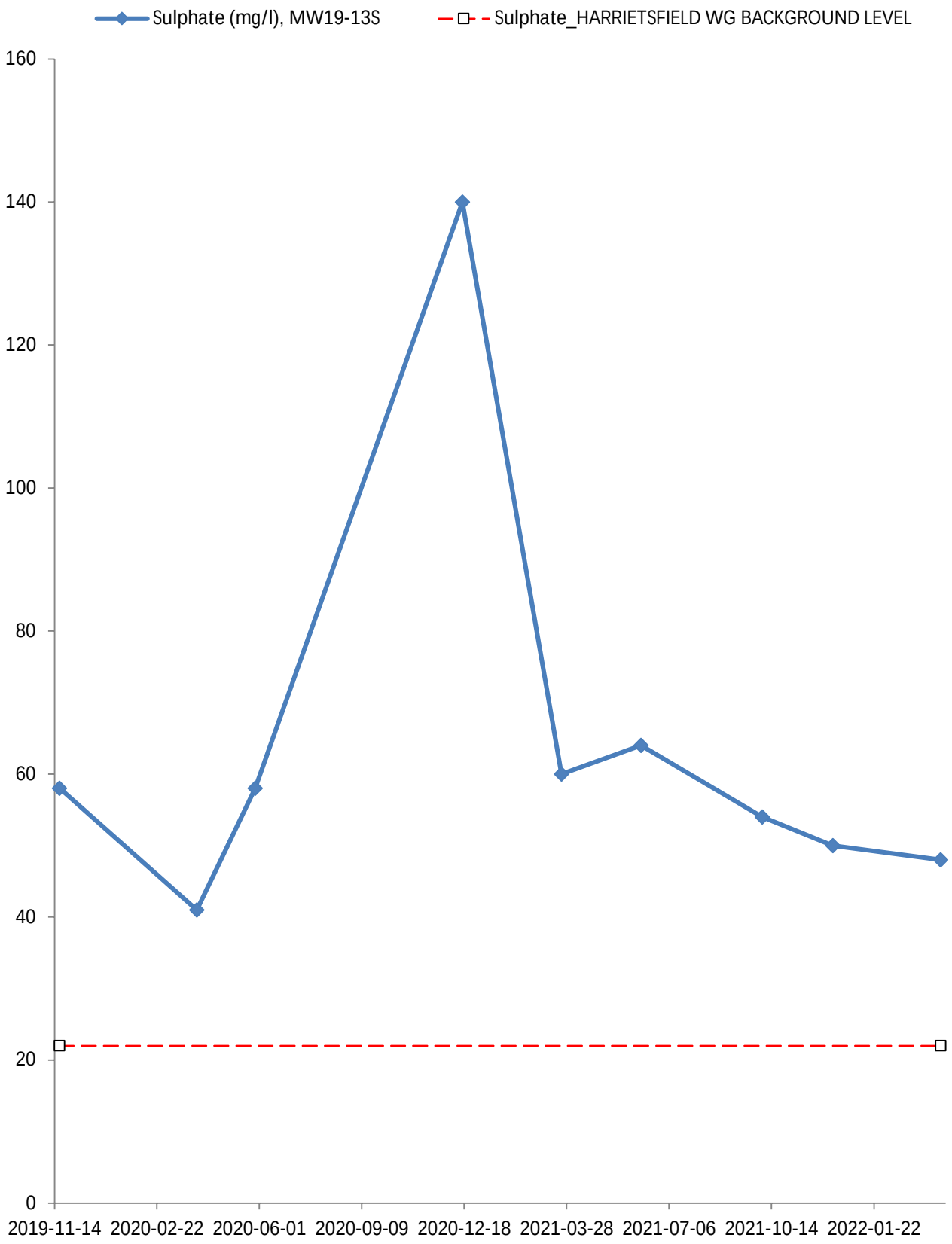
MW19-13S-Sodium



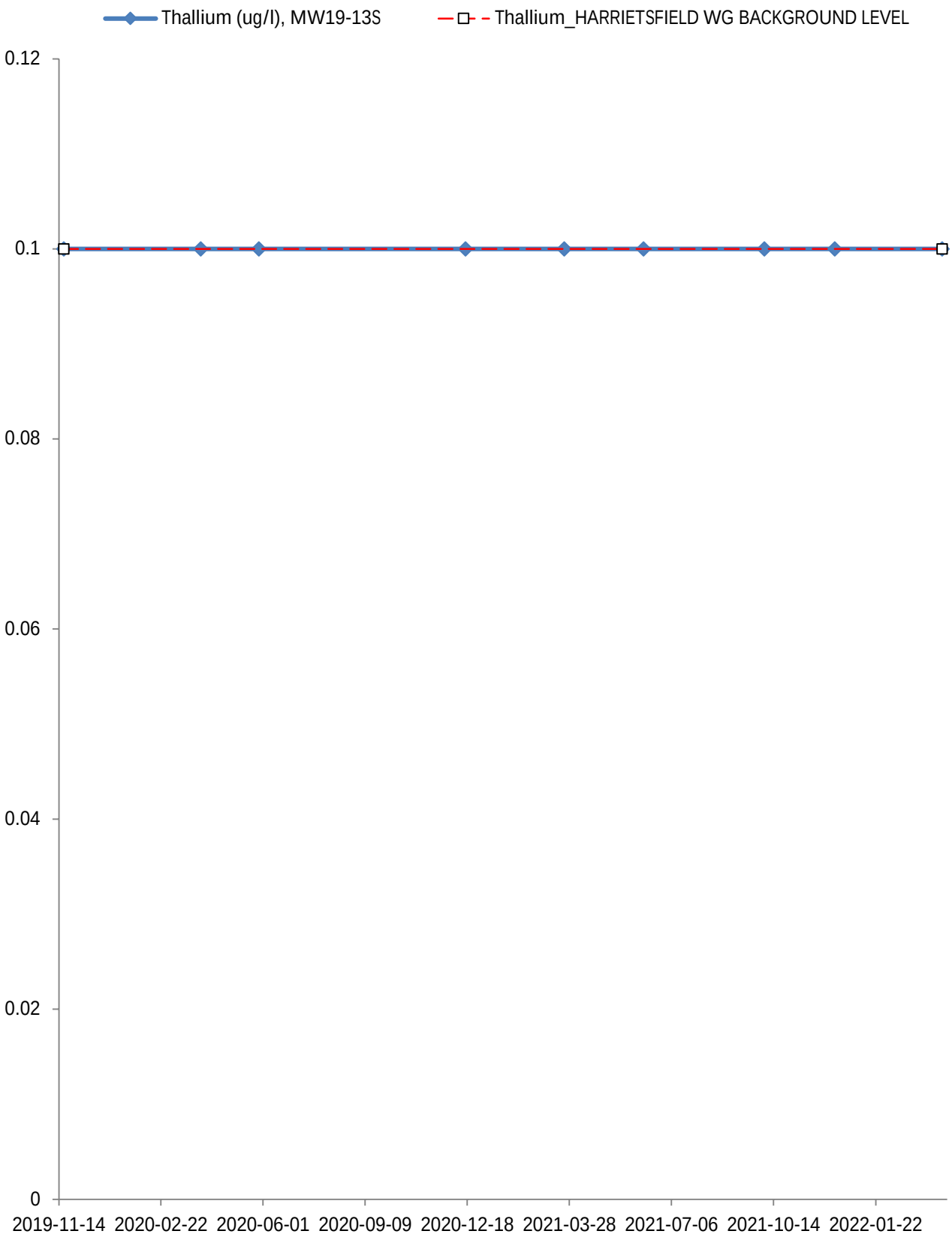
MW19-13S-Strontium



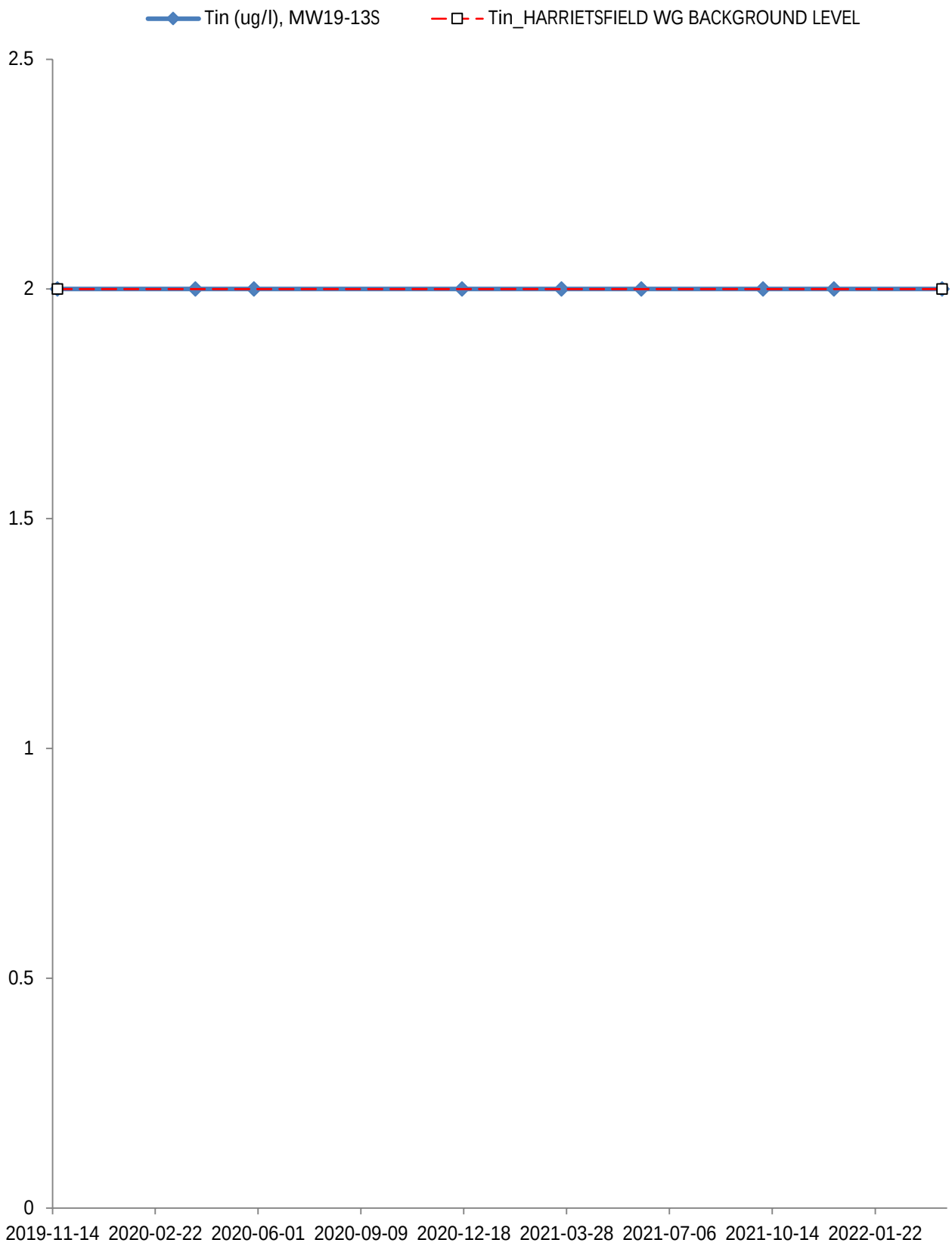
MW19-13S-Sulphate



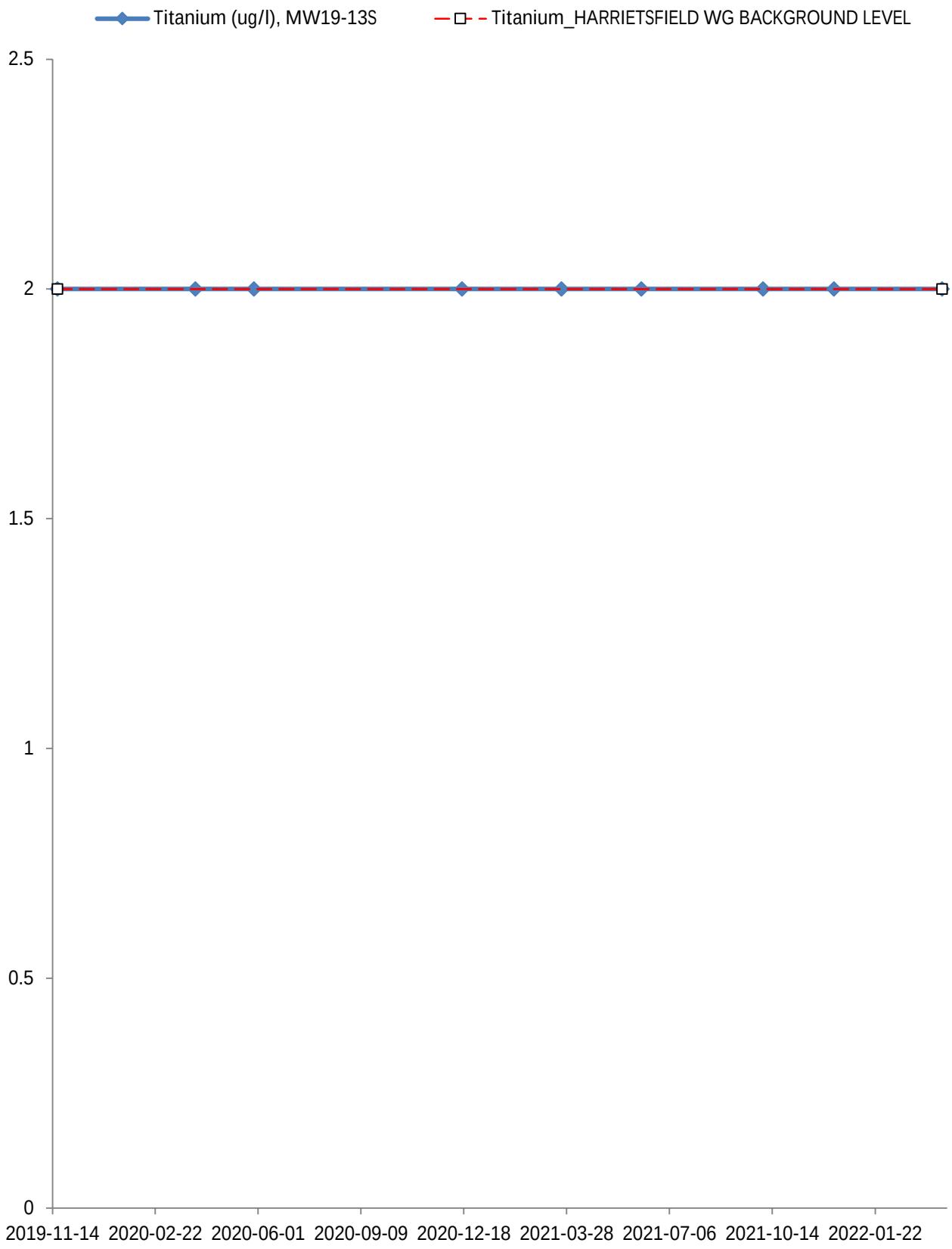
MW19-13S-Thallium



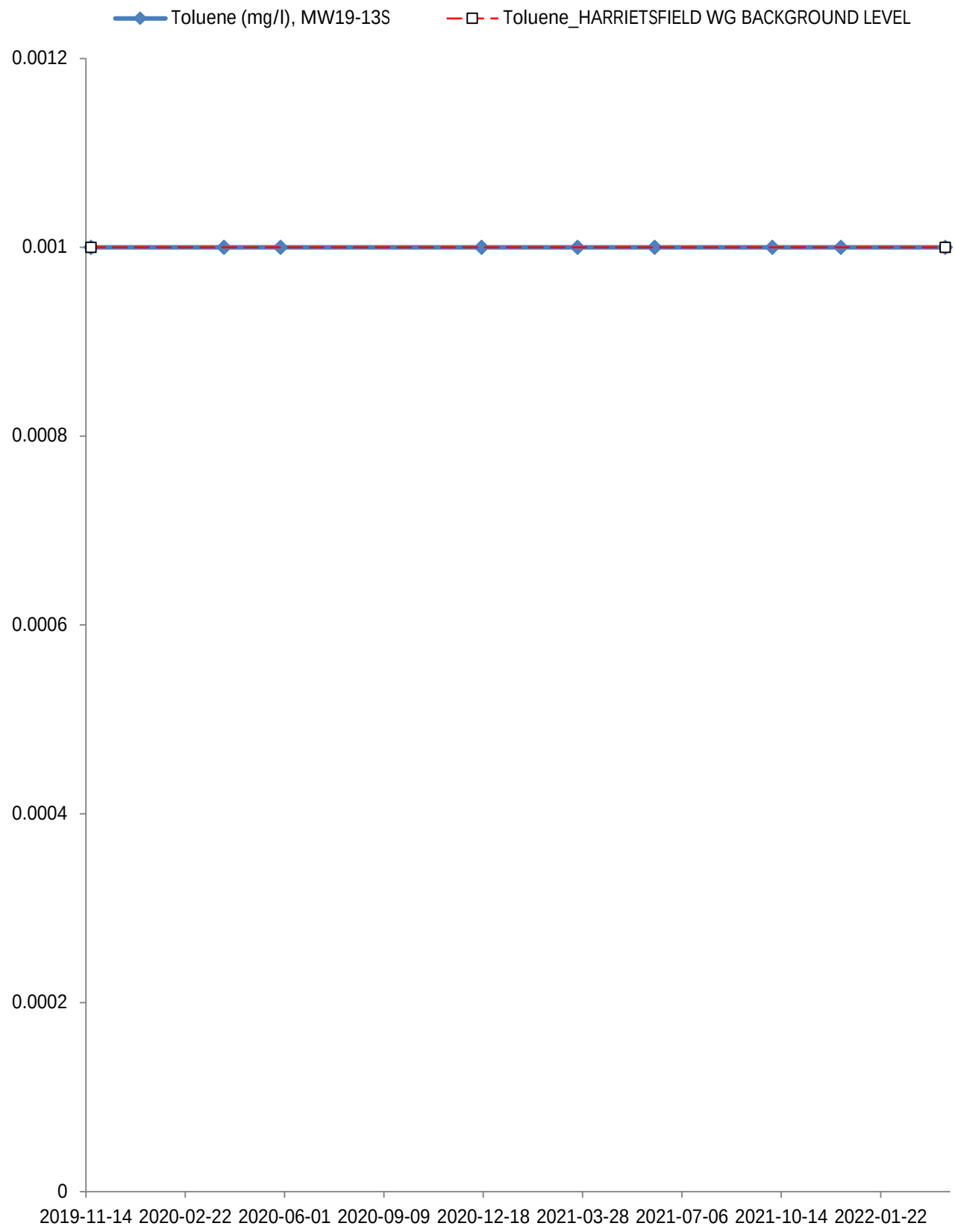
MW19-13S-Tin


Tin (ug/l), MW19-13S
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2019-11-14
2020-02-22
2020-06-01
2020-09-09
2020-12-18
2021-03-28
2021-07-06
2021-10-14
2022-01-22

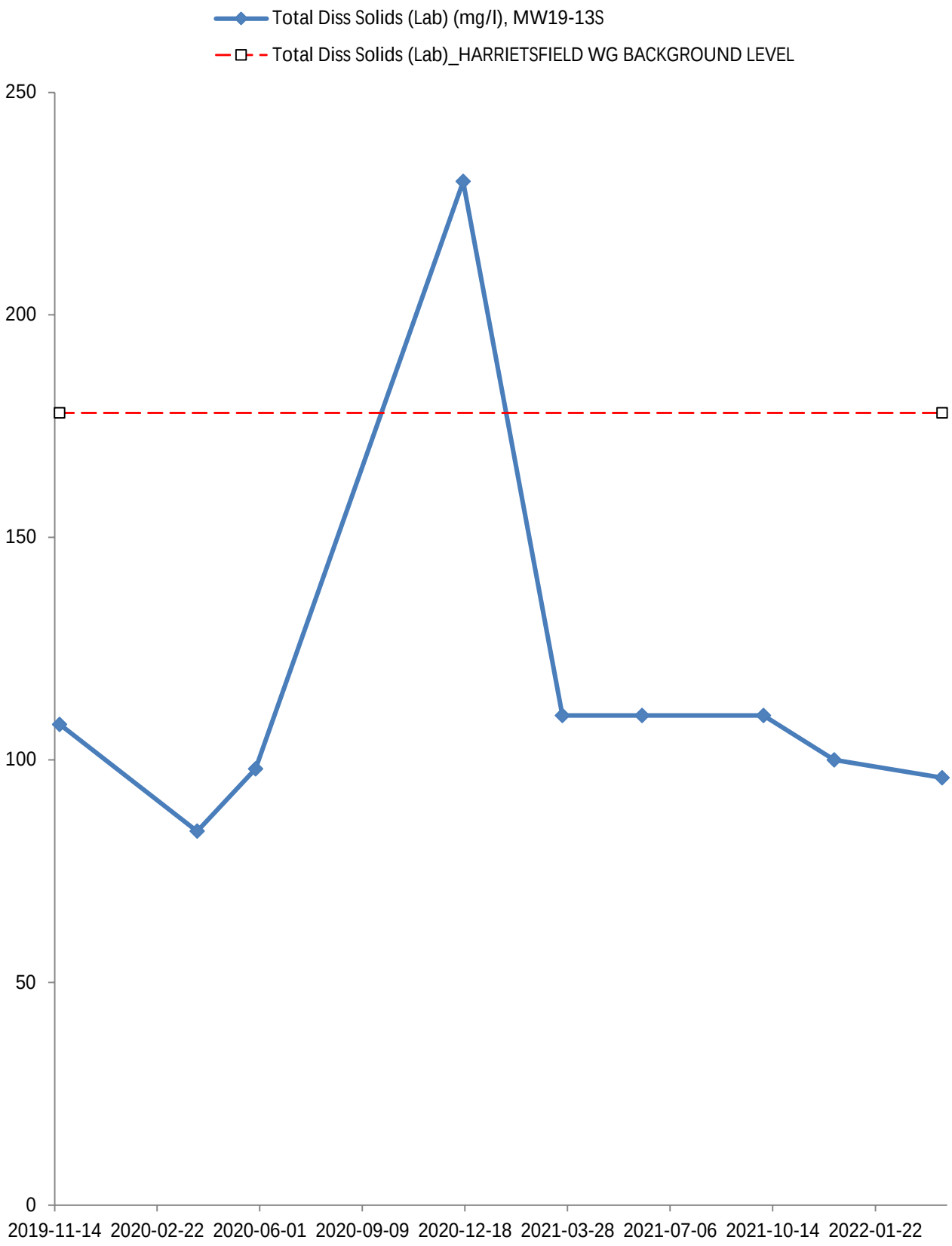
MW19-13S-Titanium



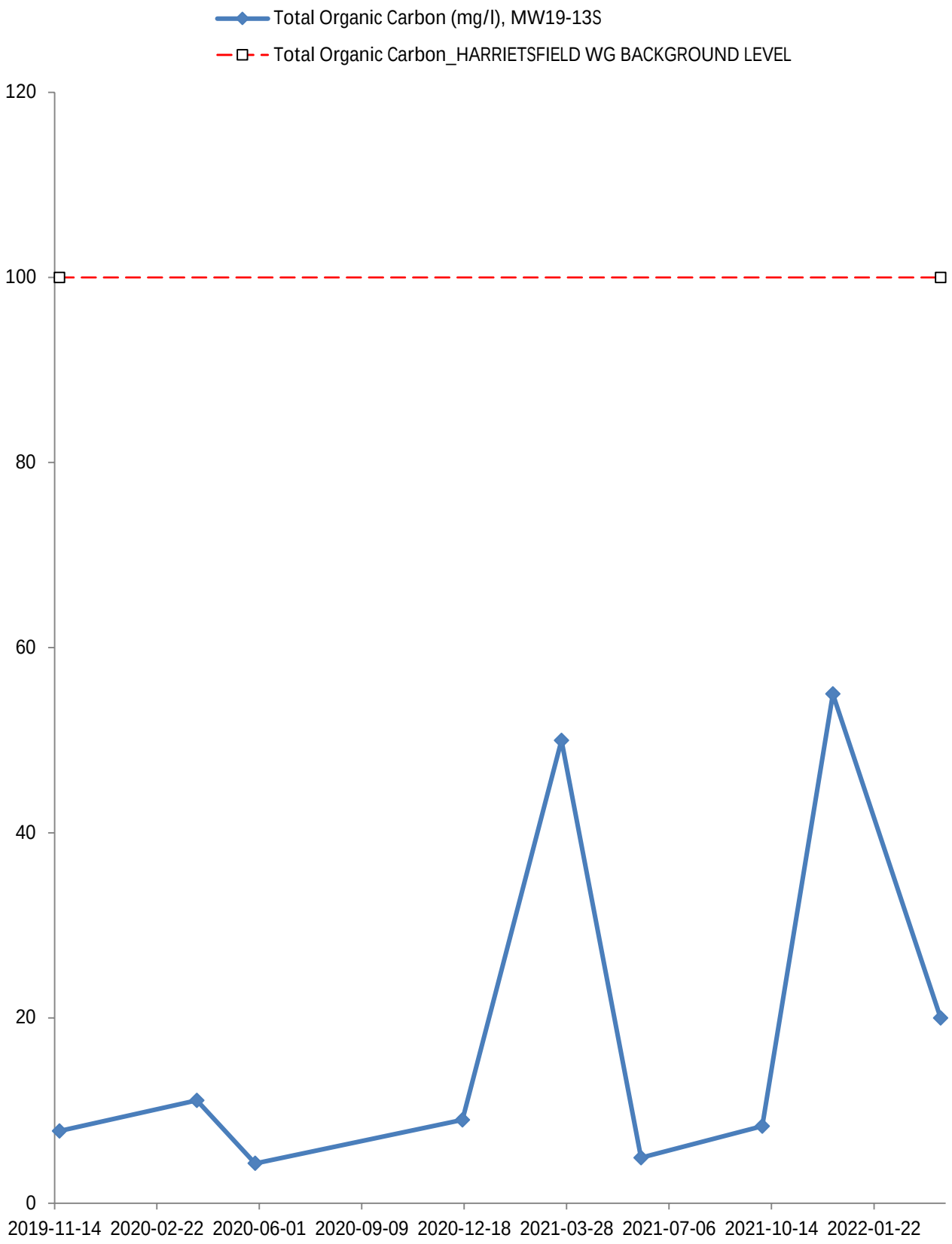
MW19-13S-Toluene



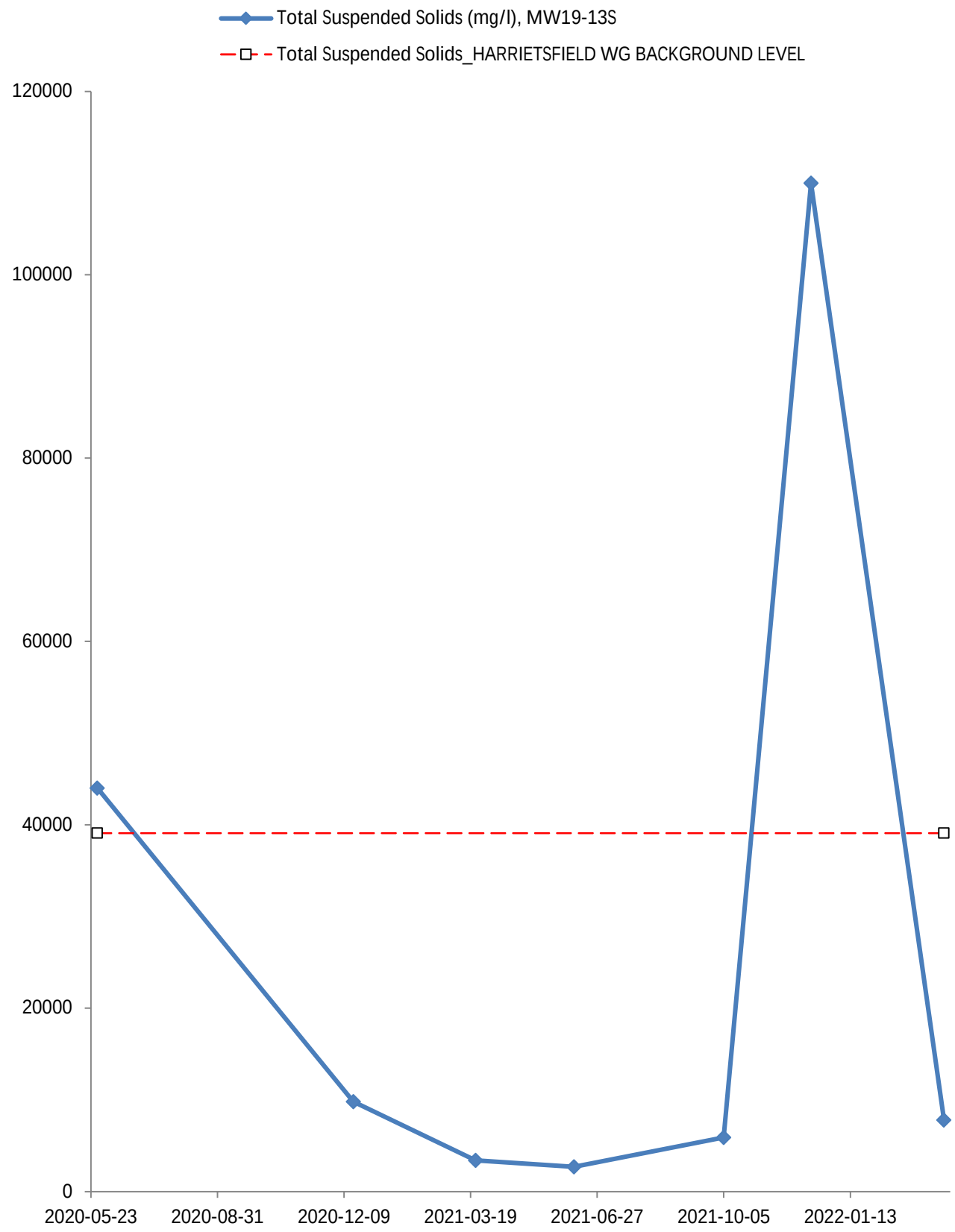
MW19-13S-Total Diss Solids (Lab)



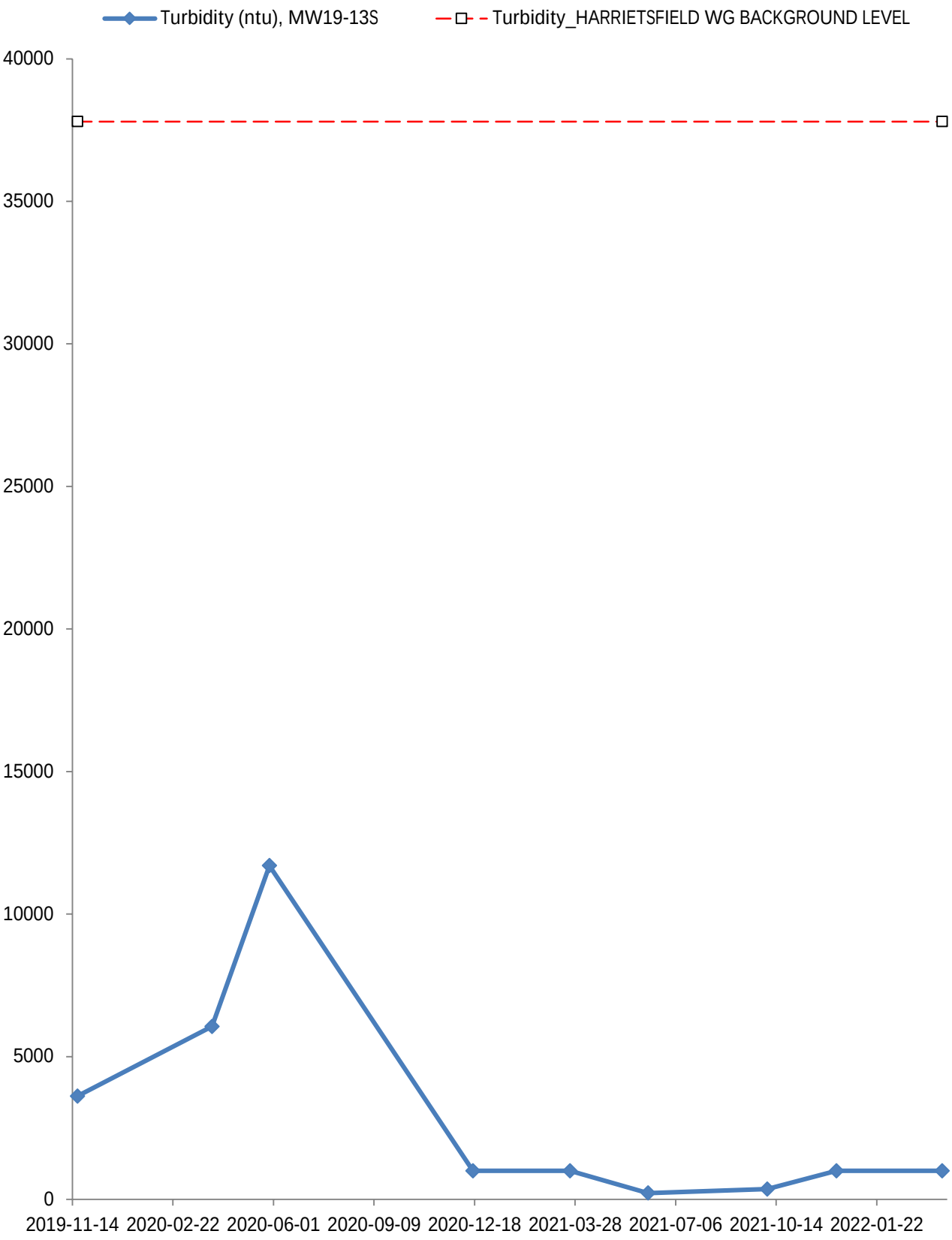
MW19-13S-Total Organic Carbon



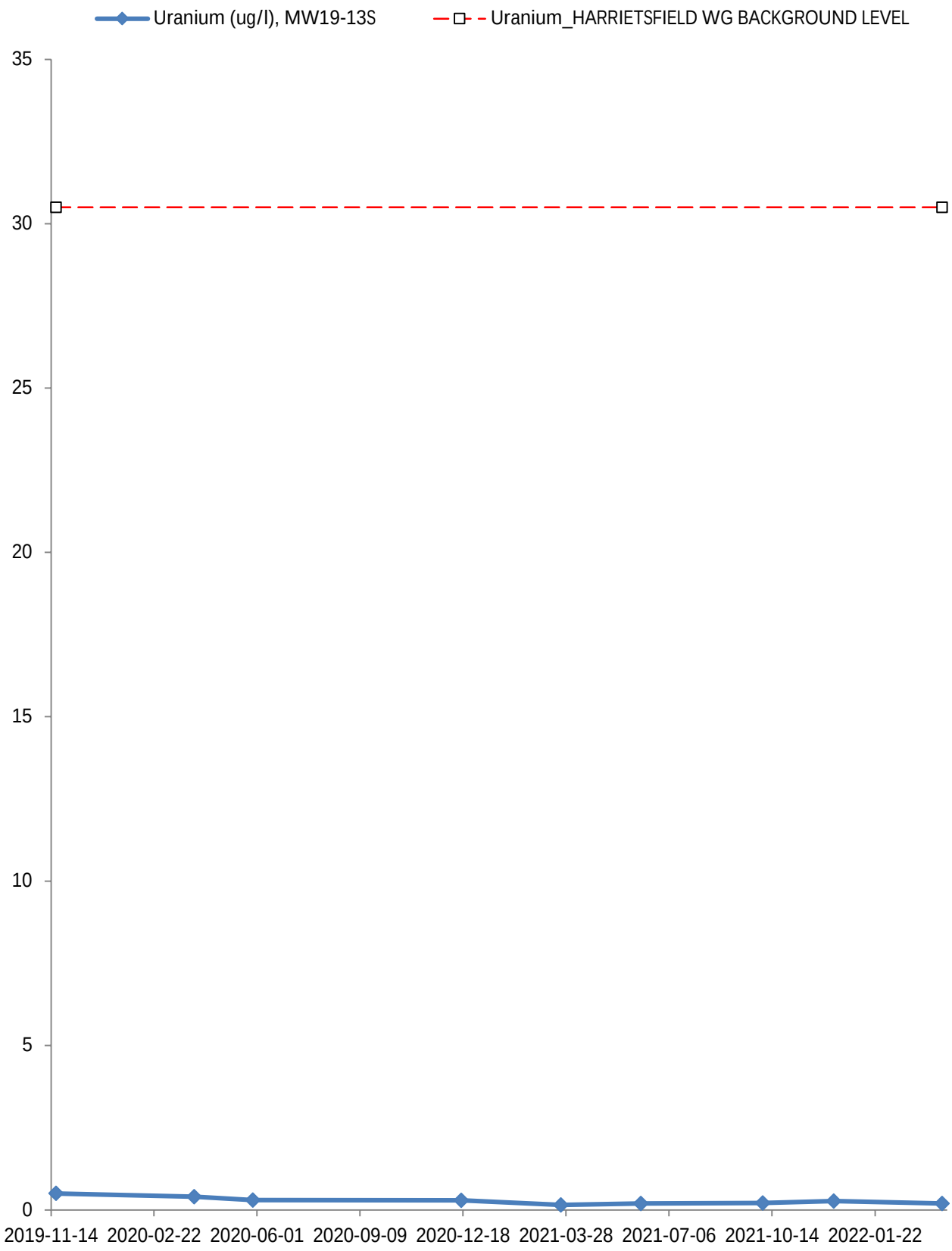
MW19-13S-Total Suspended Solids



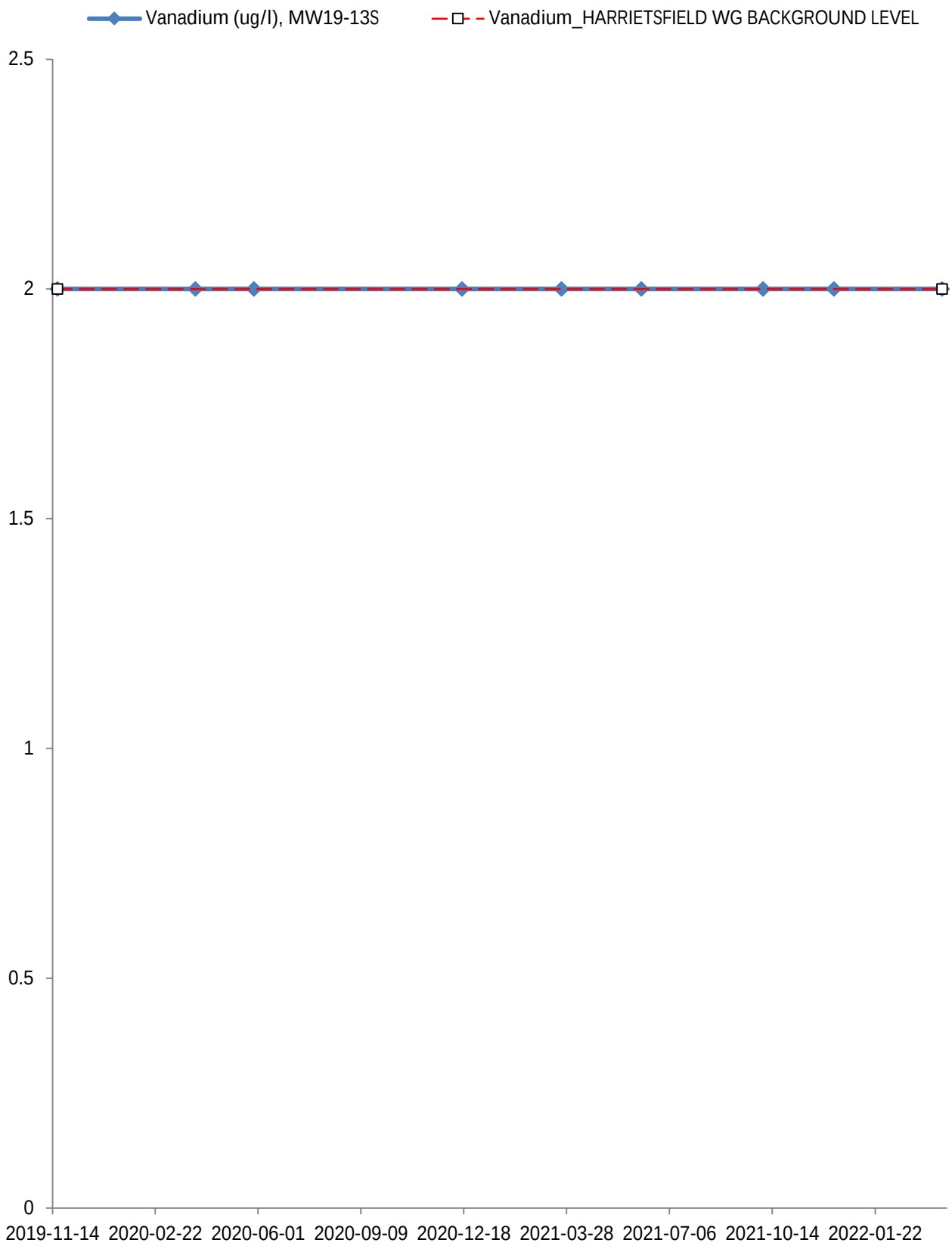
MW19-13S-Turbidity



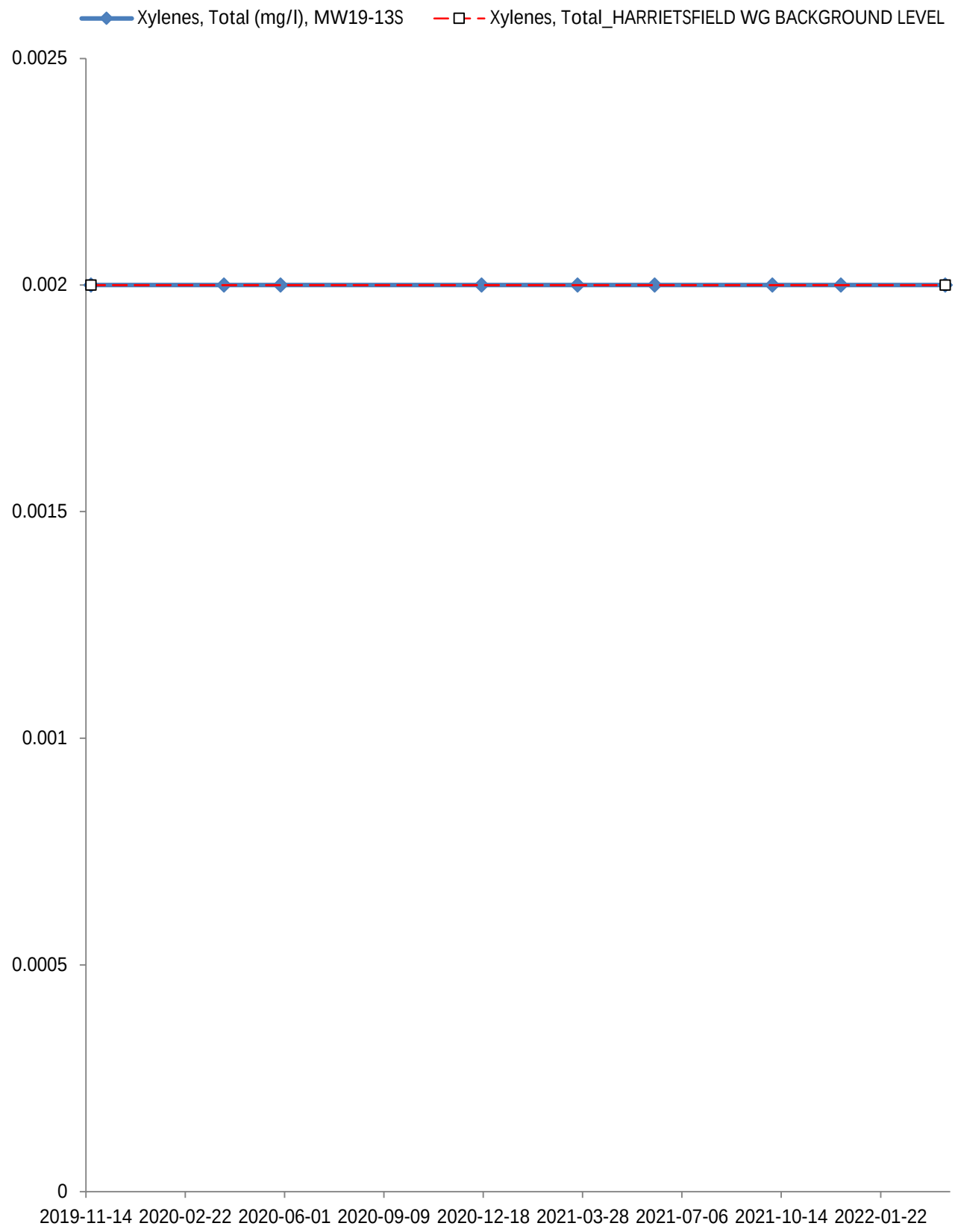
MW19-13S-Uranium



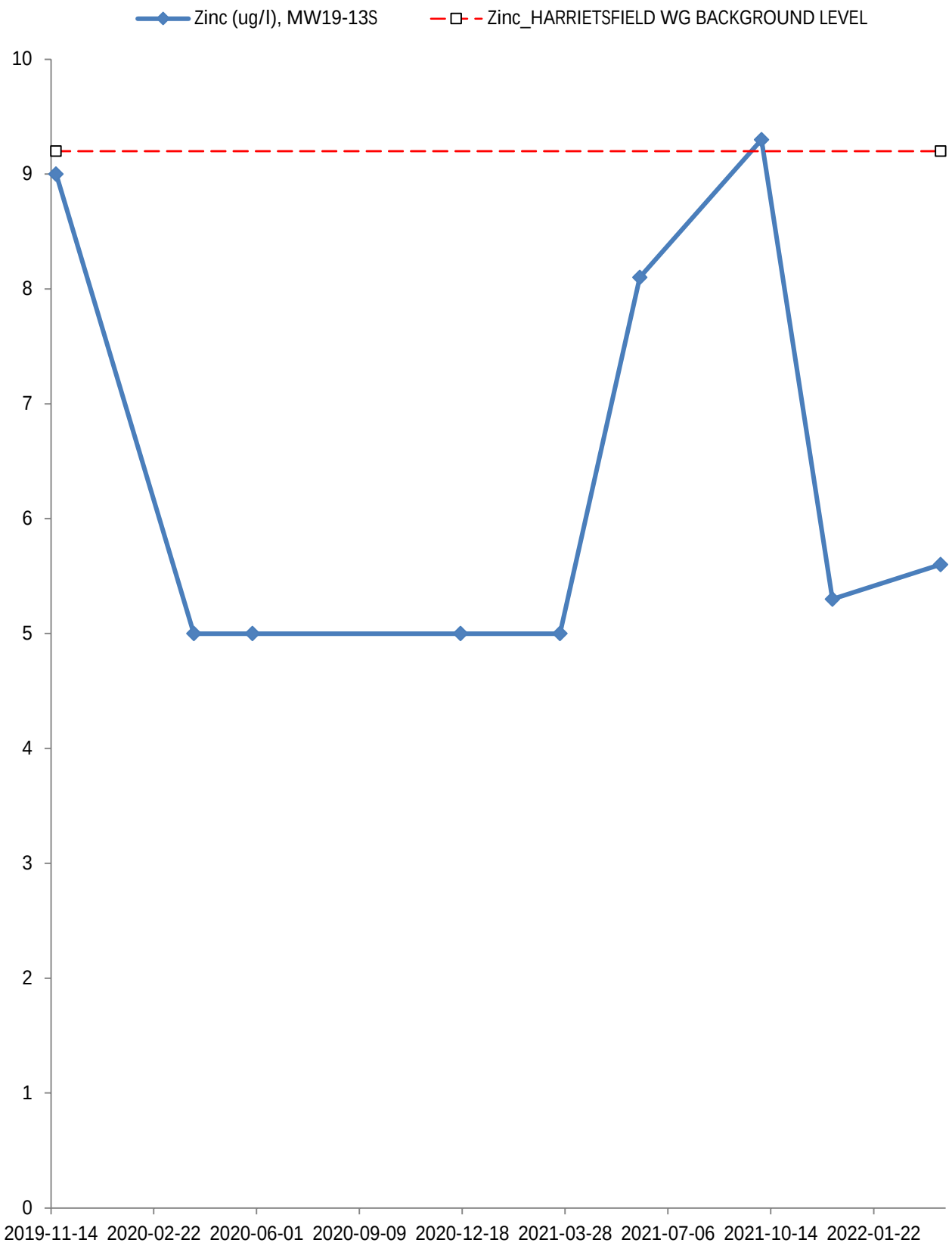
MW19-13S-Vanadium



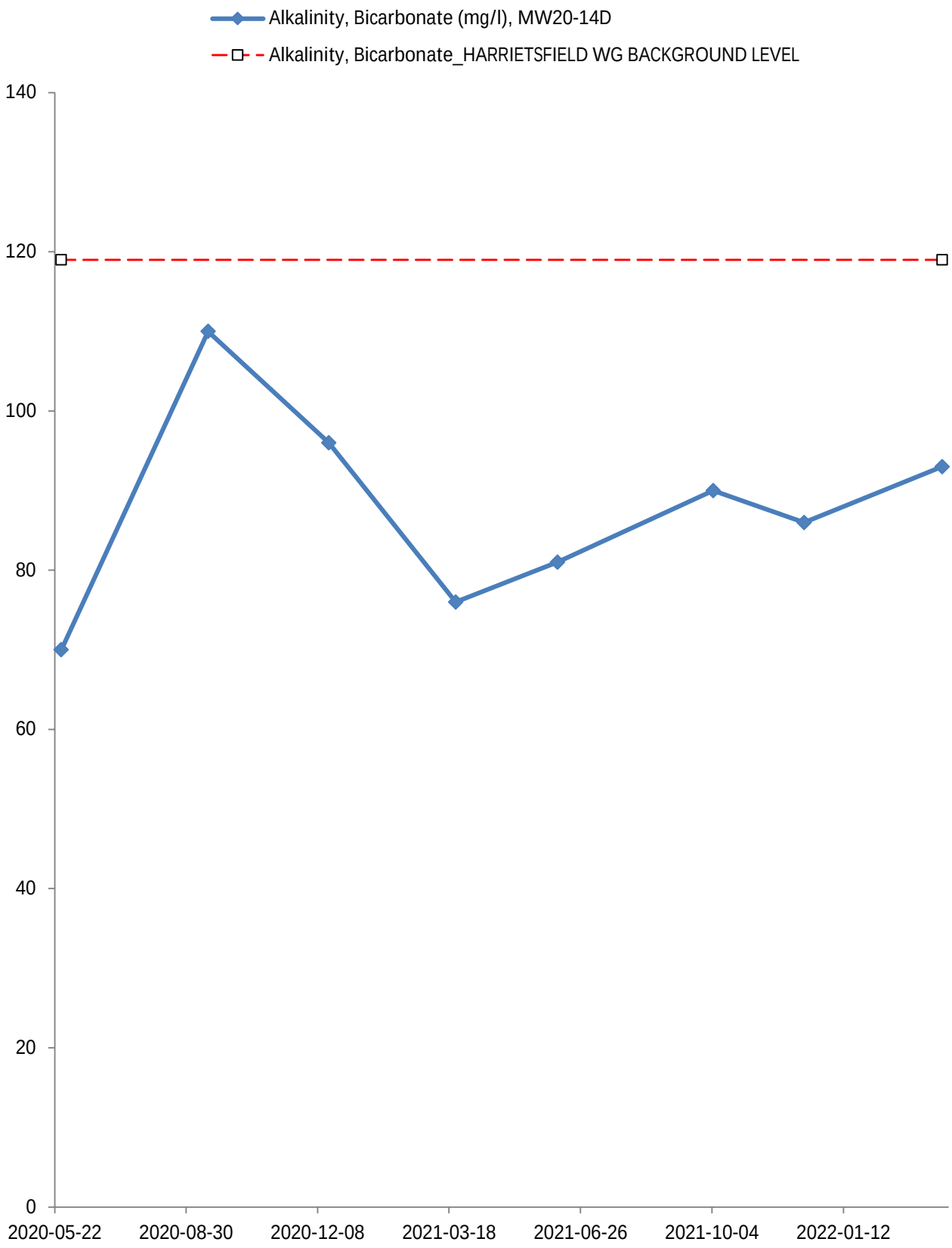
MW19-13S-Xylenes, Total



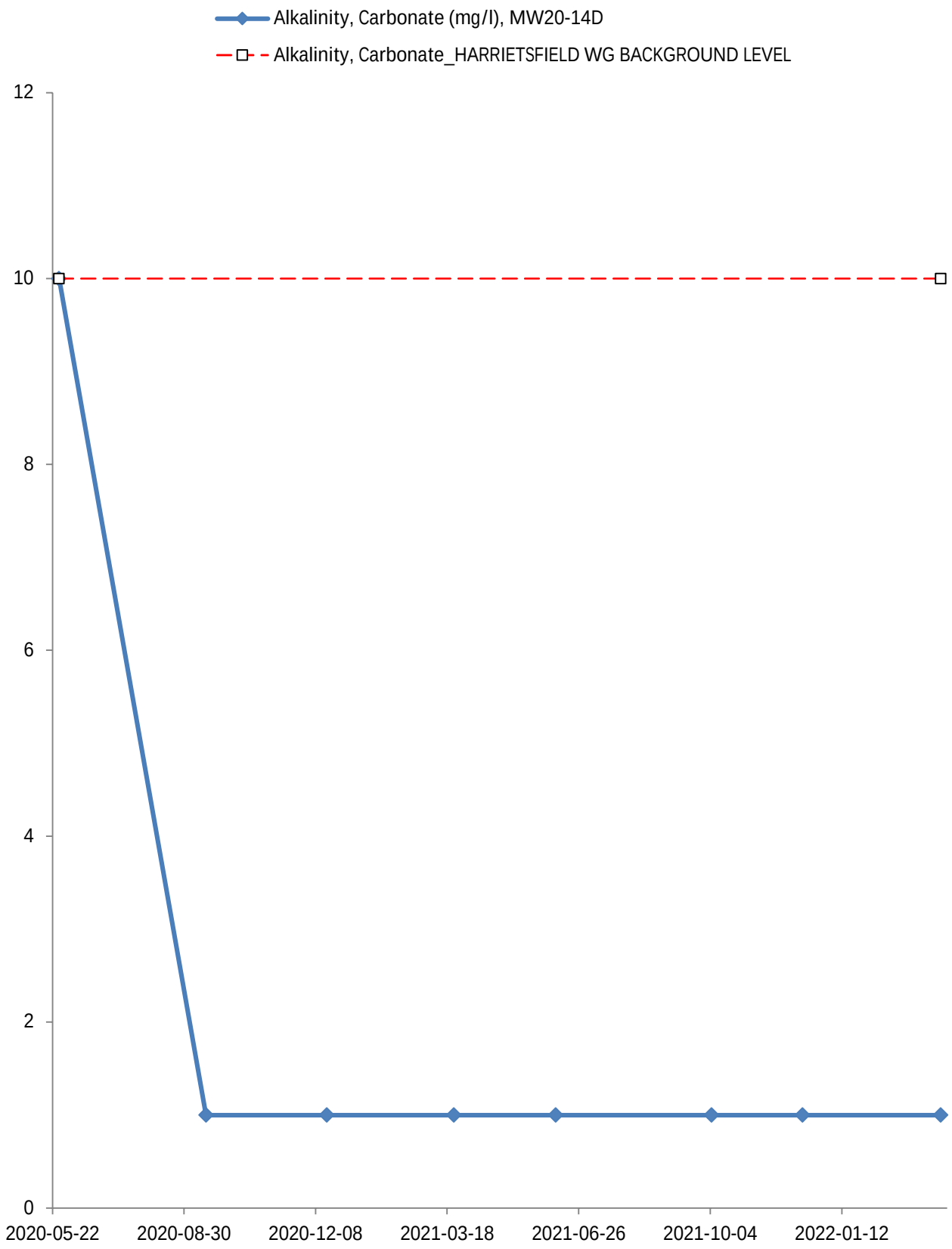
MW19-13S-Zinc



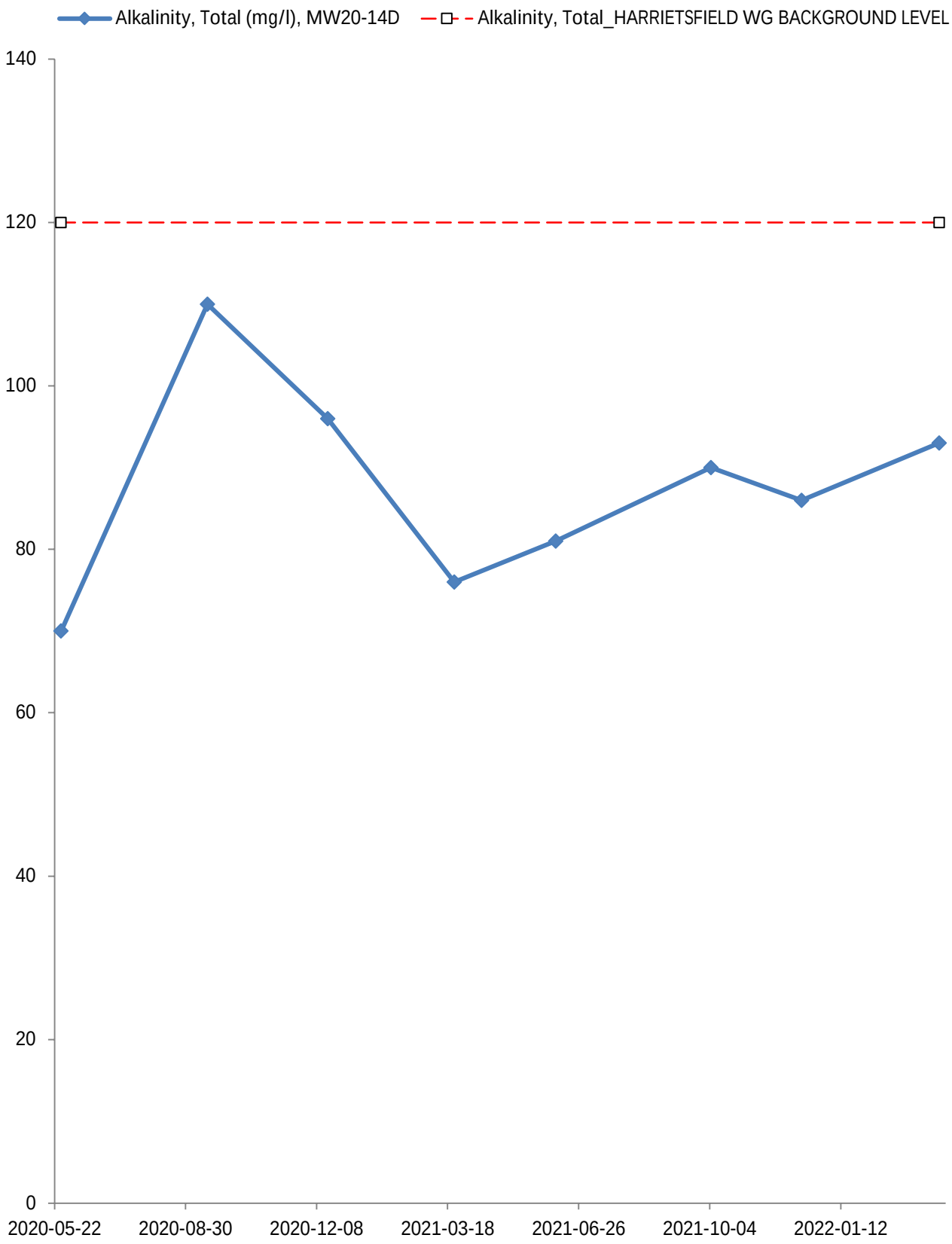
MW20-14D-Alkalinity, Bicarbonate



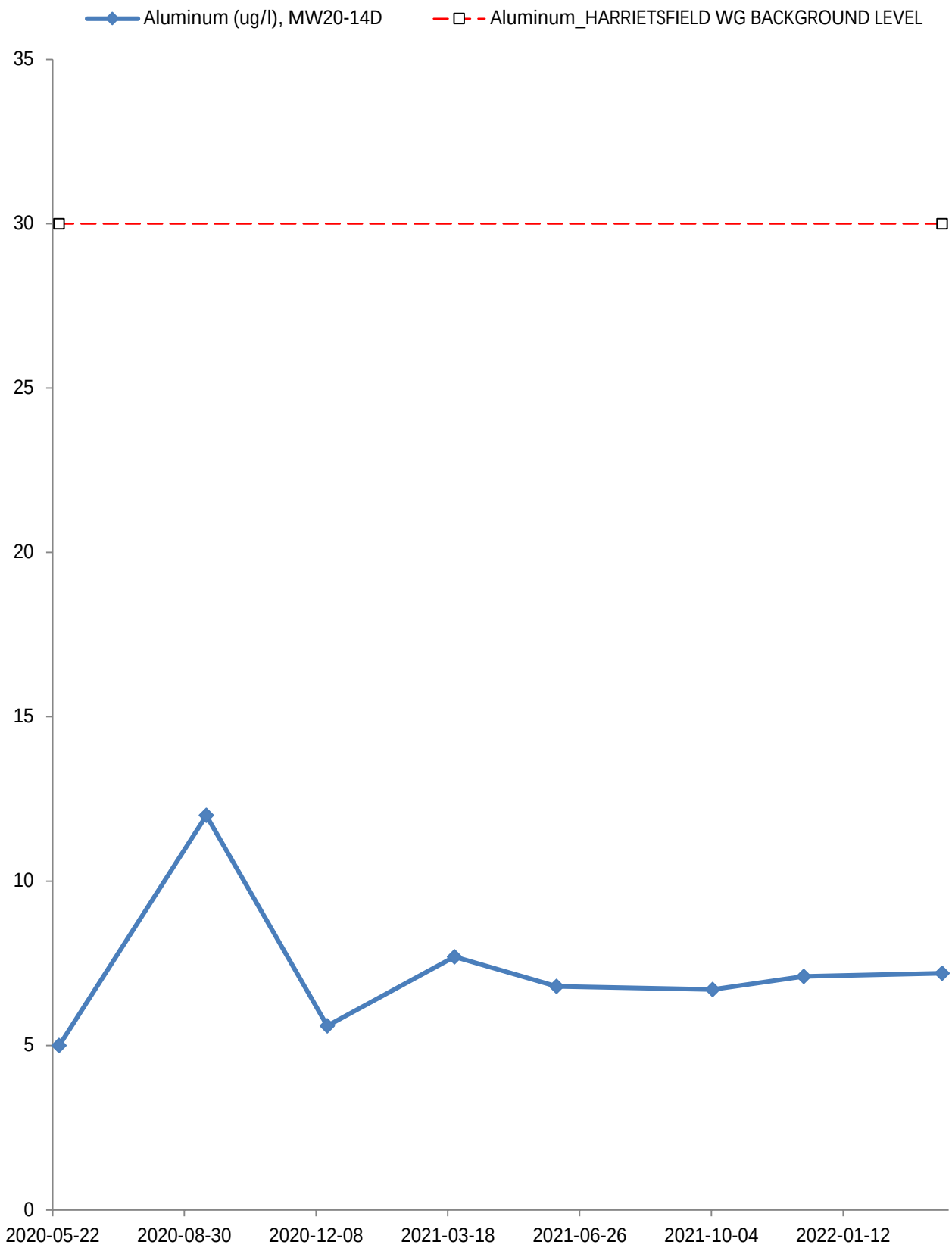
MW20-14D-Alkalinity, Carbonate



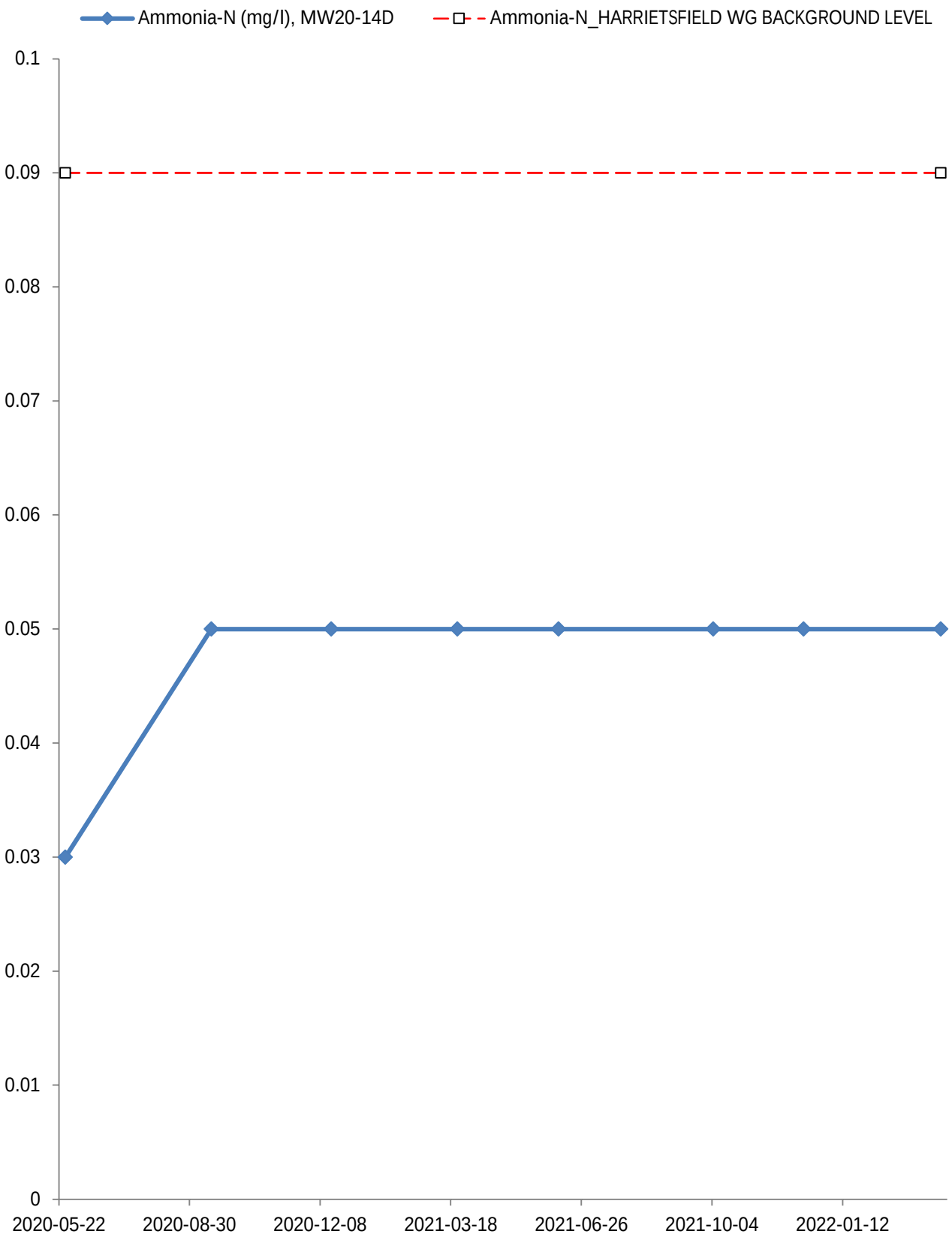
MW20-14D-Alkalinity, Total



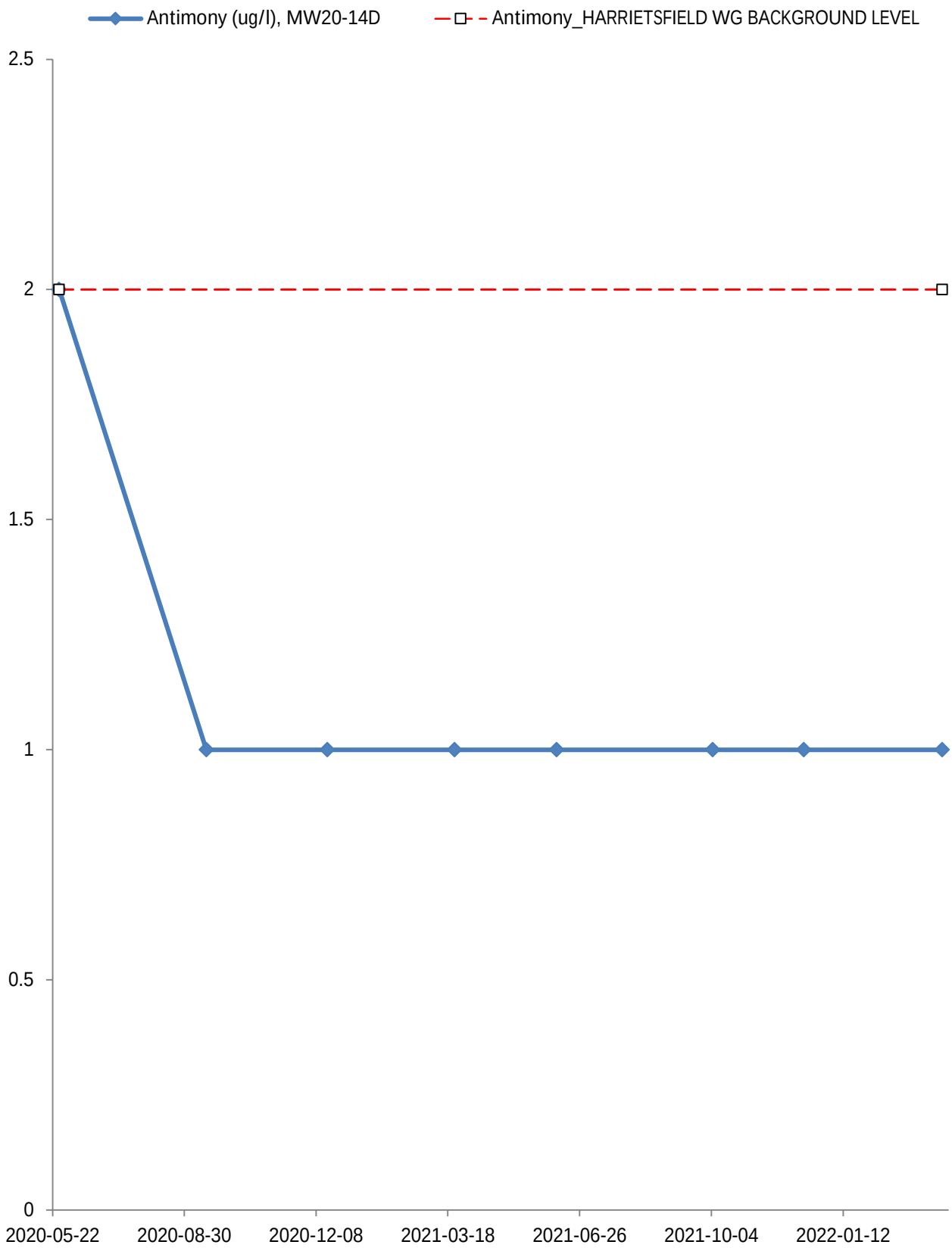
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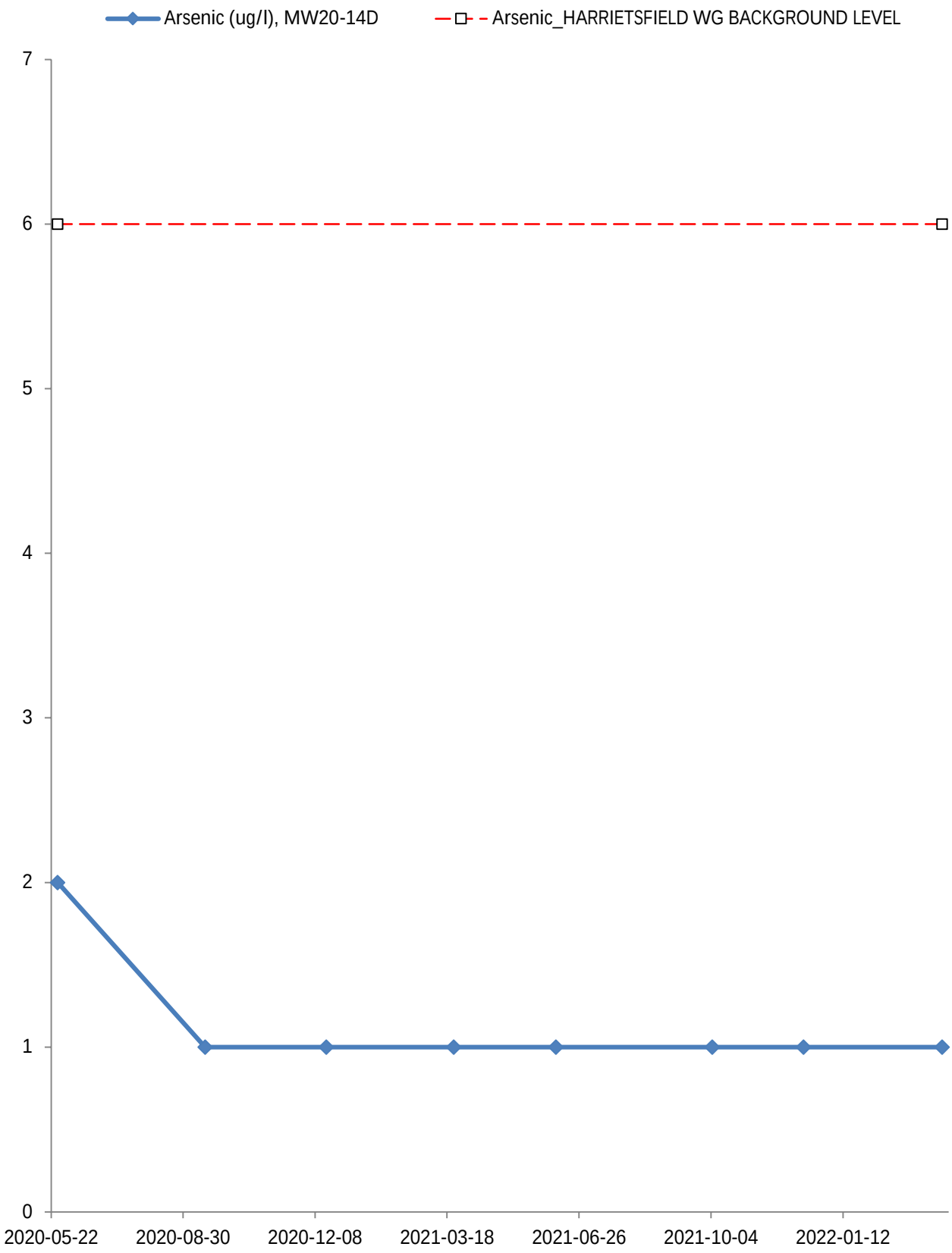
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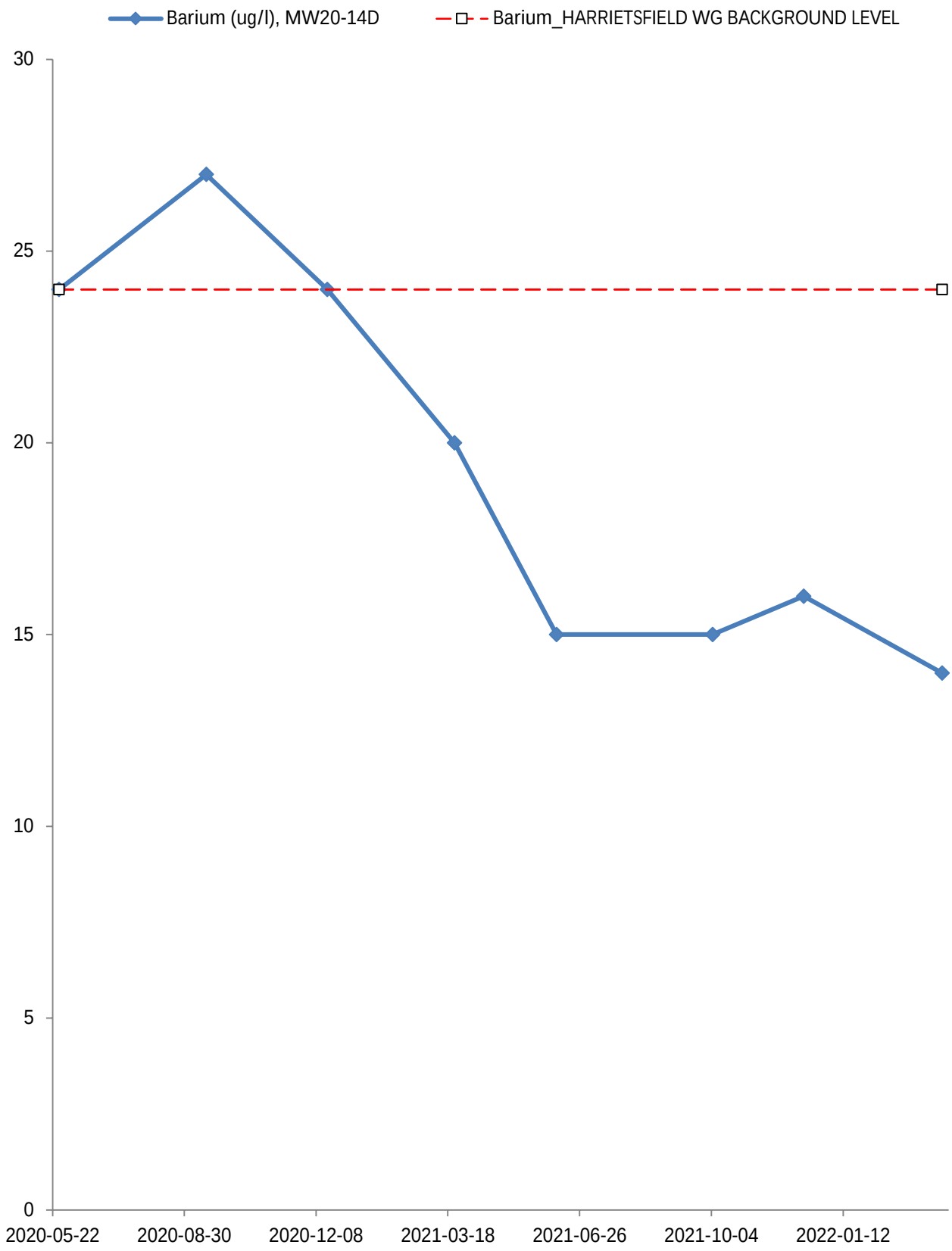
MW20-14D-Antimony



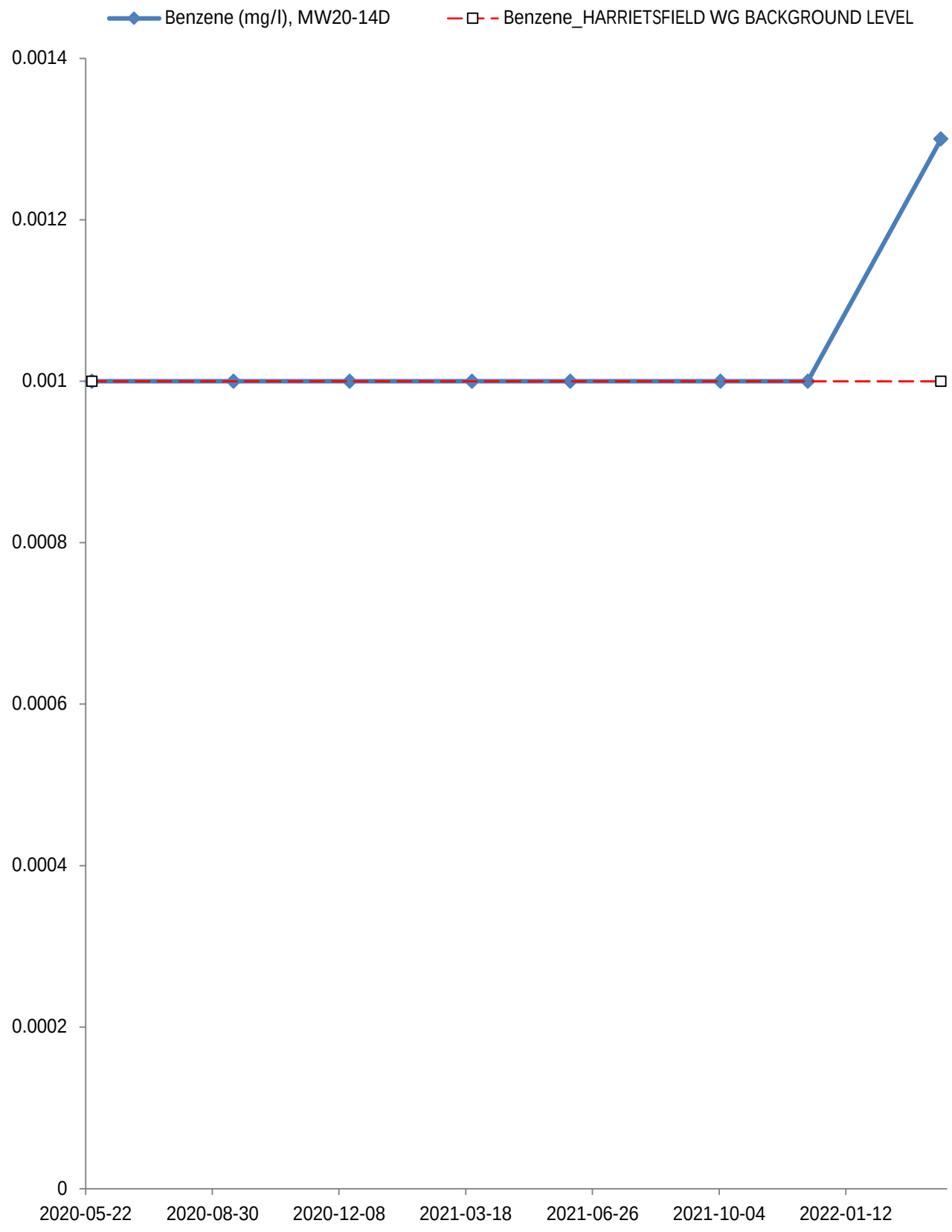
MW20-14D-Arsenic



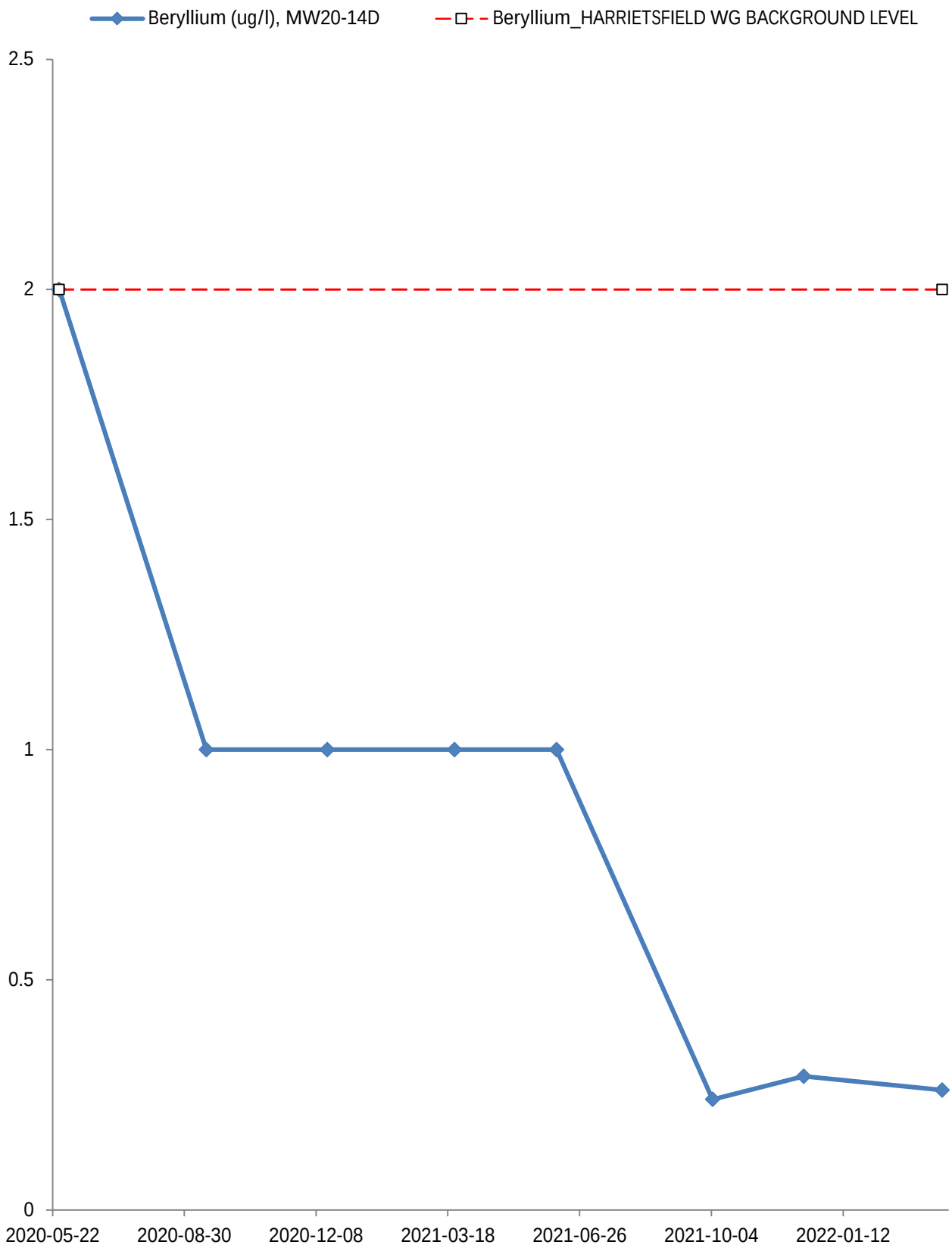
MW20-14D-Barium



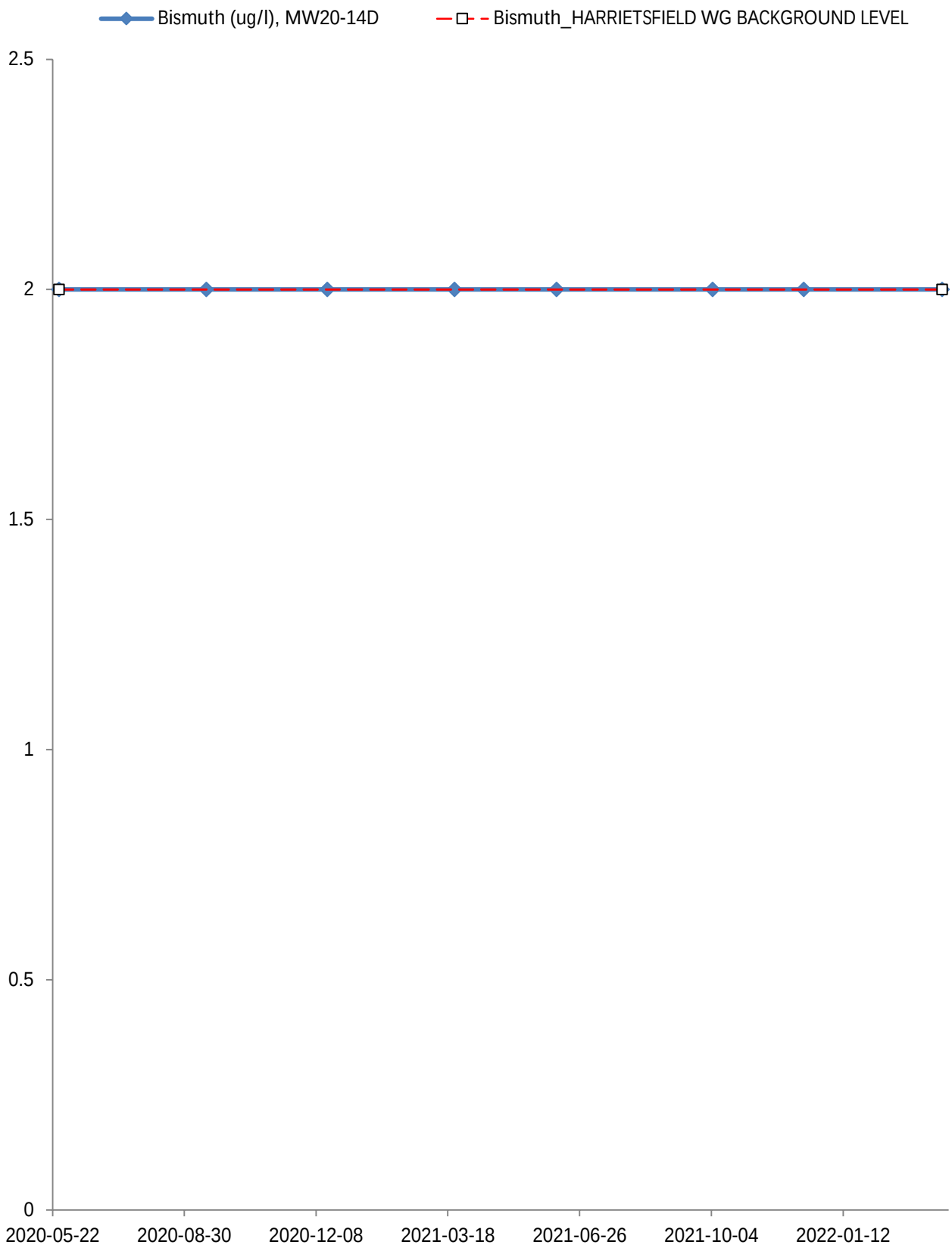
MW20-14D-Benzene



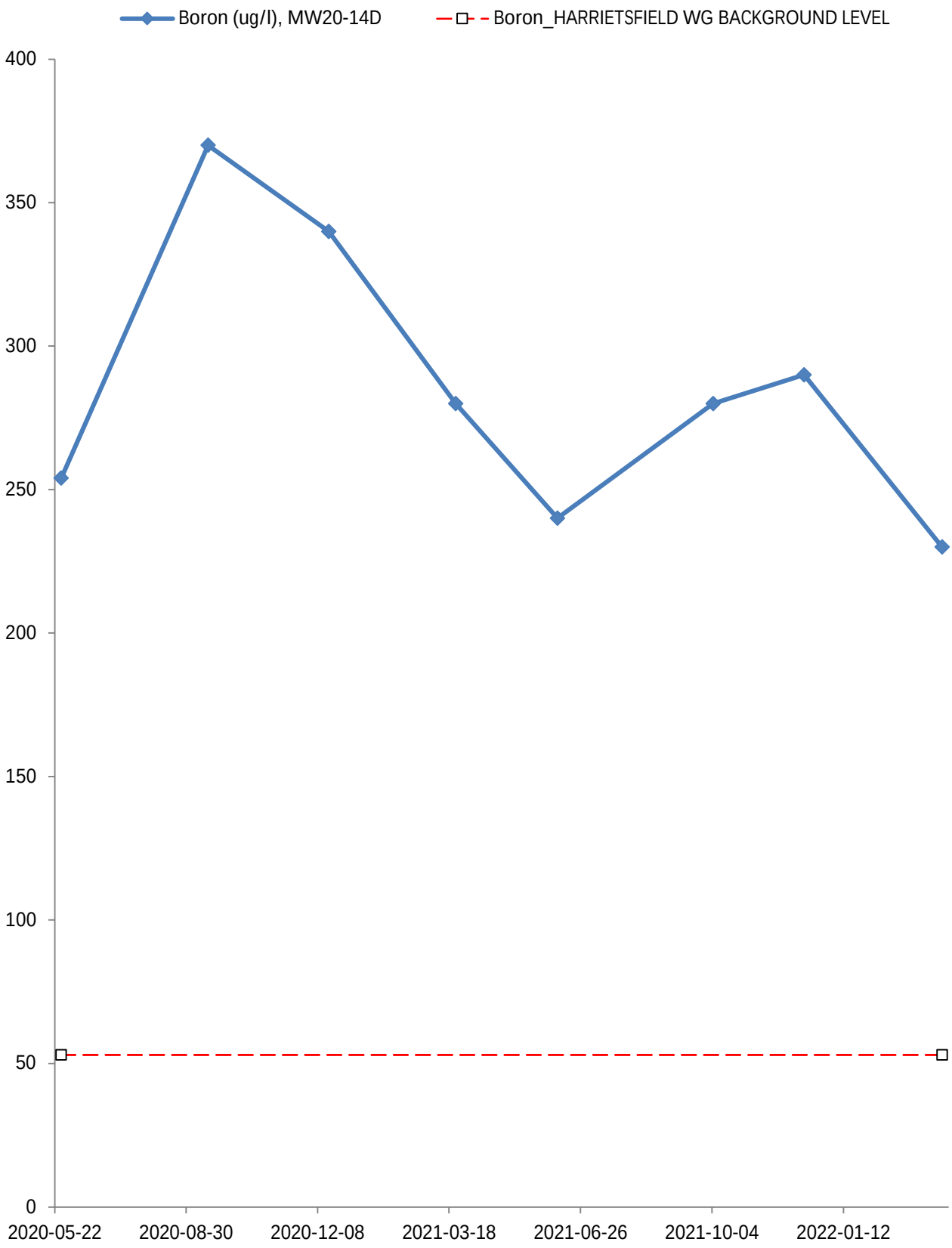
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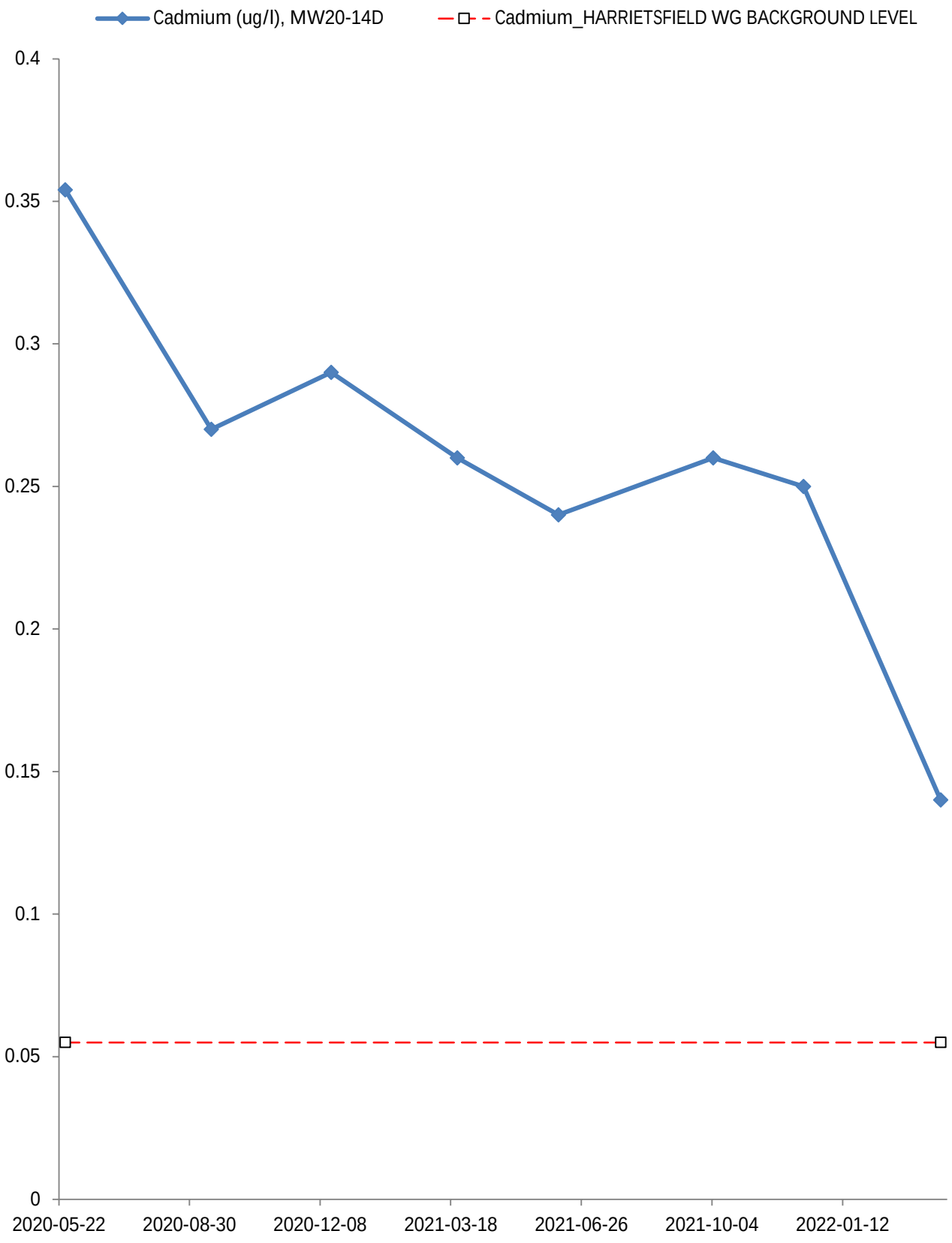
MW20-14D-Bismuth



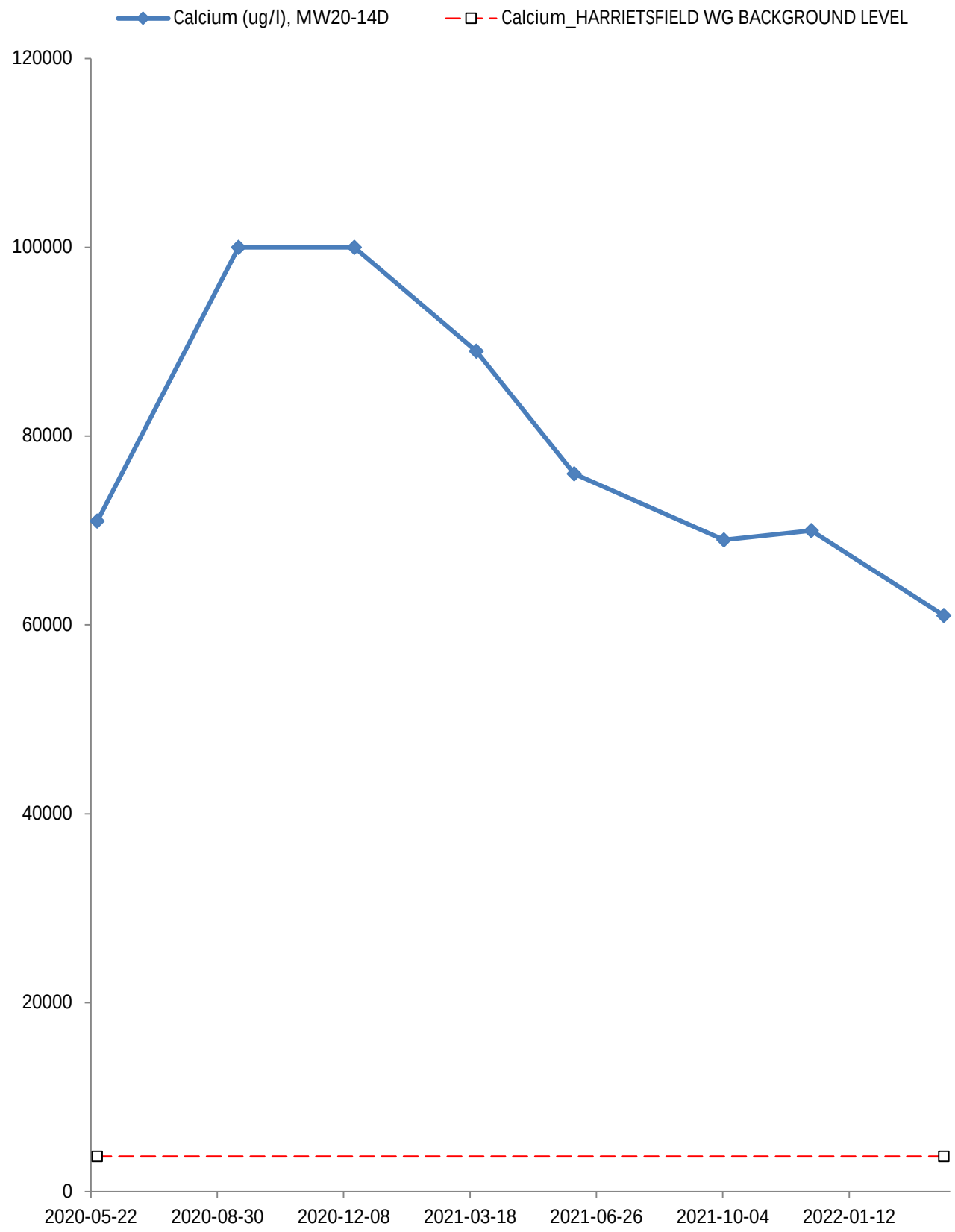
MW20-14D-Boron



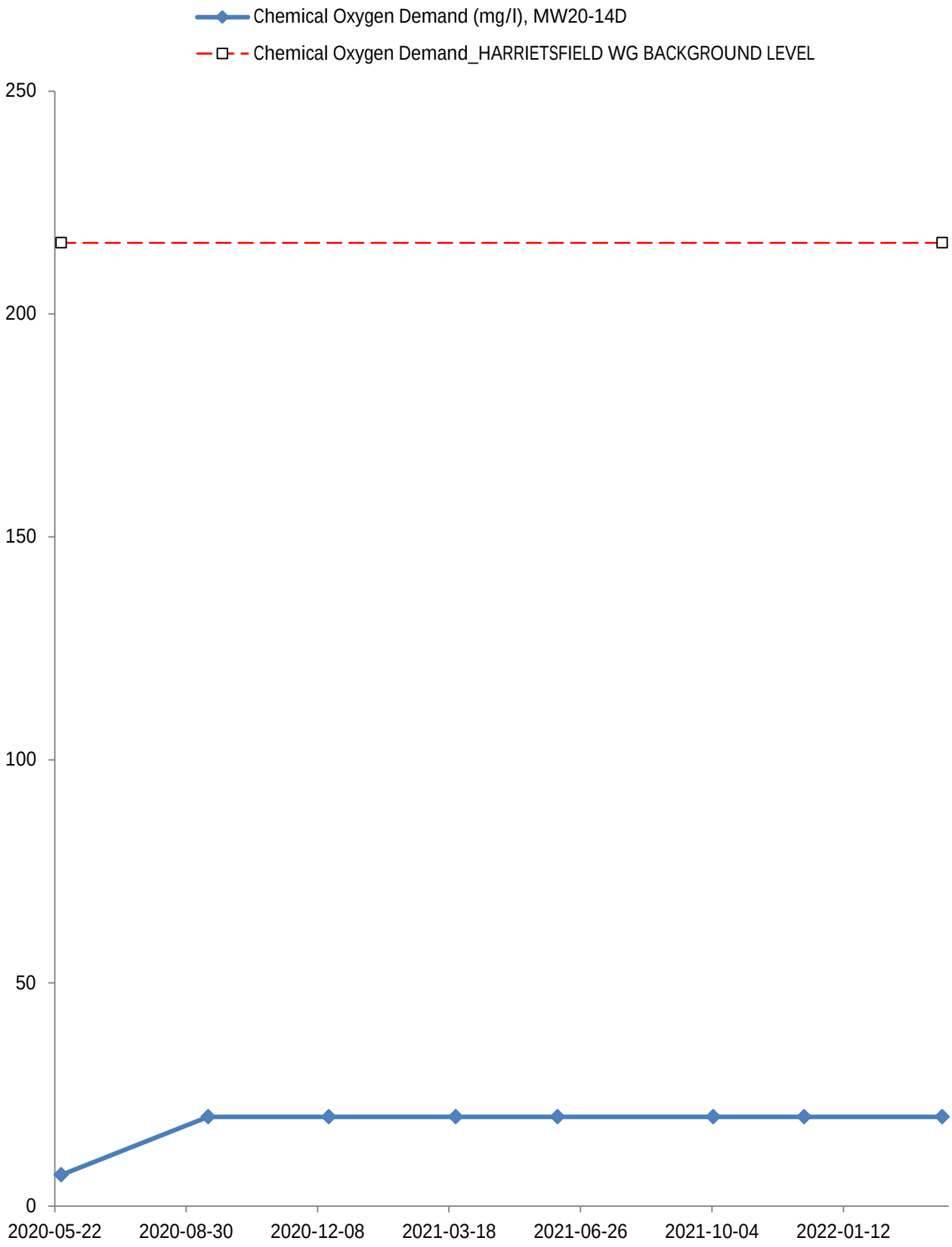
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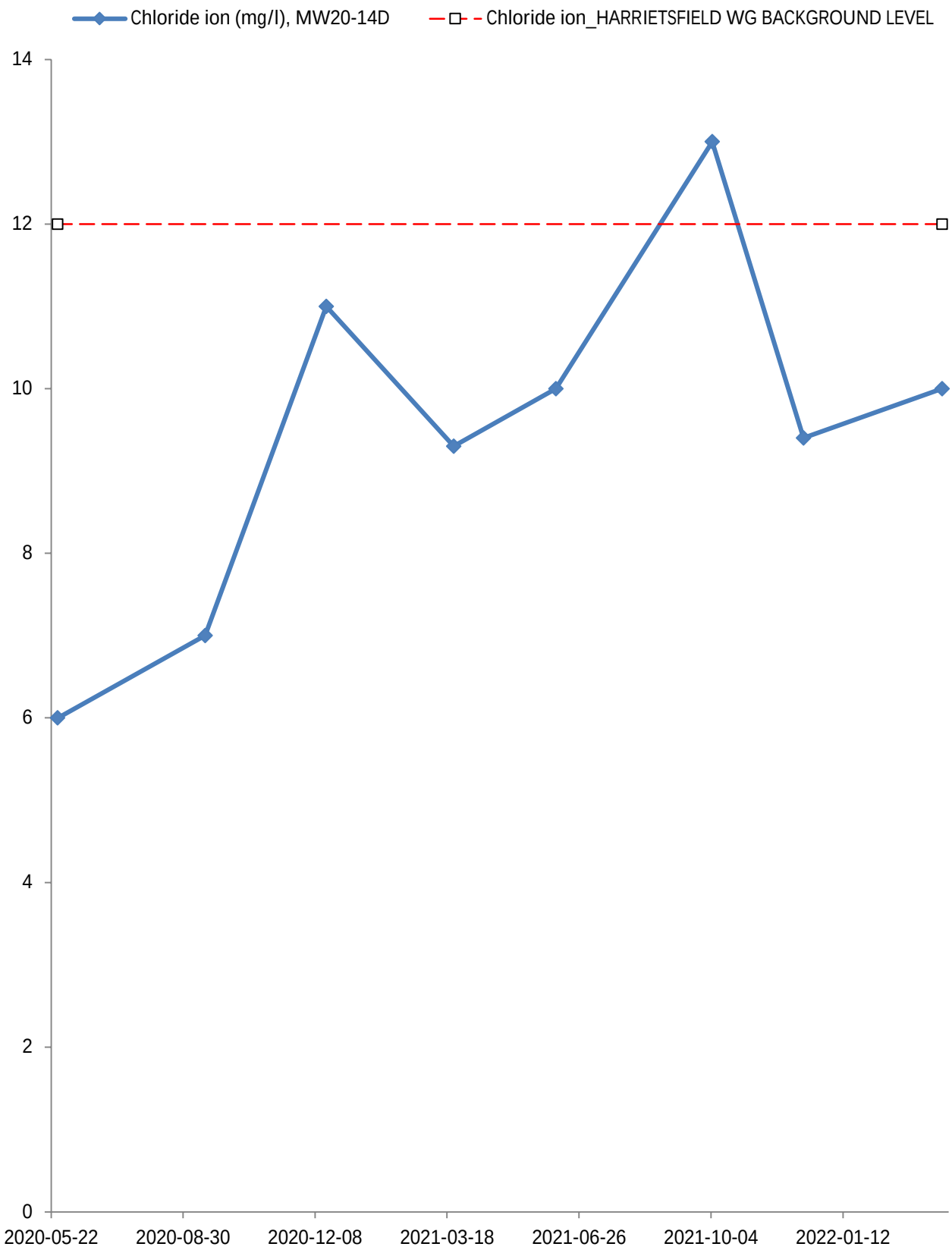
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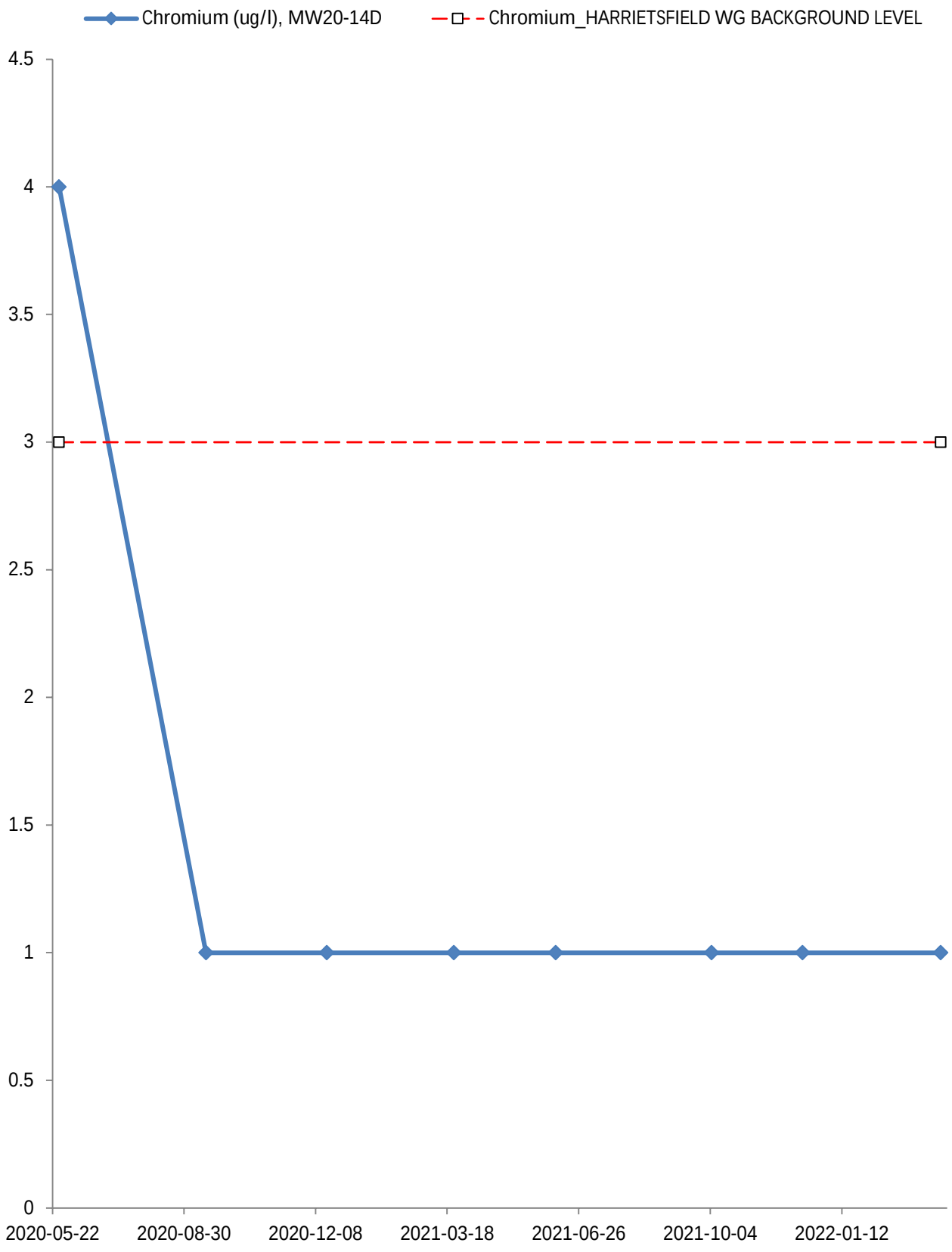
MW20-14D-Chemical Oxygen Demand



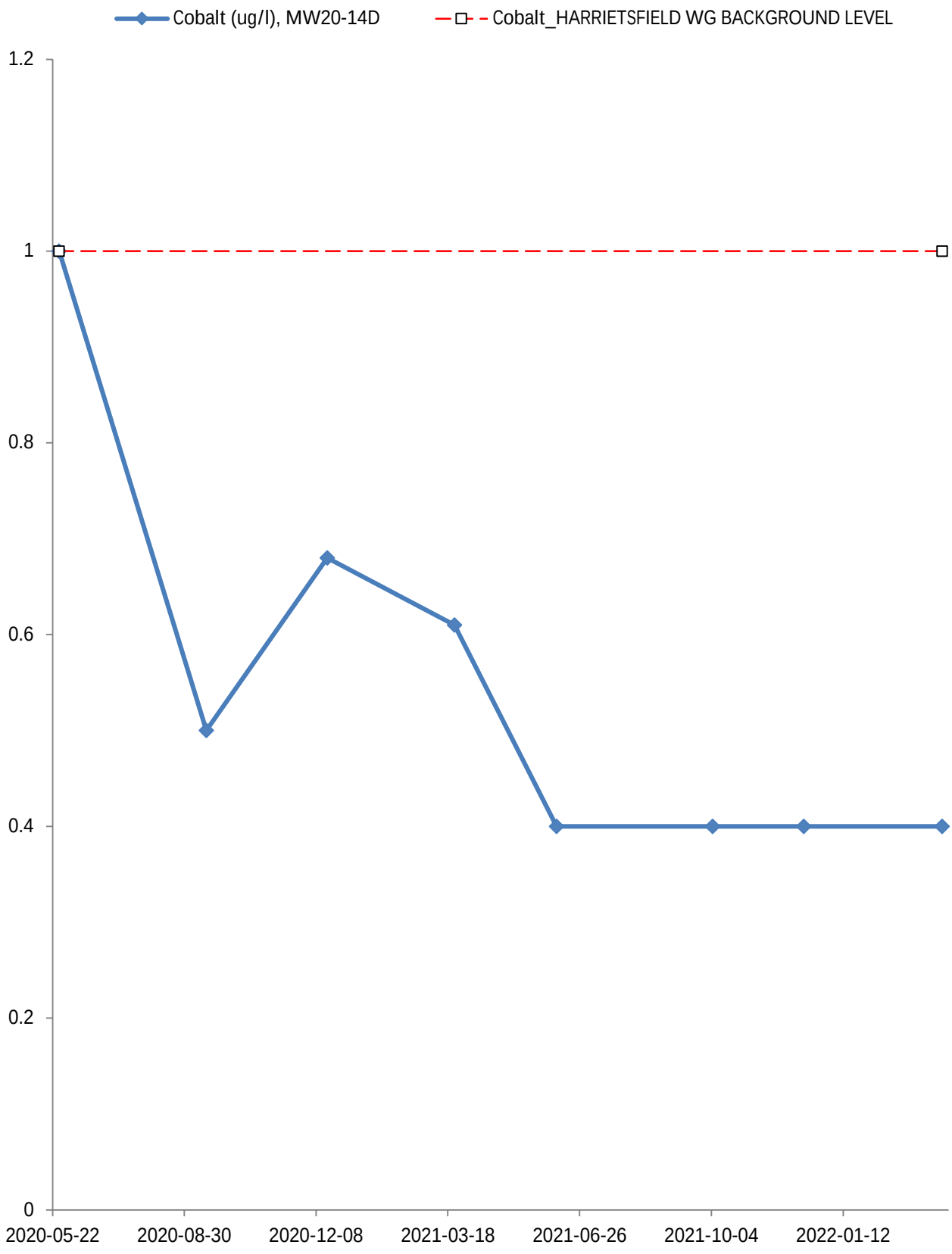
MW20-14D-Chloride ion



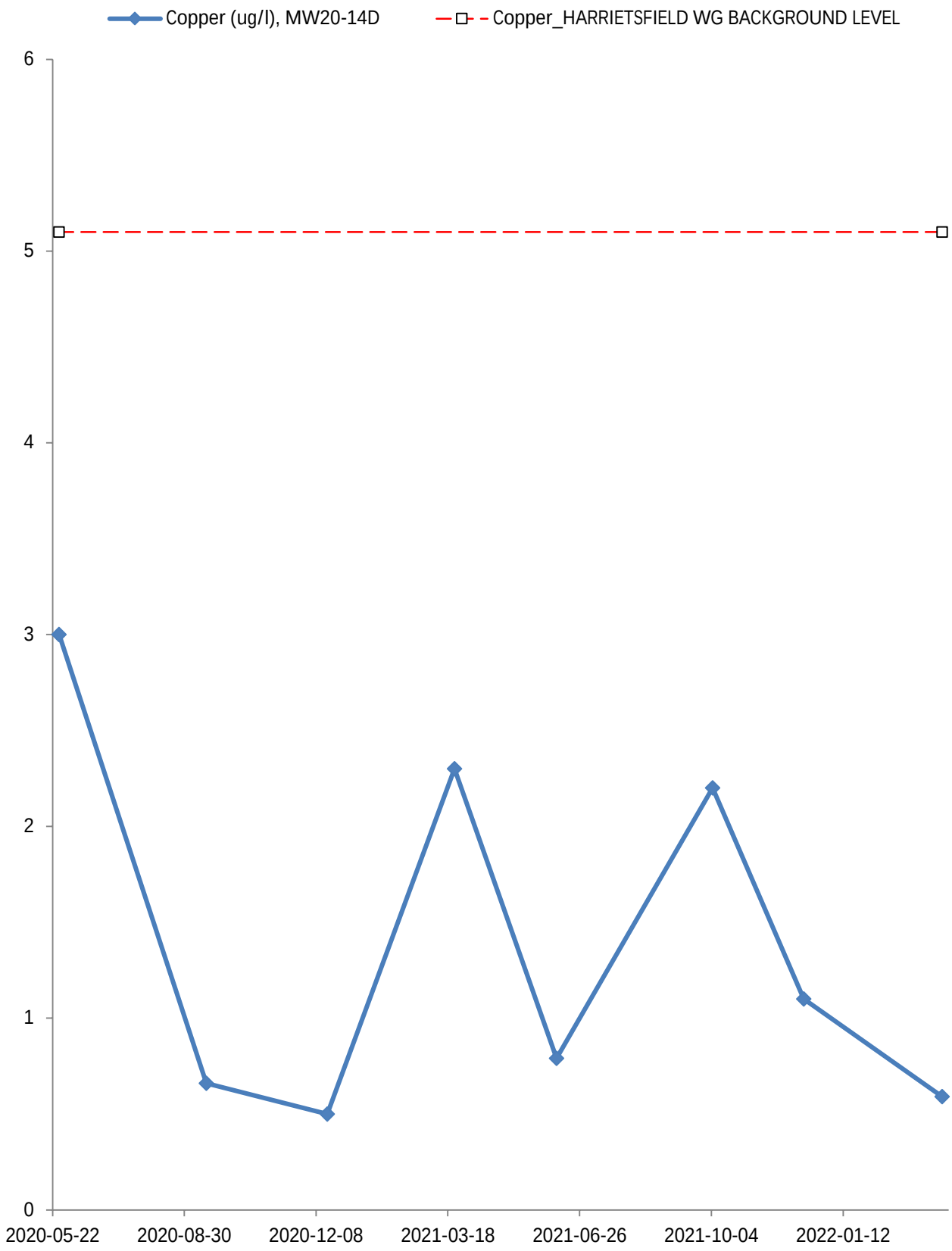
MW20-14D-Chromium



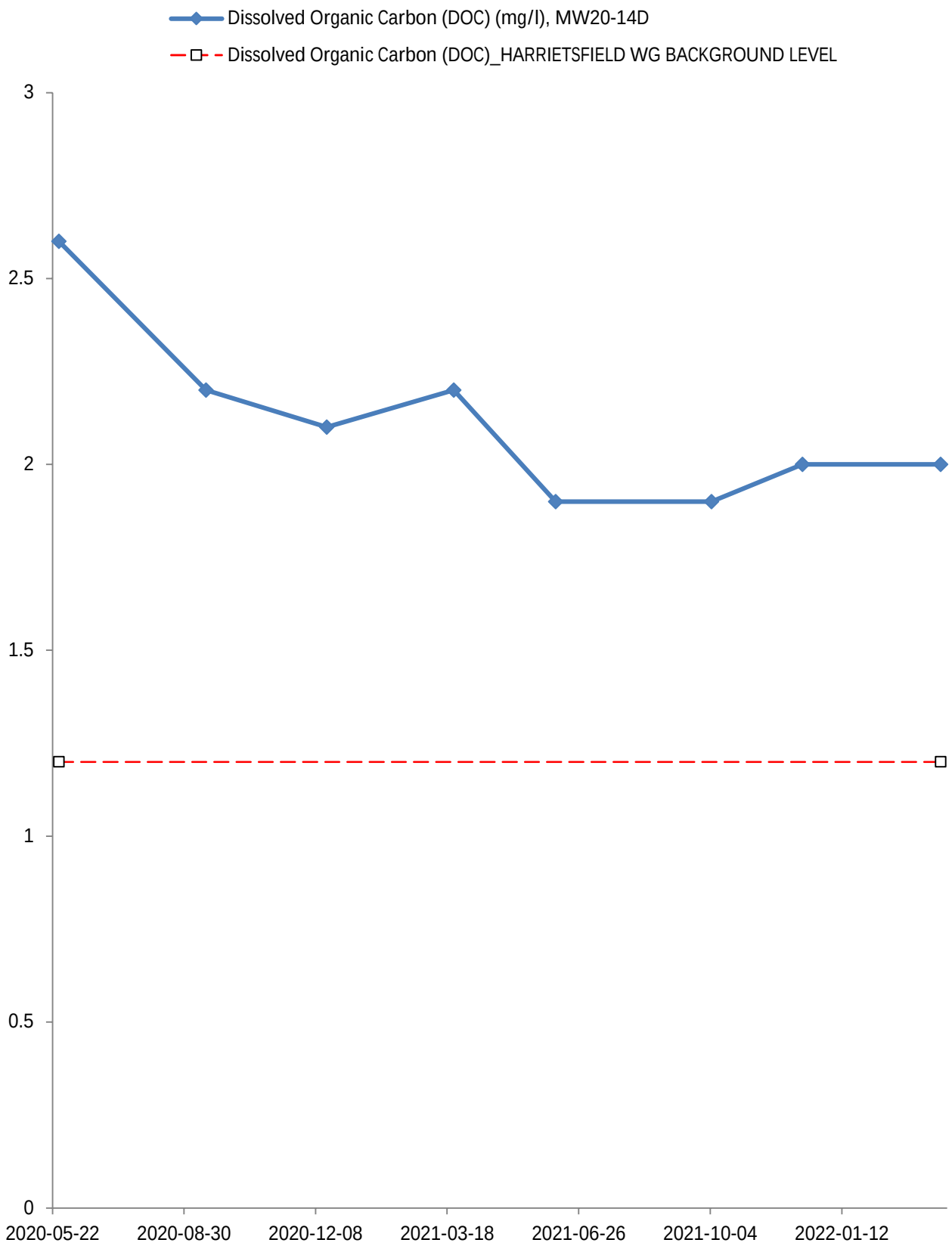
MW20-14D-Cobalt



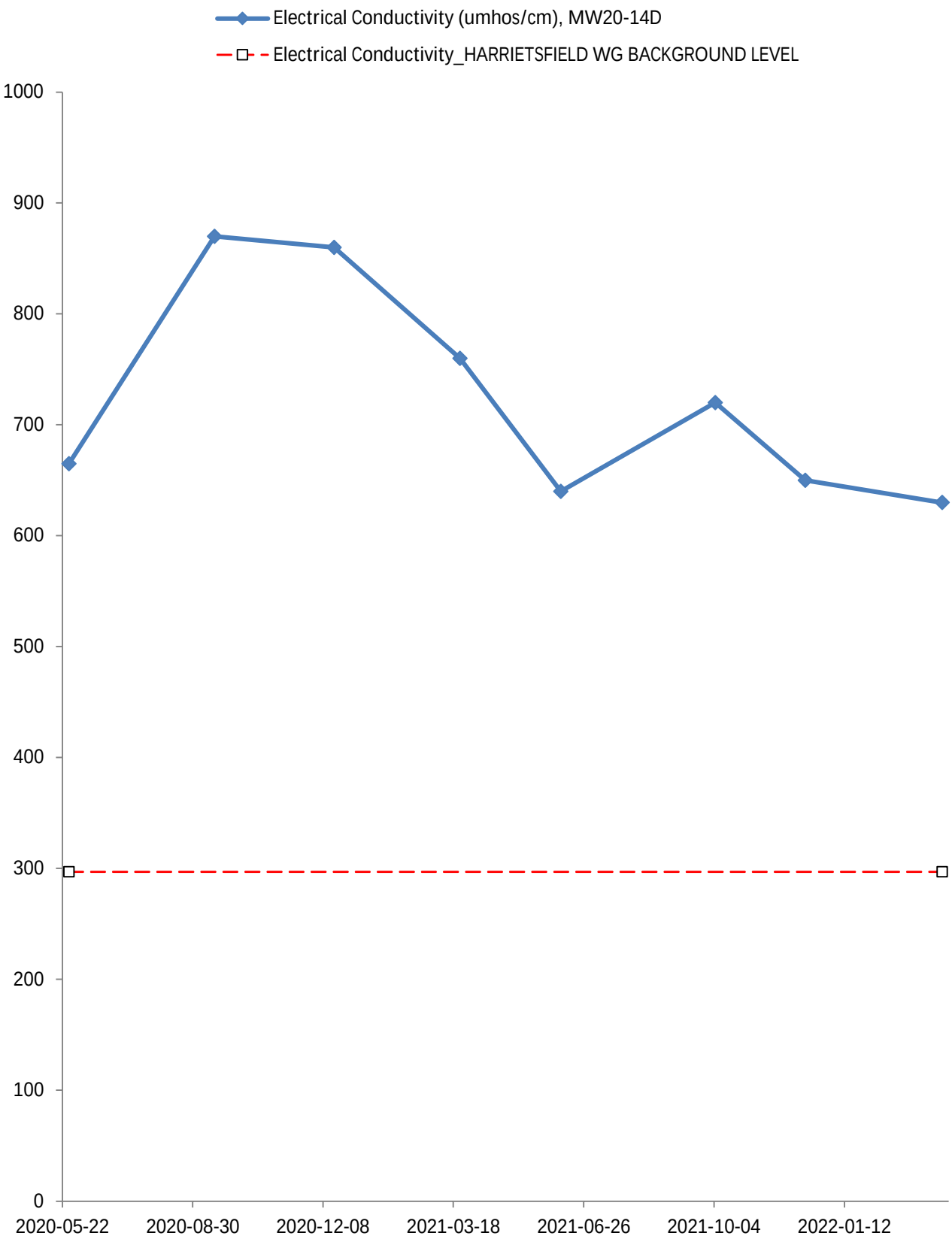
MW20-14D-Copper



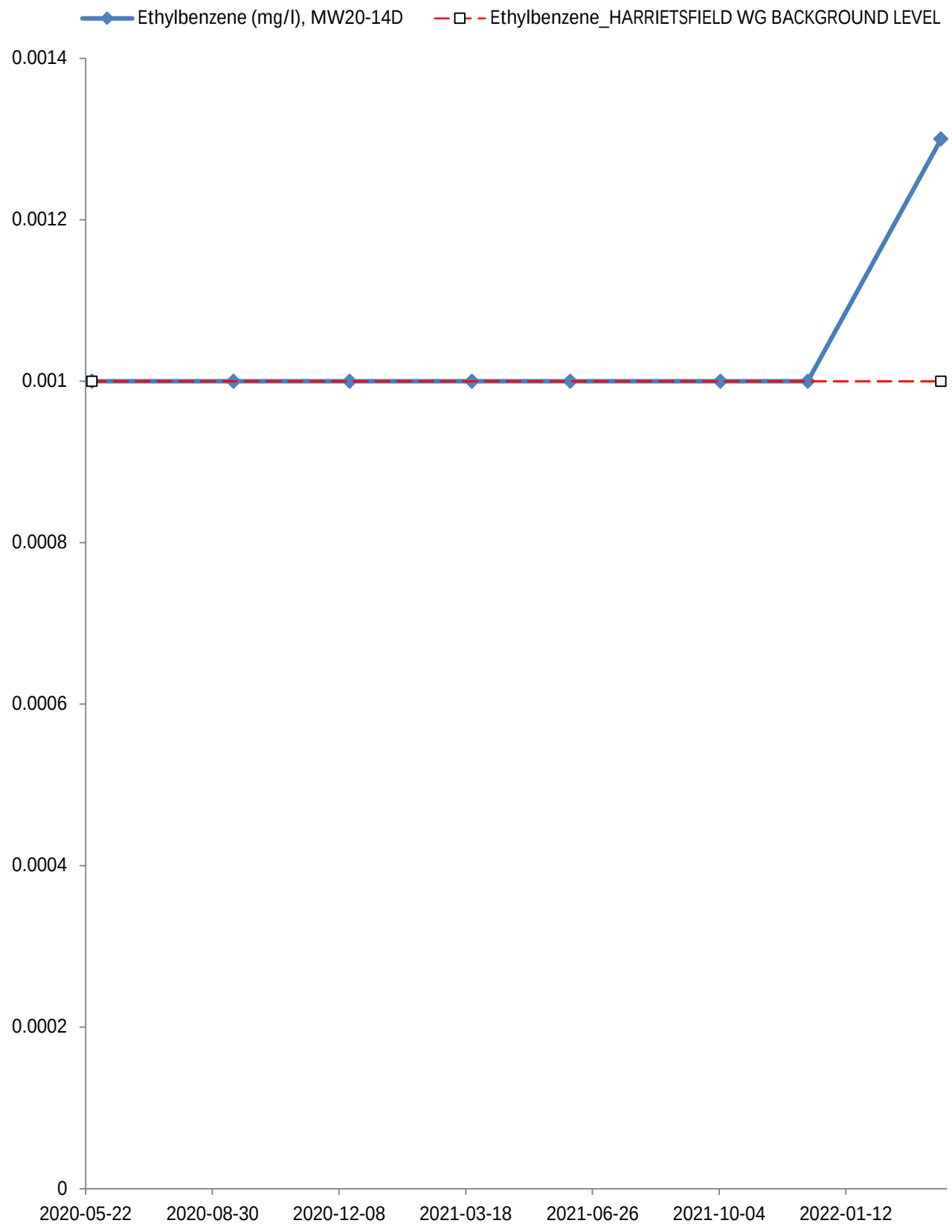
MW20-14D-Dissolved Organic Carbon7



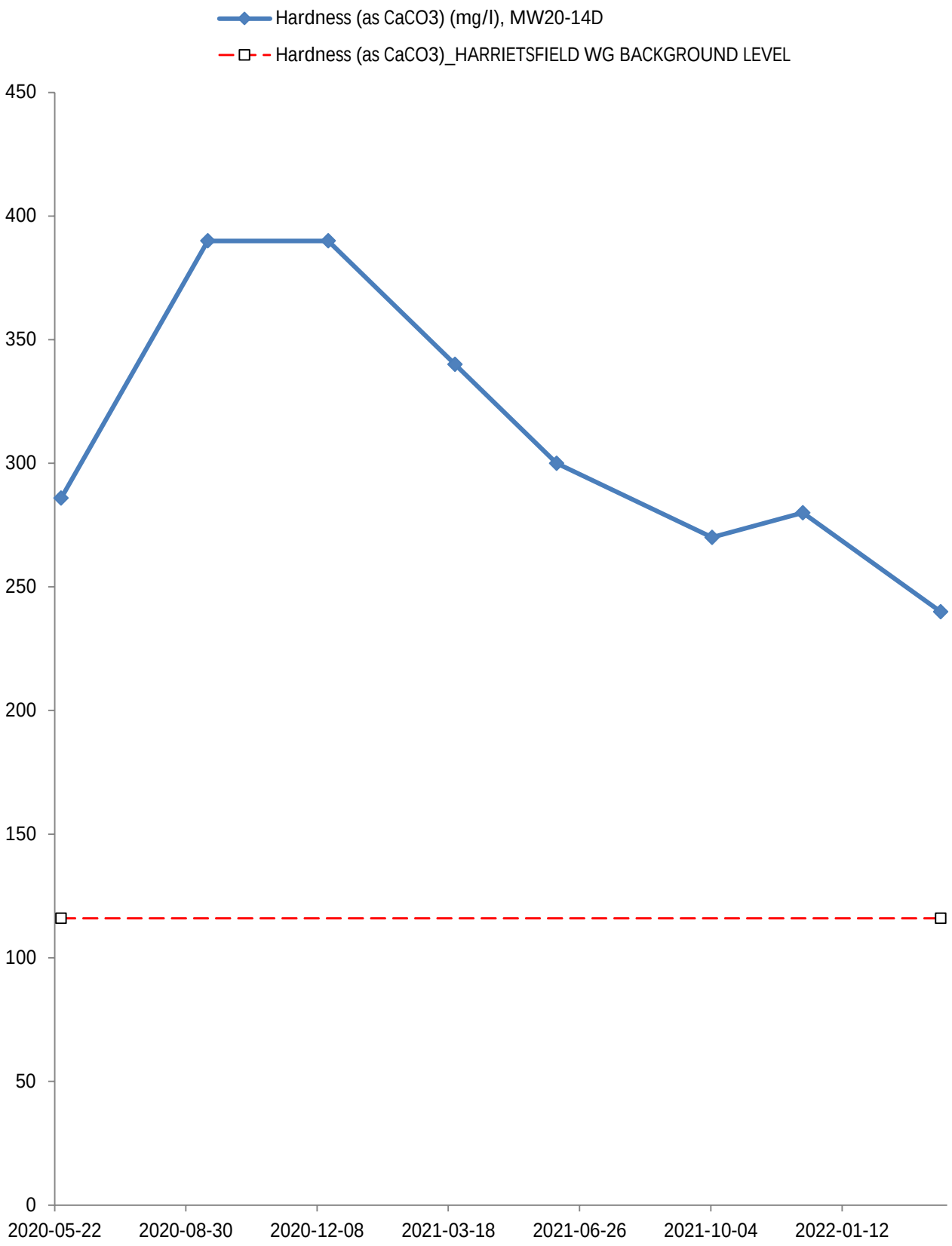
MW20-14D-Electrical Conductivity



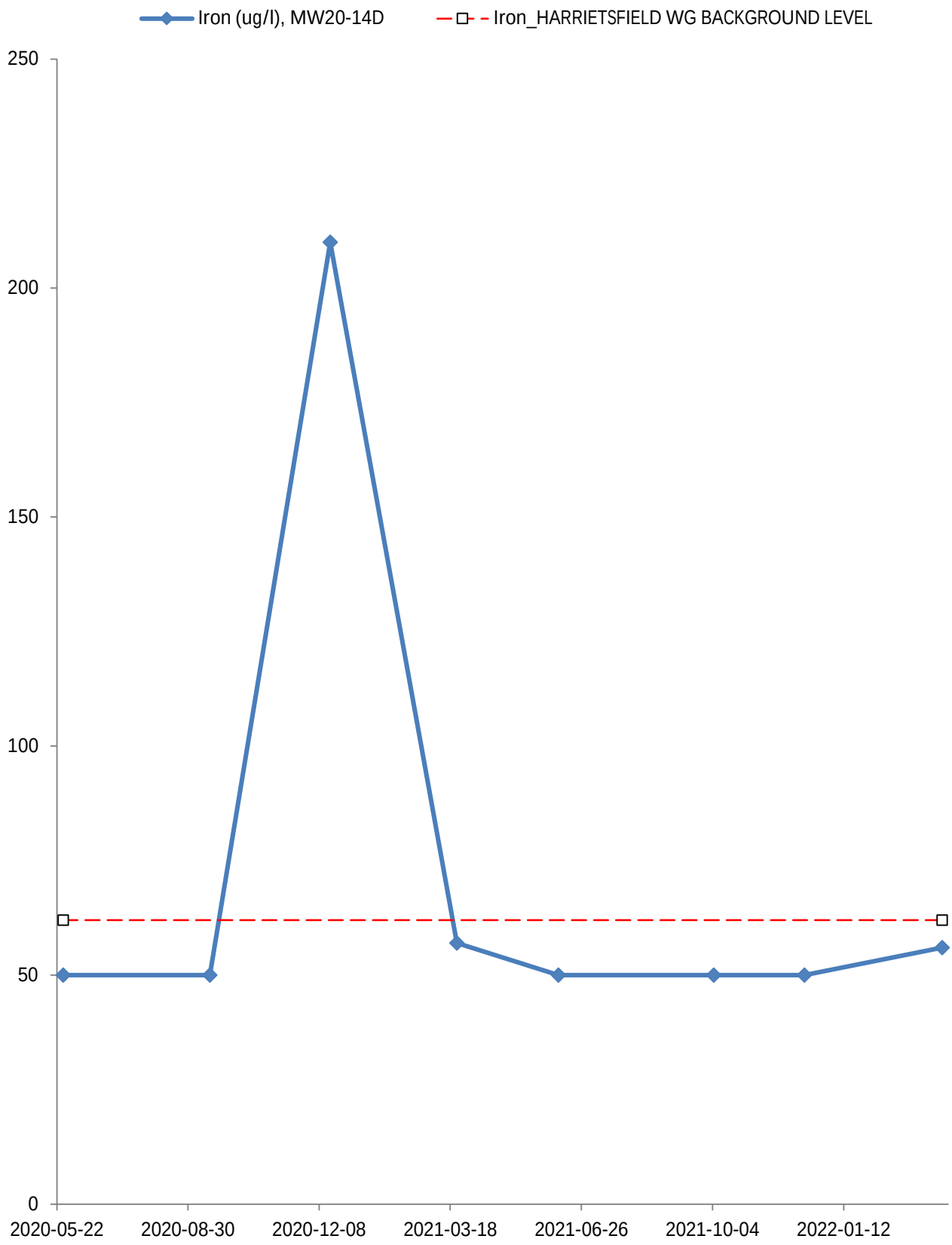
MW20-14D-Ethylbenzene



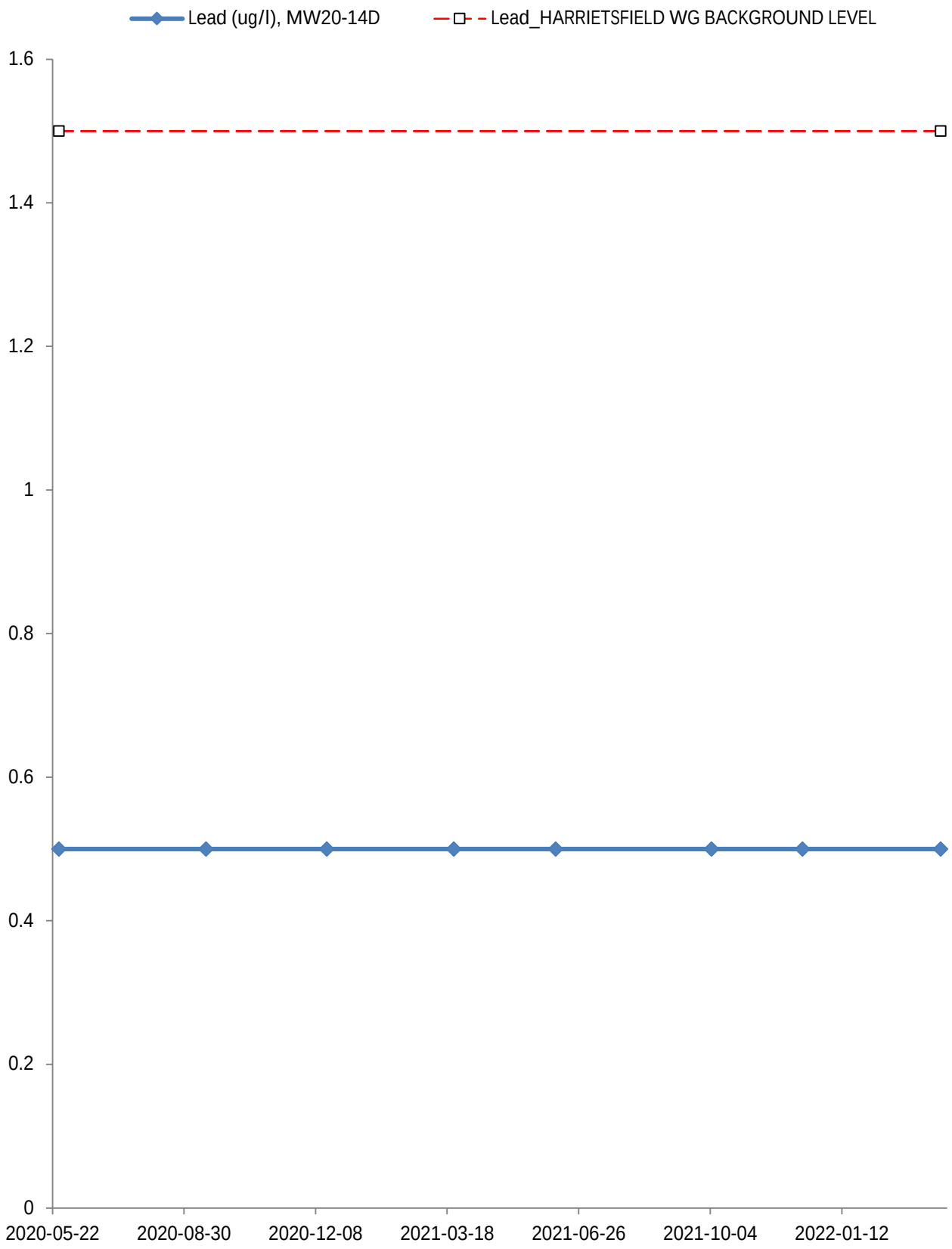
MW20-14D-Hardness (as CaCO3)



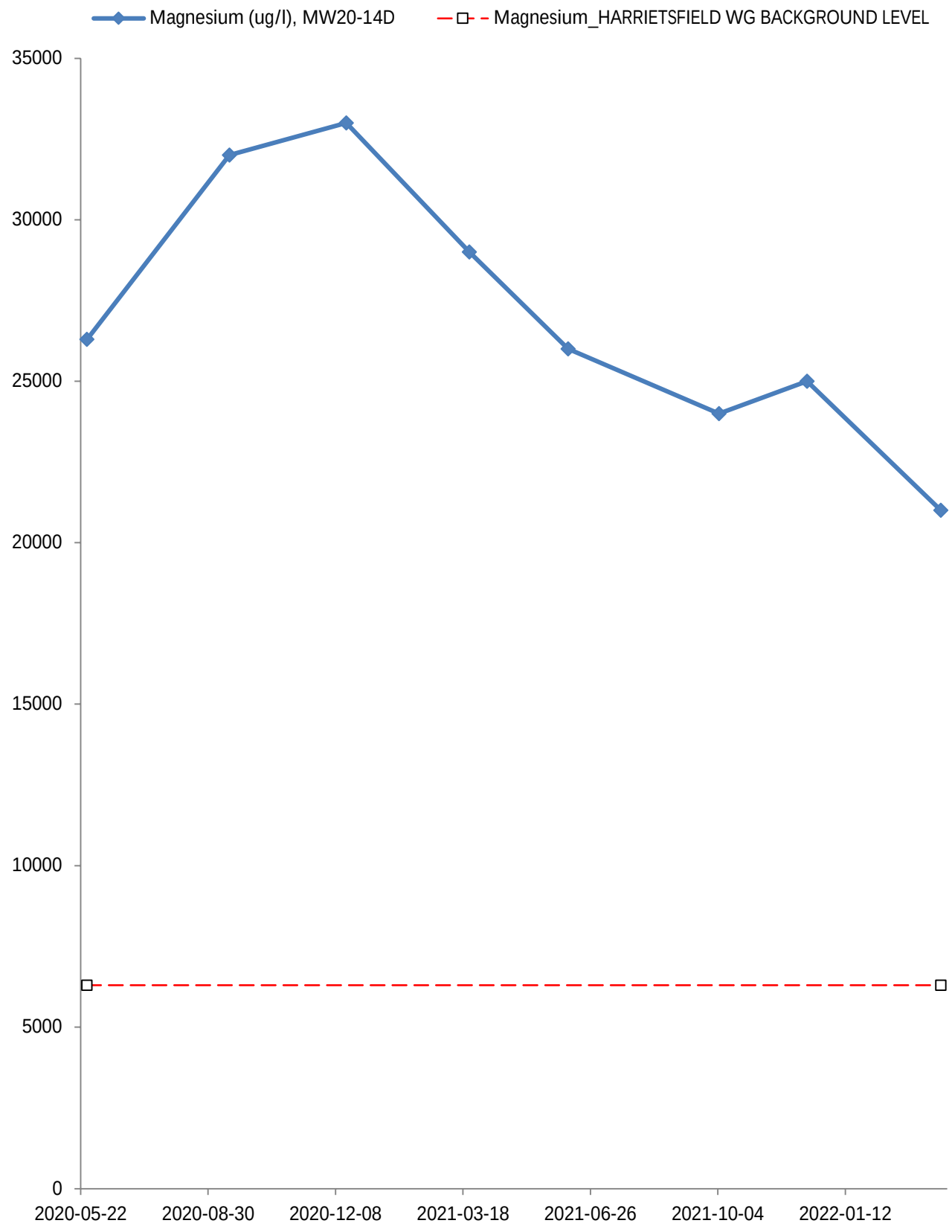
MW20-14D-Iron



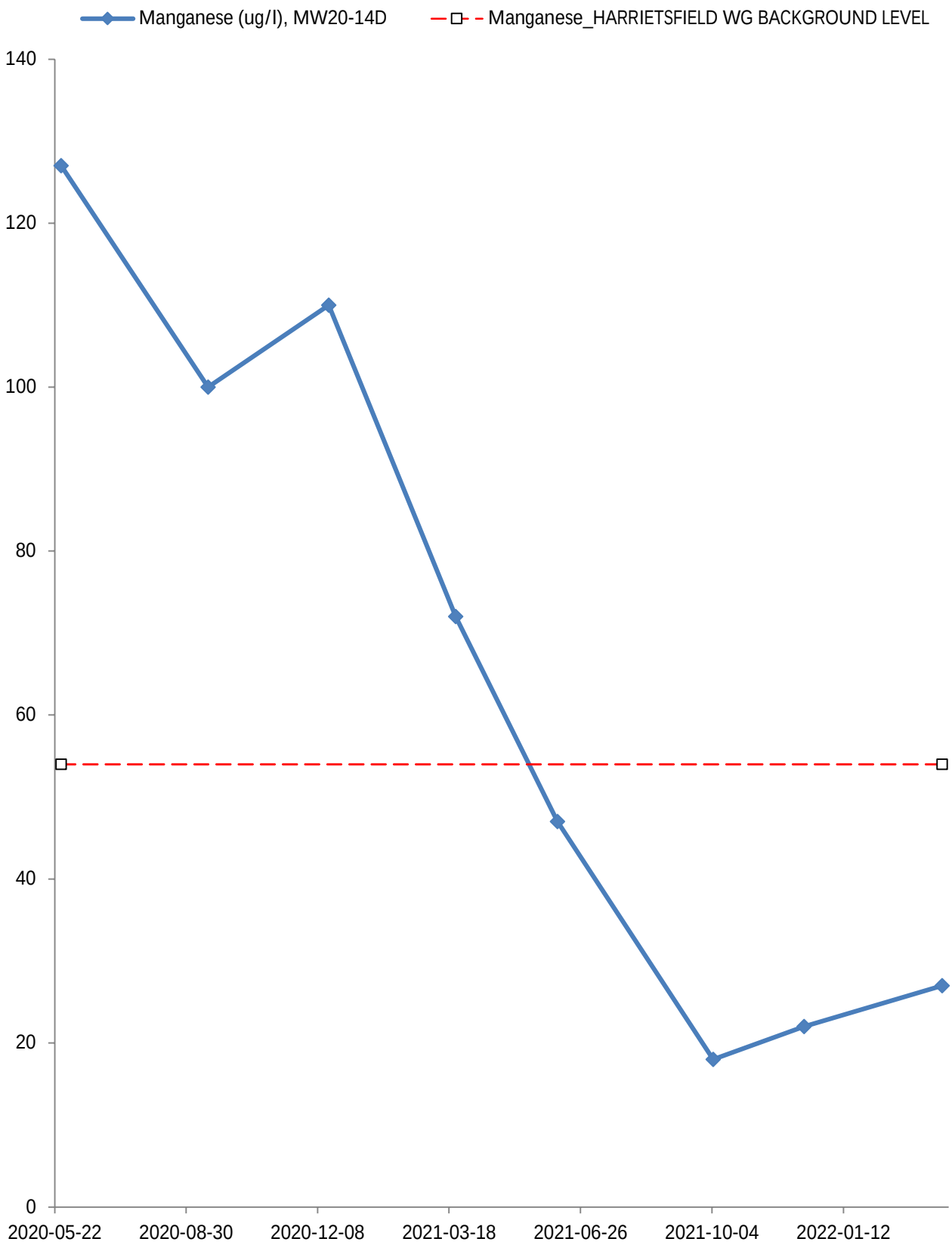
MW20-14D-Lead



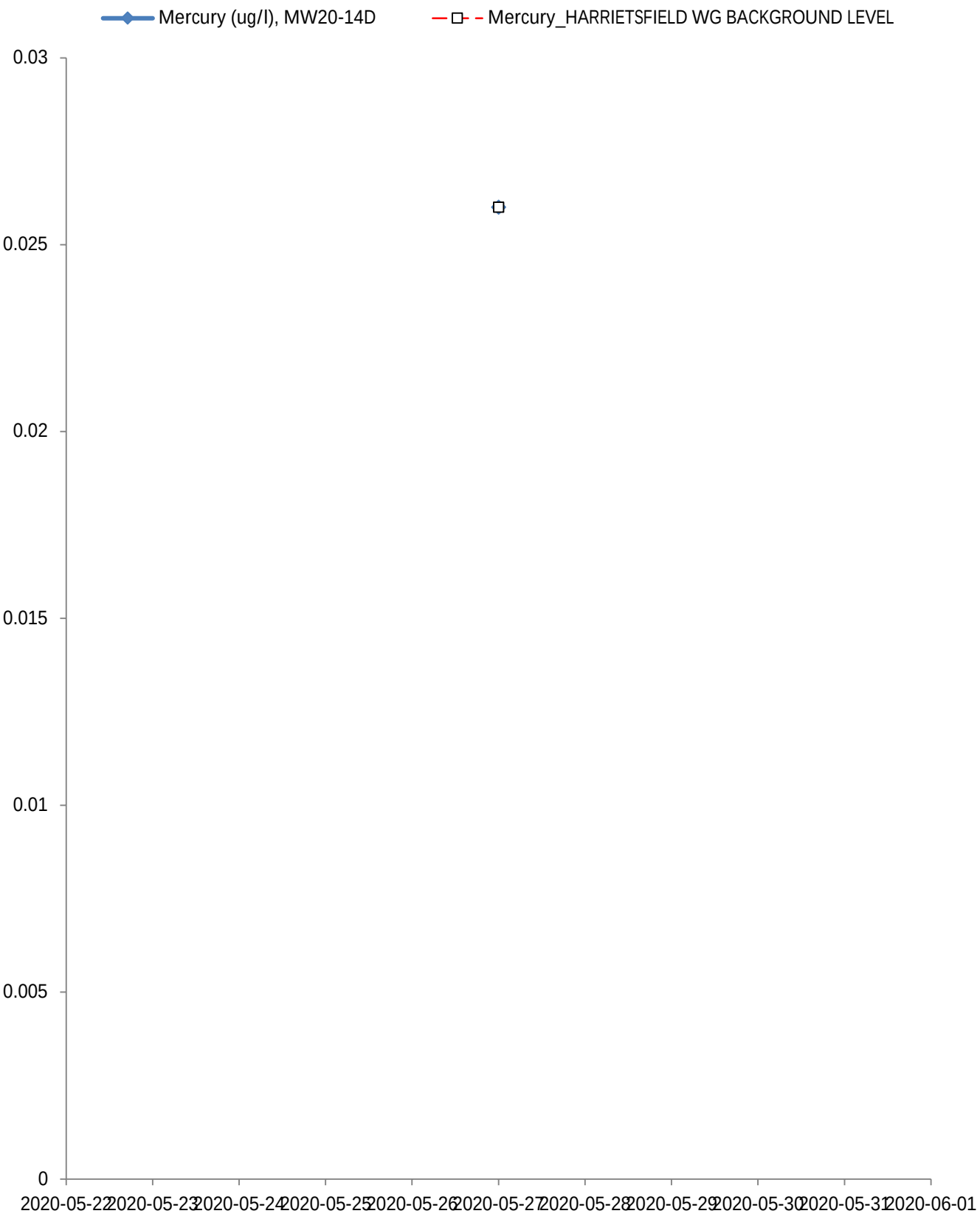
MW20-14D-Magnesium



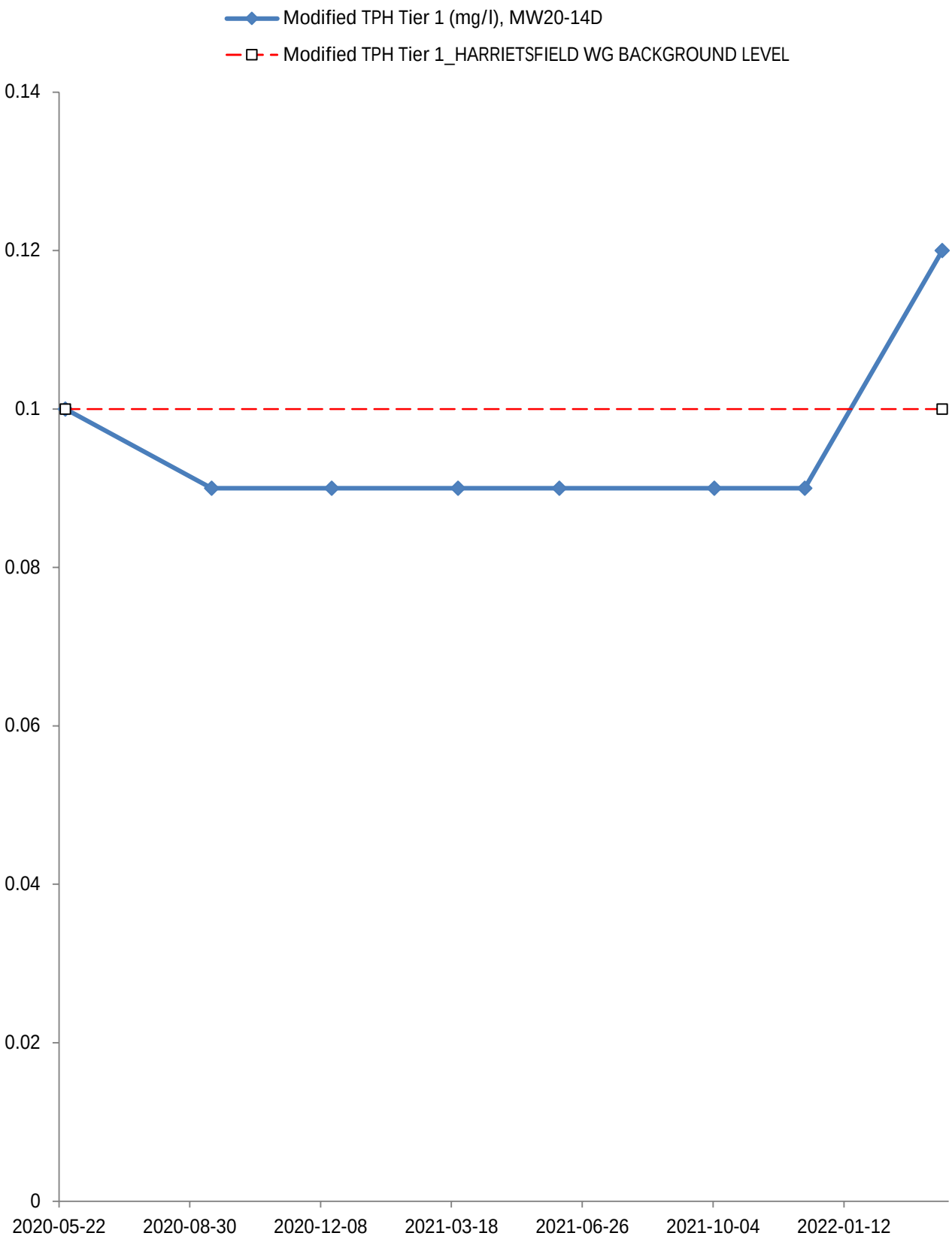
MW20-14D-Manganese



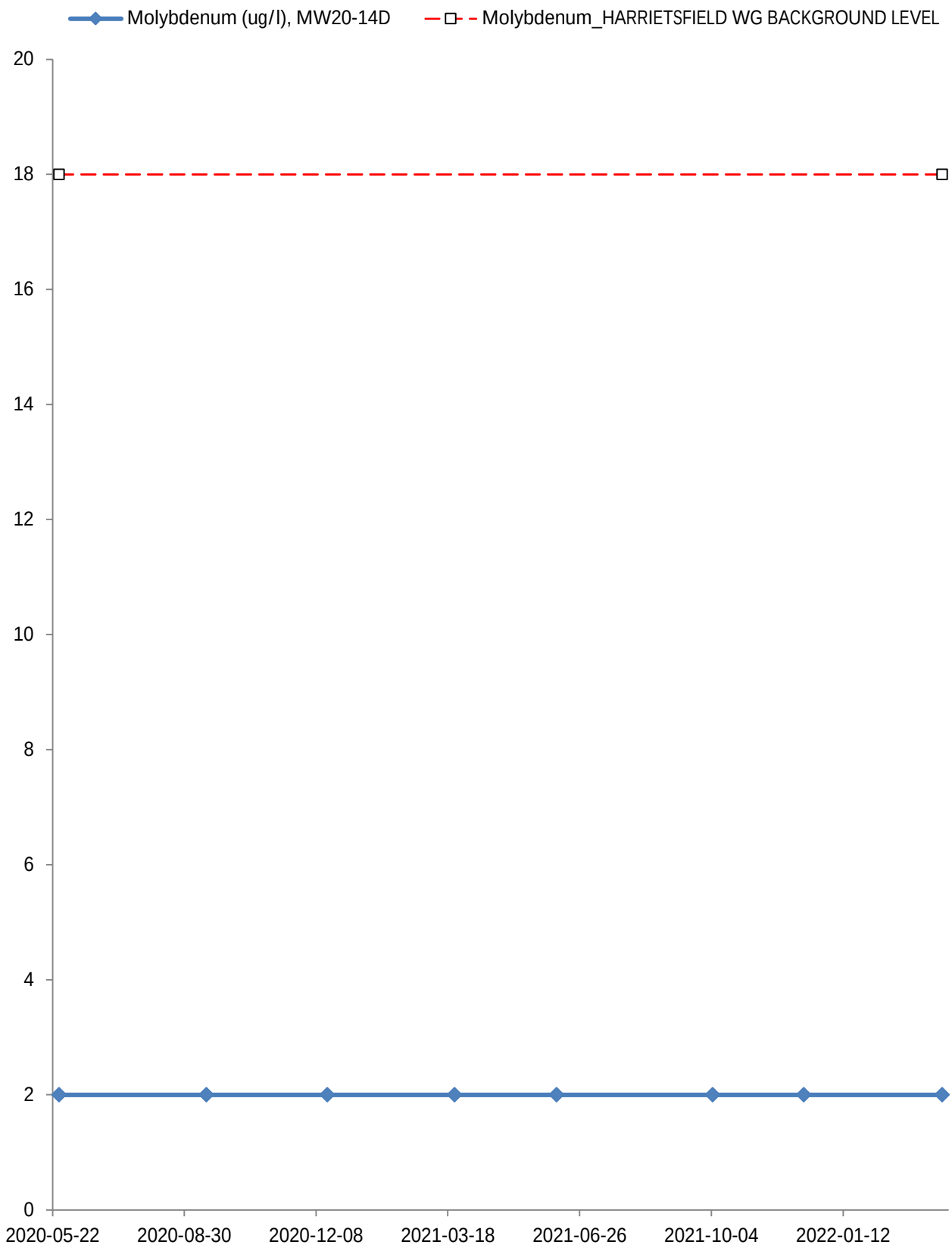
MW20-14D-Mercury



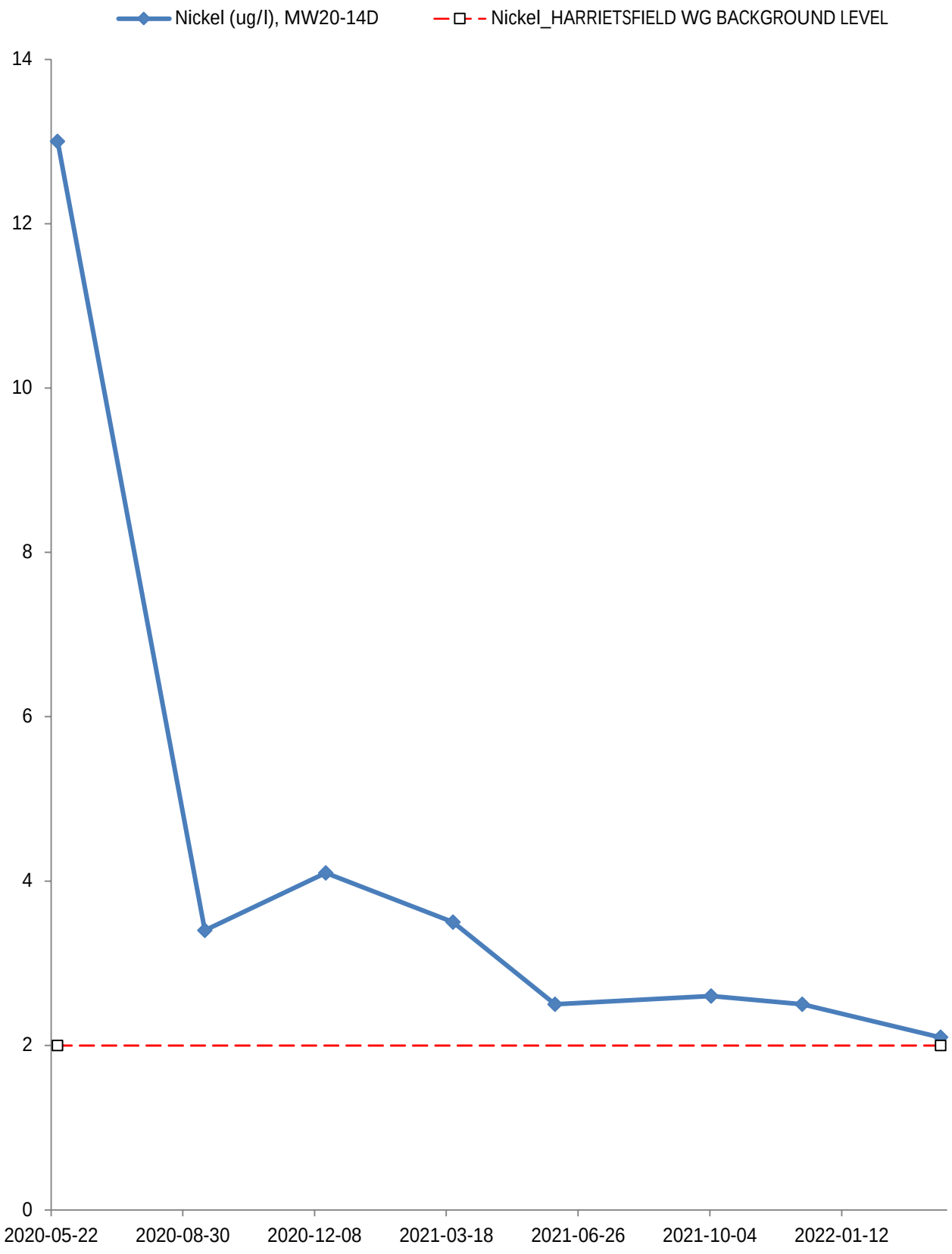
MW20-14D-Modified TPH Tier 1



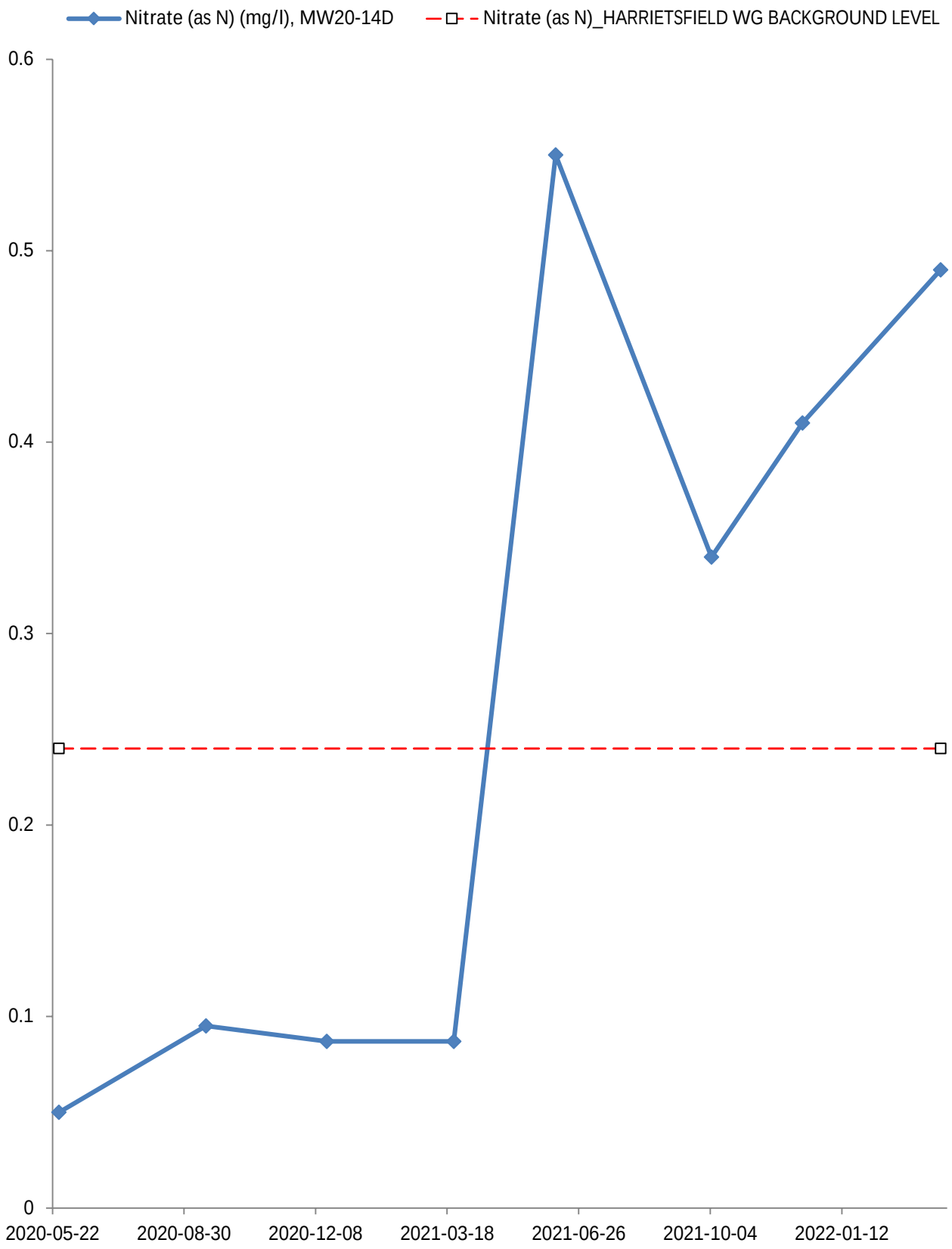
MW20-14D-Molybdenum



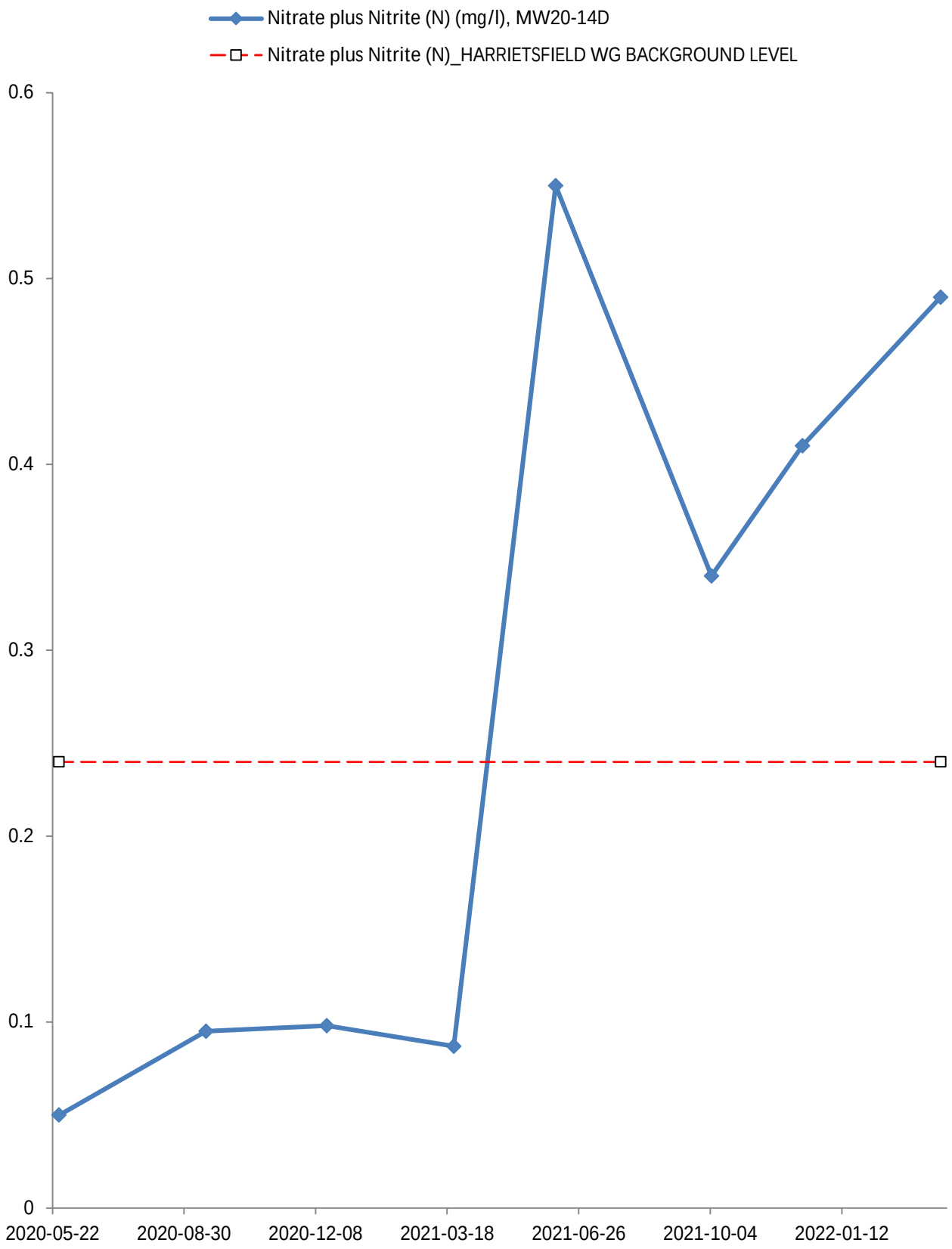
MW20-14D-Nickel



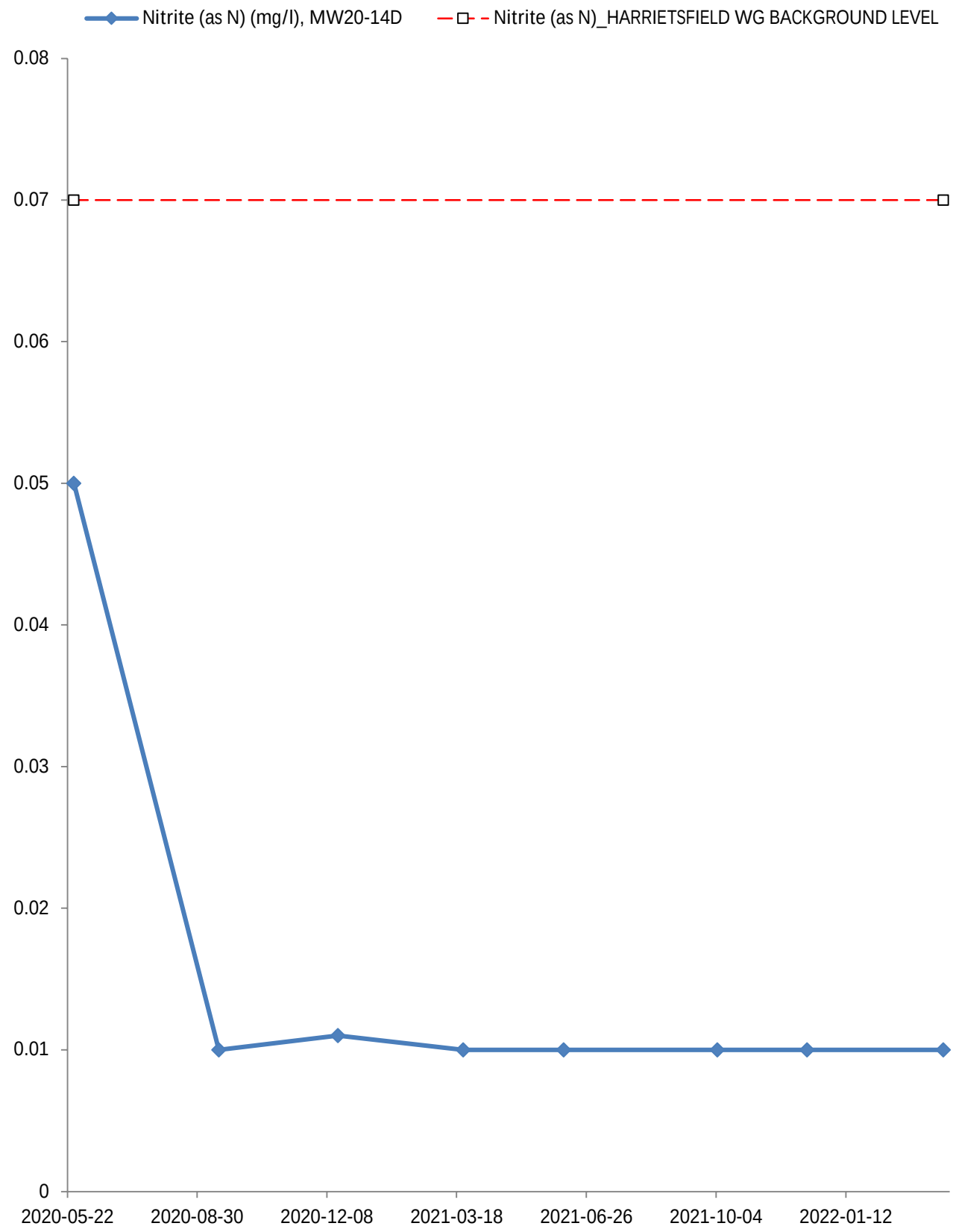
MW20-14D-Nitrate (as N)



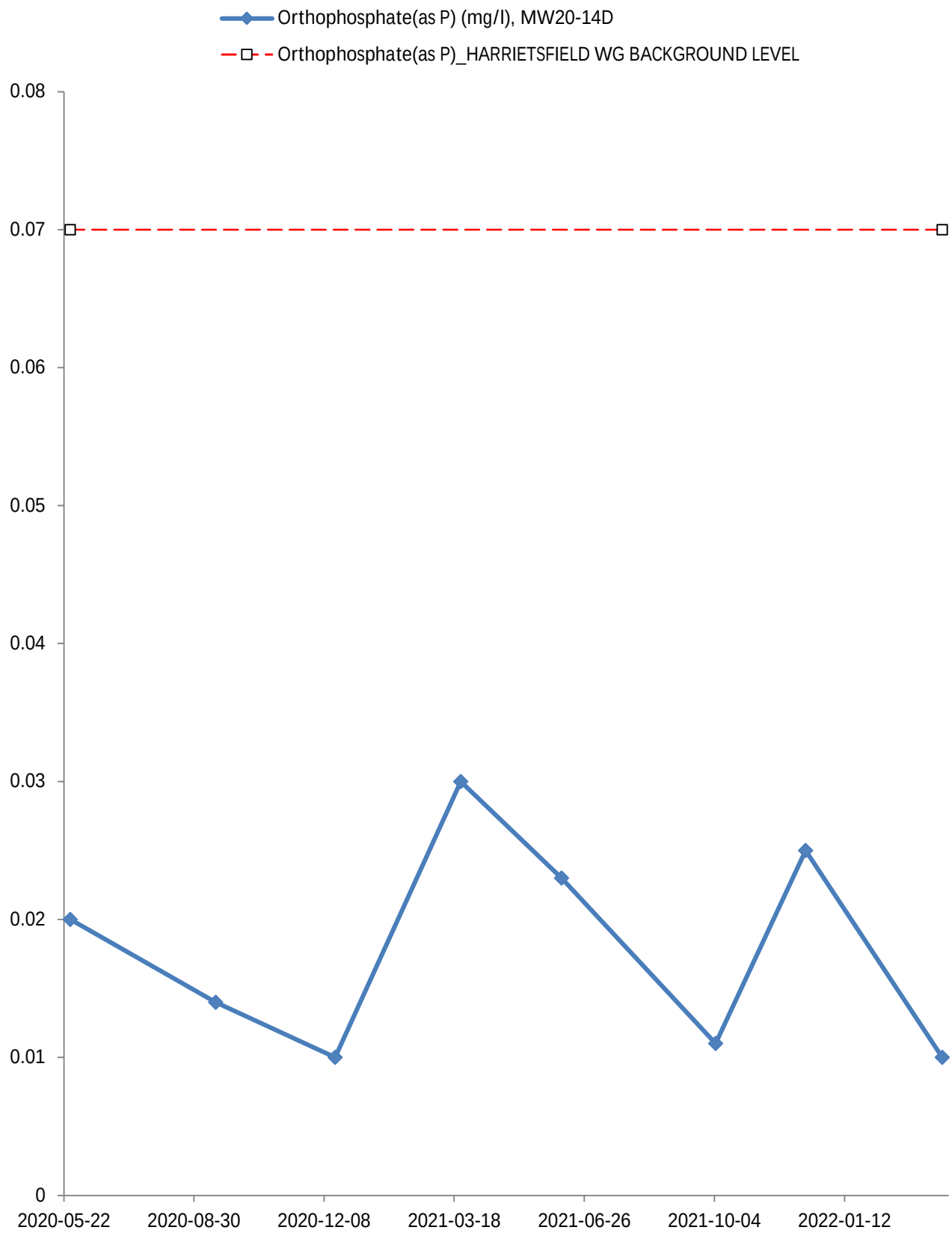
MW20-14D-Nitrate plus Nitrite (N)



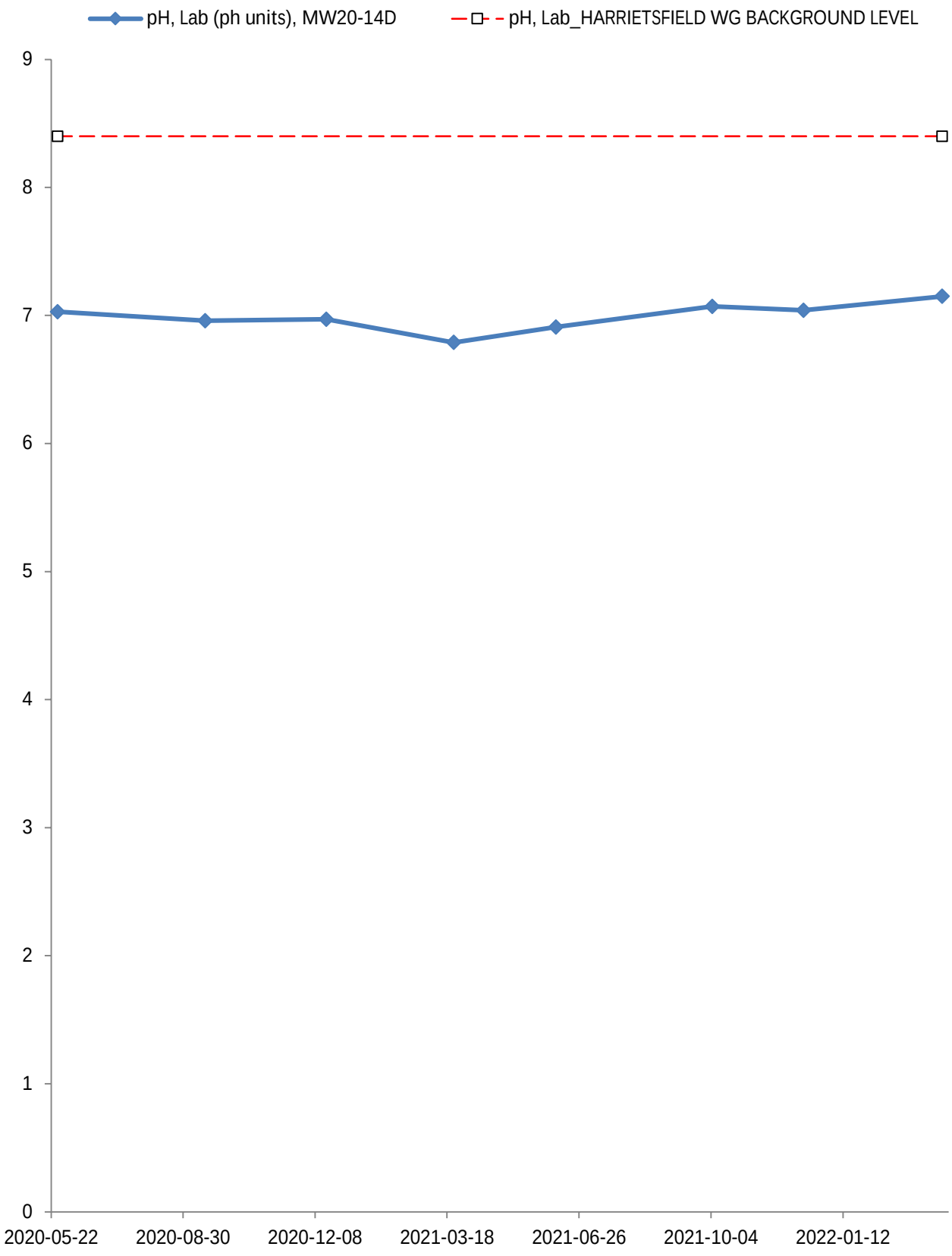
MW20-14D-Nitrite (as N)



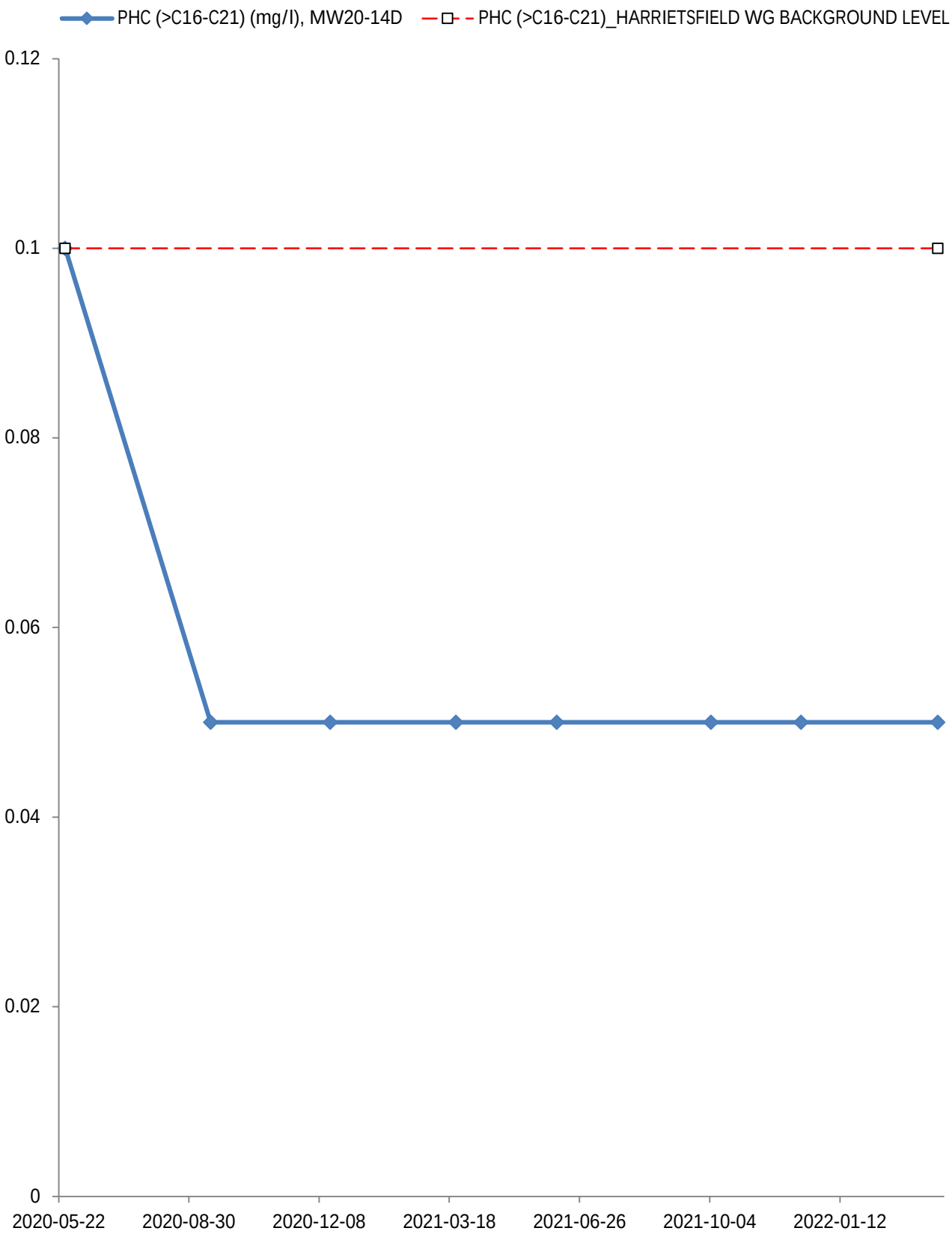
MW20-14D-Orthophosphate(as P)



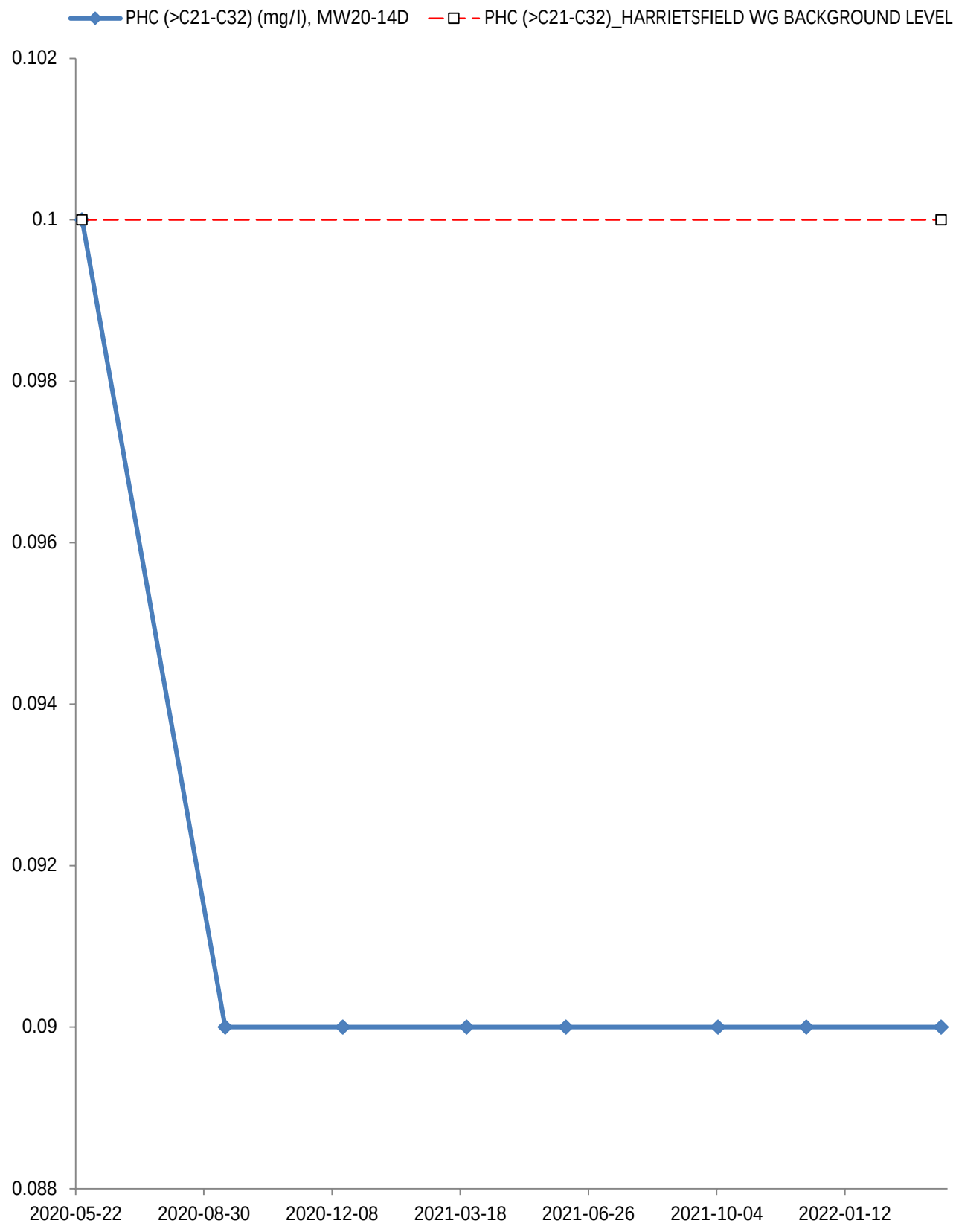
MW20-14D-pH, Lab



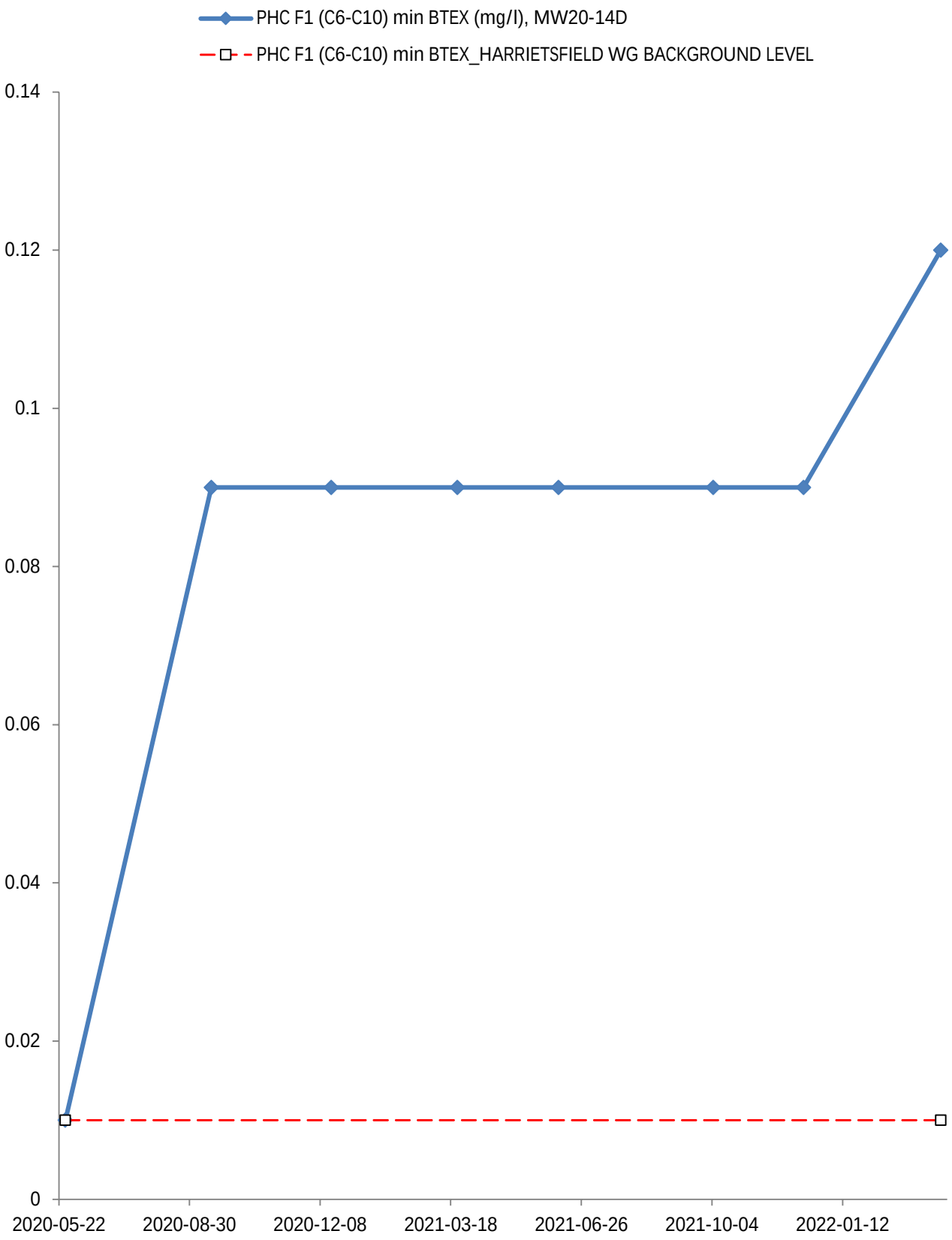
MW20-14D-PHC (>C16-C21)



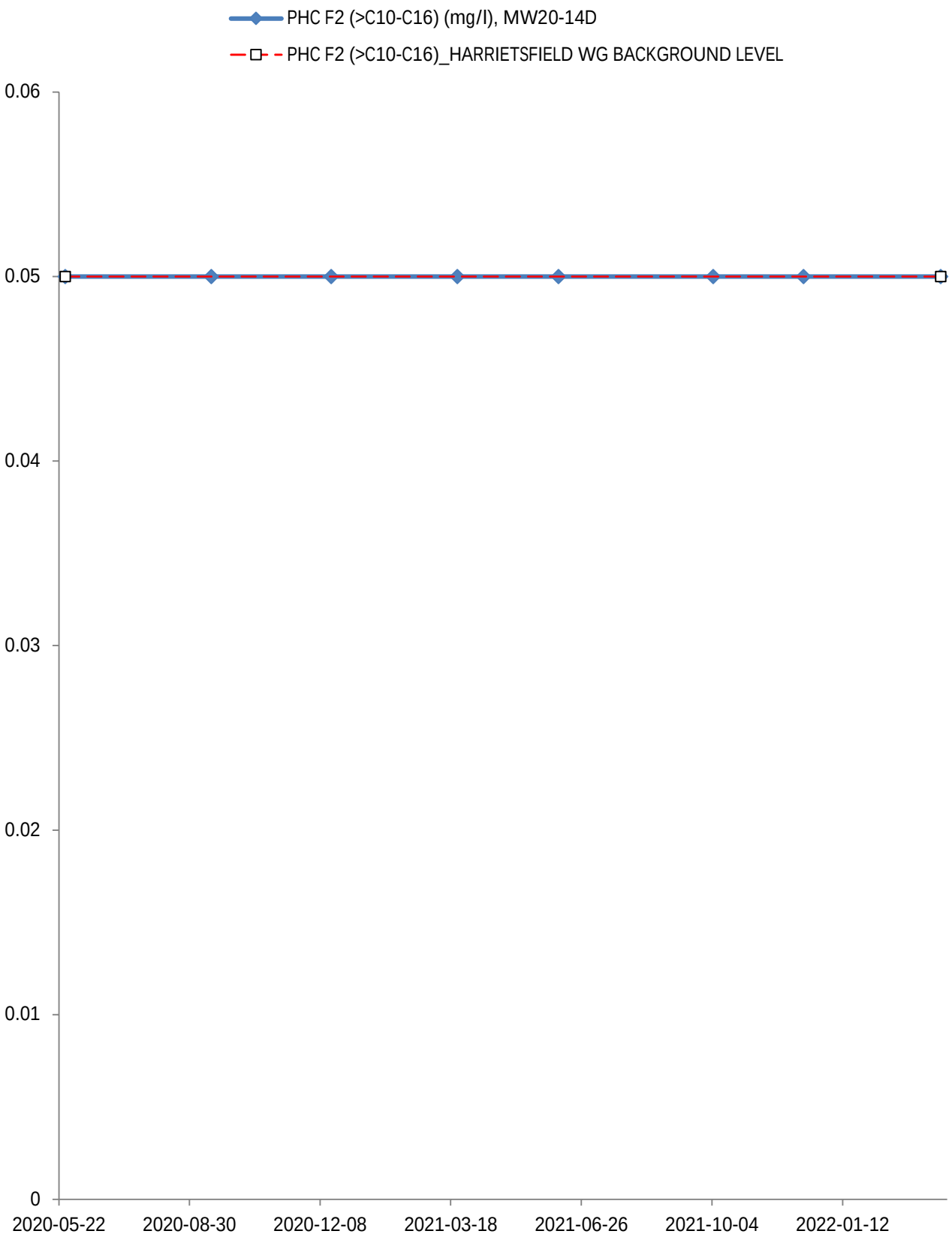
MW20-14D-PHC (>C21-C32)



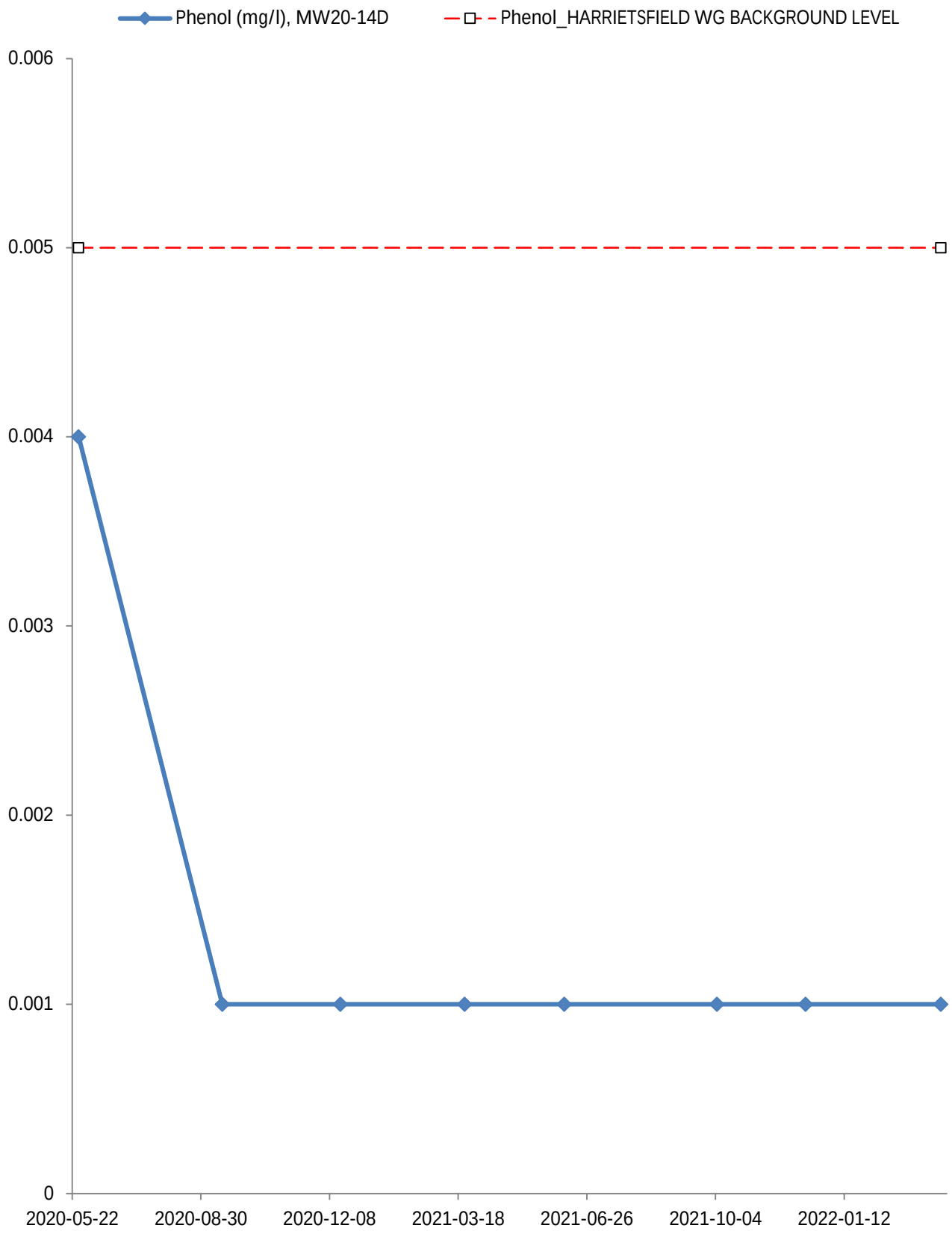
MW20-14D-PHC F1 (C6-C10) min BTEX



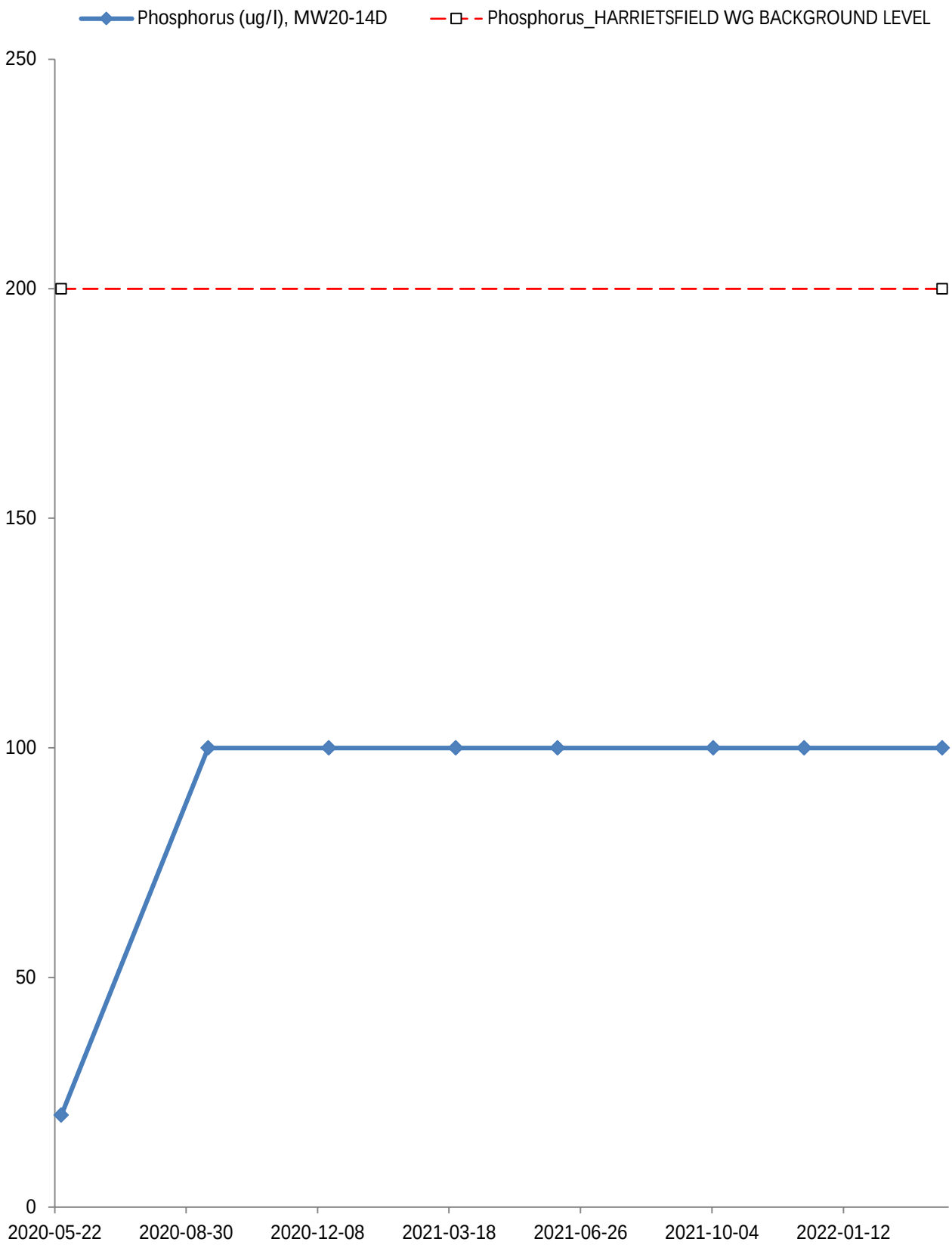
MW20-14D-PHC F2 (>C10-C16)



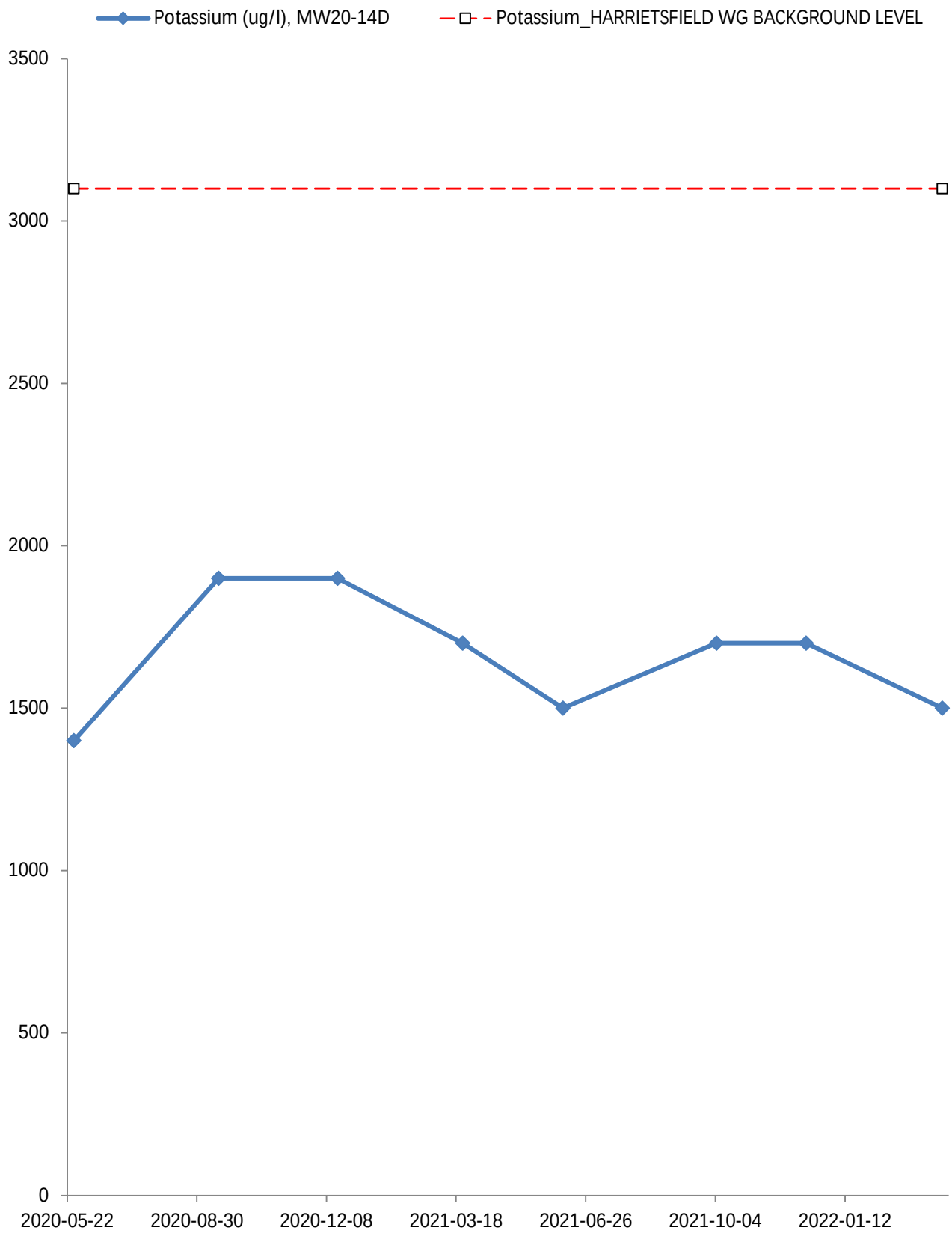
MW20-14D-Phenol



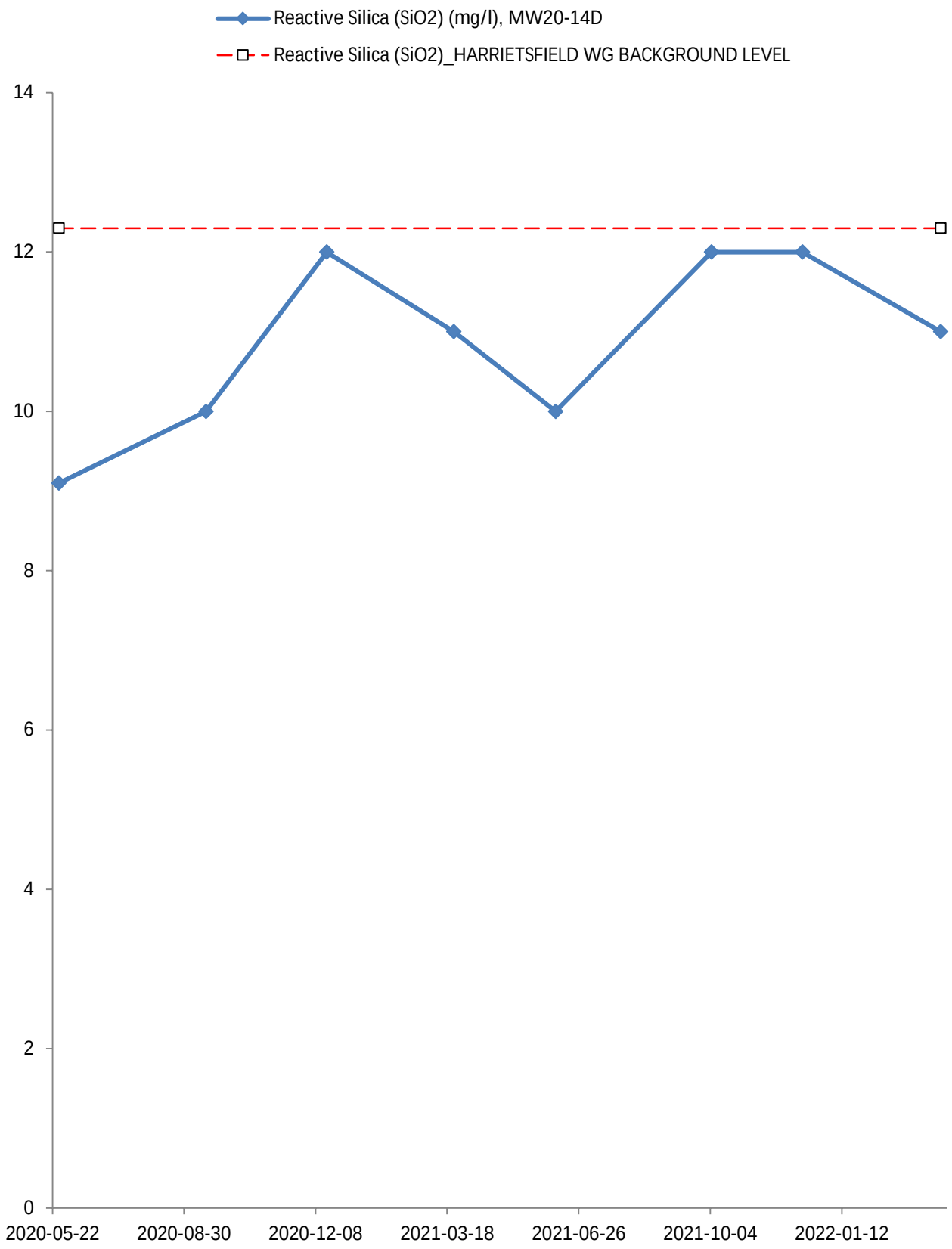
MW20-14D-Phosphorus



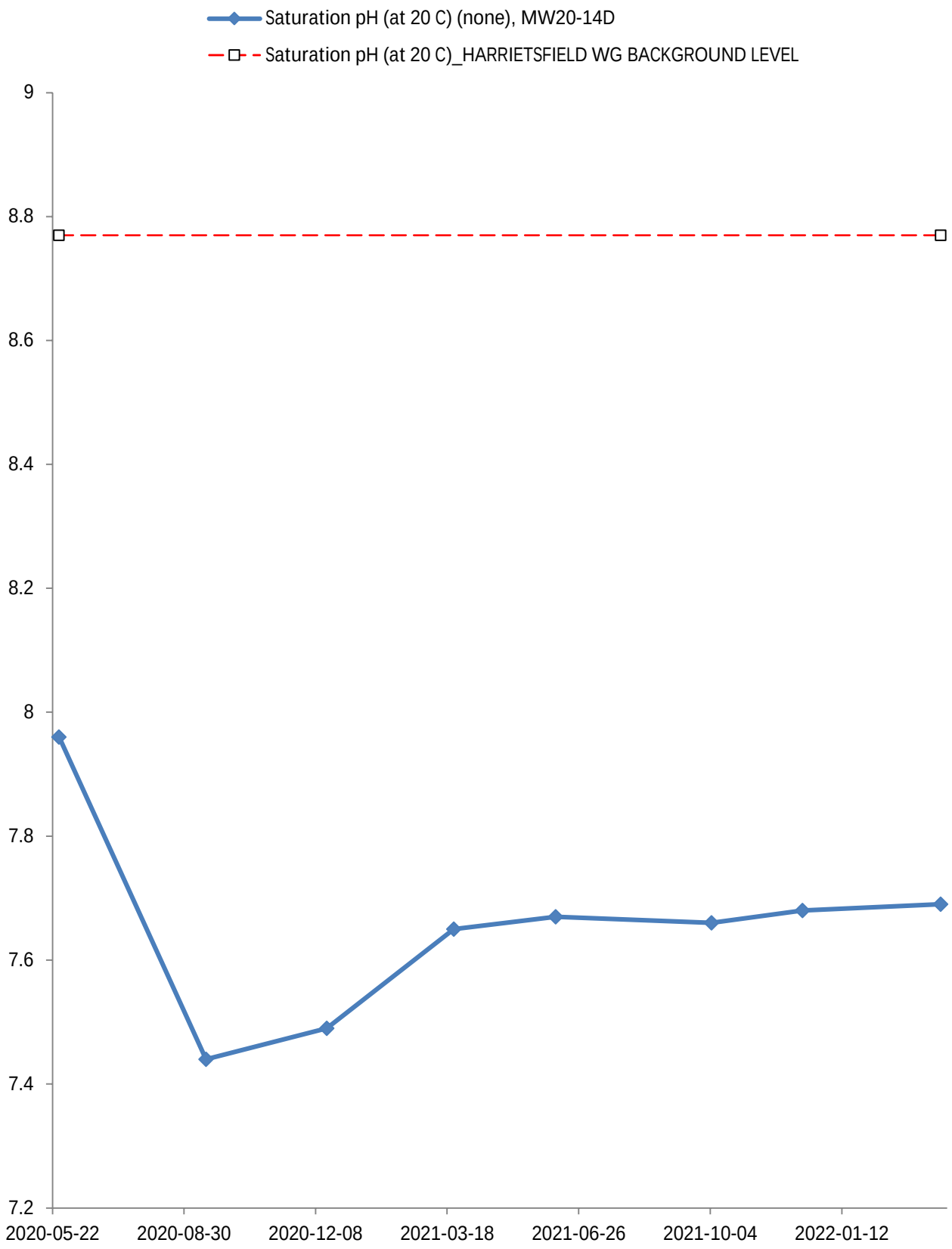
MW20-14D-Potassium



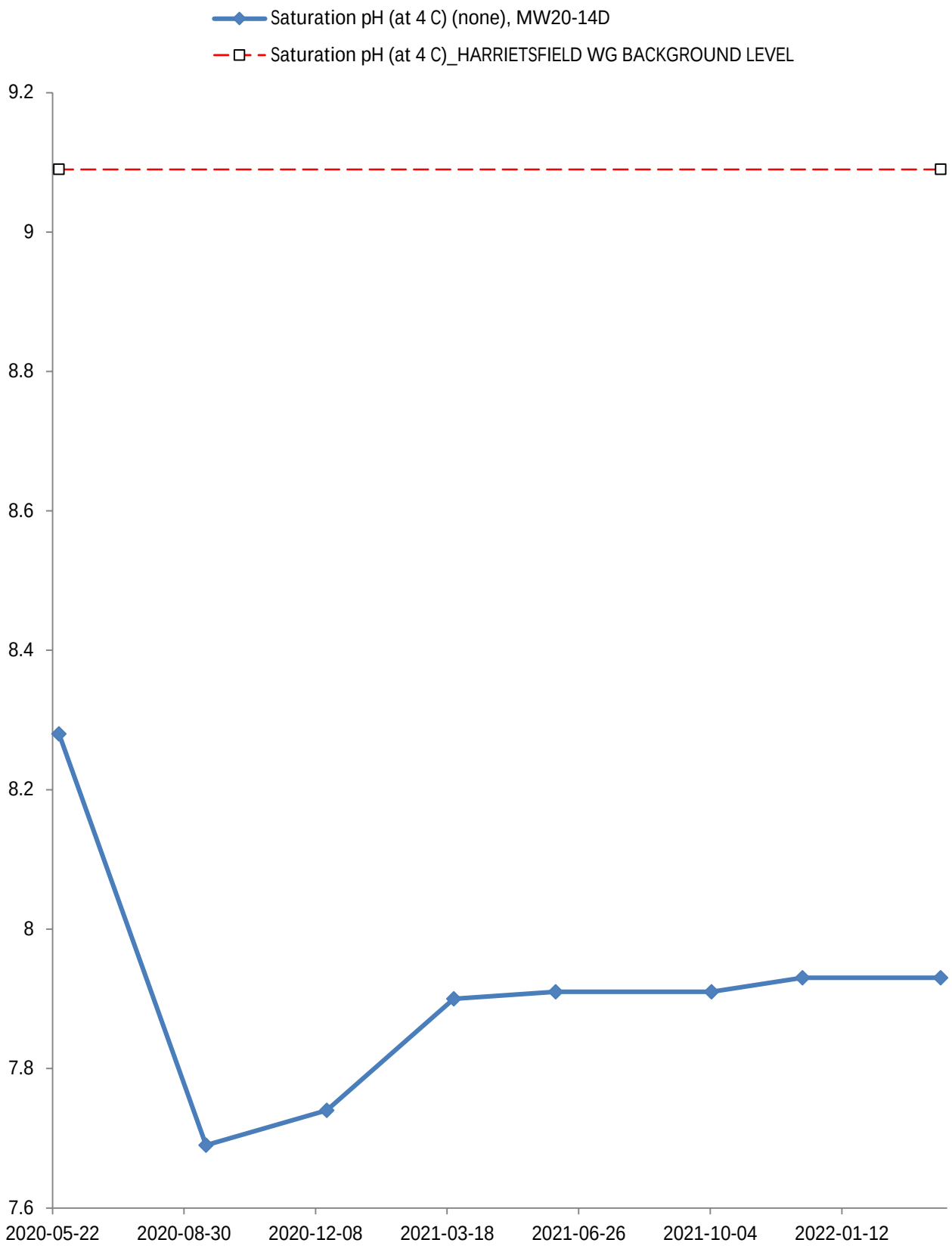
MW20-14D-Reactive Silica (SiO2)



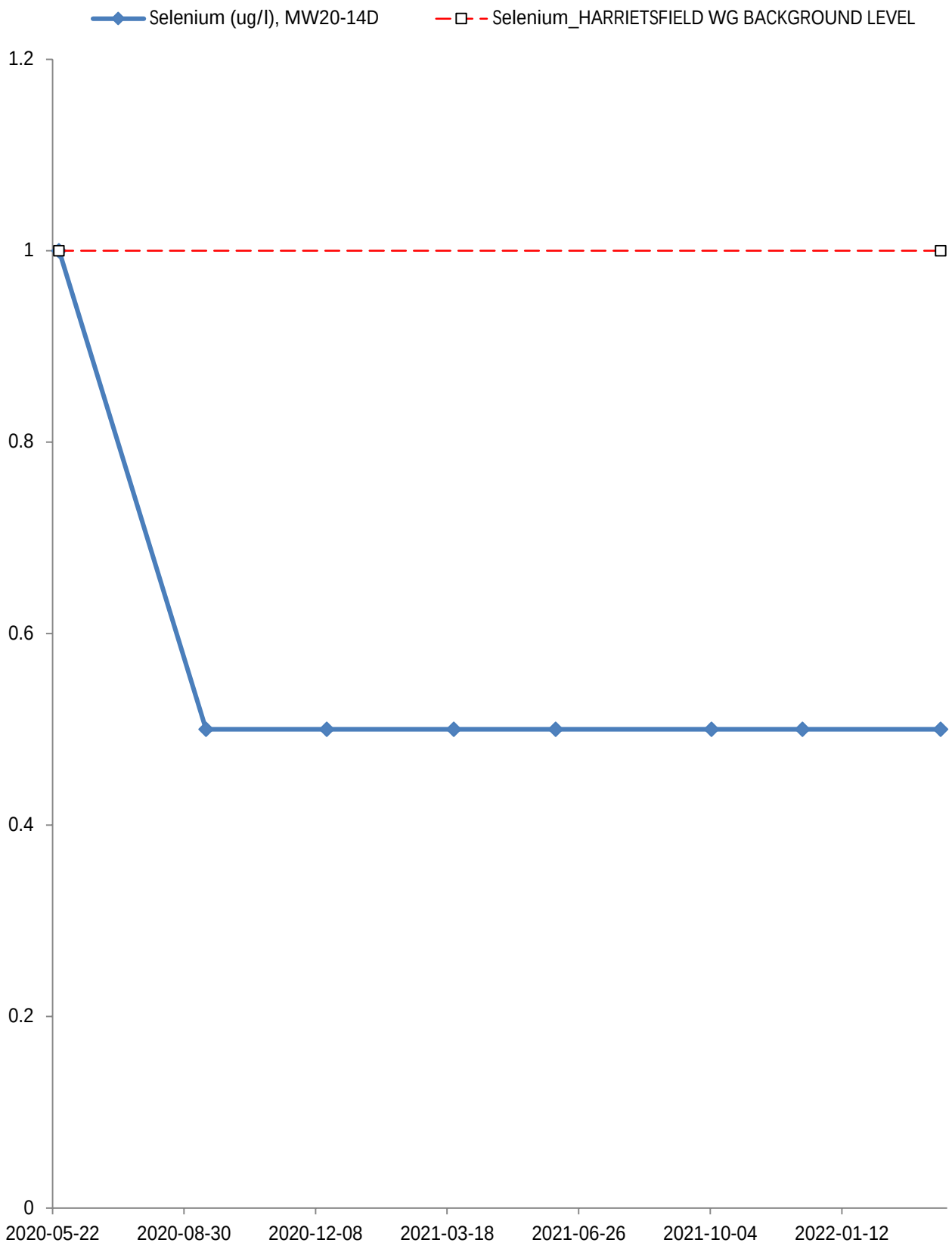
MW20-14D-Saturation pH (at 20 C)



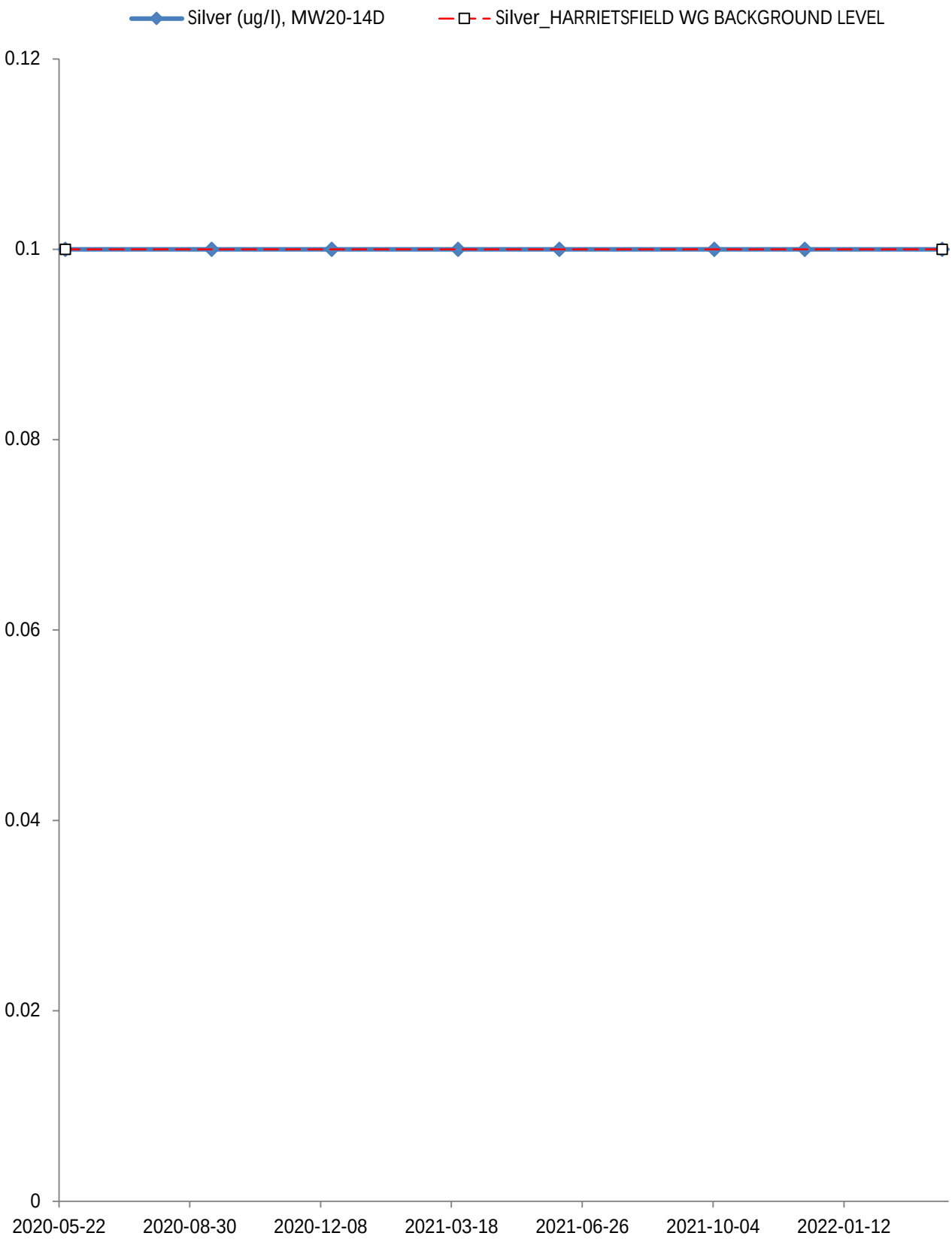
MW20-14D-Saturation pH (at 4 C)



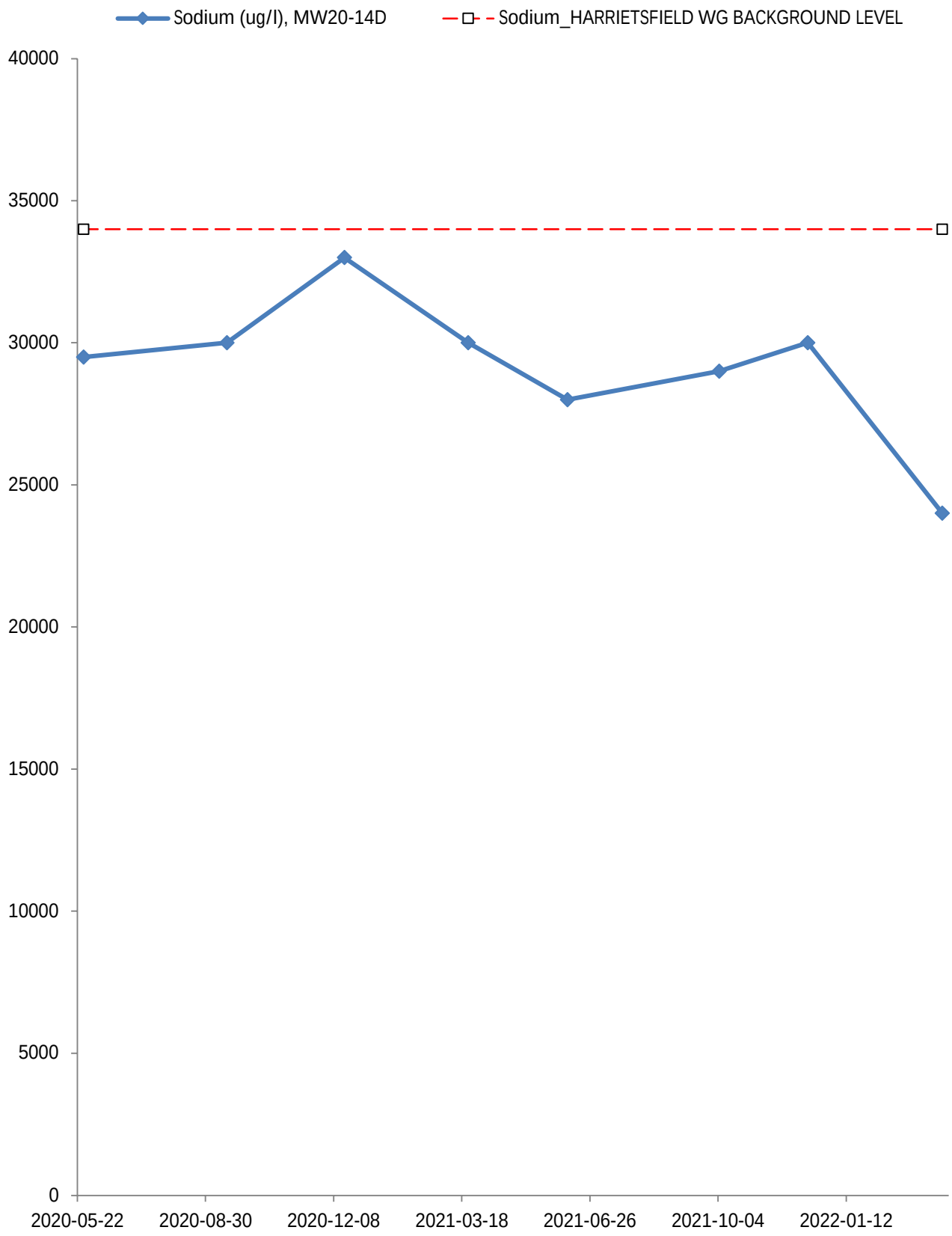
MW20-14D-Selenium



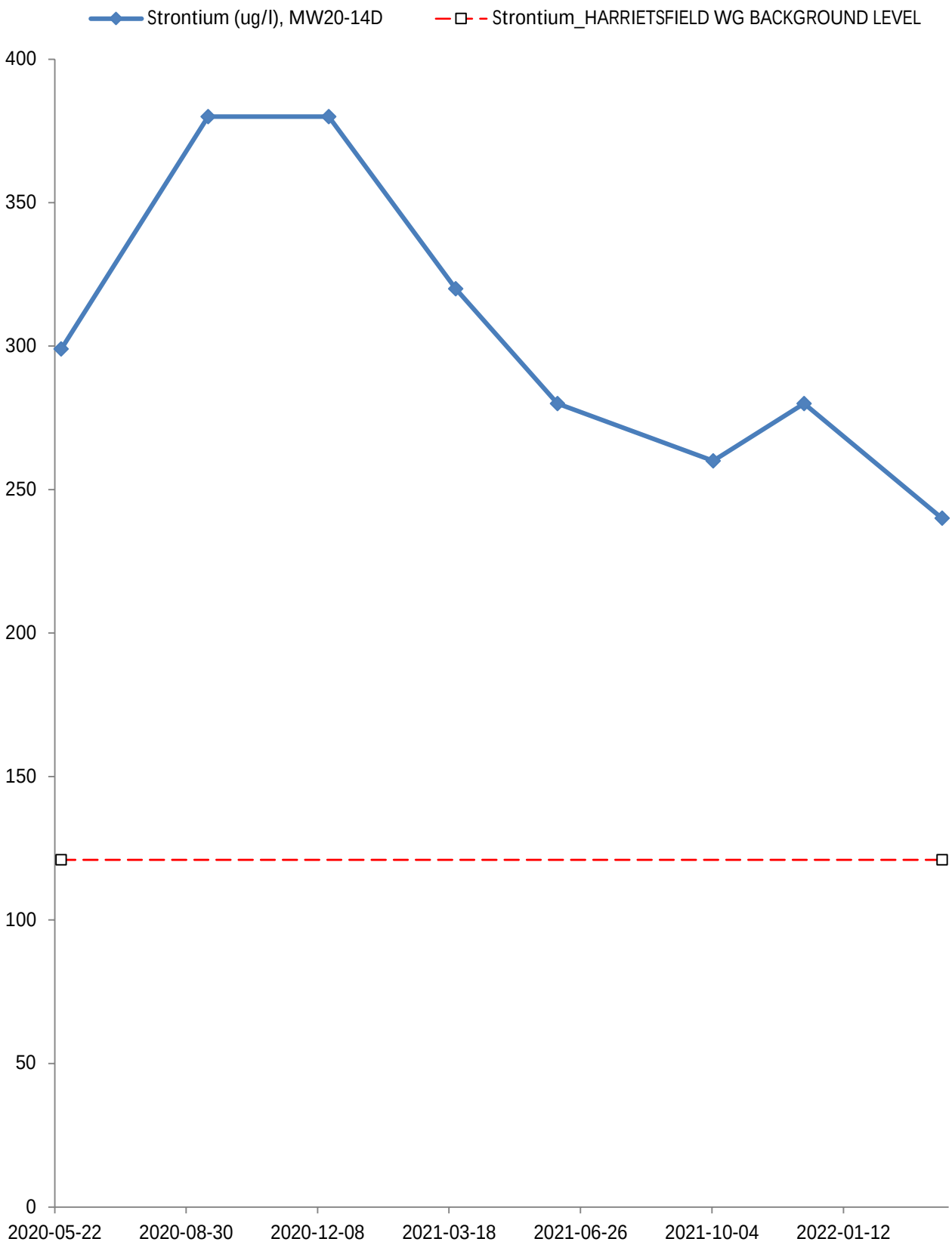
MW20-14D-Silver



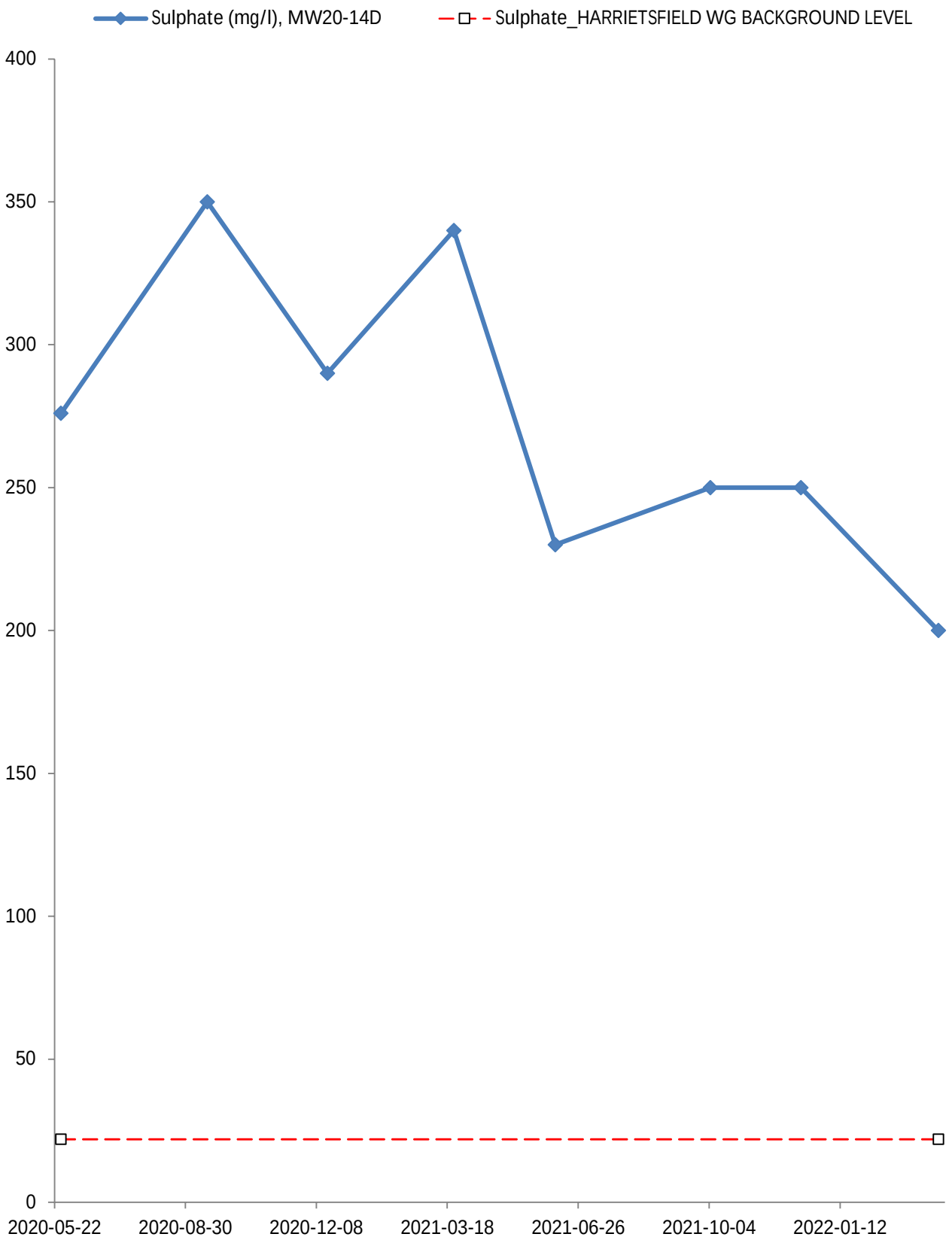
MW20-14D-Sodium



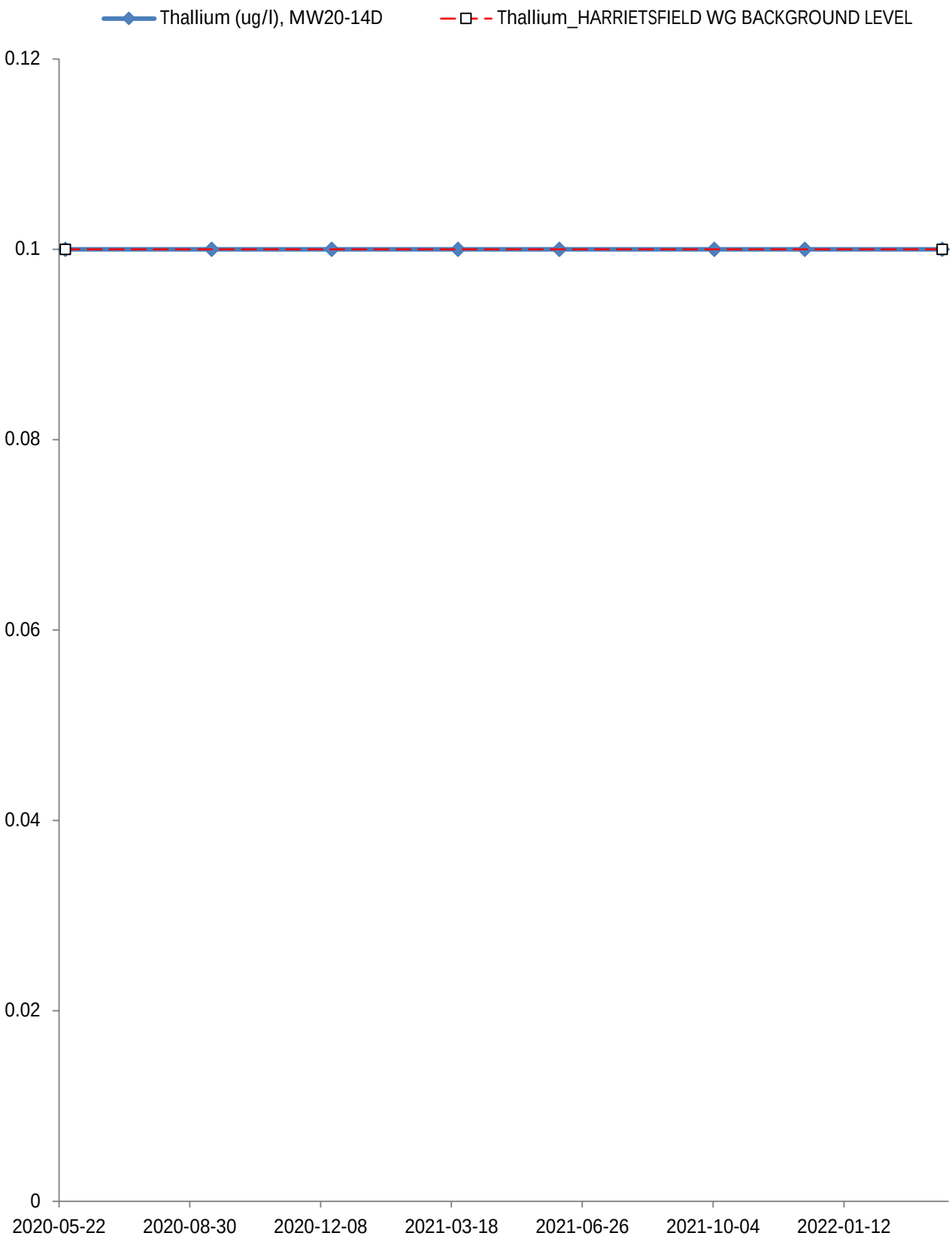
MW20-14D-Strontium



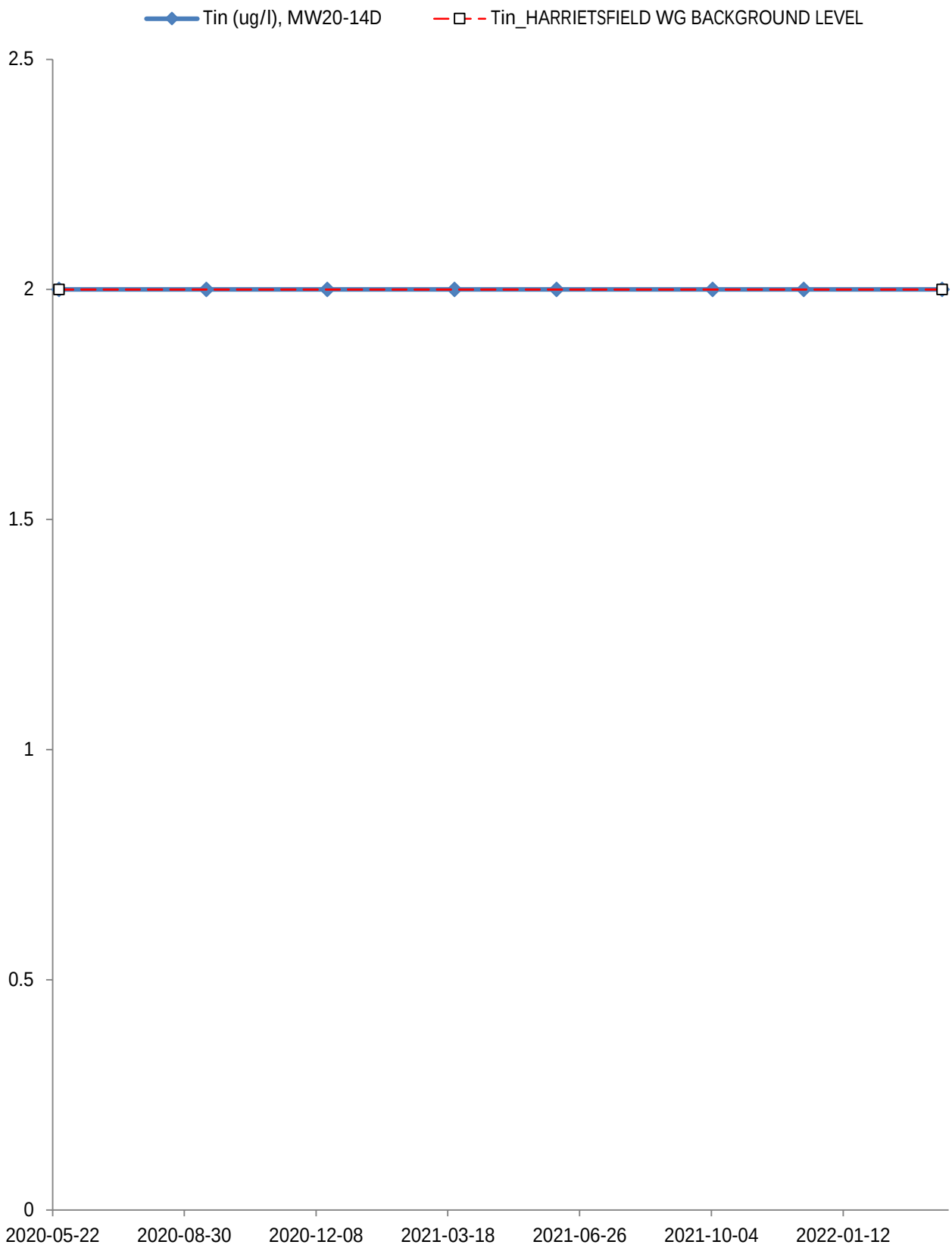
MW20-14D-Sulphate



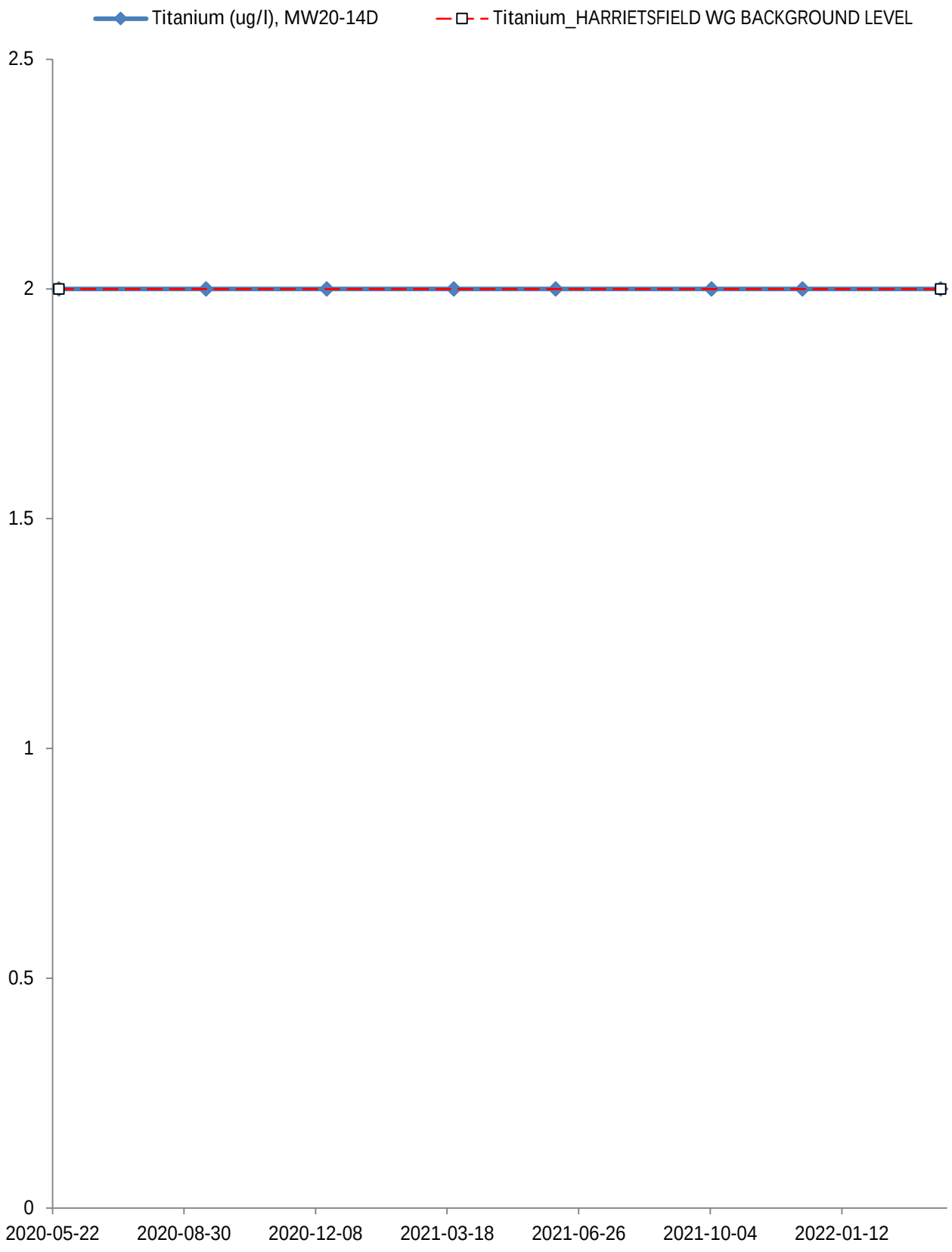
MW20-14D-Thallium



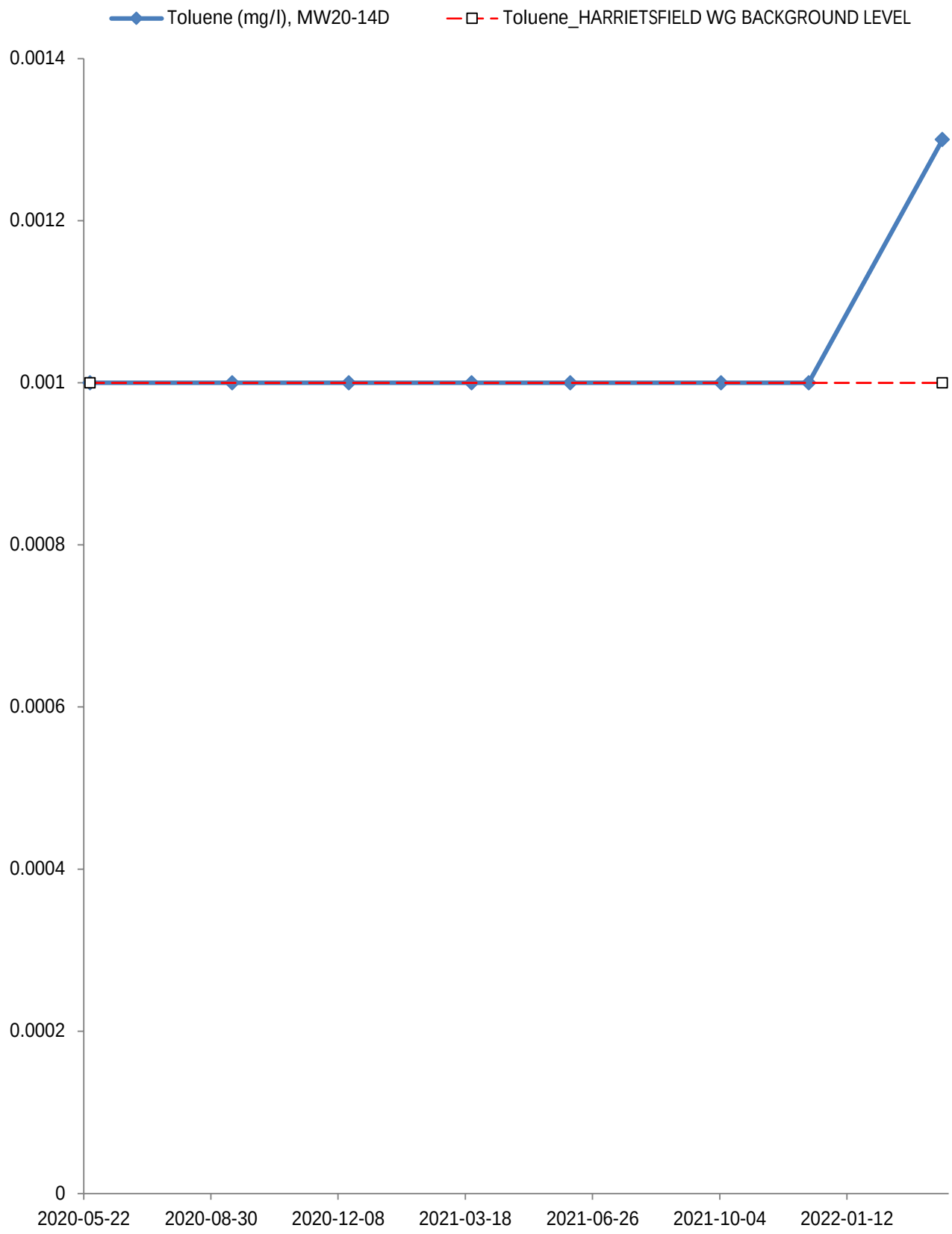
MW20-14D-Tin


Tin (ug/l), MW20-14D
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

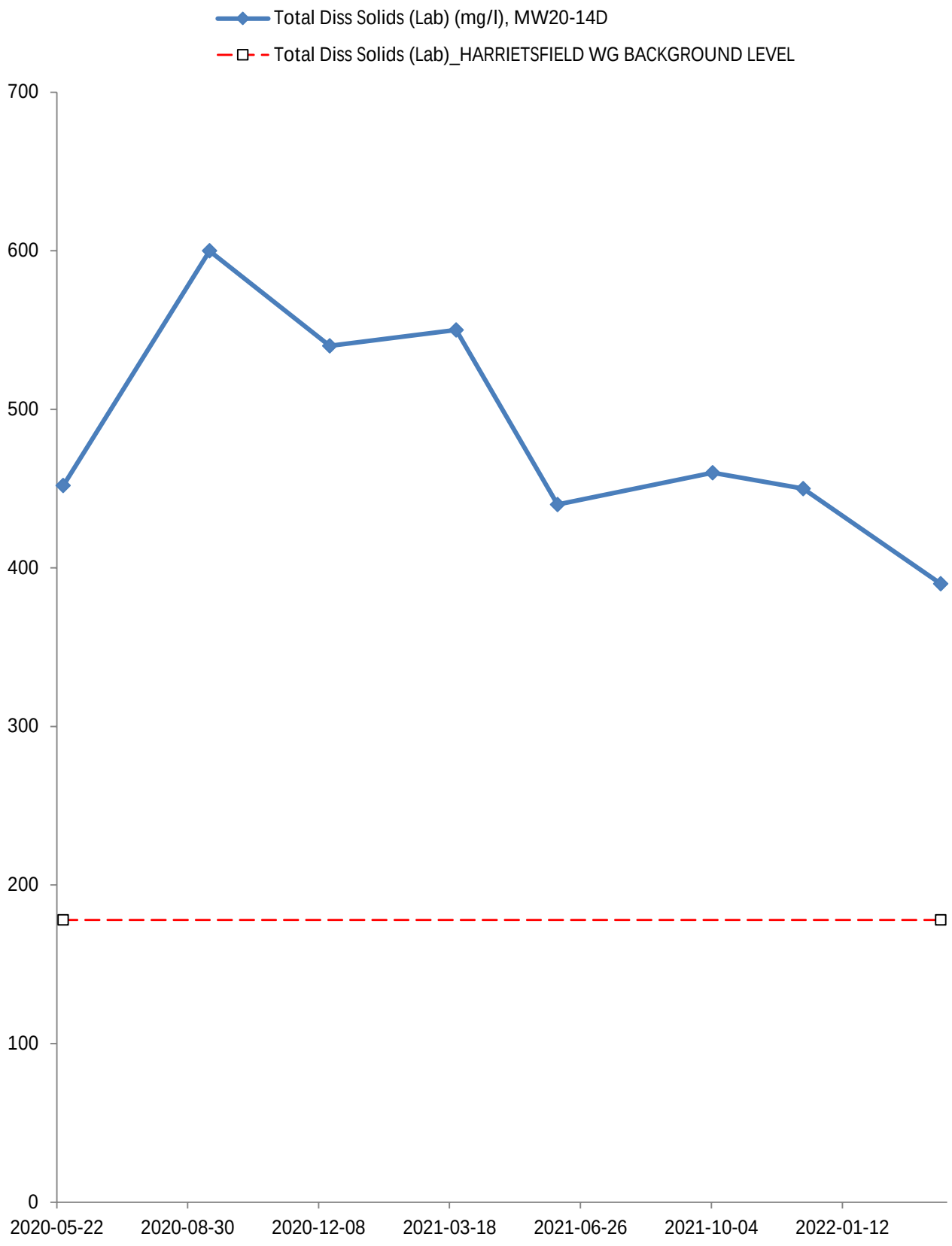
MW20-14D-Titanium



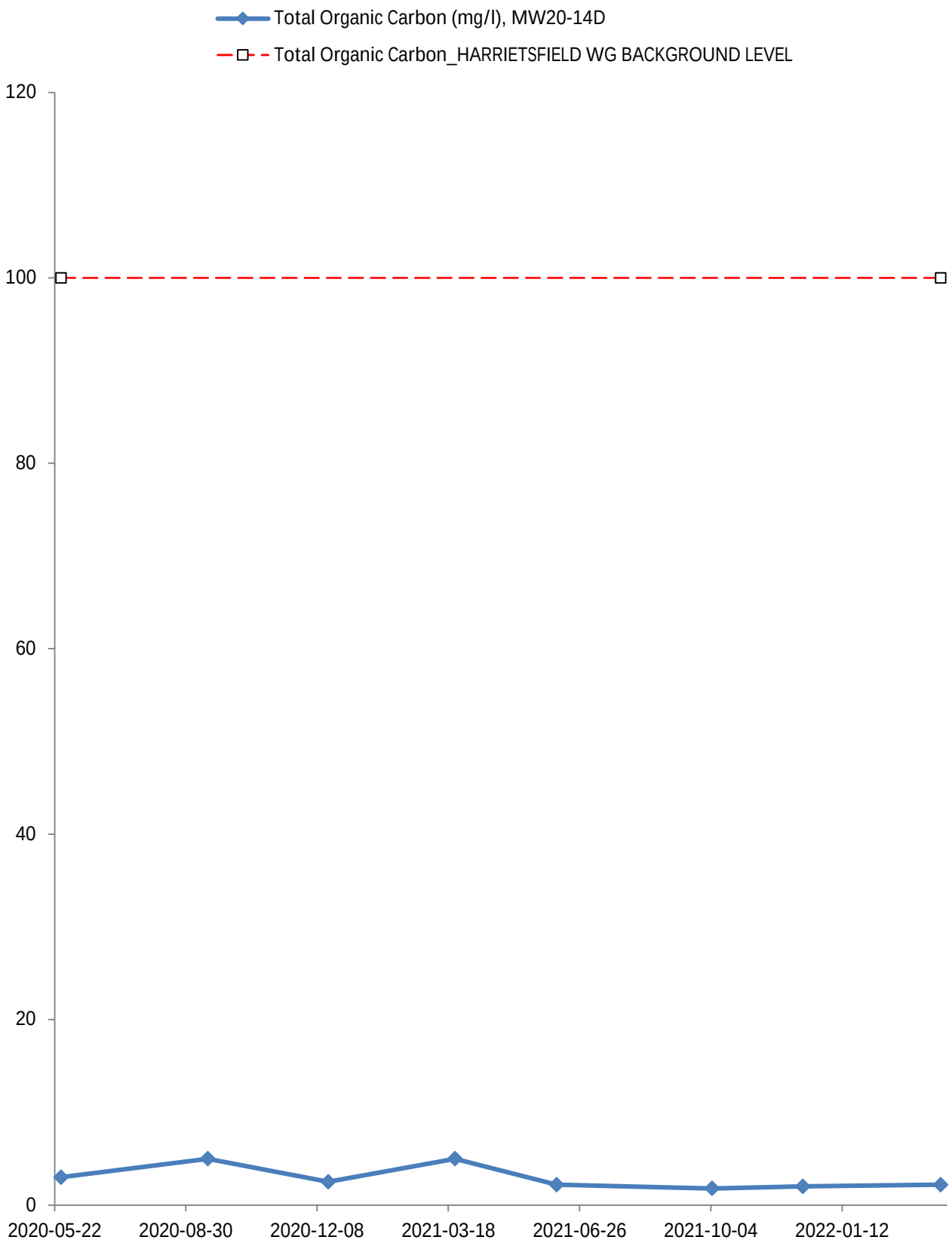
MW20-14D-Toluene



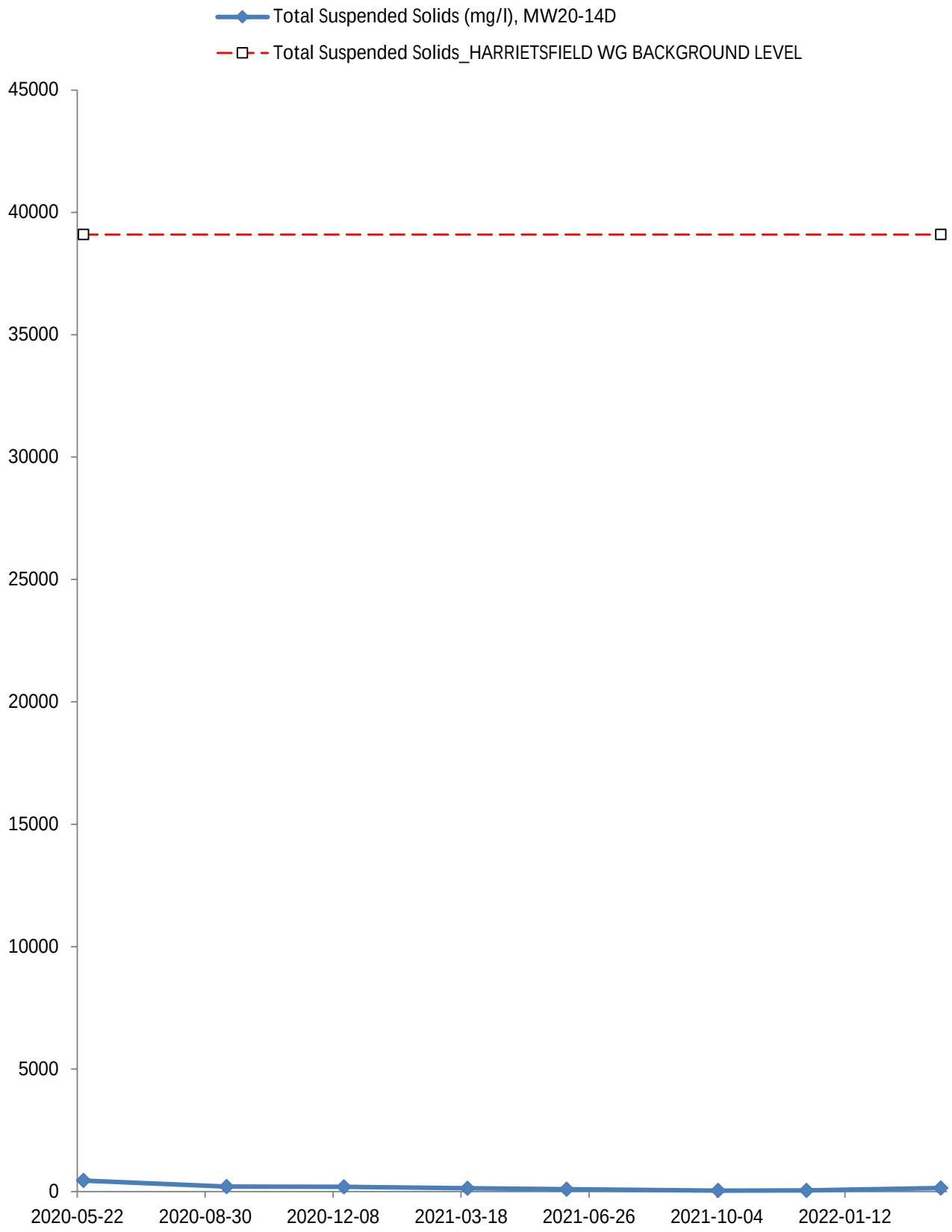
MW20-14D-Total Diss Solids (Lab)



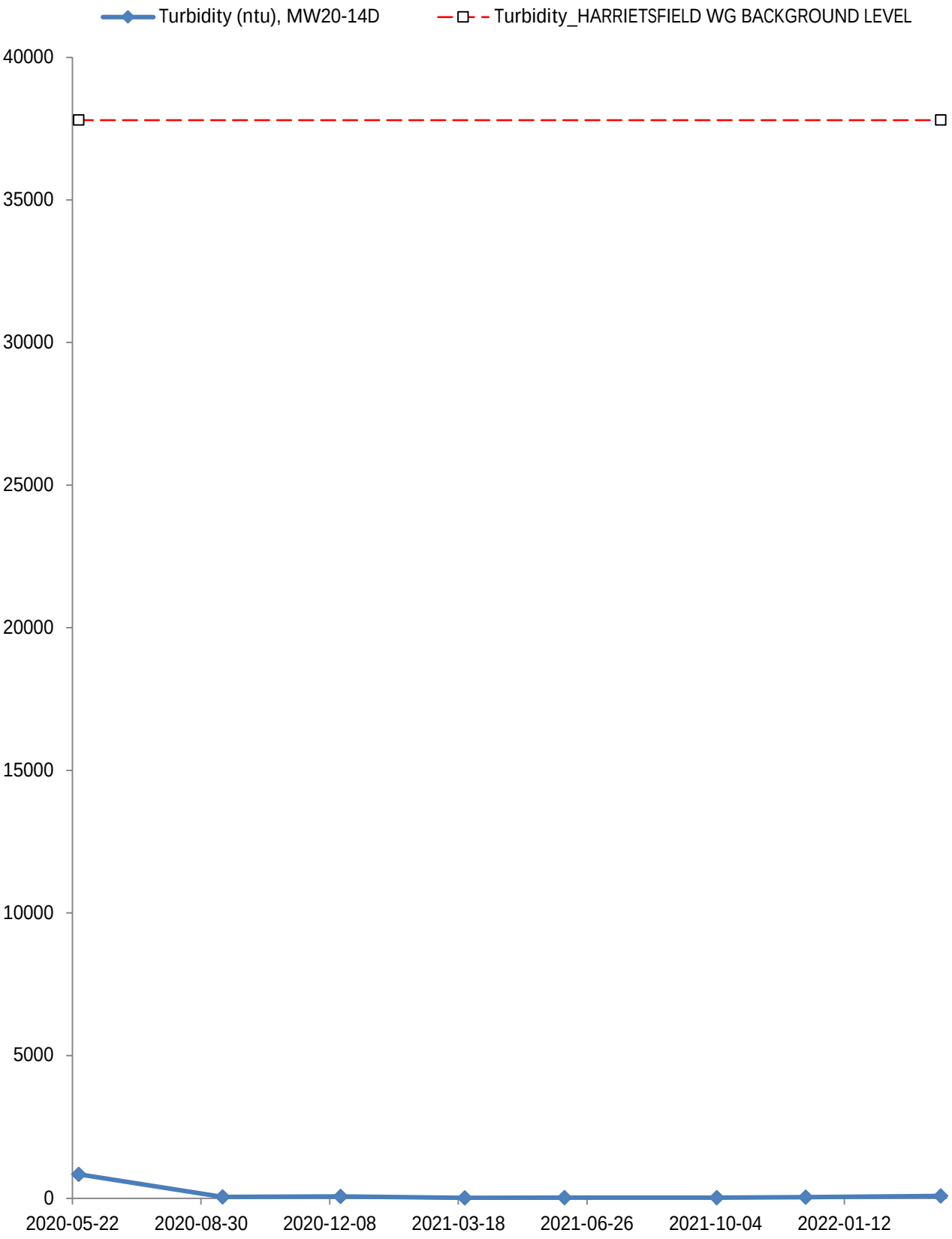
MW20-14D-Total Organic Carbon



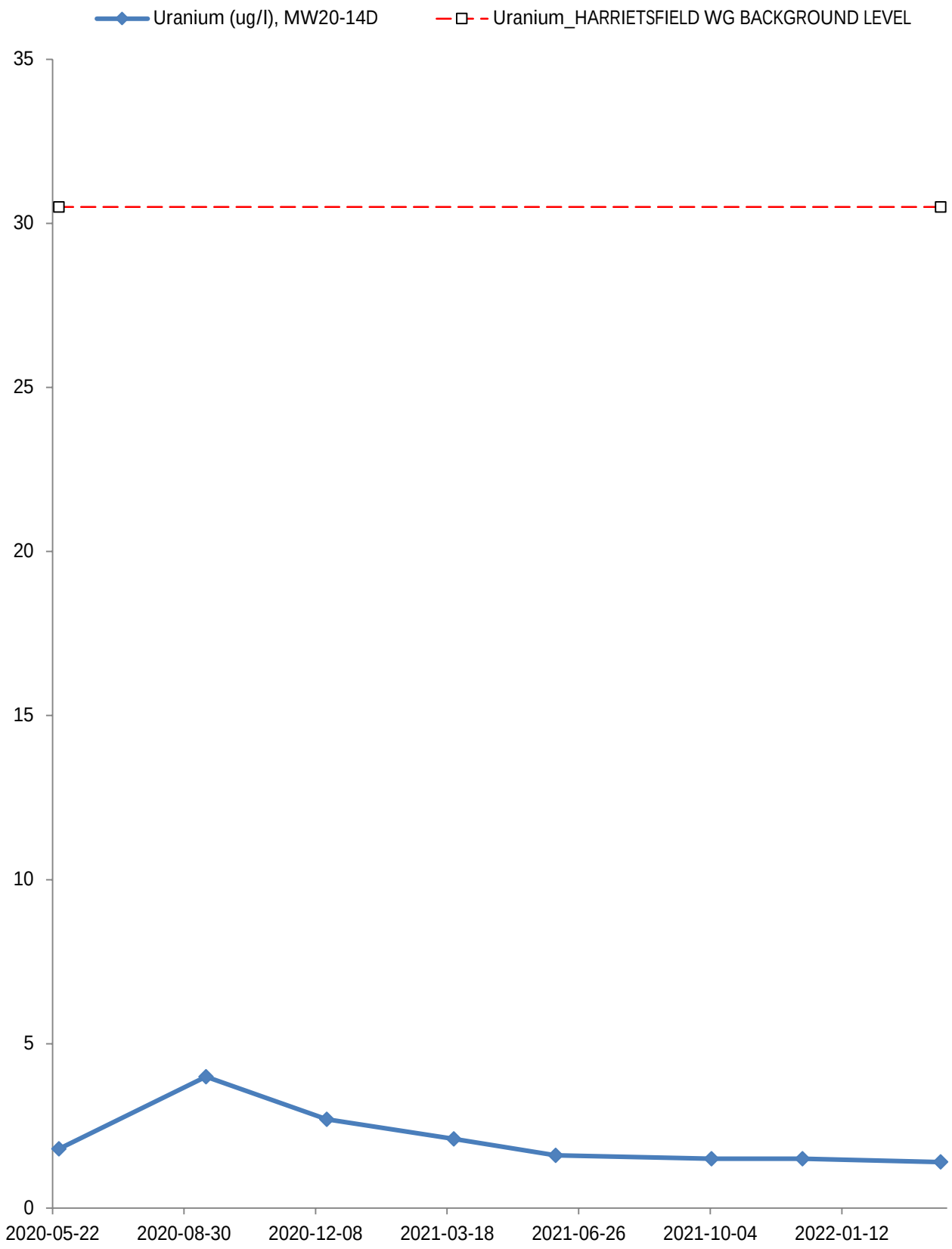
MW20-14D-Total Suspended Solids



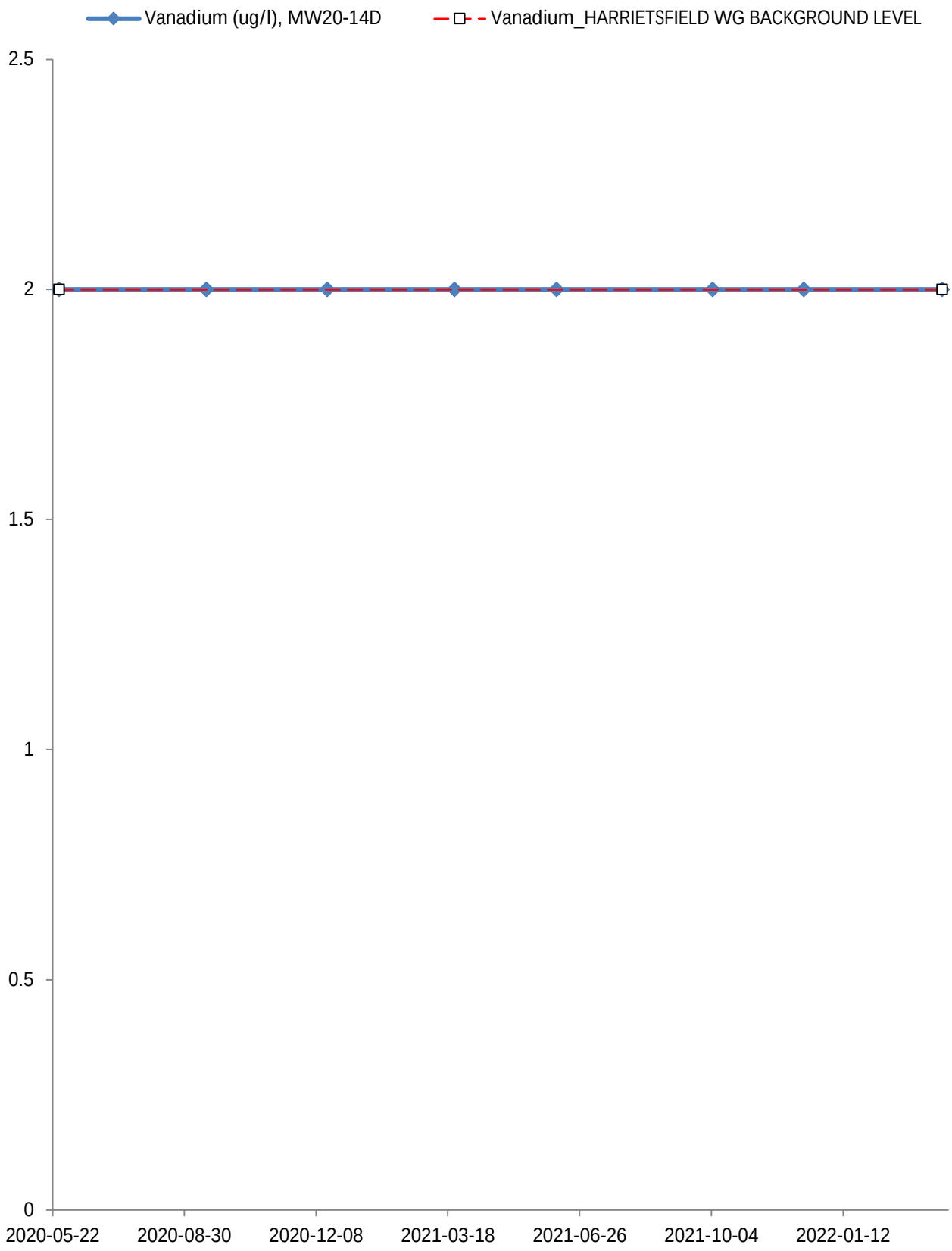
MW20-14D-Turbidity



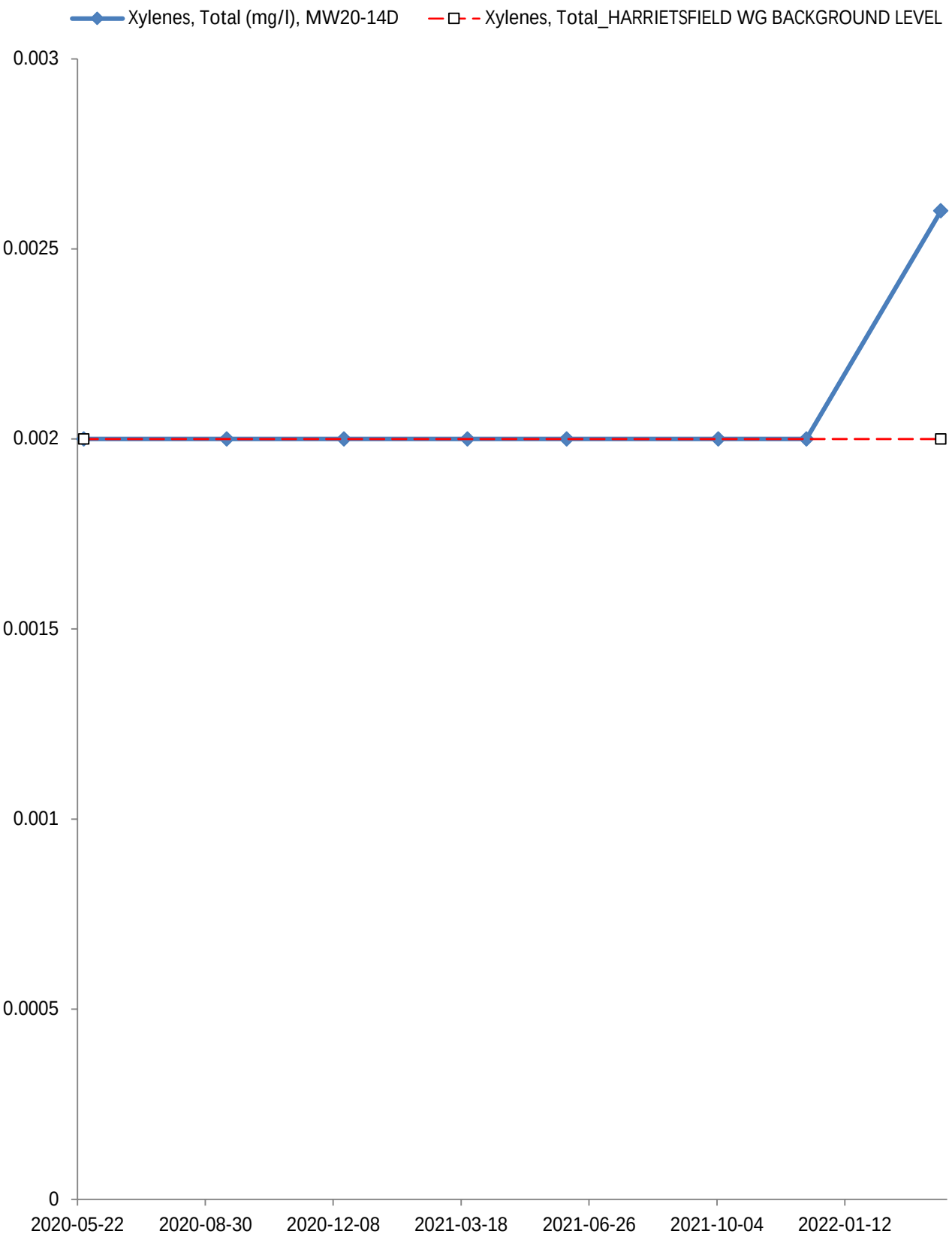
MW20-14D-Uranium



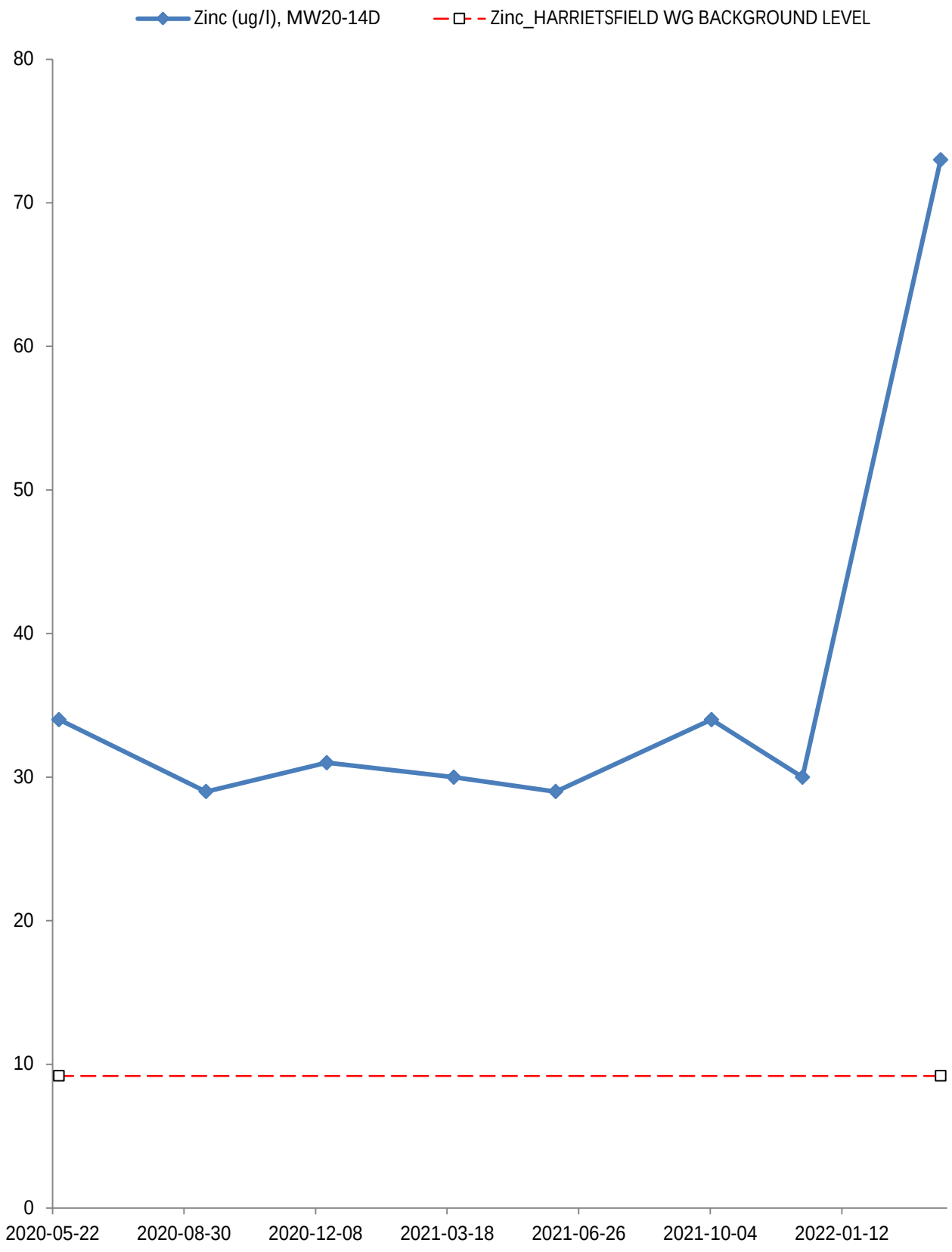
MW20-14D-Vanadium



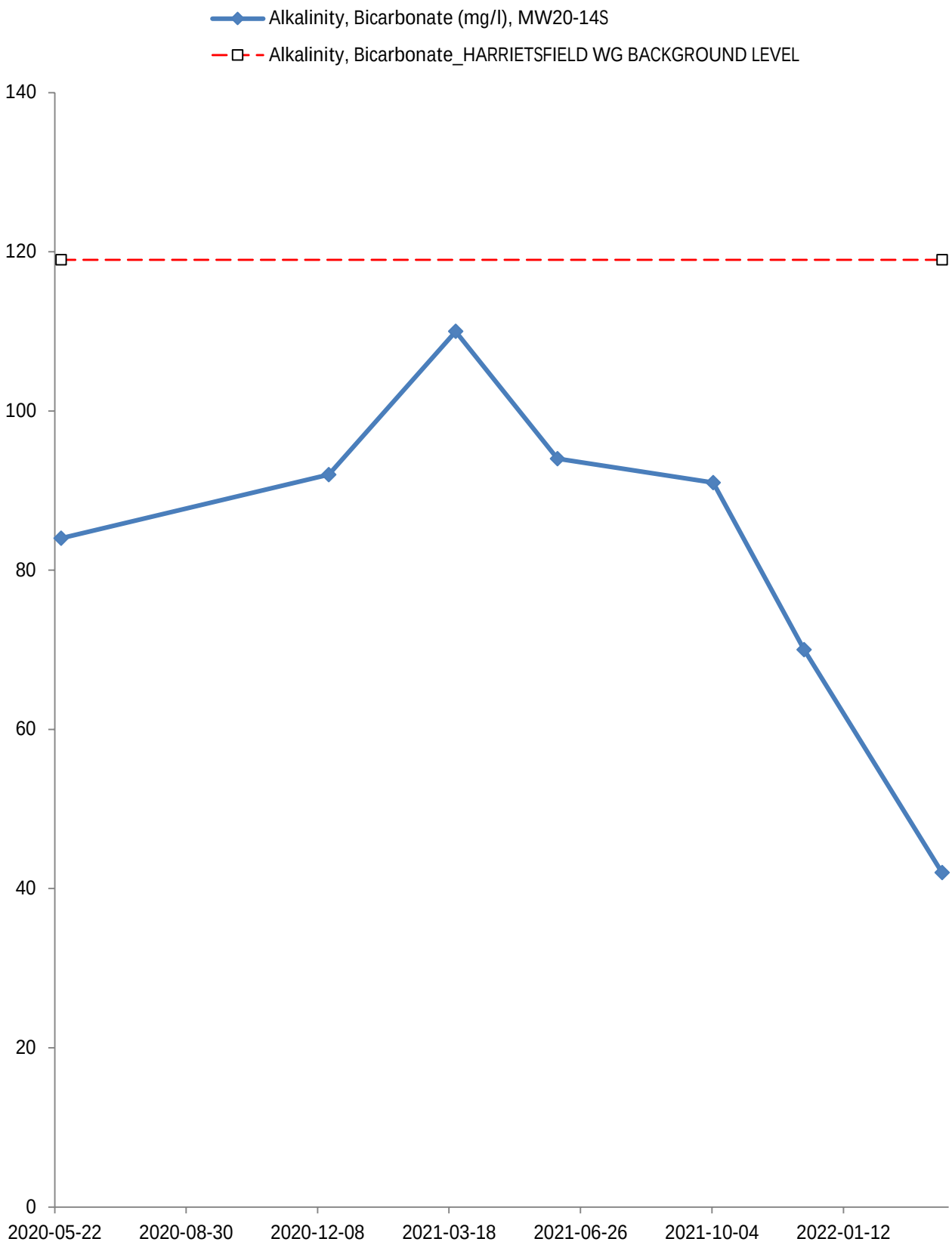
MW20-14D-Xylenes, Total



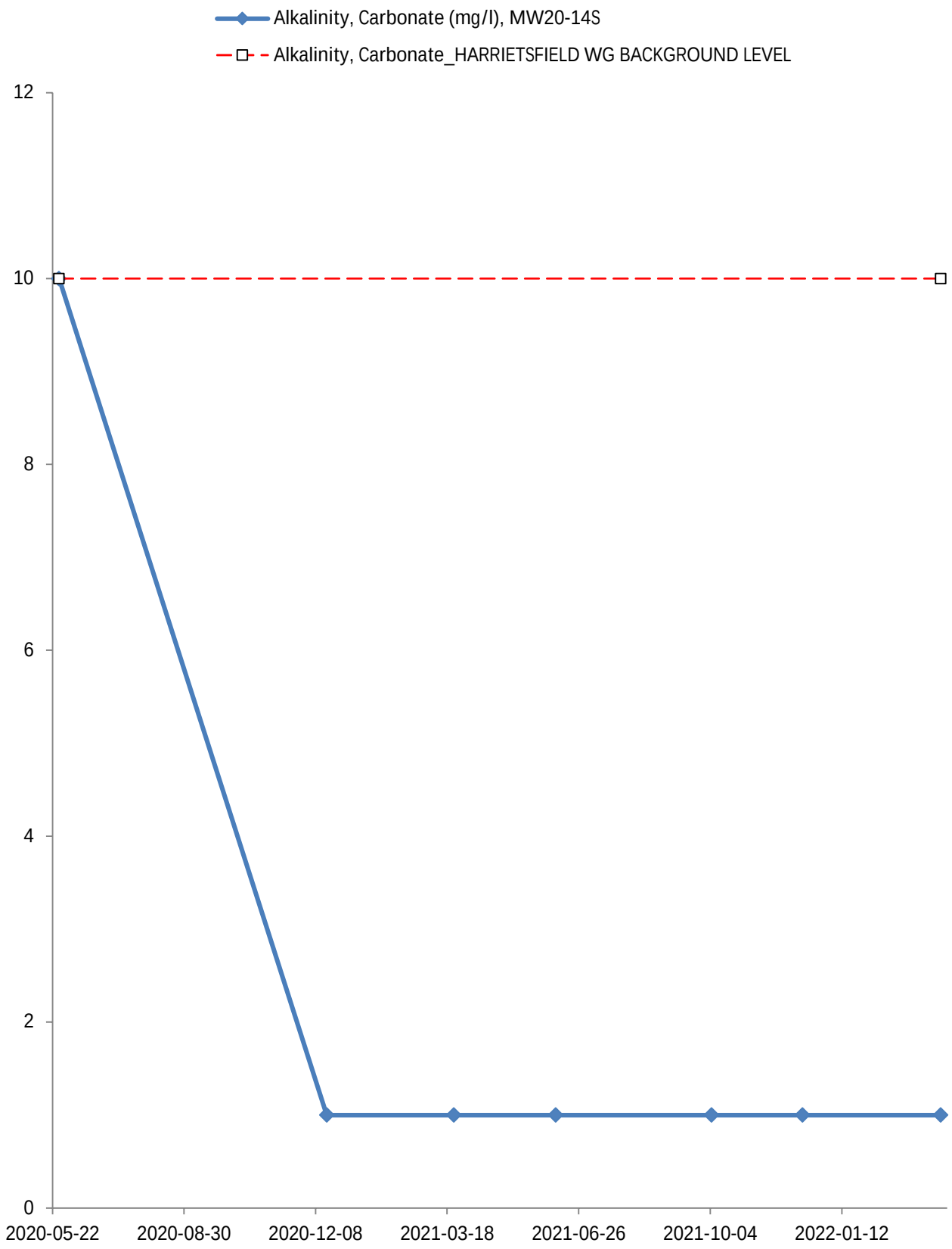
MW20-14D-Zinc



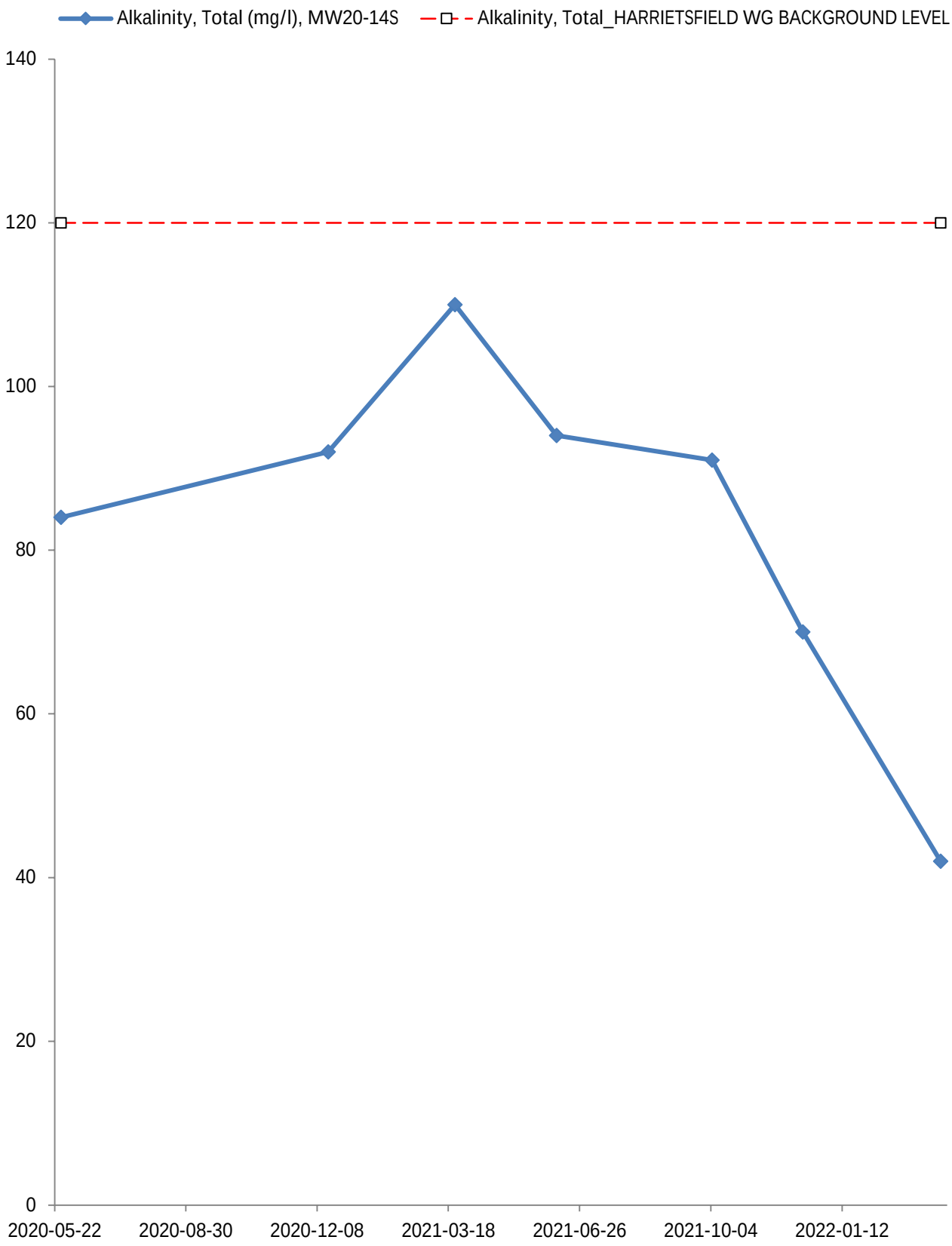
MW20-14S-Alkalinity, Bicarbonate



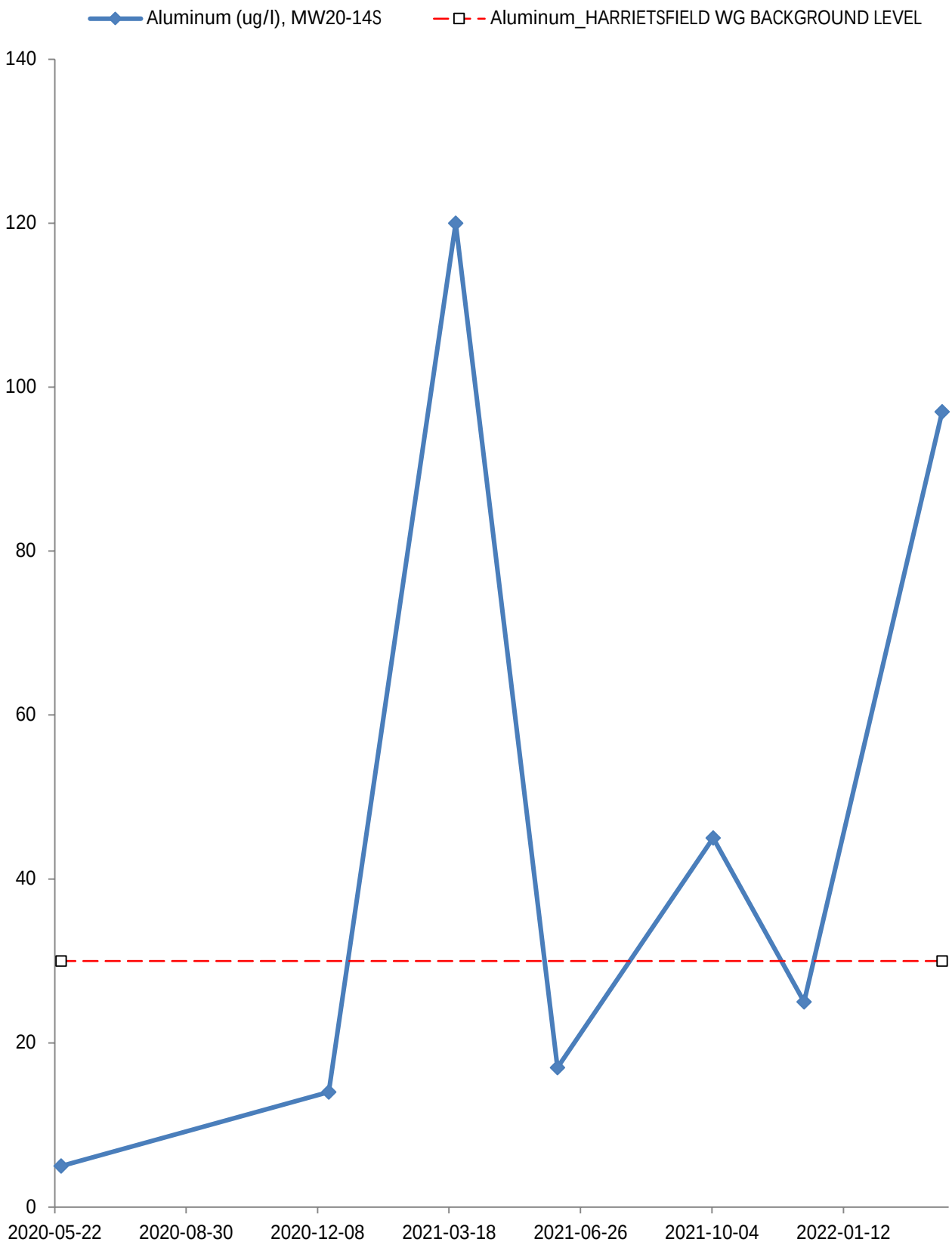
MW20-14S-Alkalinity, Carbonate



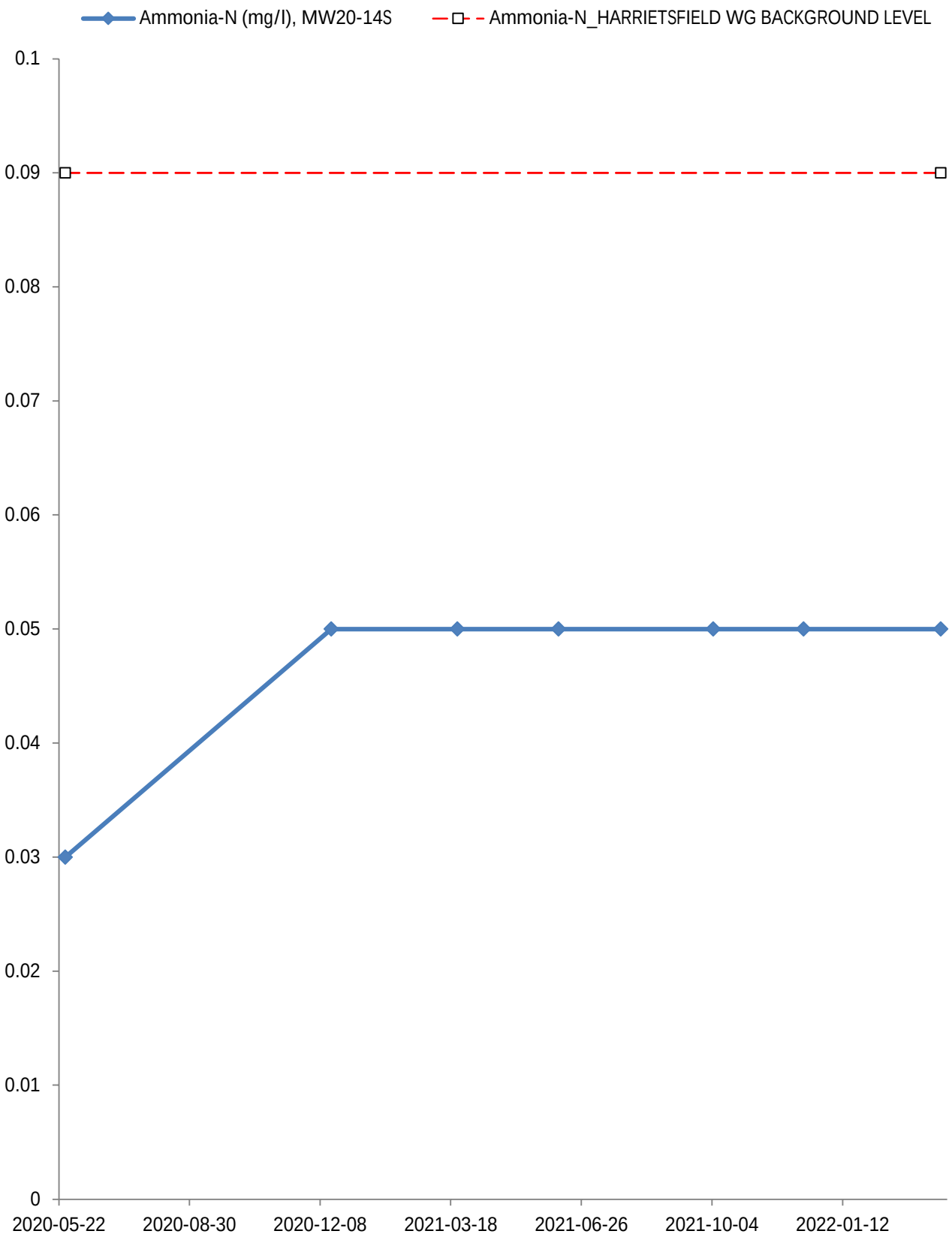
MW20-14S-Alkalinity, Total



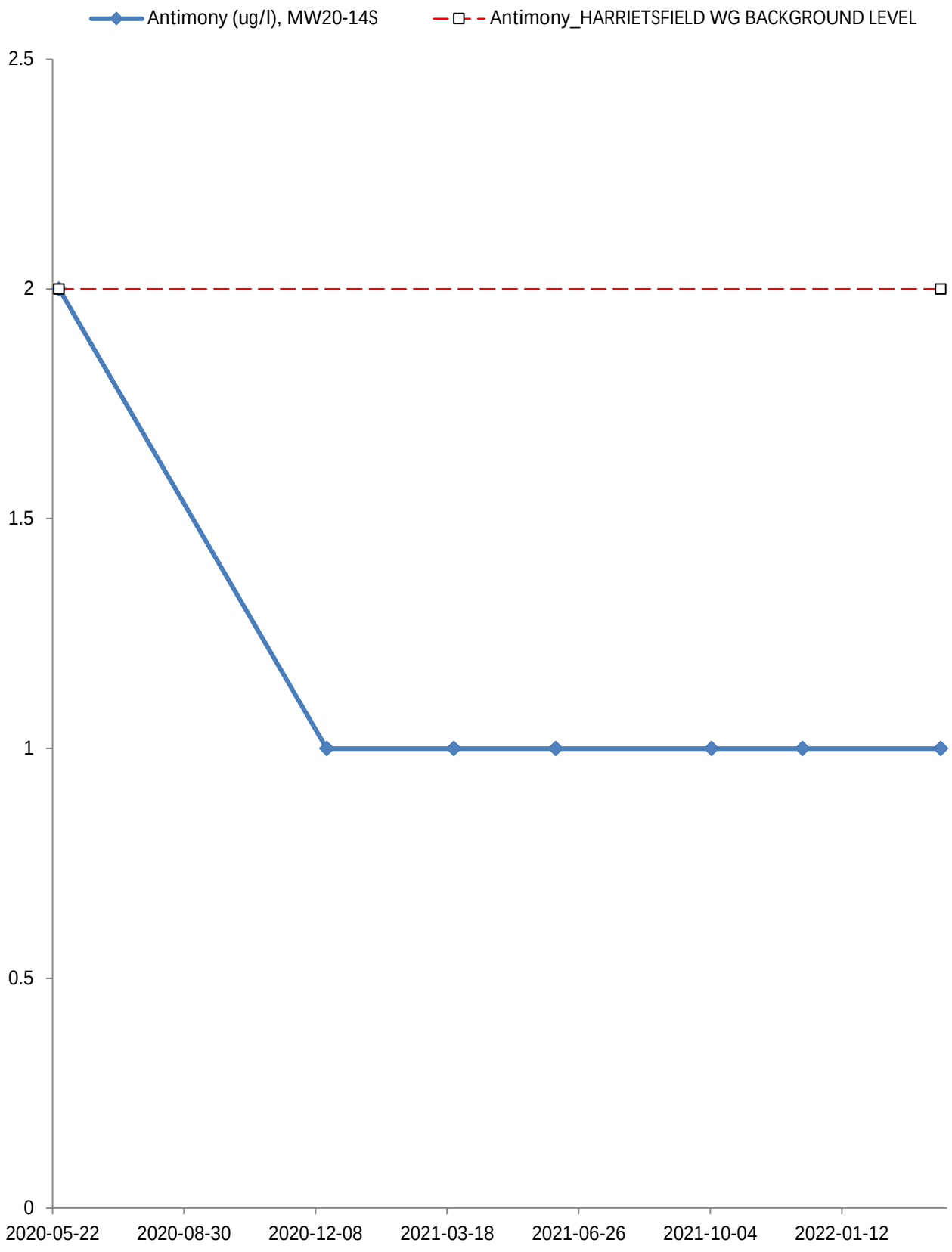
MW20-14S-Aluminum



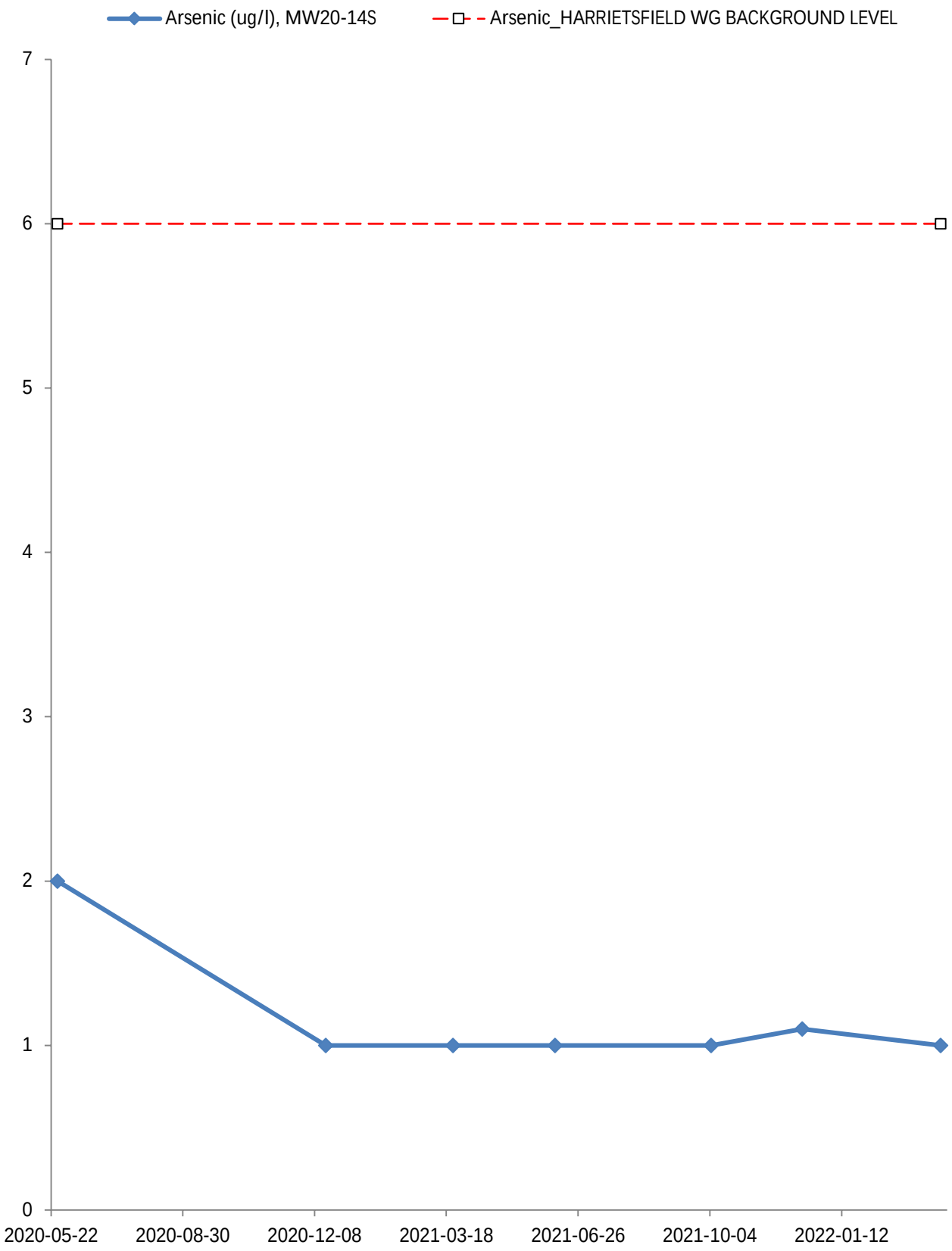
MW20-14S-Ammonia-N



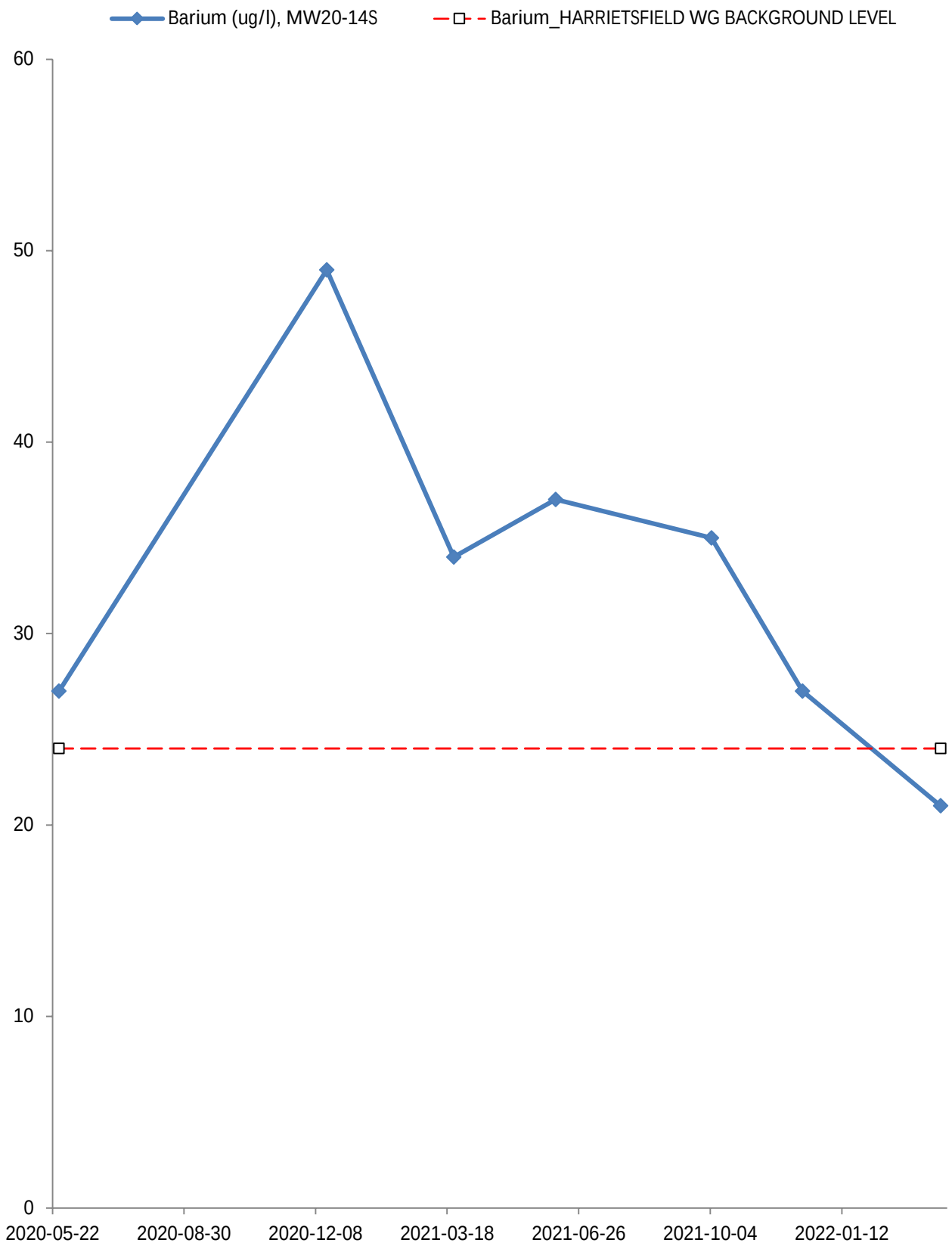
MW20-14S-Antimony



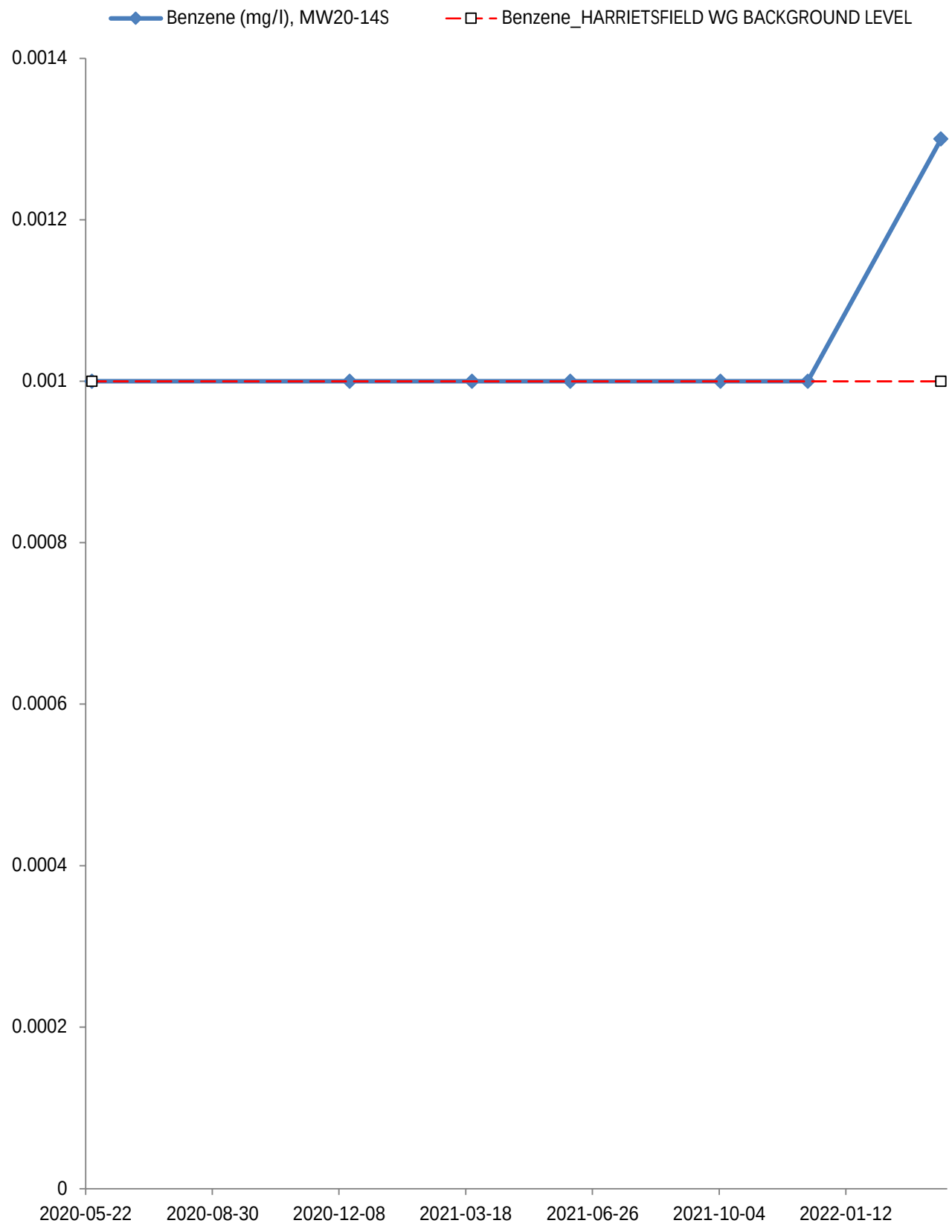
MW20-14S-Arsenic



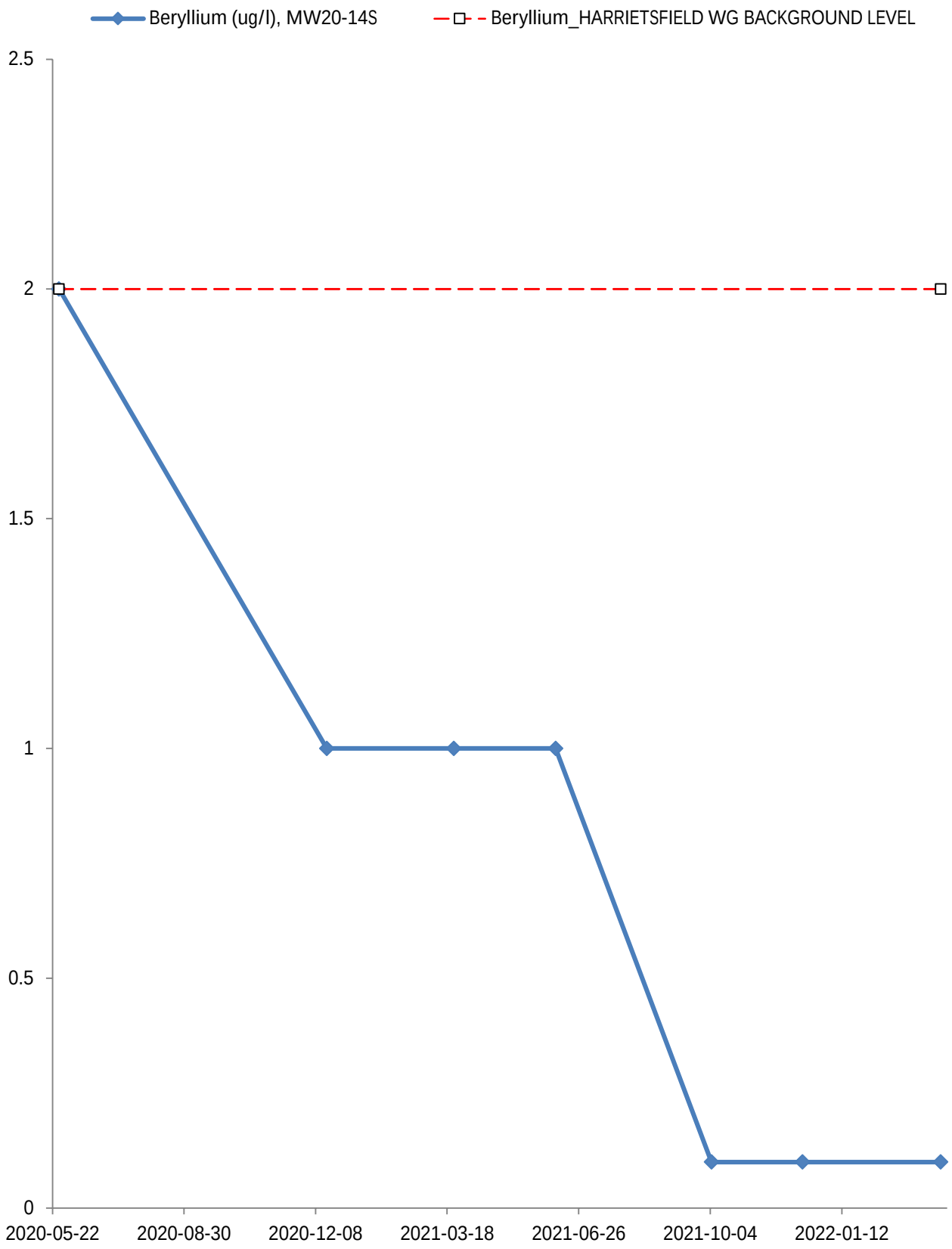
MW20-14S-Barium



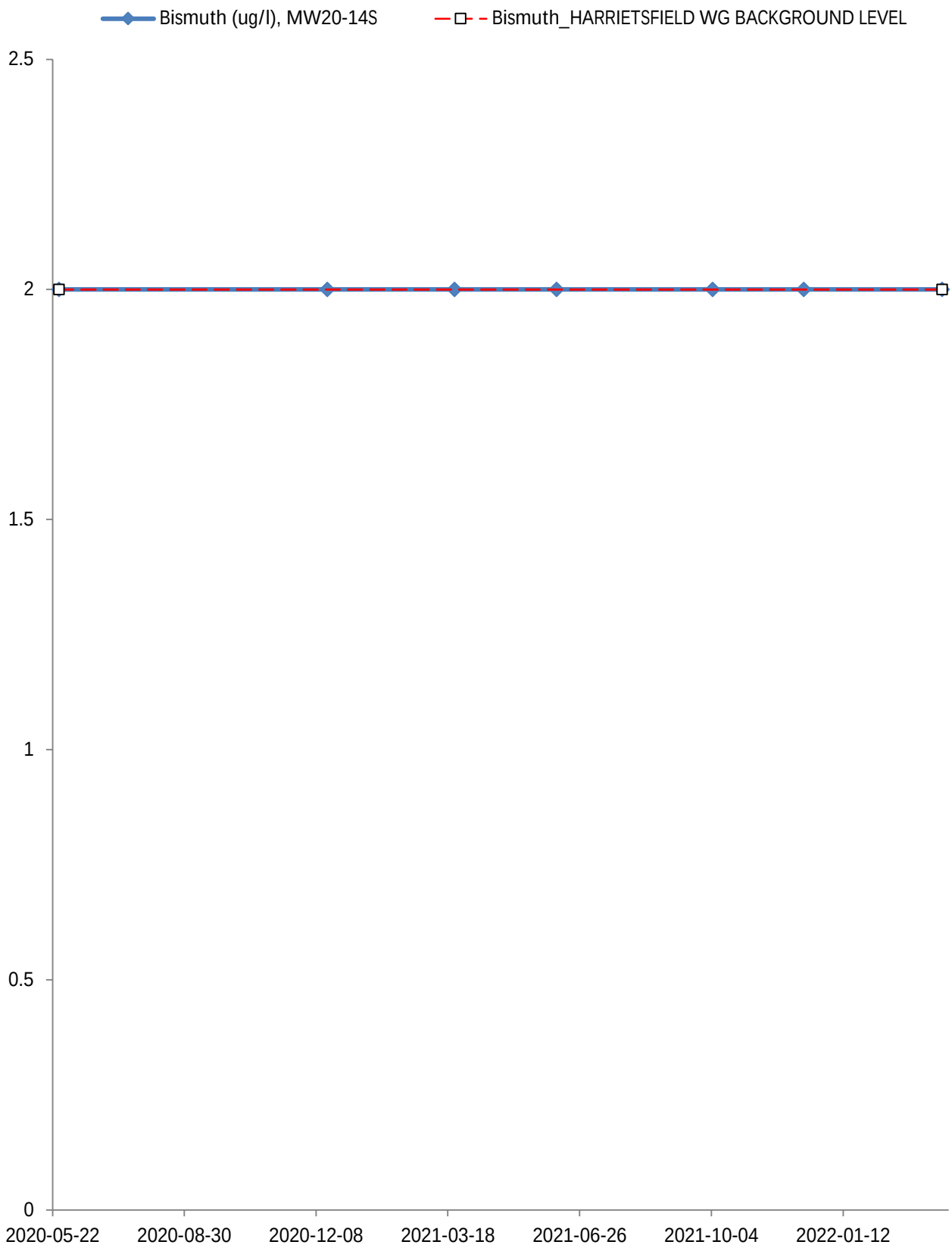
MW20-14S-Benzene



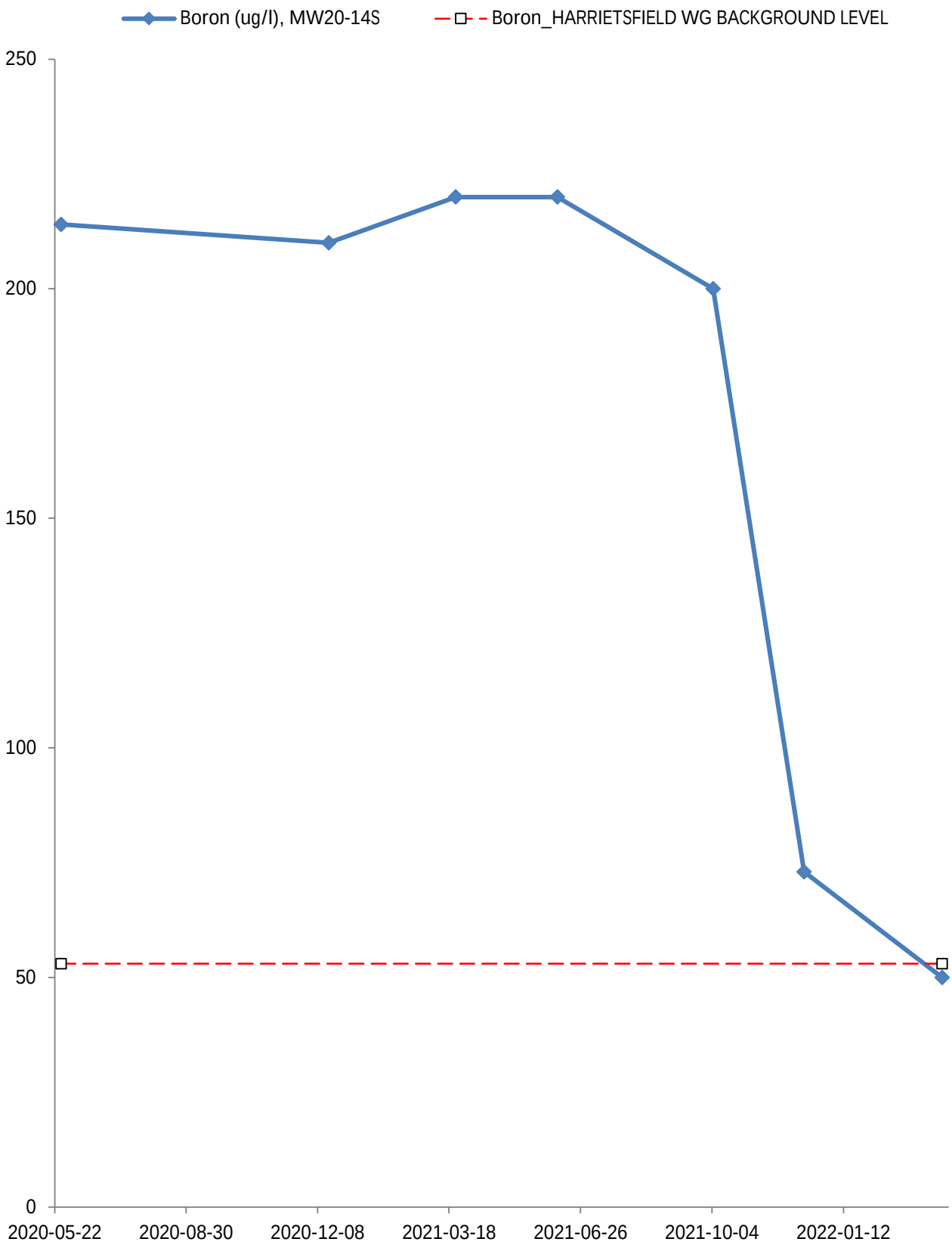
MW20-14S-Beryllium



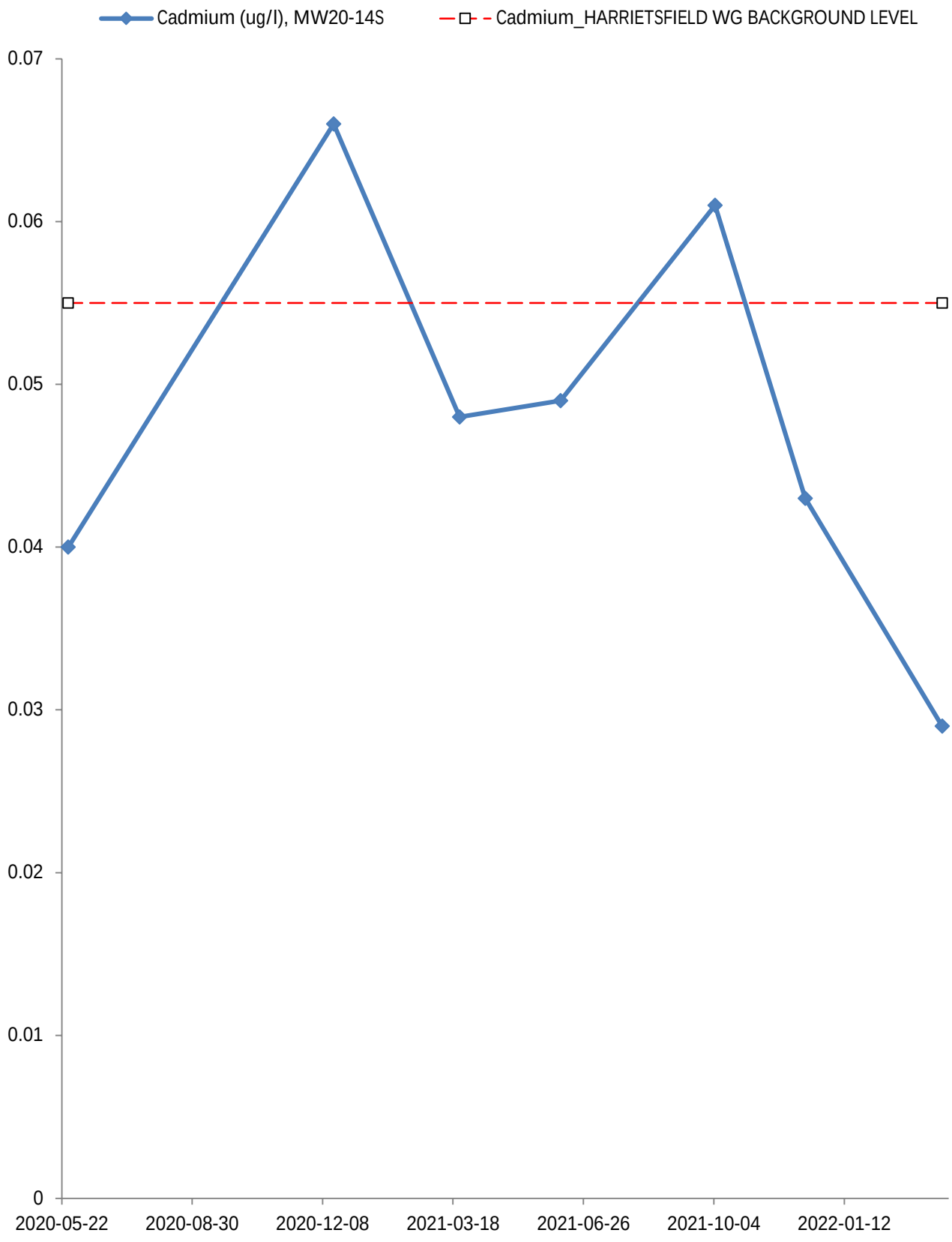
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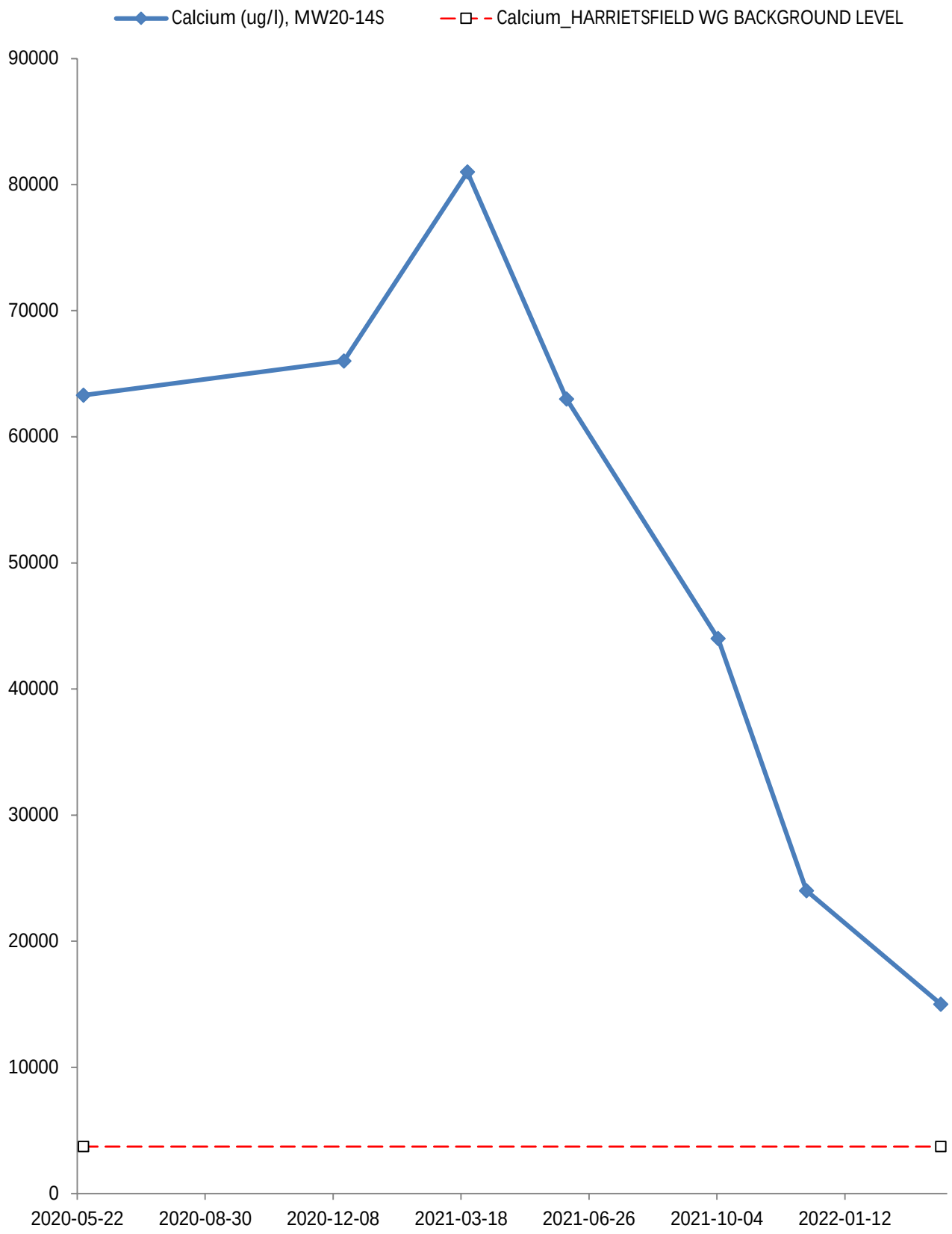
MW20-14S-Boron



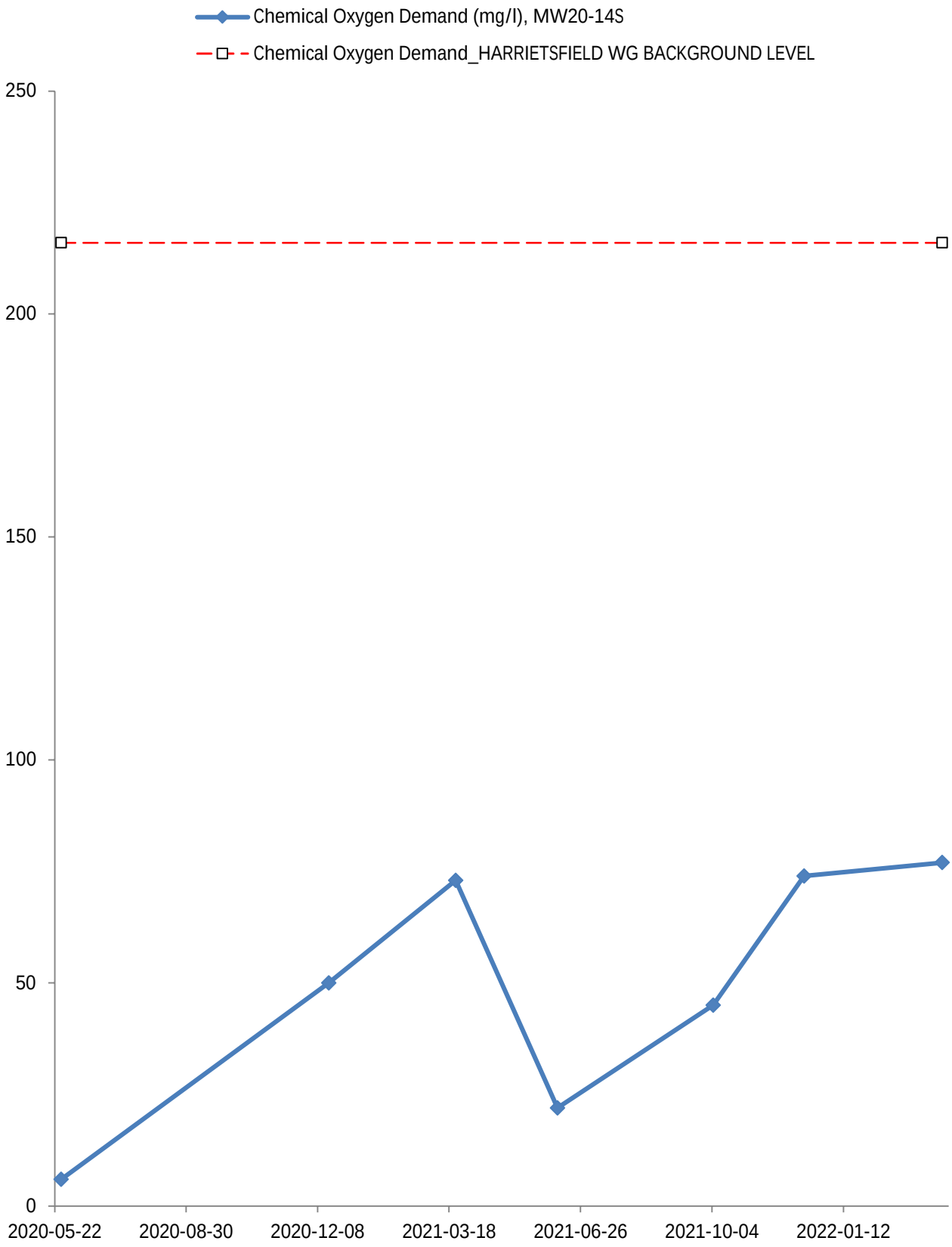
MW20-14S-Cadmium



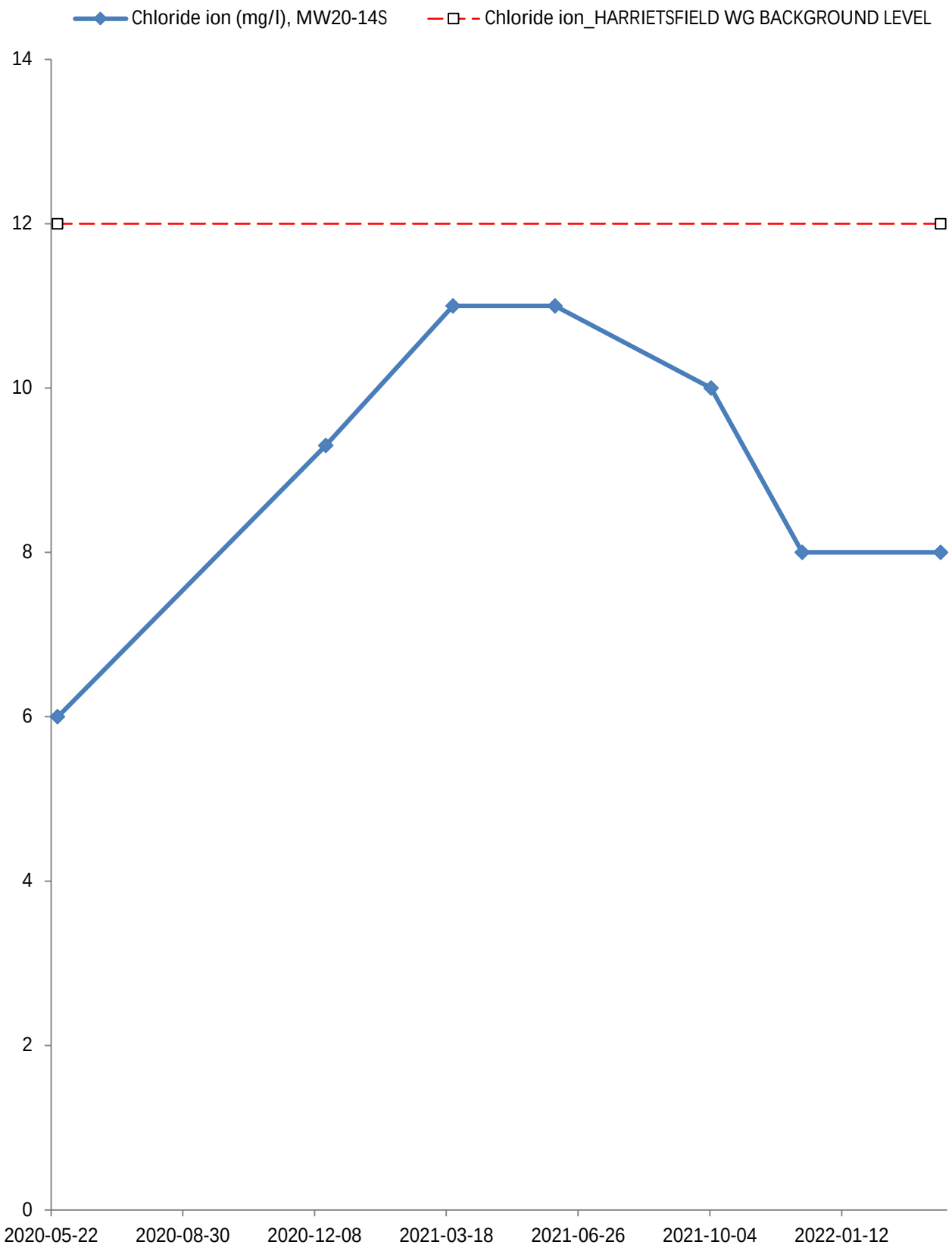
MW20-14S-Calcium



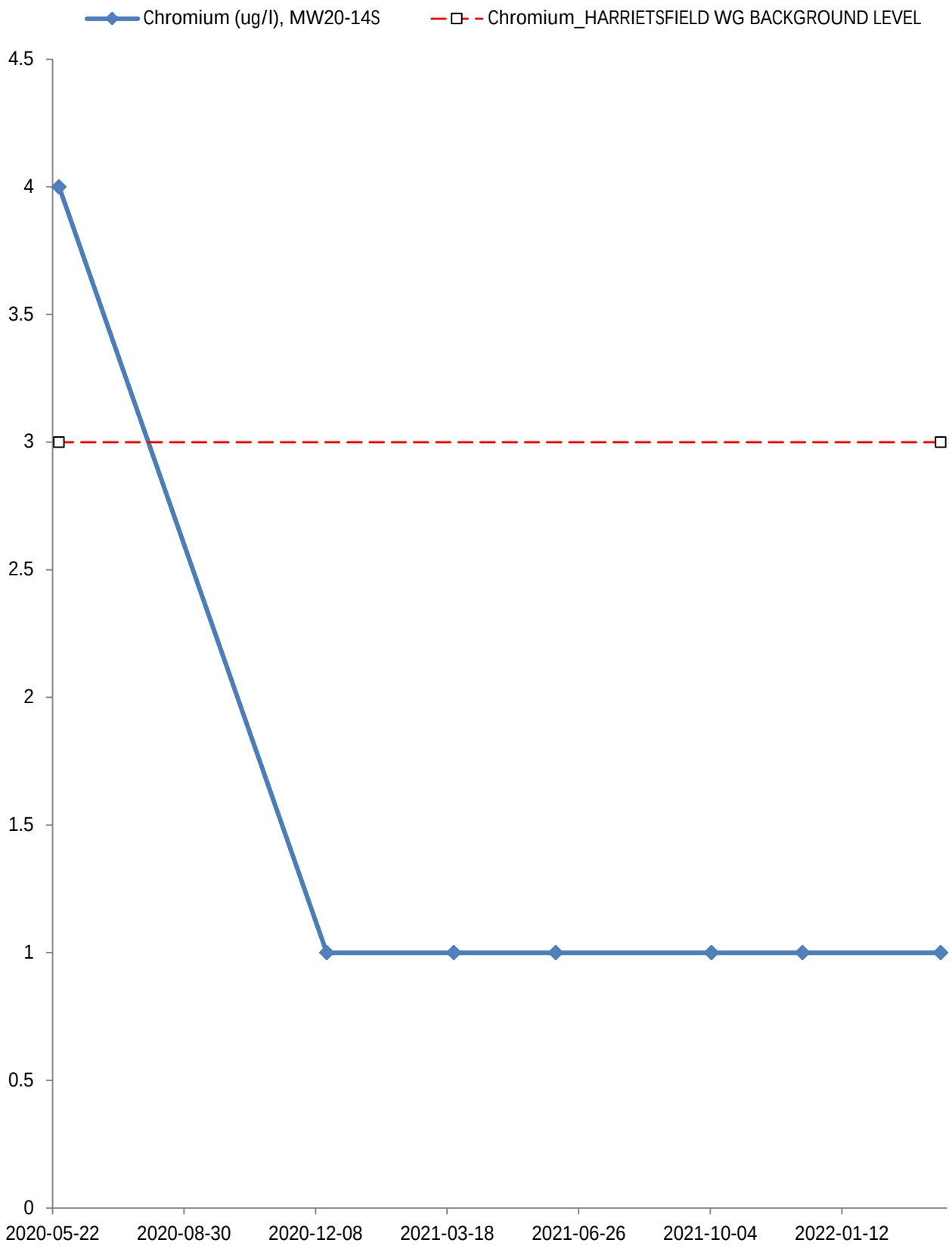
MW20-14S-Chemical Oxygen Demand



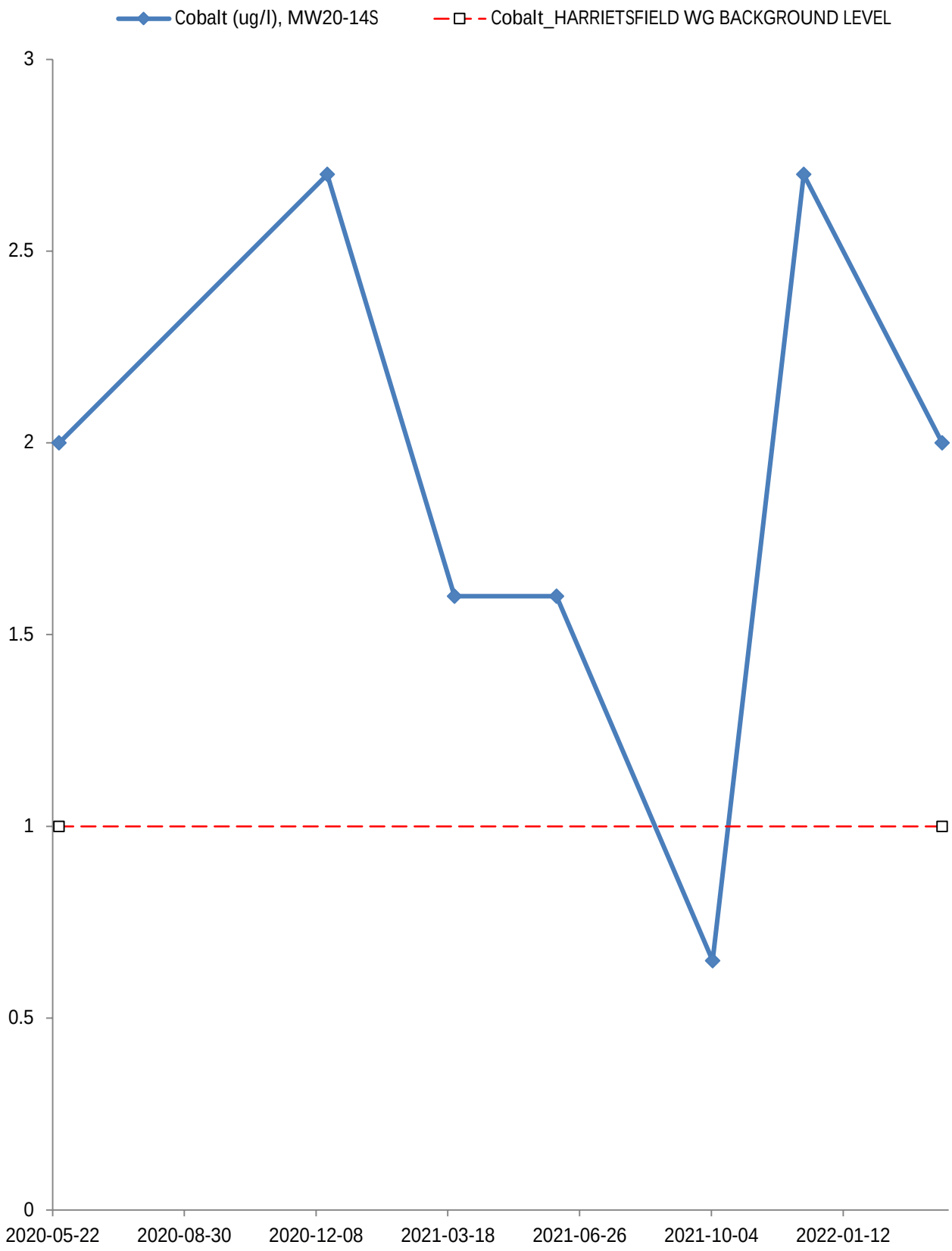
MW20-14S-Chloride ion



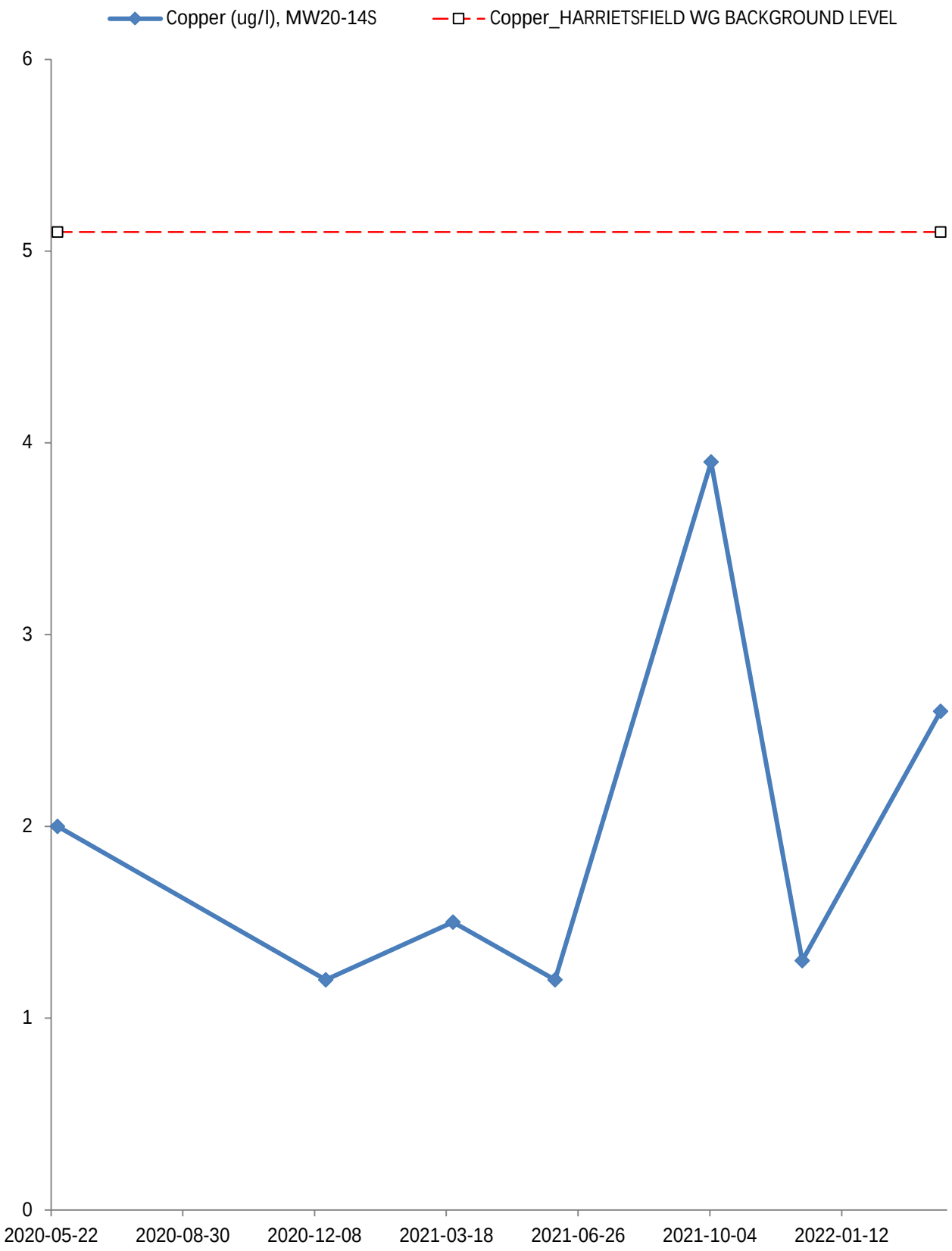
MW20-14S-Chromium



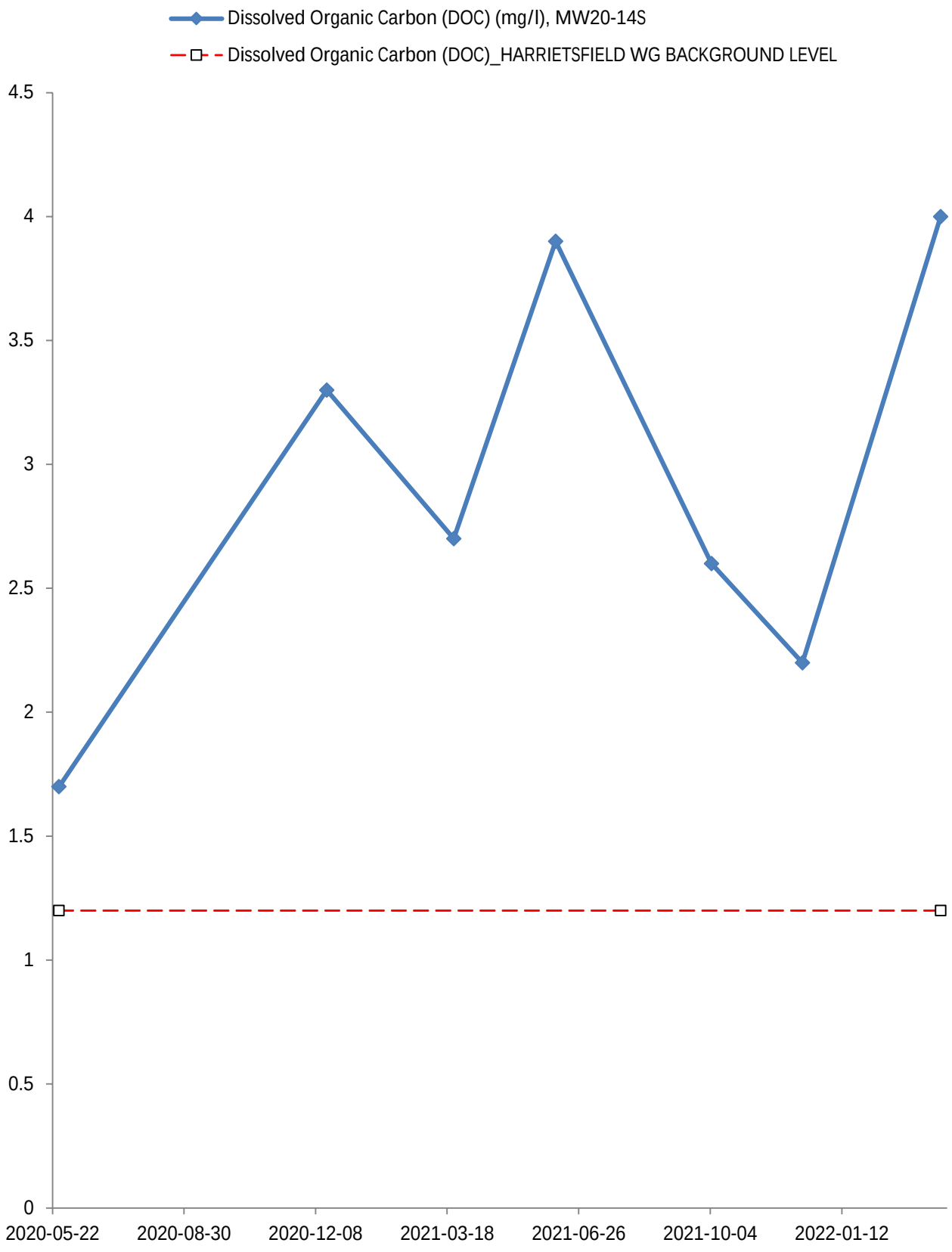
MW20-14S-Cobalt



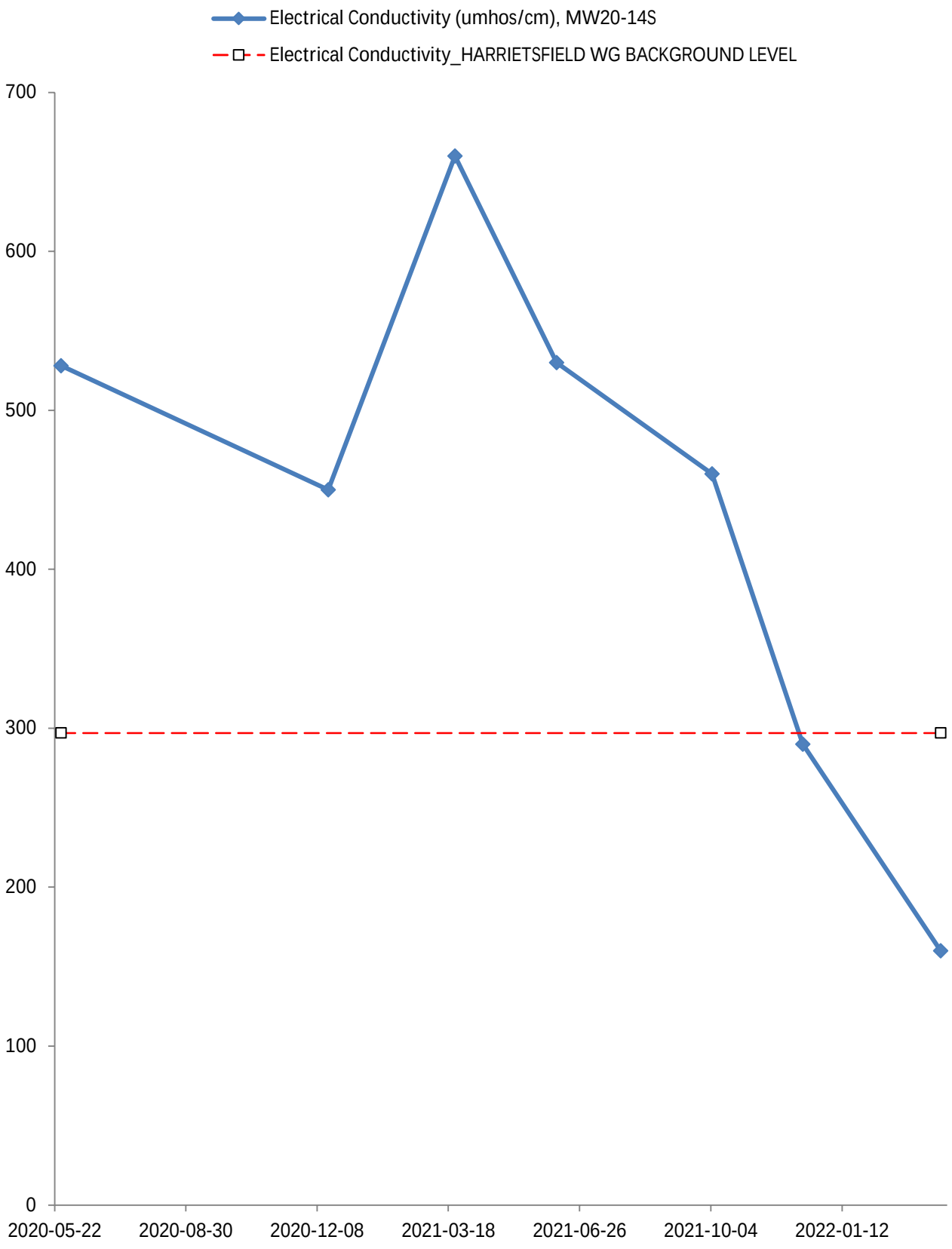
MW20-14S-Copper



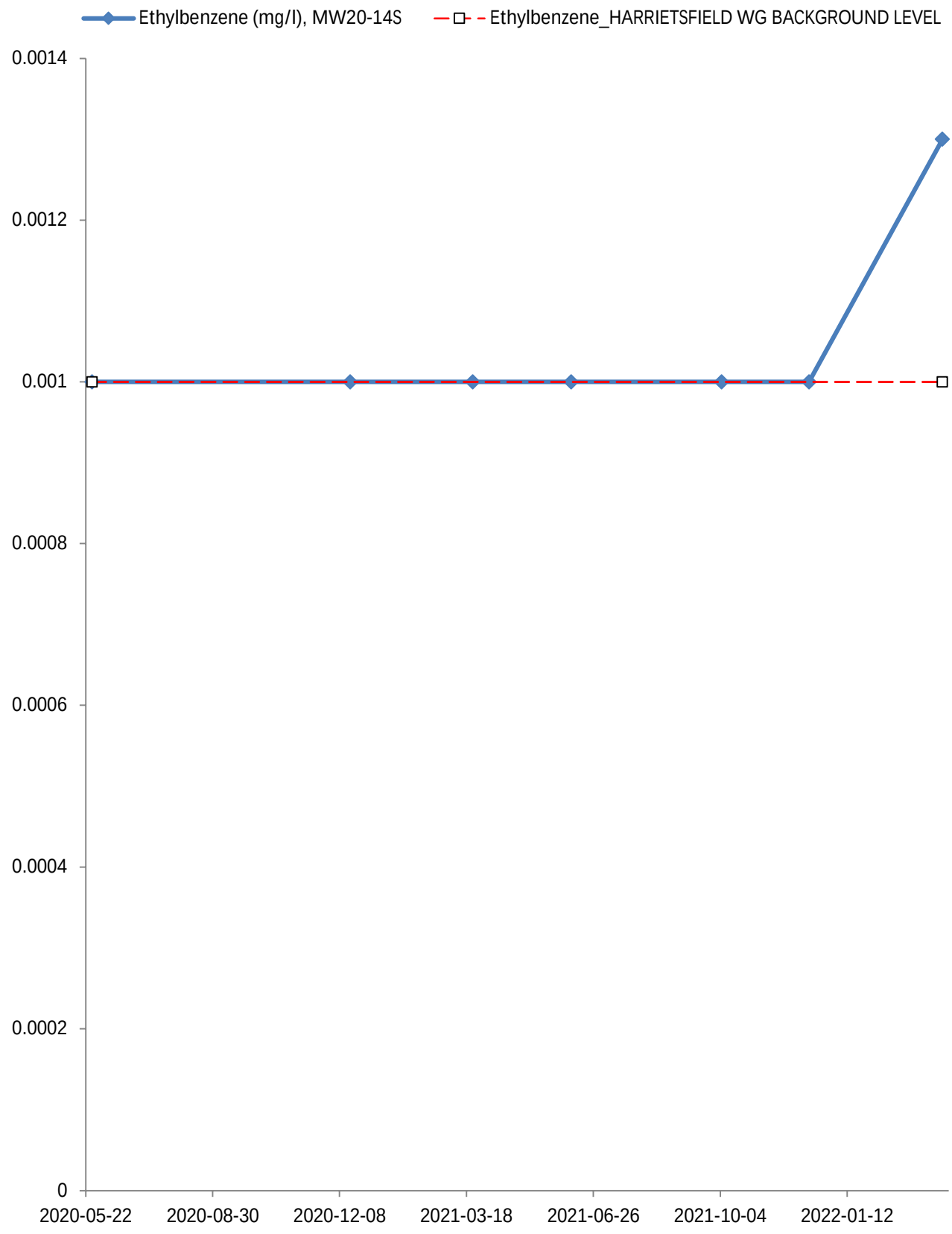
MW20-14S-Dissolved Organic Carbon7



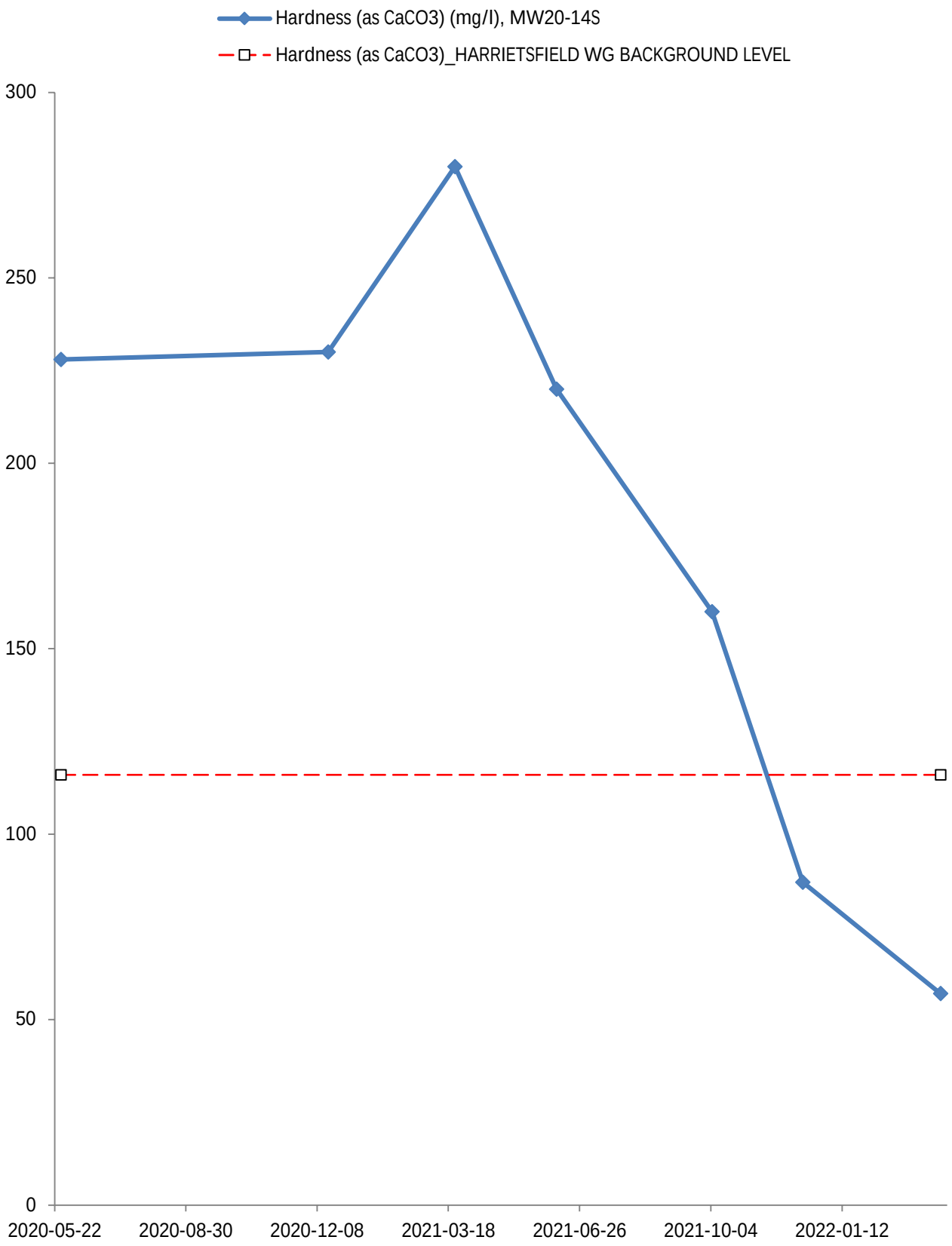
MW20-14S-Electrical Conductivity



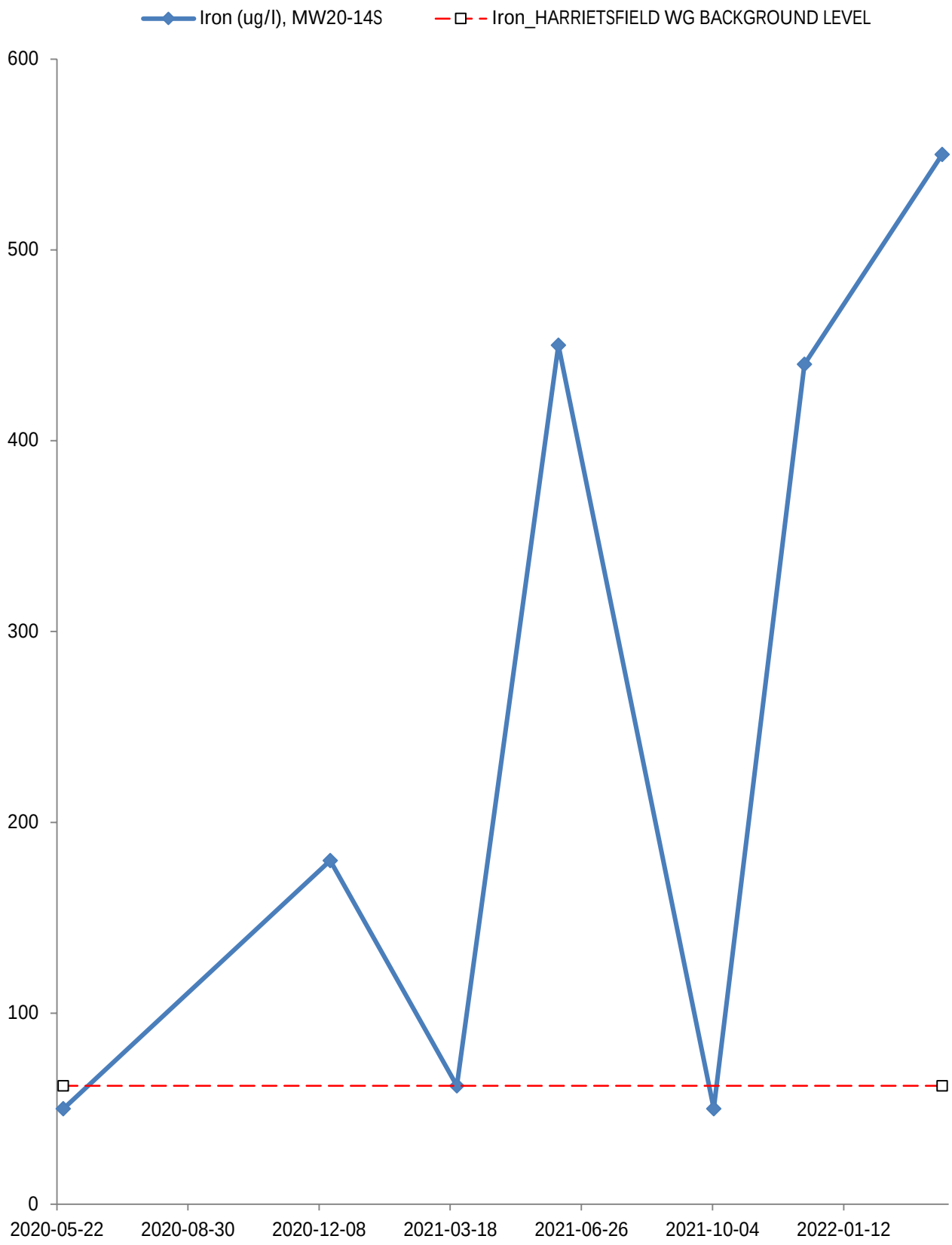
MW20-14S-Ethylbenzene



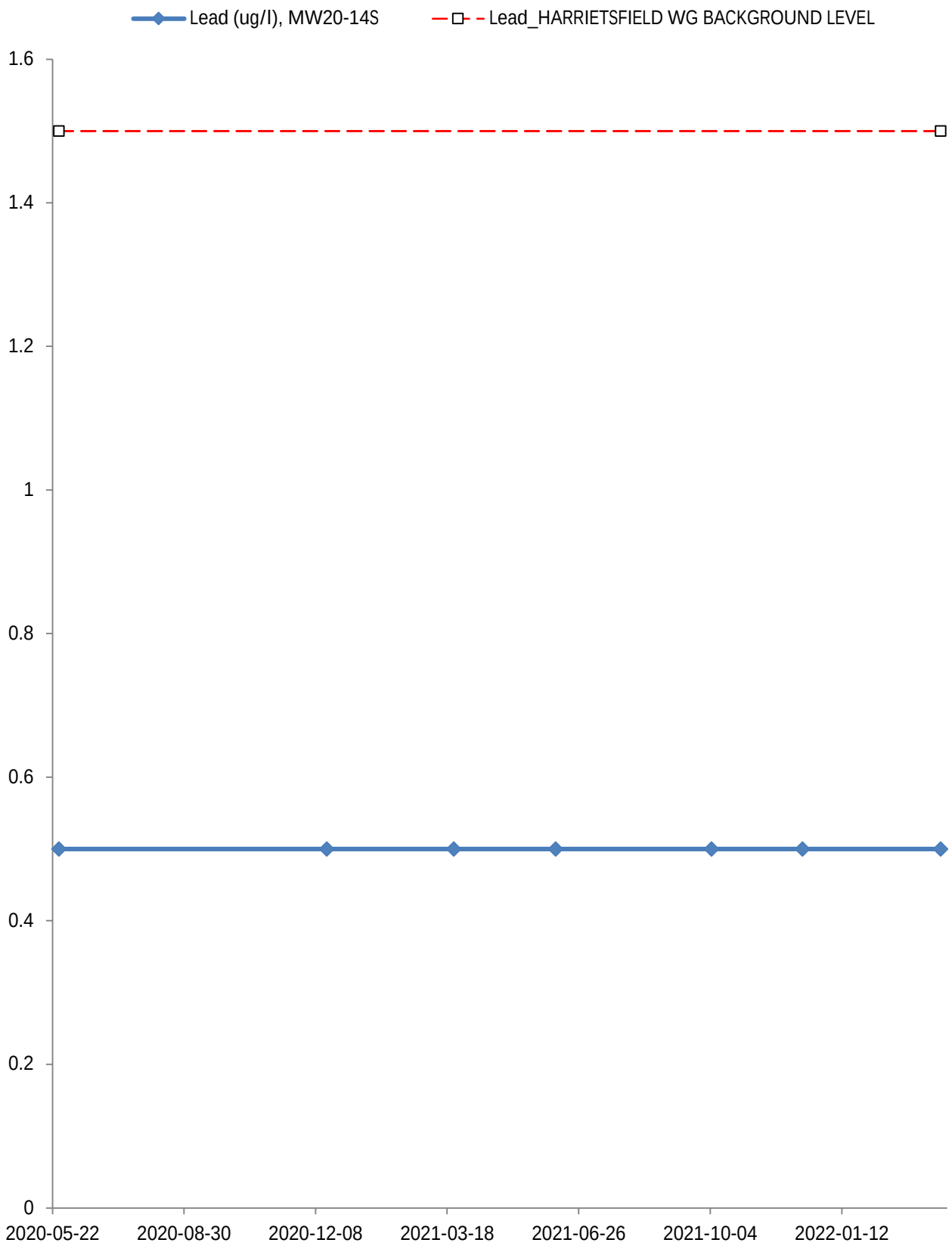
MW20-14S-Hardness (as CaCO3)



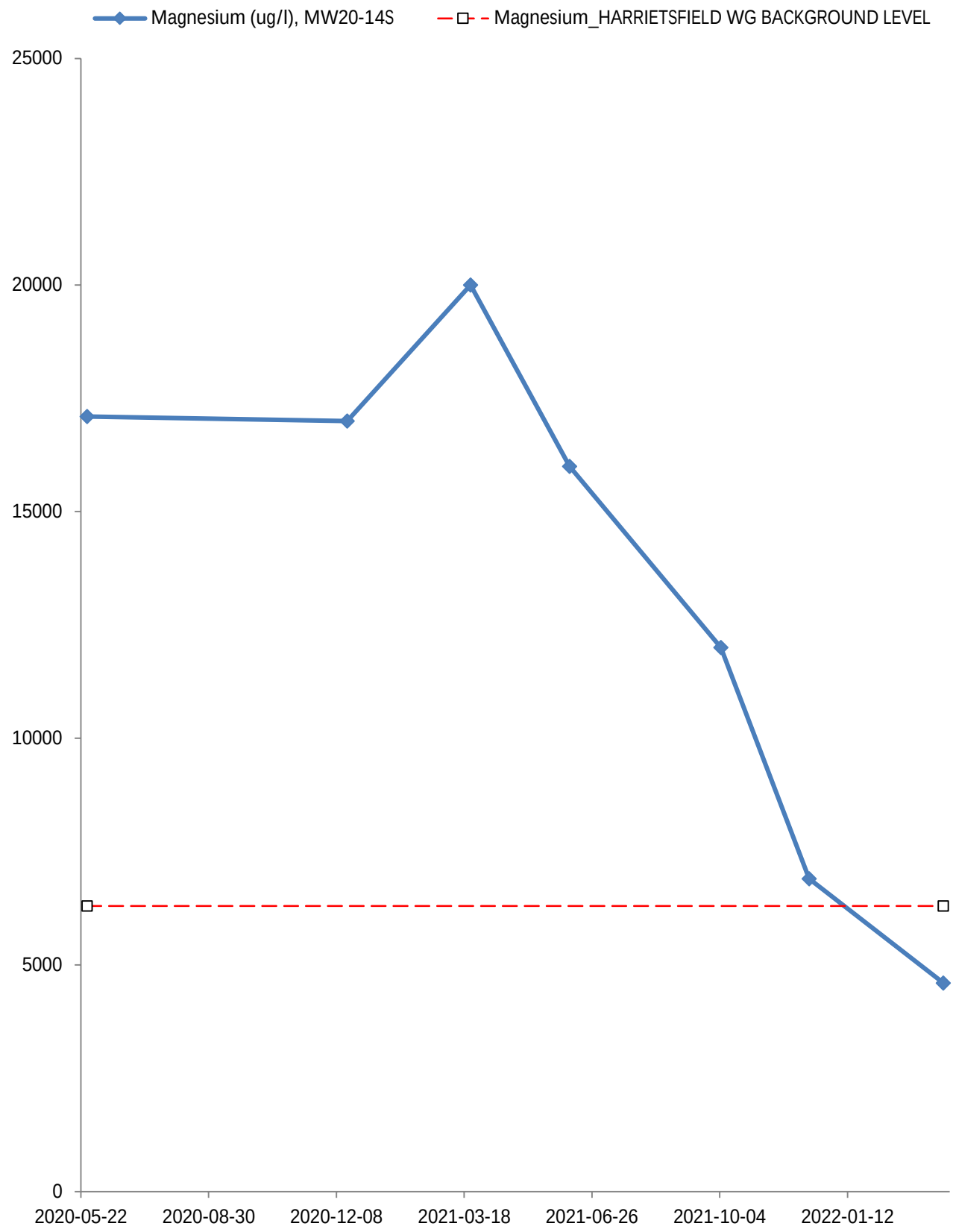
MW20-14S-Iron



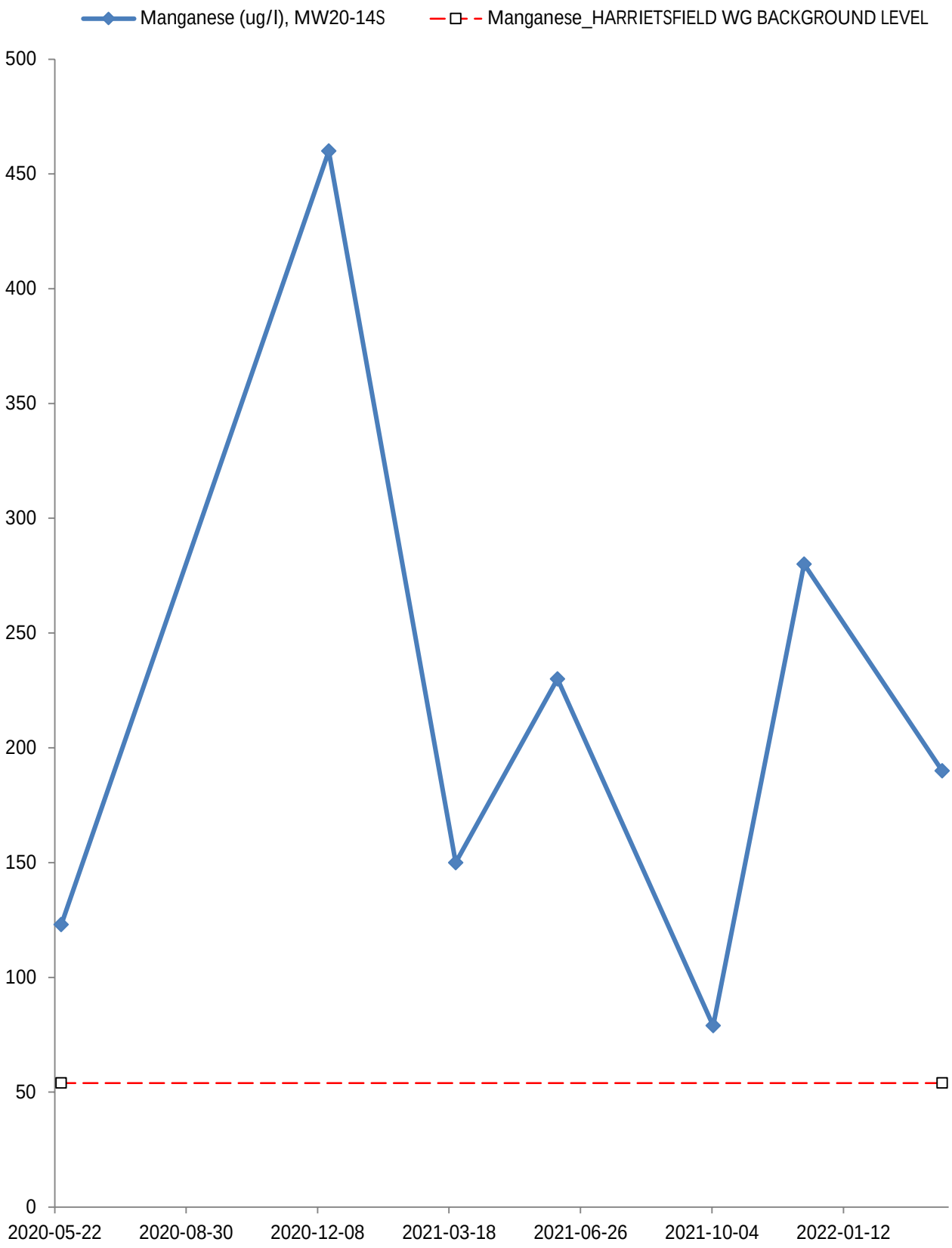
MW20-14S-Lead



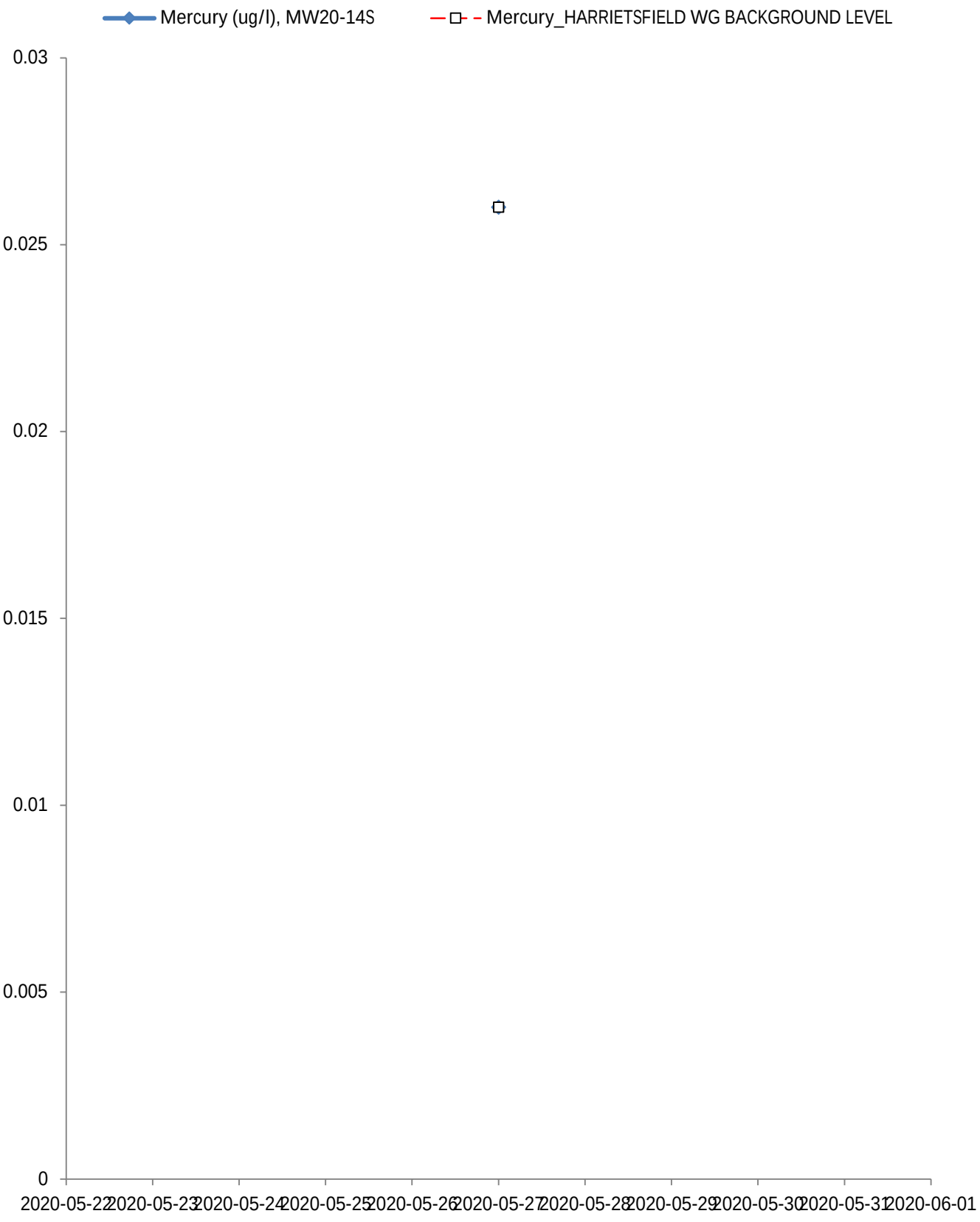
MW20-14S-Magnesium



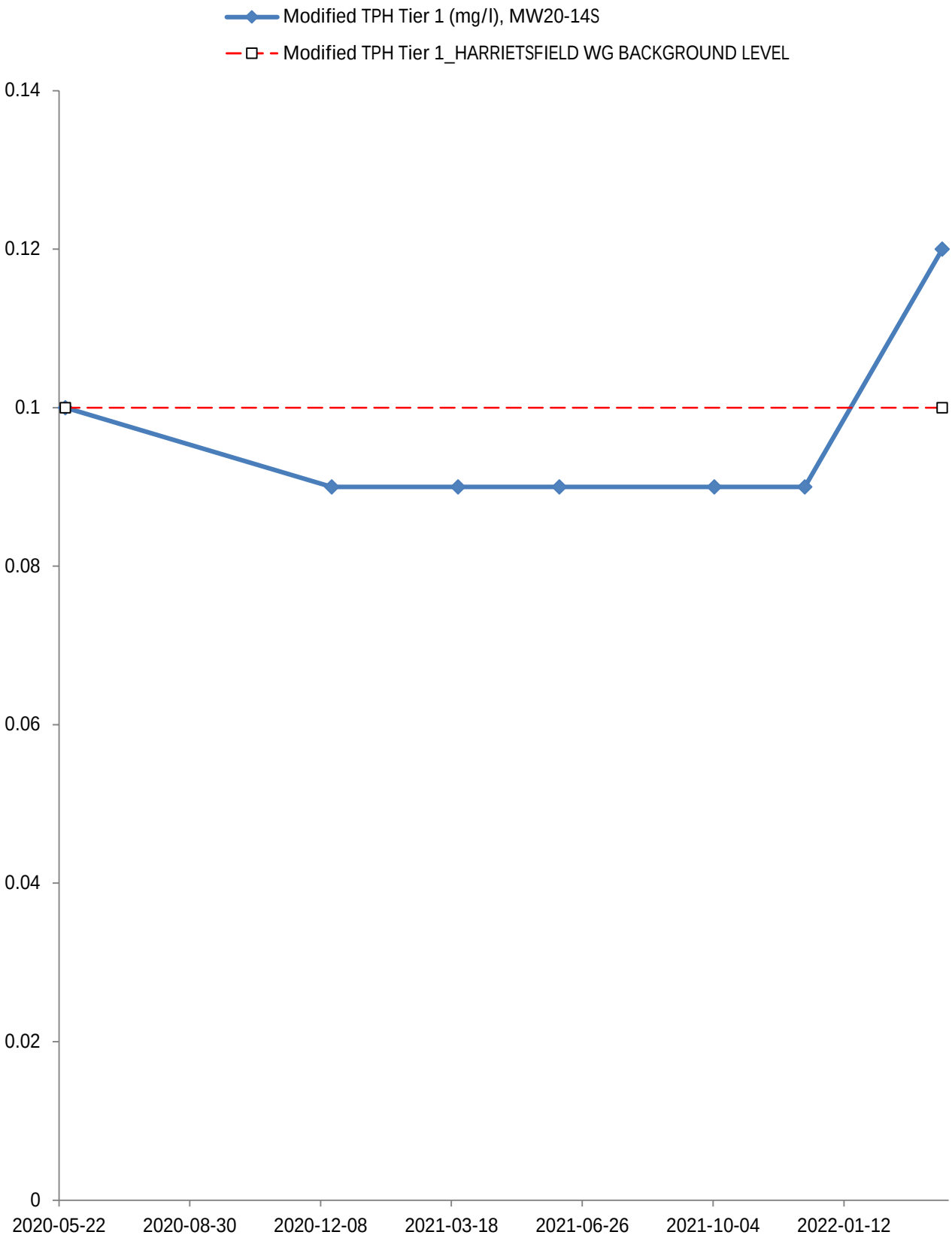
MW20-14S-Manganese



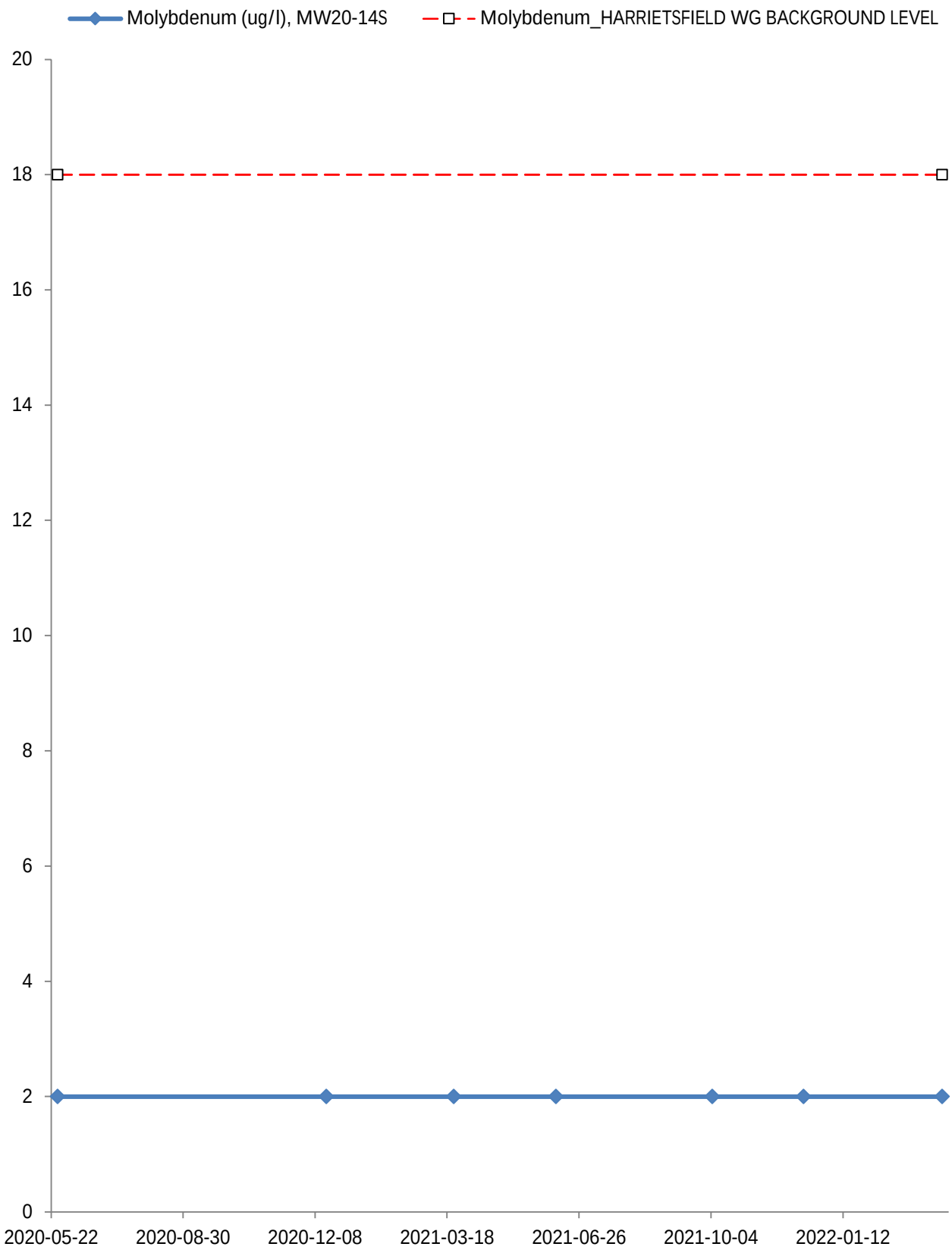
MW20-14S-Mercury



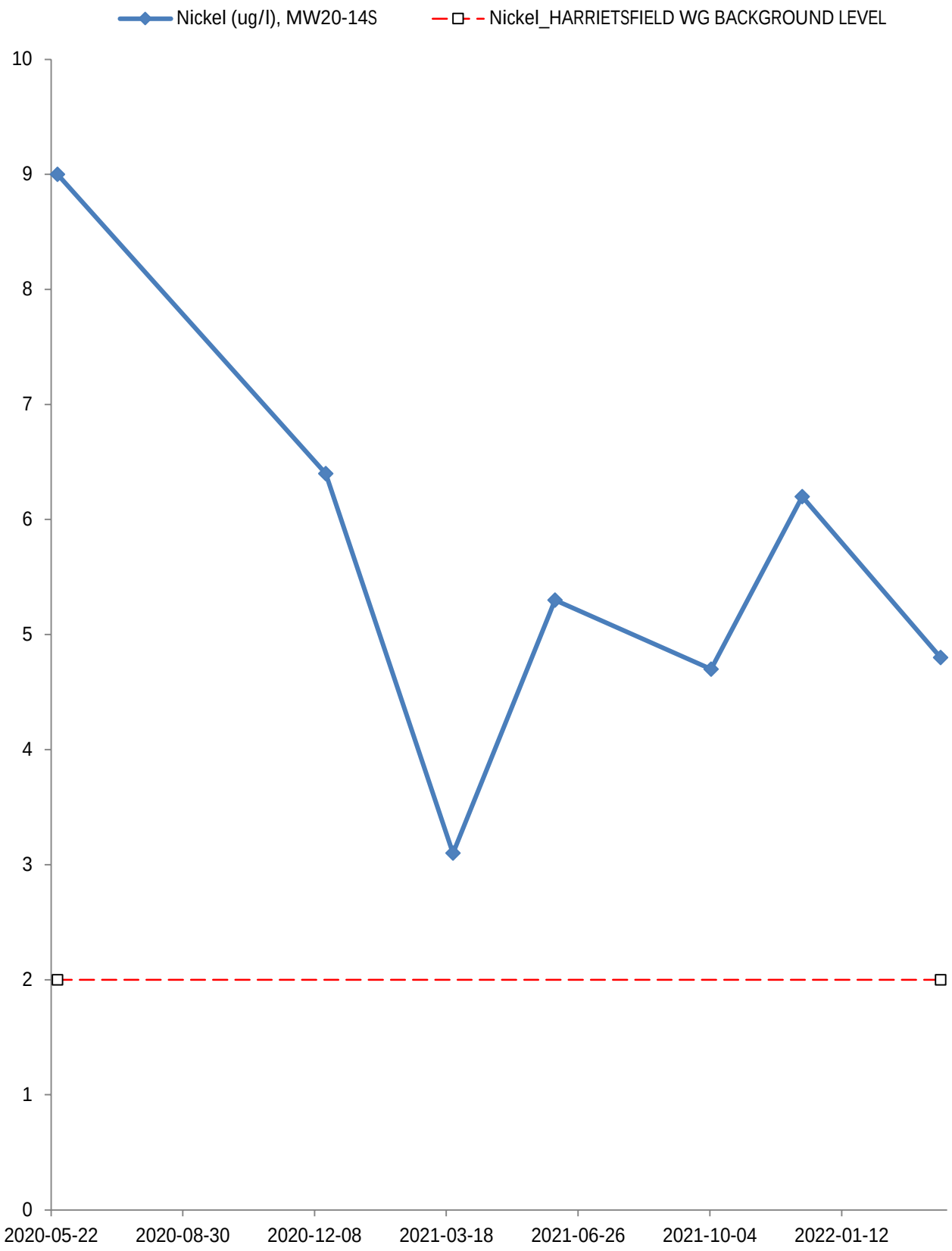
MW20-14S-Modified TPH Tier 1



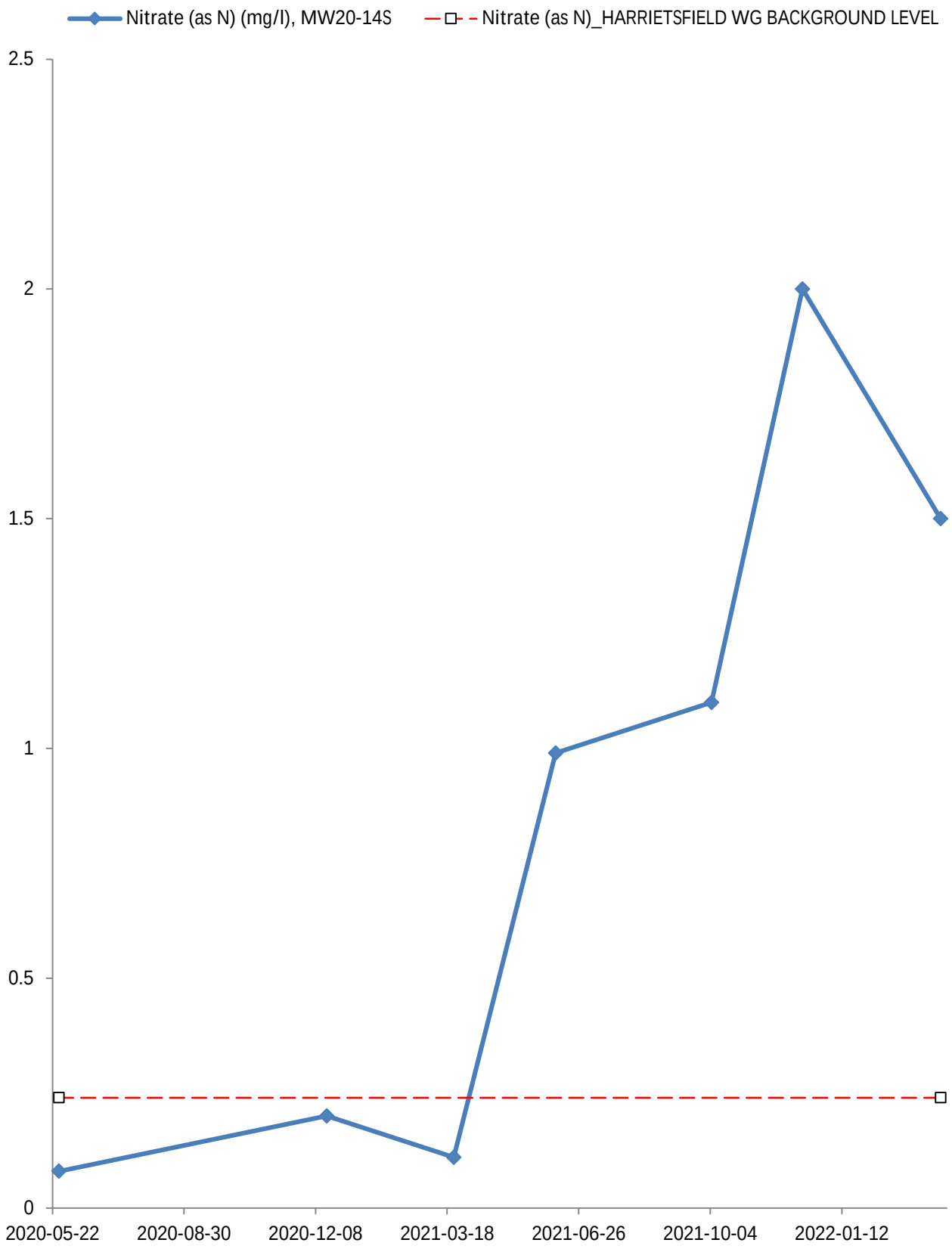
MW20-14S-Molybdenum



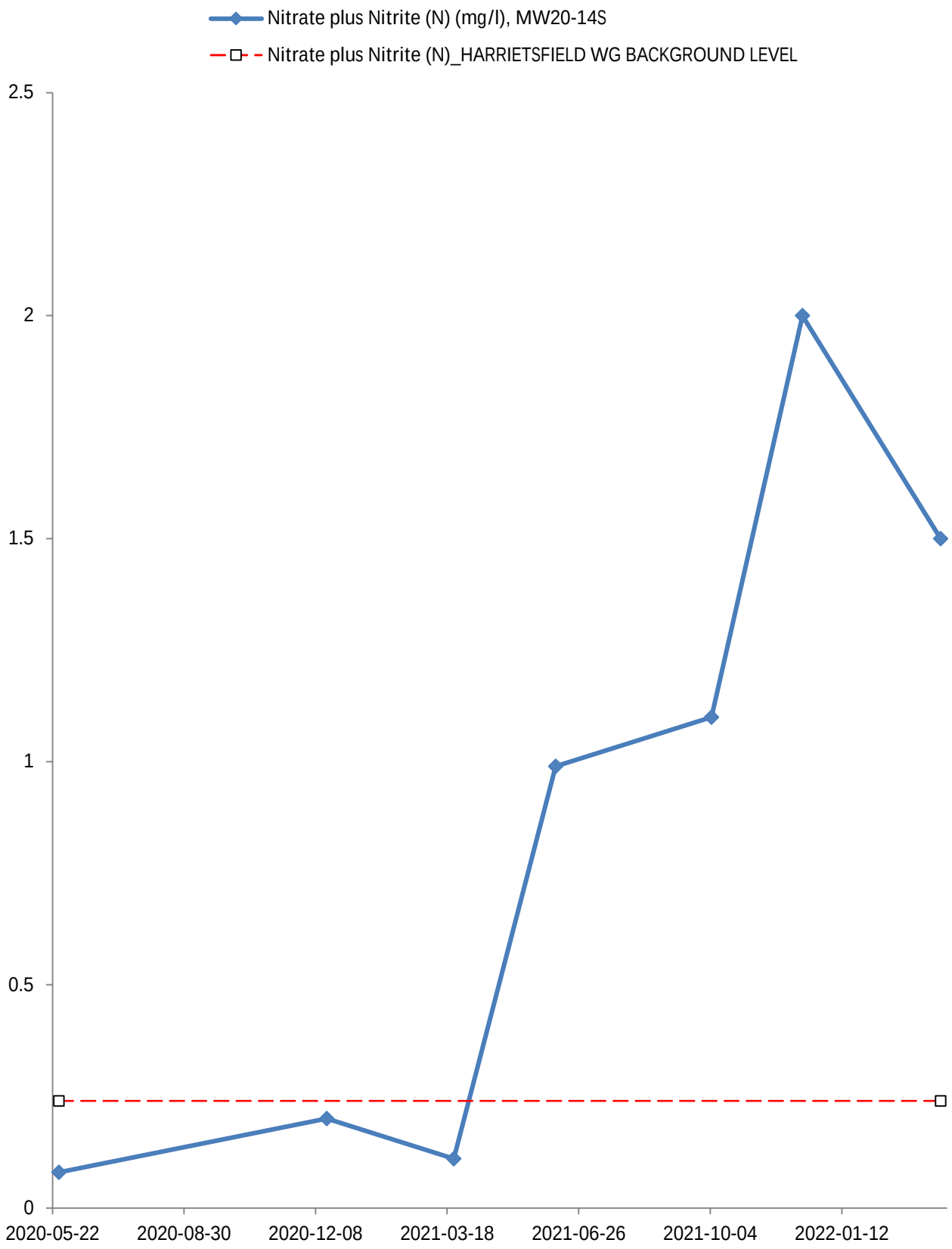
MW20-14S-Nickel



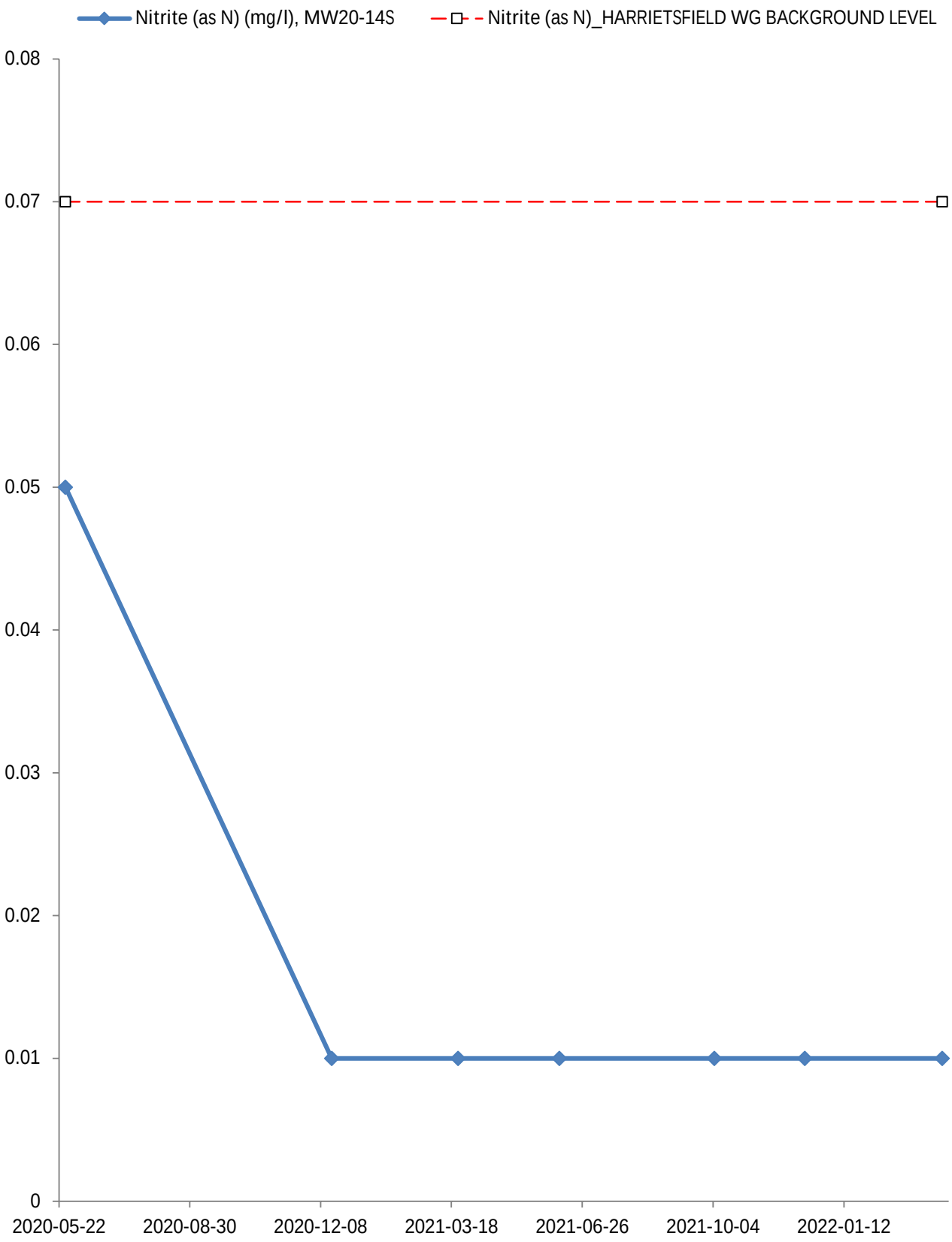
MW20-14S-Nitrate (as N)



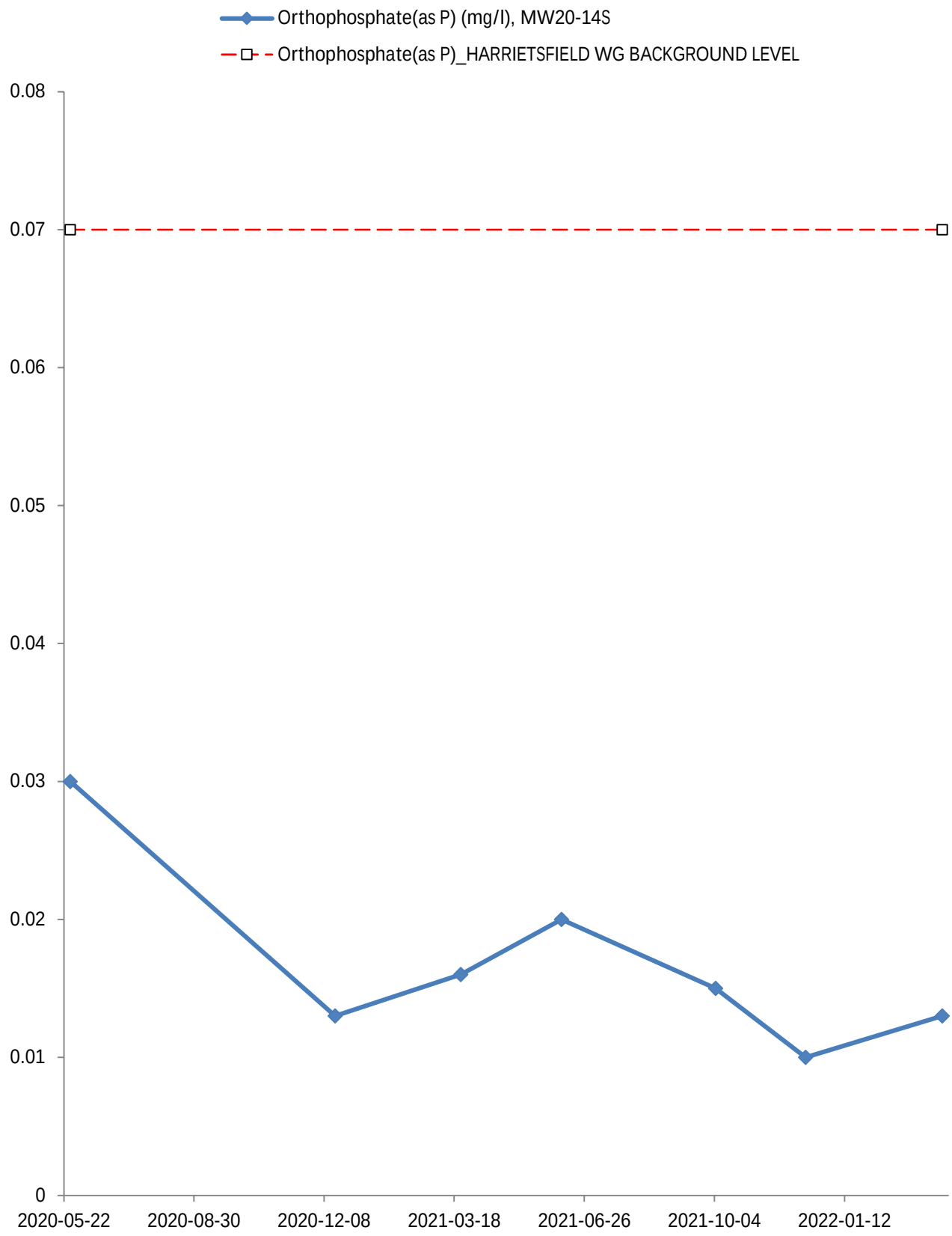
MW20-14S-Nitrate plus Nitrite (N)



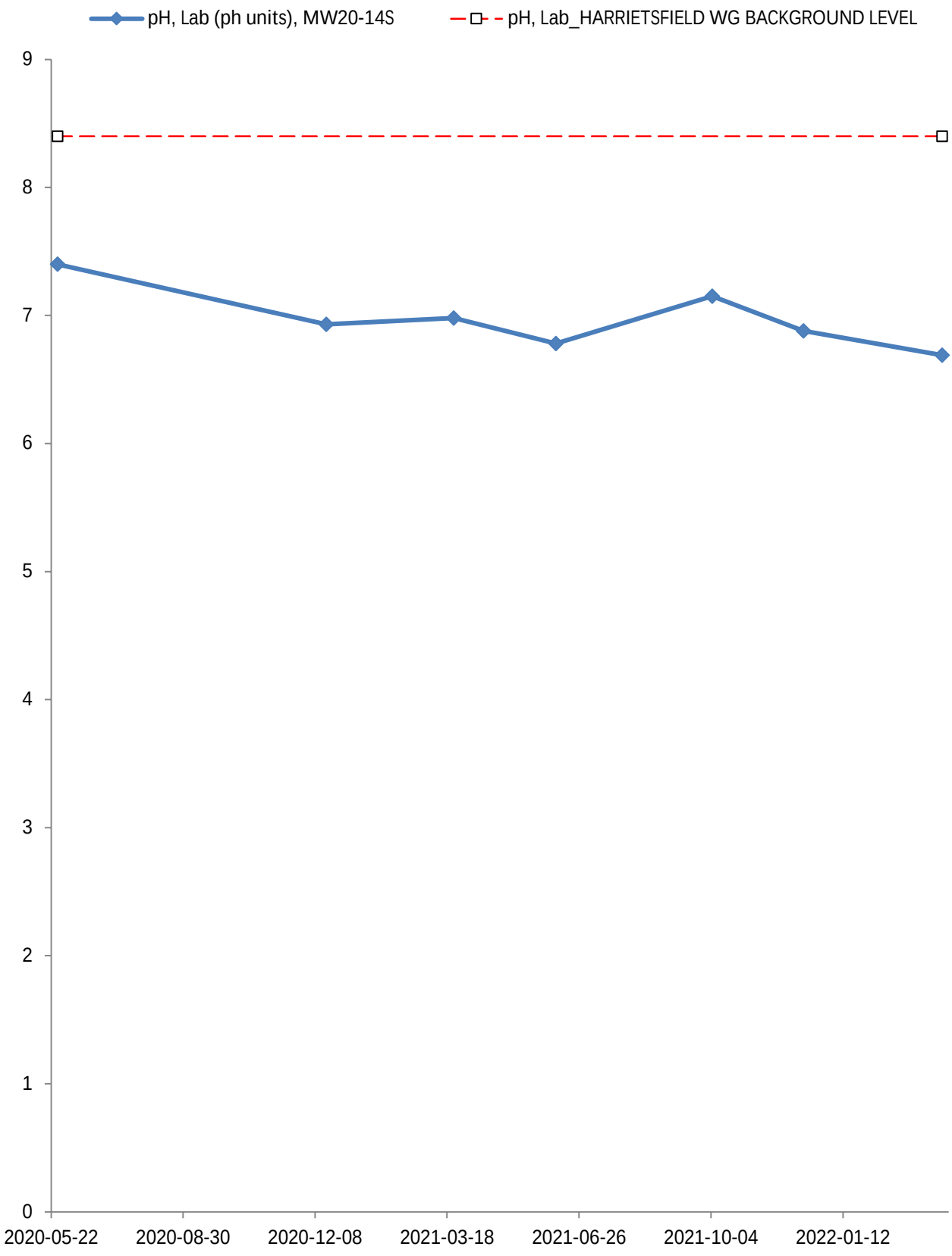
MW20-14S-Nitrite (as N)



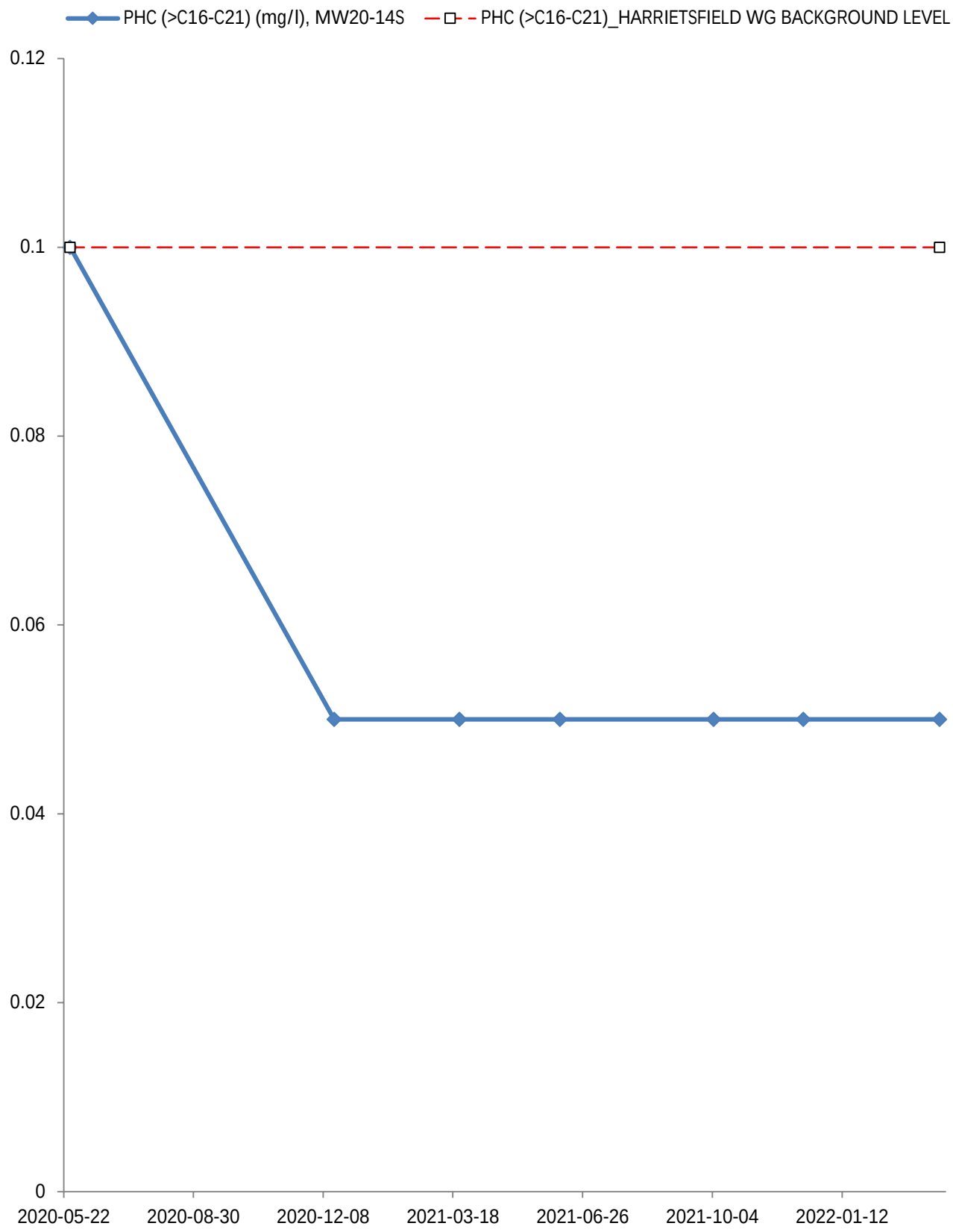
MW20-14S-Orthophosphate(as P)



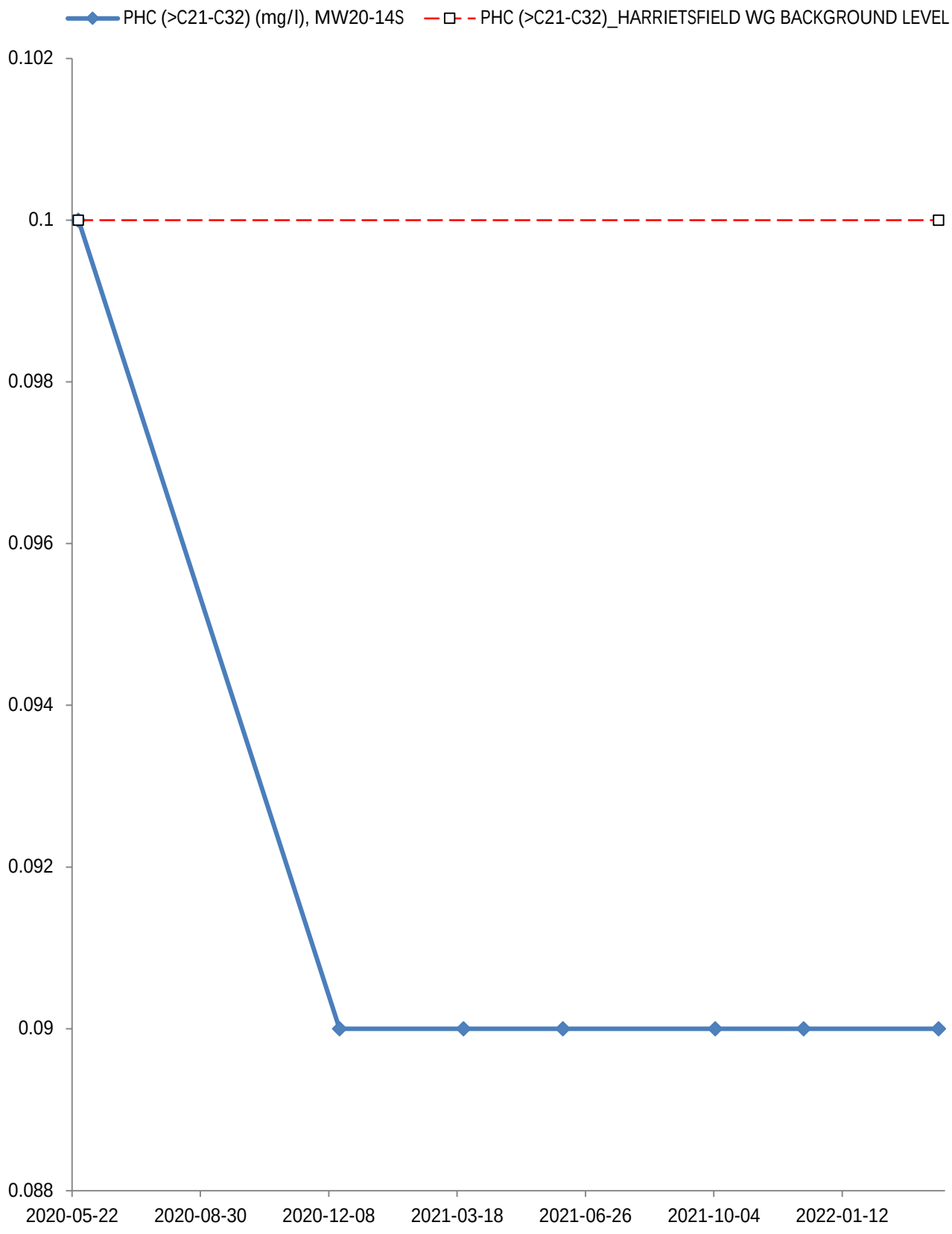
MW20-14S-pH, Lab



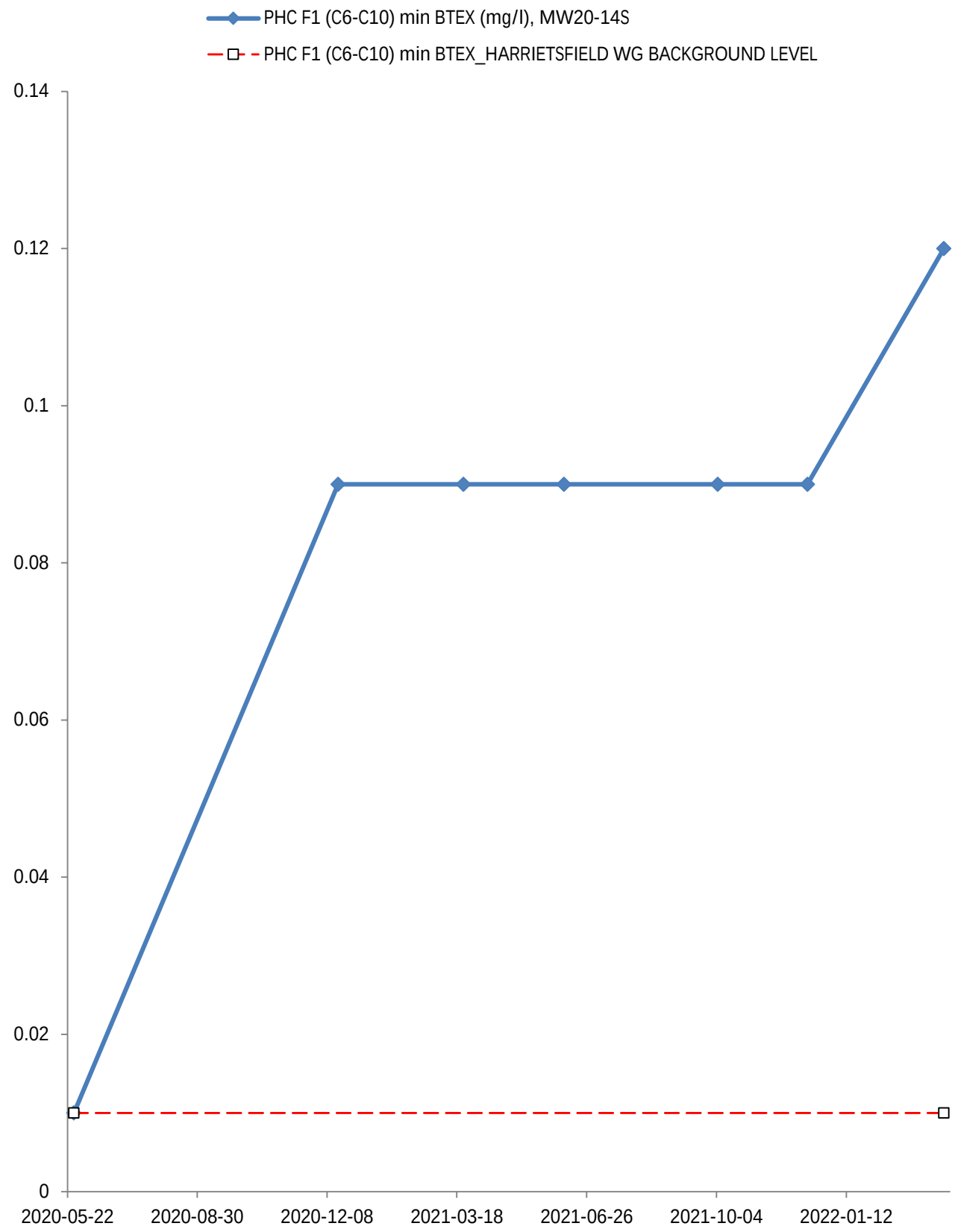
MW20-14S-PHC (>C16-C21)



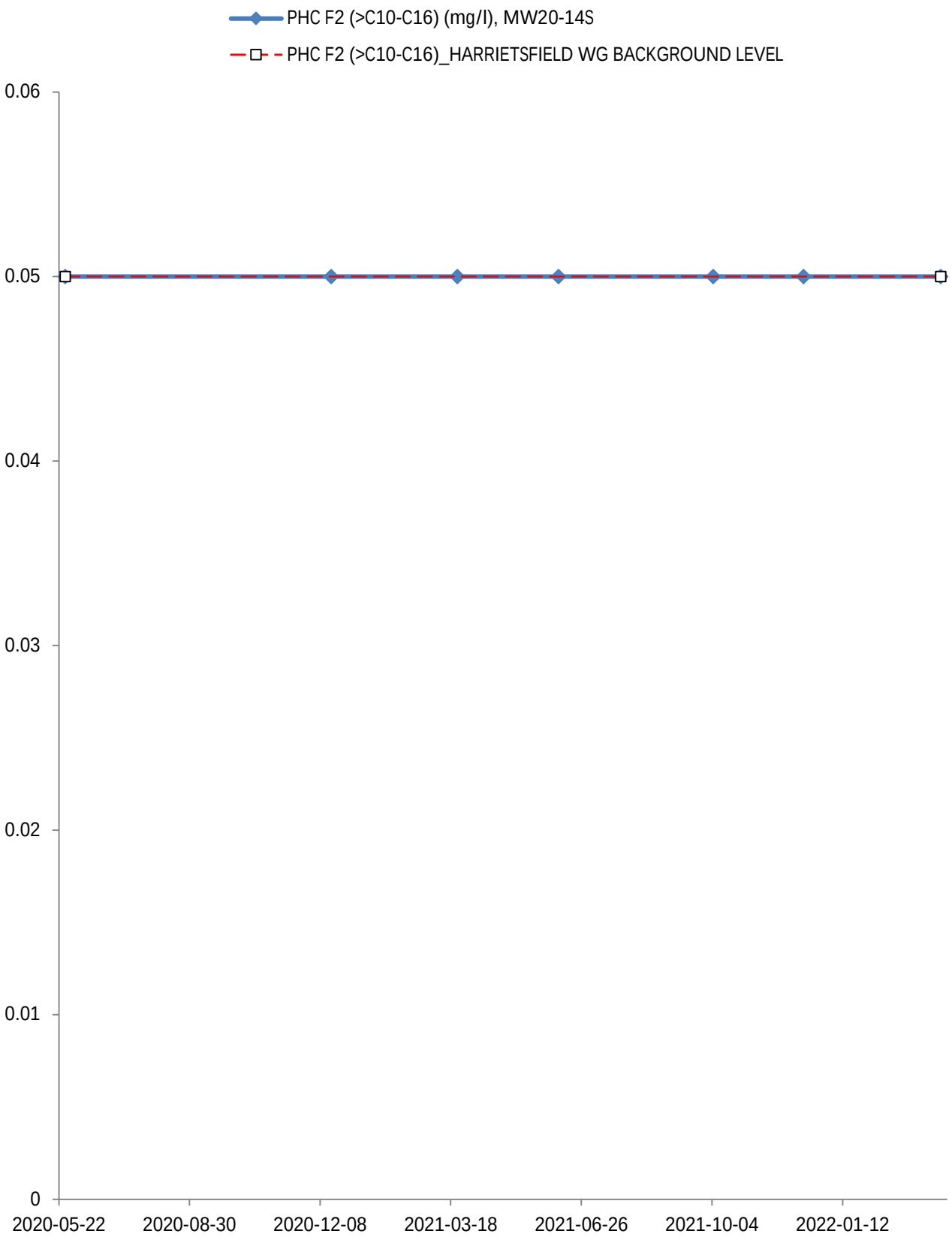
MW20-14S-PHC (>C21-C32)



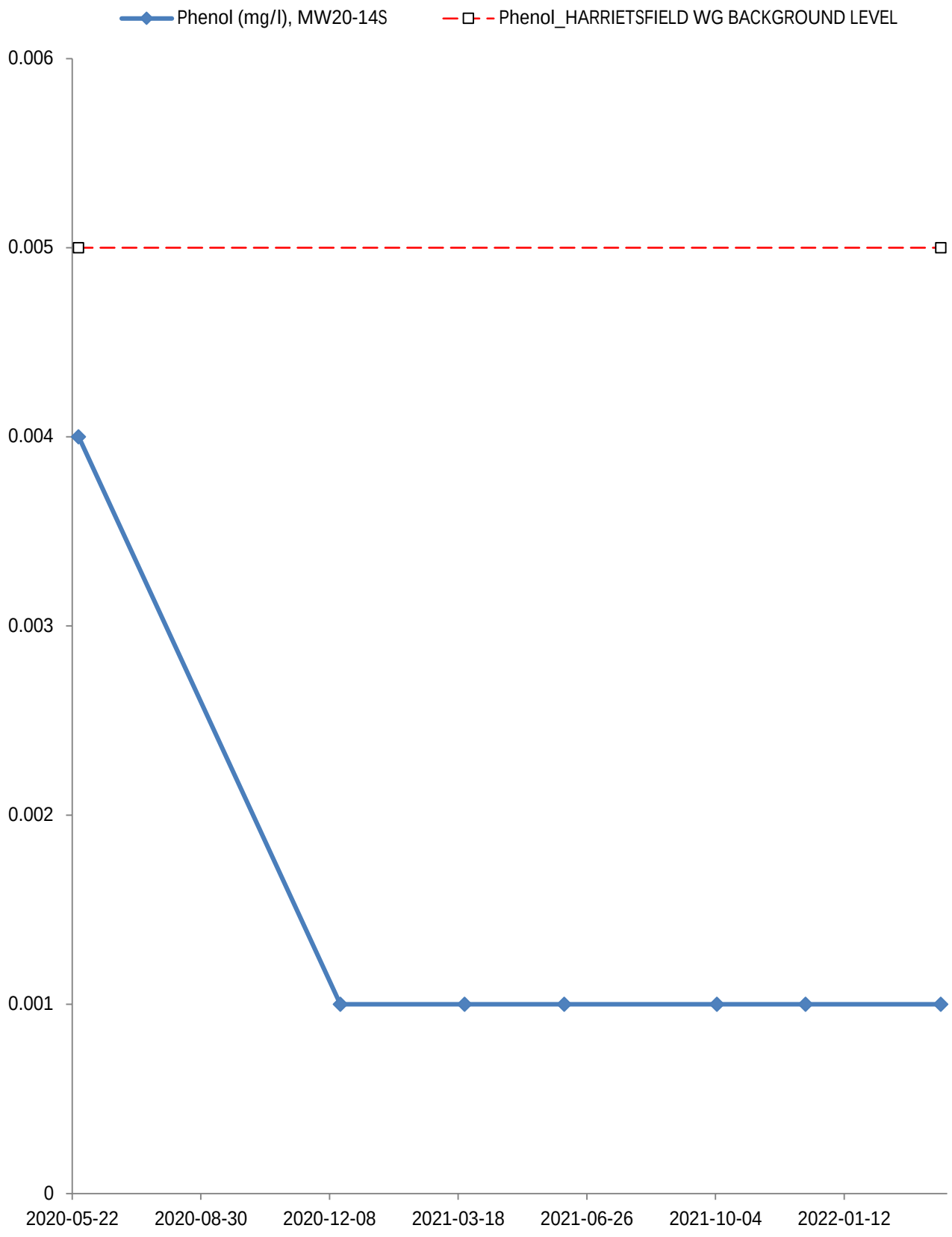
MW20-14S-PHC F1 (C6-C10) min BTEX



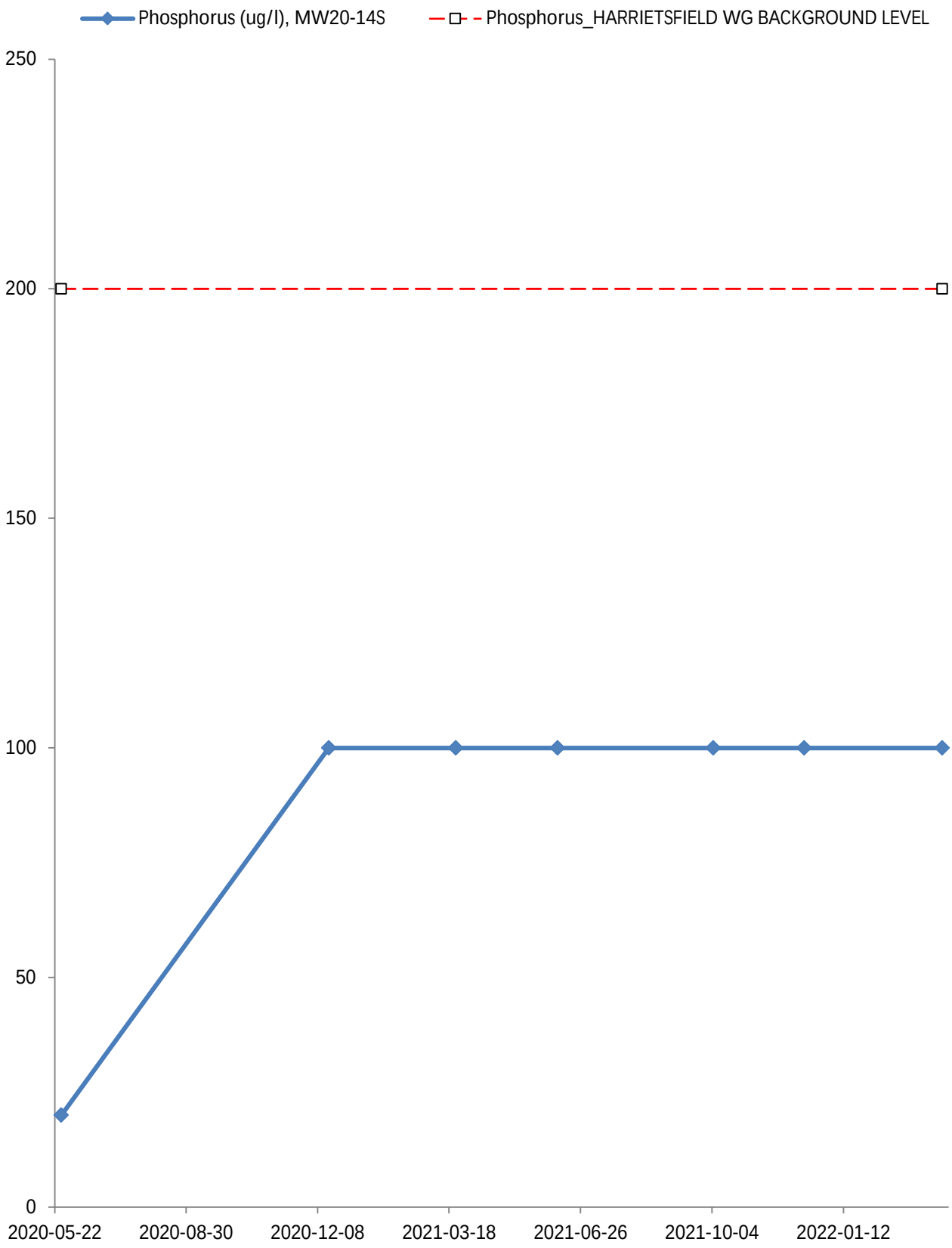
MW20-14S-PHC F2 (>C10-C16)



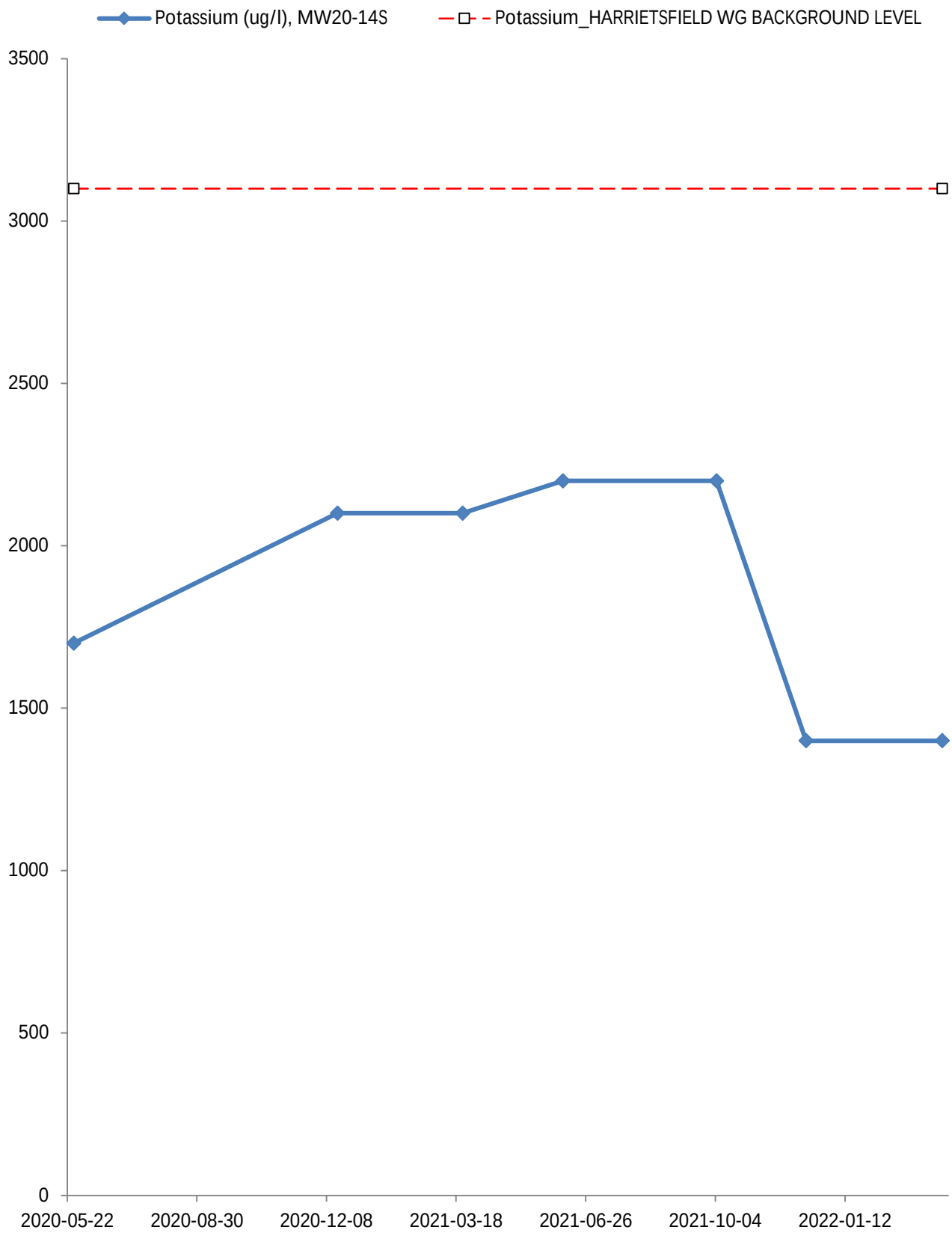
MW20-14S-Phenol



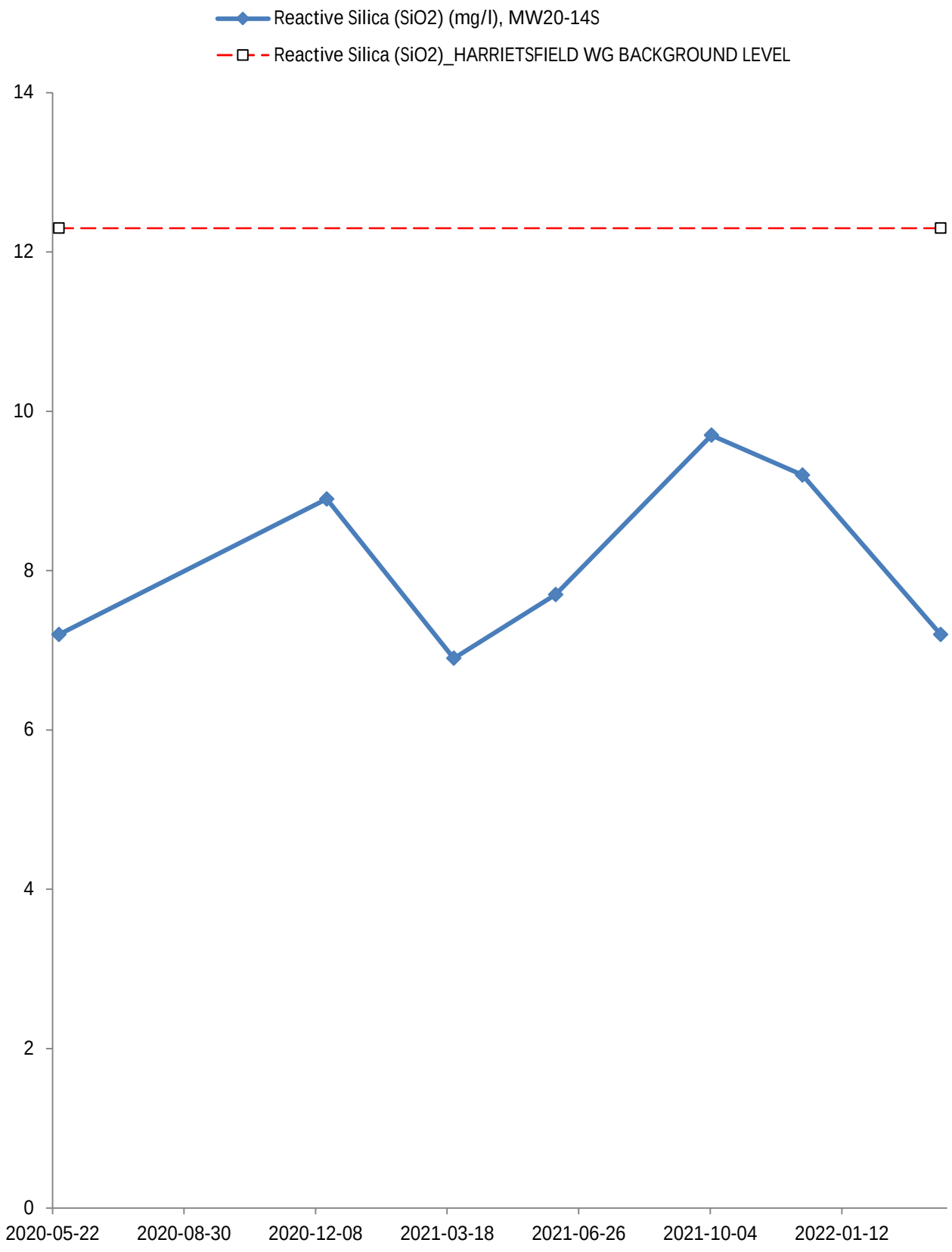
MW20-14S-Phosphorus



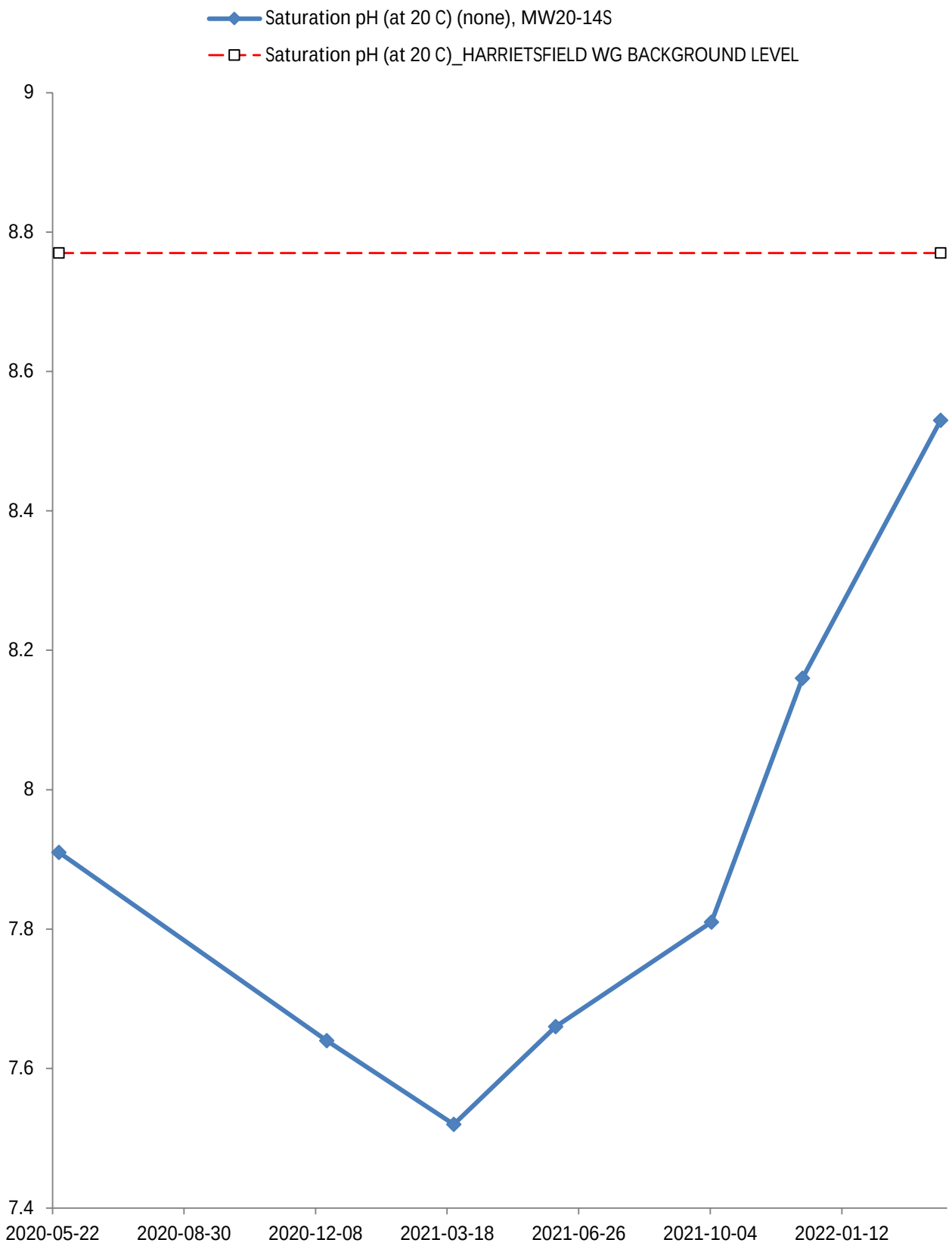
MW20-14S-Potassium



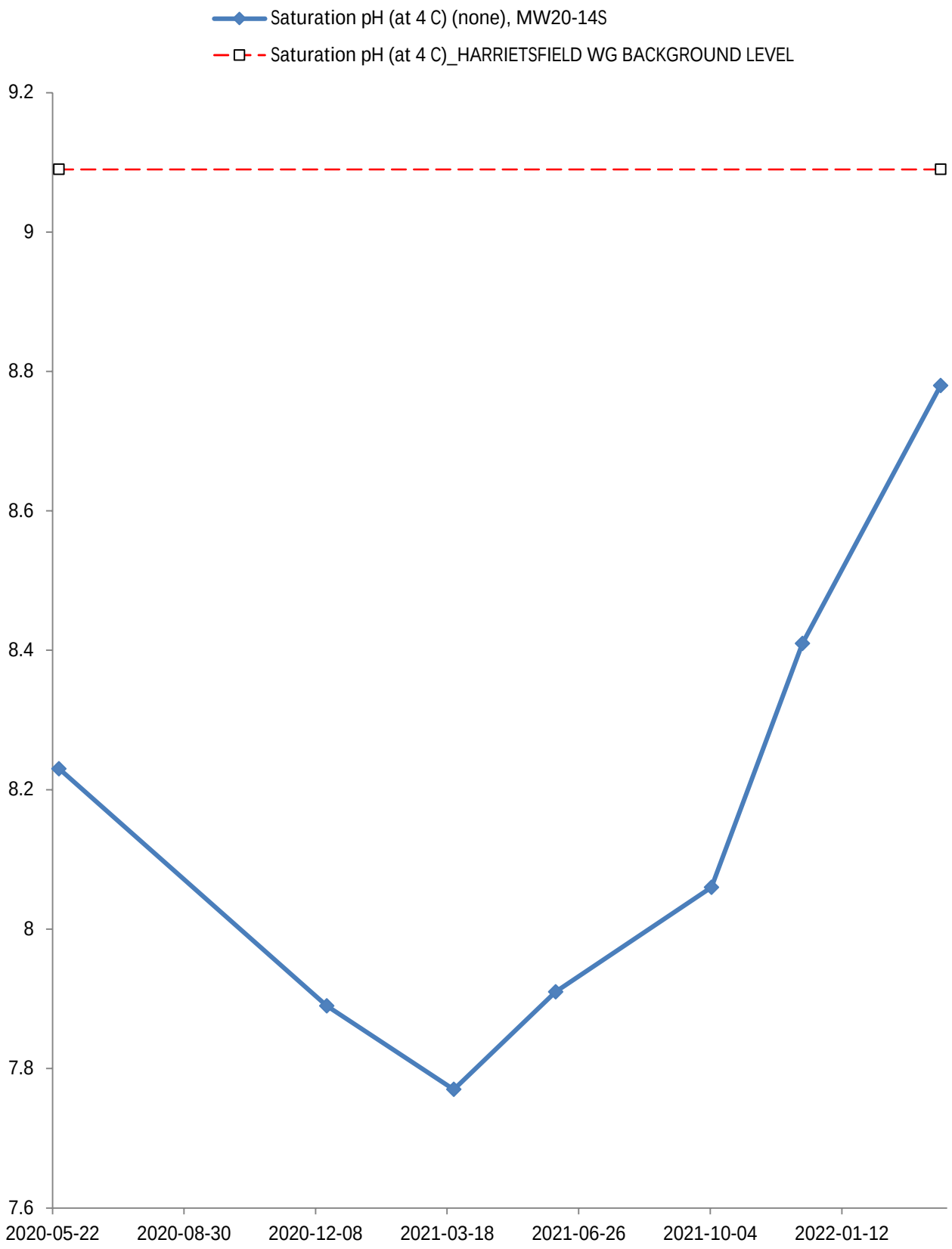
MW20-14S-Reactive Silica (SiO2)



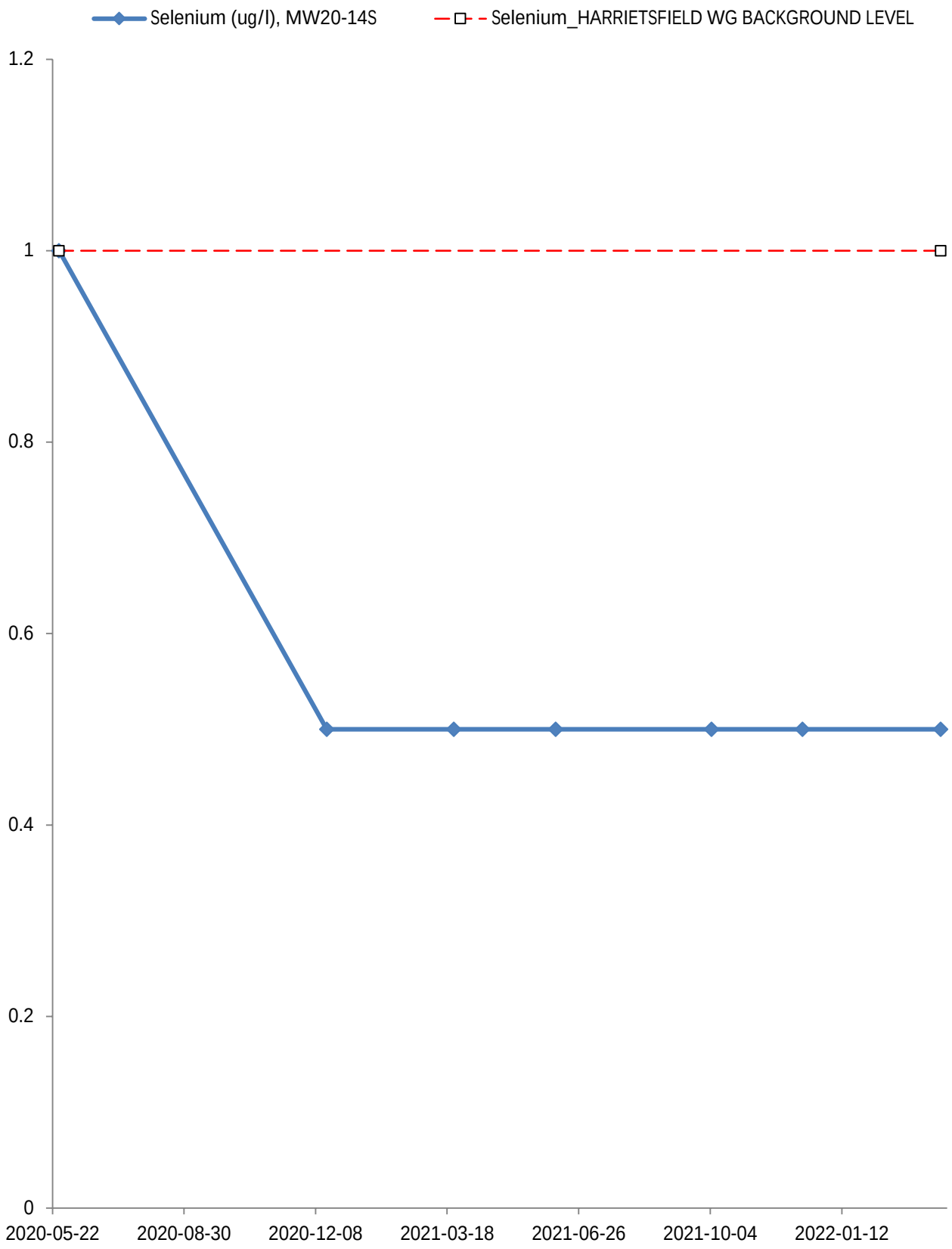
MW20-14S-Saturation pH (at 20 C)



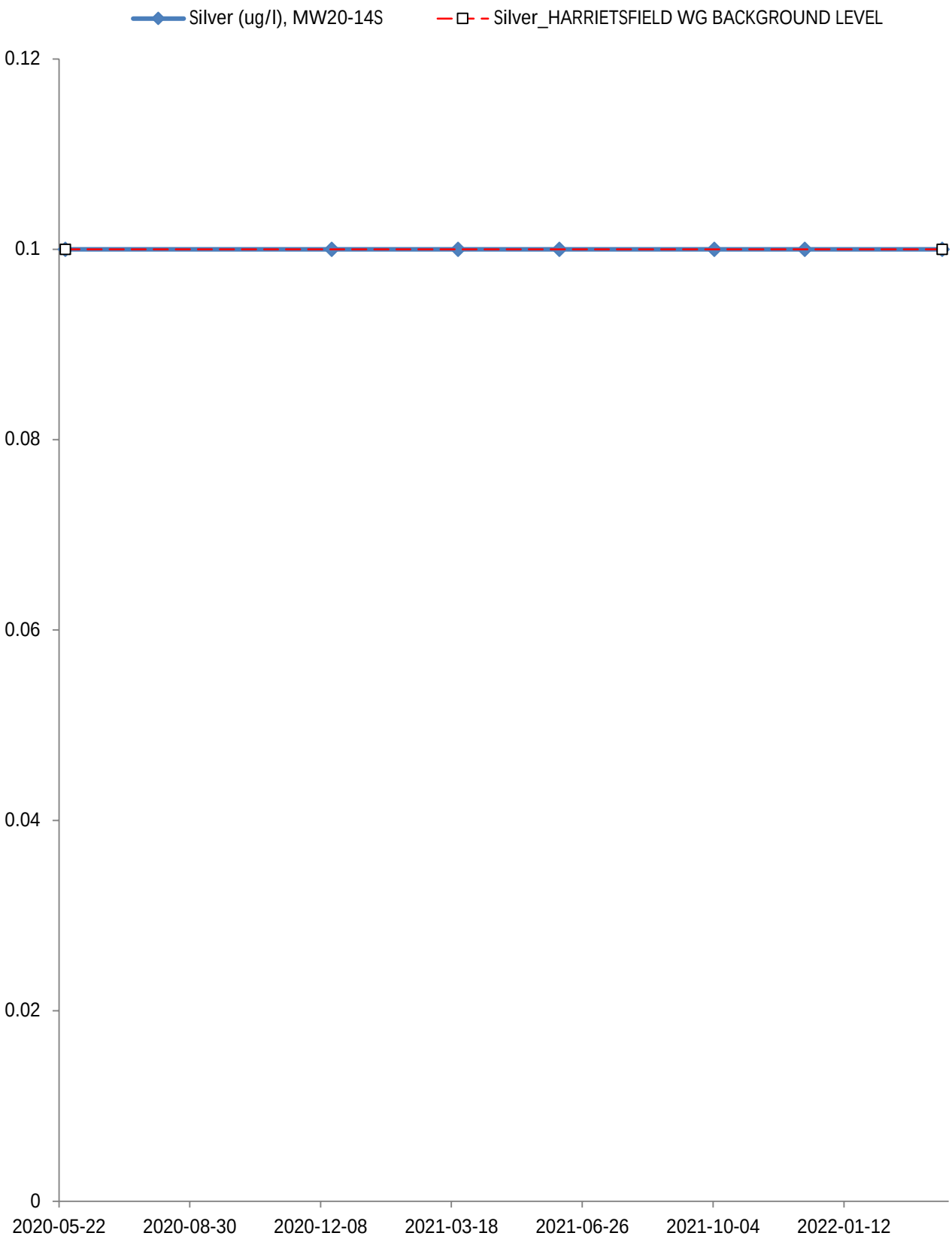
MW20-14S-Saturation pH (at 4 C)



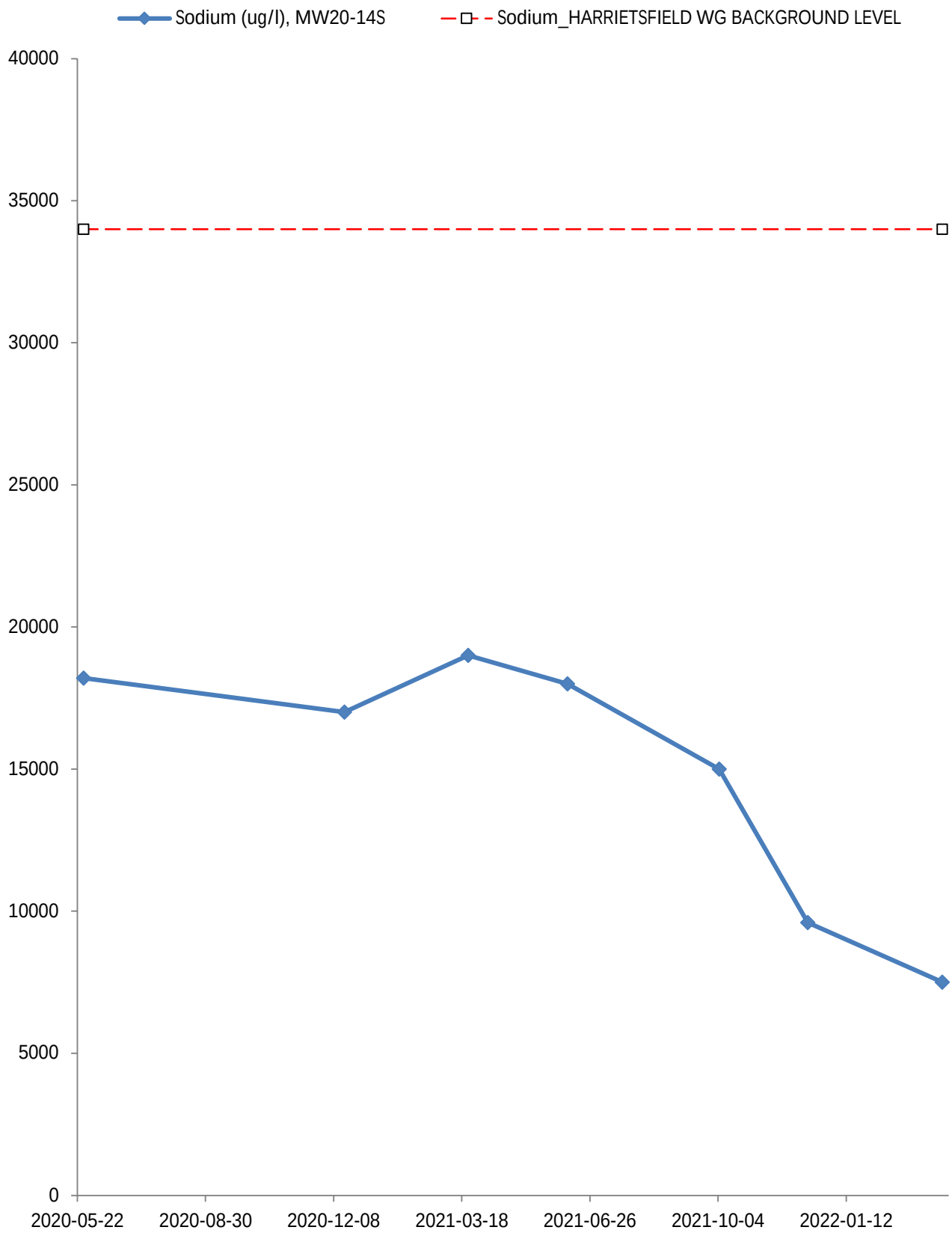
MW20-14S-Selenium



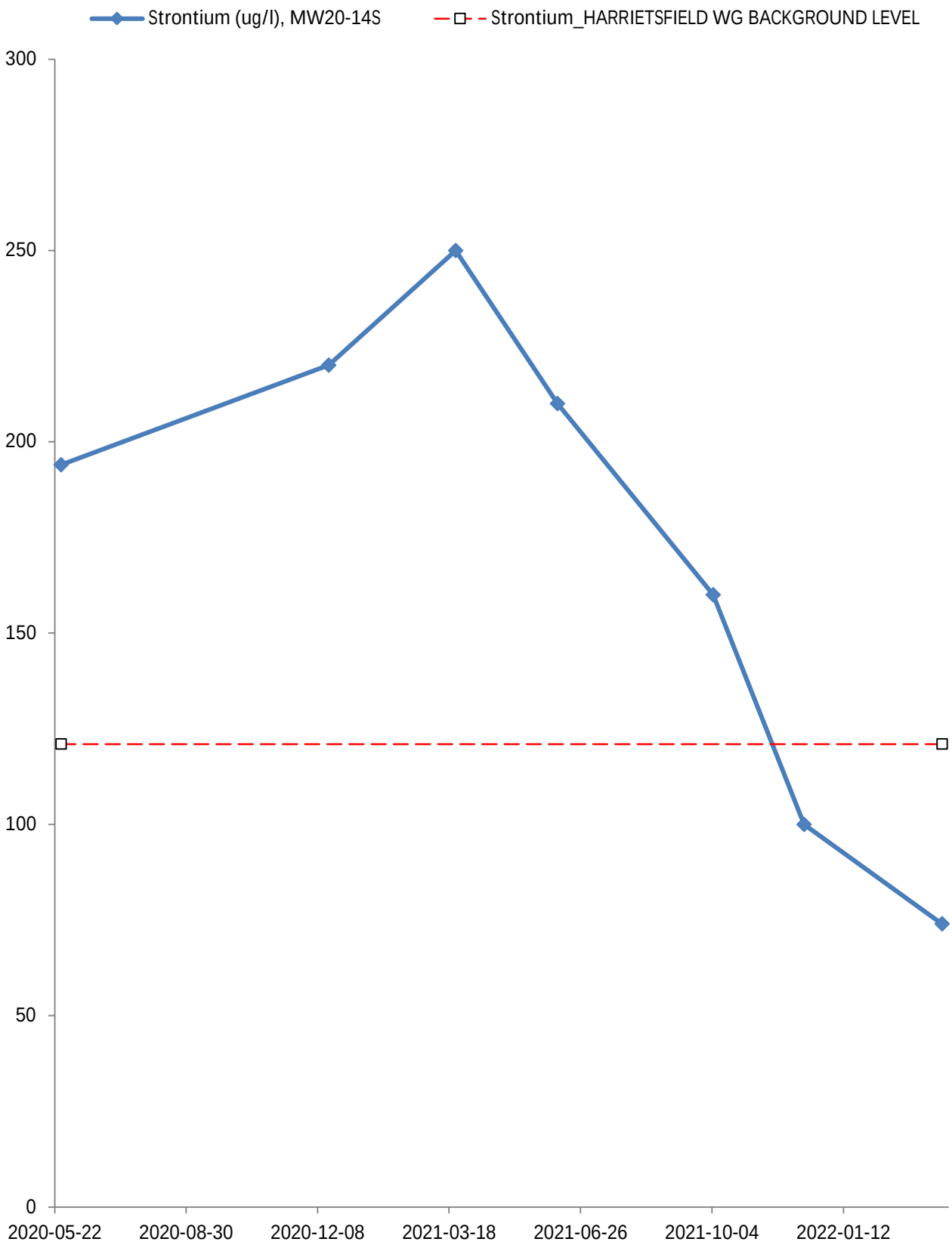
MW20-14S-Silver



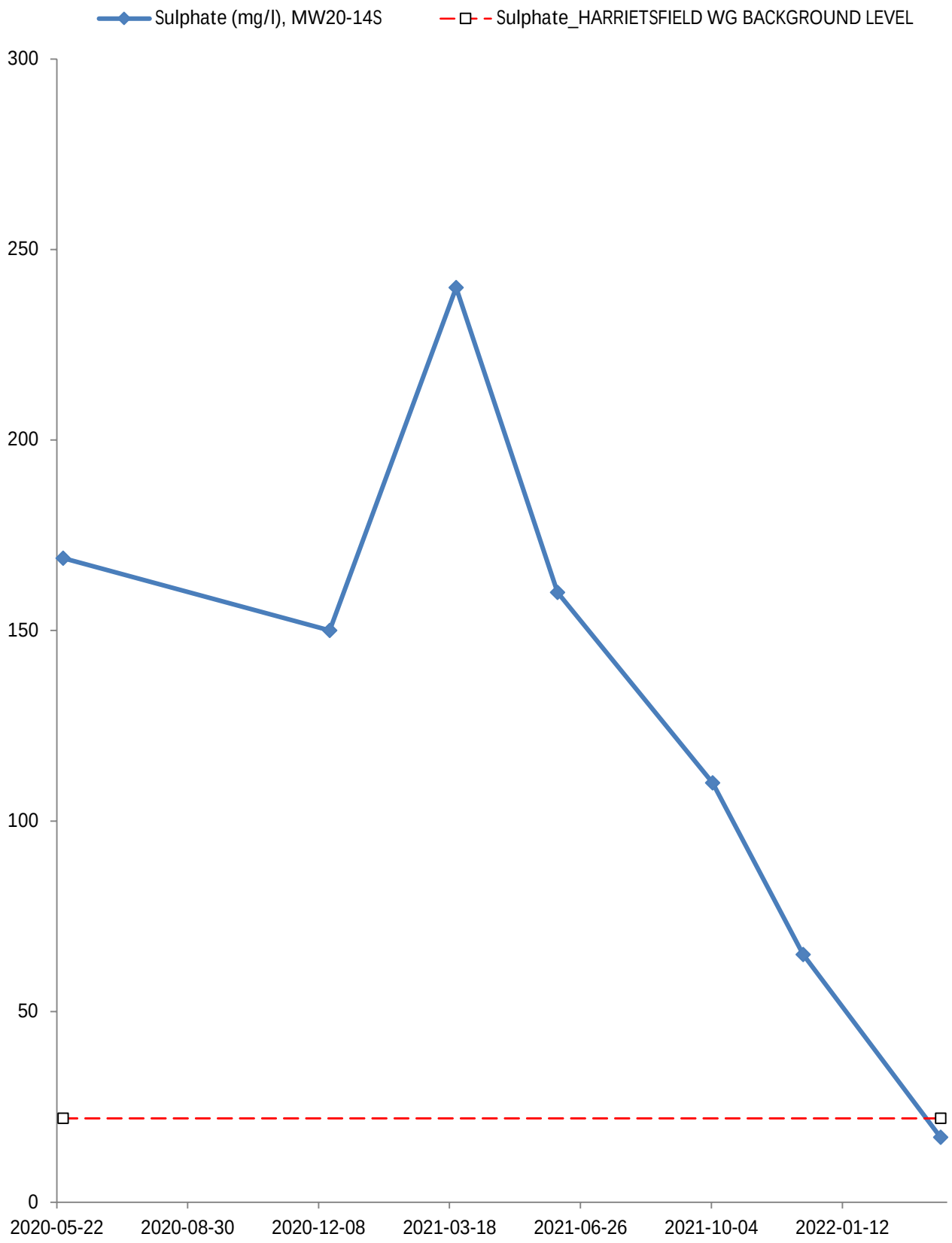
MW20-14S-Sodium



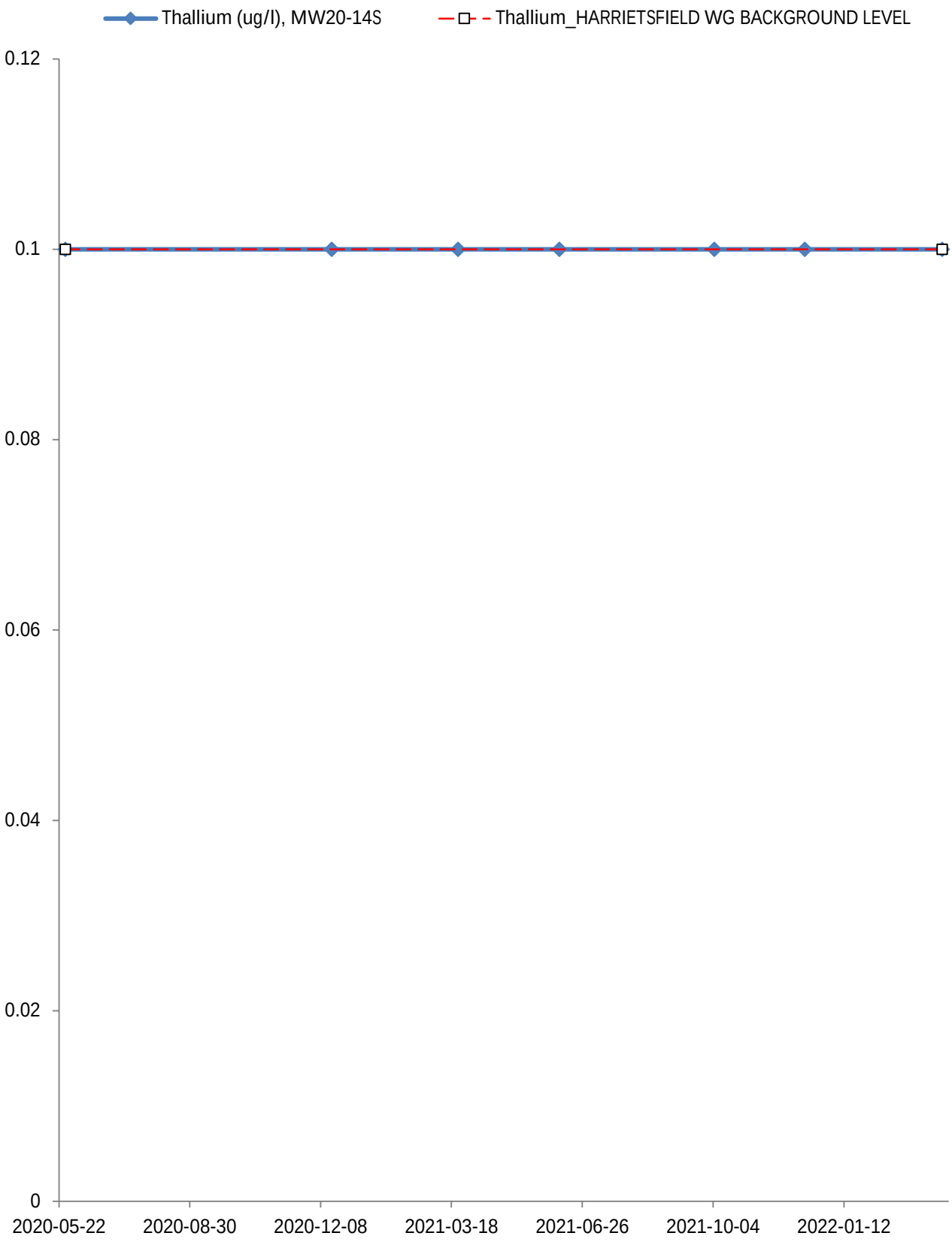
MW20-14S-Strontium



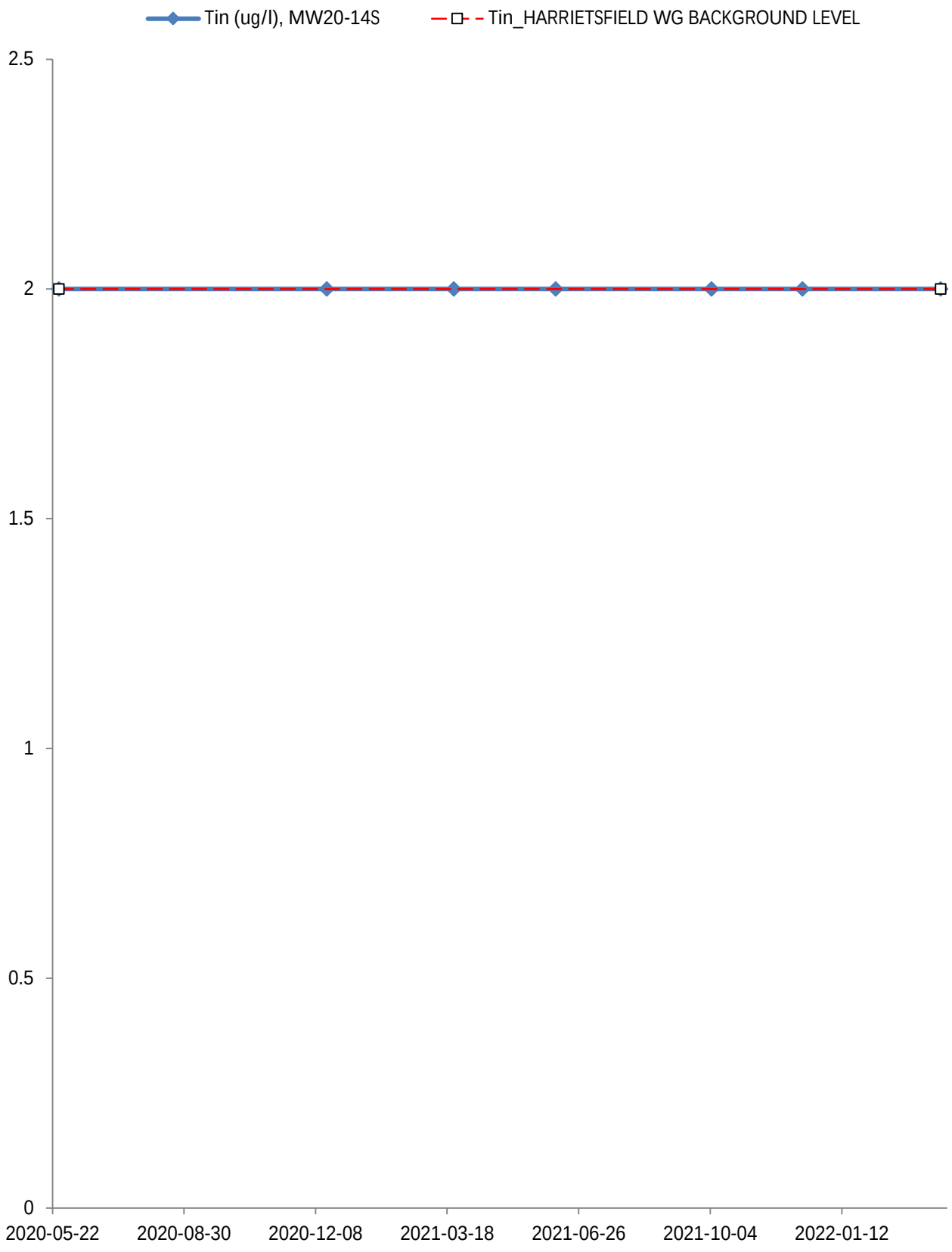
MW20-14S-Sulphate



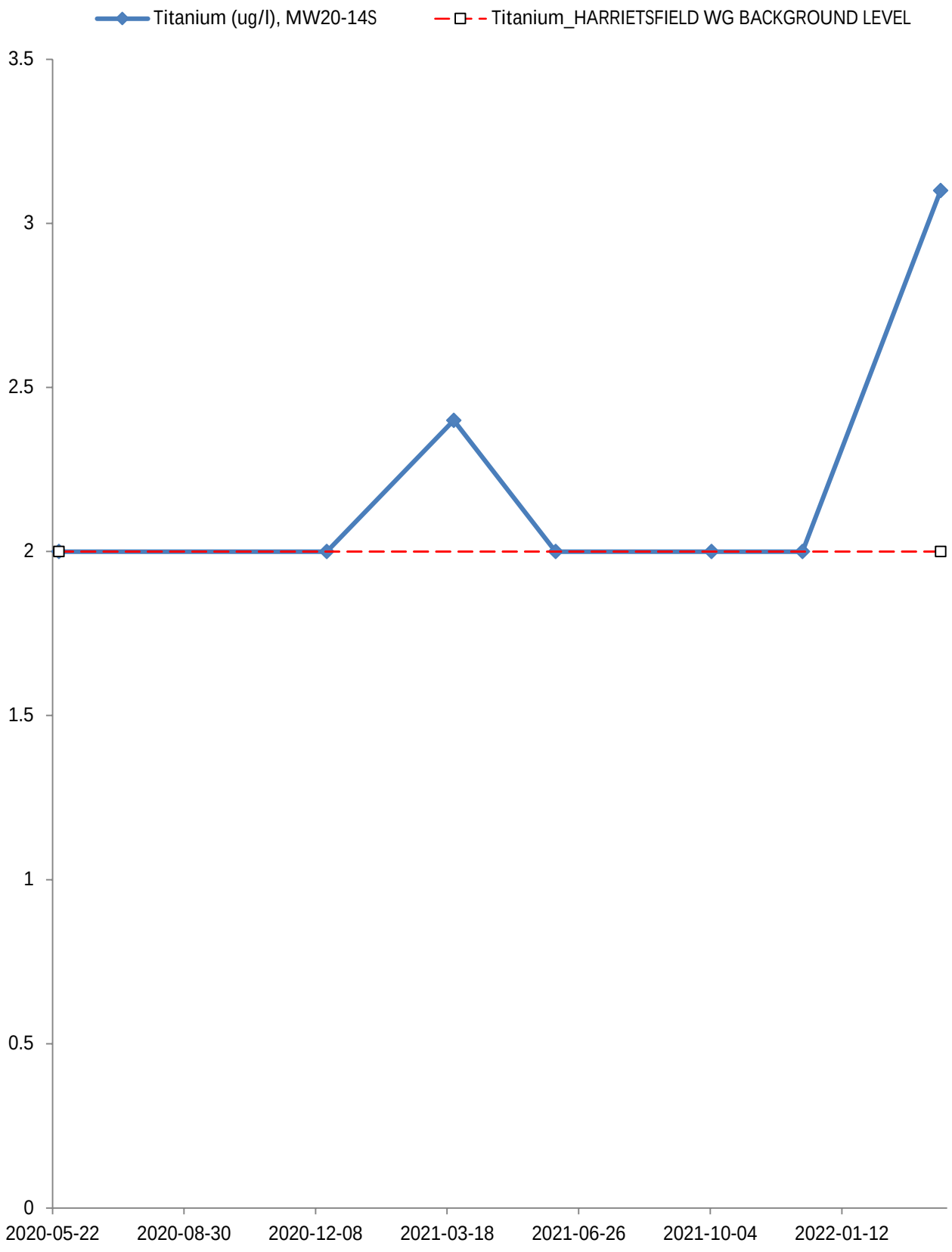
MW20-14S-Thallium



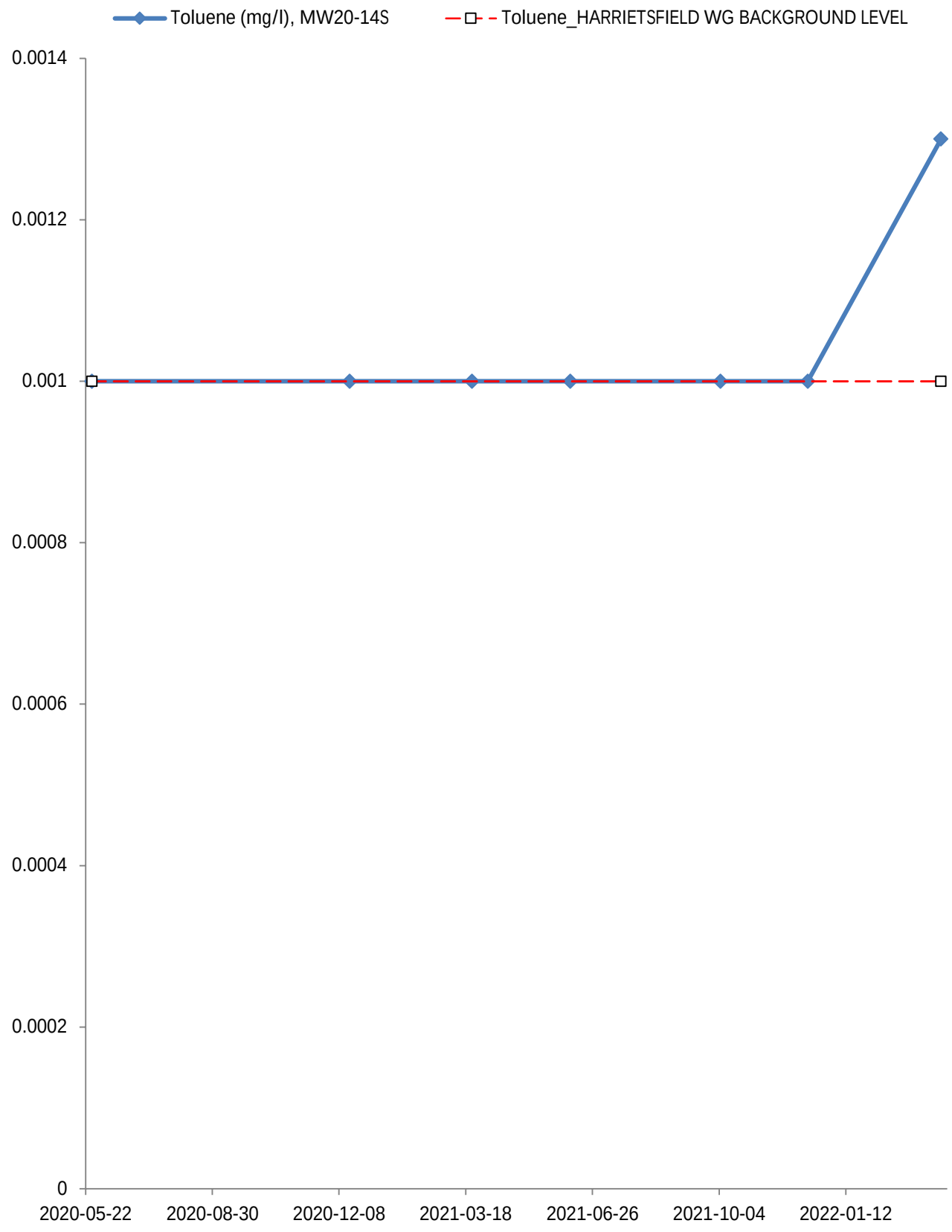
MW20-14S-Tin


Tin (ug/l), MW20-14S
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

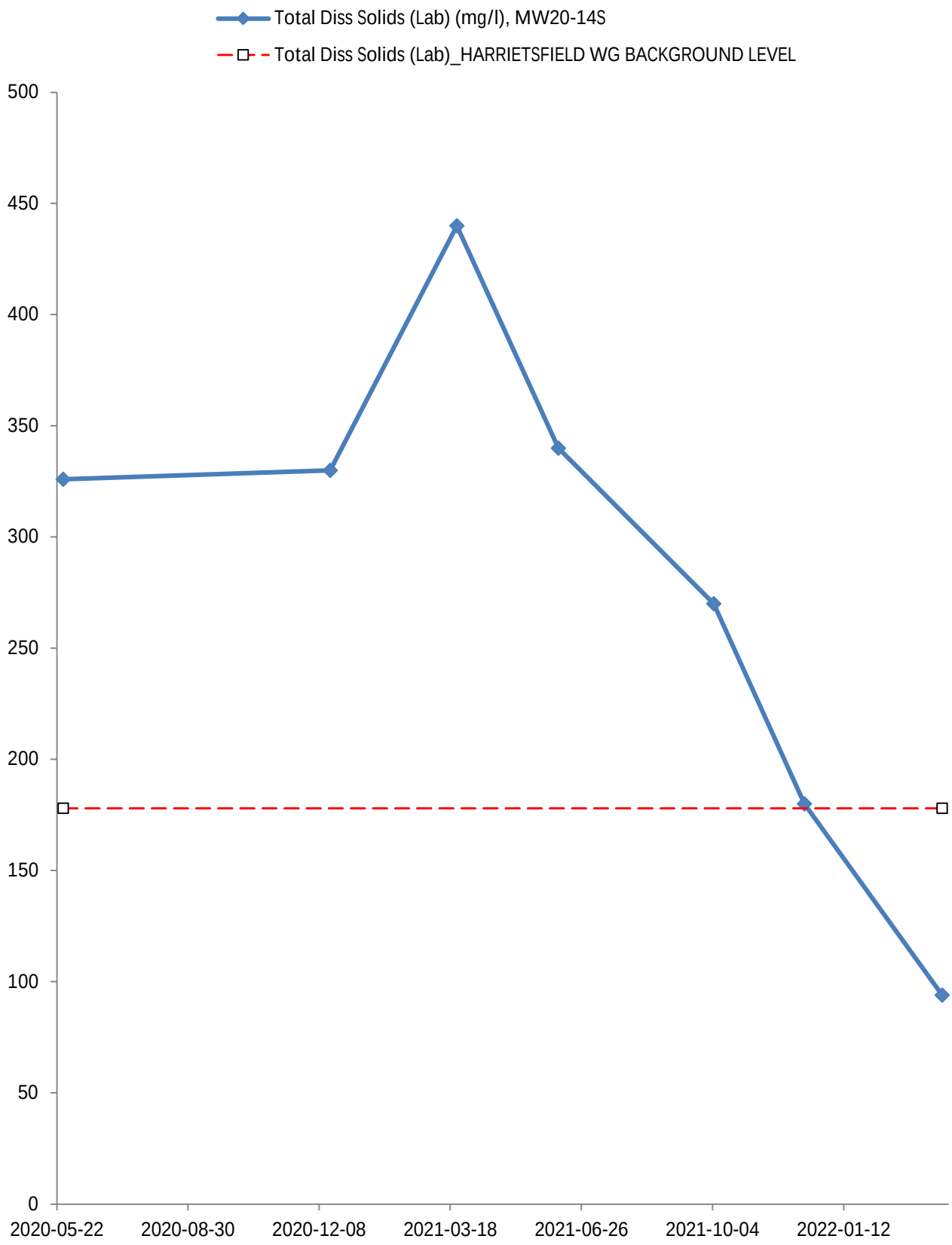
MW20-14S-Titanium



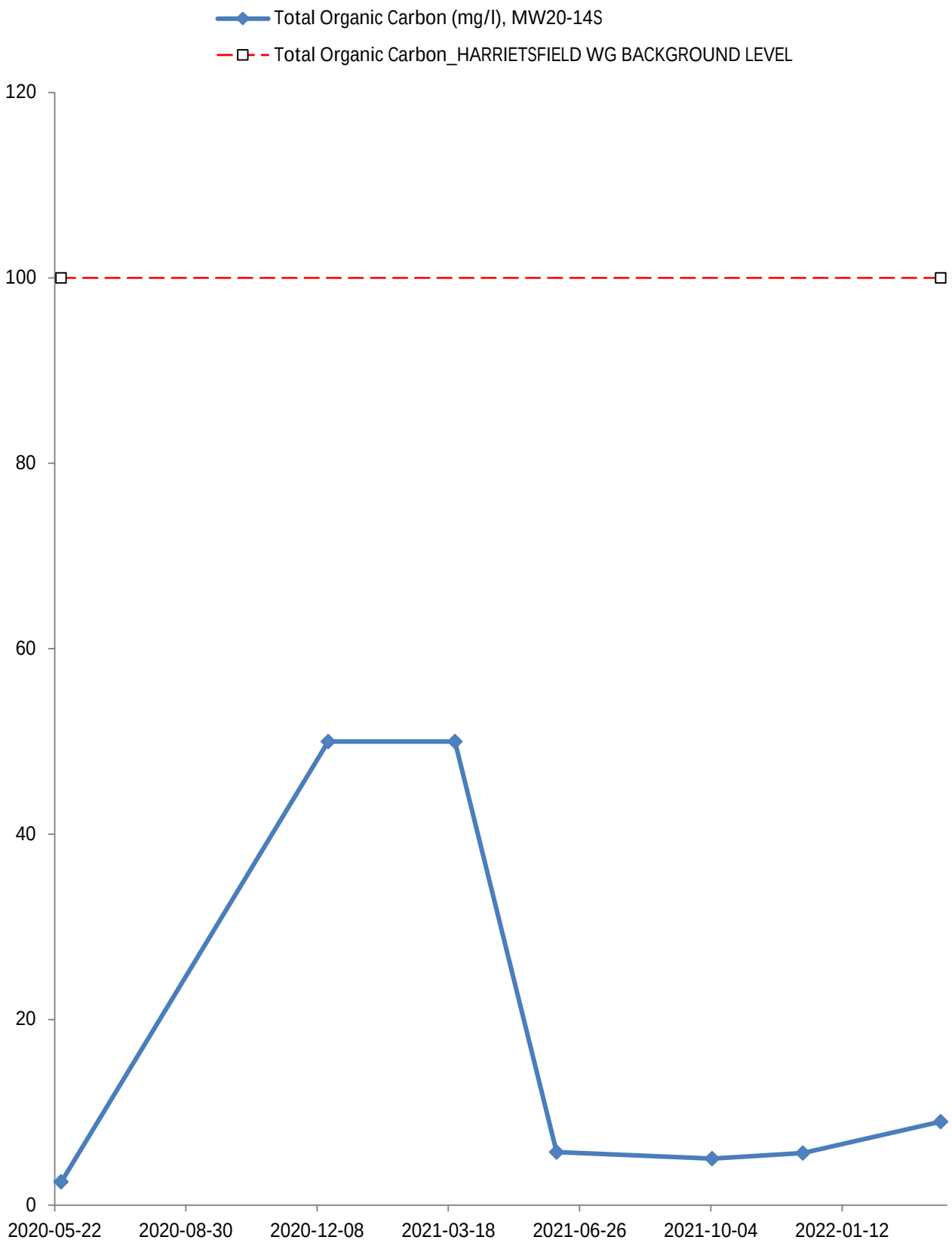
MW20-14S-Toluene



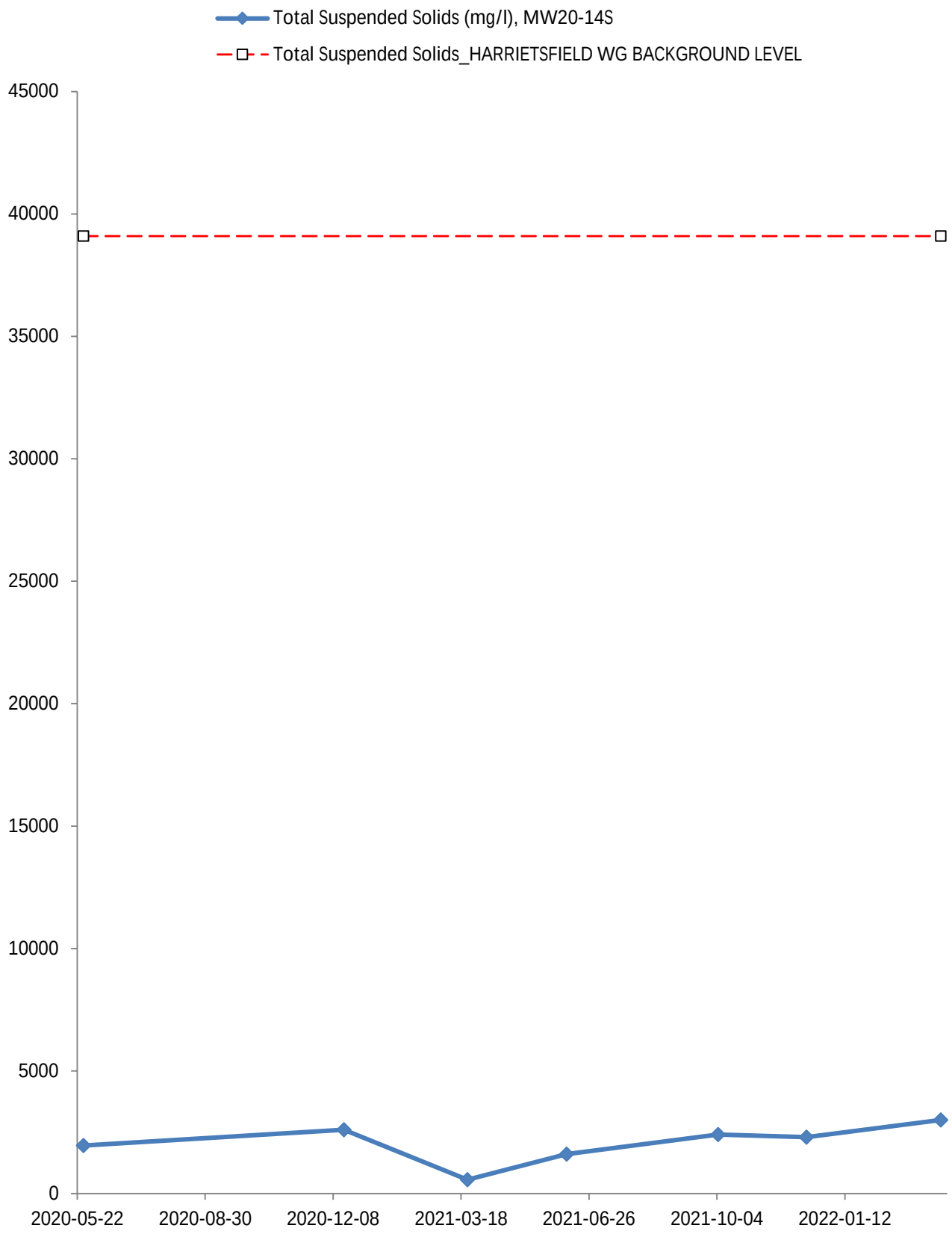
MW20-14S-Total Diss Solids (Lab)



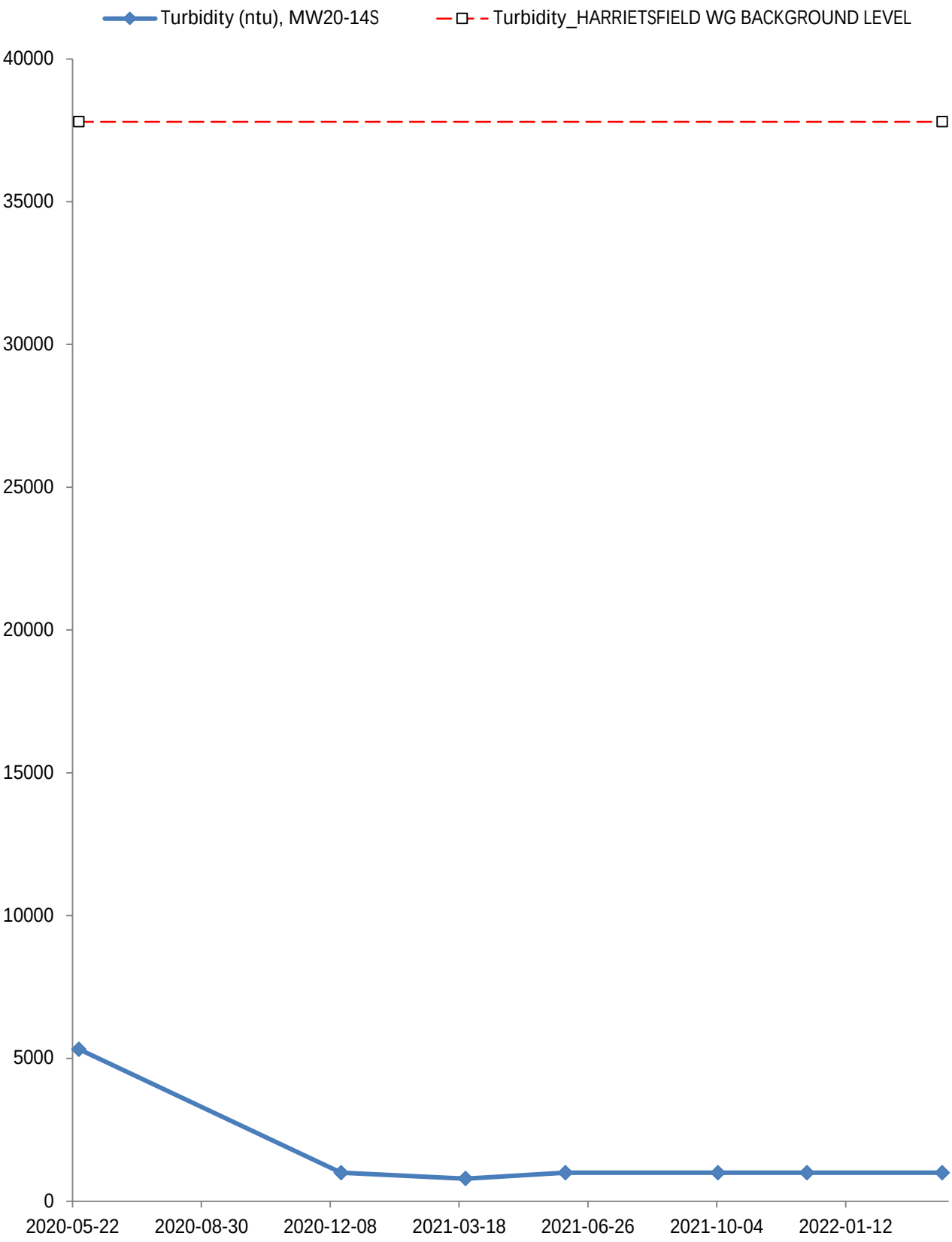
MW20-14S-Total Organic Carbon



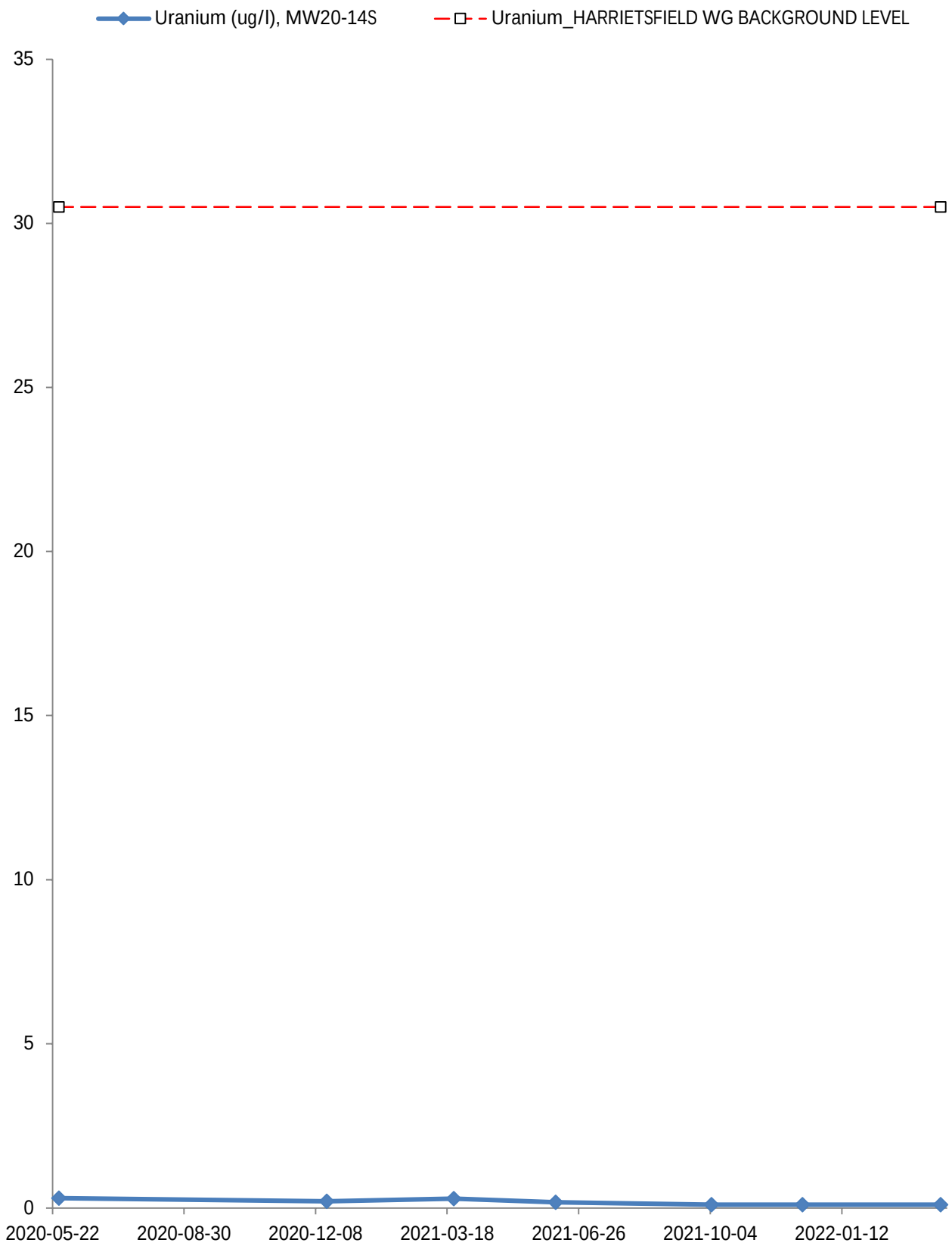
MW20-14S-Total Suspended Solids



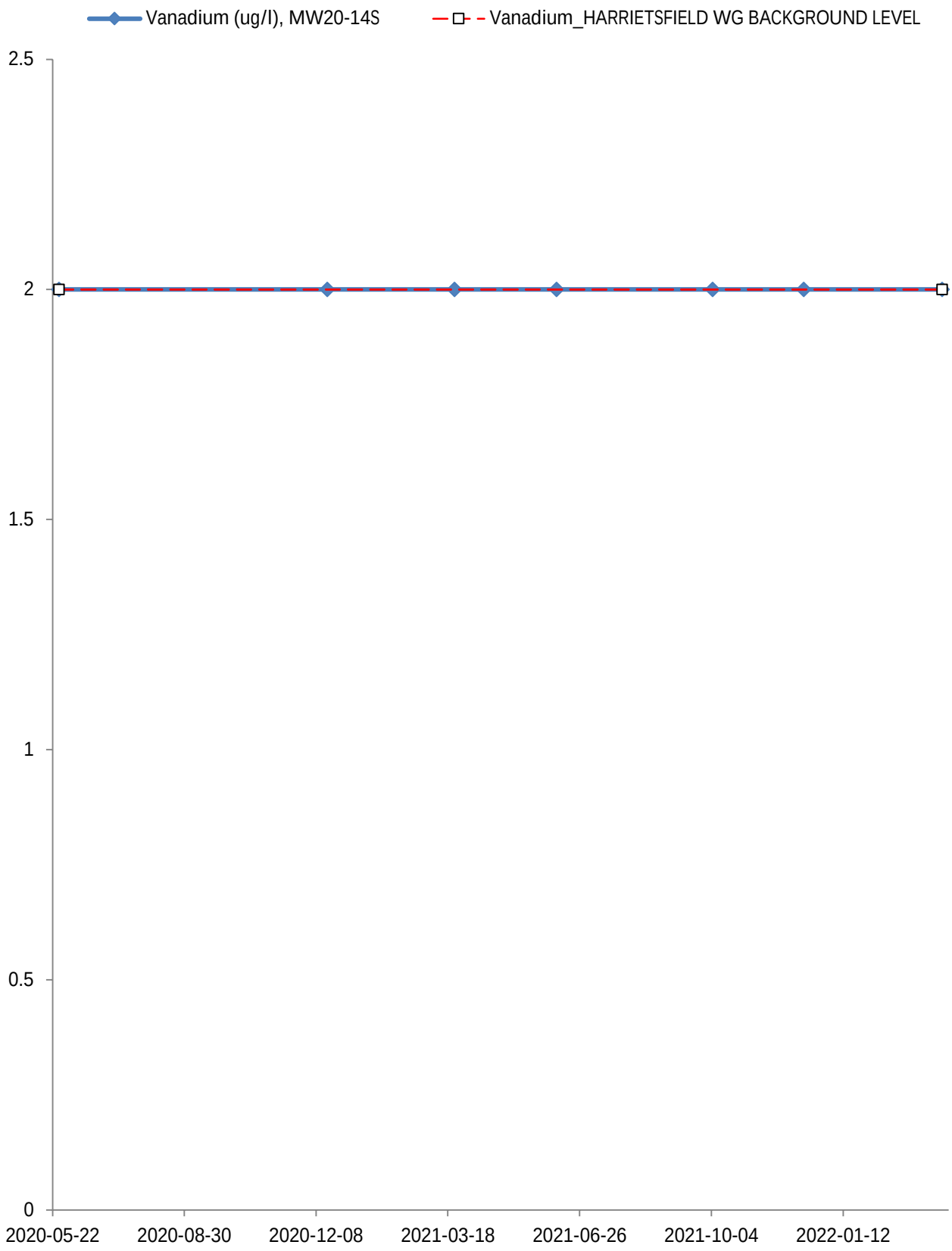
MW20-14S-Turbidity



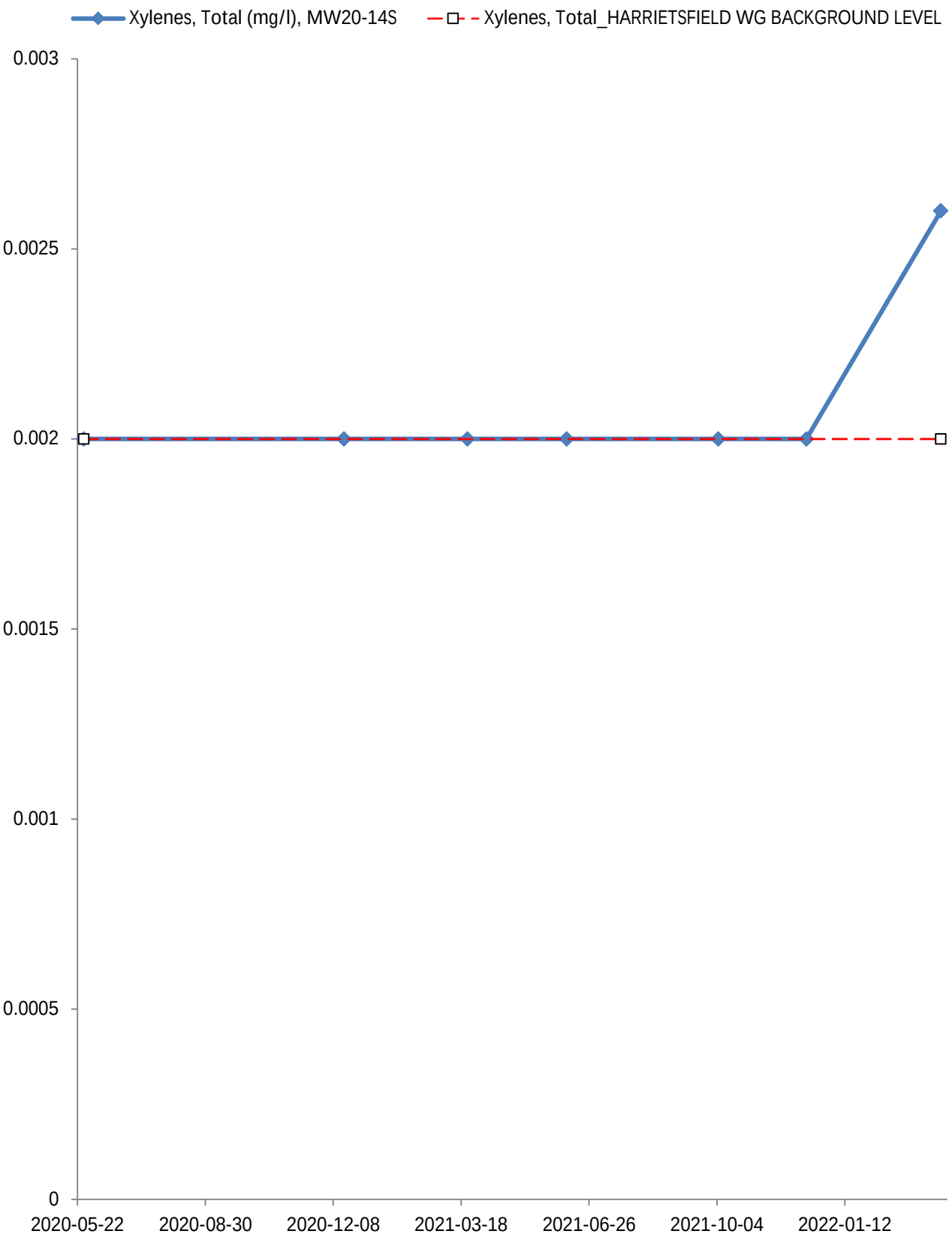
MW20-14S-Uranium



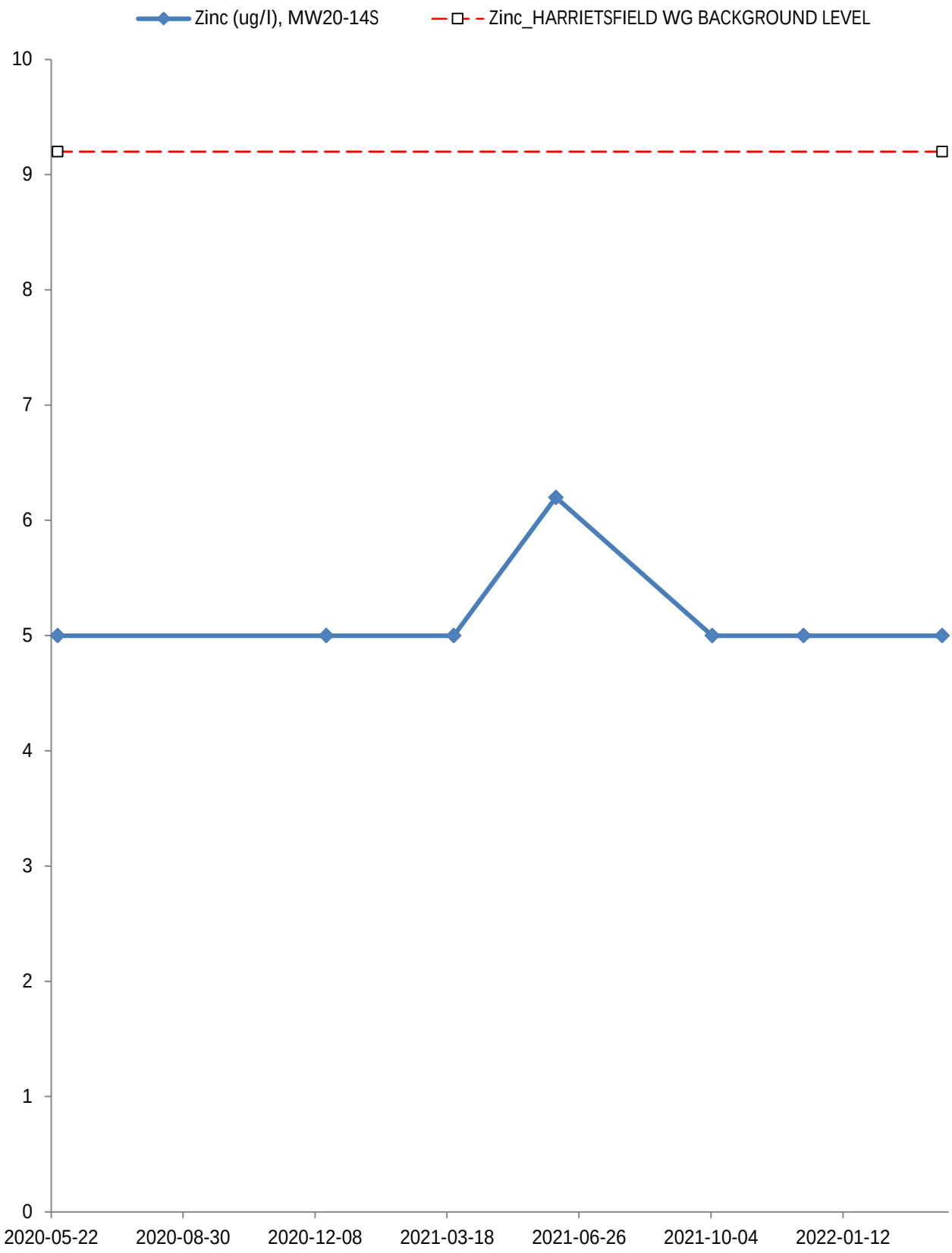
MW20-14S-Vanadium



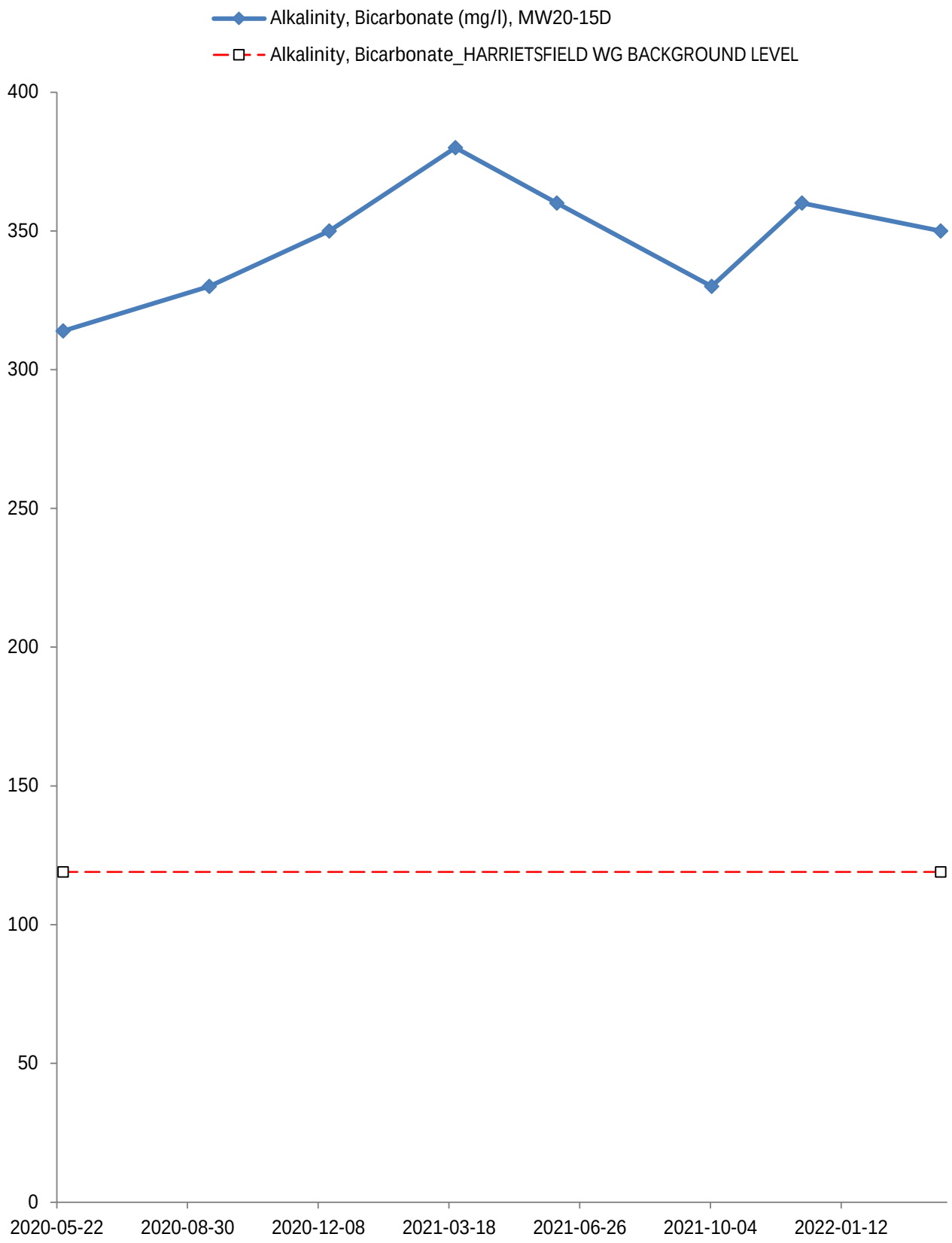
MW20-14S-Xylenes, Total



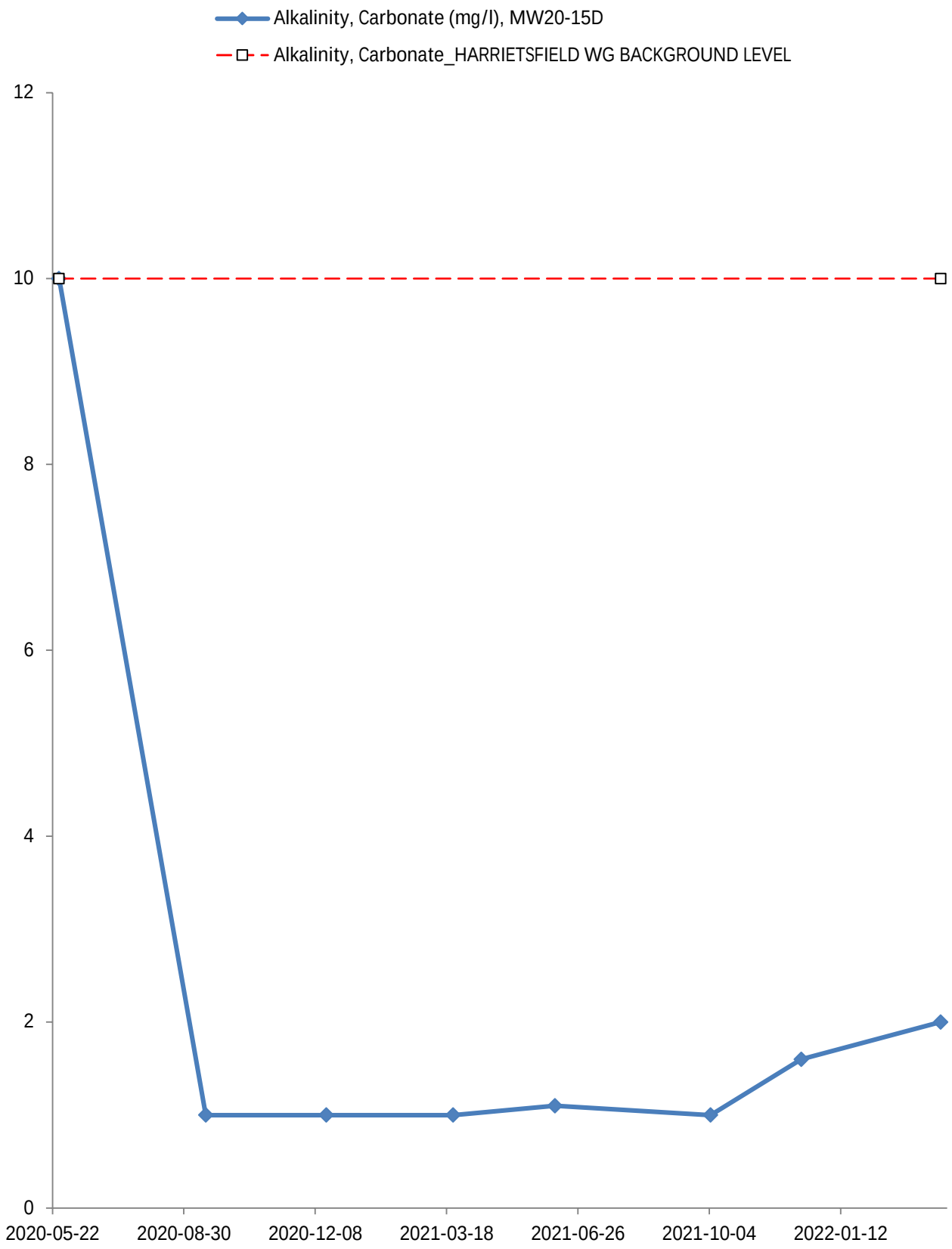
MW20-14S-Zinc



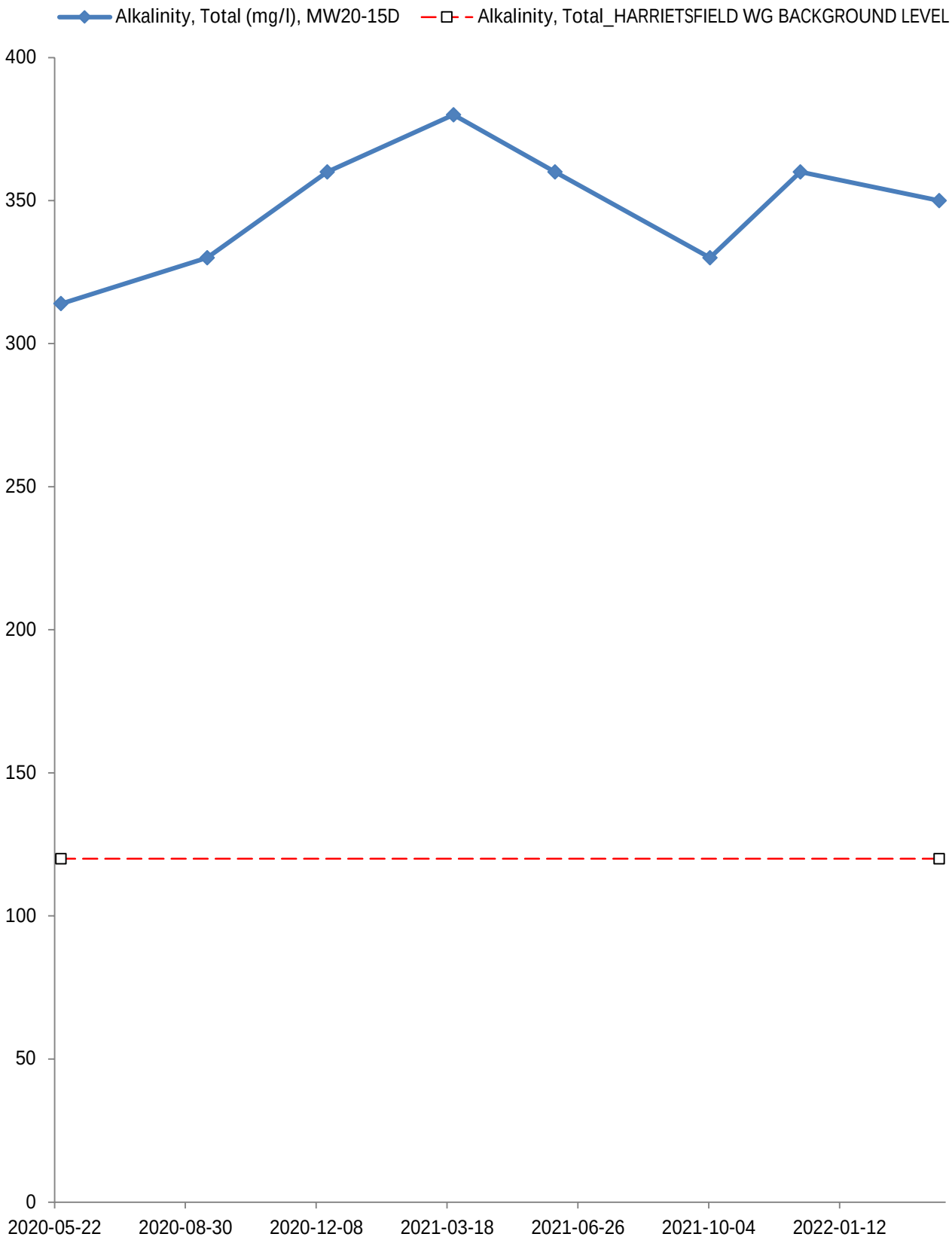
MW20-15D-Alkalinity, Bicarbonate



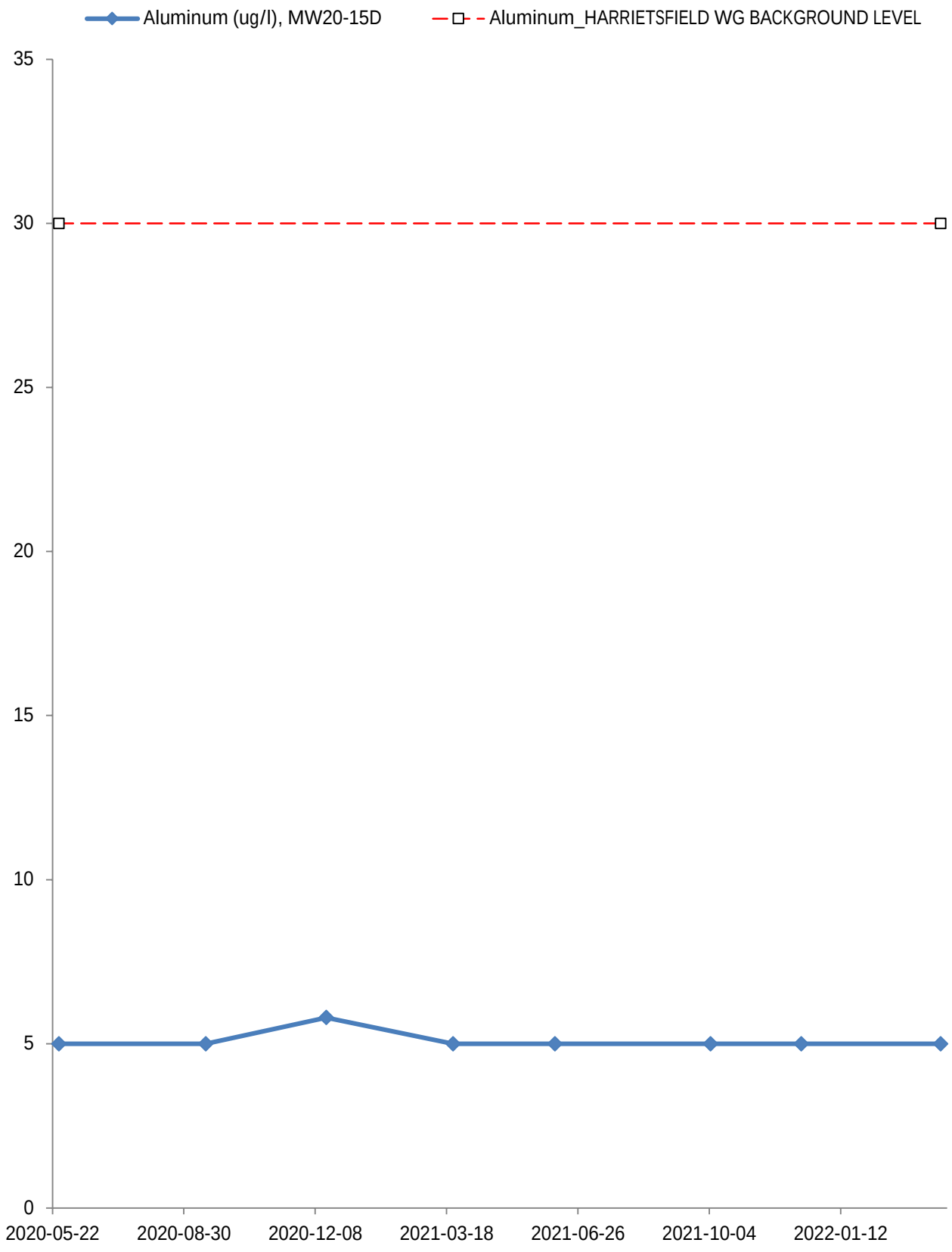
MW20-15D-Alkalinity, Carbonate



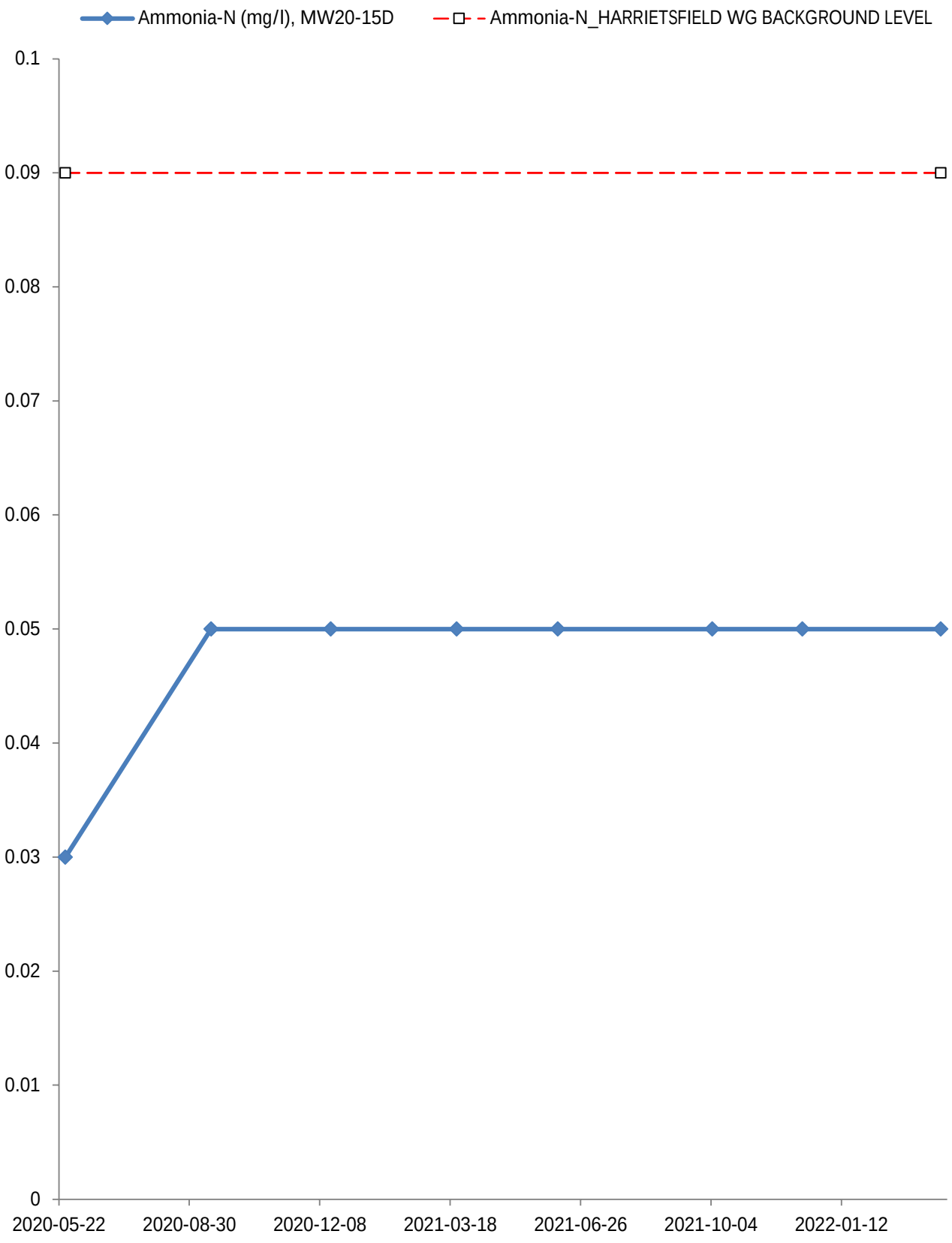
MW20-15D-Alkalinity, Total



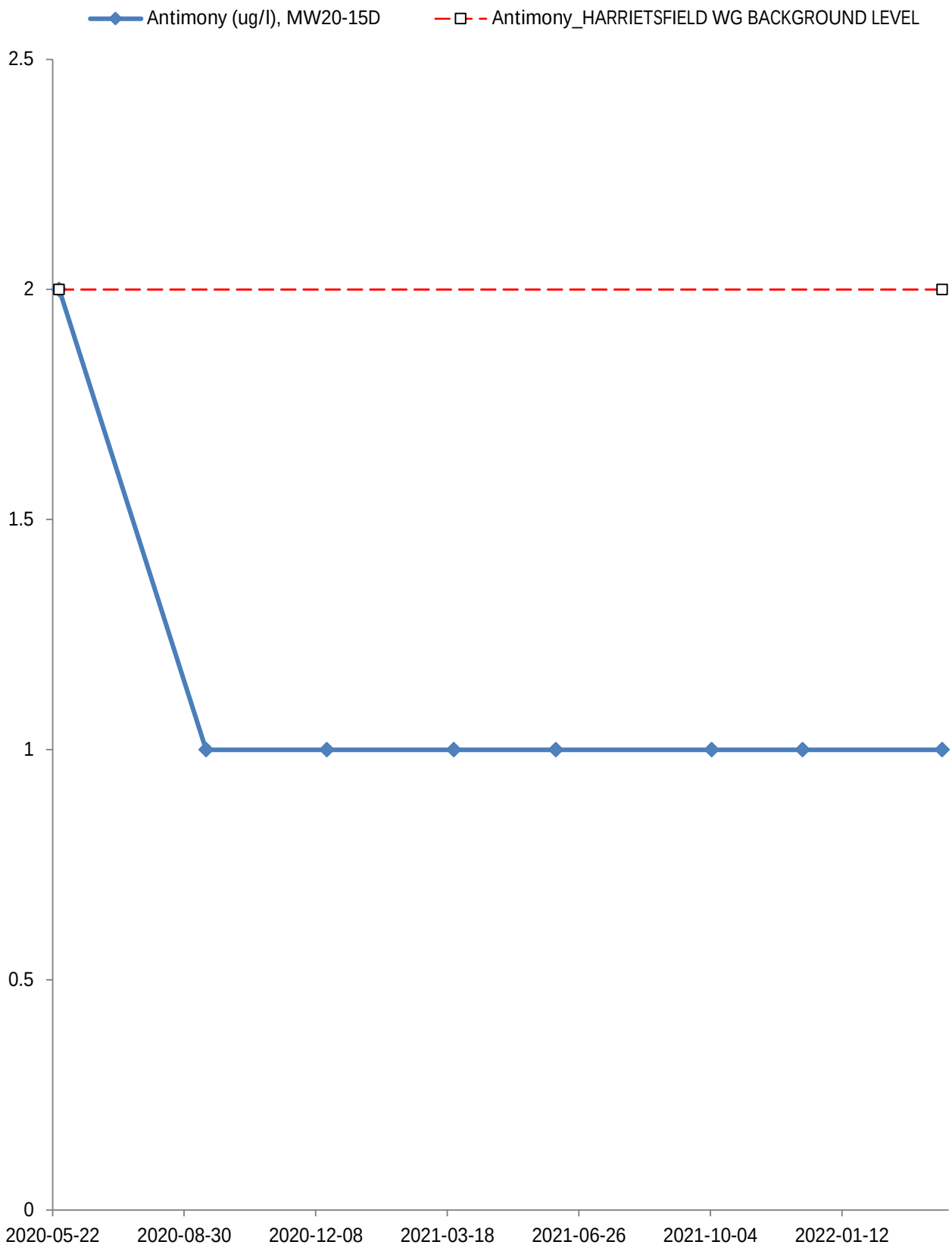
MW20-15D-Aluminum



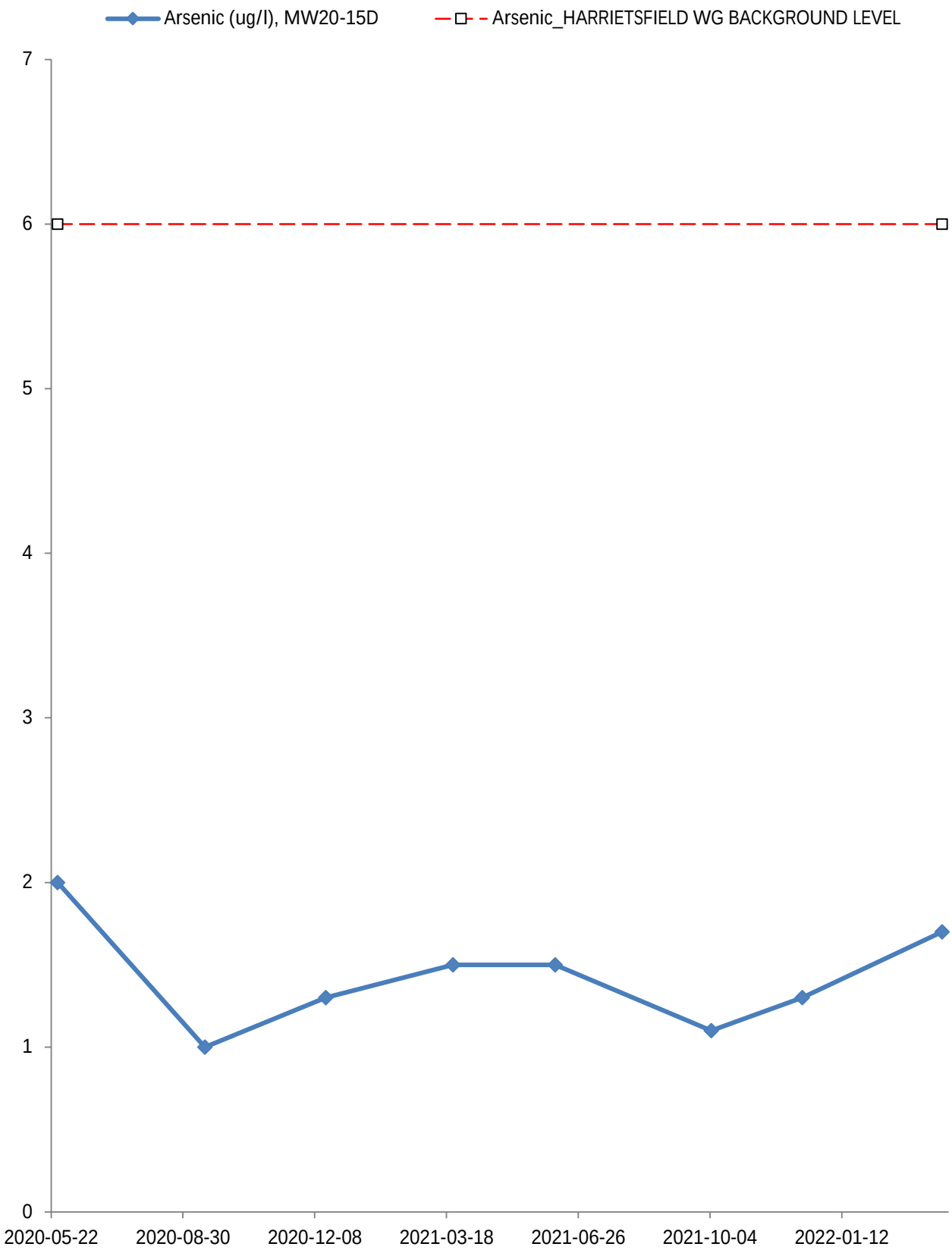
MW20-15D-Ammonia-N



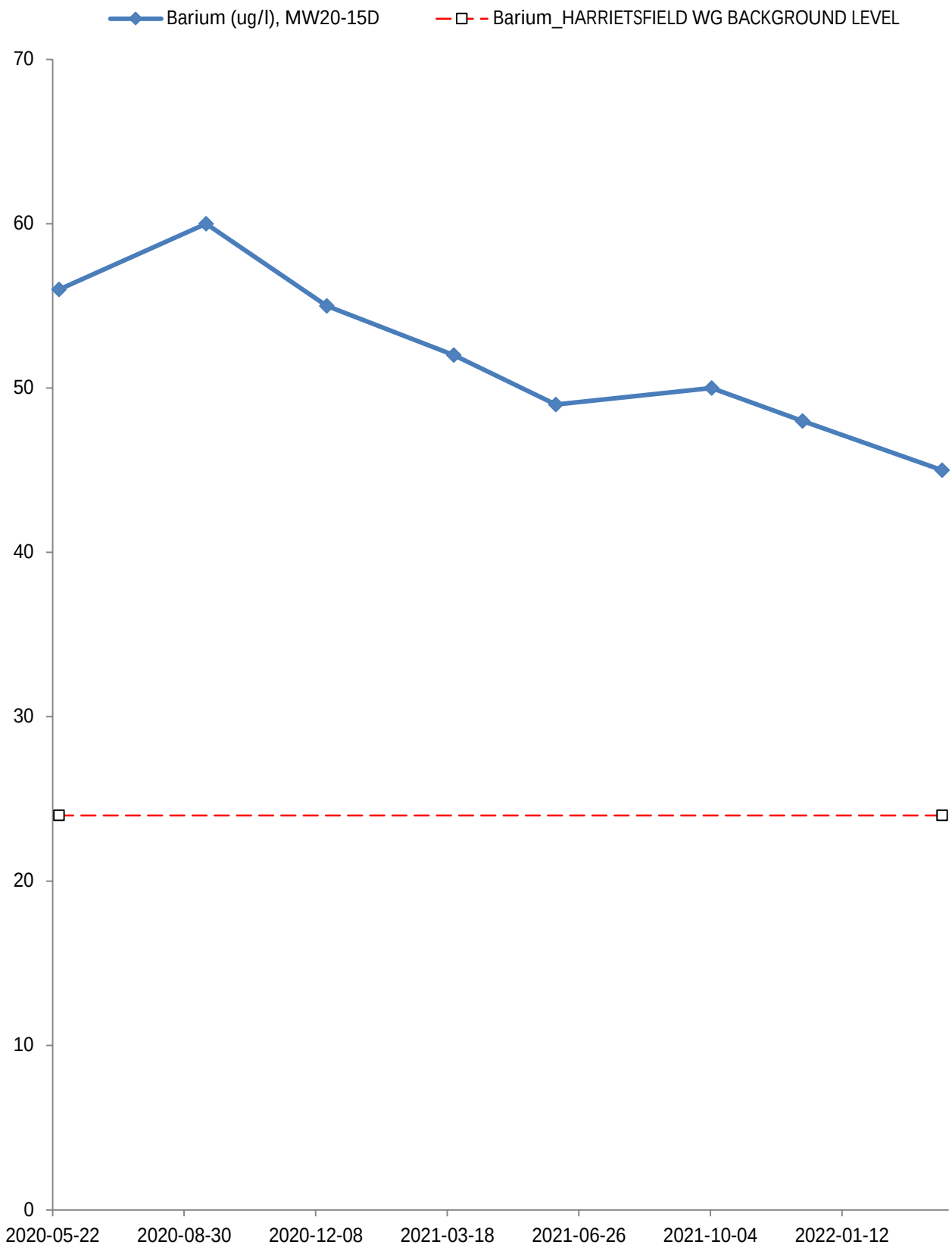
MW20-15D-Antimony



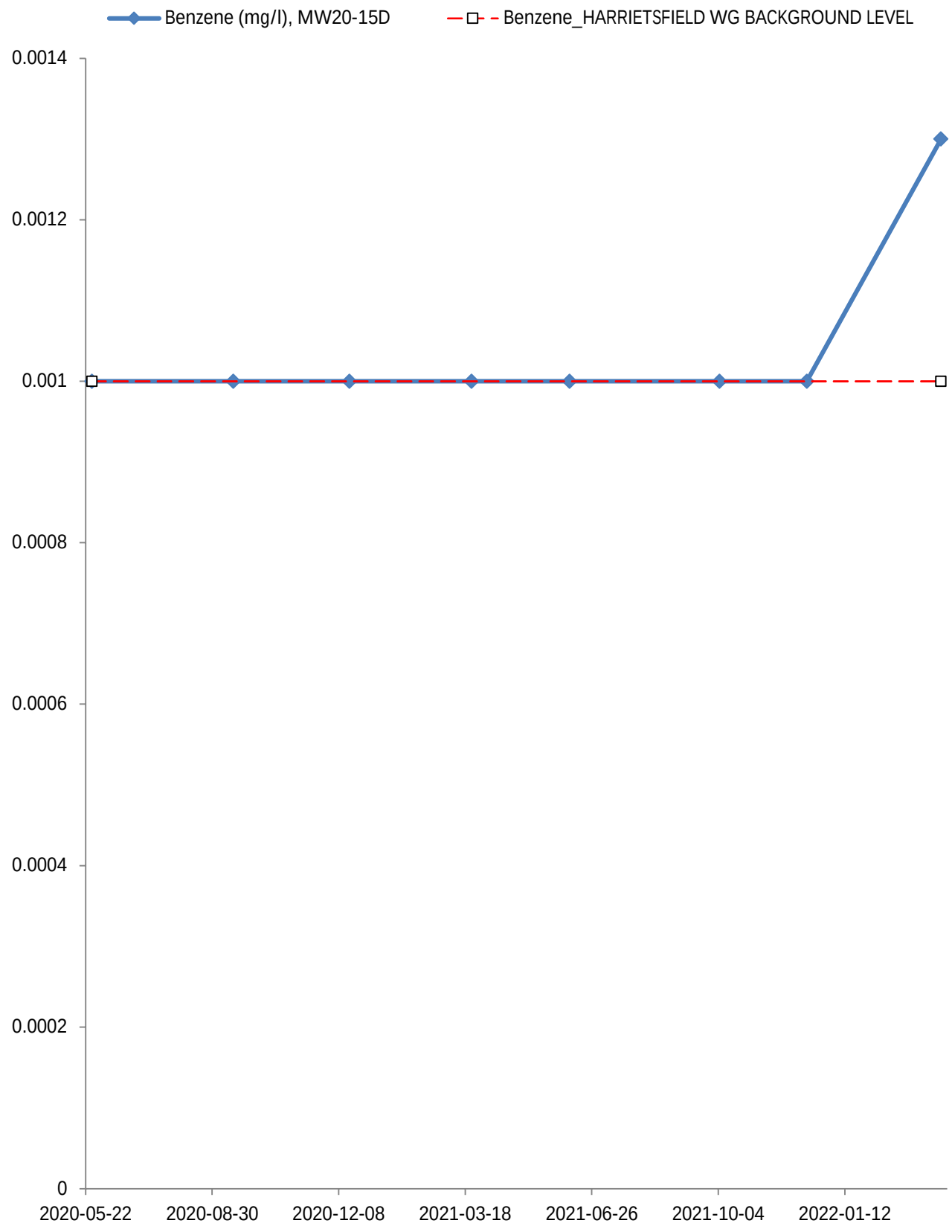
MW20-15D-Arsenic



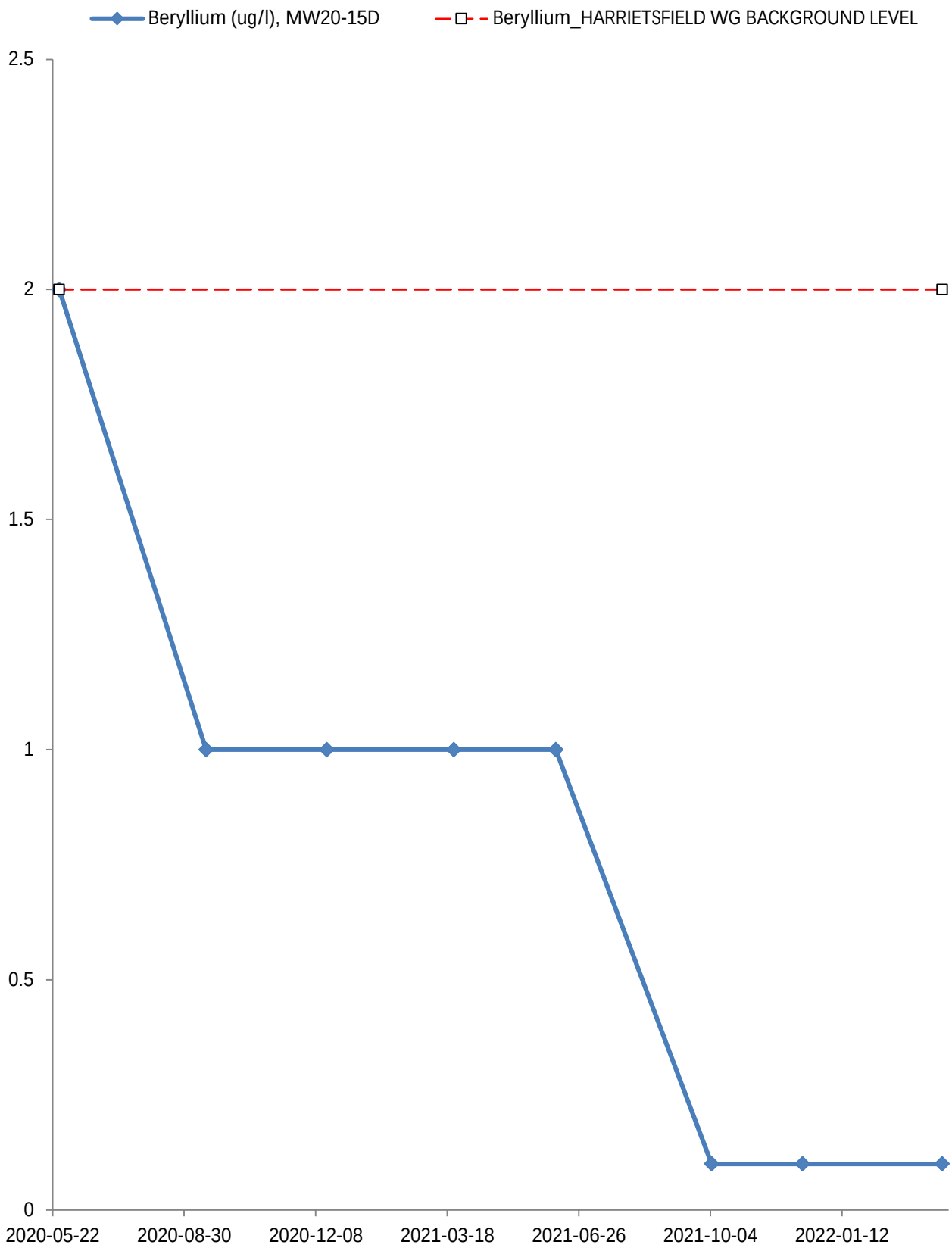
MW20-15D-Barium



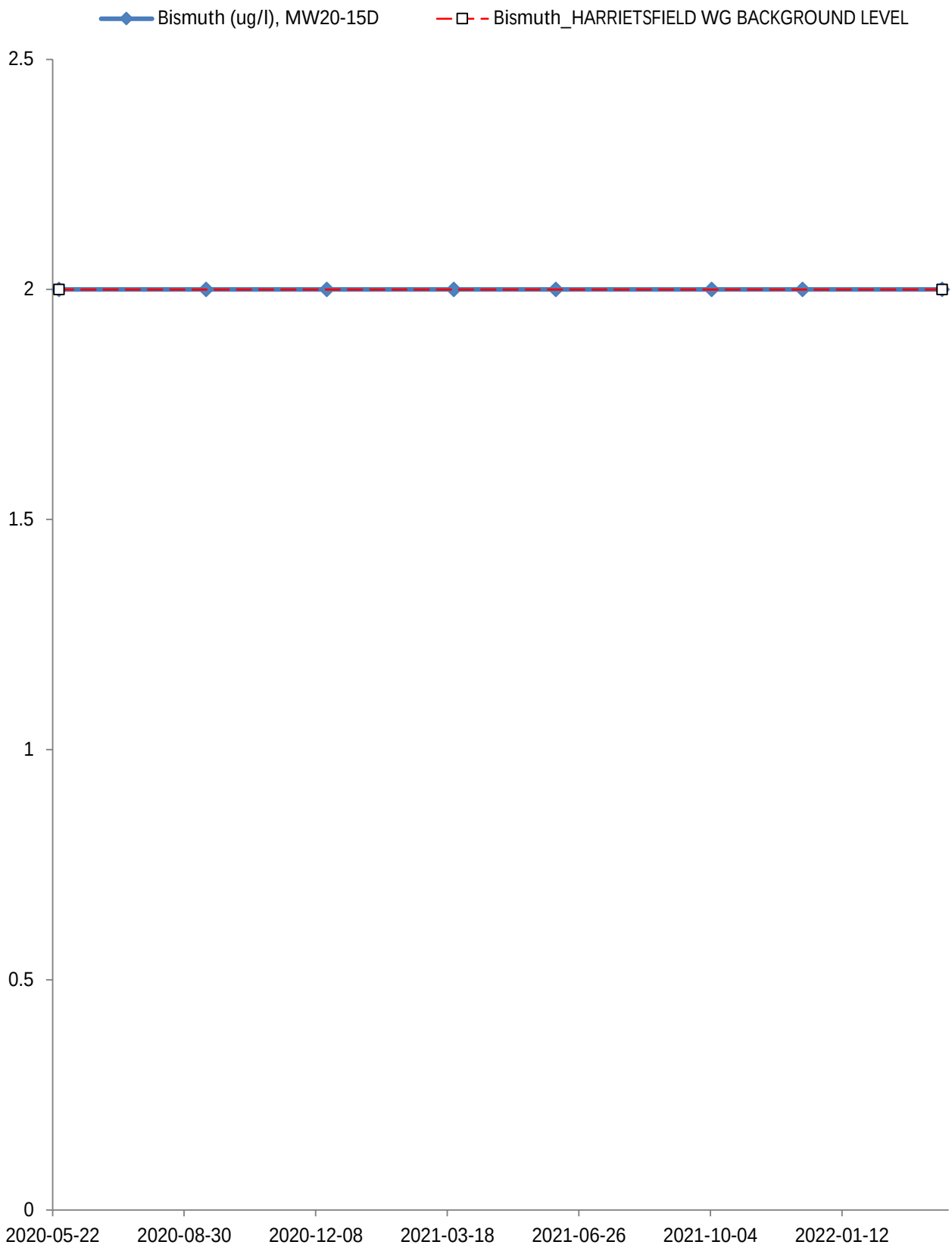
MW20-15D-Benzene



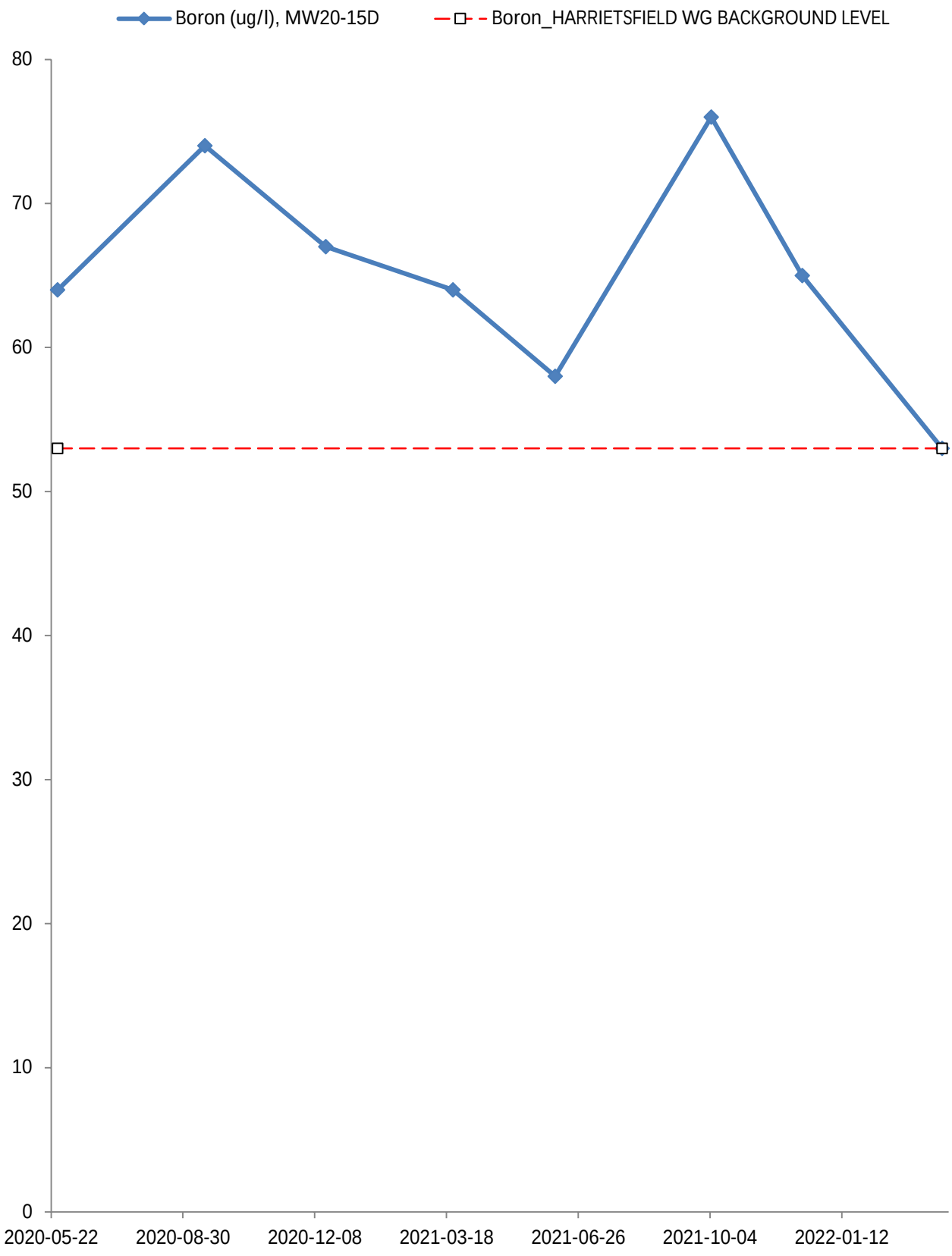
MW20-15D-Beryllium



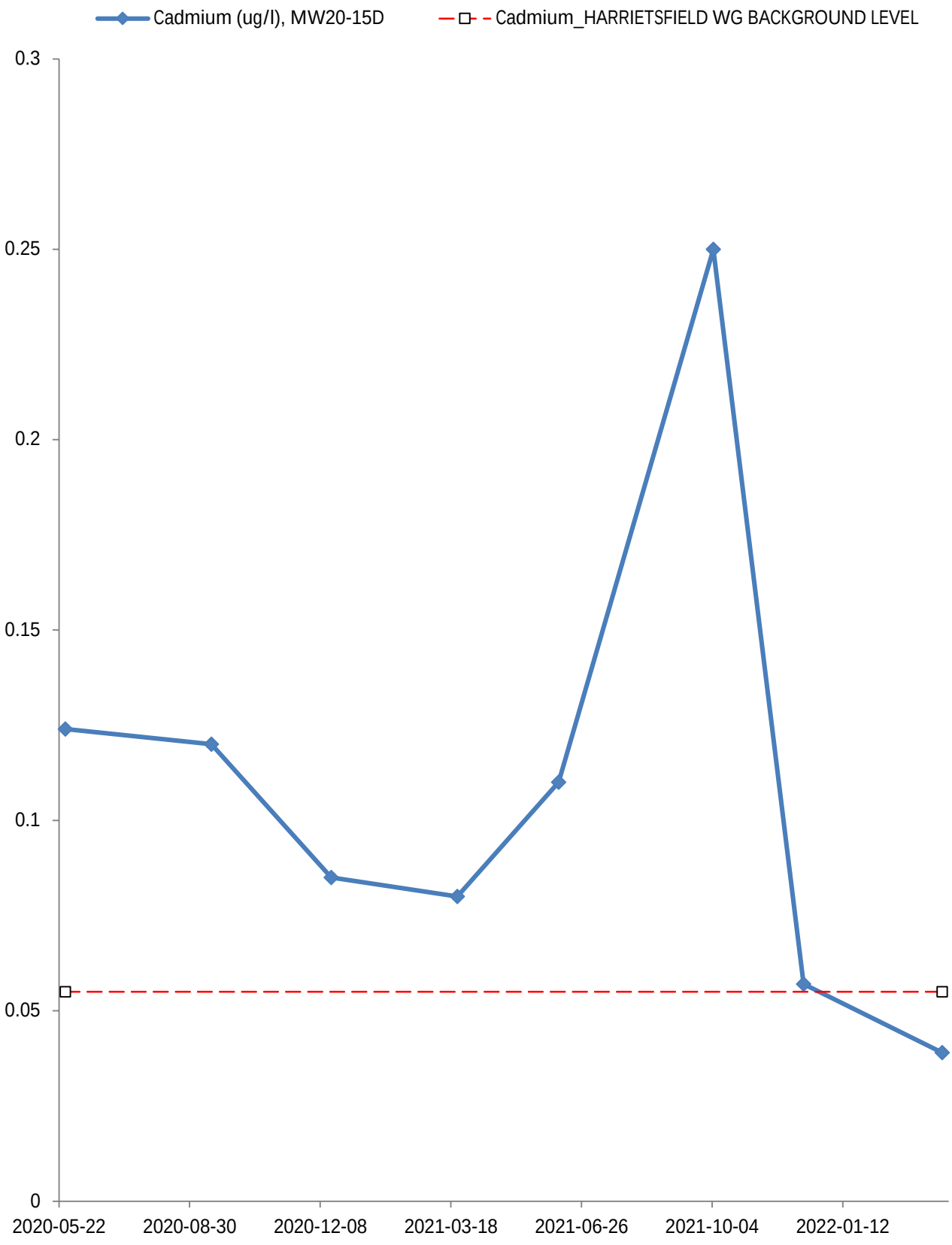
MW20-15D-Bismuth



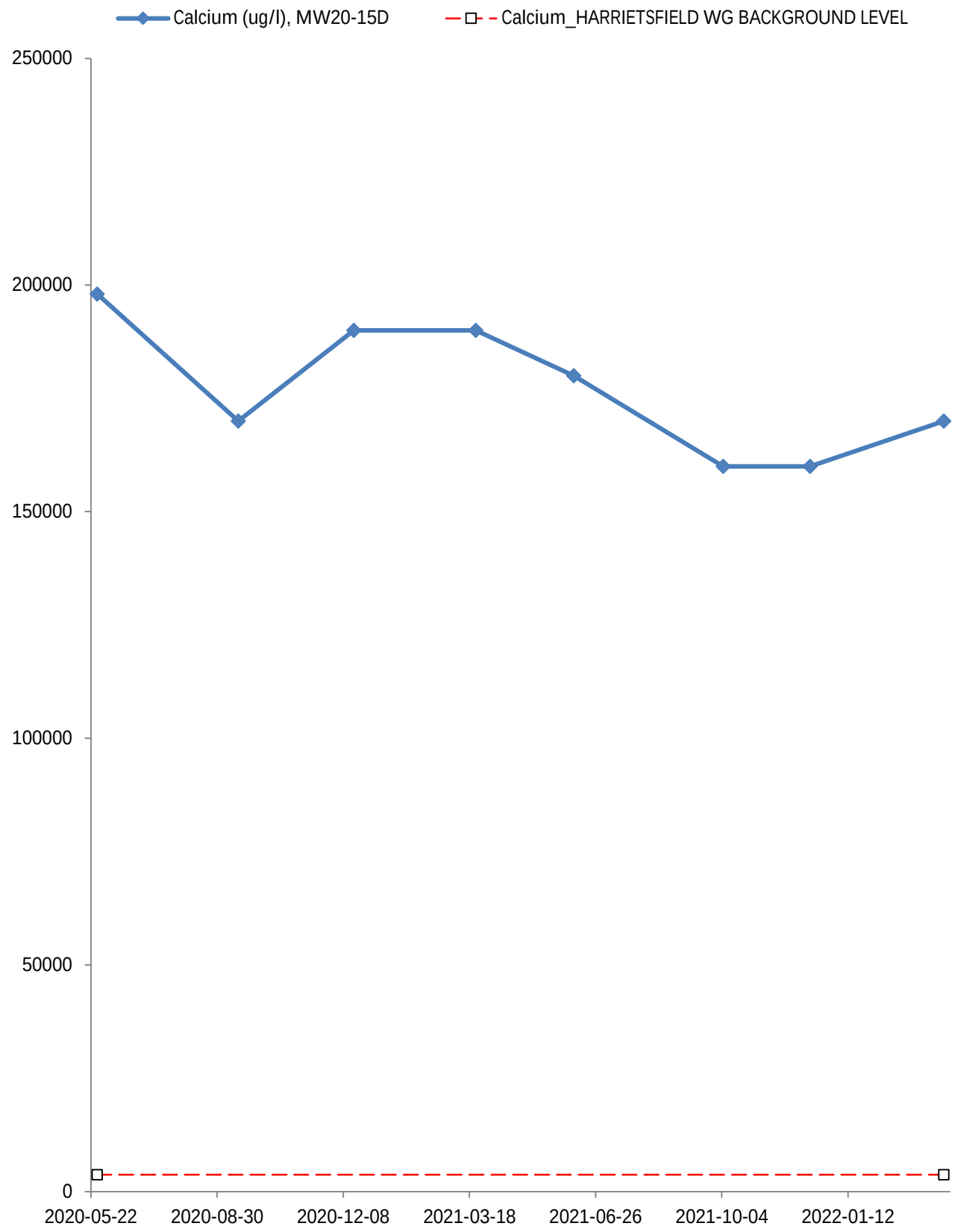
MW20-15D-Boron



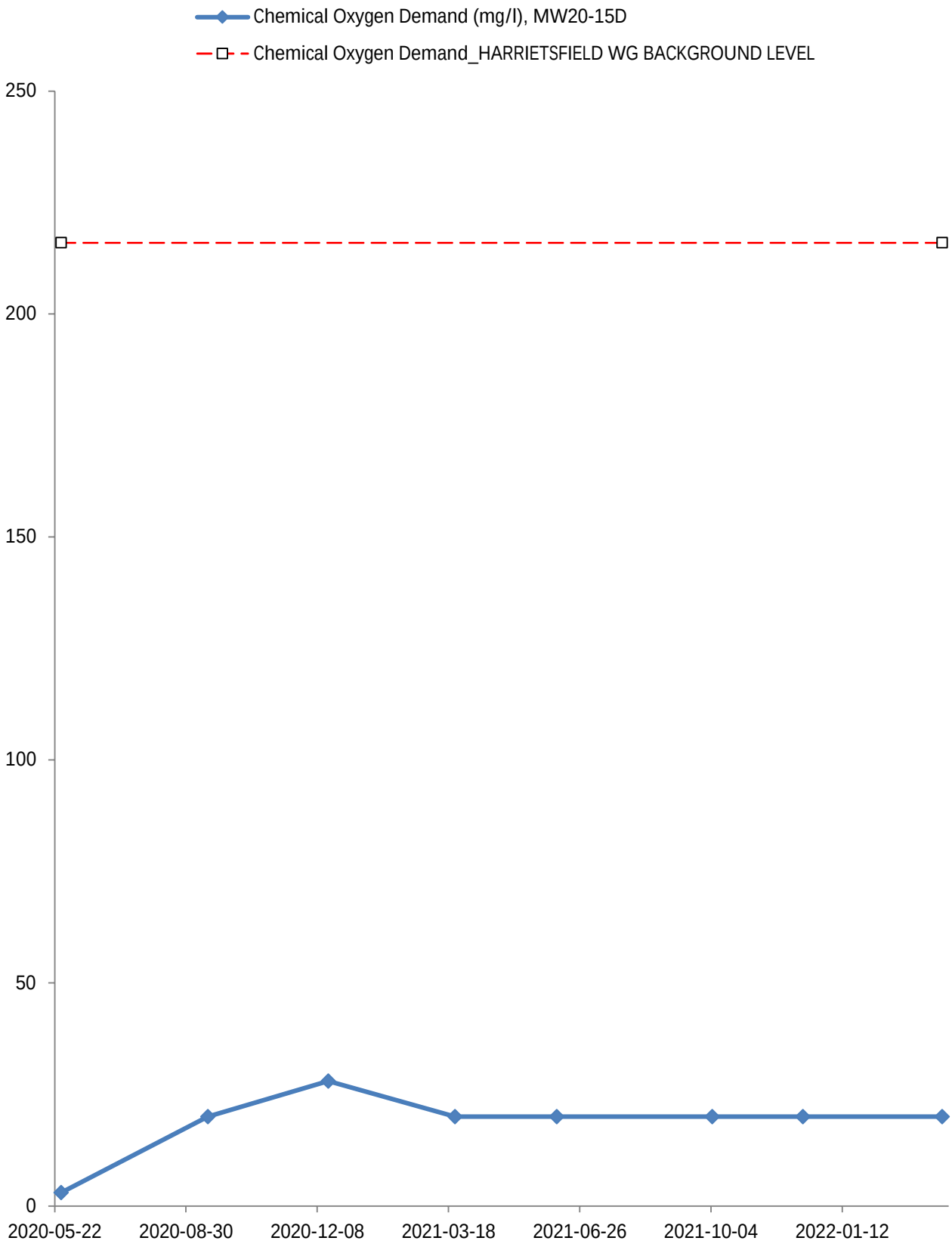
MW20-15D-Cadmium



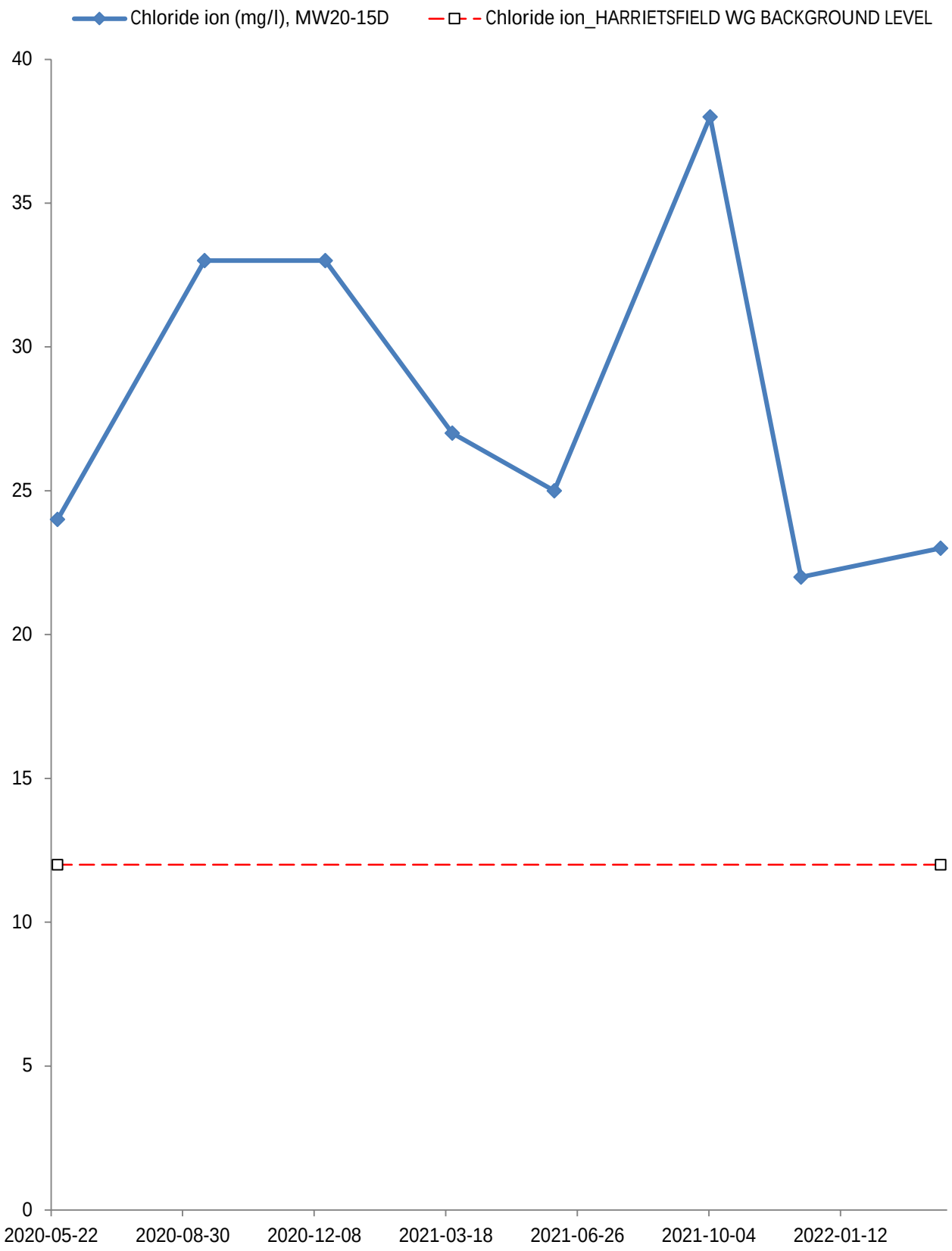
MW20-15D-Calcium



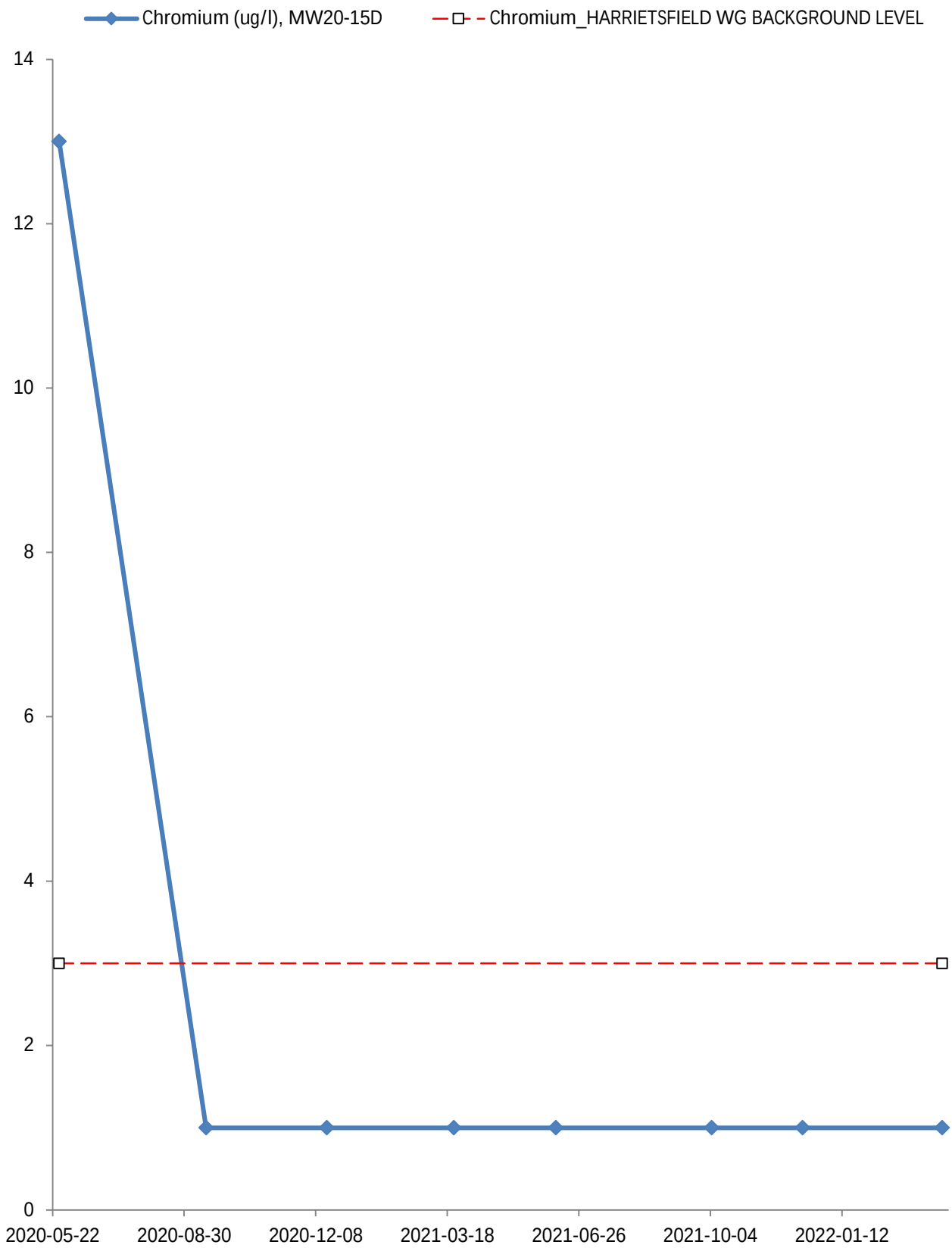
MW20-15D-Chemical Oxygen Demand



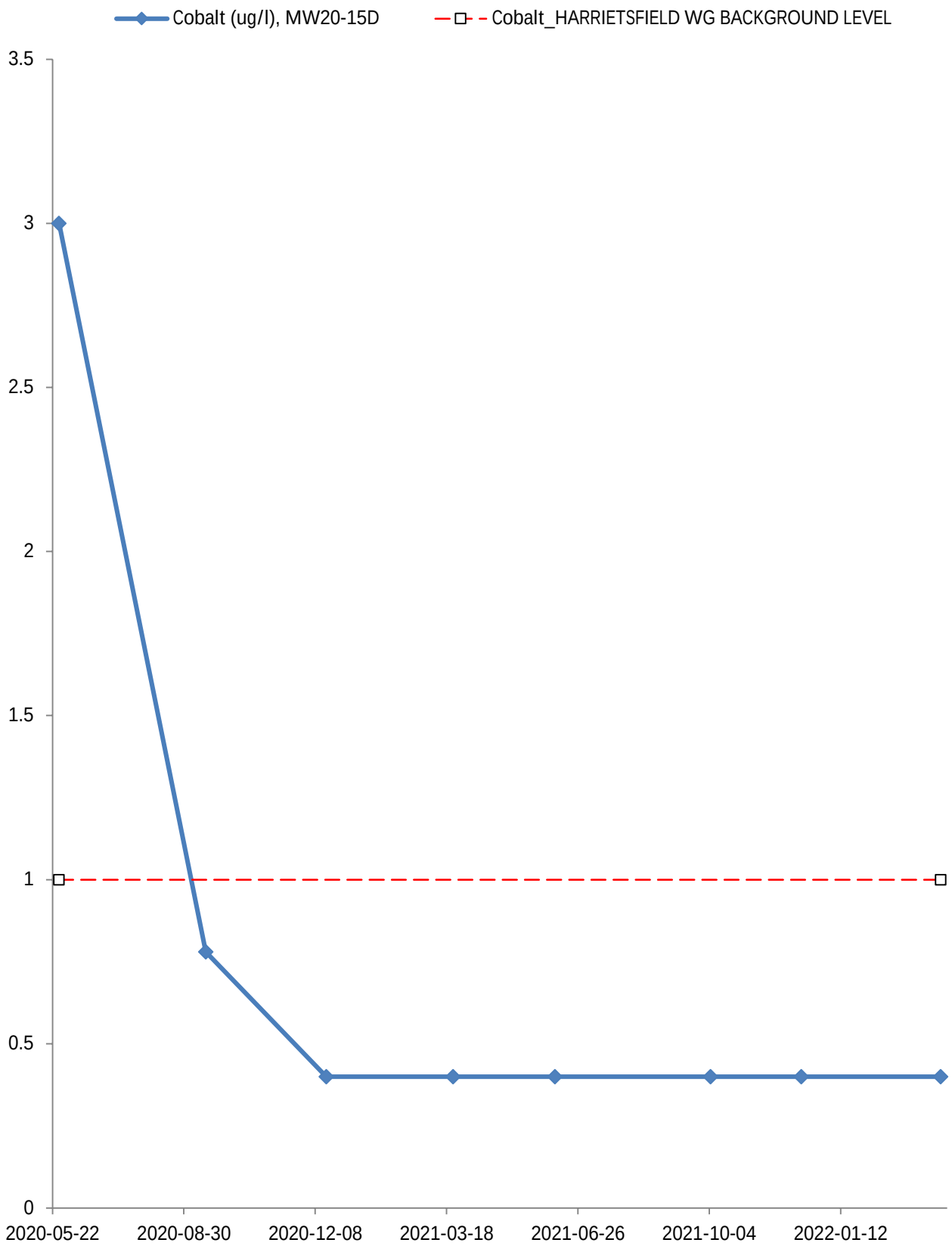
MW20-15D-Chloride ion



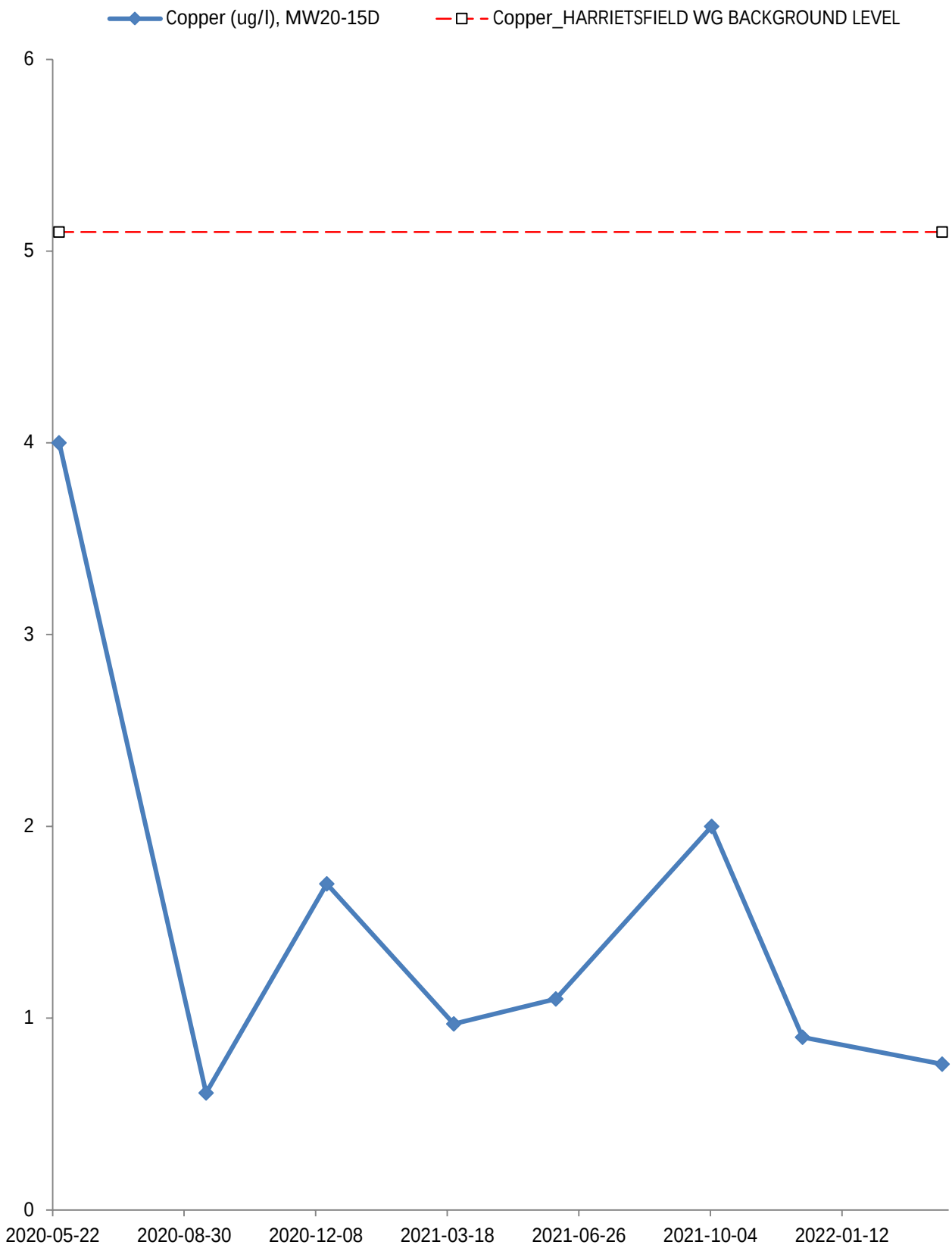
MW20-15D-Chromium



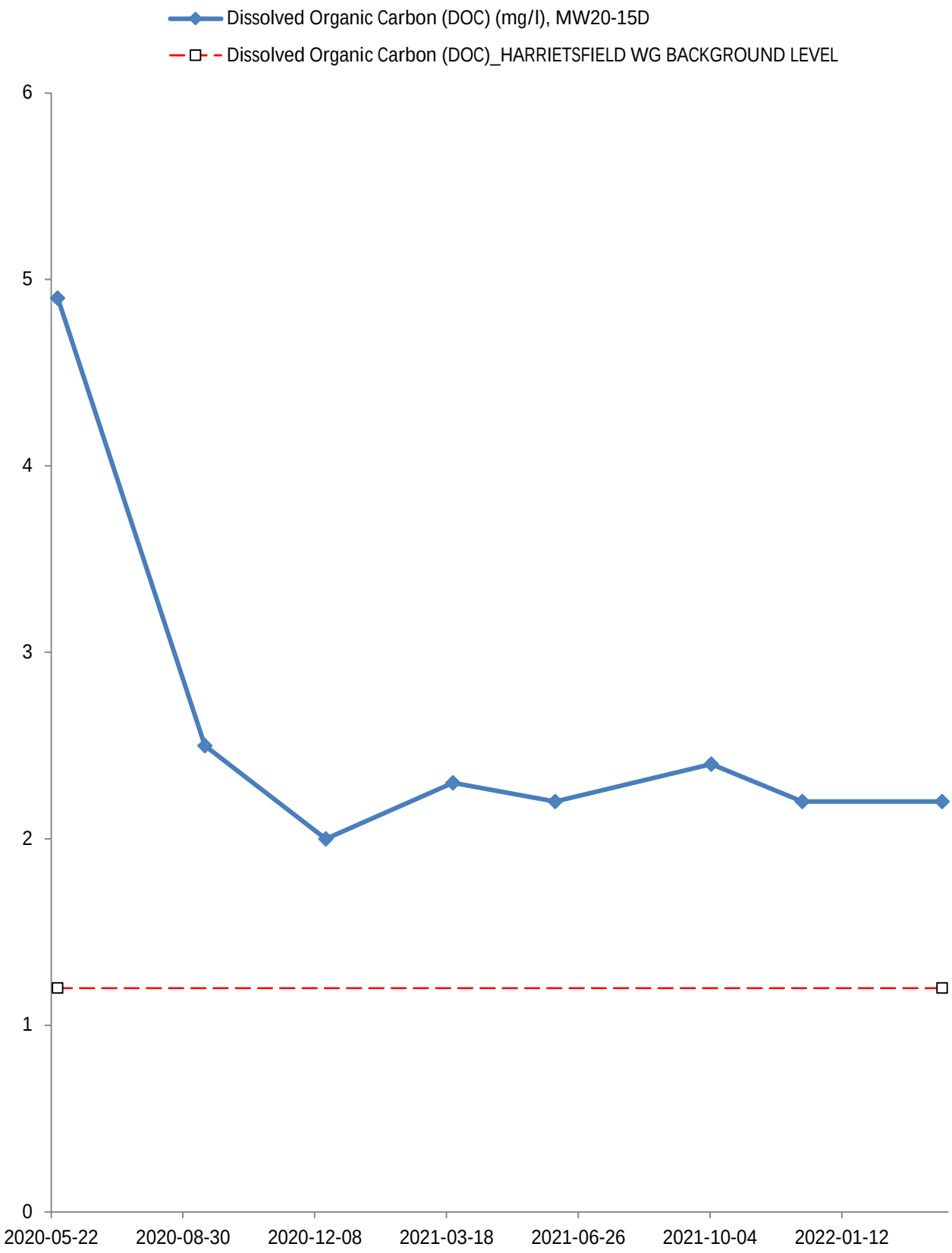
MW20-15D-Cobalt



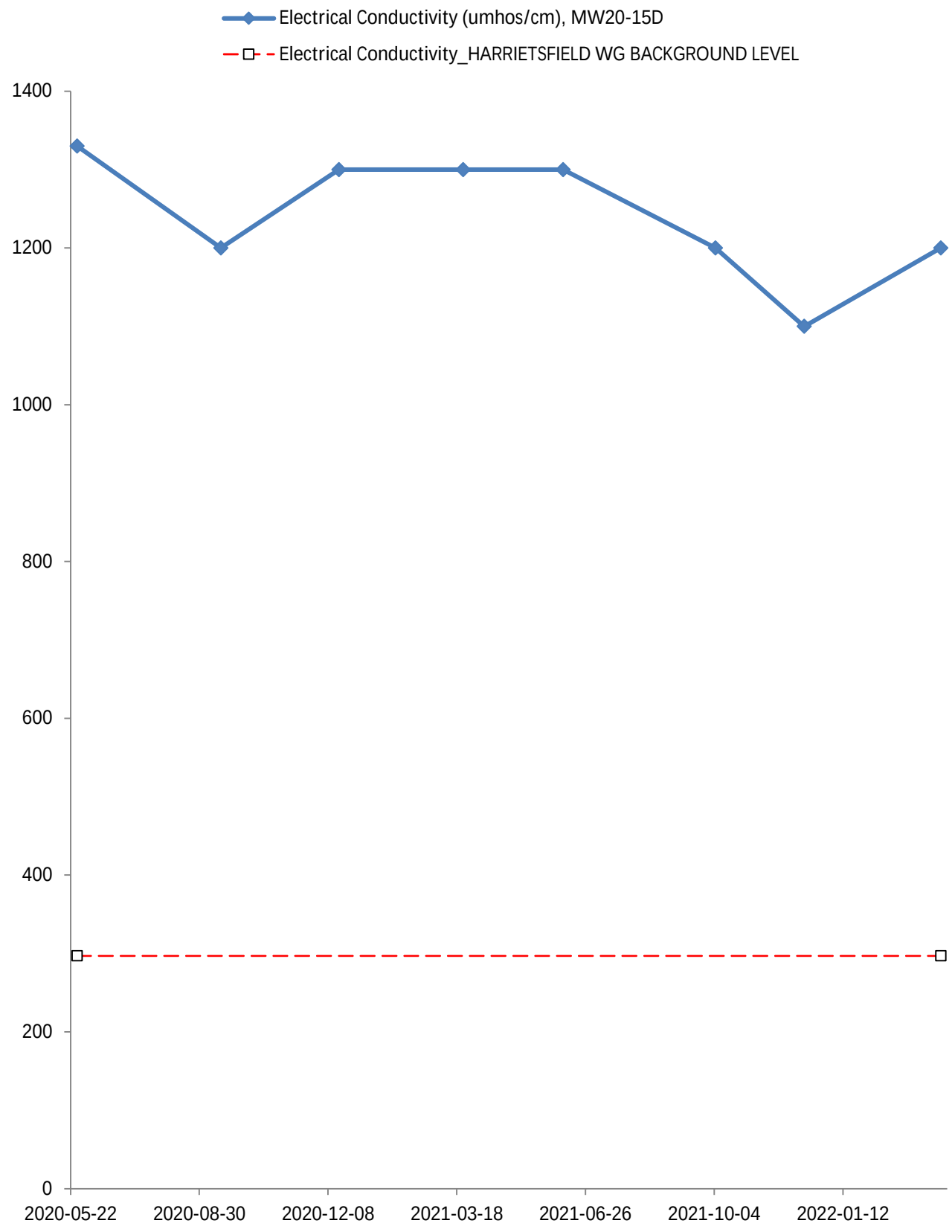
MW20-15D-Copper



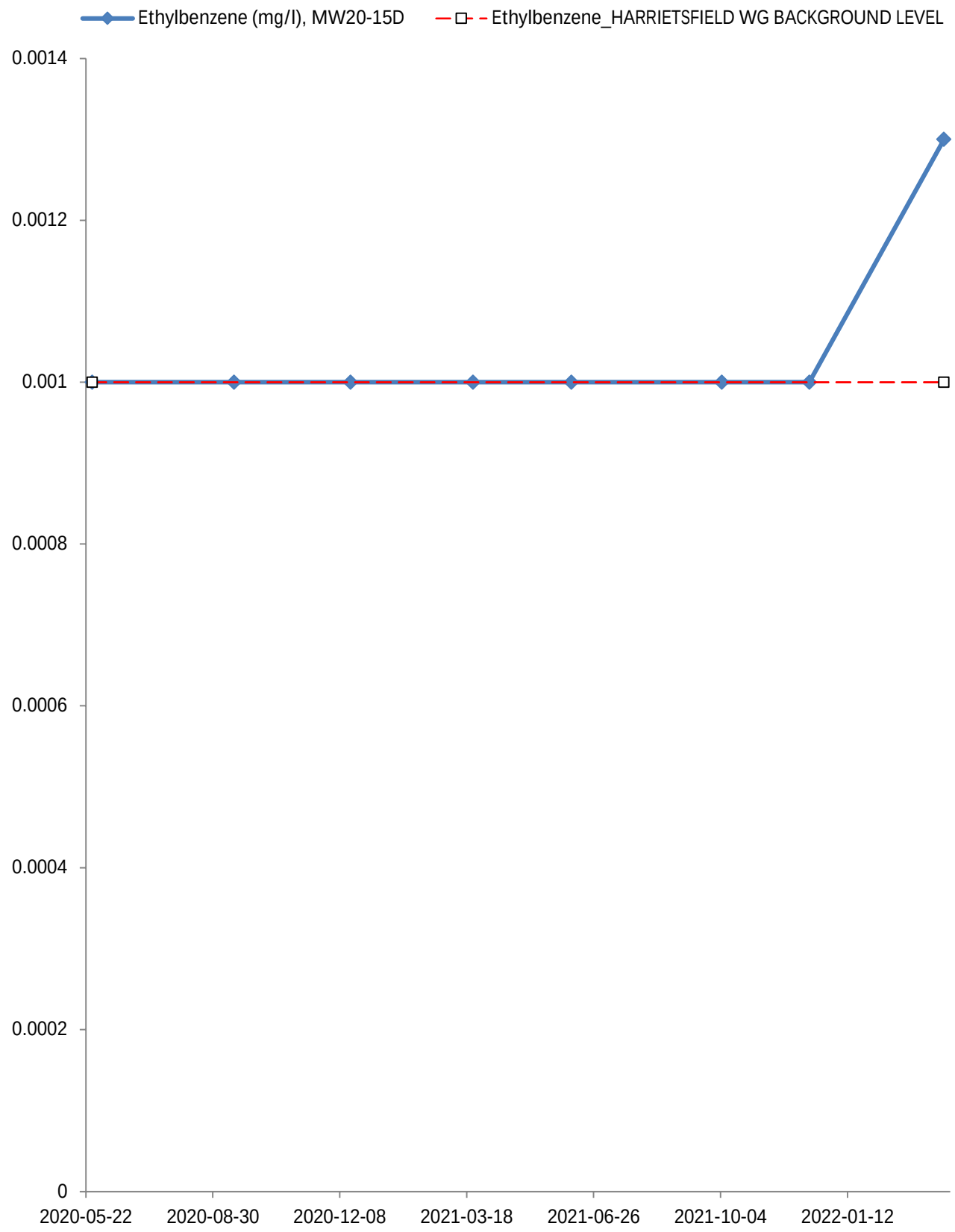
MW20-15D-Dissolved Organic Carbon7



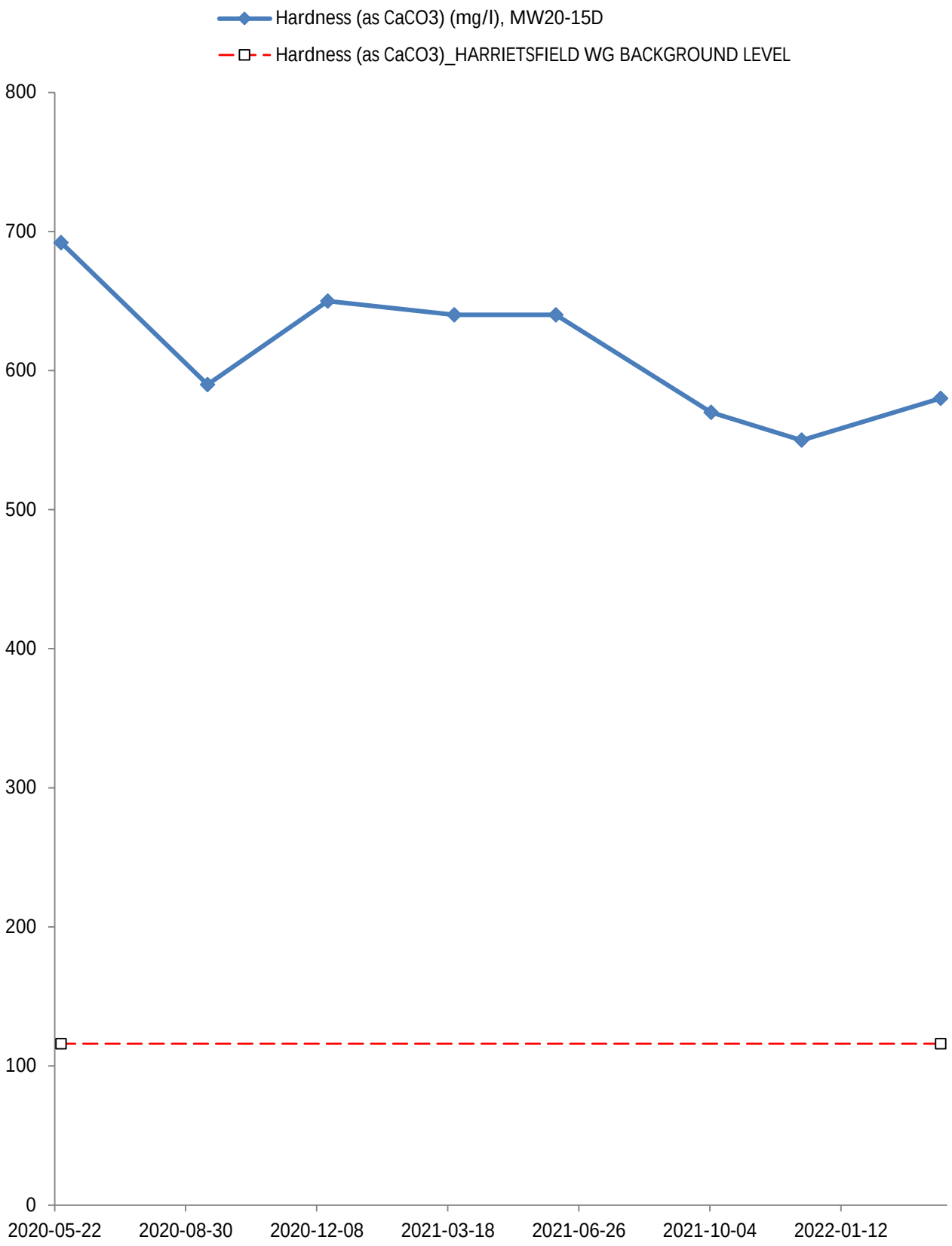
MW20-15D-Electrical Conductivity



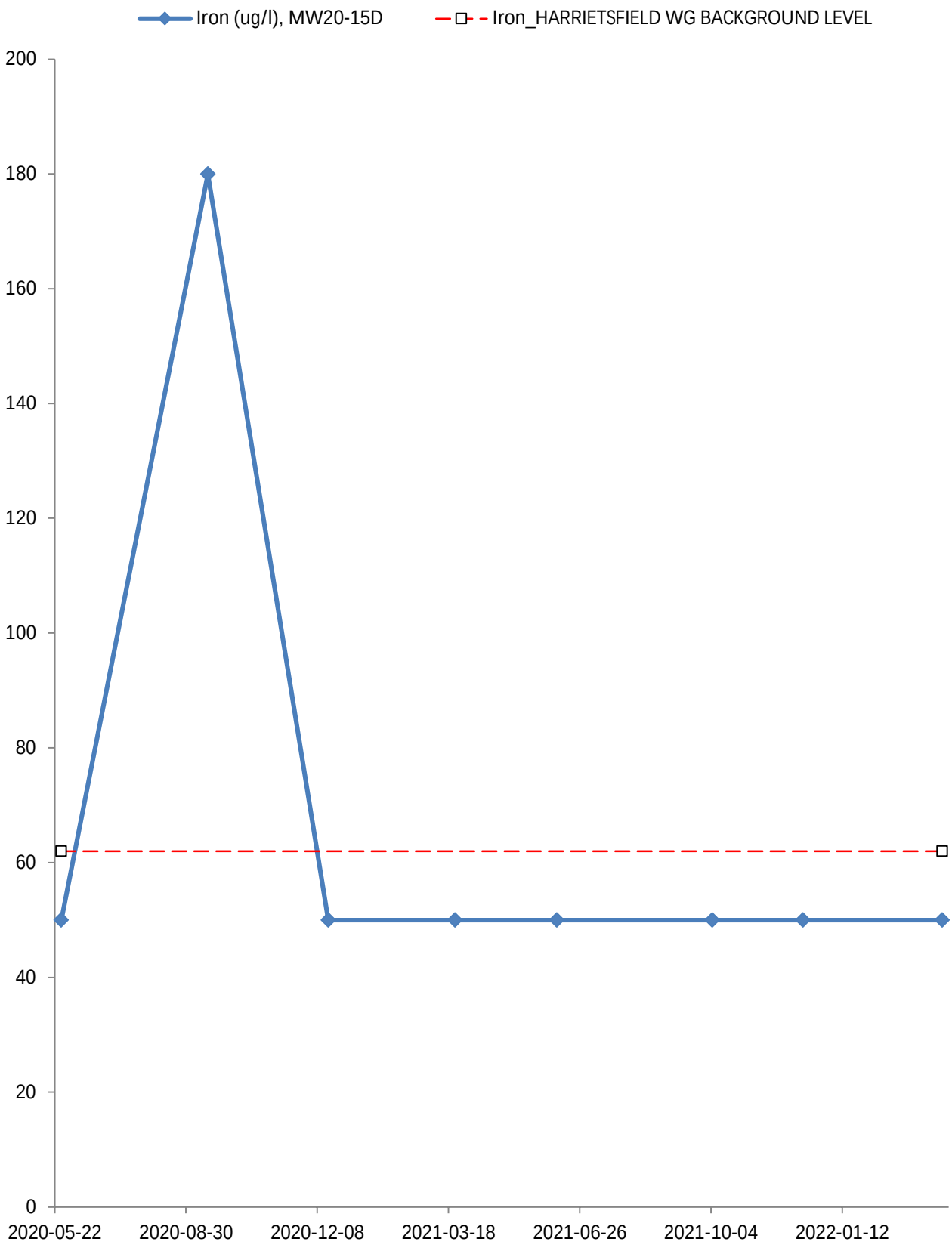
MW20-15D-Ethylbenzene



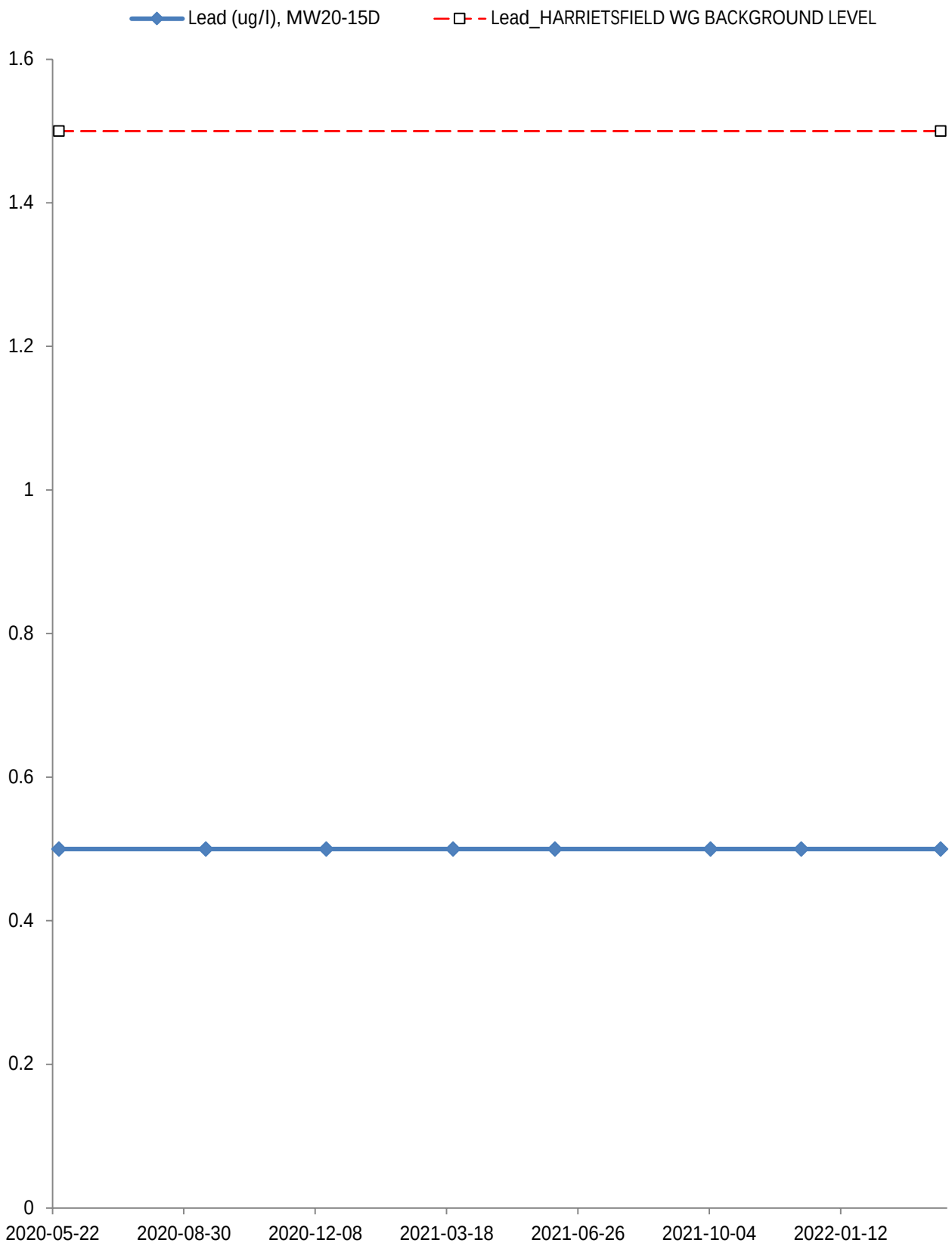
MW20-15D-Hardness (as CaCO3)



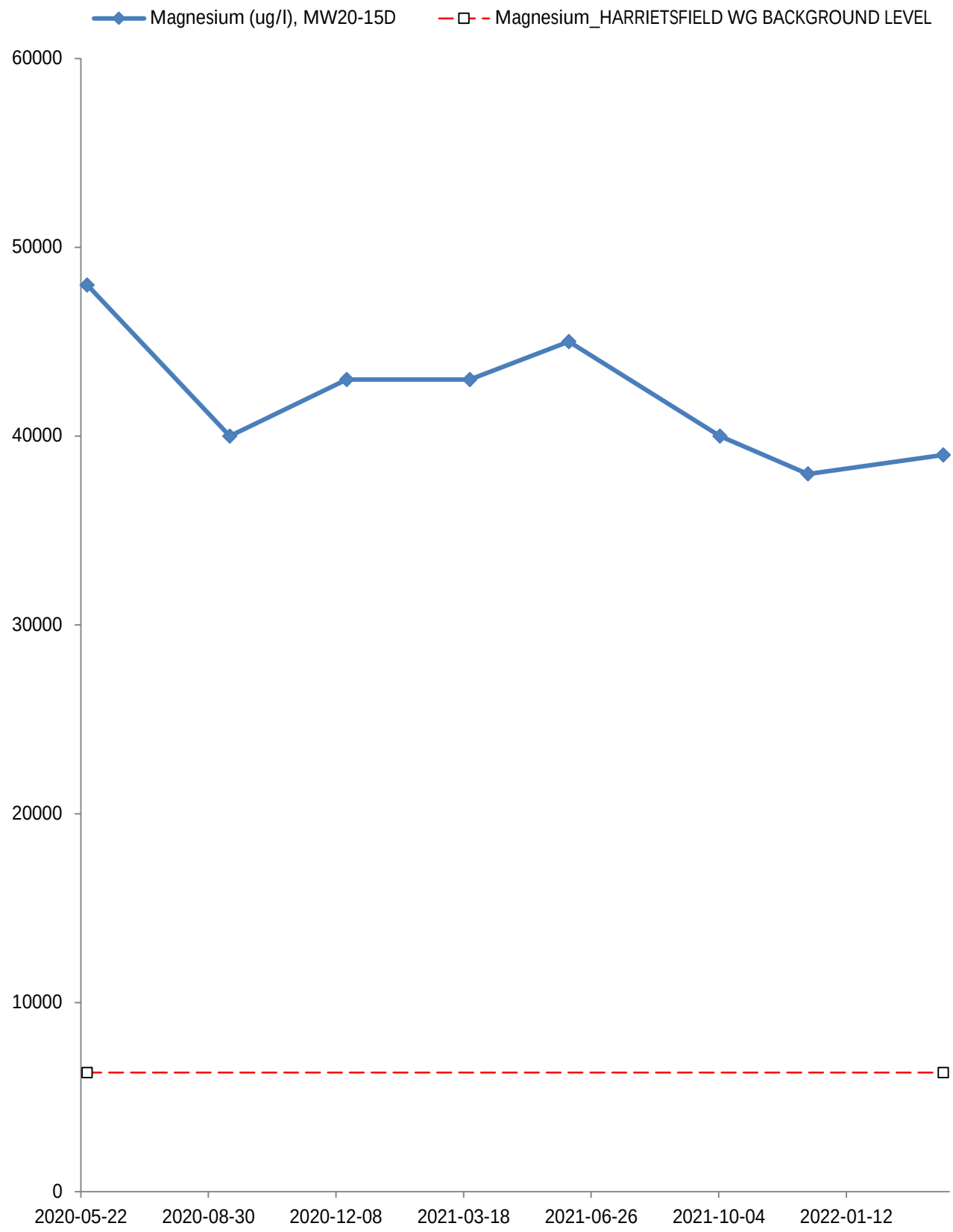
MW20-15D-Iron



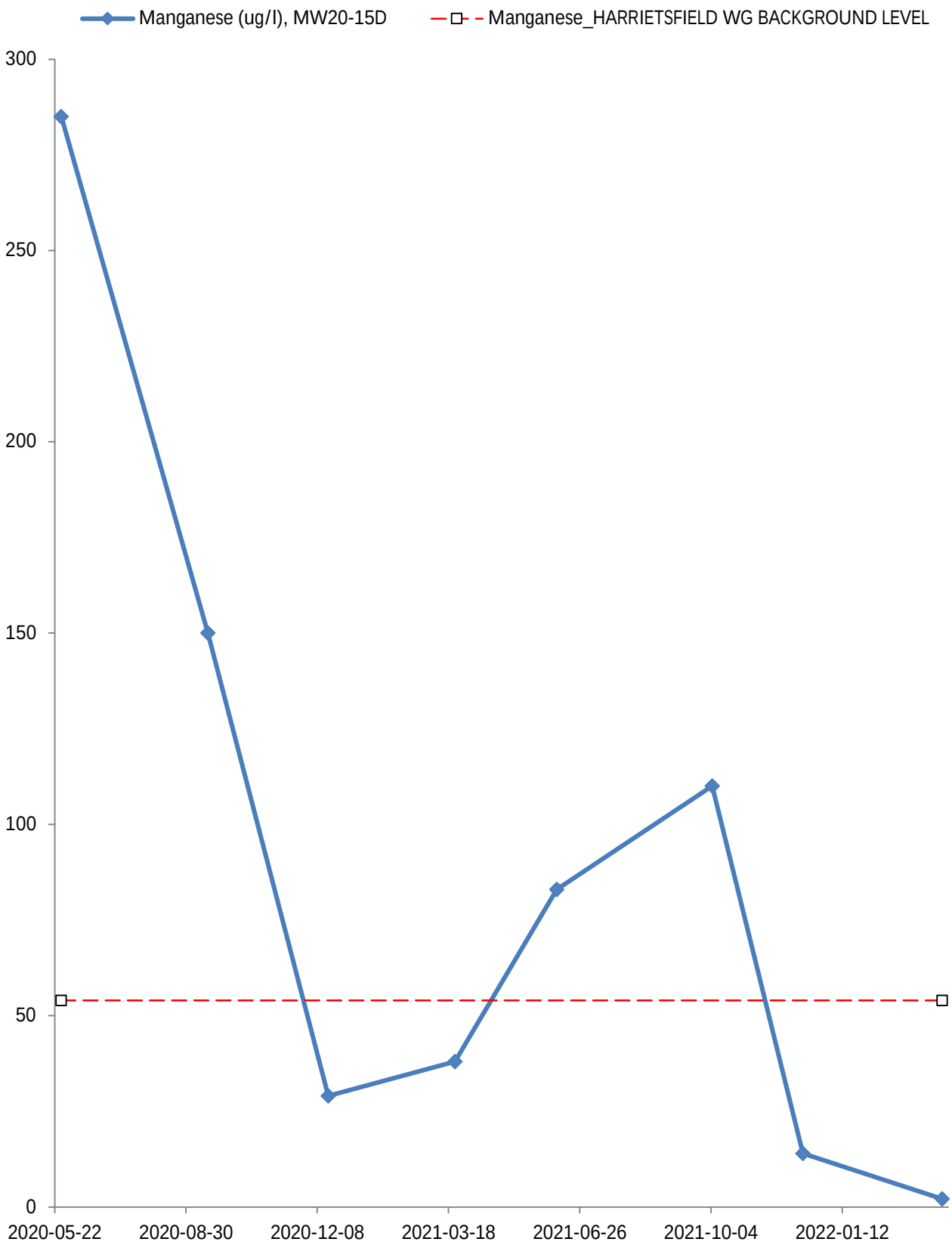
MW20-15D-Lead



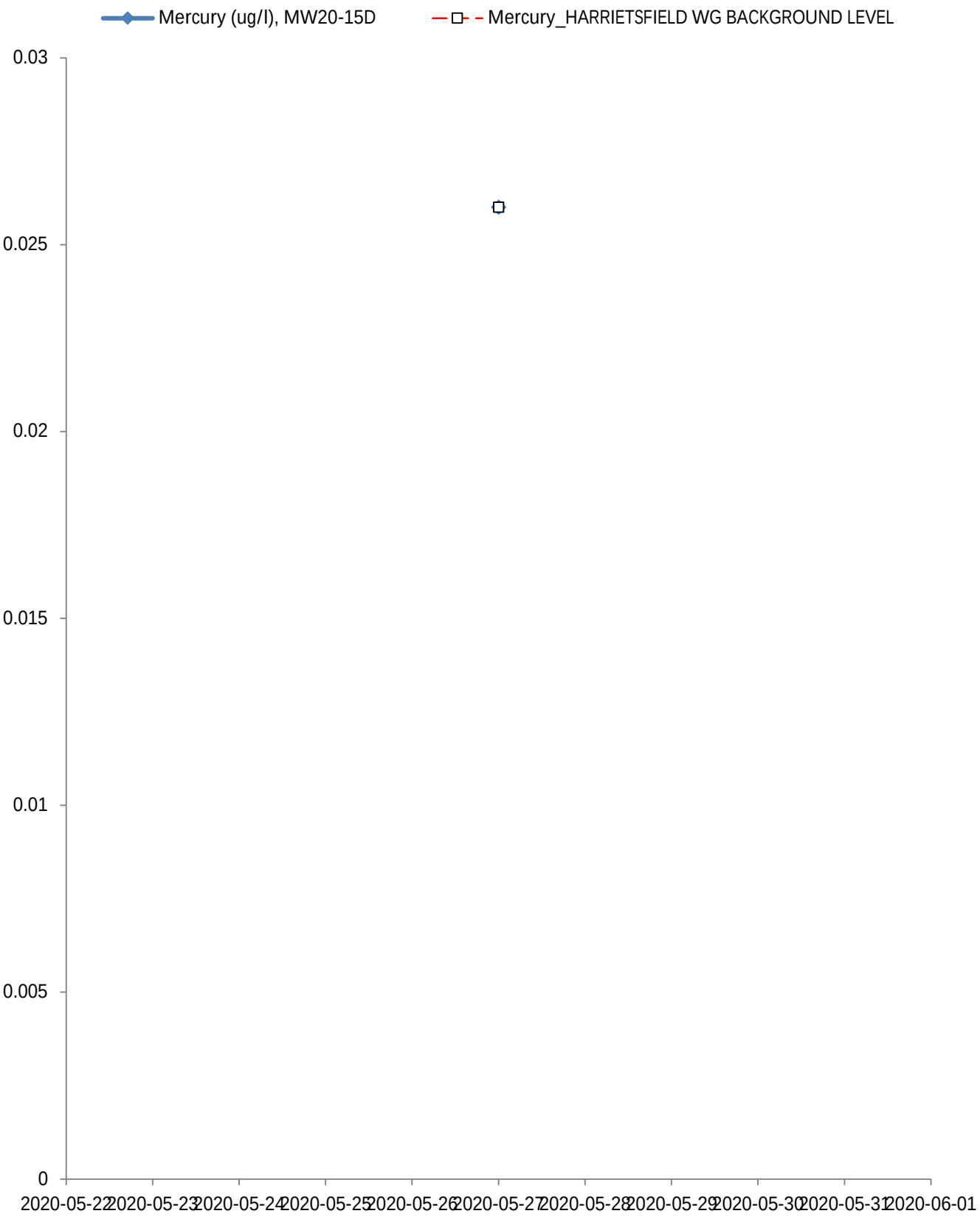
MW20-15D-Magnesium



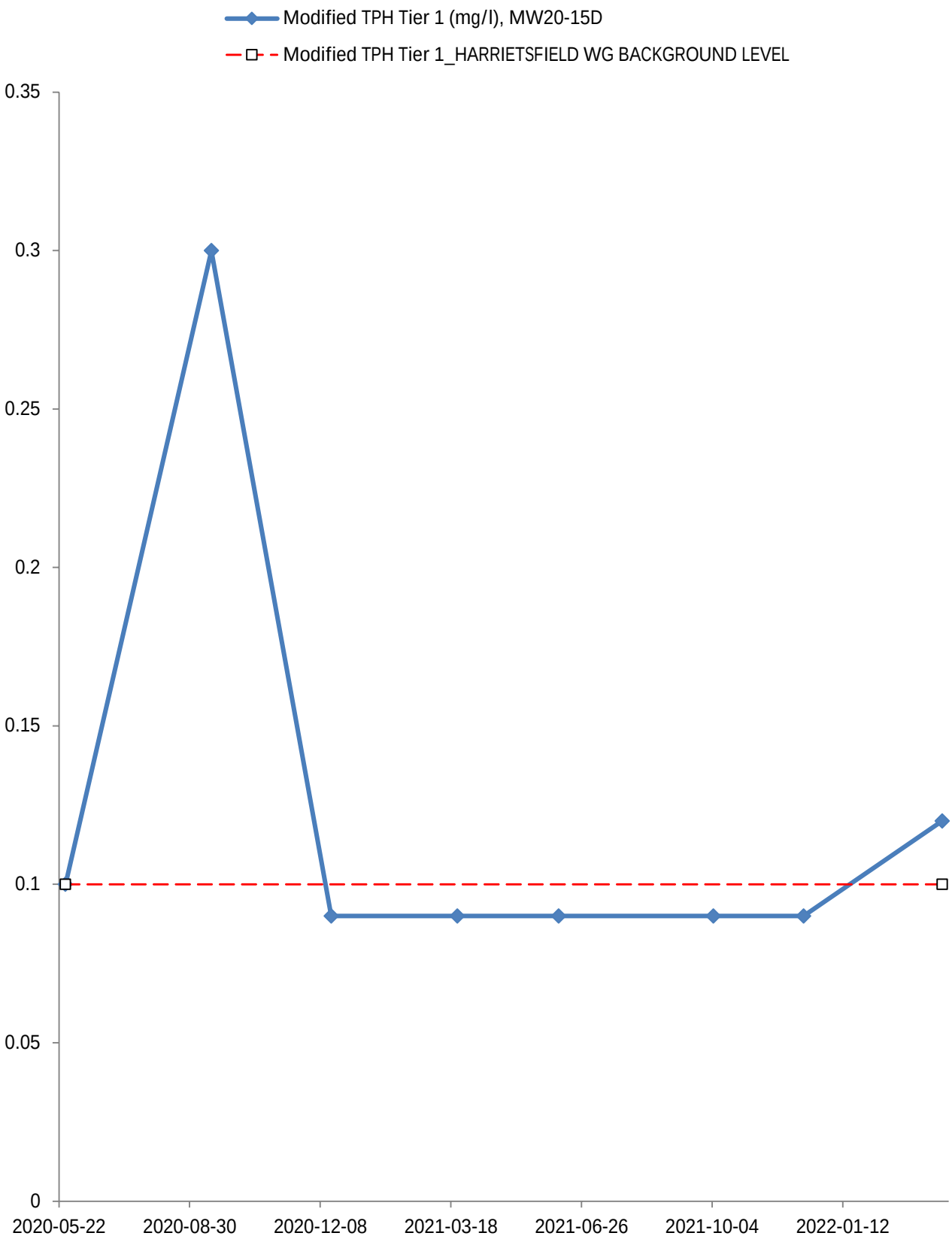
MW20-15D-Manganese



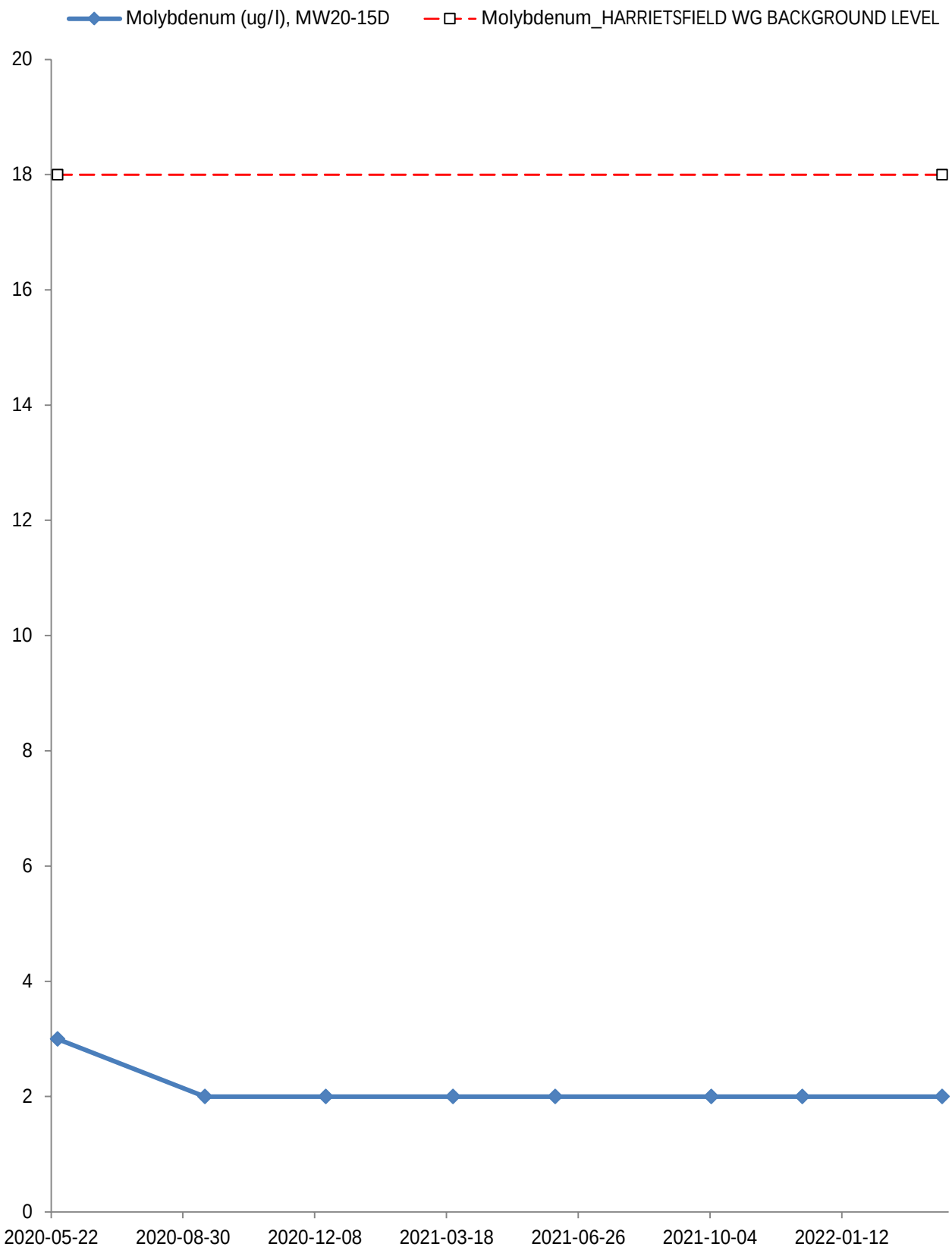
MW20-15D-Mercury



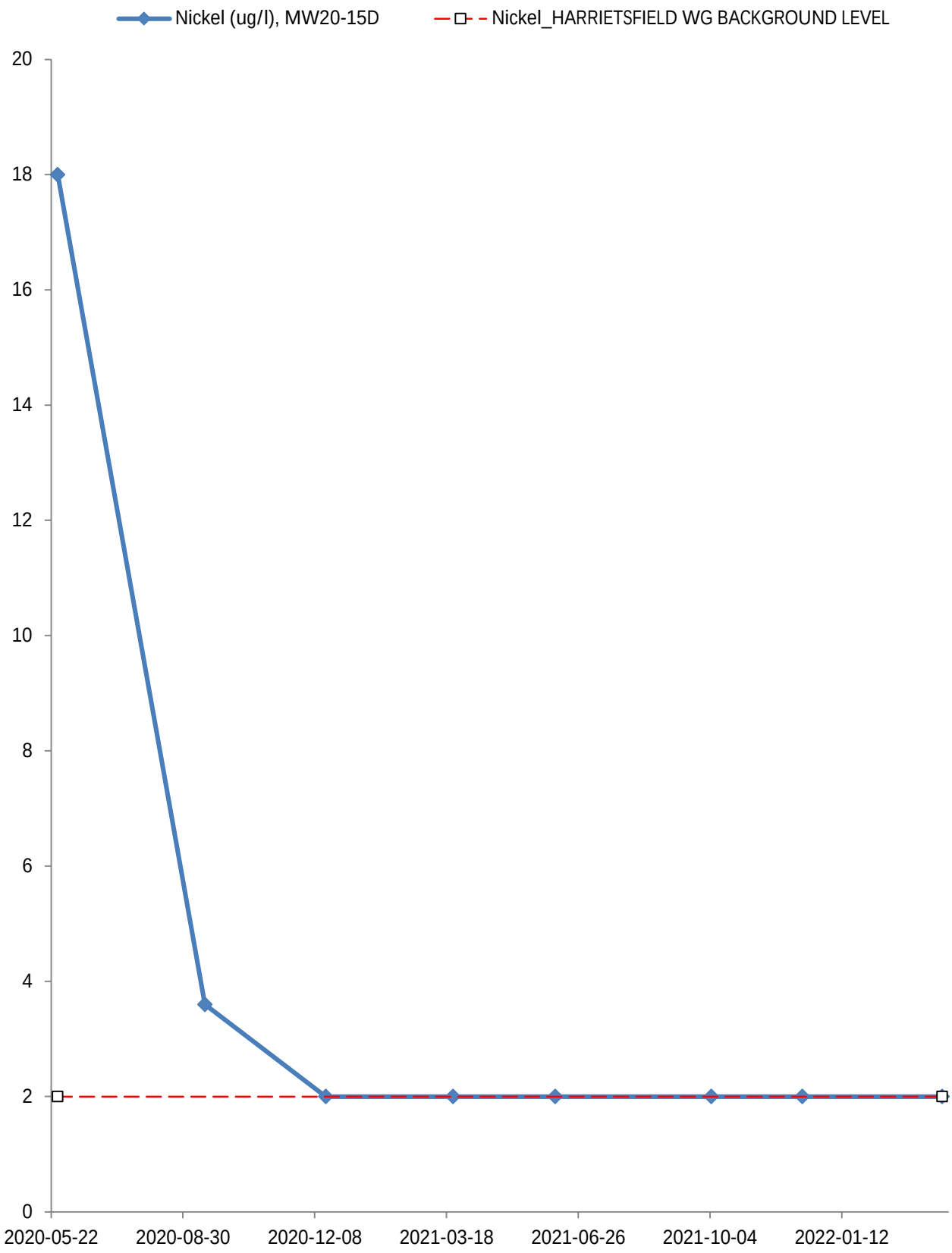
MW20-15D-Modified TPH Tier 1



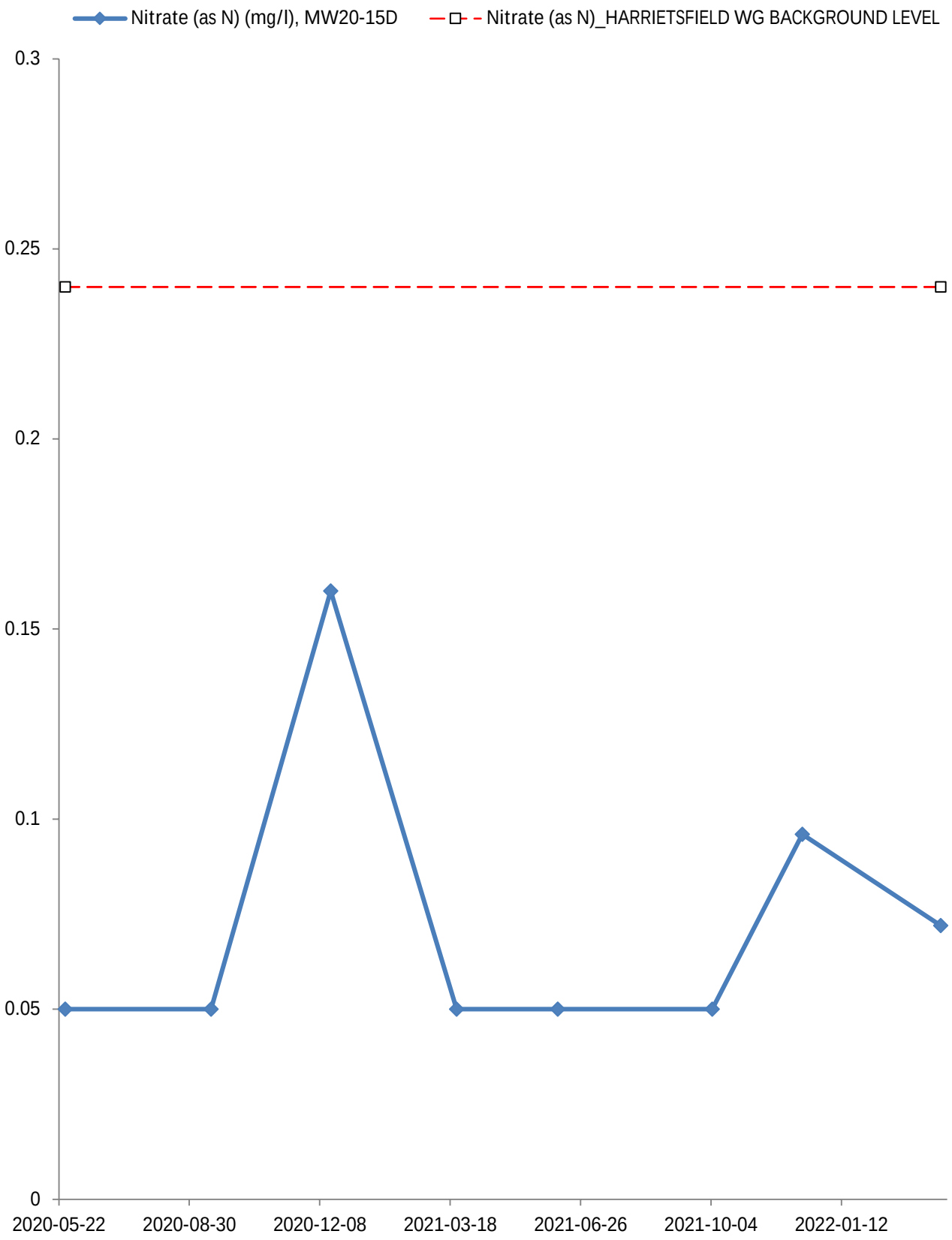
MW20-15D-Molybdenum



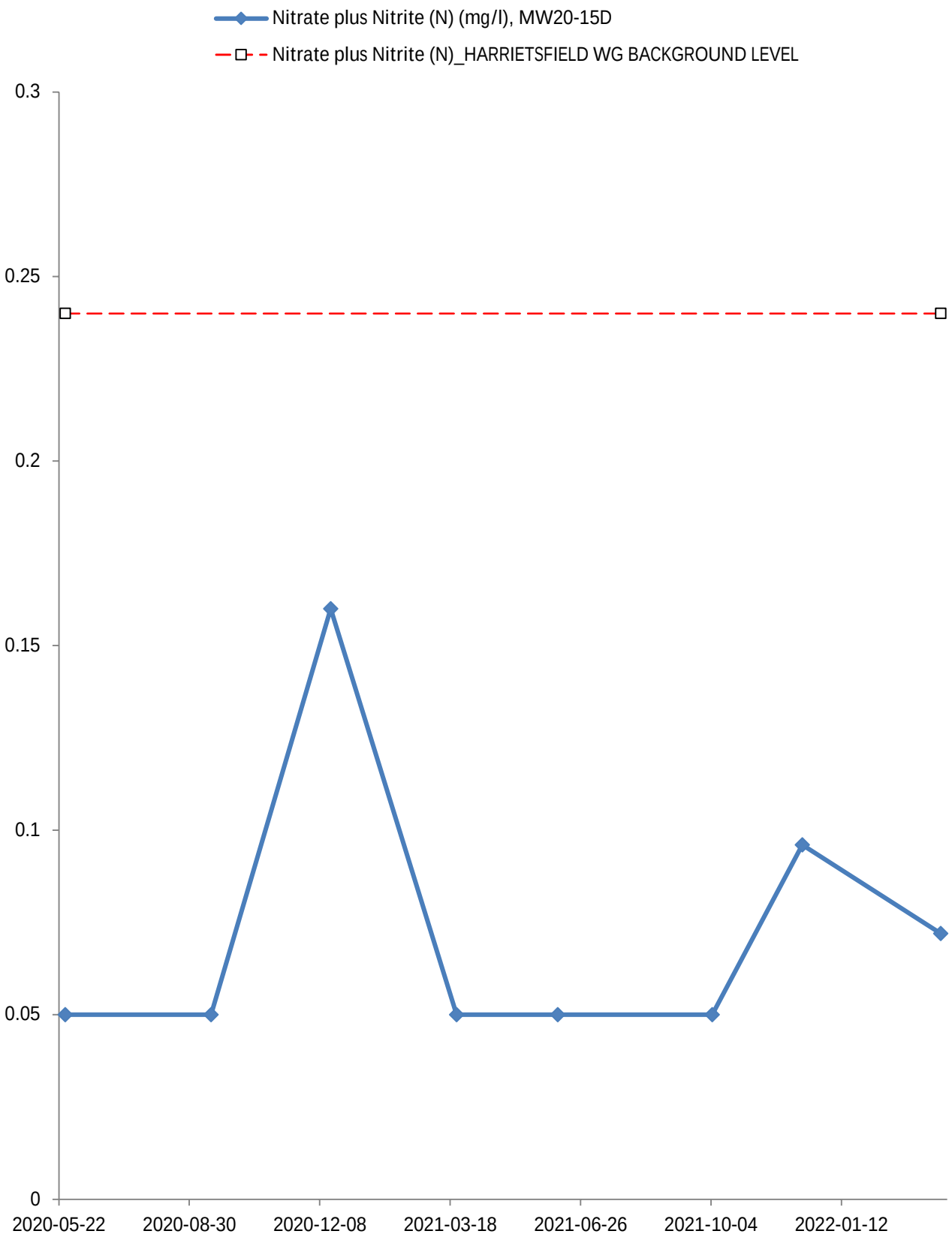
MW20-15D-Nickel



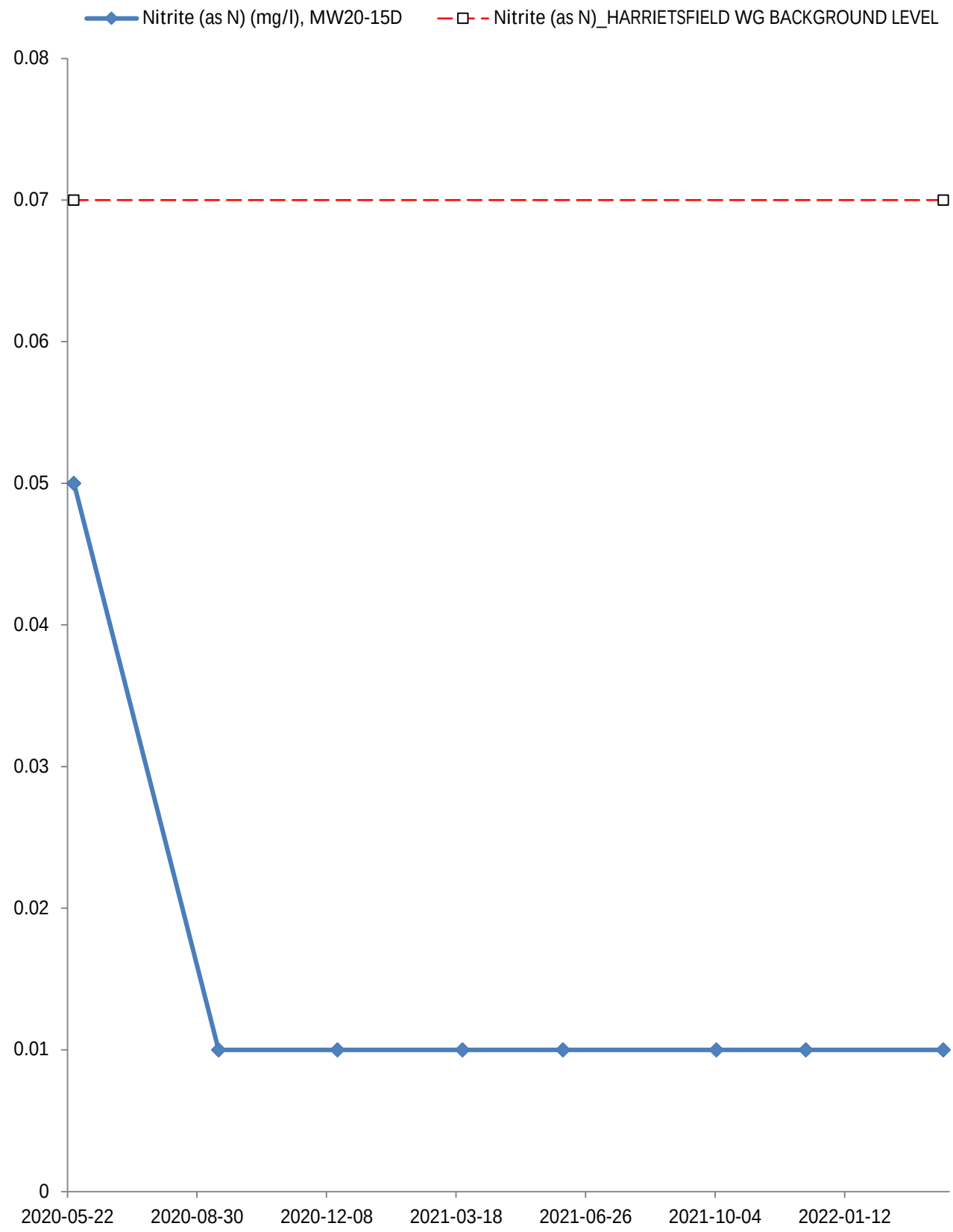
MW20-15D-Nitrate (as N)



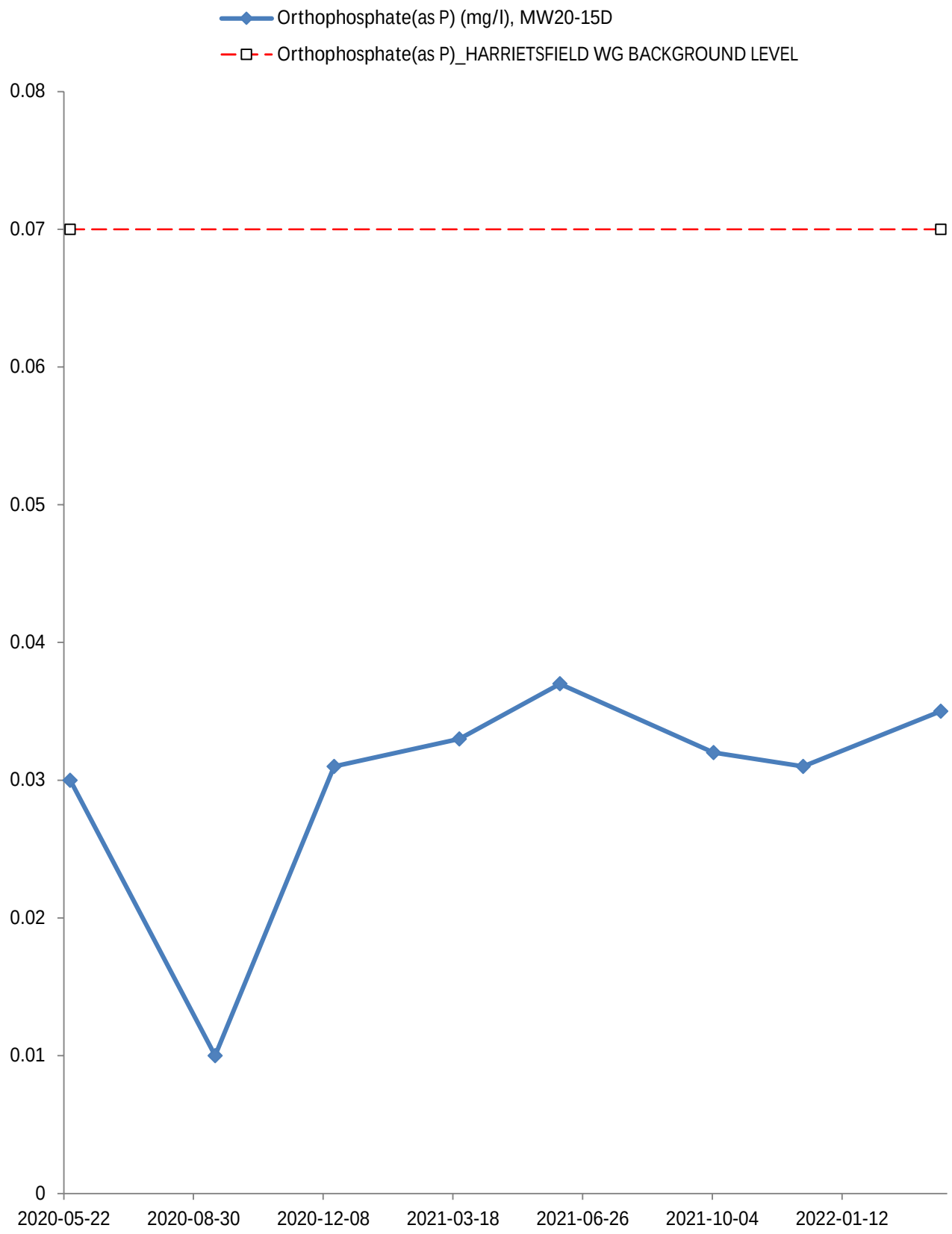
MW20-15D-Nitrate plus Nitrite (N)



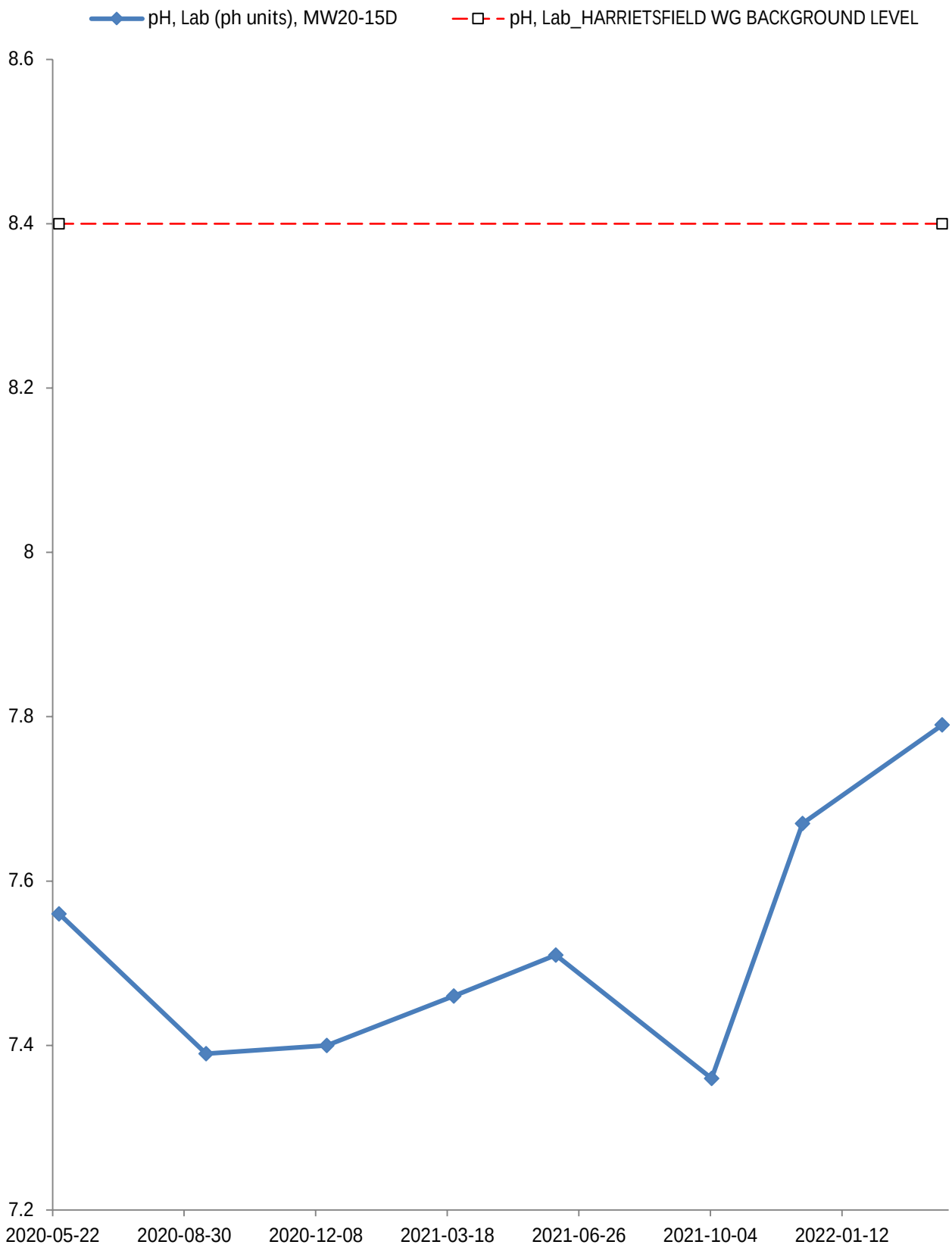
MW20-15D-Nitrite (as N)



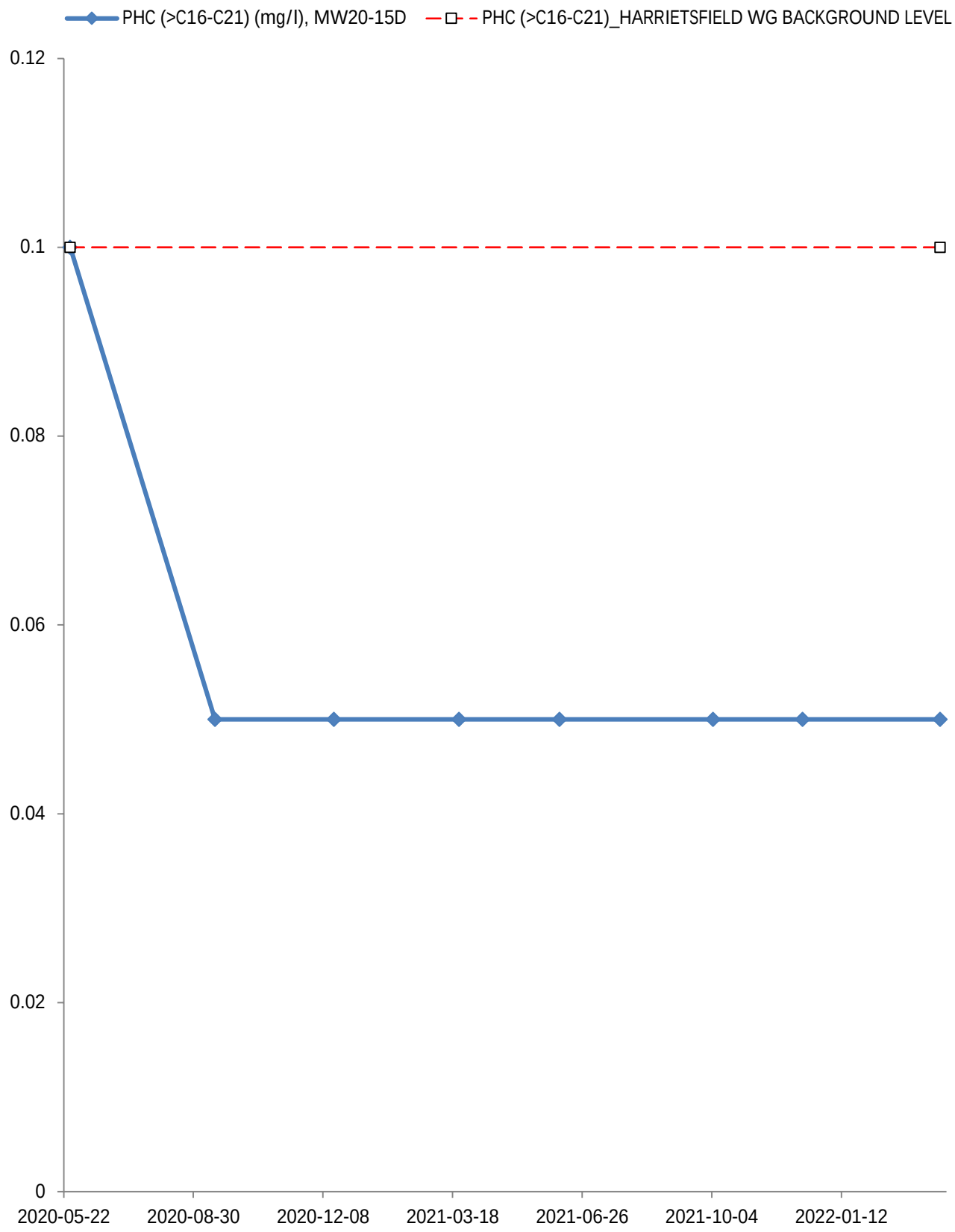
MW20-15D-Orthophosphate(as P)



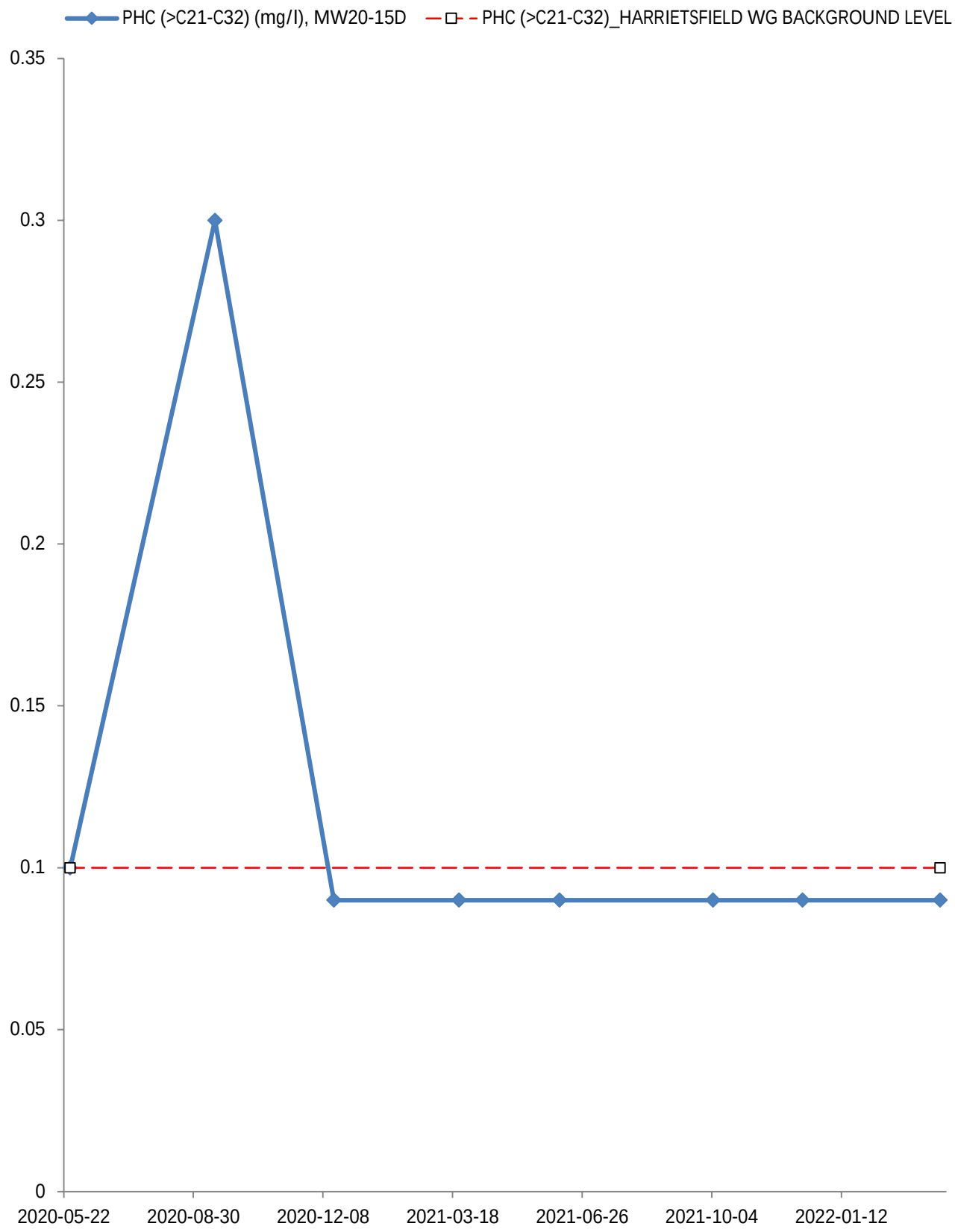
MW20-15D-pH, Lab



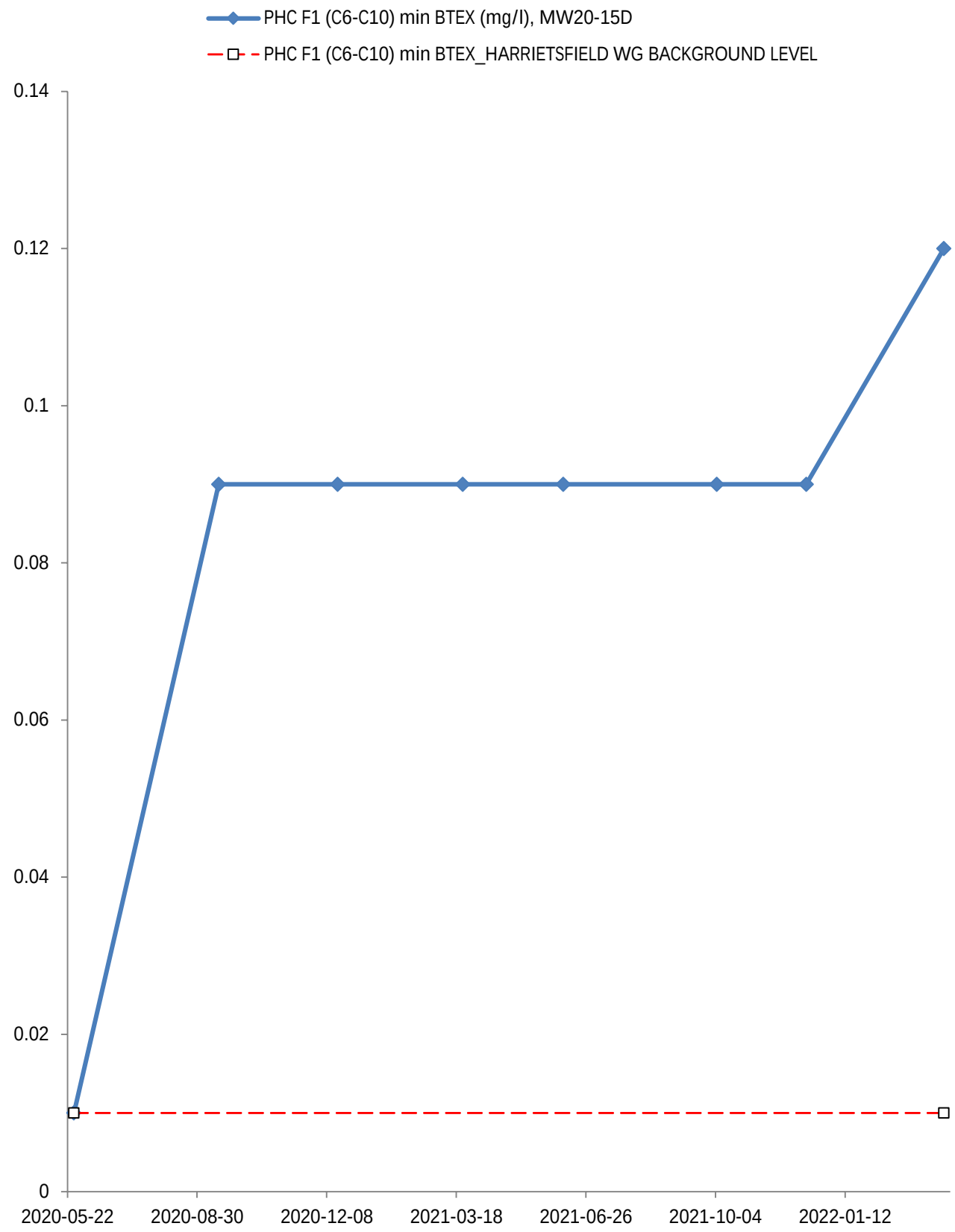
MW20-15D-PHC (>C16-C21)



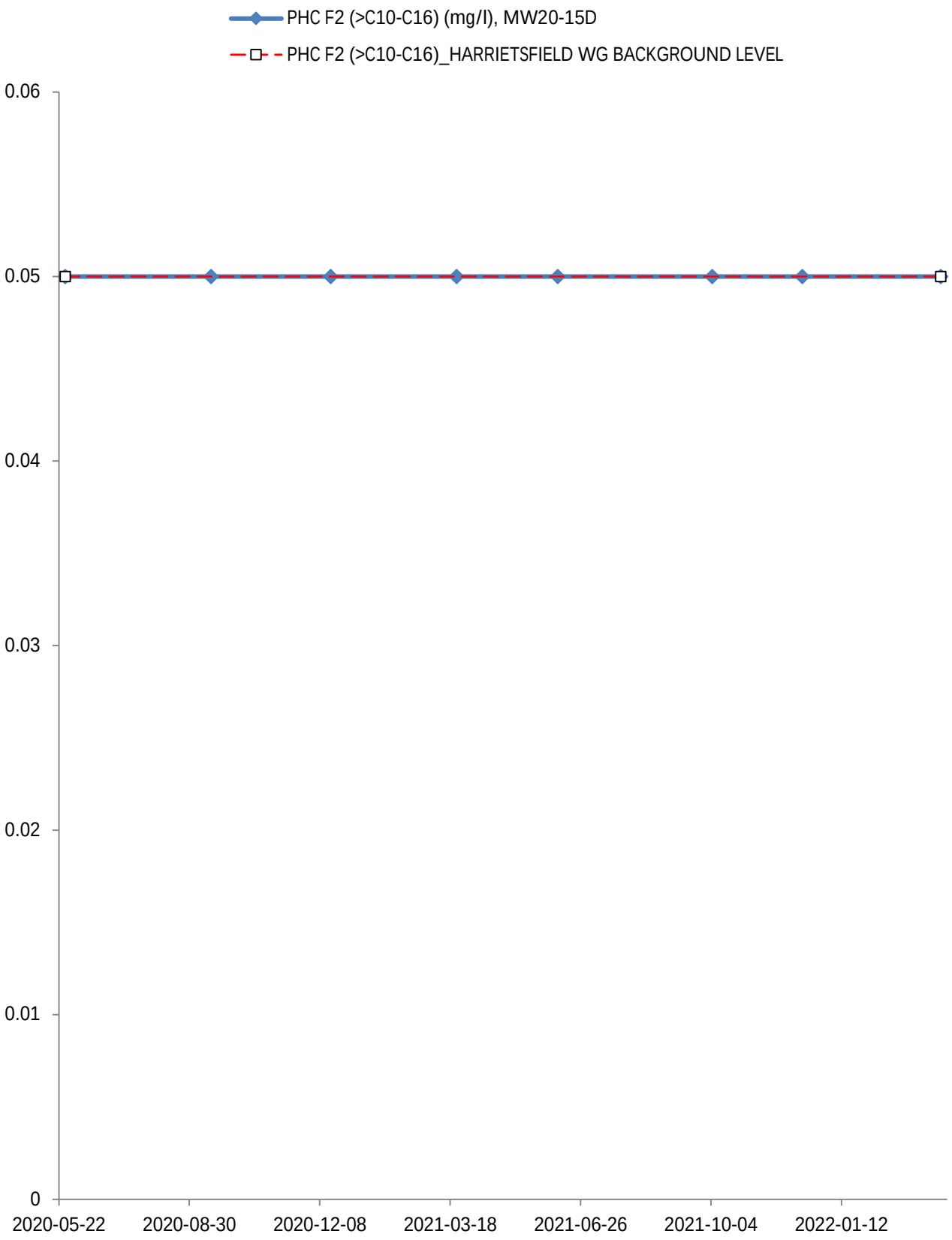
MW20-15D-PHC (>C21-C32)



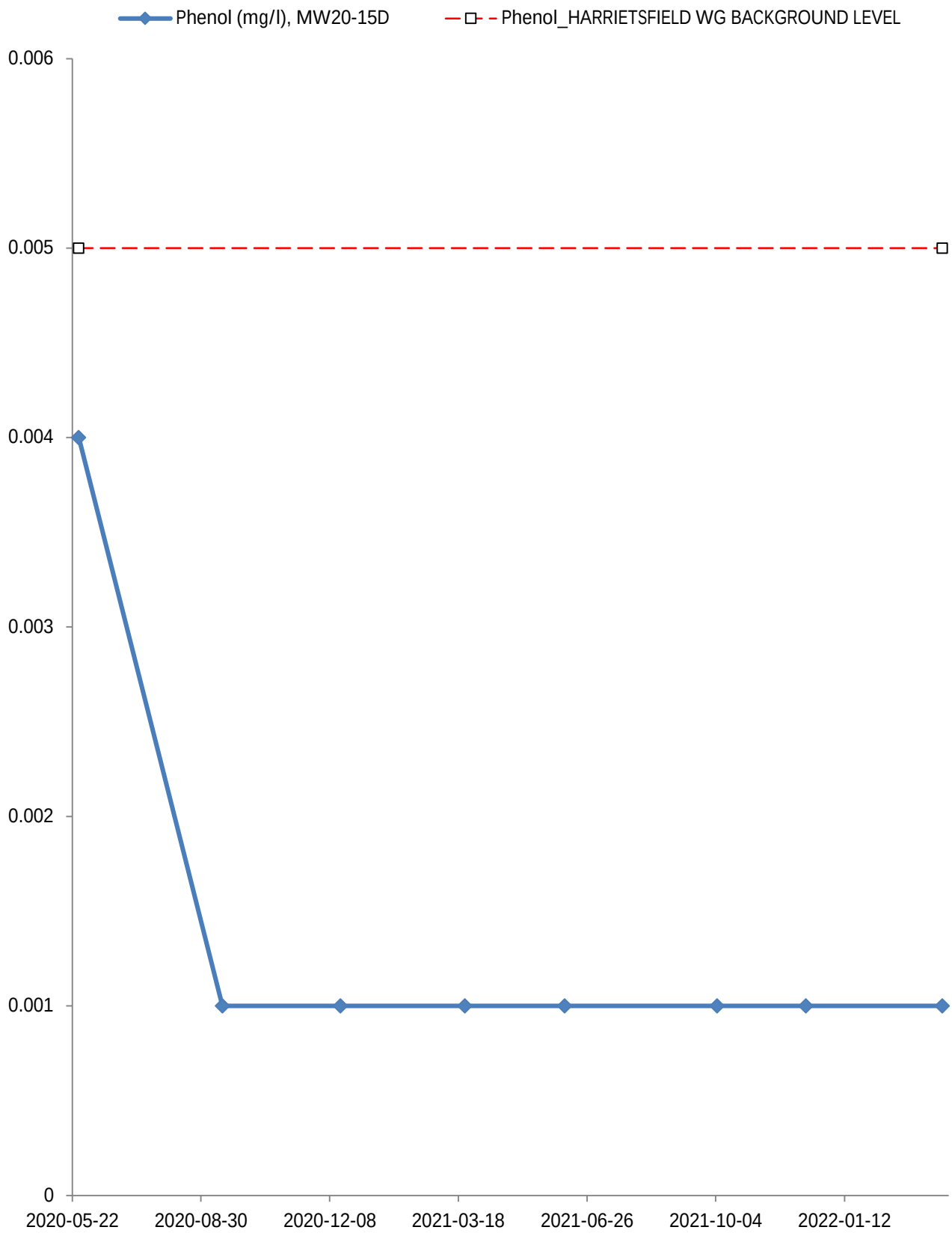
MW20-15D-PHC F1 (C6-C10) min BTEX



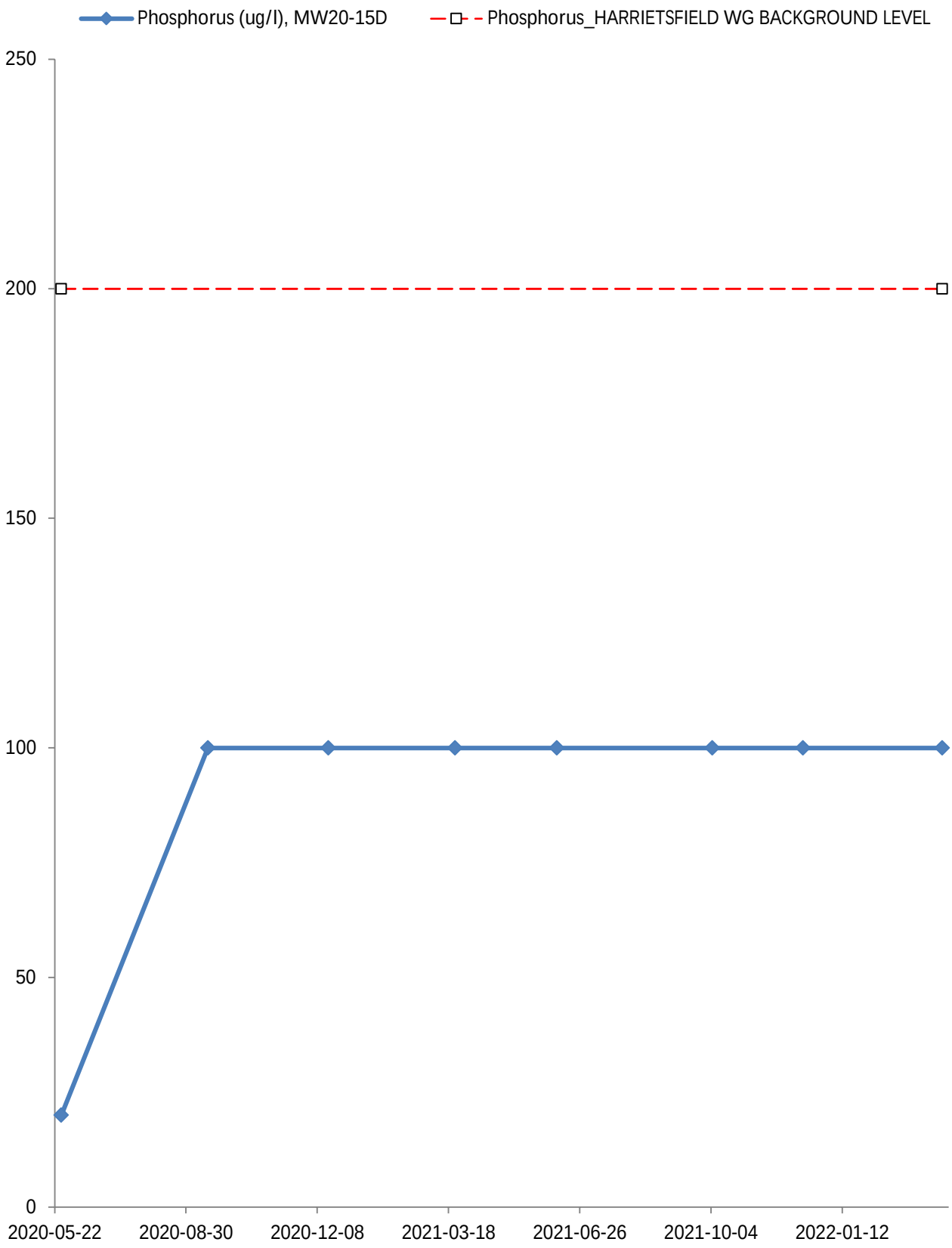
MW20-15D-PHC F2 (>C10-C16)



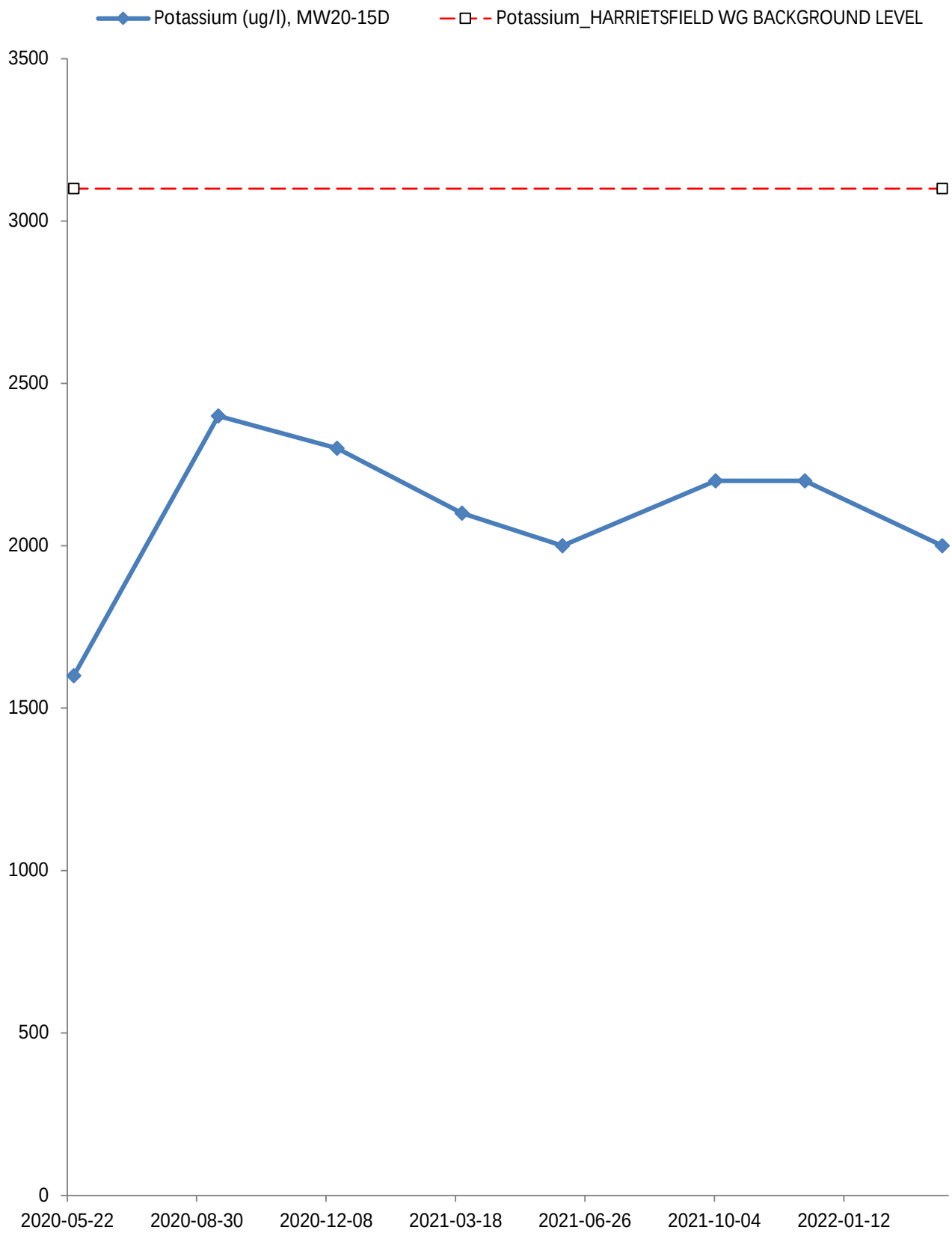
MW20-15D-Phenol



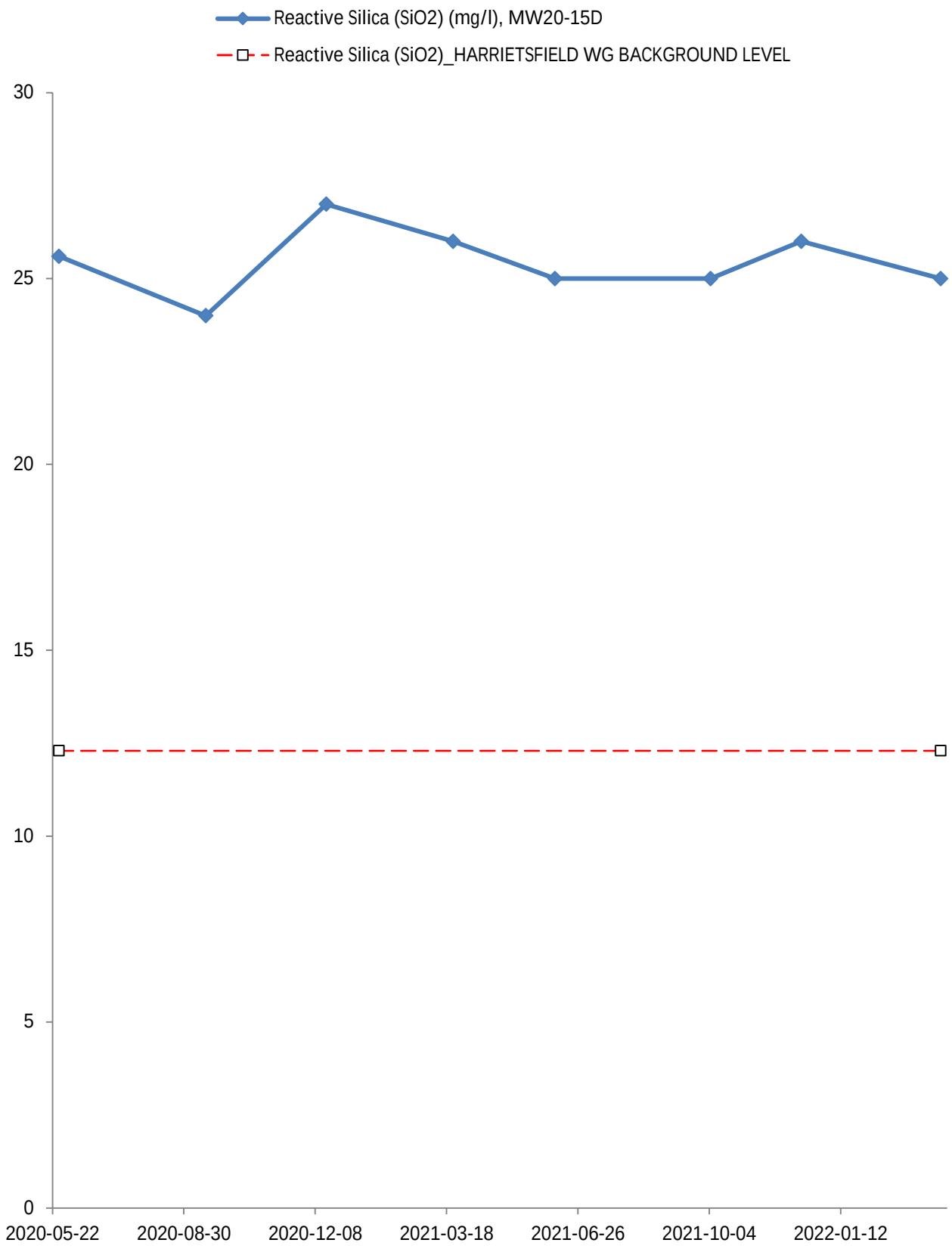
MW20-15D-Phosphorus



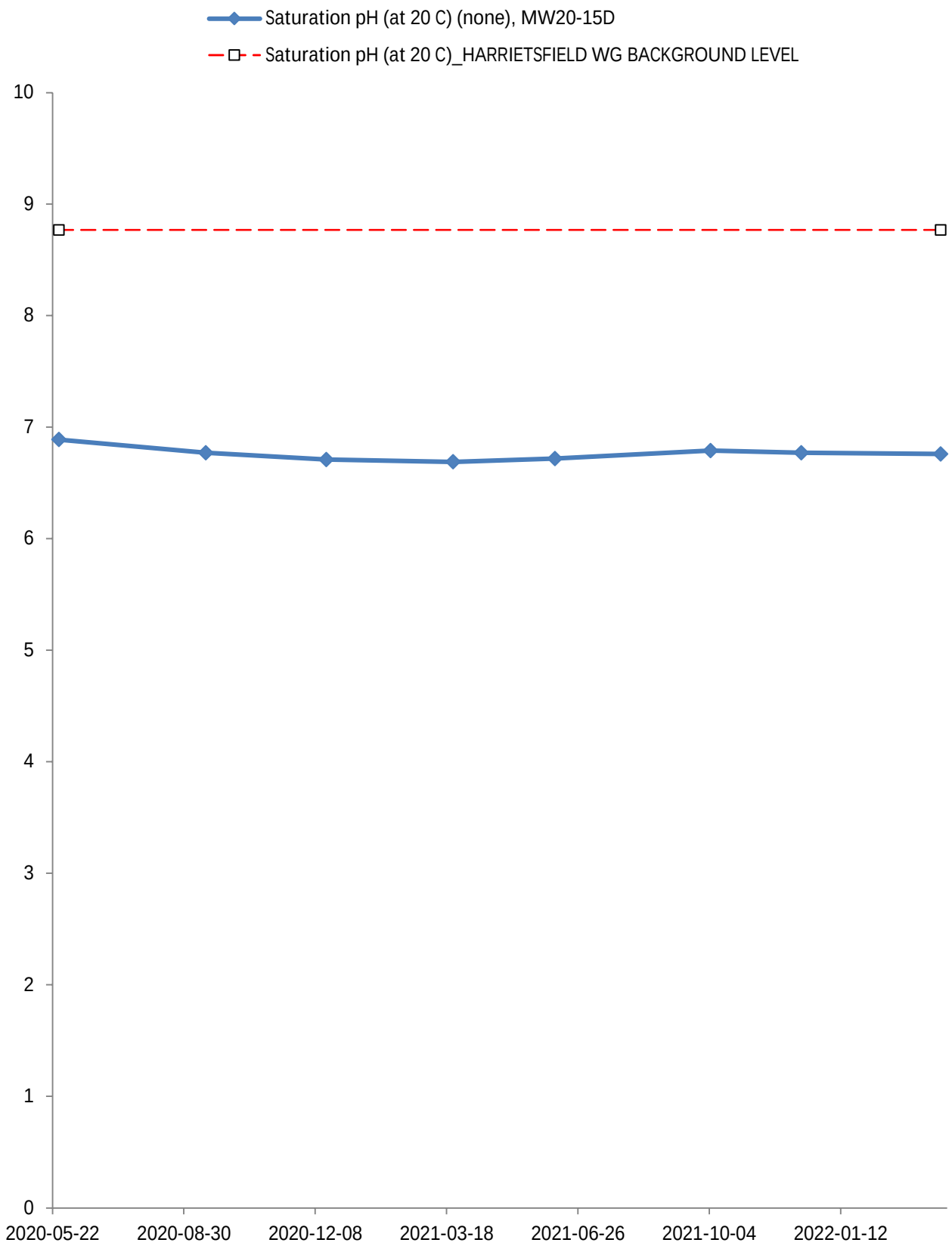
MW20-15D-Potassium



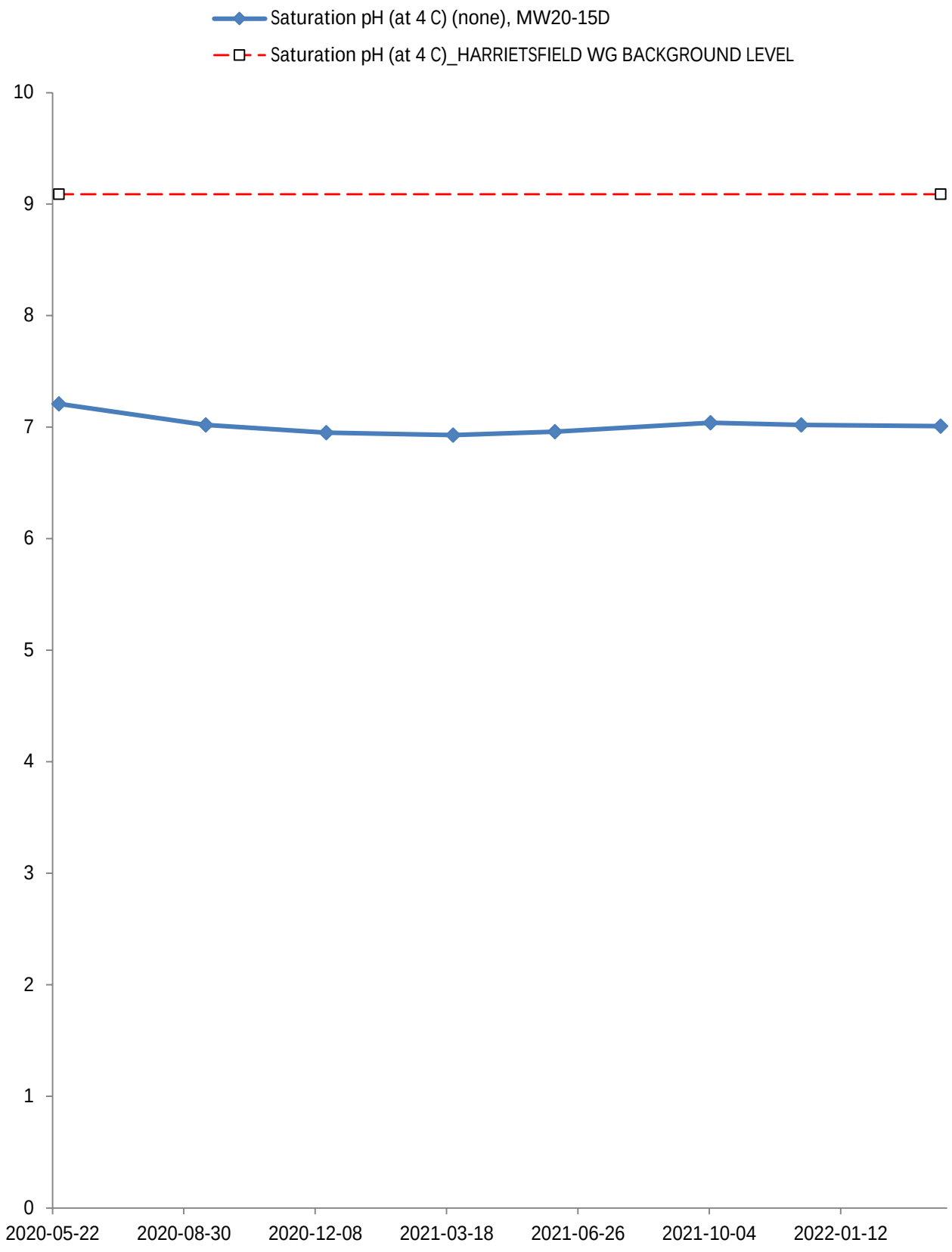
MW20-15D-Reactive Silica (SiO2)



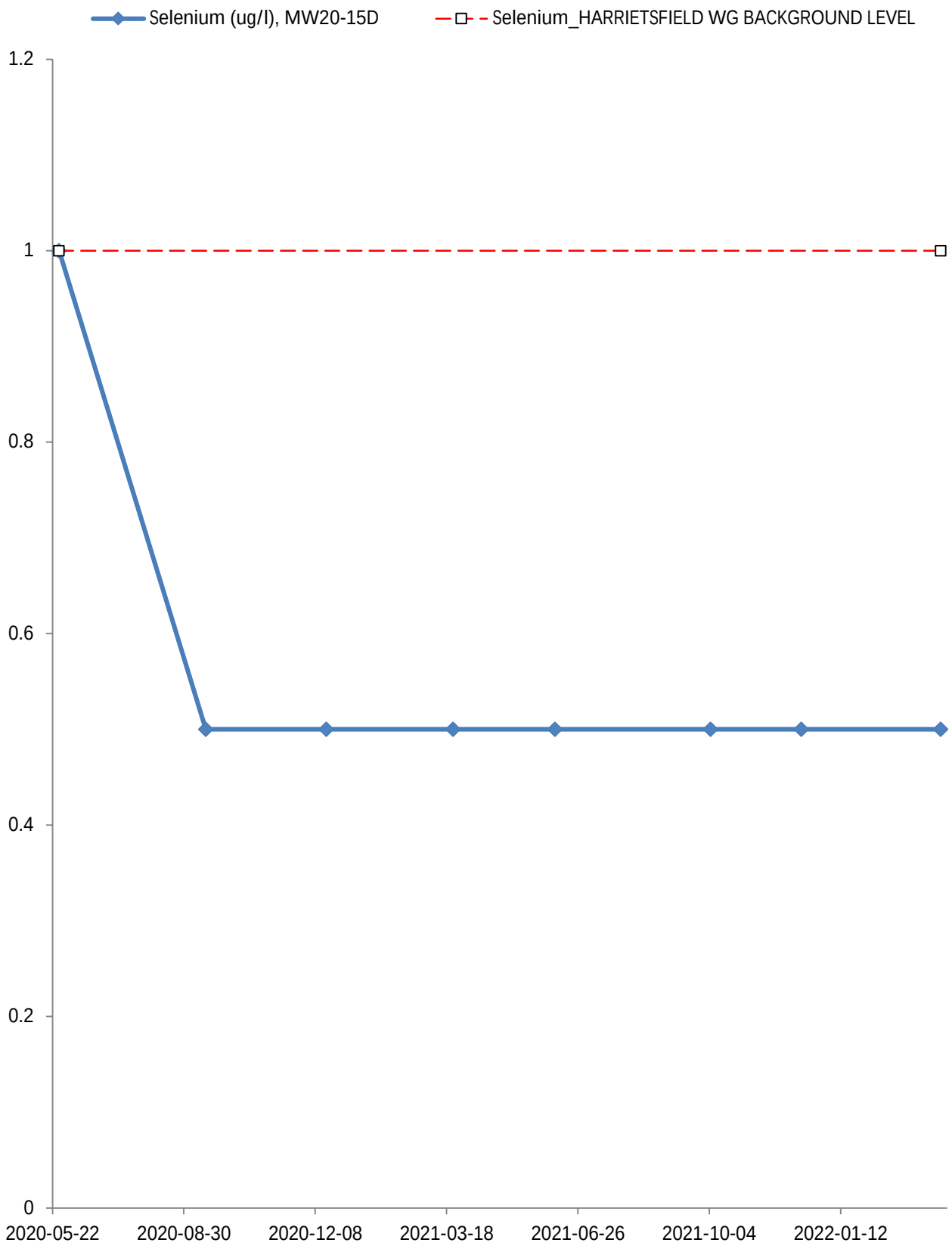
MW20-15D-Saturation pH (at 20 C)



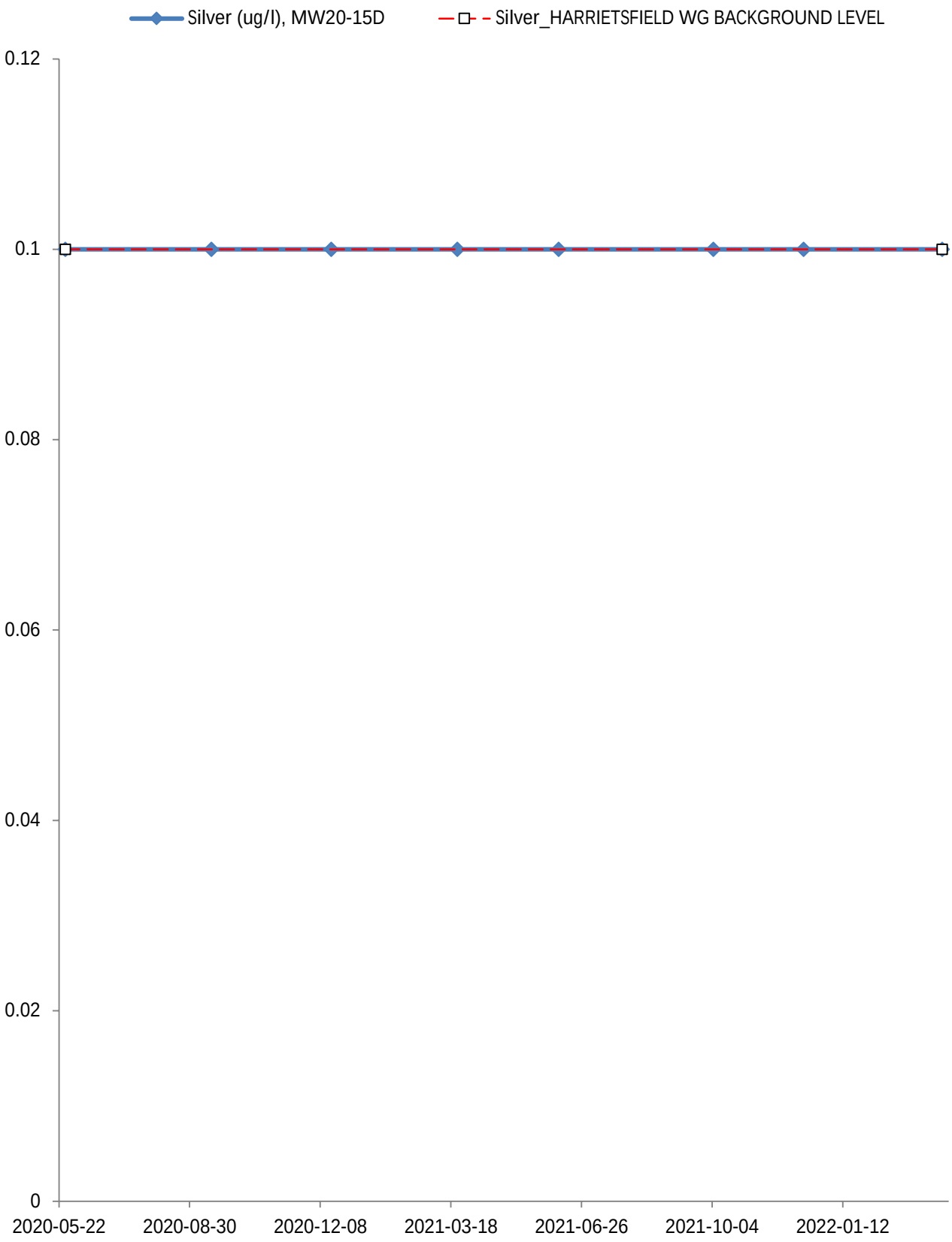
MW20-15D-Saturation pH (at 4 C)



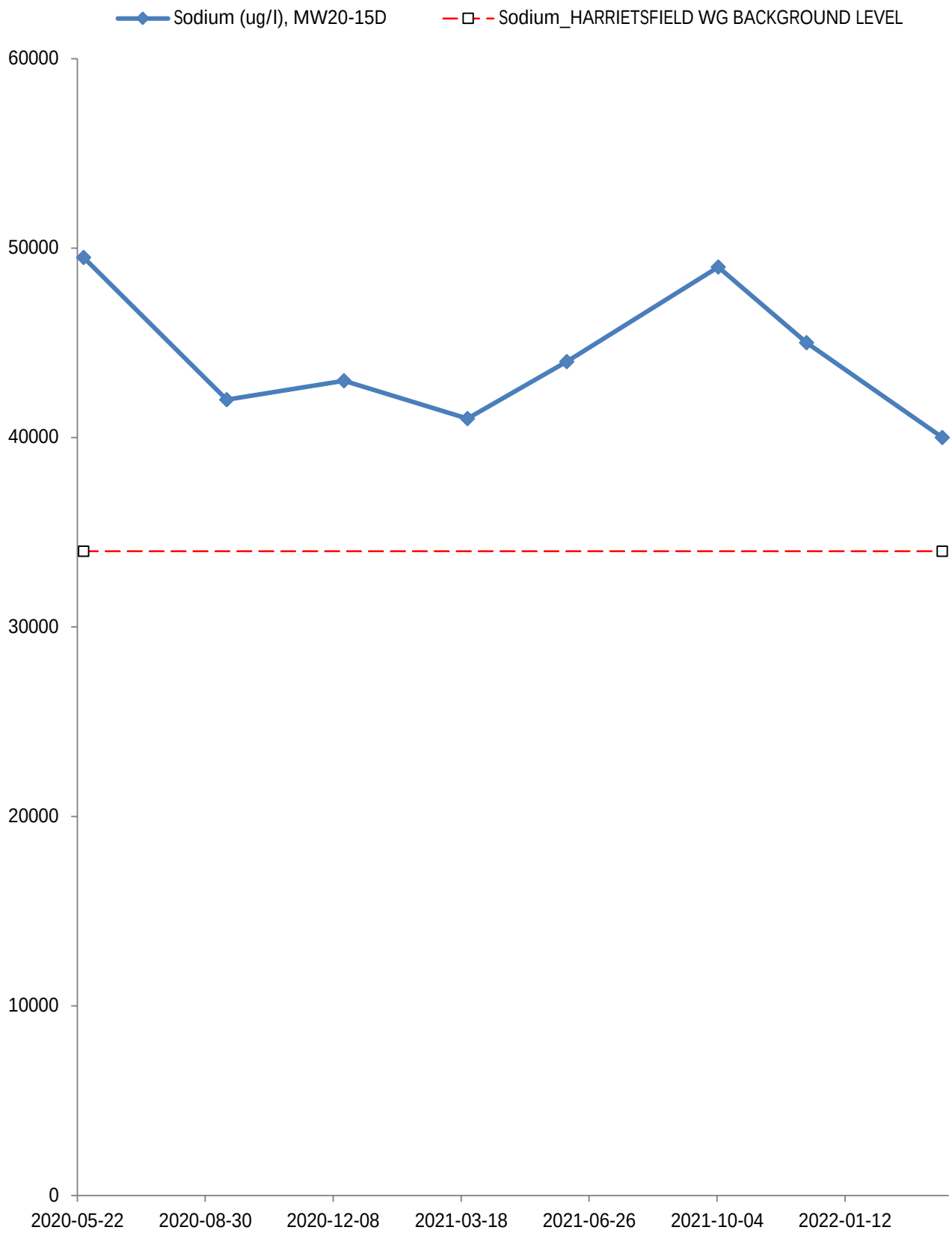
MW20-15D-Selenium



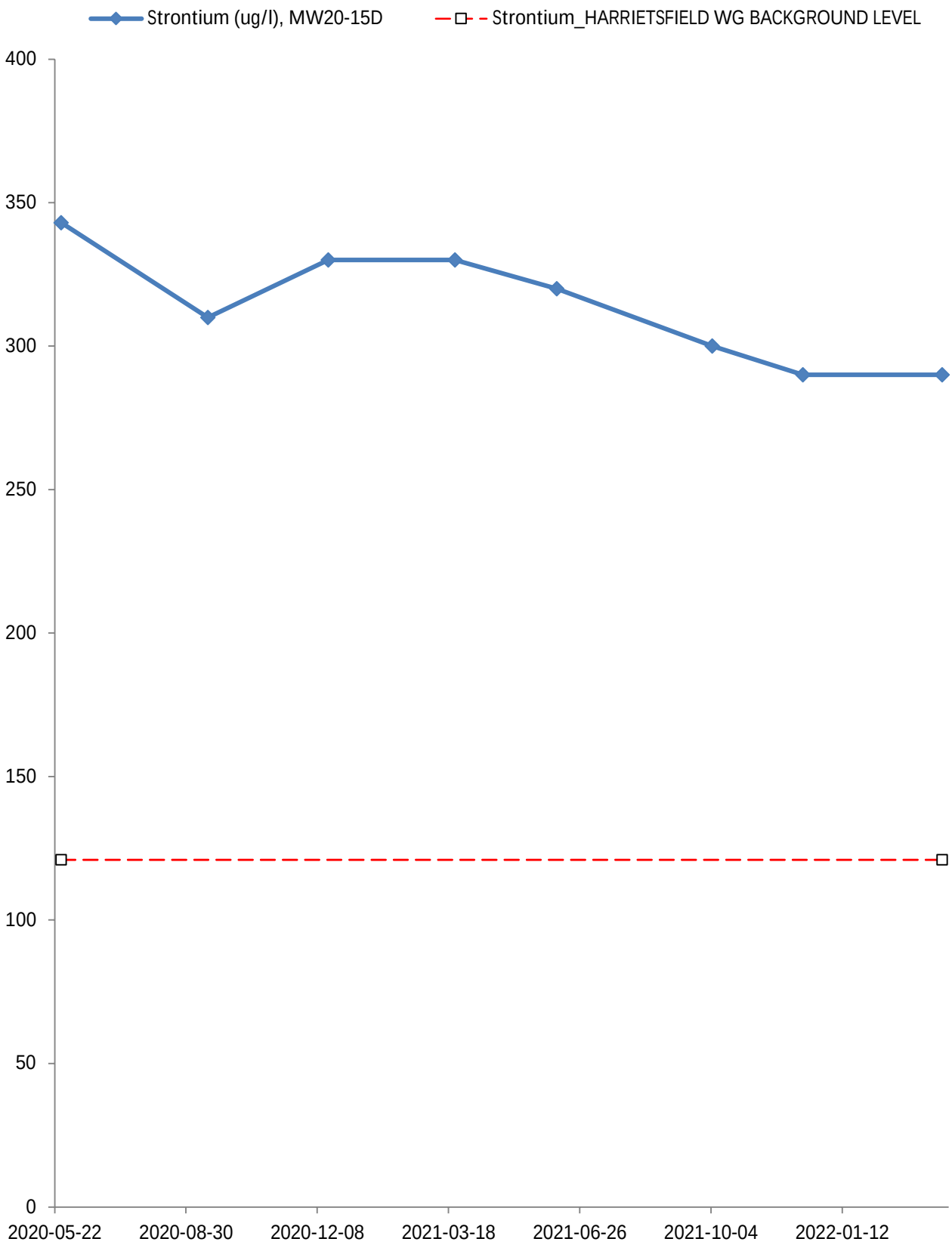
MW20-15D-Silver



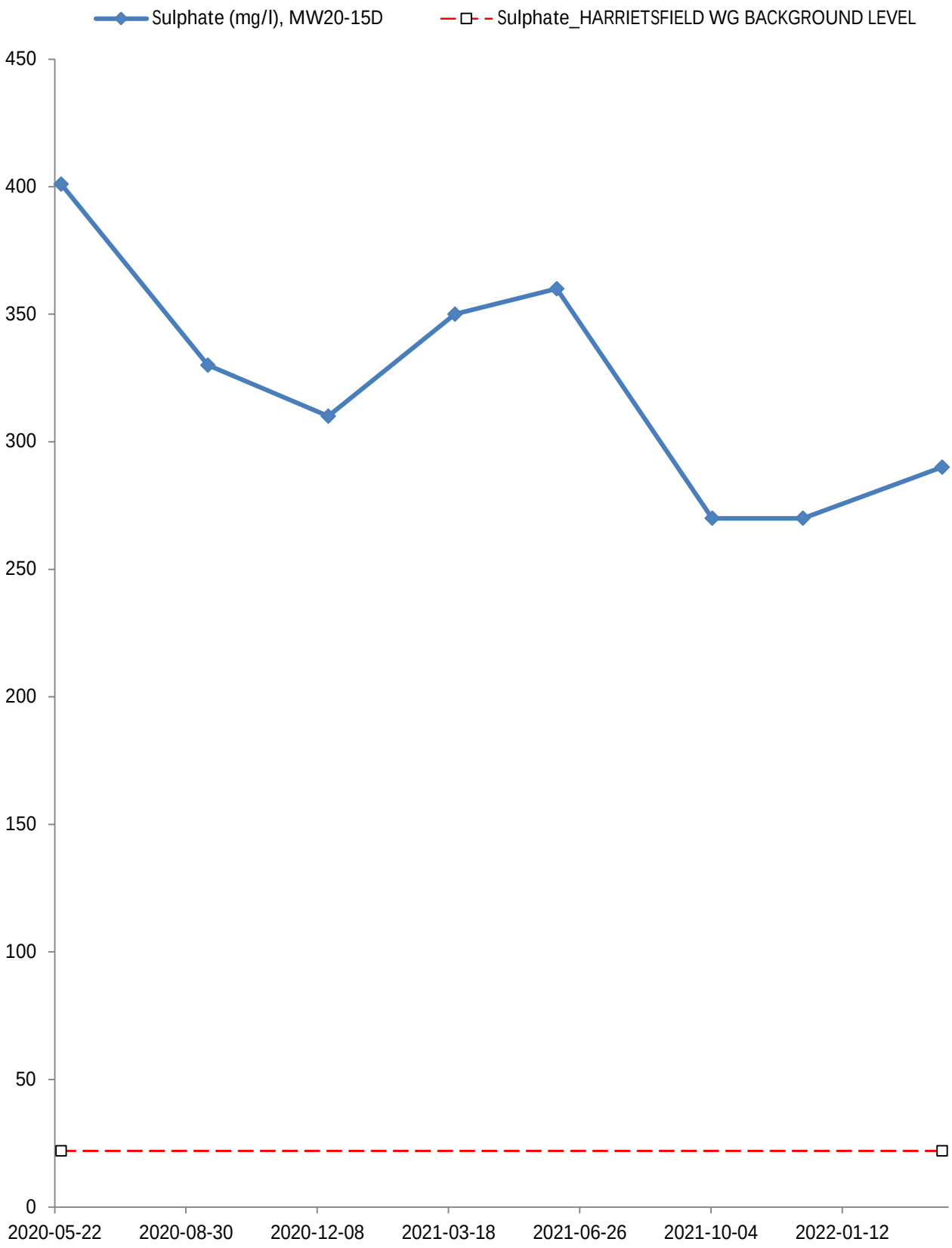
MW20-15D-Sodium



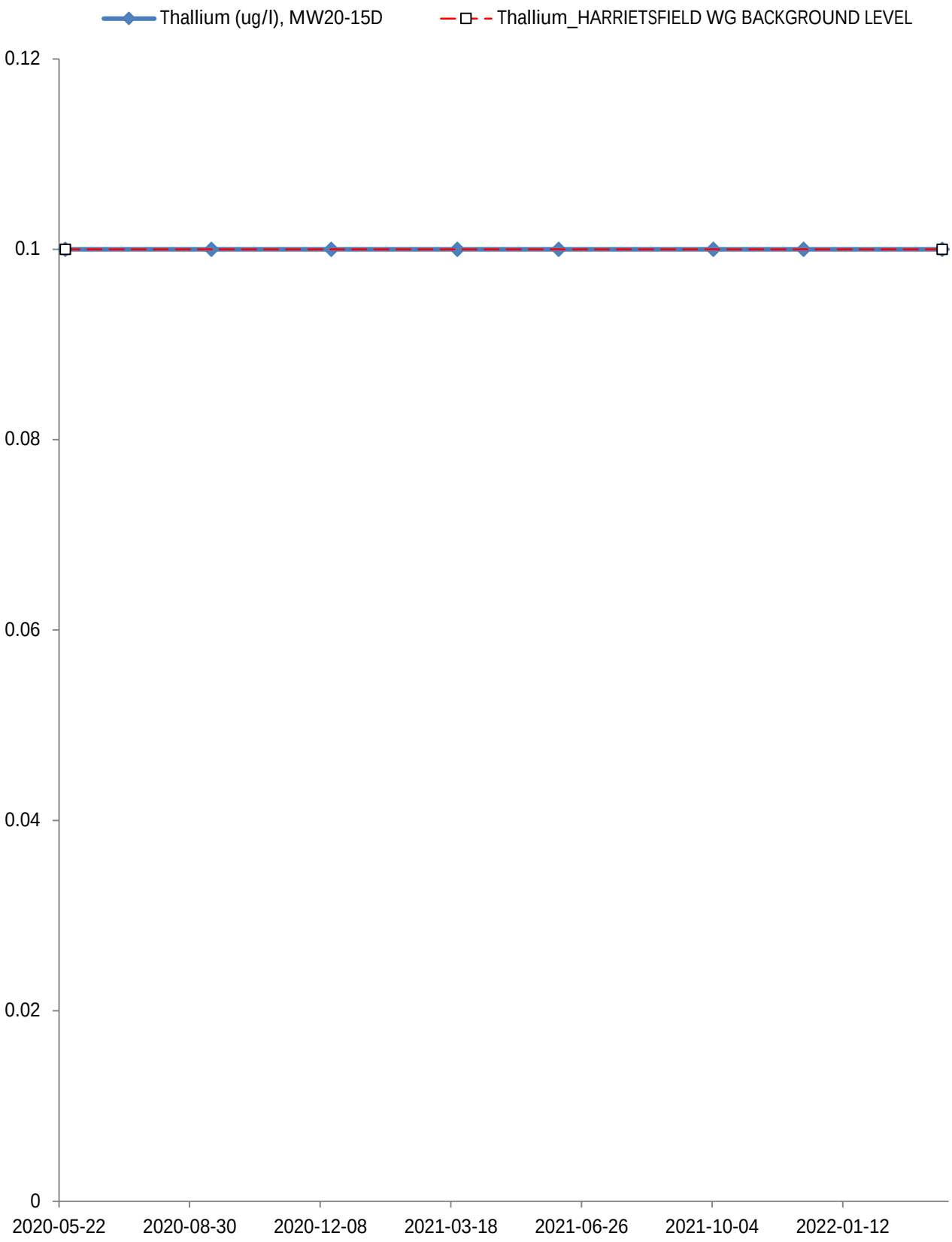
MW20-15D-Strontium



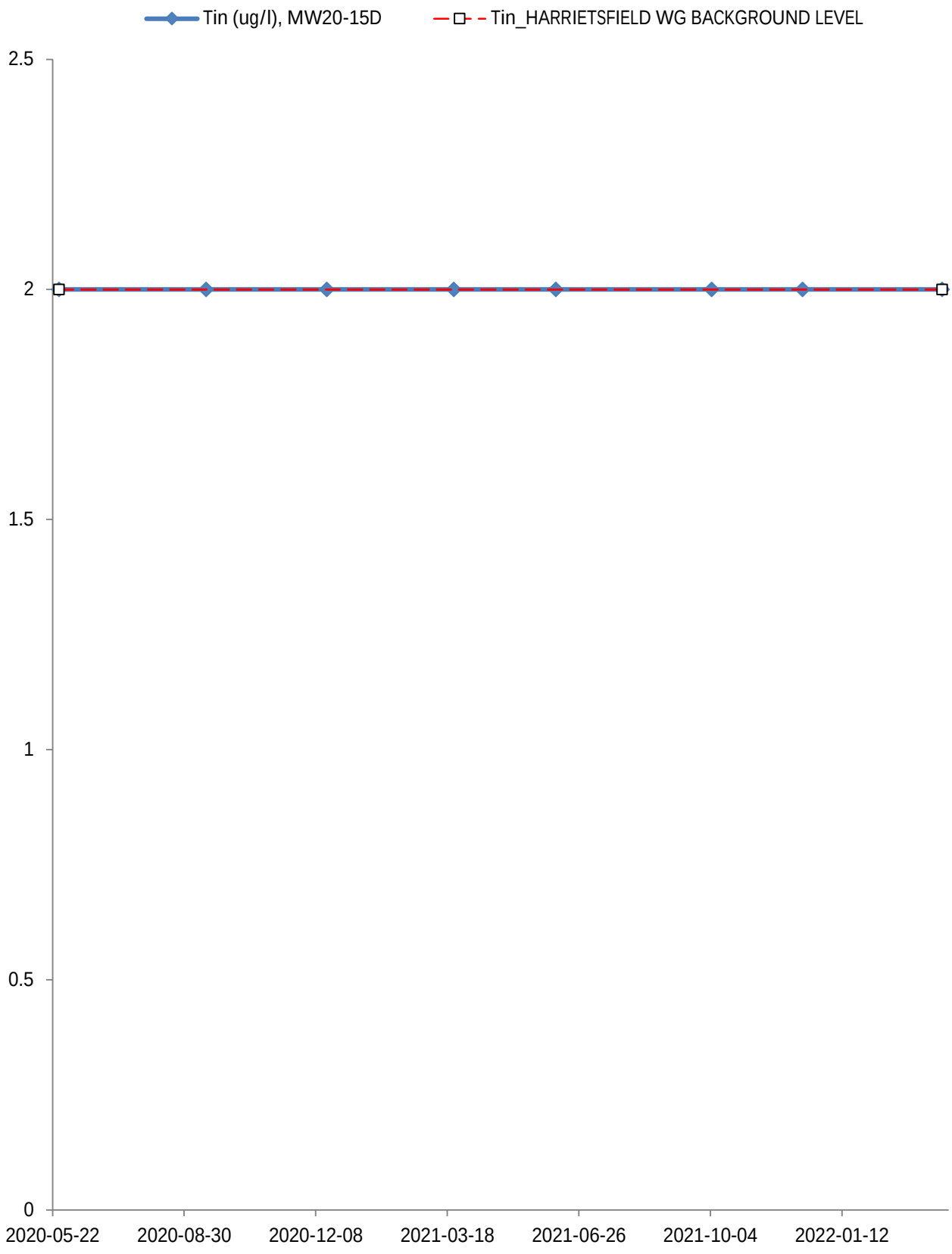
MW20-15D-Sulphate



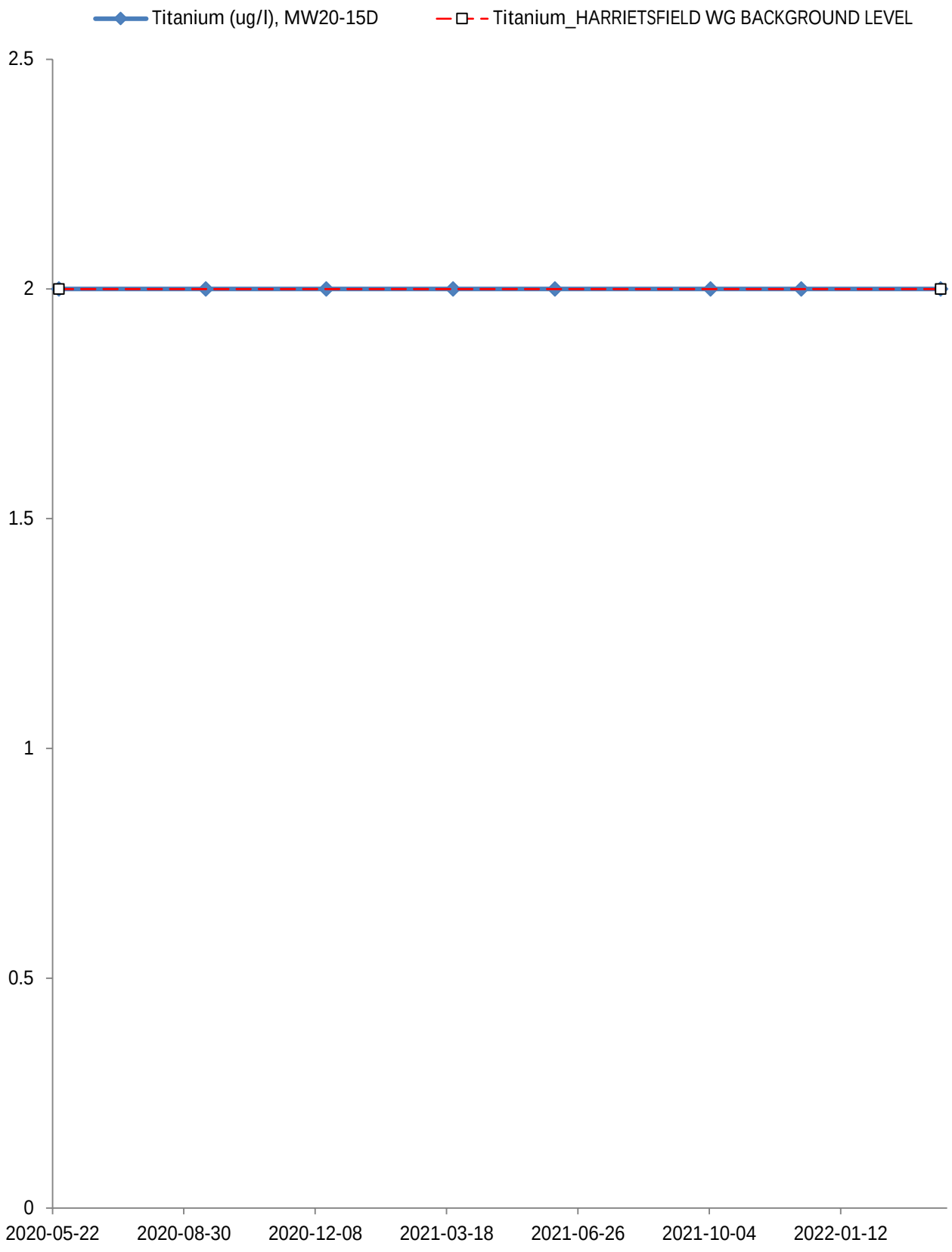
MW20-15D-Thallium



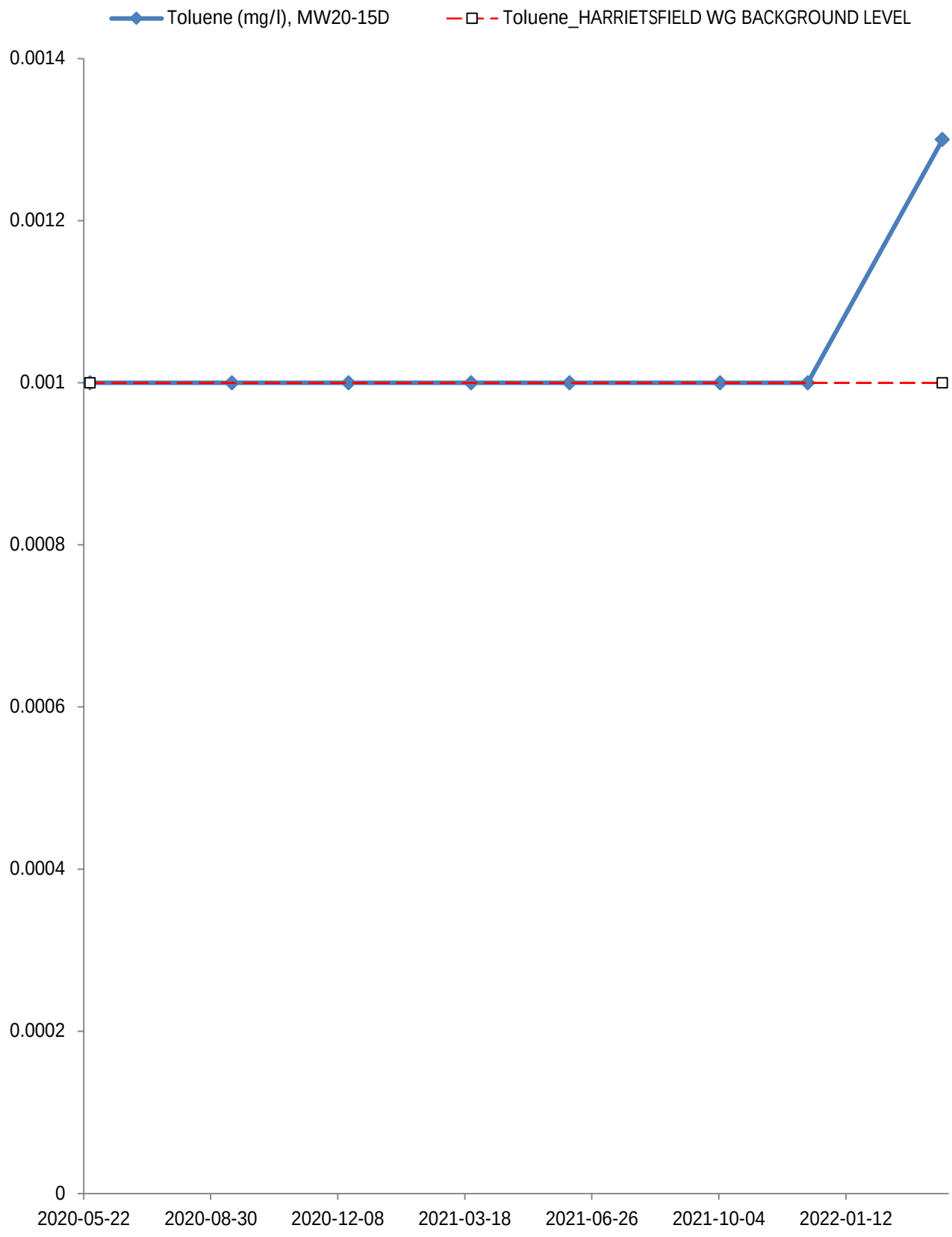
MW20-15D-Tin


Tin (ug/l), MW20-15D
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

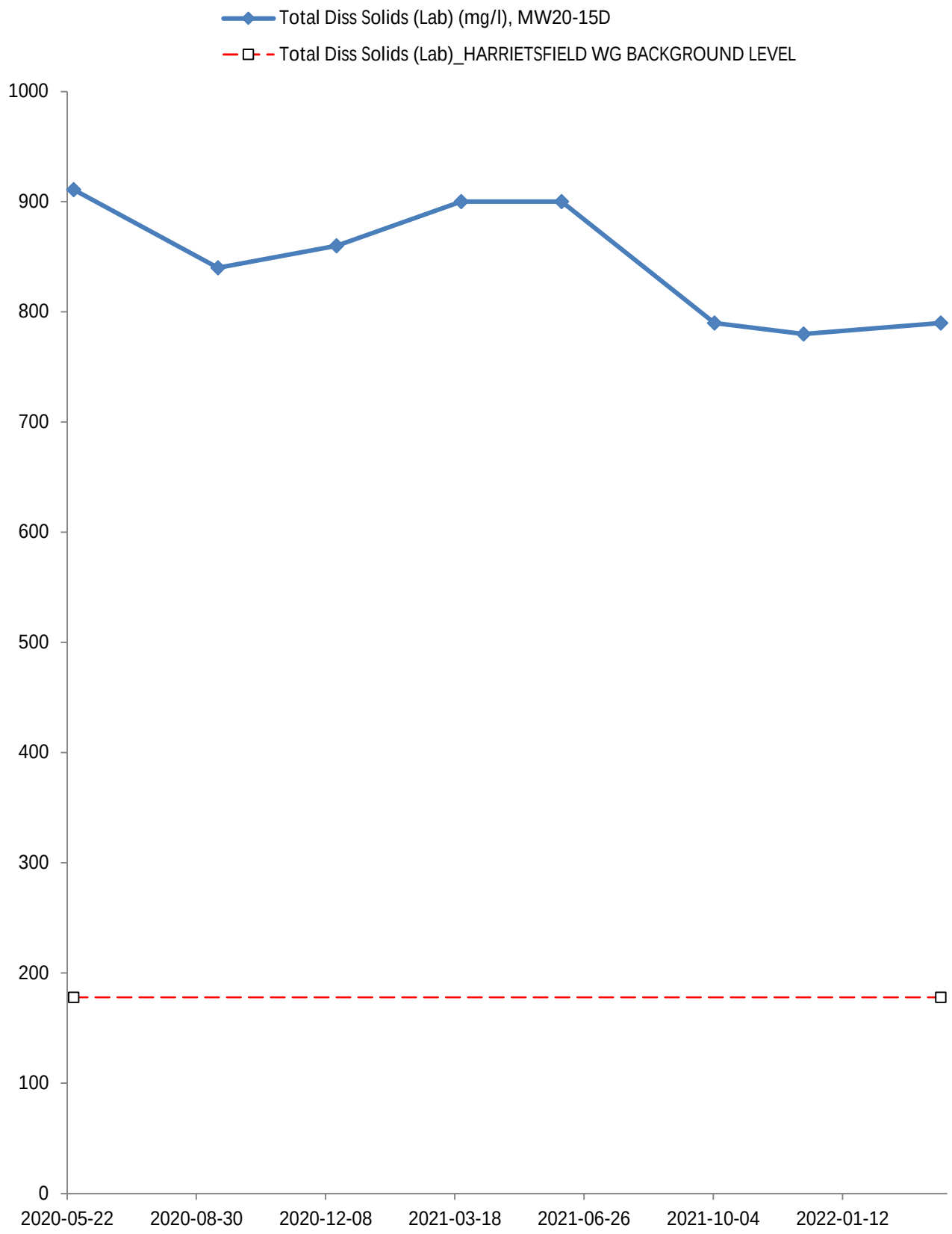
MW20-15D-Titanium



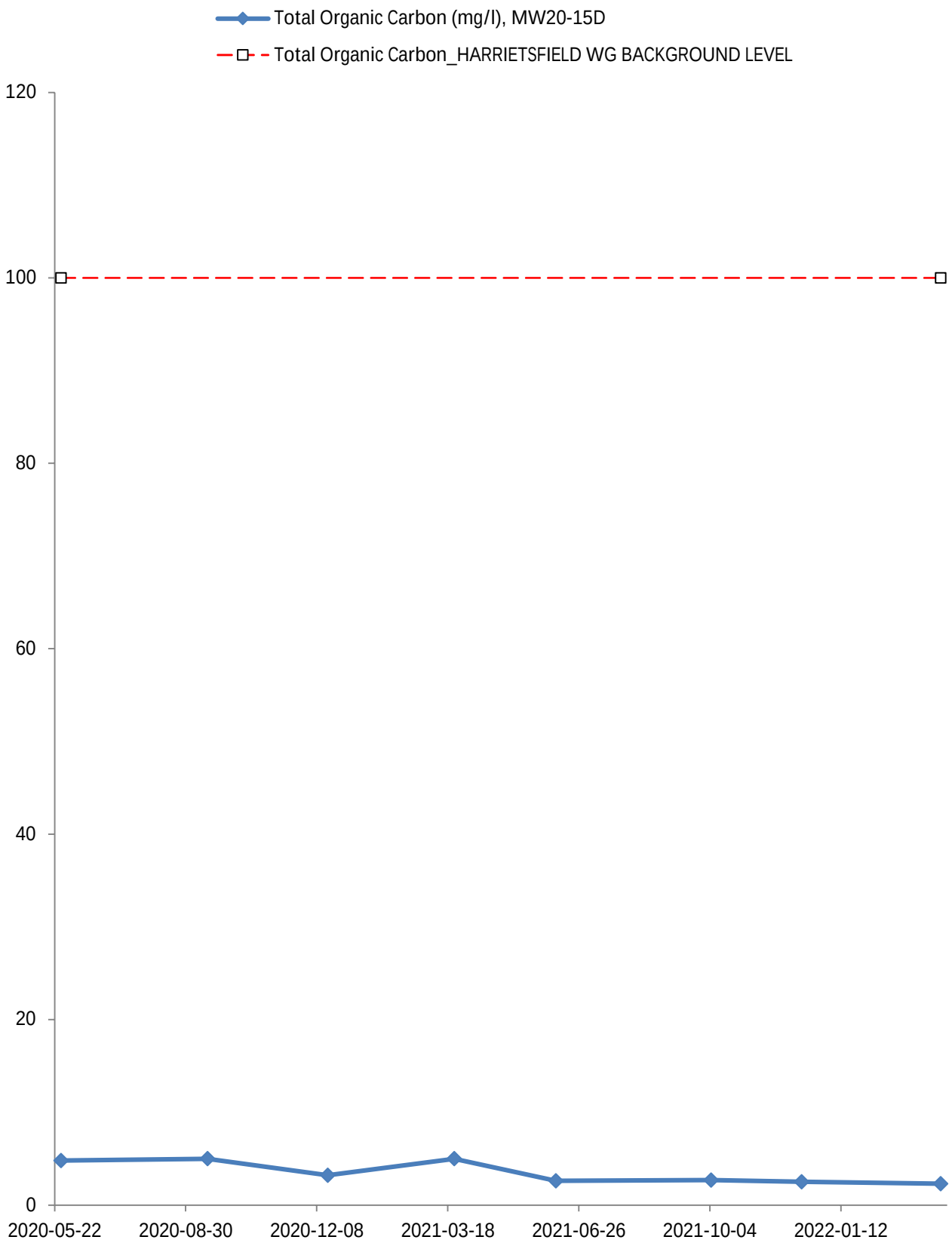
MW20-15D-Toluene



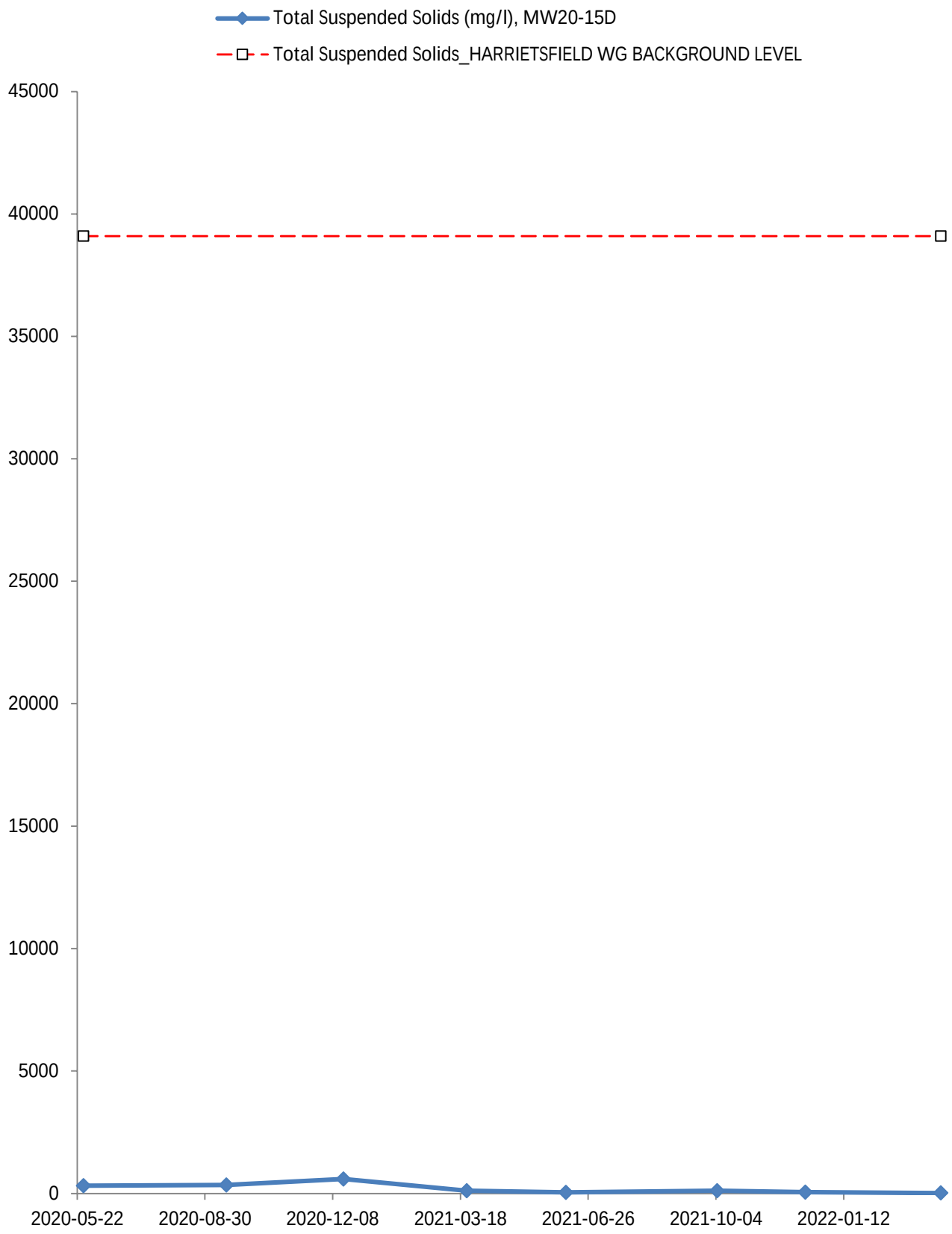
MW20-15D-Total Diss Solids (Lab)



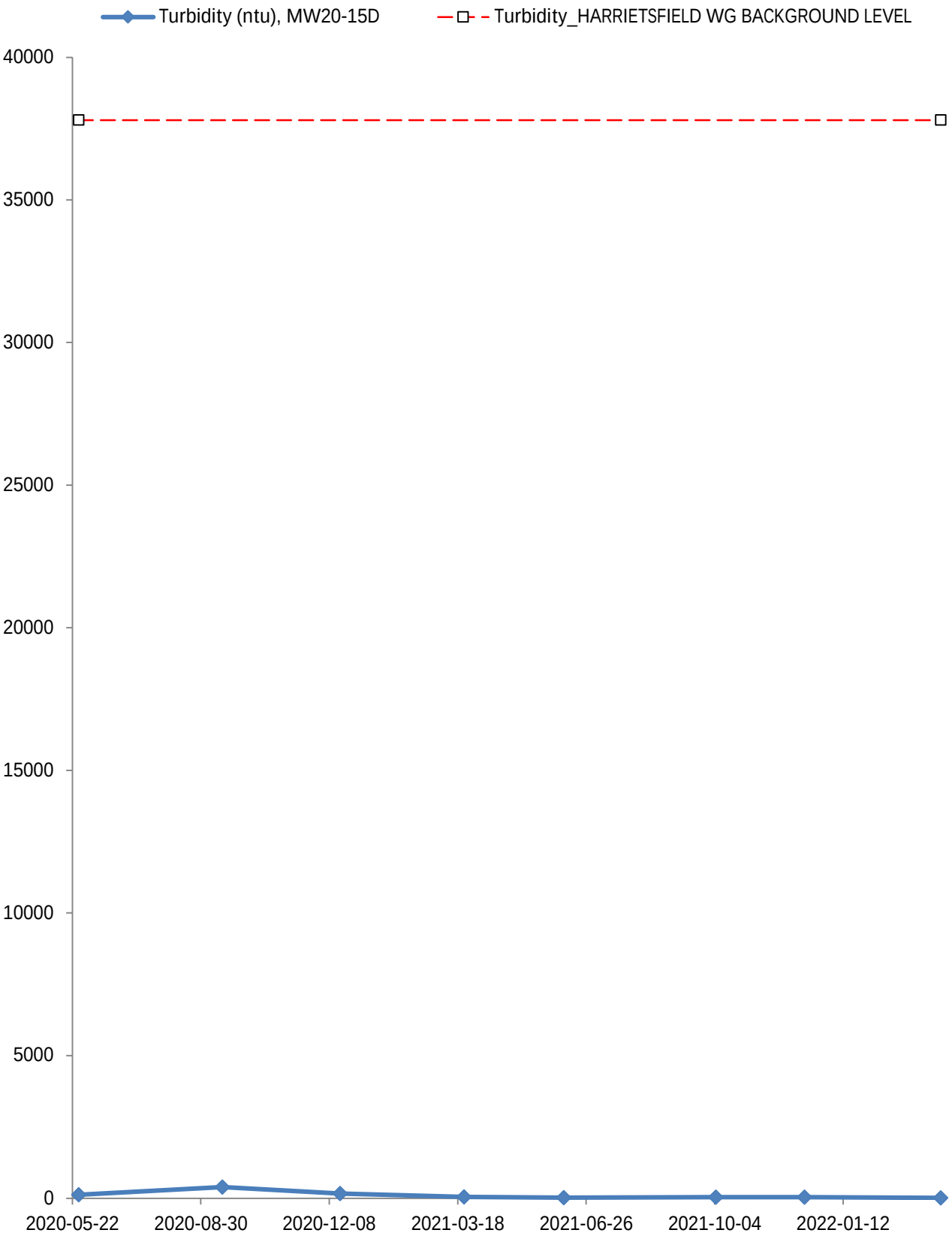
MW20-15D-Total Organic Carbon



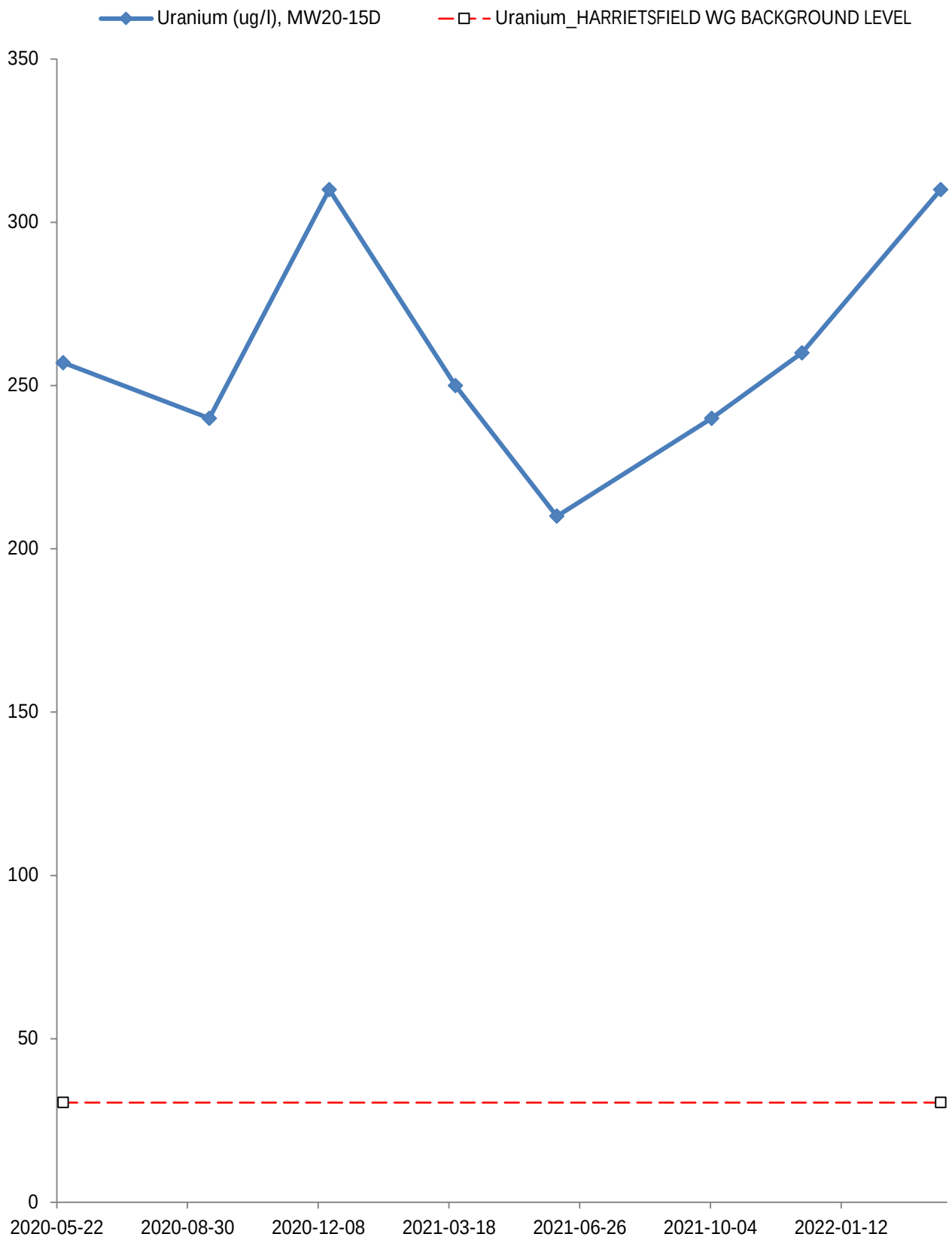
MW20-15D-Total Suspended Solids



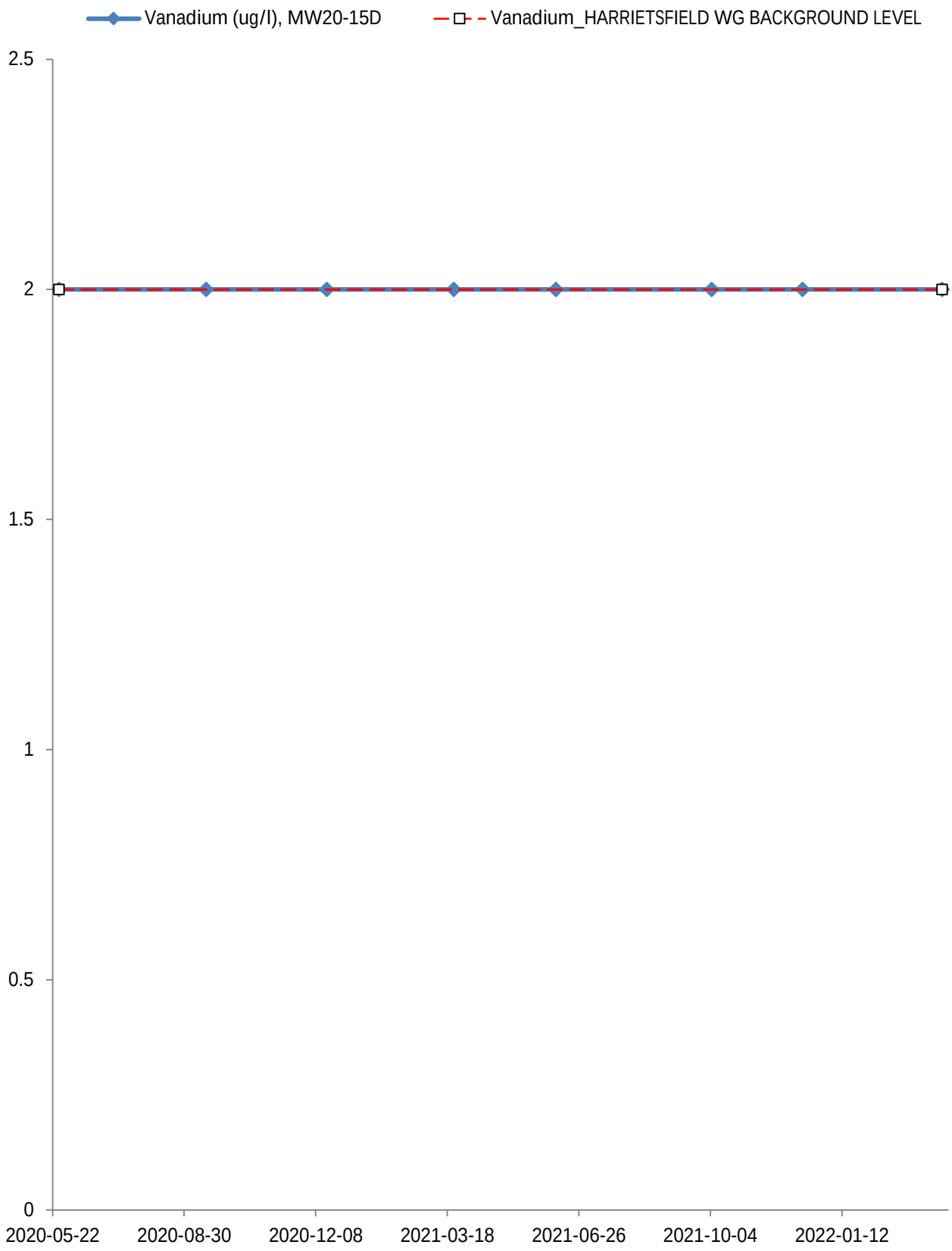
MW20-15D-Turbidity



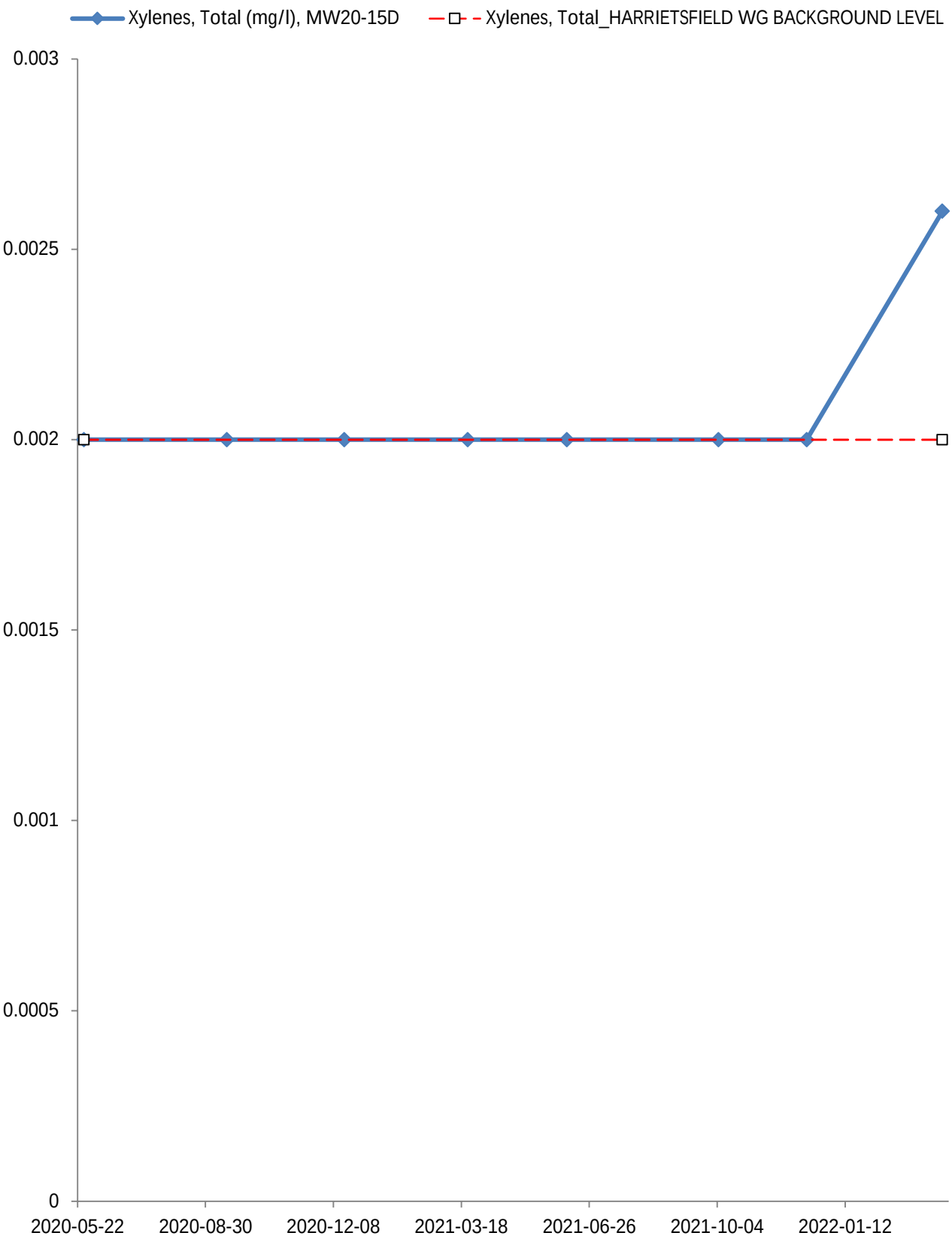
MW20-15D-Uranium



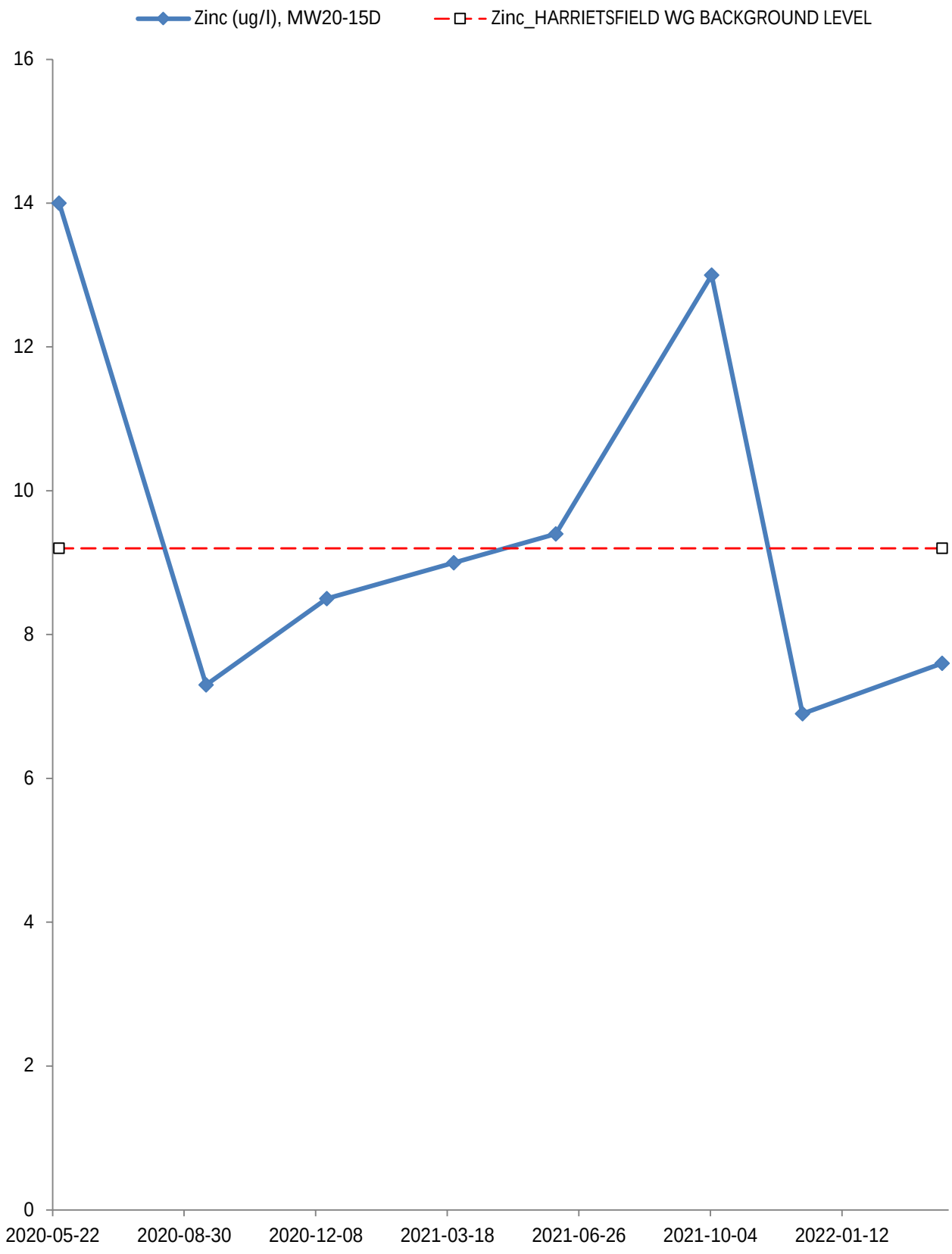
MW20-15D-Vanadium



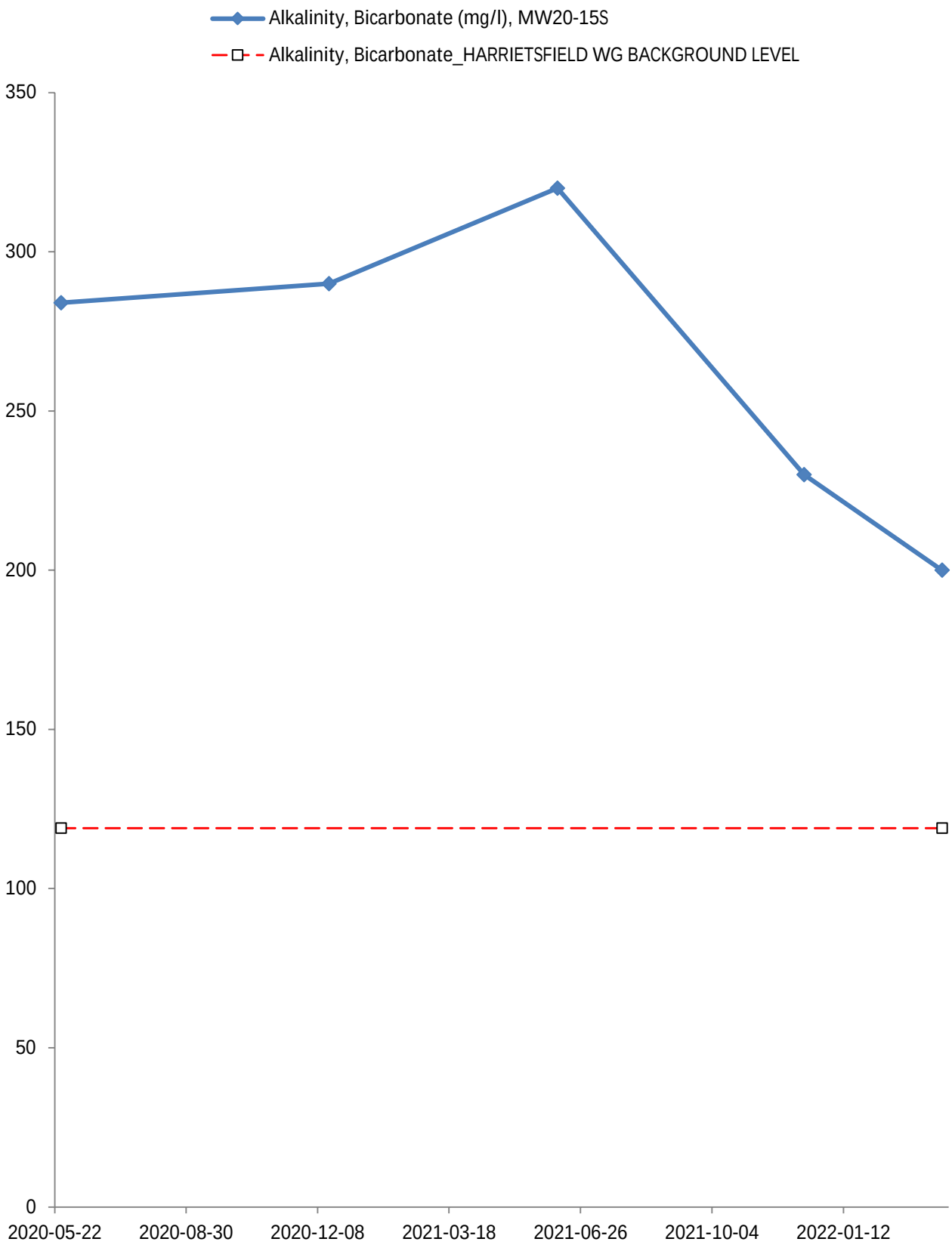
MW20-15D-Xylenes, Total



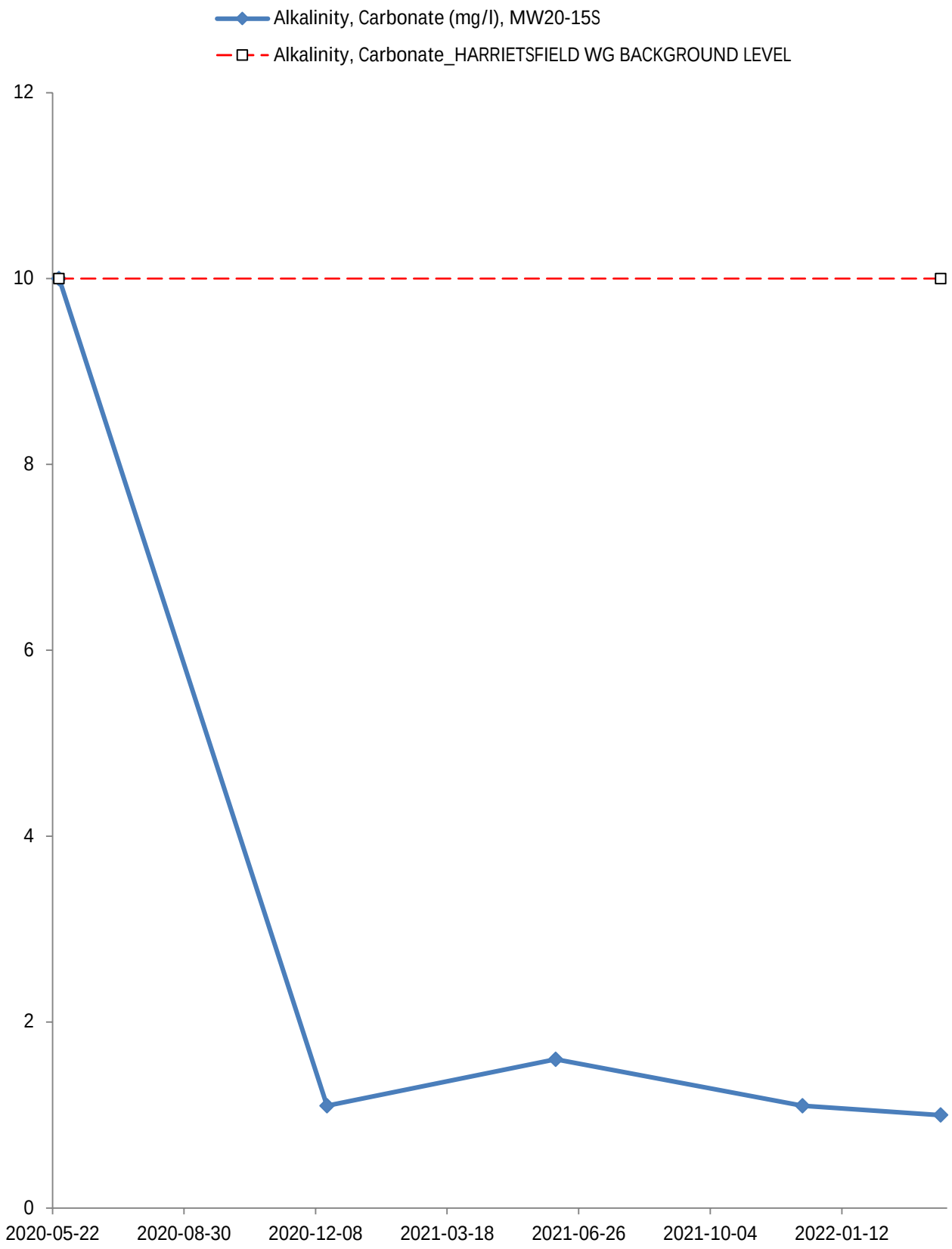
MW20-15D-Zinc



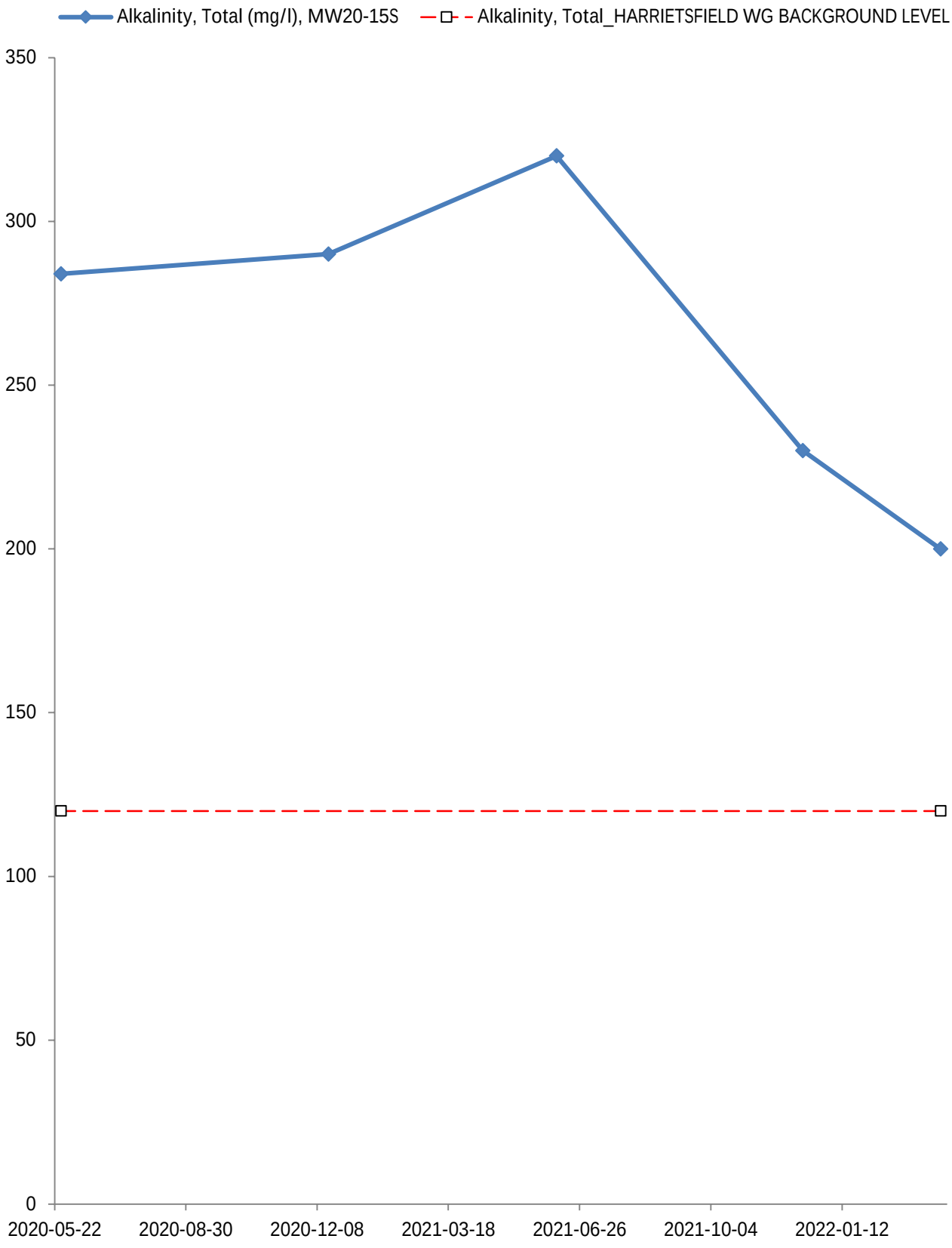
MW20-15S-Alkalinity, Bicarbonate



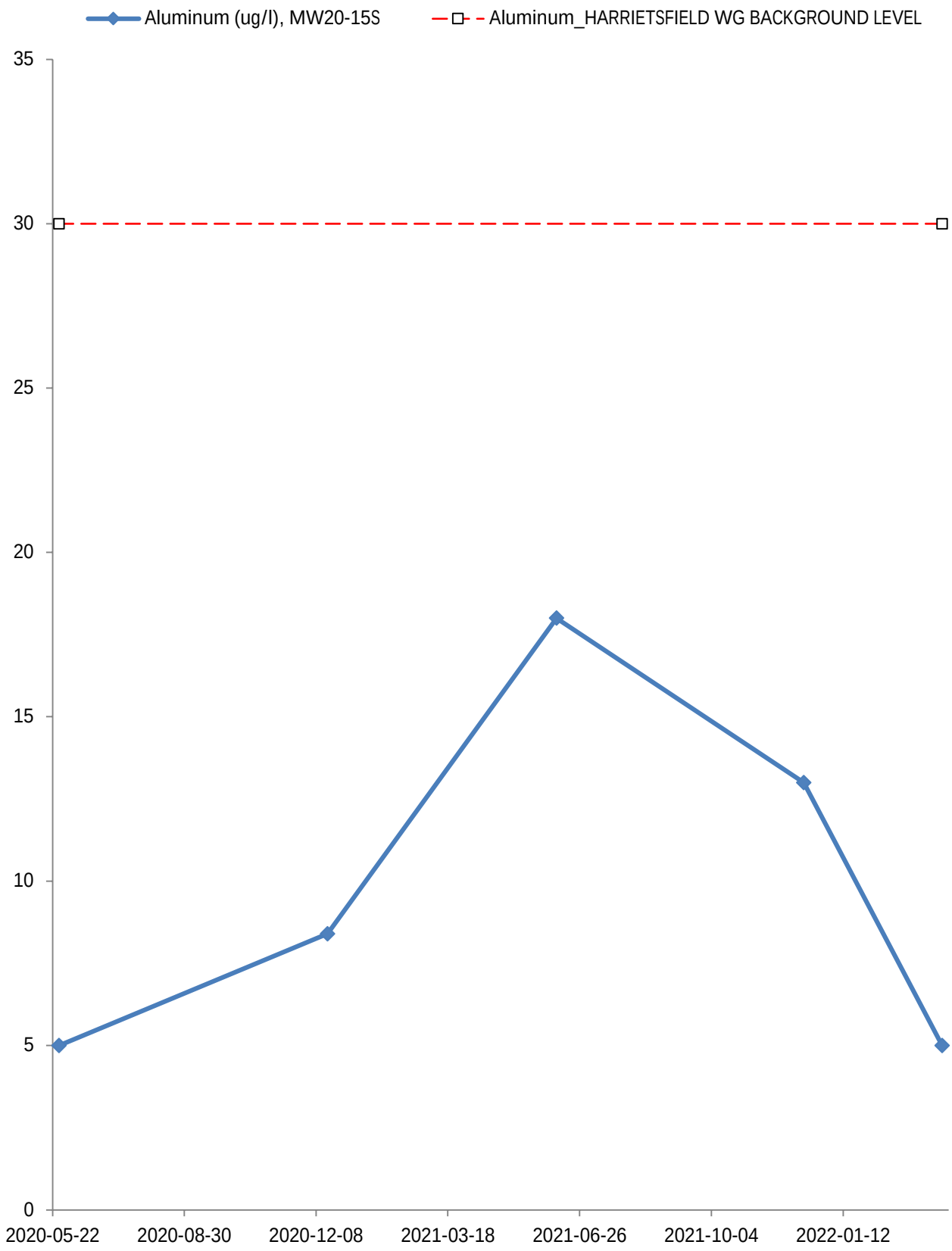
MW20-15S-Alkalinity, Carbonate



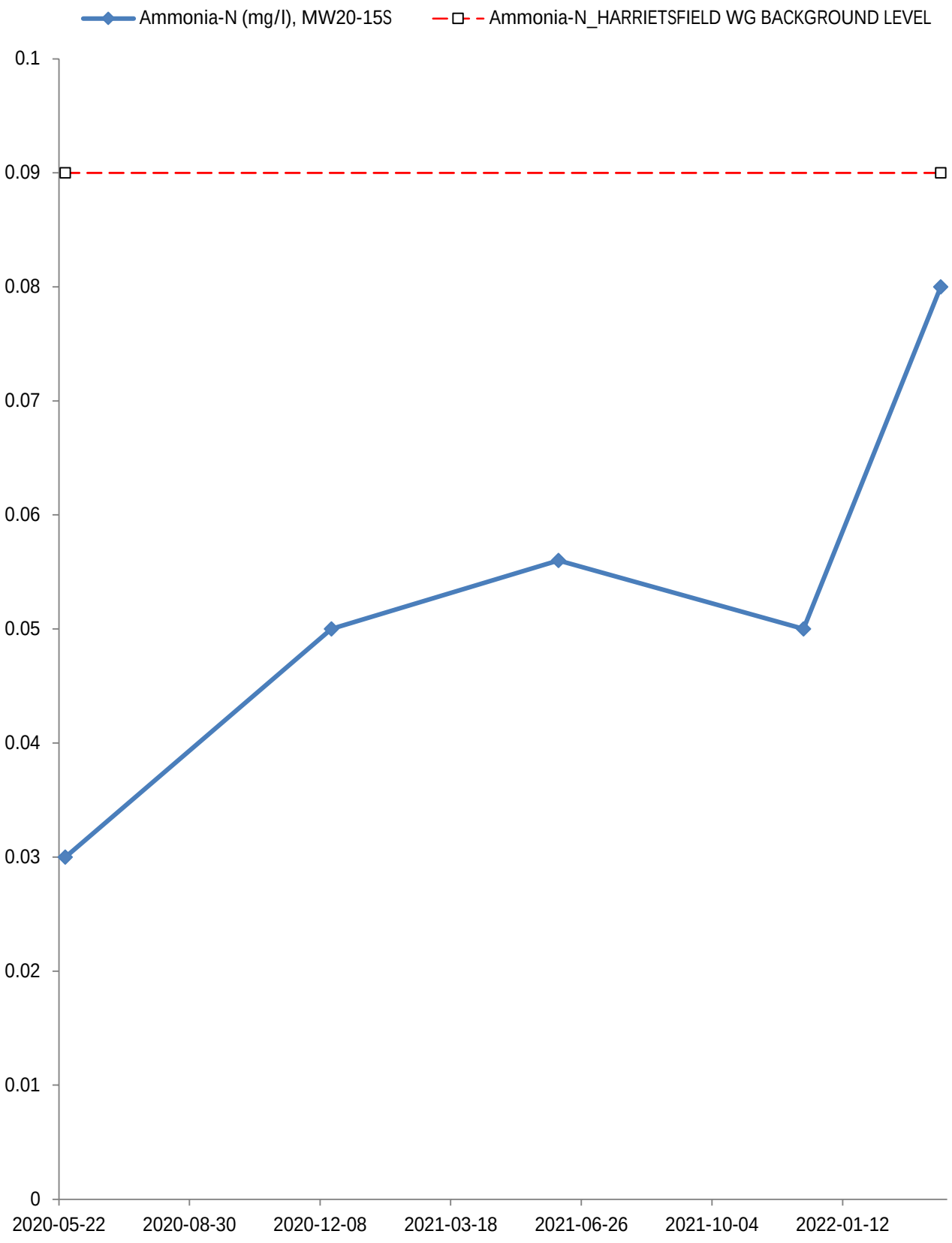
MW20-15S-Alkalinity, Total



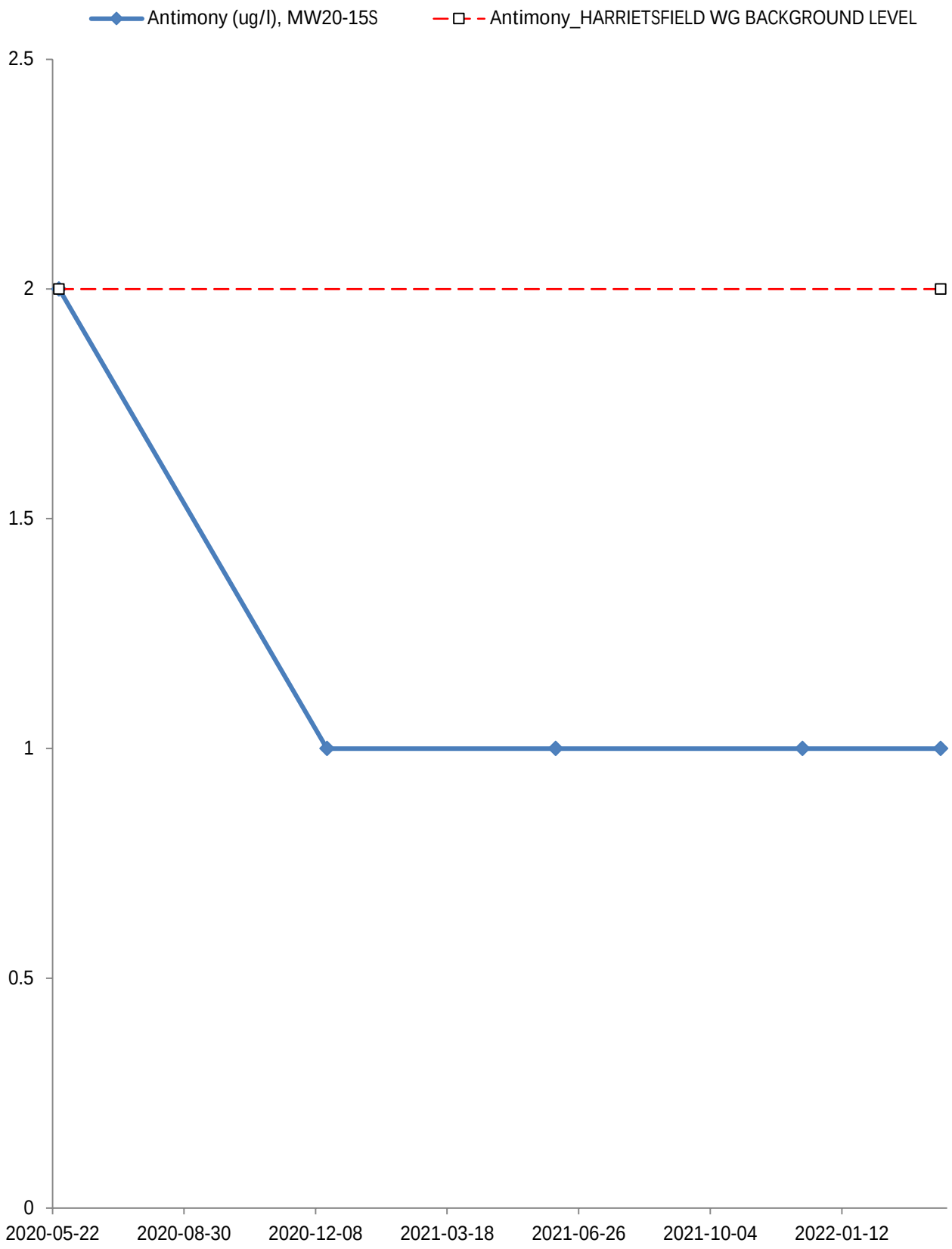
MW20-15S-Aluminum



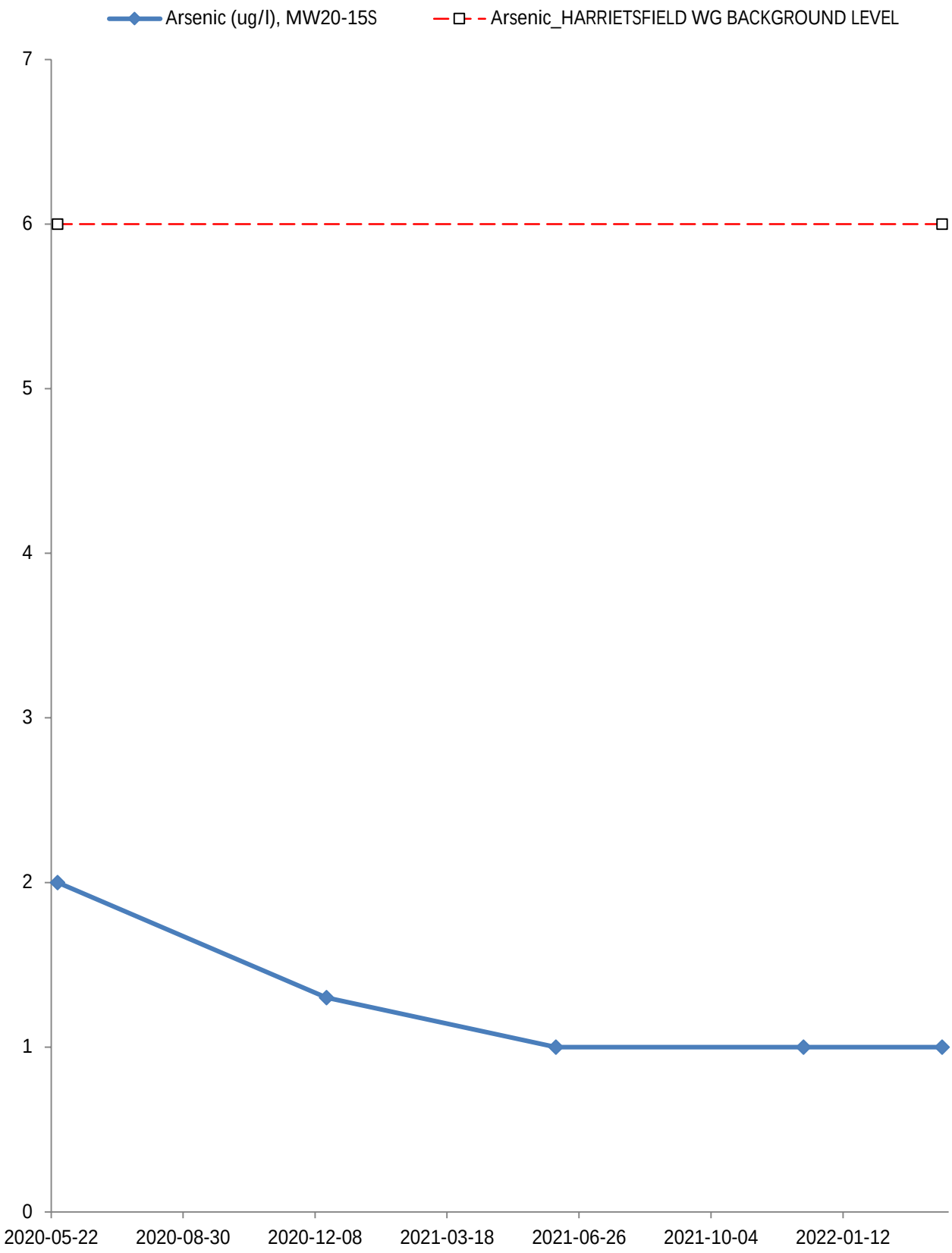
MW20-15S-Ammonia-N



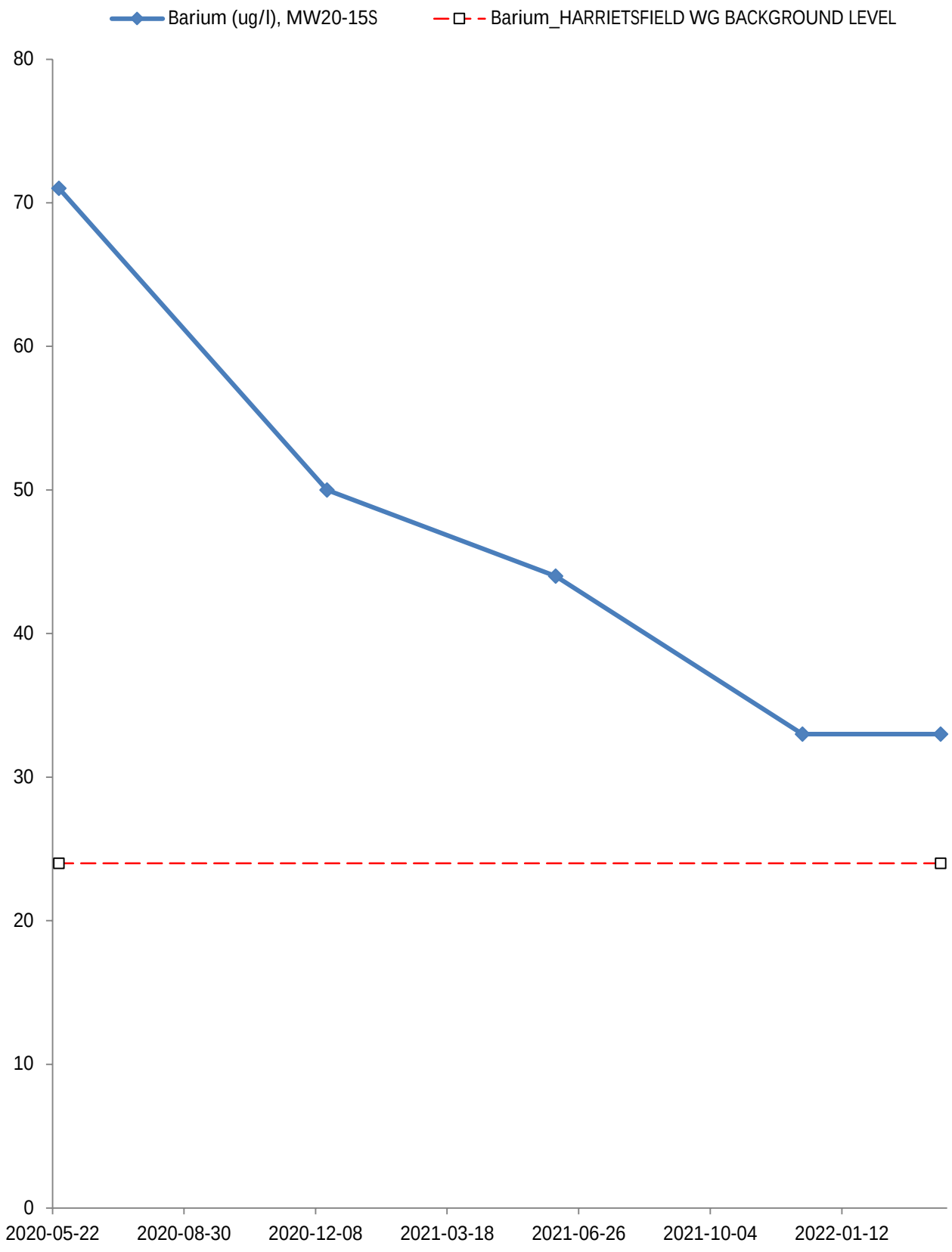
MW20-15S-Antimony



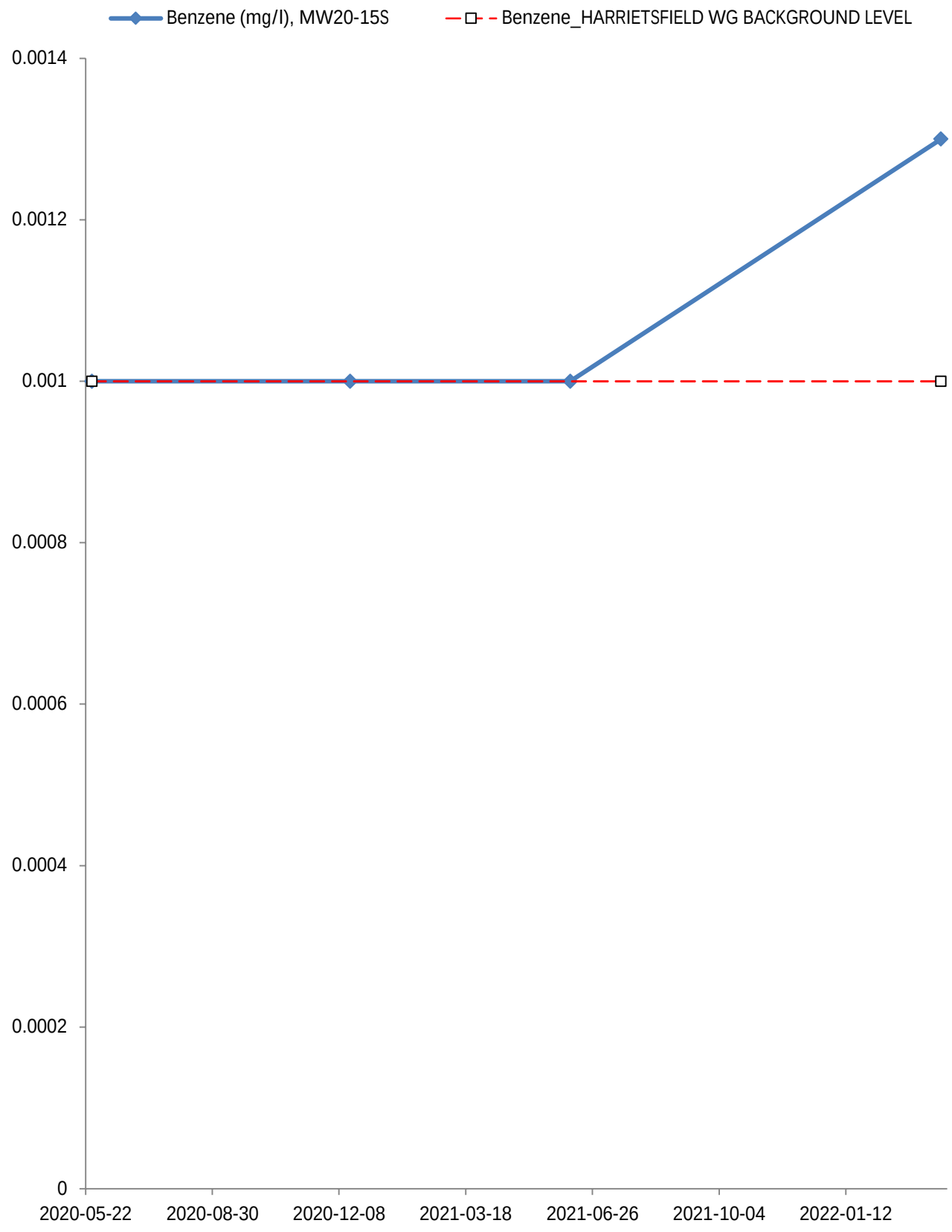
MW20-15S-Arsenic



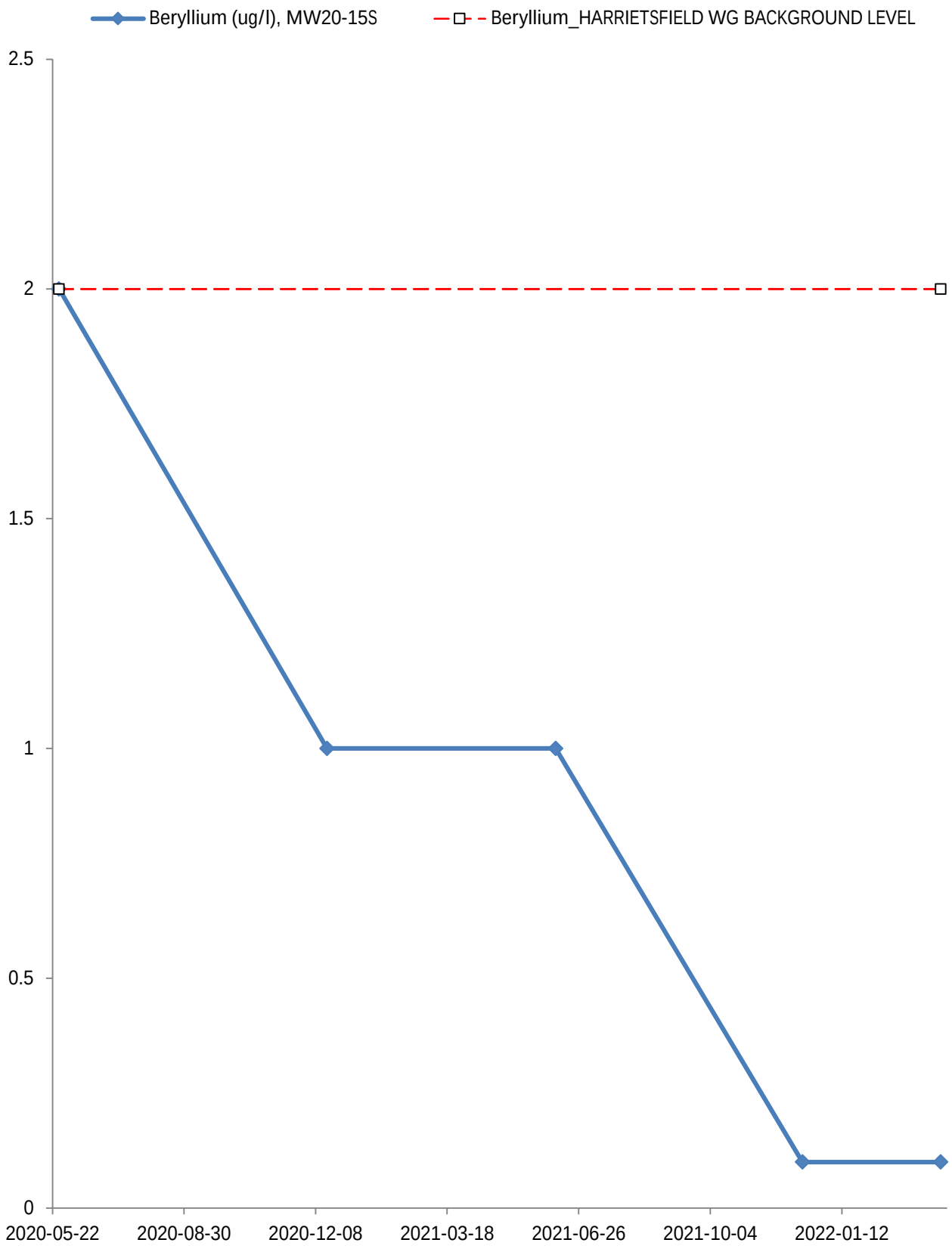
MW20-15S-Barium



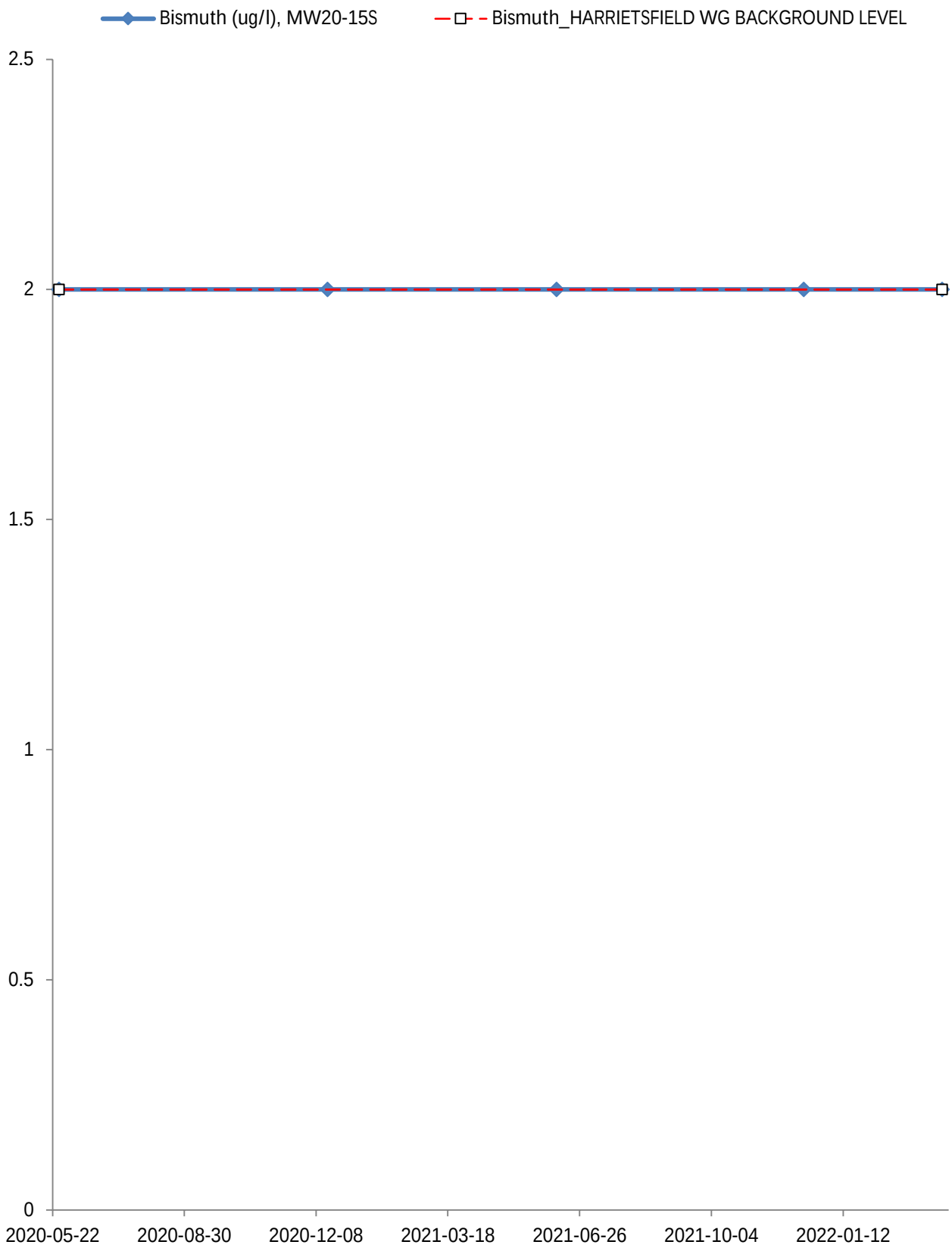
MW20-15S-Benzene



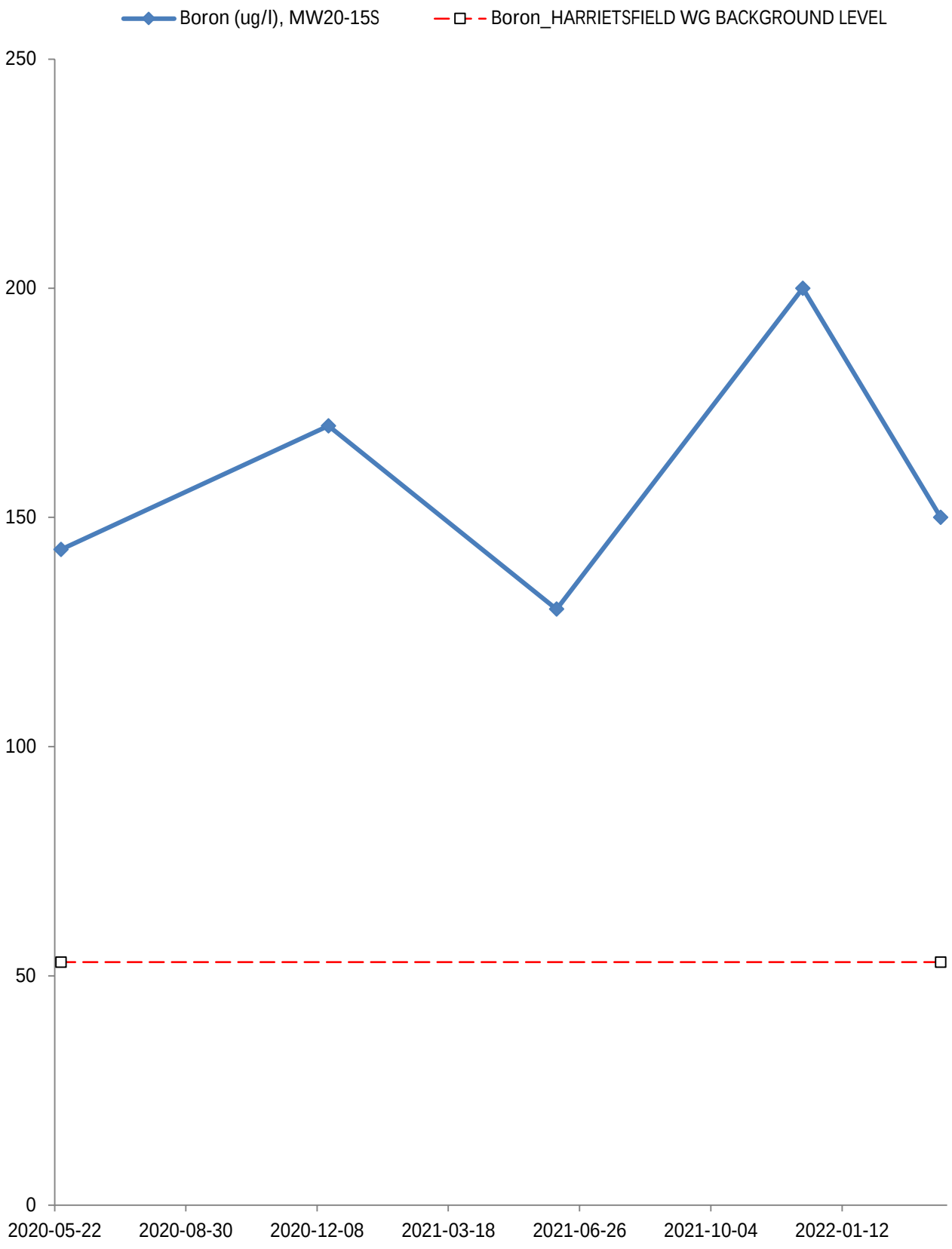
MW20-15S-Beryllium



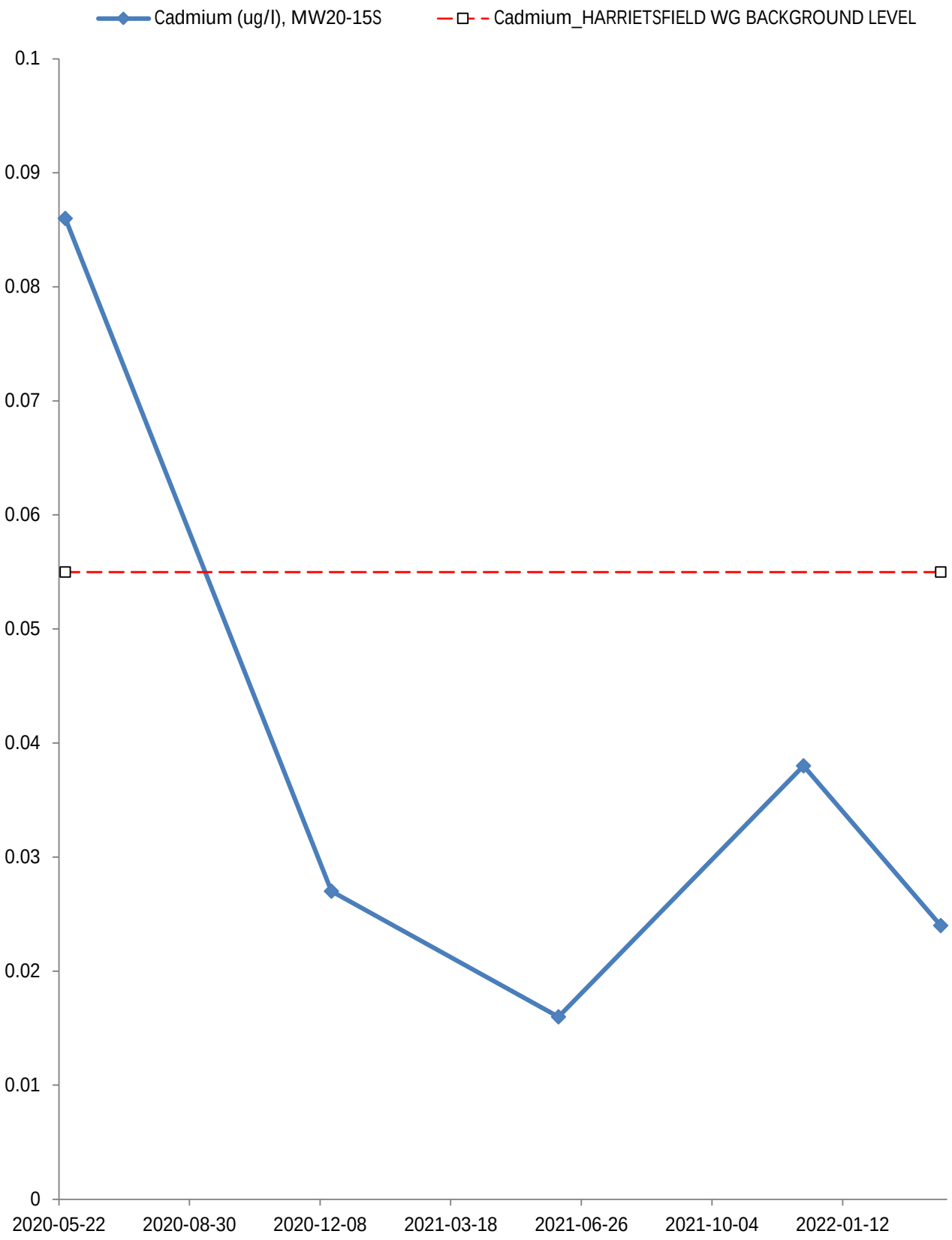
MW20-15S-Bismuth



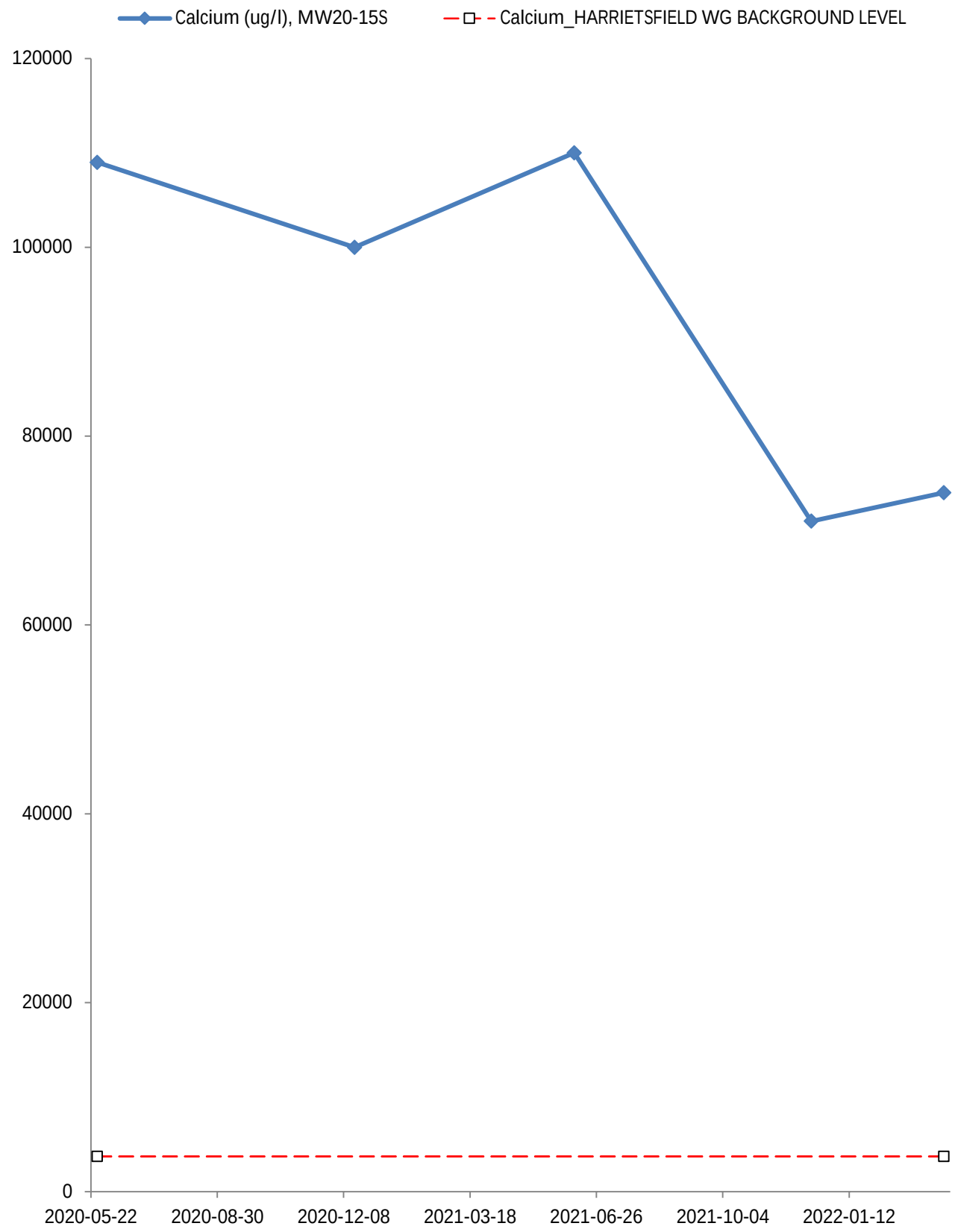
MW20-15S-Boron



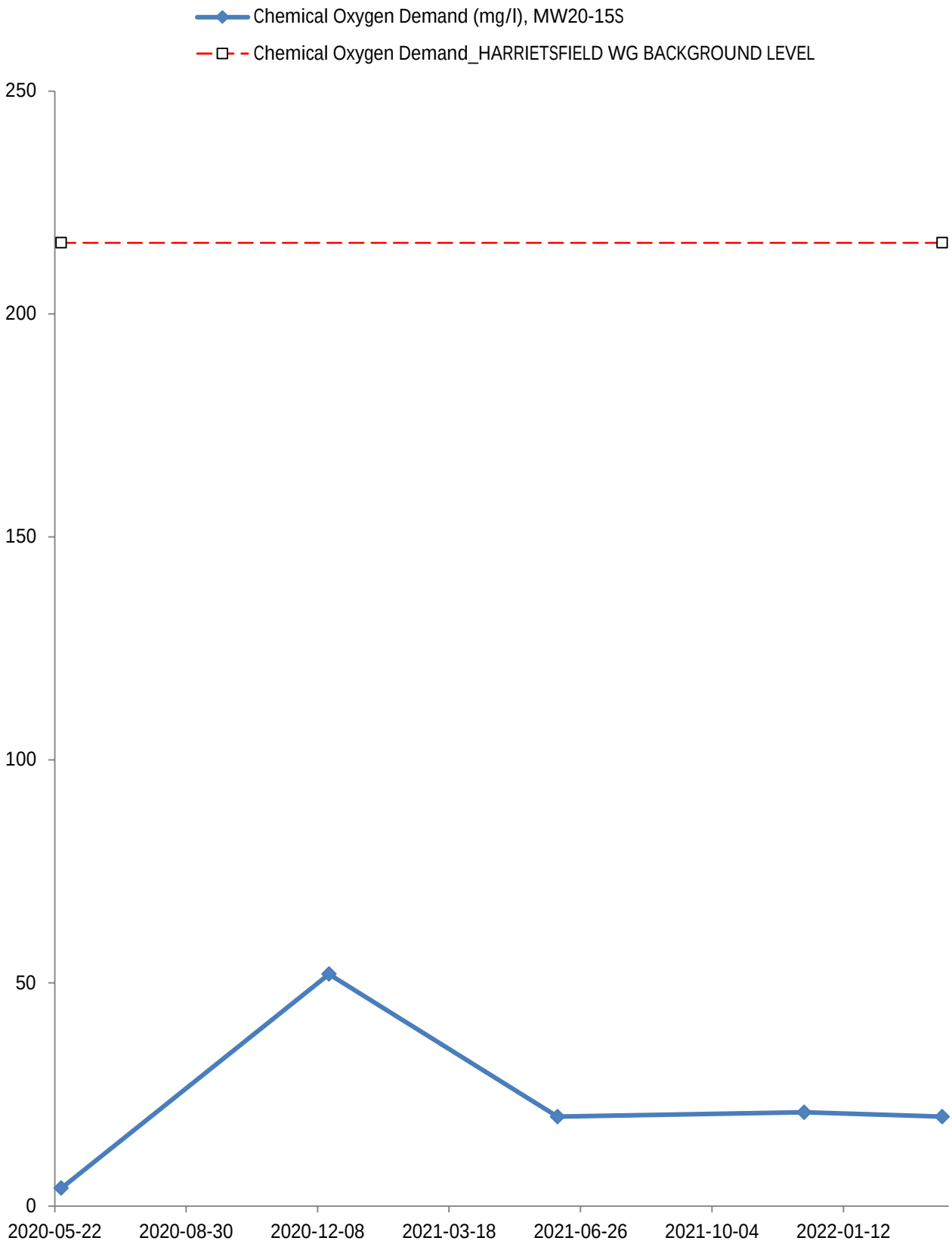
MW20-15S-Cadmium



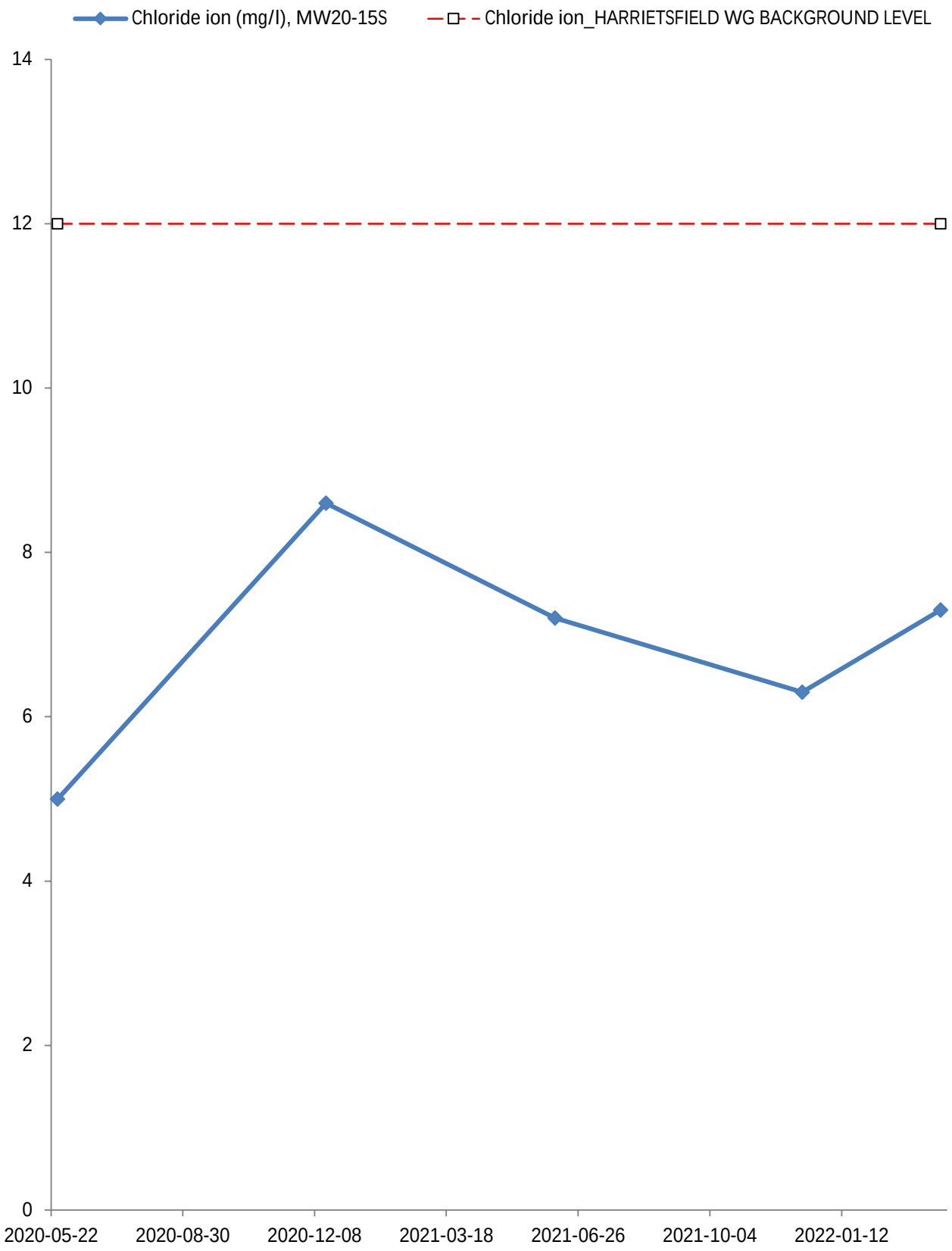
MW20-15S-Calcium



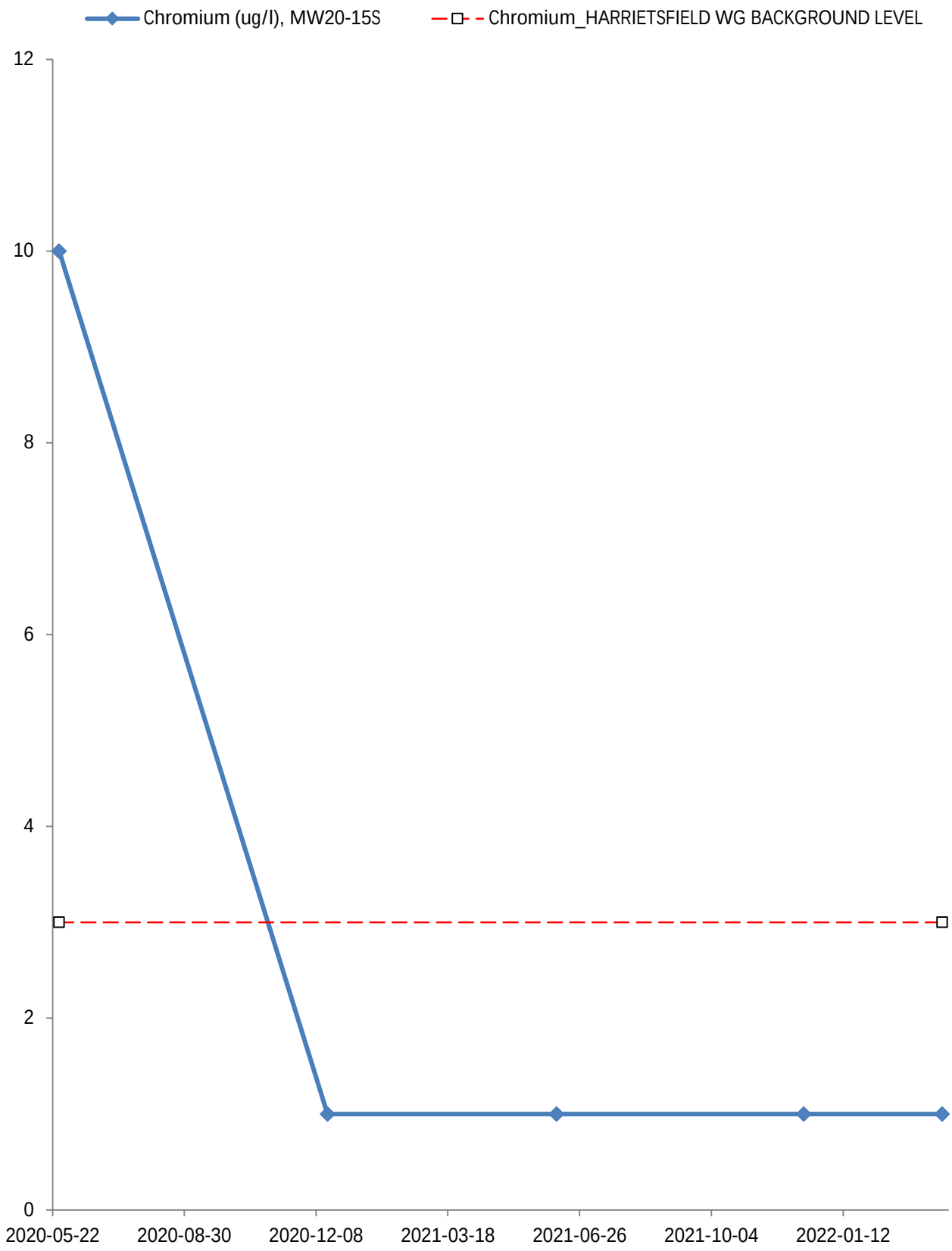
MW20-15S-Chemical Oxygen Demand



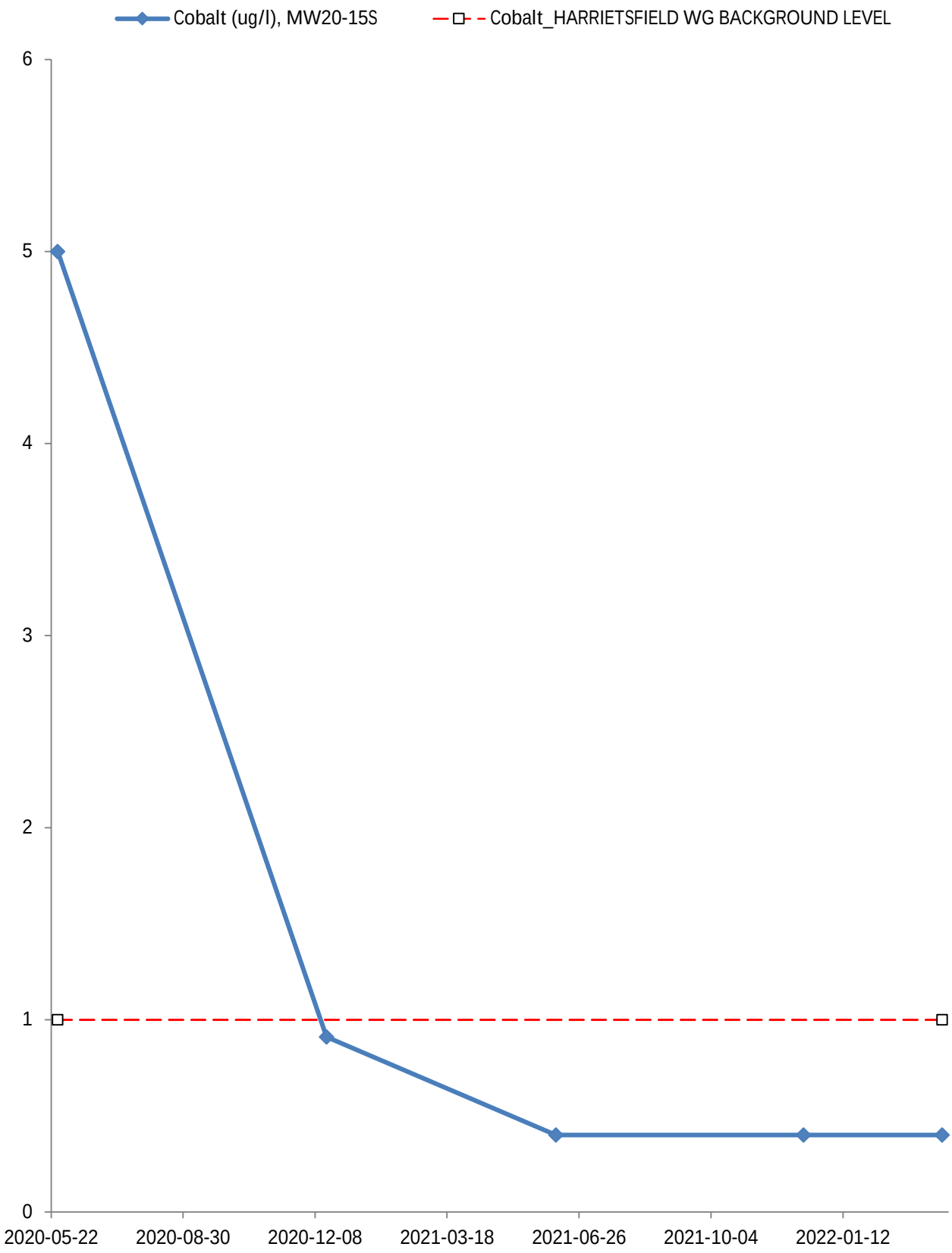
MW20-15S-Chloride ion



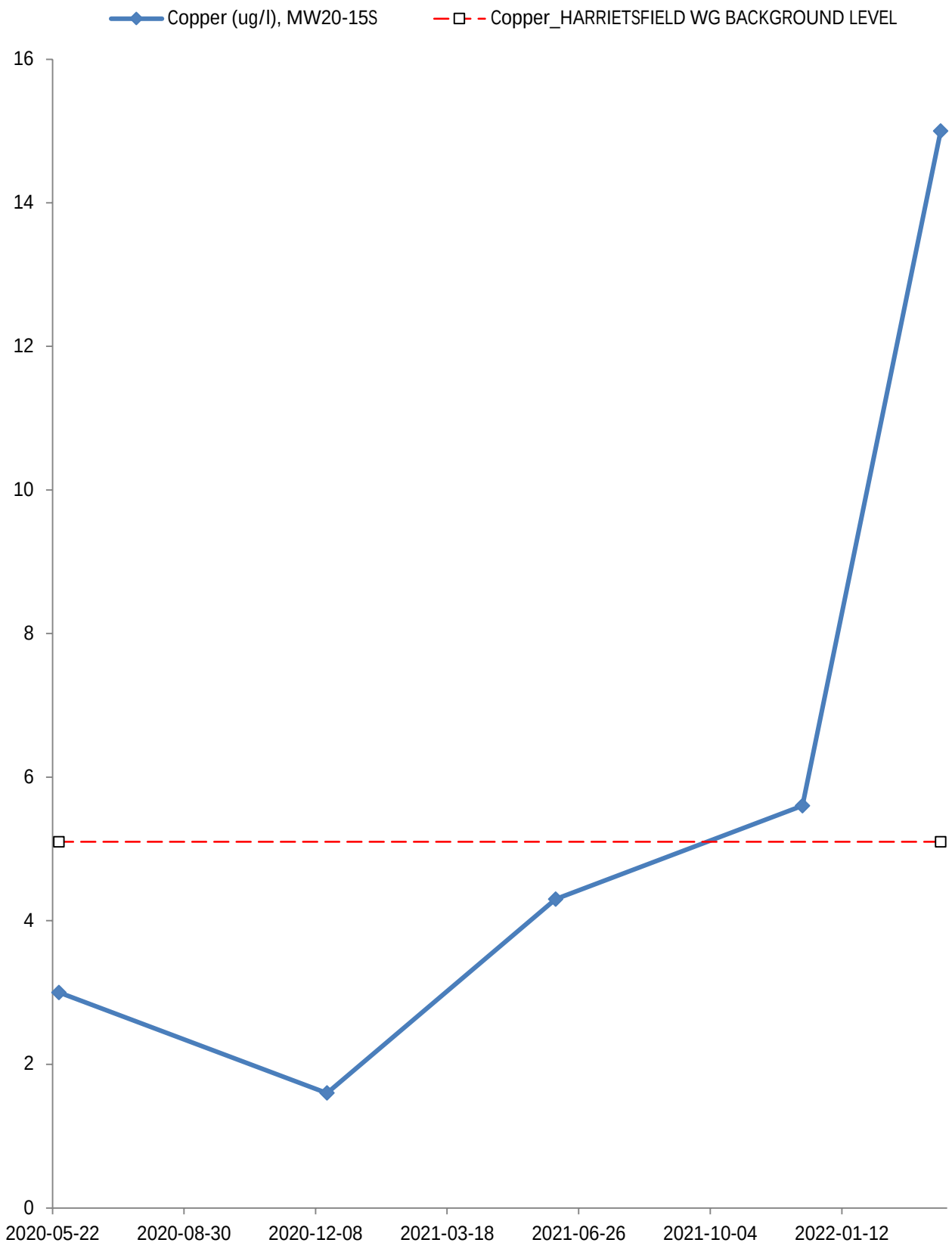
MW20-15S-Chromium



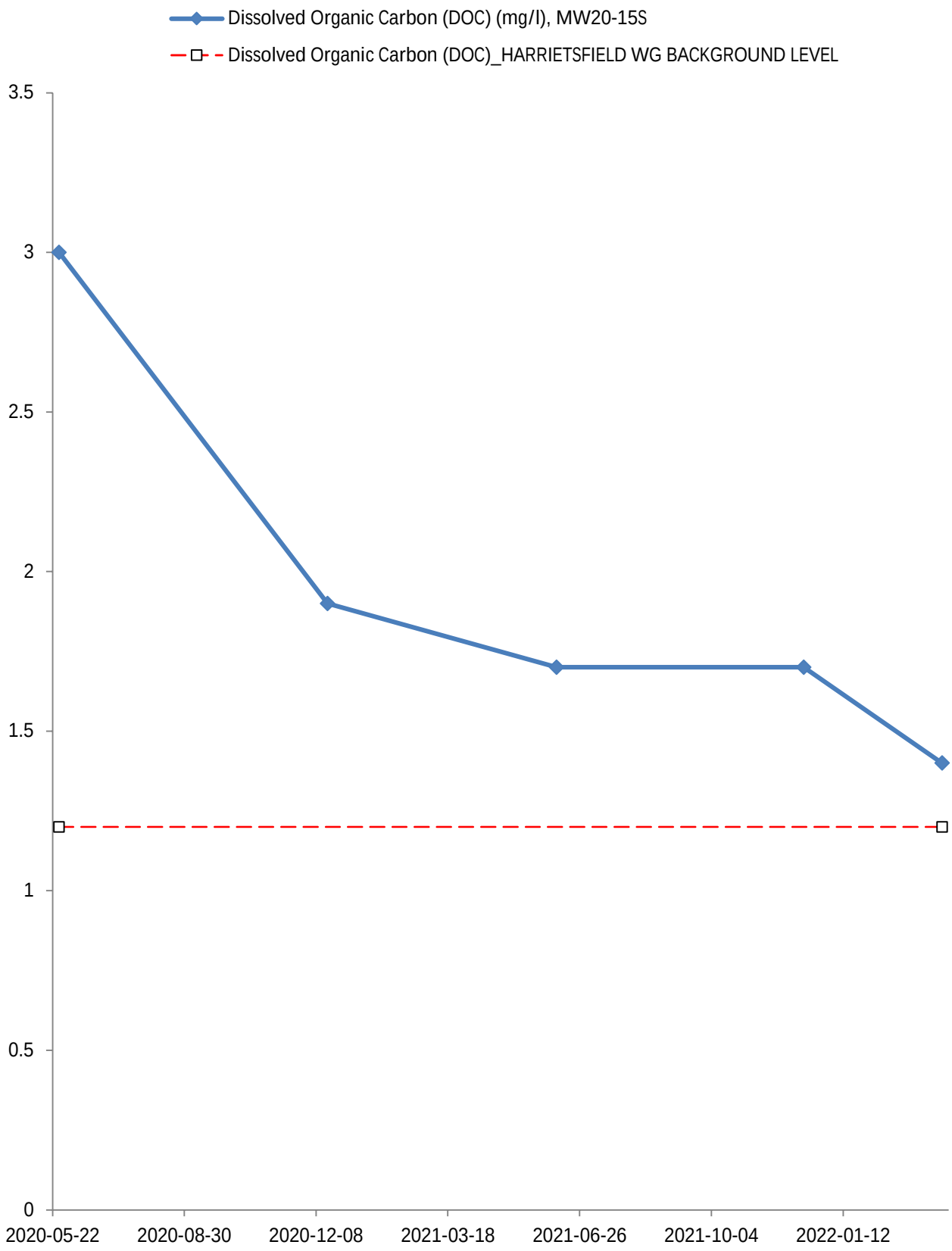
MW20-15S-Cobalt



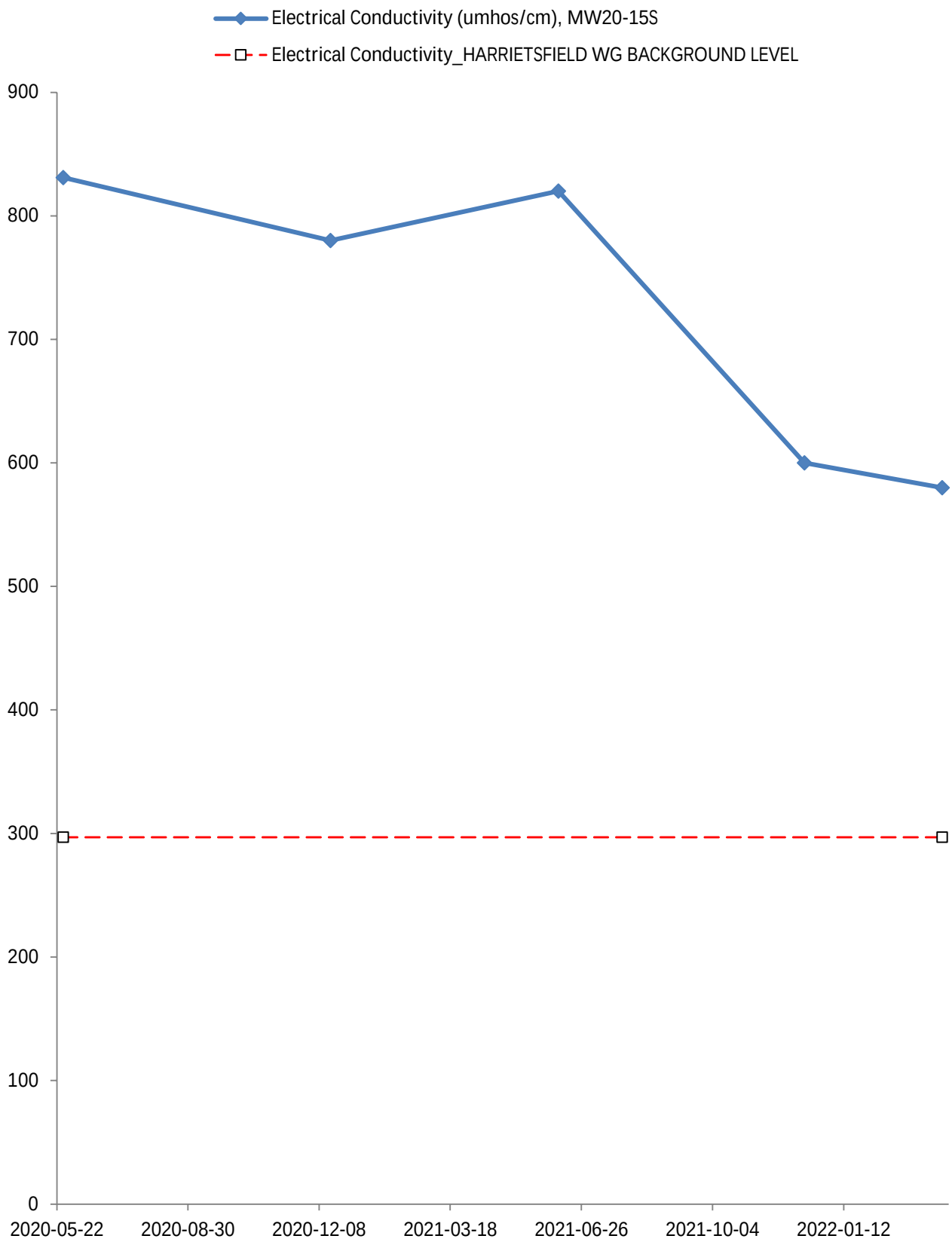
MW20-15S-Copper



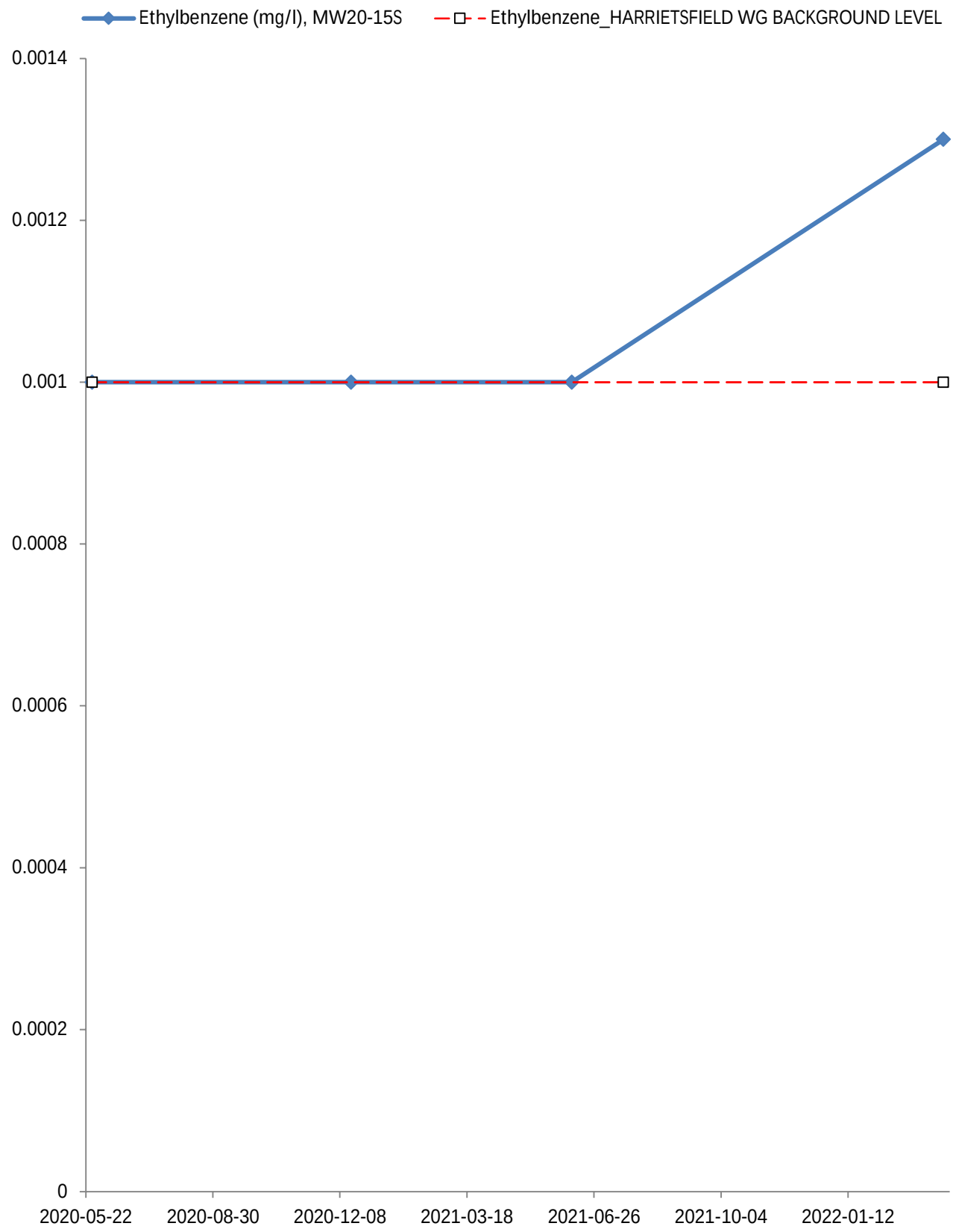
MW20-15S-Dissolved Organic Carbon7



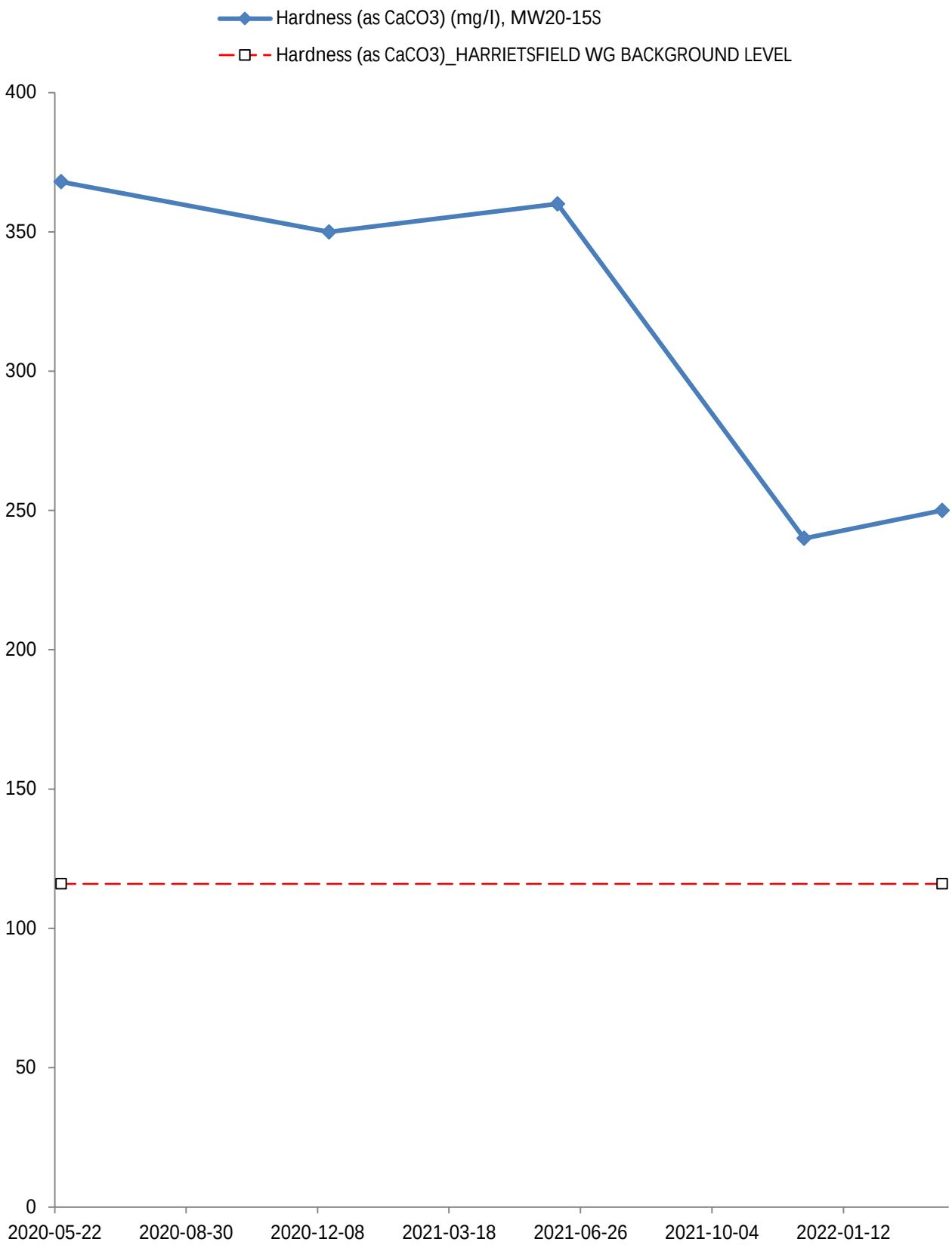
MW20-15S-Electrical Conductivity



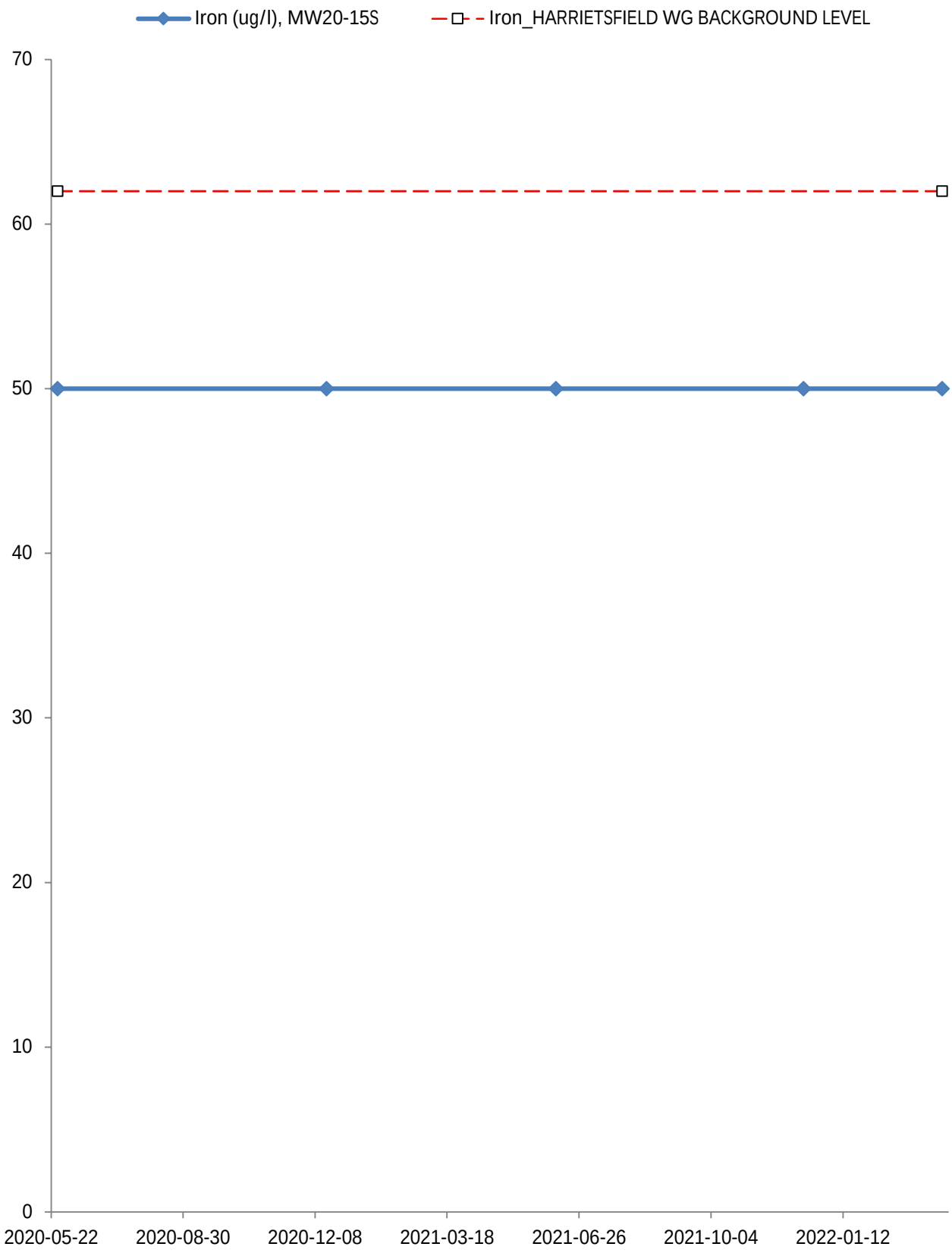
MW20-15S-Ethylbenzene



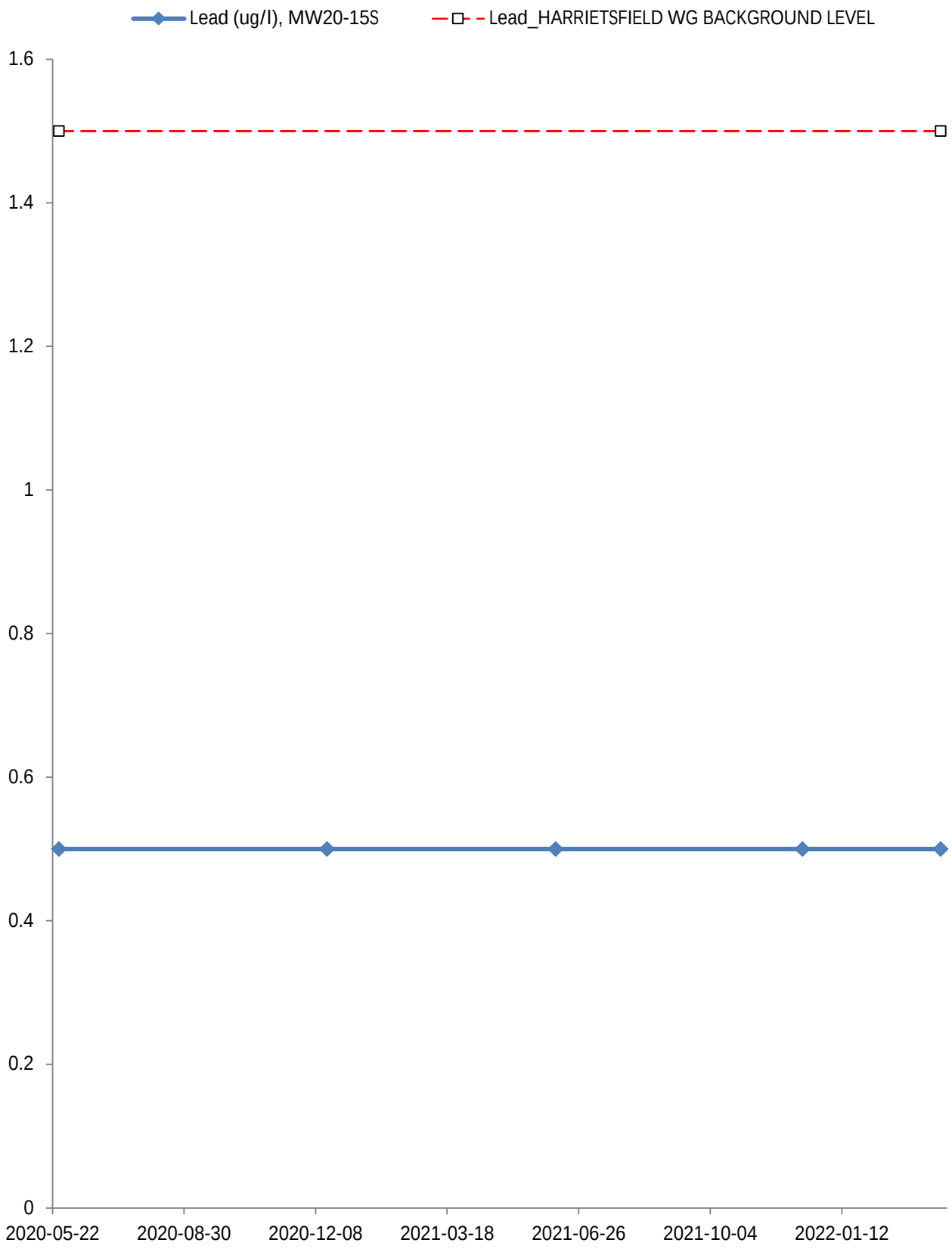
MW20-15S-Hardness (as CaCO3)



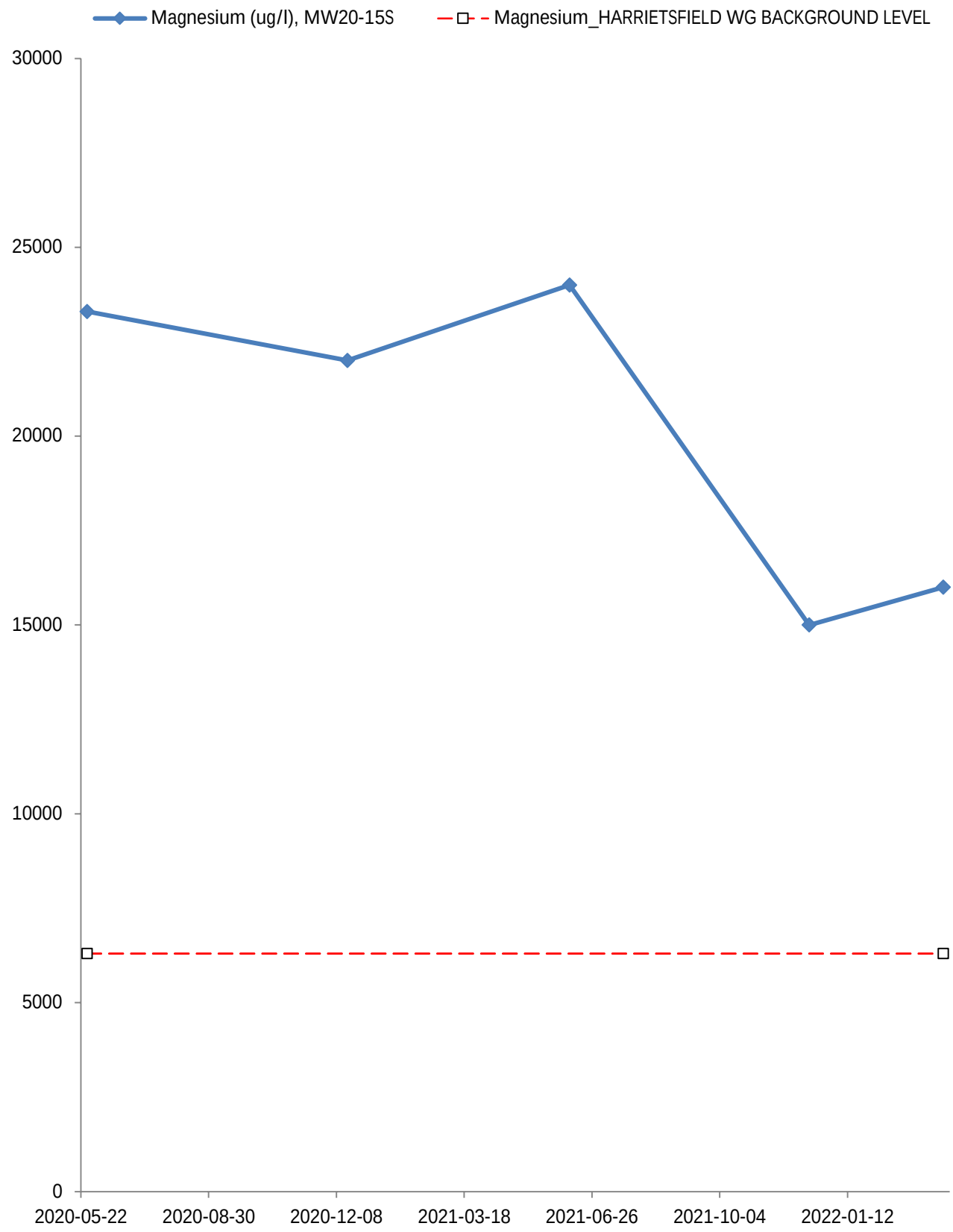
MW20-15S-Iron



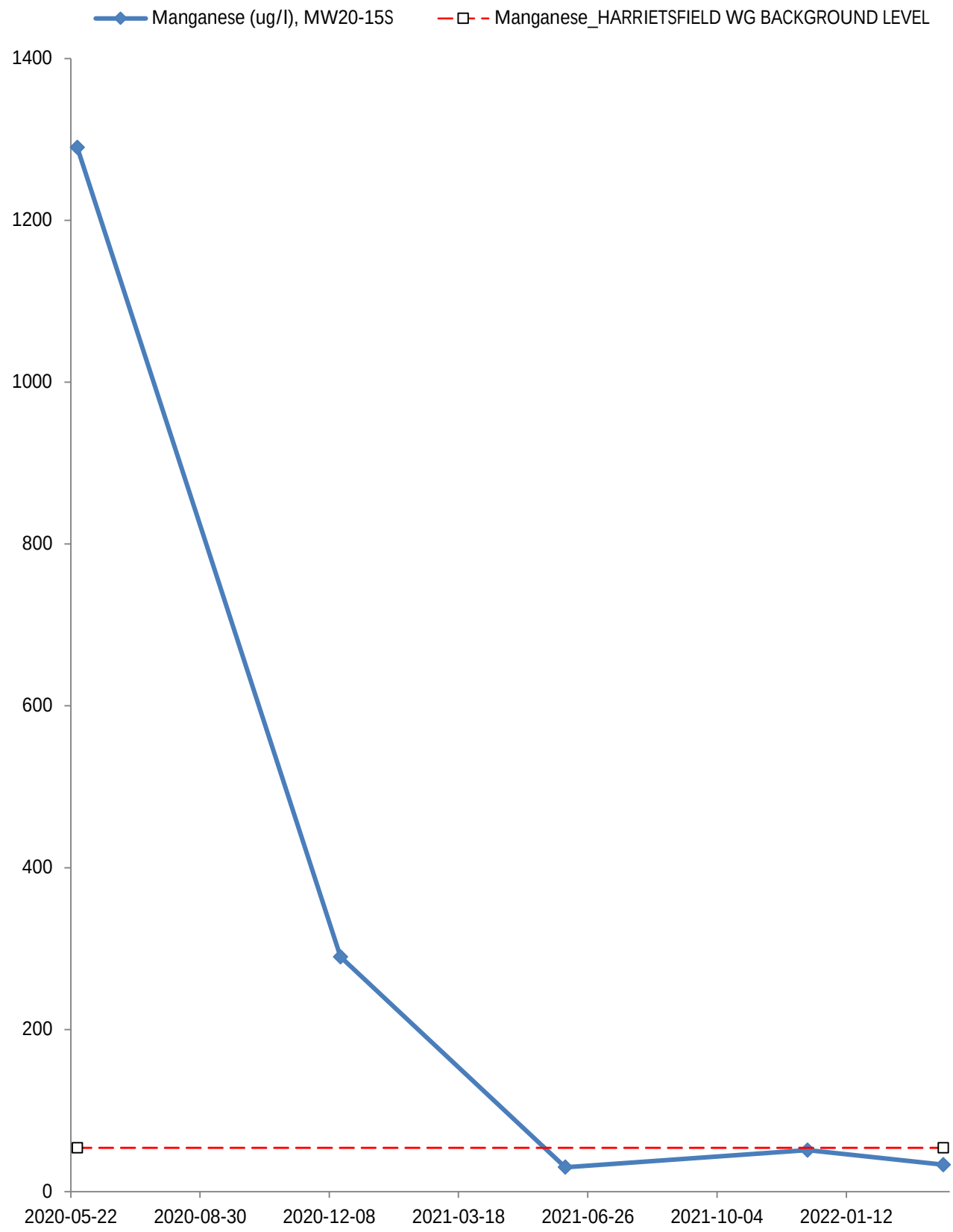
MW20-15S-Lead



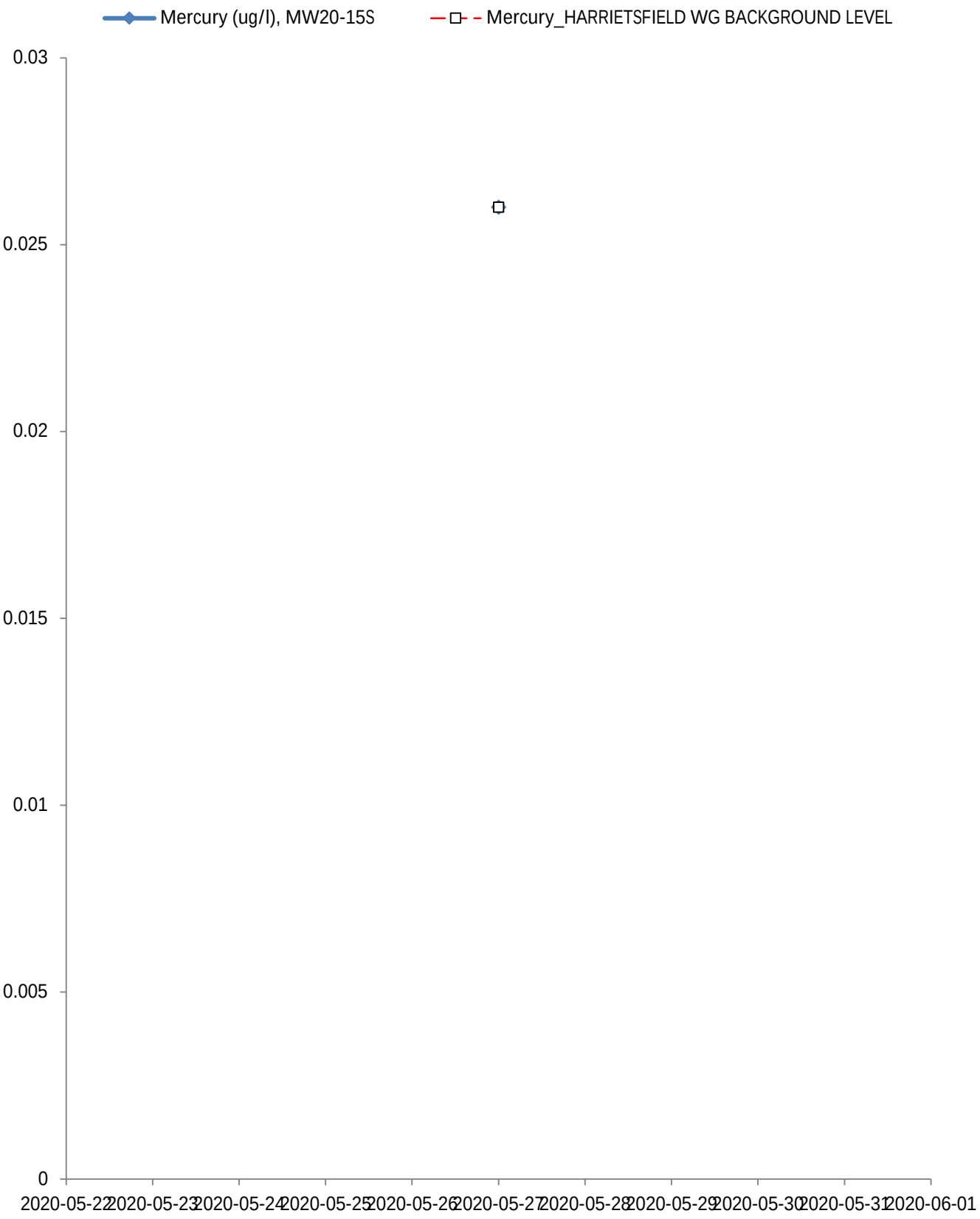
MW20-15S-Magnesium



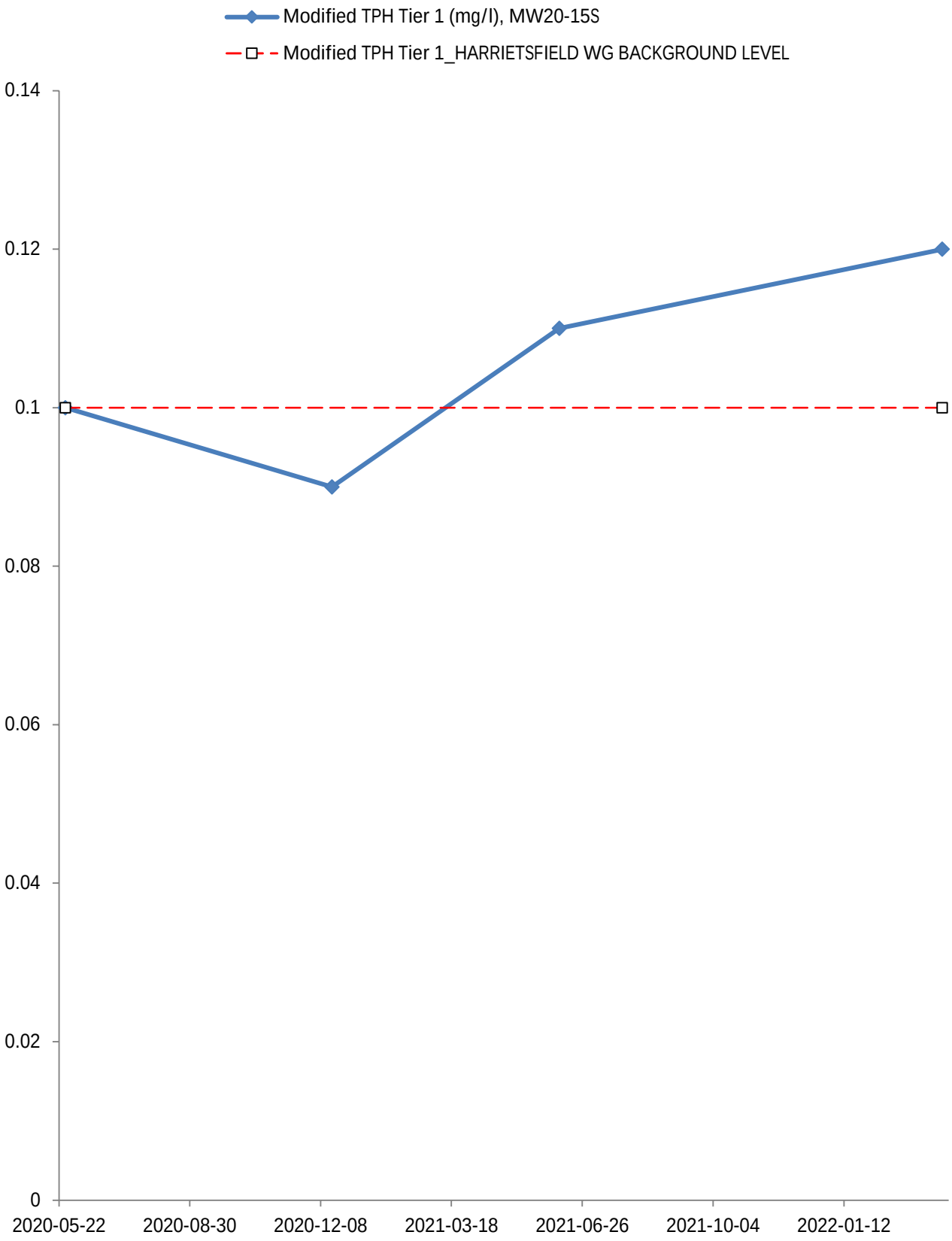
MW20-15S-Manganese



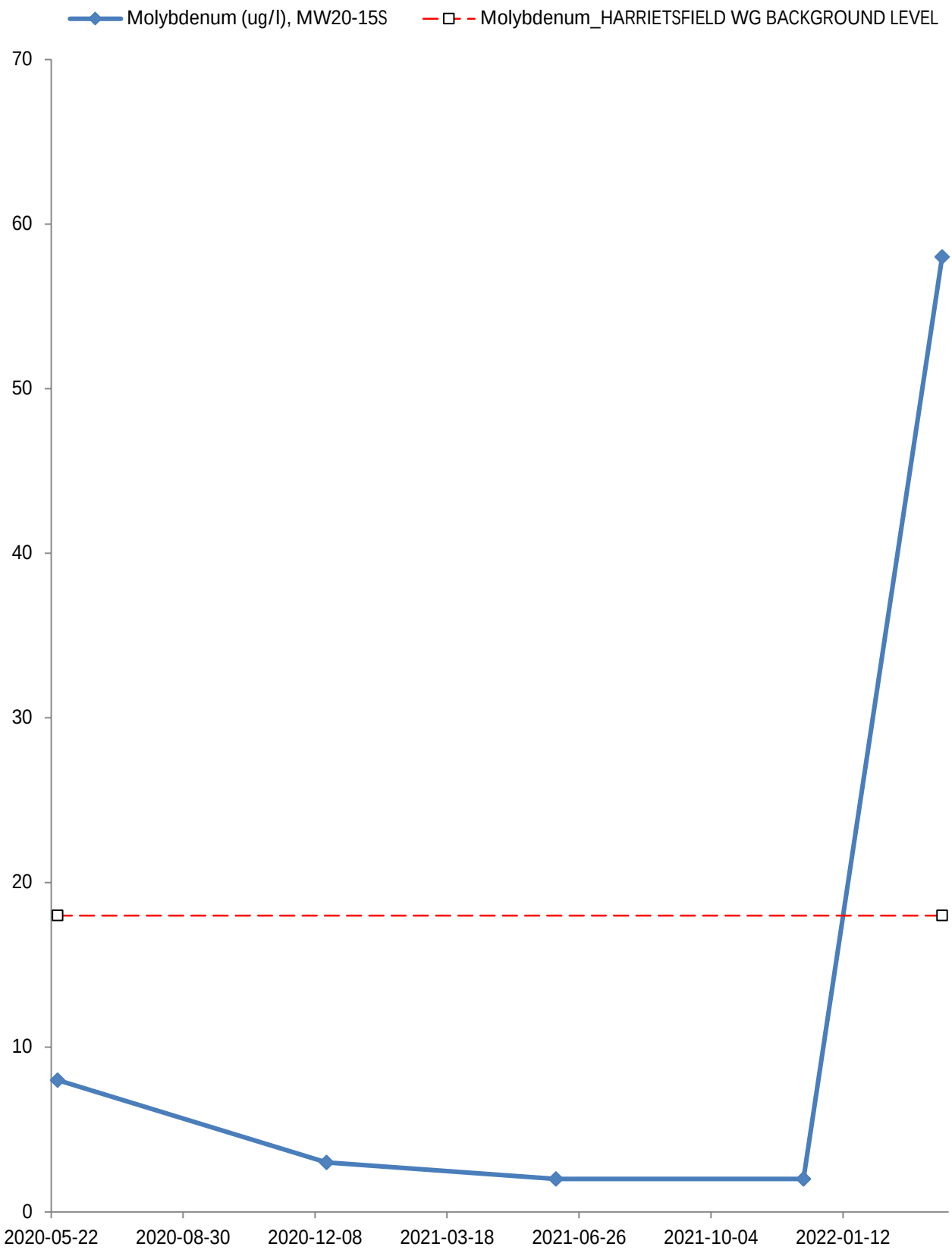
MW20-15S-Mercury



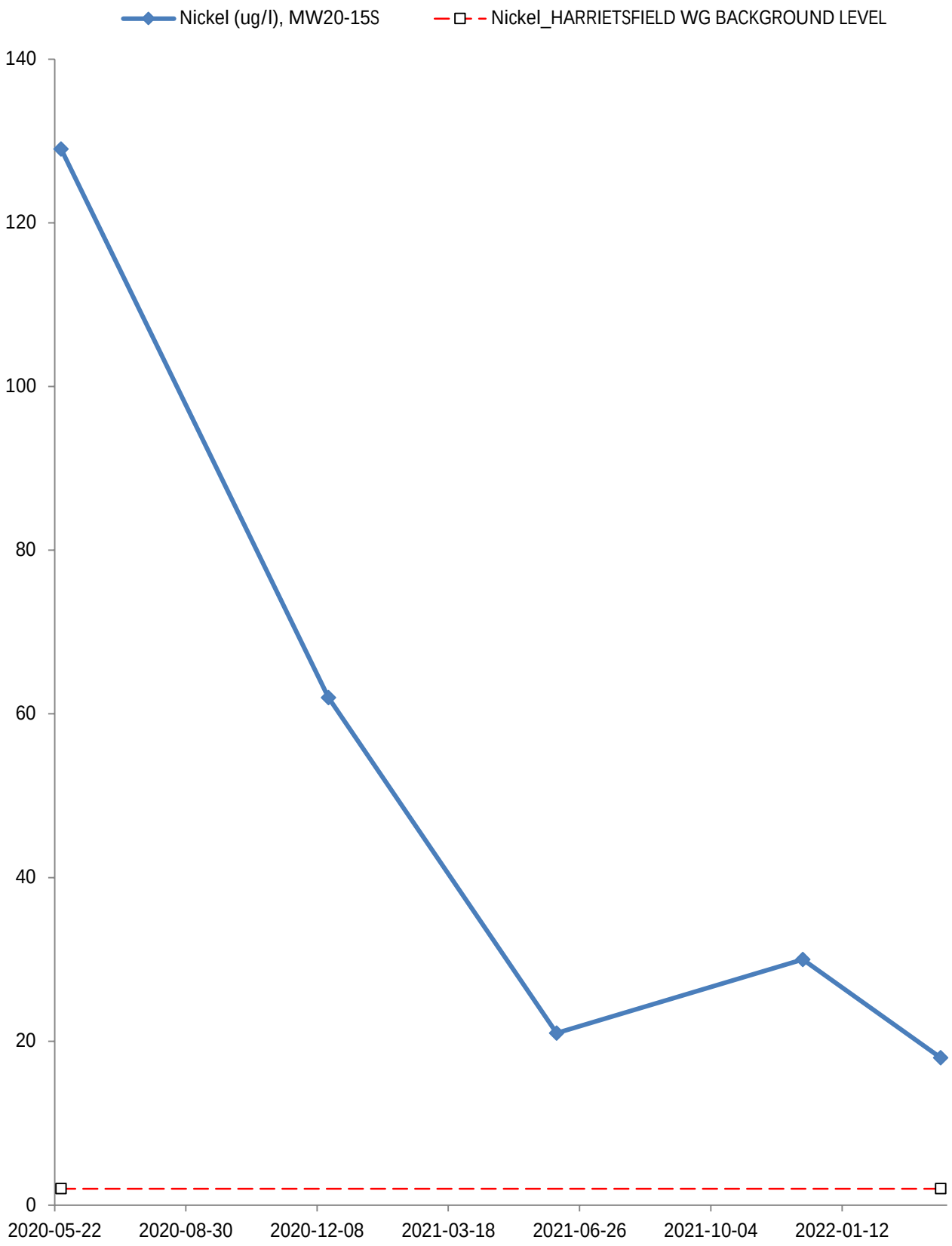
MW20-15S-Modified TPH Tier 1



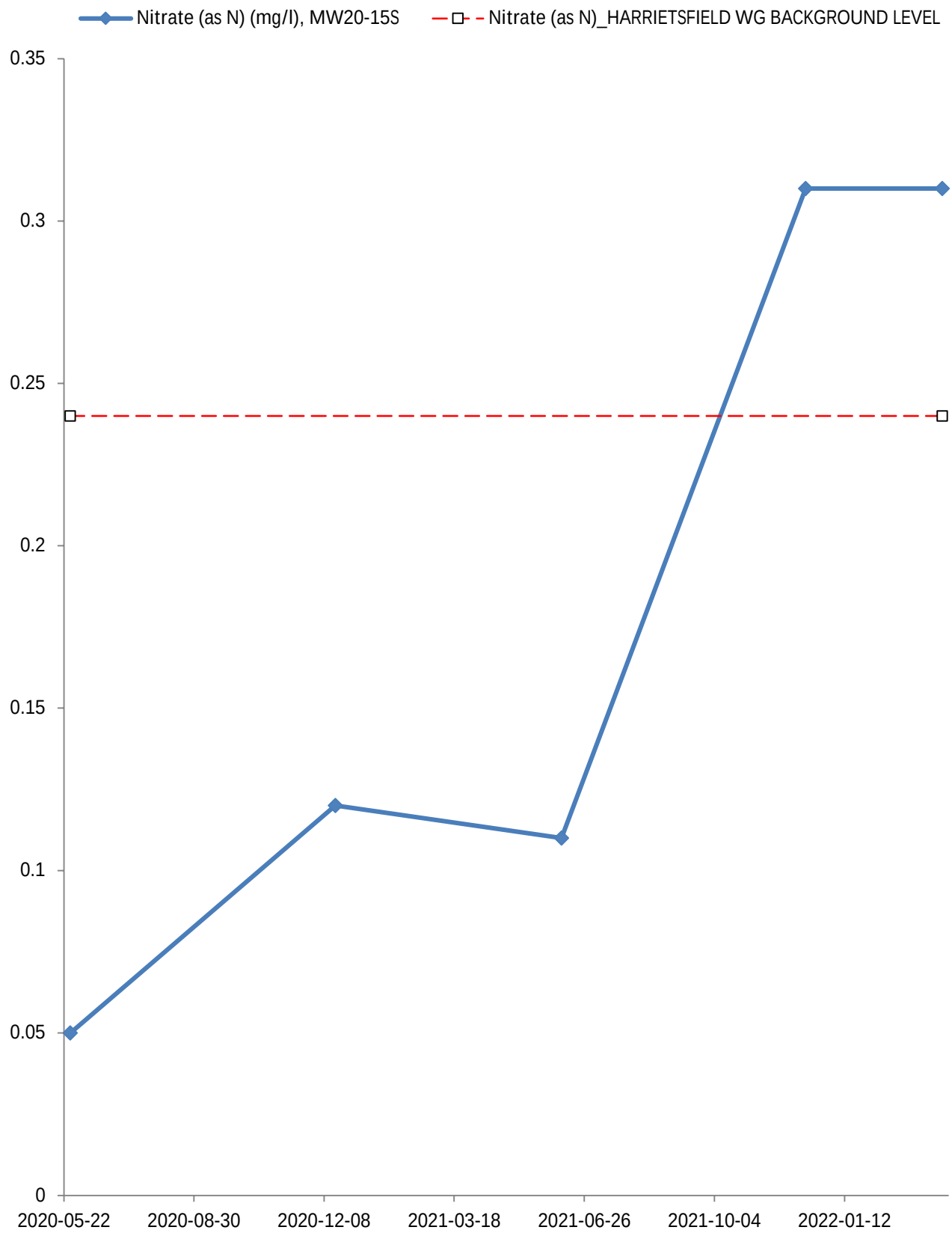
MW20-15S-Molybdenum



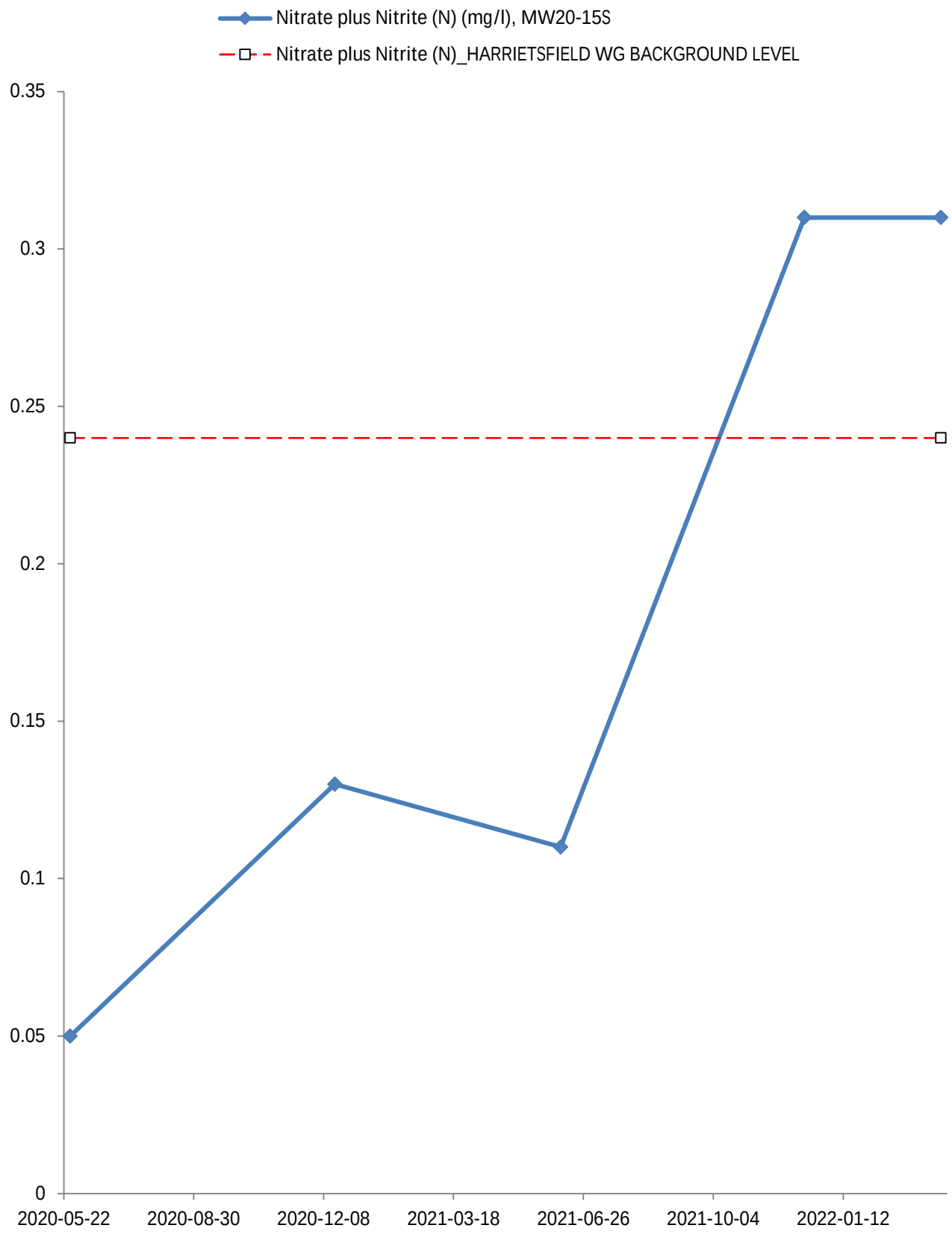
MW20-15S-Nickel



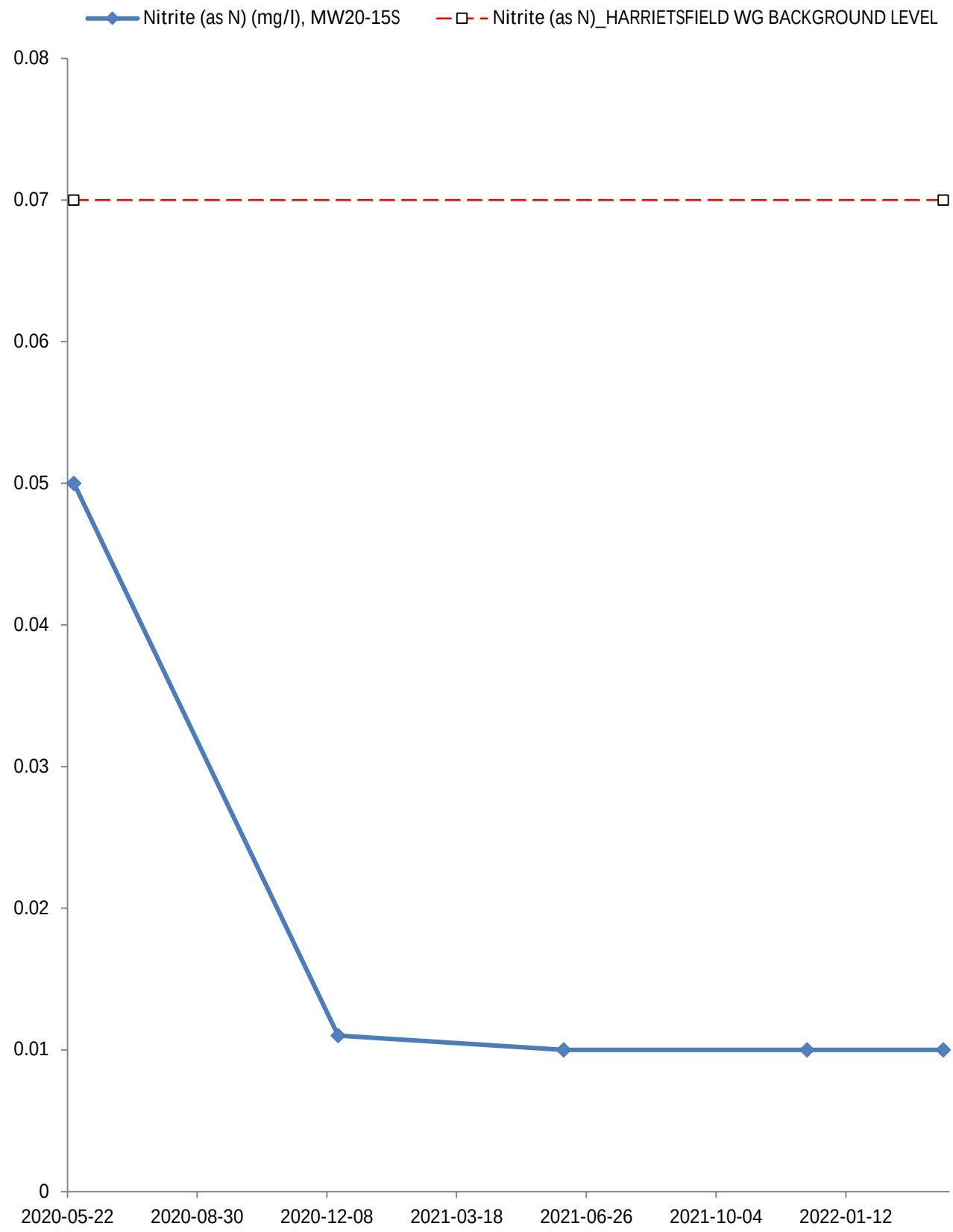
MW20-15S-Nitrate (as N)



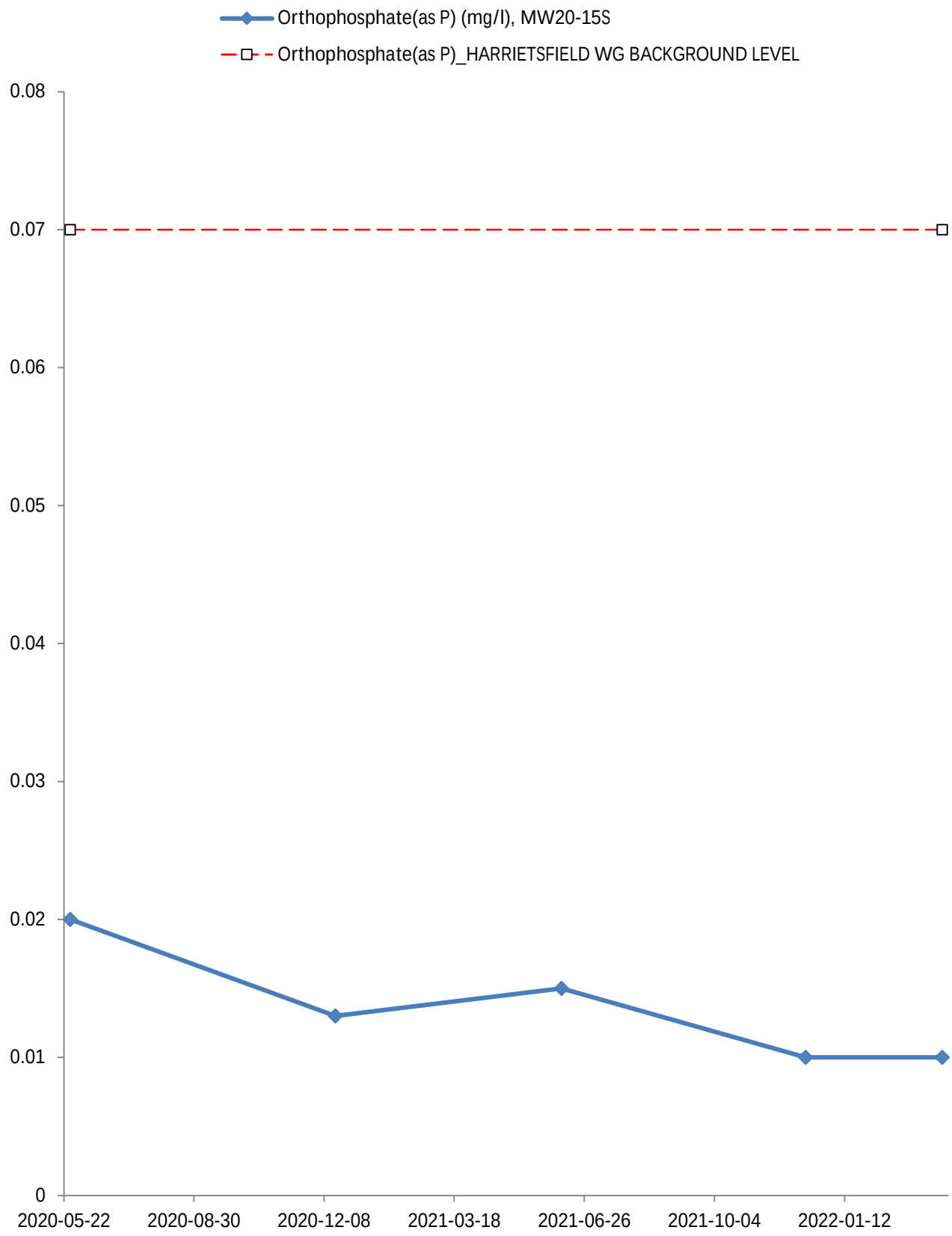
MW20-15S-Nitrate plus Nitrite (N)



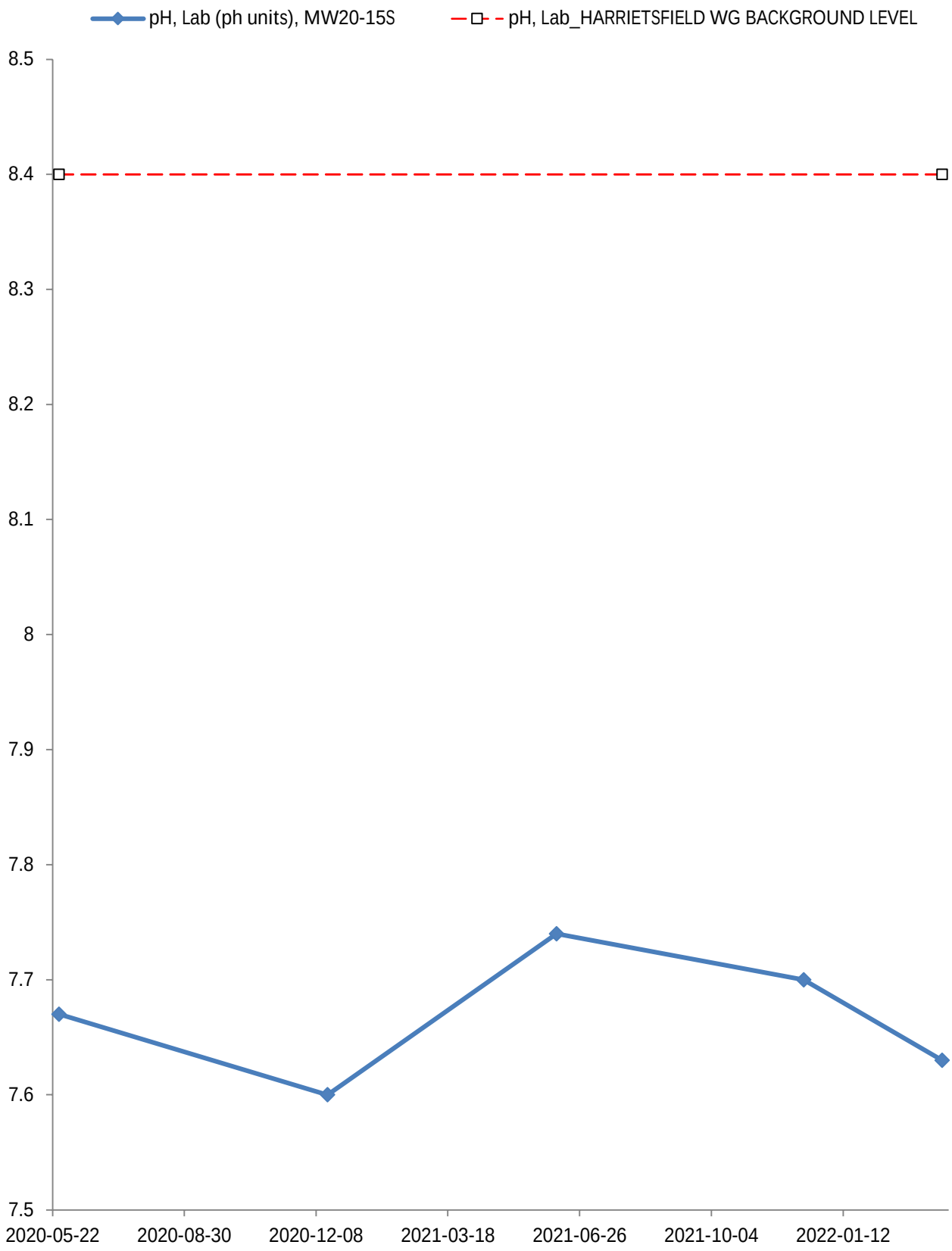
MW20-15S-Nitrite (as N)



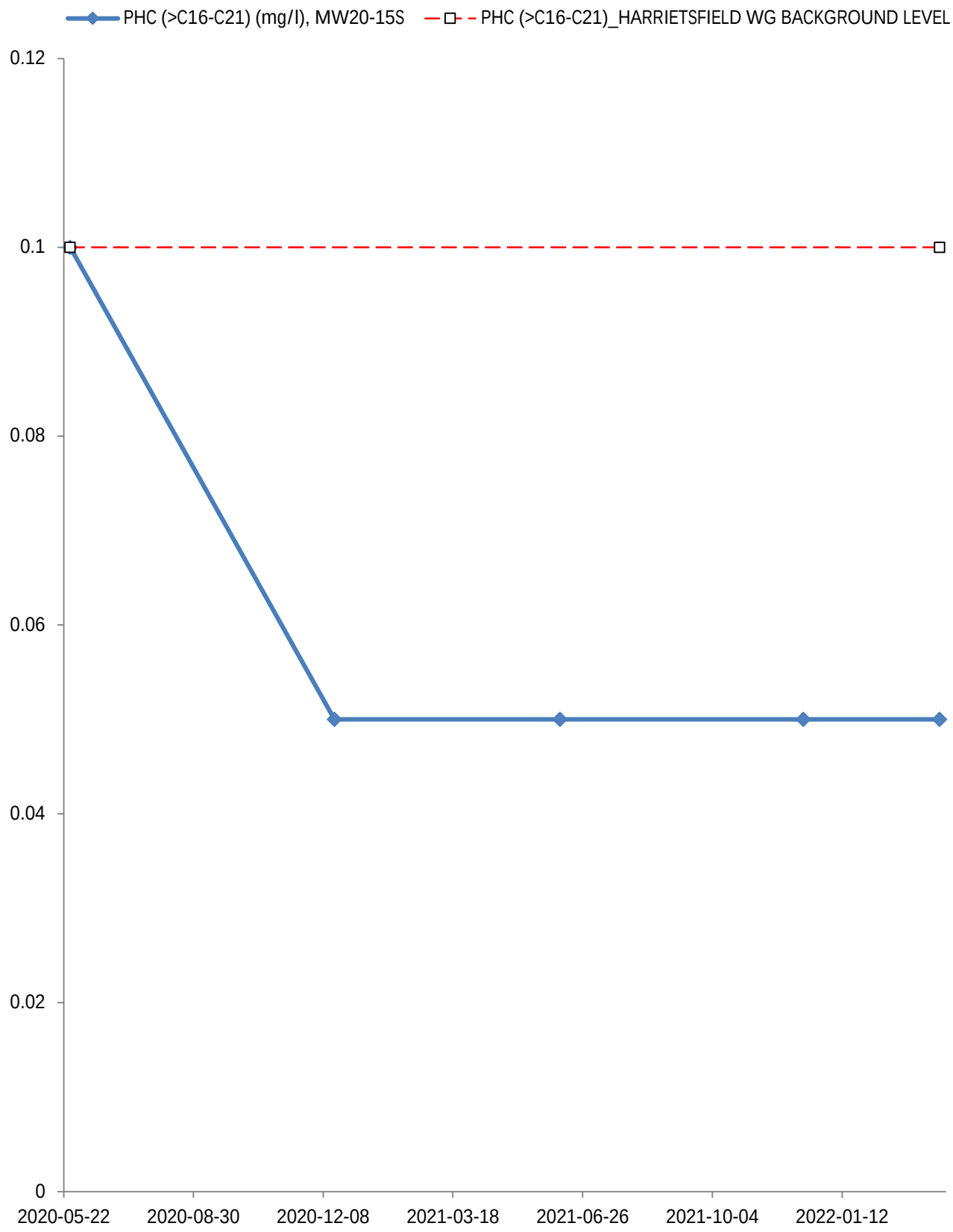
MW20-15S-Orthophosphate(as P)



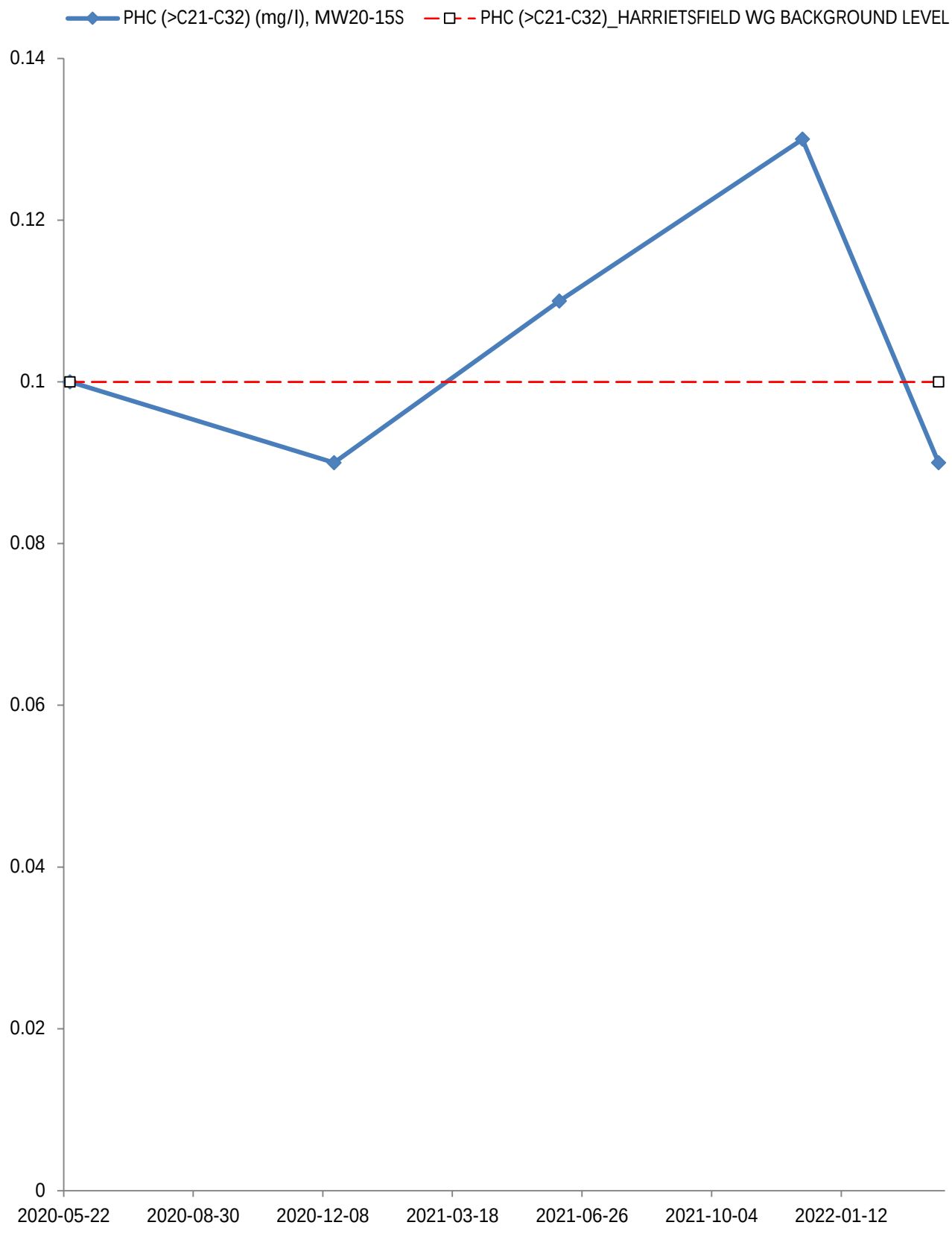
MW20-15S-pH, Lab



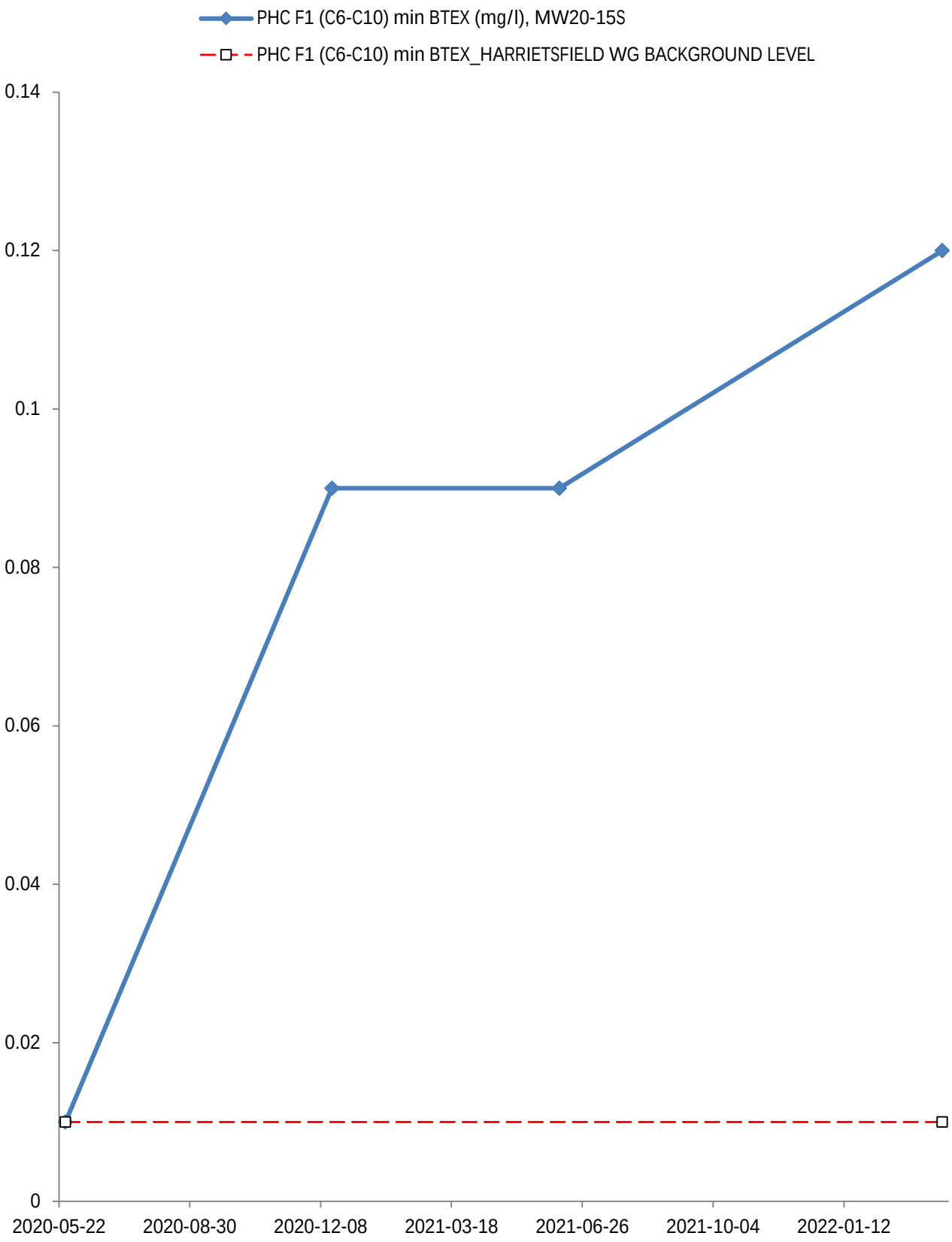
MW20-15S-PHC (>C16-C21)



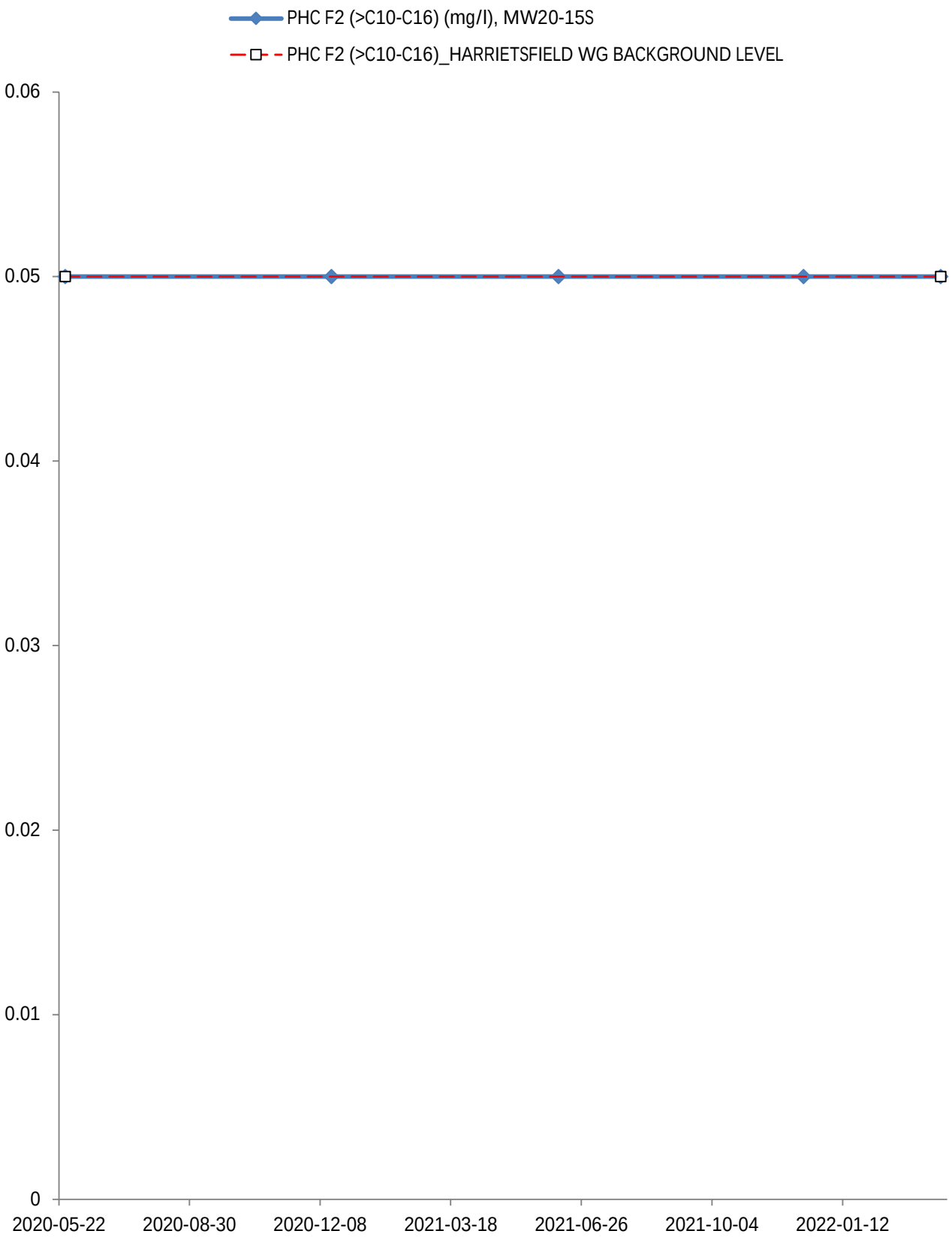
MW20-15S-PHC (>C21-C32)



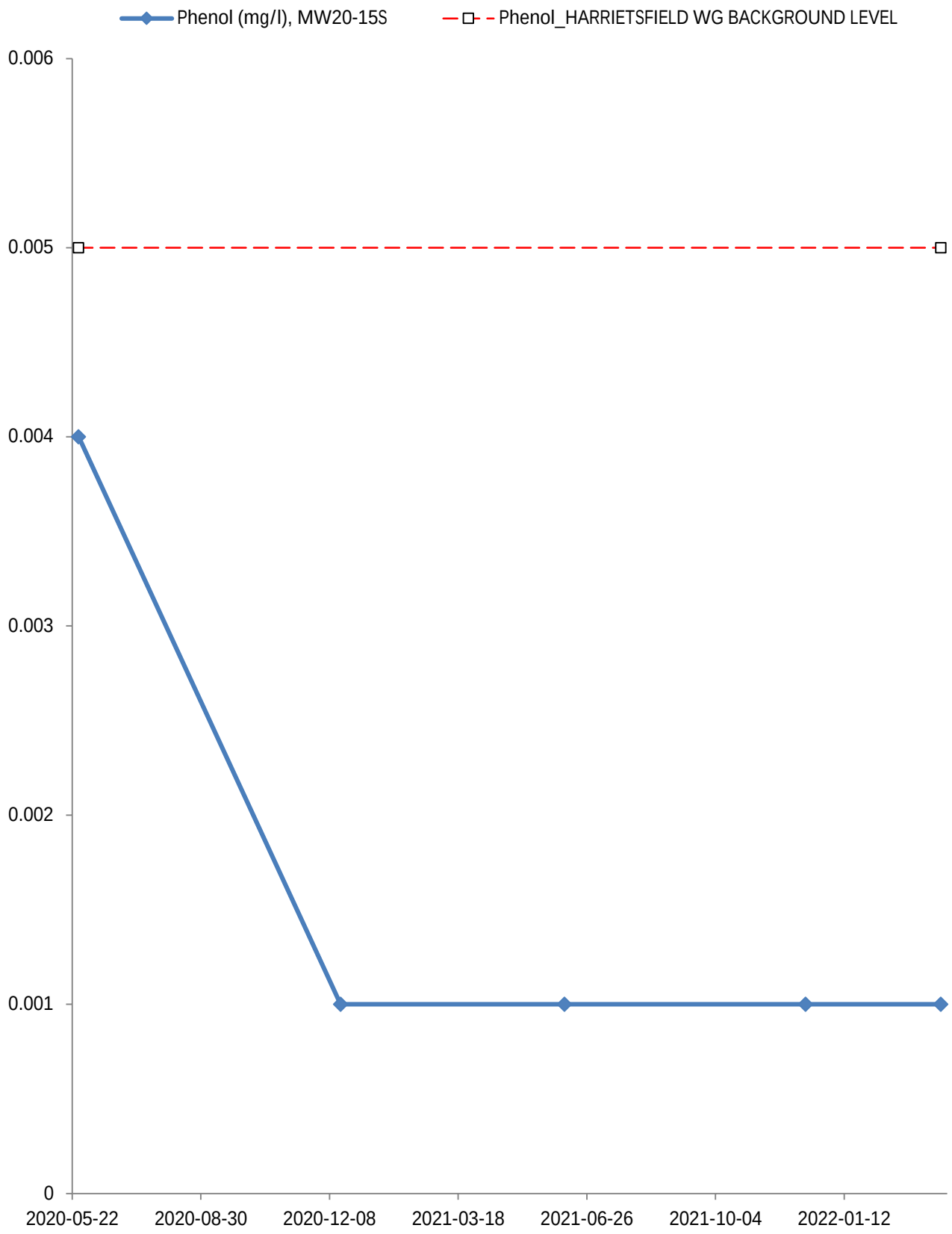
MW20-15S-PHC F1 (C6-C10) min BTEX



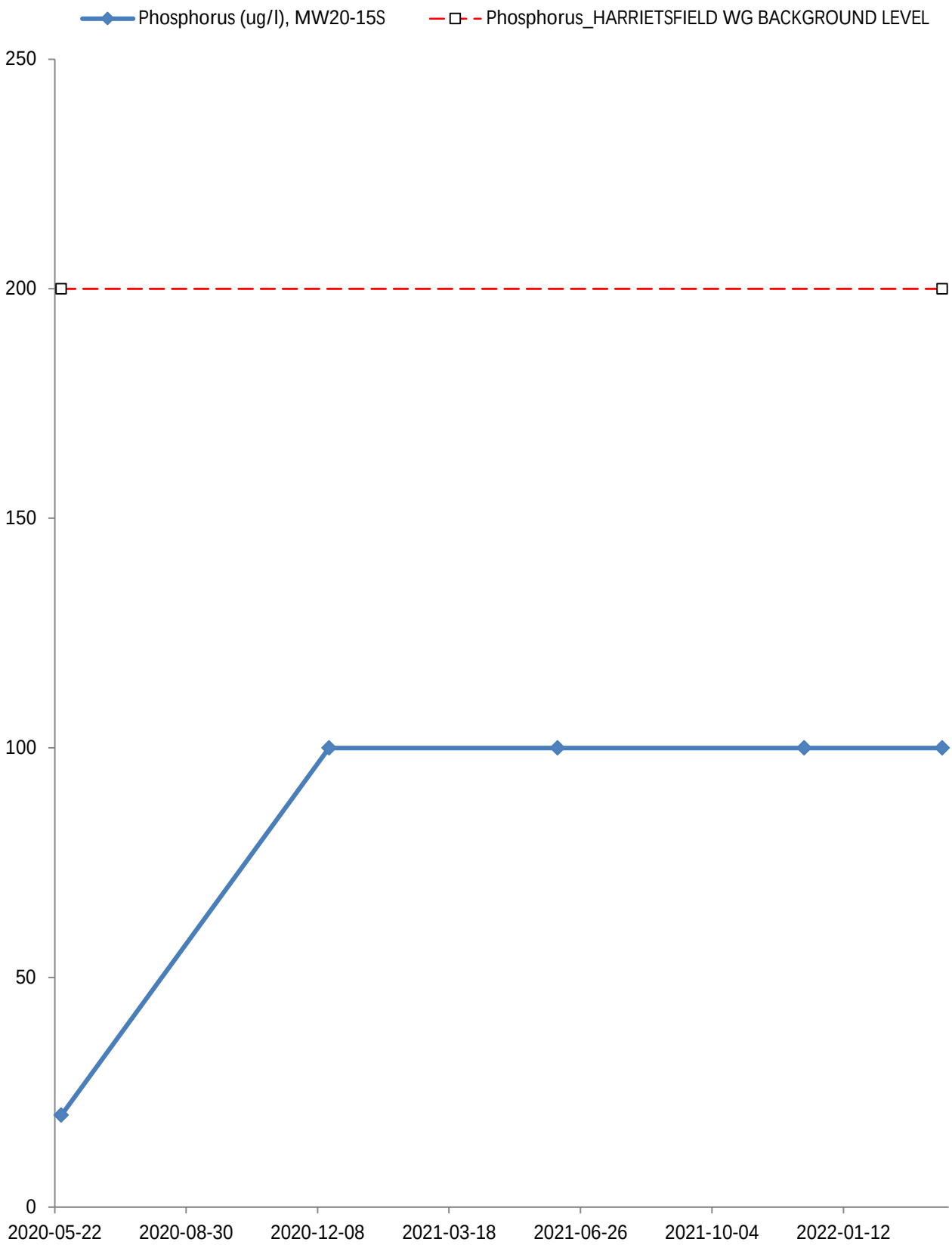
MW20-15S-PHC F2 (>C10-C16)



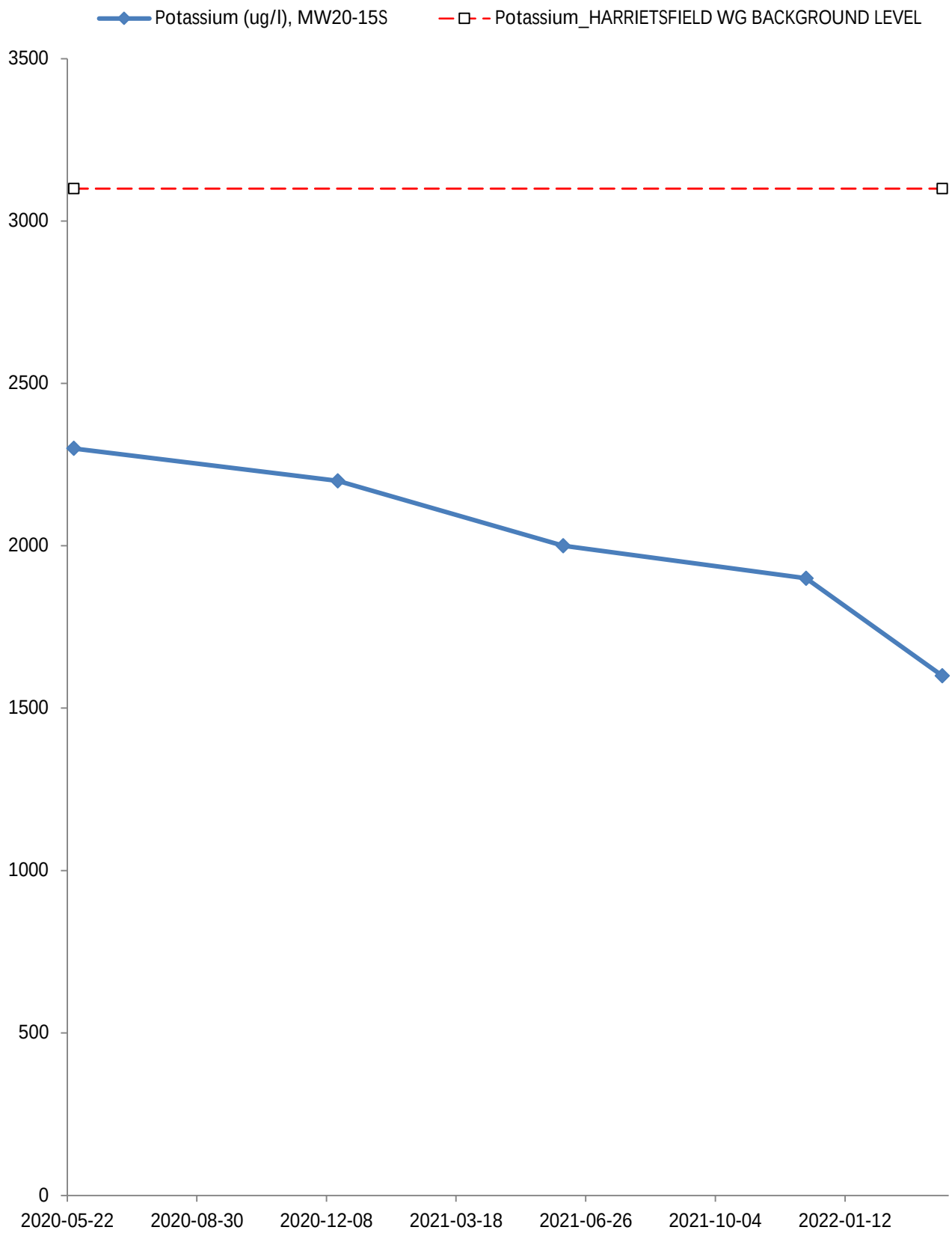
MW20-15S-Phenol



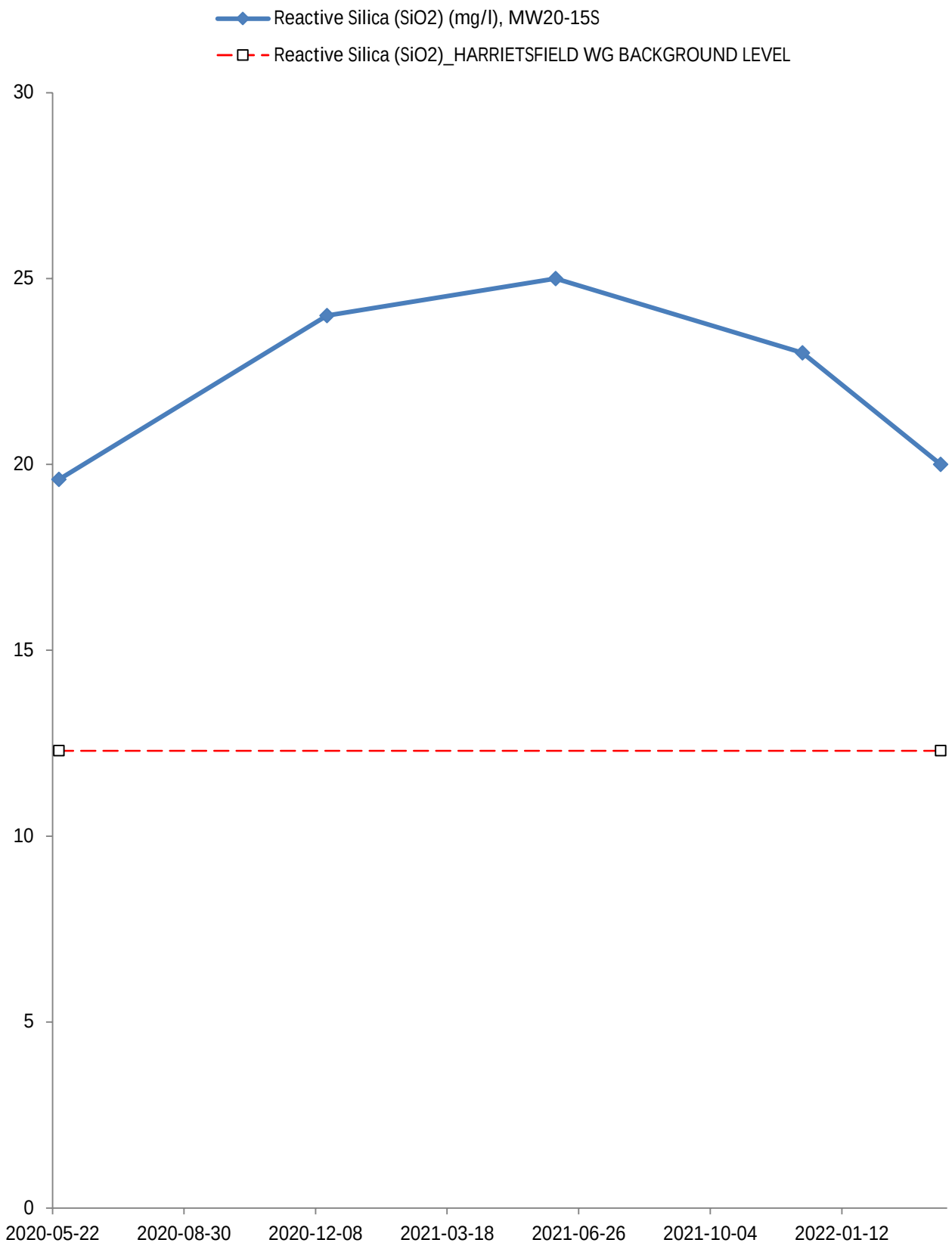
MW20-15S-Phosphorus



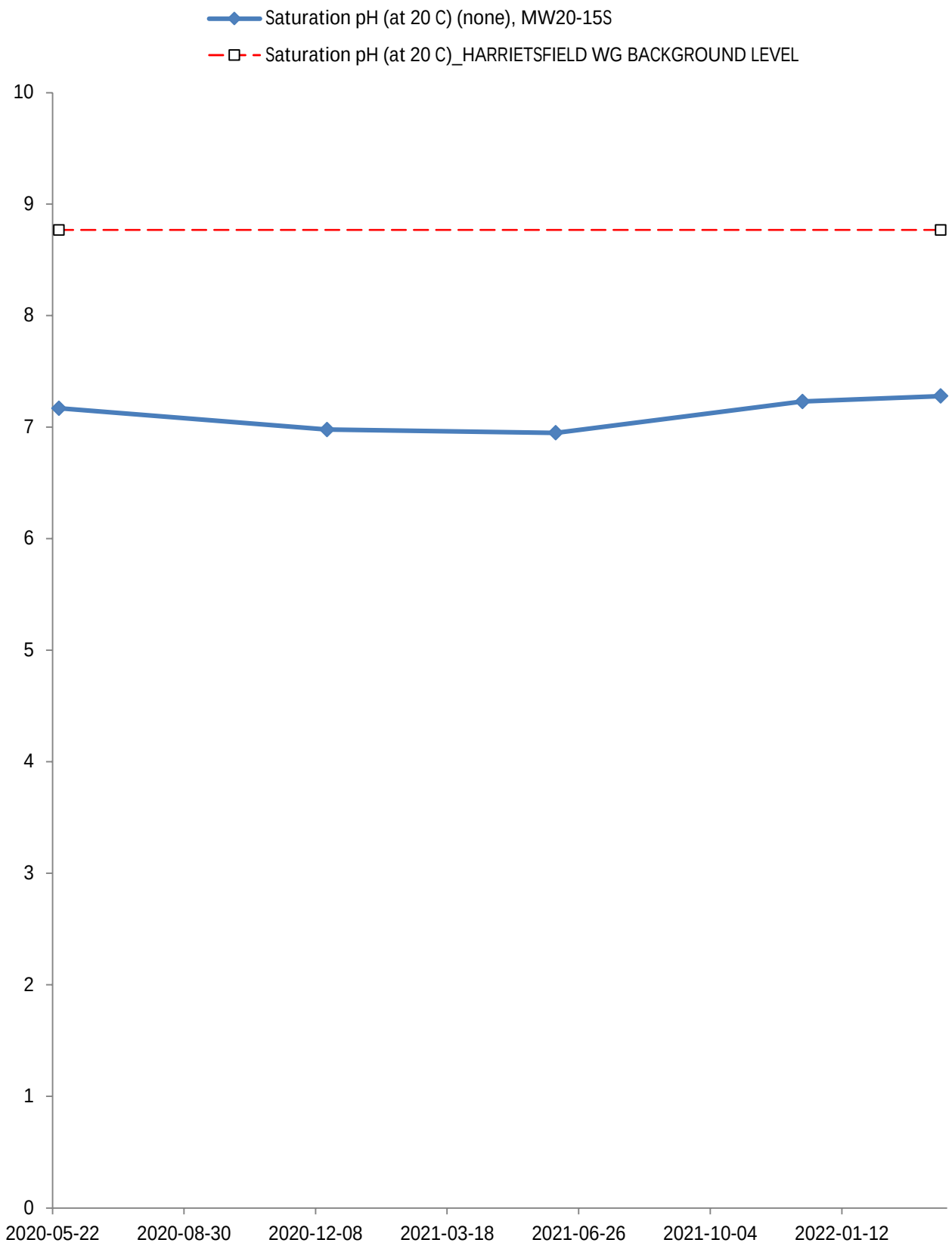
MW20-15S-Potassium



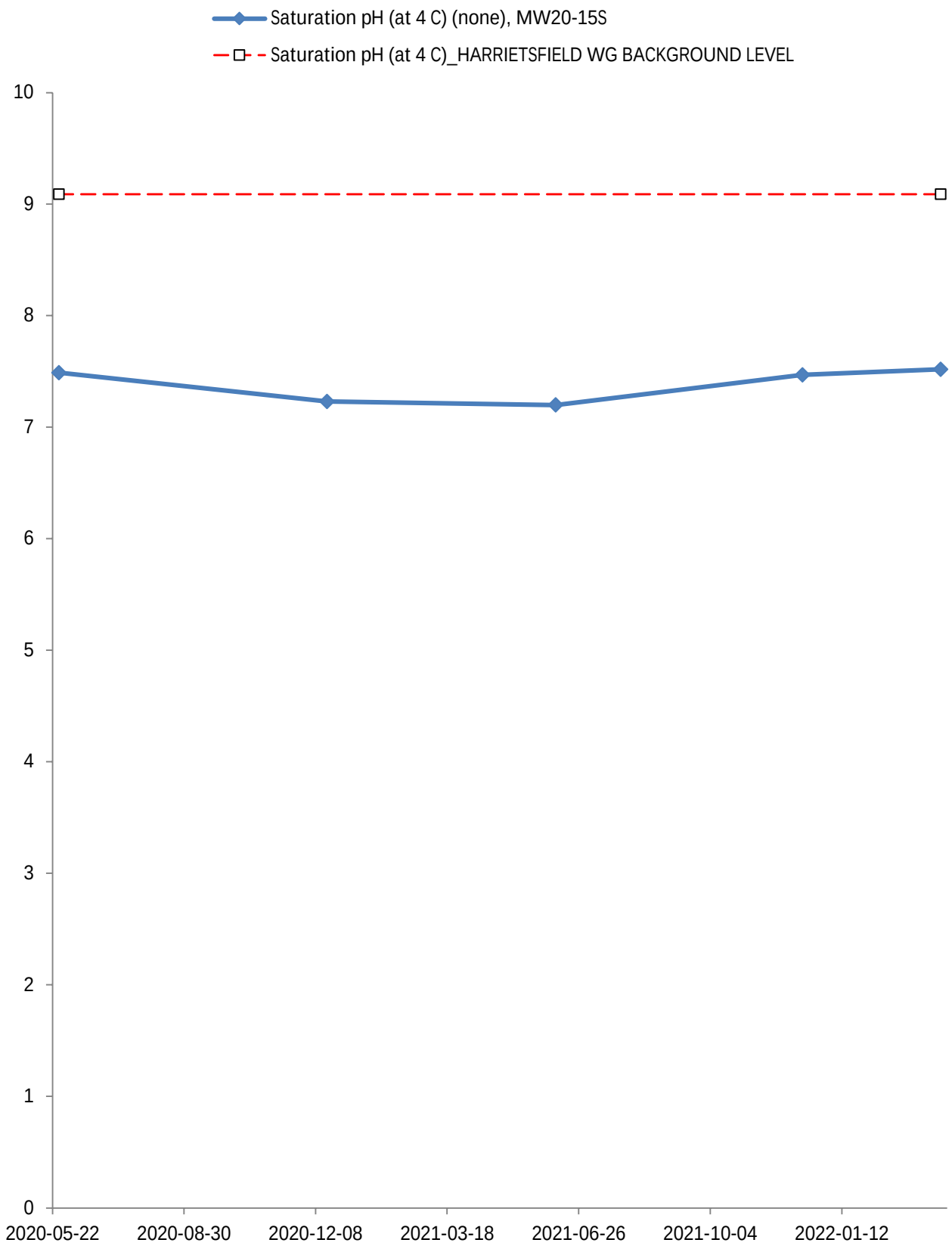
MW20-15S-Reactive Silica (SiO2)



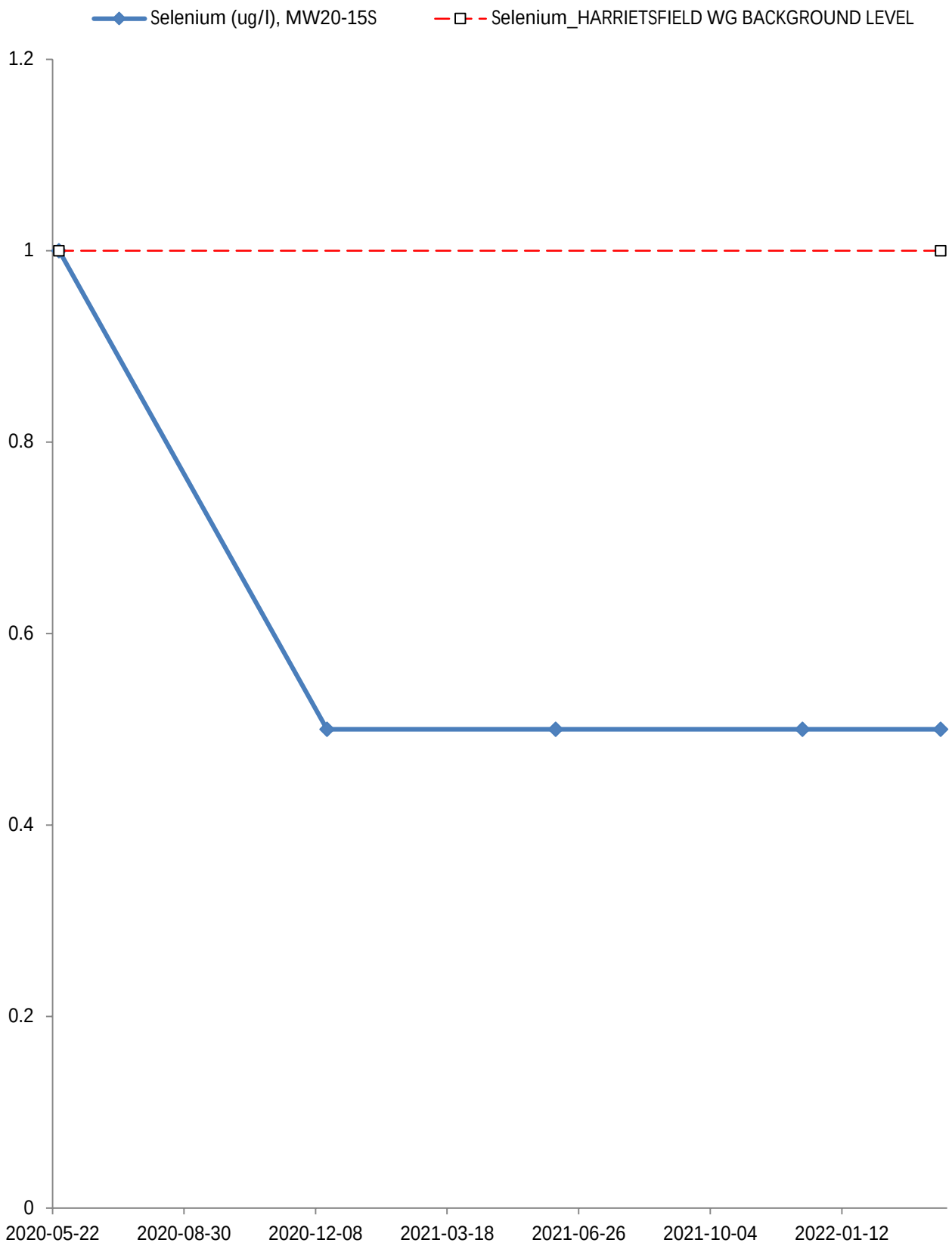
MW20-15S-Saturation pH (at 20 C)



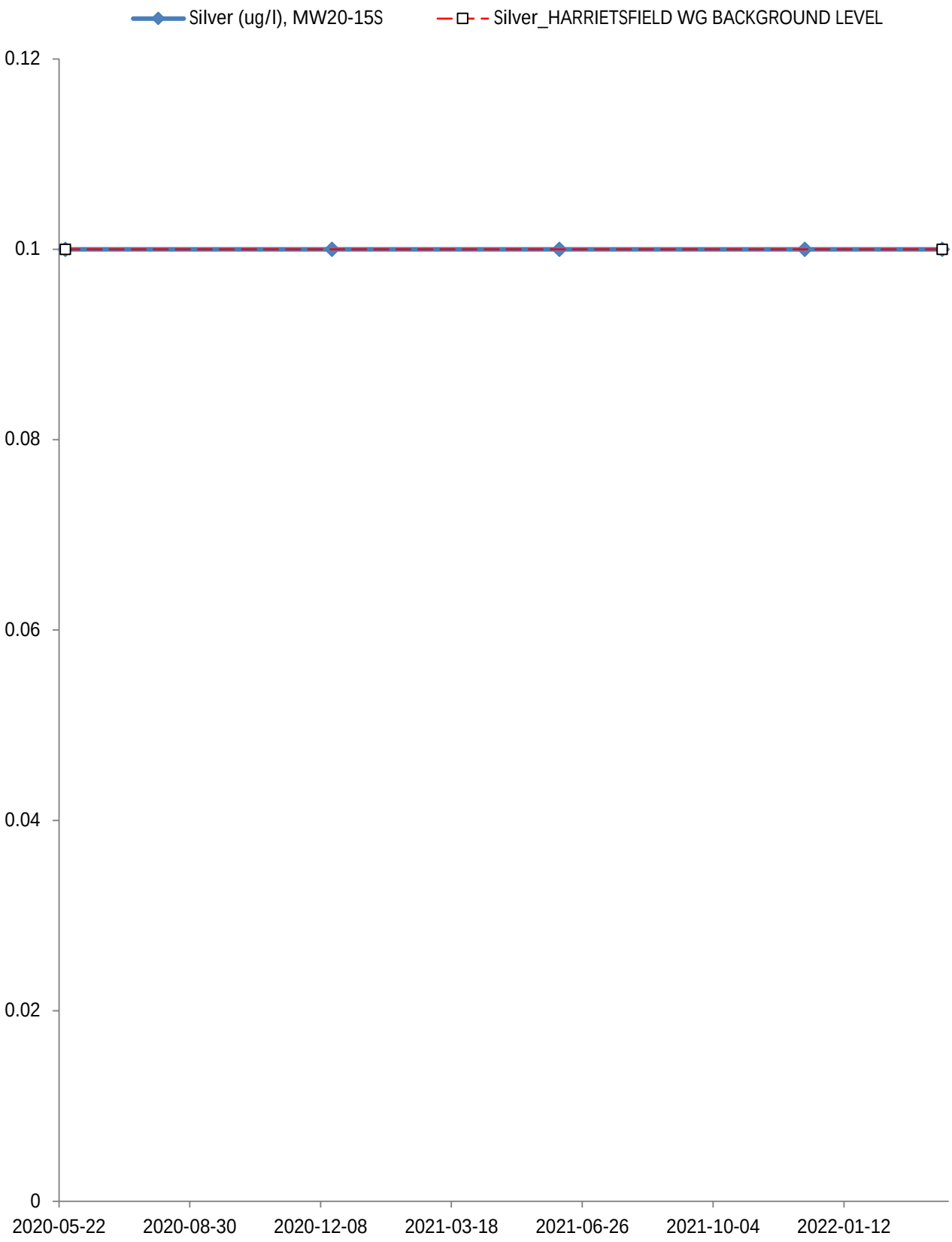
MW20-15S-Saturation pH (at 4 C)



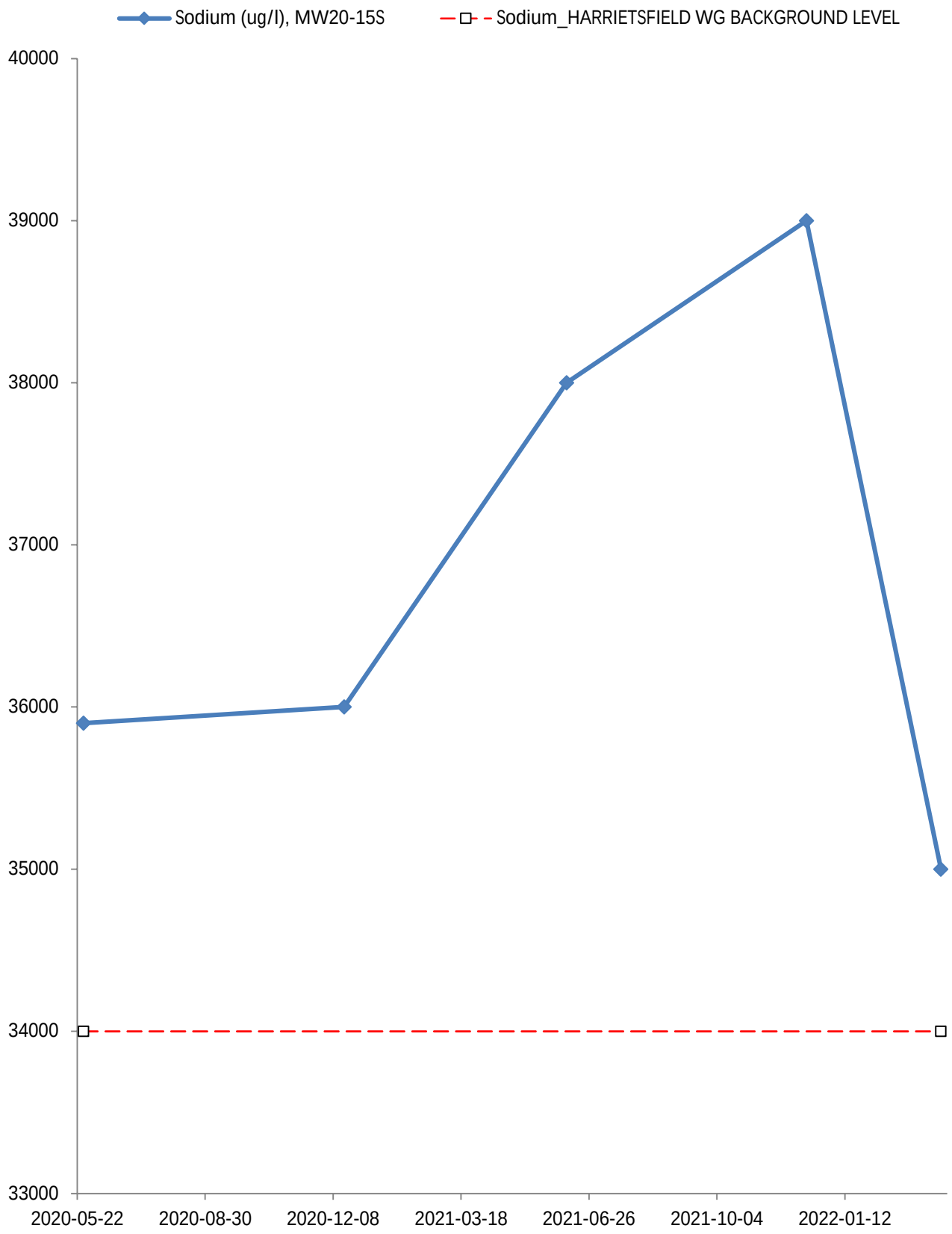
MW20-15S-Selenium



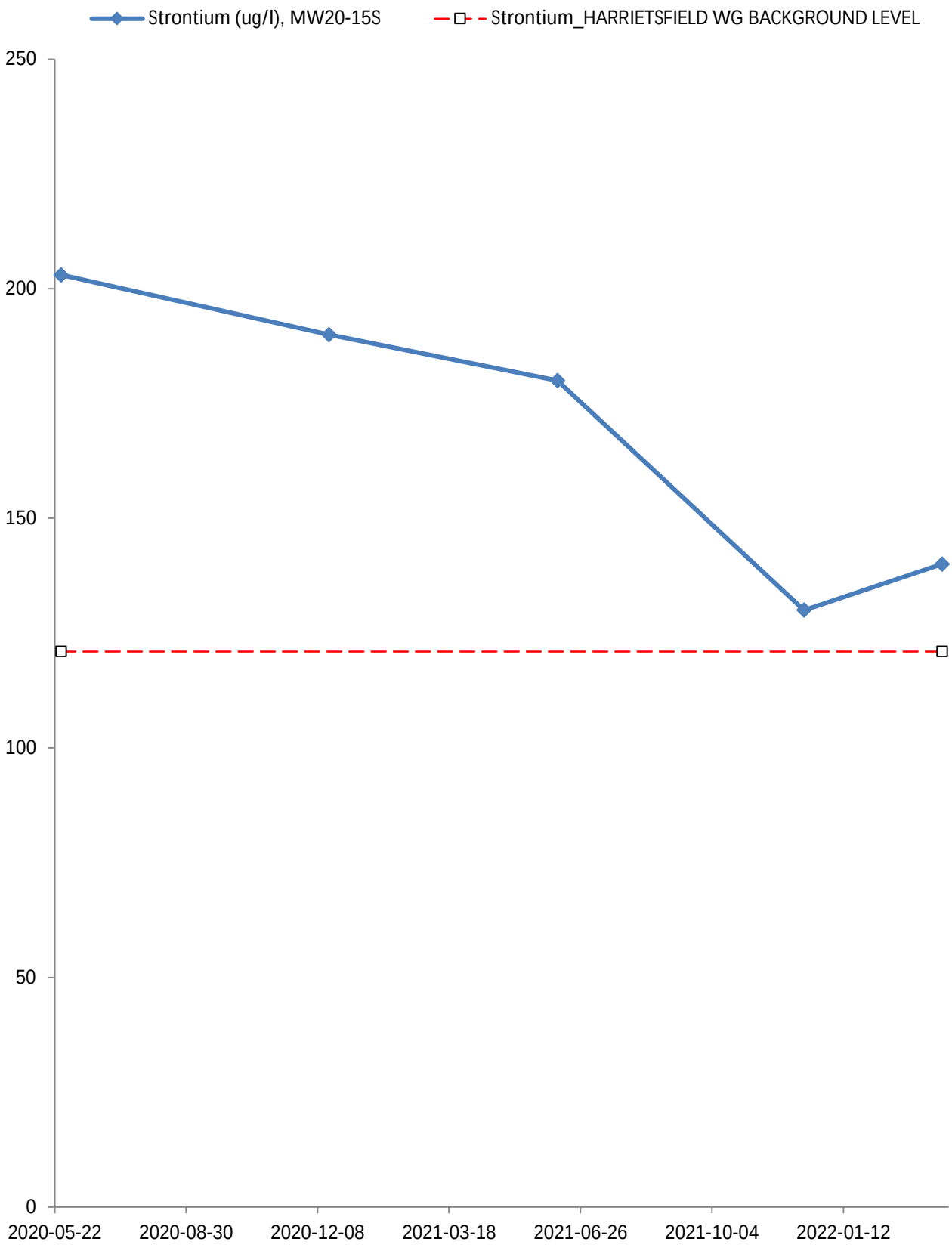
MW20-15S-Silver



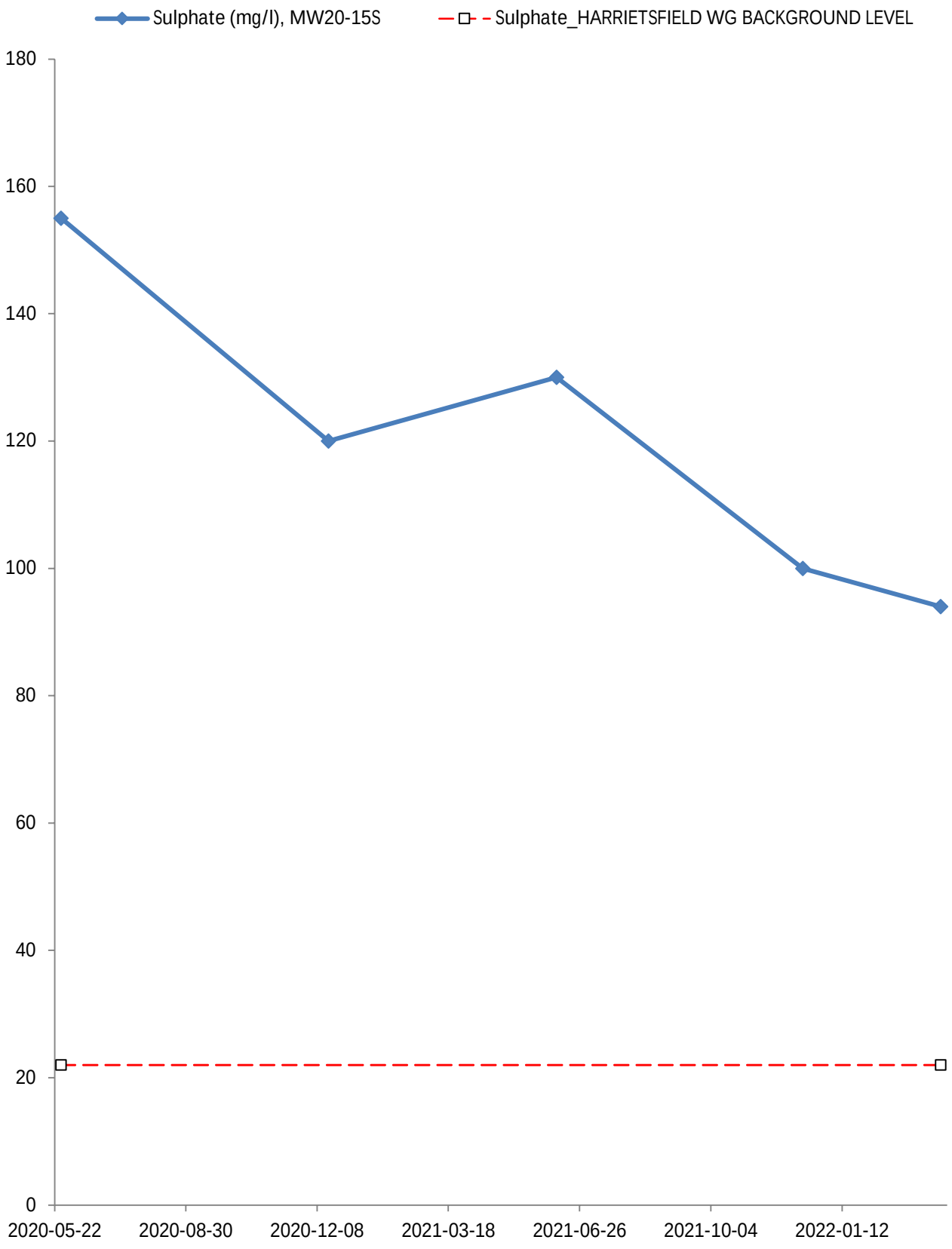
MW20-15S-Sodium



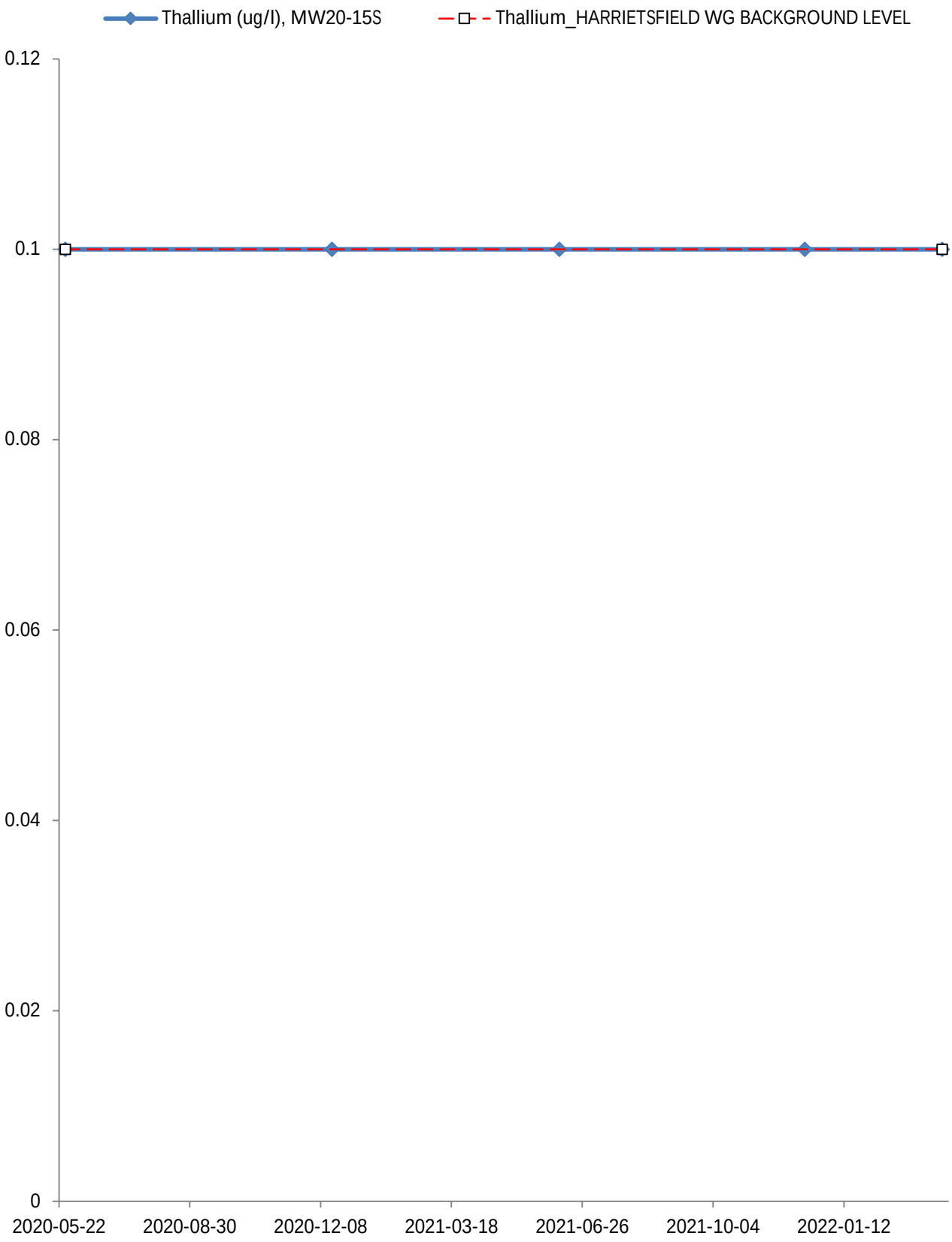
MW20-15S-Strontium



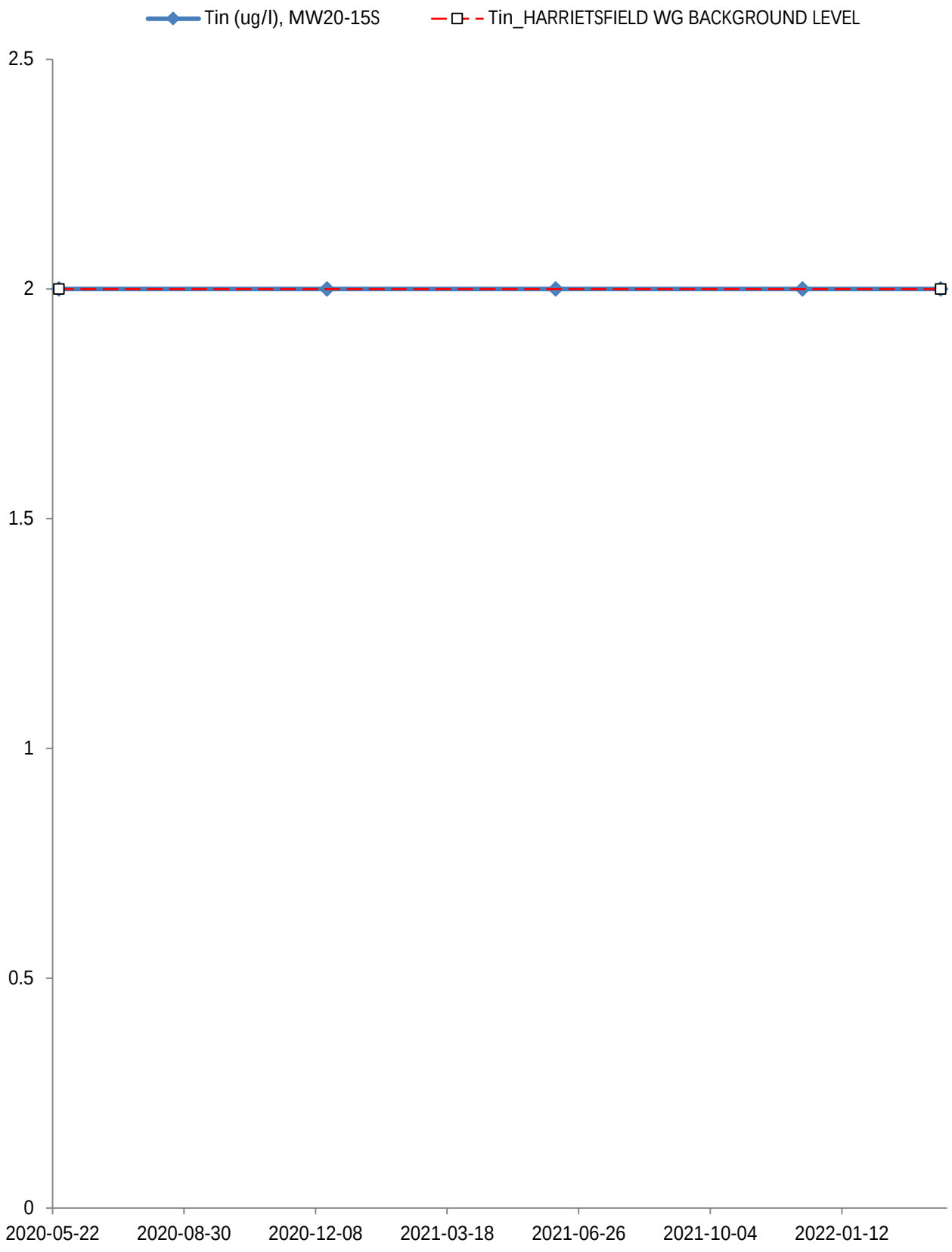
MW20-15S-Sulphate



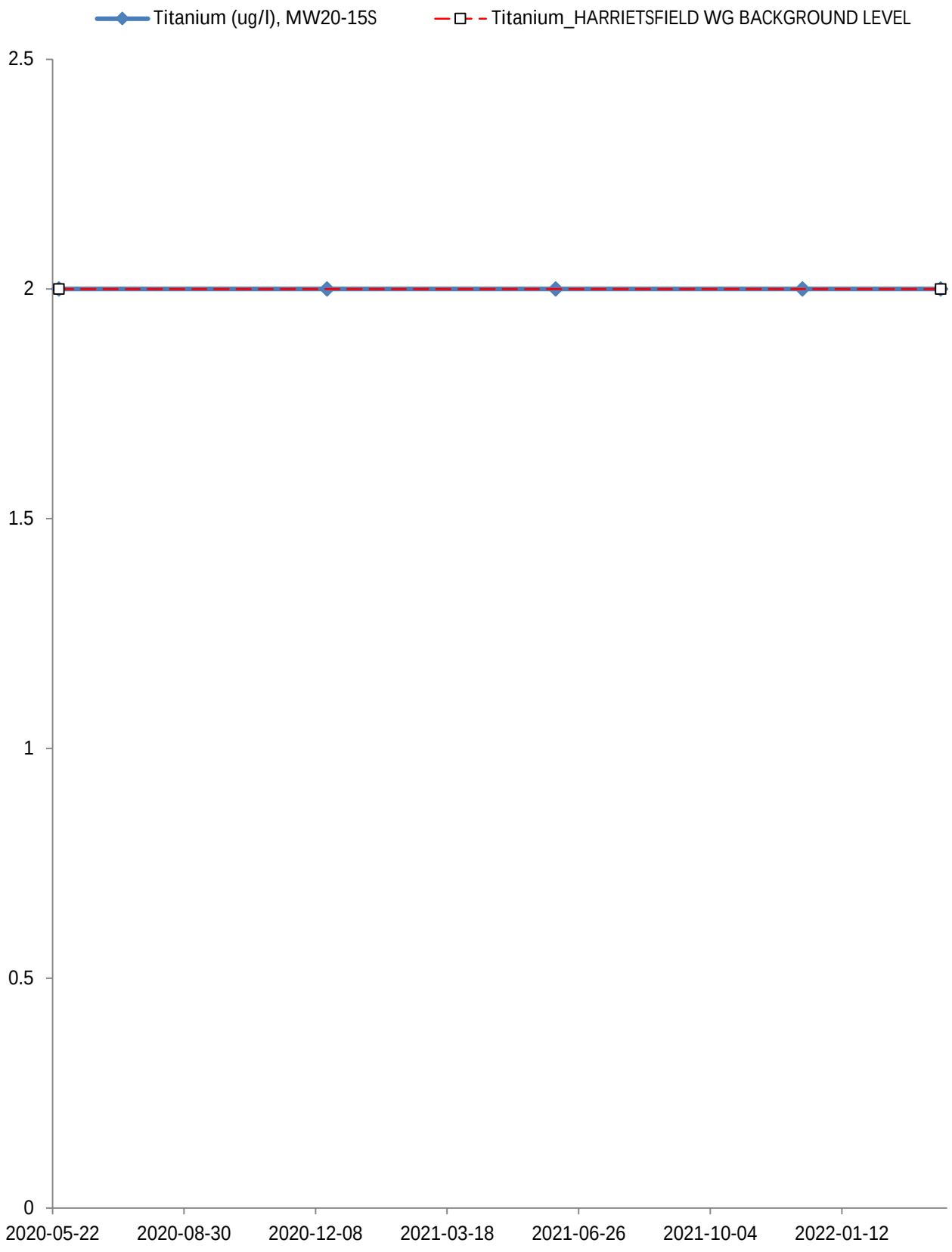
MW20-15S-Thallium



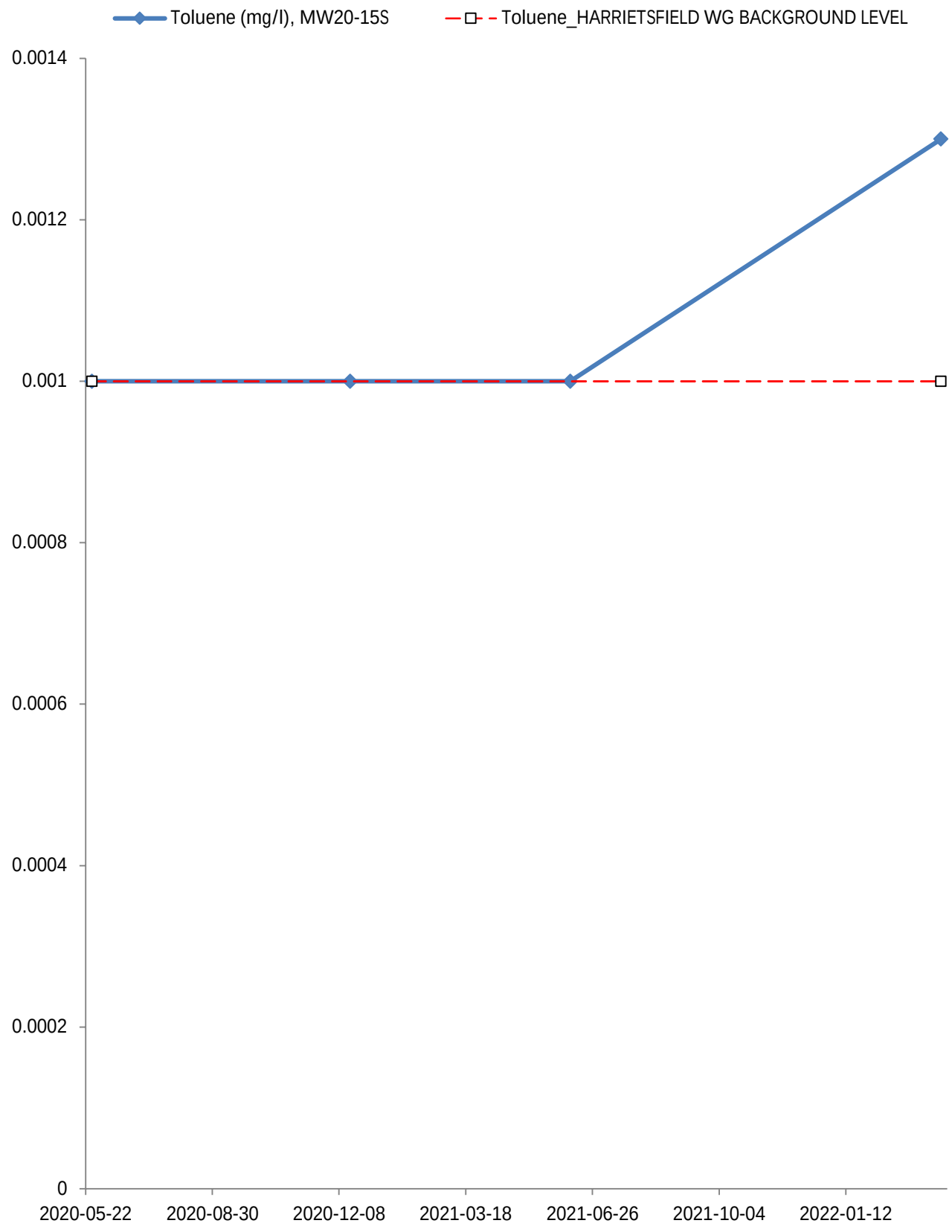
MW20-15S-Tin


Tin (ug/l), MW20-15S
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

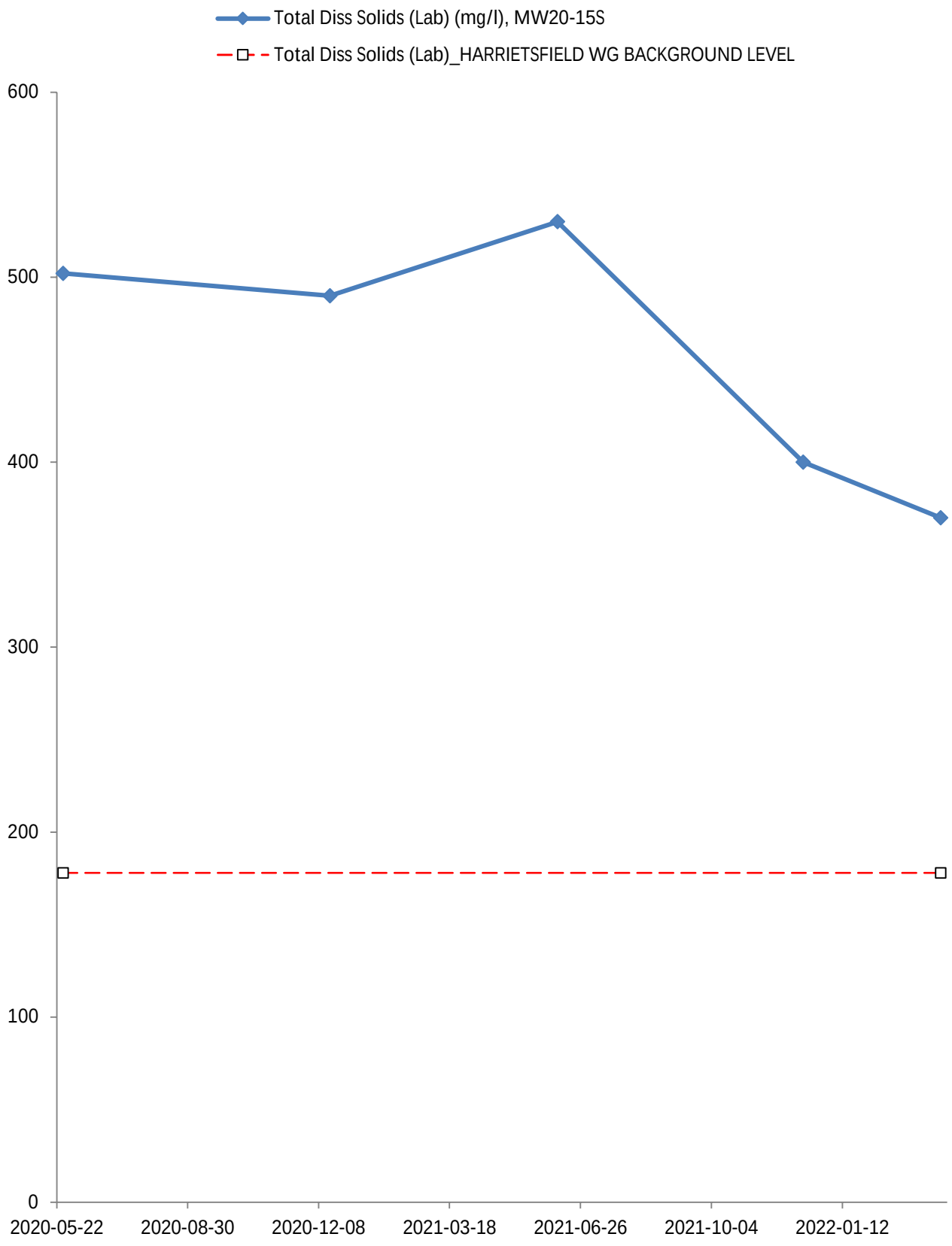
MW20-15S-Titanium



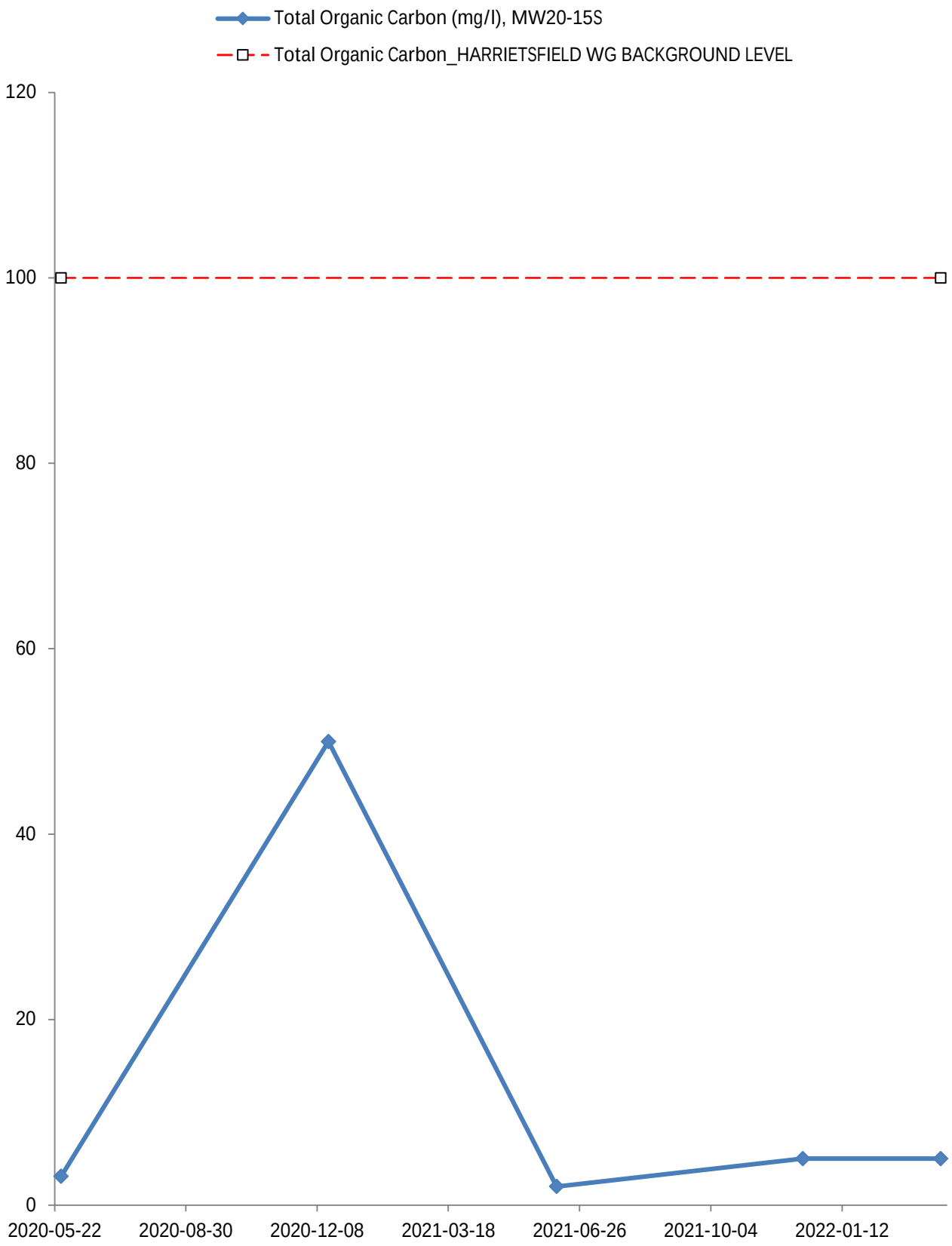
MW20-15S-Toluene



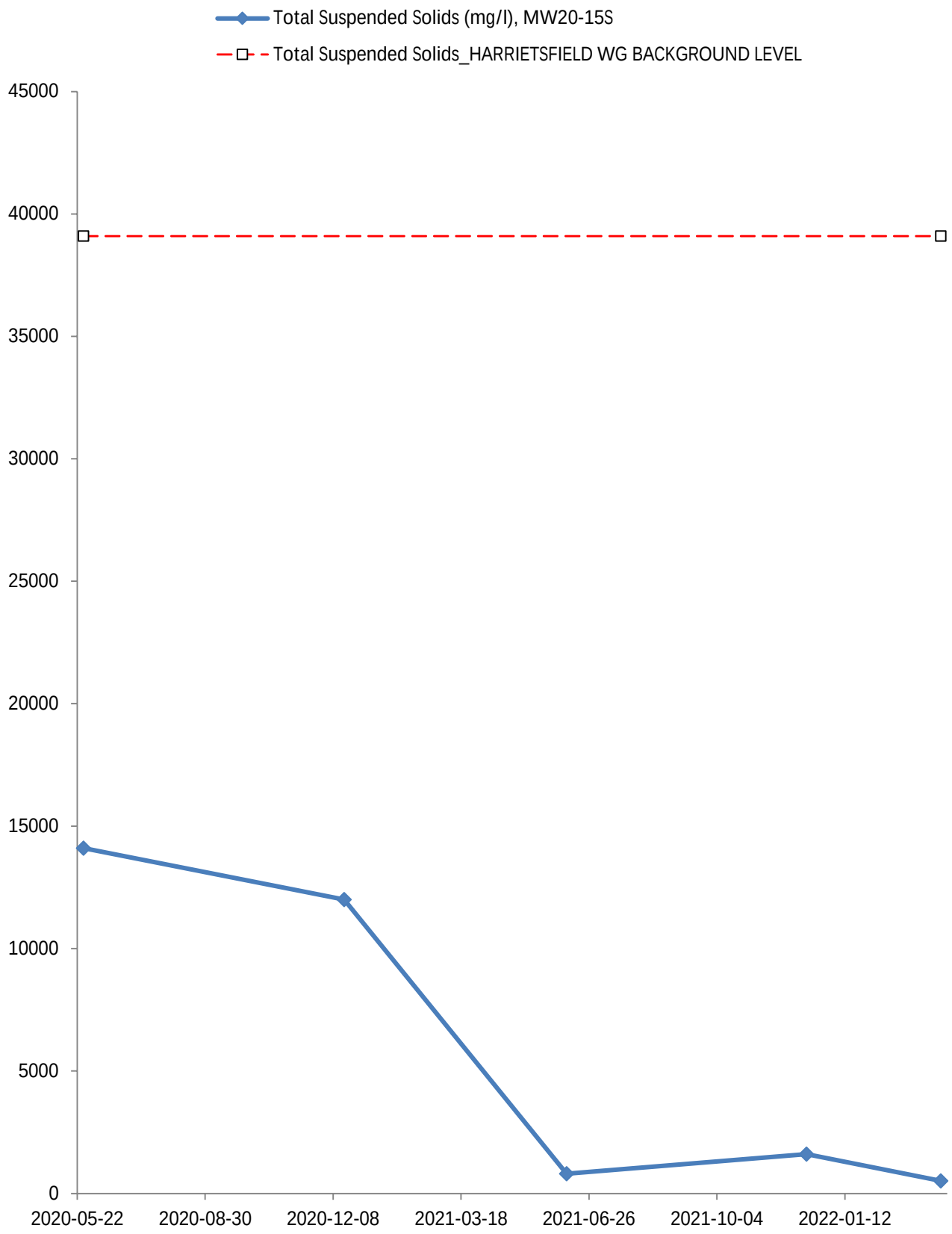
MW20-15S-Total Diss Solids (Lab)



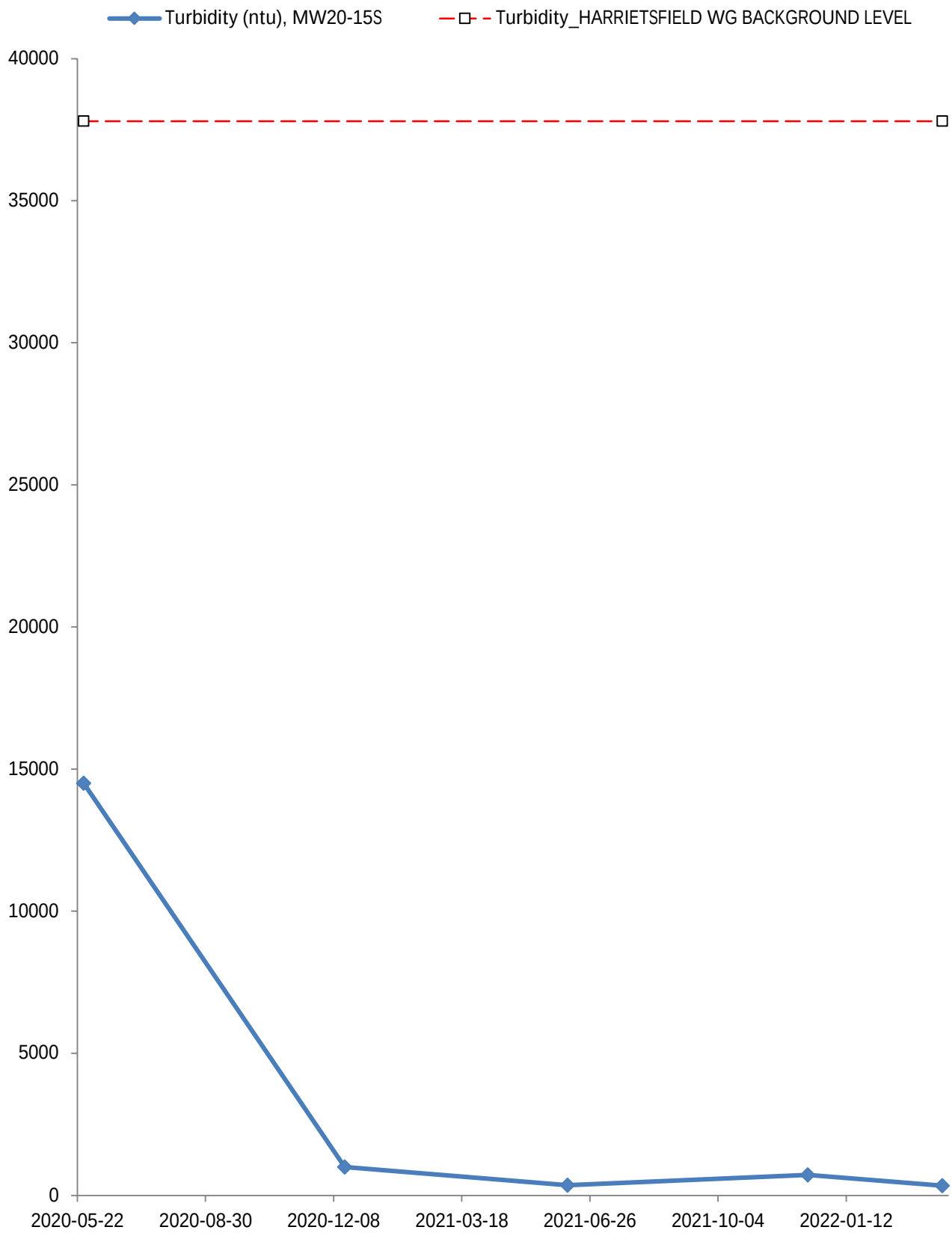
MW20-15S-Total Organic Carbon



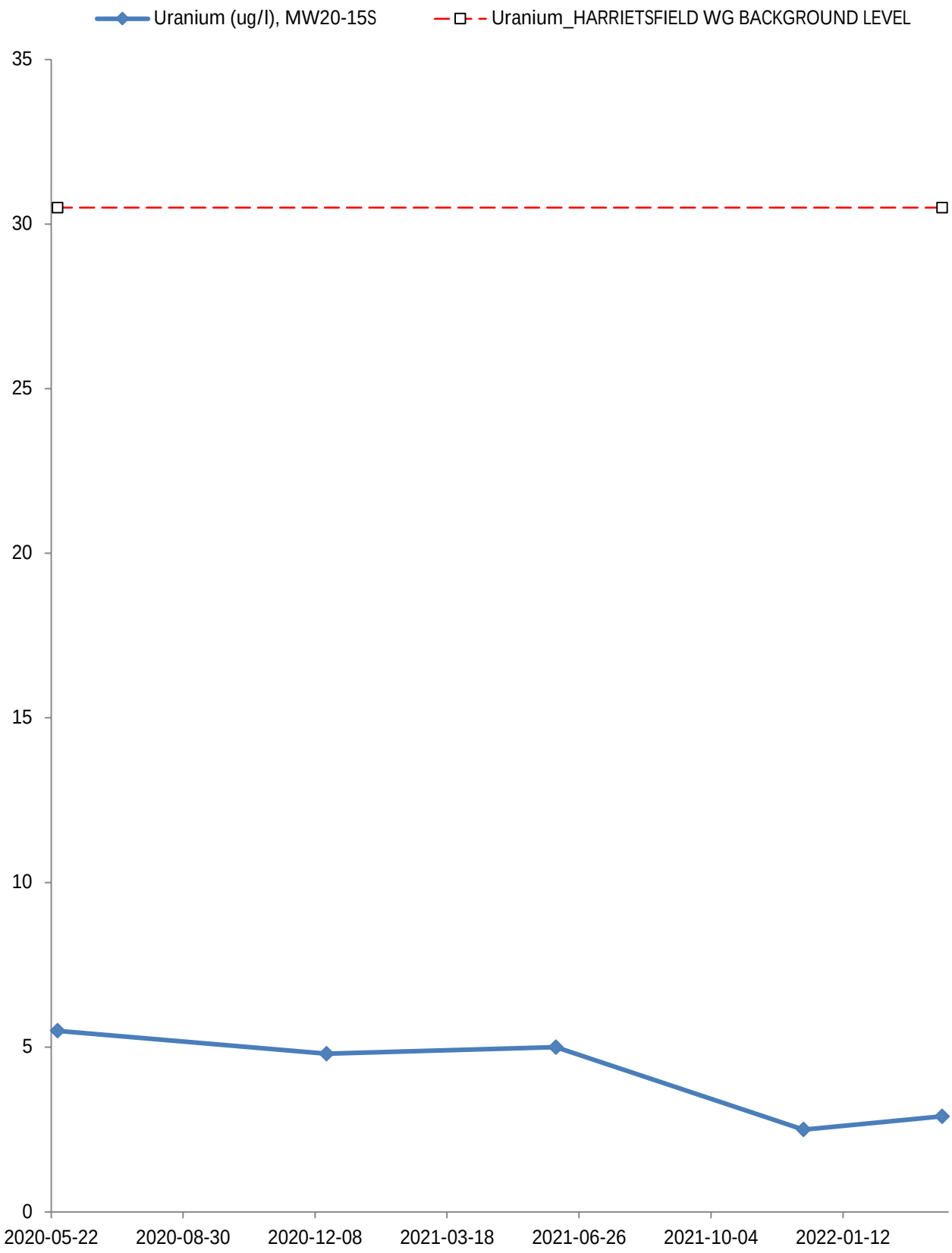
MW20-15S-Total Suspended Solids



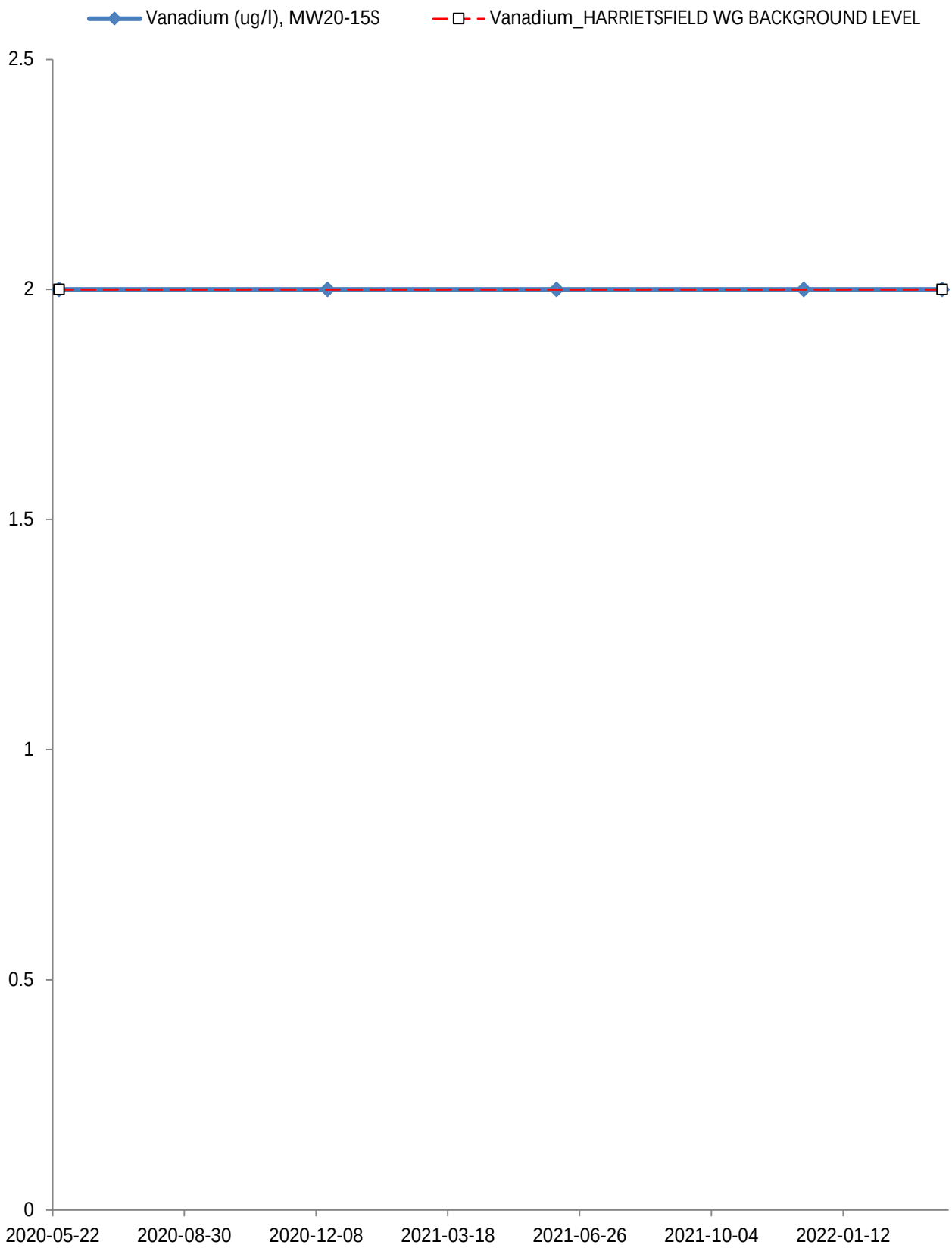
MW20-15S-Turbidity



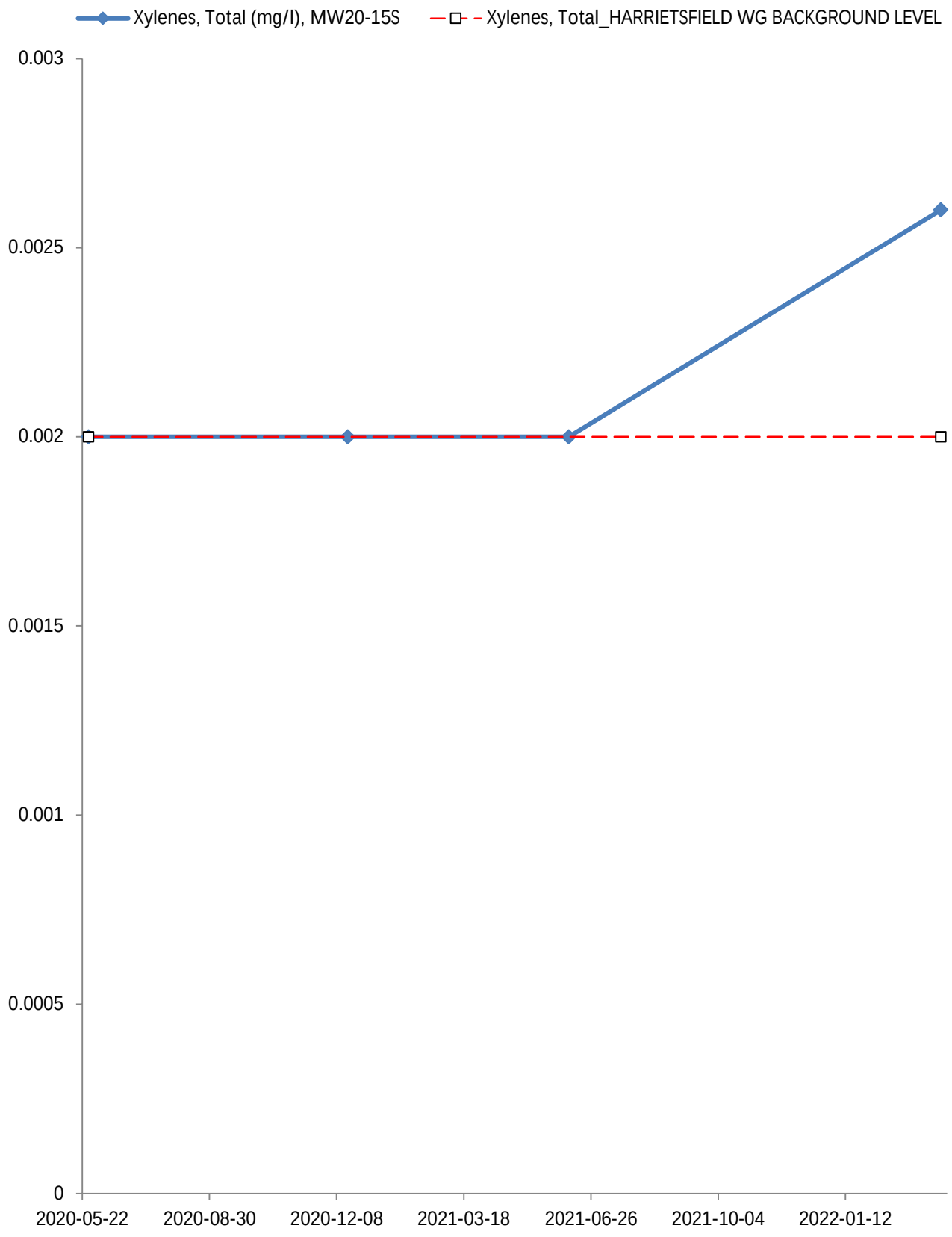
MW20-15S-Uranium



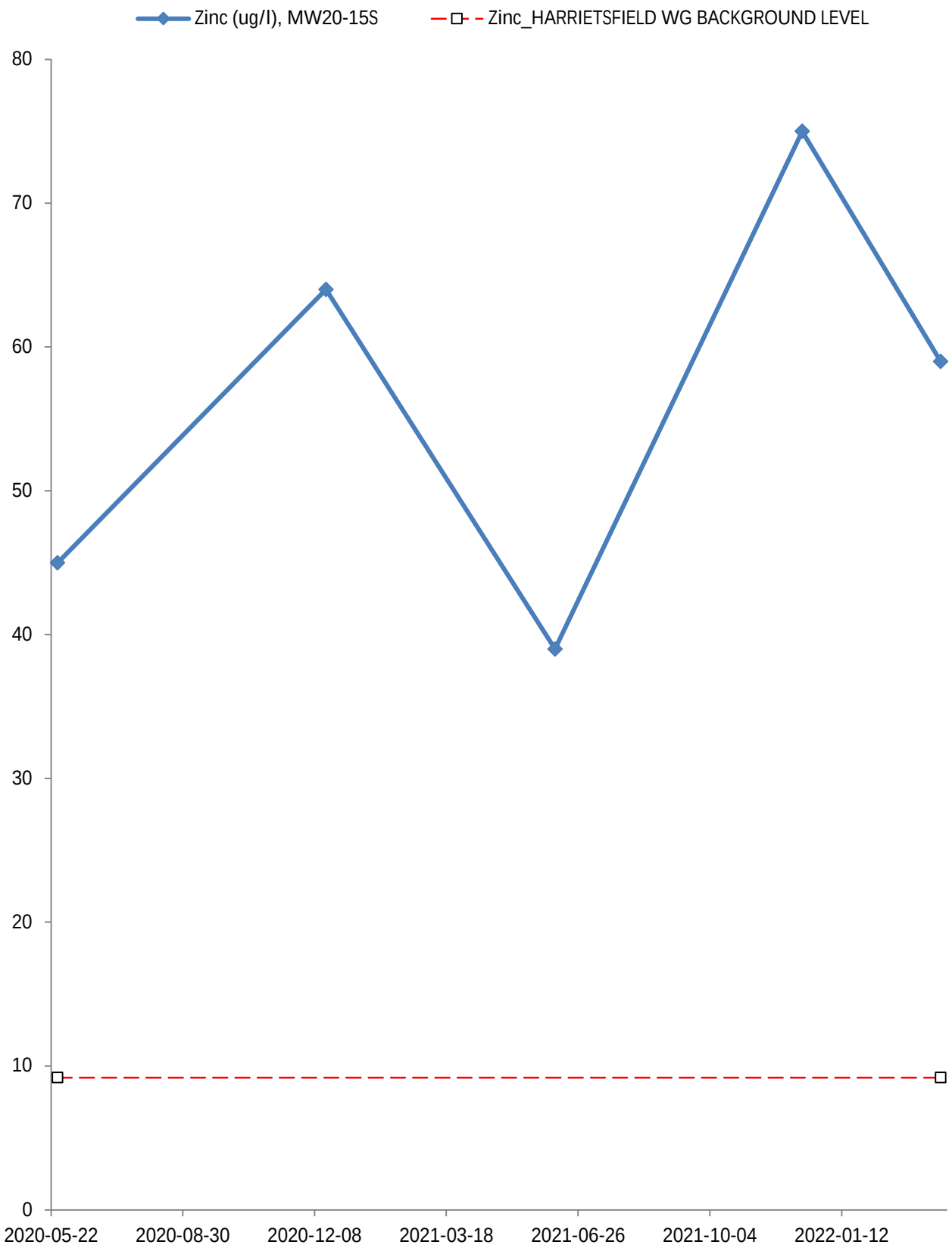
MW20-15S-Vanadium



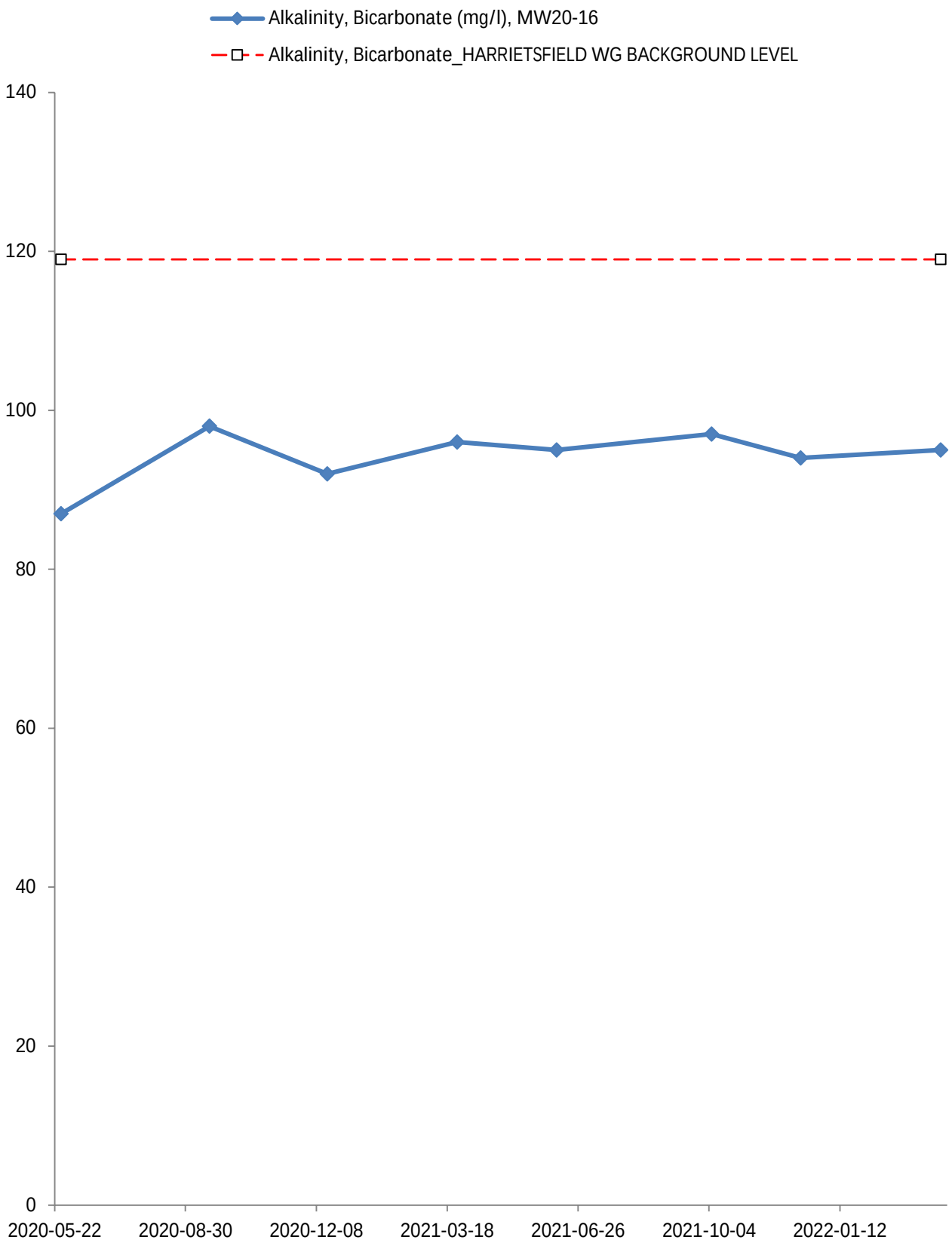
MW20-15S-Xylenes, Total



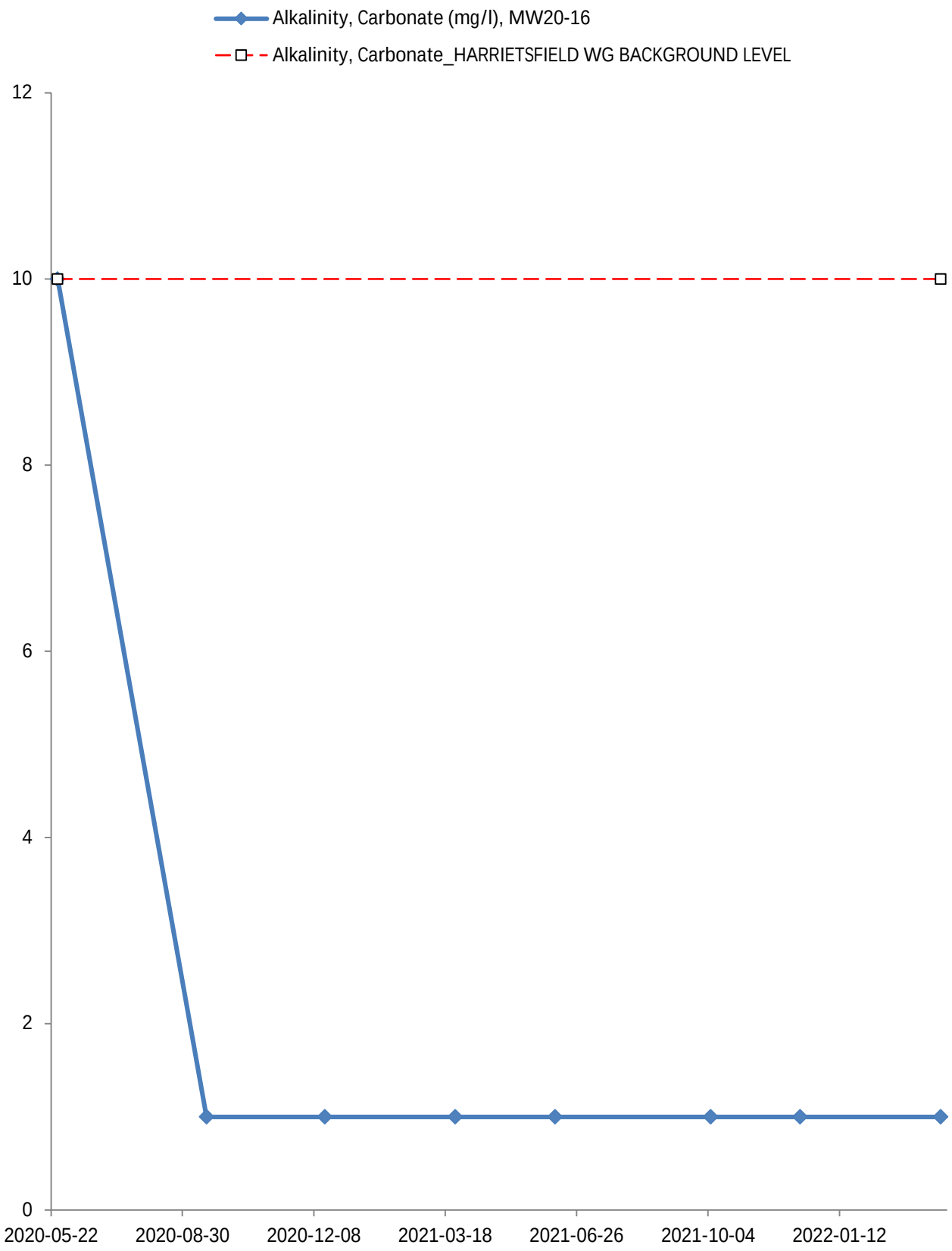
MW20-15S-Zinc



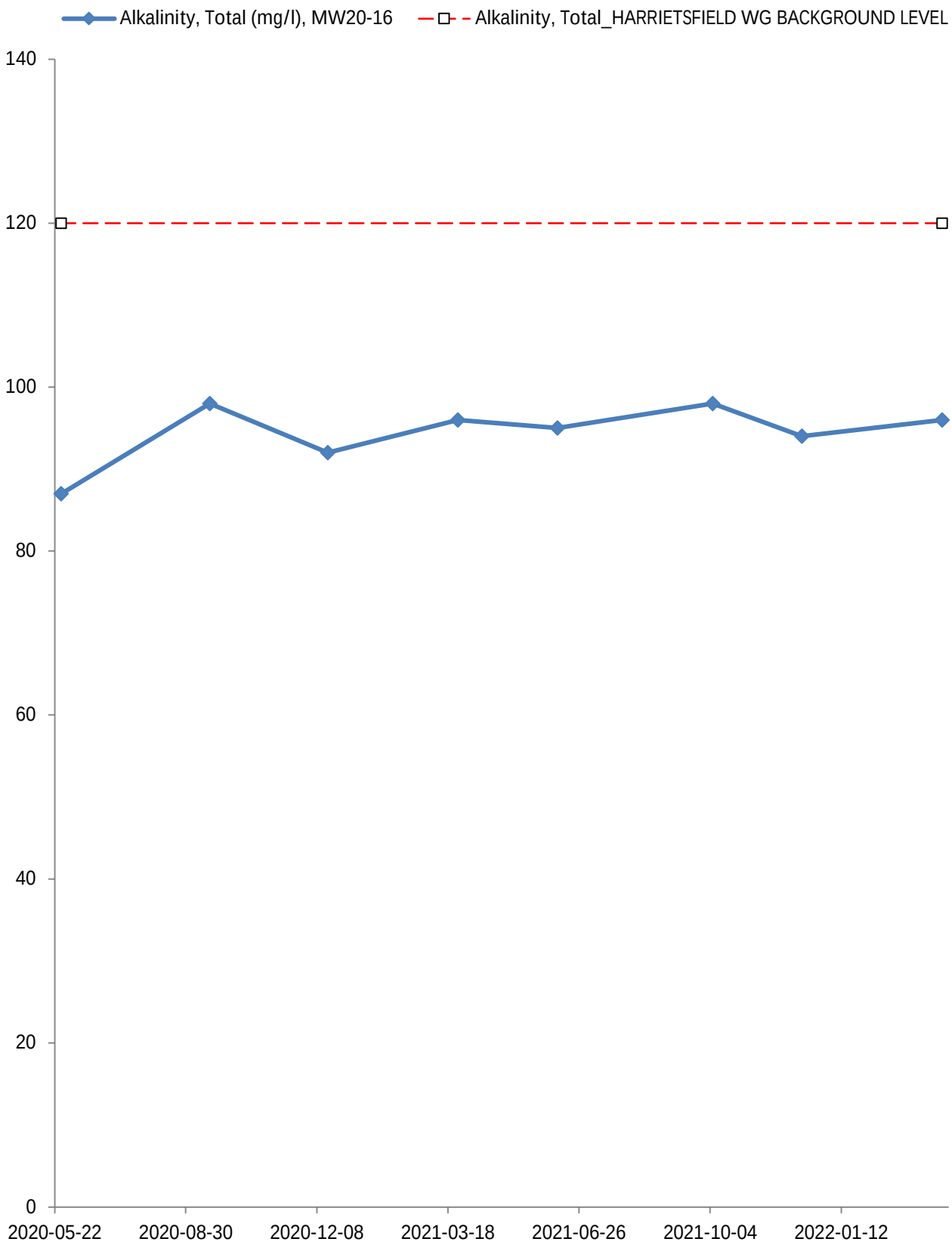
MW20-16-Alkalinity, Bicarbonate



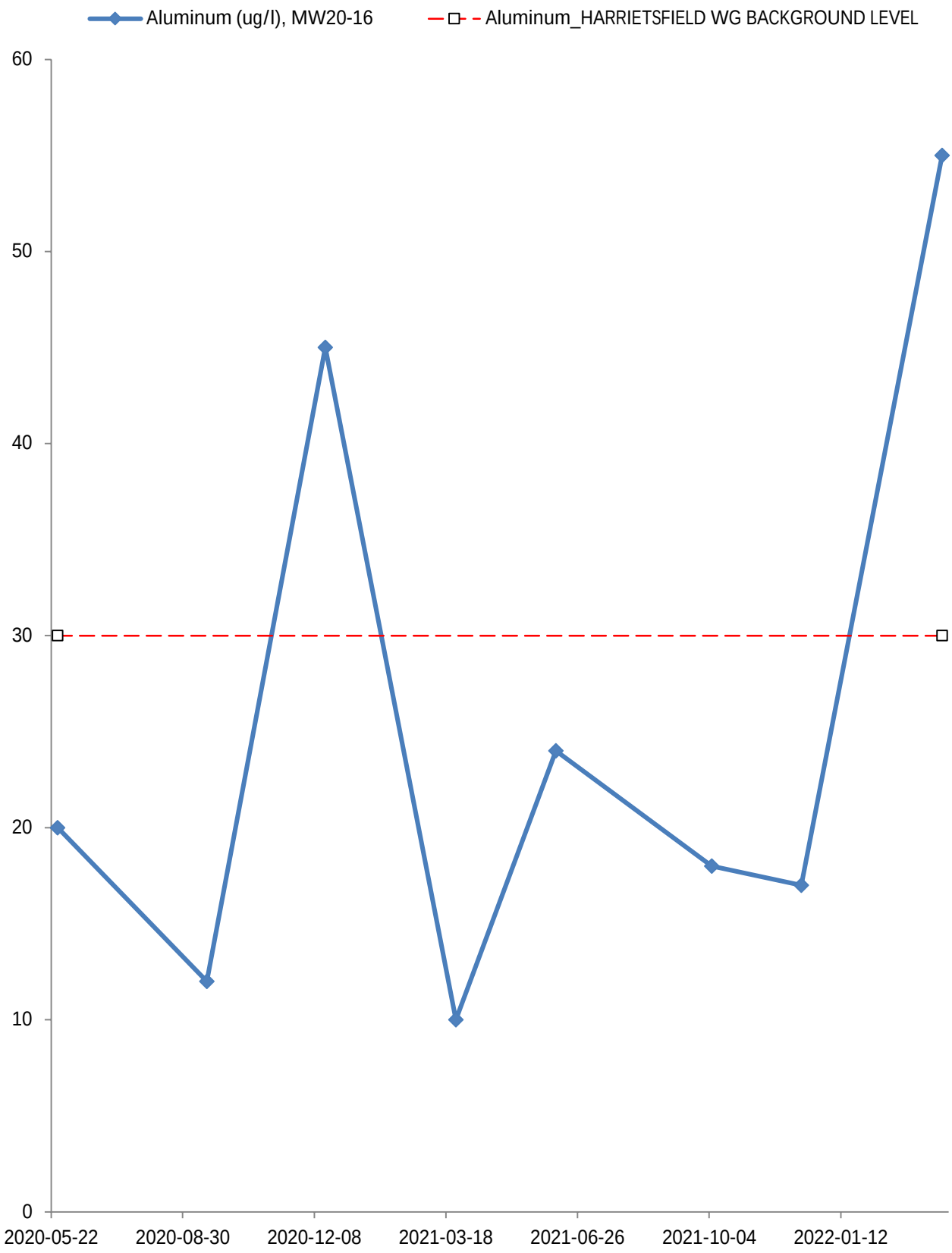
MW20-16-Alkalinity, Carbonate



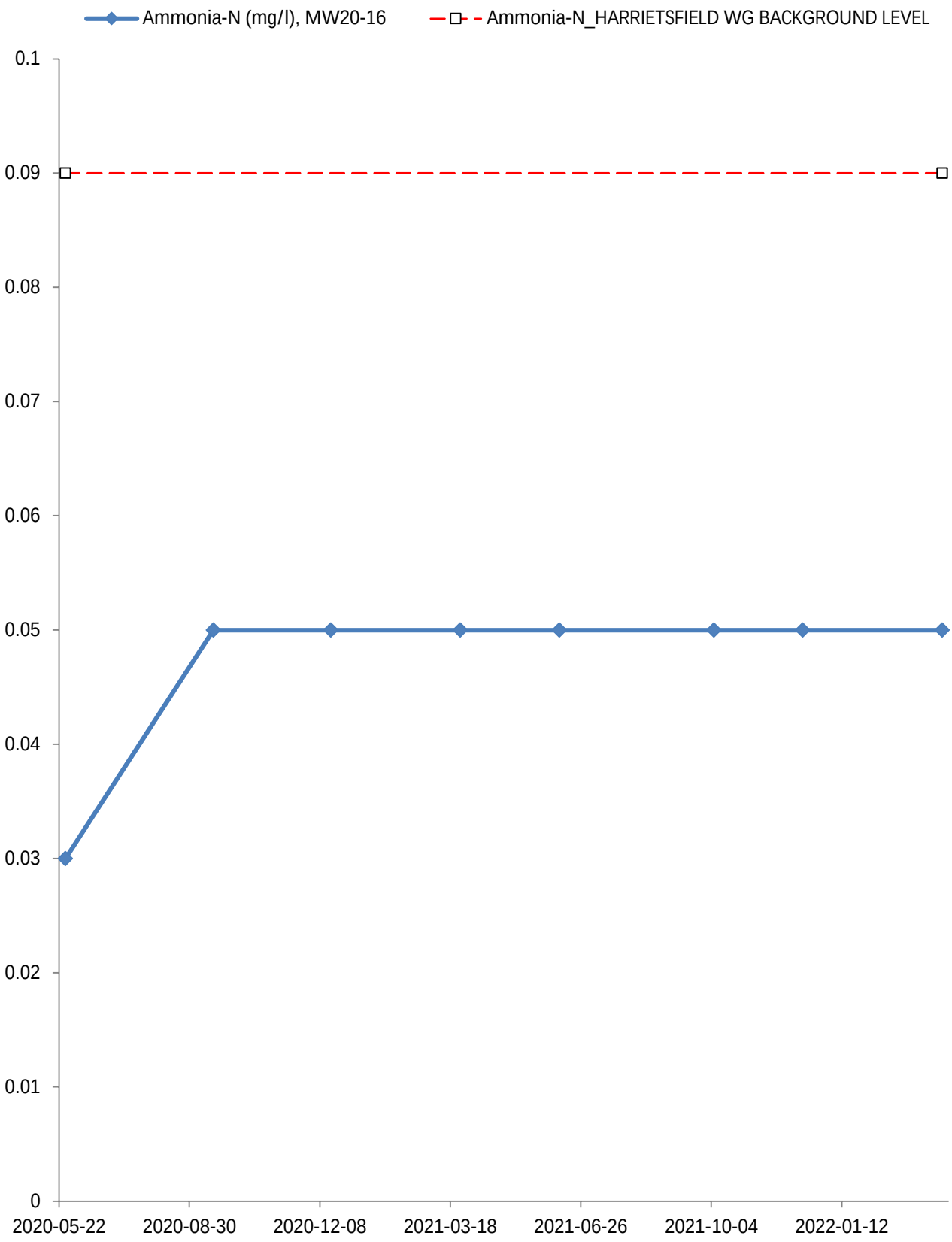
MW20-16-Alkalinity, Total



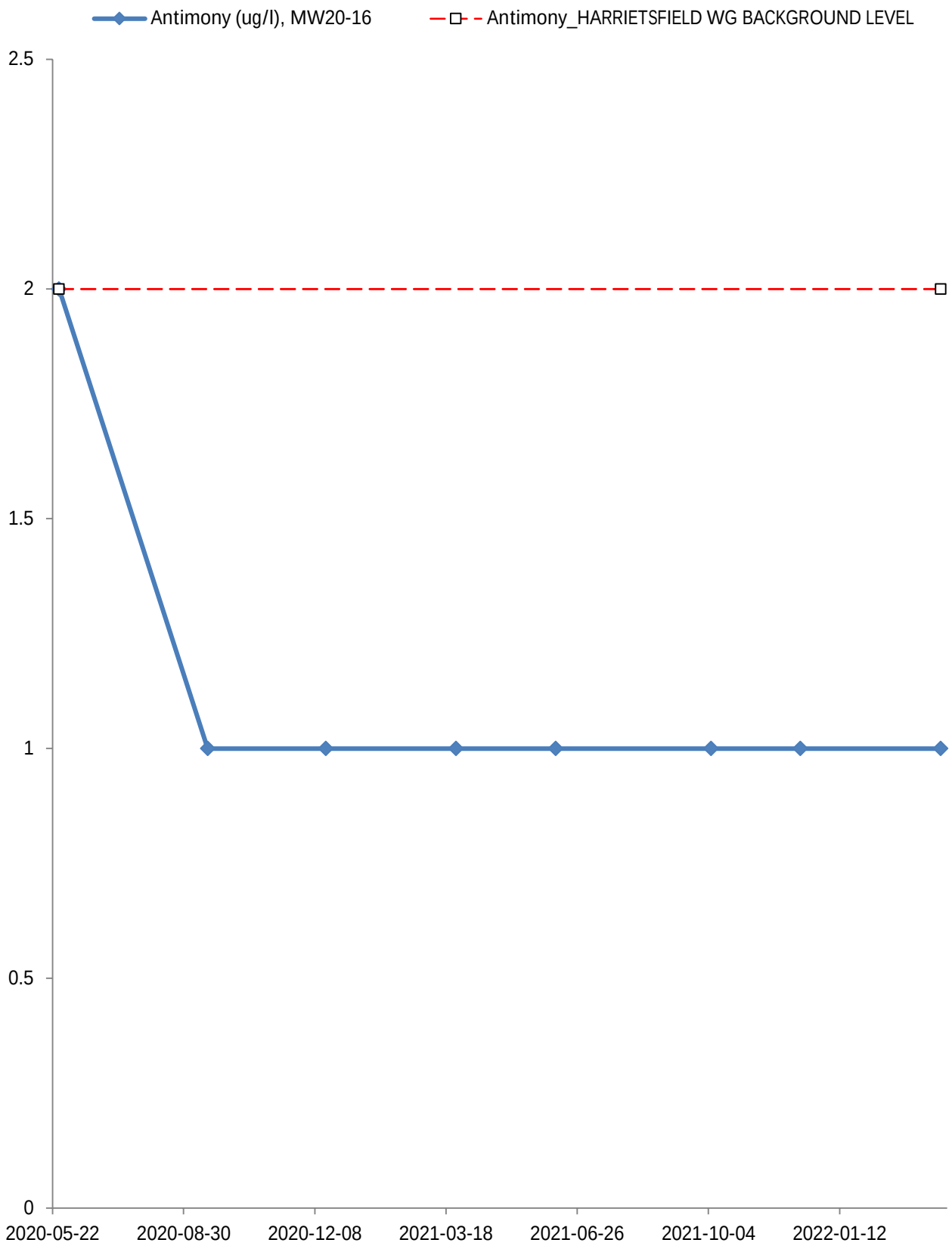
MW20-16-Aluminum



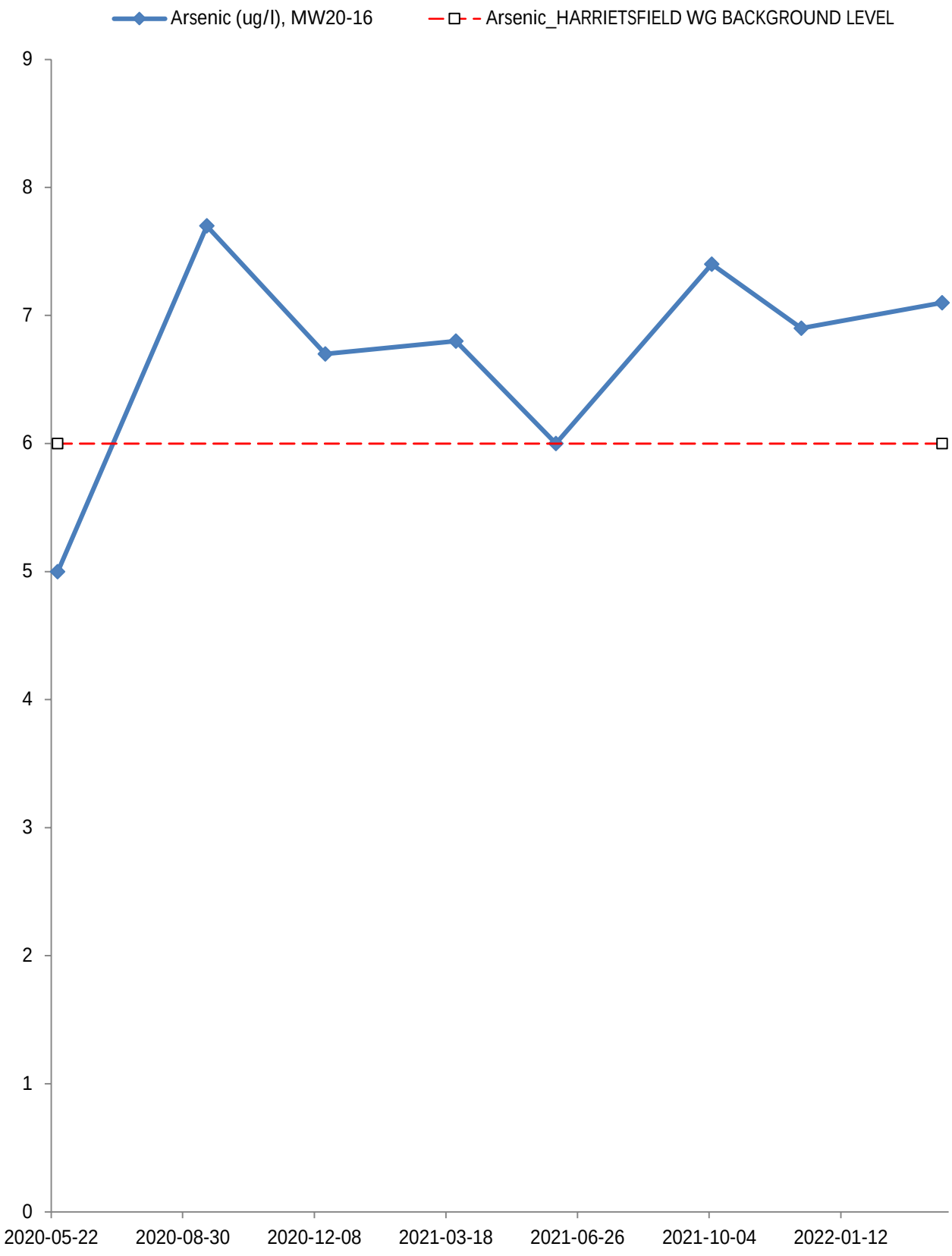
MW20-16-Ammonia-N



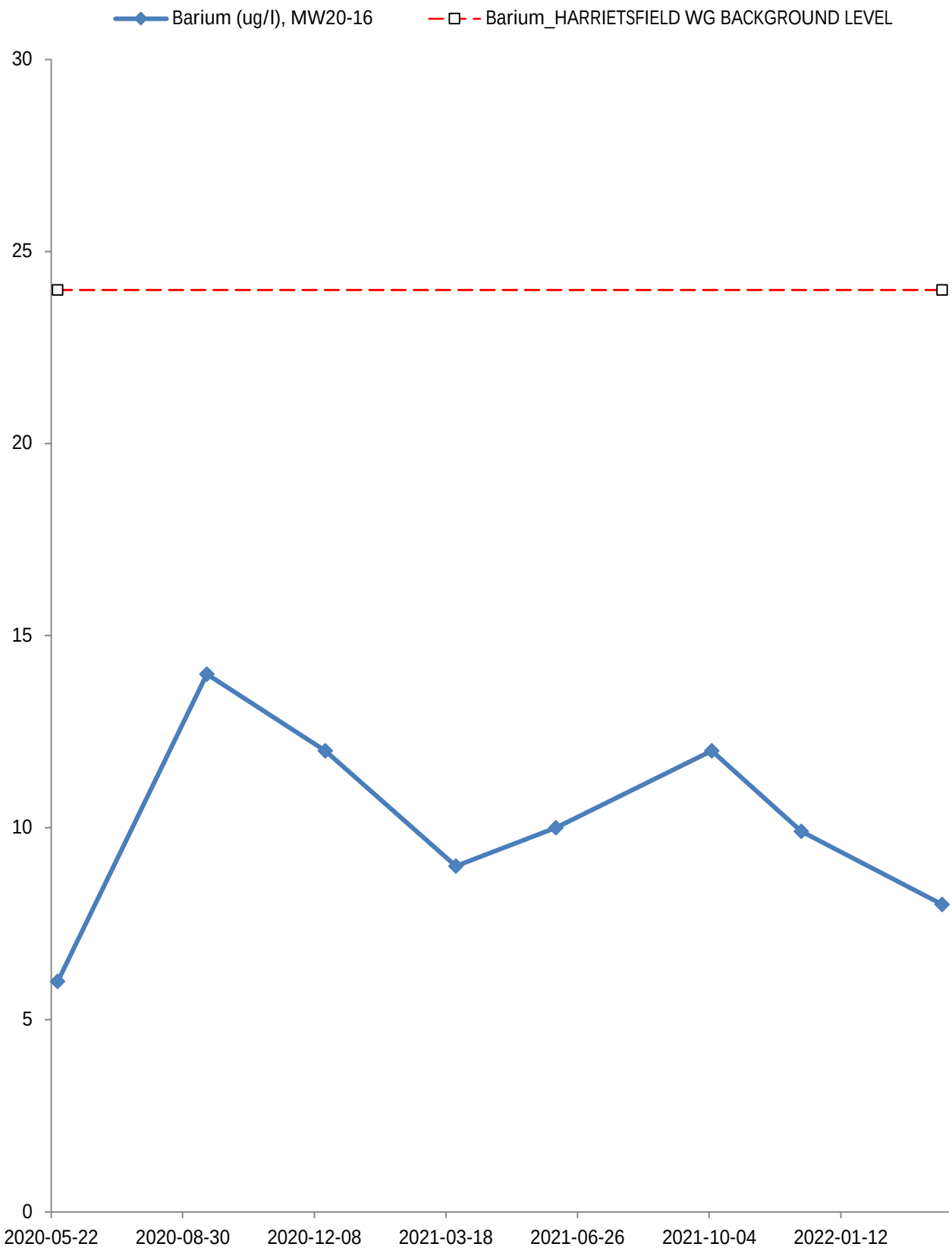
MW20-16-Antimony



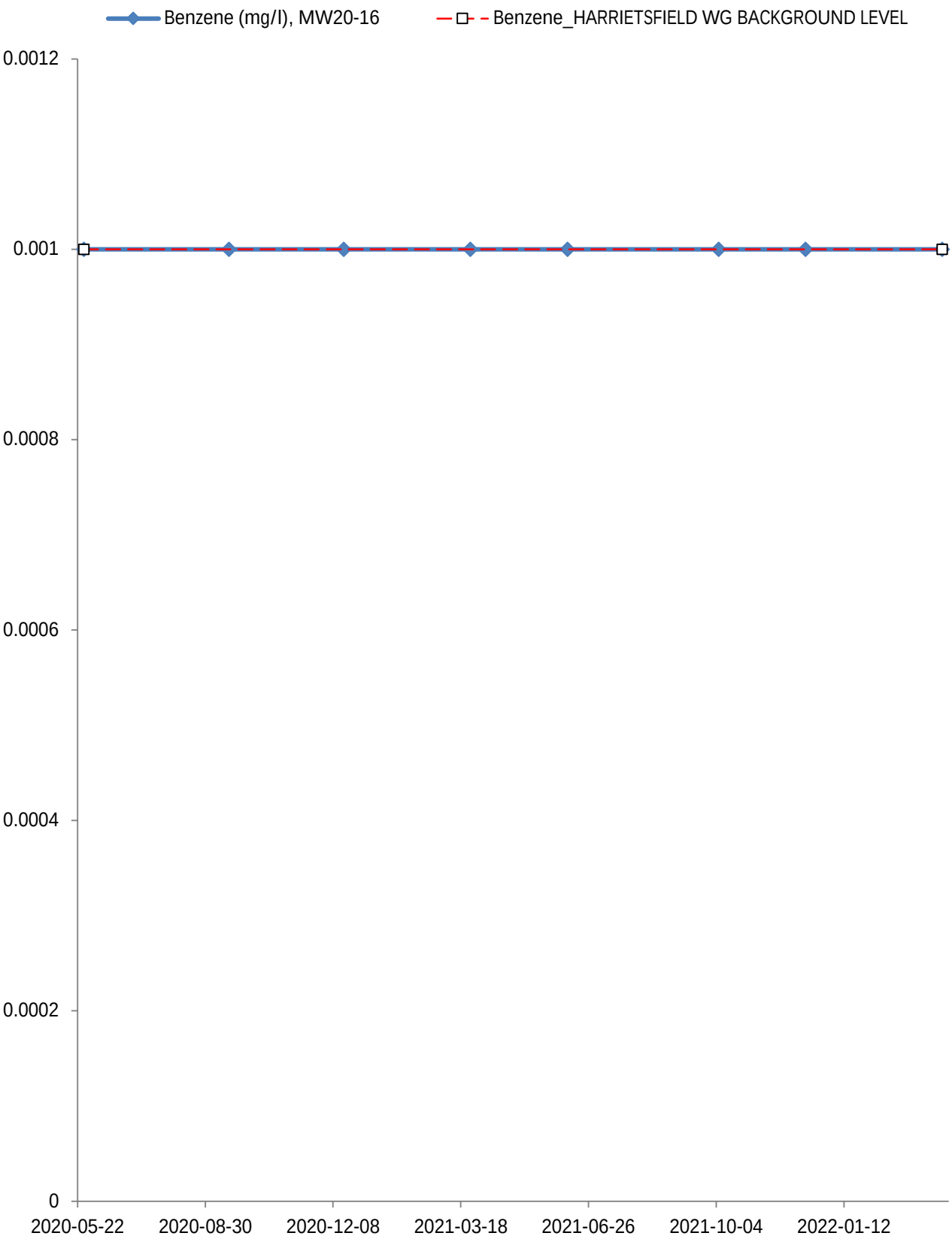
MW20-16-Arsenic



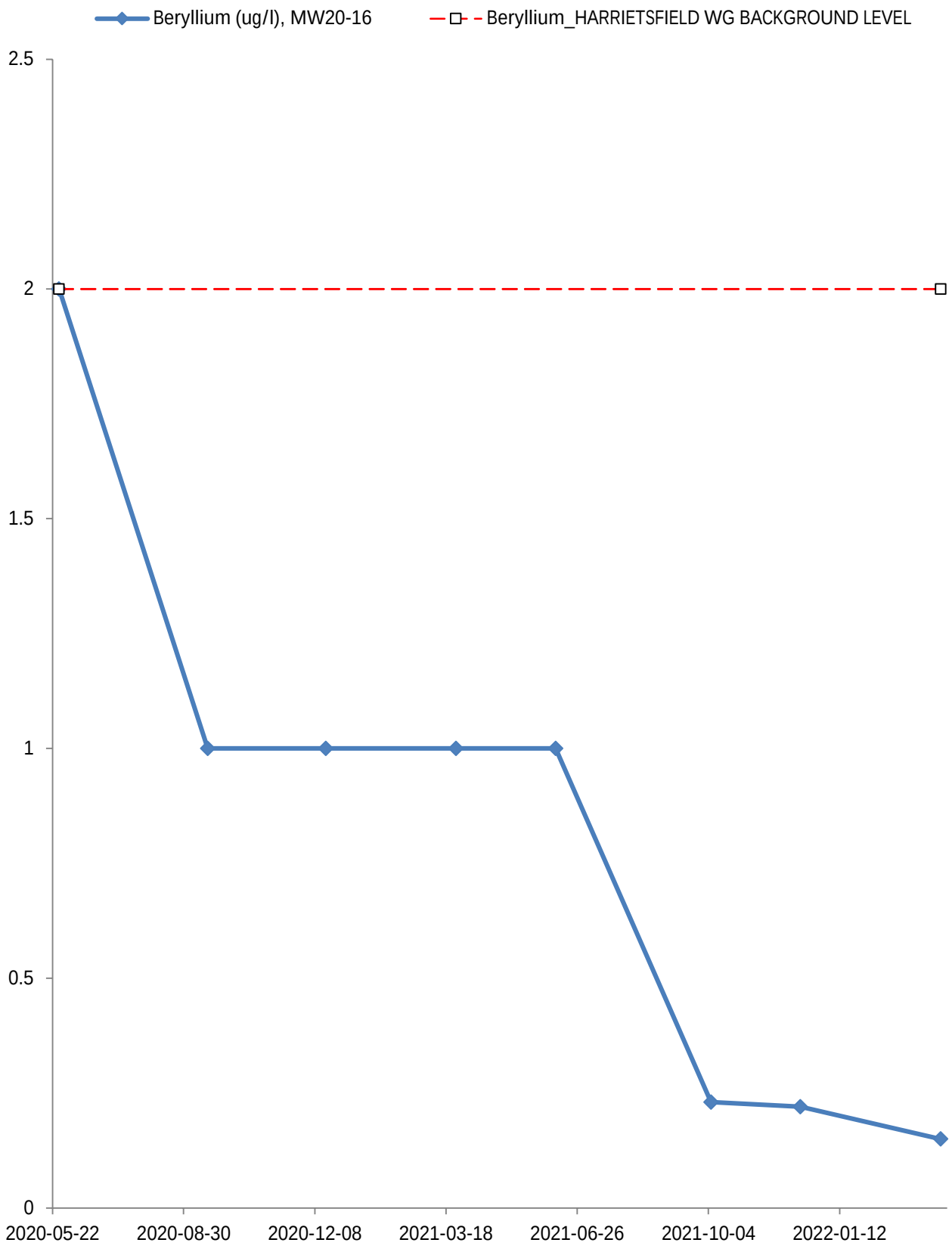
MW20-16-Barium



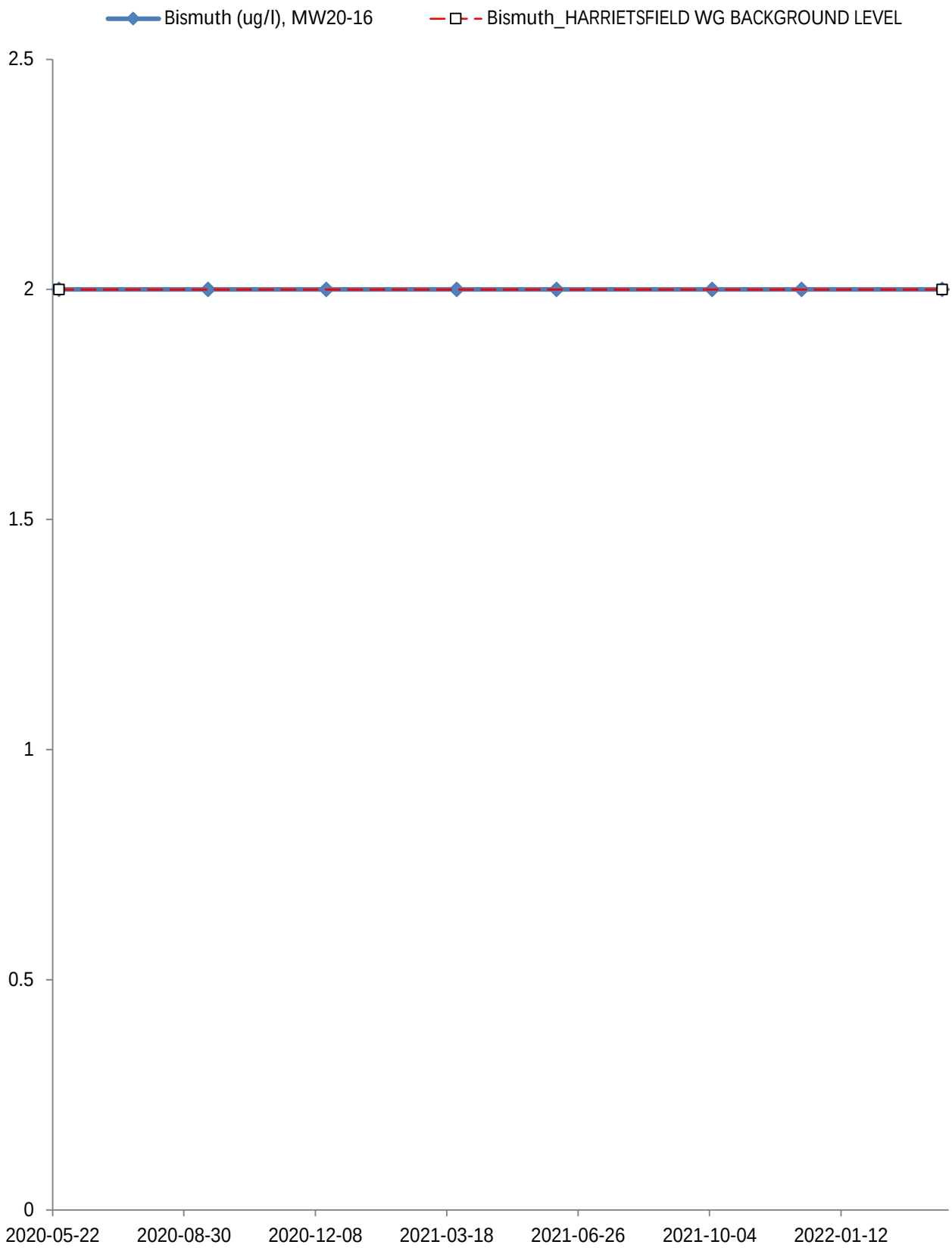
MW20-16-Benzene



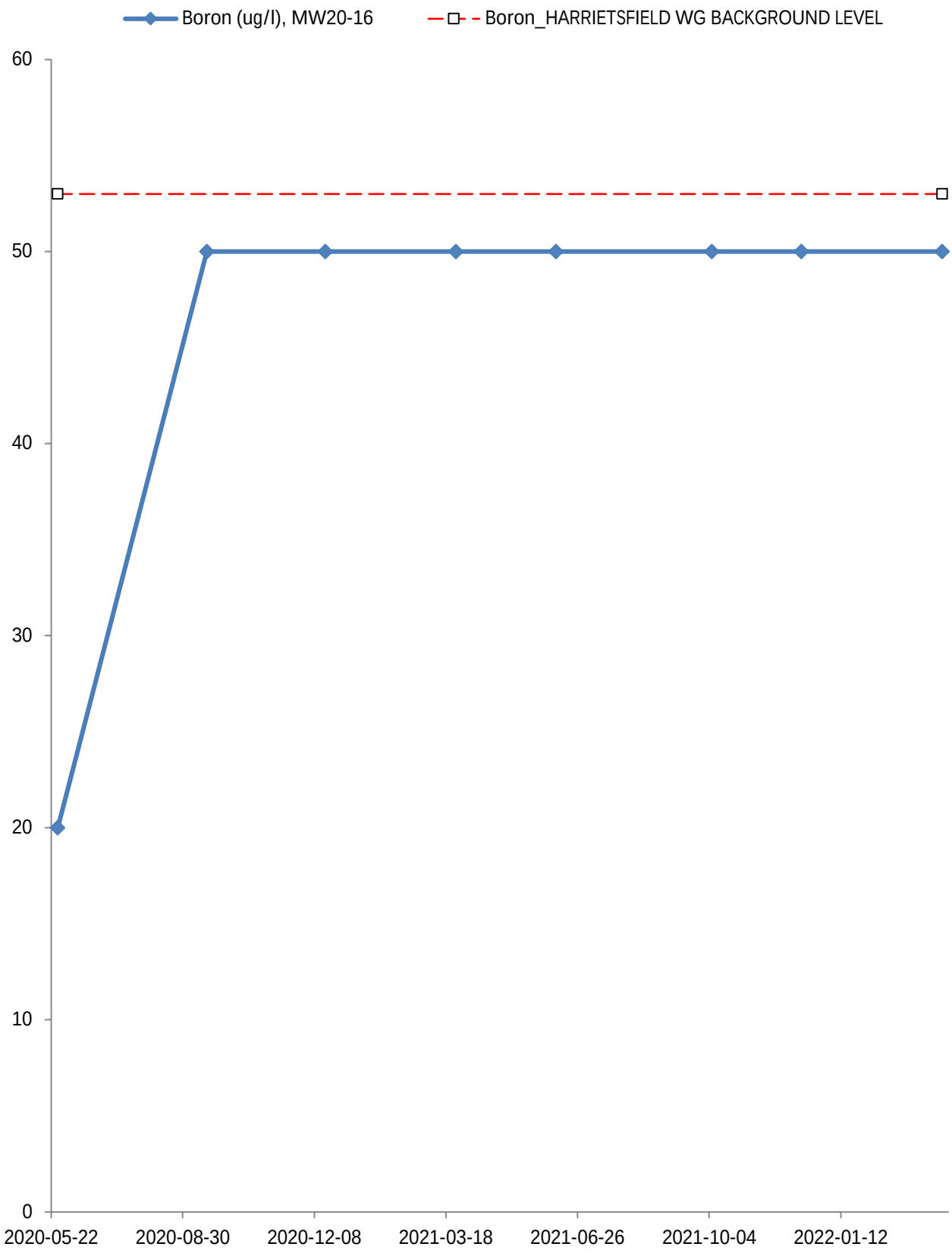
MW20-16-Beryllium



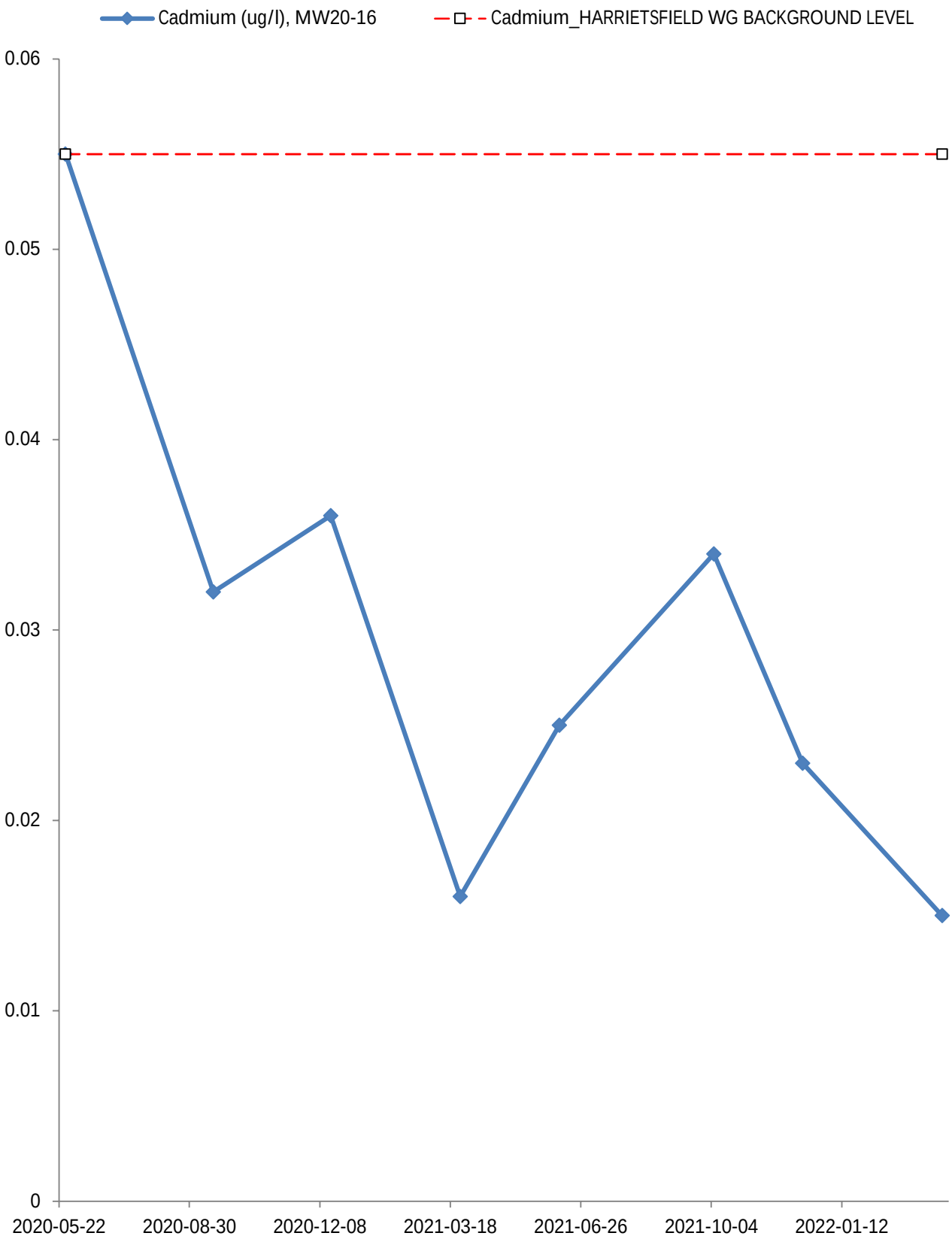
MW20-16-Bismuth



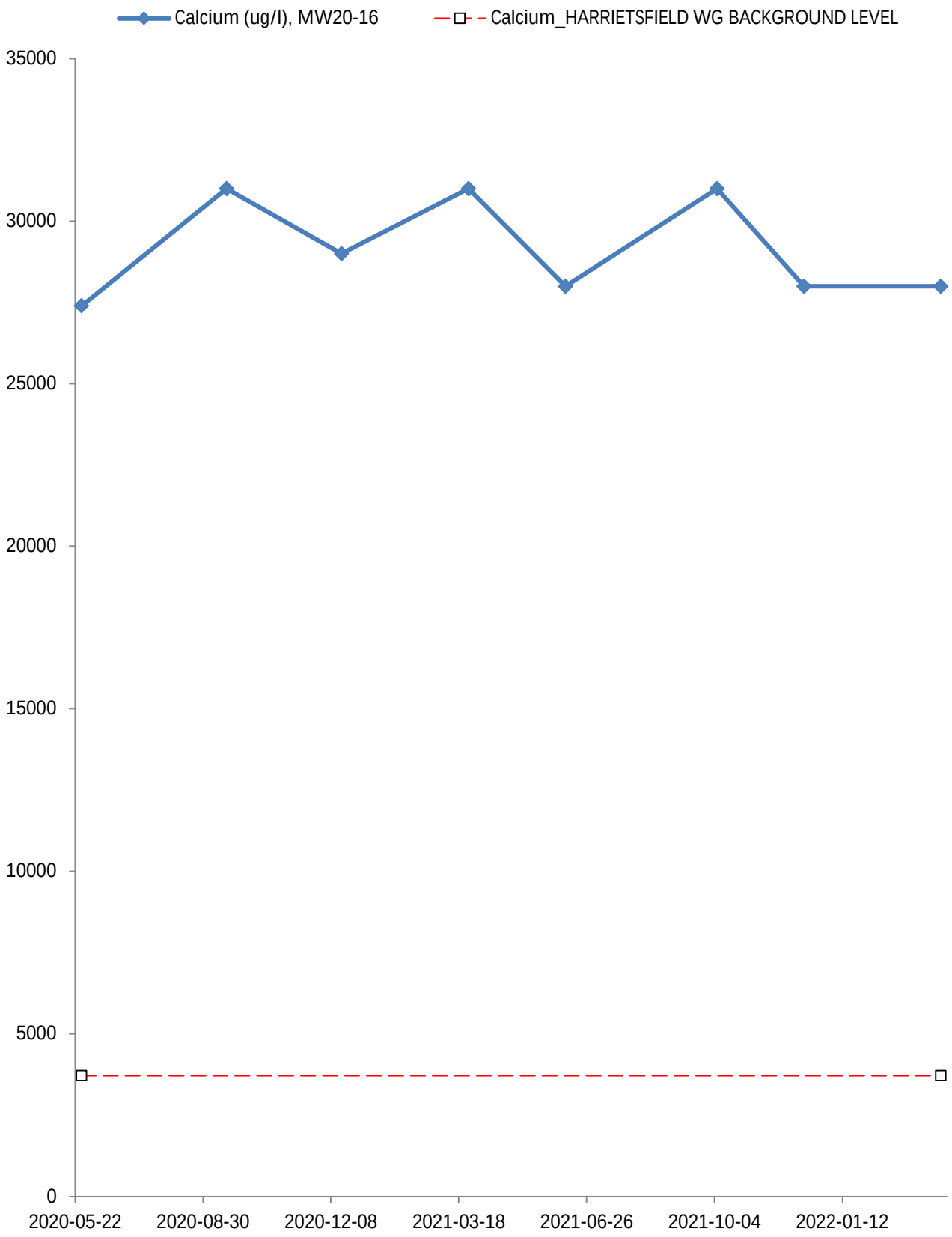
MW20-16-Boron



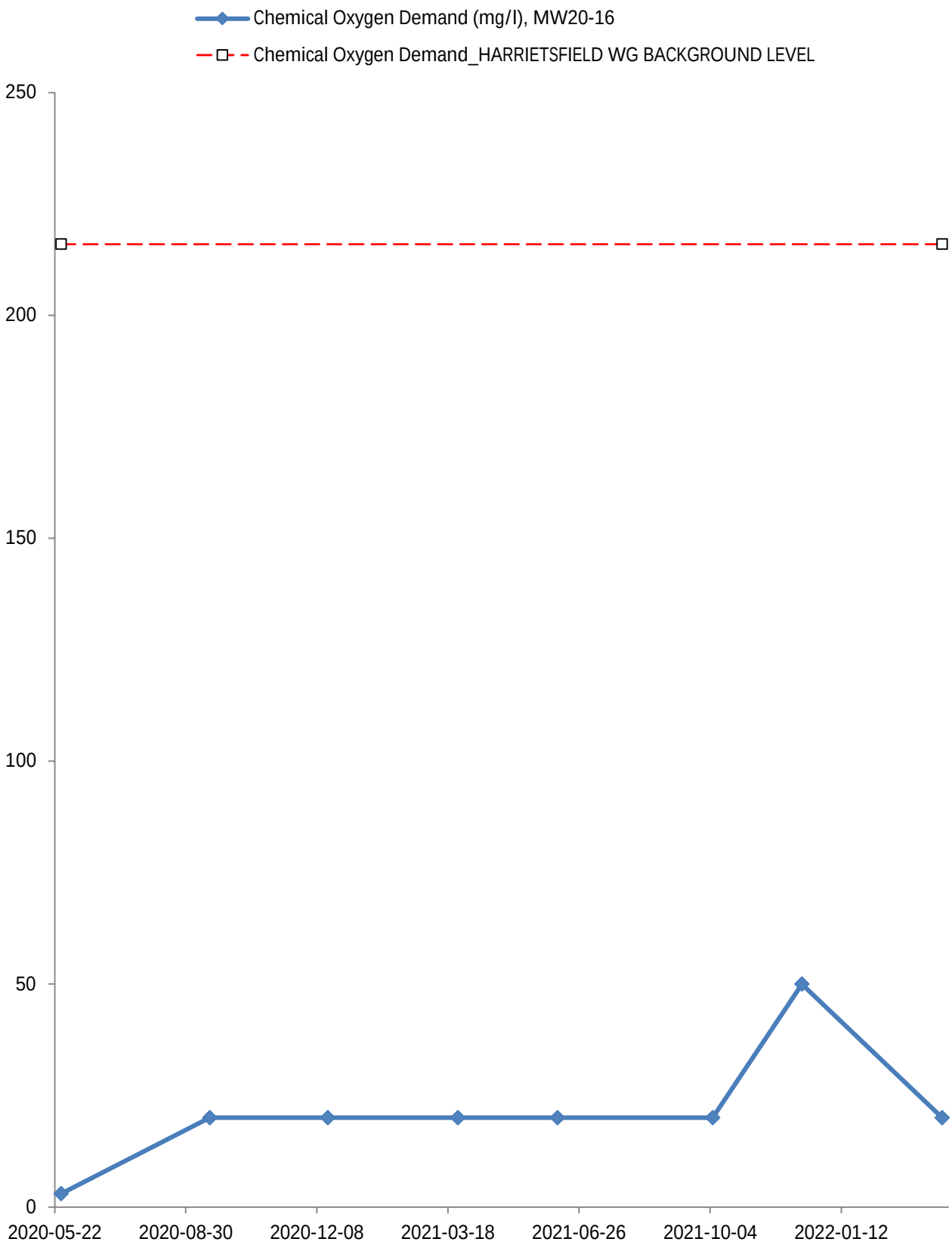
MW20-16-Cadmium



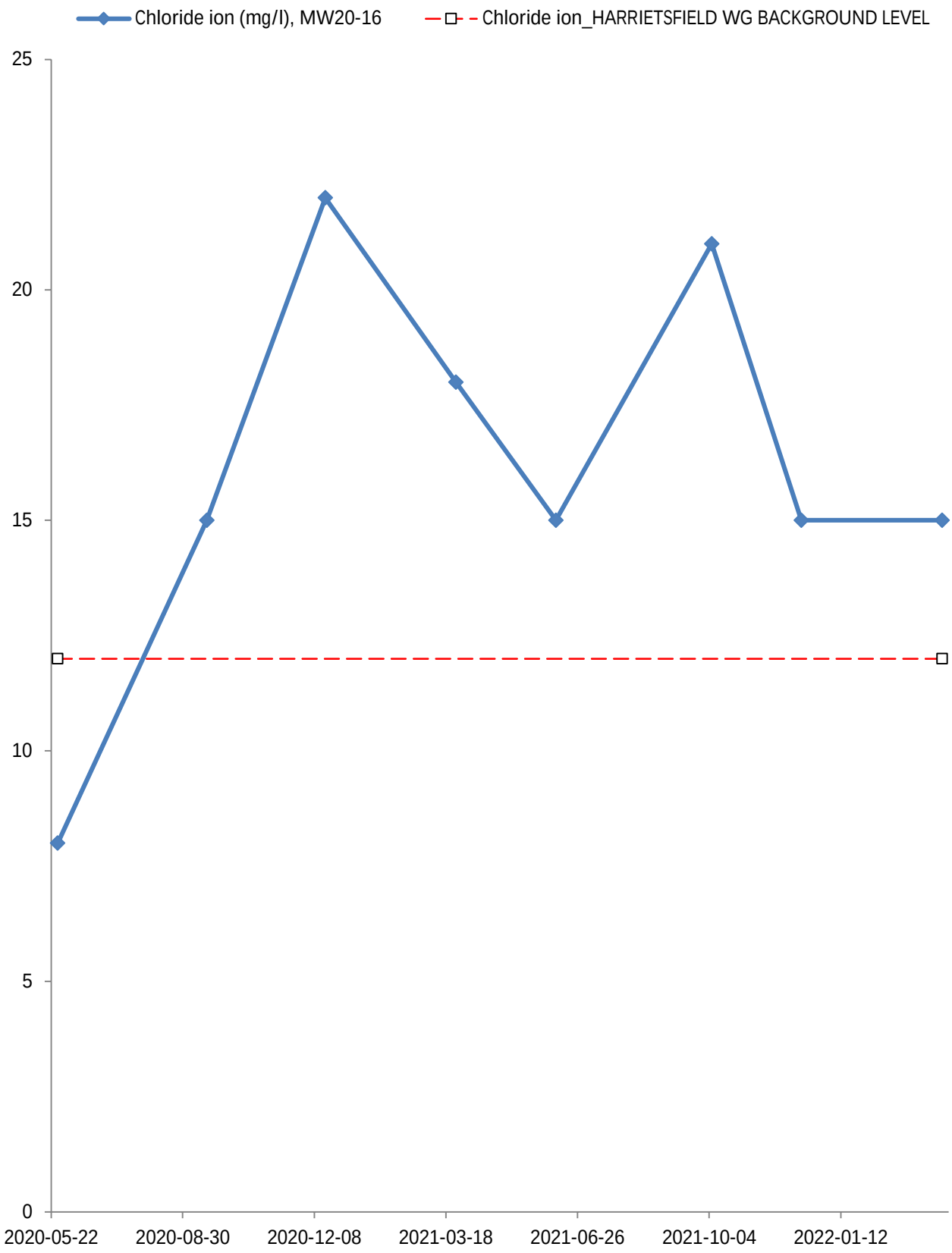
MW20-16-Calcium



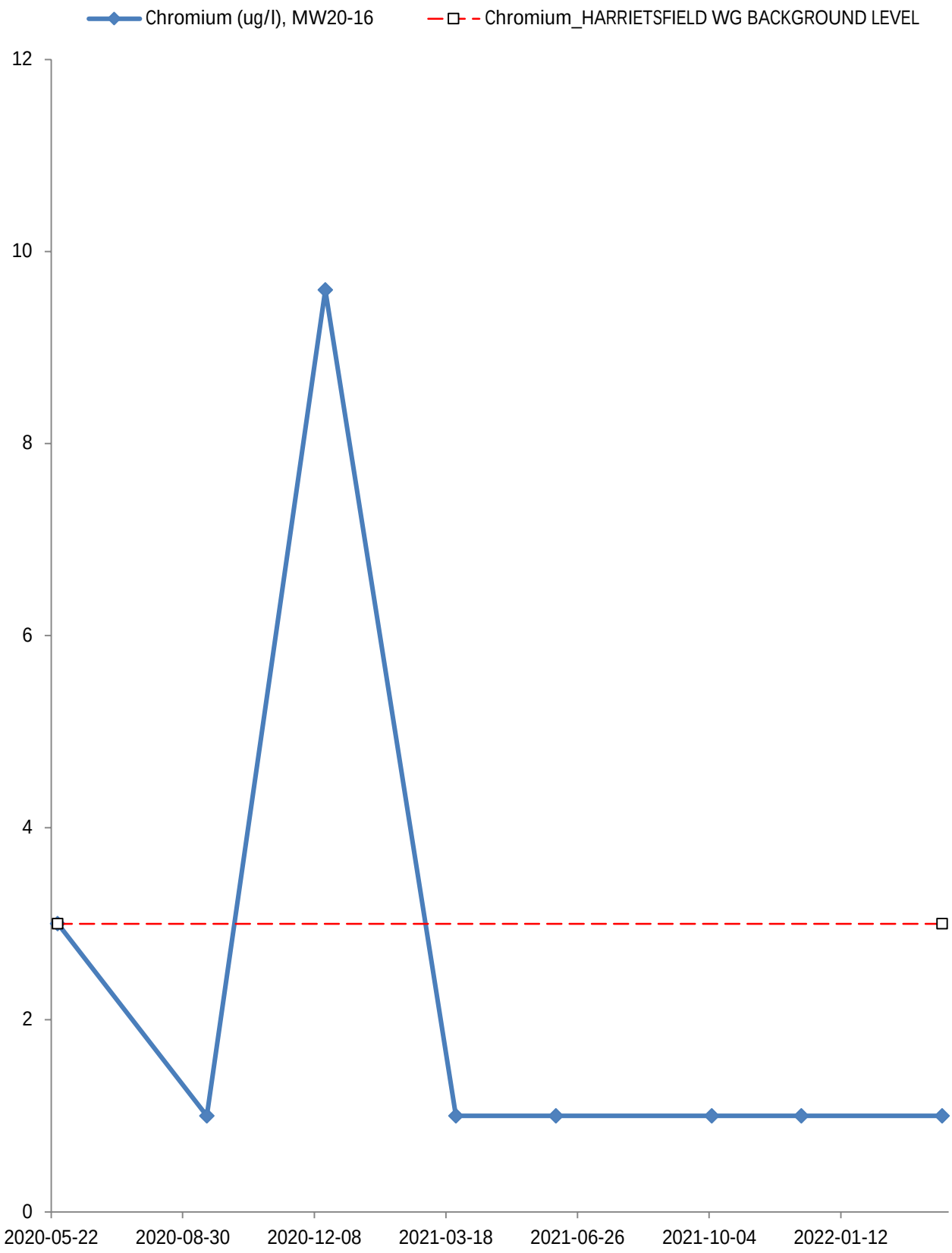
MW20-16-Chemical Oxygen Demand



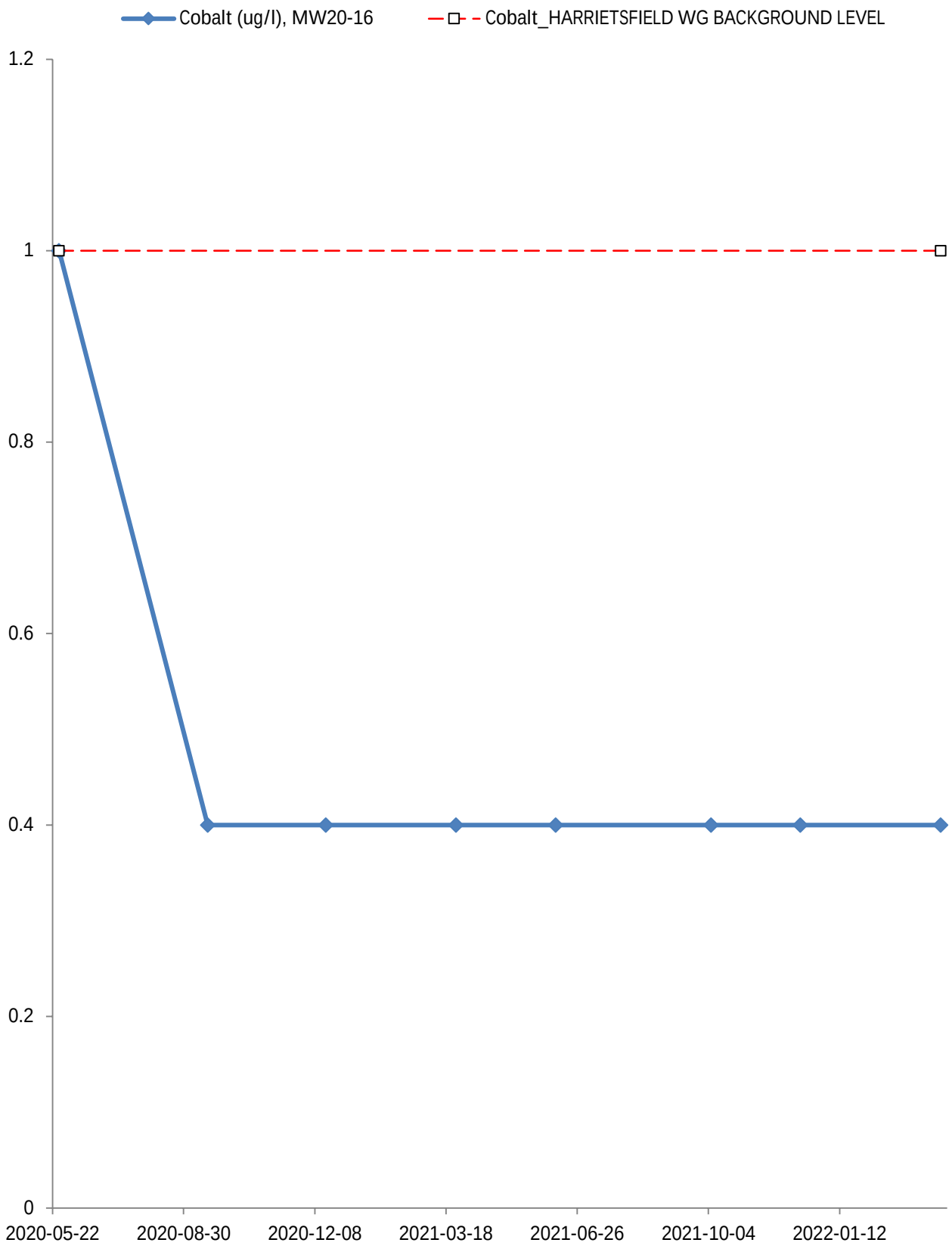
MW20-16-Chloride ion



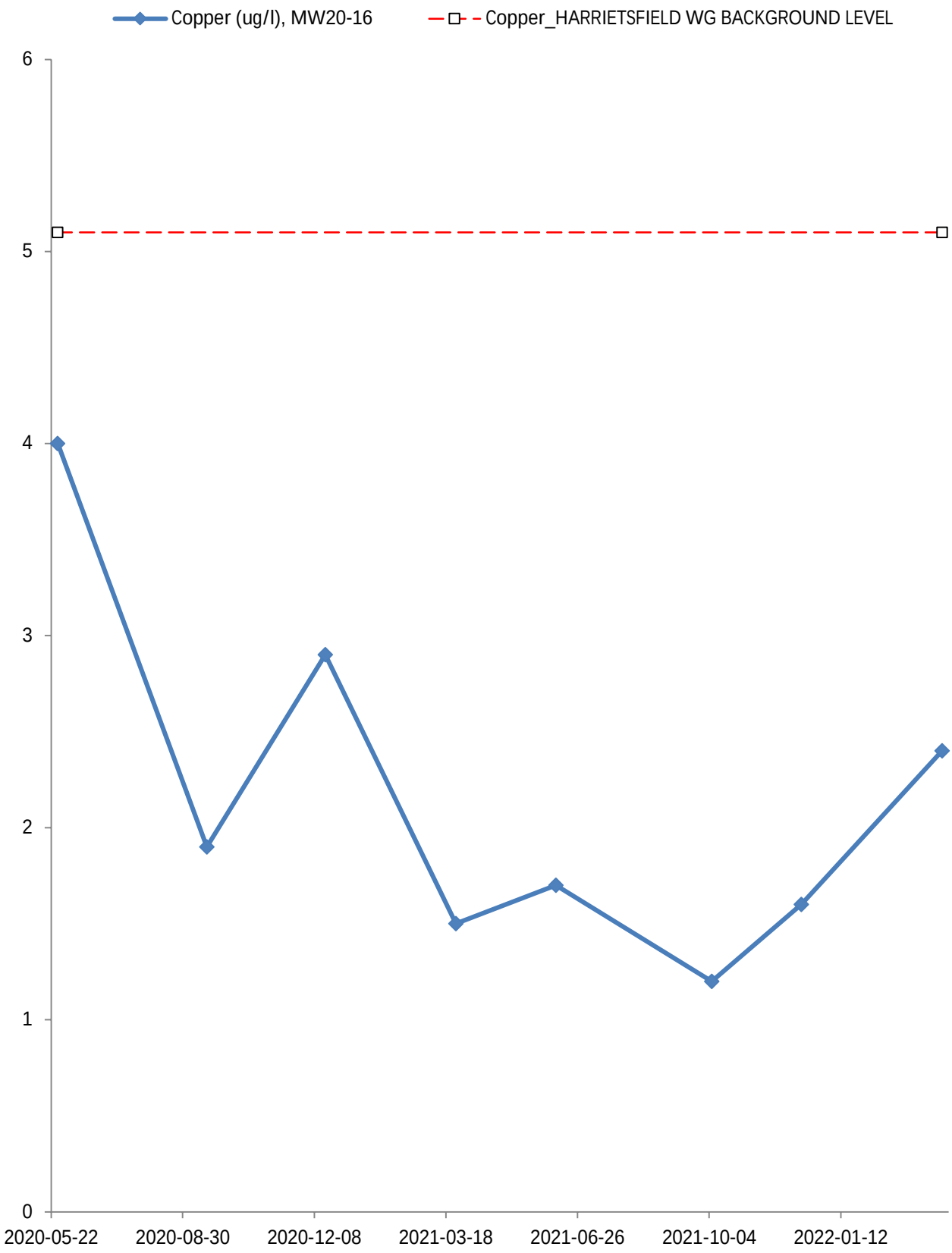
MW20-16-Chromium



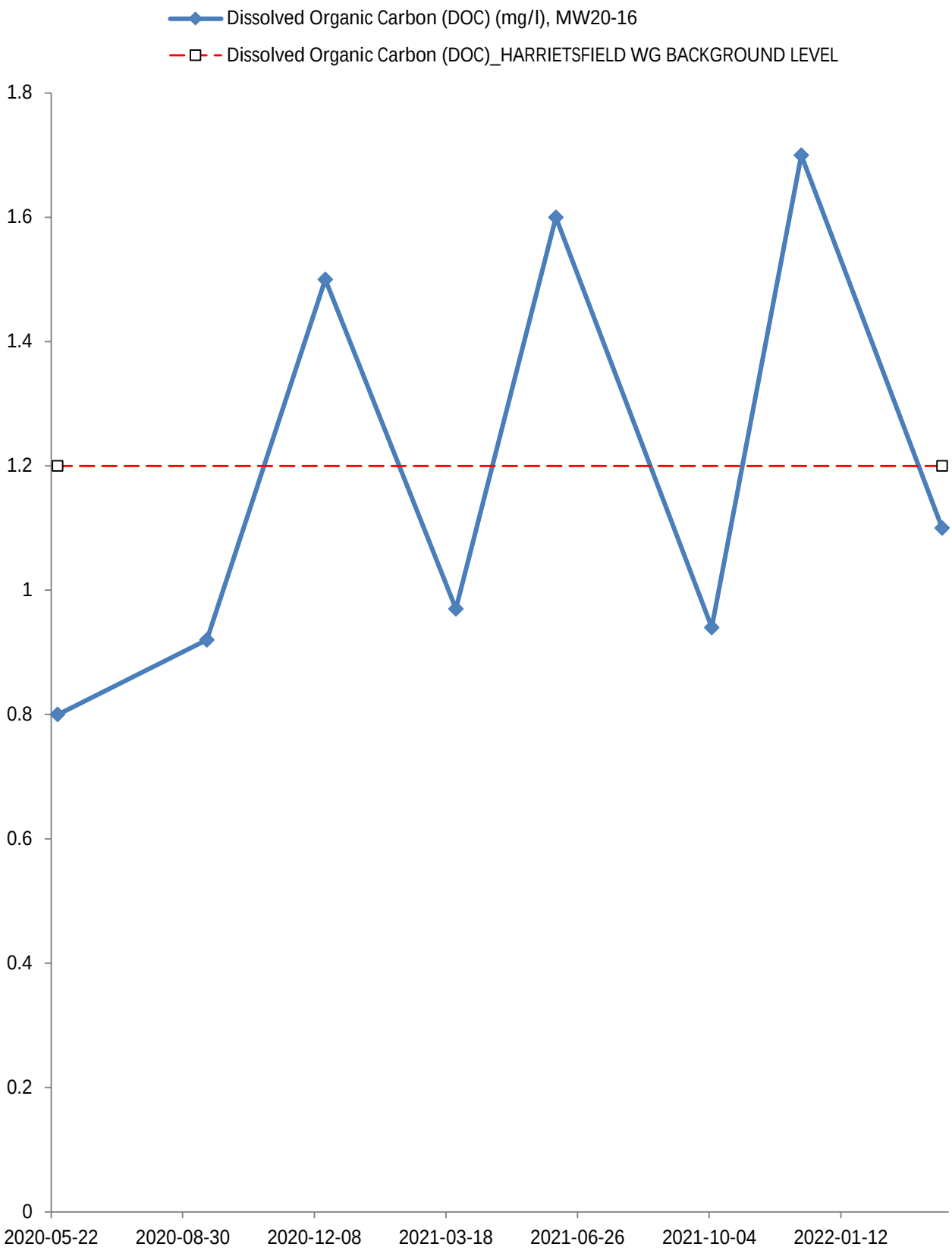
MW20-16-Cobalt



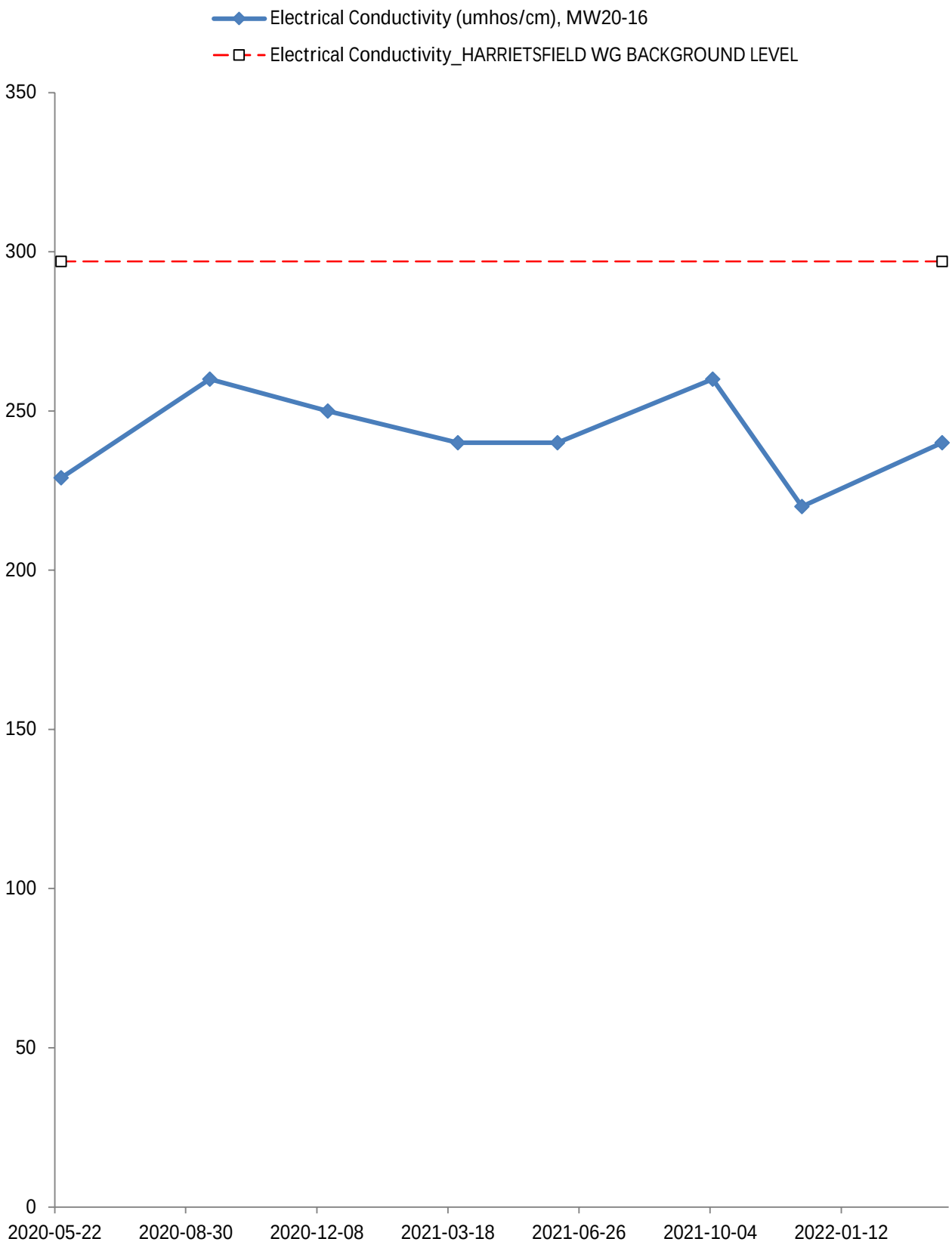
MW20-16-Copper



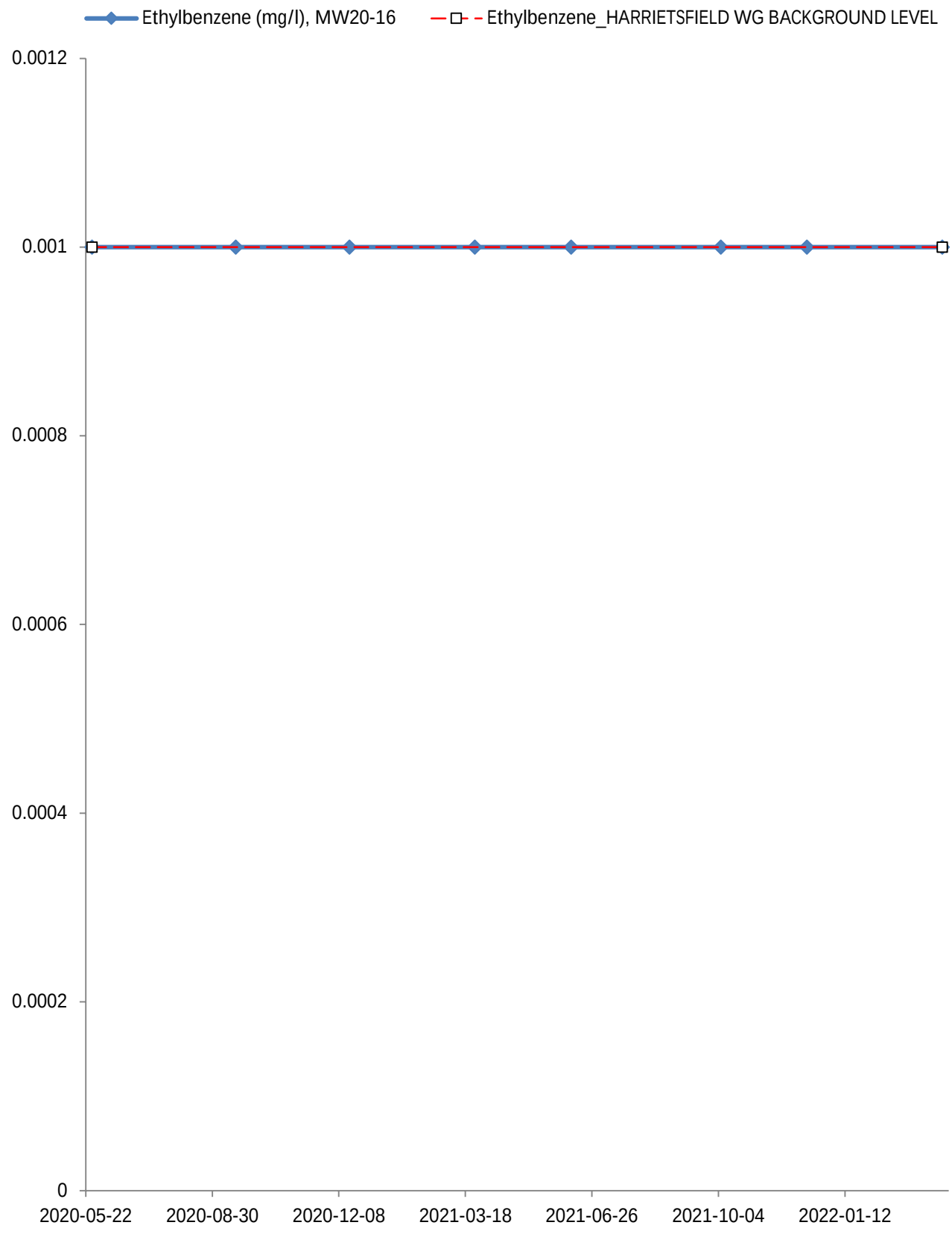
MW20-16-Dissolved Organic Carbon7



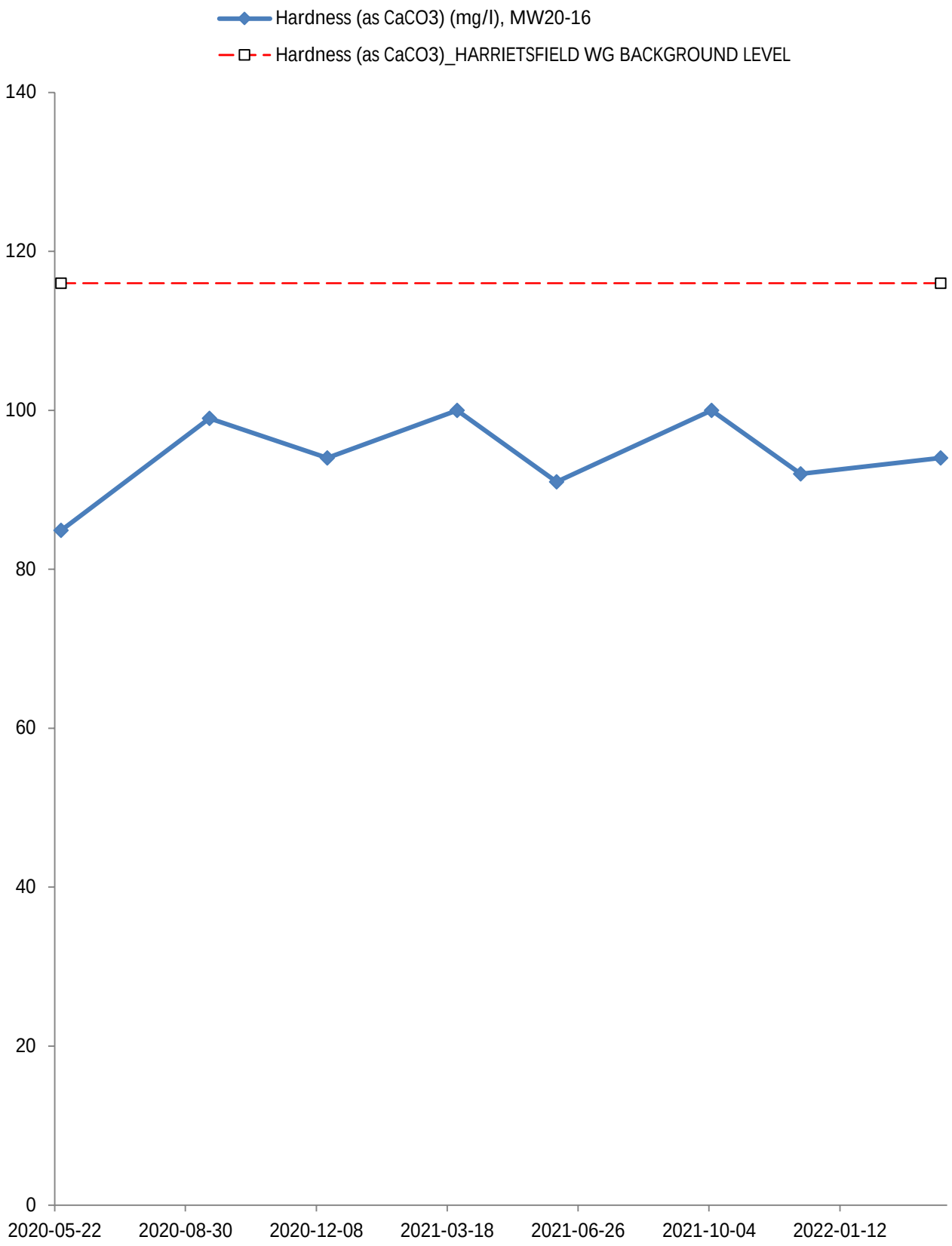
MW20-16-Electrical Conductivity



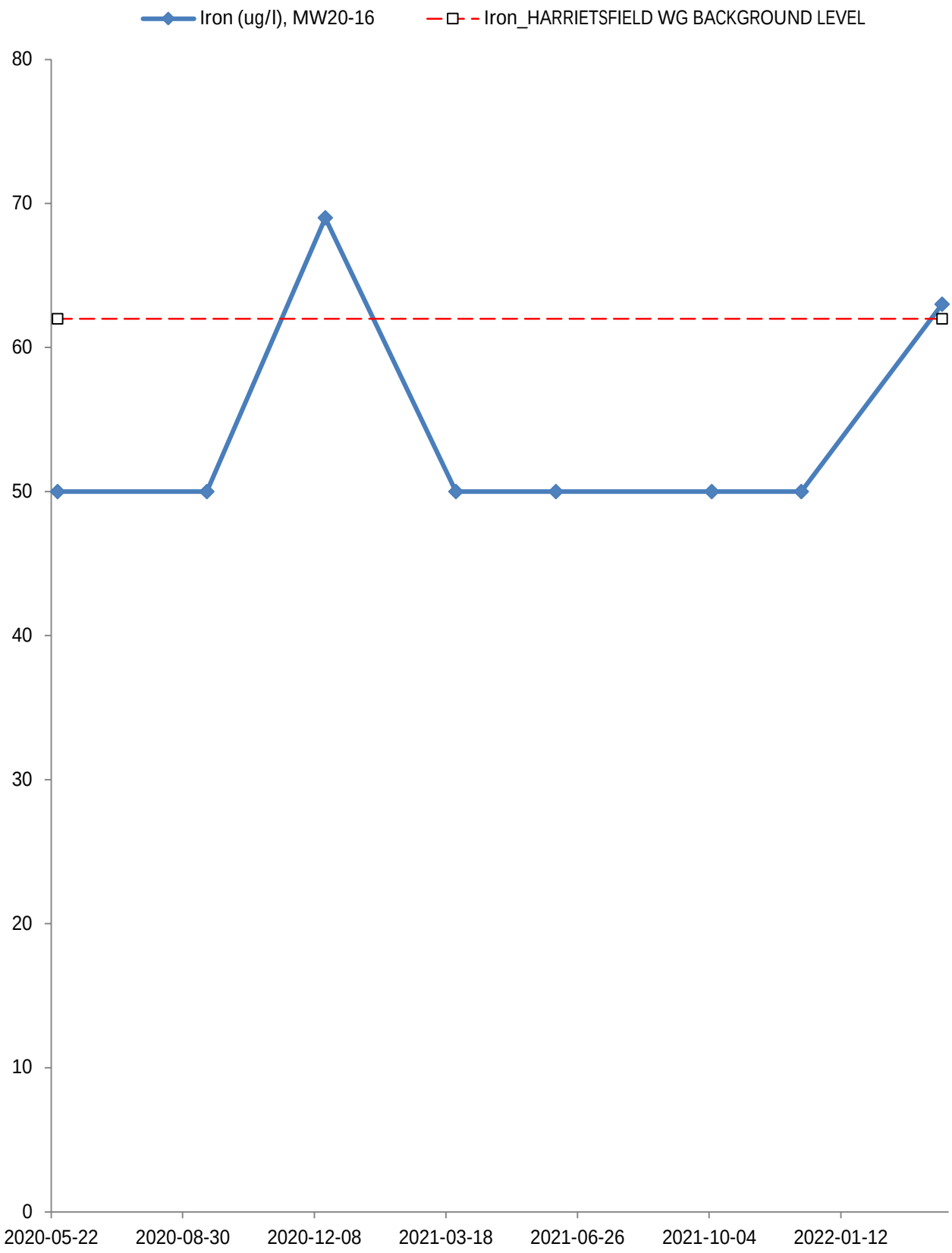
MW20-16-Ethylbenzene



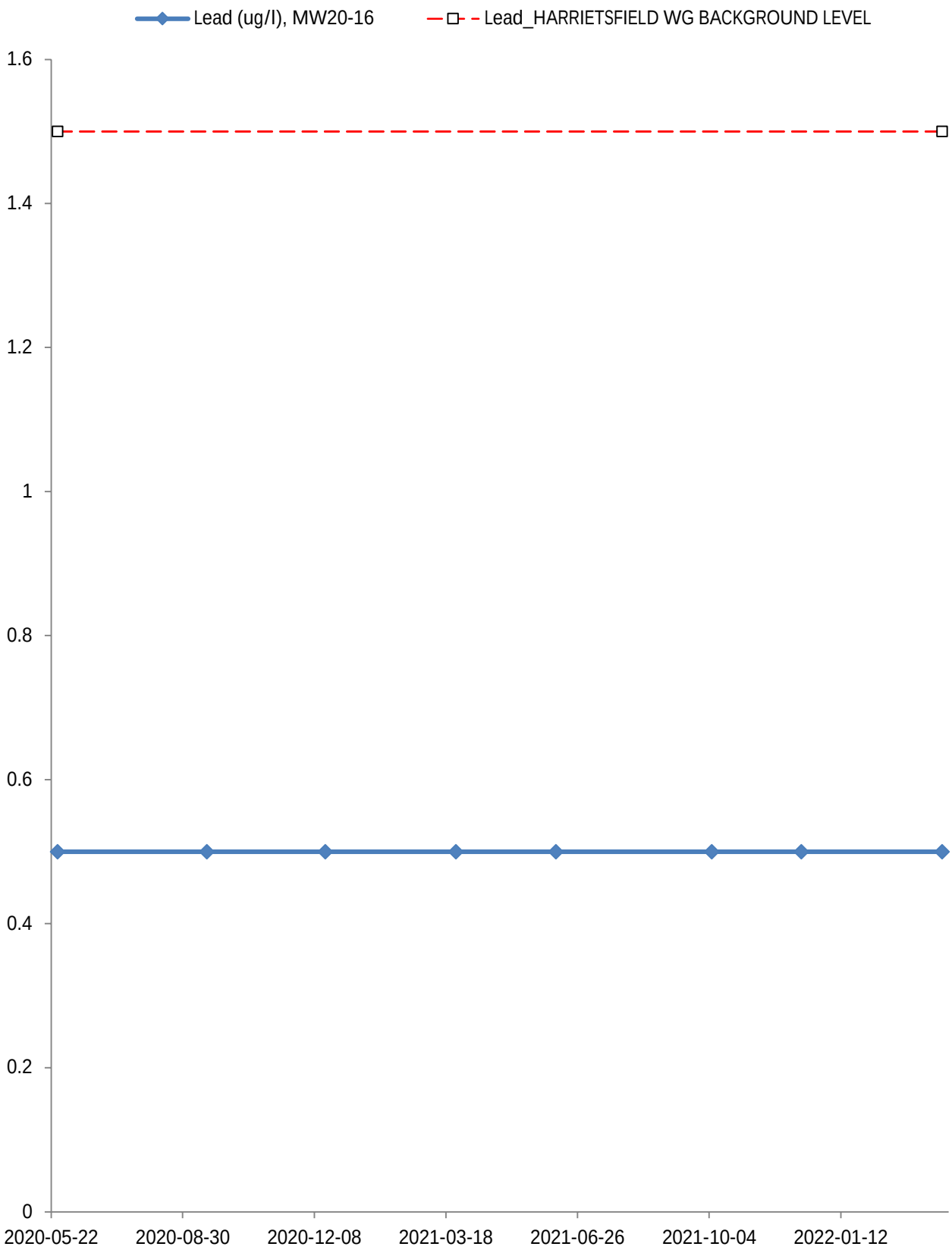
MW20-16-Hardness (as CaCO3)



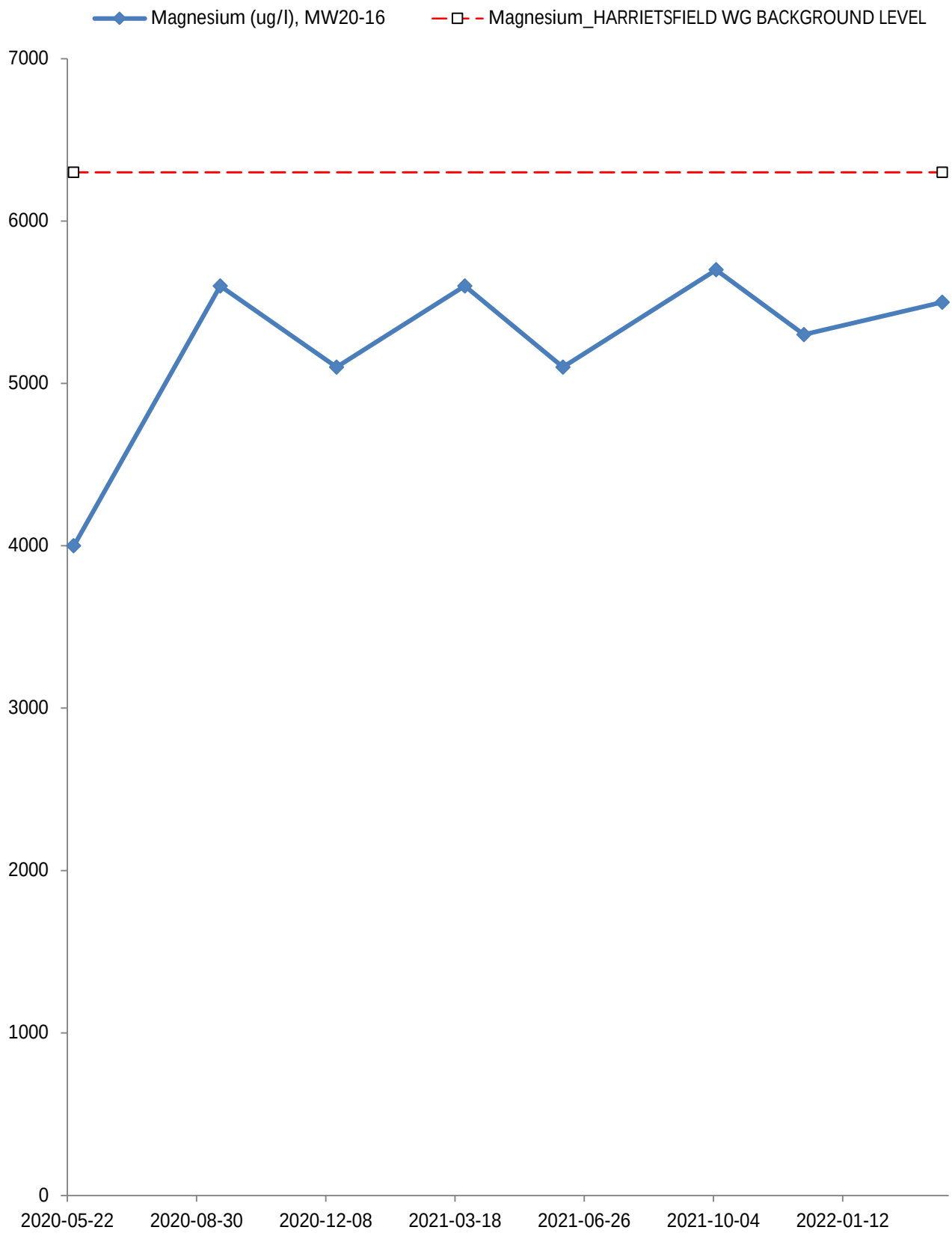
MW20-16-Iron


Iron (ug/l), MW20-16
Iron_HARRIETSFIELD WG BACKGROUND LEVEL
80
70
60
50
40
30
20
10
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

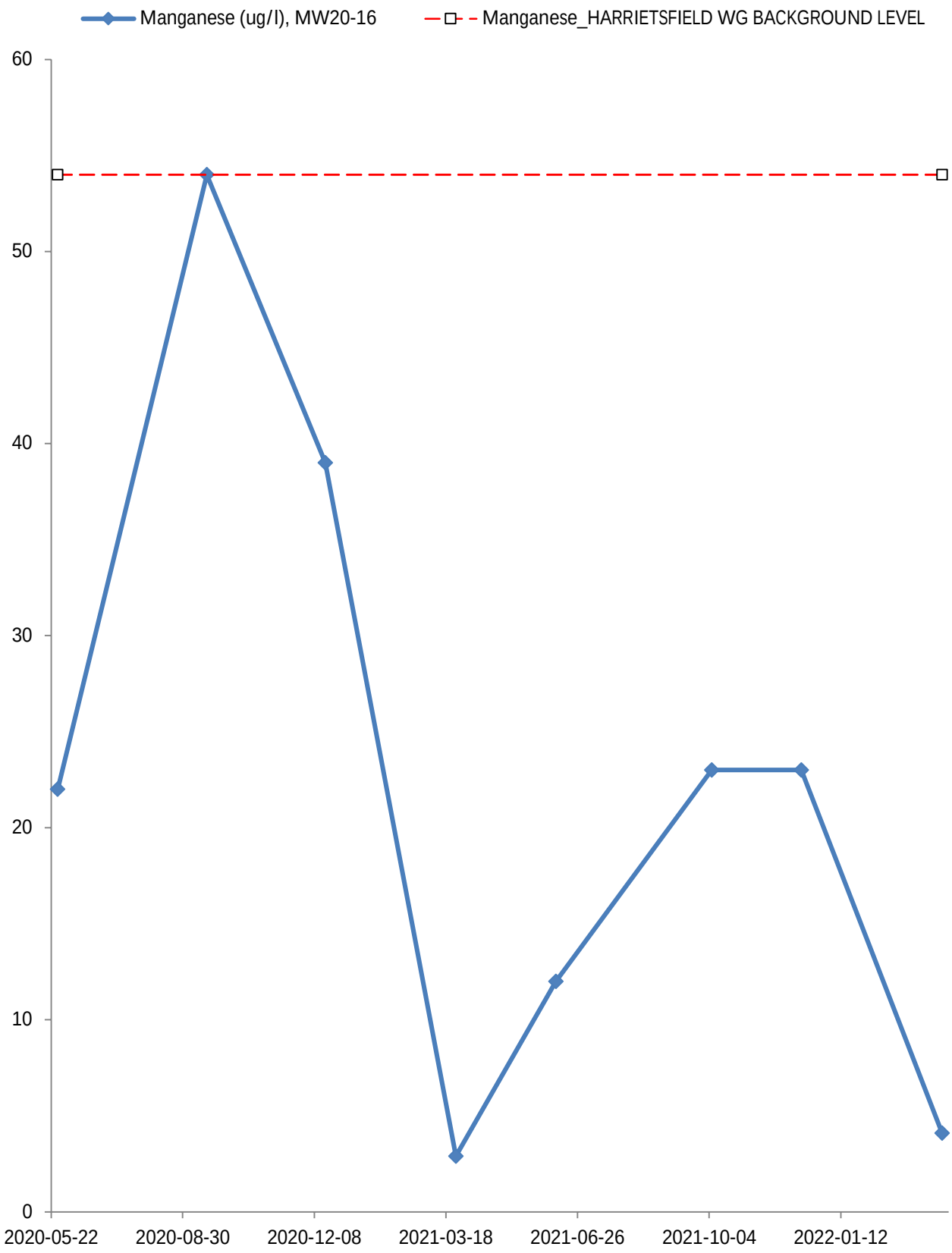
MW20-16-Lead


Lead (ug/l), MW20-16
Lead_HARRIETSFIELD WG BACKGROUND LEVEL
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

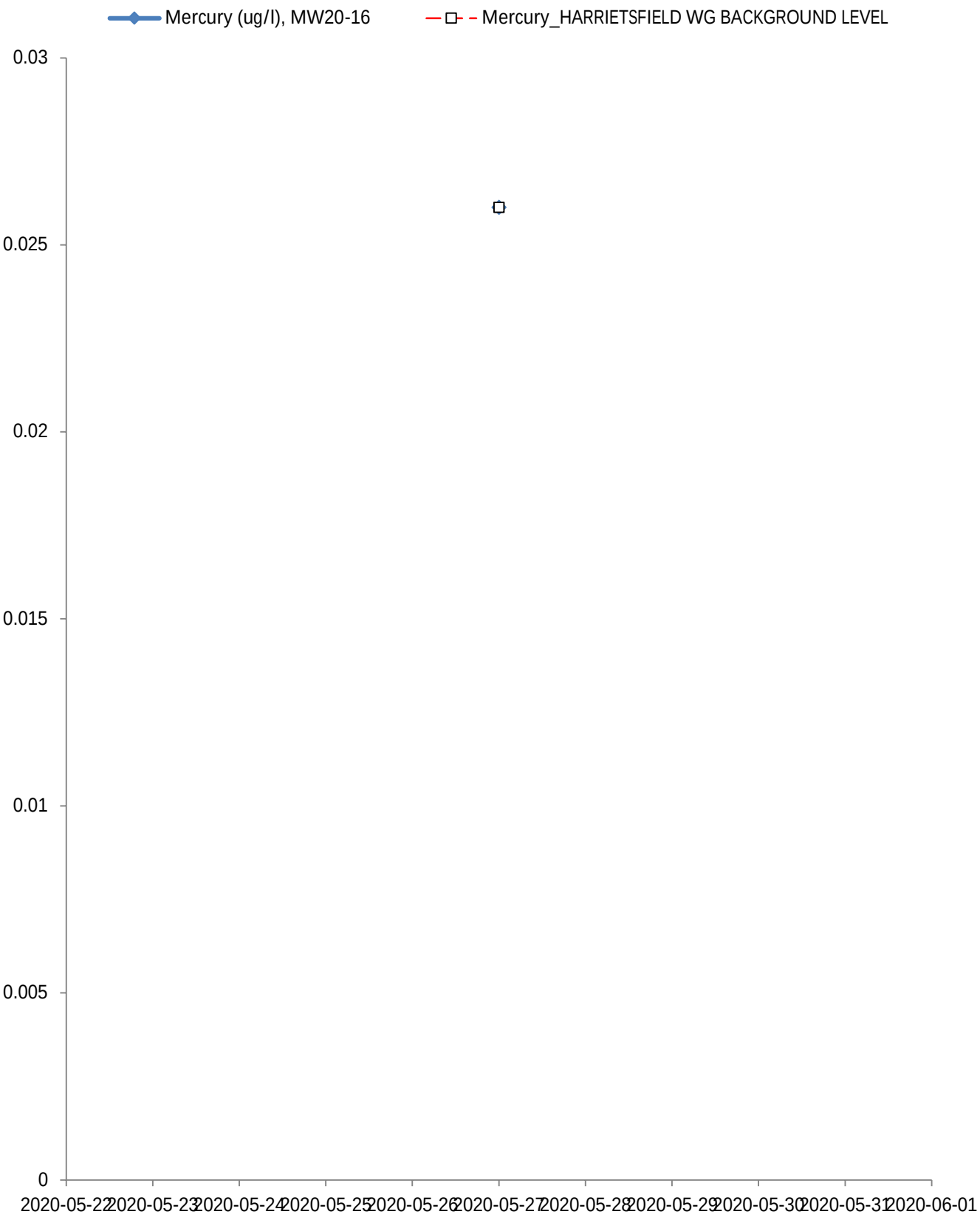
MW20-16-Magnesium



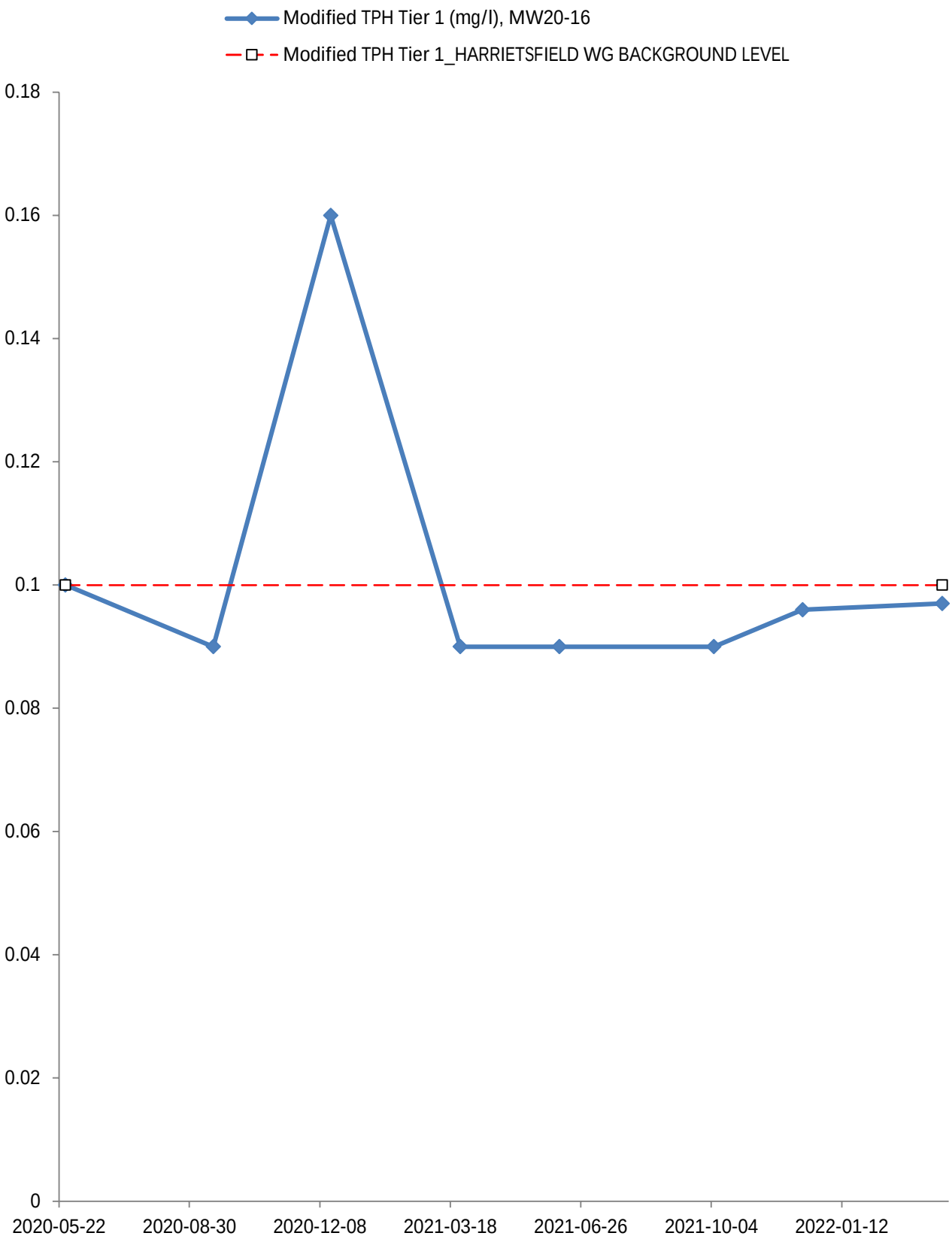
MW20-16-Manganese



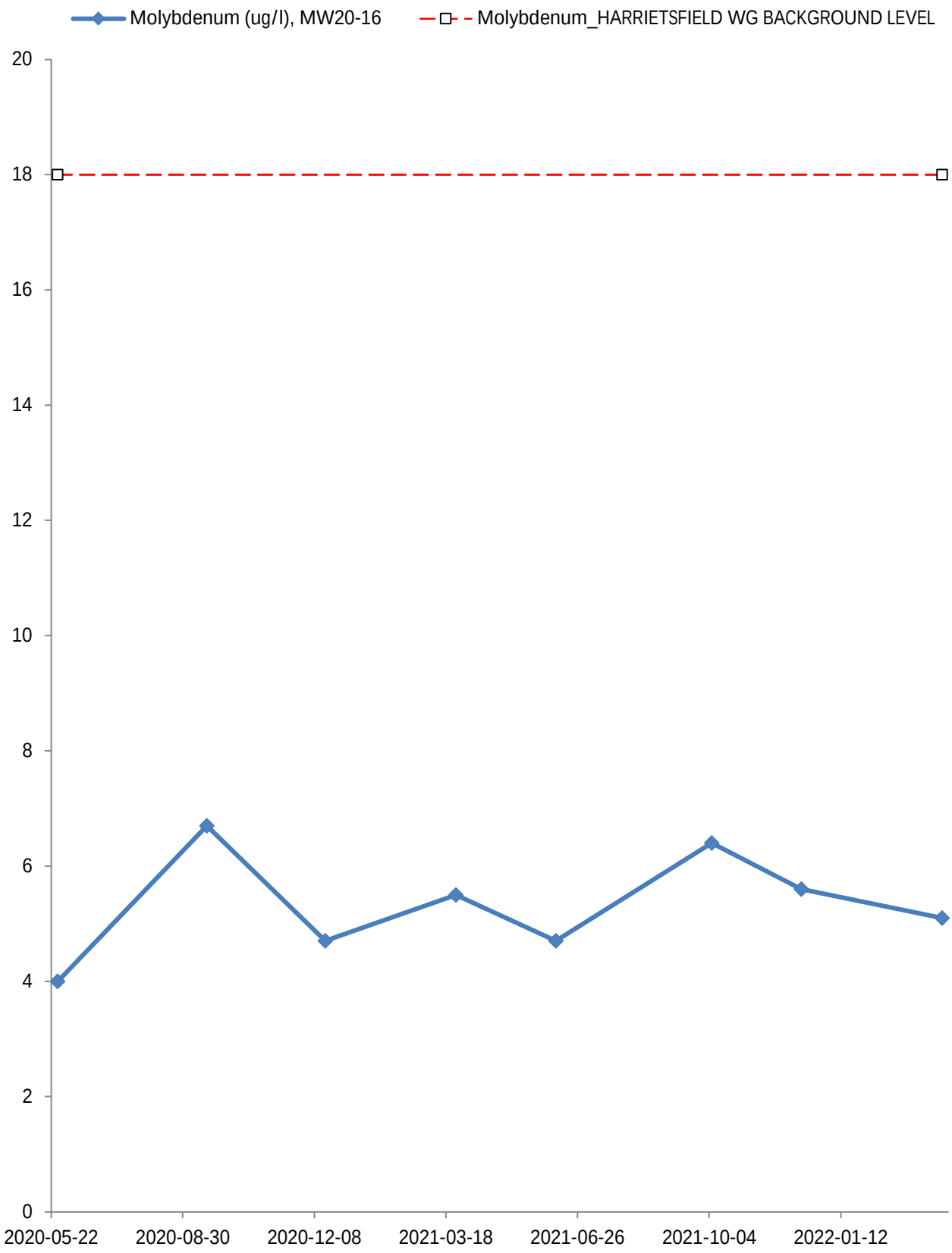
MW20-16-Mercury



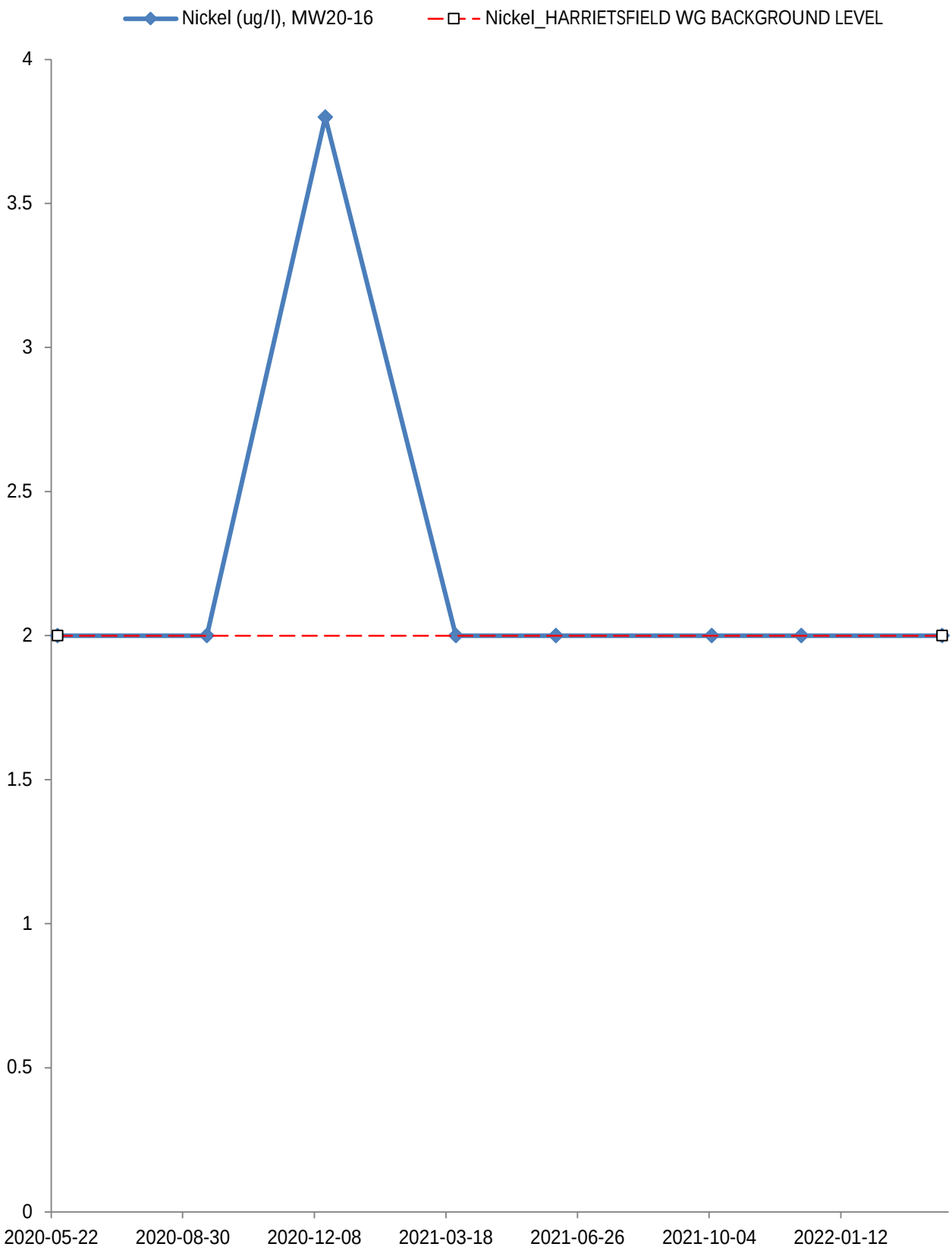
MW20-16-Modified TPH Tier 1



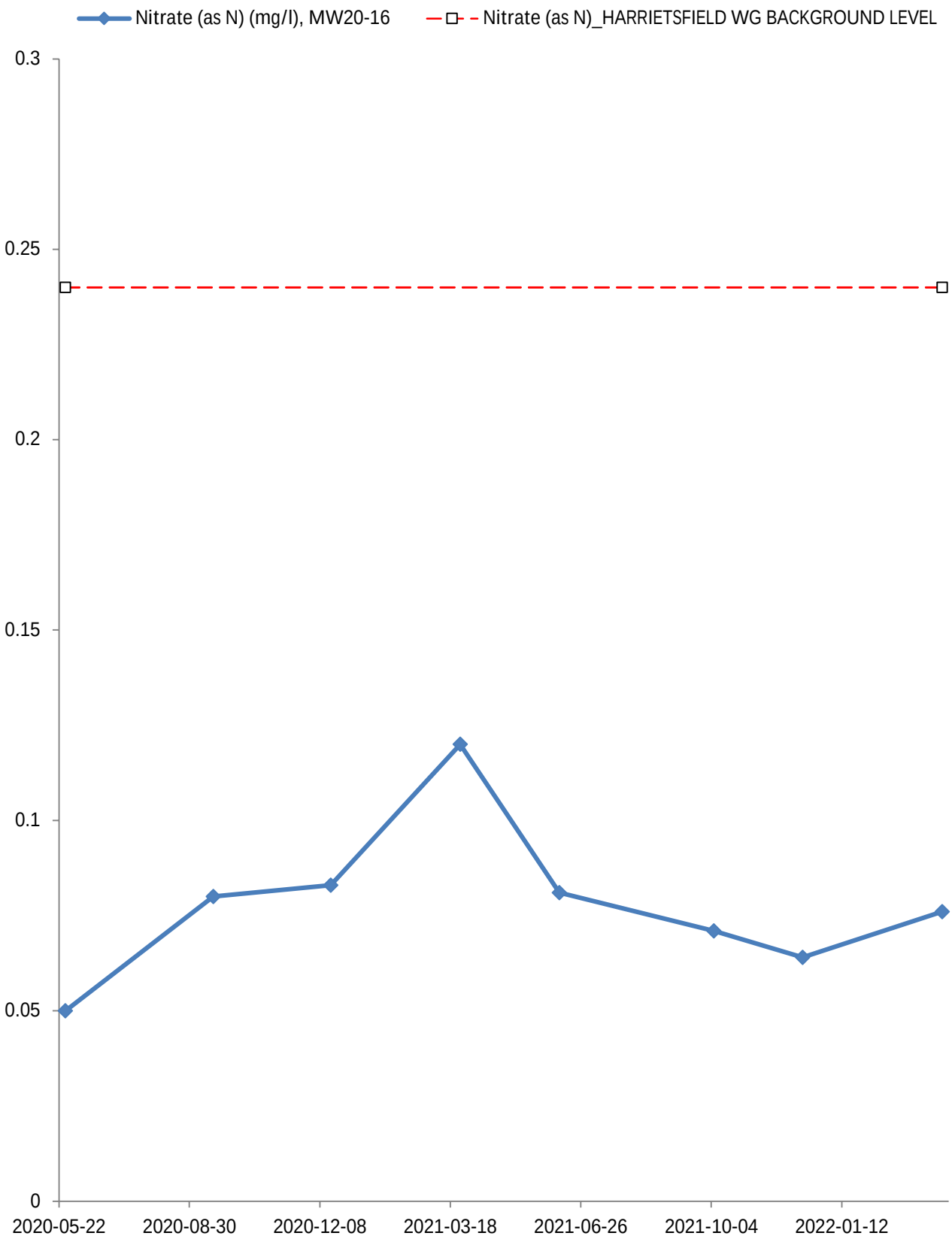
MW20-16-Molybdenum



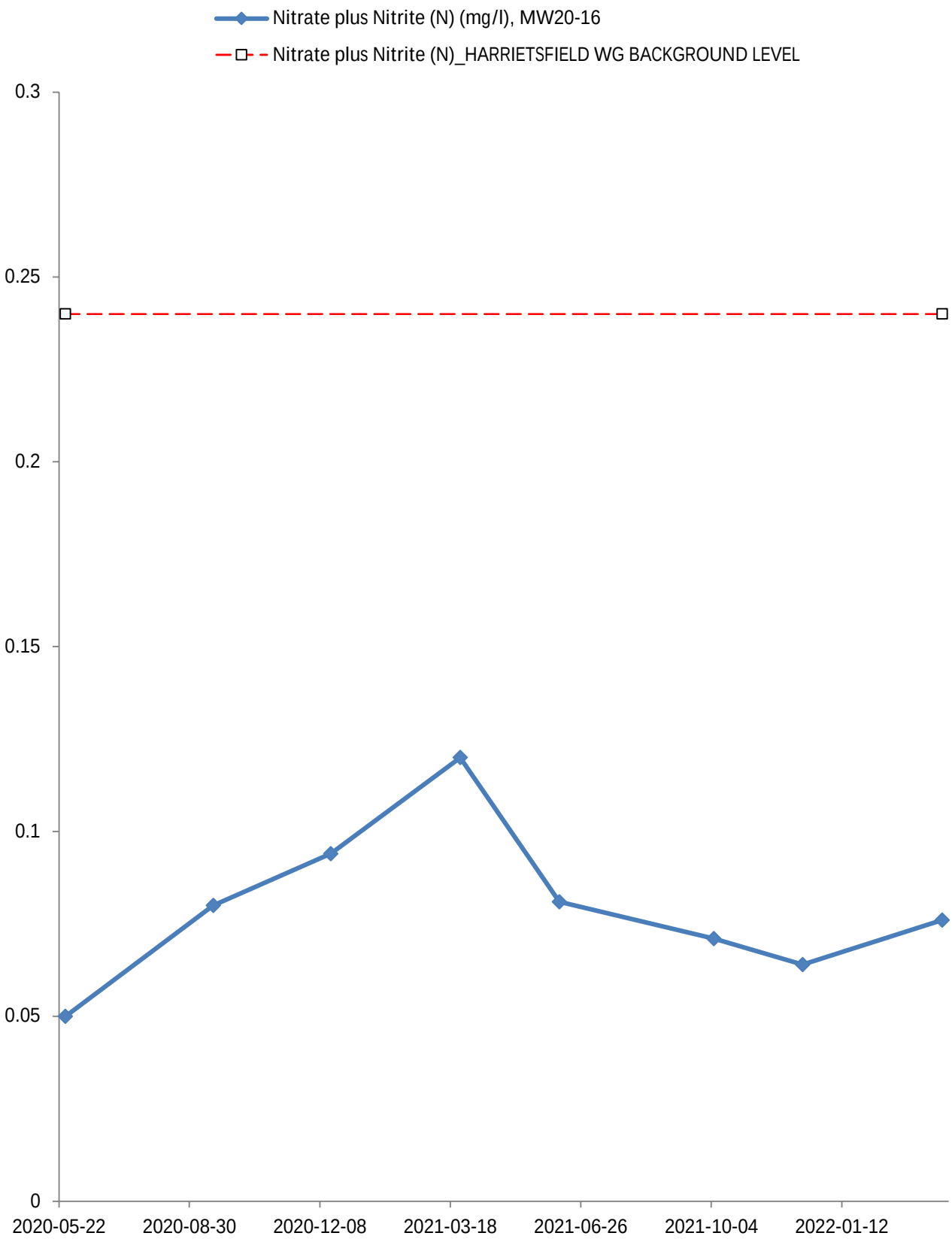
MW20-16-Nickel



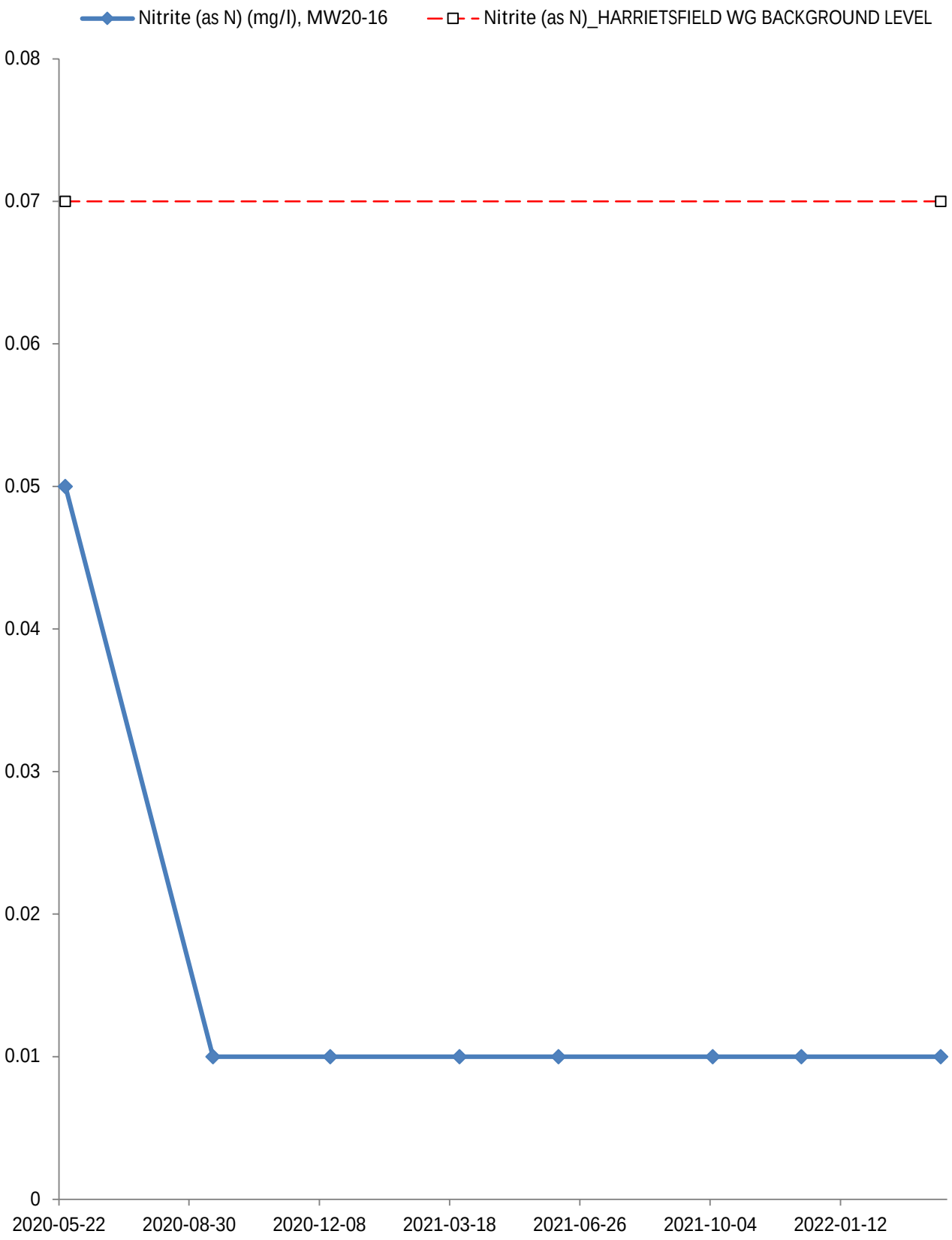
MW20-16-Nitrate (as N)



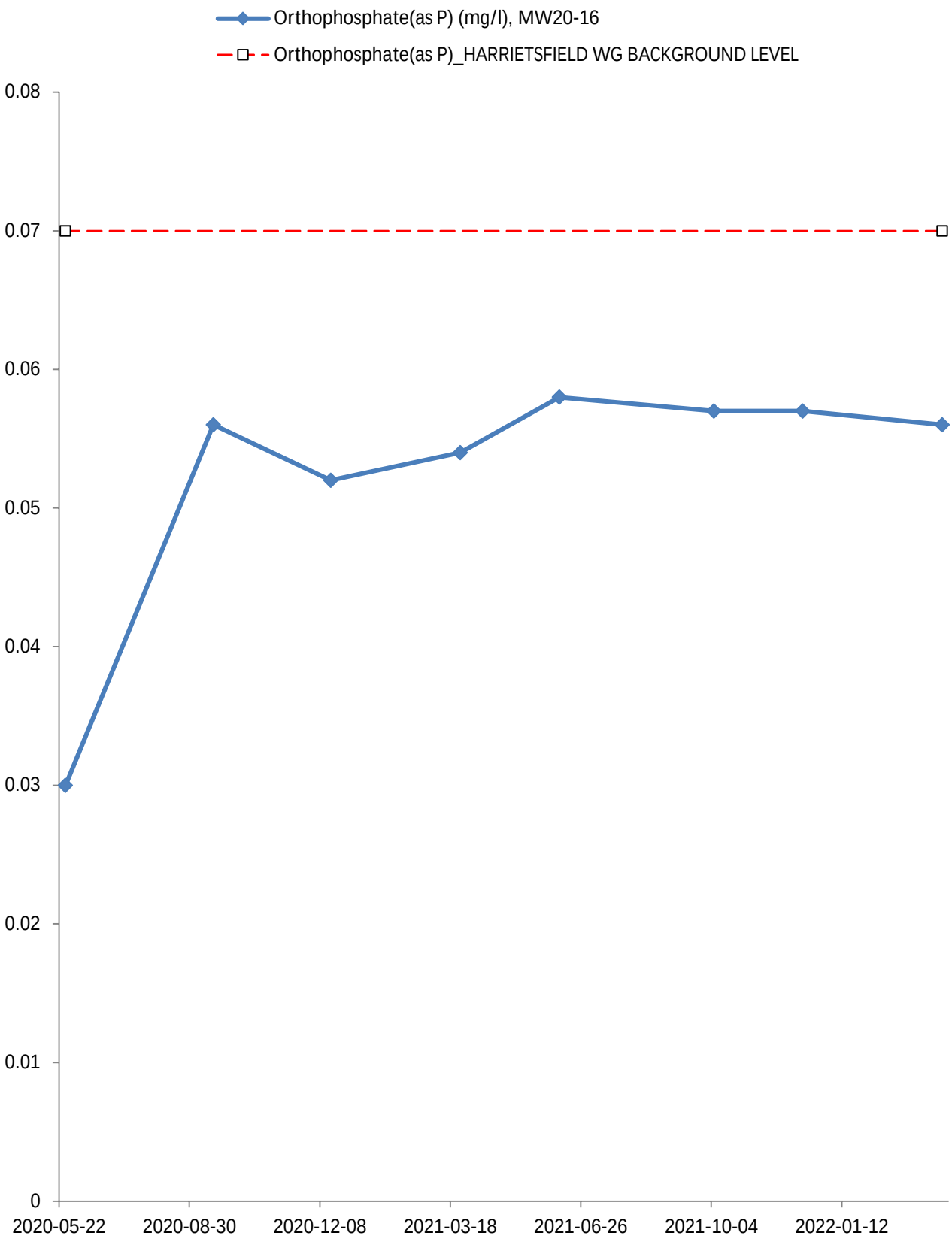
MW20-16-Nitrate plus Nitrite (N)



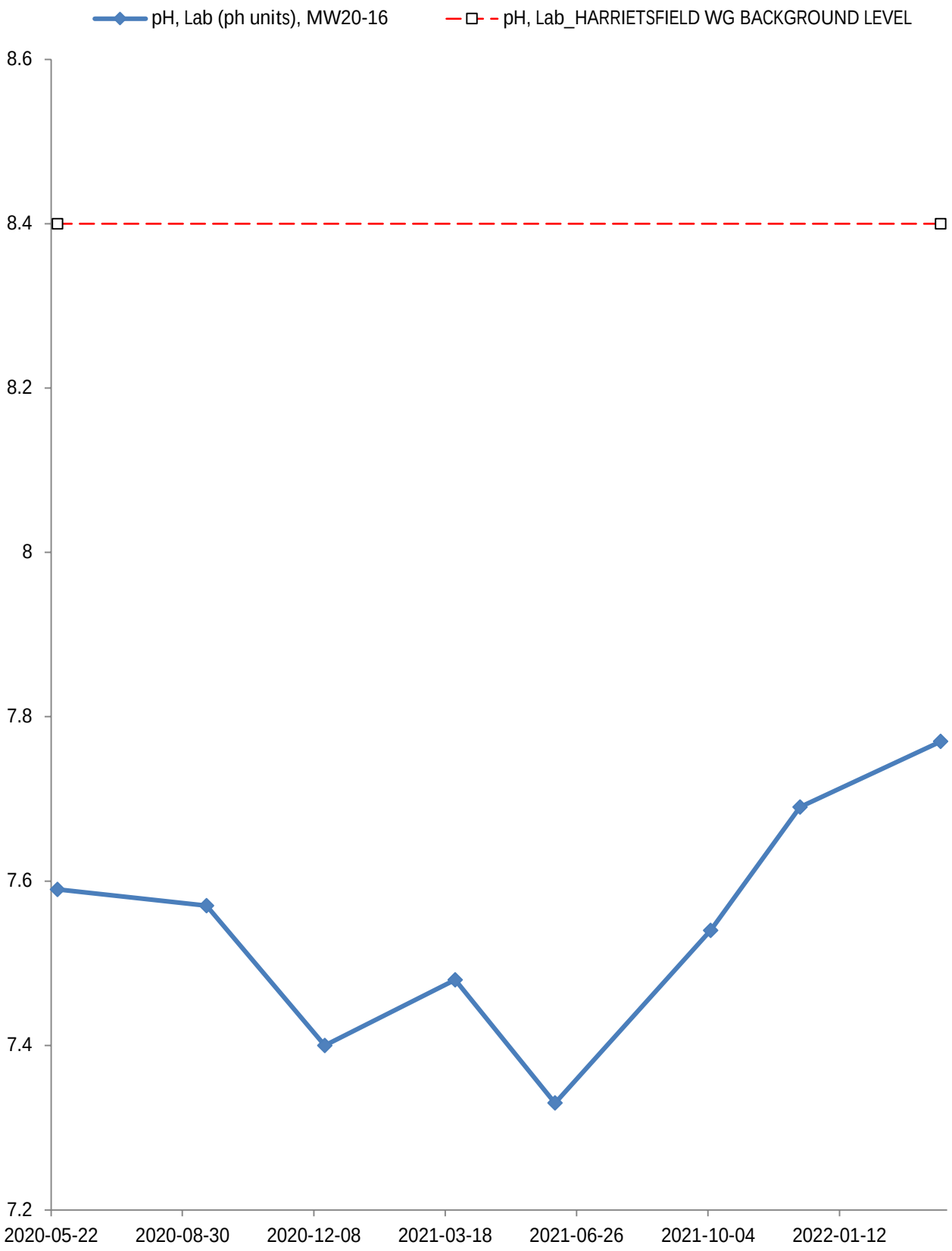
MW20-16-Nitrite (as N)



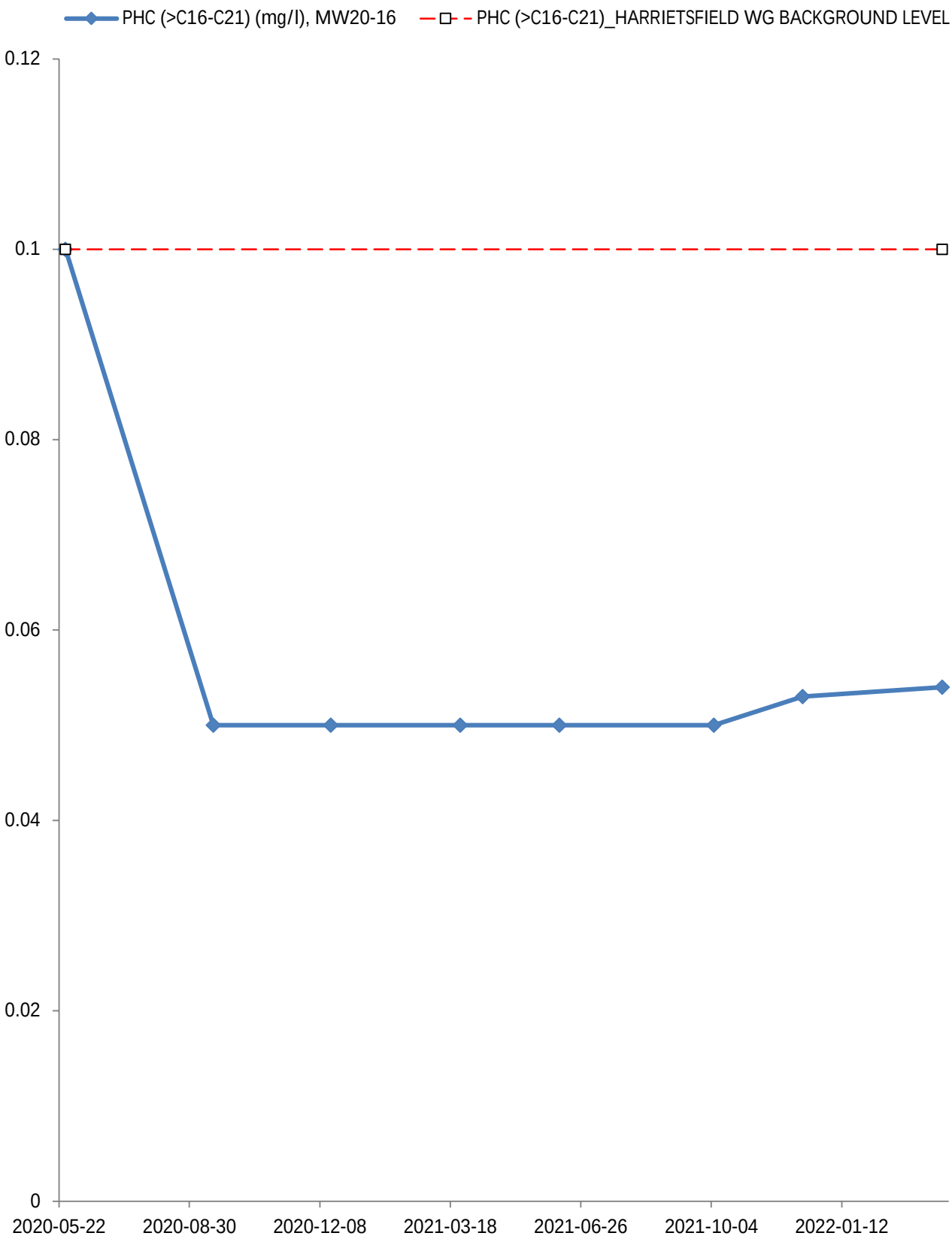
MW20-16-Orthophosphate(as P)



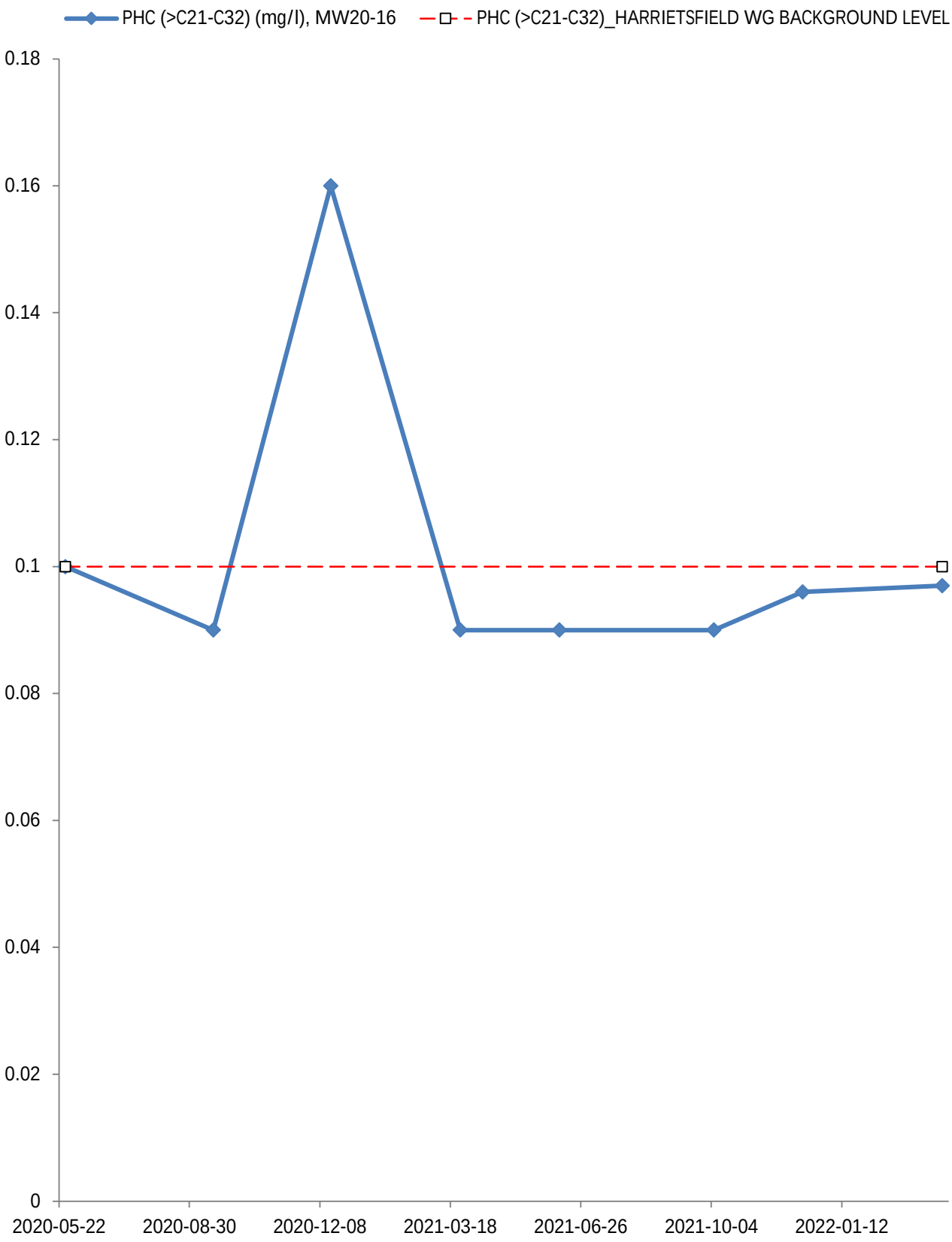
MW20-16-pH, Lab



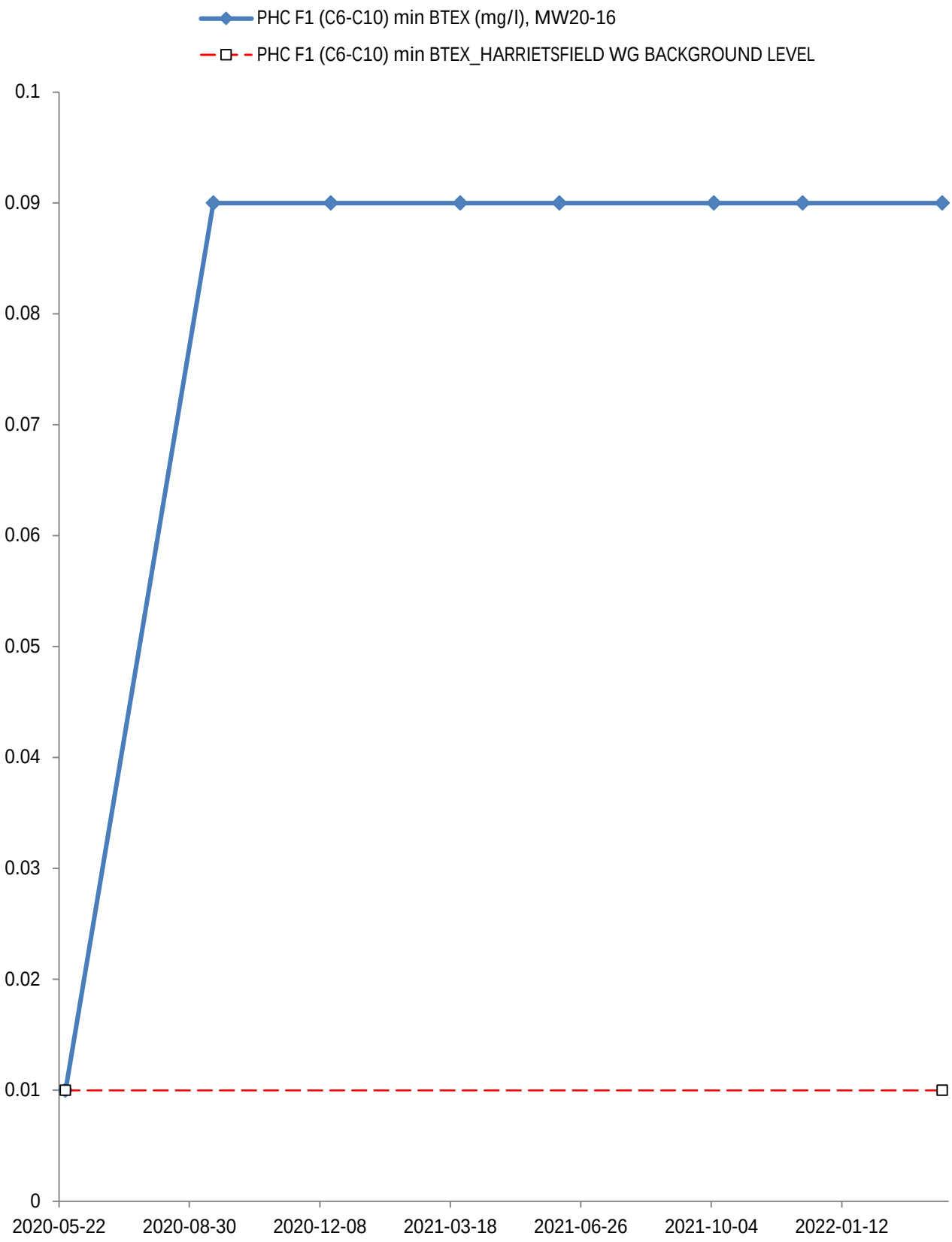
MW20-16-PHC (>C16-C21)



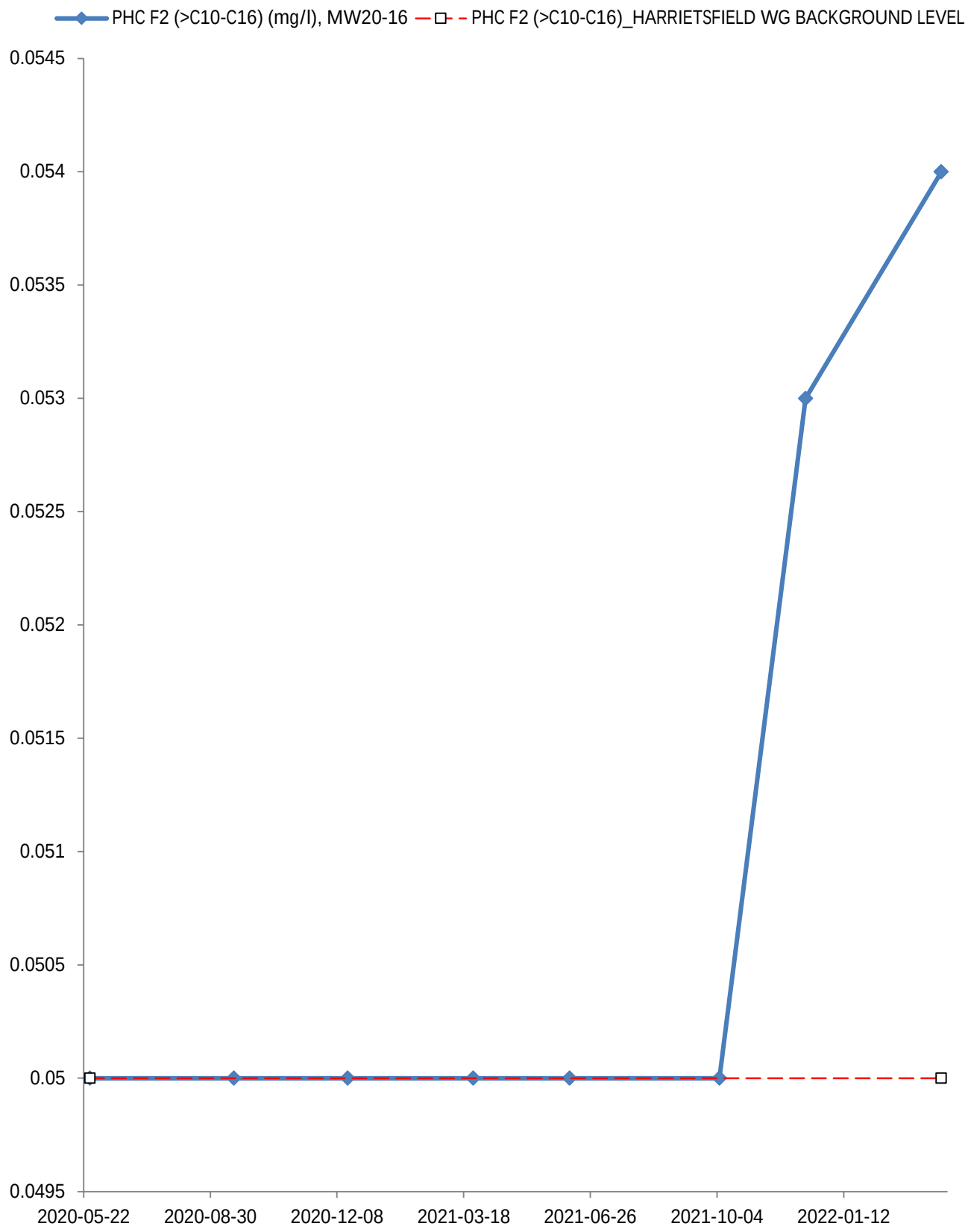
MW20-16-PHC (>C21-C32)

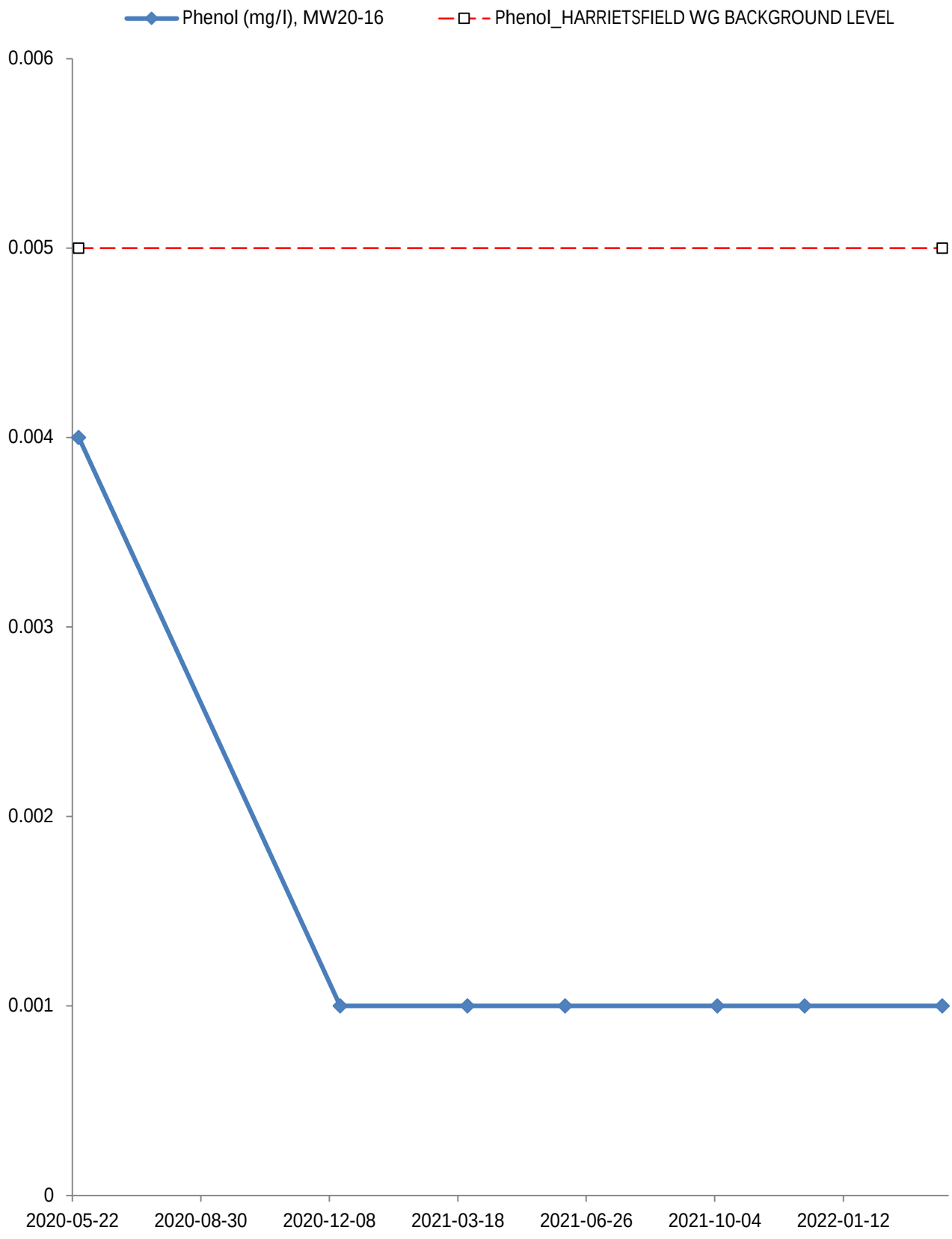


MW20-16-PHC F1 (C6-C10) min BTEX

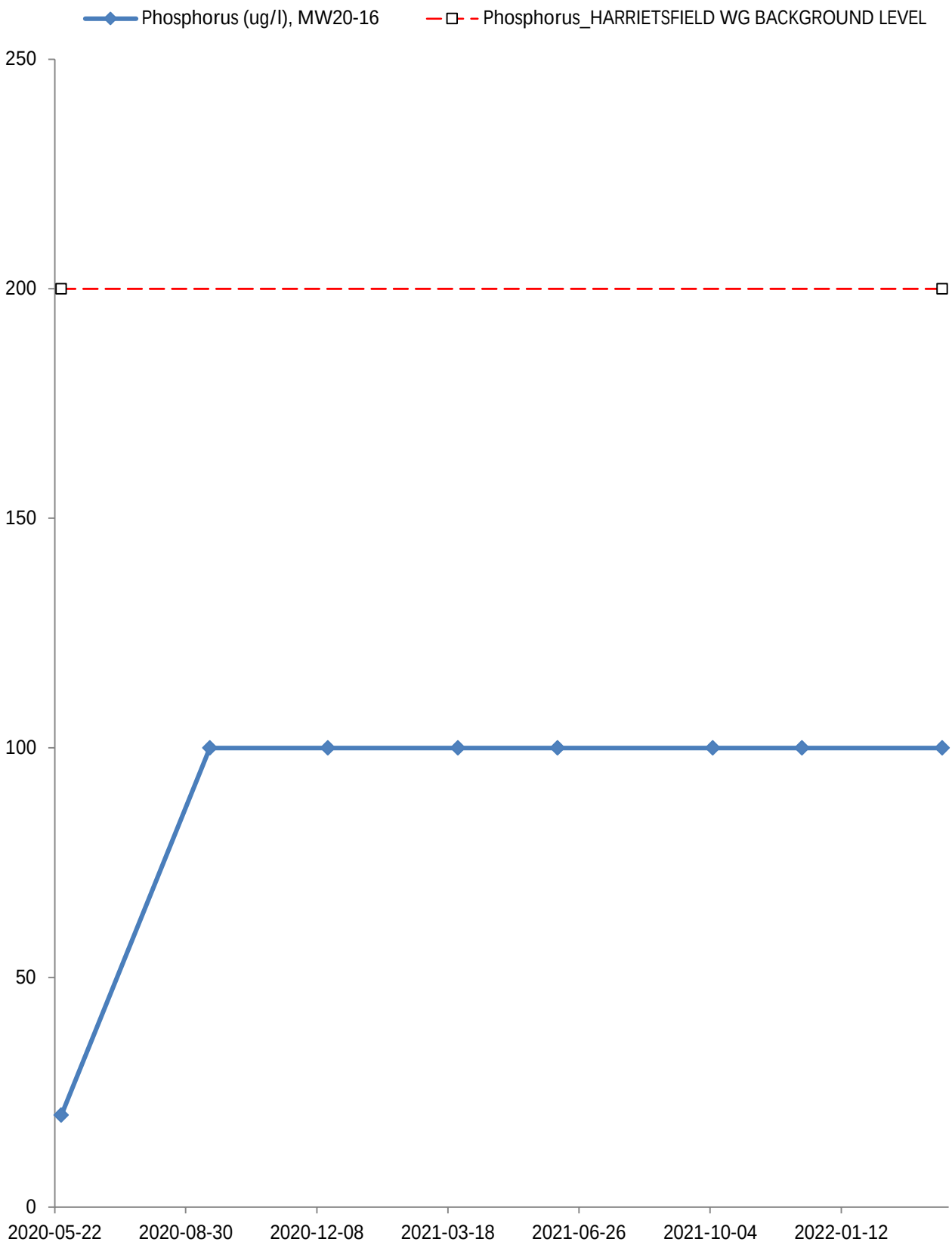


MW20-16-PHC F2 (>C10-C16)

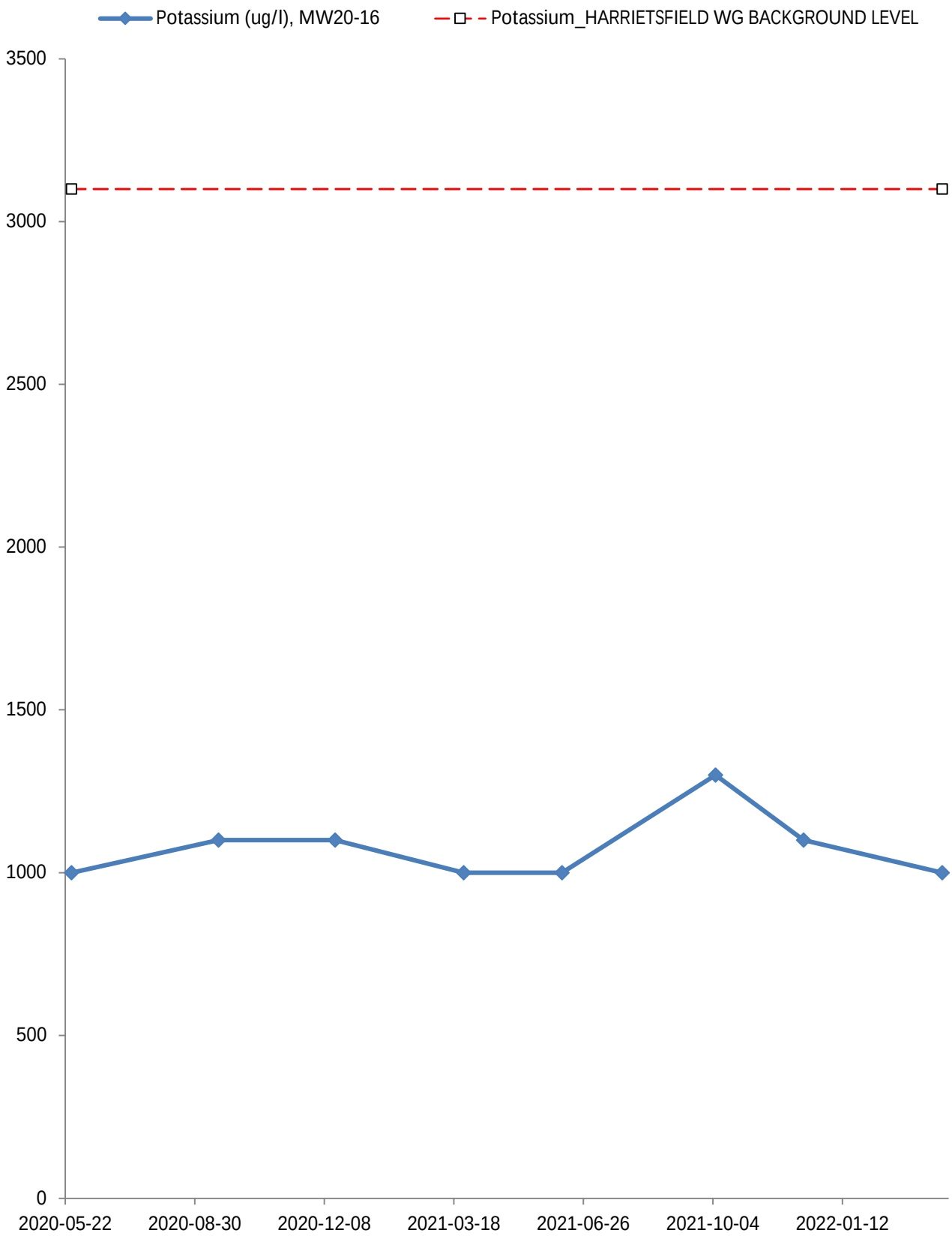



Phenol (mg/l), MW20-16
Phenol_HARRIETSFIELD WG BACKGROUND LEVEL
0.006
0.005
0.004
0.003
0.002
0.001
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

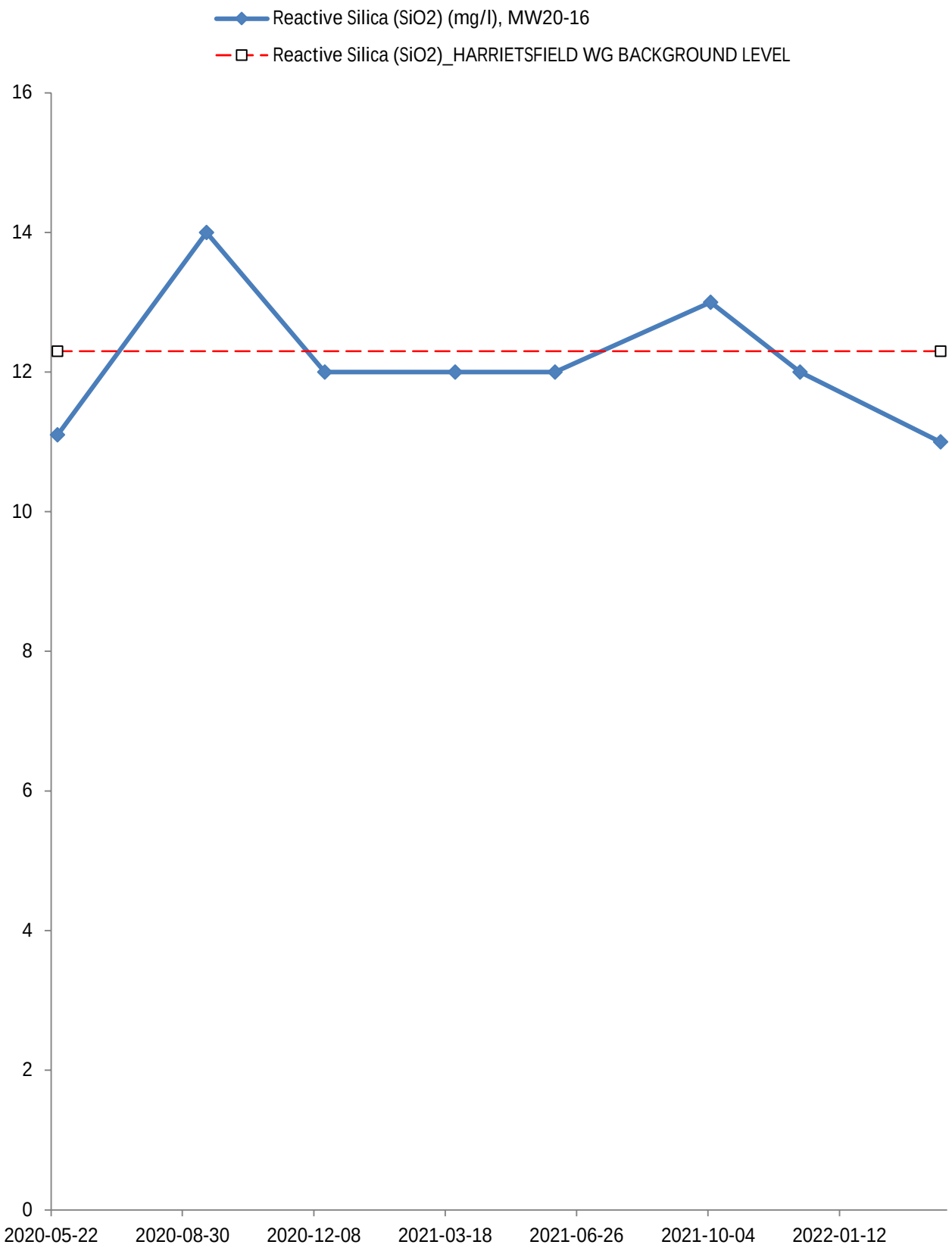
MW20-16-Phosphorus



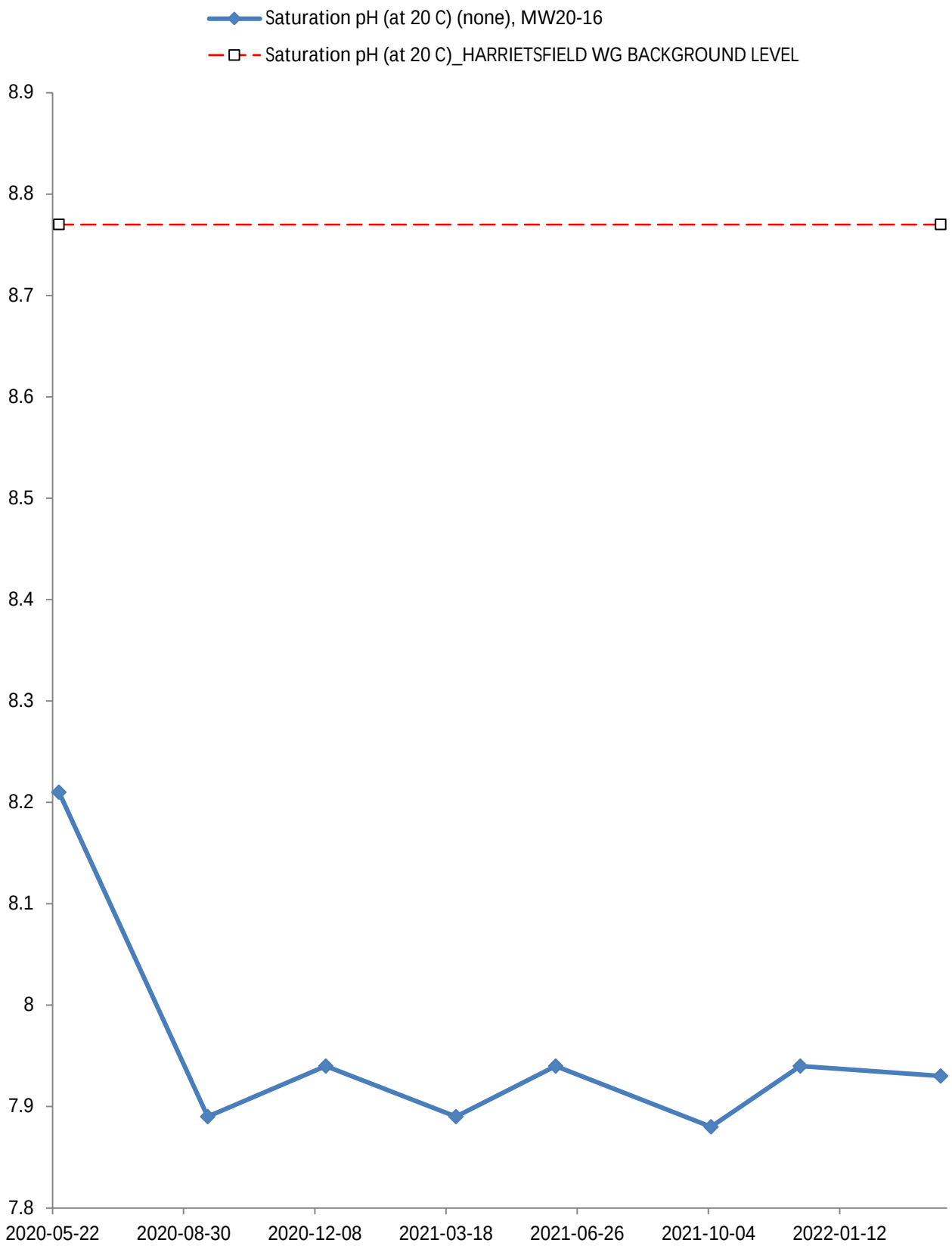
MW20-16-Potassium



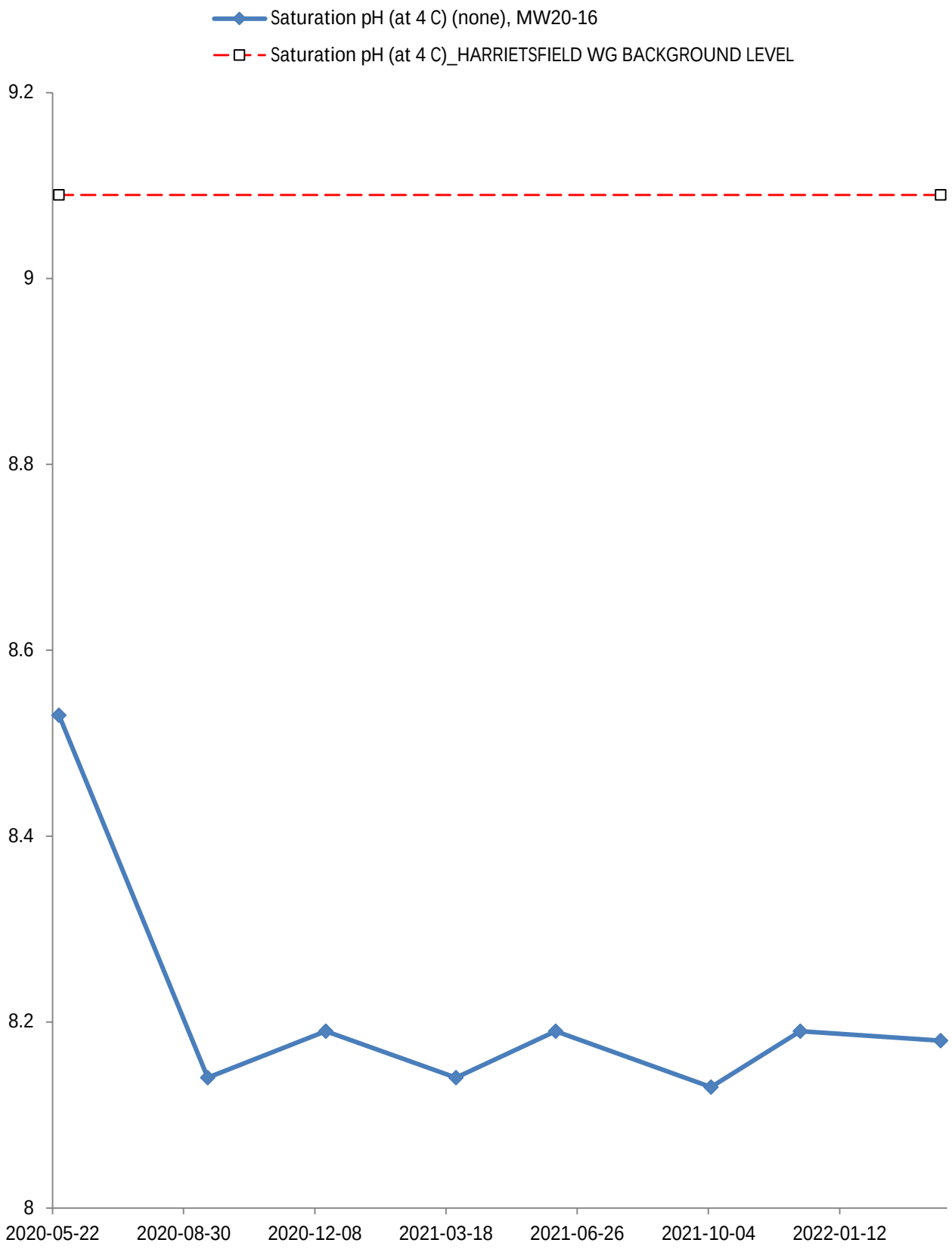
MW20-16-Reactive Silica (SiO2)



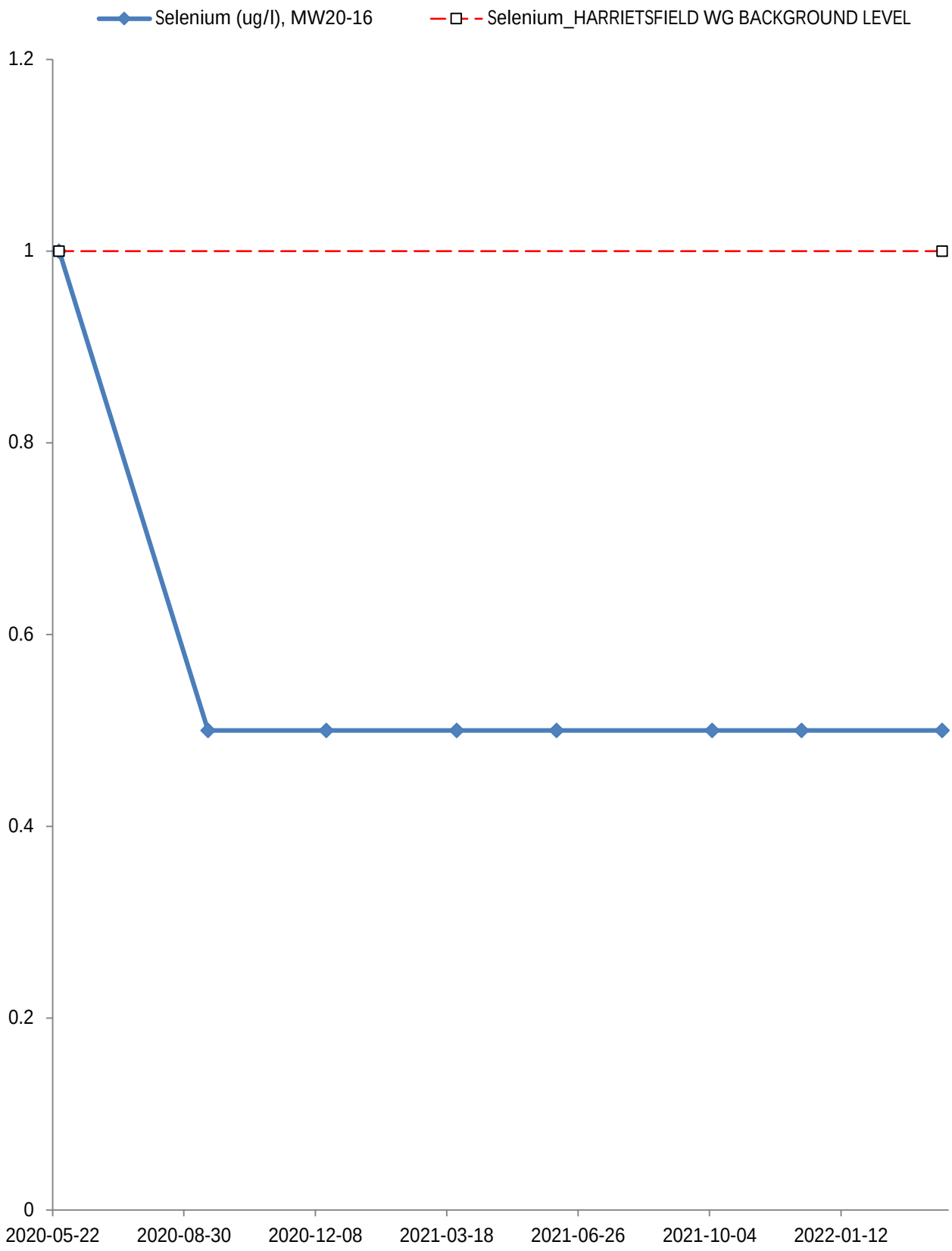
MW20-16-Saturation pH (at 20 C)



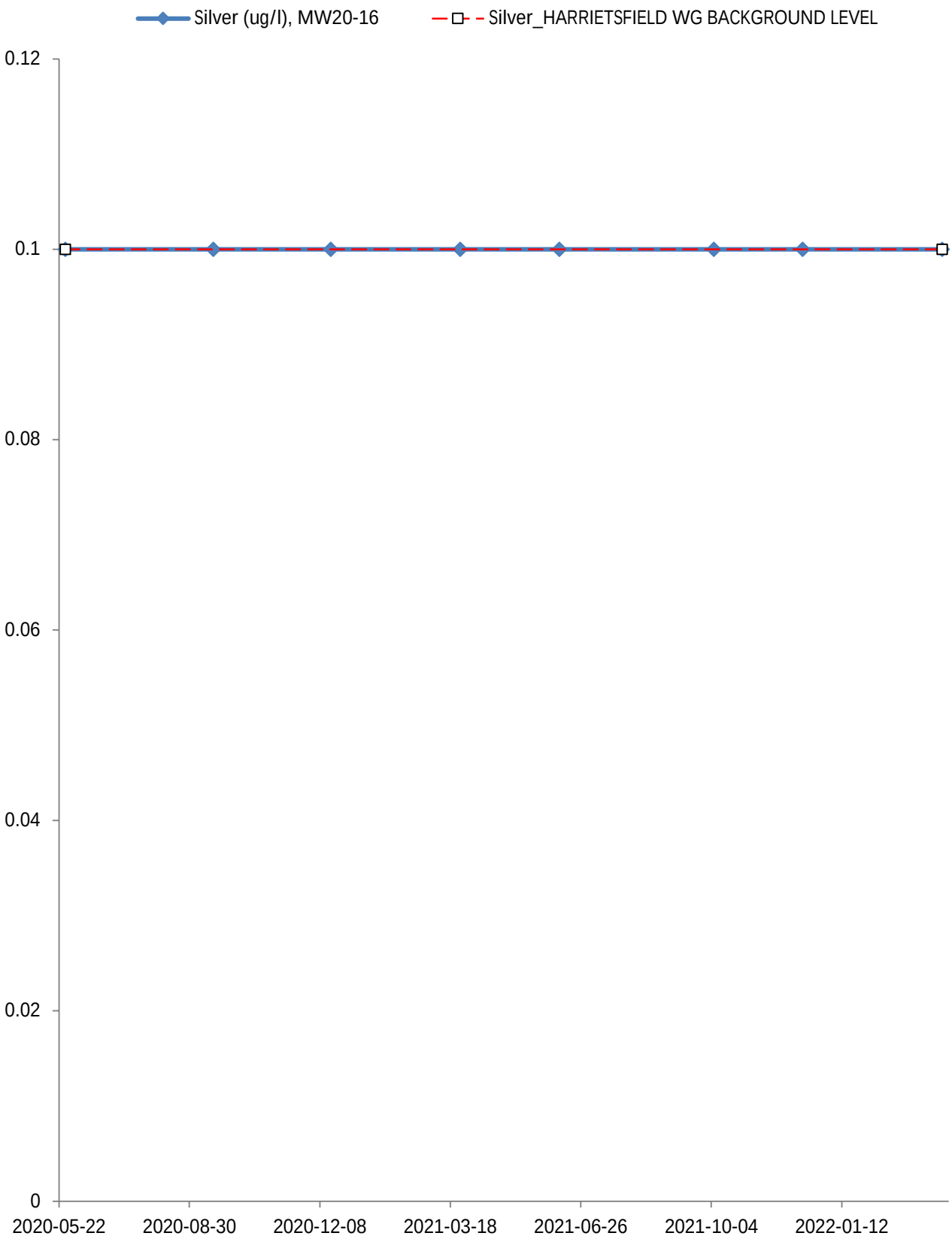
MW20-16-Saturation pH (at 4 C)



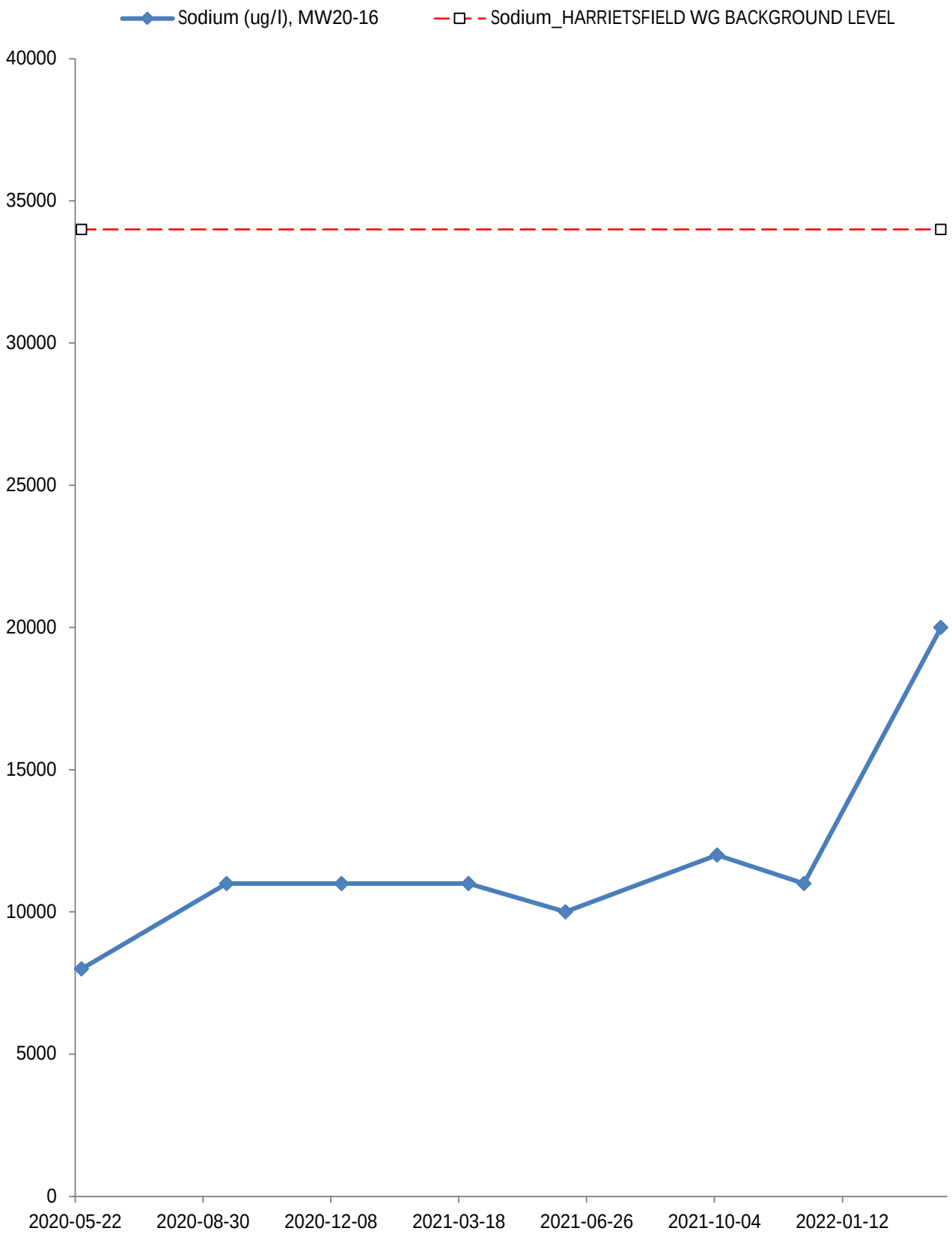
MW20-16-Selenium



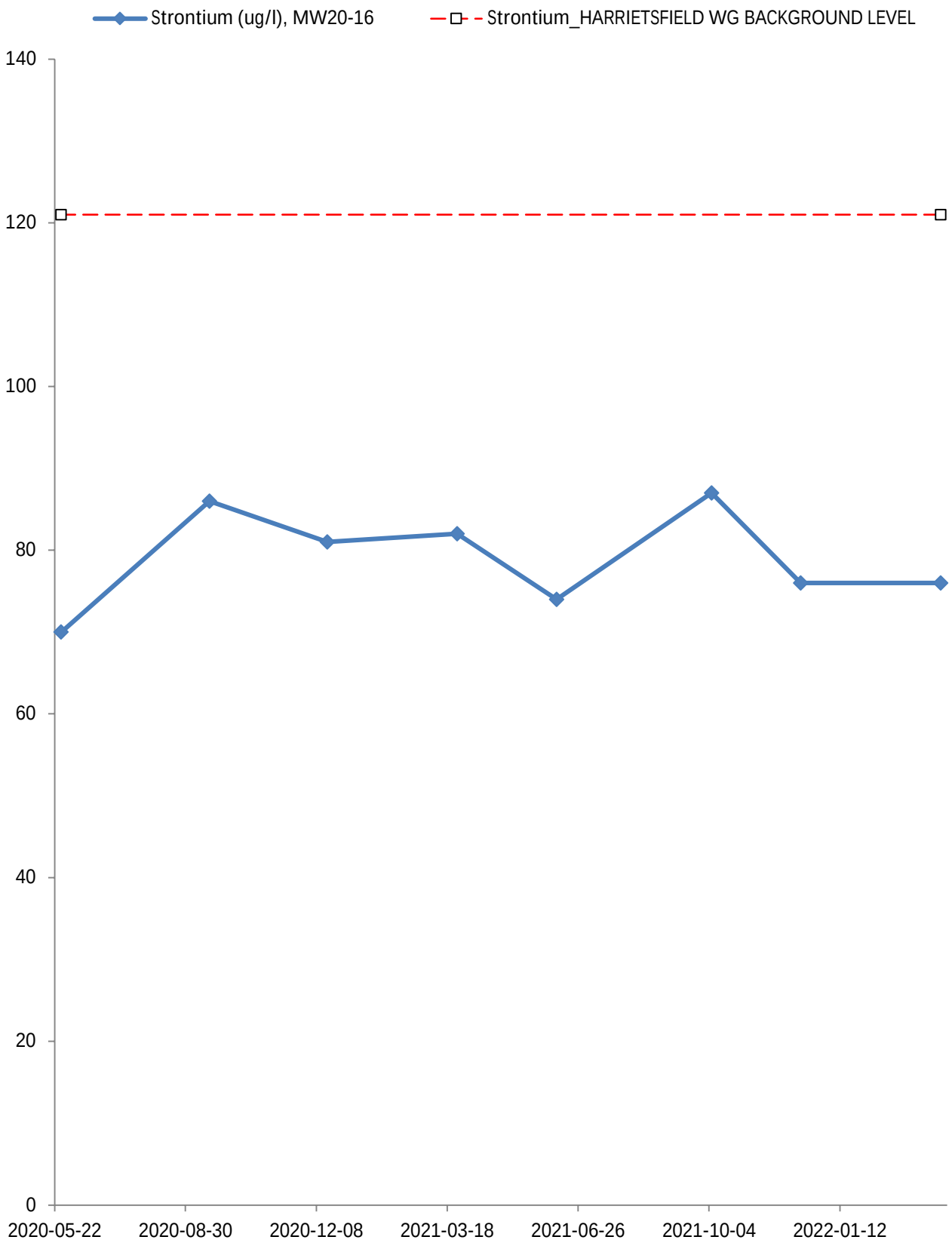
MW20-16-Silver



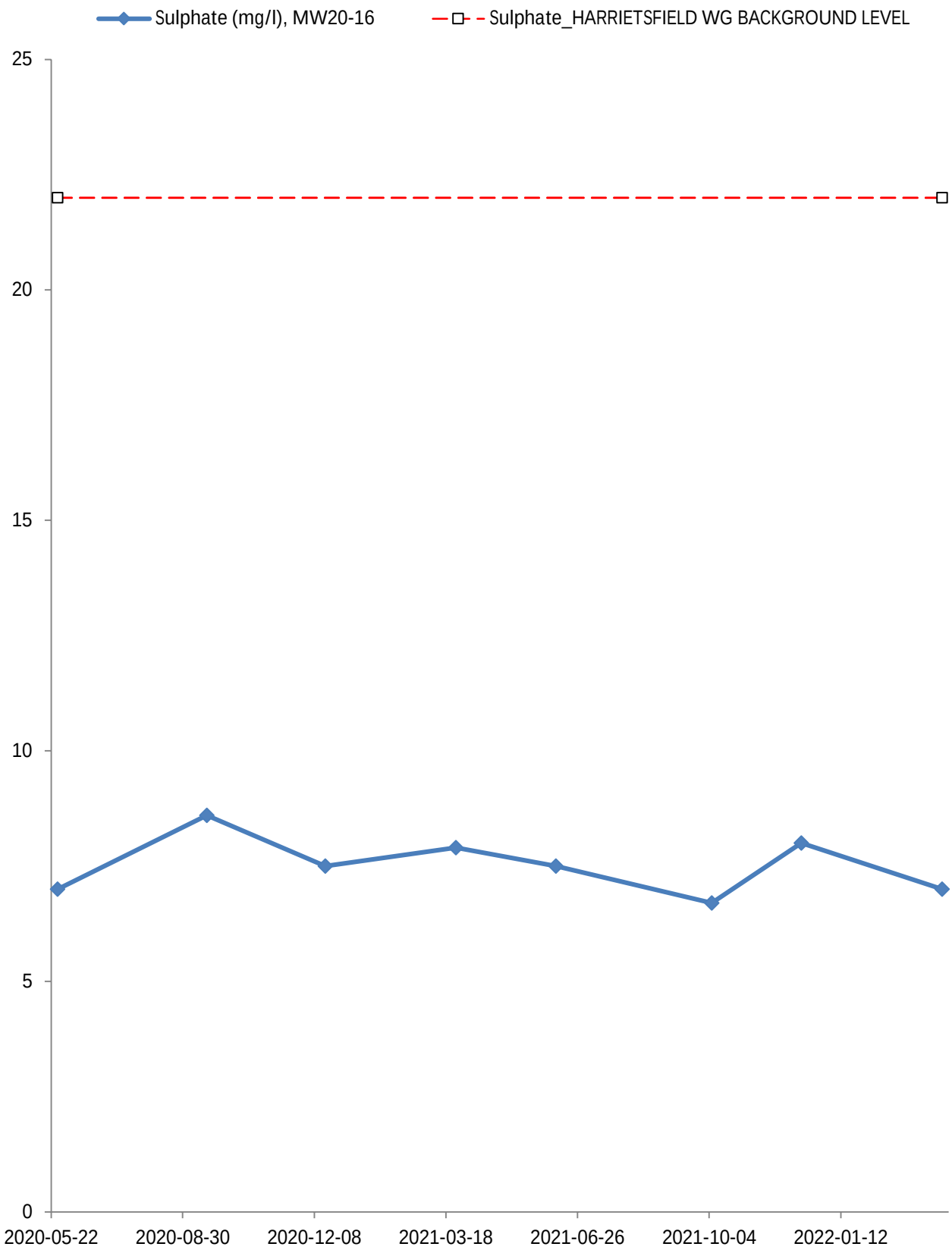
MW20-16-Sodium



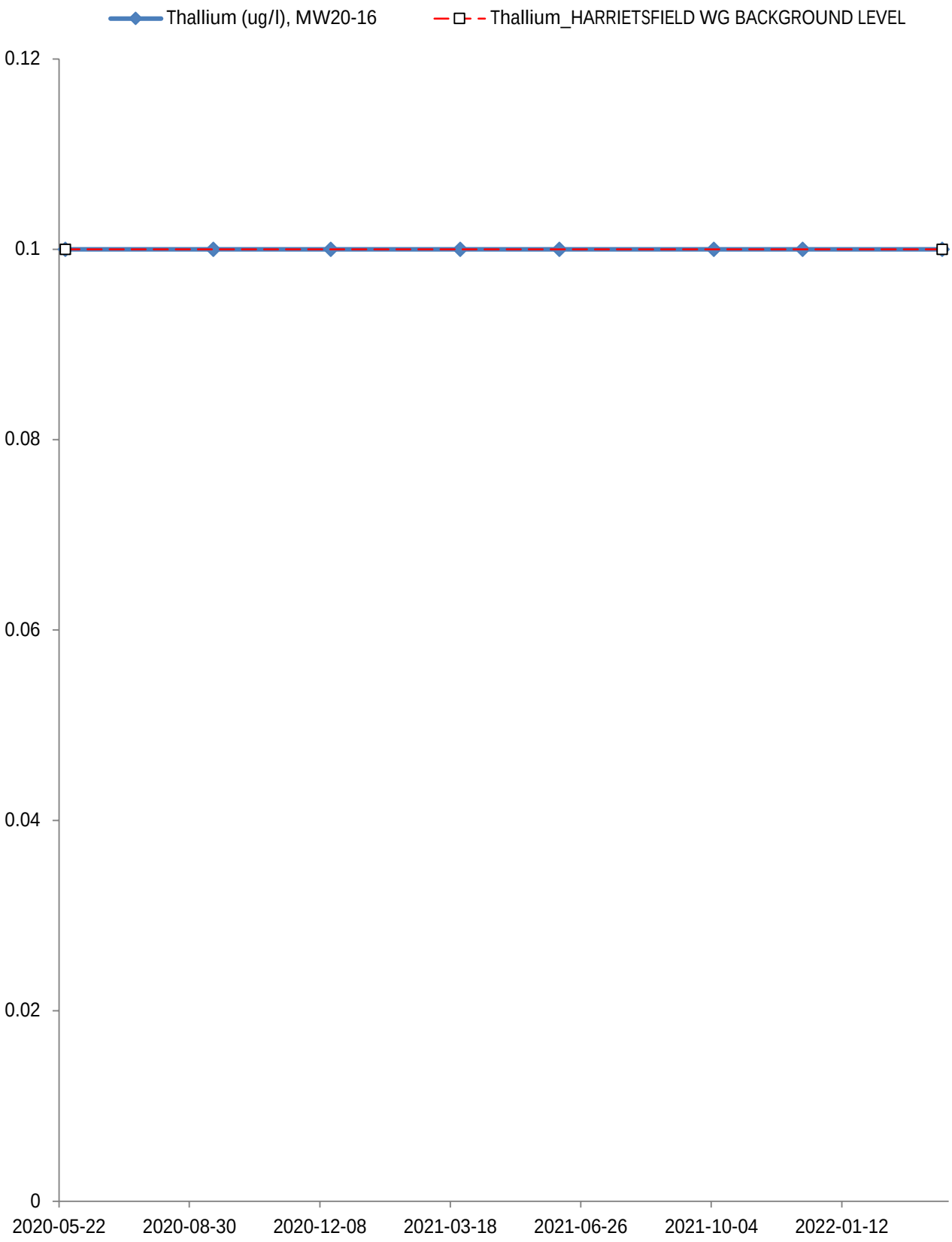
MW20-16-Strontium



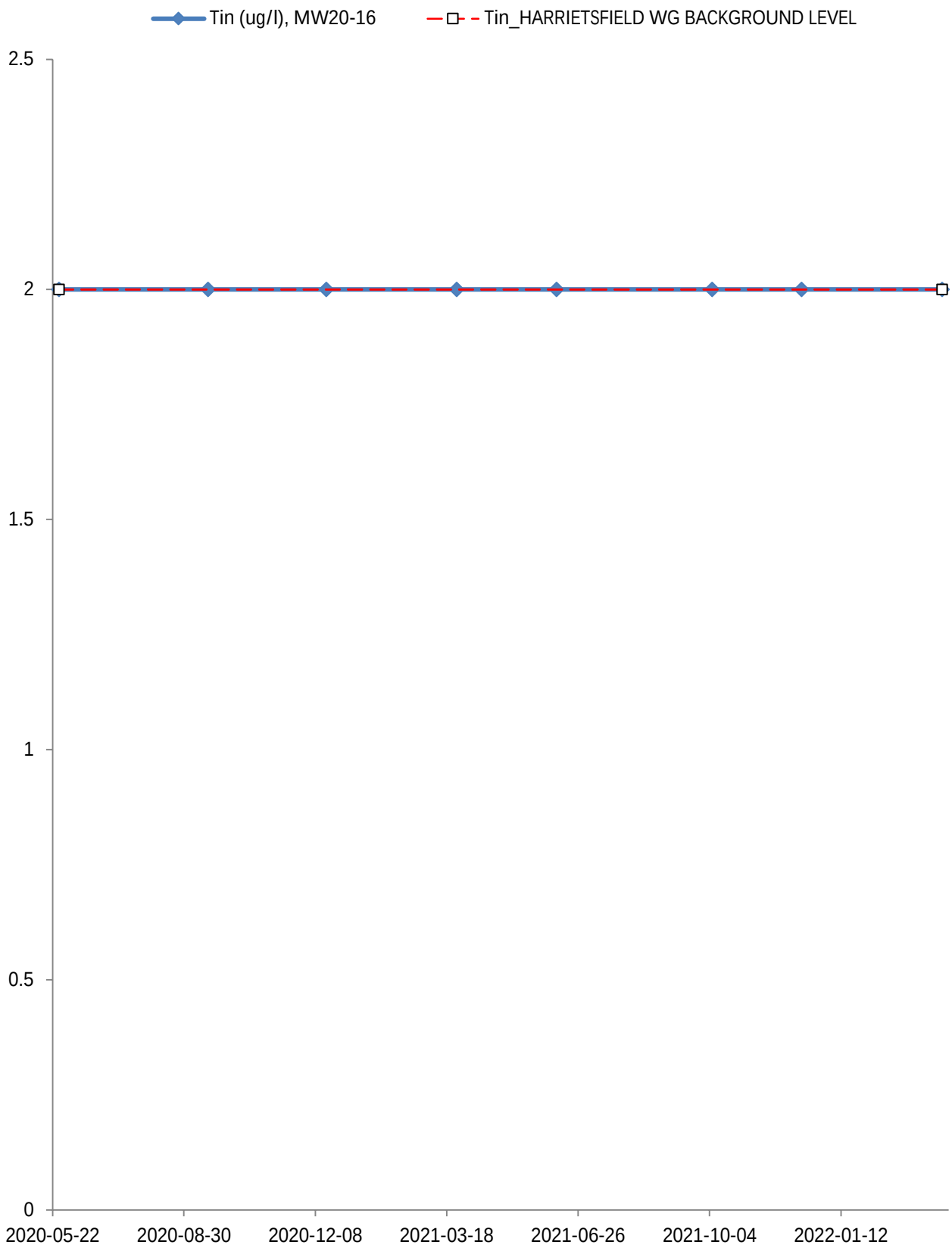
MW20-16-Sulphate



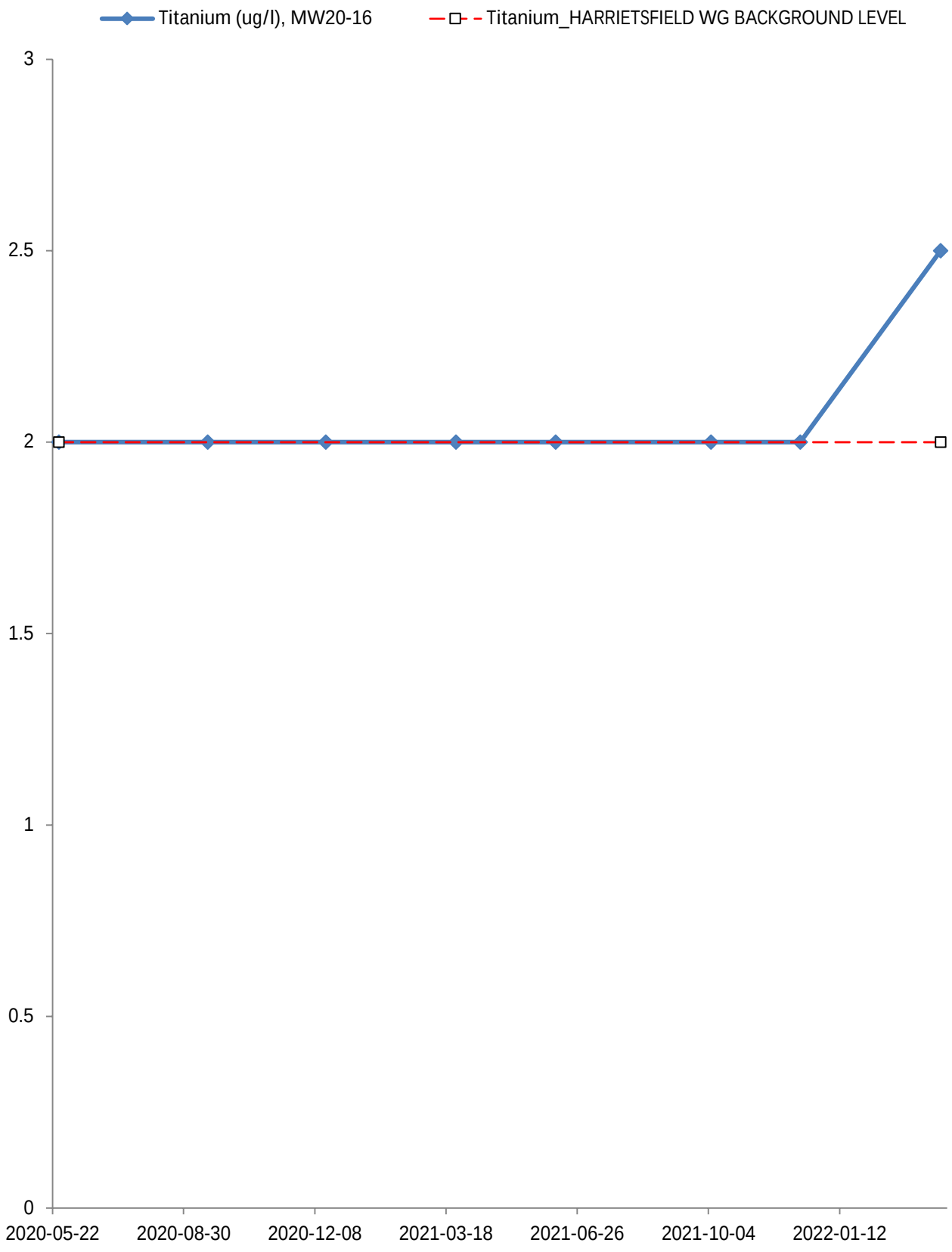
MW20-16-Thallium



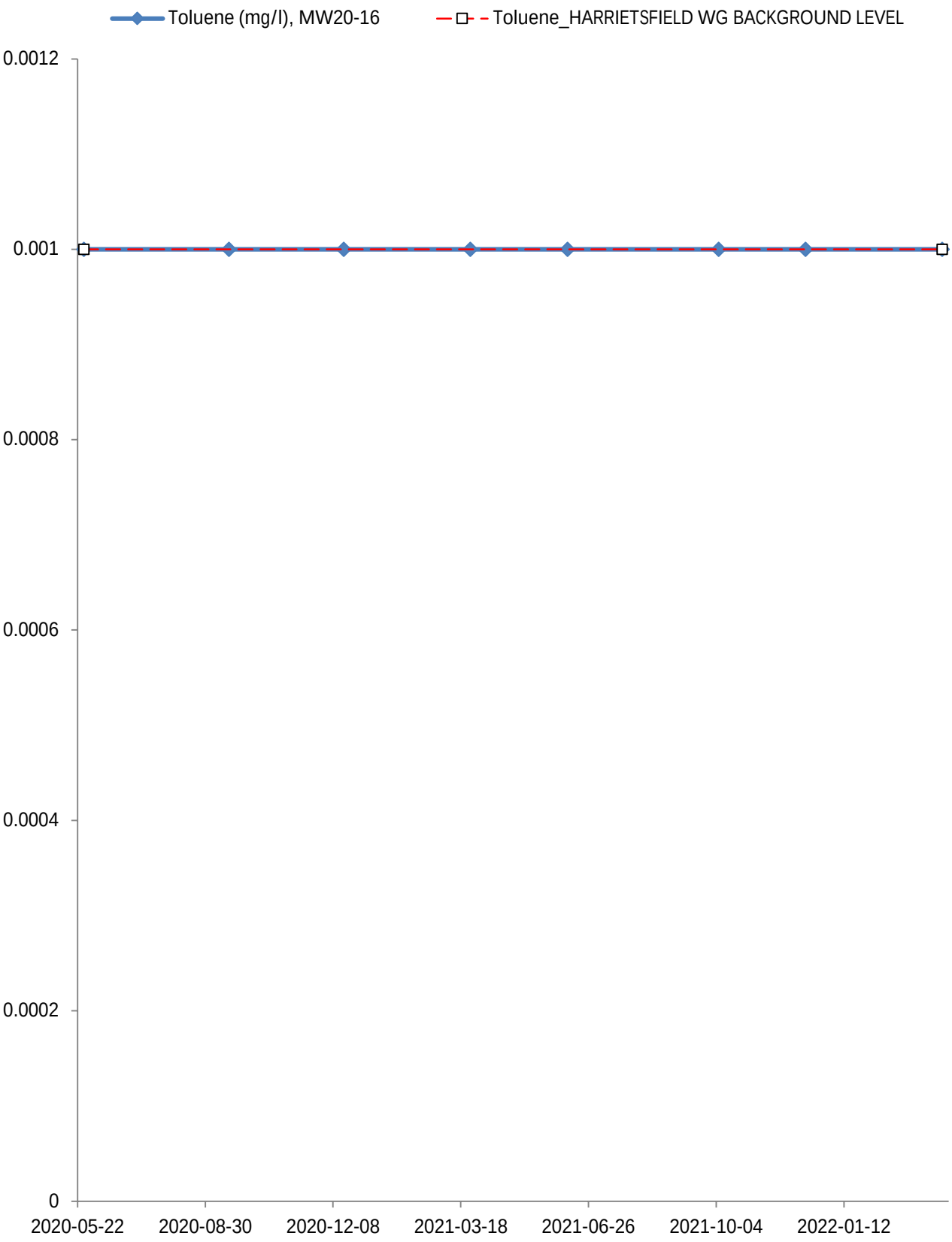
MW20-16-Tin


Tin (ug/l), MW20-16
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

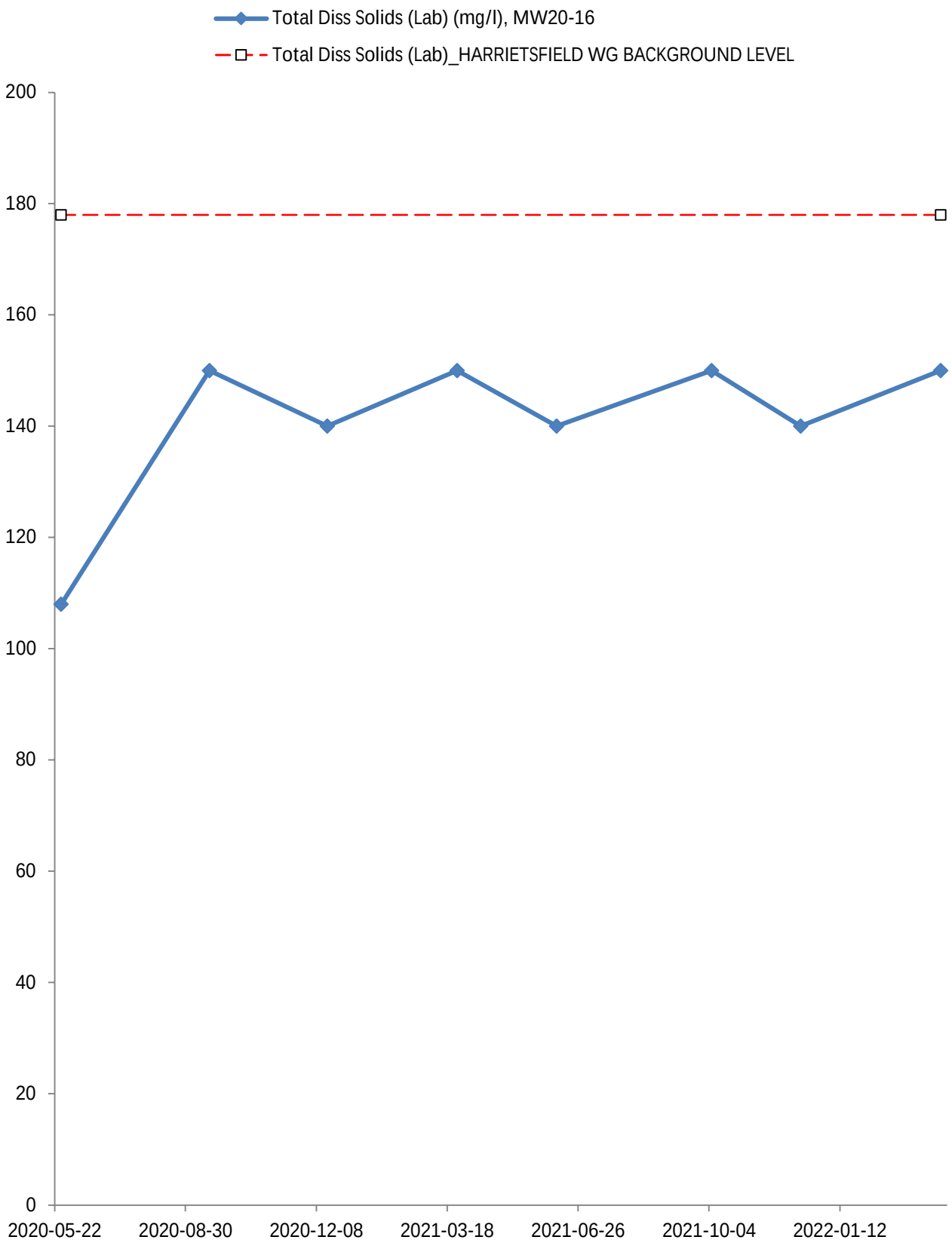
MW20-16-Titanium



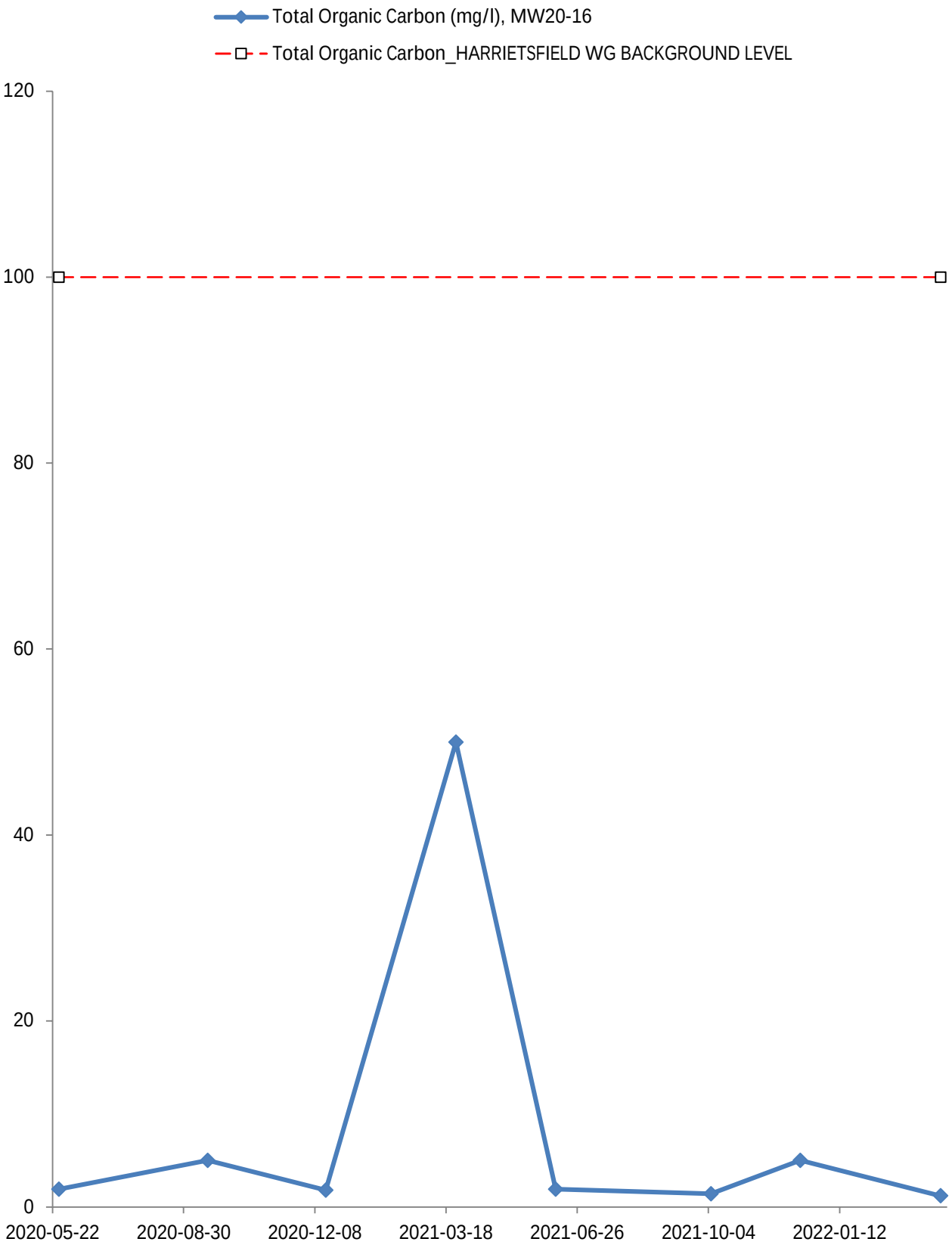
MW20-16-Toluene



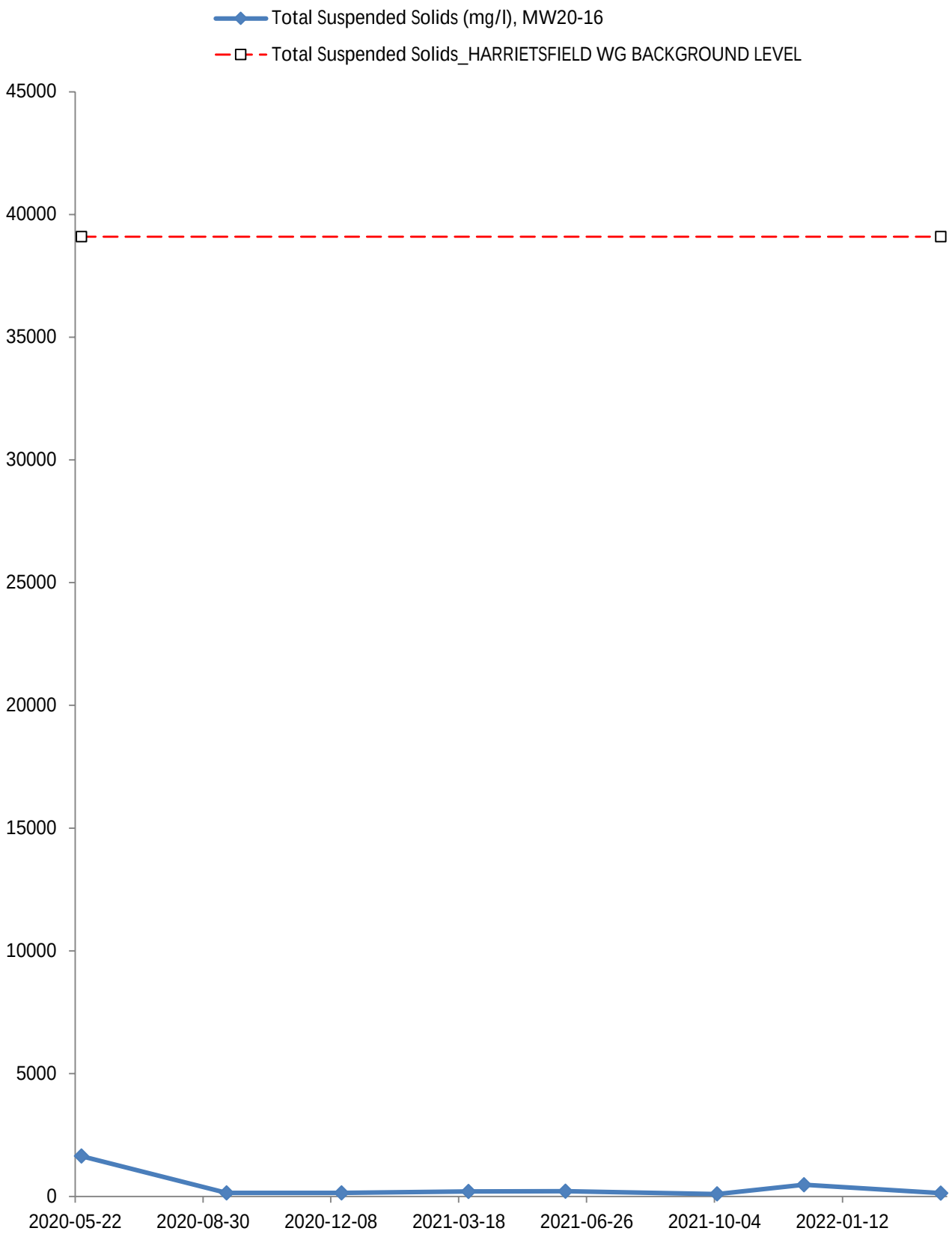
MW20-16-Total Diss Solids (Lab)



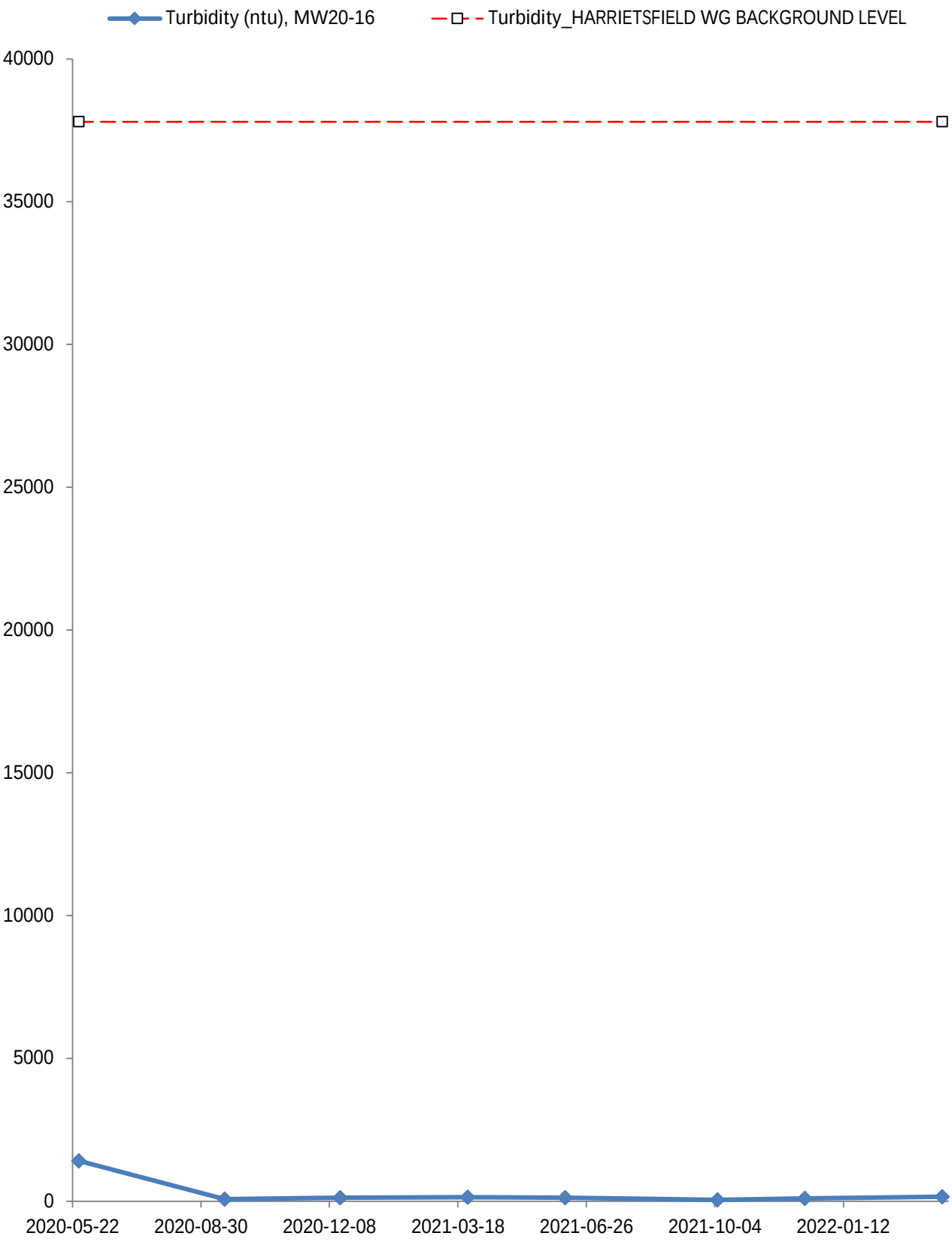
MW20-16-Total Organic Carbon



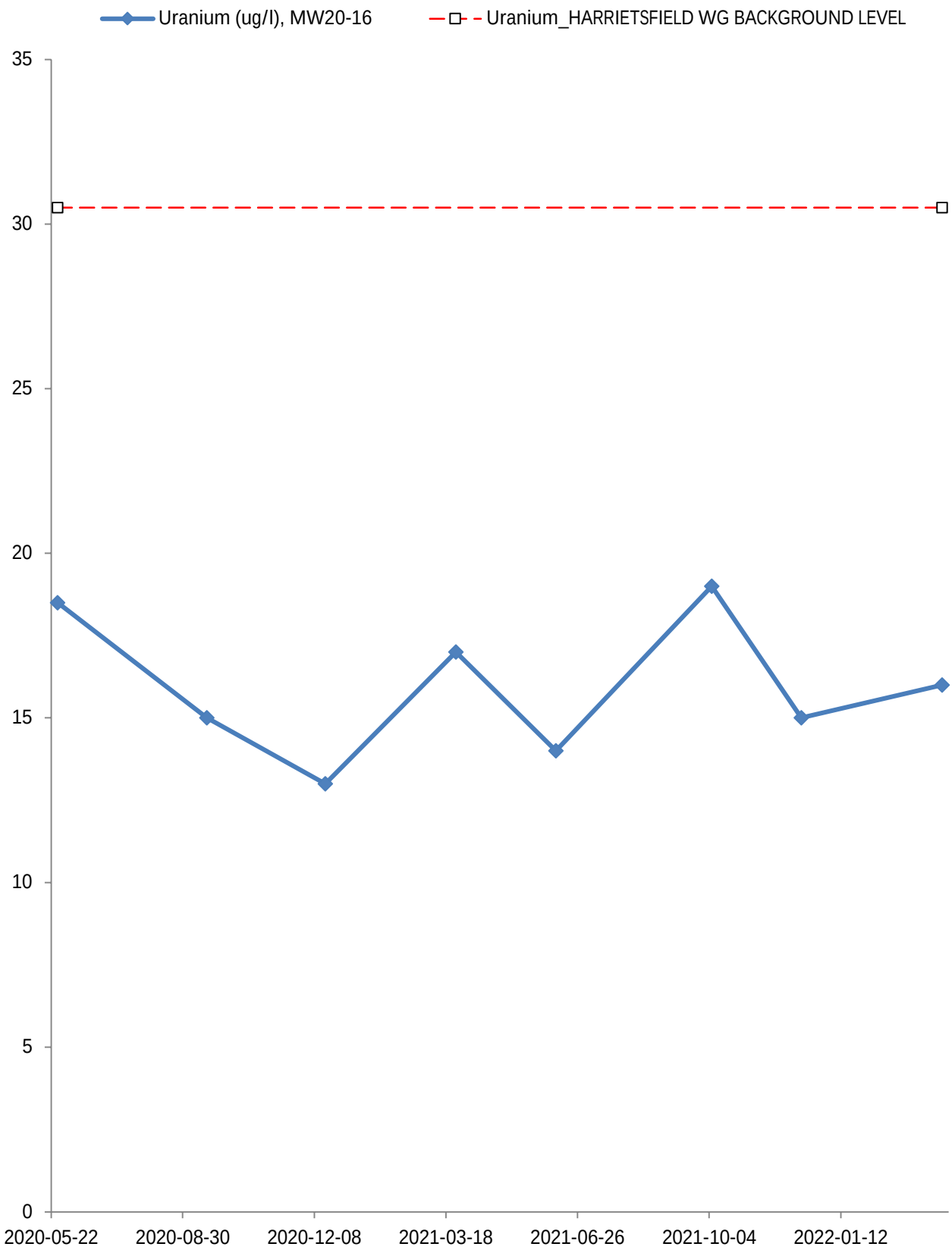
MW20-16-Total Suspended Solids



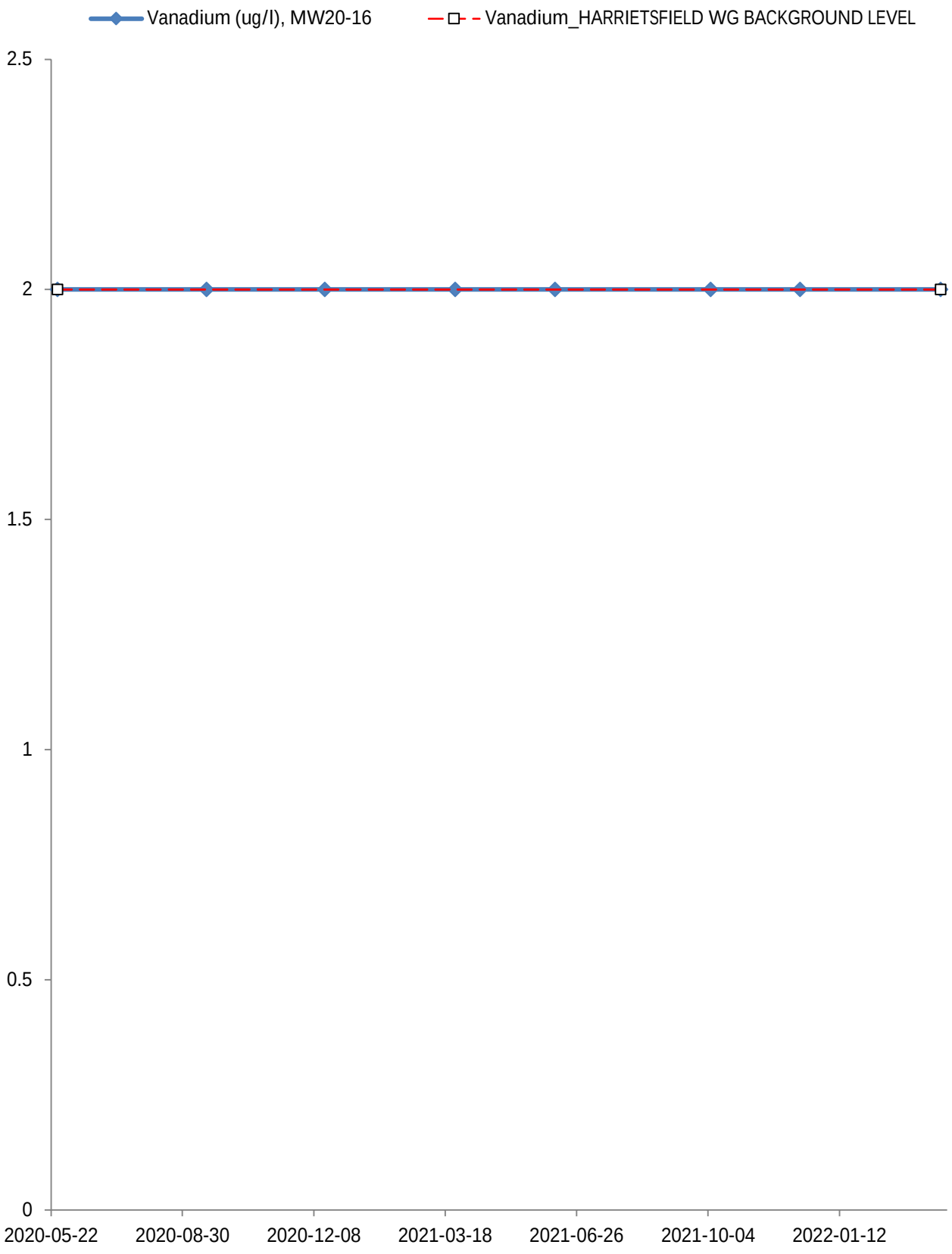
MW20-16-Turbidity



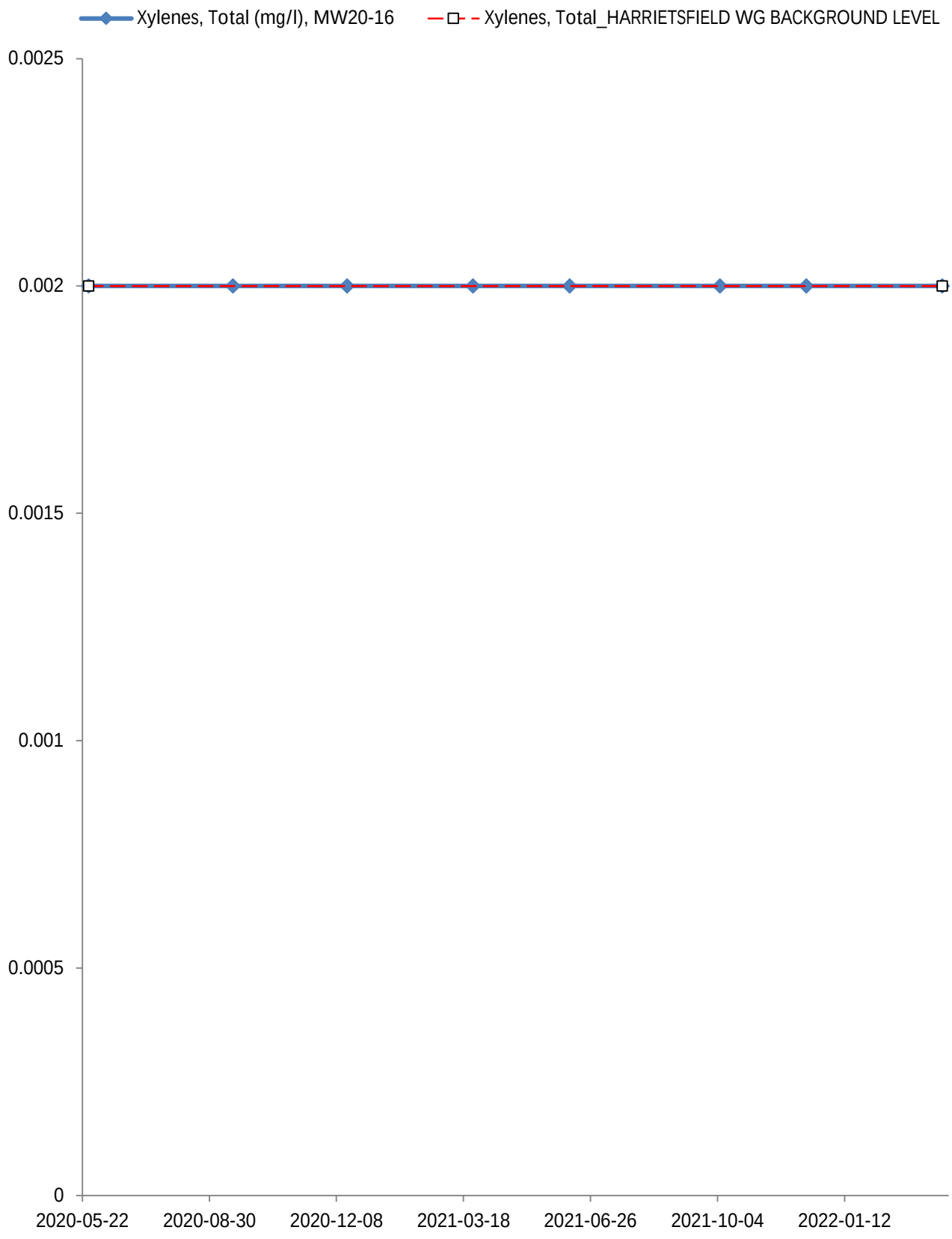
MW20-16-Uranium

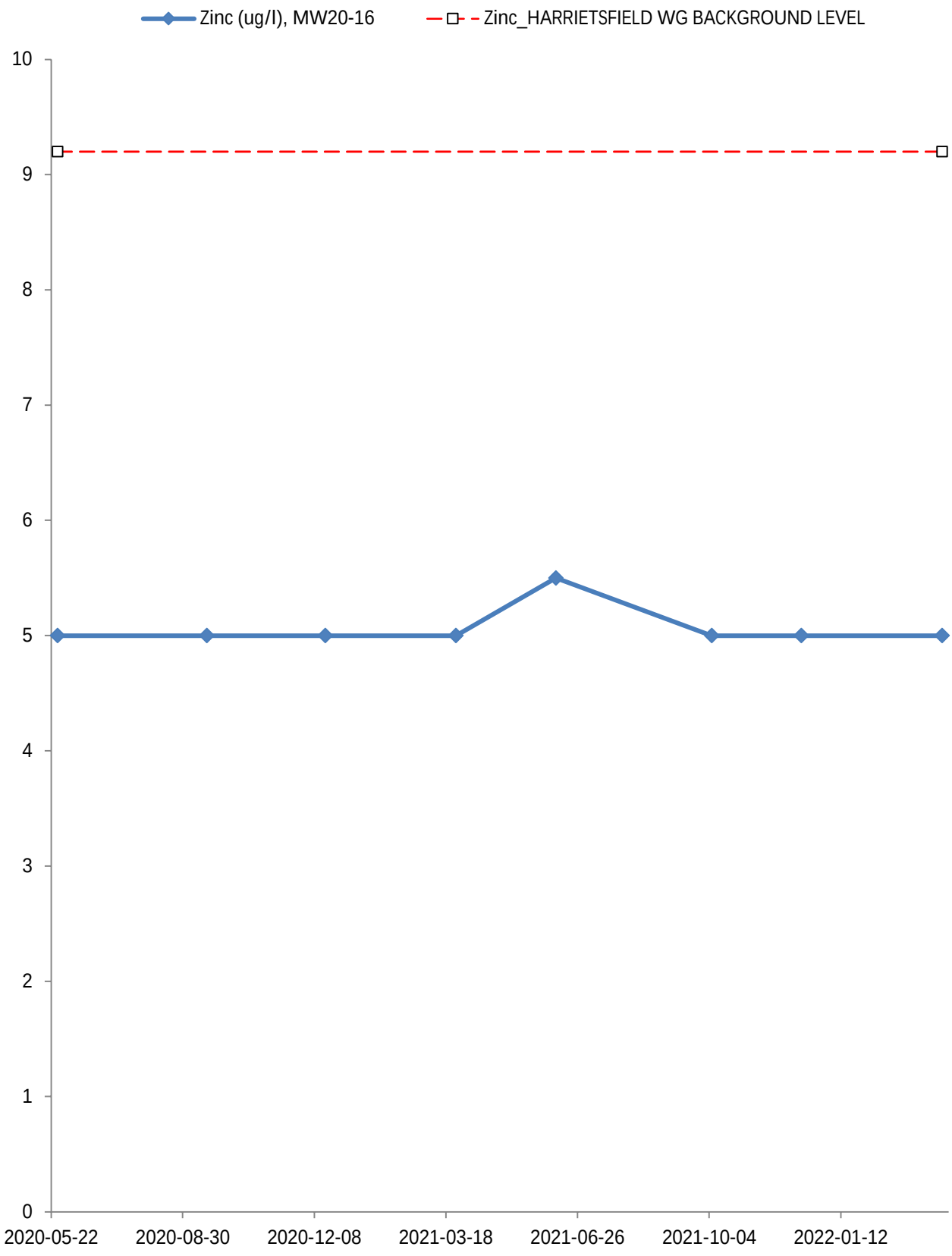


MW20-16-Vanadium

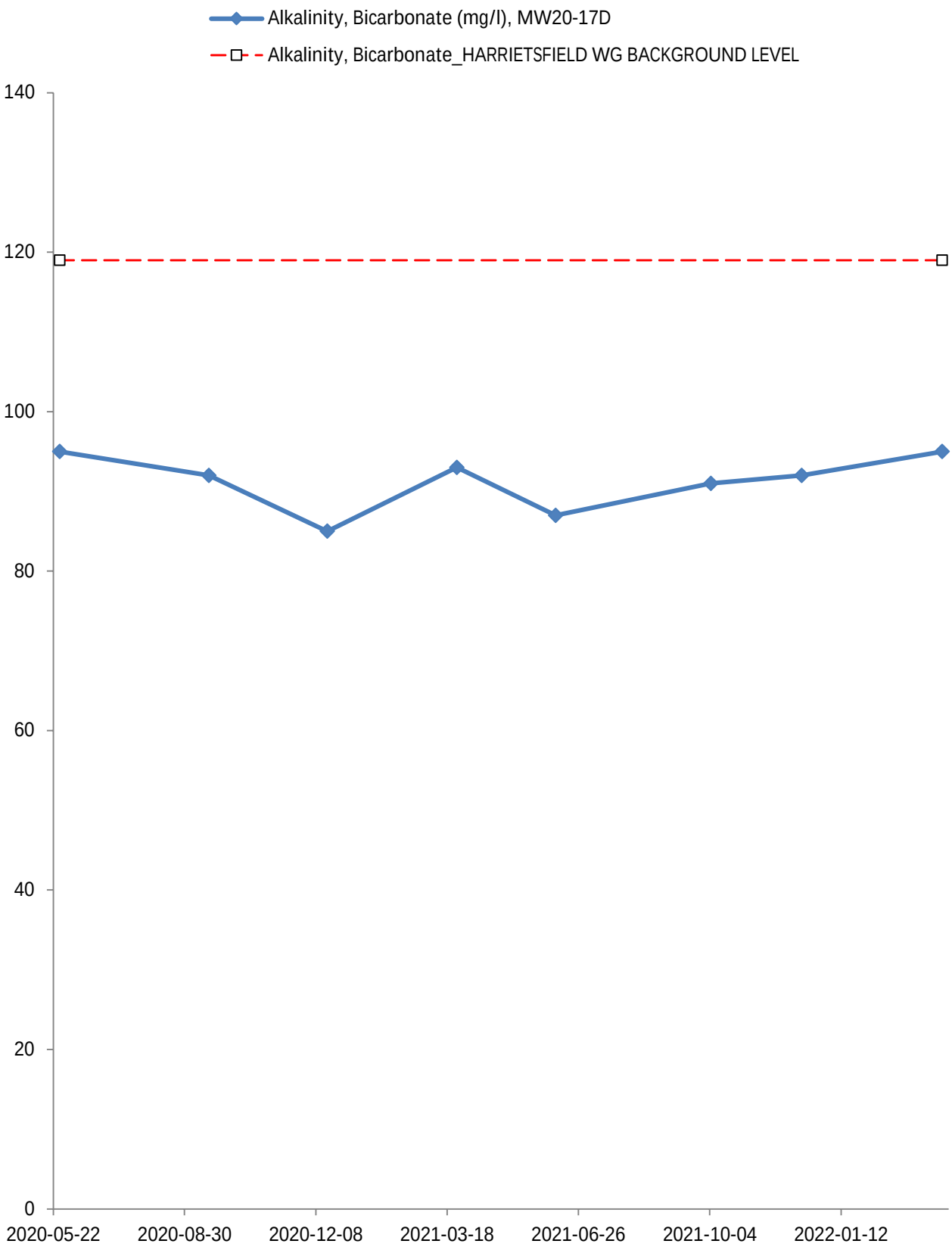


MW20-16-Xylenes, Total

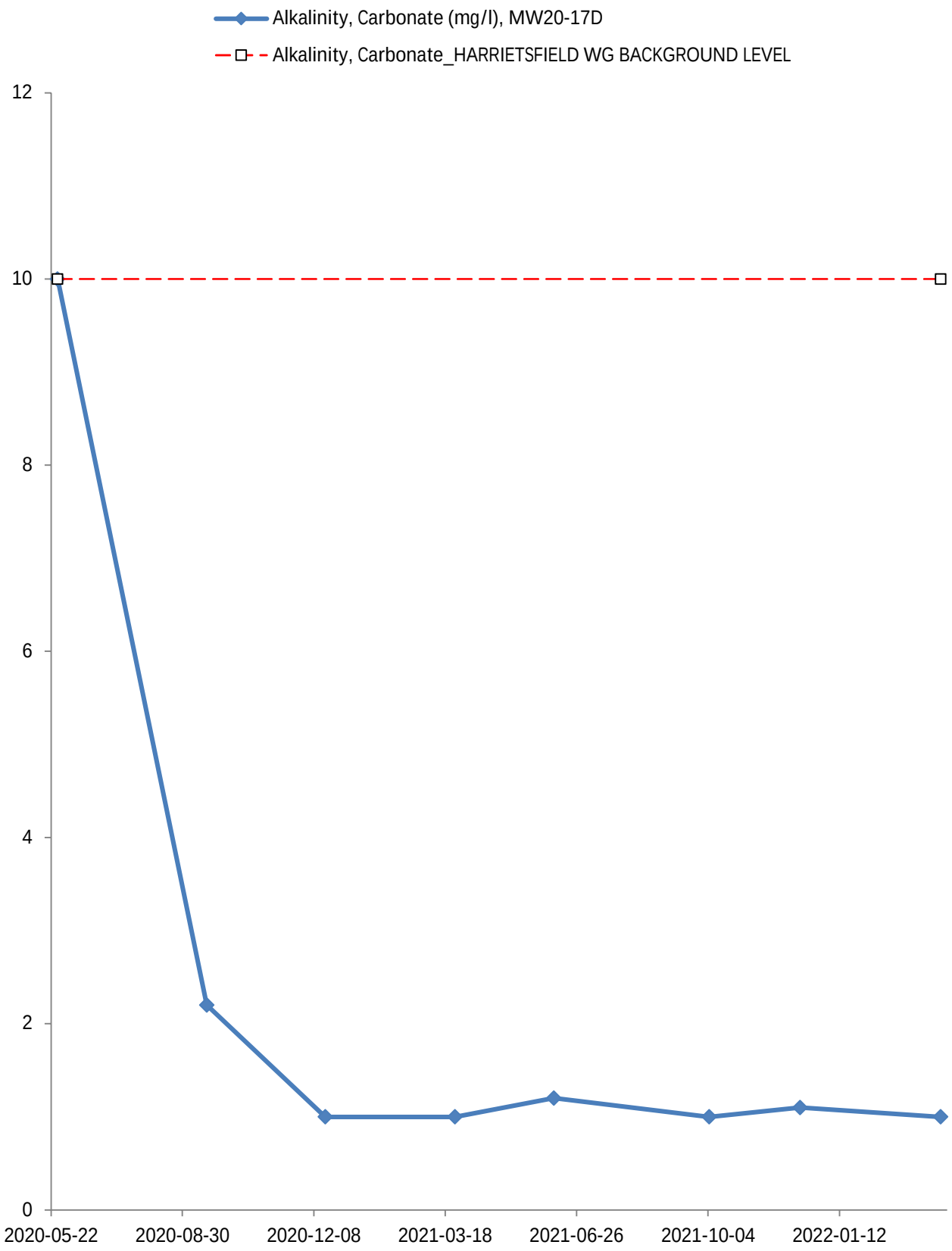



Zinc (ug/l), MW20-16
Zinc_HARRIETSFIELD WG BACKGROUND LEVEL
10
9
8
7
6
5
4
3
2
1
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

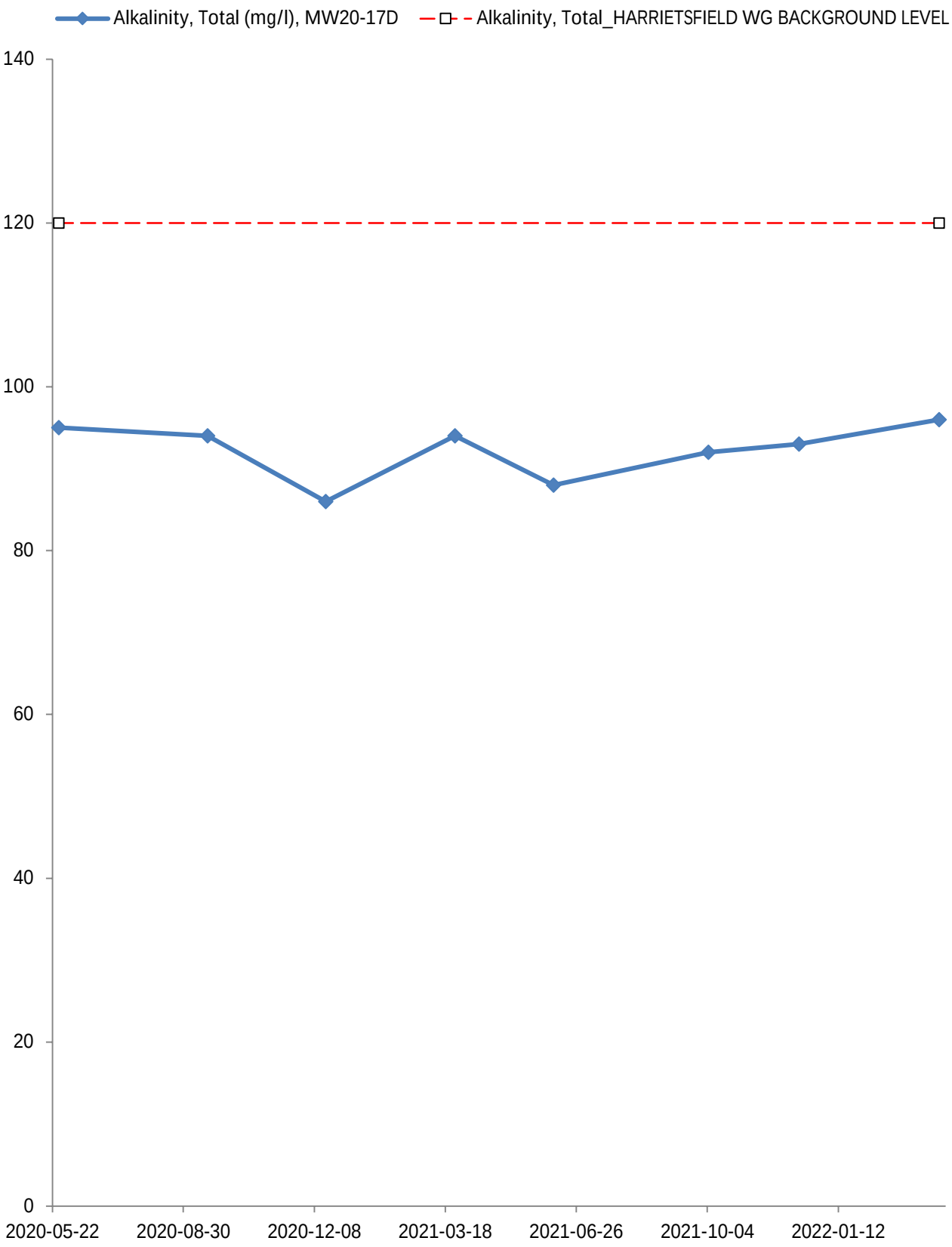
MW20-17D-Alkalinity, Bicarbonate



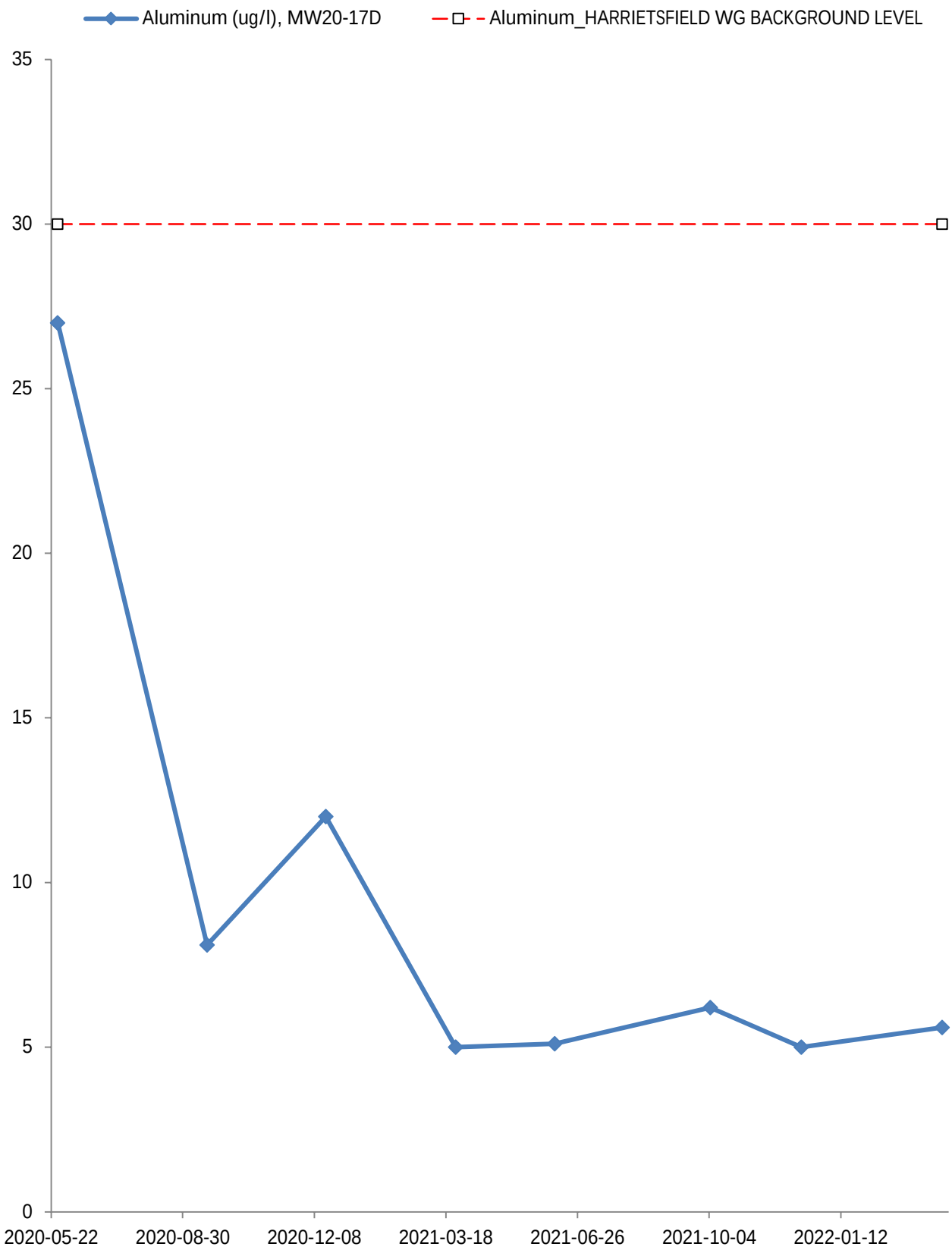
MW20-17D-Alkalinity, Carbonate



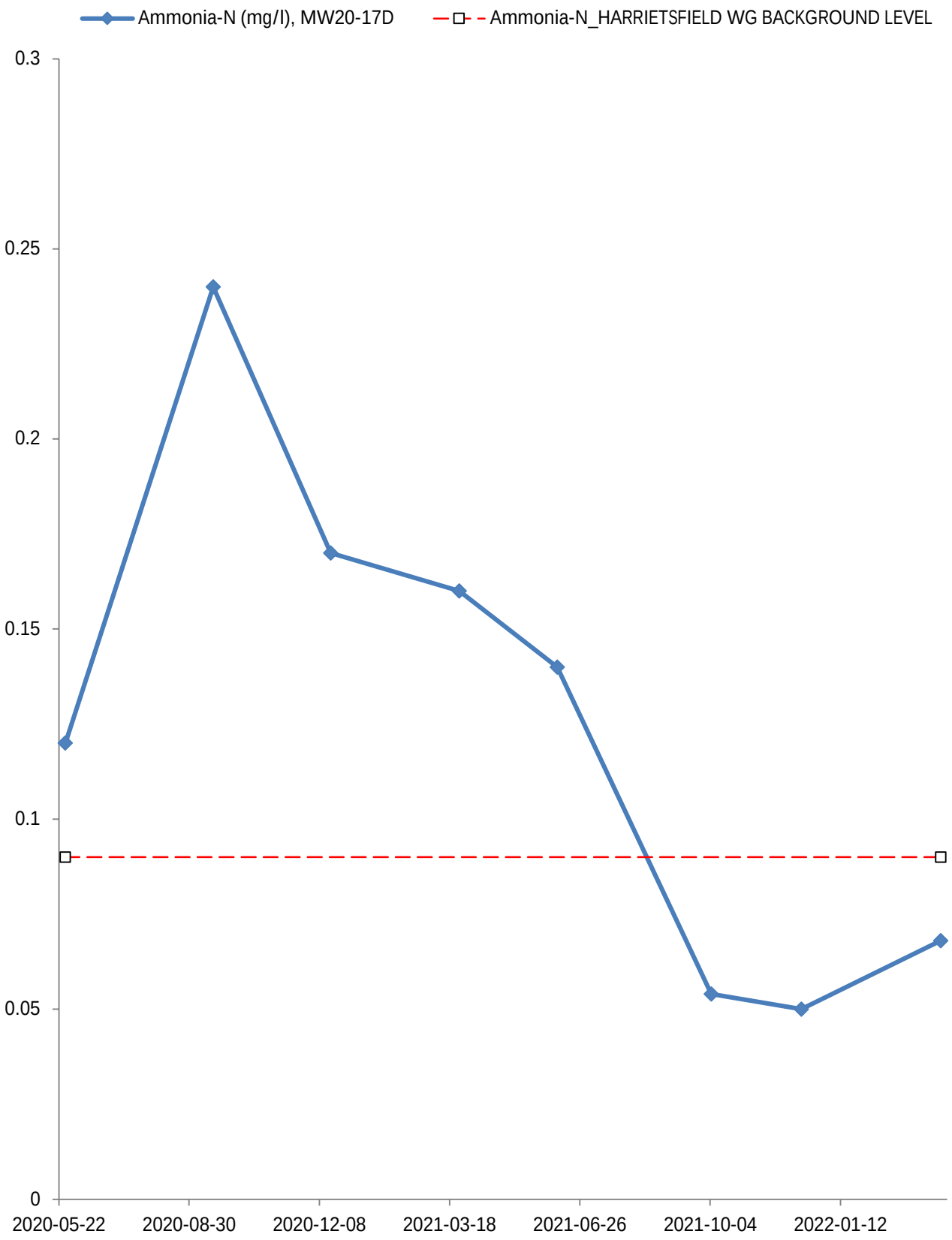
MW20-17D-Alkalinity, Total



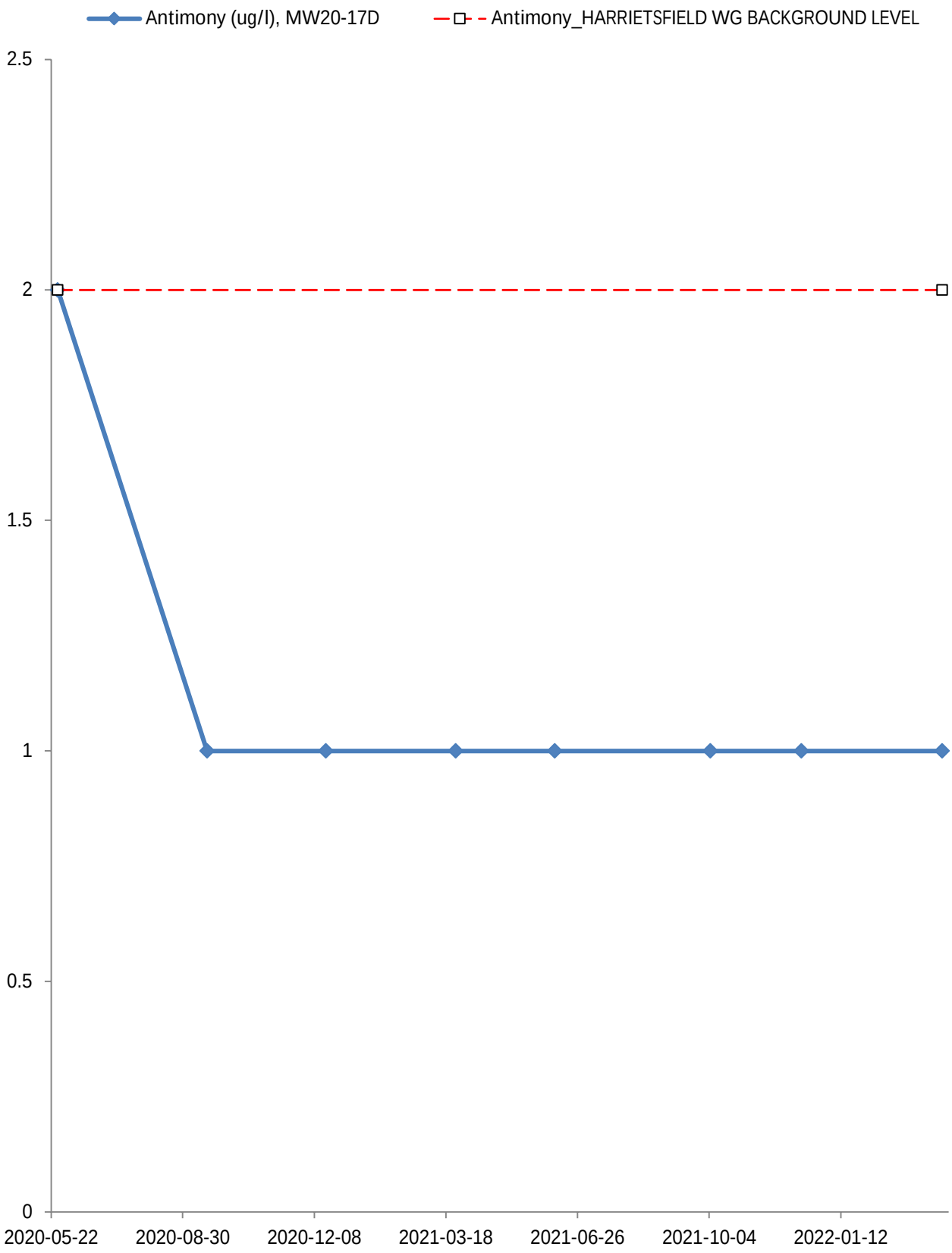
MW20-17D-Aluminum



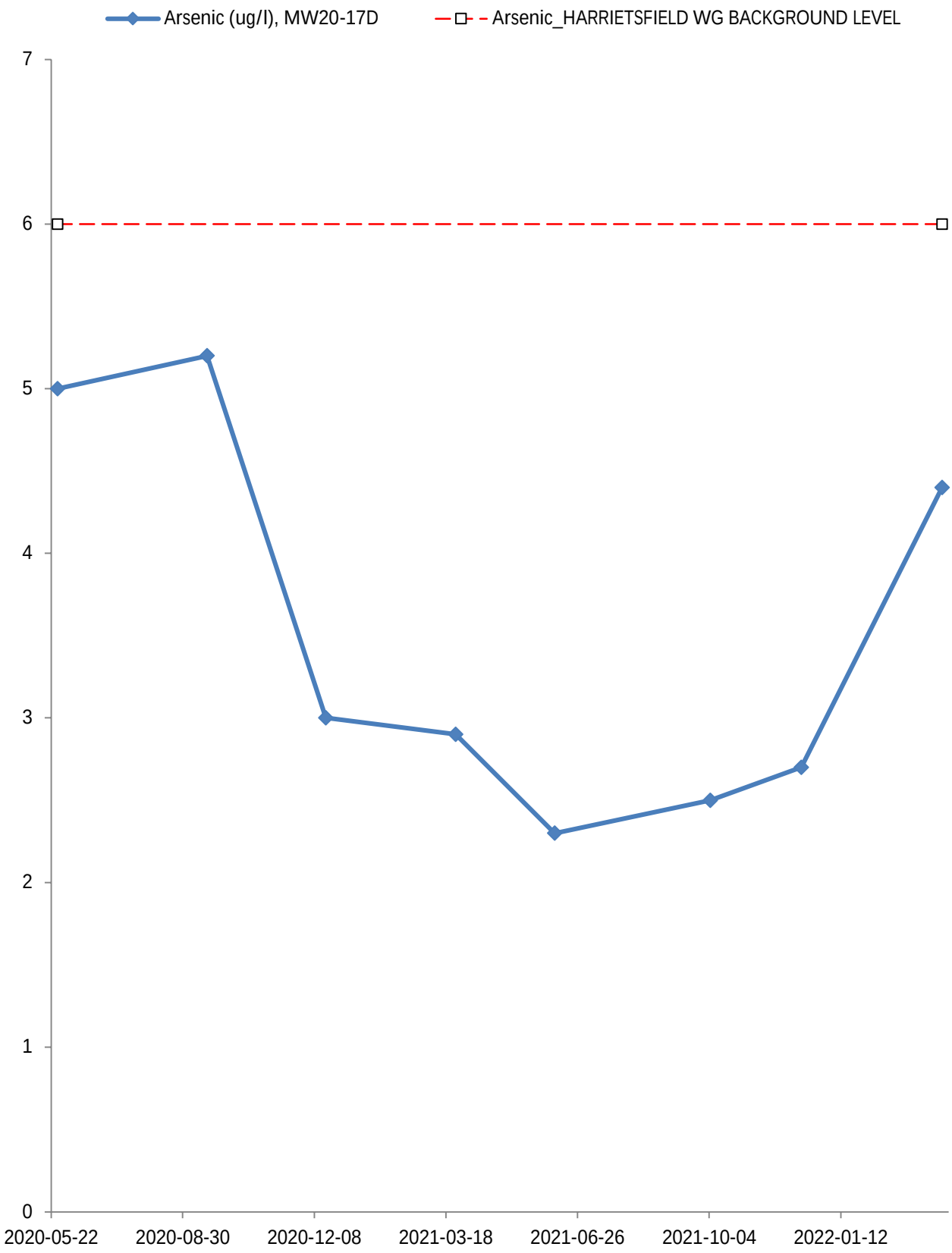
MW20-17D-Ammonia-N



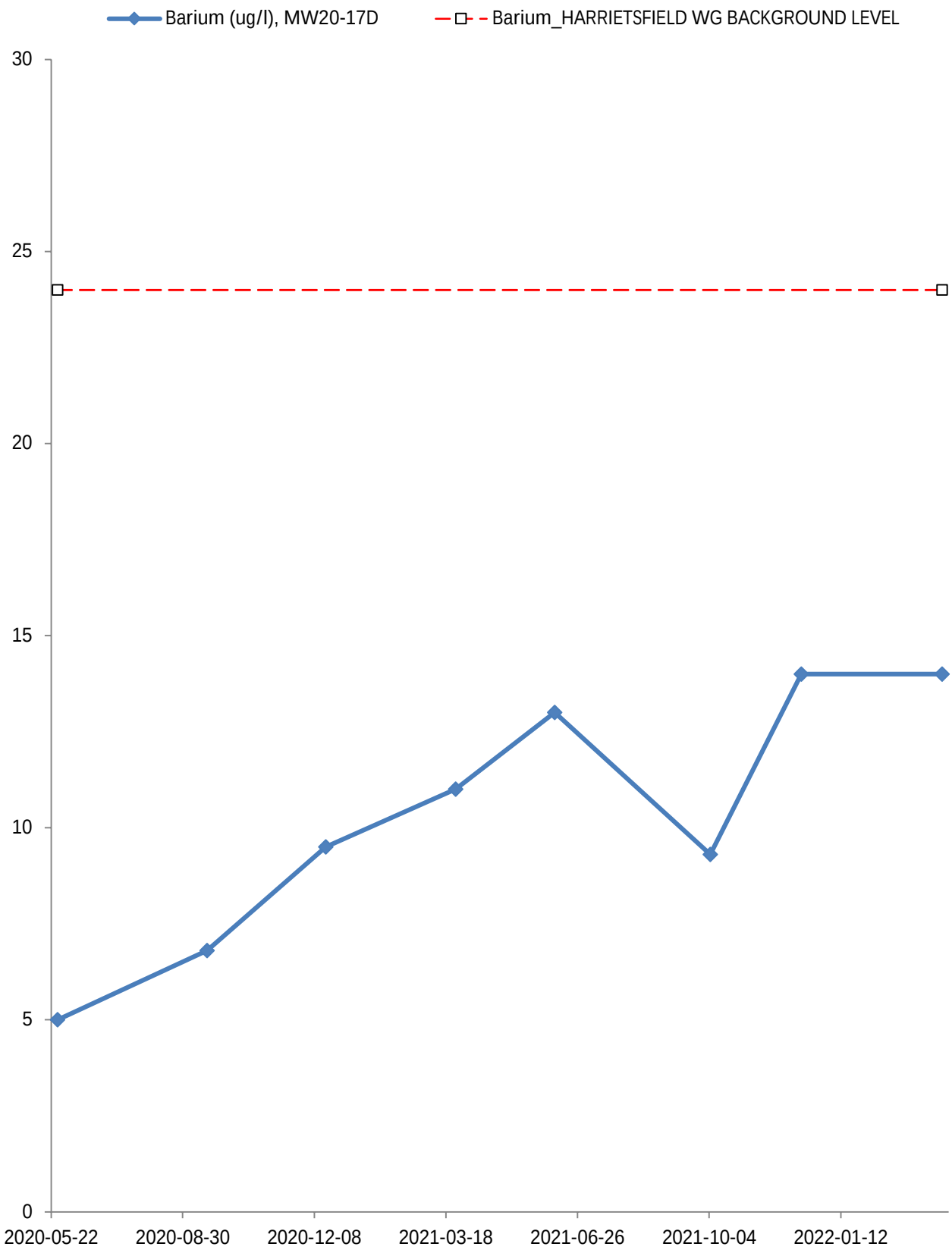
MW20-17D-Antimony



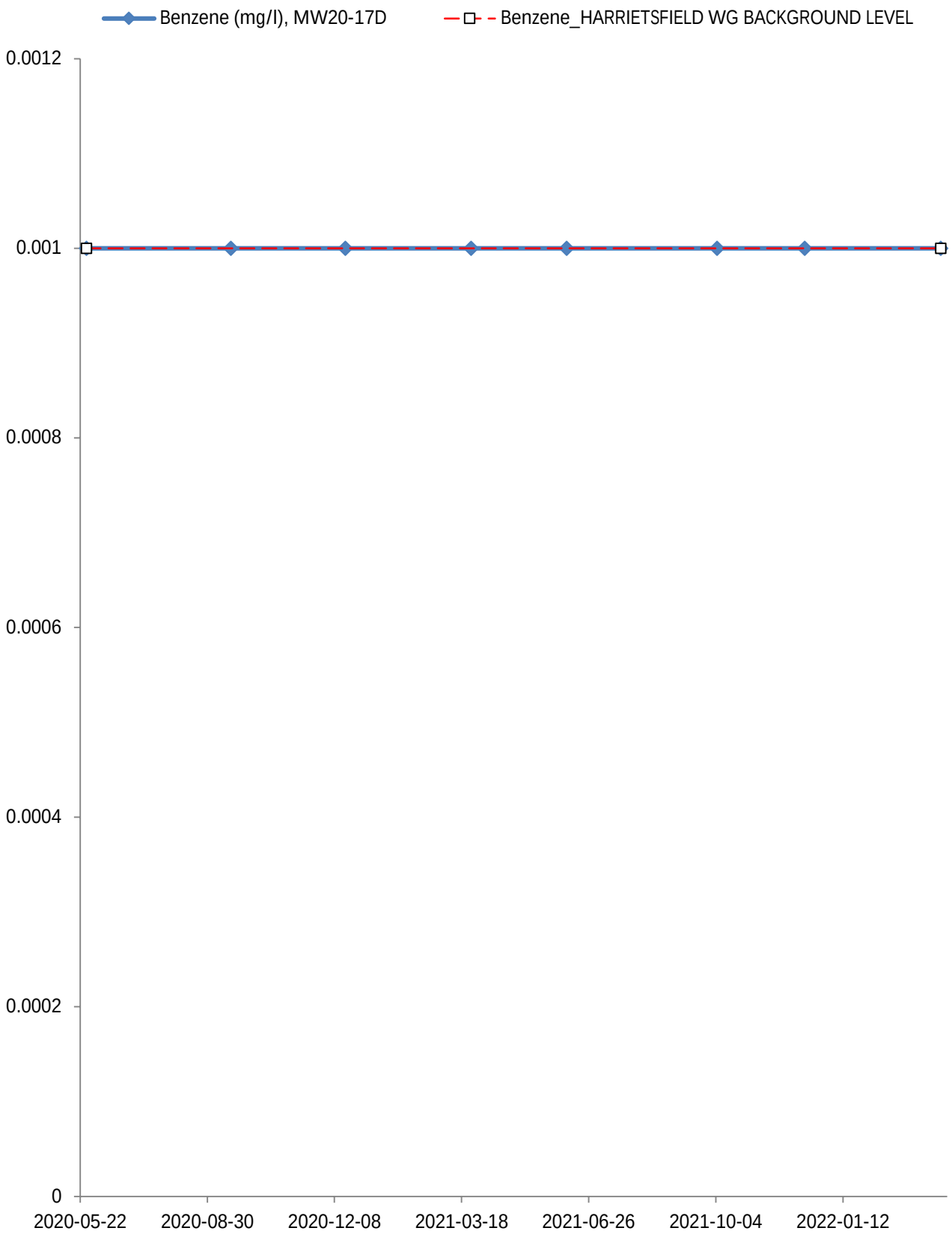
MW20-17D-Arsenic



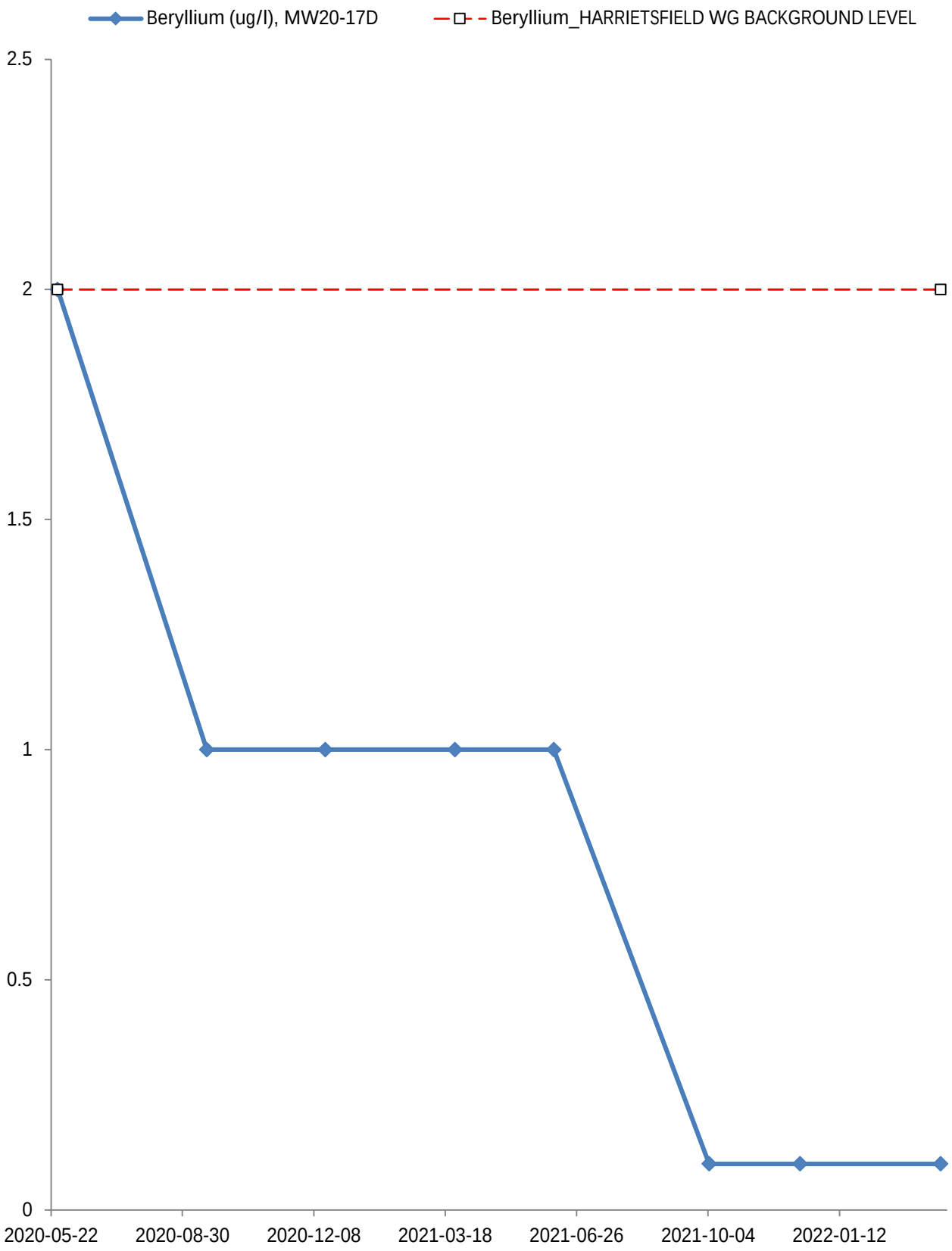
MW20-17D-Barium



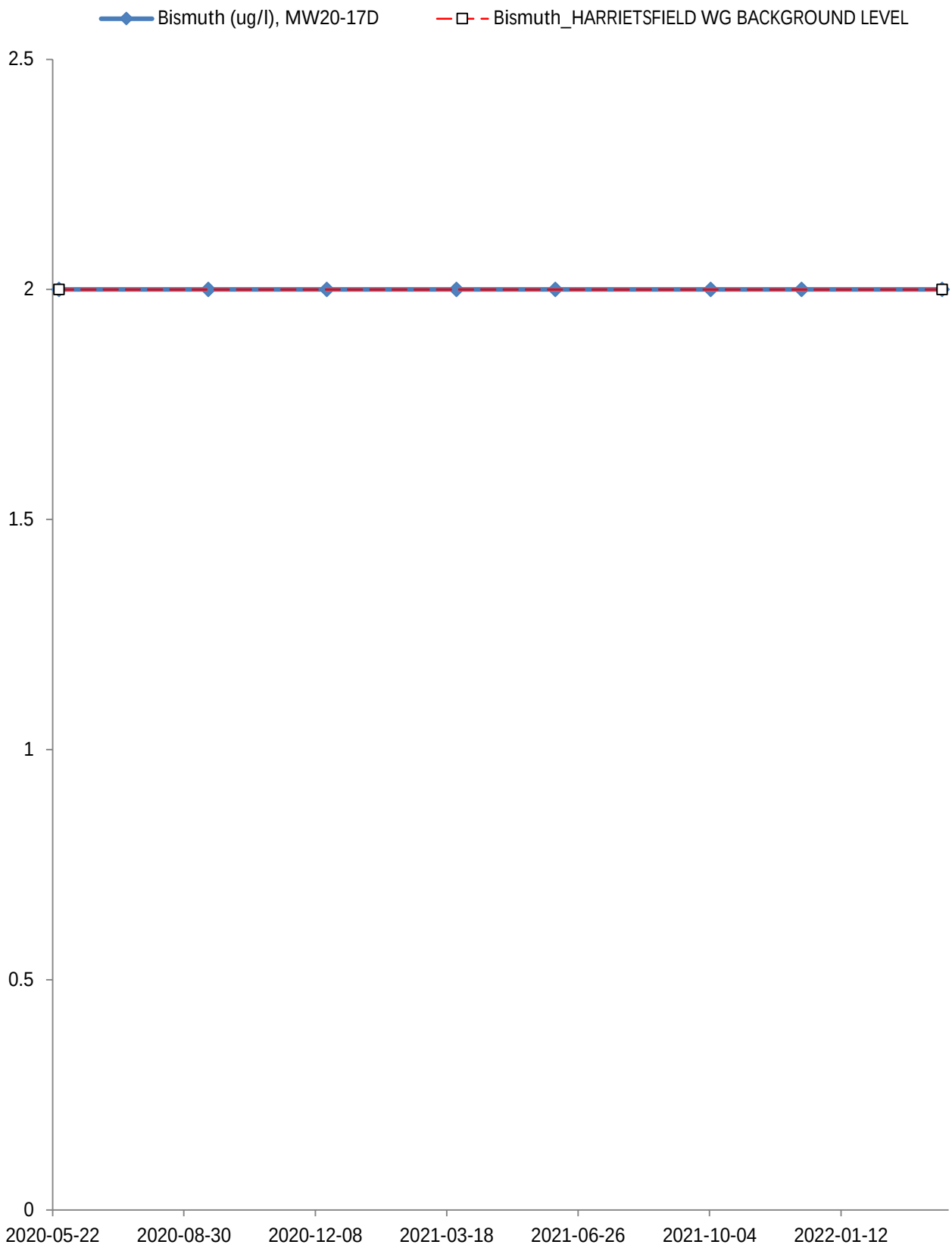
MW20-17D-Benzene



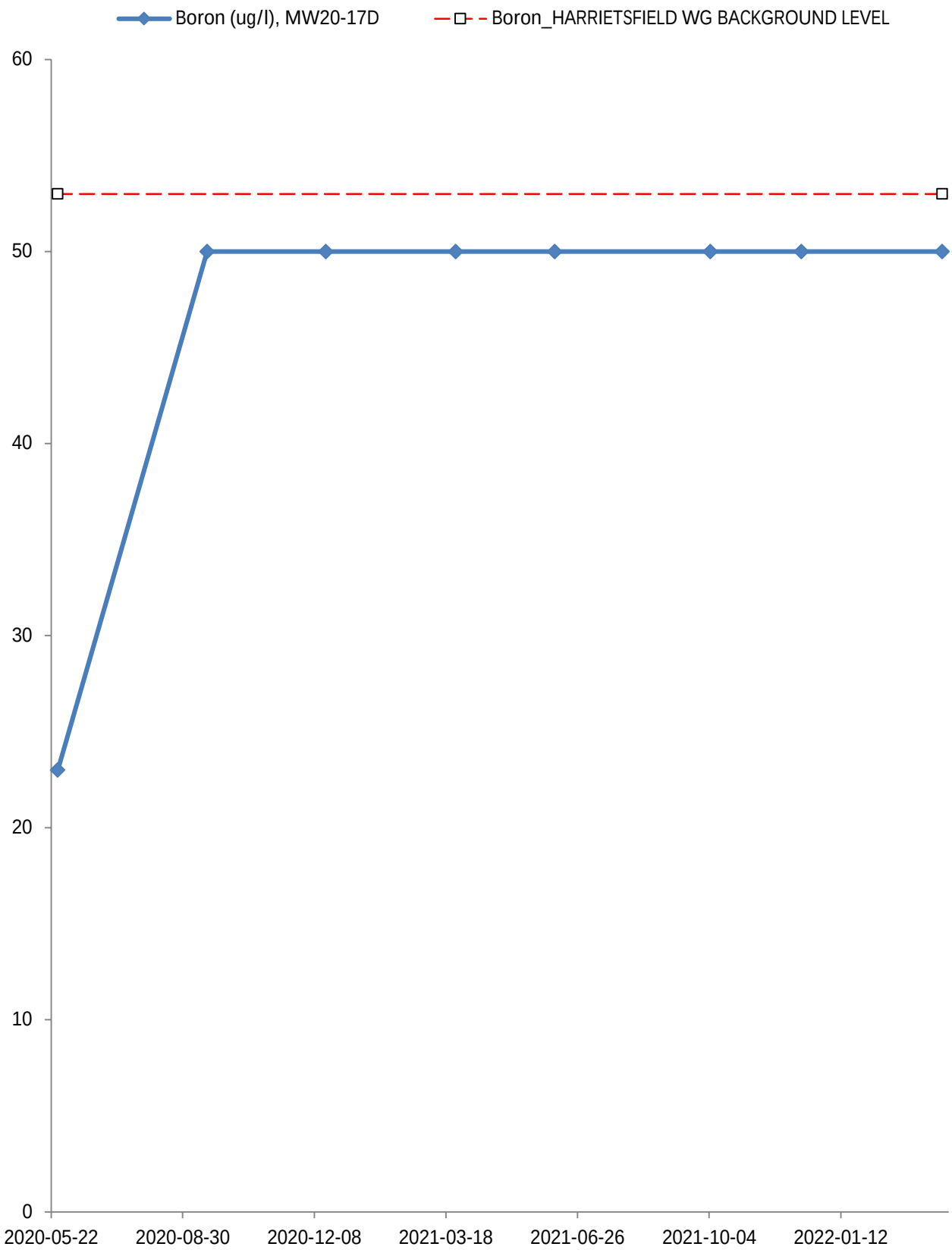
MW20-17D-Beryllium



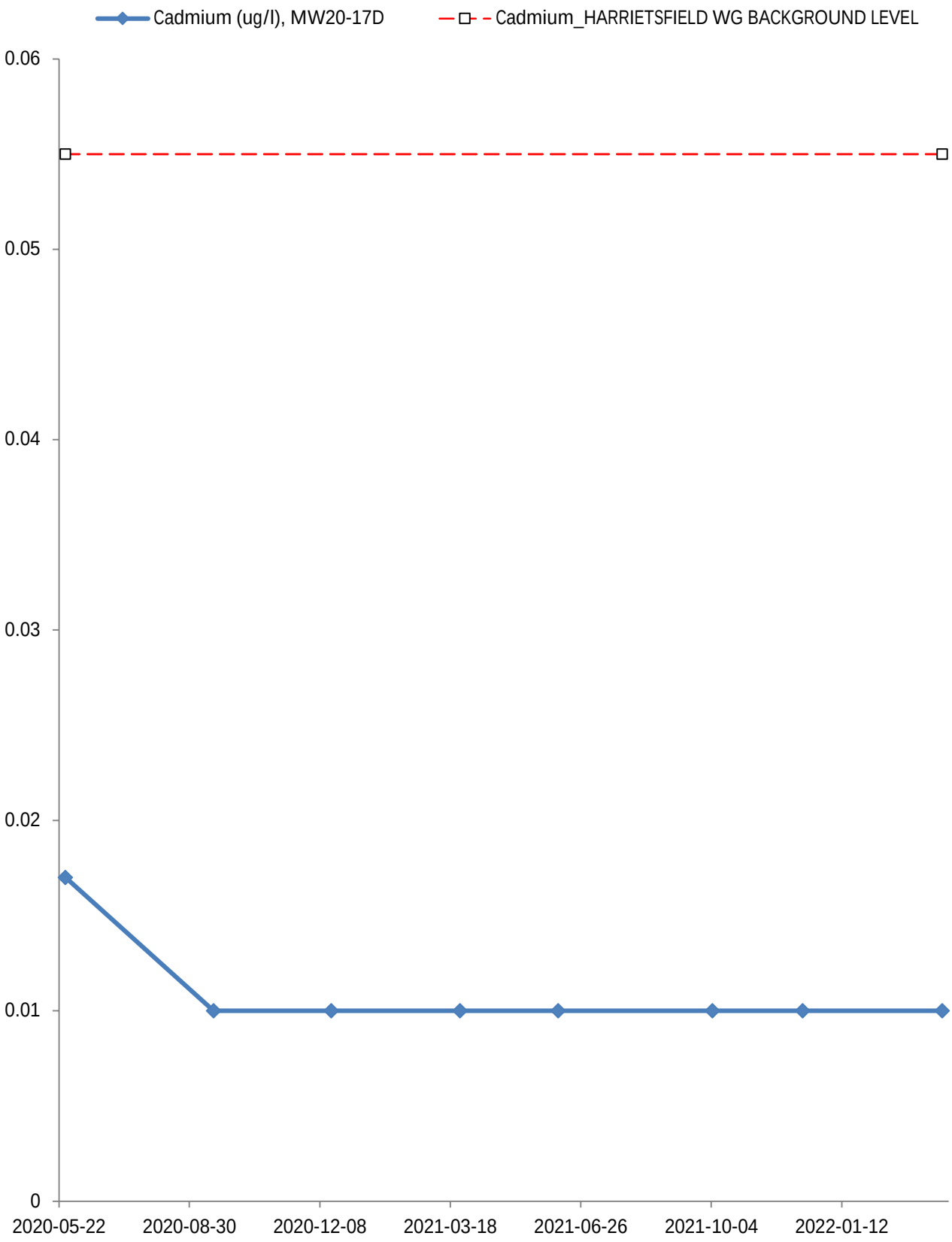
MW20-17D-Bismuth



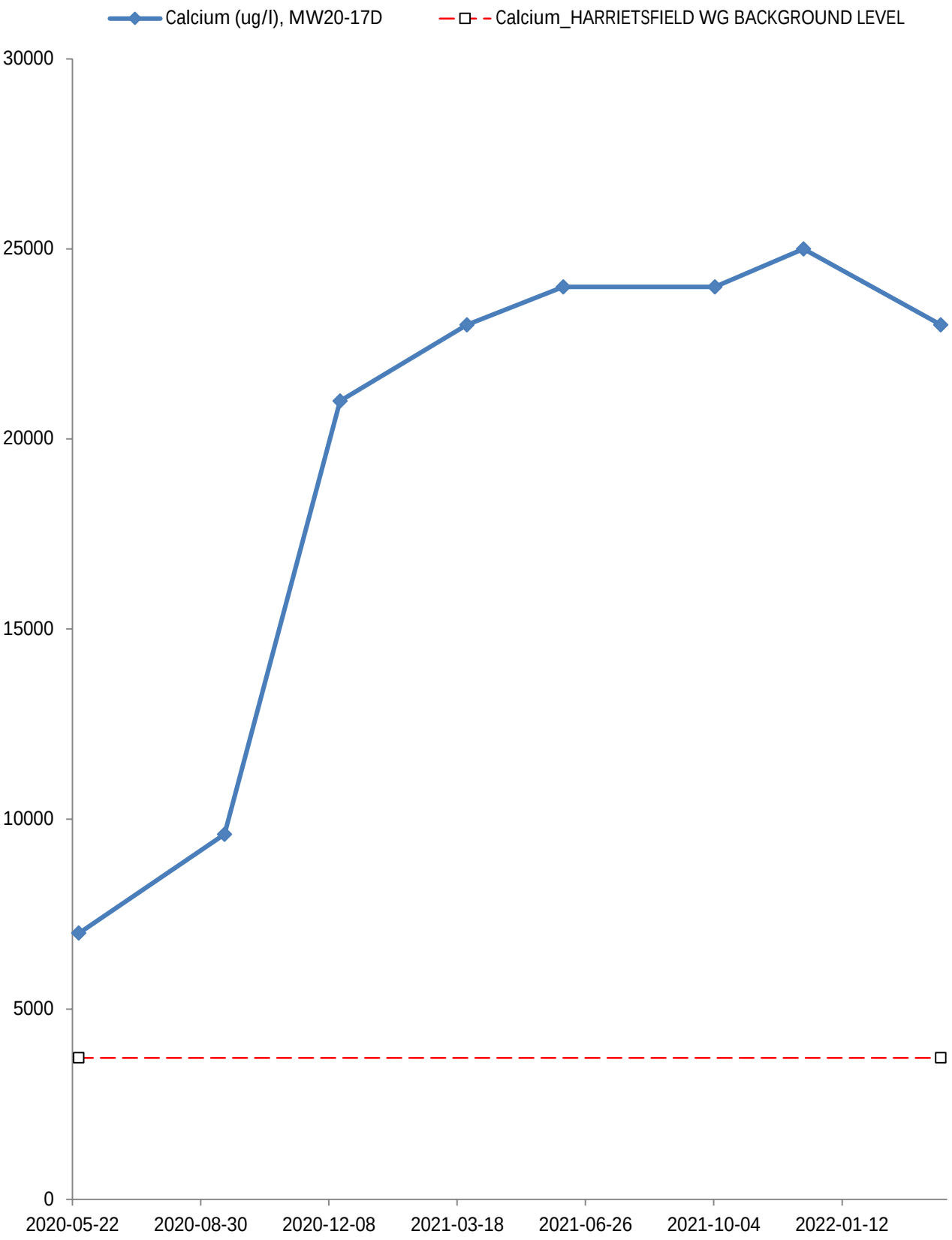
MW20-17D-Boron



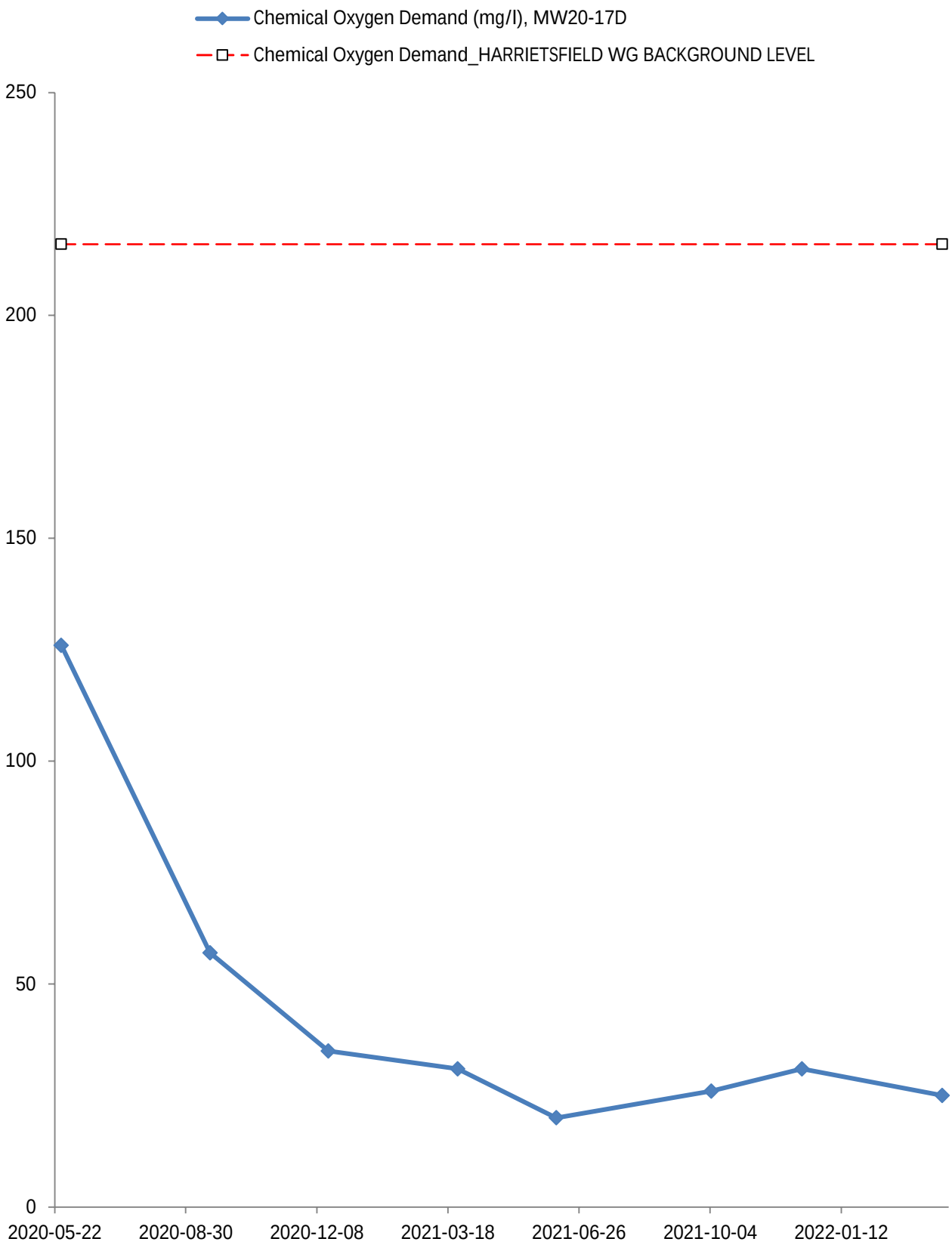
MW20-17D-Cadmium



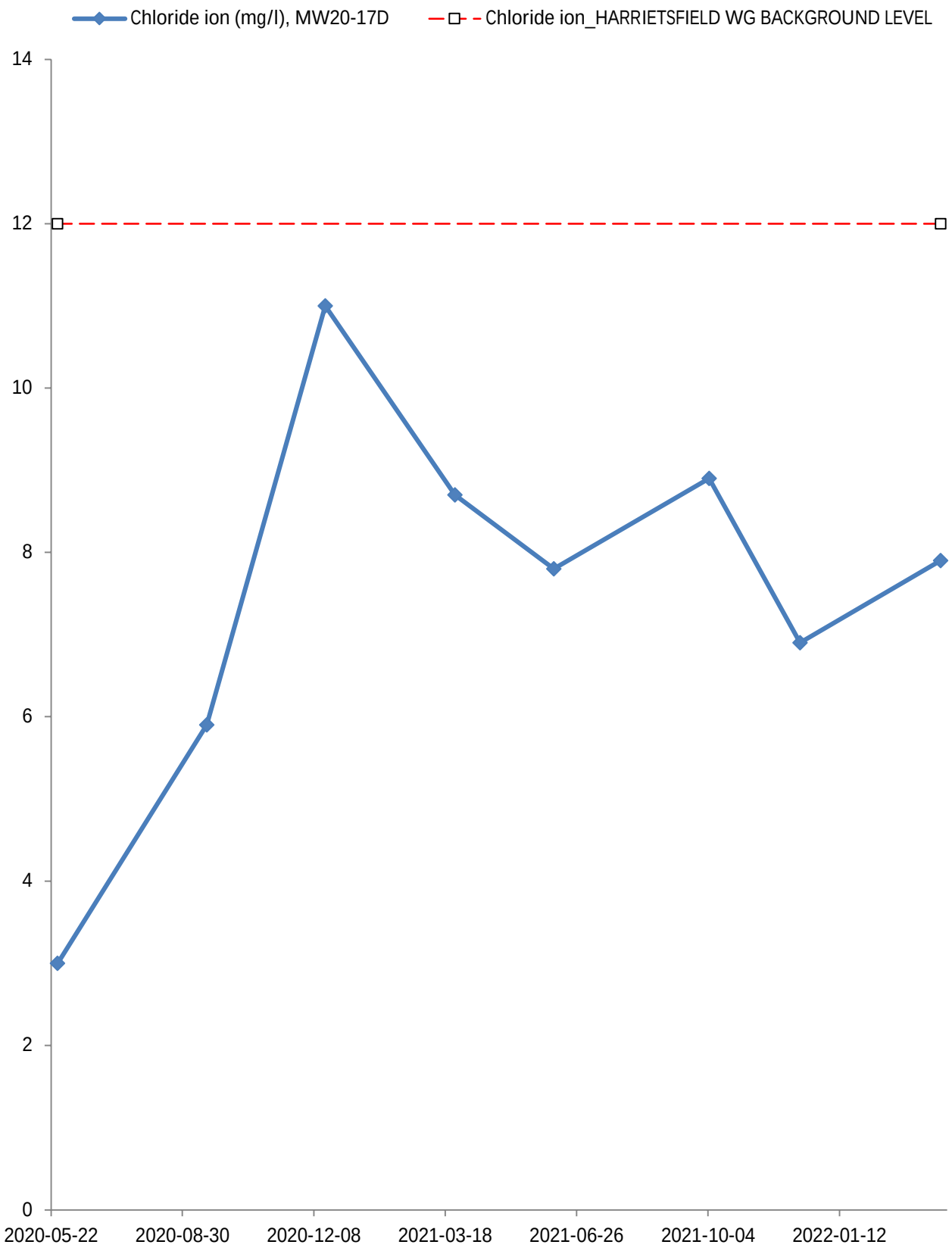
MW20-17D-Calcium



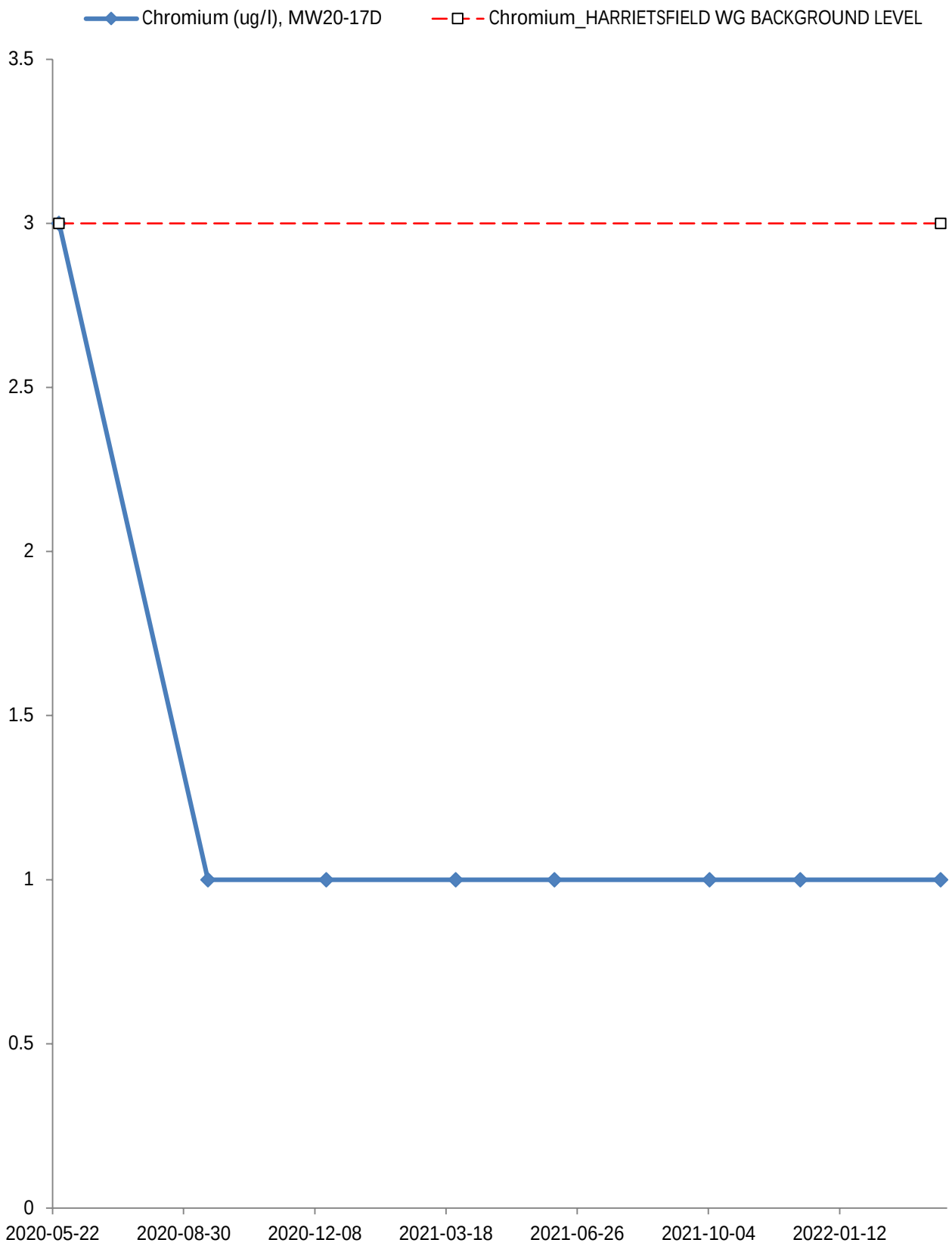
MW20-17D-Chemical Oxygen Demand



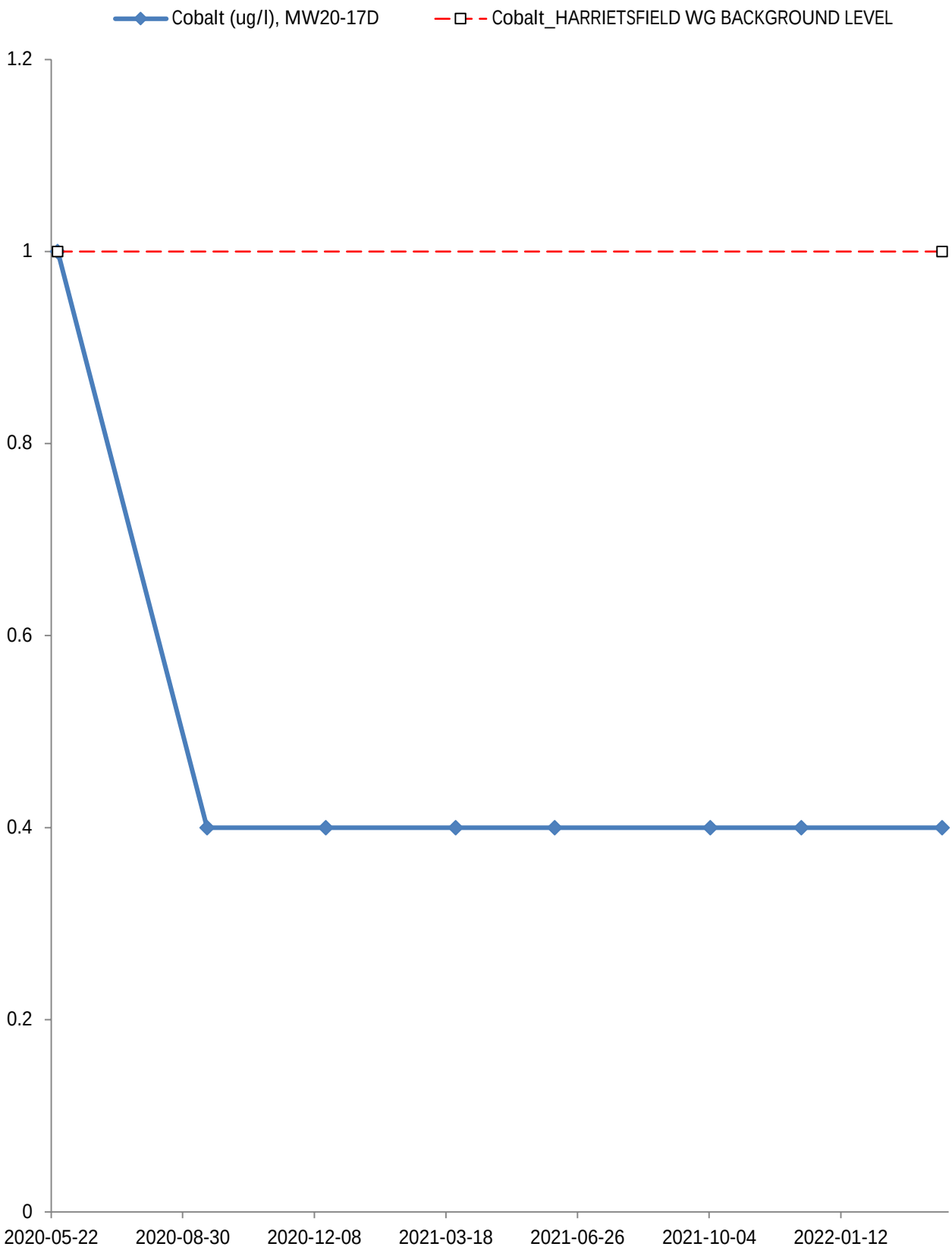
MW20-17D-Chloride ion



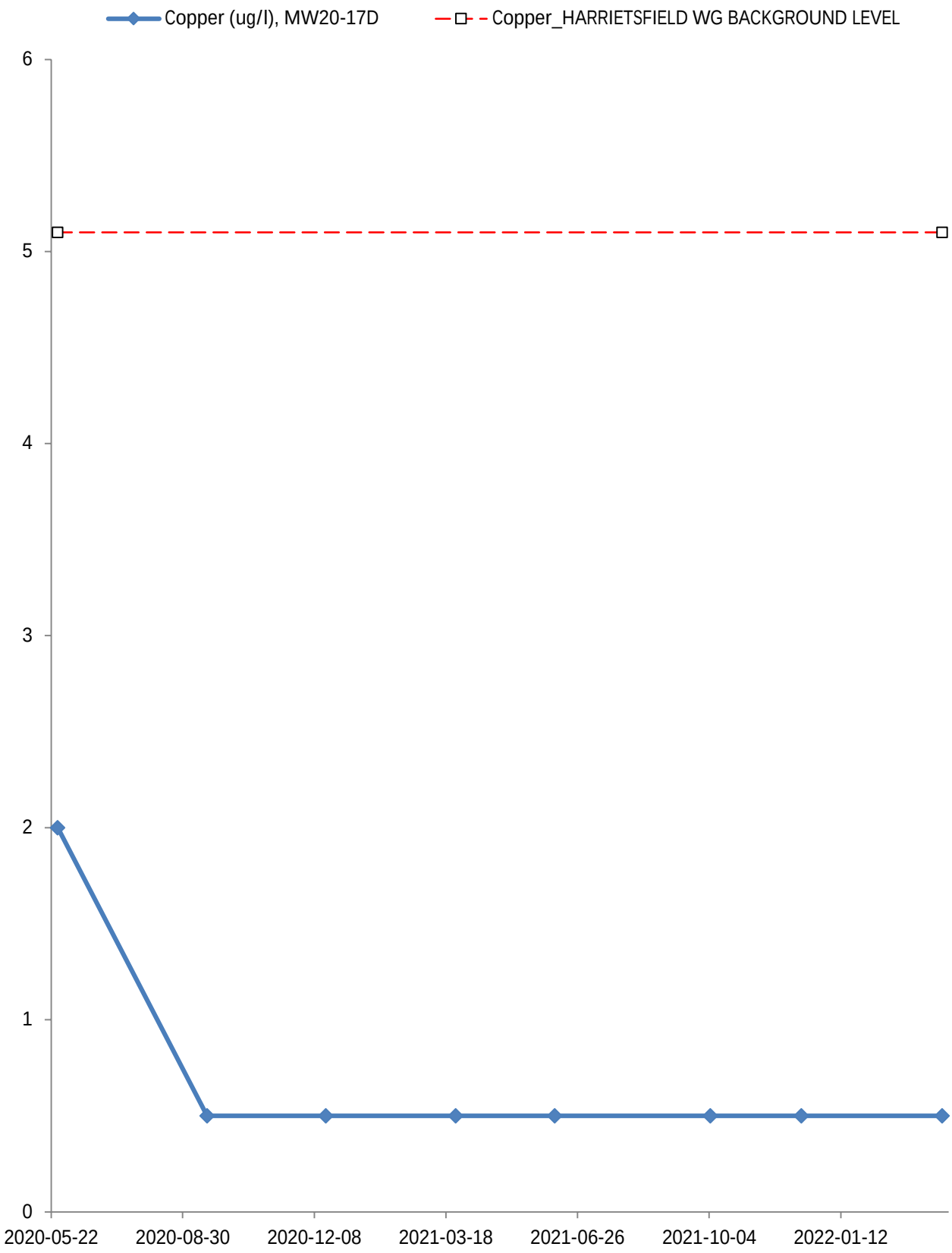
MW20-17D-Chromium



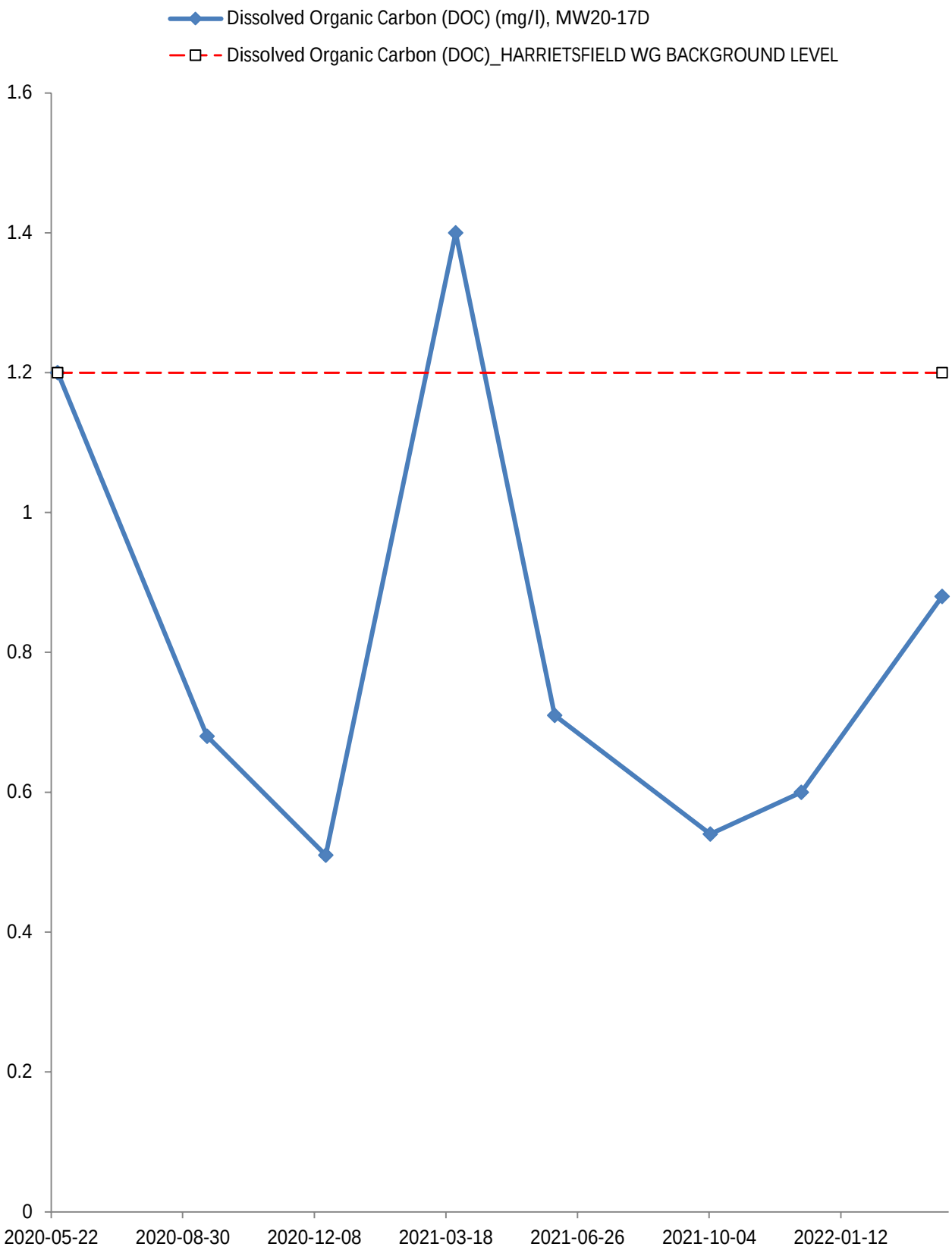
MW20-17D-Cobalt



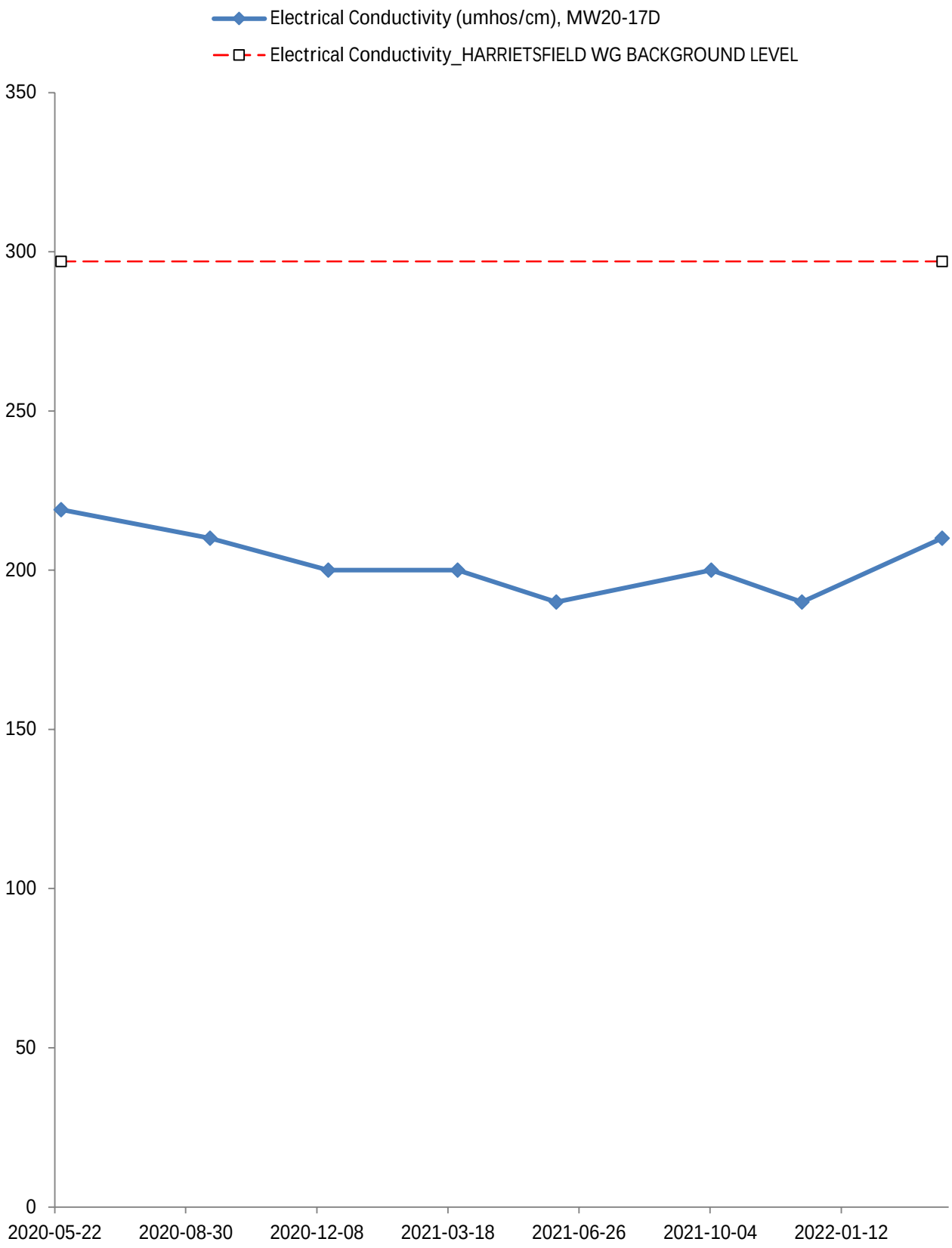
MW20-17D-Copper



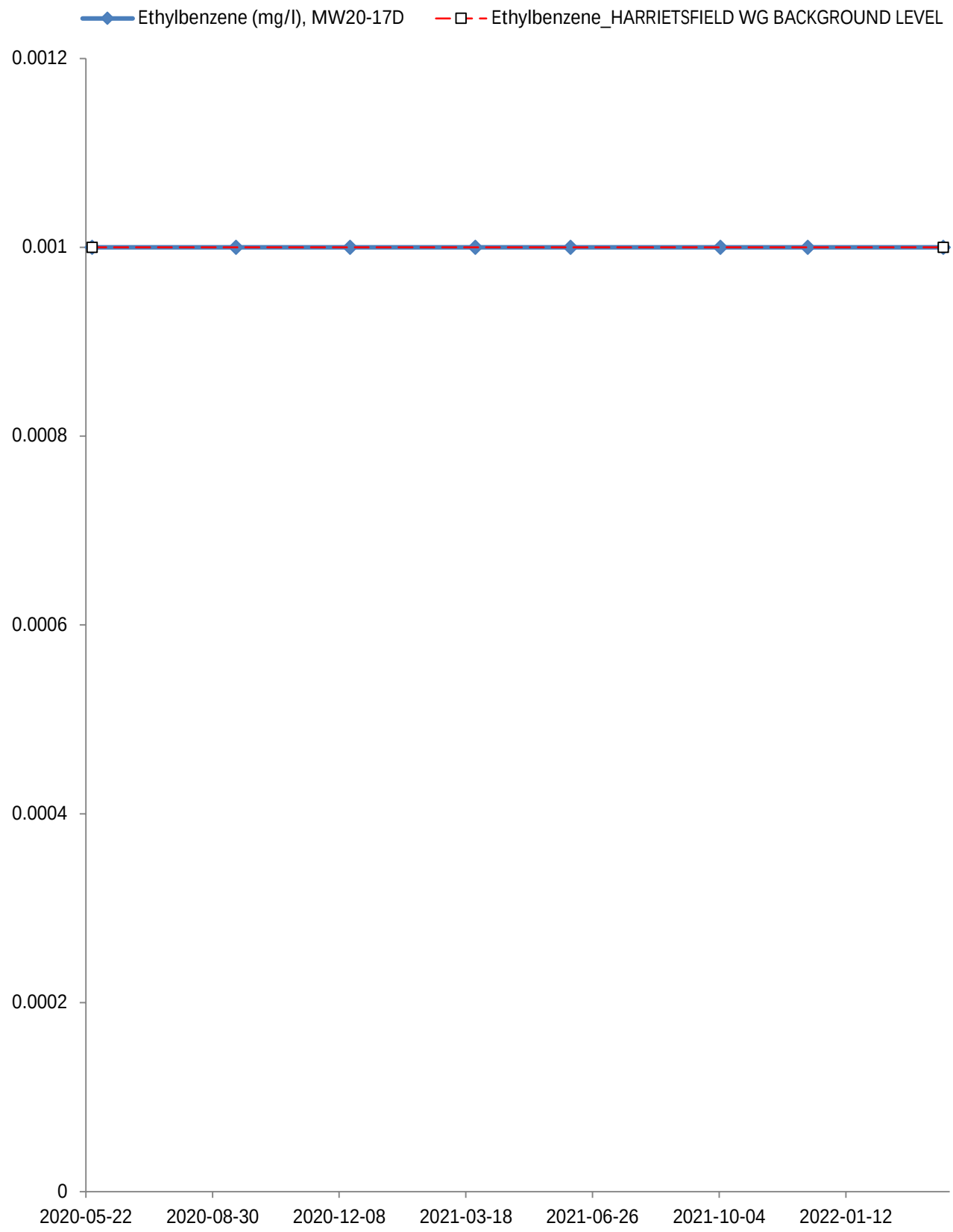
MW20-17D-Dissolved Organic Carbon7



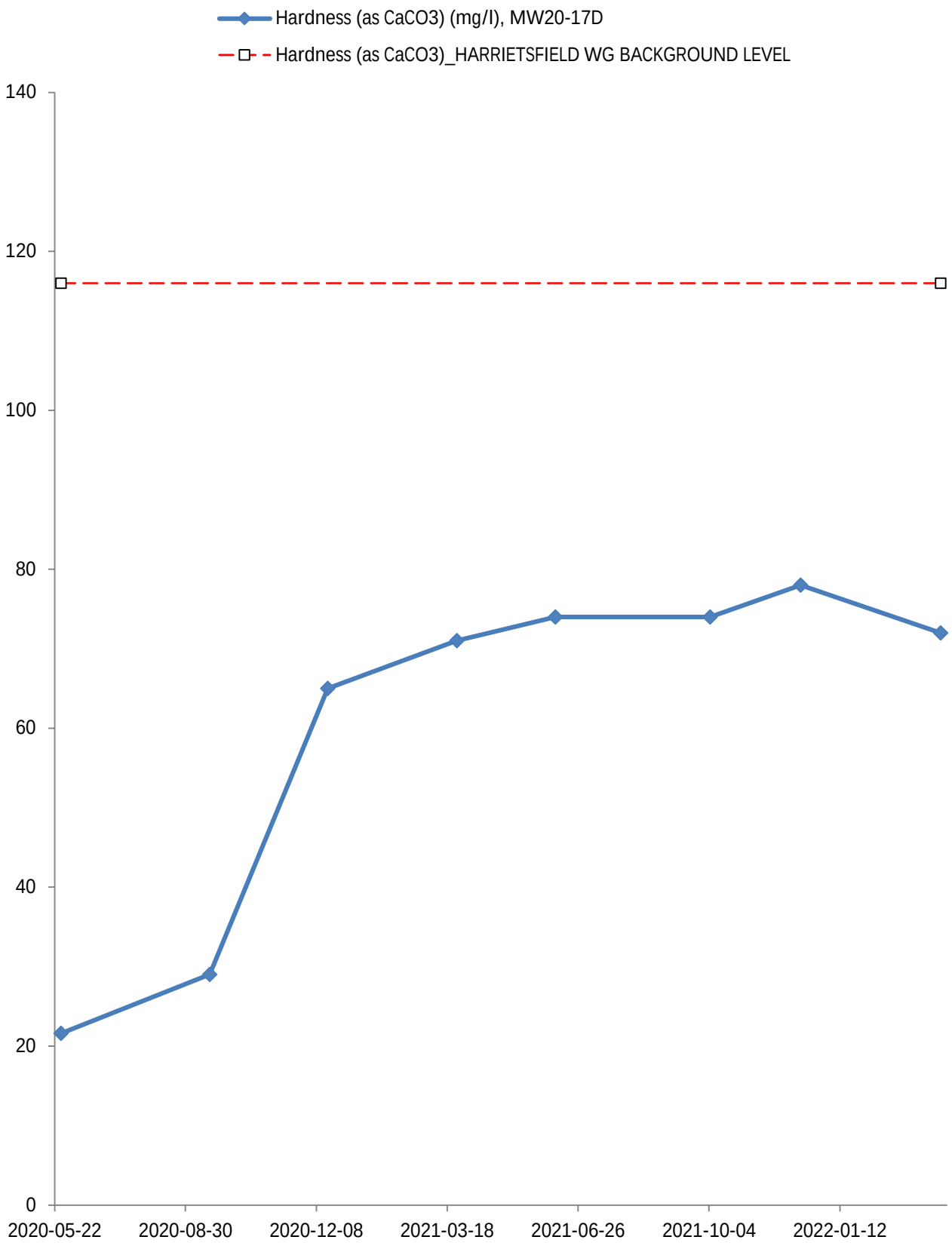
MW20-17D-Electrical Conductivity



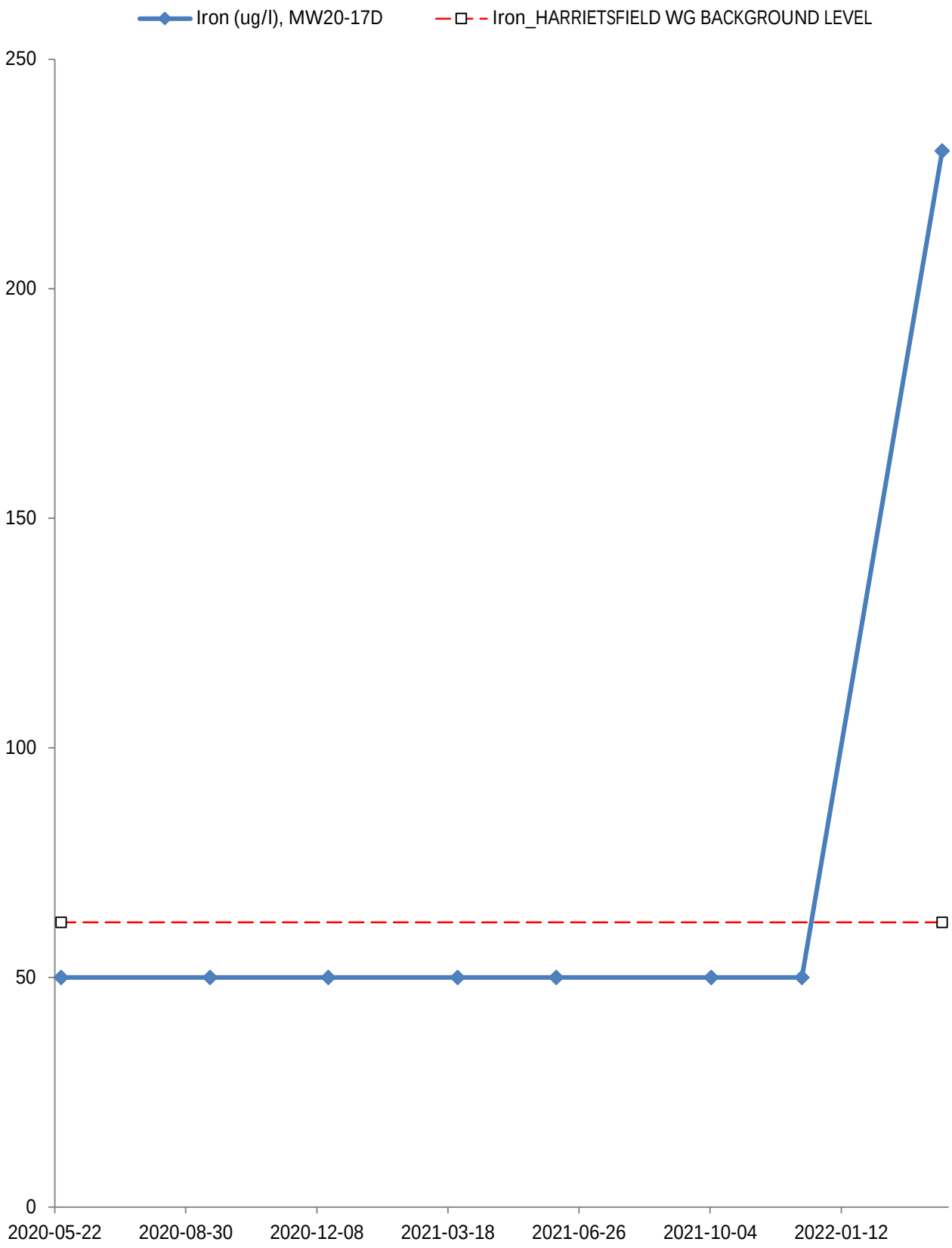
MW20-17D-Ethylbenzene



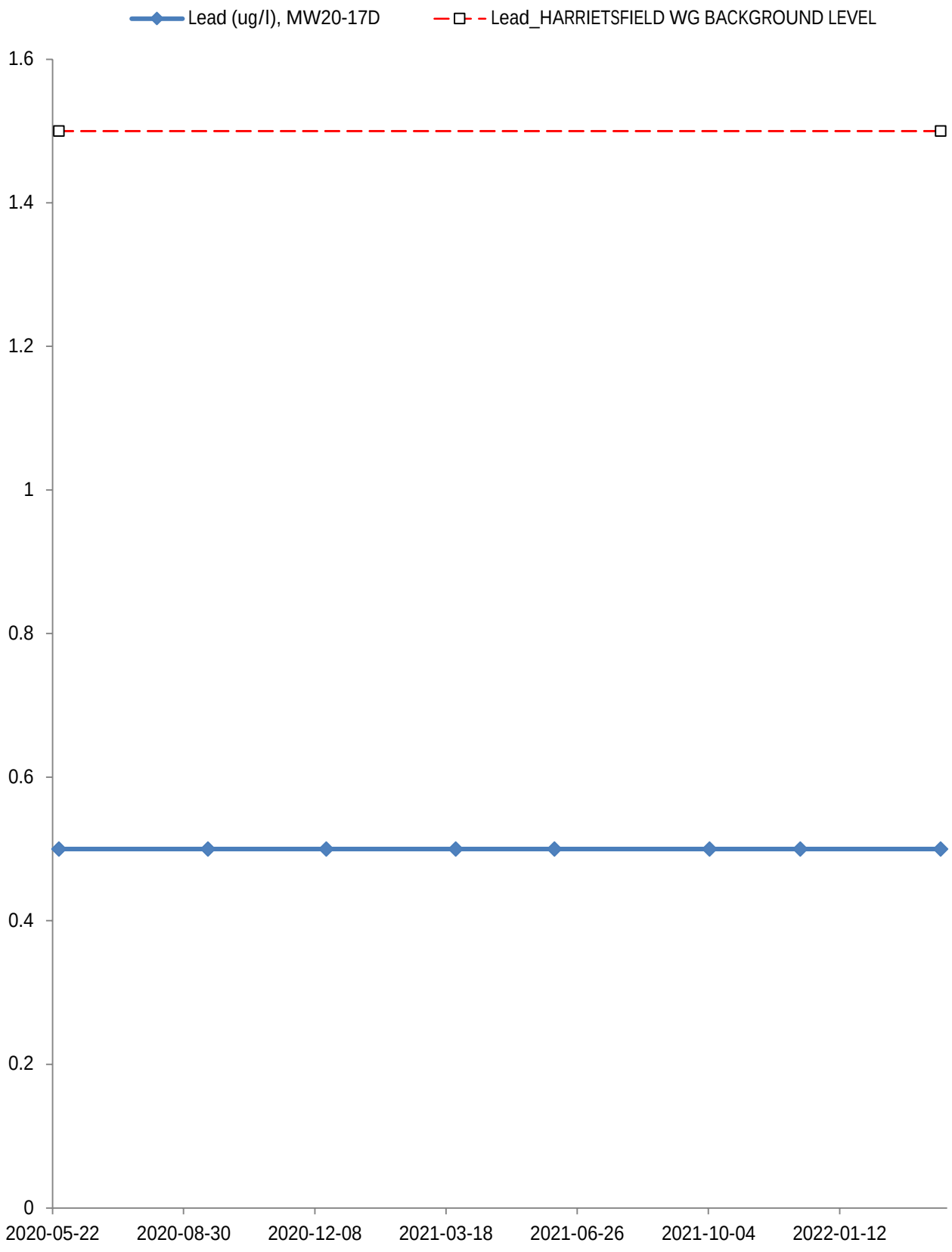
MW20-17D-Hardness (as CaCO3)



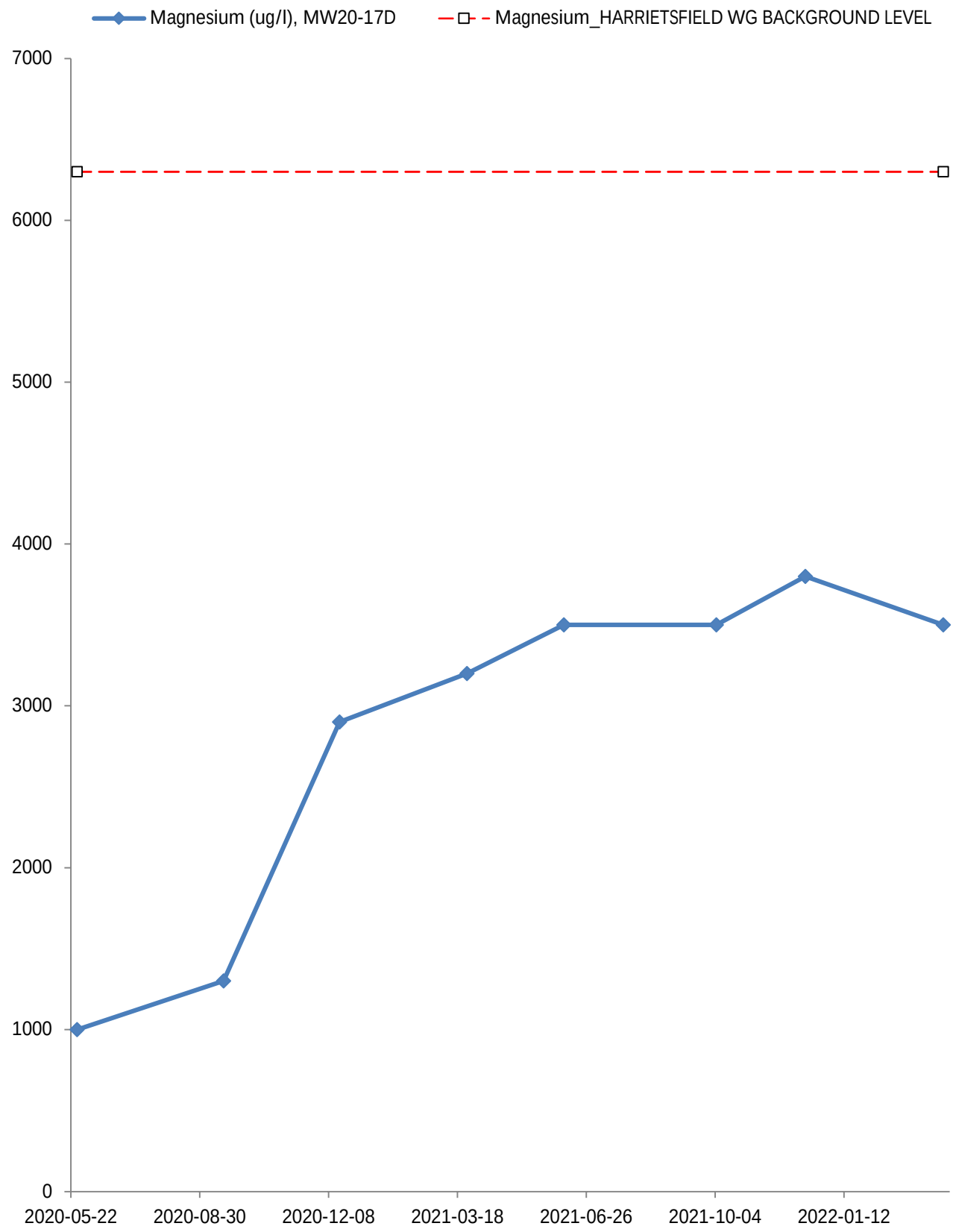
MW20-17D-Iron



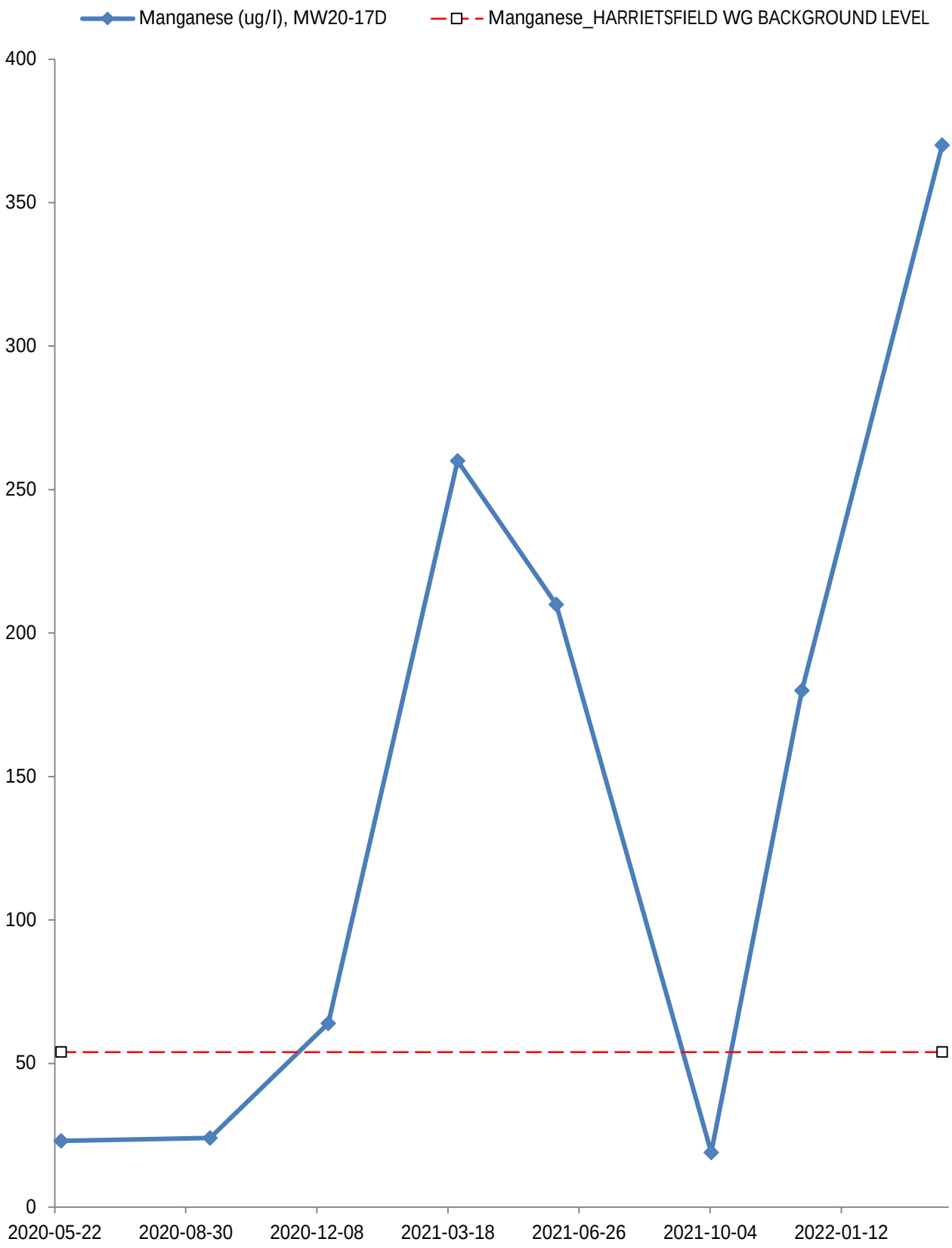
MW20-17D-Lead



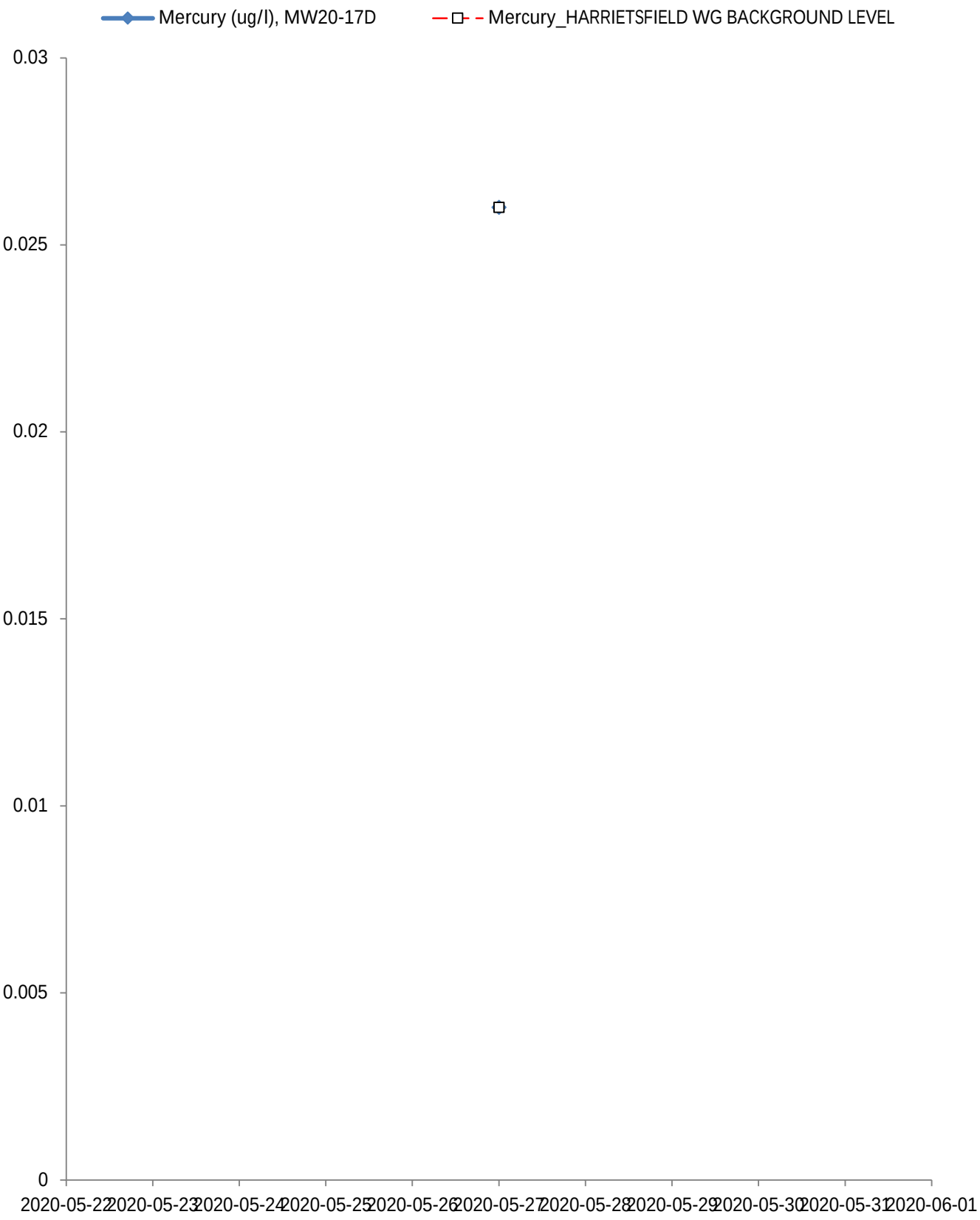
MW20-17D-Magnesium



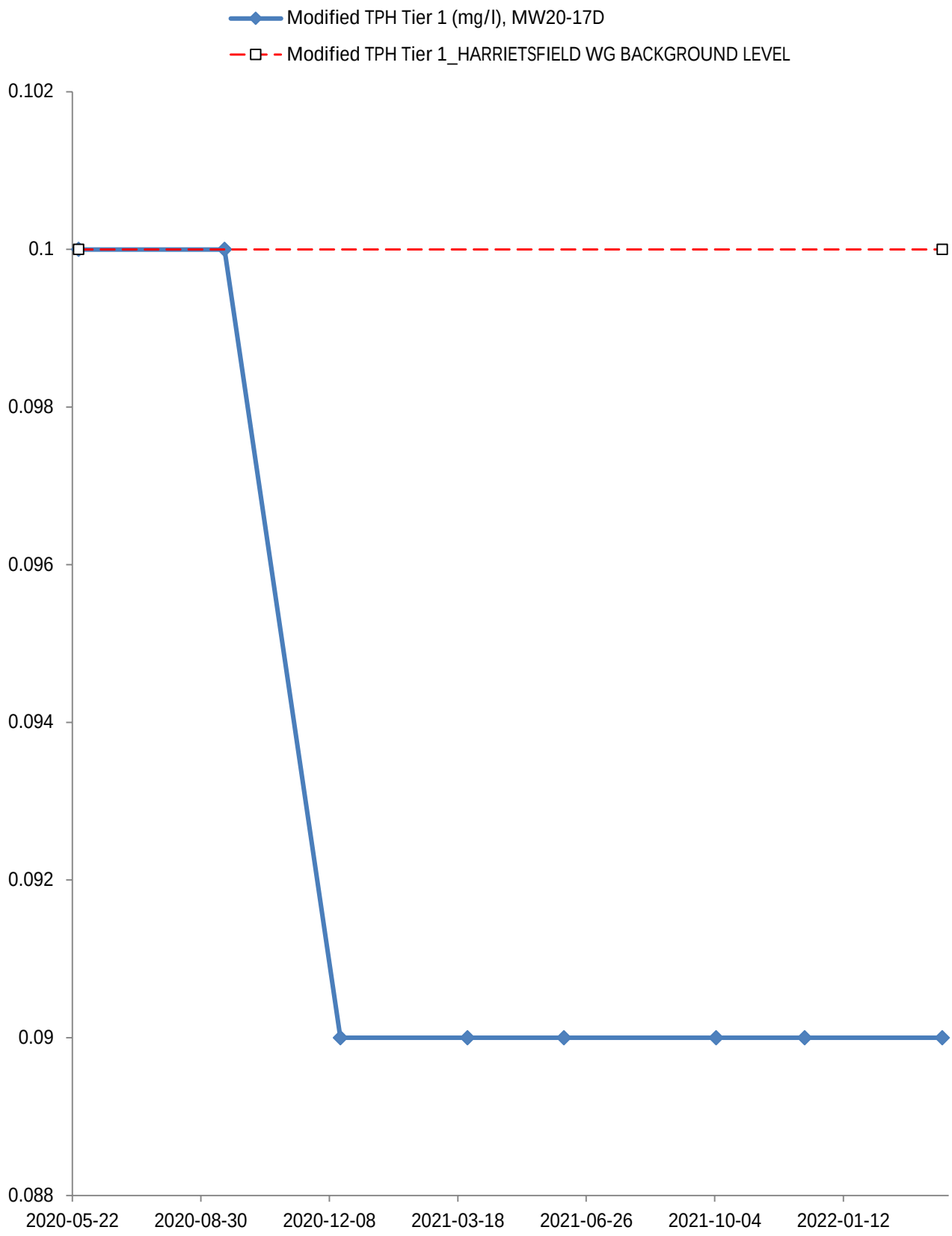
MW20-17D-Manganese



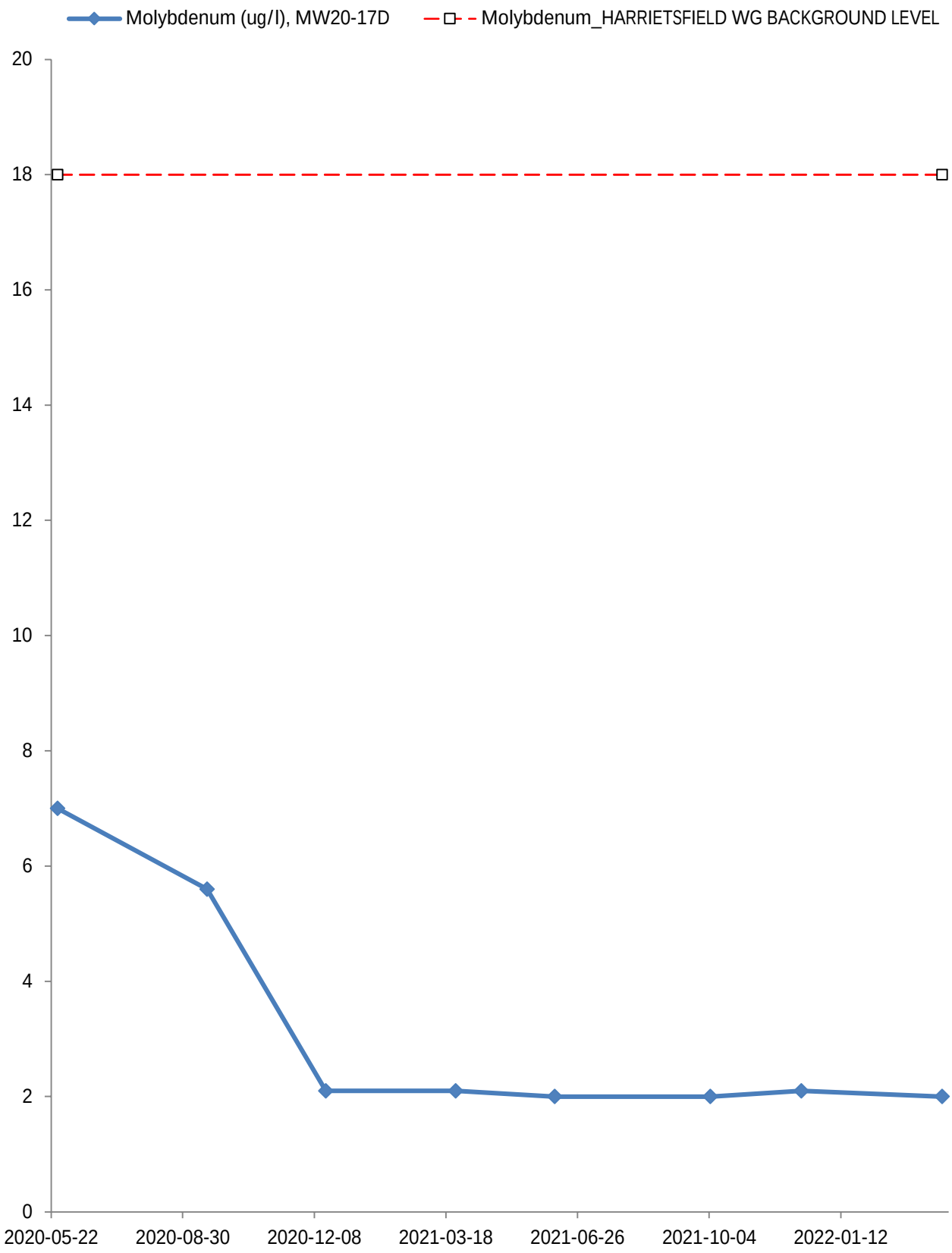
MW20-17D-Mercury



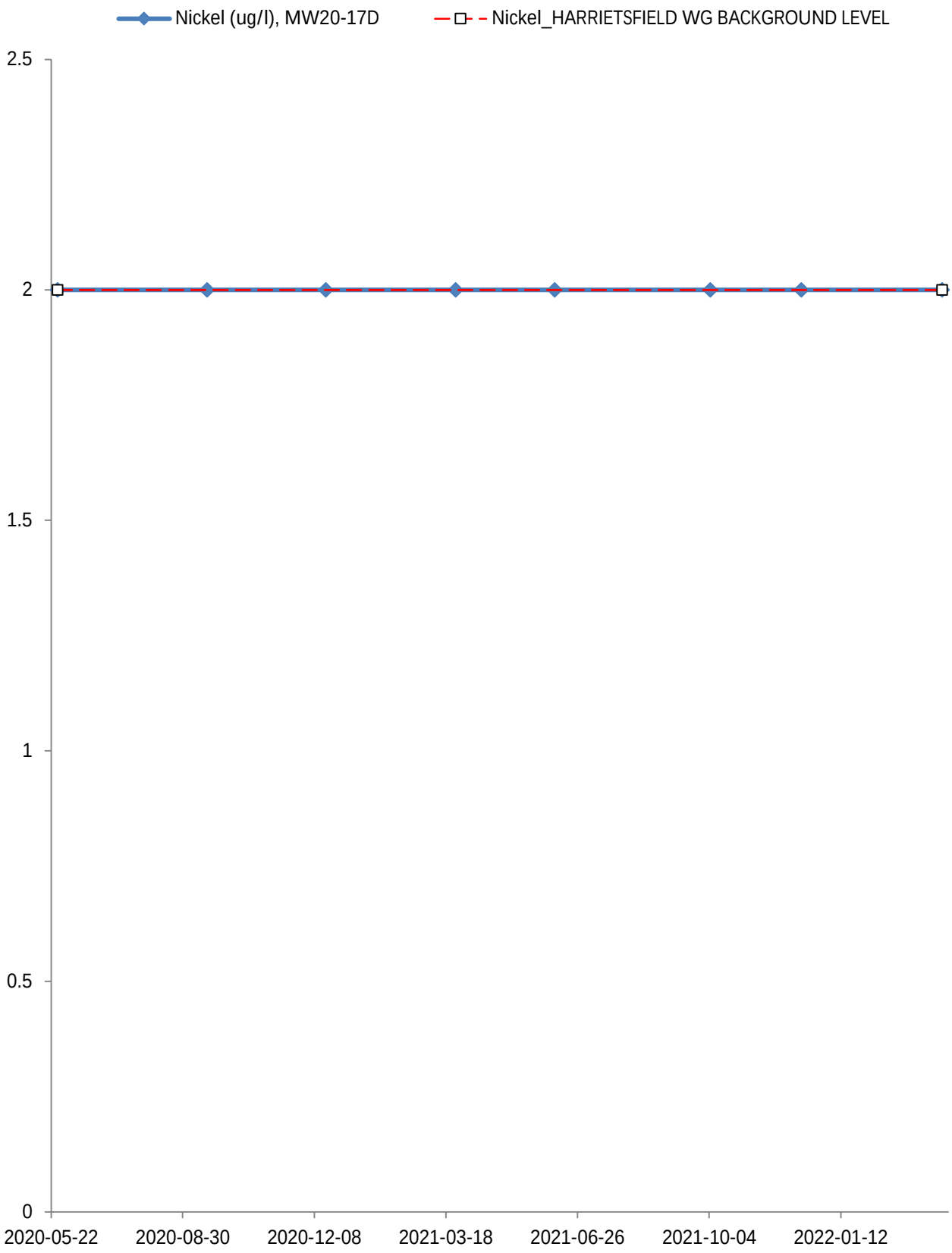
MW20-17D-Modified TPH Tier 1



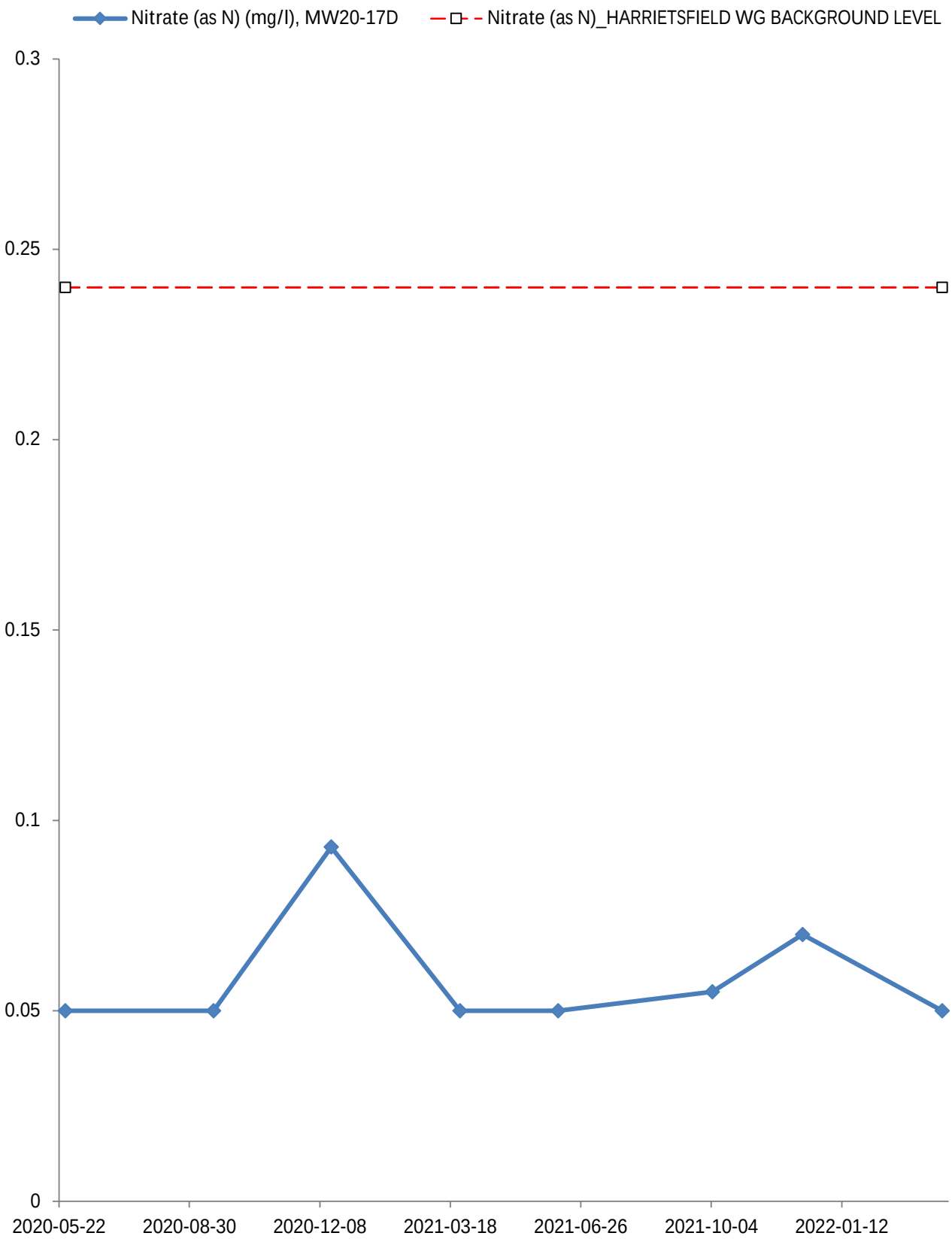
MW20-17D-Molybdenum



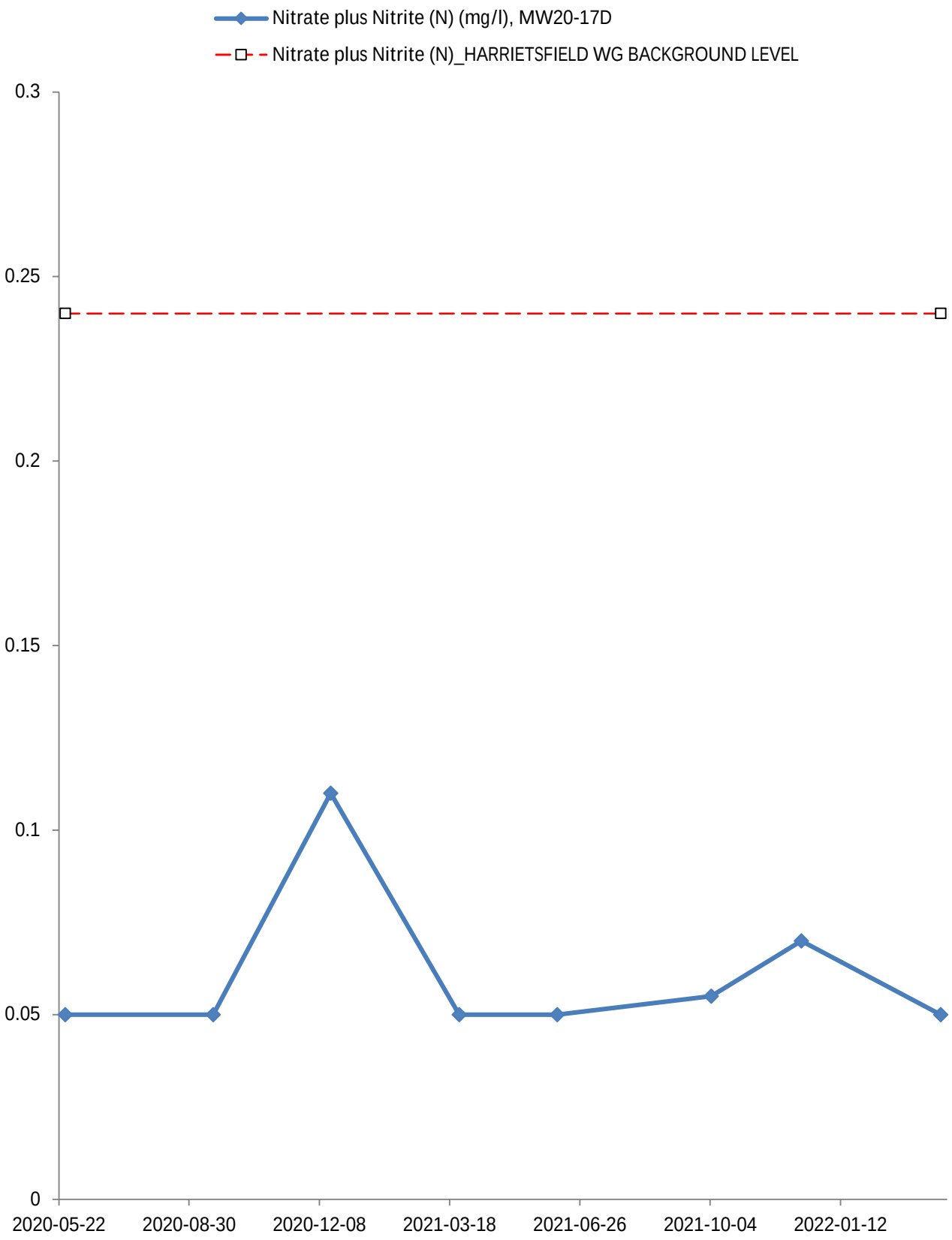
MW20-17D-Nickel



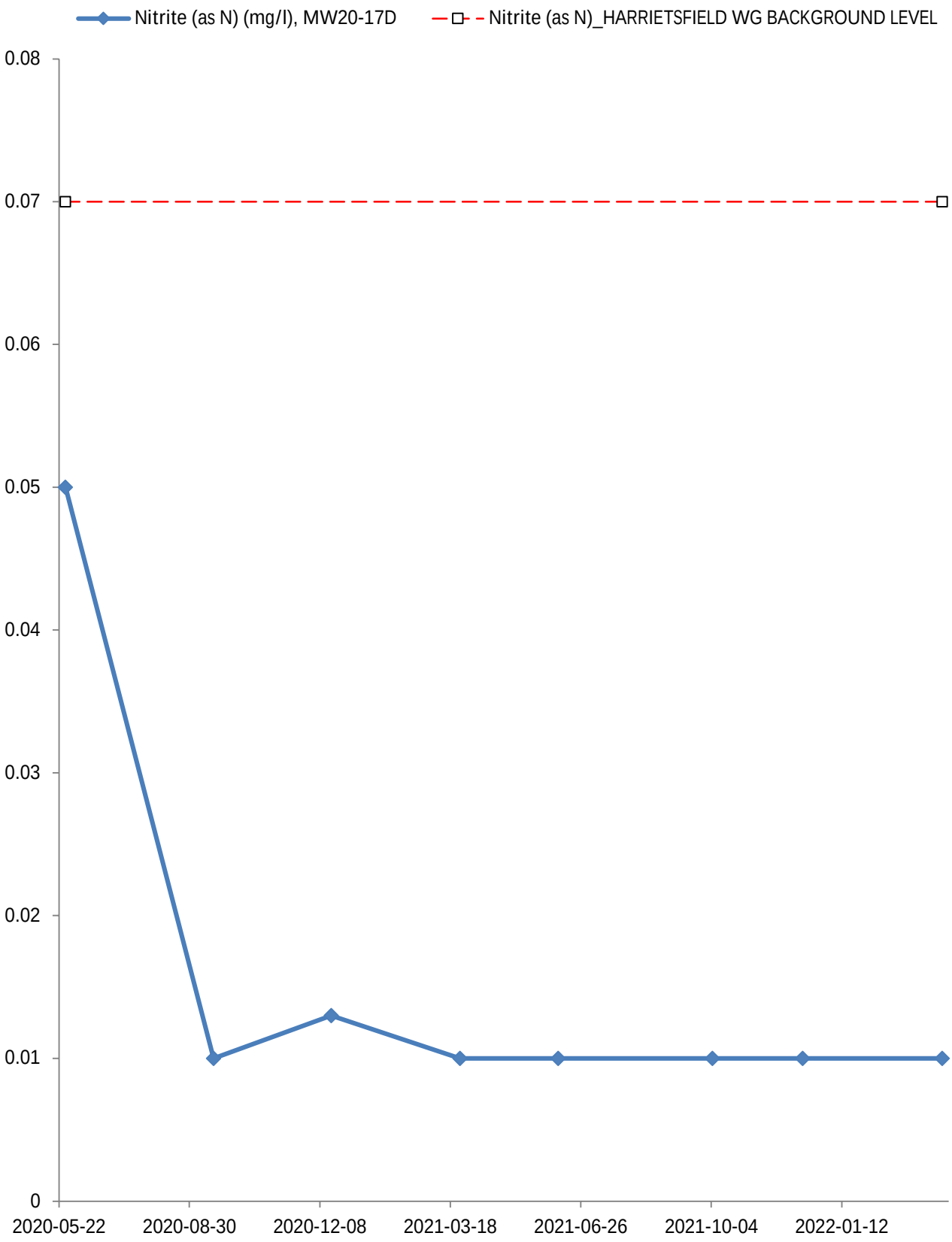
MW20-17D-Nitrate (as N)



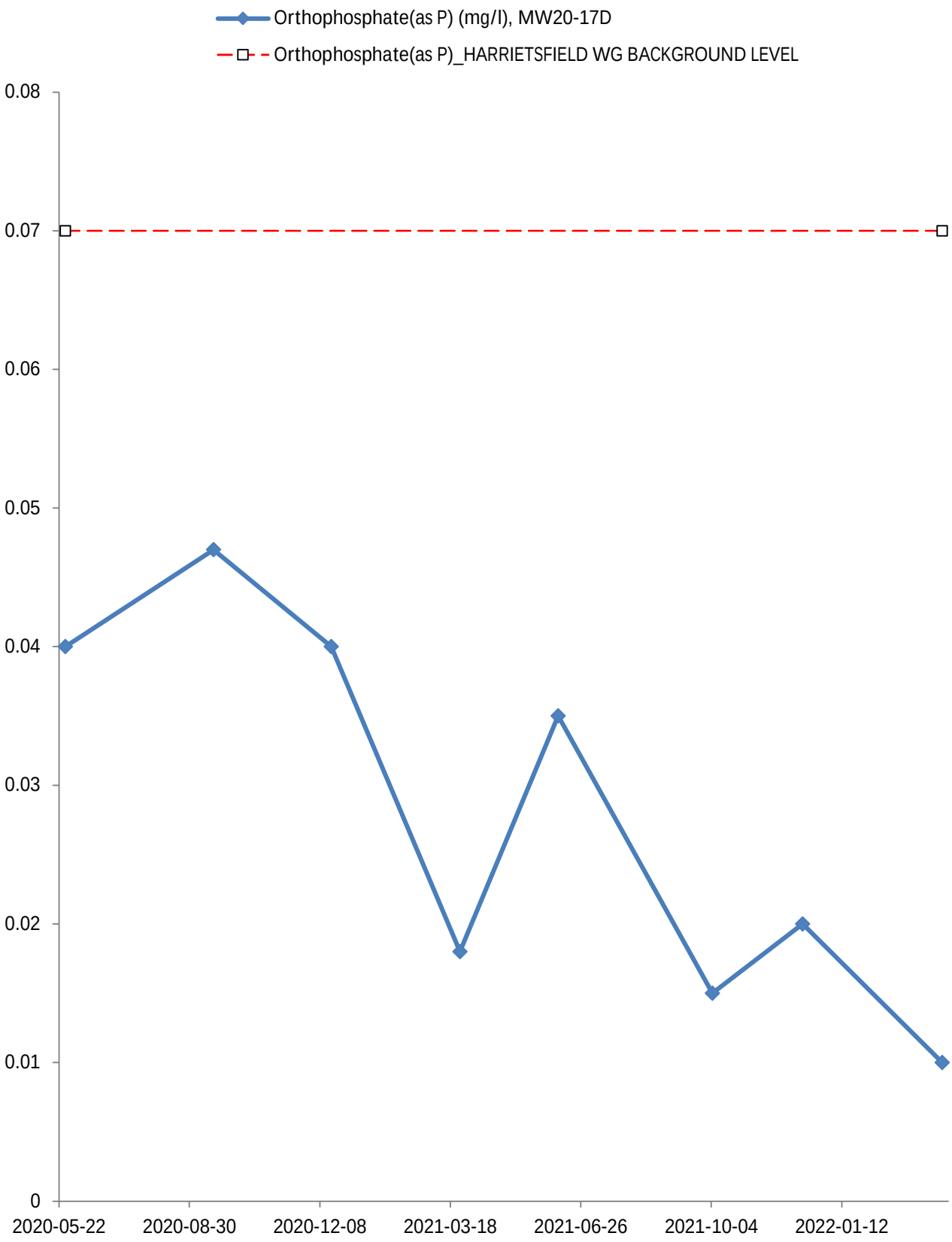
MW20-17D-Nitrate plus Nitrite (N)



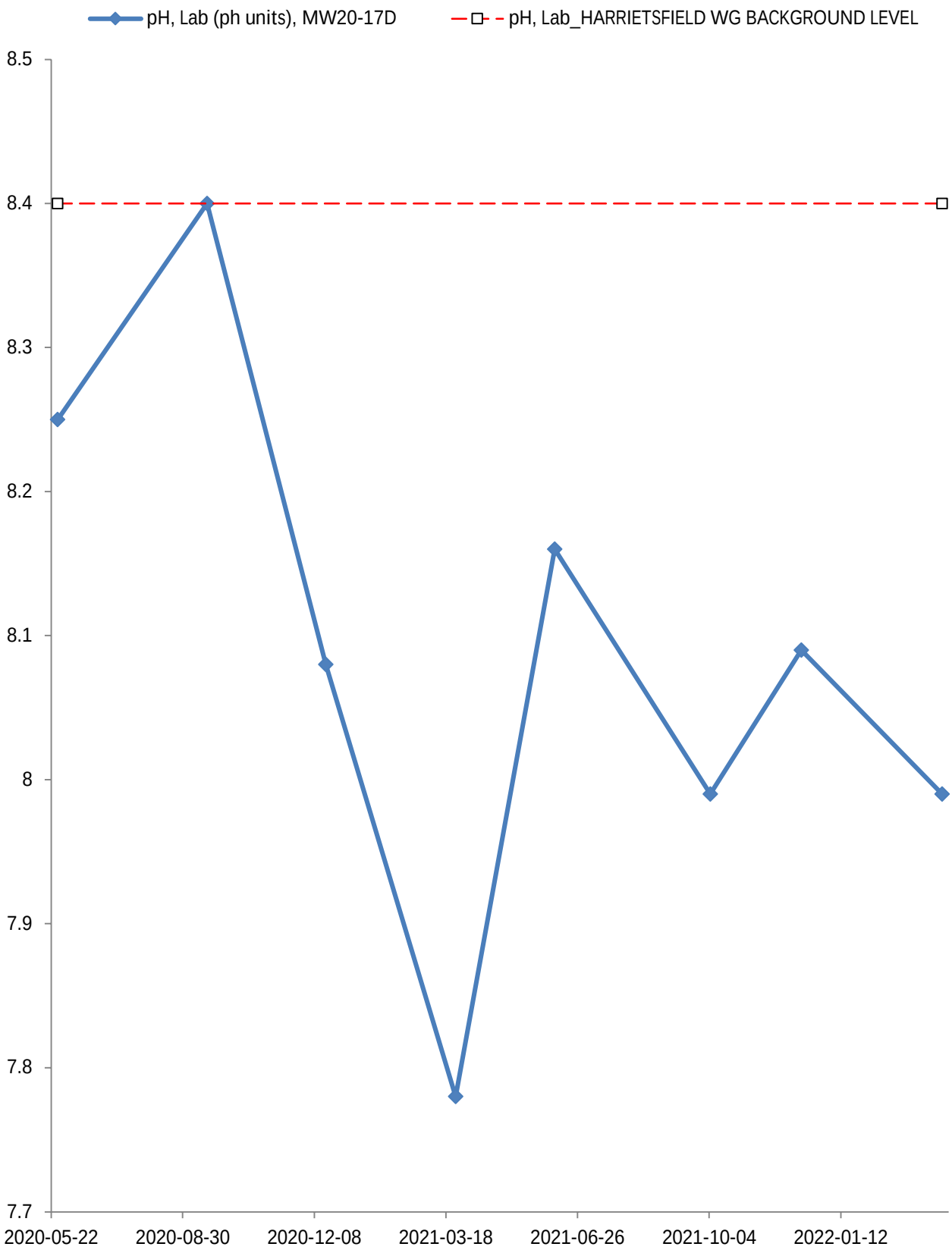
MW20-17D-Nitrite (as N)



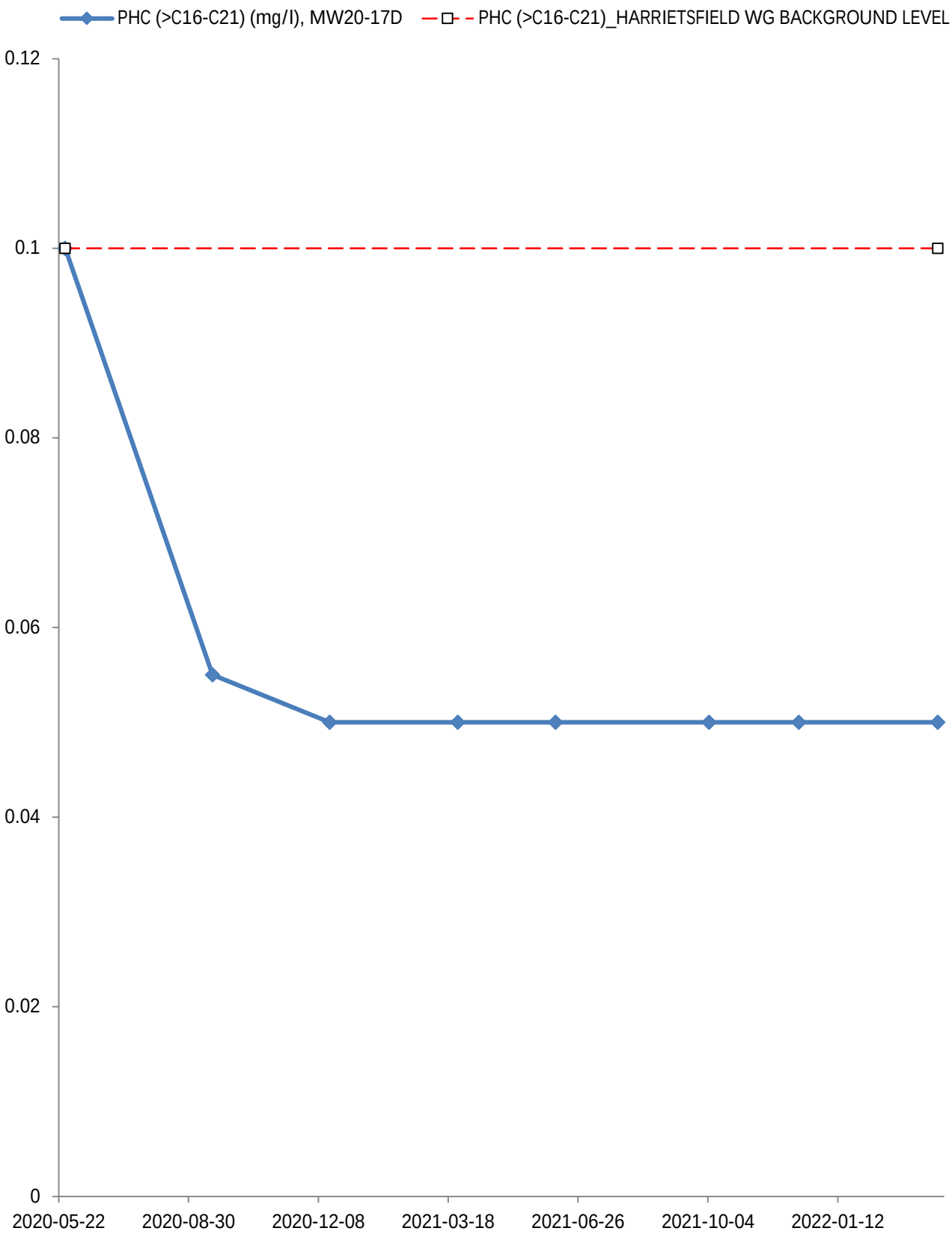
MW20-17D-Orthophosphate(as P)



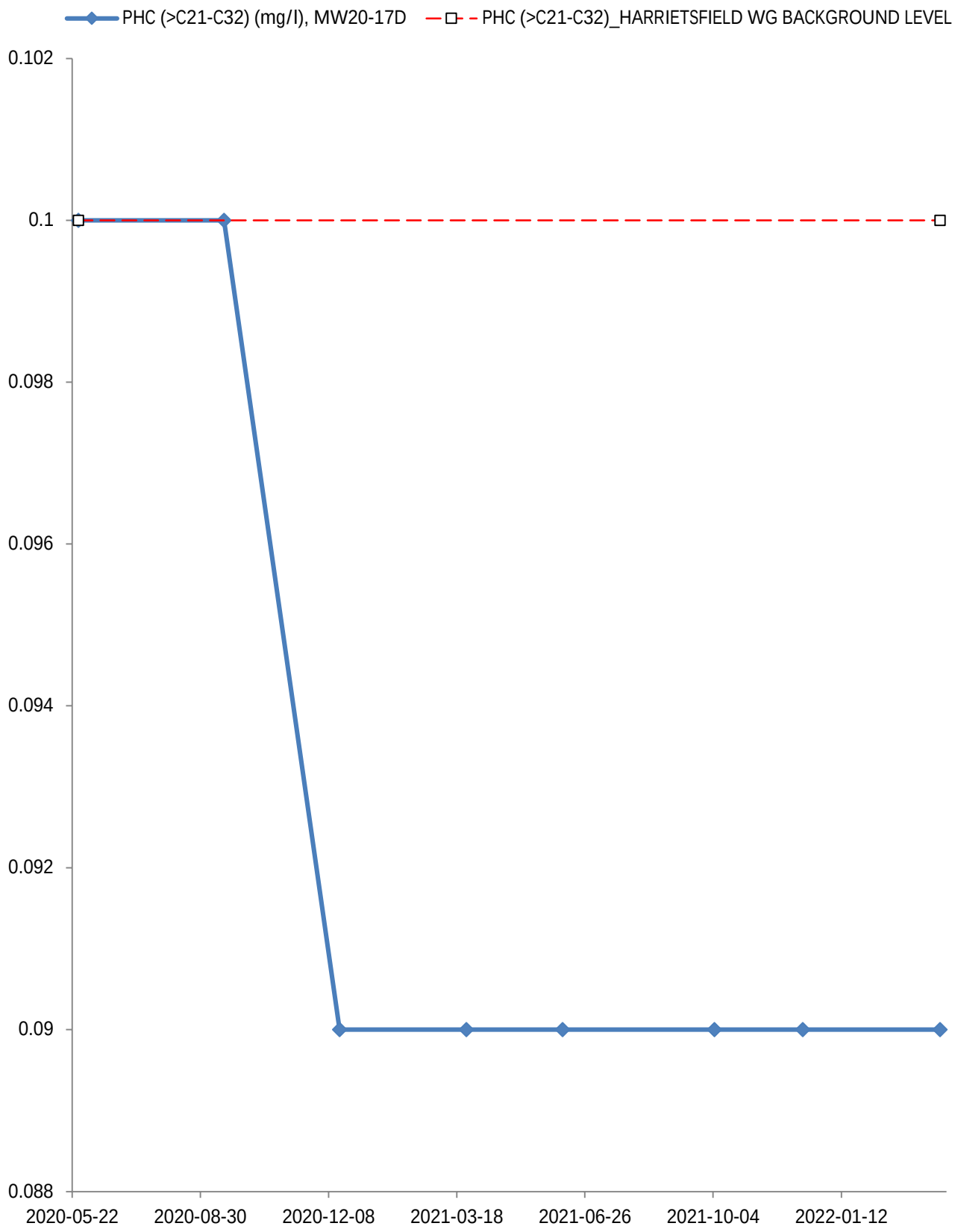
MW20-17D-pH, Lab



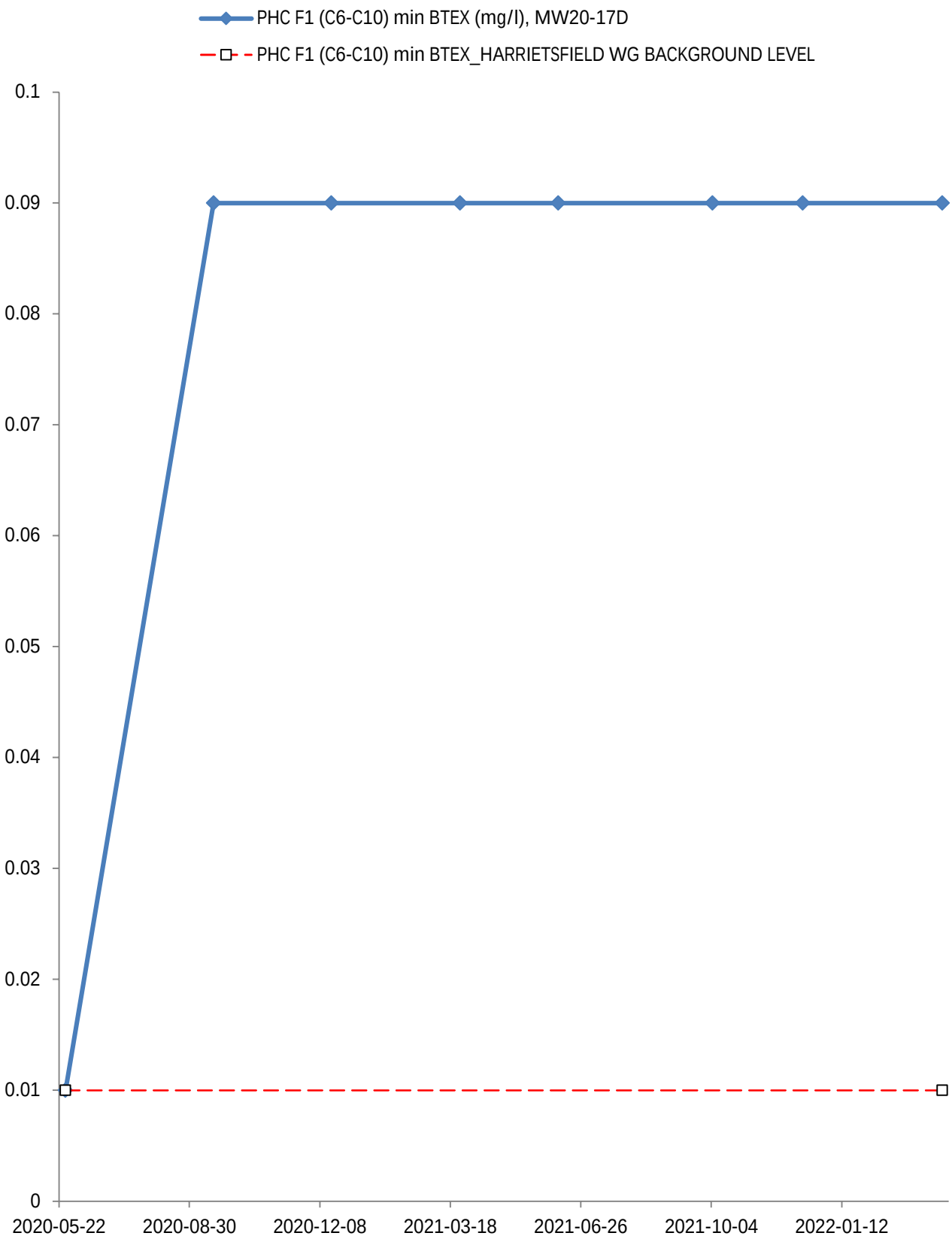
MW20-17D-PHC (>C16-C21)



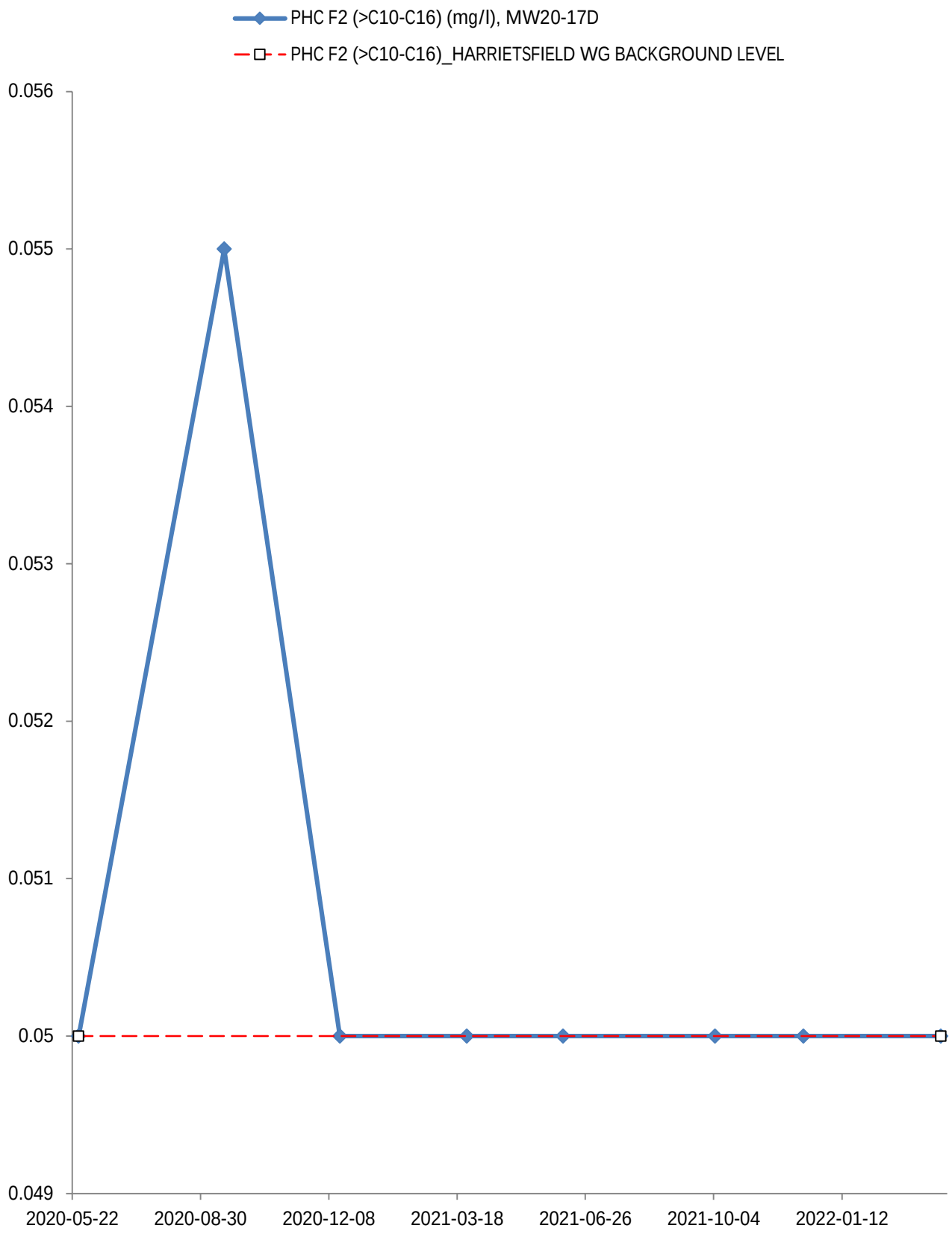
MW20-17D-PHC (>C21-C32)



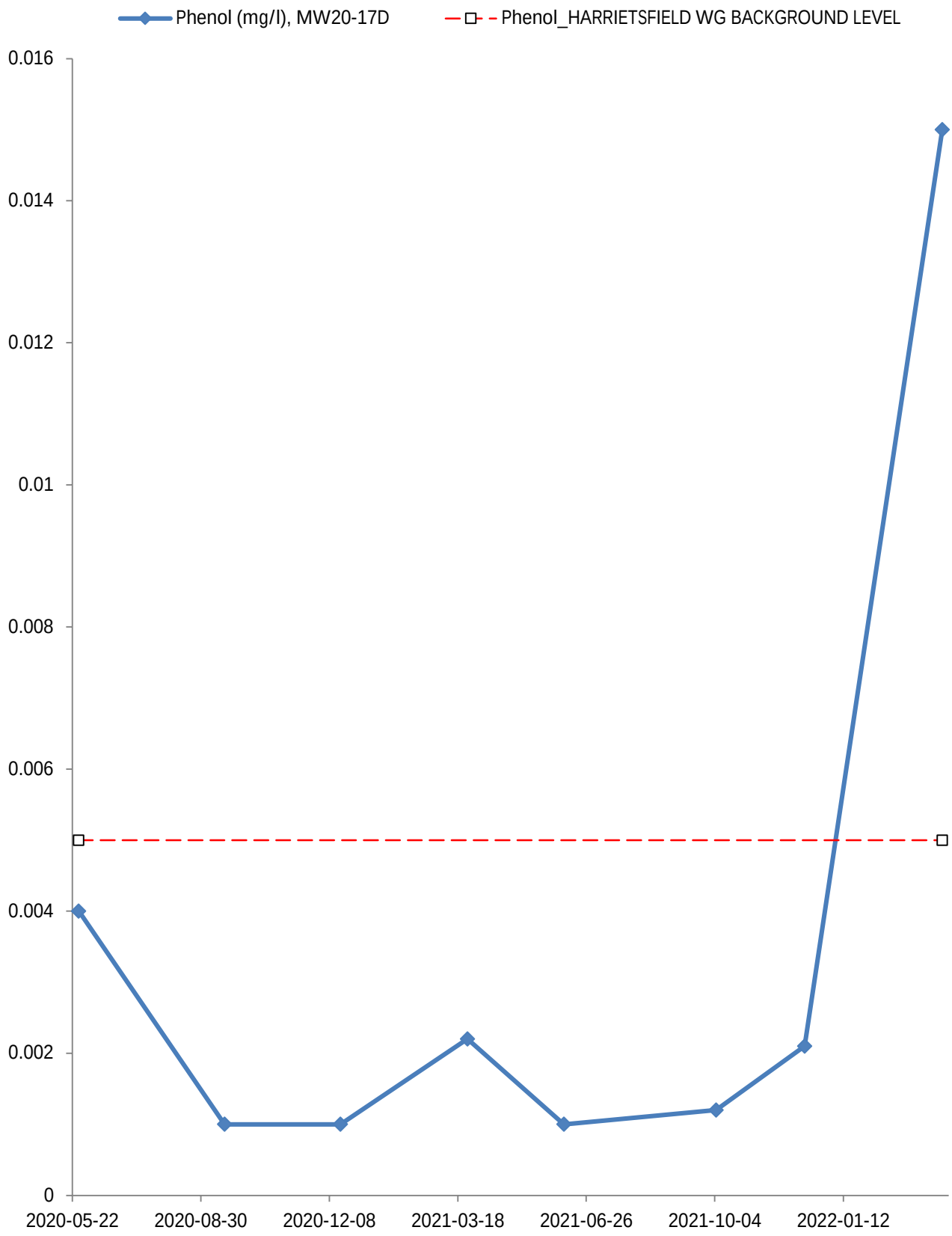
MW20-17D-PHC F1 (C6-C10) min BTEX



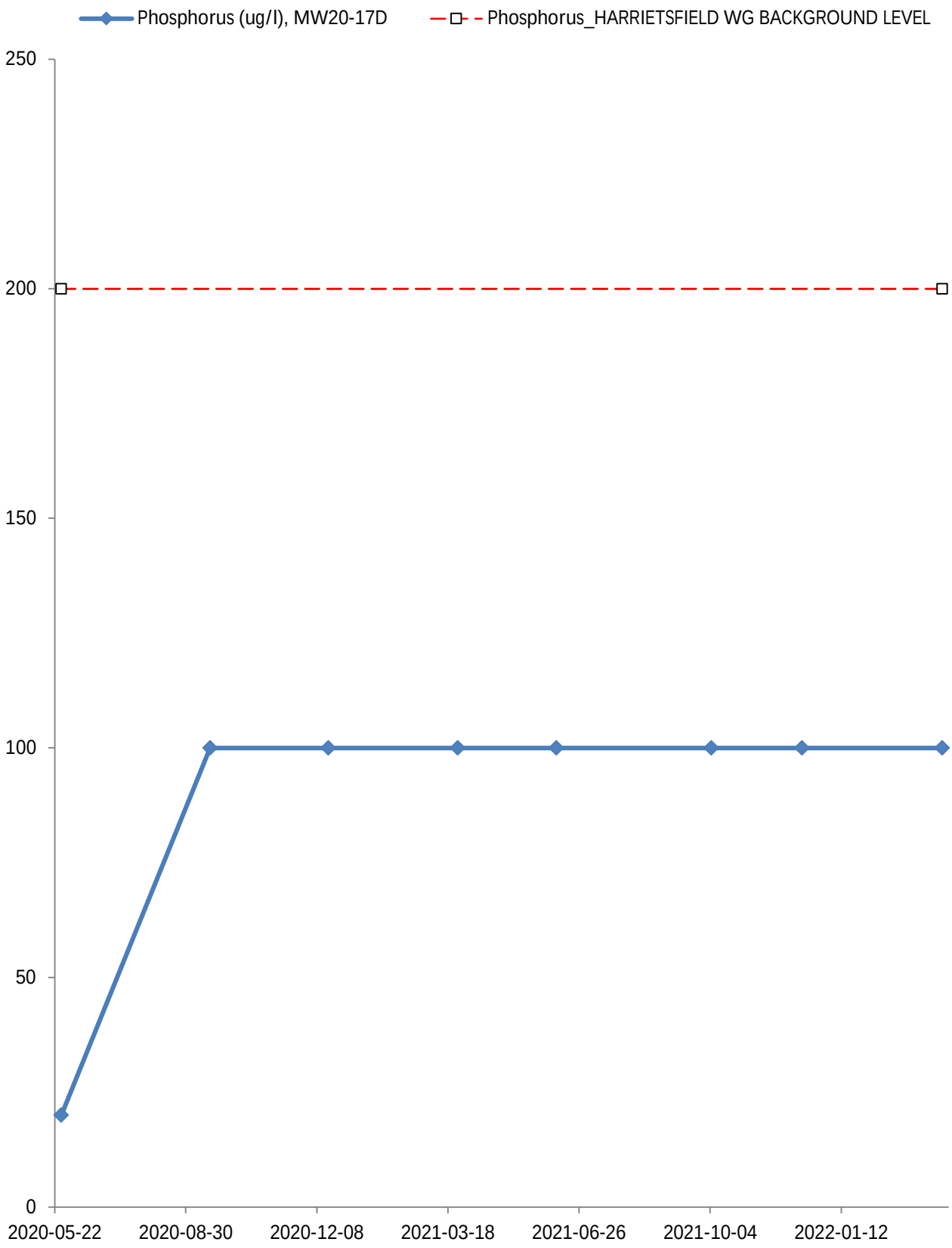
MW20-17D-PHC F2 (>C10-C16)



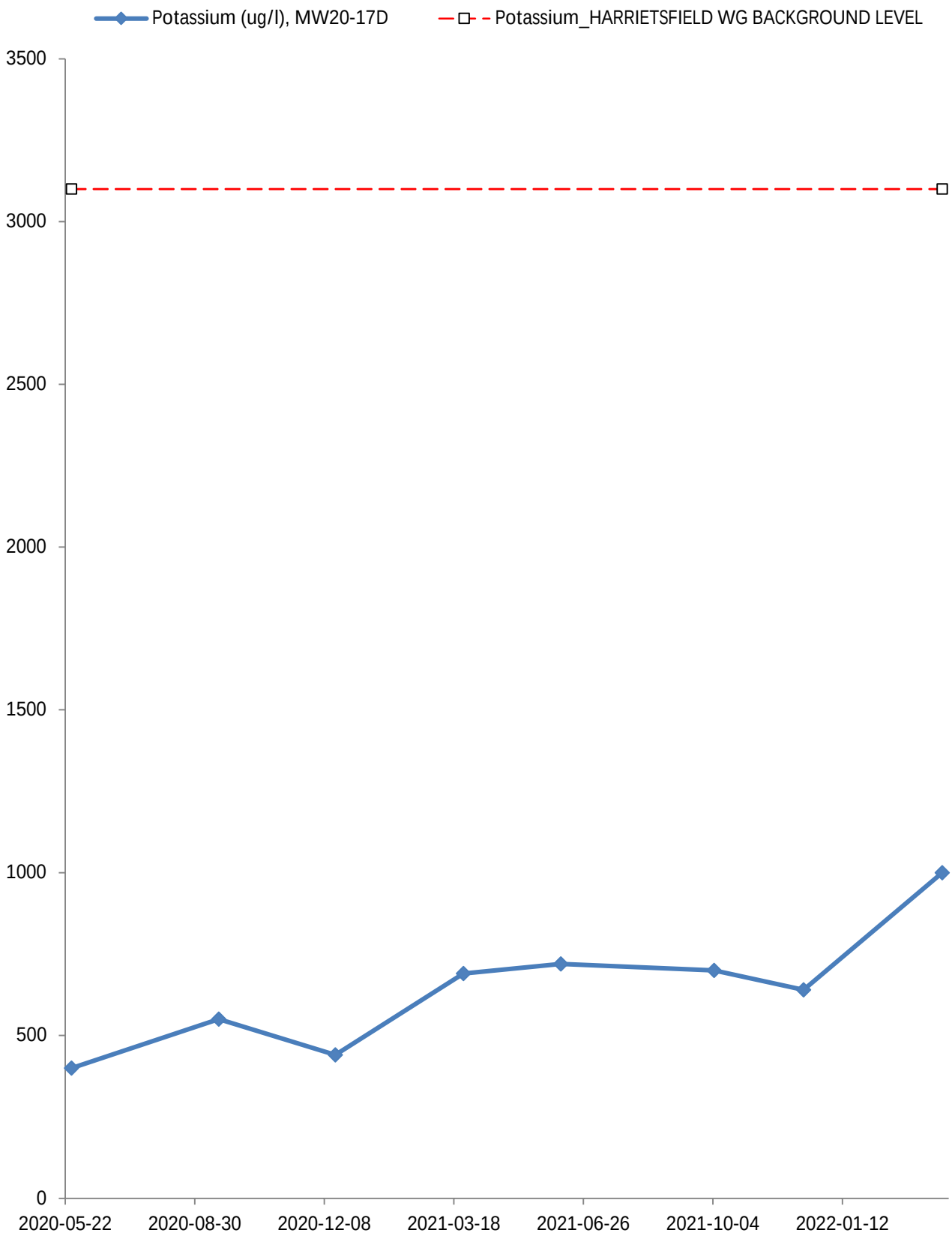
MW20-17D-Phenol



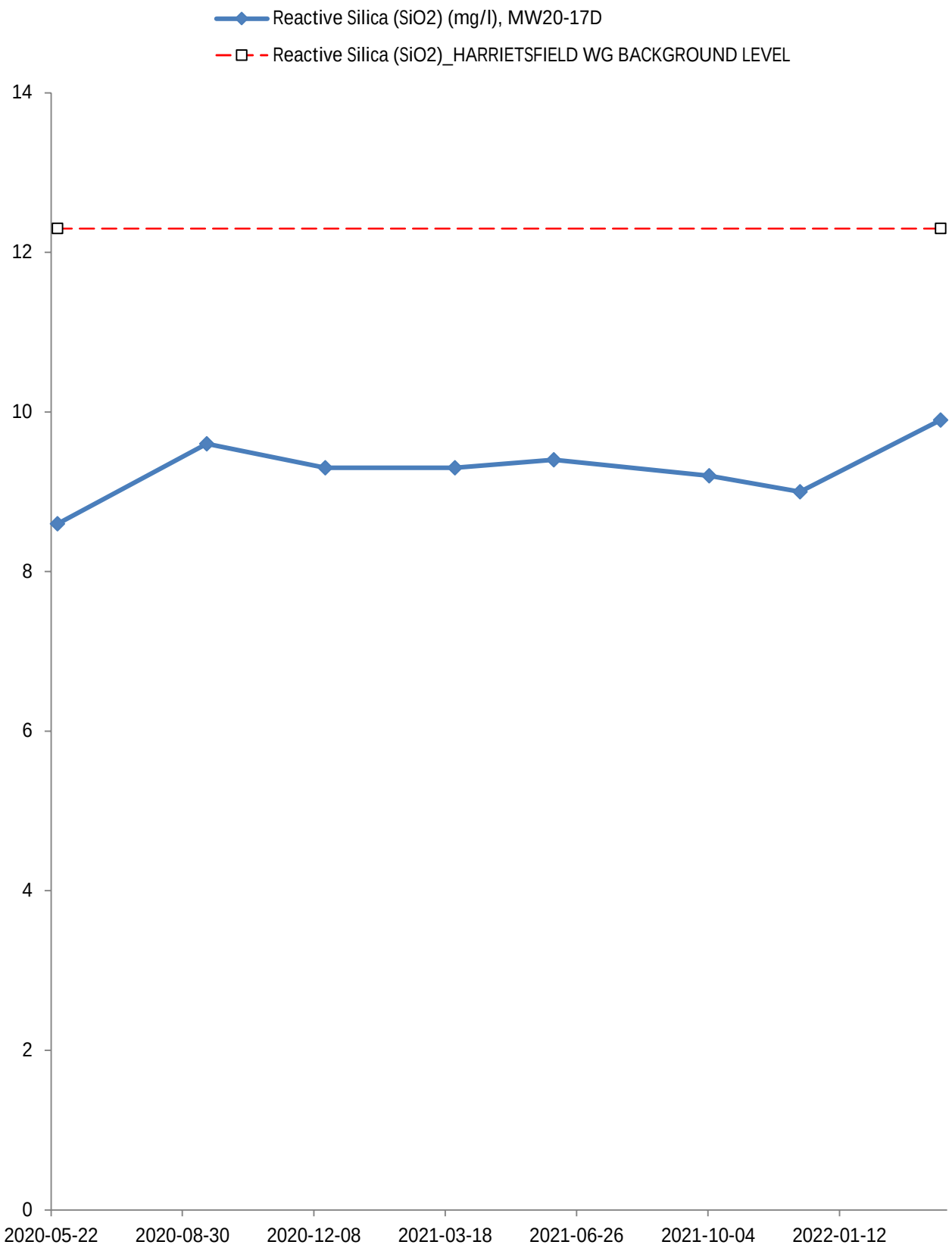
MW20-17D-Phosphorus



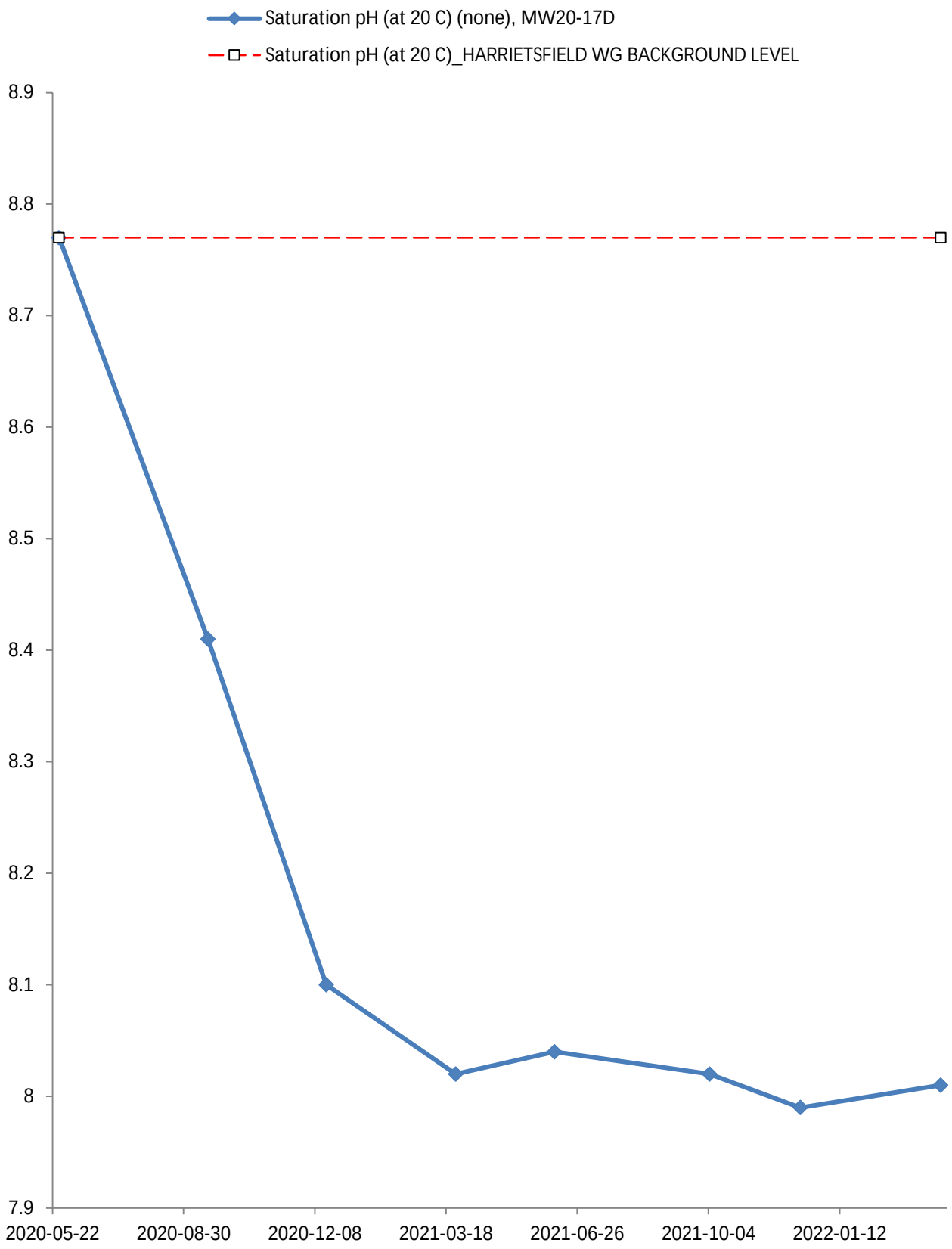
MW20-17D-Potassium



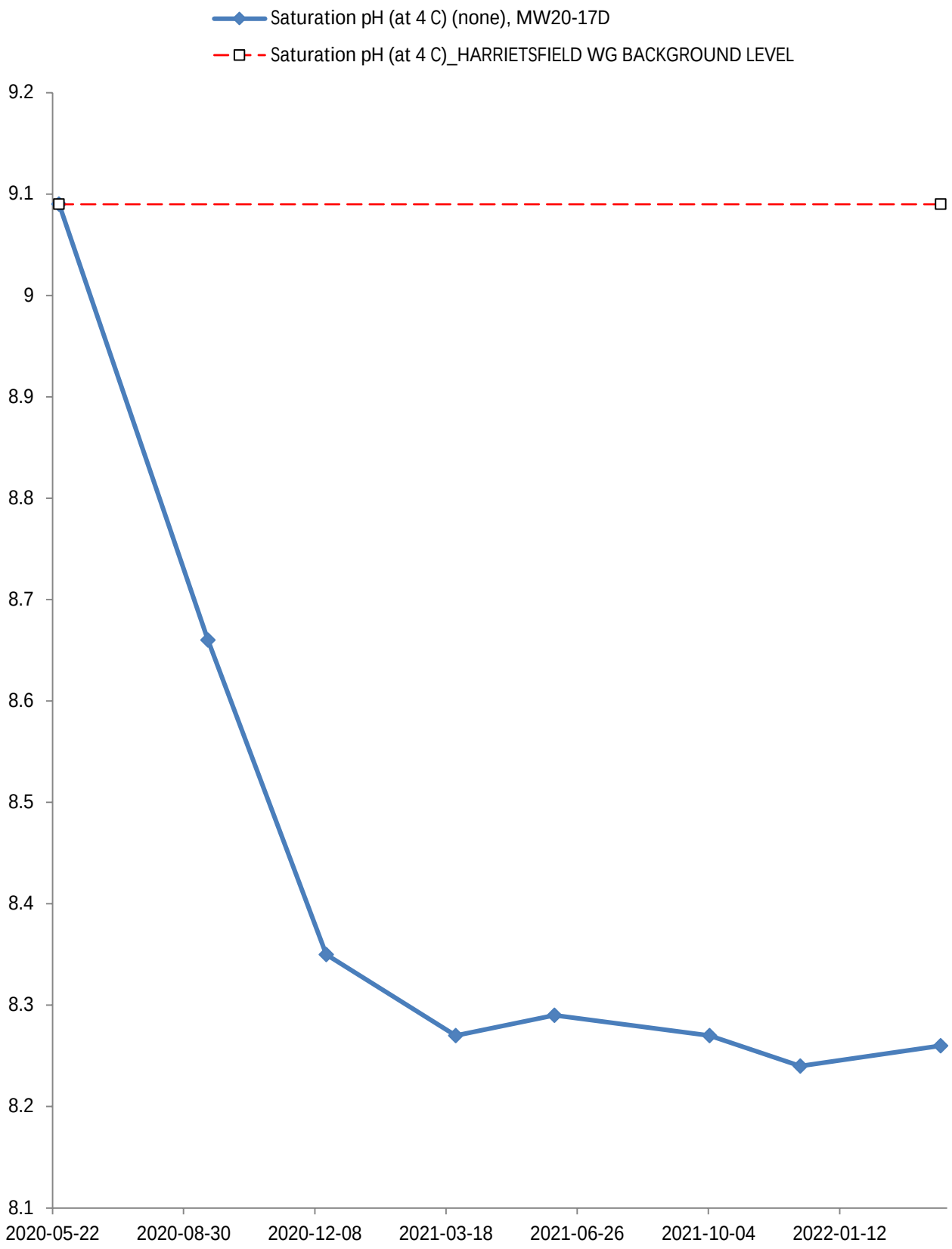
MW20-17D-Reactive Silica (SiO2)

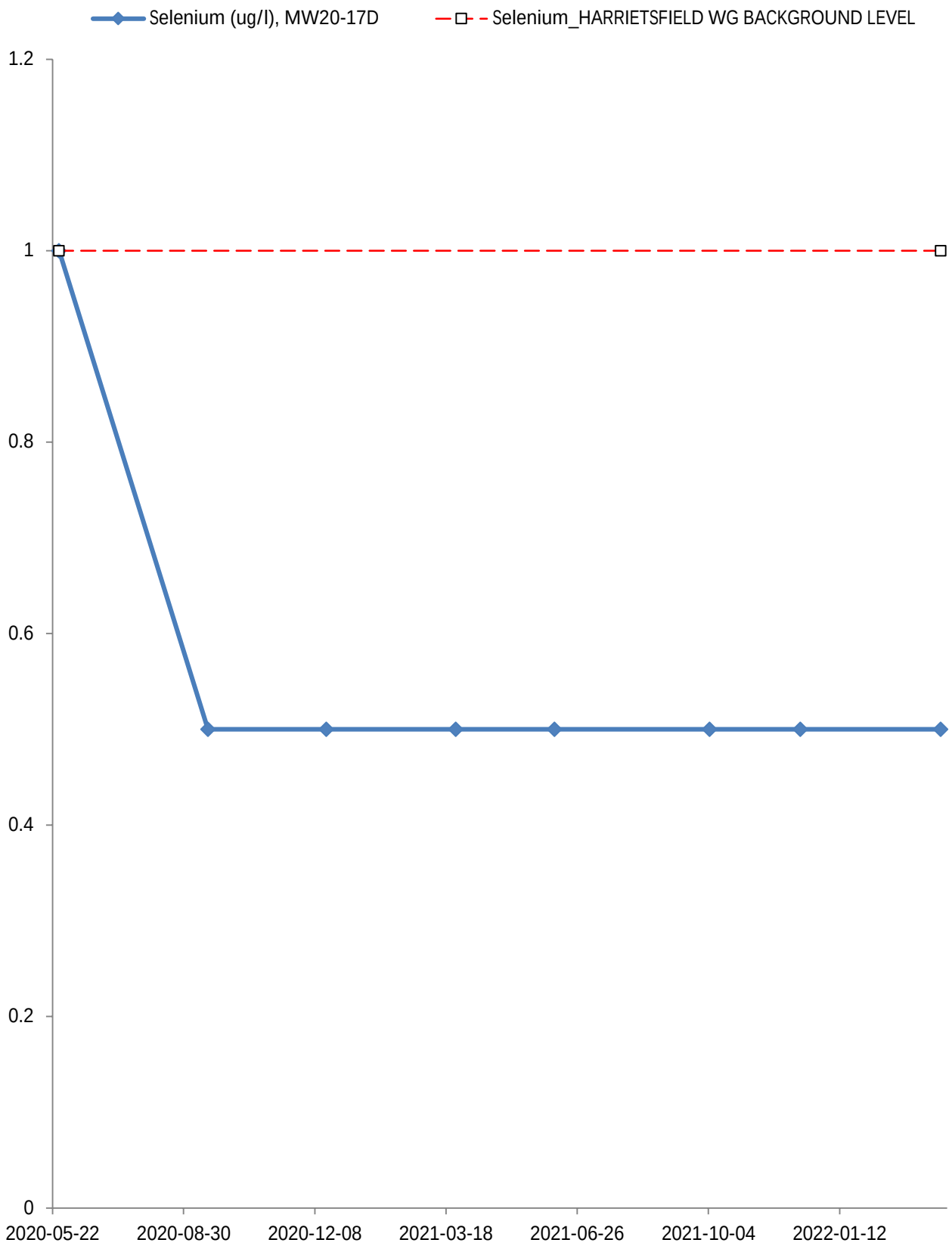


MW20-17D-Saturation pH (at 20 C)

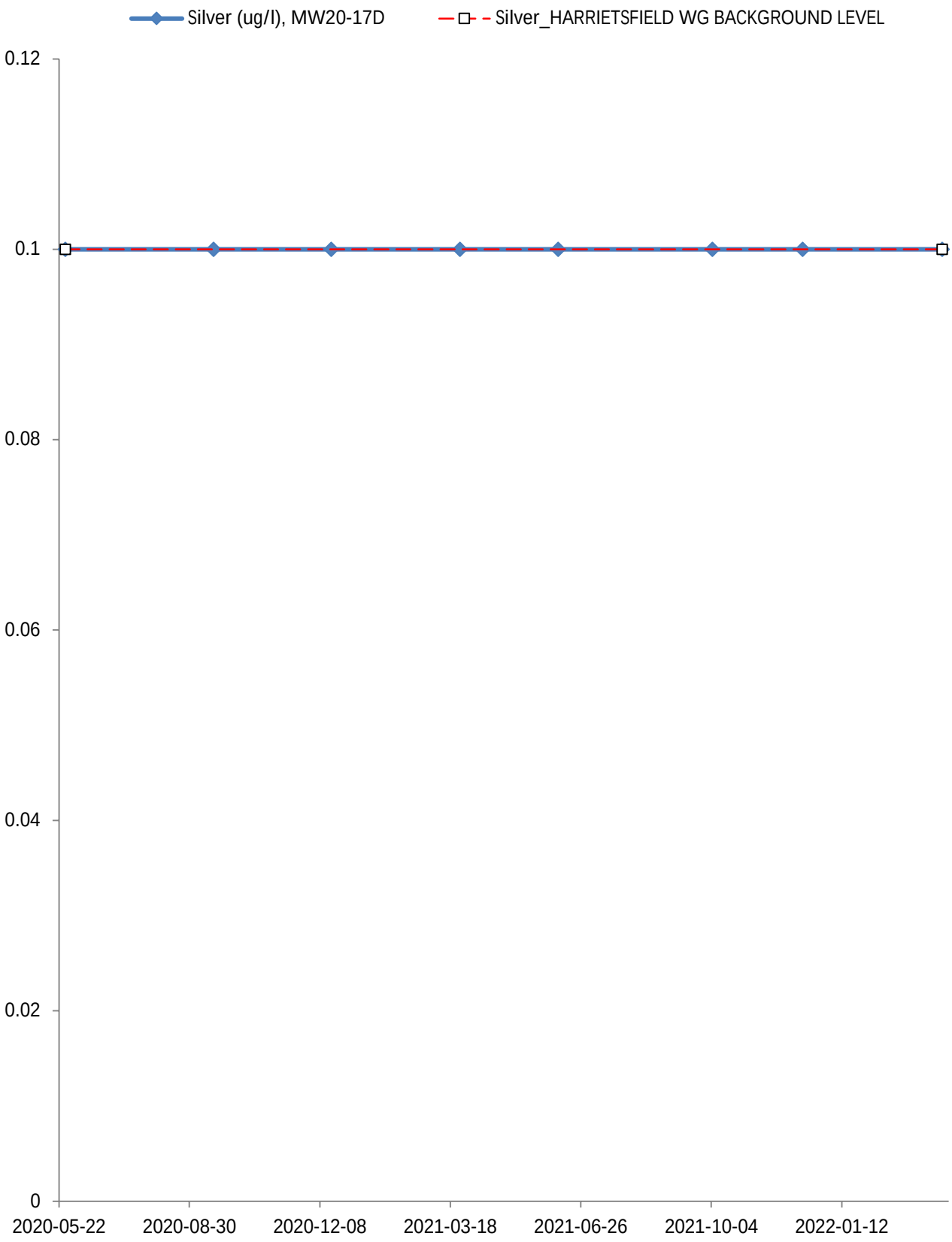


MW20-17D-Saturation pH (at 4 C)

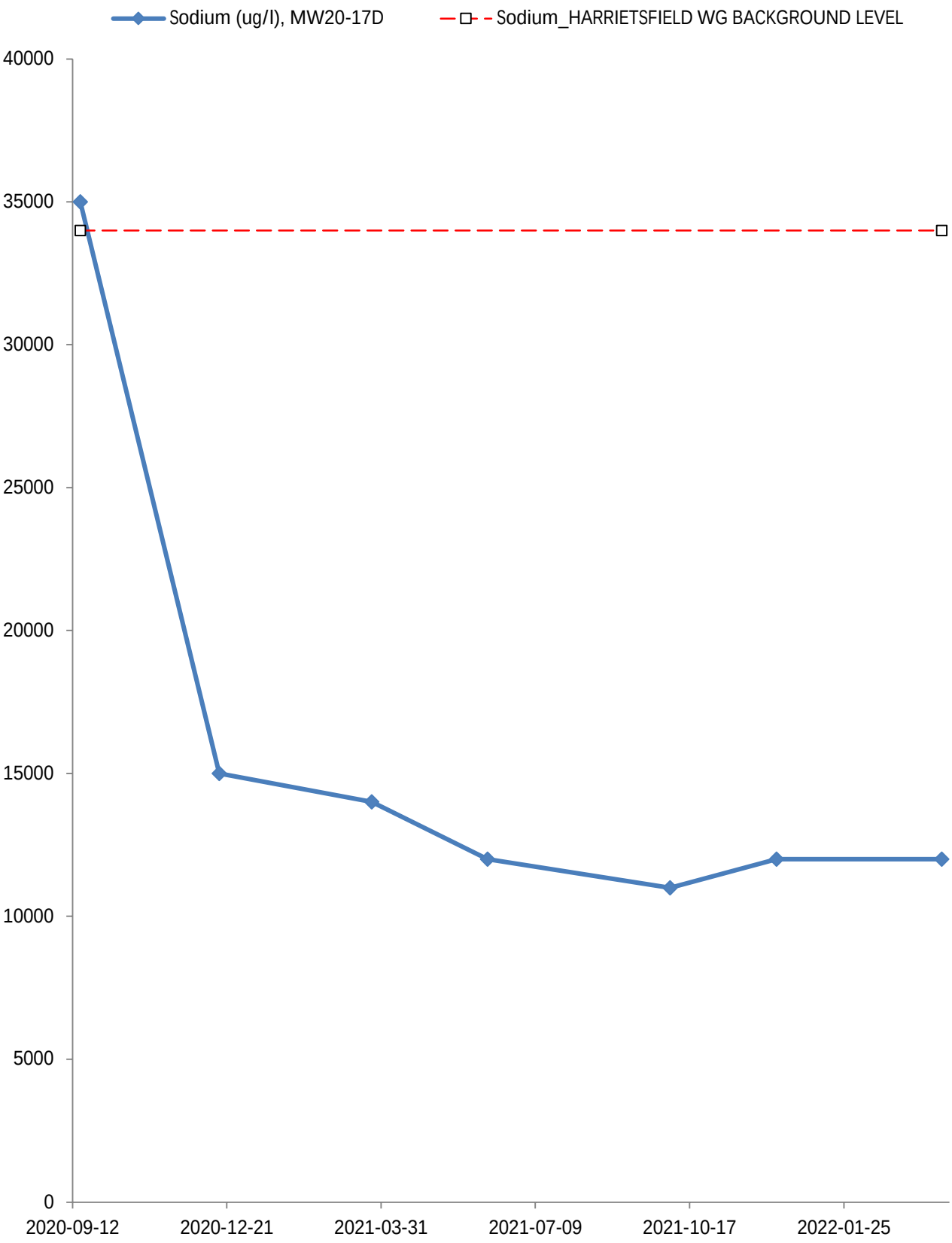



Selenium (ug/l), MW20-17D
Selenium_HARRIETSFIELD WG BACKGROUND LEVEL
1.2
1
0.8
0.6
0.4
0.2
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

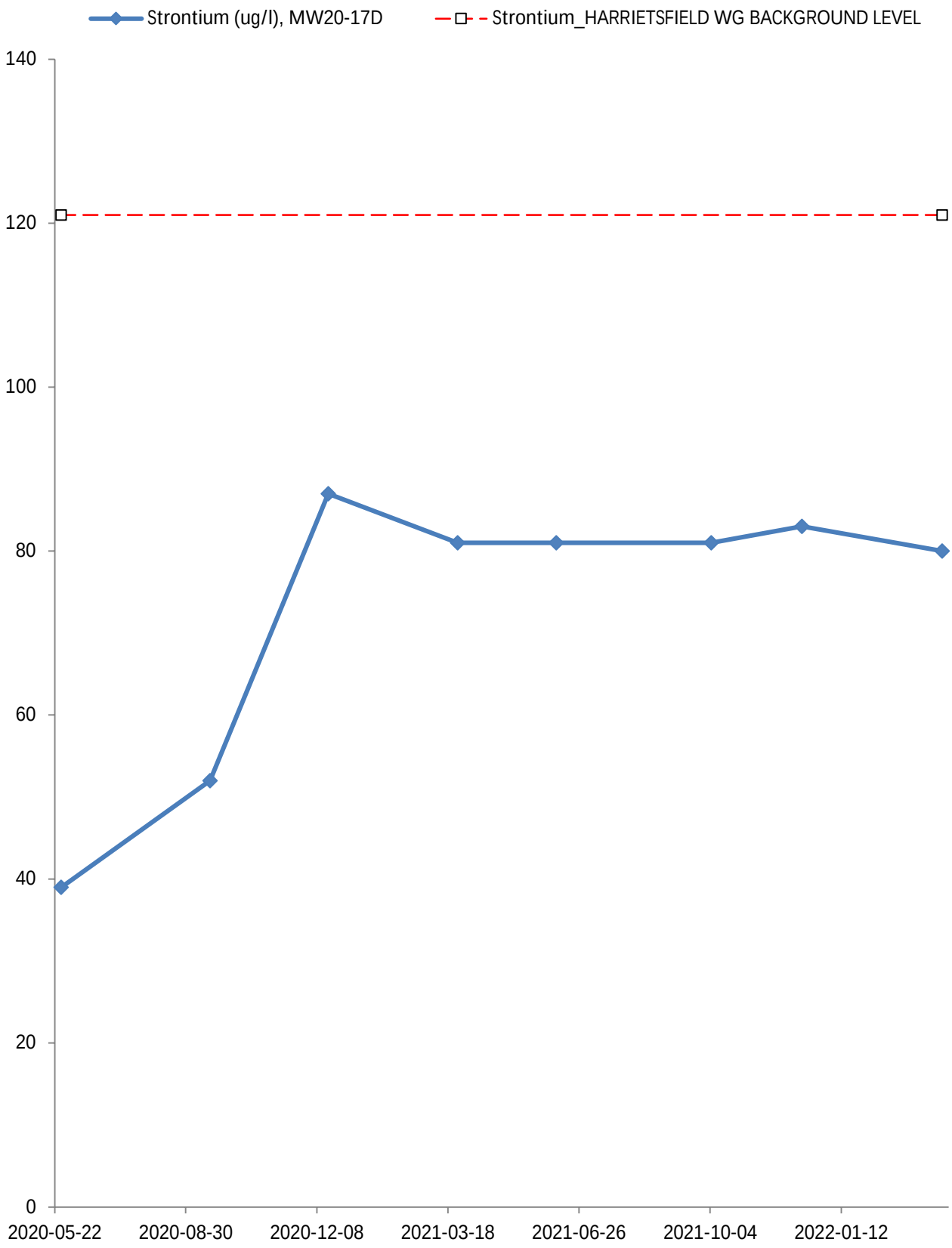
MW20-17D-Silver



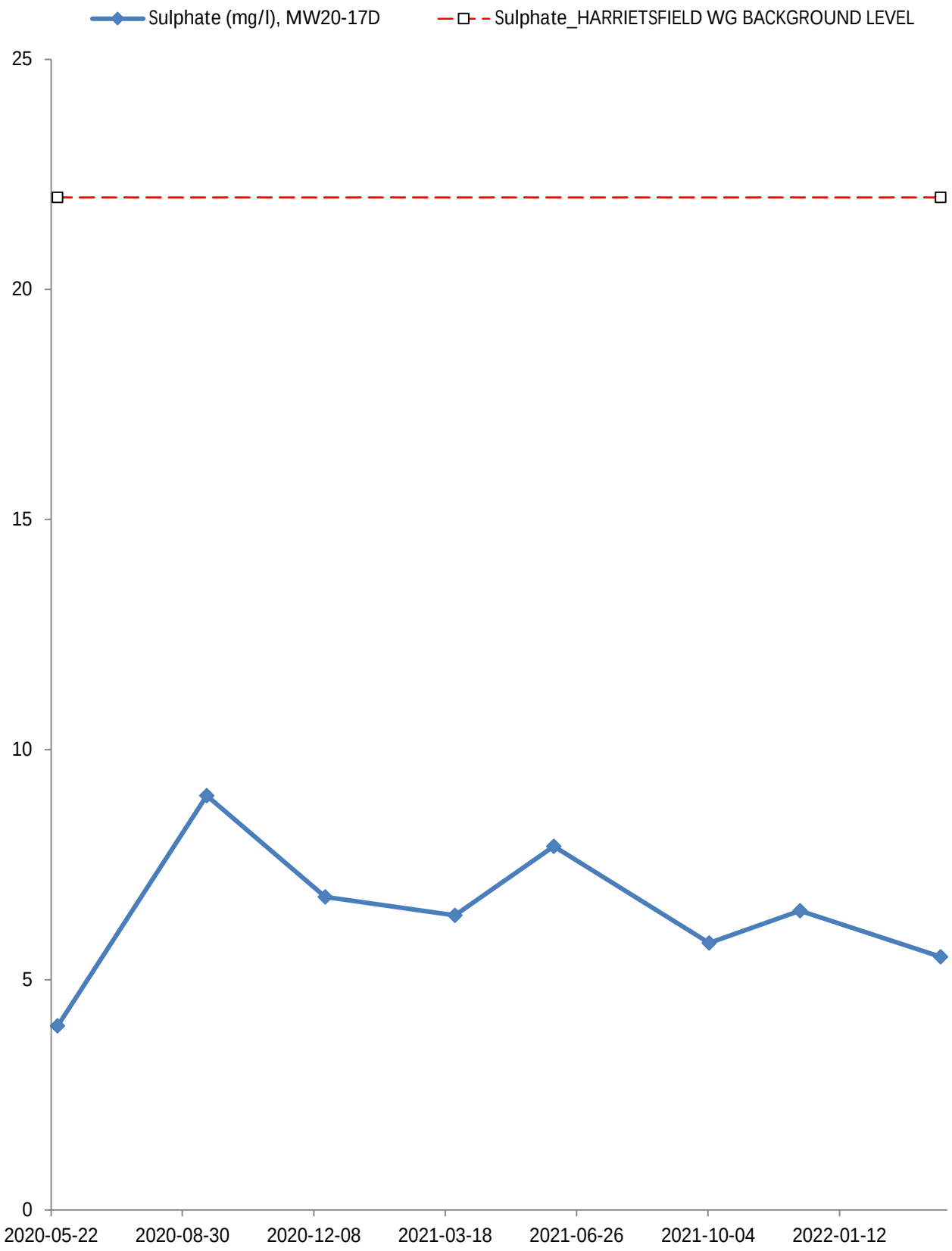
MW20-17D-Sodium



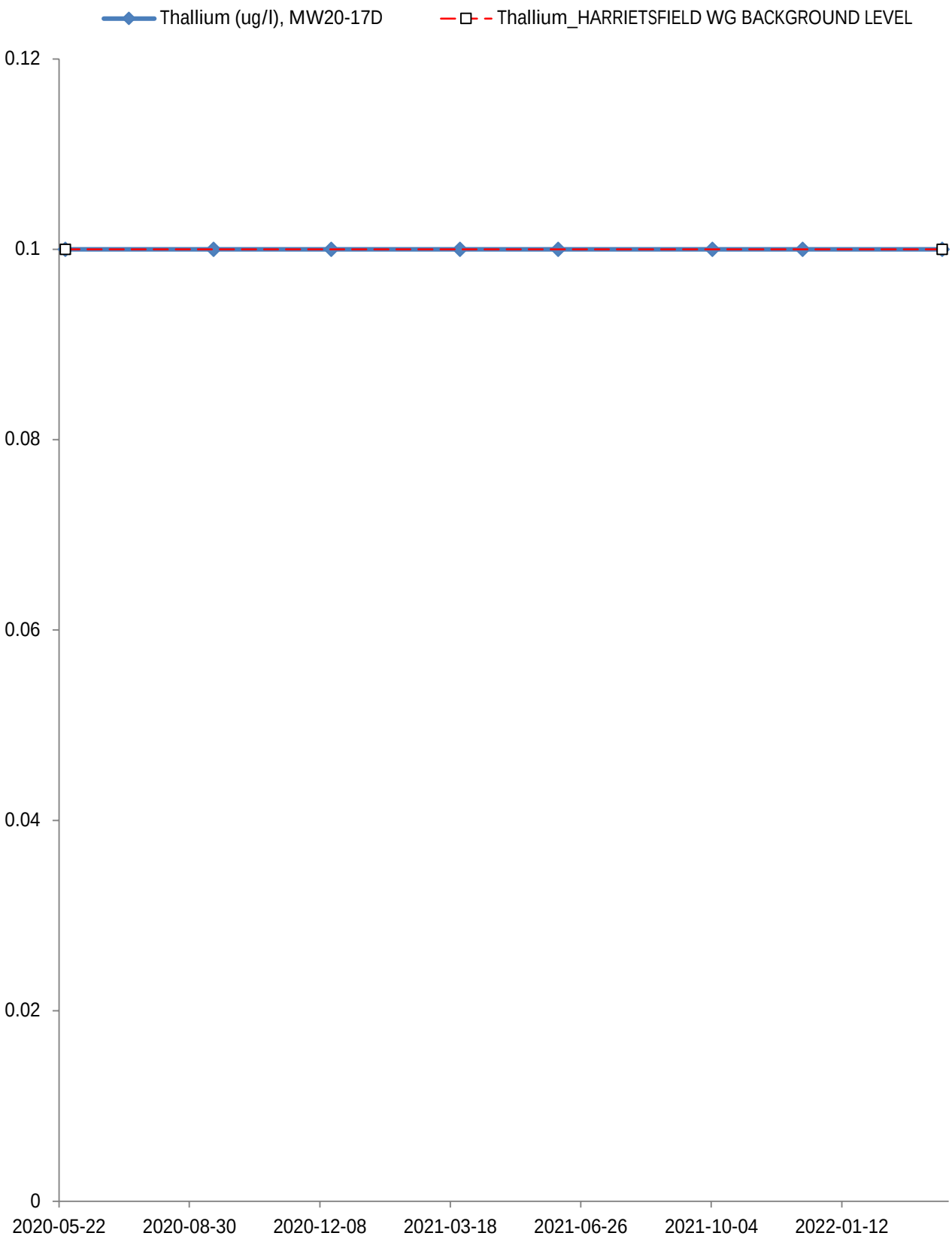
MW20-17D-Strontium



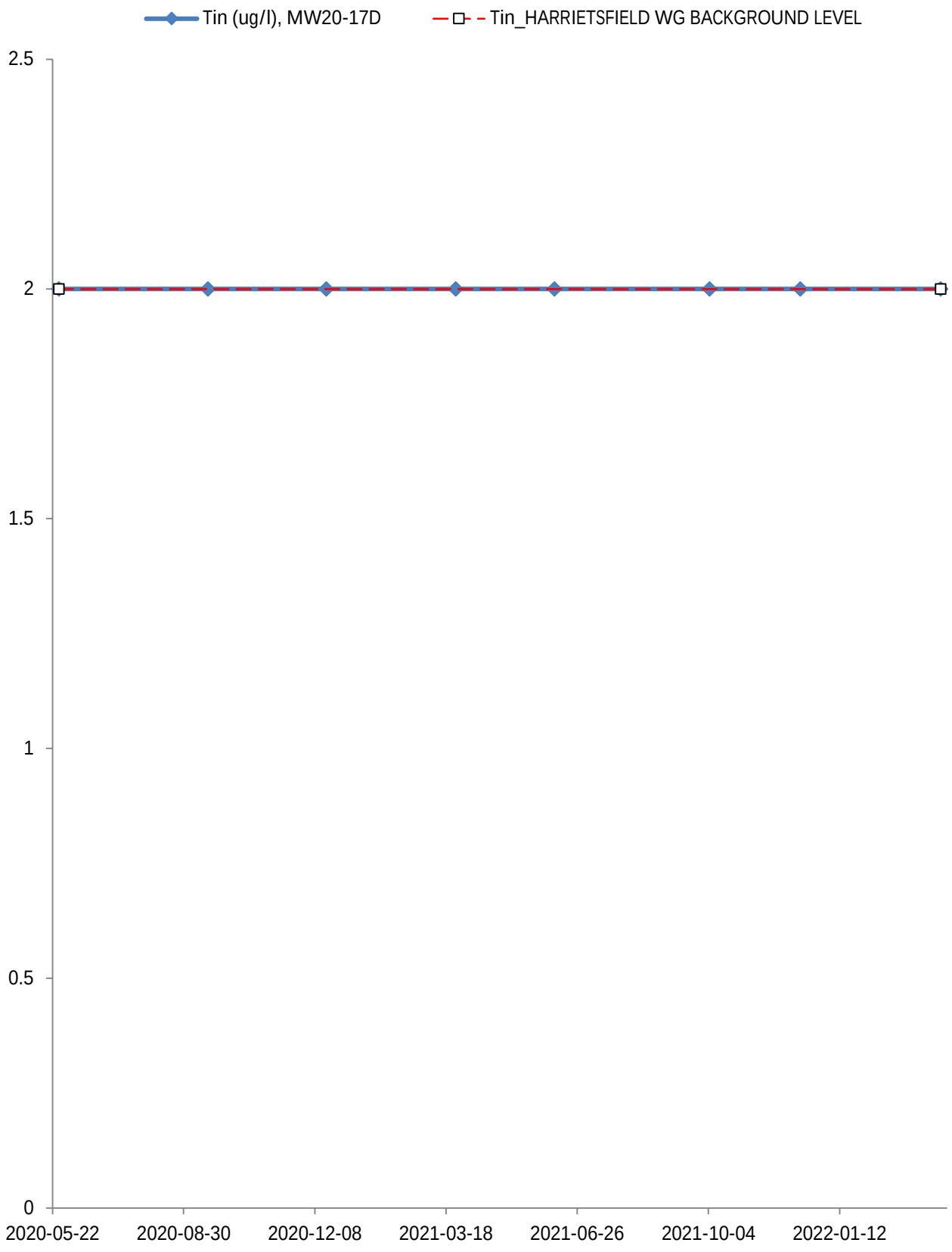
MW20-17D-Sulphate



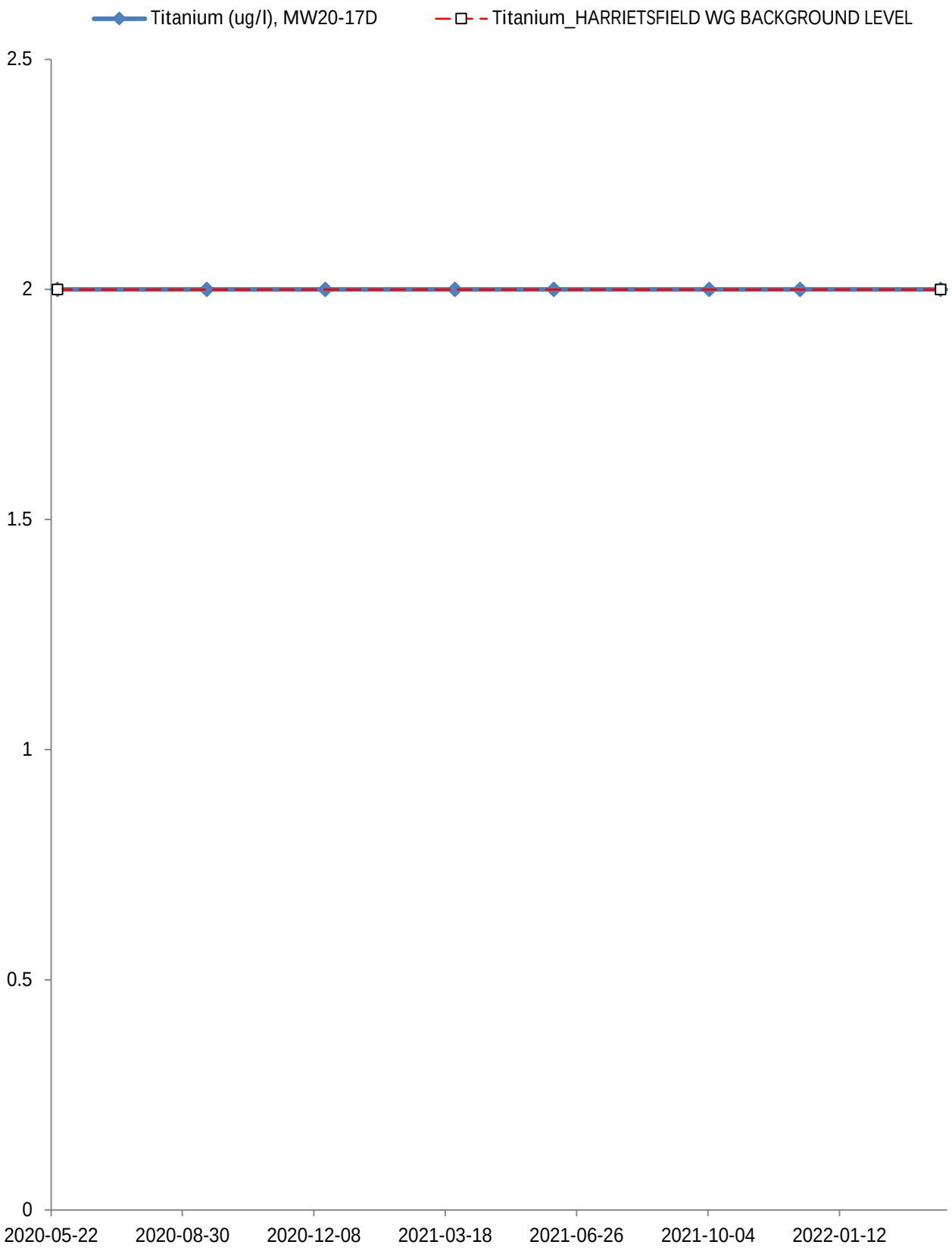
MW20-17D-Thallium



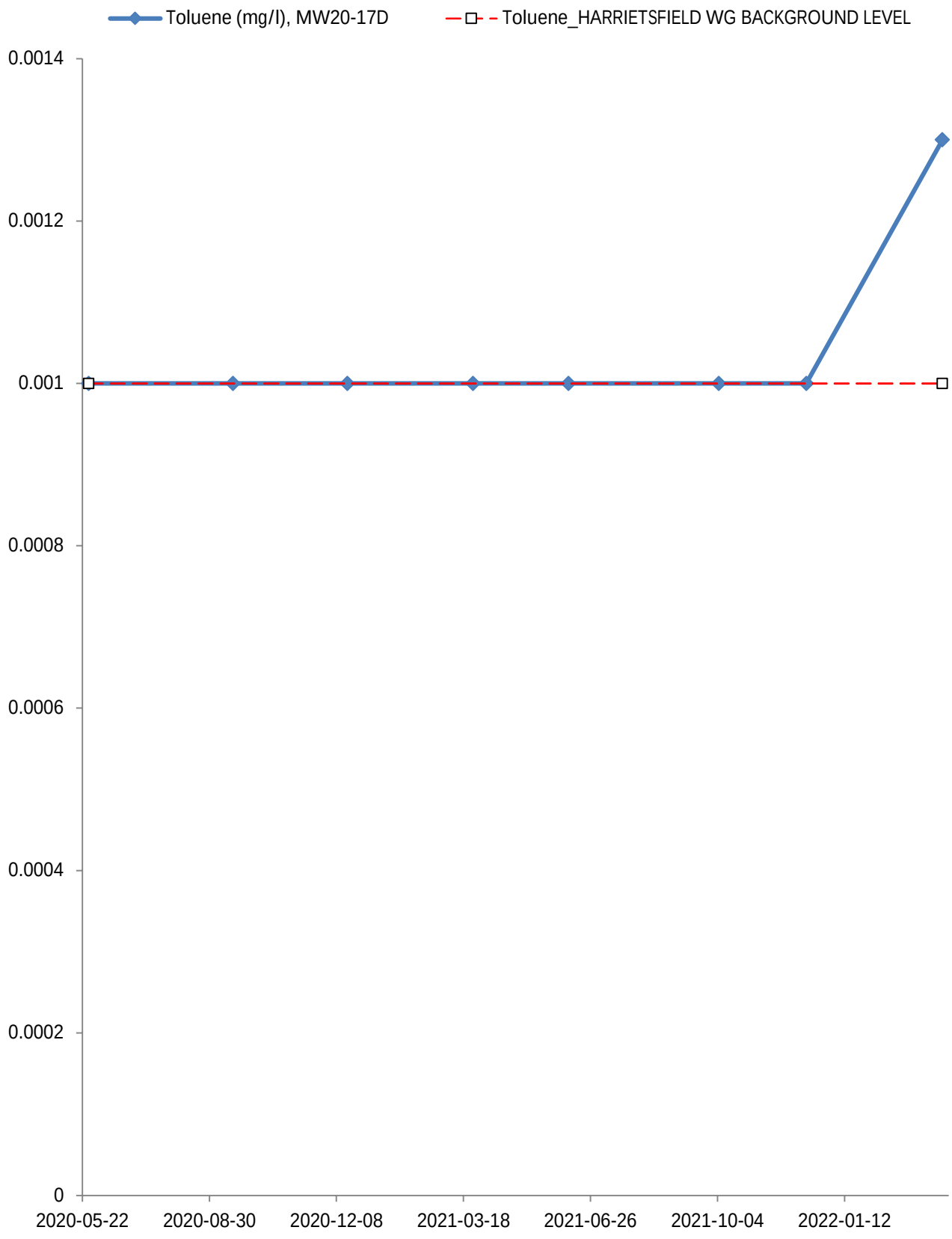
MW20-17D-Tin


Tin (ug/l), MW20-17D
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

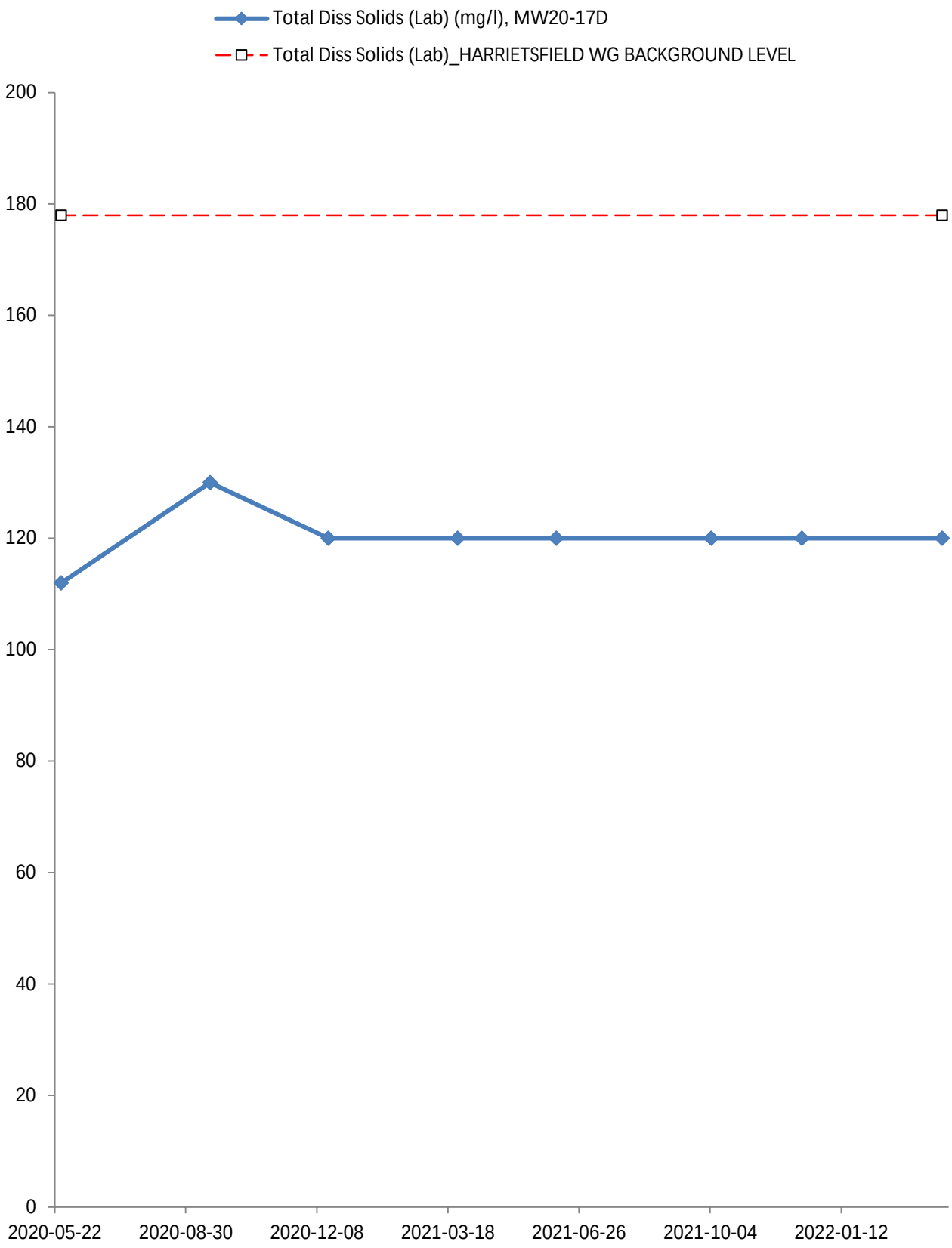
MW20-17D-Titanium



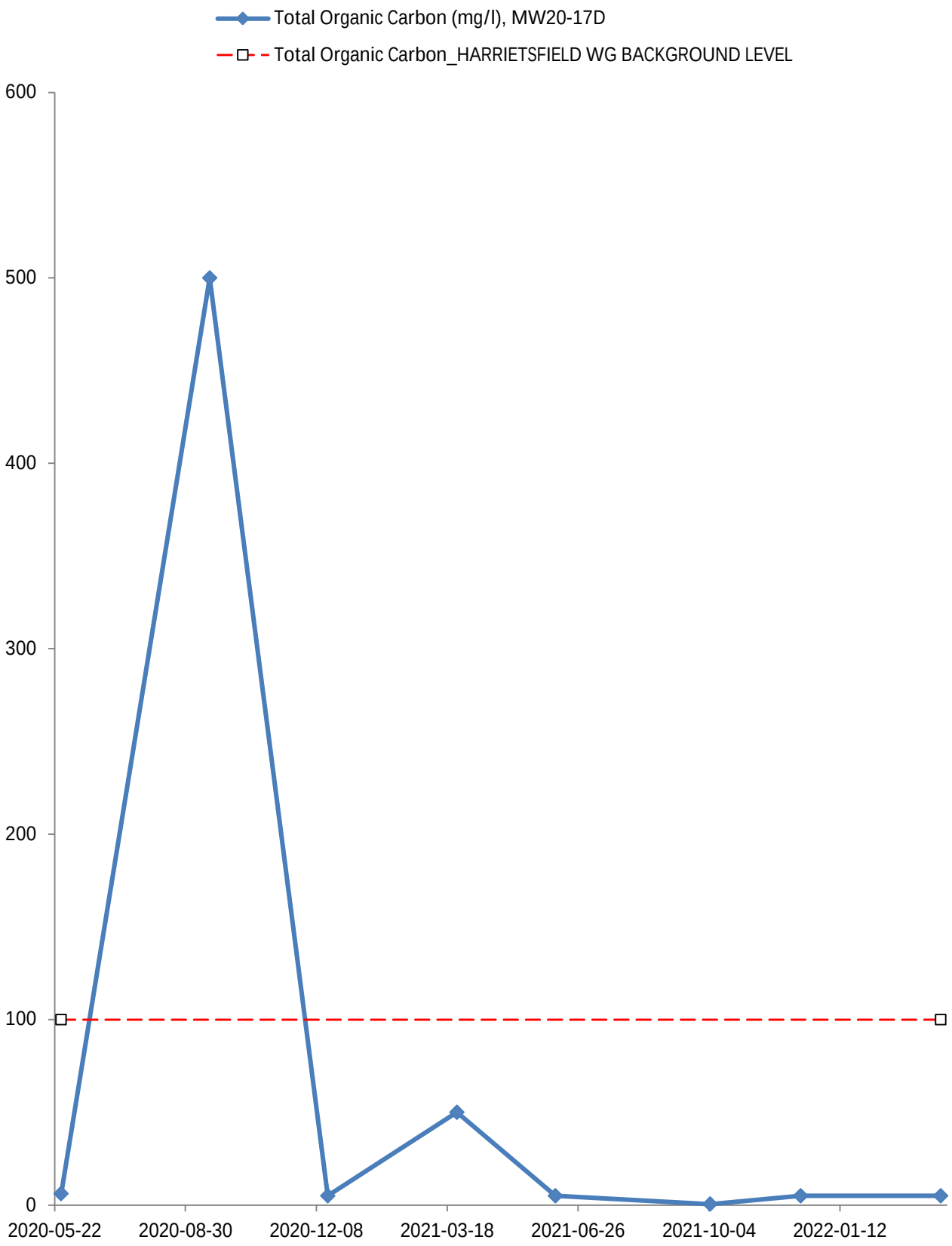
MW20-17D-Toluene



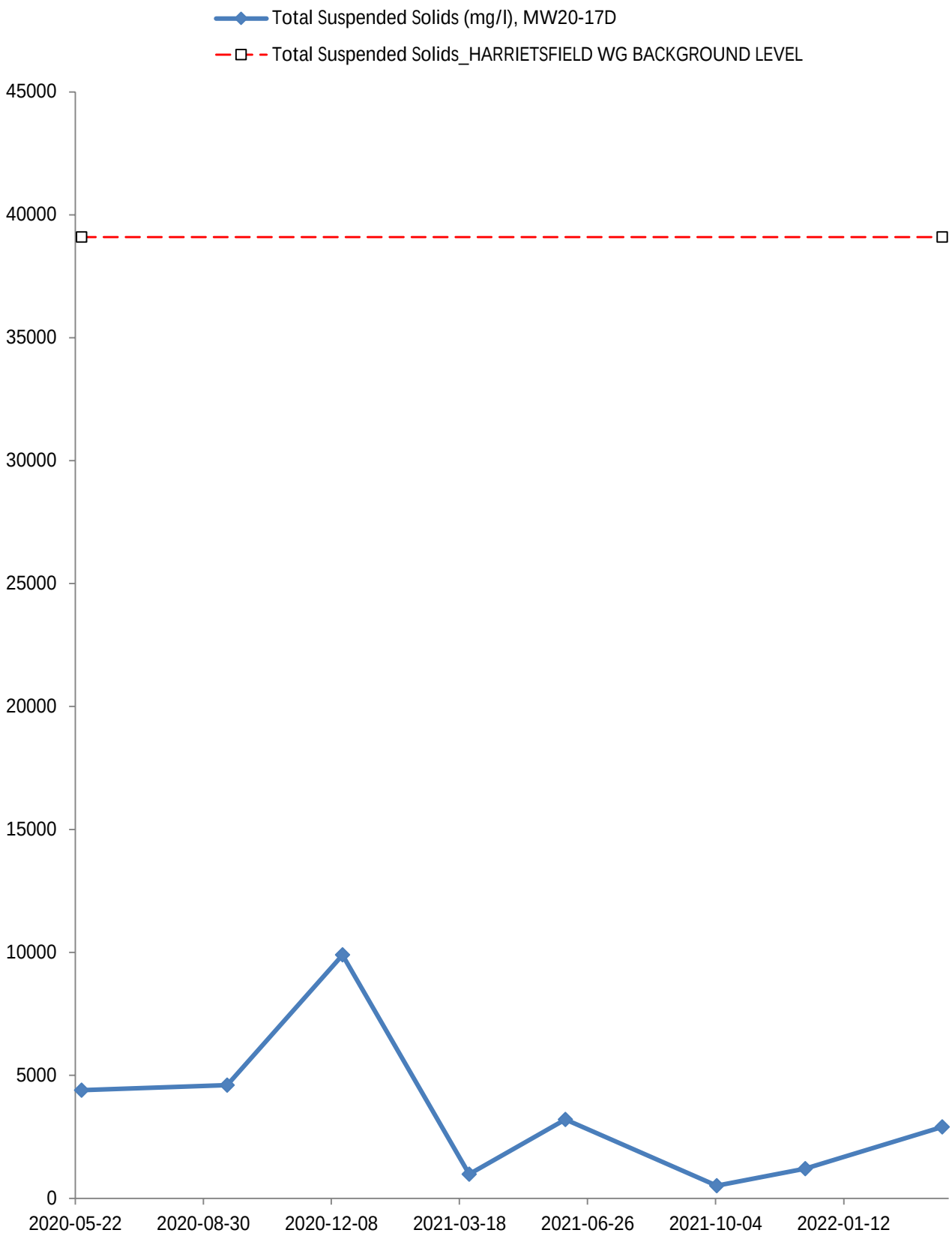
MW20-17D-Total Diss Solids (Lab)



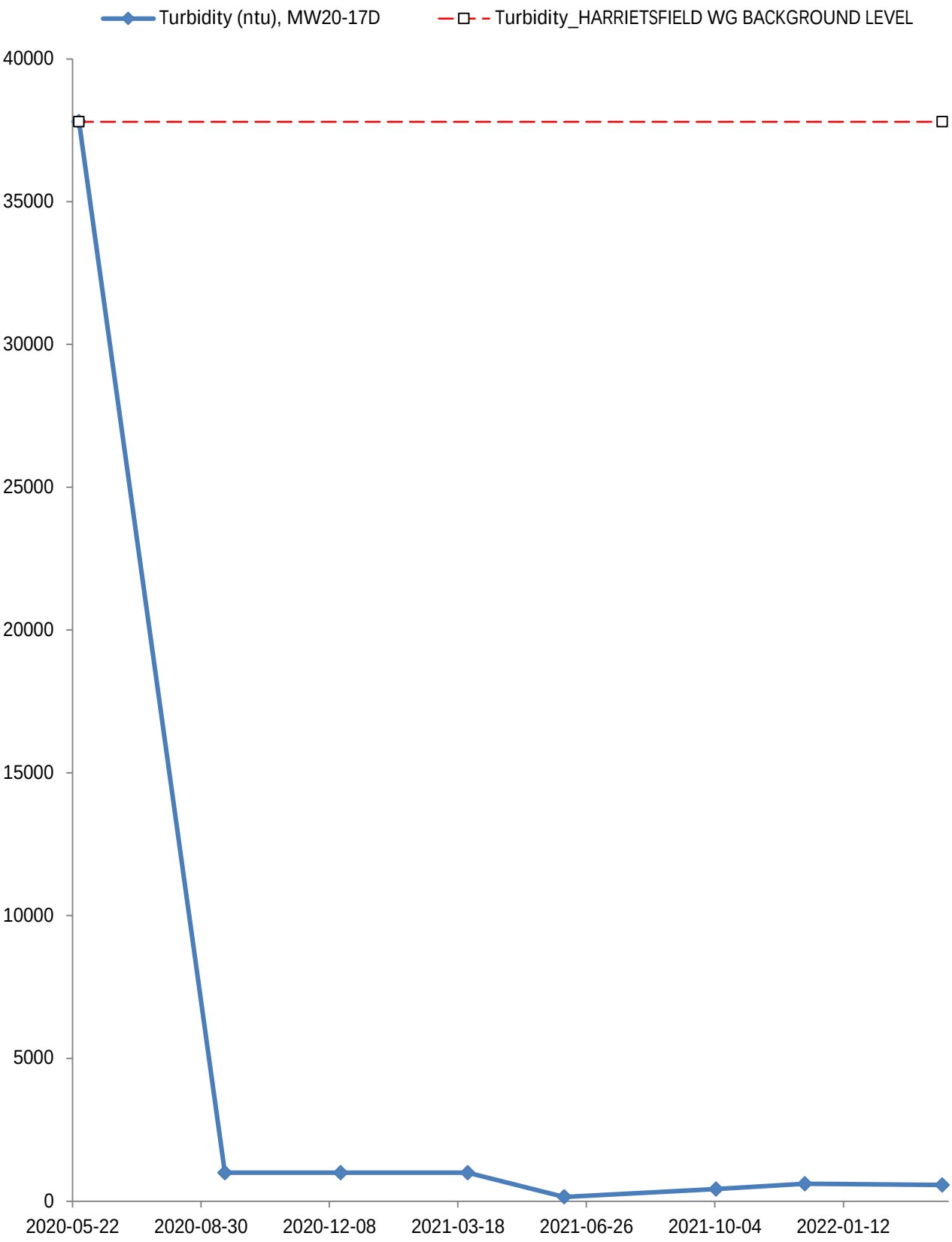
MW20-17D-Total Organic Carbon



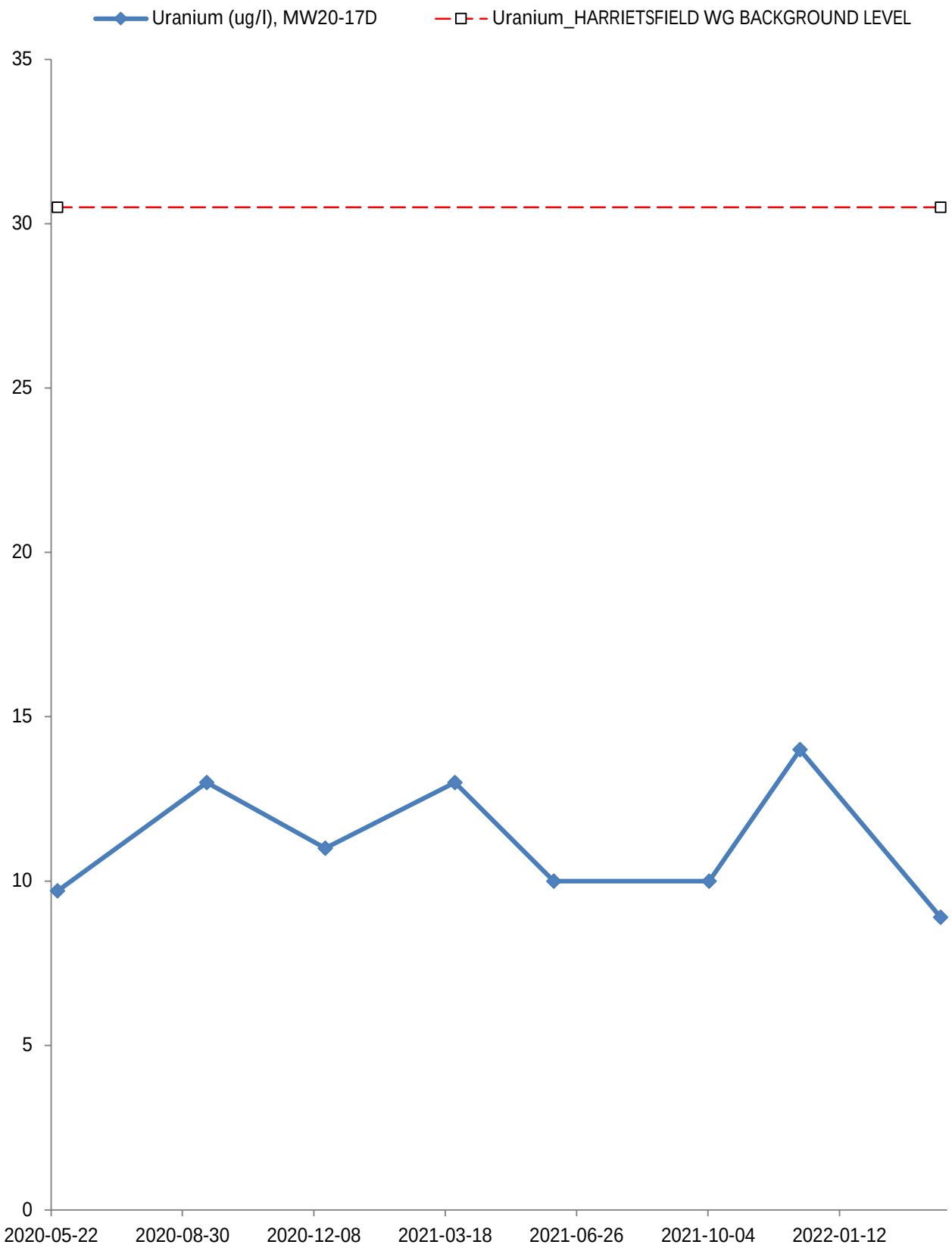
MW20-17D-Total Suspended Solids



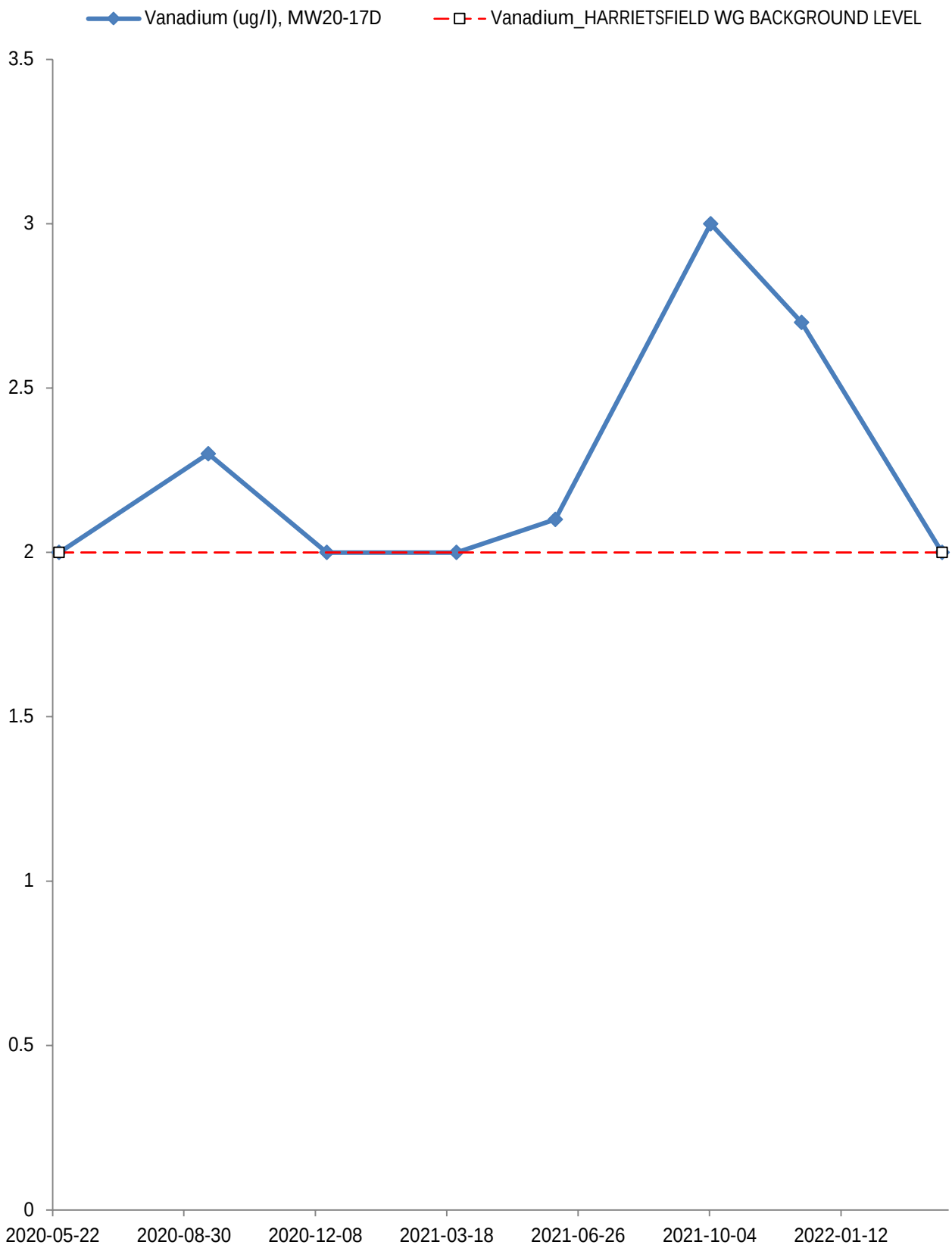
MW20-17D-Turbidity



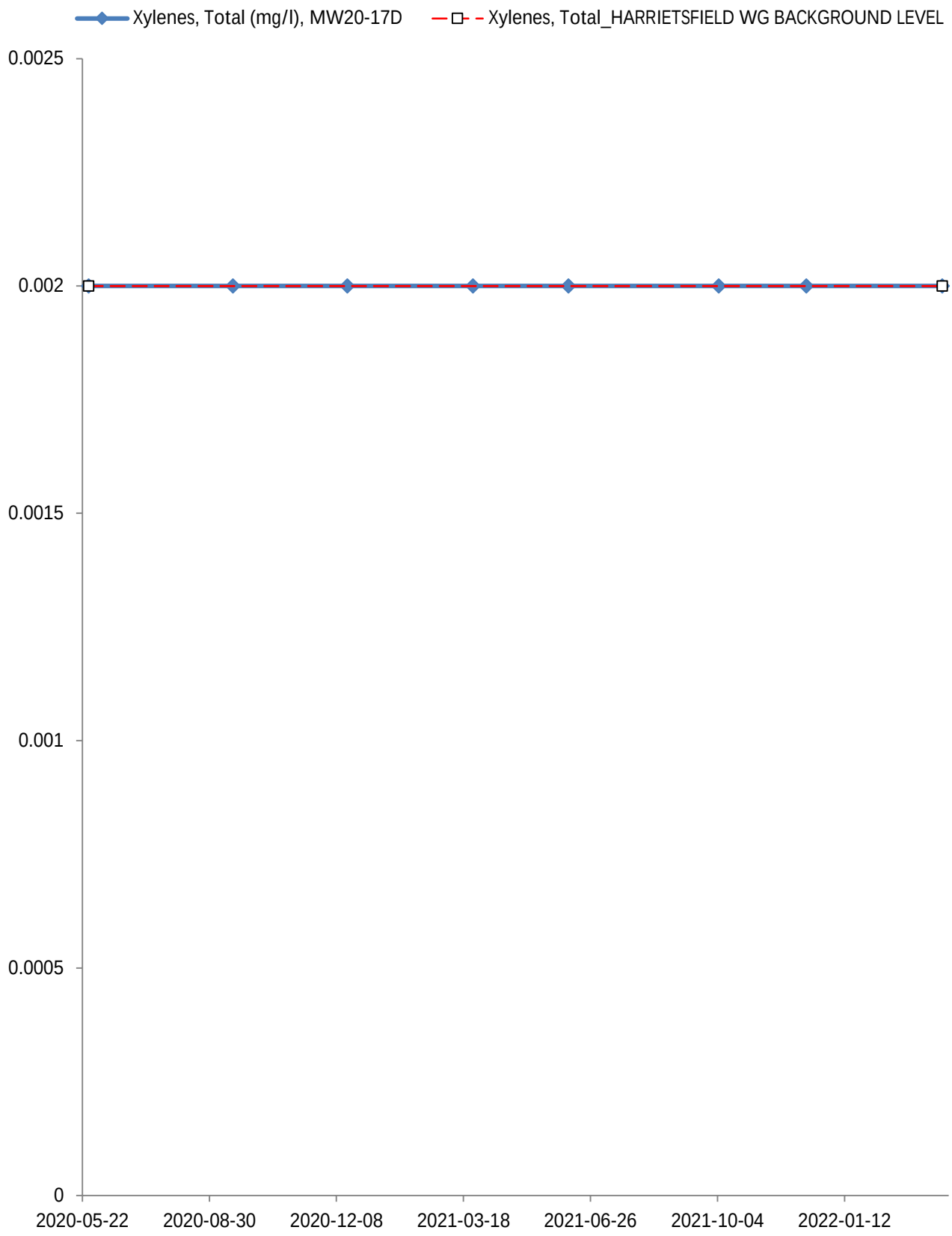
MW20-17D-Uranium



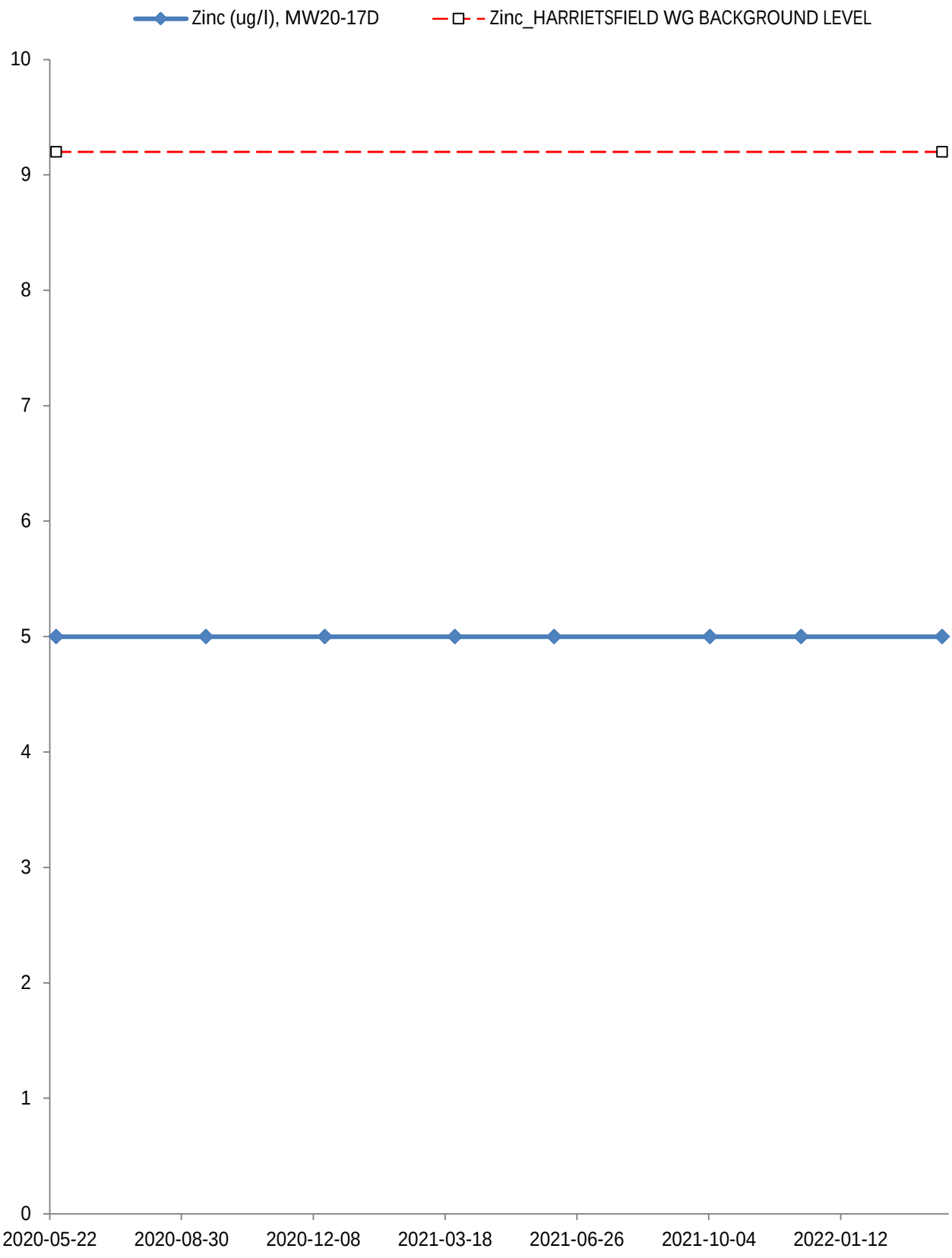
MW20-17D-Vanadium



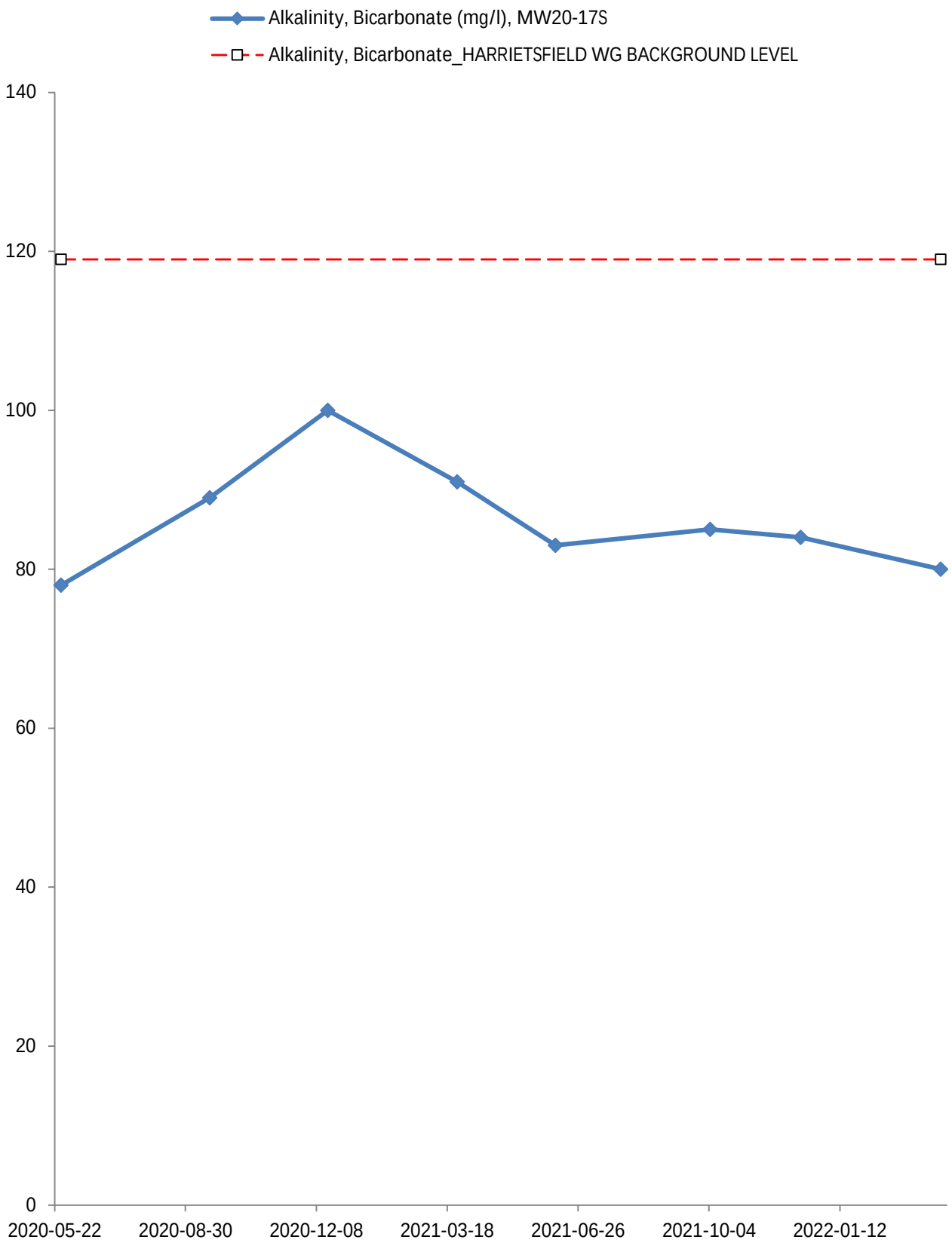
MW20-17D-Xylenes, Total



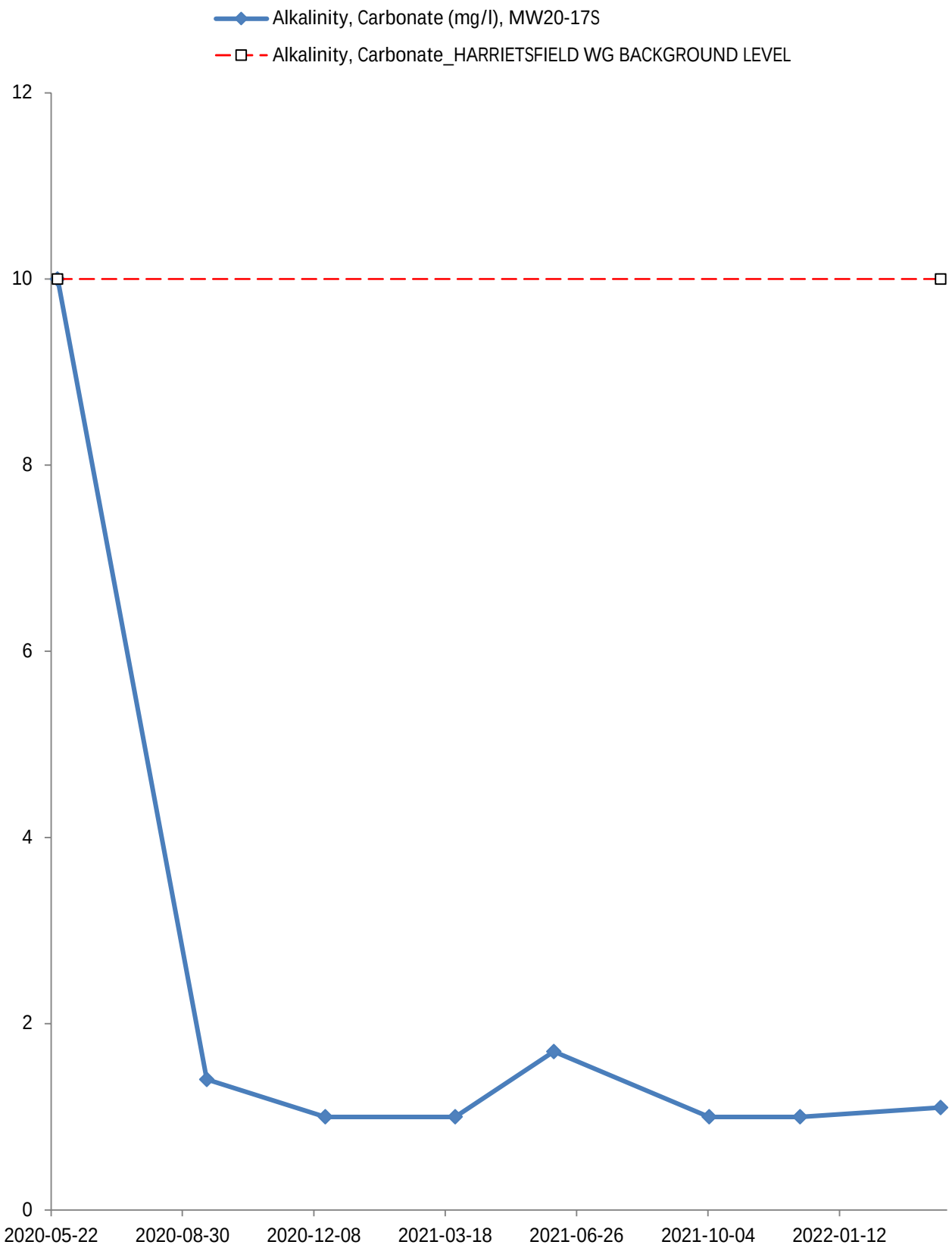
MW20-17D-Zinc



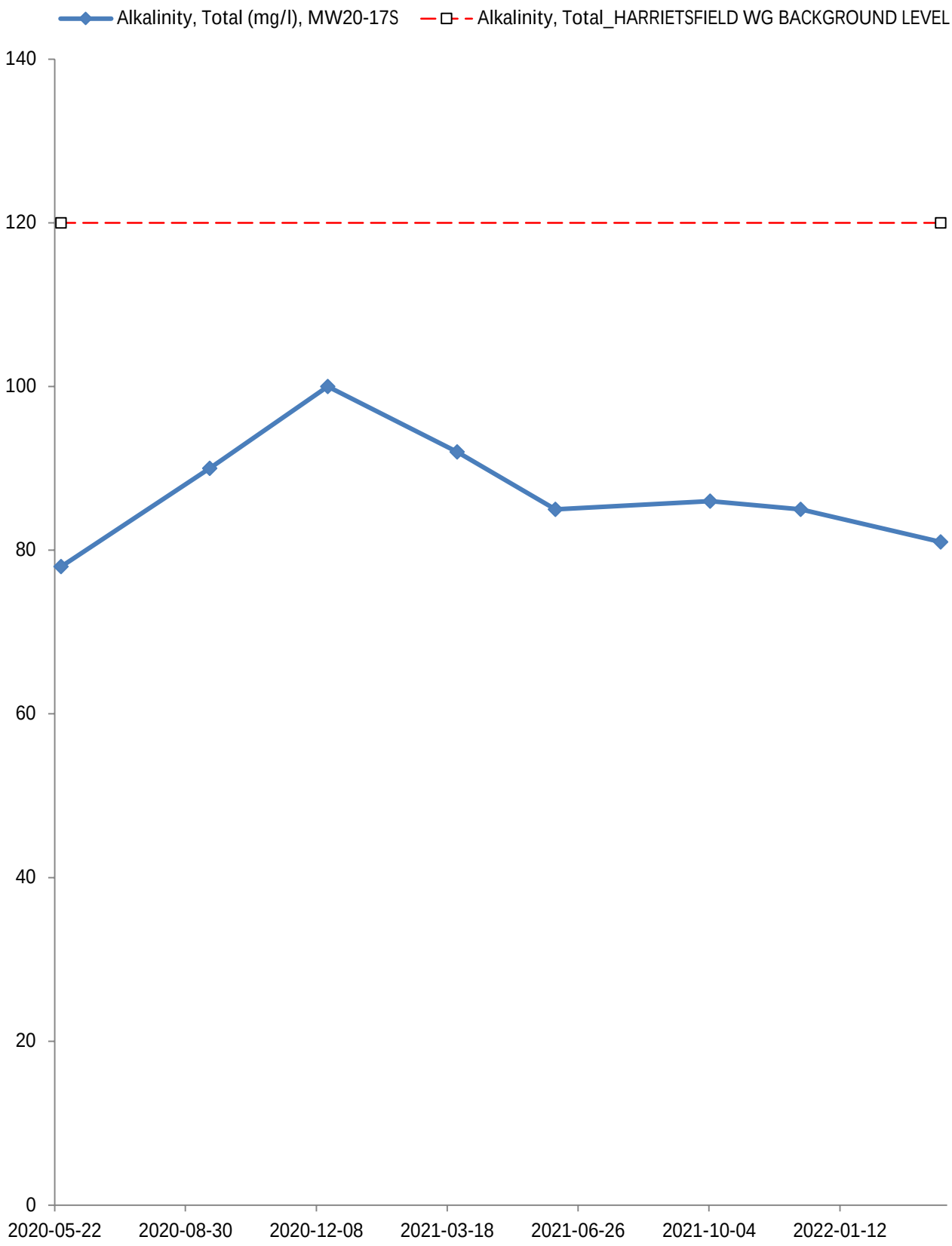
MW20-17S-Alkalinity, Bicarbonate



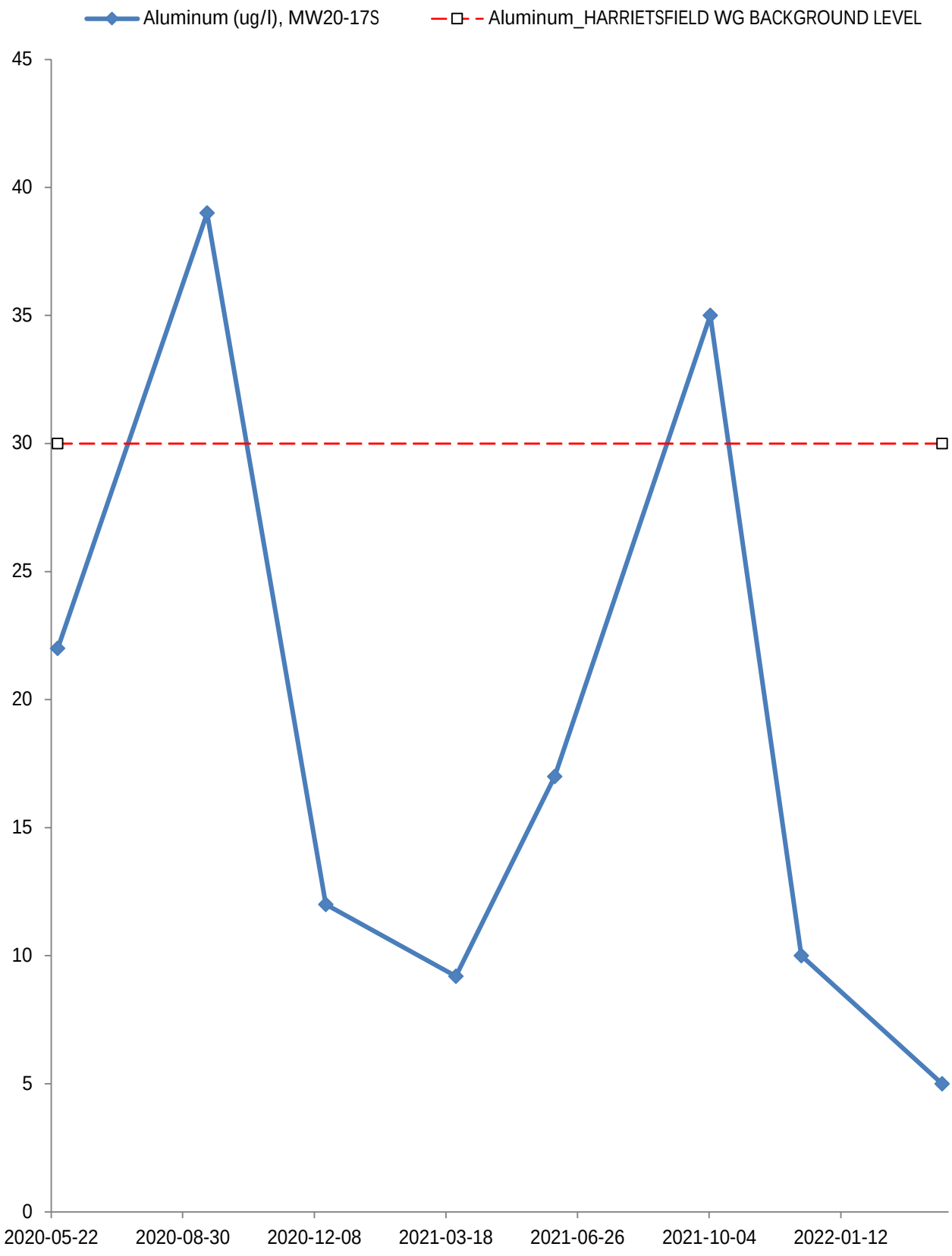
MW20-17S-Alkalinity, Carbonate



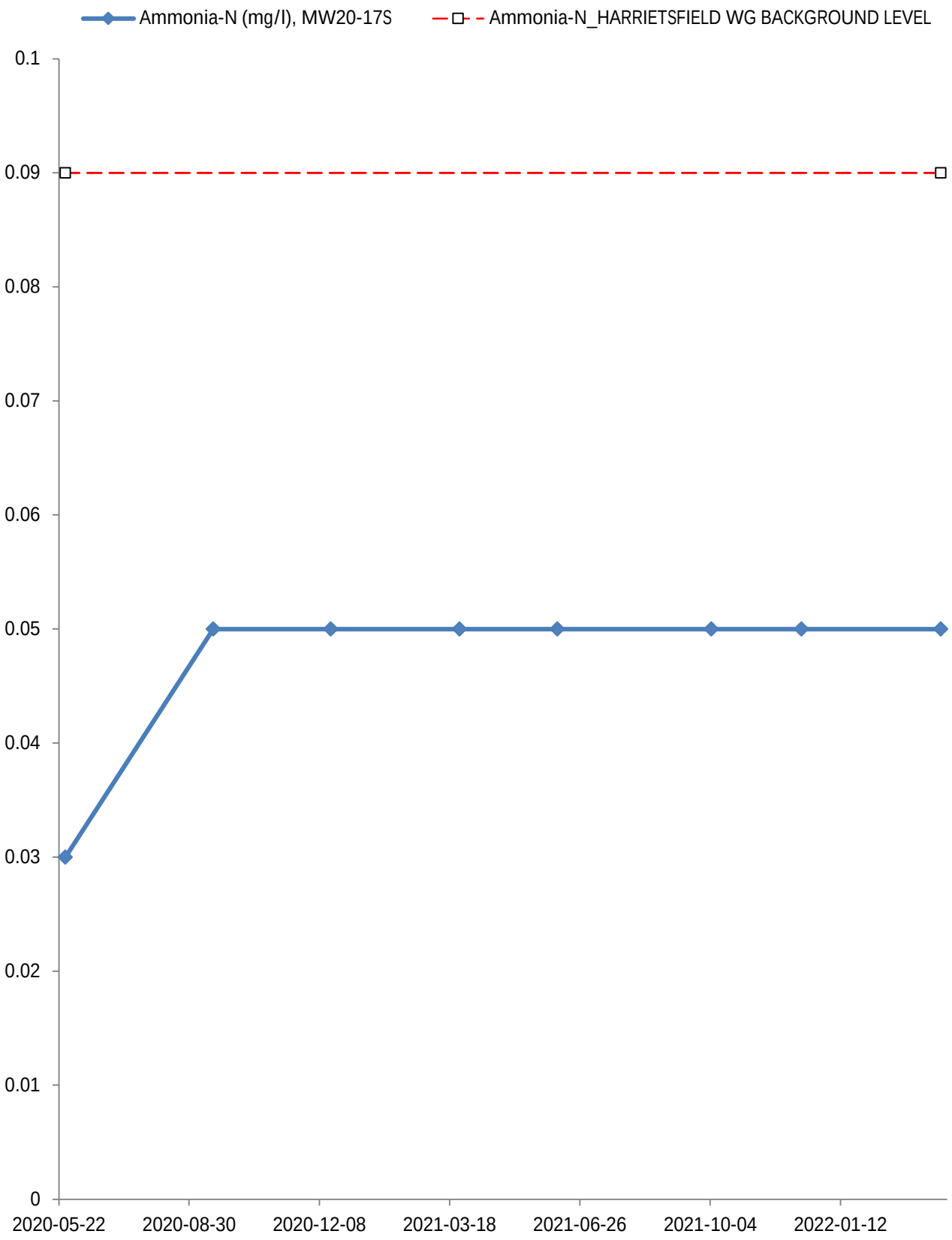
MW20-17S-Alkalinity, Total



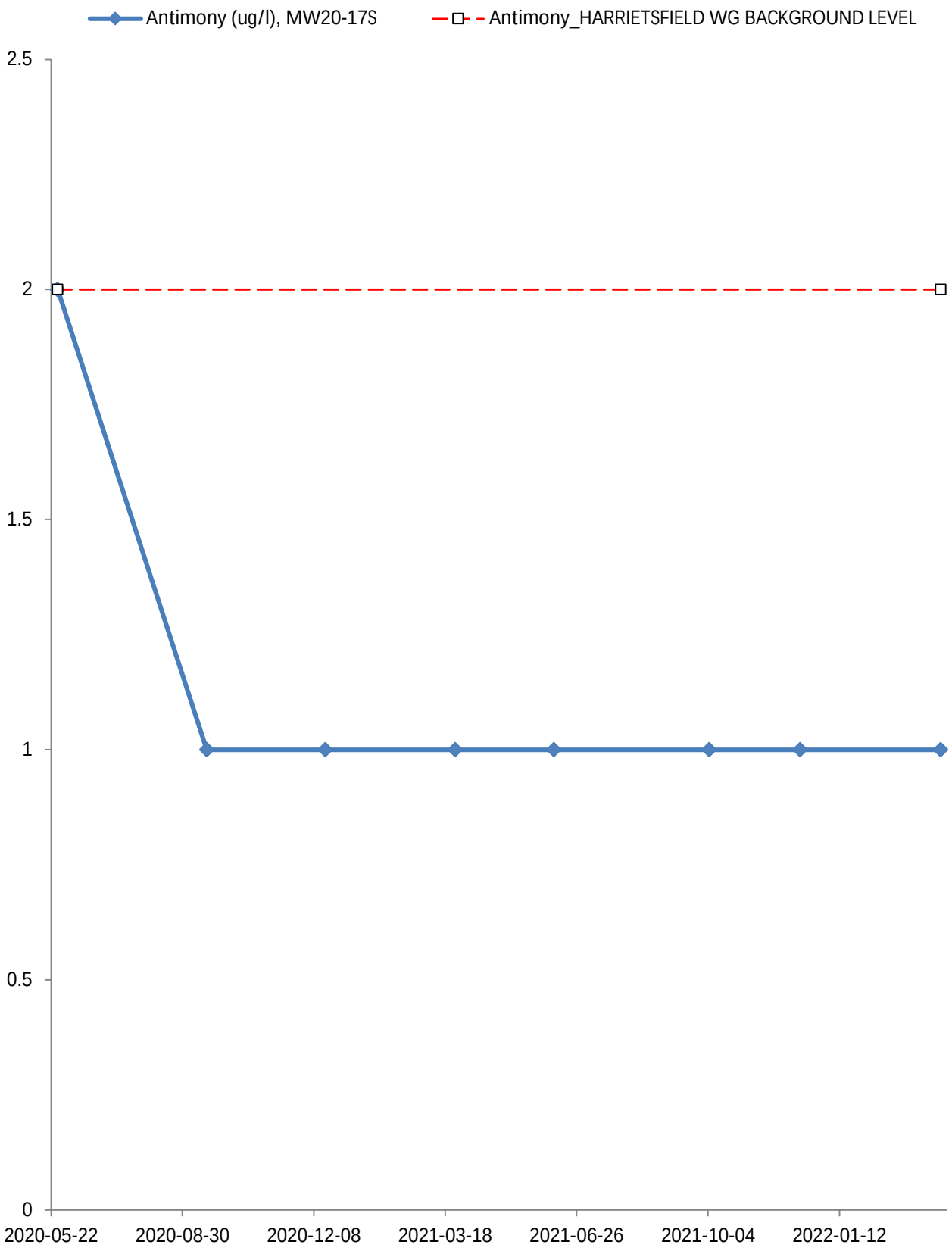
MW20-17S-Aluminum



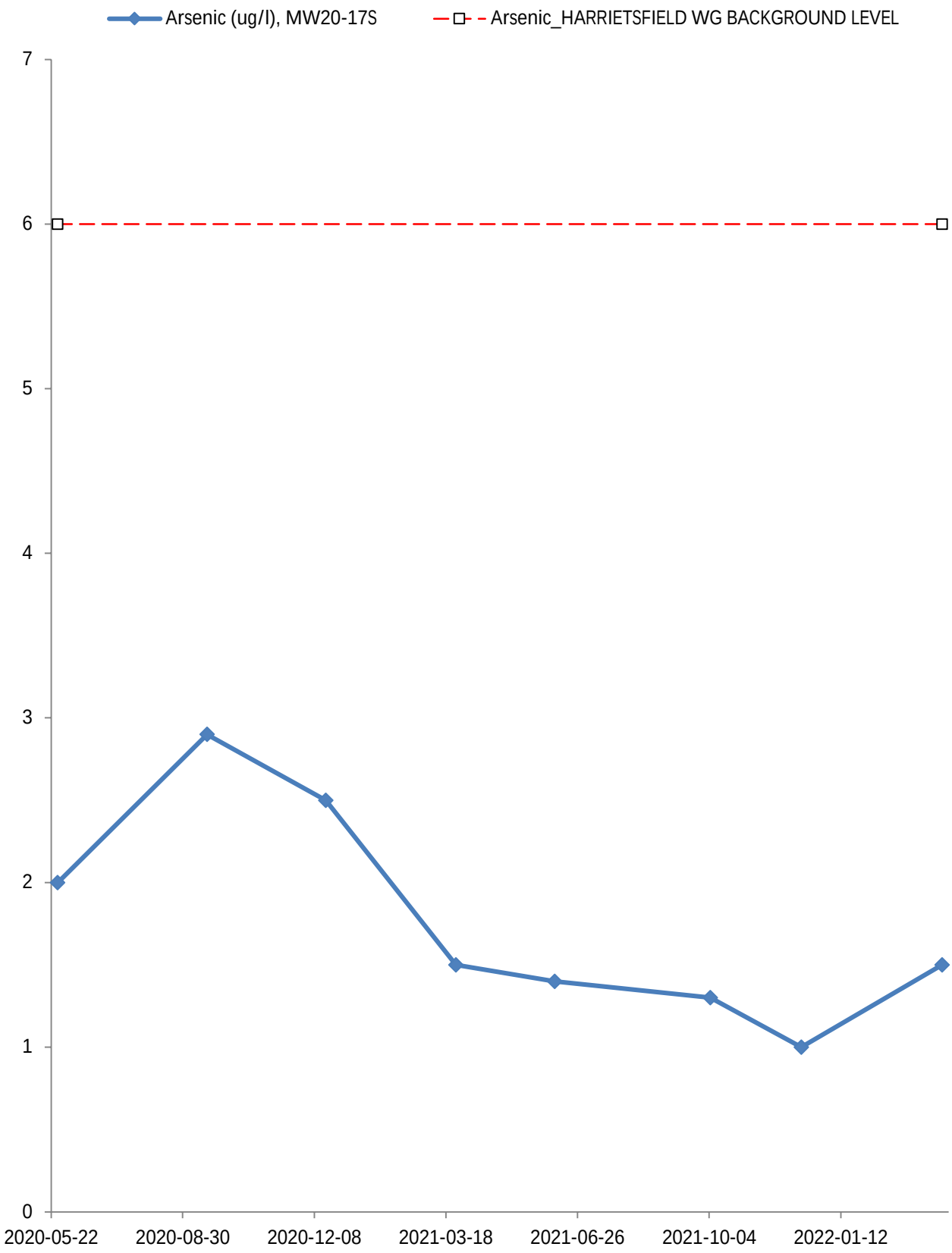
MW20-17S-Ammonia-N



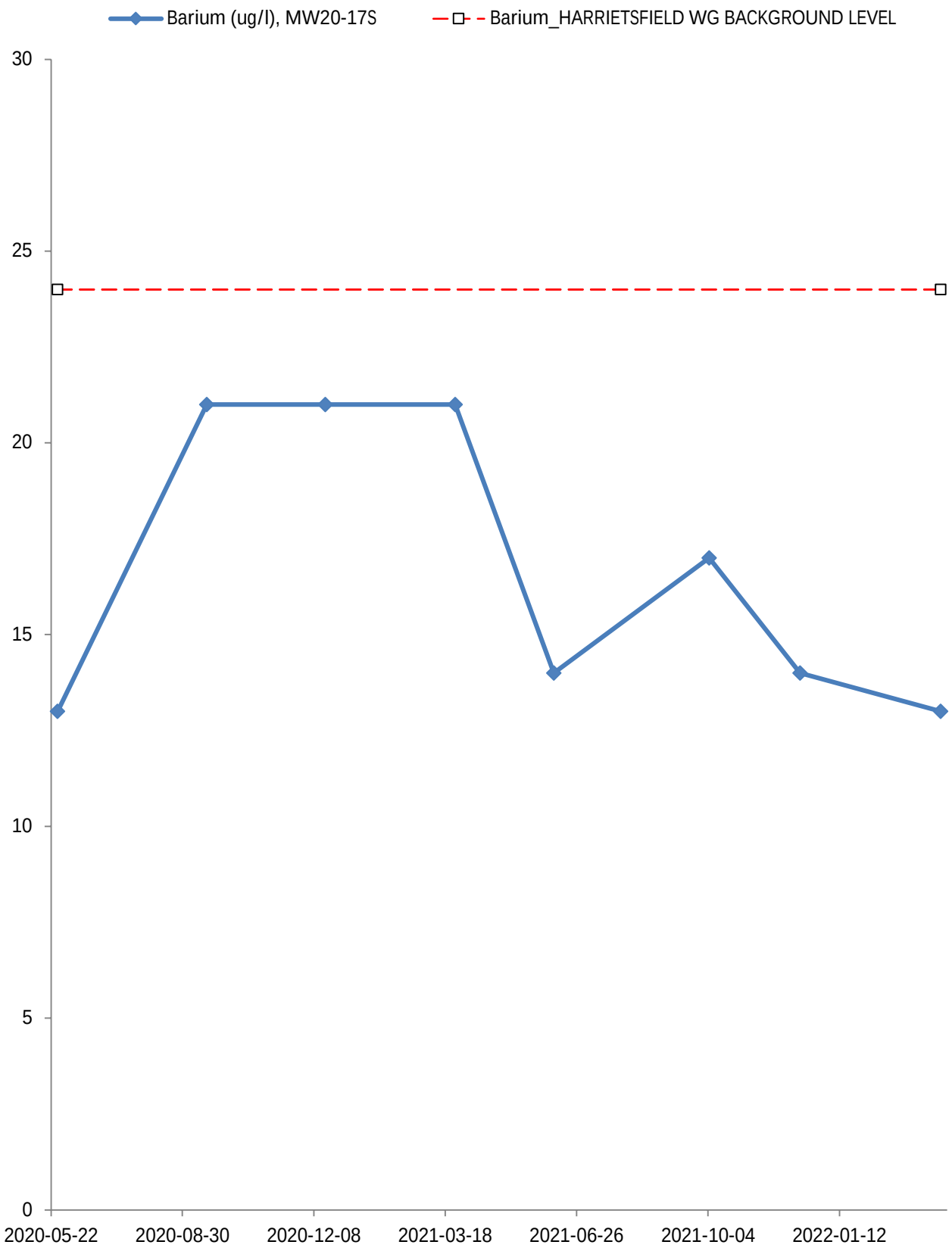
MW20-17S-Antimony



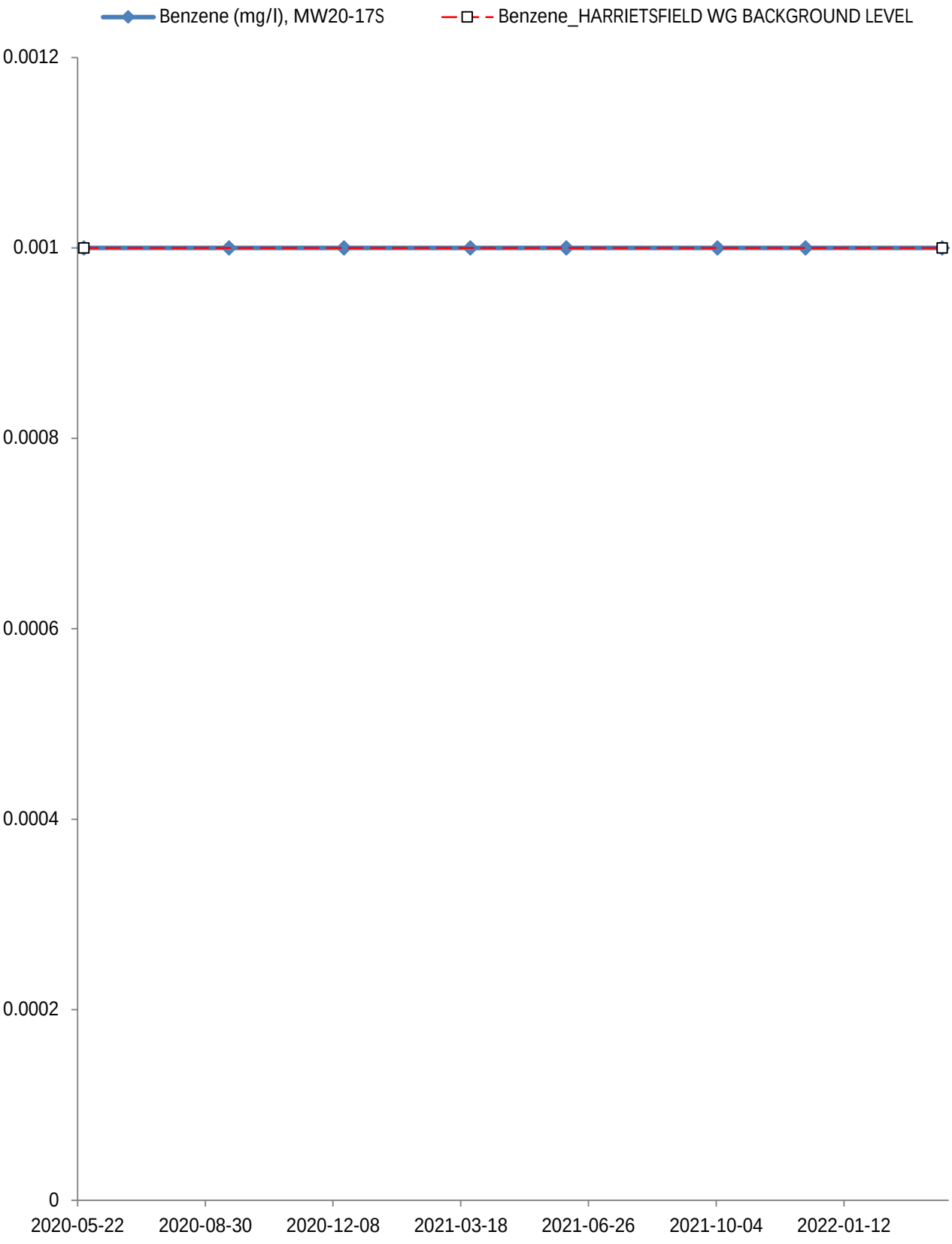
MW20-17S-Arsenic



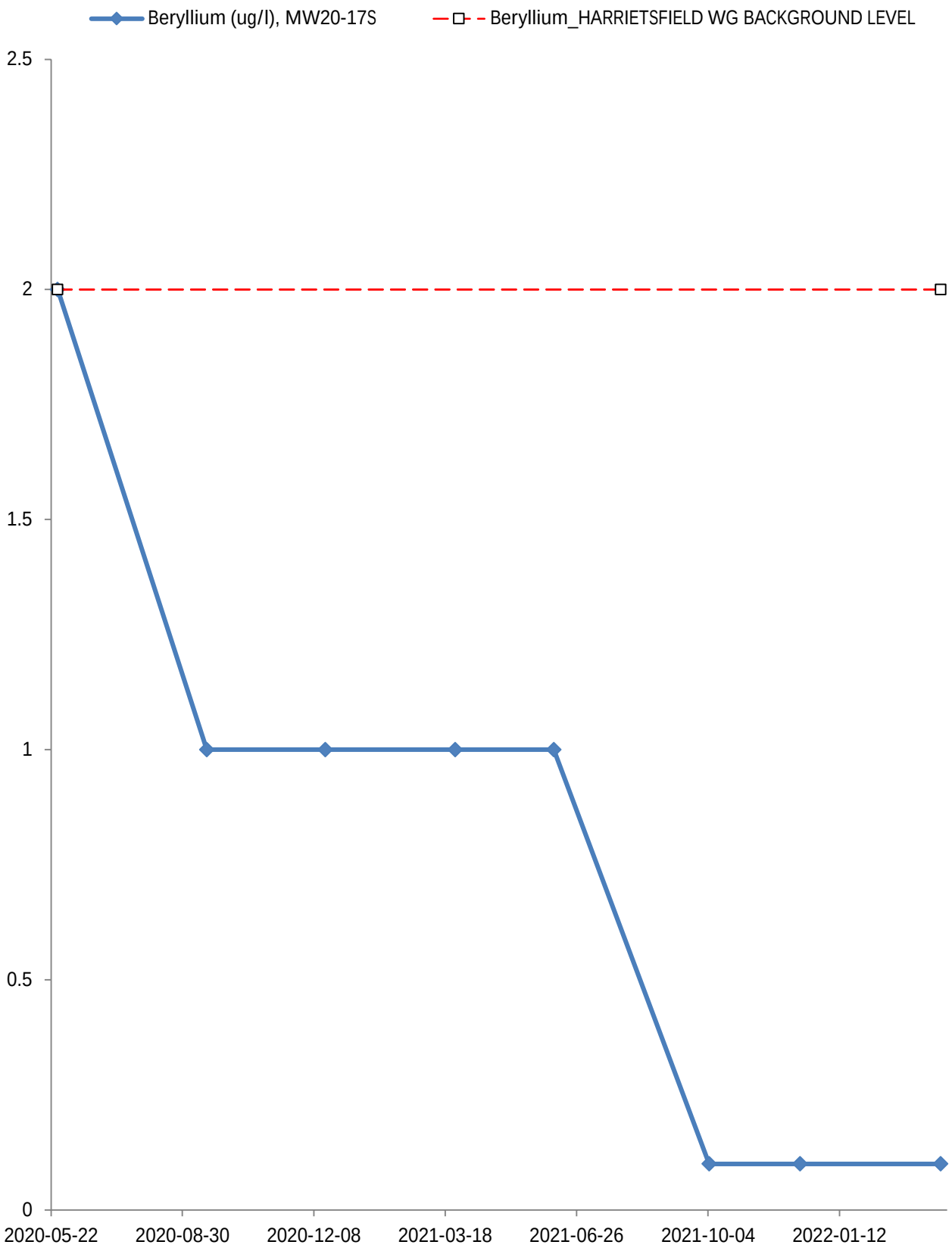
MW20-17S-Barium



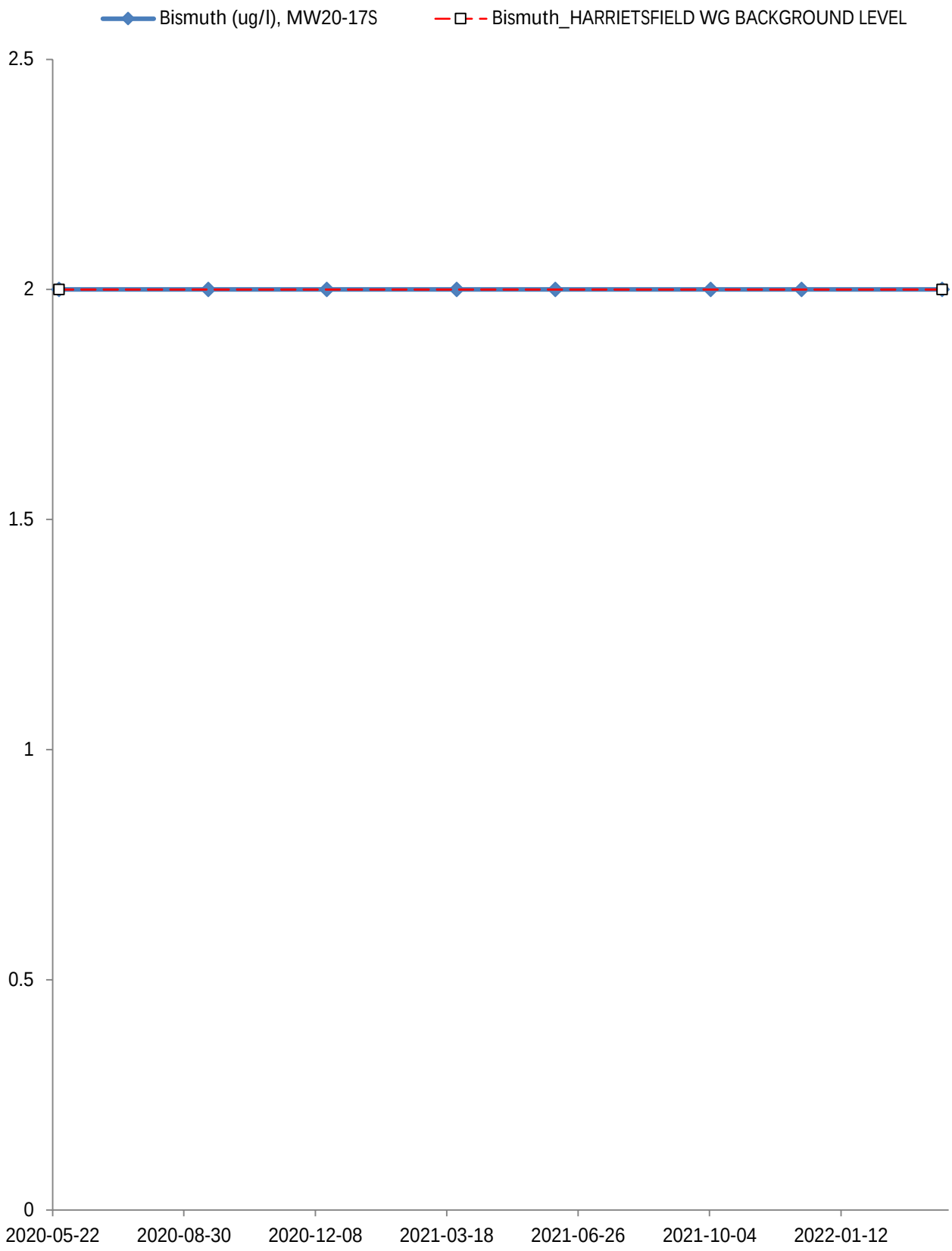
MW20-17S-Benzene



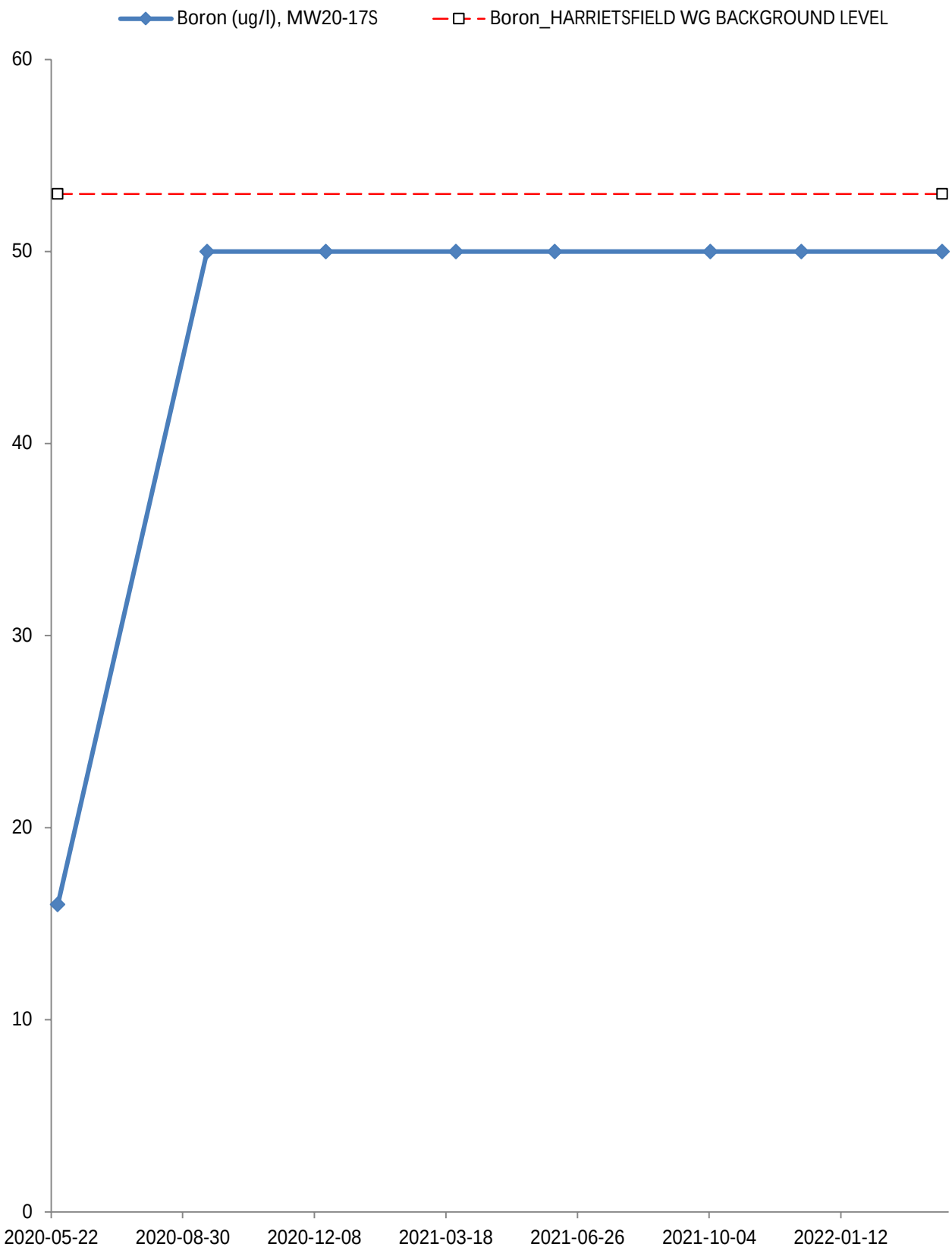
MW20-17S-Beryllium



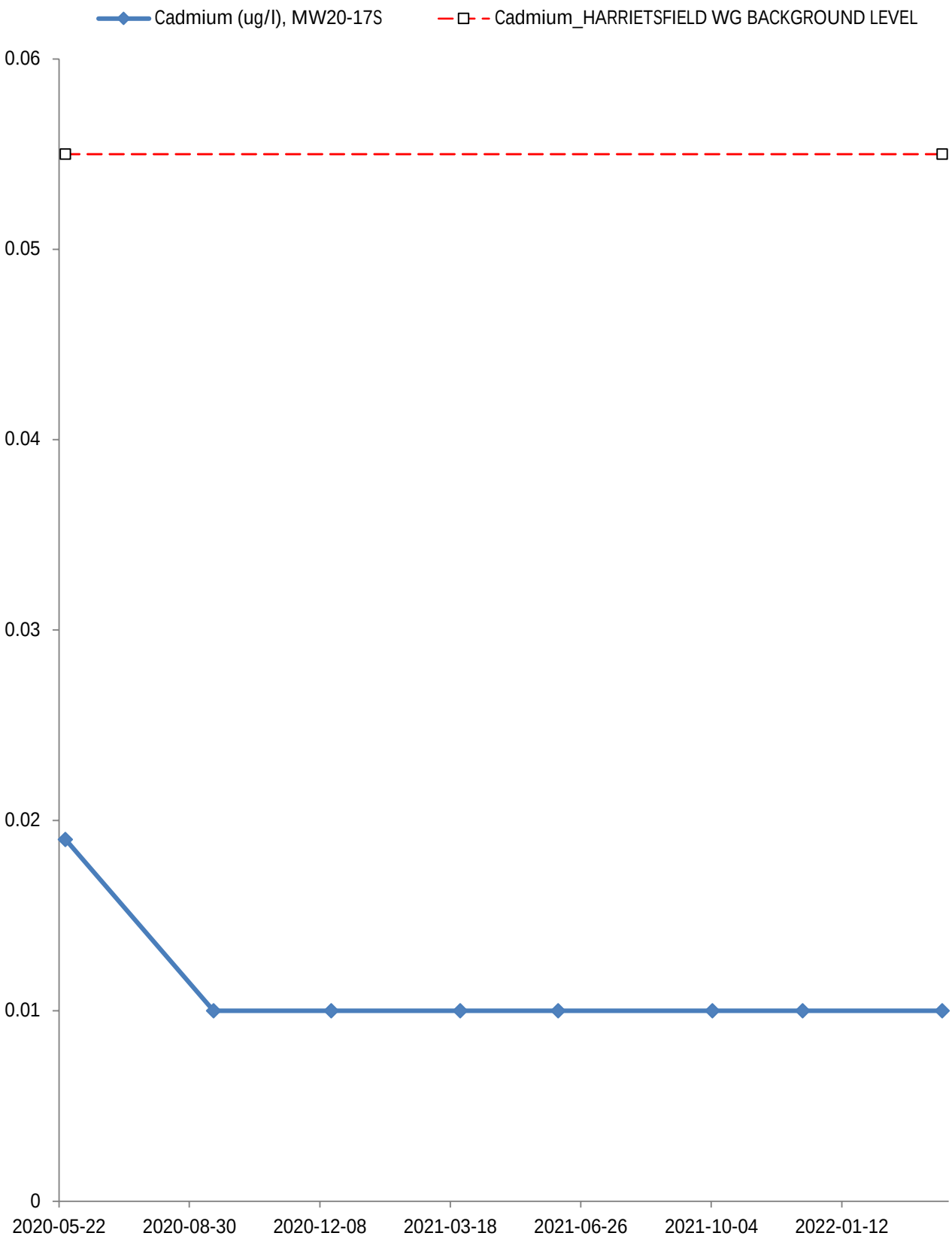
MW20-17S-Bismuth



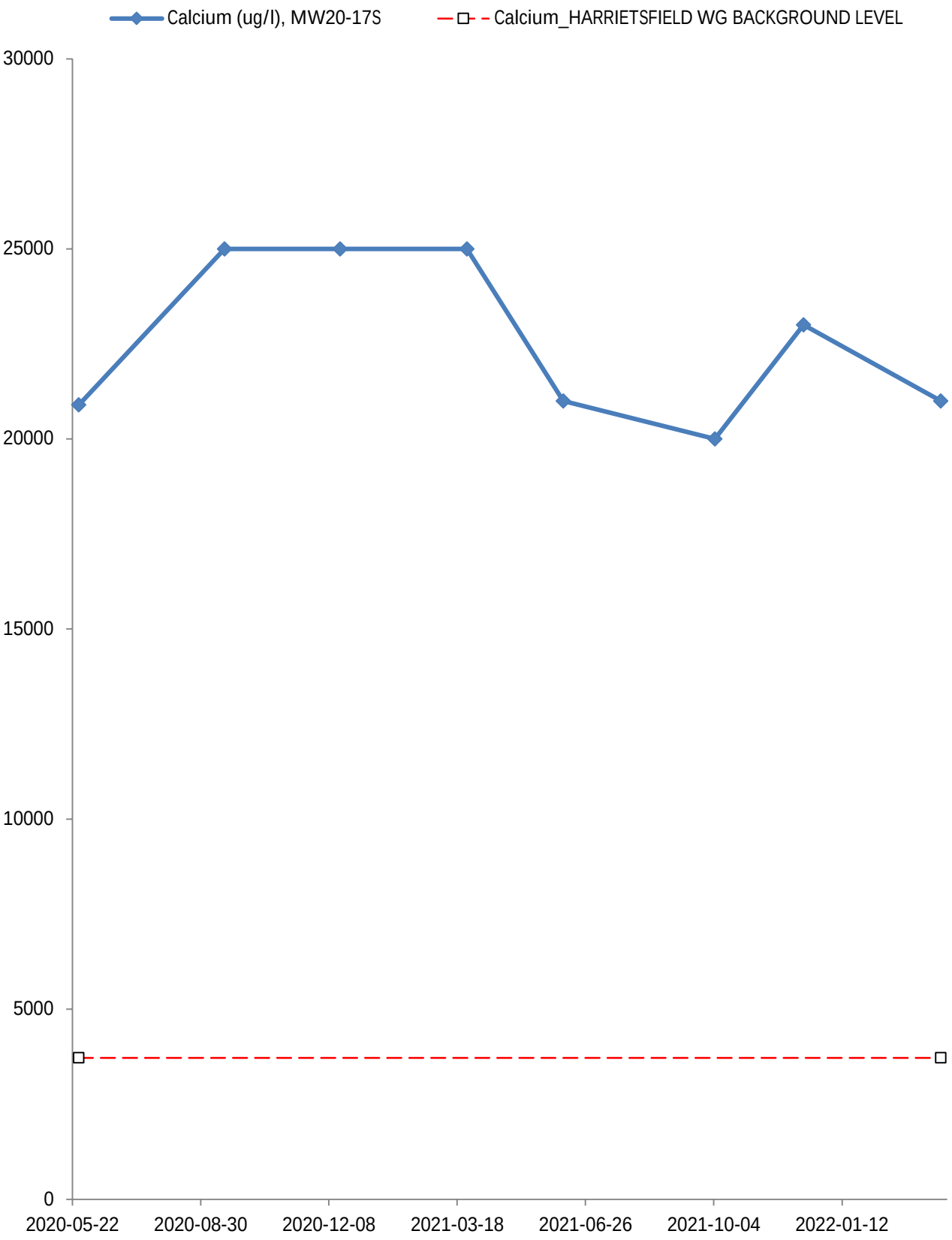
MW20-17S-Boron



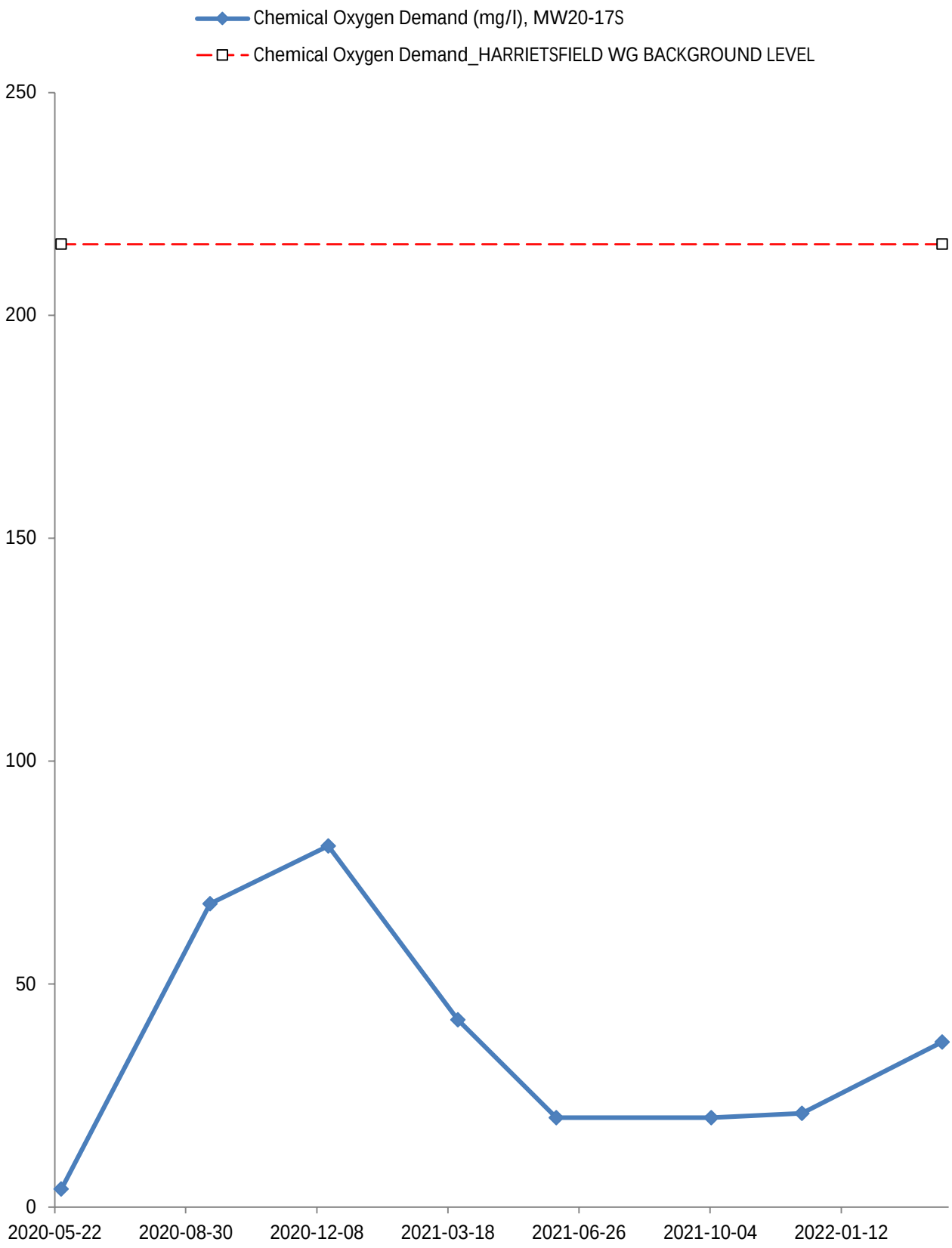
MW20-17S-Cadmium



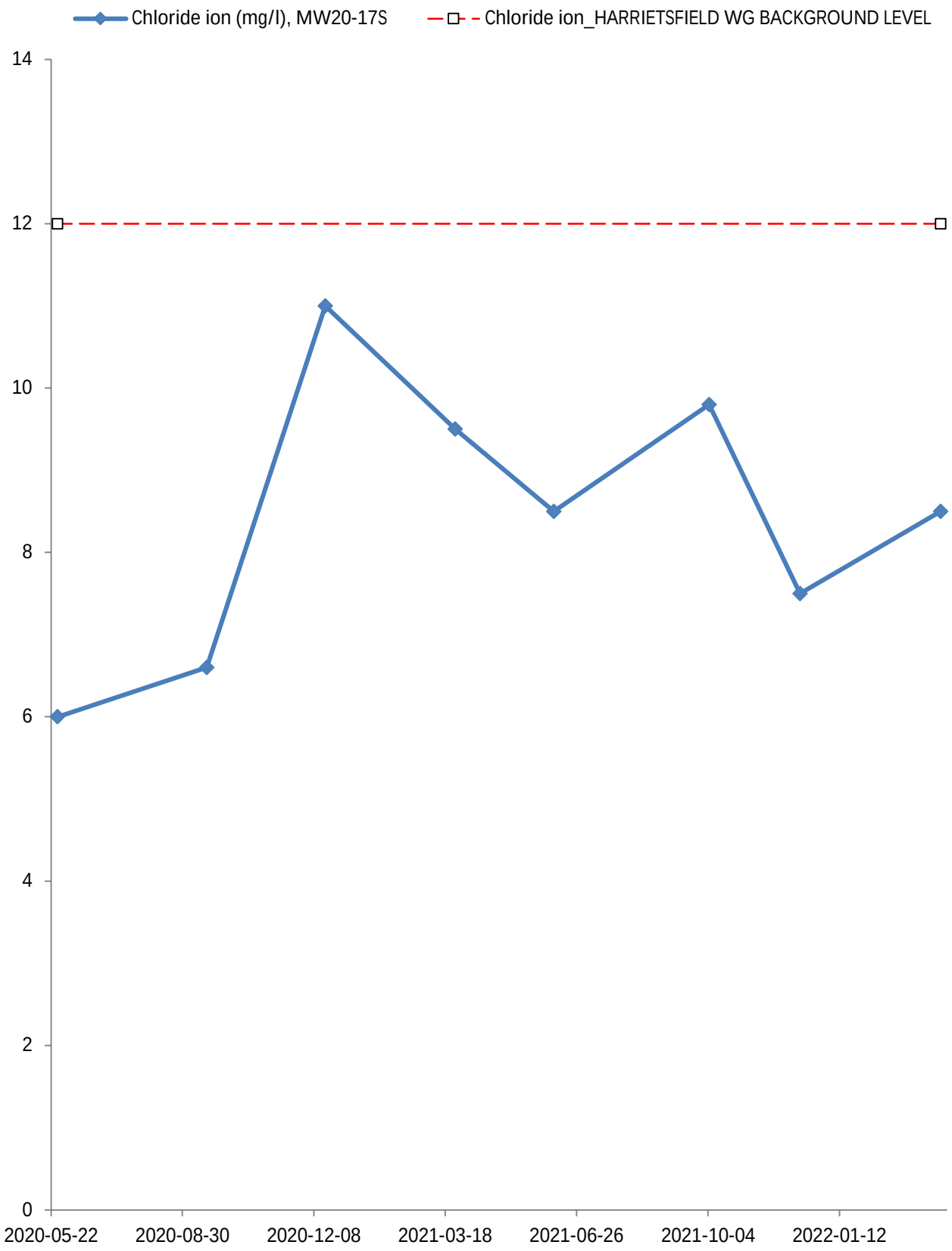
MW20-17S-Calcium



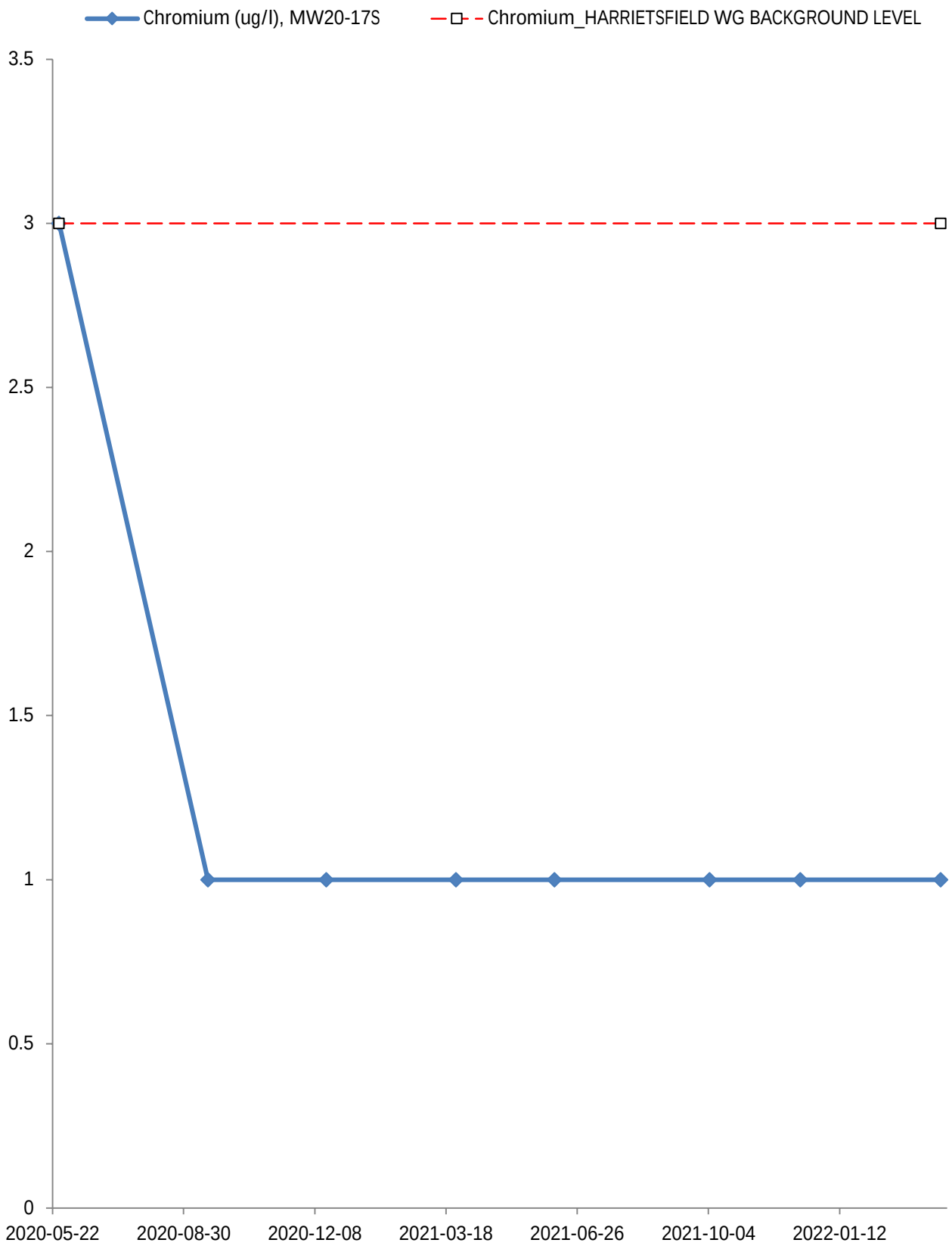
MW20-17S-Chemical Oxygen Demand



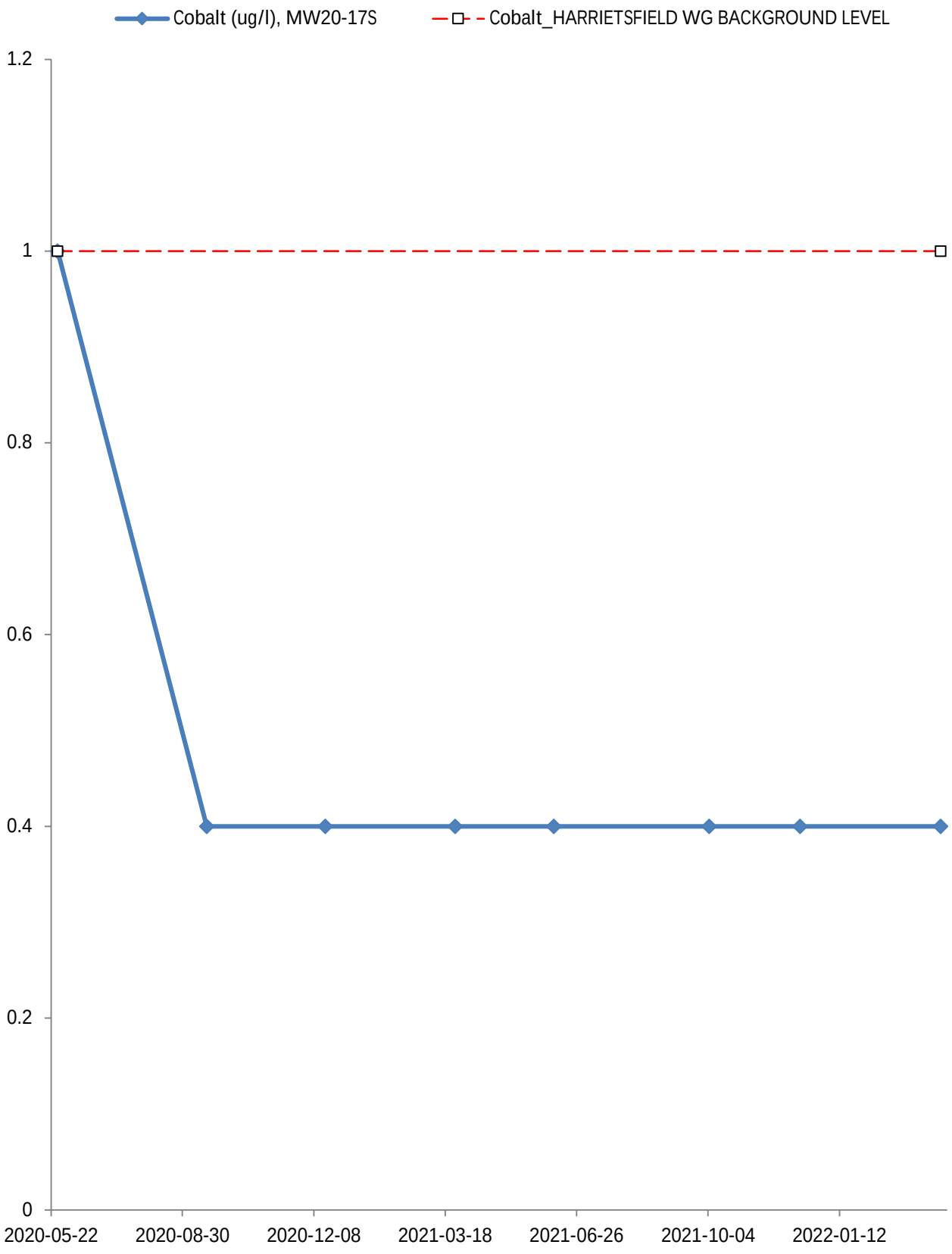
MW20-17S-Chloride ion



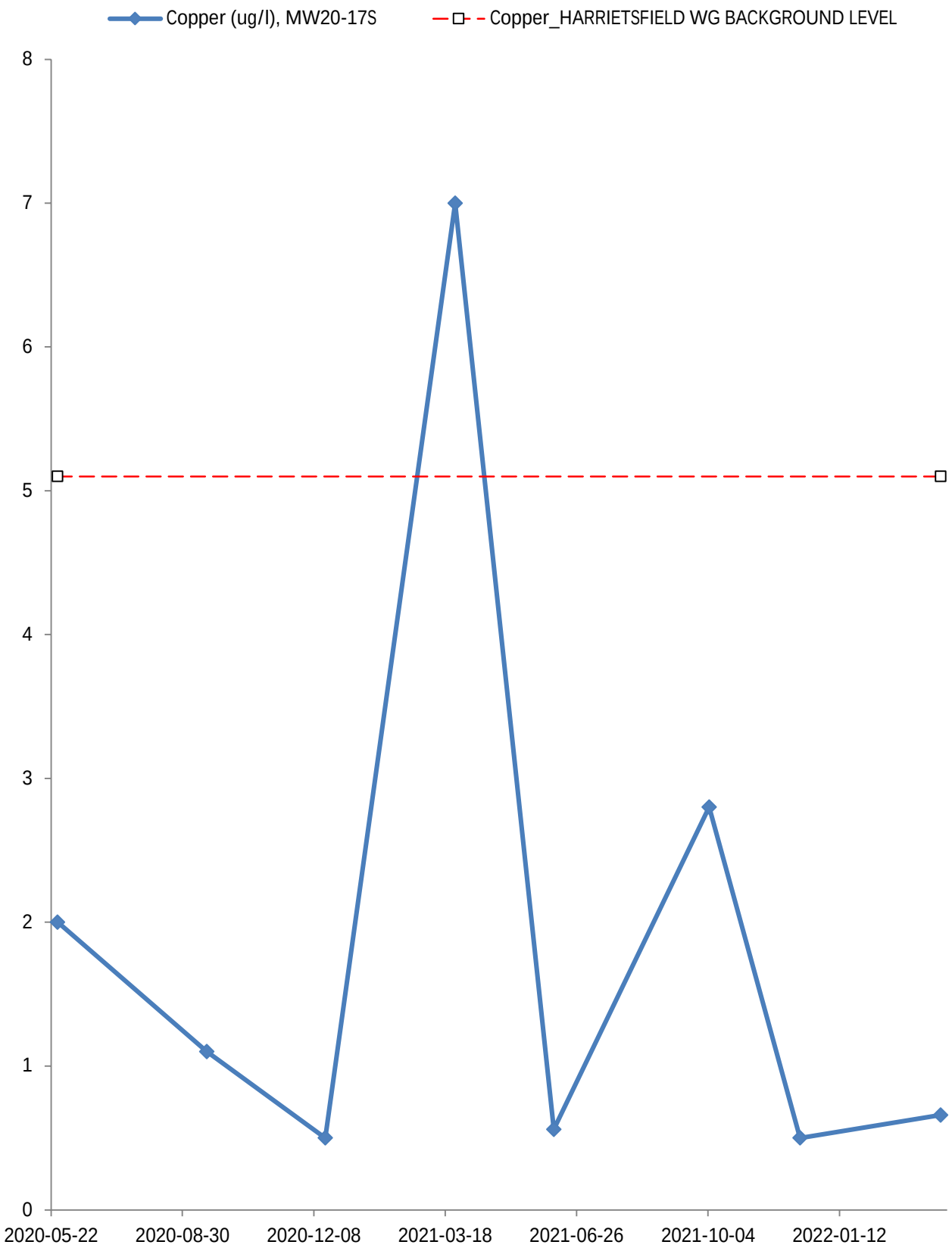
MW20-17S-Chromium



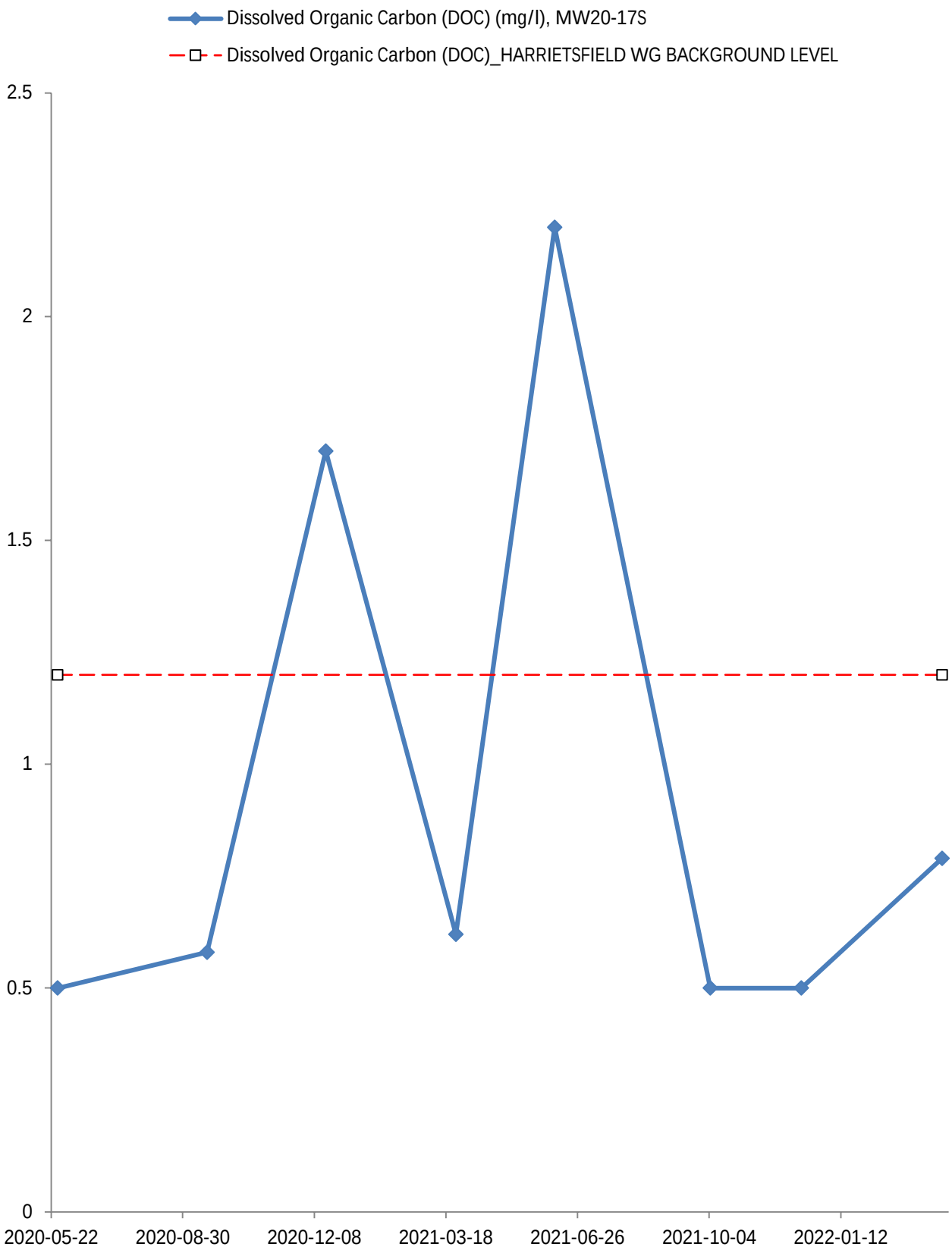
MW20-17S-Cobalt



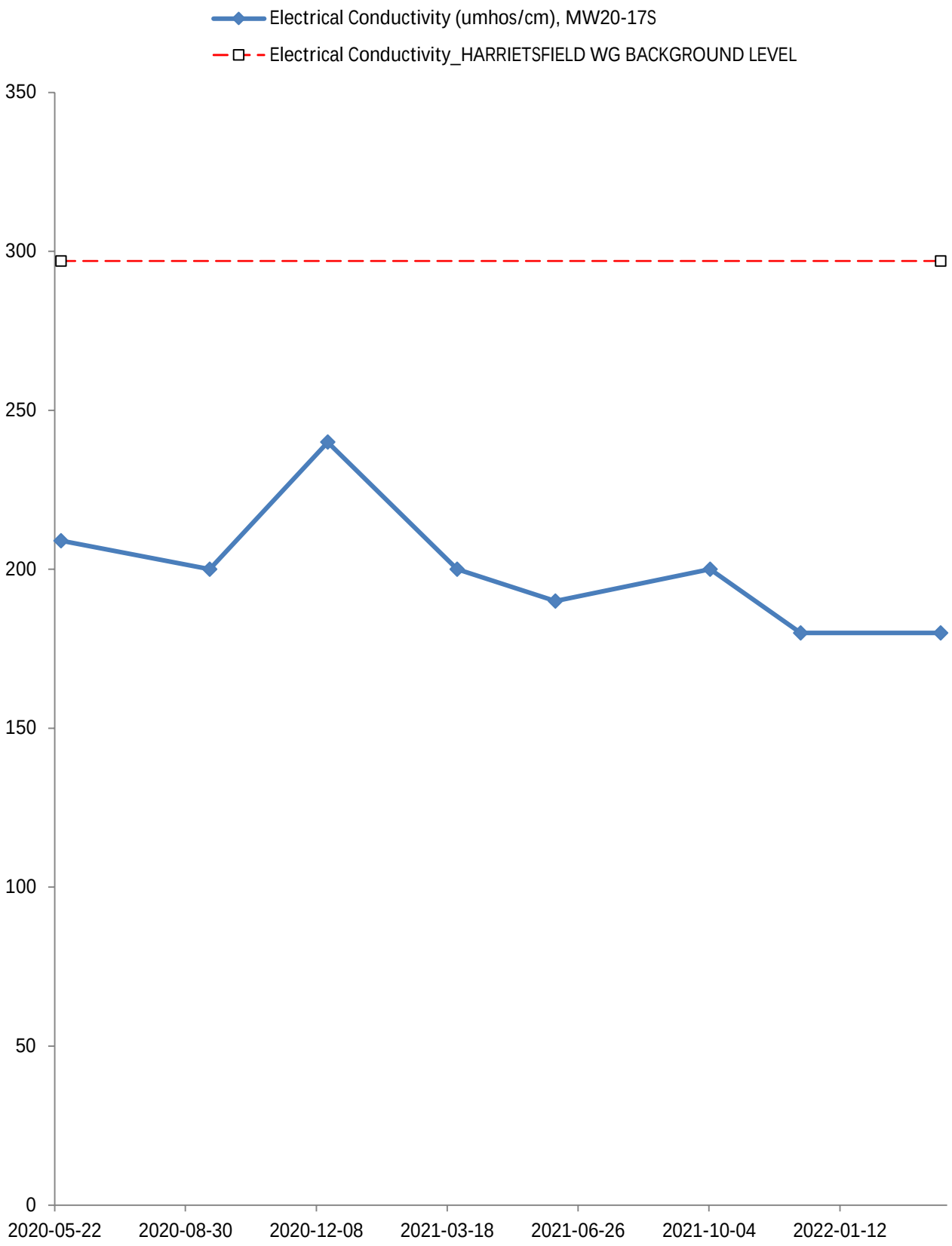
MW20-17S-Copper



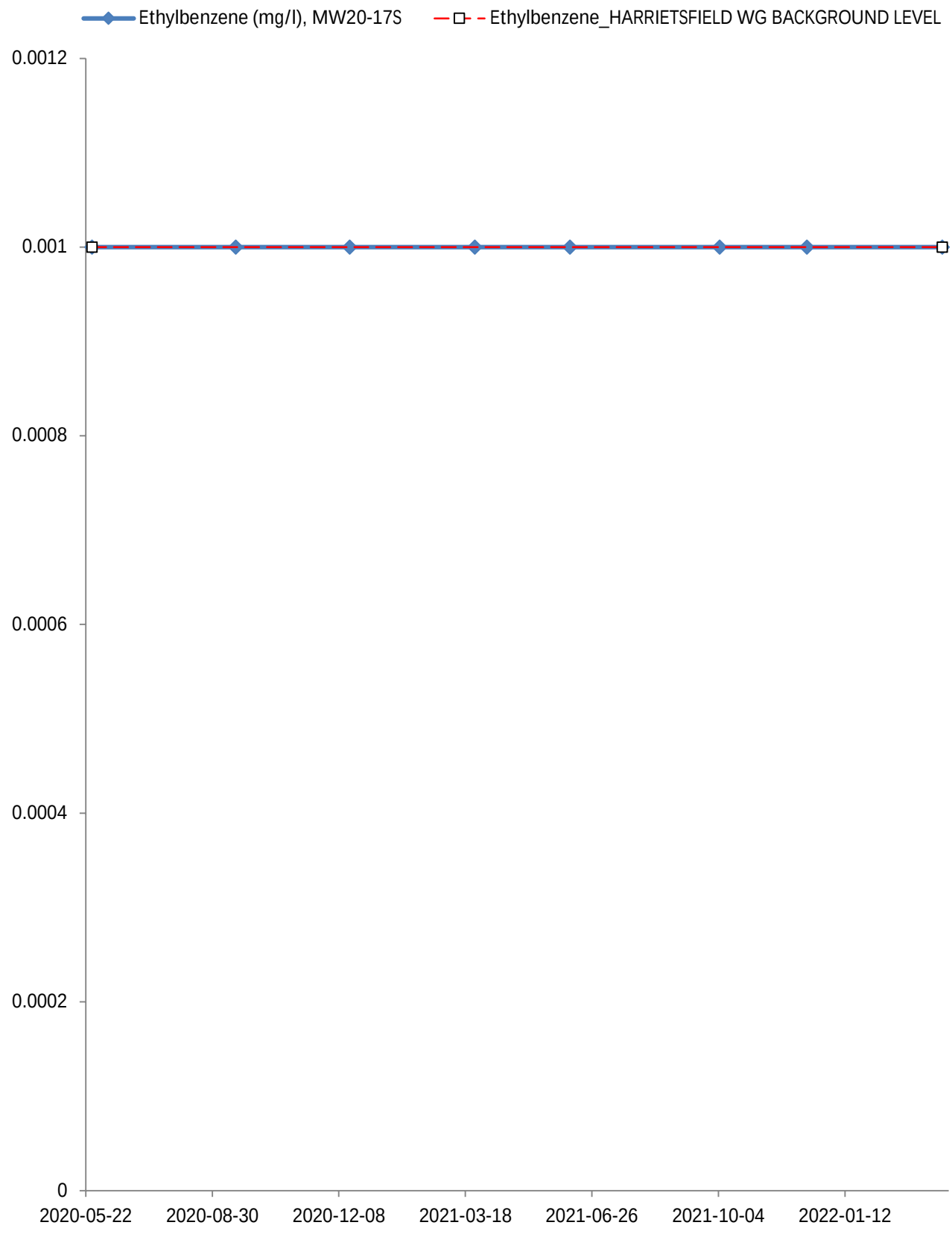
MW20-17S-Dissolved Organic Carbon7



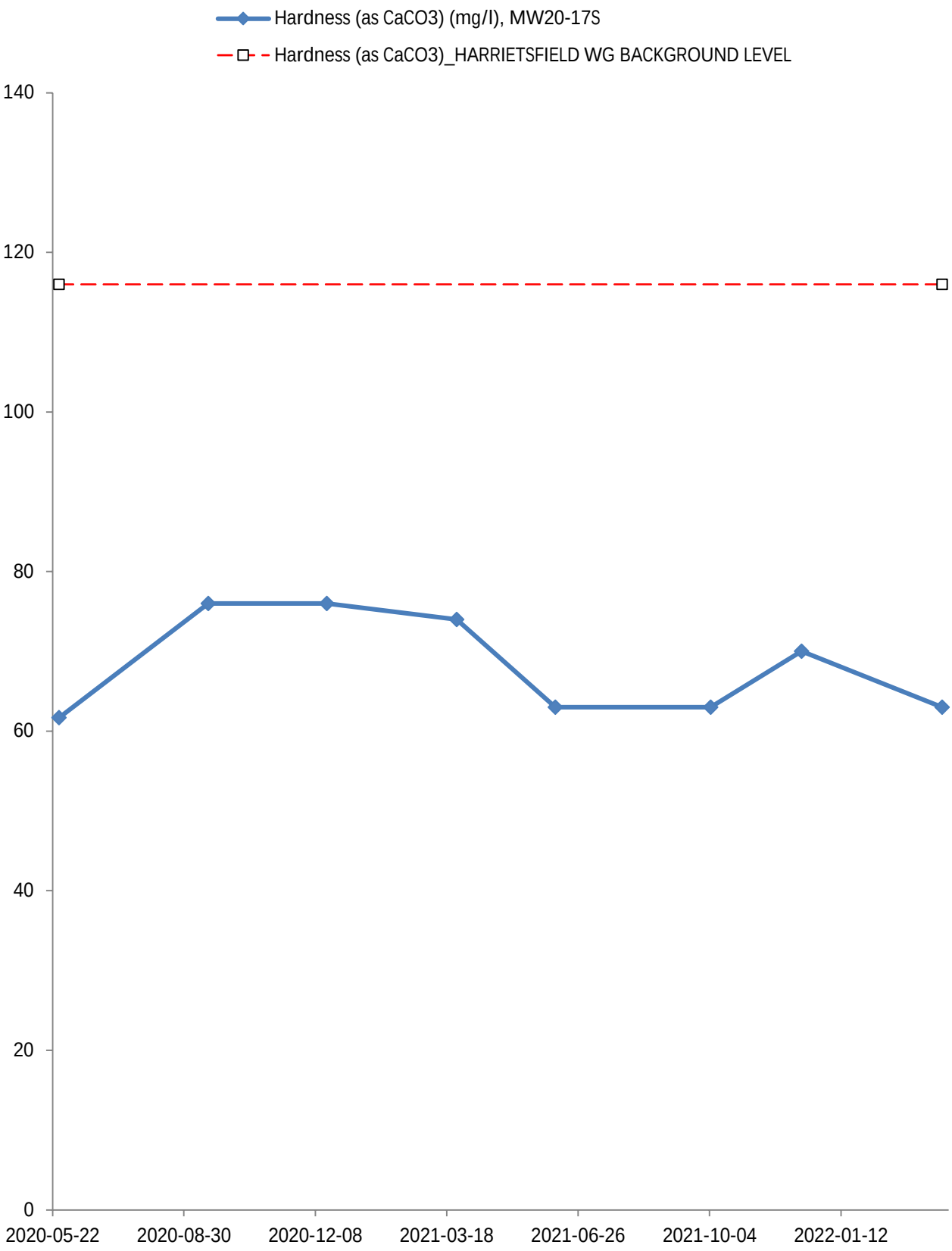
MW20-17S-Electrical Conductivity



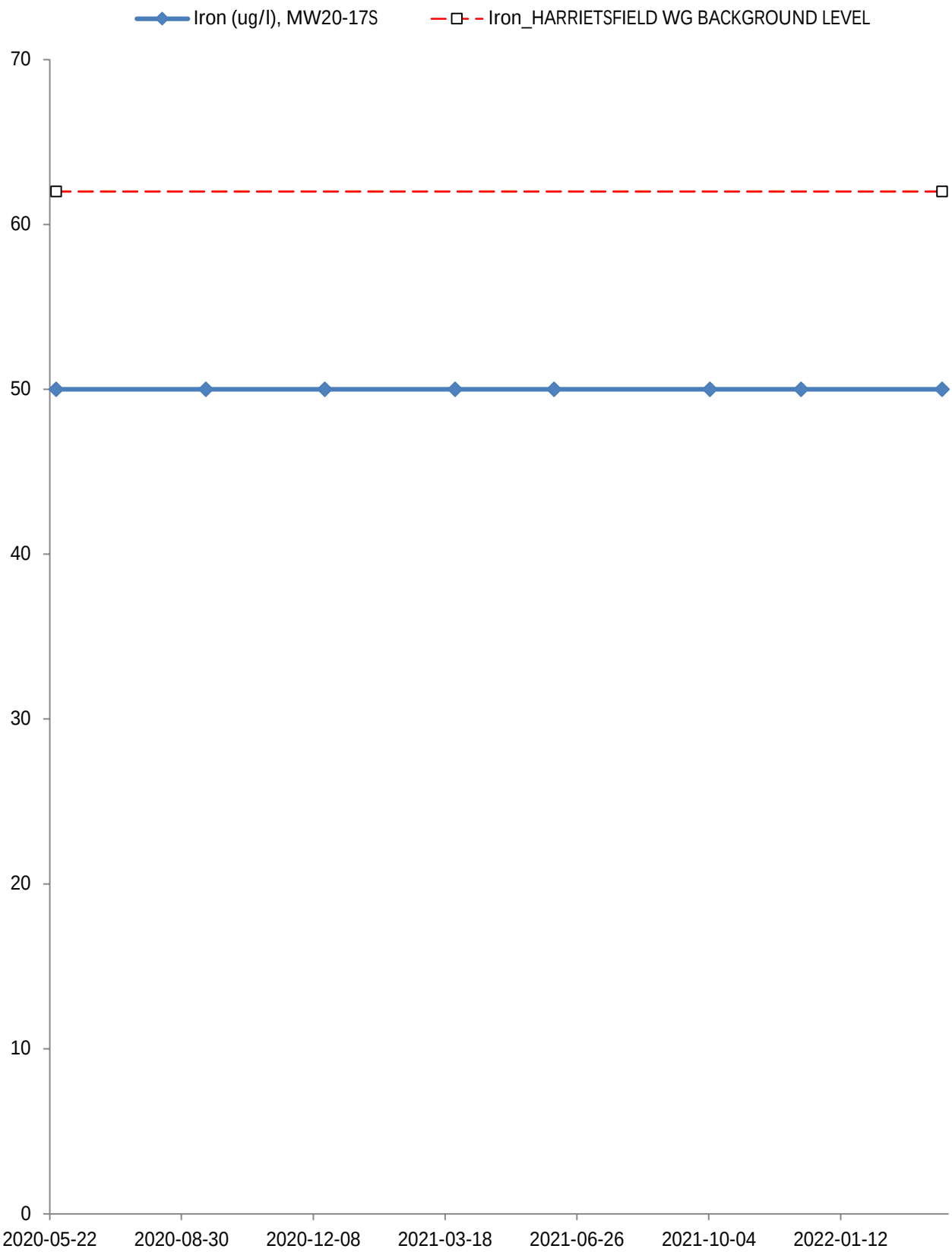
MW20-17S-Ethylbenzene



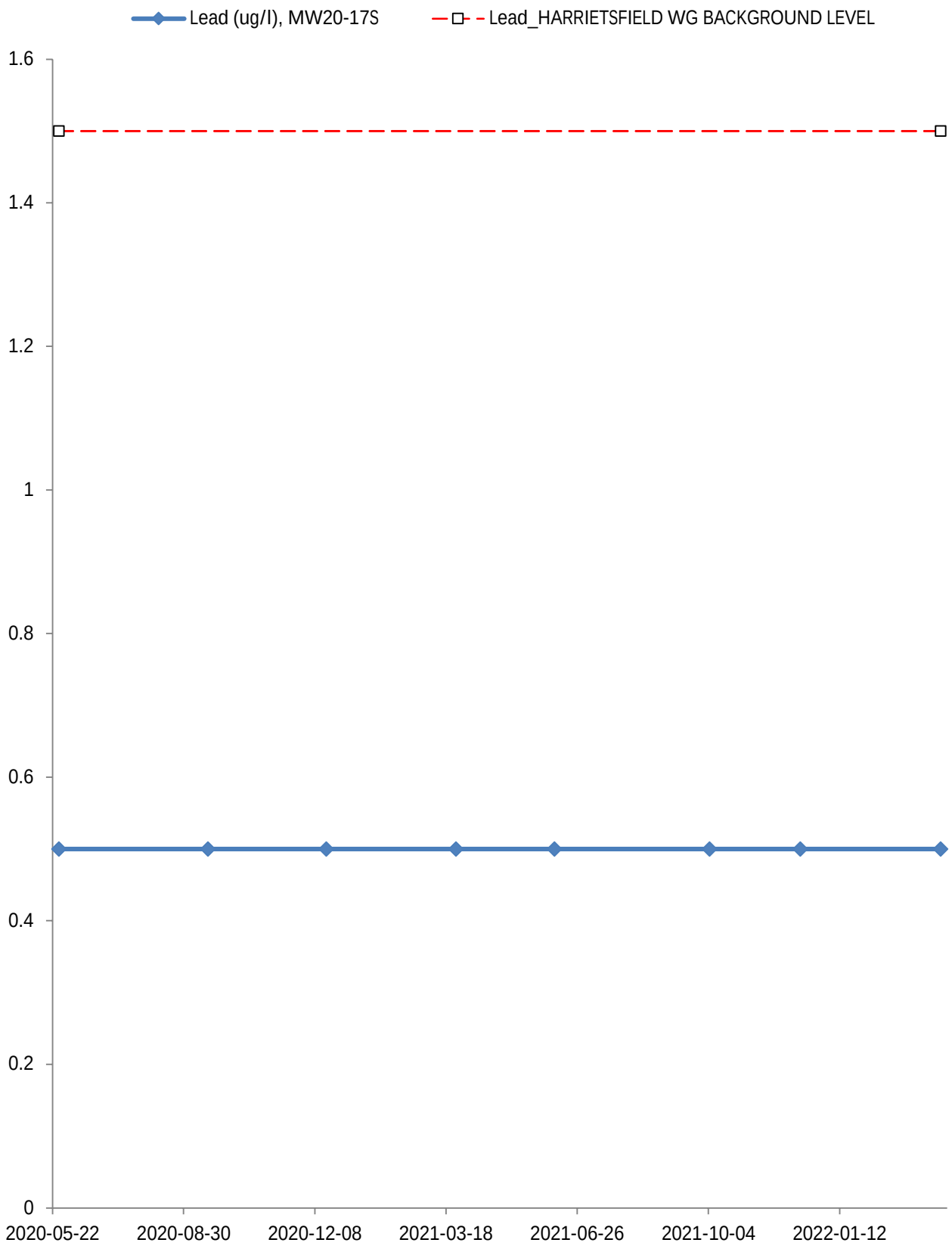
MW20-17S-Hardness (as CaCO3)



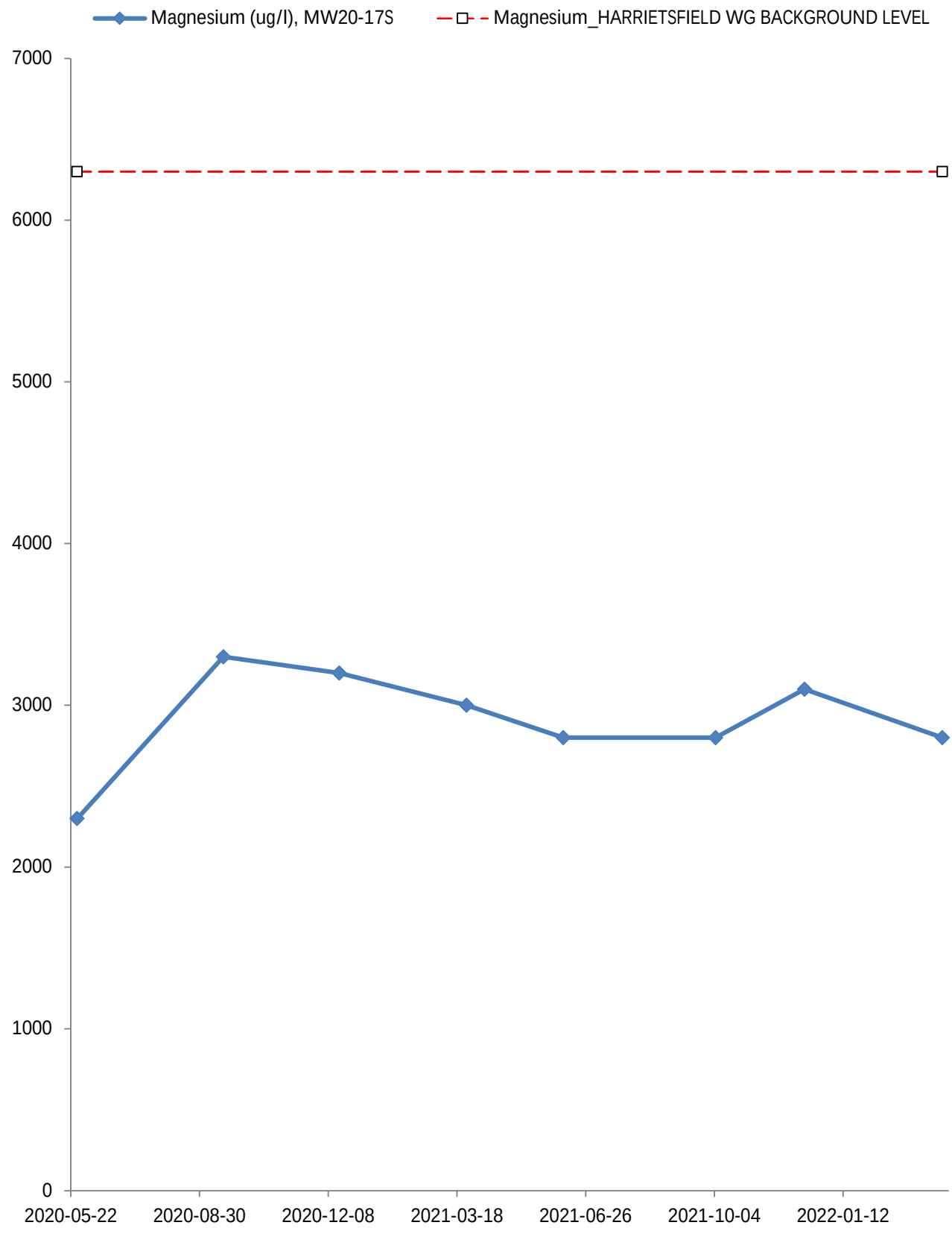
MW20-17S-Iron



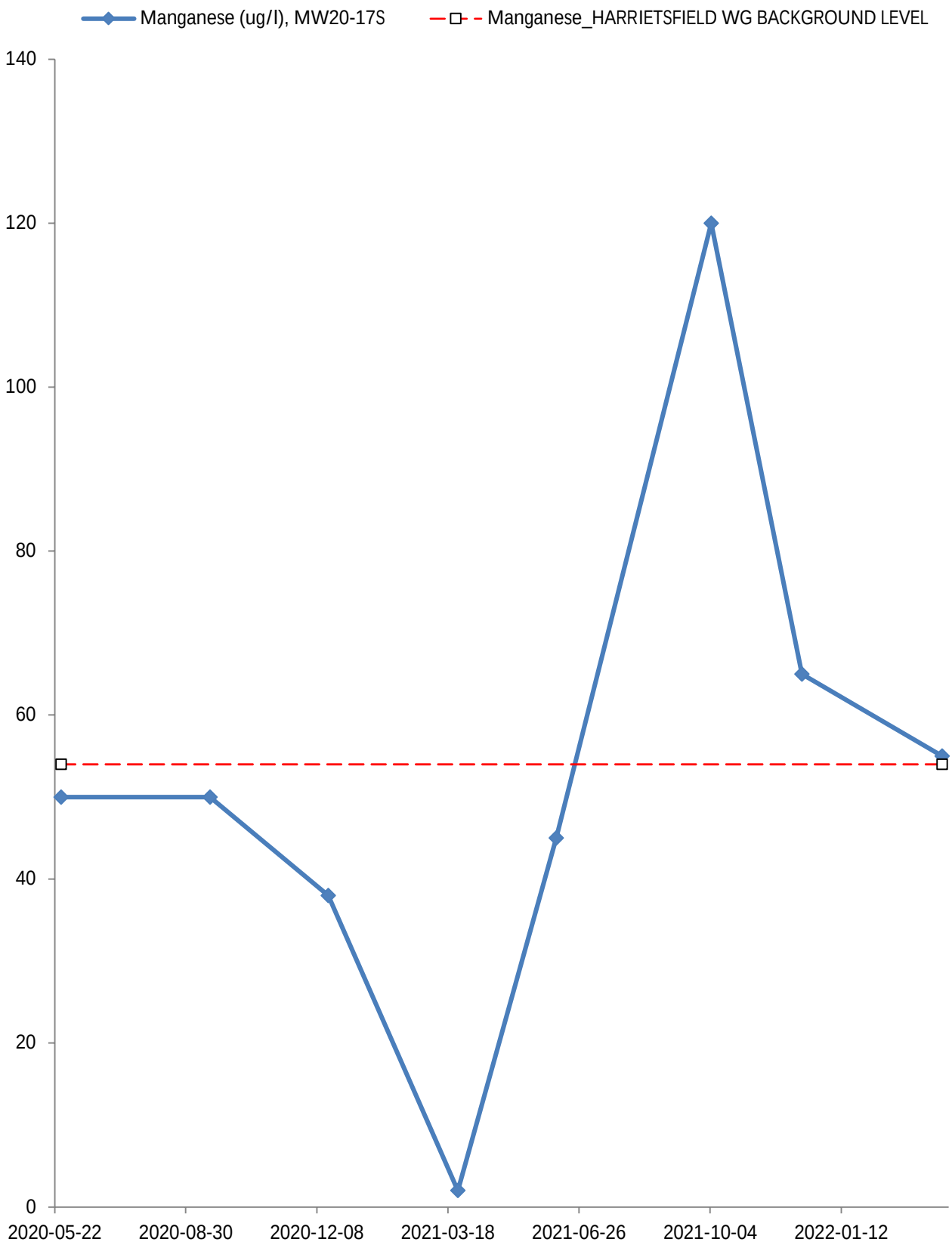
MW20-17S-Lead



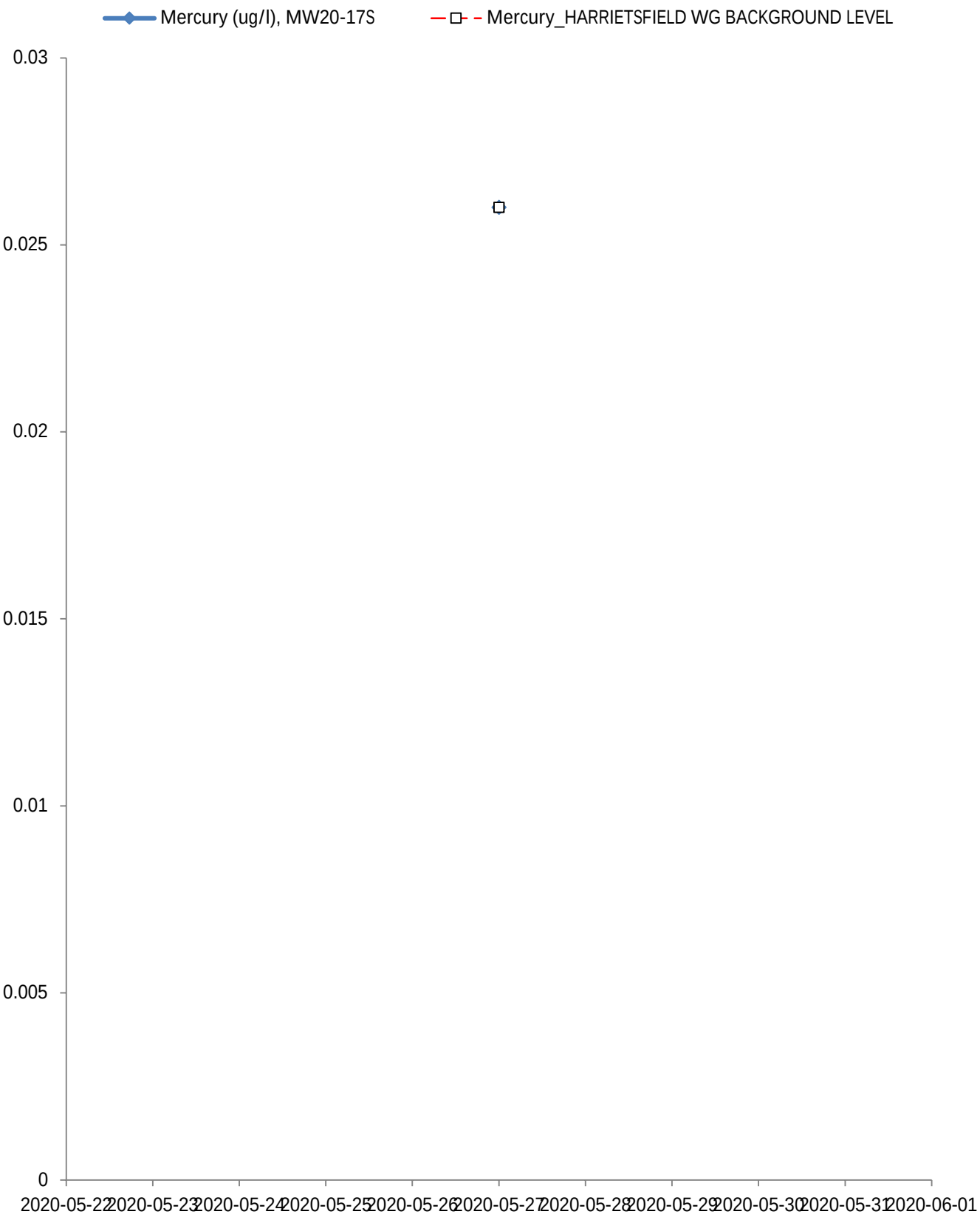
MW20-17S-Magnesium



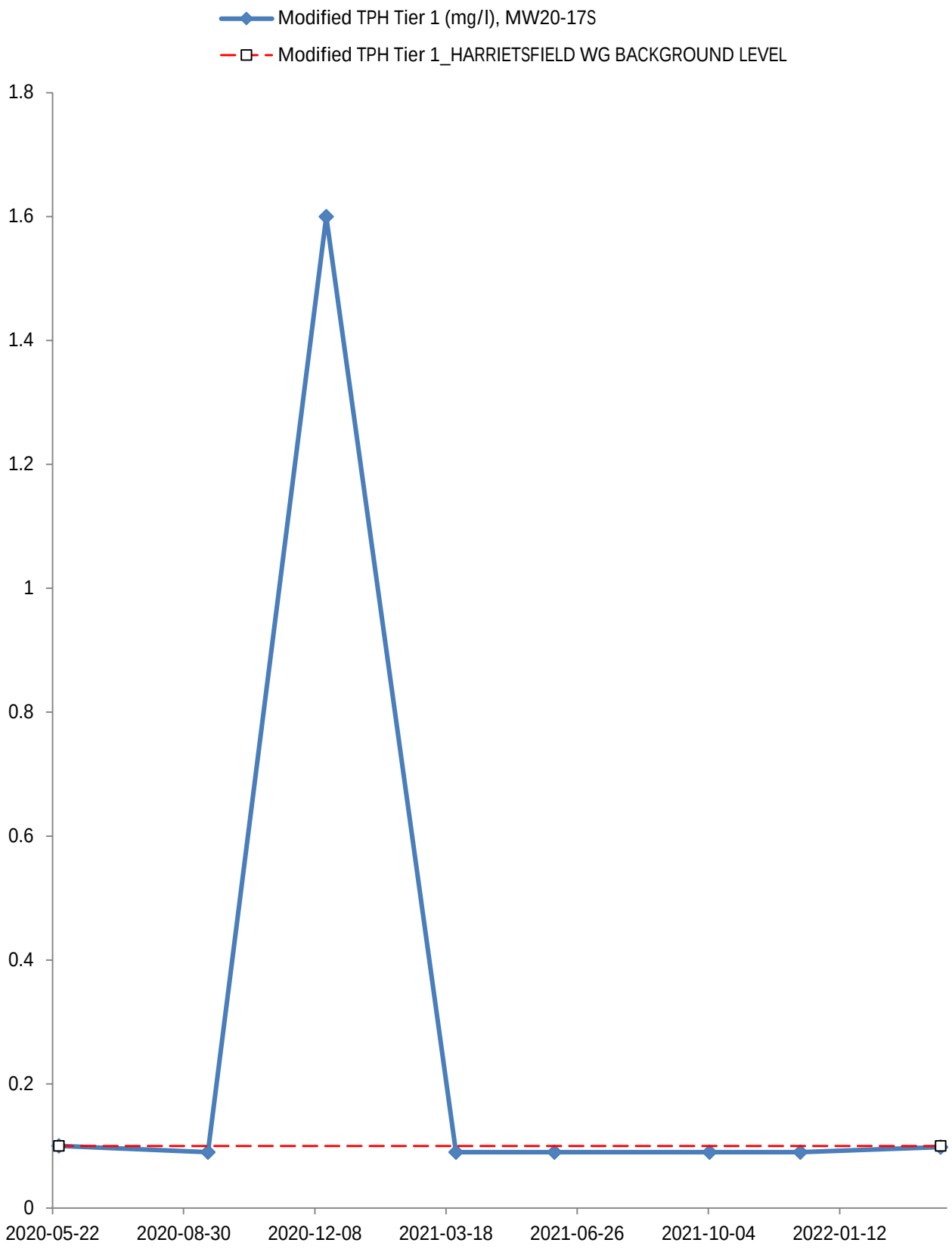
MW20-17S-Manganese



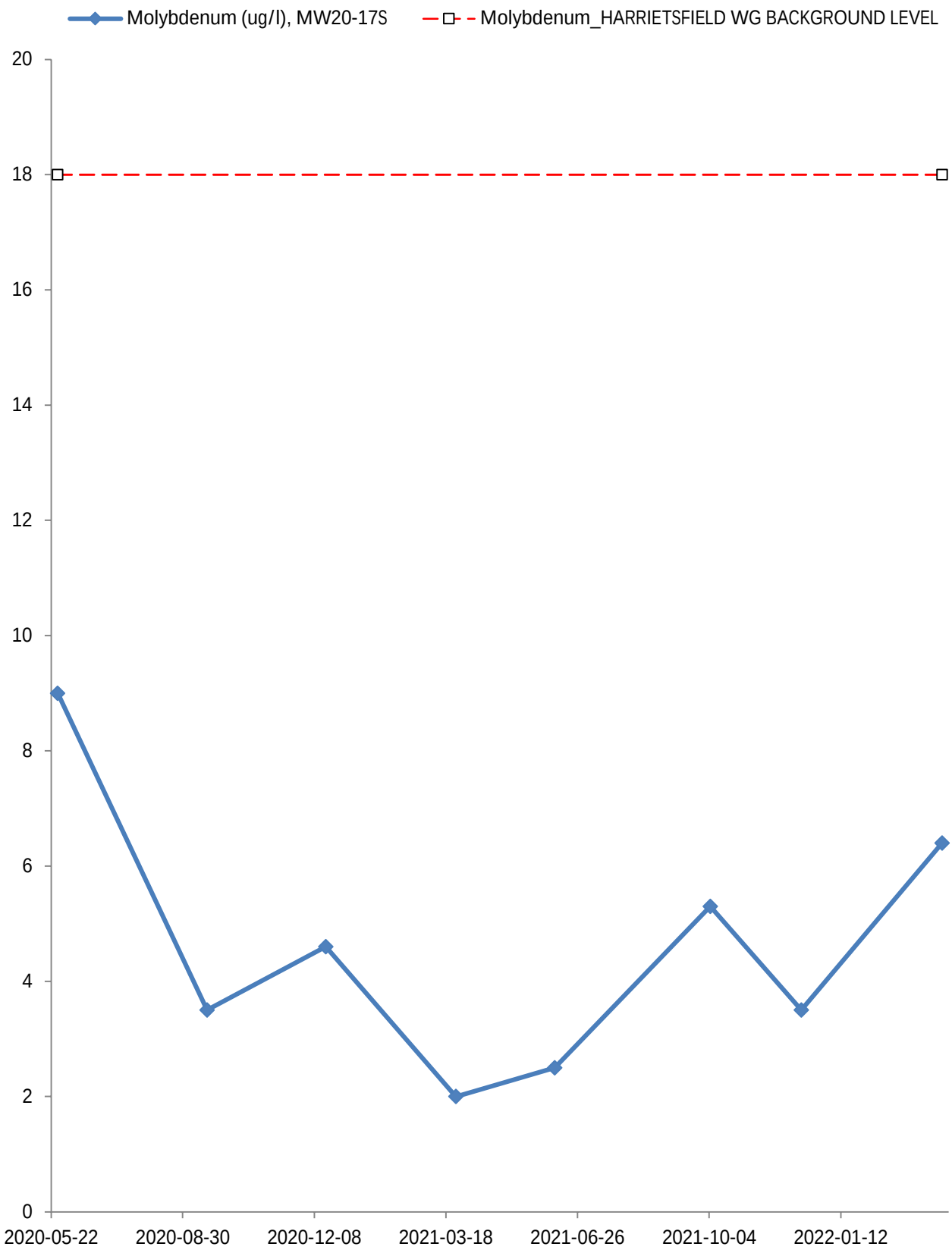
MW20-17S-Mercury



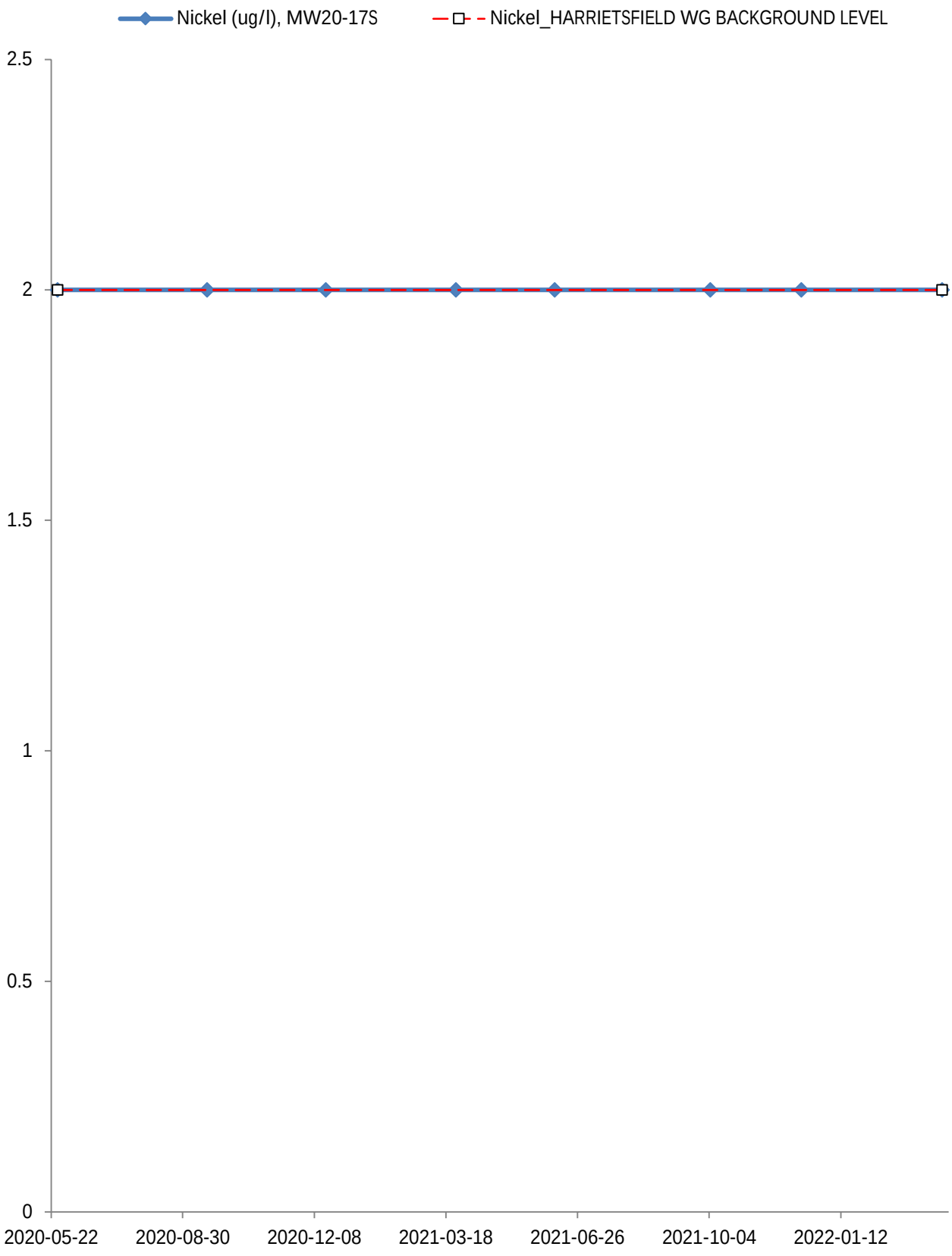
MW20-17S-Modified TPH Tier 1



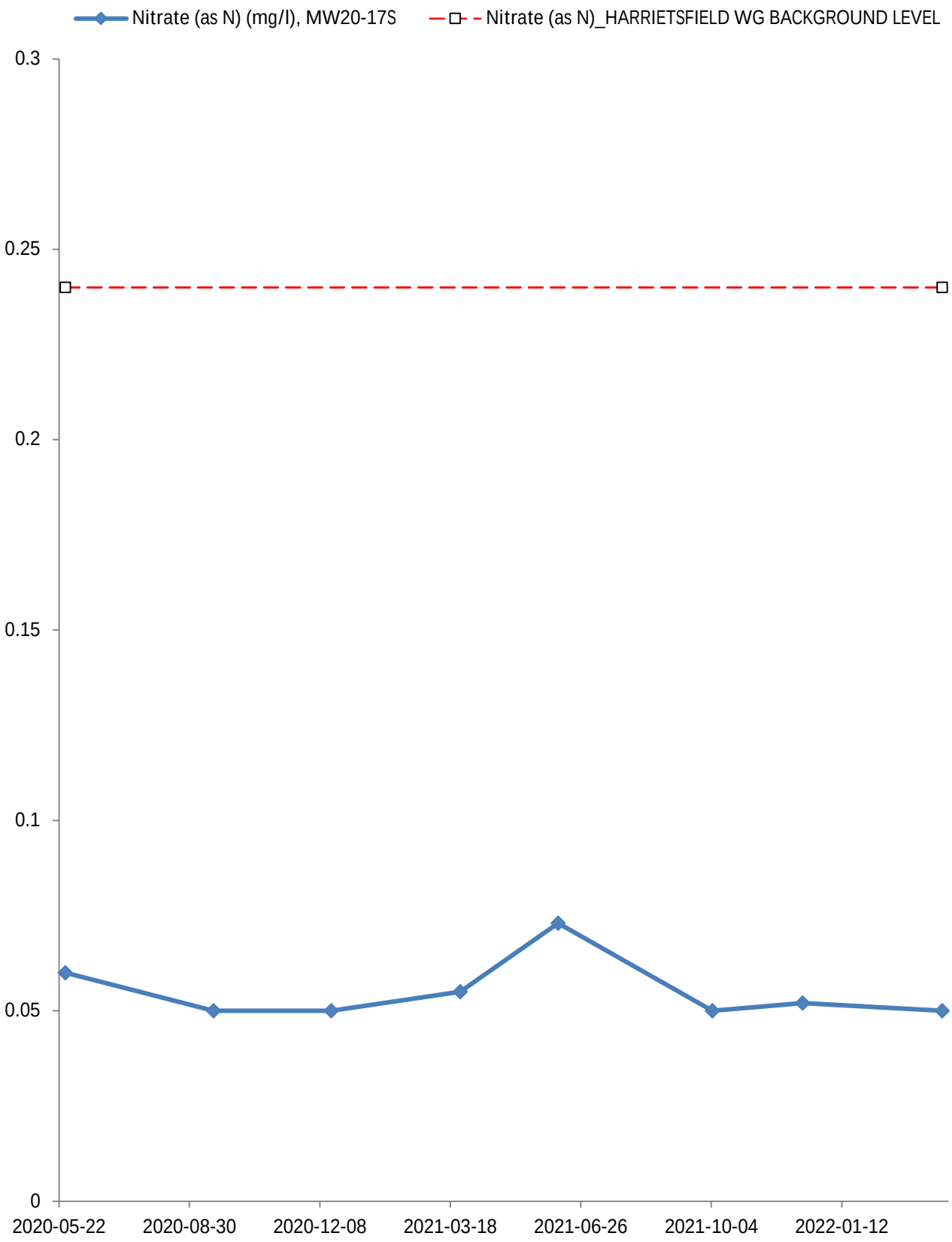
MW20-17S-Molybdenum



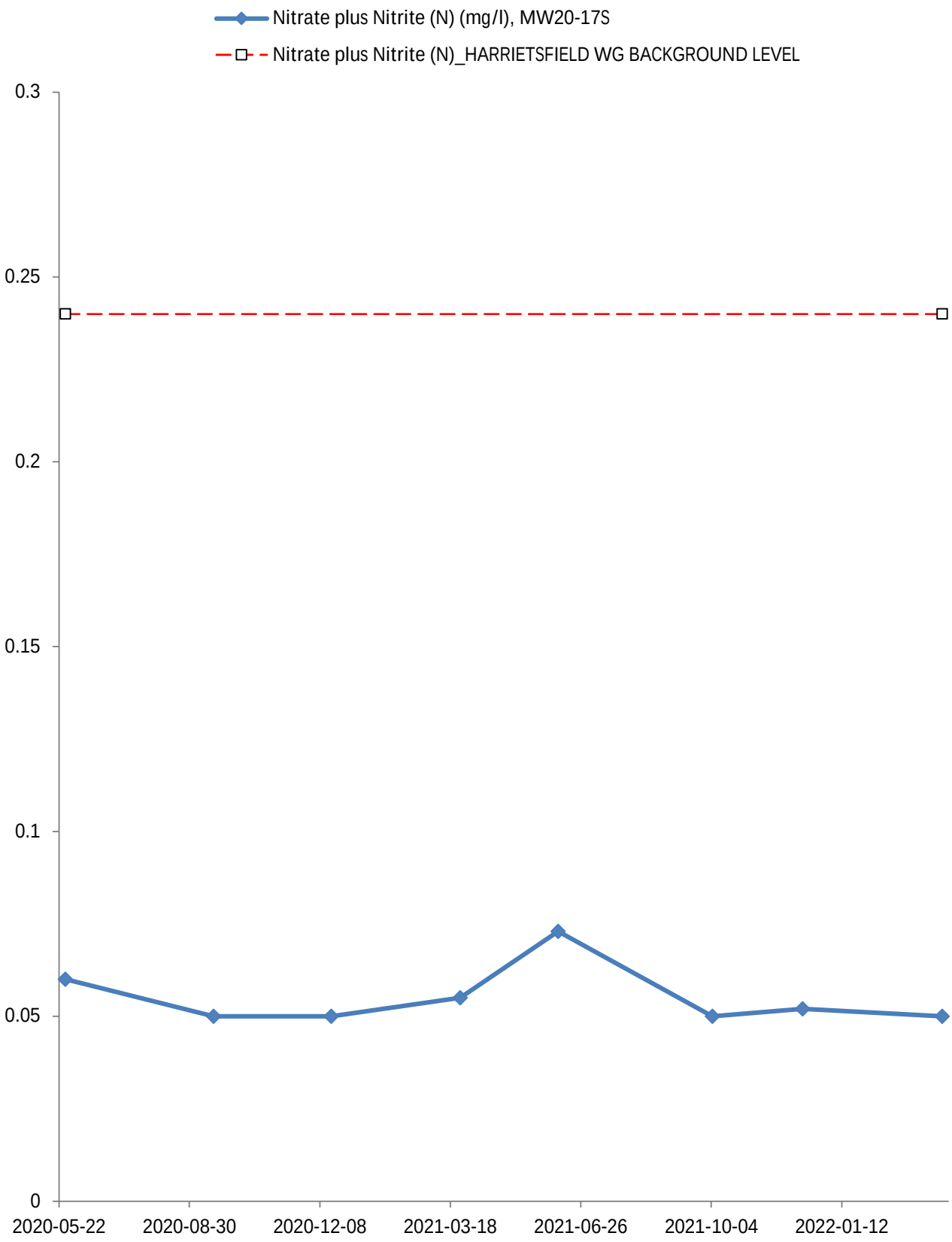
MW20-17S-Nickel



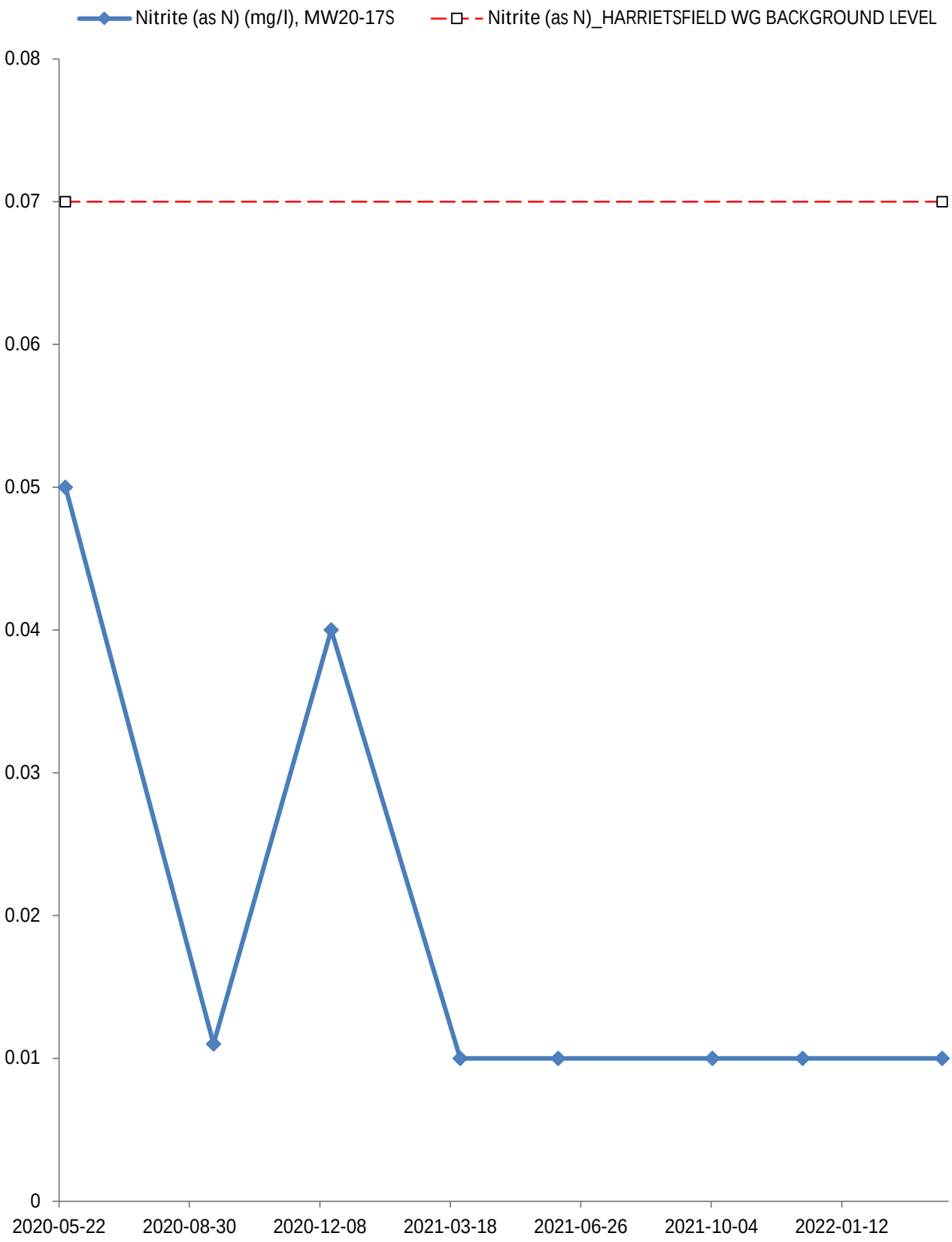
MW20-17S-Nitrate (as N)



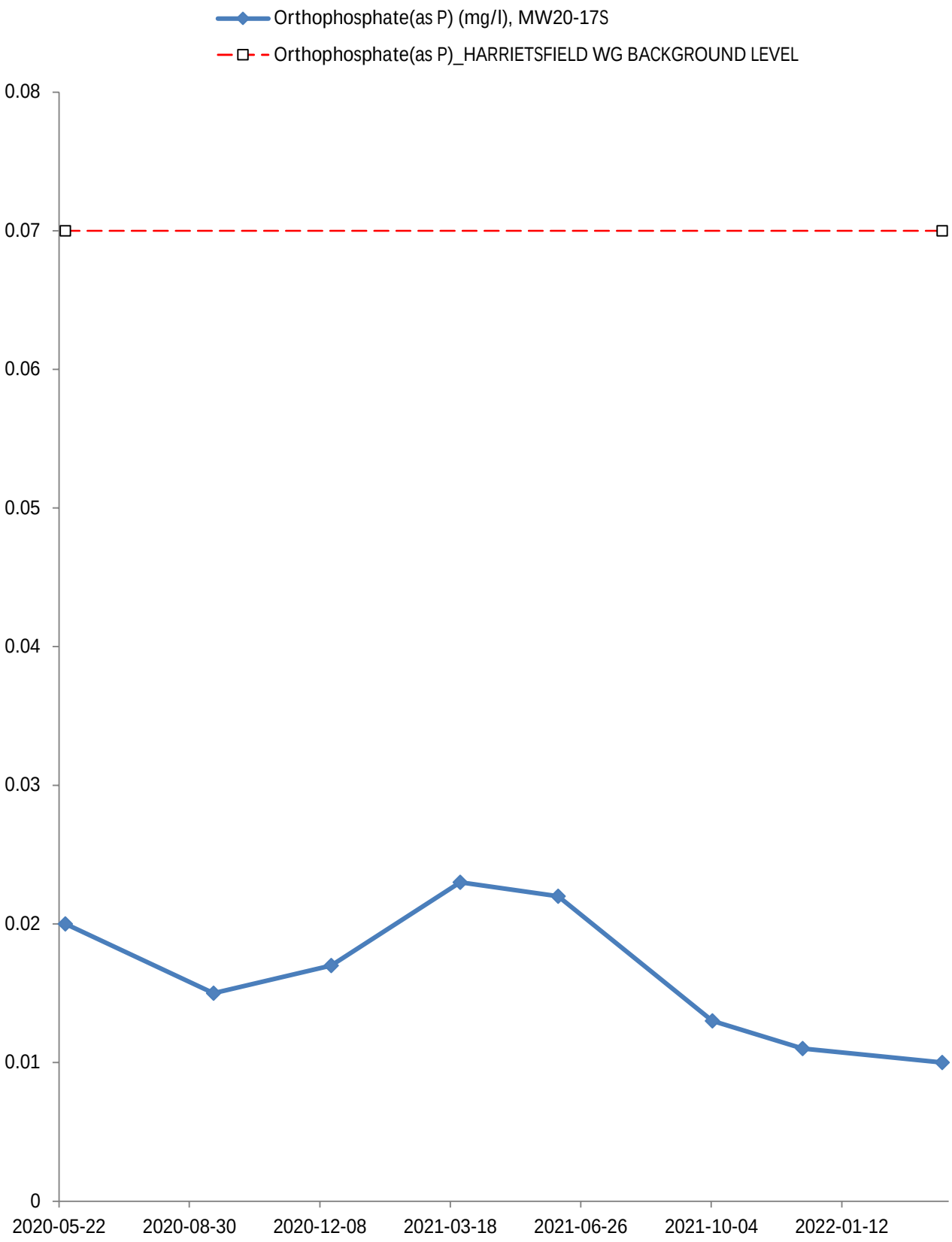
MW20-17S-Nitrate plus Nitrite (N)



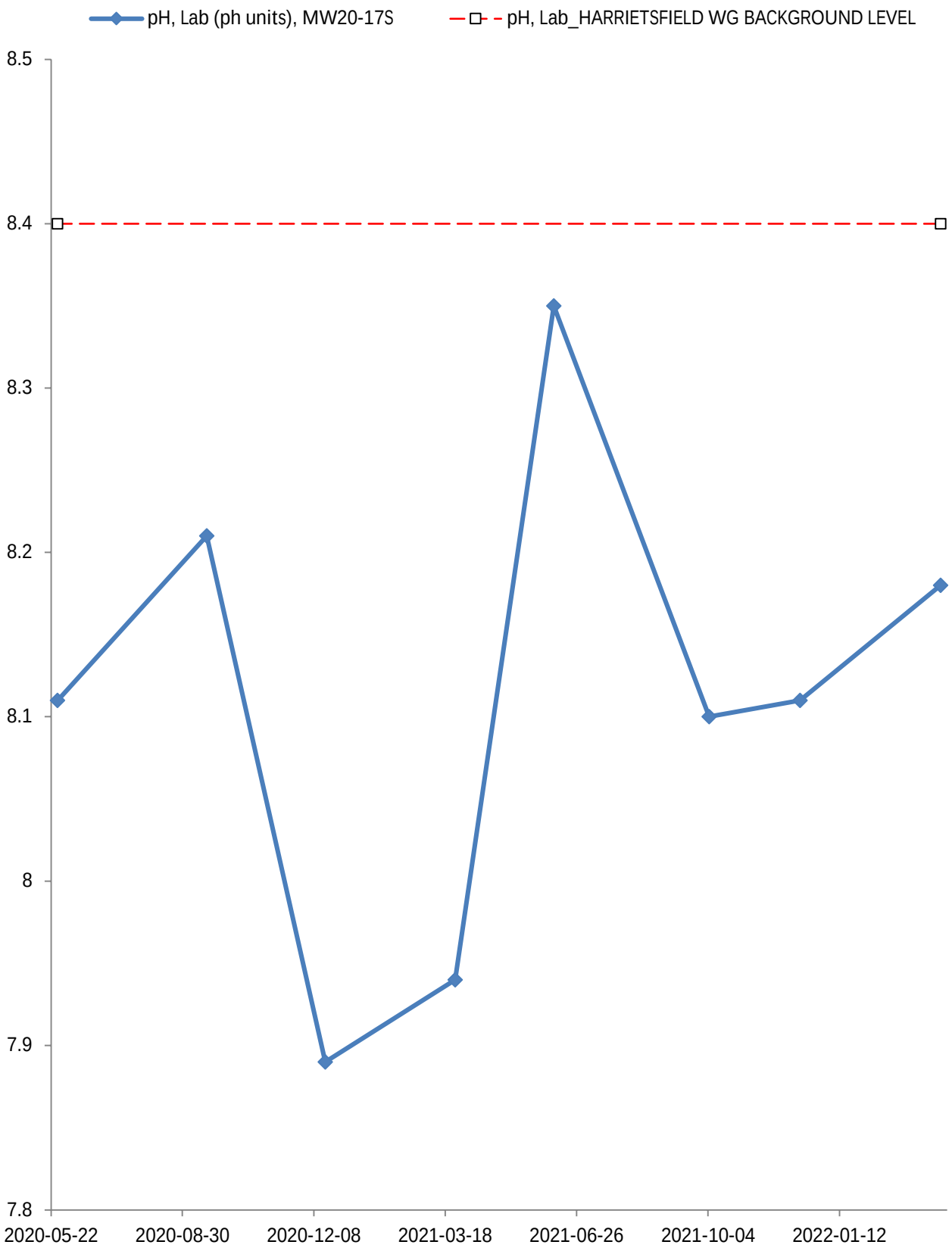
MW20-17S-Nitrite (as N)

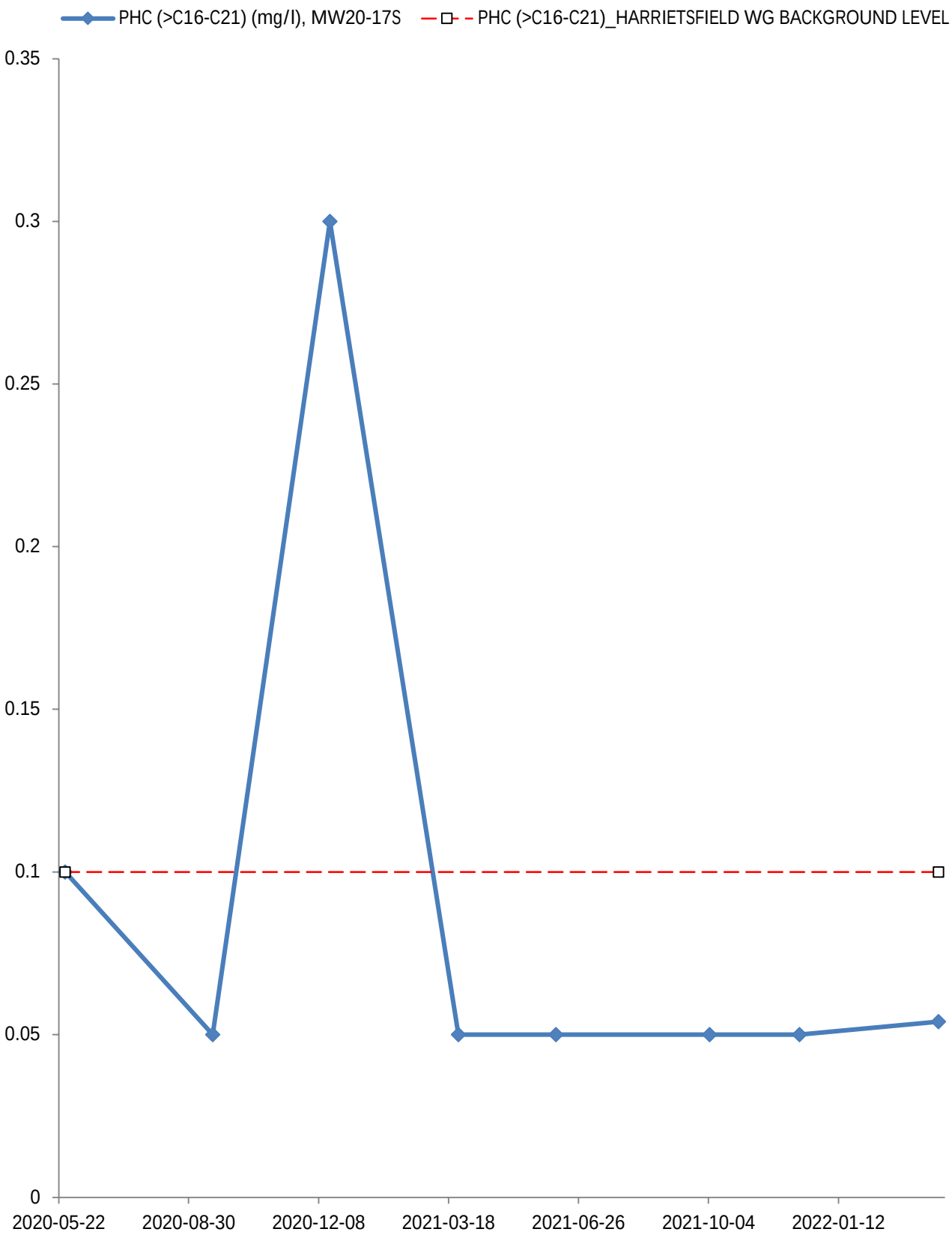


MW20-17S-Orthophosphate(as P)

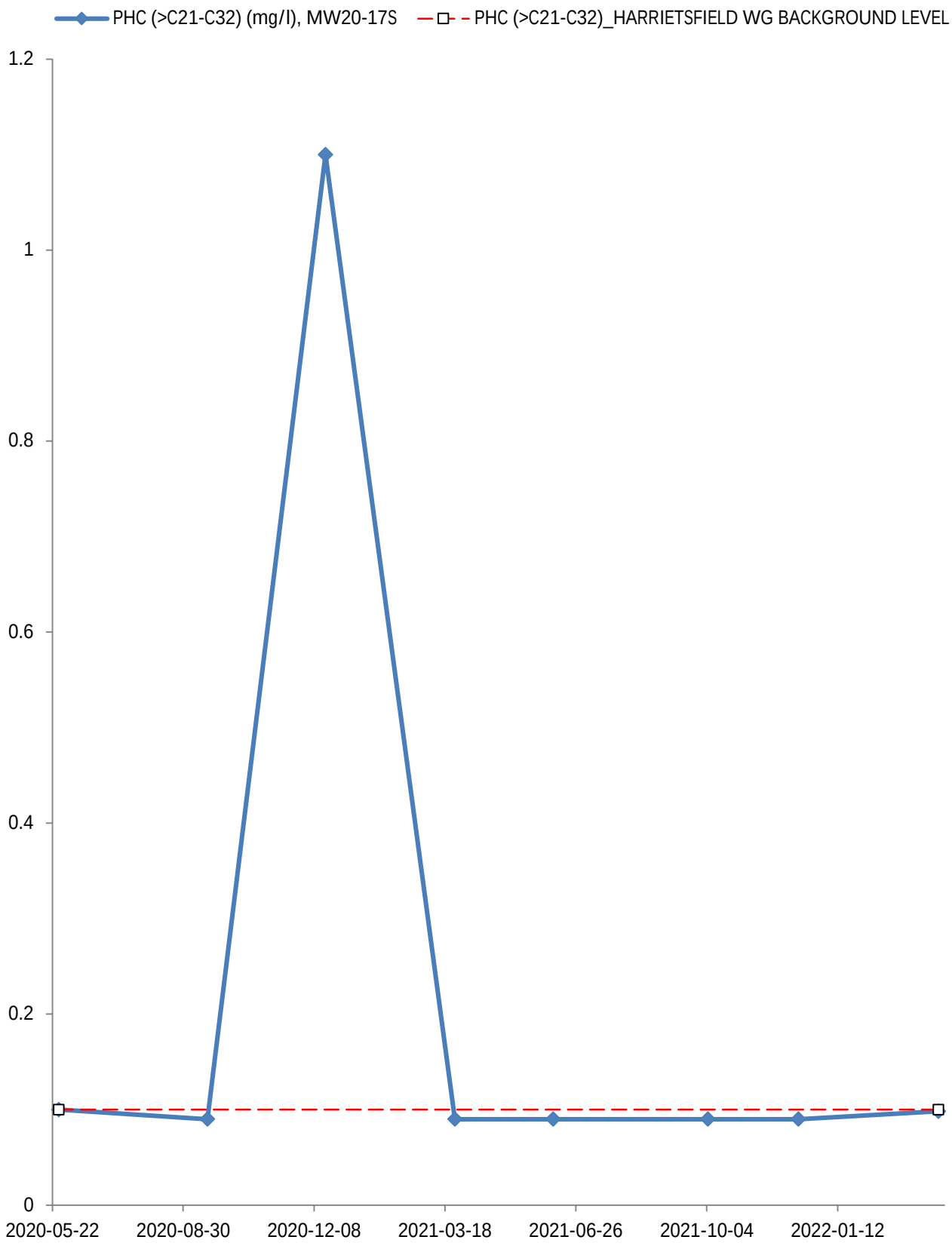


MW20-17S-pH, Lab

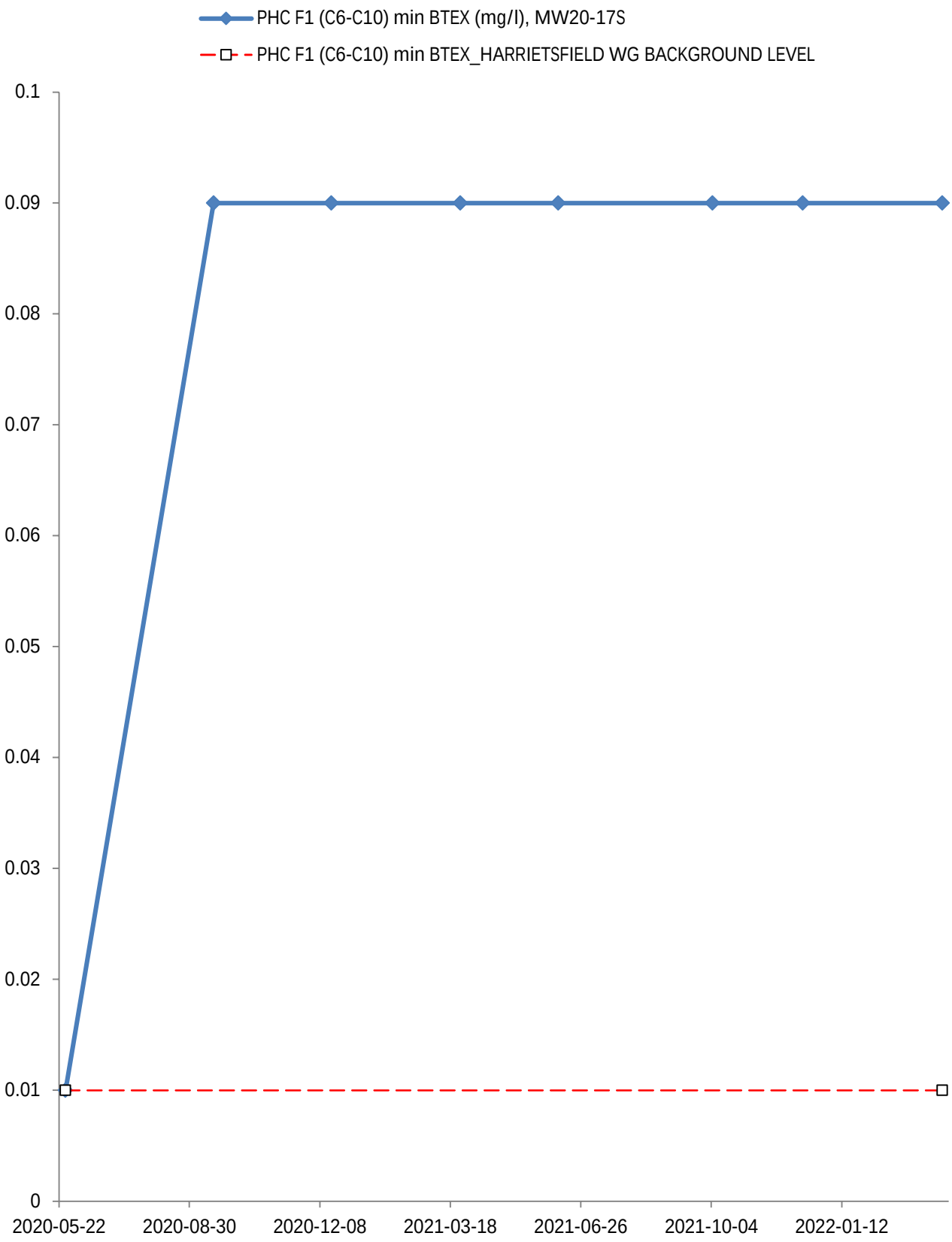



PHC (>C16-C21) (mg/l), MW20-17S
PHC (>C16-C21)_HARRIETSFIELD WG BACKGROUND LEVEL
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

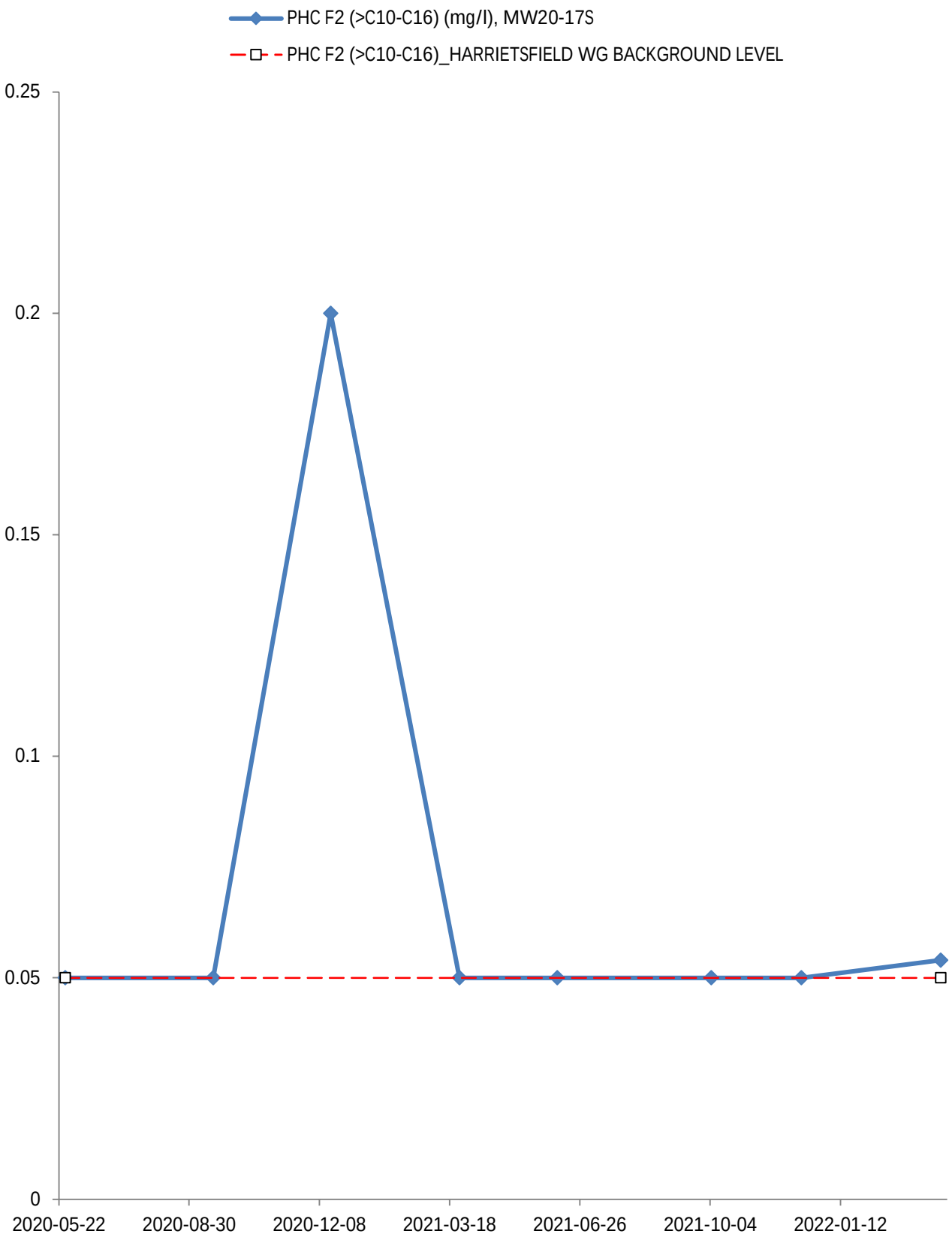
MW20-17S-PHC (>C21-C32)



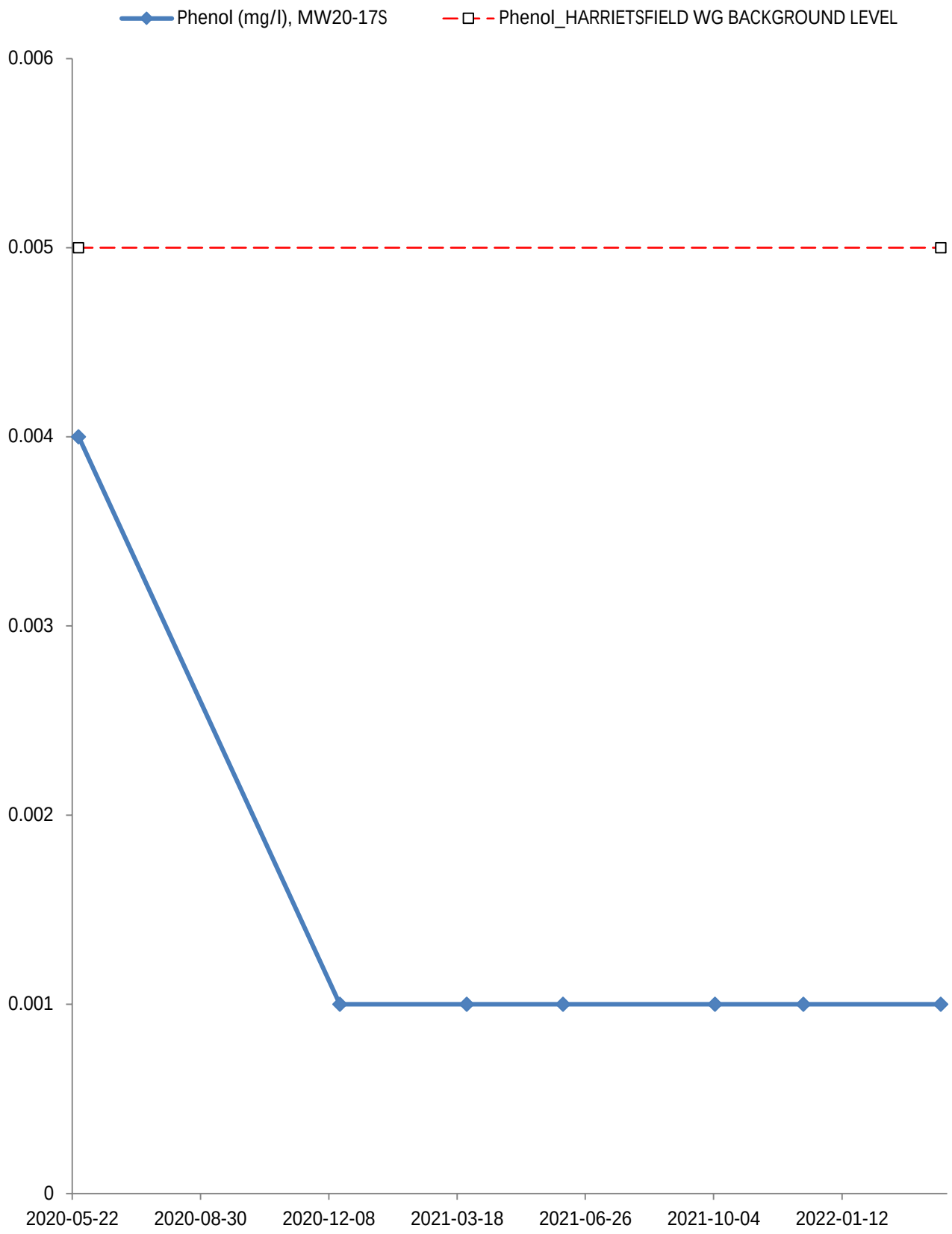
MW20-17S-PHC F1 (C6-C10) min BTEX



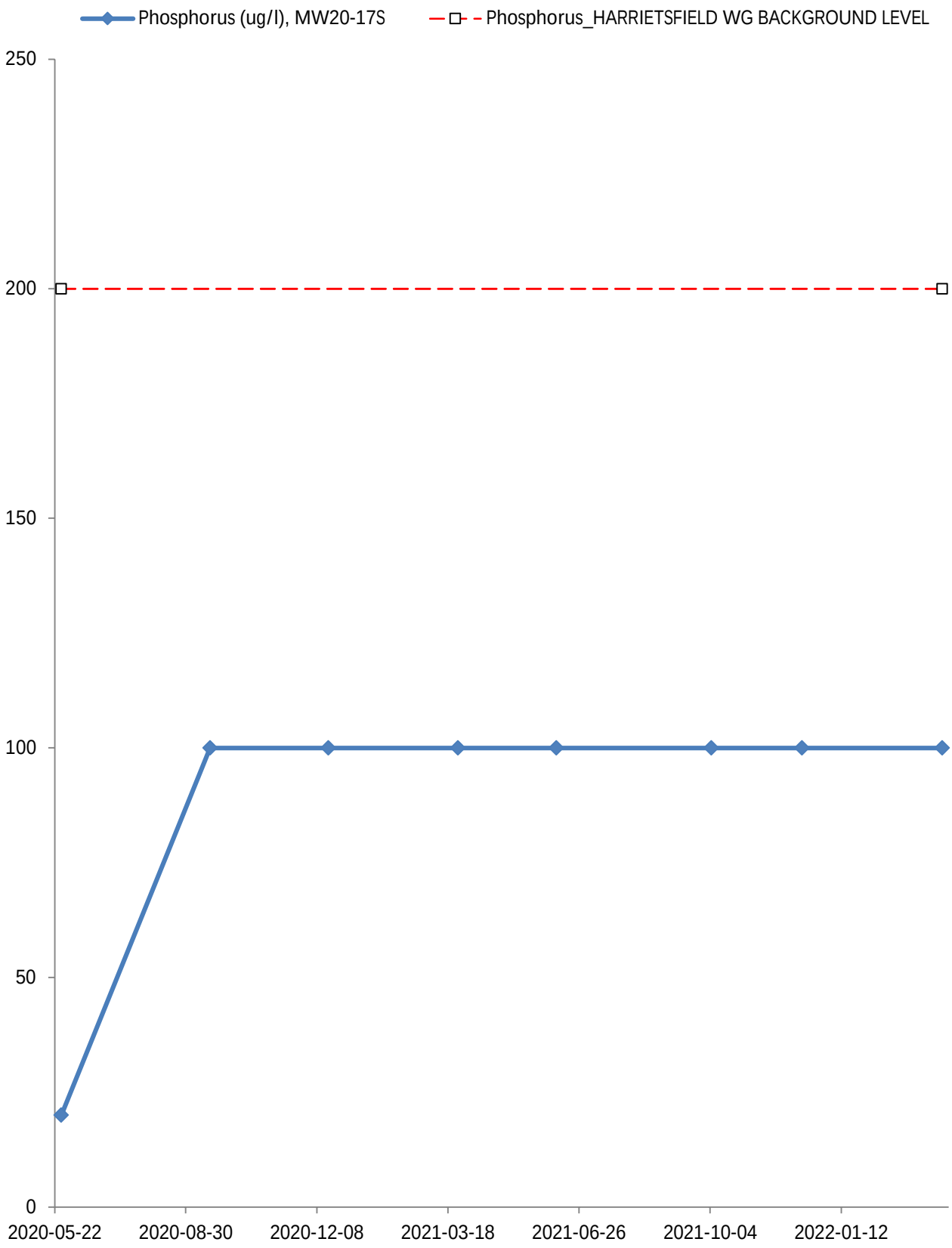
MW20-17S-PHC F2 (>C10-C16)



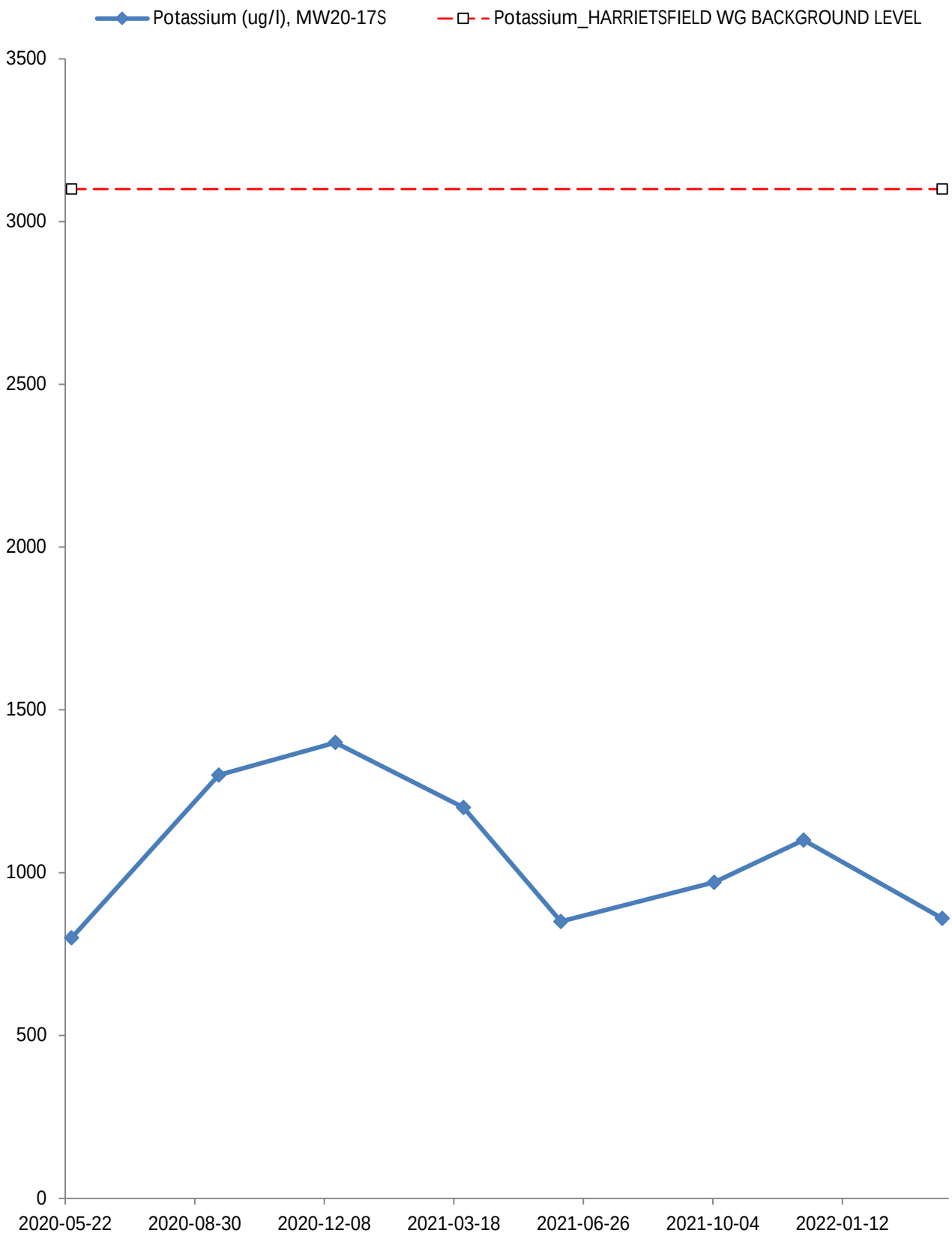
MW20-17S-Phenol



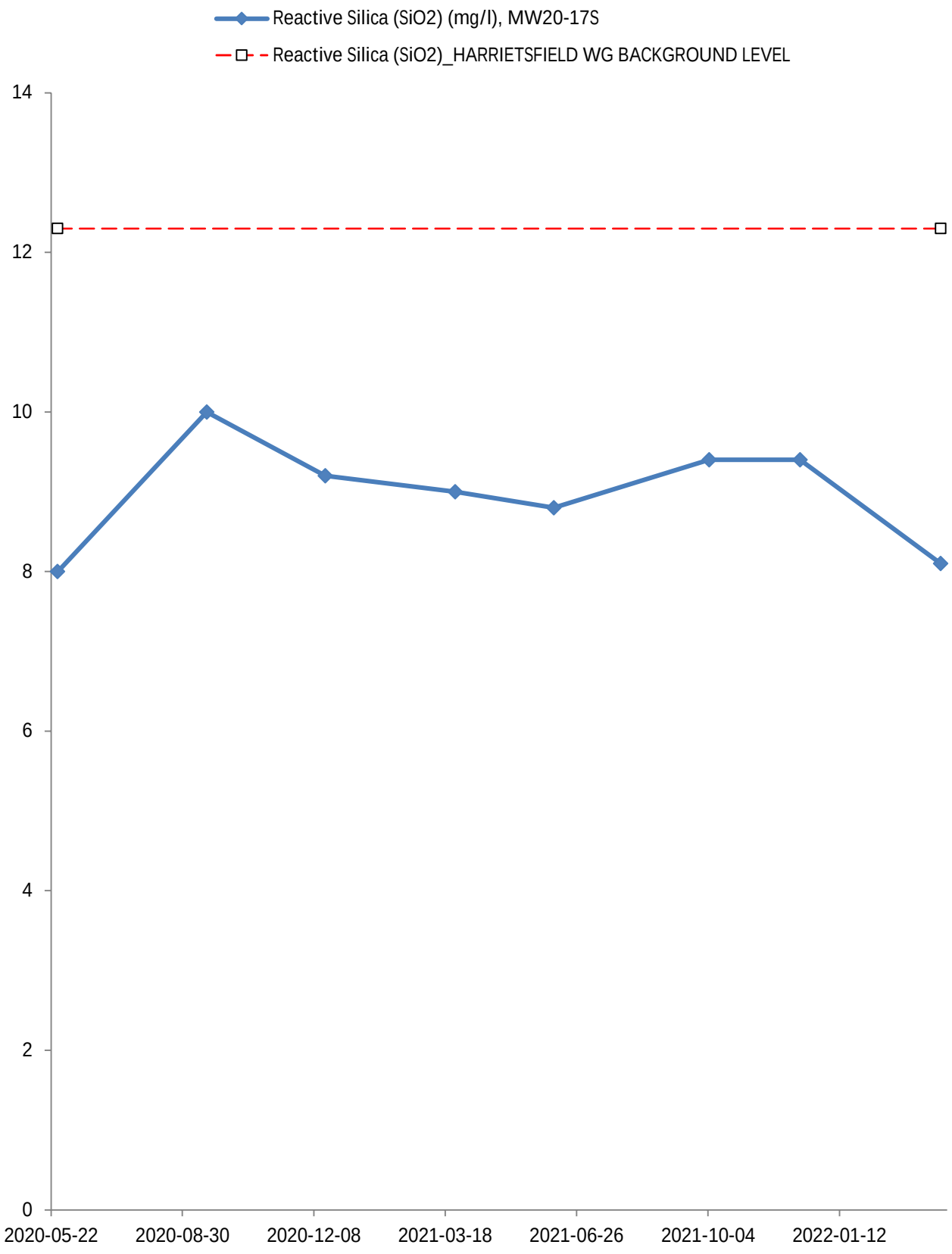
MW20-17S-Phosphorus



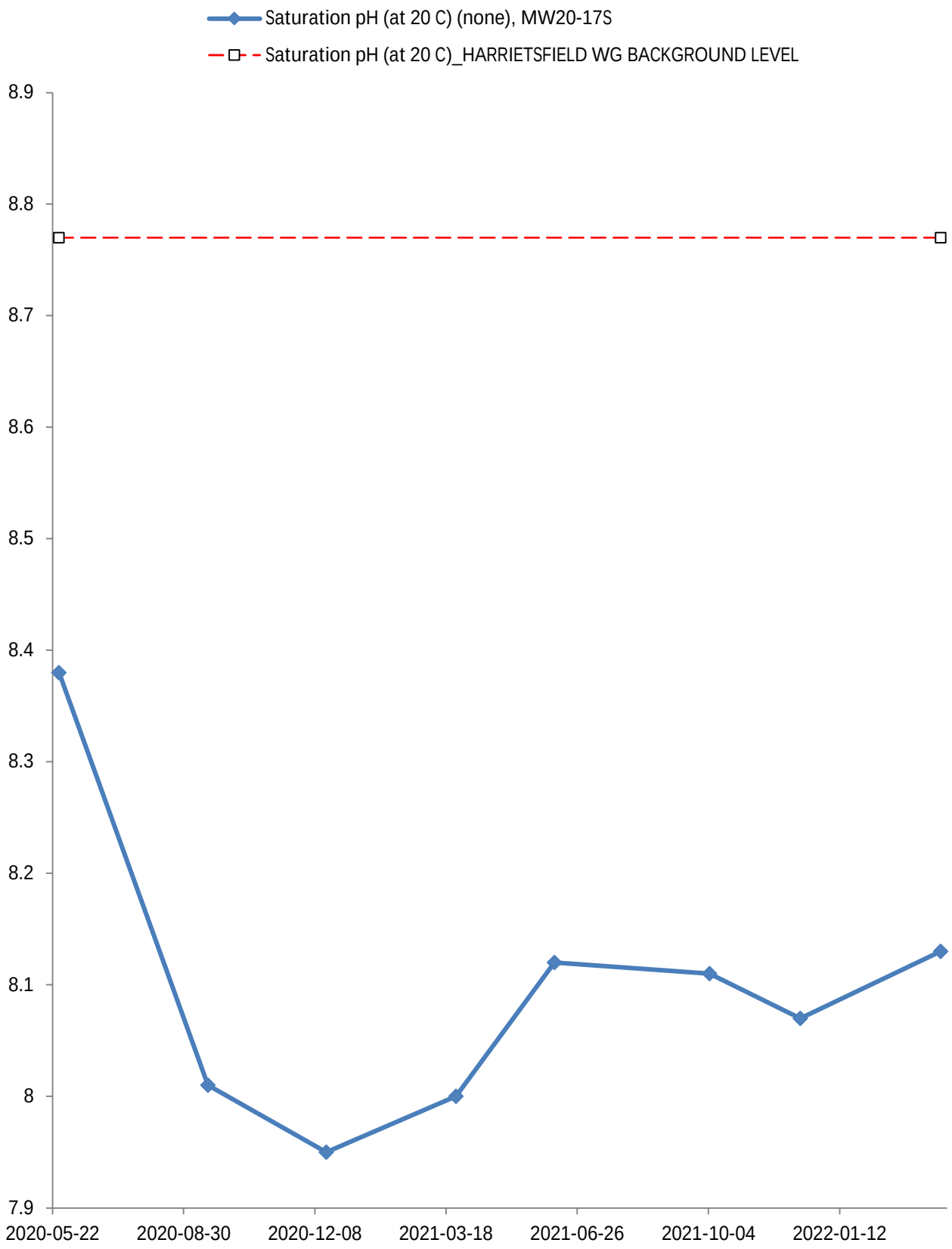
MW20-17S-Potassium



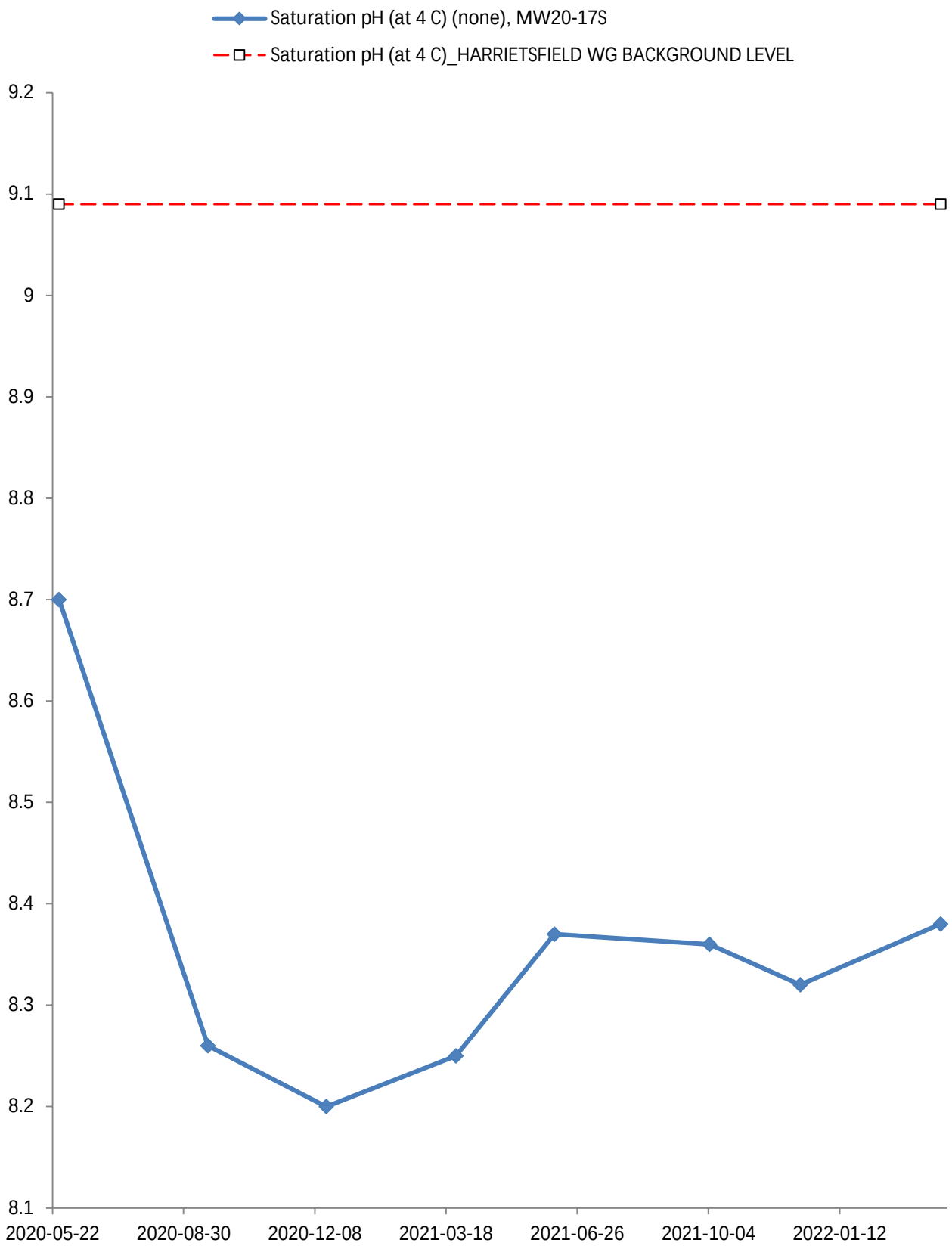
MW20-17S-Reactive Silica (SiO2)



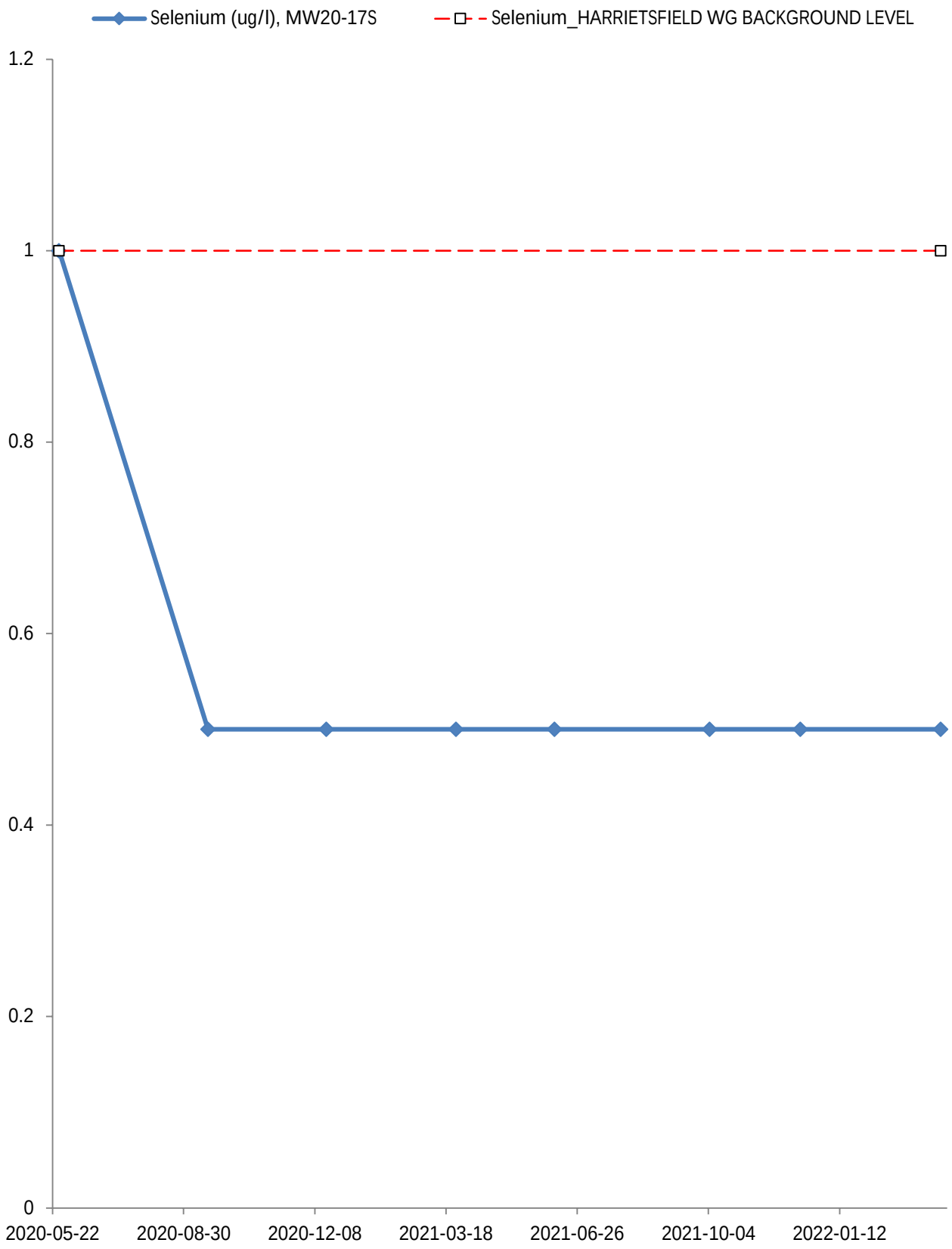
MW20-17S-Saturation pH (at 20 C)



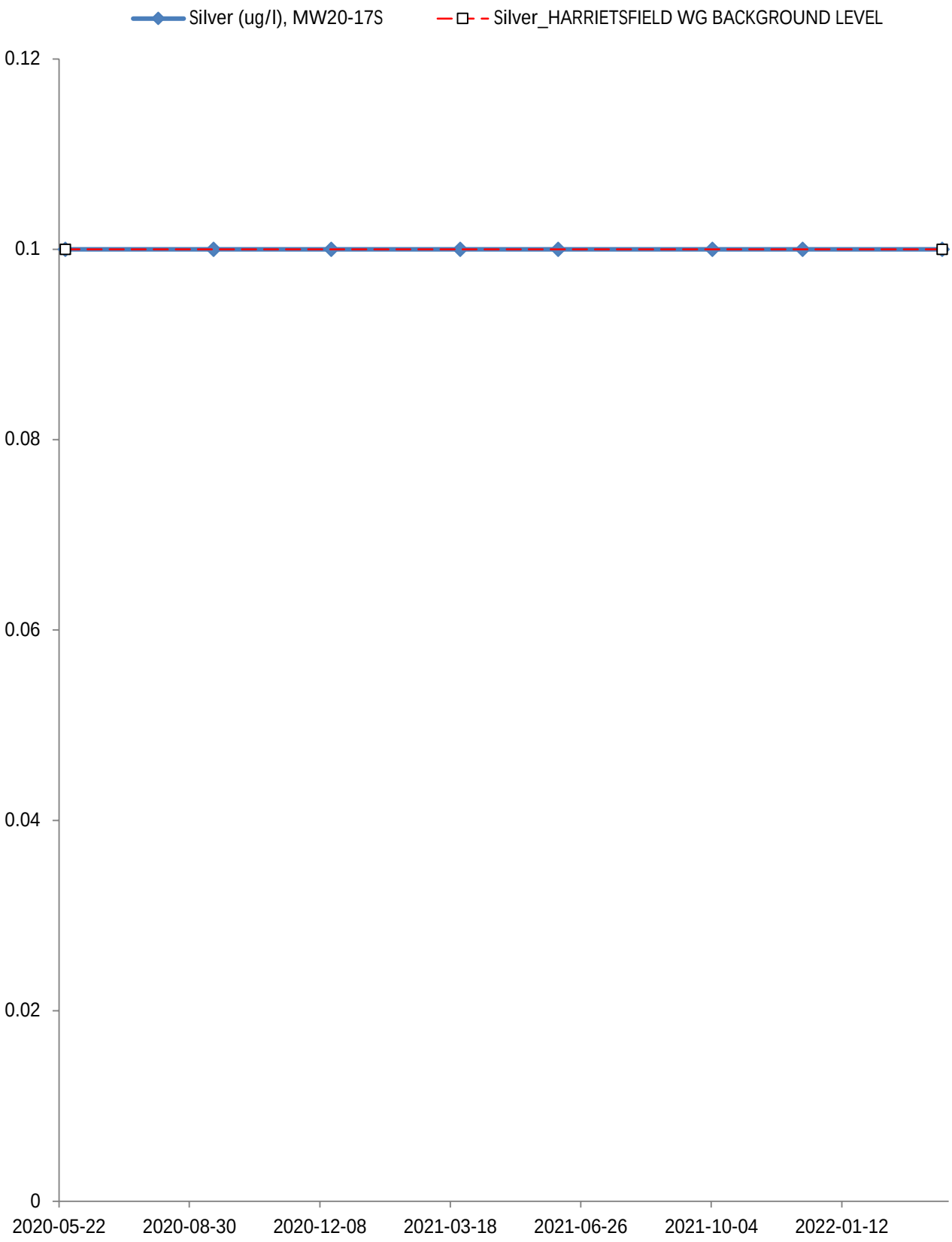
MW20-17S-Saturation pH (at 4 C)



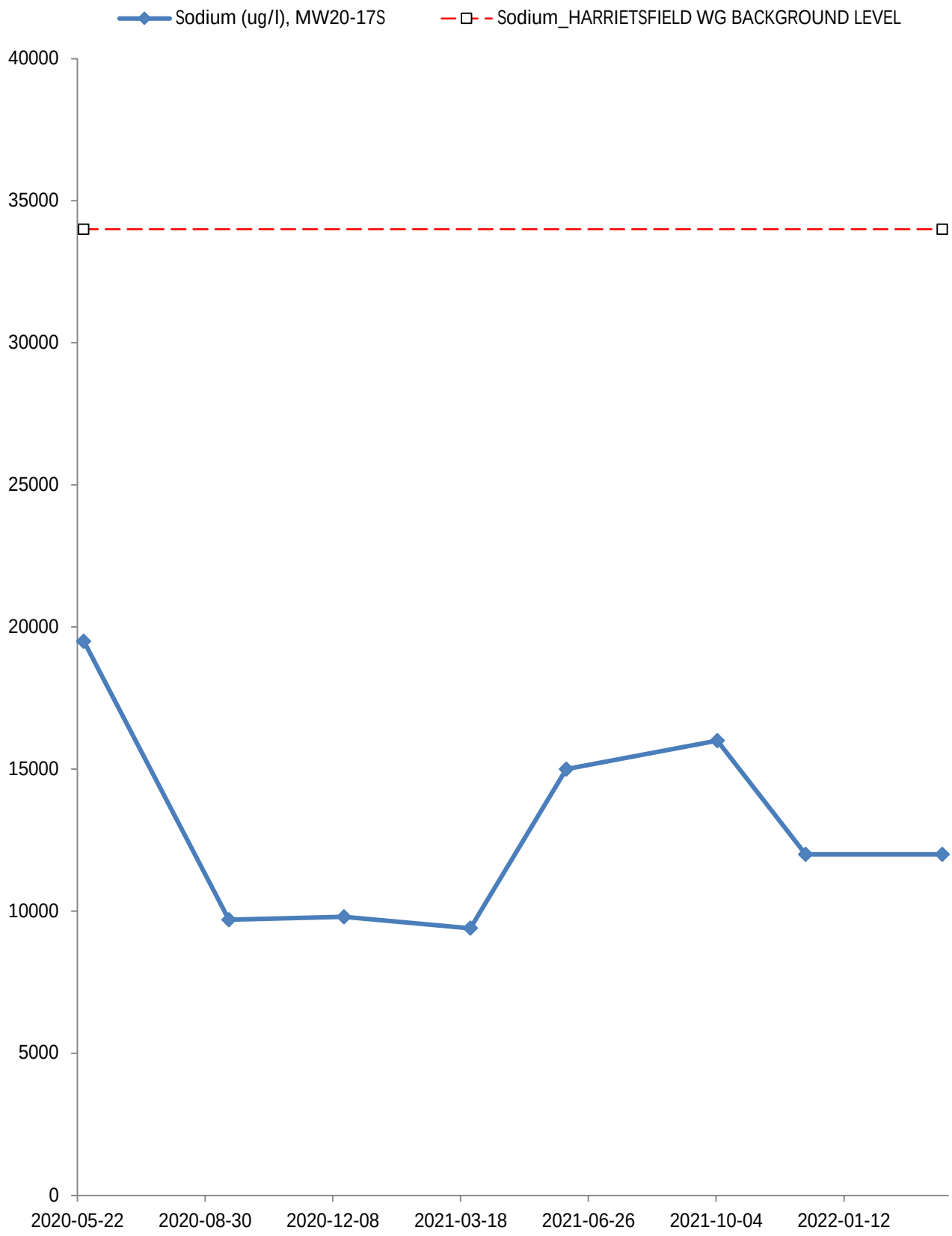
MW20-17S-Selenium



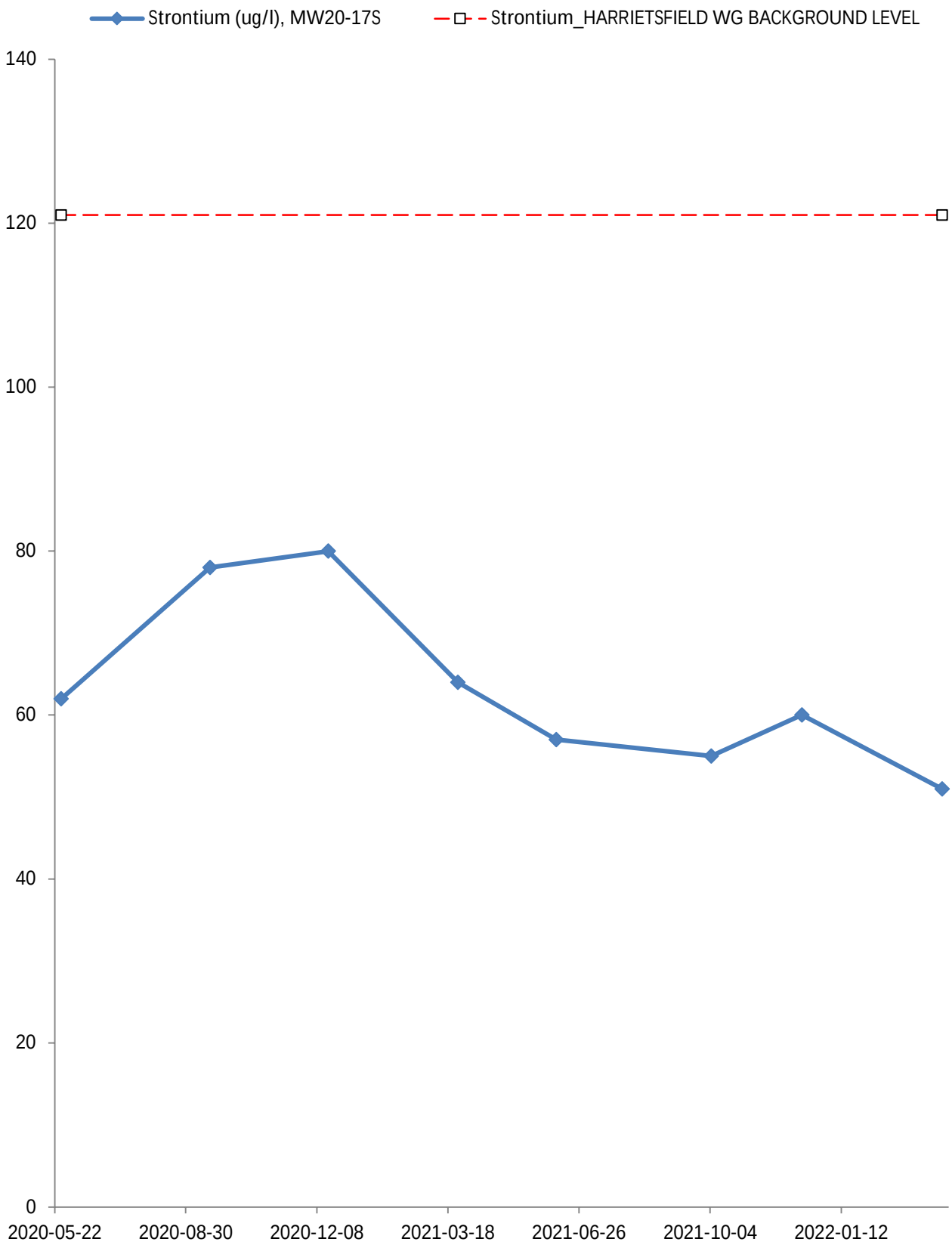
MW20-17S-Silver



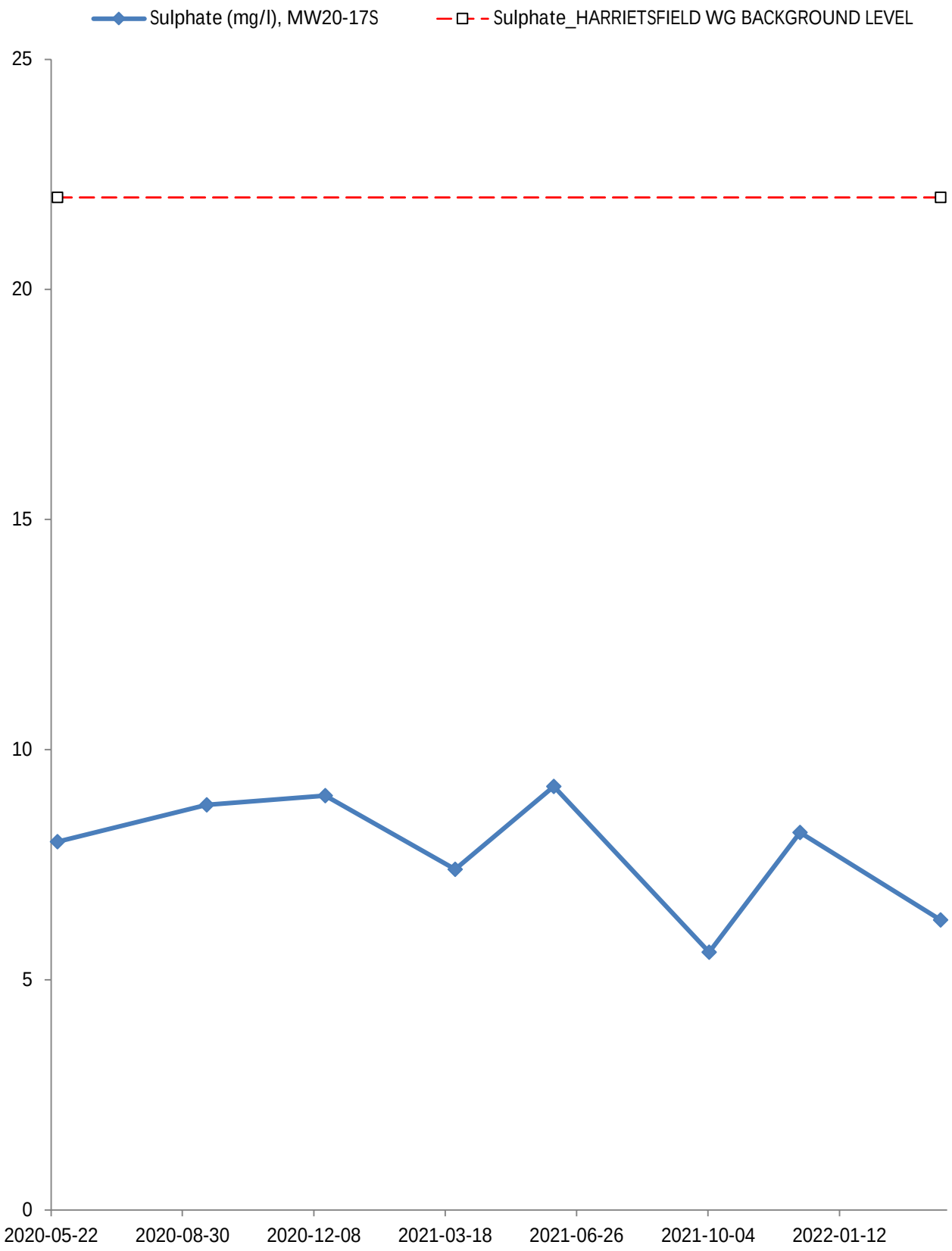
MW20-17S-Sodium



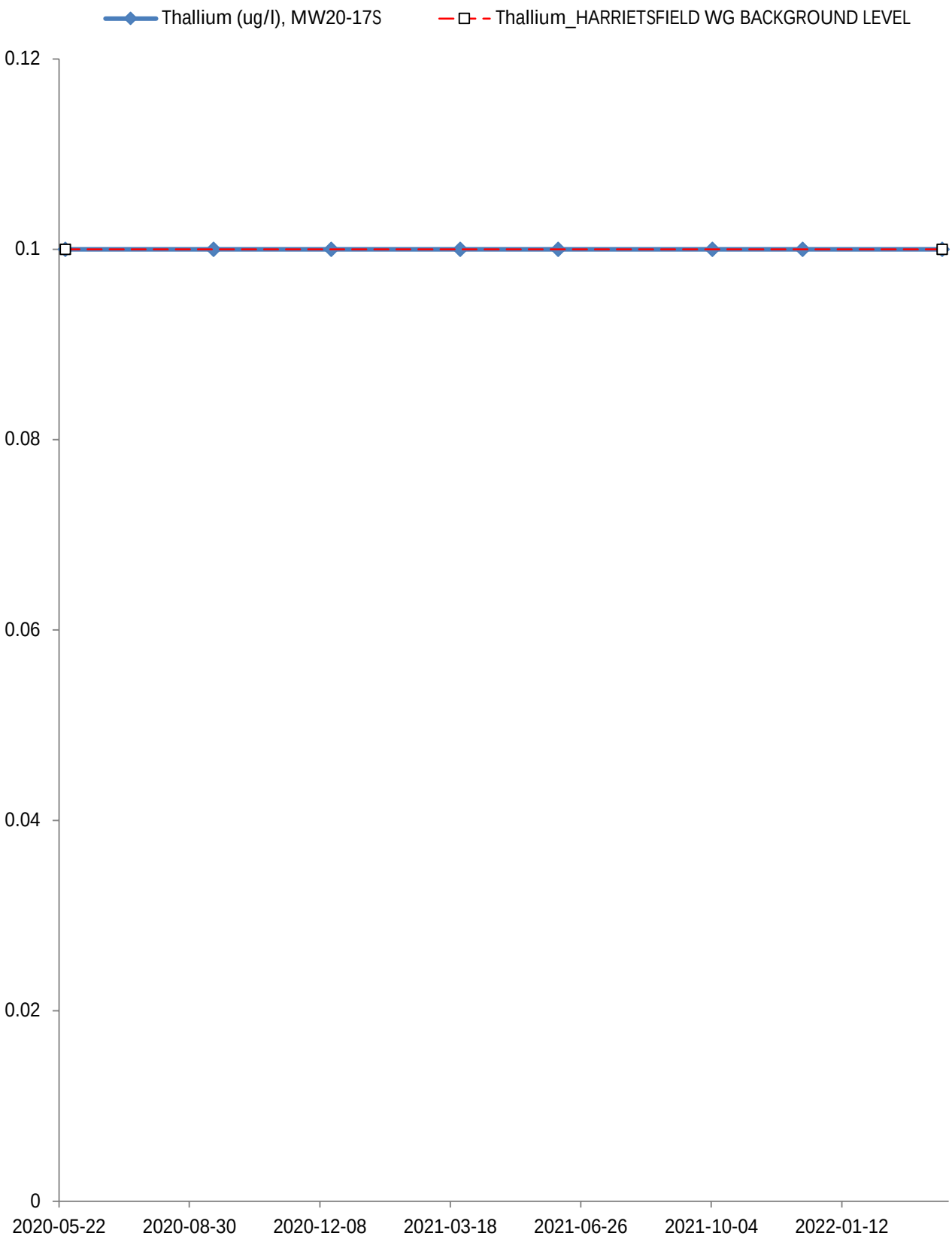
MW20-17S-Strontium



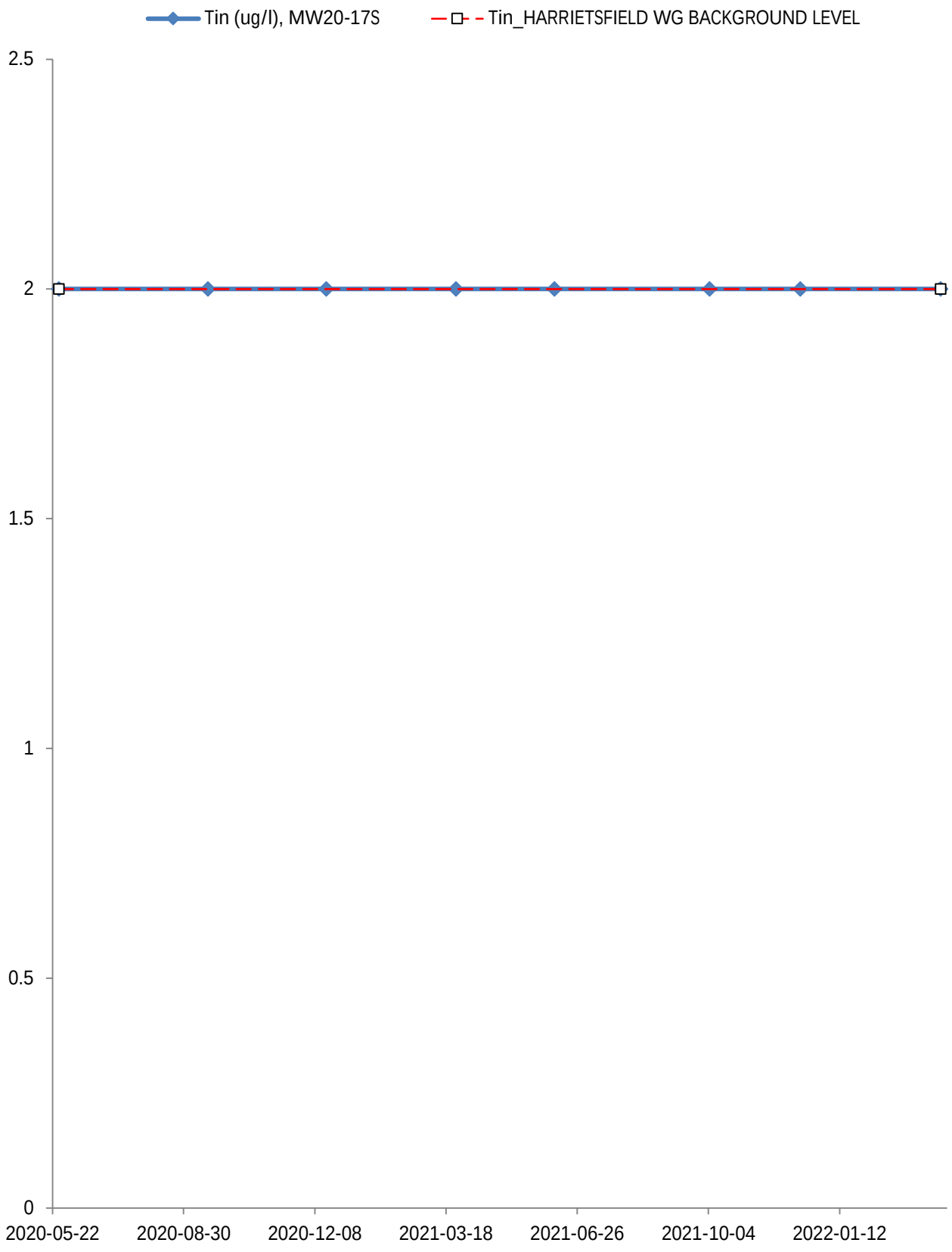
MW20-17S-Sulphate



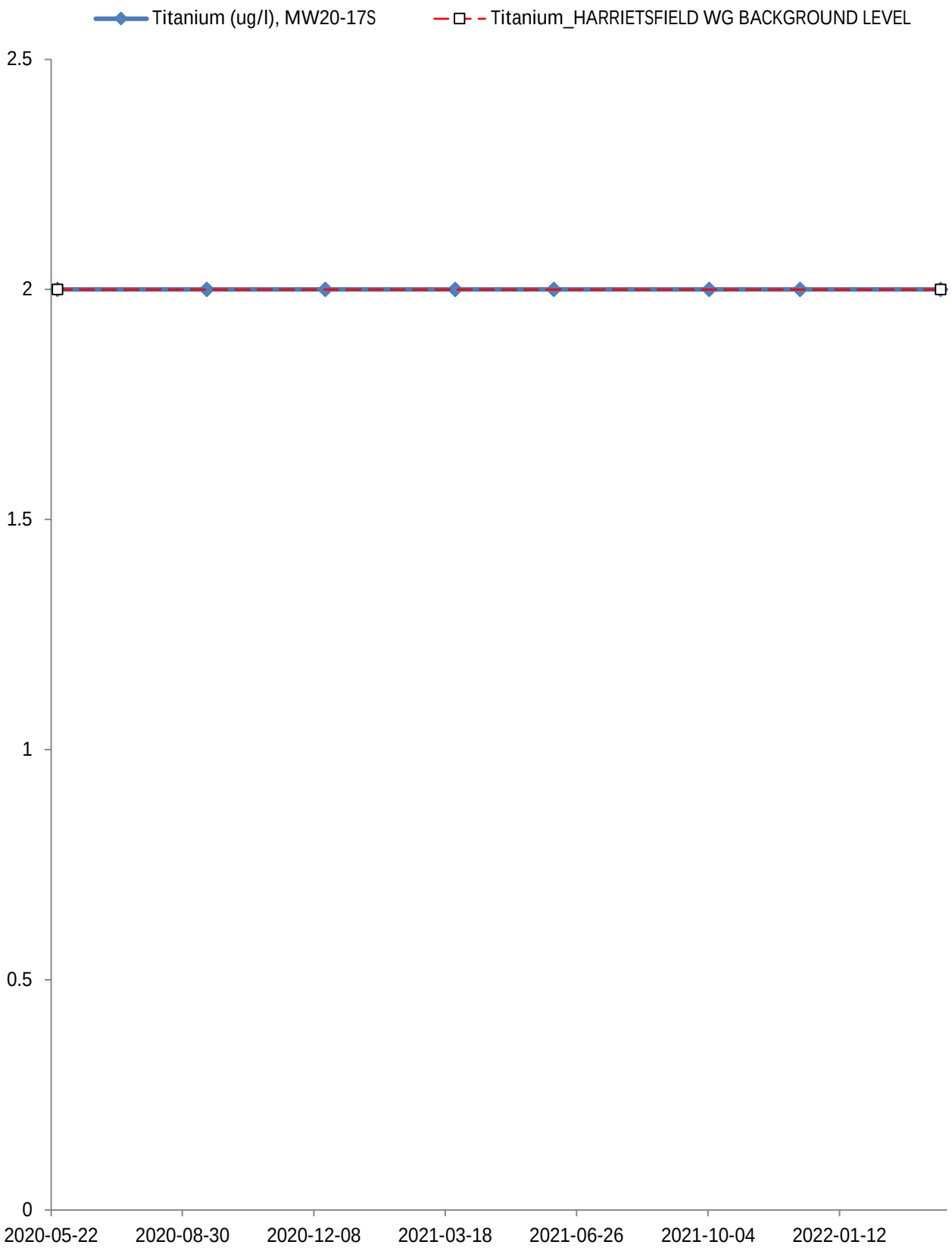
MW20-17S-Thallium



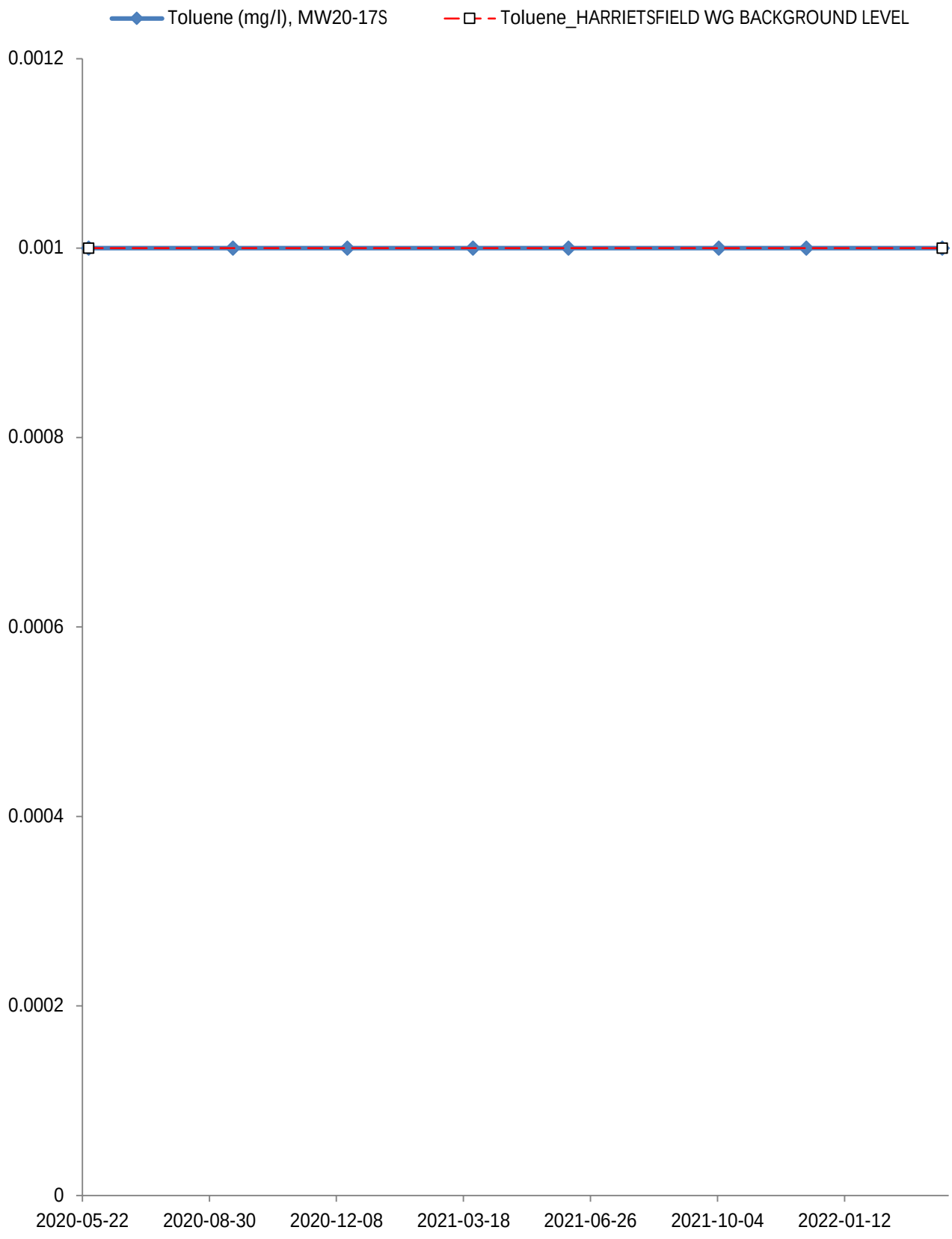
MW20-17S-Tin


Tin (ug/l), MW20-17S
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2020-05-22
2020-08-30
2020-12-08
2021-03-18
2021-06-26
2021-10-04
2022-01-12

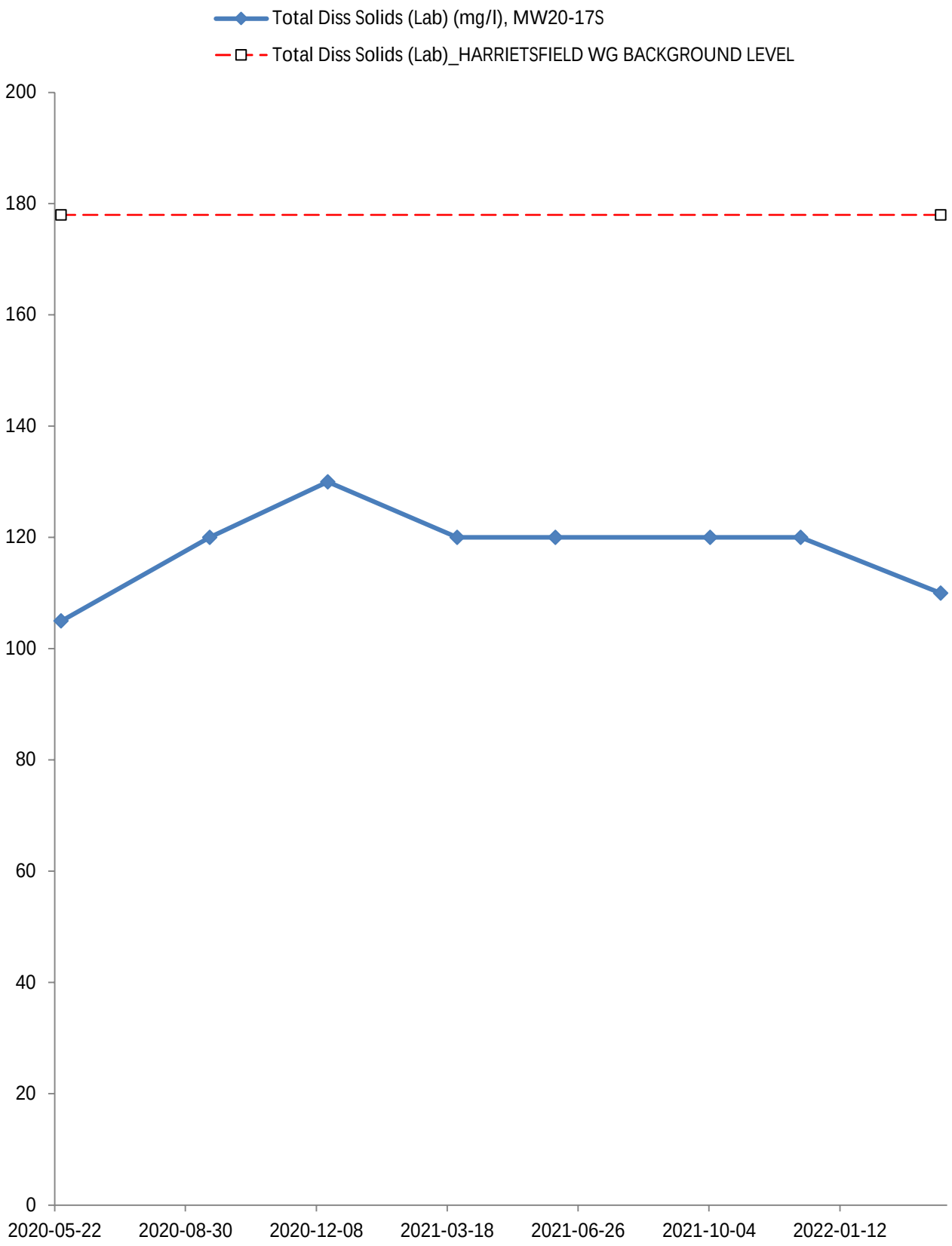
MW20-17S-Titanium



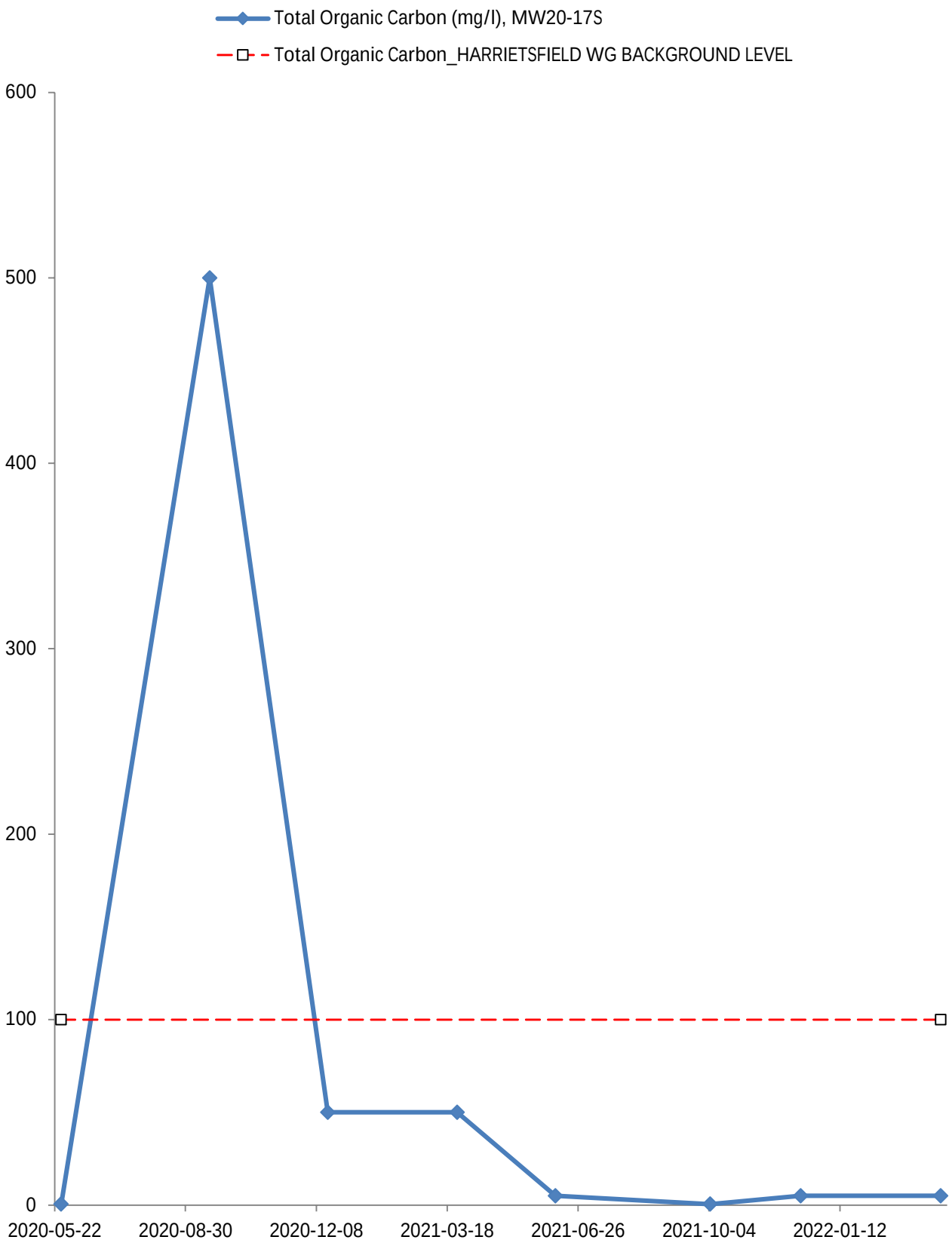
MW20-17S-Toluene



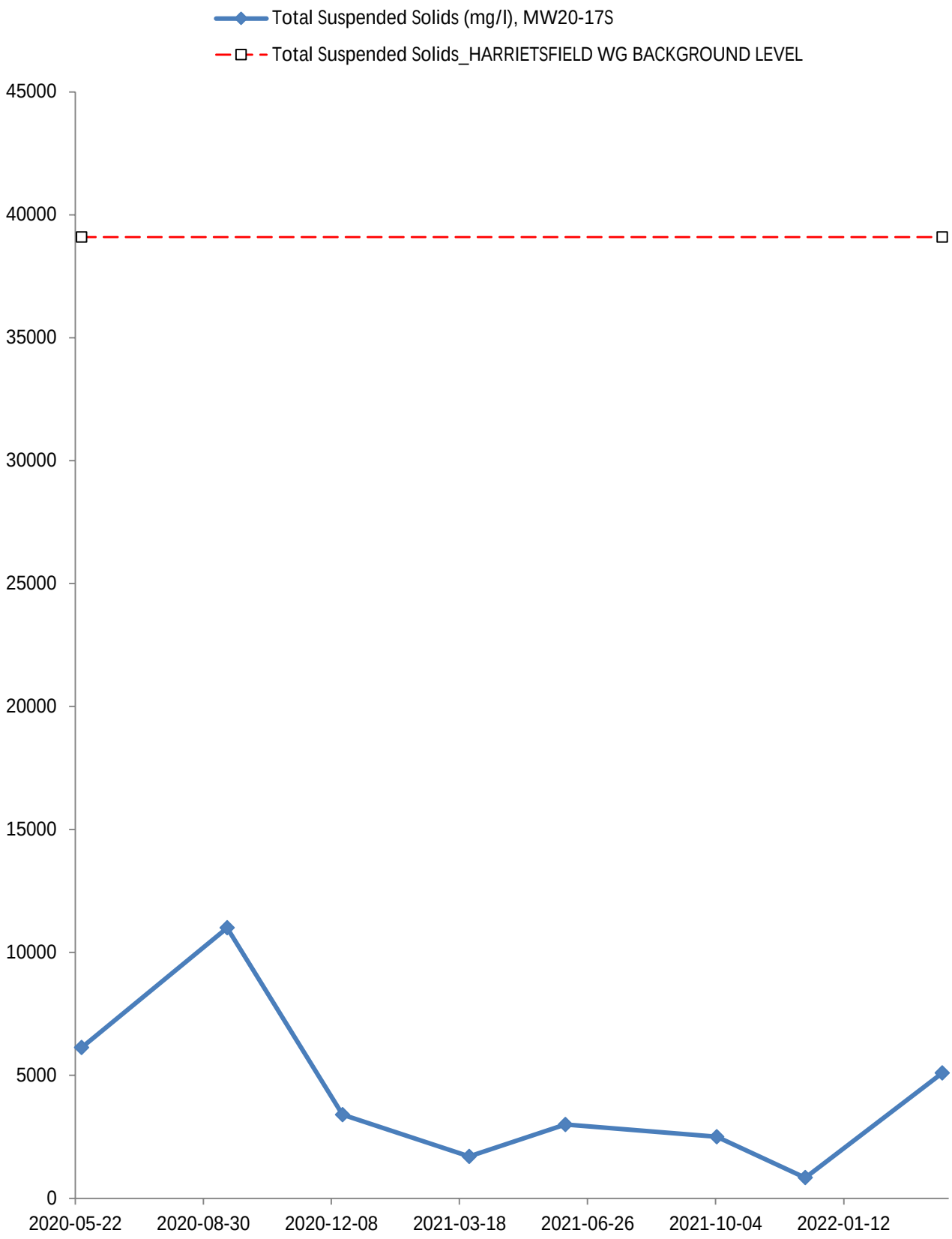
MW20-17S-Total Diss Solids (Lab)



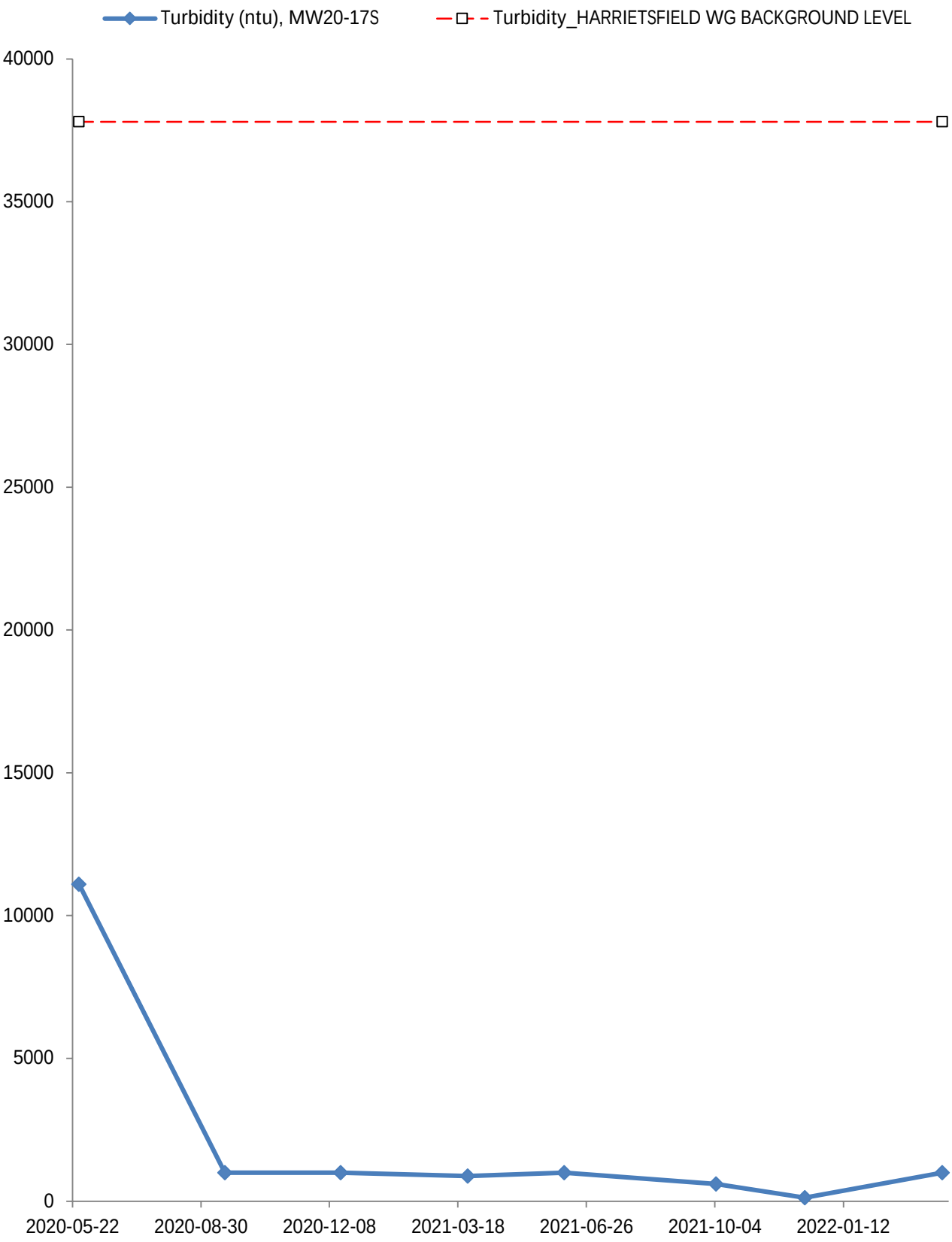
MW20-17S-Total Organic Carbon



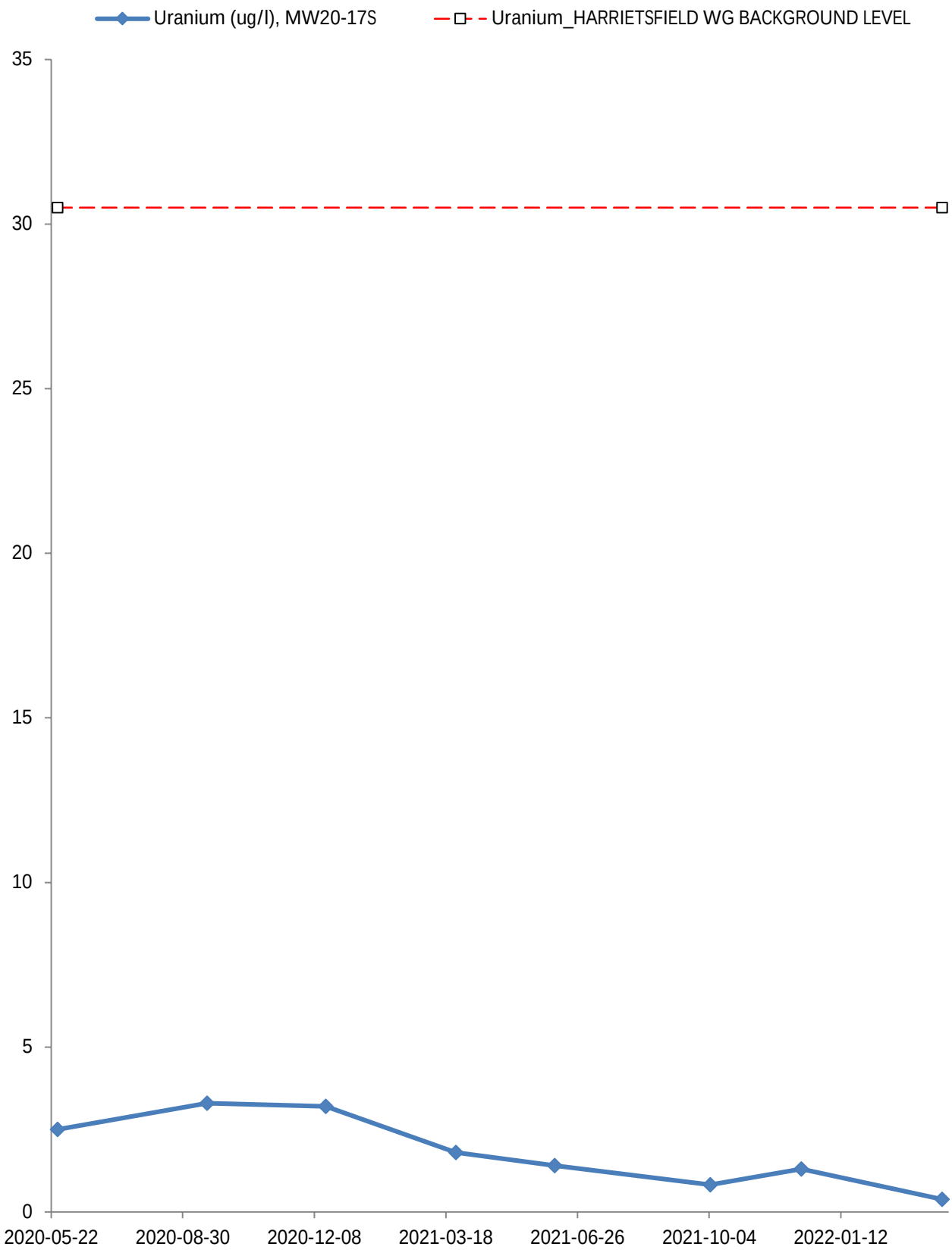
MW20-17S-Total Suspended Solids



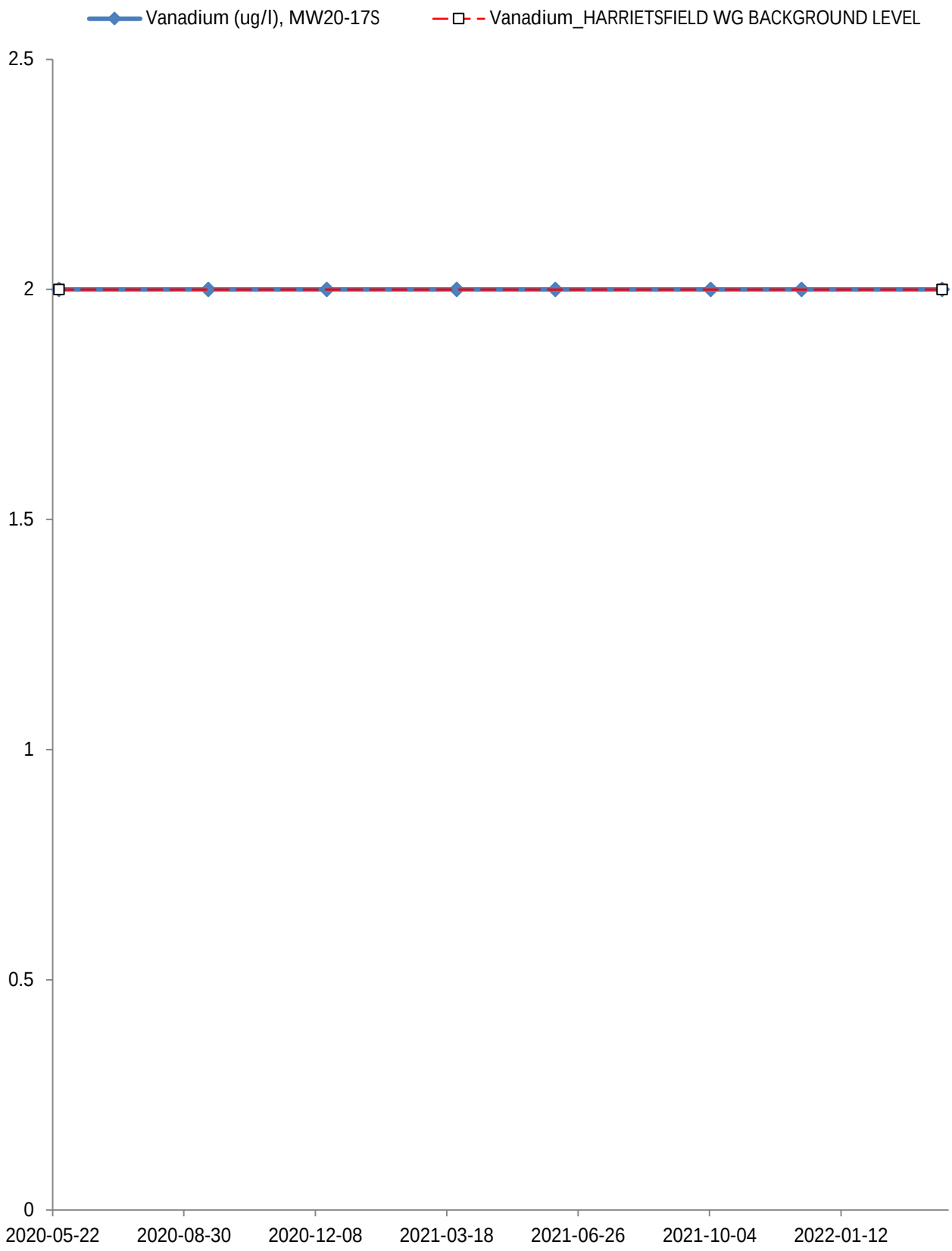
MW20-17S-Turbidity



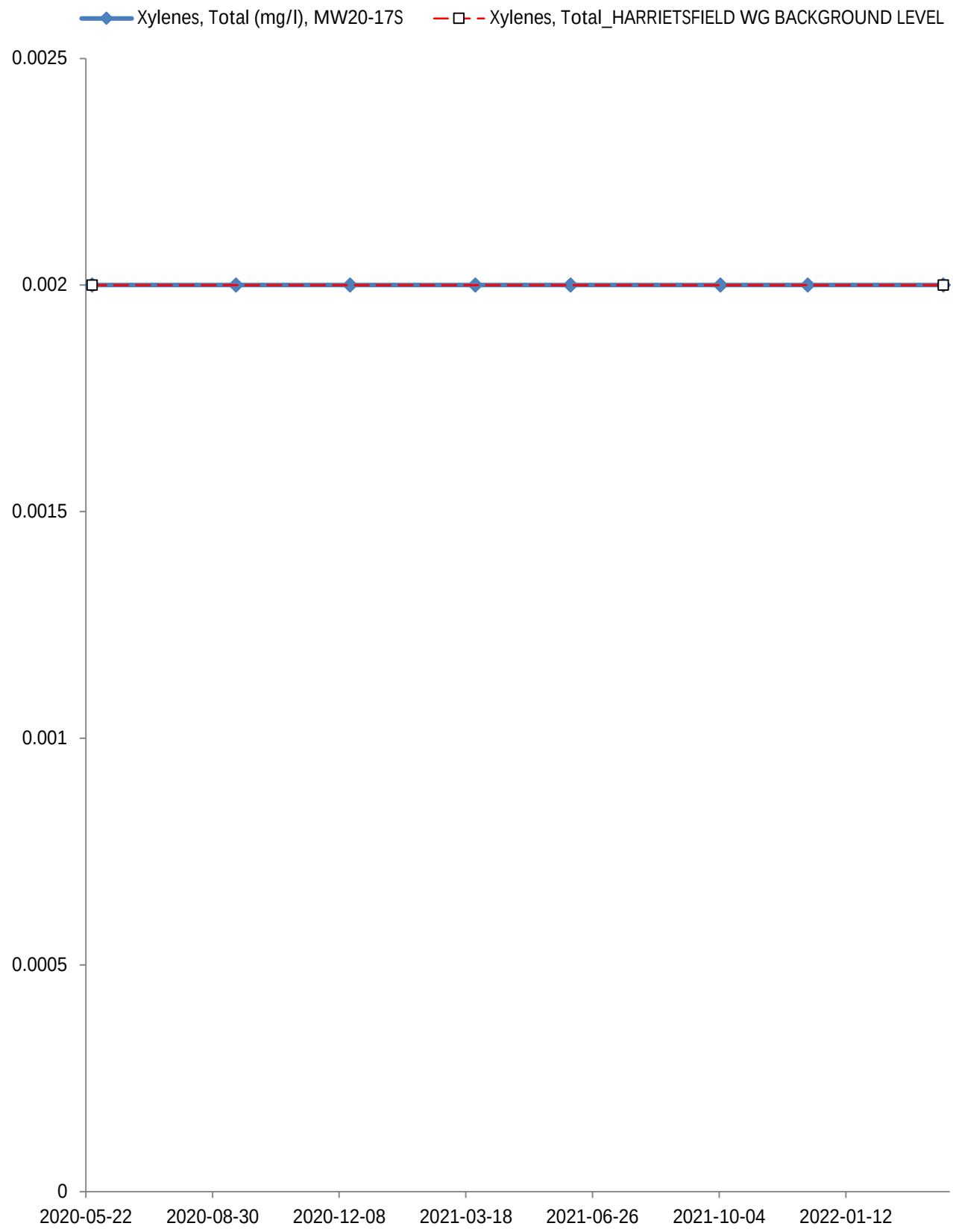
MW20-17S-Uranium



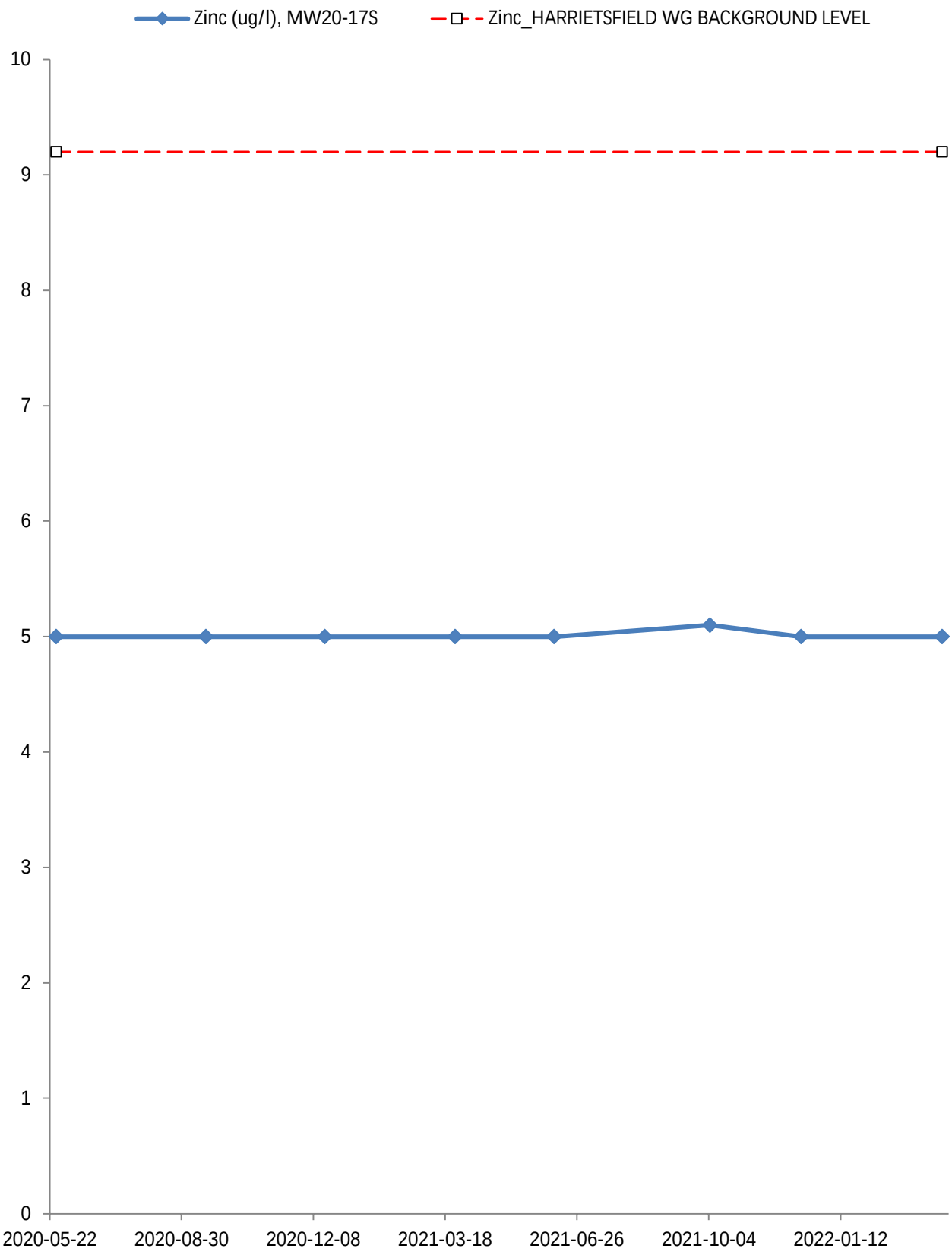
MW20-17S-Vanadium



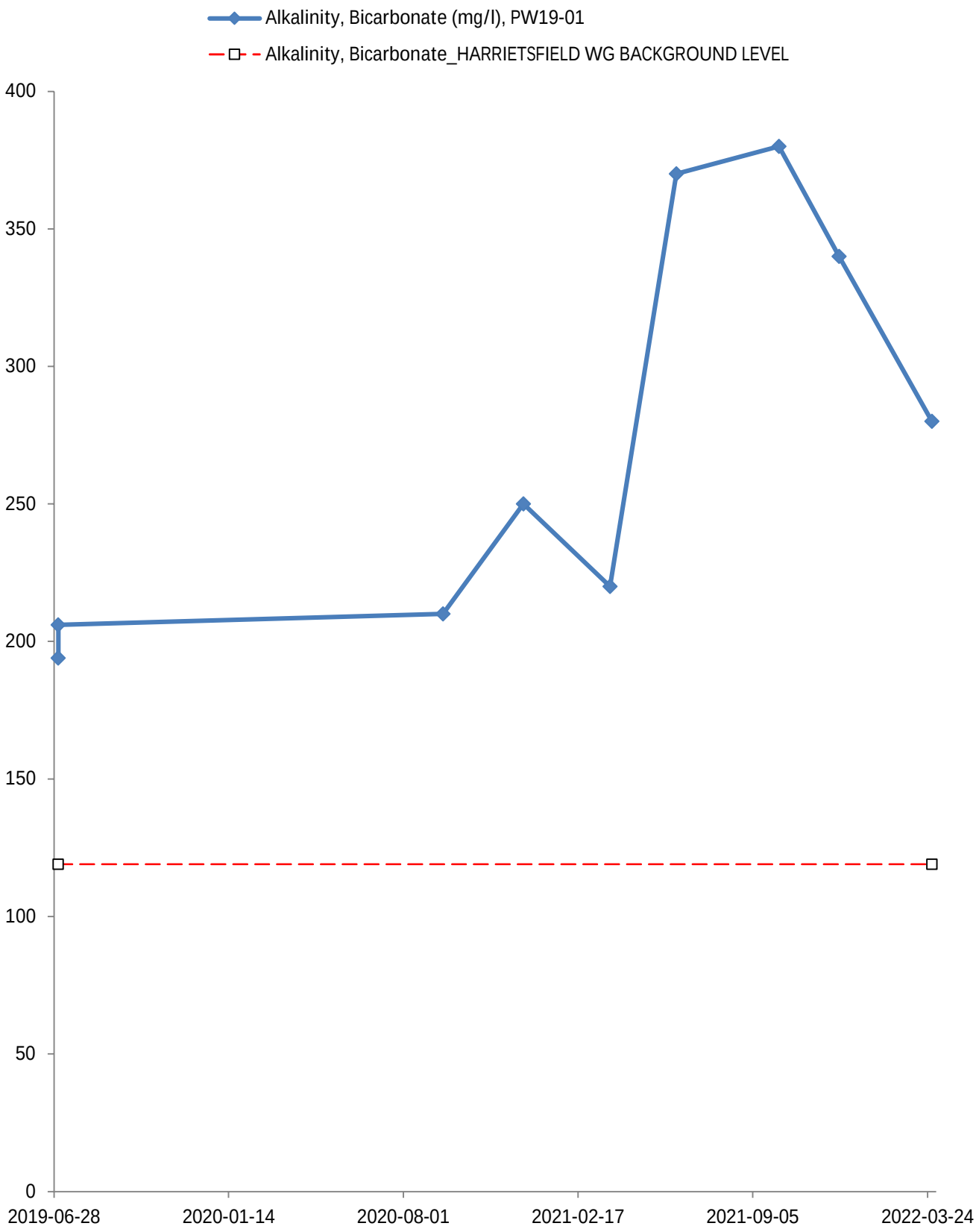
MW20-17S-Xylenes, Total



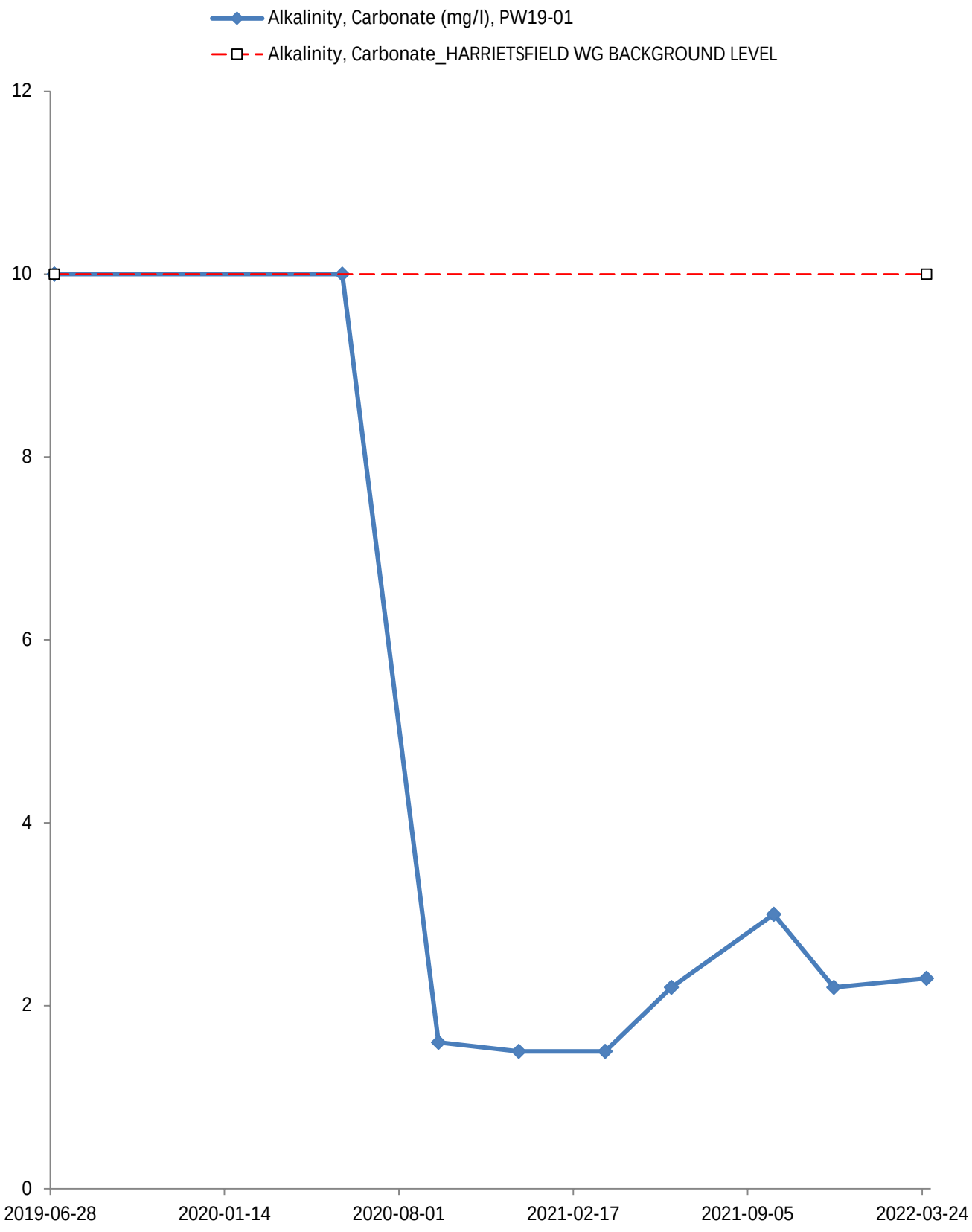
MW20-17S-Zinc



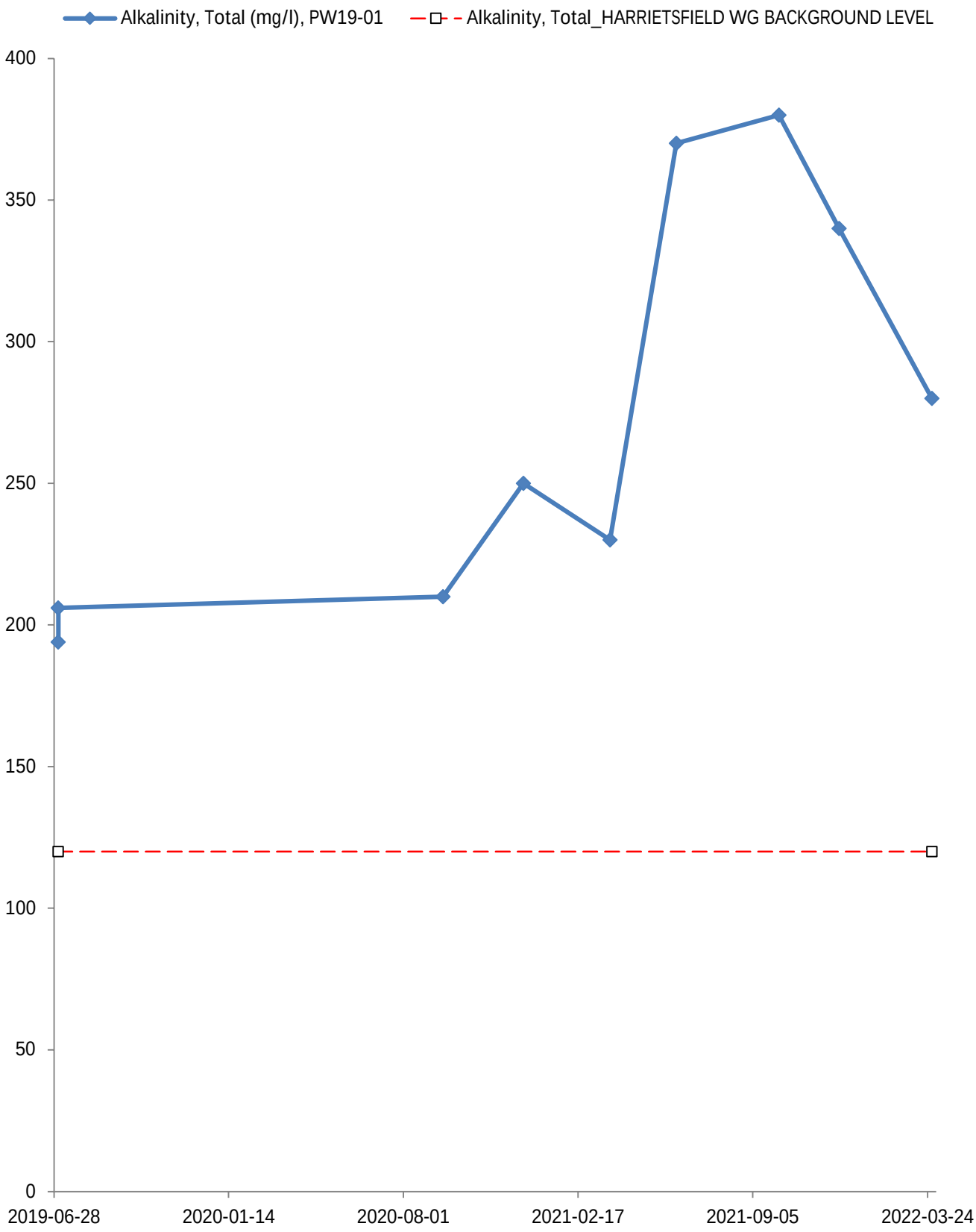
PW19-01-Alkalinity, Bicarbonate



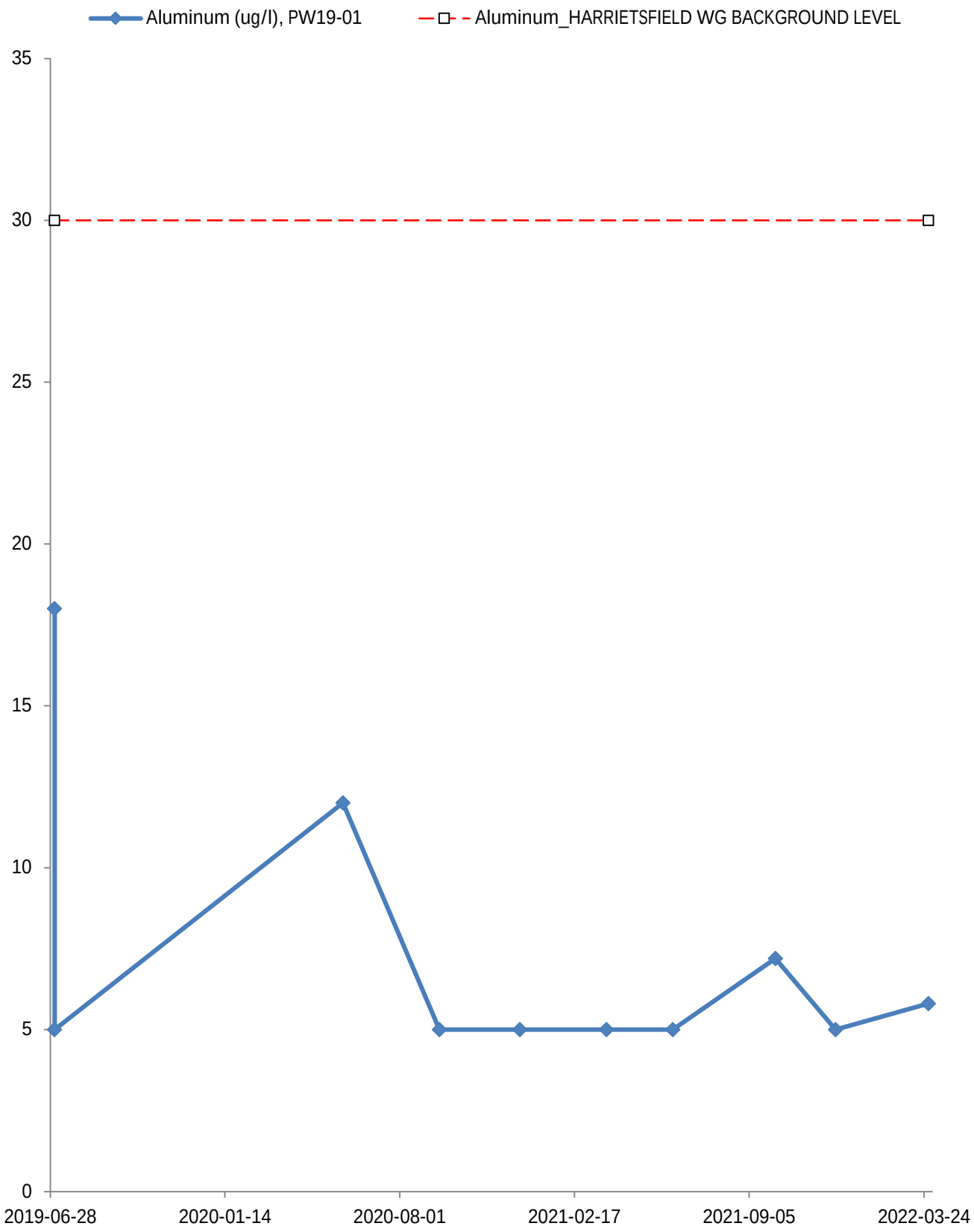
PW19-01-Alkalinity, Carbonate



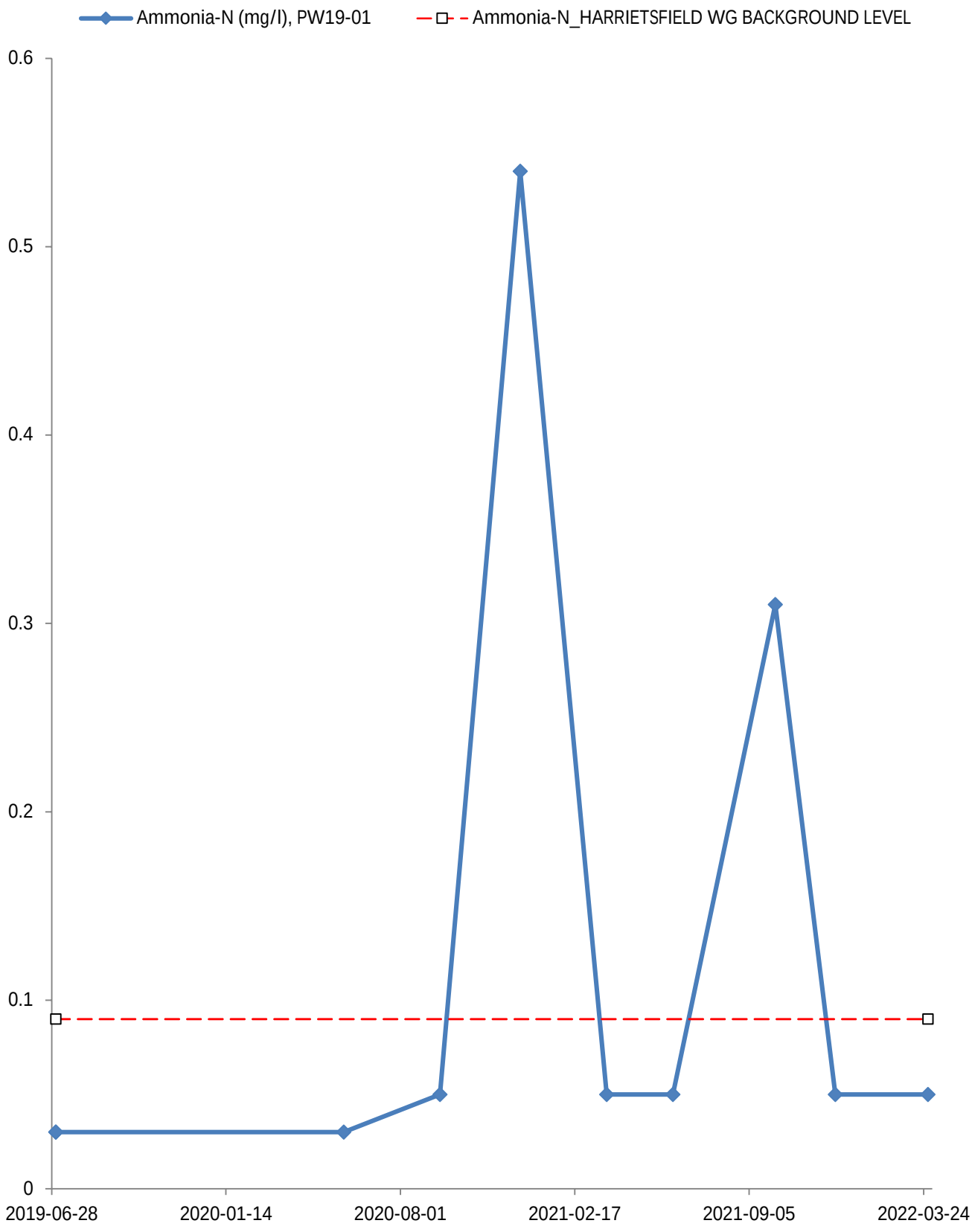
PW19-01-Alkalinity, Total



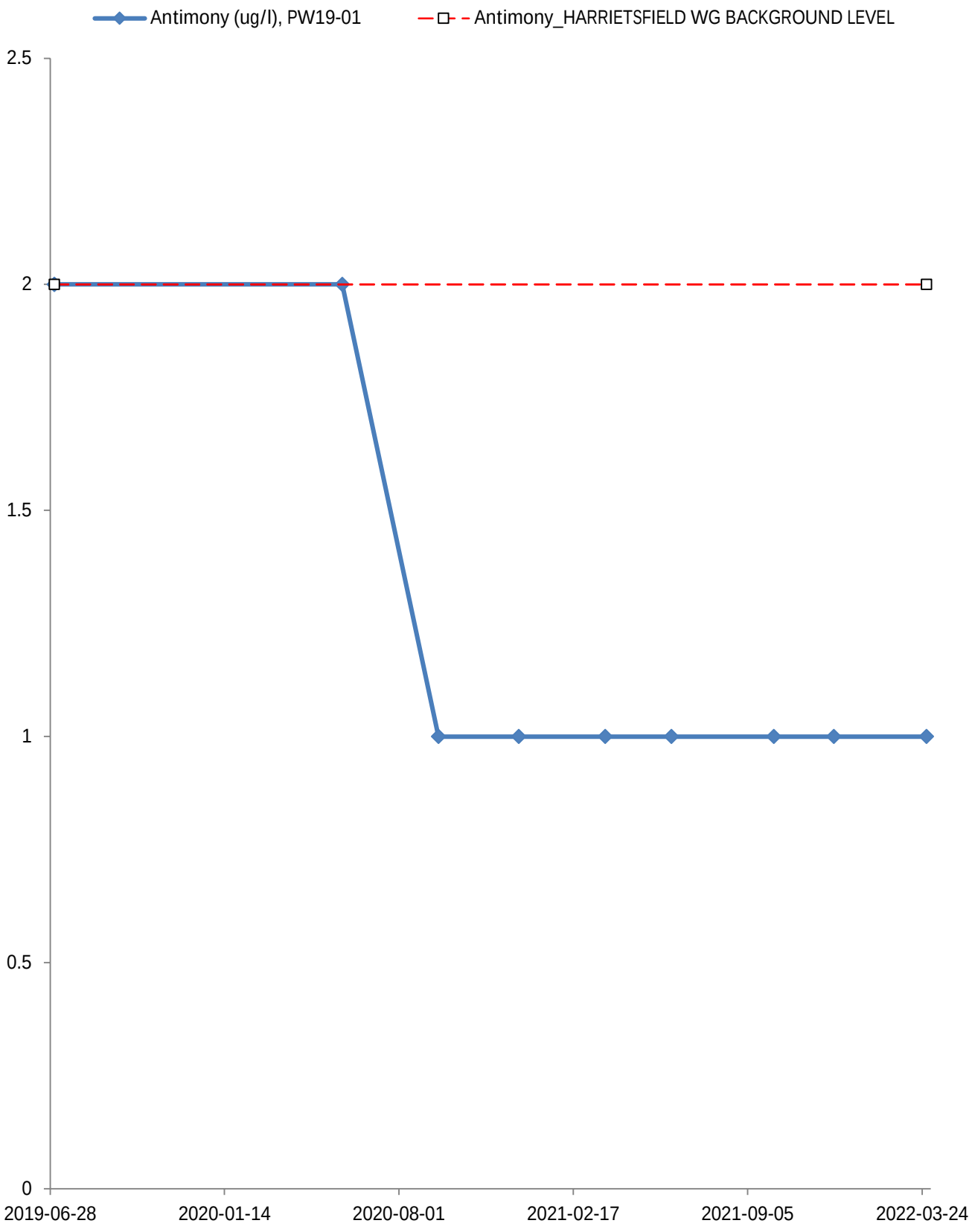
PW19-01-Aluminum



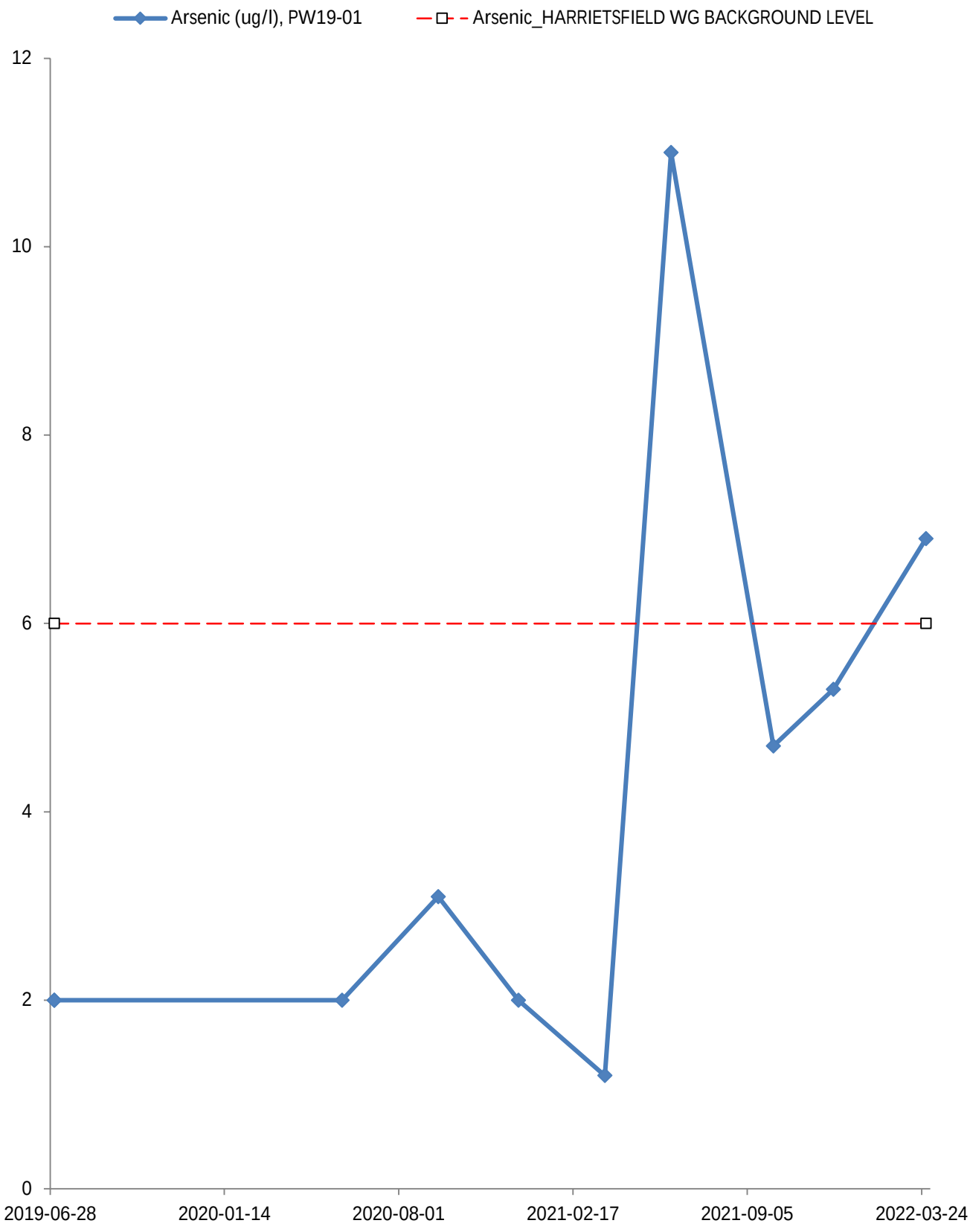
PW19-01-Ammonia-N



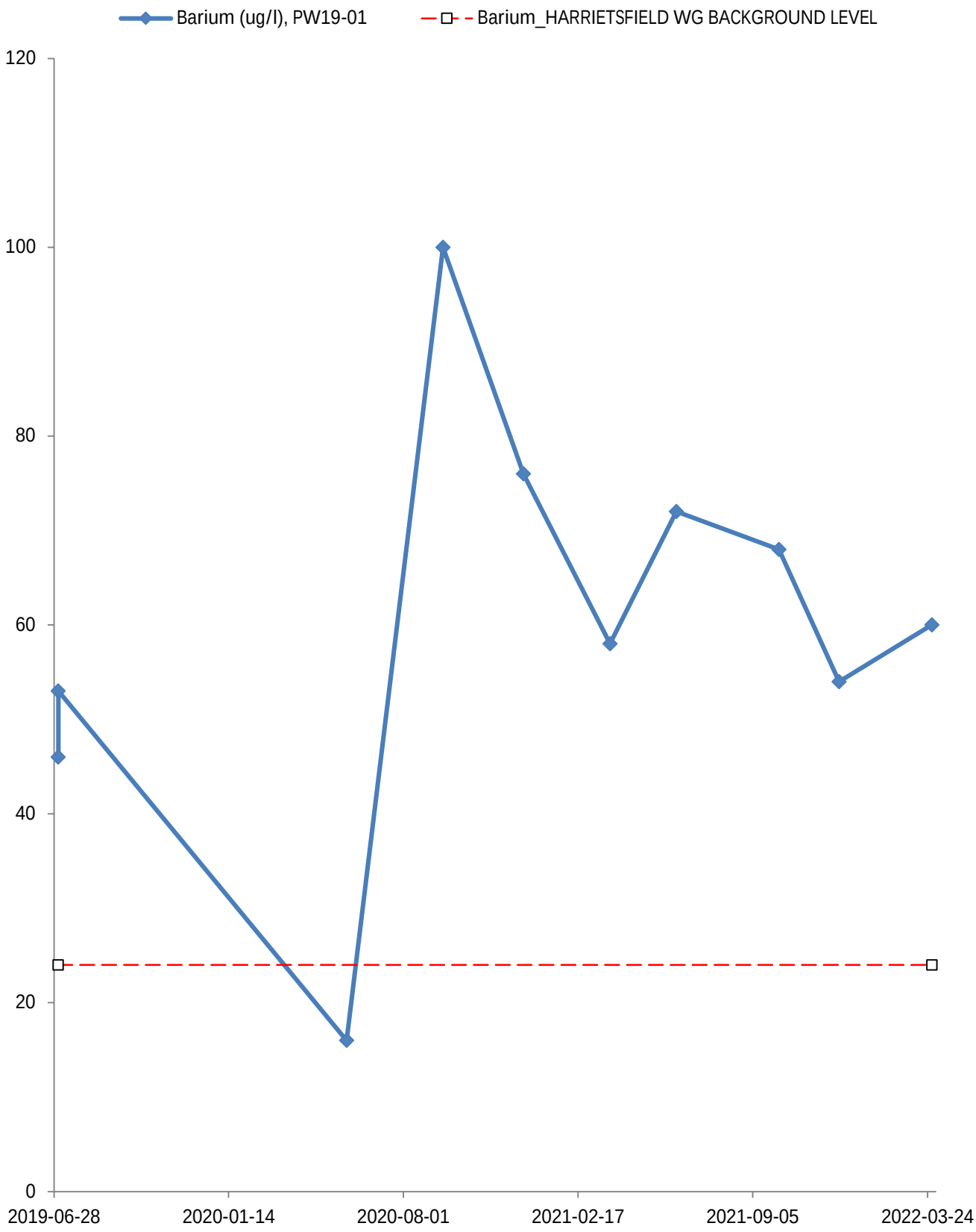
PW19-01-Antimony



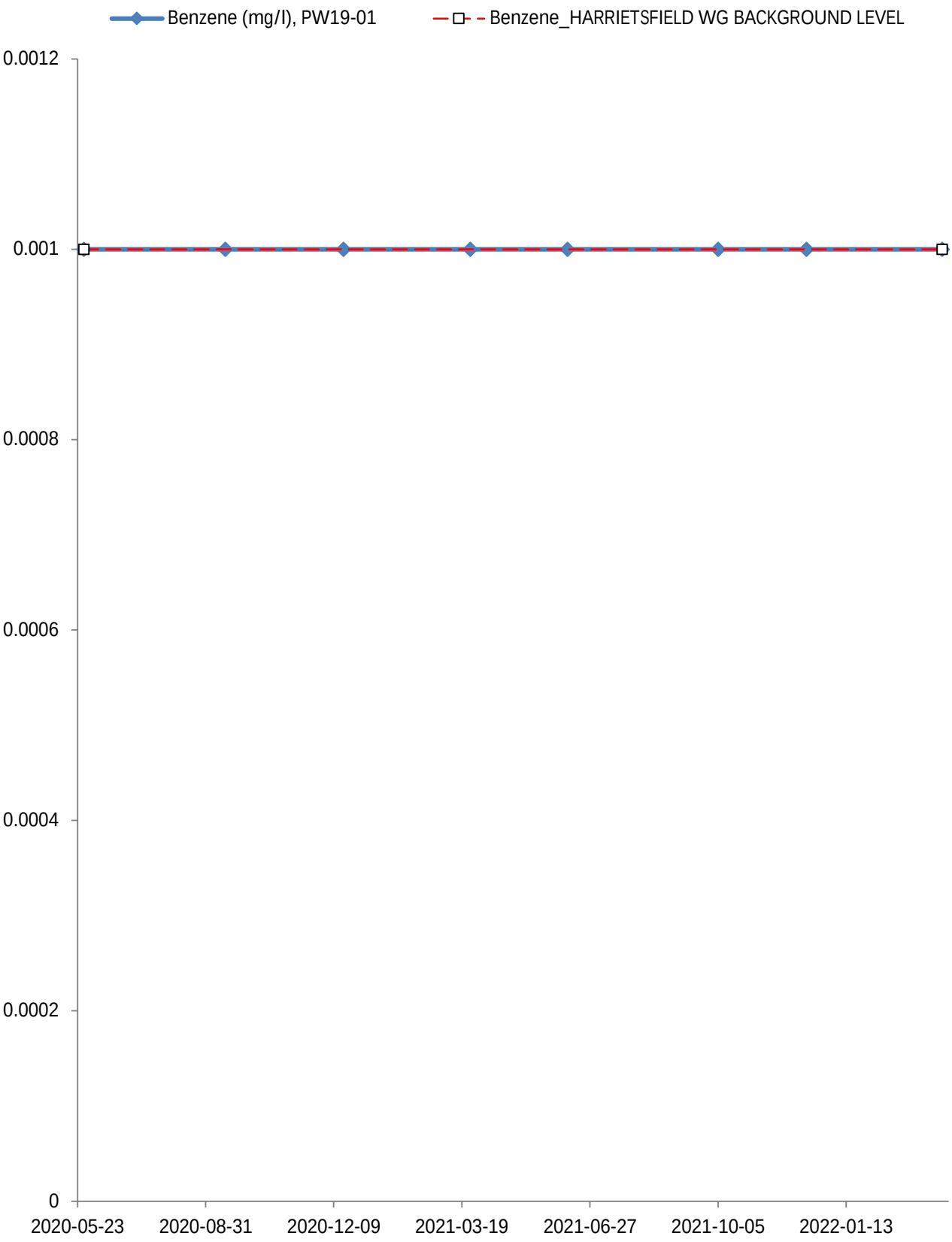
PW19-01-Arsenic



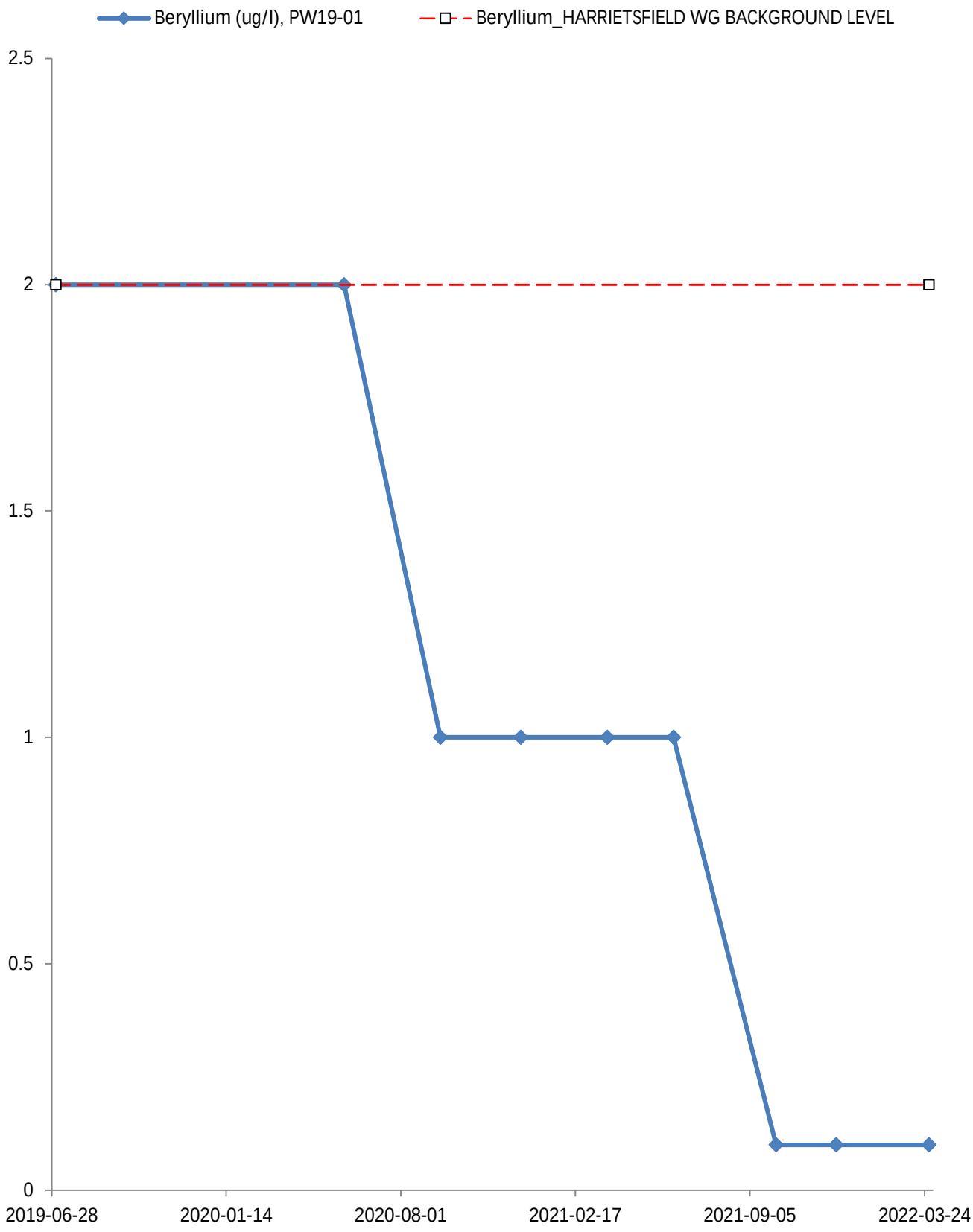
PW19-01-Barium



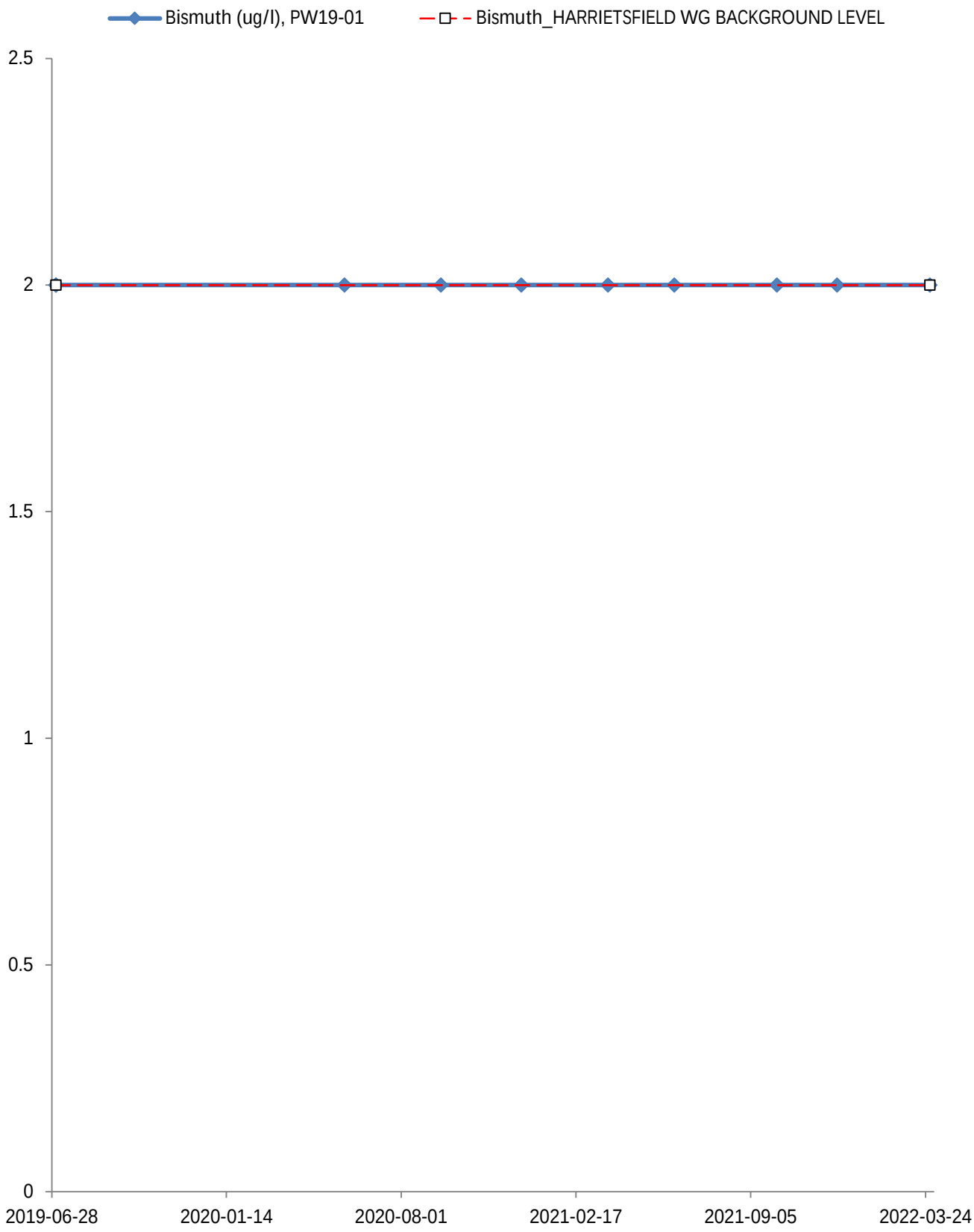
PW19-01-Benzene



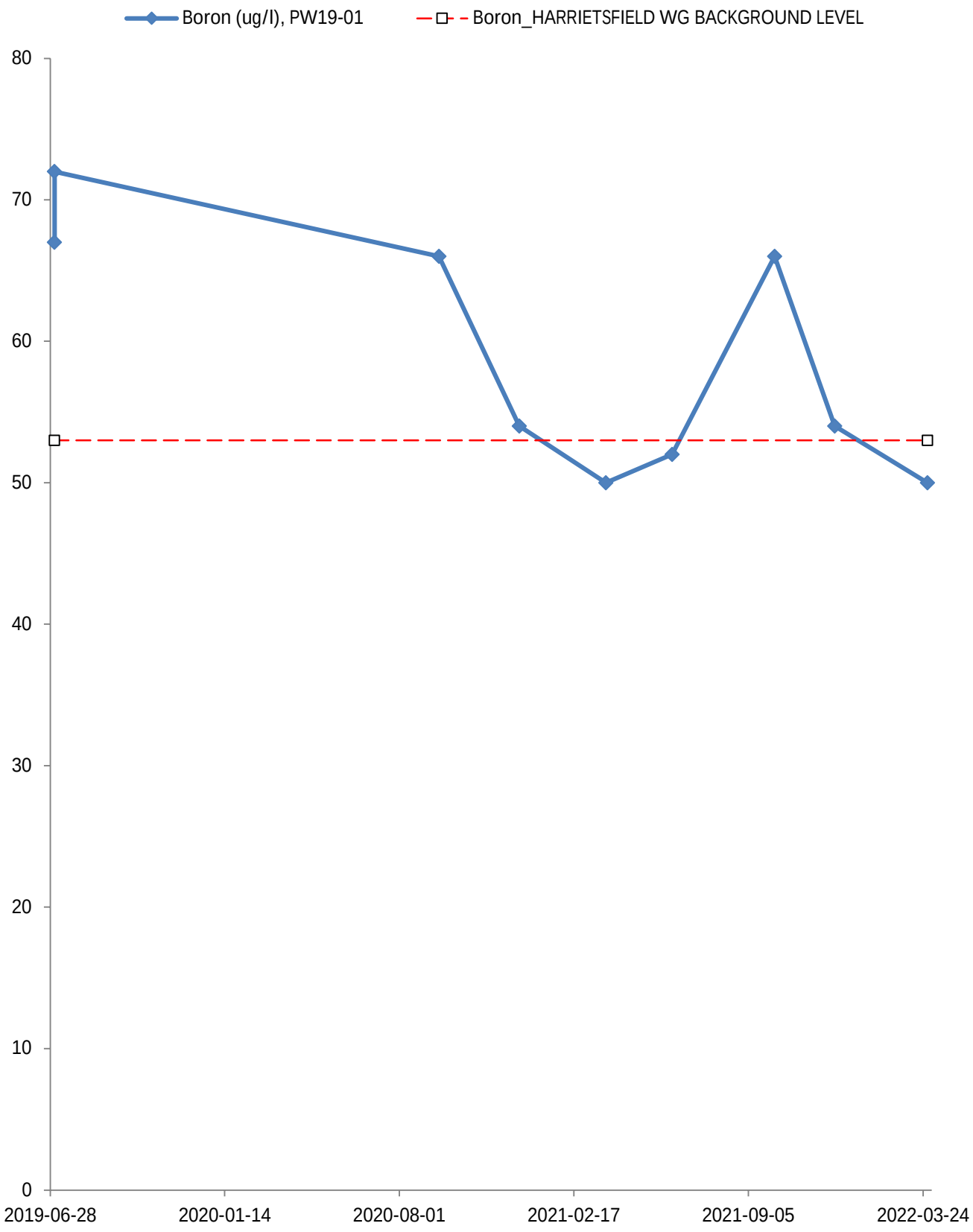
PW19-01-Beryllium



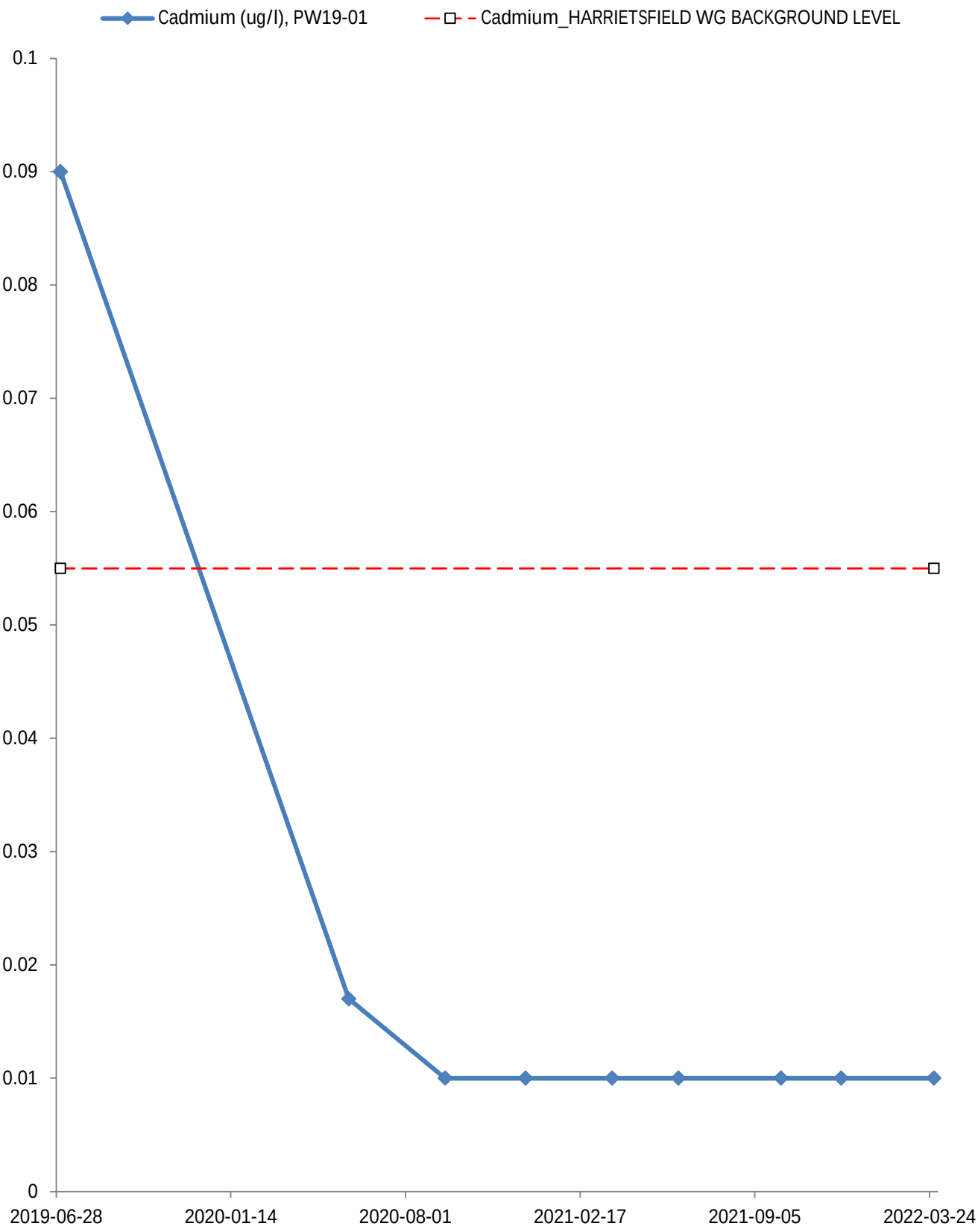
PW19-01-Bismuth



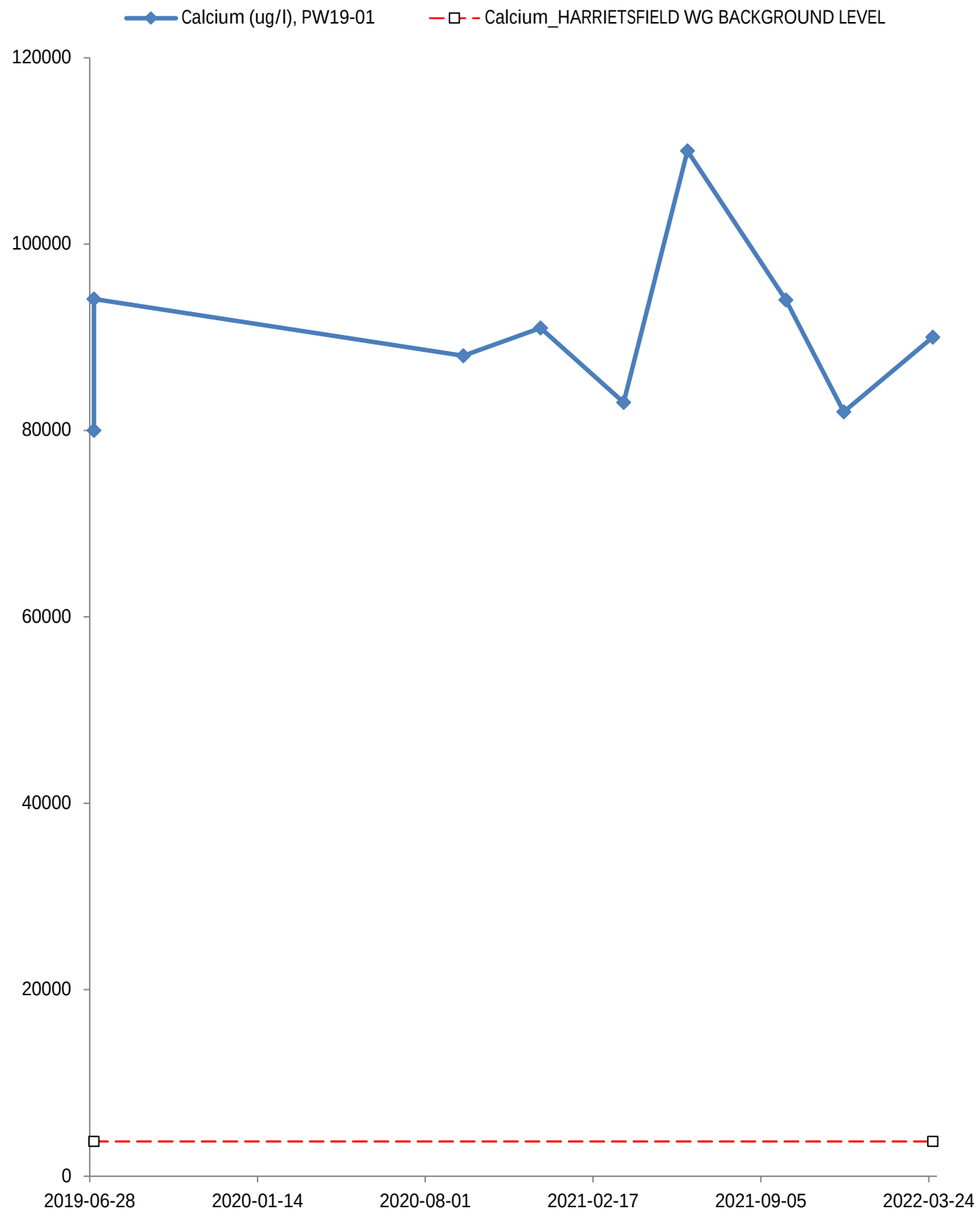
PW19-01-Boron



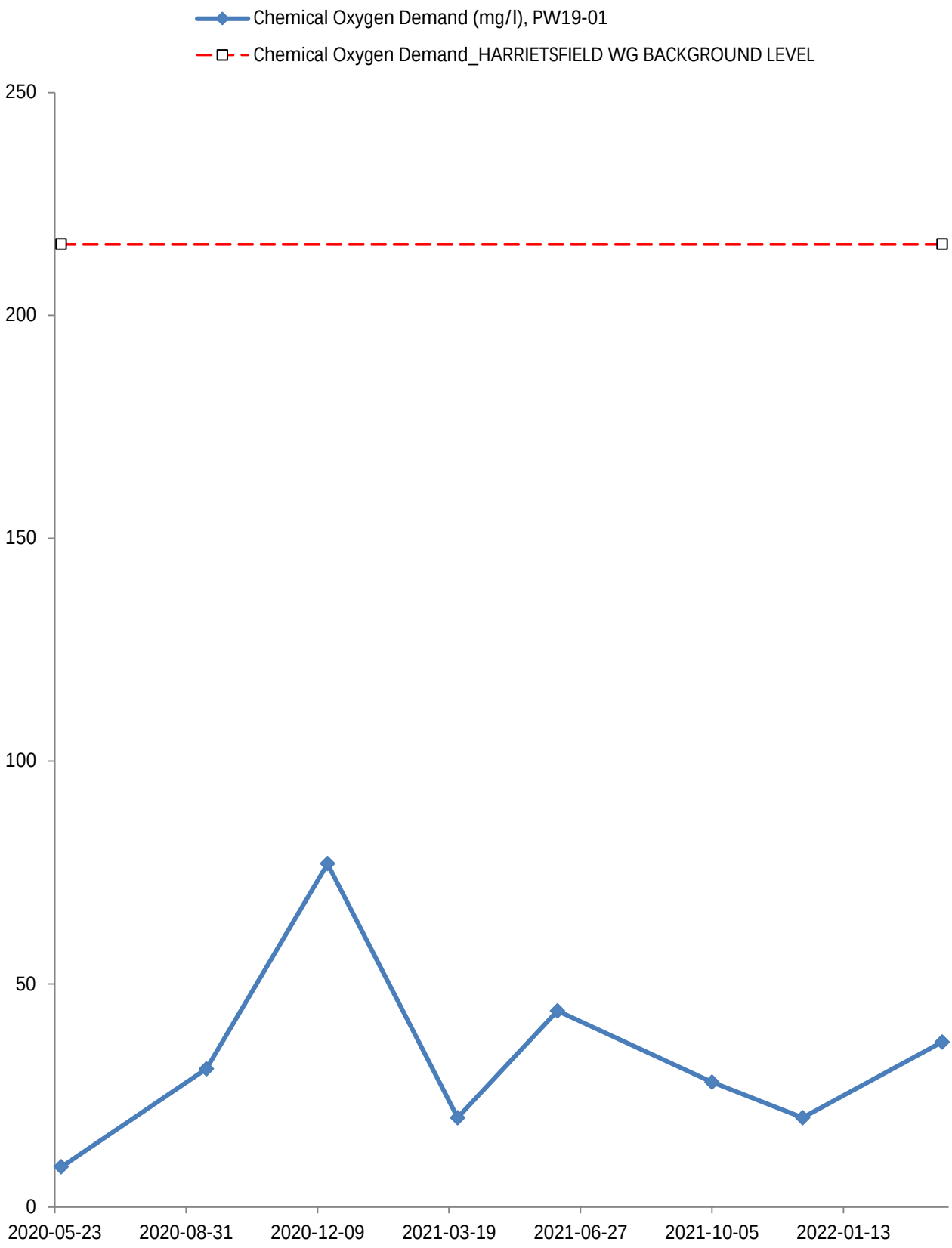
PW19-01-Cadmium



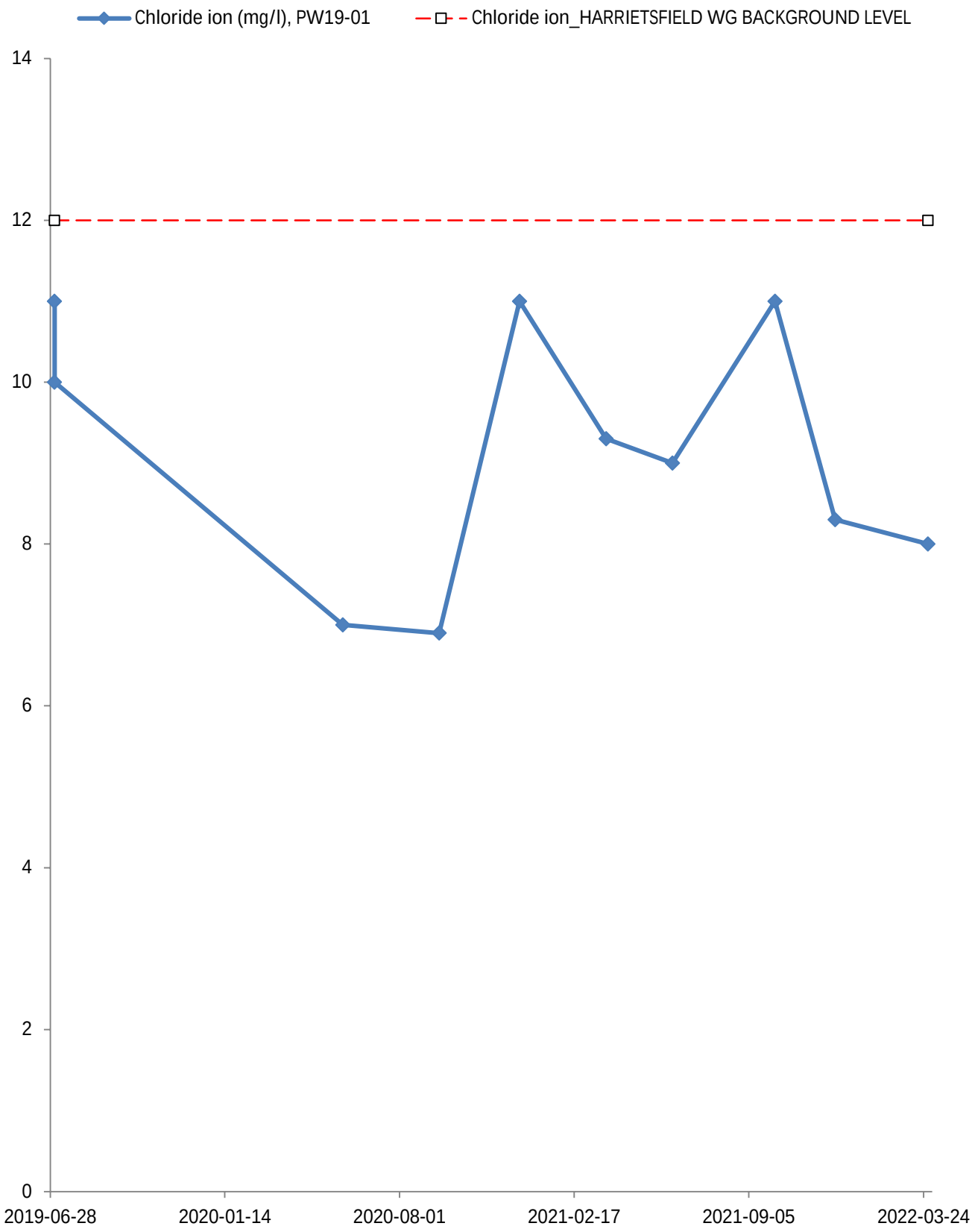
PW19-01-Calcium



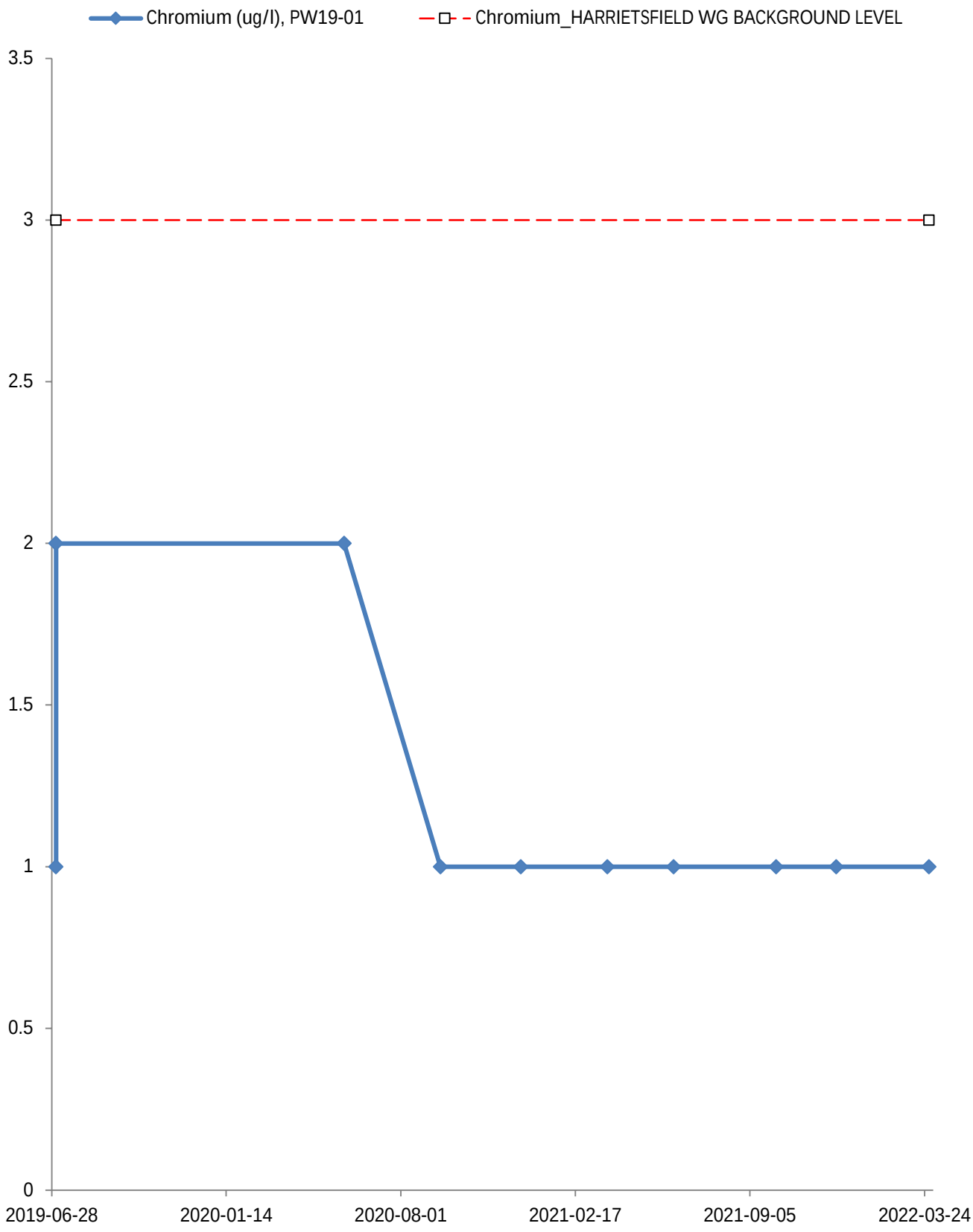
PW19-01-Chemical Oxygen Demand



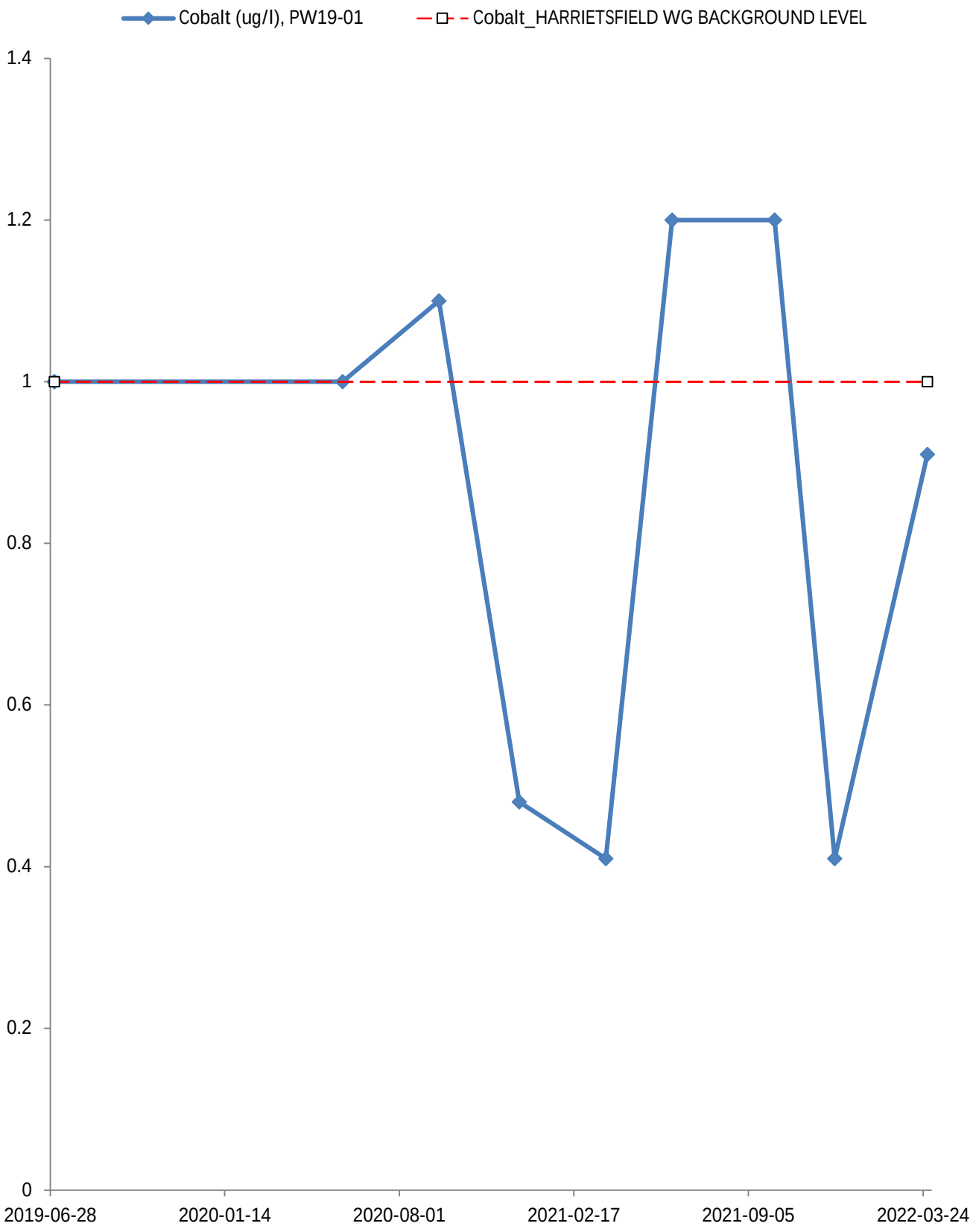
PW19-01-Chloride ion



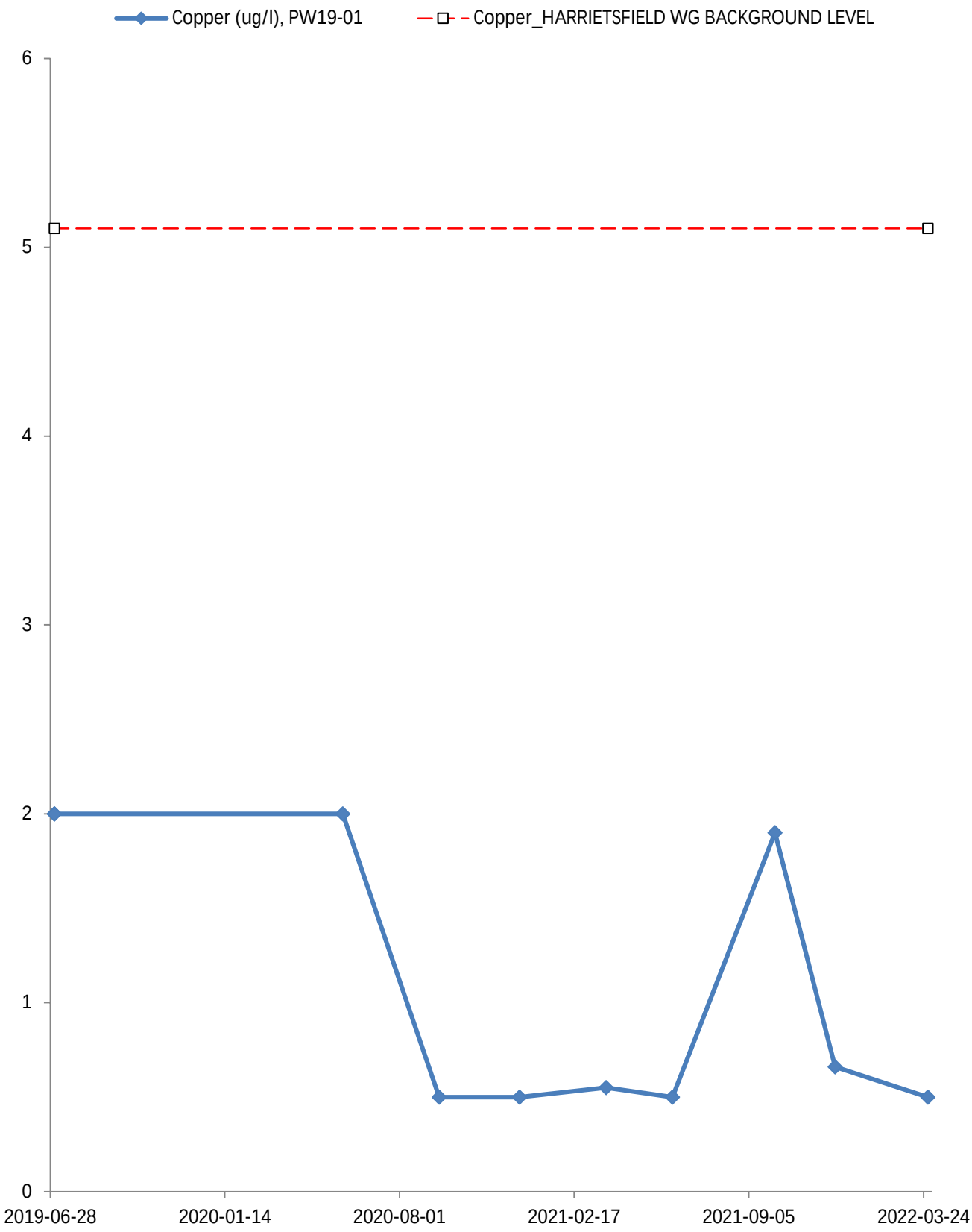
PW19-01-Chromium



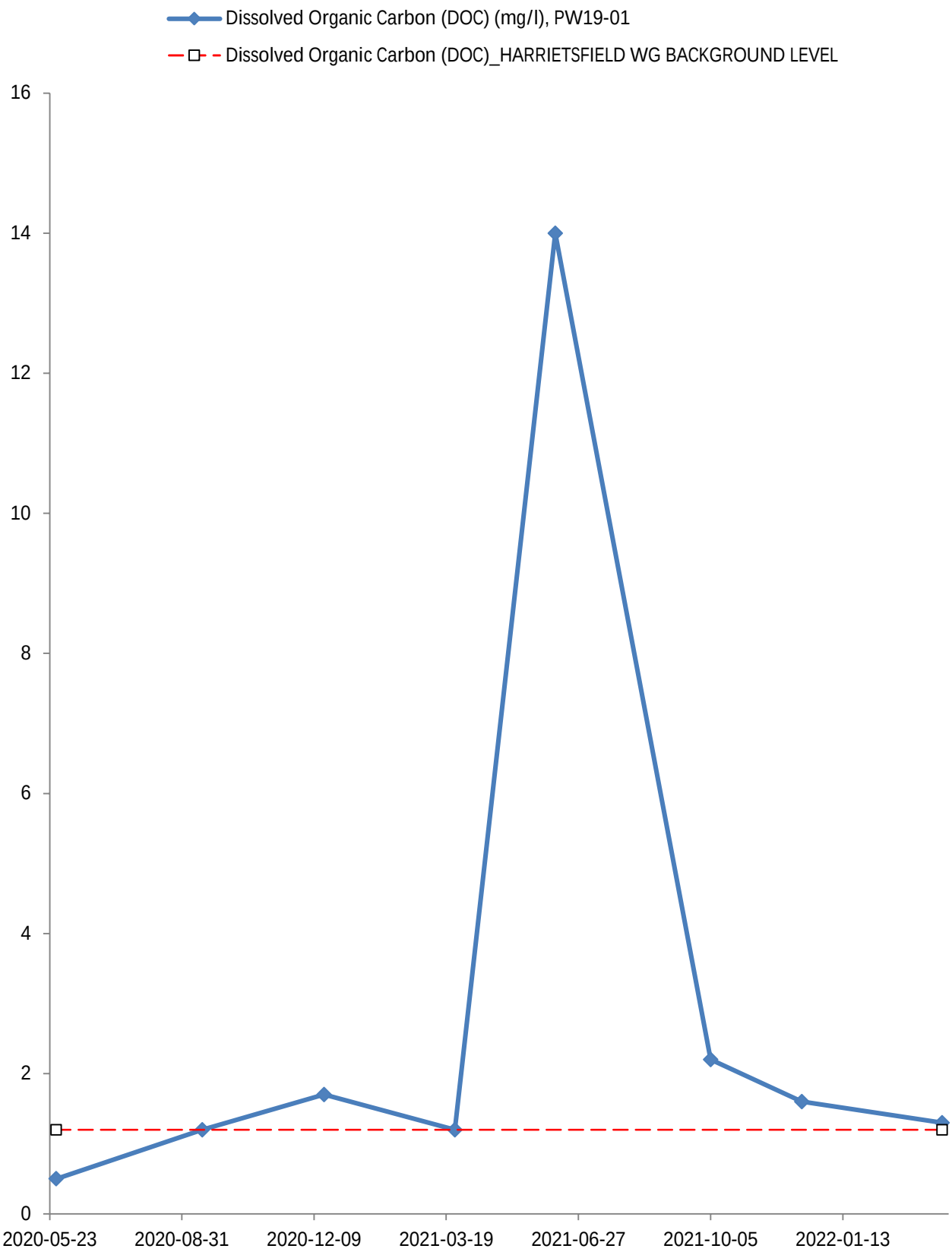
PW19-01-Cobalt



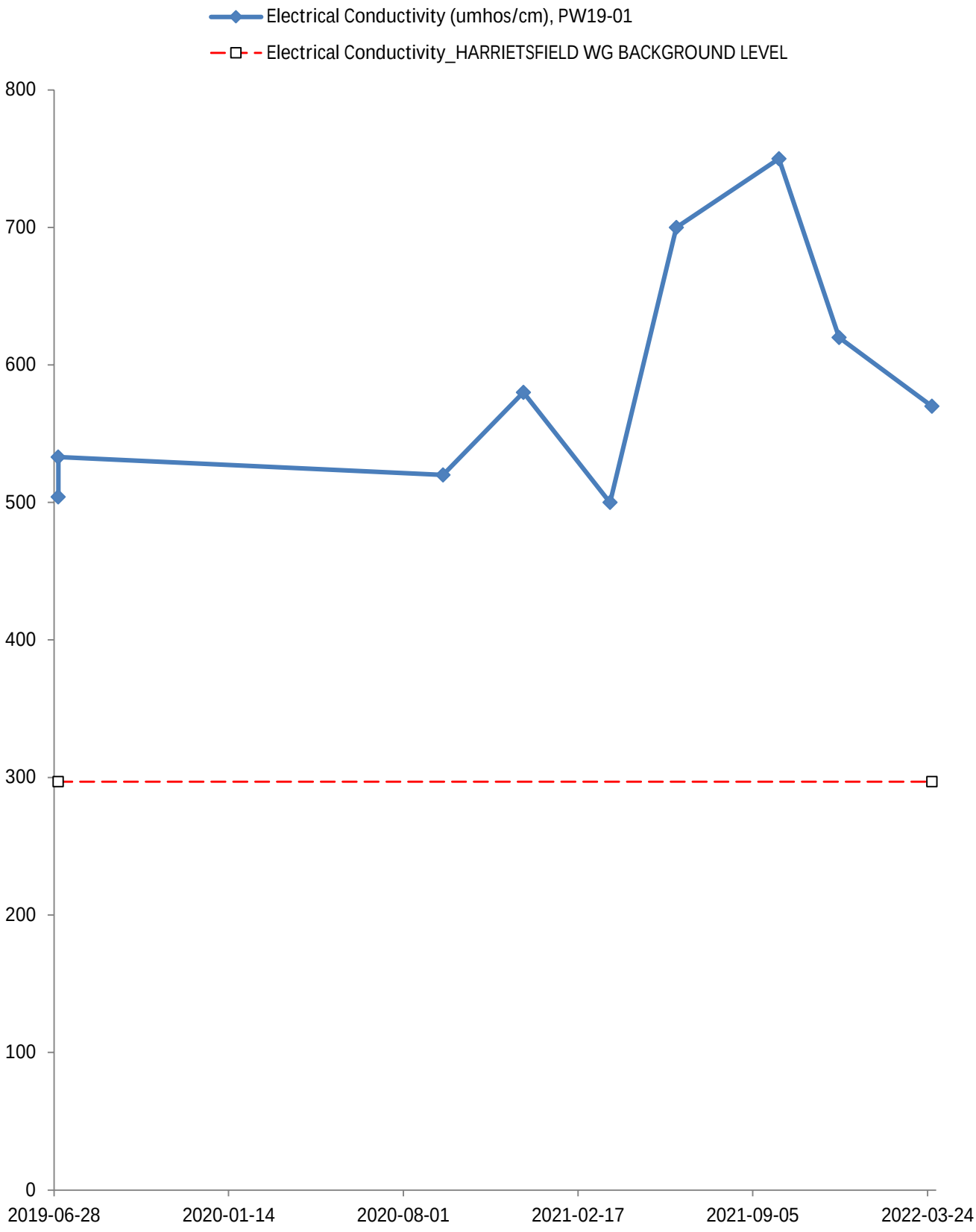
PW19-01-Copper



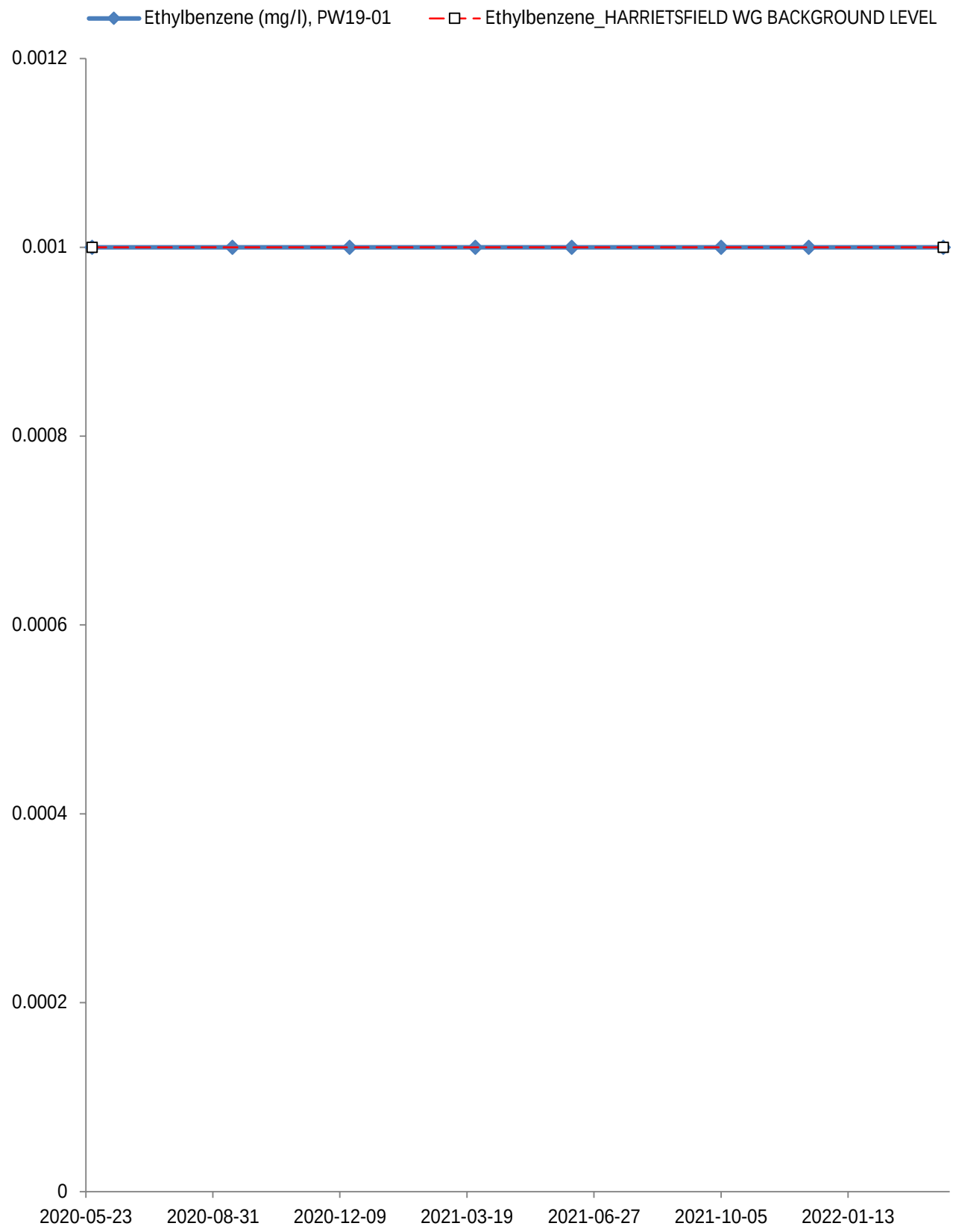
PW19-01-Dissolved Organic Carbon7



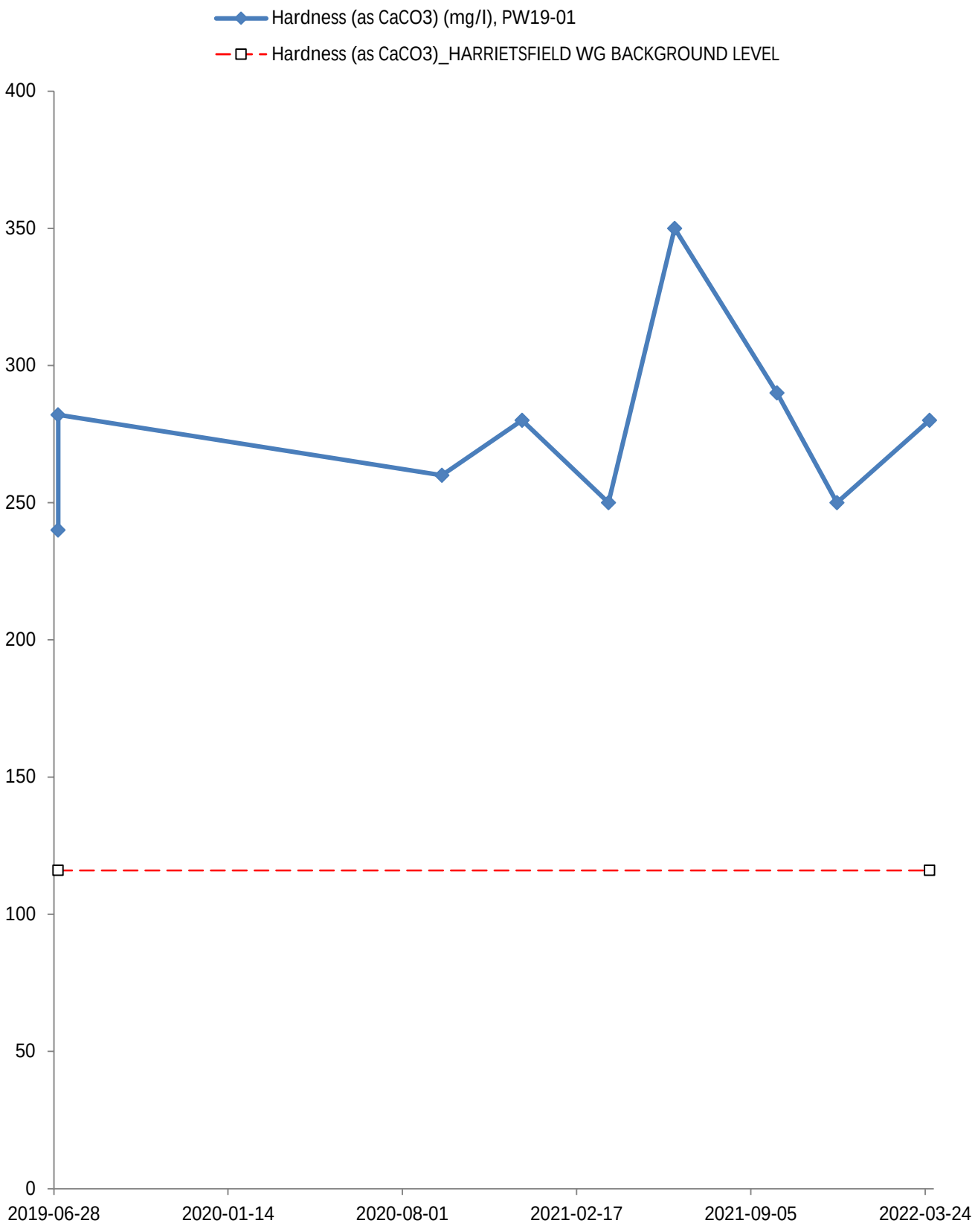
PW19-01-Electrical Conductivity

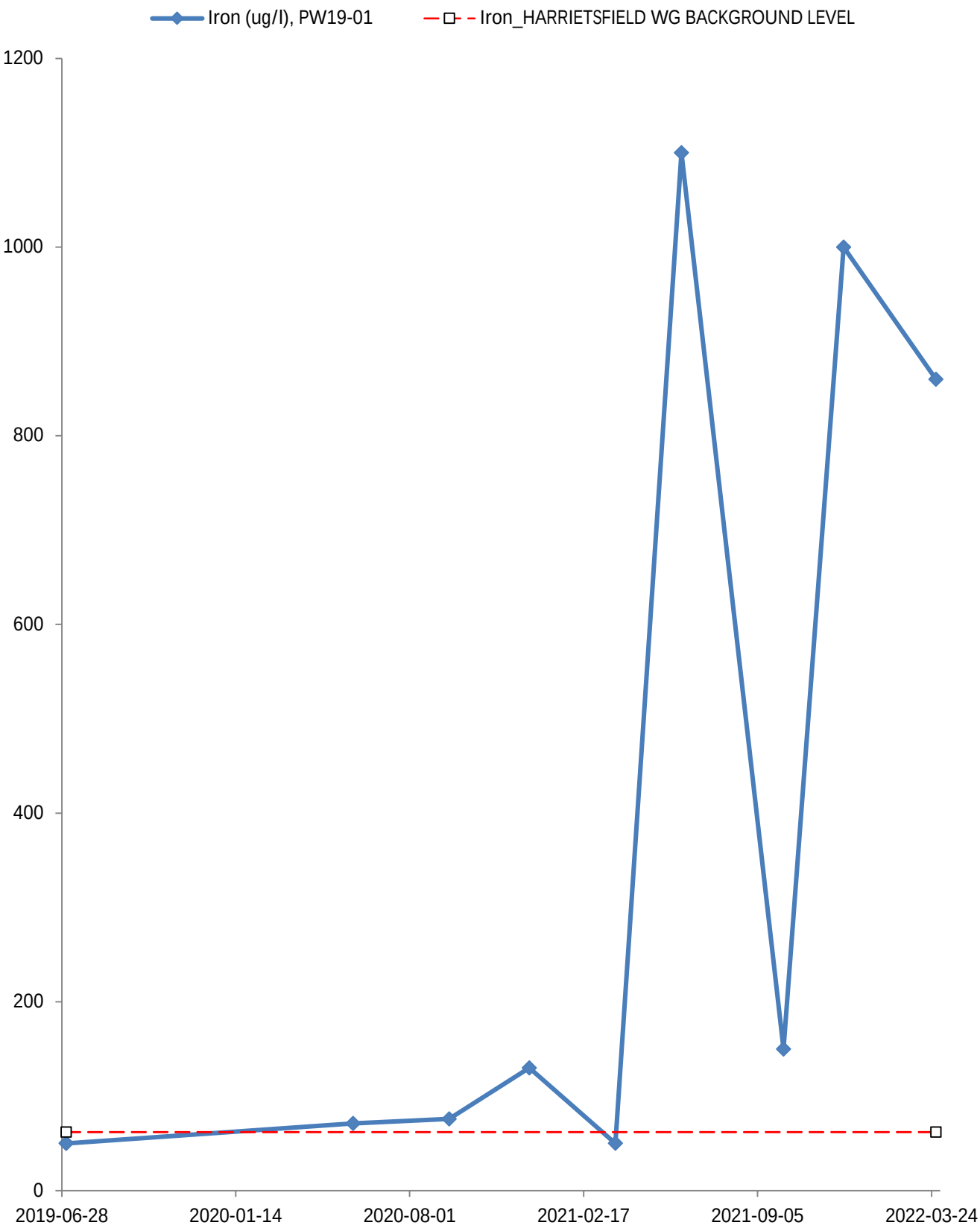


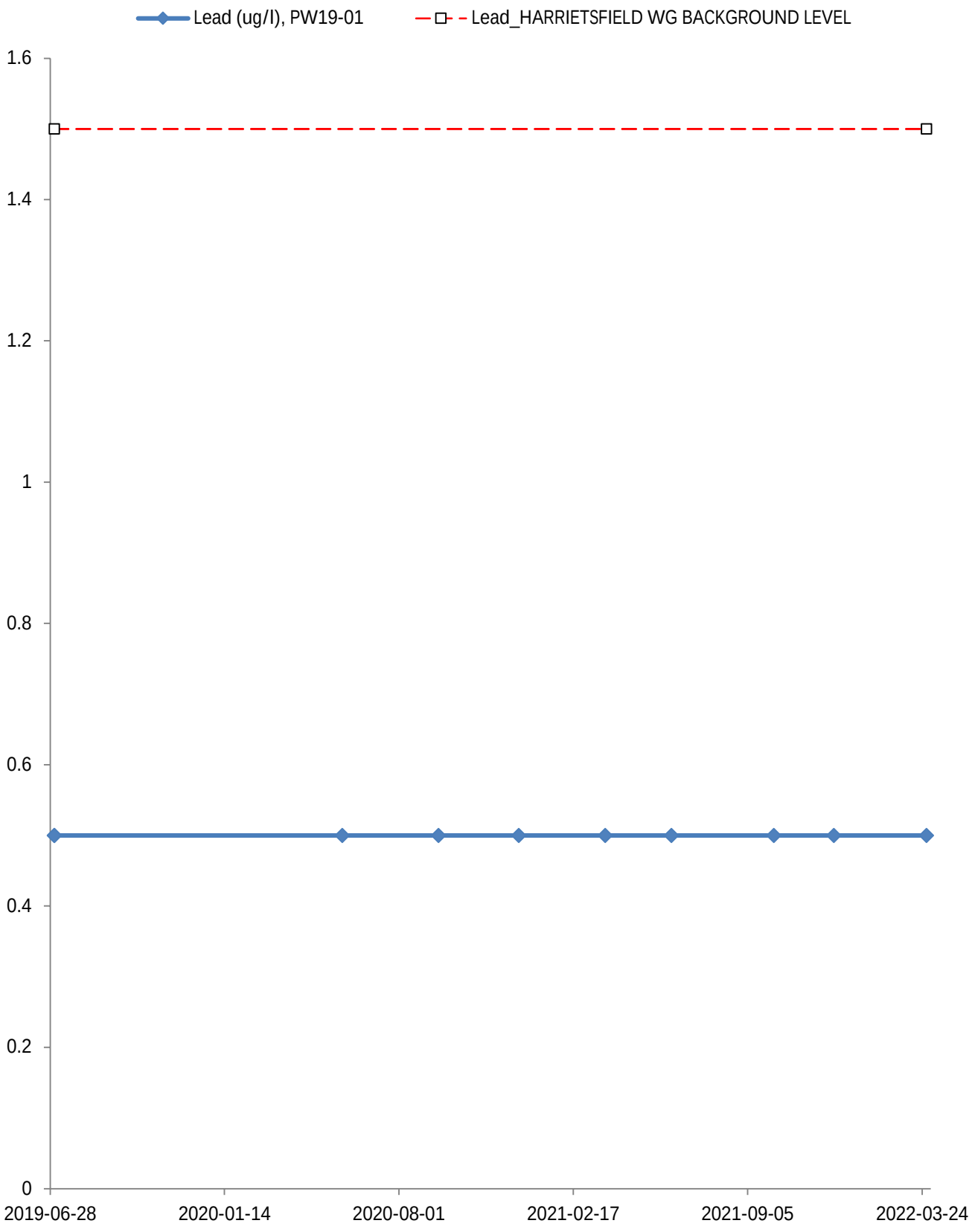
PW19-01-Ethylbenzene



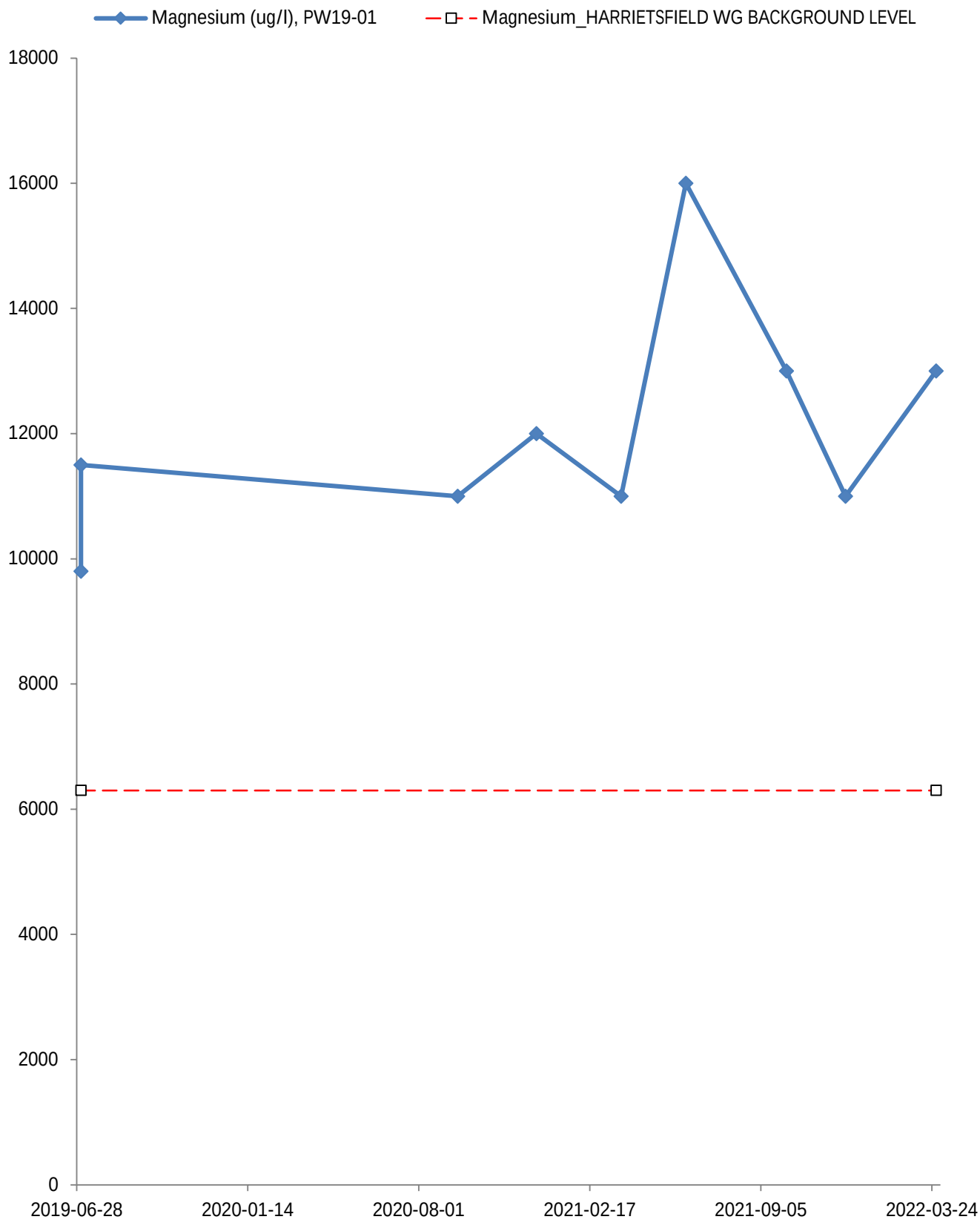
PW19-01-Hardness (as CaCO3)



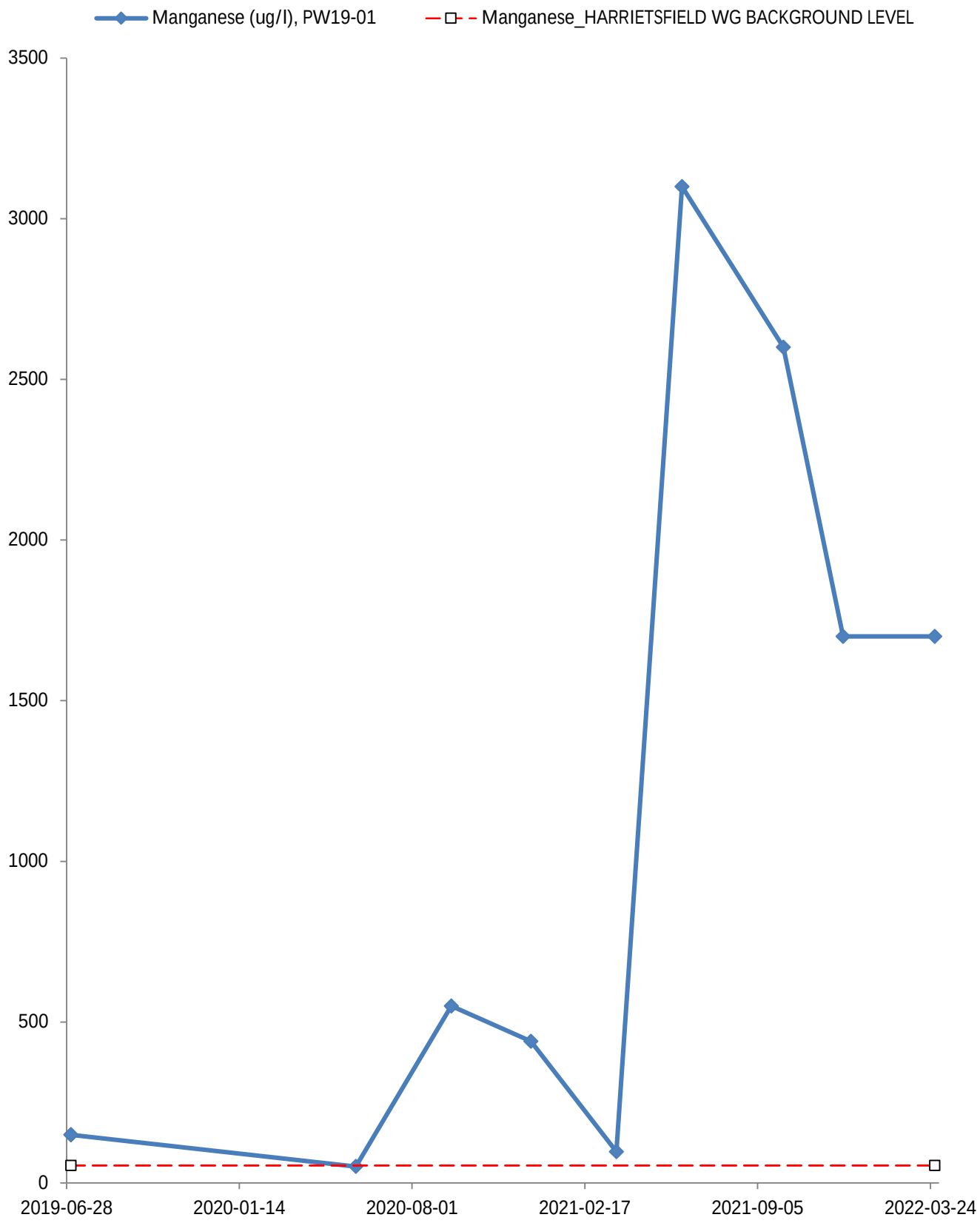

Iron (ug/l), PW19-01
Iron_HARRIETSFIELD WG BACKGROUND LEVEL
1200
1000
800
600
400
200
0
2019-06-28
2020-01-14
2020-08-01
2021-02-17
2021-09-05
2022-03-24


Lead (ug/l), PW19-01
Lead_HARRIETSFIELD WG BACKGROUND LEVEL
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2019-06-28
2020-01-14
2020-08-01
2021-02-17
2021-09-05
2022-03-24

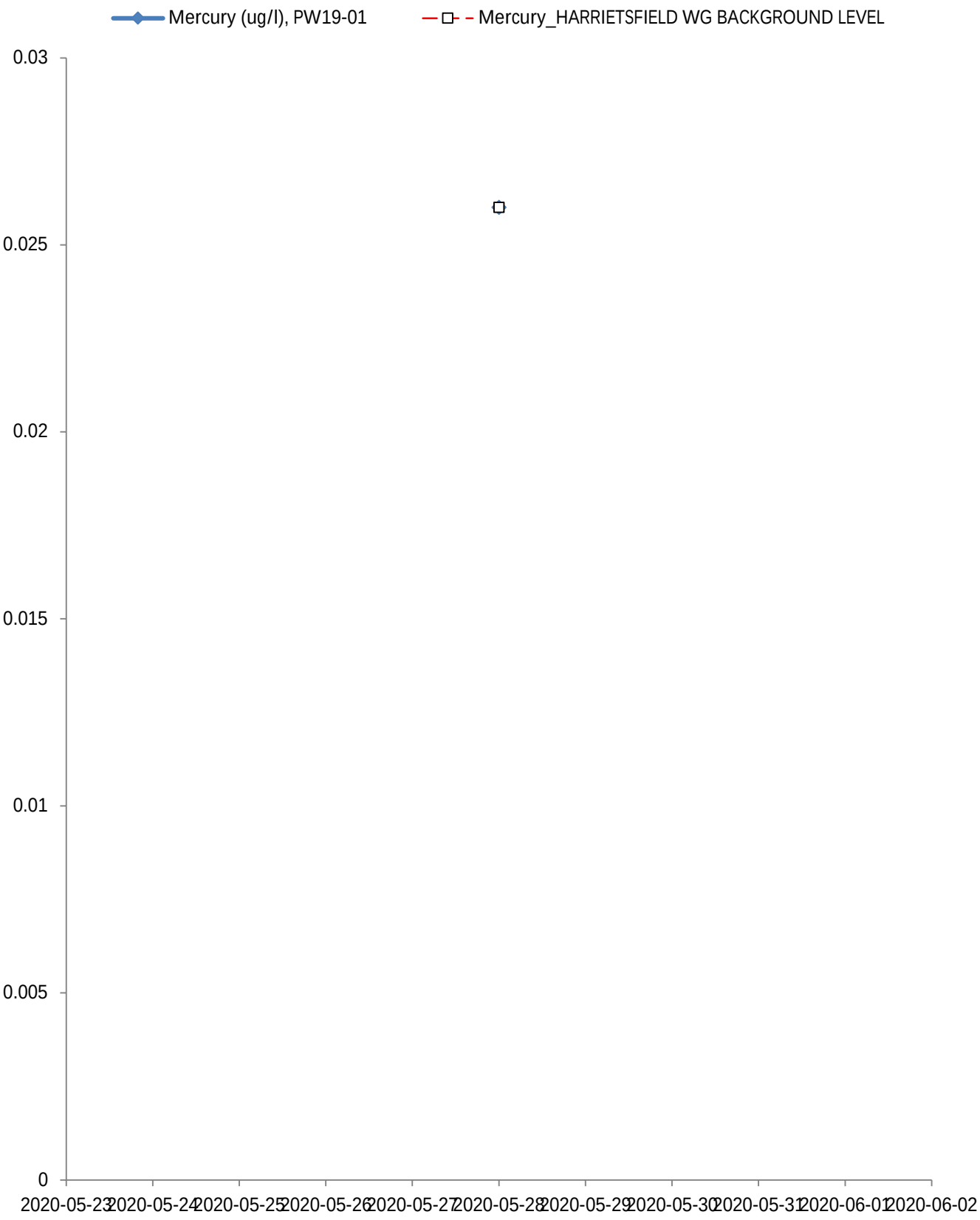
PW19-01-Magnesium



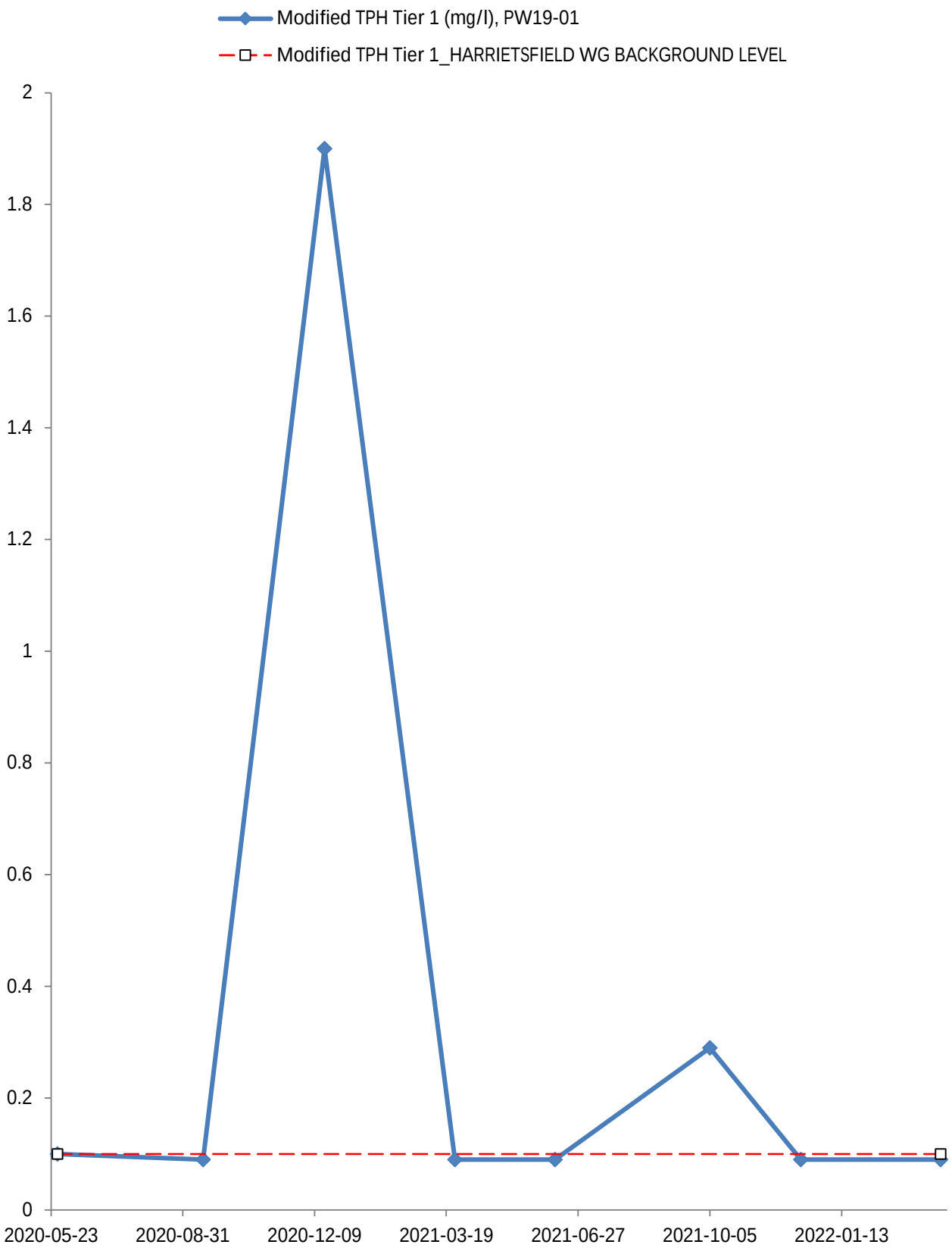
PW19-01-Manganese



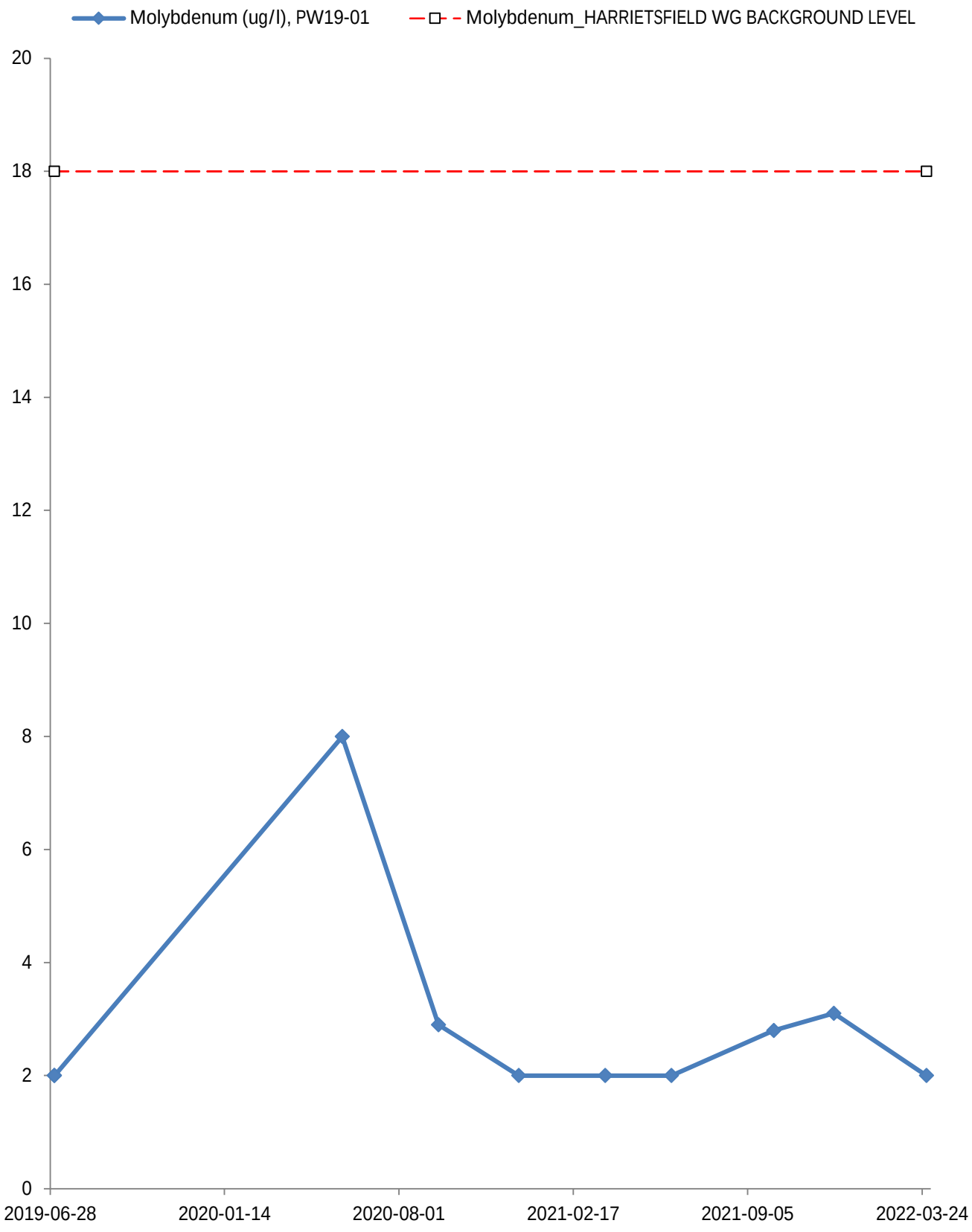
PW19-01-Mercury



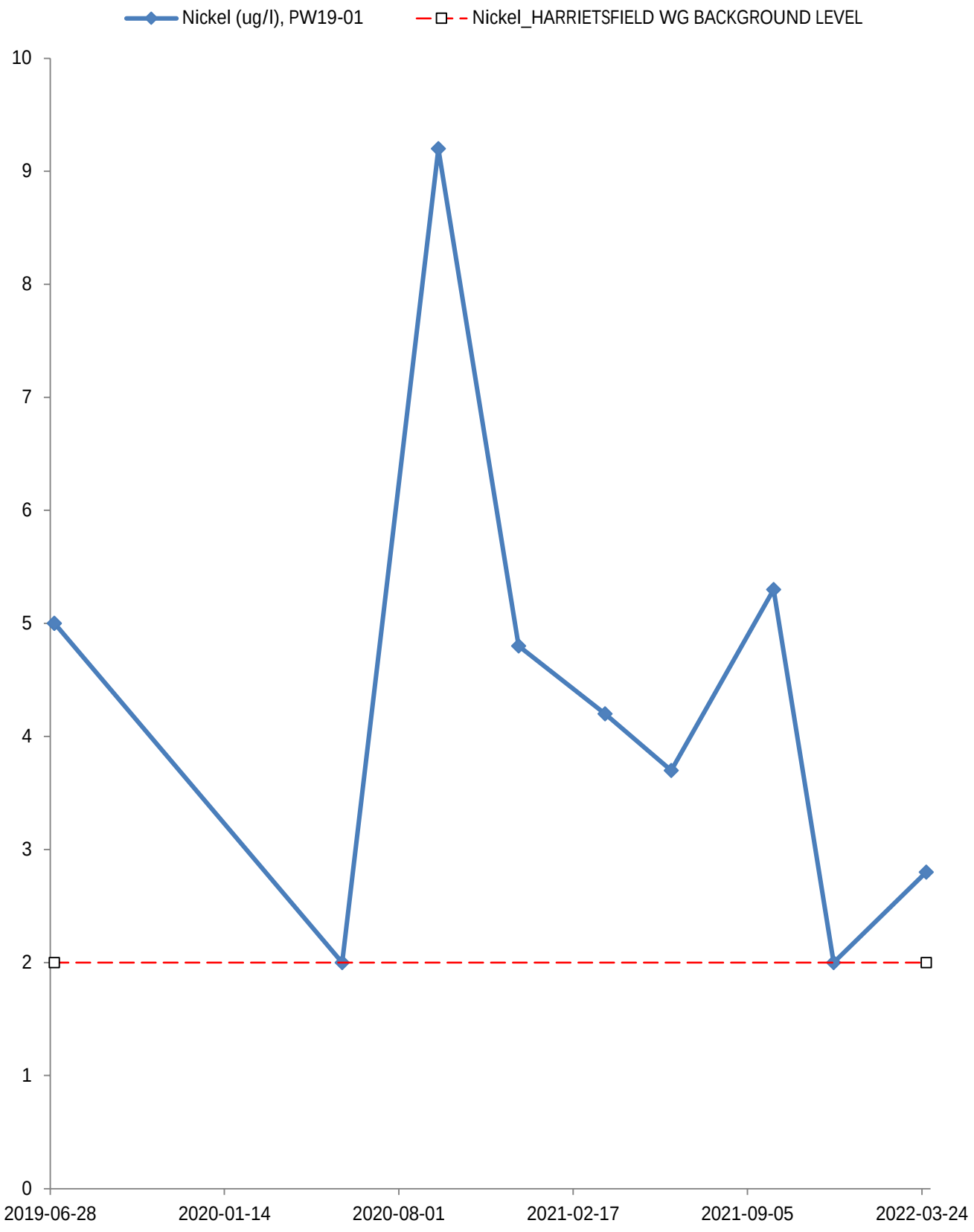
PW19-01-Modified TPH Tier 1



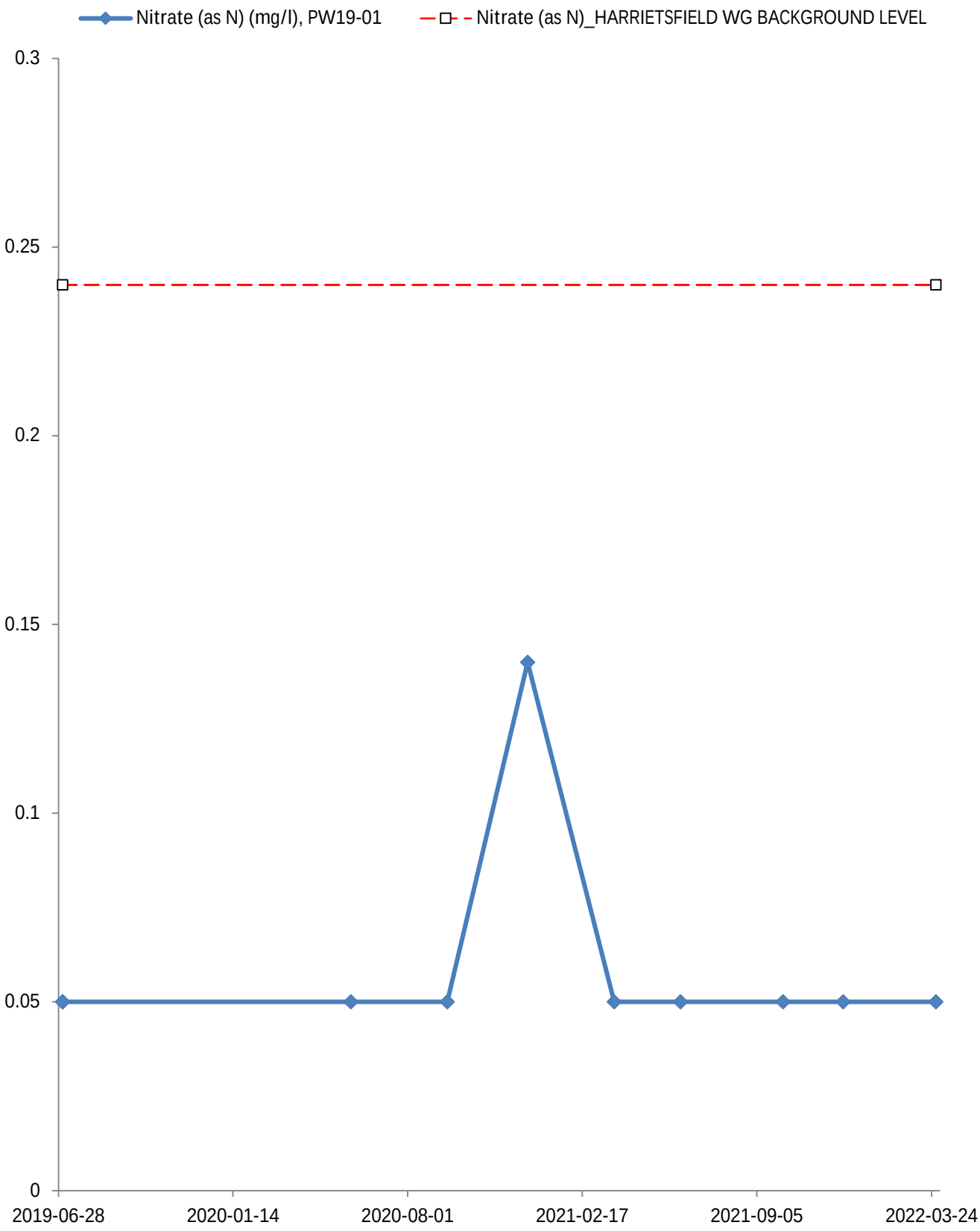
PW19-01-Molybdenum



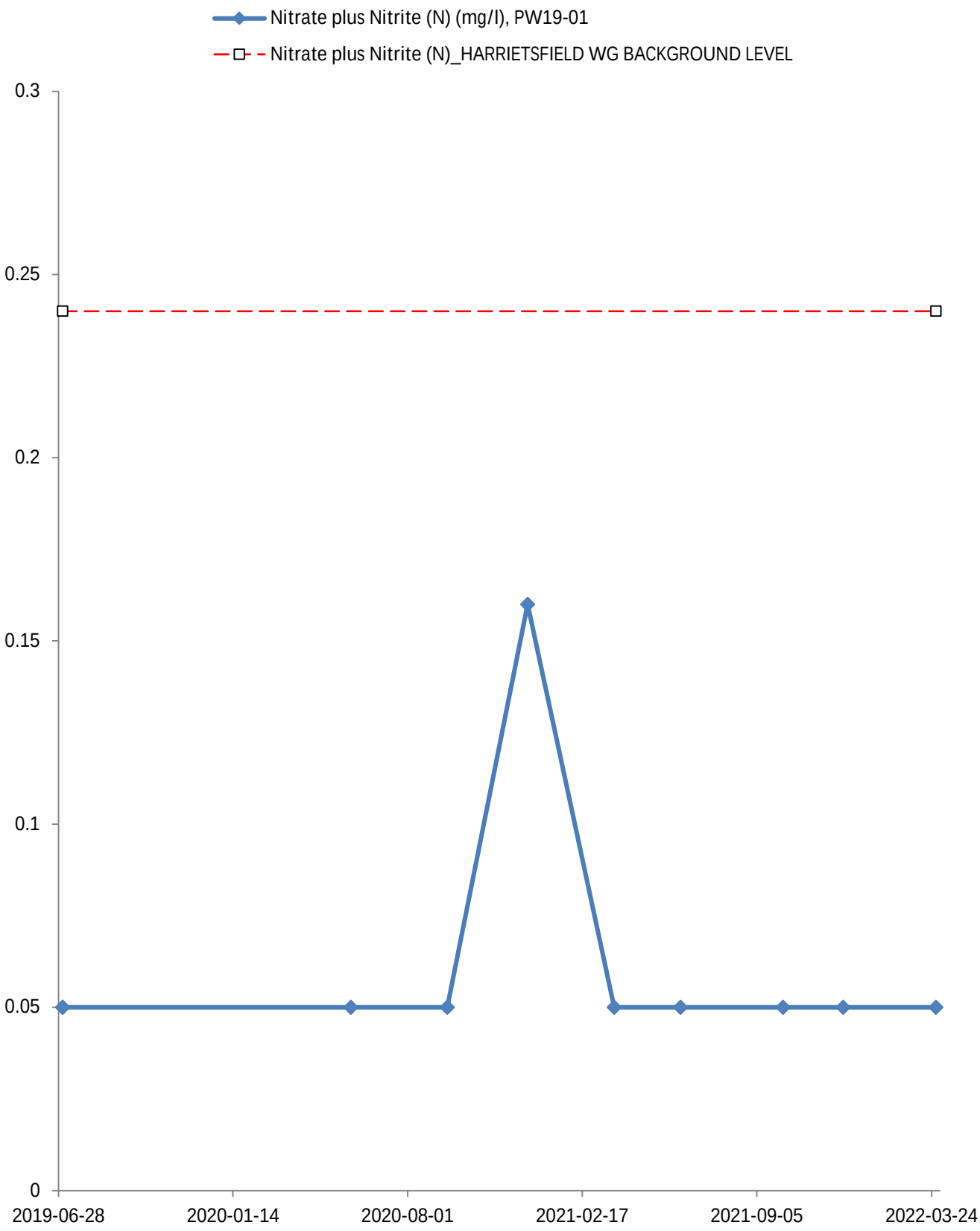
PW19-01-Nickel



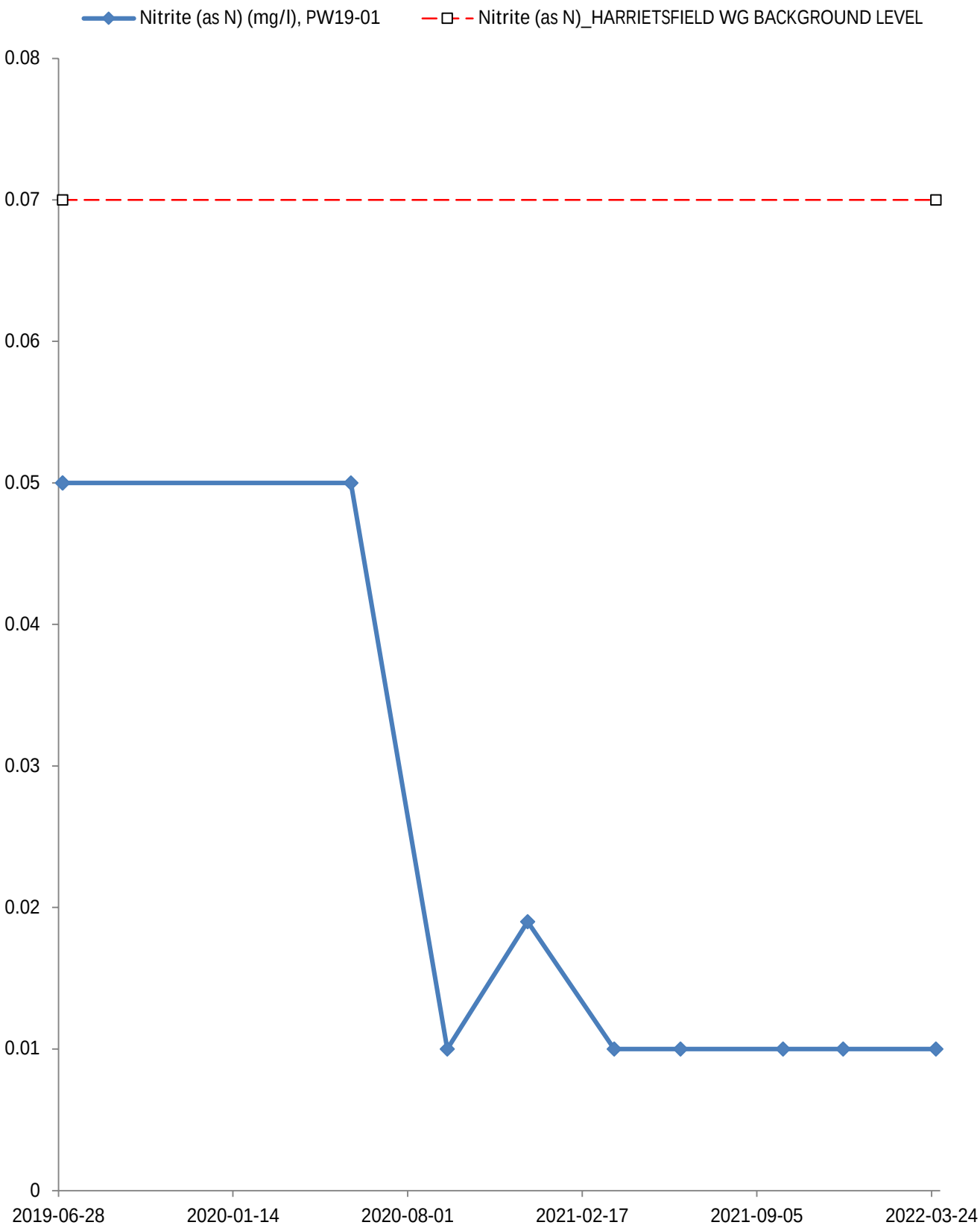
PW19-01-Nitrate (as N)



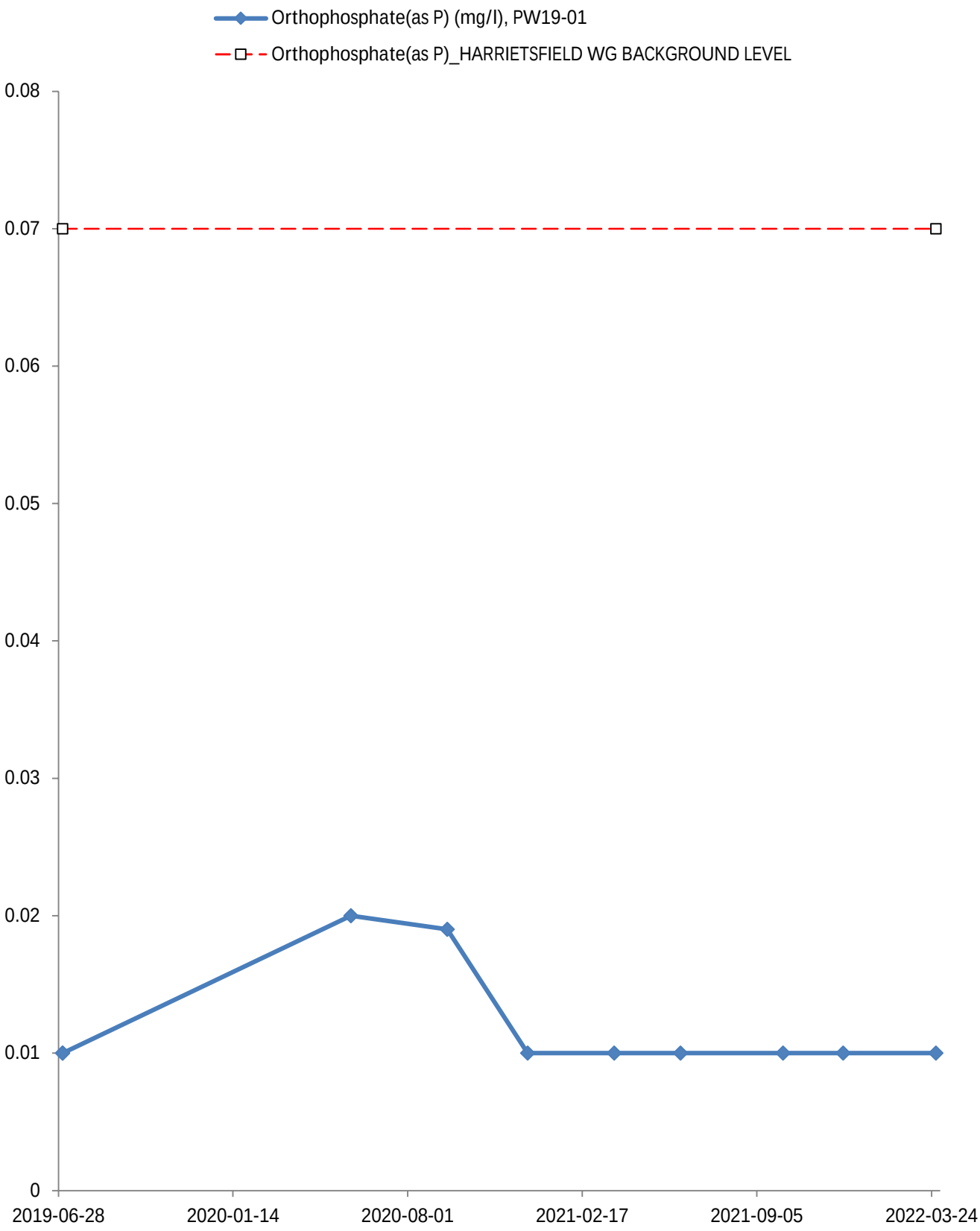
PW19-01-Nitrate plus Nitrite (N)



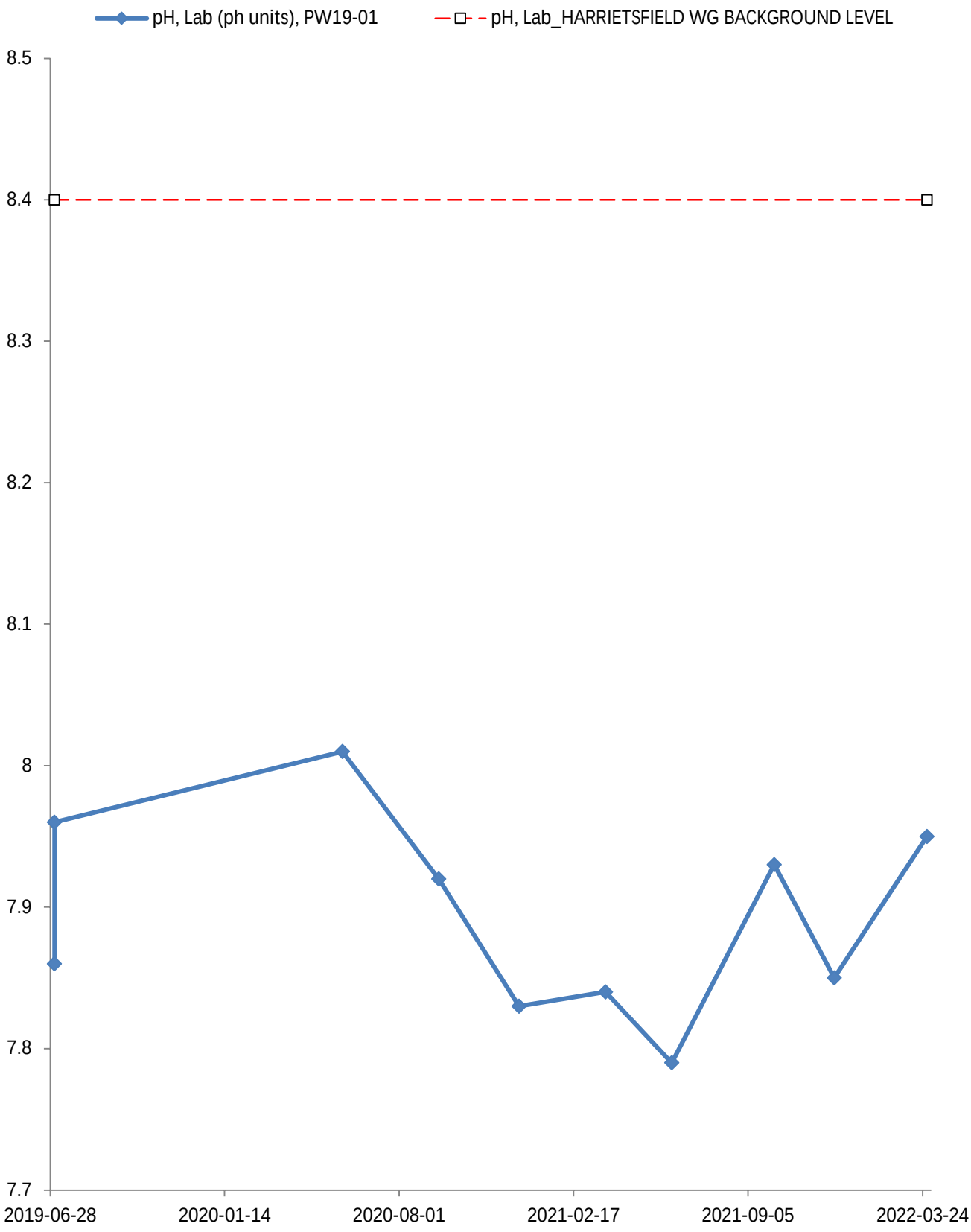
PW19-01-Nitrite (as N)



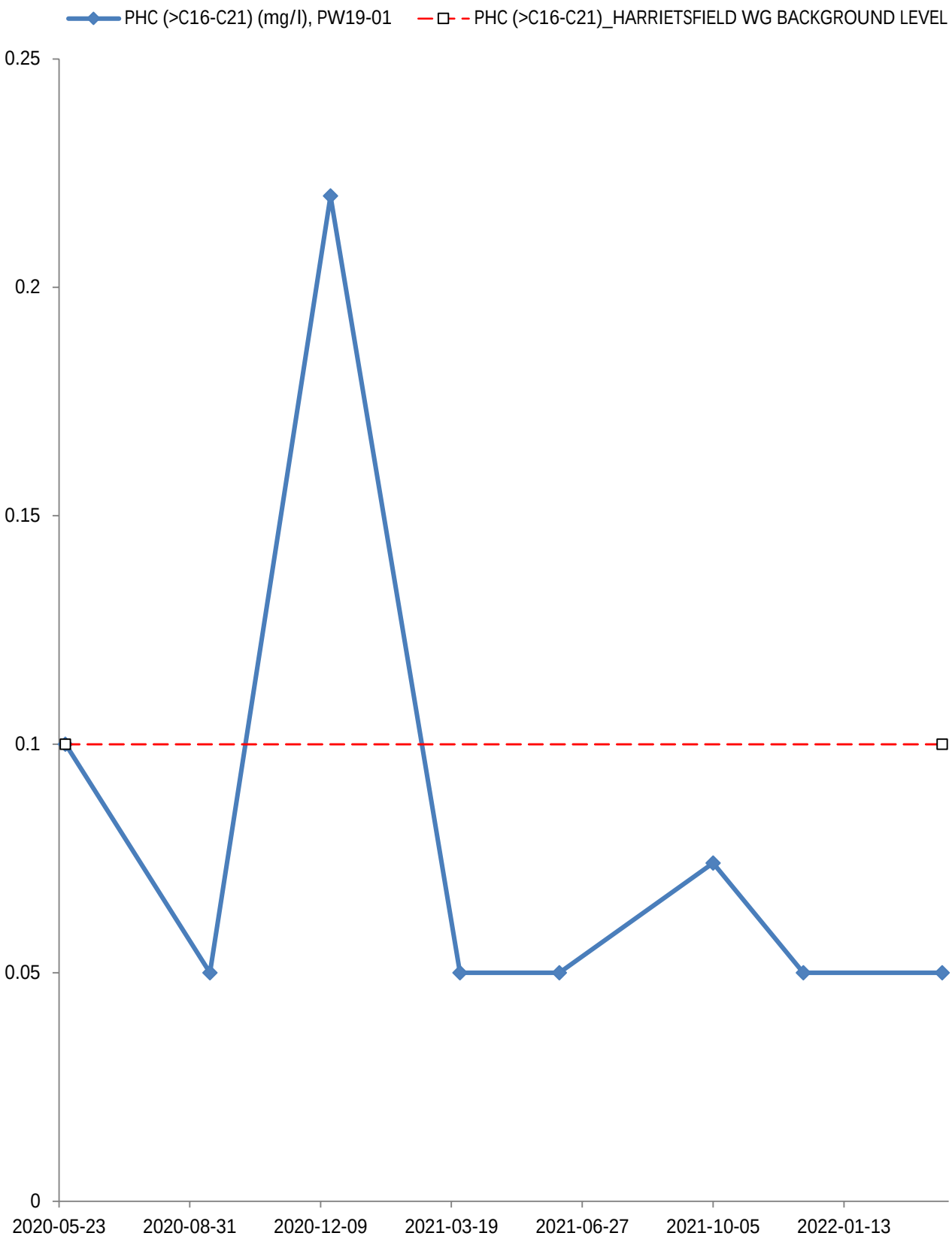
PW19-01-Orthophosphate(as P)



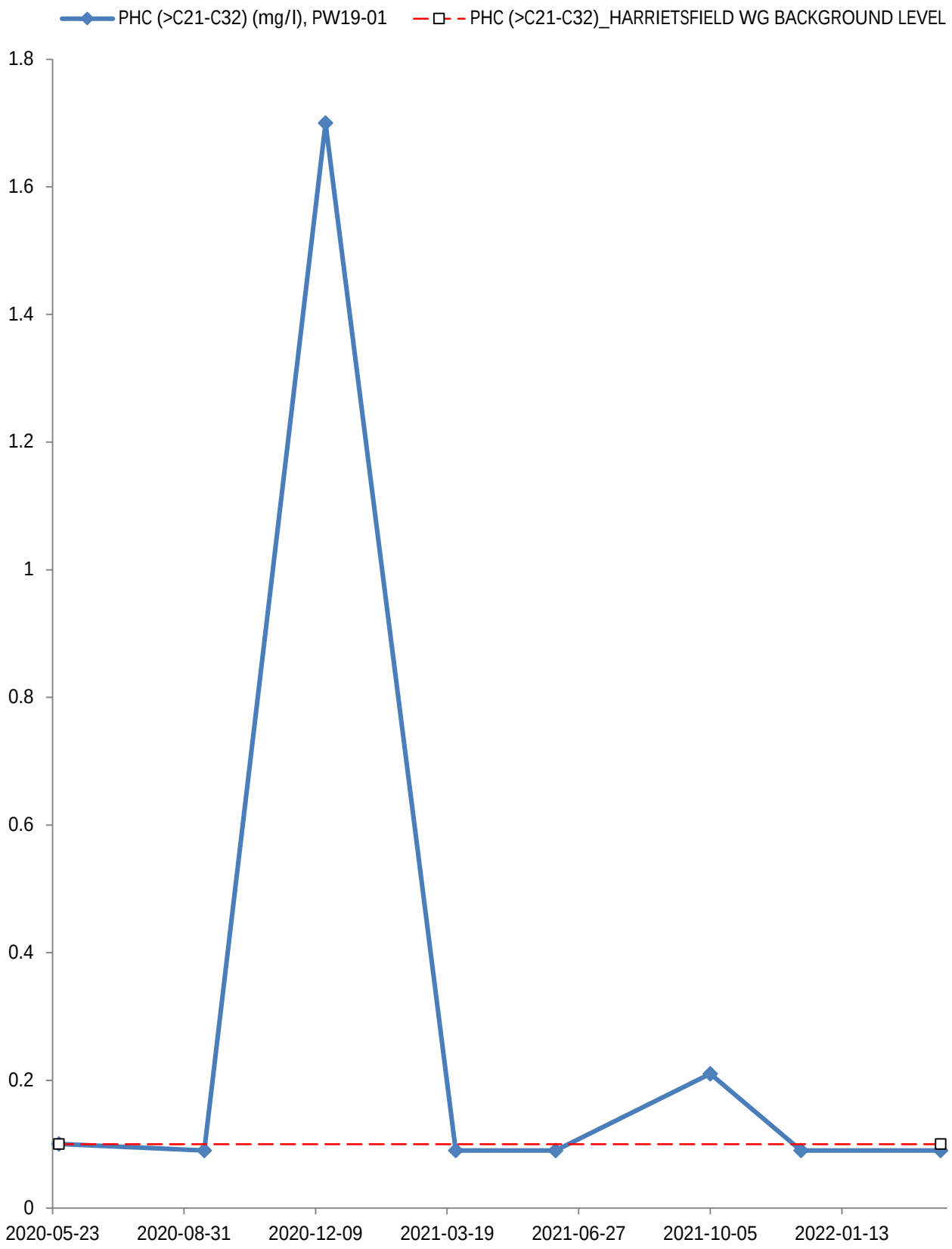
PW19-01-pH, Lab



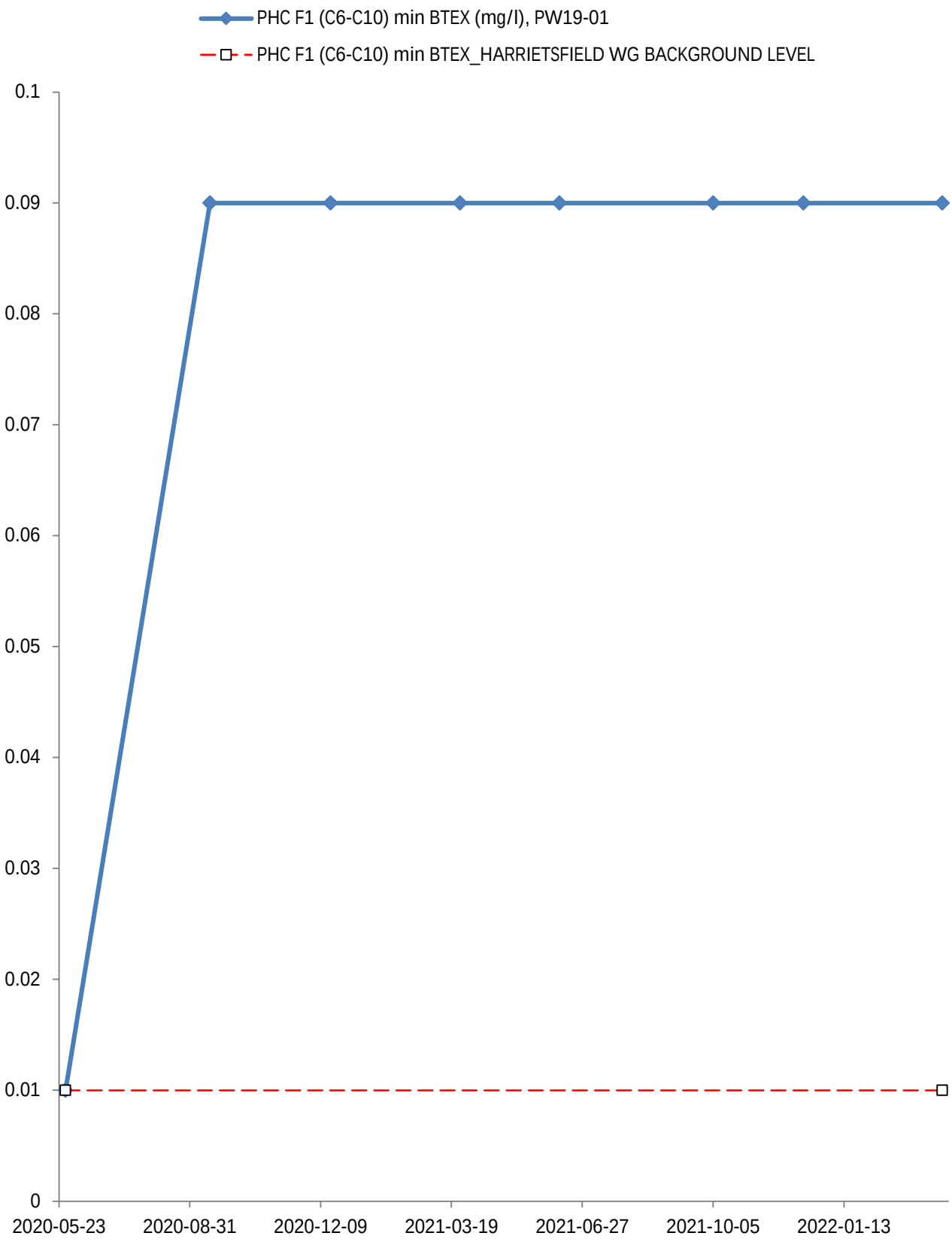
PW19-01-PHC (>C16-C21)



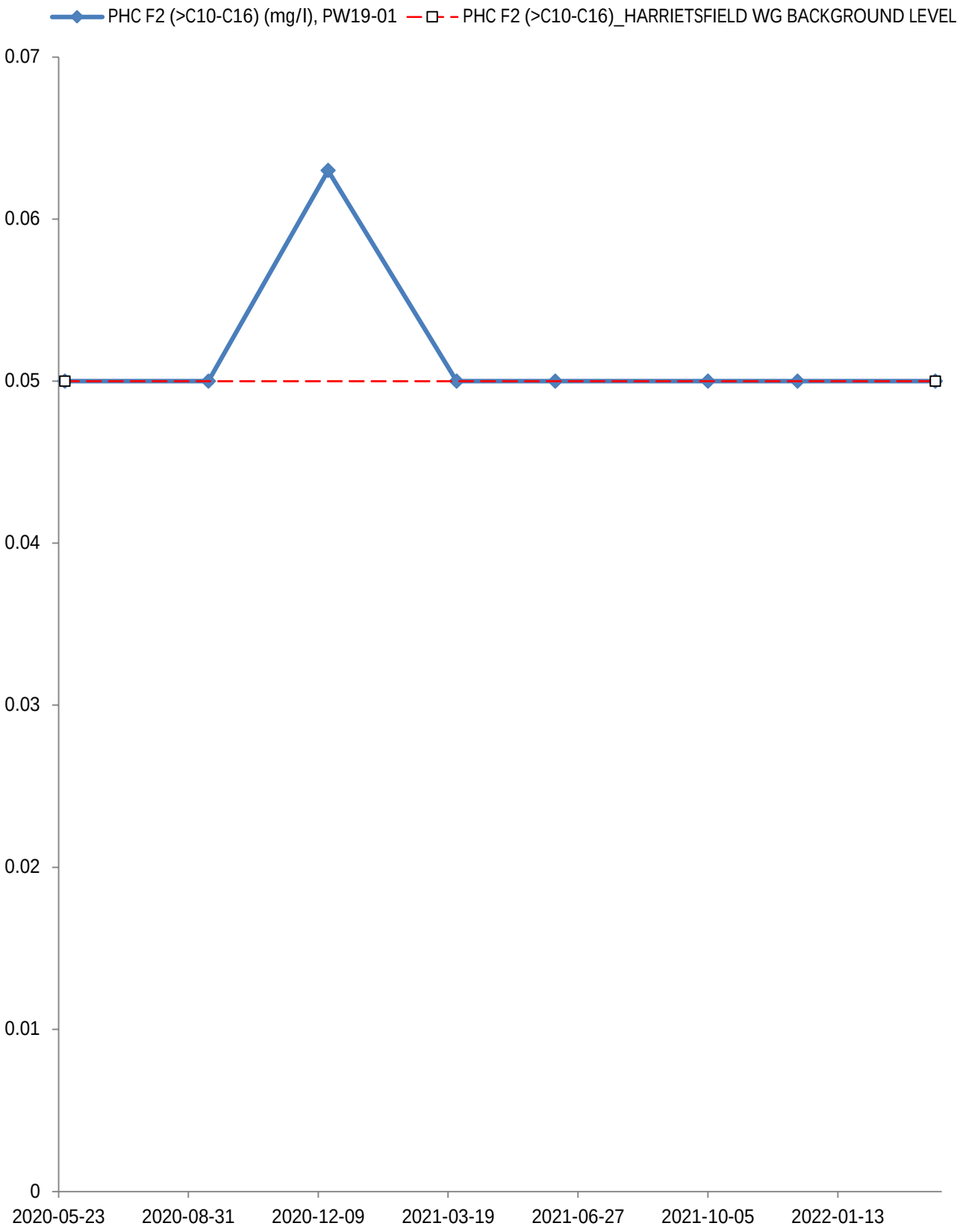
PW19-01-PHC (>C21-C32)



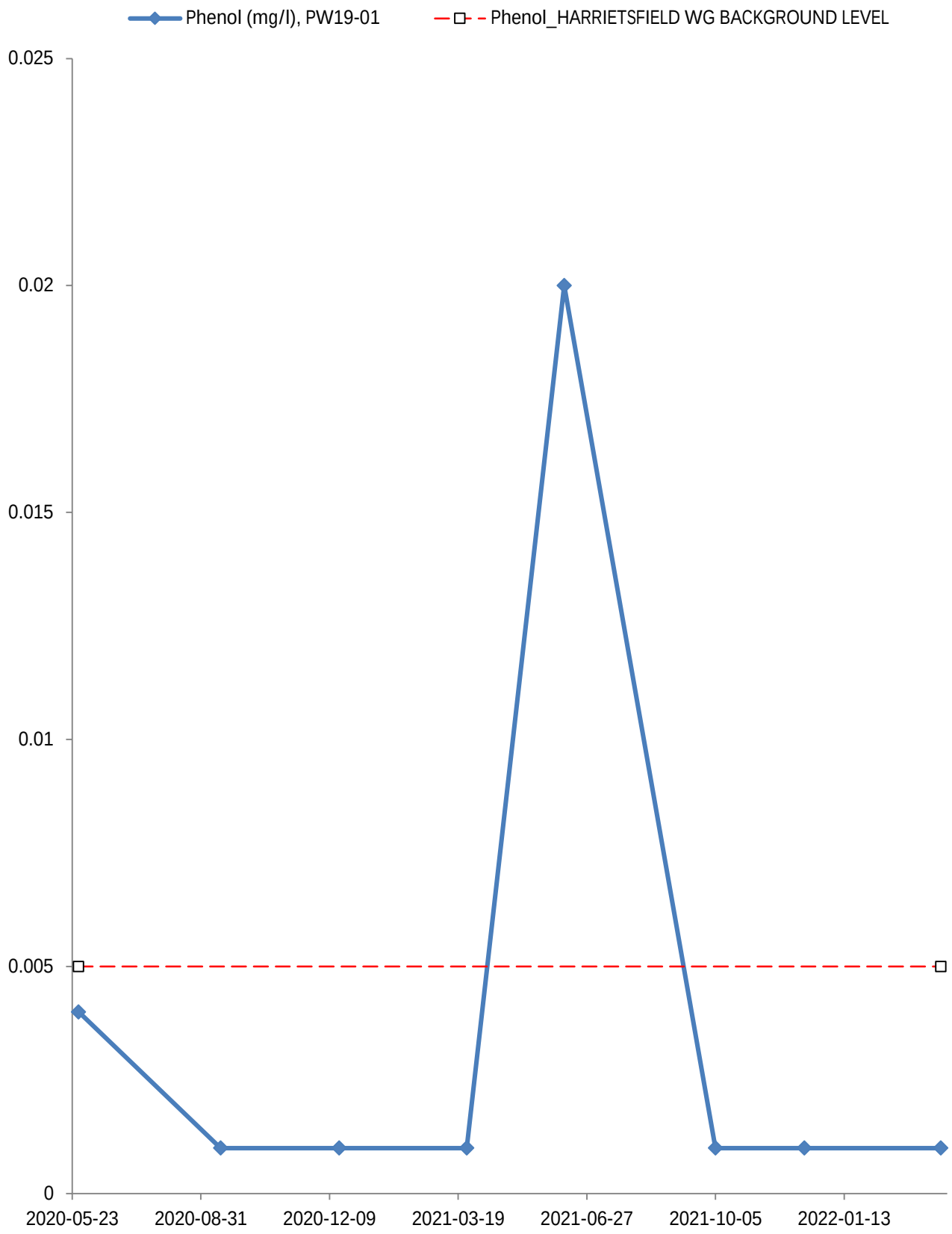
PW19-01-PHC F1 (C6-C10) min BTEX



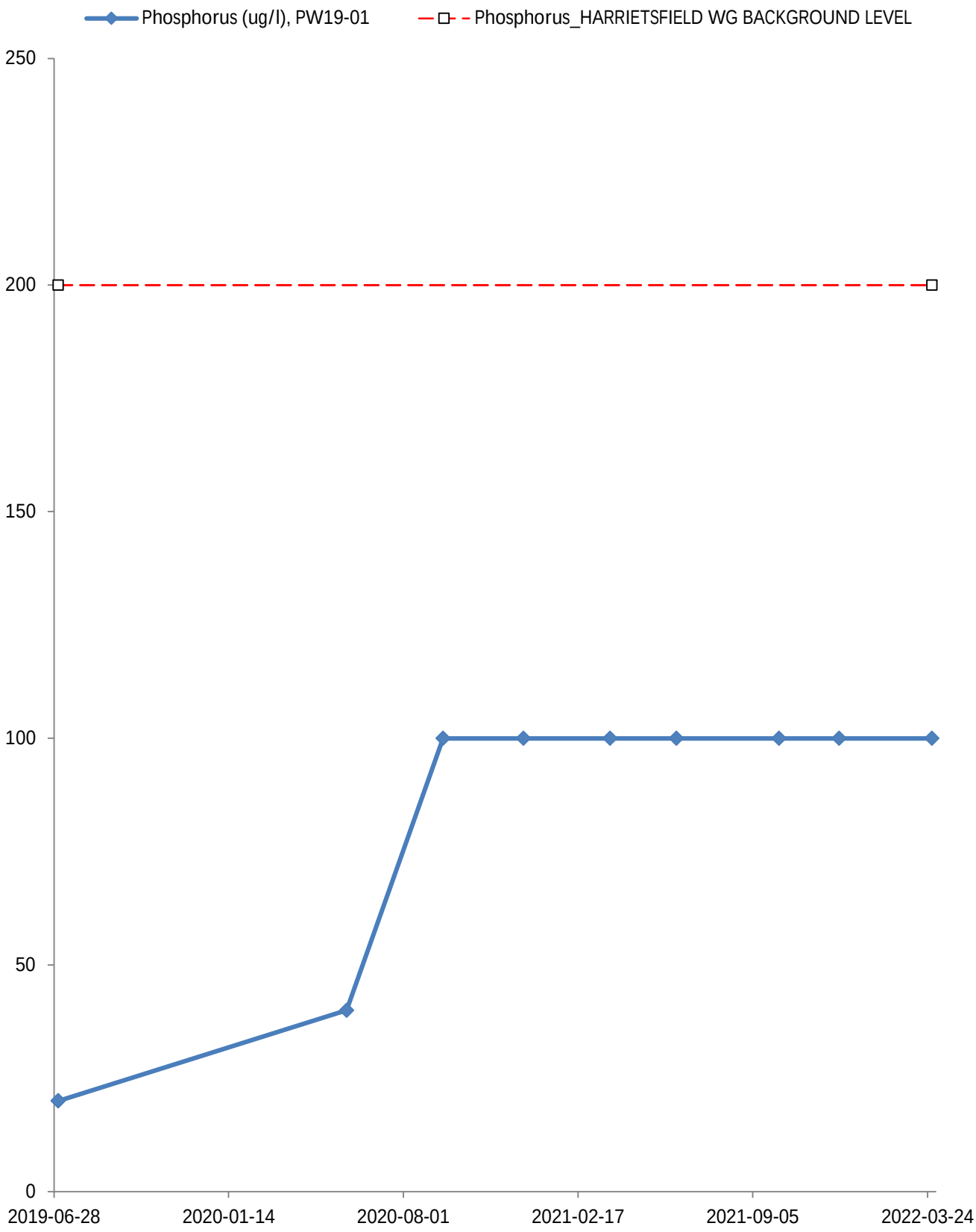
PW19-01-PHC F2 (>C10-C16)



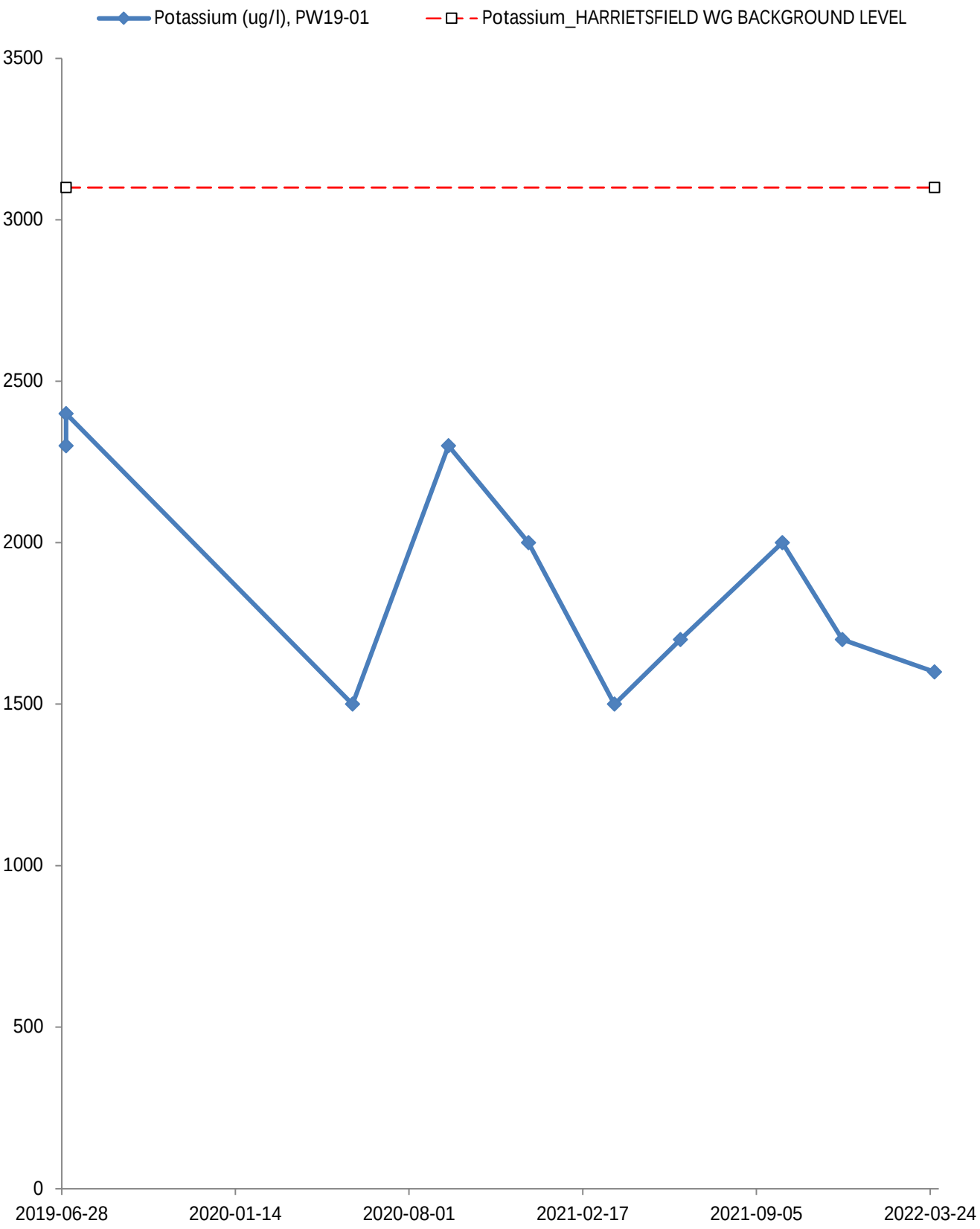
PW19-01-Phenol



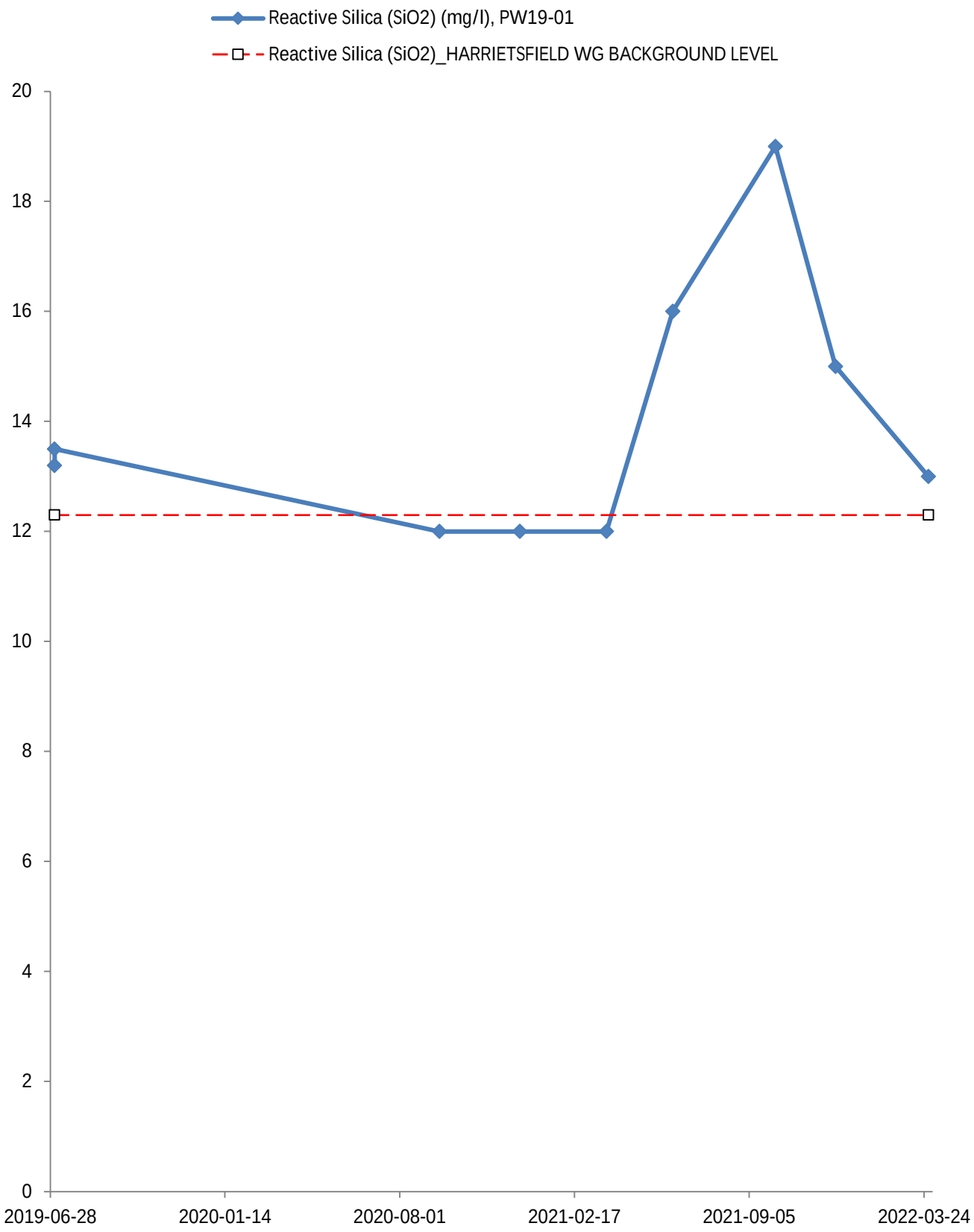
PW19-01-Phosphorus



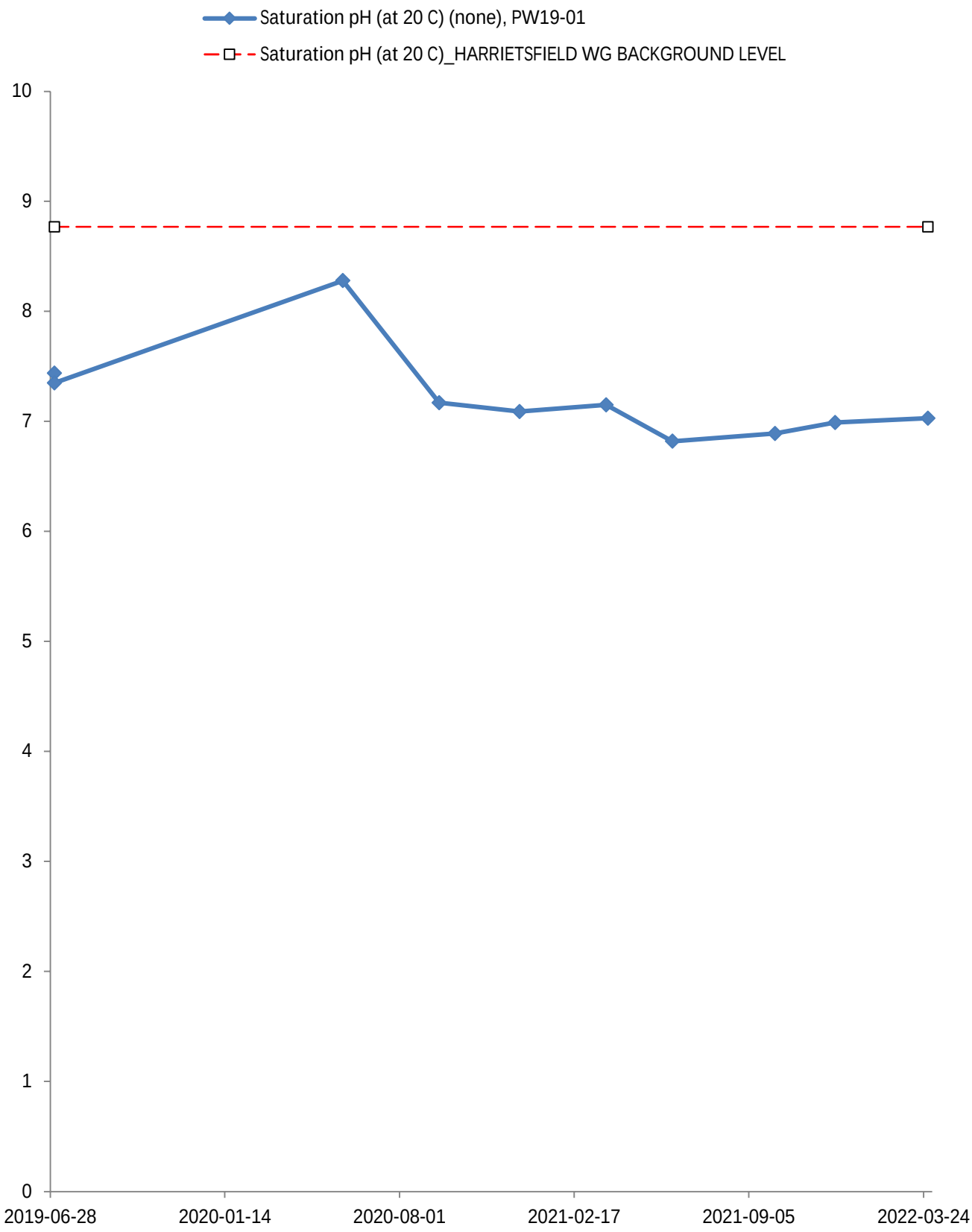
PW19-01-Potassium



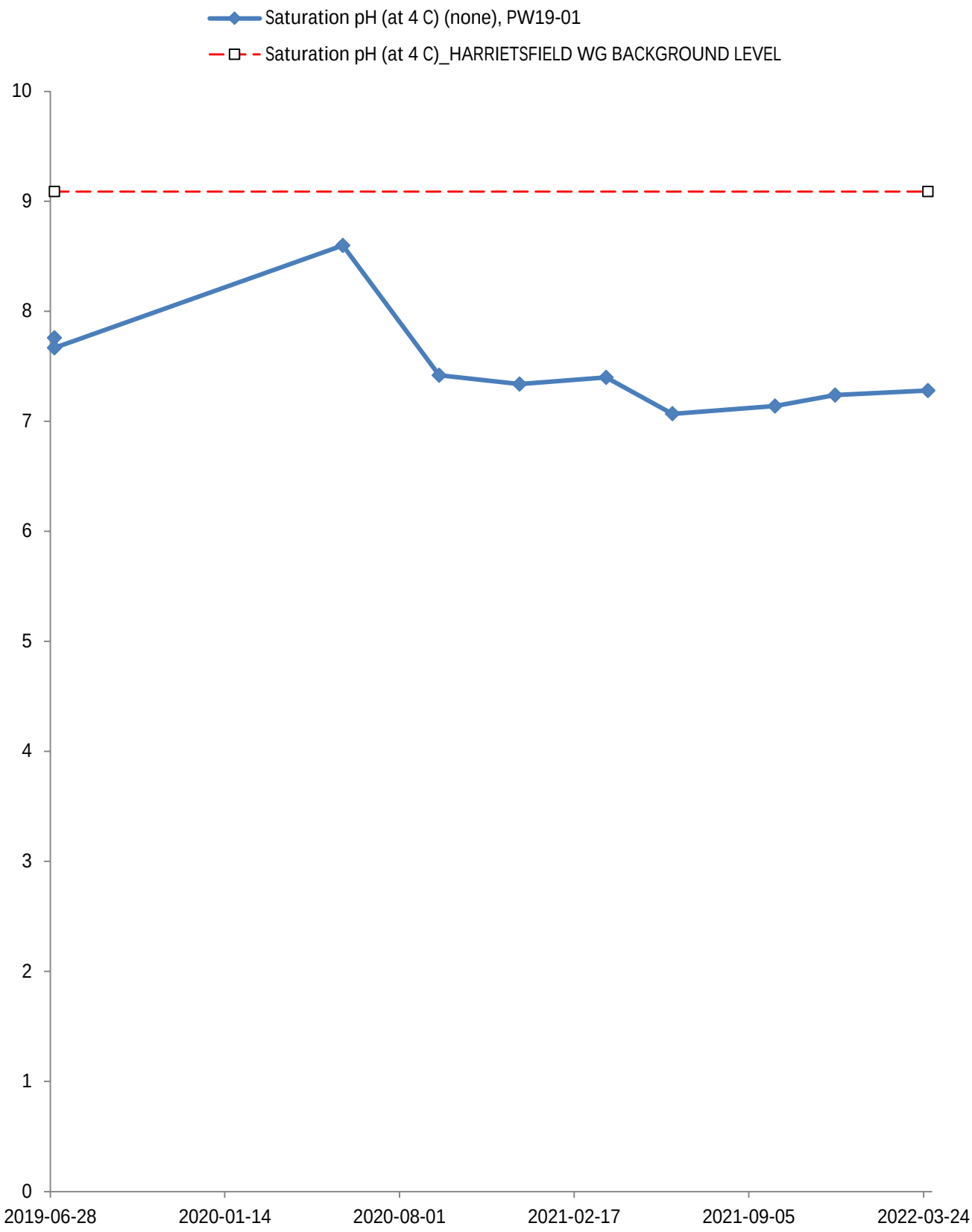
PW19-01-Reactive Silica (SiO2)



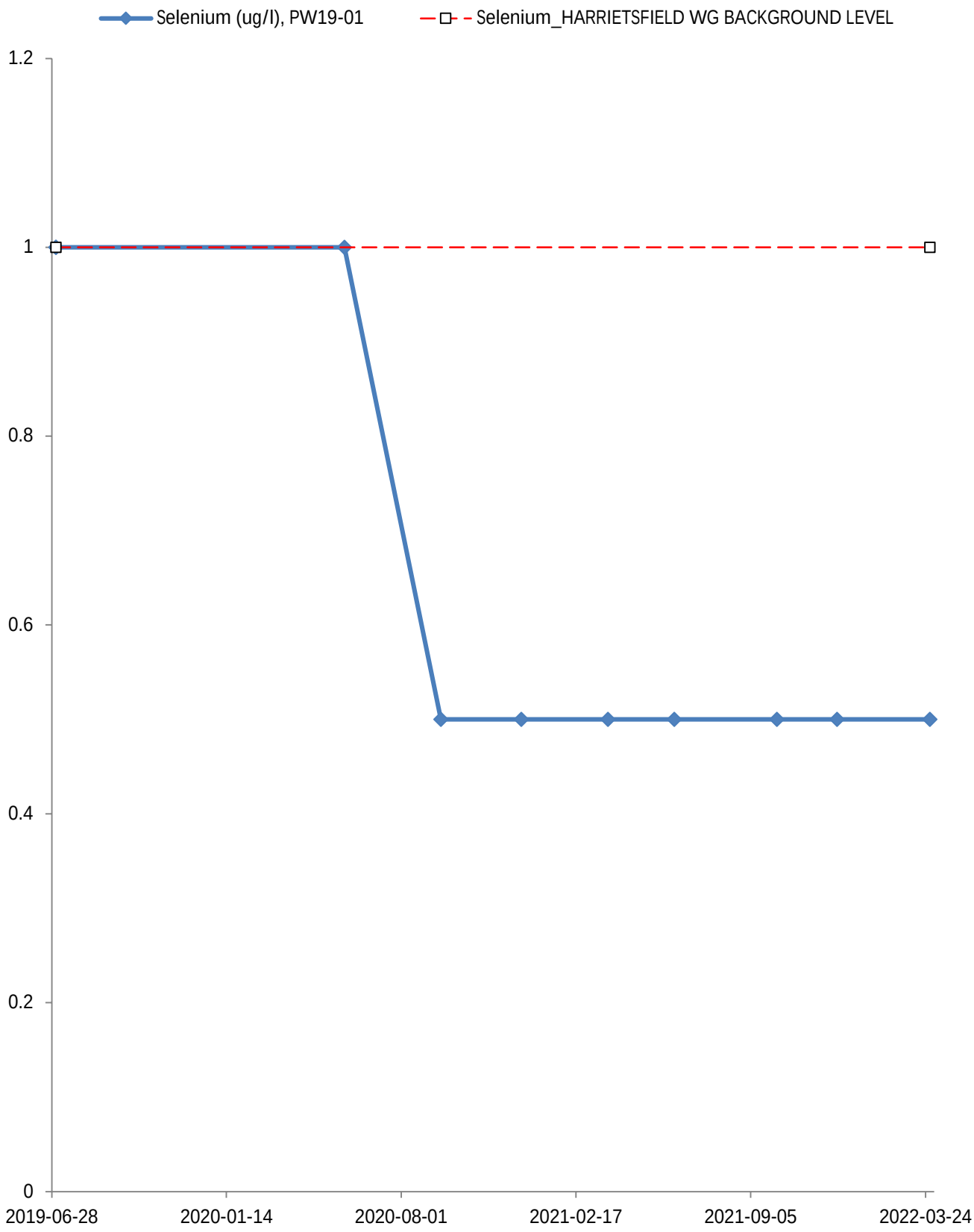
PW19-01-Saturation pH (at 20 C)



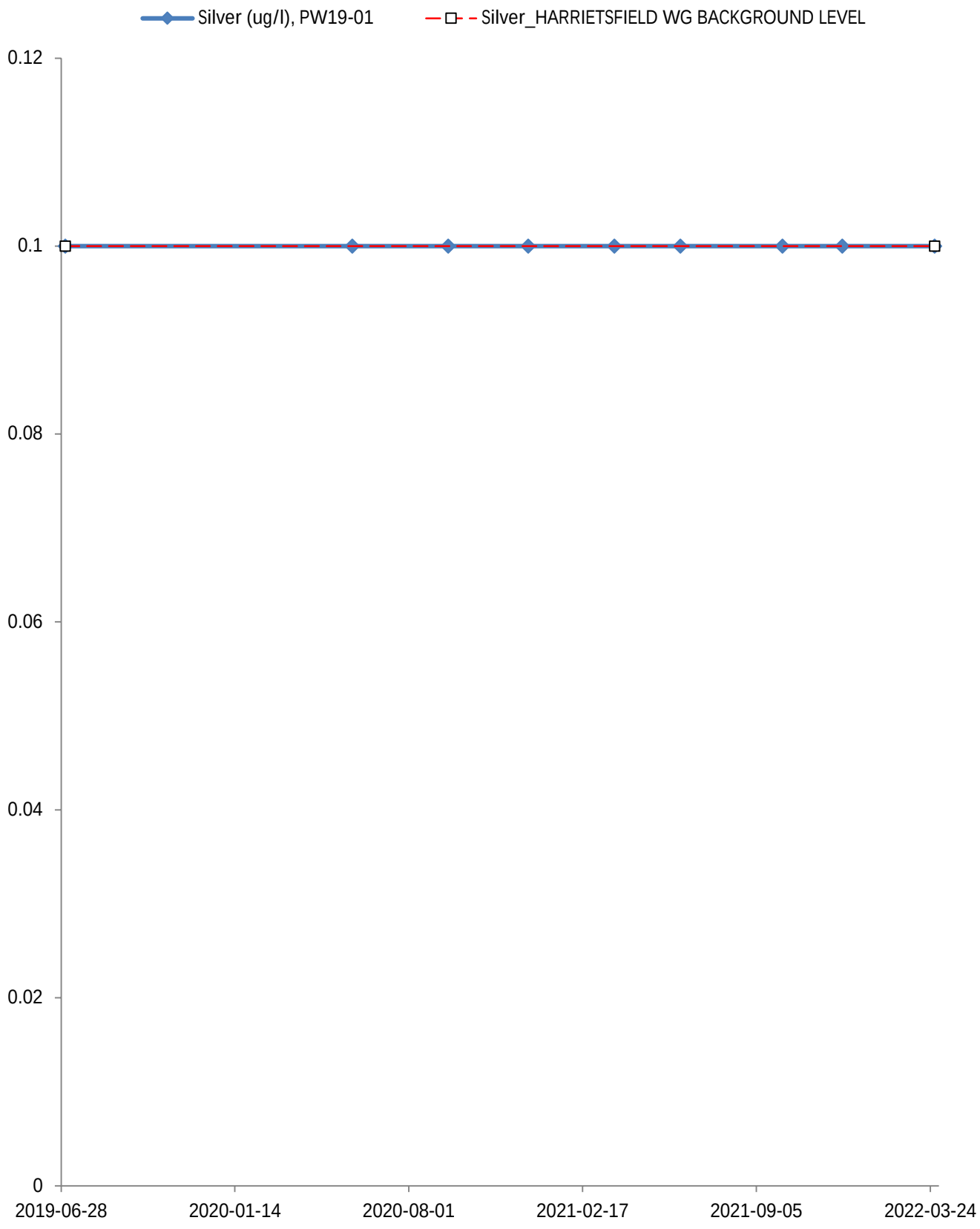
PW19-01-Saturation pH (at 4 C)



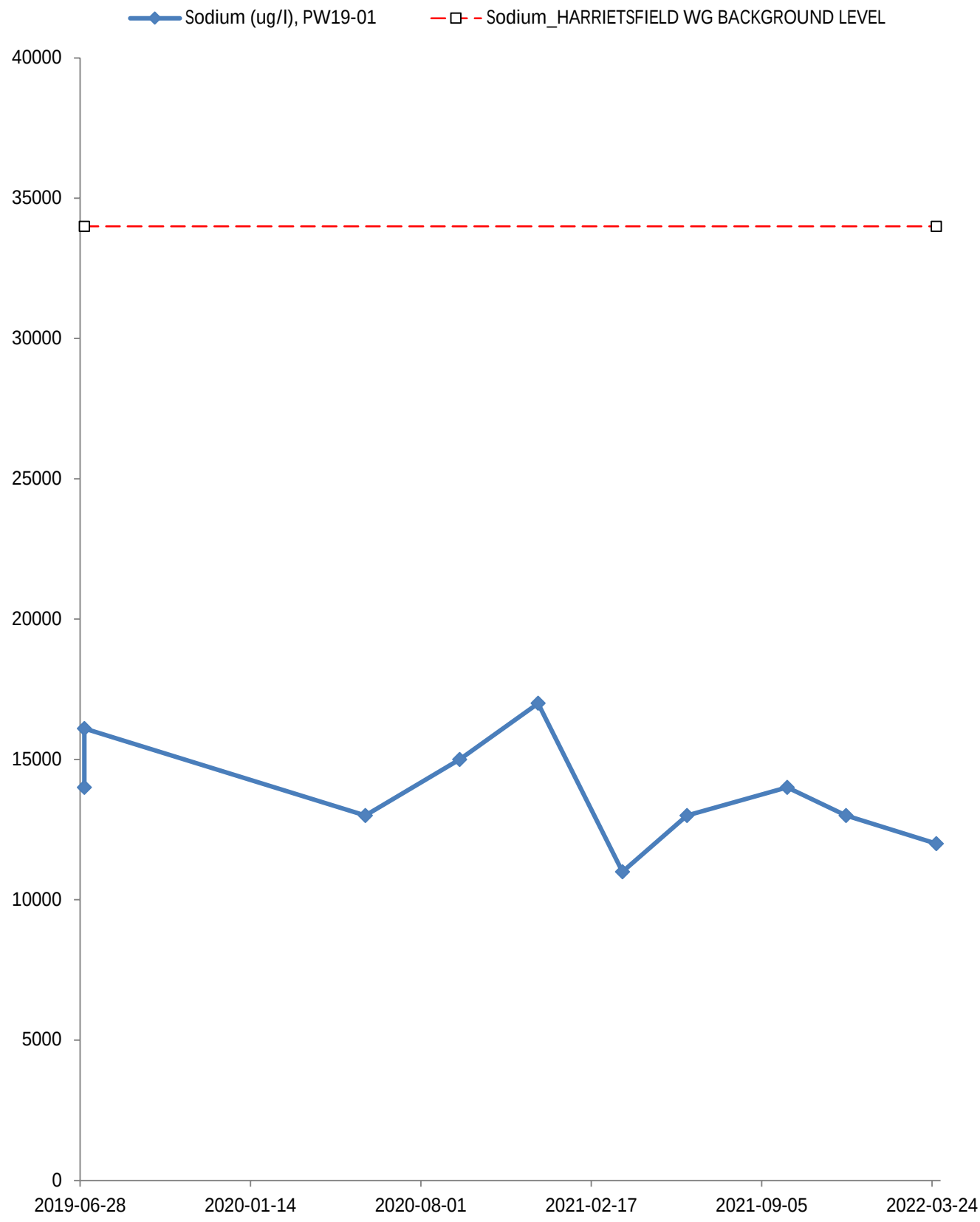
PW19-01-Selenium



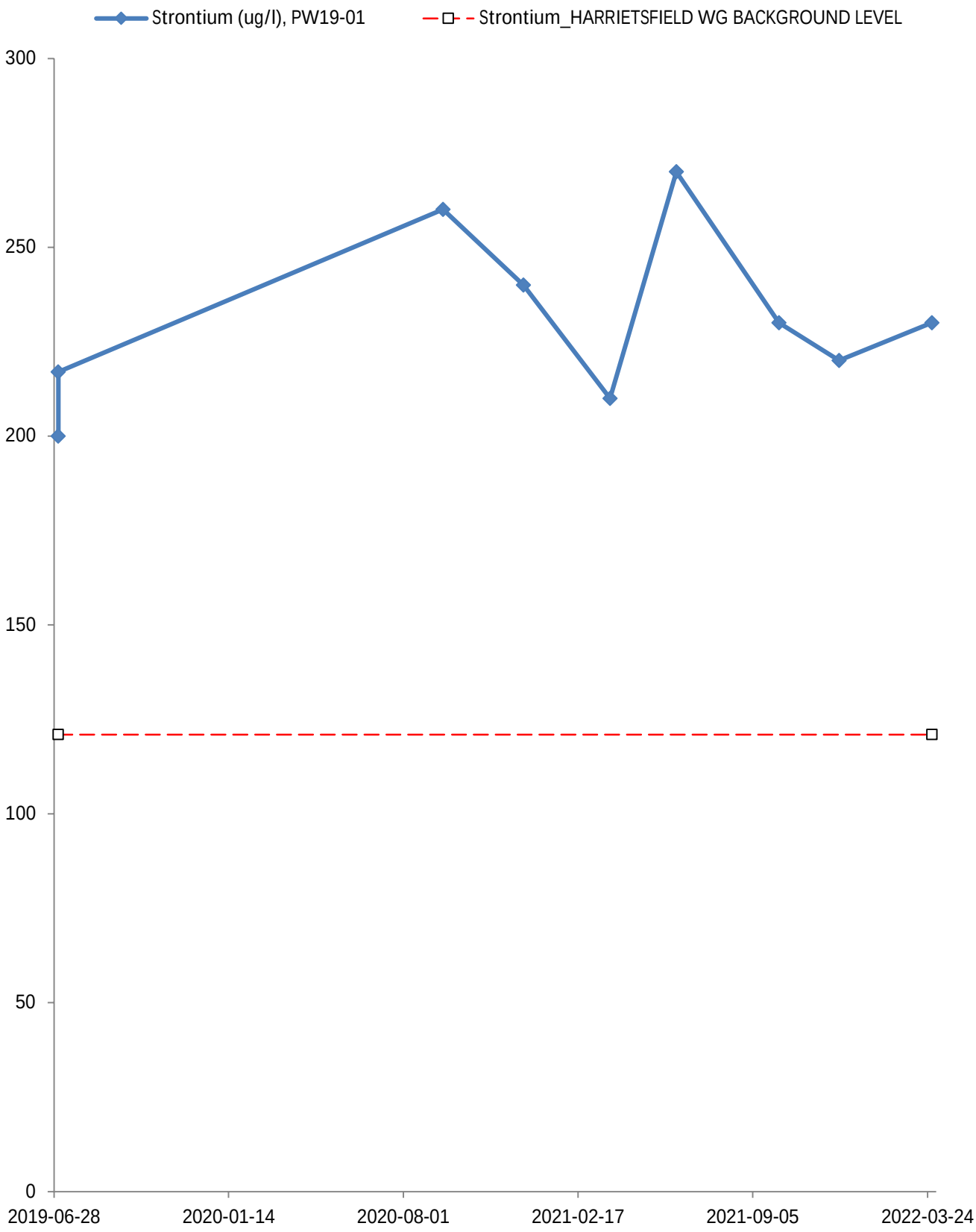
PW19-01-Silver



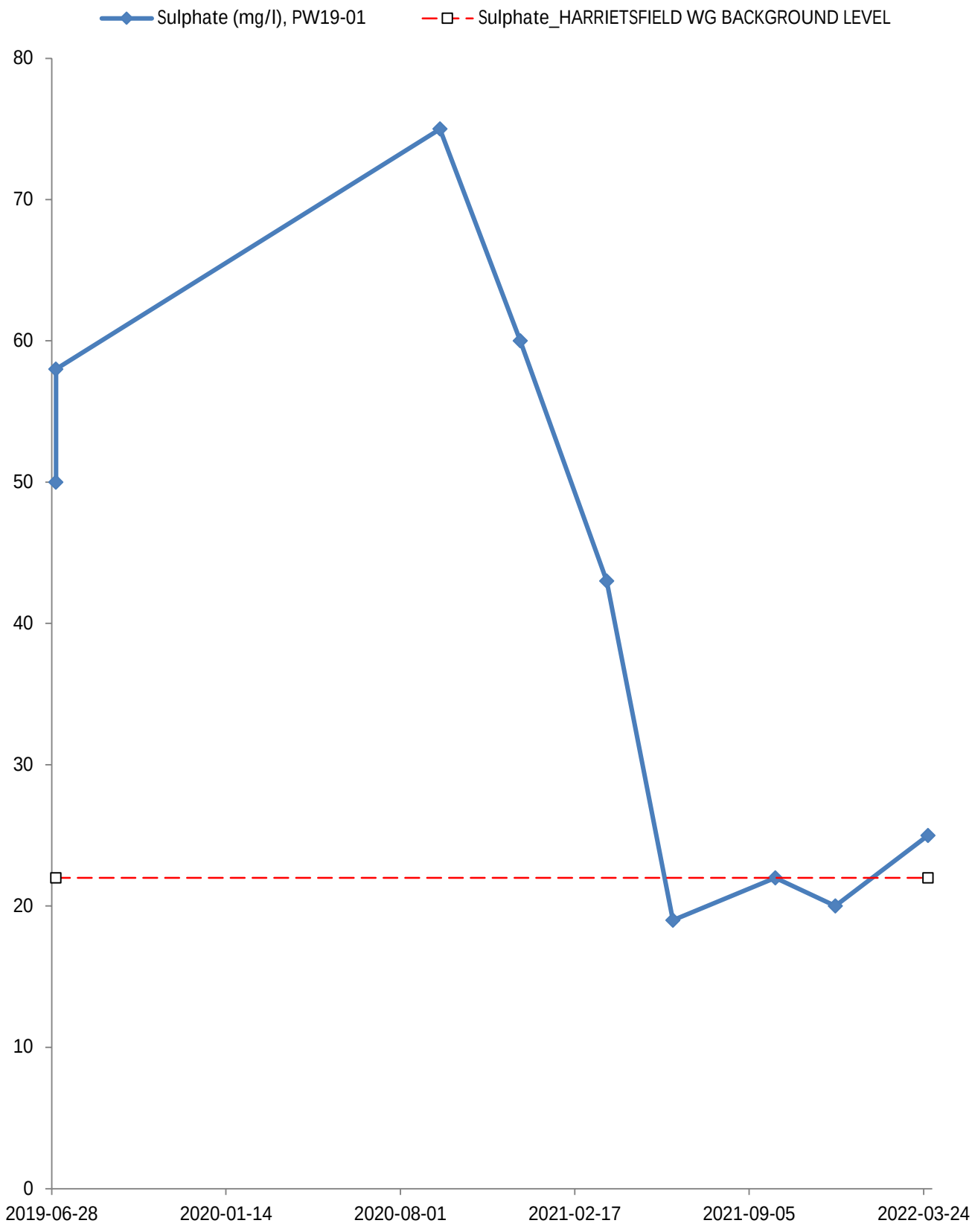
PW19-01-Sodium



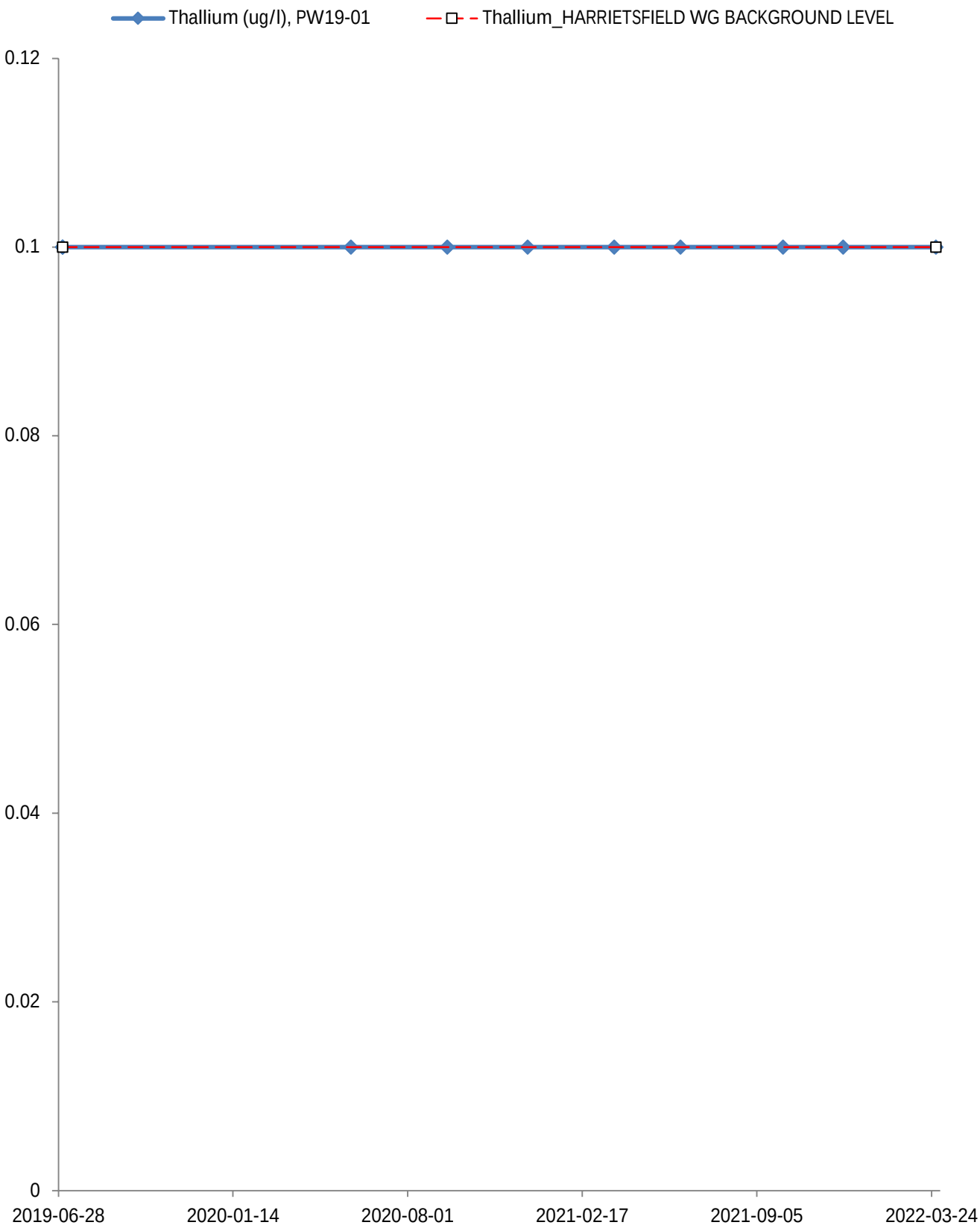
PW19-01-Strontium

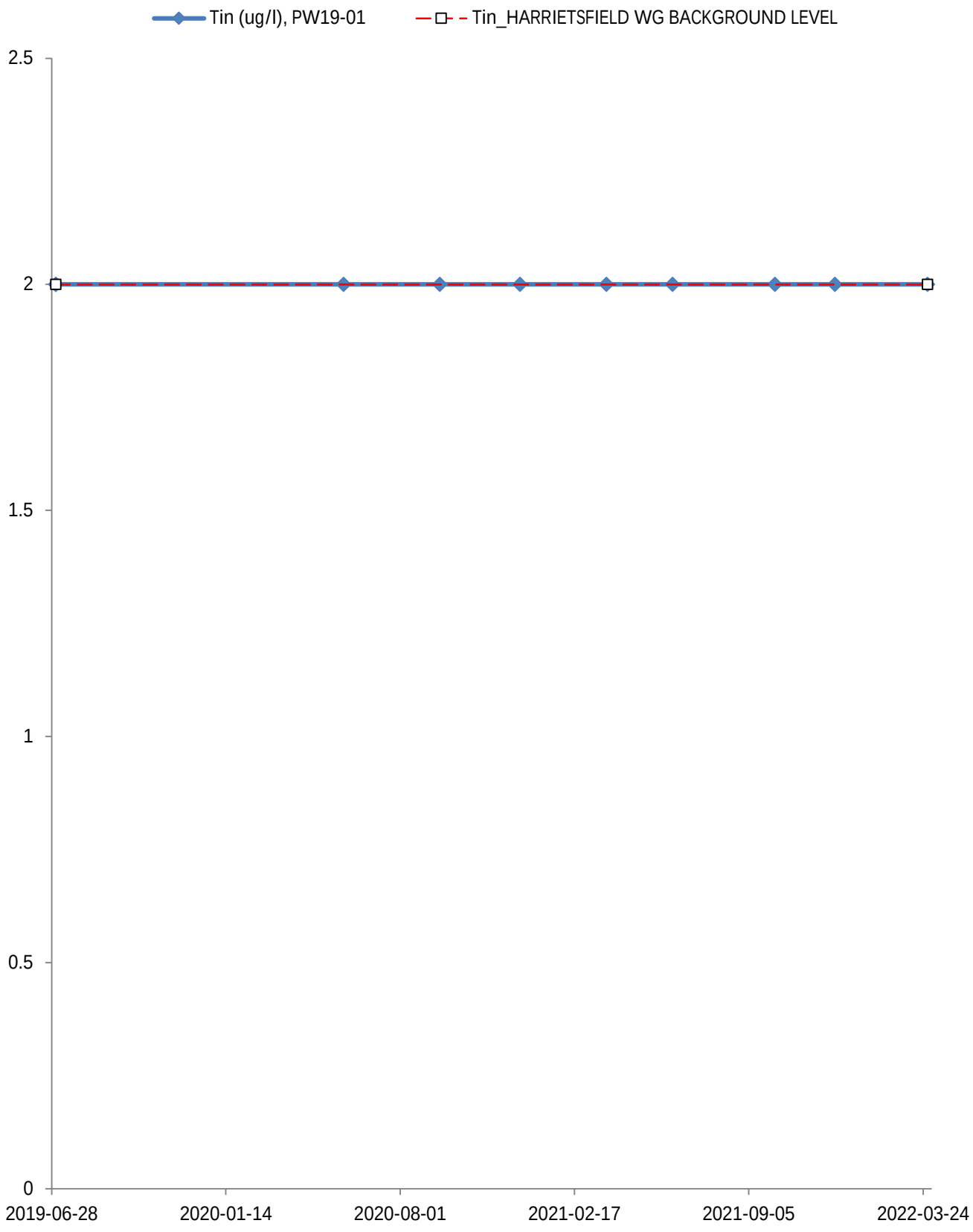


PW19-01-Sulphate

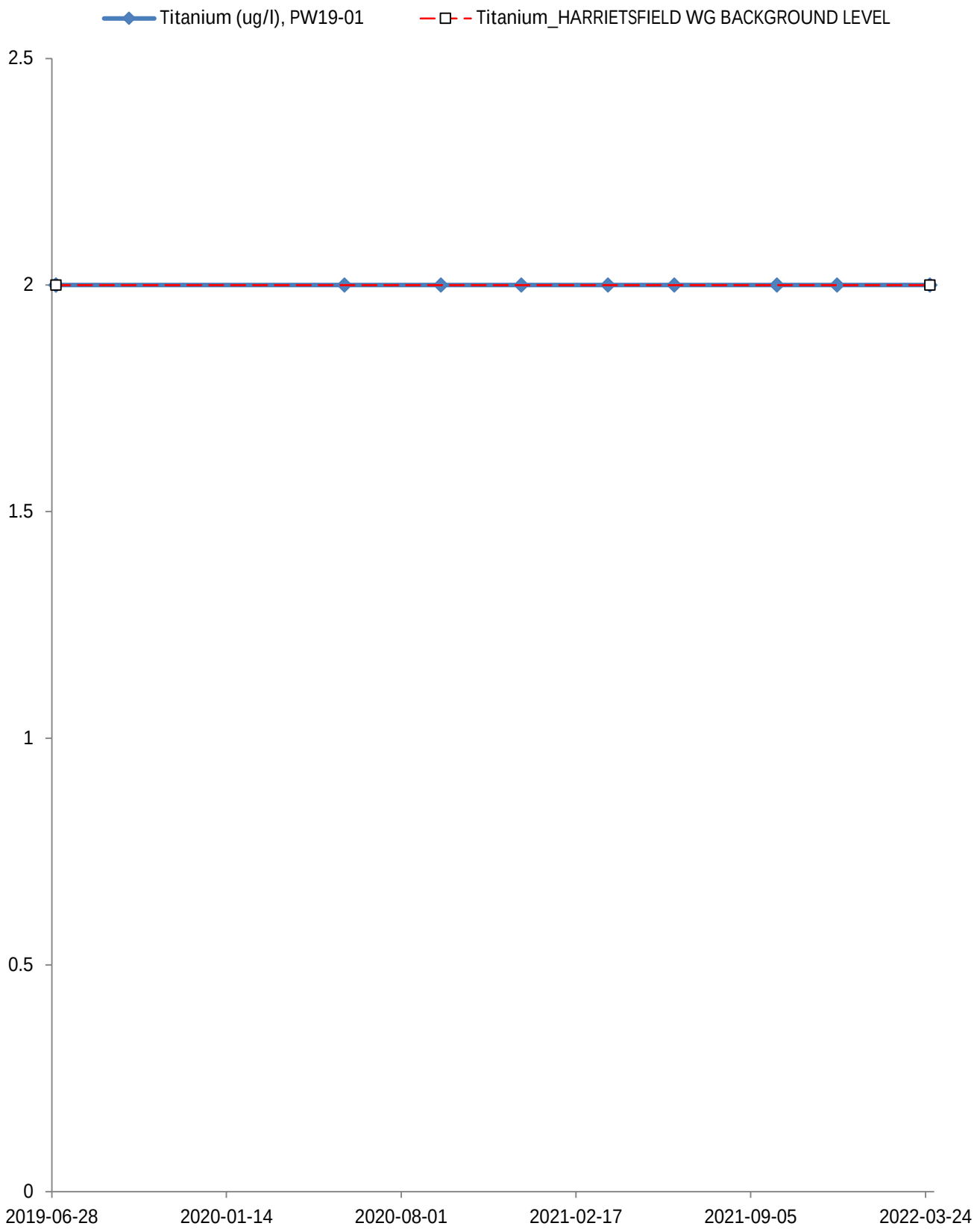


PW19-01-Thallium

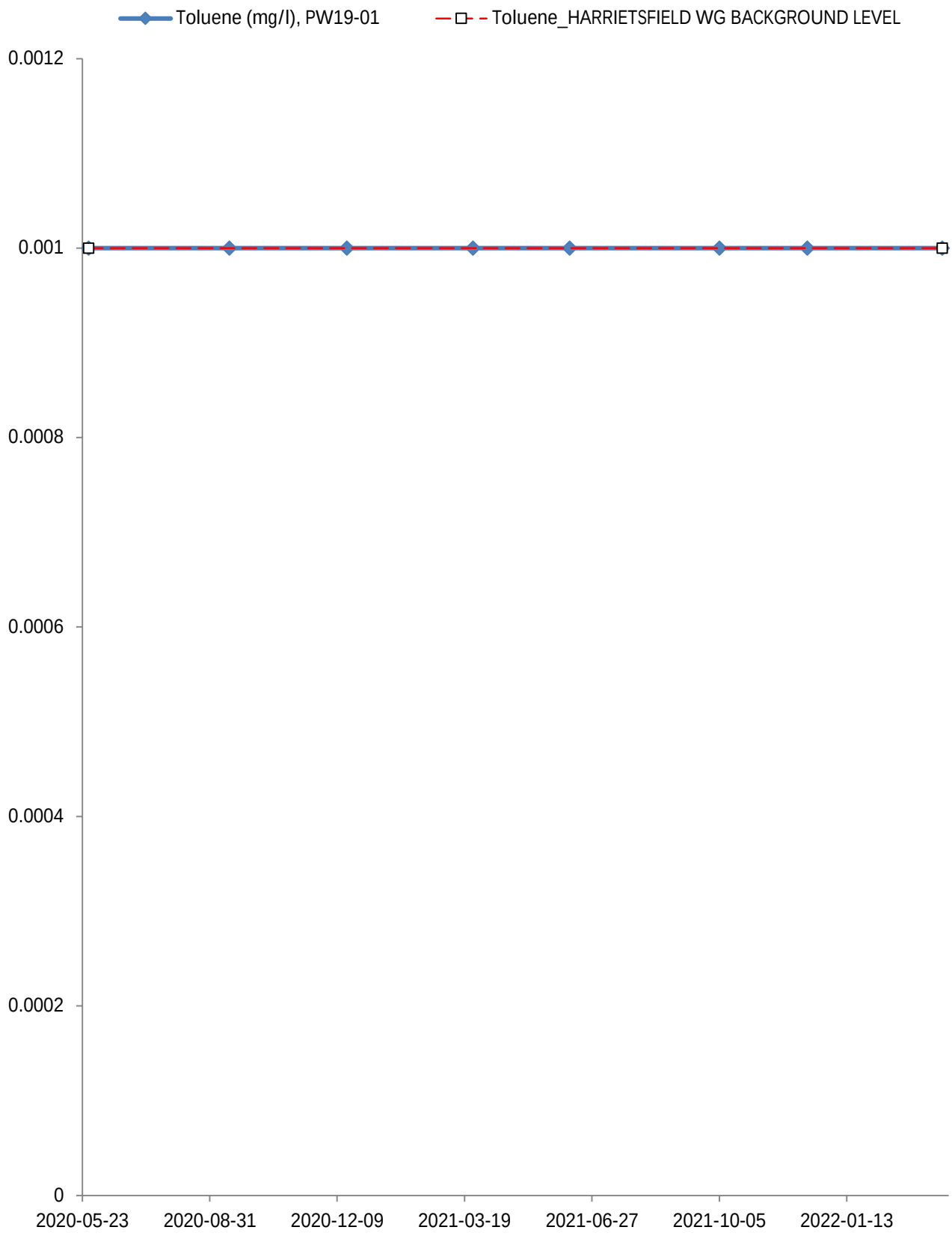



Tin (ug/l), PW19-01
Tin_HARRIETSFIELD WG BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2019-06-28
2020-01-14
2020-08-01
2021-02-17
2021-09-05
2022-03-24

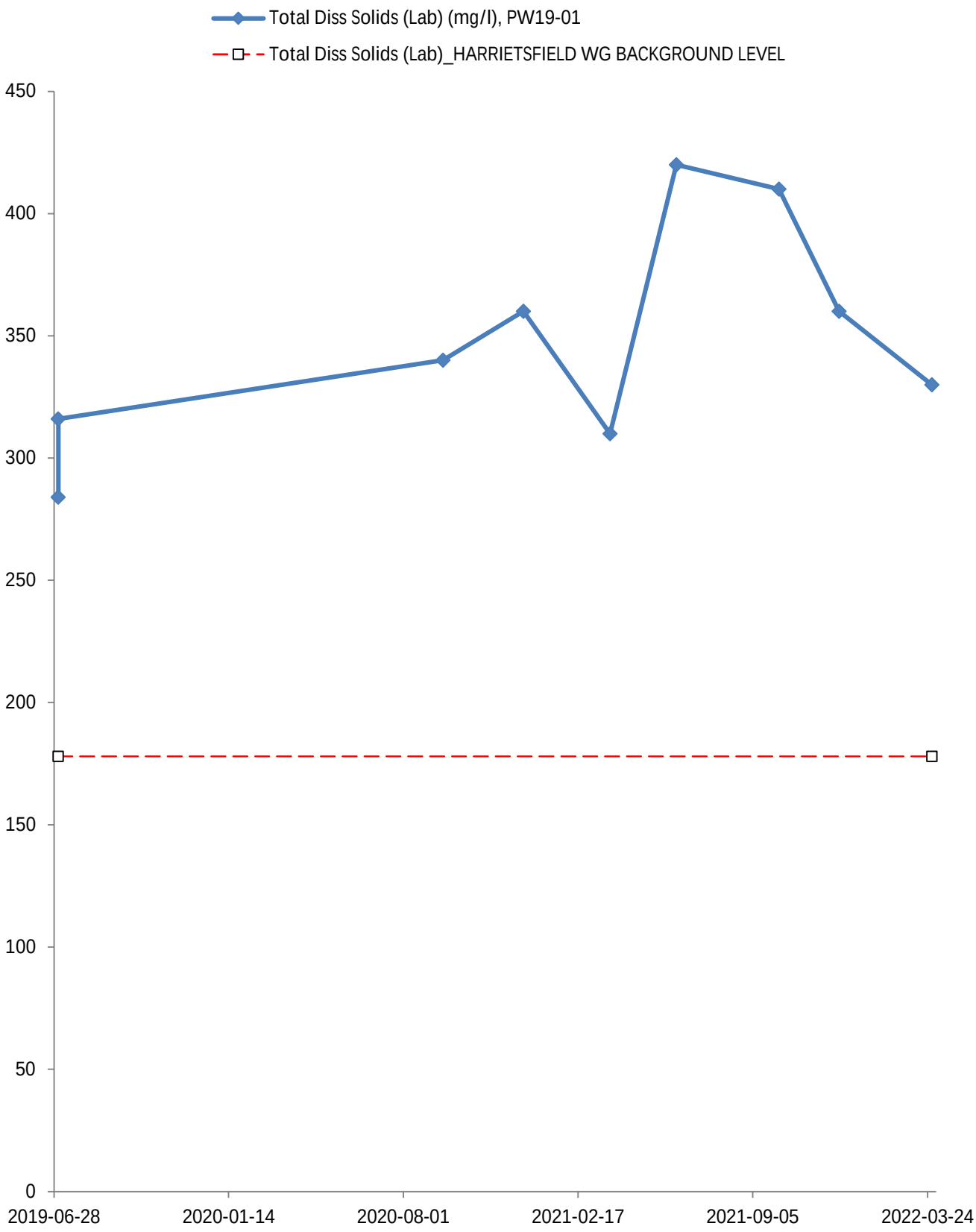
PW19-01-Titanium



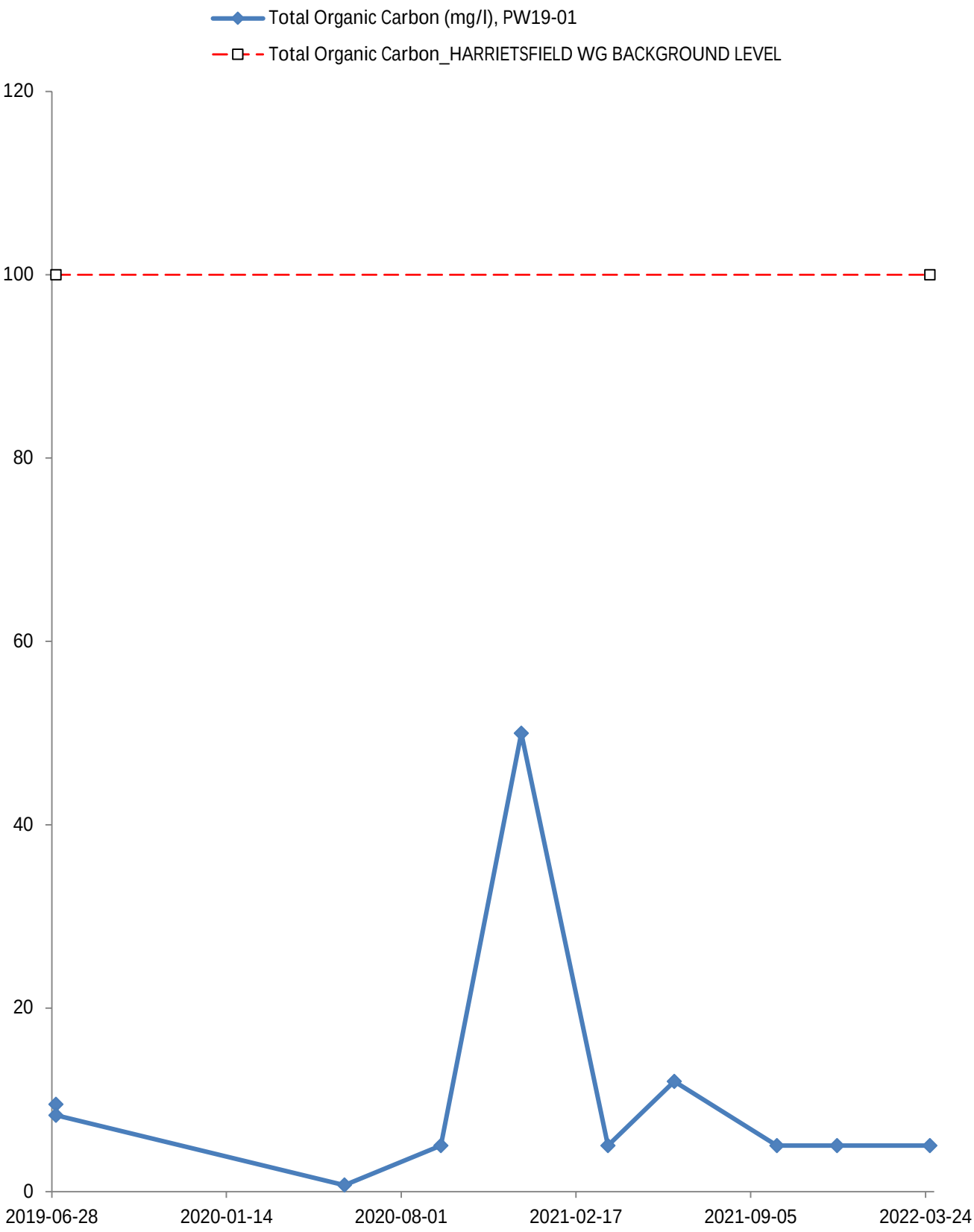
PW19-01-Toluene



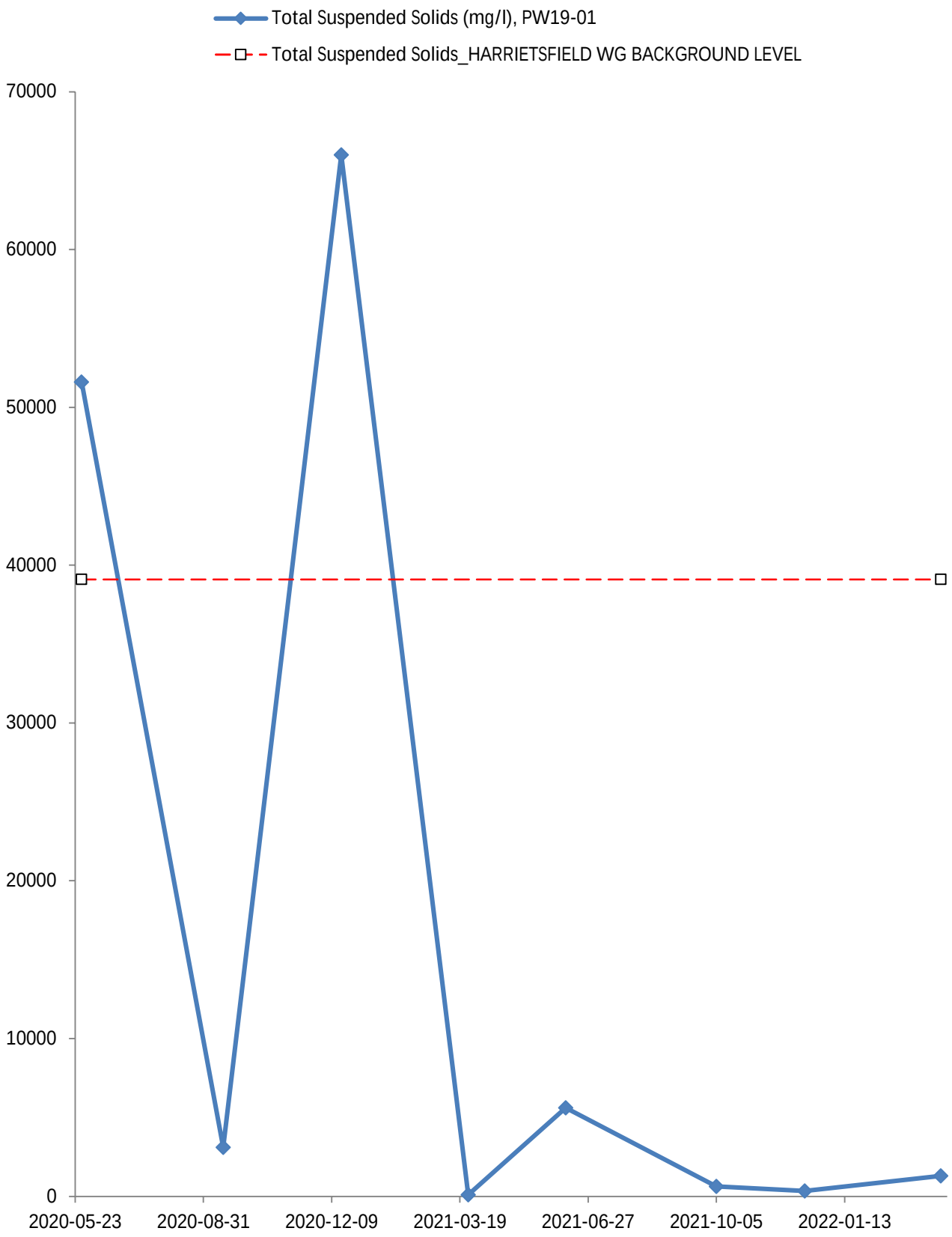
PW19-01-Total Diss Solids (Lab)



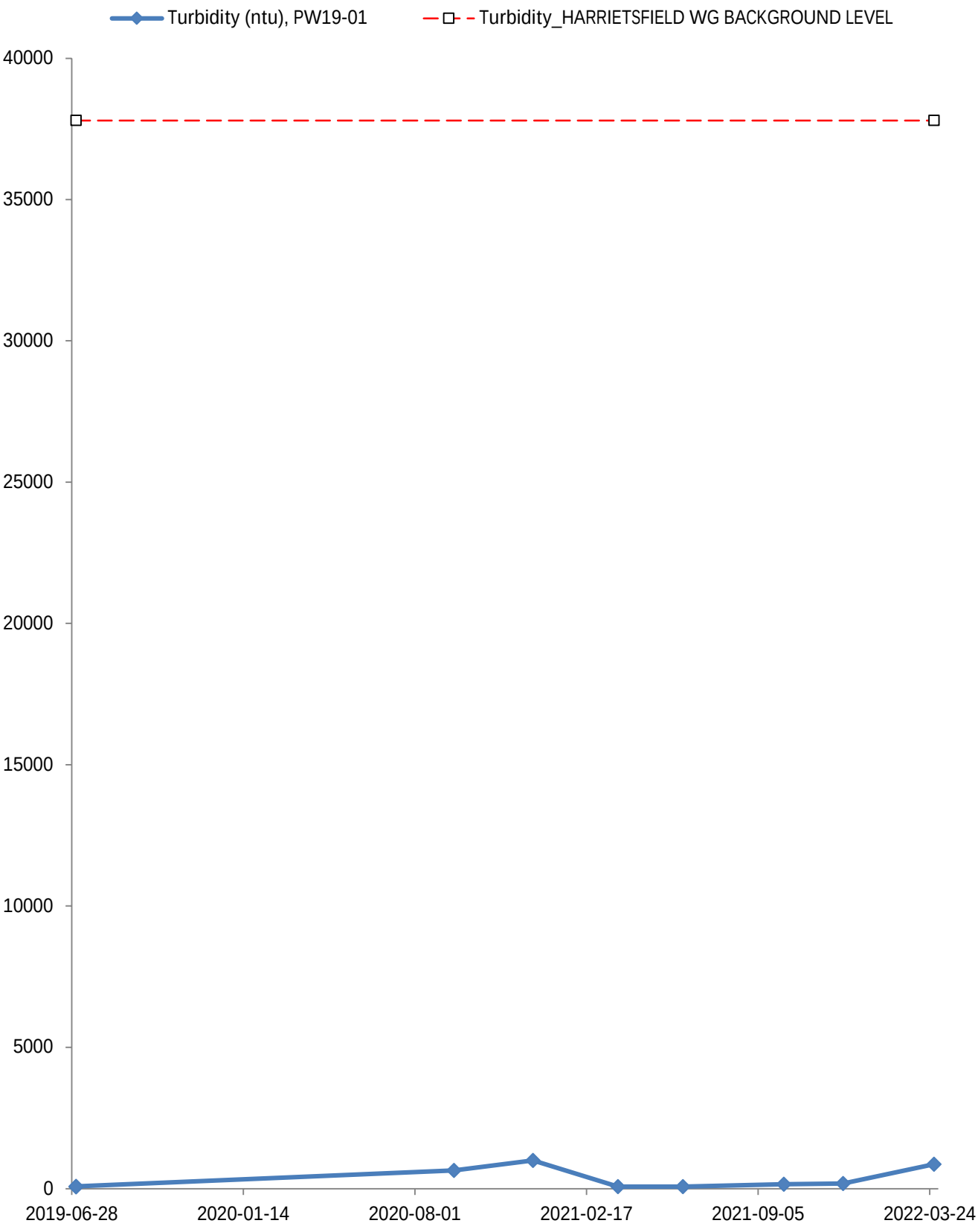
PW19-01-Total Organic Carbon



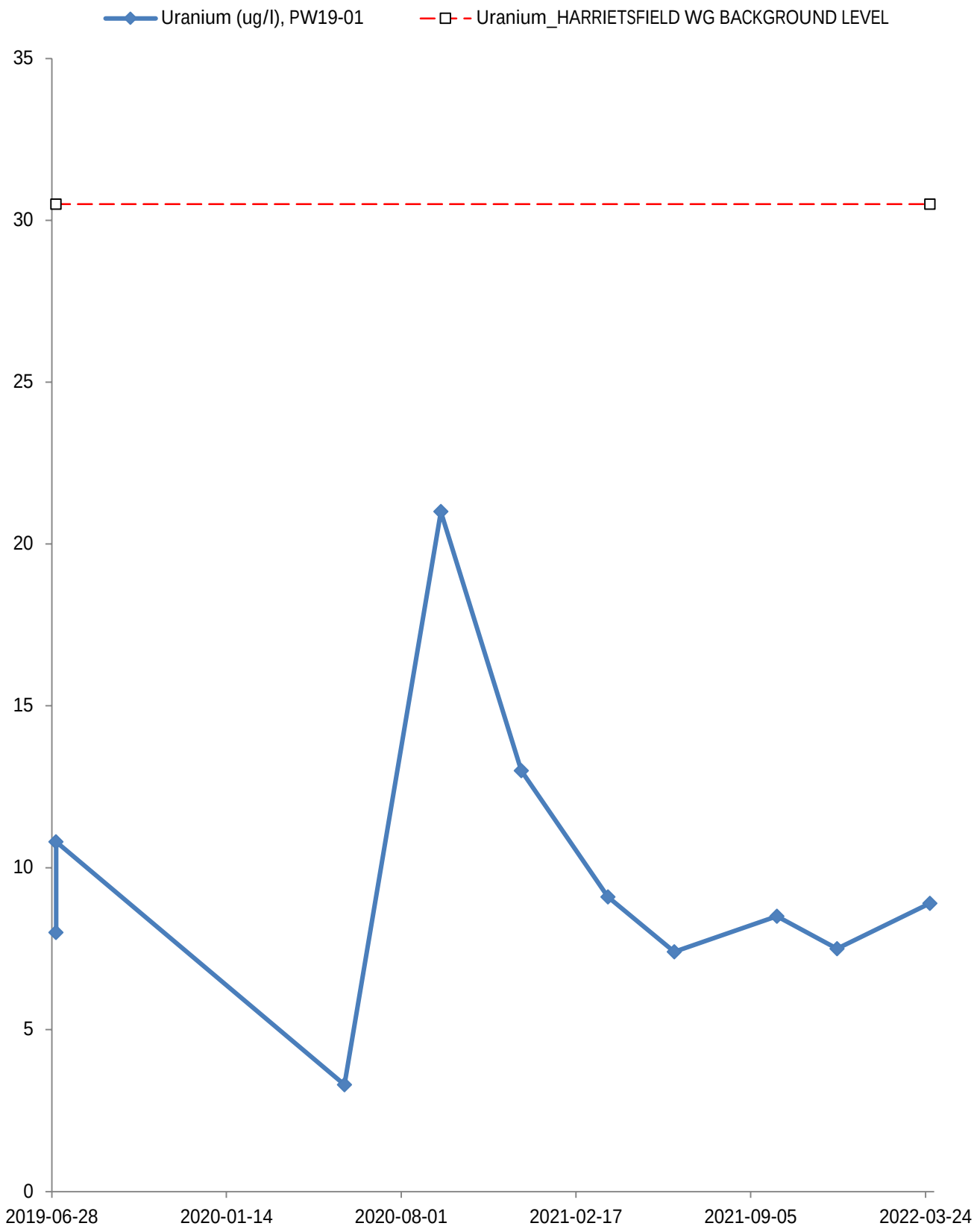
PW19-01-Total Suspended Solids



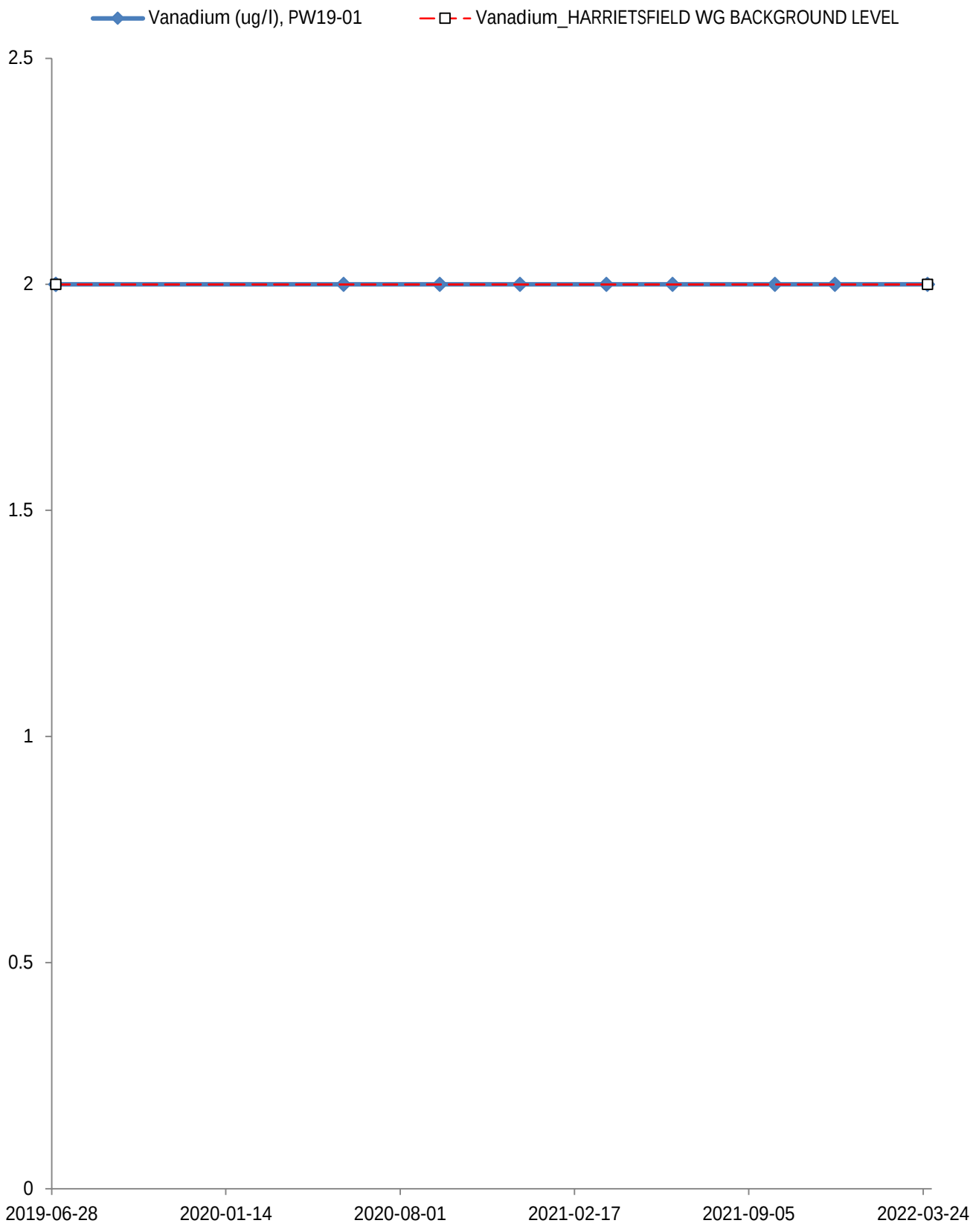
PW19-01-Turbidity



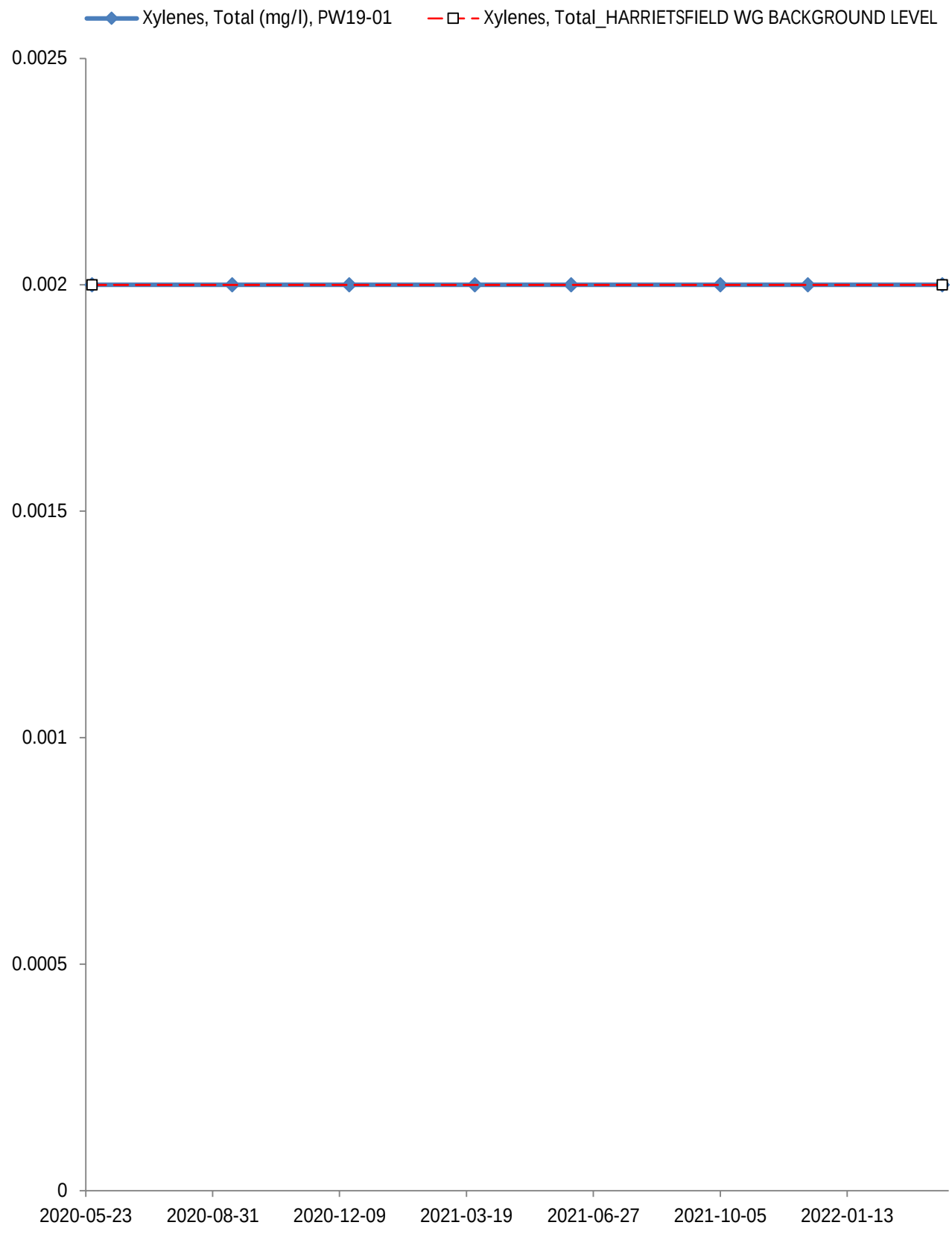
PW19-01-Uranium



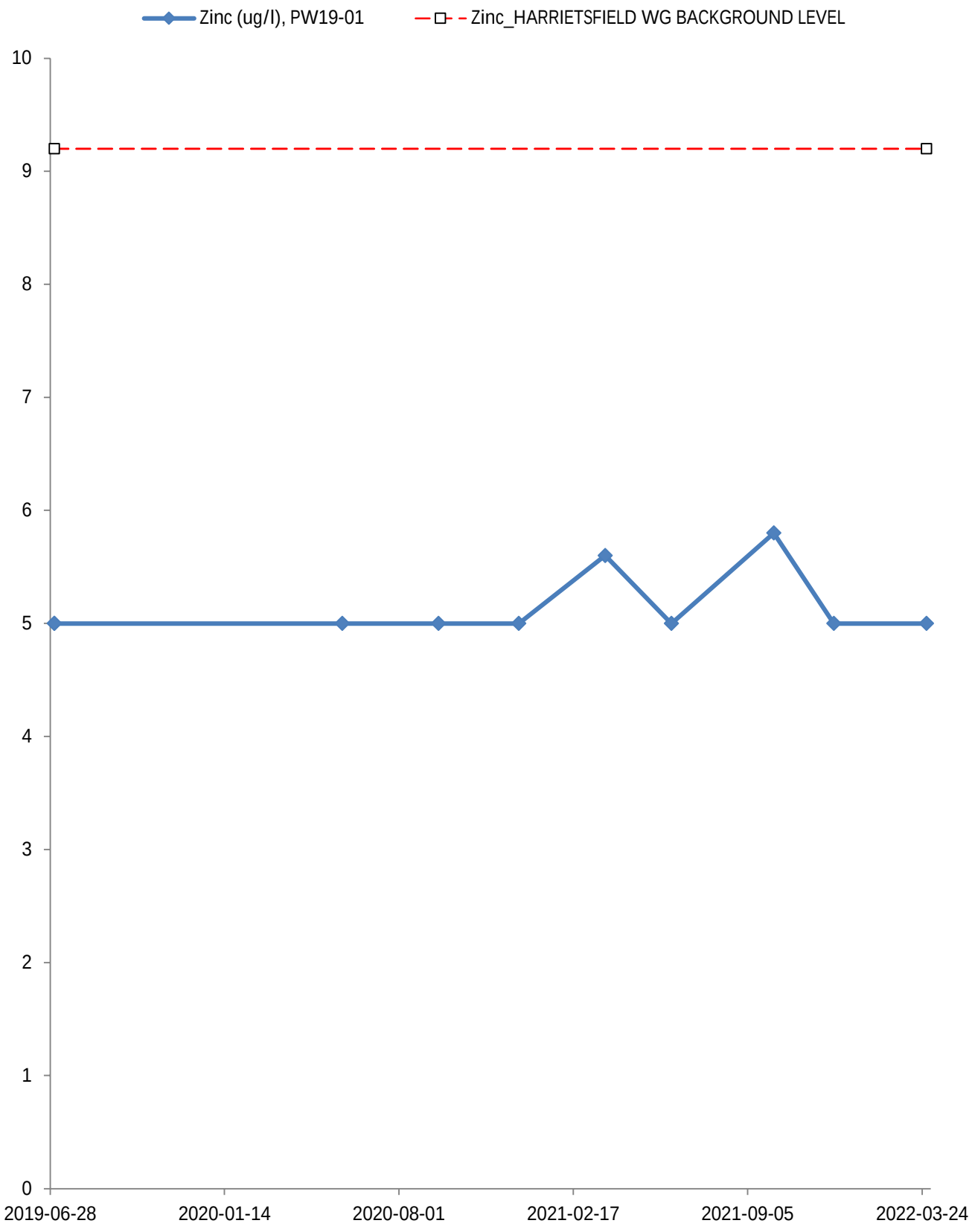
PW19-01-Vanadium



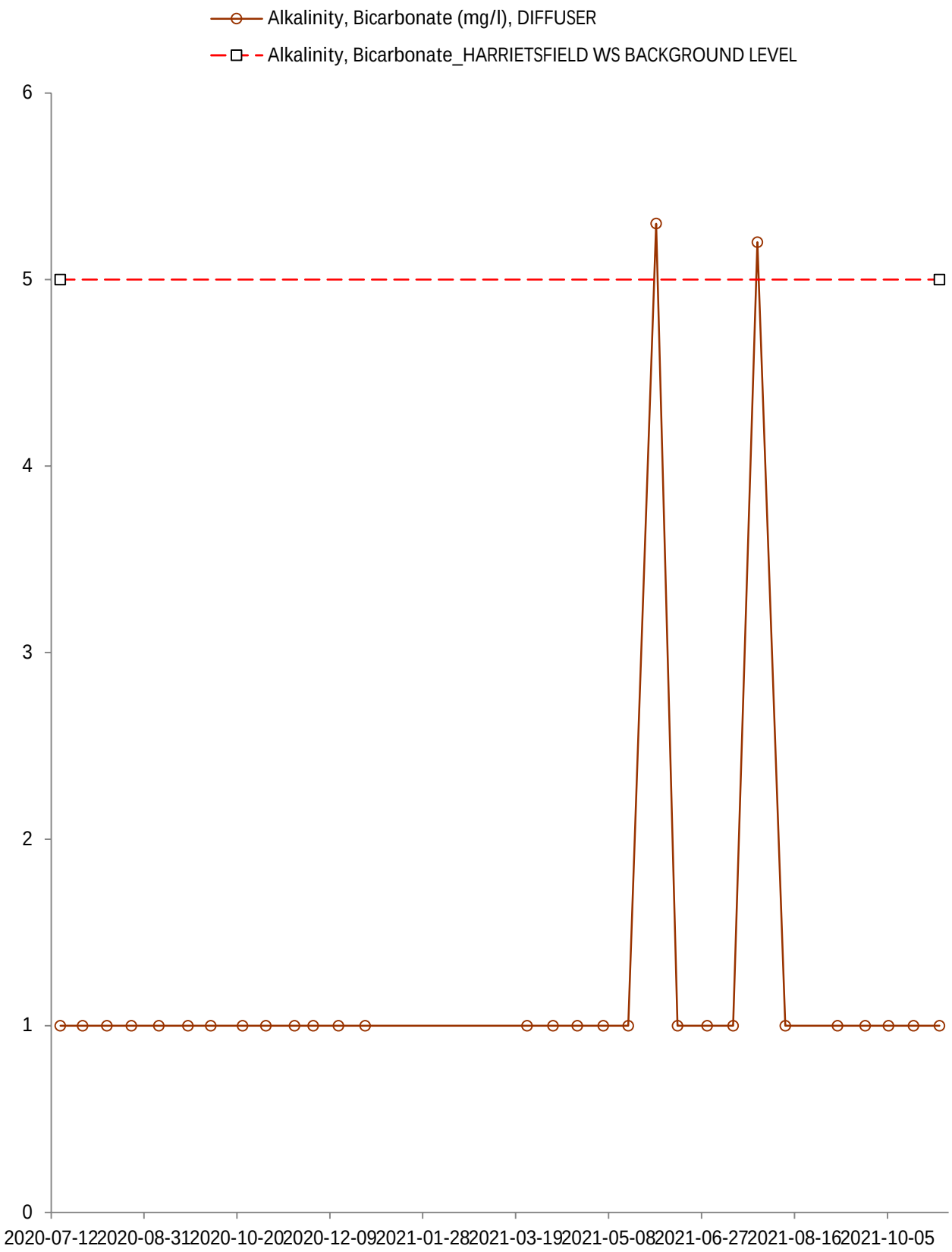
PW19-01-Xylenes, Total



PW19-01-Zinc


Zinc (ug/l), PW19-01
Zinc_HARRIETSFIELD WG BACKGROUND LEVEL
10
9
8
7
6
5
4
3
2
1
0
2019-06-28
2020-01-14
2020-08-01
2021-02-17
2021-09-05
2022-03-24

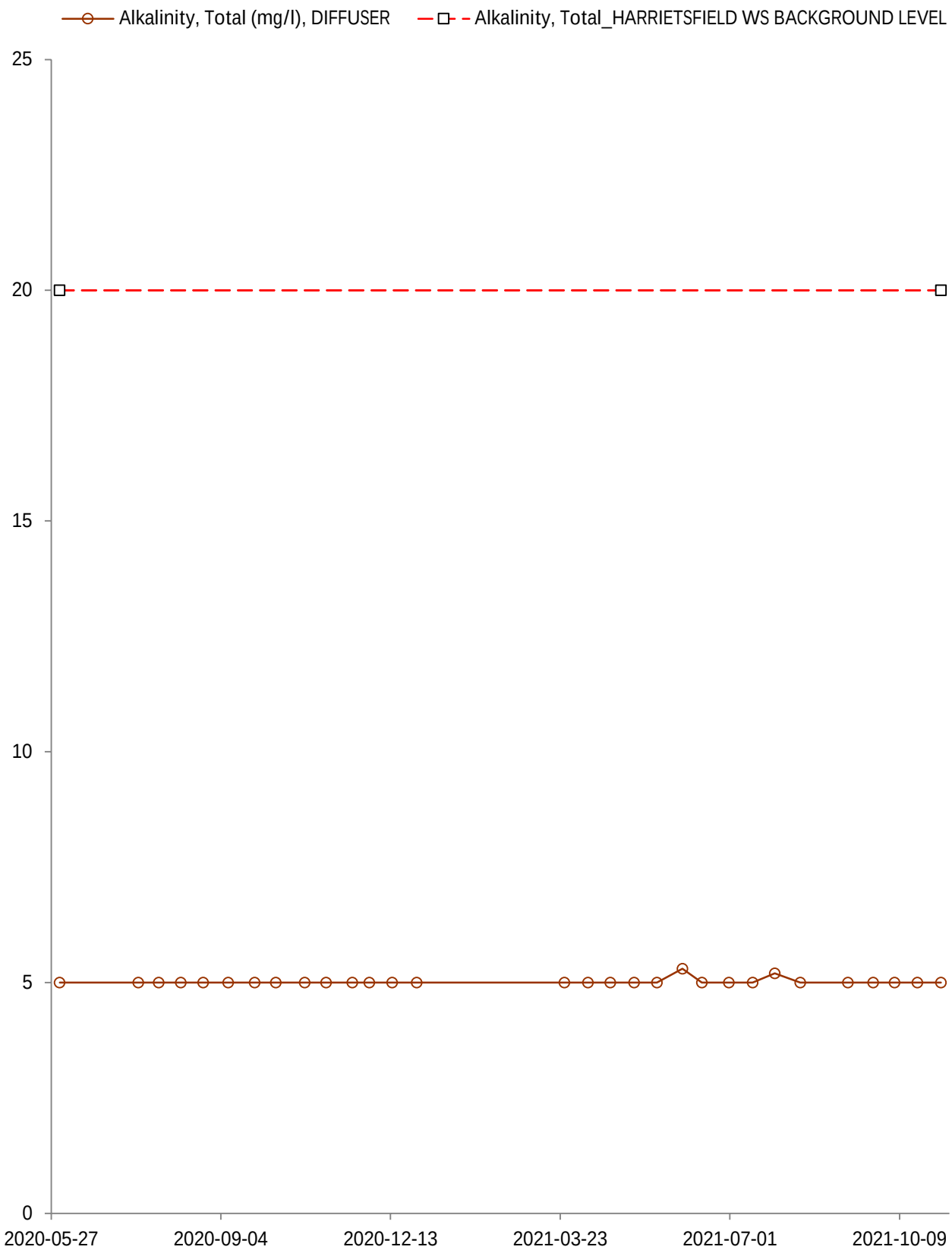
Diffuser-Alkalinity, Bicarbonate



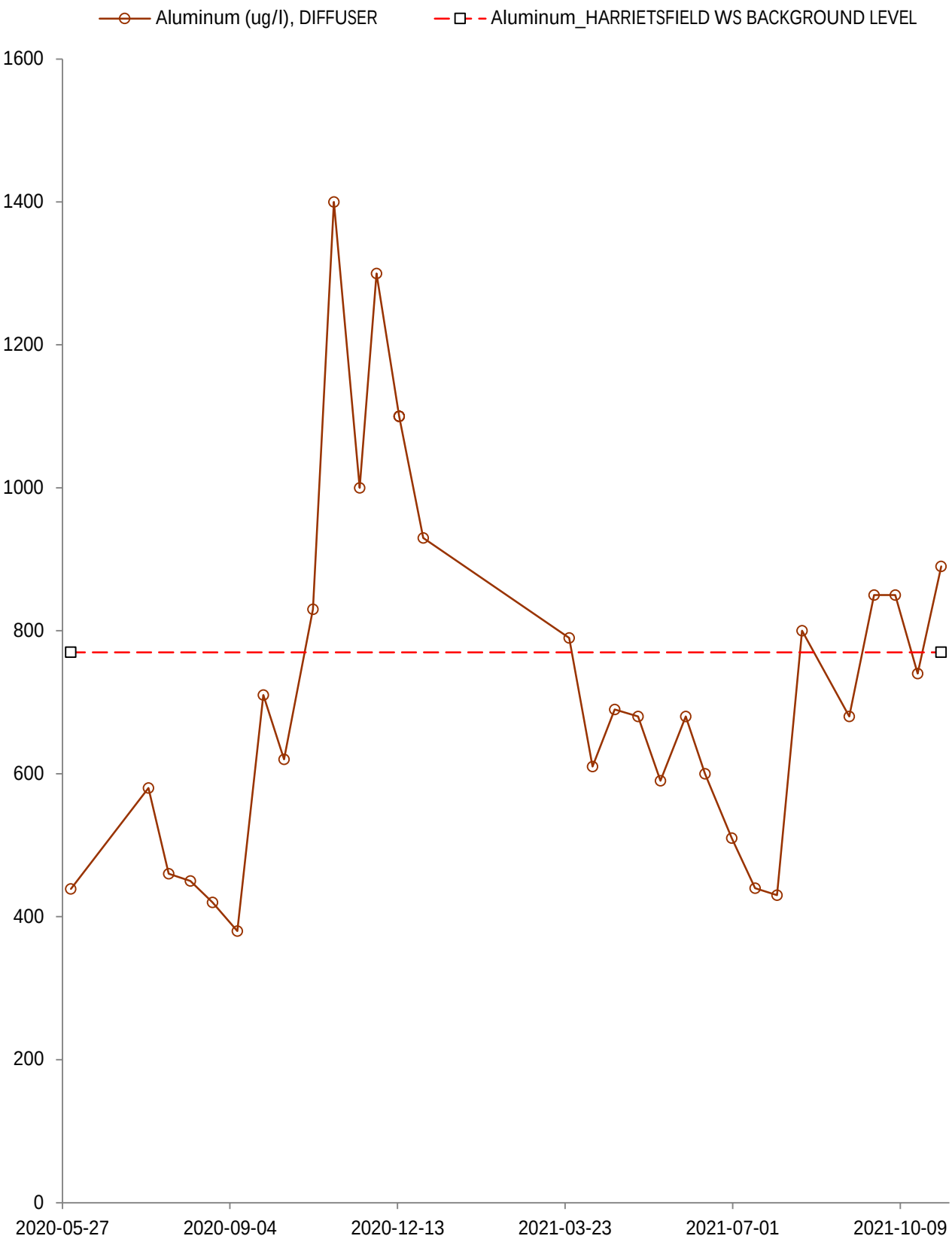
Diffuser-Alkalinity, Carbonate



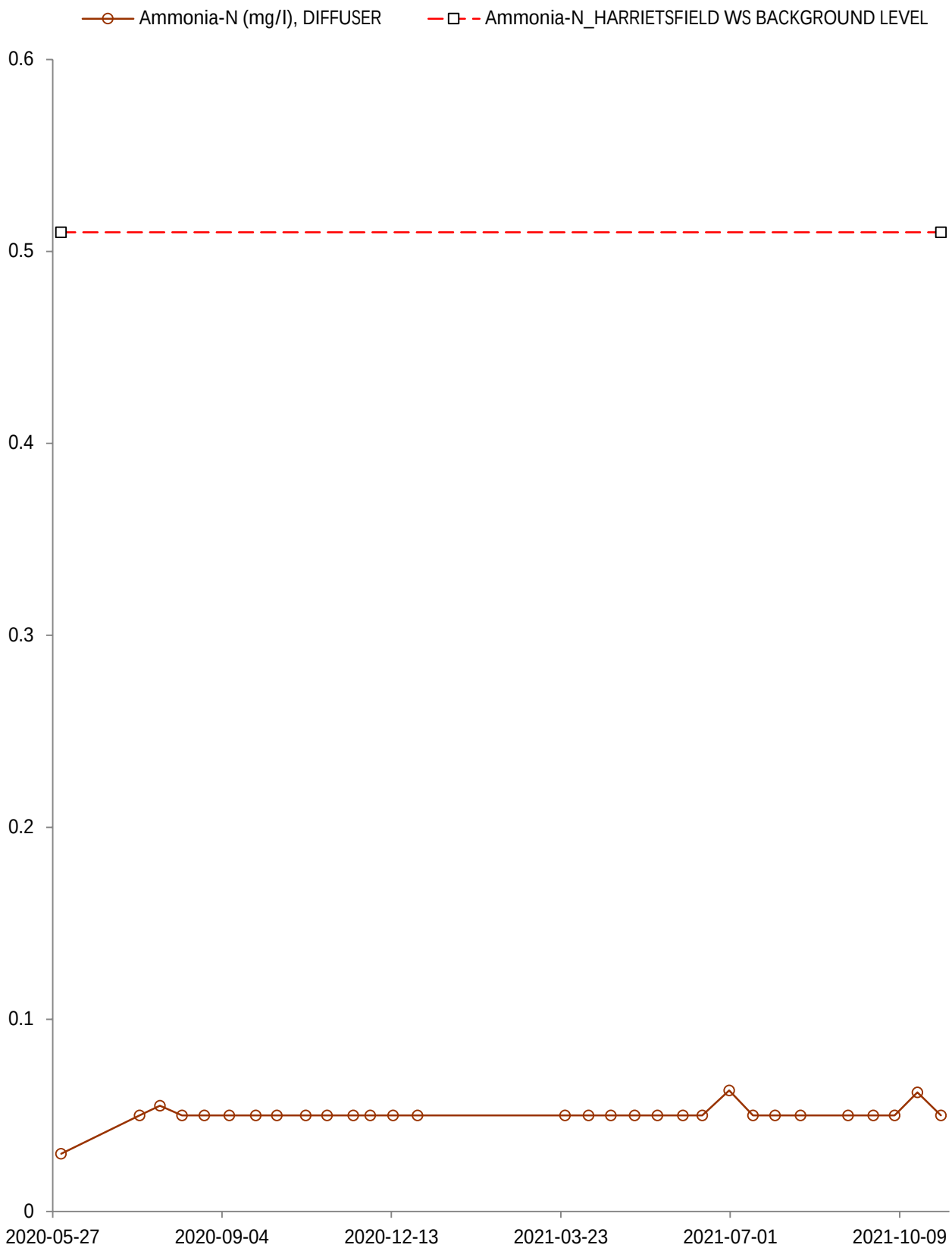
Diffuser-Alkalinity, Total



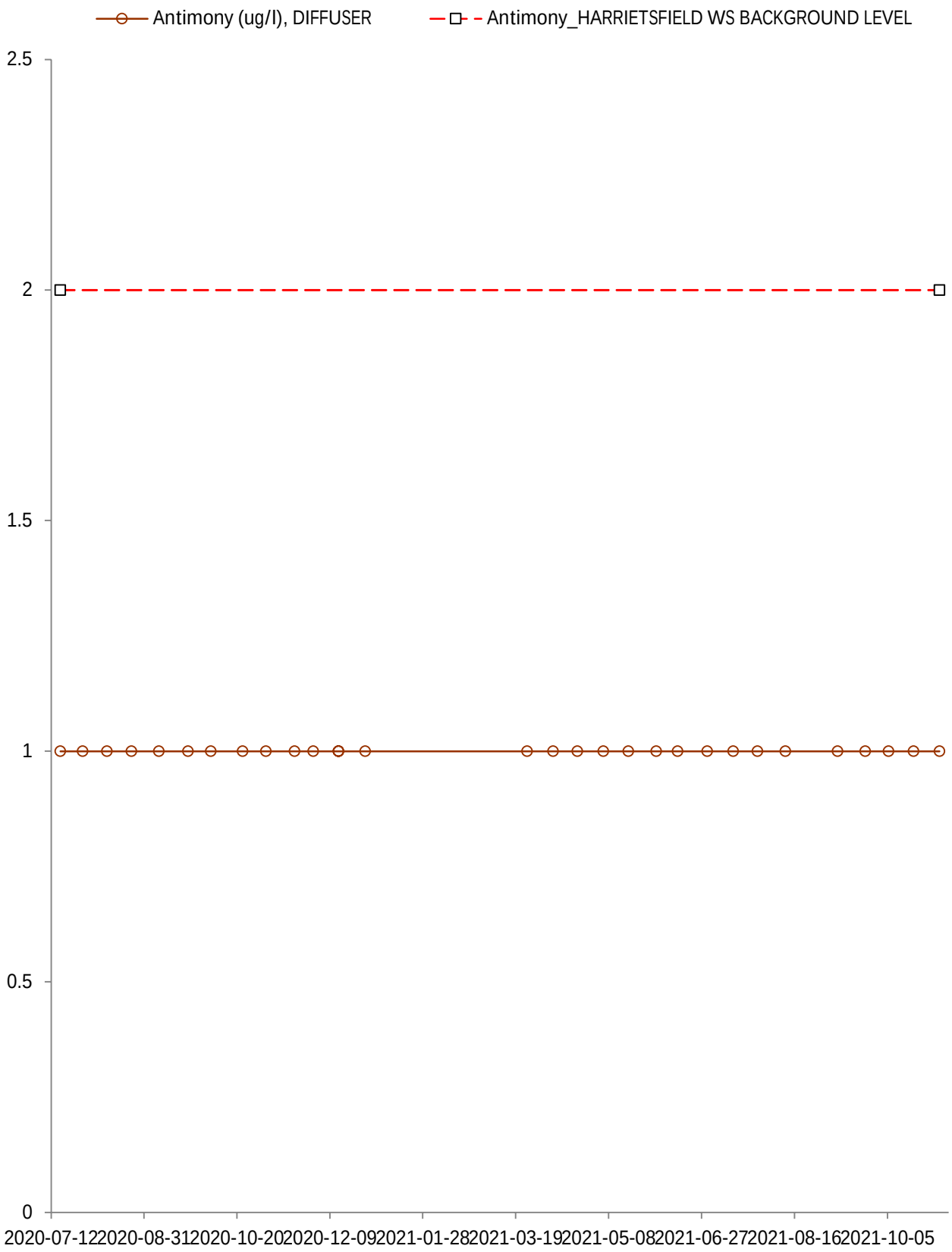
Diffuser-Aluminum



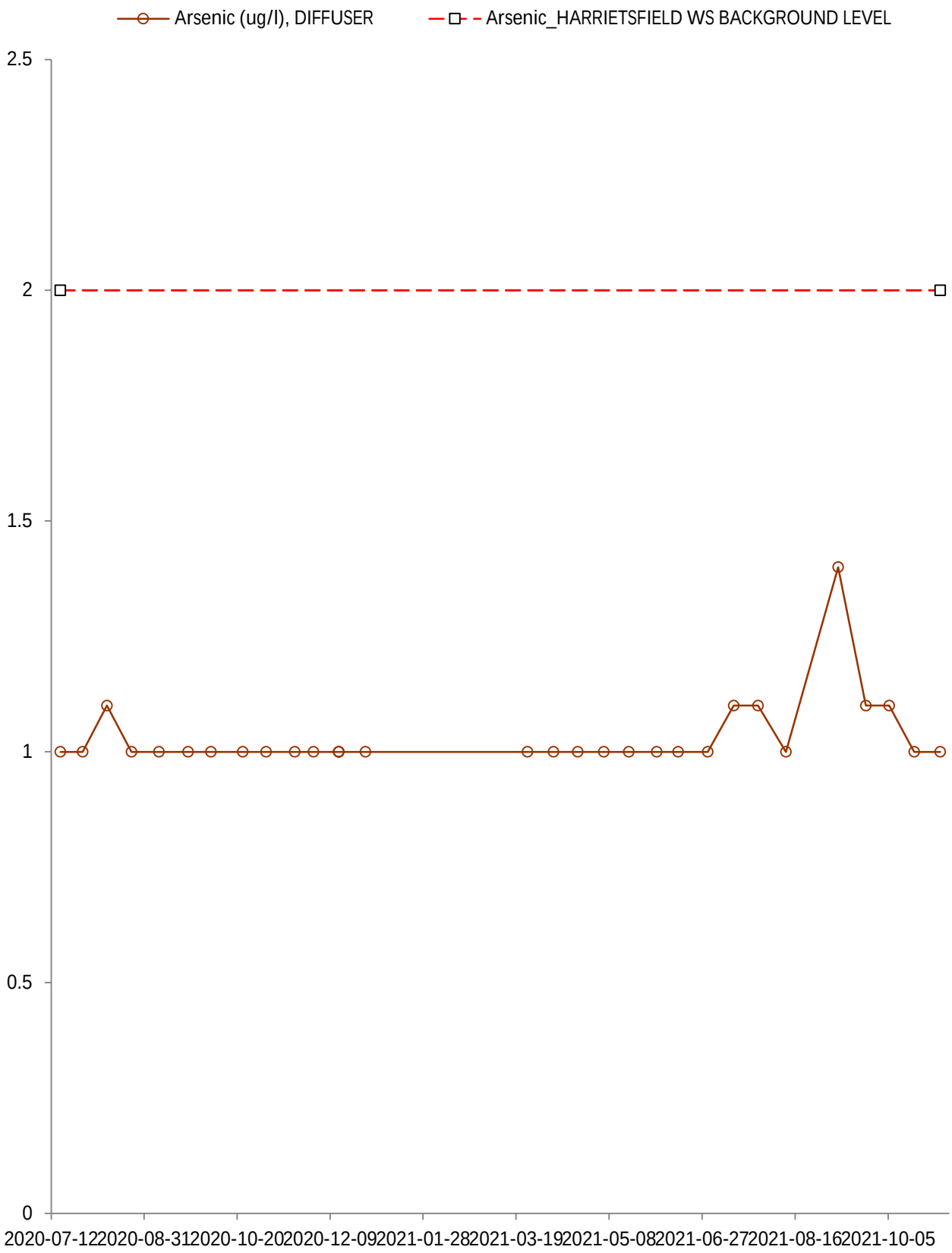
Diffuser-Ammonia-N



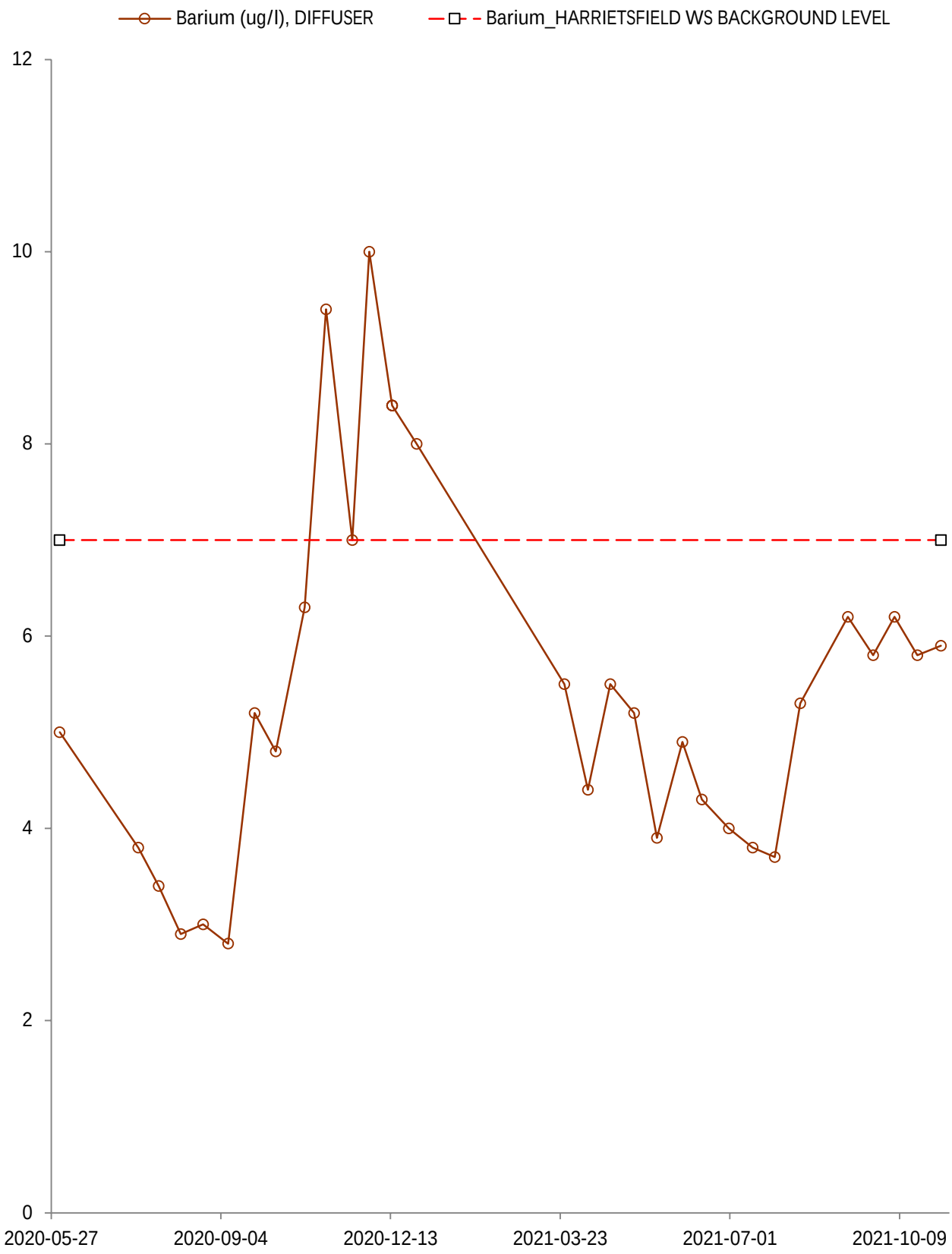
Diffuser-Antimony



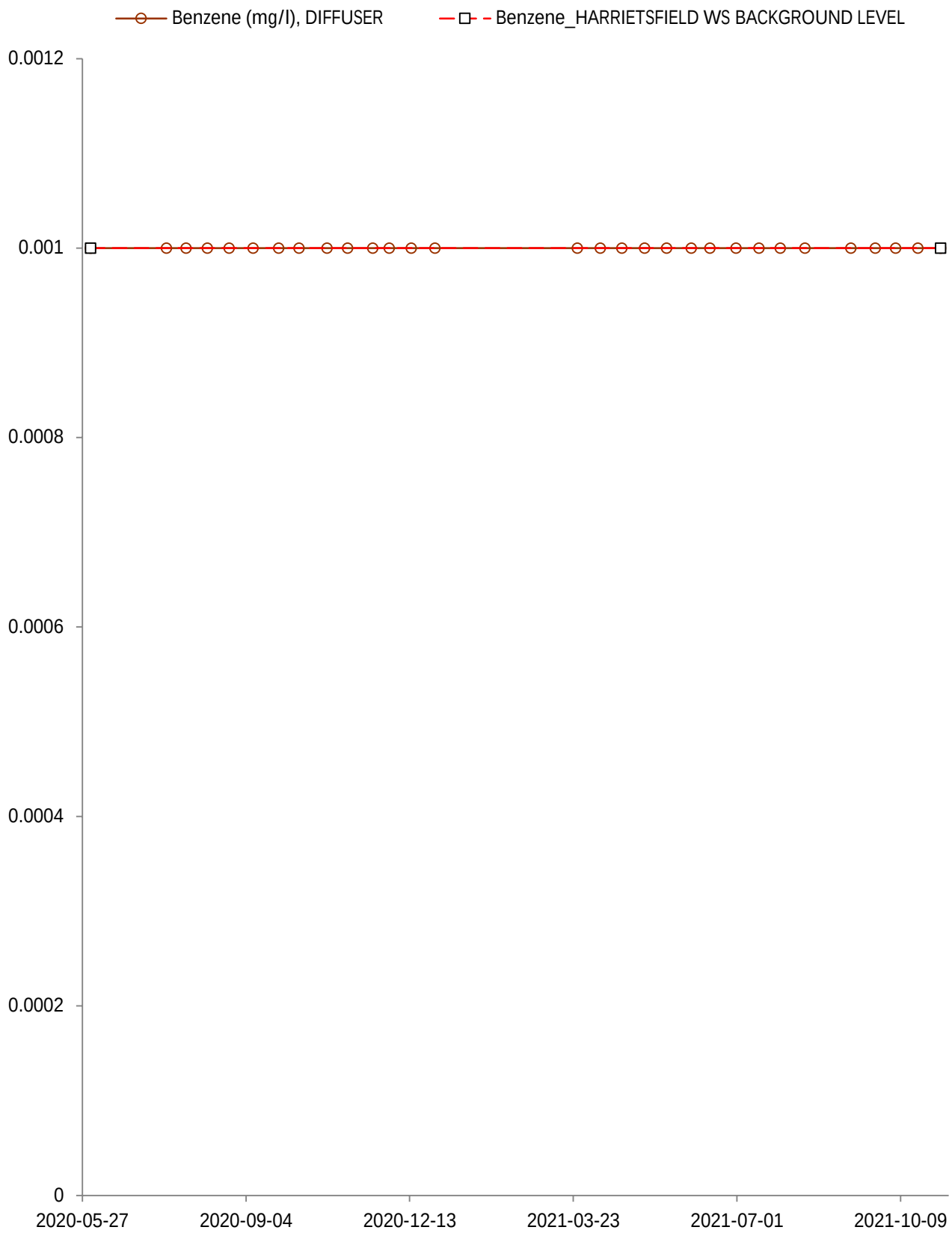
Diffuser-Arsenic



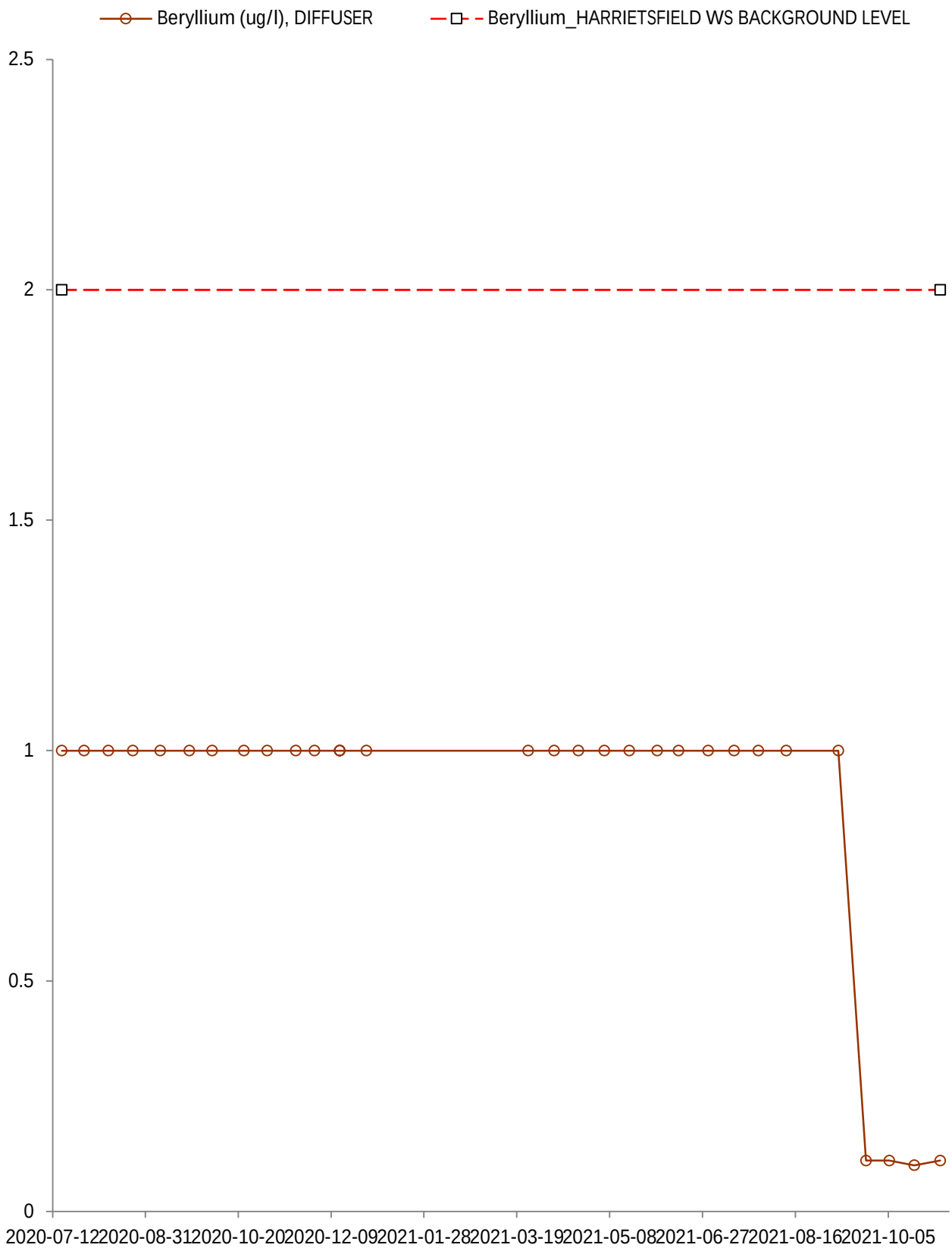
Diffuser-Barium



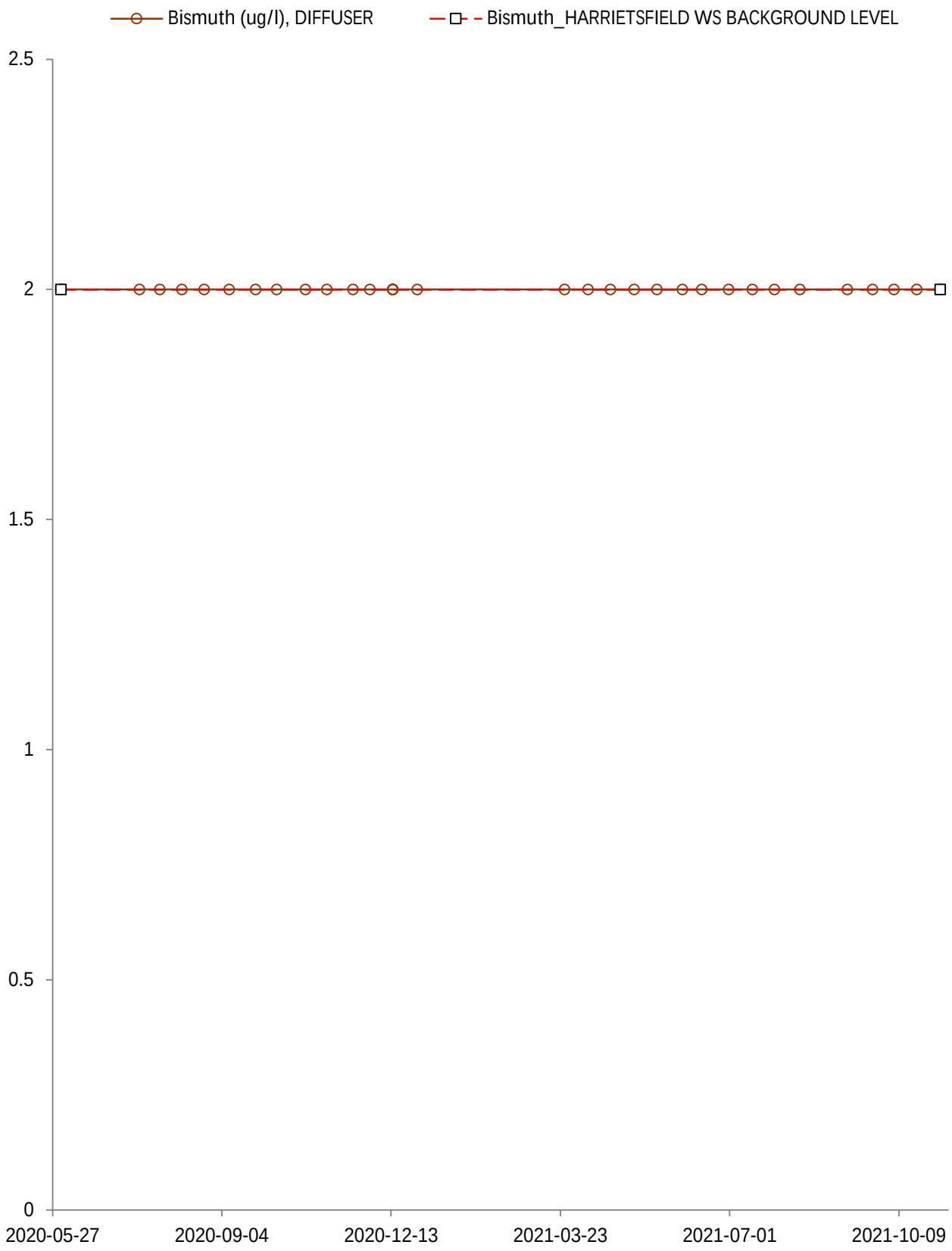
Diffuser-Benzene



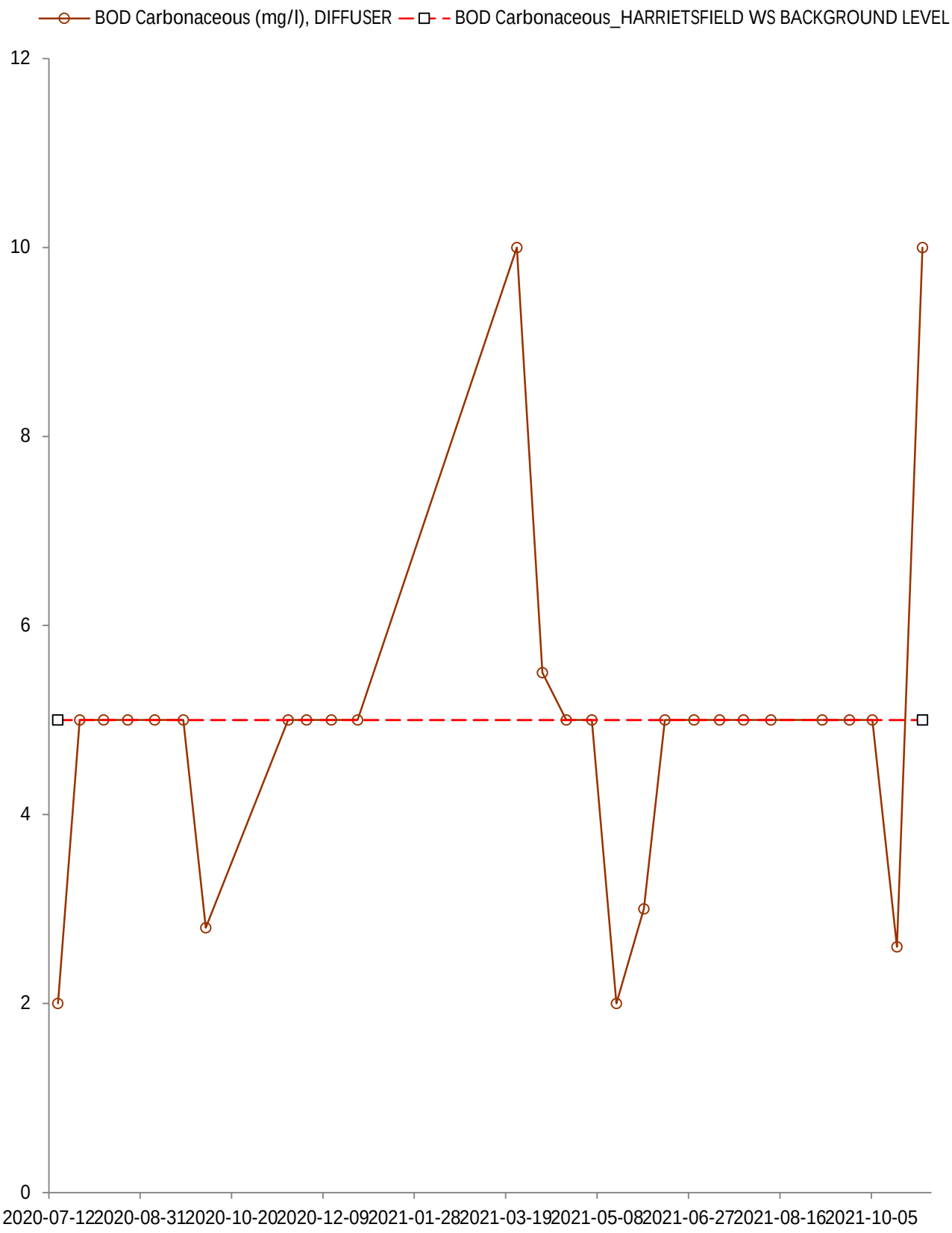
Diffuser-Beryllium



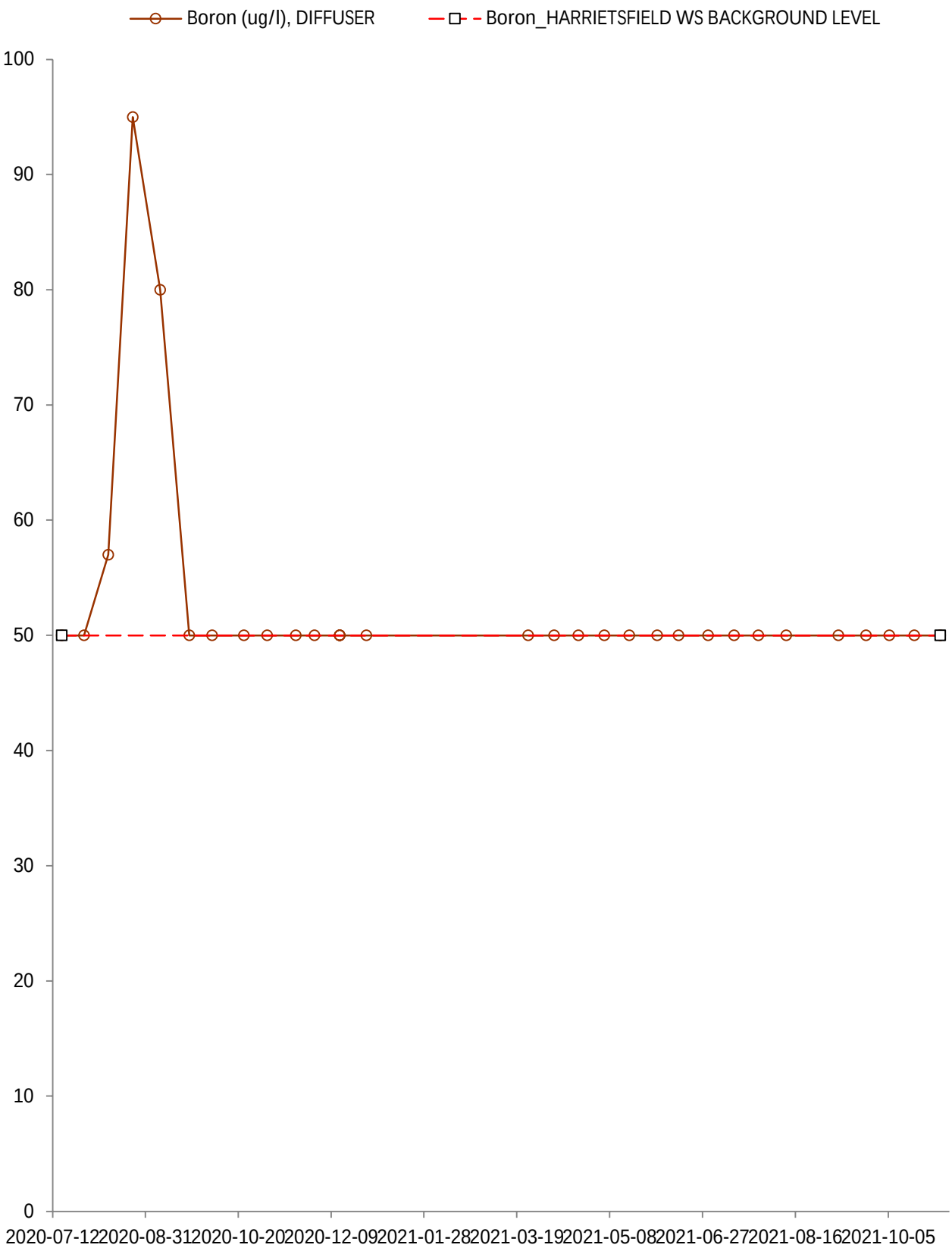
Diffuser-Bismuth



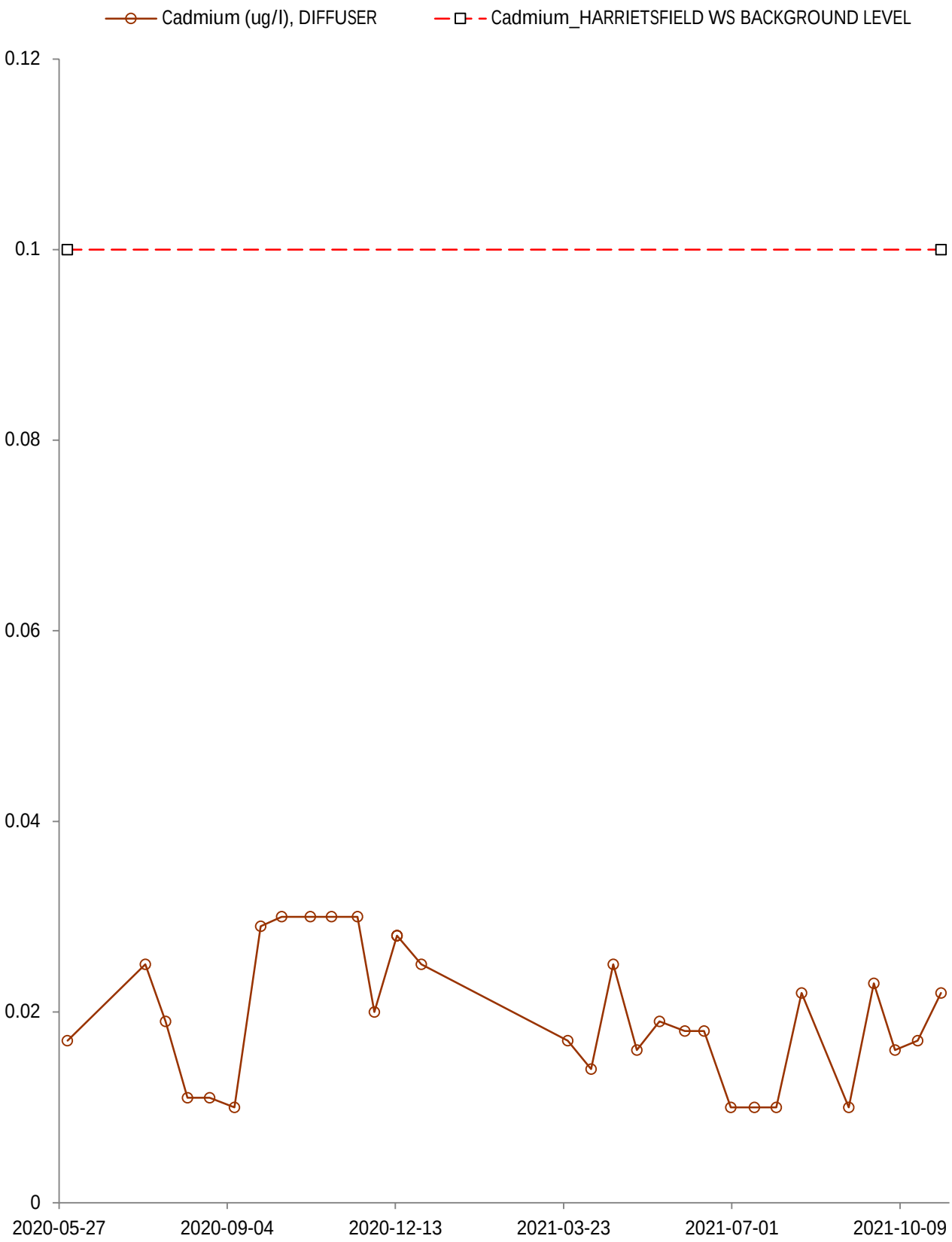
Diffuser-BOD Carbonaceous



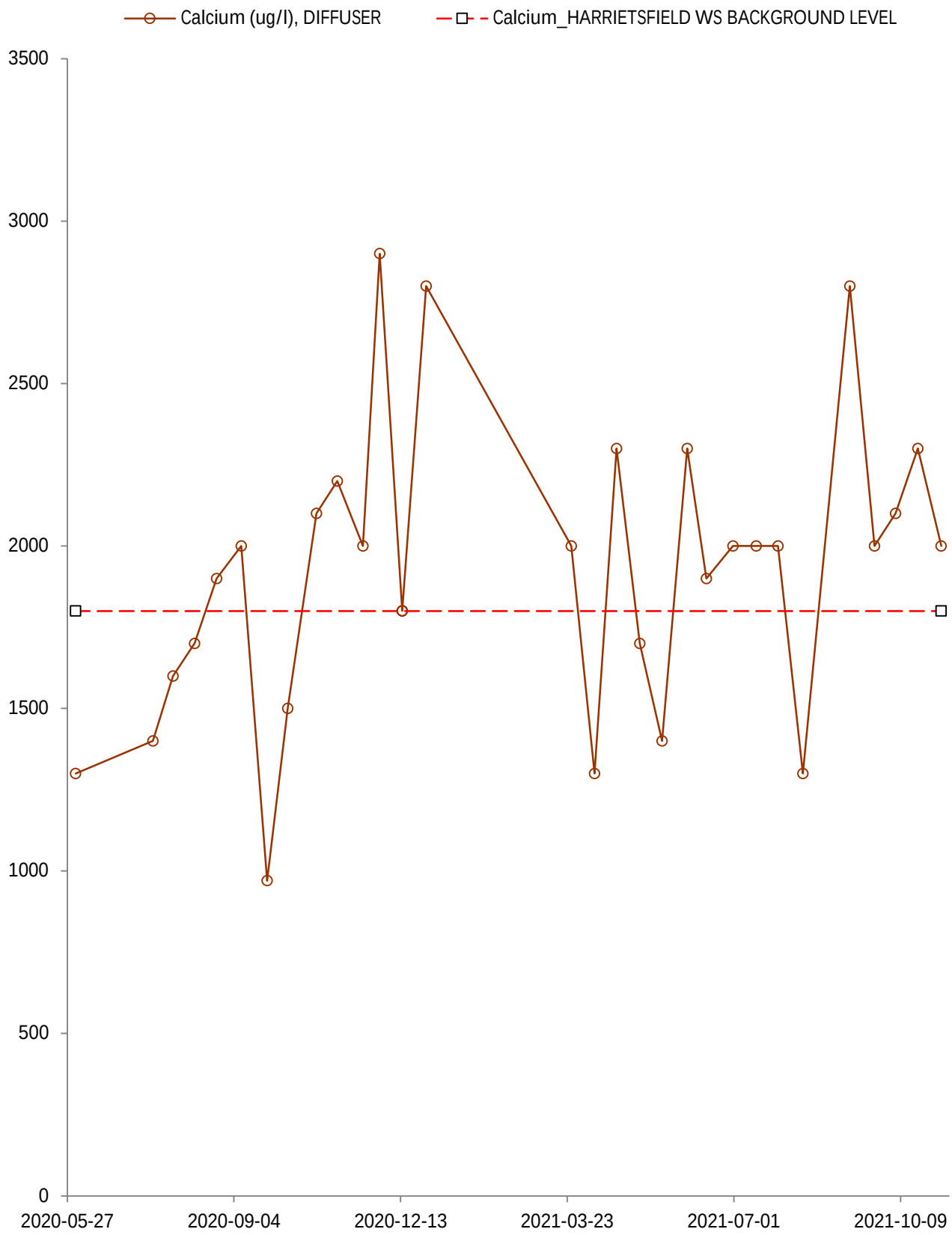
Diffuser-Boron



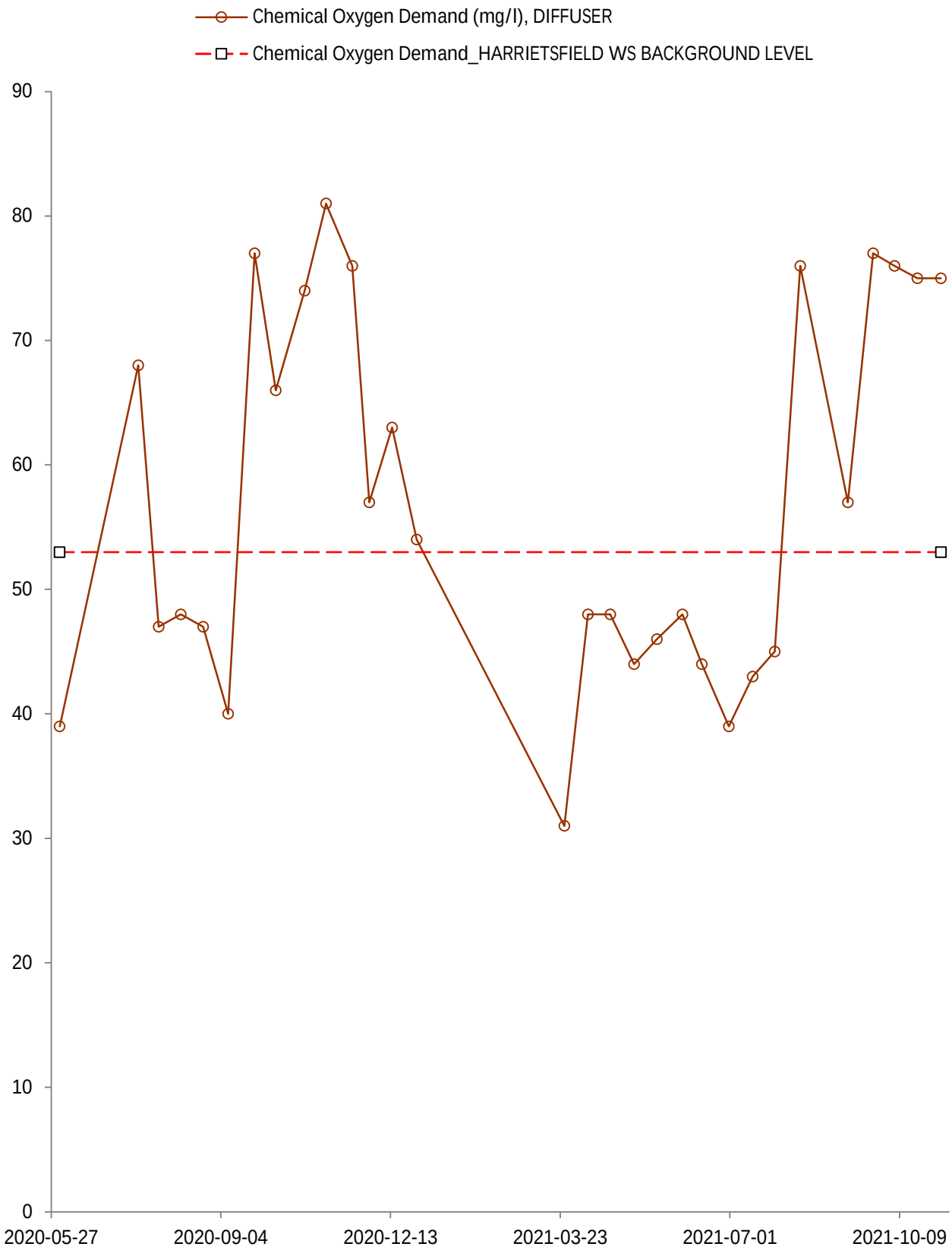
Diffuser-Cadmium



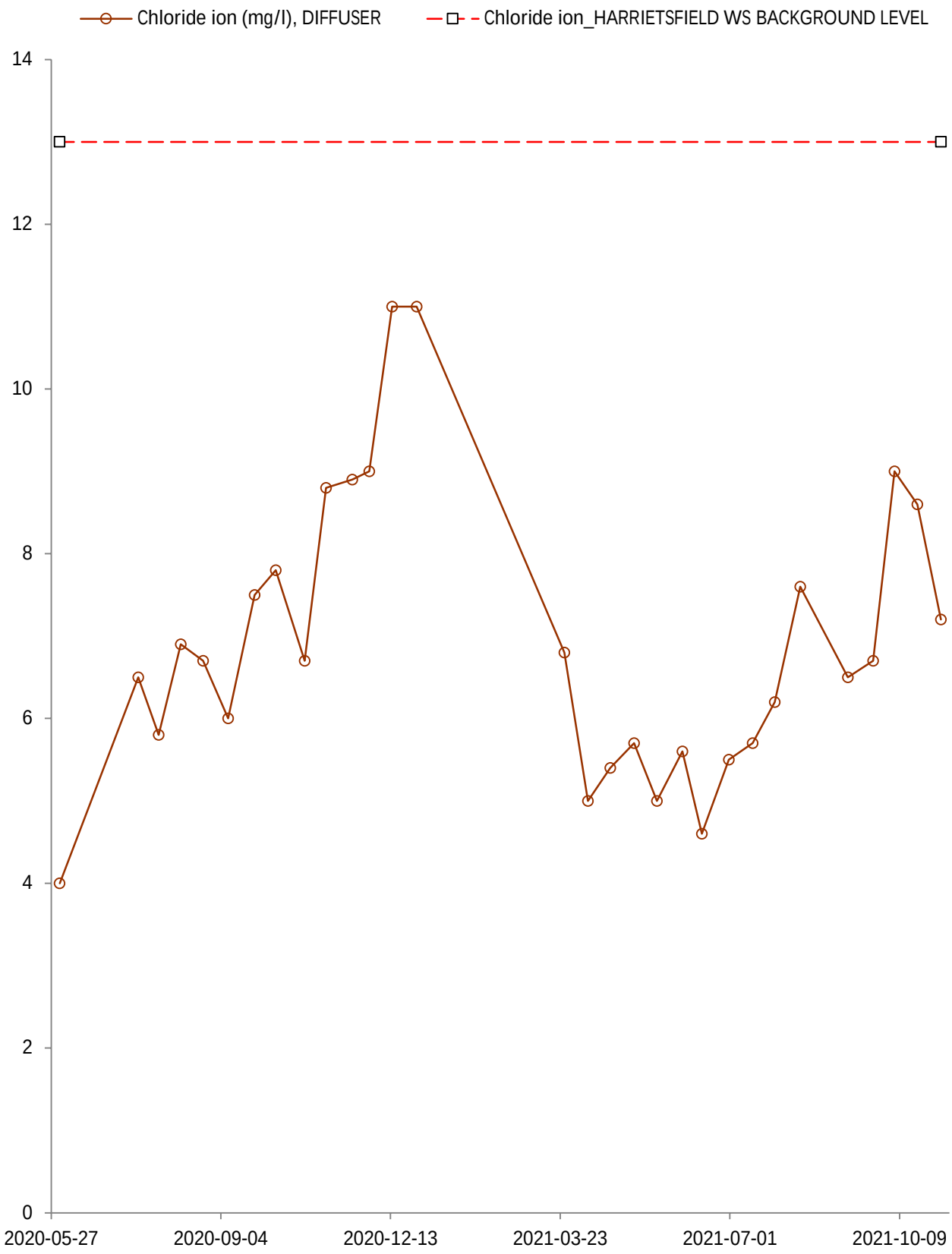
Diffuser-Calcium



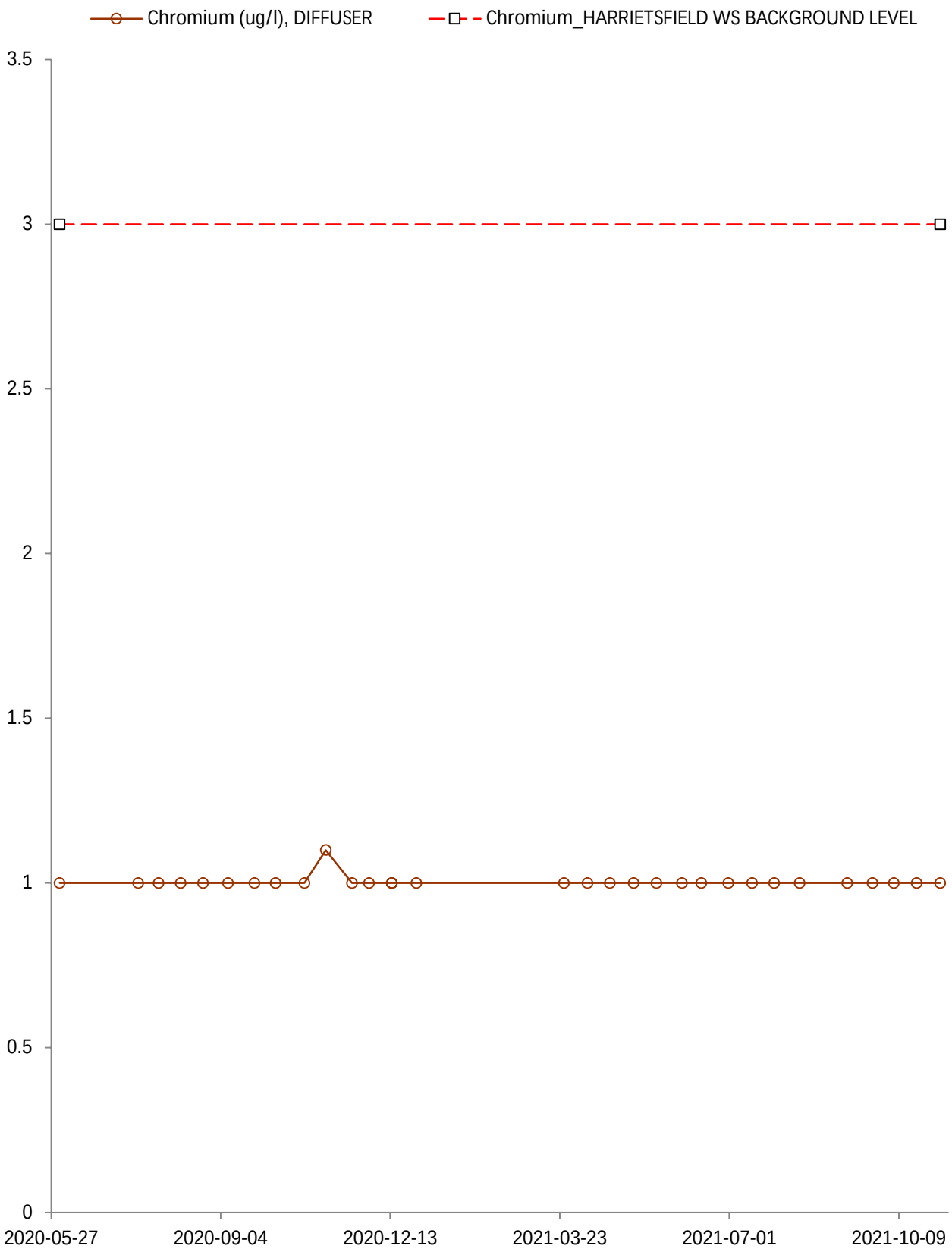
Diffuser-Chemical Oxygen Demand



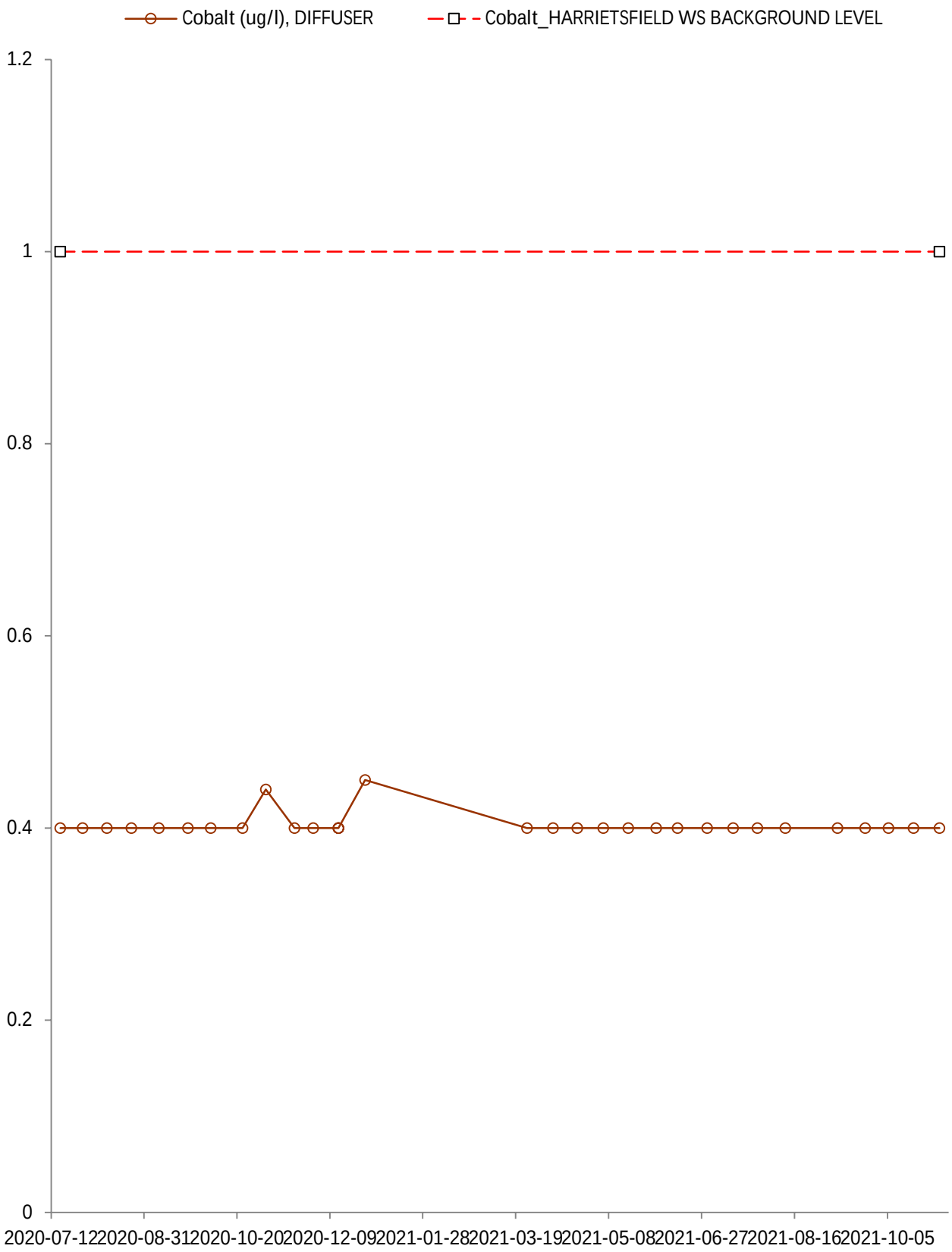
Diffuser-Chloride ion



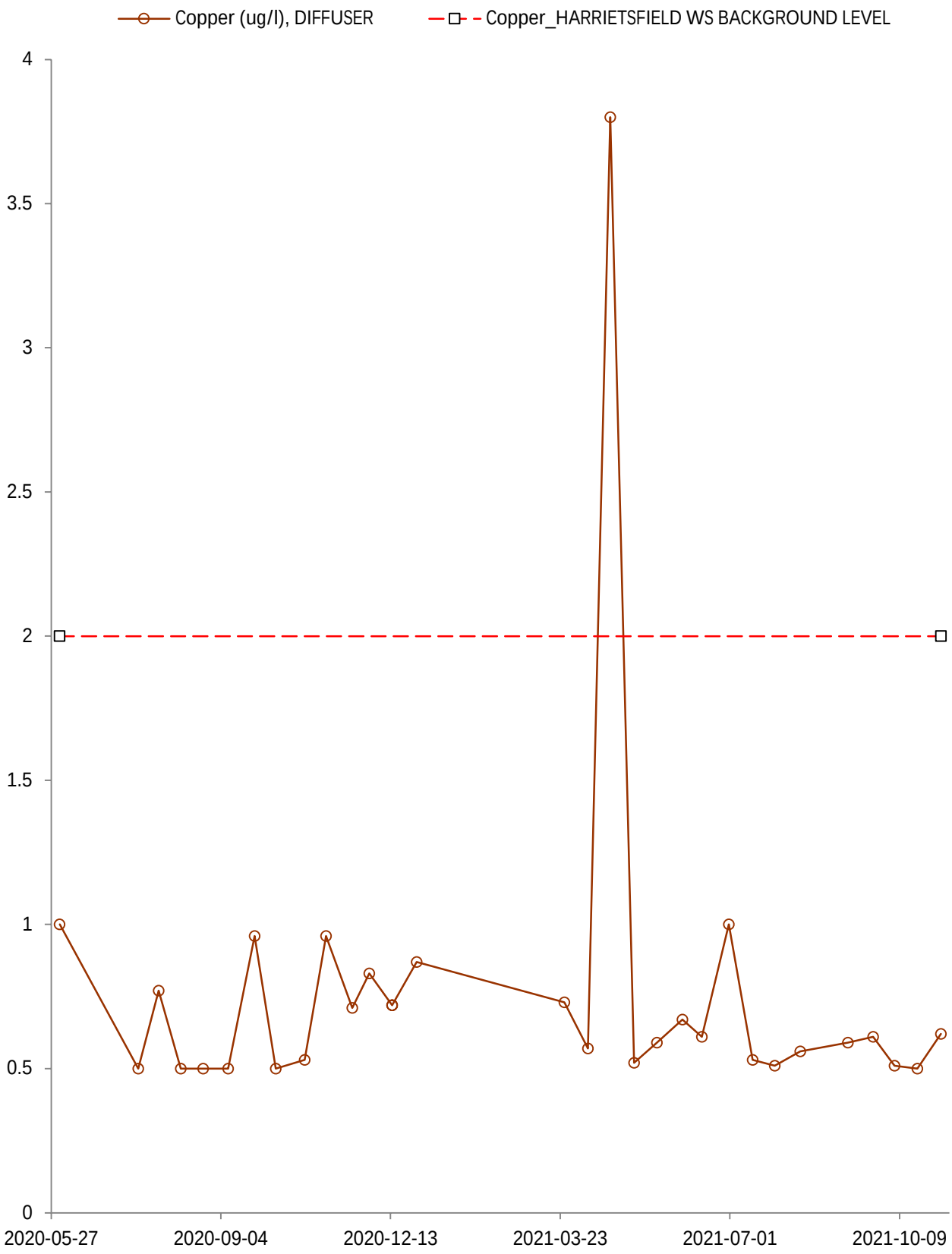
Diffuser-Chromium



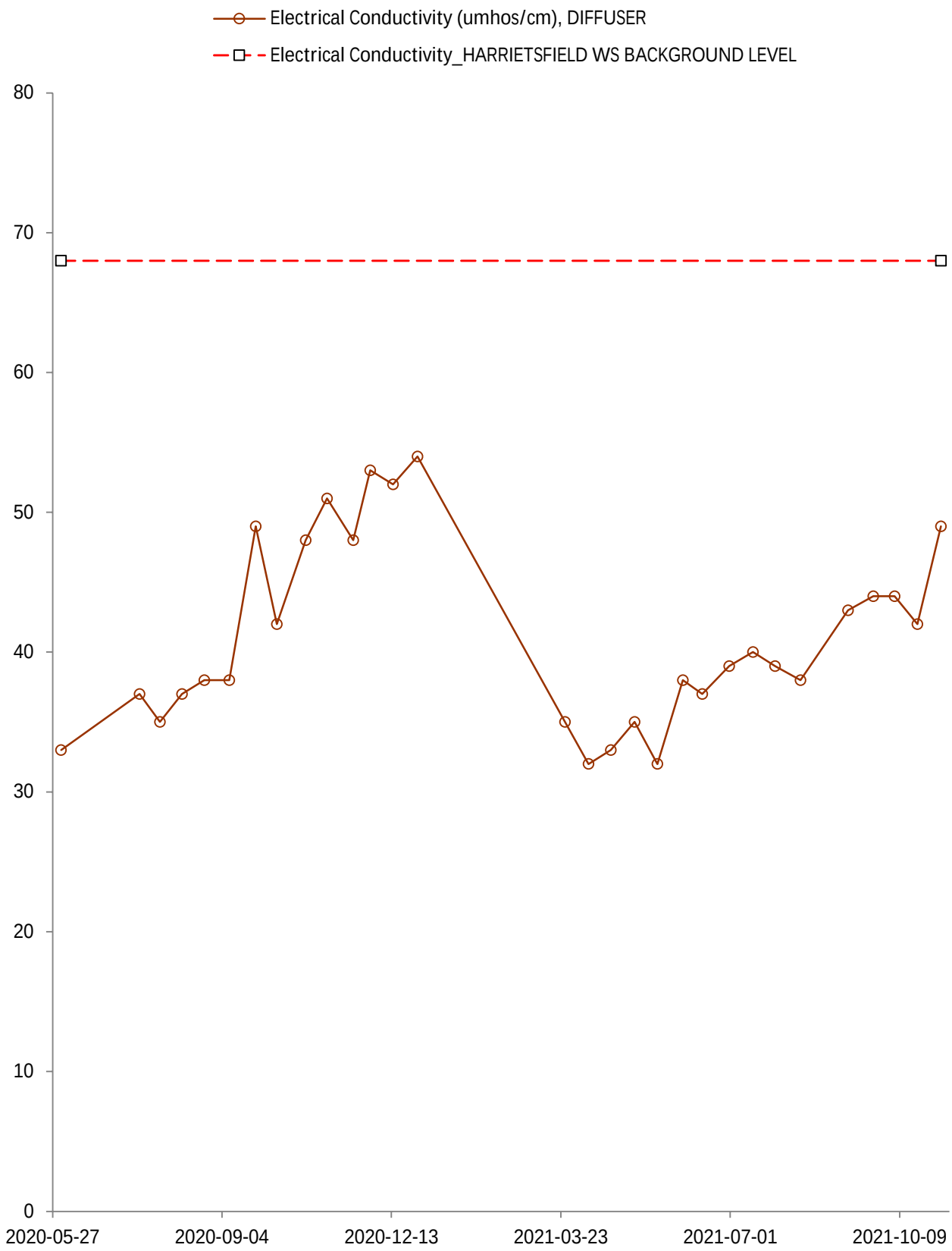
Diffuser-Cobalt



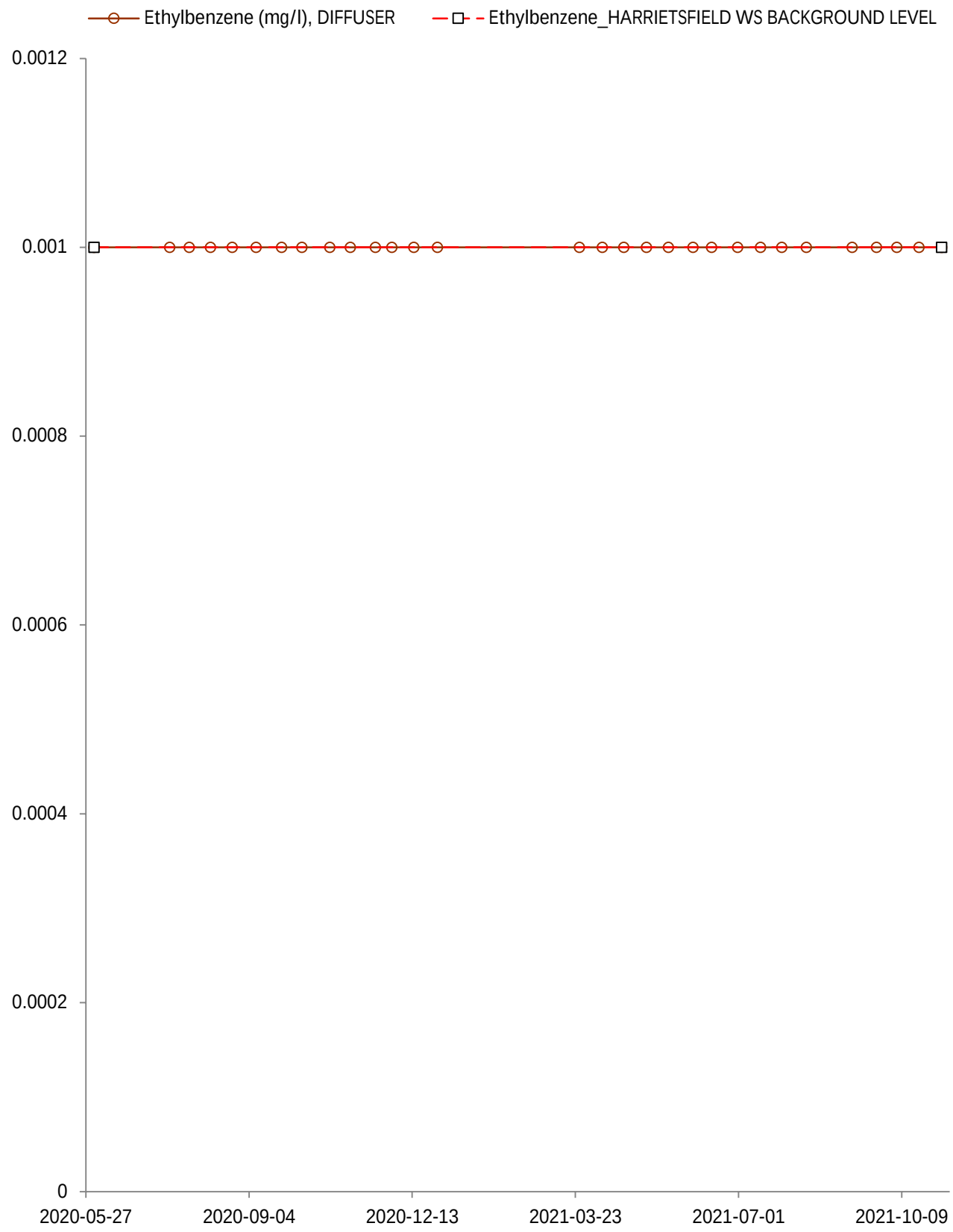
Diffuser-Copper



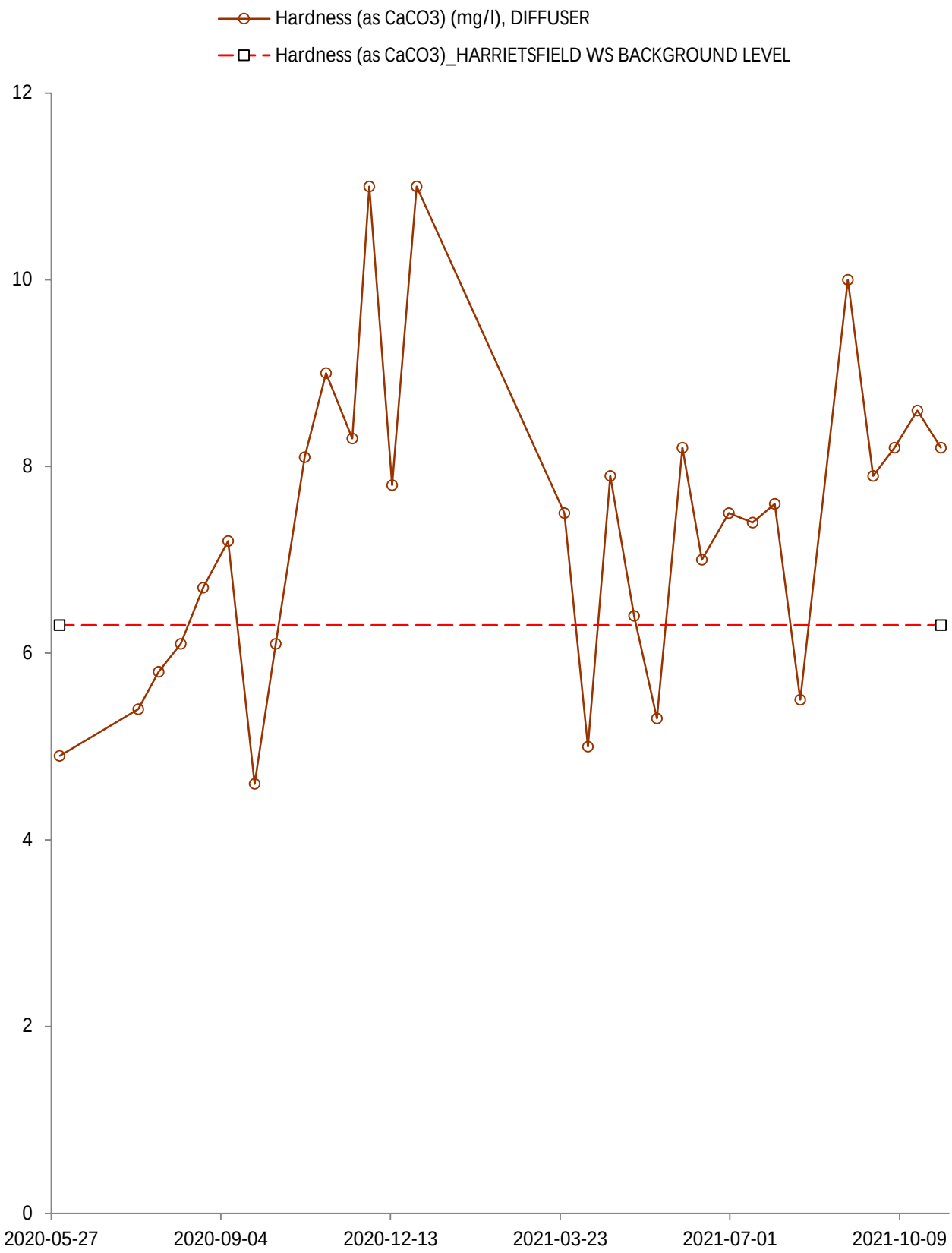
Diffuser-Electrical Conductivity



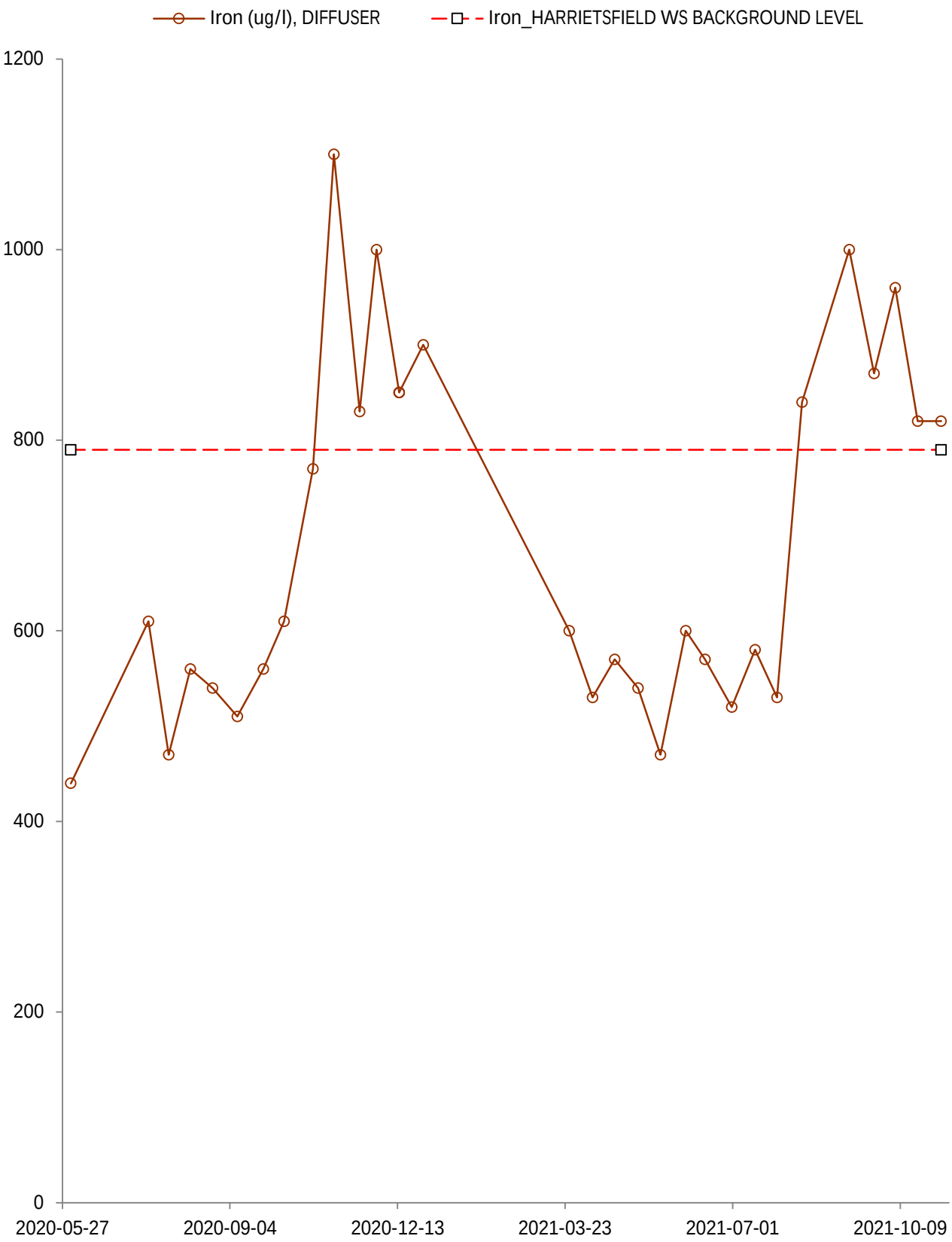
Diffuser-Ethylbenzene



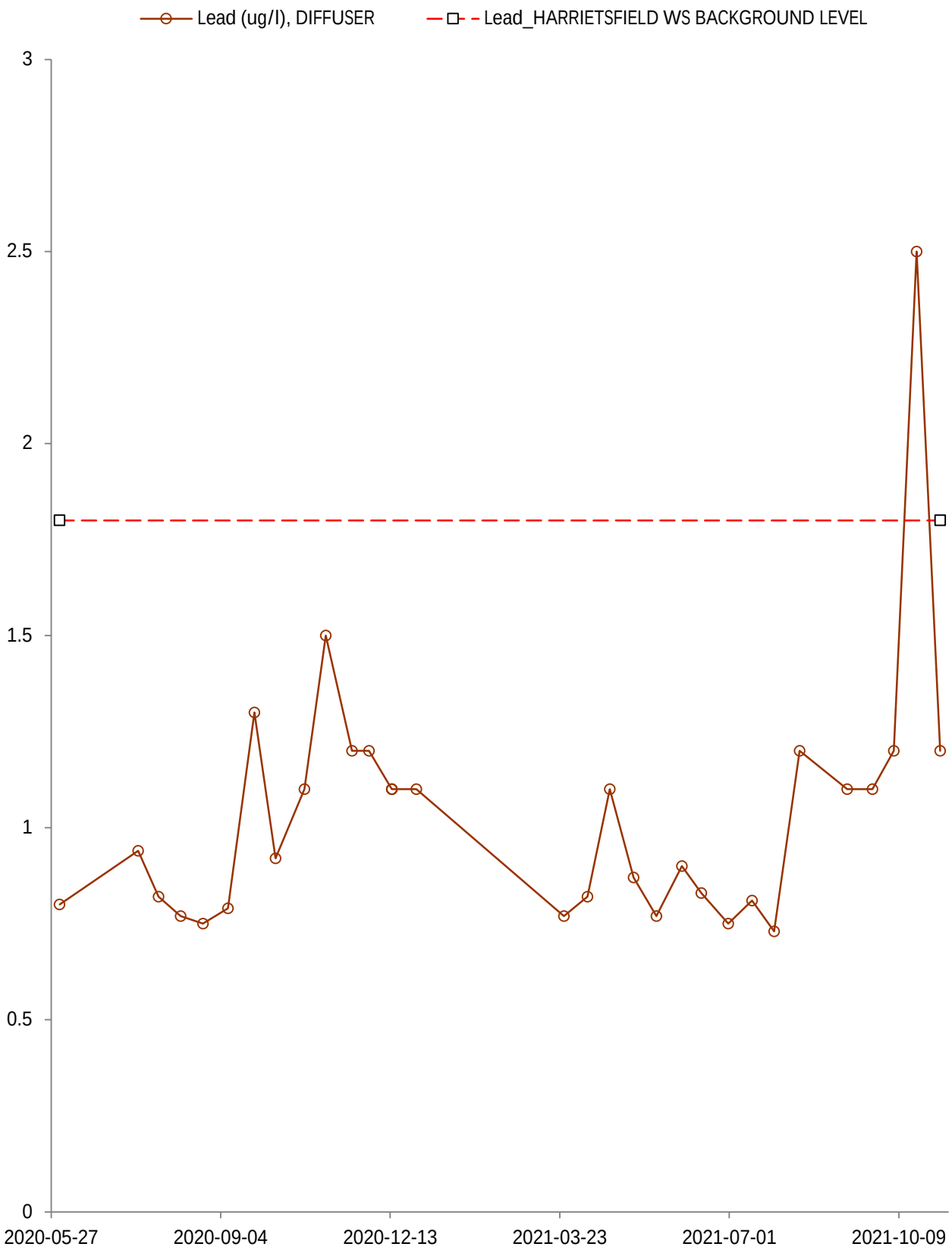
Diffuser-Hardness (as CaCO3)



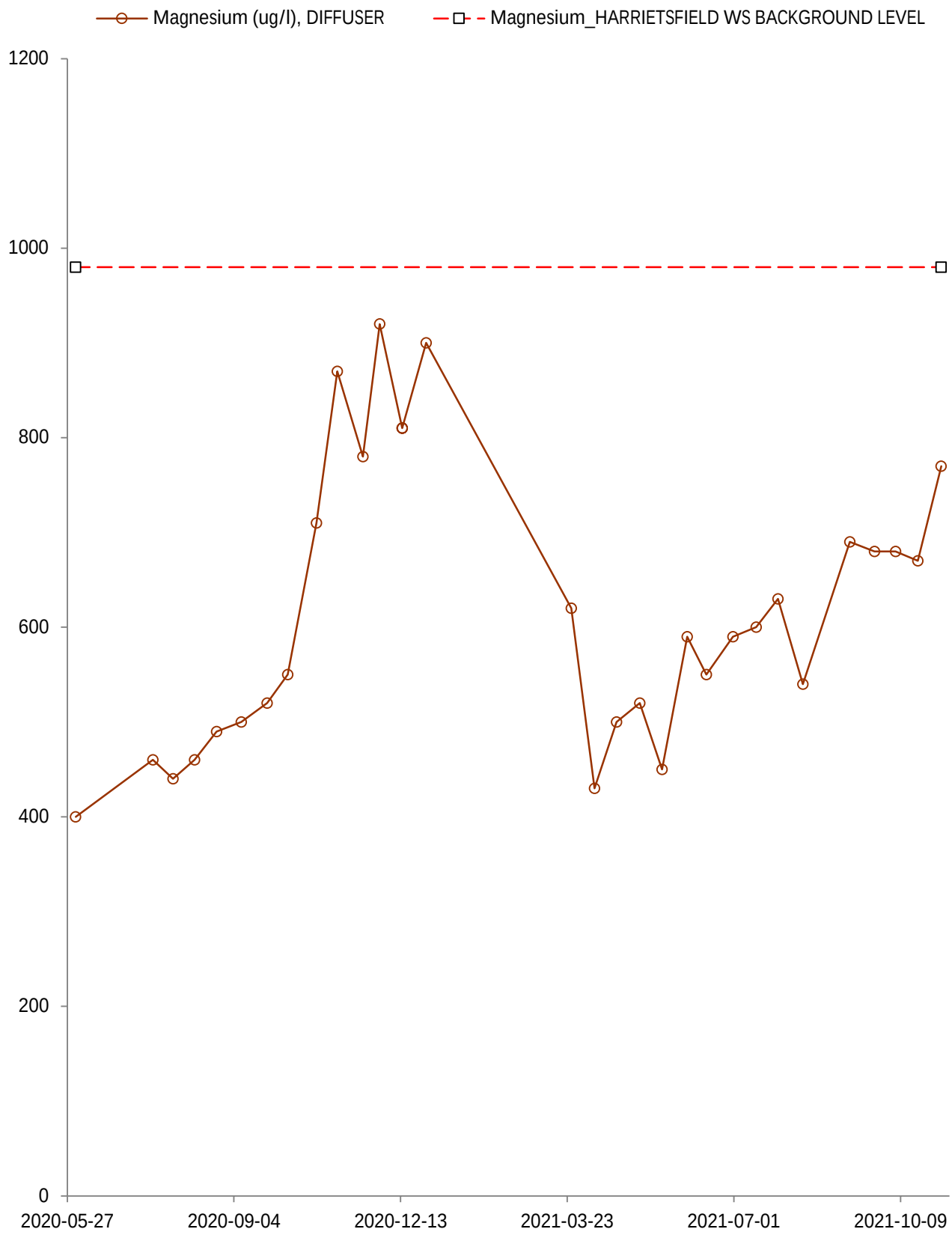
Diffuser-Iron



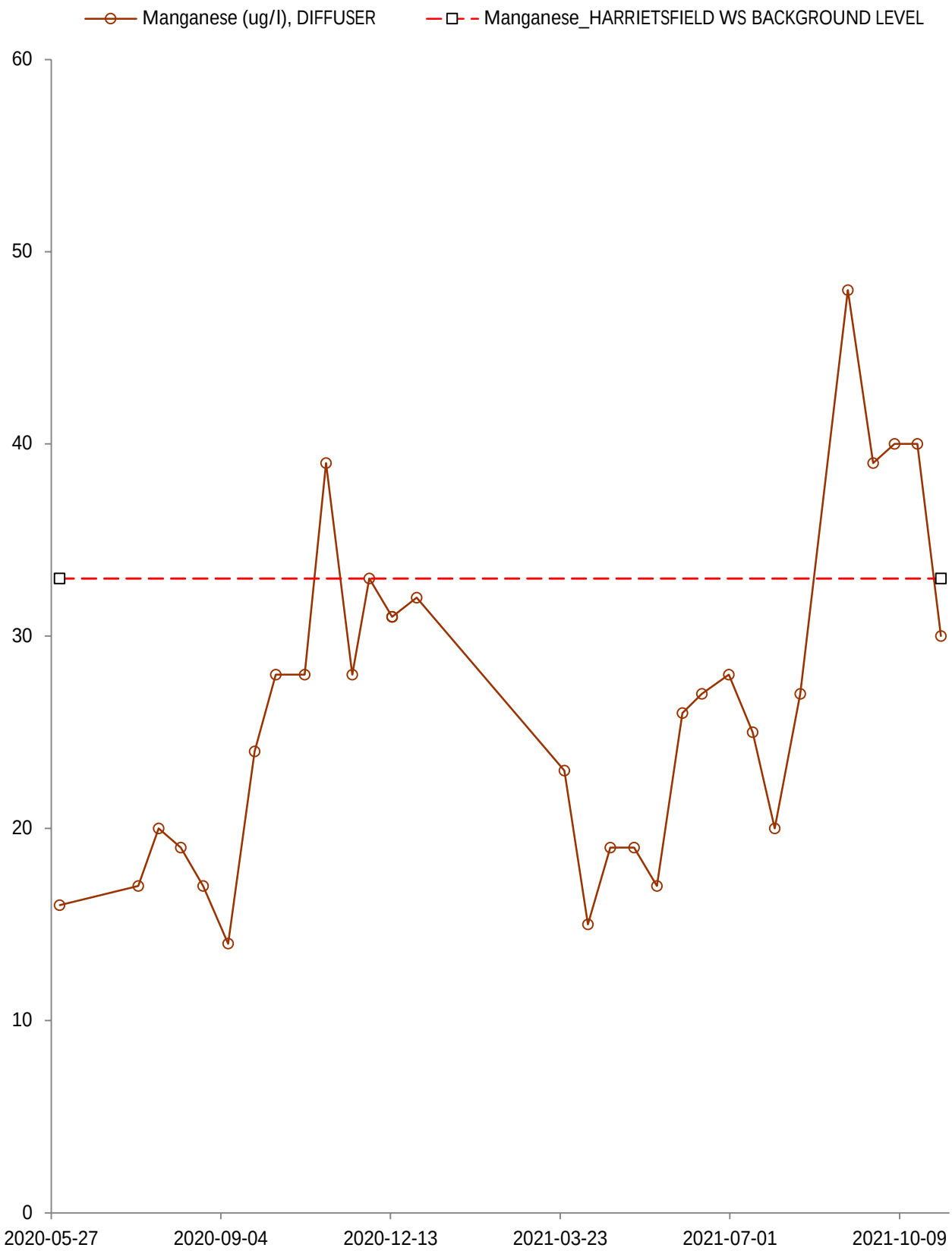
Diffuser-Lead



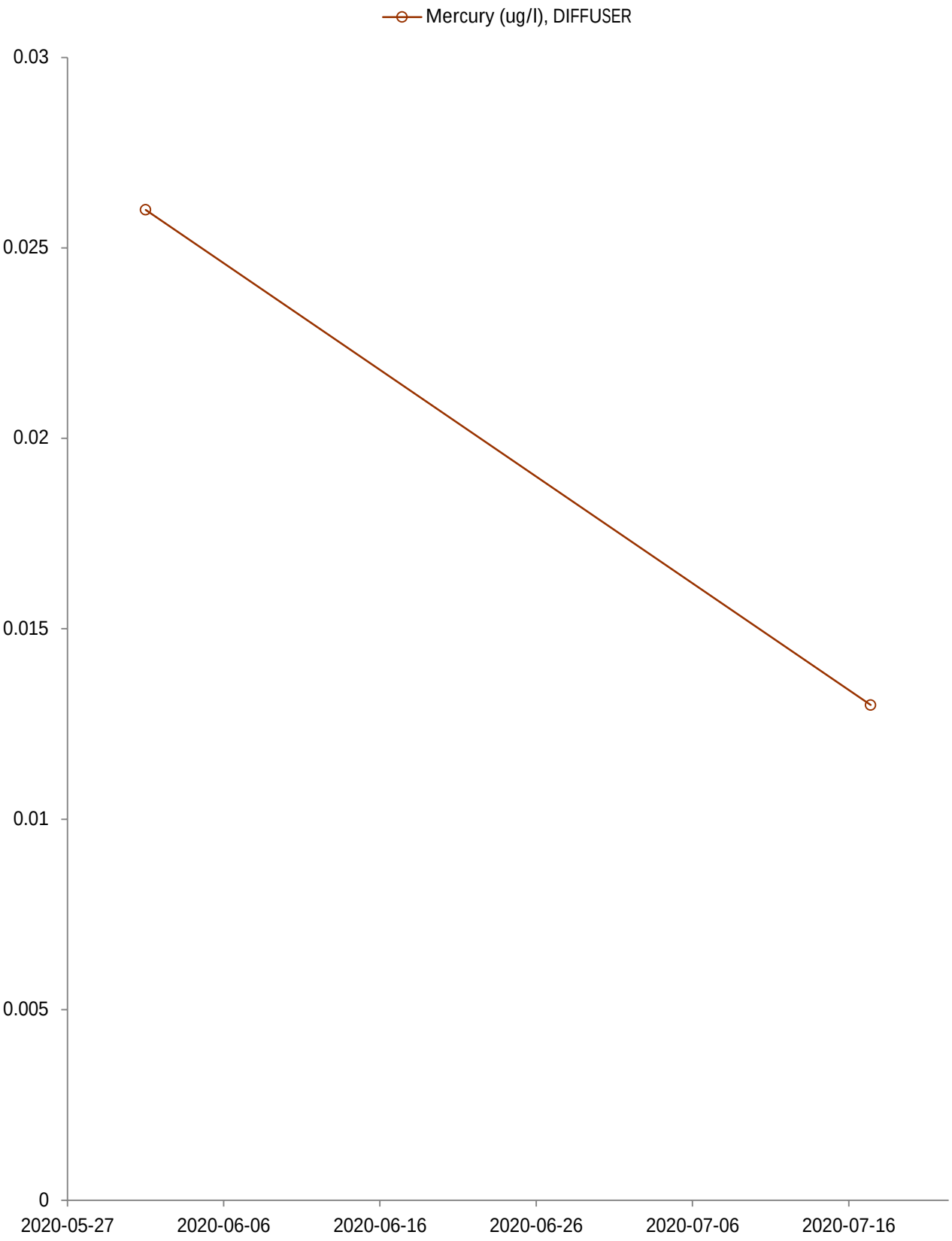
Diffuser-Magnesium



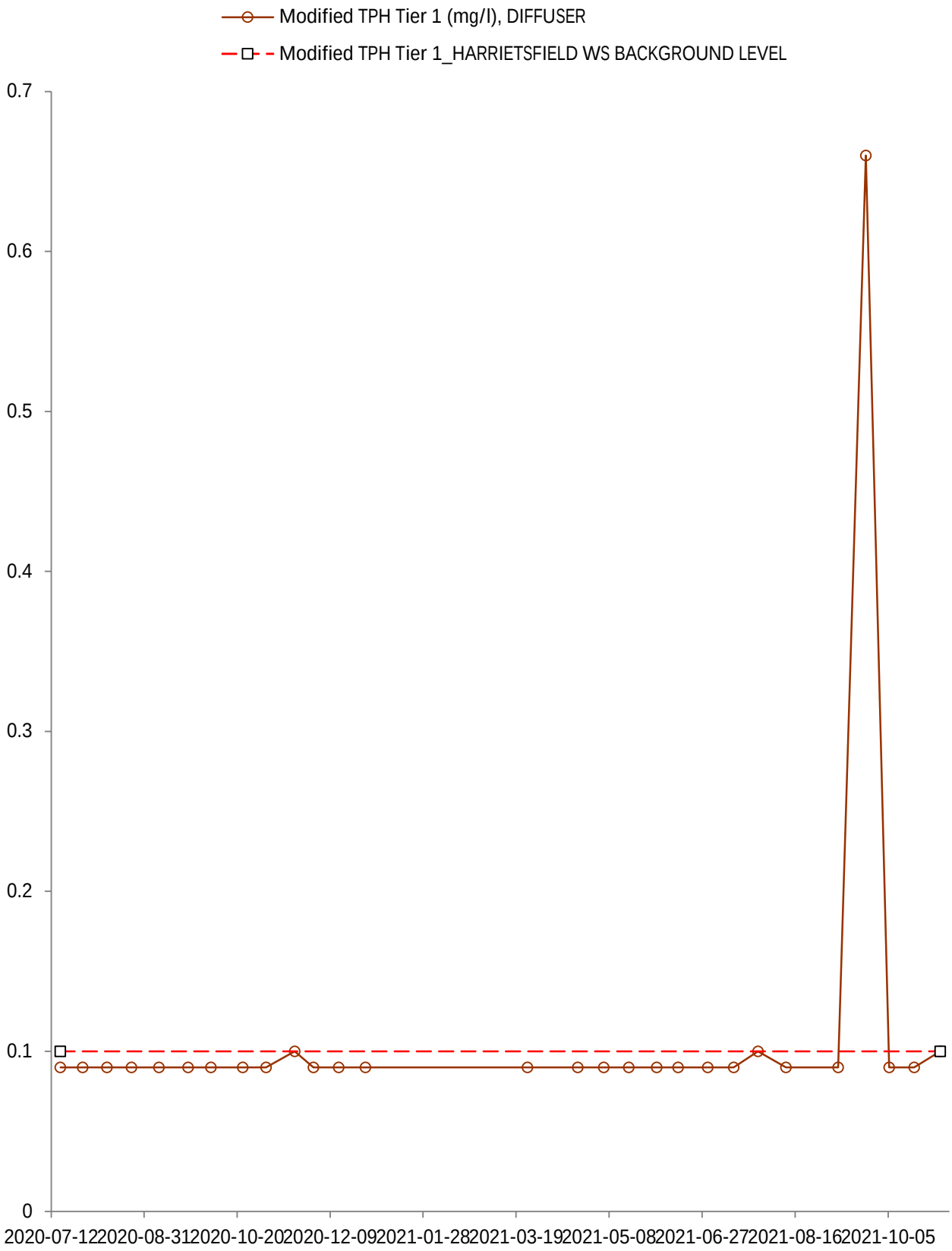
Diffuser-Manganese



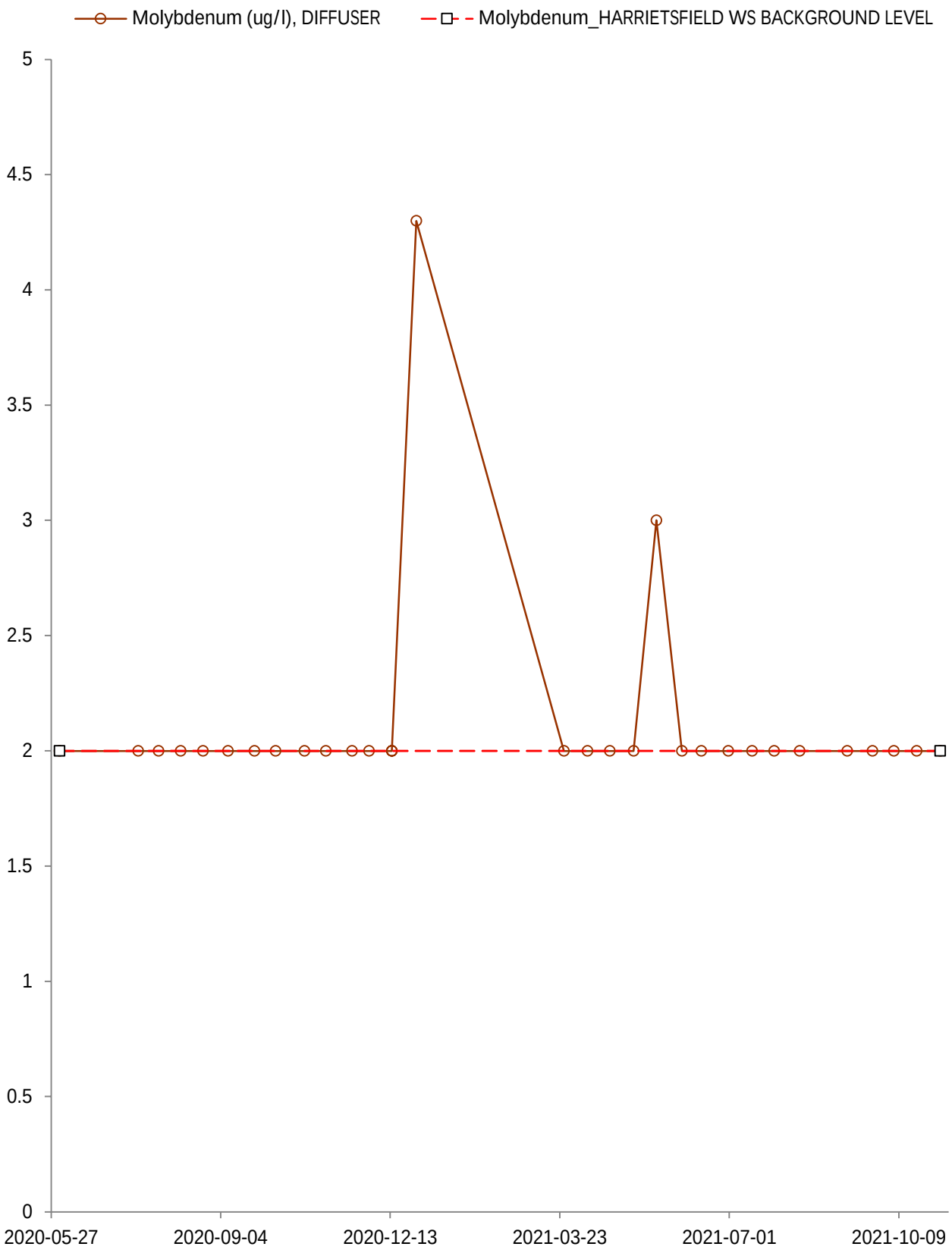
Diffuser-Mercury



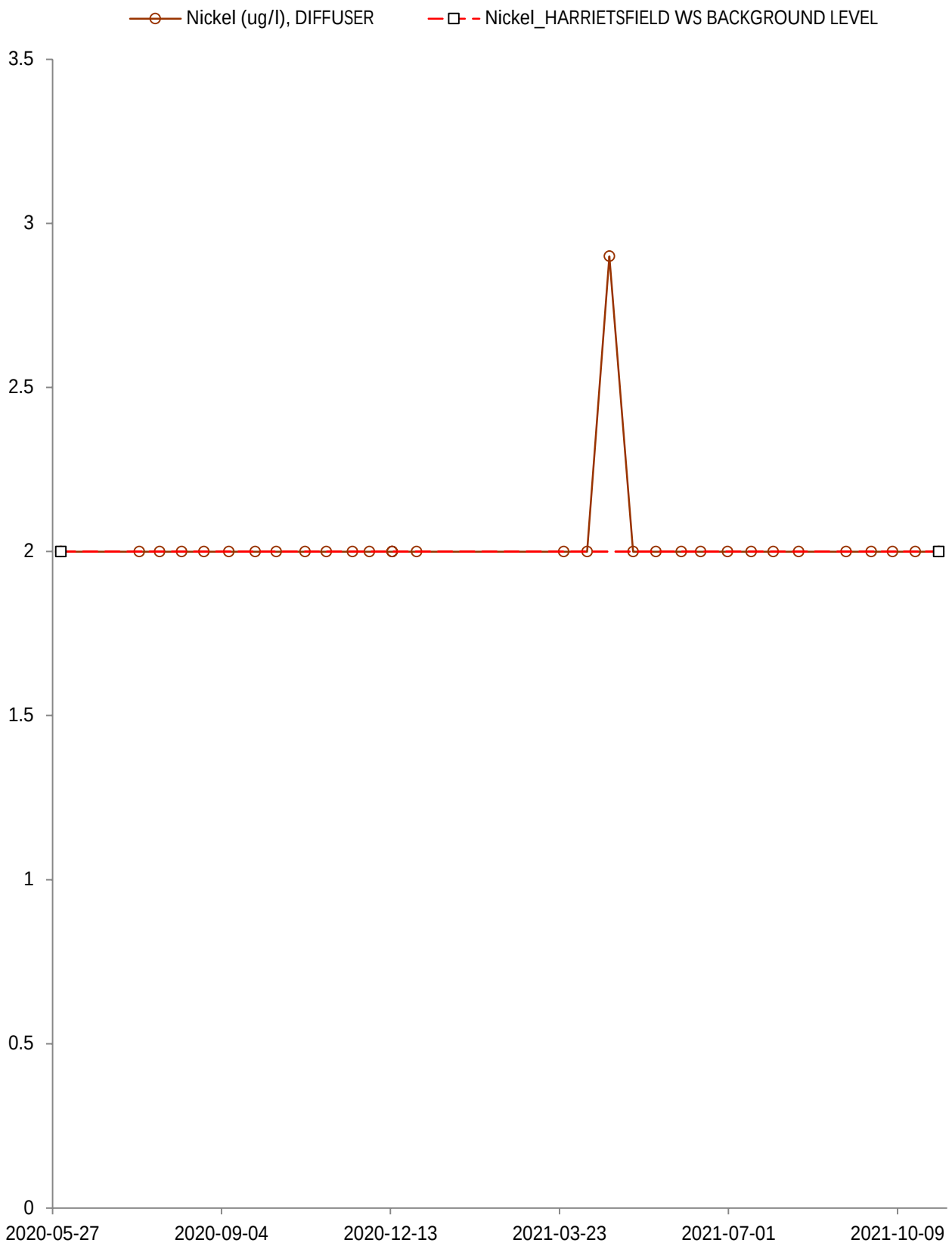
Diffuser-Modified TPH Tier 1



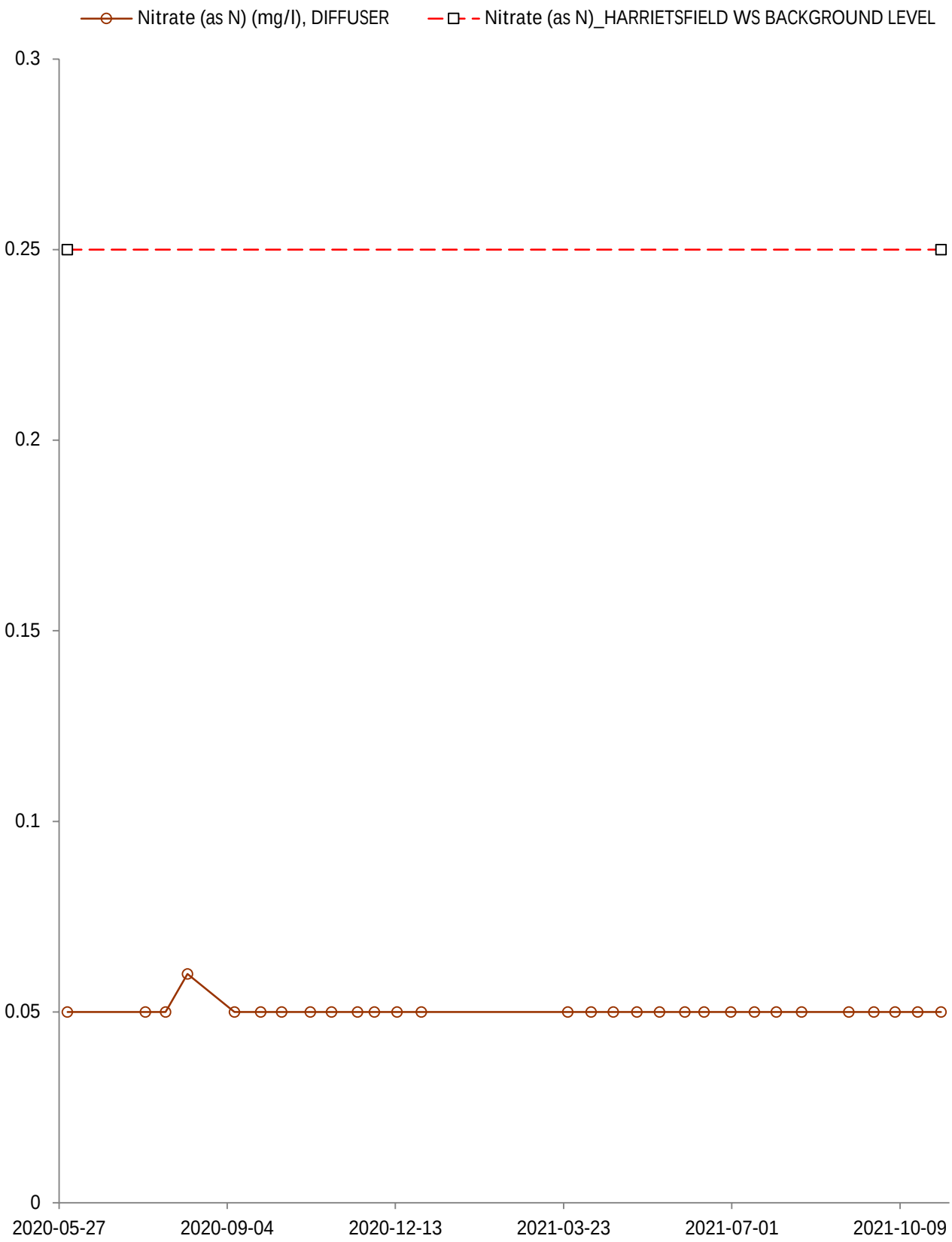
Diffuser-Molybdenum



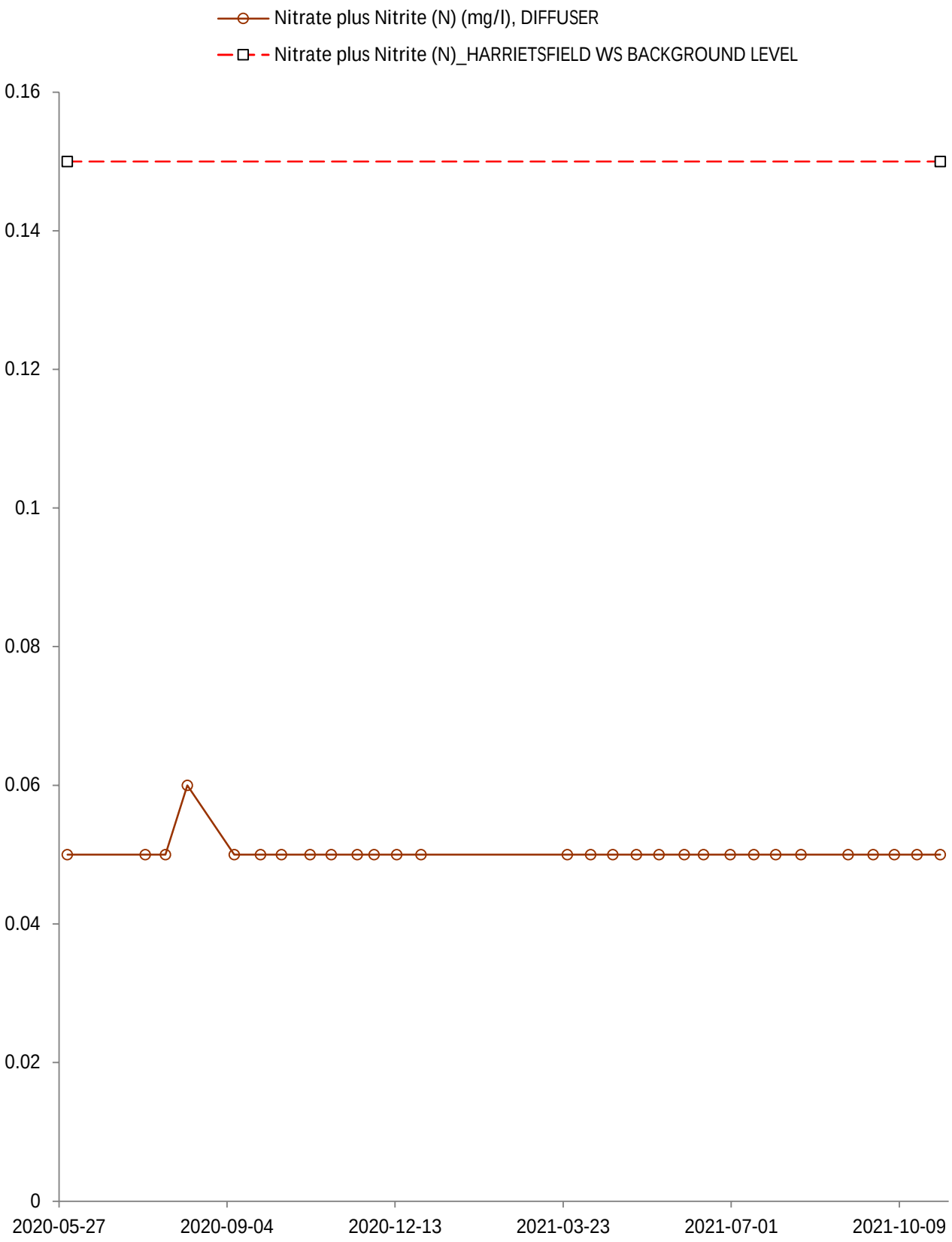
Diffuser-Nickel



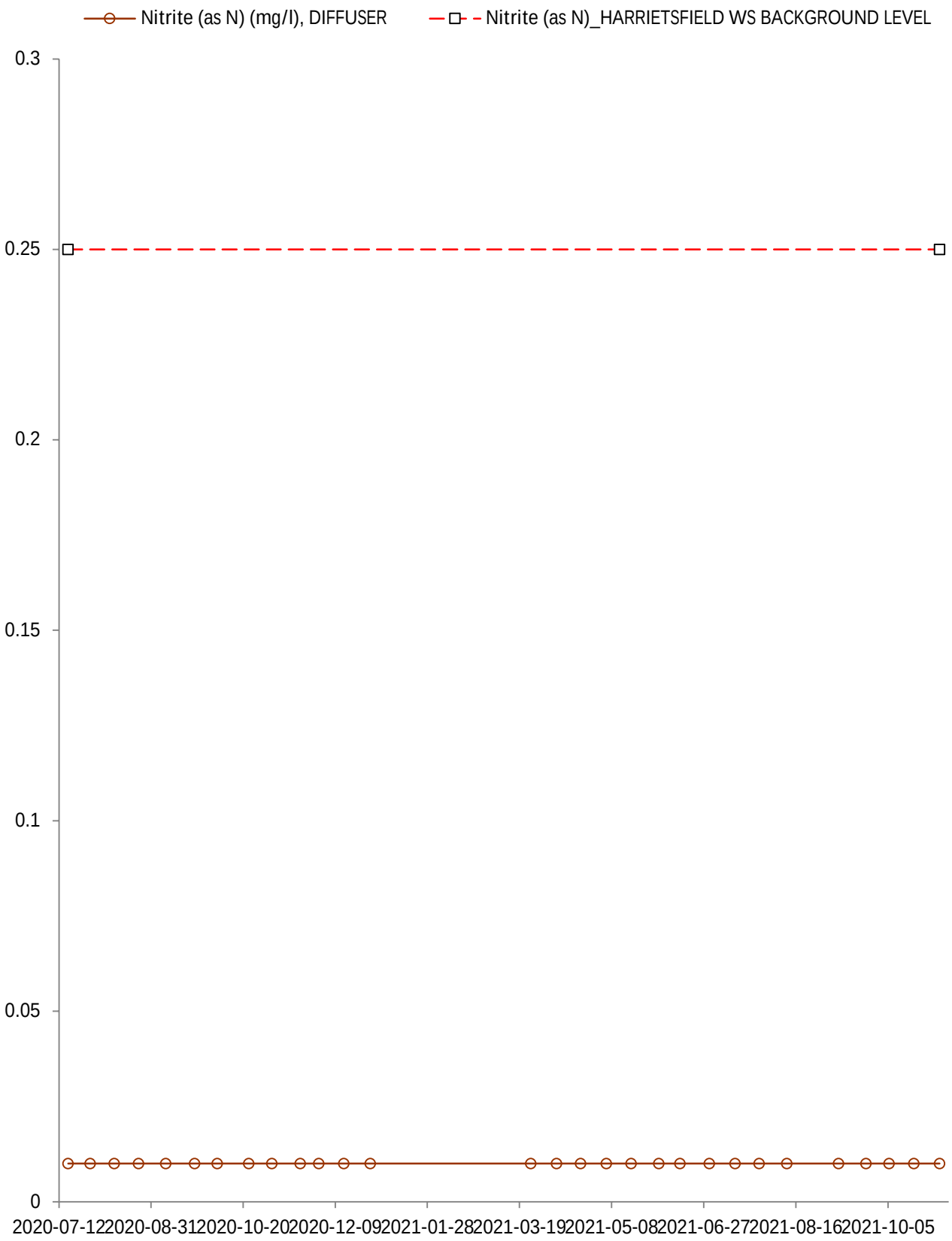
Diffuser-Nitrate (as N)



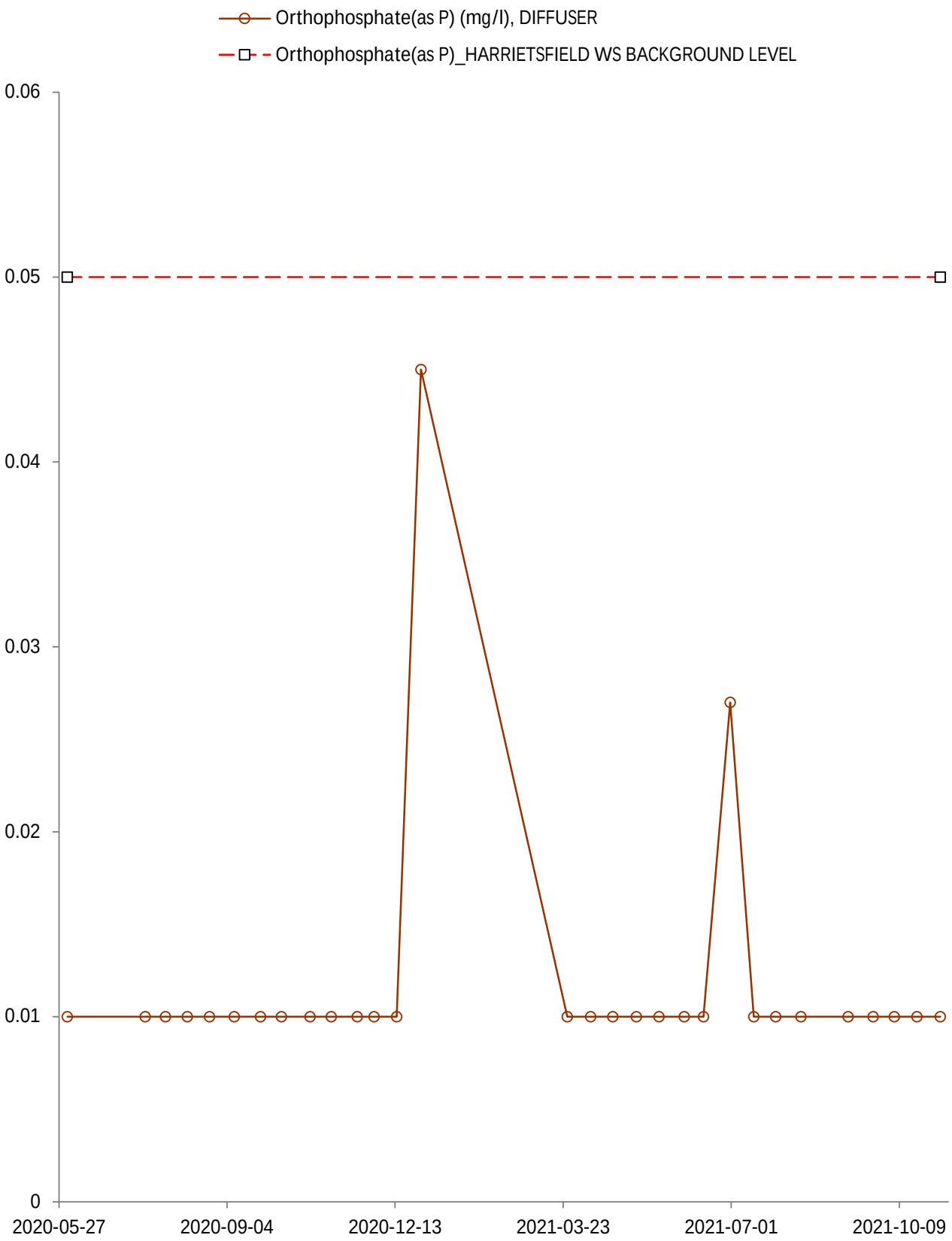
Diffuser-Nitrate plus Nitrite (N)



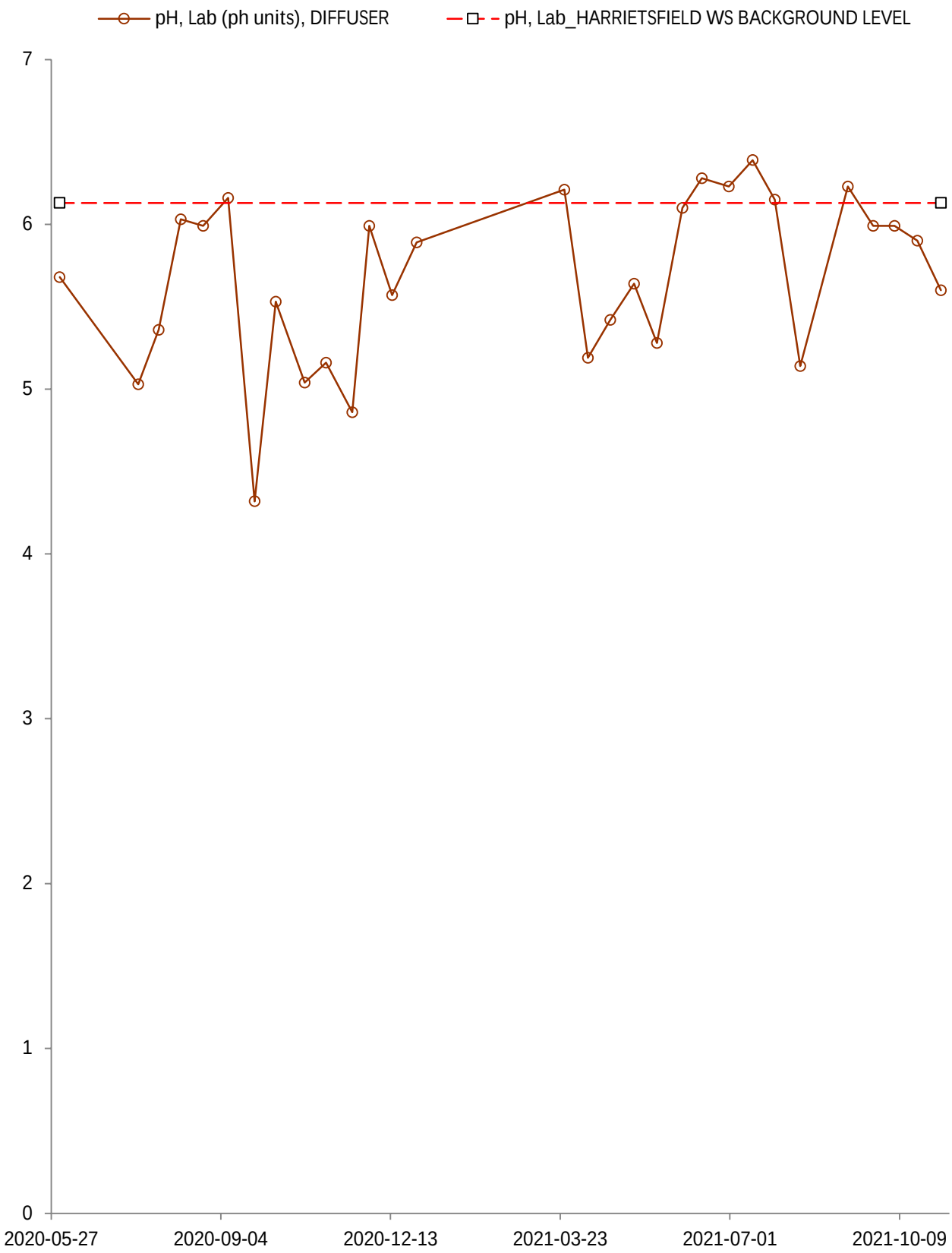
Diffuser-Nitrite (as N)



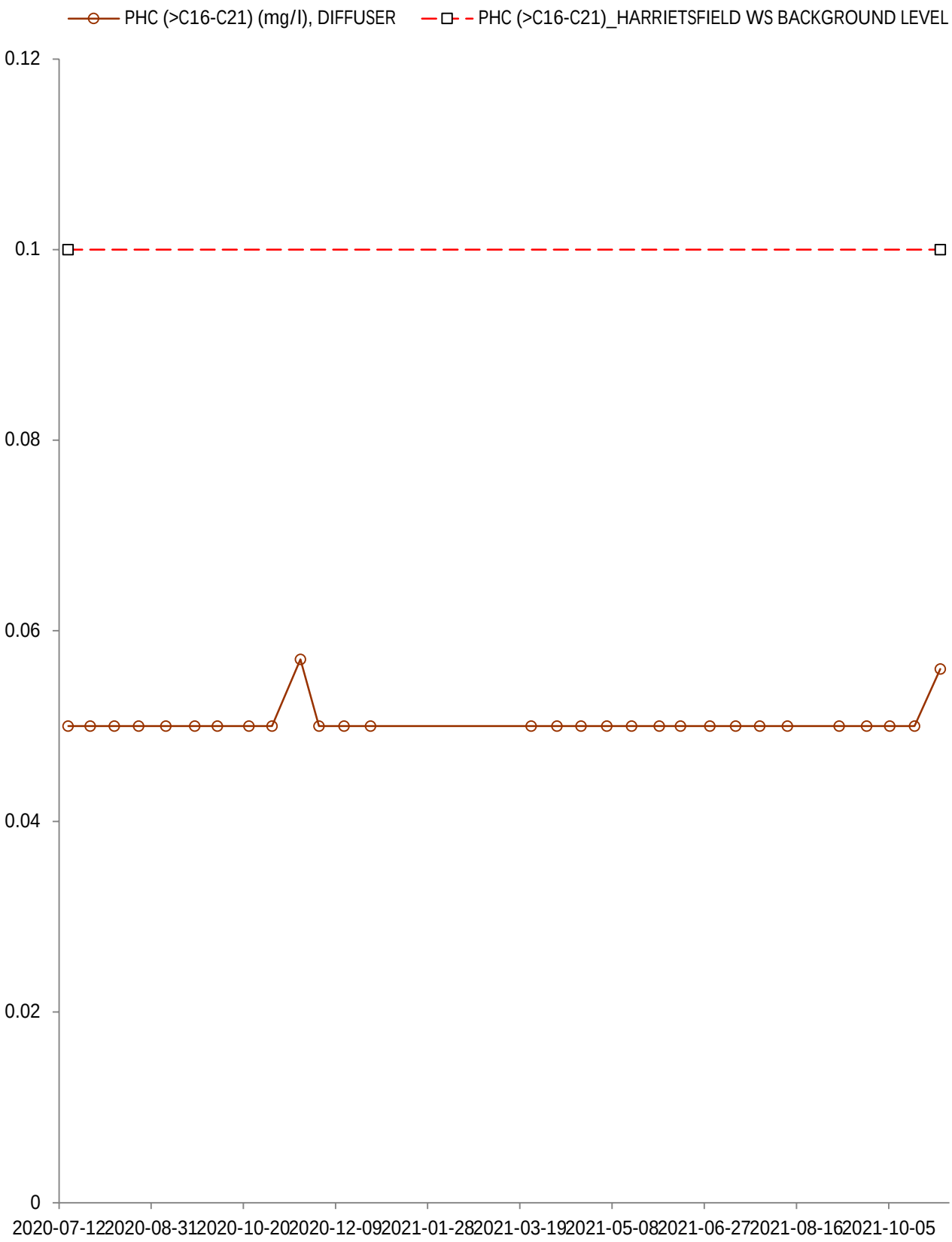
Diffuser-Orthophosphate(as P)



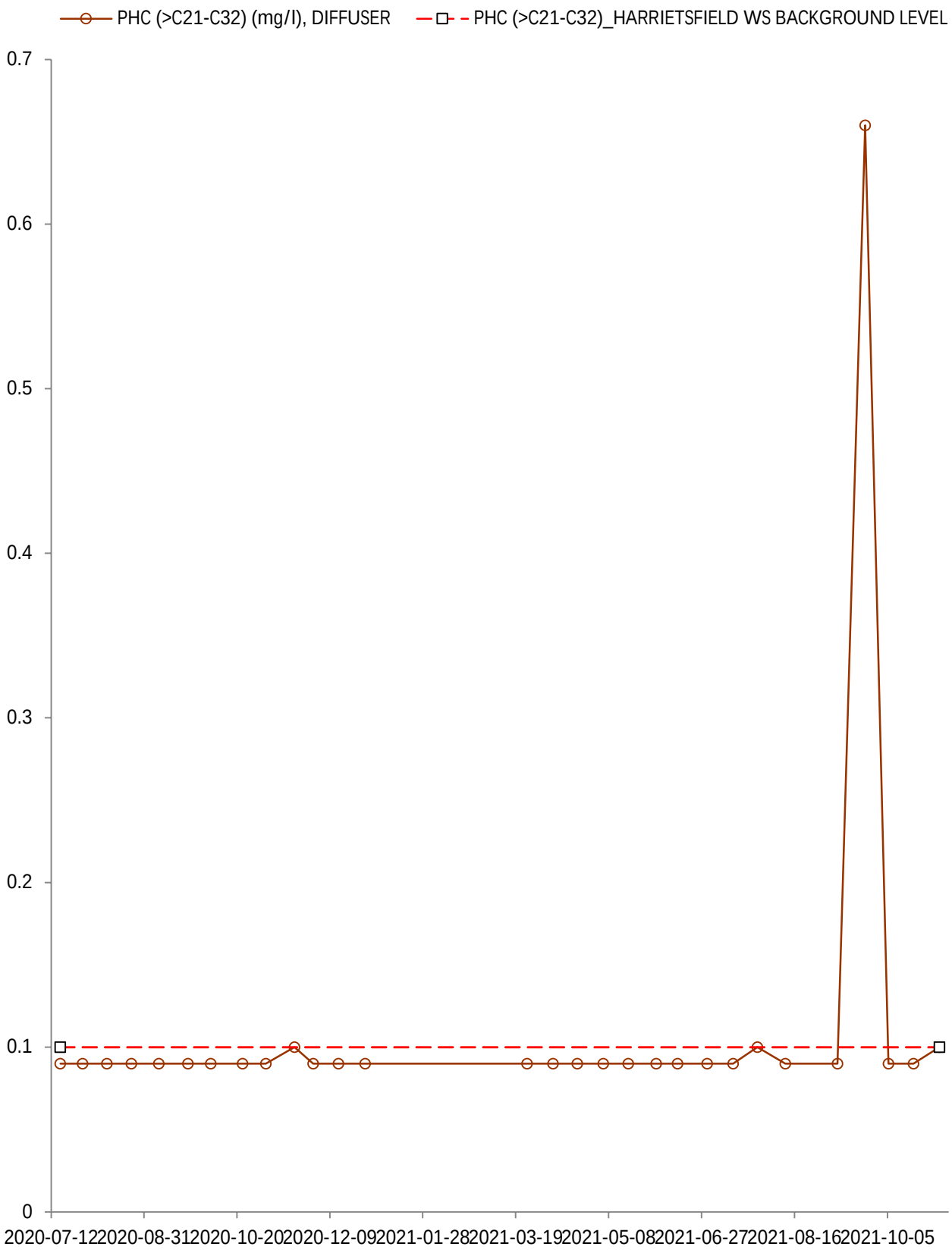
Diffuser-pH, Lab



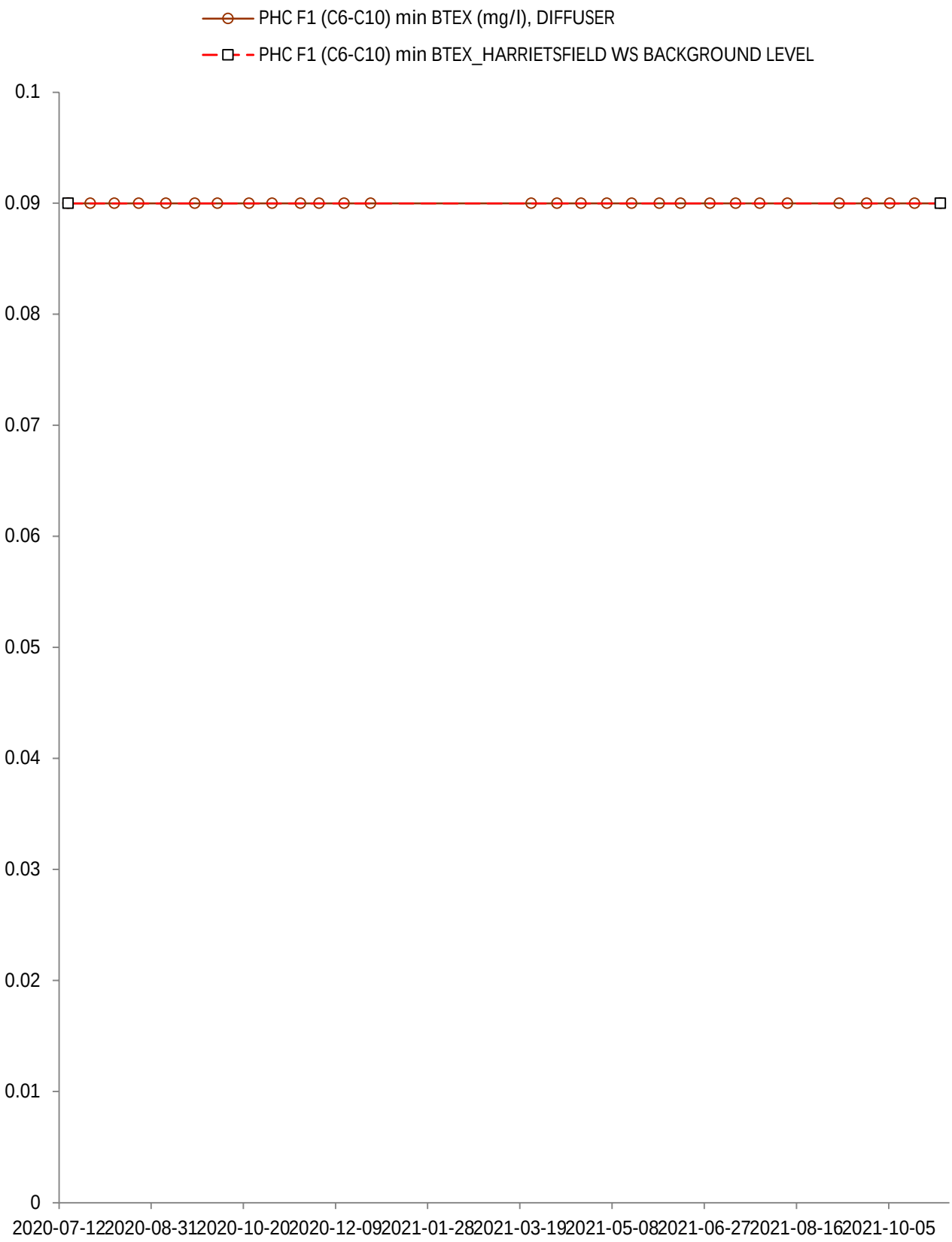
Diffuser-PHC (>C16-C21)



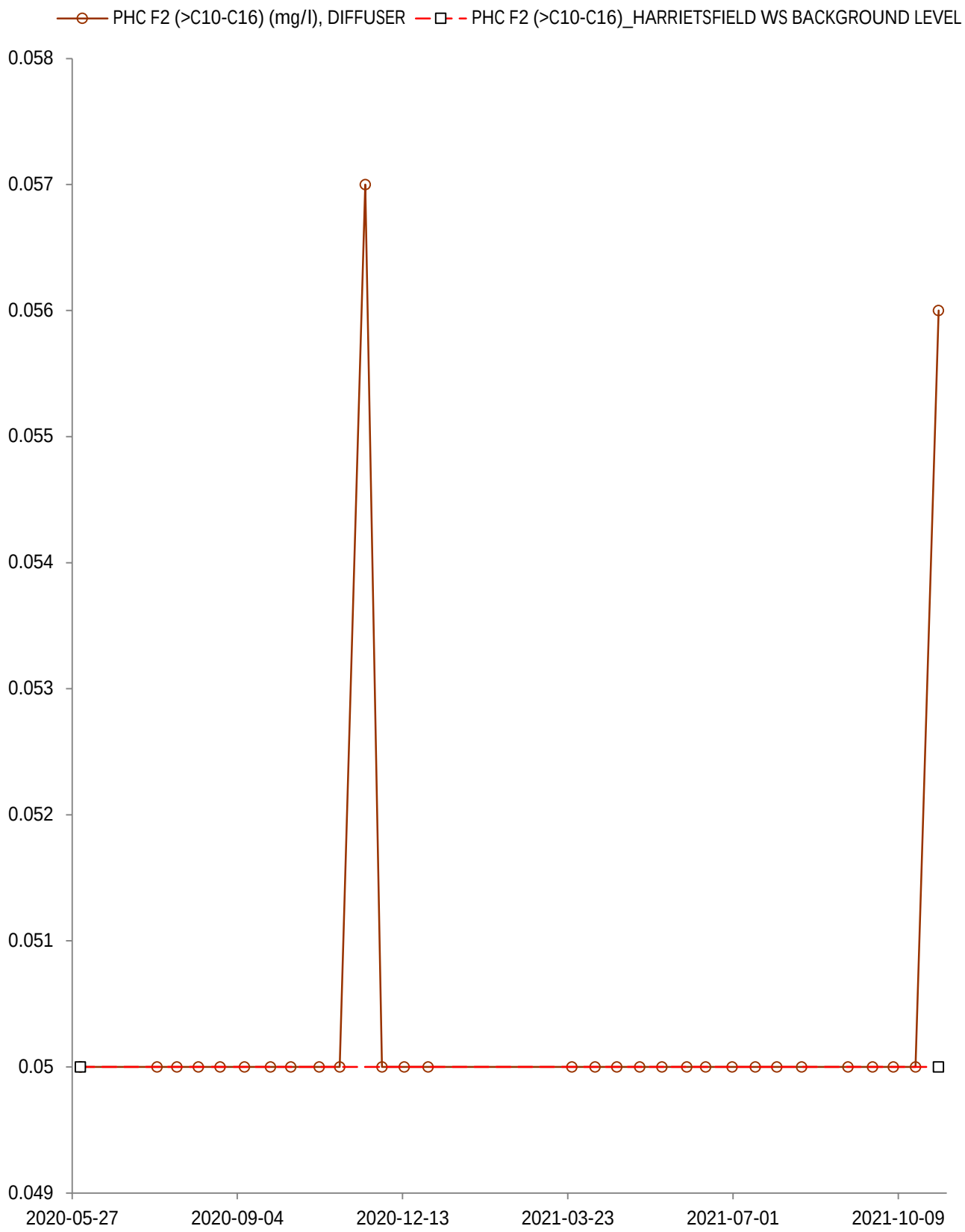
Diffuser-PHC (>C21-C32)



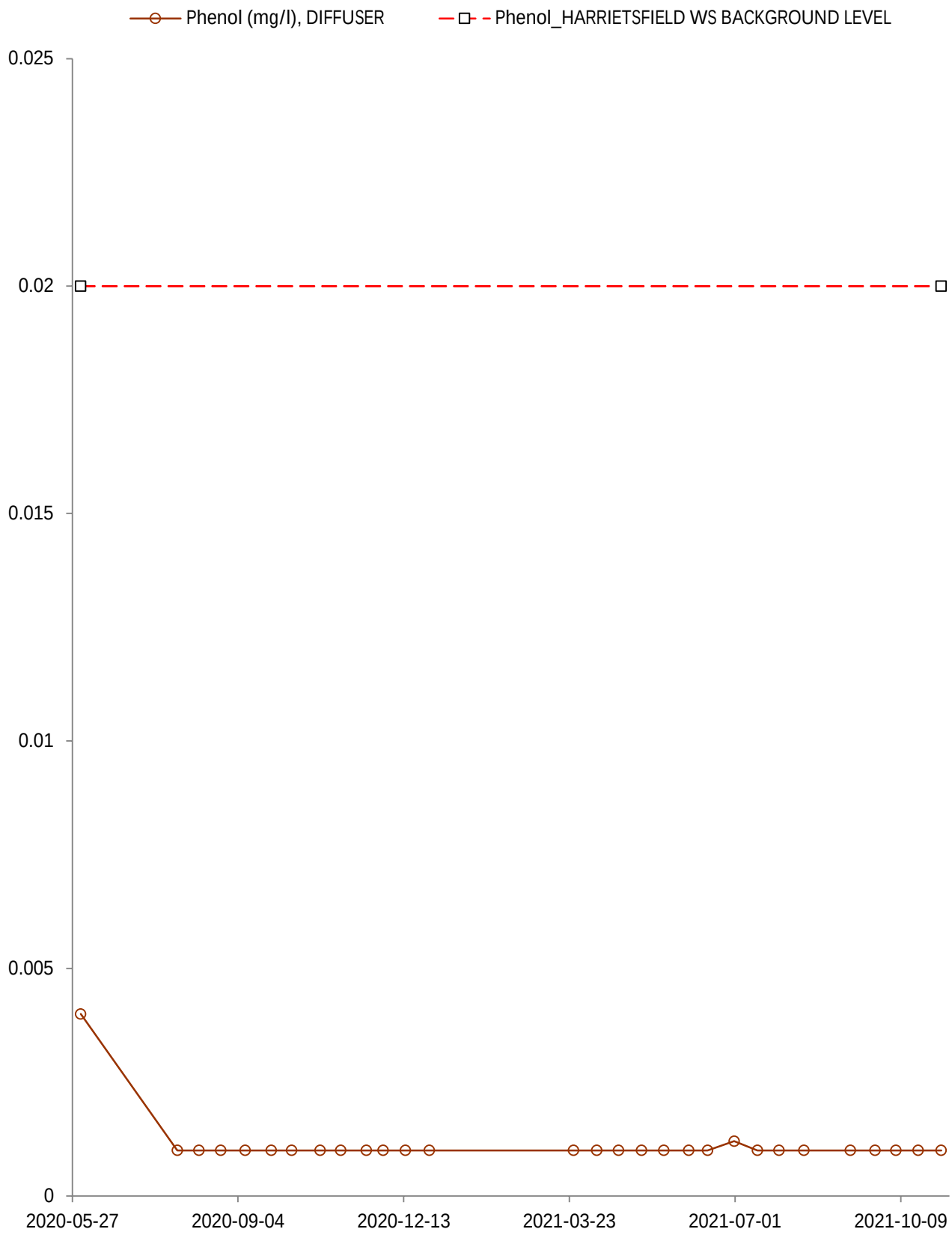
Diffuser-PHC F1 (C6-C10) min BTEX



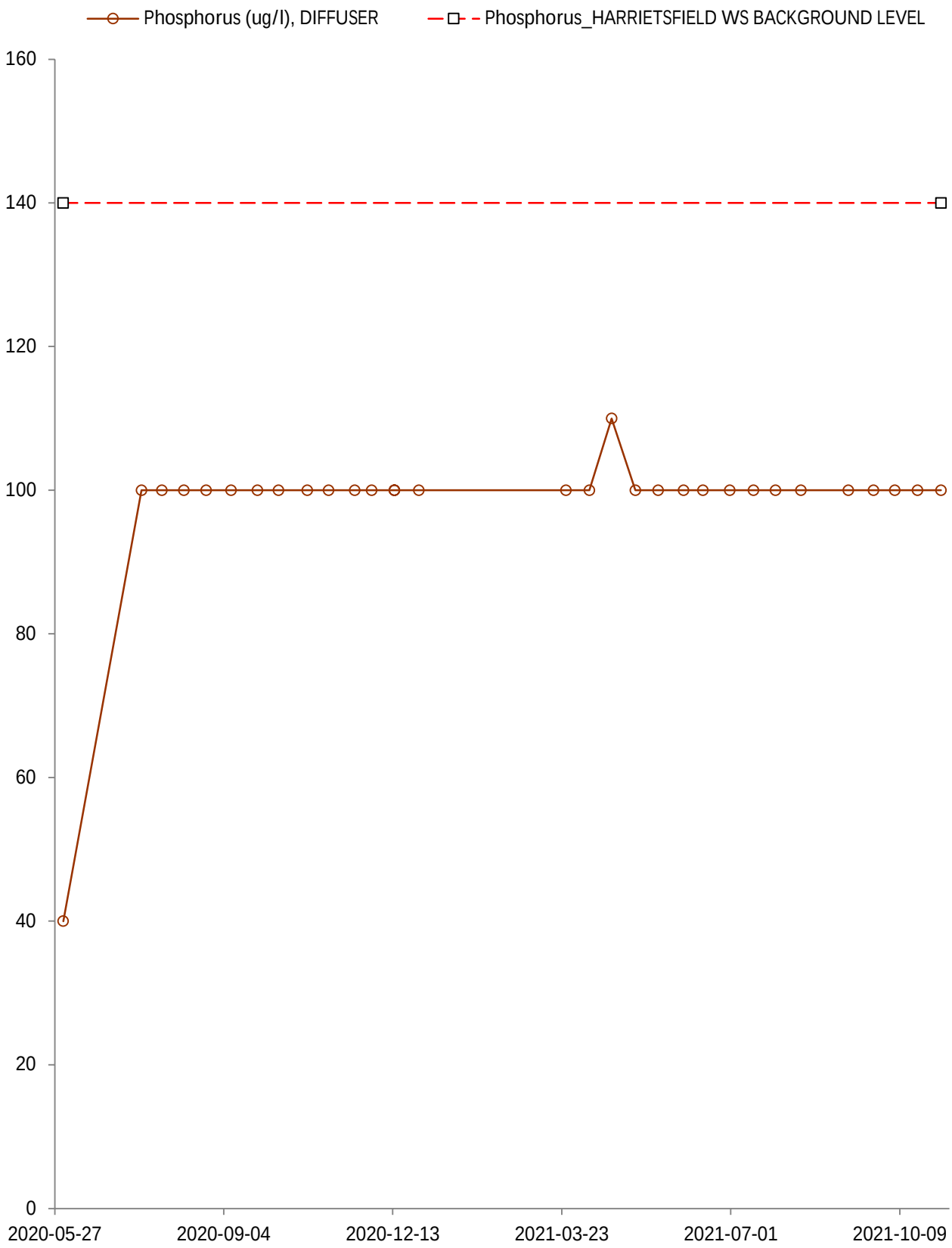
Diffuser-PHC F2 (>C10-C16)



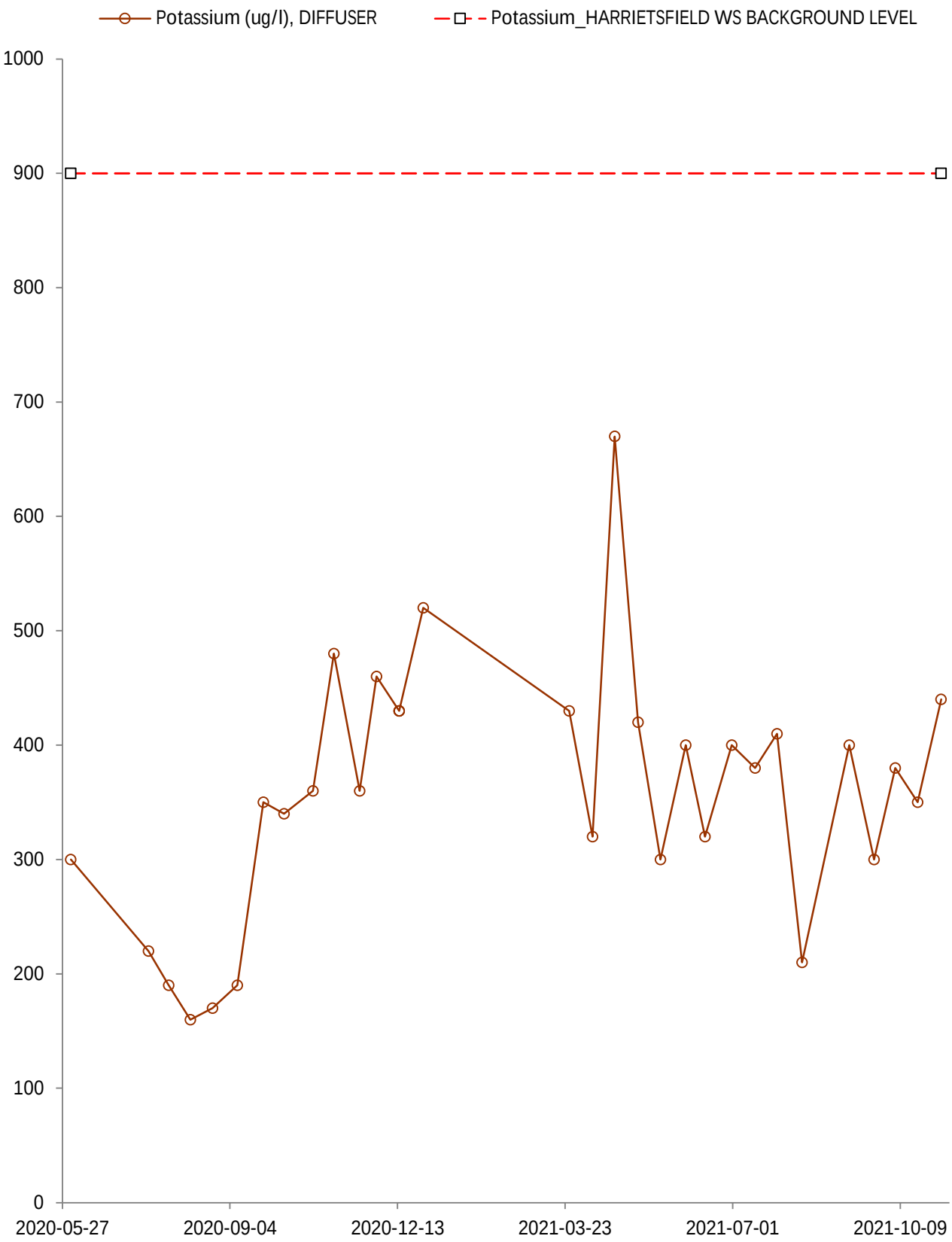
Diffuser-Phenol



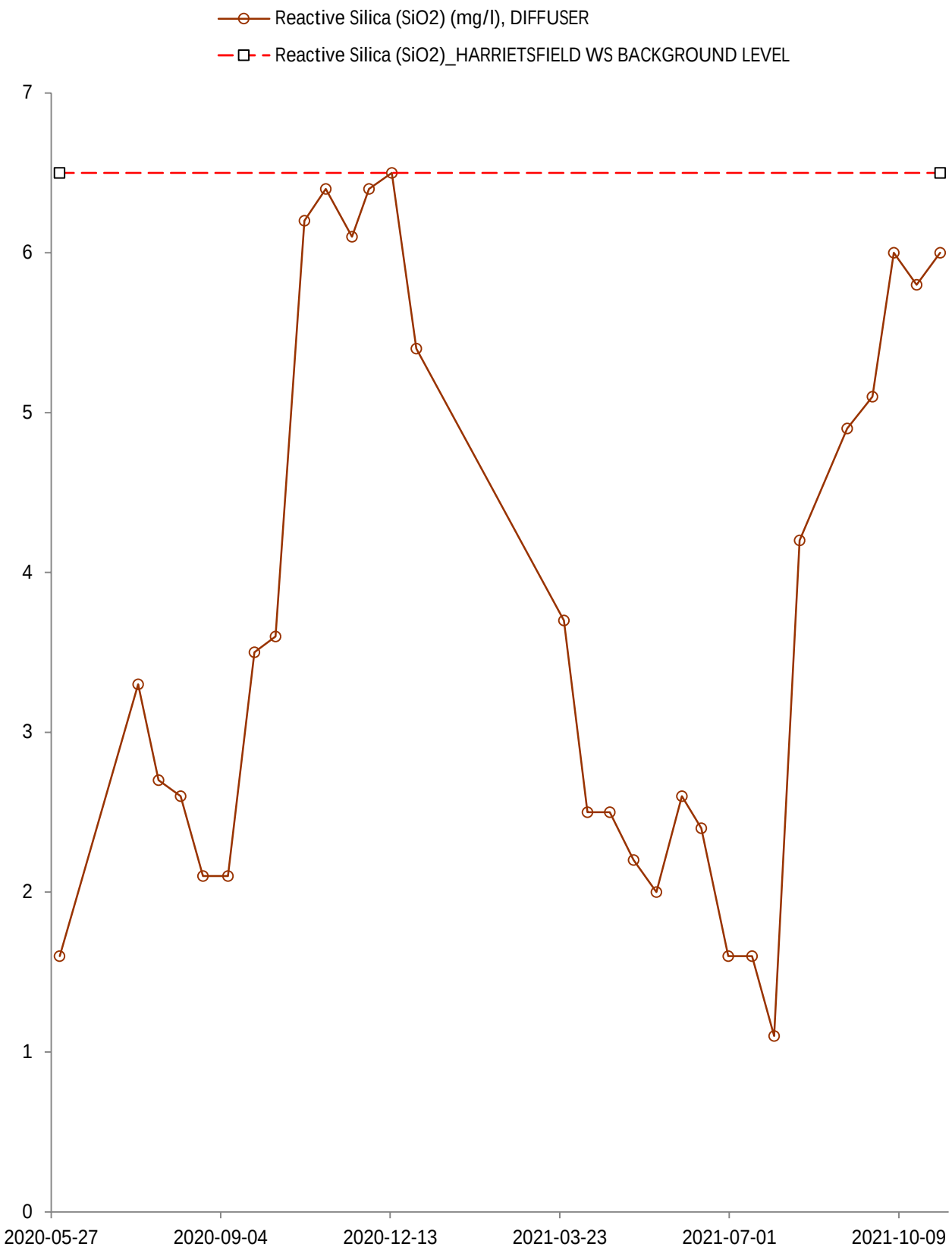
Diffuser-Phosphorus



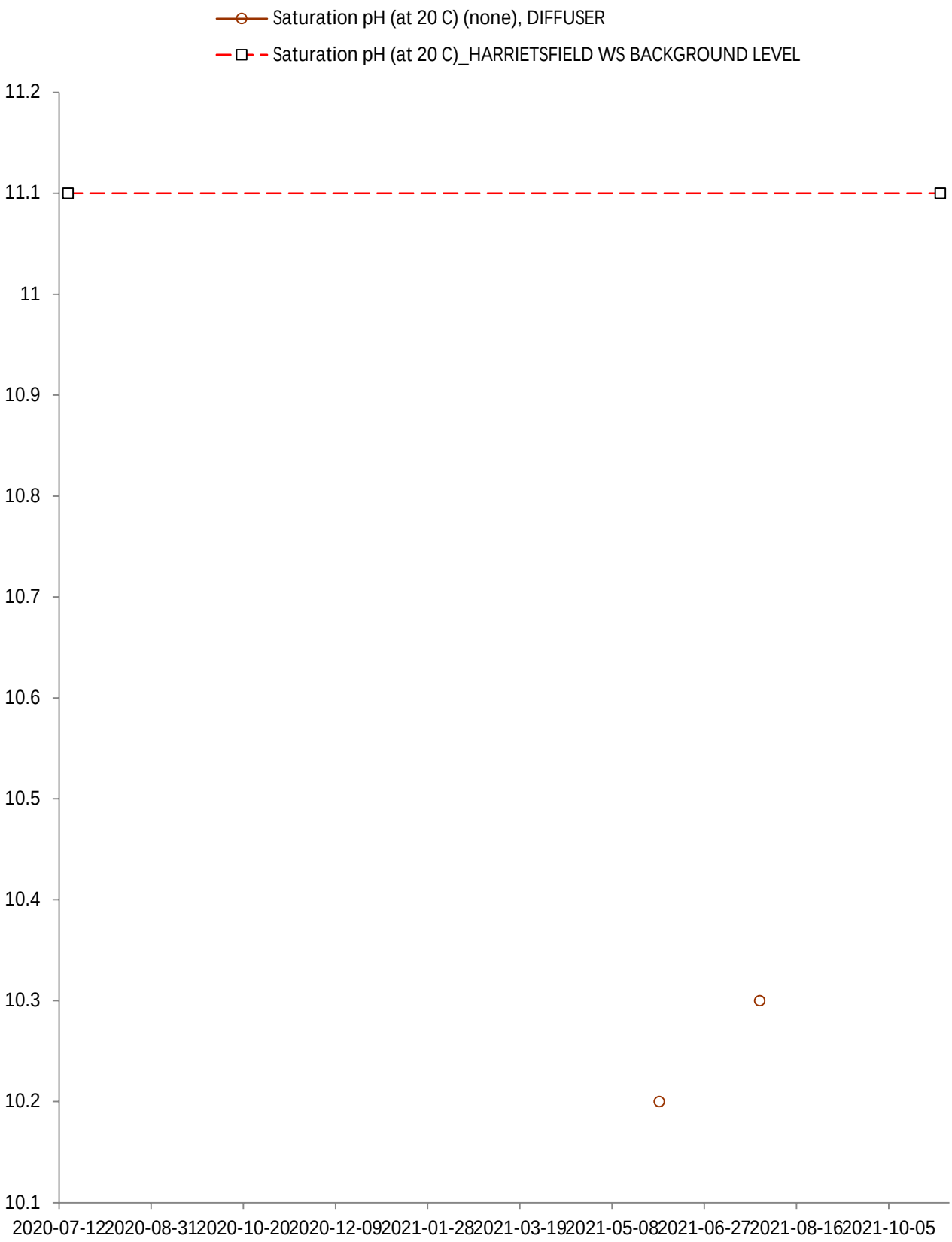
Diffuser-Potassium



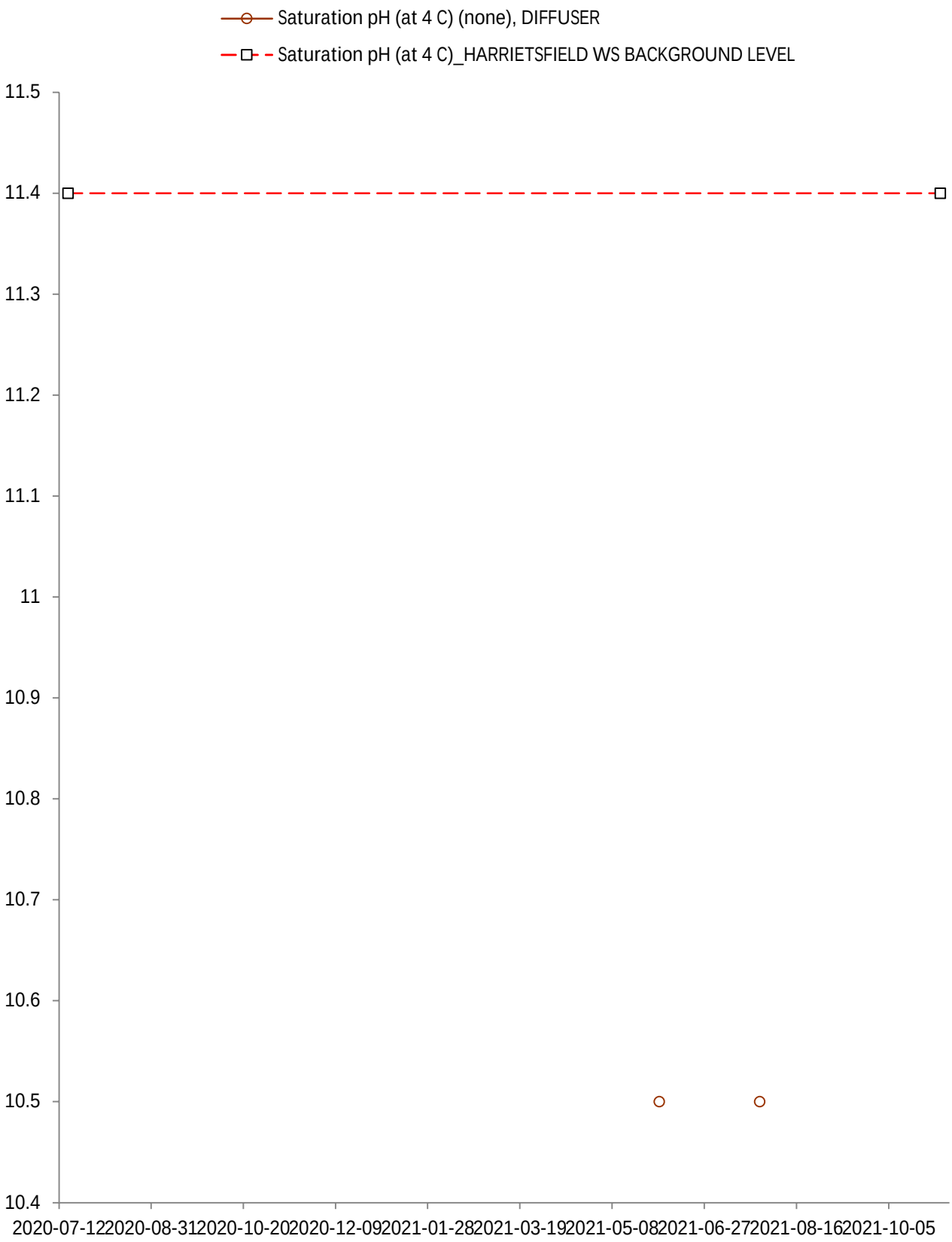
Diffuser-Reactive Silica (SiO2)



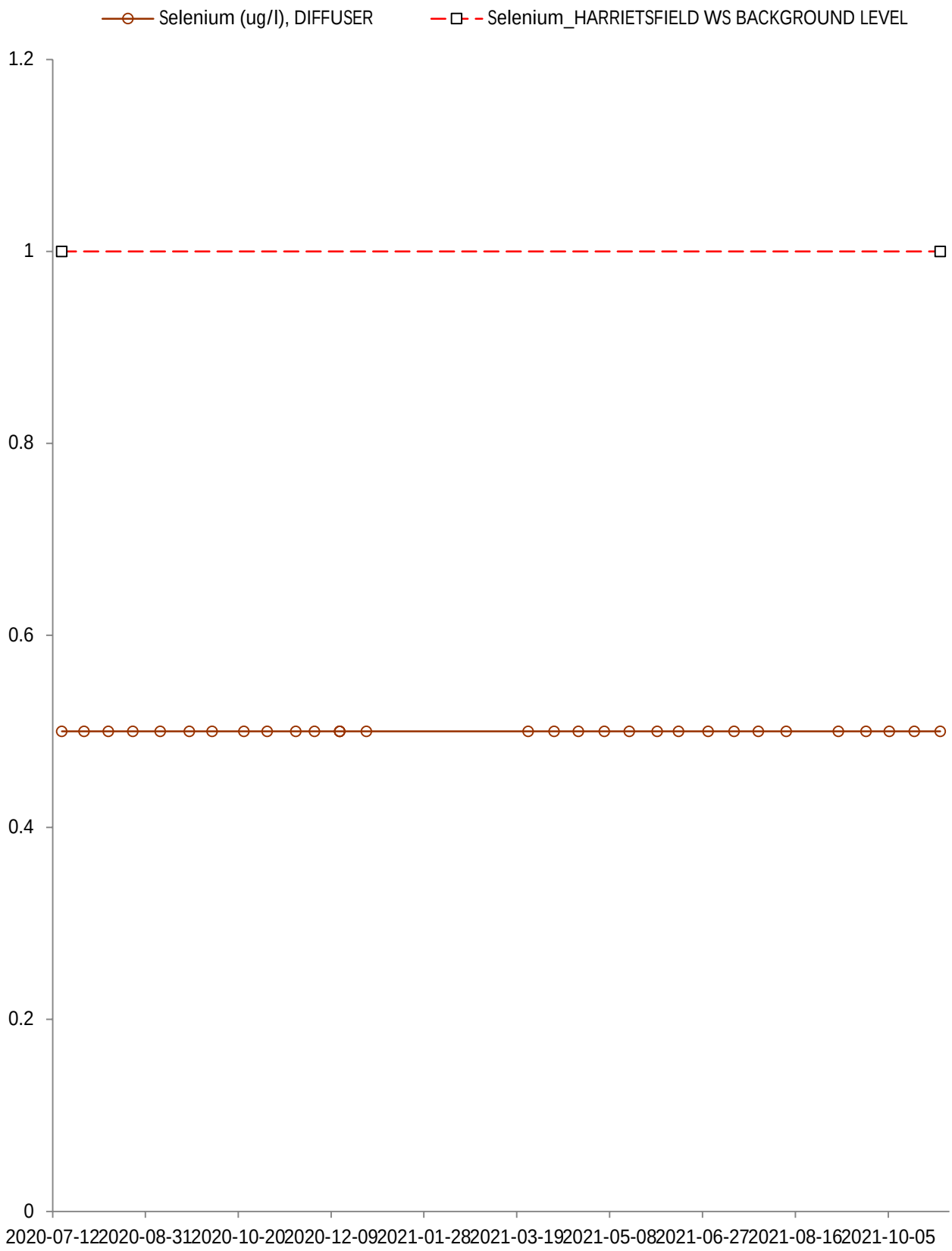
Diffuser-Saturation pH (at 20 C)



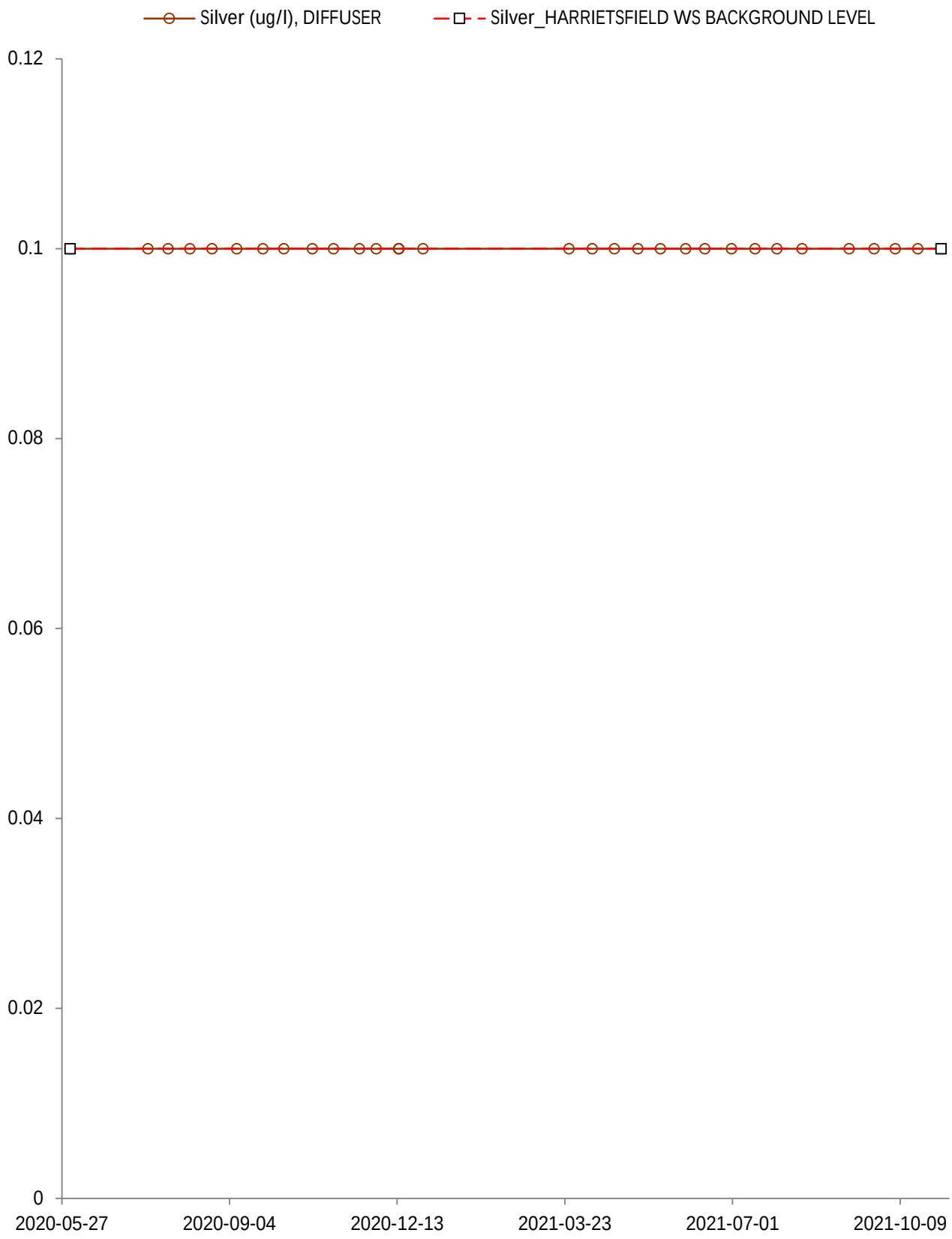
Diffuser-Saturation pH (at 4 C)



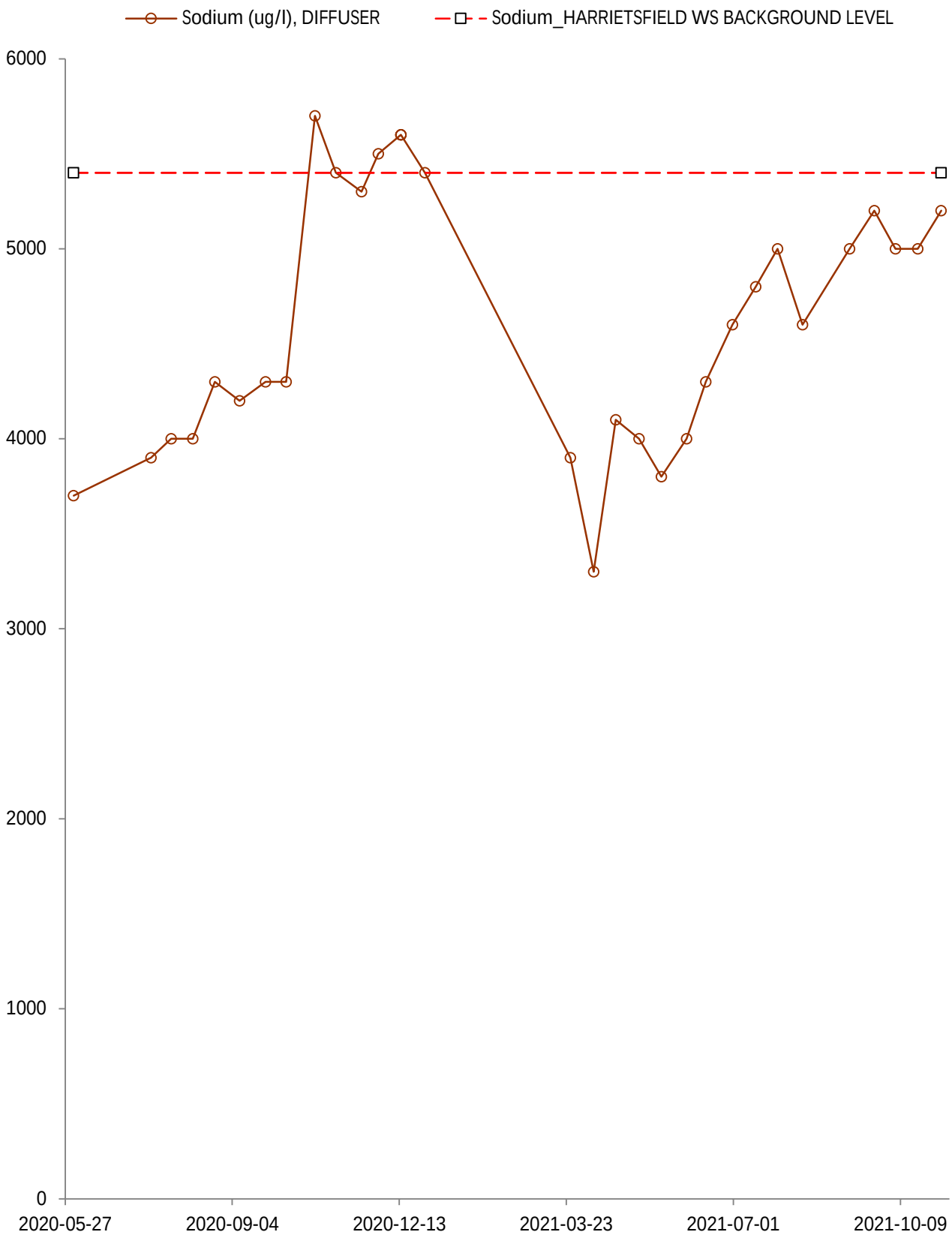
Diffuser-Selenium



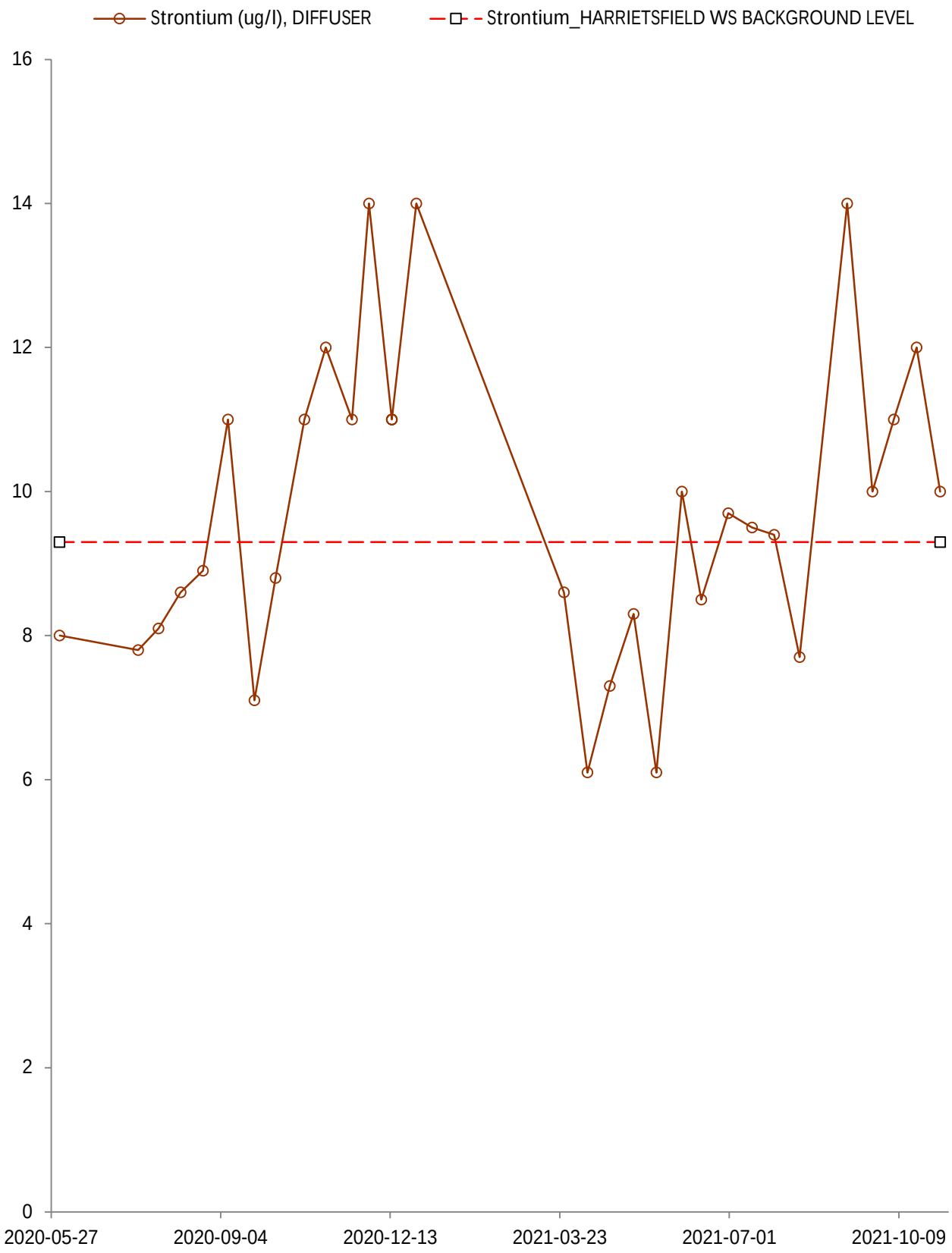
Diffuser-Silver



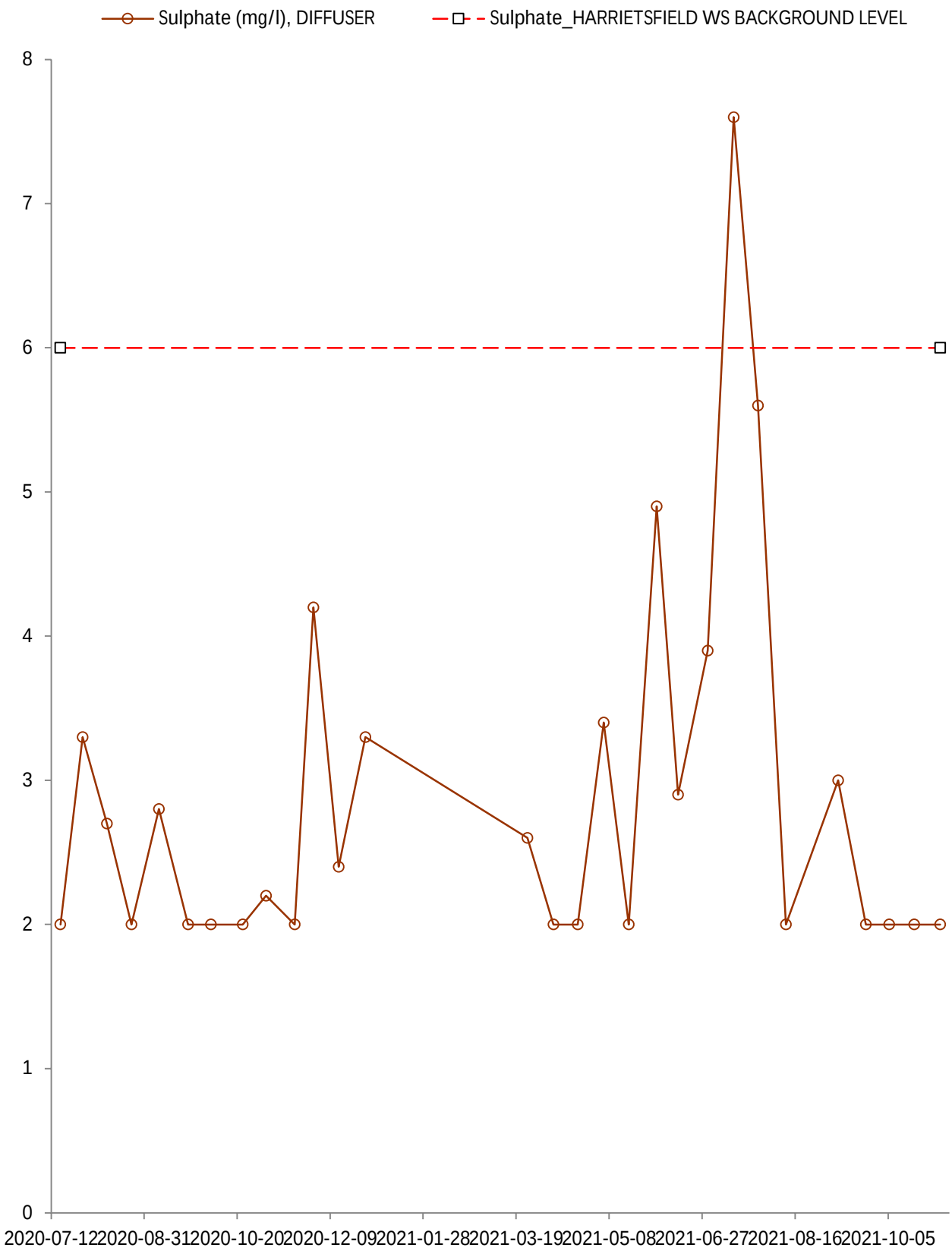
Diffuser-Sodium



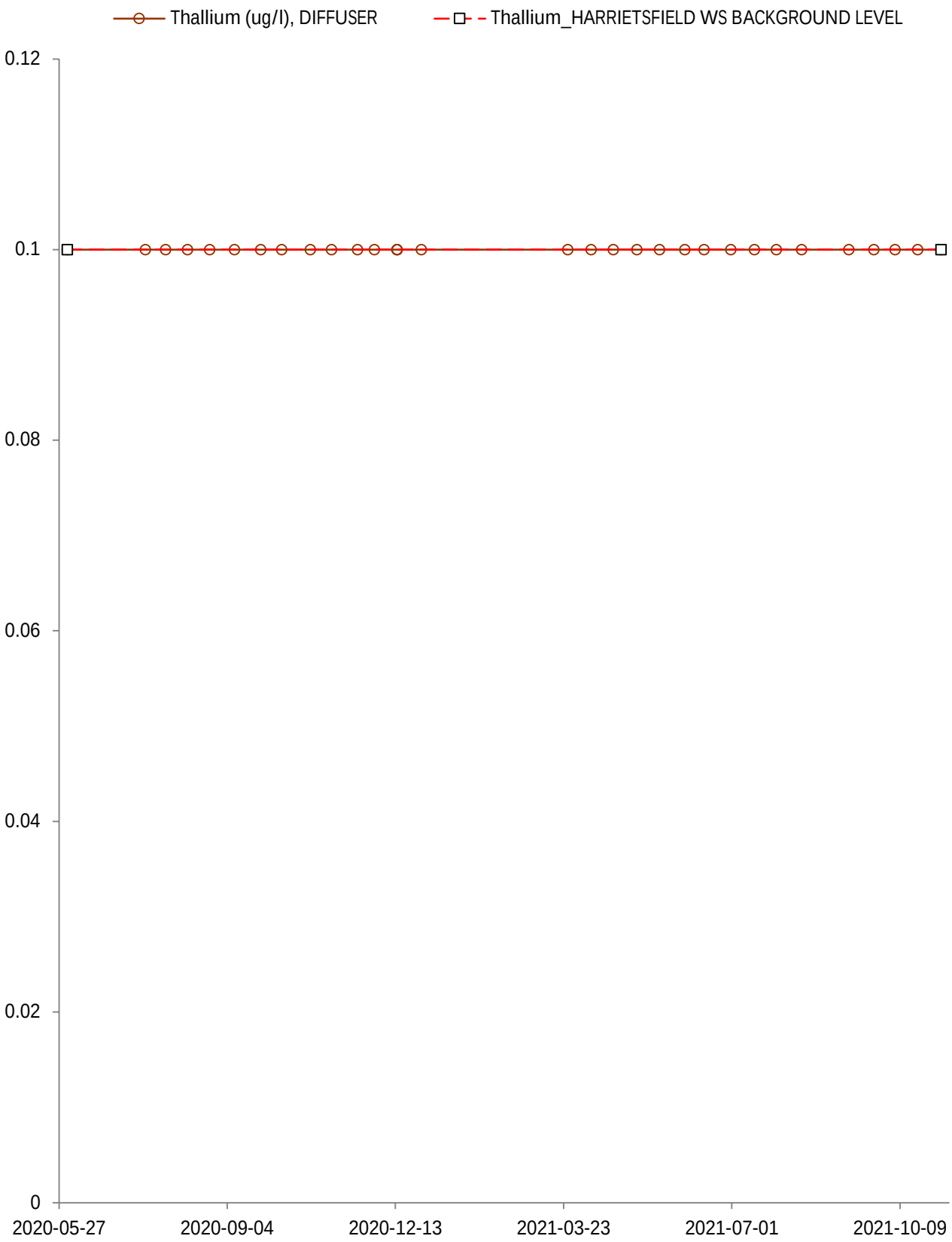
Diffuser-Strontium



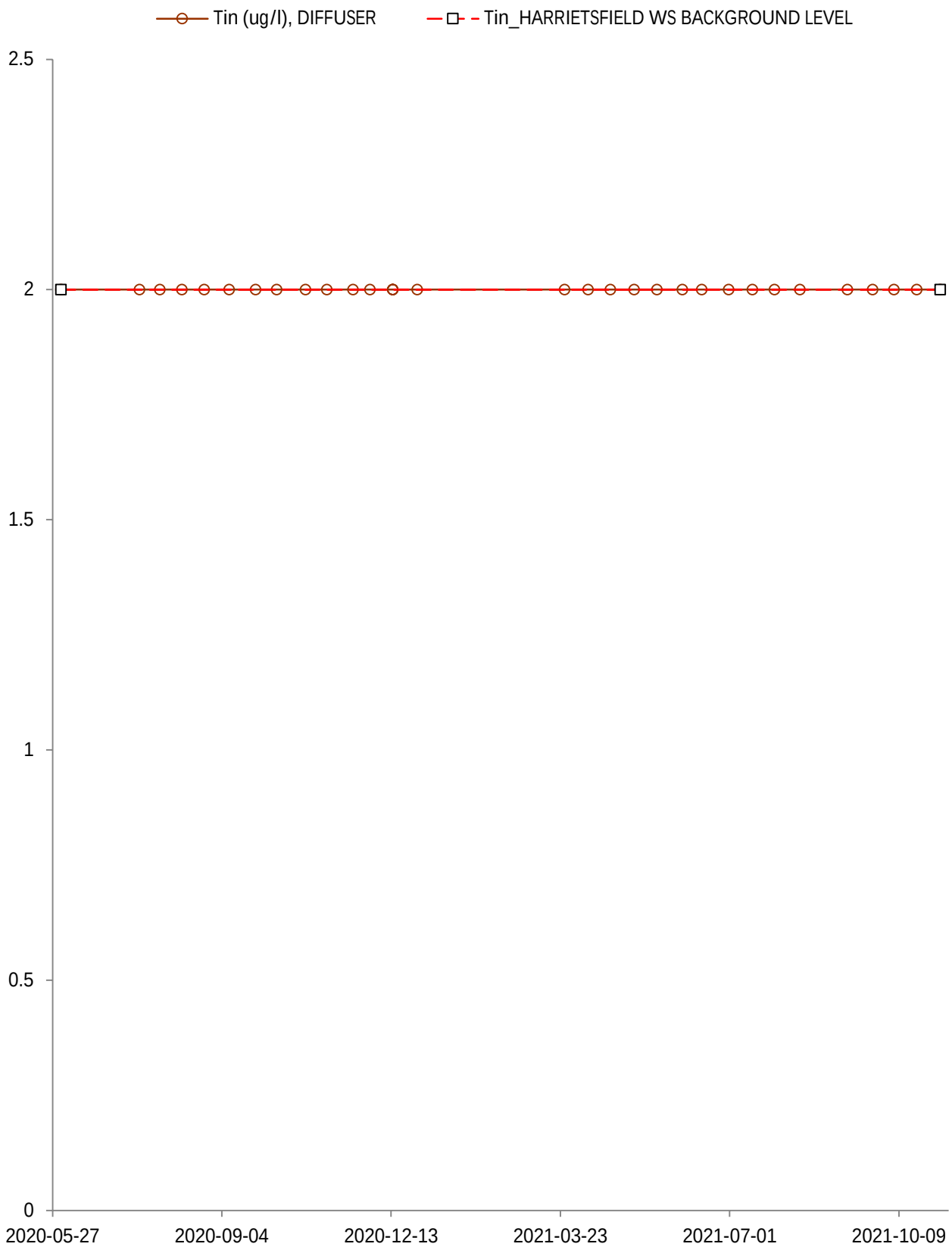
Diffuser-Sulphate



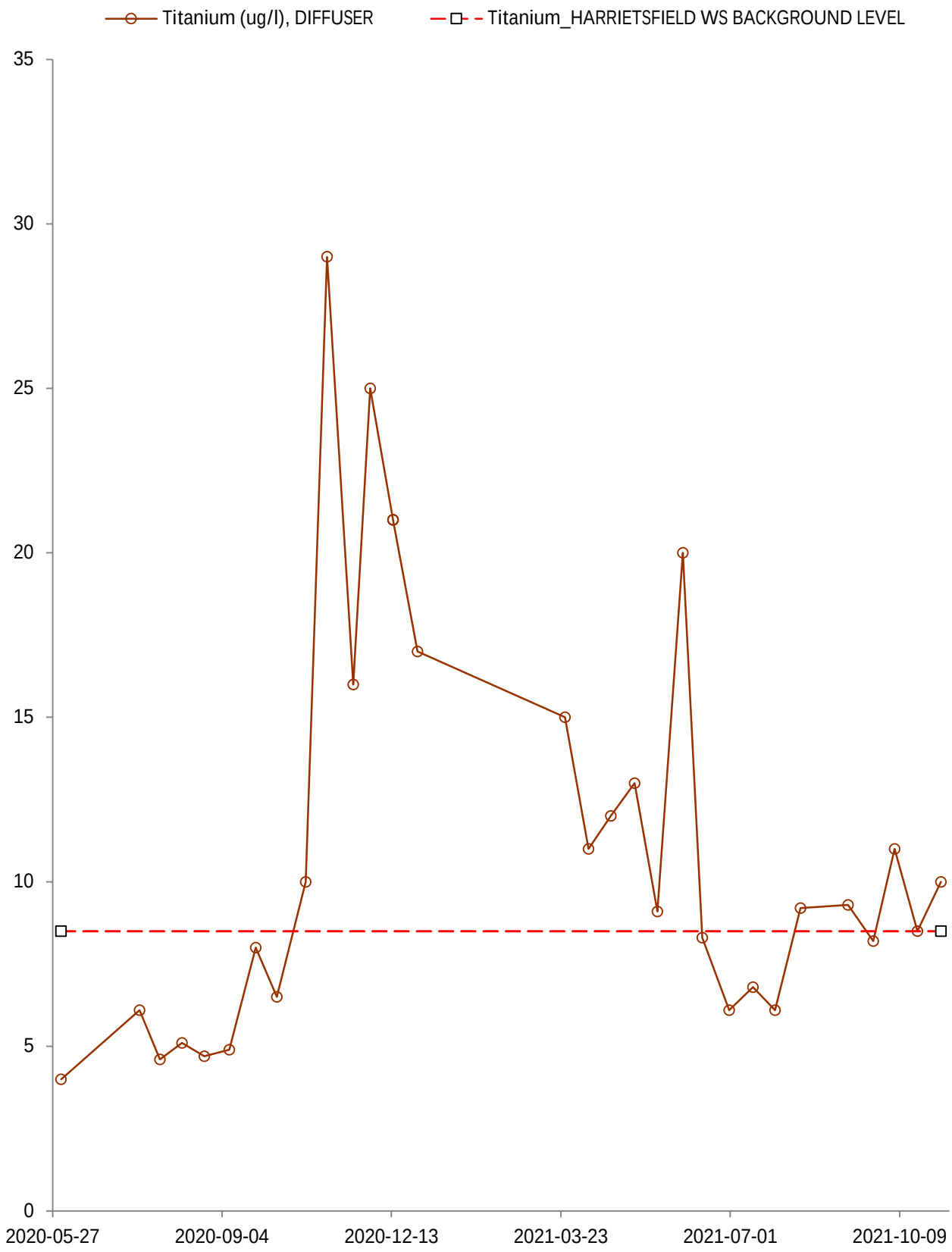
Diffuser-Thallium



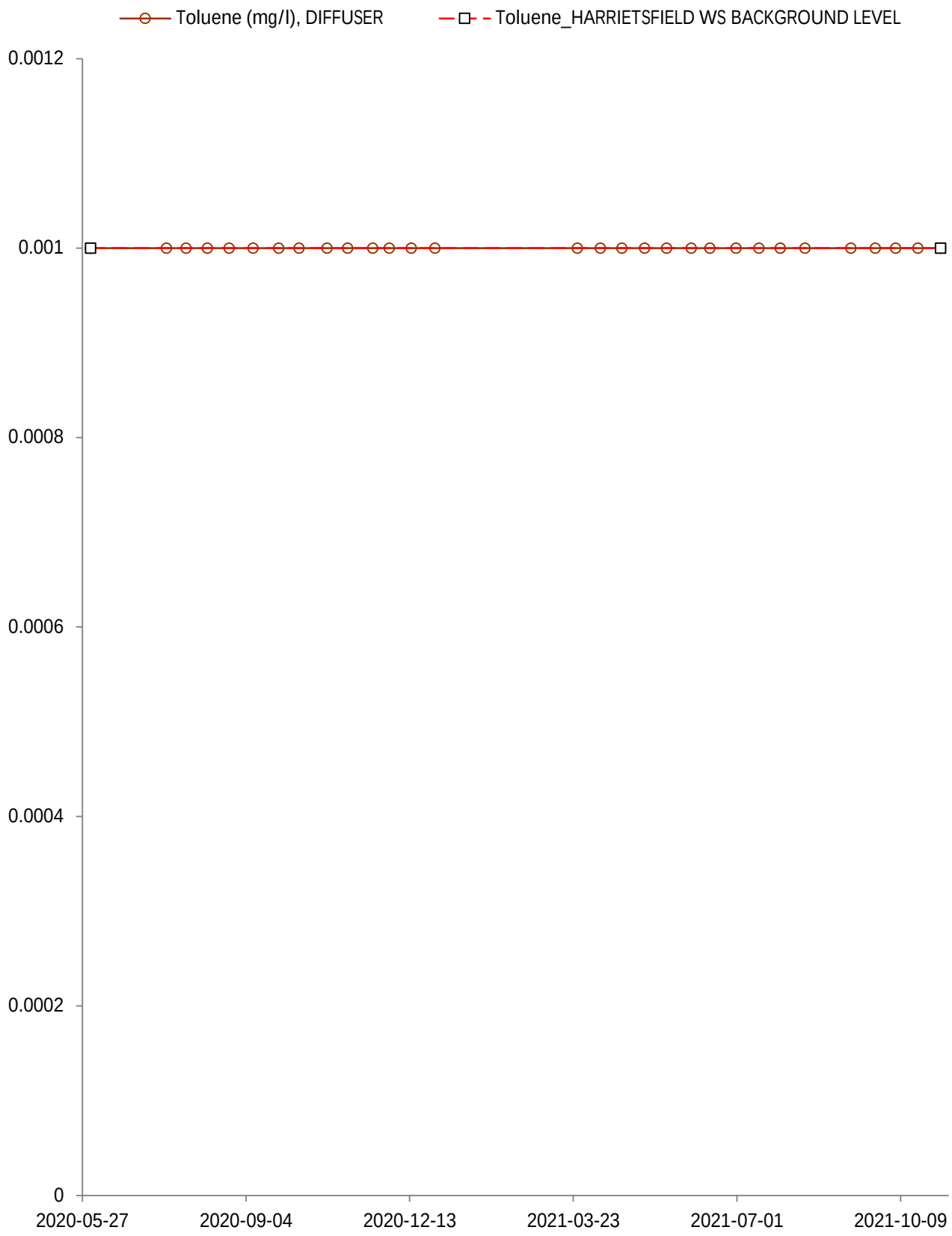
Diffuser-Tin



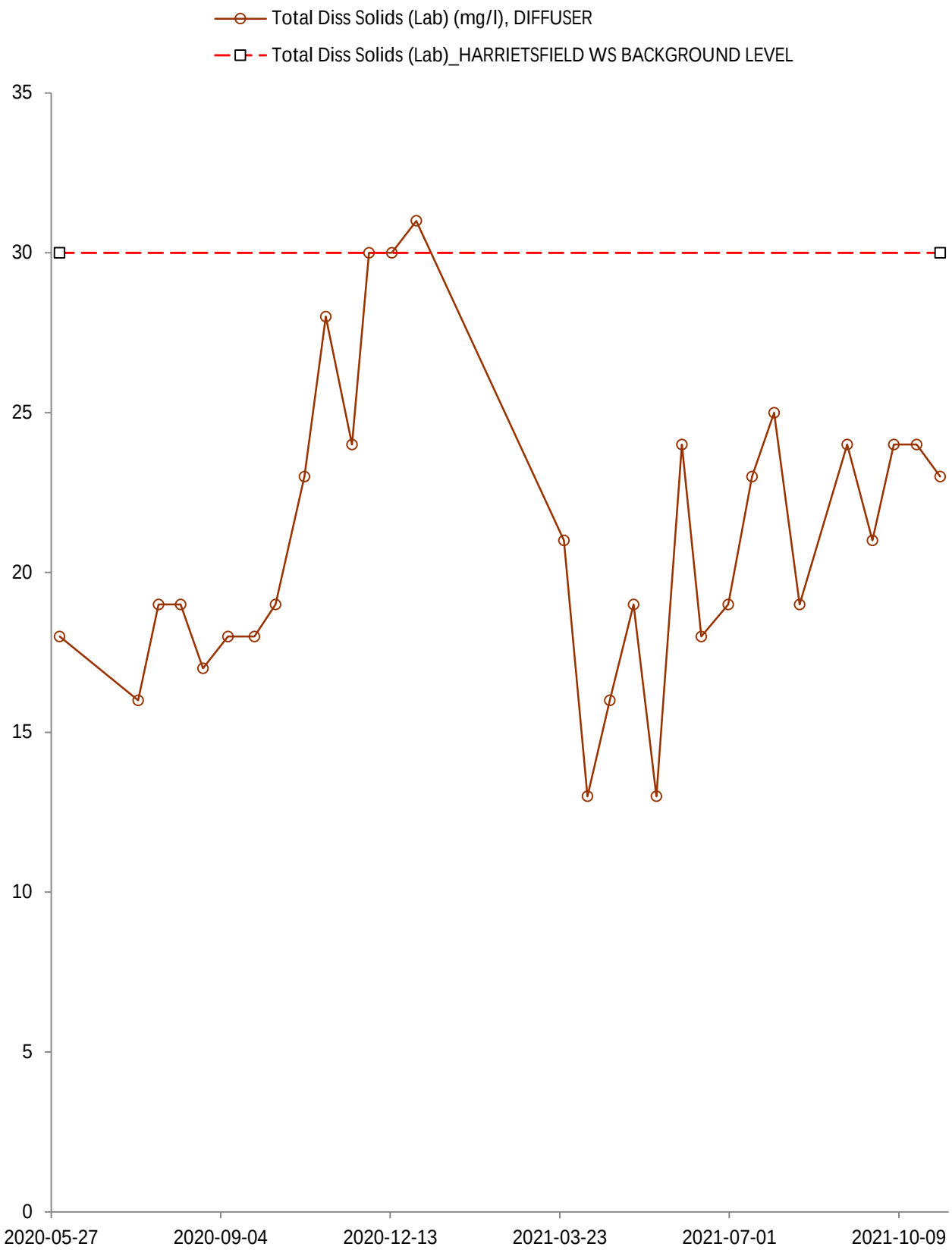
Diffuser-Titanium



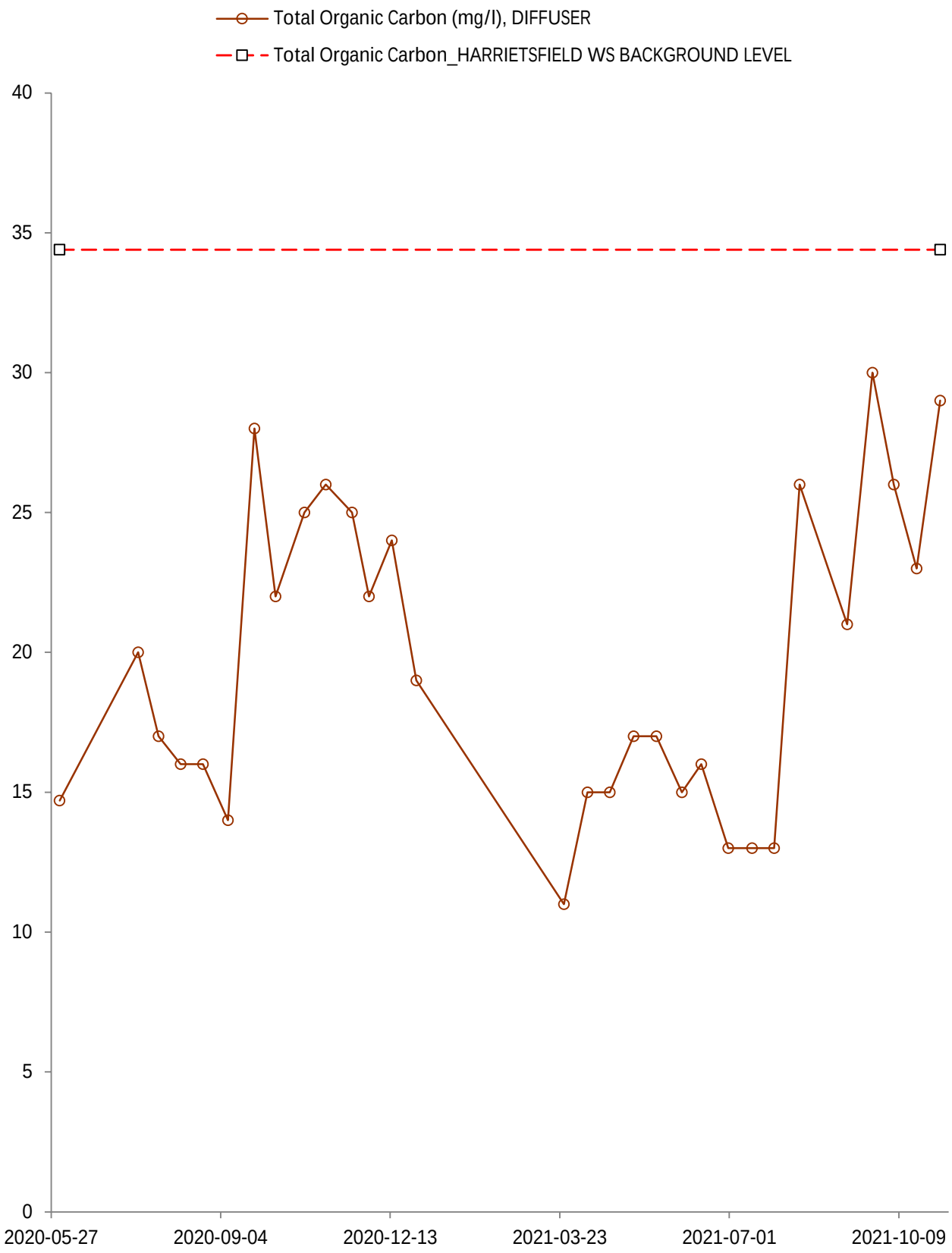
Diffuser-Toluene



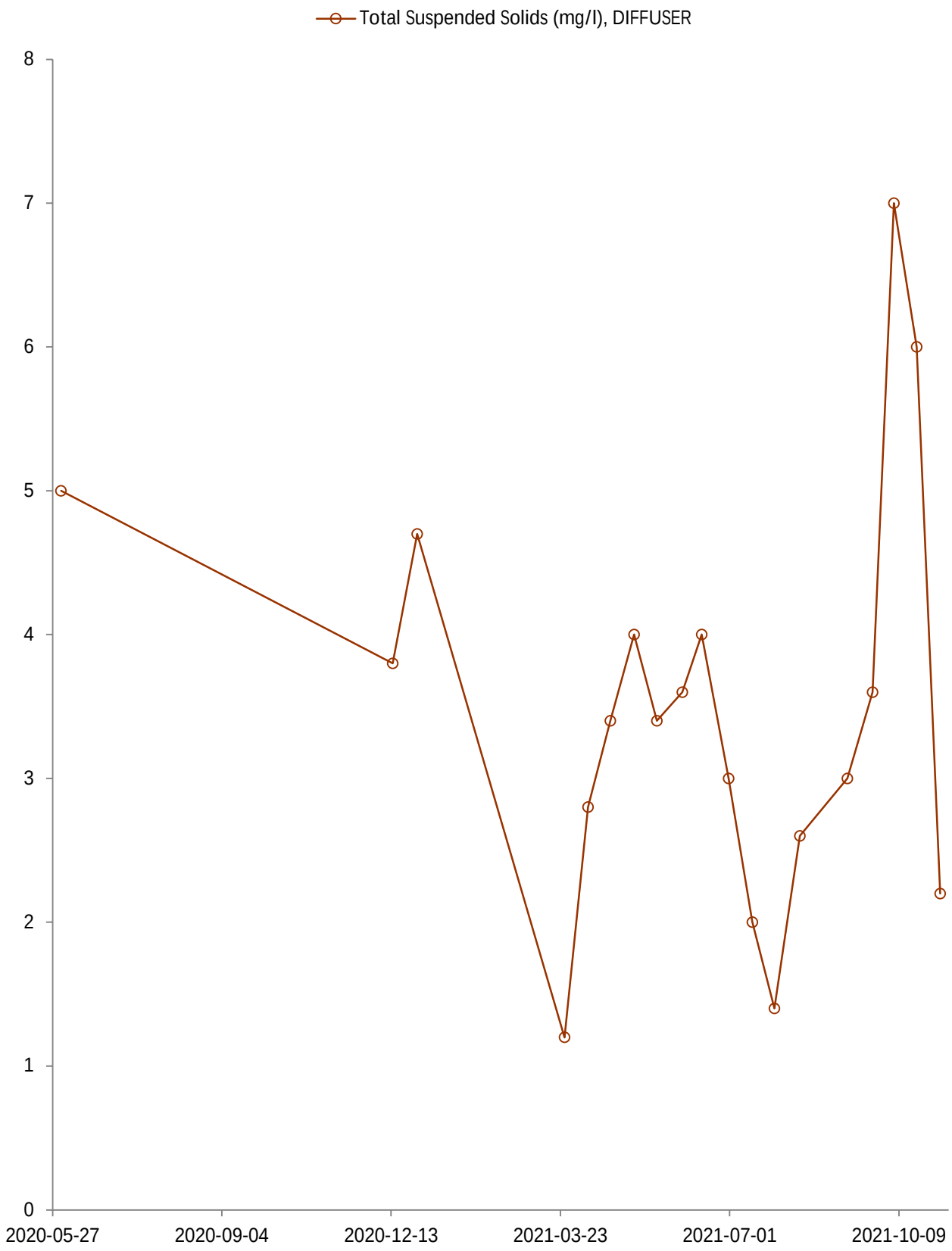
Diffuser-Total Diss Solids (Lab)



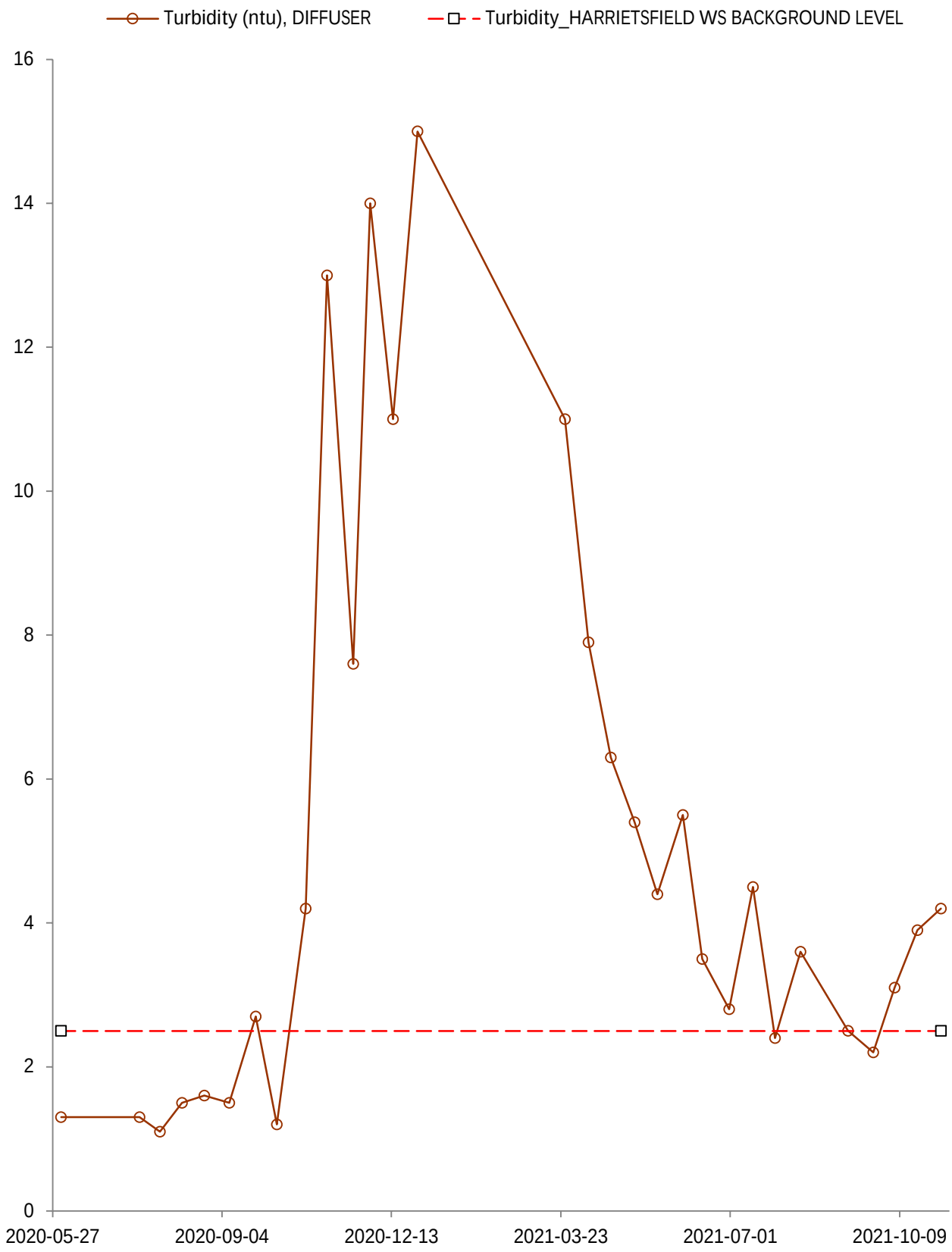
Diffuser-Total Organic Carbon



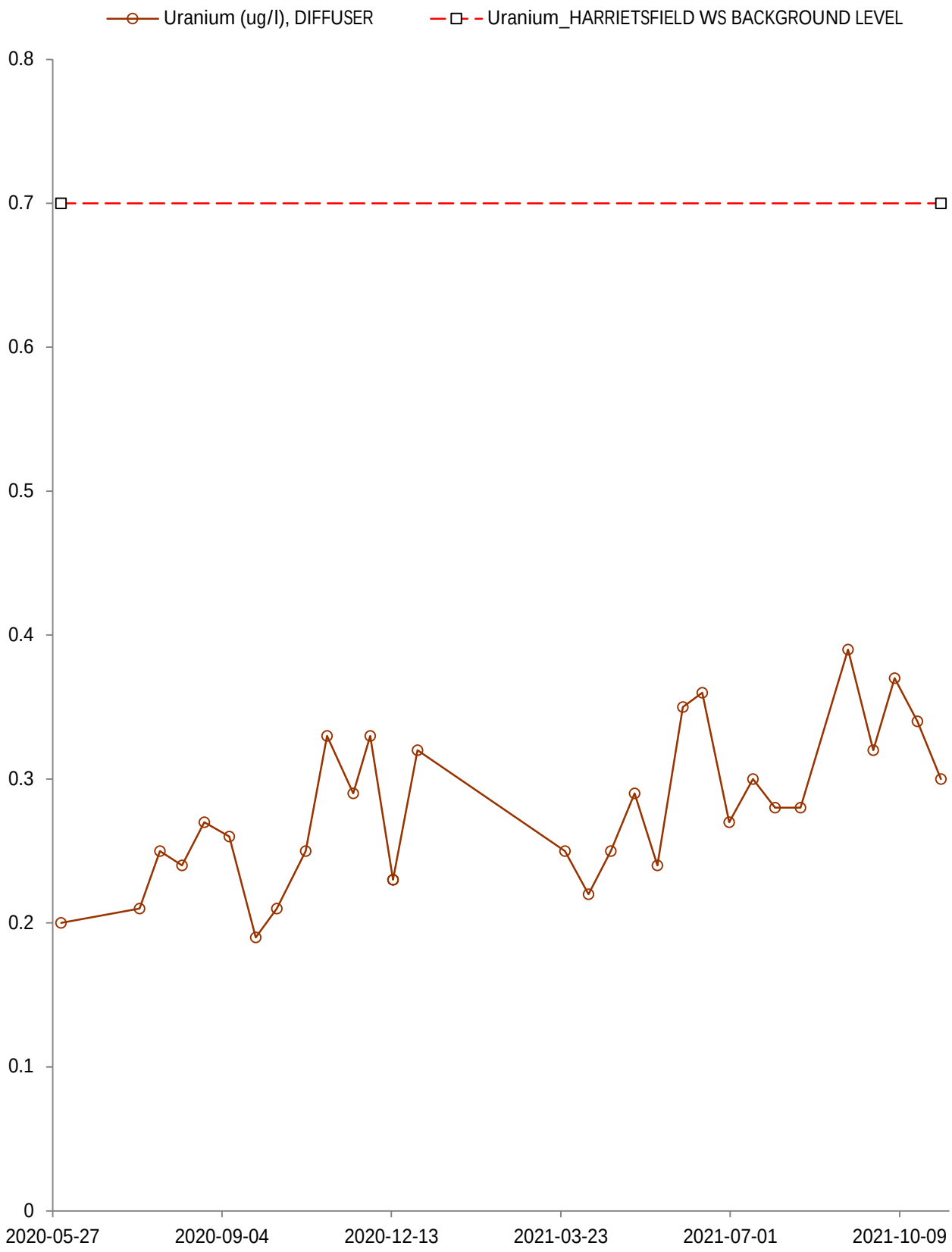
Diffuser-Total Suspended Solids



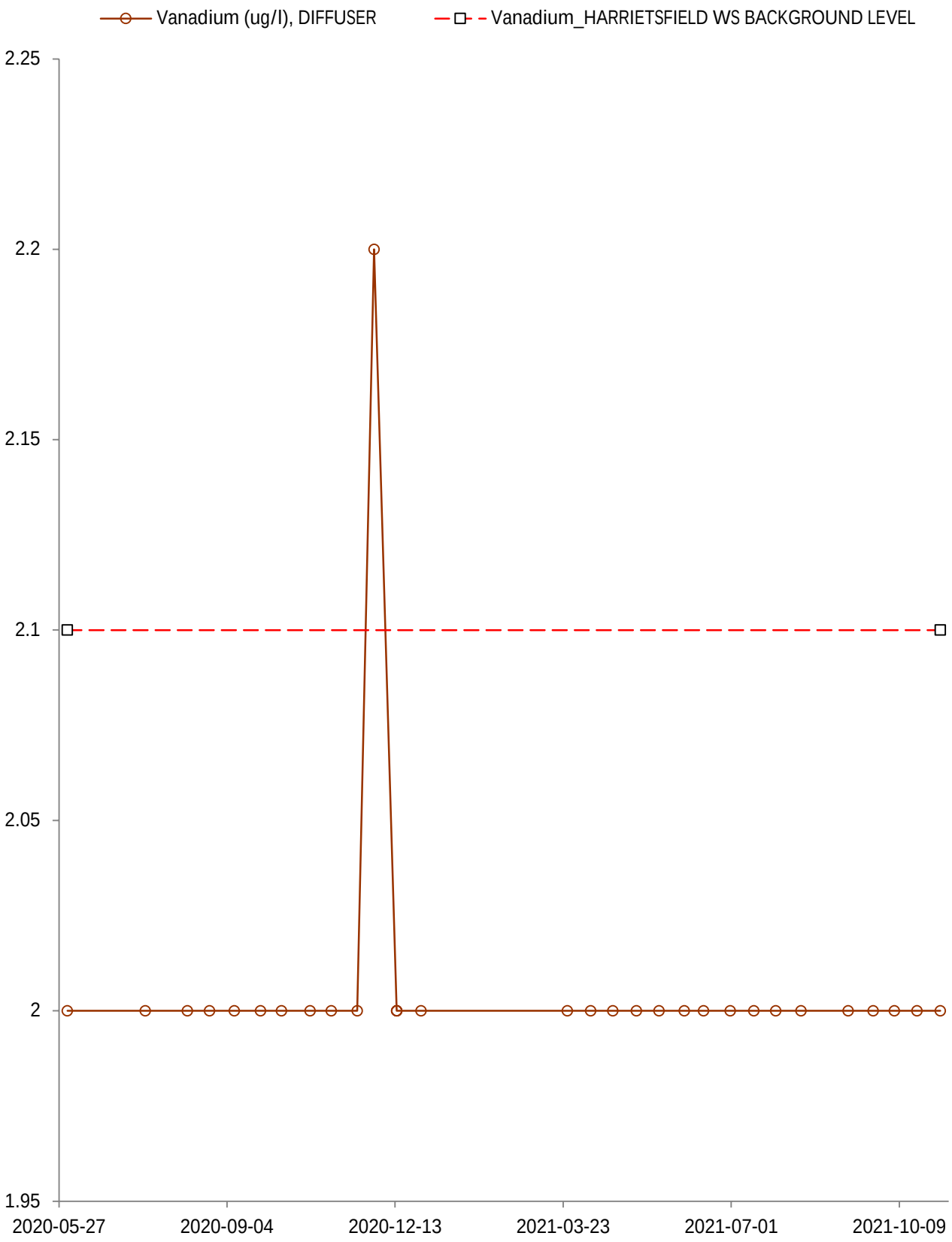
Diffuser-Turbidity



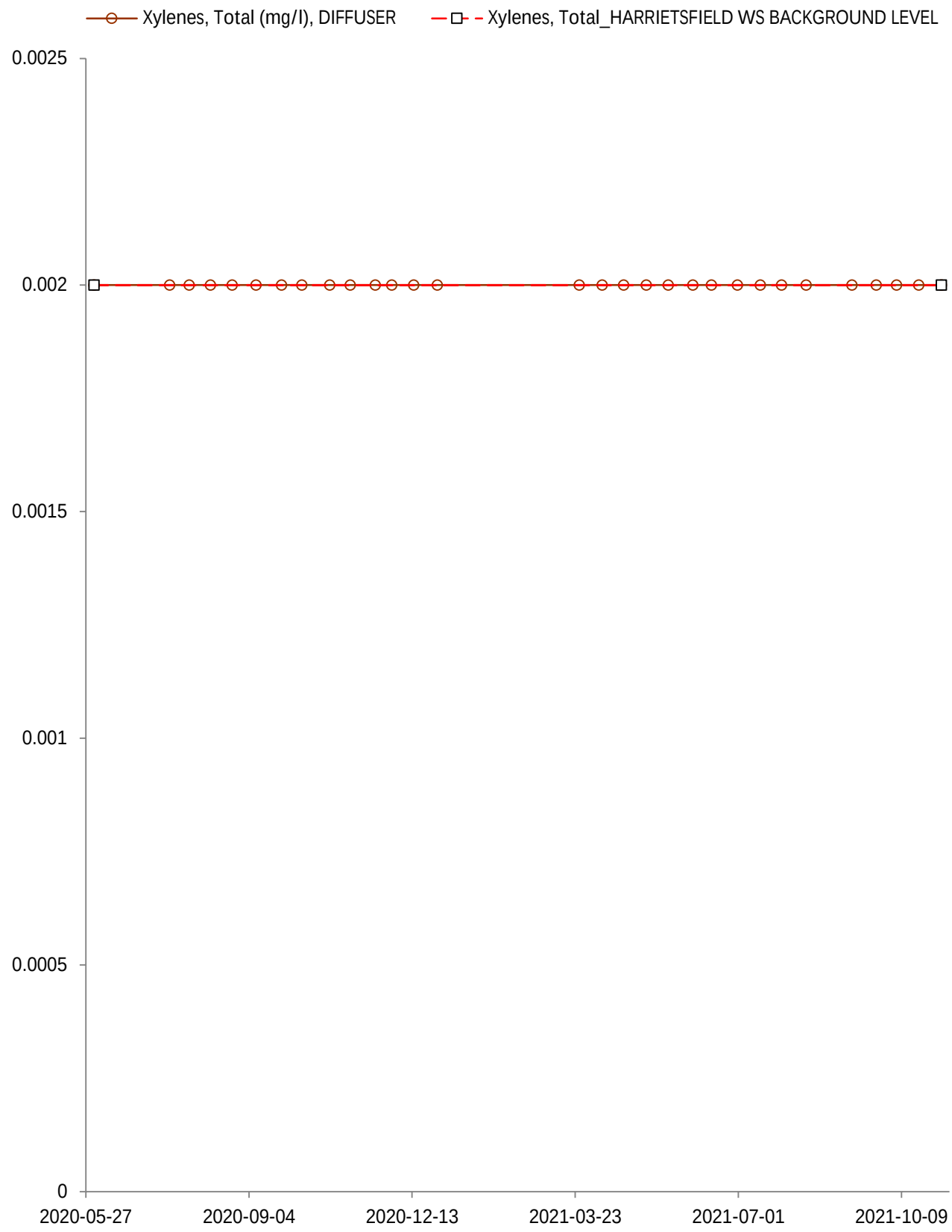
Diffuser-Uranium



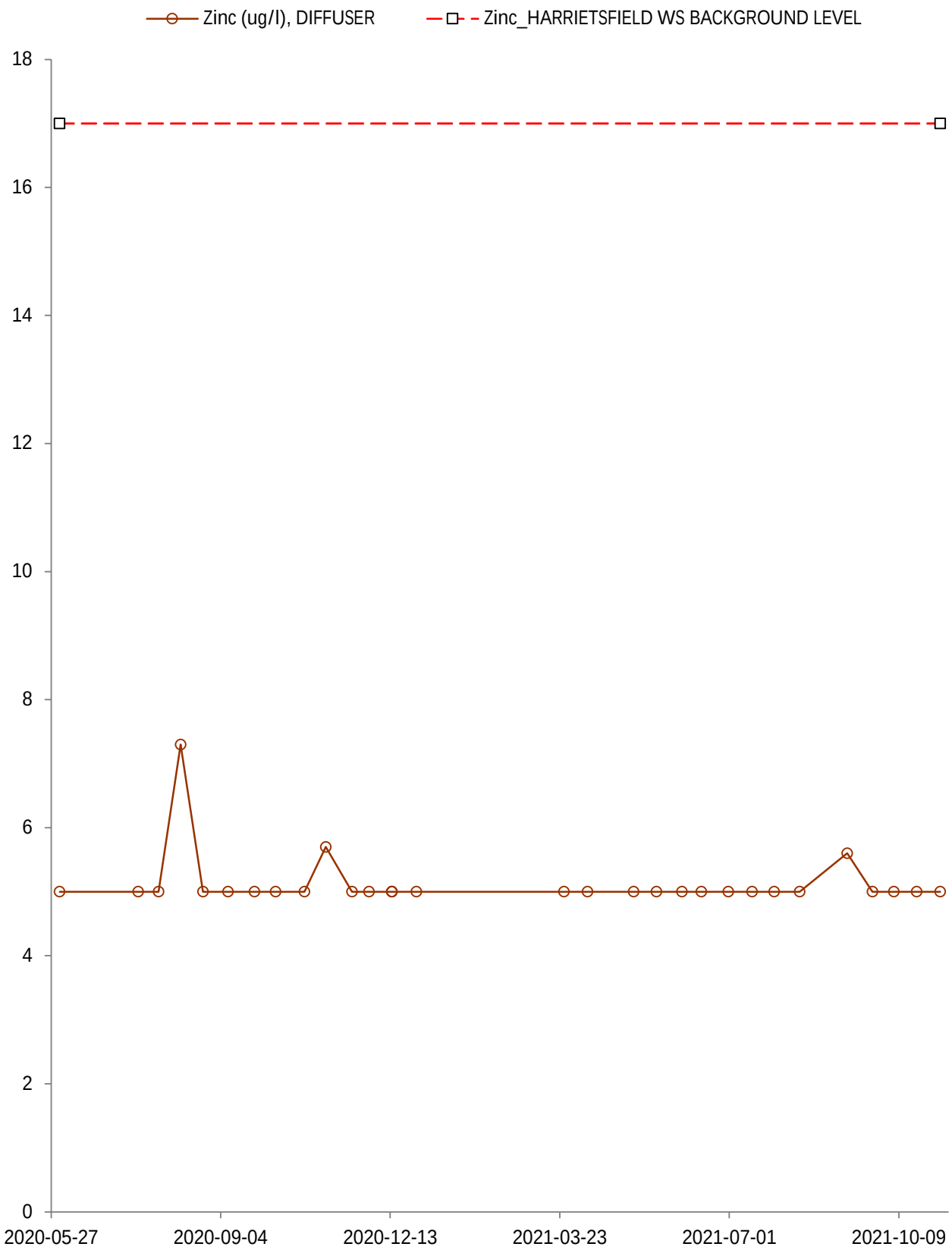
Diffuser-Vanadium



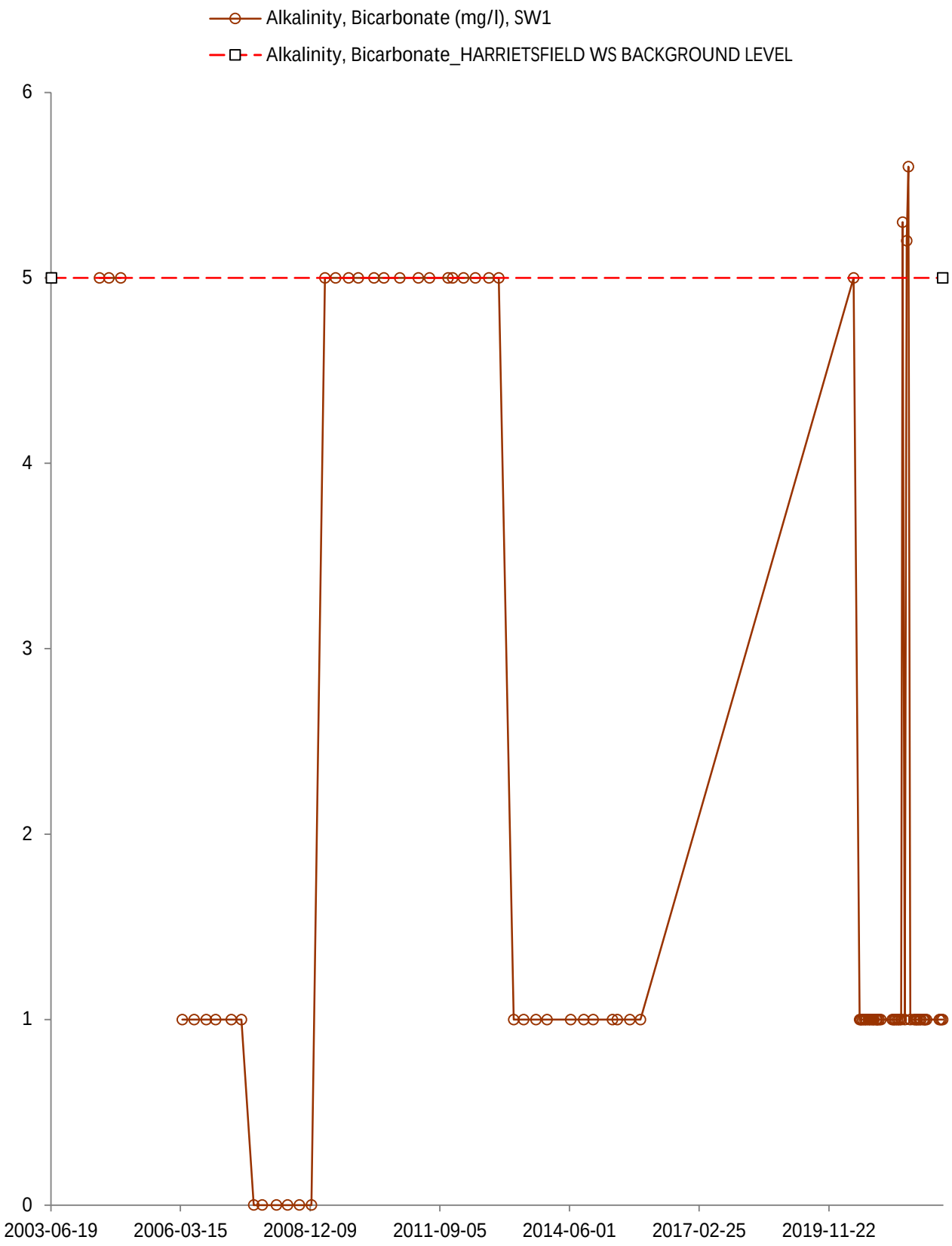
Diffuser-Xylenes, Total



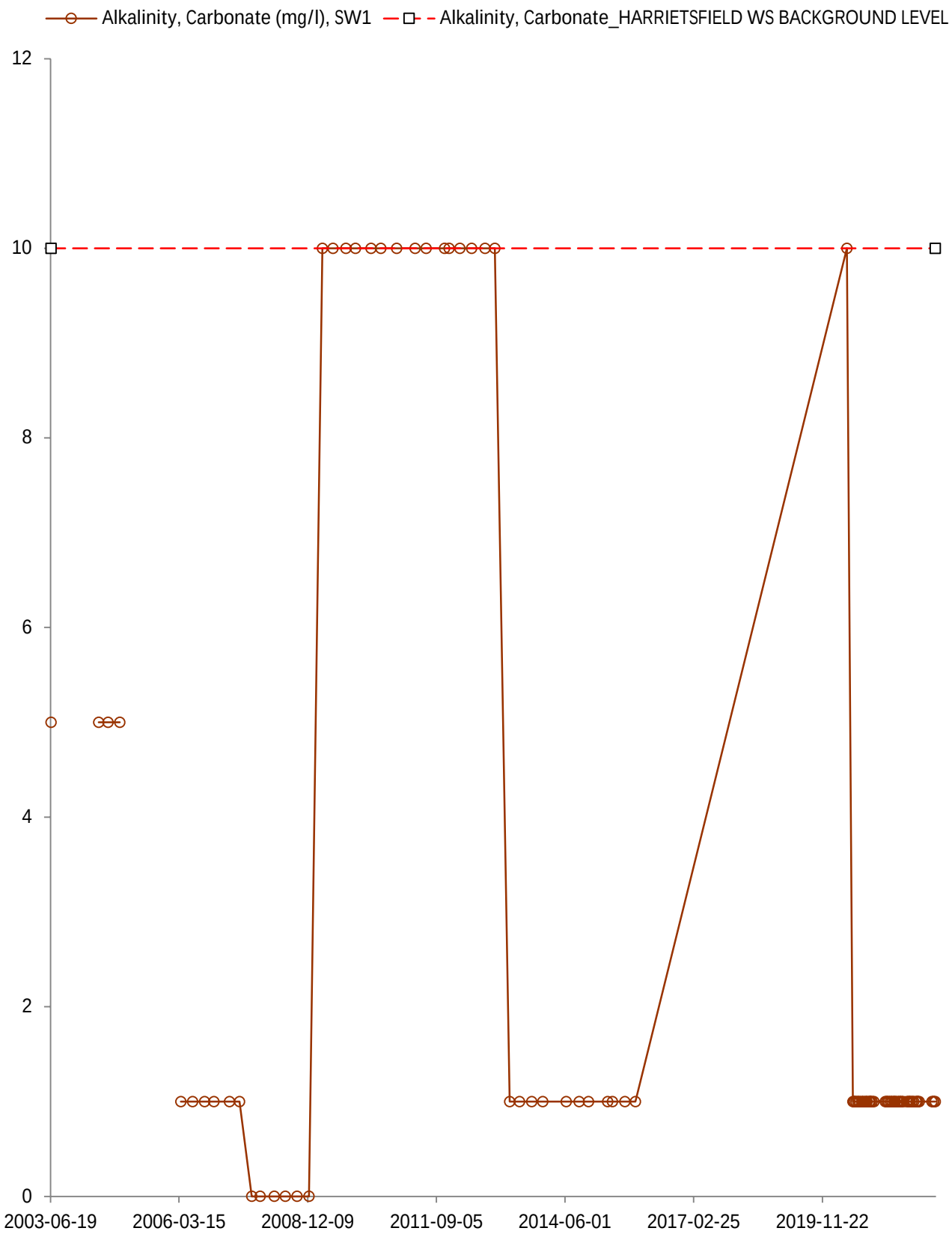
Diffuser-Zinc



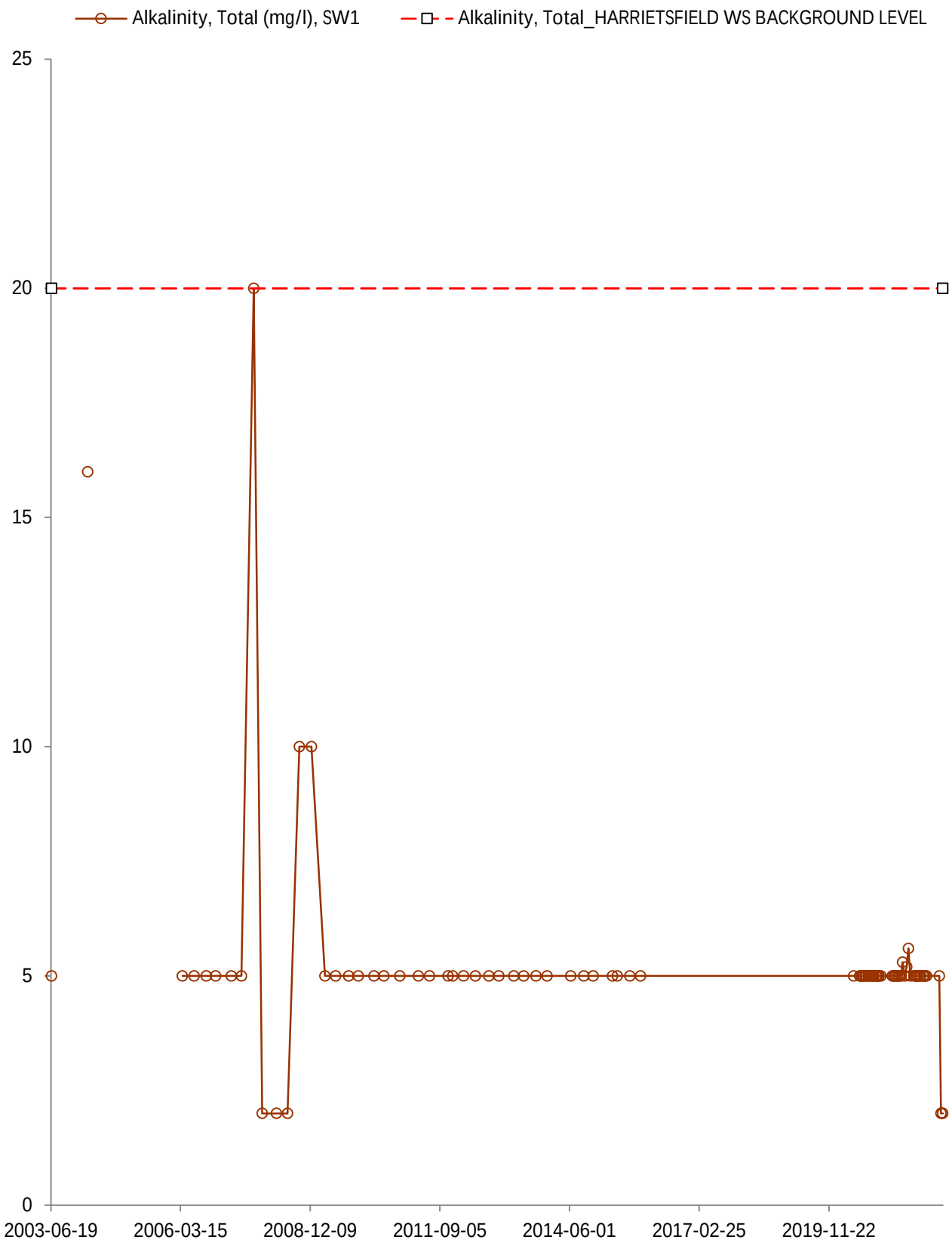
SW1-Alkalinity, Bicarbonate



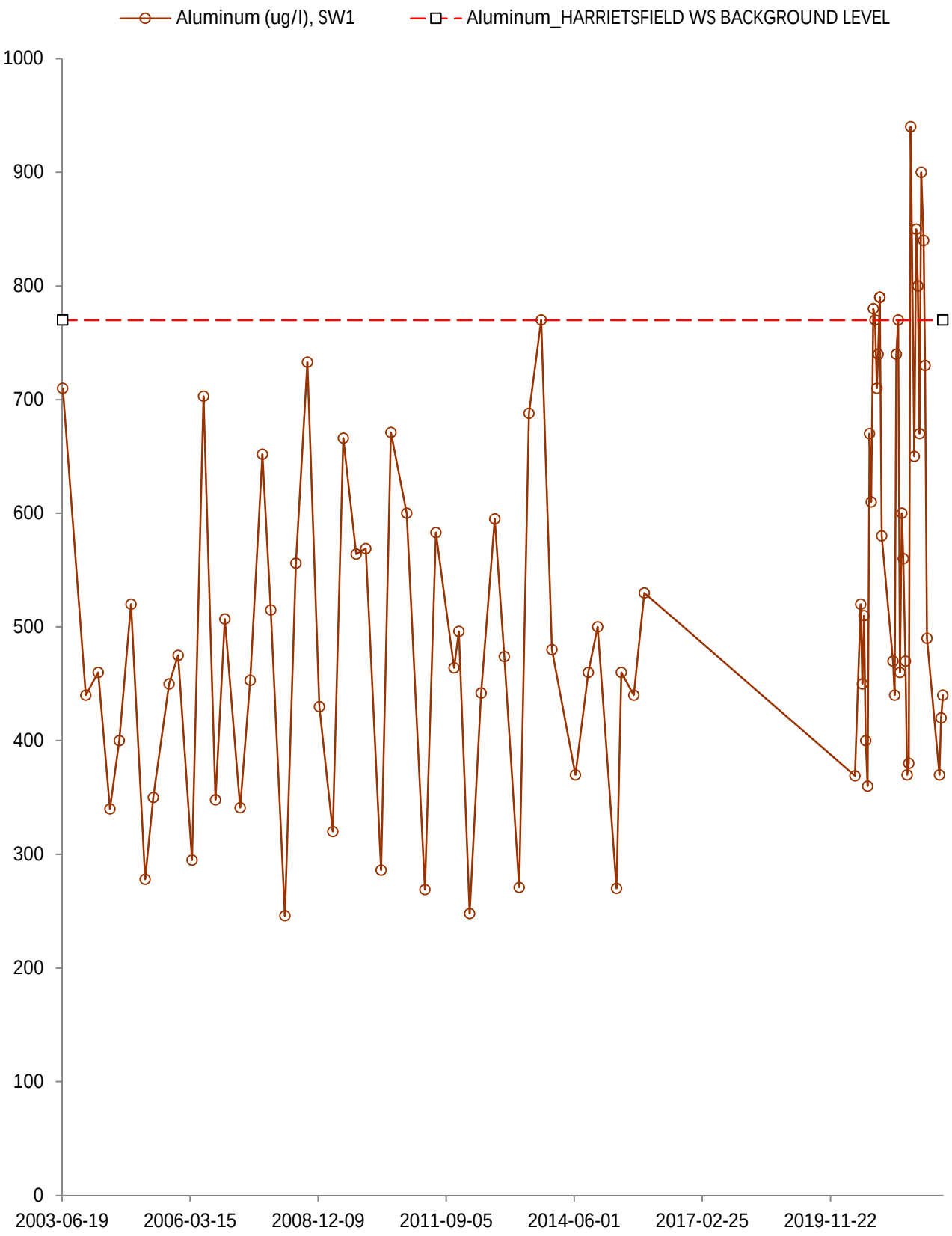
SW1-Alkalinity, Carbonate



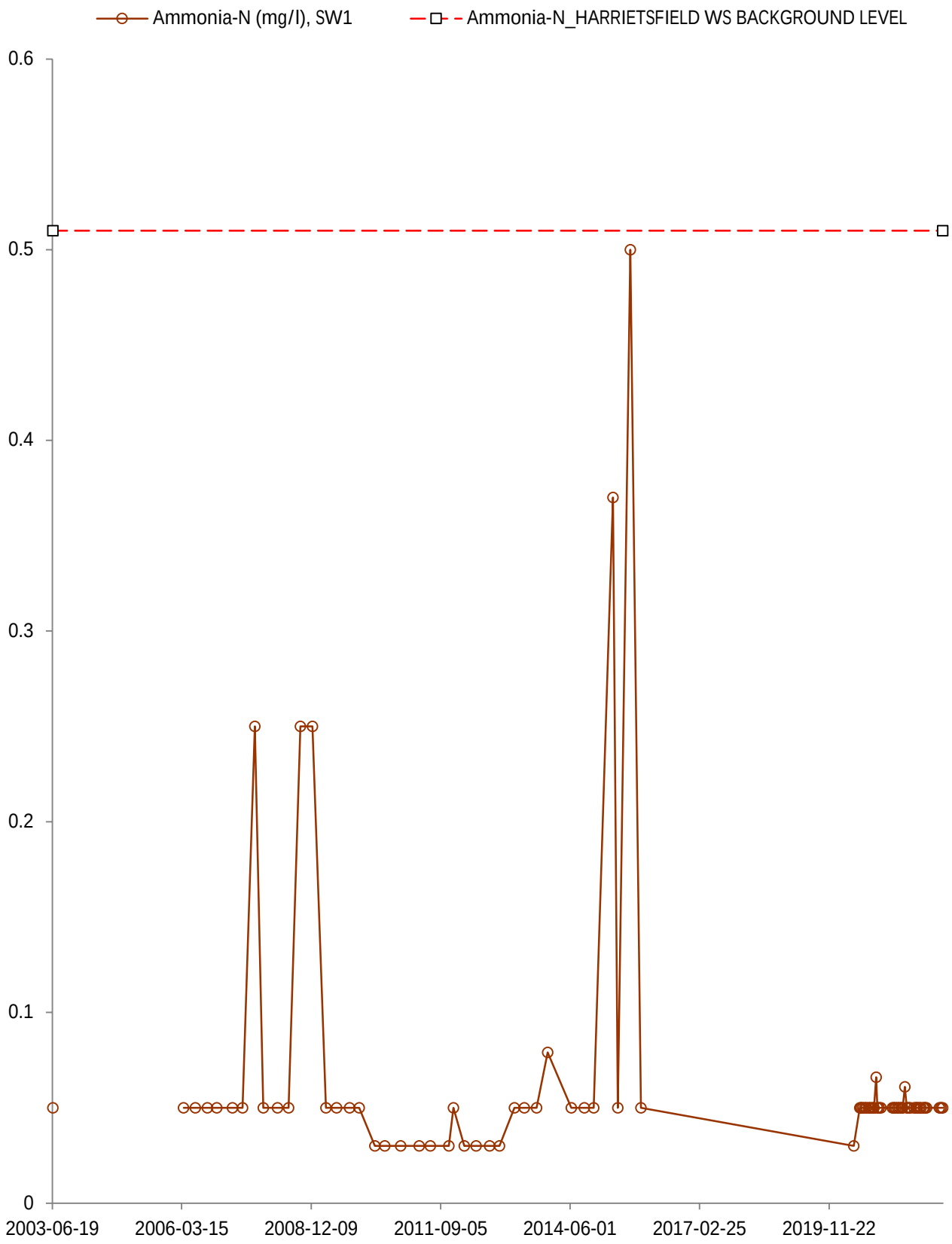
SW1-Alkalinity, Total



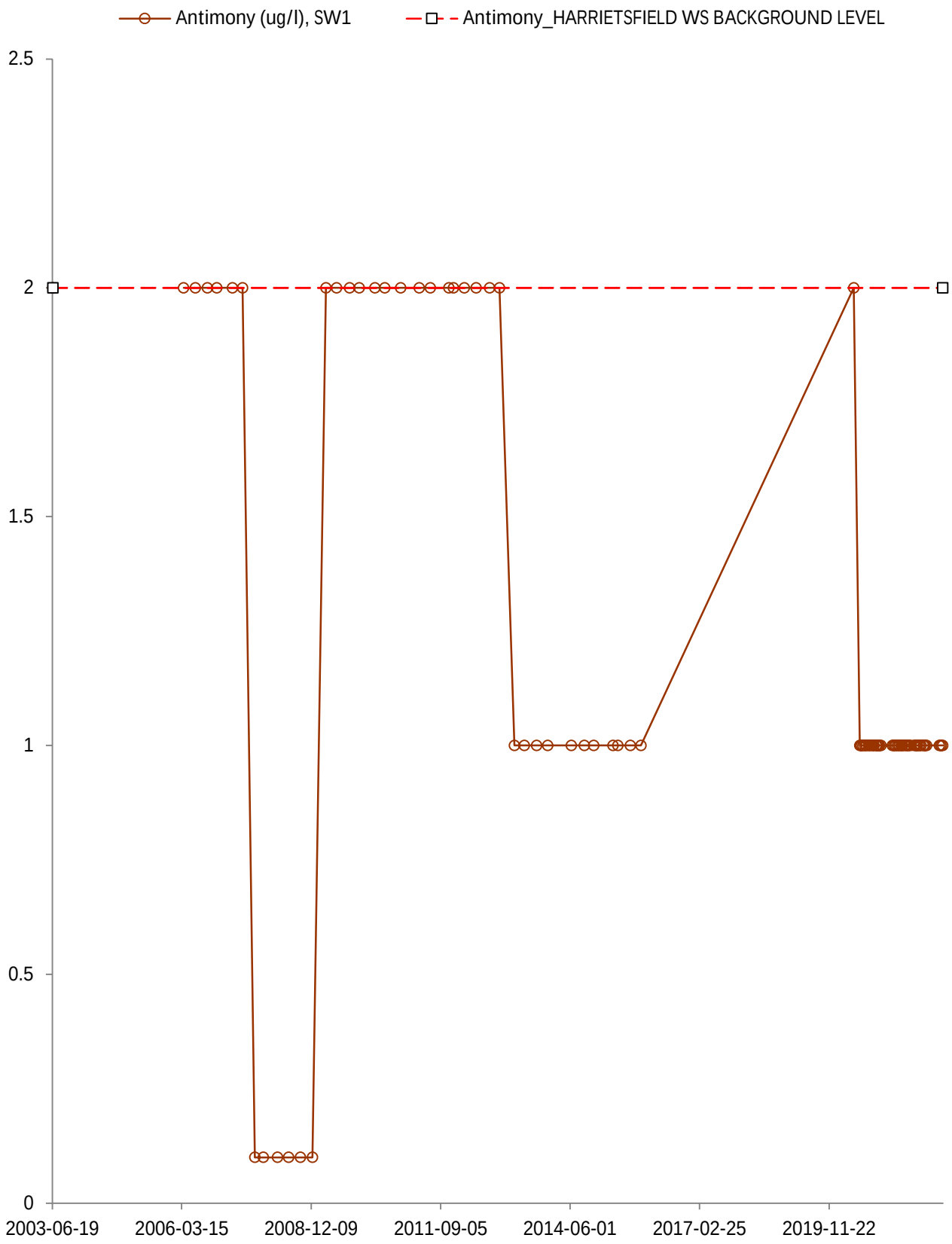
SW1-Aluminum



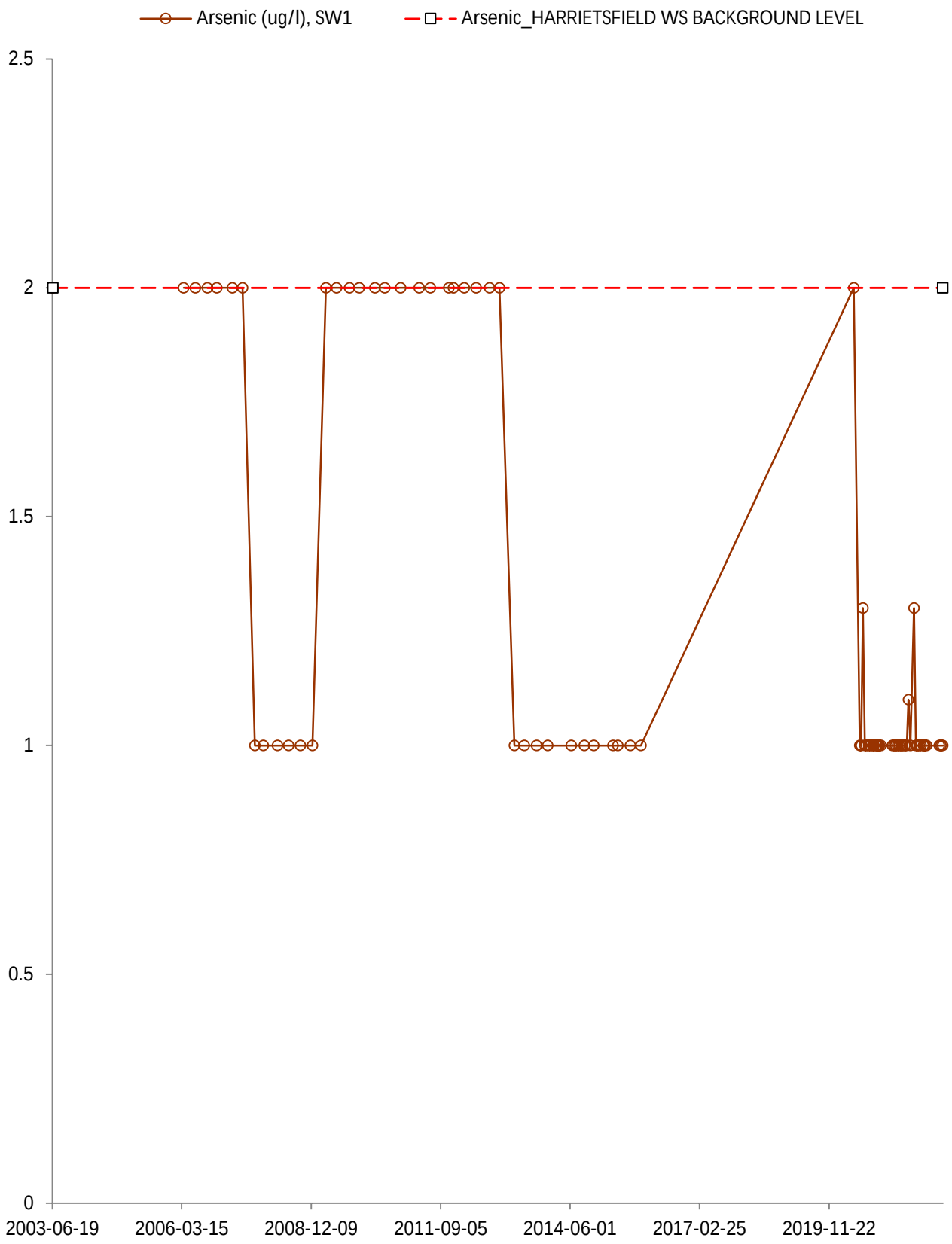
SW1-Ammonia-N



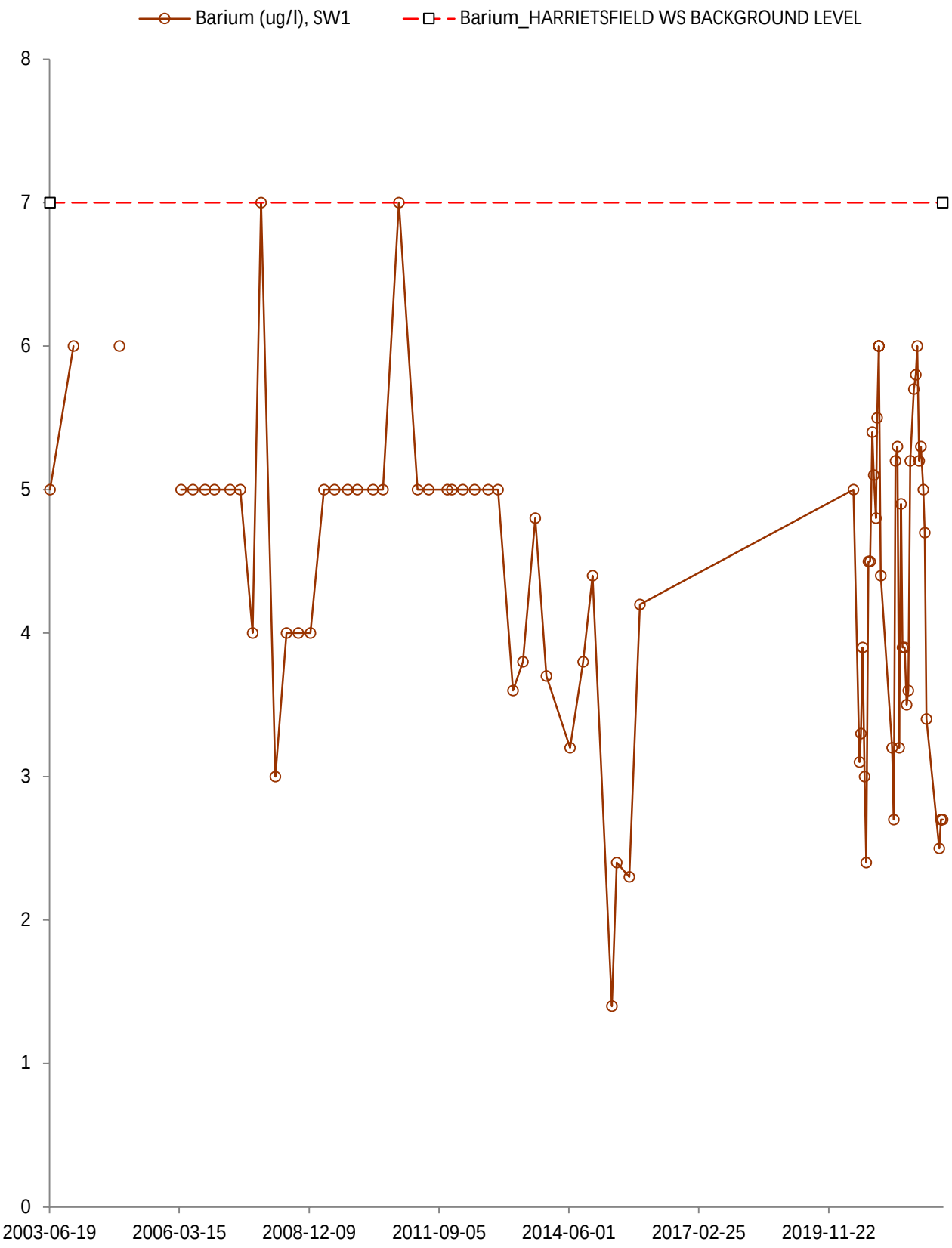
SW1-Antimony



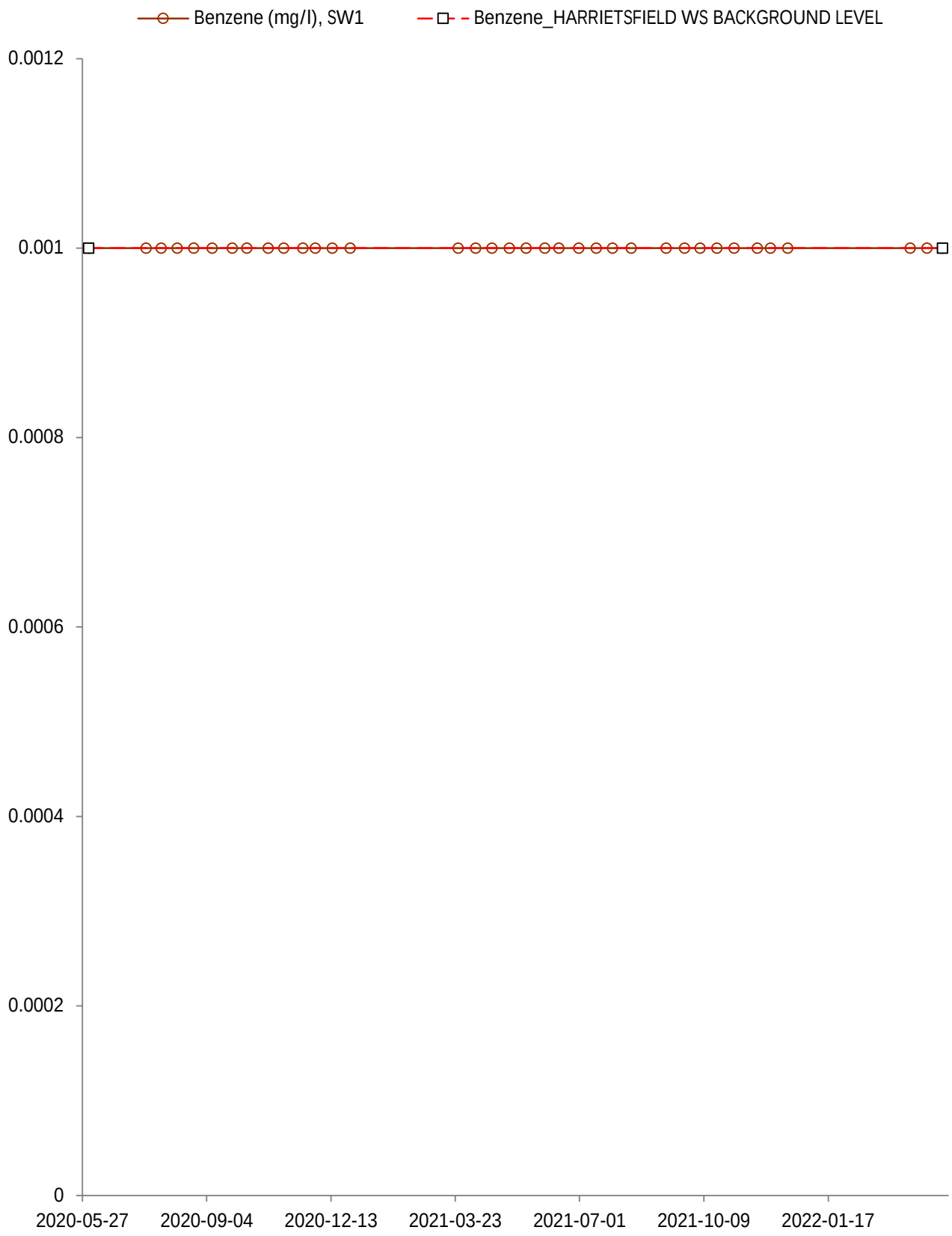
SW1-Arsenic


Arsenic (ug/l), SW1
Arsenic_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

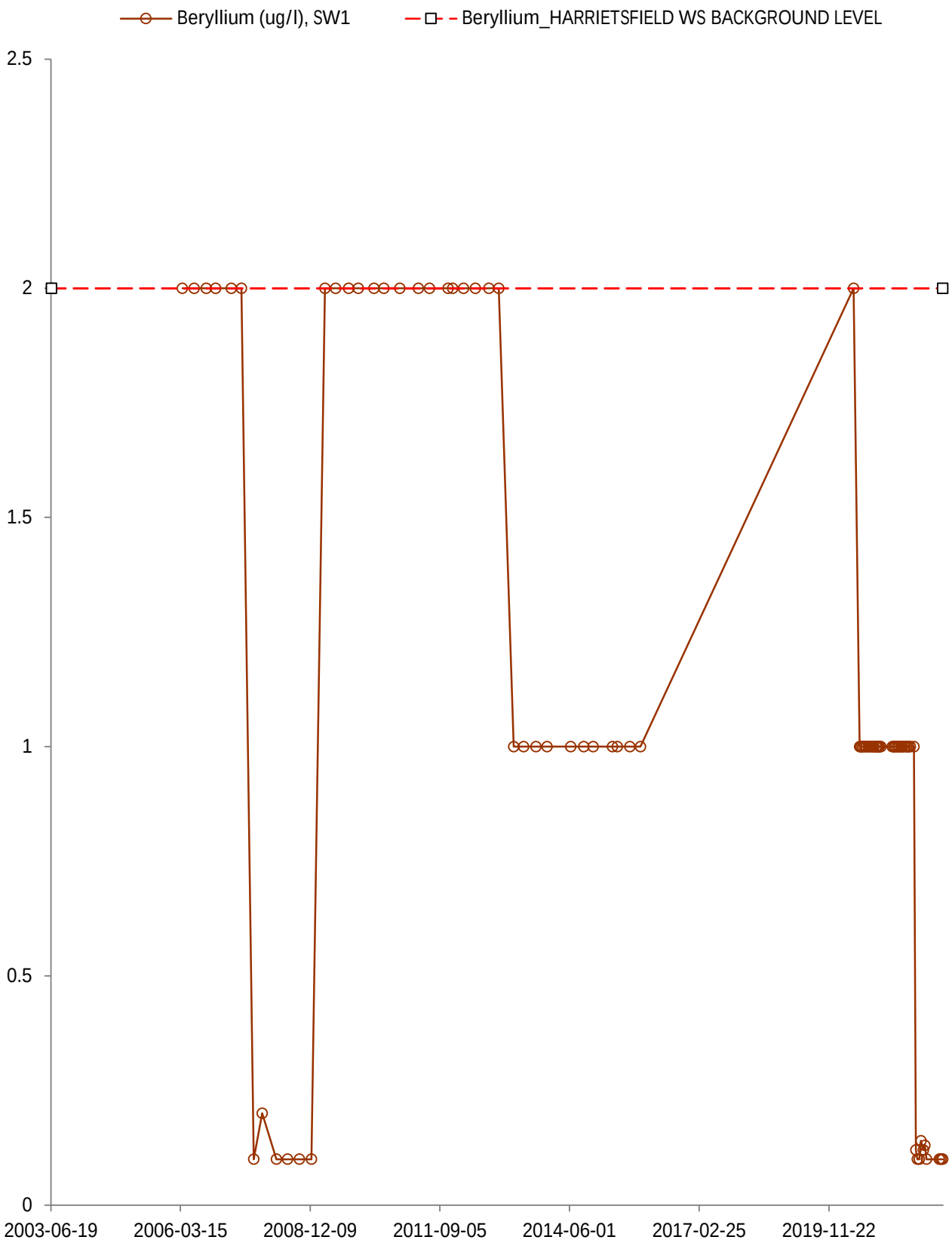
SW1-Barium


Barium (ug/l), SW1
Barium_HARRIETSFIELD WS BACKGROUND LEVEL
8
7
6
5
4
3
2
1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

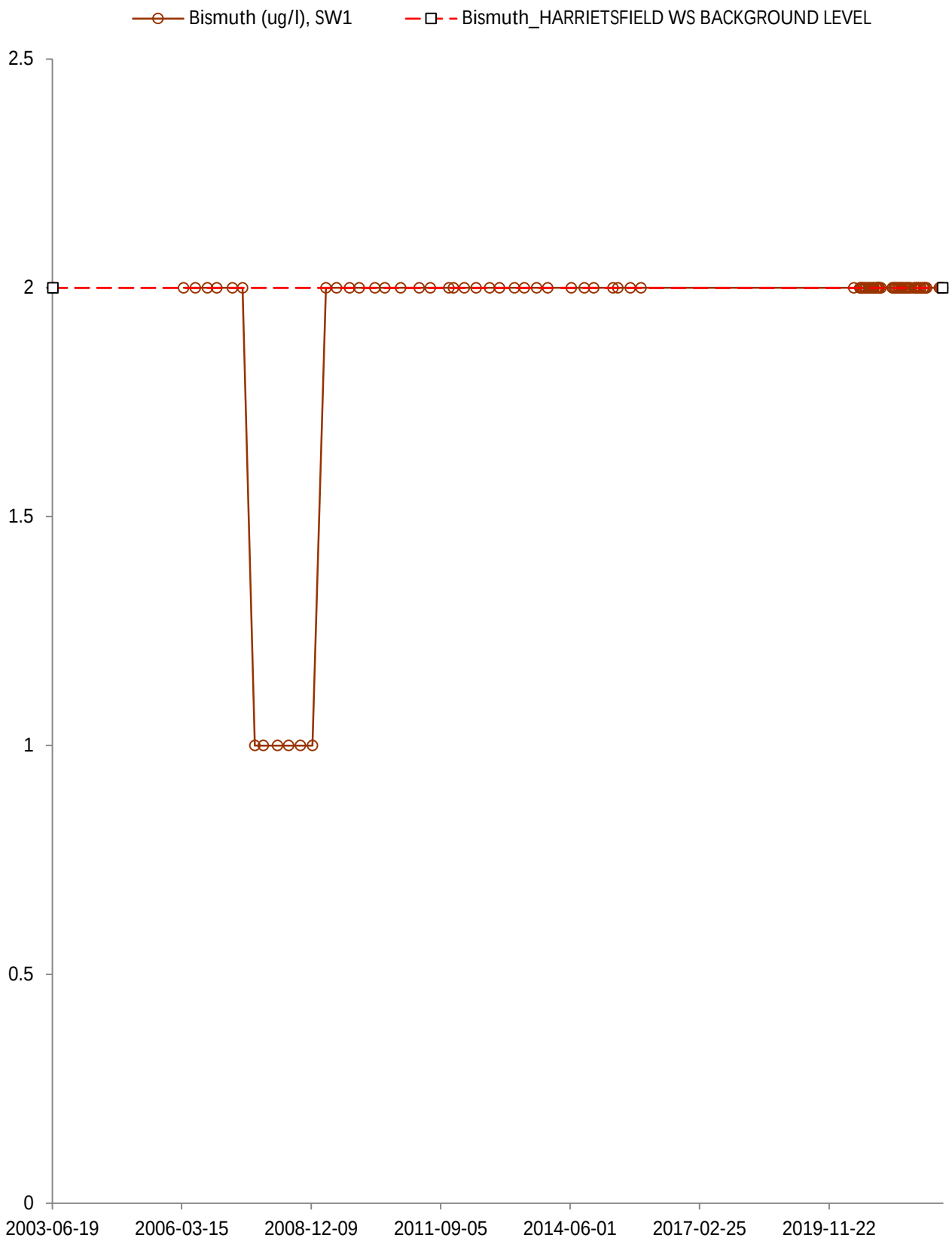
SW1-Benzene


Benzene (mg/l), SW1
Benzene_HARRIETSFIELD WS BACKGROUND LEVEL
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
2020-05-27
2020-09-04
2020-12-13
2021-03-23
2021-07-01
2021-10-09
2022-01-17

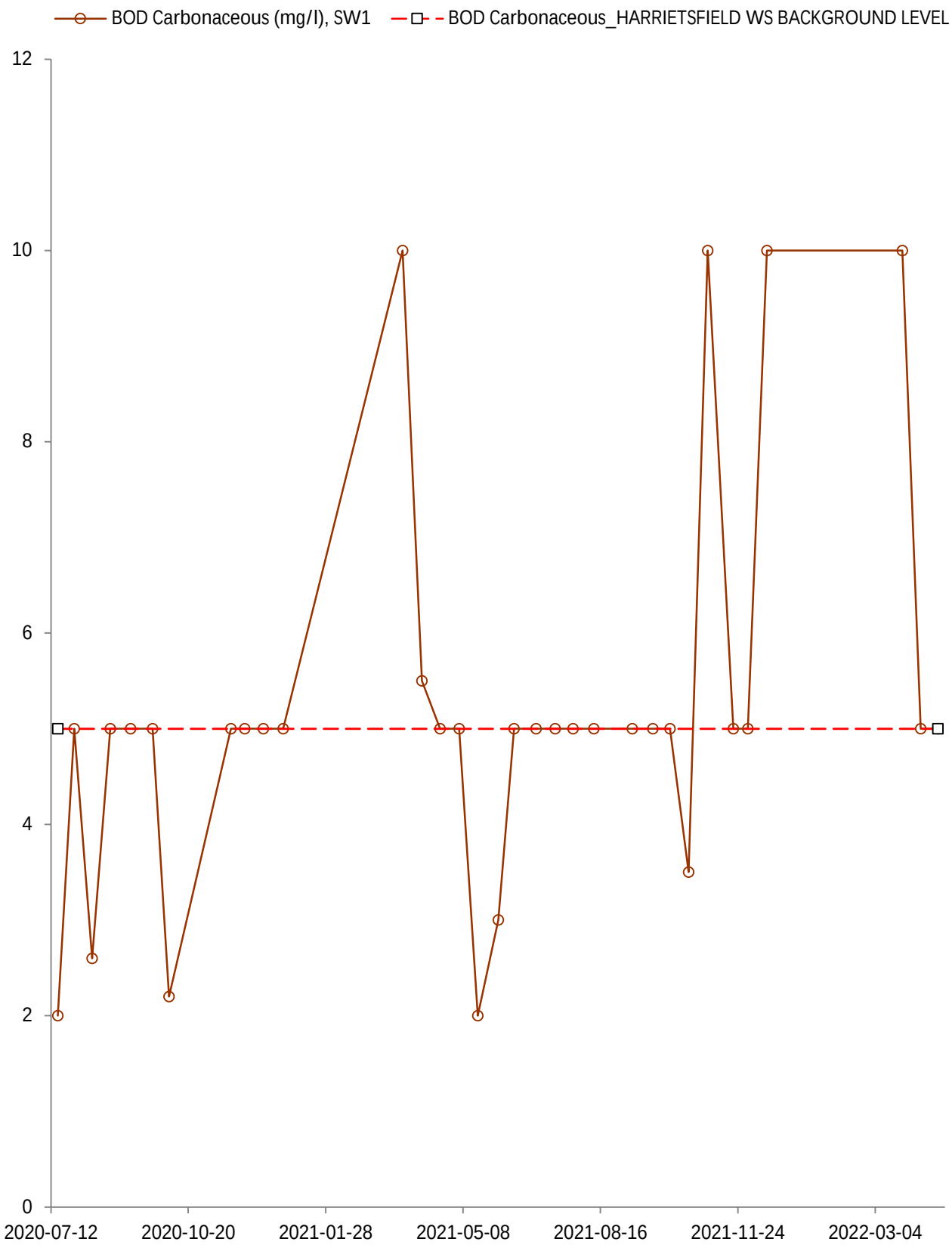
SW1-Beryllium



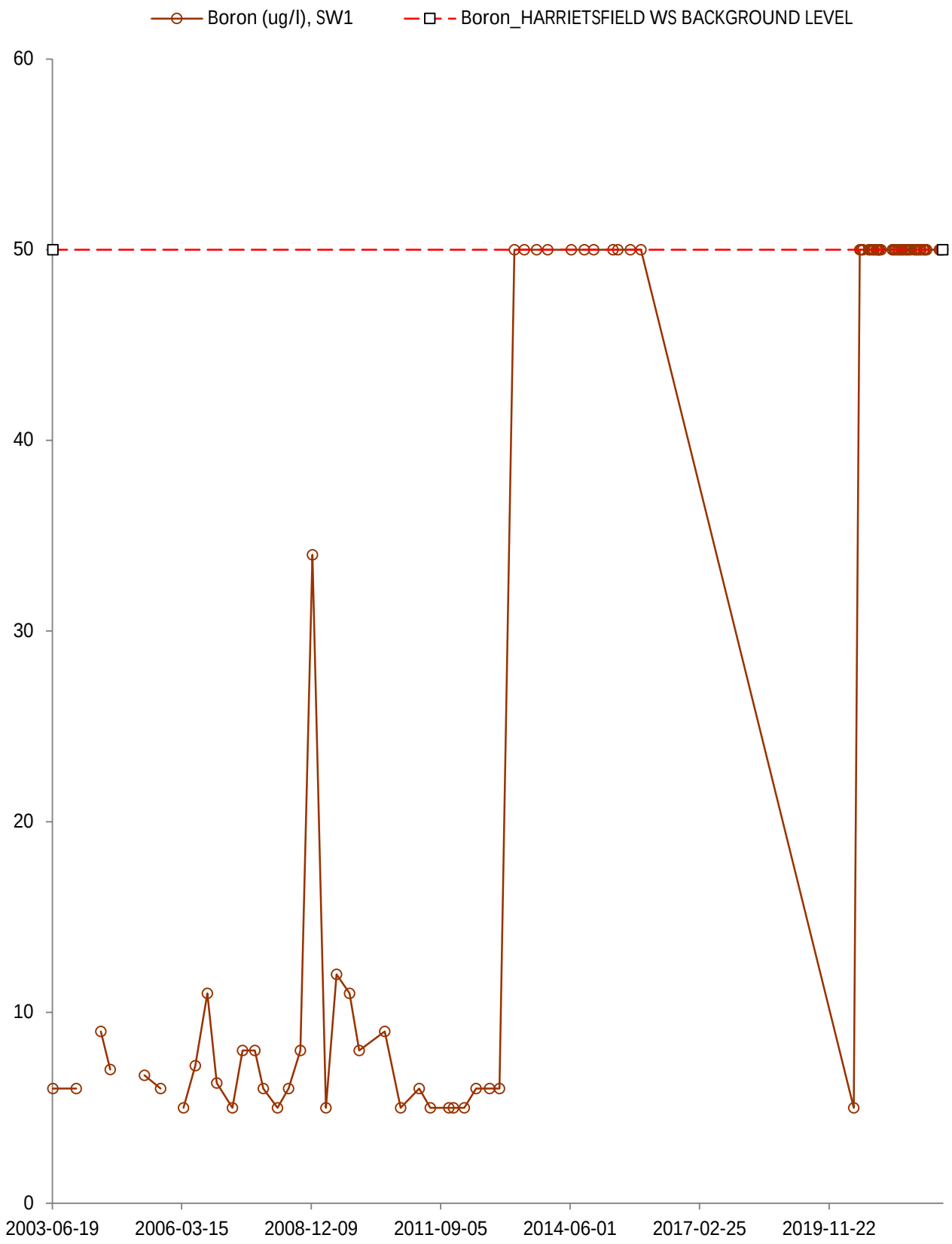
SW1-Bismuth


Bismuth (ug/l), SW1
Bismuth_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

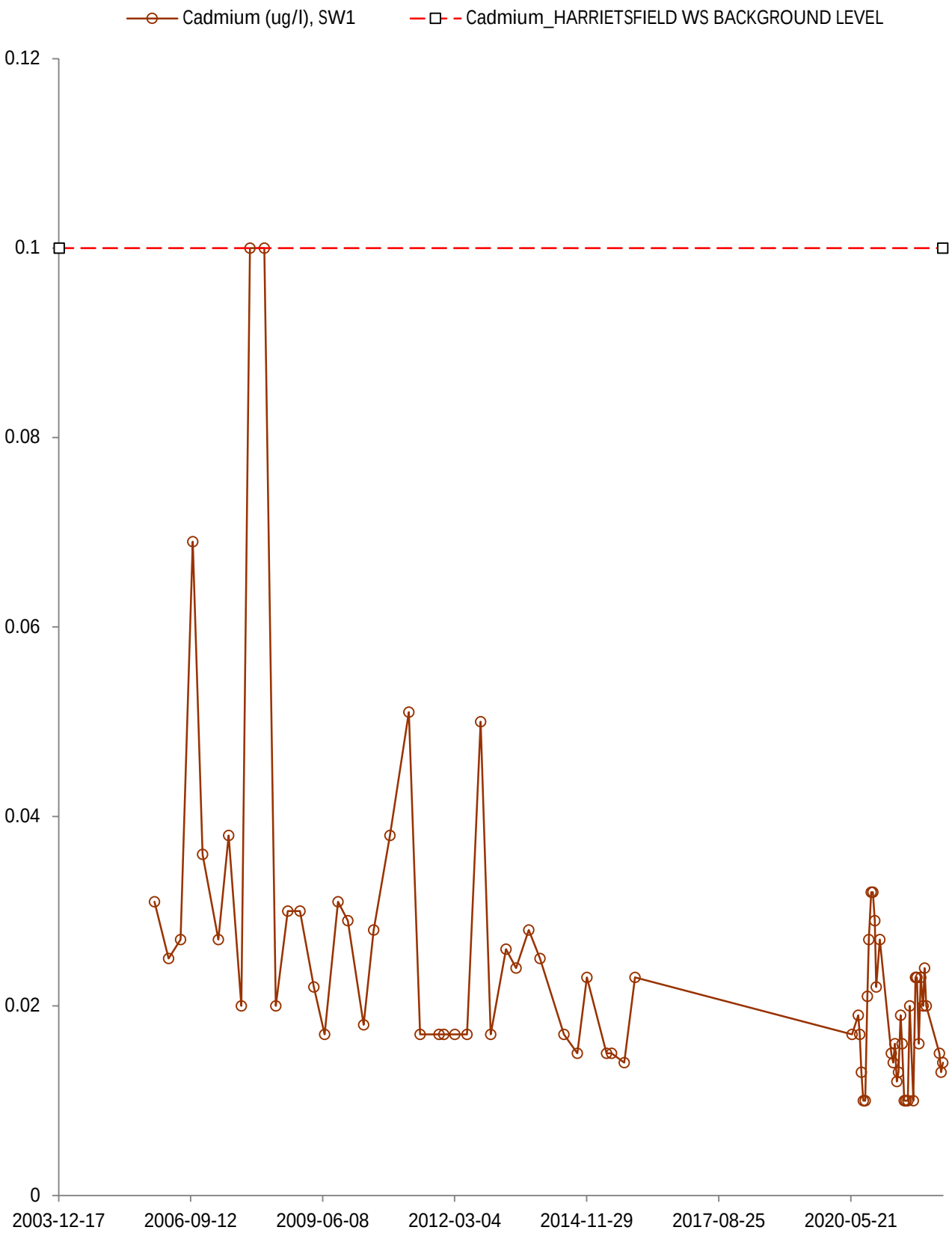
SW1-BOD Carbonaceous



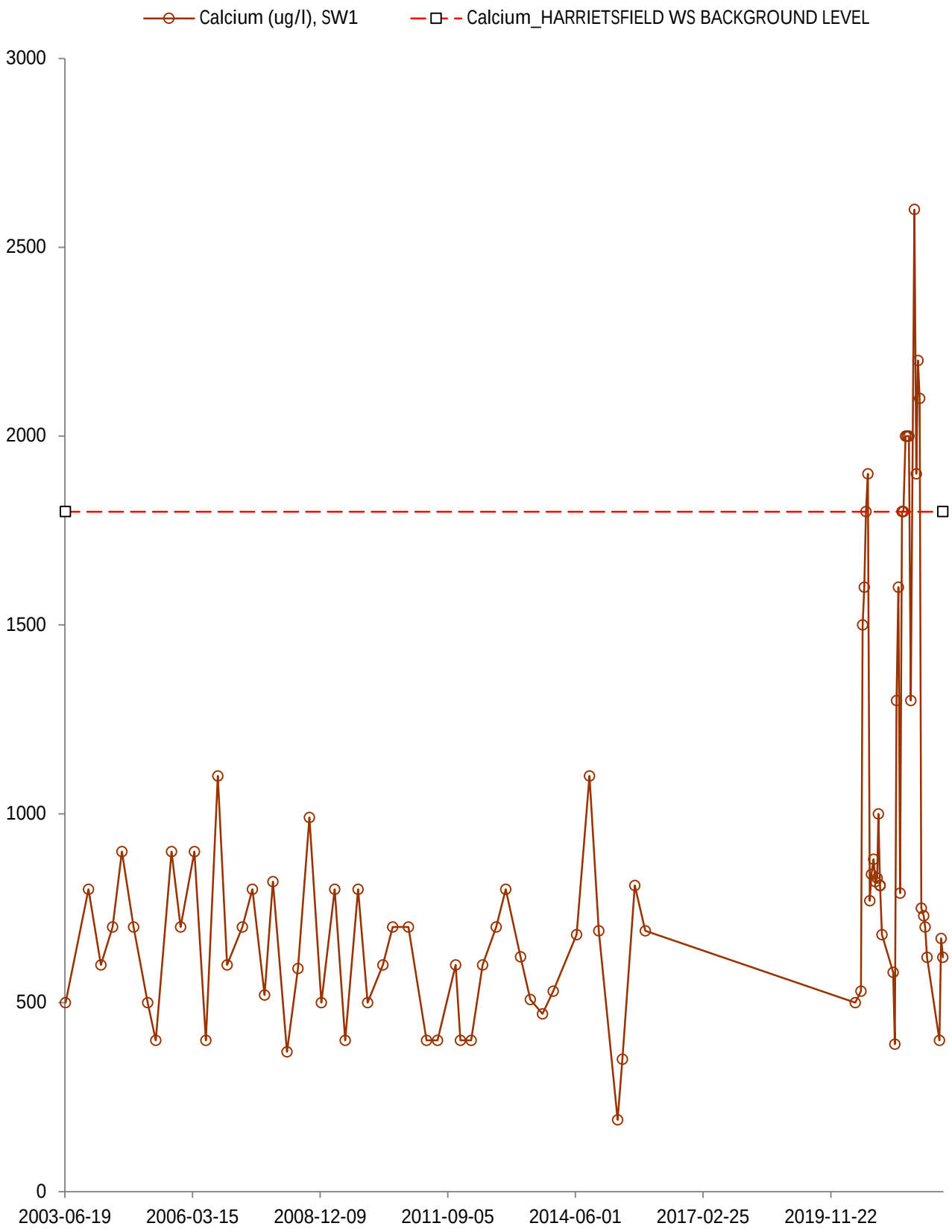
SW1-Boron


Boron (ug/l), SW1
Boron_HARRIETSFIELD WS BACKGROUND LEVEL
60
50
40
30
20
10
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

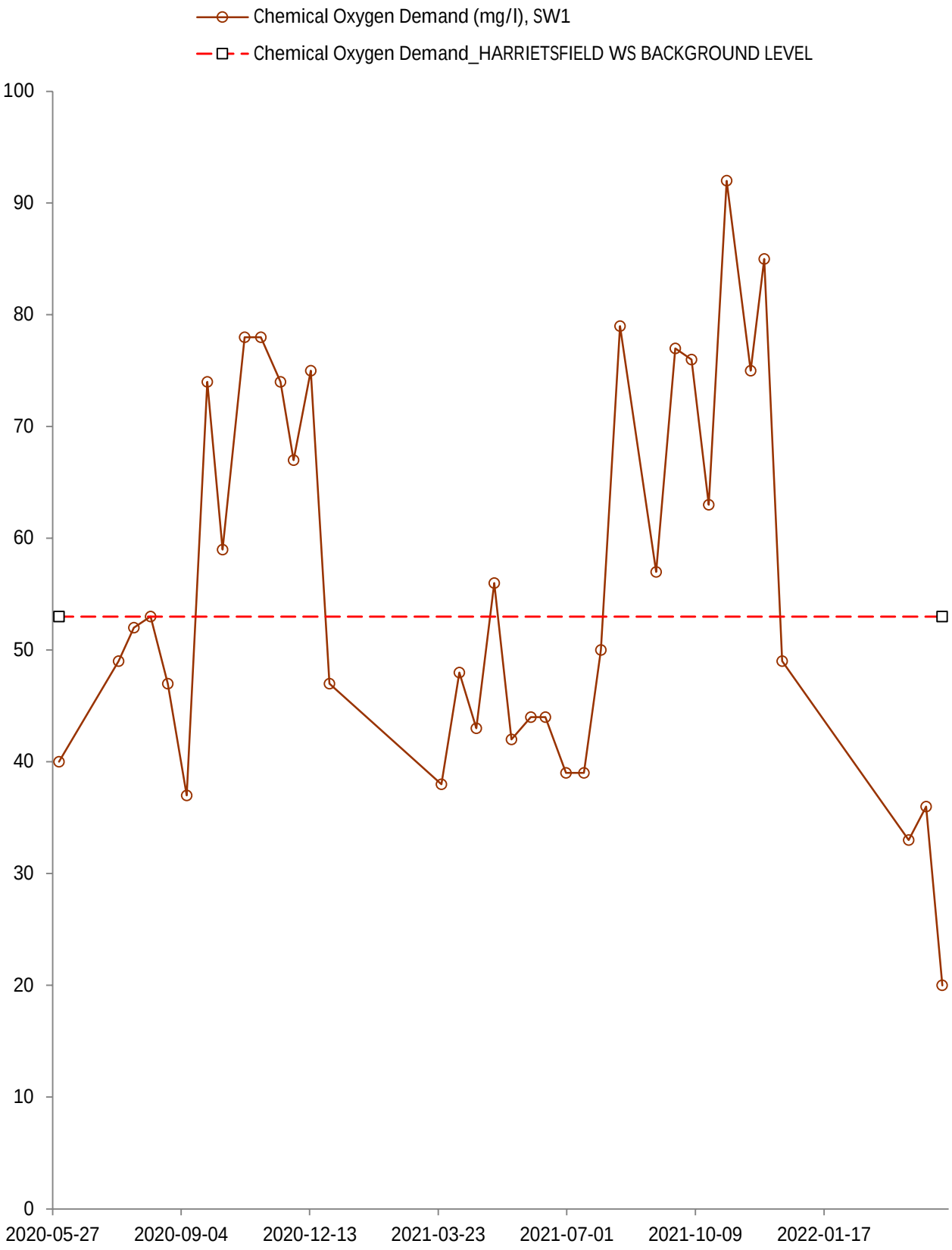
SW1-Cadmium


Cadmium (ug/l), SW1
Cadmium_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2003-12-17
2006-09-12
2009-06-08
2012-03-04
2014-11-29
2017-08-25
2020-05-21

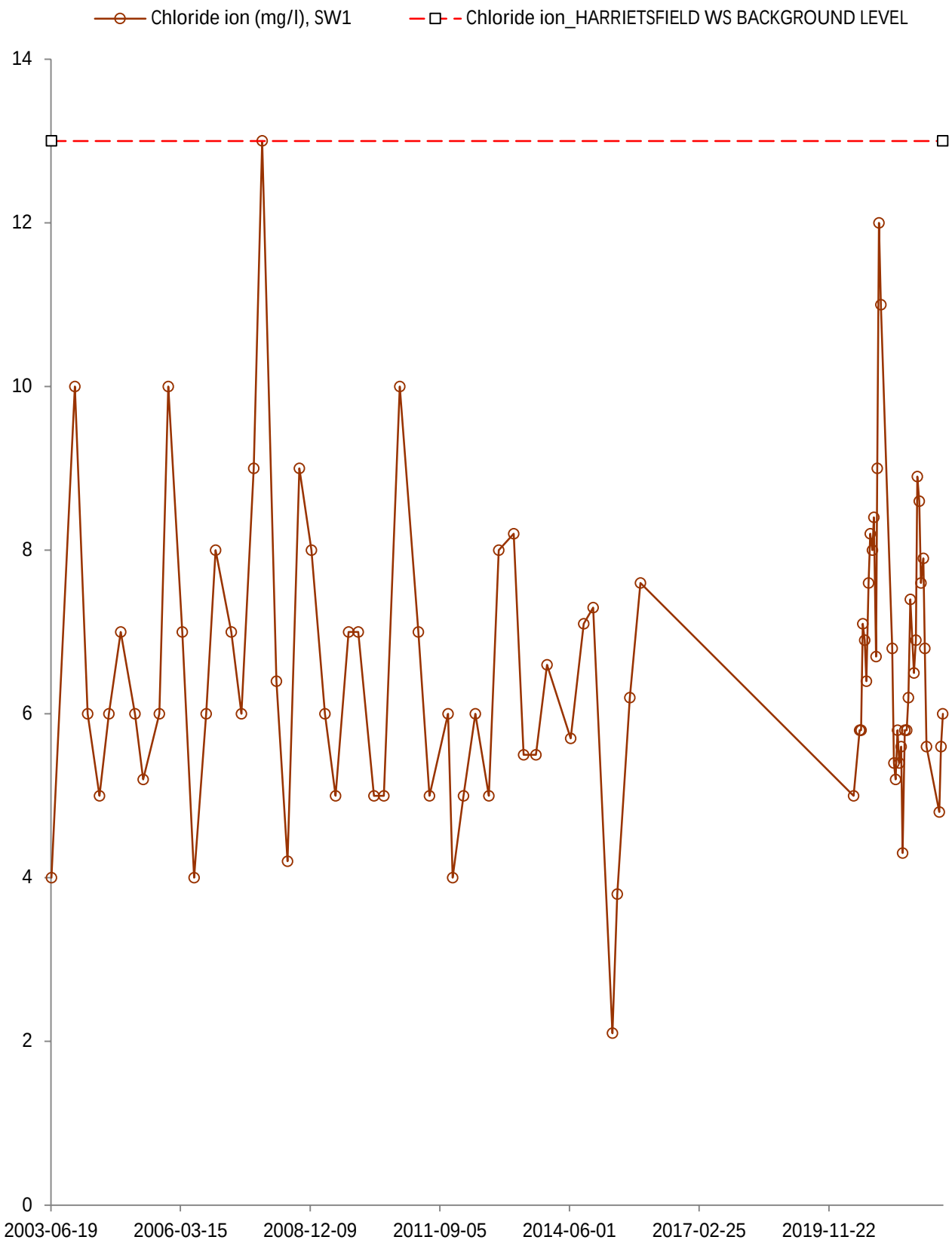
SW1-Calcium


Calcium (ug/l), SW1
Calcium_HARRIETSFIELD WS BACKGROUND LEVEL
3000
2500
2000
1500
1000
500
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

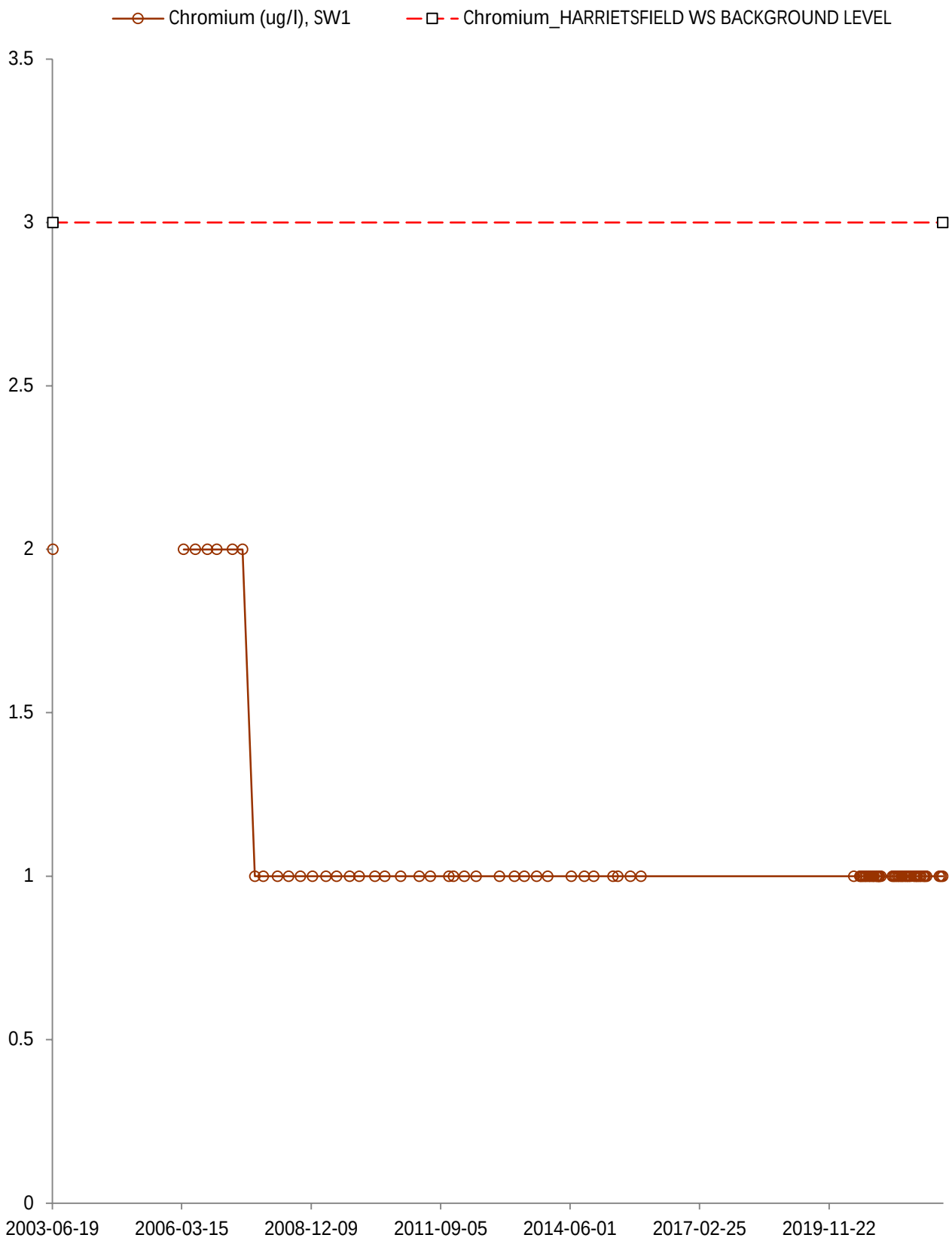
SW1-Chemical Oxygen Demand



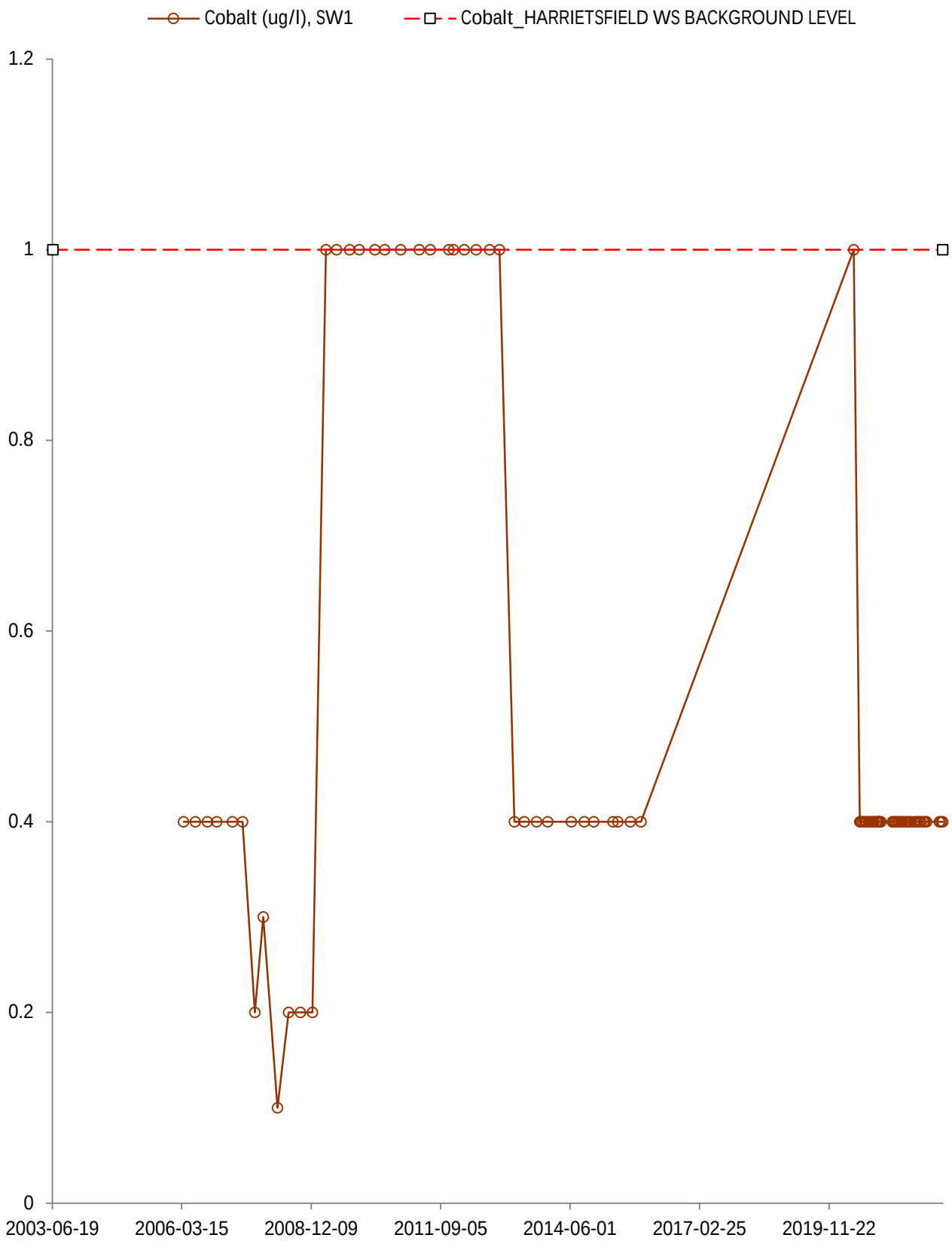
SW1-Chloride ion



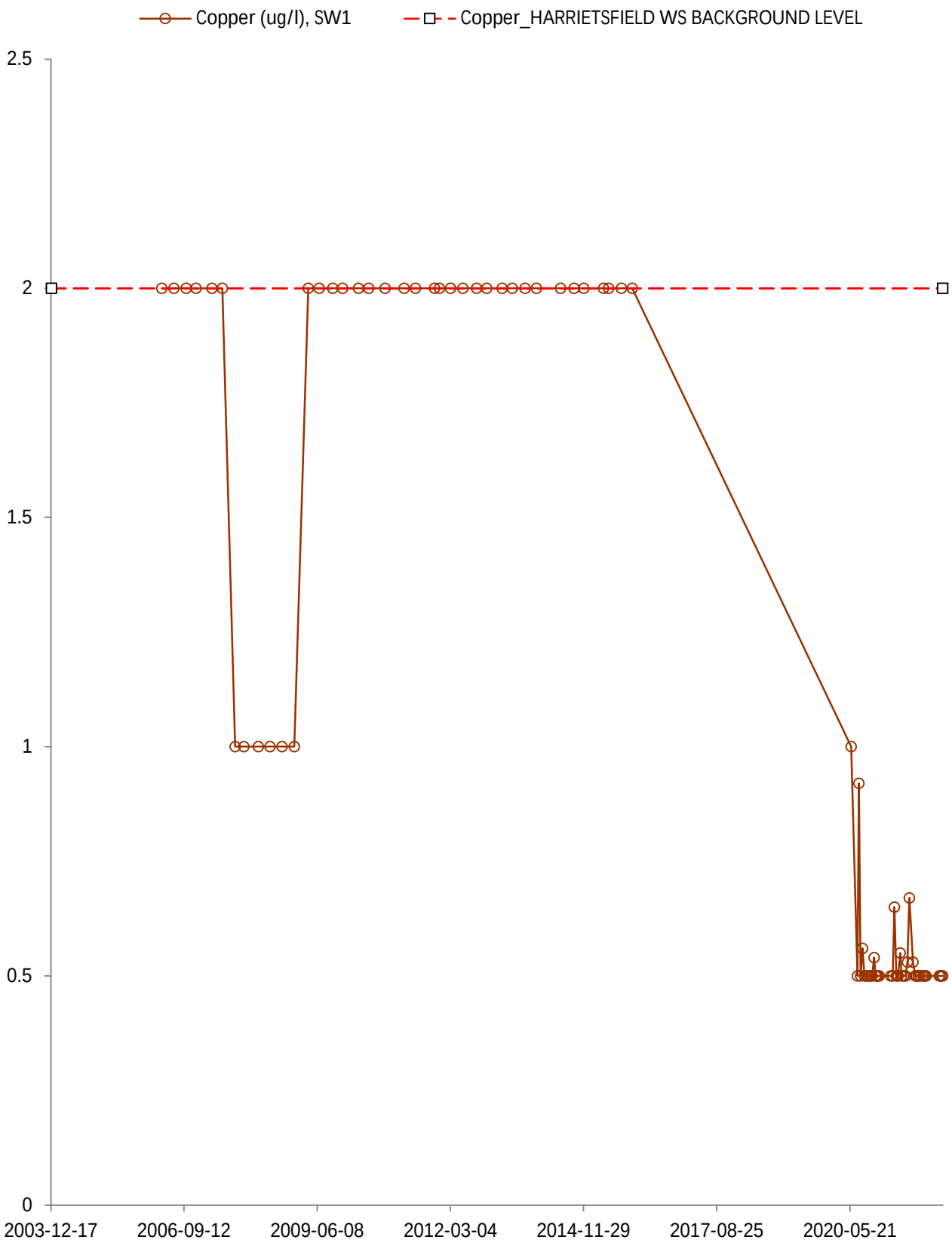
SW1-Chromium



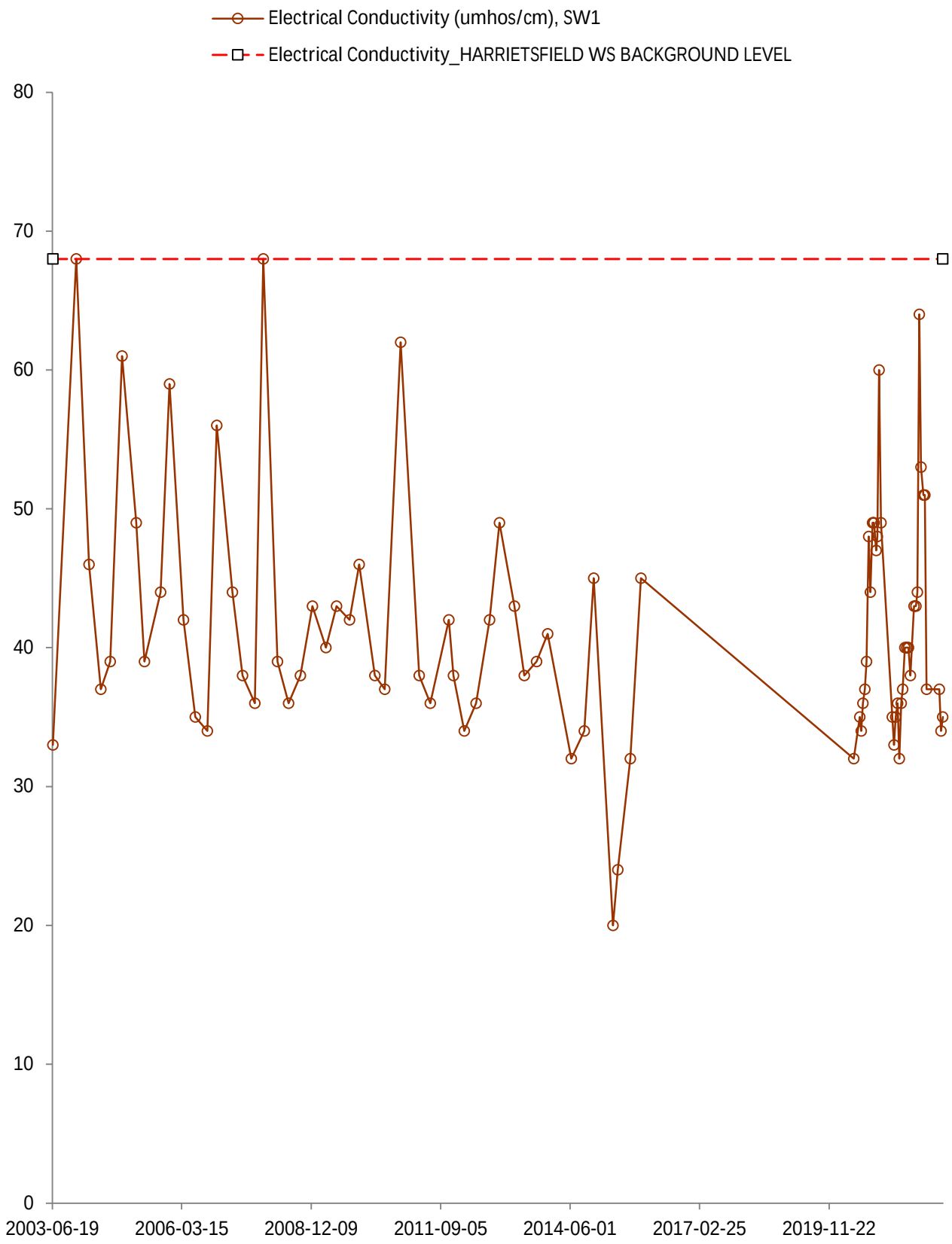
SW1-Cobalt


Cobalt (ug/l), SW1
Cobalt_HARRIETSFIELD WS BACKGROUND LEVEL
1.2
1
0.8
0.6
0.4
0.2
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

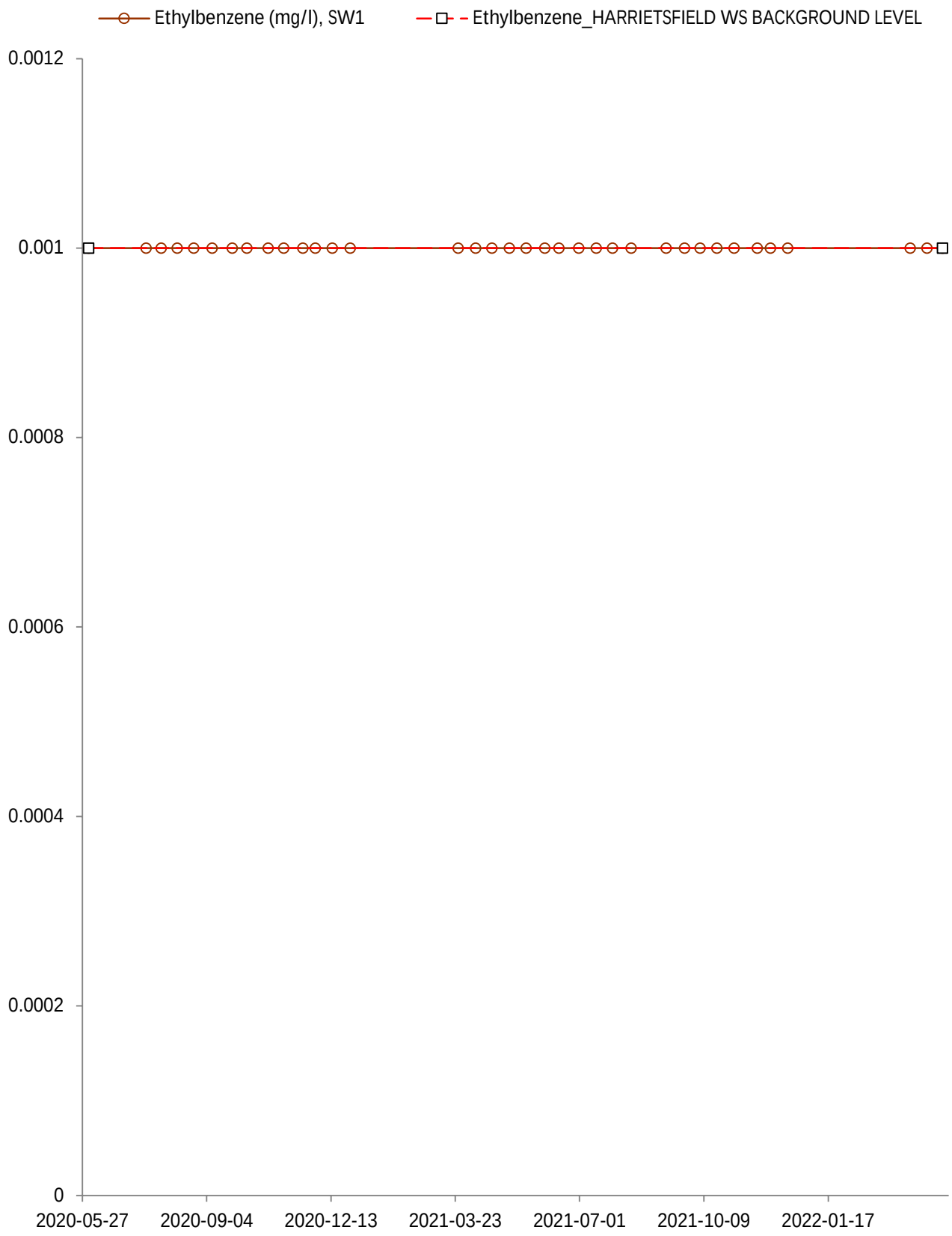
SW1-Copper


Copper (ug/l), SW1
Copper_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-12-17
2006-09-12
2009-06-08
2012-03-04
2014-11-29
2017-08-25
2020-05-21

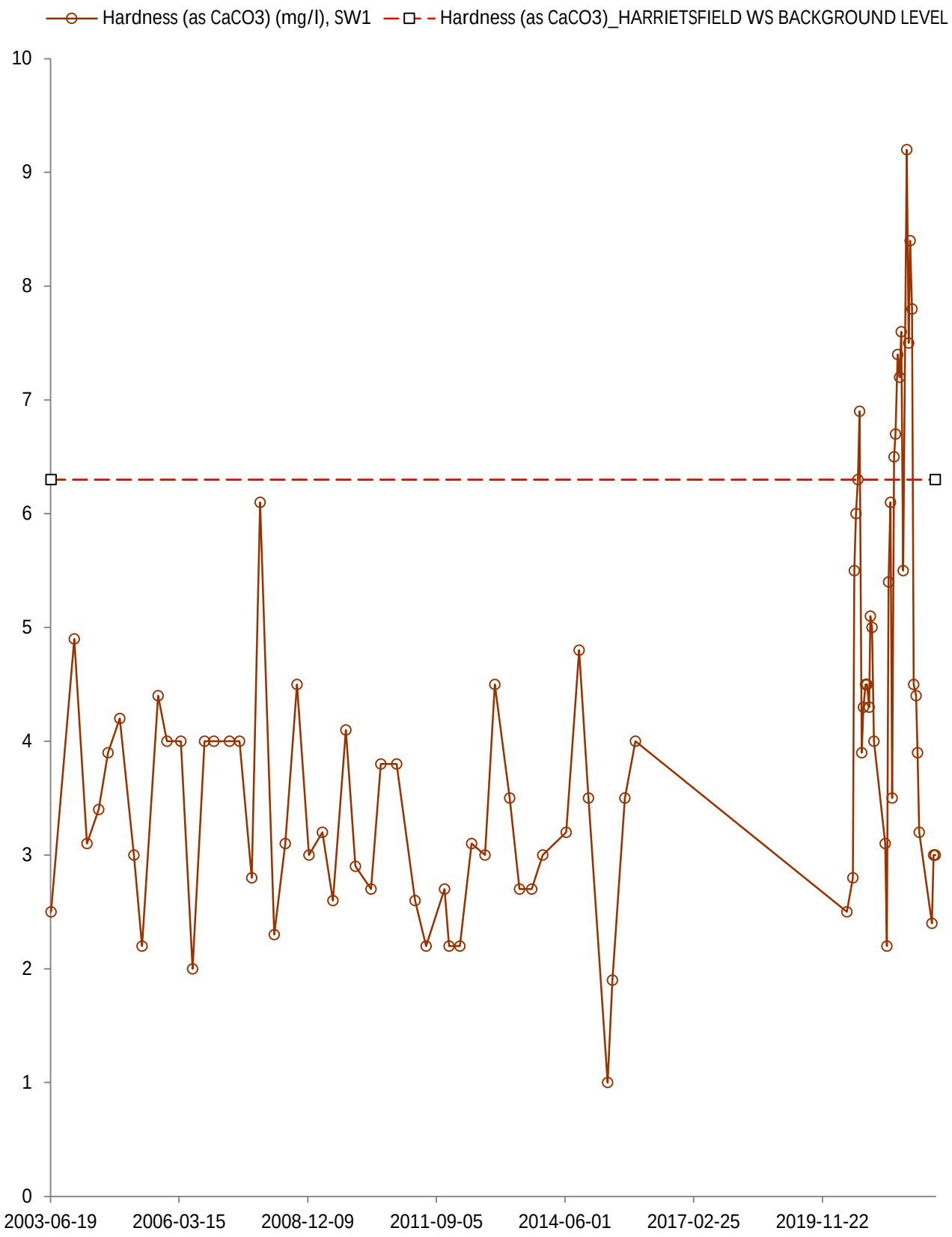
SW1-Electrical Conductivity



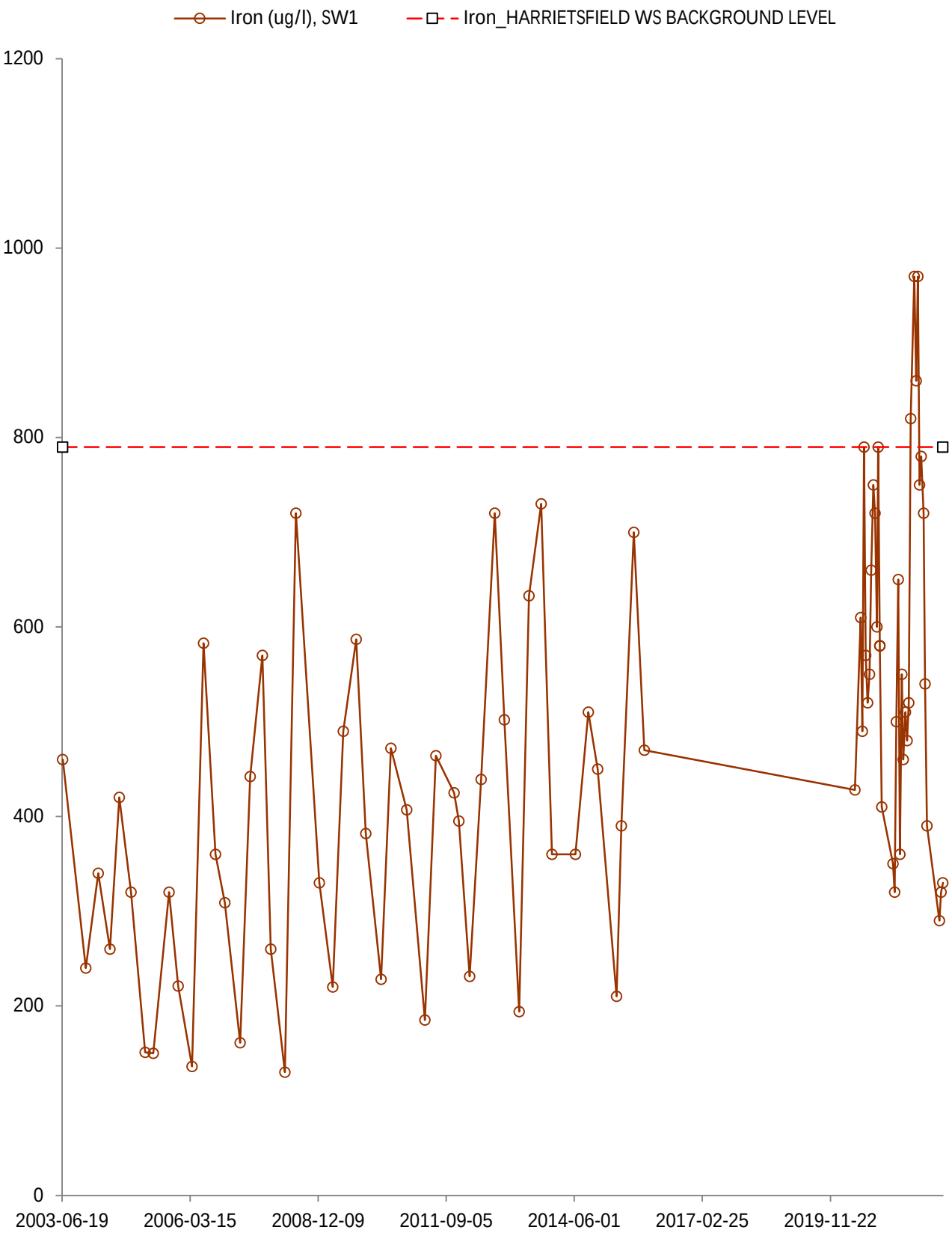
SW1-Ethylbenzene



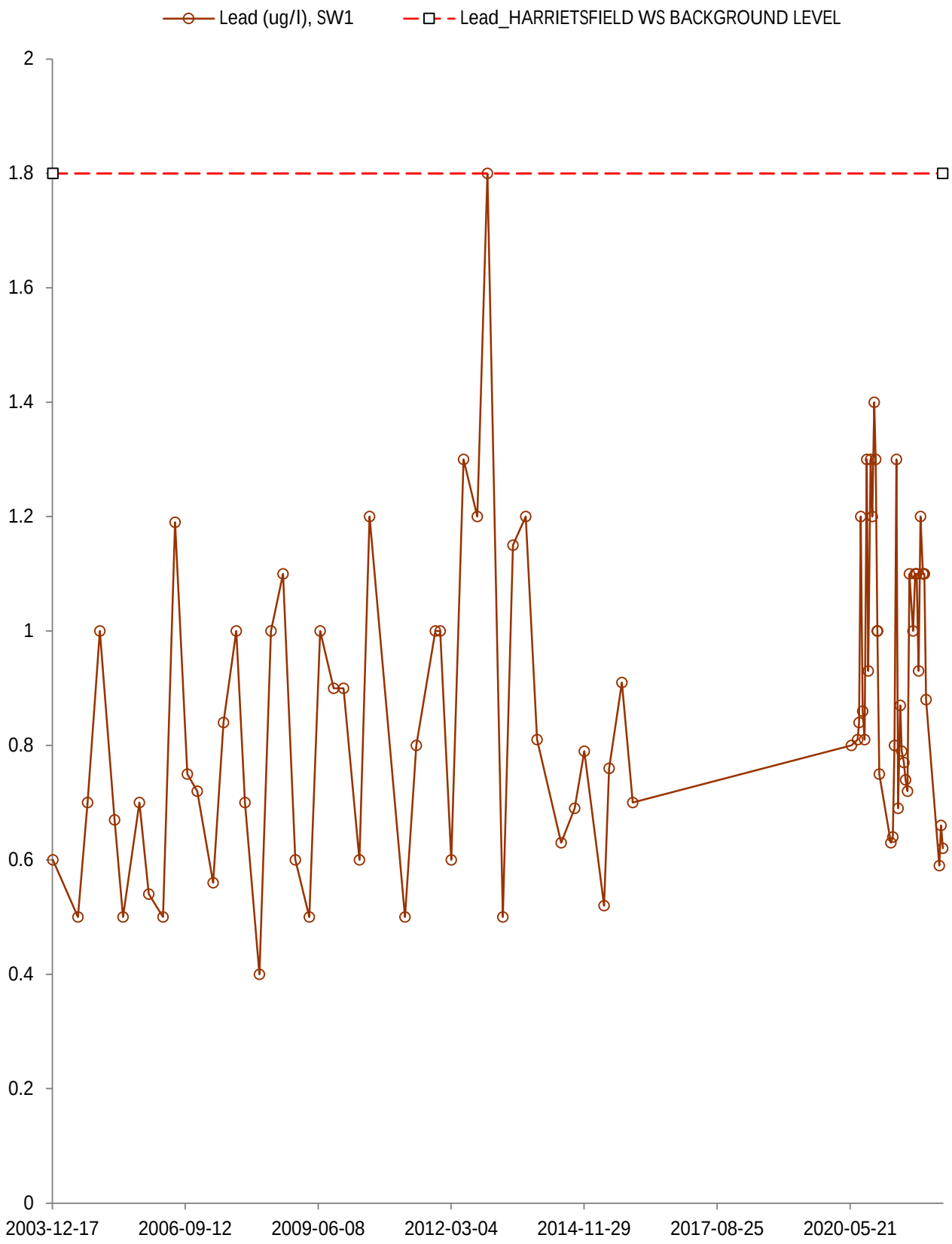
SW1-Hardness (as CaCO3)



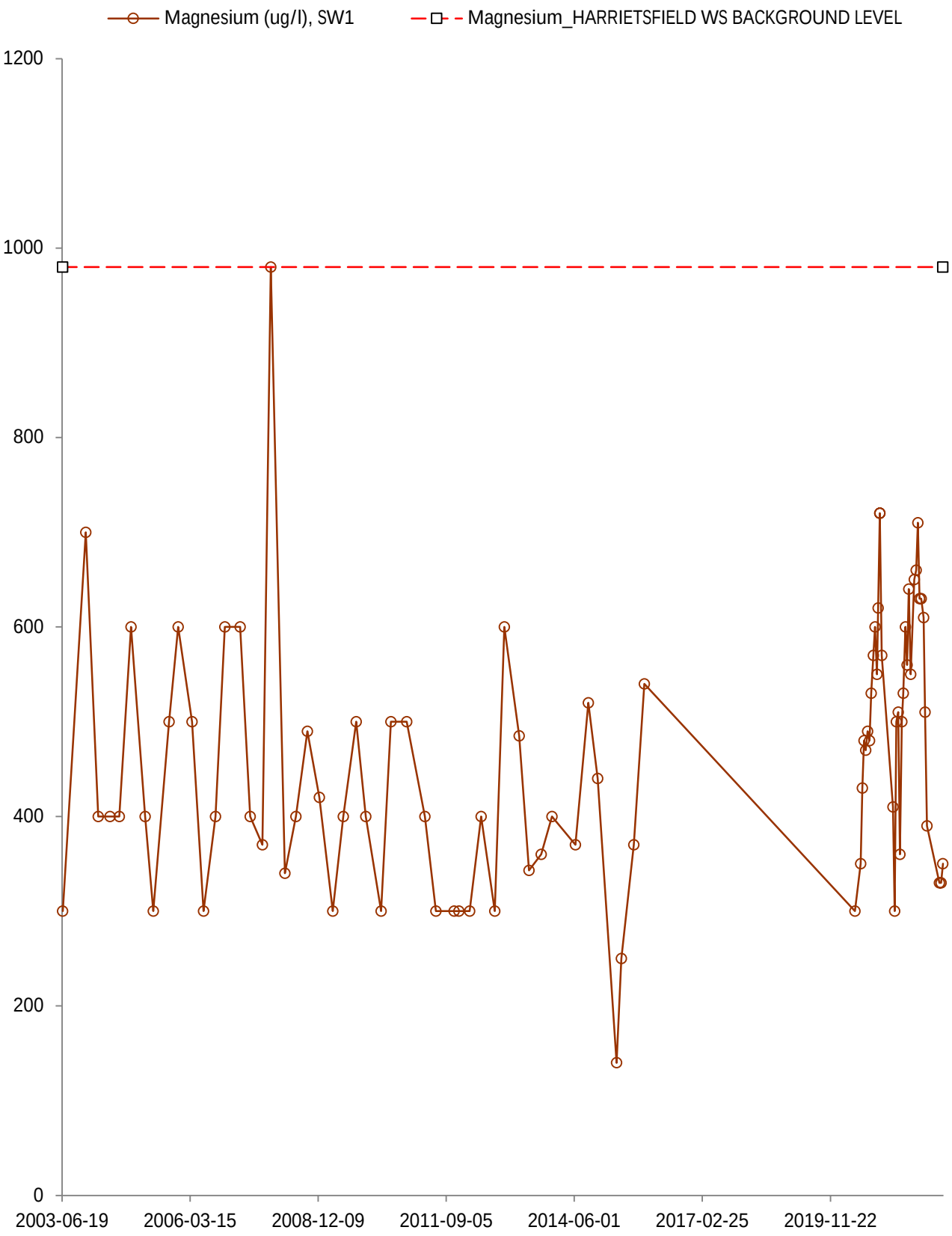
SW1-Iron


Iron (ug/l), SW1
Iron_HARRIETSFIELD WS BACKGROUND LEVEL
1200
1000
800
600
400
200
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

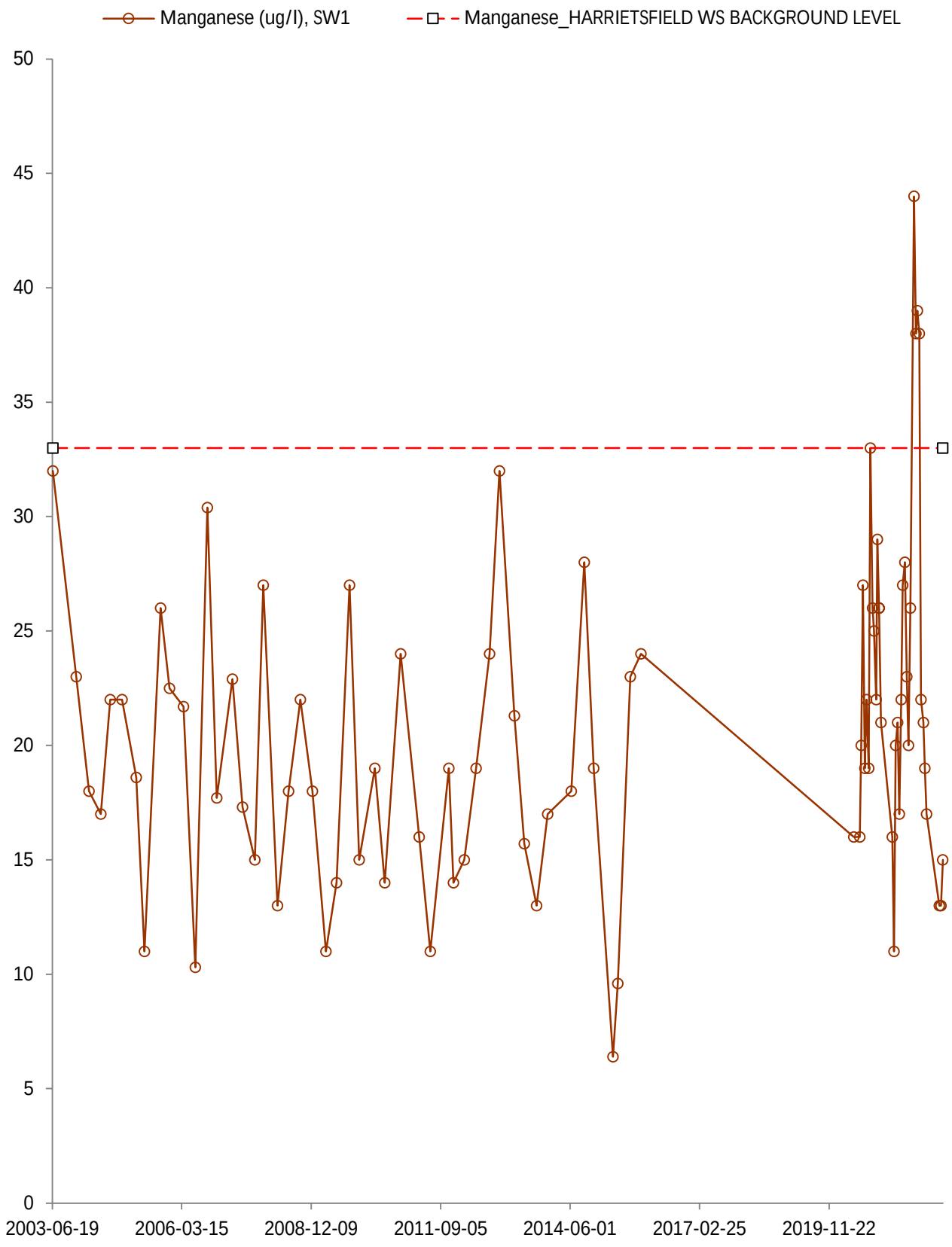
SW1-Lead


Lead (ug/l), SW1
Lead_HARRIETSFIELD WS BACKGROUND LEVEL
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2003-12-17
2006-09-12
2009-06-08
2012-03-04
2014-11-29
2017-08-25
2020-05-21

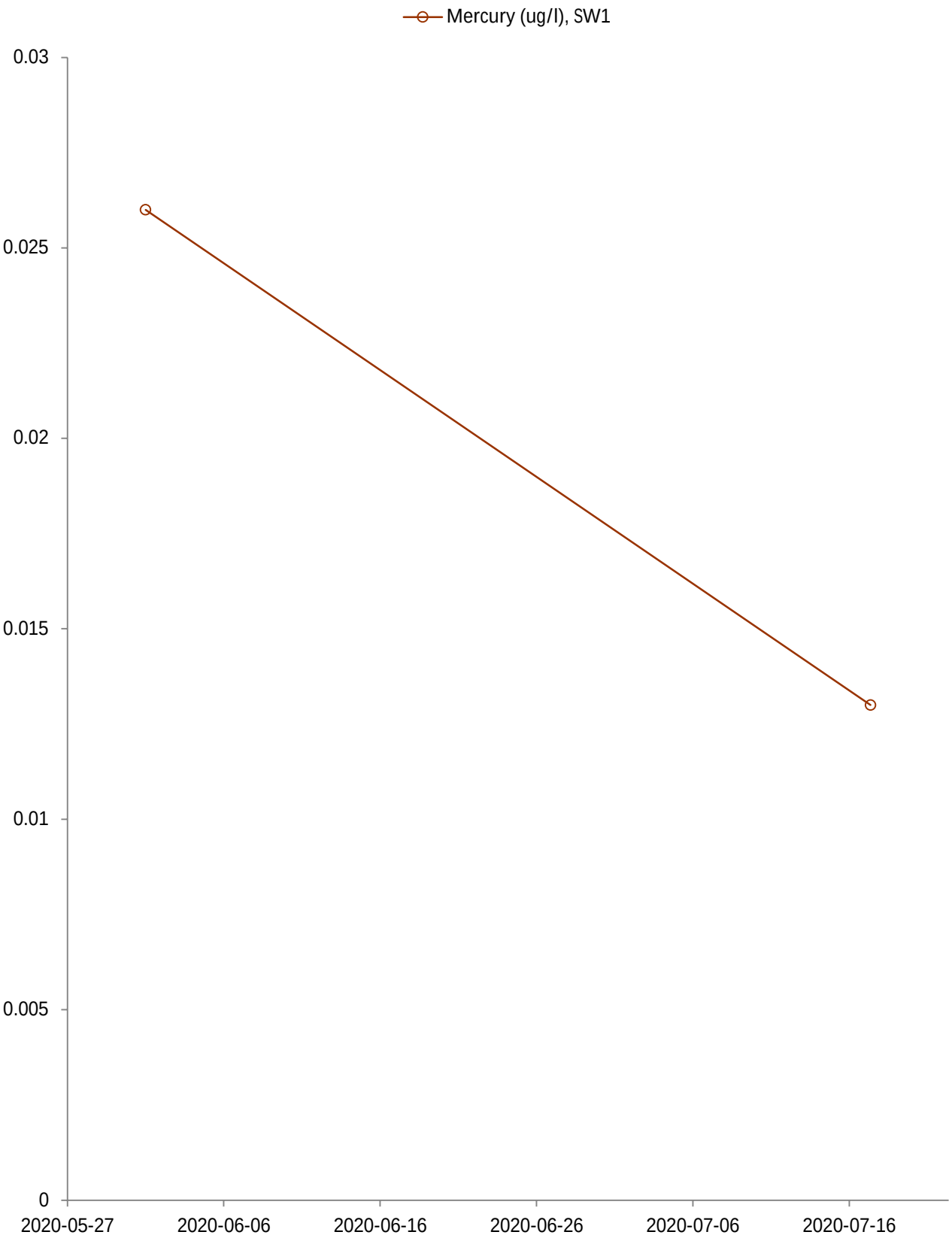
SW1-Magnesium



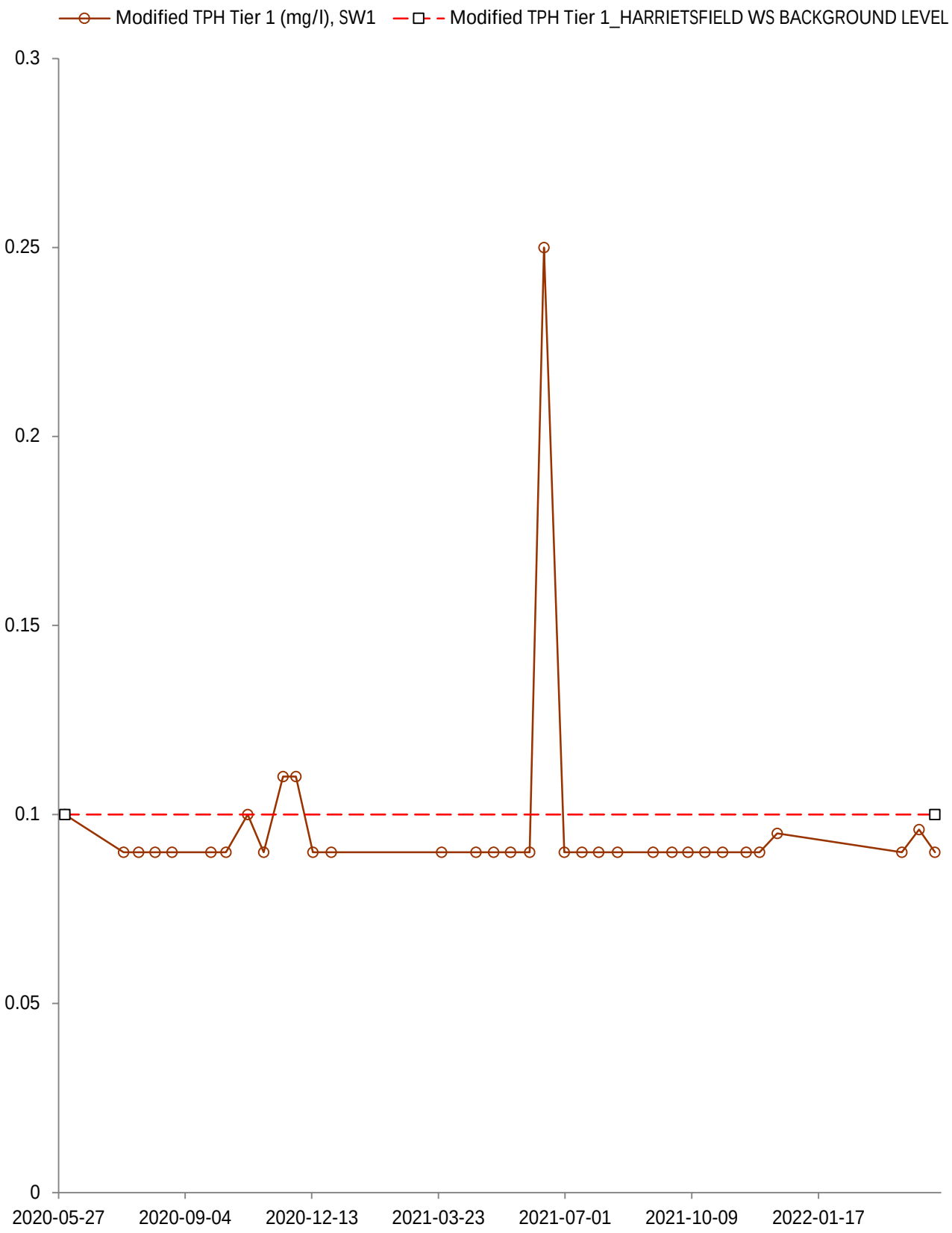
SW1-Manganese



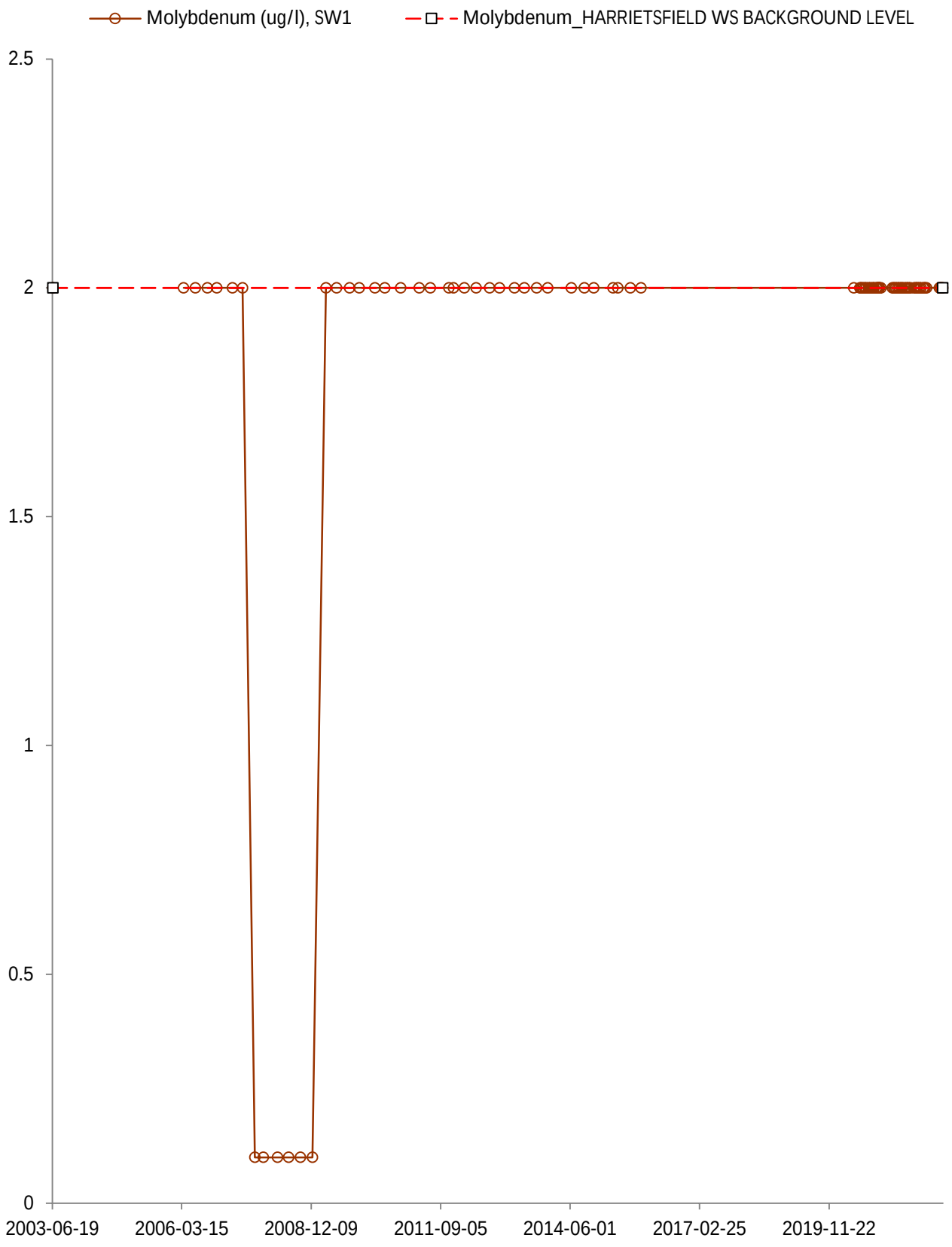
SW1-Mercury


Mercury (ug/l), SW1
0.03
0.025
0.02
0.015
0.01
0.005
0
2020-05-27
2020-06-06
2020-06-16
2020-06-26
2020-07-06
2020-07-16

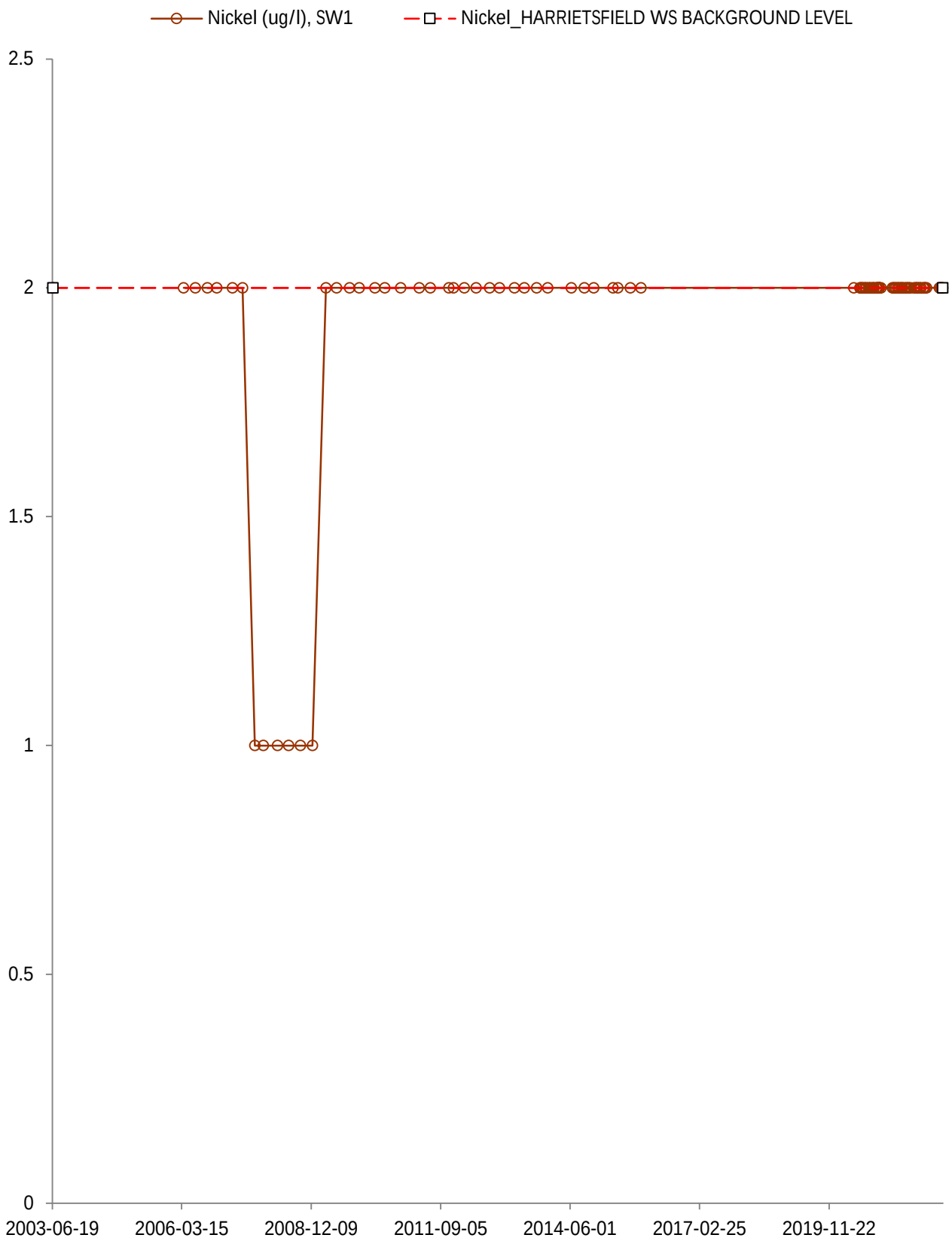
SW1-Modified TPH Tier 1



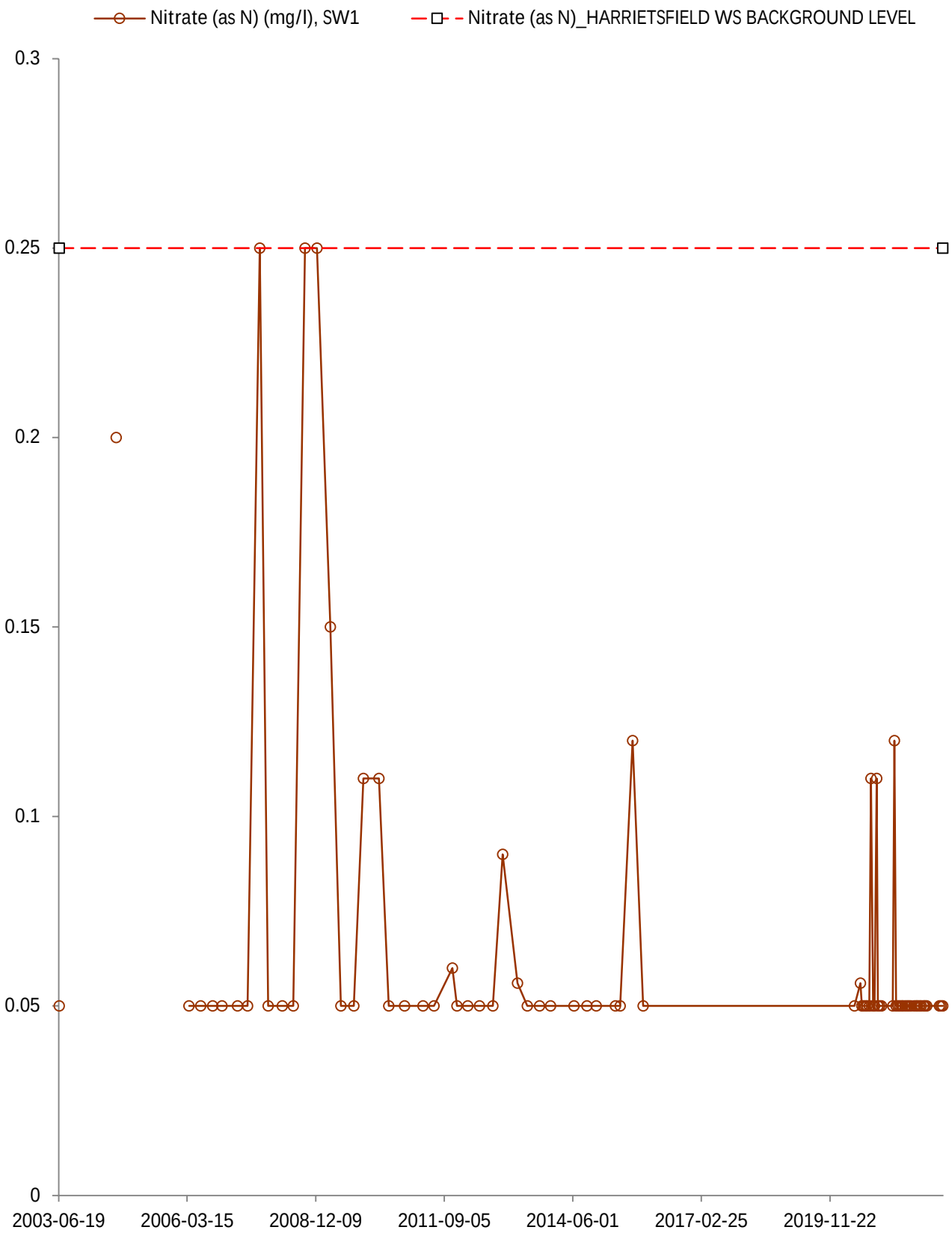
SW1-Molybdenum



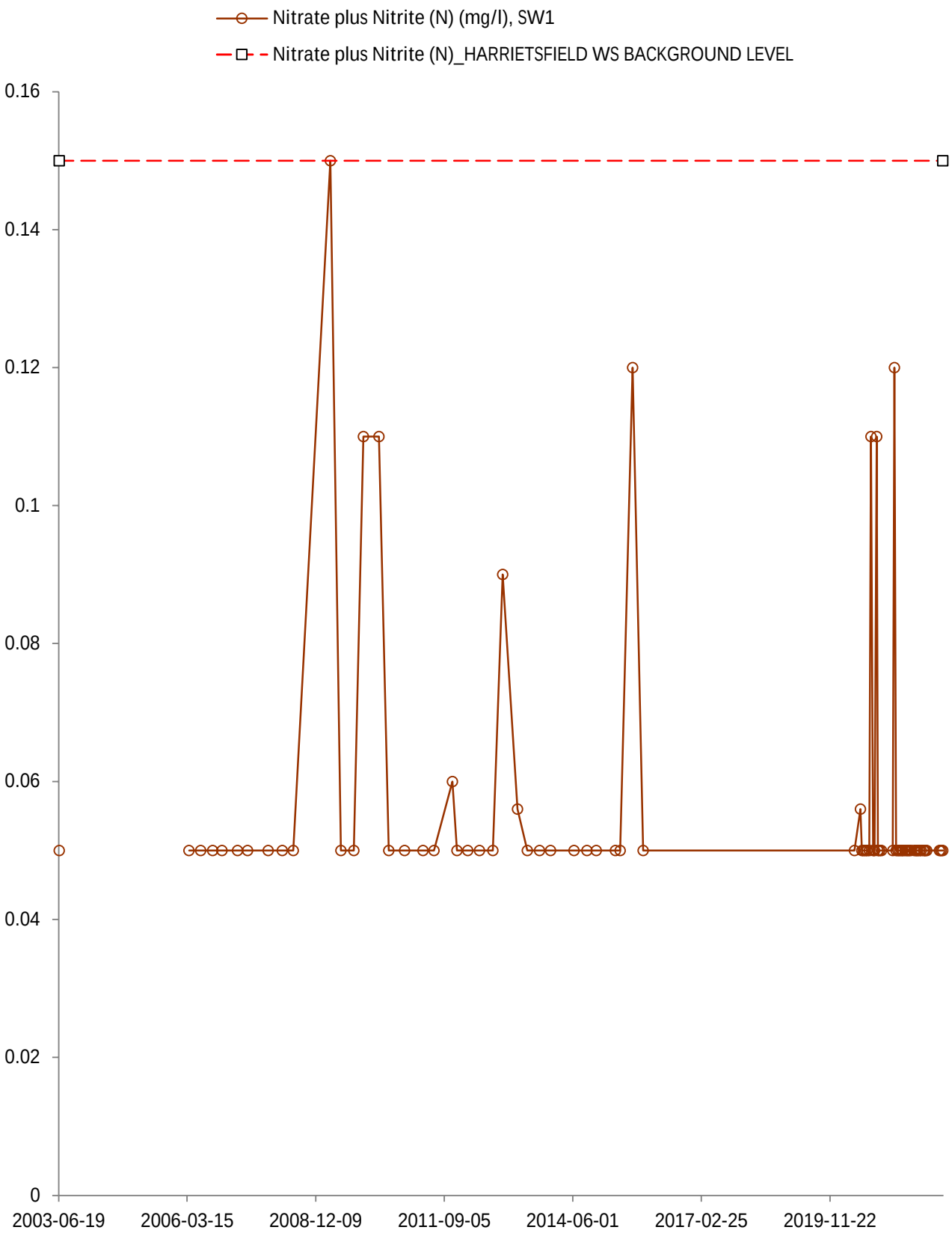
SW1-Nickel


Nickel (ug/l), SW1
Nickel_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

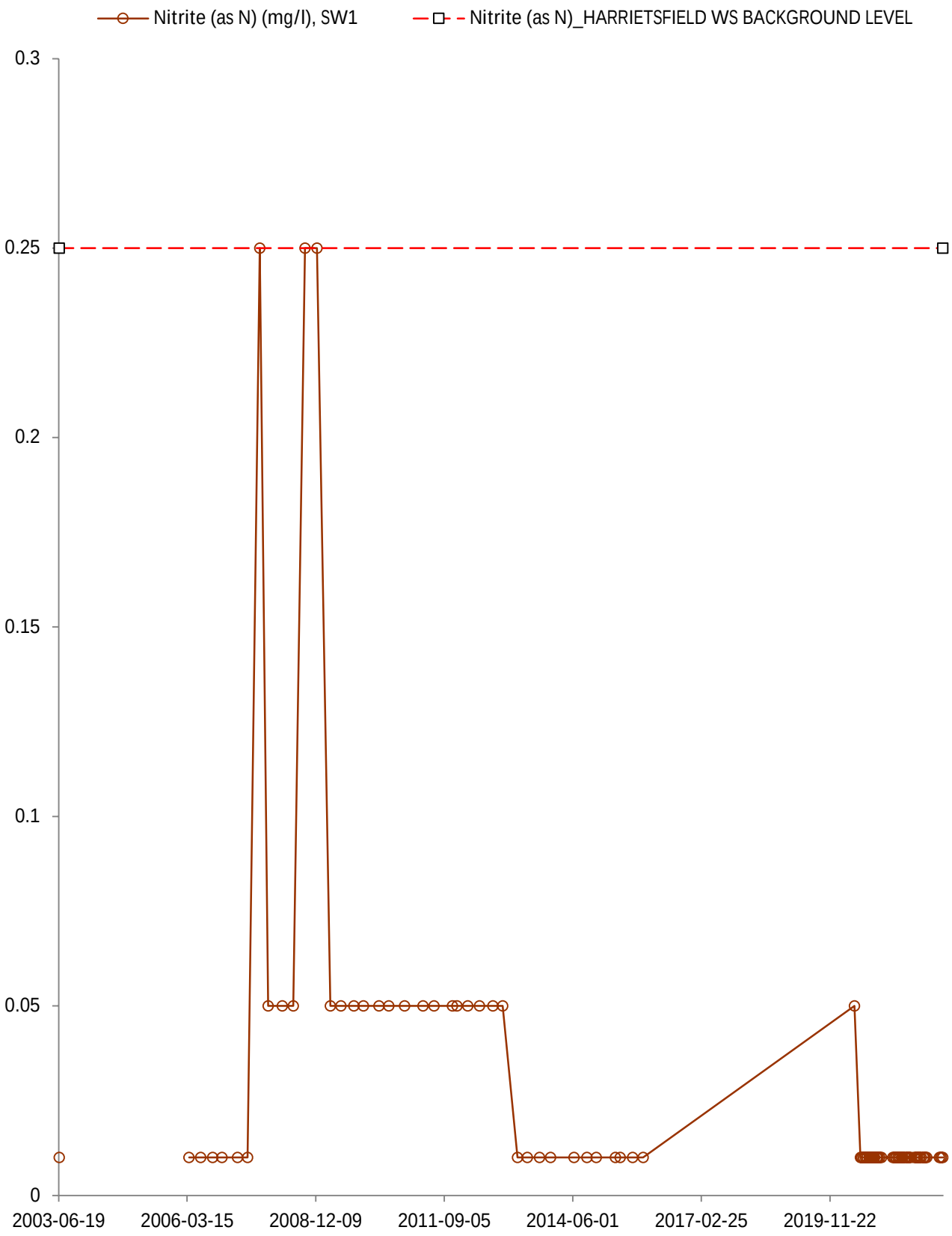
SW1-Nitrate (as N)



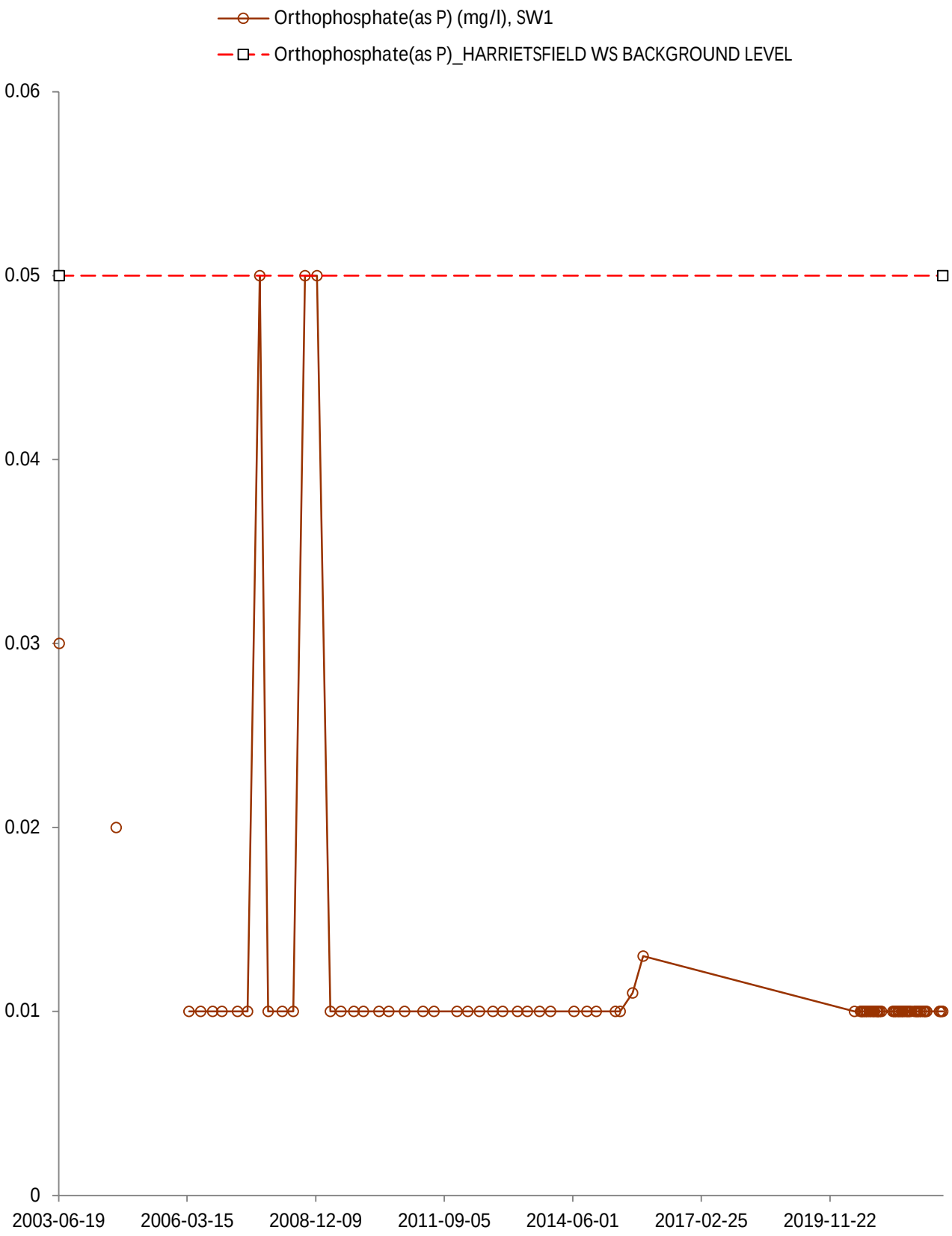
SW1-Nitrate plus Nitrite (N)



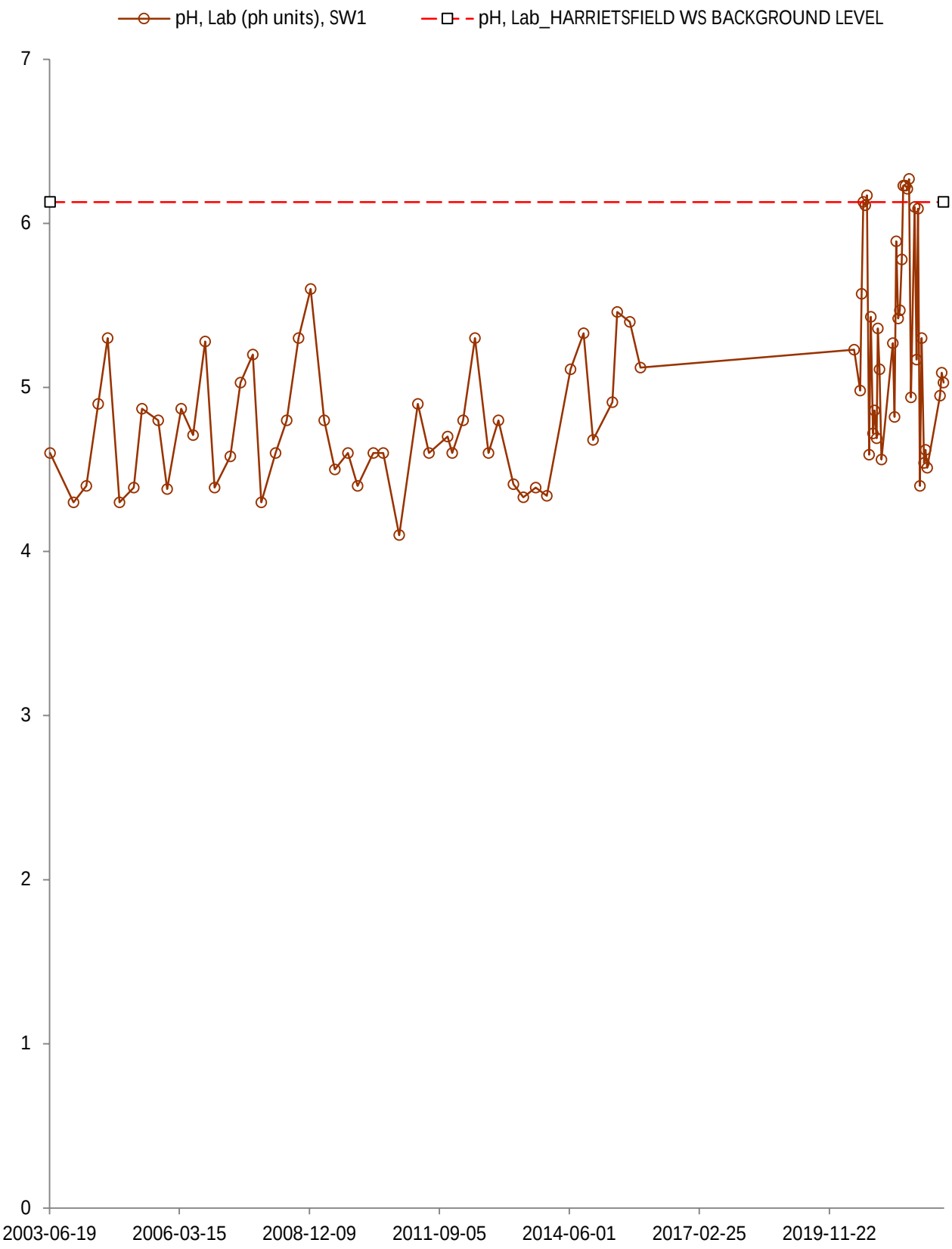
SW1-Nitrite (as N)



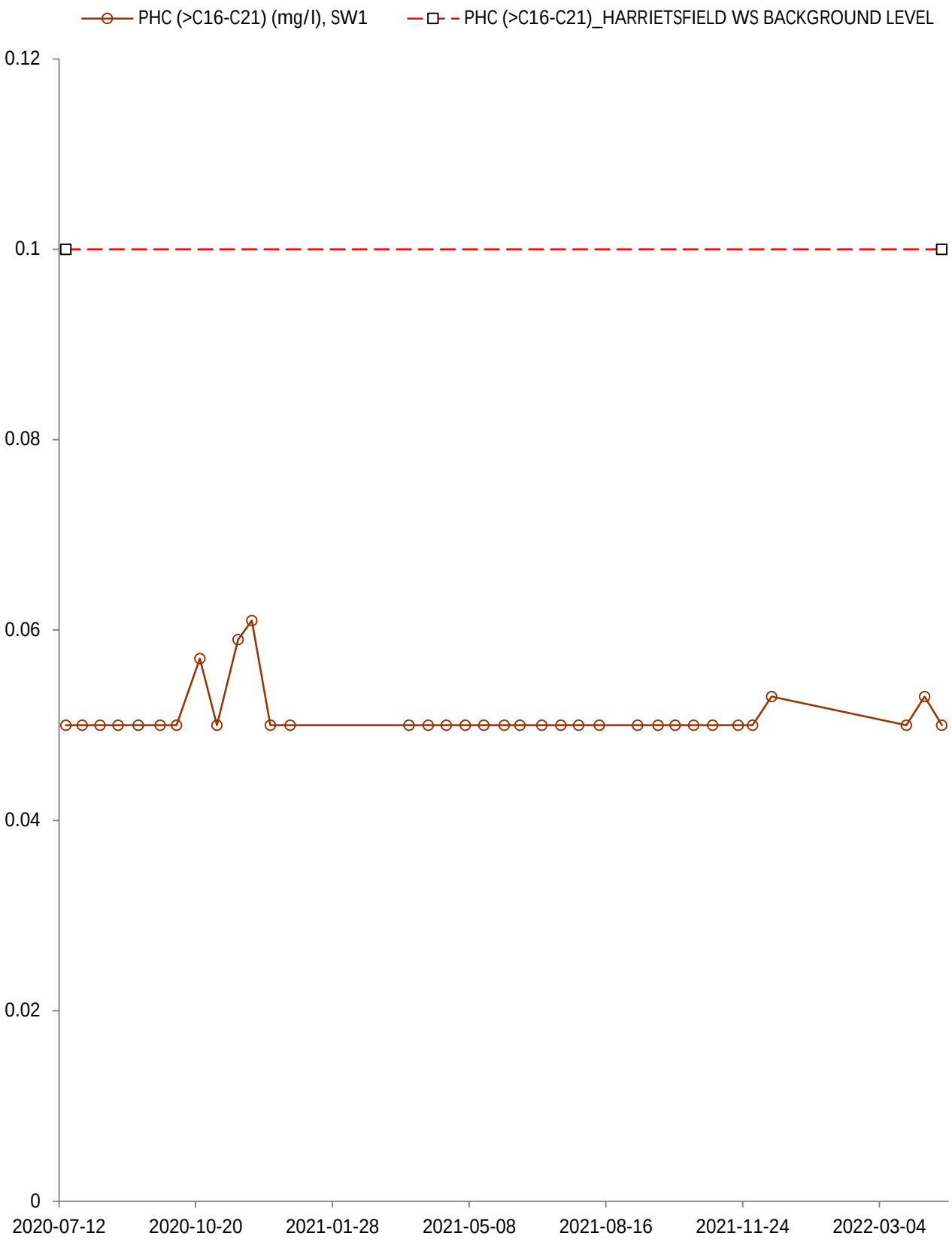
SW1-Orthophosphate(as P)



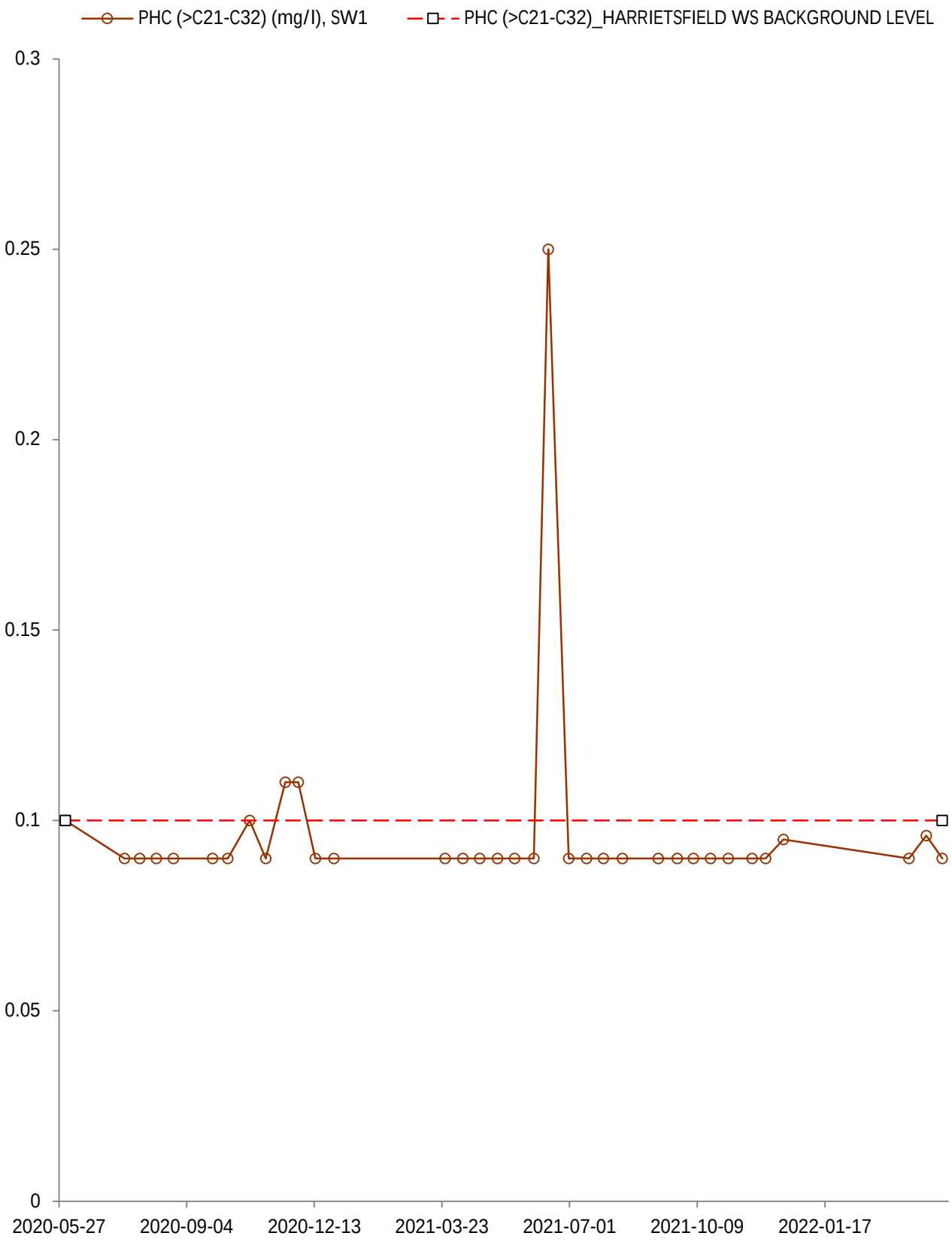
SW1-pH, Lab


pH, Lab (ph units), SW1
pH, Lab_HARRIETSFIELD WS BACKGROUND LEVEL
7
6
5
4
3
2
1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

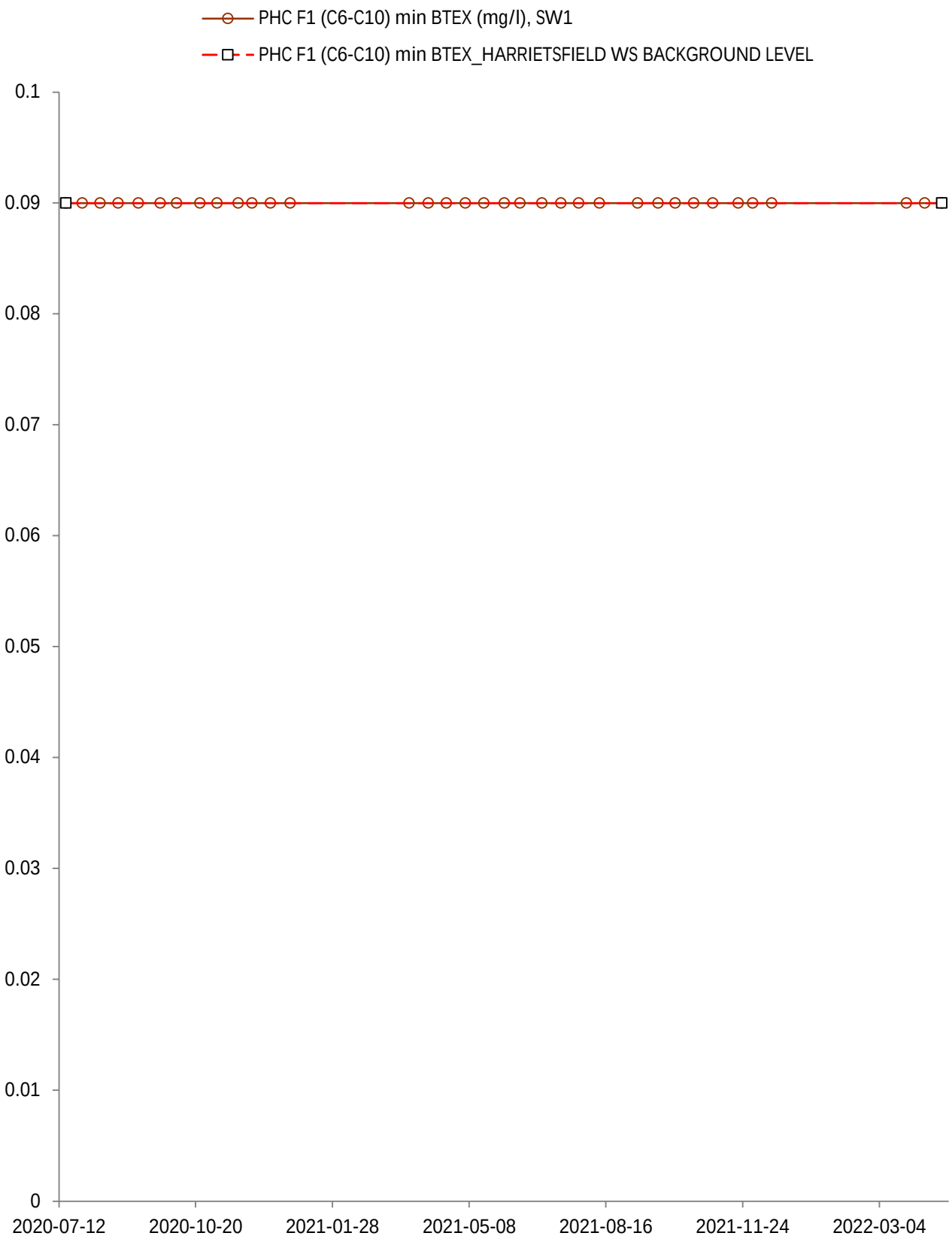
SW1-PHC (>C16-C21)



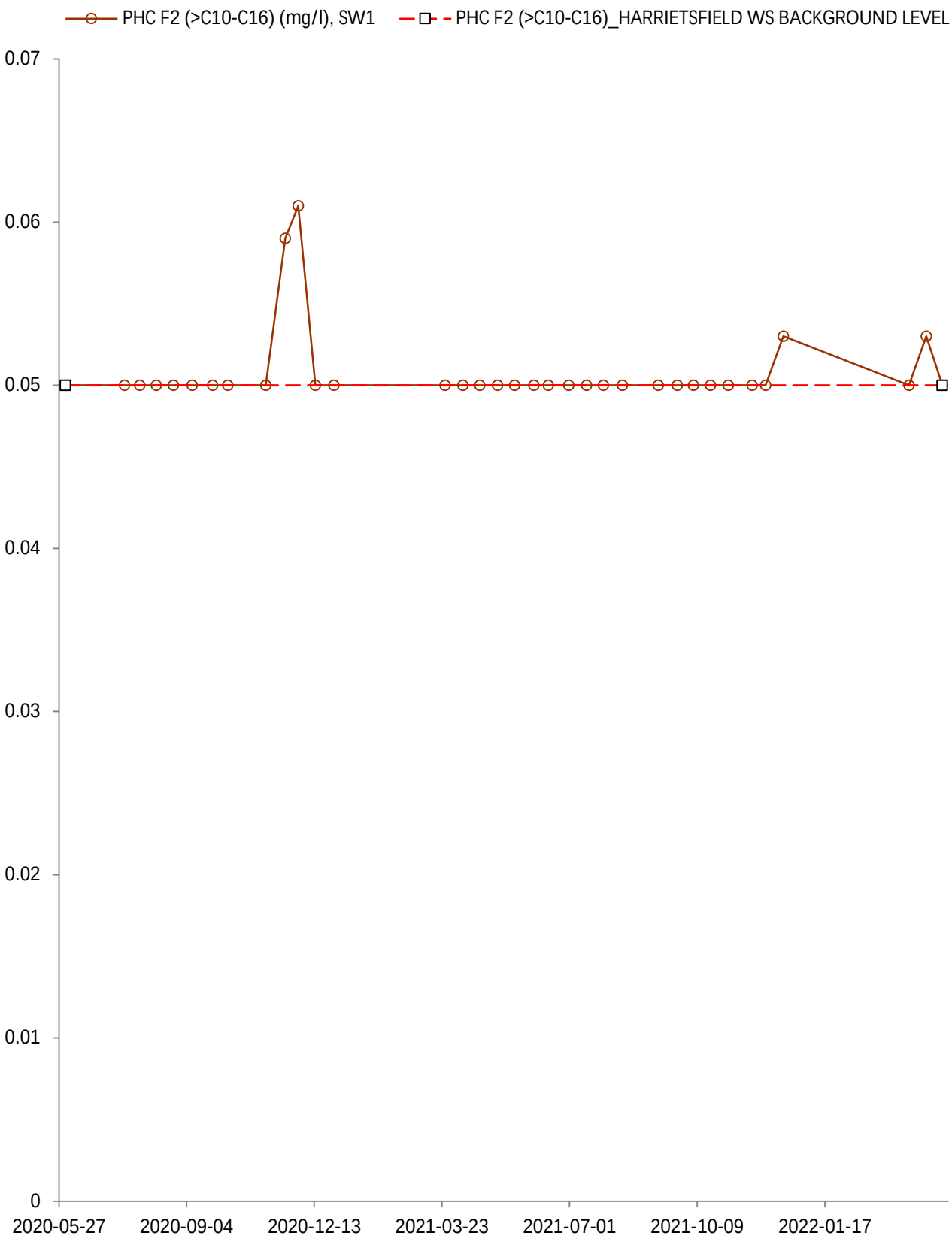
SW1-PHC (>C21-C32)



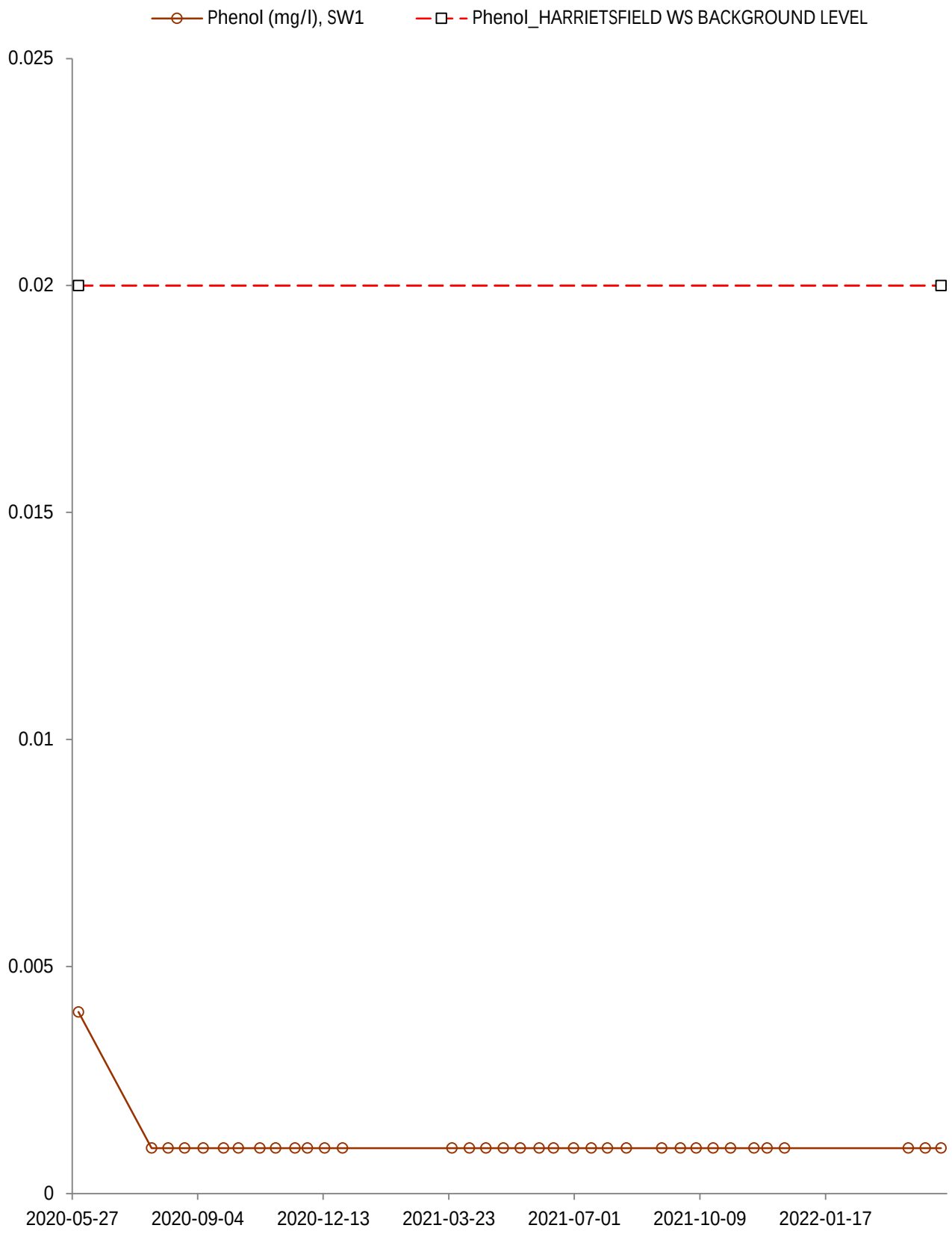
SW1-PHC F1 (C6-C10) min BTEX



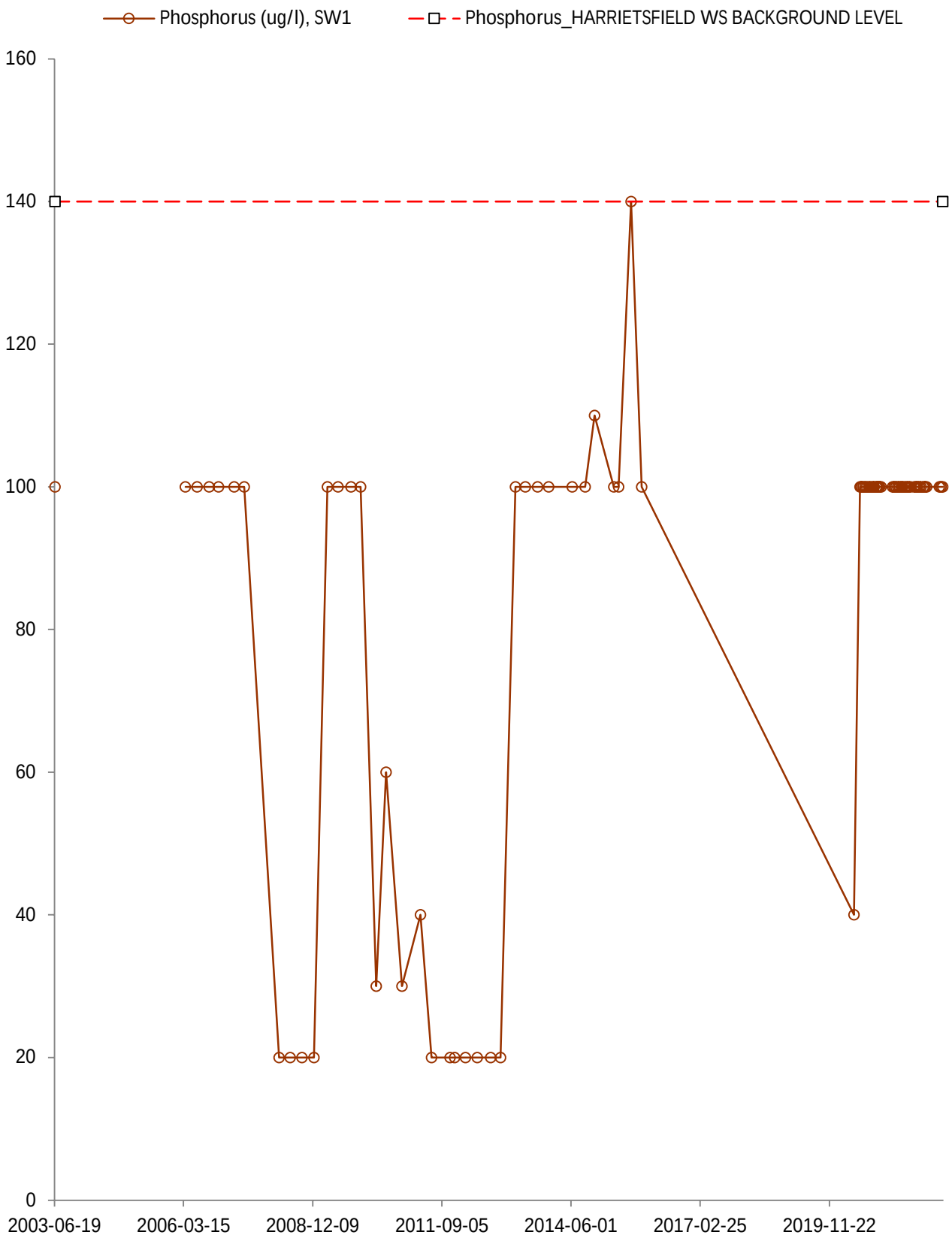
SW1-PHC F2 (>C10-C16)



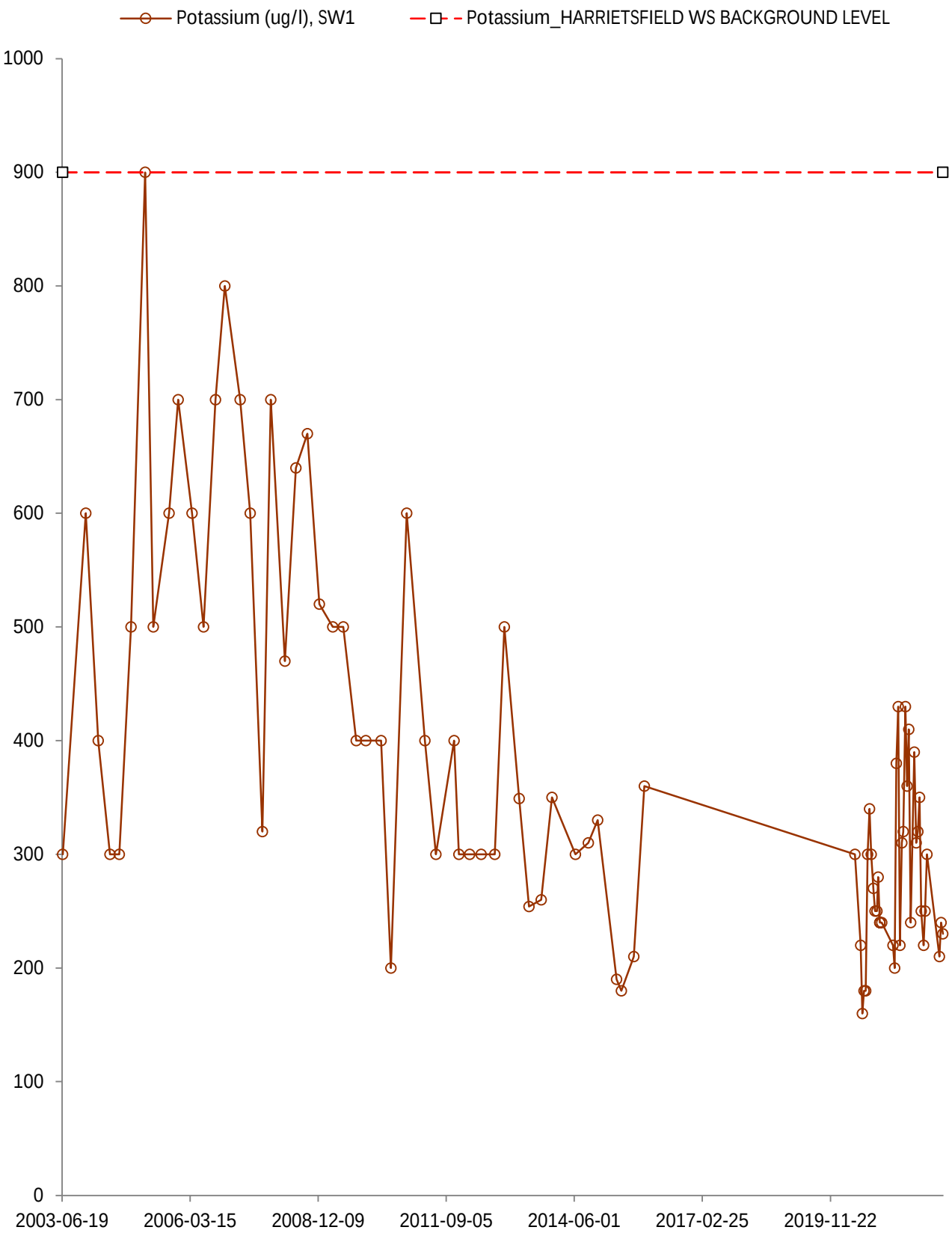
SW1-Phenol


Phenol (mg/l), SW1
Phenol_HARRIETSFIELD WS BACKGROUND LEVEL
0.025
0.02
0.015
0.01
0.005
0
2020-05-27
2020-09-04
2020-12-13
2021-03-23
2021-07-01
2021-10-09
2022-01-17

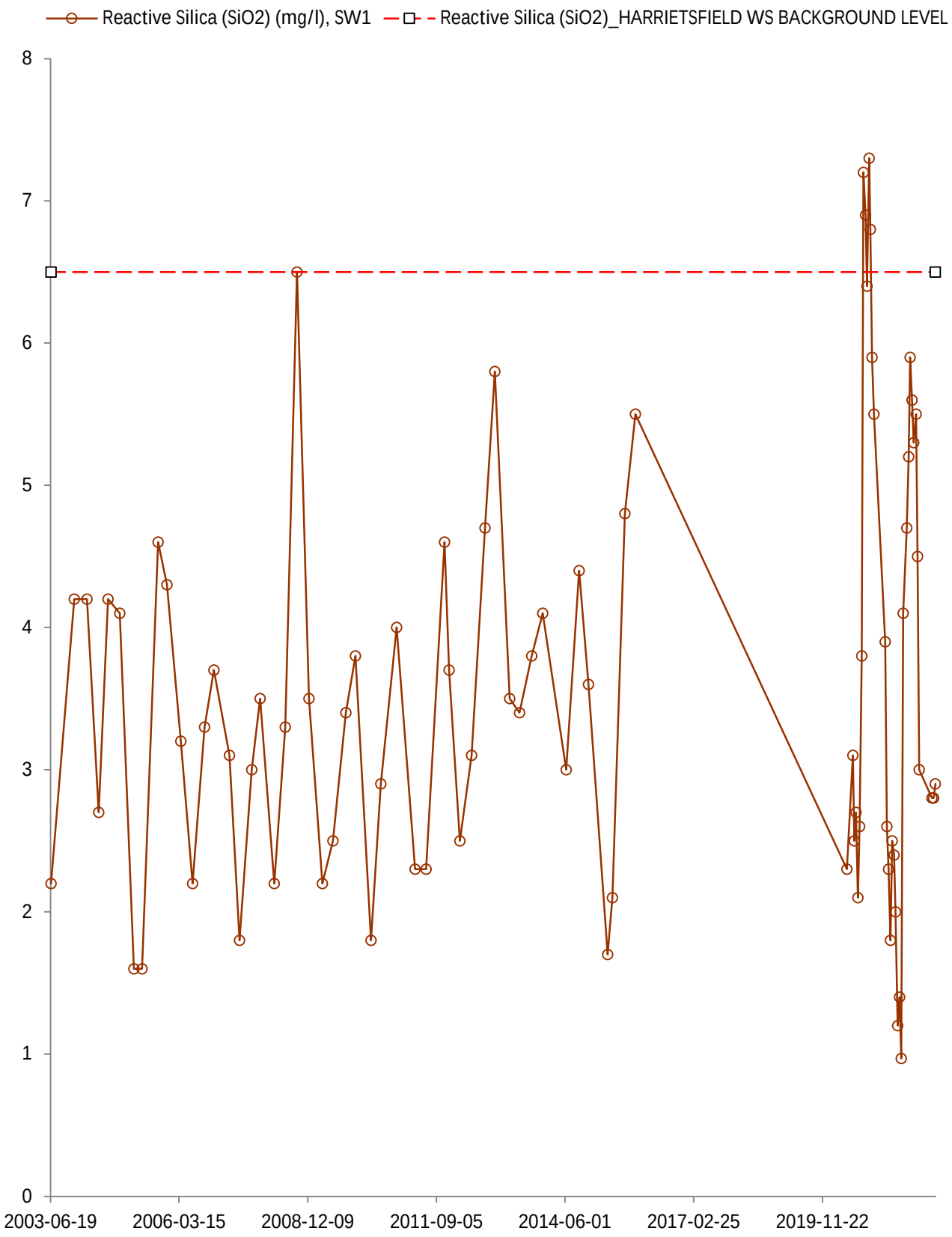
SW1-Phosphorus



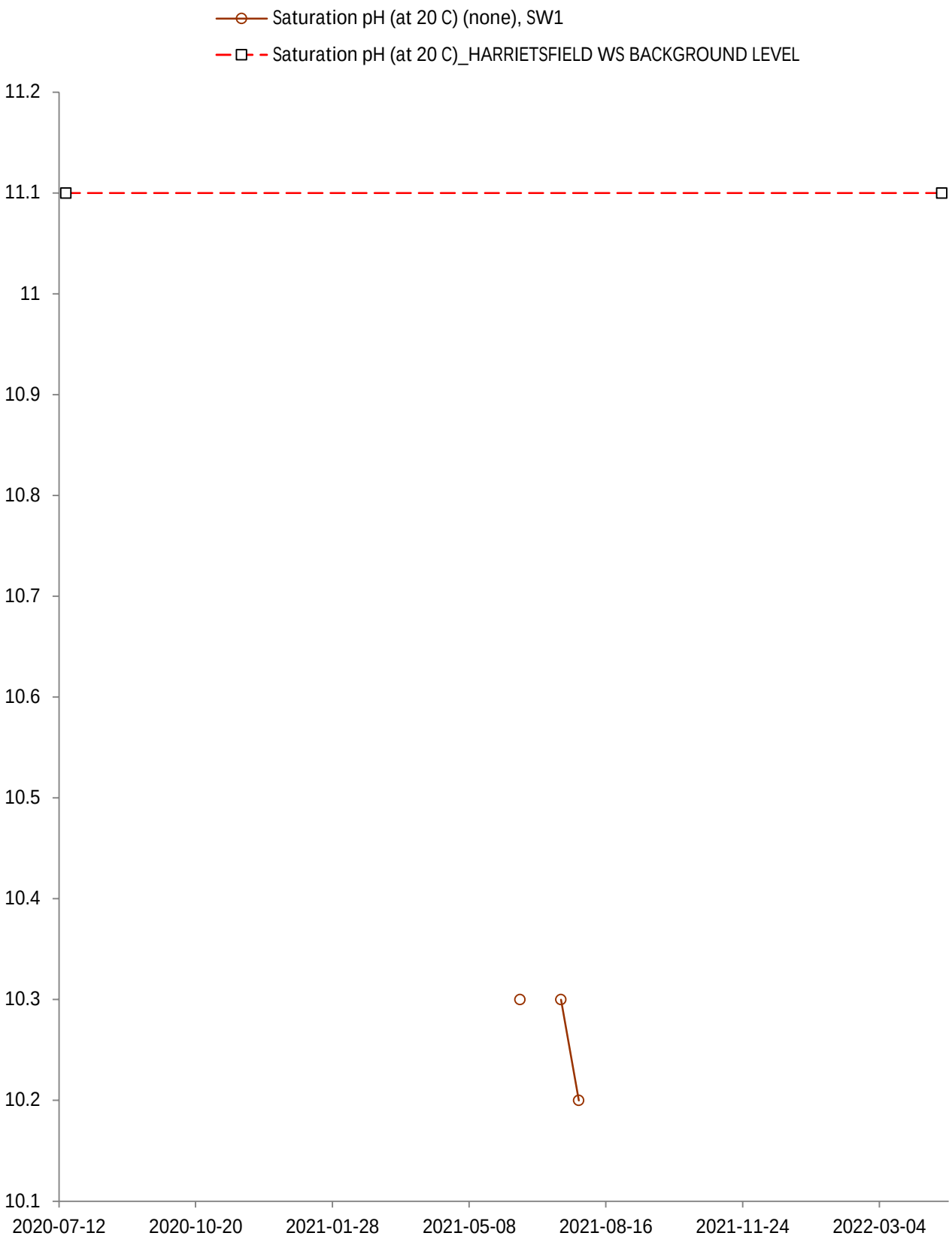
SW1-Potassium



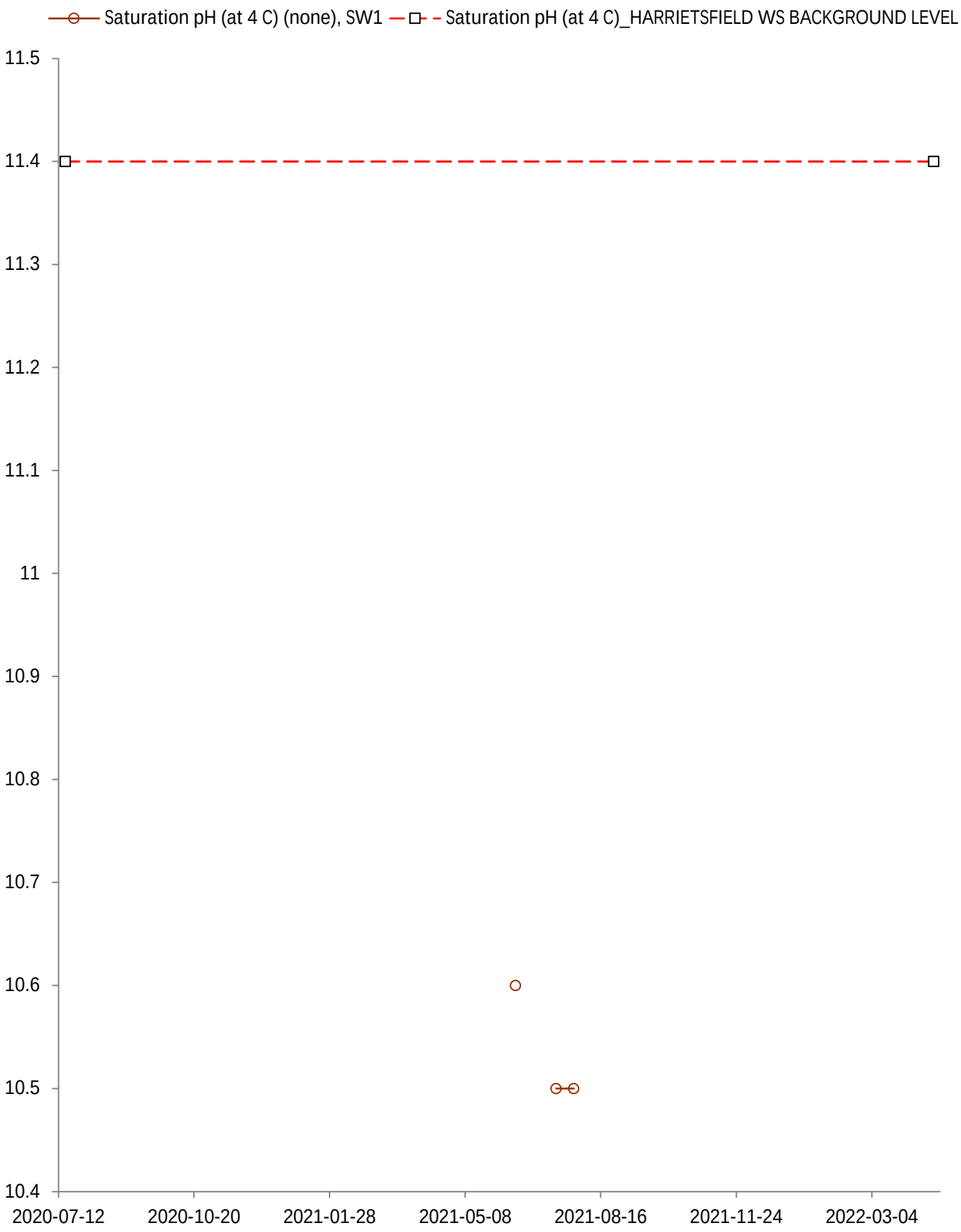
SW1-Reactive Silica (SiO2)



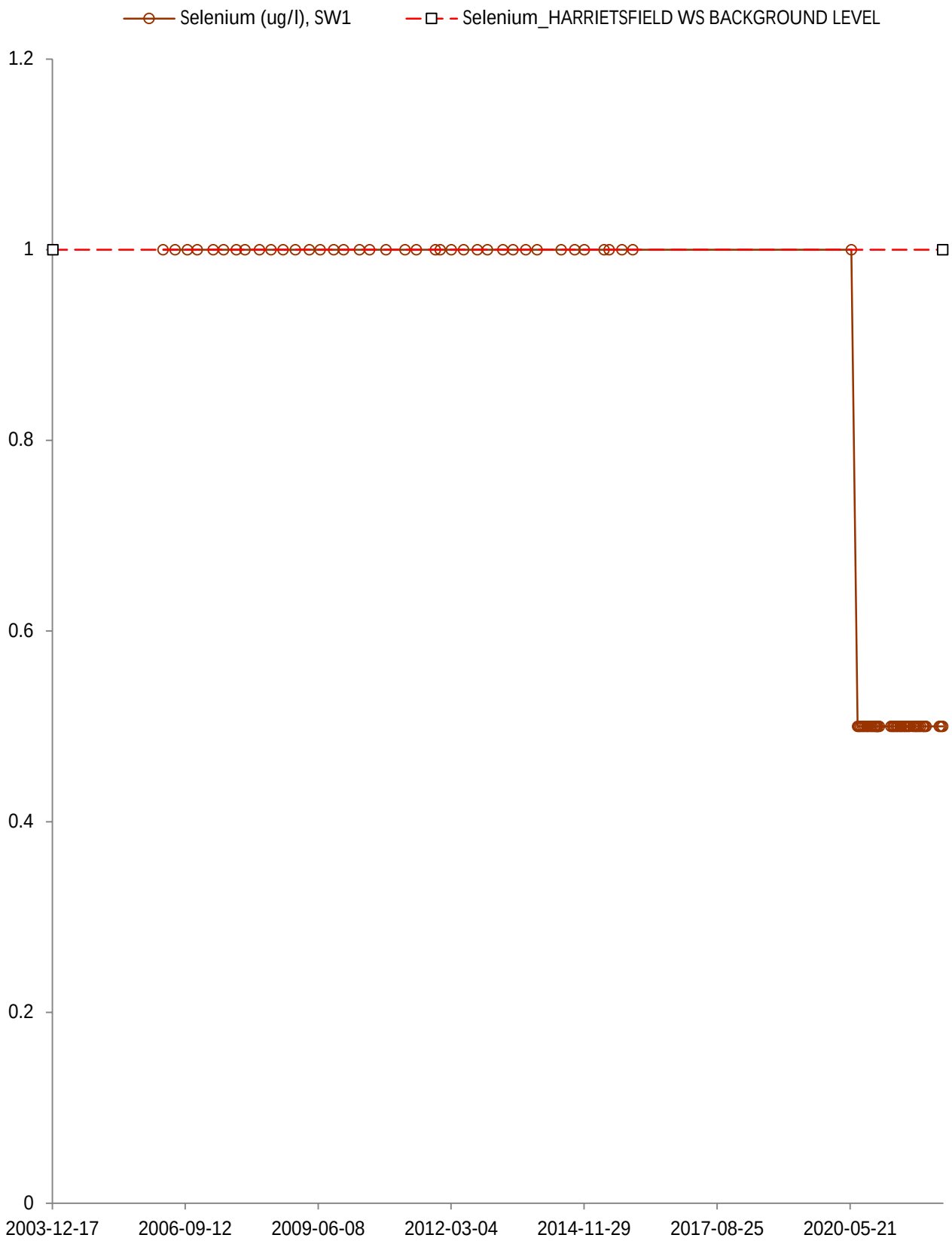
SW1-Saturation pH (at 20 C)



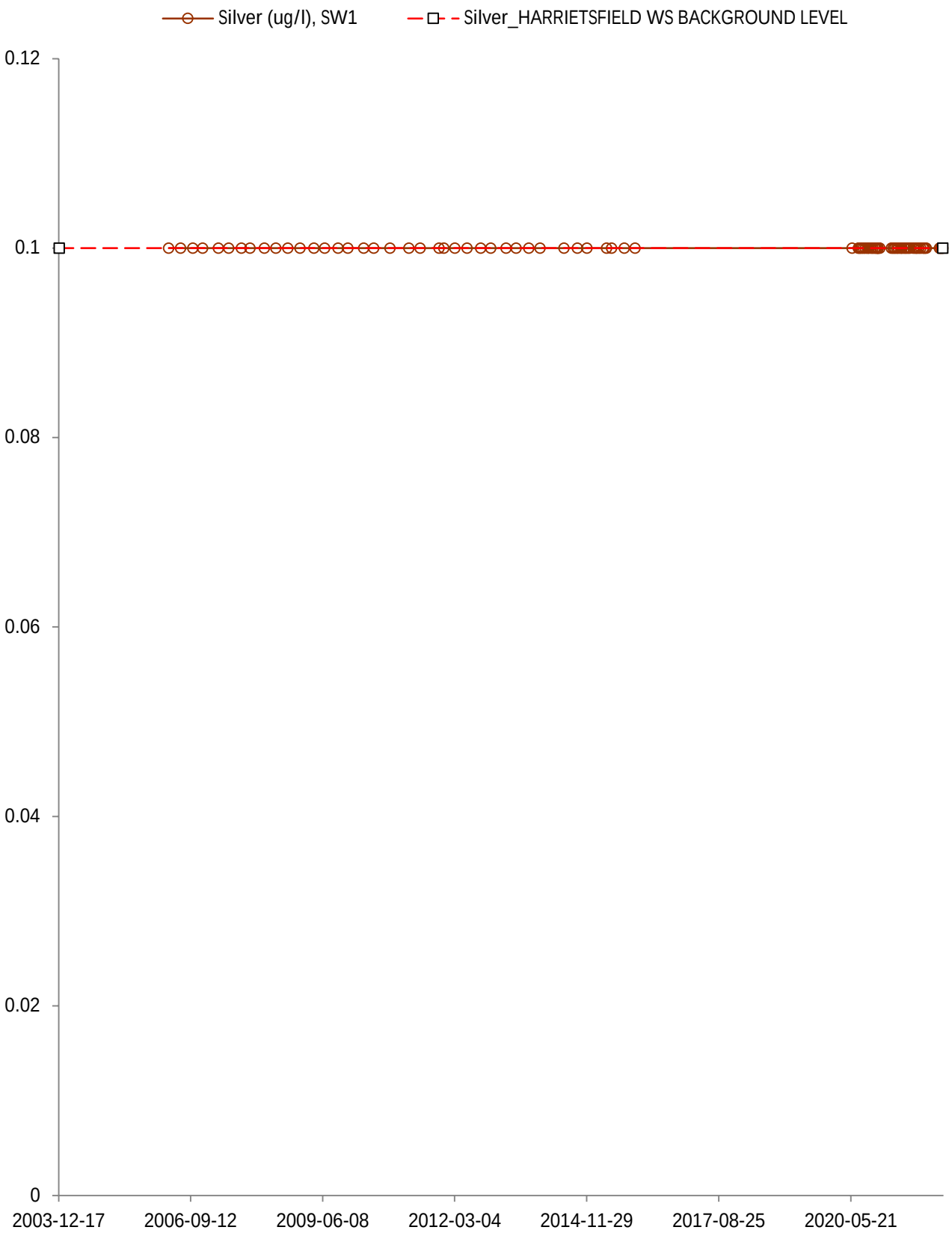
SW1-Saturation pH (at 4 C)



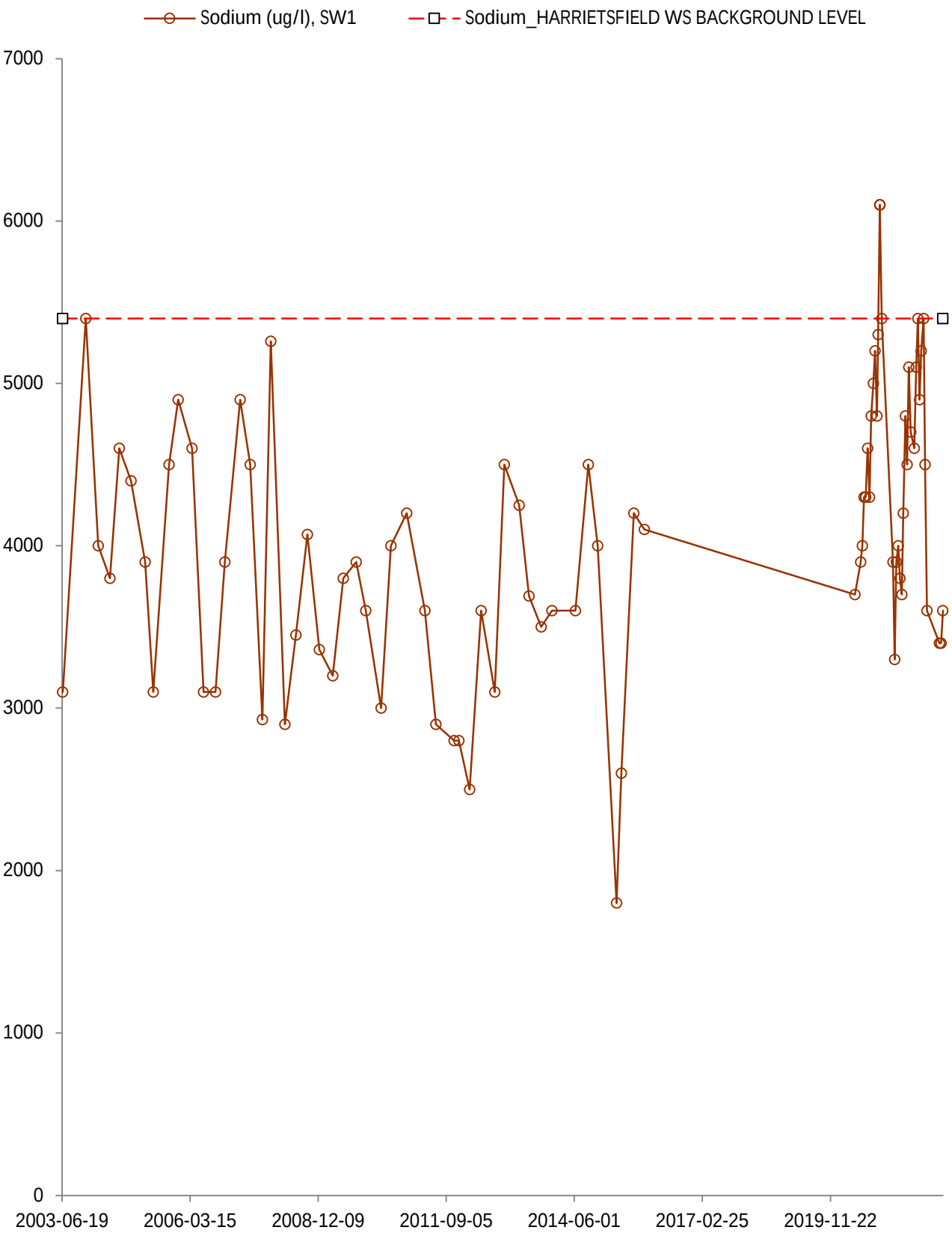
SW1-Selenium



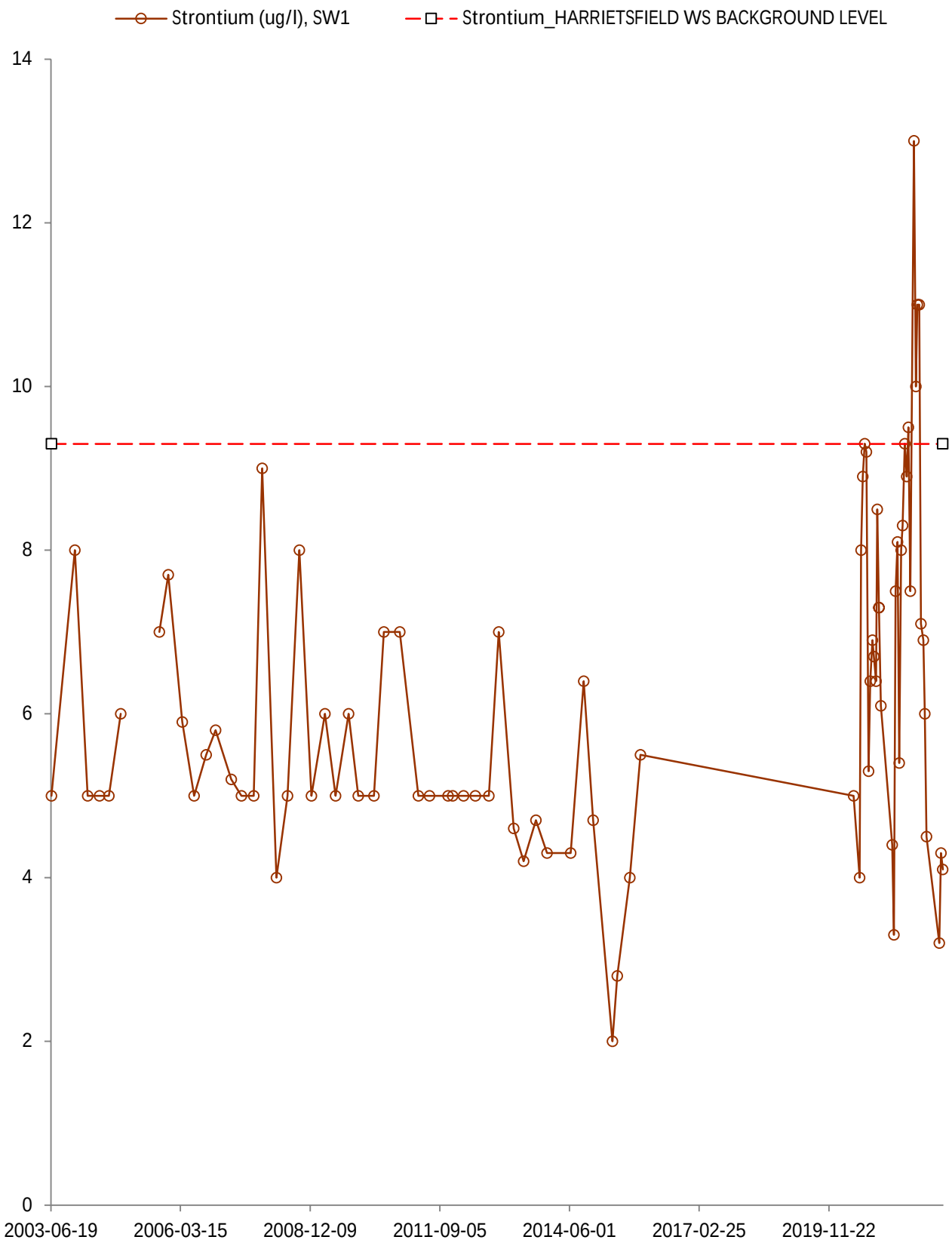
SW1-Silver


Silver (ug/l), SW1
Silver_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2003-12-17
2006-09-12
2009-06-08
2012-03-04
2014-11-29
2017-08-25
2020-05-21

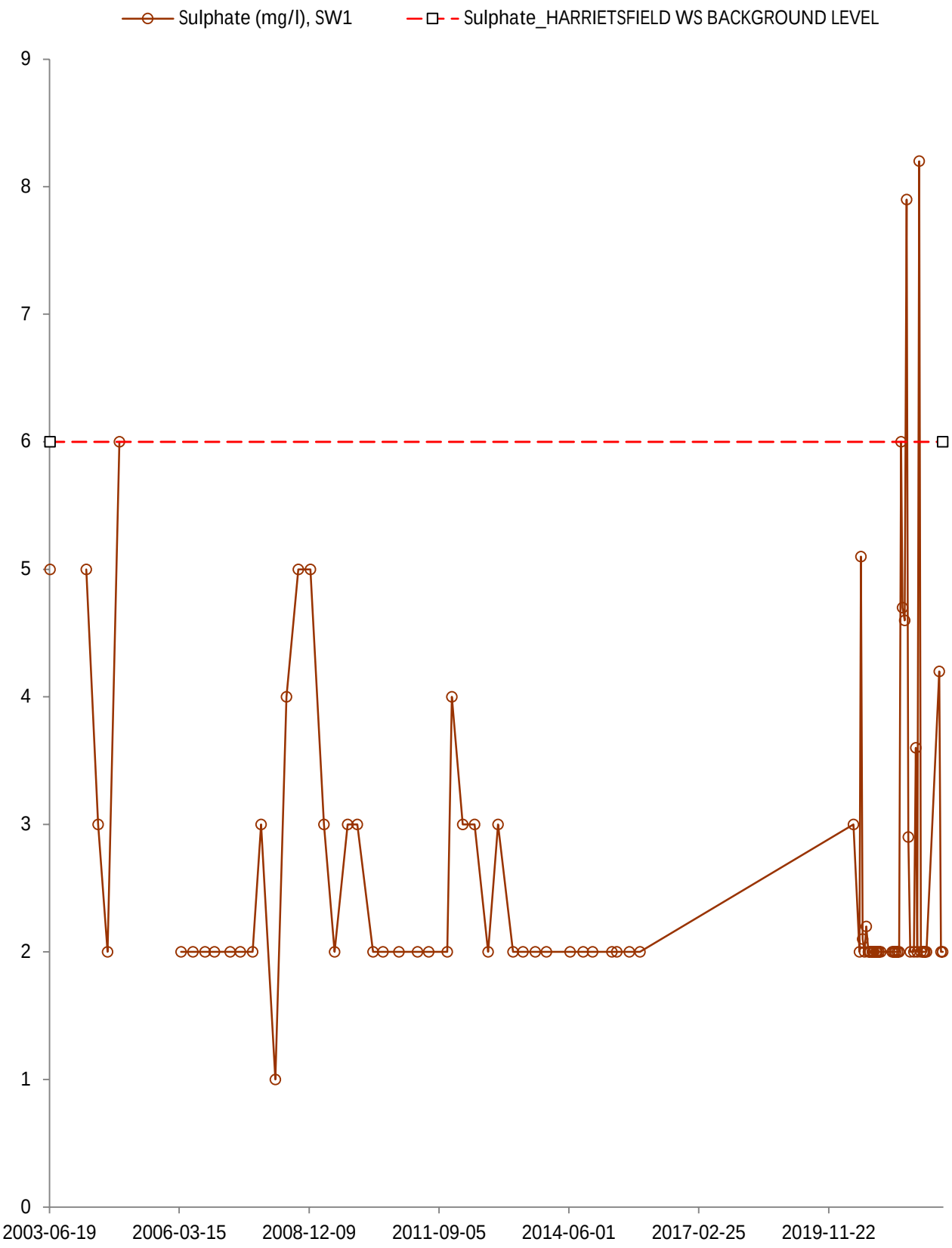
SW1-Sodium


Sodium (ug/l), SW1
Sodium_HARRIETSFIELD WS BACKGROUND LEVEL
7000
6000
5000
4000
3000
2000
1000
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

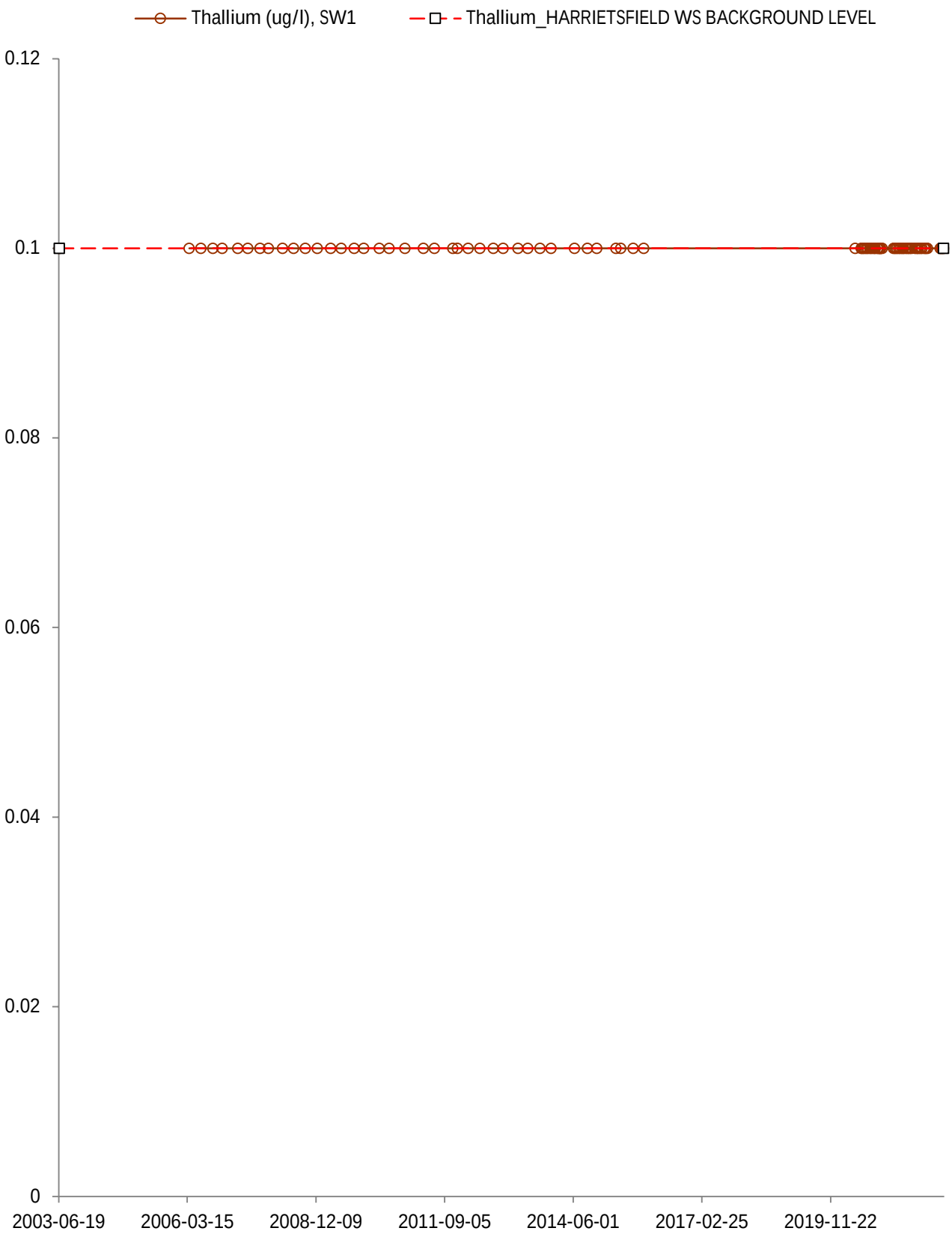
SW1-Strontium



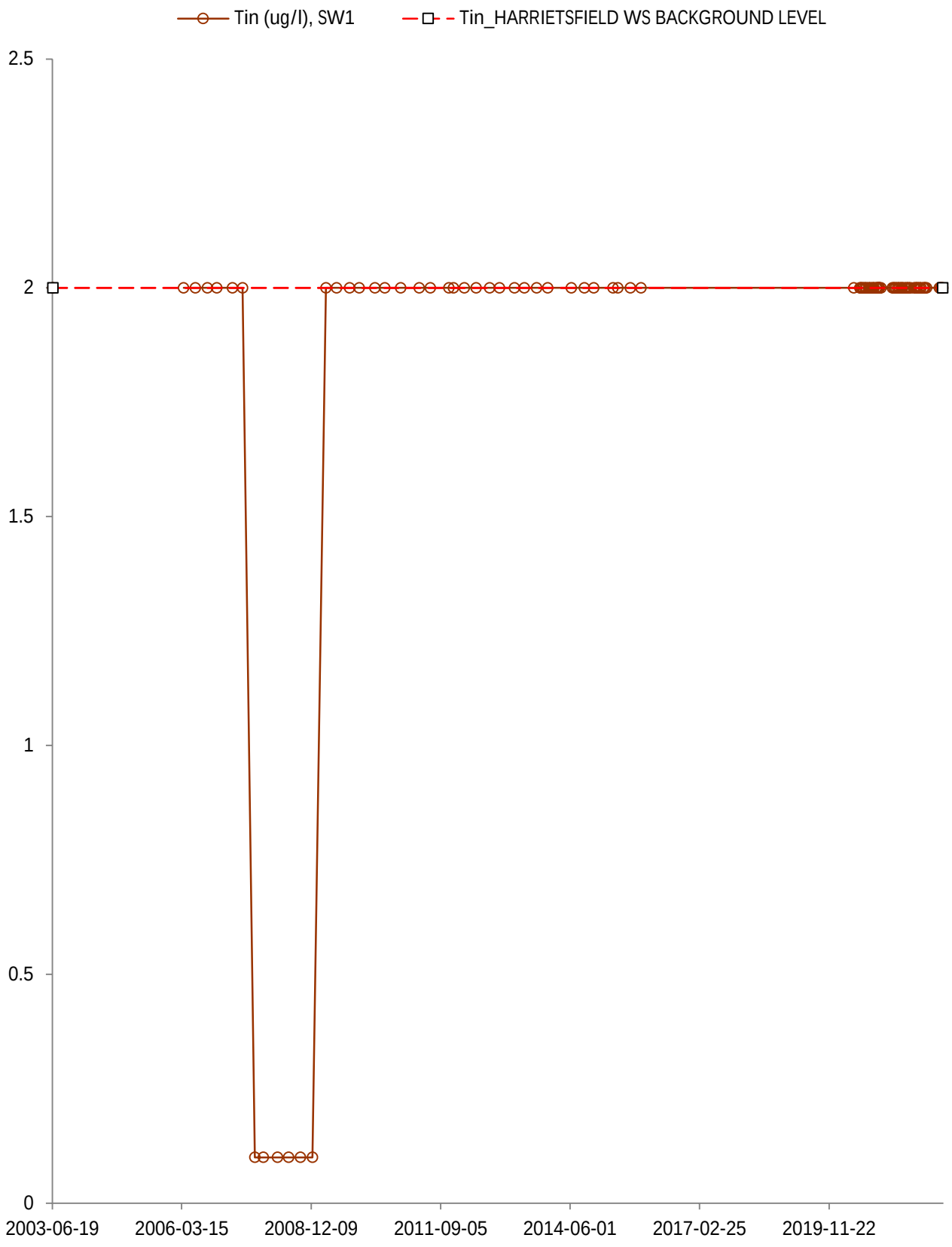
SW1-Sulphate



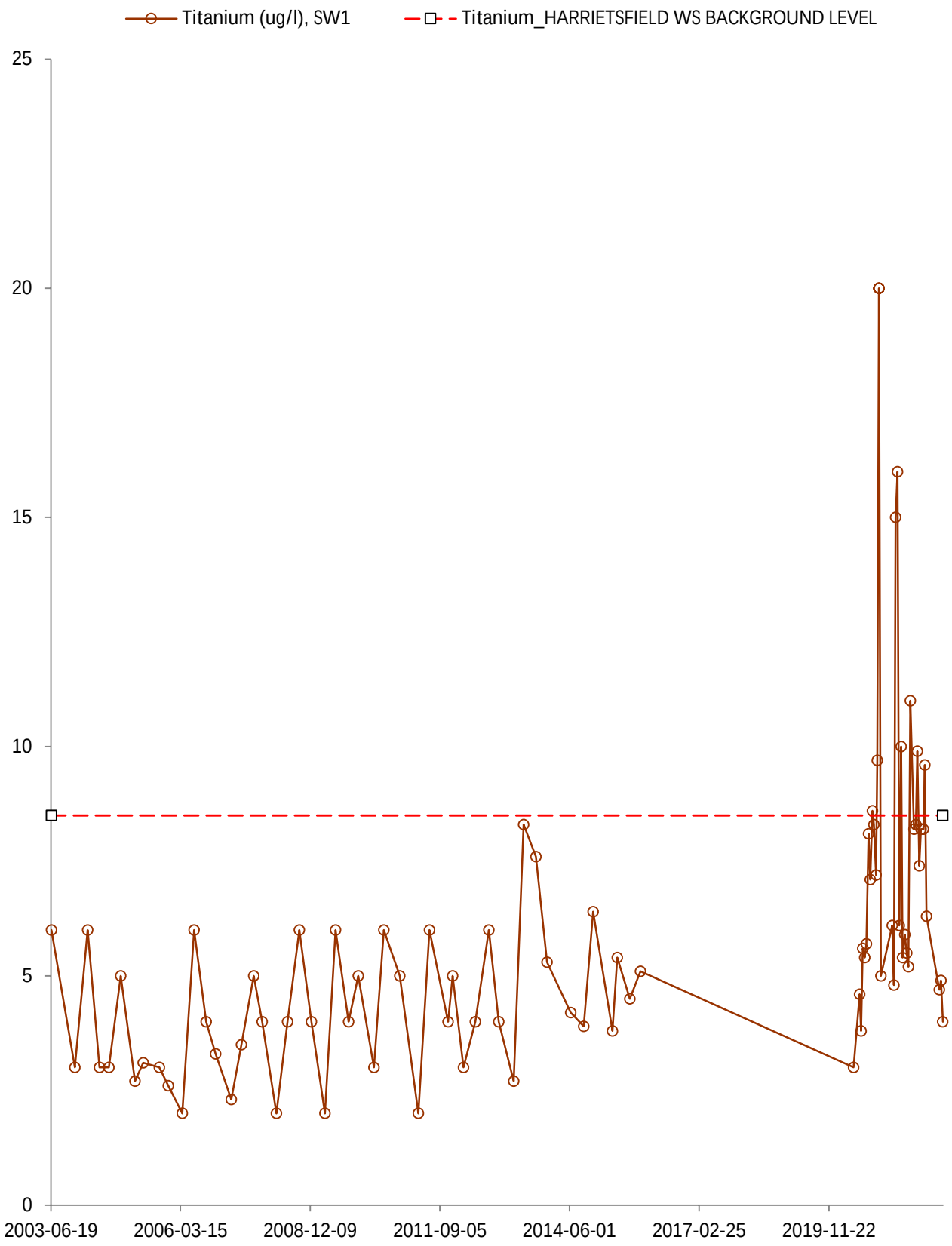
SW1-Thallium



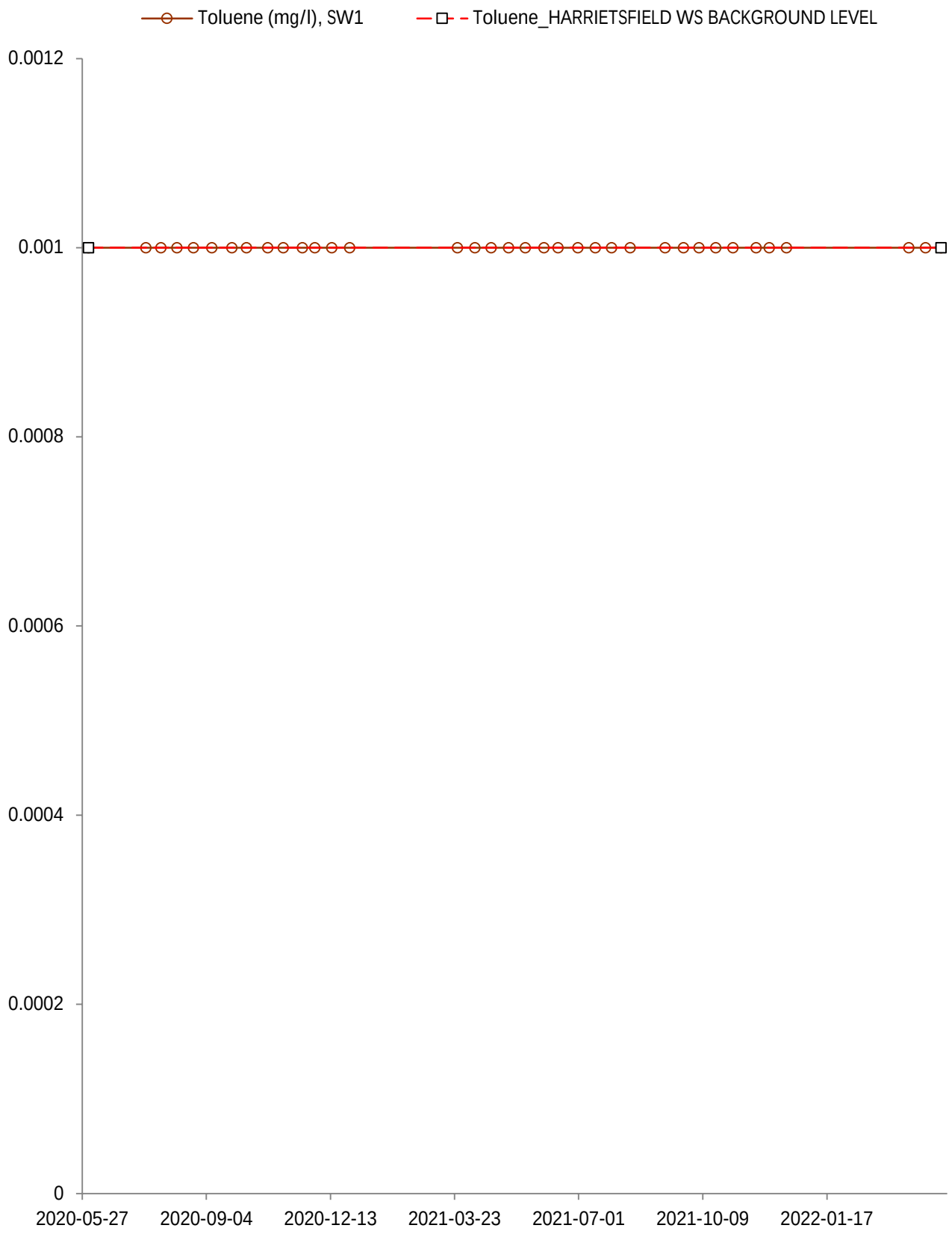
SW1-Tin


Tin (ug/l), SW1
Tin_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

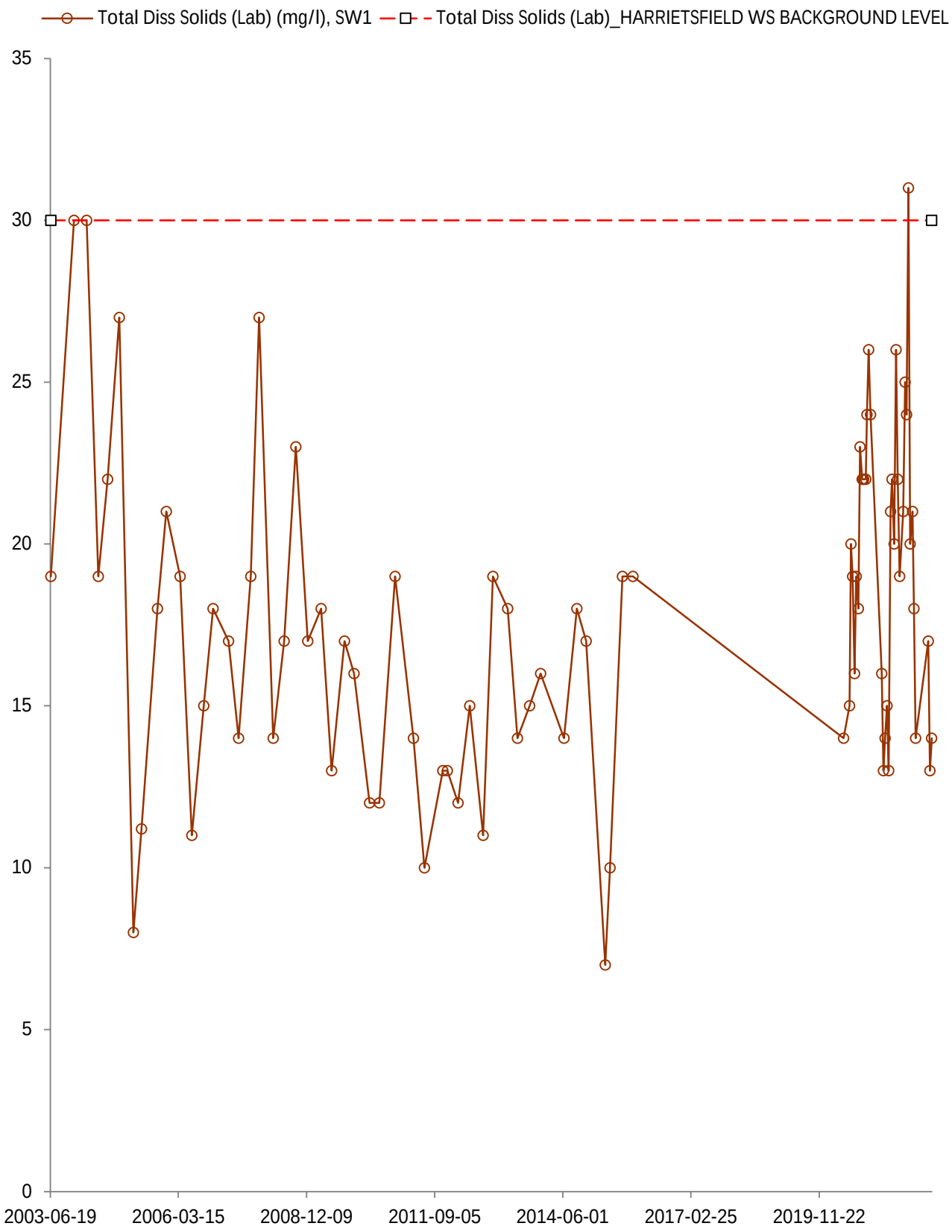
SW1-Titanium



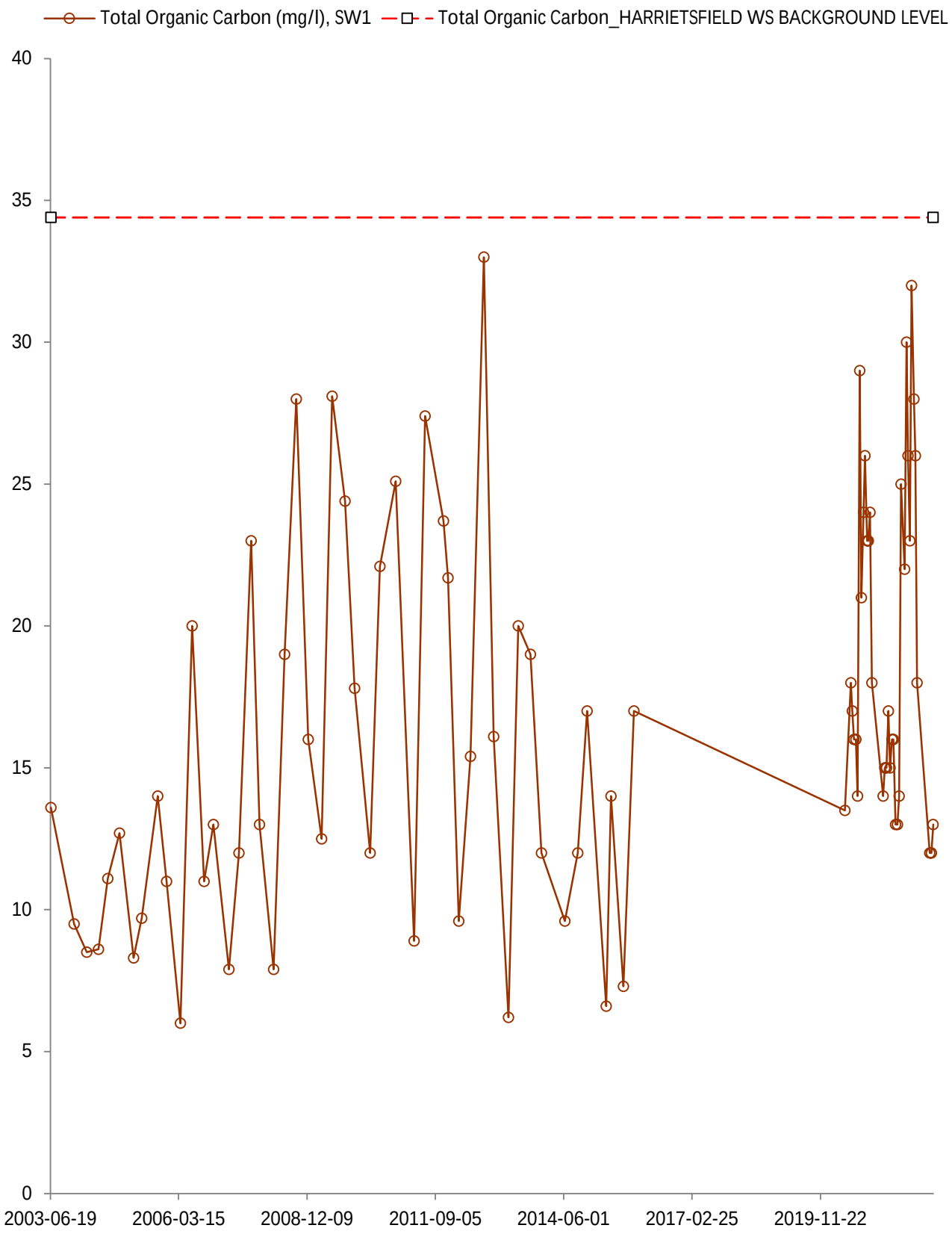
SW1-Toluene


Toluene (mg/l), SW1
Toluene_HARRIETSFIELD WS BACKGROUND LEVEL
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
2020-05-27
2020-09-04
2020-12-13
2021-03-23
2021-07-01
2021-10-09
2022-01-17

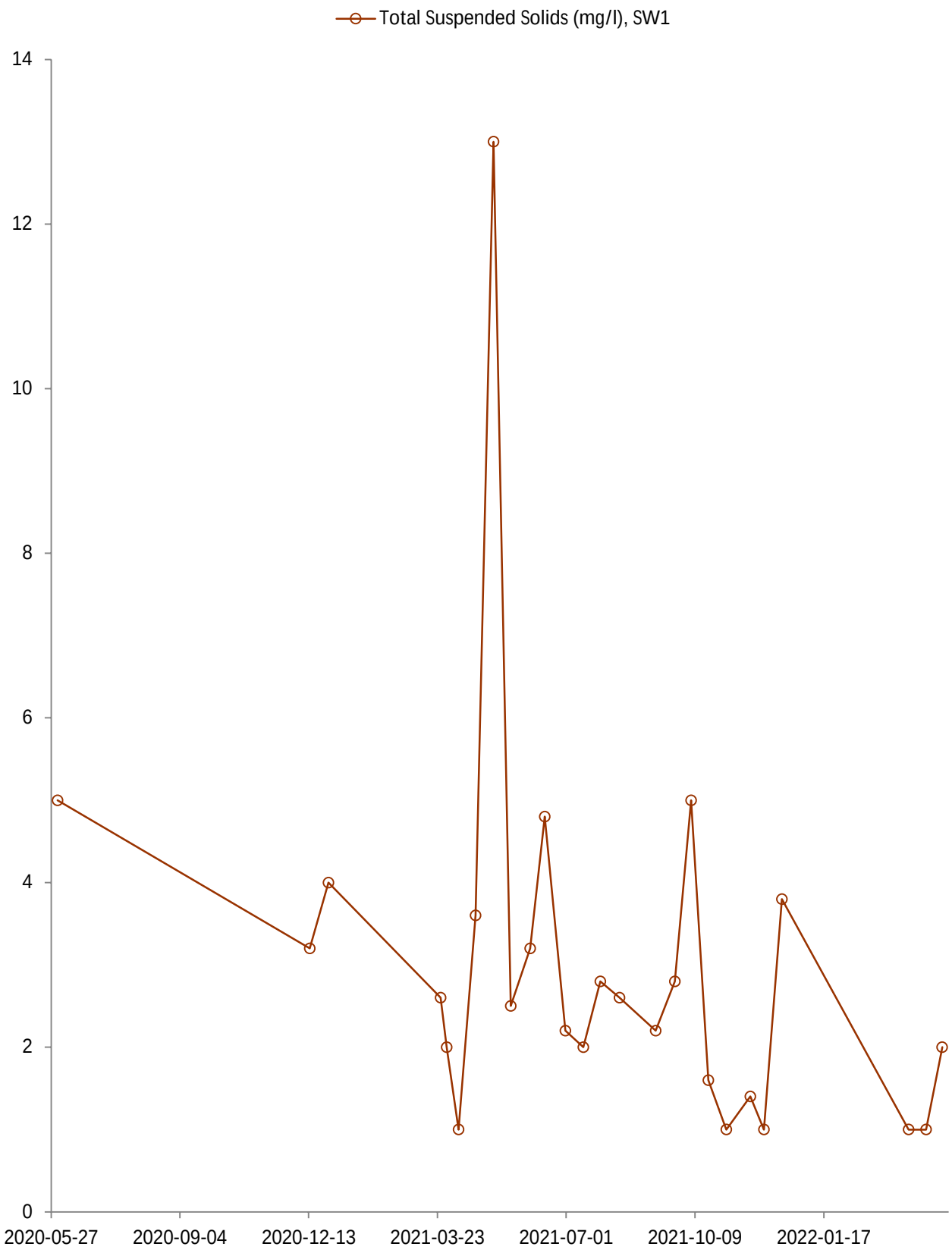
SW1-Total Diss Solids (Lab)



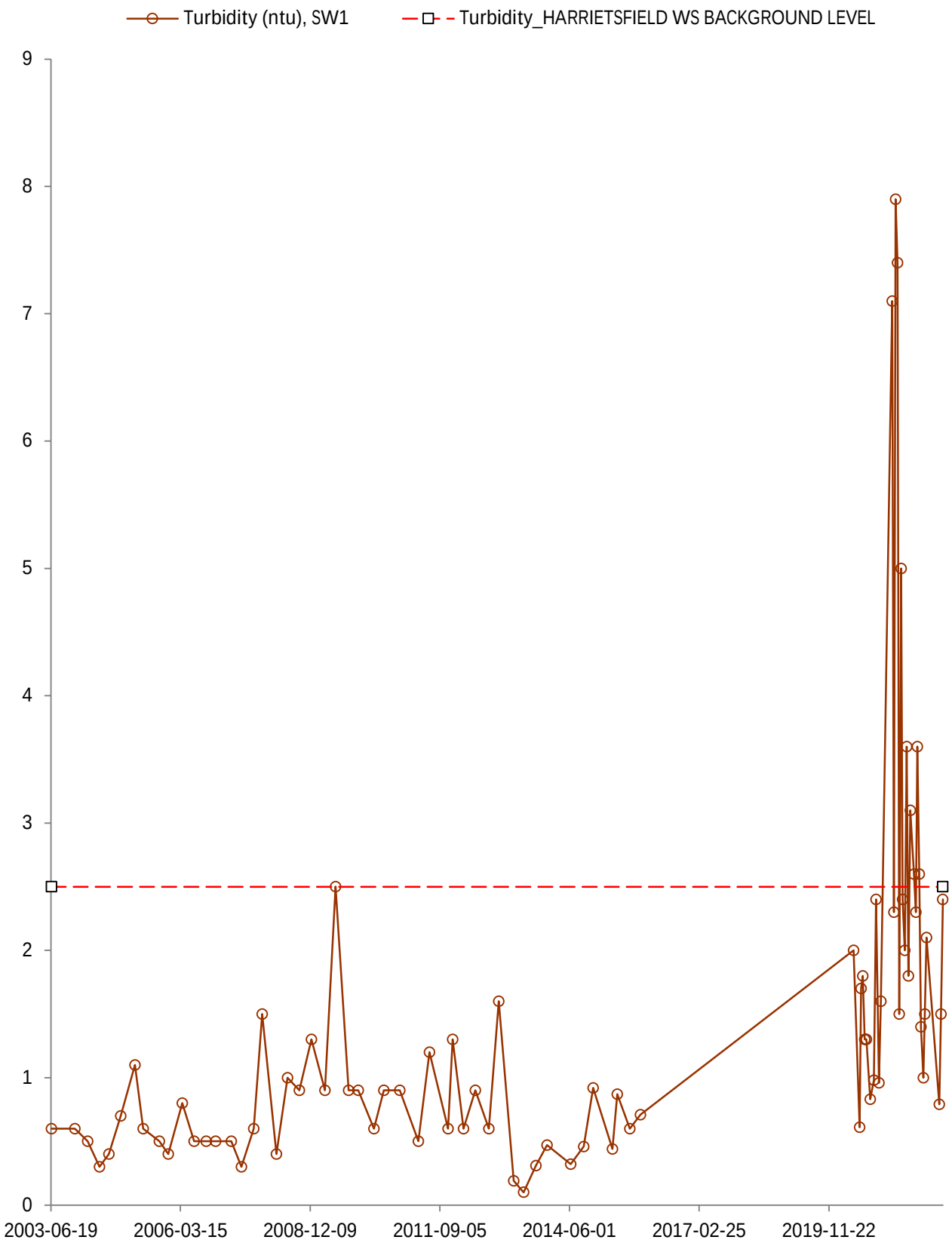
SW1-Total Organic Carbon



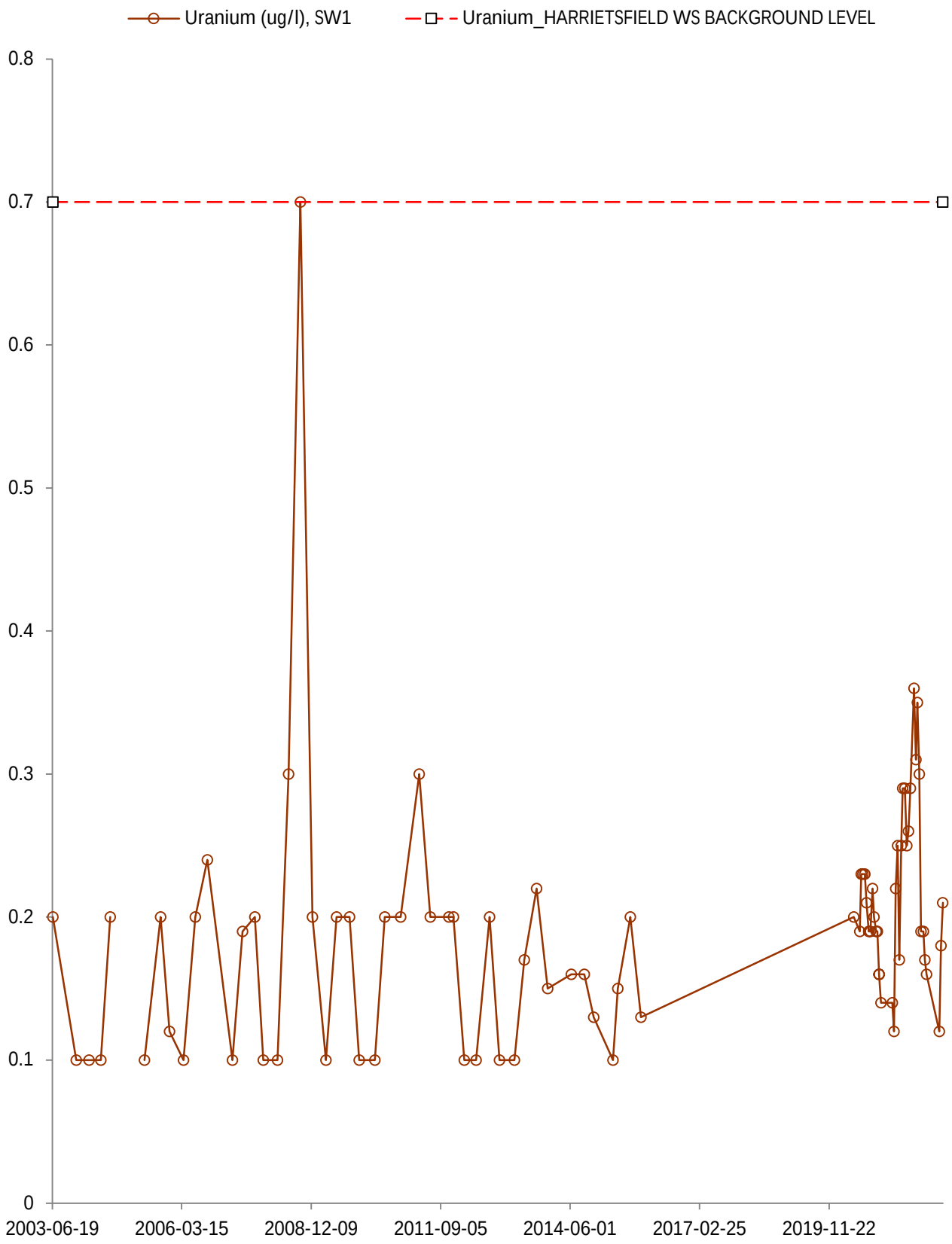
SW1-Total Suspended Solids



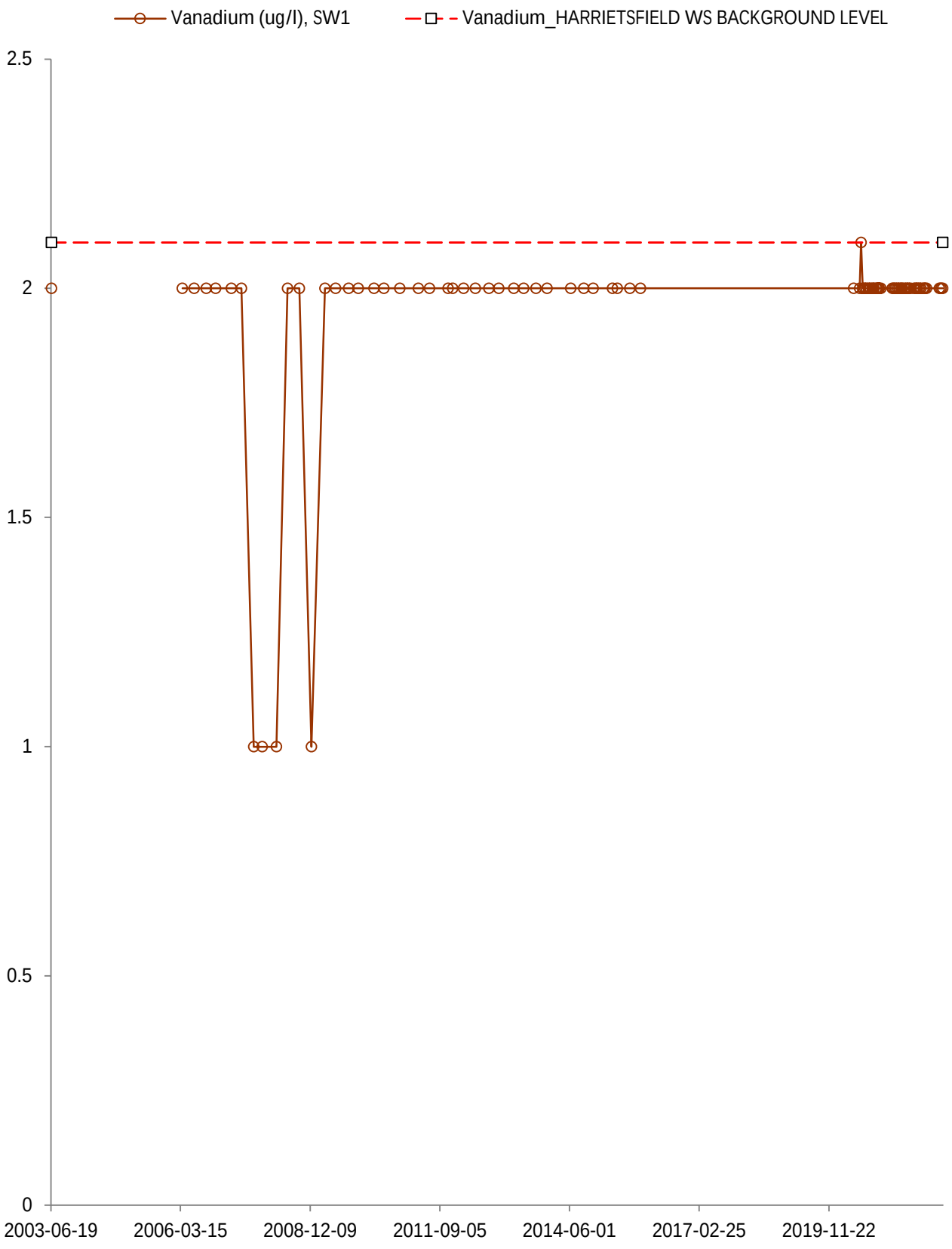
SW1-Turbidity



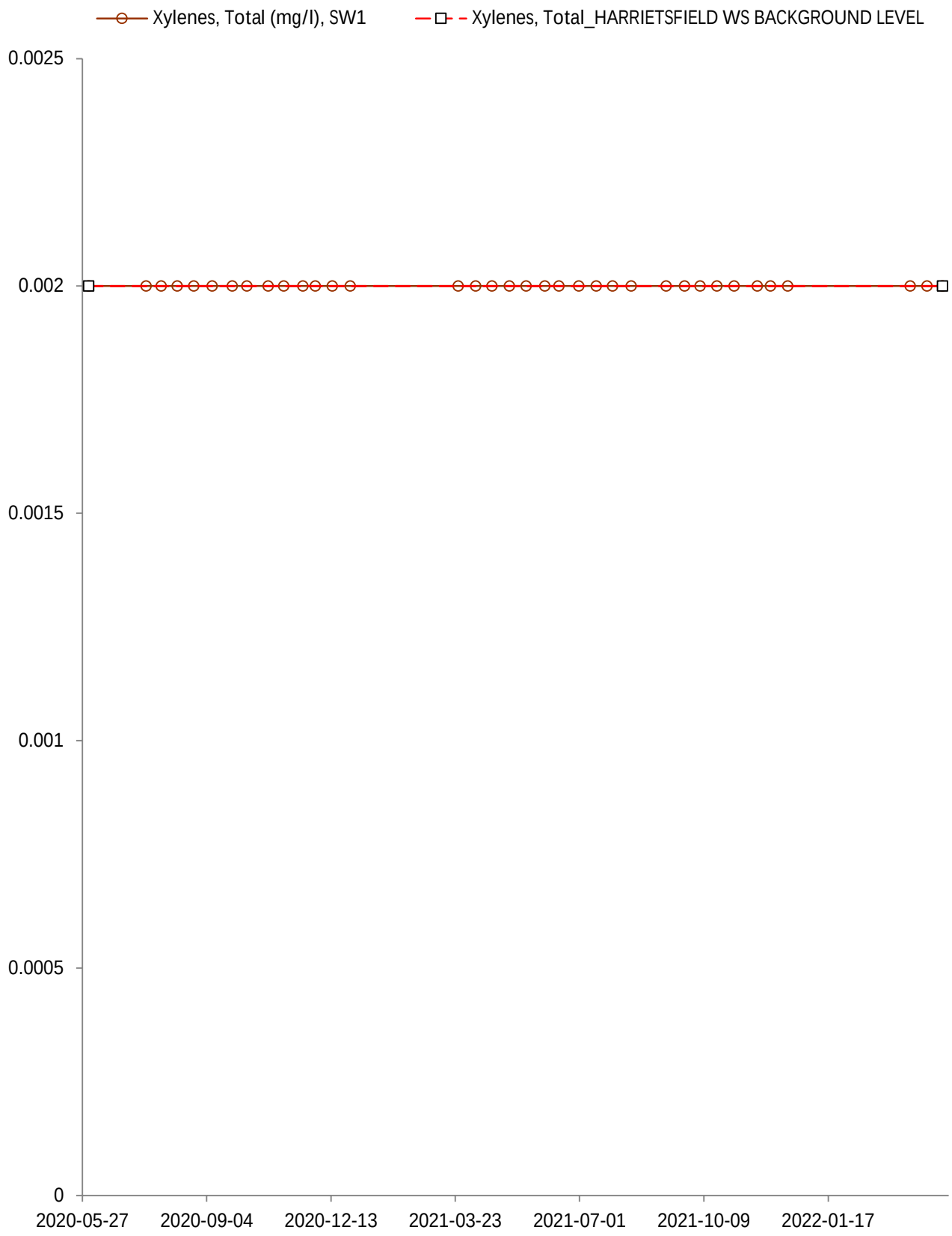
SW1-Uranium


Uranium (ug/l), SW1
Uranium_HARRIETSFIELD WS BACKGROUND LEVEL
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

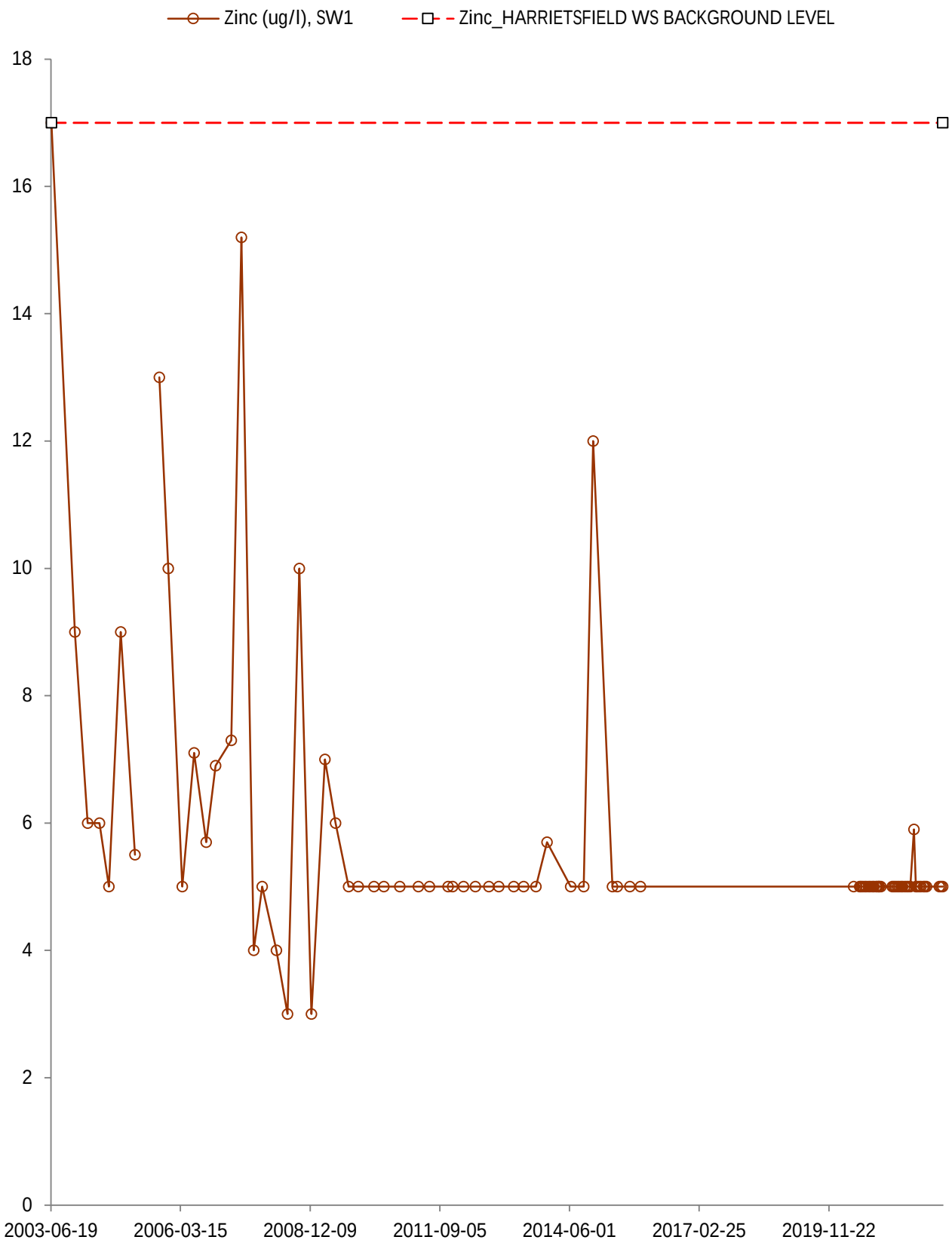
SW1-Vanadium



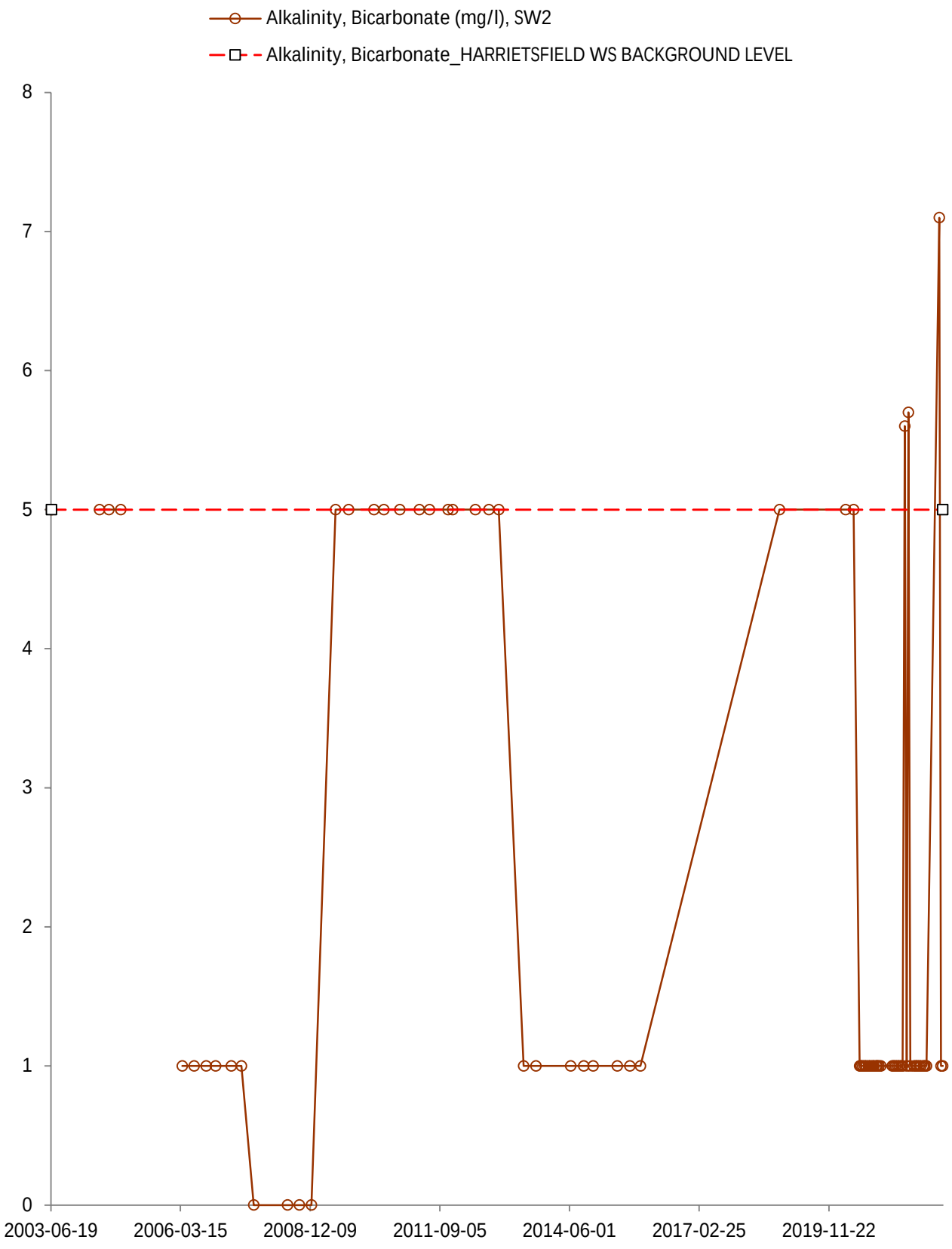
SW1-Xylenes, Total



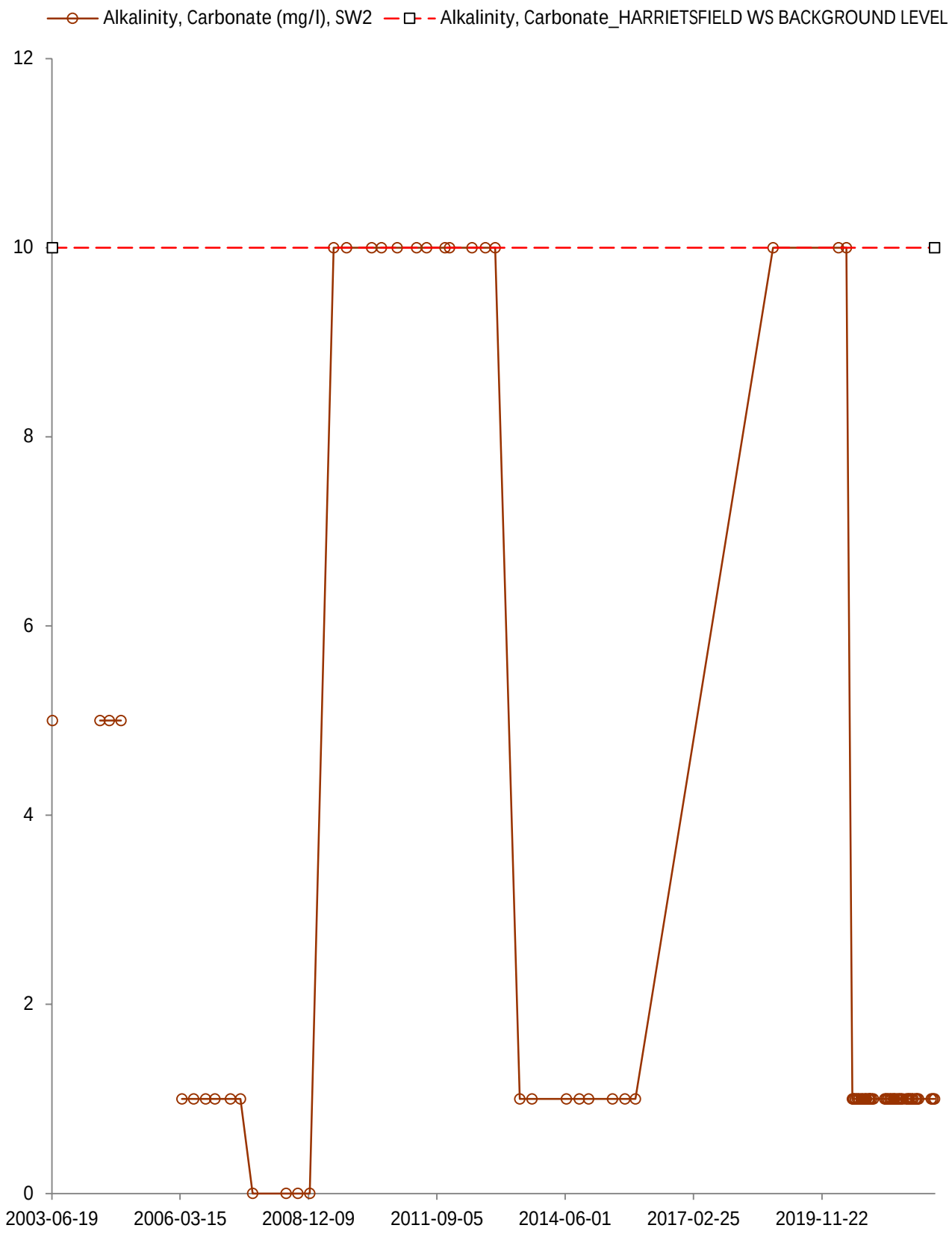
SW1-Zinc


Zinc (ug/l), SW1
Zinc_HARRIETSFIELD WS BACKGROUND LEVEL
18
16
14
12
10
8
6
4
2
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

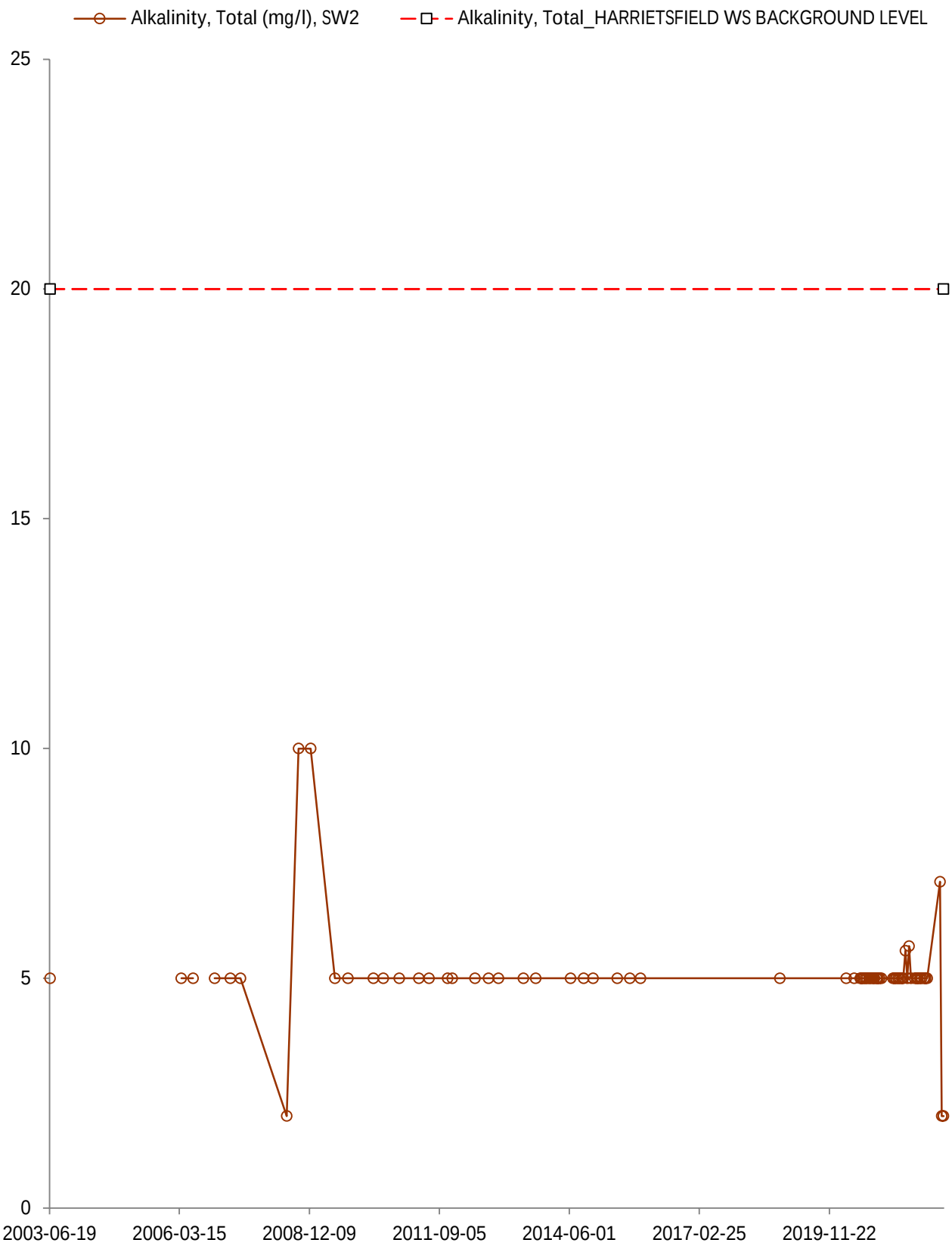
SW2-Alkalinity, Bicarbonate



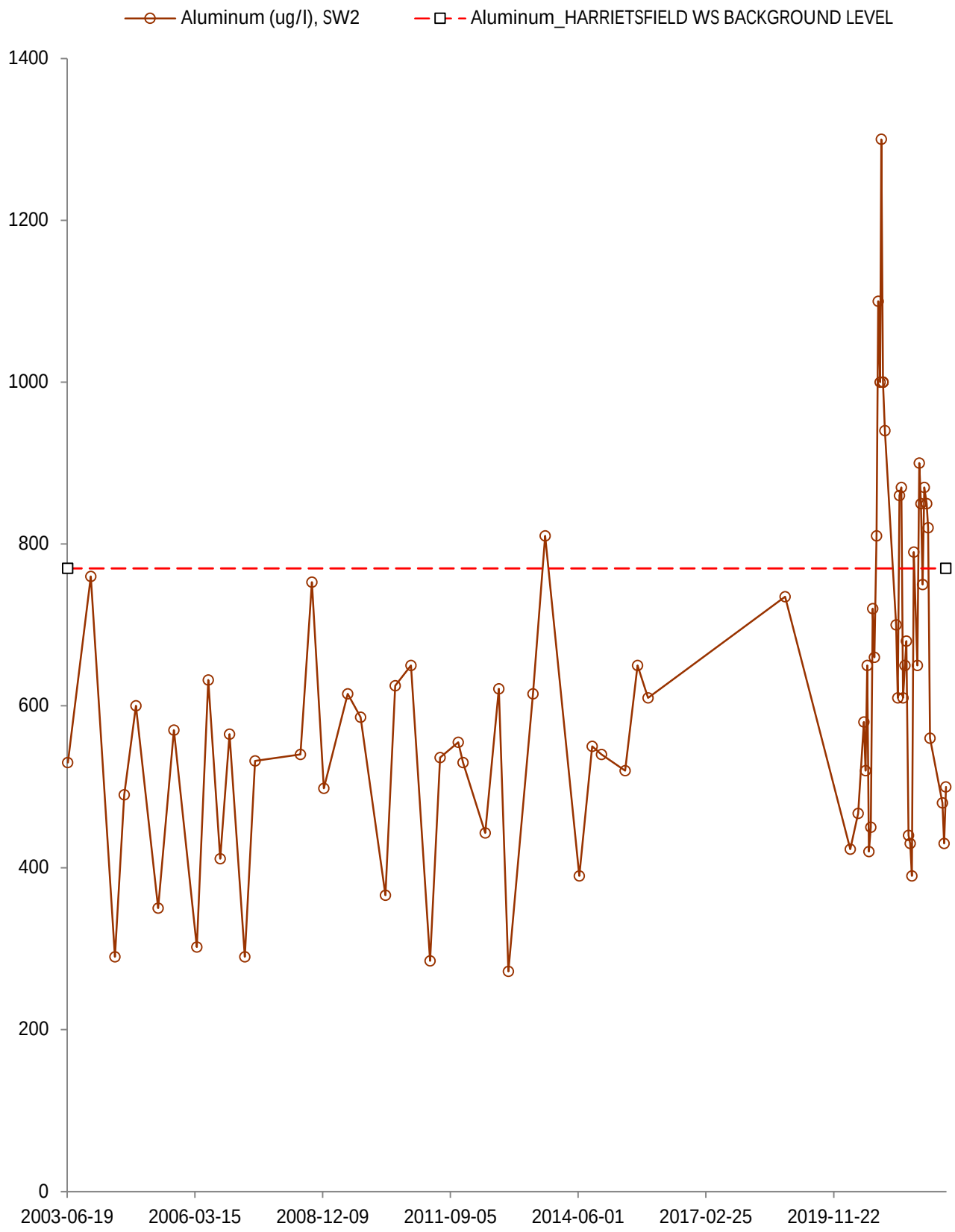
SW2-Alkalinity, Carbonate



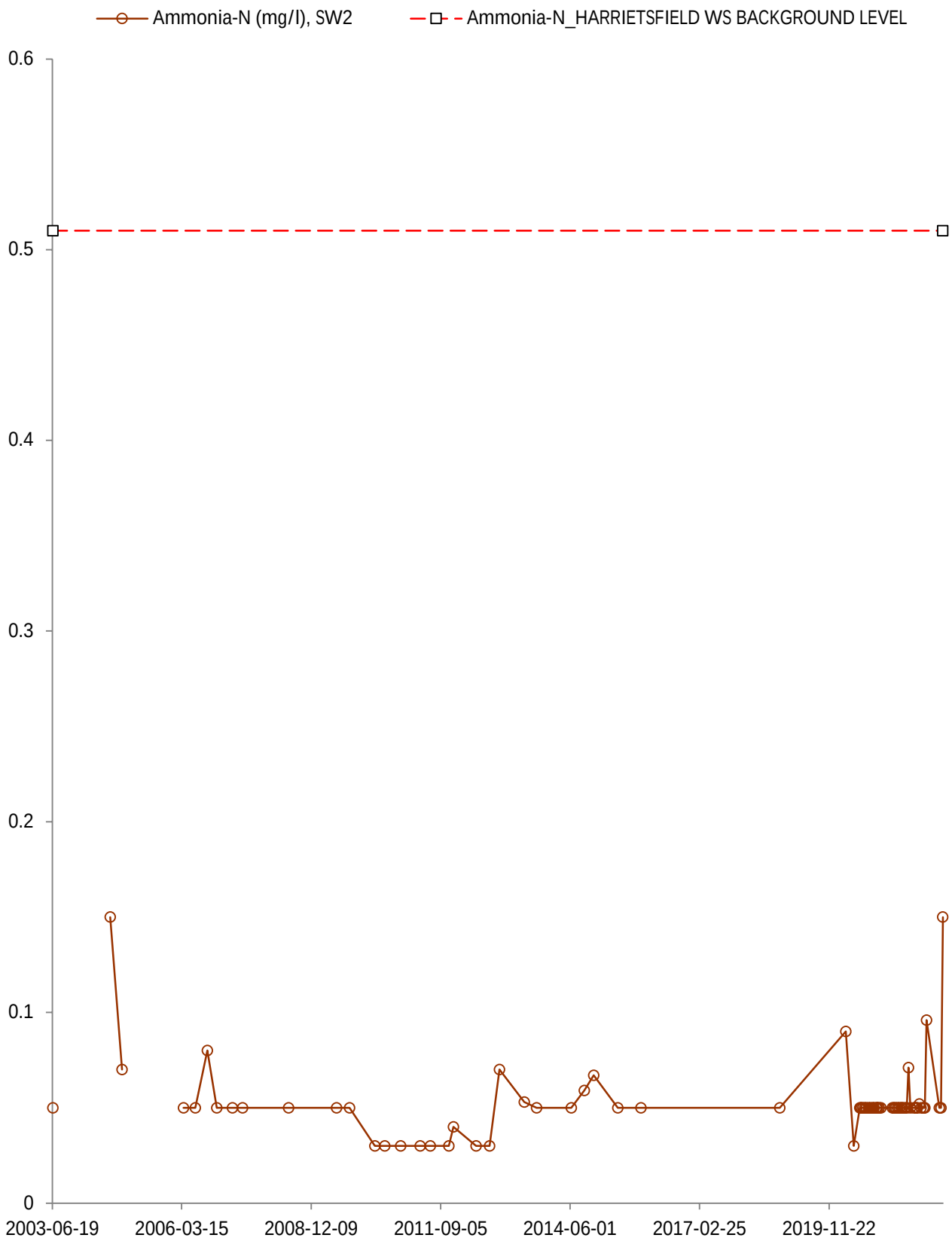
SW2-Alkalinity, Total



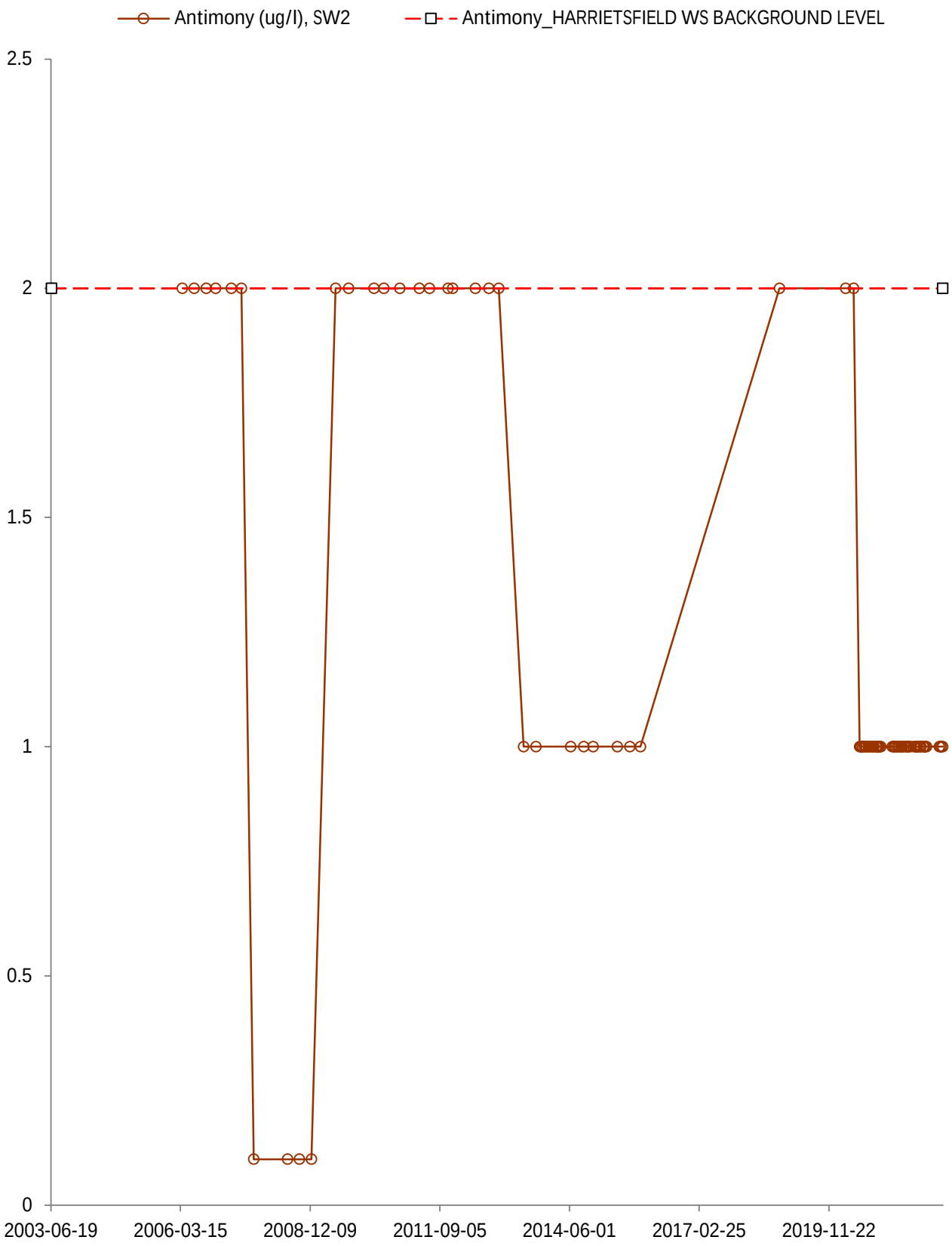
SW2-Aluminum



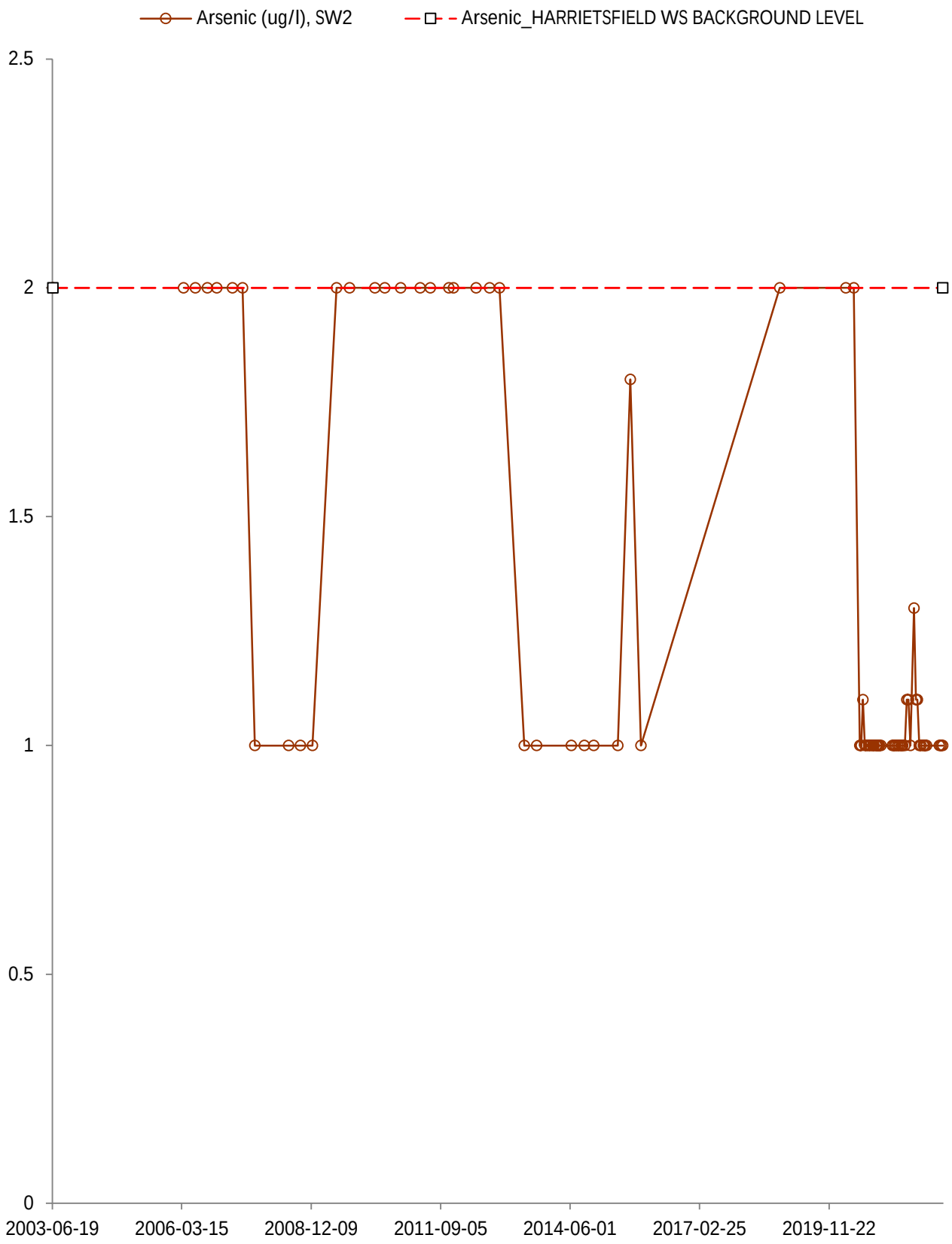
SW2-Ammonia-N



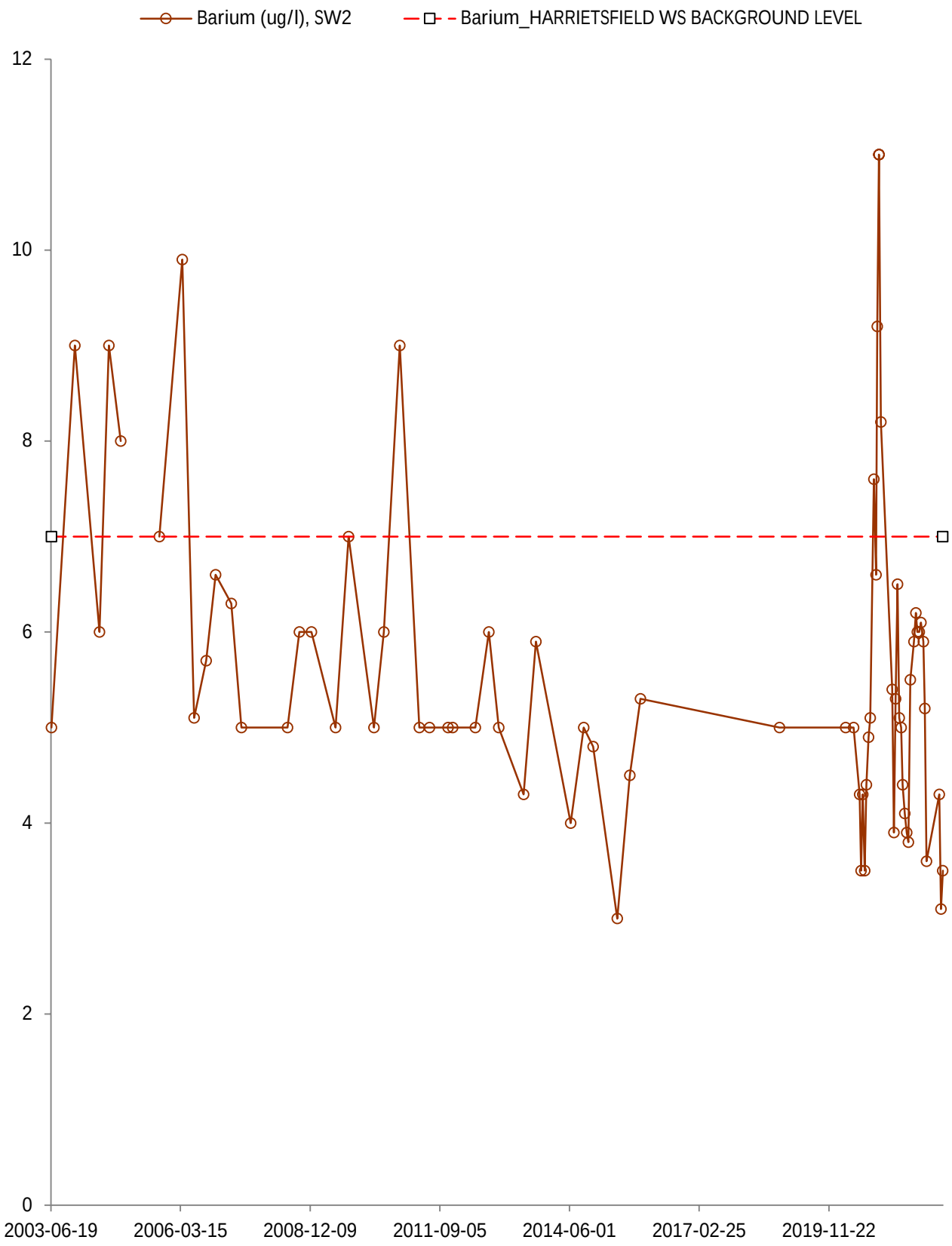
SW2-Antimony



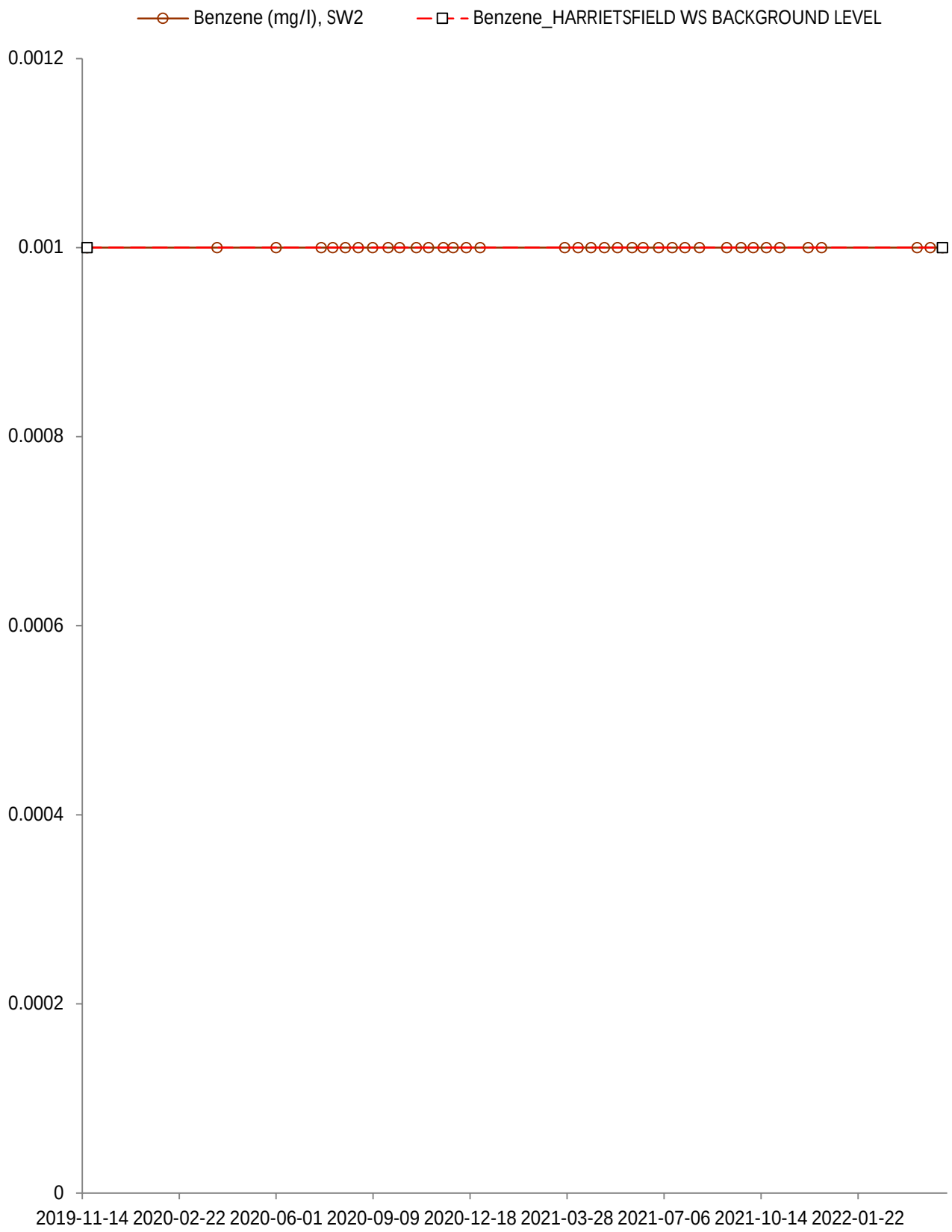
SW2-Arsenic


Arsenic (ug/l), SW2
Arsenic_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

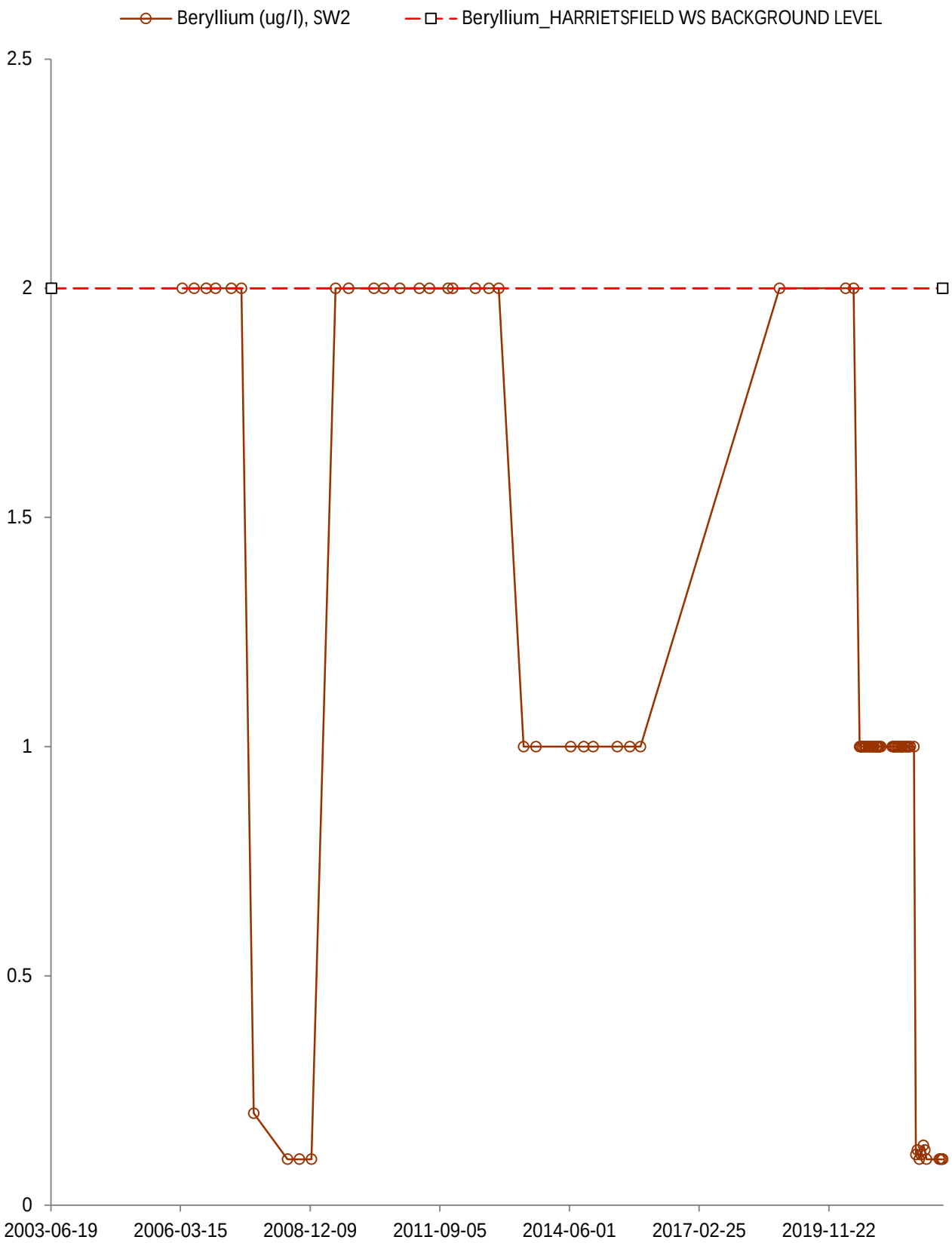
SW2-Barium


Barium (ug/l), SW2
Barium_HARRIETSFIELD WS BACKGROUND LEVEL
12
10
8
6
4
2
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

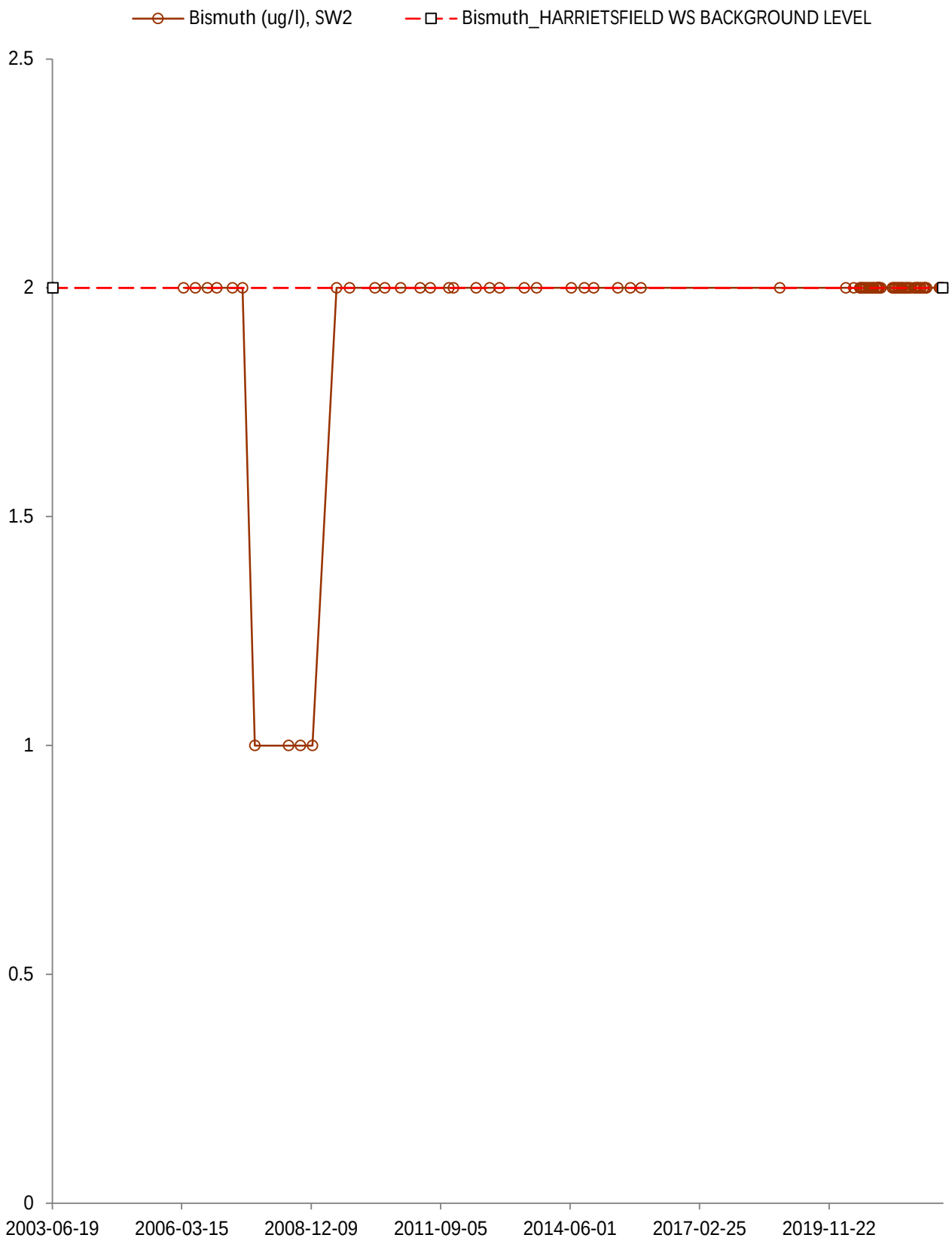
SW2-Benzene


Benzene (mg/l), SW2
Benzene_HARRIETSFIELD WS BACKGROUND LEVEL
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
2019-11-14
2020-02-22
2020-06-01
2020-09-09
2020-12-18
2021-03-28
2021-07-06
2021-10-14
2022-01-22

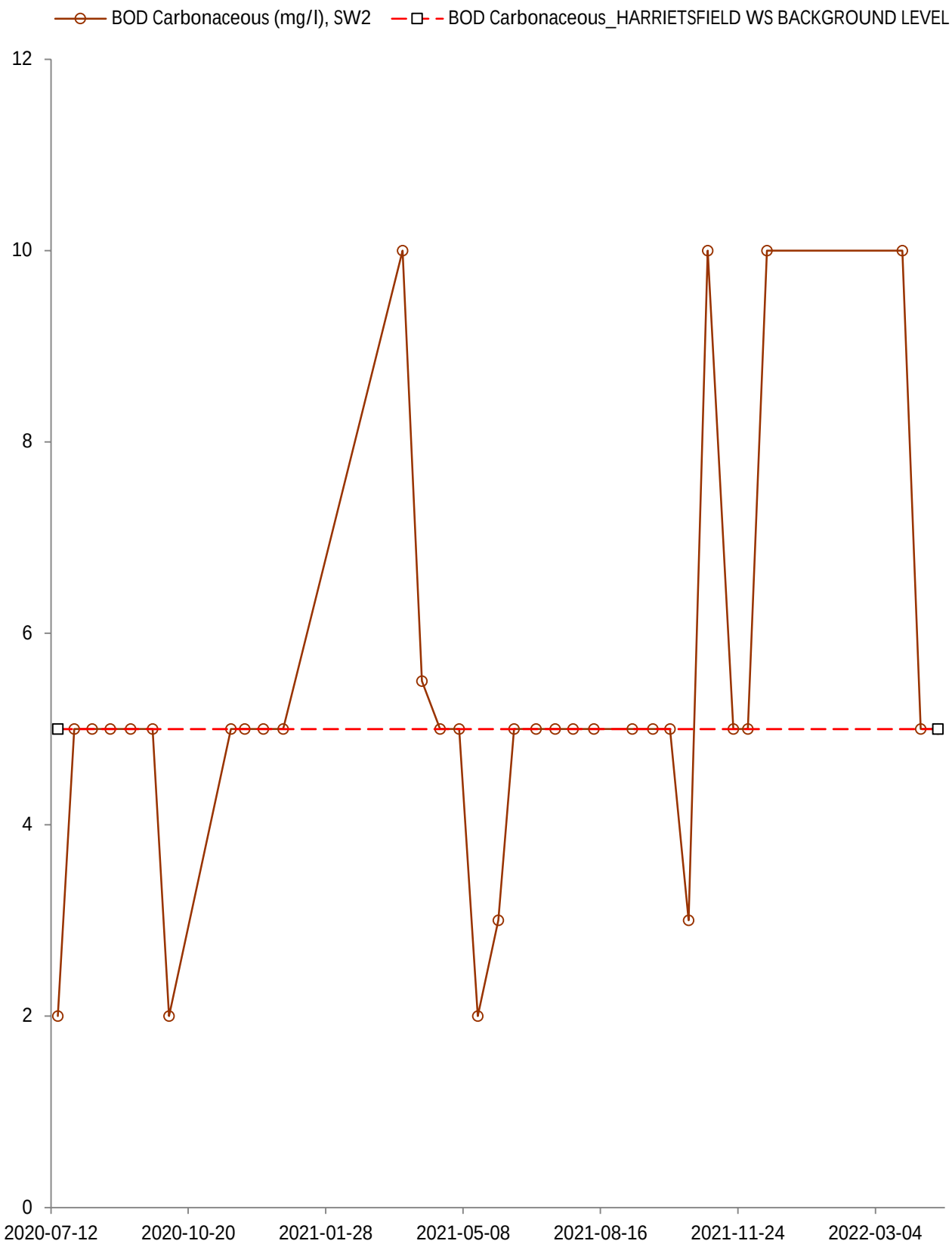
SW2-Beryllium



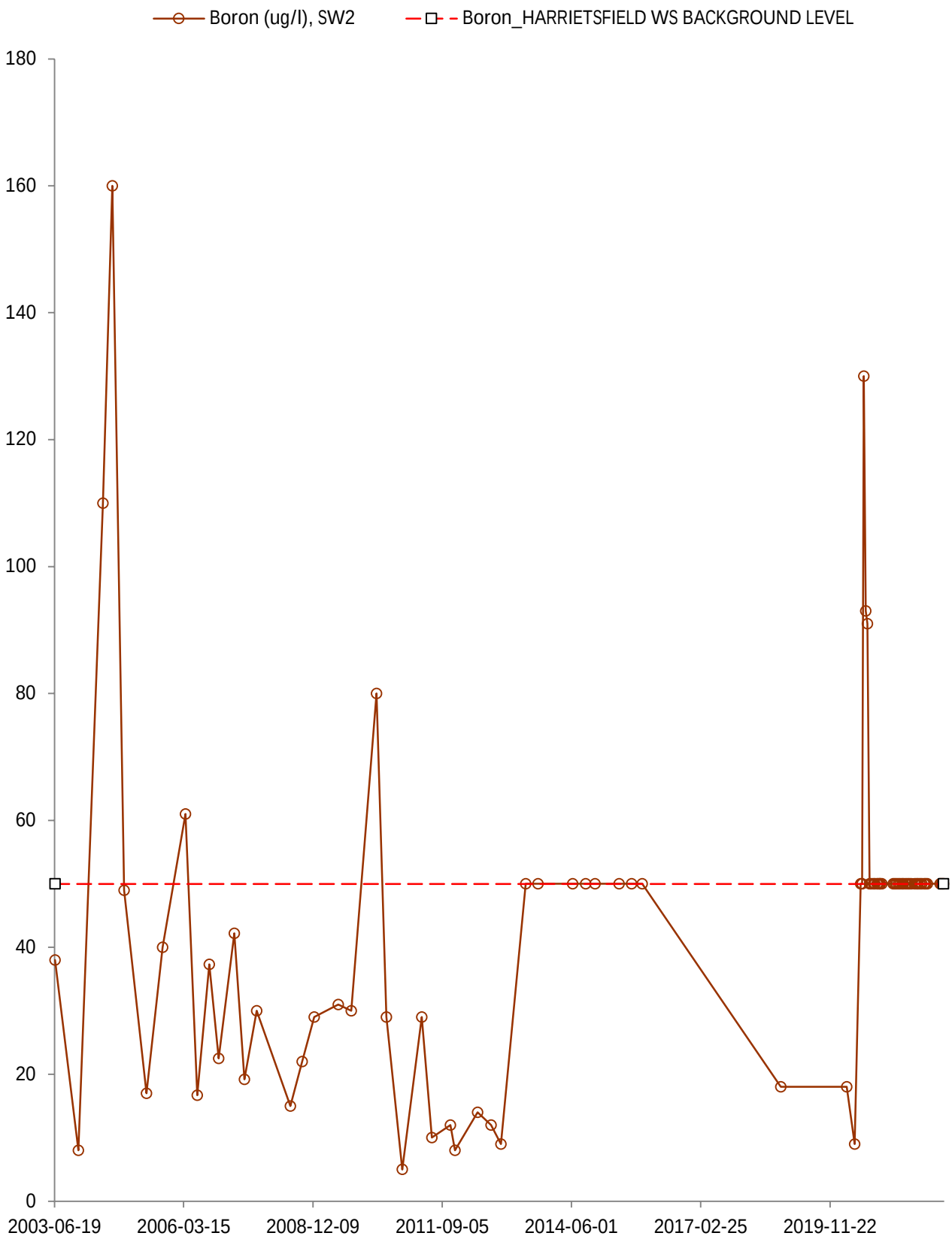
SW2-Bismuth


Bismuth (ug/l), SW2
Bismuth_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

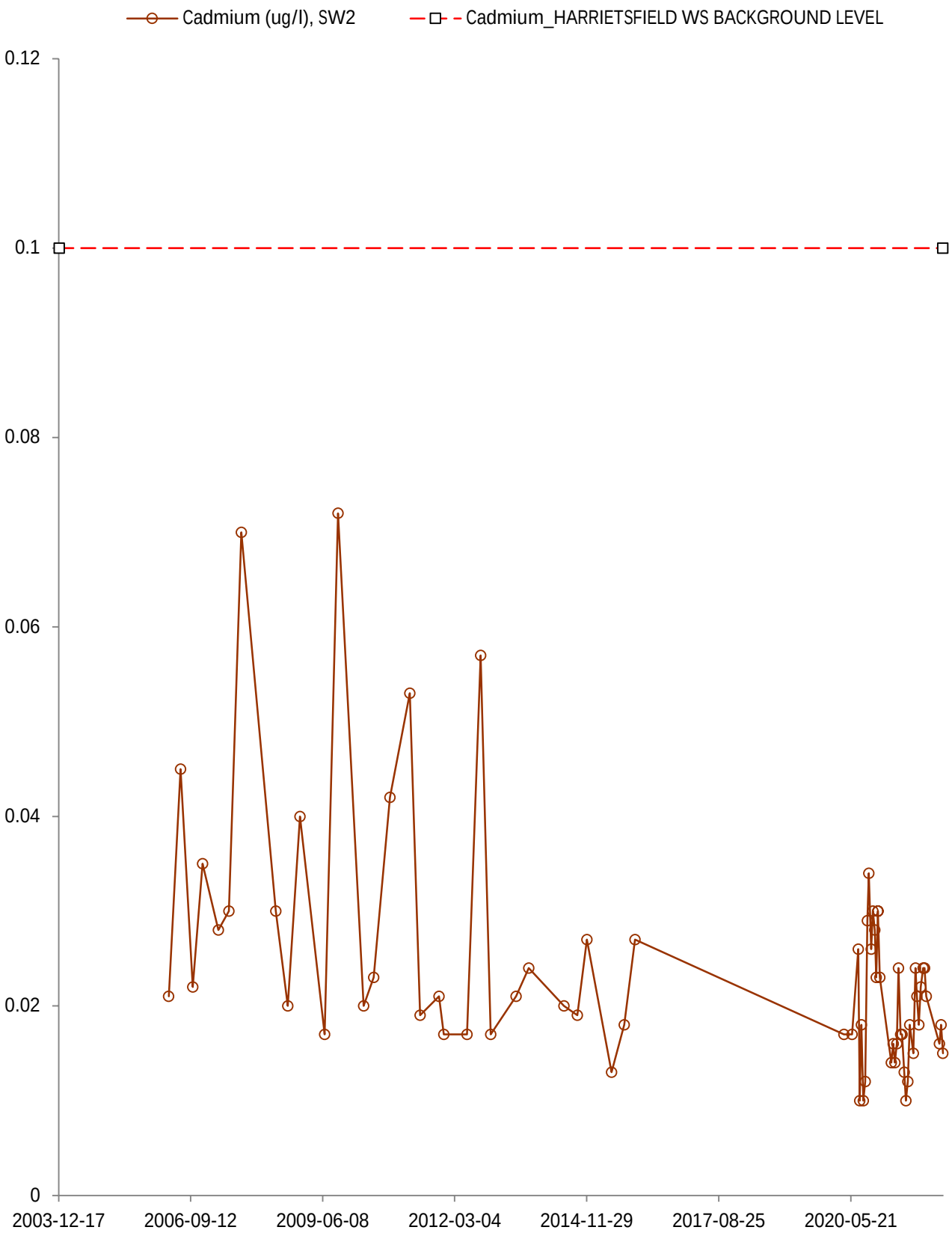
SW2-BOD Carbonaceous



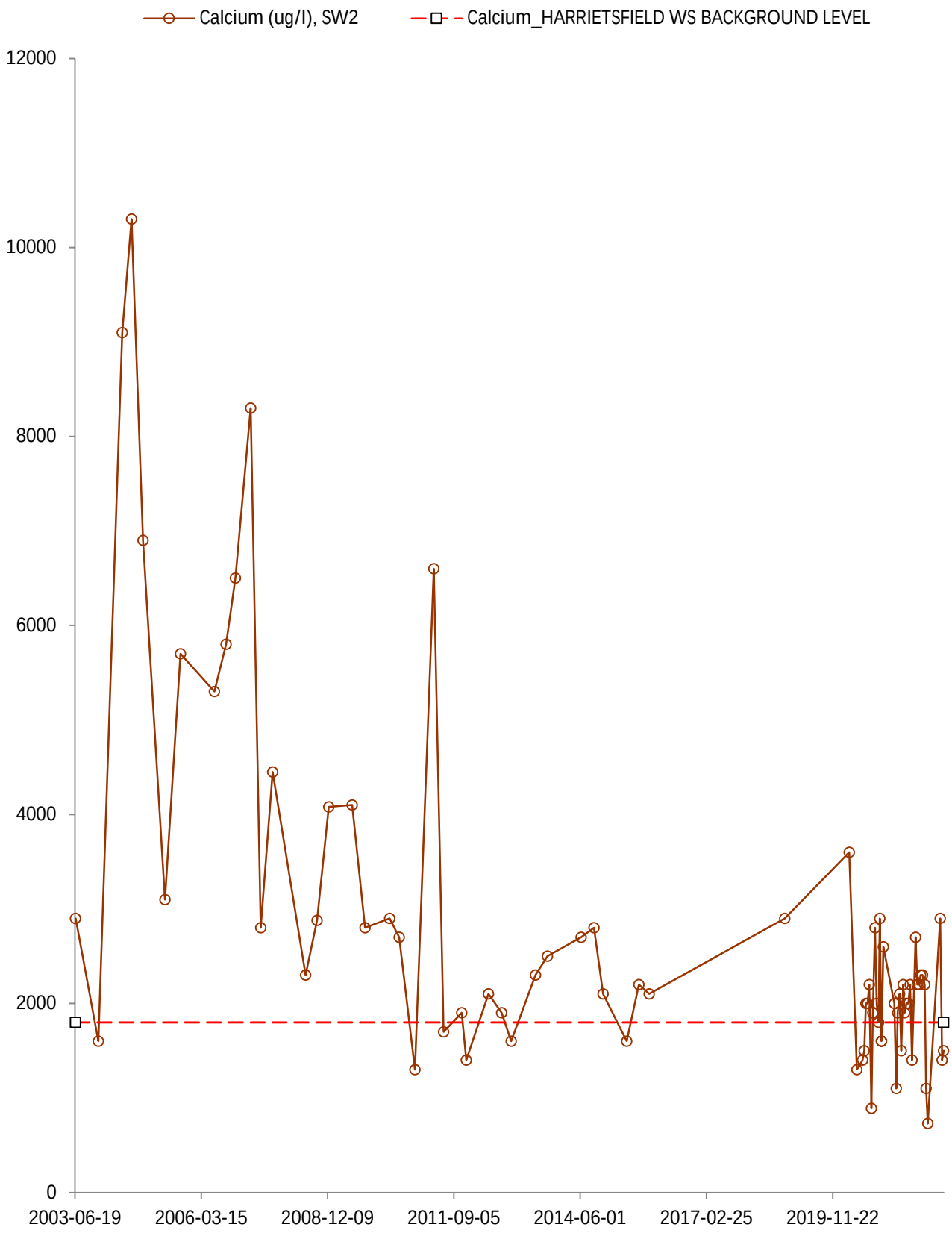
SW2-Boron


Boron (ug/l), SW2
Boron_HARRIETSFIELD WS BACKGROUND LEVEL
180
160
140
120
100
80
60
40
20
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

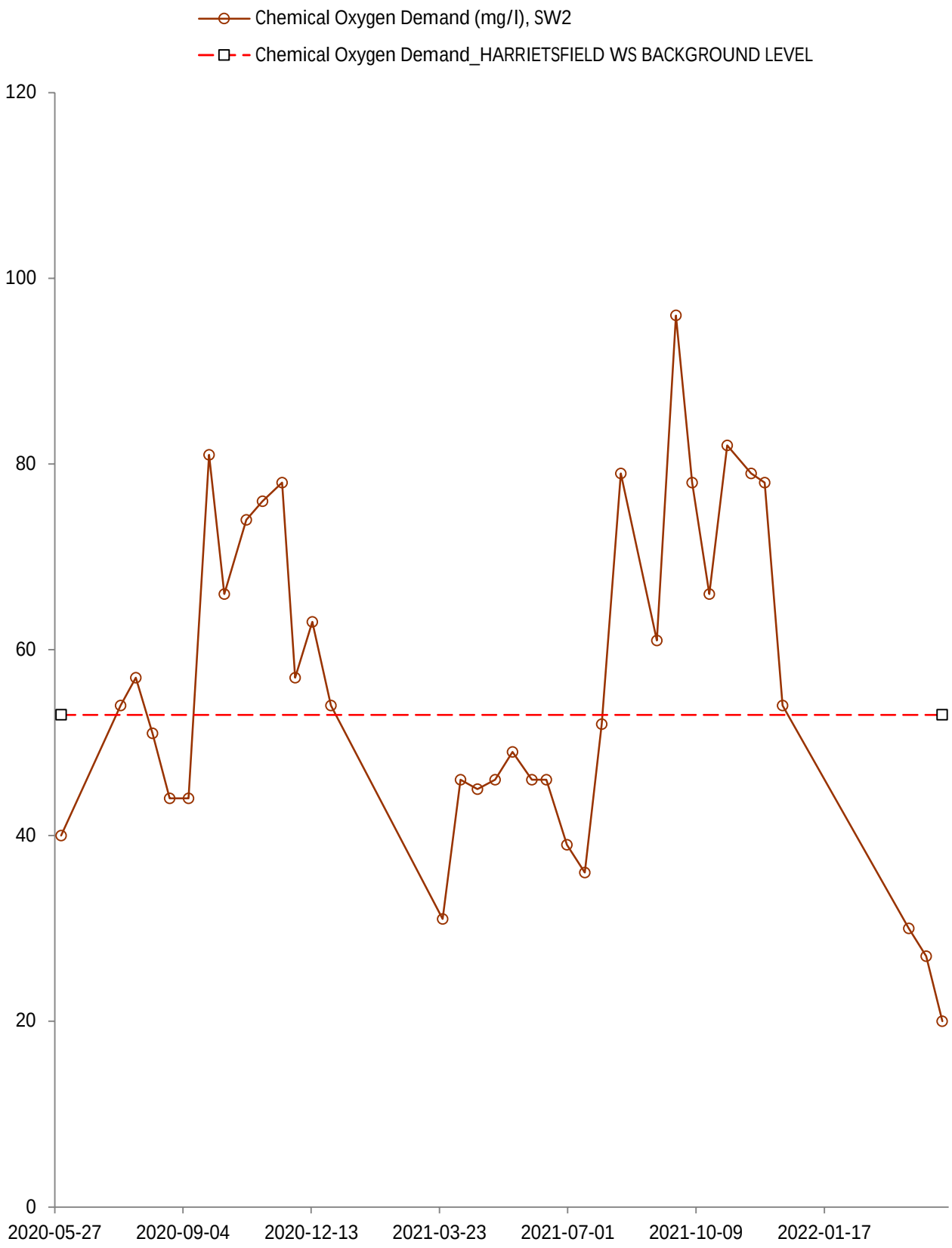
SW2-Cadmium


Cadmium (ug/l), SW2
Cadmium_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2003-12-17
2006-09-12
2009-06-08
2012-03-04
2014-11-29
2017-08-25
2020-05-21

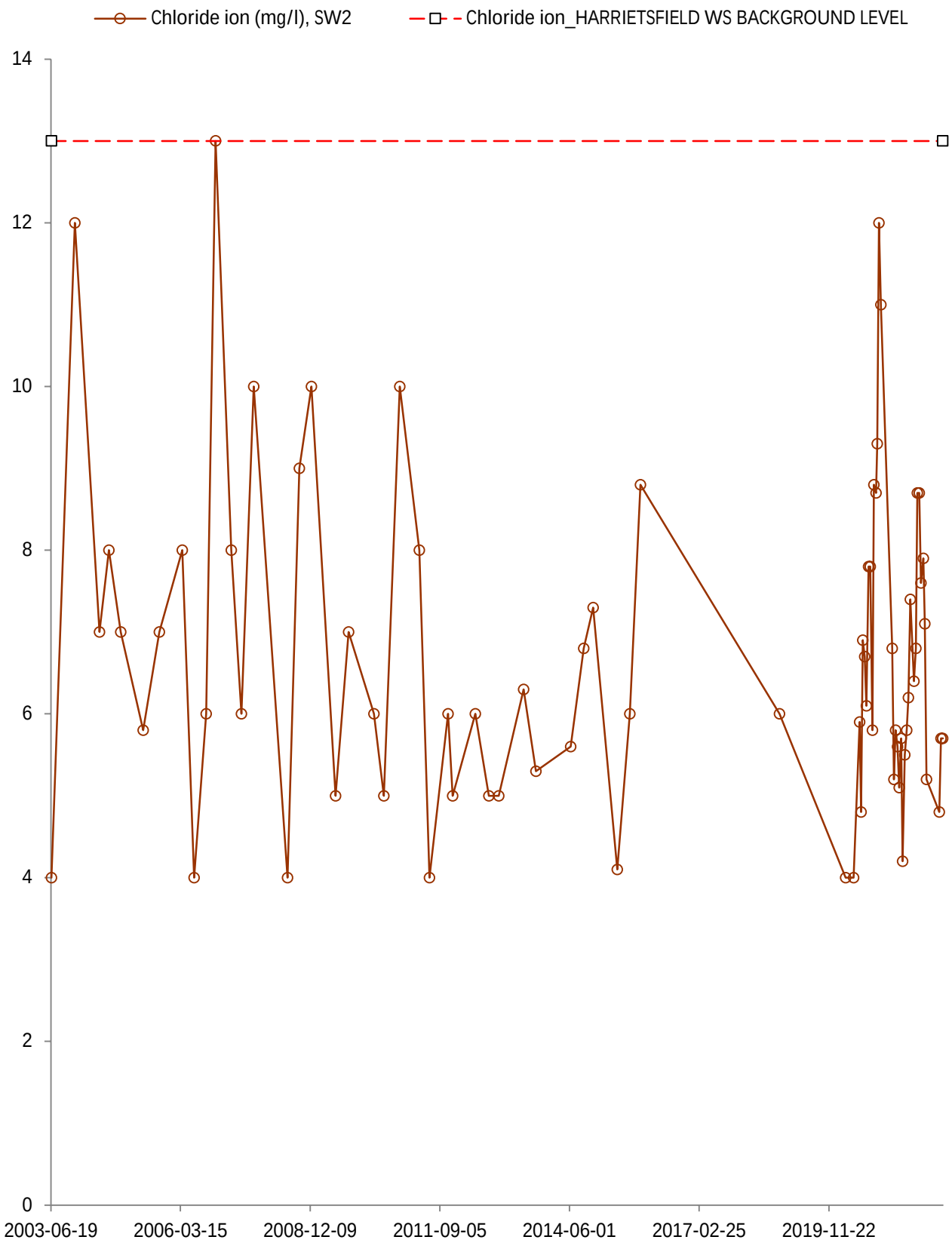
SW2-Calcium


Calcium (ug/l), SW2
Calcium_HARRIETSFIELD WS BACKGROUND LEVEL
12000
10000
8000
6000
4000
2000
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

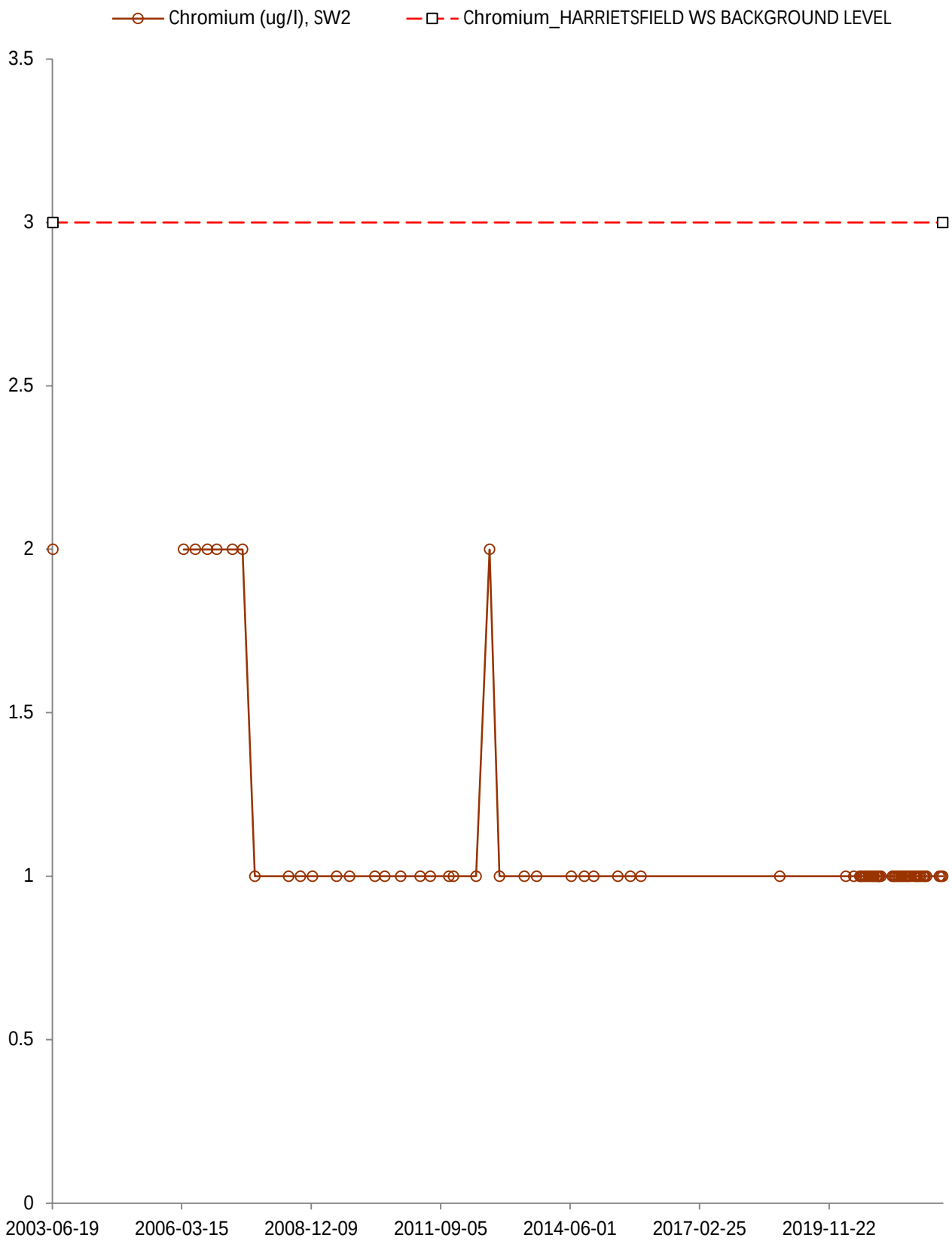
SW2-Chemical Oxygen Demand



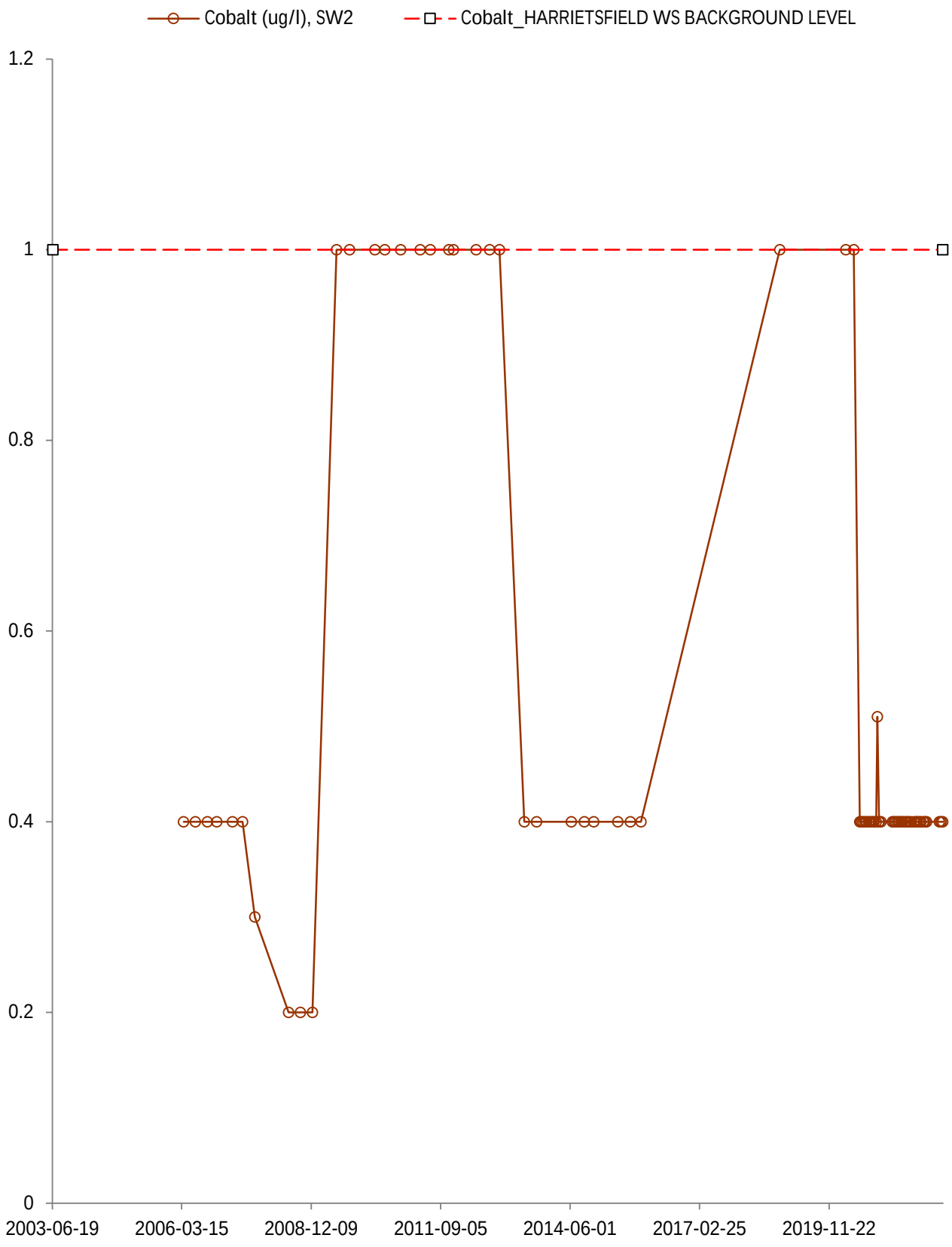
SW2-Chloride ion



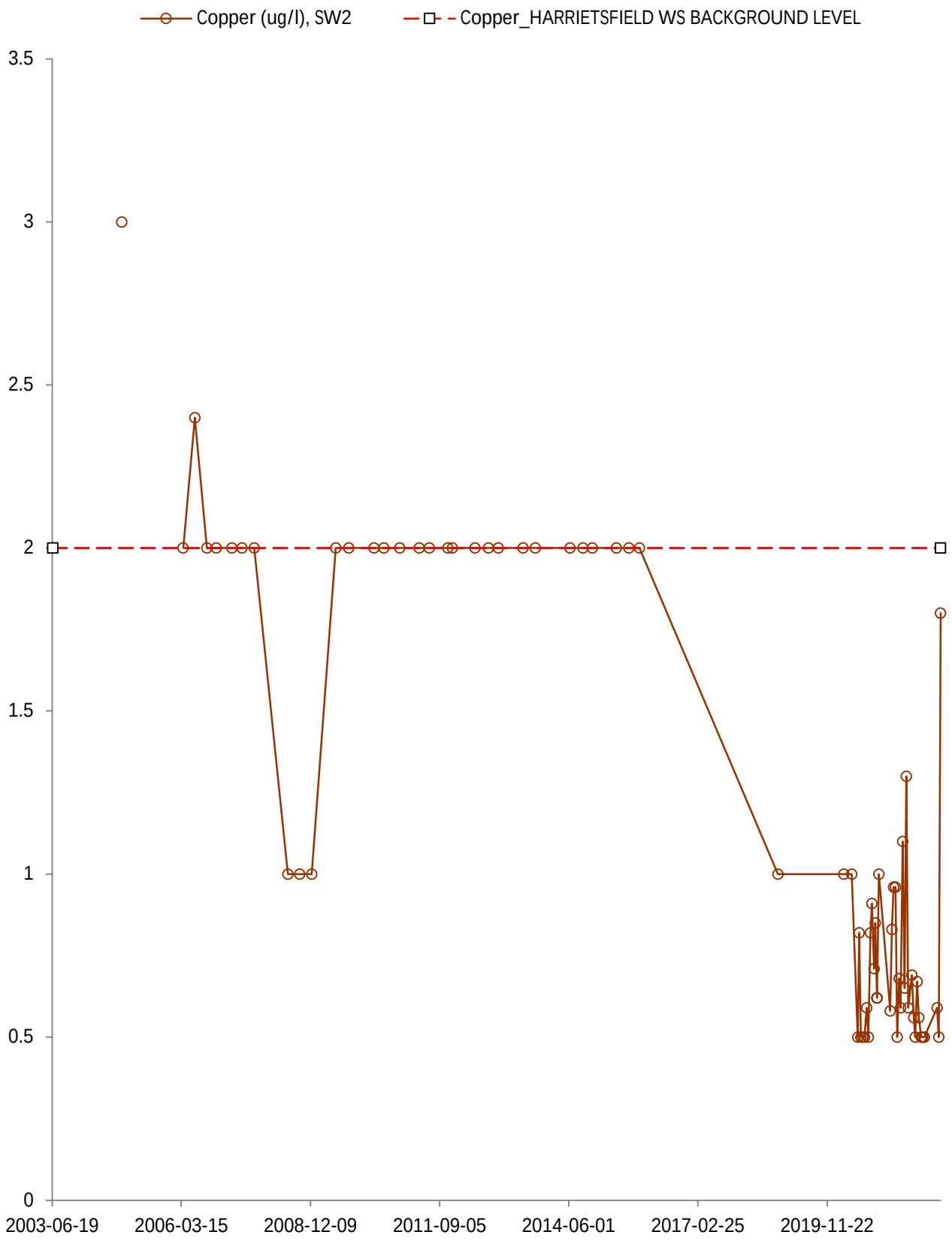
SW2-Chromium



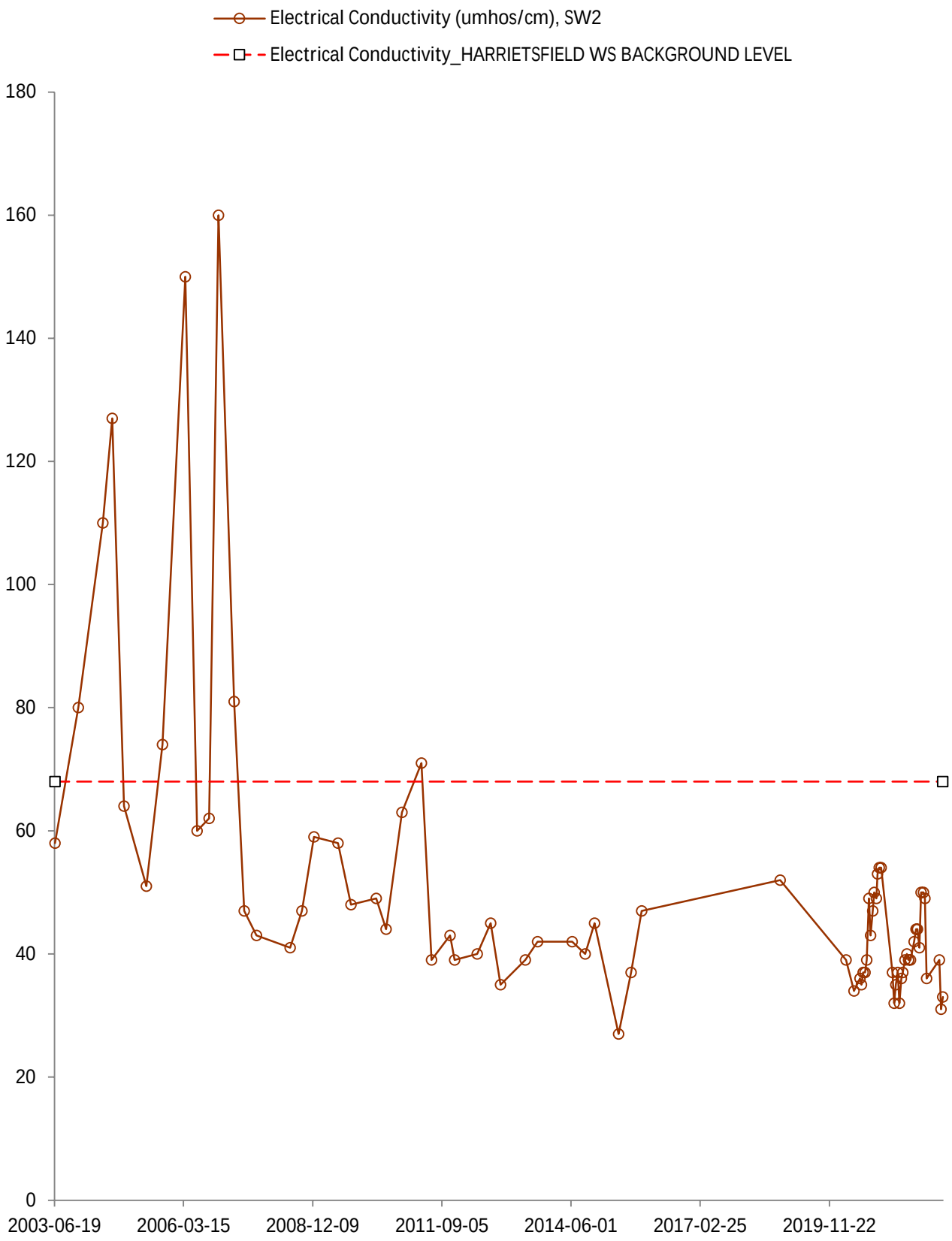
SW2-Cobalt


Cobalt (ug/l), SW2
Cobalt_HARRIETSFIELD WS BACKGROUND LEVEL
1.2
1
0.8
0.6
0.4
0.2
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

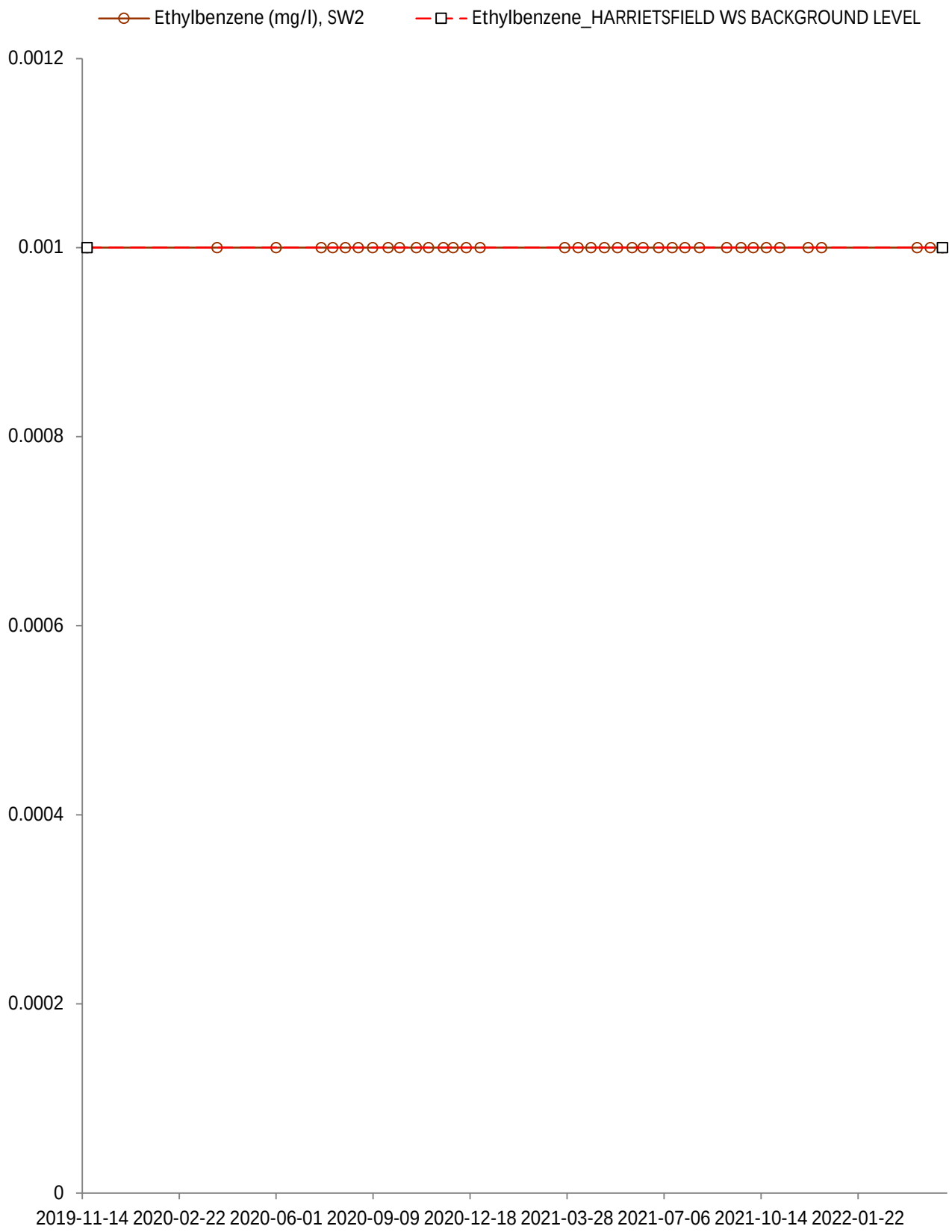
SW2-Copper


Copper (ug/l), SW2
Copper_HARRIETSFIELD WS BACKGROUND LEVEL
3.5
3
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

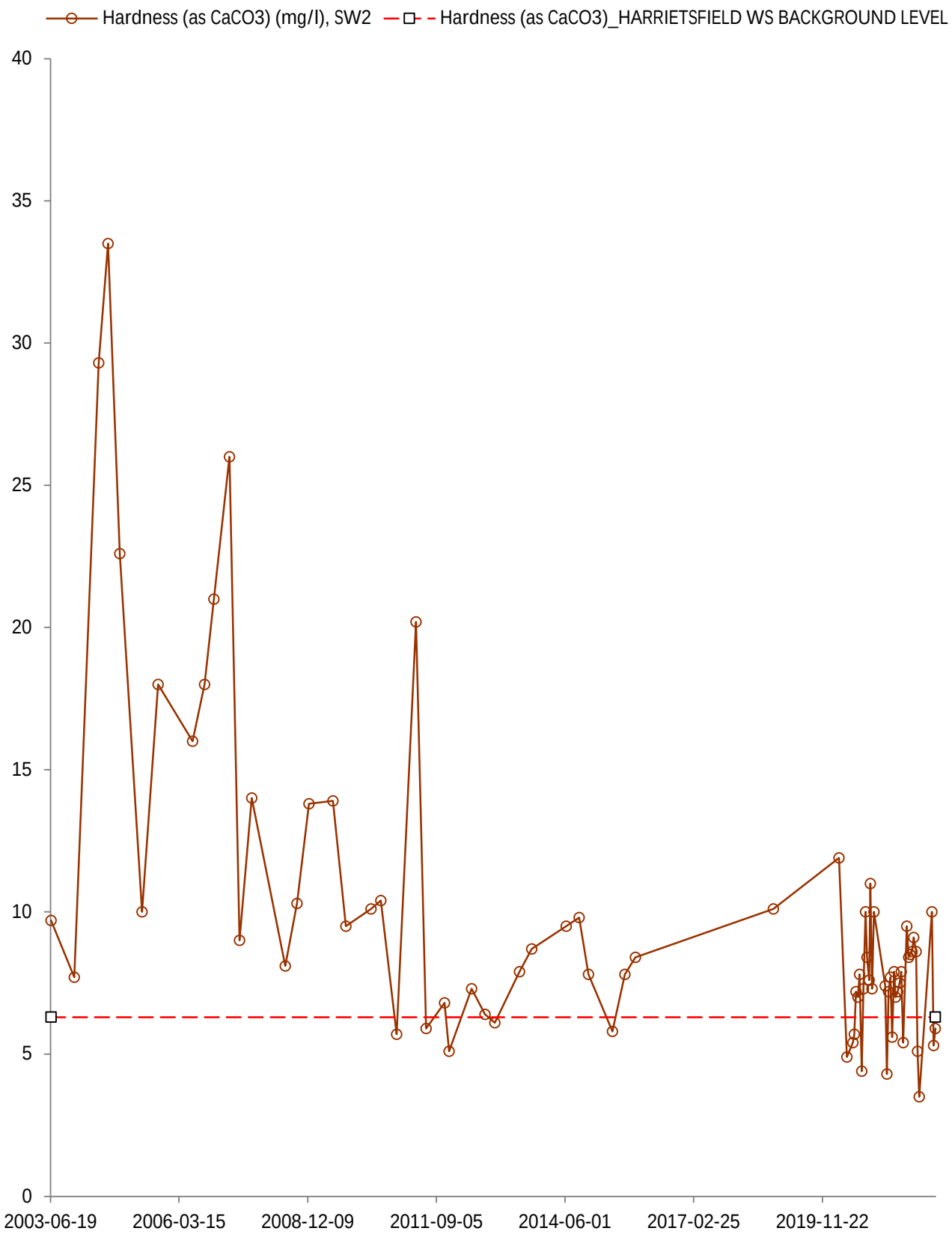
SW2-Electrical Conductivity



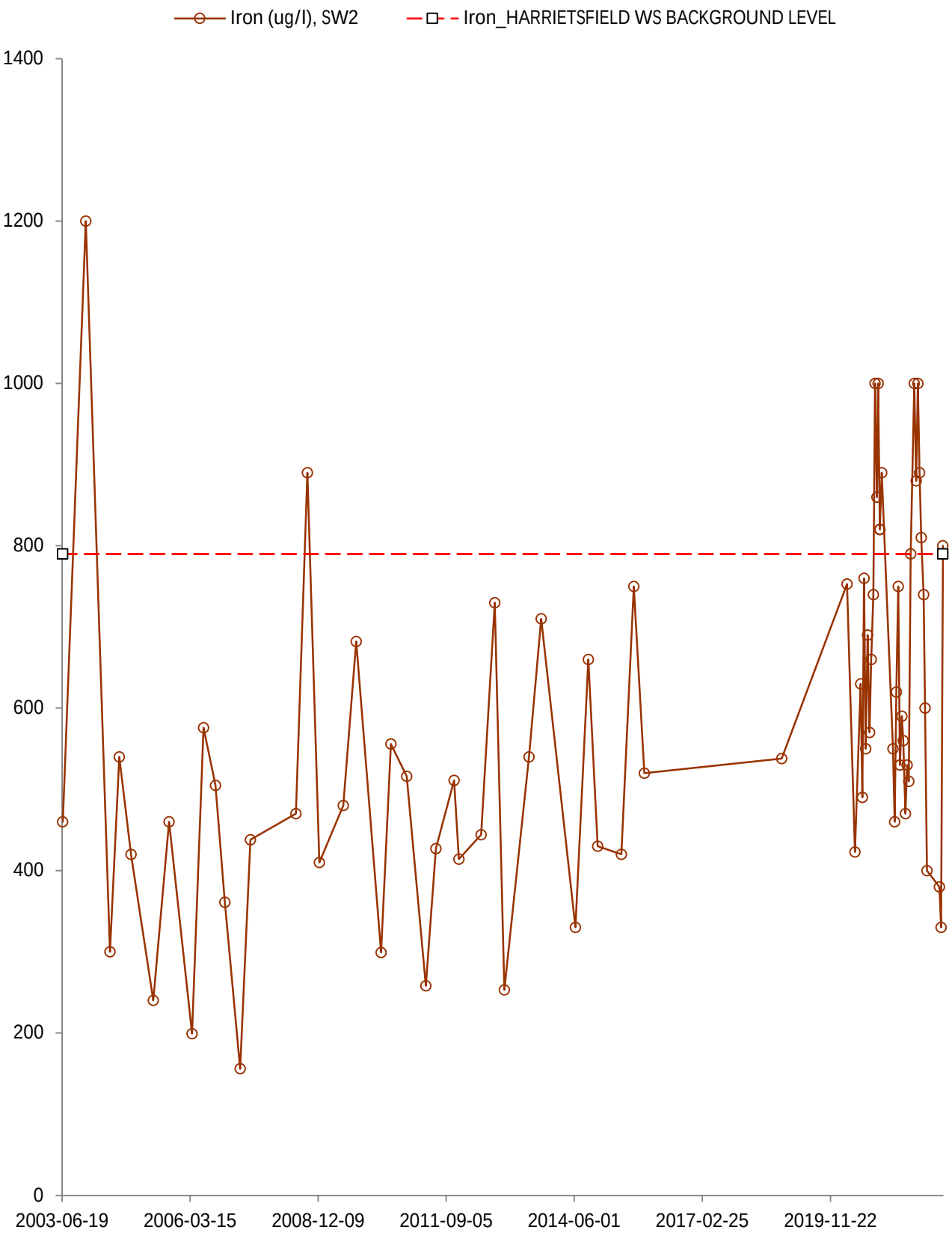
SW2-Ethylbenzene



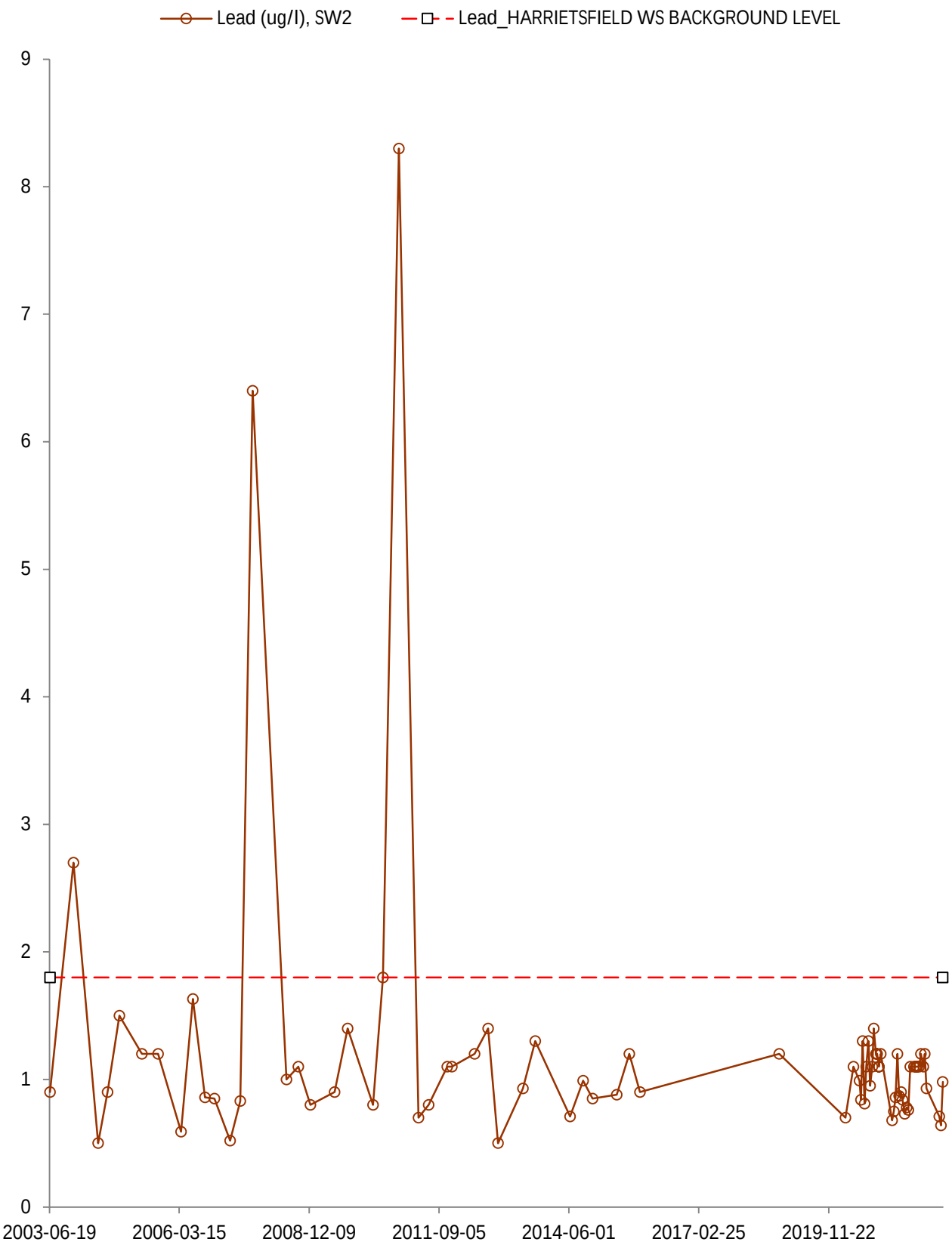
SW2-Hardness (as CaCO3)



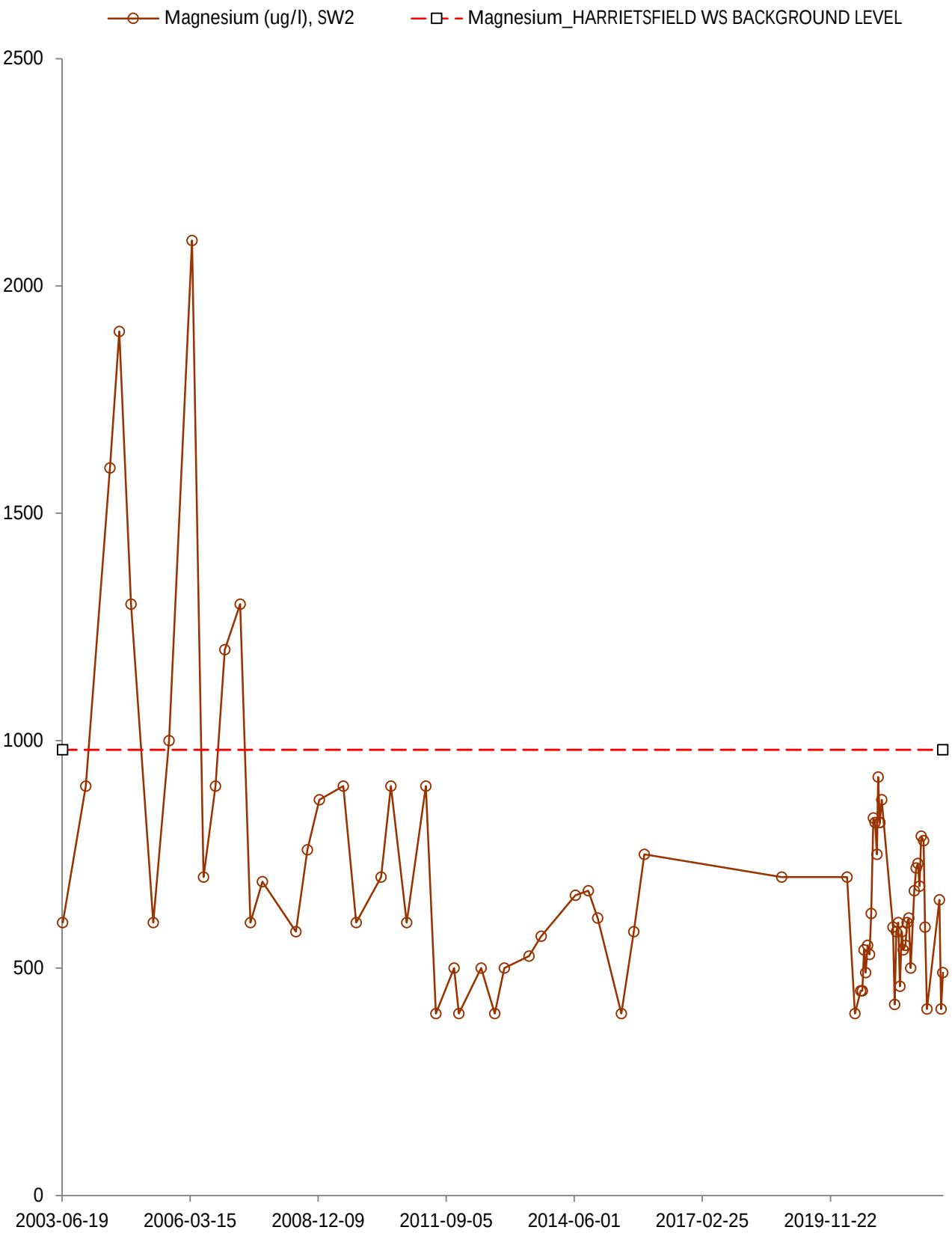
SW2-Iron


Iron (ug/l), SW2
Iron_HARRIETSFIELD WS BACKGROUND LEVEL
1400
1200
1000
800
600
400
200
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

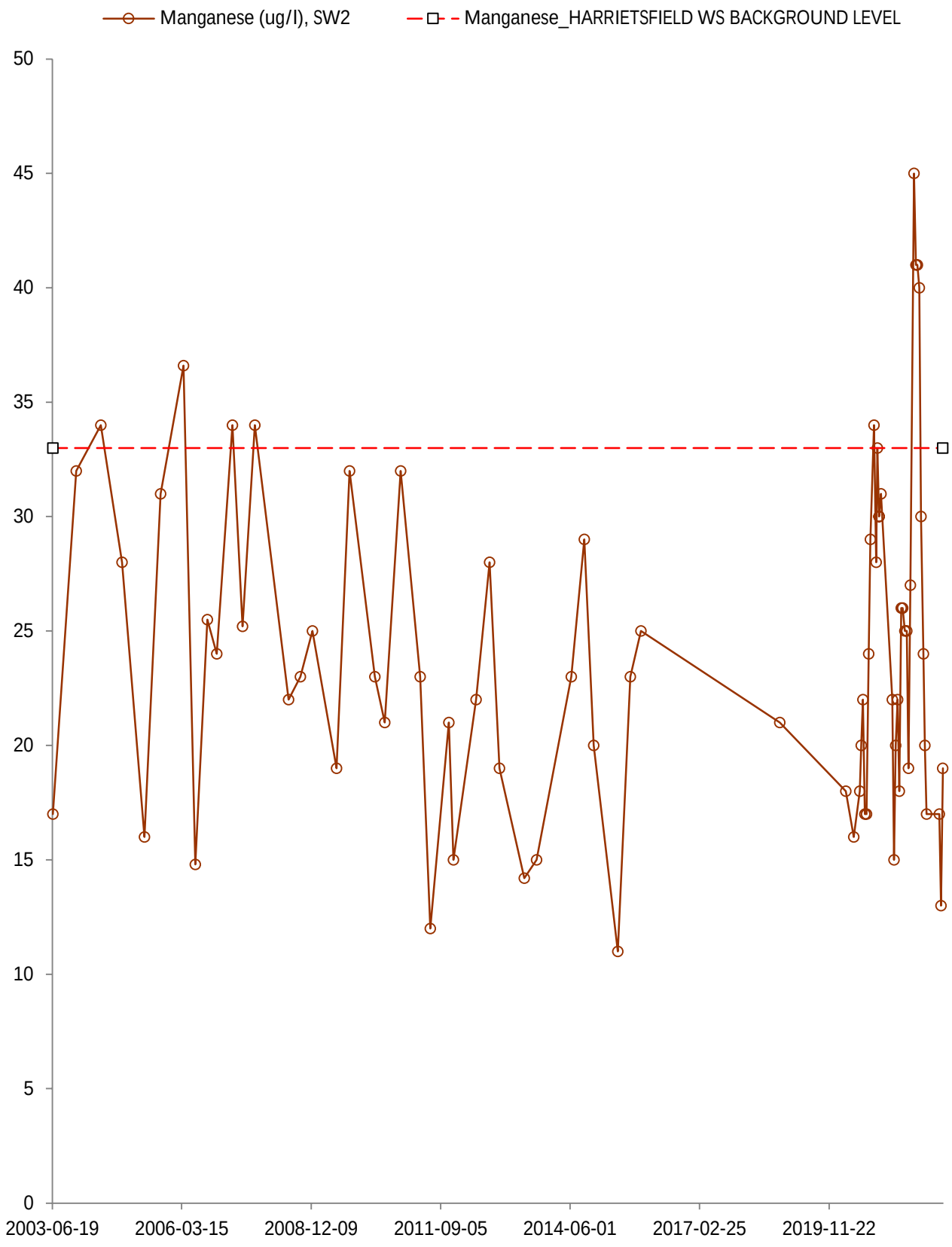
SW2-Lead


Lead (ug/l), SW2
Lead_HARRIETSFIELD WS BACKGROUND LEVEL
9
8
7
6
5
4
3
2
1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

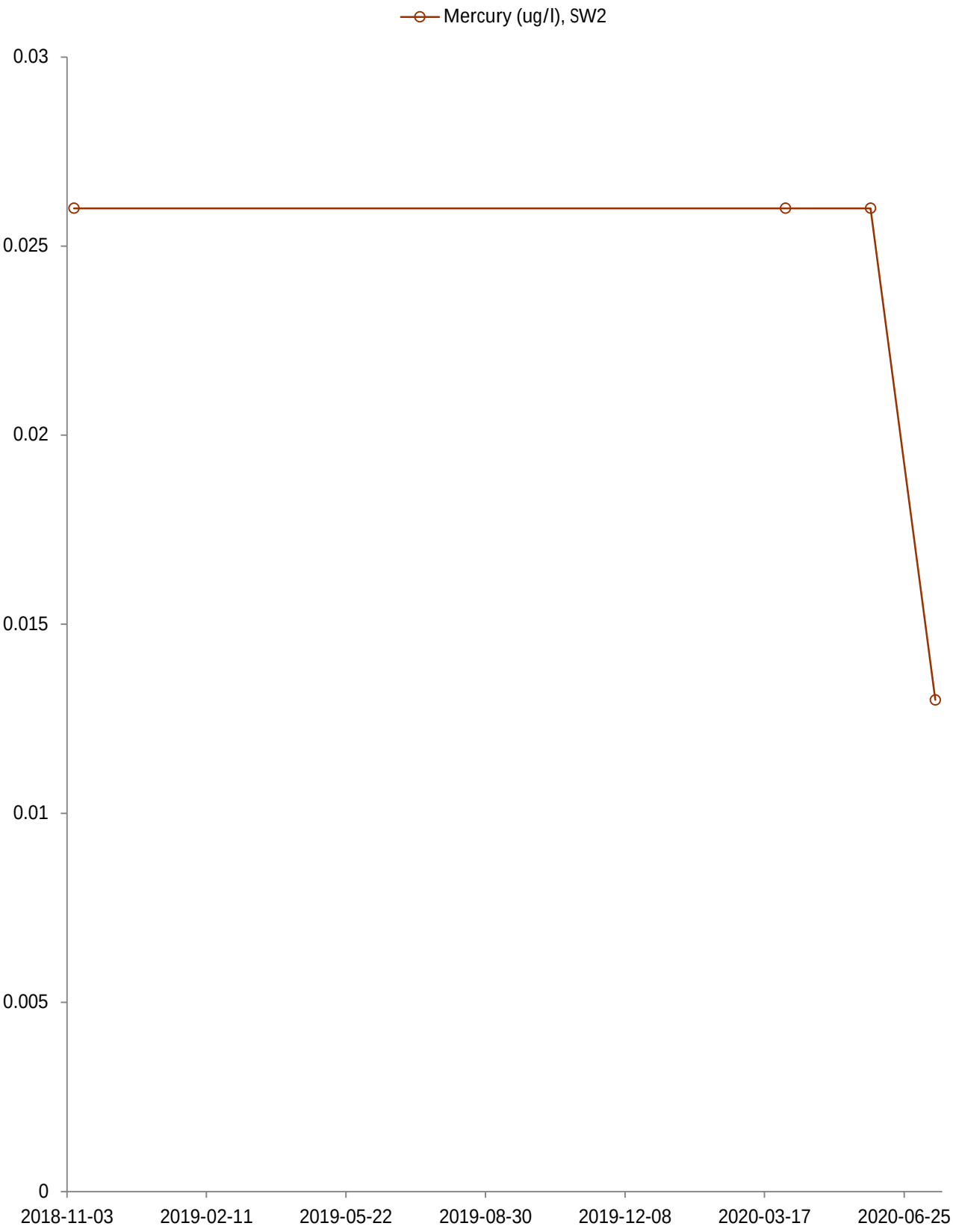
SW2-Magnesium



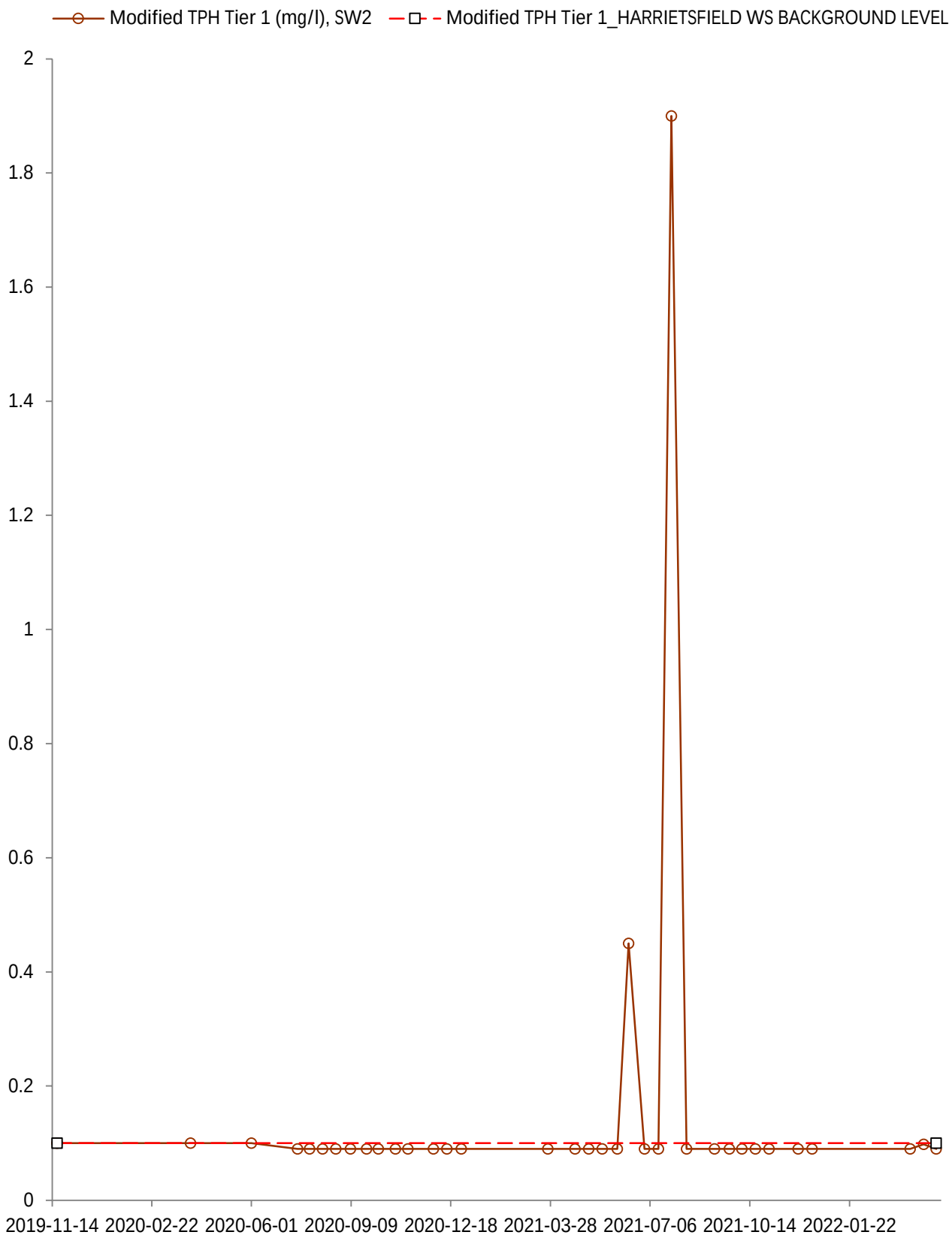
SW2-Manganese



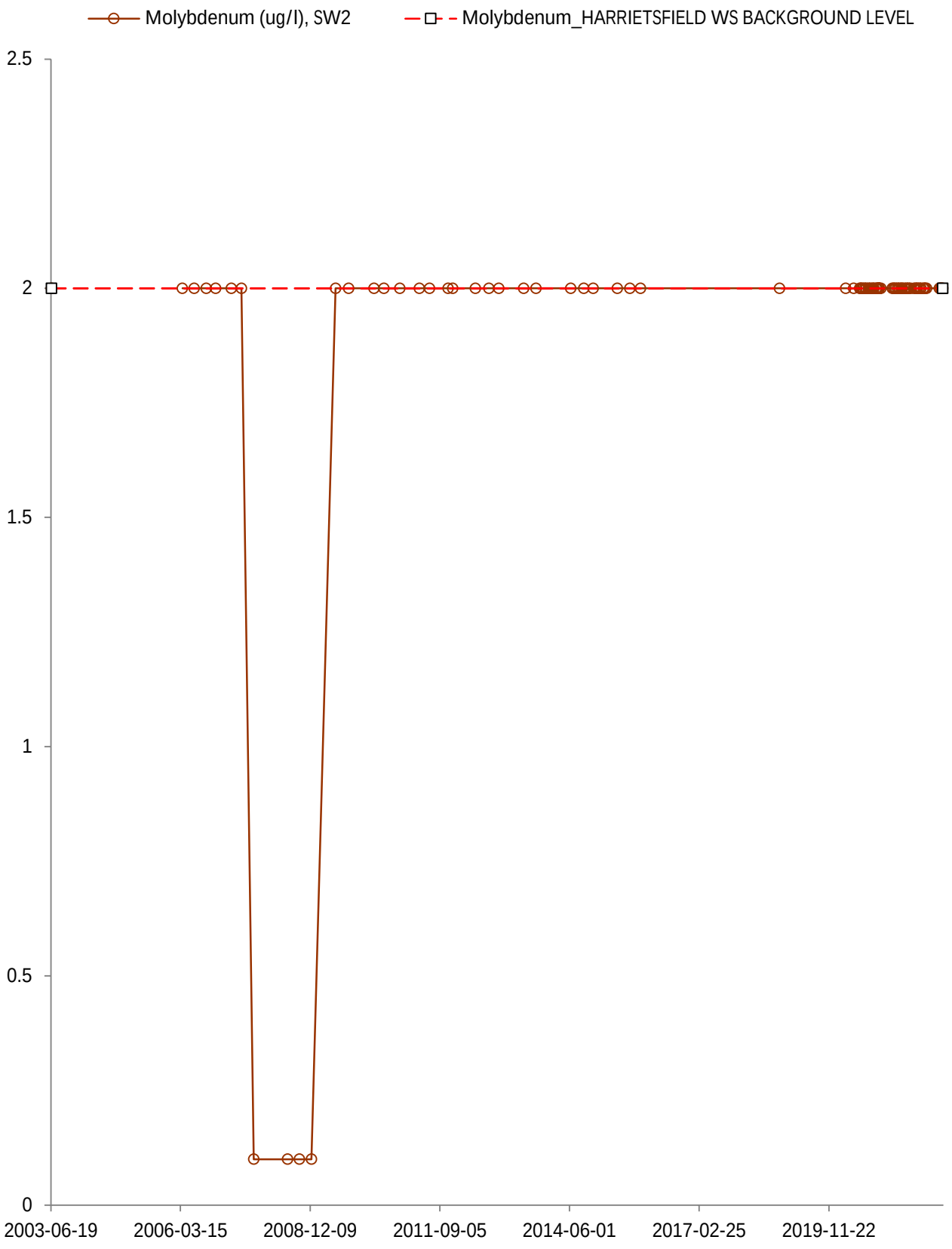
SW2-Mercury


Mercury (ug/l), SW2
0.03
0.025
0.02
0.015
0.01
0.005
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25

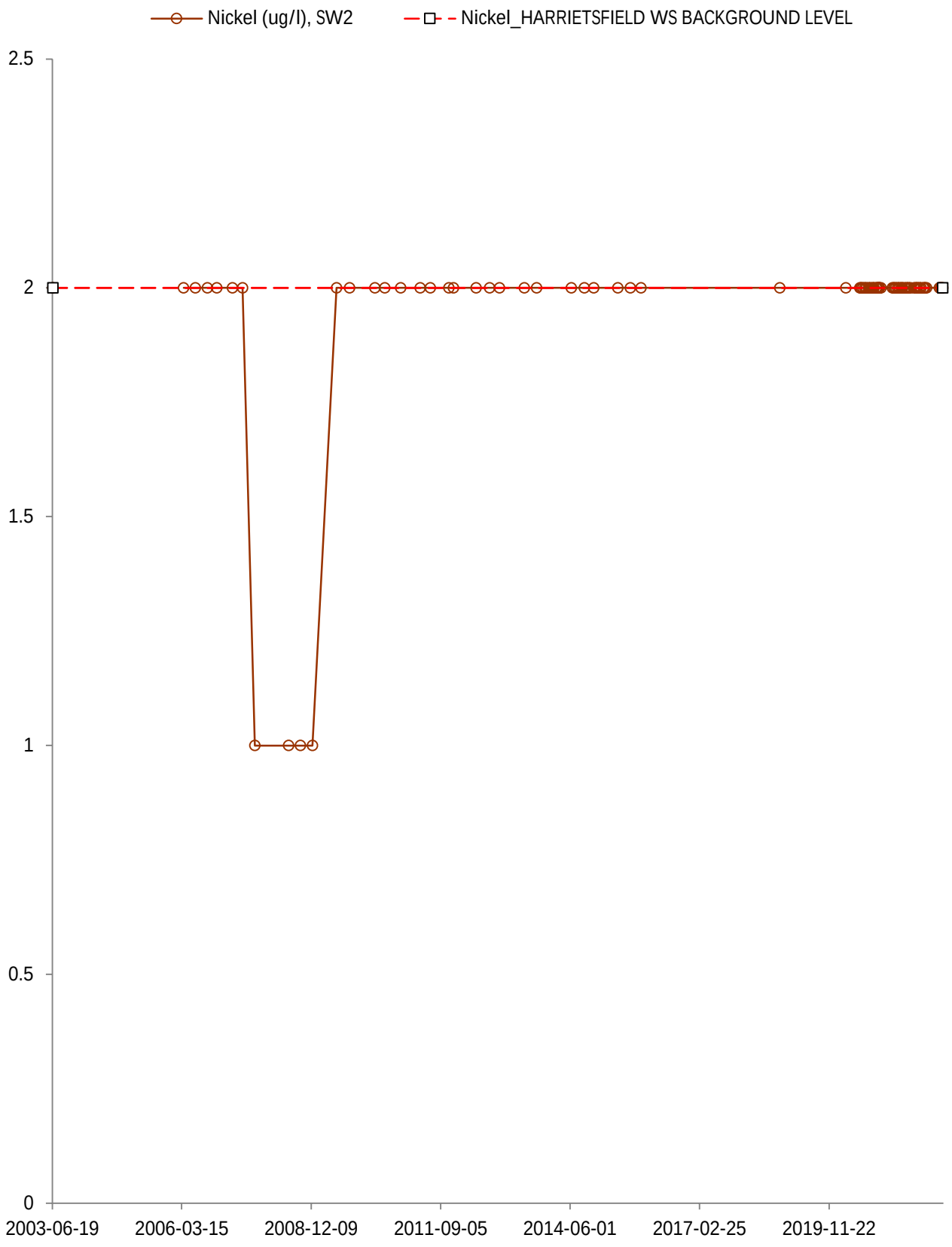
SW2-Modified TPH Tier 1



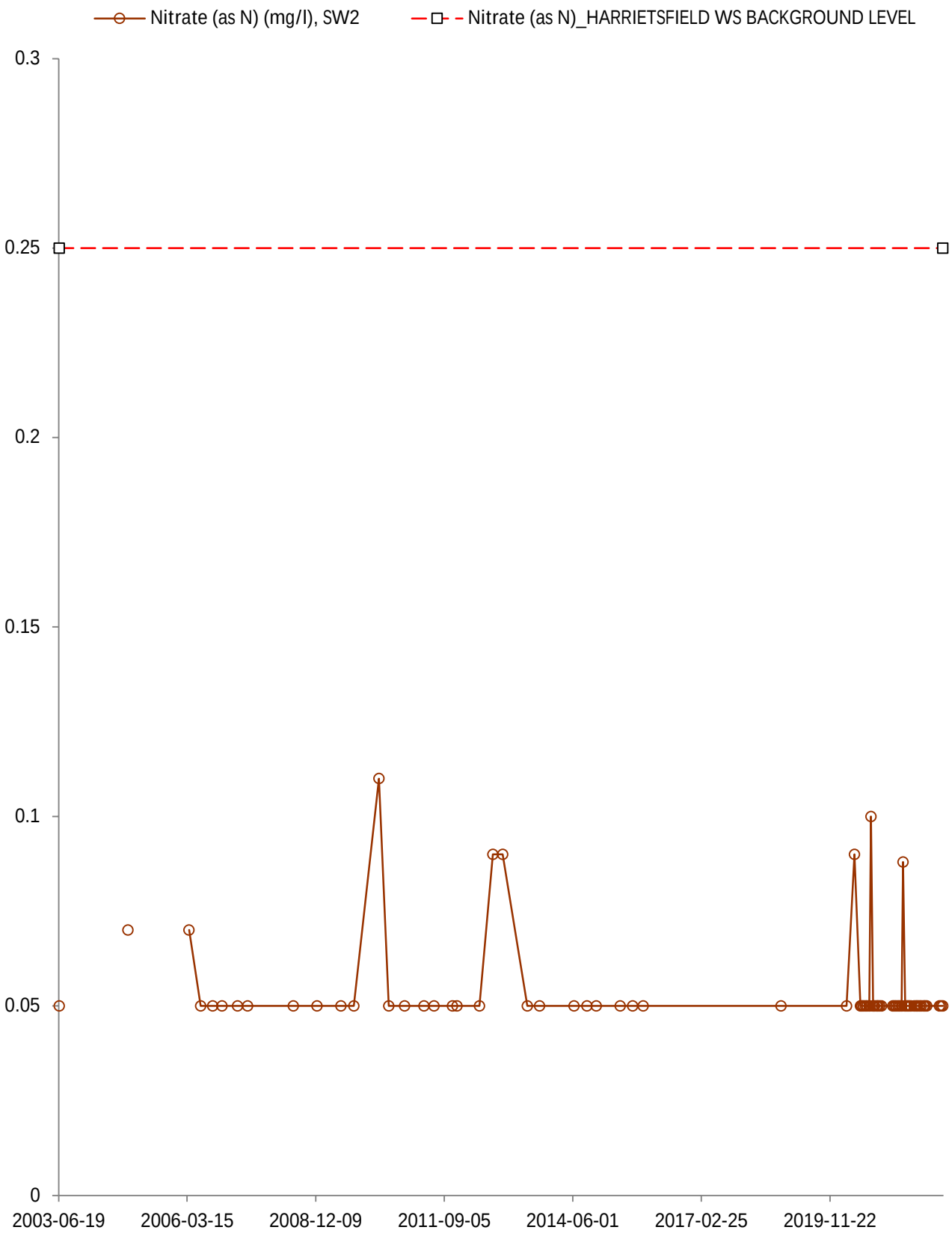
SW2-Molybdenum



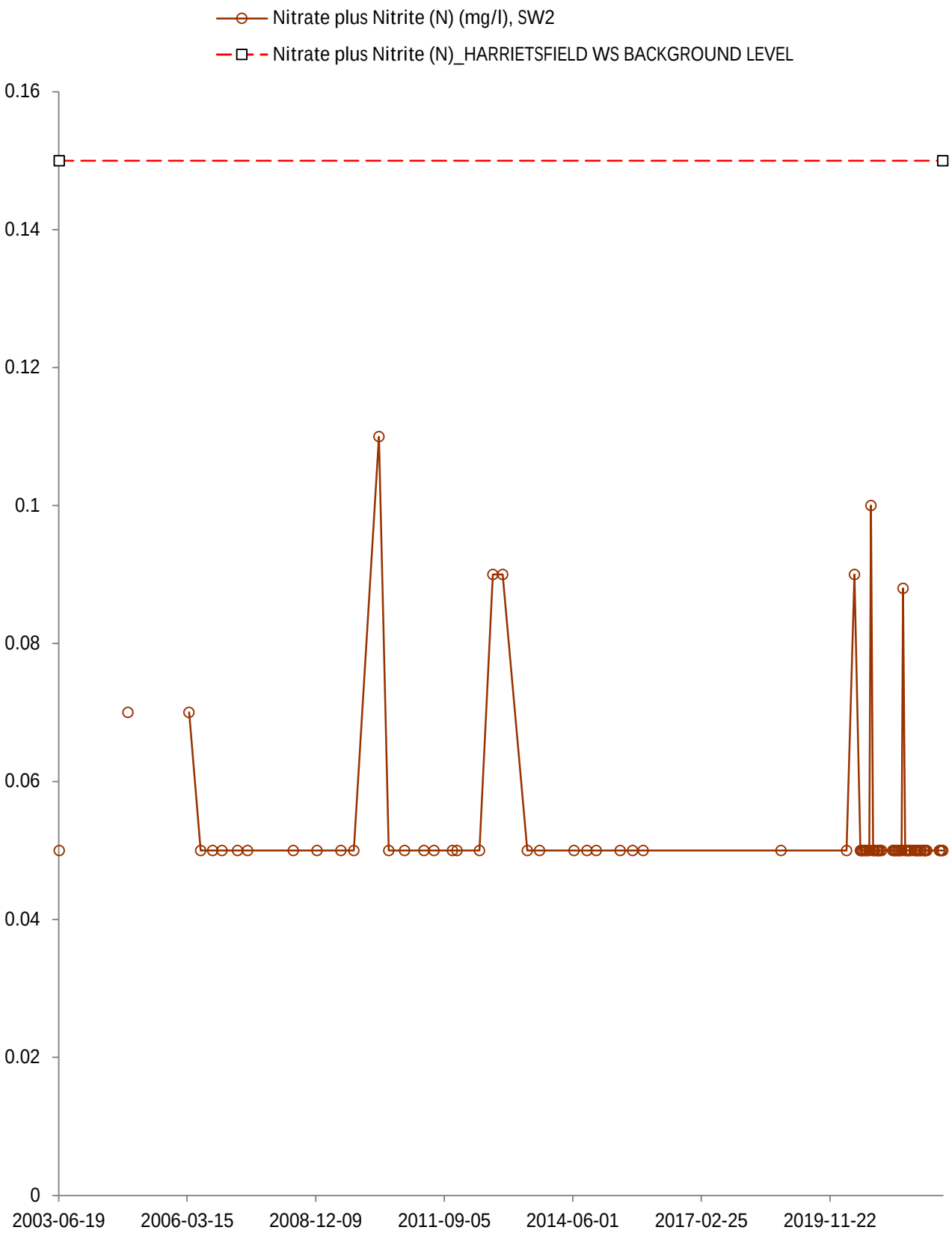
SW2-Nickel


Nickel (ug/l), SW2
Nickel_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

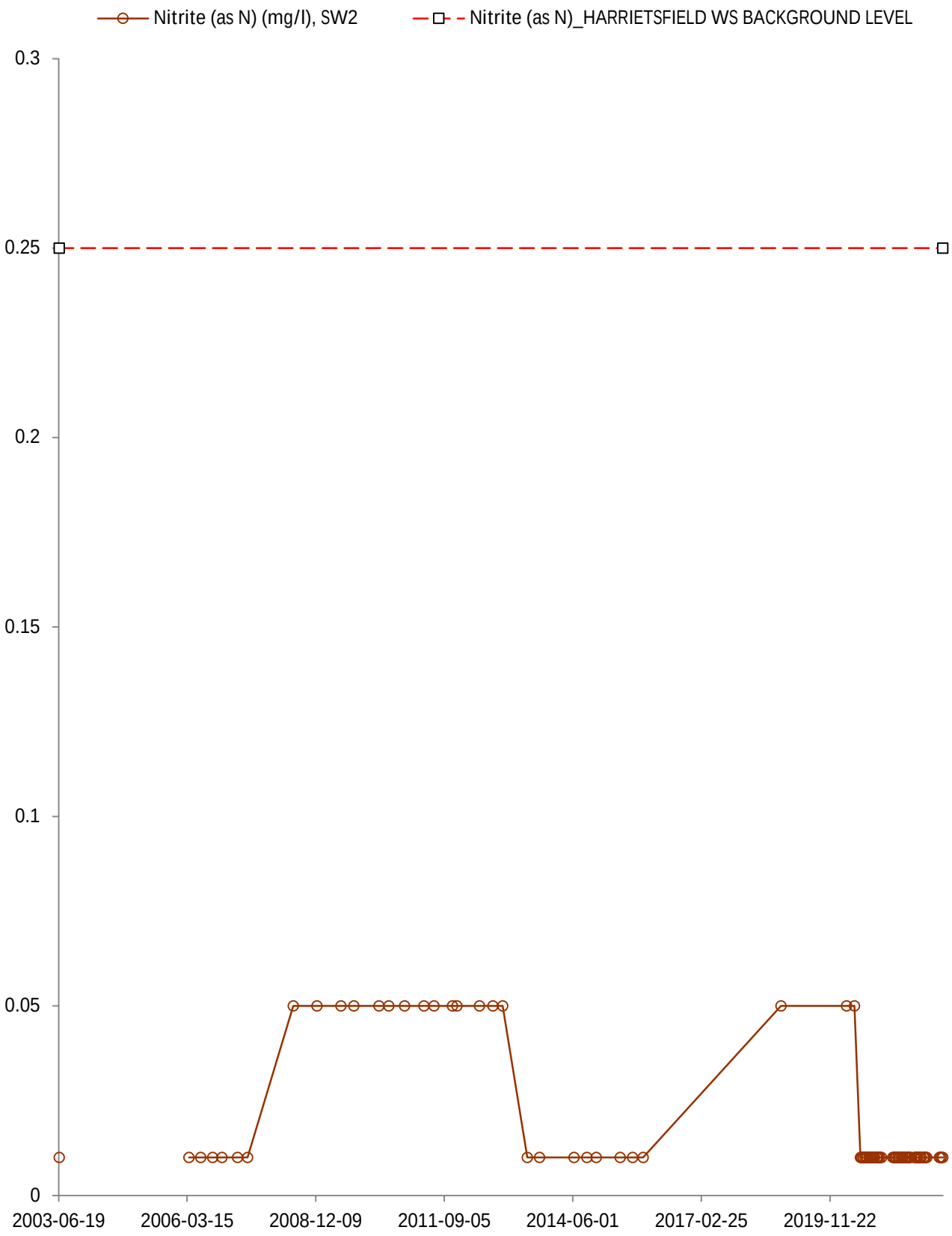
SW2-Nitrate (as N)



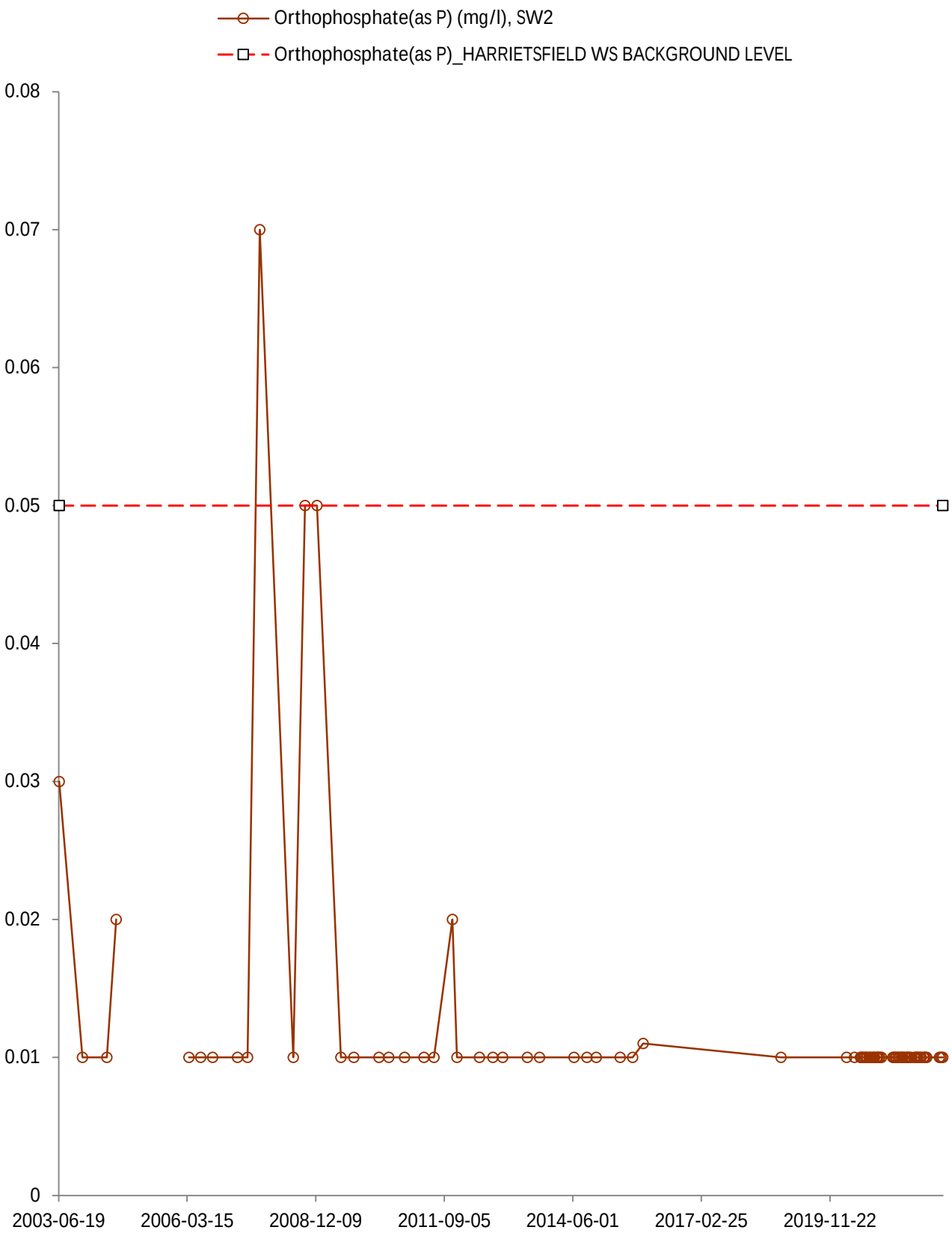
SW2-Nitrate plus Nitrite (N)



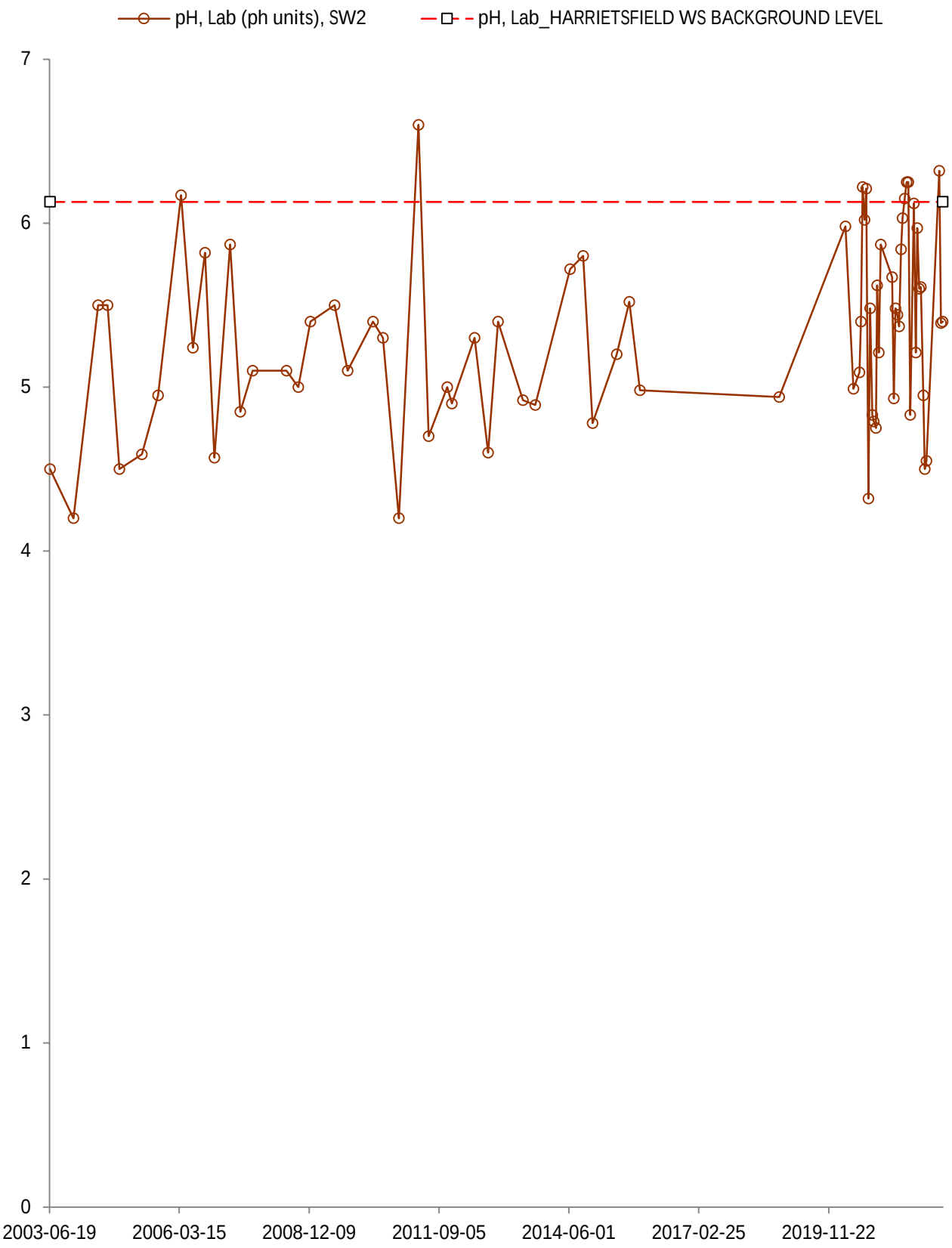
SW2-Nitrite (as N)



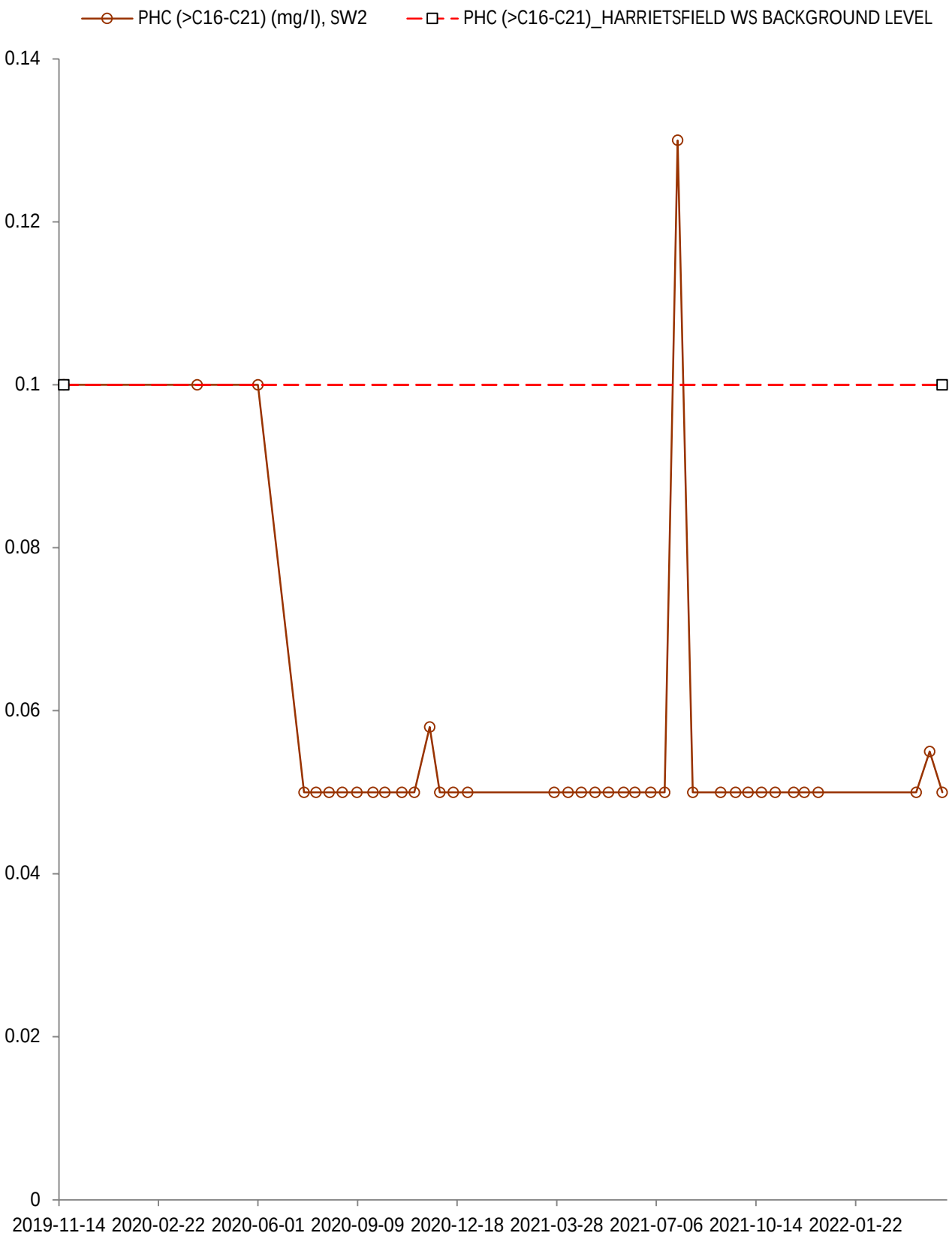
SW2-Orthophosphate(as P)



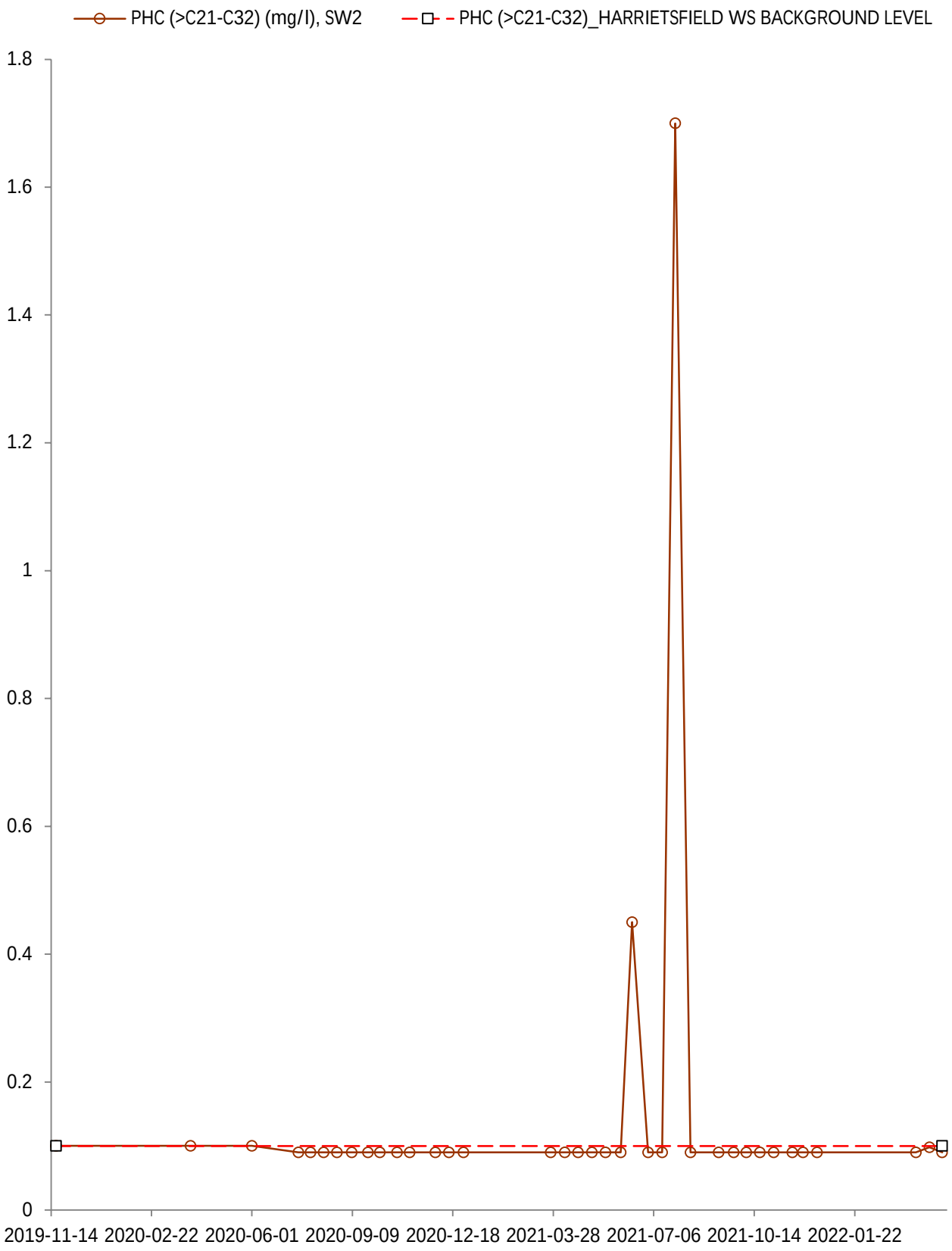
SW2-pH, Lab


pH, Lab (ph units), SW2
pH, Lab_HARRIETSFIELD WS BACKGROUND LEVEL
7
6
5
4
3
2
1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

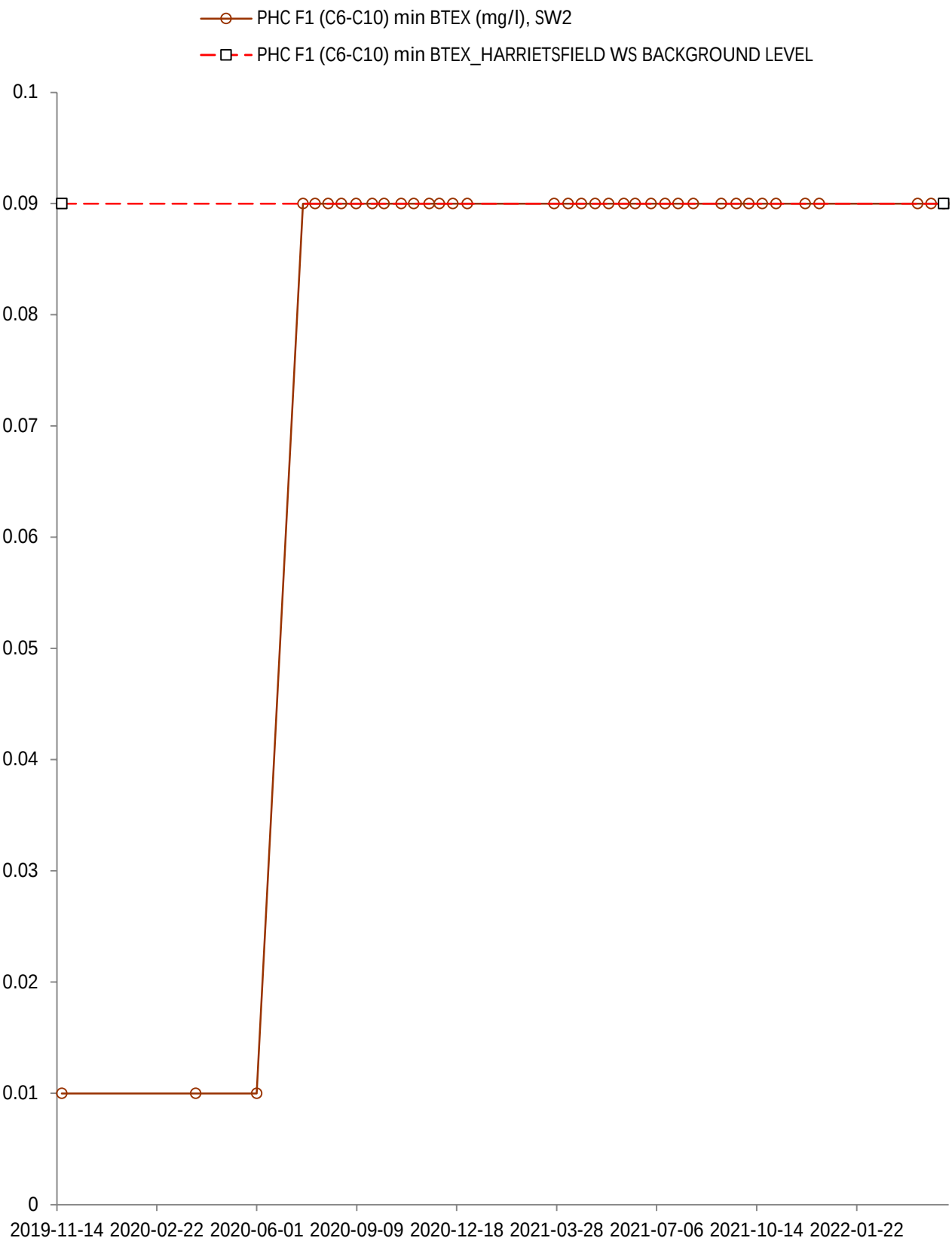
SW2-PHC (>C16-C21)



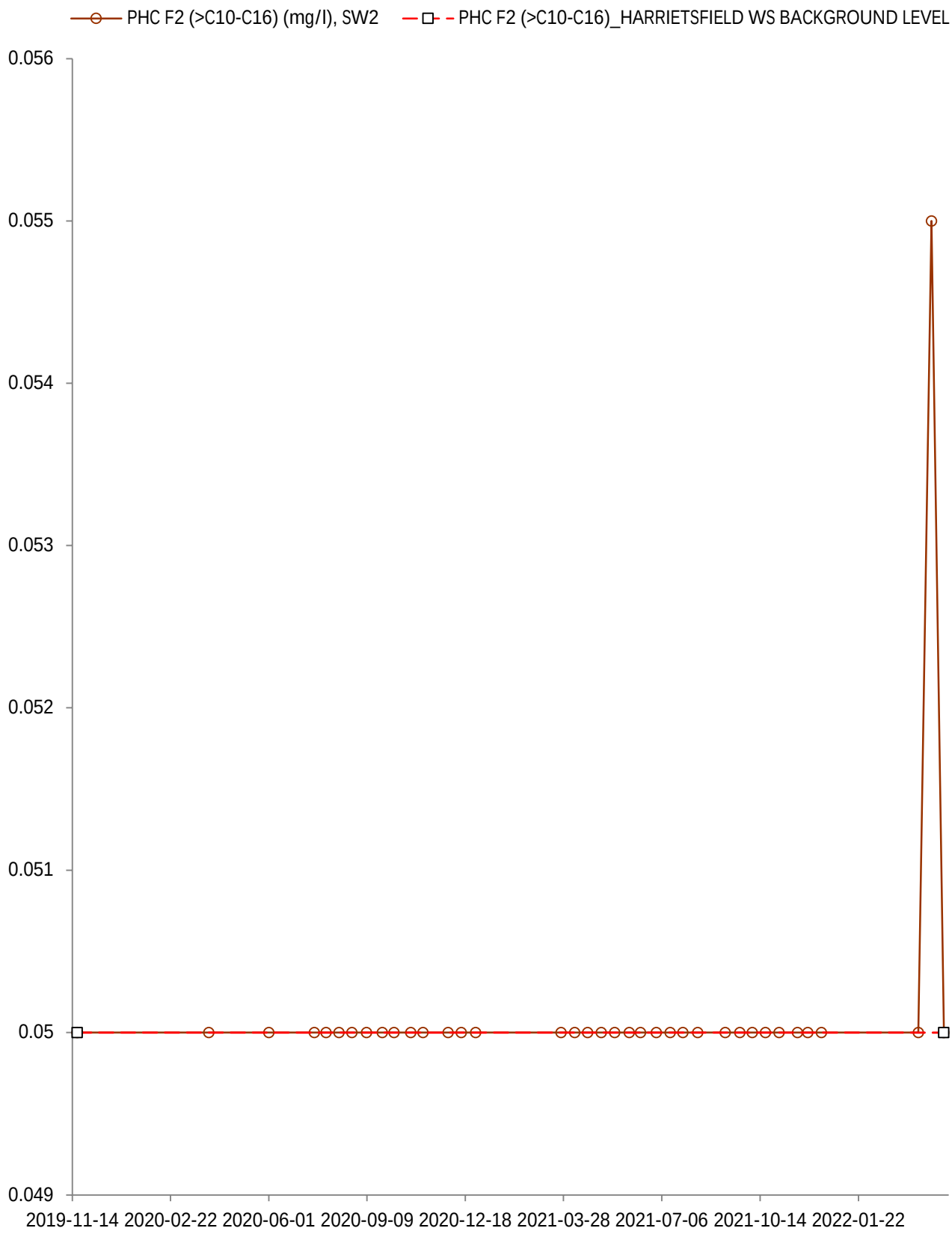
SW2-PHC (>C21-C32)



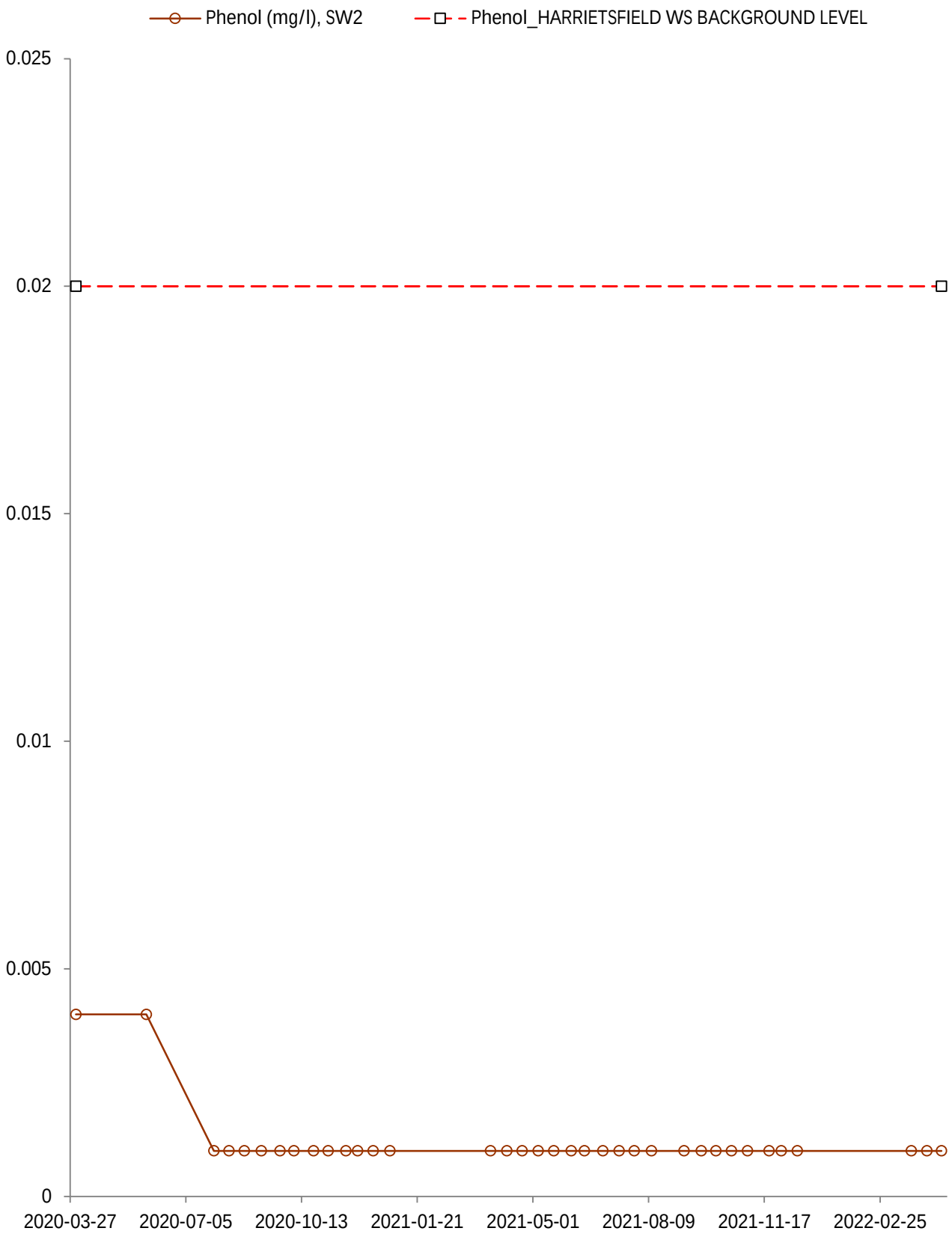
SW2-PHC F1 (C6-C10) min BTEX



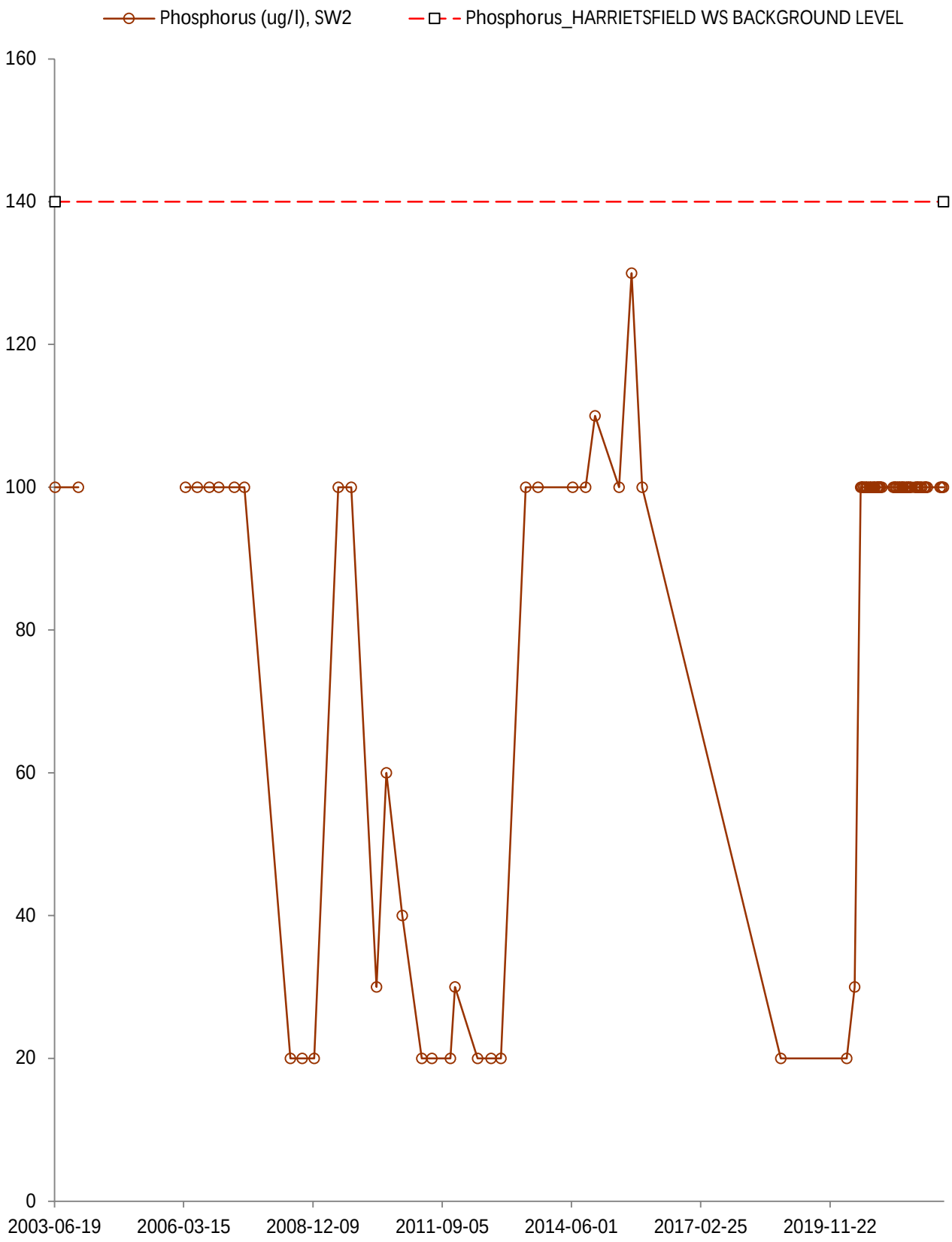
SW2-PHC F2 (>C10-C16)



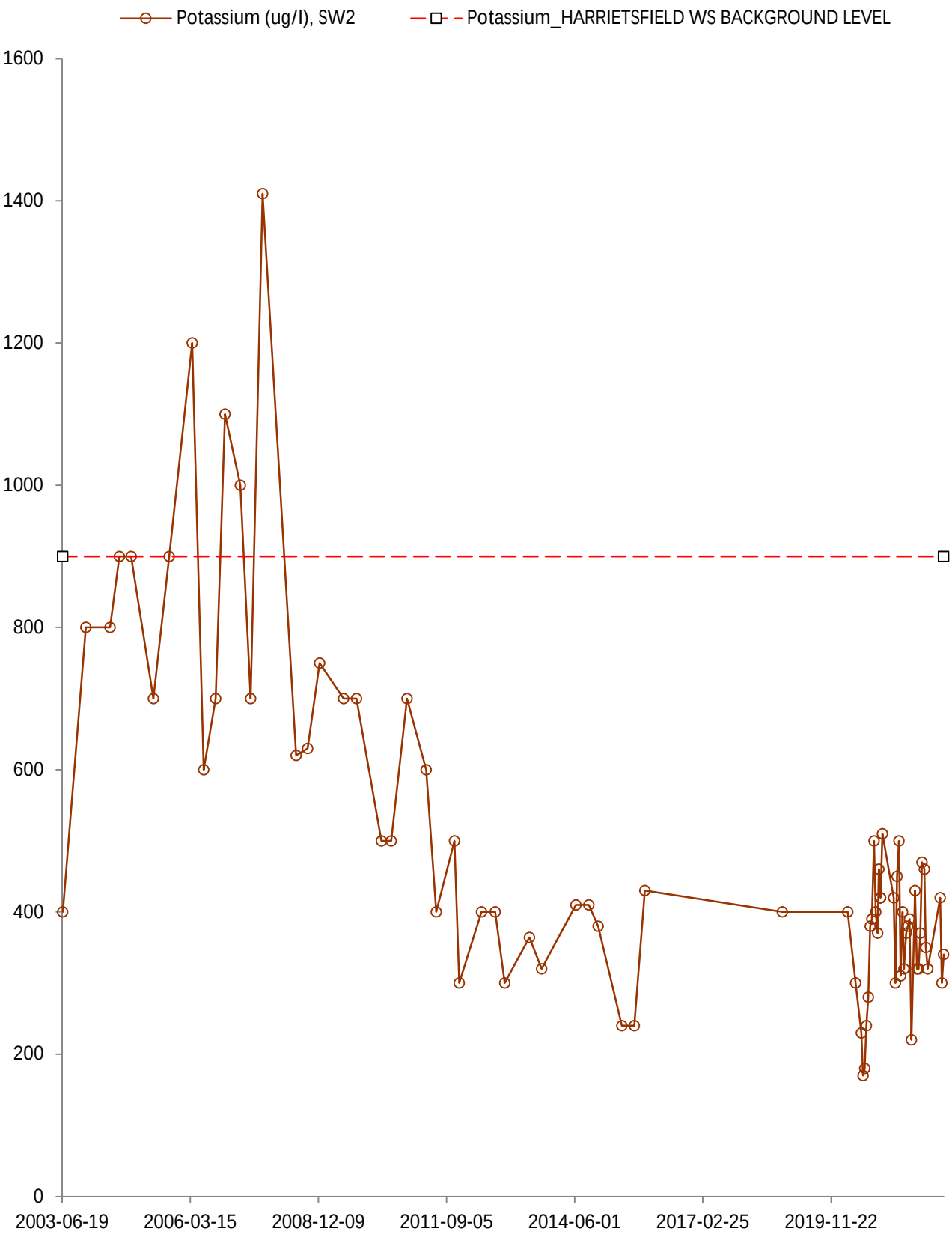
SW2-Phenol


Phenol (mg/l), SW2
Phenol_HARRIETSFIELD WS BACKGROUND LEVEL
0.025
0.02
0.015
0.01
0.005
0
2020-03-27
2020-07-05
2020-10-13
2021-01-21
2021-05-01
2021-08-09
2021-11-17
2022-02-25

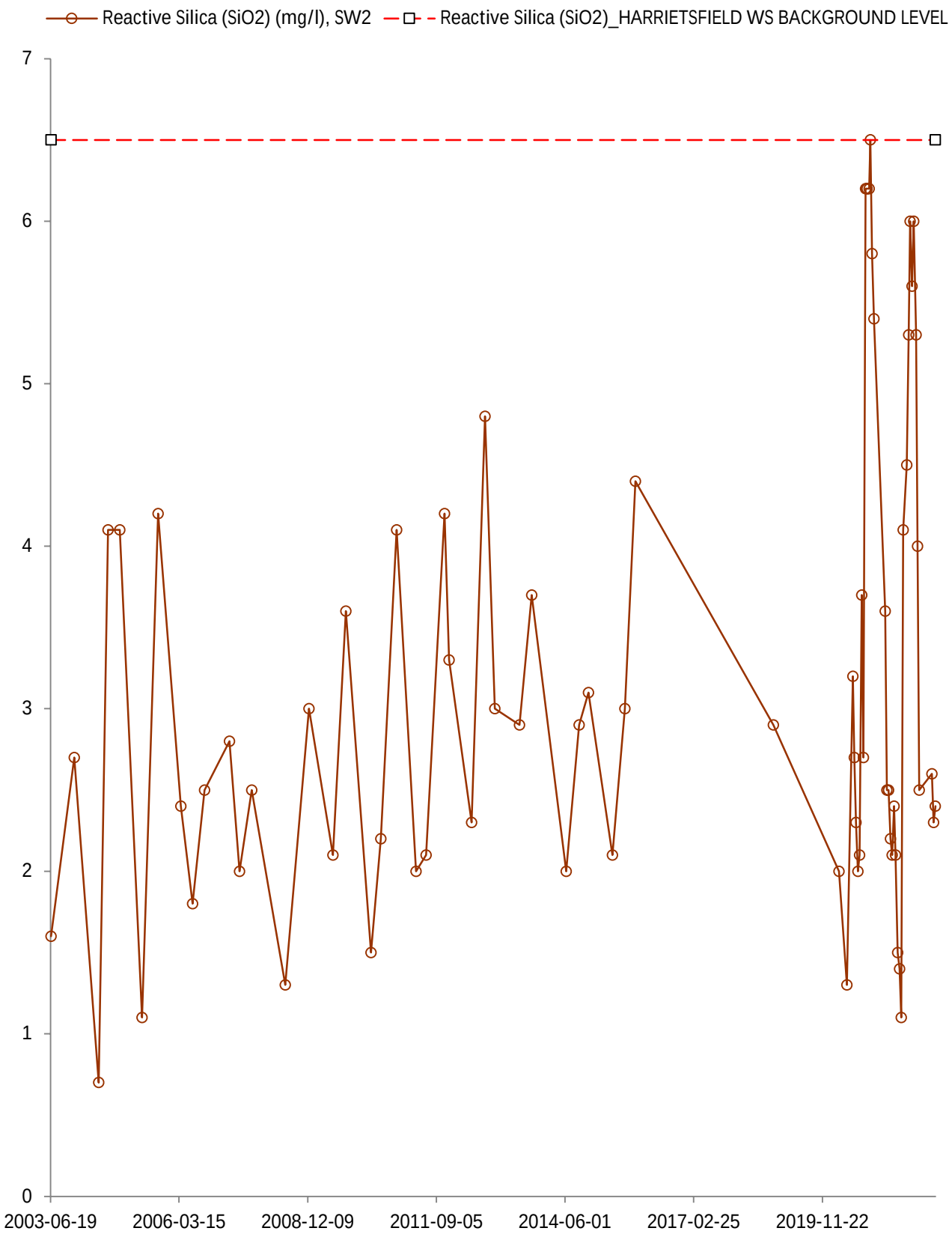
SW2-Phosphorus



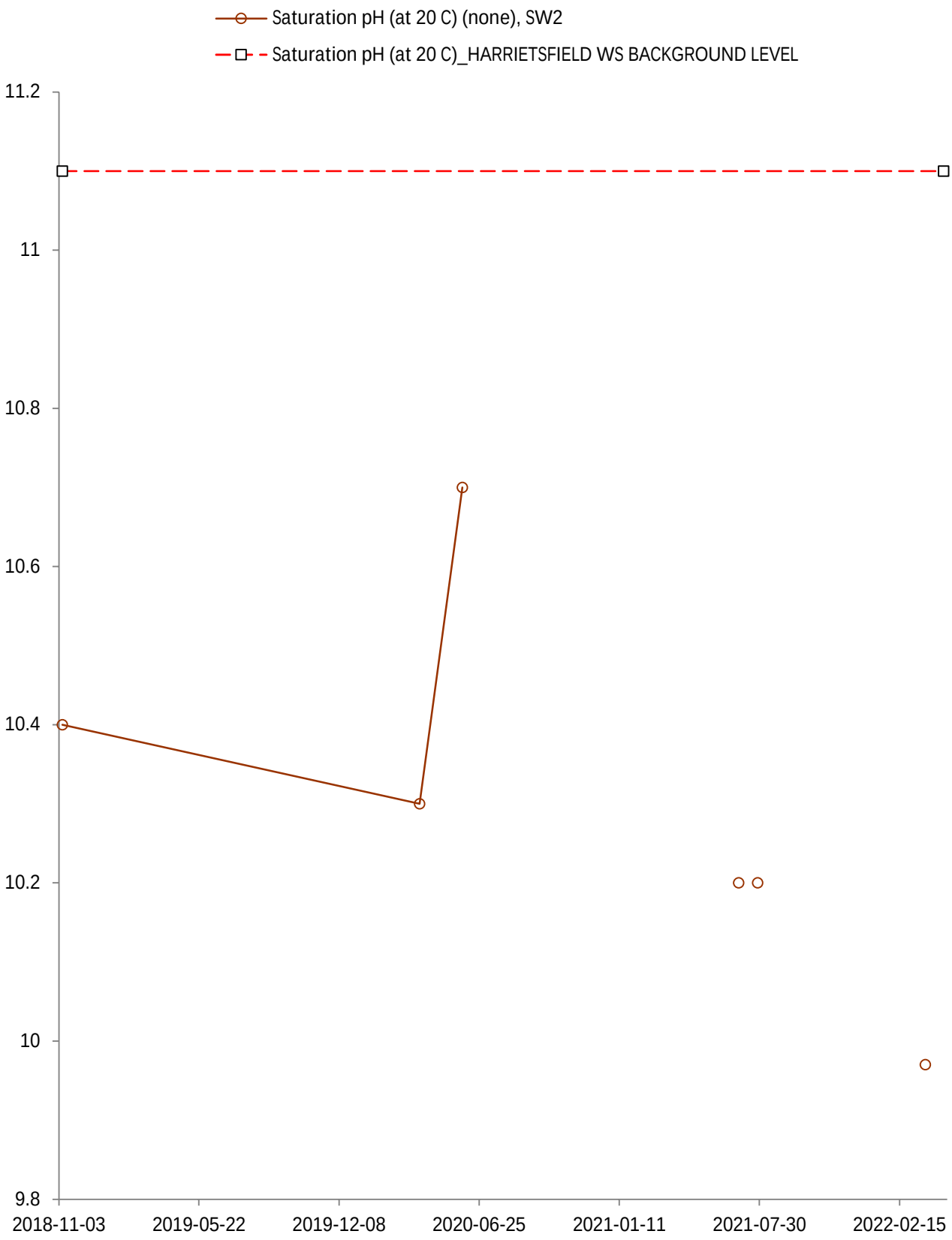
SW2-Potassium



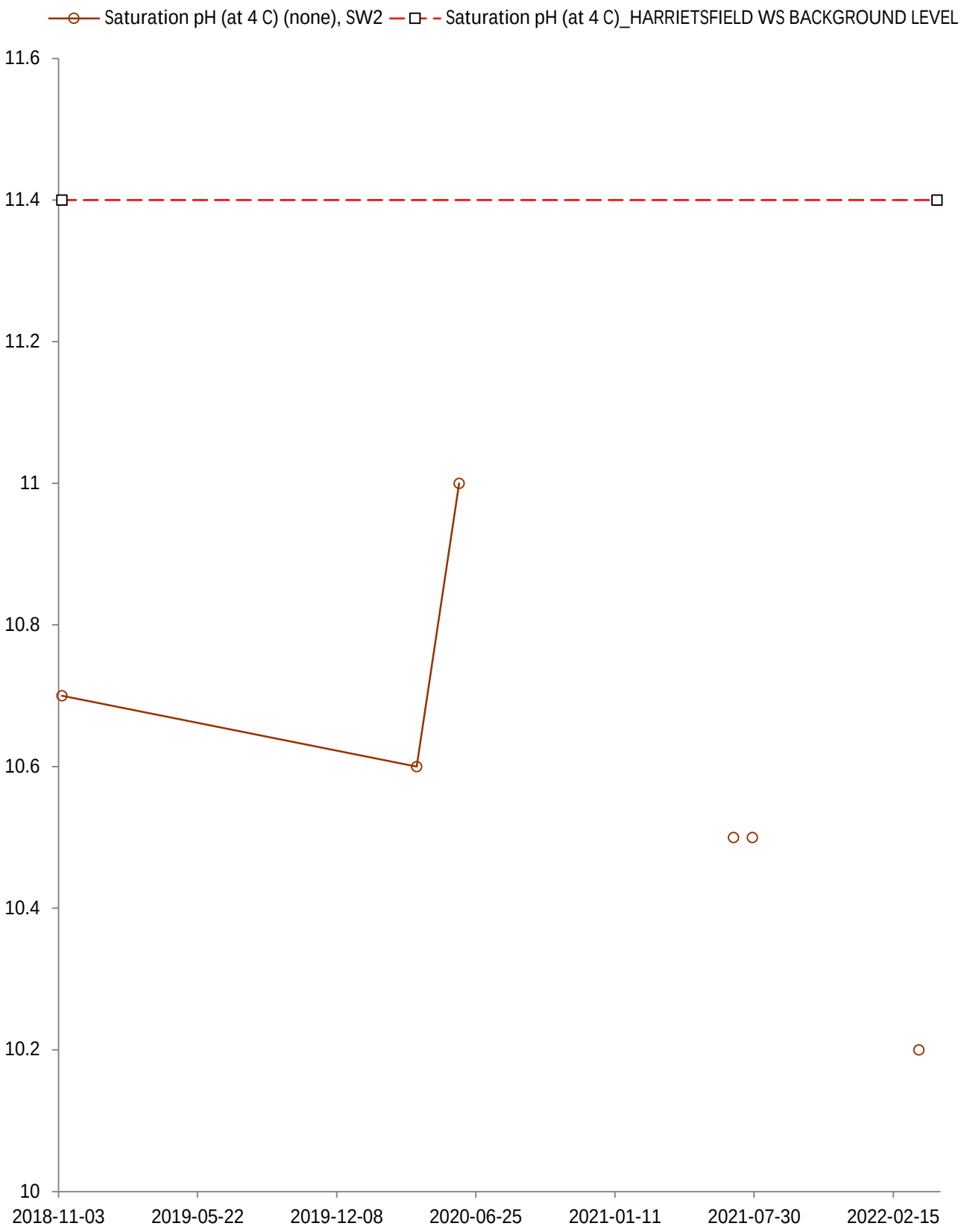
SW2-Reactive Silica (SiO2)



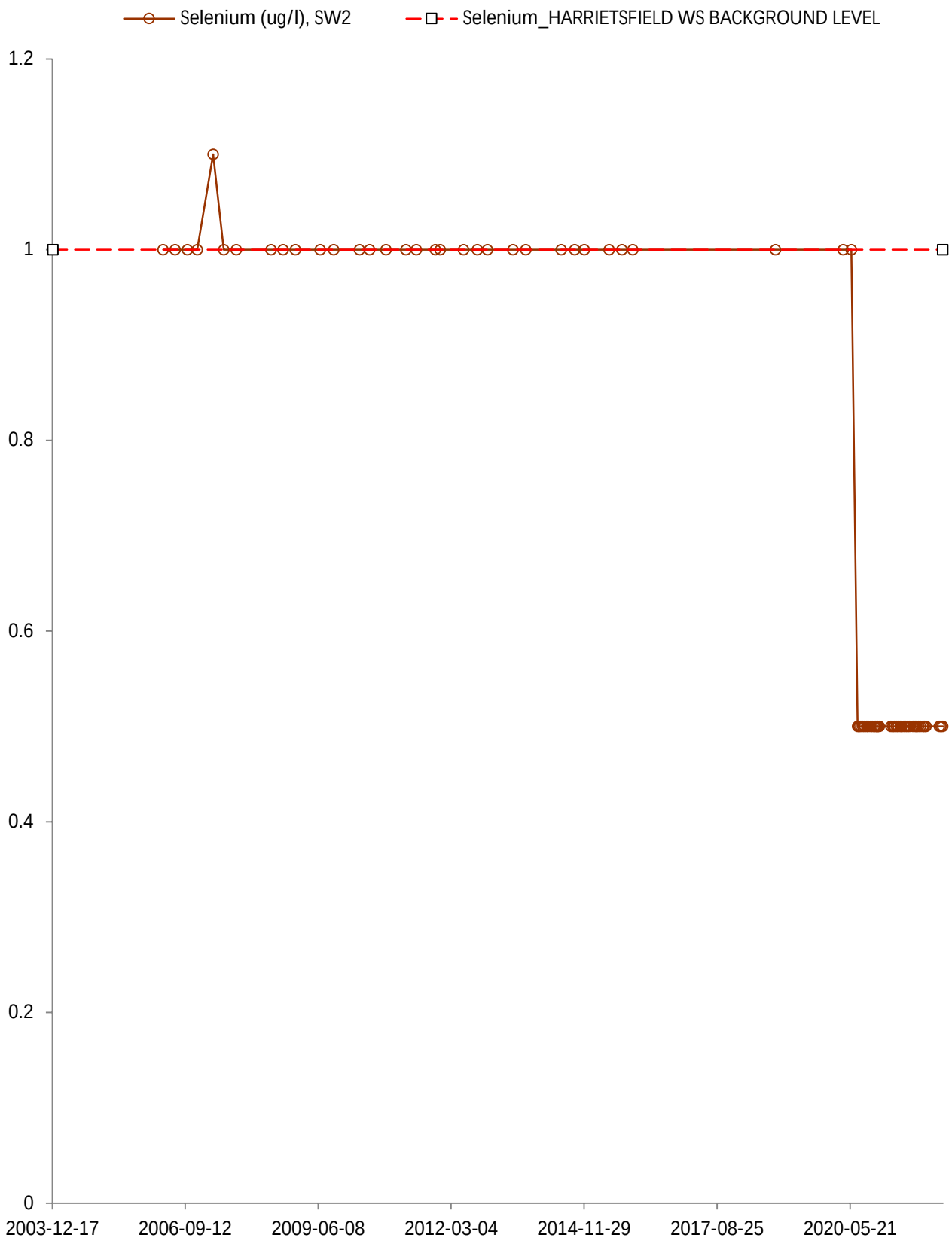
SW2-Saturation pH (at 20 C)



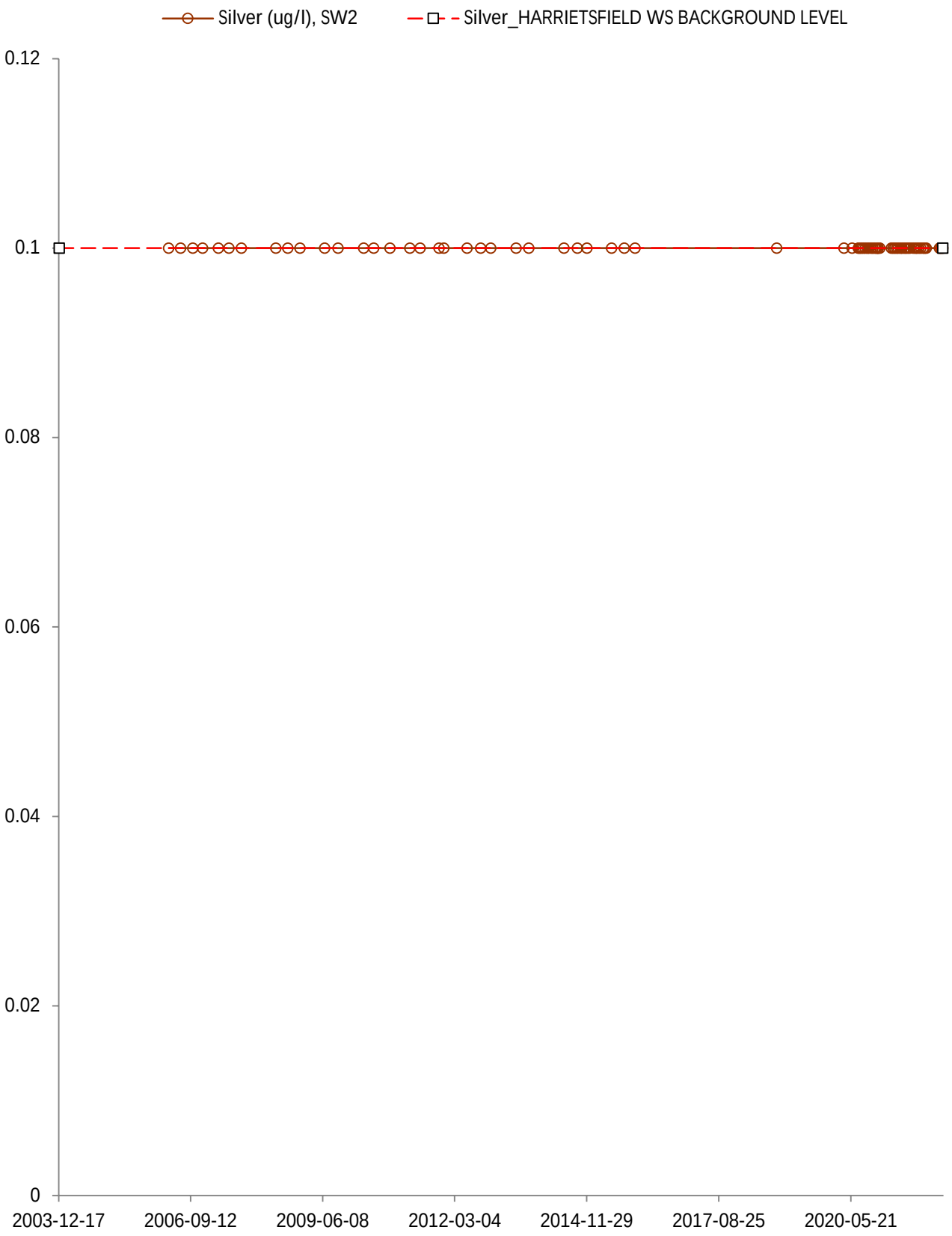
SW2-Saturation pH (at 4 C)



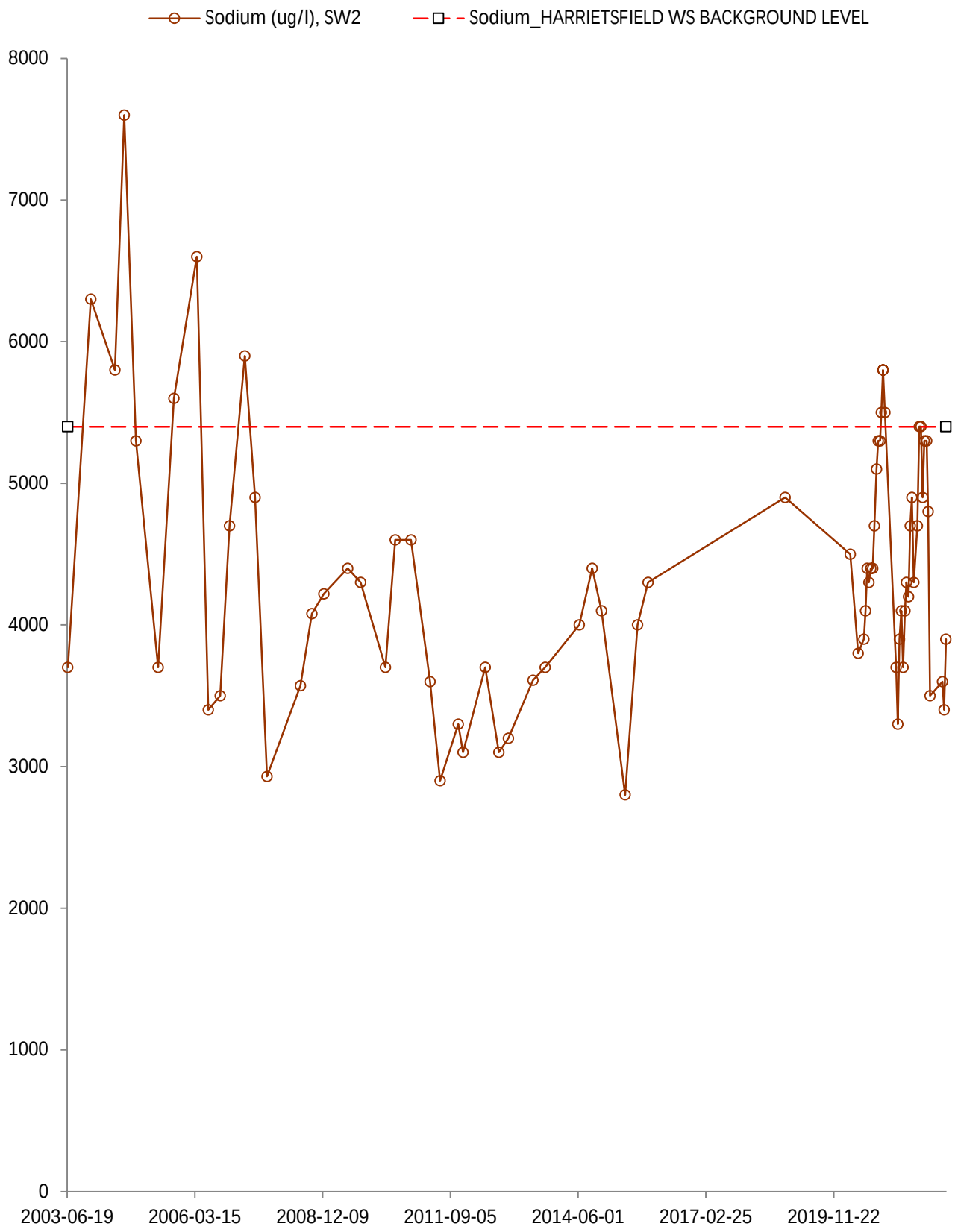
SW2-Selenium



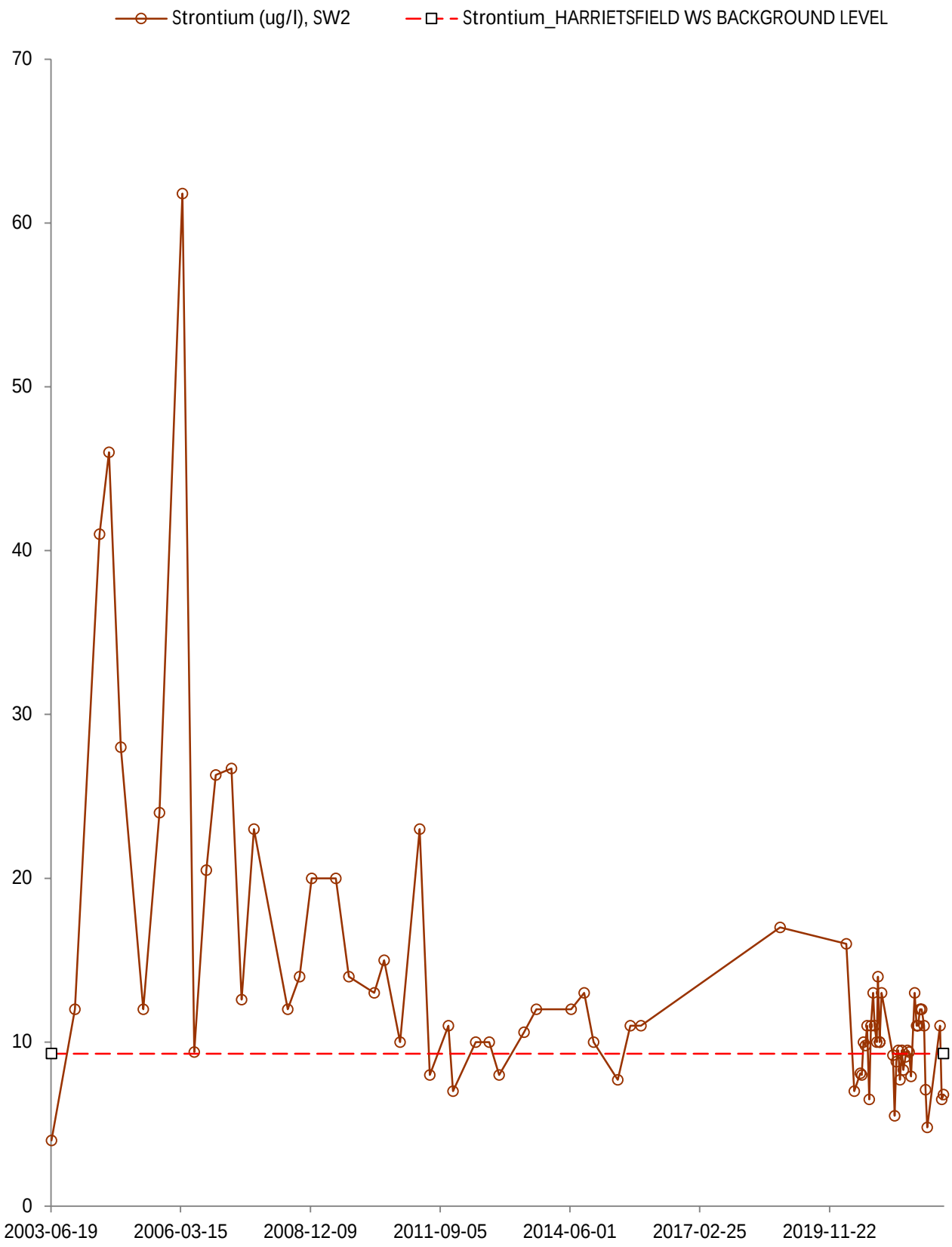
SW2-Silver


Silver (ug/l), SW2
Silver_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2003-12-17
2006-09-12
2009-06-08
2012-03-04
2014-11-29
2017-08-25
2020-05-21

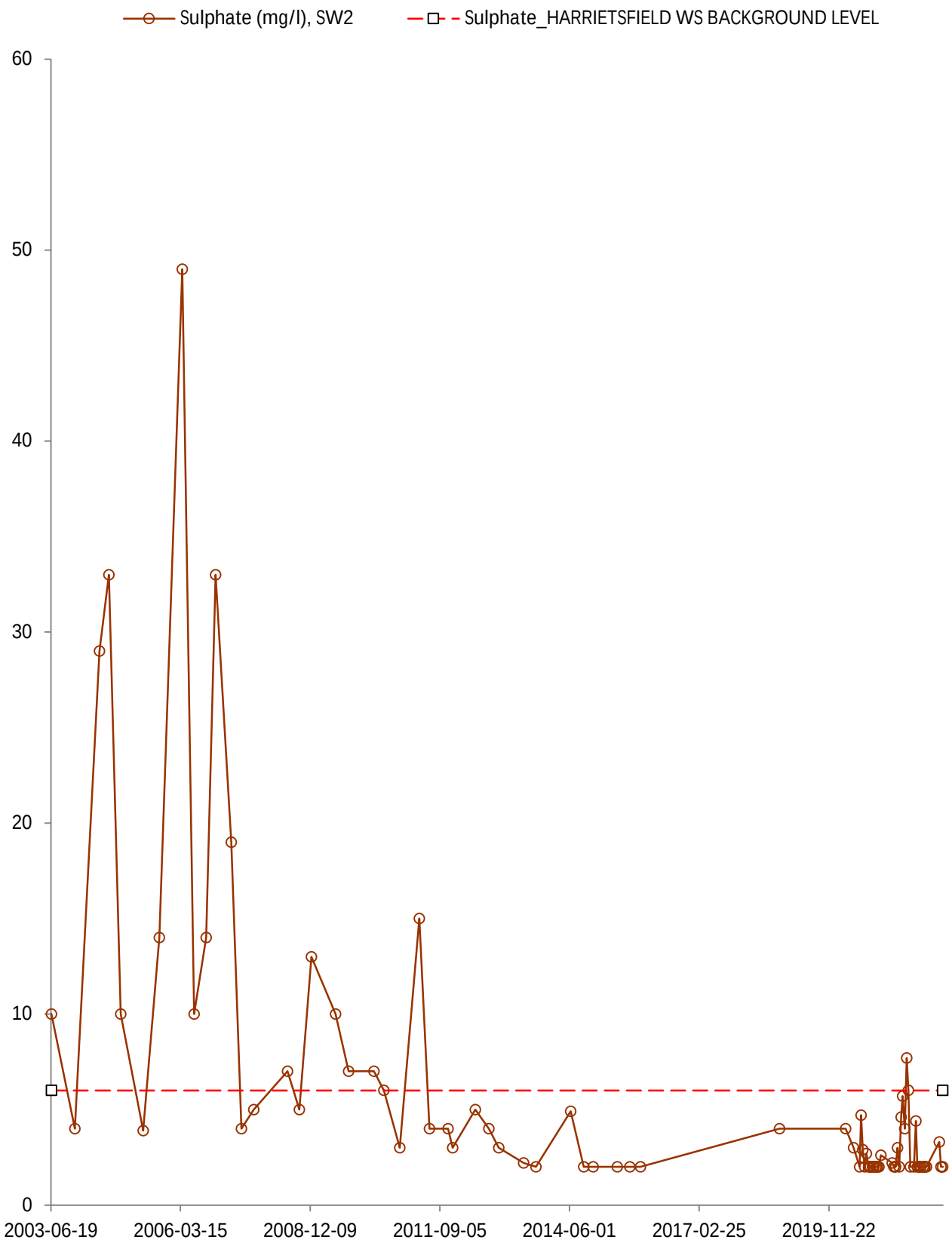
SW2-Sodium


Sodium (ug/l), SW2
Sodium_HARRIETSFIELD WS BACKGROUND LEVEL
8000
7000
6000
5000
4000
3000
2000
1000
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

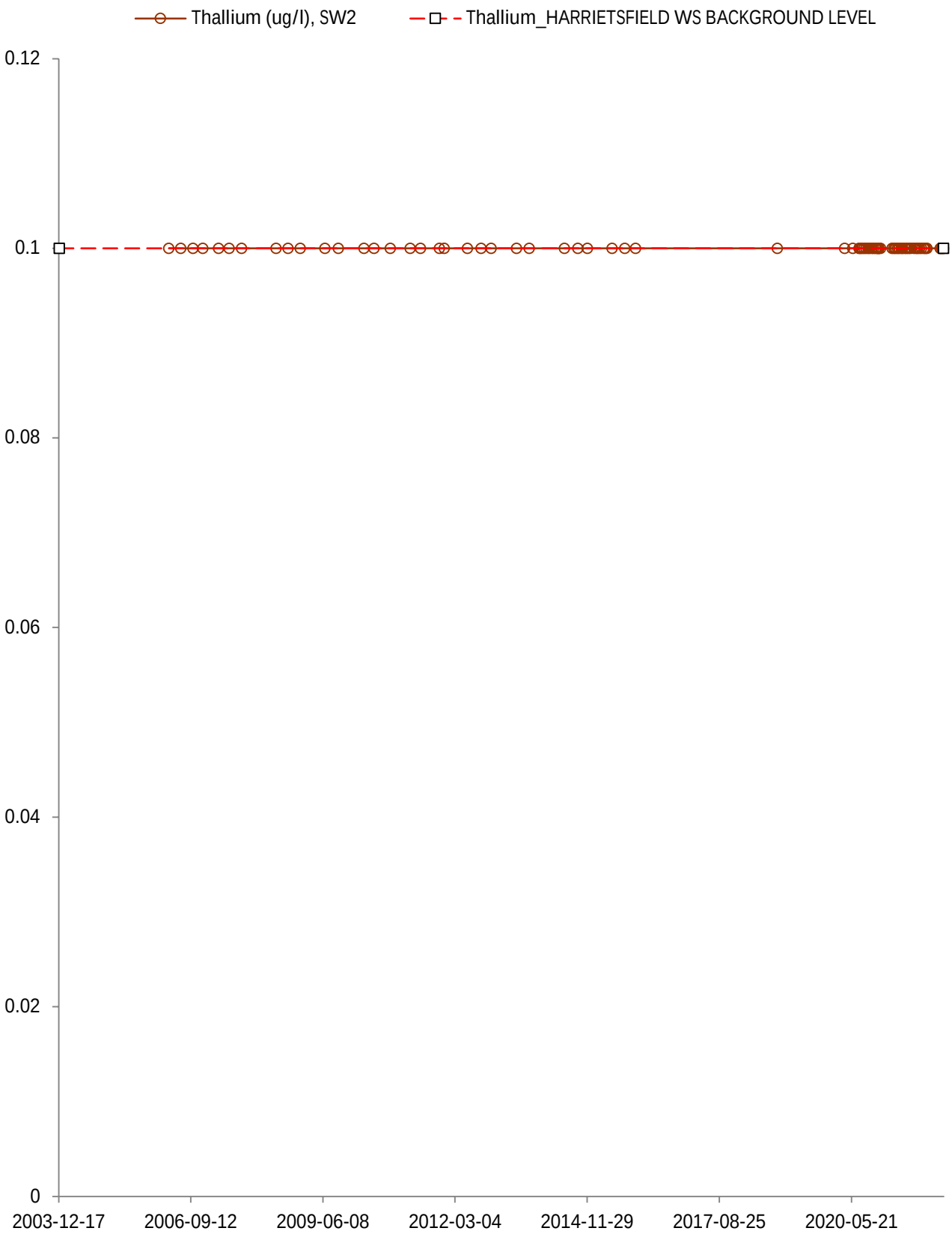
SW2-Strontium



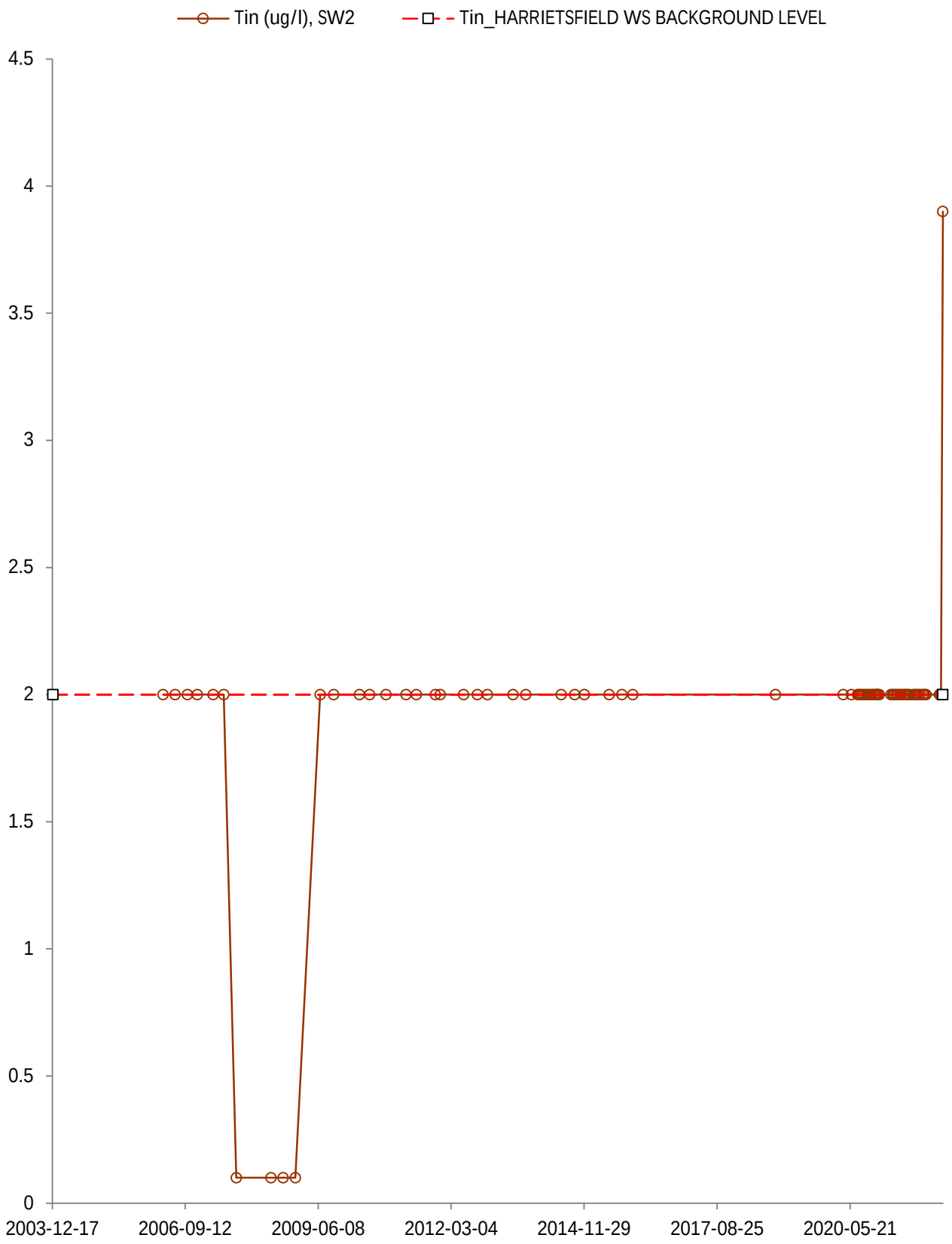
SW2-Sulphate



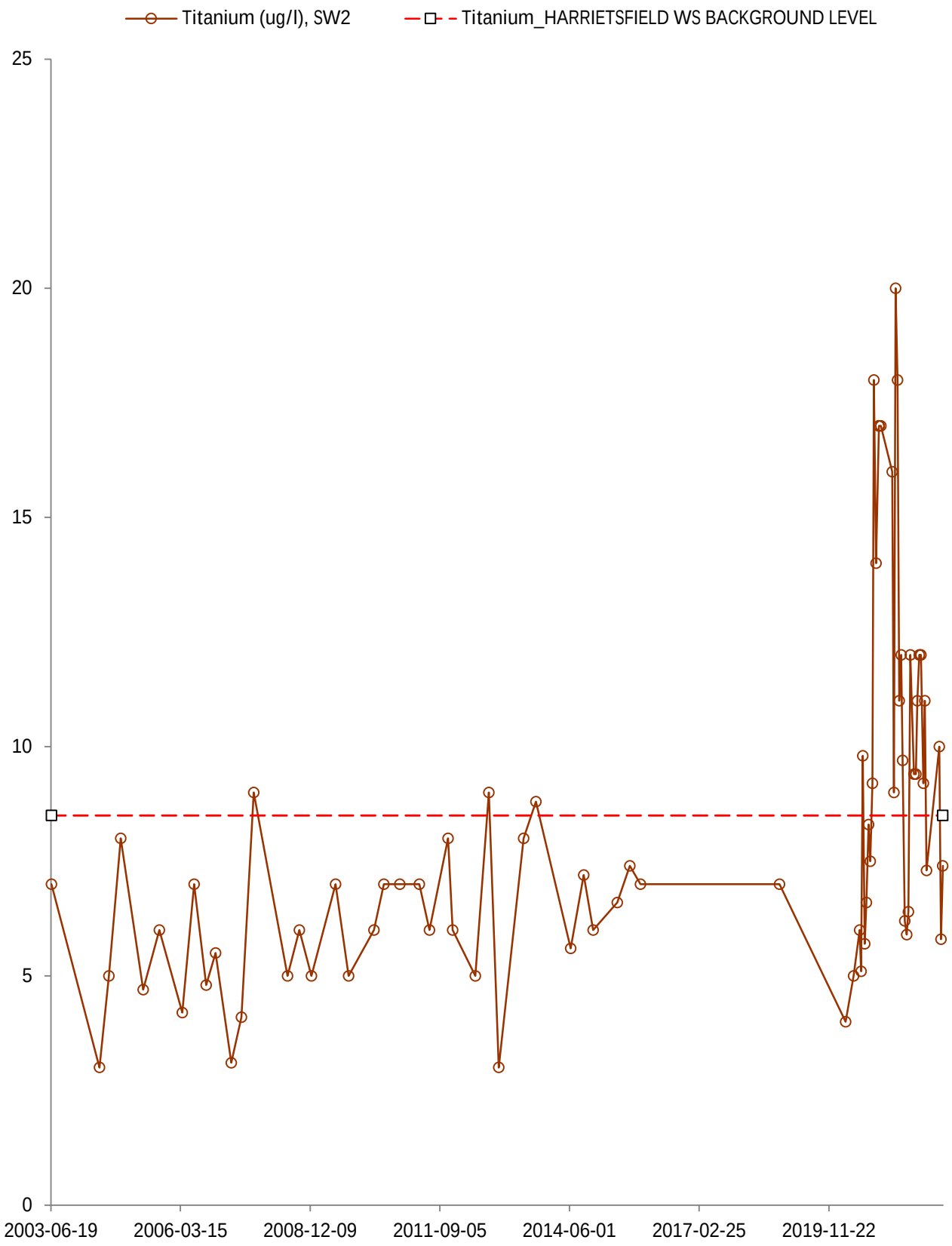
SW2-Thallium



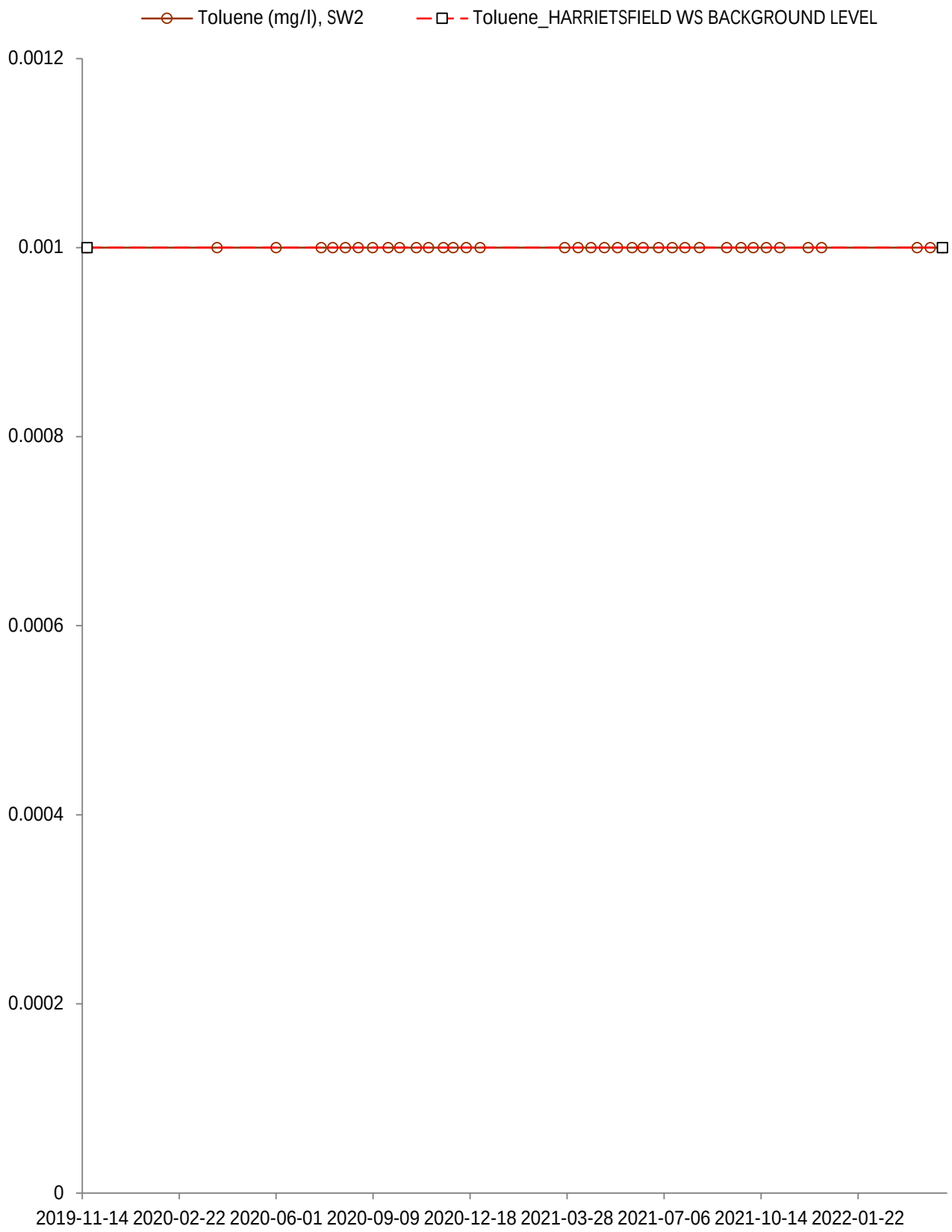
SW2-Tin


Tin (ug/l), SW2
Tin_HARRIETSFIELD WS BACKGROUND LEVEL
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
2003-12-17
2006-09-12
2009-06-08
2012-03-04
2014-11-29
2017-08-25
2020-05-21

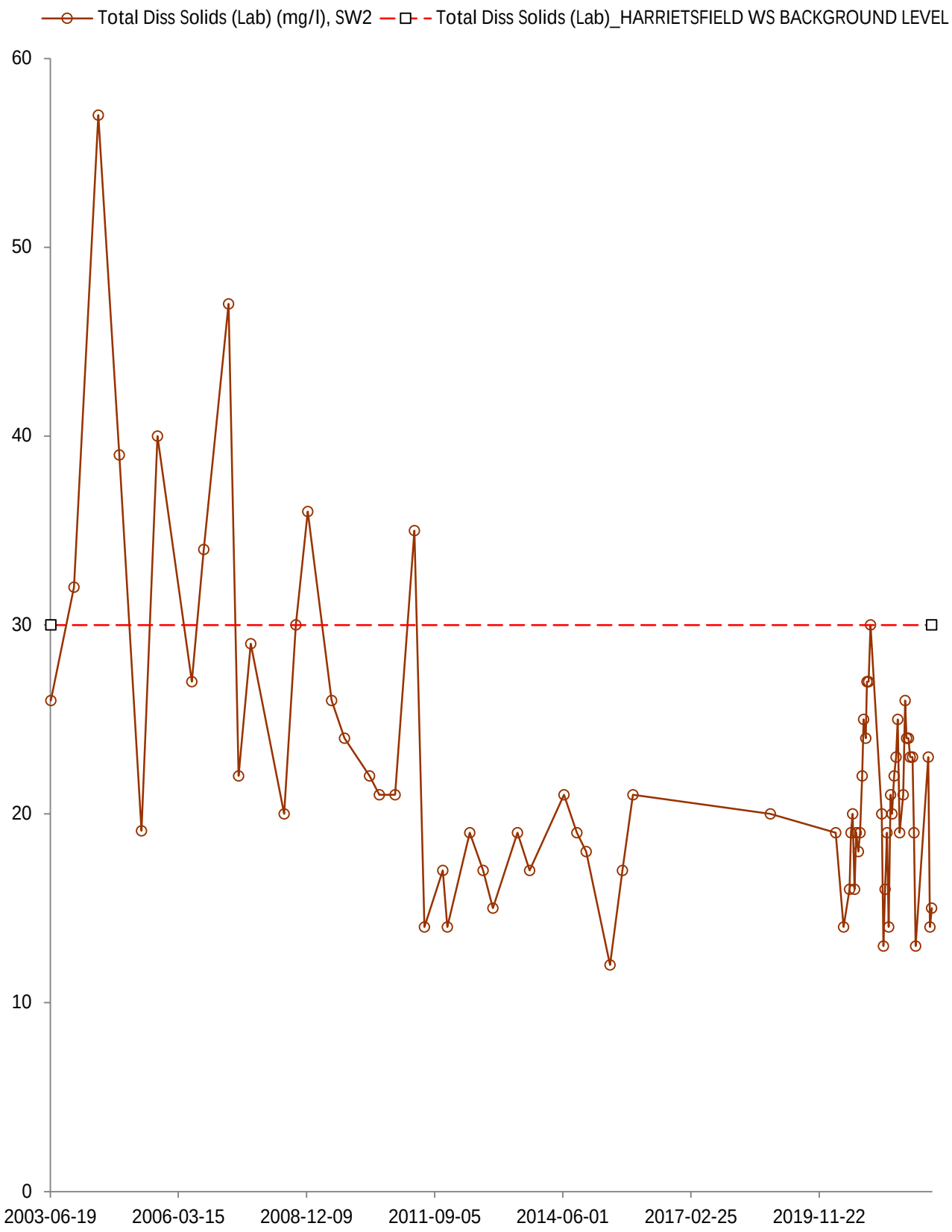
SW2-Titanium



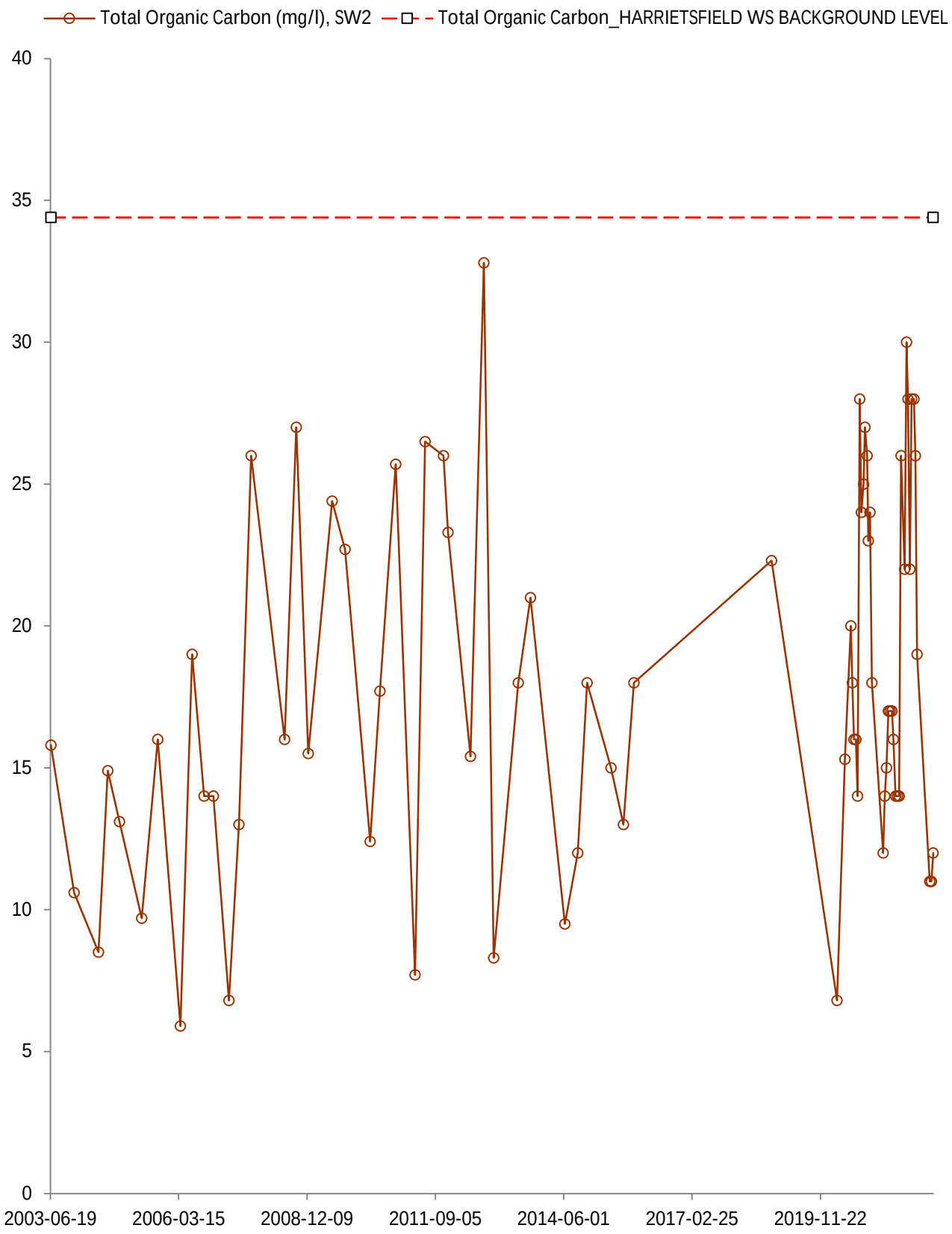
SW2-Toluene


Toluene (mg/l), SW2
Toluene_HARRIETSFIELD WS BACKGROUND LEVEL
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
2019-11-14
2020-02-22
2020-06-01
2020-09-09
2020-12-18
2021-03-28
2021-07-06
2021-10-14
2022-01-22

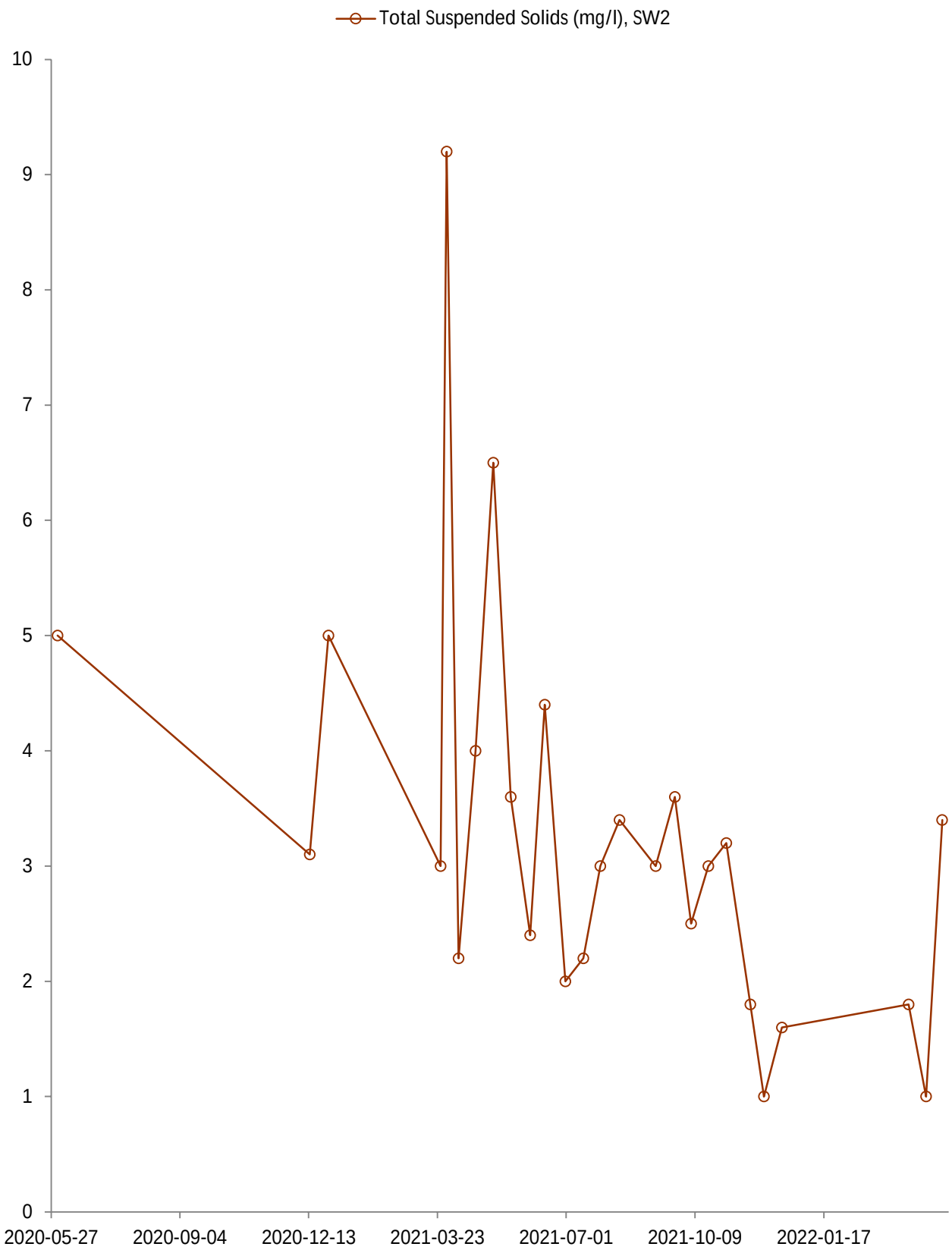
SW2-Total Diss Solids (Lab)



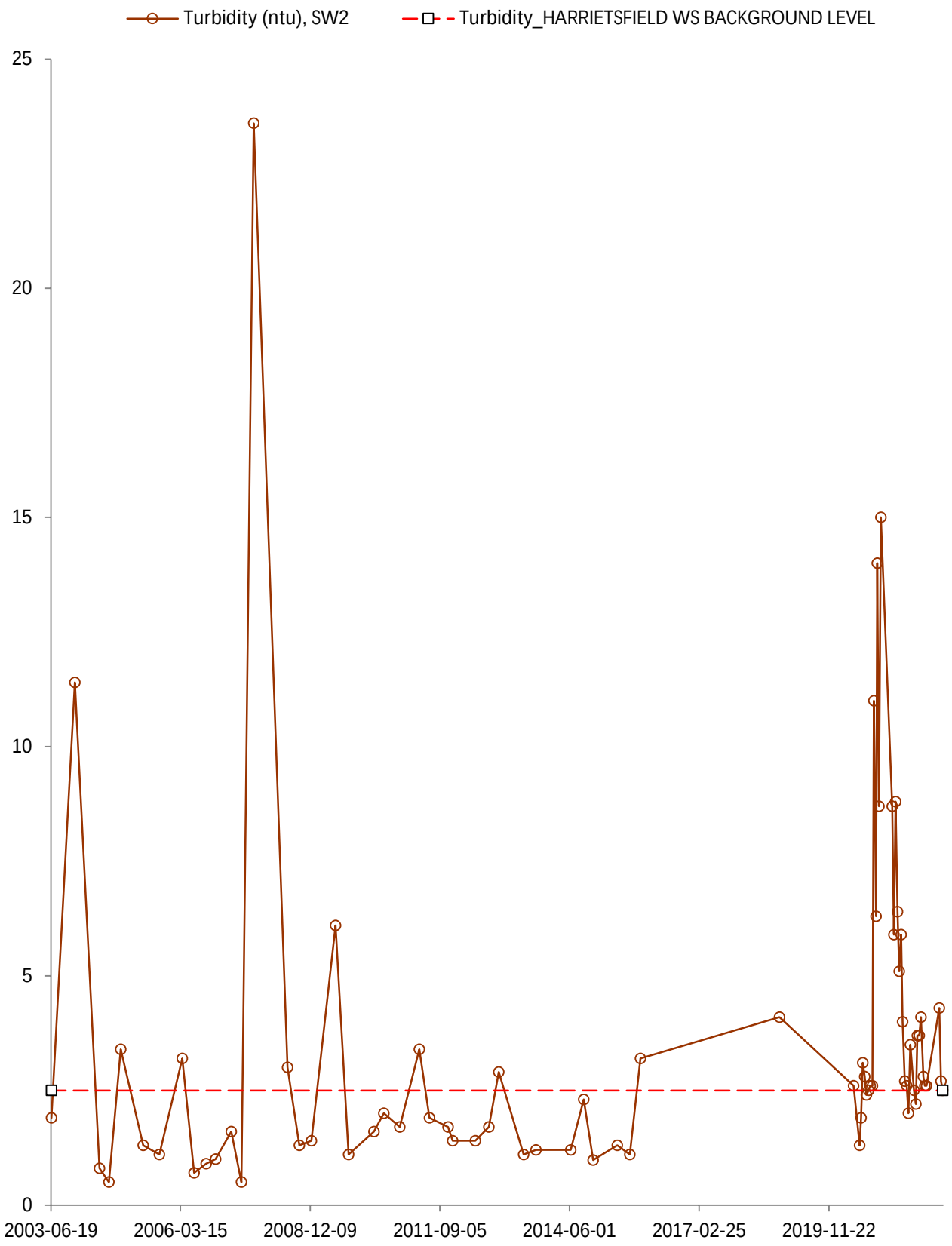
SW2-Total Organic Carbon



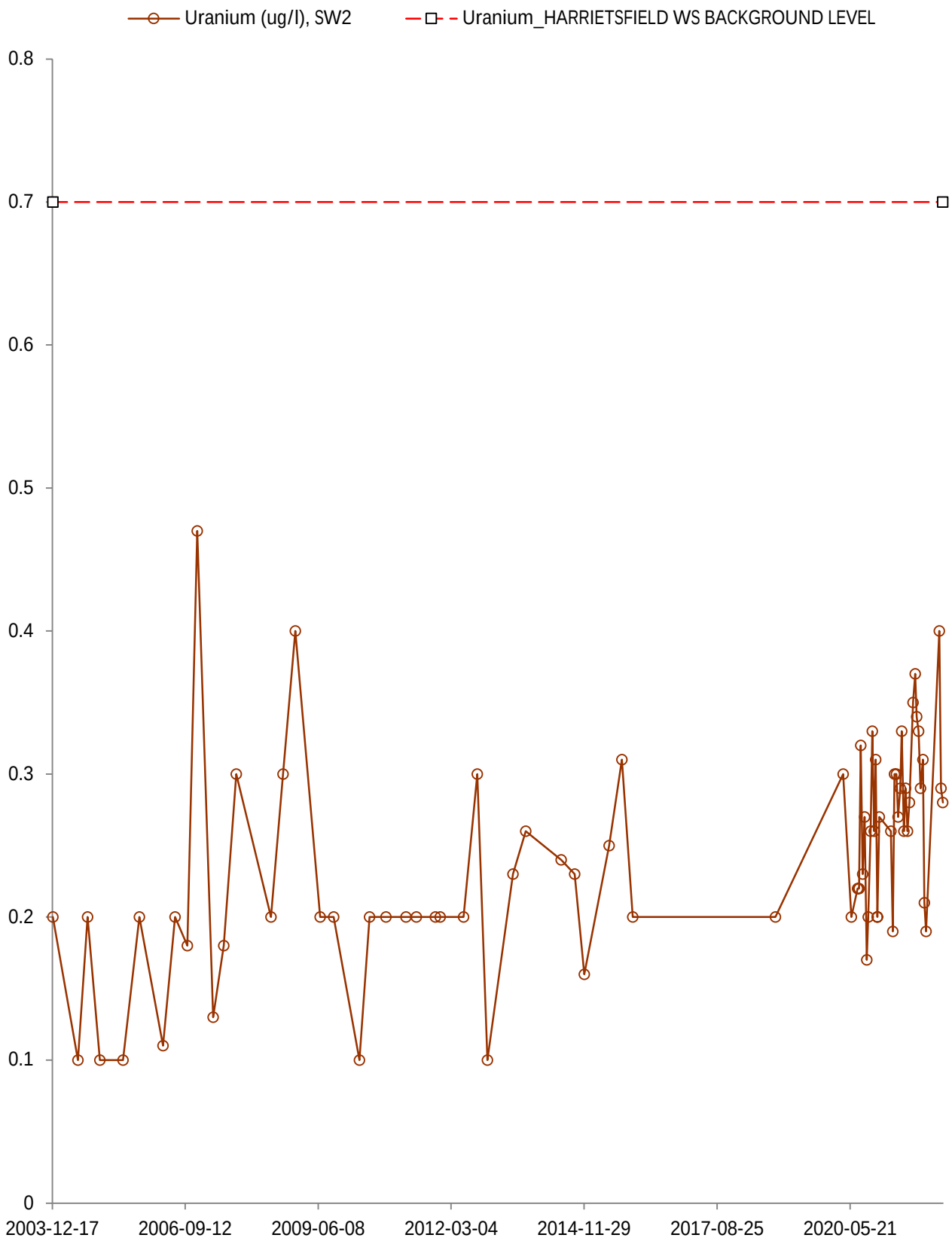
SW2-Total Suspended Solids



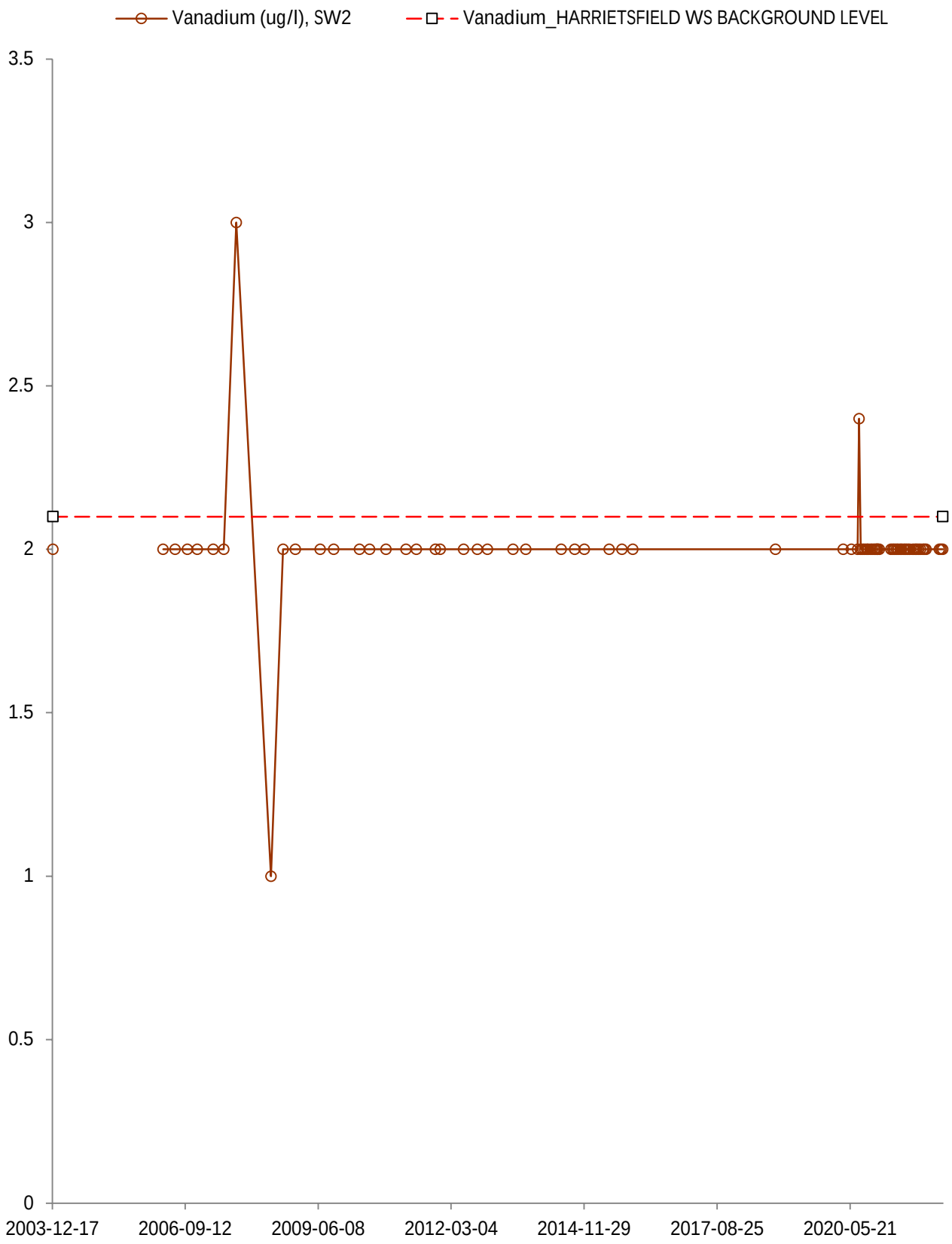
SW2-Turbidity



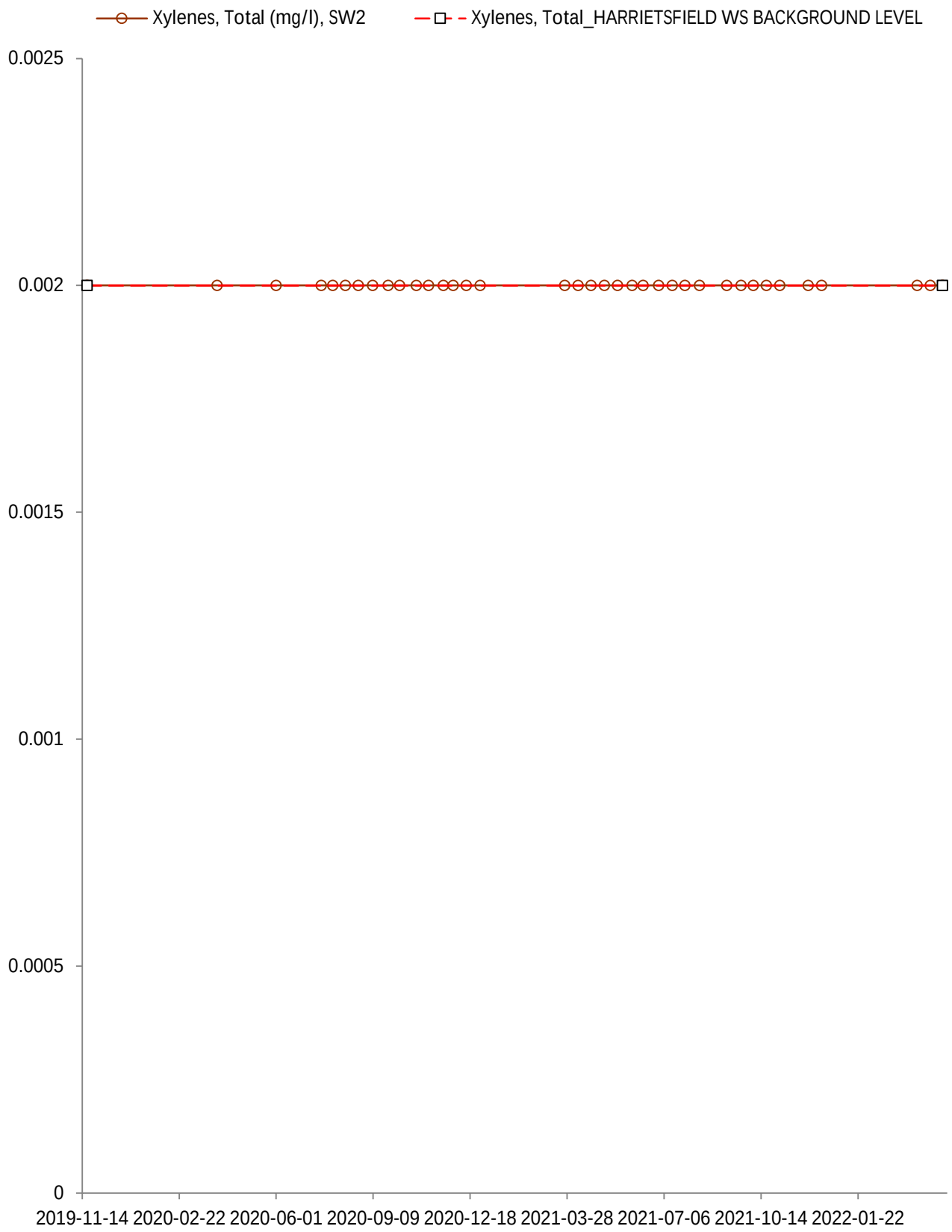
SW2-Uranium


Uranium (ug/l), SW2
Uranium_HARRIETSFIELD WS BACKGROUND LEVEL
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2003-12-17
2006-09-12
2009-06-08
2012-03-04
2014-11-29
2017-08-25
2020-05-21

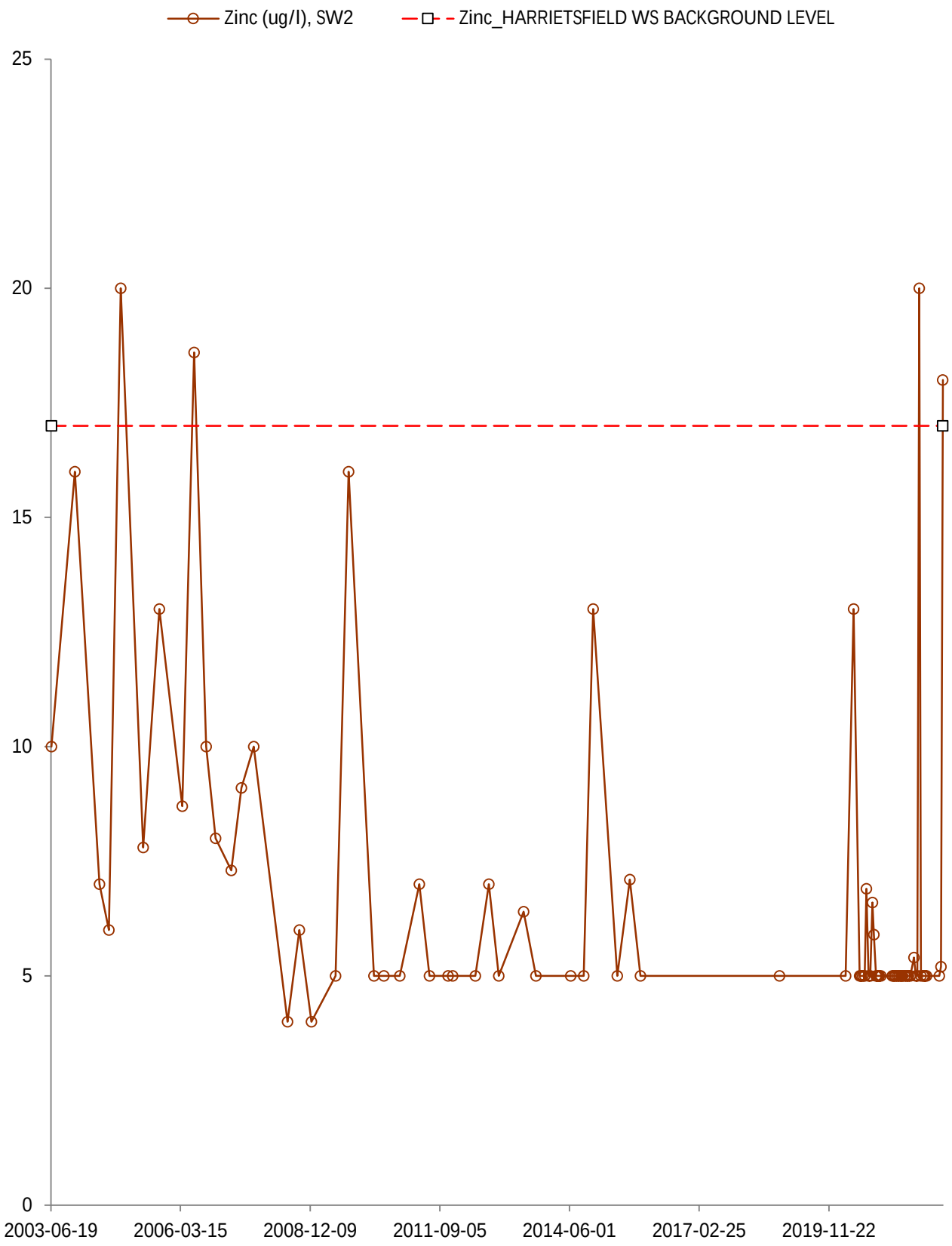
SW2-Vanadium



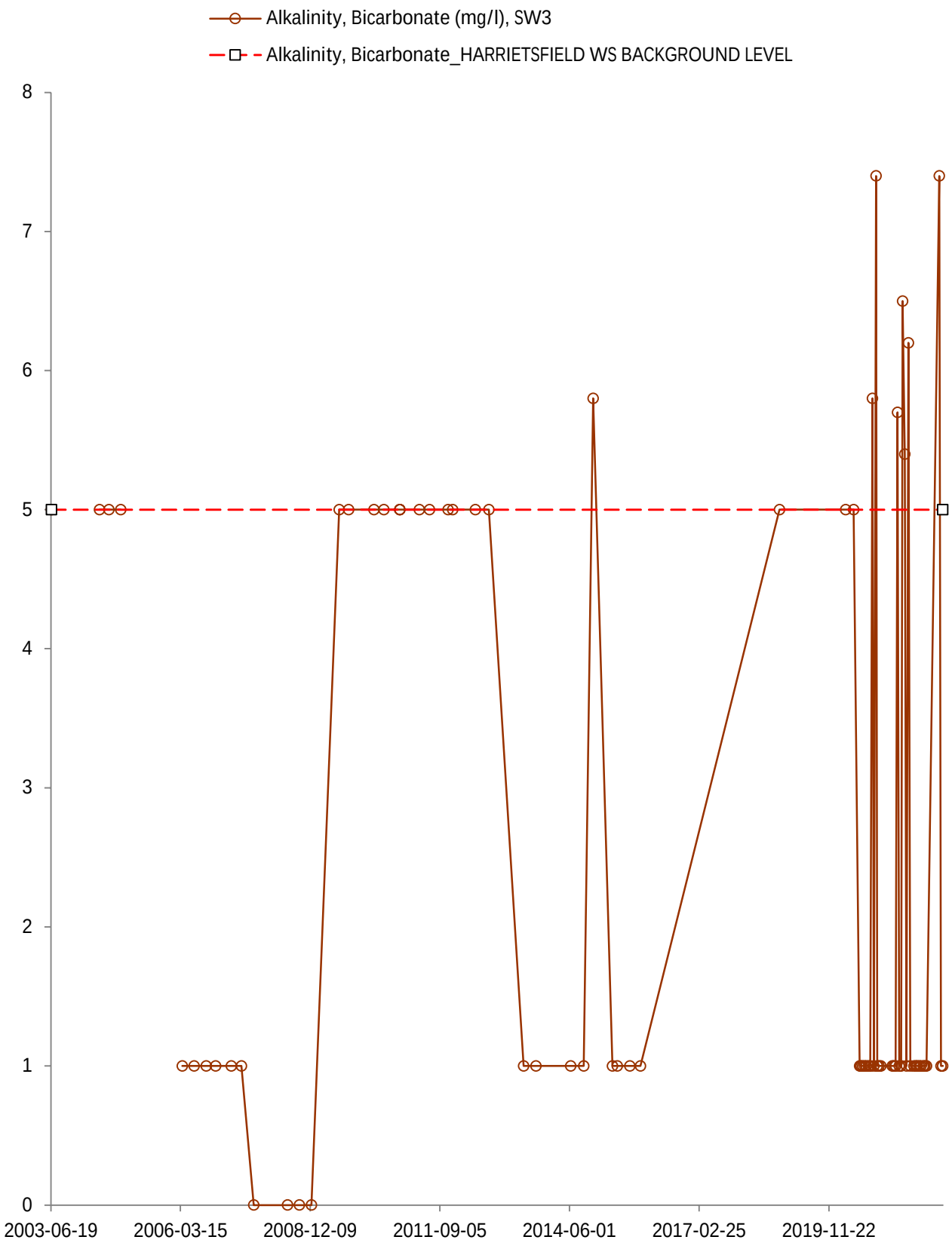
SW2-Xylenes, Total



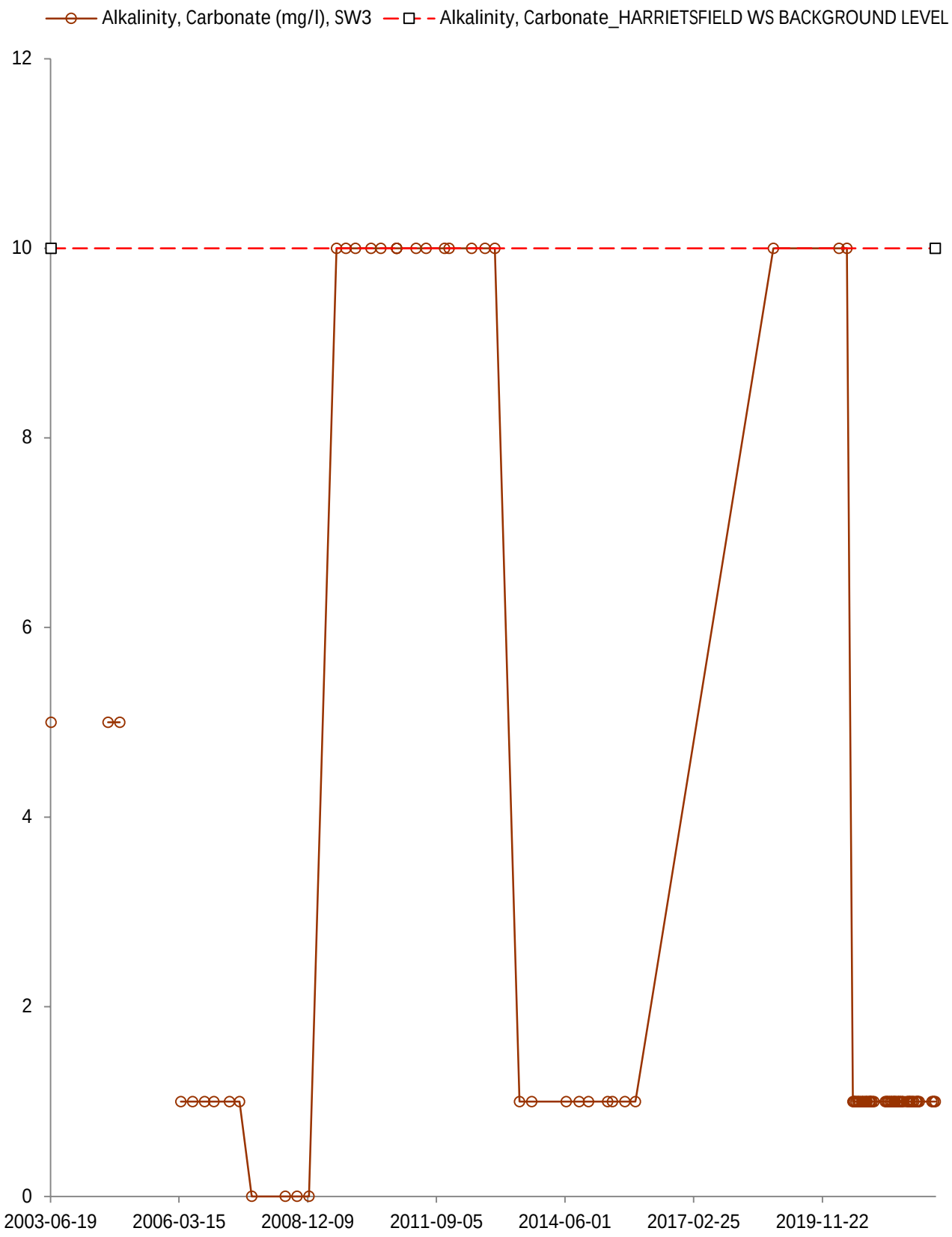
SW2-Zinc


Zinc (ug/l), SW2
Zinc_HARRIETSFIELD WS BACKGROUND LEVEL
25
20
15
10
5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

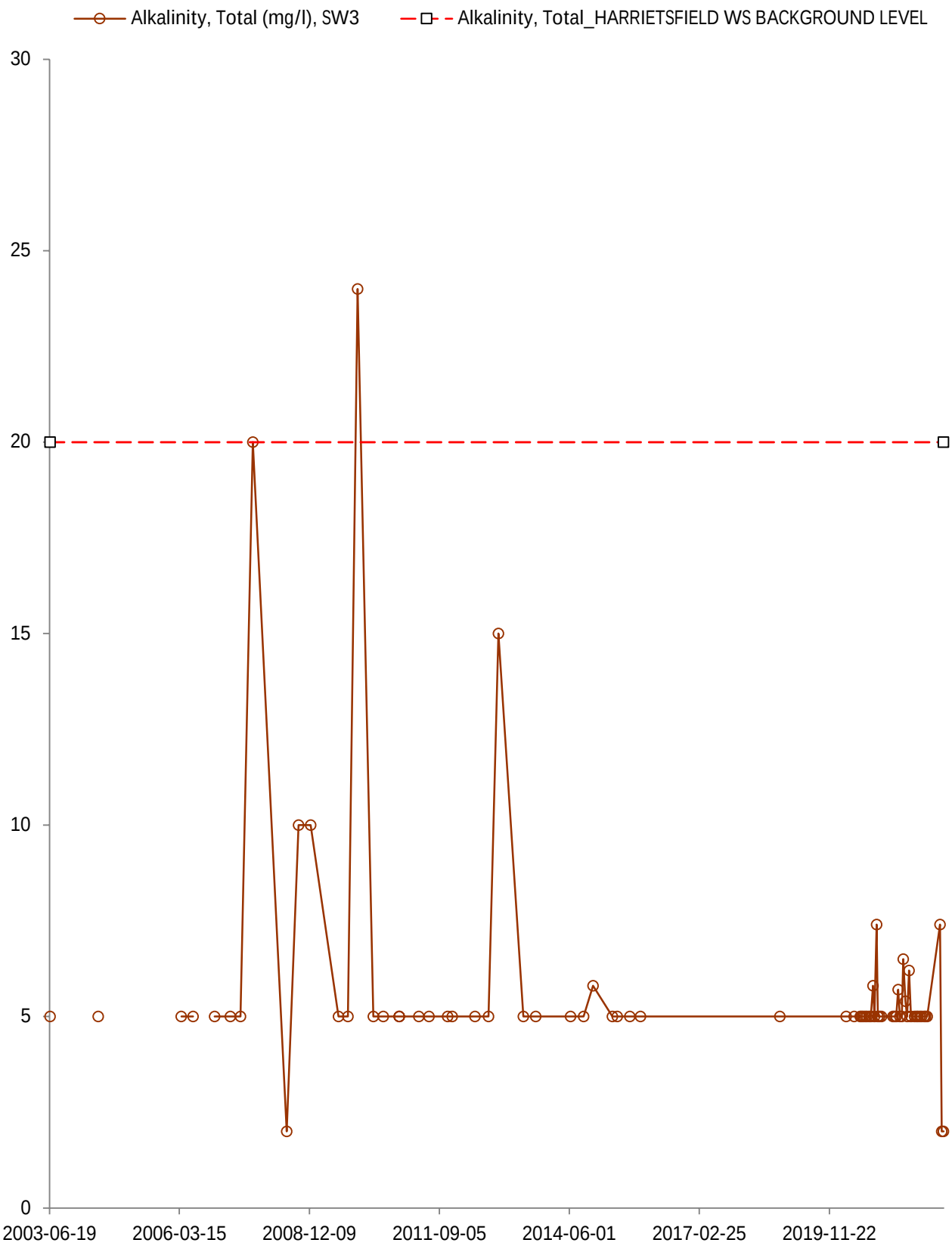
SW3-Alkalinity, Bicarbonate



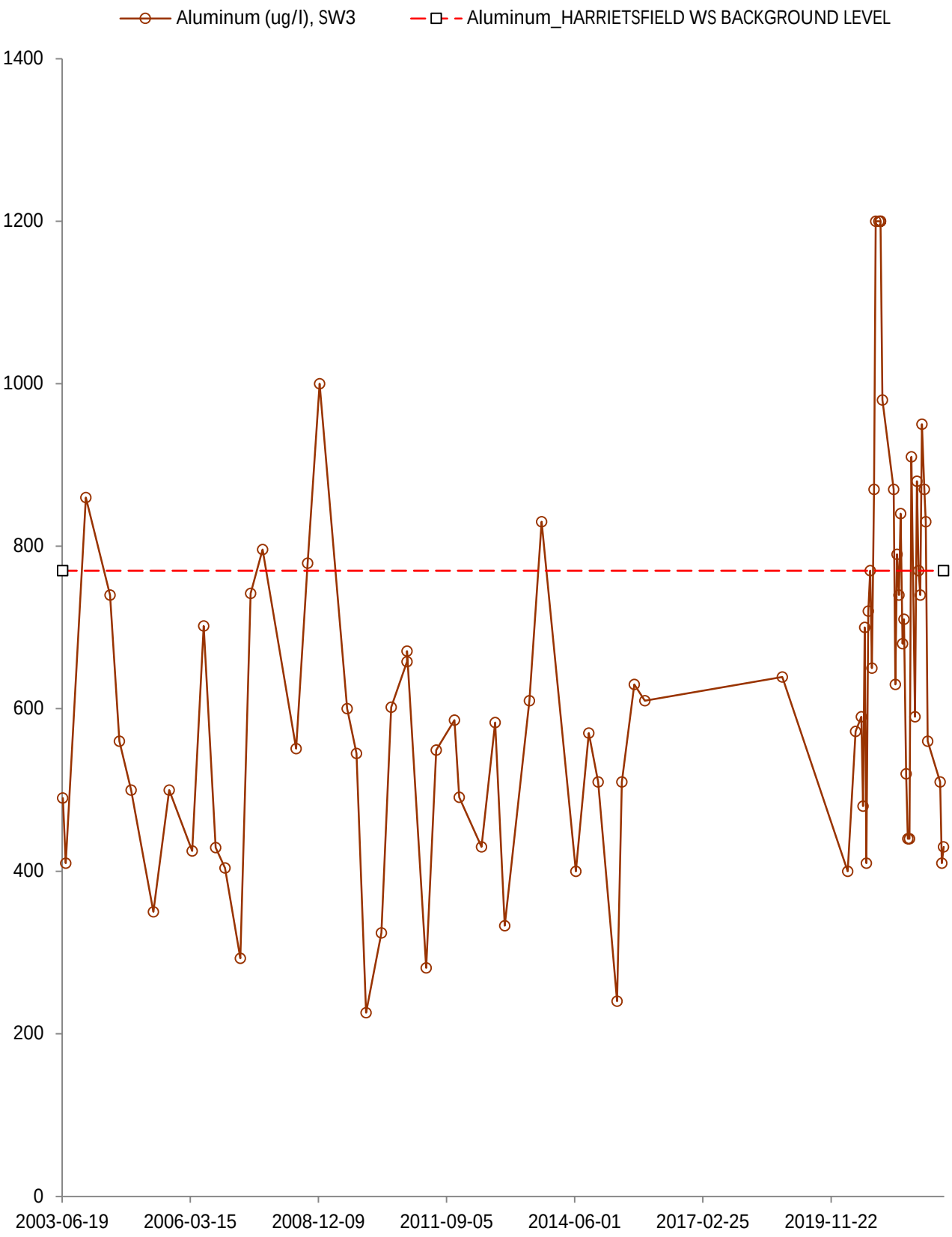
SW3-Alkalinity, Carbonate



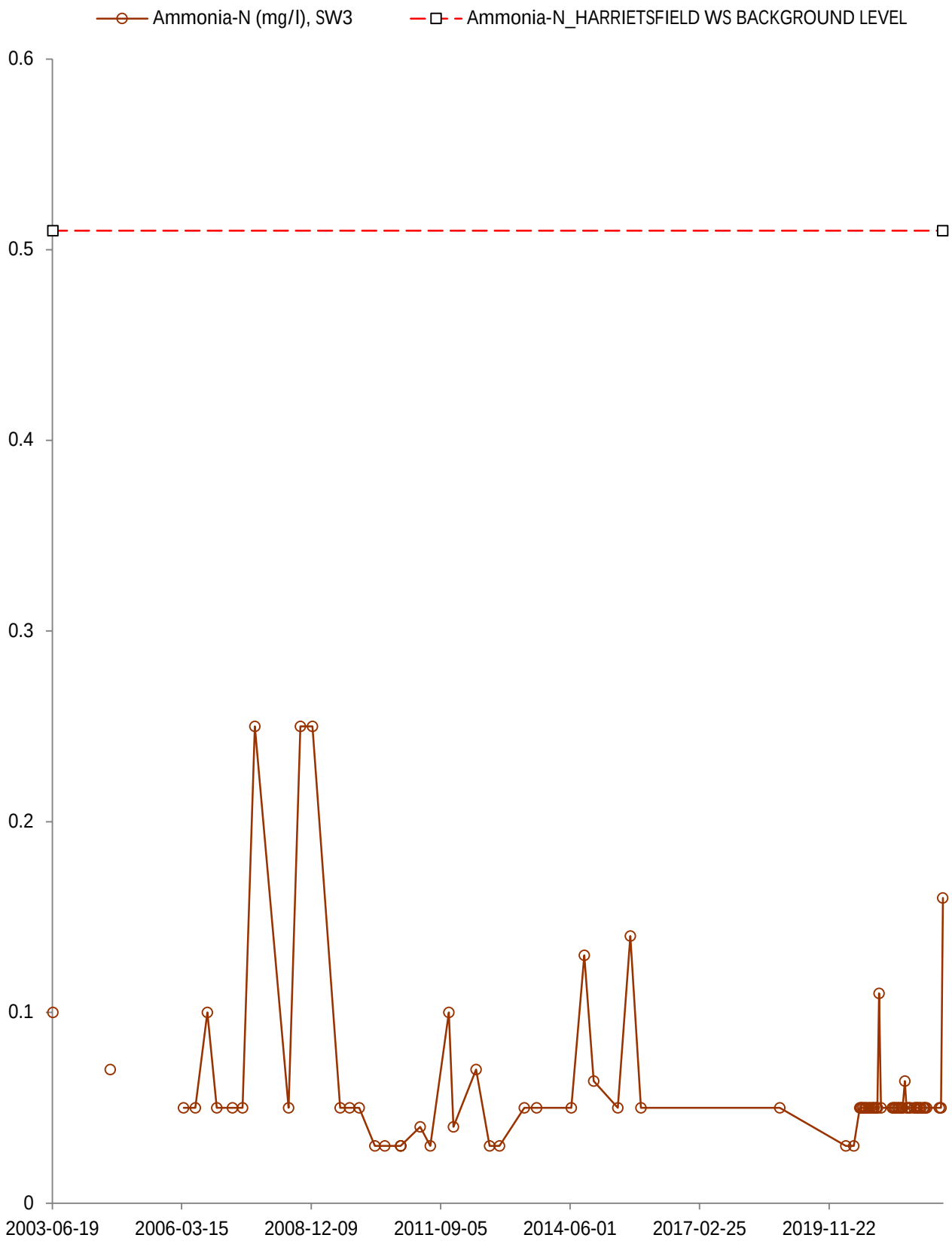
SW3-Alkalinity, Total



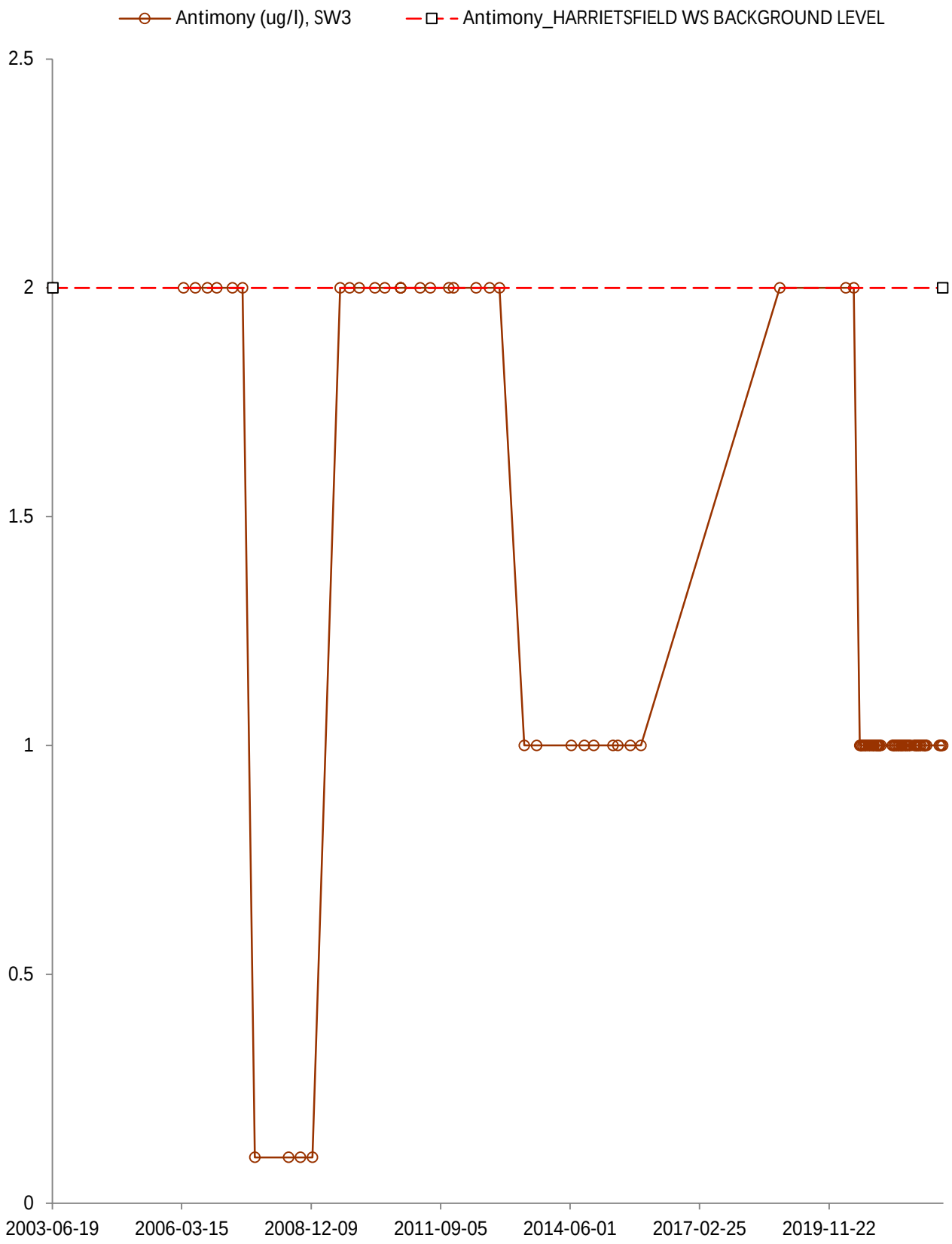
SW3-Aluminum



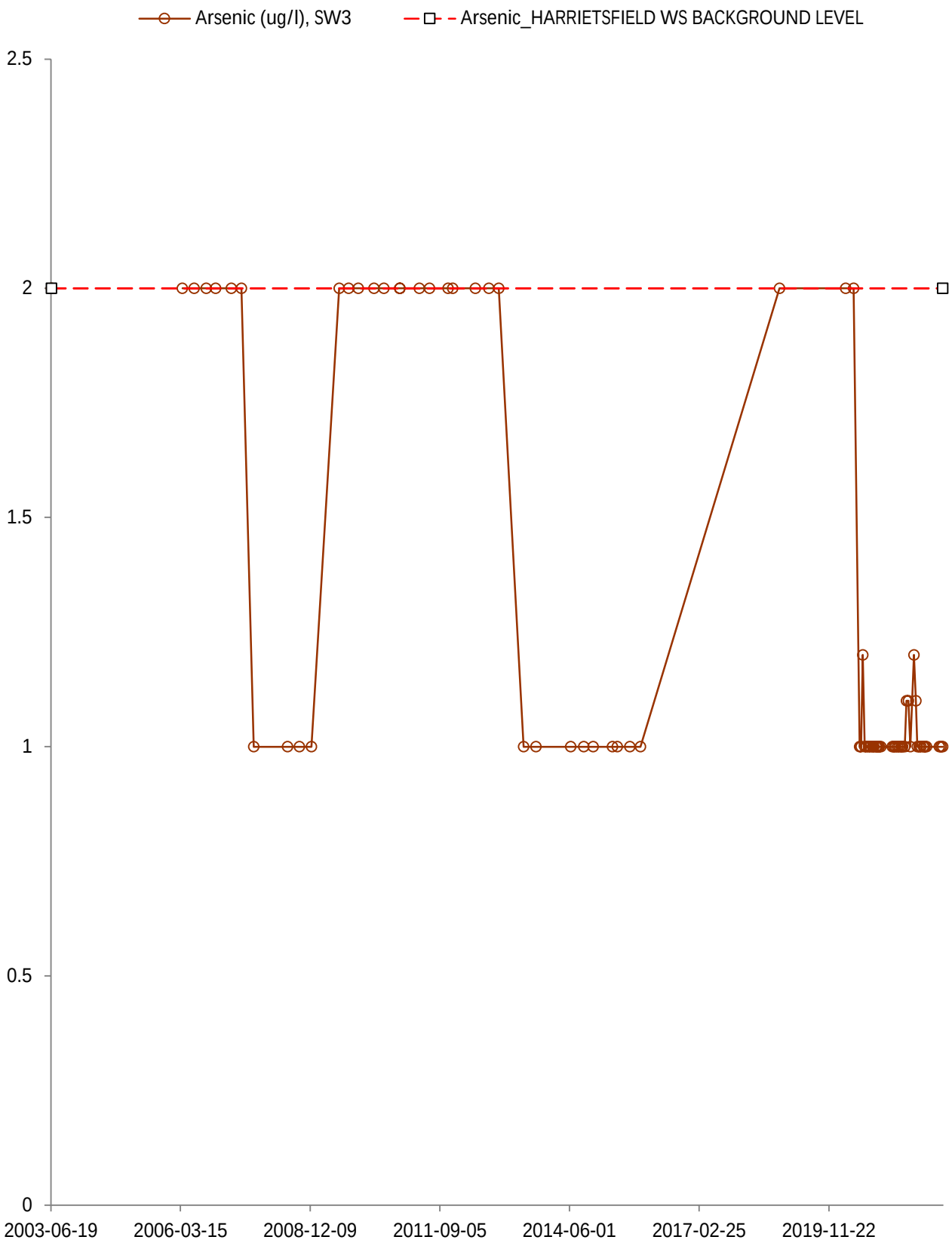
SW3-Ammonia-N



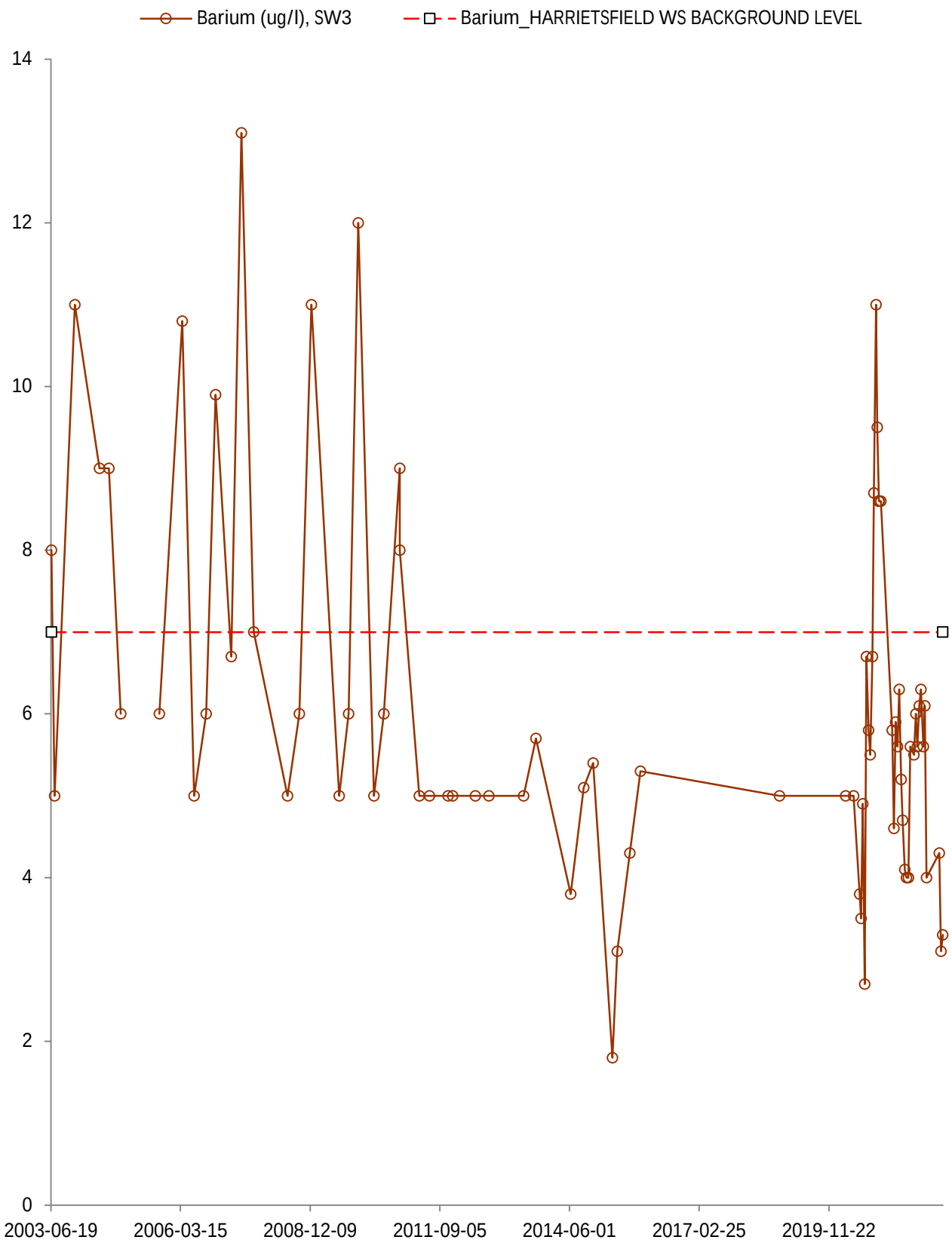
SW3-Antimony



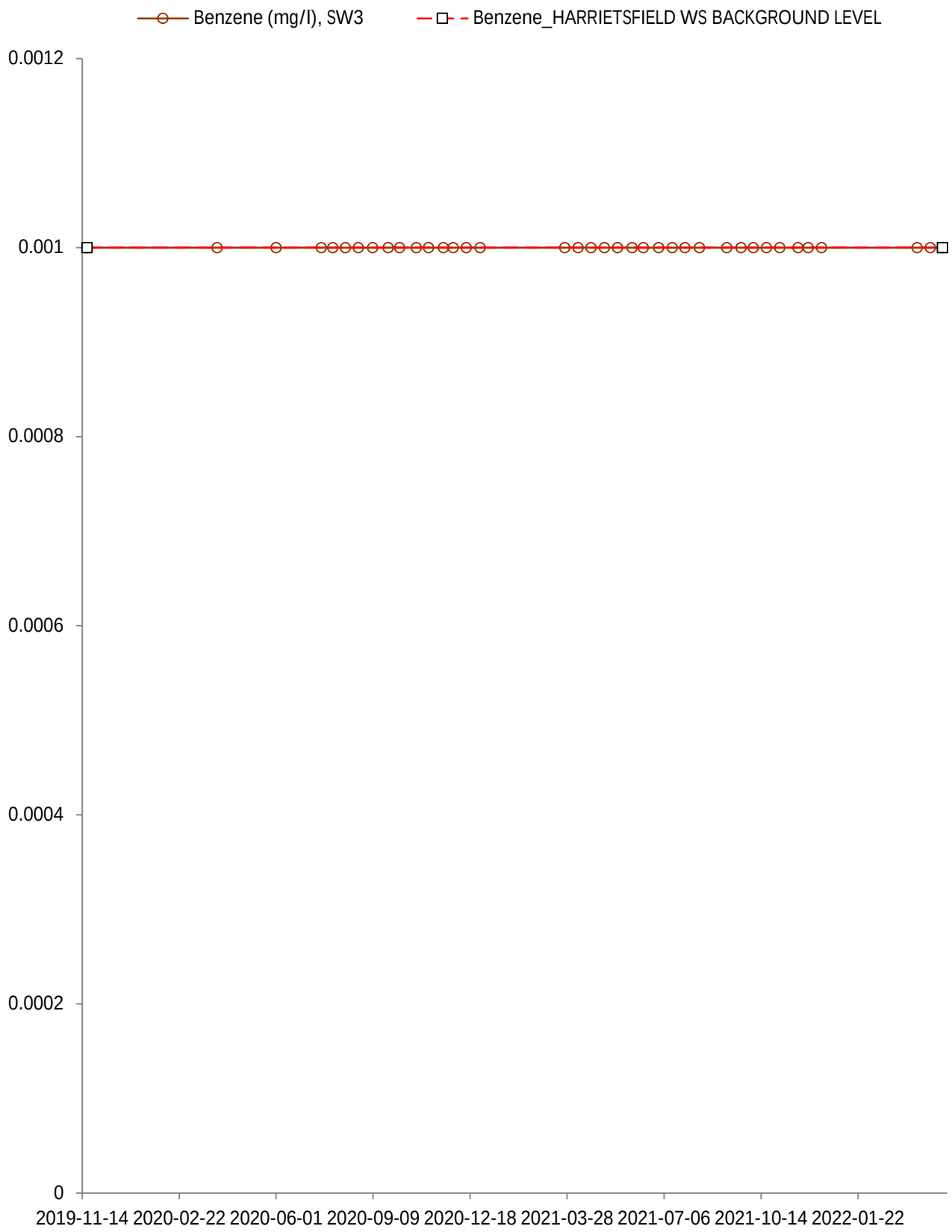
SW3-Arsenic


Arsenic (ug/l), SW3
Arsenic_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

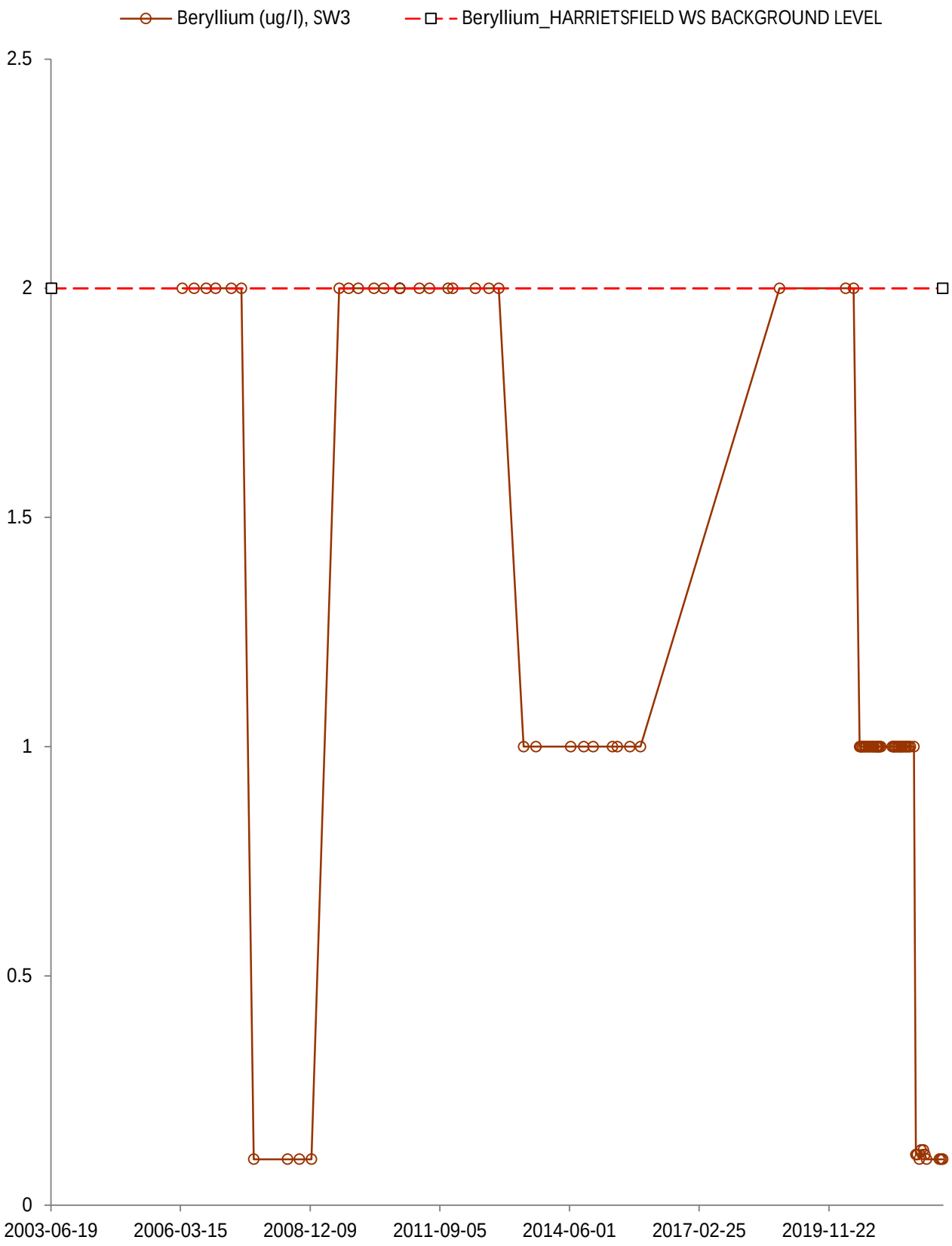
SW3-Barium


Barium (ug/l), SW3
Barium_HARRIETSFIELD WS BACKGROUND LEVEL
14
12
10
8
6
4
2
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

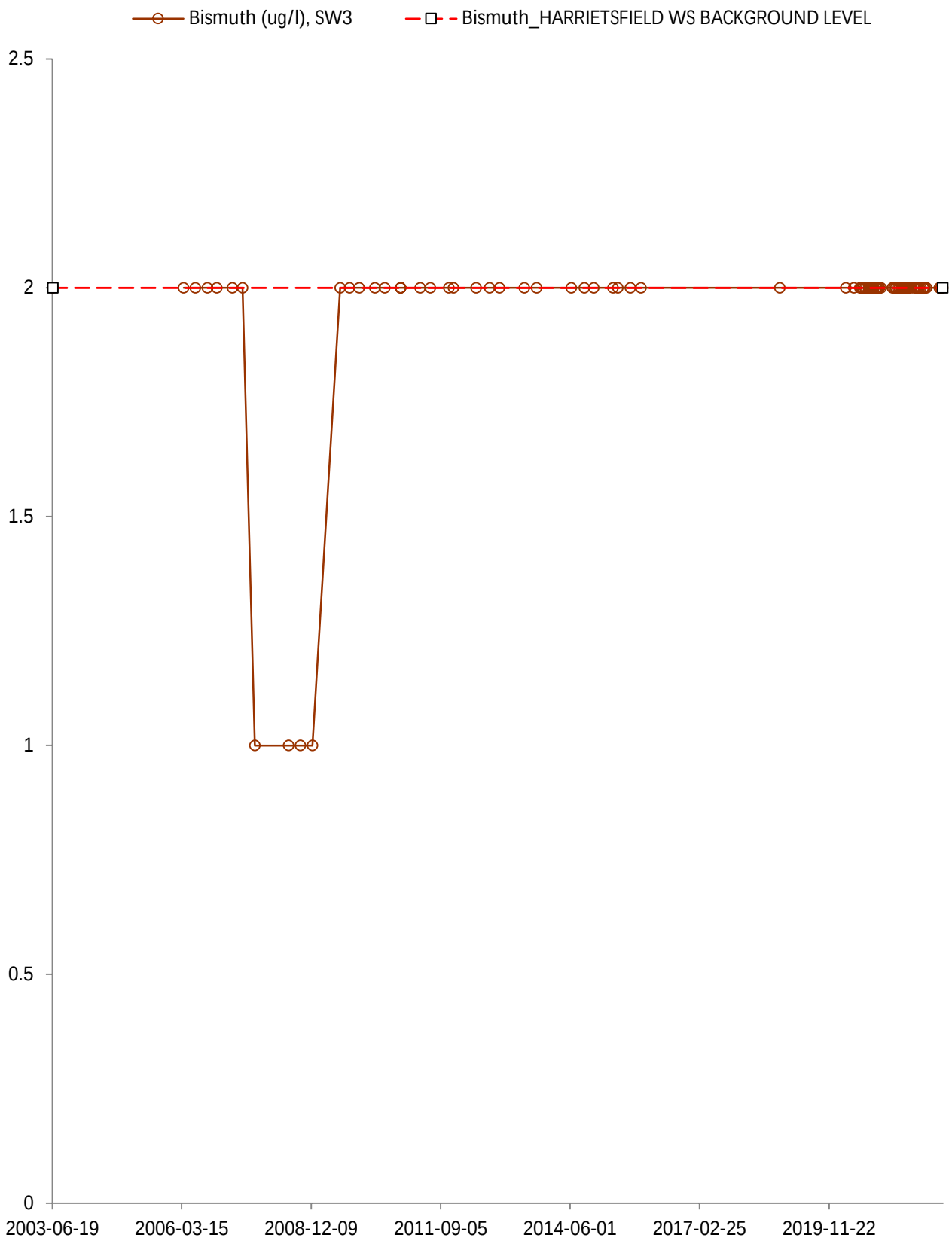
SW3-Benzene


Benzene (mg/l), SW3
Benzene_HARRIETSFIELD WS BACKGROUND LEVEL
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
2019-11-14
2020-02-22
2020-06-01
2020-09-09
2020-12-18
2021-03-28
2021-07-06
2021-10-14
2022-01-22

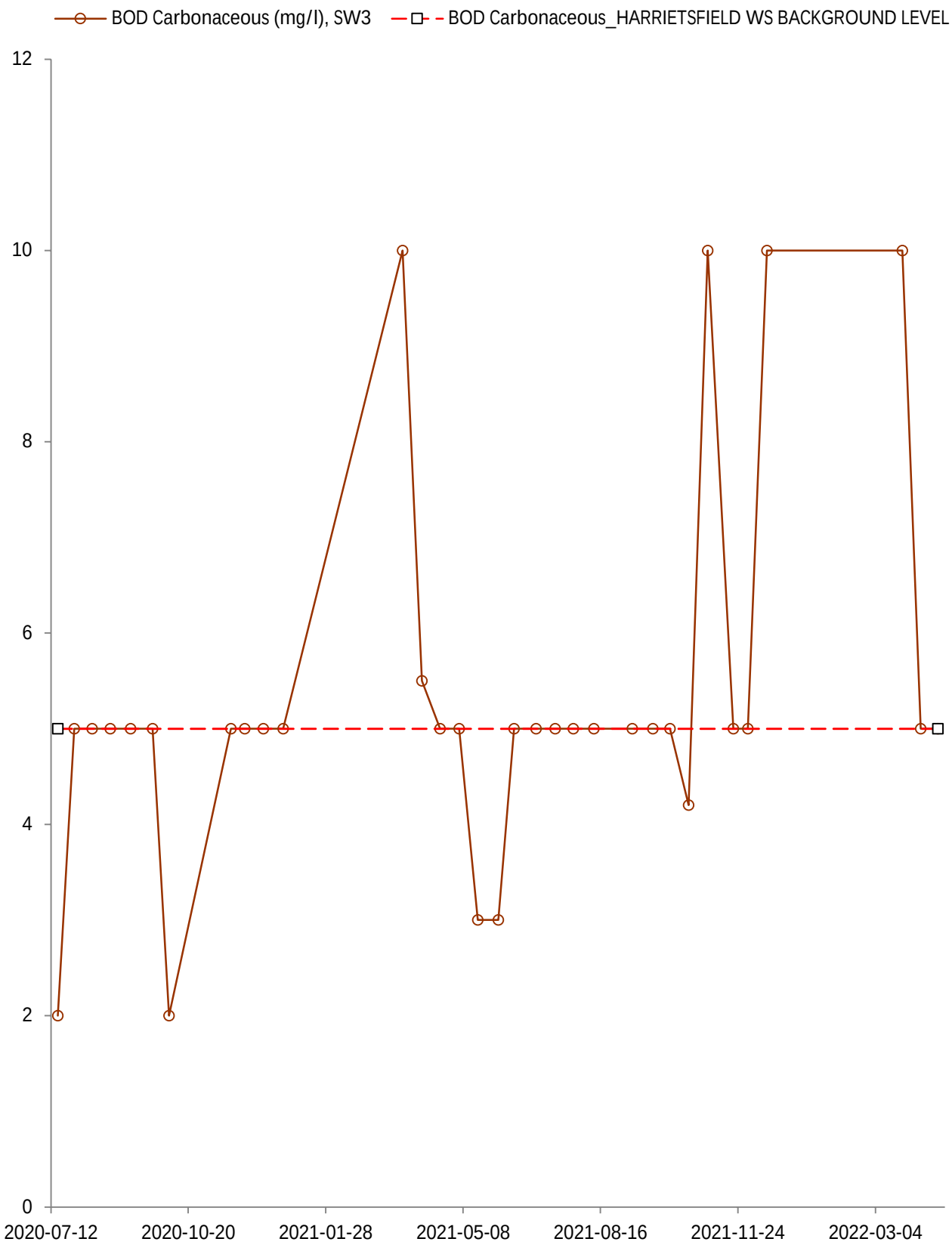
SW3-Beryllium



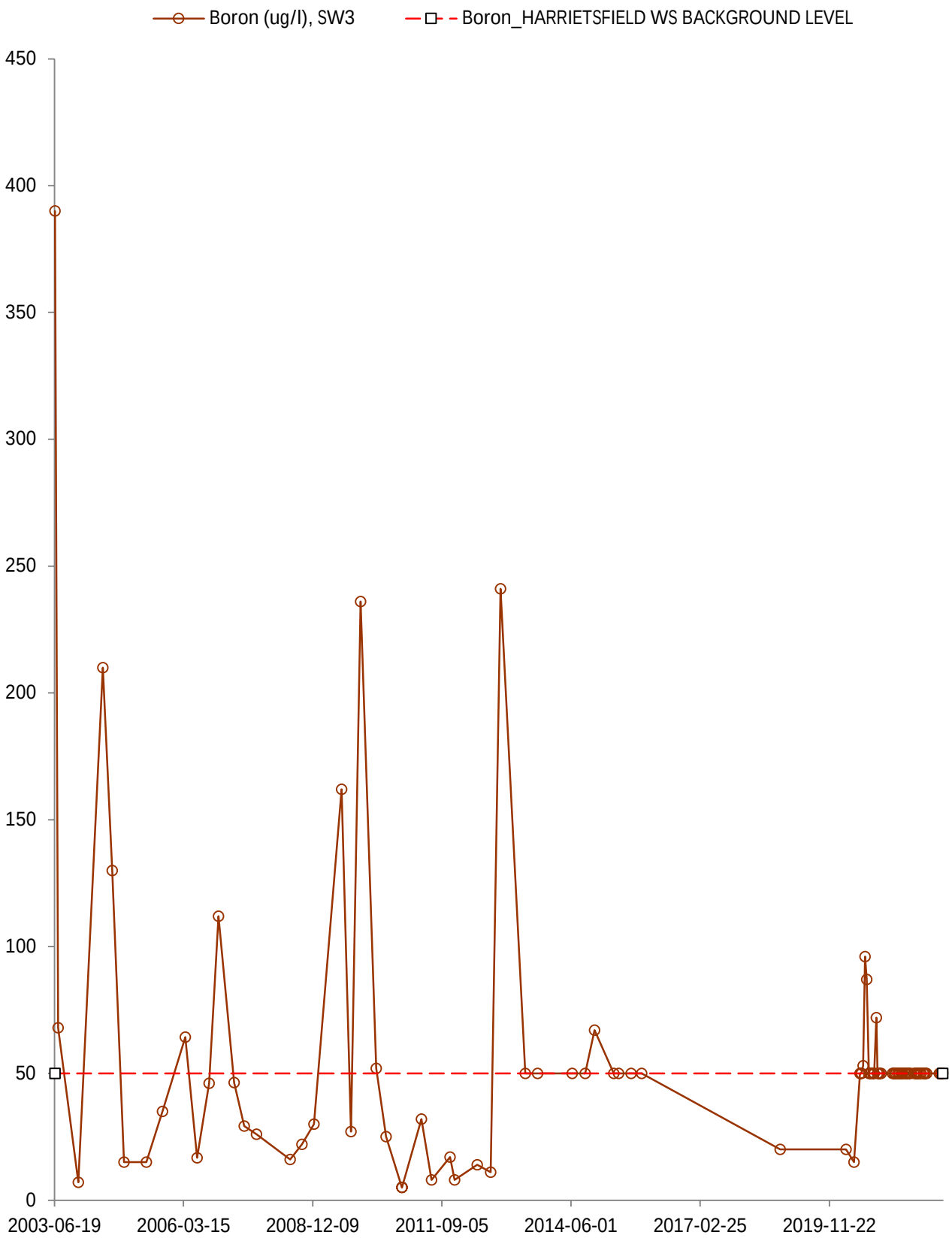
SW3-Bismuth


Bismuth (ug/l), SW3
Bismuth_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

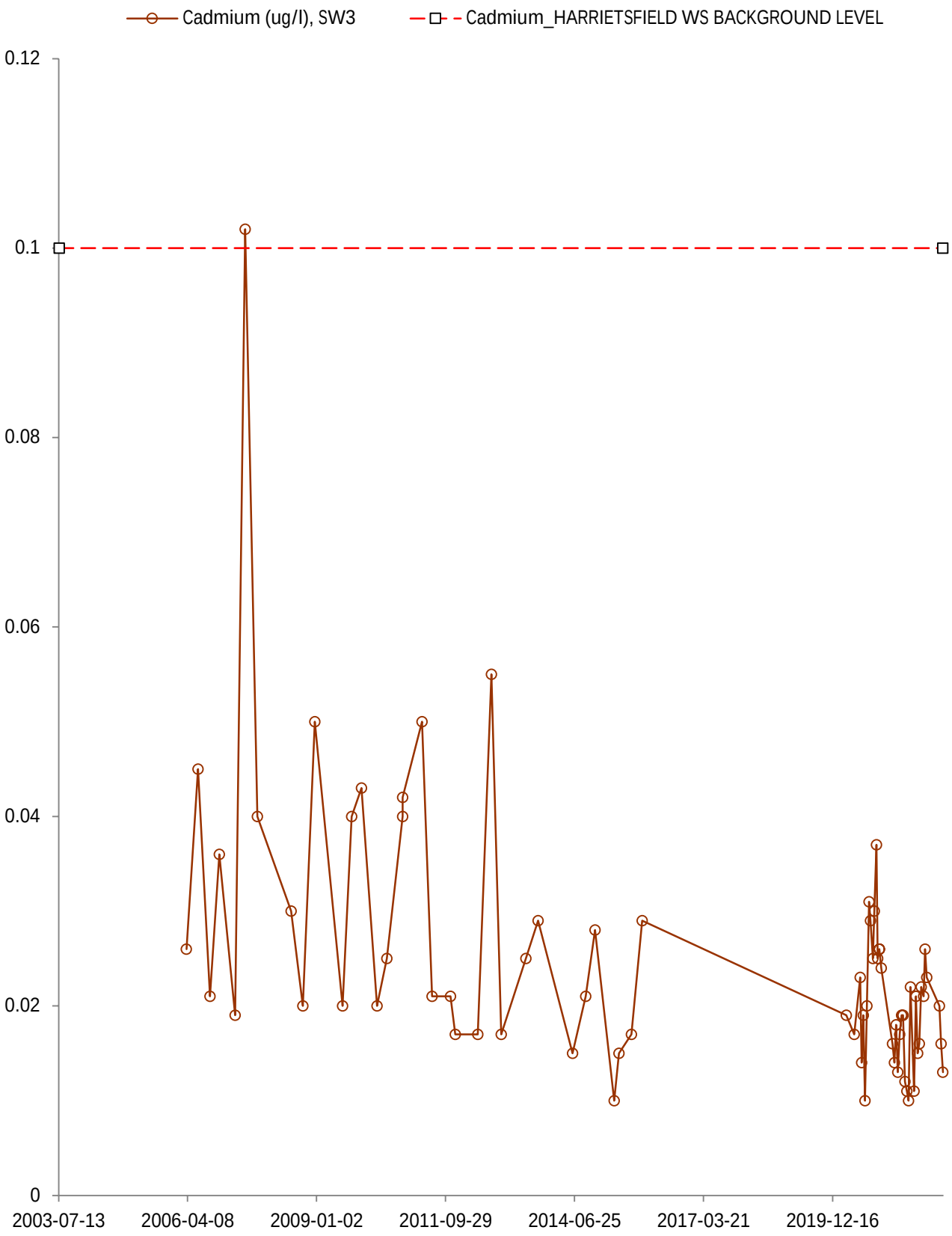
SW3-BOD Carbonaceous



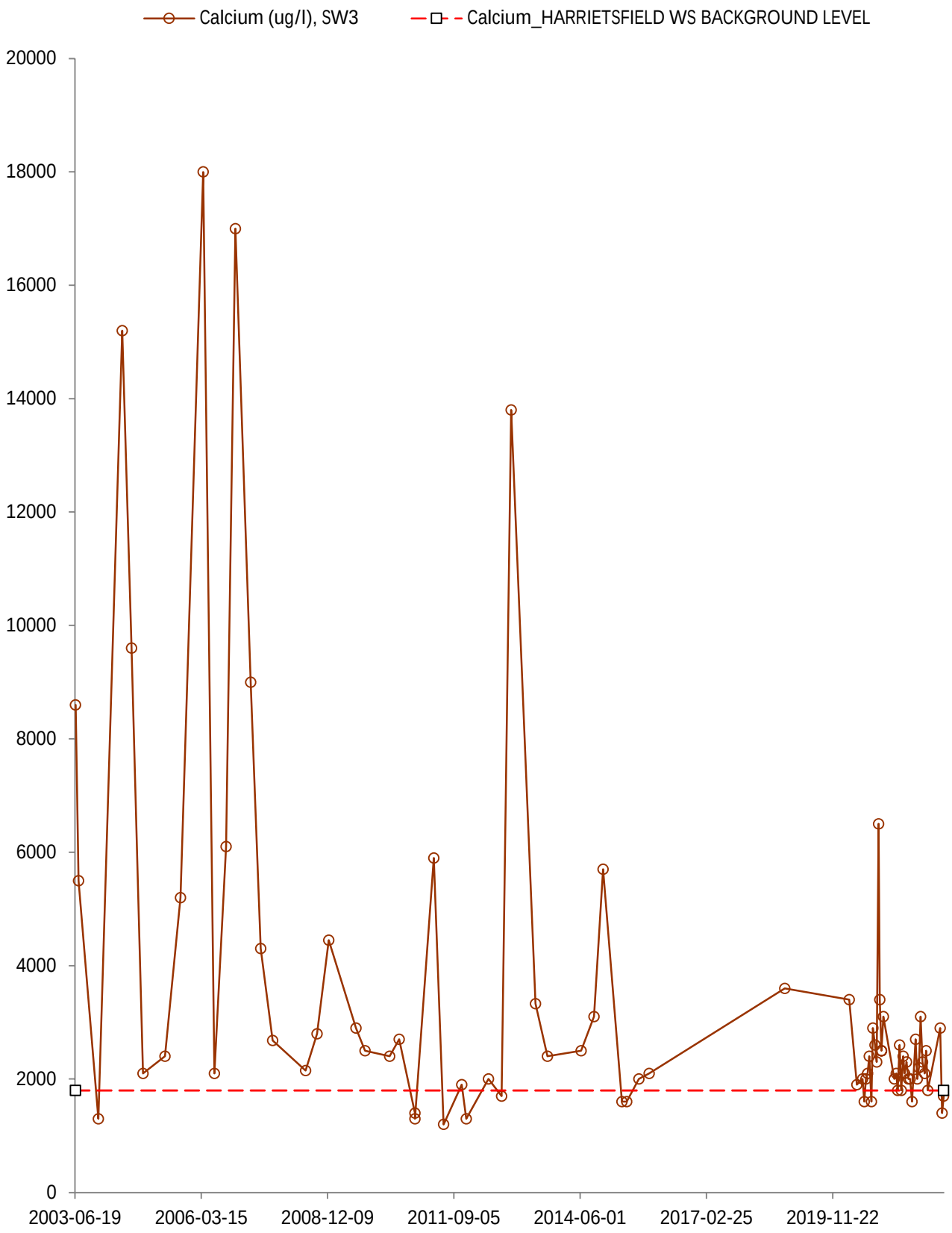
SW3-Boron


Boron (ug/l), SW3
Boron_HARRIETSFIELD WS BACKGROUND LEVEL
450
400
350
300
250
200
150
100
50
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

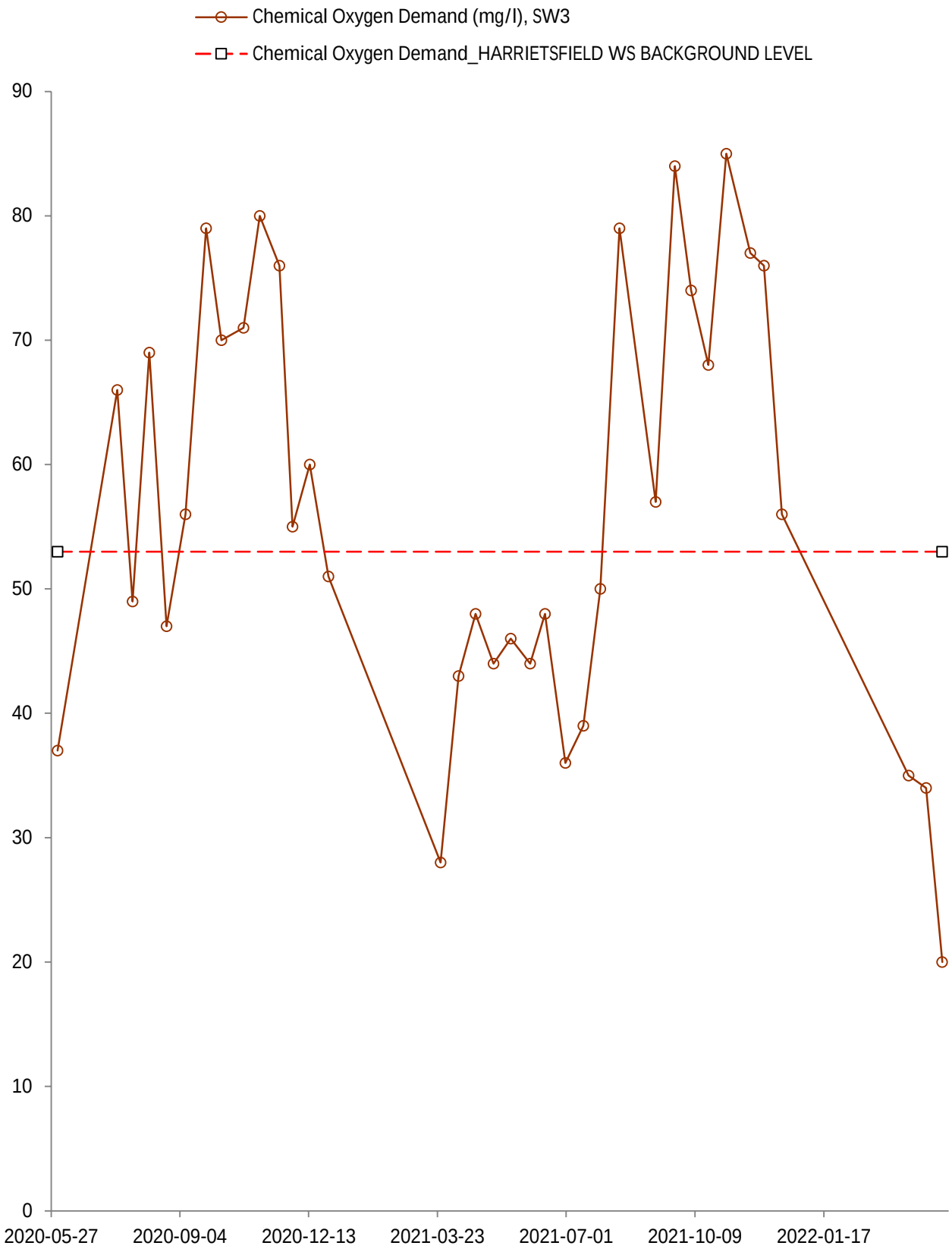
SW3-Cadmium


Cadmium (ug/l), SW3
Cadmium_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2003-07-13
2006-04-08
2009-01-02
2011-09-29
2014-06-25
2017-03-21
2019-12-16

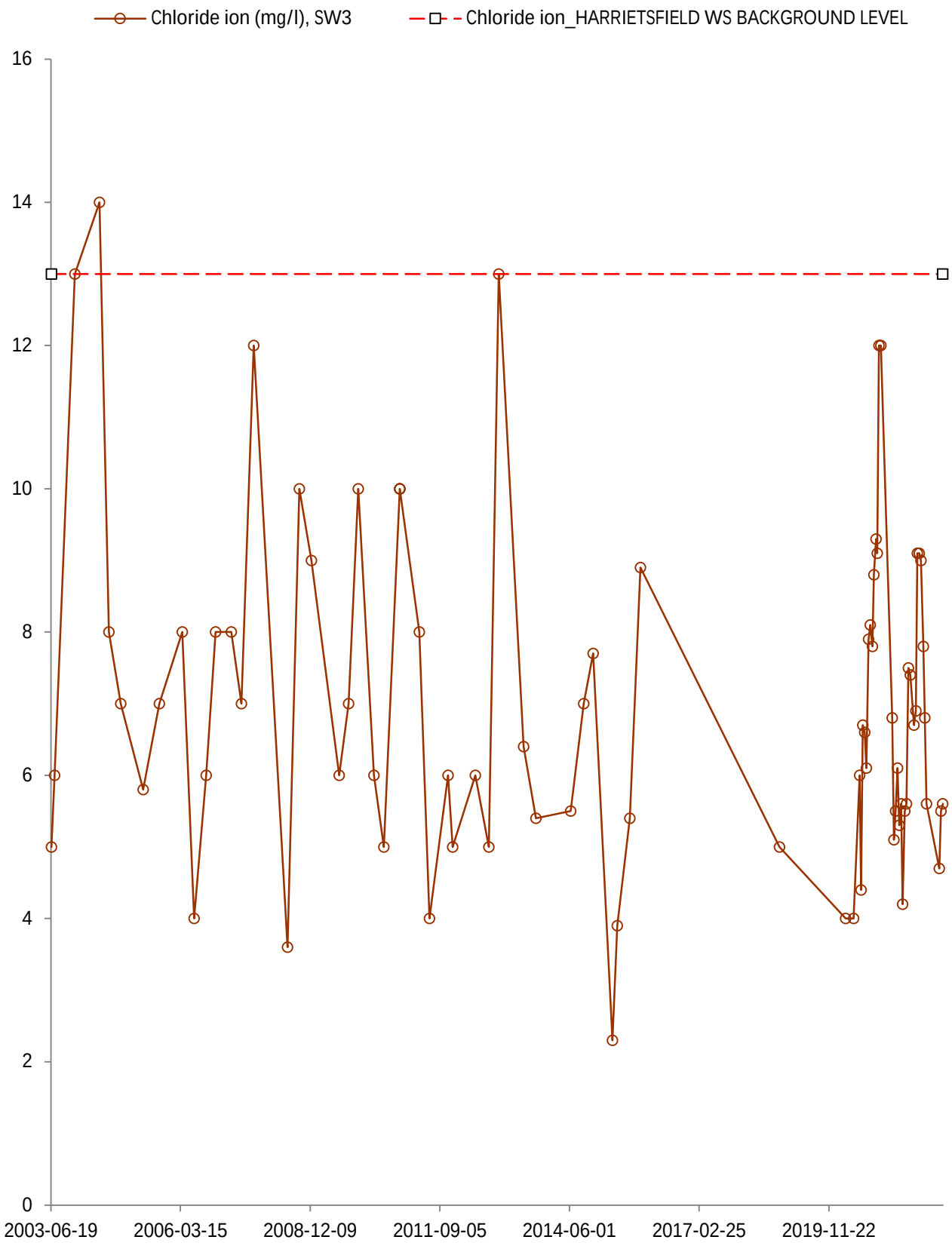
SW3-Calcium


Calcium (ug/l), SW3
Calcium_HARRIETSFIELD WS BACKGROUND LEVEL
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

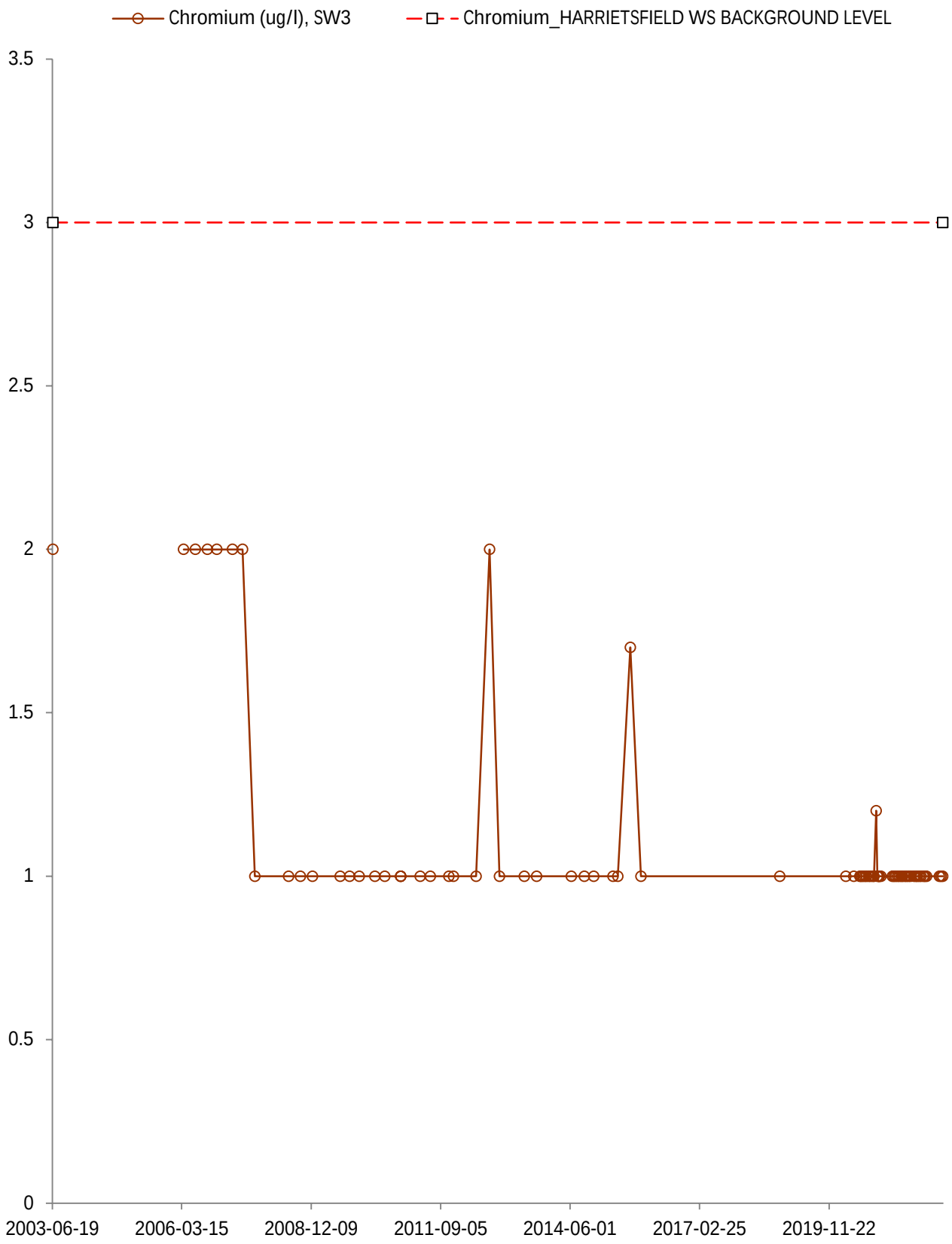
SW3-Chemical Oxygen Demand



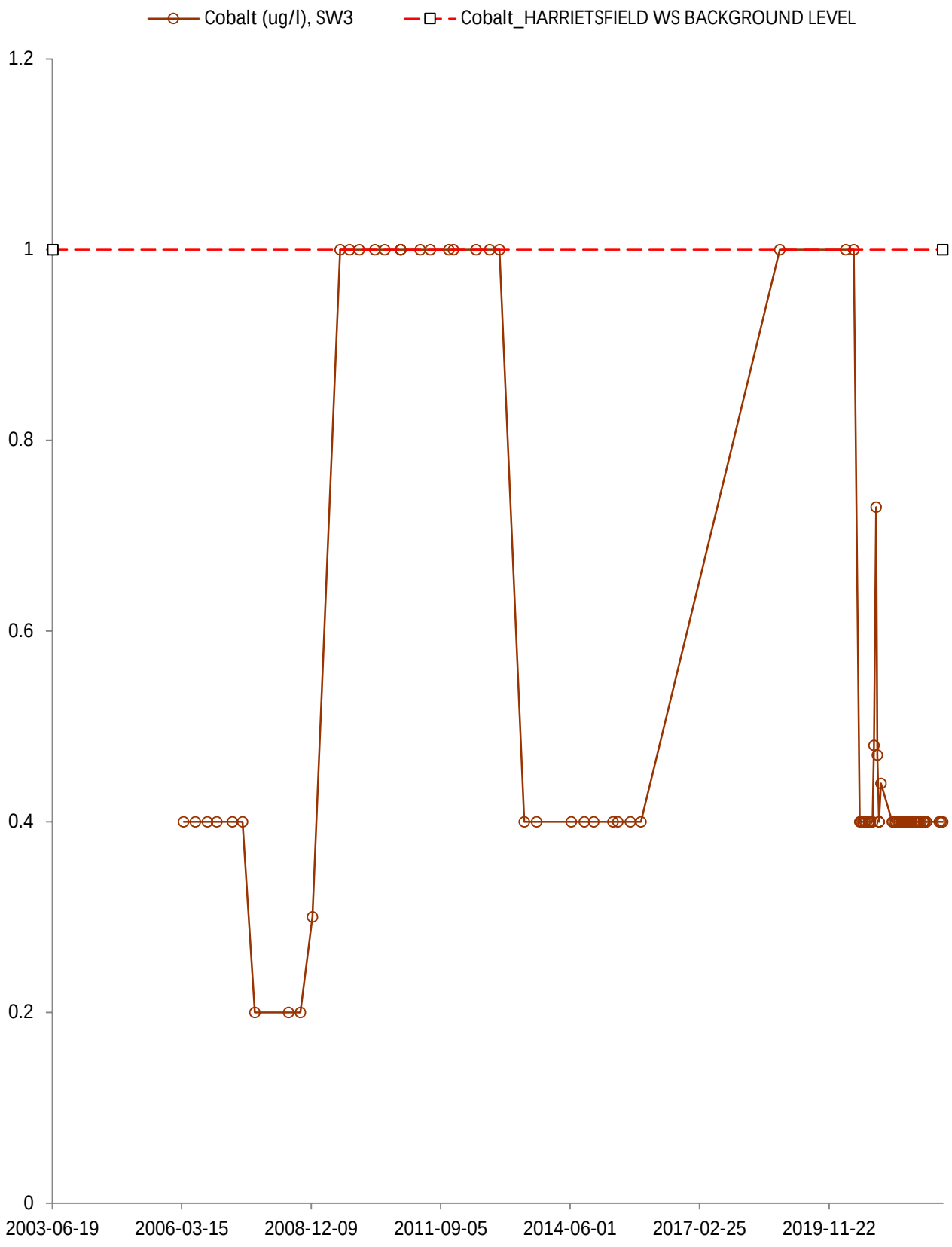
SW3-Chloride ion



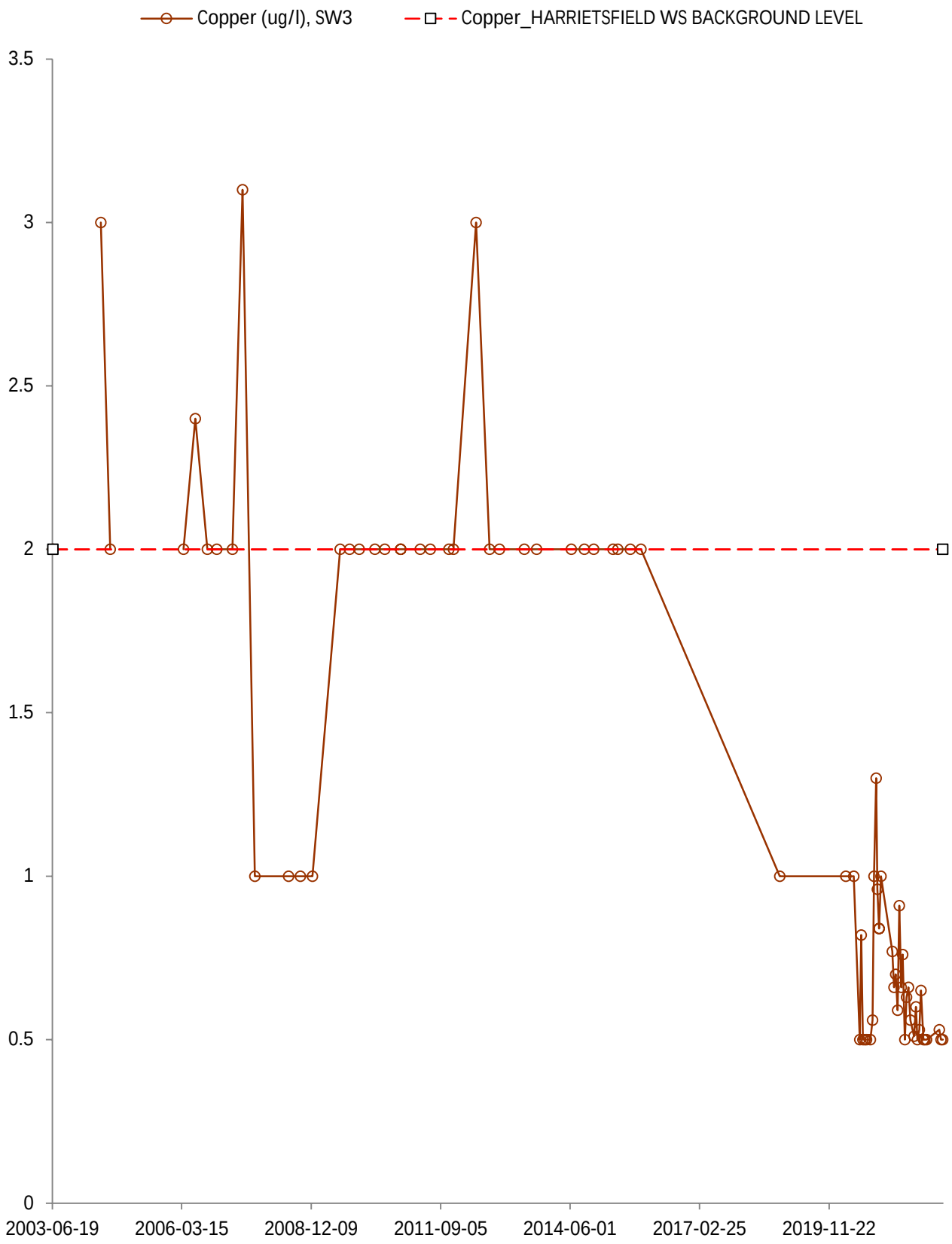
SW3-Chromium



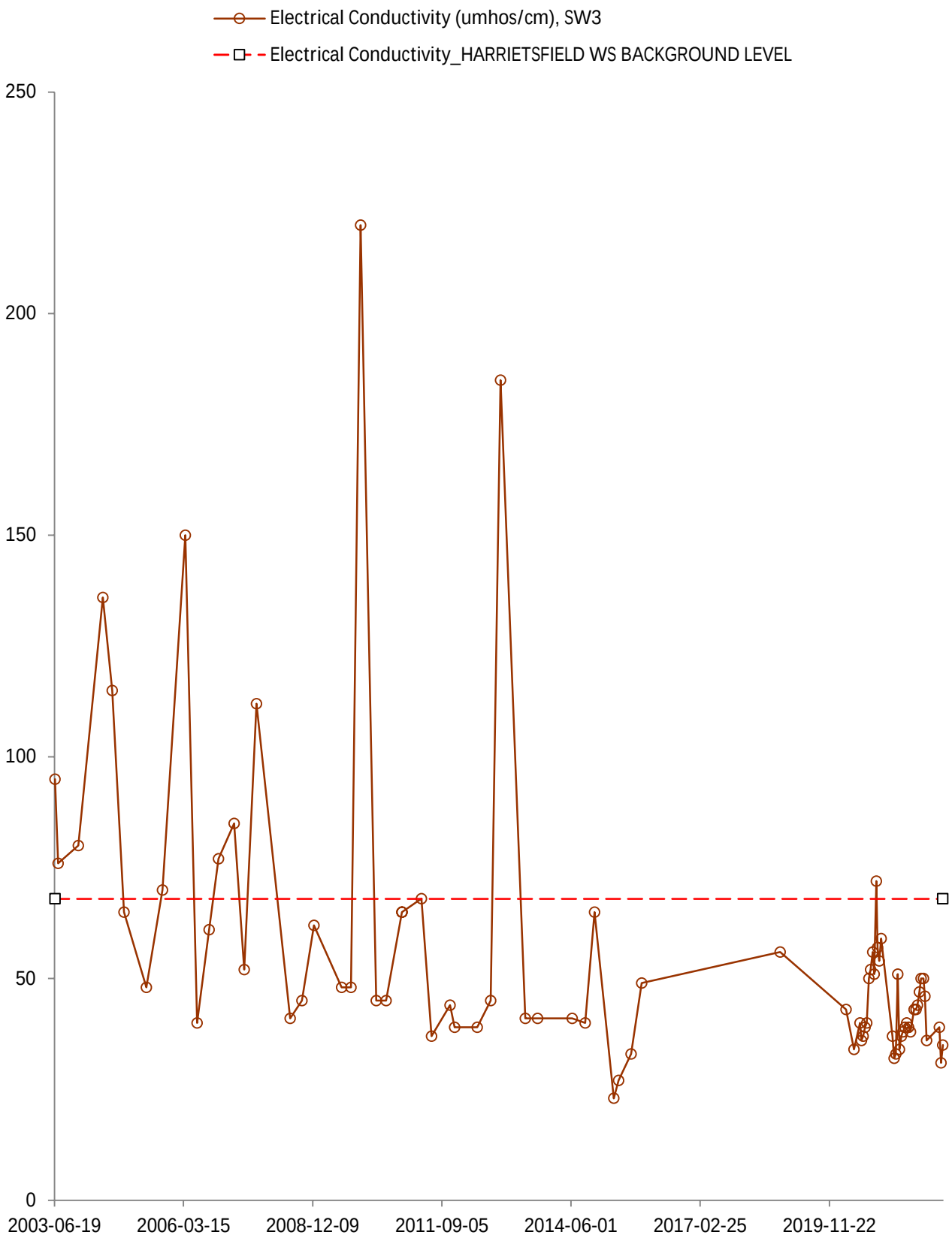
SW3-Cobalt


Cobalt (ug/l), SW3
Cobalt_HARRIETSFIELD WS BACKGROUND LEVEL
1.2
1
0.8
0.6
0.4
0.2
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

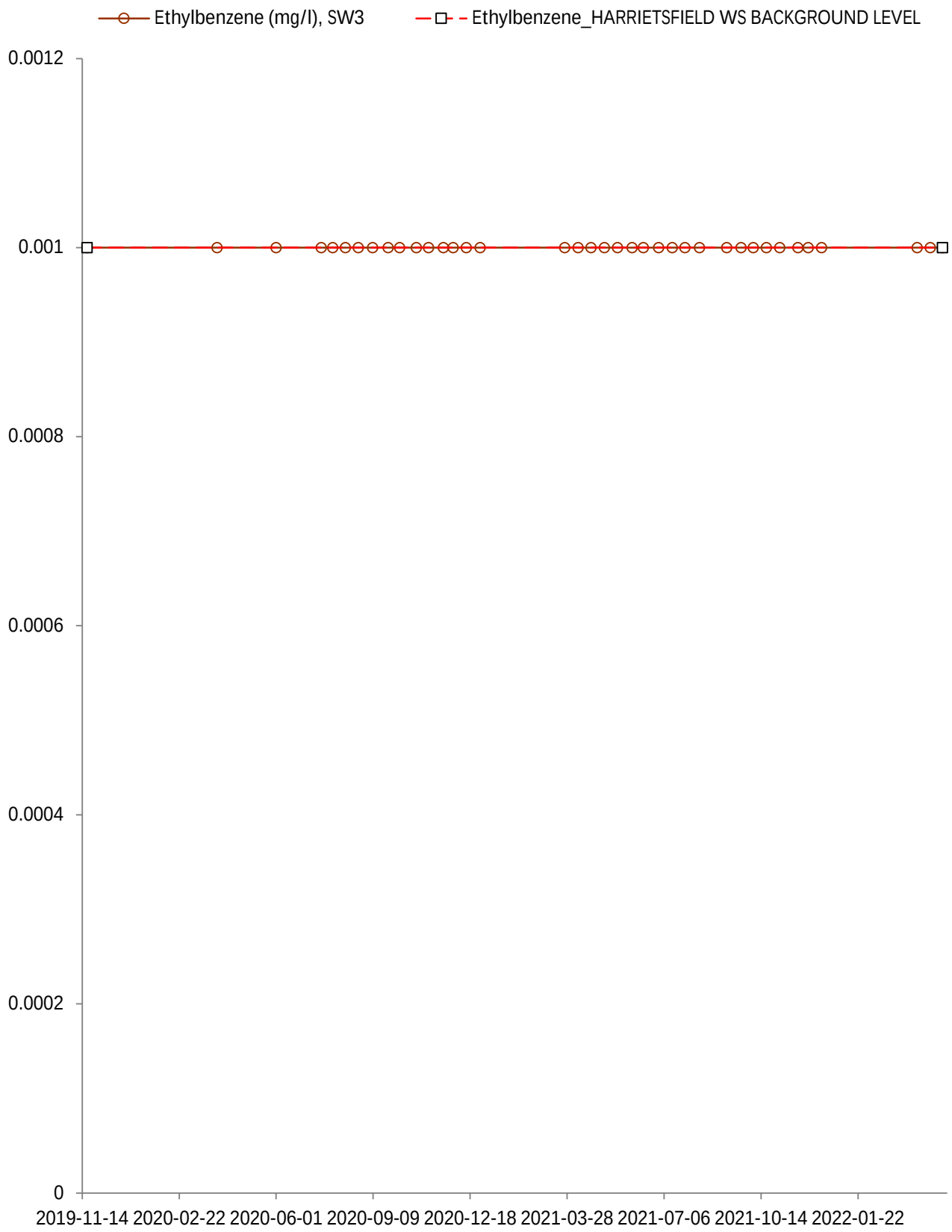
SW3-Copper


Copper (ug/l), SW3
Copper_HARRIETSFIELD WS BACKGROUND LEVEL
3.5
3
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

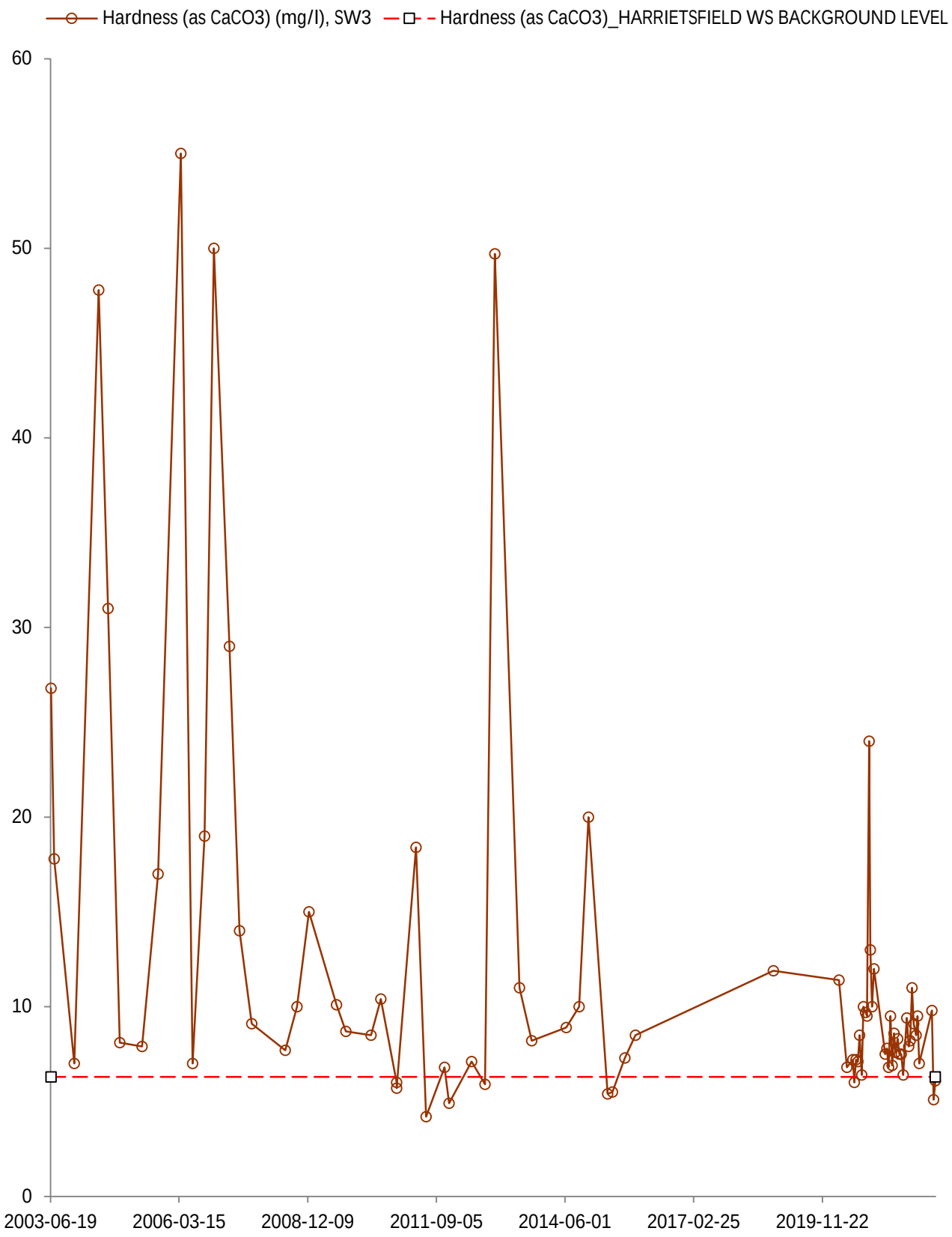
SW3-Electrical Conductivity



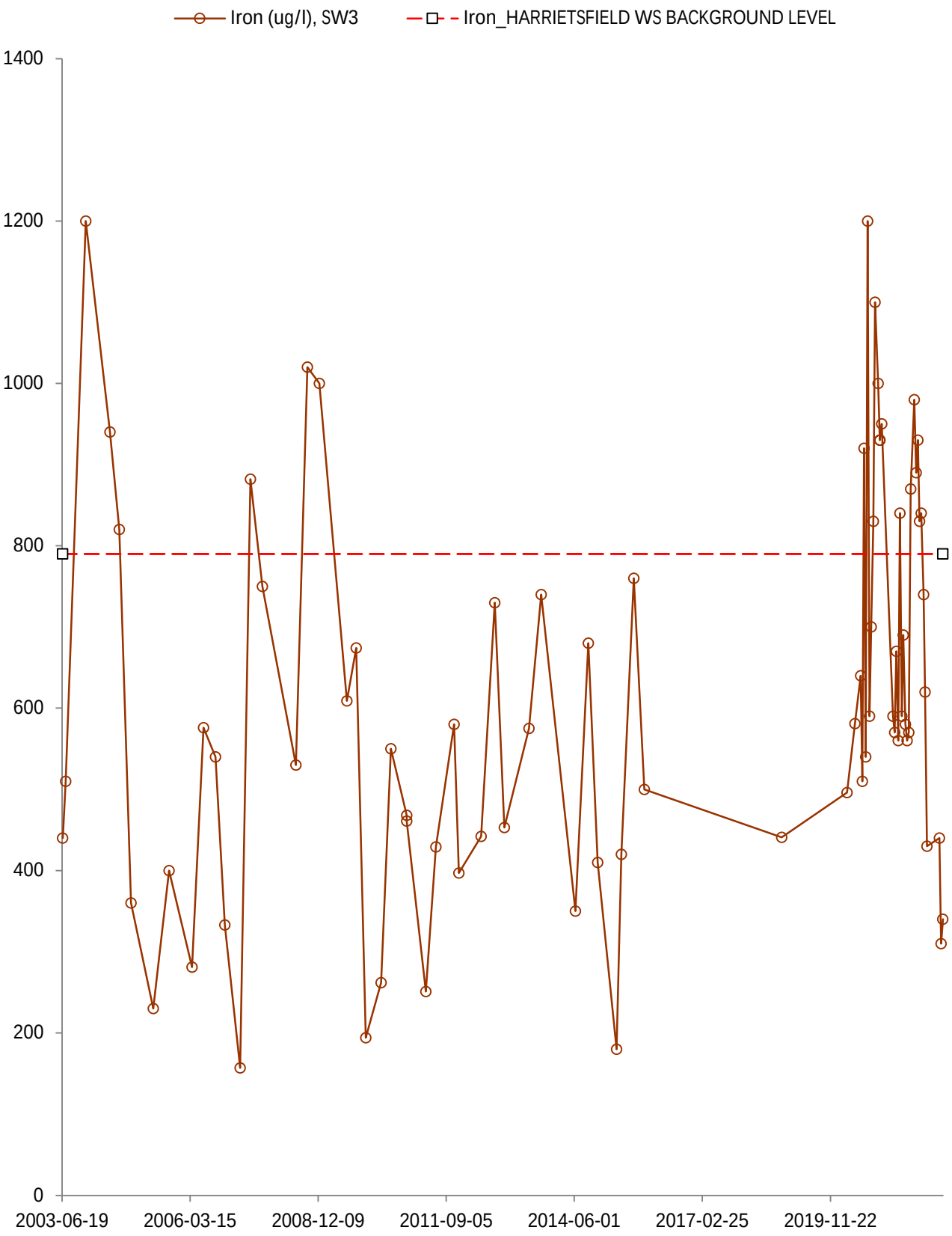
SW3-Ethylbenzene



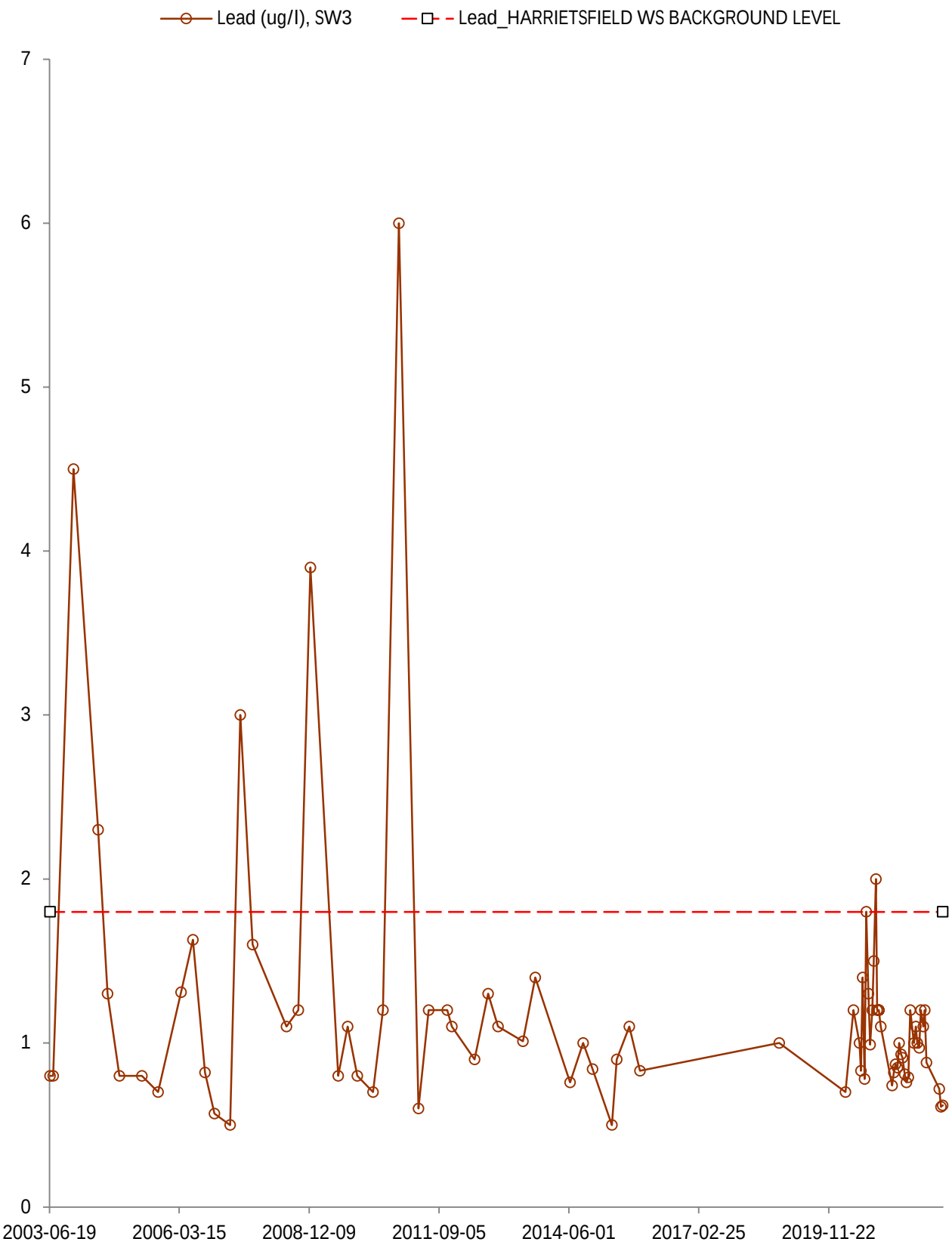
SW3-Hardness (as CaCO3)



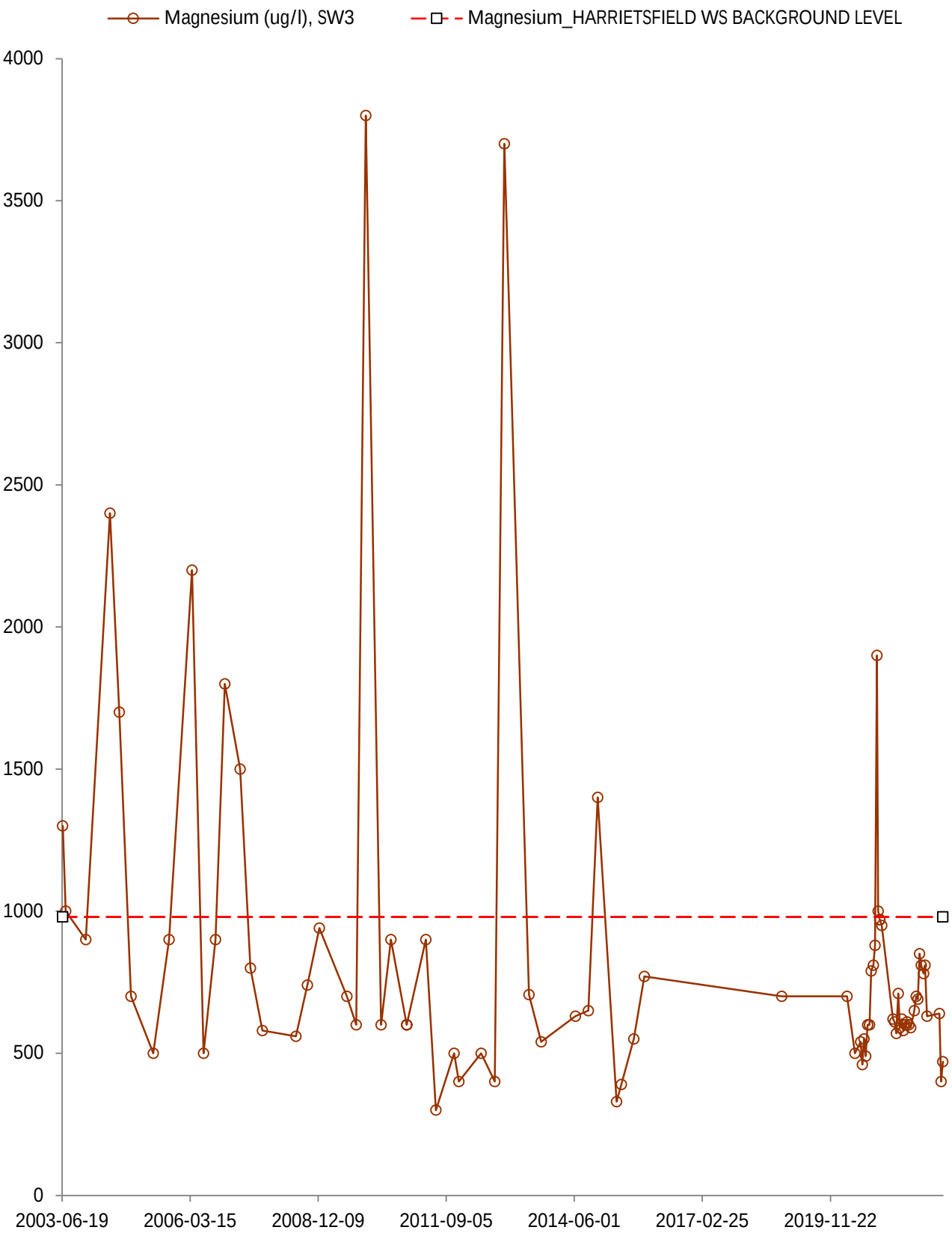
SW3-Iron


Iron (ug/l), SW3
Iron_HARRIETSFIELD WS BACKGROUND LEVEL
1400
1200
1000
800
600
400
200
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

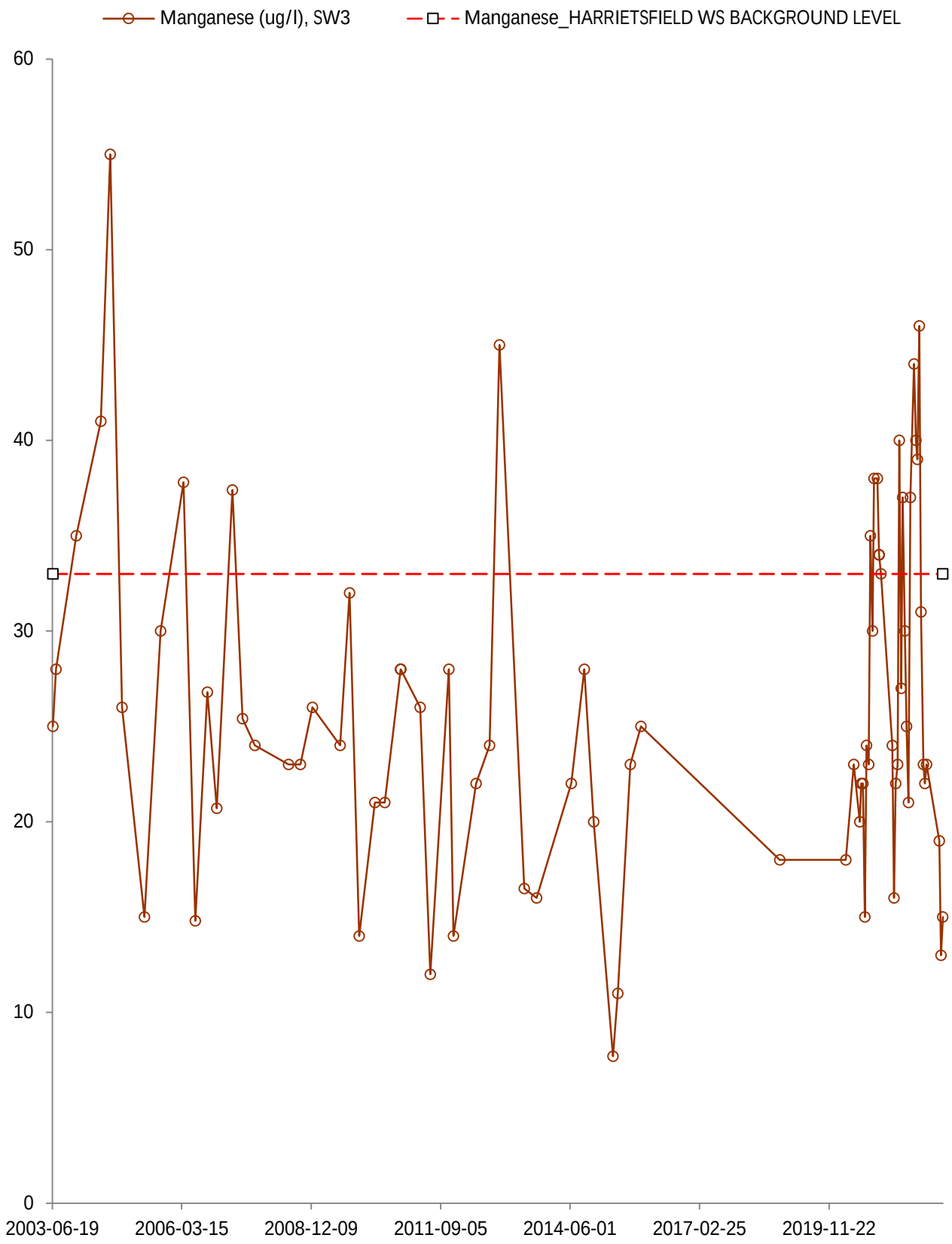
SW3-Lead


Lead (ug/l), SW3
Lead_HARRIETSFIELD WS BACKGROUND LEVEL
7
6
5
4
3
2
1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

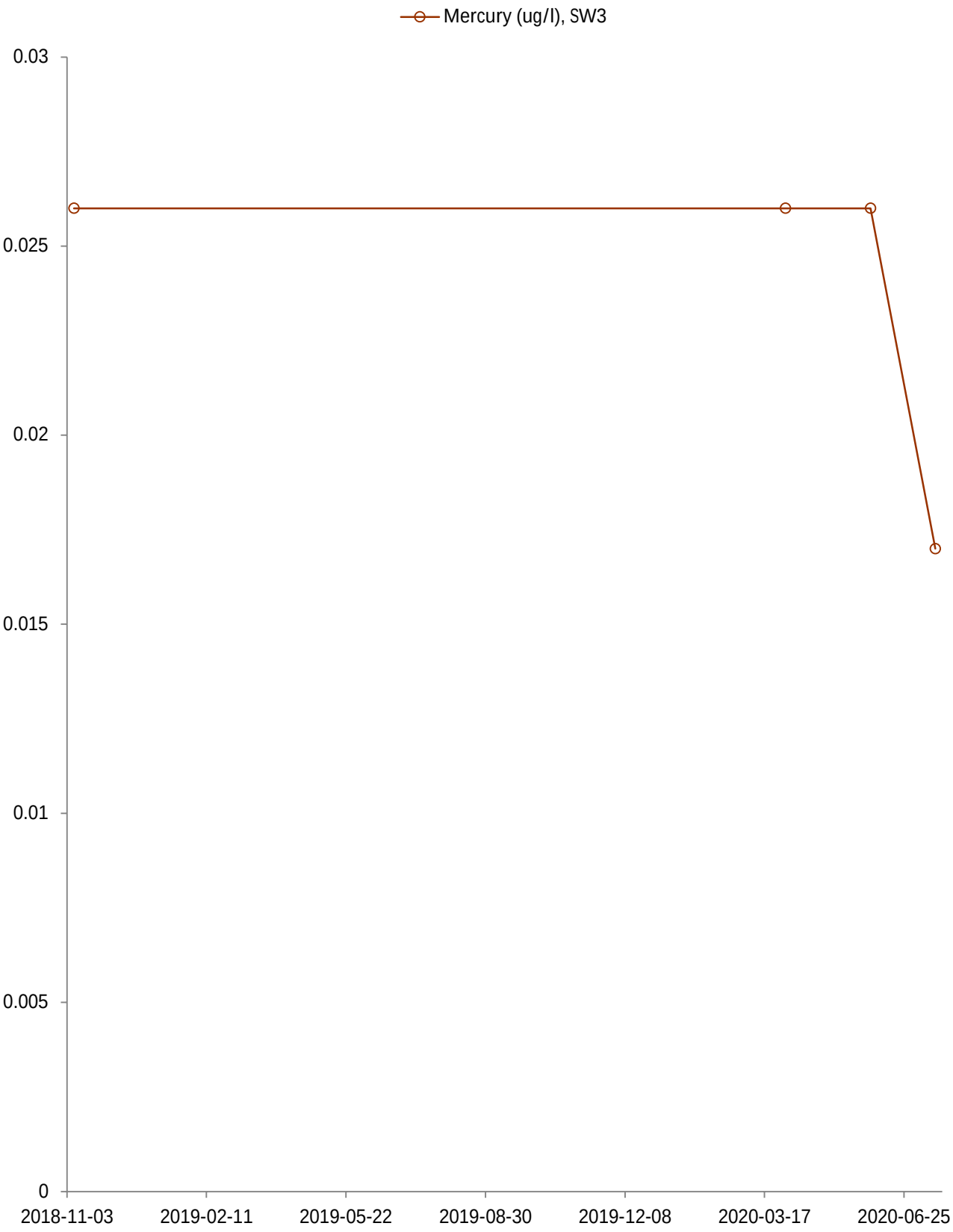
SW3-Magnesium



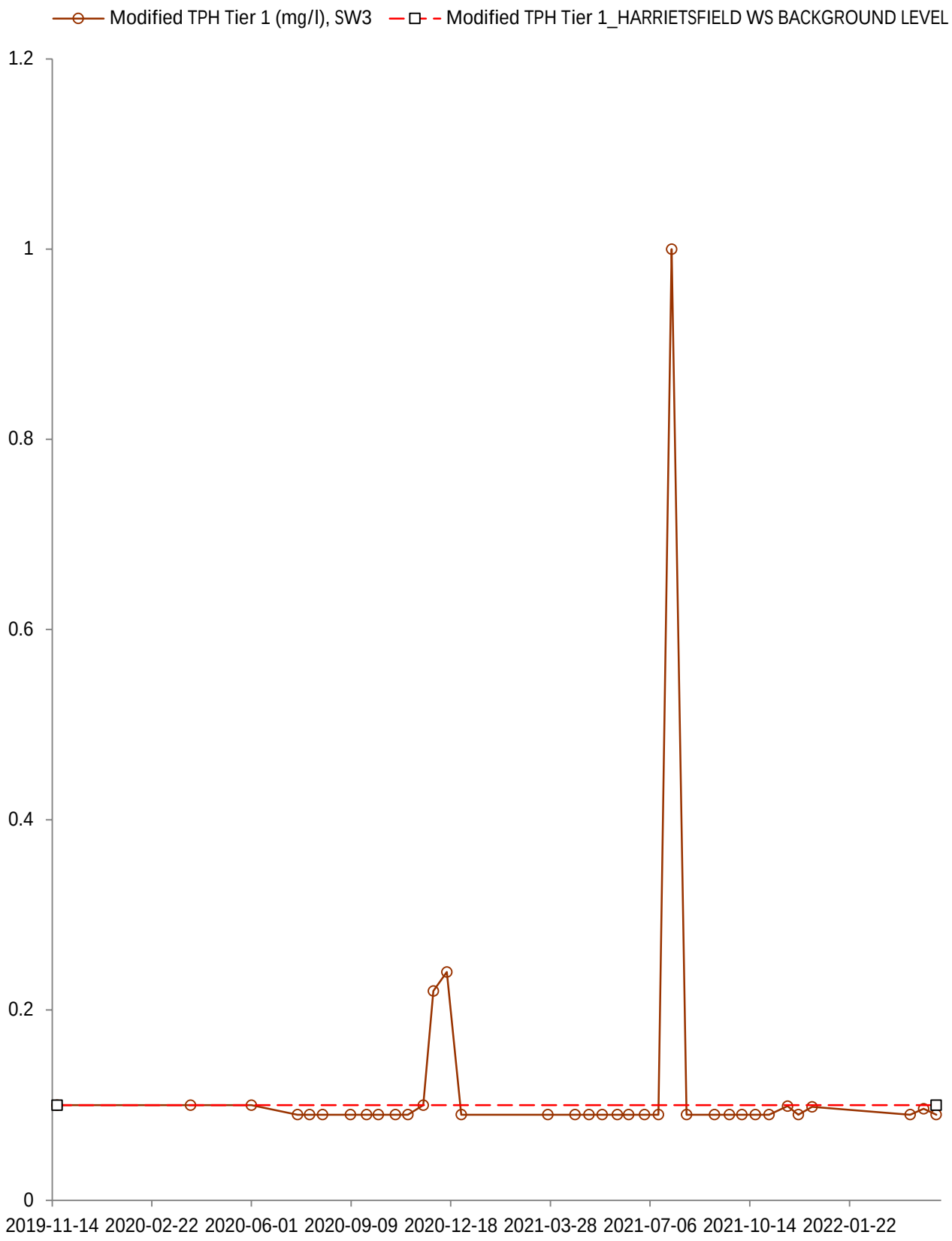
SW3-Manganese



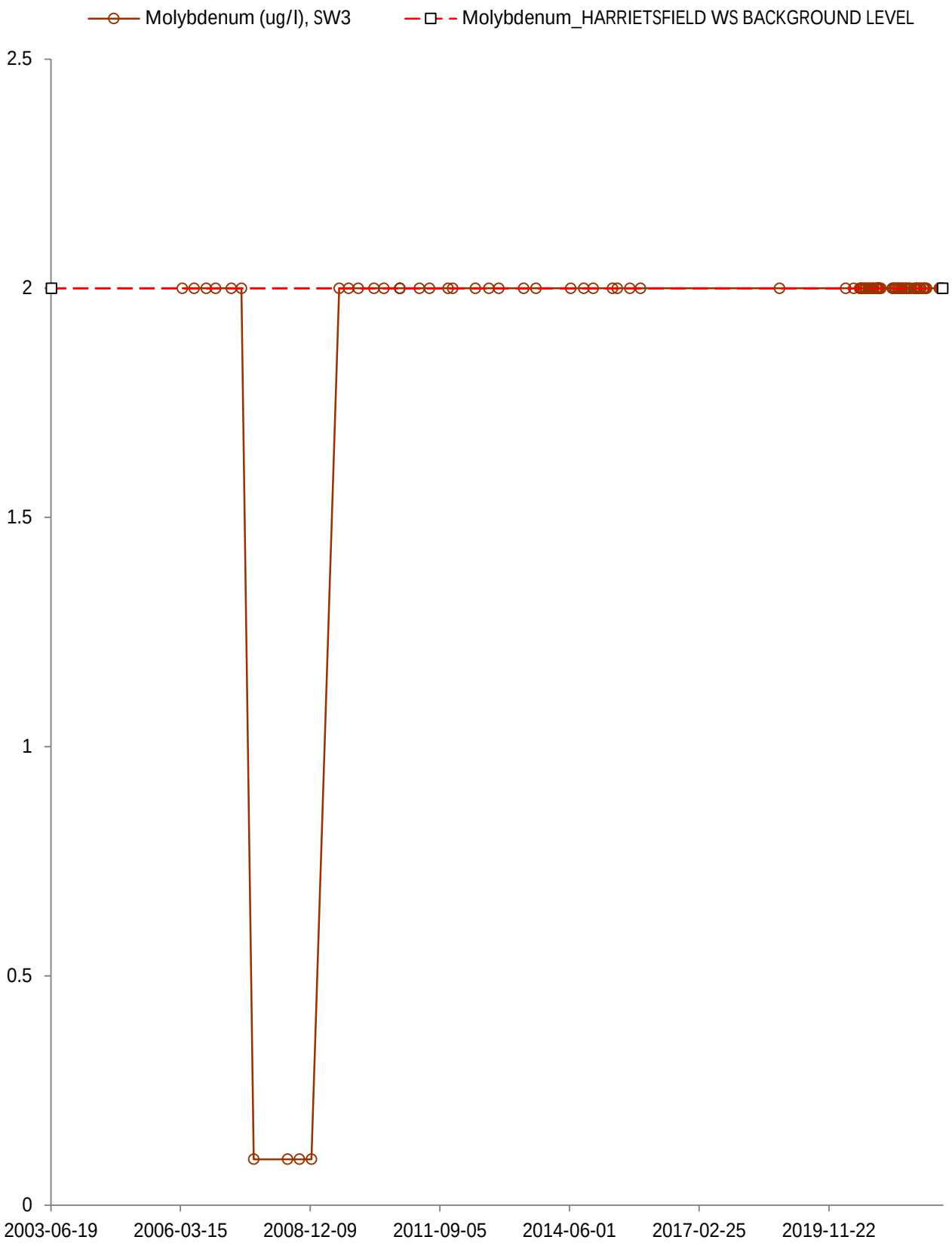
SW3-Mercury


Mercury (ug/l), SW3
0.03
0.025
0.02
0.015
0.01
0.005
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25

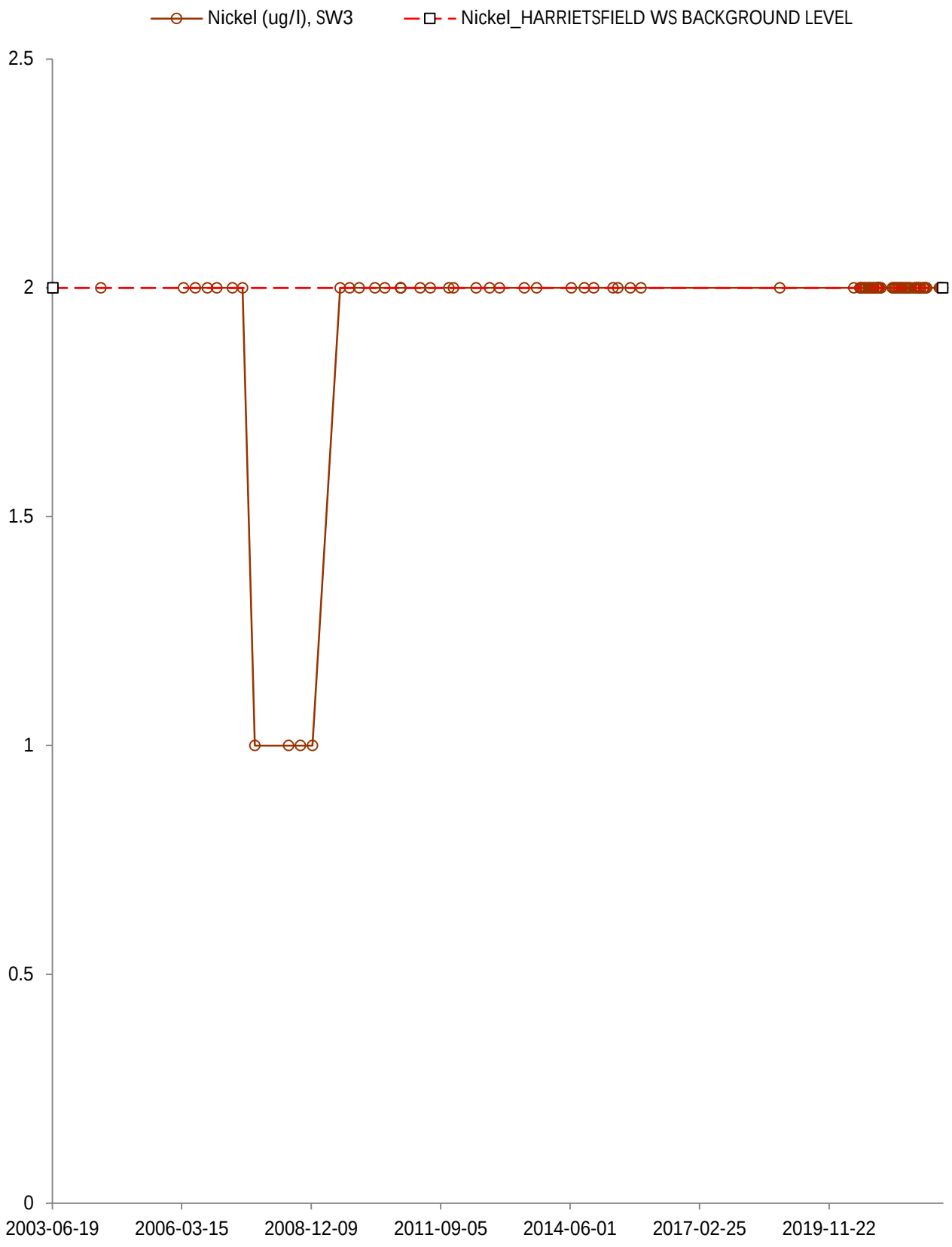
SW3-Modified TPH Tier 1



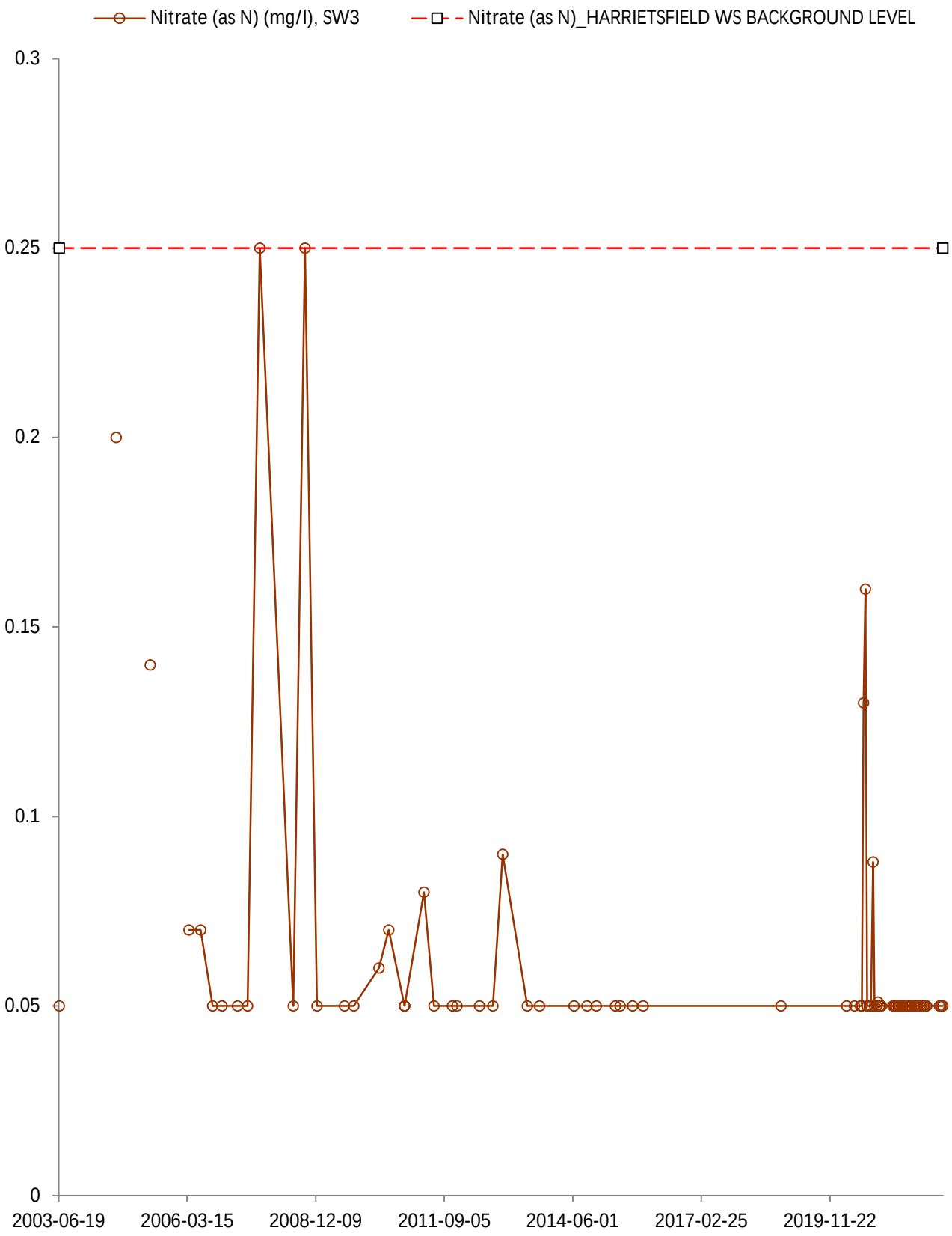
SW3-Molybdenum



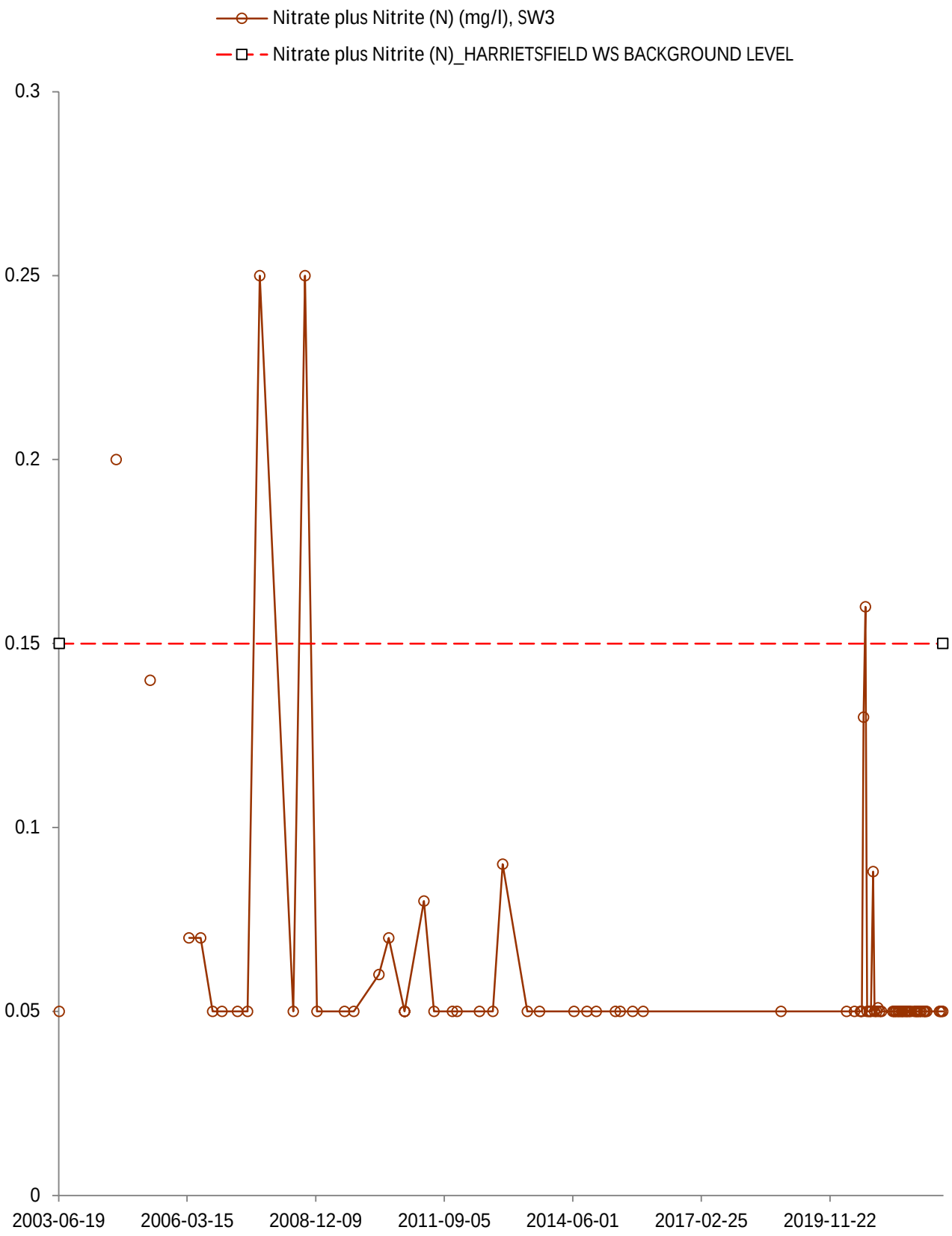
SW3-Nickel


Nickel (ug/l), SW3
Nickel_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

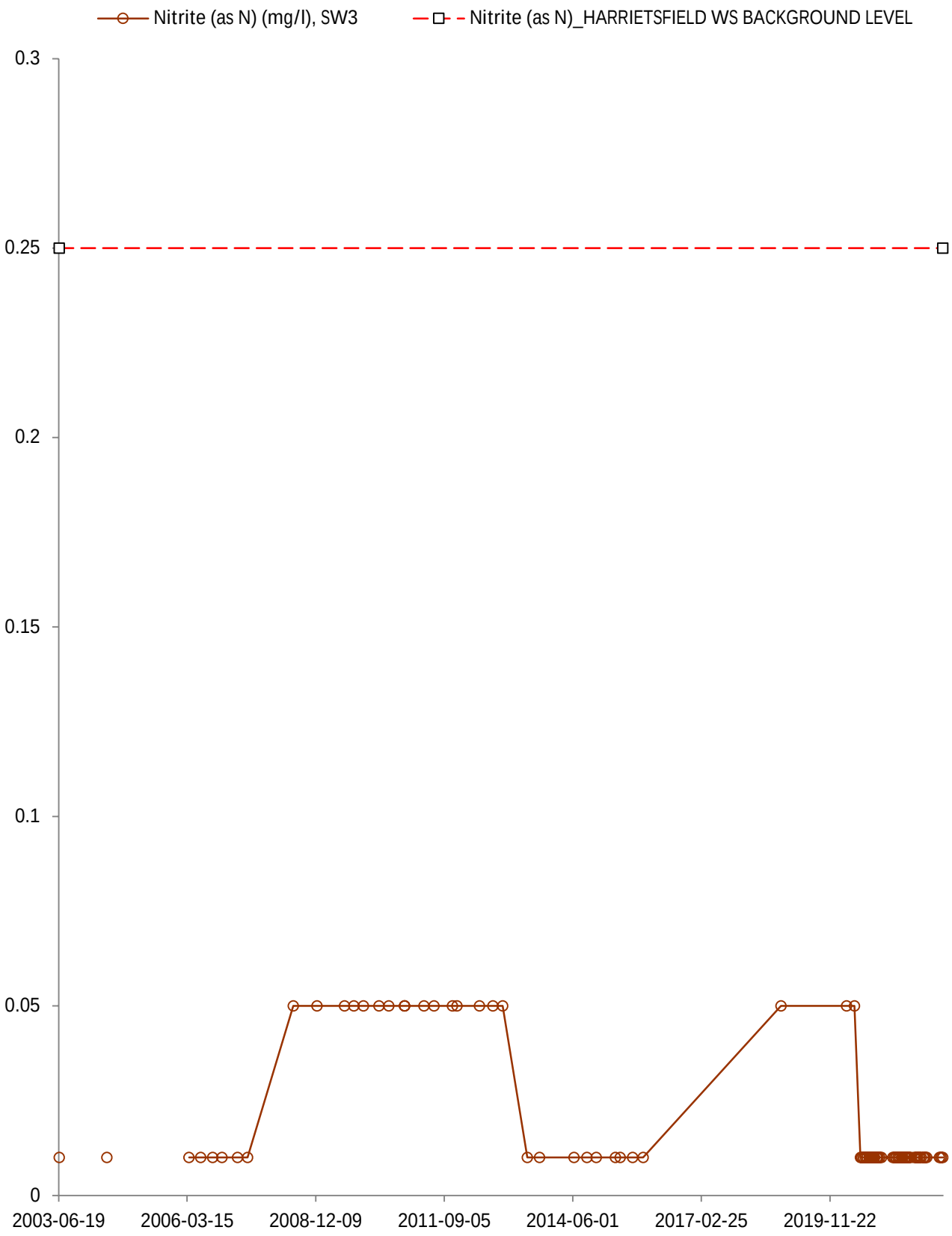
SW3-Nitrate (as N)



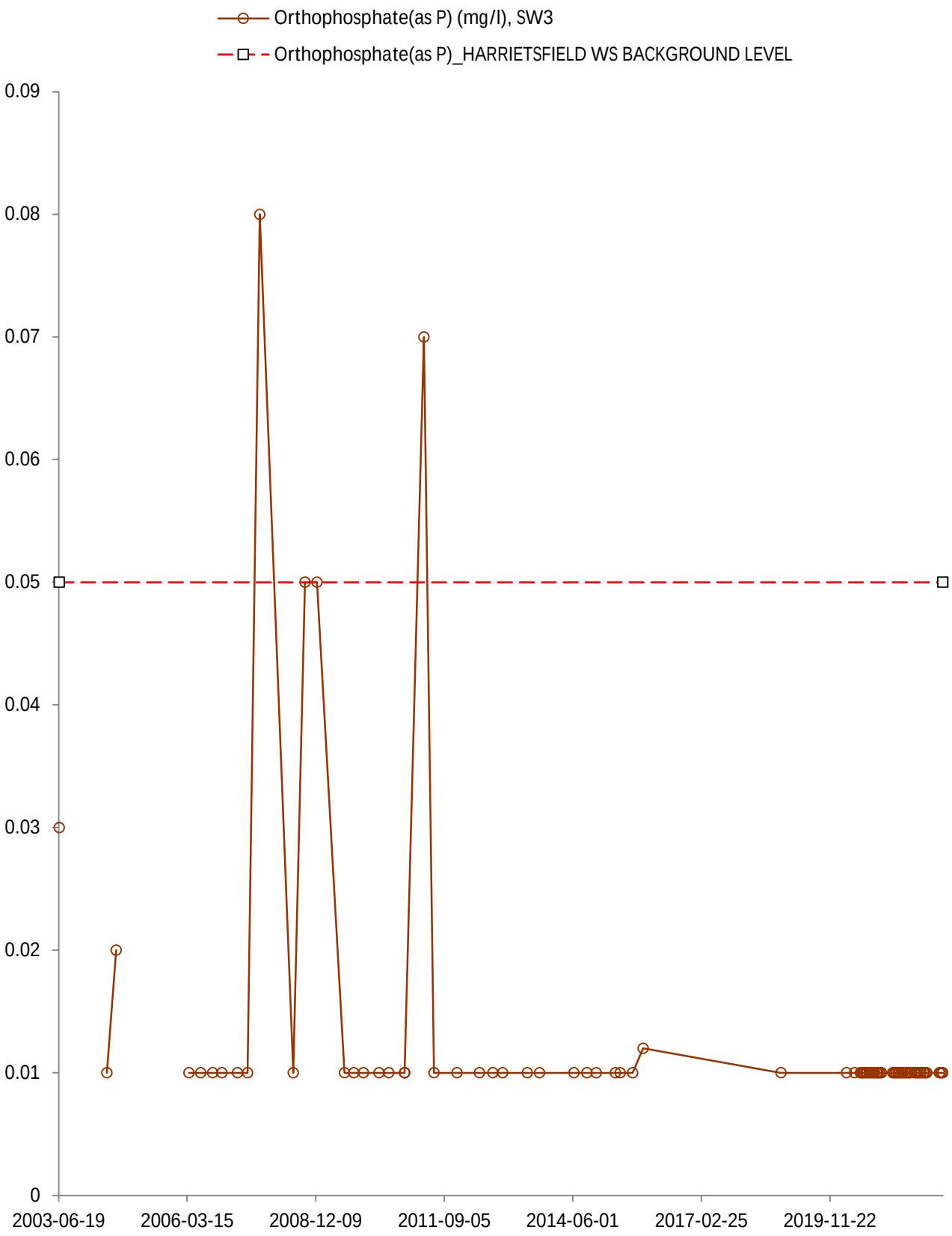
SW3-Nitrate plus Nitrite (N)



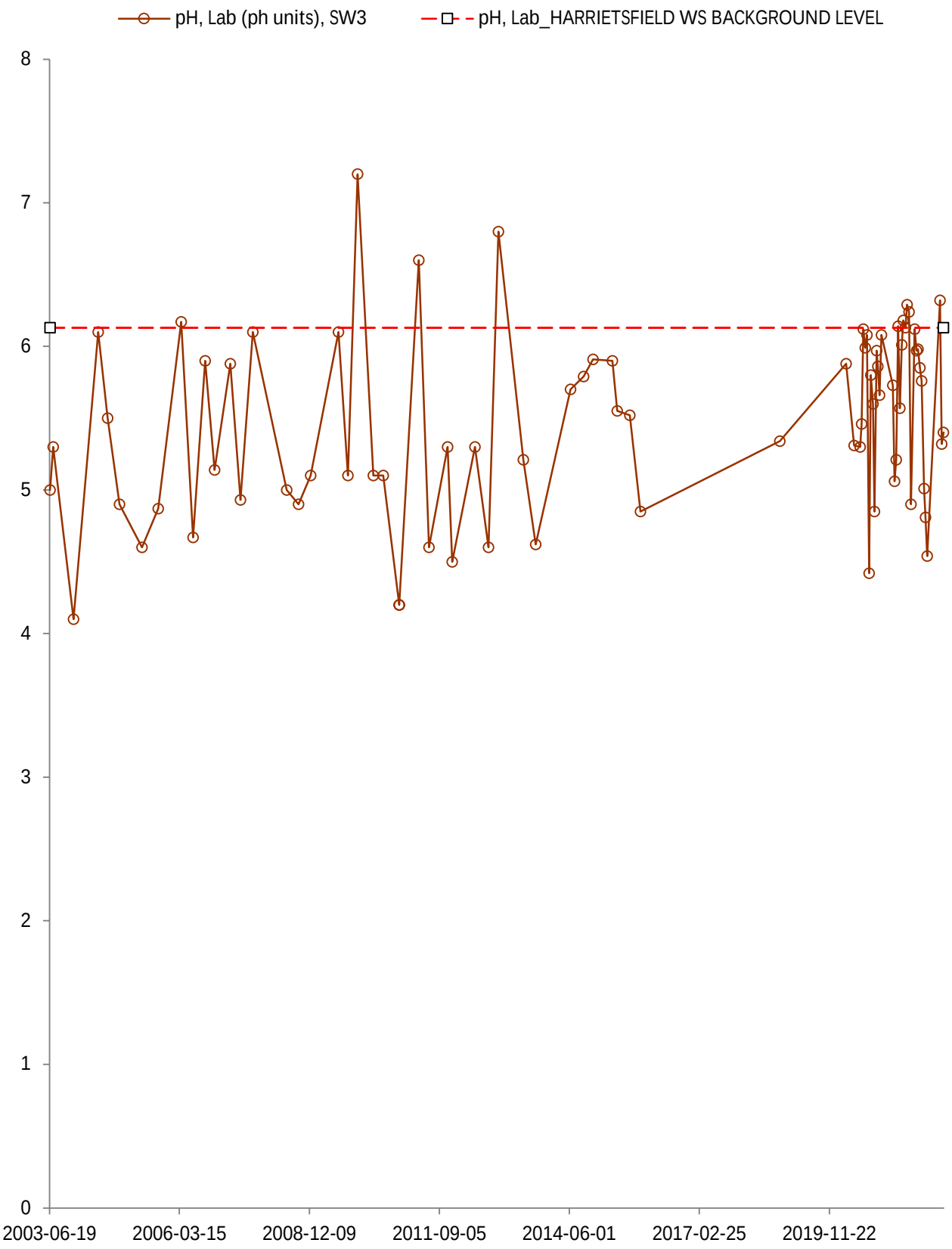
SW3-Nitrite (as N)



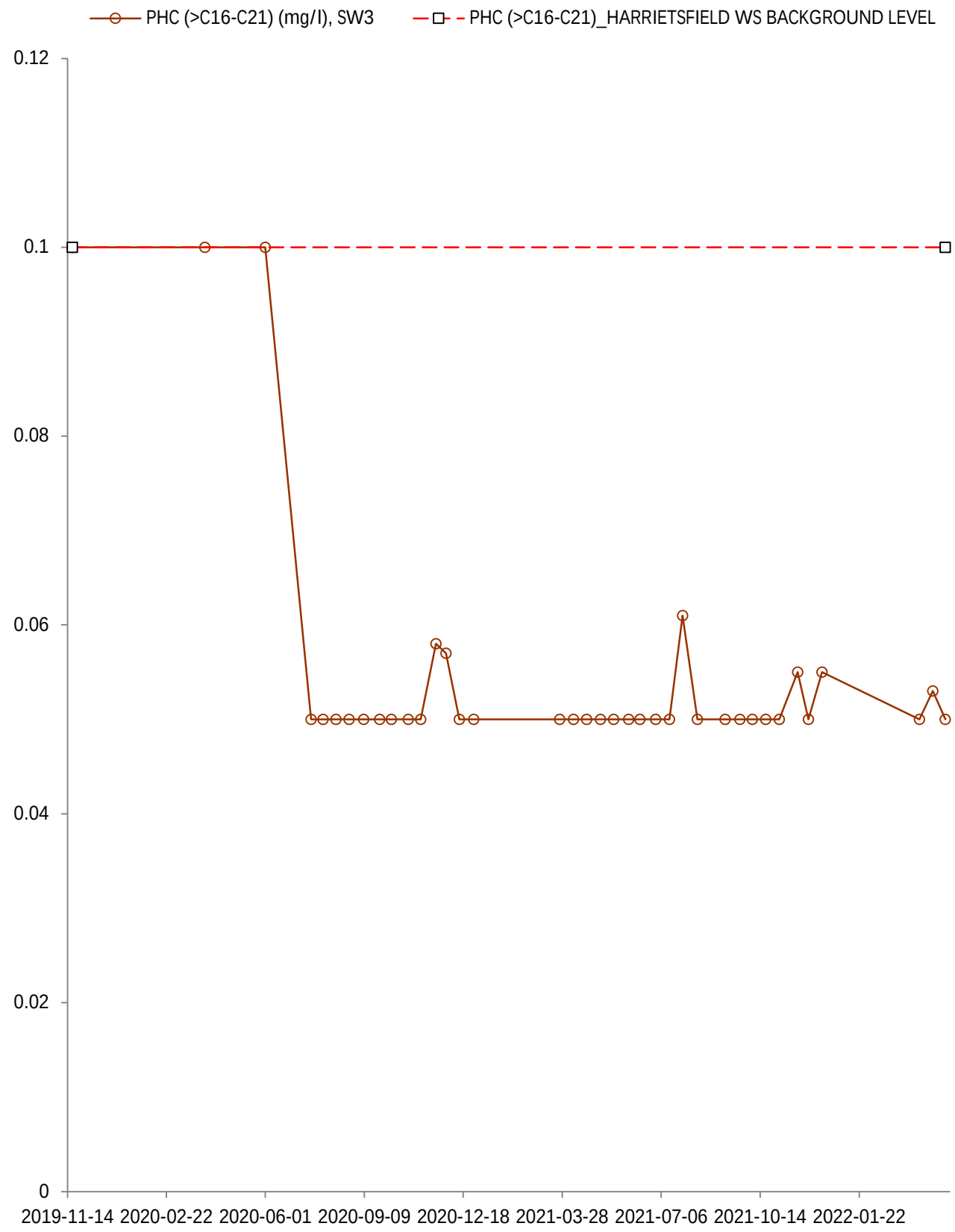
SW3-Orthophosphate(as P)



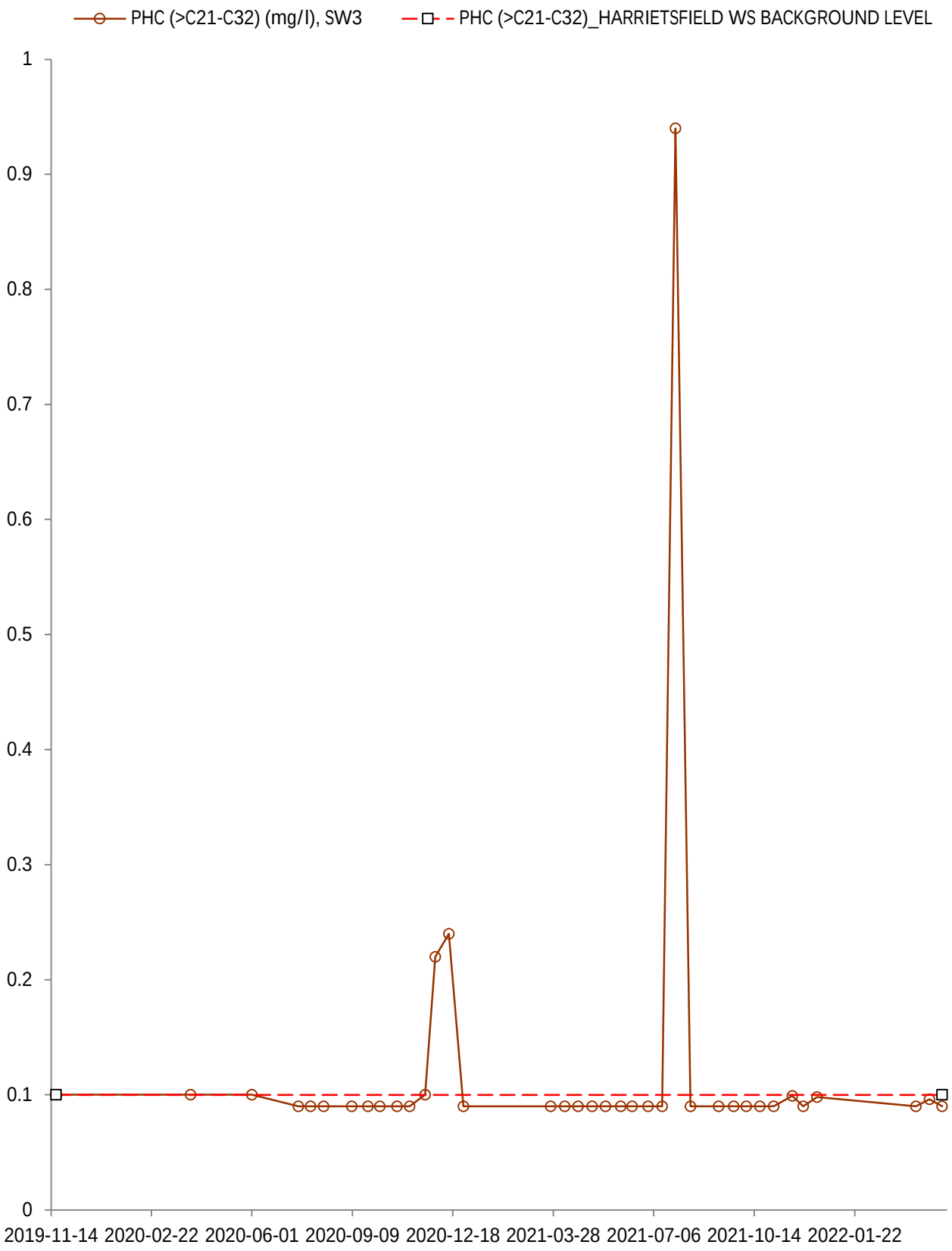
SW3-pH, Lab


pH, Lab (ph units), SW3
pH, Lab_HARRIETSFIELD WS BACKGROUND LEVEL
8
7
6
5
4
3
2
1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

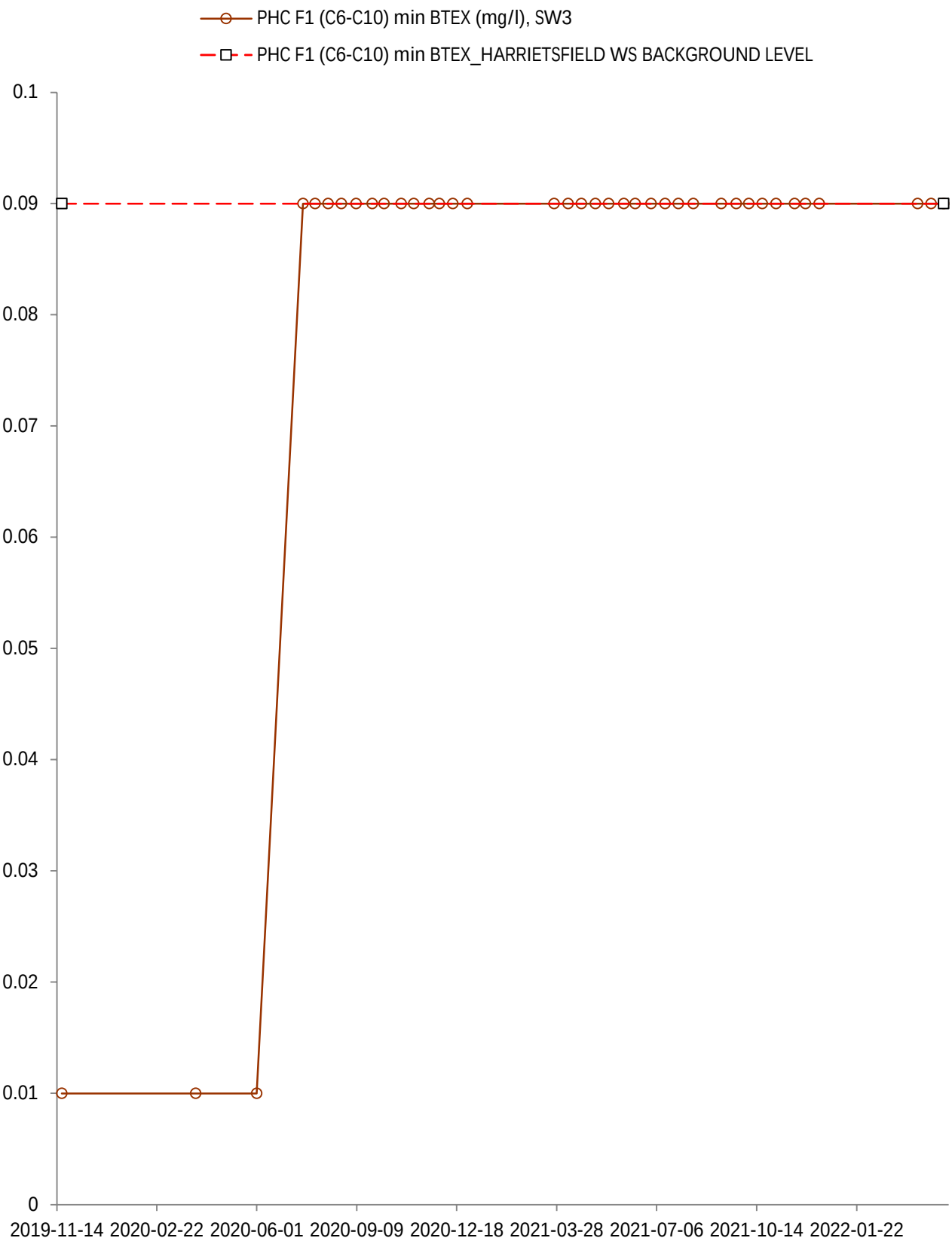
SW3-PHC (>C16-C21)



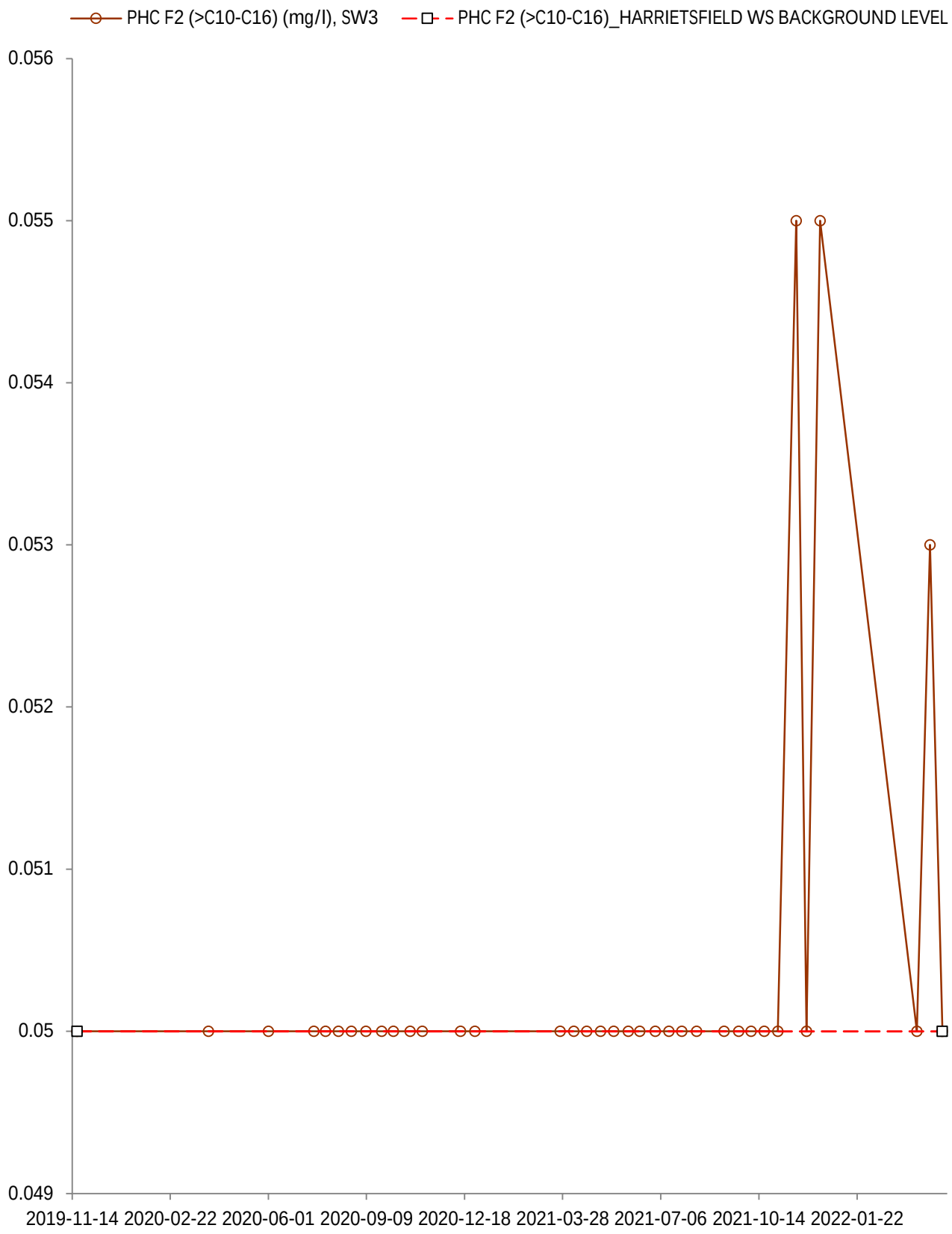
SW3-PHC (>C21-C32)



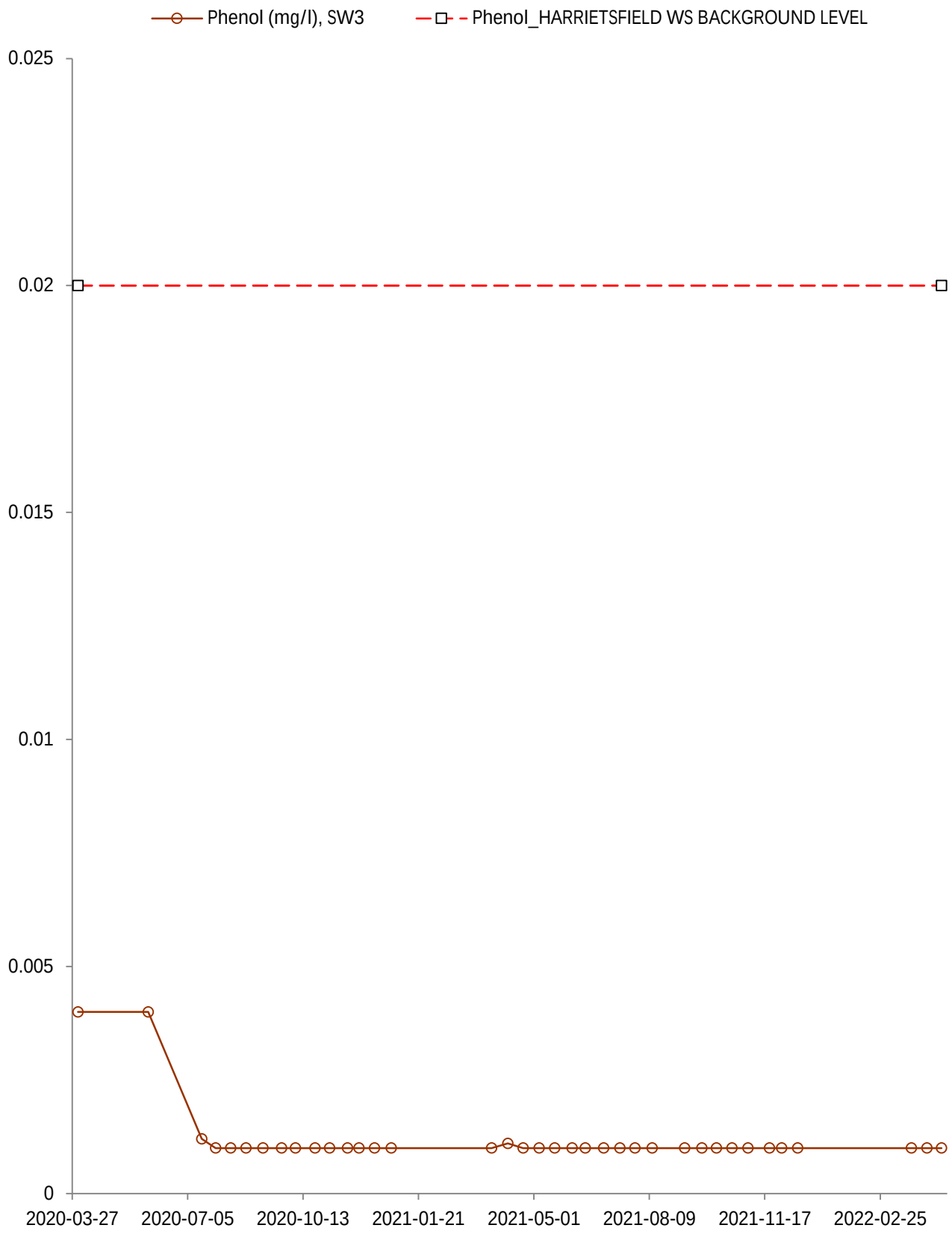
SW3-PHC F1 (C6-C10) min BTEX



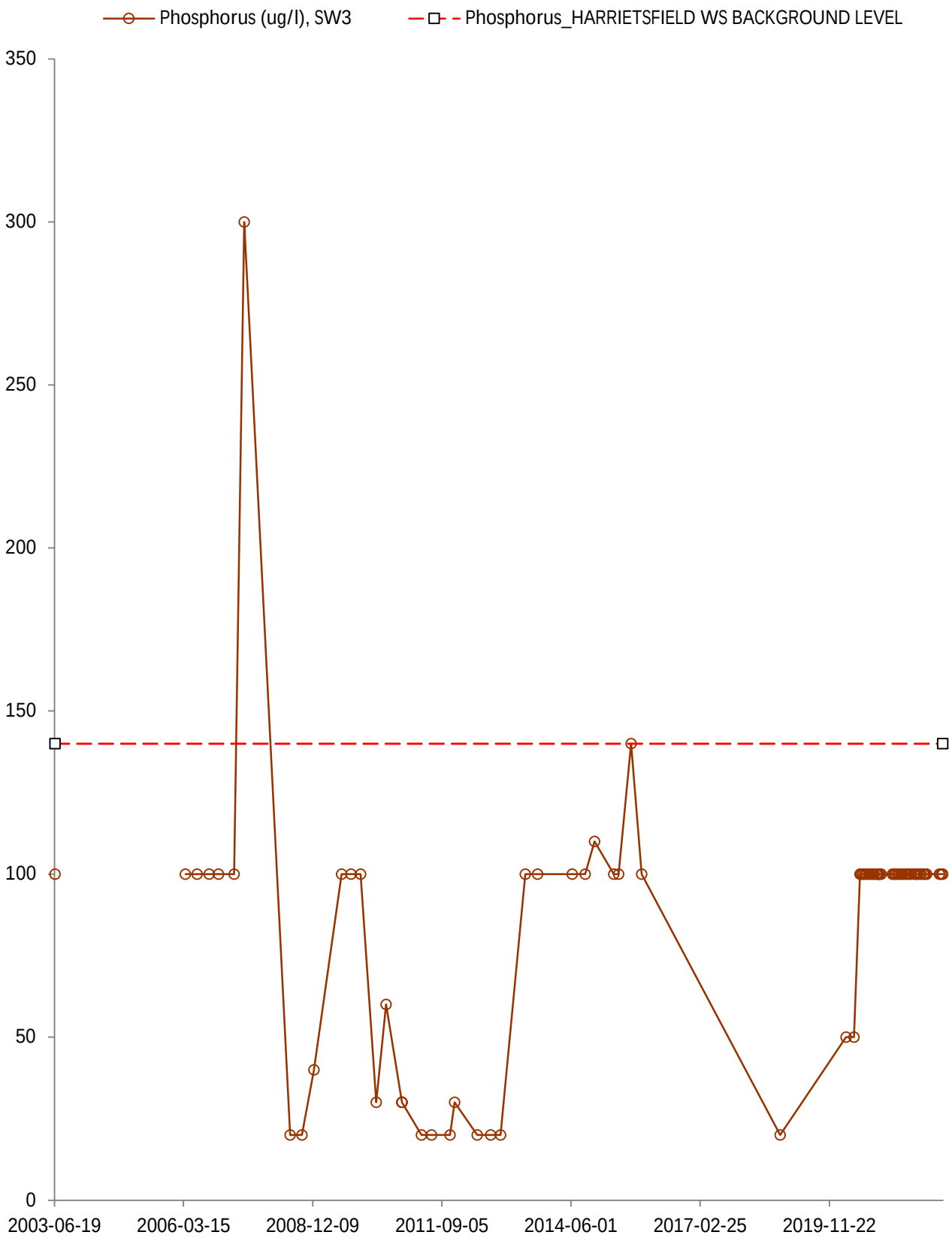
SW3-PHC F2 (>C10-C16)



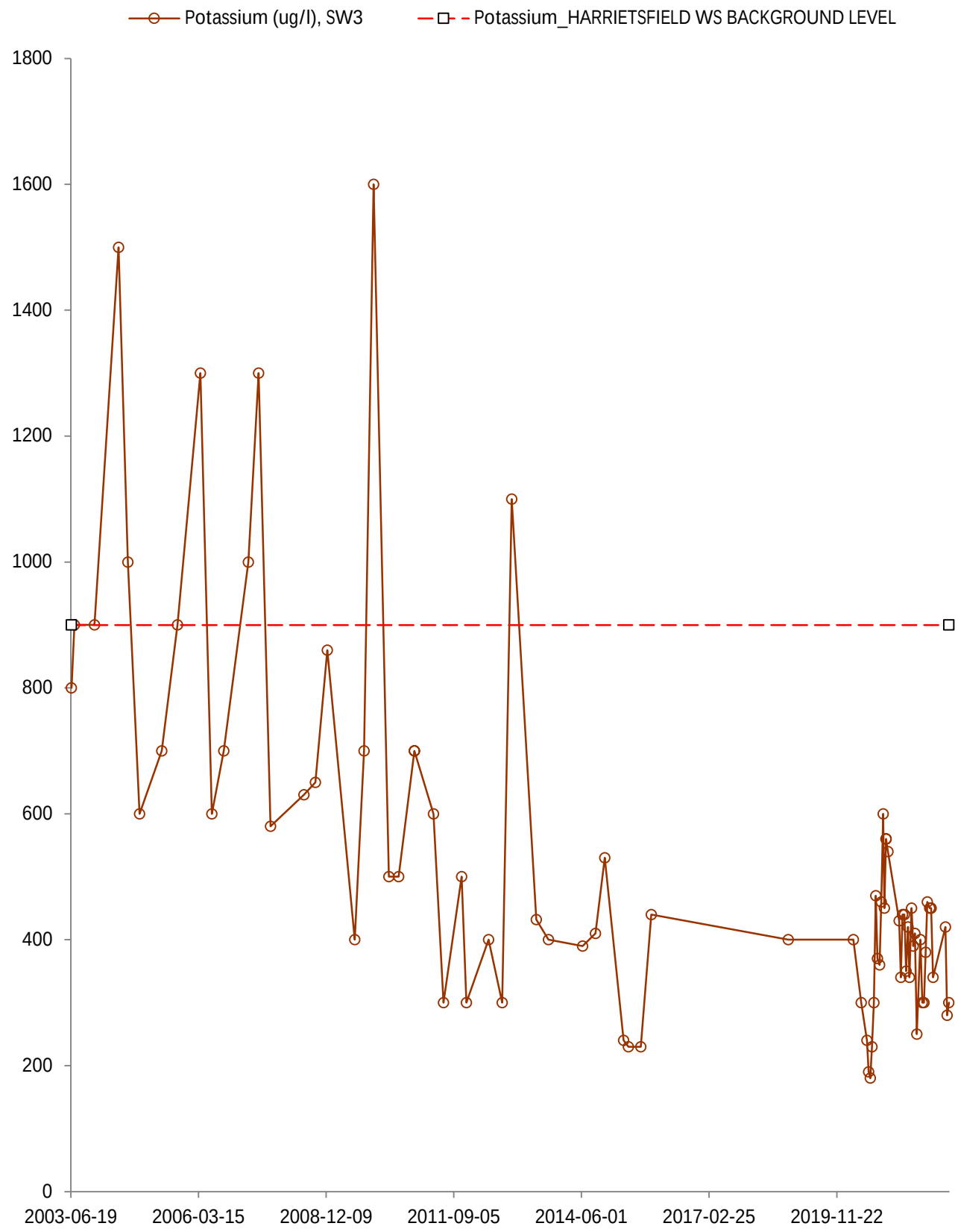
SW3-Phenol


Phenol (mg/l), SW3
Phenol_HARRIETSFIELD WS BACKGROUND LEVEL
0.025
0.02
0.015
0.01
0.005
0
2020-03-27
2020-07-05
2020-10-13
2021-01-21
2021-05-01
2021-08-09
2021-11-17
2022-02-25

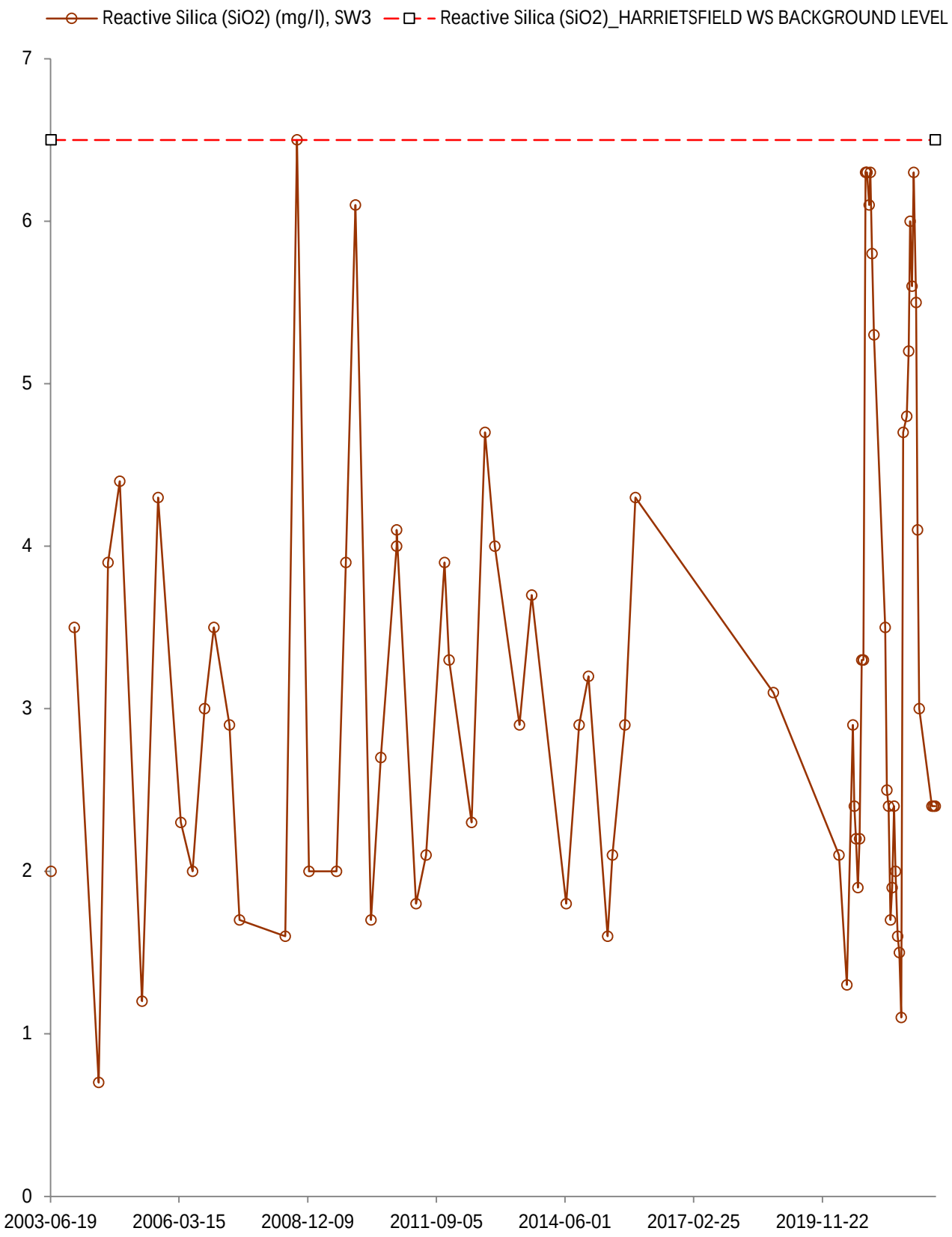
SW3-Phosphorus



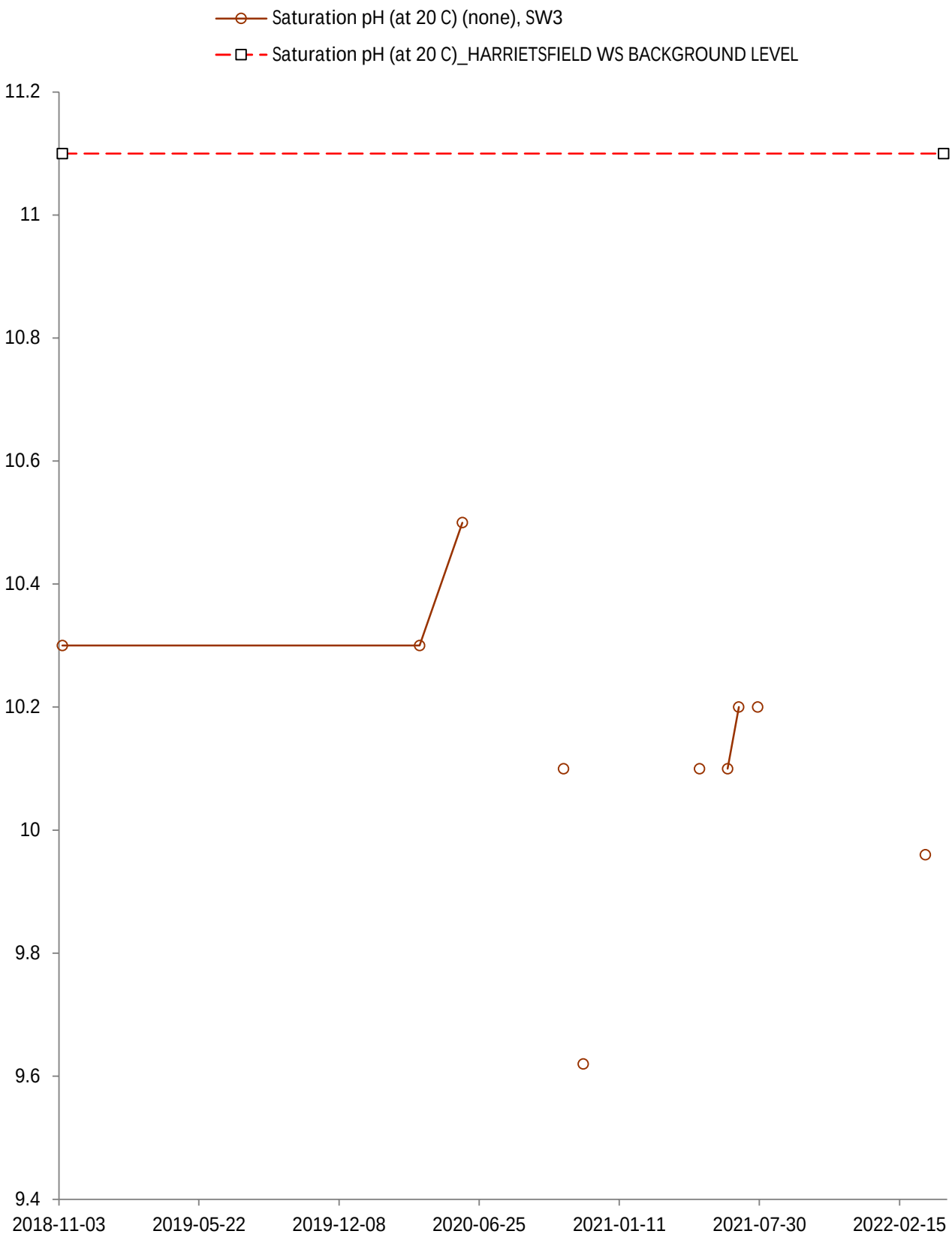
SW3-Potassium



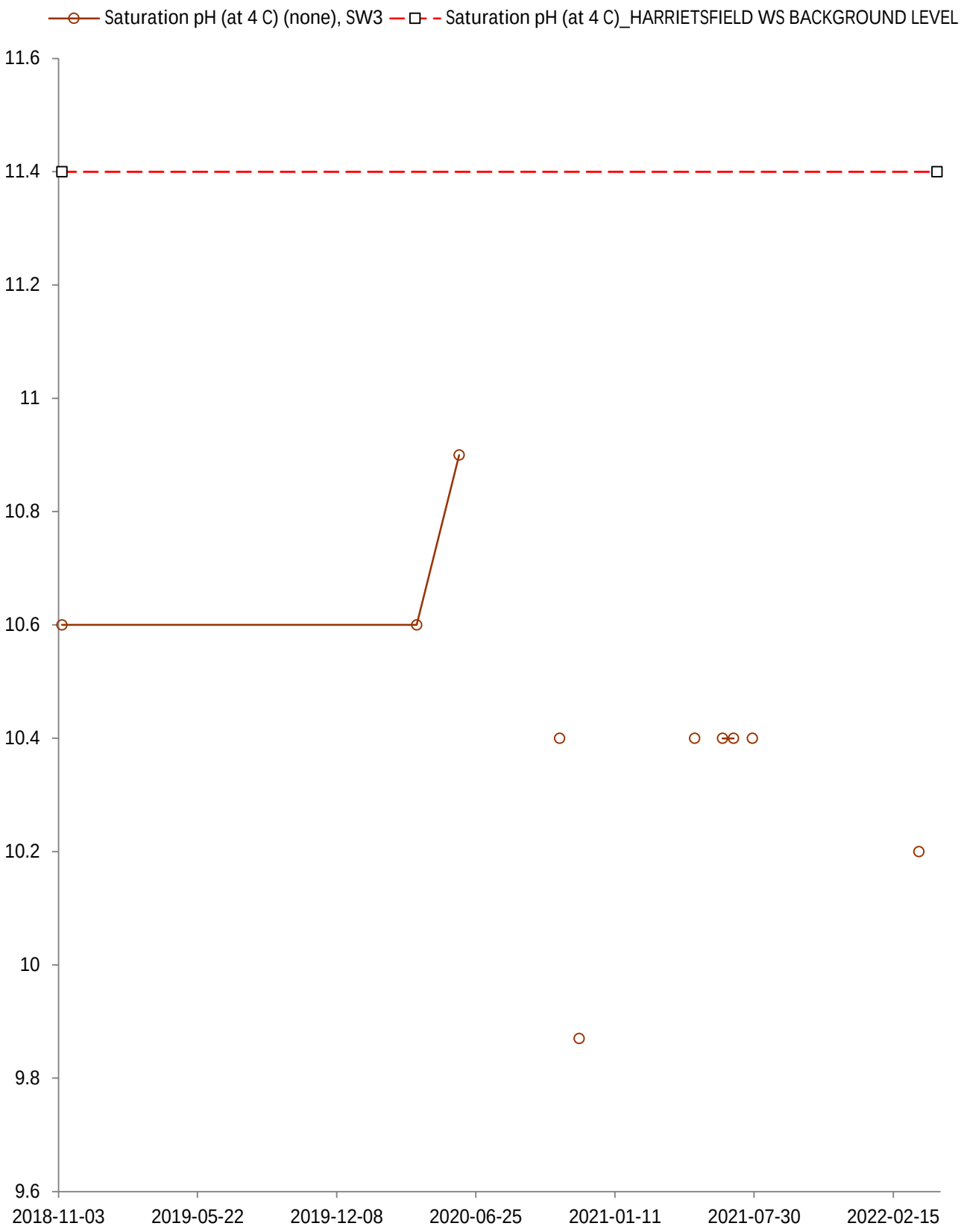
SW3-Reactive Silica (SiO2)



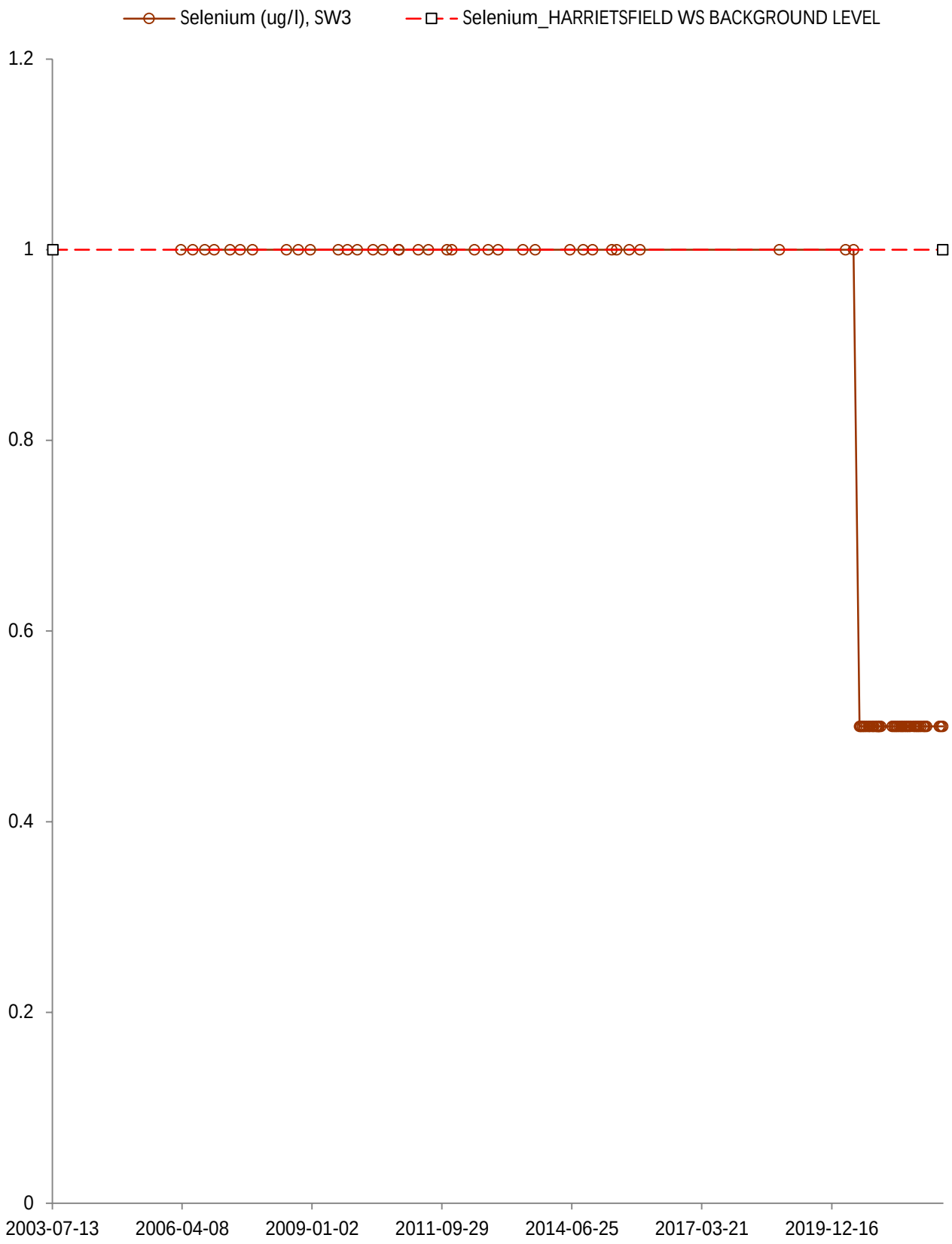
SW3-Saturation pH (at 20 C)



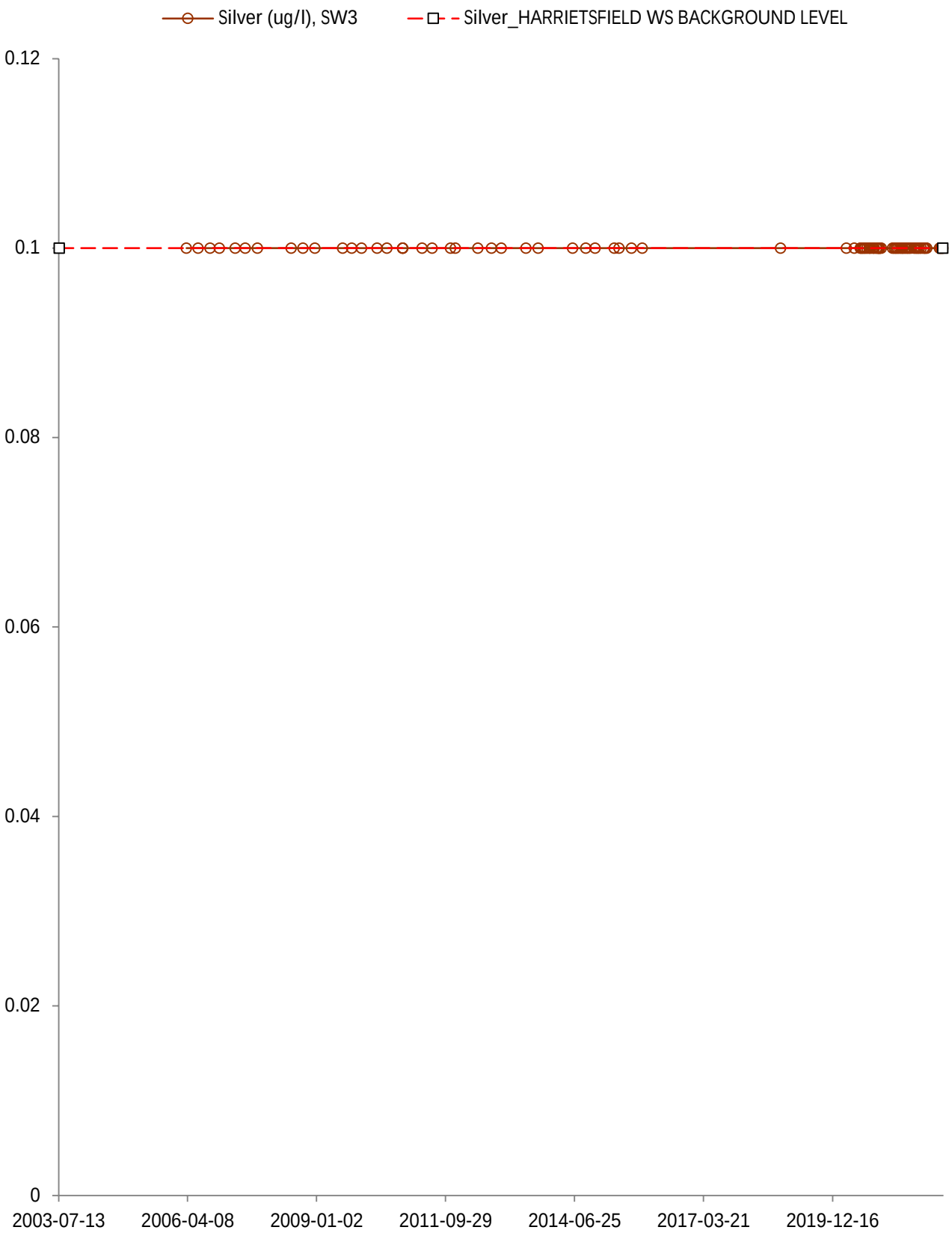
SW3-Saturation pH (at 4 C)



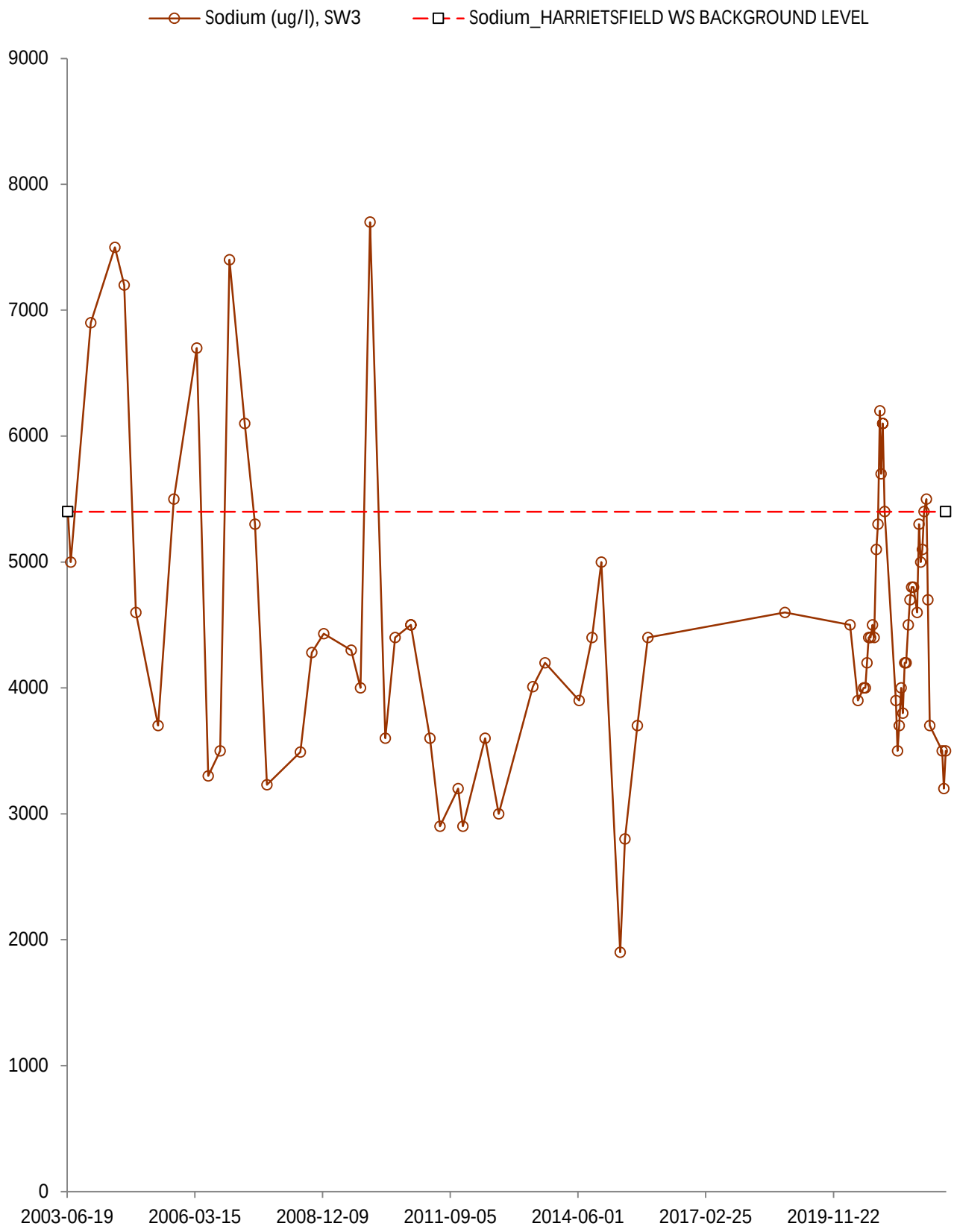
SW3-Selenium



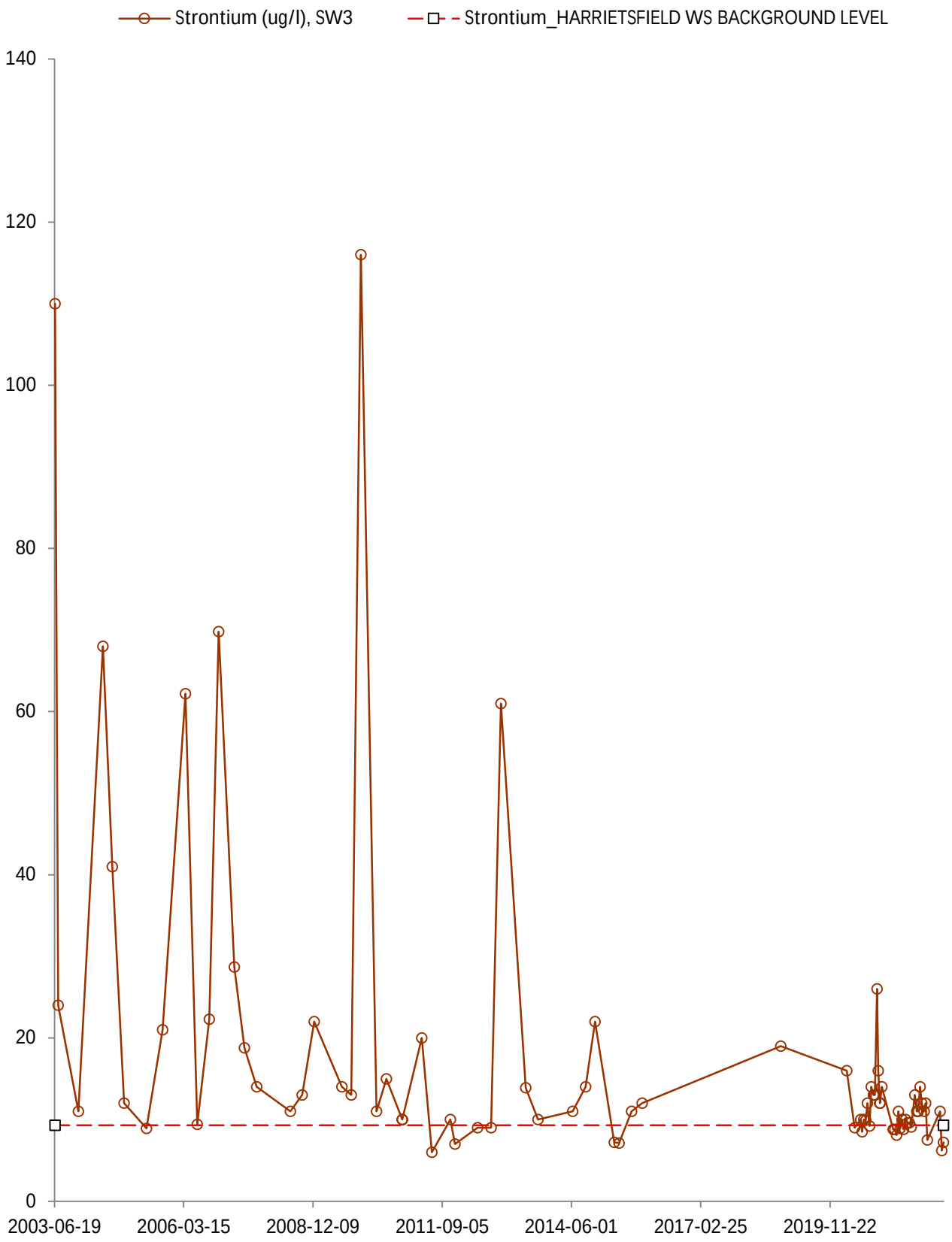
SW3-Silver


Silver (ug/l), SW3
Silver_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2003-07-13
2006-04-08
2009-01-02
2011-09-29
2014-06-25
2017-03-21
2019-12-16

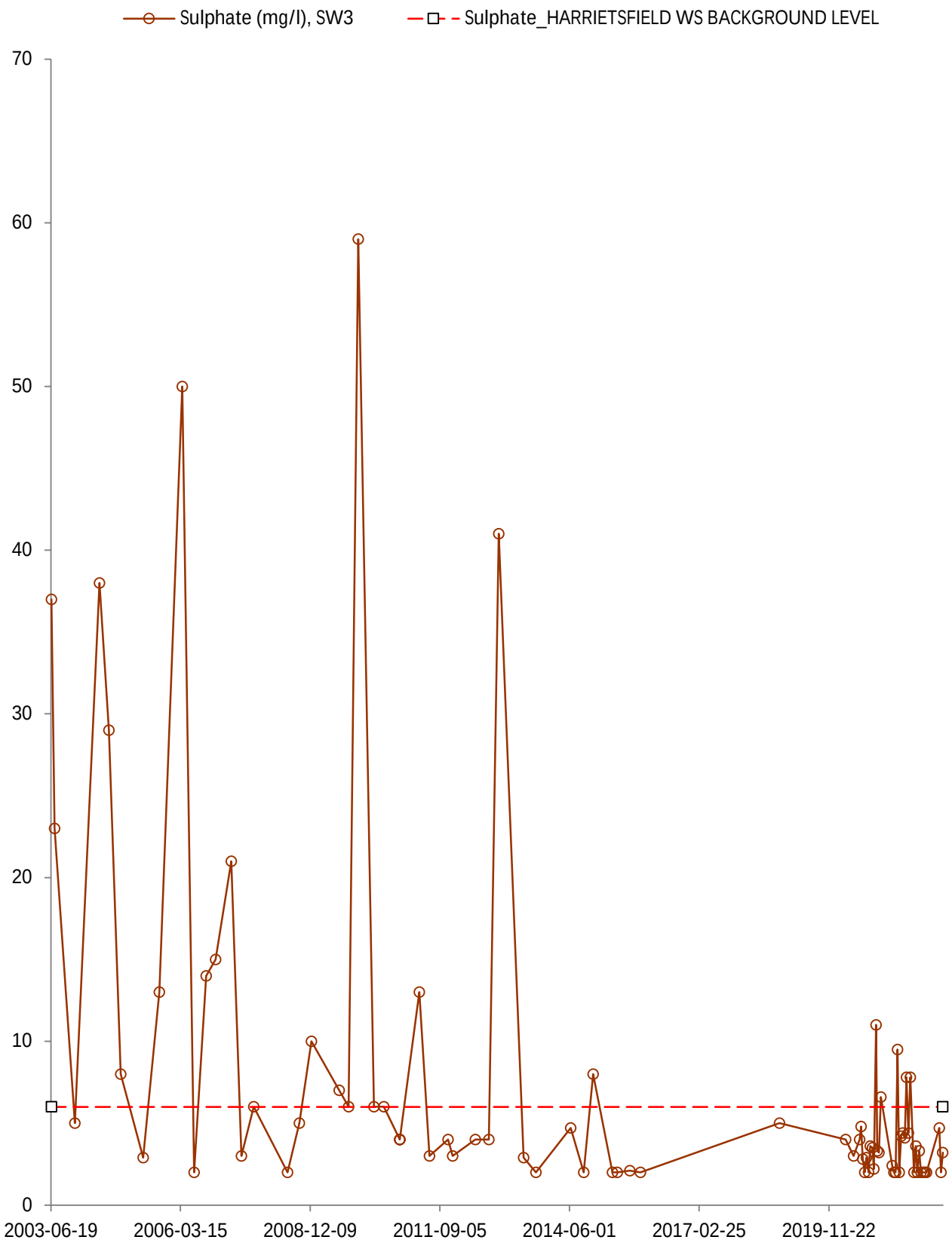
SW3-Sodium


Sodium (ug/l), SW3
Sodium_HARRIETSFIELD WS BACKGROUND LEVEL
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

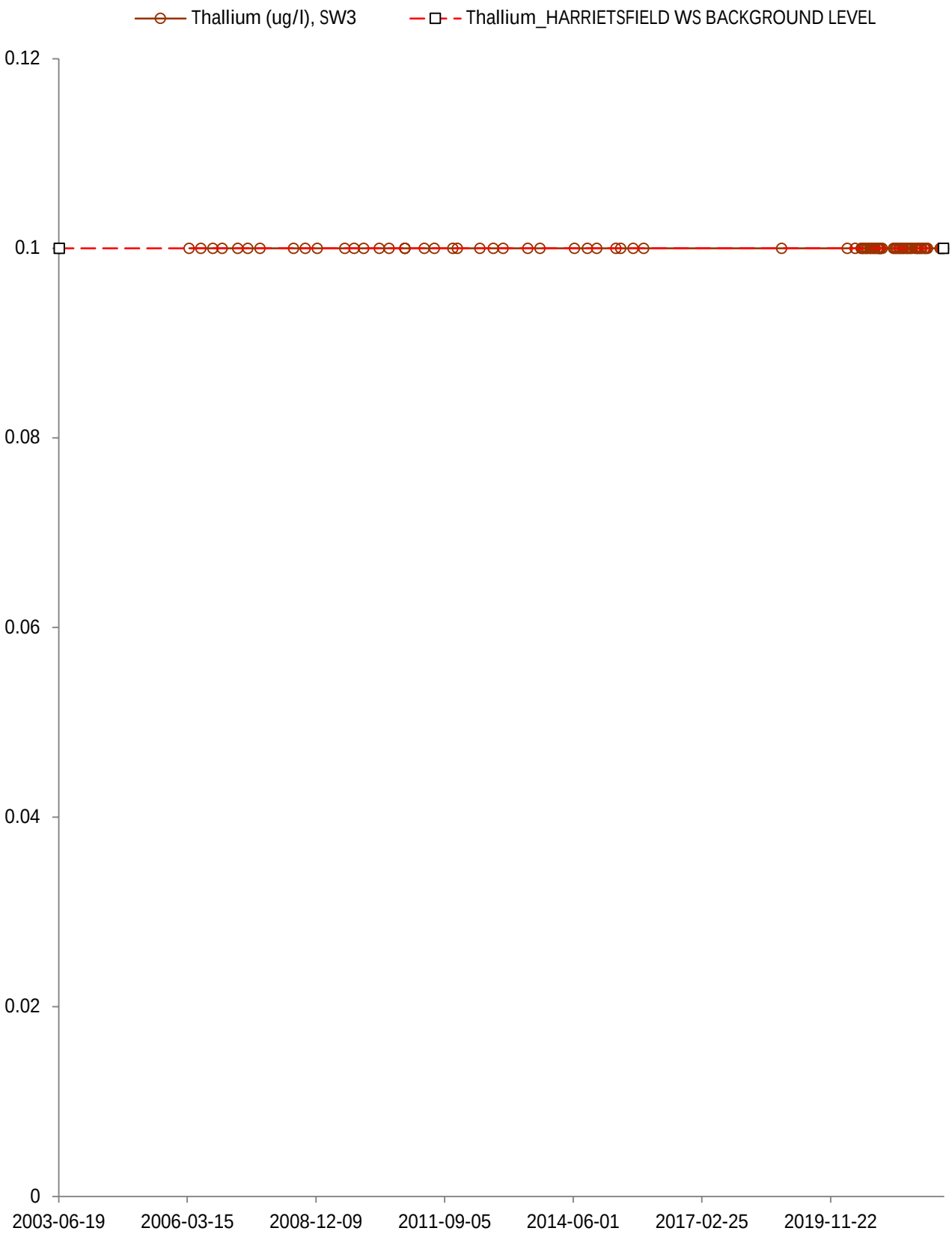
SW3-Strontium



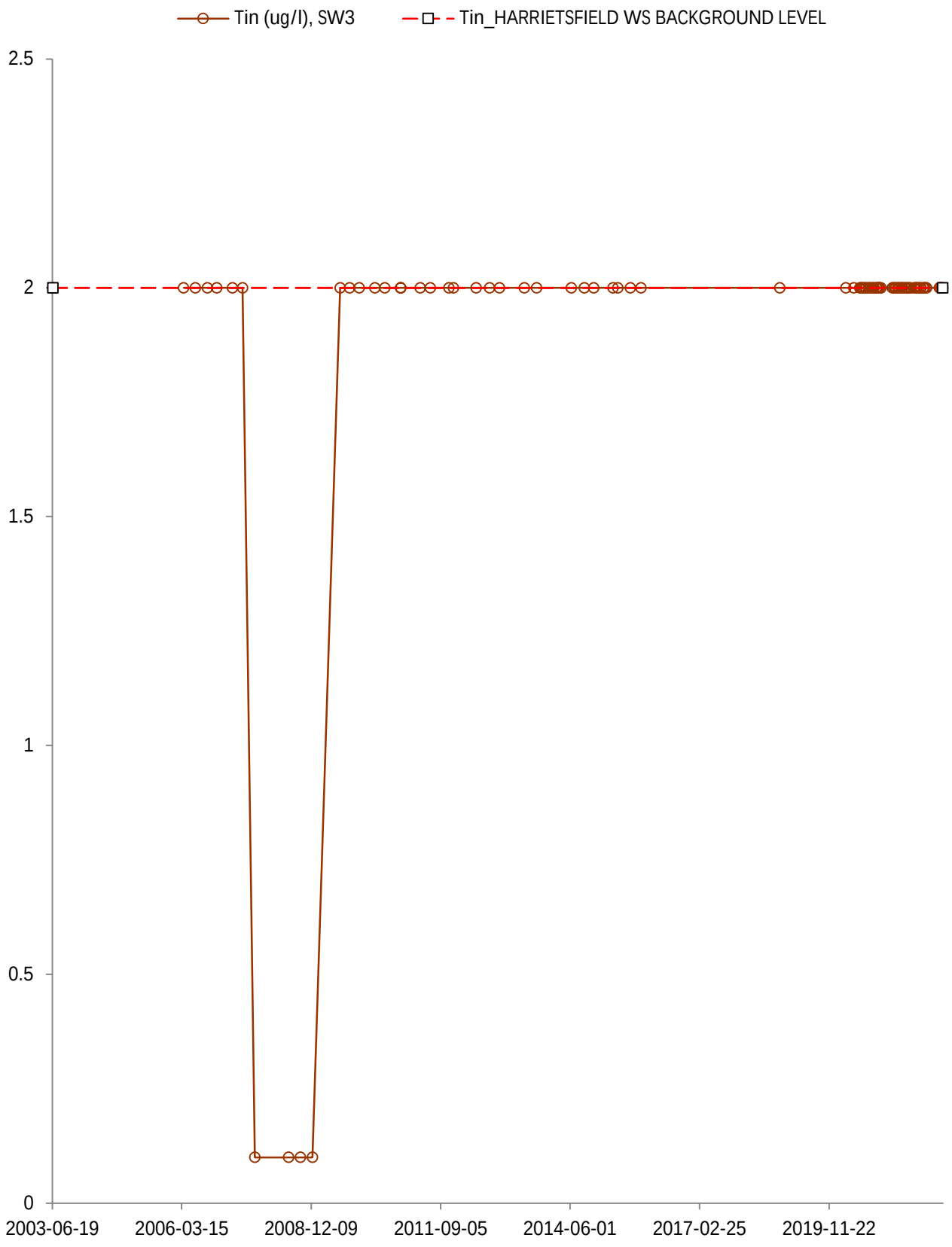
SW3-Sulphate



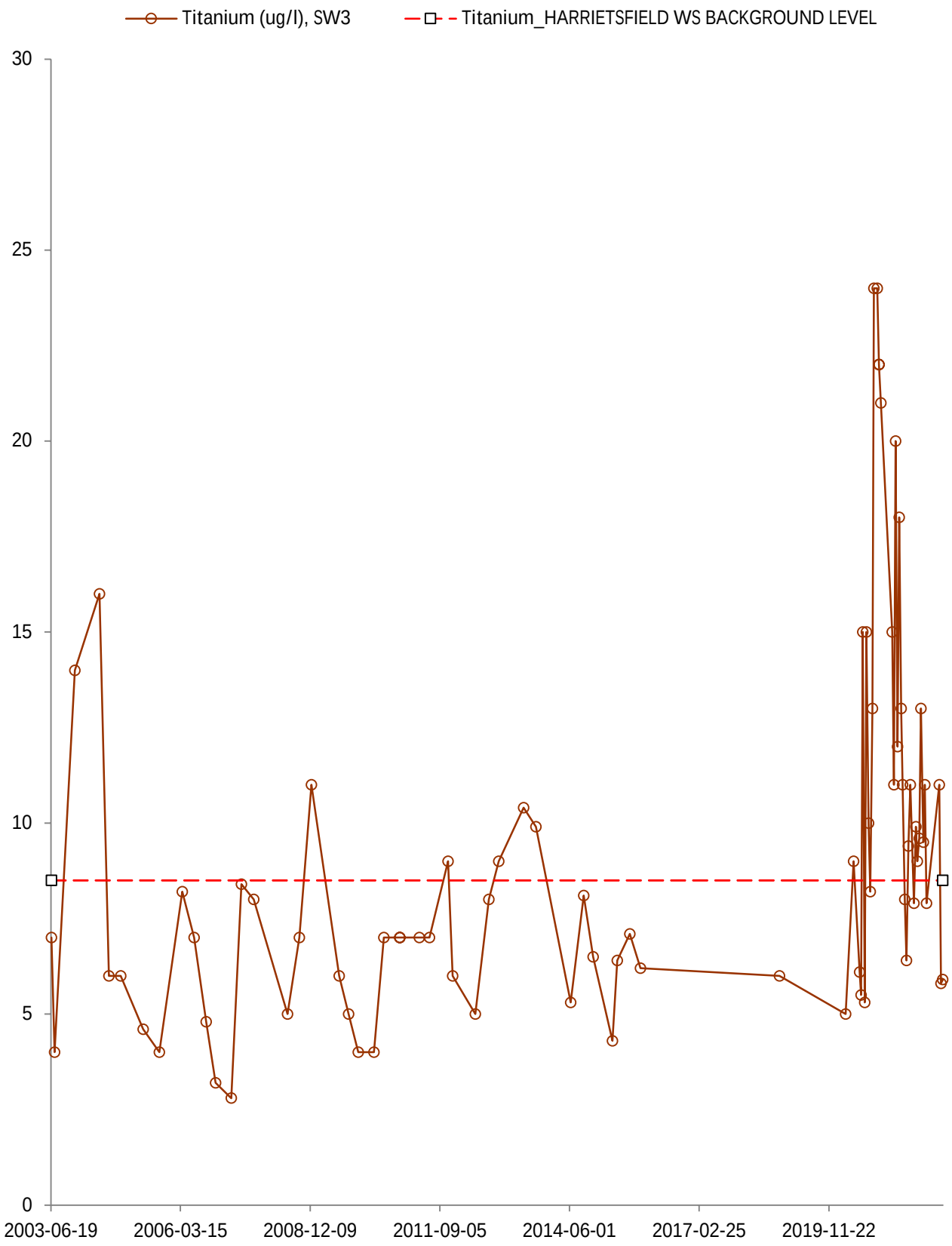
SW3-Thallium



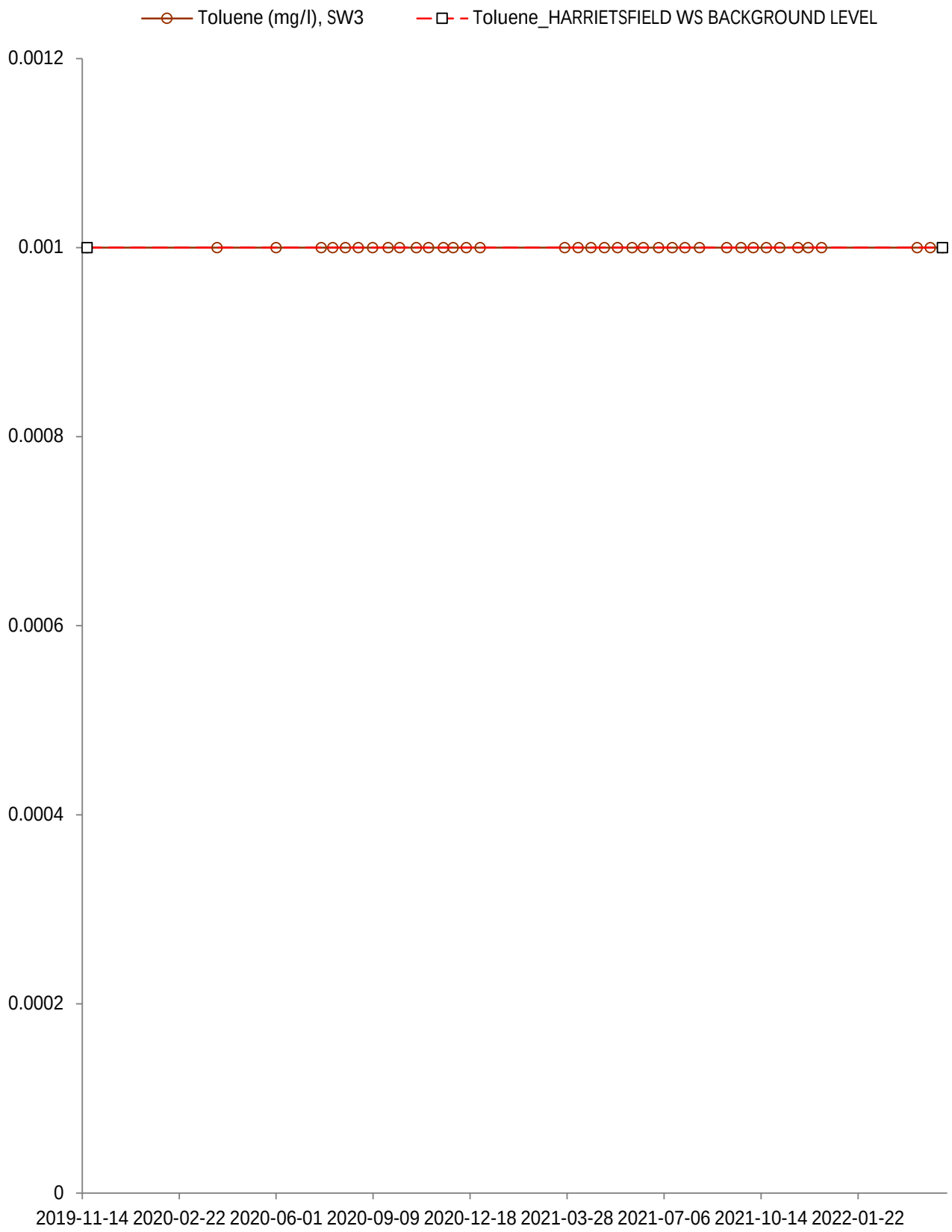
SW3-Tin


Tin (ug/l), SW3
Tin_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

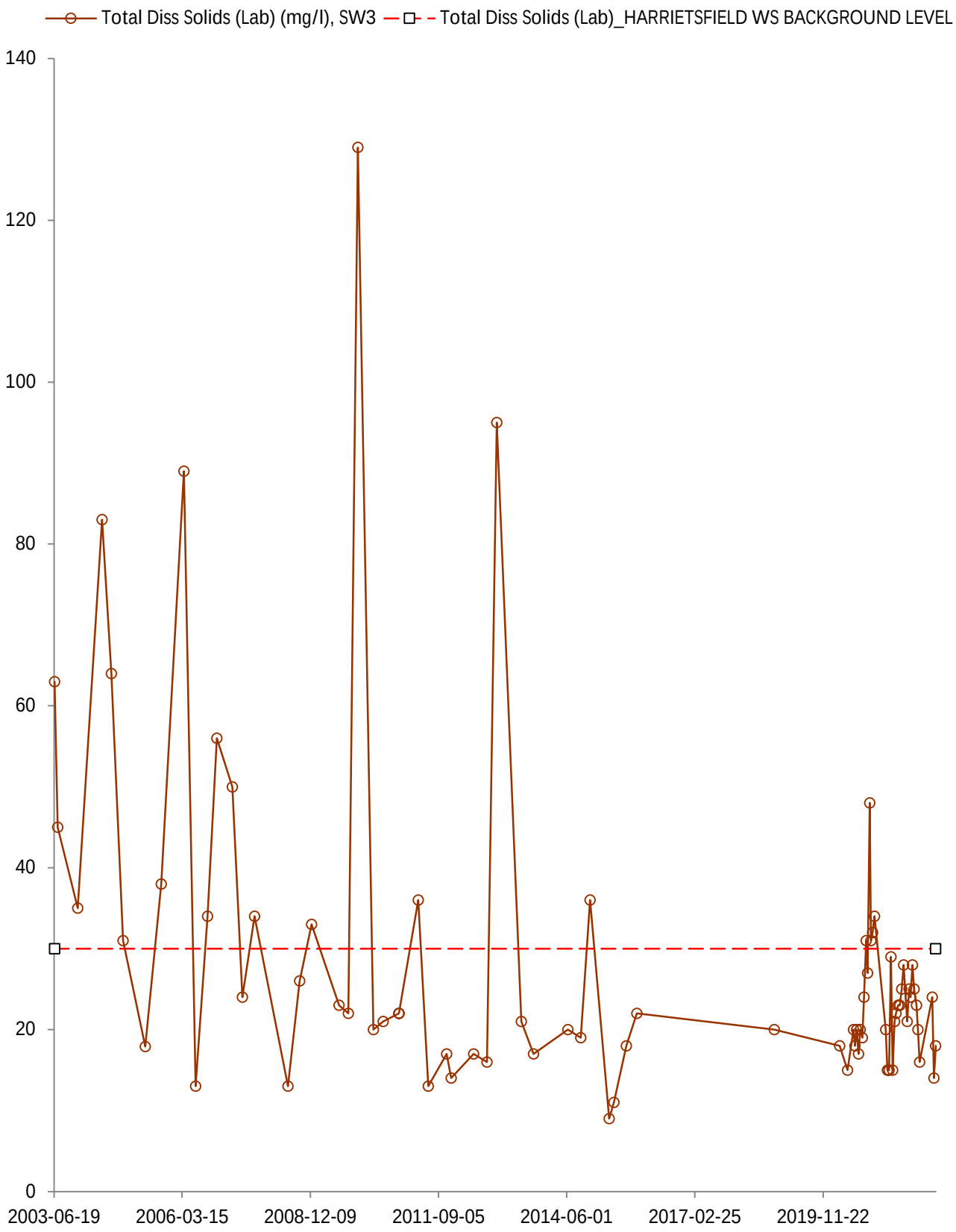
SW3-Titanium



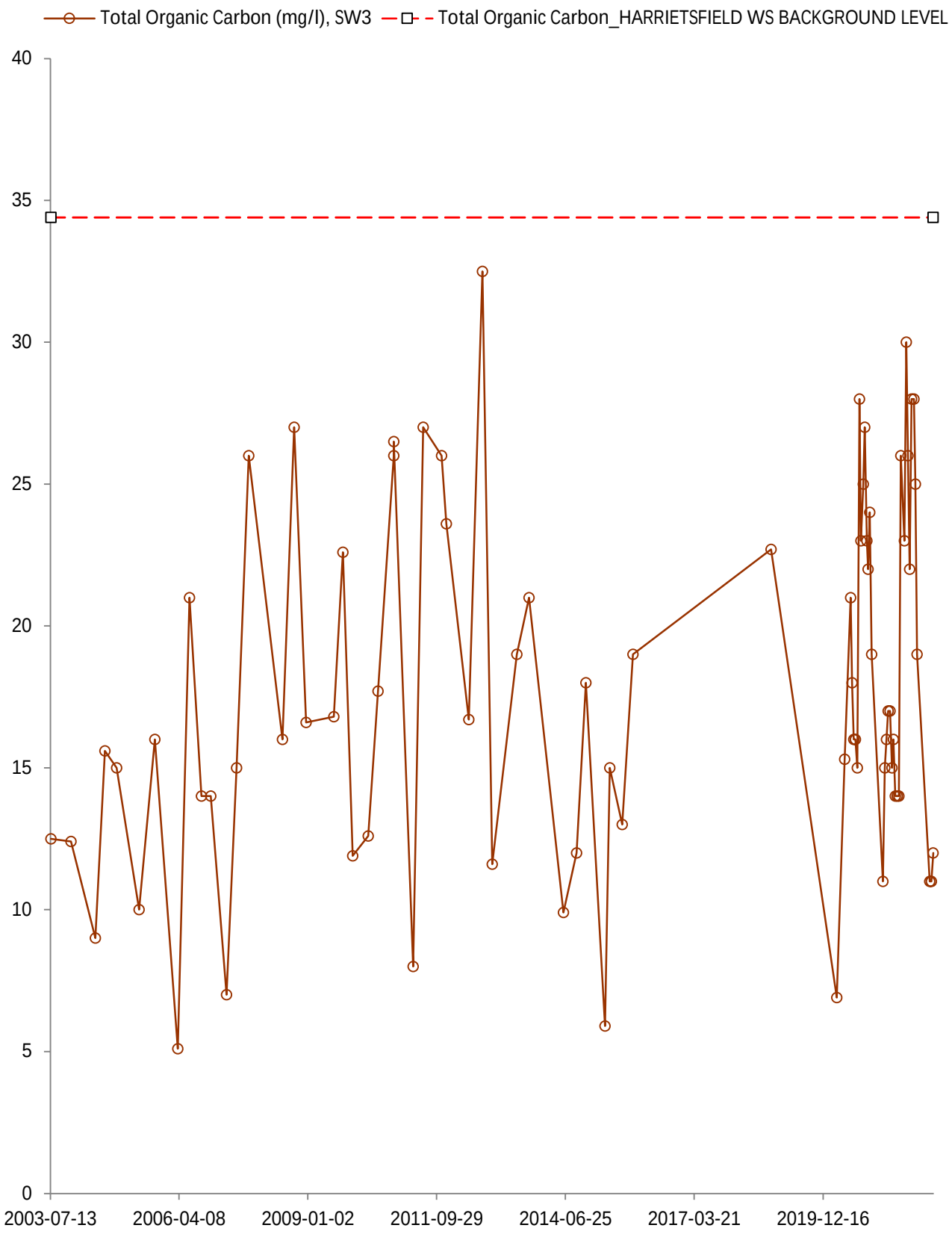
SW3-Toluene


Toluene (mg/l), SW3
Toluene_HARRIETSFIELD WS BACKGROUND LEVEL
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
2019-11-14
2020-02-22
2020-06-01
2020-09-09
2020-12-18
2021-03-28
2021-07-06
2021-10-14
2022-01-22

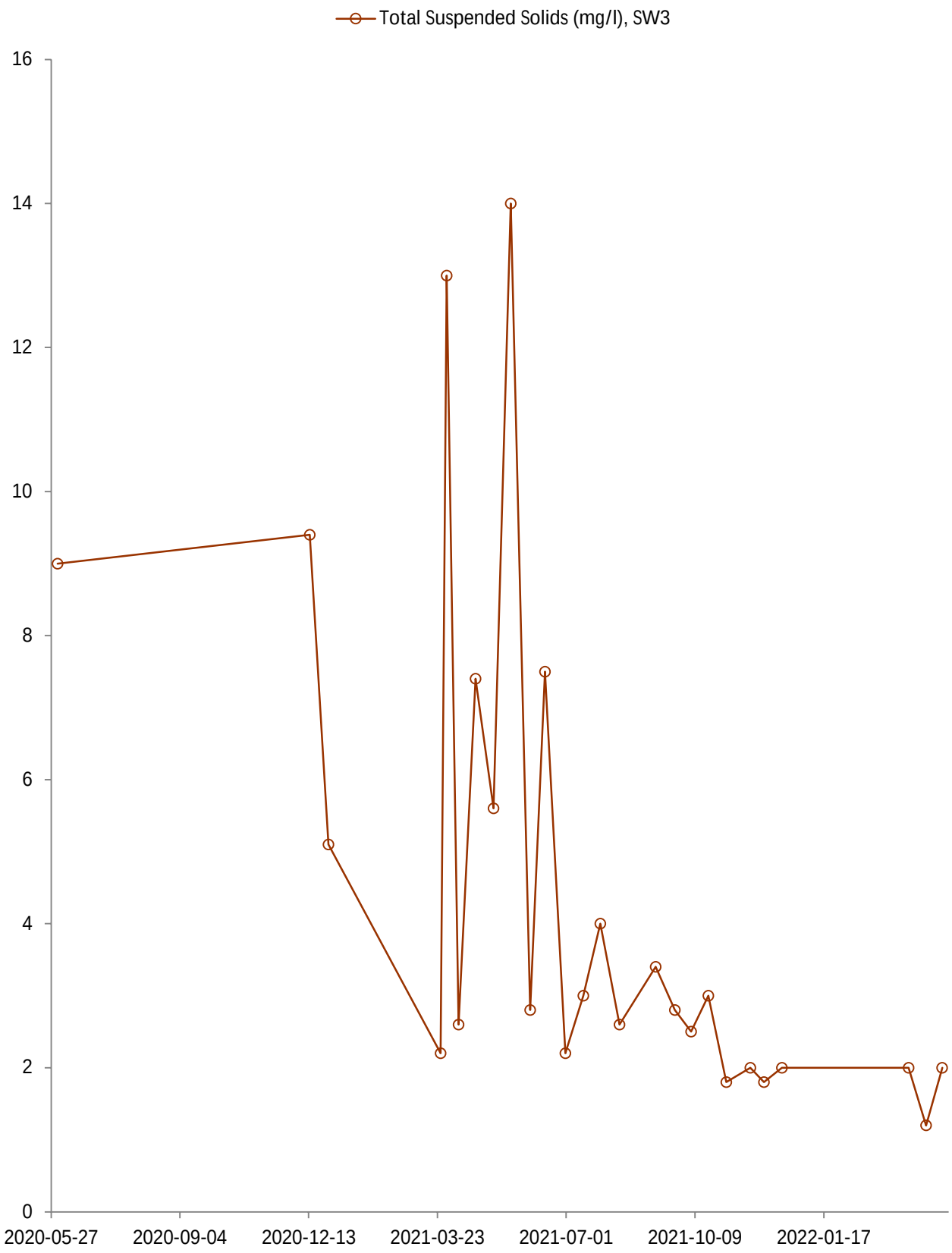
SW3-Total Diss Solids (Lab)



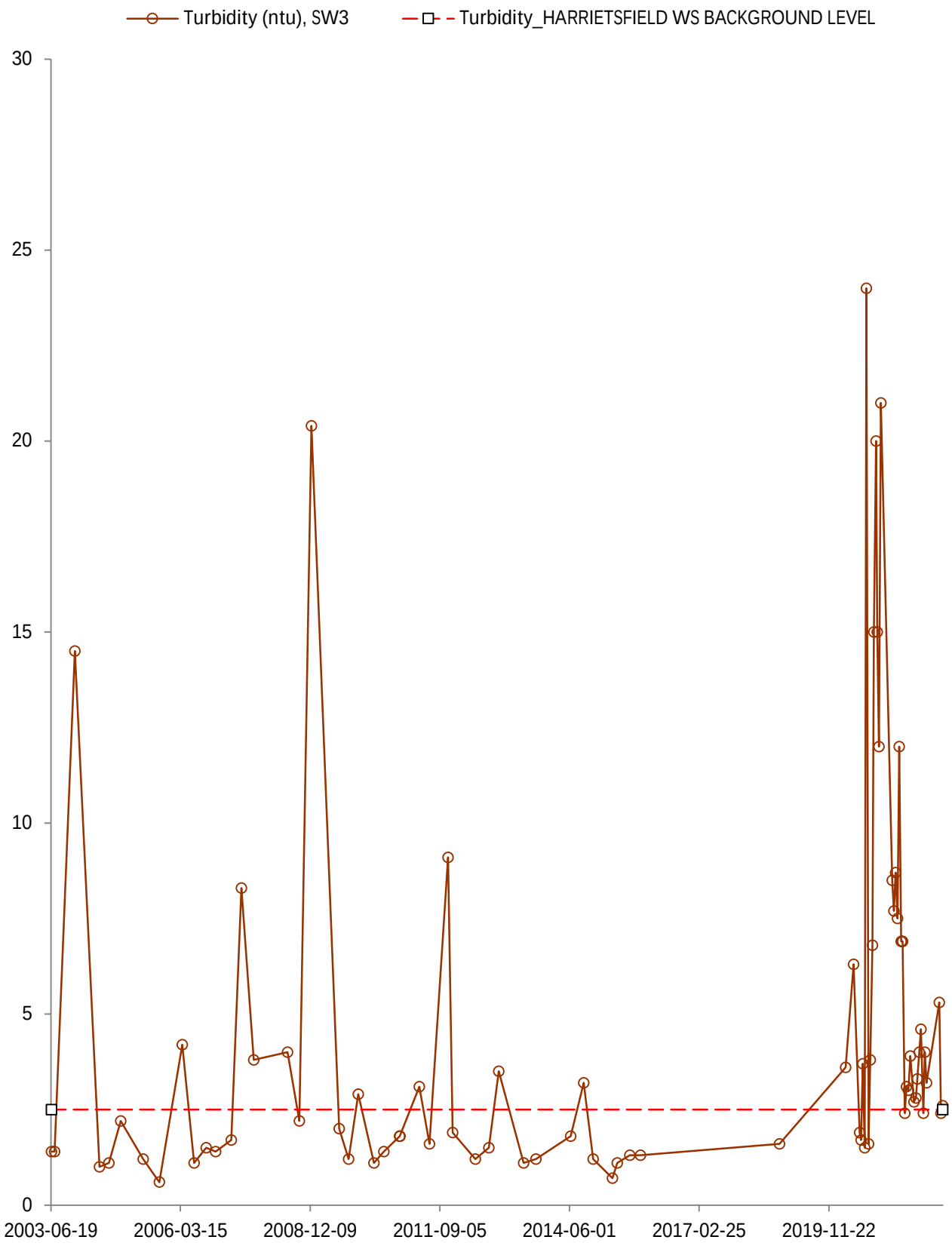
SW3-Total Organic Carbon



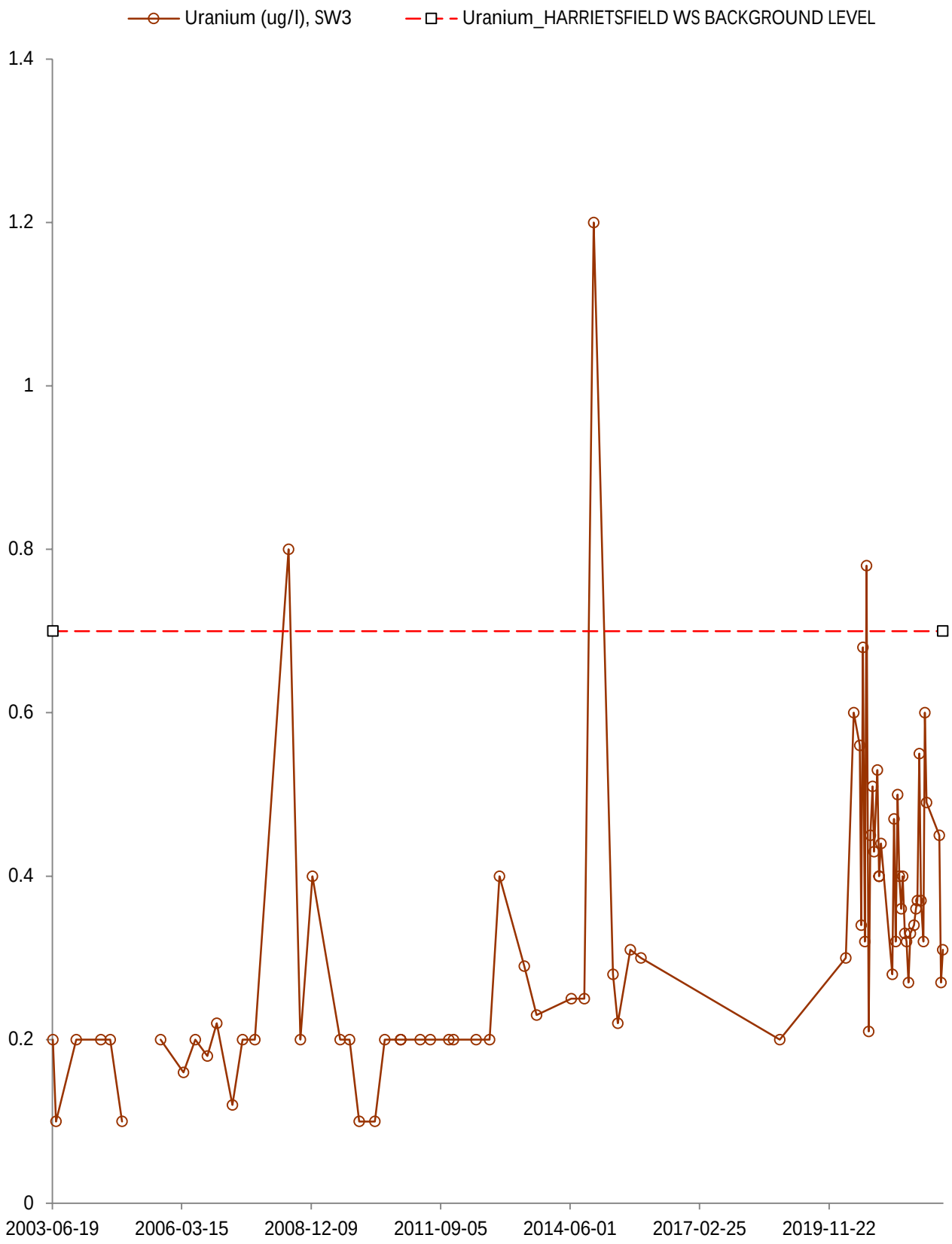
SW3-Total Suspended Solids



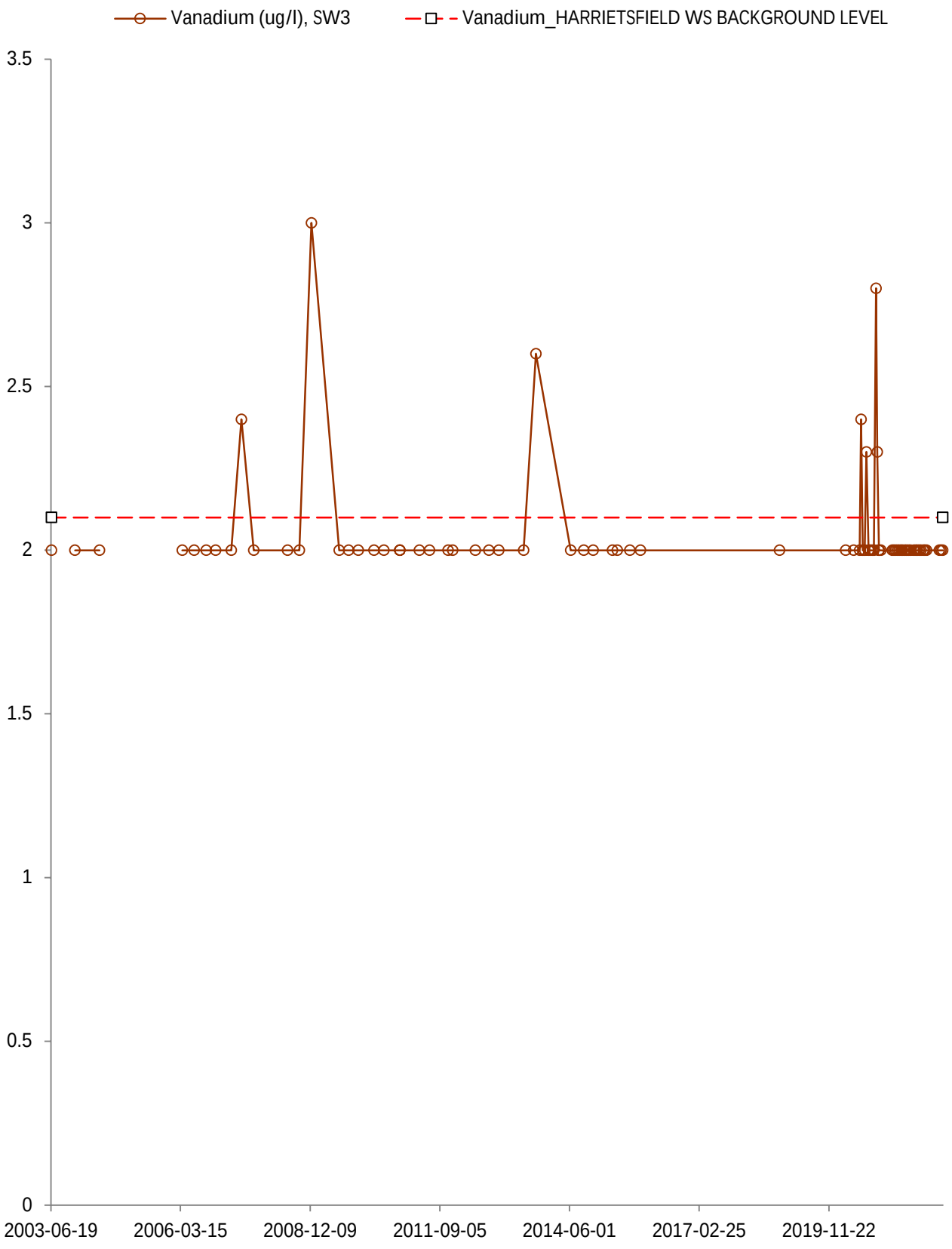
SW3-Turbidity



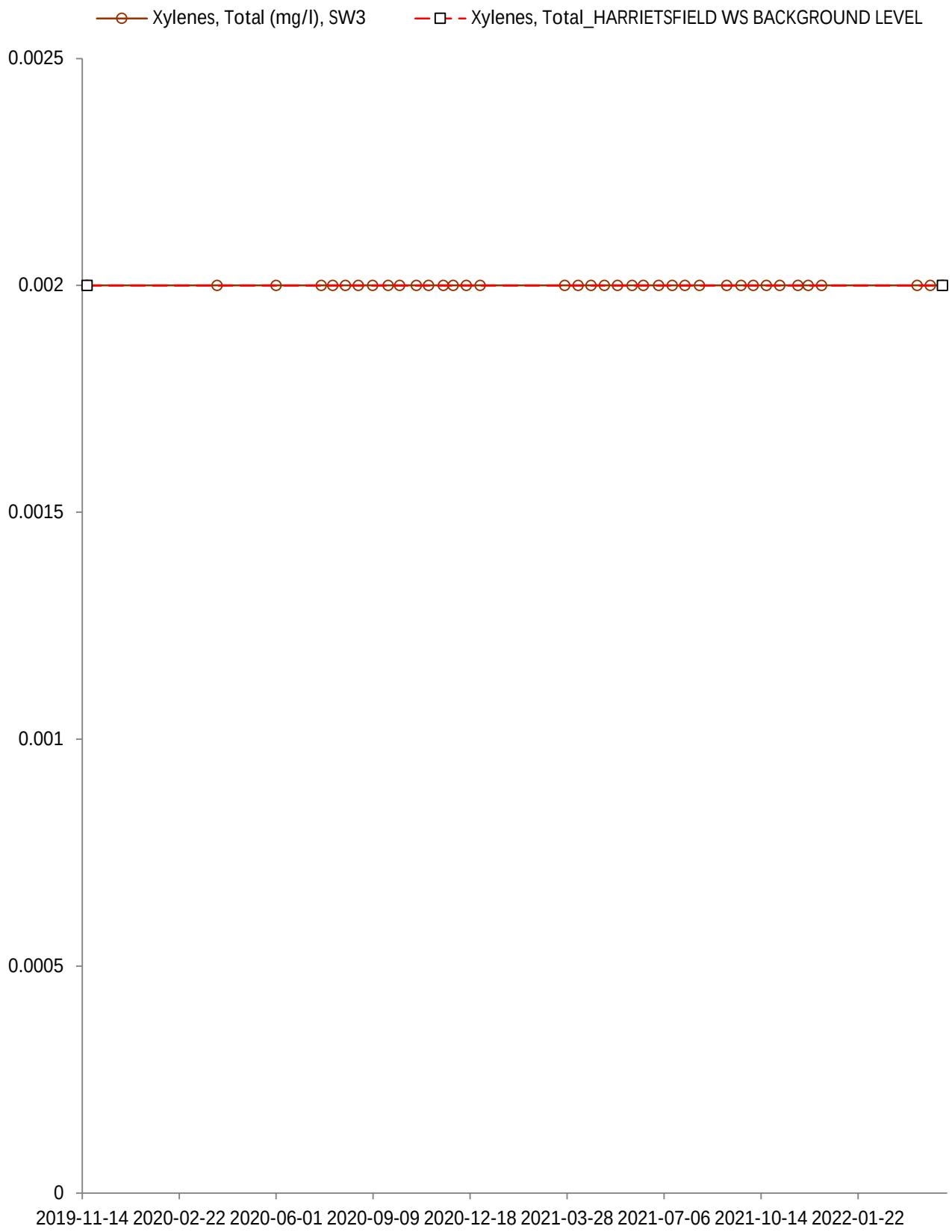
SW3-Uranium


Uranium (ug/l), SW3
Uranium_HARRIETSFIELD WS BACKGROUND LEVEL
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

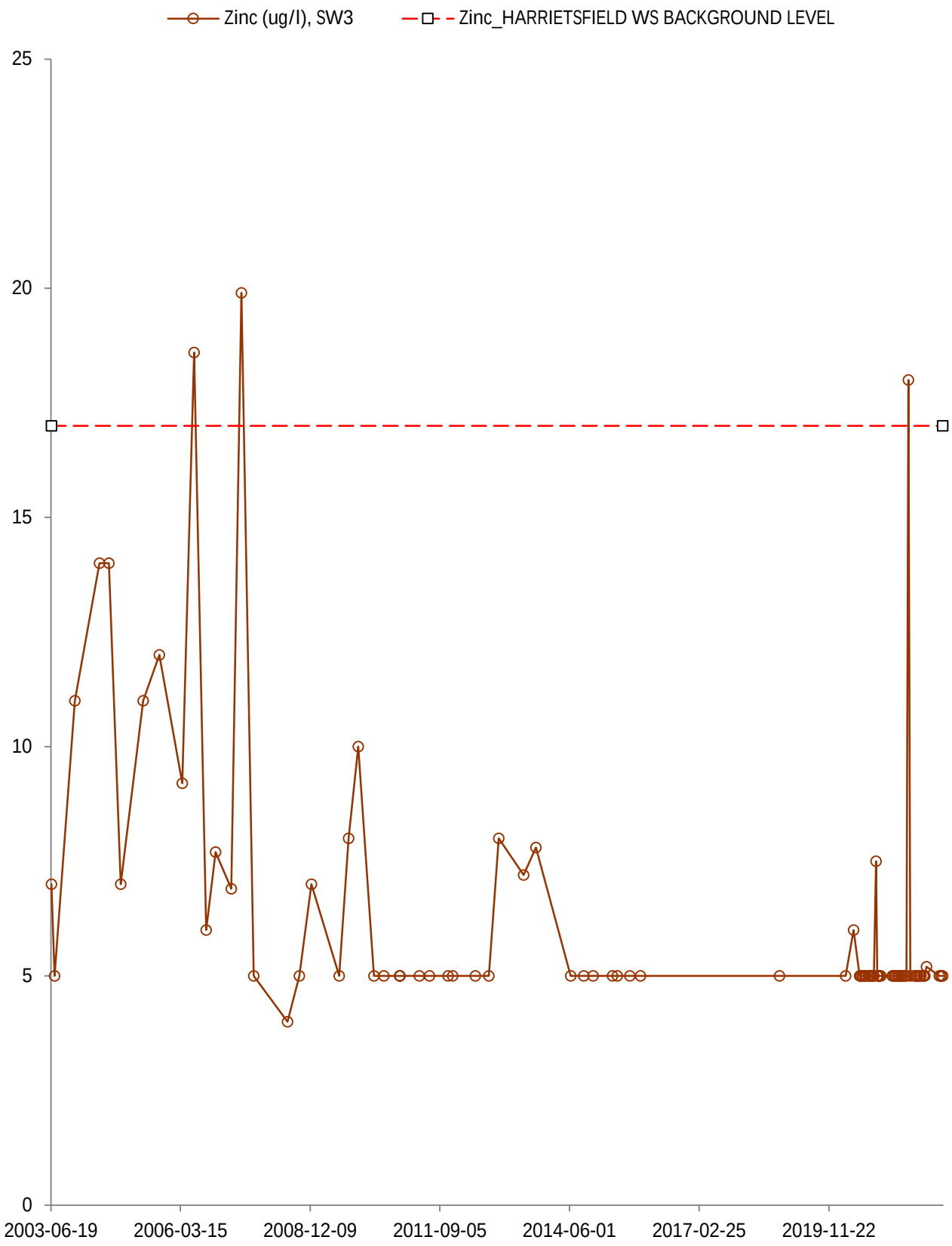
SW3-Vanadium



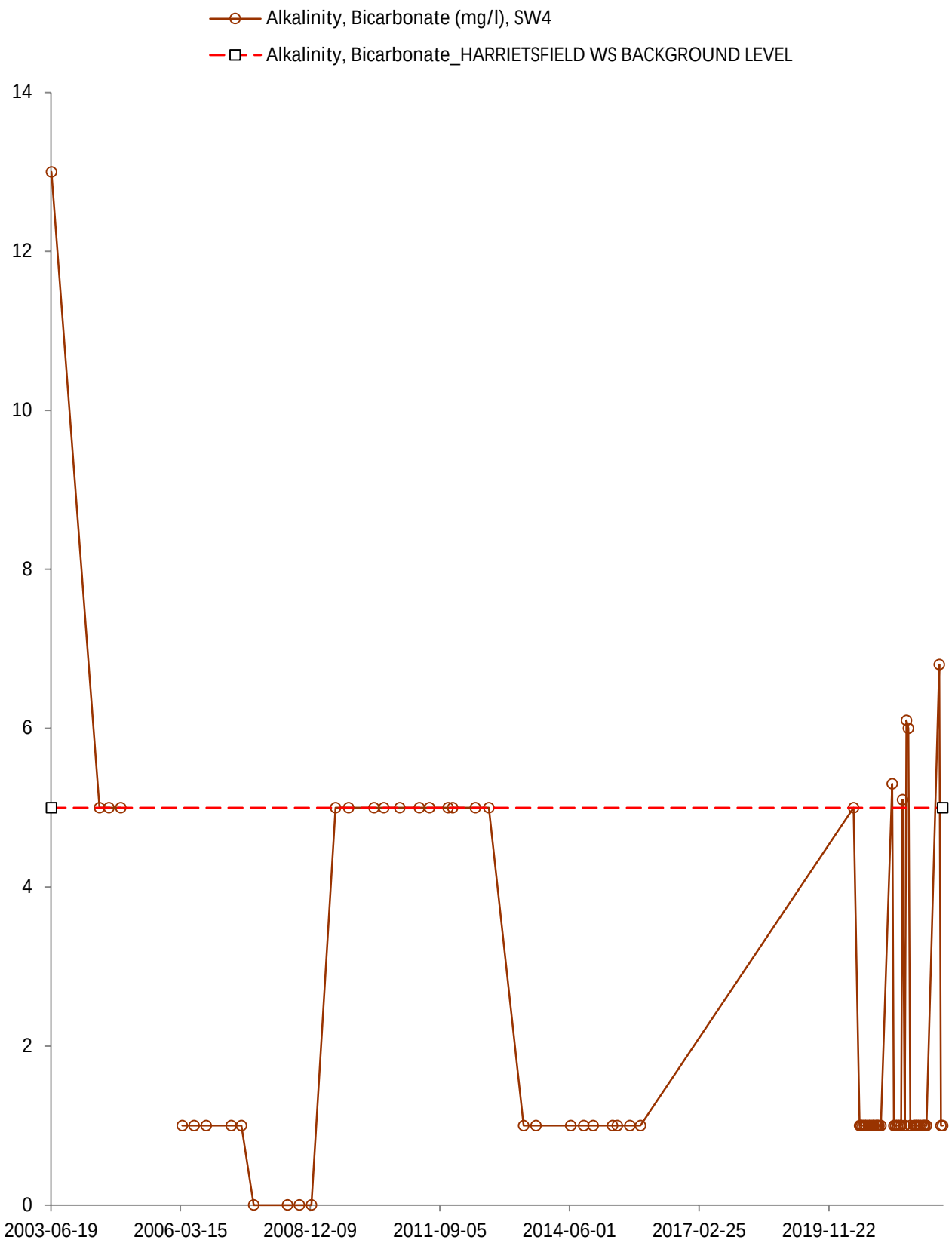
SW3-Xylenes, Total



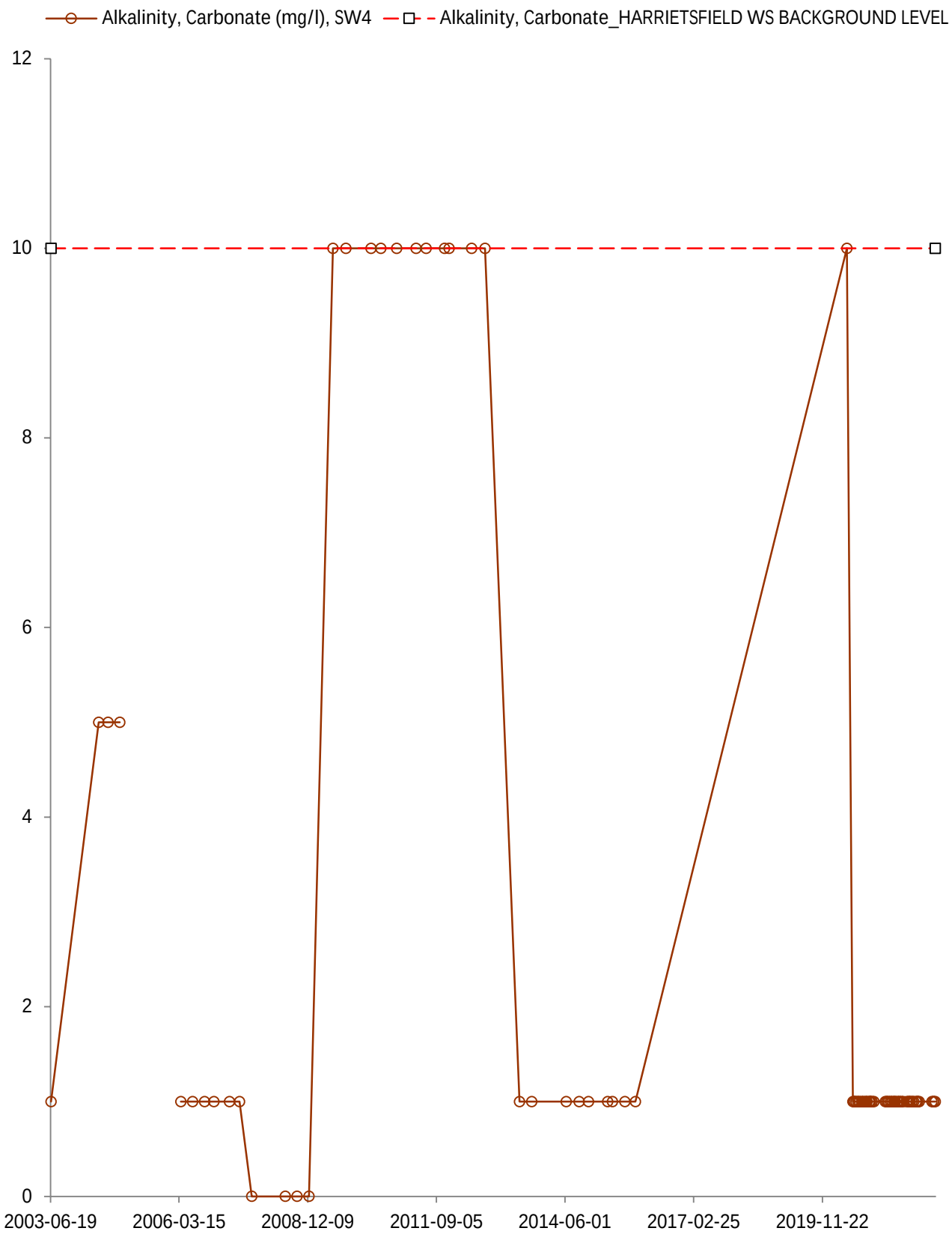
SW3-Zinc


Zinc (ug/l), SW3
Zinc_HARRIETSFIELD WS BACKGROUND LEVEL
25
20
15
10
5
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

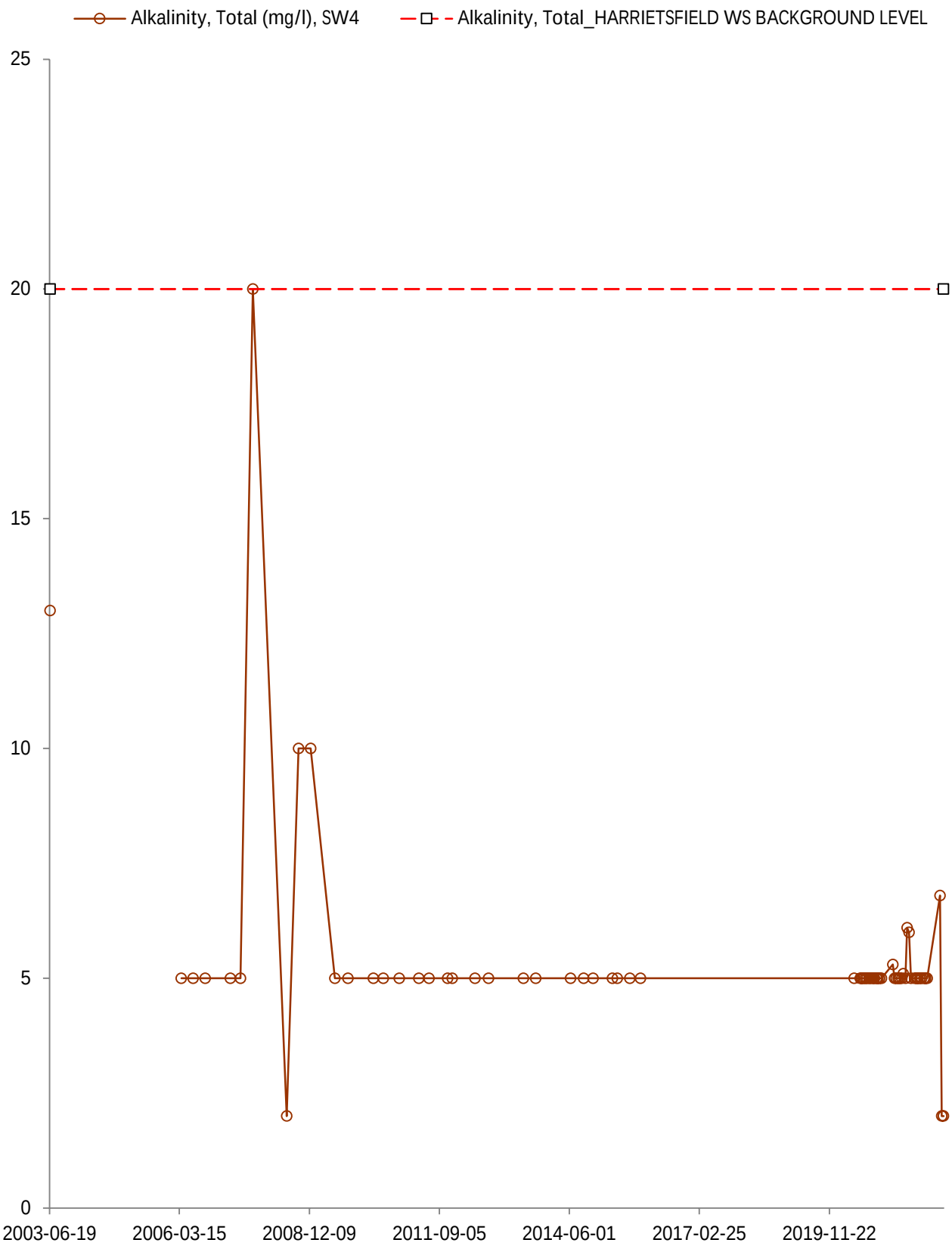
SW4-Alkalinity, Bicarbonate



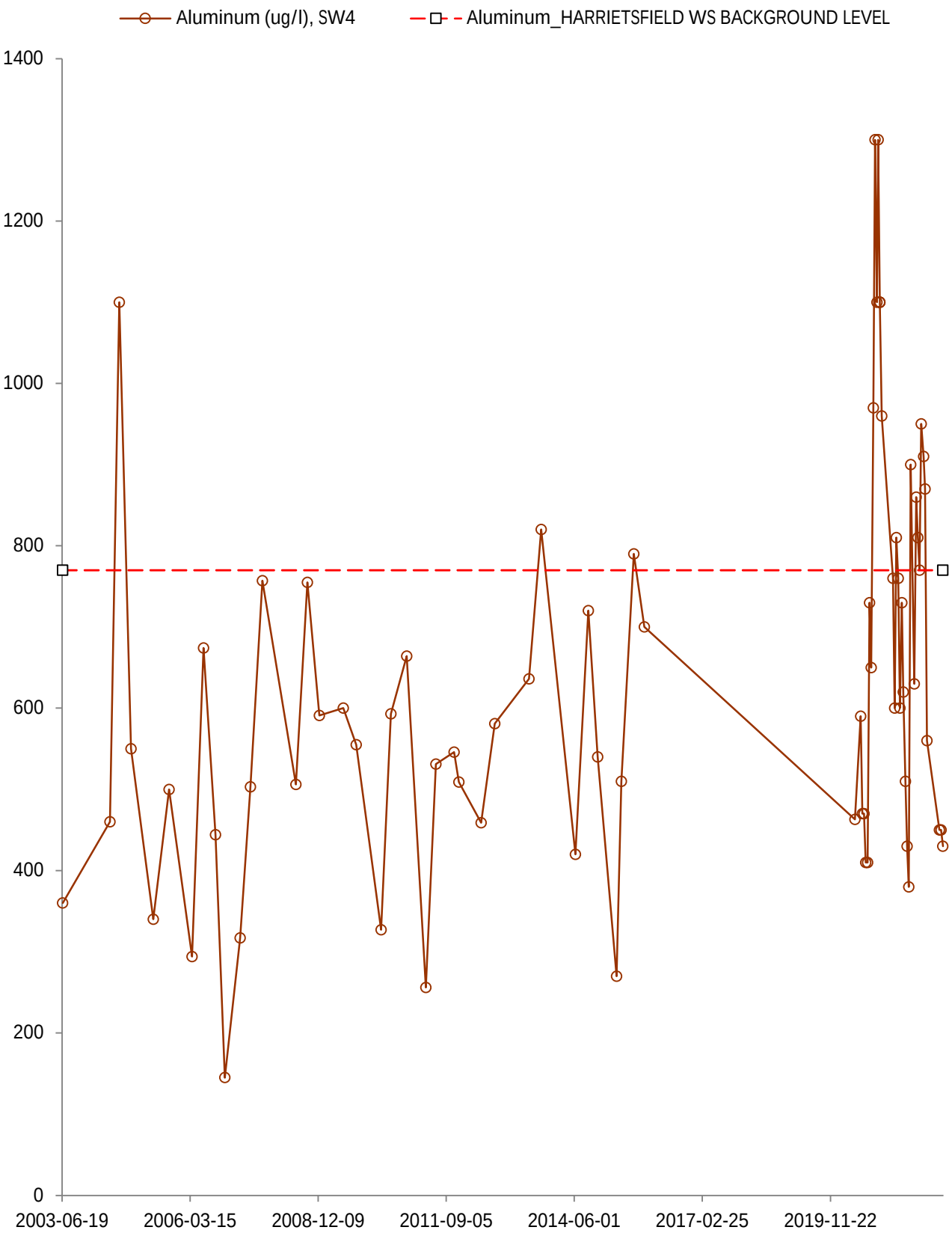
SW4-Alkalinity, Carbonate



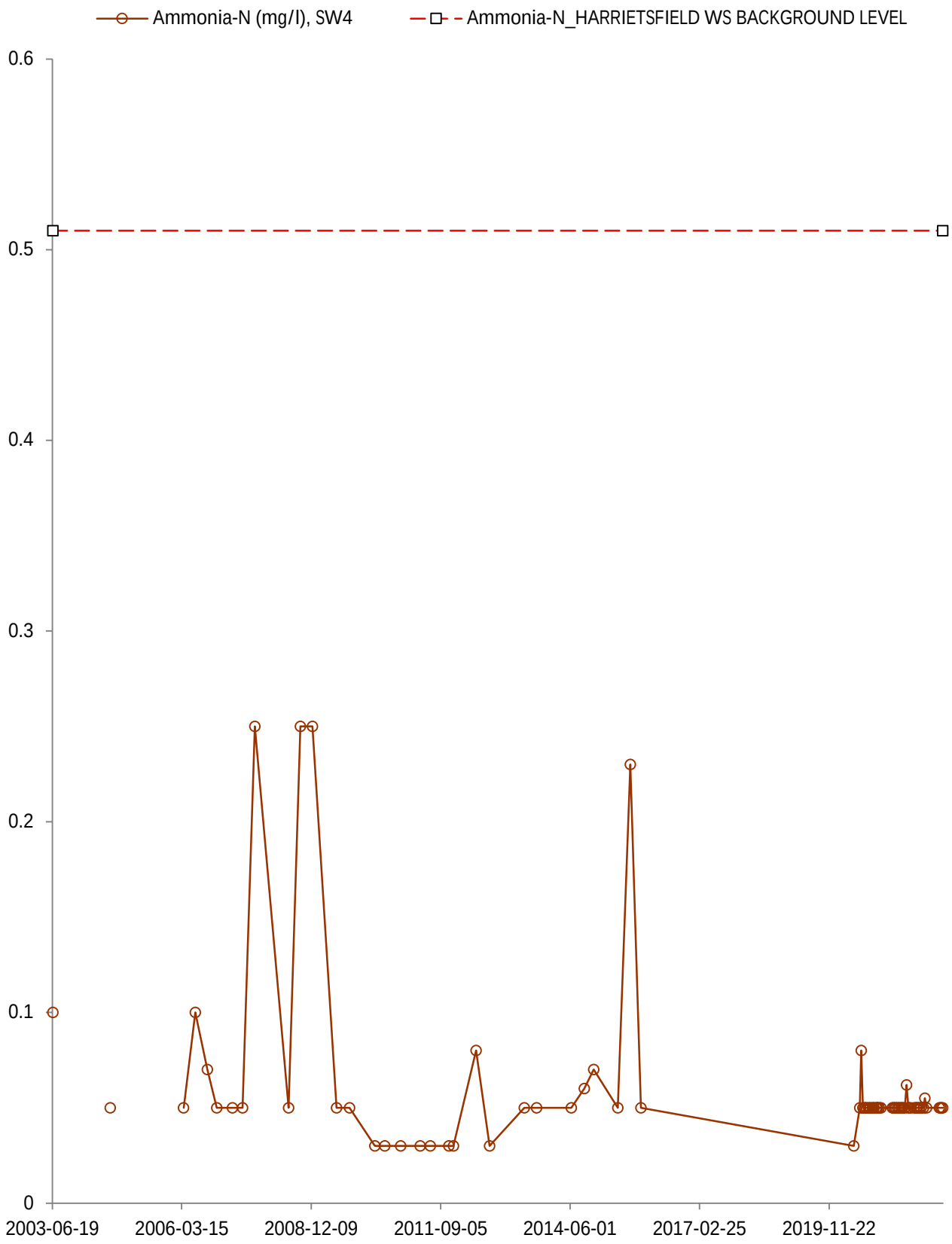
SW4-Alkalinity, Total



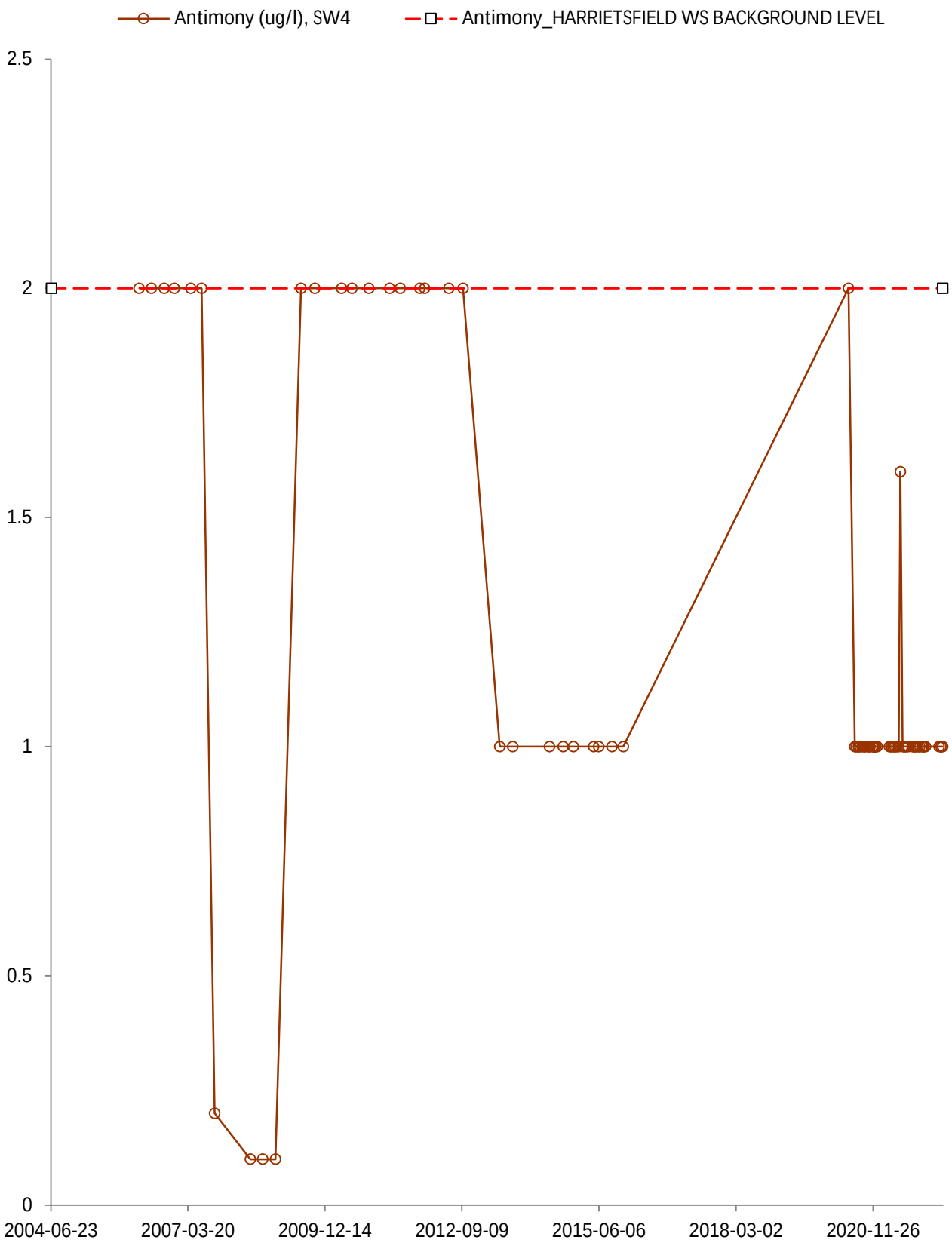
SW4-Aluminum



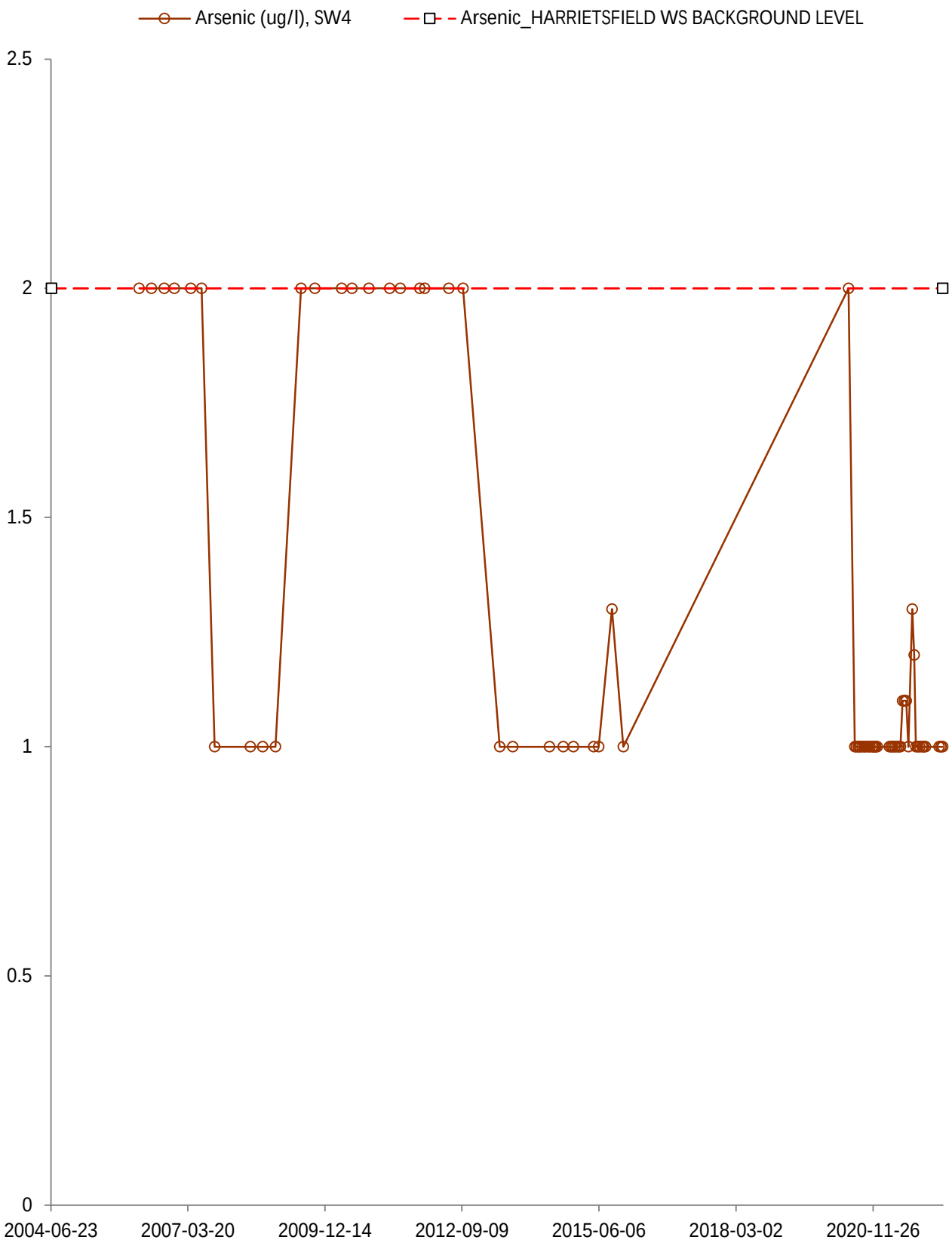
SW4-Ammonia-N



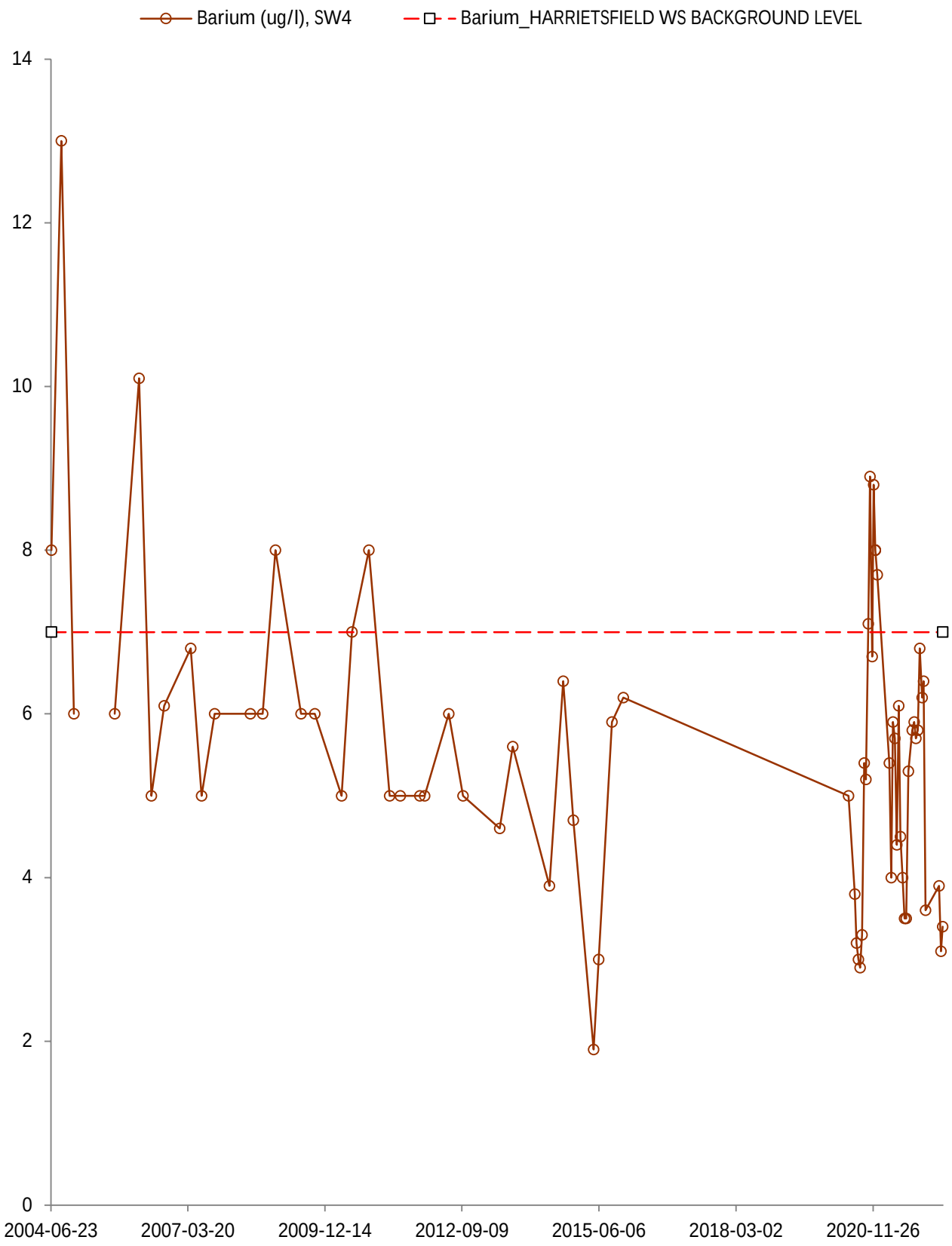
SW4-Antimony



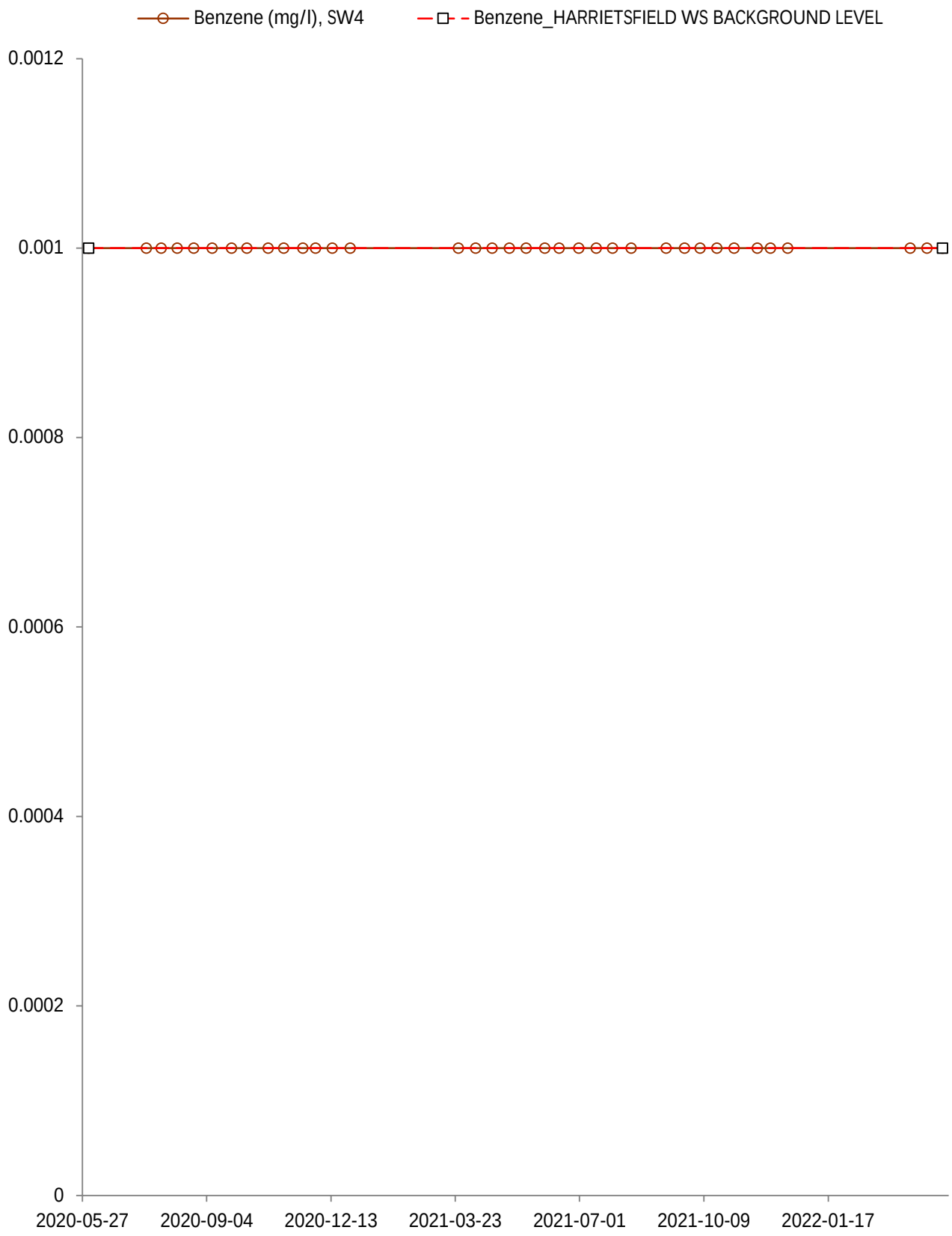
SW4-Arsenic


Arsenic (ug/l), SW4
Arsenic_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

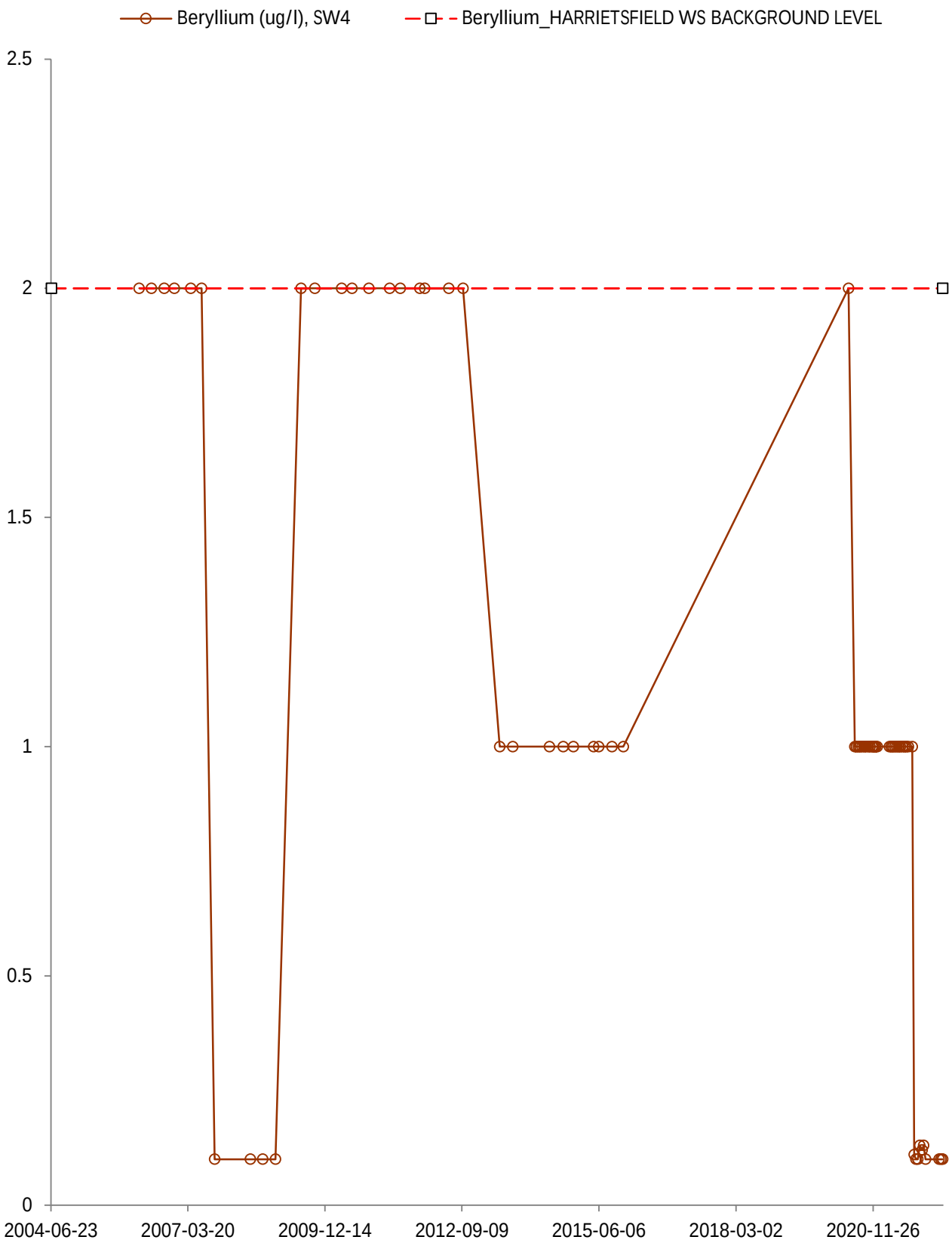
SW4-Barium


Barium (ug/l), SW4
Barium_HARRIETSFIELD WS BACKGROUND LEVEL
14
12
10
8
6
4
2
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

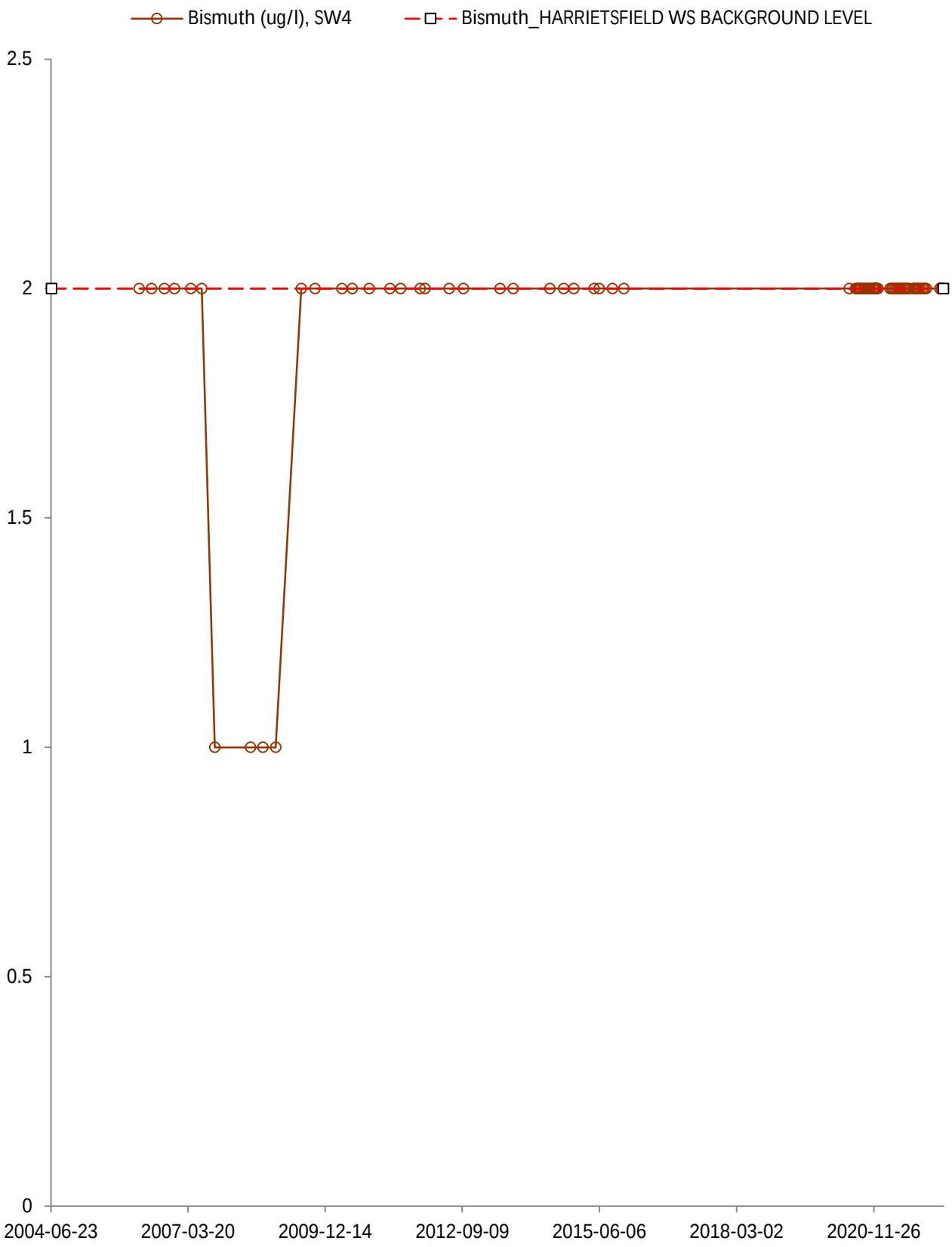
SW4-Benzene


Benzene (mg/l), SW4
Benzene_HARRIETSFIELD WS BACKGROUND LEVEL
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
2020-05-27
2020-09-04
2020-12-13
2021-03-23
2021-07-01
2021-10-09
2022-01-17

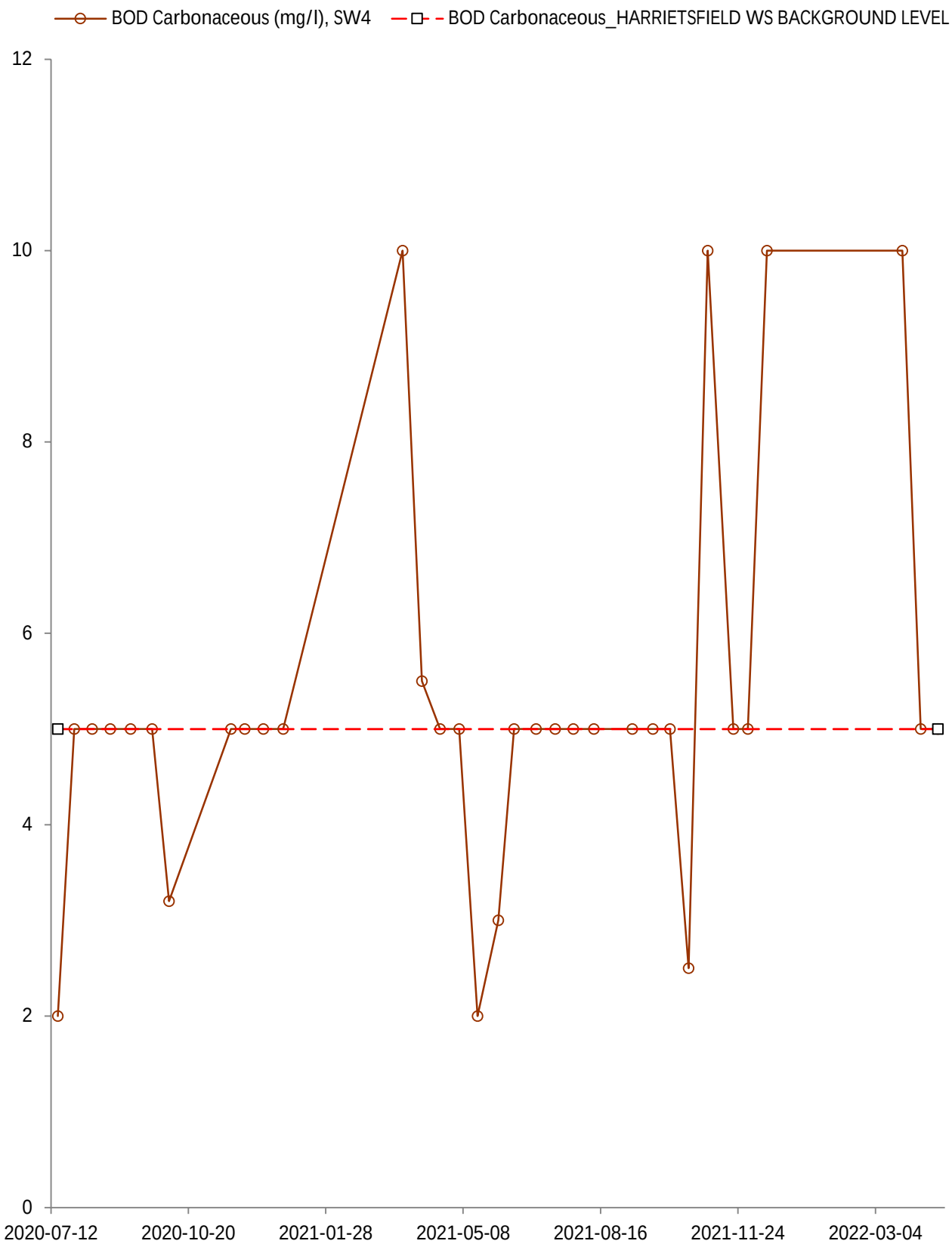
SW4-Beryllium



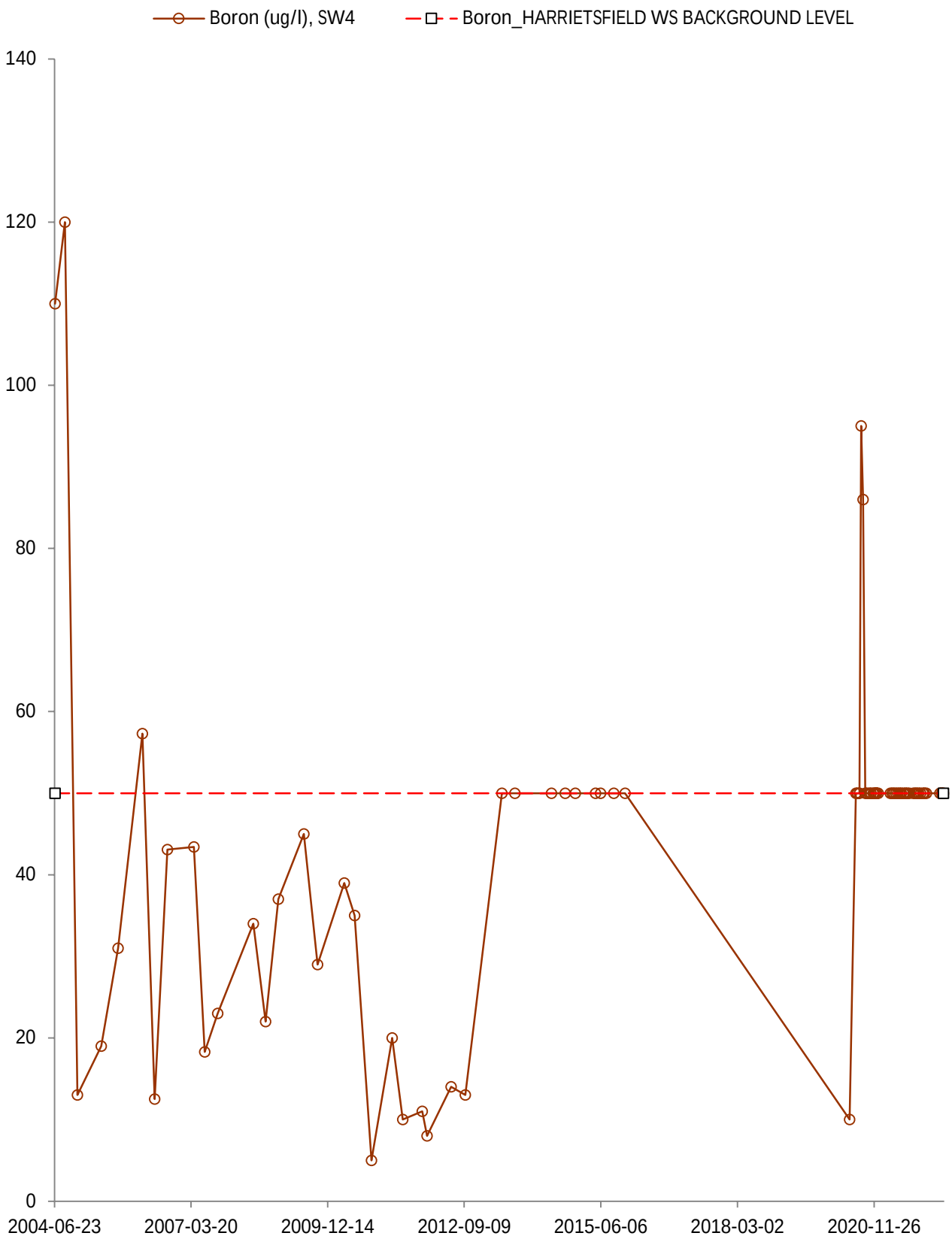
SW4-Bismuth


Bismuth (ug/l), SW4
Bismuth_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

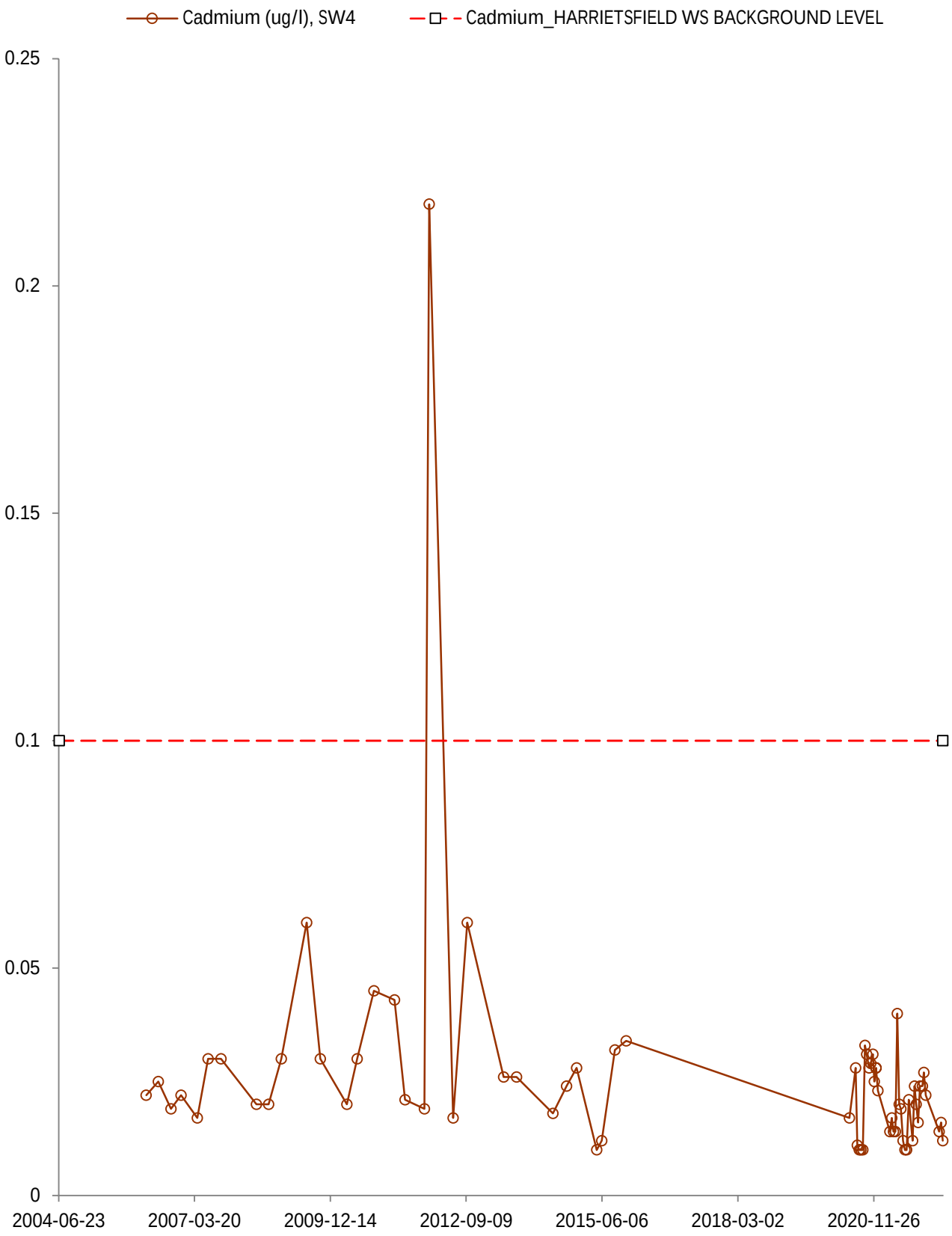
SW4-BOD Carbonaceous



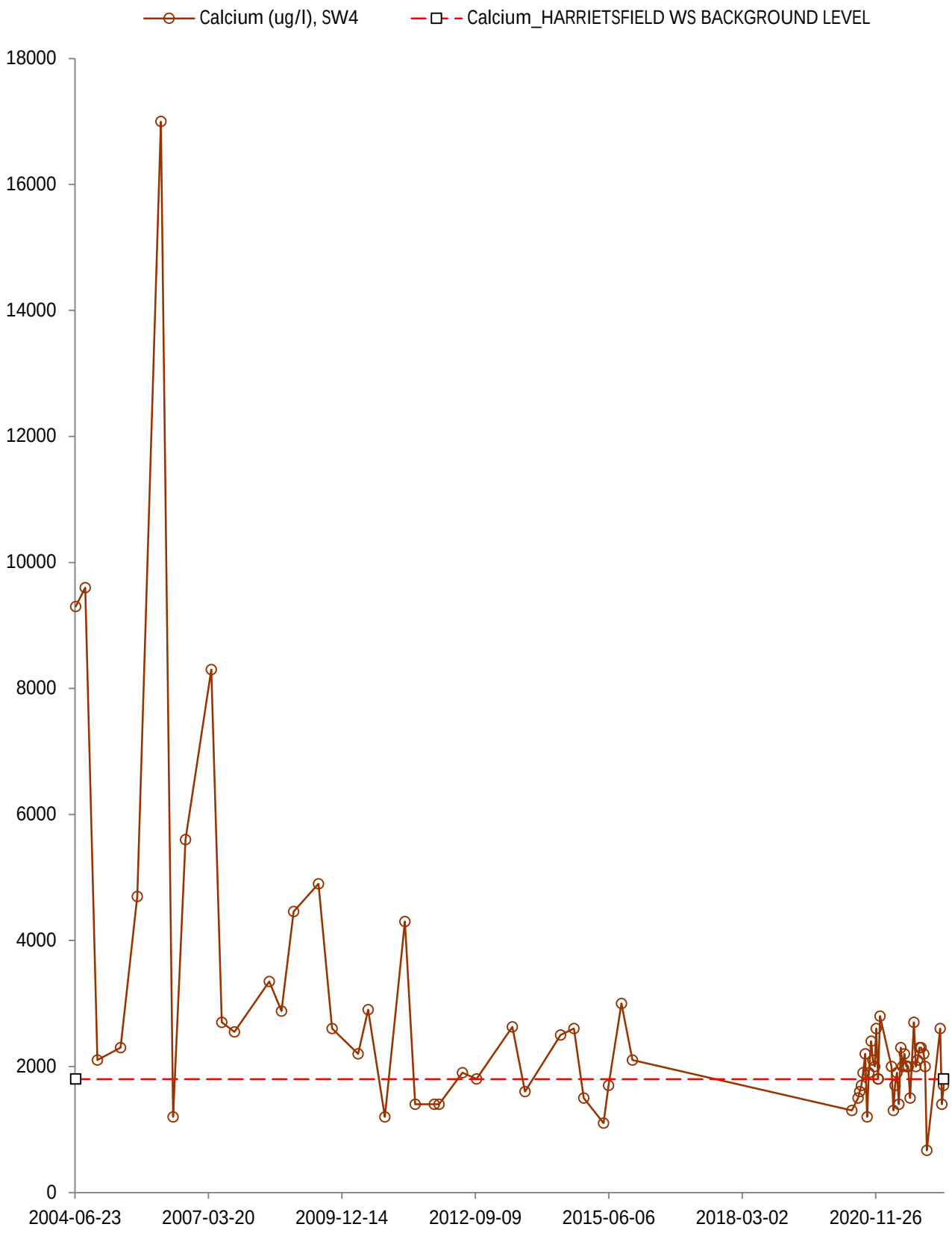
SW4-Boron


Boron (ug/l), SW4
Boron_HARRIETSFIELD WS BACKGROUND LEVEL
140
120
100
80
60
40
20
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

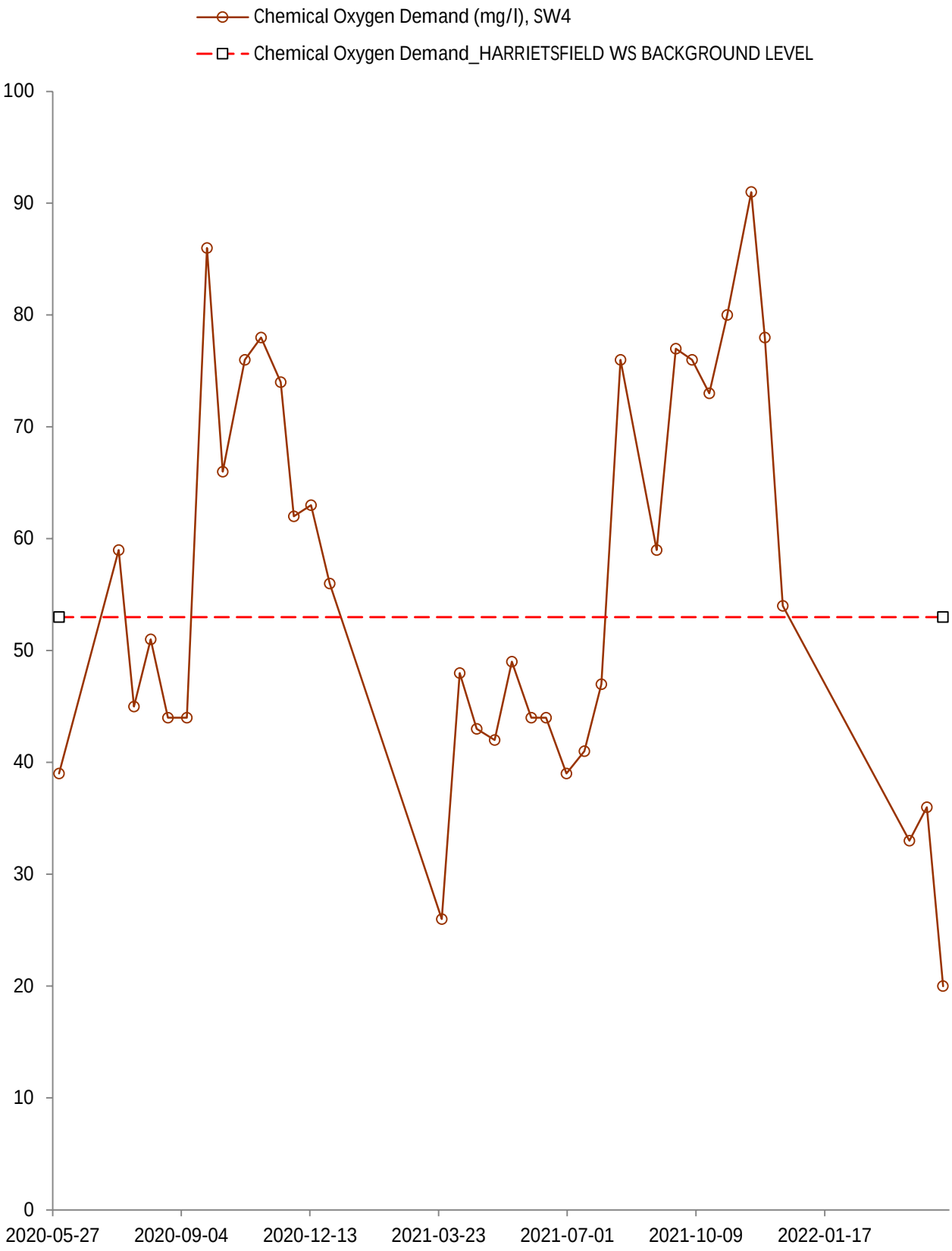
SW4-Cadmium


Cadmium (ug/l), SW4
Cadmium_HARRIETSFIELD WS BACKGROUND LEVEL
0.25
0.2
0.15
0.1
0.05
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

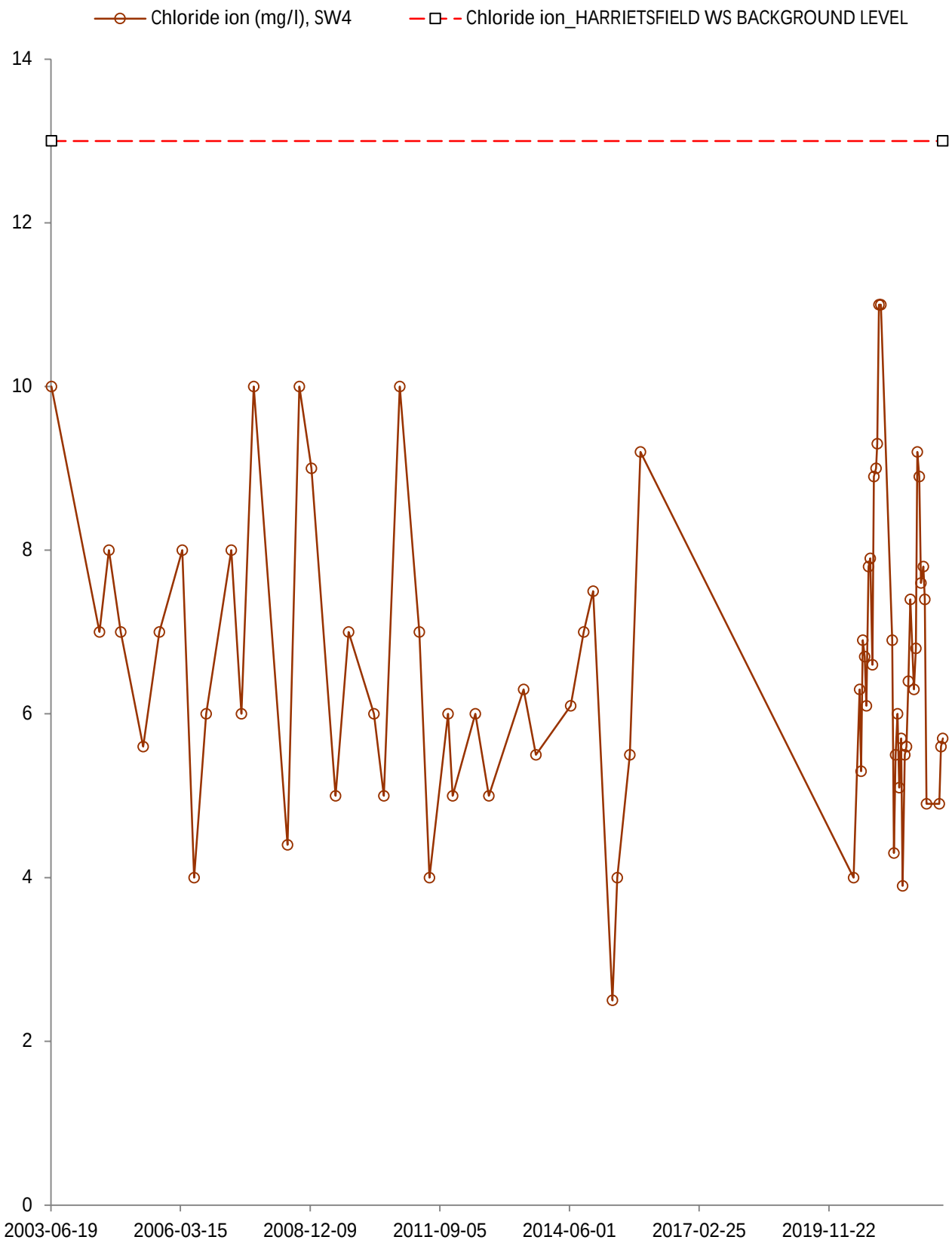
SW4-Calcium


Calcium (ug/l), SW4
Calcium_HARRIETSFIELD WS BACKGROUND LEVEL
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

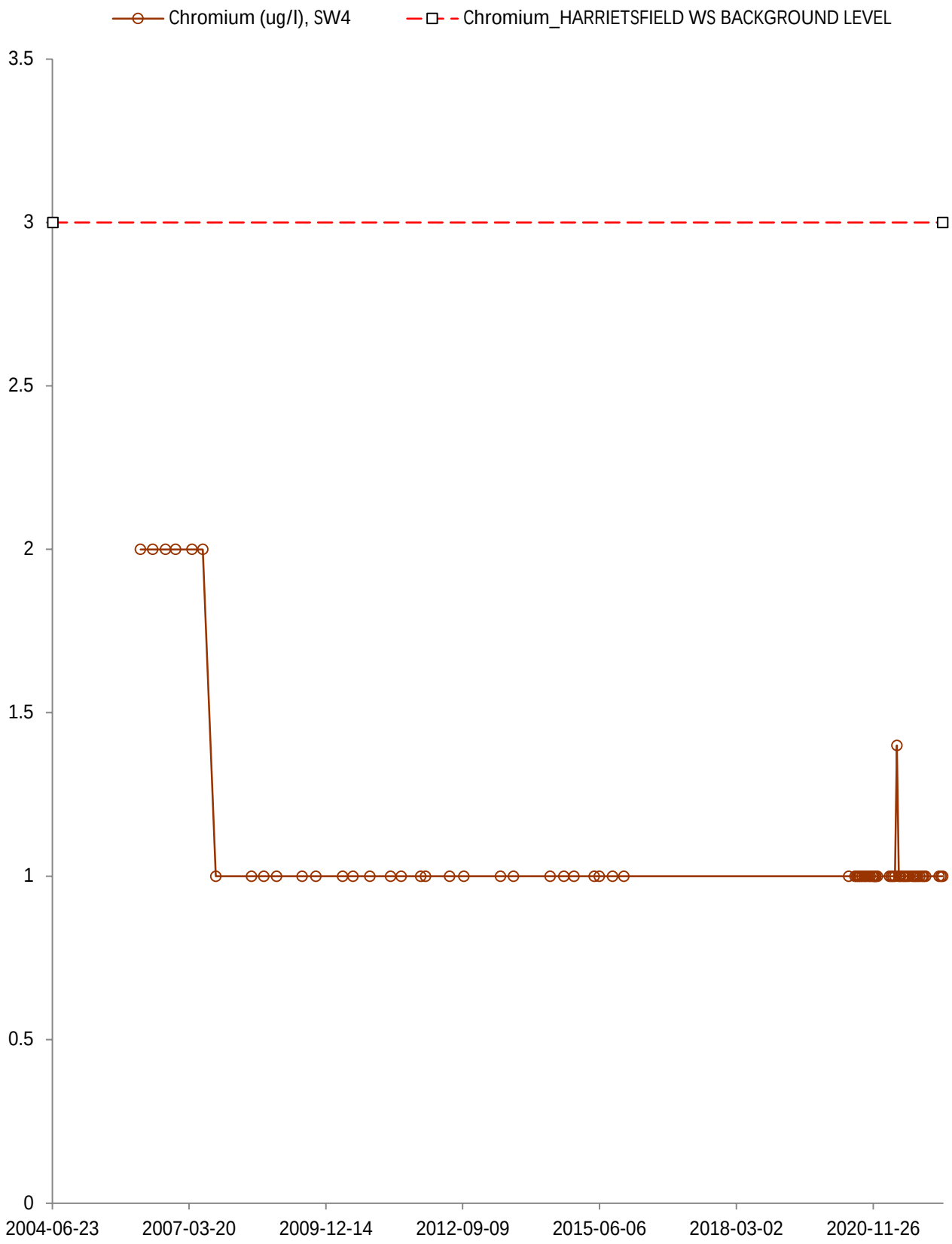
SW4-Chemical Oxygen Demand



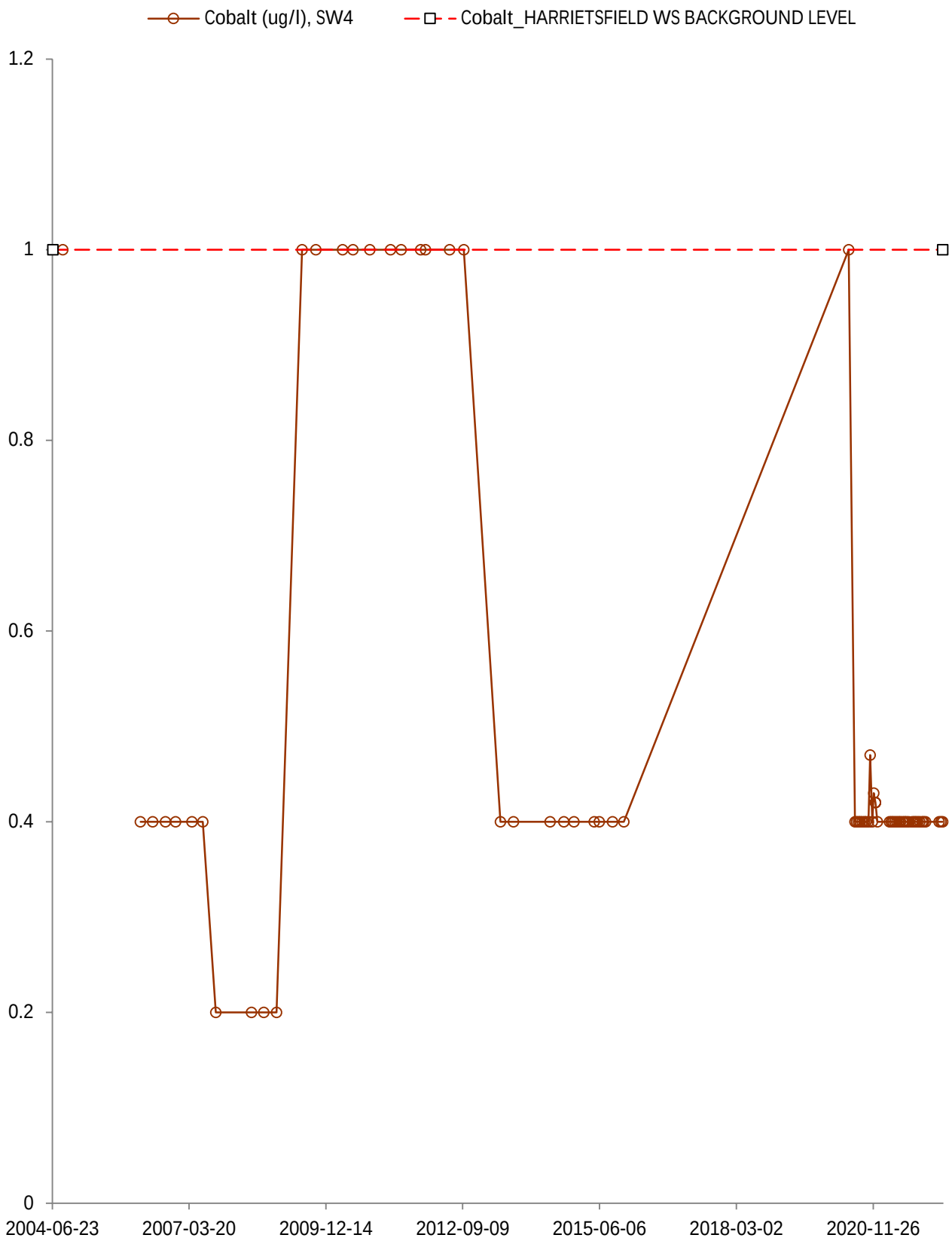
SW4-Chloride ion



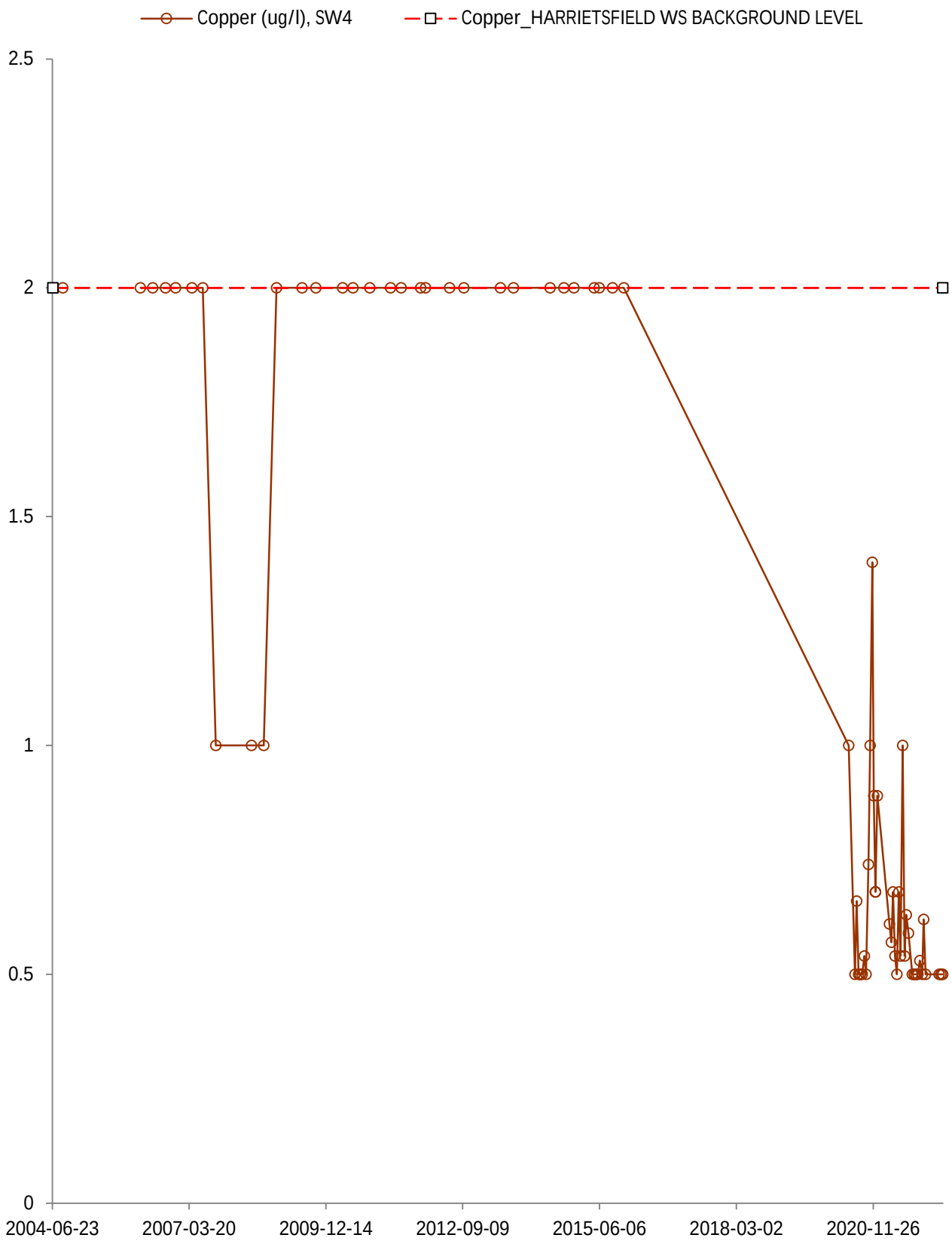
SW4-Chromium



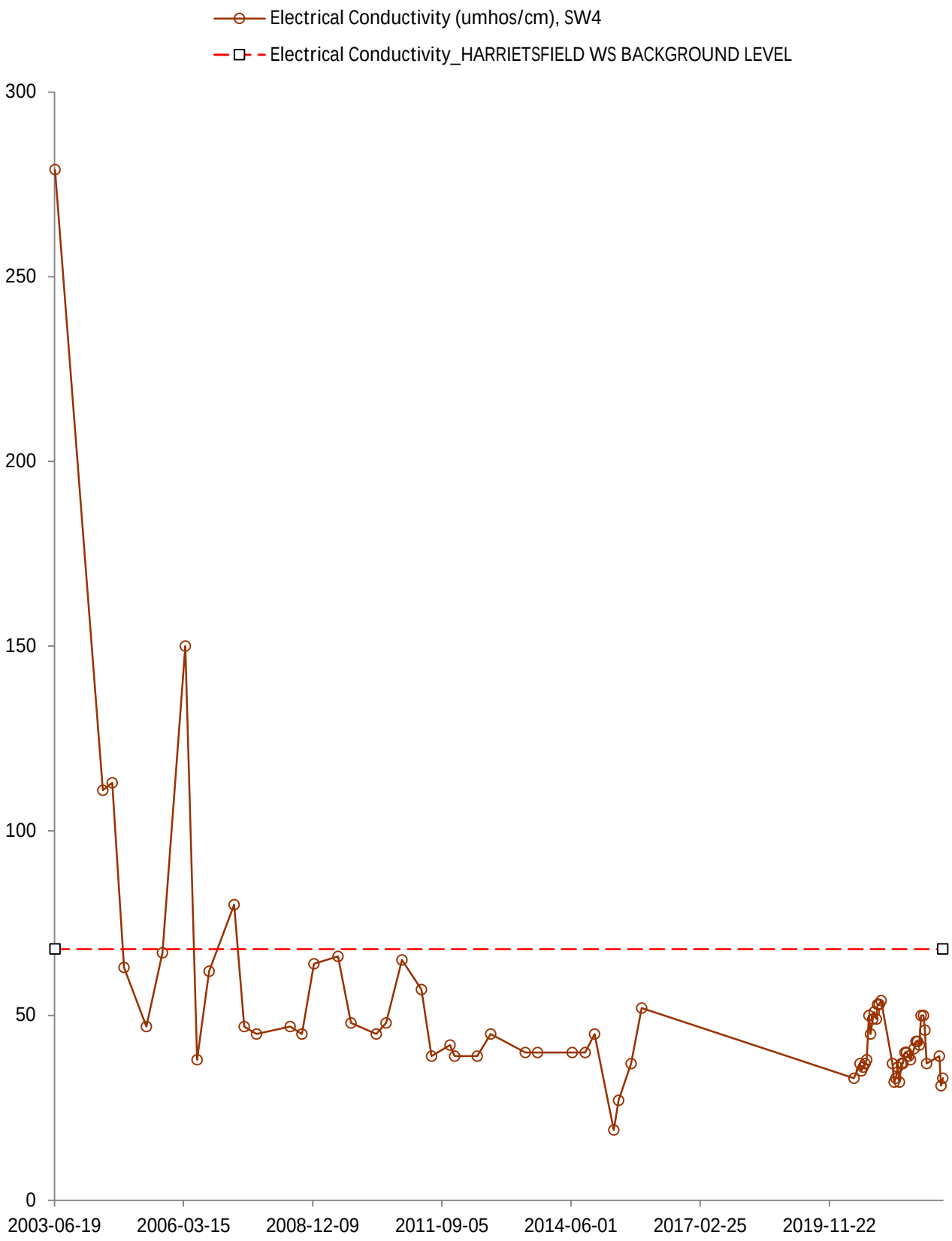
SW4-Cobalt


Cobalt (ug/l), SW4
Cobalt_HARRIETSFIELD WS BACKGROUND LEVEL
1.2
1
0.8
0.6
0.4
0.2
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

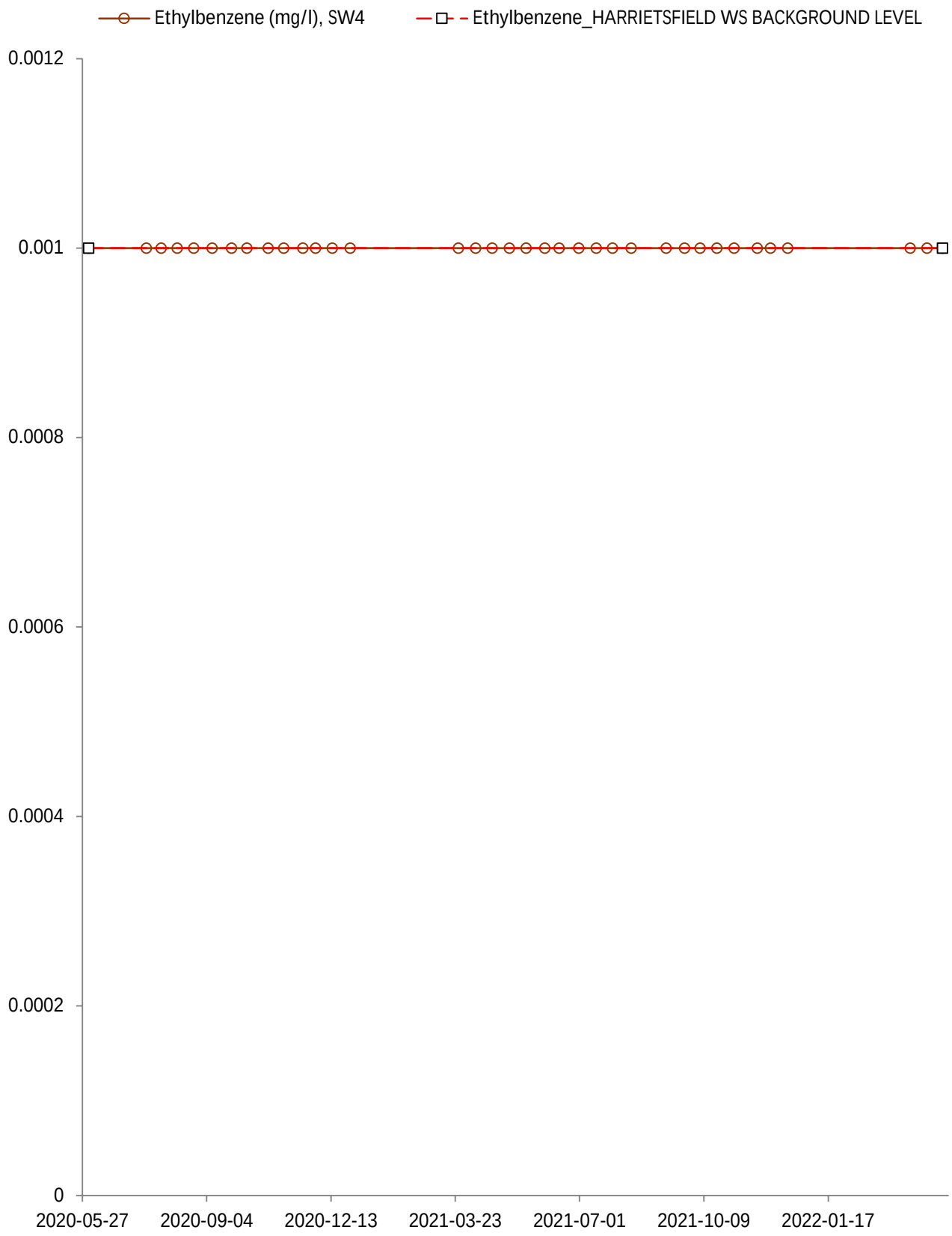
SW4-Copper


Copper (ug/l), SW4
Copper_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

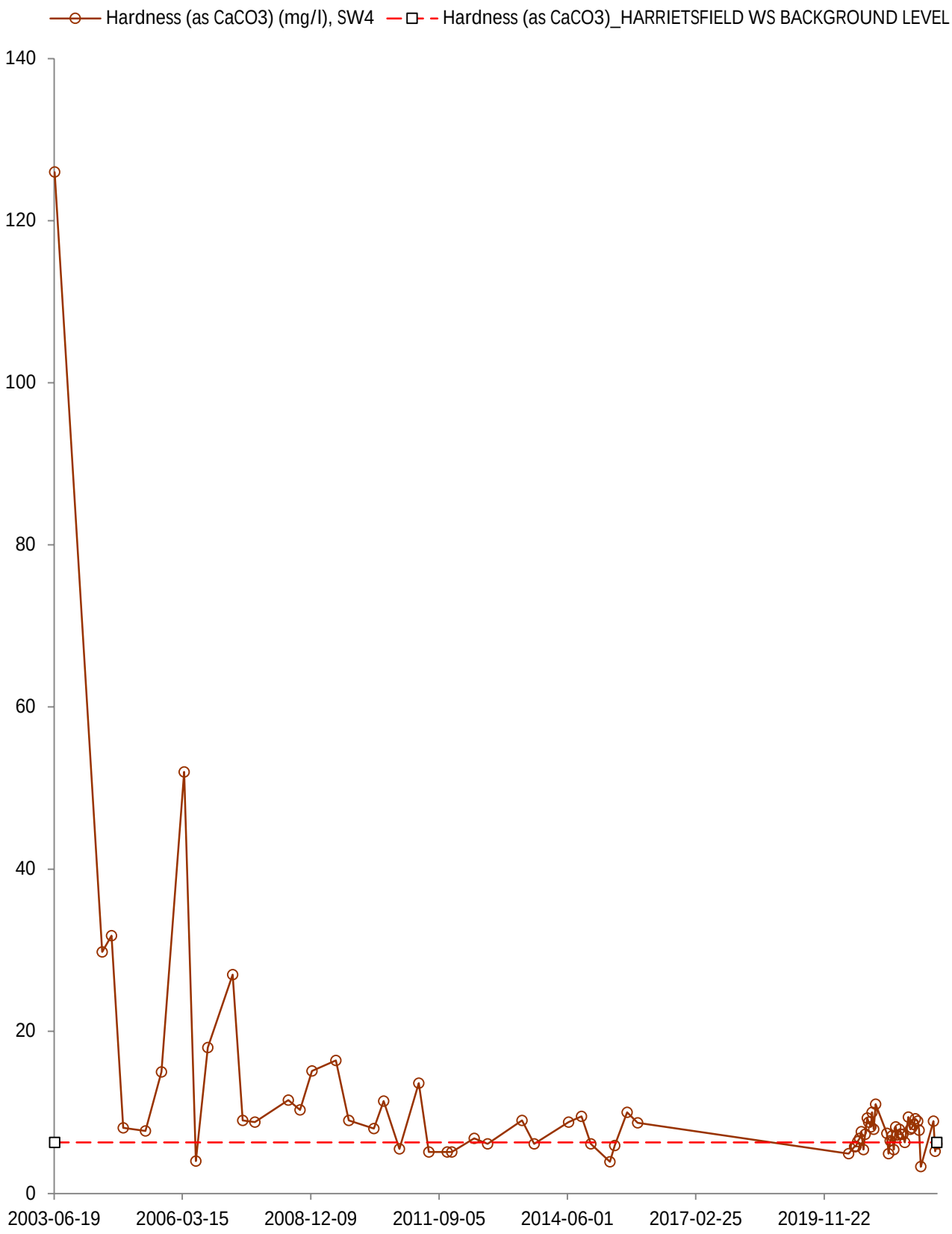
SW4-Electrical Conductivity



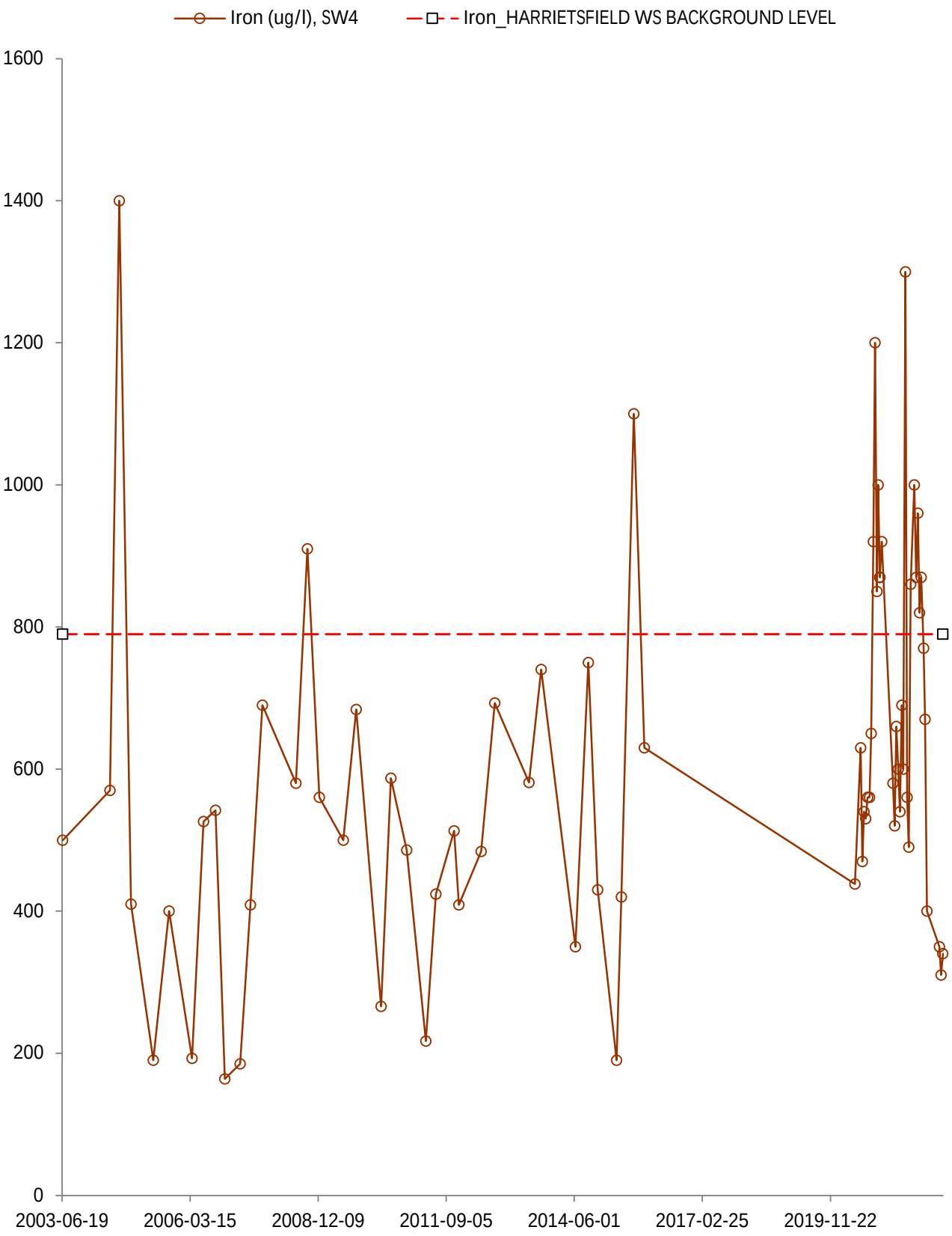
SW4-Ethylbenzene



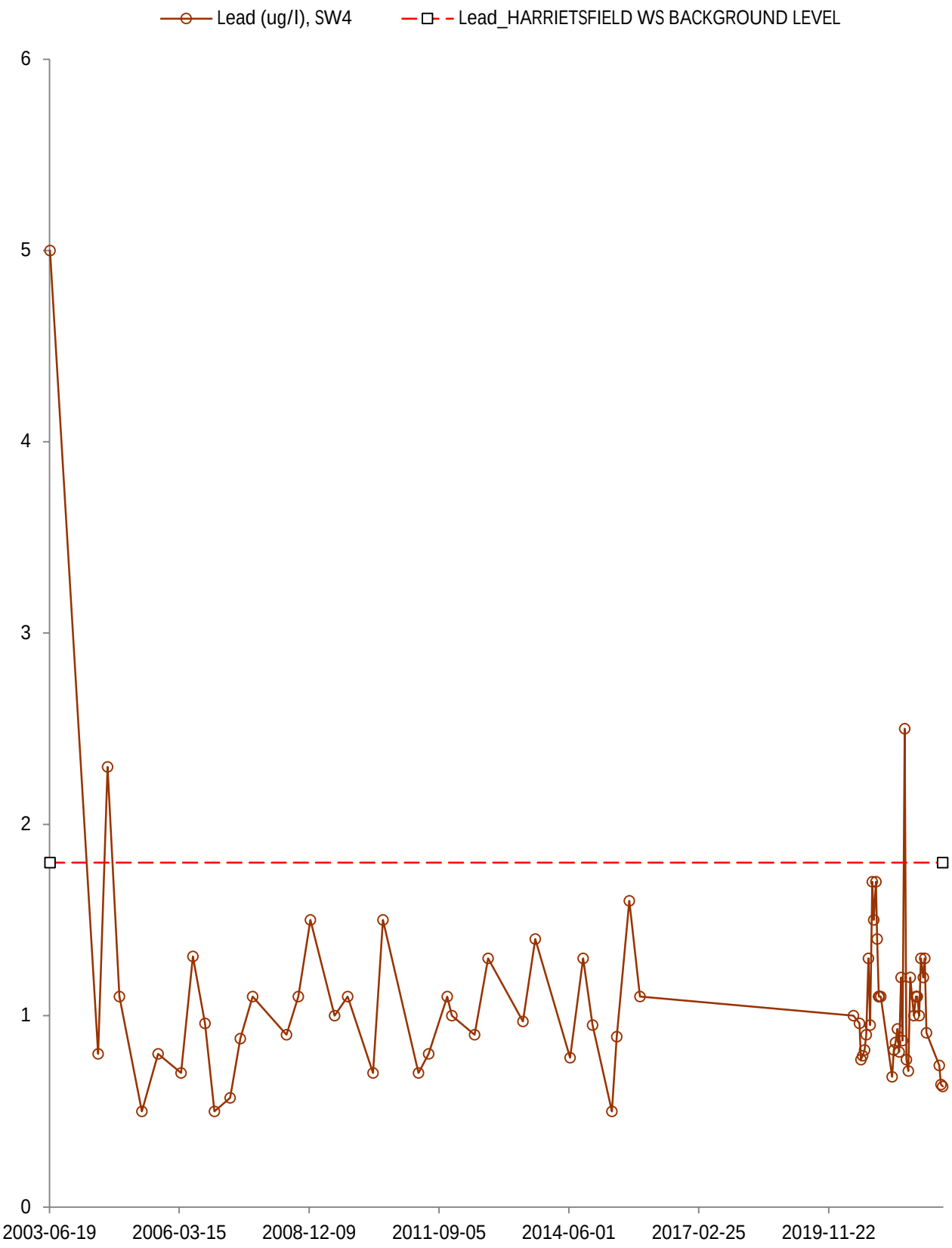
SW4-Hardness (as CaCO3)



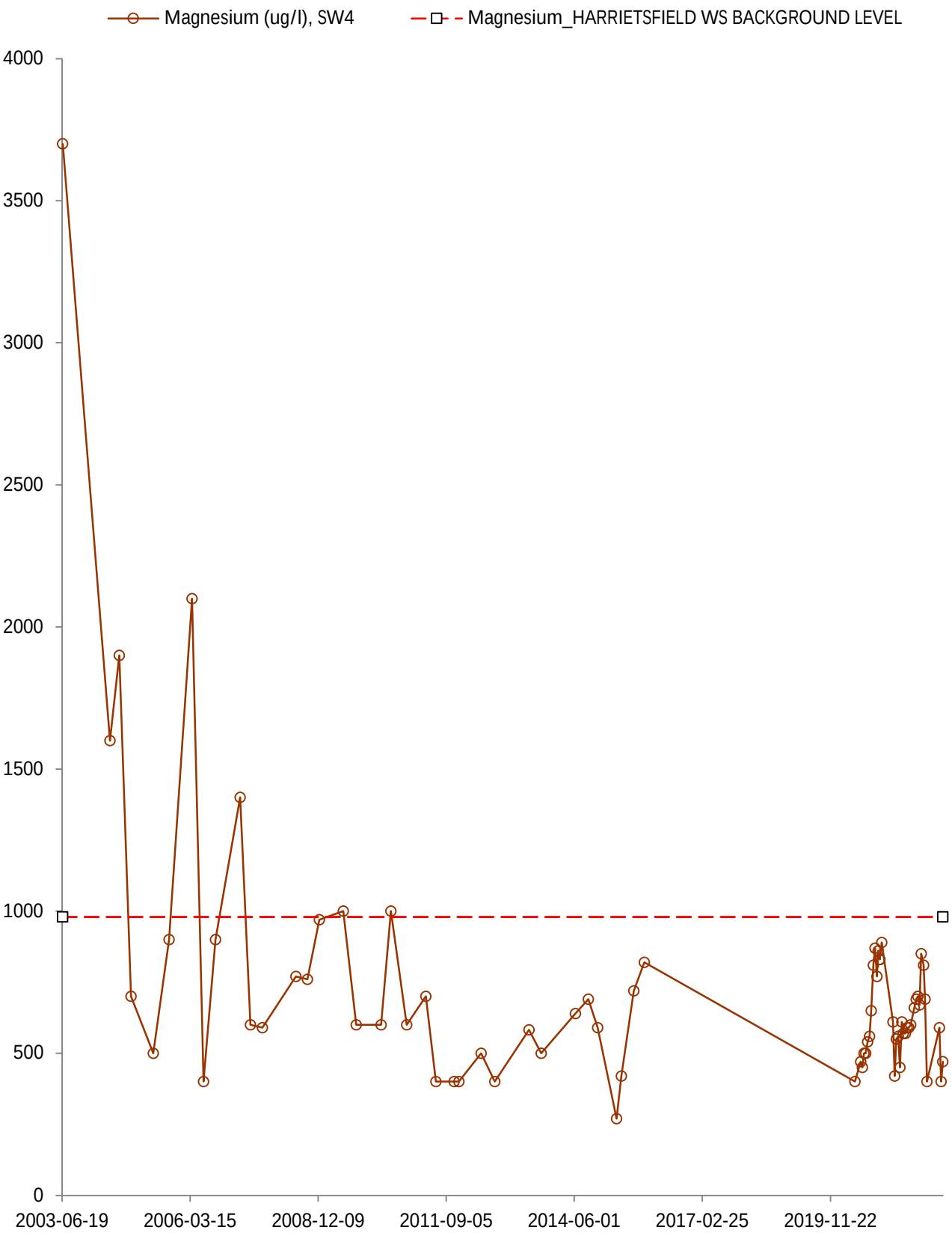
SW4-Iron


Iron (ug/l), SW4
Iron_HARRIETSFIELD WS BACKGROUND LEVEL
1600
1400
1200
1000
800
600
400
200
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

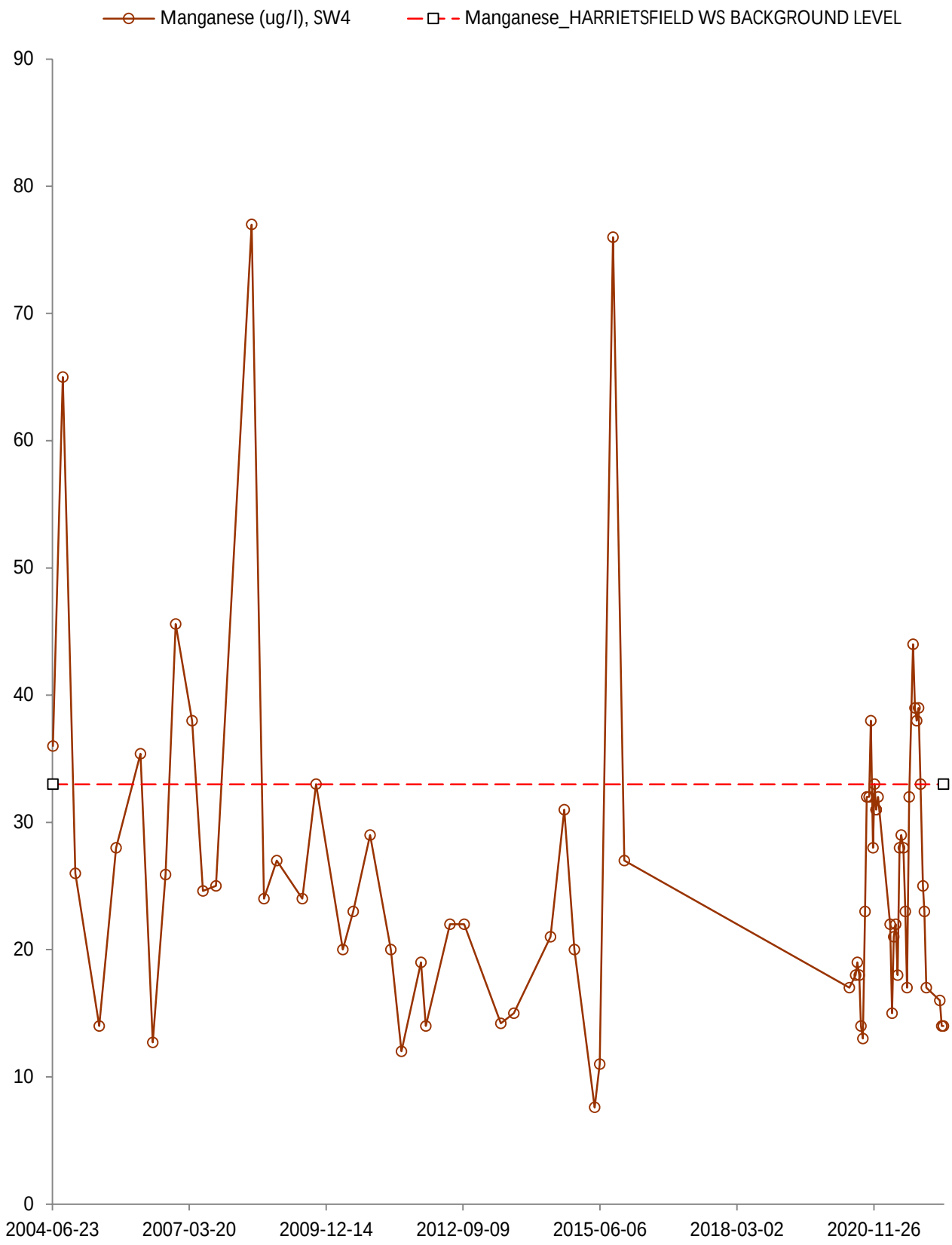
SW4-Lead


Lead (ug/l), SW4
Lead_HARRIETSFIELD WS BACKGROUND LEVEL
6
5
4
3
2
1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

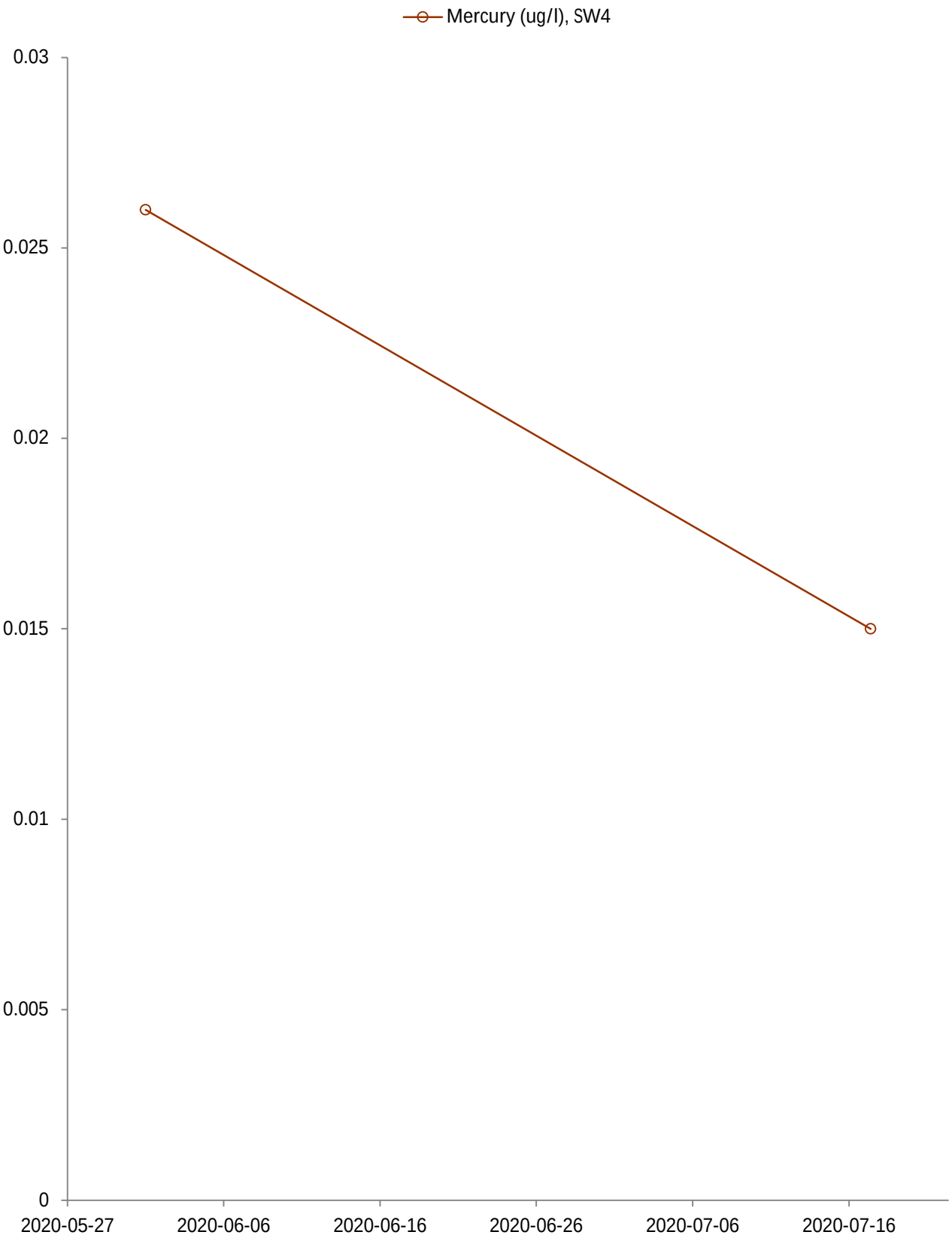
SW4-Magnesium



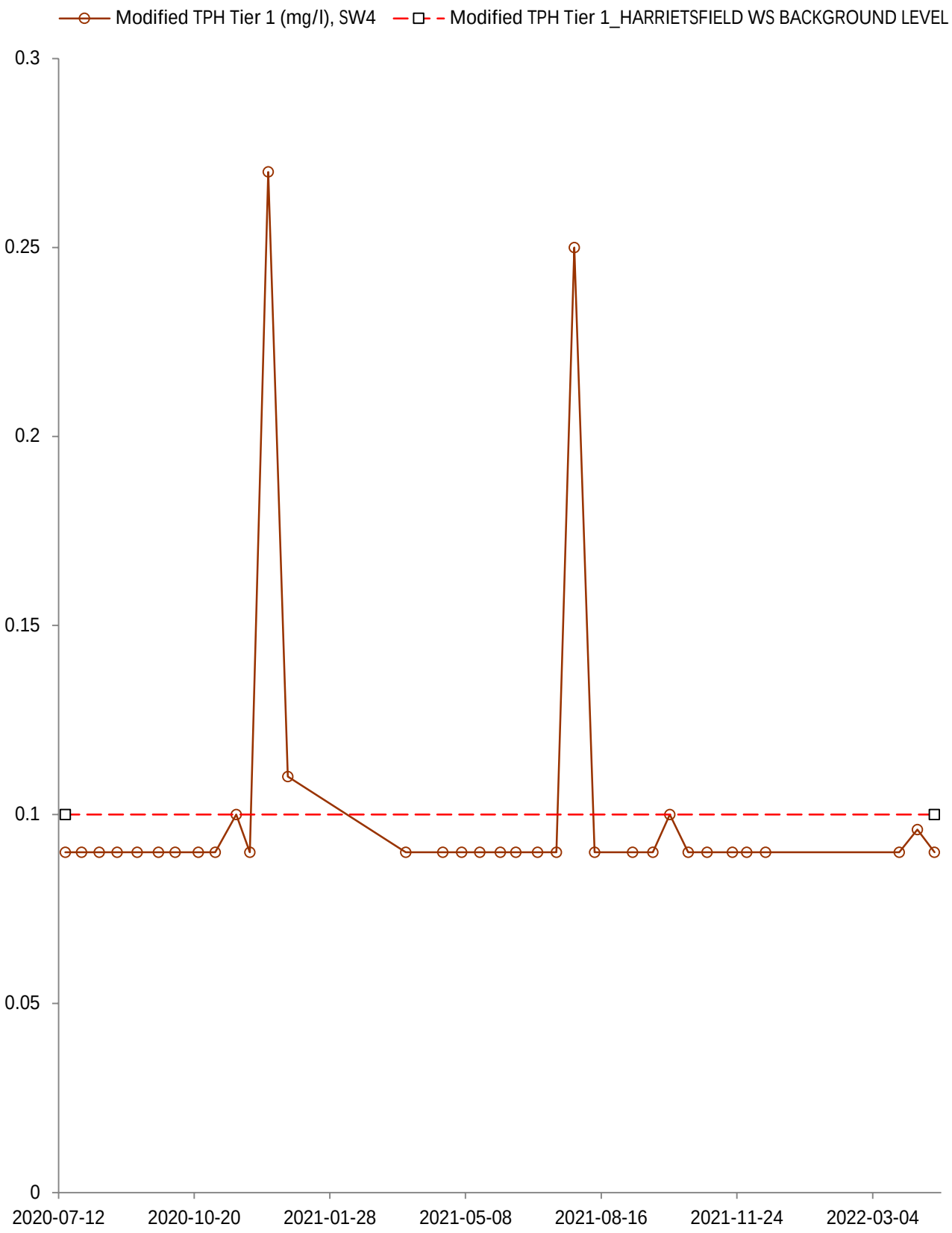
SW4-Manganese



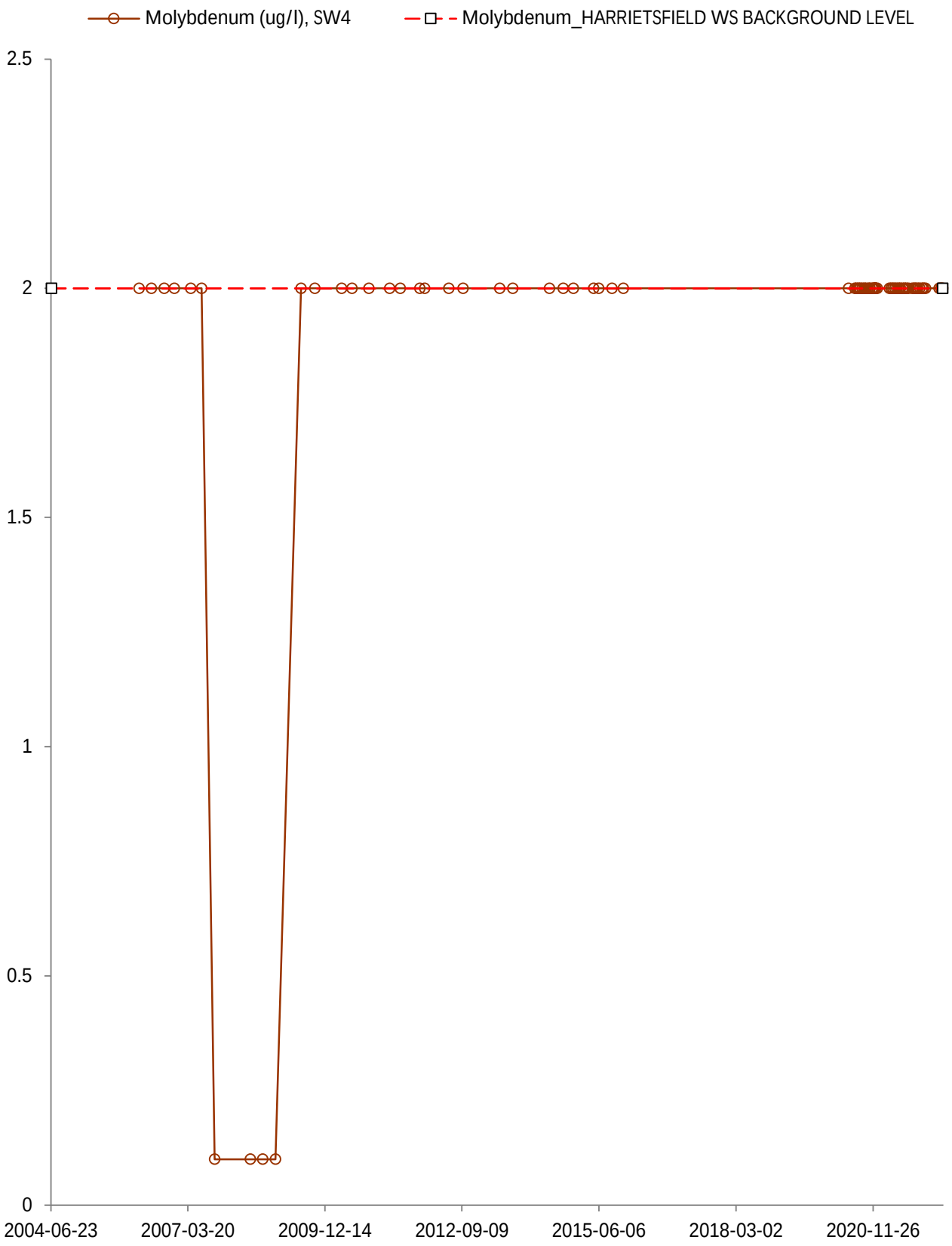
SW4-Mercury


Mercury (ug/l), SW4
0.03
0.025
0.02
0.015
0.01
0.005
0
2020-05-27
2020-06-06
2020-06-16
2020-06-26
2020-07-06
2020-07-16

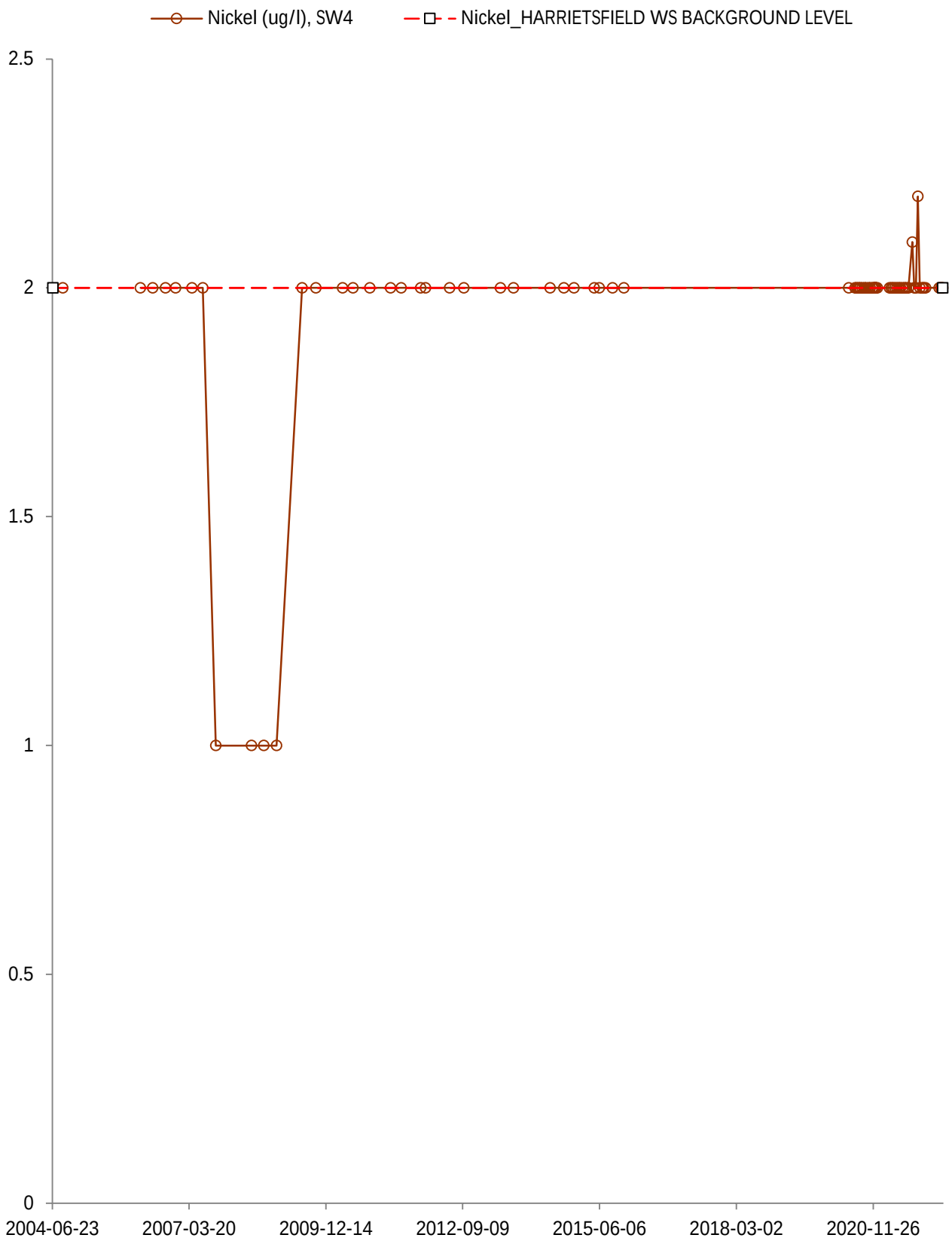
SW4-Modified TPH Tier 1



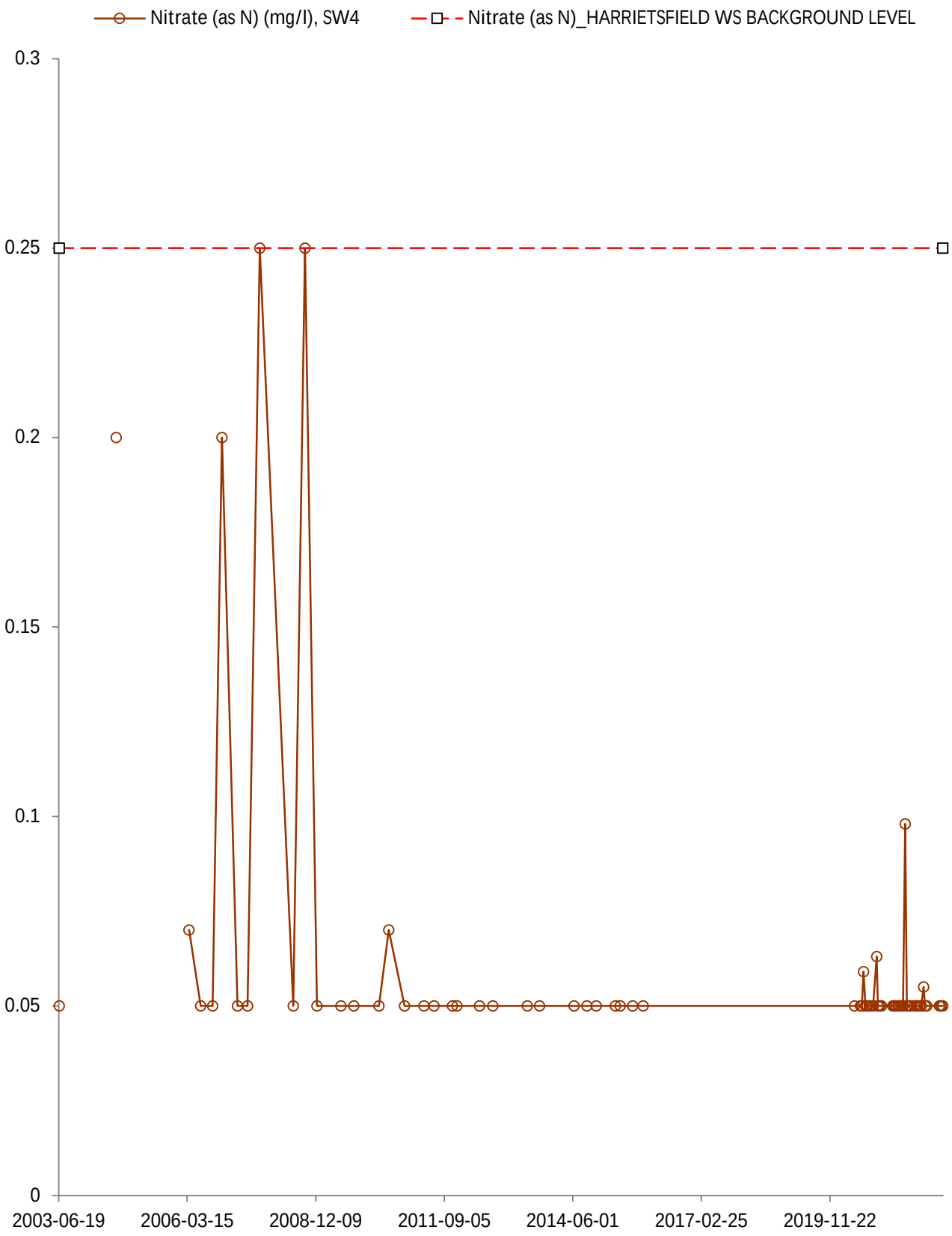
SW4-Molybdenum



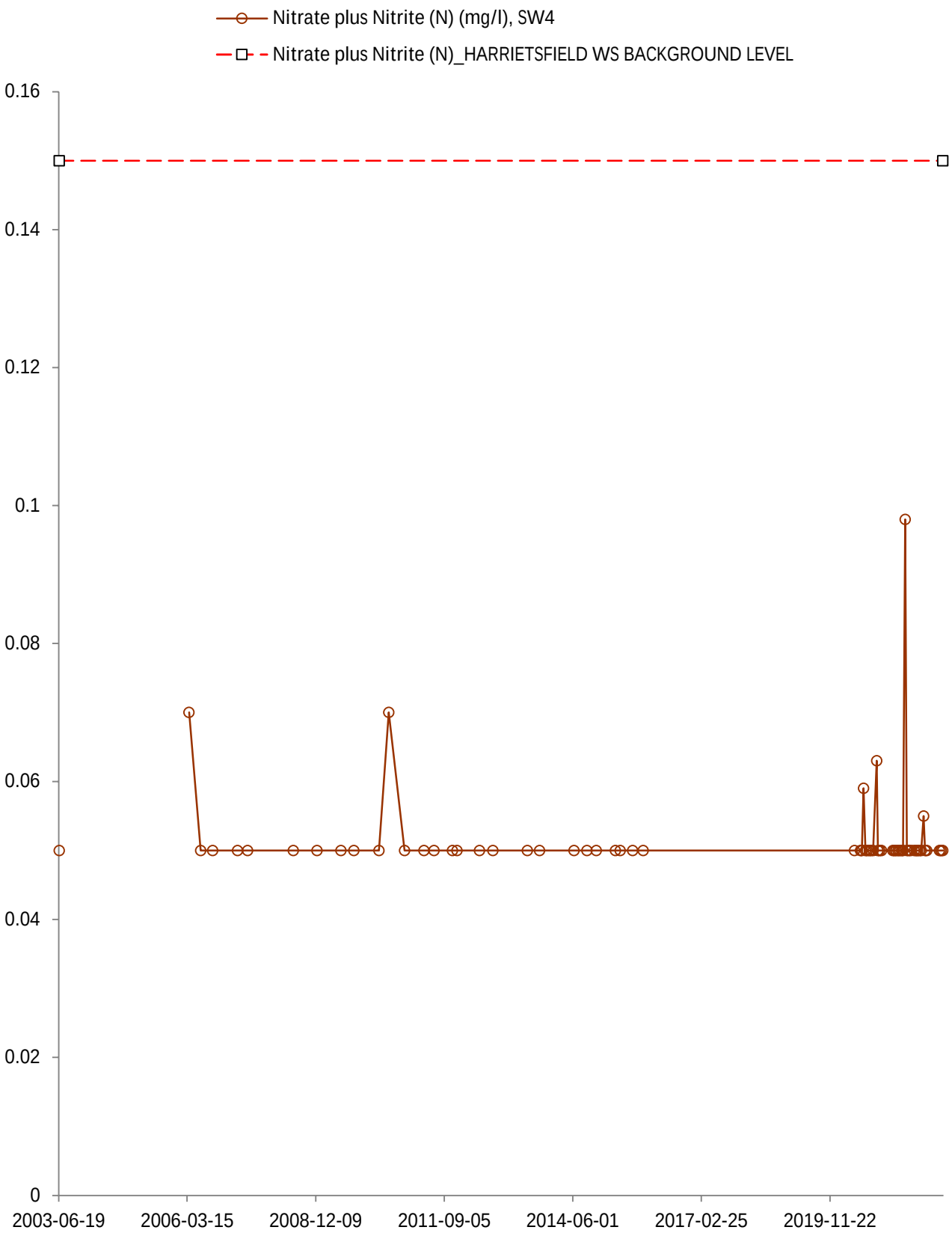
SW4-Nickel


Nickel (ug/l), SW4
Nickel_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

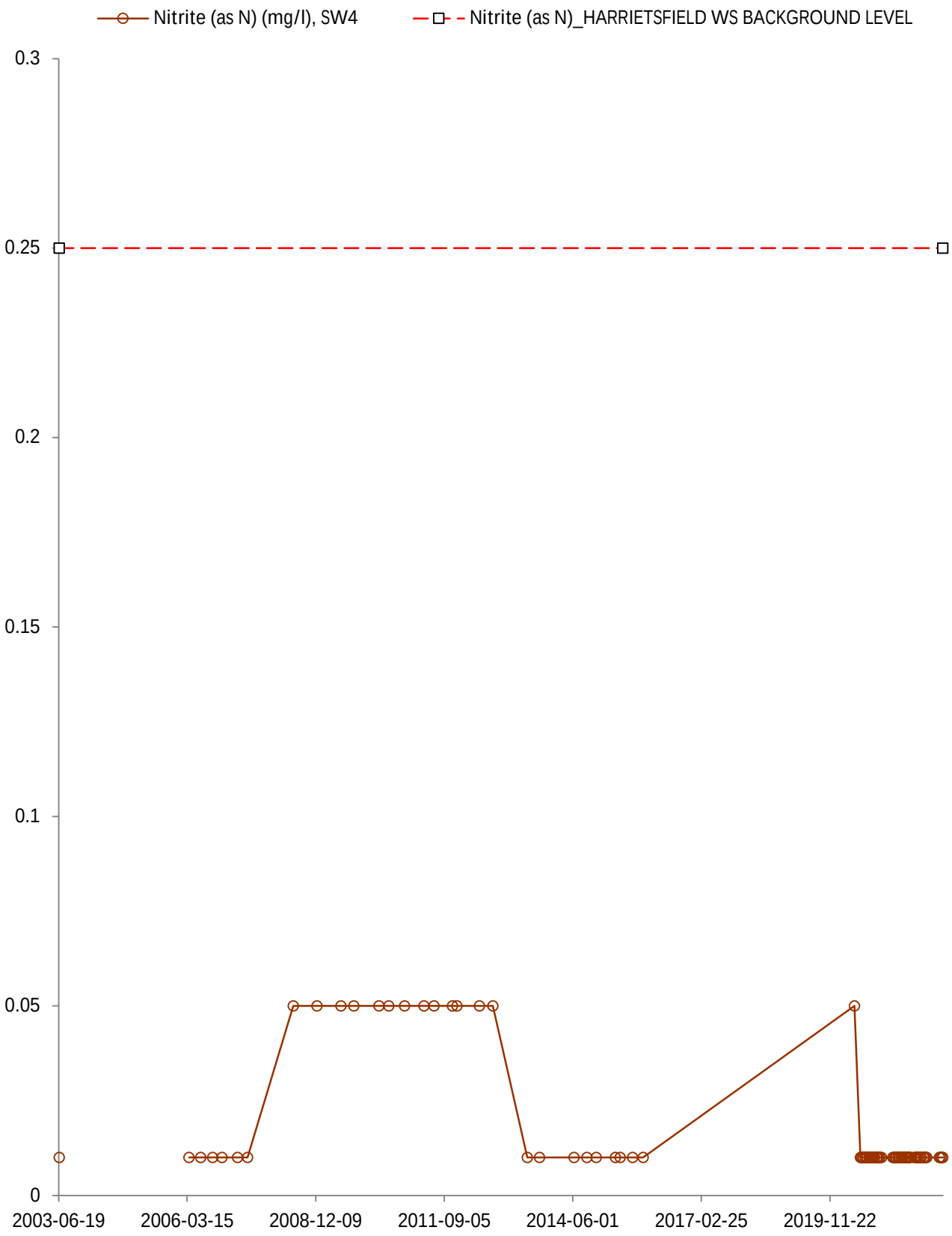
SW4-Nitrate (as N)



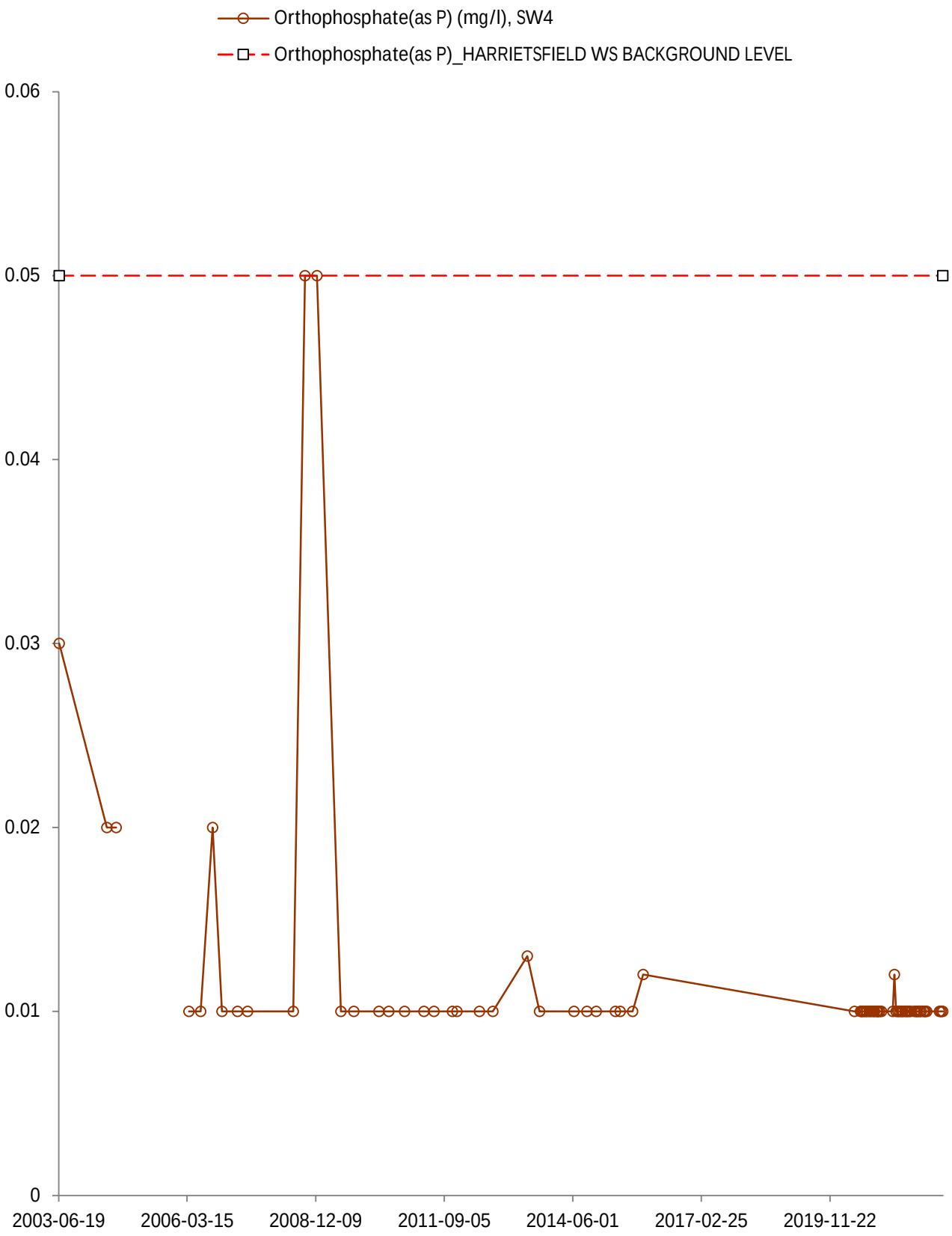
SW4-Nitrate plus Nitrite (N)



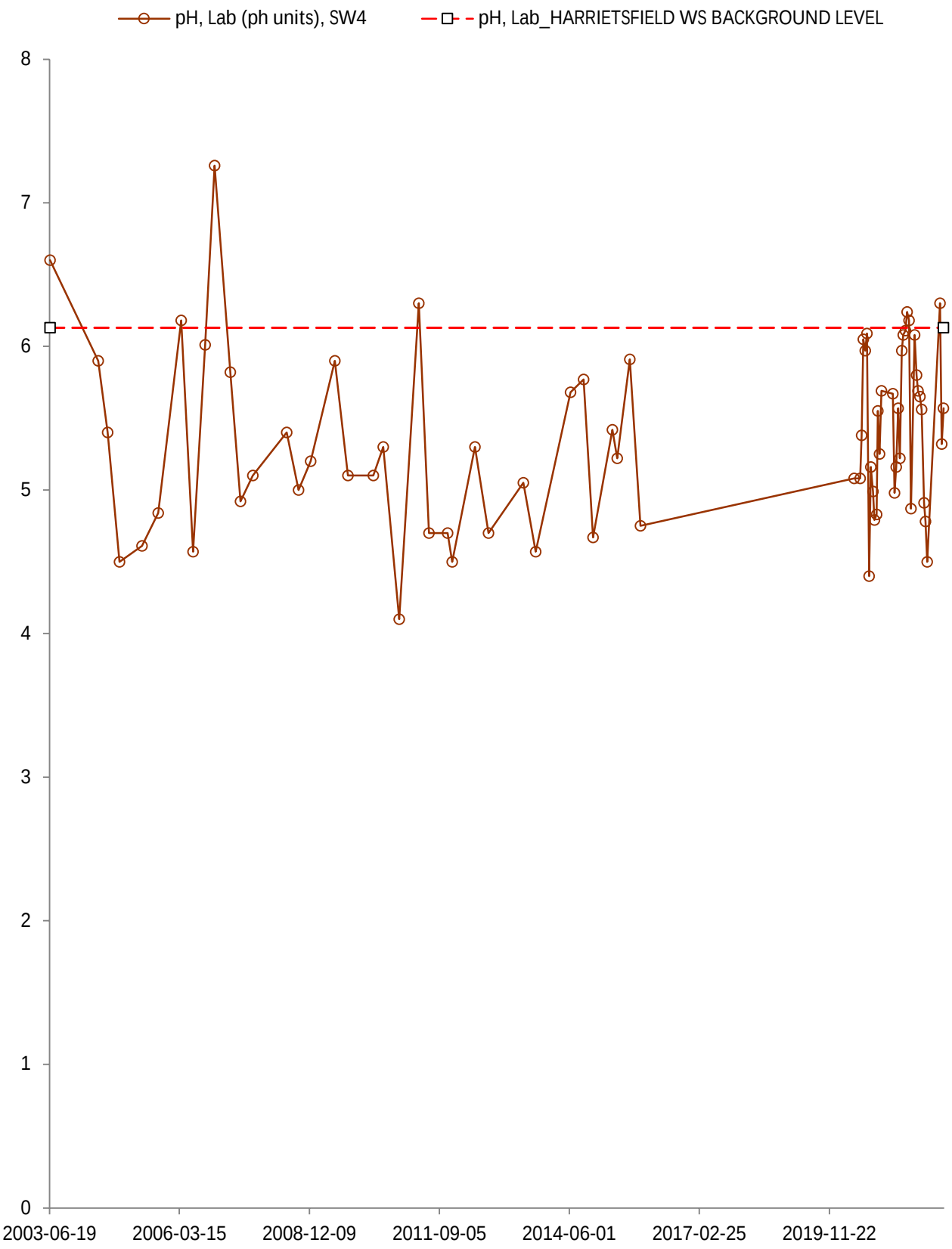
SW4-Nitrite (as N)



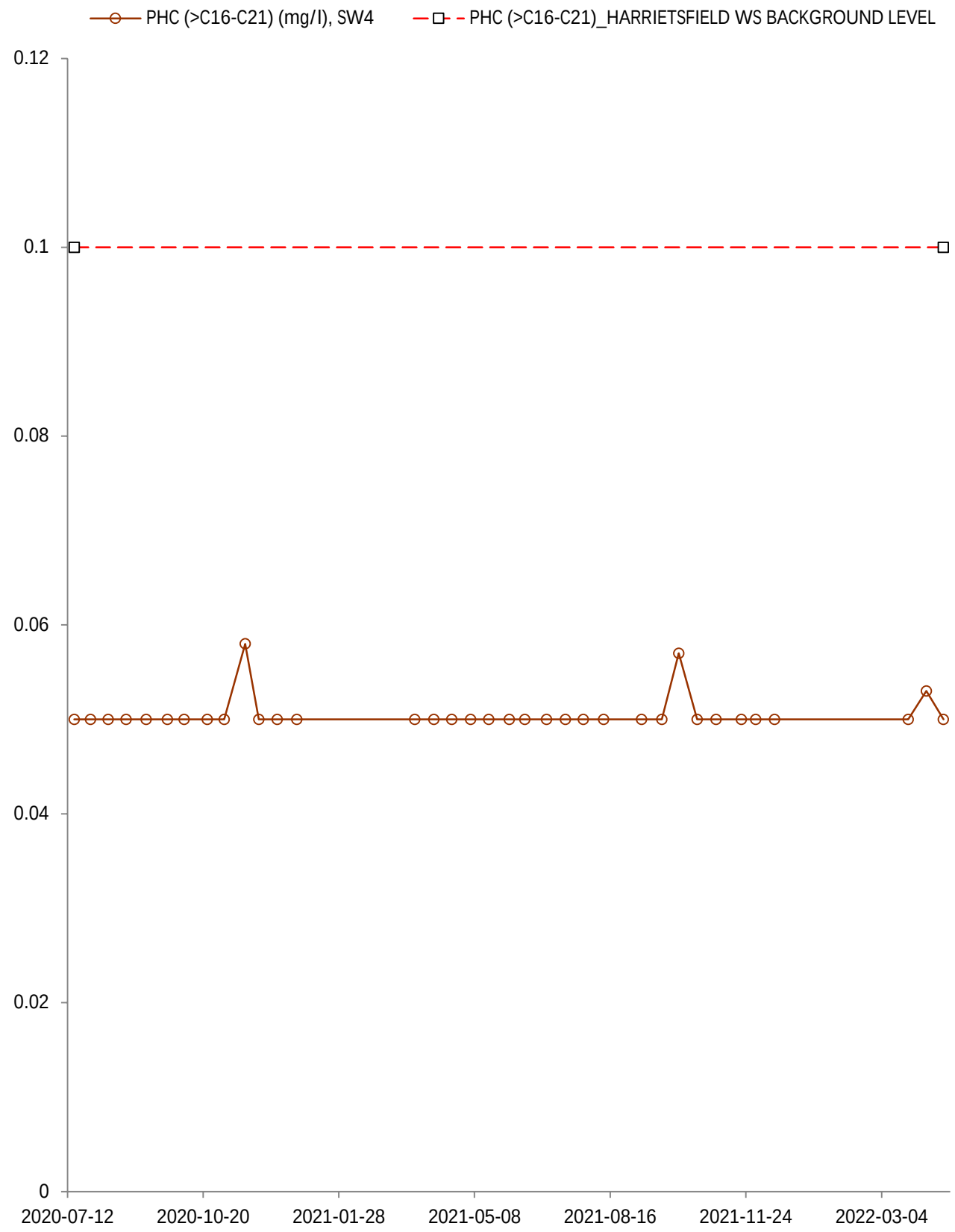
SW4-Orthophosphate(as P)



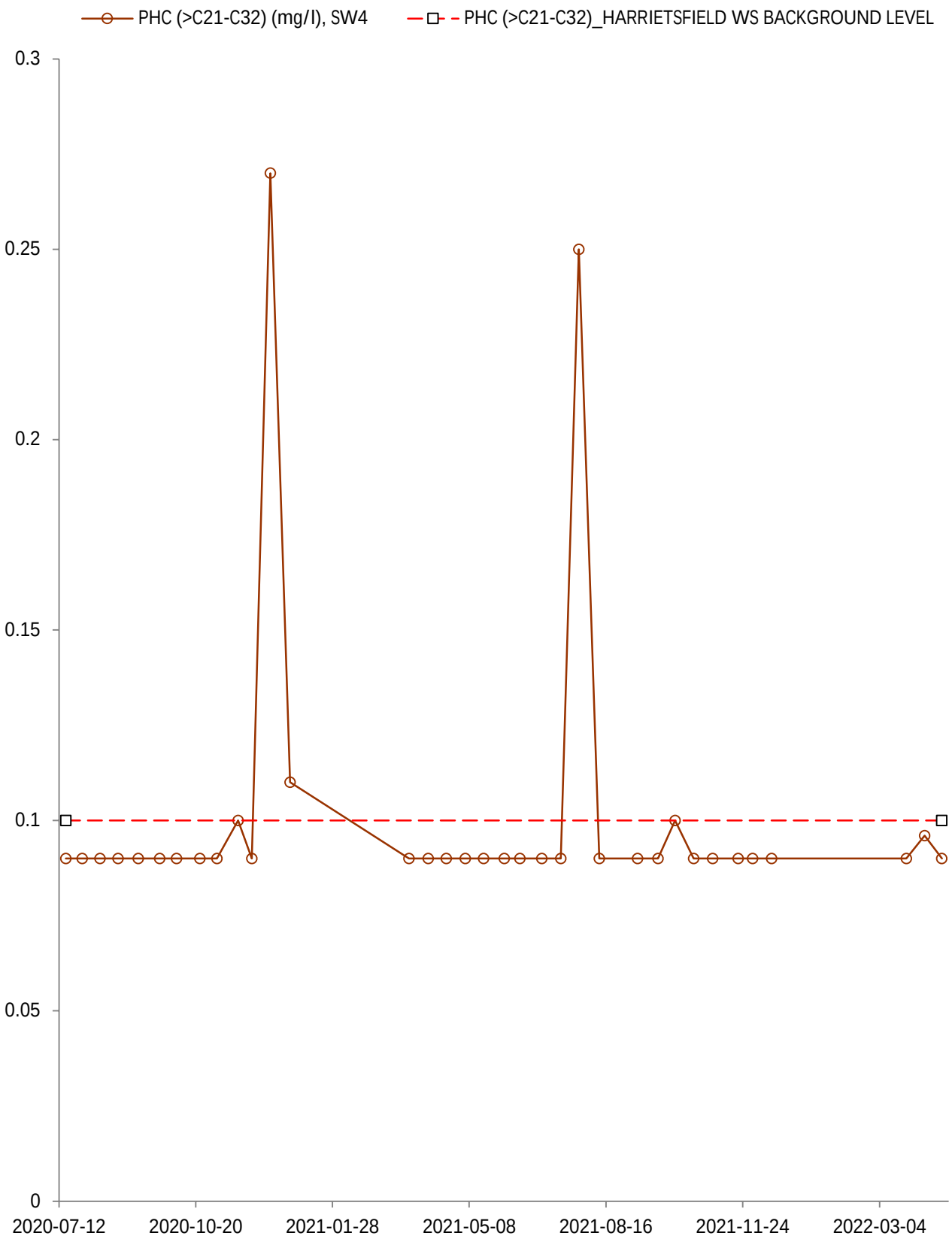
SW4-pH, Lab


pH, Lab (ph units), SW4
pH, Lab_HARRIETSFIELD WS BACKGROUND LEVEL
8
7
6
5
4
3
2
1
0
2003-06-19
2006-03-15
2008-12-09
2011-09-05
2014-06-01
2017-02-25
2019-11-22

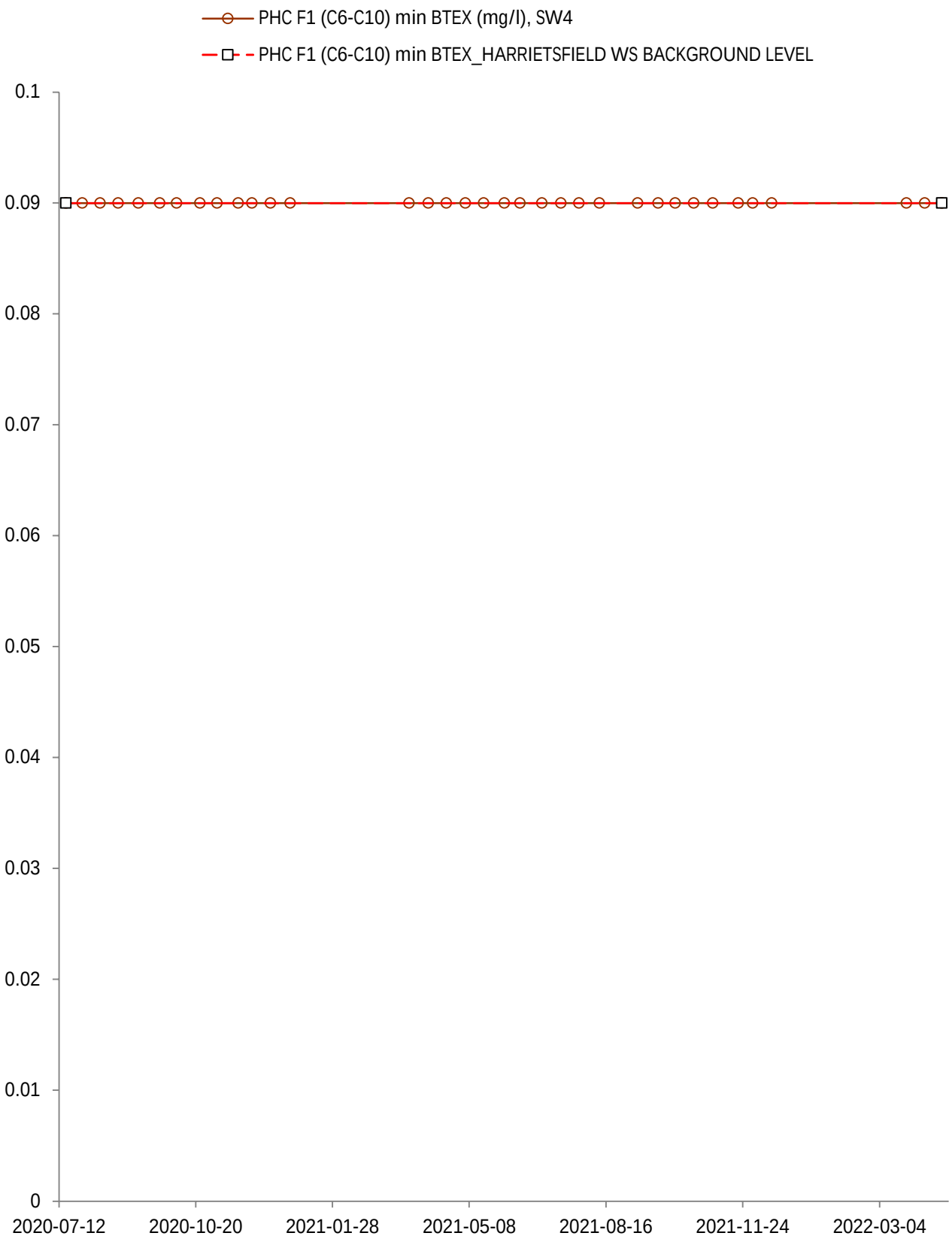
SW4-PHC (>C16-C21)



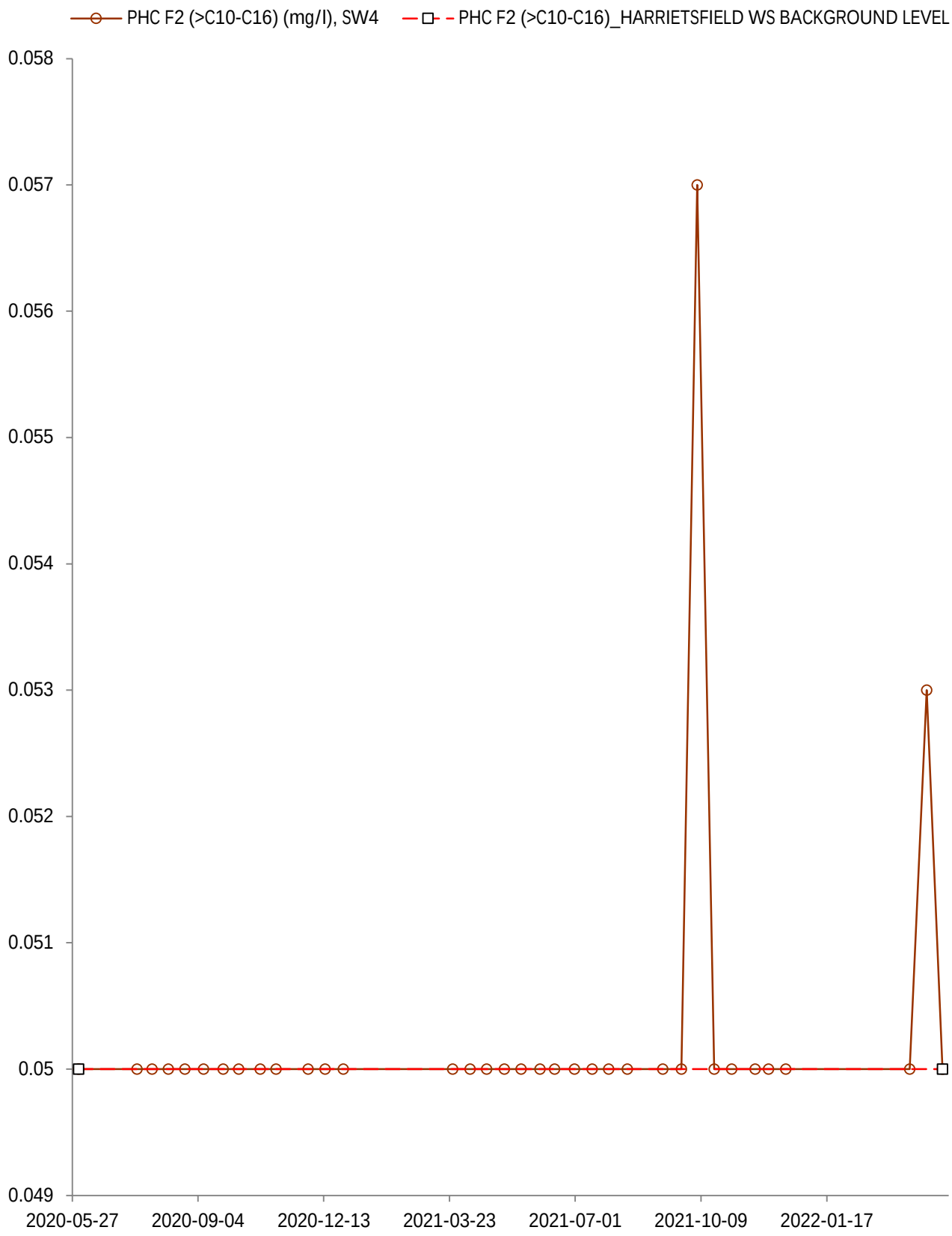
SW4-PHC (>C21-C32)



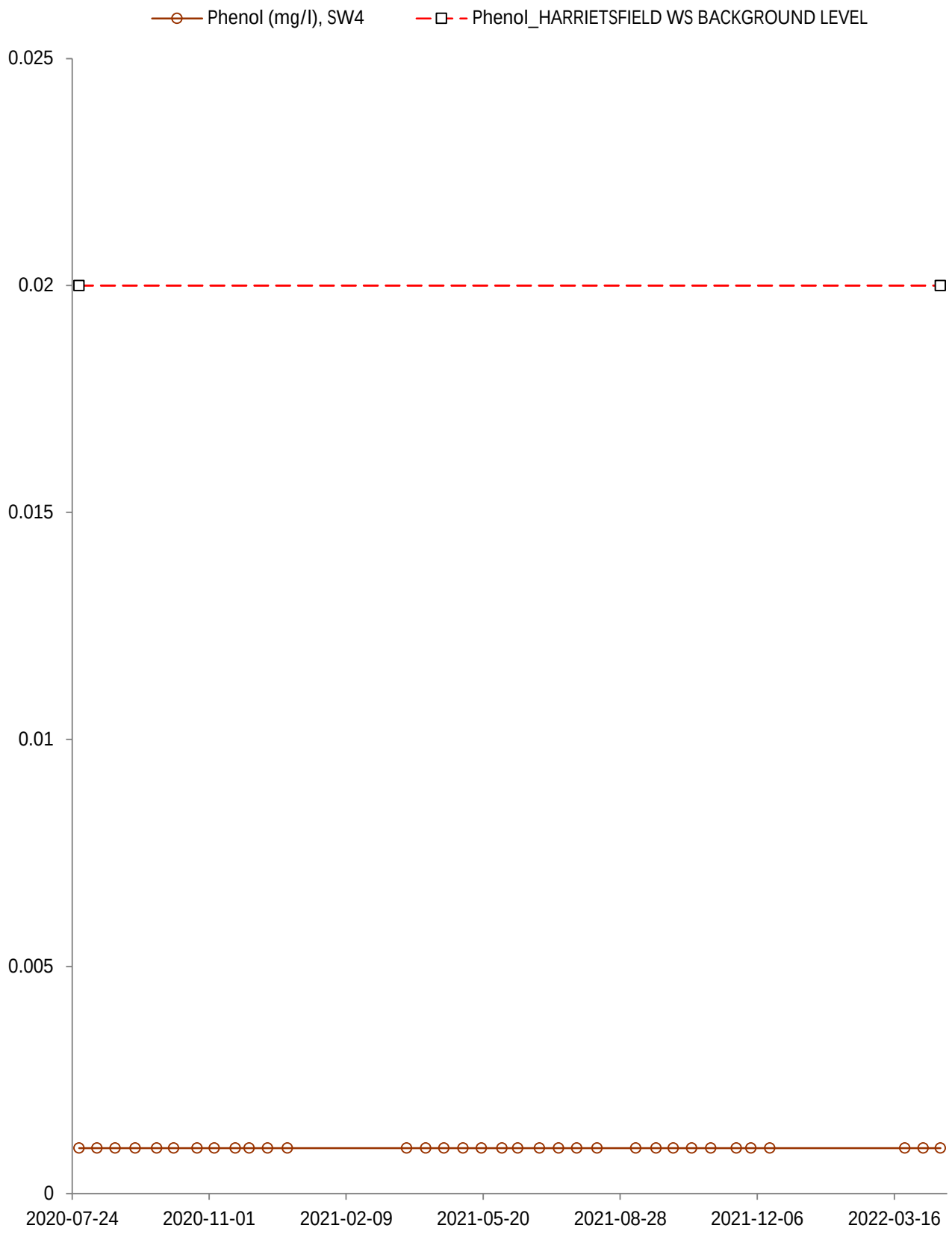
SW4-PHC F1 (C6-C10) min BTEX



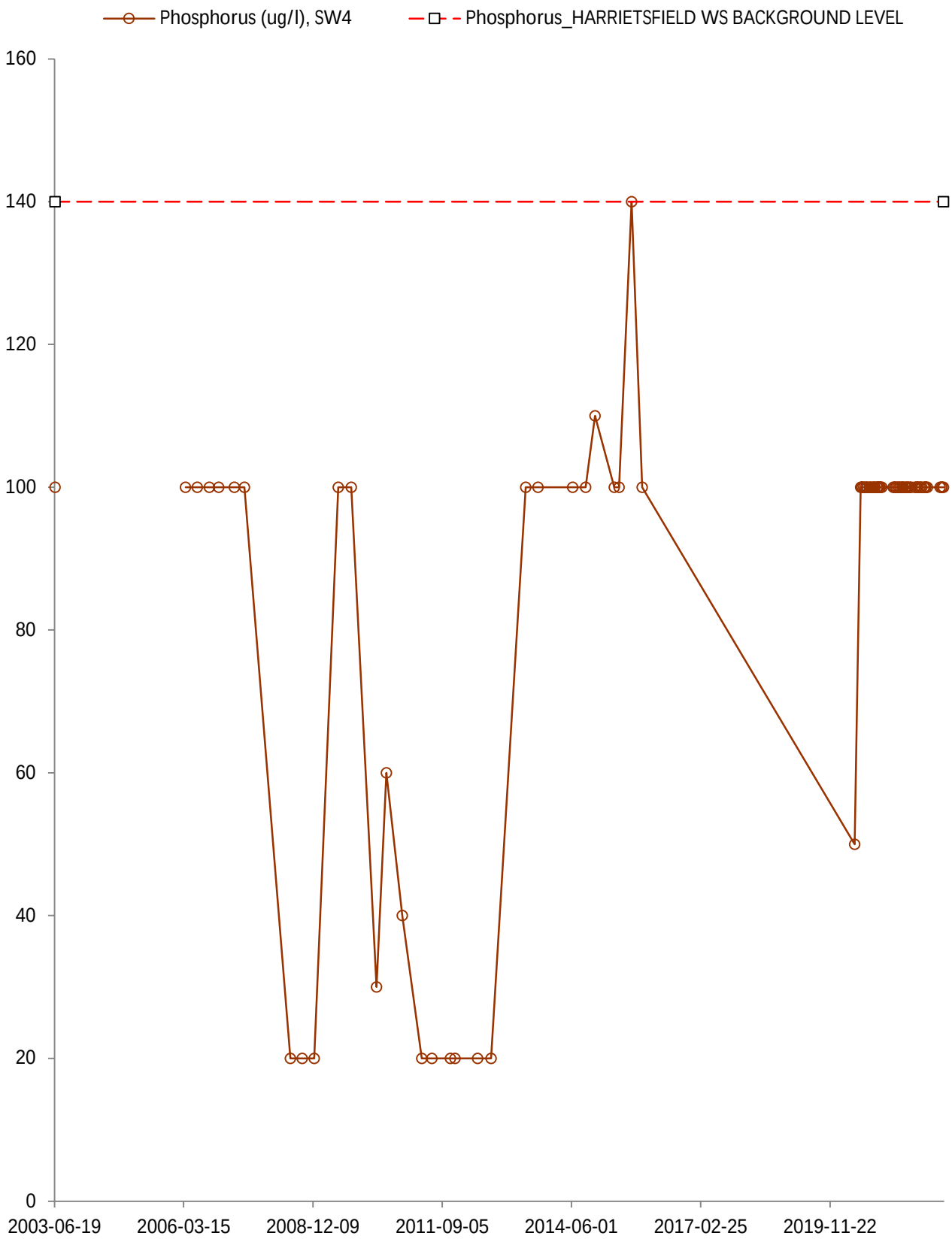
SW4-PHC F2 (>C10-C16)



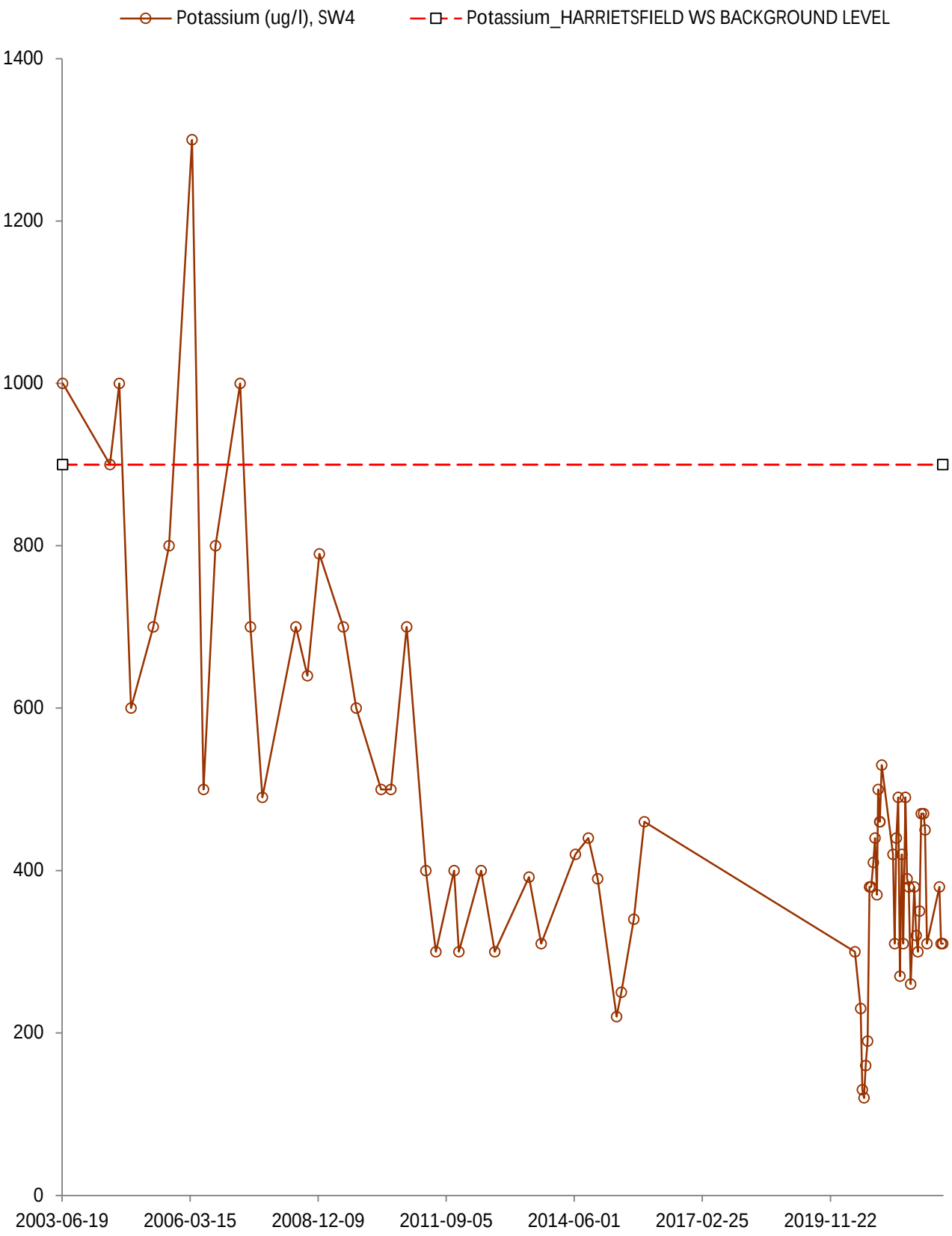
SW4-Phenol


Phenol (mg/l), SW4
Phenol_HARRIETSFIELD WS BACKGROUND LEVEL
0.025
0.02
0.015
0.01
0.005
0
2020-07-24
2020-11-01
2021-02-09
2021-05-20
2021-08-28
2021-12-06
2022-03-16

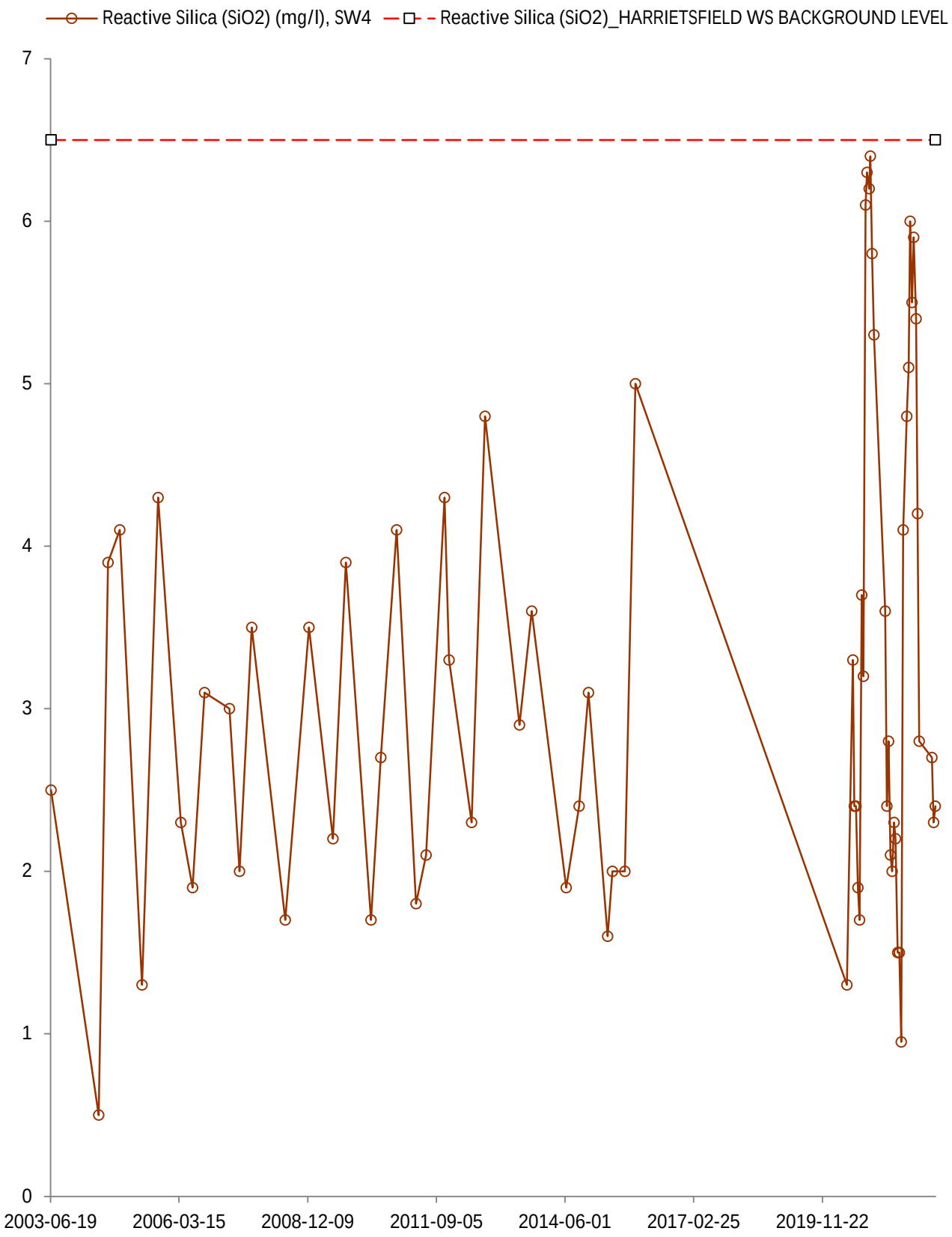
SW4-Phosphorus



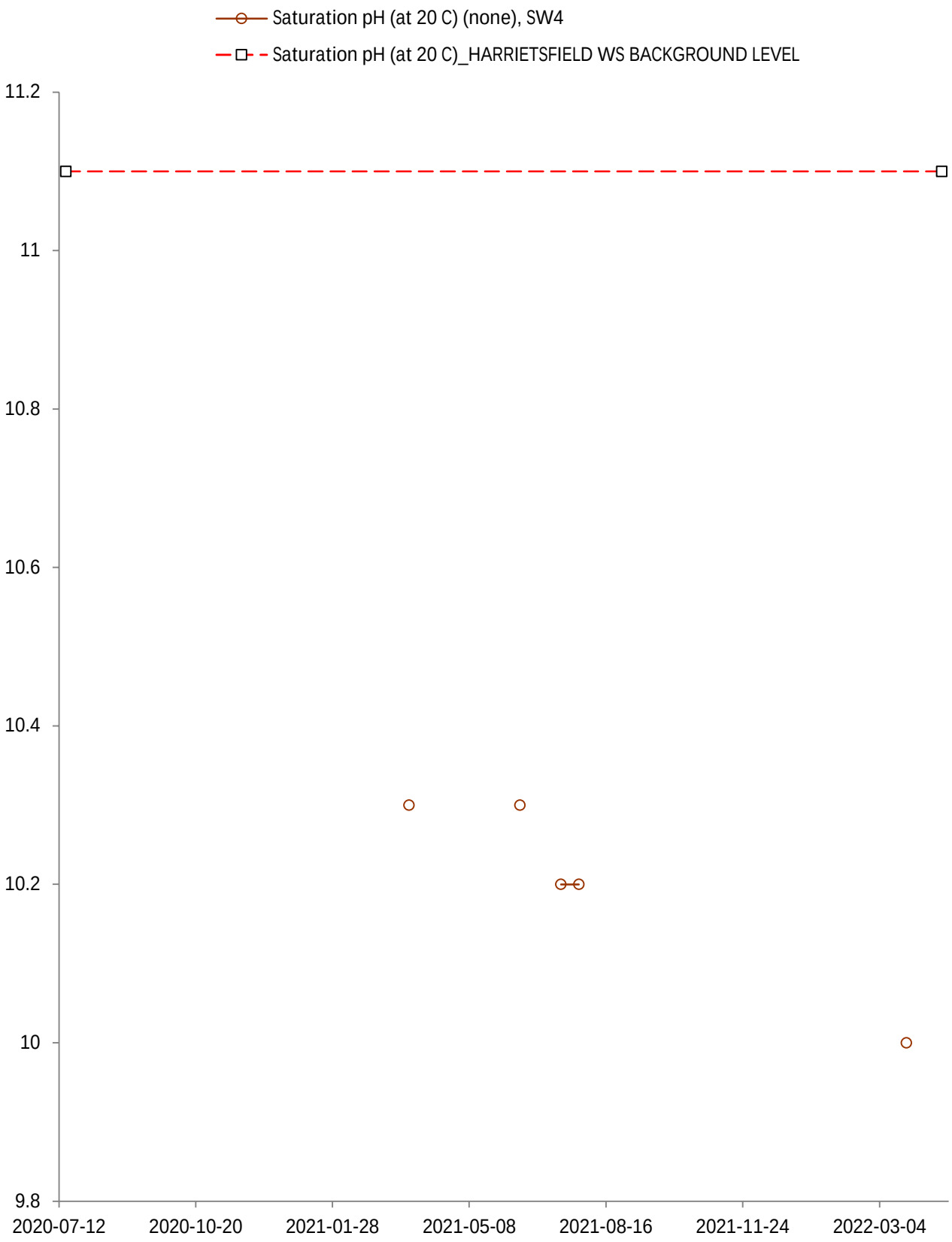
SW4-Potassium



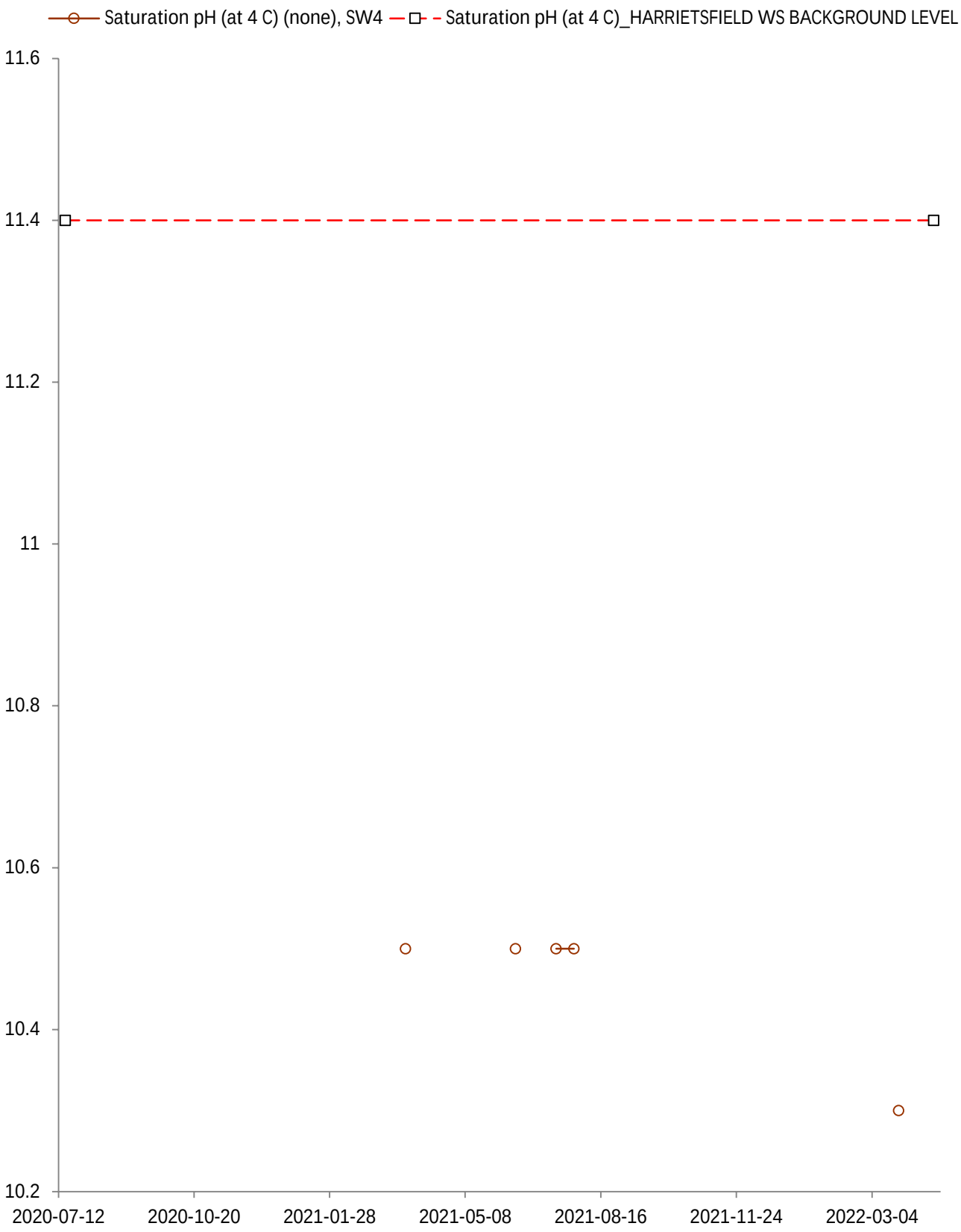
SW4-Reactive Silica (SiO2)



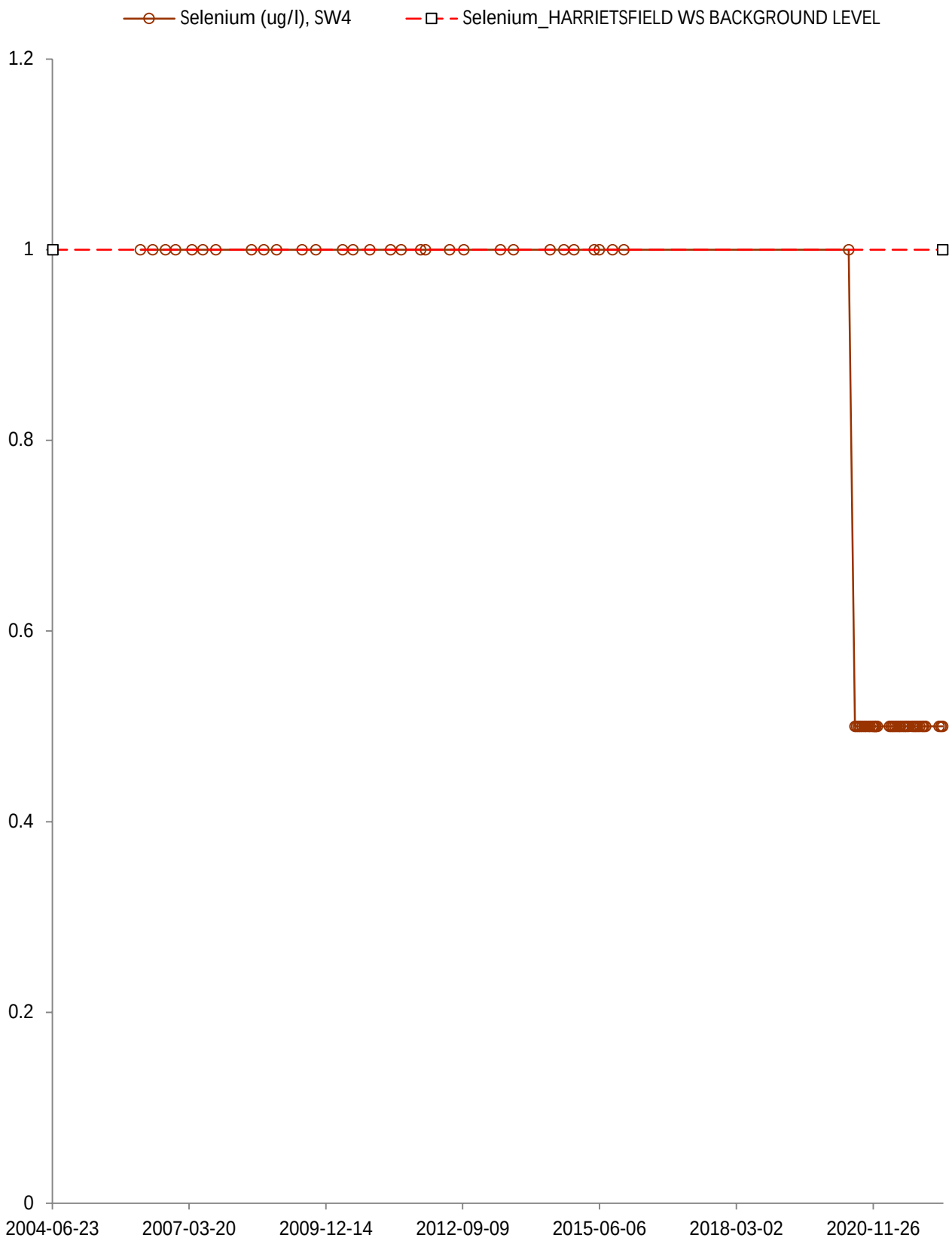
SW4-Saturation pH (at 20 C)



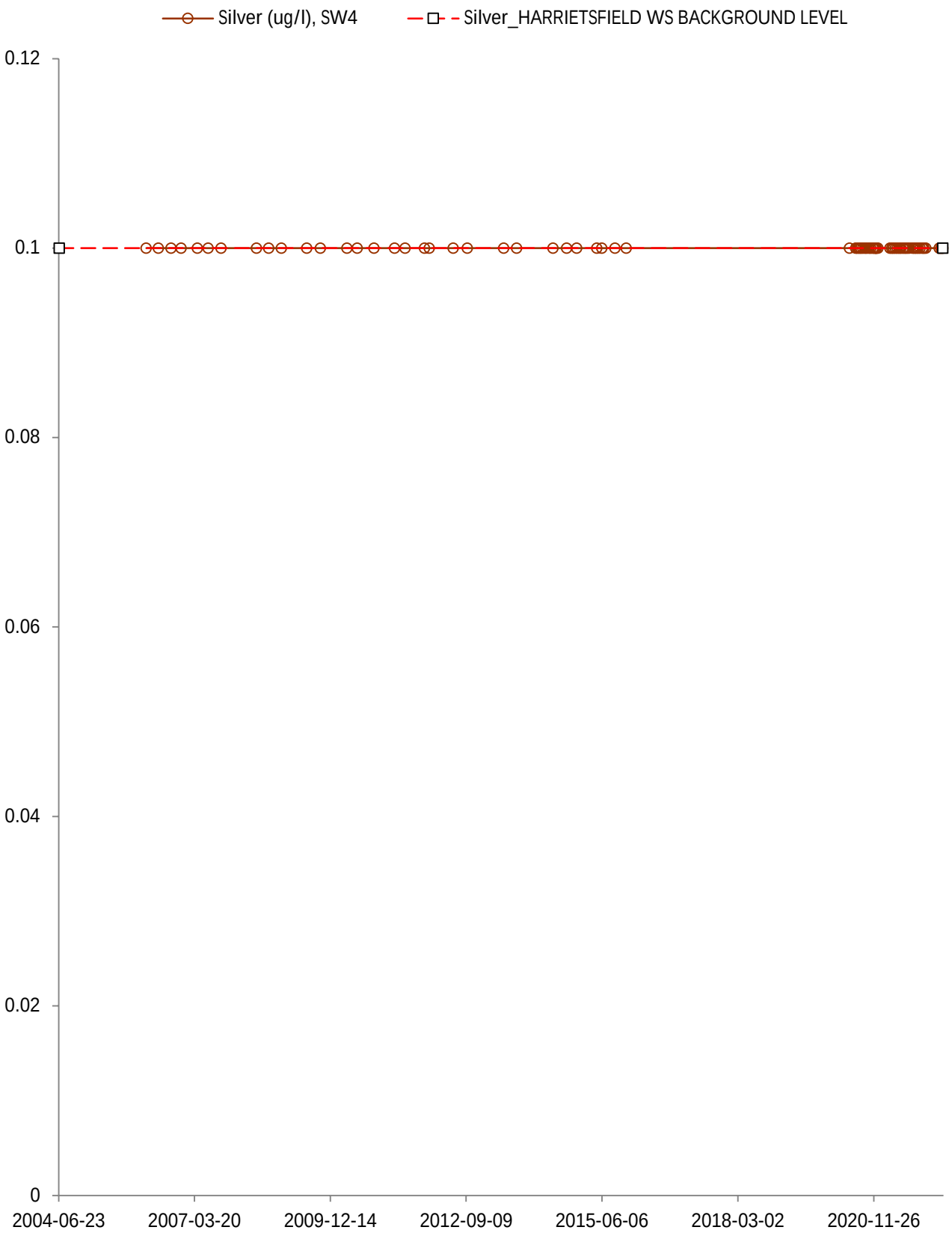
SW4-Saturation pH (at 4 C)



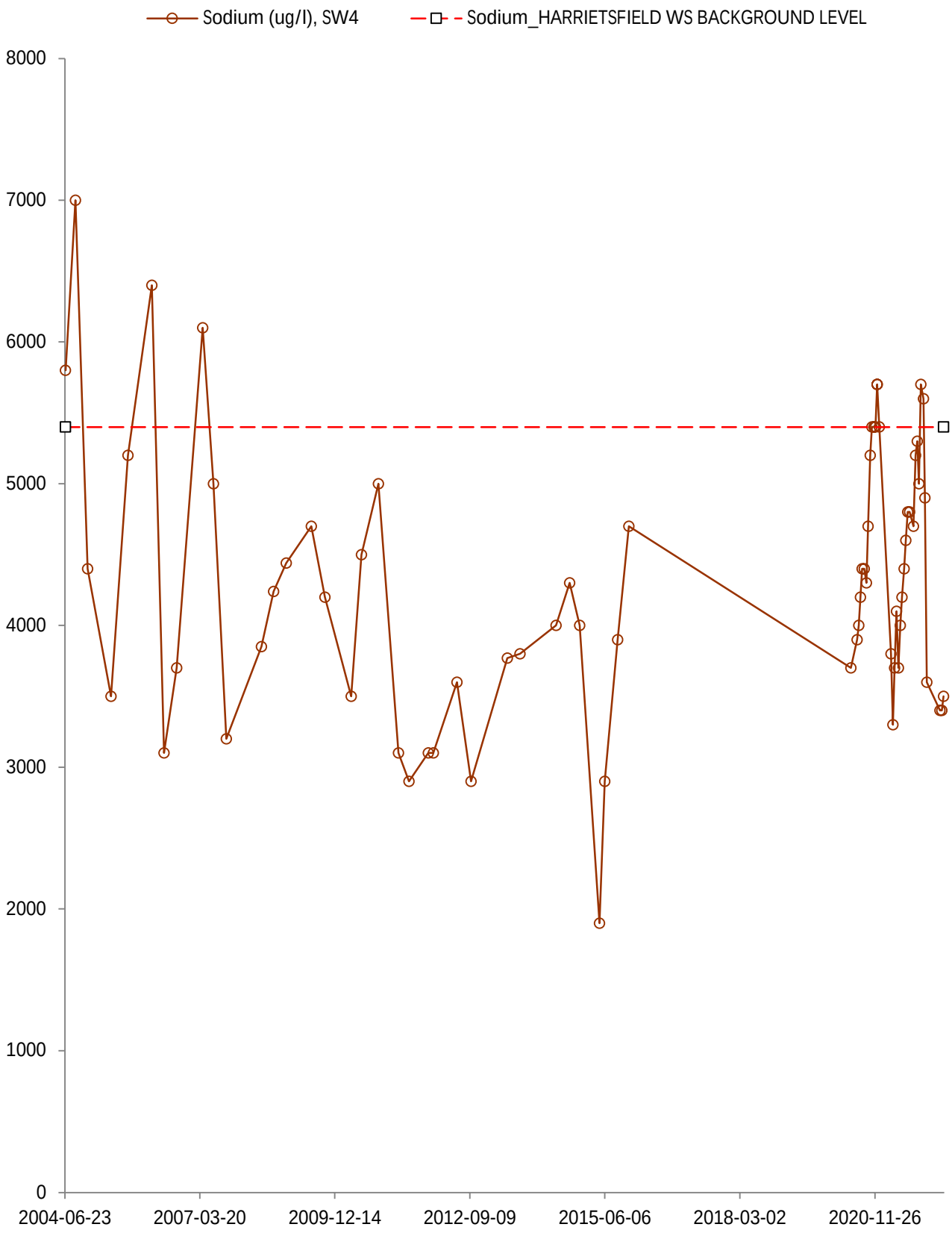
SW4-Selenium



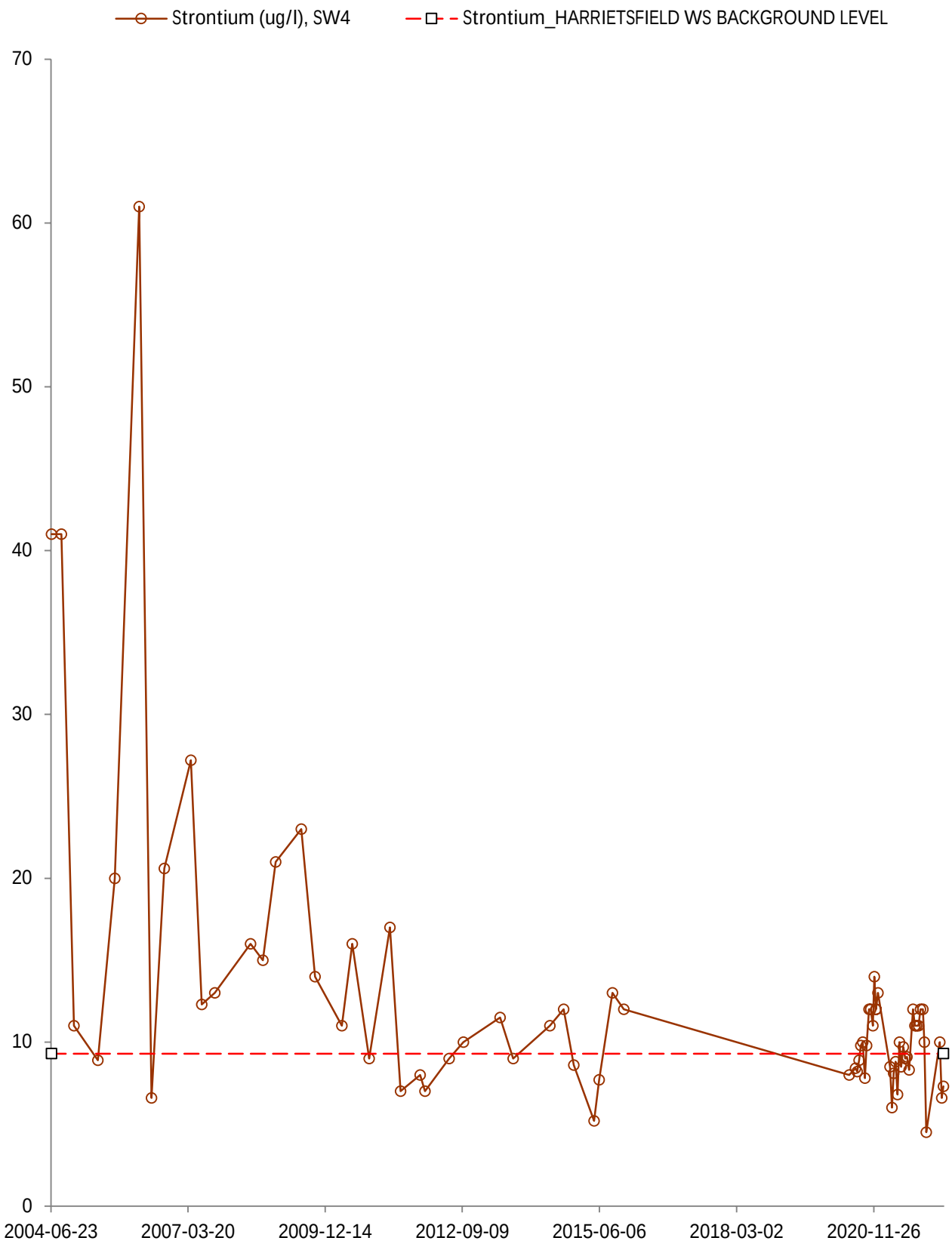
SW4-Silver


Silver (ug/l), SW4
Silver_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

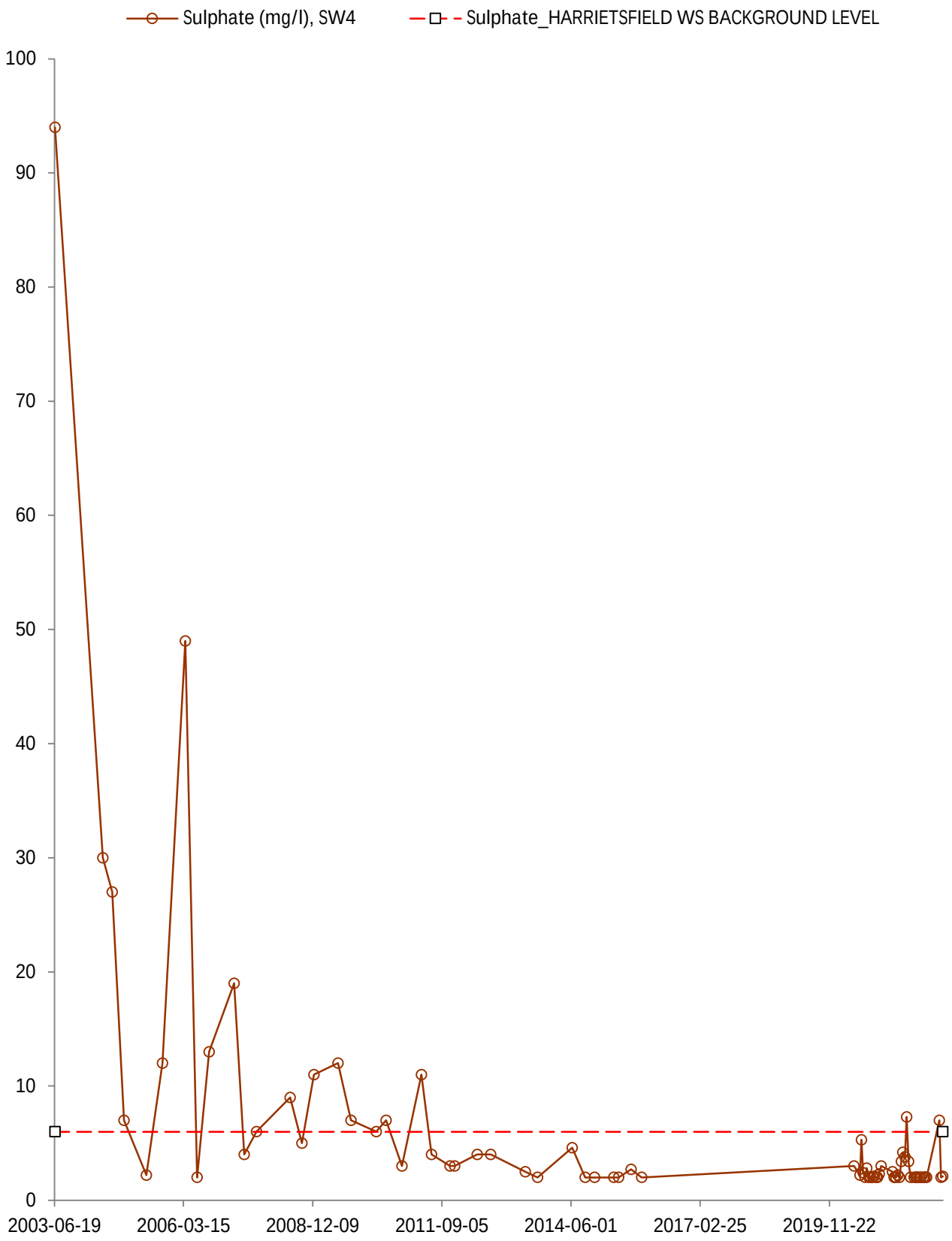
SW4-Sodium


Sodium (ug/l), SW4
Sodium_HARRIETSFIELD WS BACKGROUND LEVEL
8000
7000
6000
5000
4000
3000
2000
1000
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

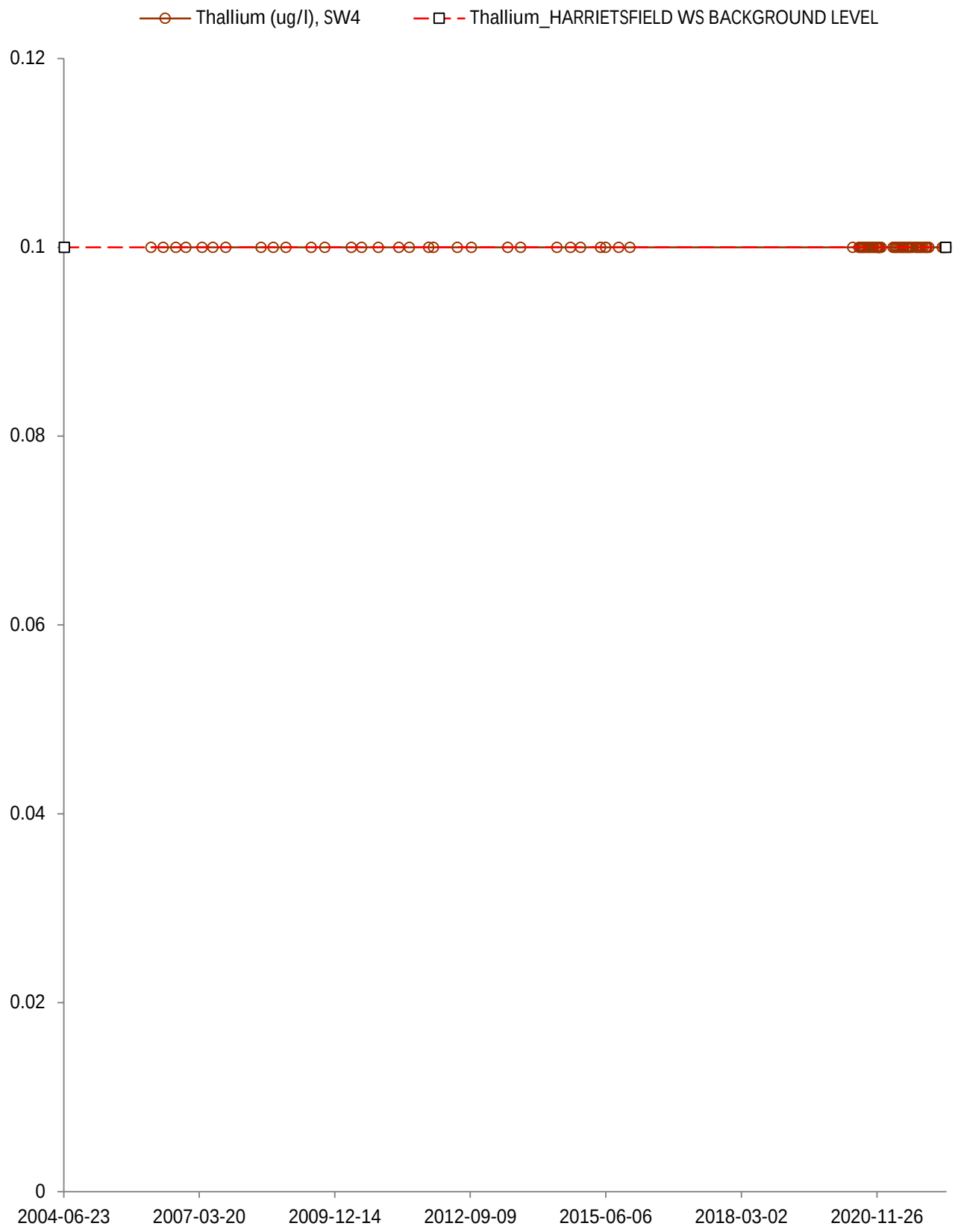
SW4-Strontium



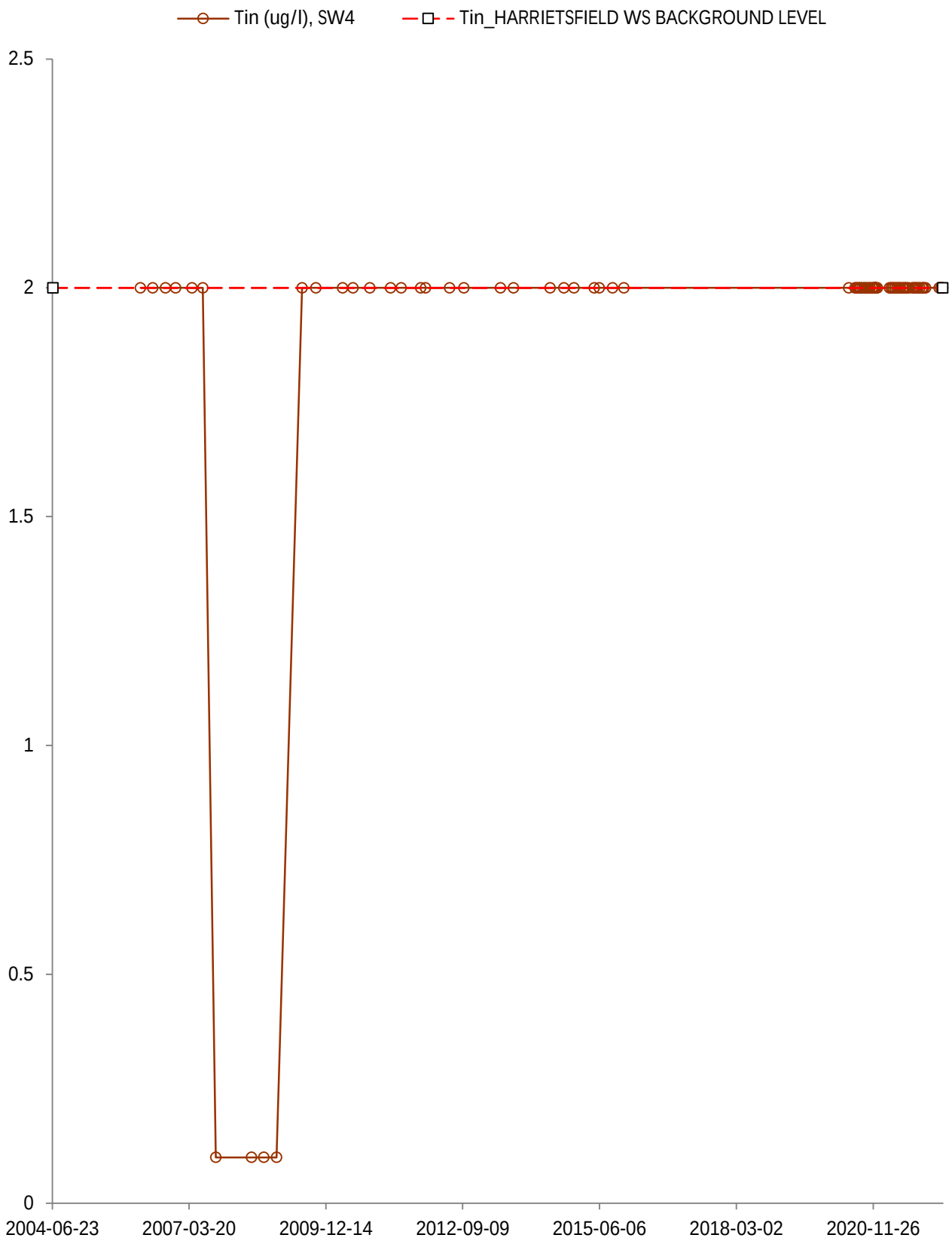
SW4-Sulphate



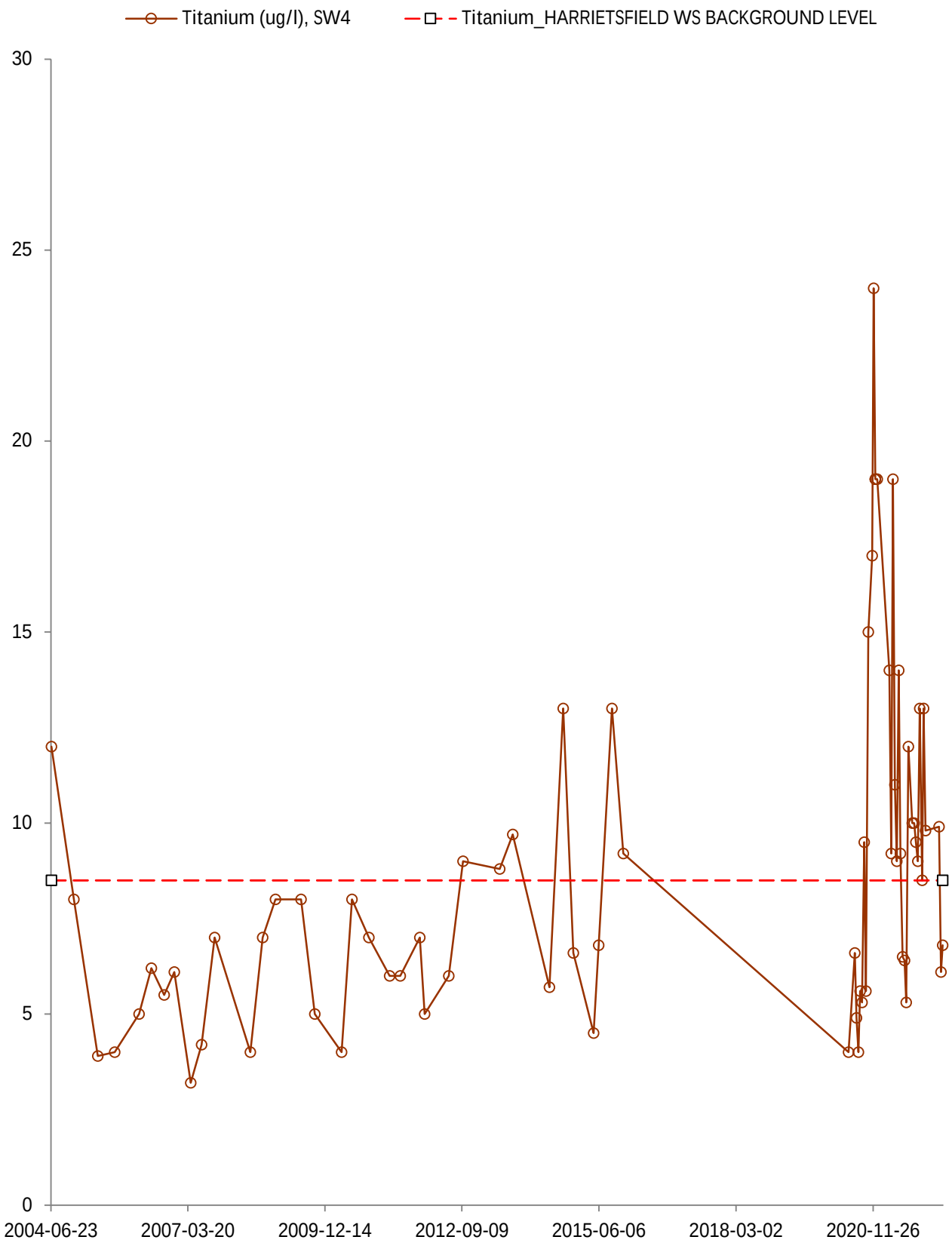
SW4-Thallium



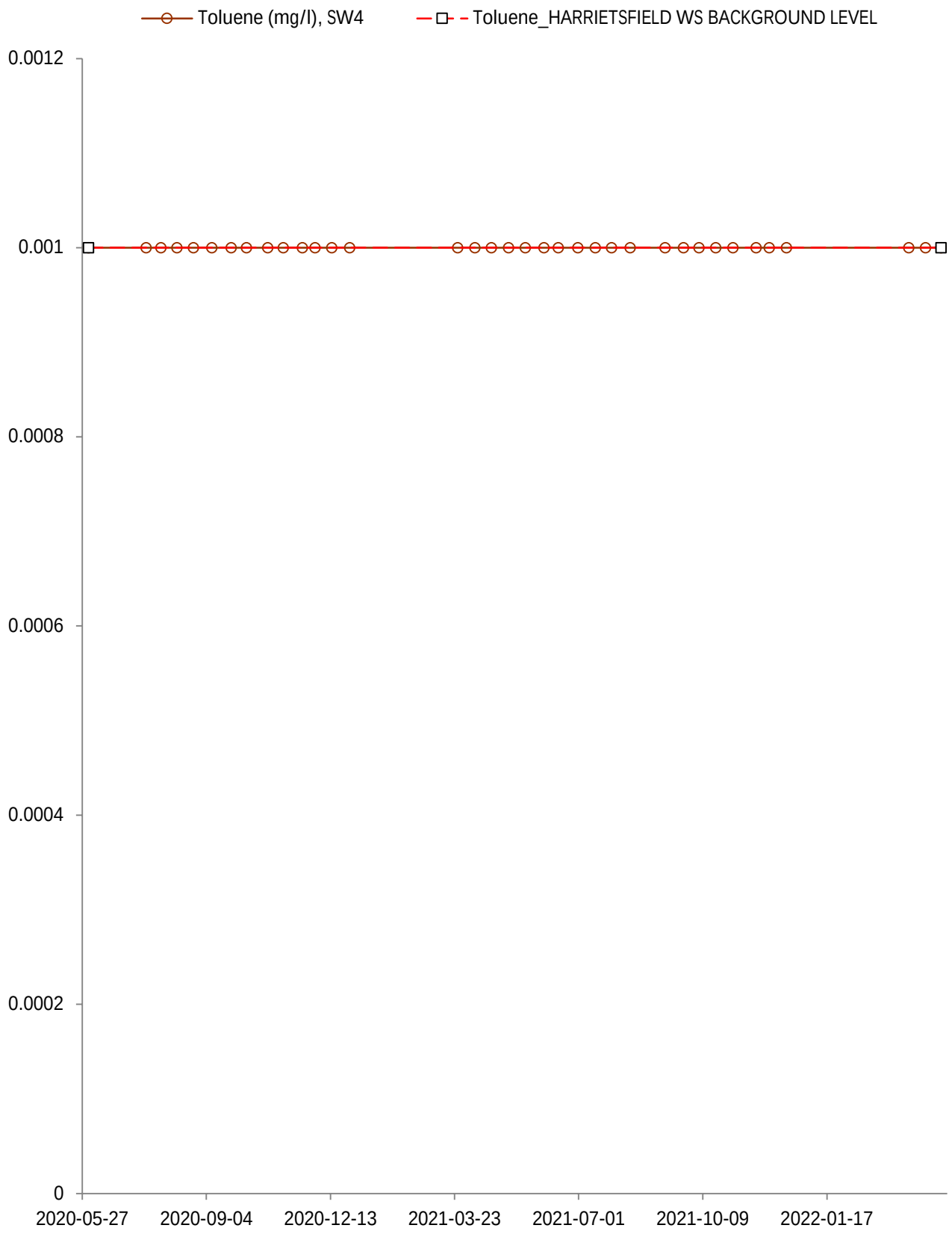
SW4-Tin


Tin (ug/l), SW4
Tin_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

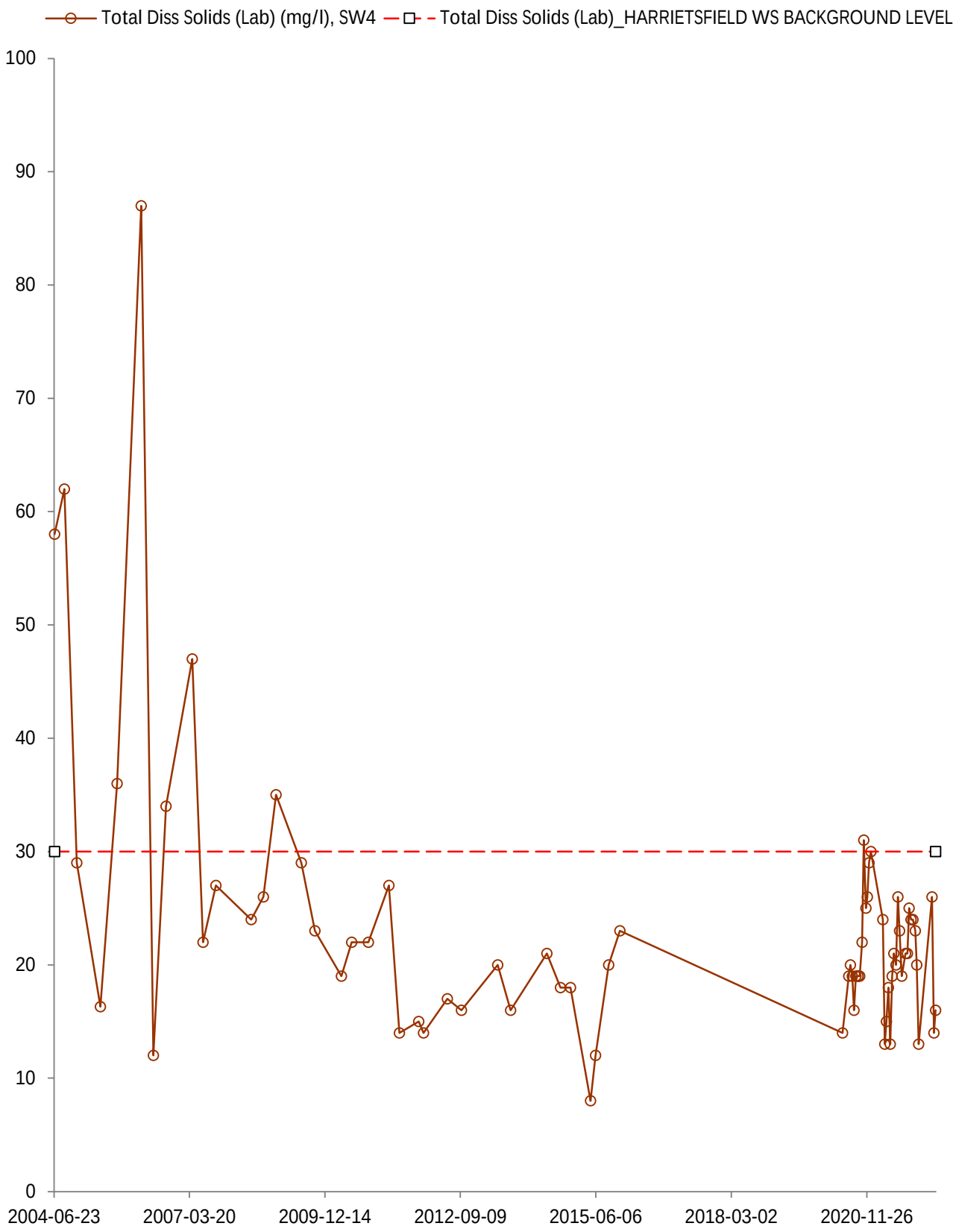
SW4-Titanium



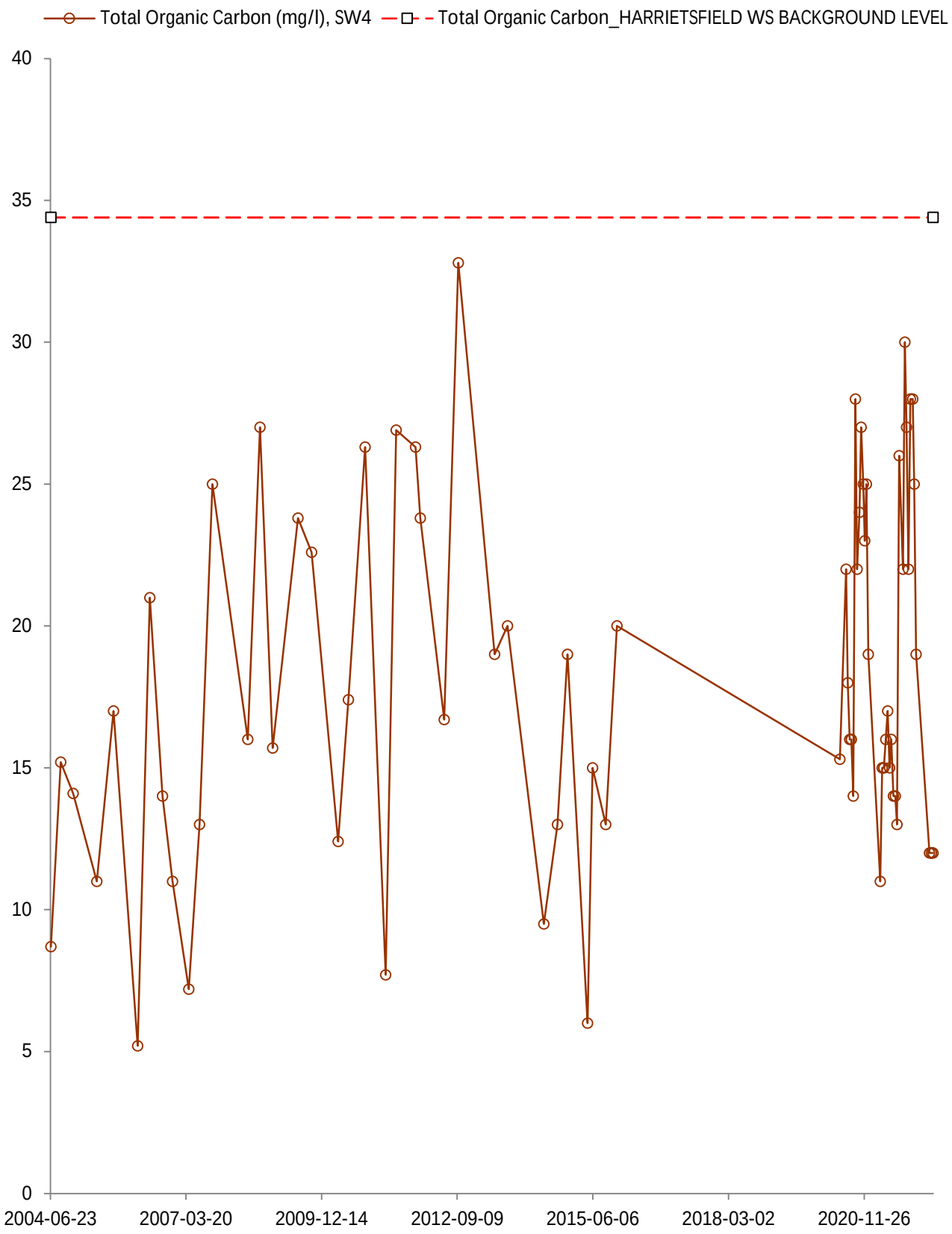
SW4-Toluene


Toluene (mg/l), SW4
Toluene_HARRIETSFIELD WS BACKGROUND LEVEL
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
2020-05-27
2020-09-04
2020-12-13
2021-03-23
2021-07-01
2021-10-09
2022-01-17

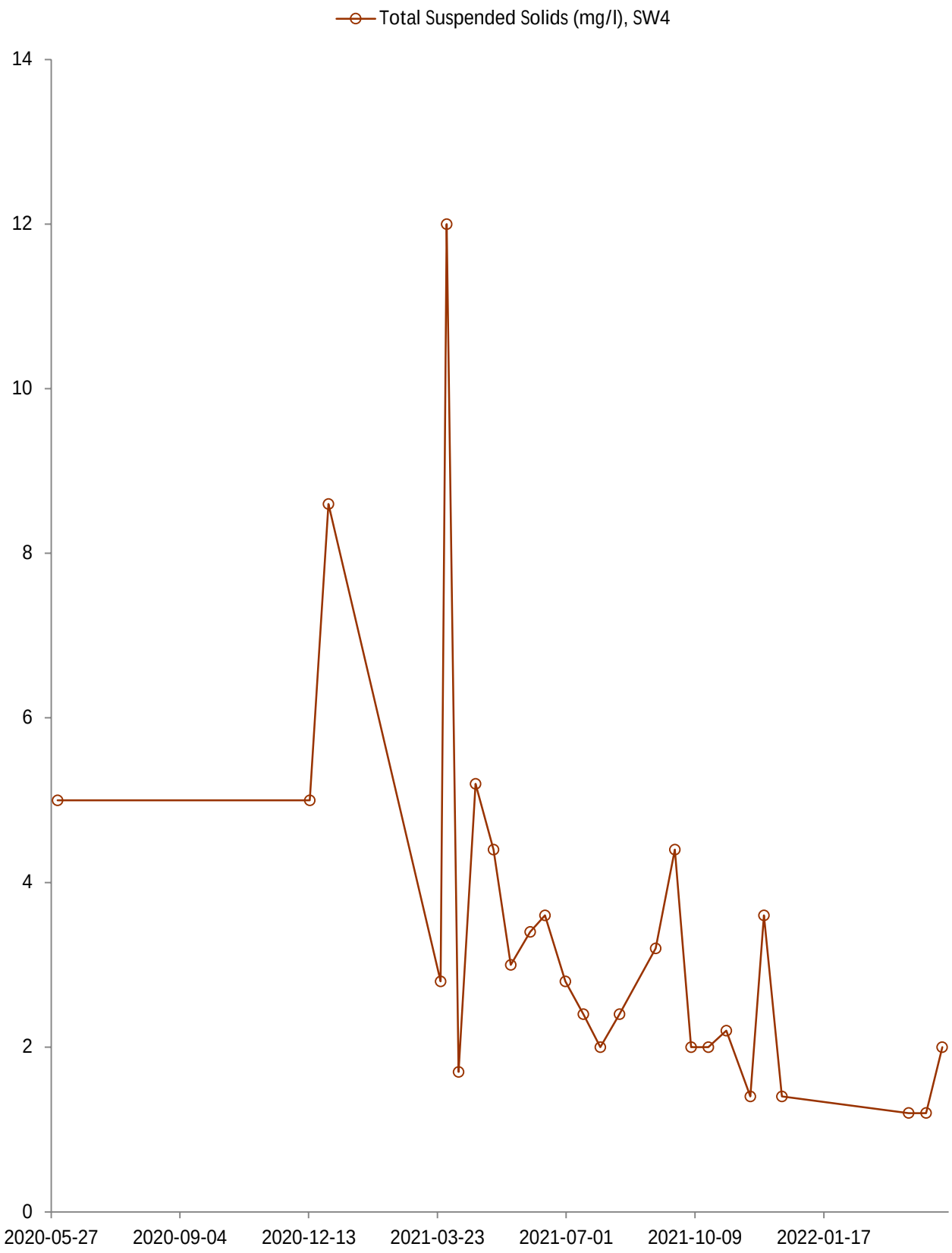
SW4-Total Diss Solids (Lab)



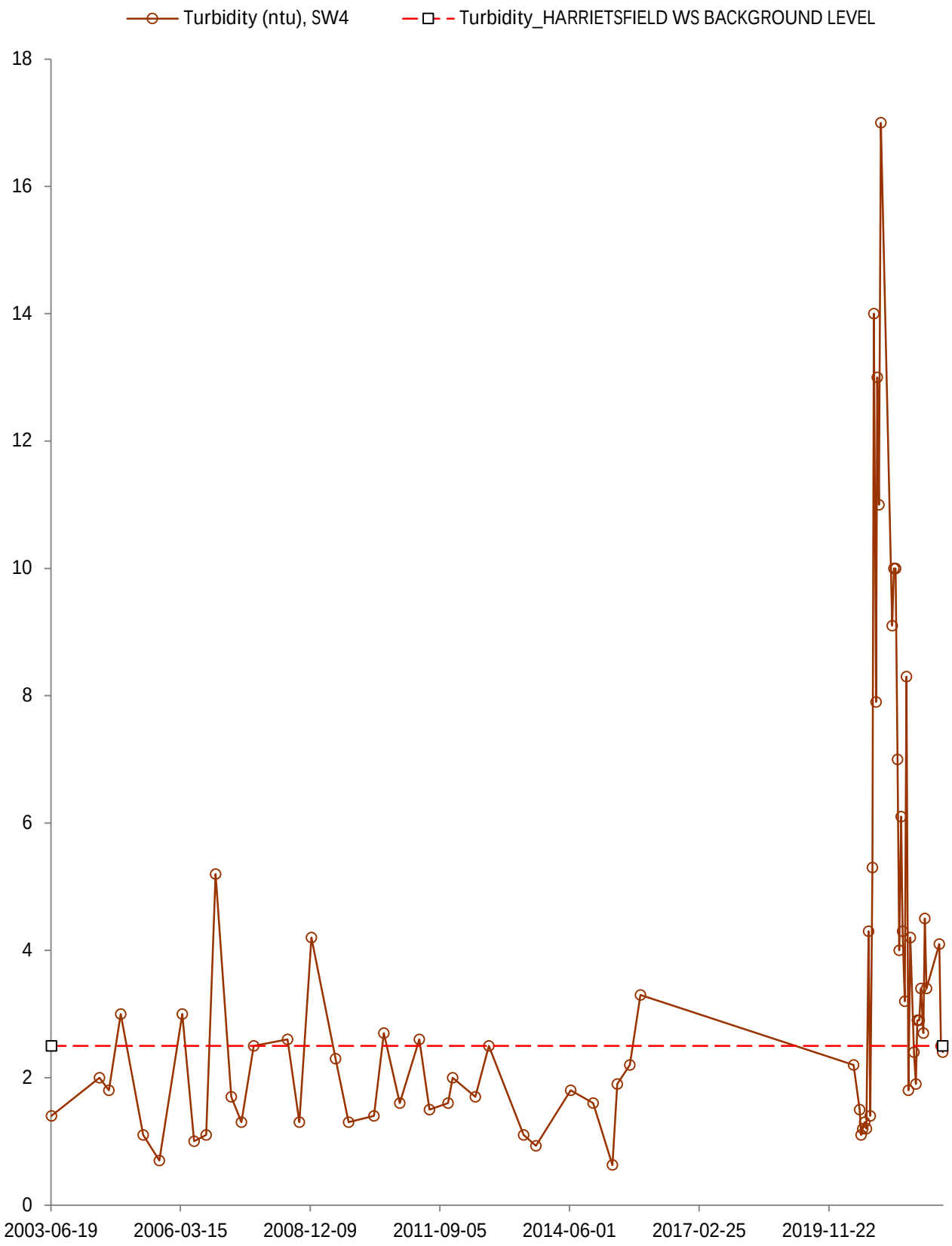
SW4-Total Organic Carbon



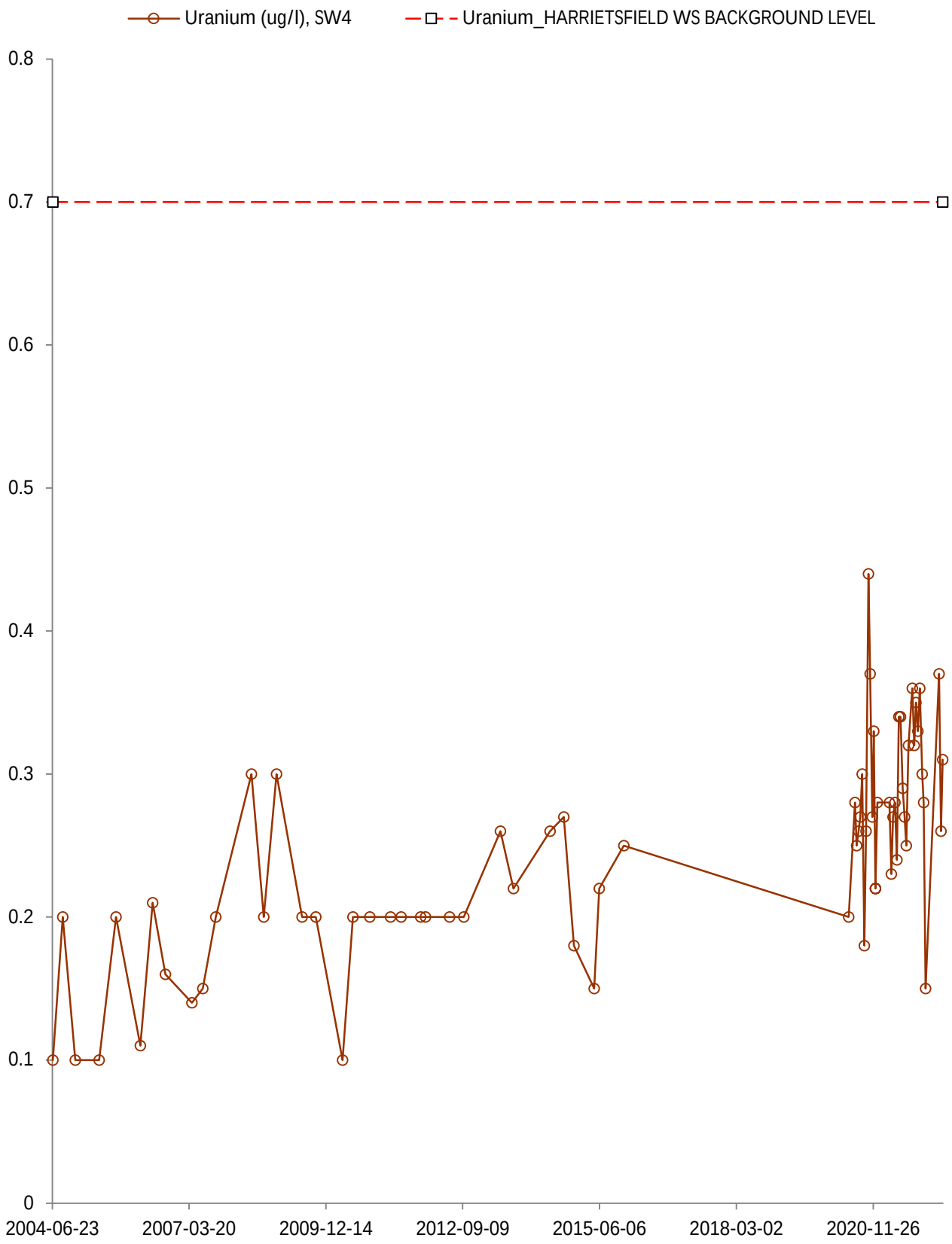
SW4-Total Suspended Solids



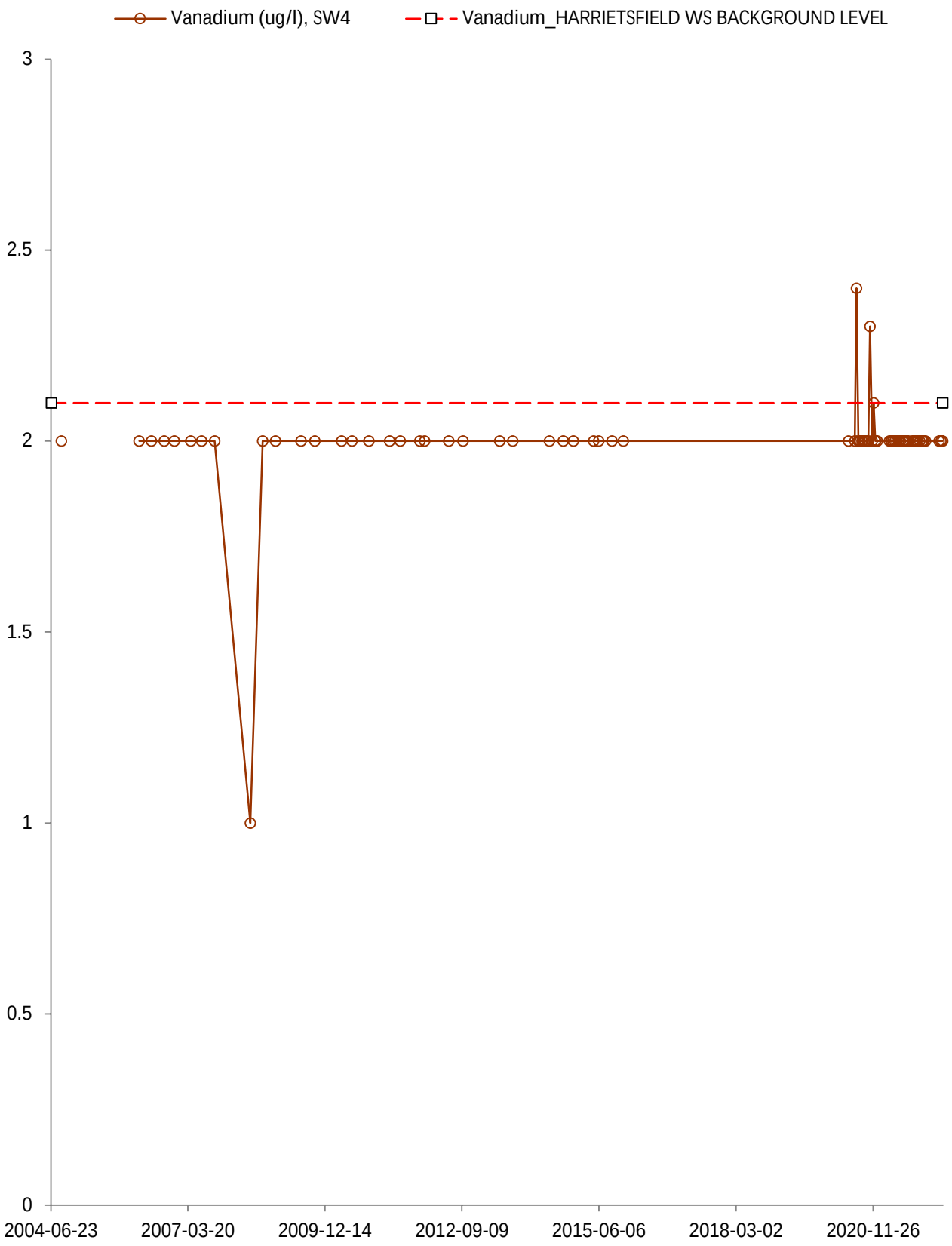
SW4-Turbidity



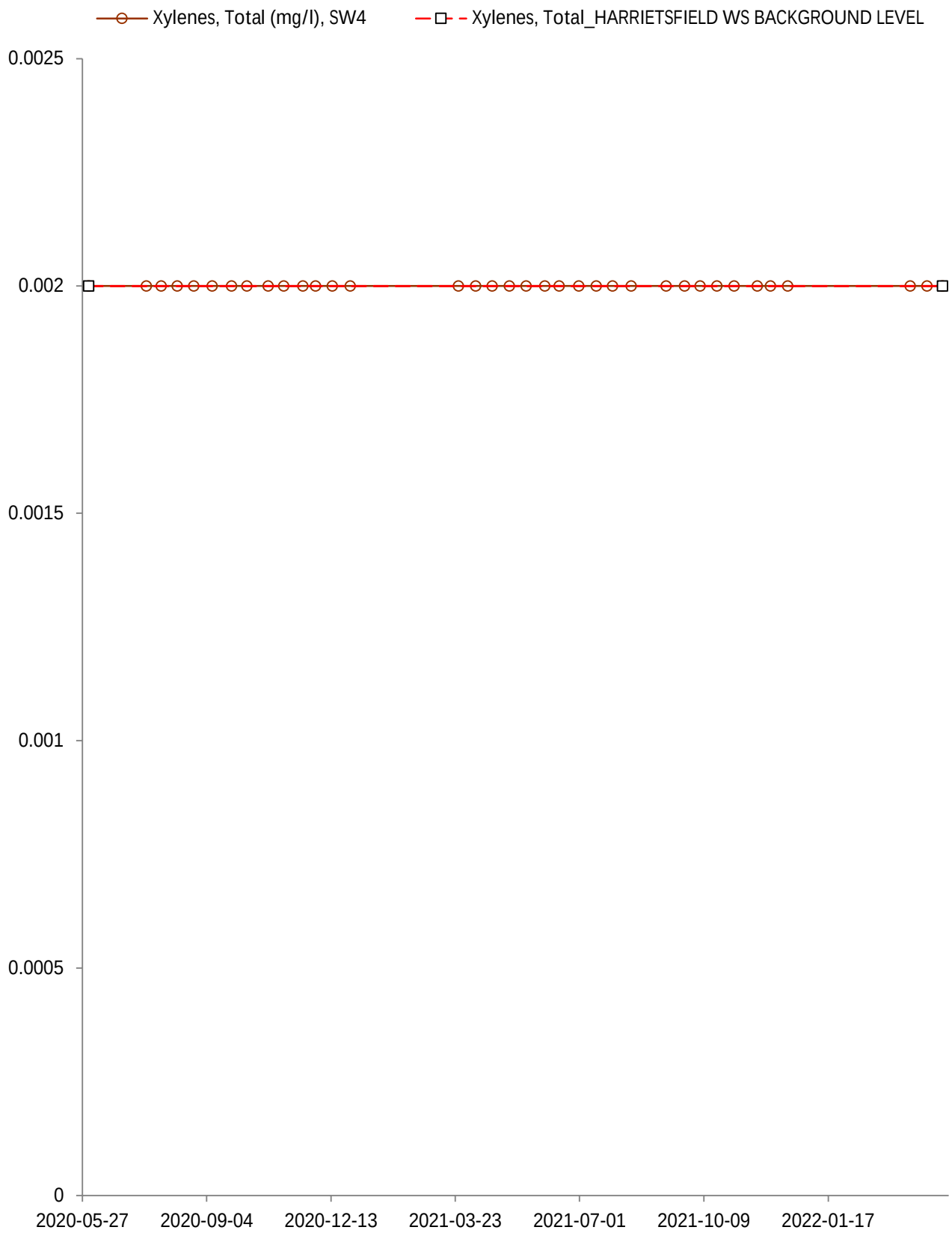
SW4-Uranium


Uranium (ug/l), SW4
Uranium_HARRIETSFIELD WS BACKGROUND LEVEL
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

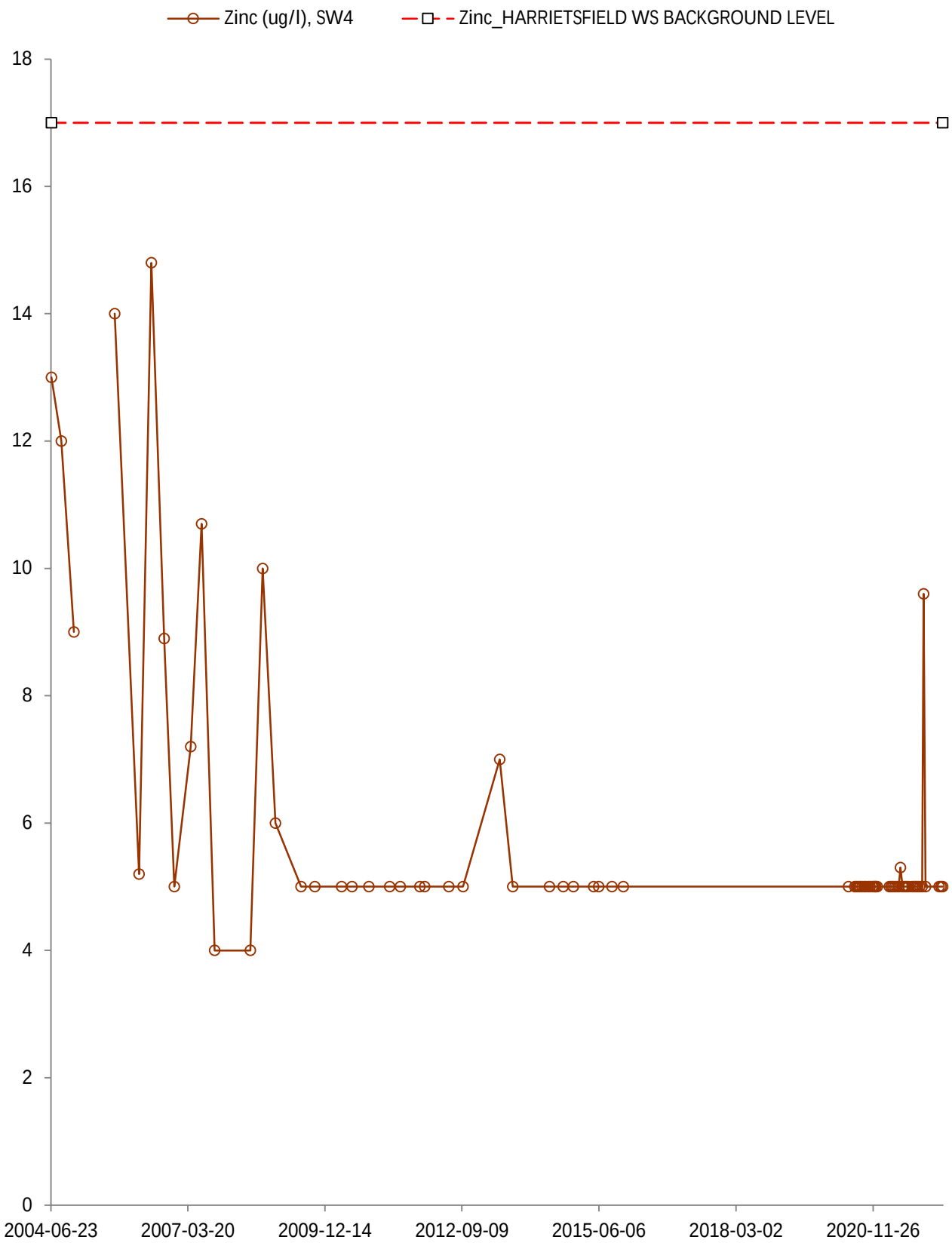
SW4-Vanadium



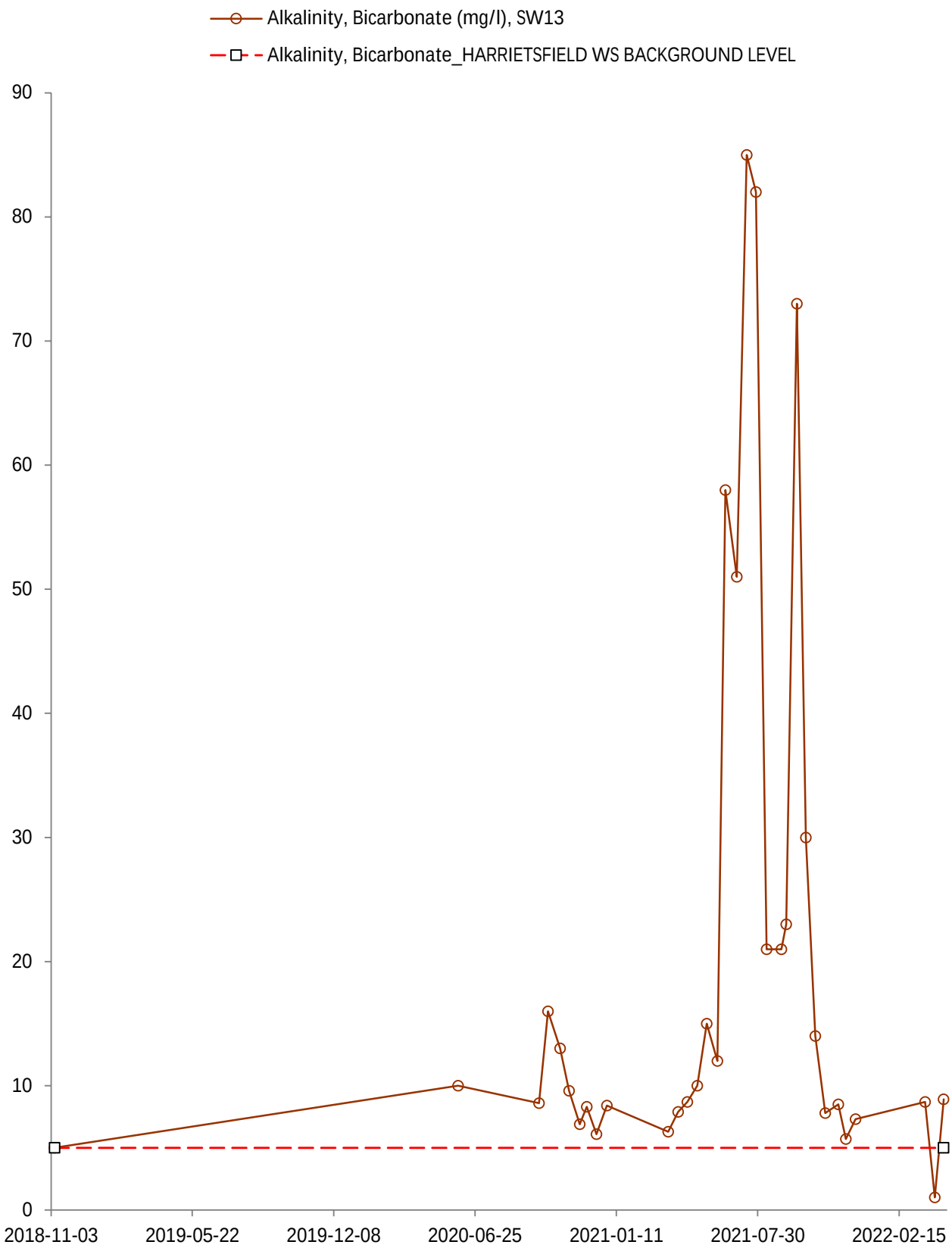
SW4-Xylenes, Total



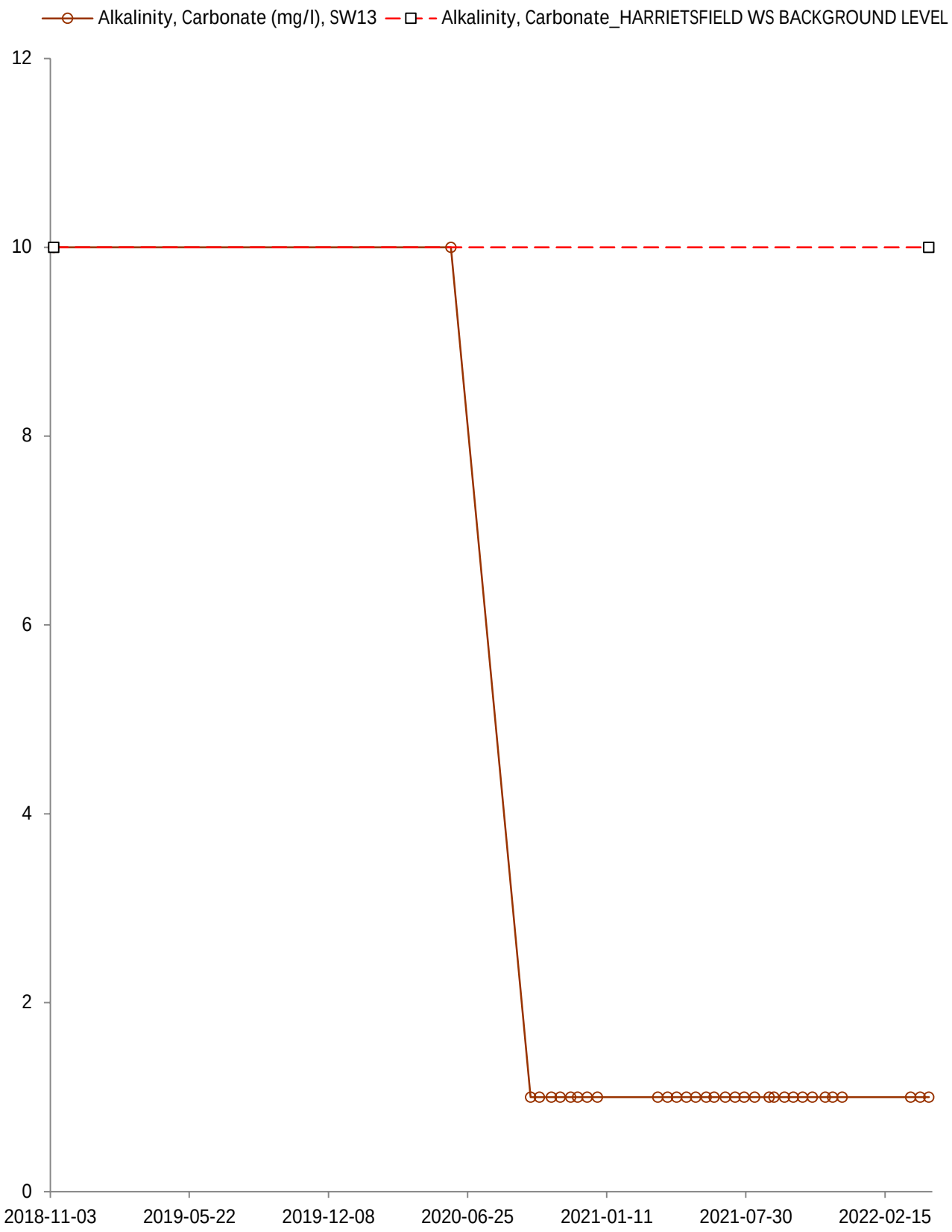
SW4-Zinc


Zinc (ug/l), SW4
Zinc_HARRIETSFIELD WS BACKGROUND LEVEL
18
16
14
12
10
8
6
4
2
0
2004-06-23
2007-03-20
2009-12-14
2012-09-09
2015-06-06
2018-03-02
2020-11-26

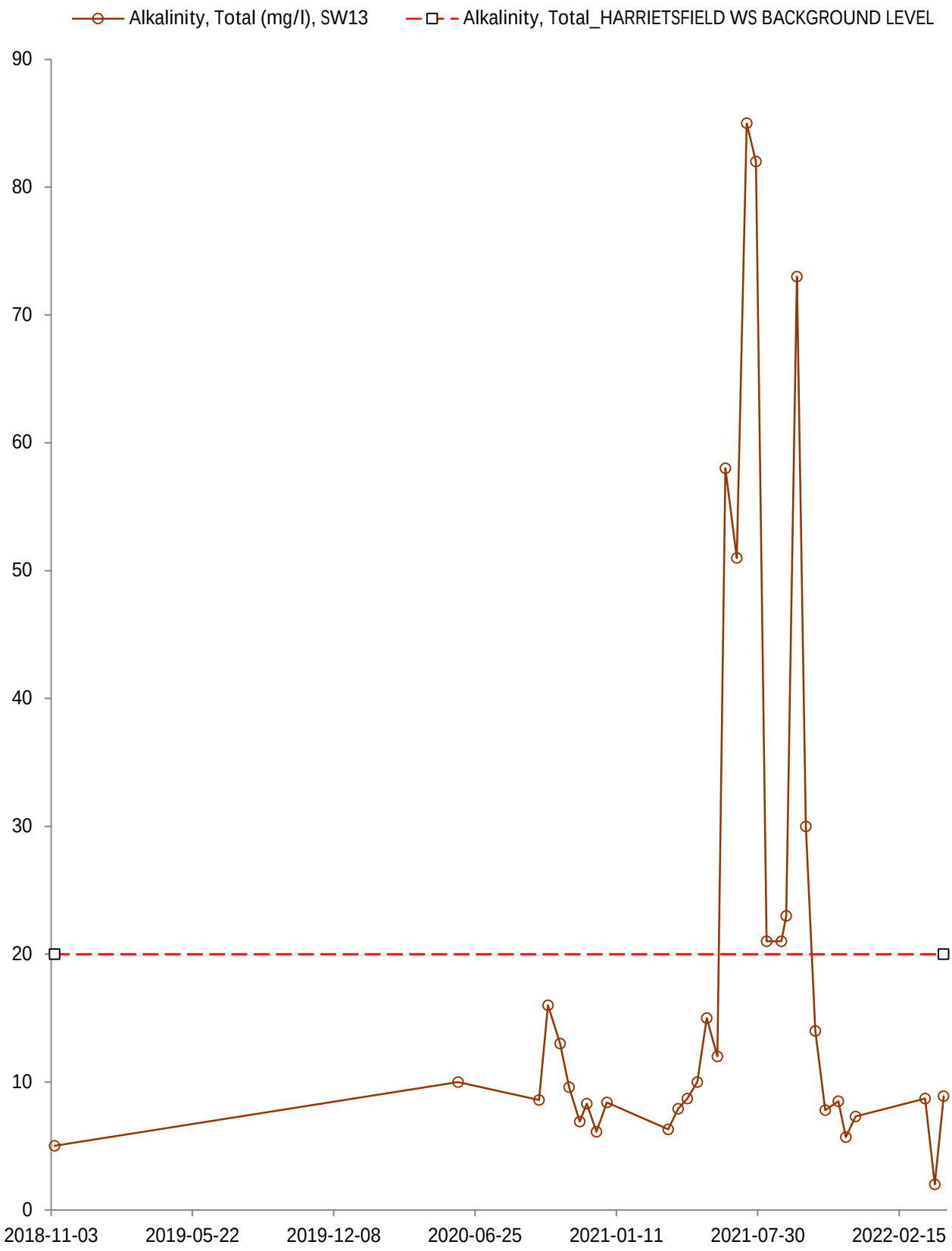
SW13-Alkalinity, Bicarbonate



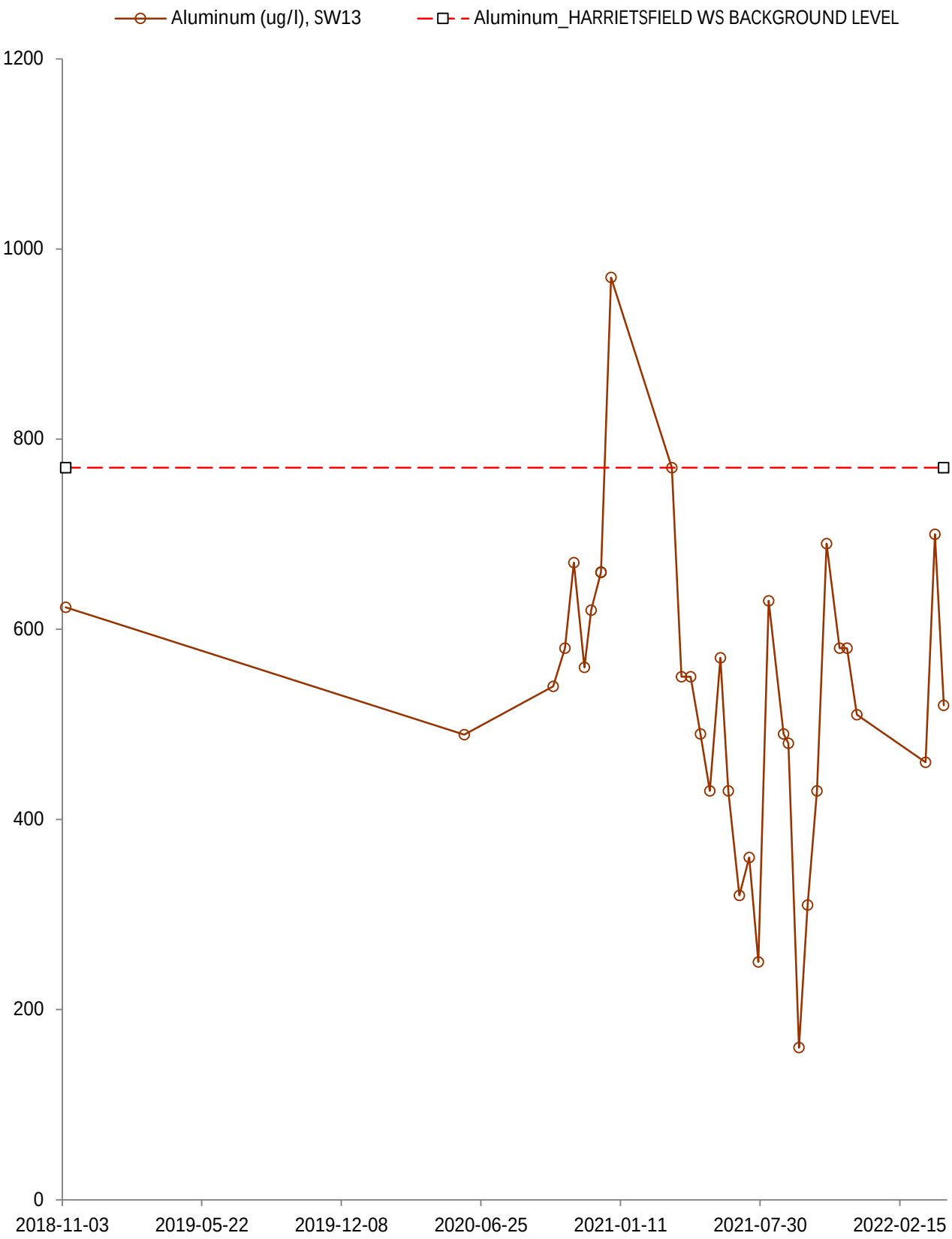
SW13-Alkalinity, Carbonate



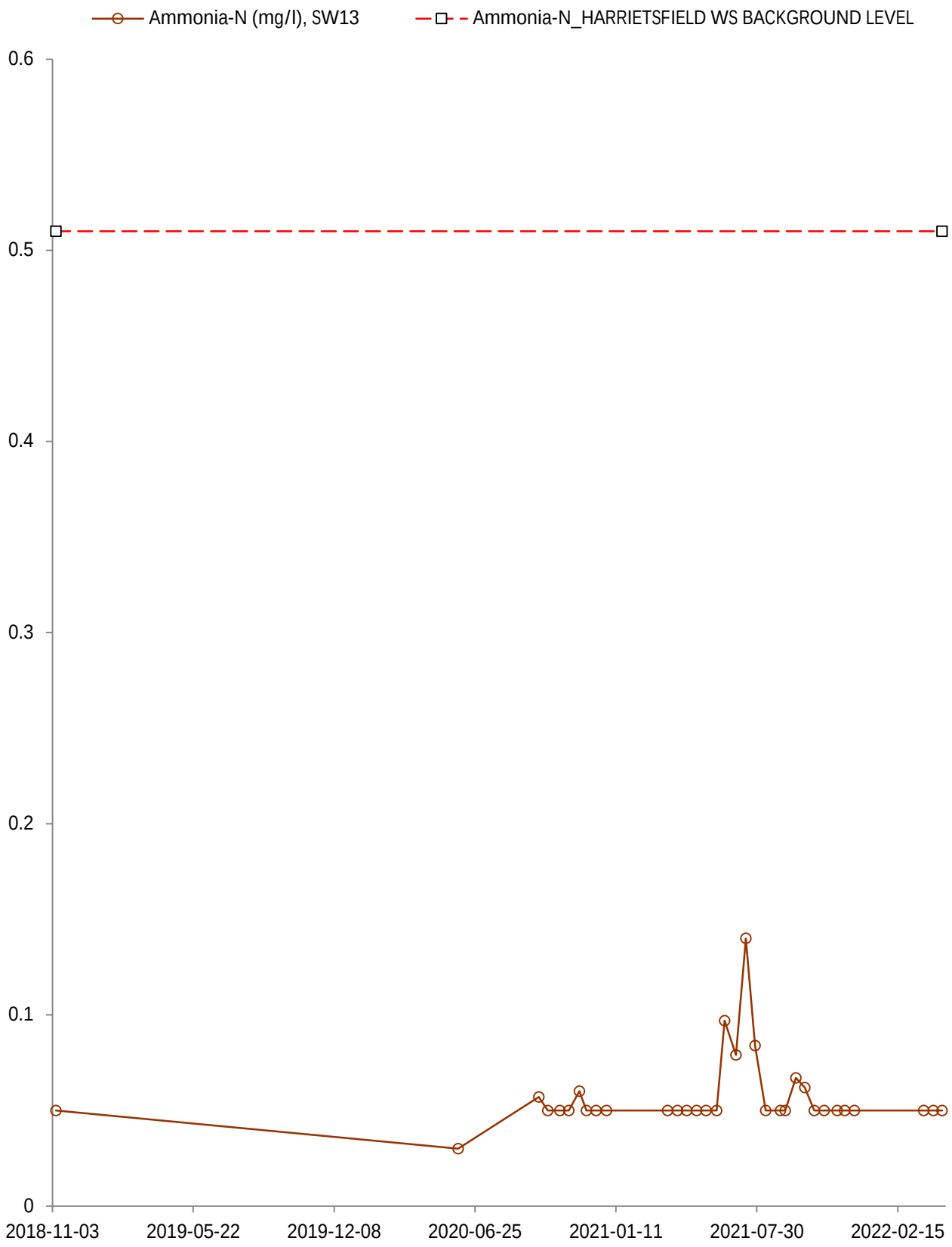
SW13-Alkalinity, Total



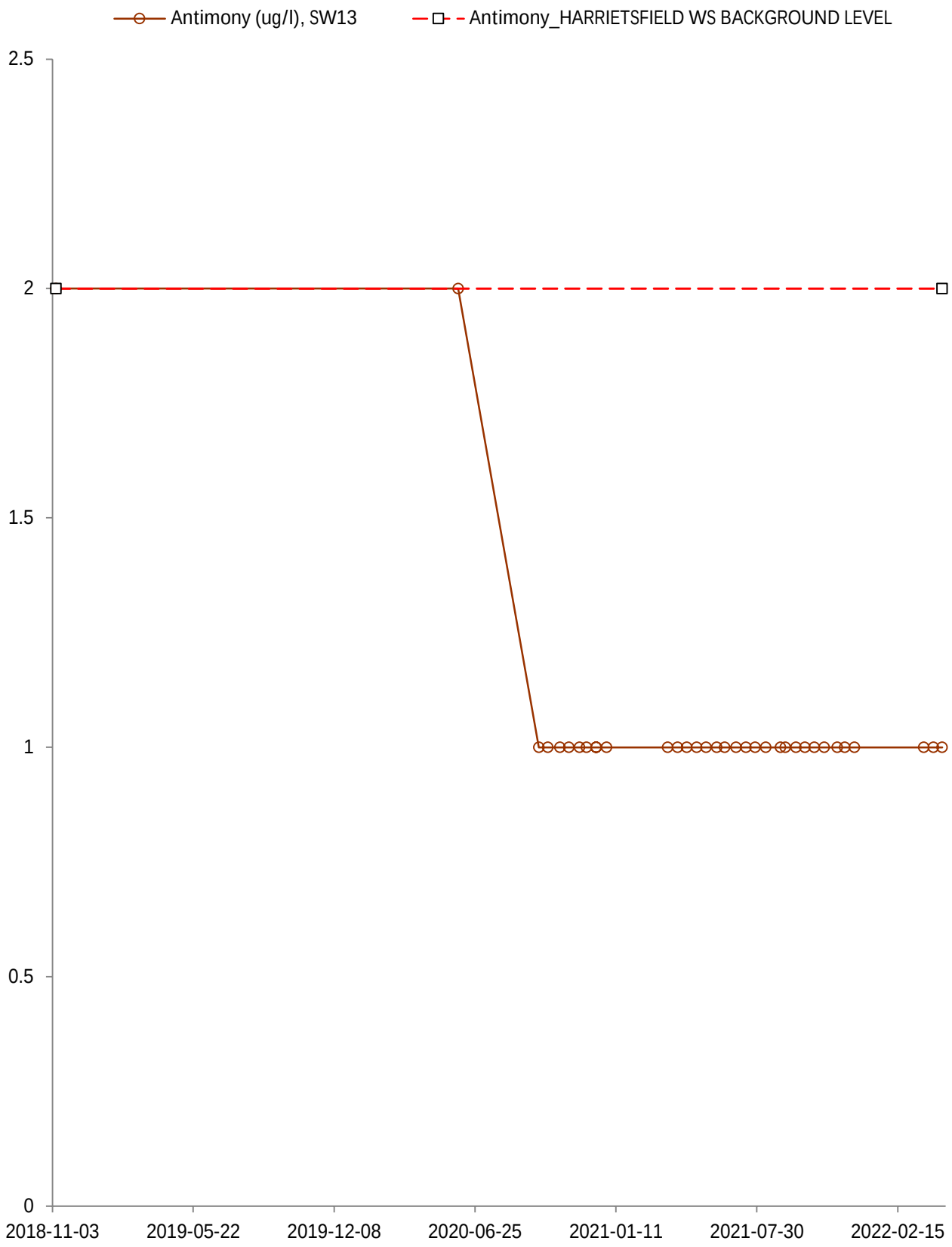
SW13-Aluminum



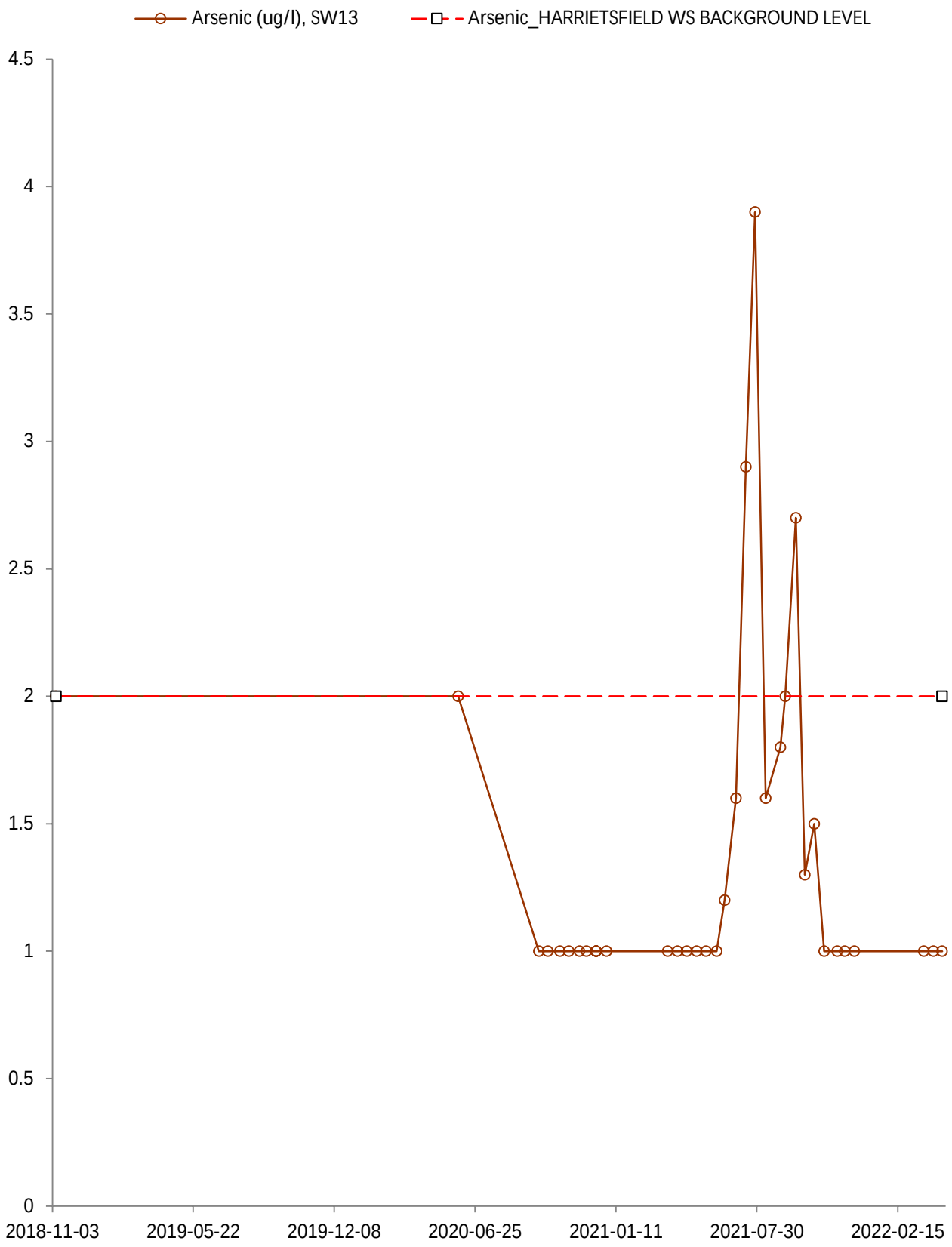
SW13-Ammonia-N



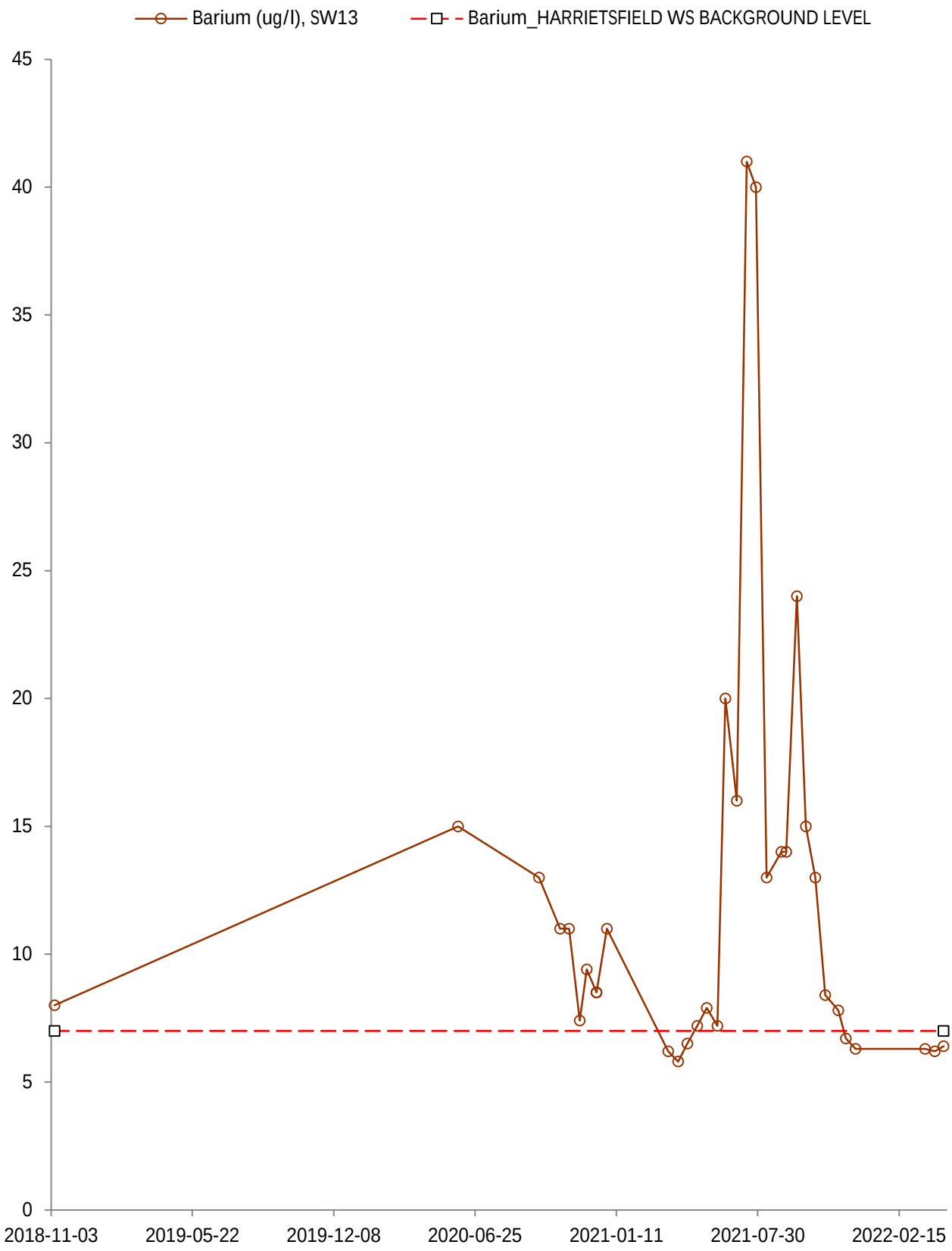
SW13-Antimony



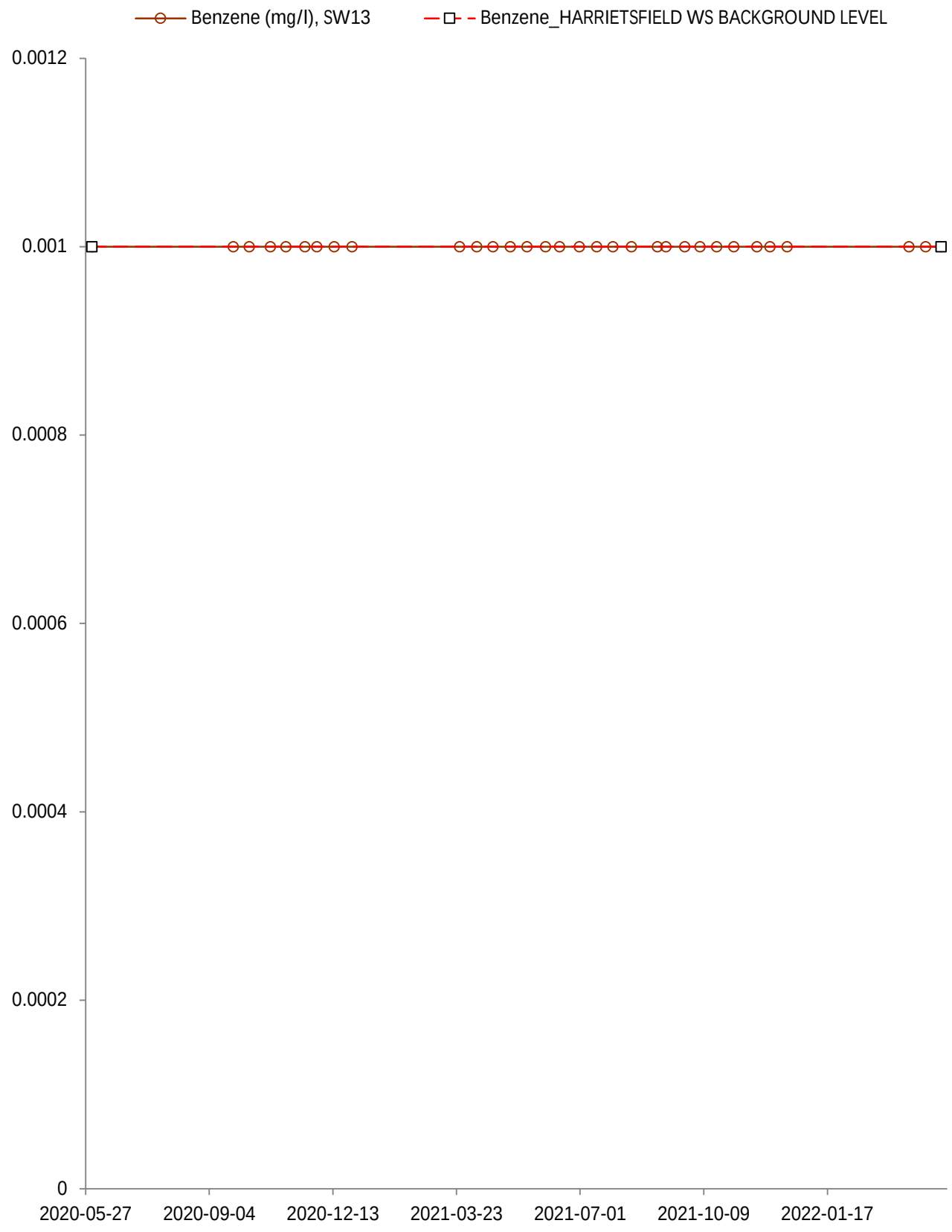
SW13-Arsenic



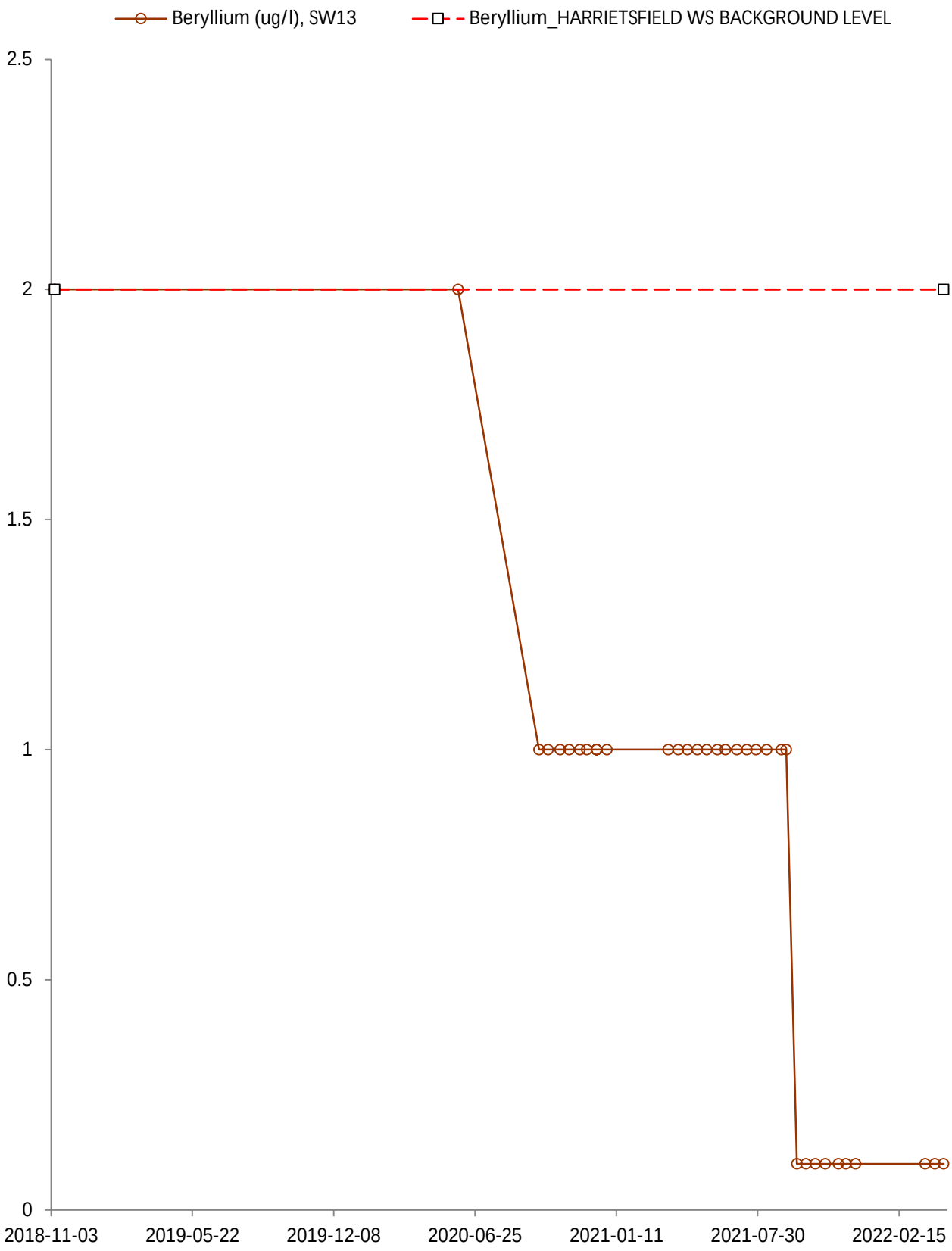
SW13-Barium


Barium (ug/l), SW13
Barium_HARRIETSFIELD WS BACKGROUND LEVEL
45
40
35
30
25
20
15
10
5
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

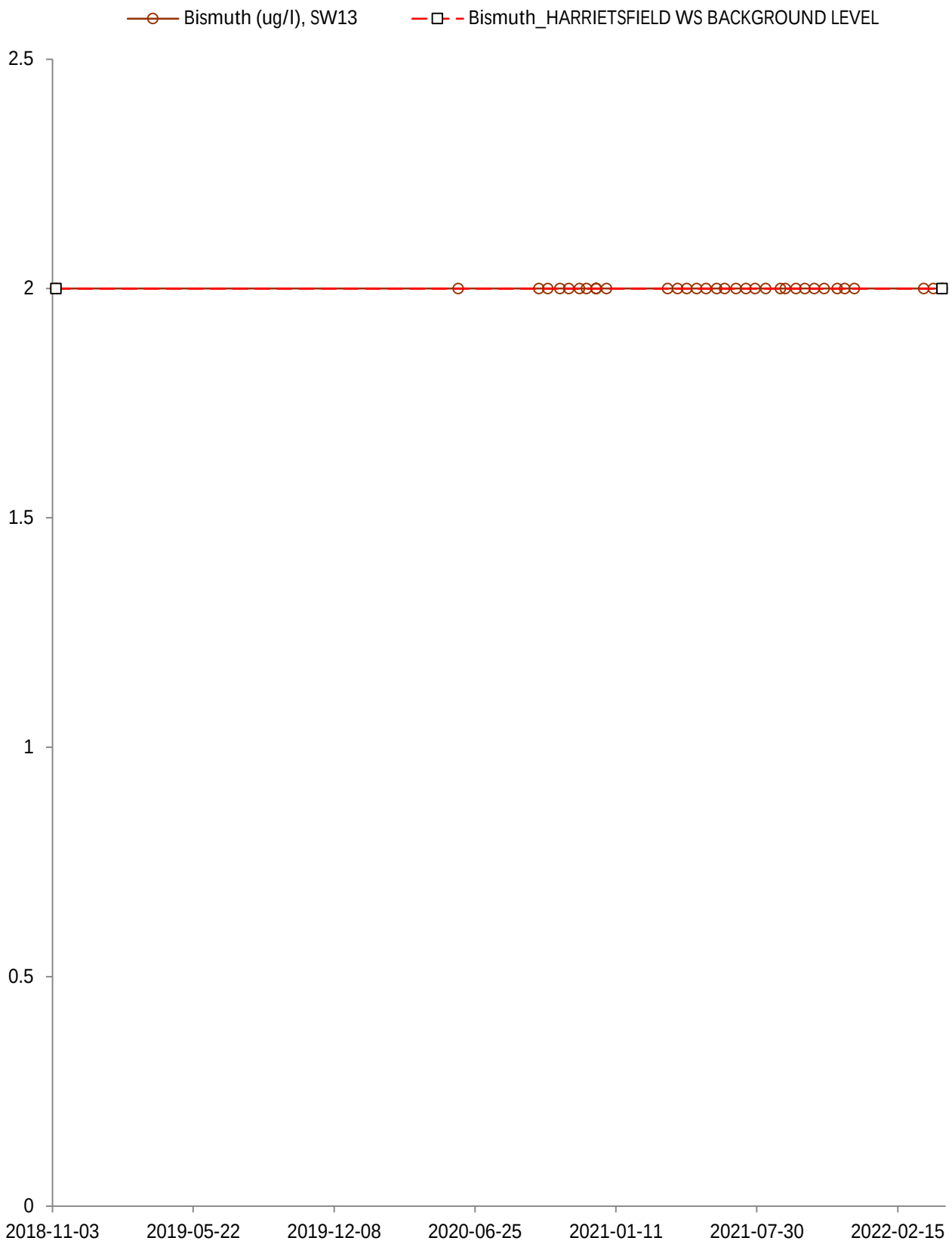
SW13-Benzene



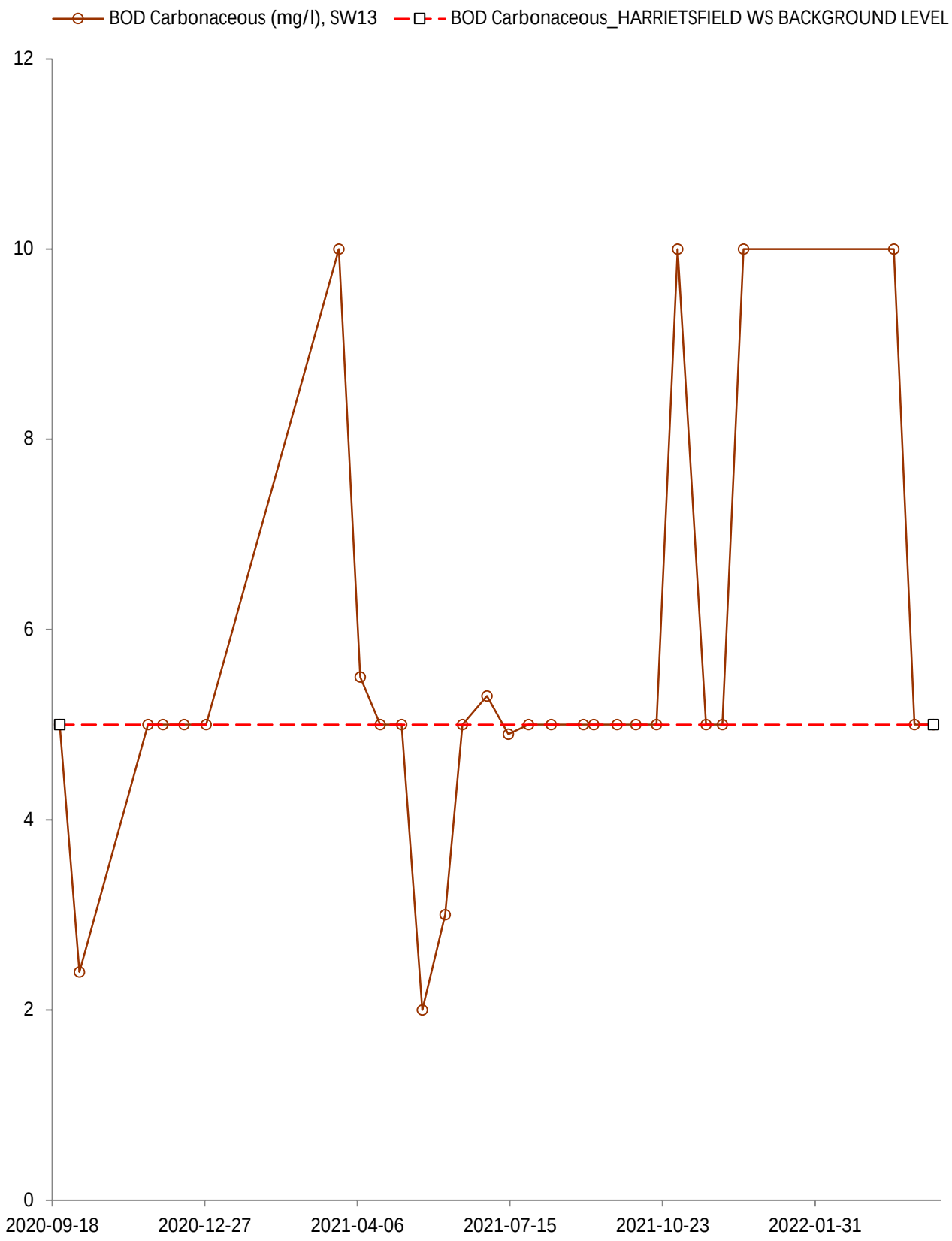
SW13-Beryllium



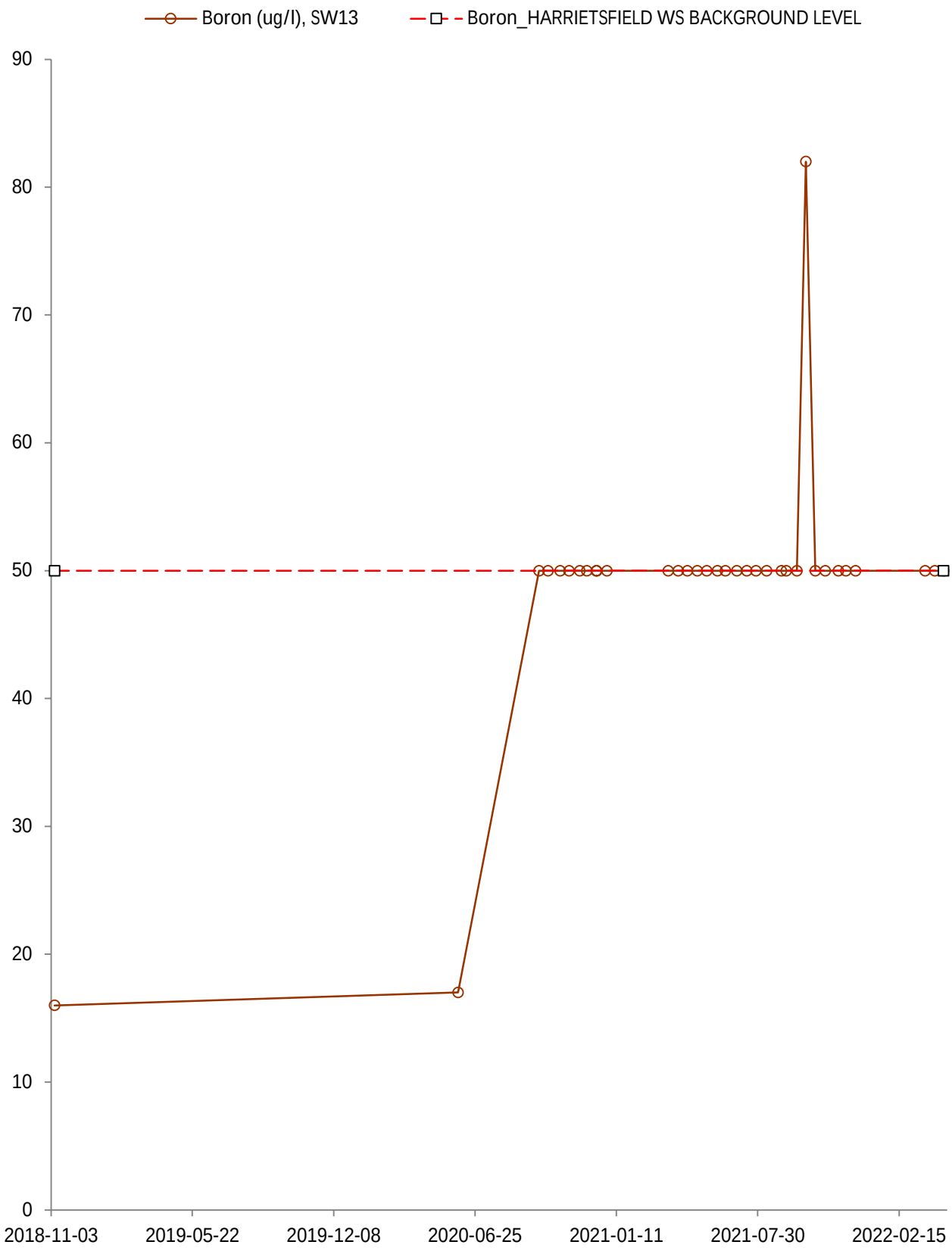
SW13-Bismuth



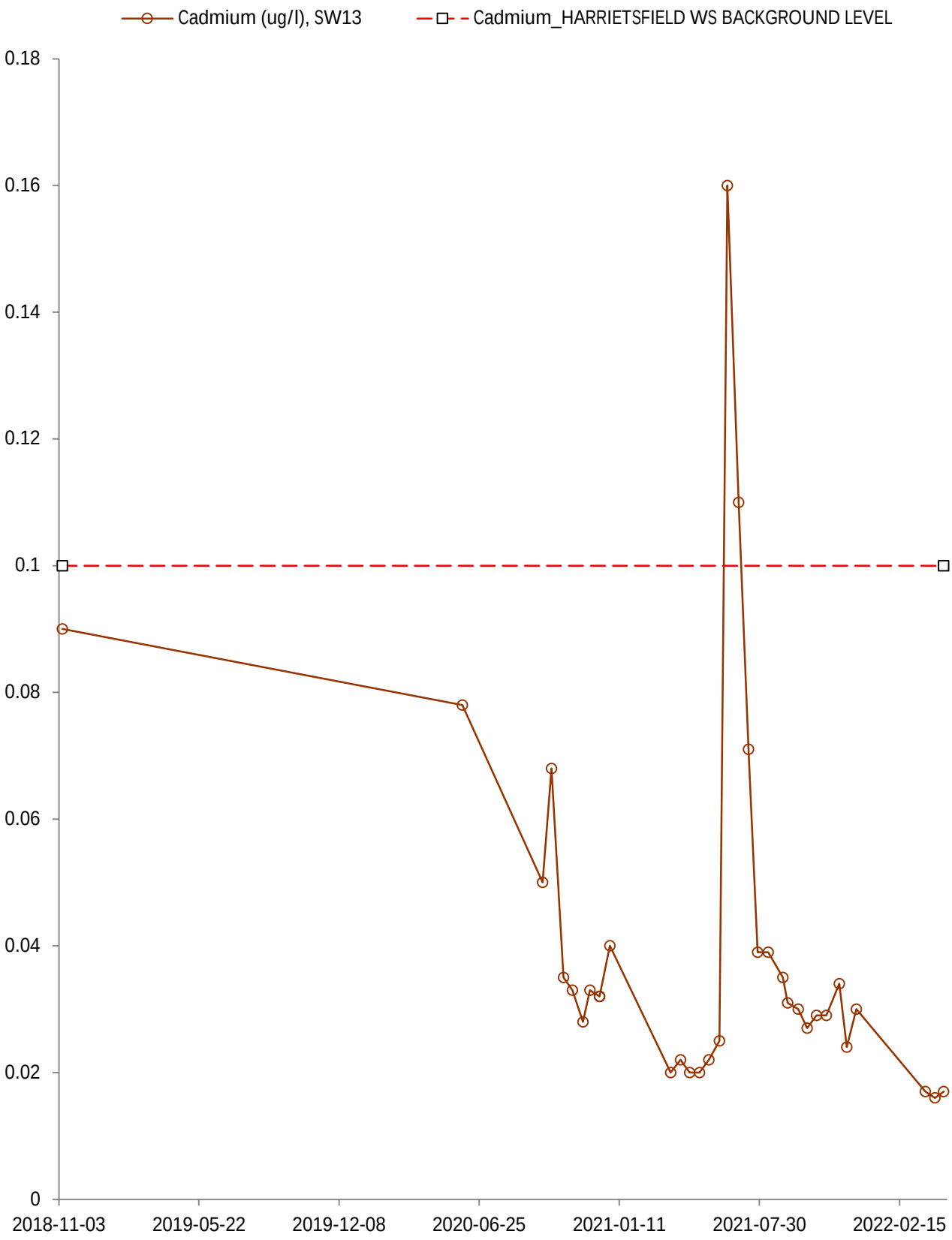
SW13-BOD Carbonaceous



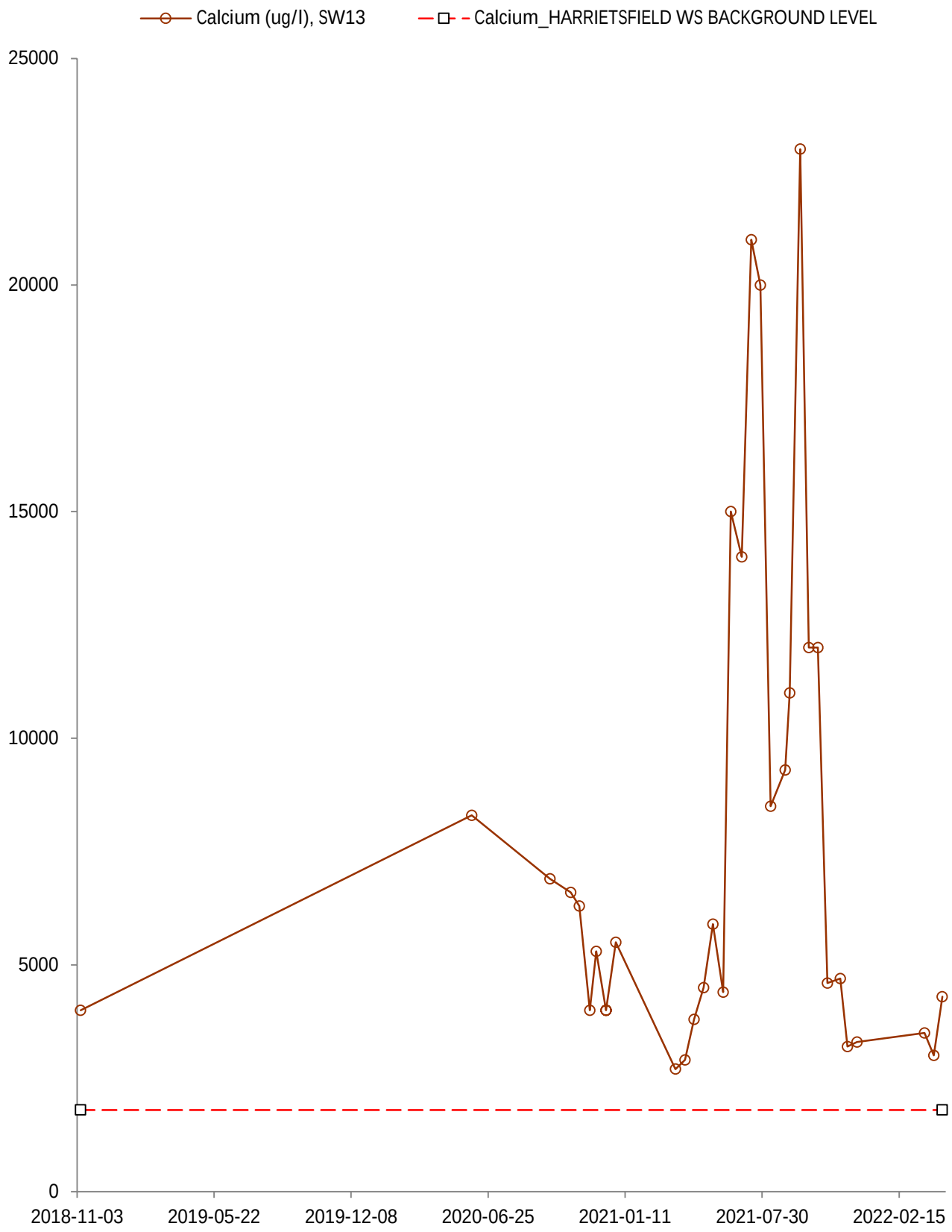
SW13-Boron


Boron (ug/l), SW13
Boron_HARRIETSFIELD WS BACKGROUND LEVEL
90
80
70
60
50
40
30
20
10
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

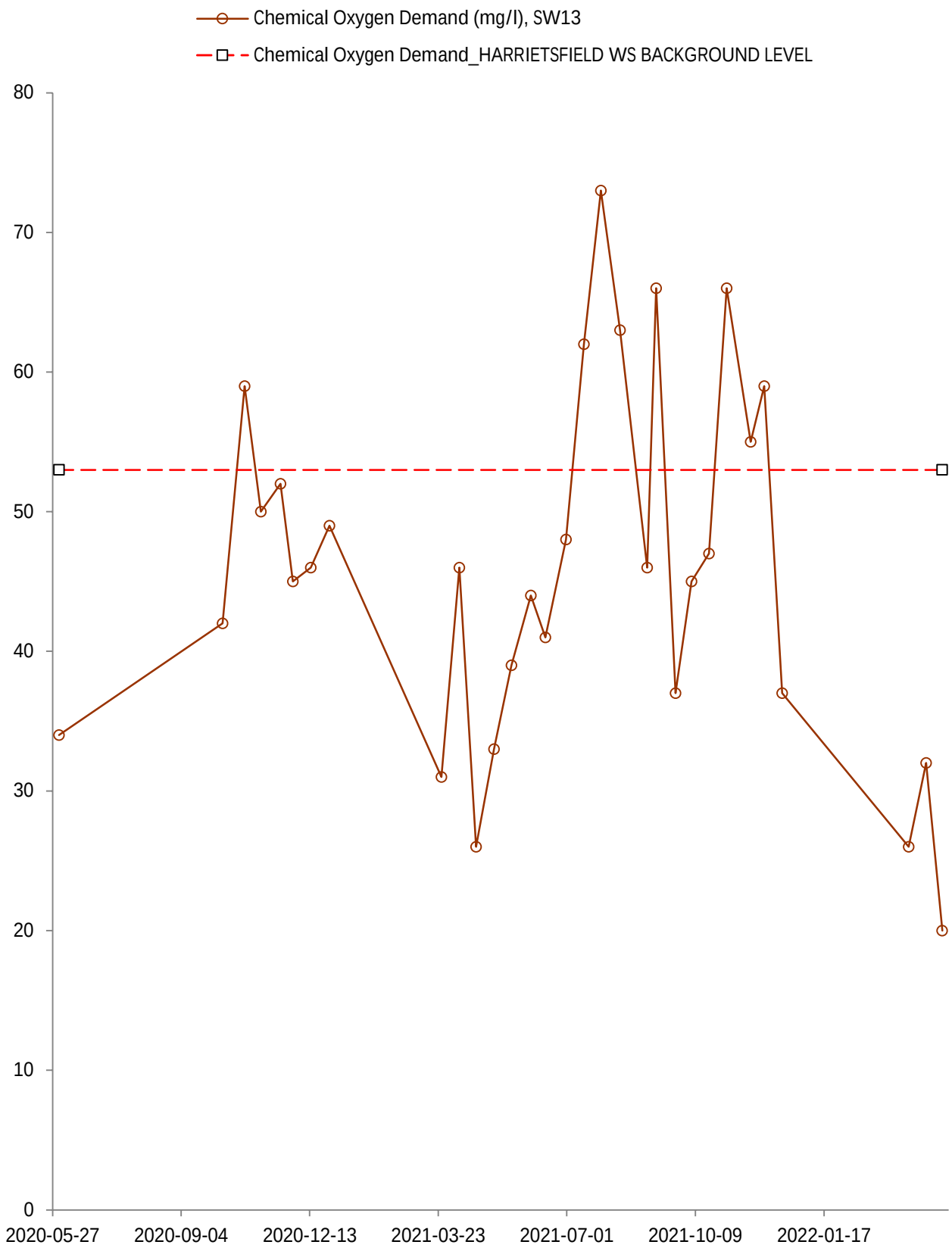
SW13-Cadmium



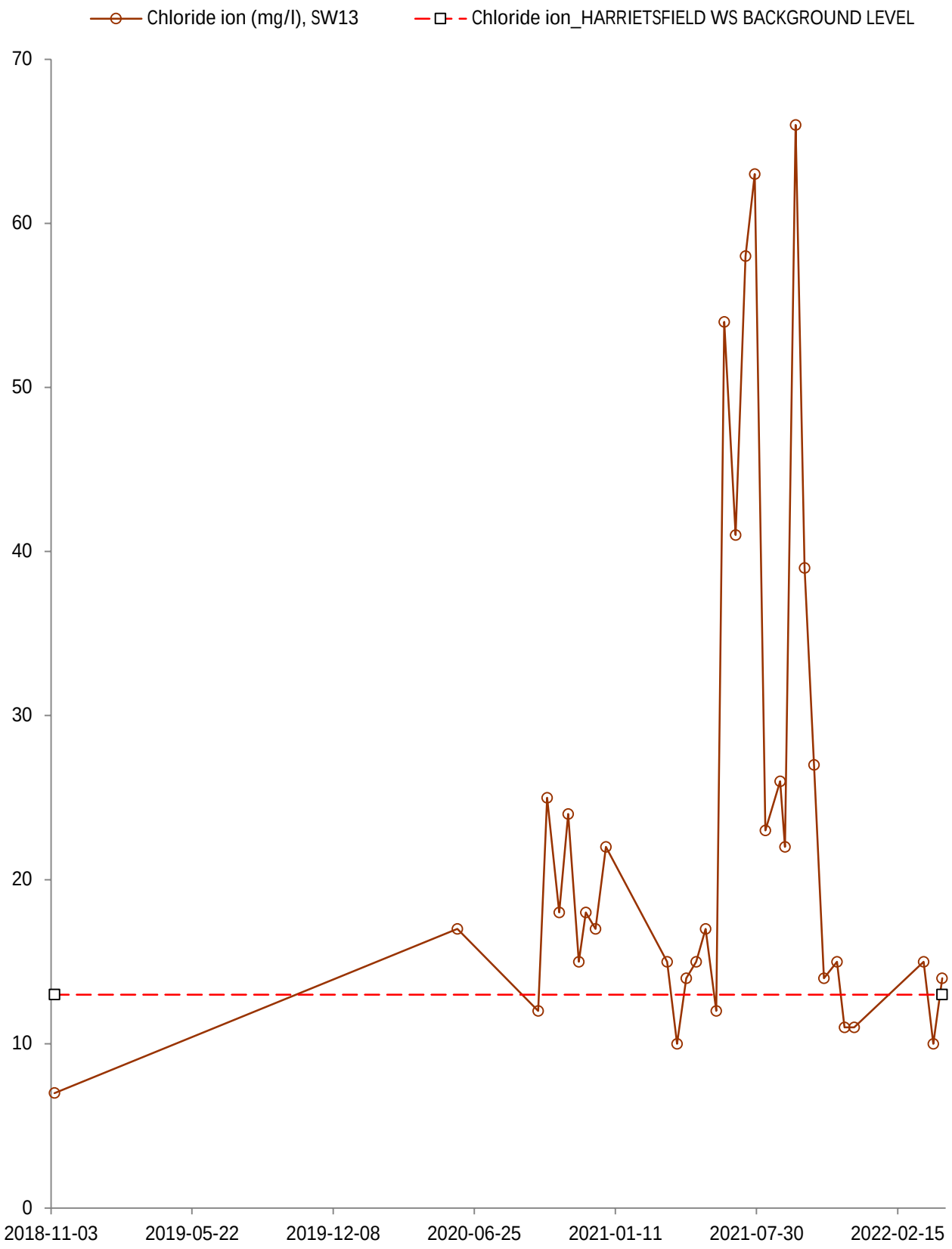
SW13-Calcium



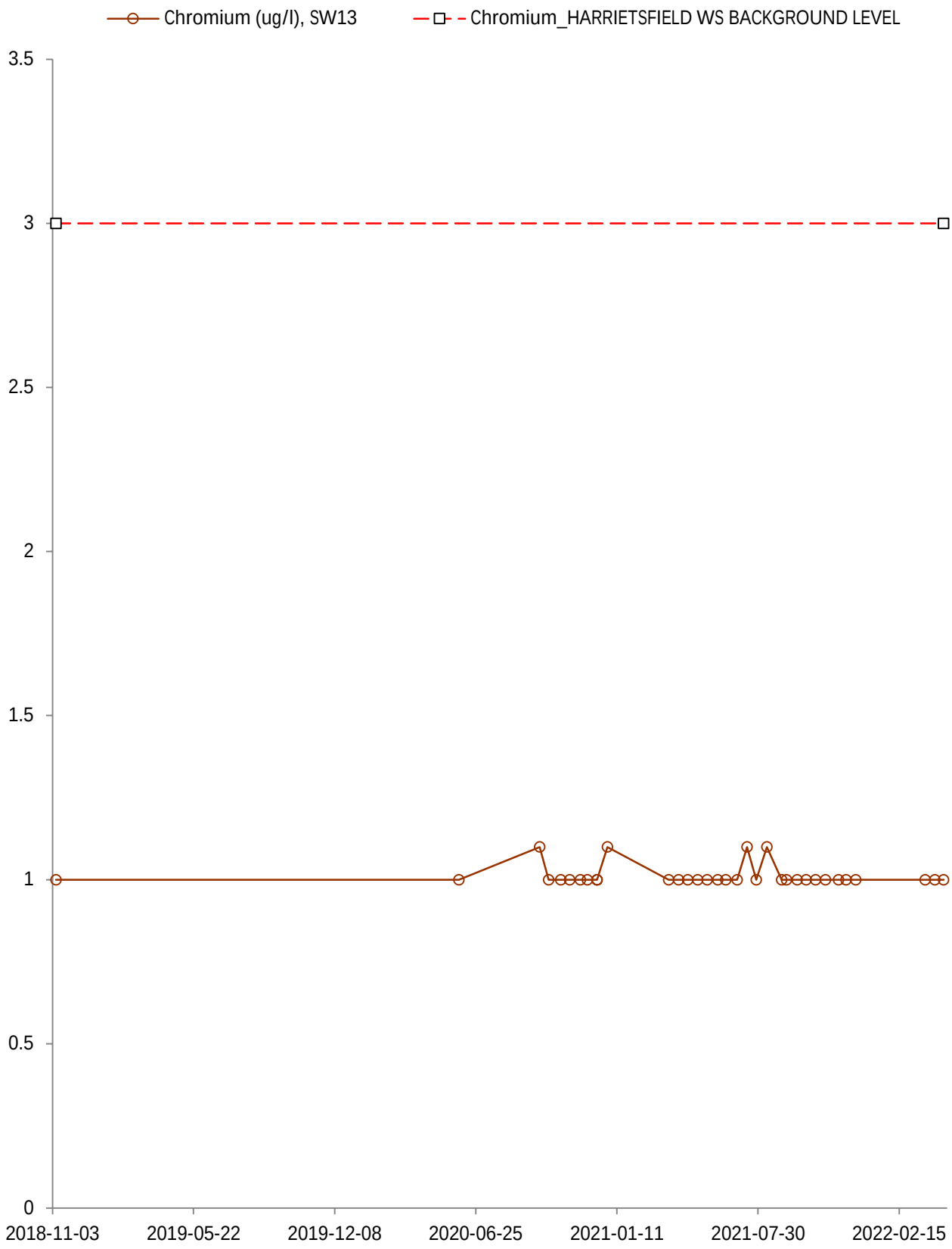
SW13-Chemical Oxygen Demand



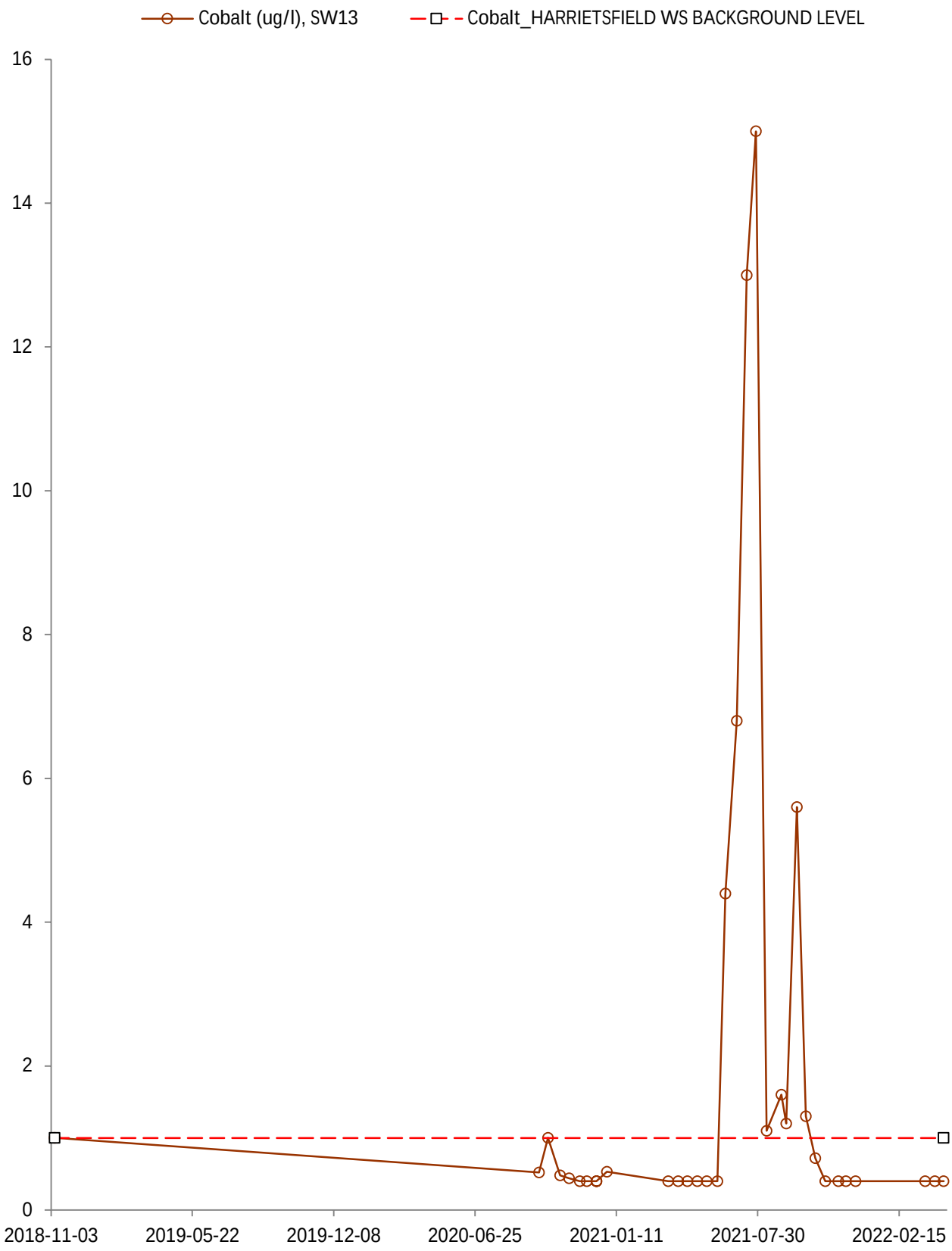
SW13-Chloride ion



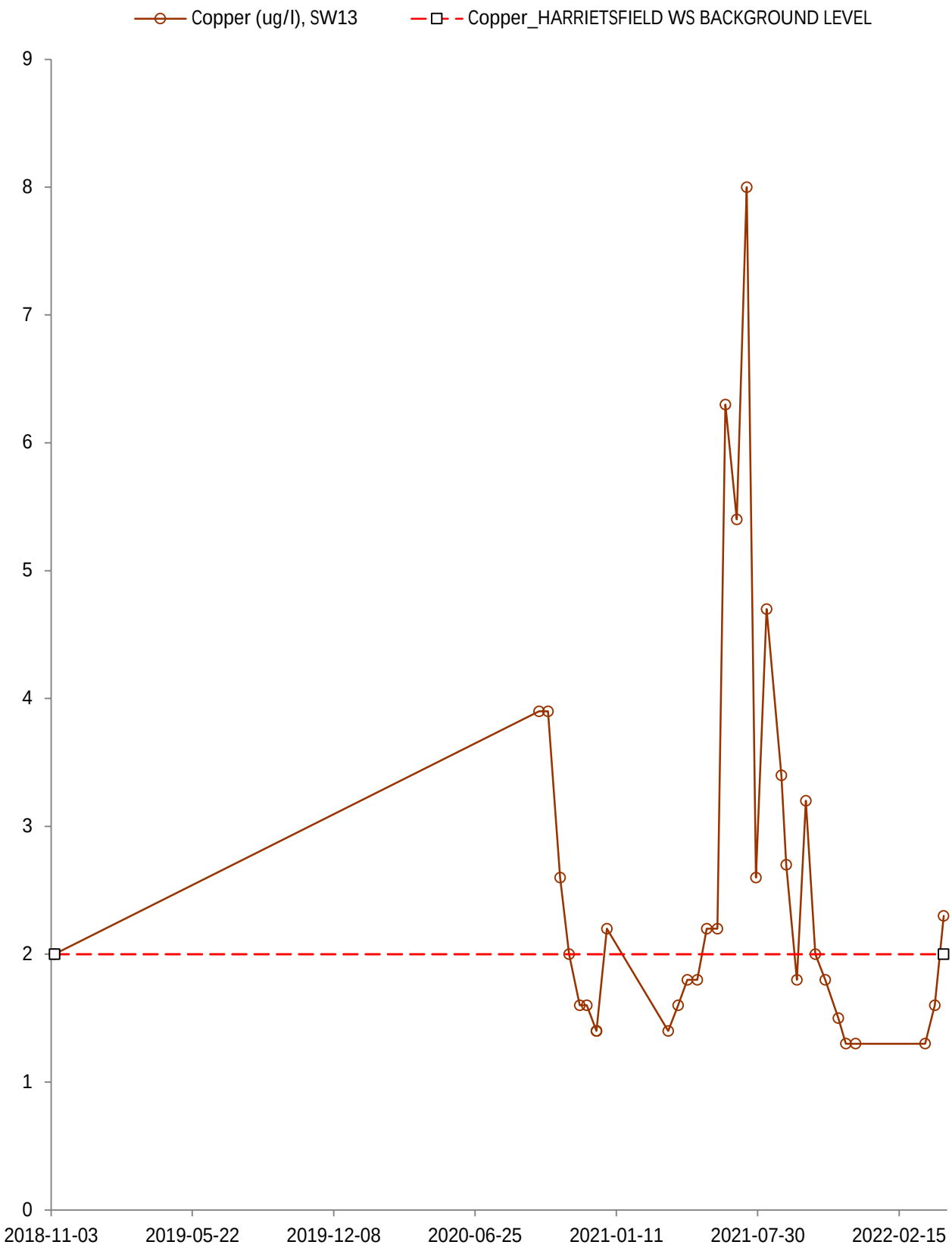
SW13-Chromium



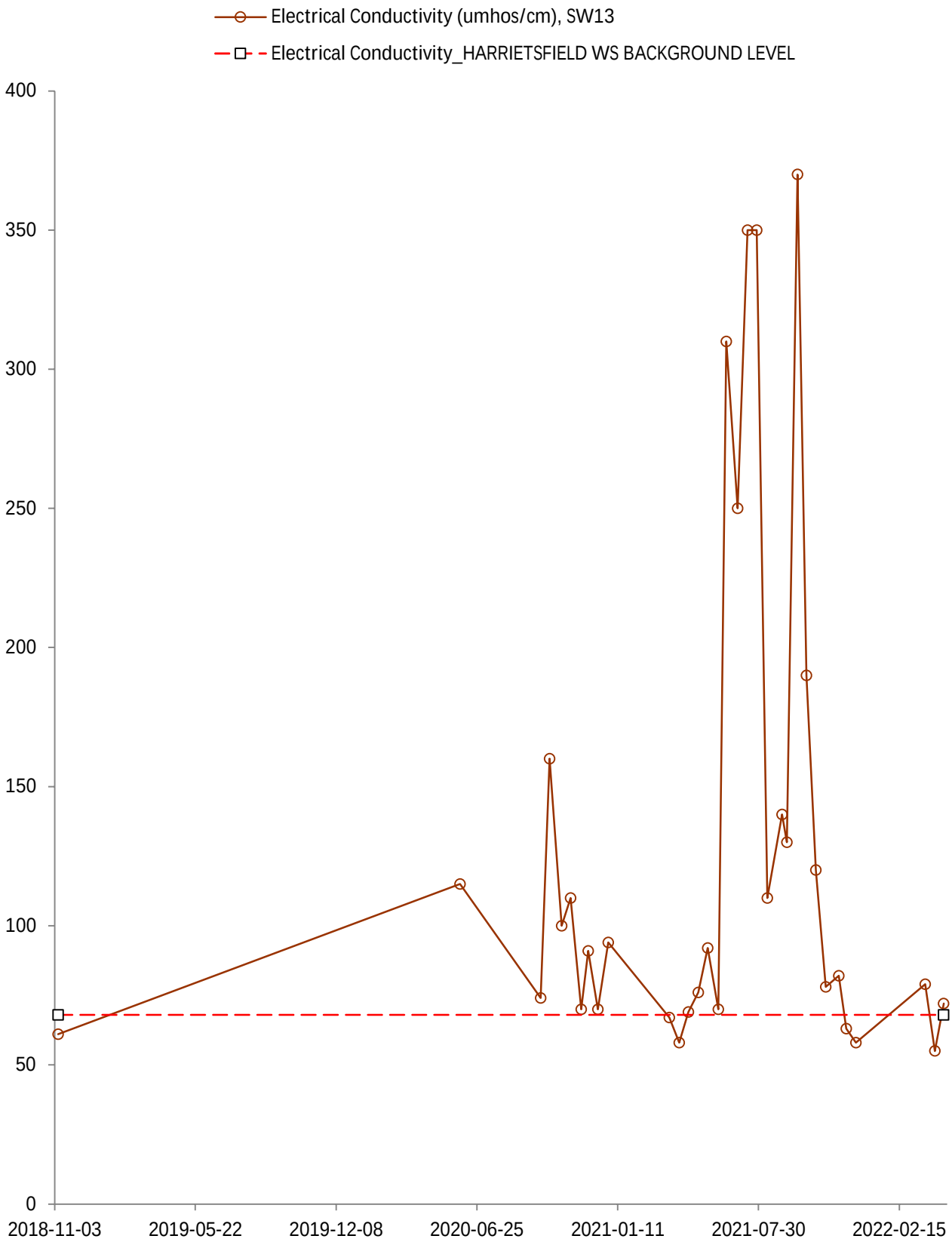
SW13-Cobalt


Cobalt (ug/l), SW13
Cobalt_HARRIETSFIELD WS BACKGROUND LEVEL
16
14
12
10
8
6
4
2
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

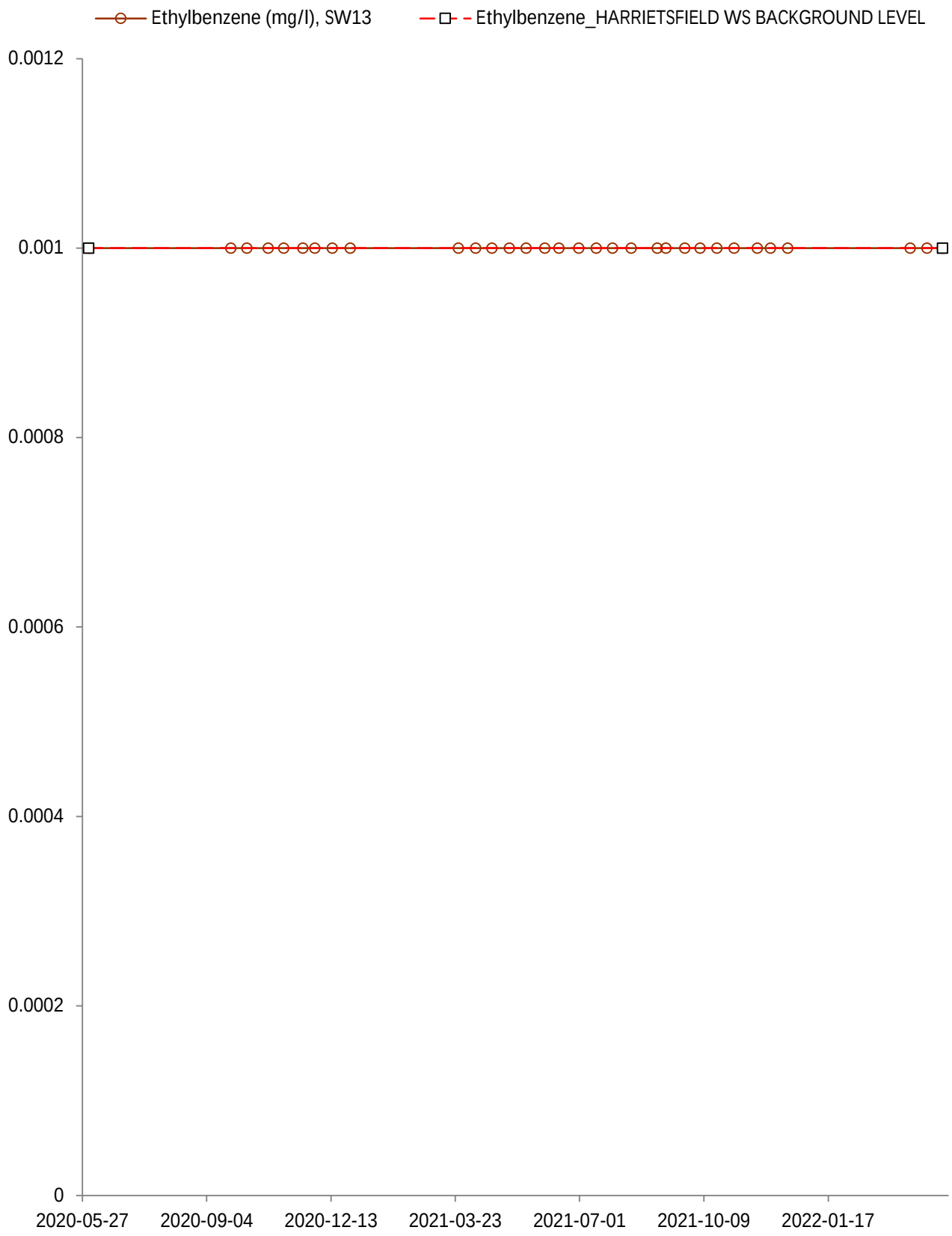
SW13-Copper


Copper (ug/l), SW13
Copper_HARRIETSFIELD WS BACKGROUND LEVEL
9
8
7
6
5
4
3
2
1
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

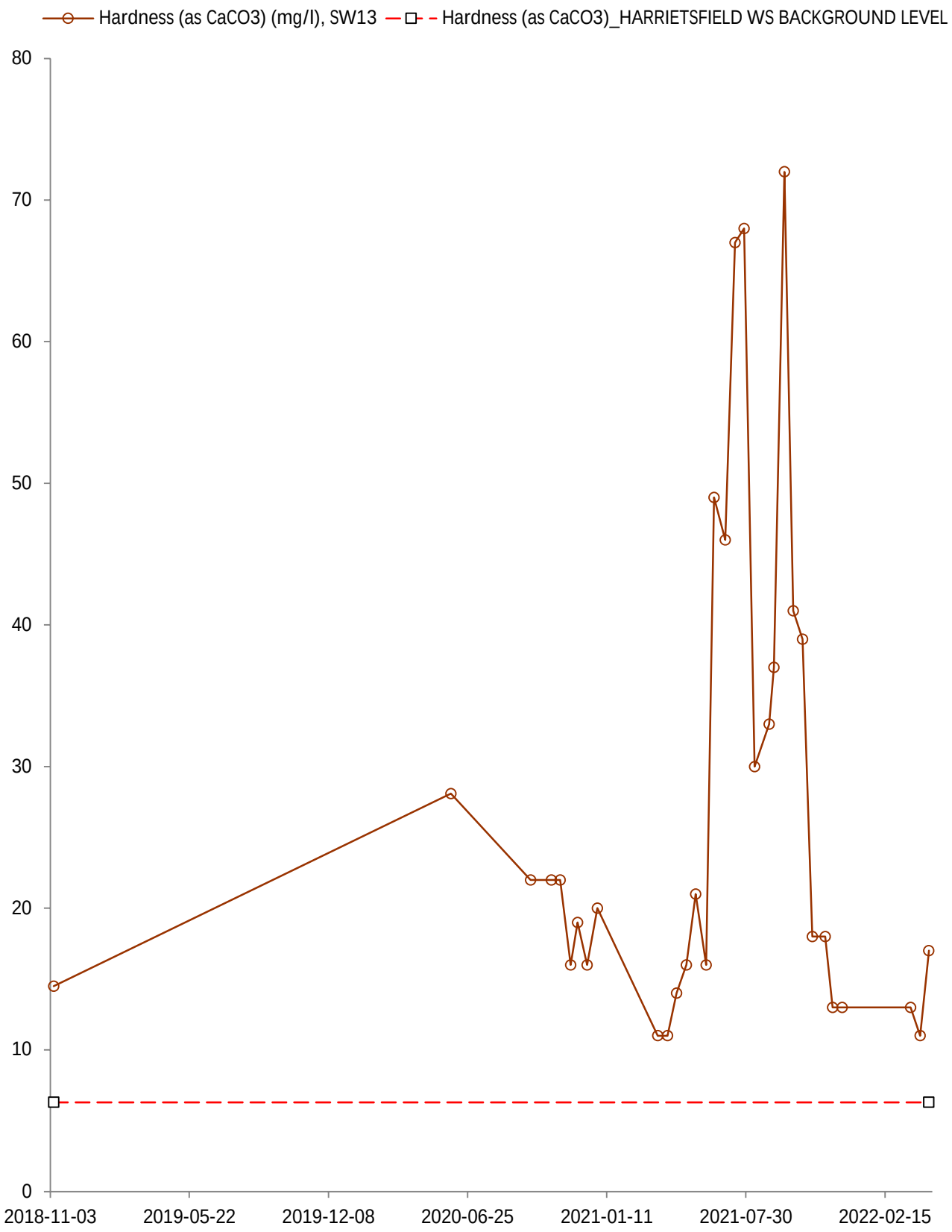
SW13-Electrical Conductivity



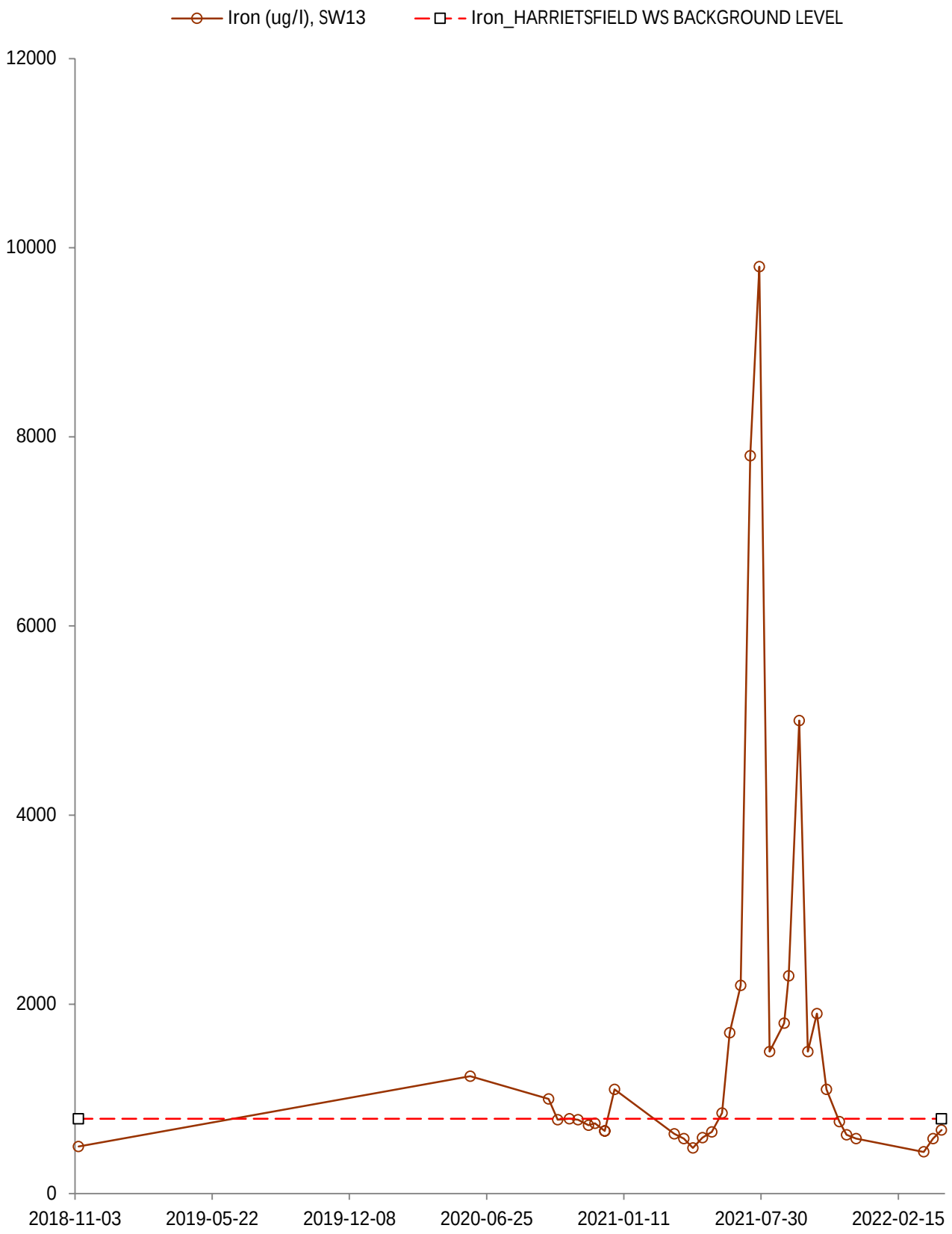
SW13-Ethylbenzene



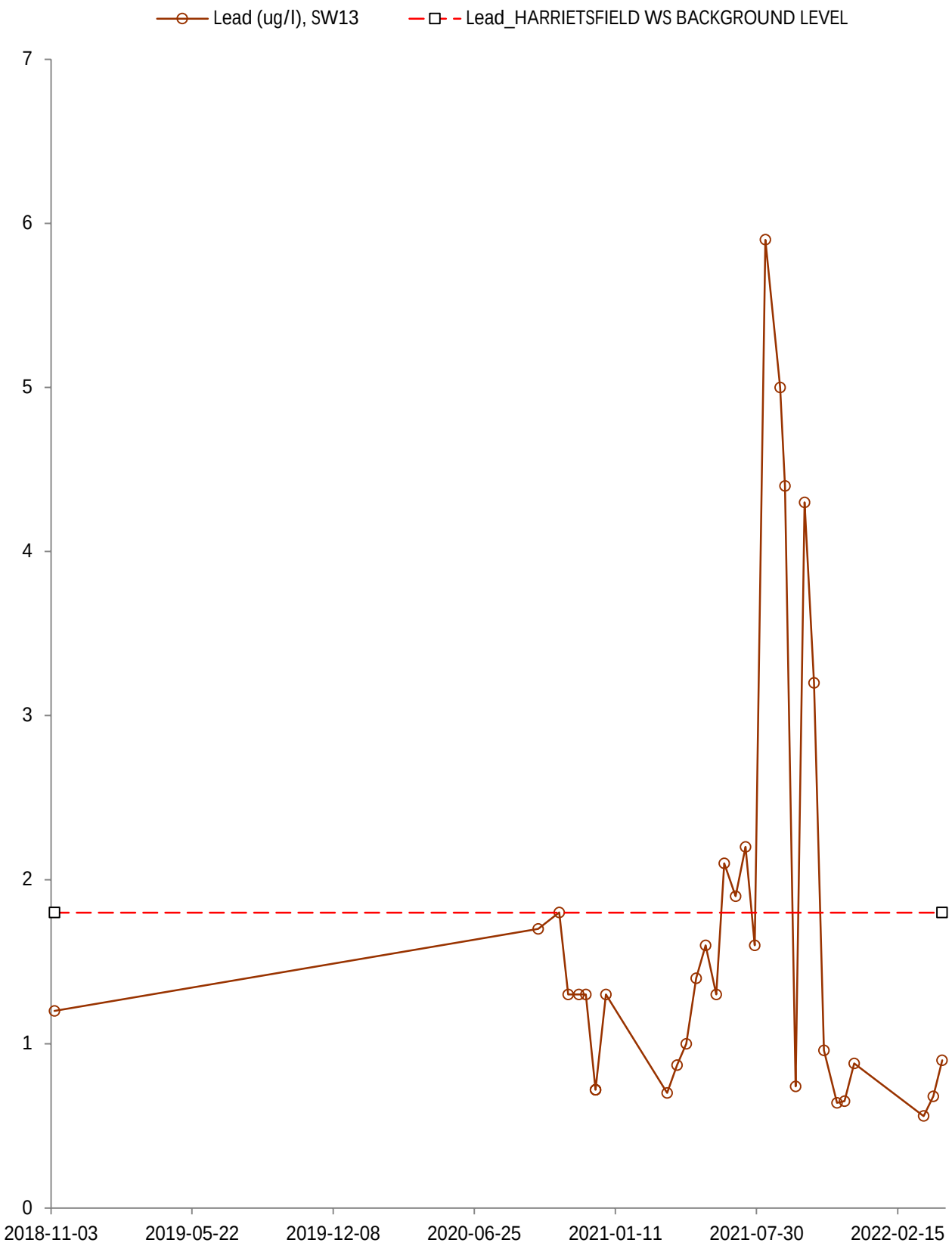
SW13-Hardness (as CaCO3)



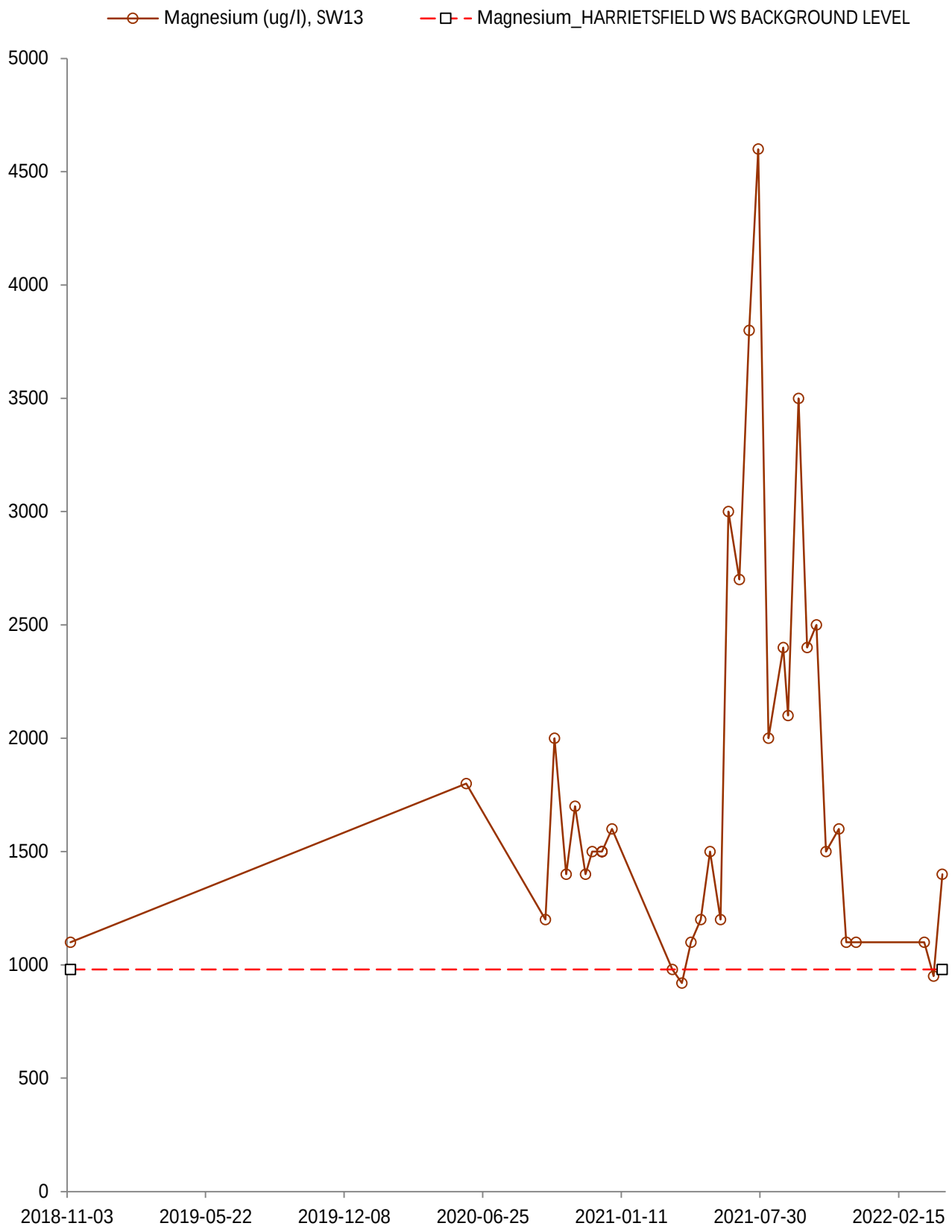
SW13-Iron


Iron (ug/l), SW13
Iron_HARRIETSFIELD WS BACKGROUND LEVEL
12000
10000
8000
6000
4000
2000
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

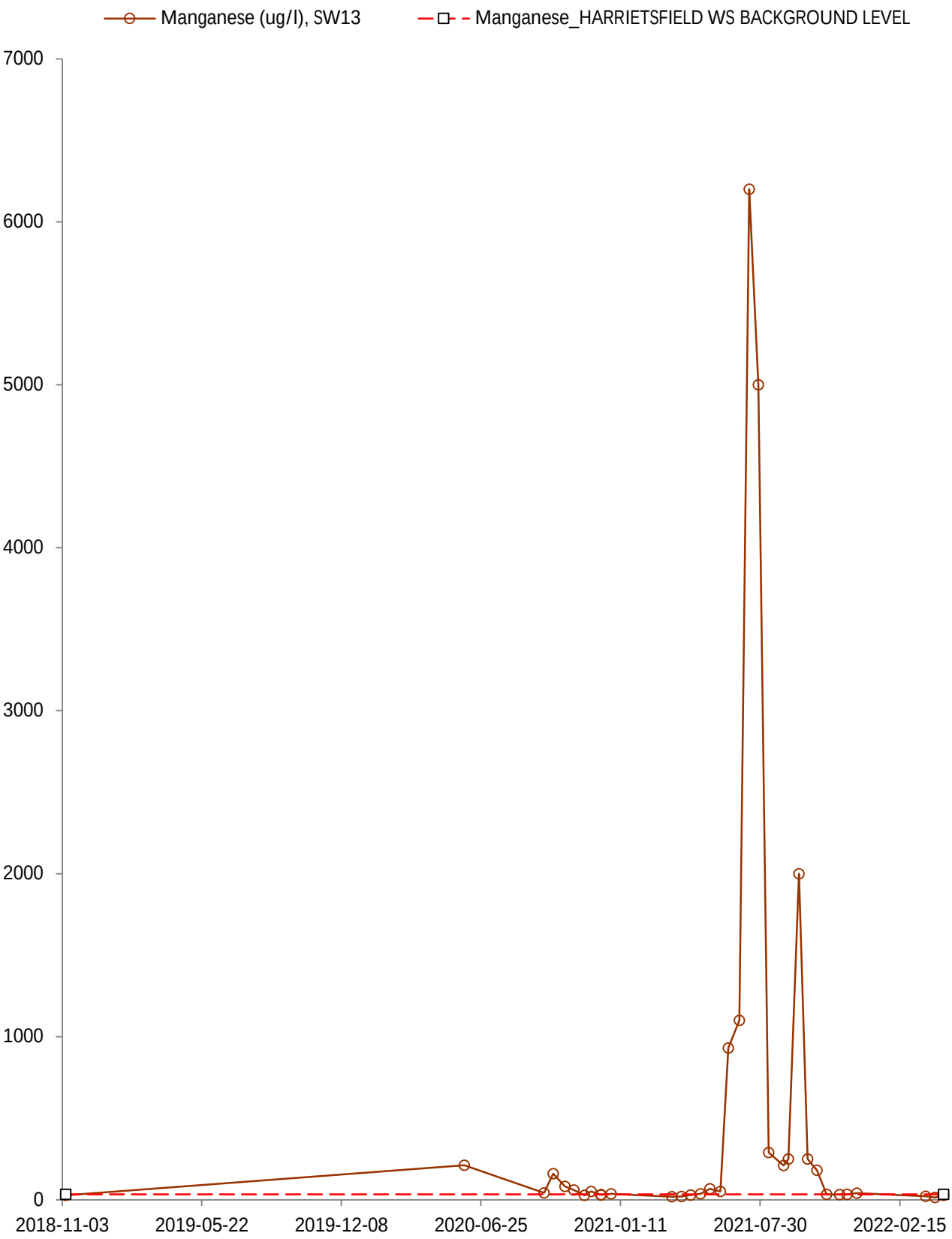
SW13-Lead


Lead (ug/l), SW13
Lead_HARRIETSFIELD WS BACKGROUND LEVEL
7
6
5
4
3
2
1
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

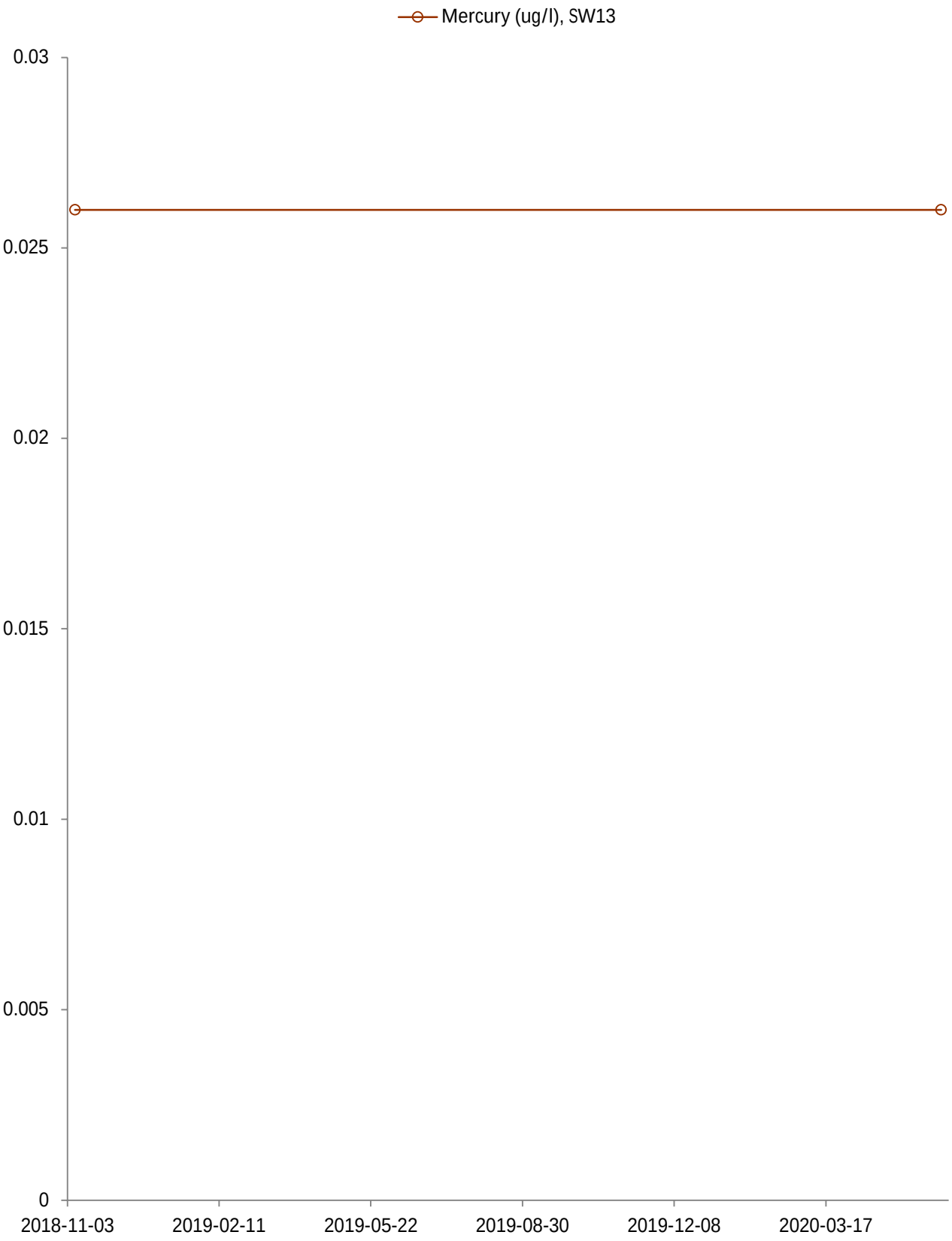
SW13-Magnesium



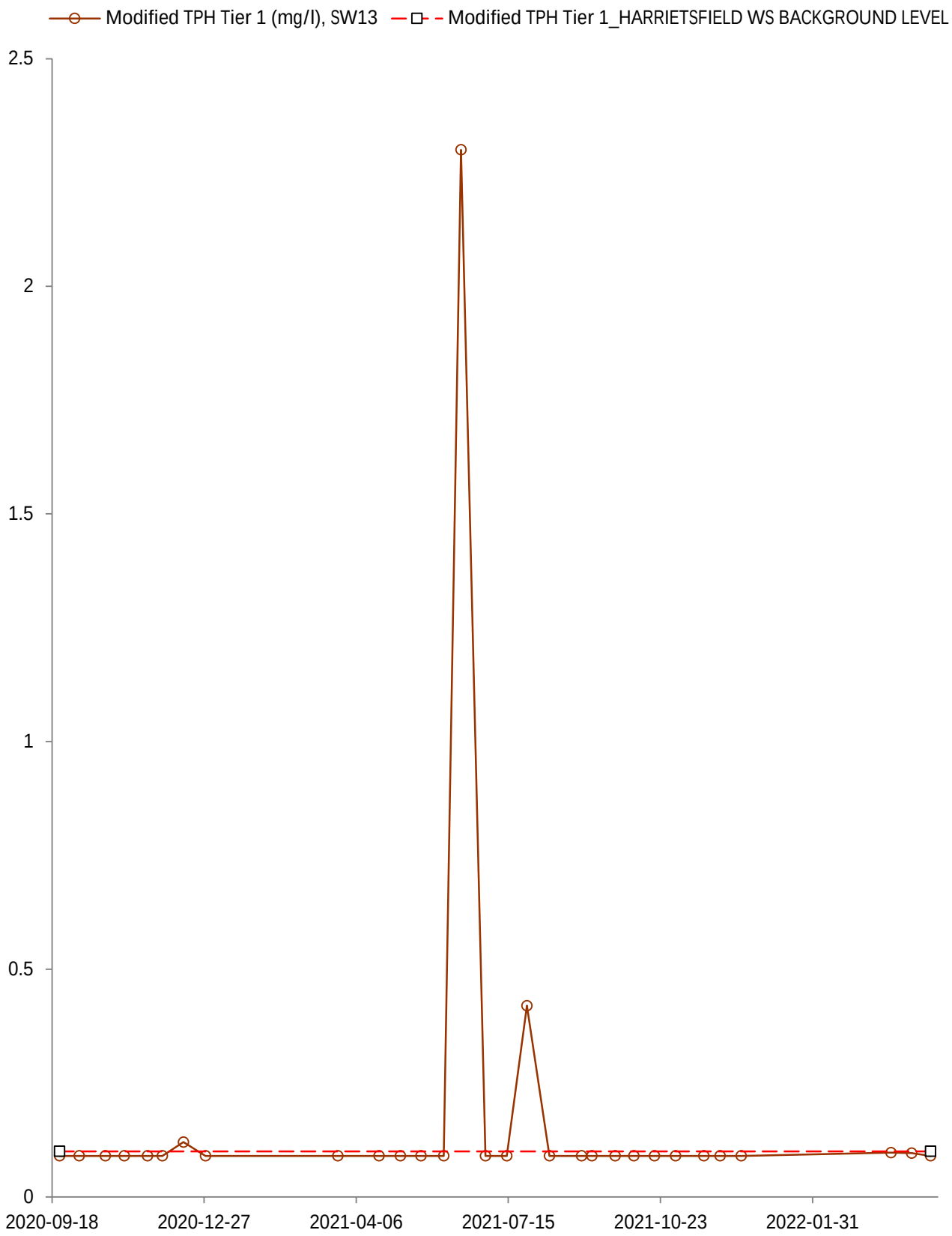
SW13-Manganese



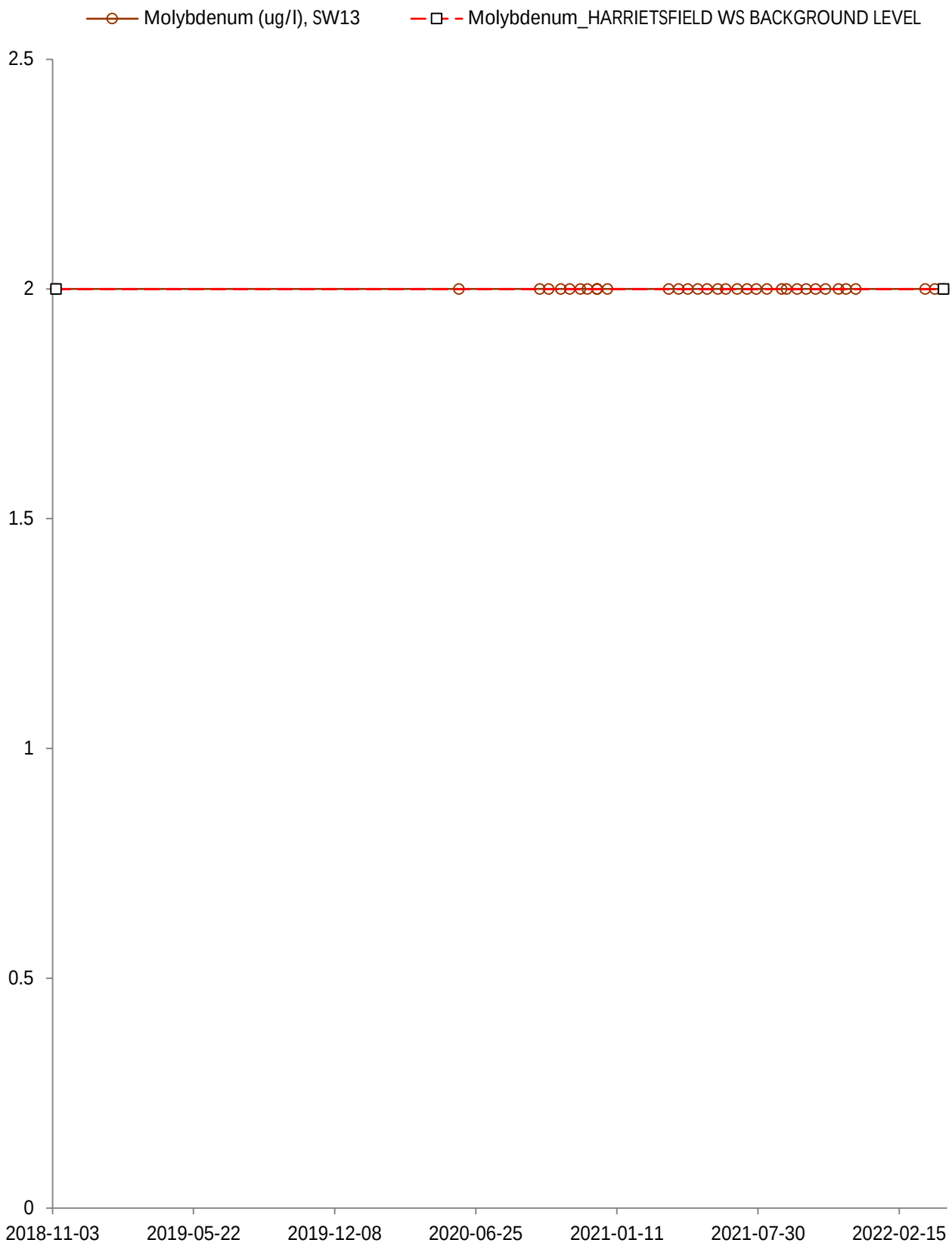
SW13-Mercury



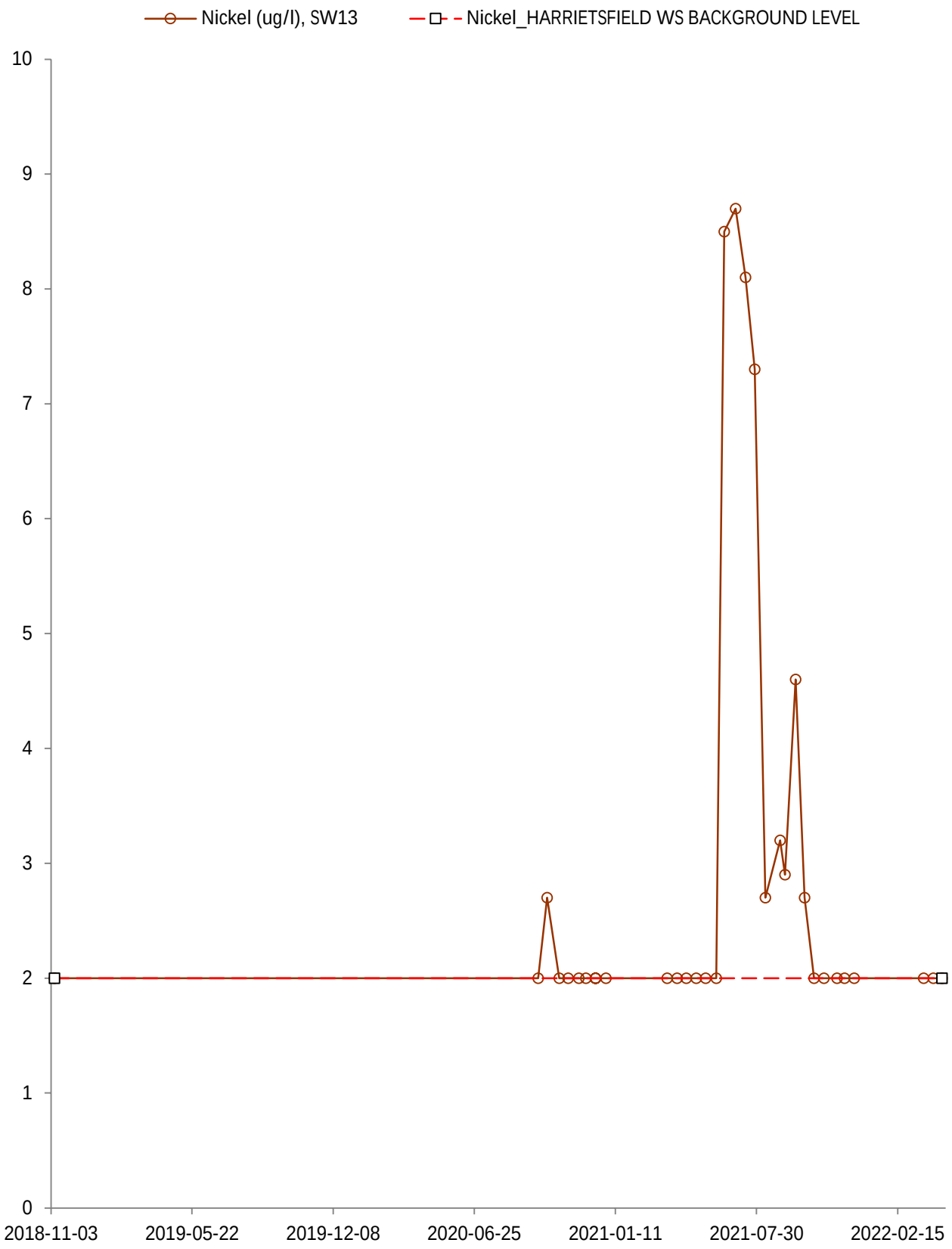
SW13-Modified TPH Tier 1



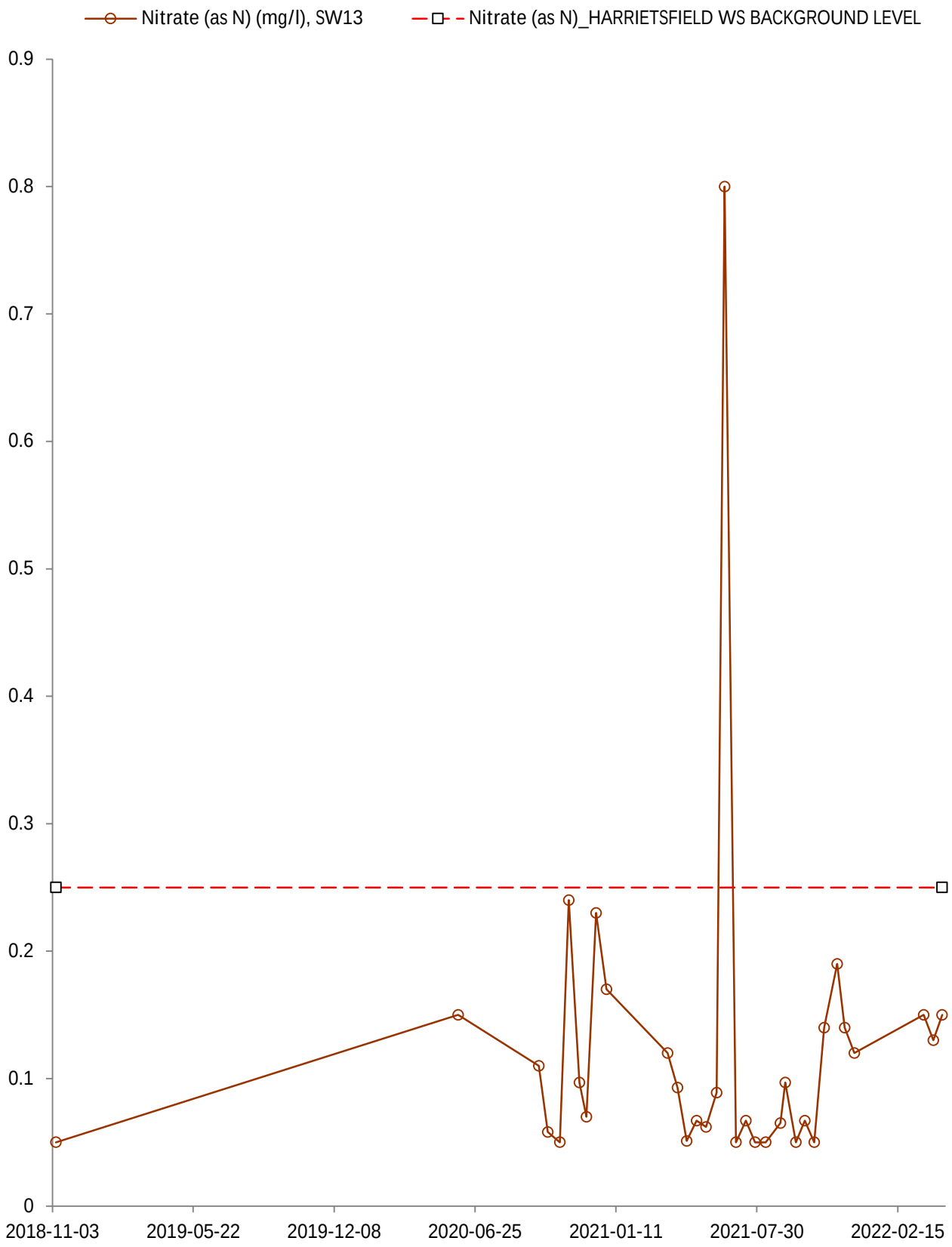
SW13-Molybdenum



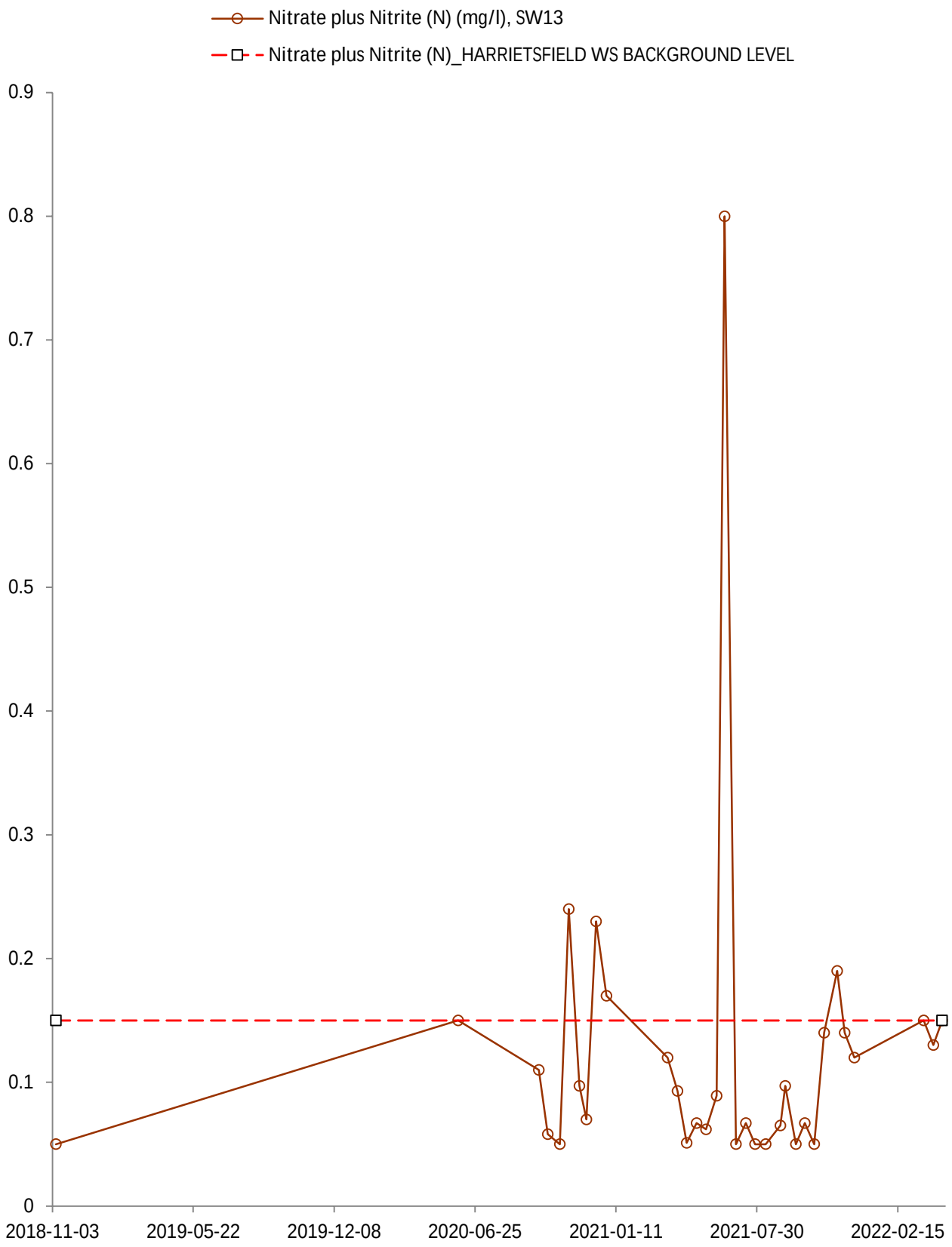
SW13-Nickel


Nickel (ug/l), SW13
Nickel_HARRIETSFIELD WS BACKGROUND LEVEL
10
9
8
7
6
5
4
3
2
1
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

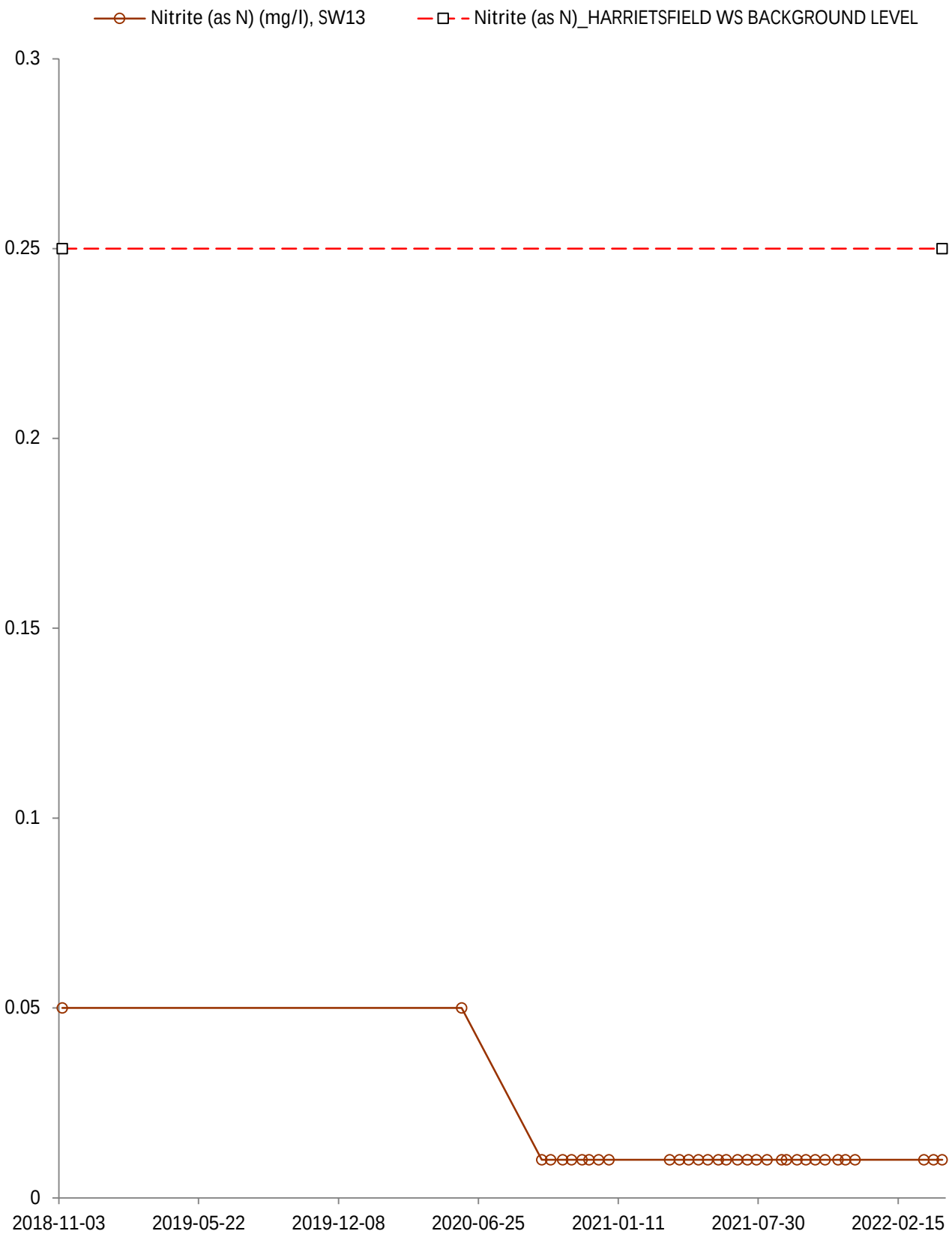
SW13-Nitrate (as N)



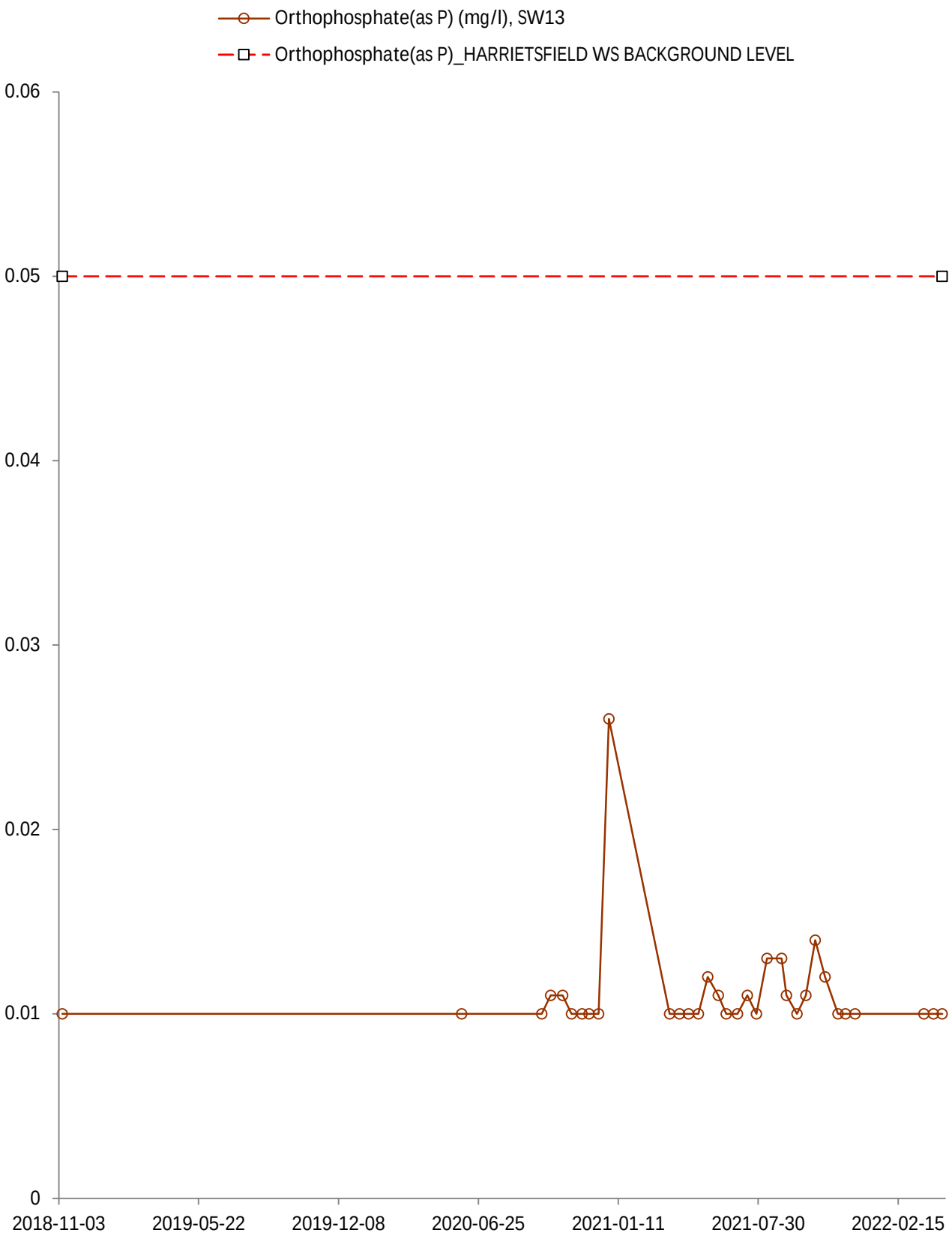
SW13-Nitrate plus Nitrite (N)



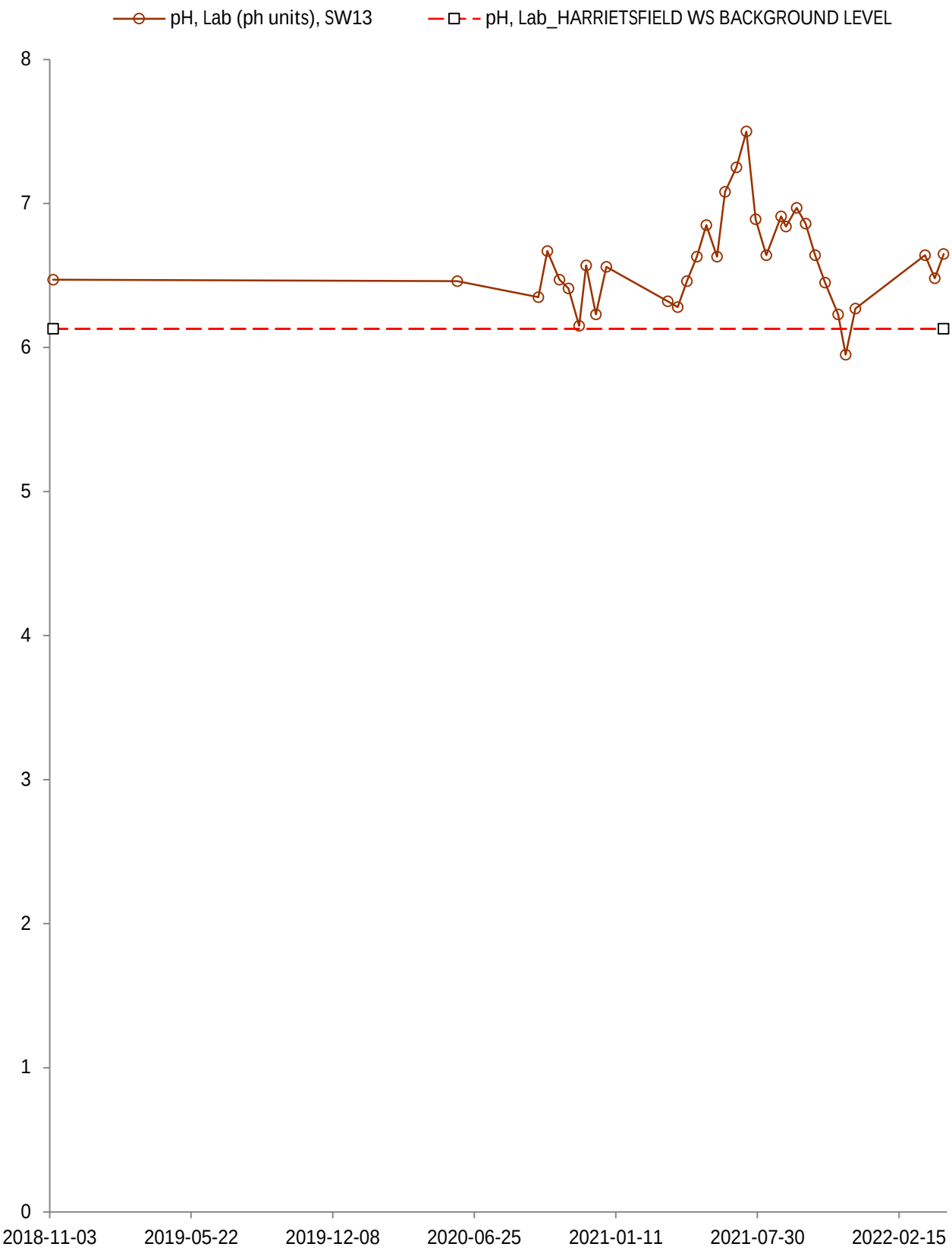
SW13-Nitrite (as N)



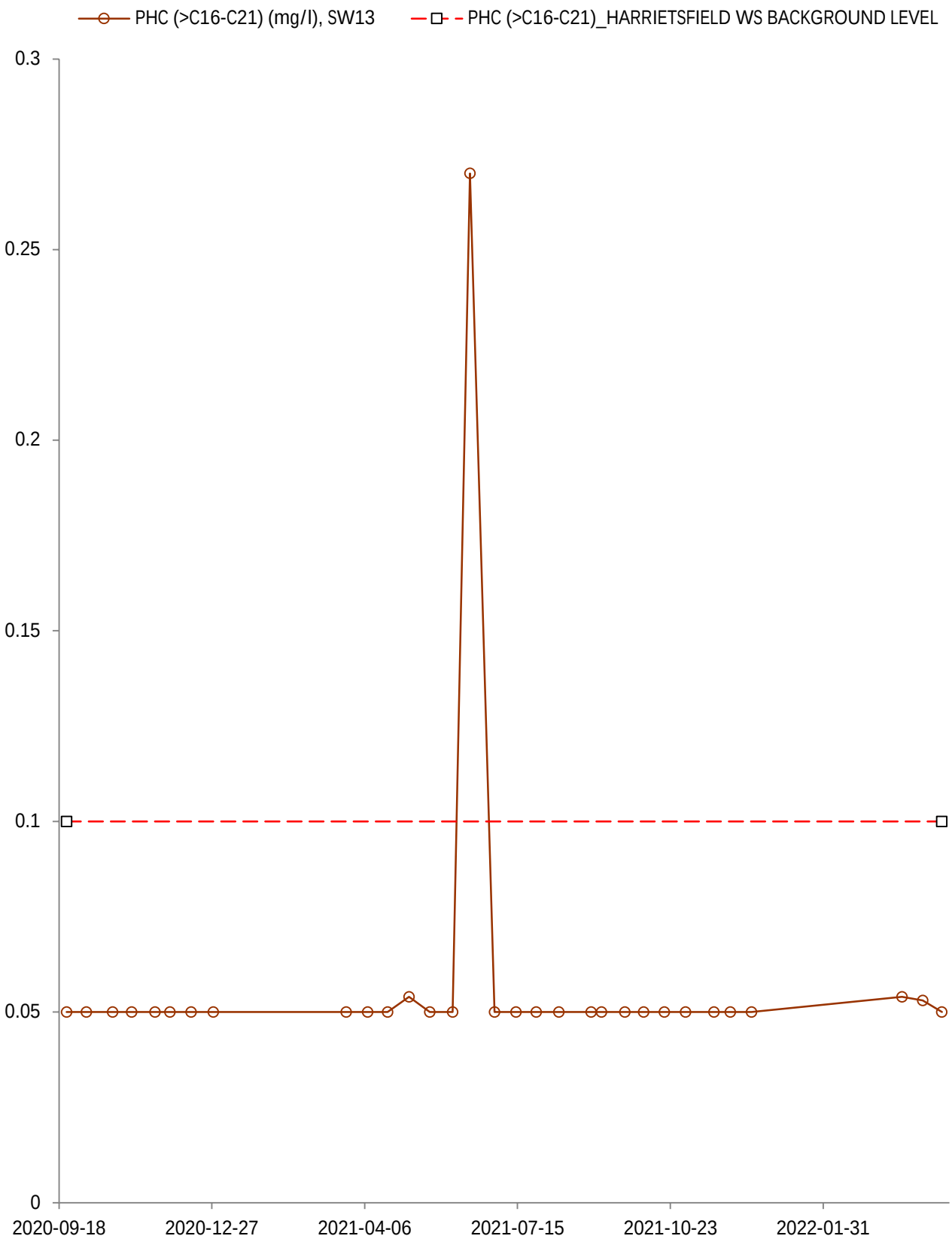
SW13-Orthophosphate(as P)



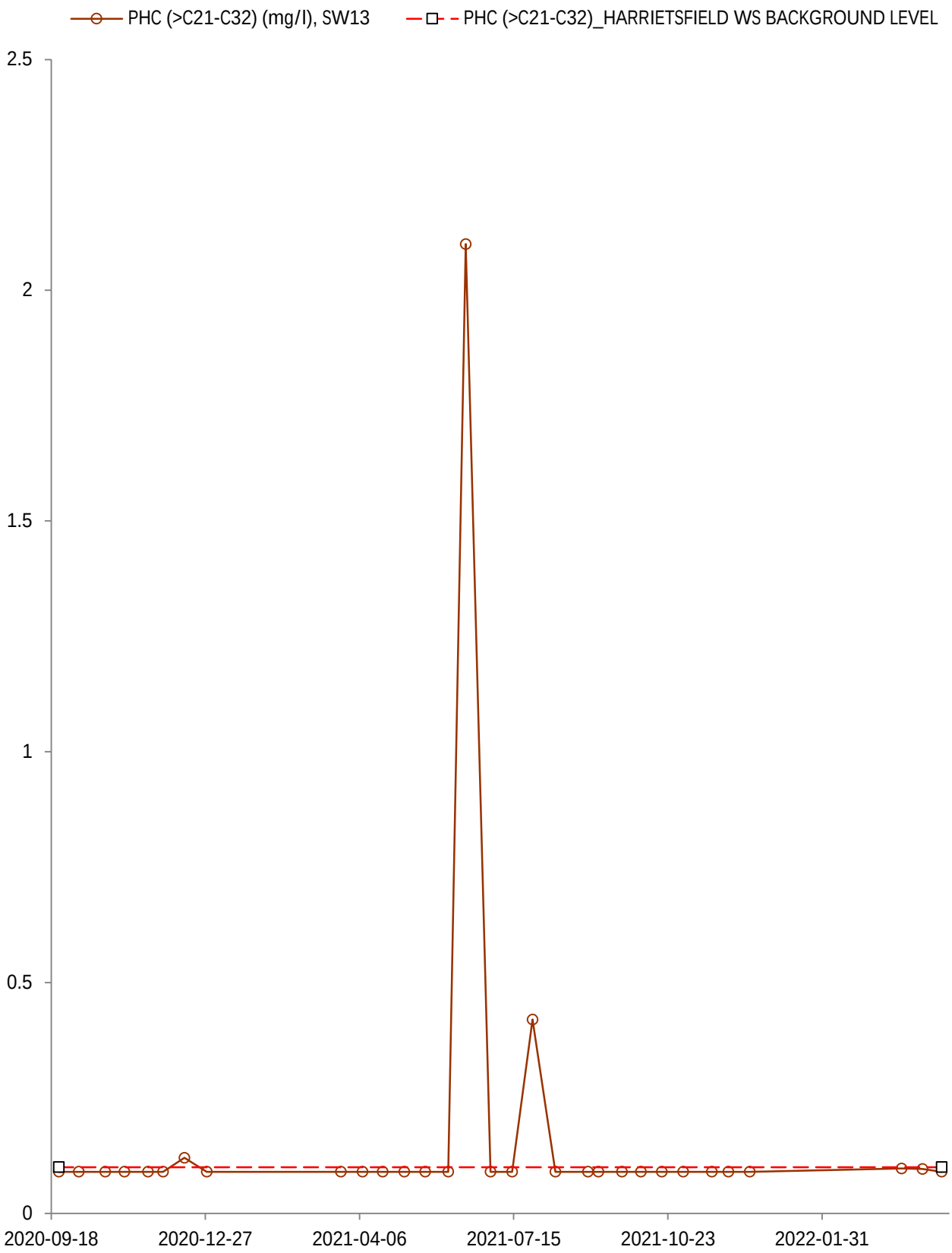
SW13-pH, Lab


pH, Lab (ph units), SW13
pH, Lab_HARRIETSFIELD WS BACKGROUND LEVEL
8
7
6
5
4
3
2
1
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

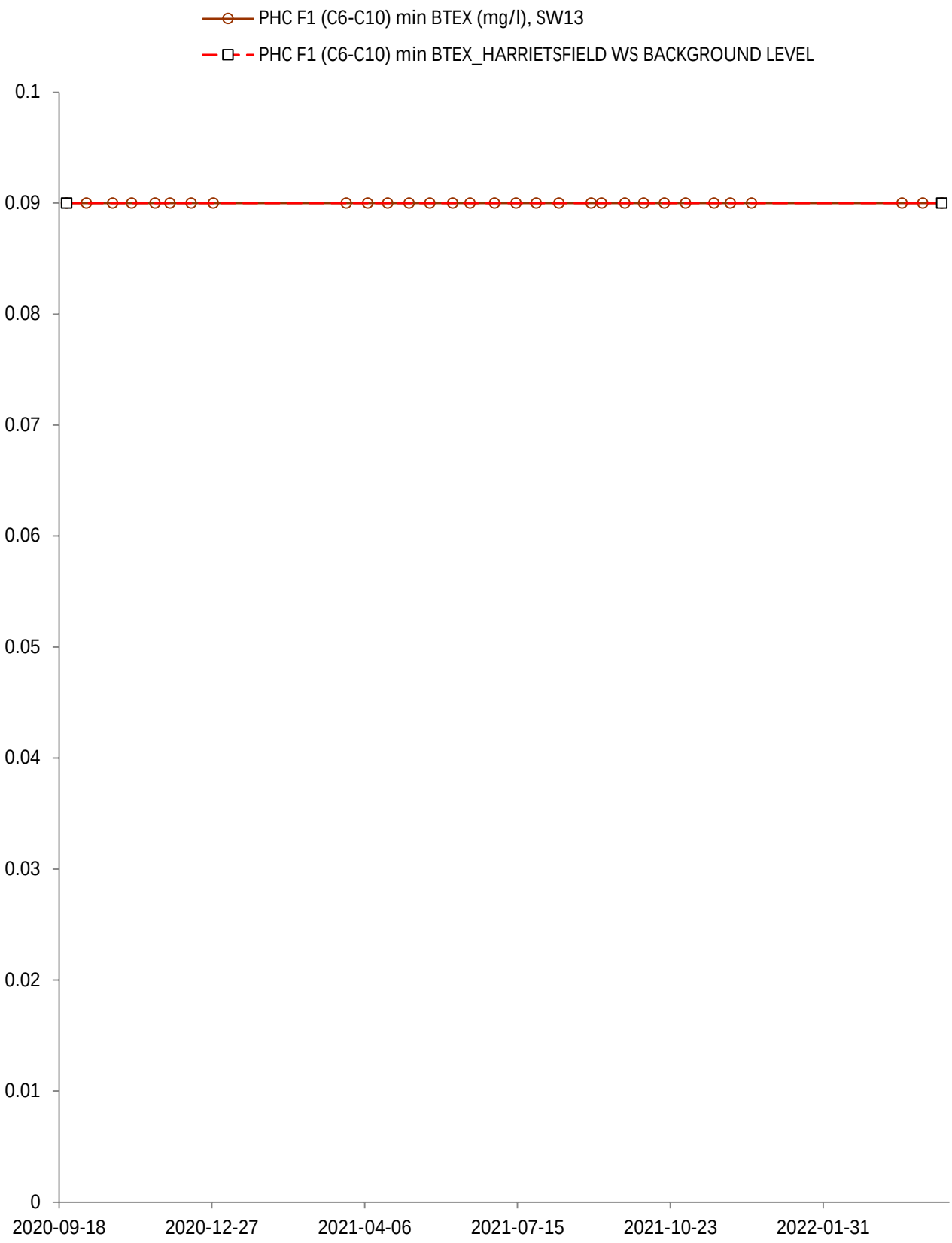
SW13-PHC (>C16-C21)



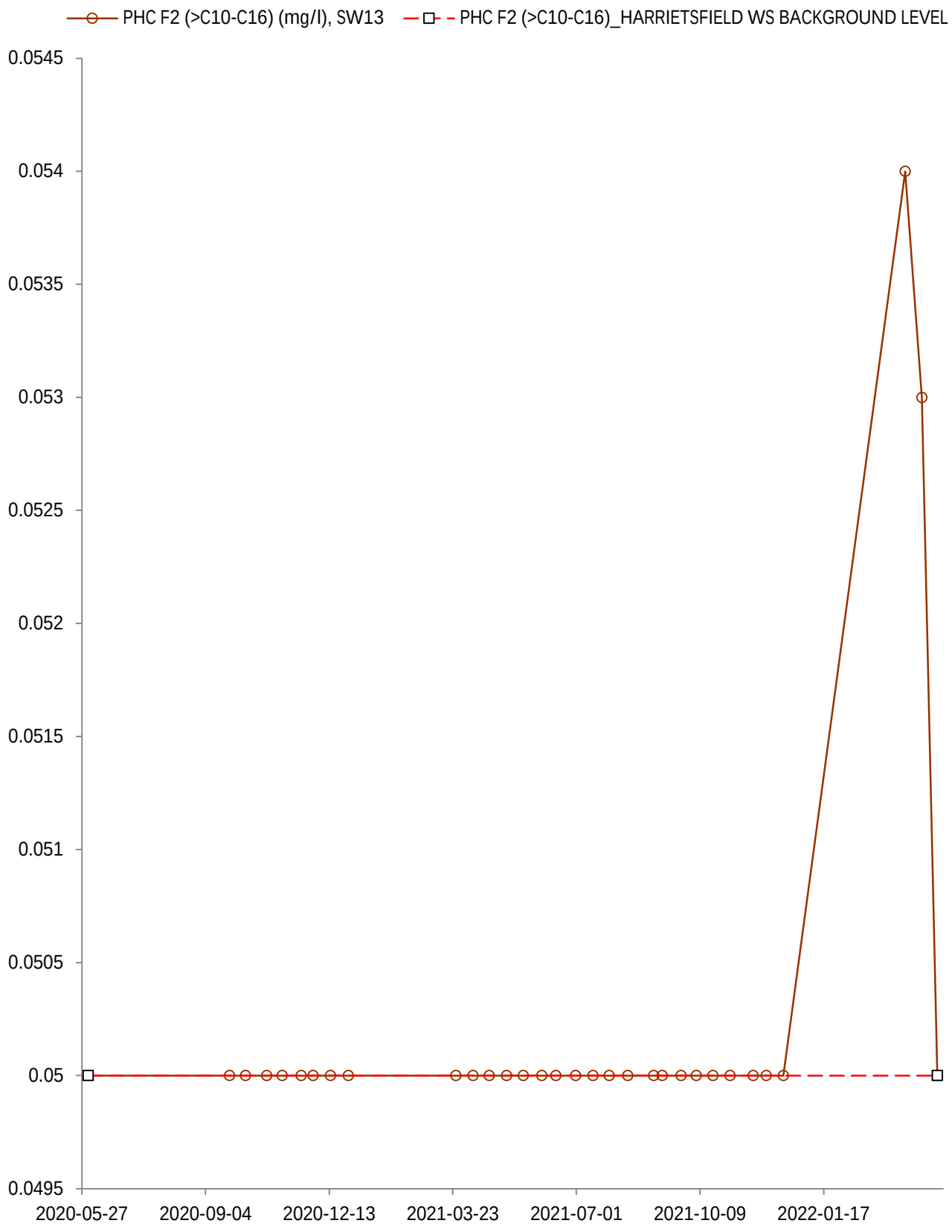
SW13-PHC (>C21-C32)



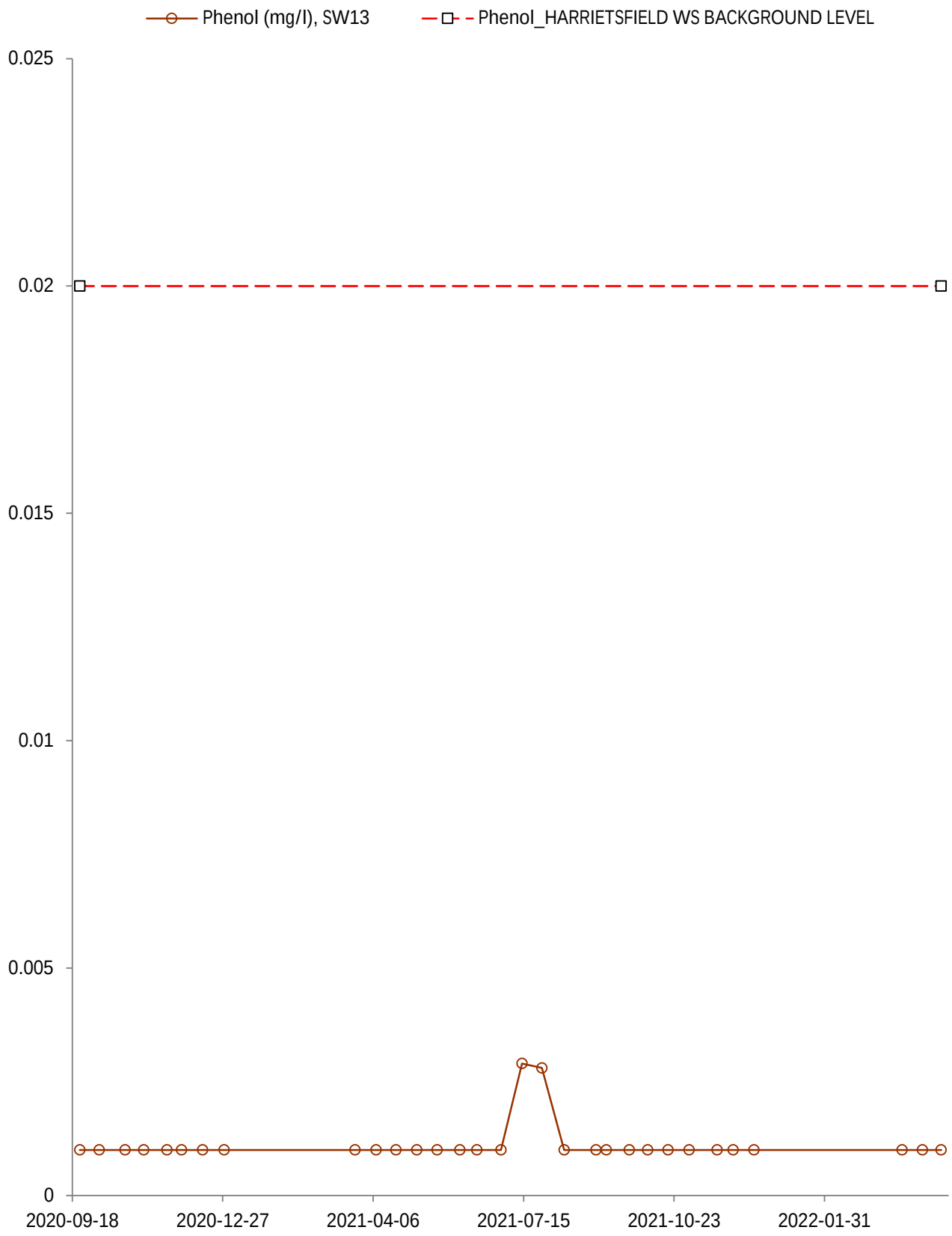
SW13-PHC F1 (C6-C10) min BTEX



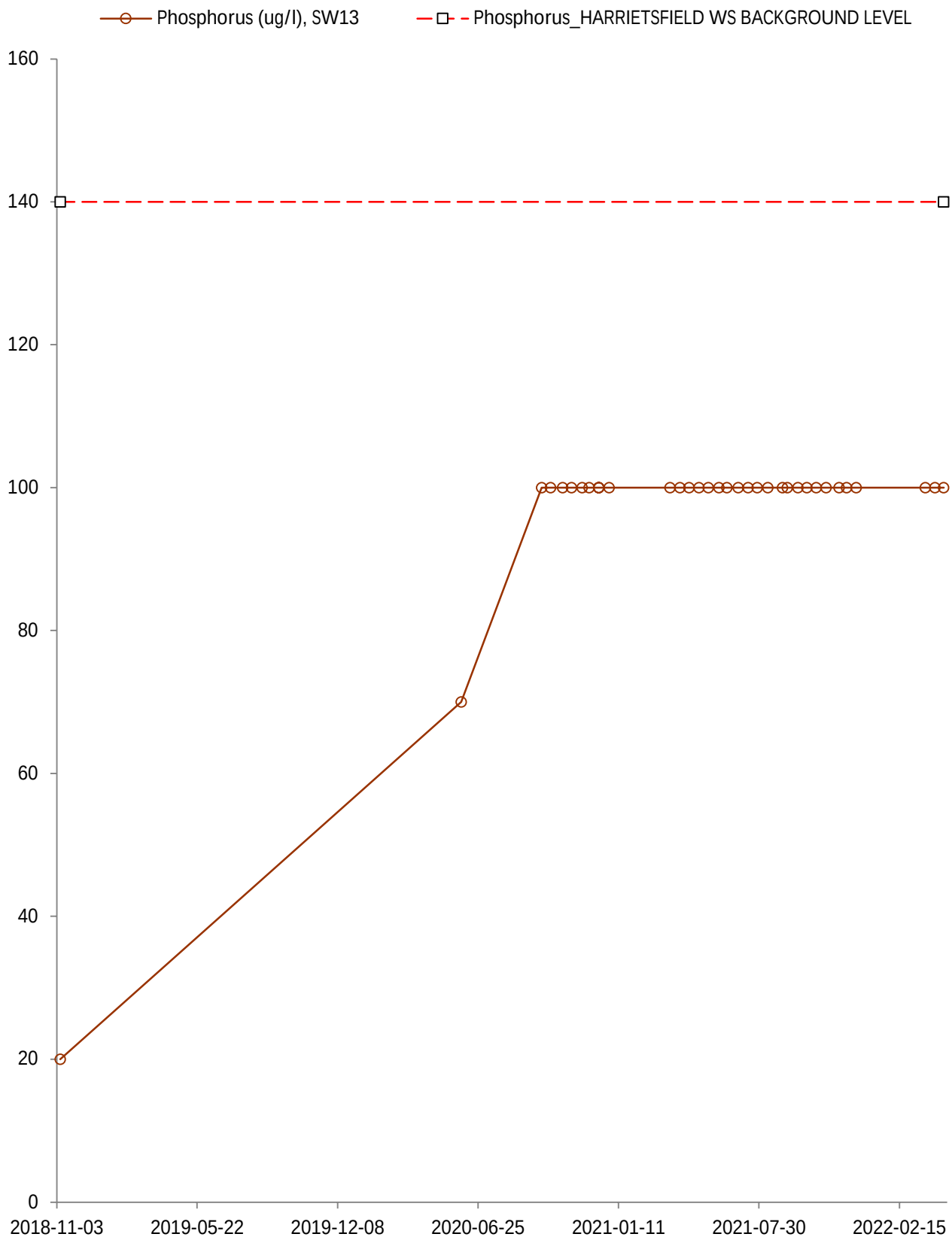
SW13-PHC F2 (>C10-C16)



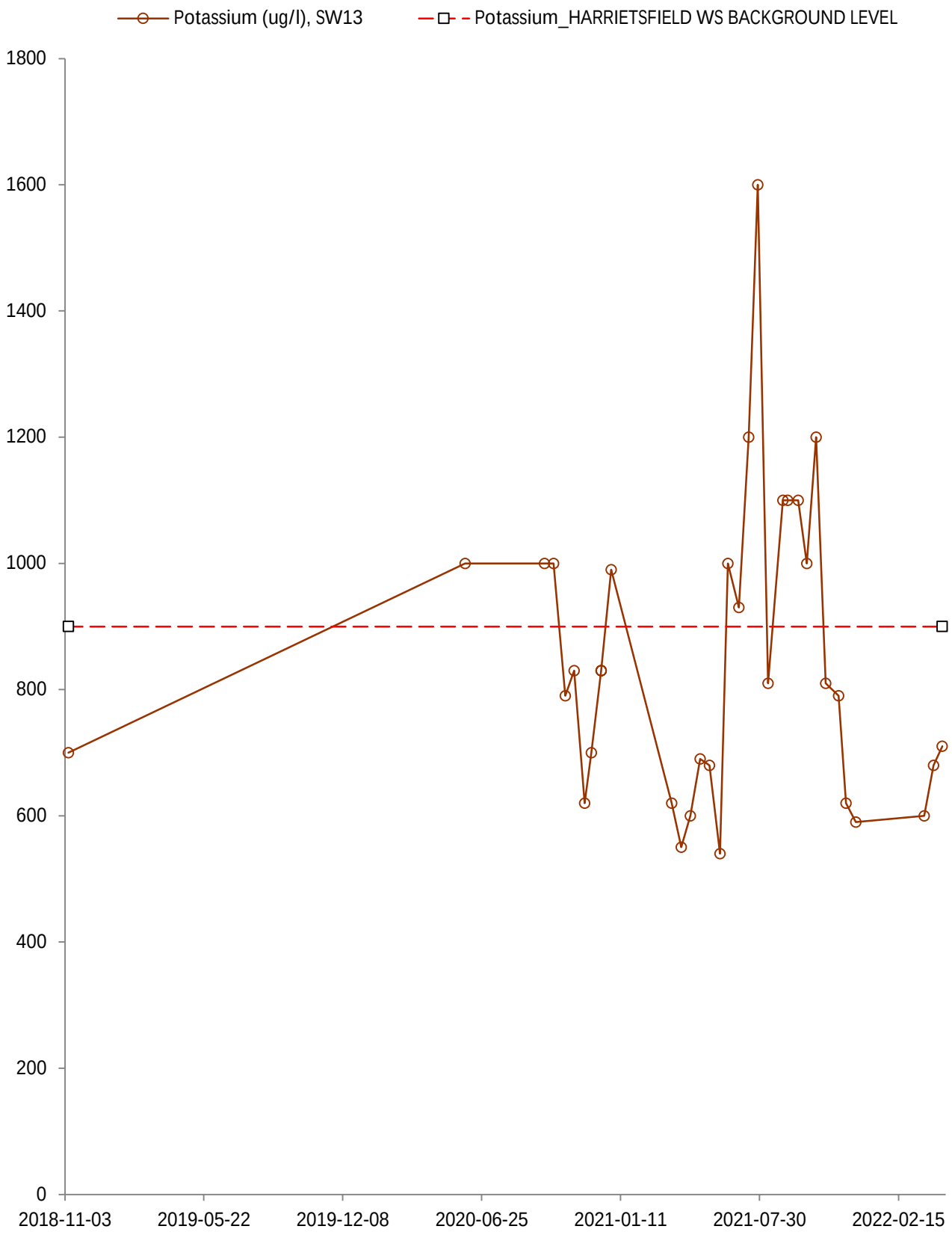
SW13-Phenol


Phenol (mg/l), SW13
Phenol_HARRIETSFIELD WS BACKGROUND LEVEL
0.025
0.02
0.015
0.01
0.005
0
2020-09-18
2020-12-27
2021-04-06
2021-07-15
2021-10-23
2022-01-31

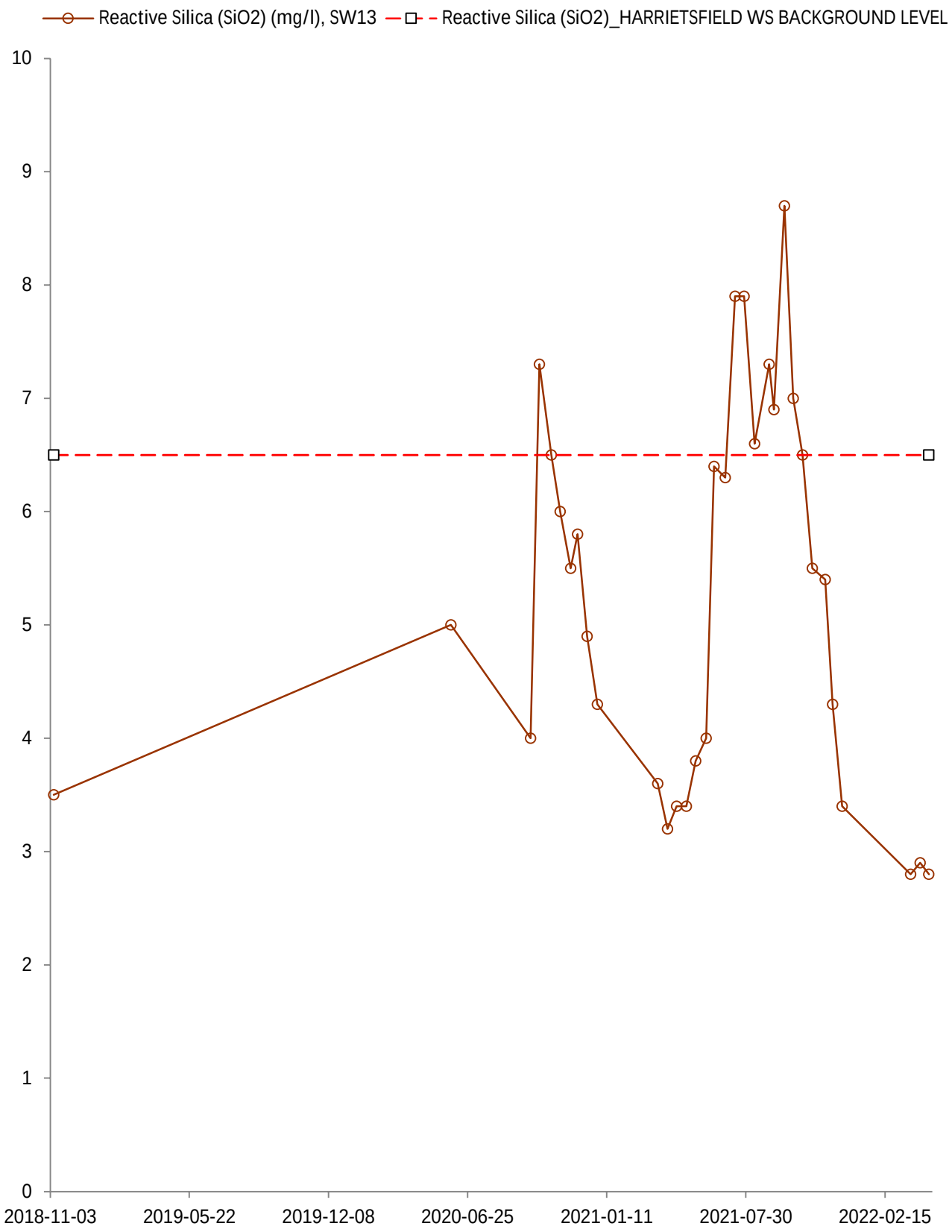
SW13-Phosphorus



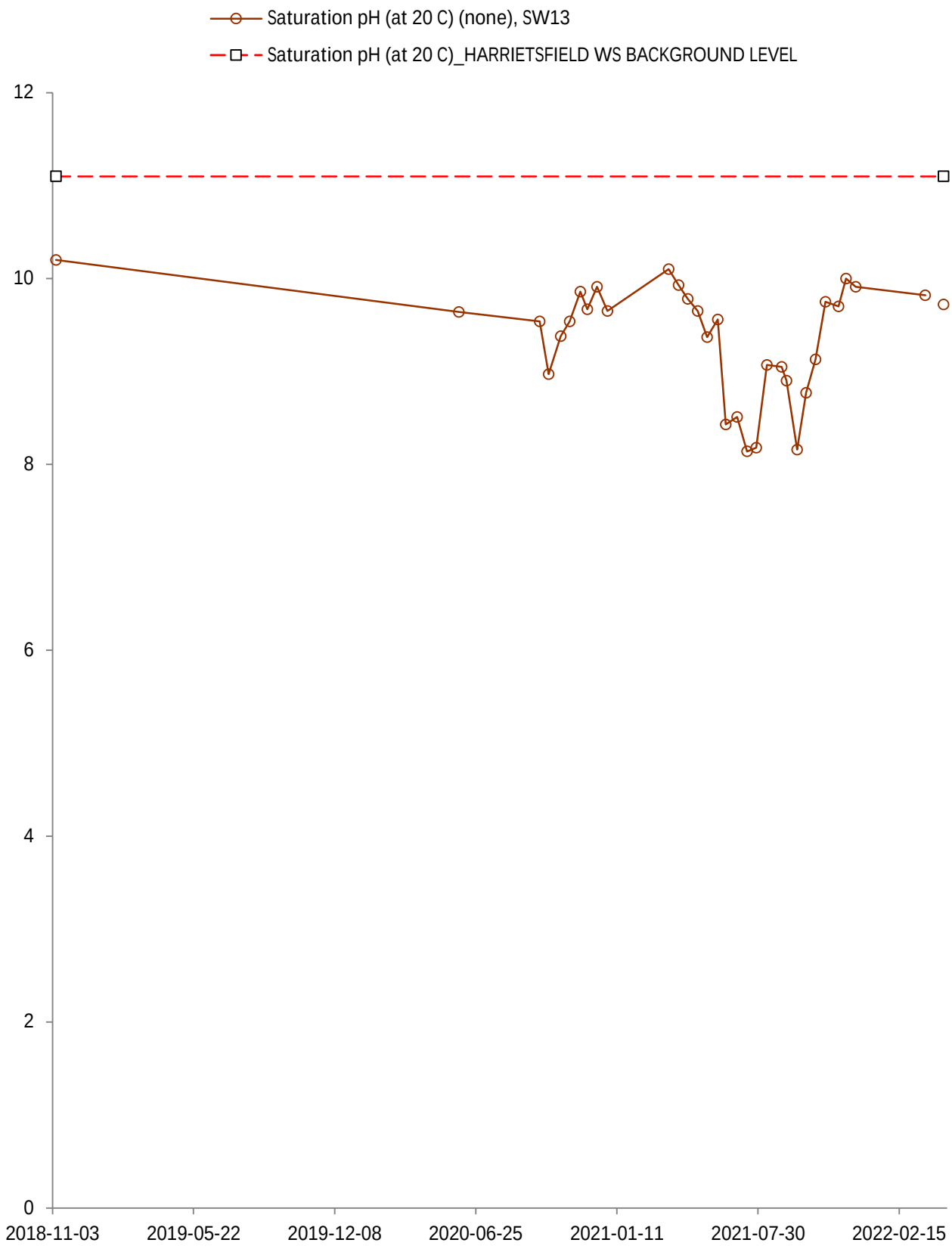
SW13-Potassium



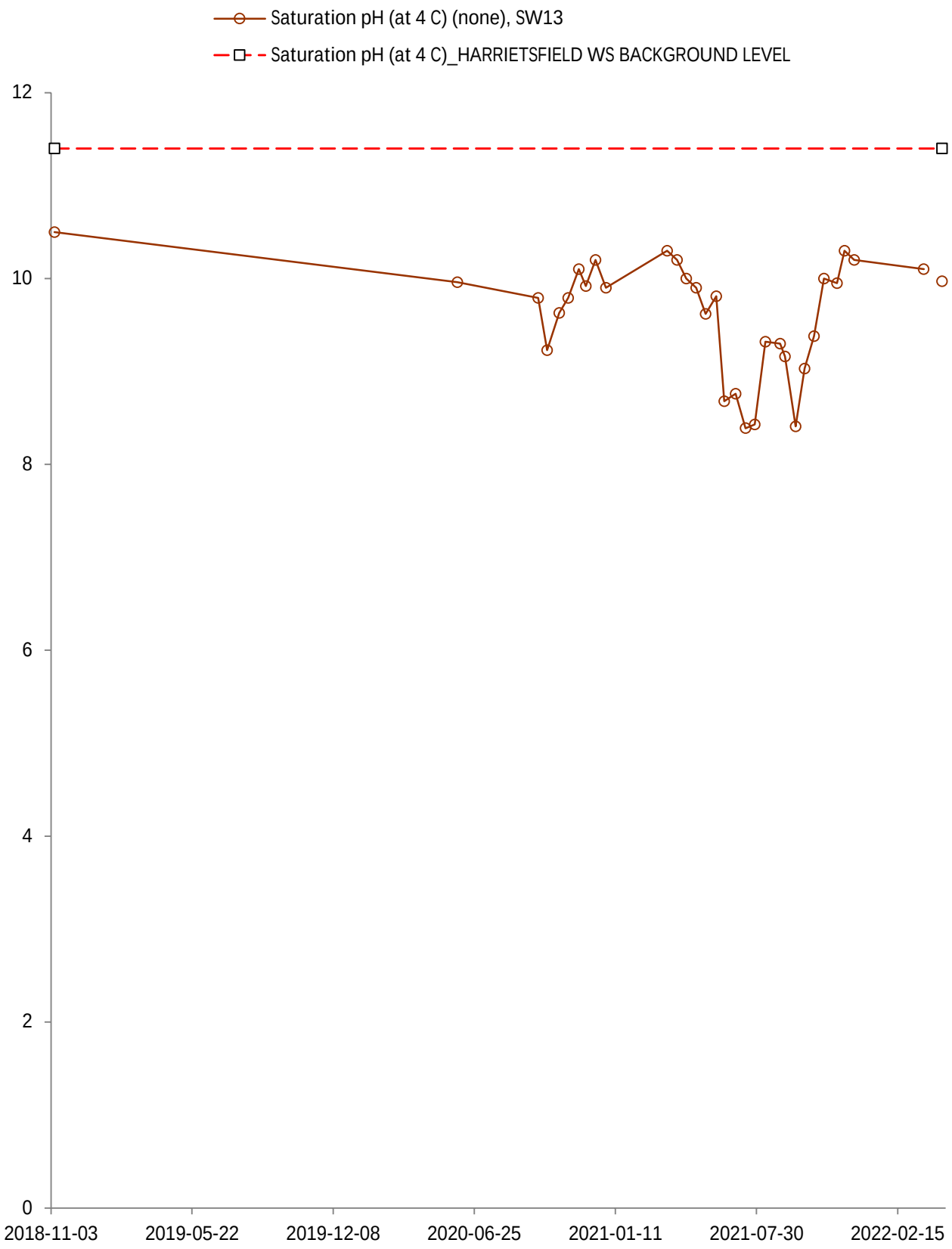
SW13-Reactive Silica (SiO2)



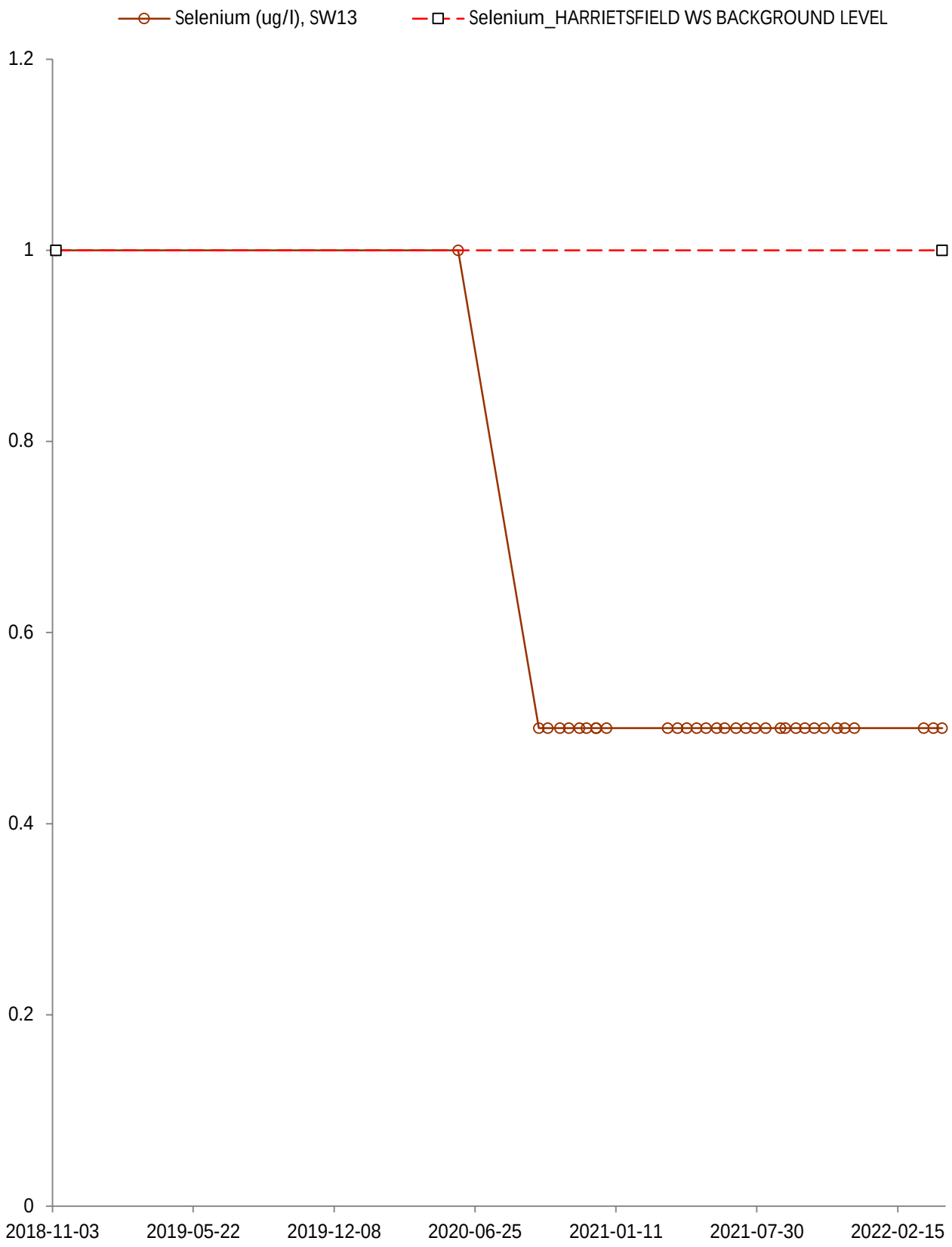
SW13-Saturation pH (at 20 C)



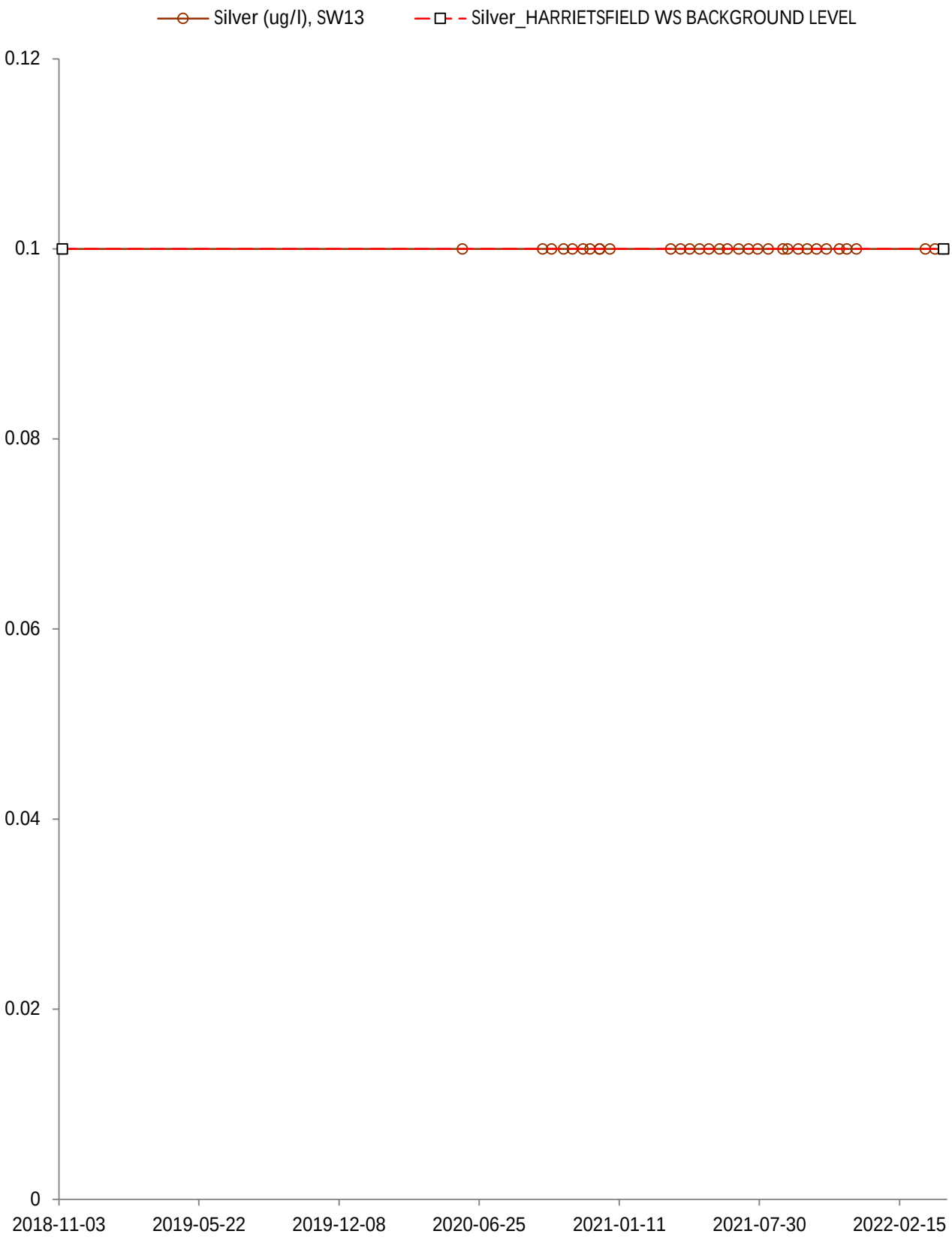
SW13-Saturation pH (at 4 C)



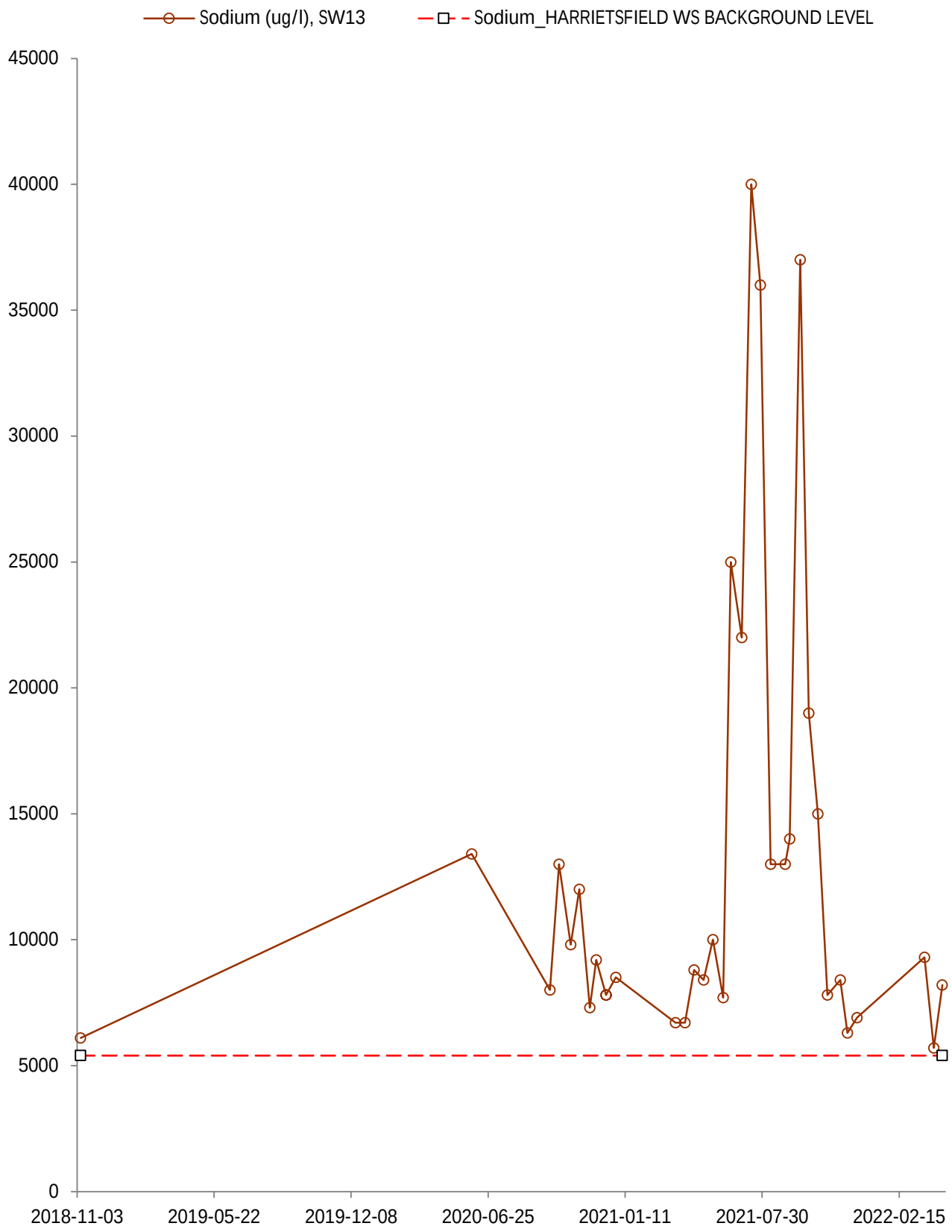
SW13-Selenium



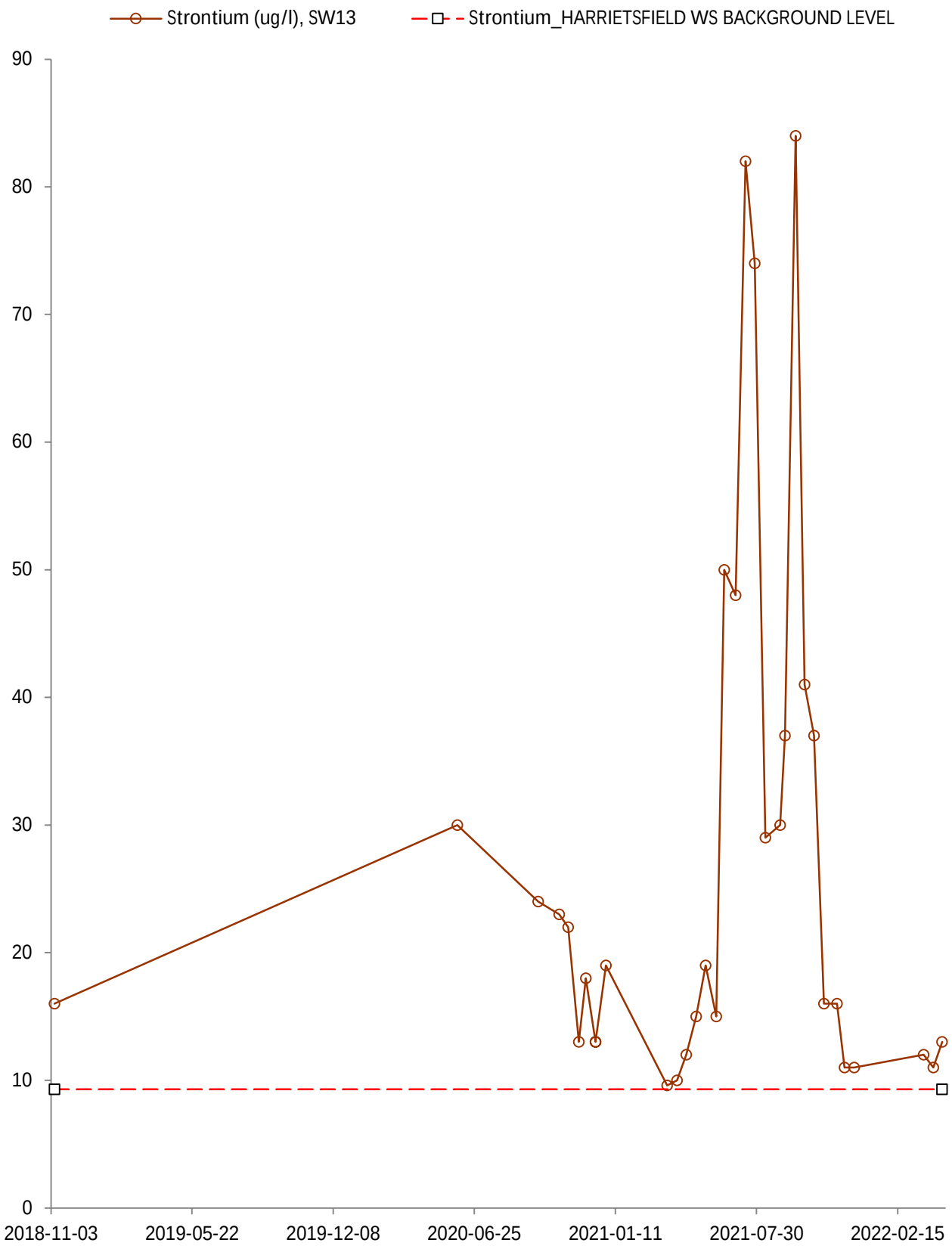
SW13-Silver


Silver (ug/l), SW13
Silver_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

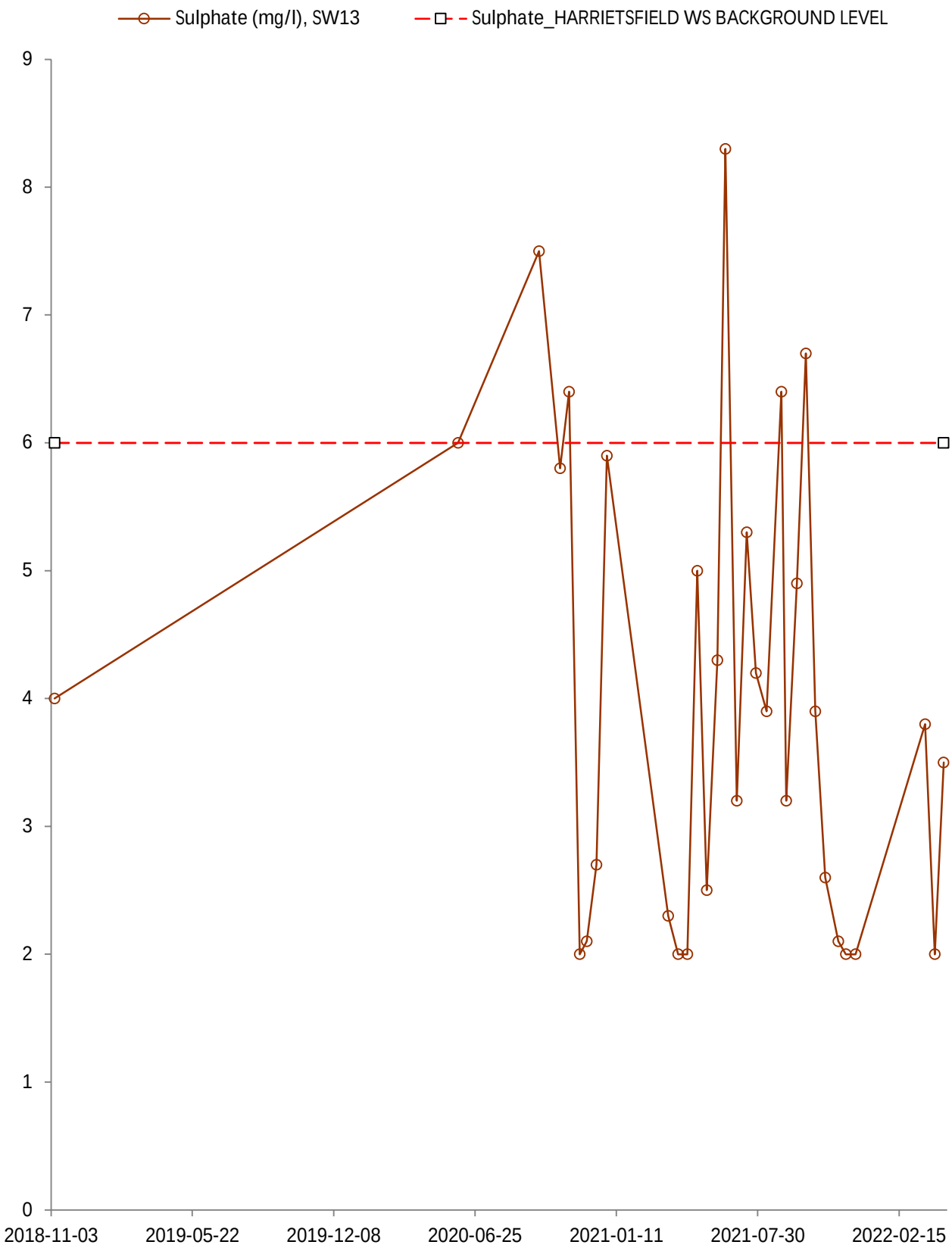
SW13-Sodium


Sodium (ug/l), SW13
Sodium_HARRIETSFIELD WS BACKGROUND LEVEL
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

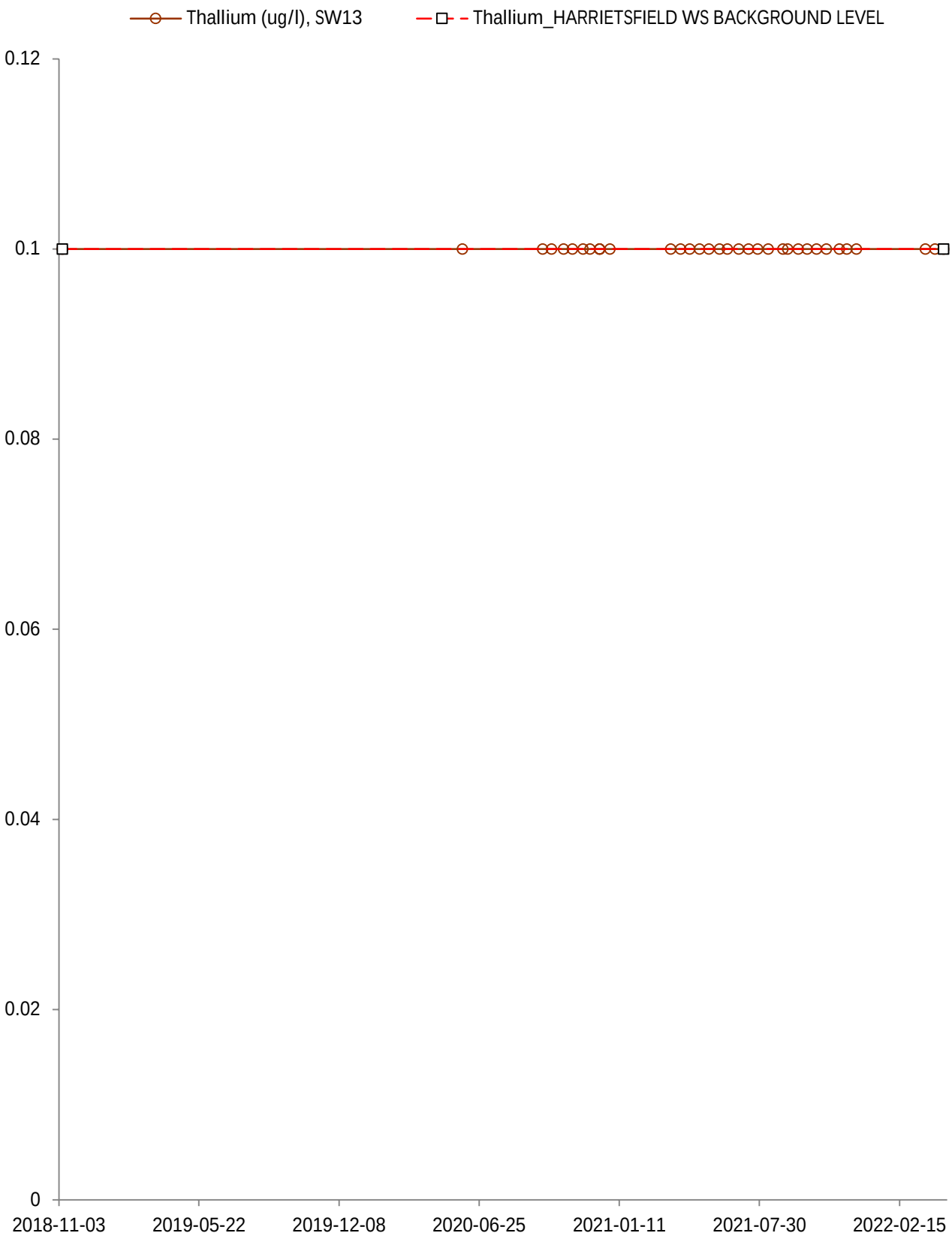
SW13-Strontium



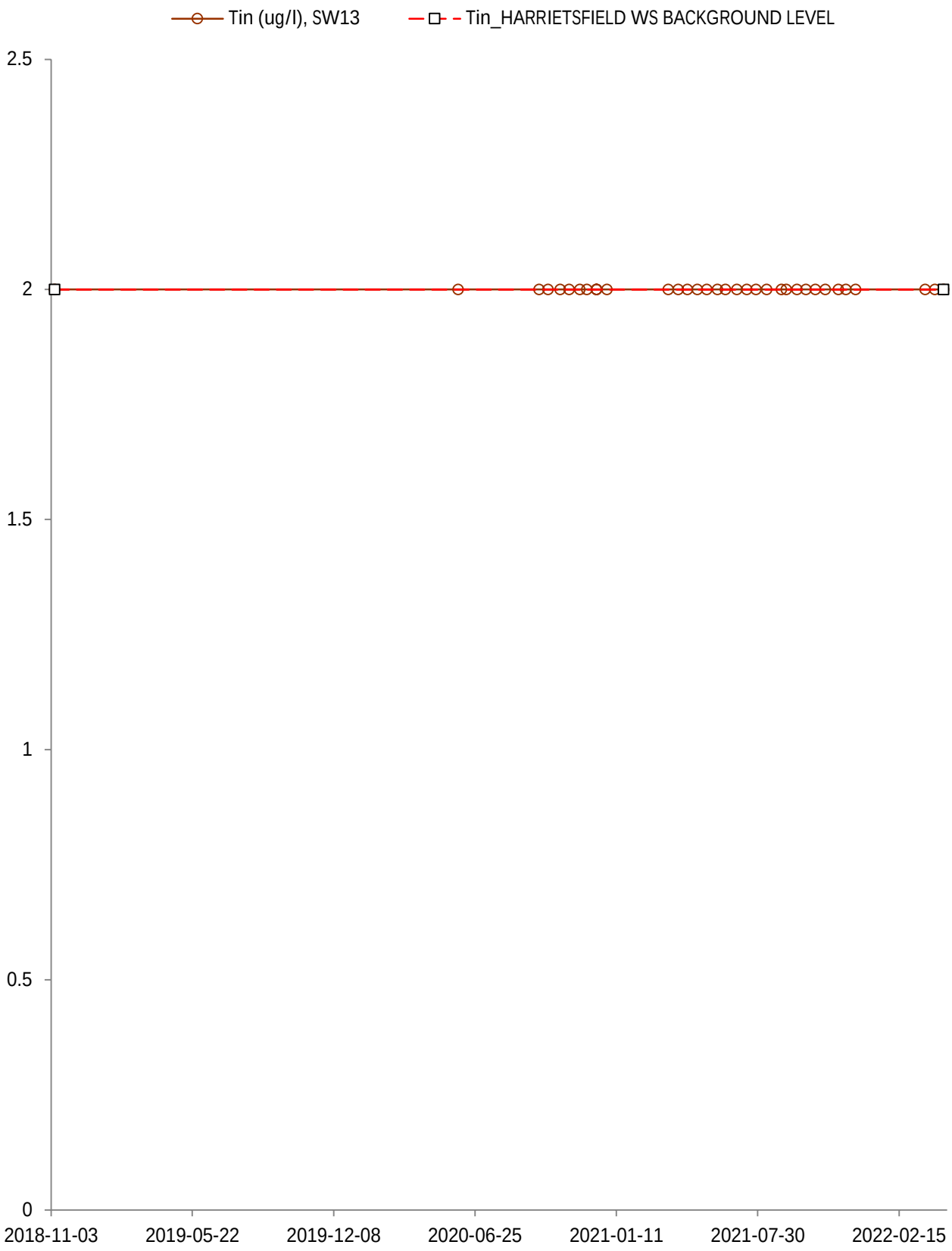
SW13-Sulphate



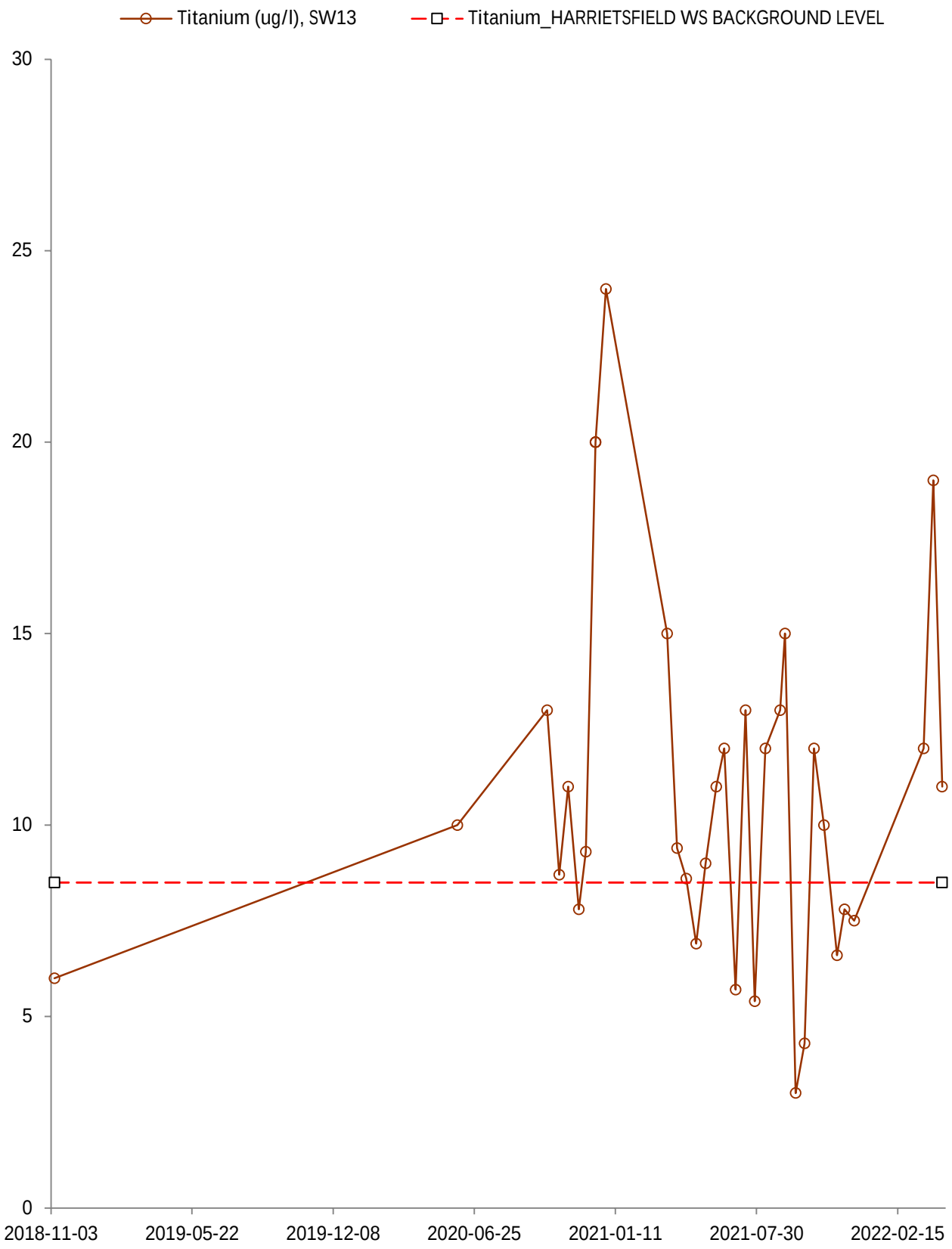
SW13-Thallium



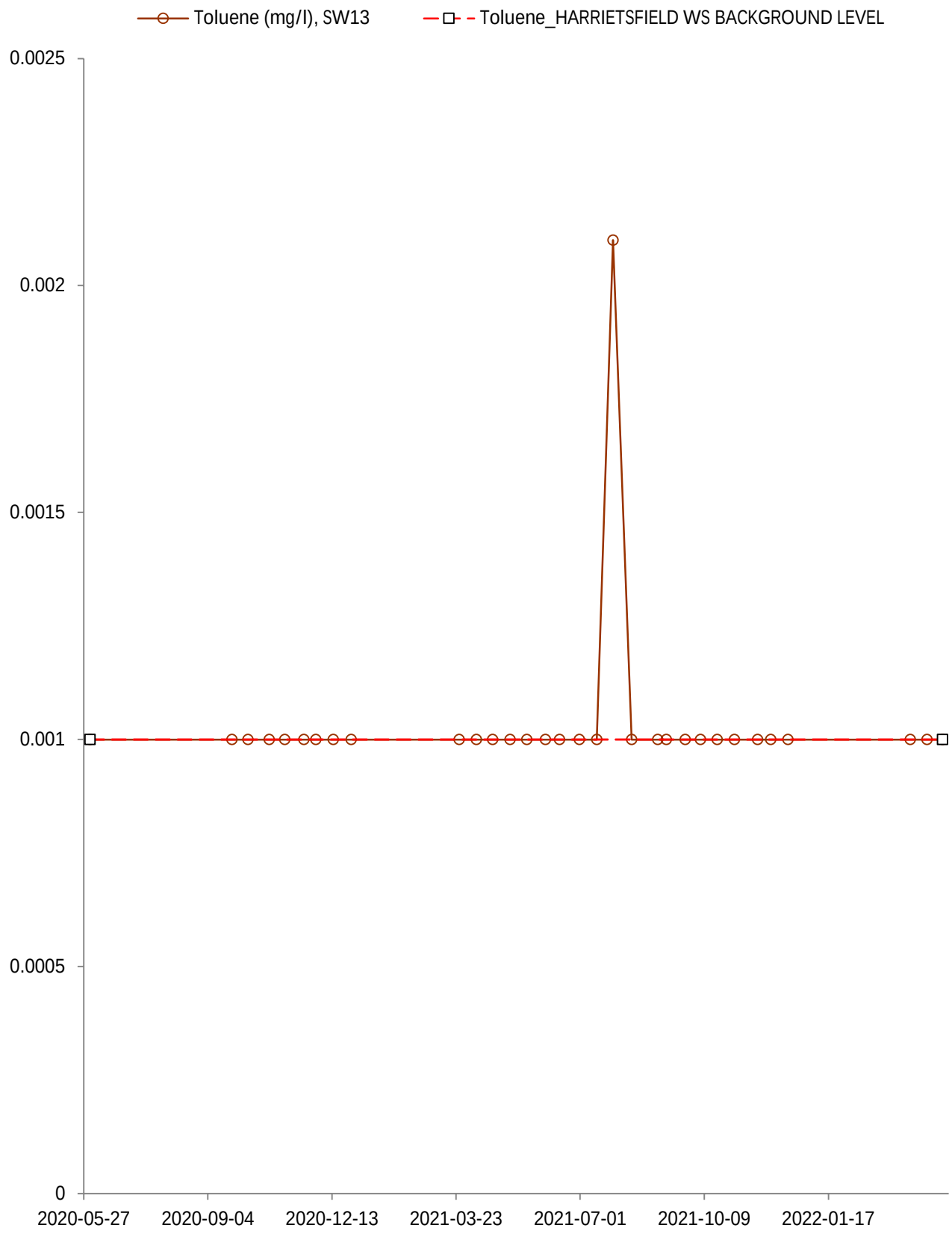
SW13-Tin


Tin (ug/l), SW13
Tin_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

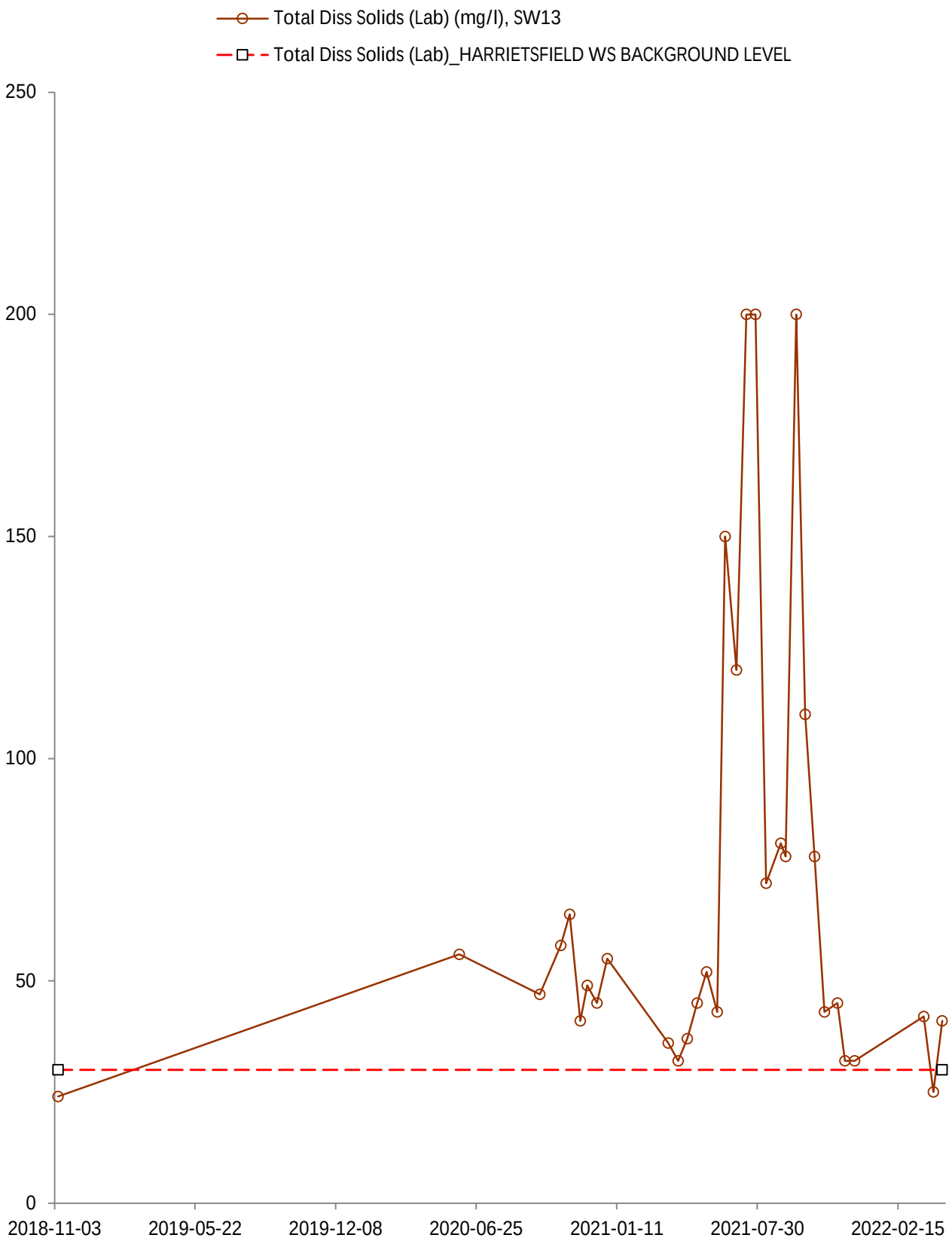
SW13-Titanium



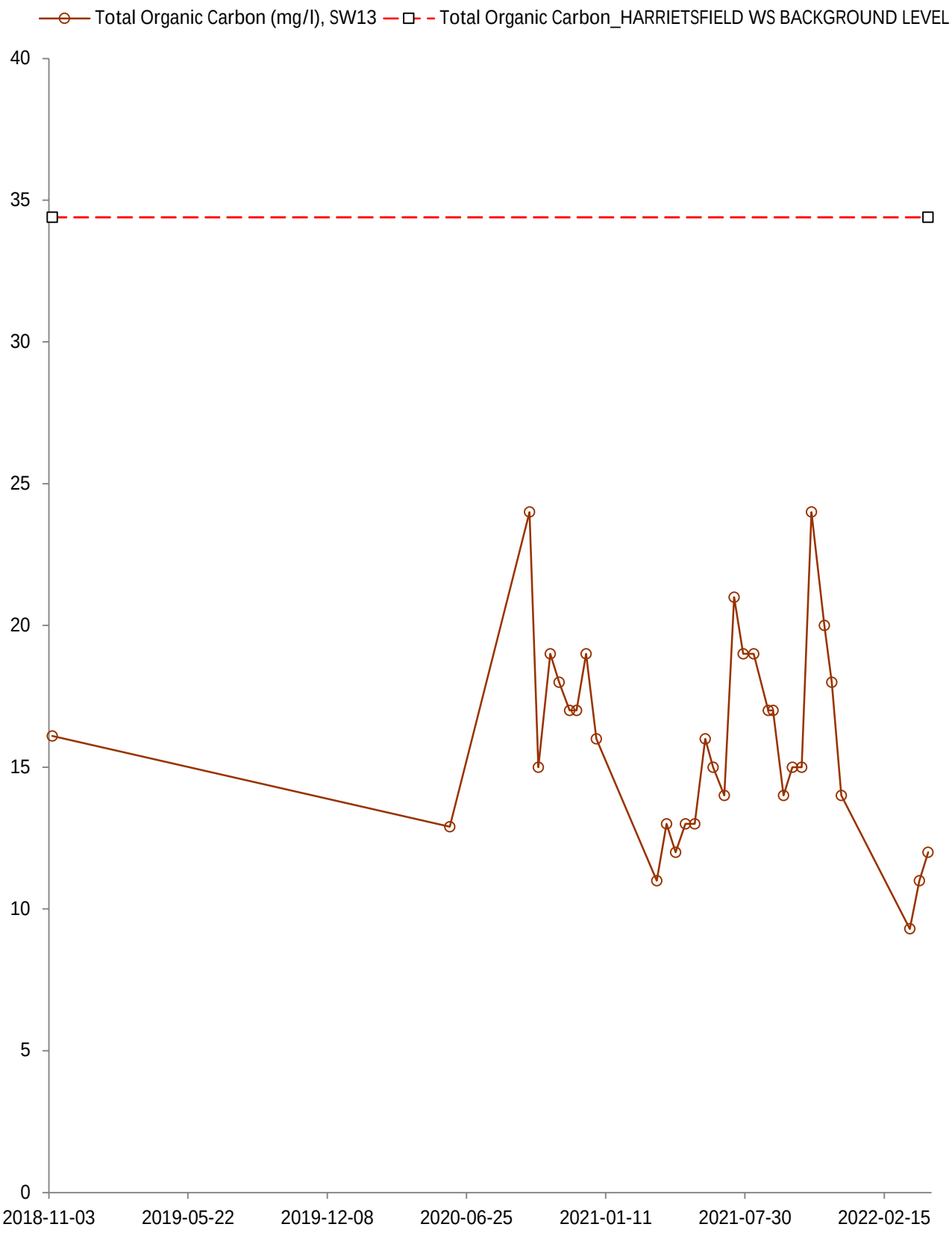
SW13-Toluene



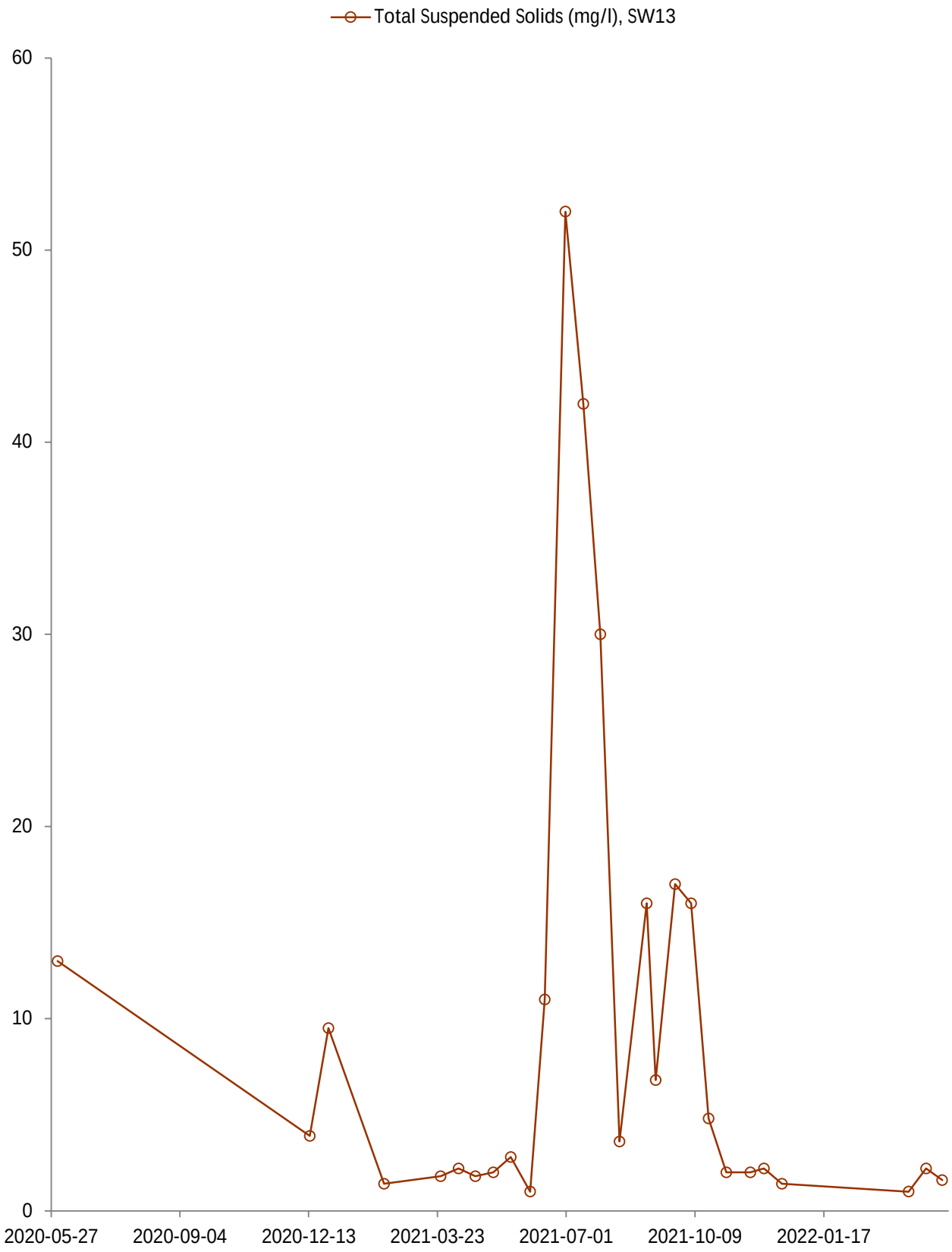
SW13-Total Diss Solids (Lab)



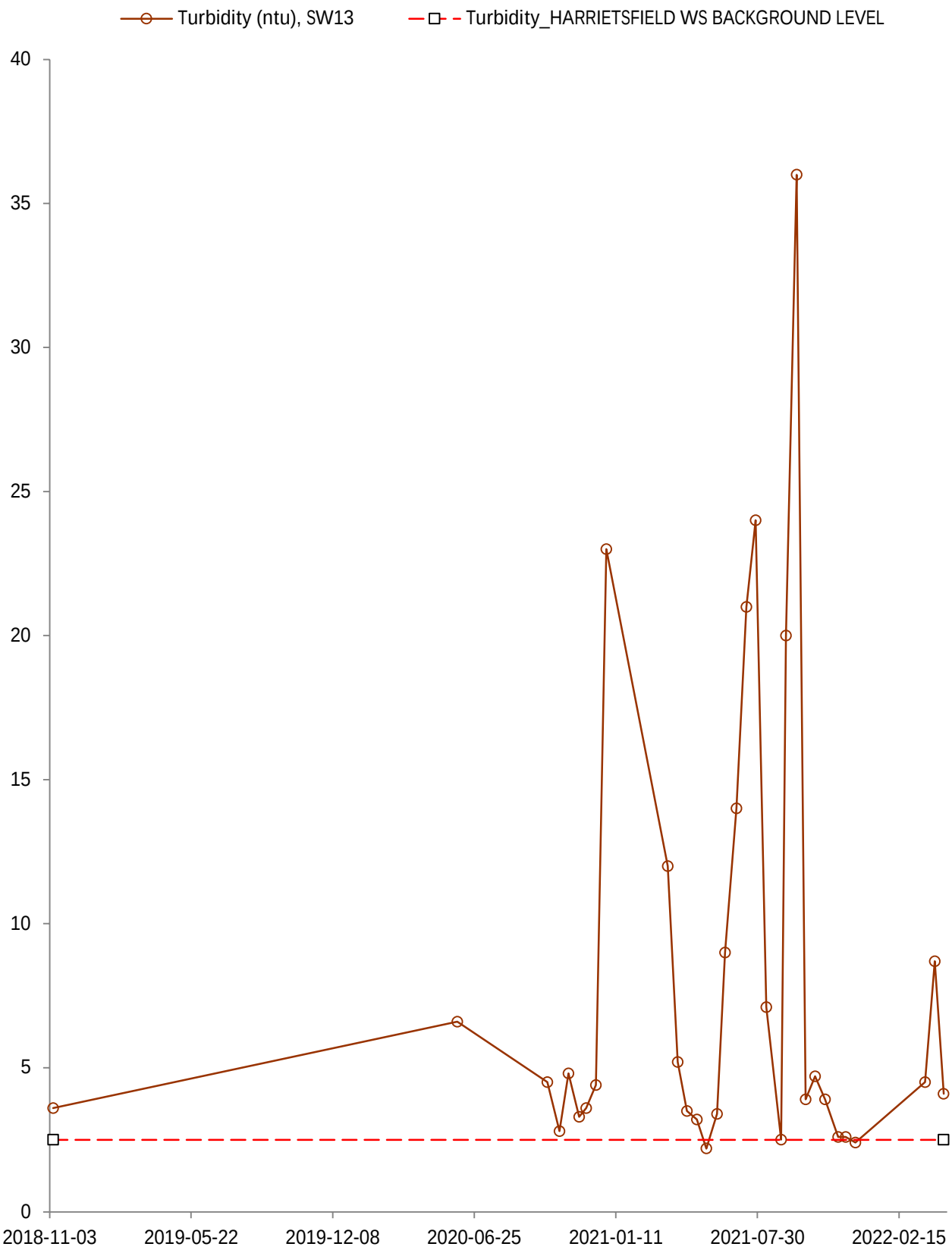
SW13-Total Organic Carbon



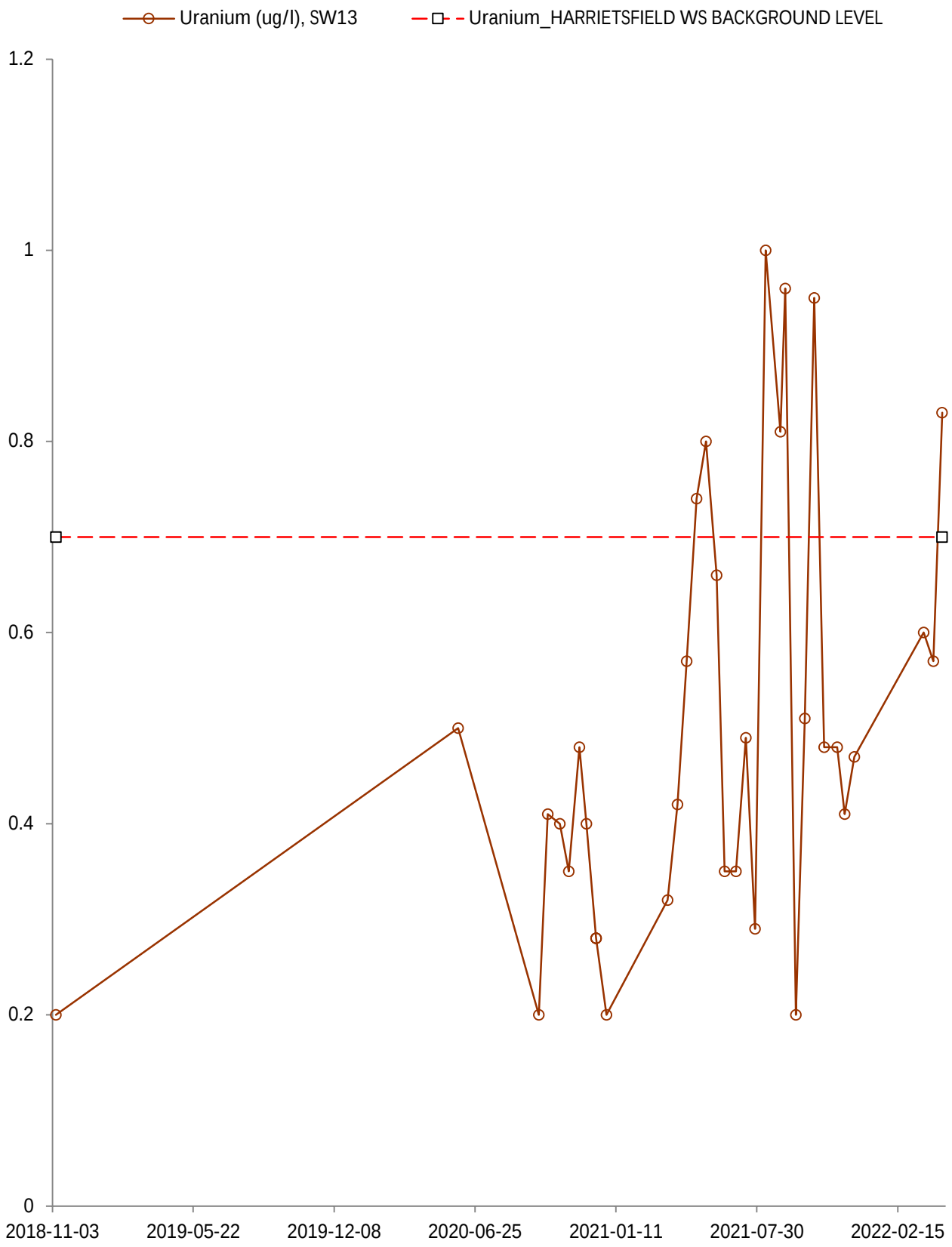
SW13-Total Suspended Solids



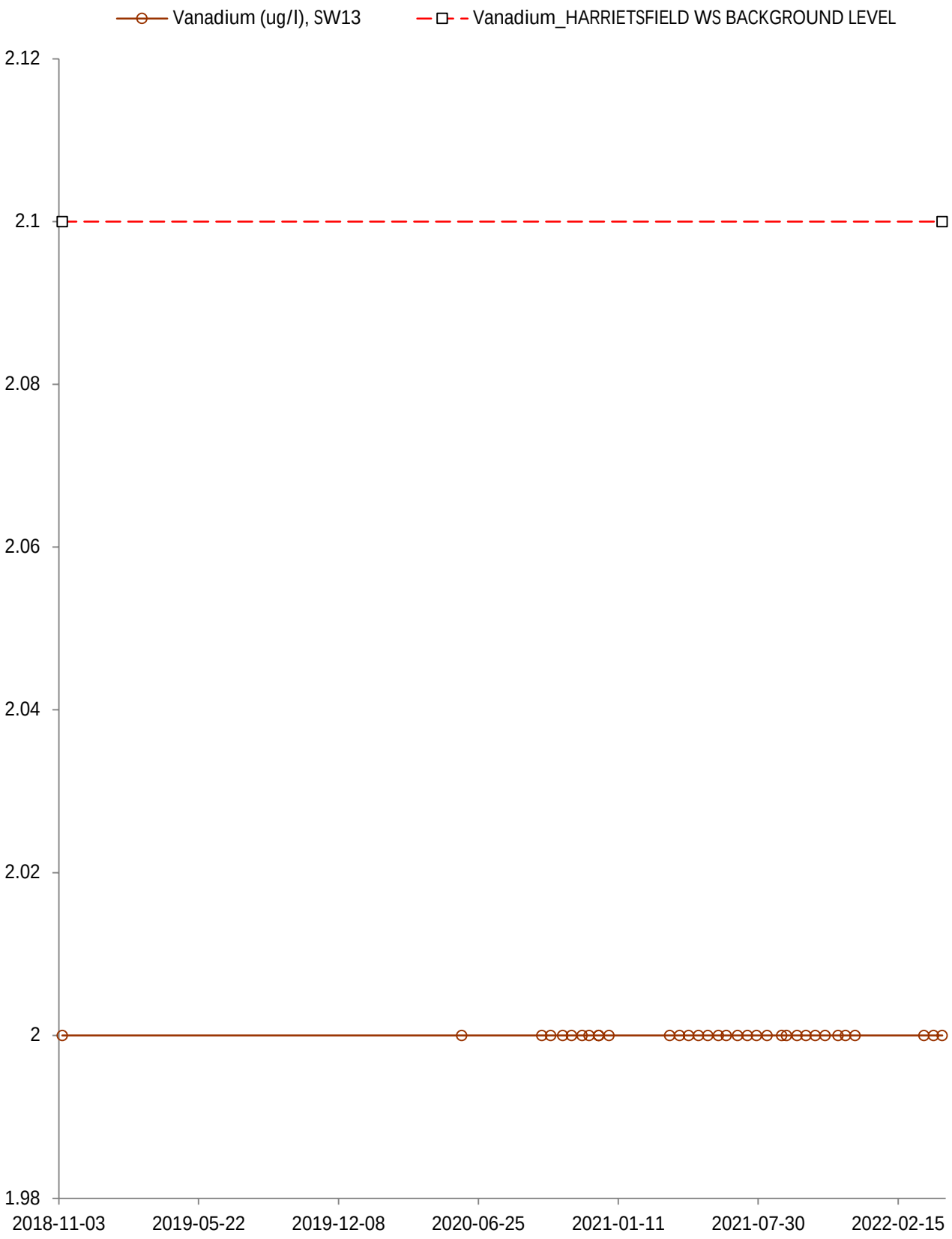
SW13-Turbidity



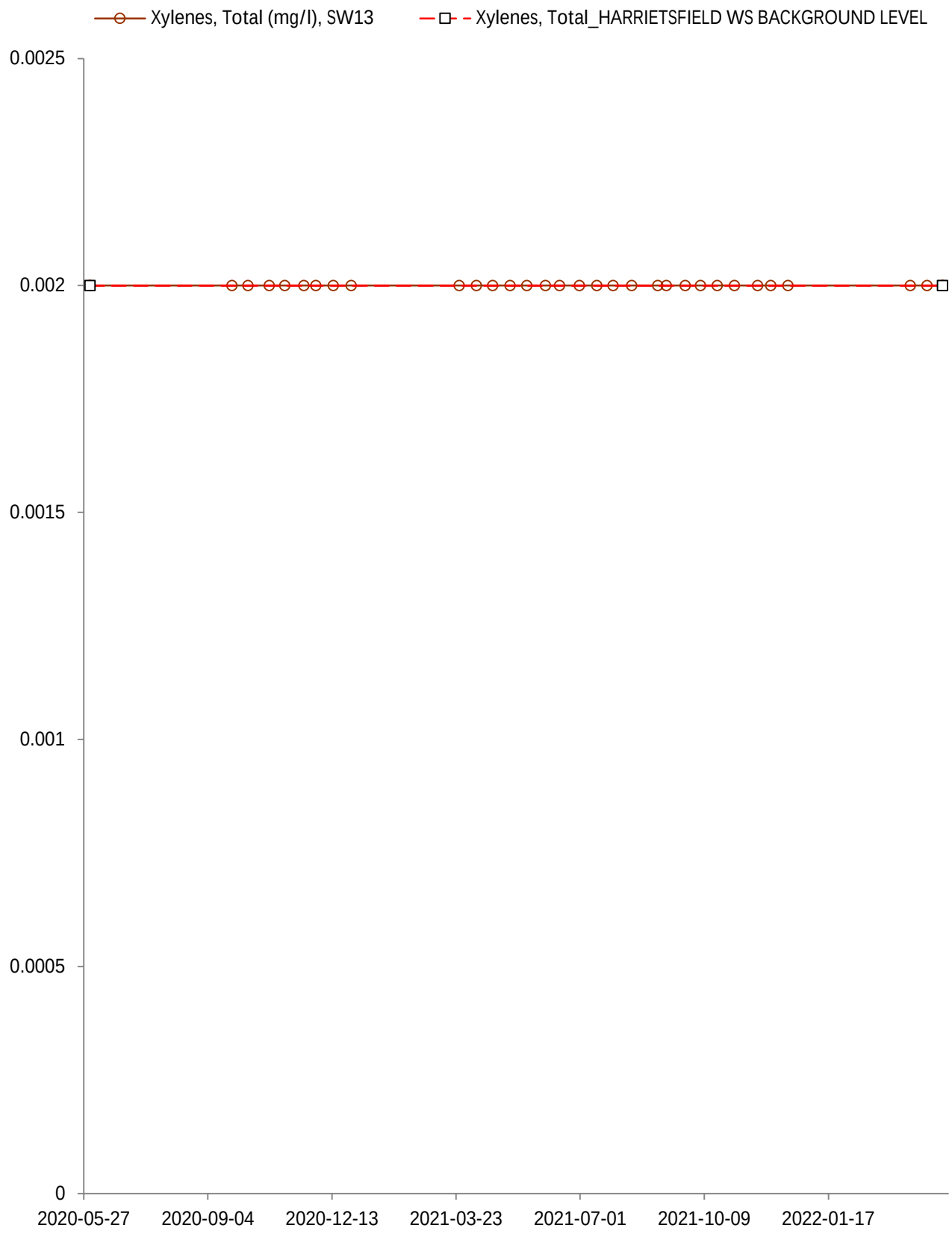
SW13-Uranium



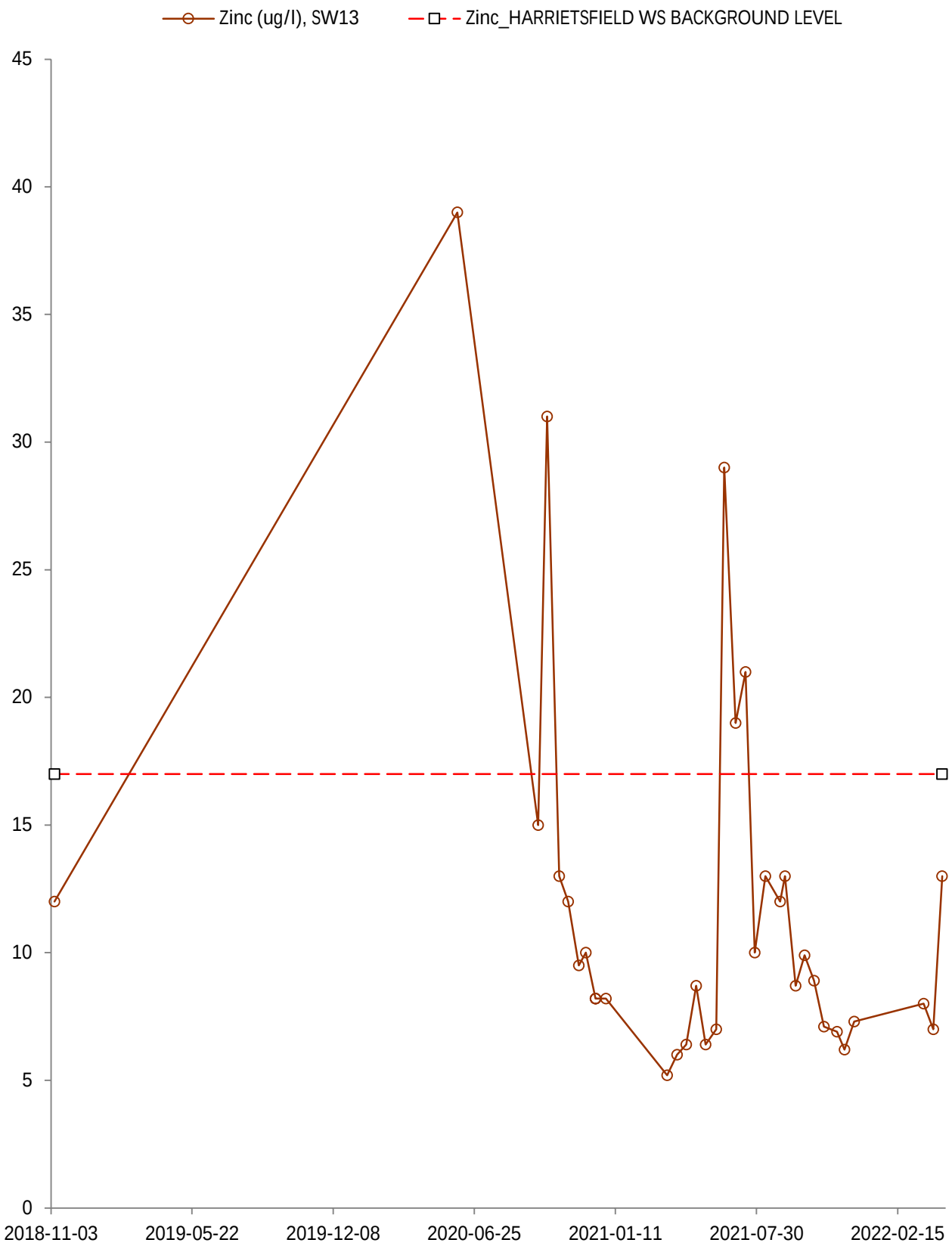
SW13-Vanadium



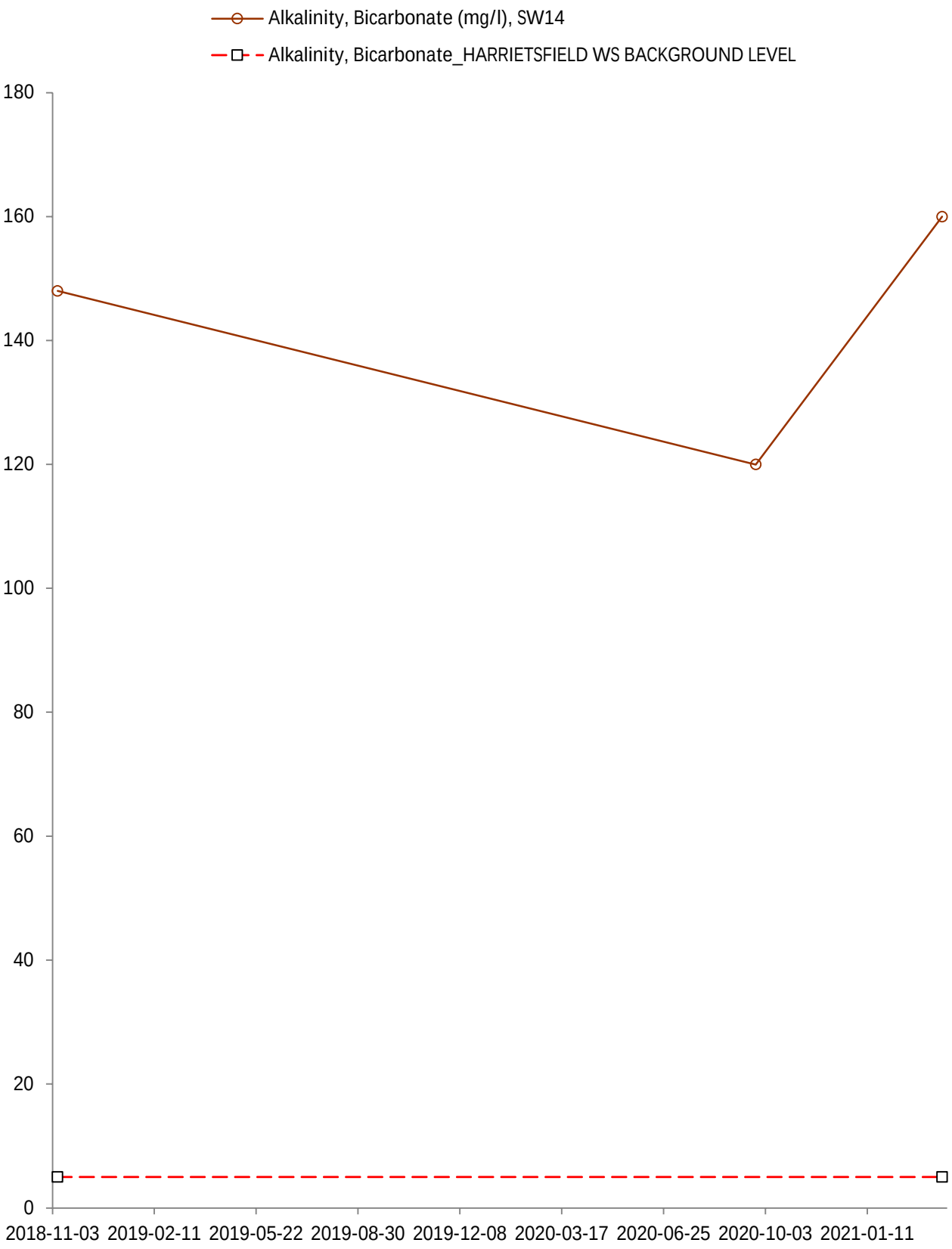
SW13-Xylenes, Total



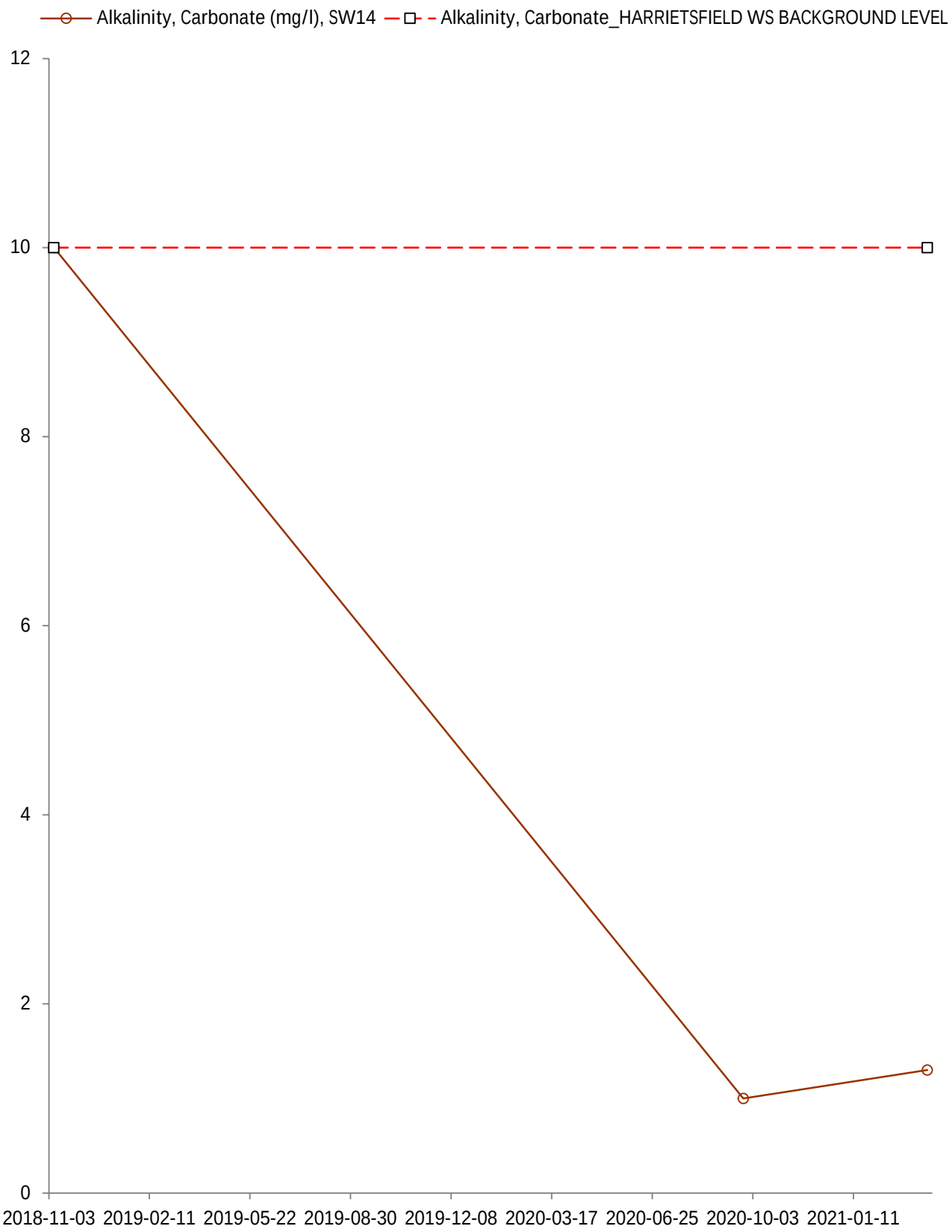
SW13-Zinc


Zinc (ug/l), SW13
Zinc_HARRIETSFIELD WS BACKGROUND LEVEL
45
40
35
30
25
20
15
10
5
0
2018-11-03
2019-05-22
2019-12-08
2020-06-25
2021-01-11
2021-07-30
2022-02-15

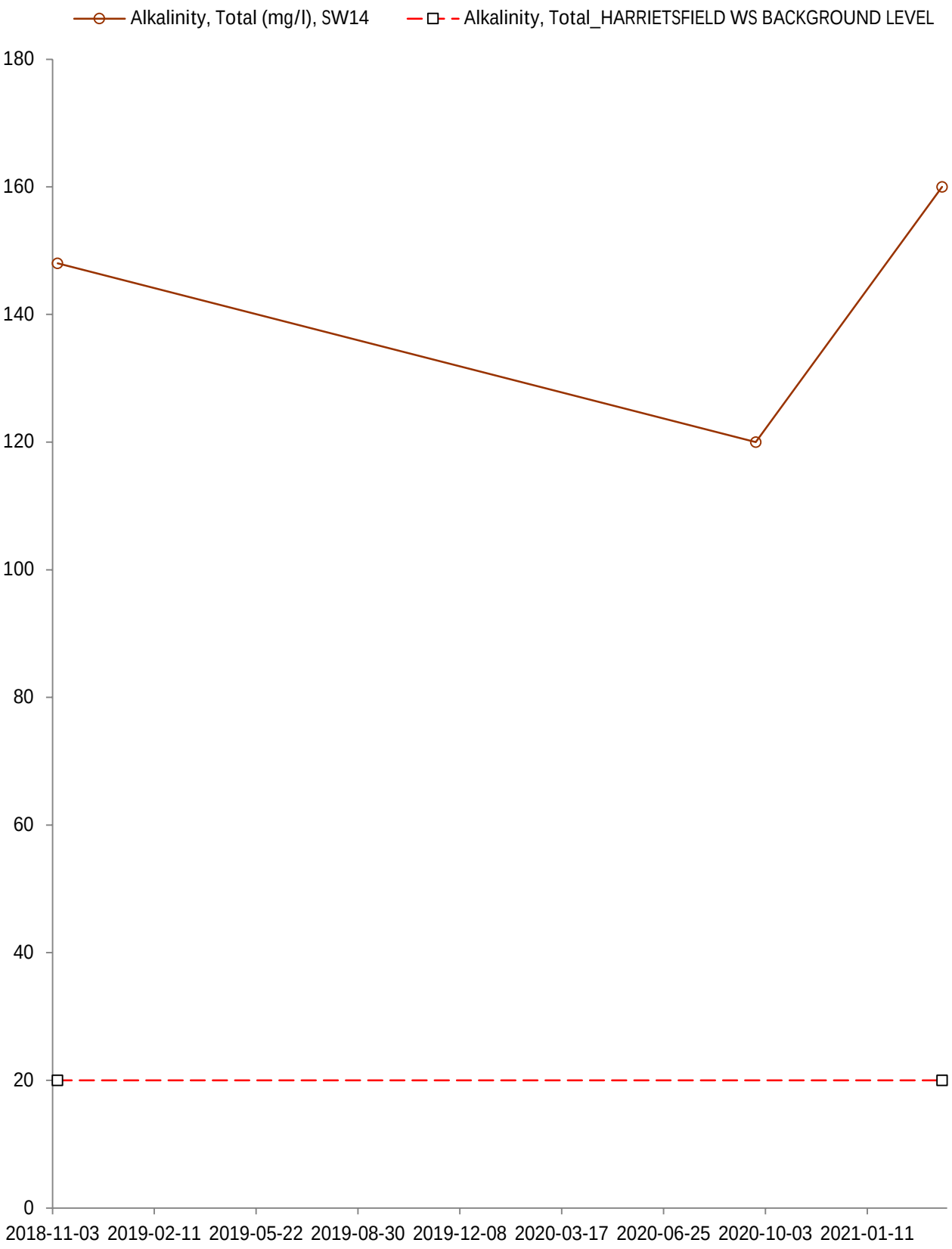
SW14-Alkalinity, Bicarbonate



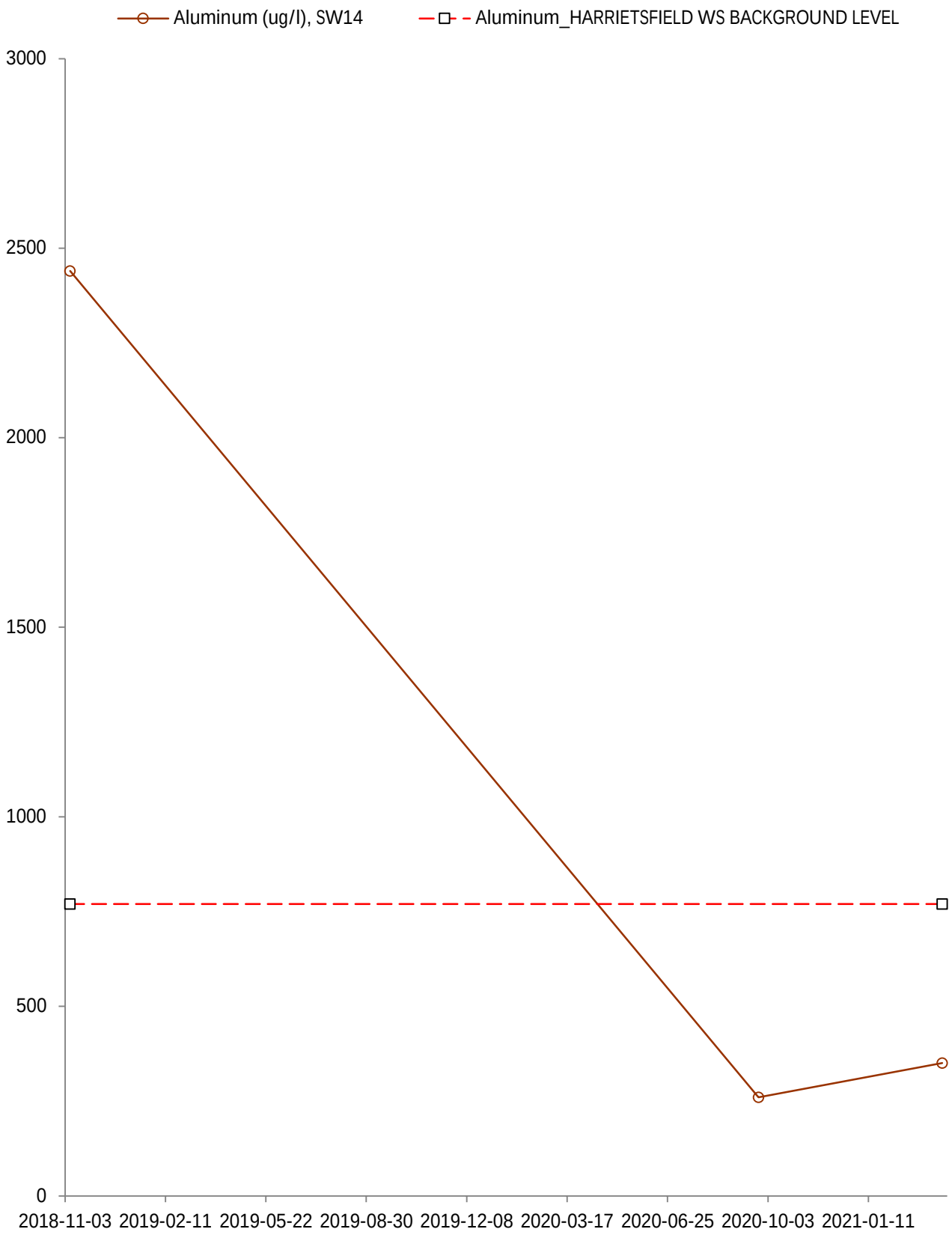
SW14-Alkalinity, Carbonate



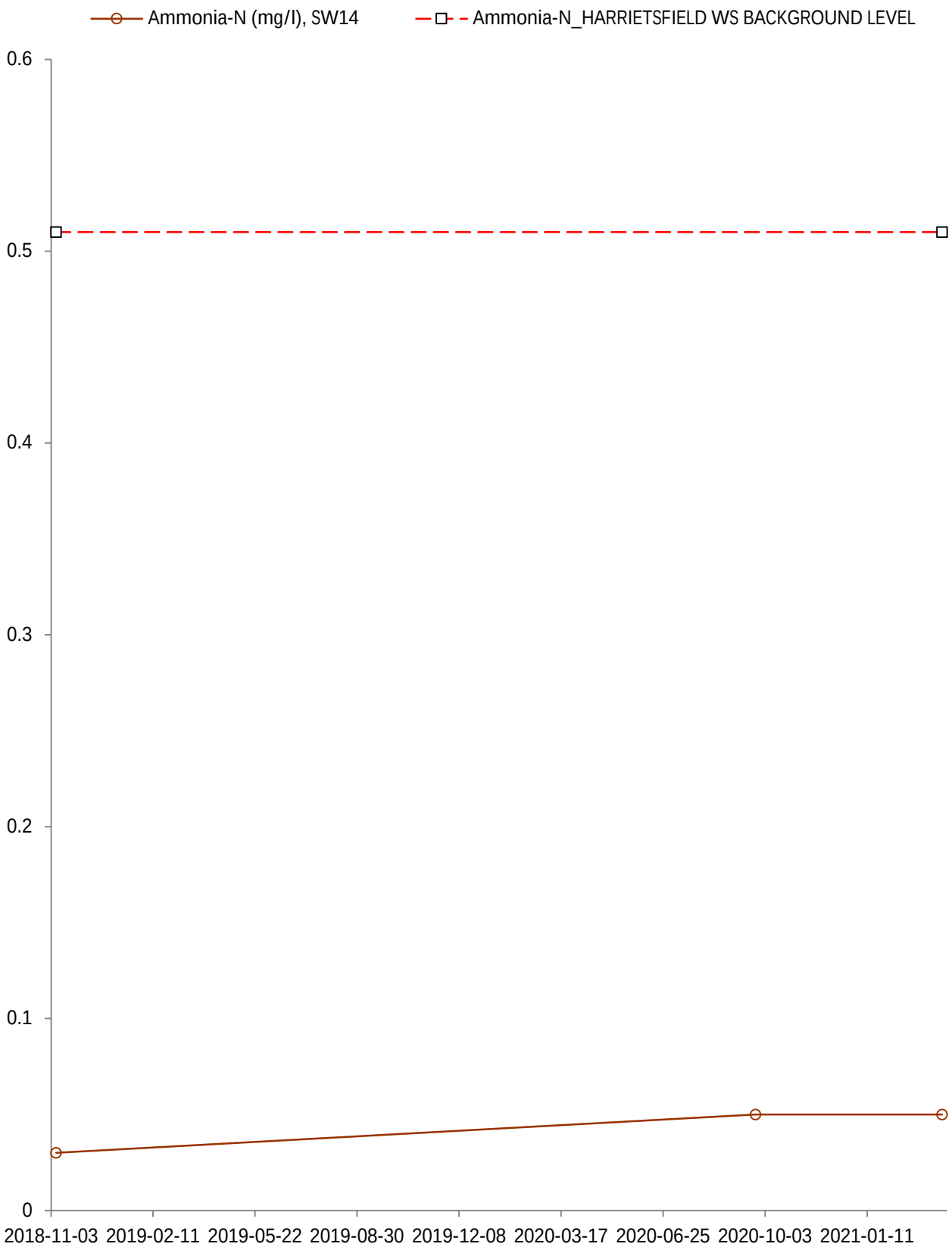
SW14-Alkalinity, Total



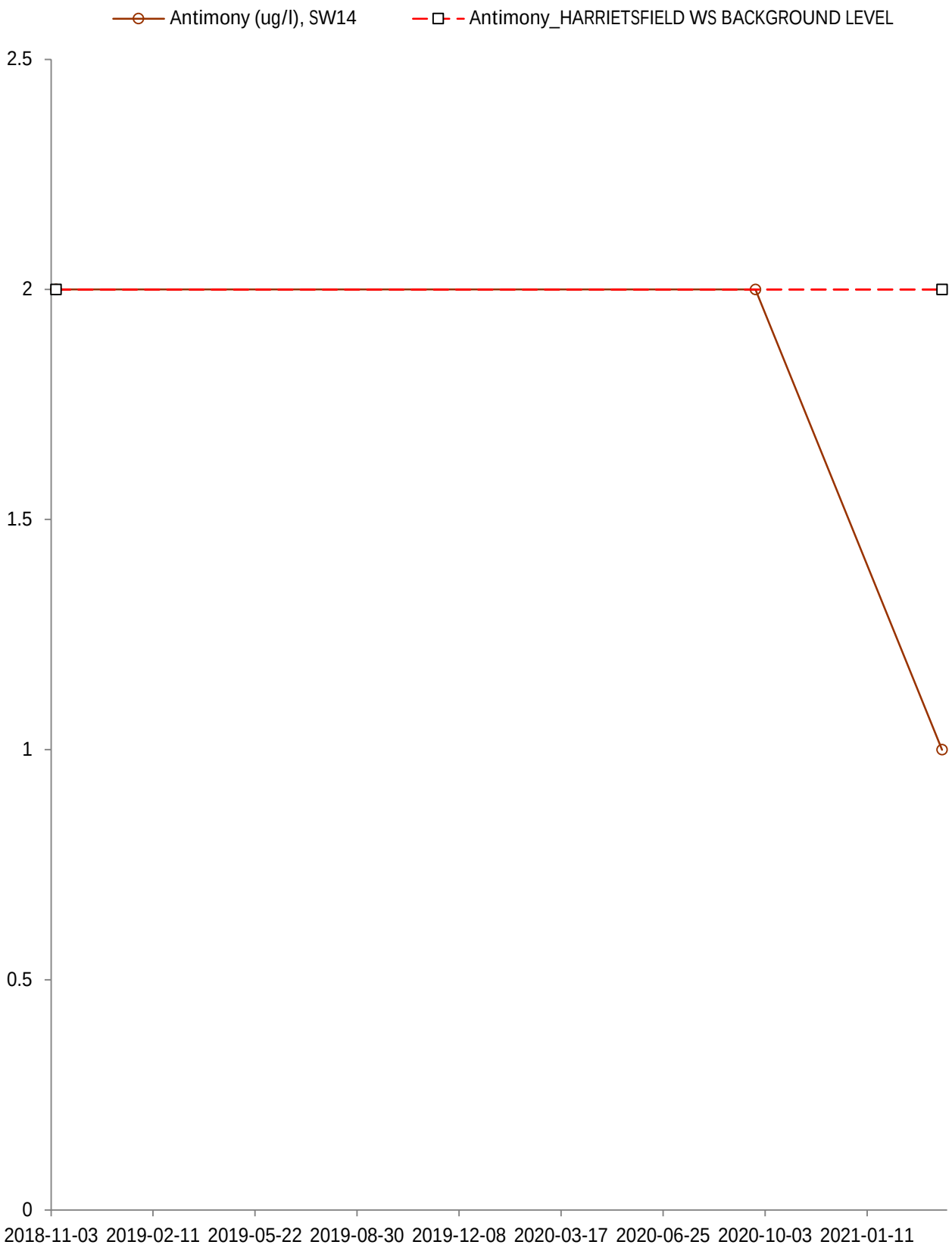
SW14-Aluminum



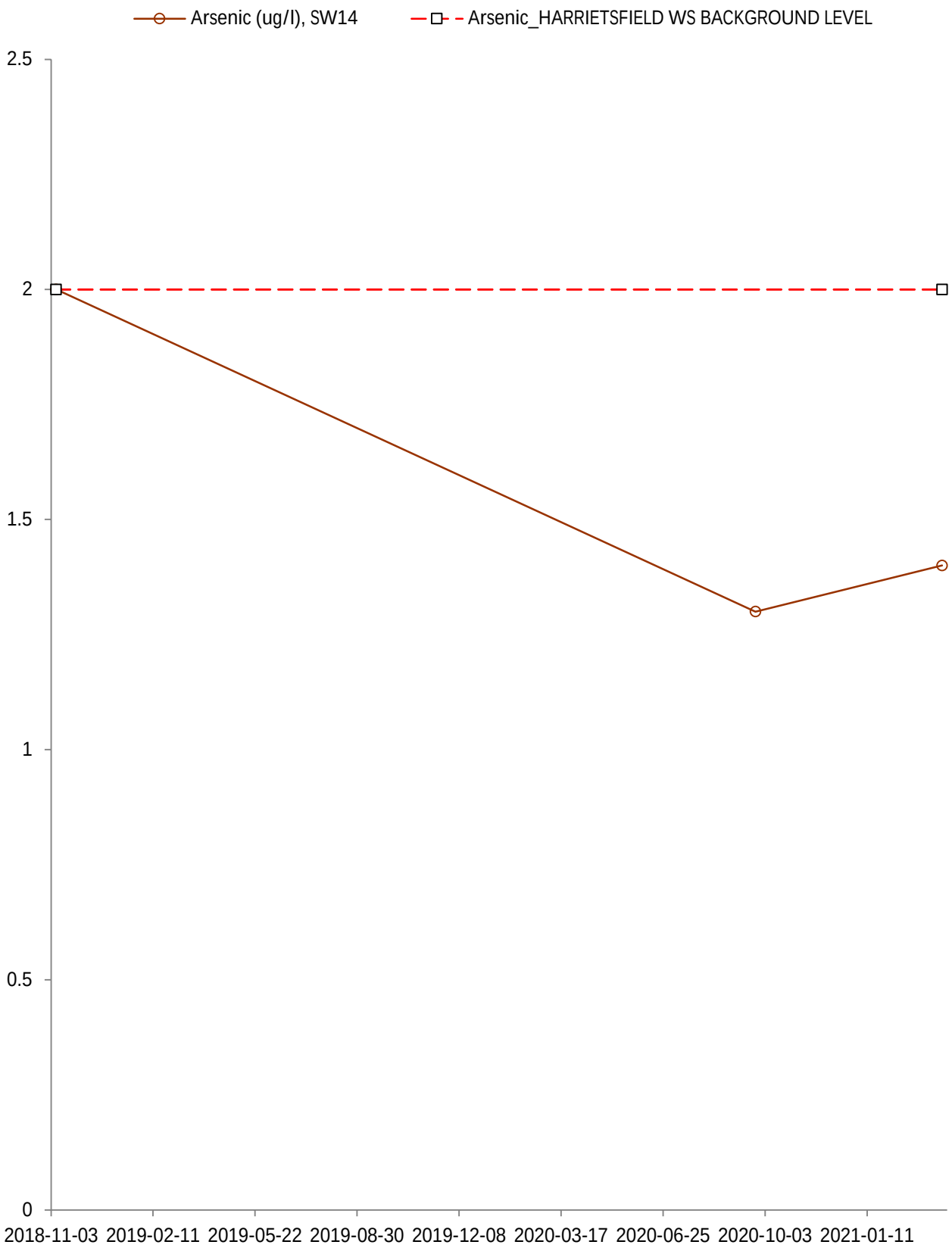
SW14-Ammonia-N



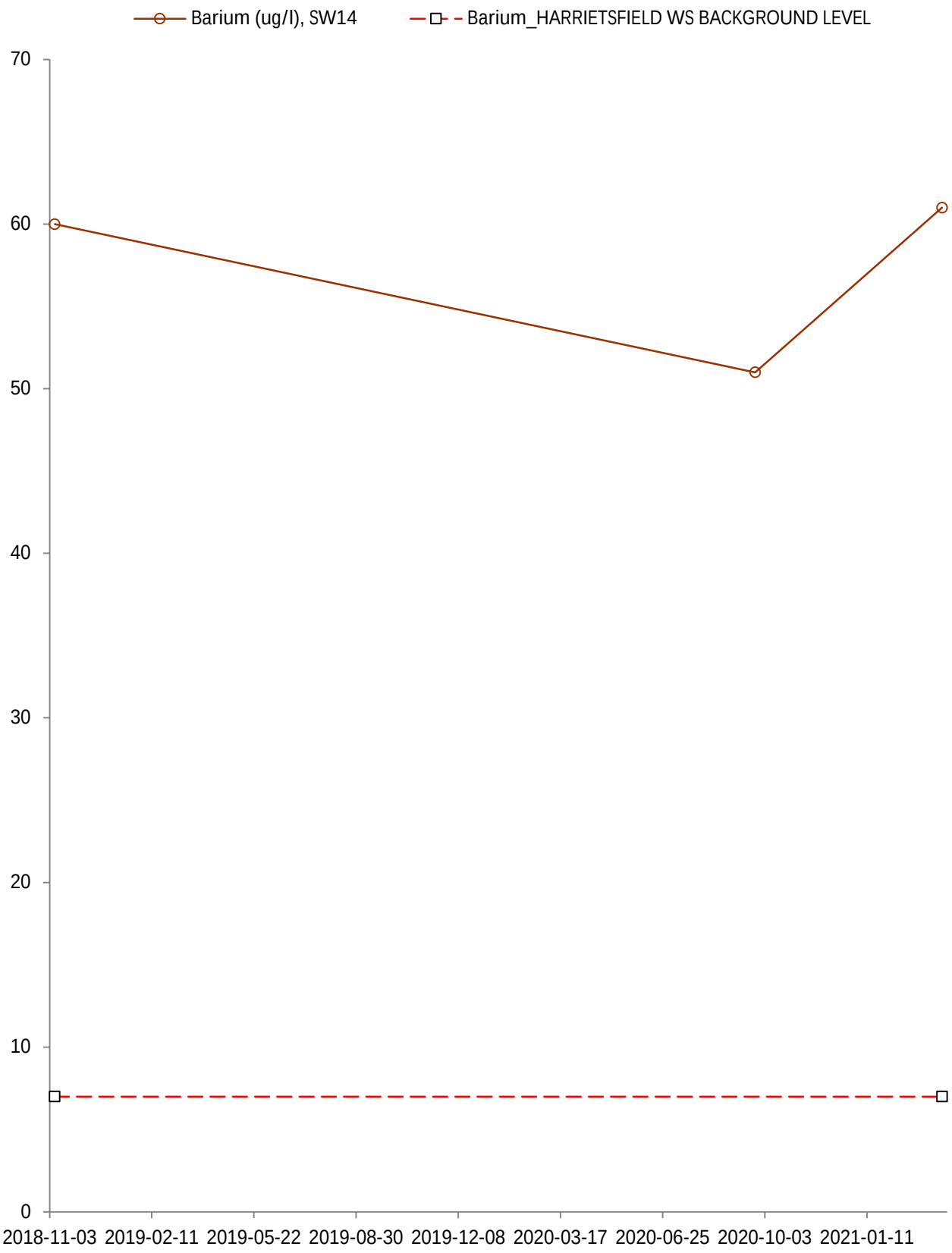
SW14-Antimony



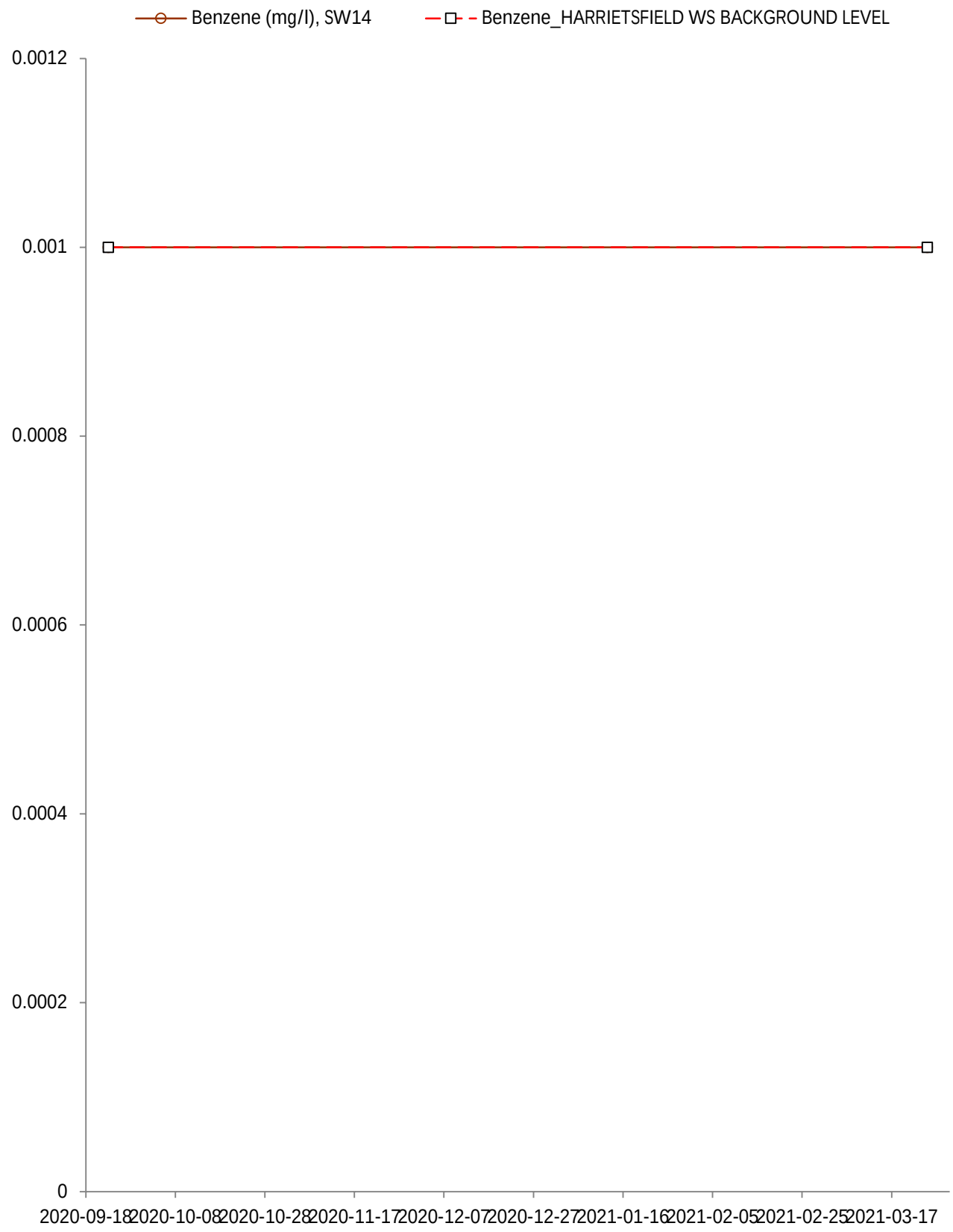
SW14-Arsenic



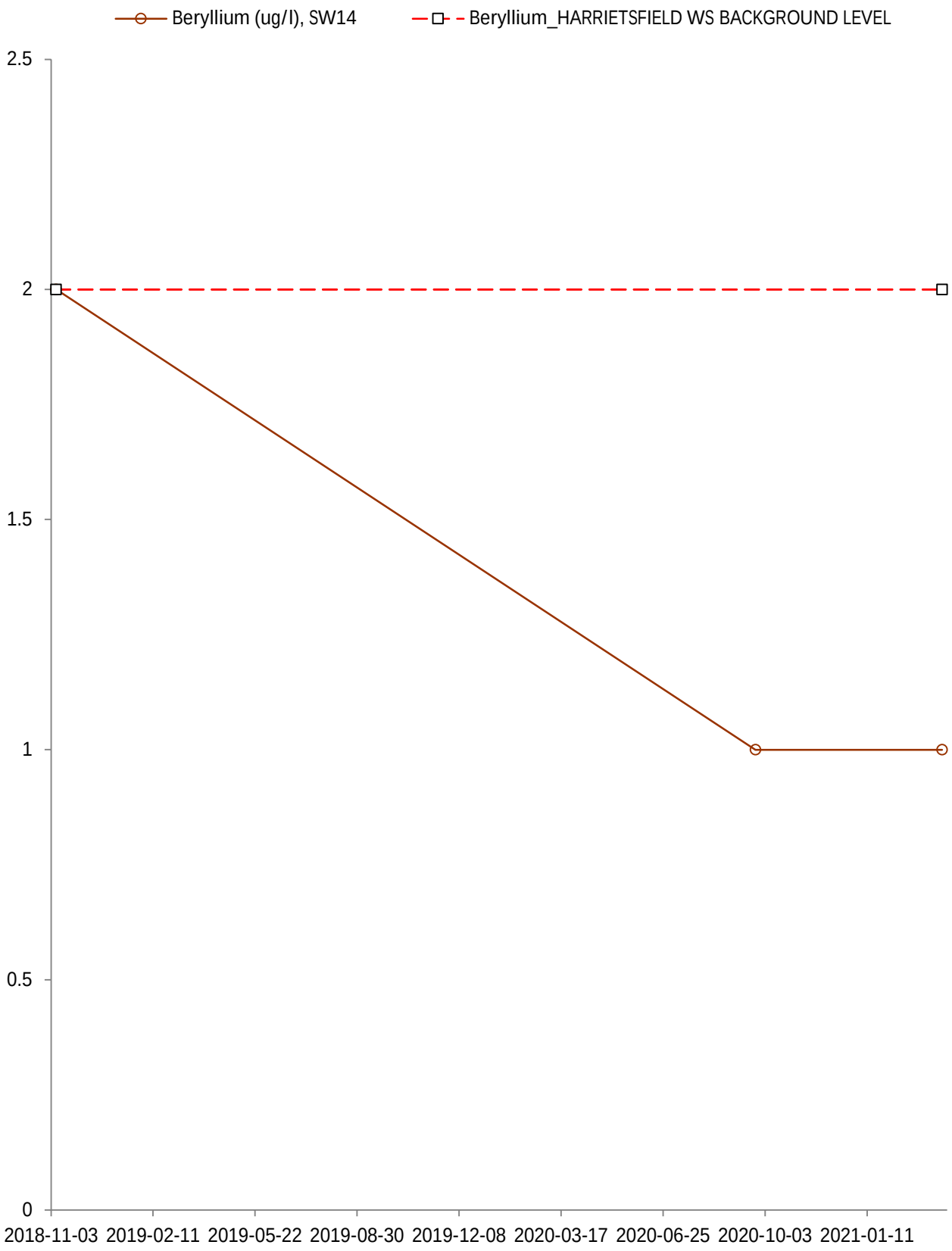
SW14-Barium


Barium (ug/l), SW14
Barium_HARRIETSFIELD WS BACKGROUND LEVEL
70
60
50
40
30
20
10
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

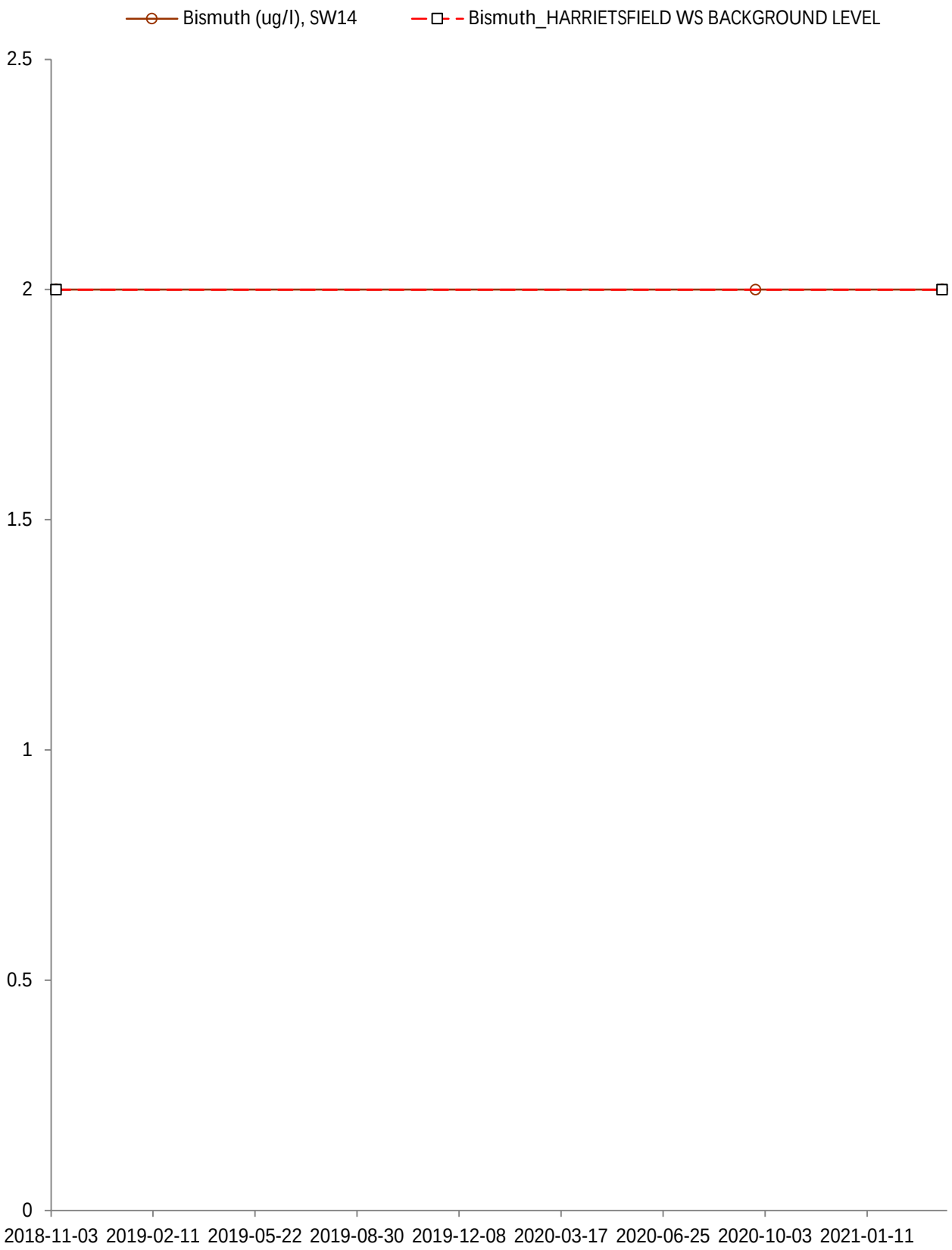
SW14-Benzene



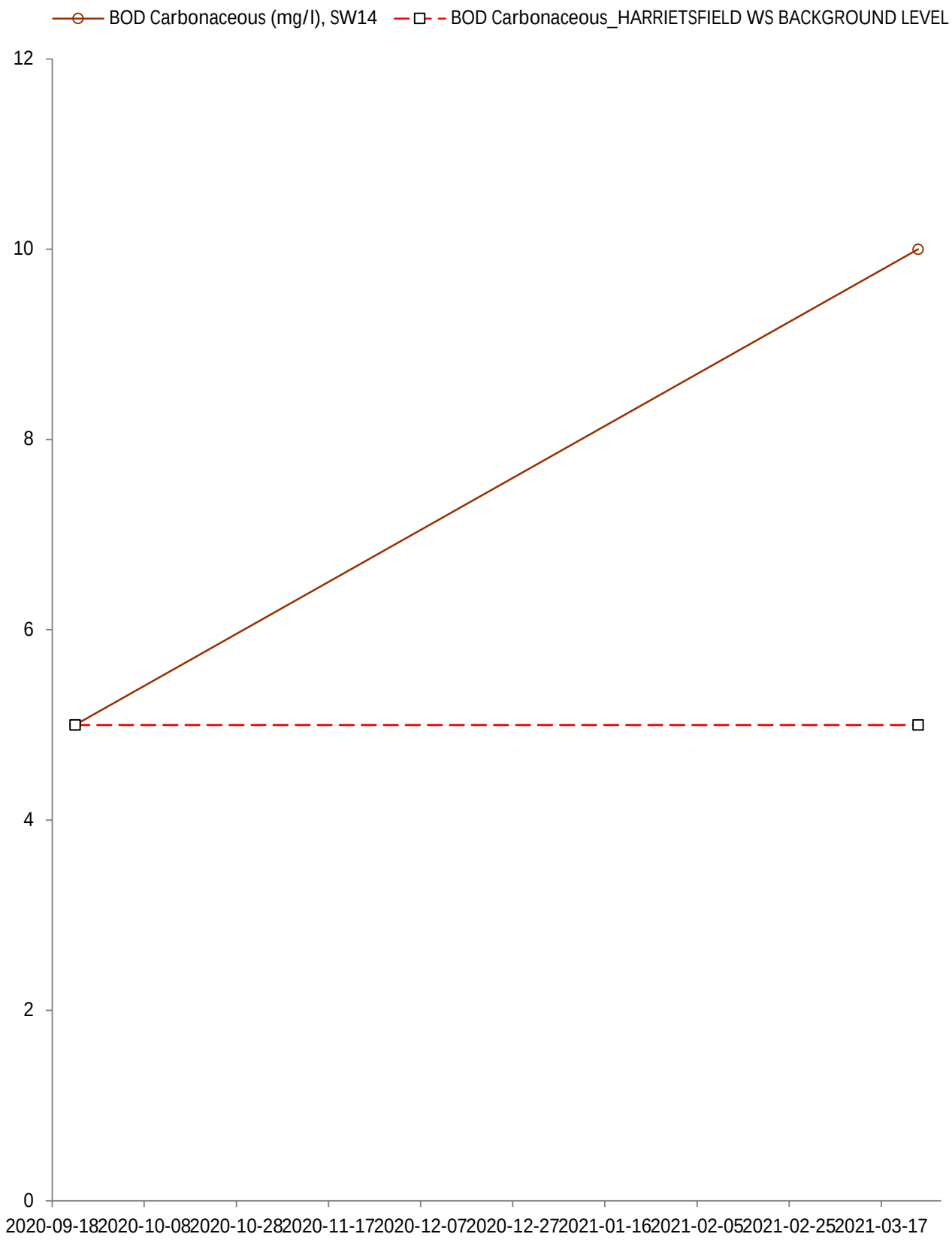
SW14-Beryllium



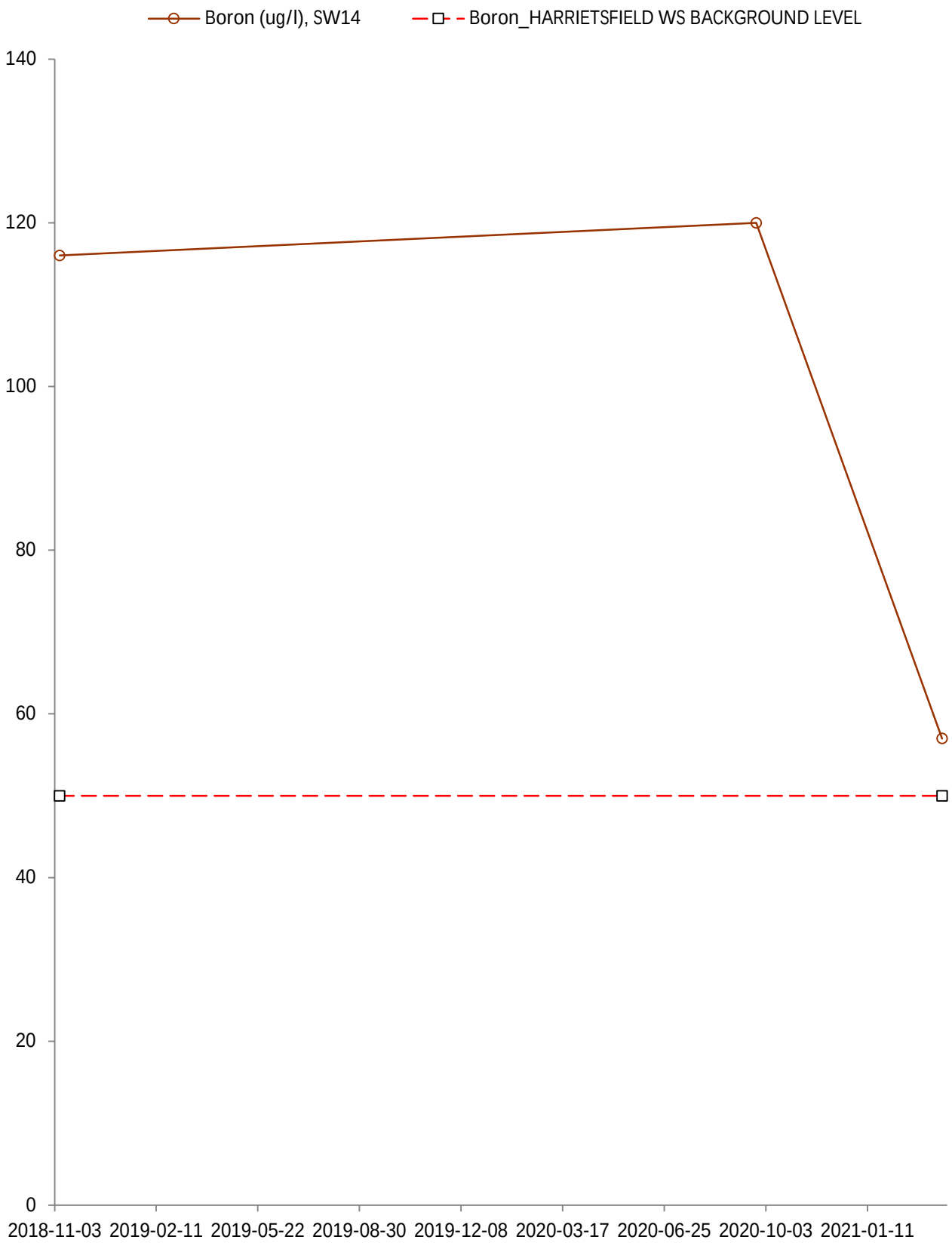
SW14-Bismuth



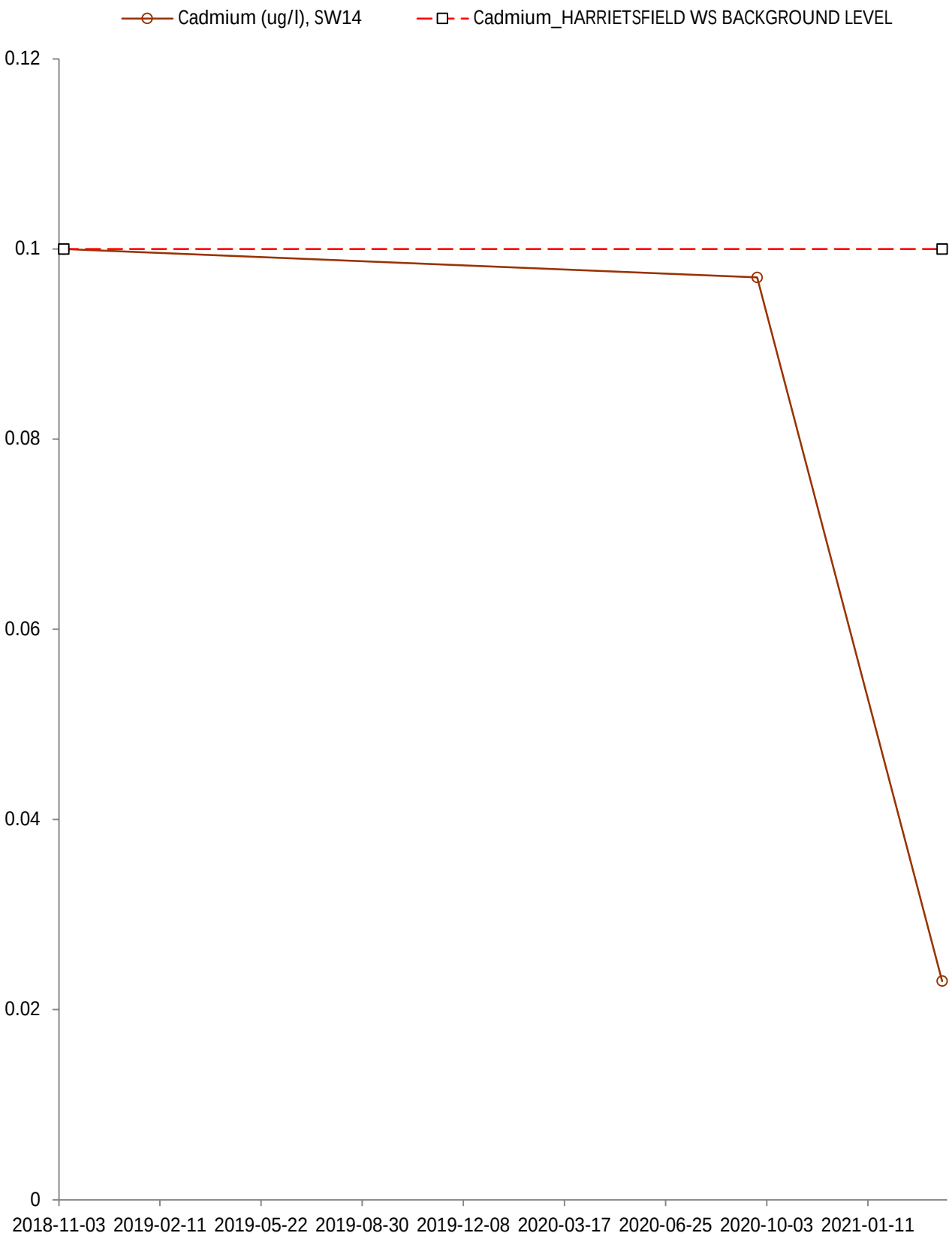
SW14-BOD Carbonaceous



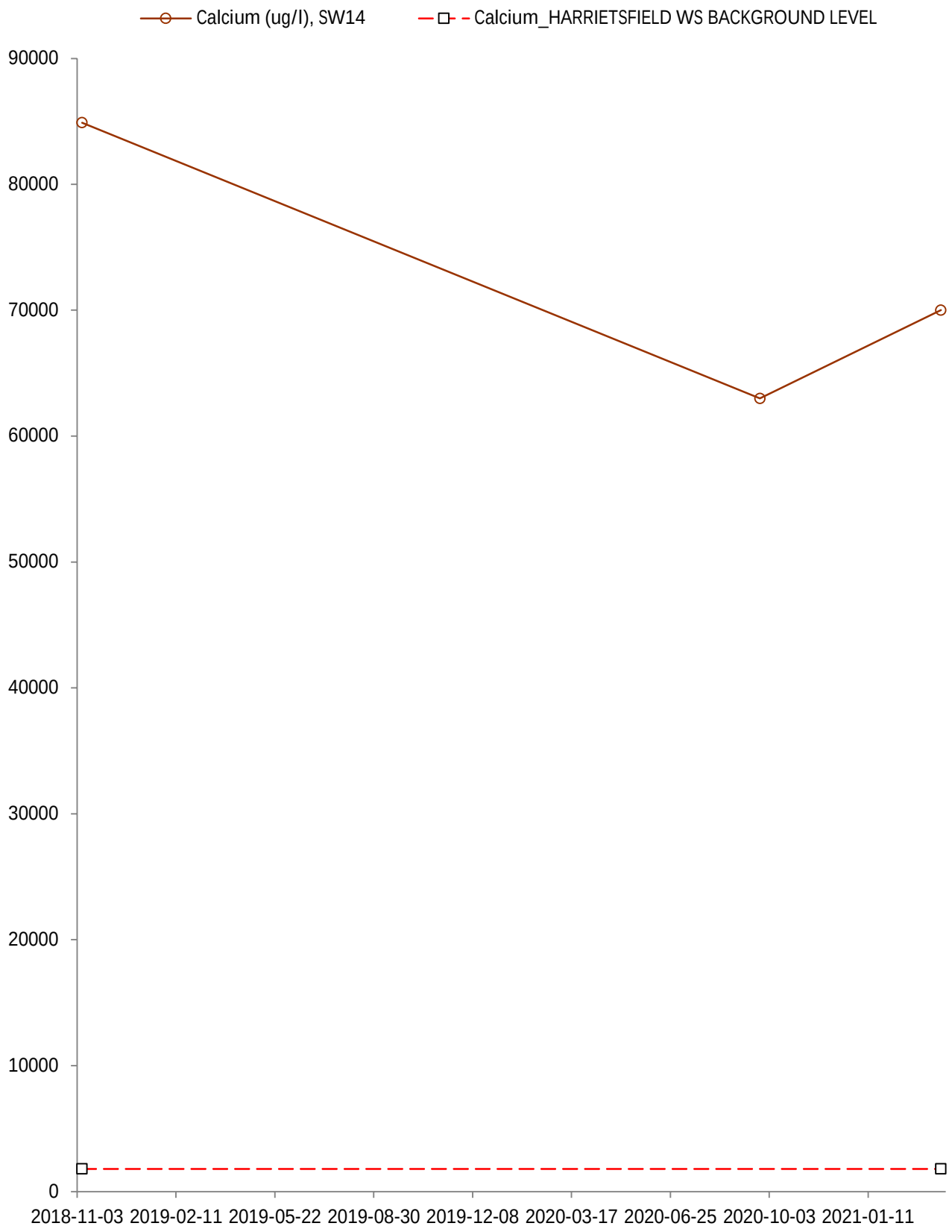
SW14-Boron


Boron (ug/l), SW14
Boron_HARRIETSFIELD WS BACKGROUND LEVEL
140
120
100
80
60
40
20
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

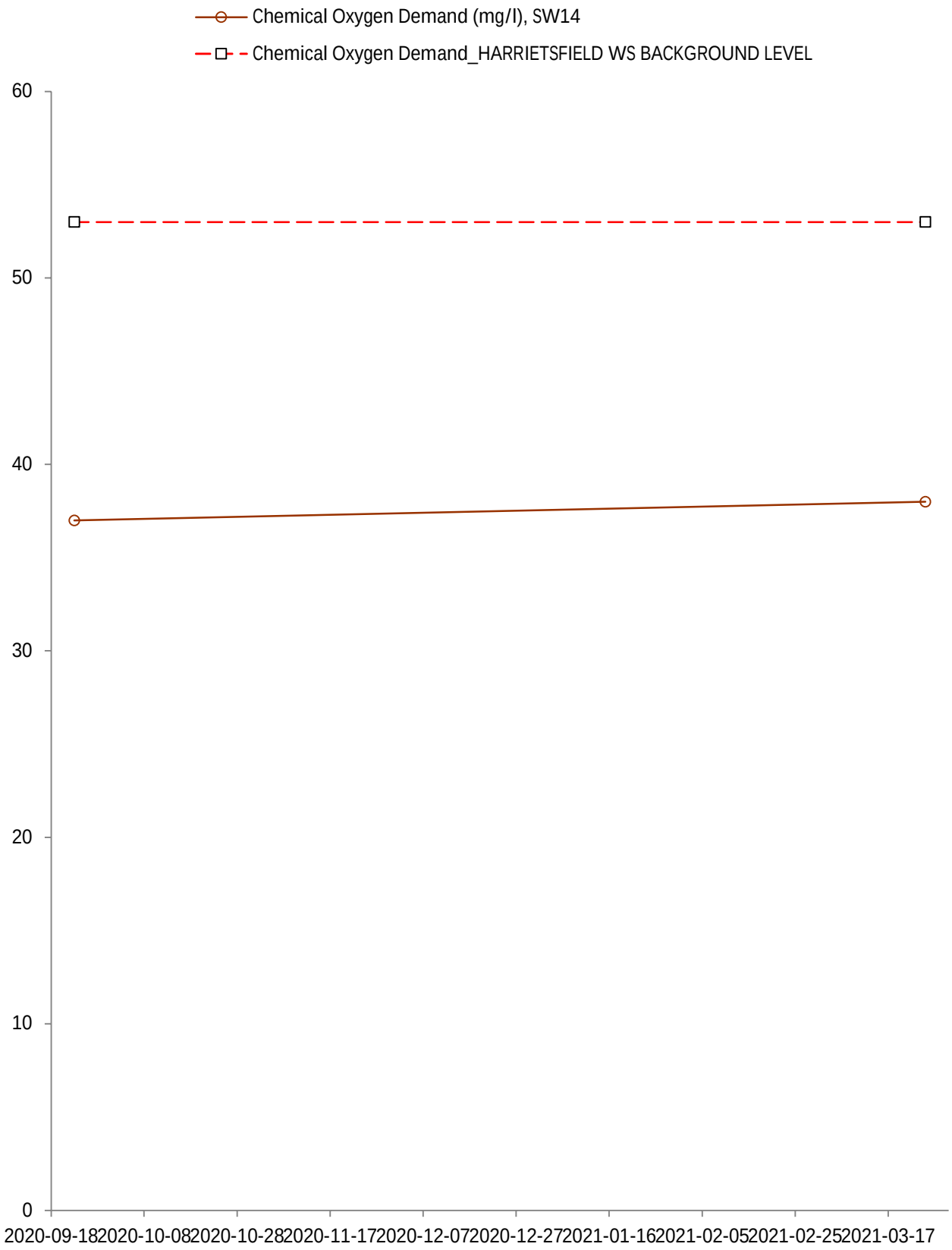
SW14-Cadmium



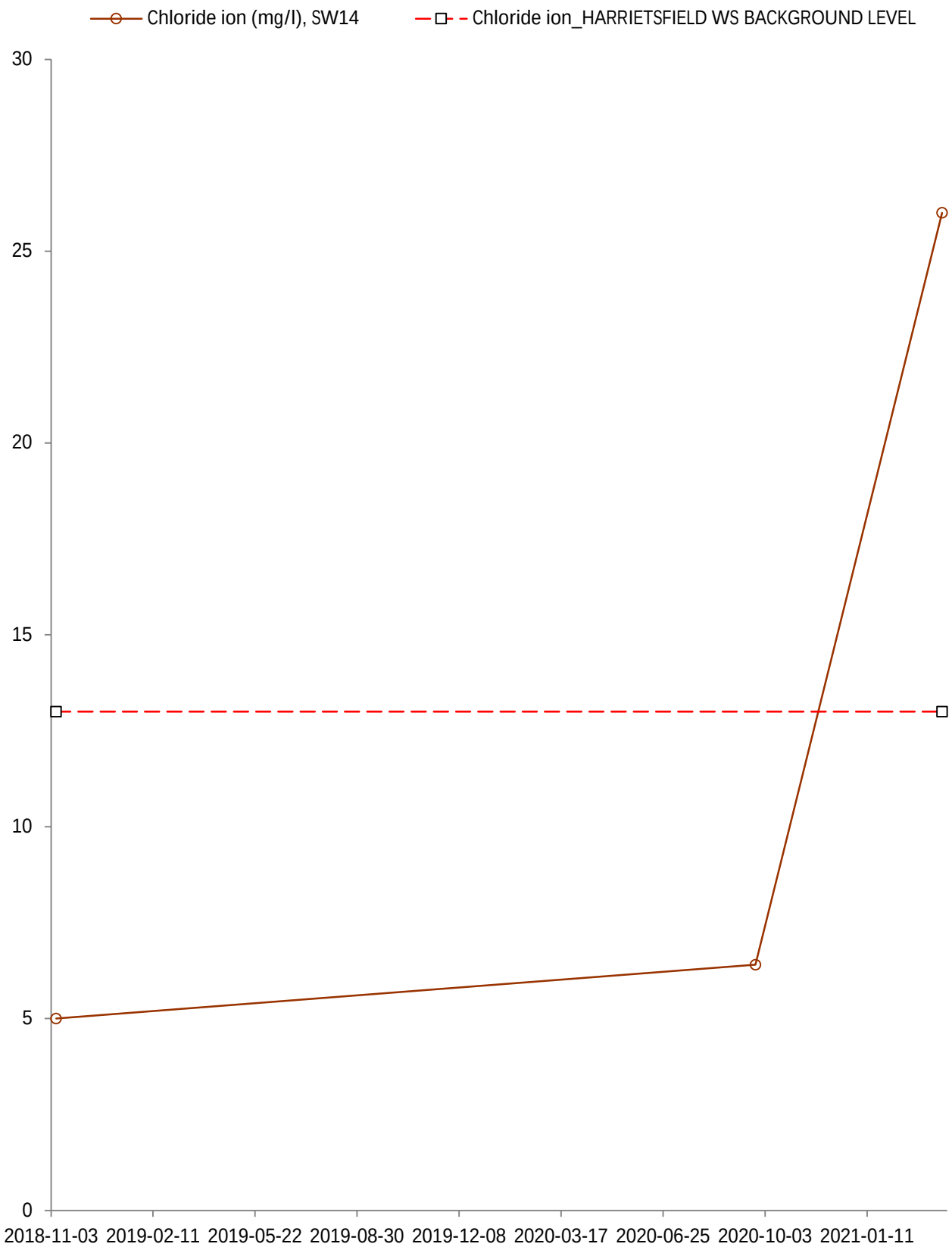
SW14-Calcium



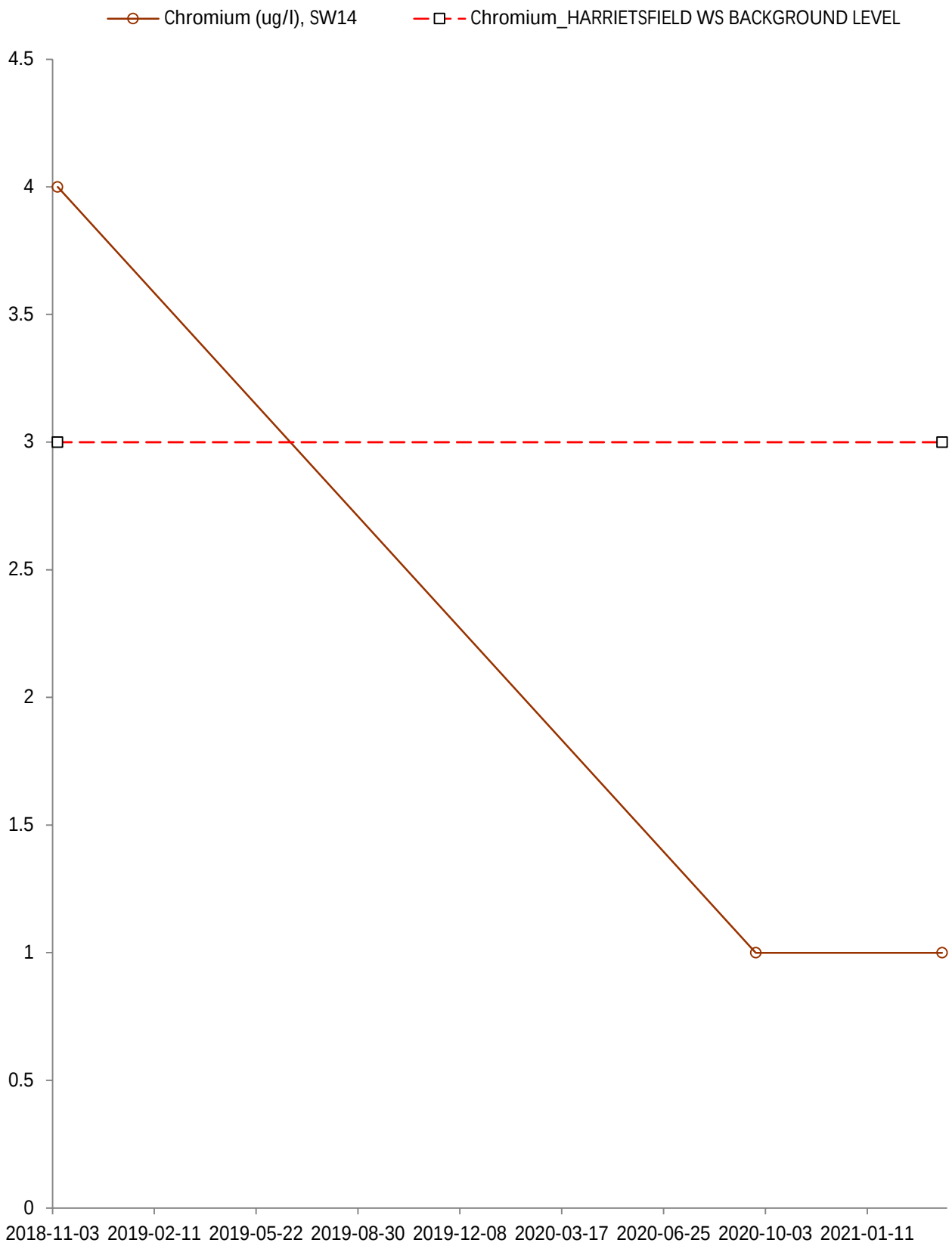
SW14-Chemical Oxygen Demand



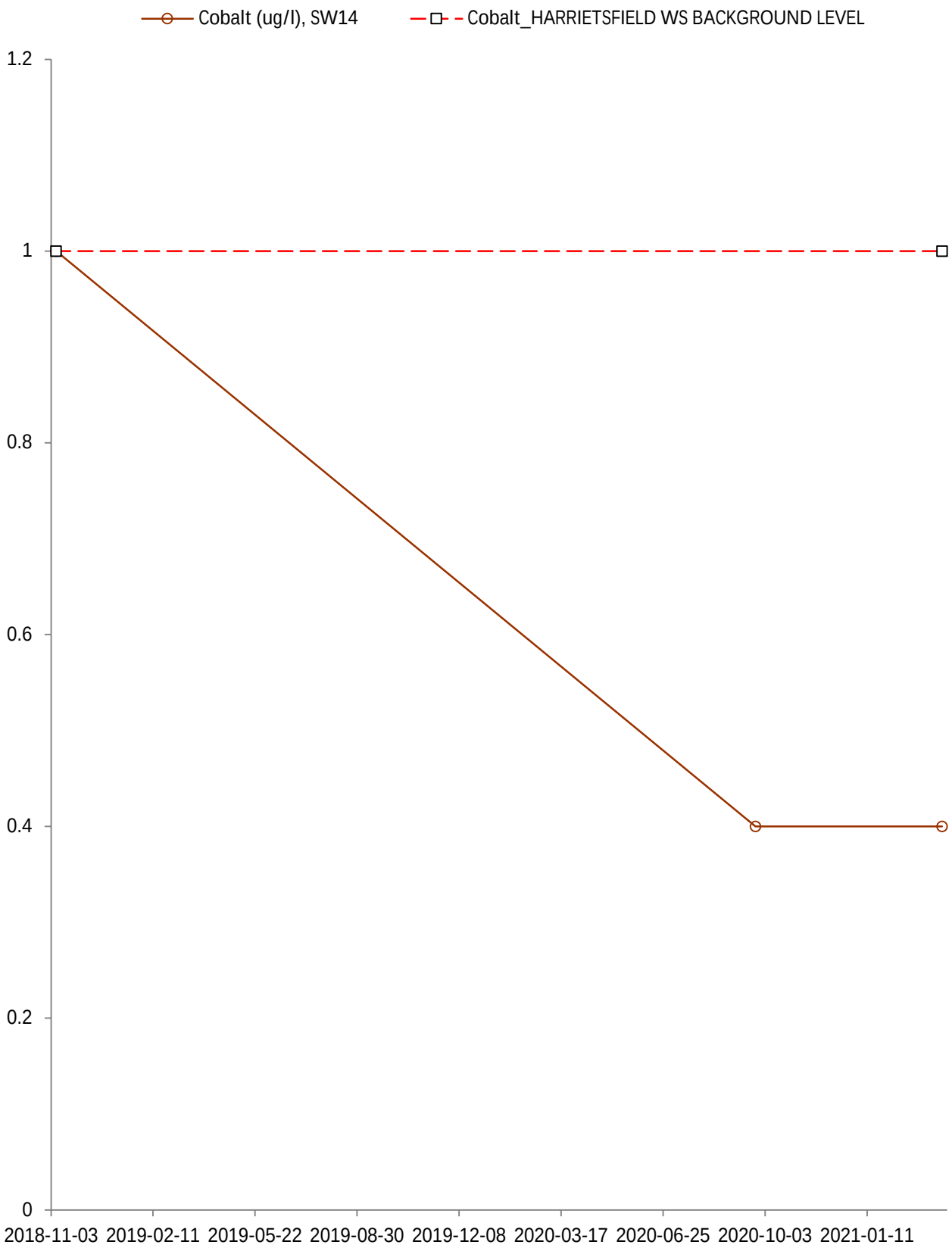
SW14-Chloride ion



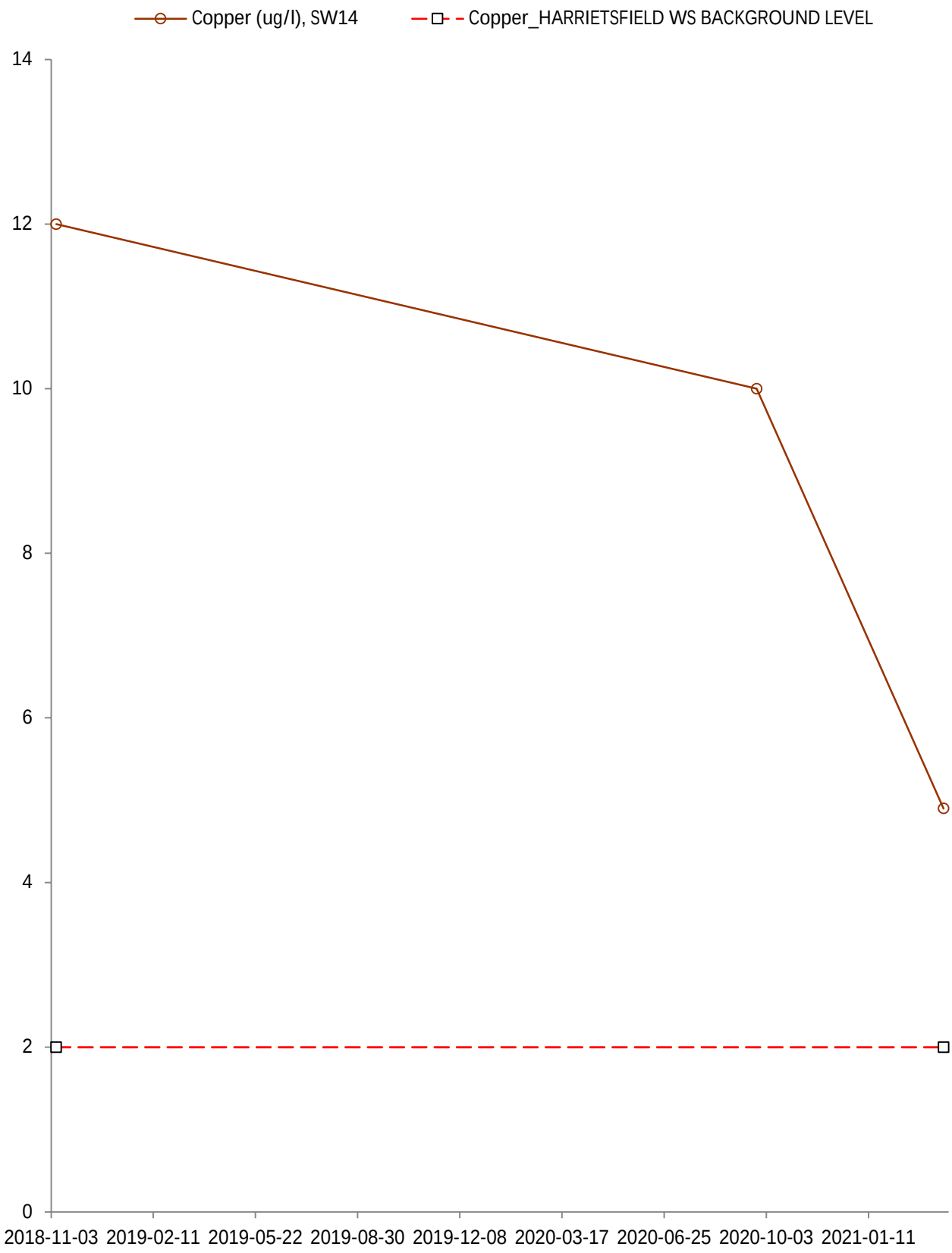
SW14-Chromium



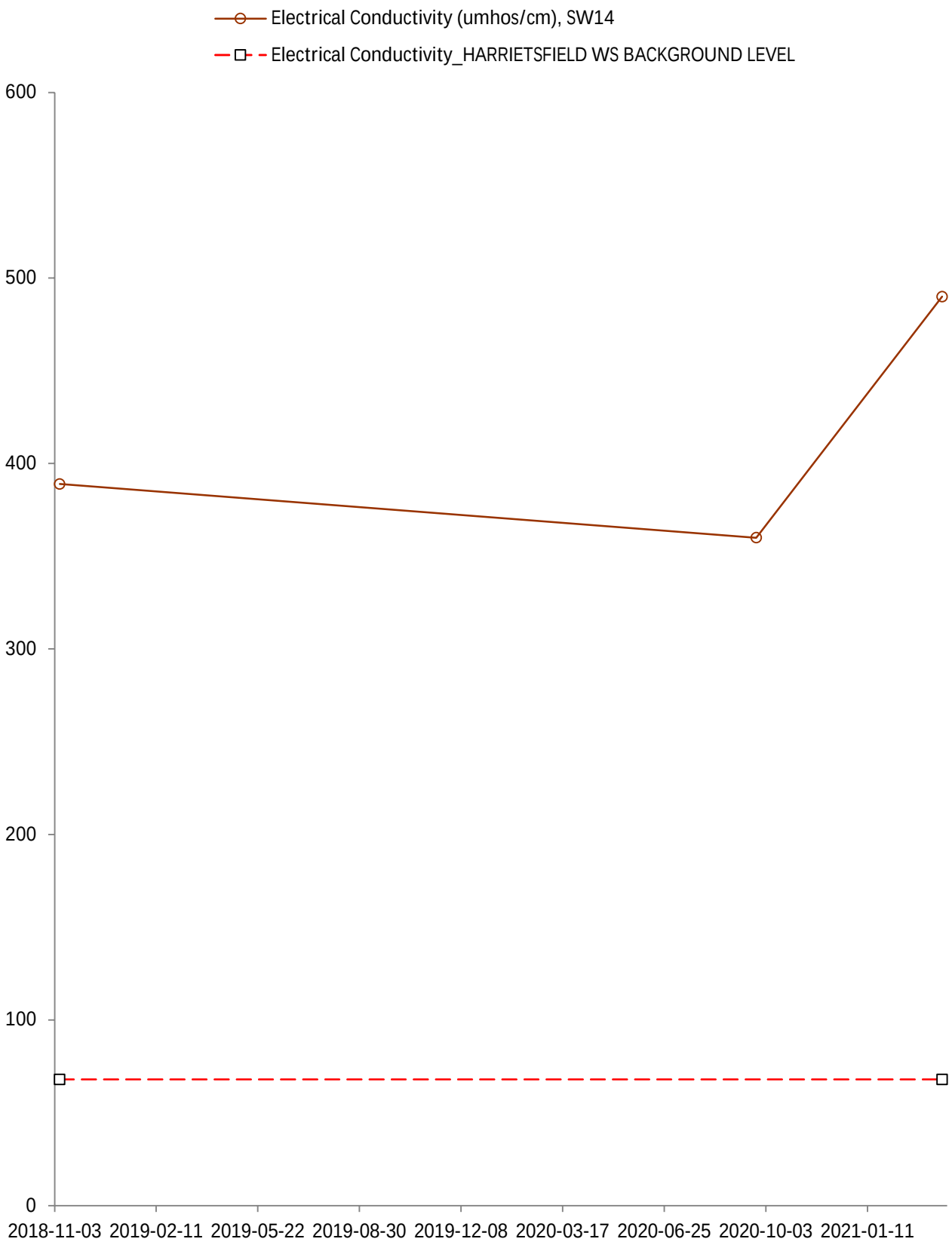
SW14-Cobalt


Cobalt (ug/l), SW14
Cobalt_HARRIETSFIELD WS BACKGROUND LEVEL
1.2
1
0.8
0.6
0.4
0.2
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

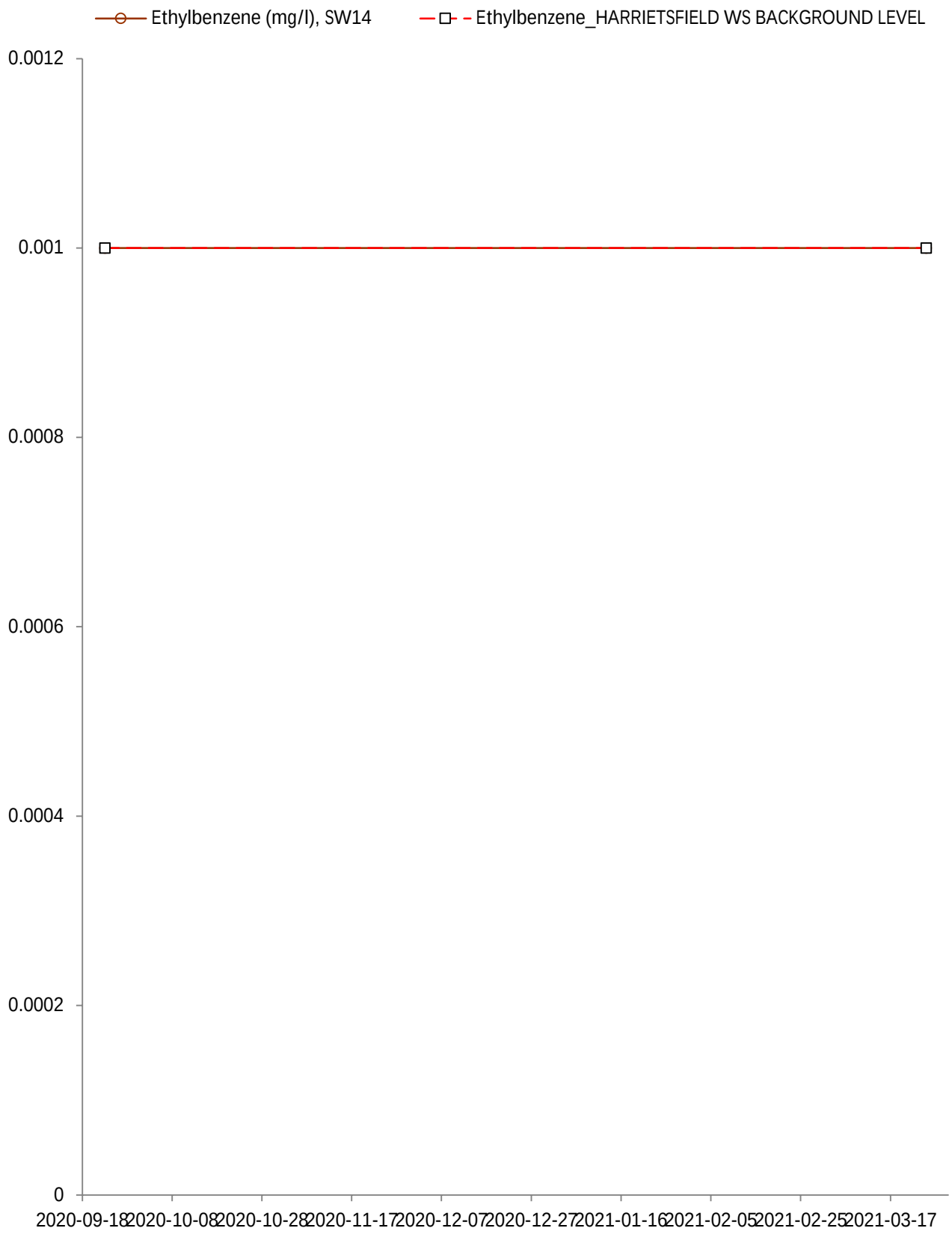
SW14-Copper


Copper (ug/l), SW14
Copper_HARRIETSFIELD WS BACKGROUND LEVEL
14
12
10
8
6
4
2
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

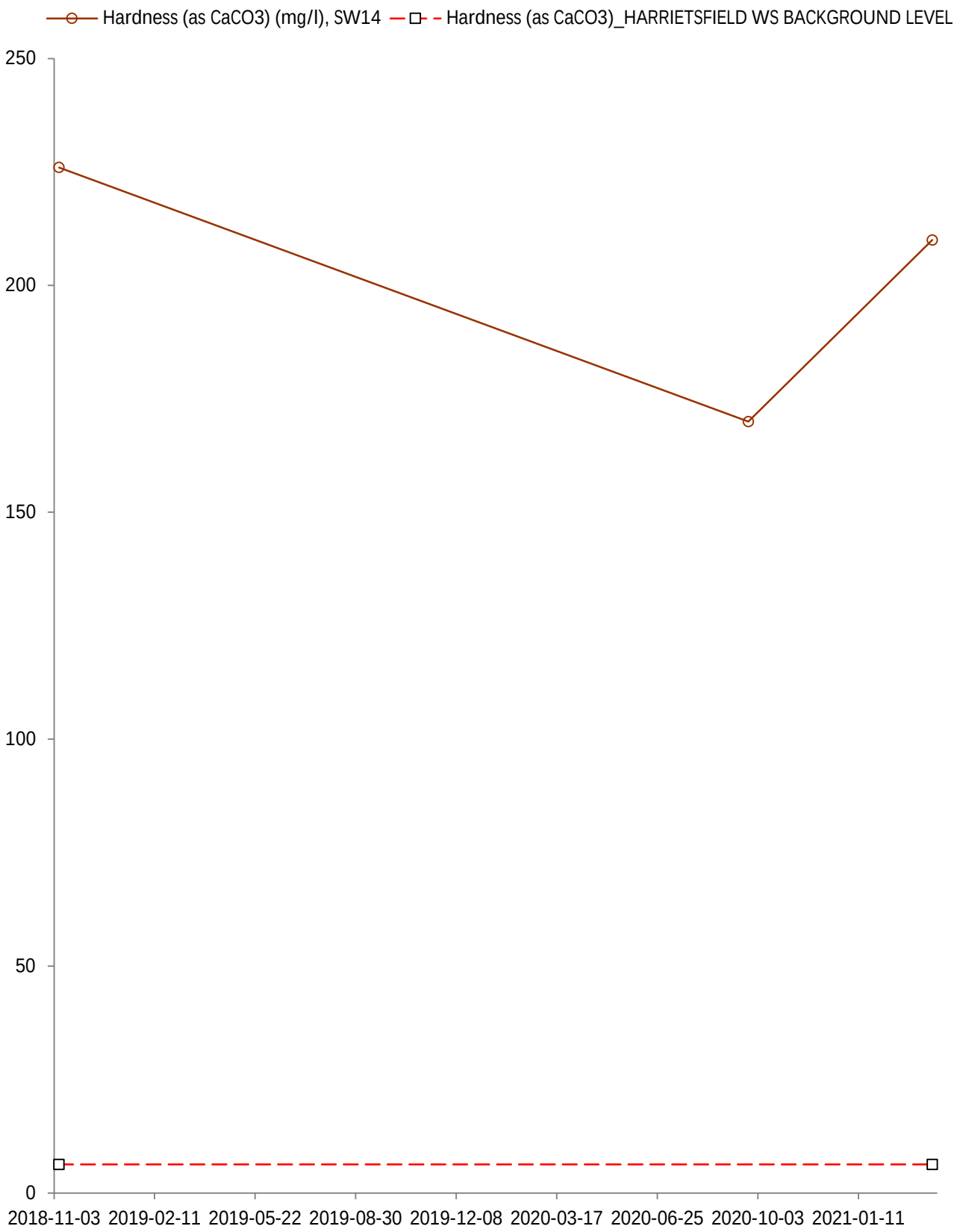
SW14-Electrical Conductivity



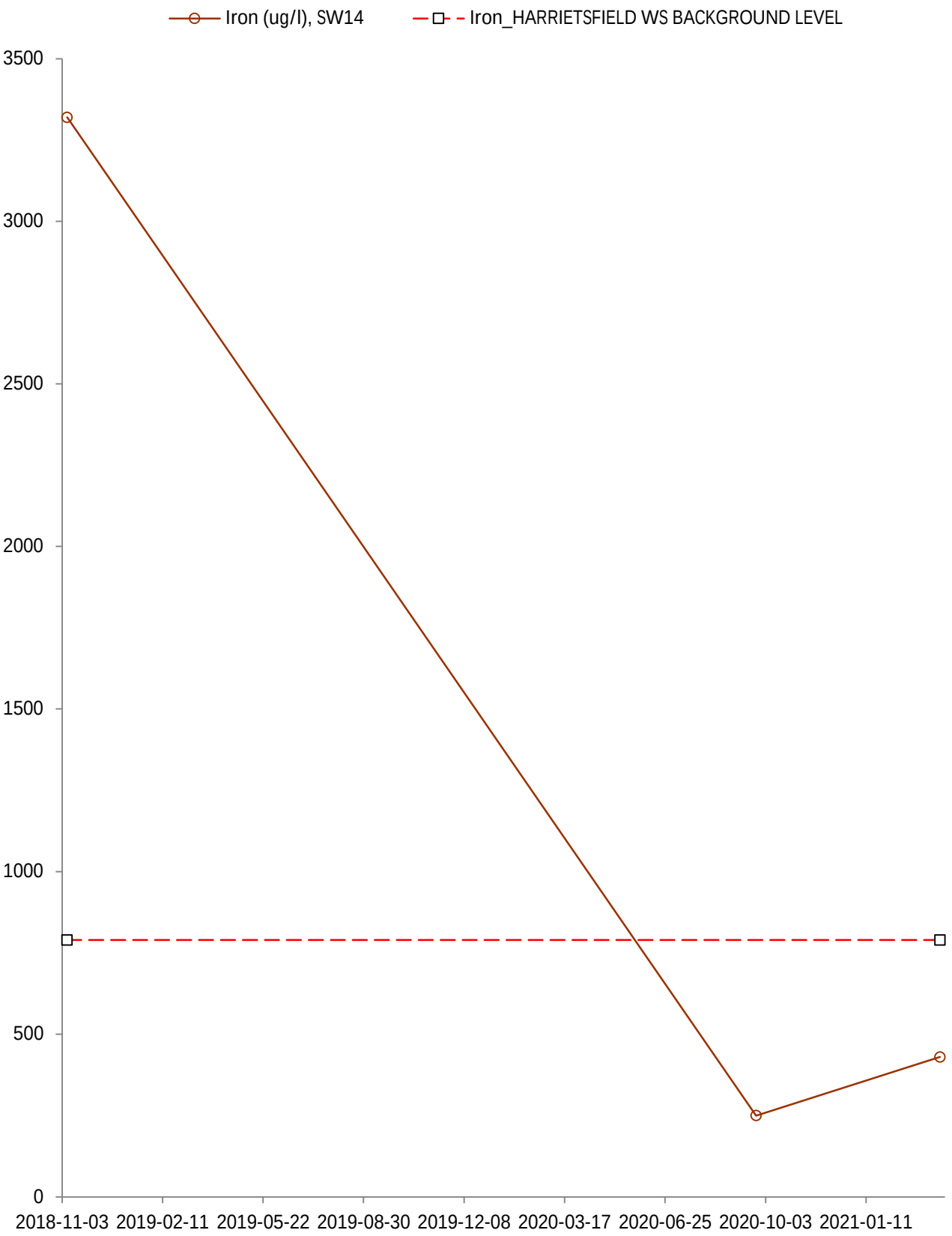
SW14-Ethylbenzene



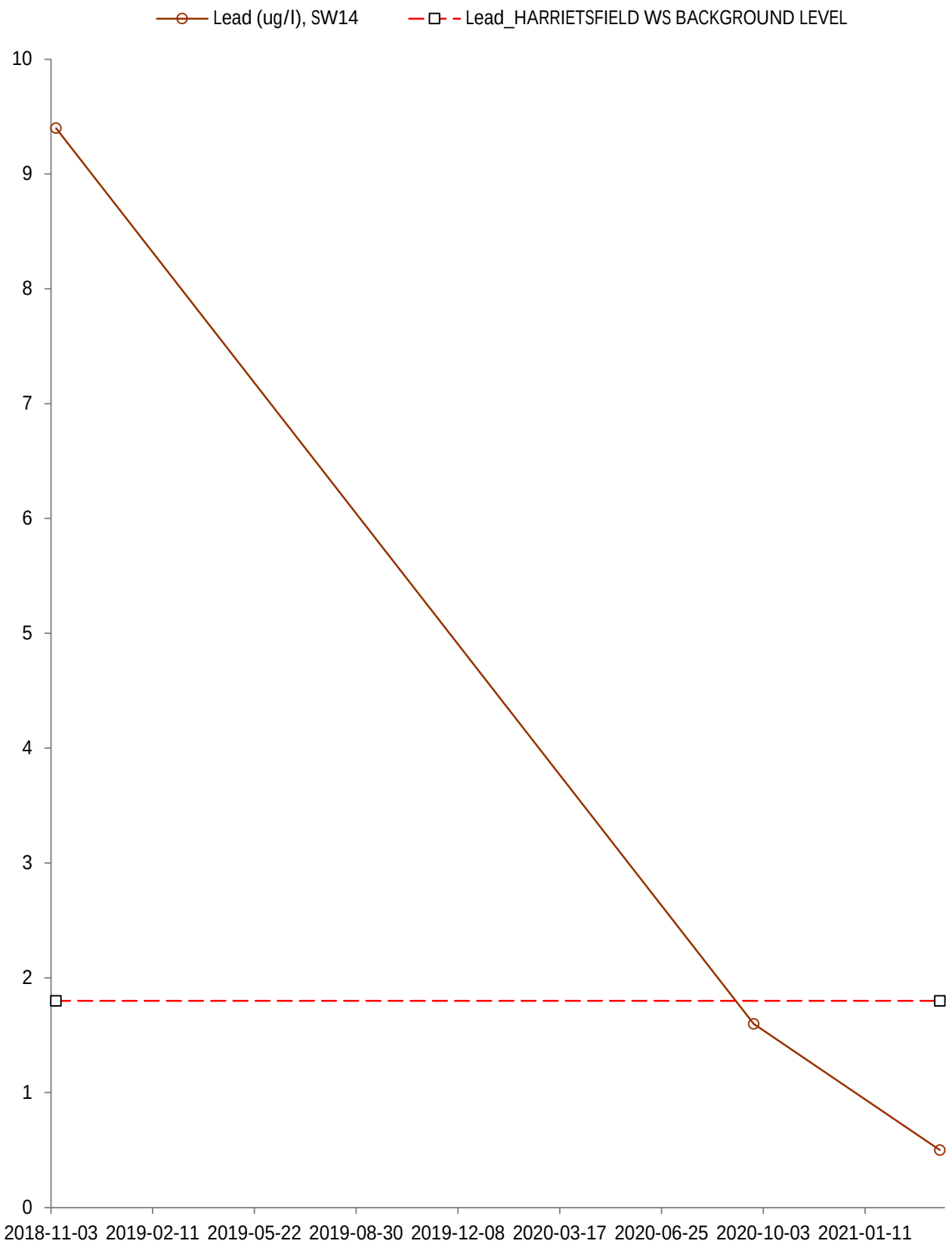
SW14-Hardness (as CaCO3)



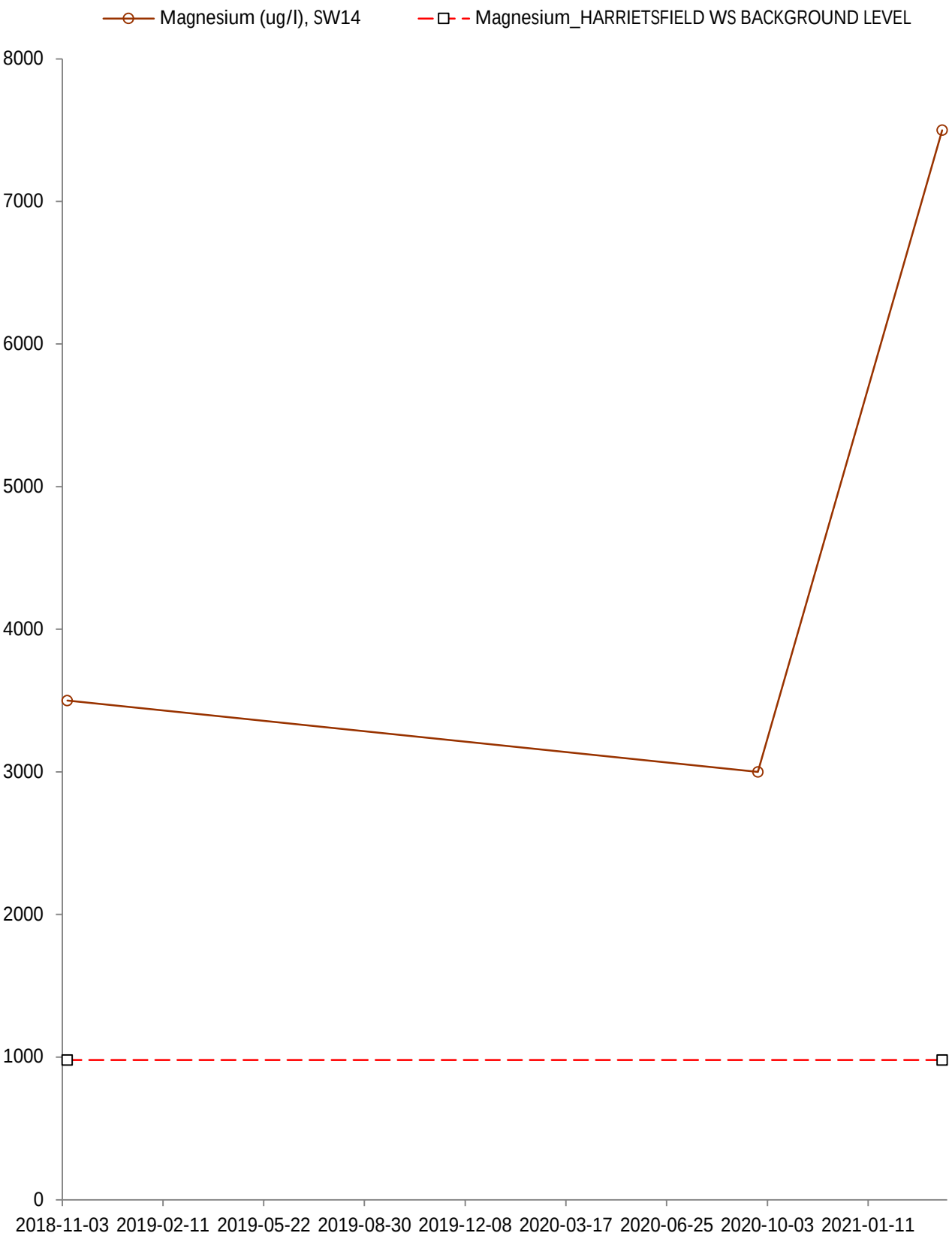
SW14-Iron


Iron (ug/l), SW14
Iron_HARRIETSFIELD WS BACKGROUND LEVEL
3500
3000
2500
2000
1500
1000
500
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

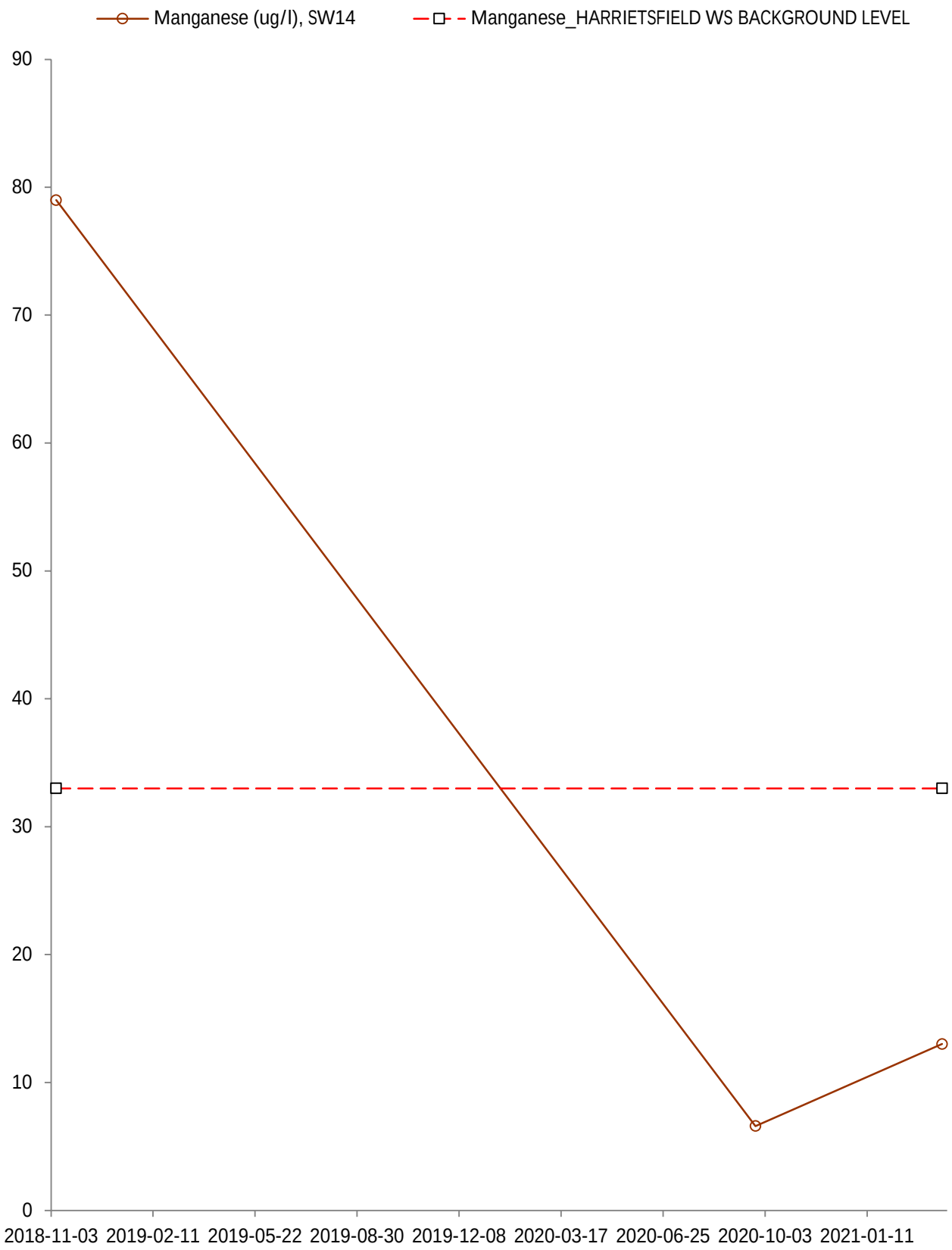
SW14-Lead


Lead (ug/l), SW14
Lead_HARRIETSFIELD WS BACKGROUND LEVEL
10
9
8
7
6
5
4
3
2
1
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

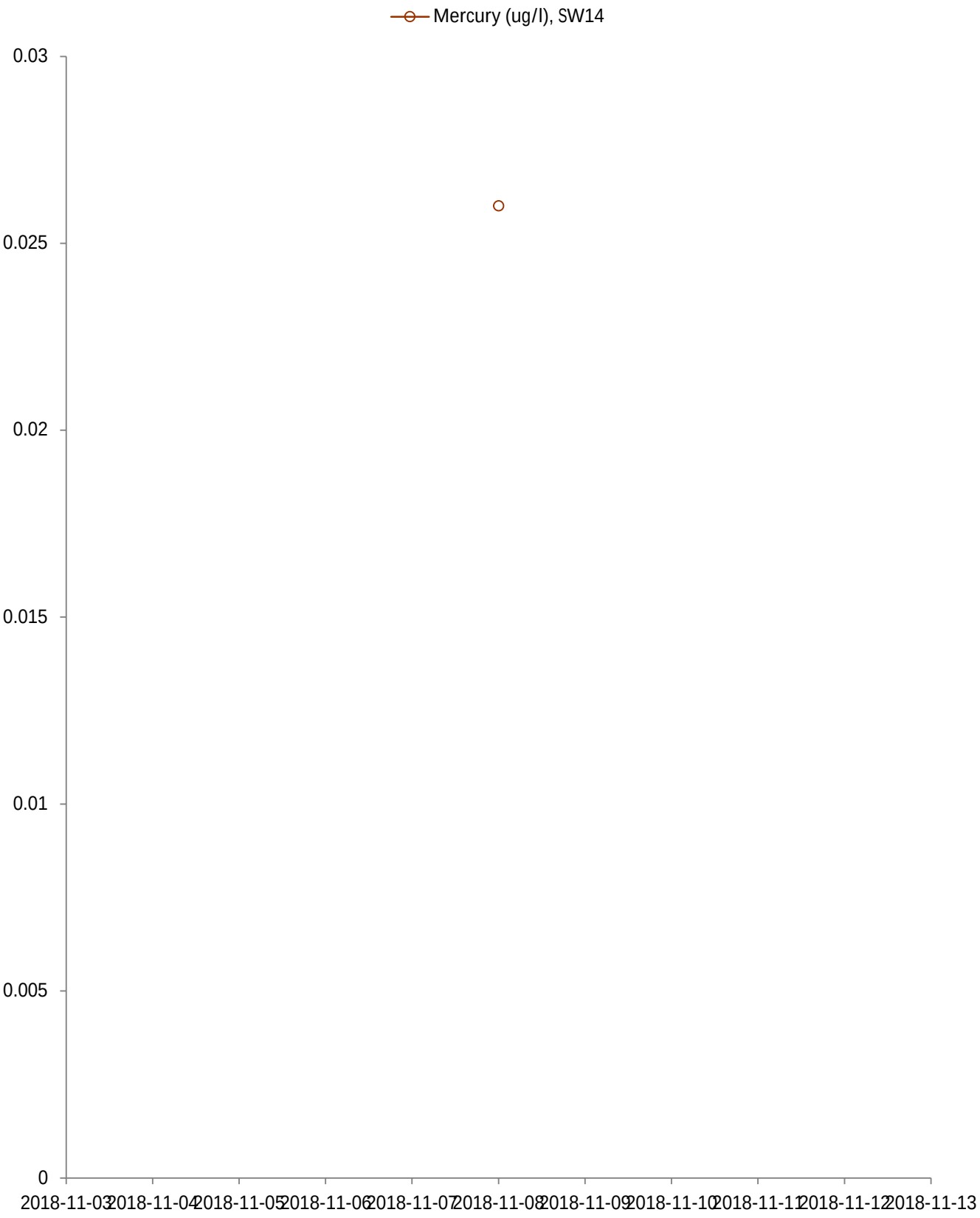
SW14-Magnesium



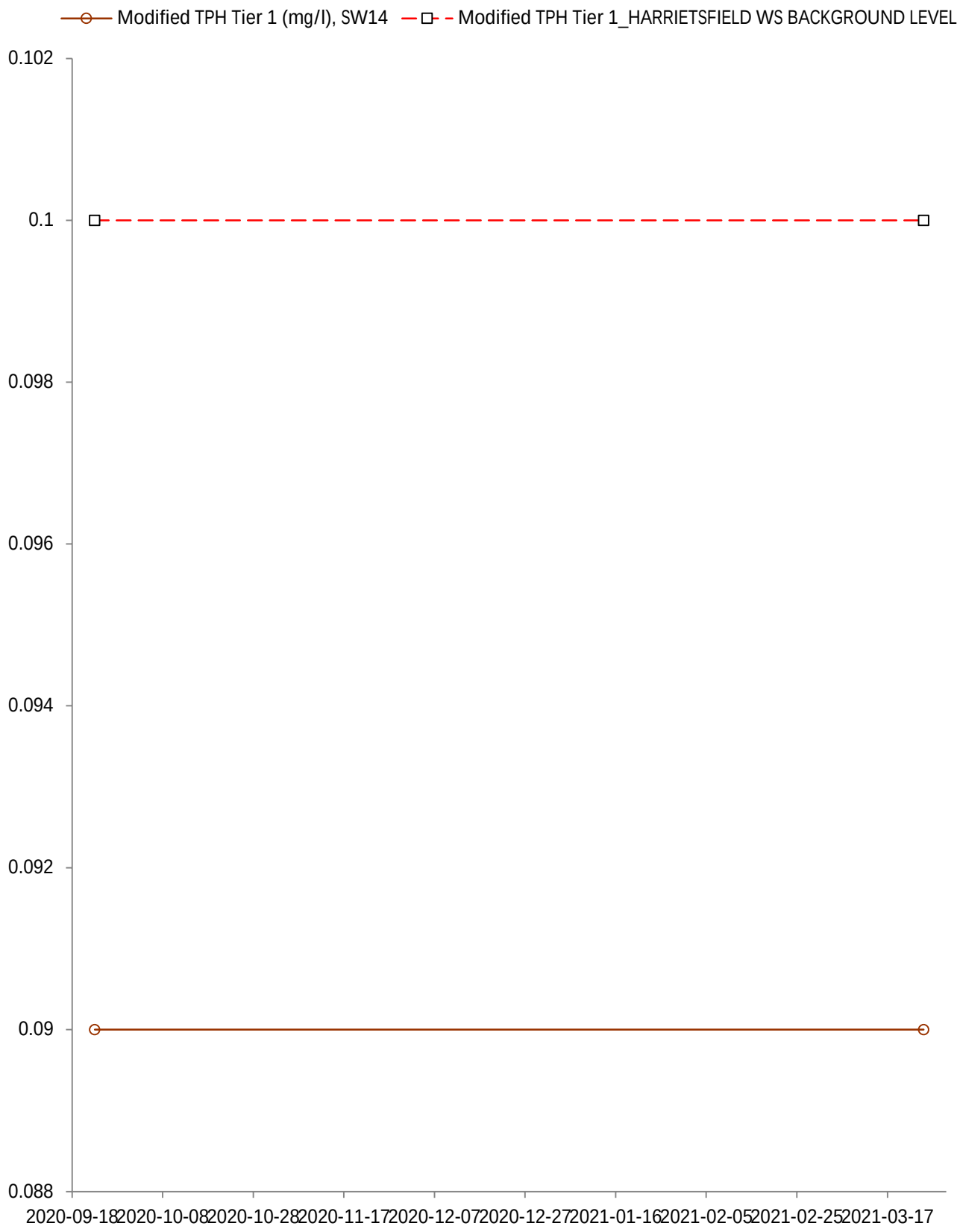
SW14-Manganese



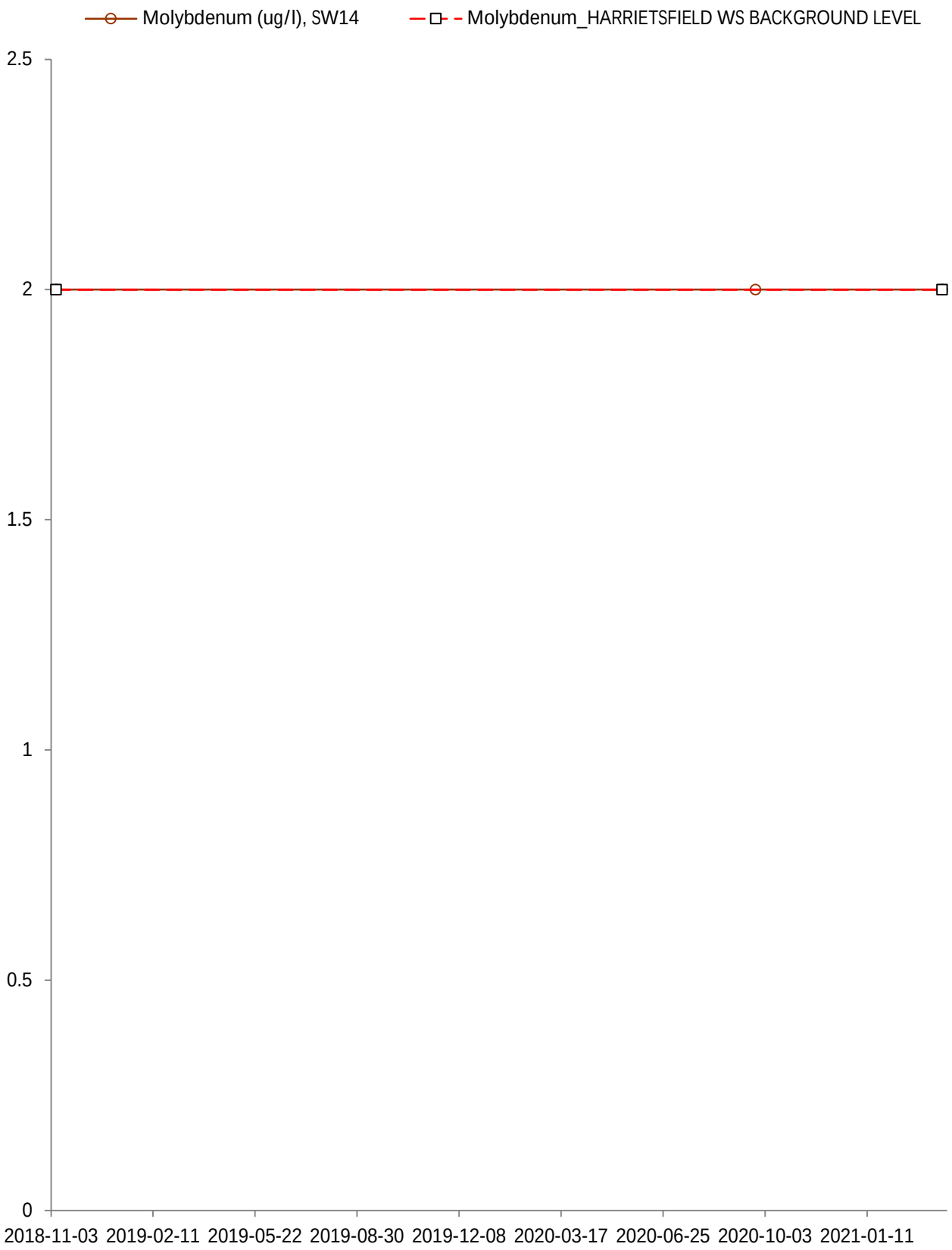
SW14-Mercury



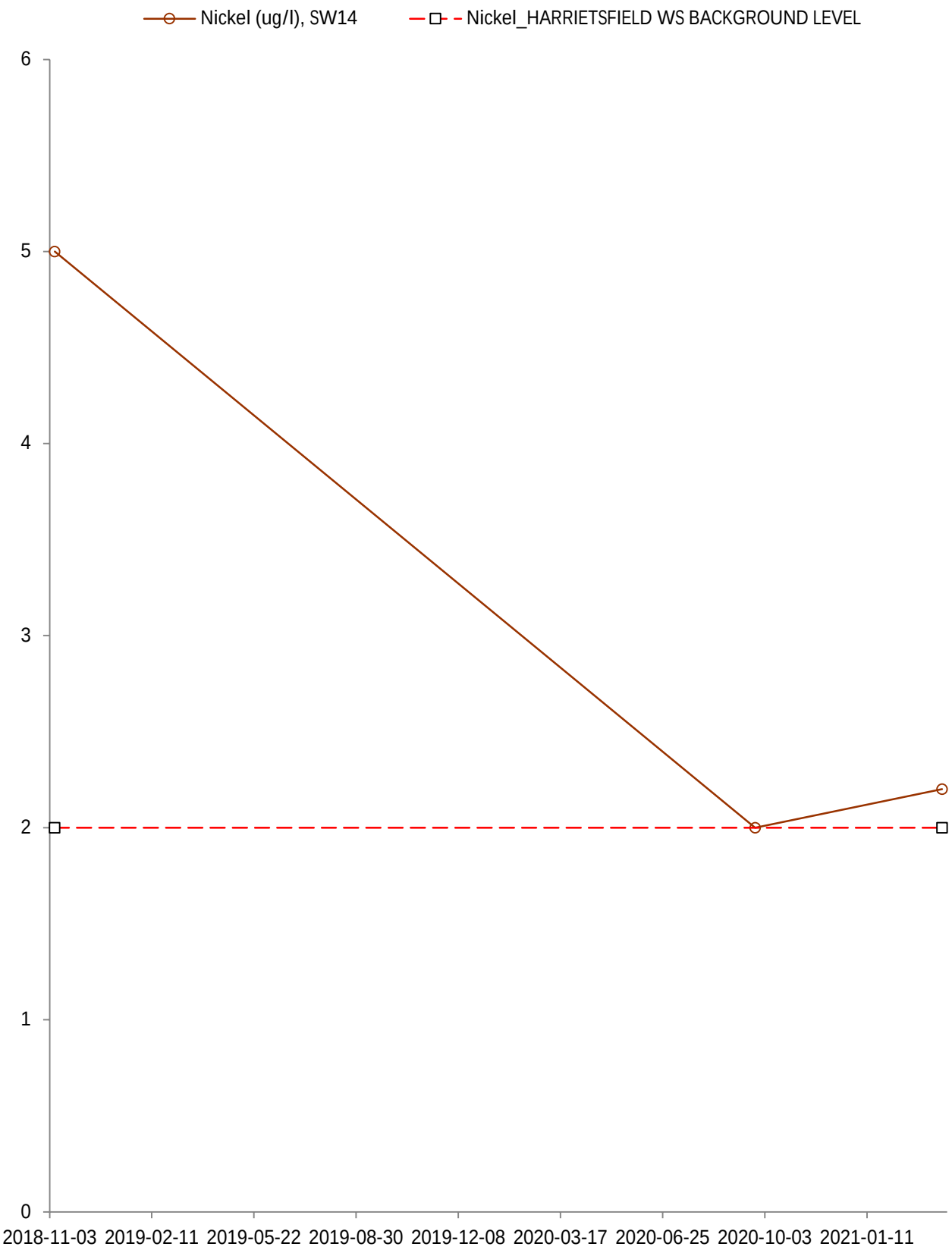
SW14-Modified TPH Tier 1



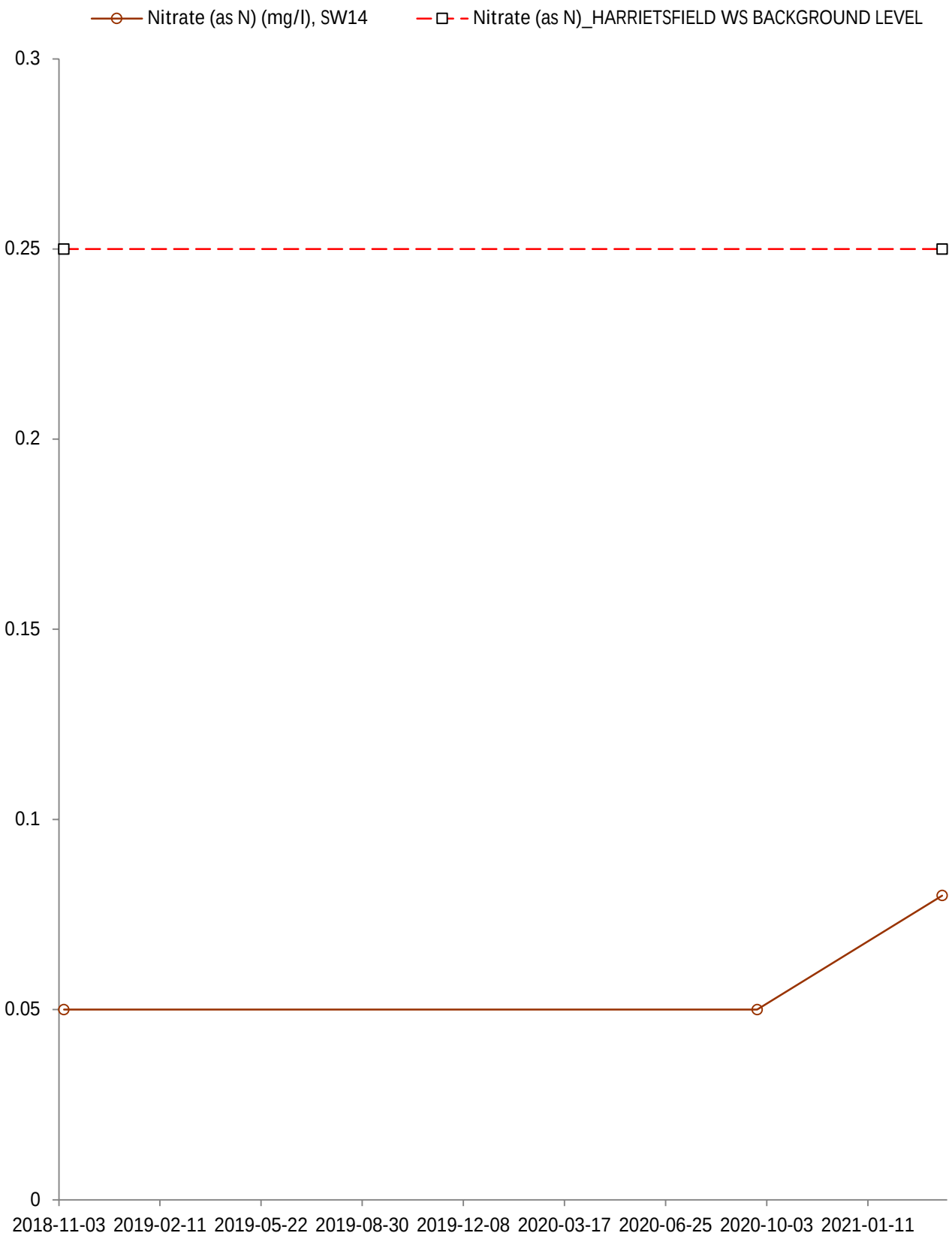
SW14-Molybdenum



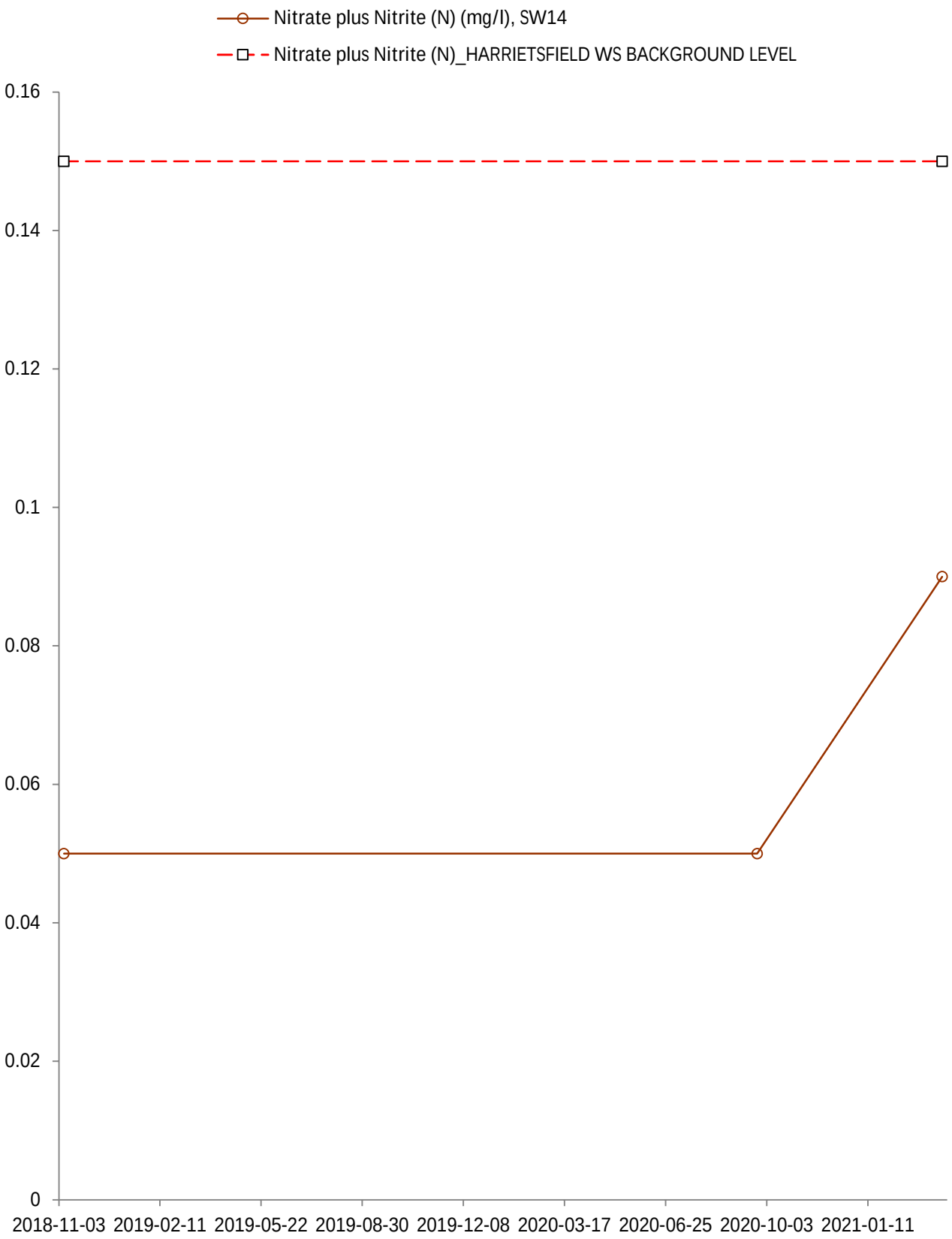
SW14-Nickel


Nickel (ug/l), SW14
Nickel_HARRIETSFIELD WS BACKGROUND LEVEL
6
5
4
3
2
1
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

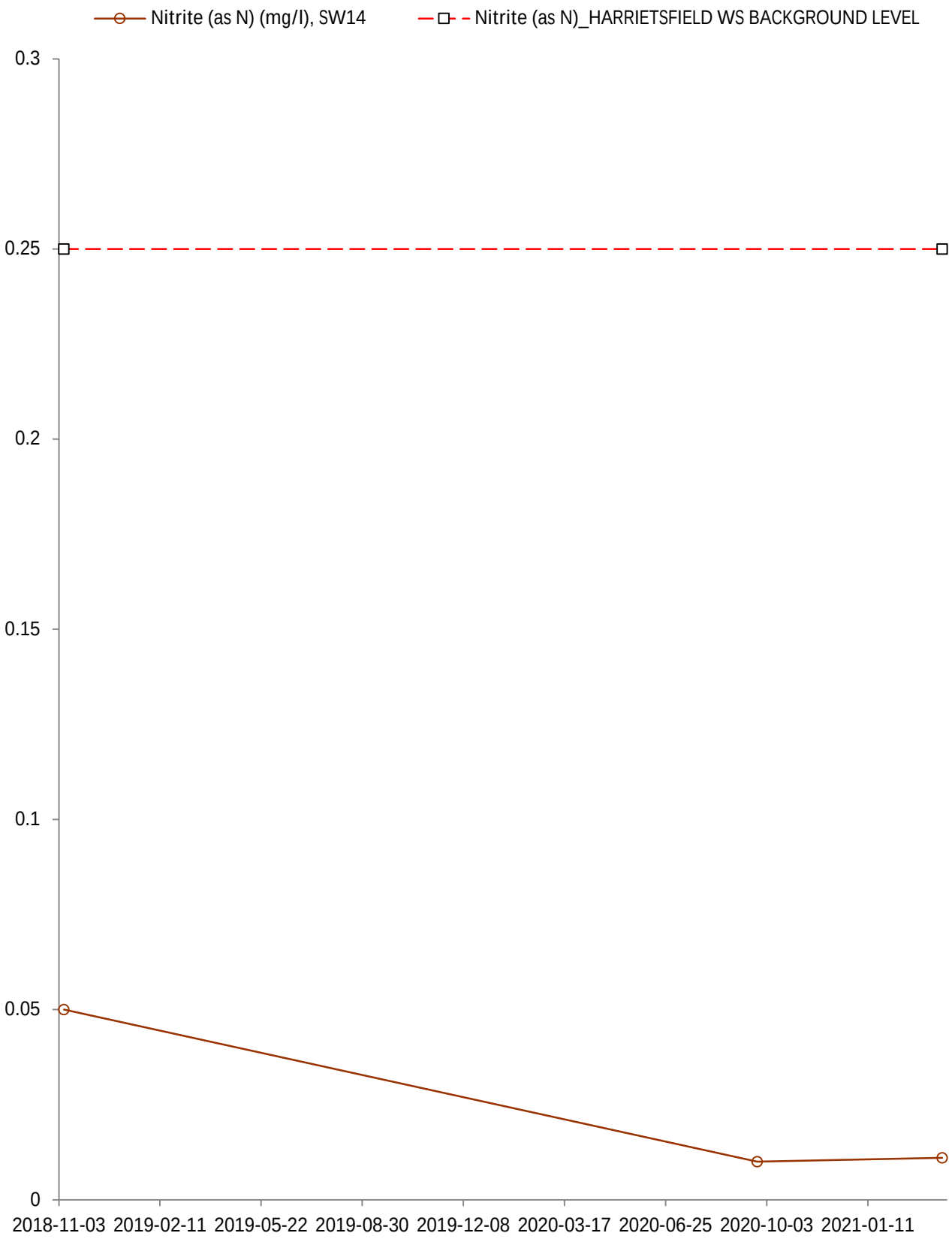
SW14-Nitrate (as N)



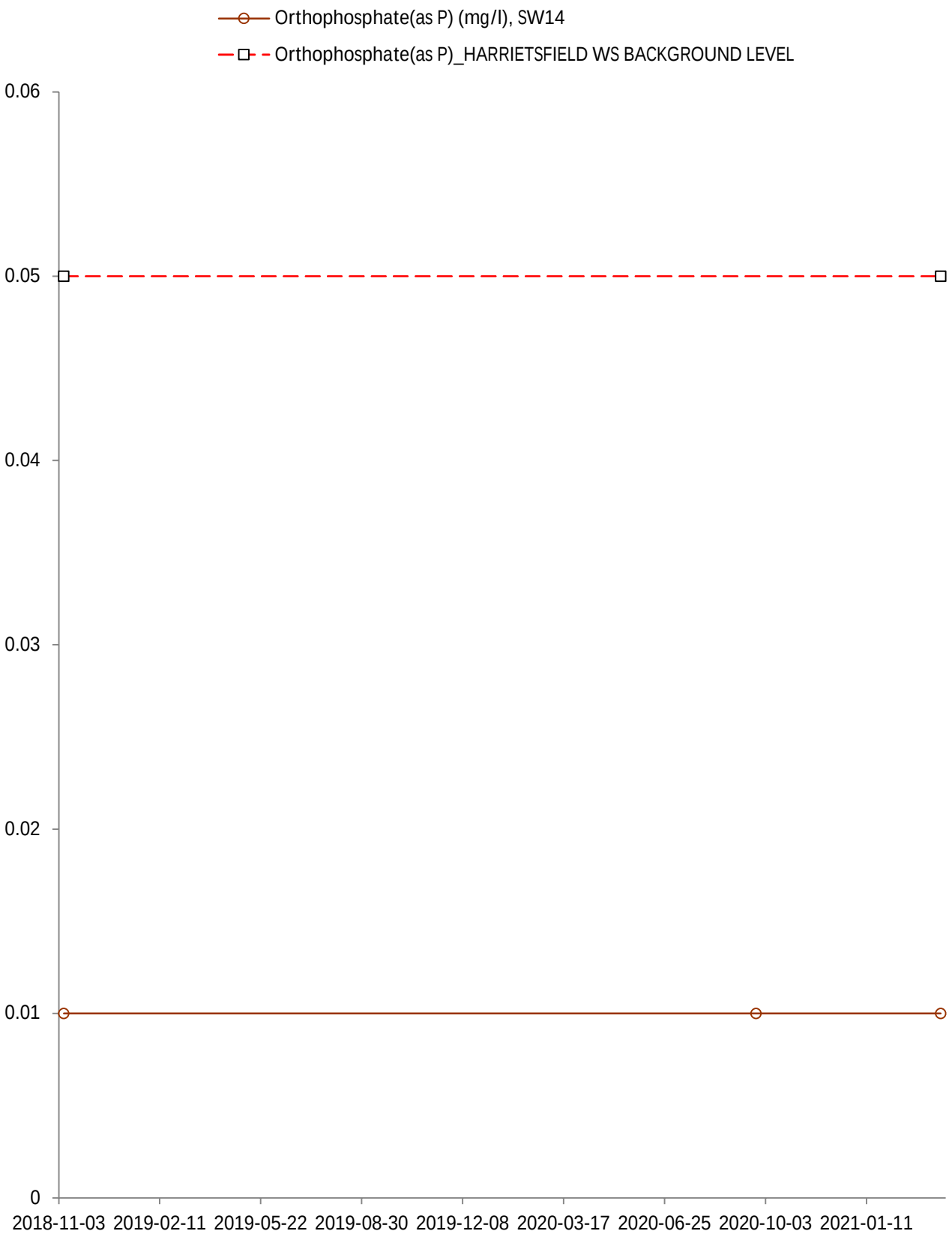
SW14-Nitrate plus Nitrite (N)



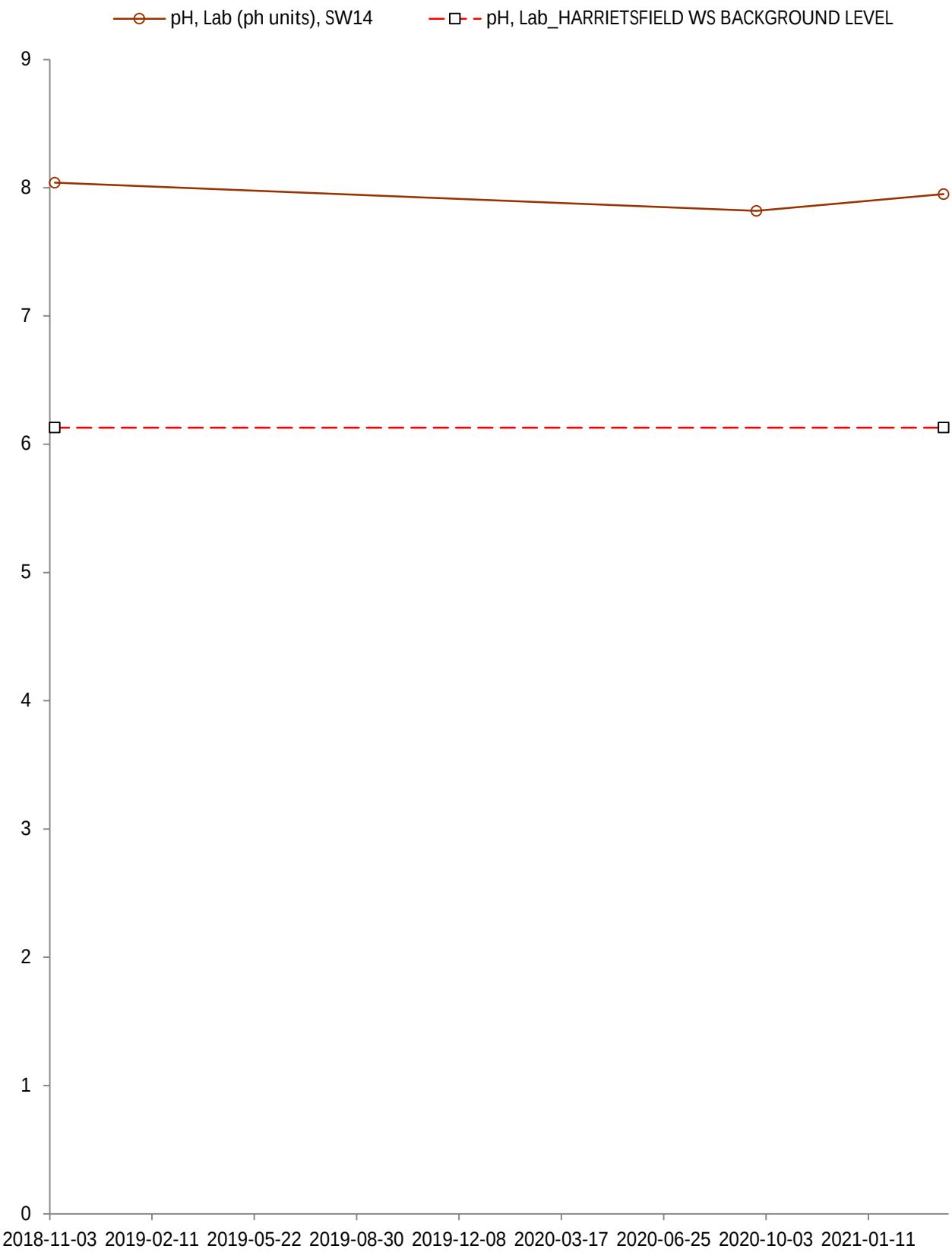
SW14-Nitrite (as N)



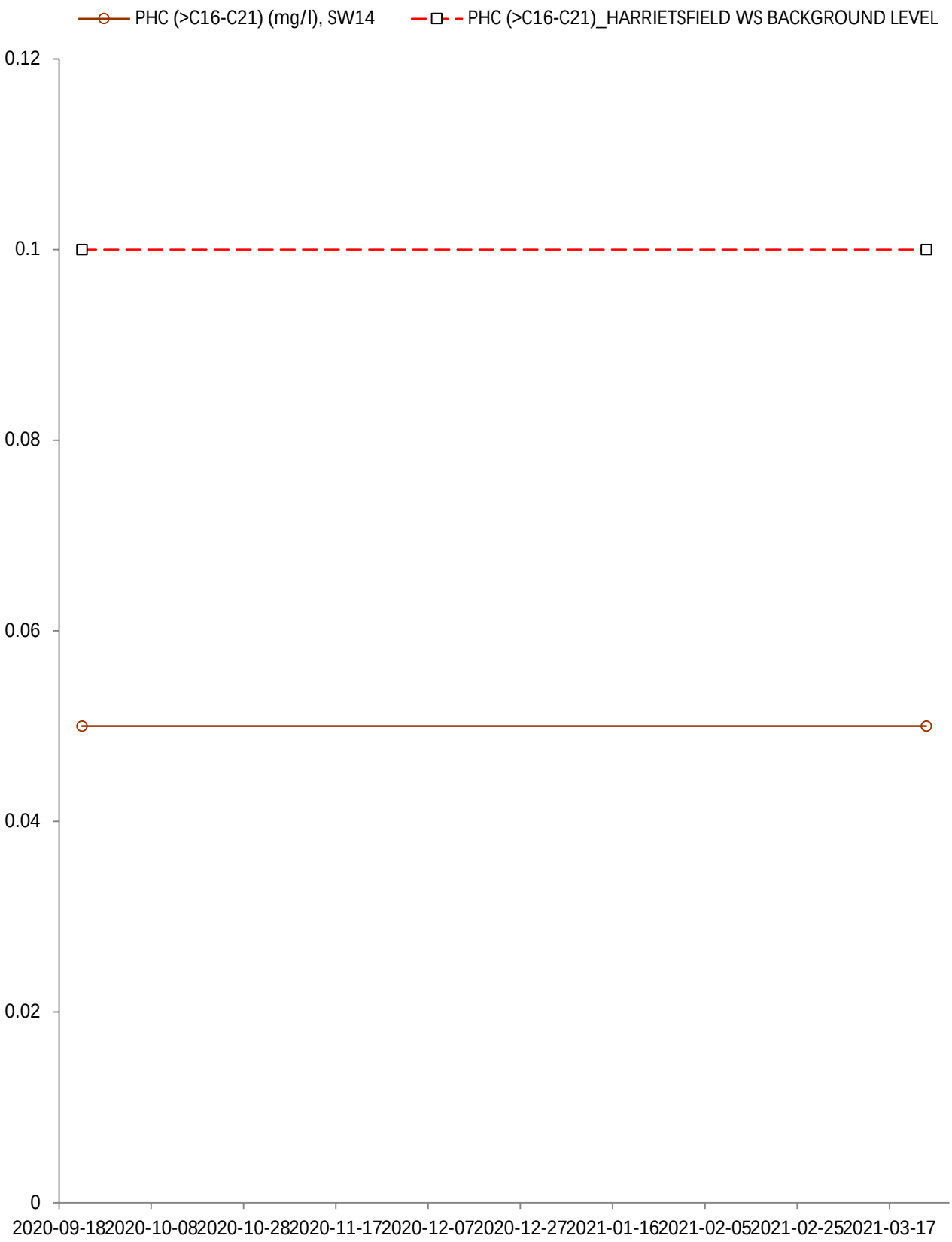
SW14-Orthophosphate(as P)



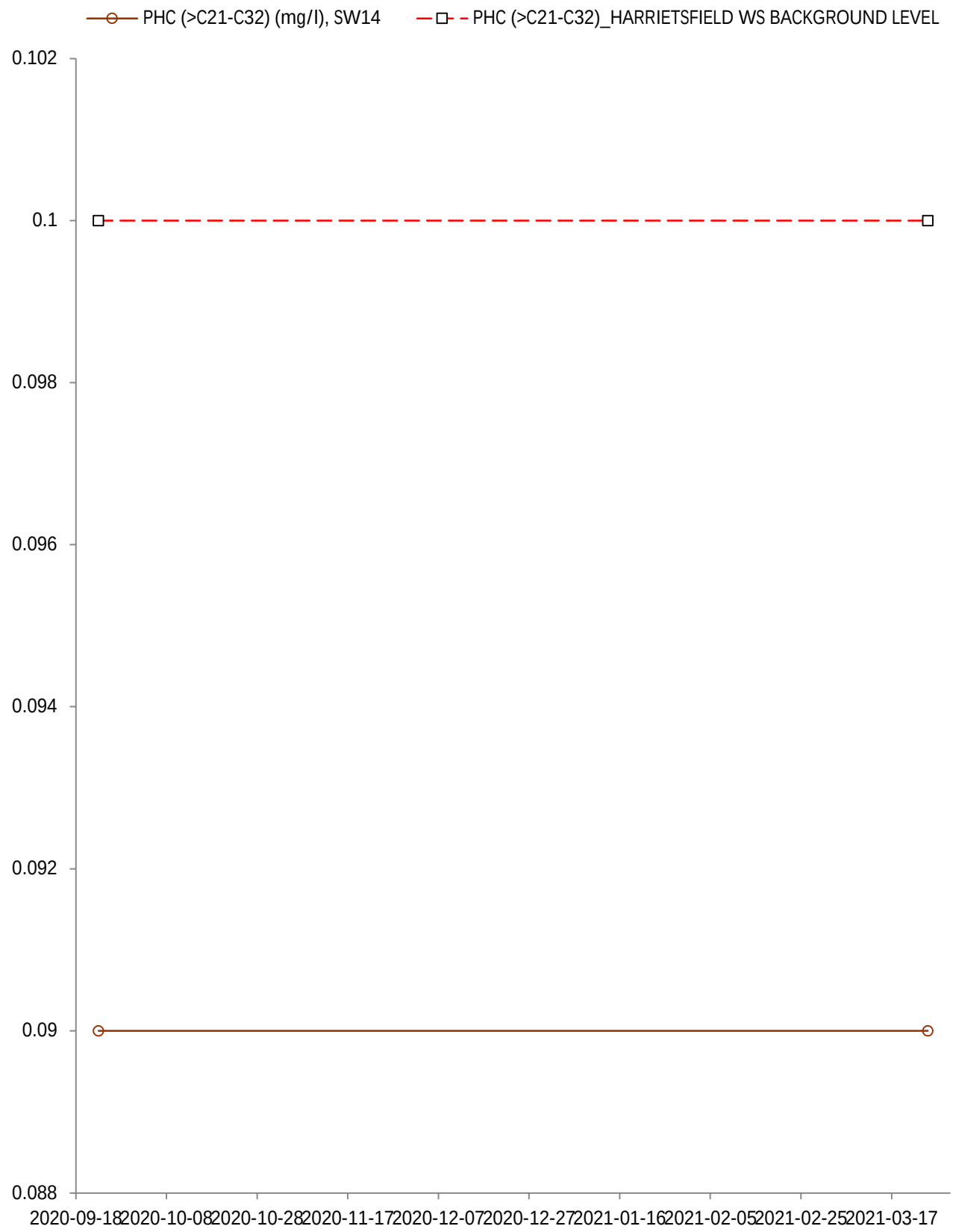
SW14-pH, Lab


pH, Lab (ph units), SW14
pH, Lab_HARRIETSFIELD WS BACKGROUND LEVEL
9
8
7
6
5
4
3
2
1
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

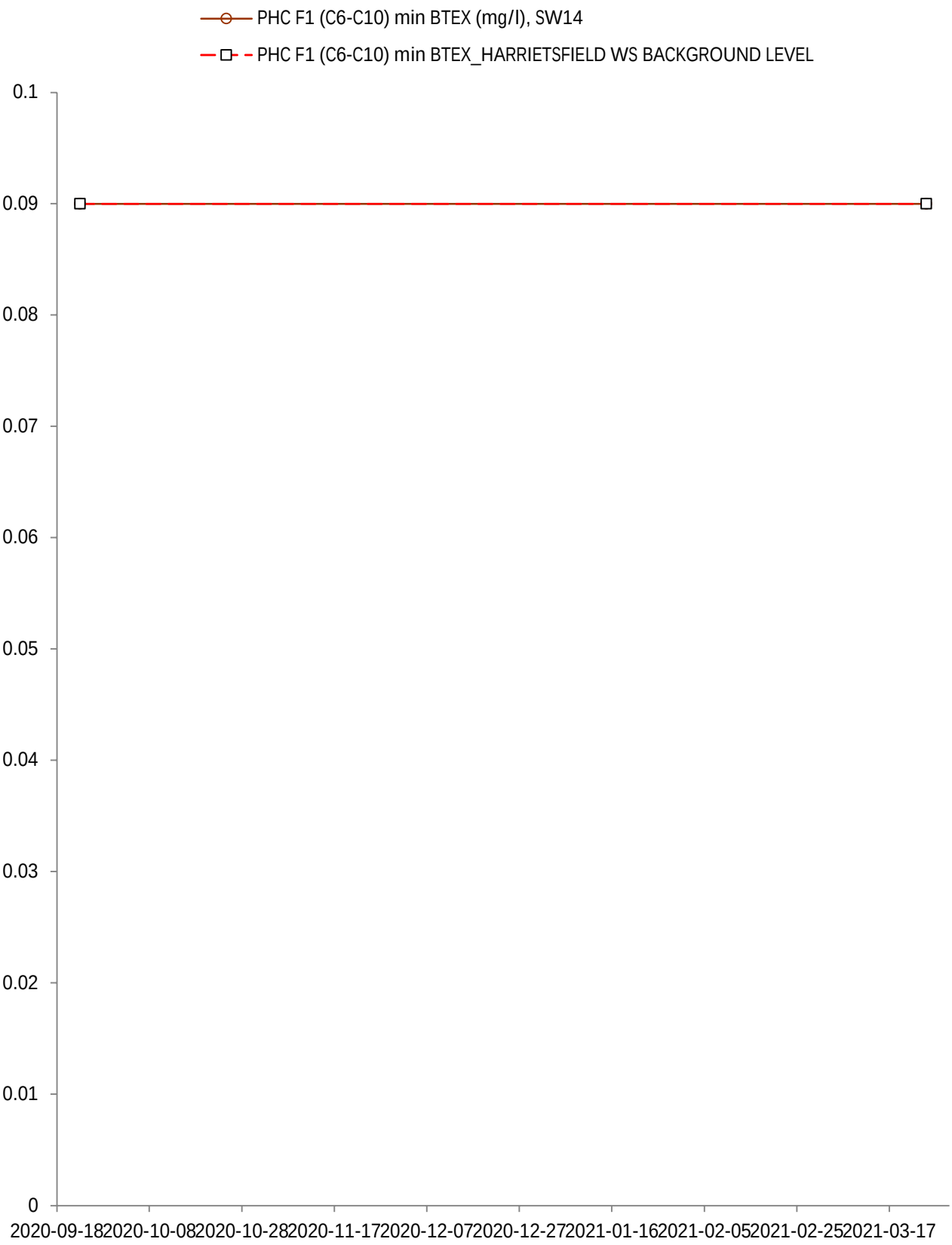
SW14-PHC (>C16-C21)



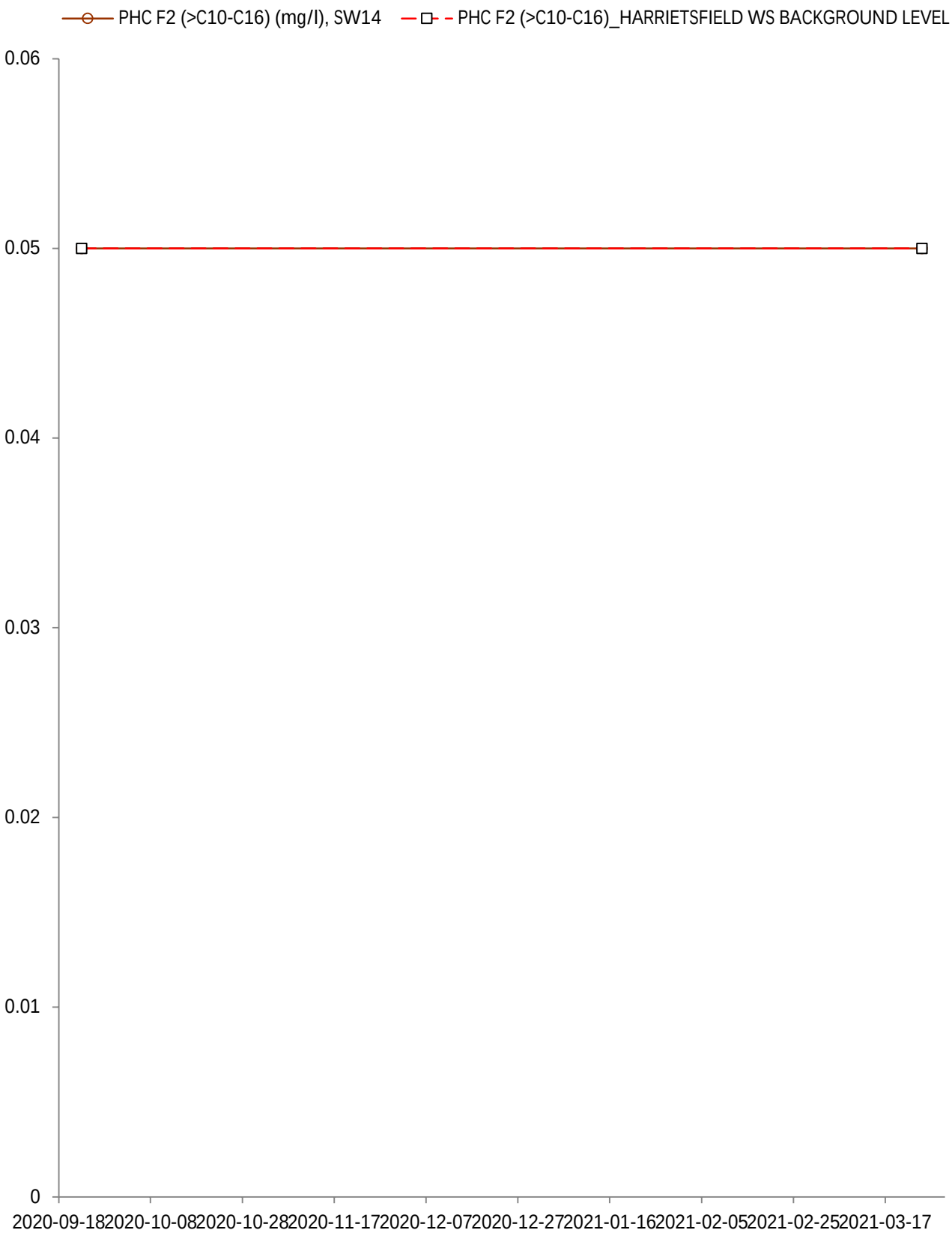
SW14-PHC (>C21-C32)



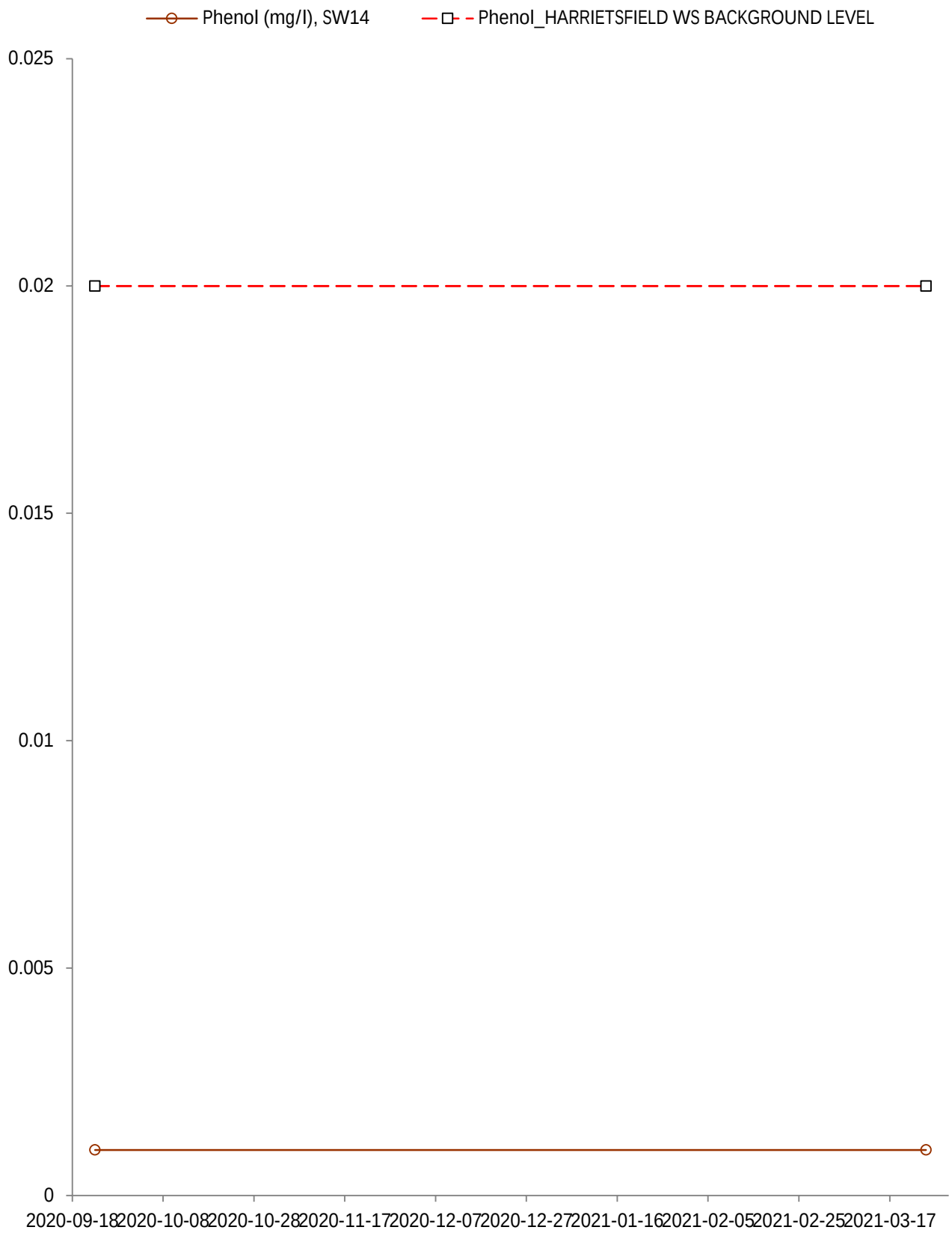
SW14-PHC F1 (C6-C10) min BTEX



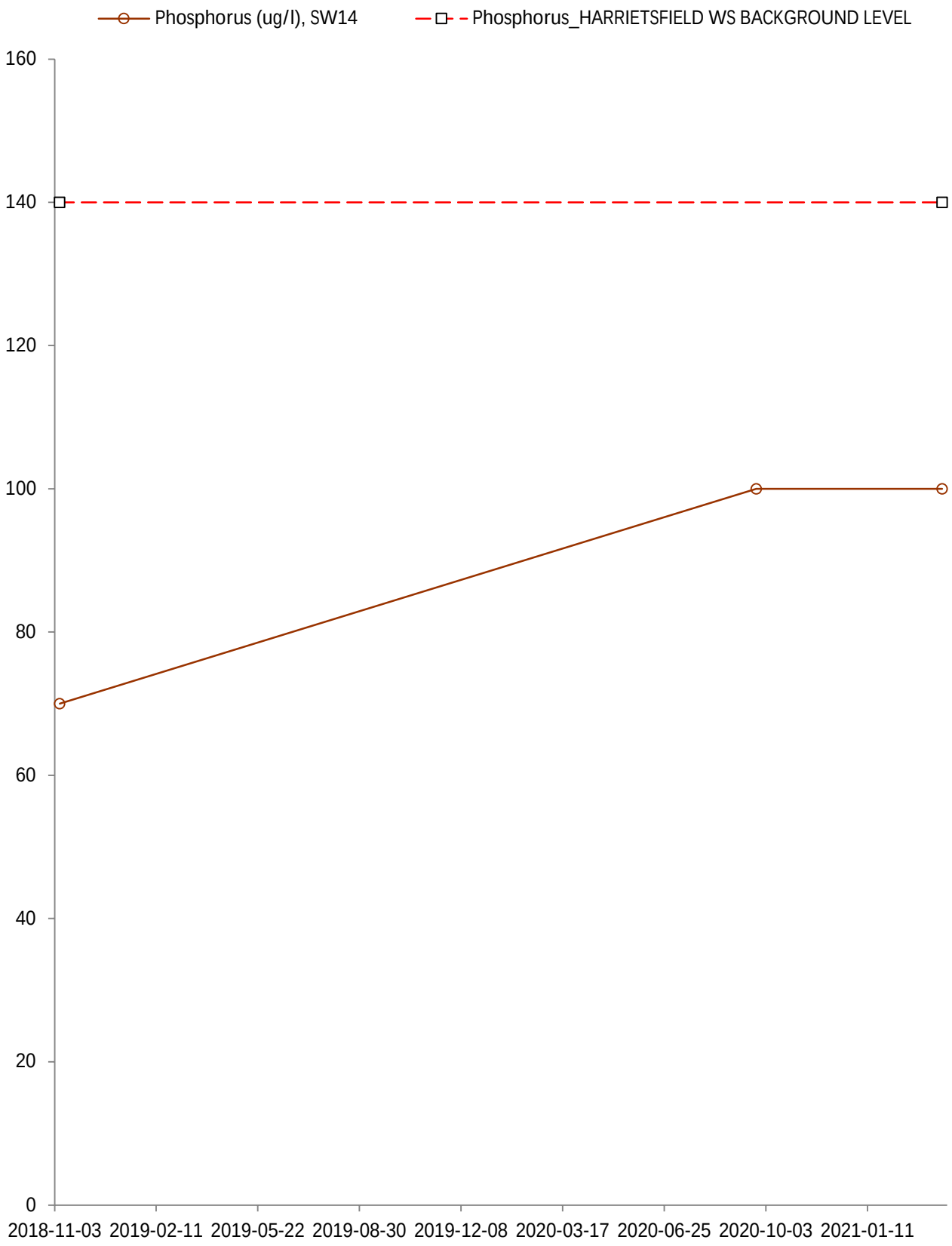
SW14-PHC F2 (>C10-C16)



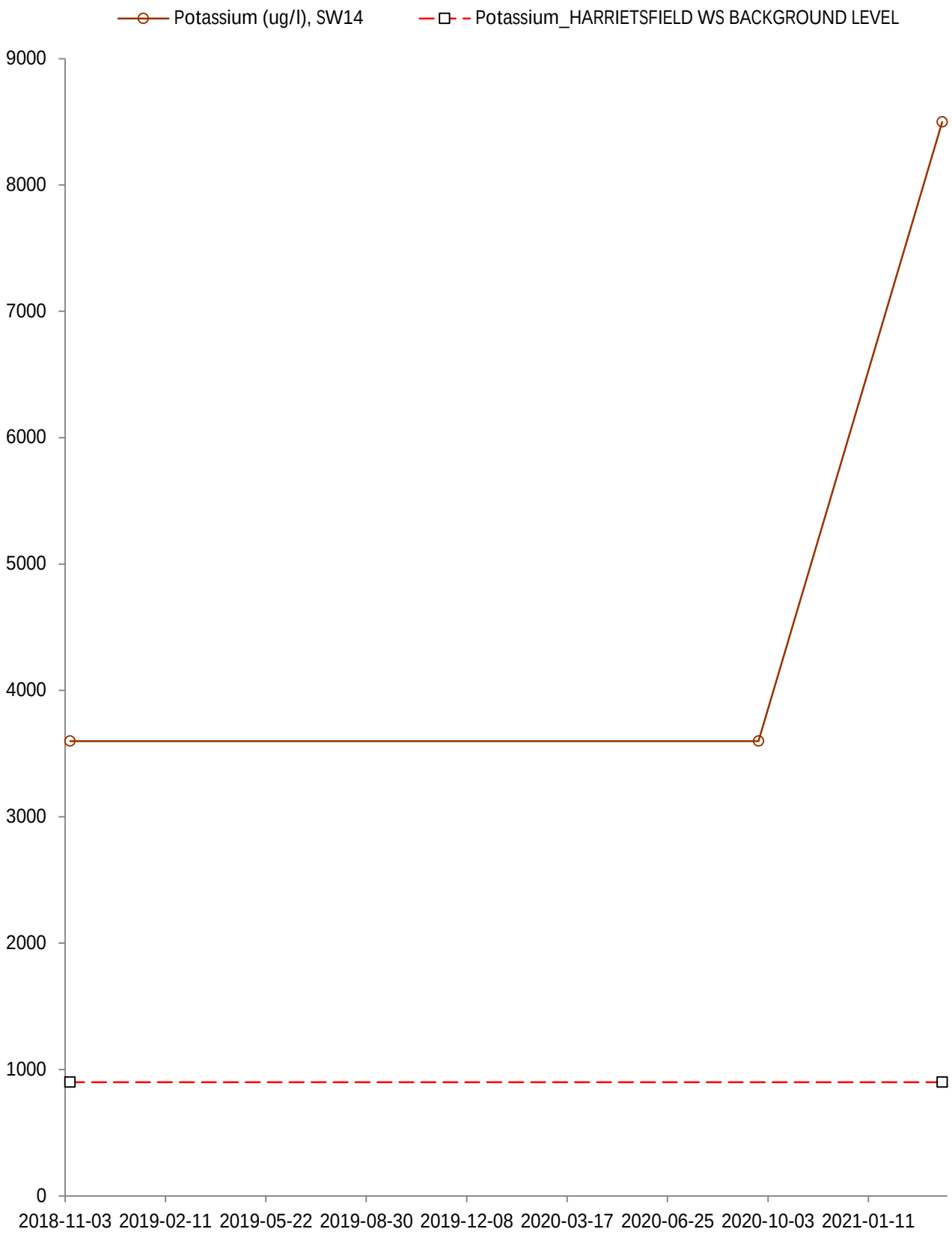
SW14-Phenol


Phenol (mg/l), SW14
Phenol_HARRIETSFIELD WS BACKGROUND LEVEL
0.025
0.02
0.015
0.01
0.005
0
2020-09-18
2020-10-08
2020-10-28
2020-11-17
2020-12-07
2020-12-27
2021-01-16
2021-02-05
2021-02-25
2021-03-17

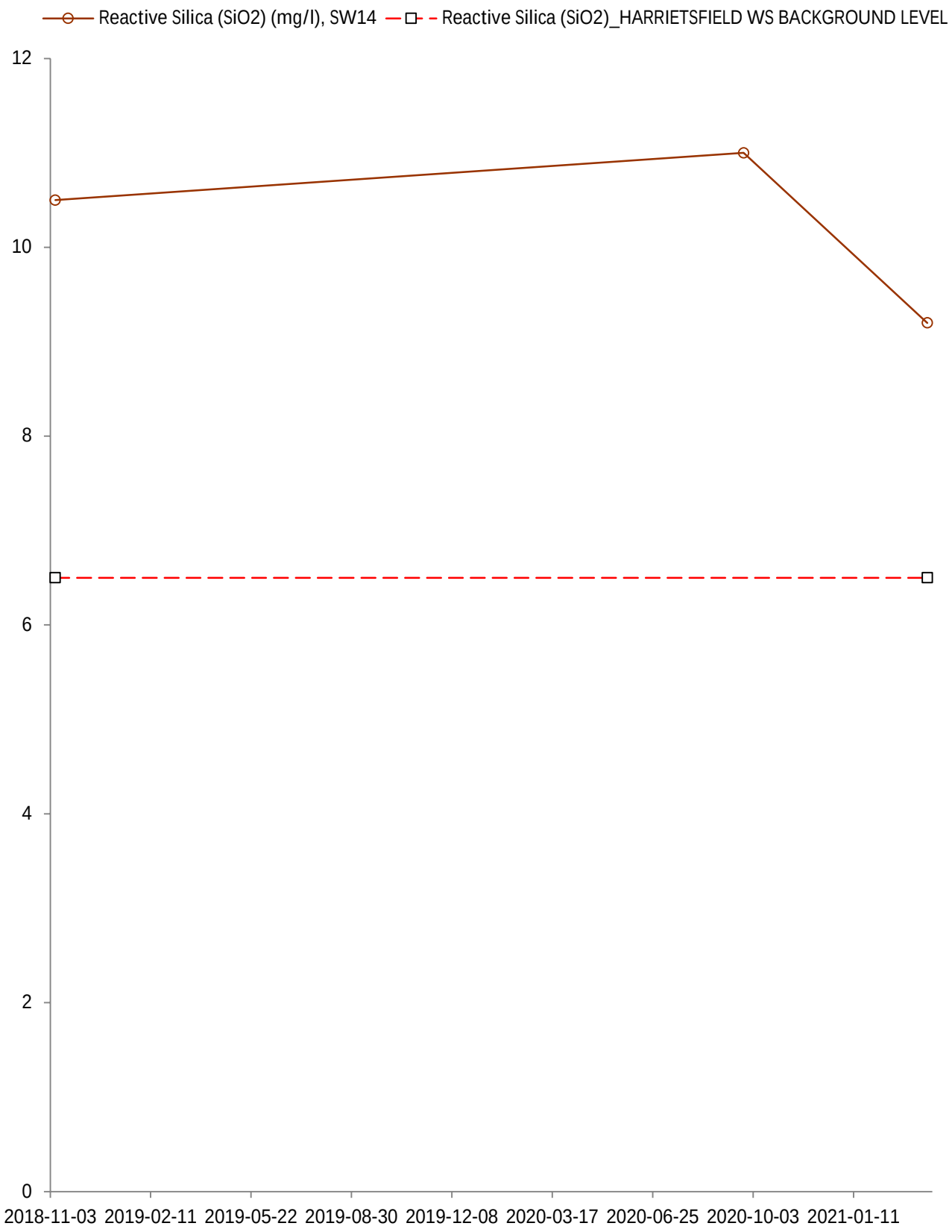
SW14-Phosphorus



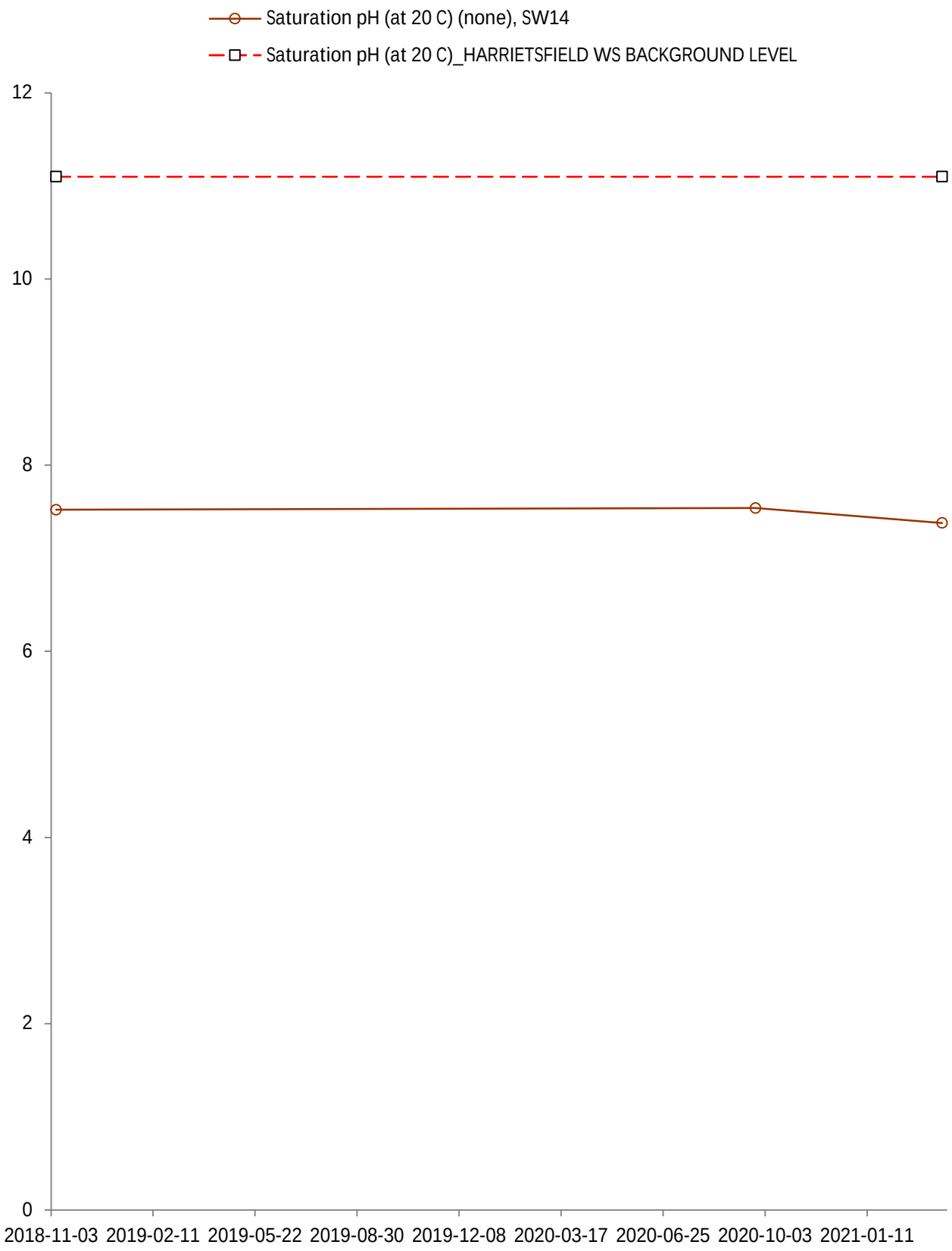
SW14-Potassium



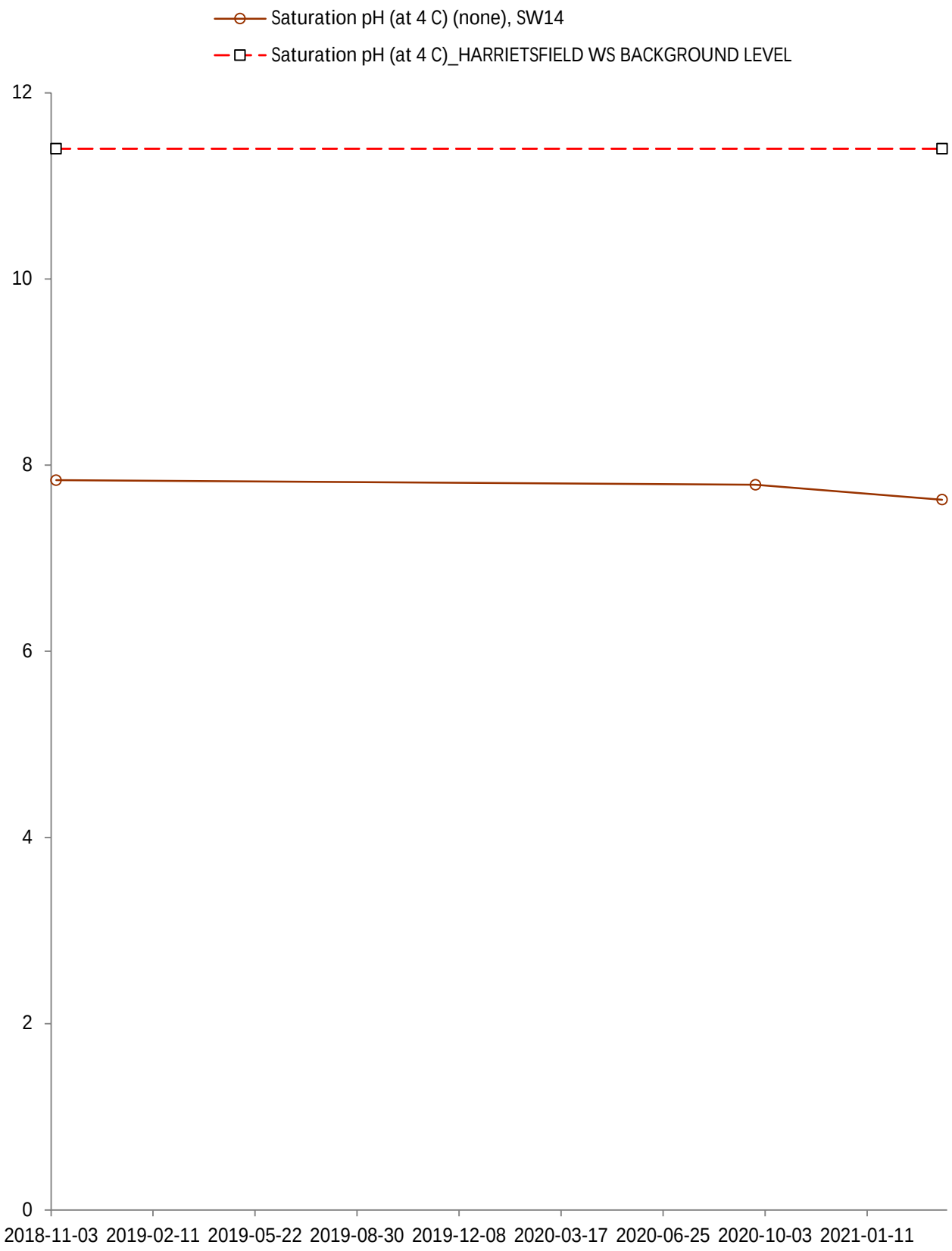
SW14-Reactive Silica (SiO2)



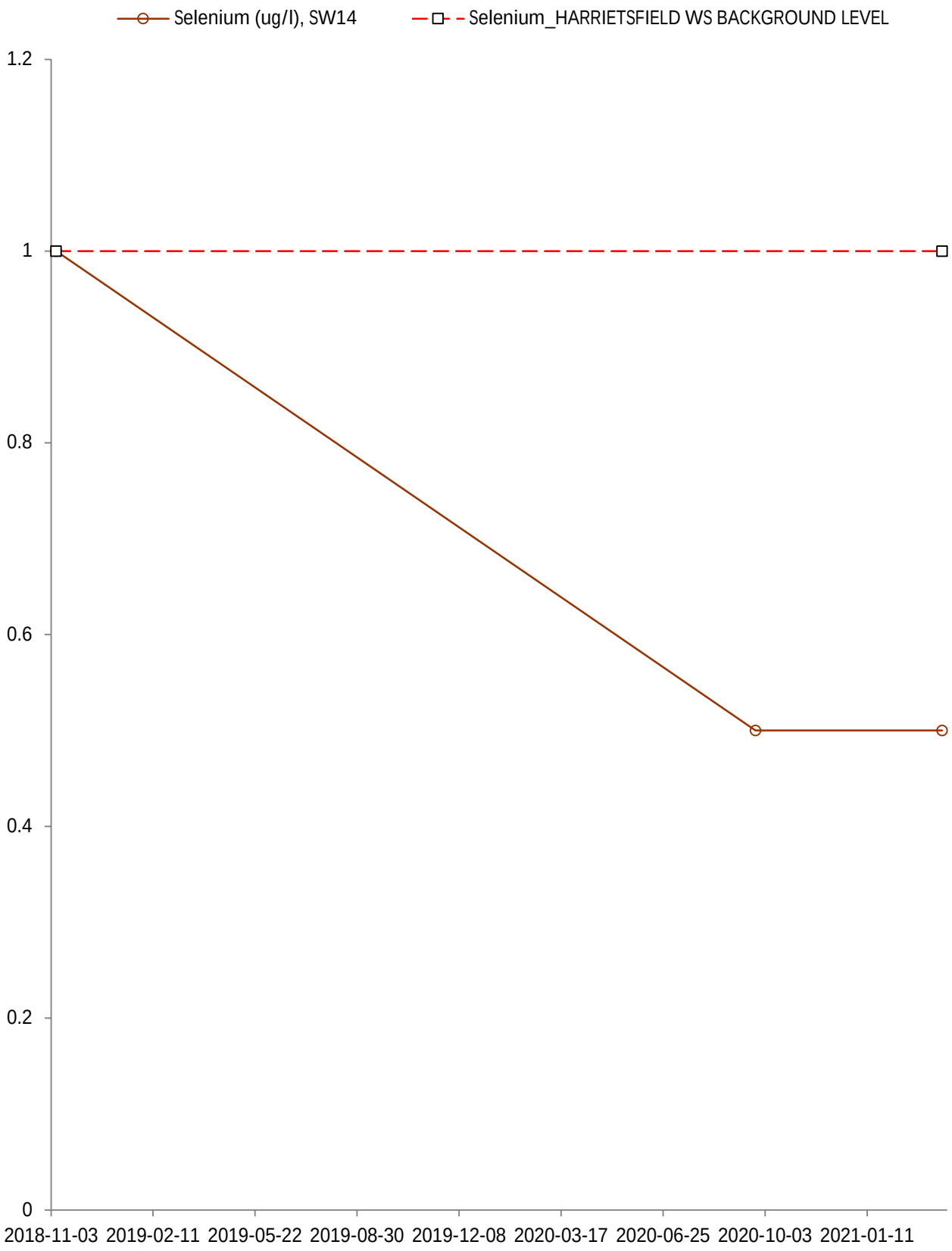
SW14-Saturation pH (at 20 C)



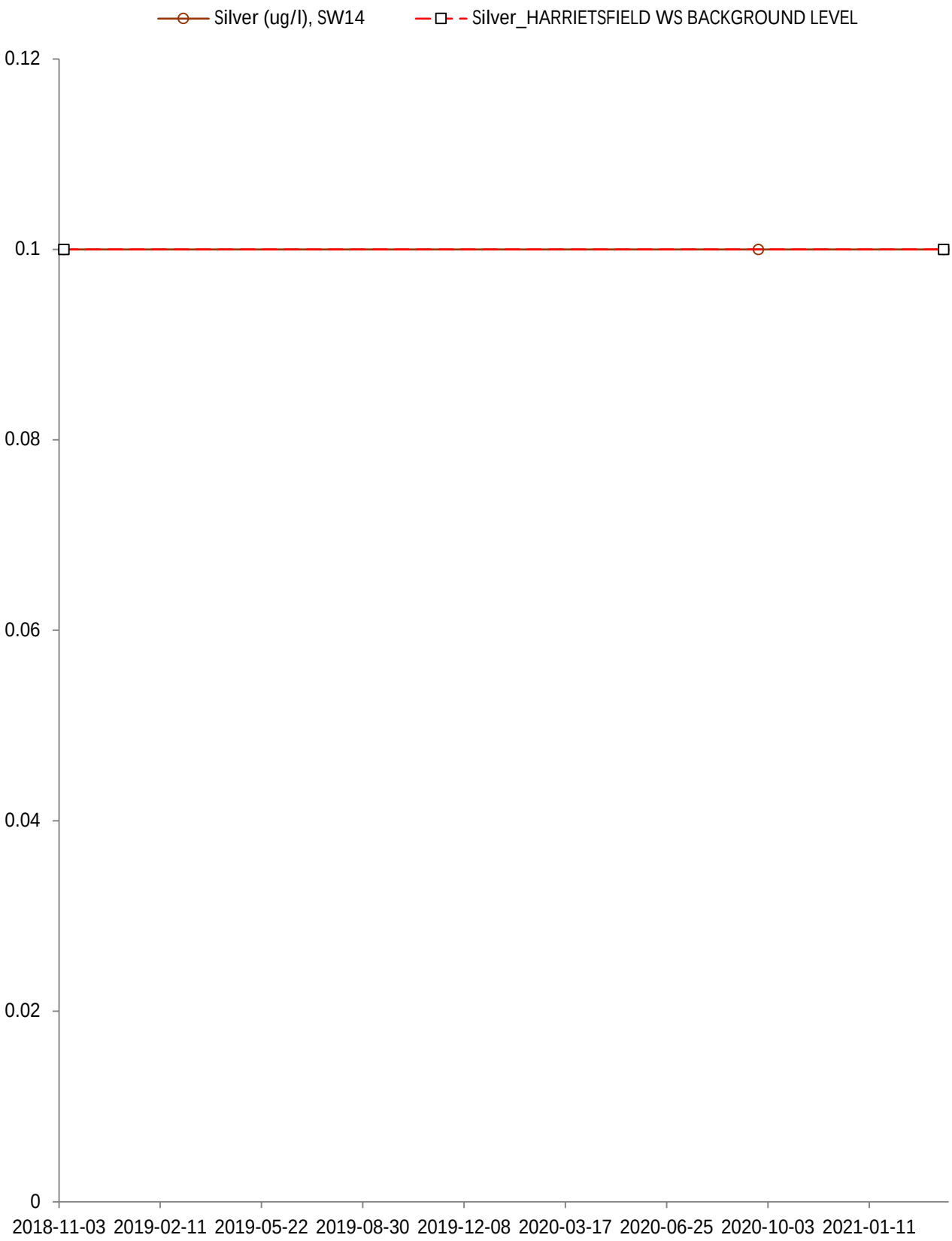
SW14-Saturation pH (at 4 C)



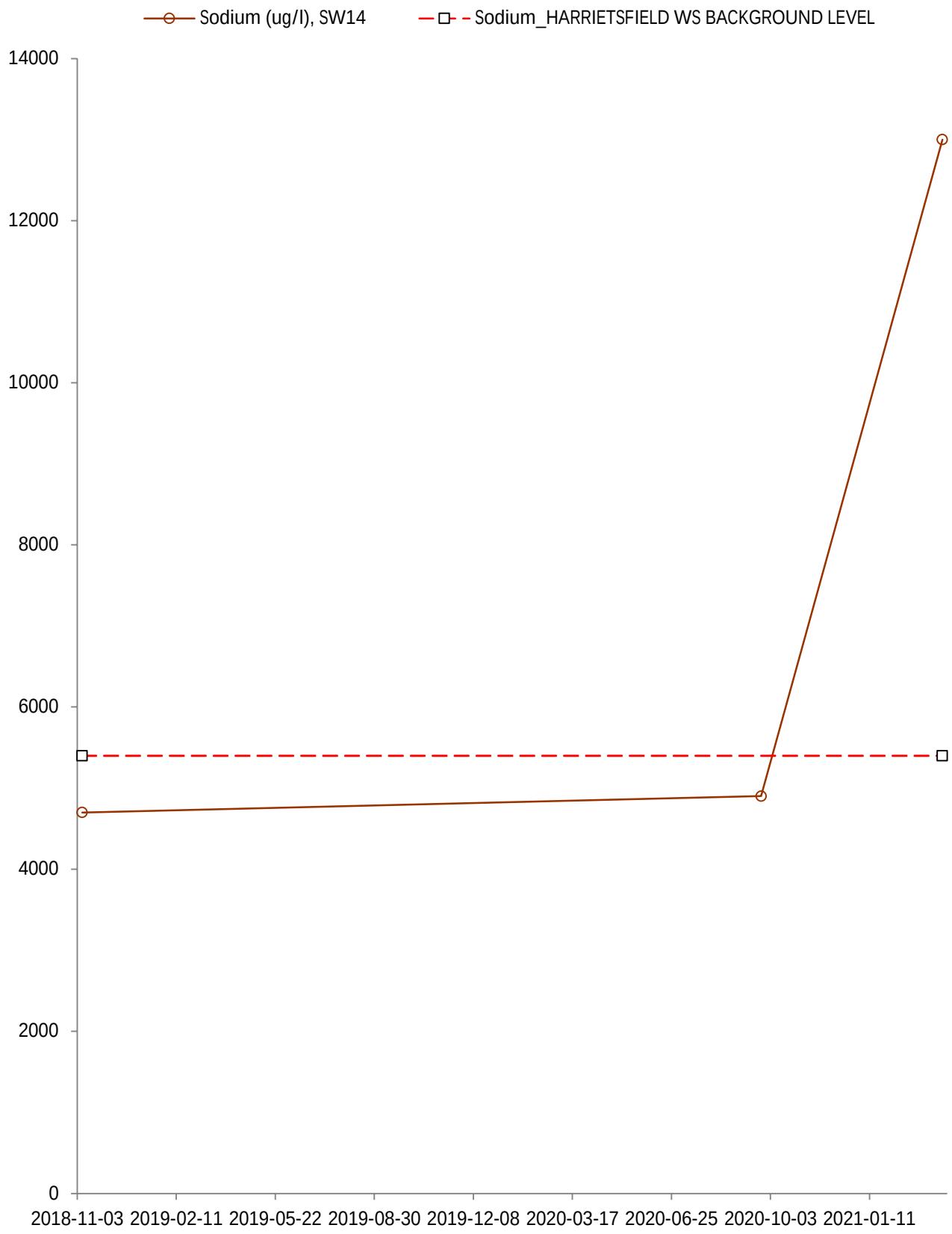
SW14-Selenium



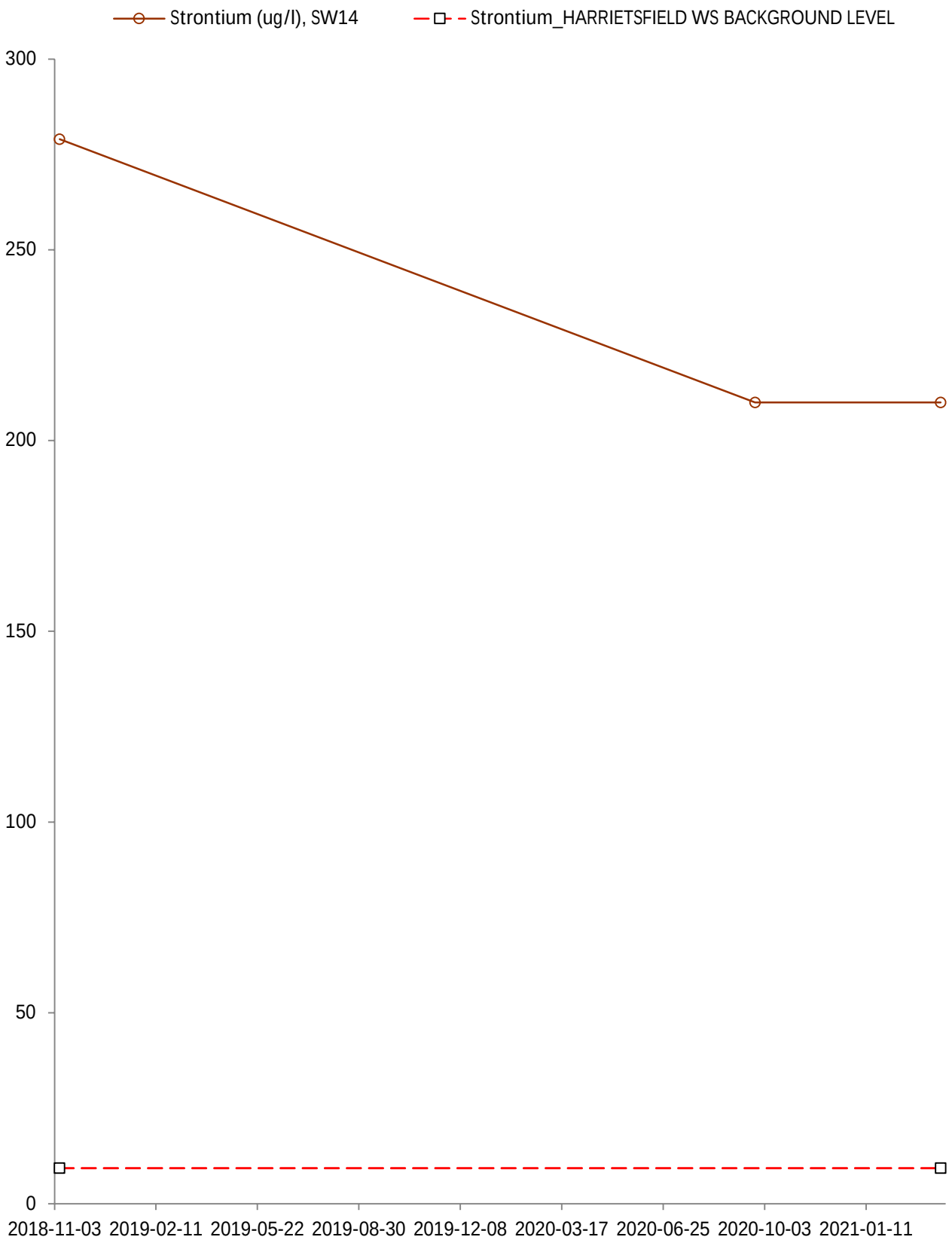
SW14-Silver


Silver (ug/l), SW14
Silver_HARRIETSFIELD WS BACKGROUND LEVEL
0.12
0.1
0.08
0.06
0.04
0.02
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

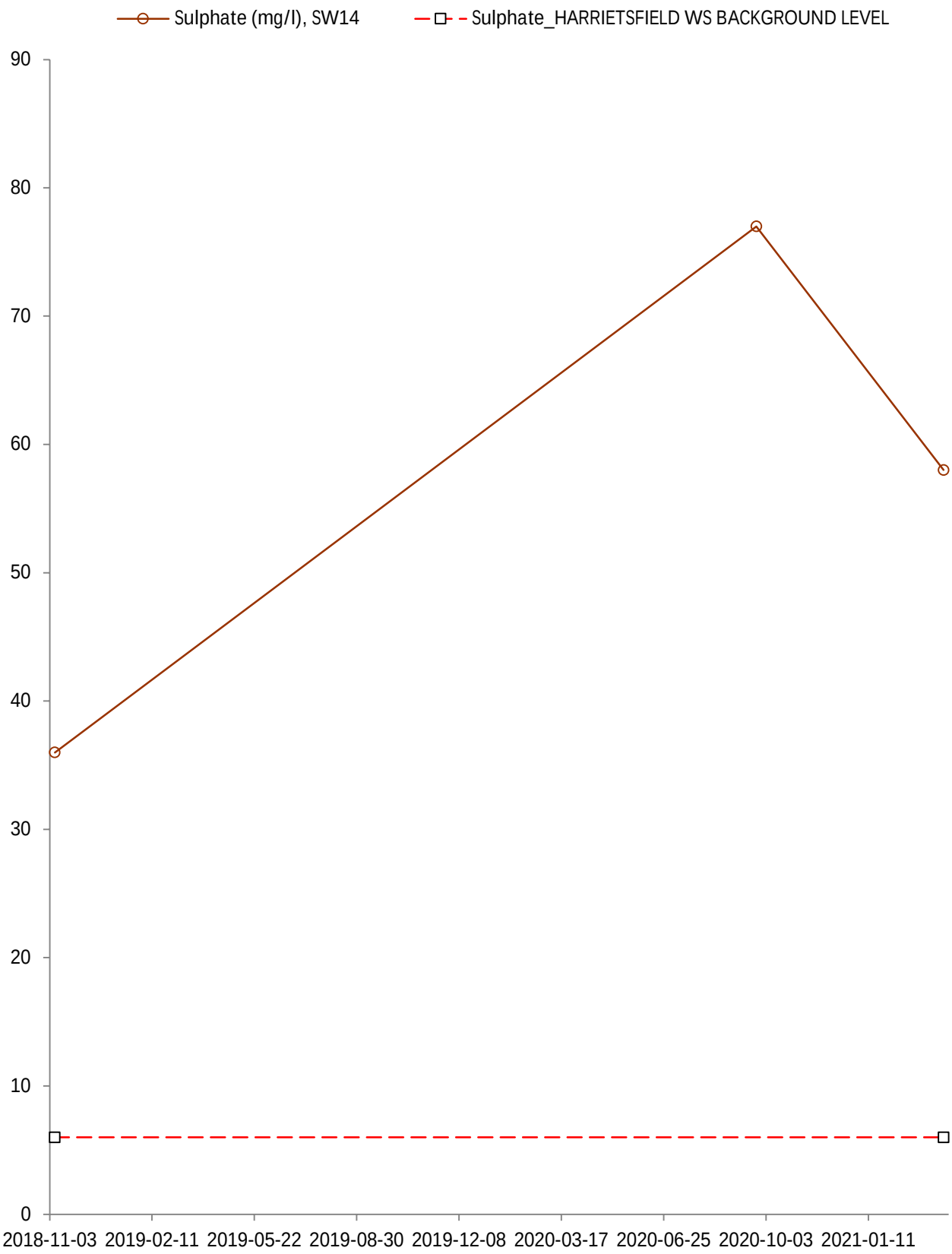
SW14-Sodium


Sodium (ug/l), SW14
Sodium_HARRIETSFIELD WS BACKGROUND LEVEL
14000
12000
10000
8000
6000
4000
2000
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

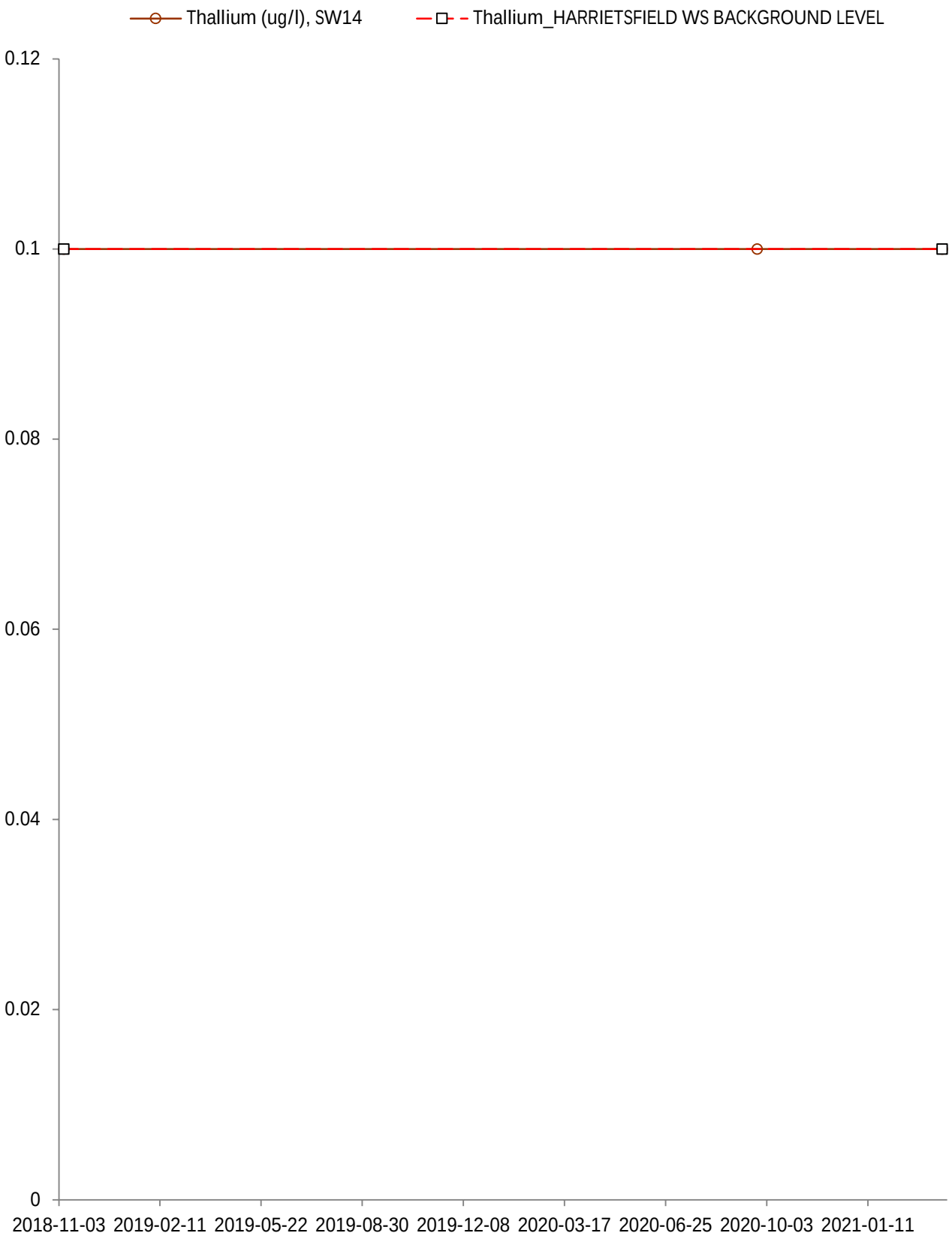
SW14-Strontium



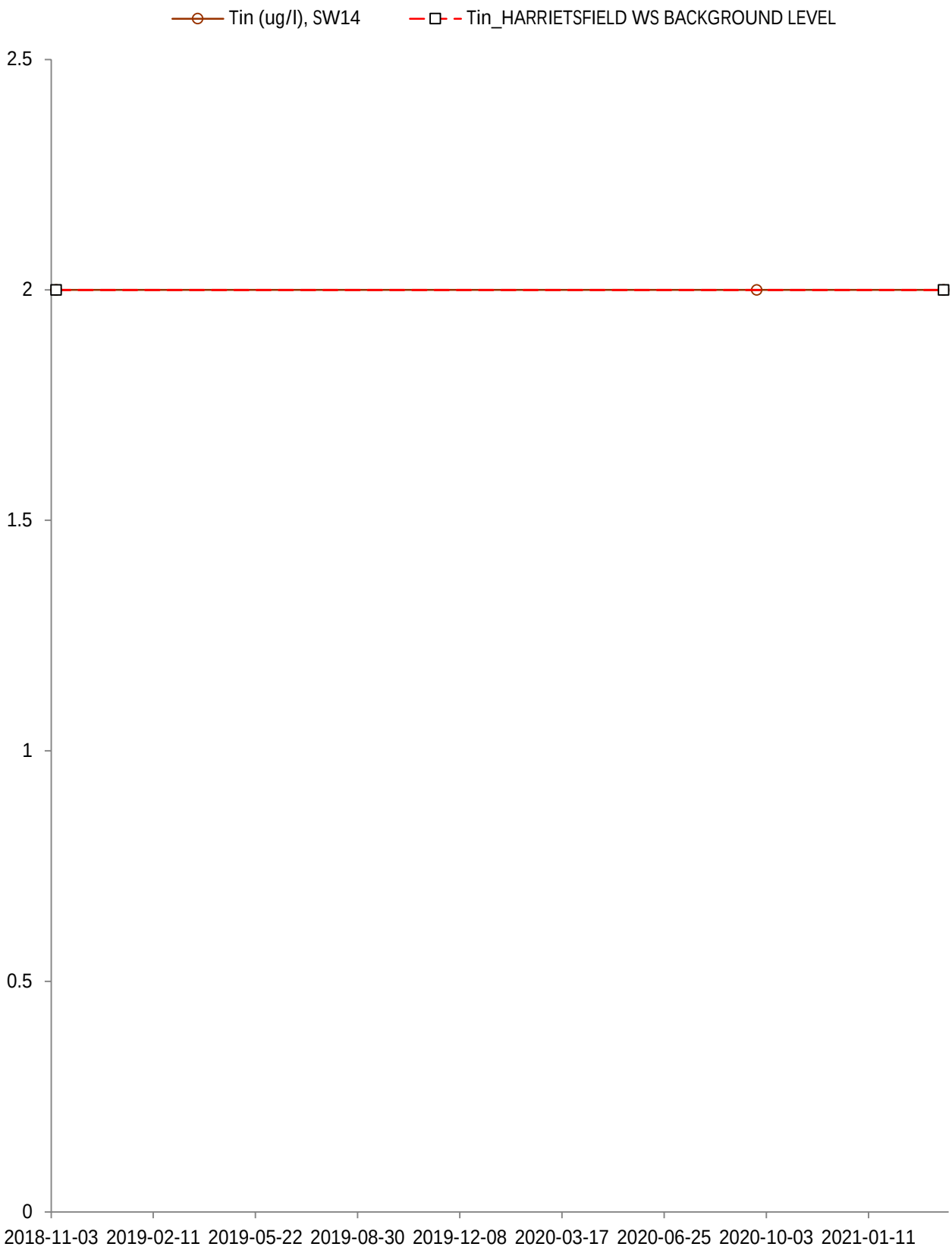
SW14-Sulphate



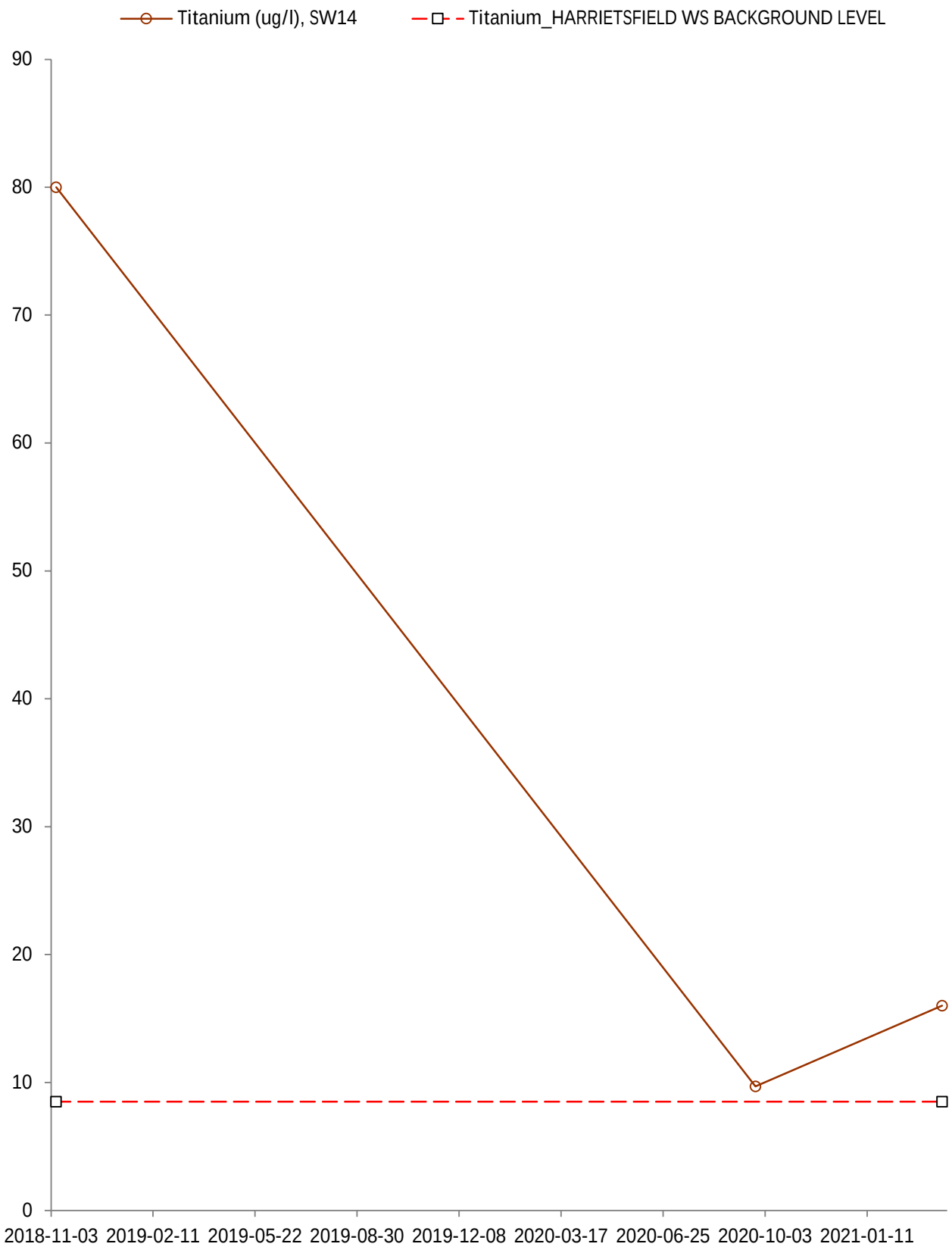
SW14-Thallium



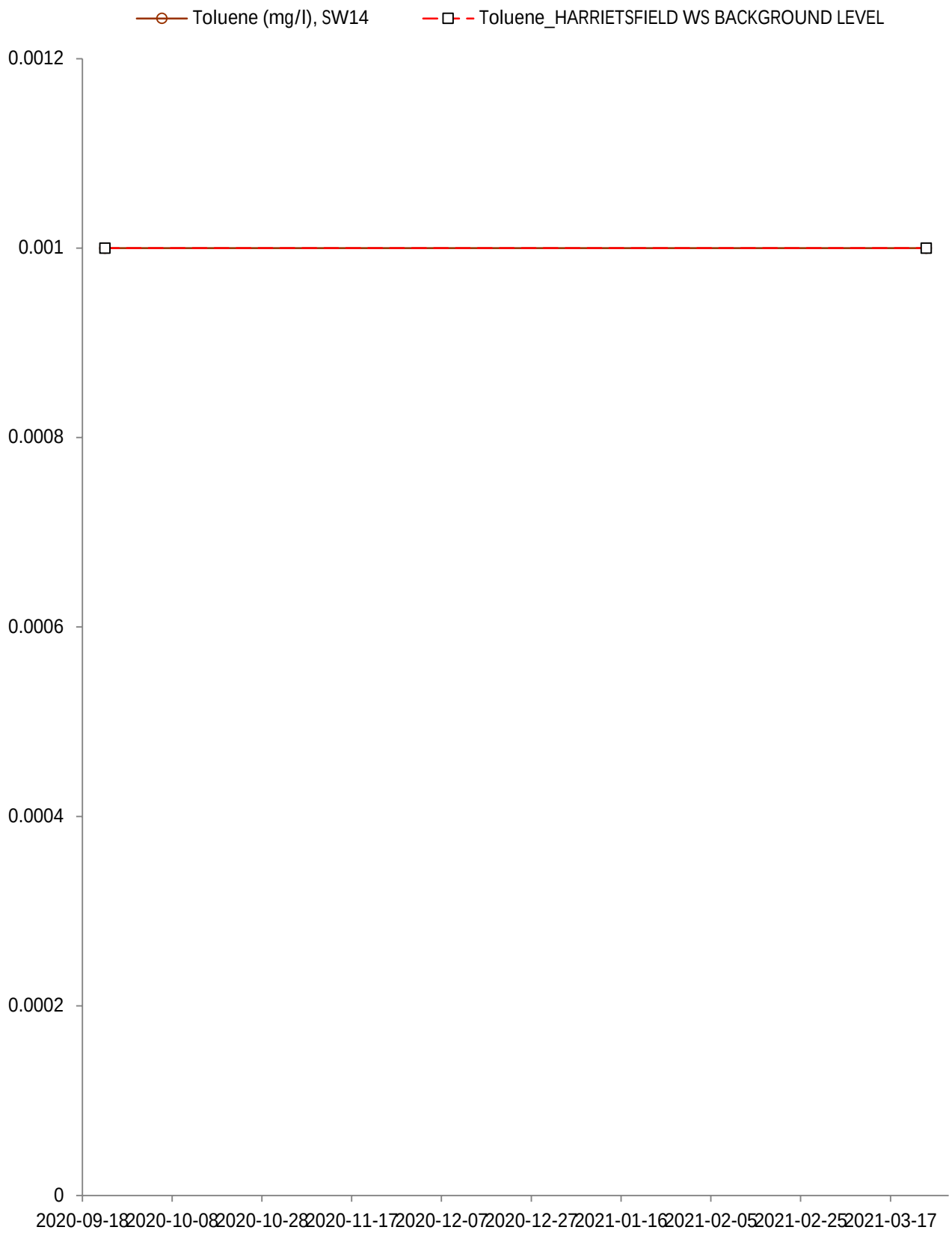
SW14-Tin


Tin (ug/l), SW14
Tin_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

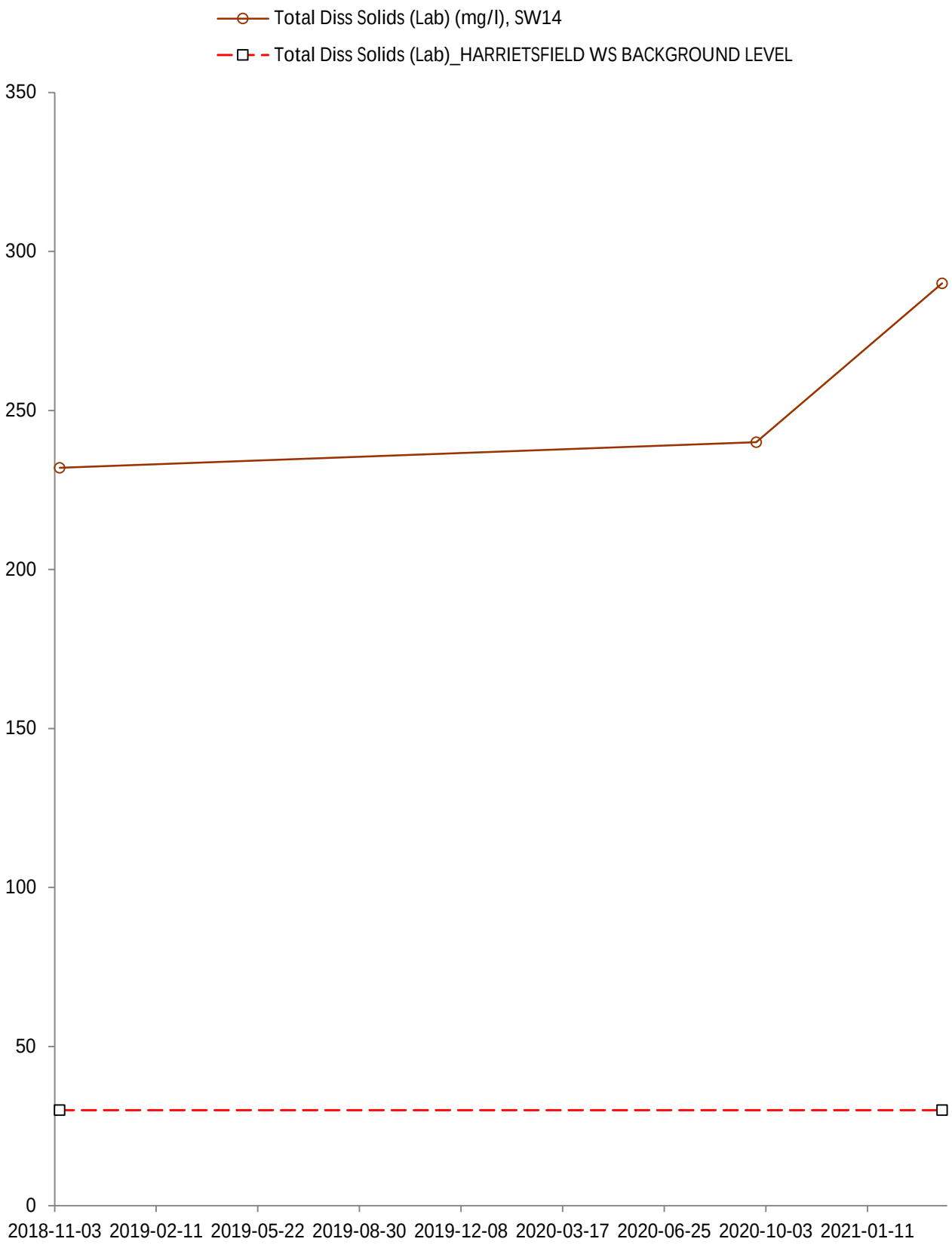
SW14-Titanium



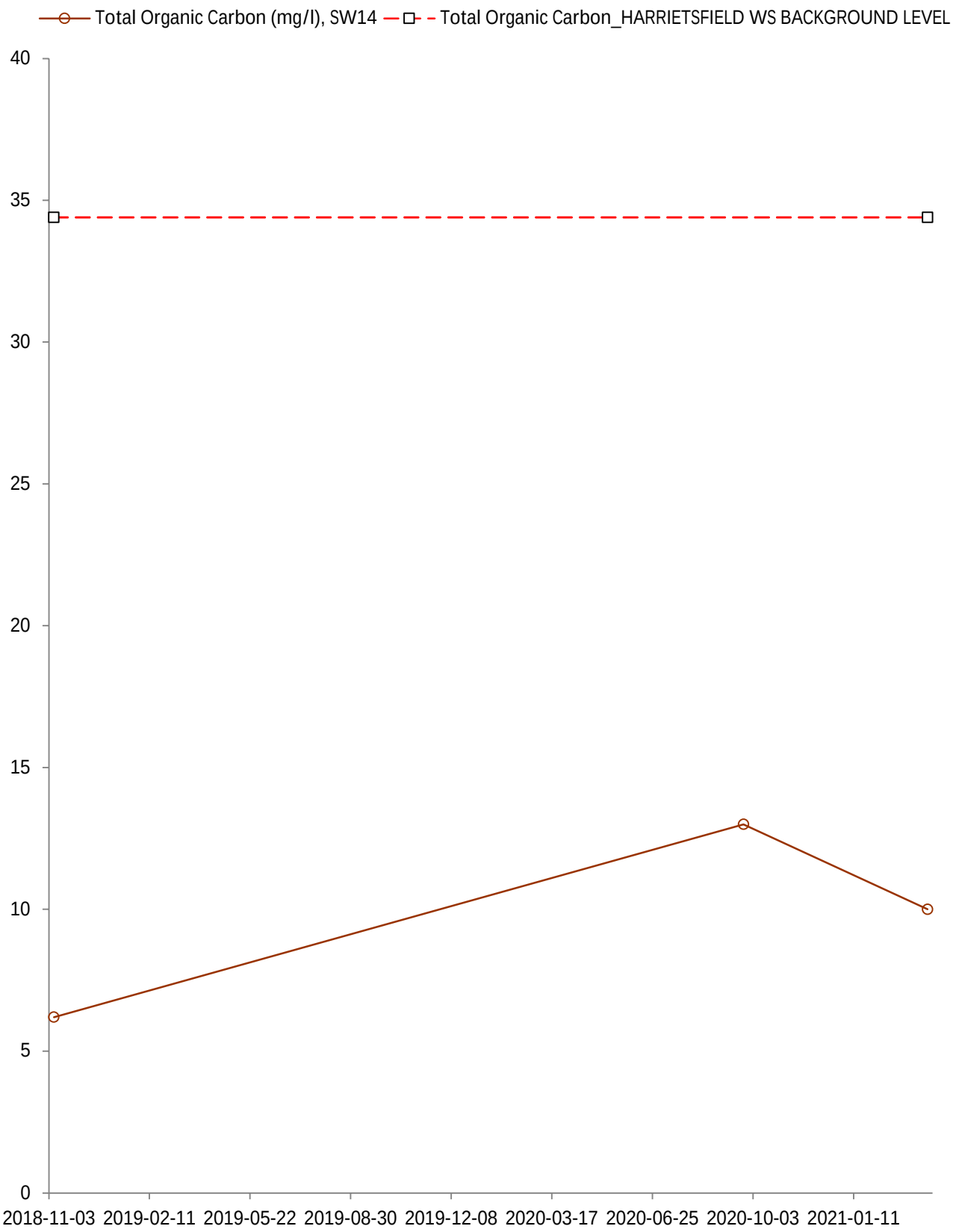
SW14-Toluene



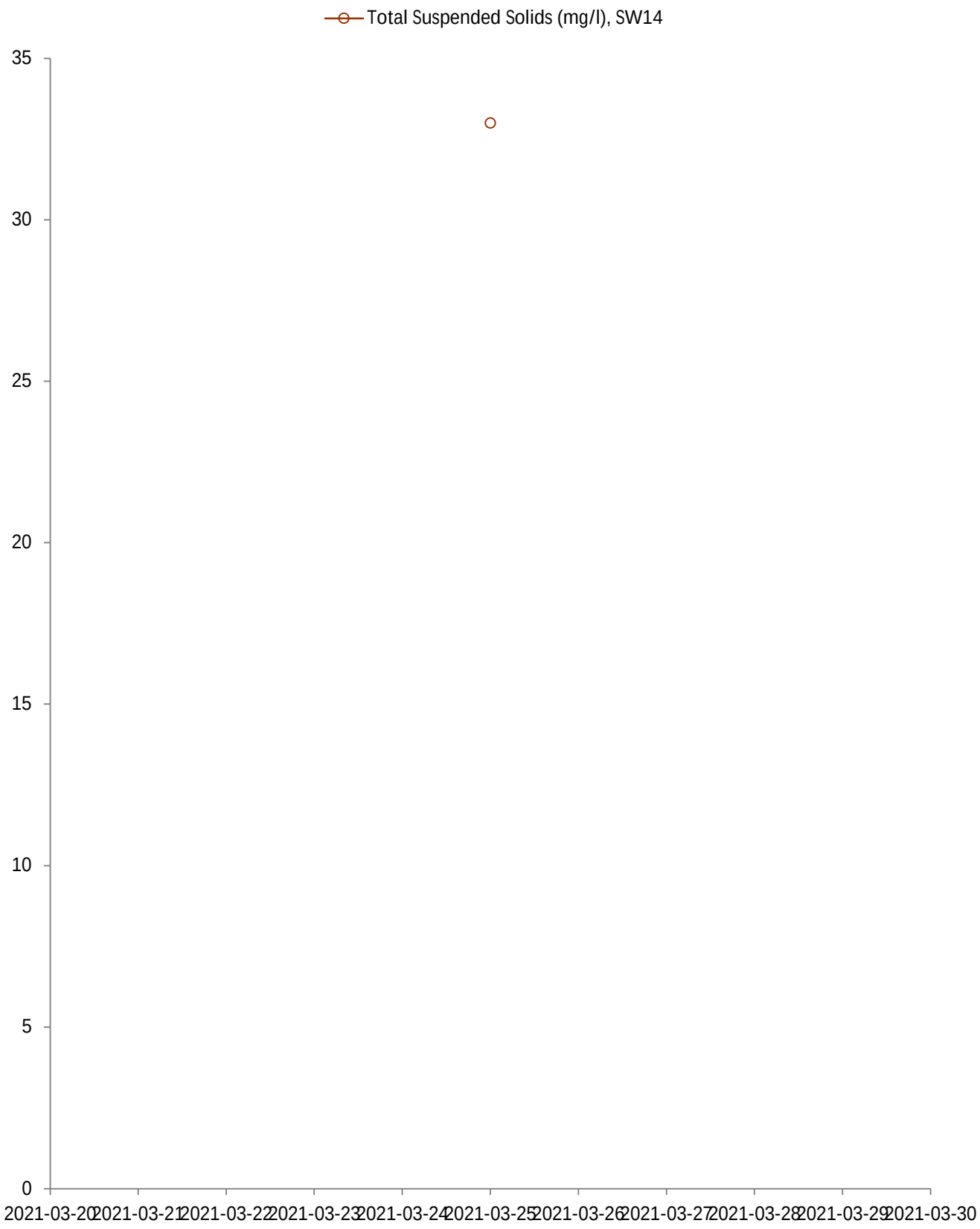
SW14-Total Diss Solids (Lab)



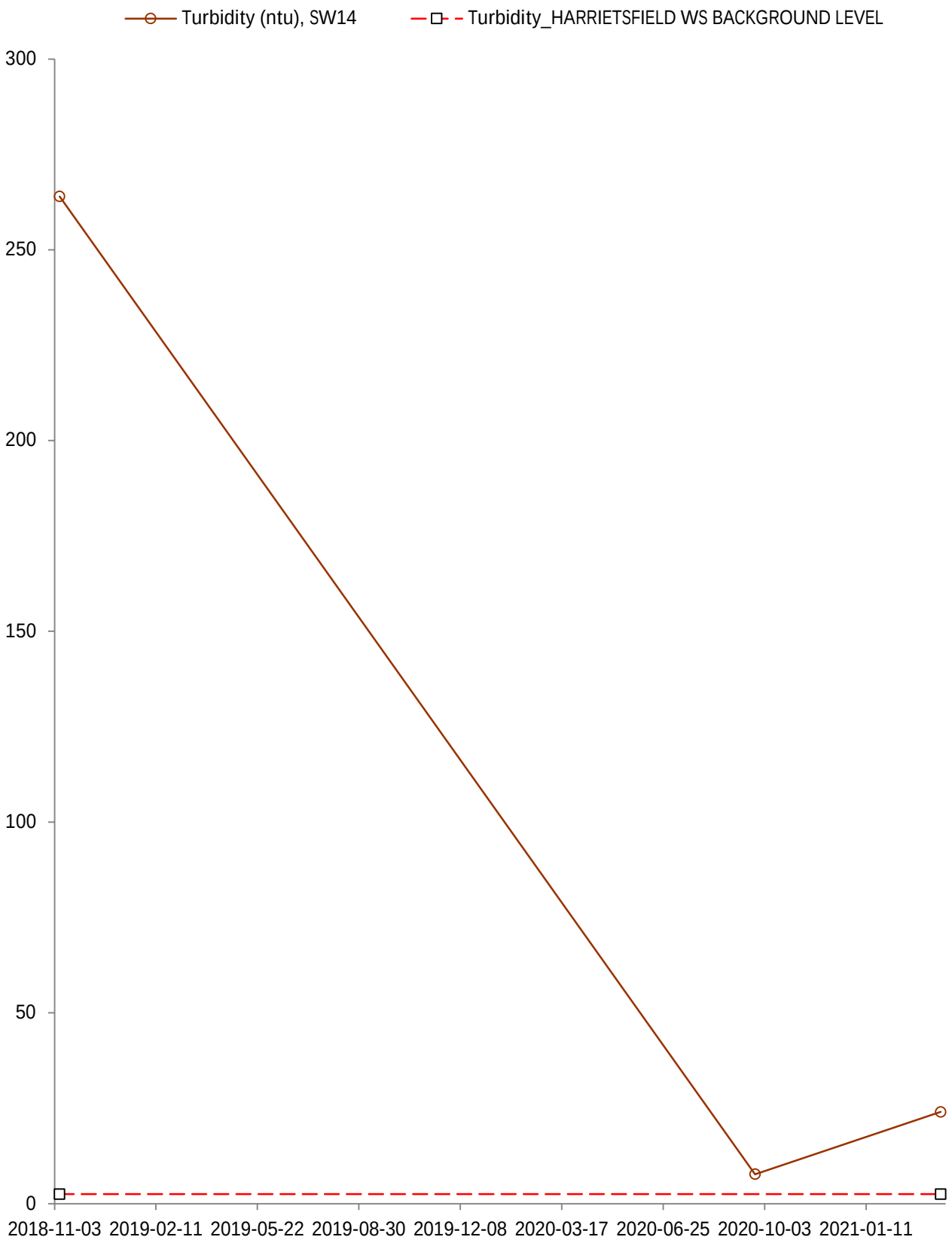
SW14-Total Organic Carbon



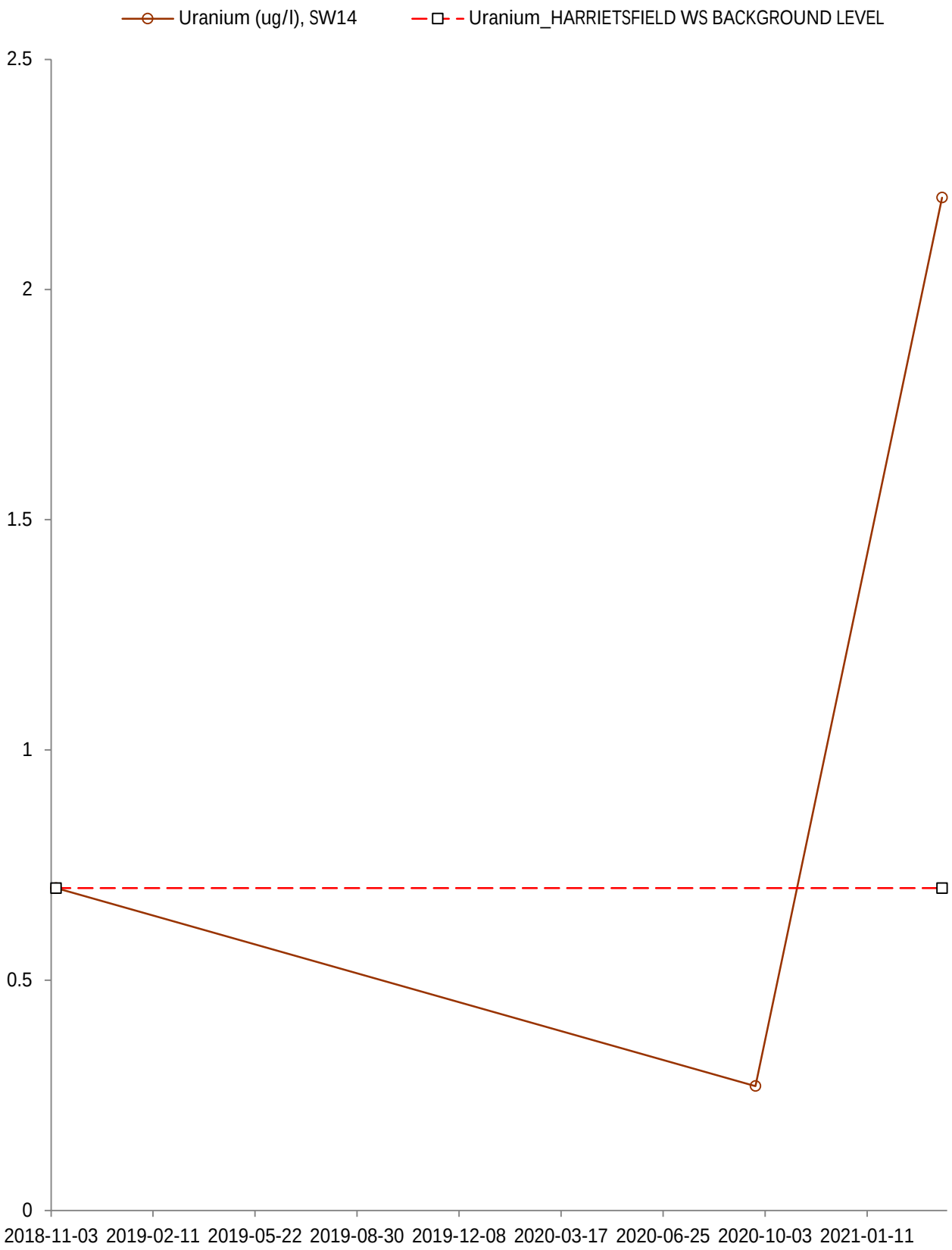
SW14-Total Suspended Solids



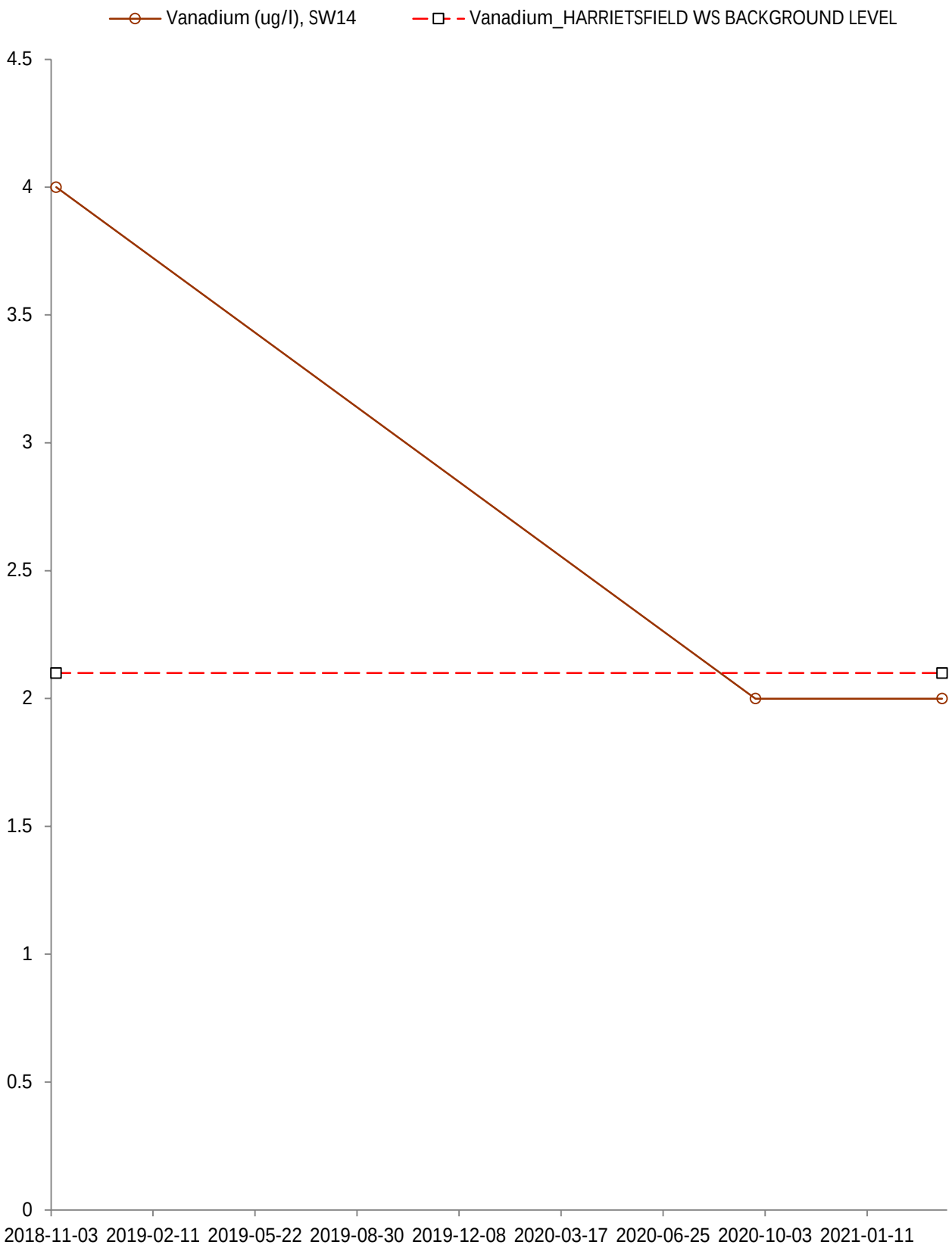
SW14-Turbidity



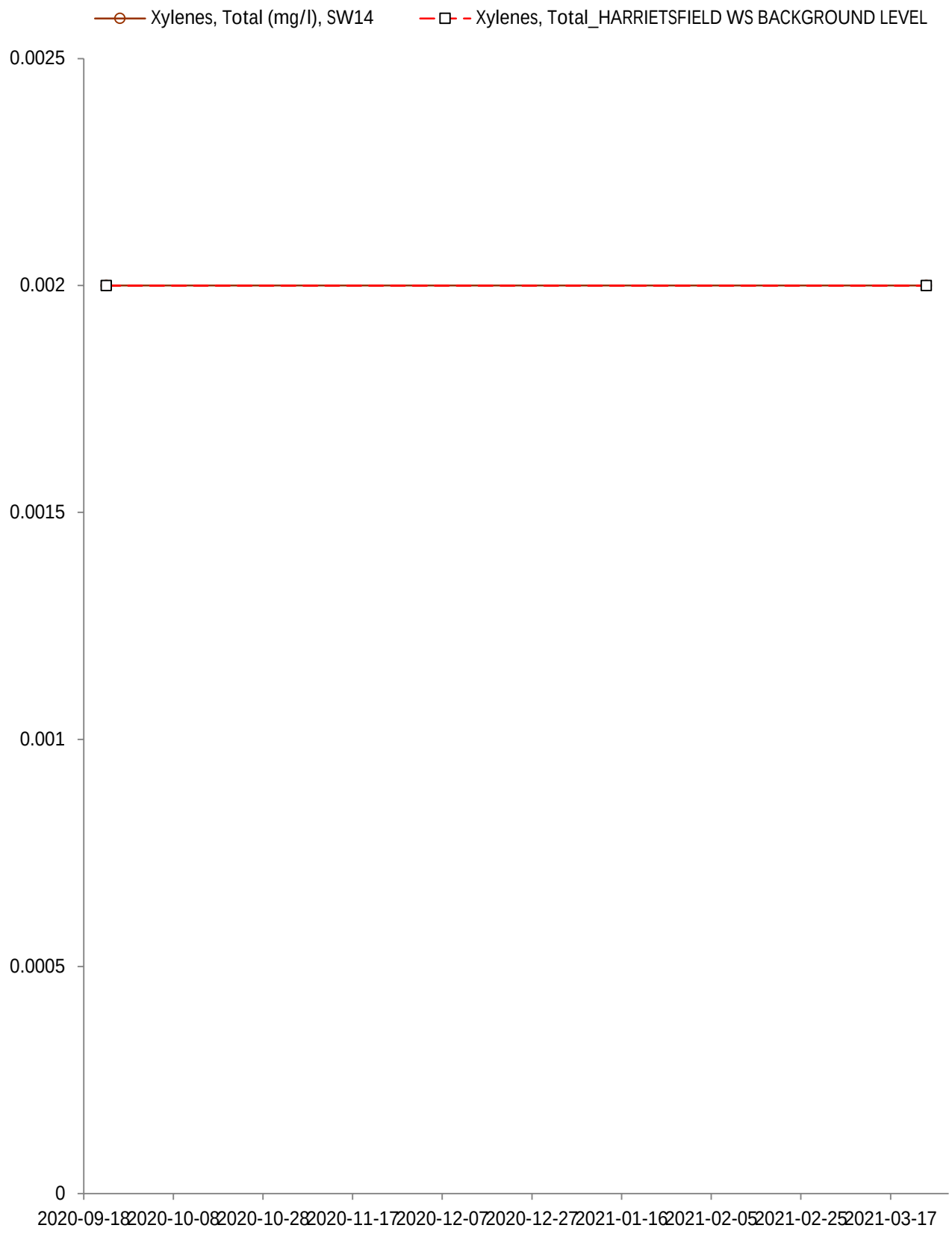
SW14-Uranium



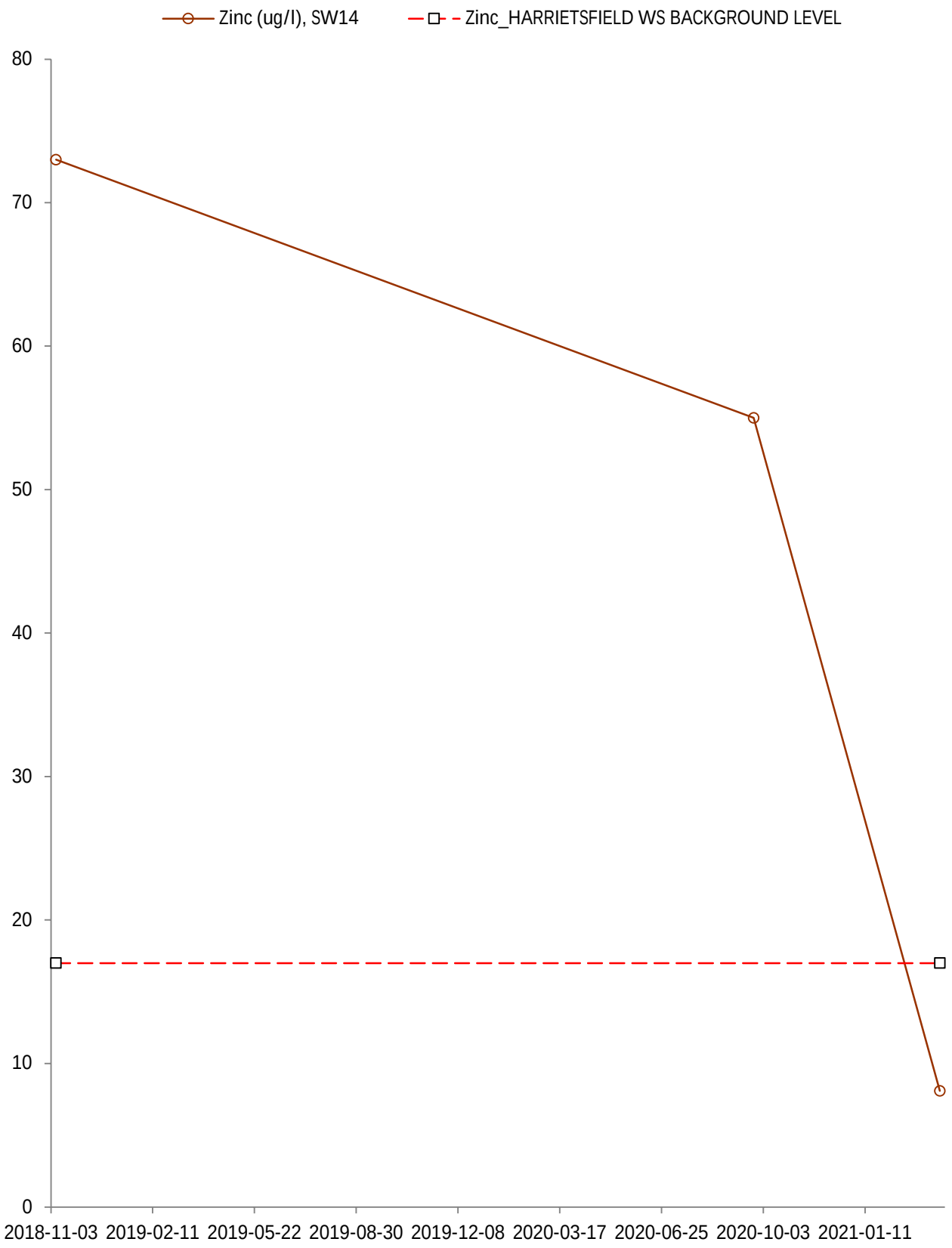
SW14-Vanadium



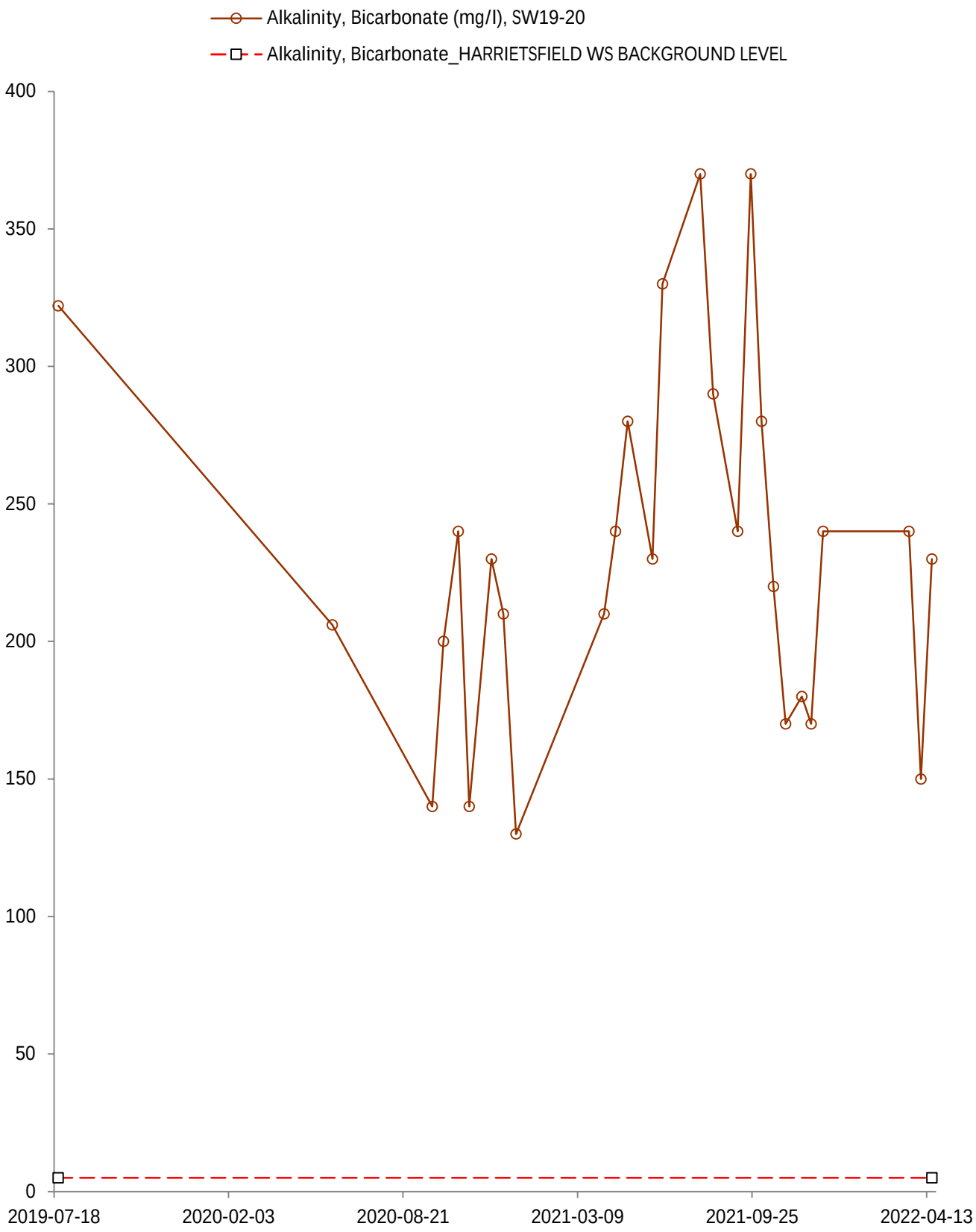
SW14-Xylenes, Total



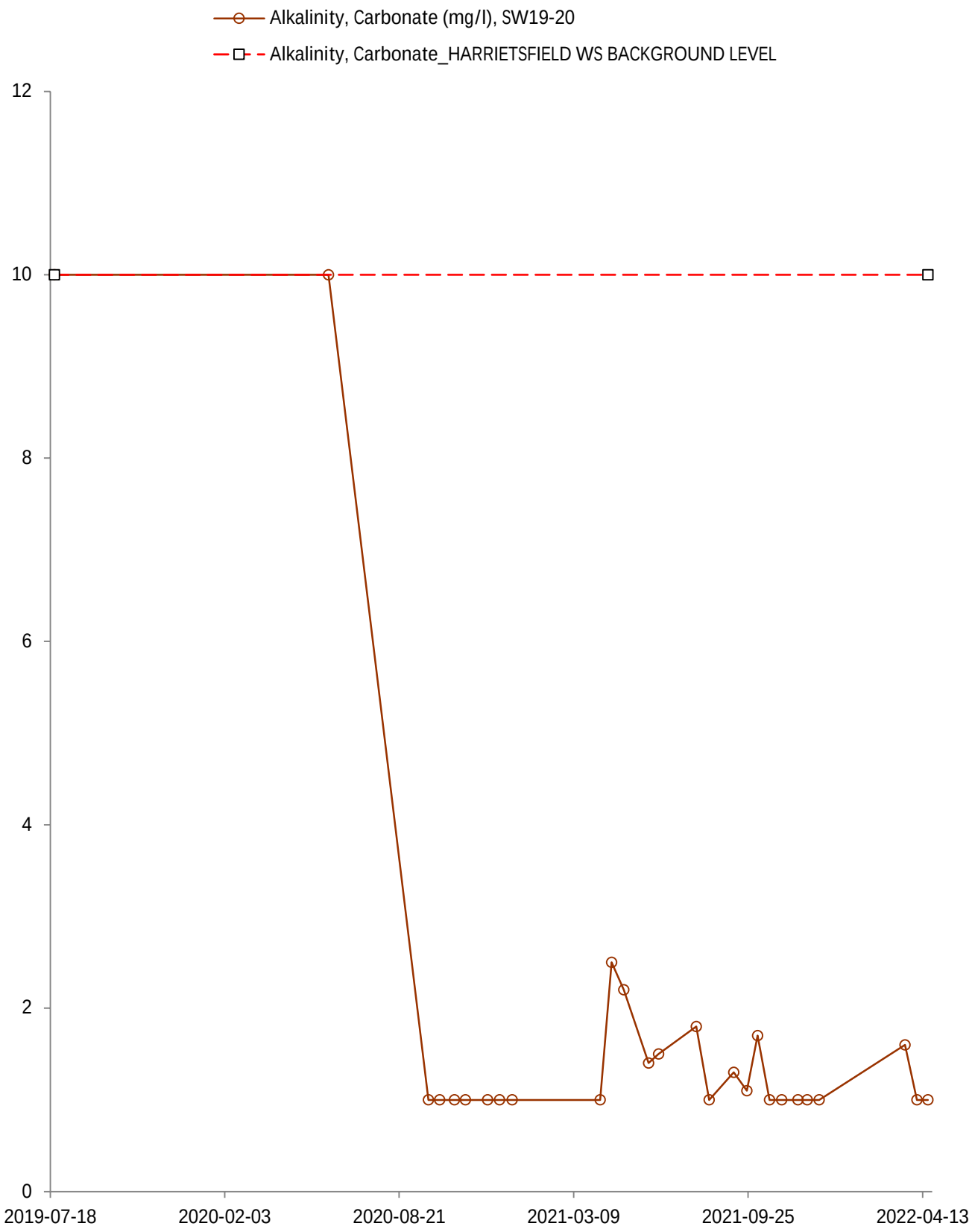
SW14-Zinc


Zinc (ug/l), SW14
Zinc_HARRIETSFIELD WS BACKGROUND LEVEL
80
70
60
50
40
30
20
10
0
2018-11-03
2019-02-11
2019-05-22
2019-08-30
2019-12-08
2020-03-17
2020-06-25
2020-10-03
2021-01-11

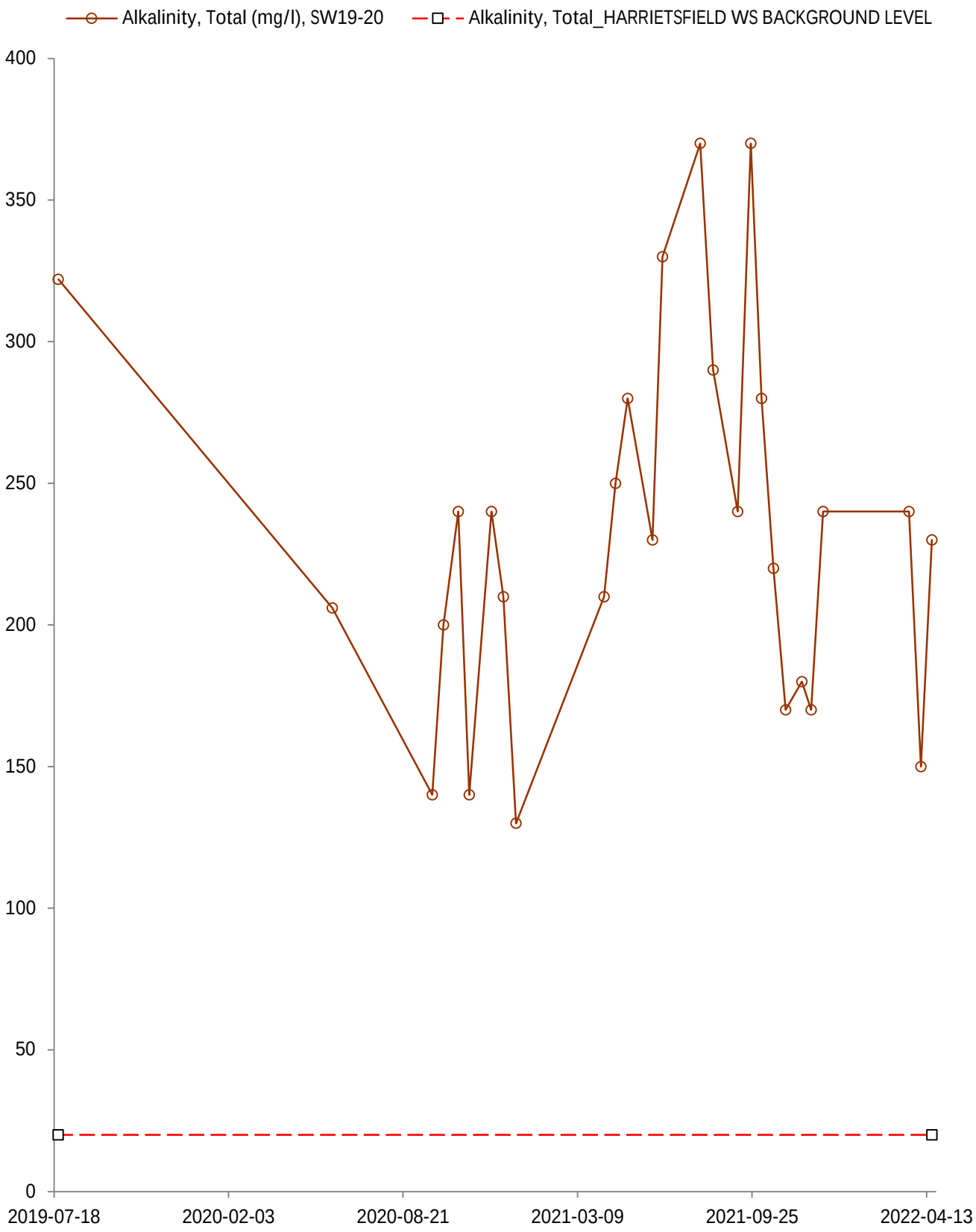
SW19-20-Alkalinity, Bicarbonate



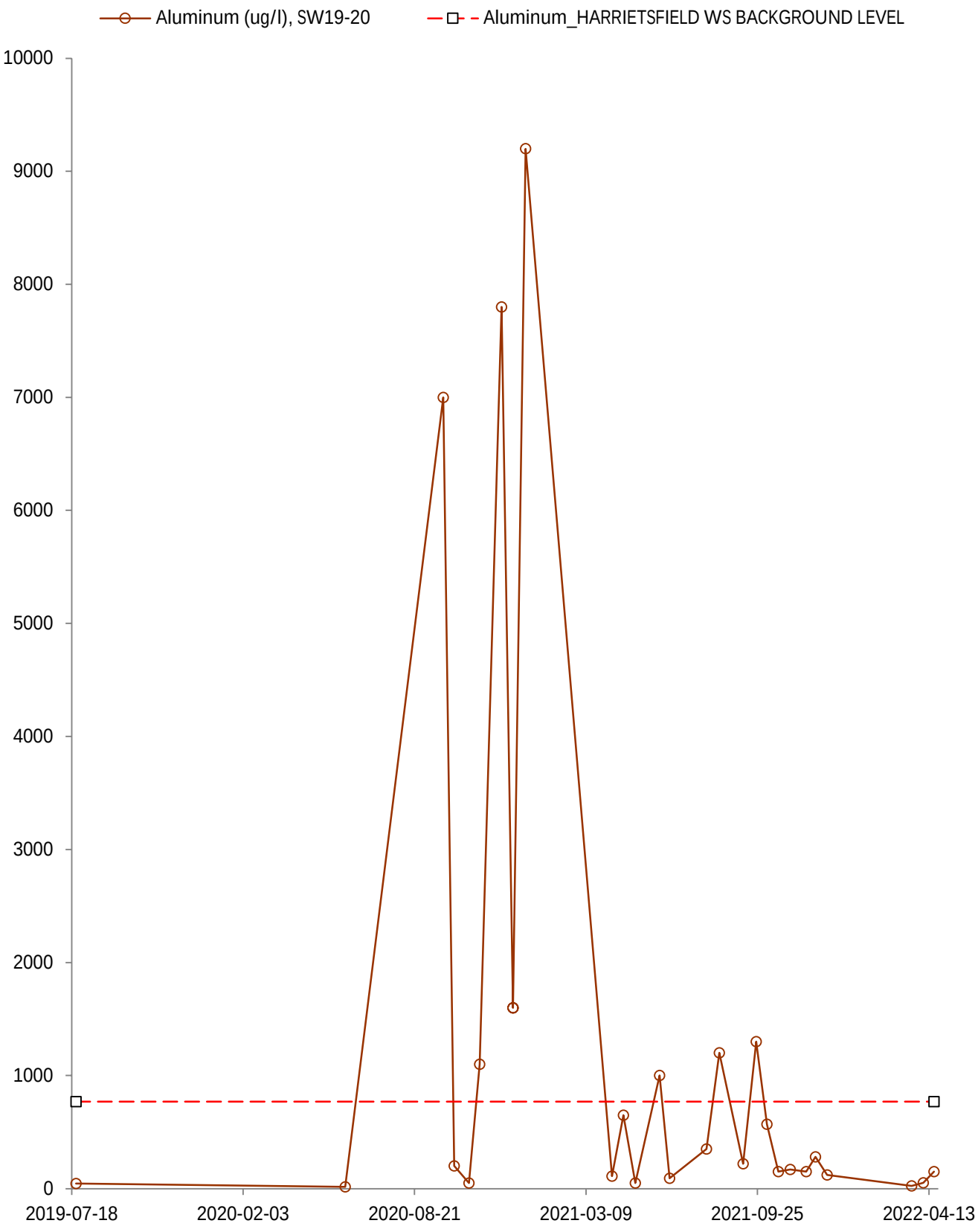
SW19-20-Alkalinity, Carbonate

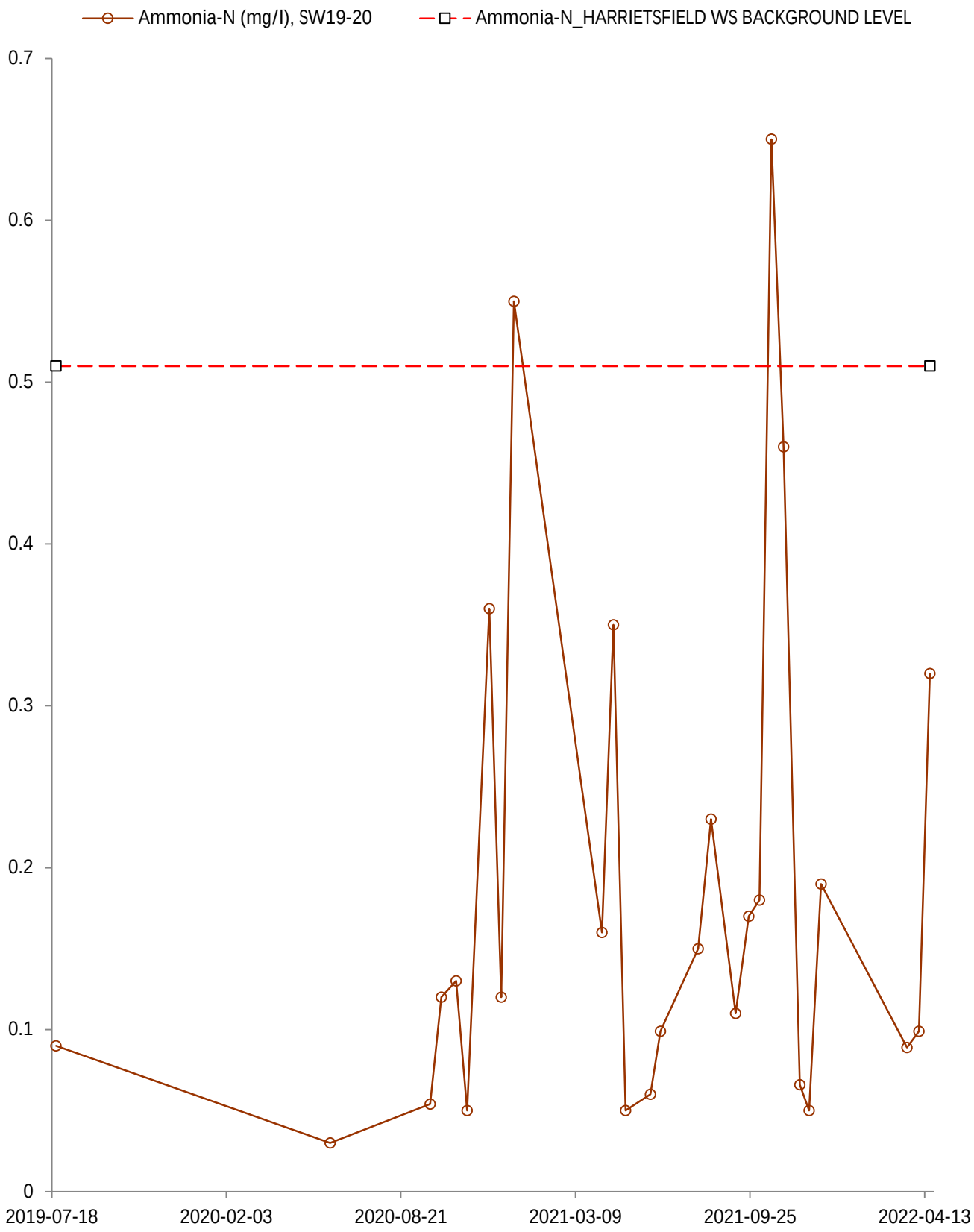


SW19-20-Alkalinity, Total

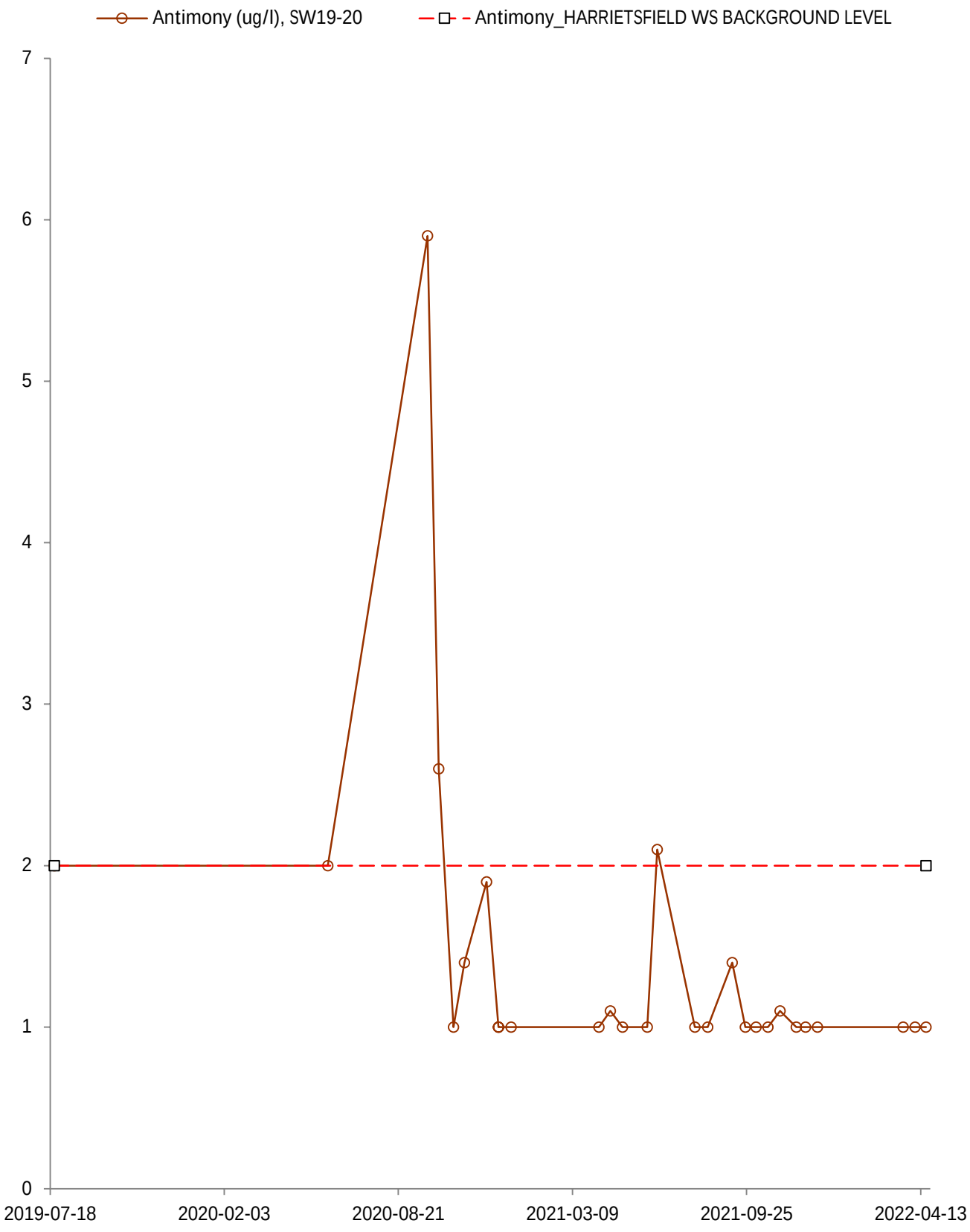


SW19-20-Aluminum

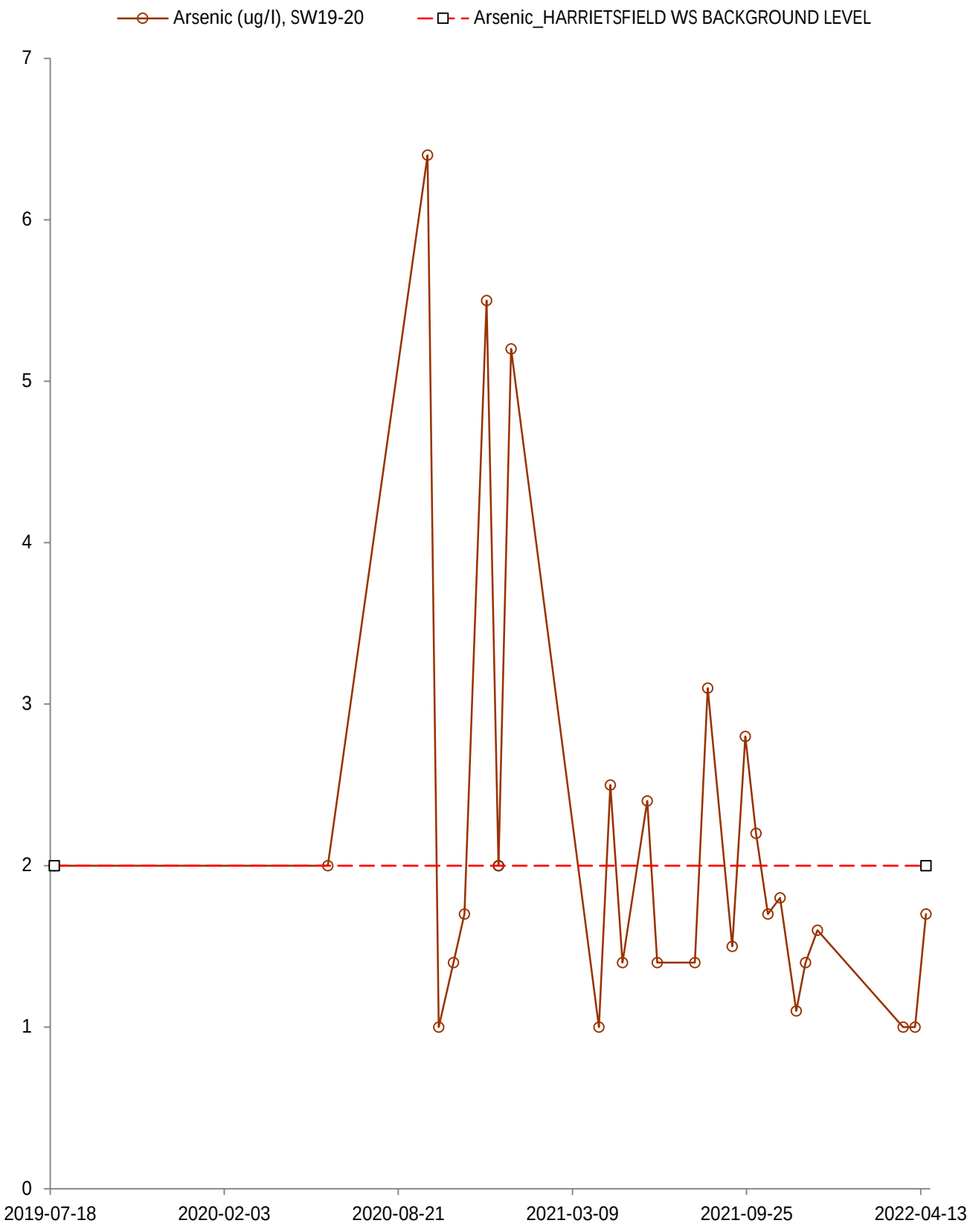



Ammonia-N (mg/l), SW19-20
Ammonia-N_HARRIETSFIELD WS BACKGROUND LEVEL
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2019-07-18
2020-02-03
2020-08-21
2021-03-09
2021-09-25
2022-04-13

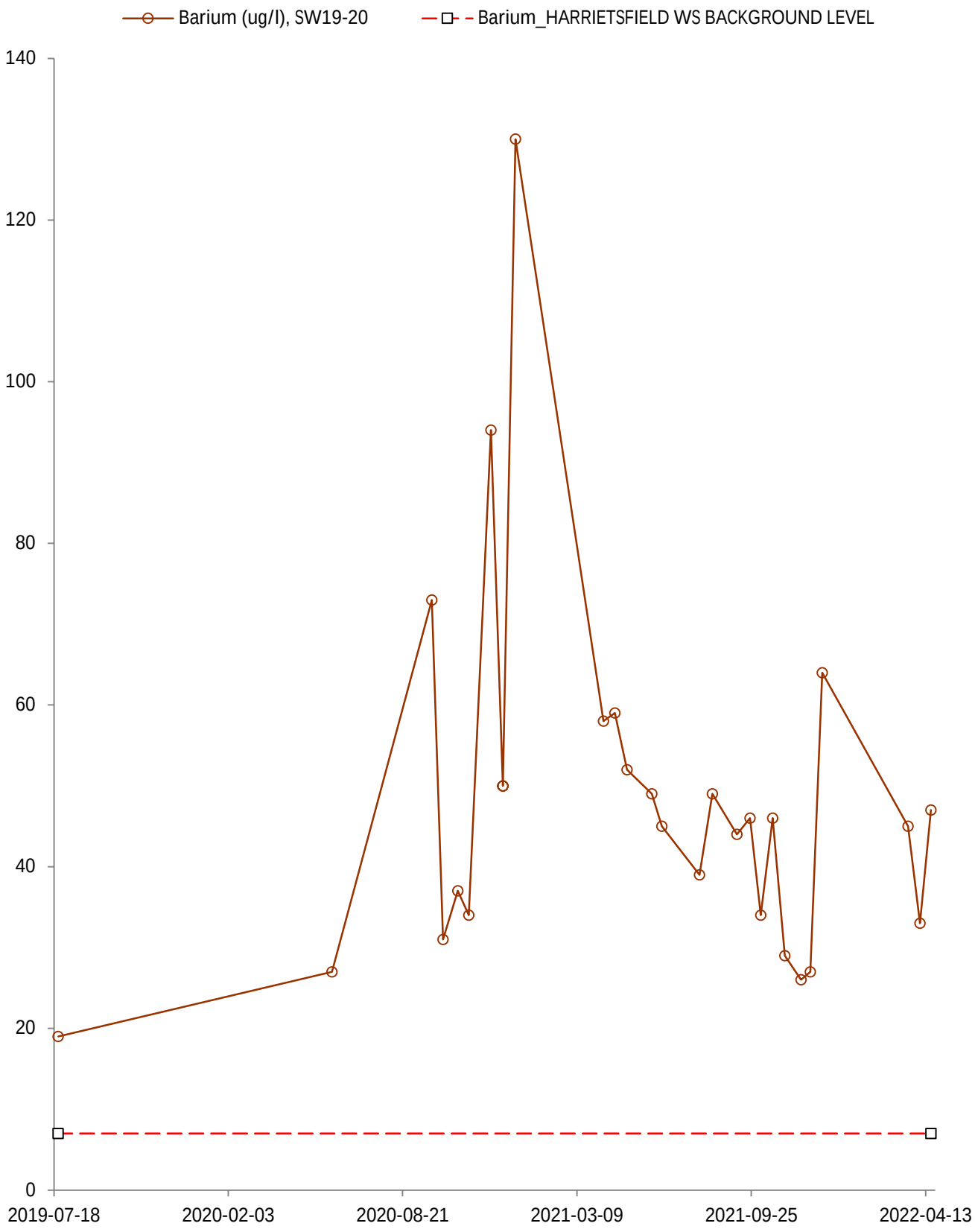
SW19-20-Antimony



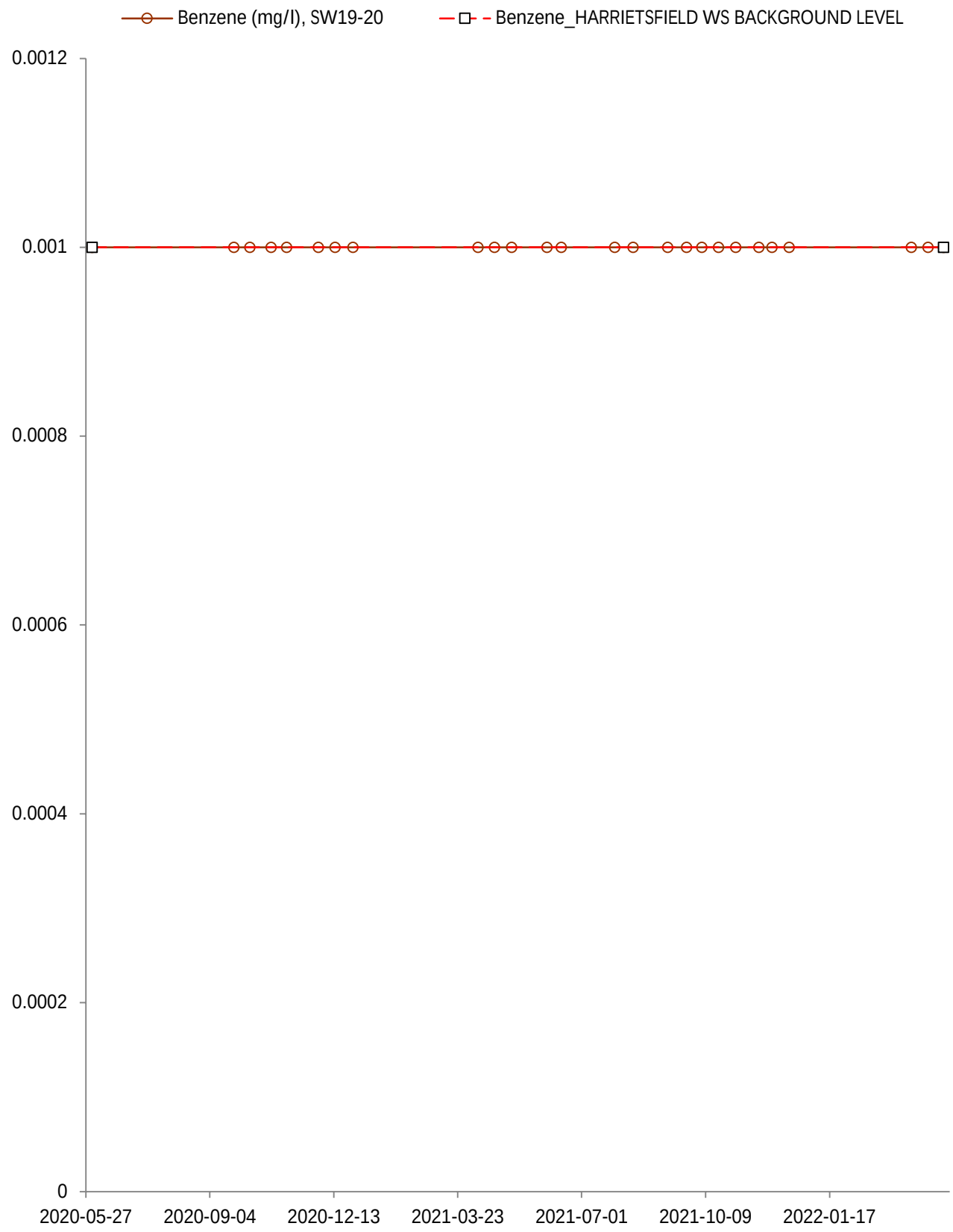
SW19-20-Arsenic



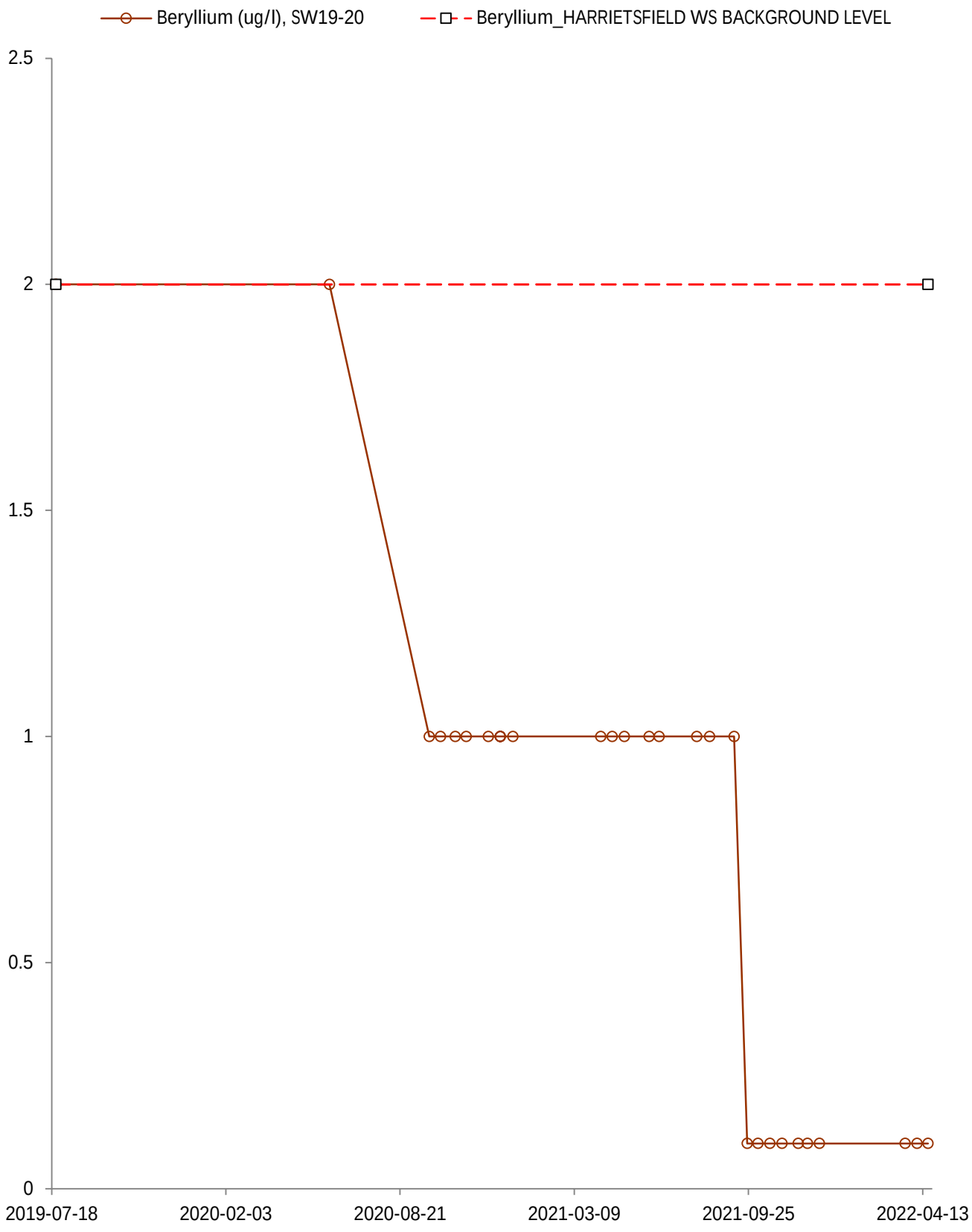
SW19-20-Barium



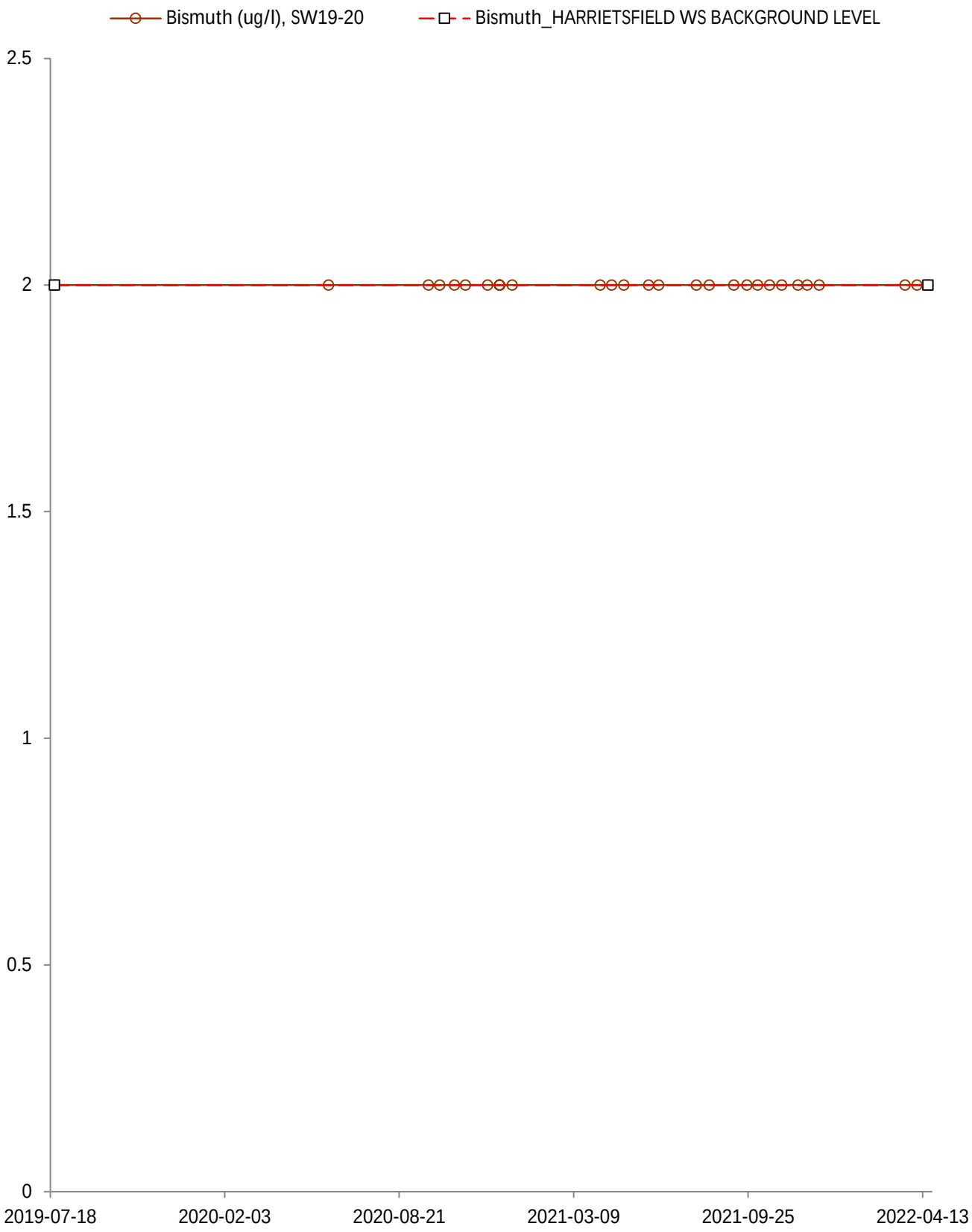
SW19-20-Benzene



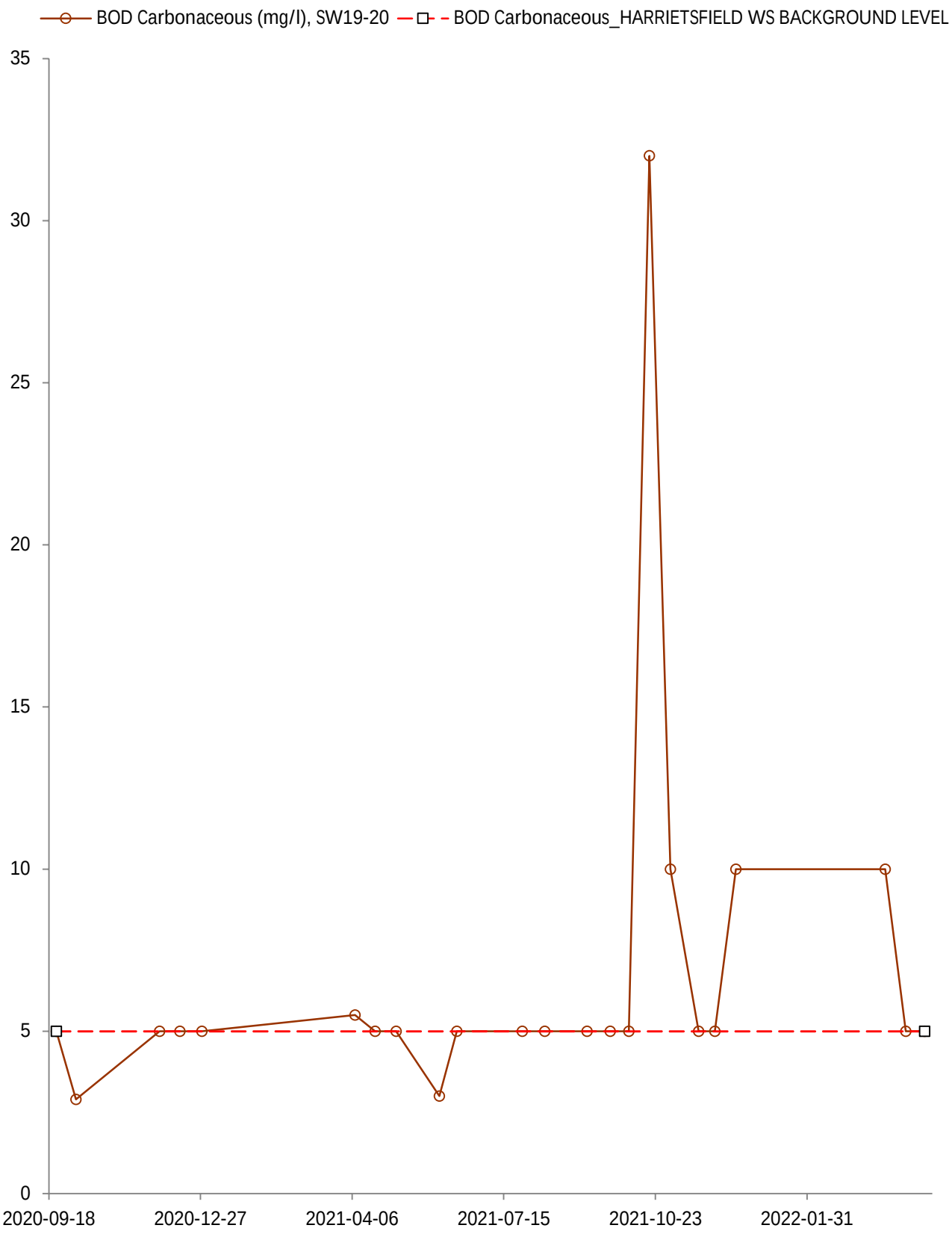
SW19-20-Beryllium



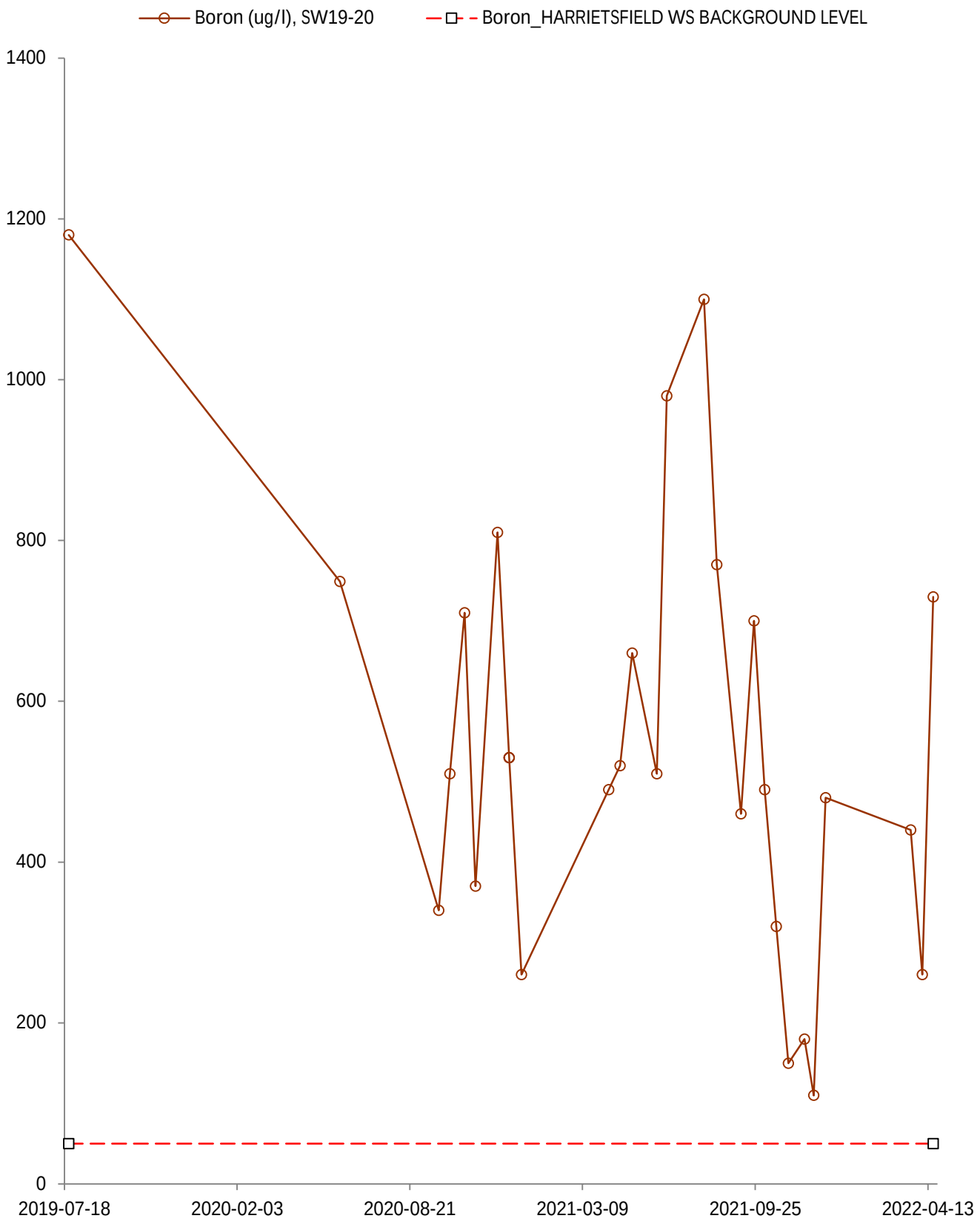
SW19-20-Bismuth



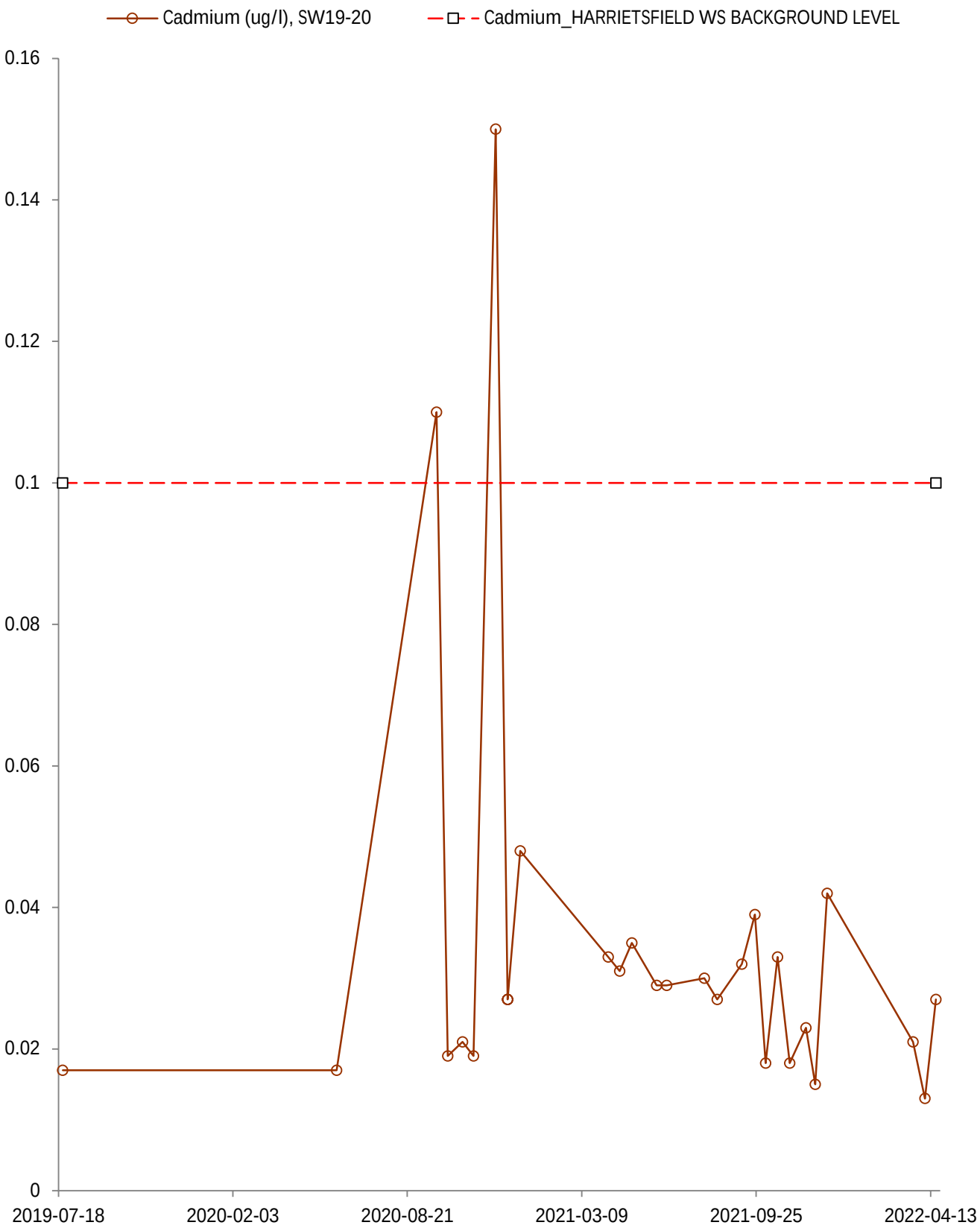
SW19-20-BOD Carbonaceous



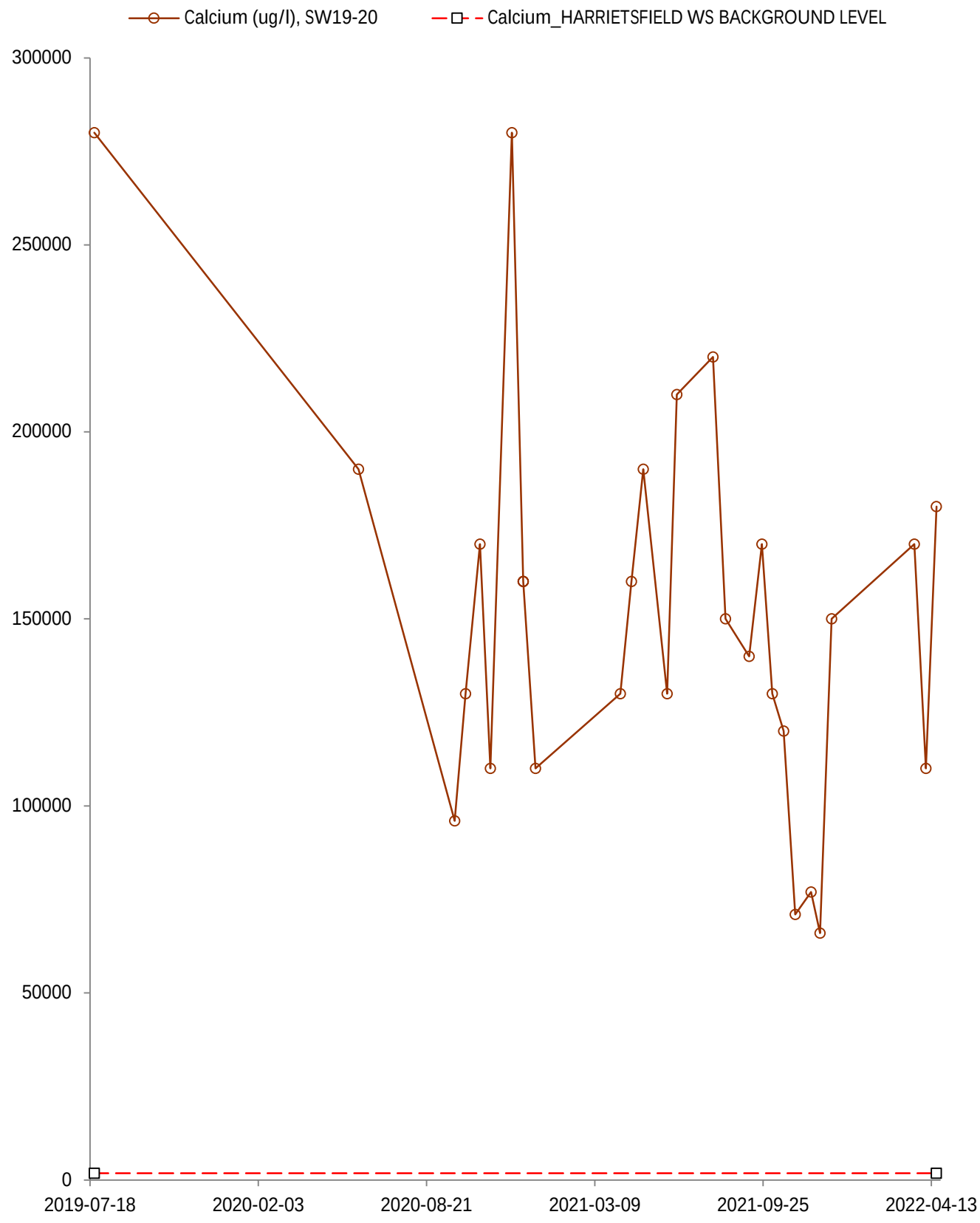
SW19-20-Boron



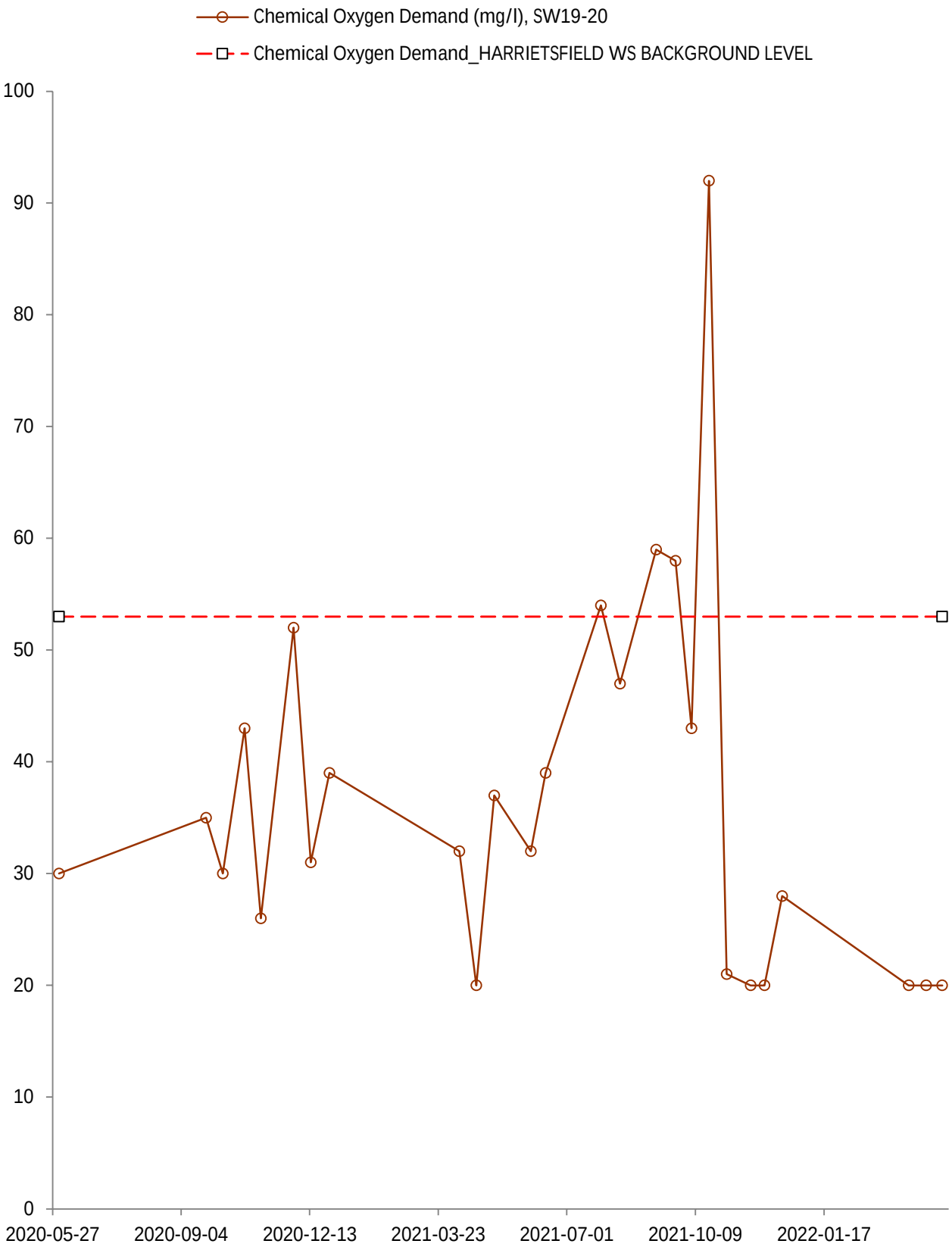
SW19-20-Cadmium



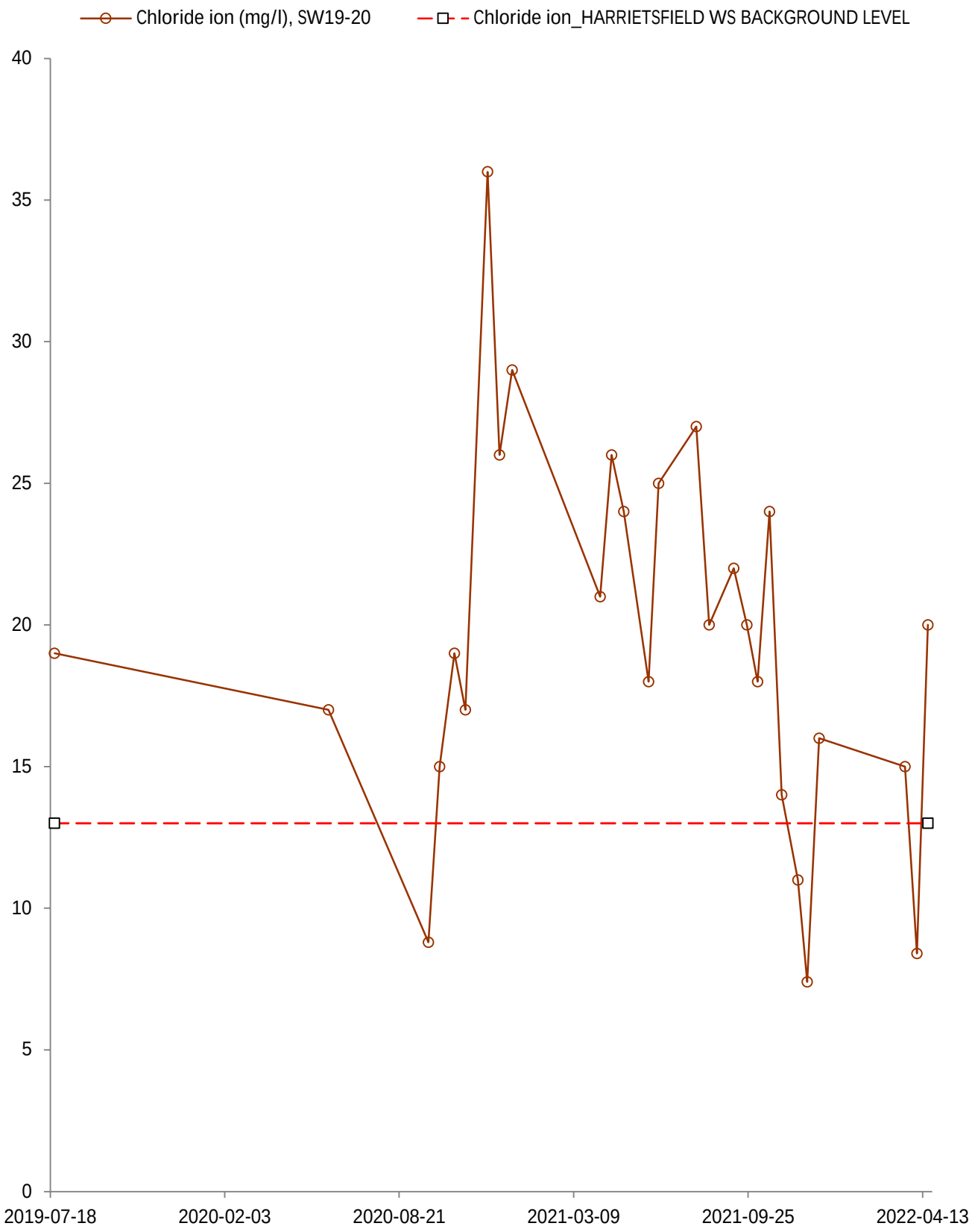
SW19-20-Calcium



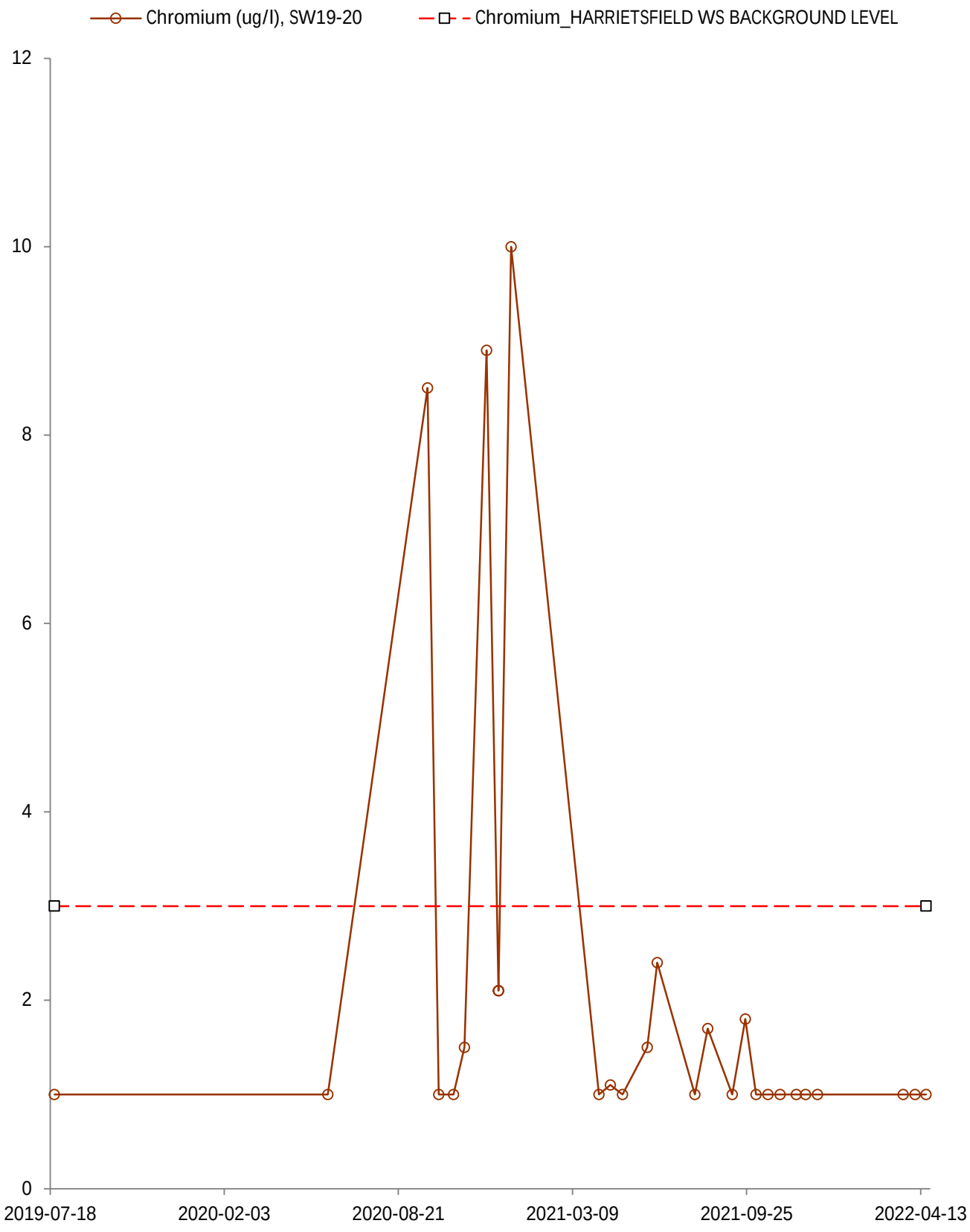
SW19-20-Chemical Oxygen Demand



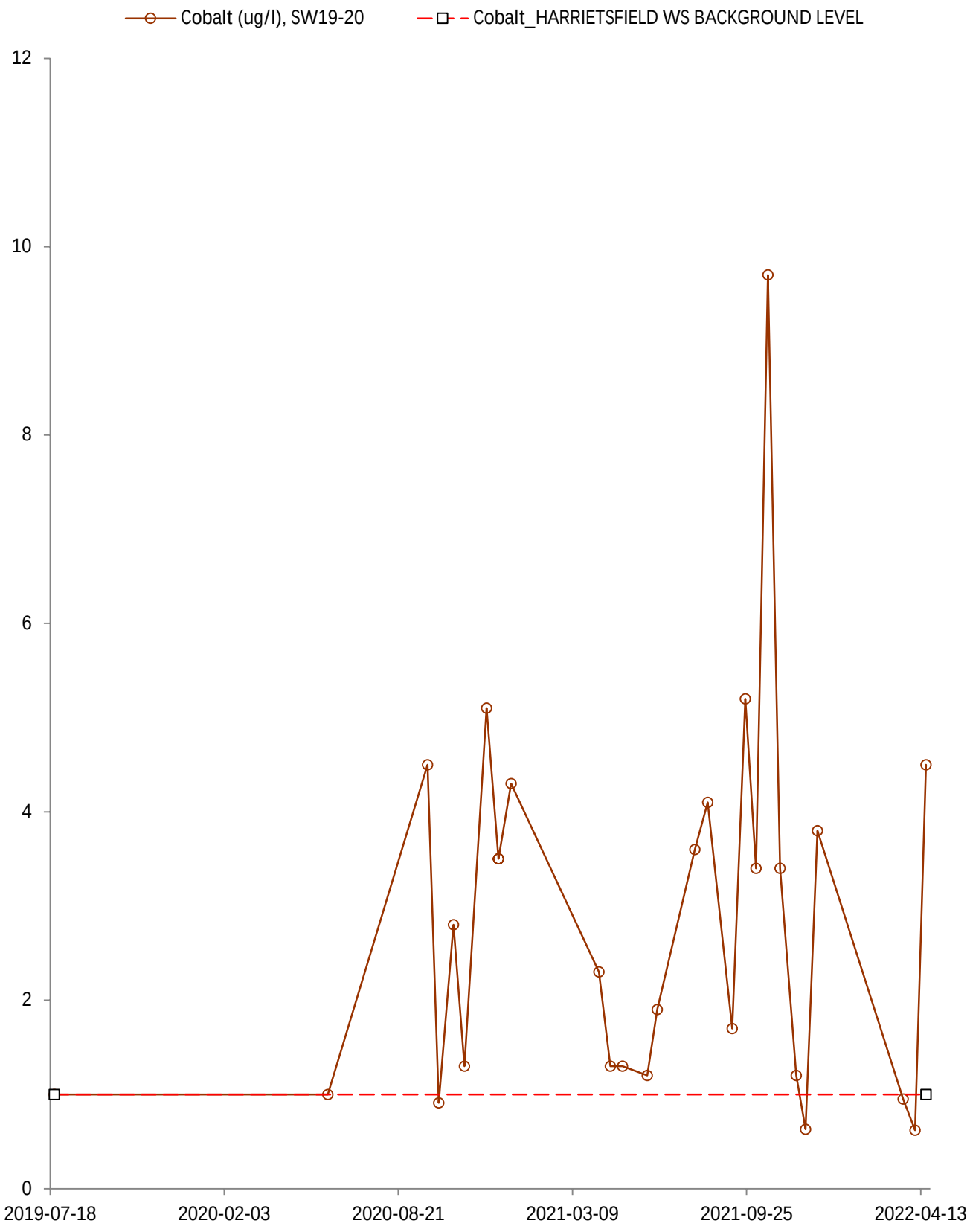
SW19-20-Chloride ion



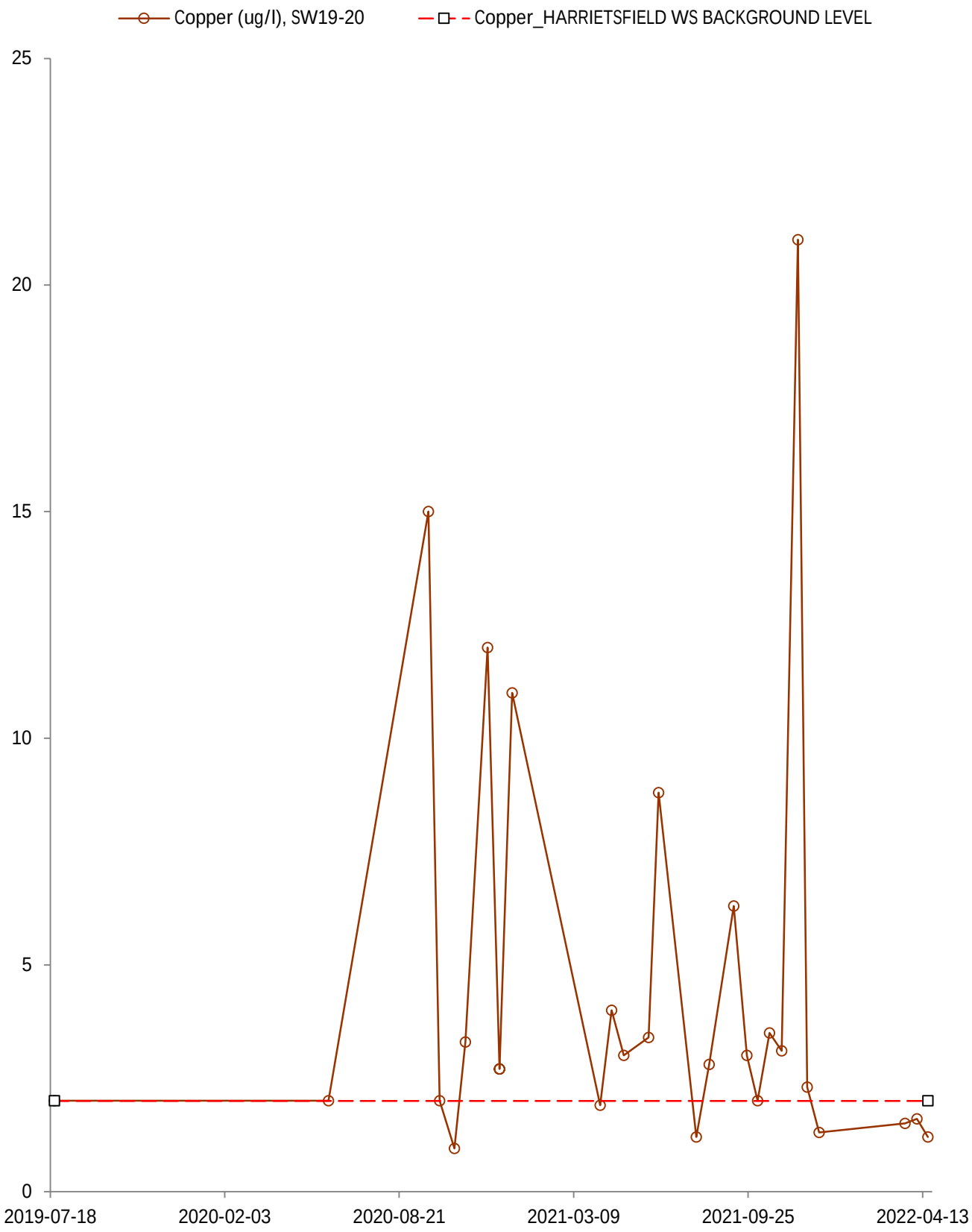
SW19-20-Chromium



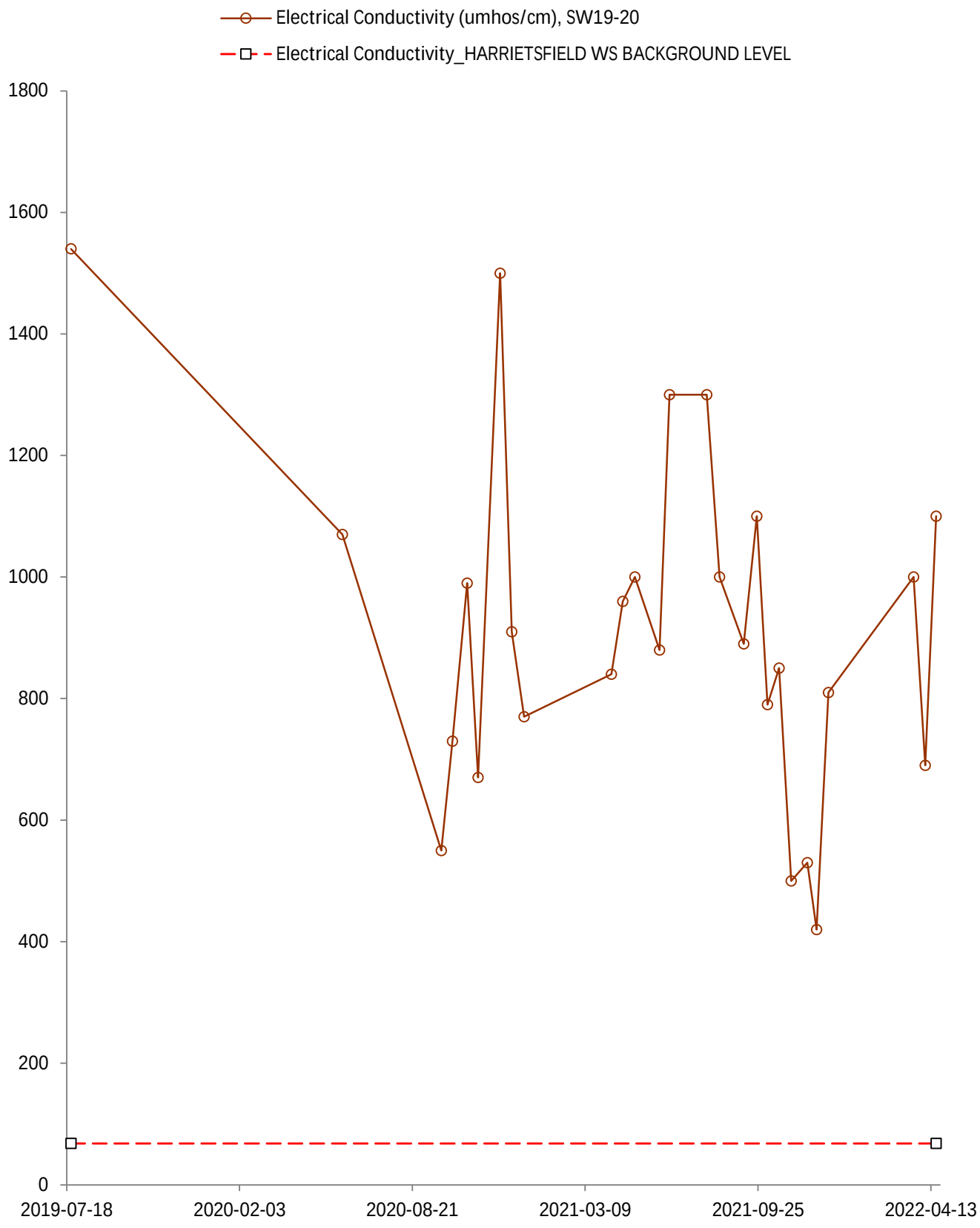
SW19-20-Cobalt



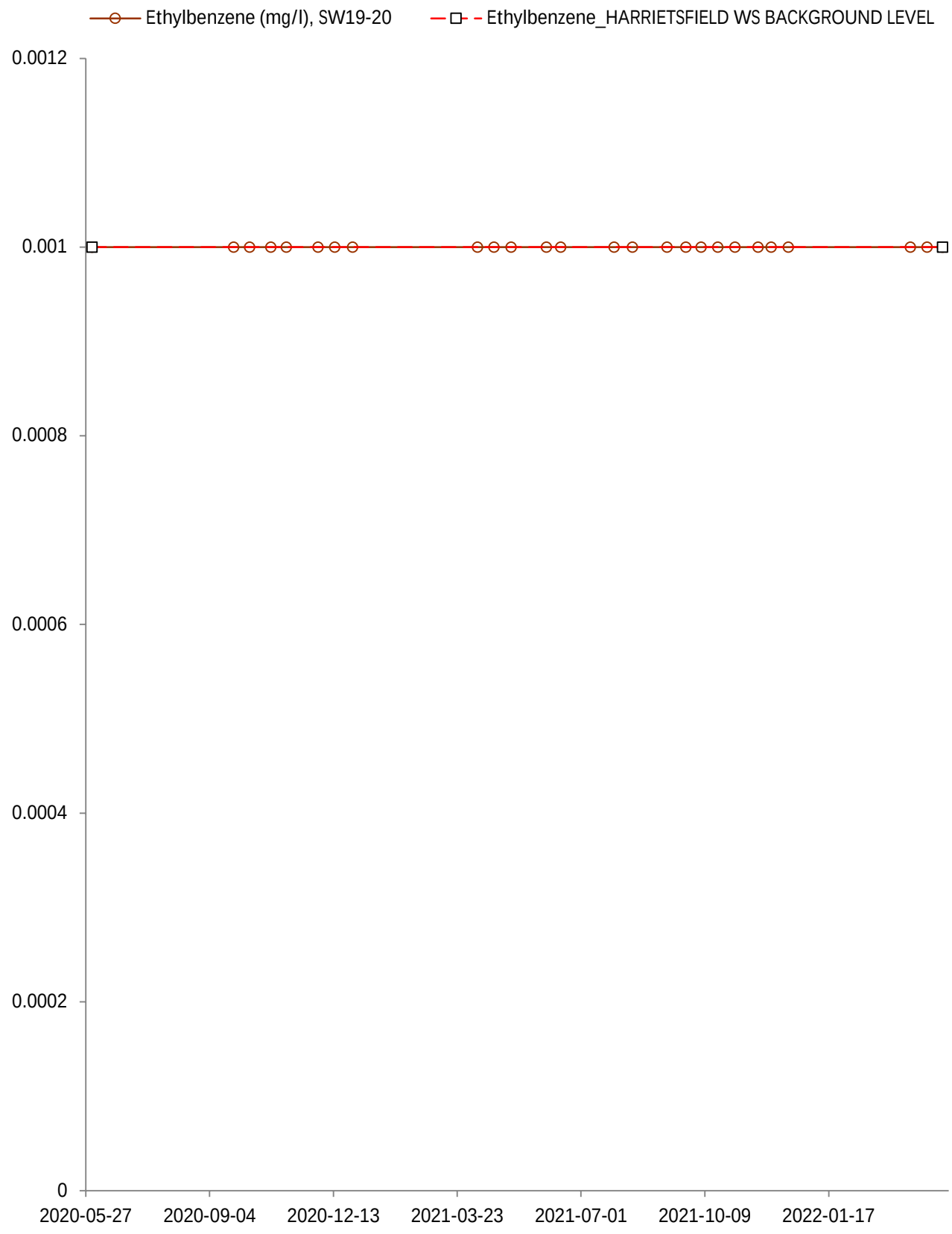
SW19-20-Copper



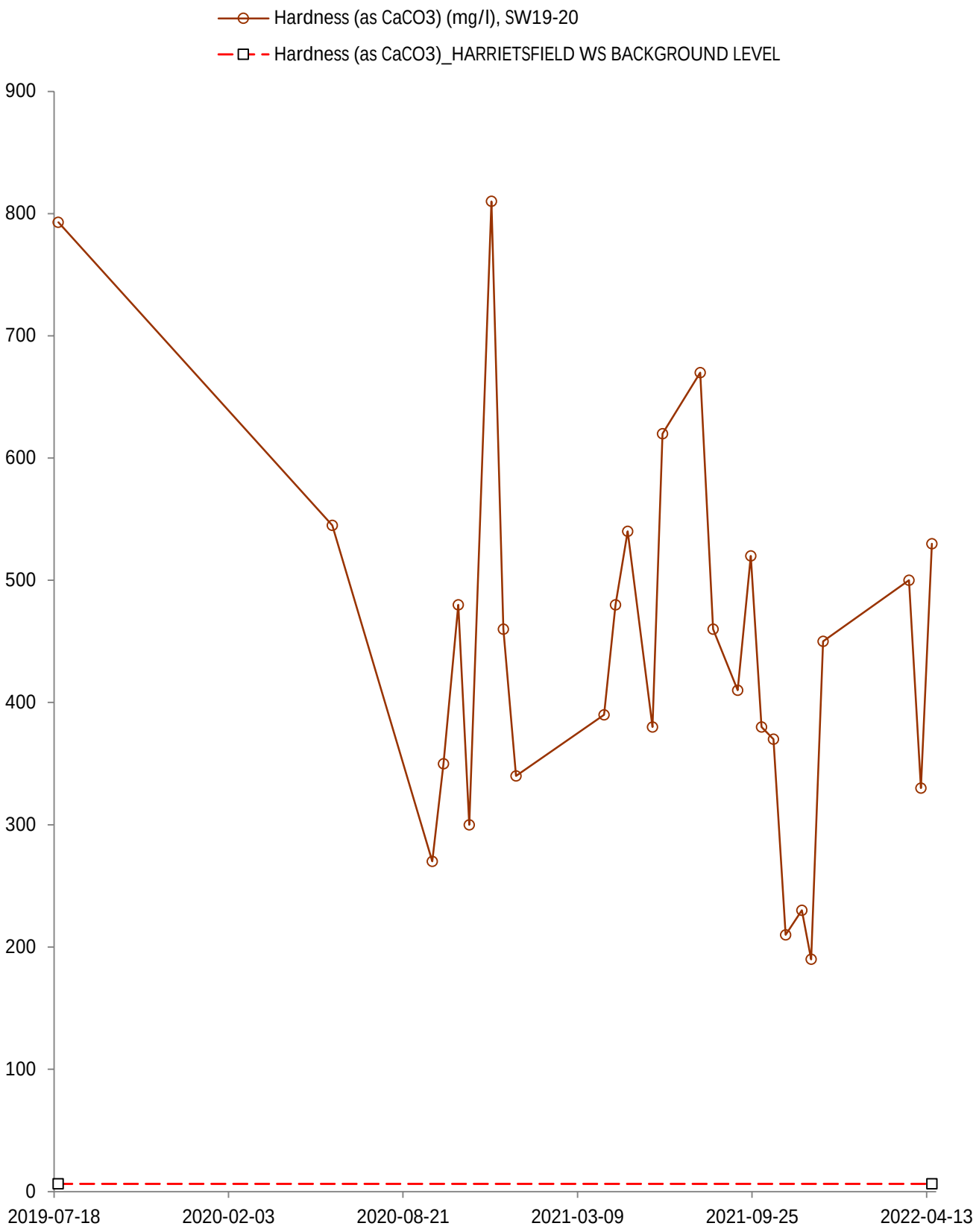
SW19-20-Electrical Conductivity



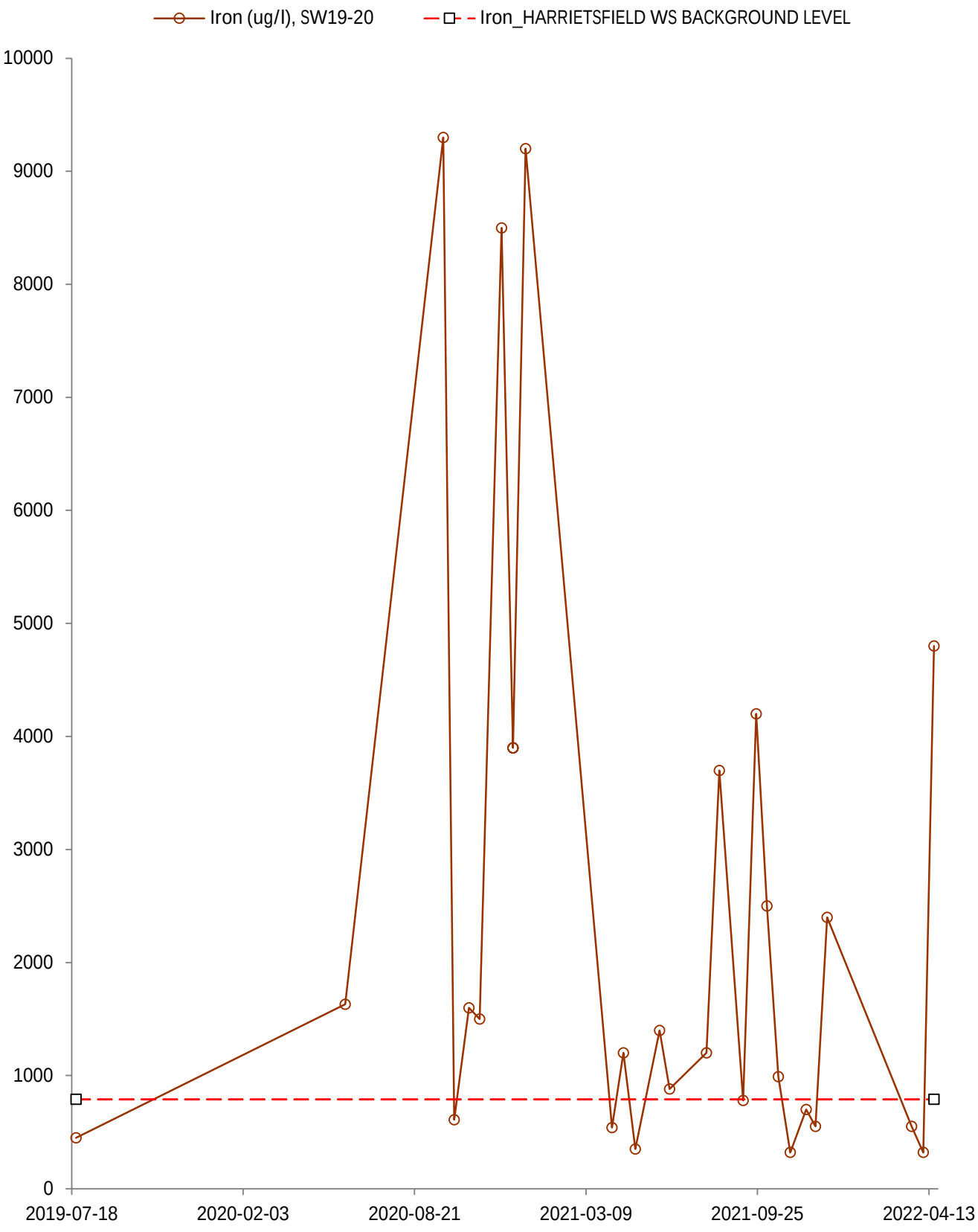
SW19-20-Ethylbenzene



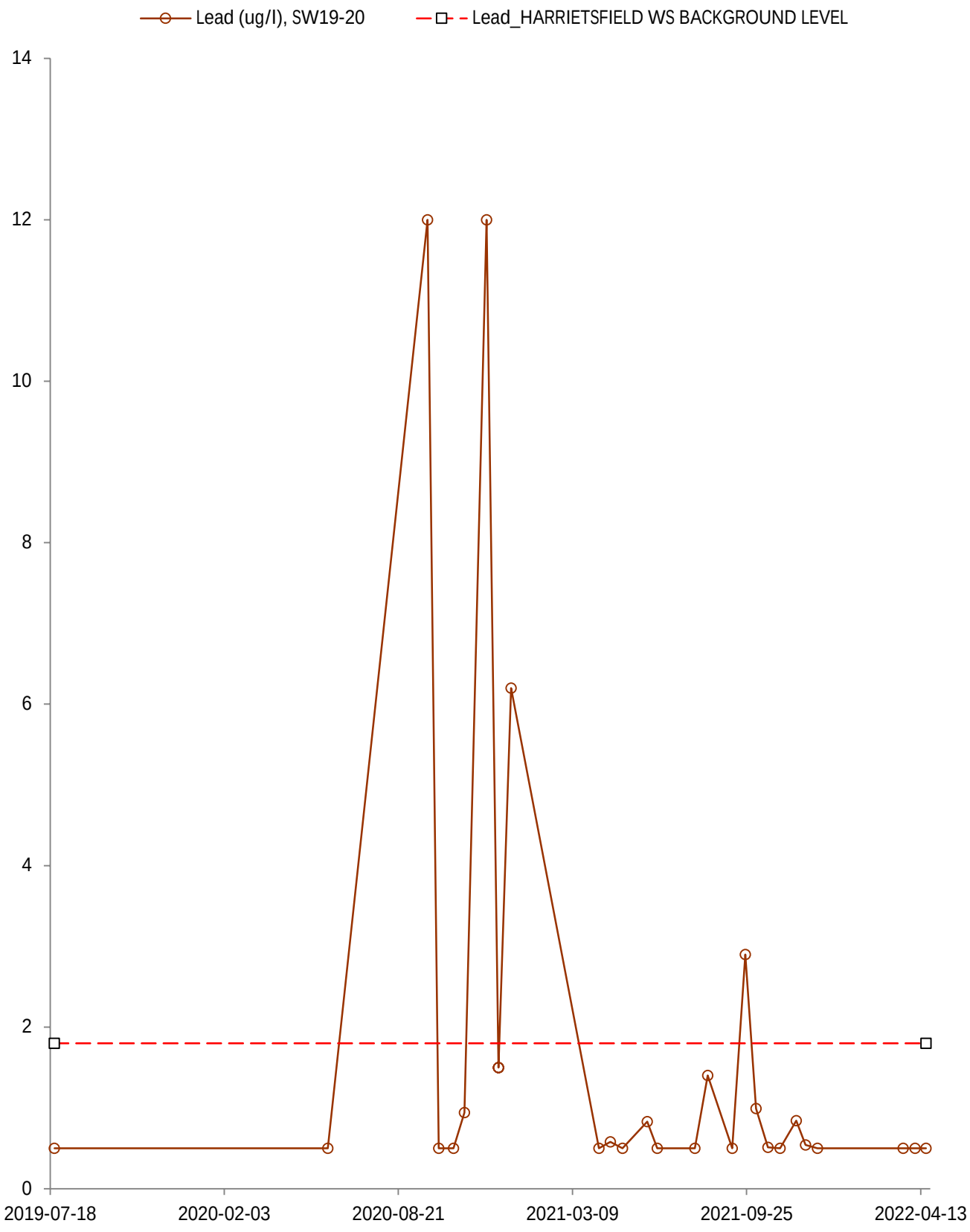
SW19-20-Hardness (as CaCO3)



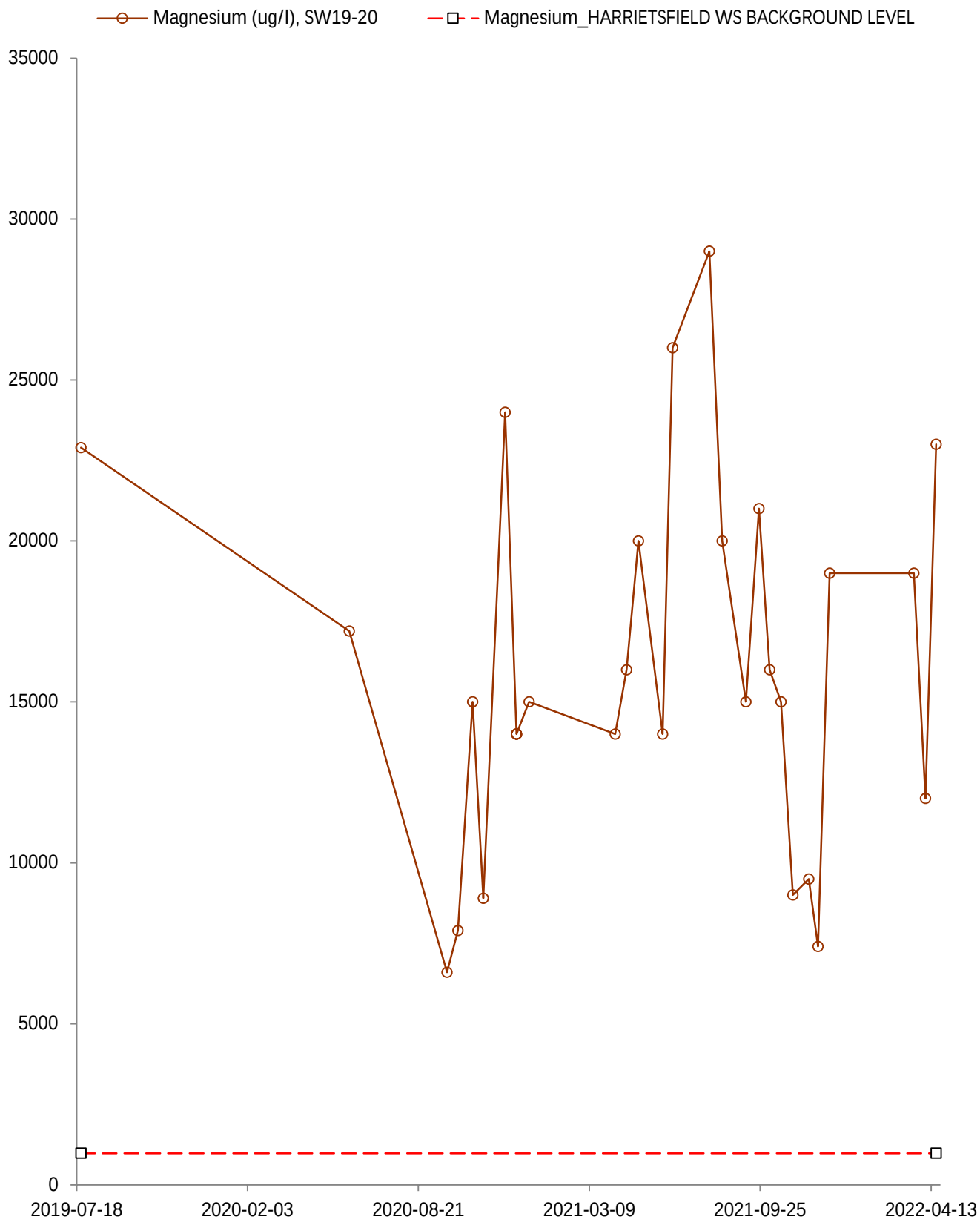
SW19-20-Iron


Iron (ug/l), SW19-20
Iron_HARRIETSFIELD WS BACKGROUND LEVEL
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2019-07-18
2020-02-03
2020-08-21
2021-03-09
2021-09-25
2022-04-13

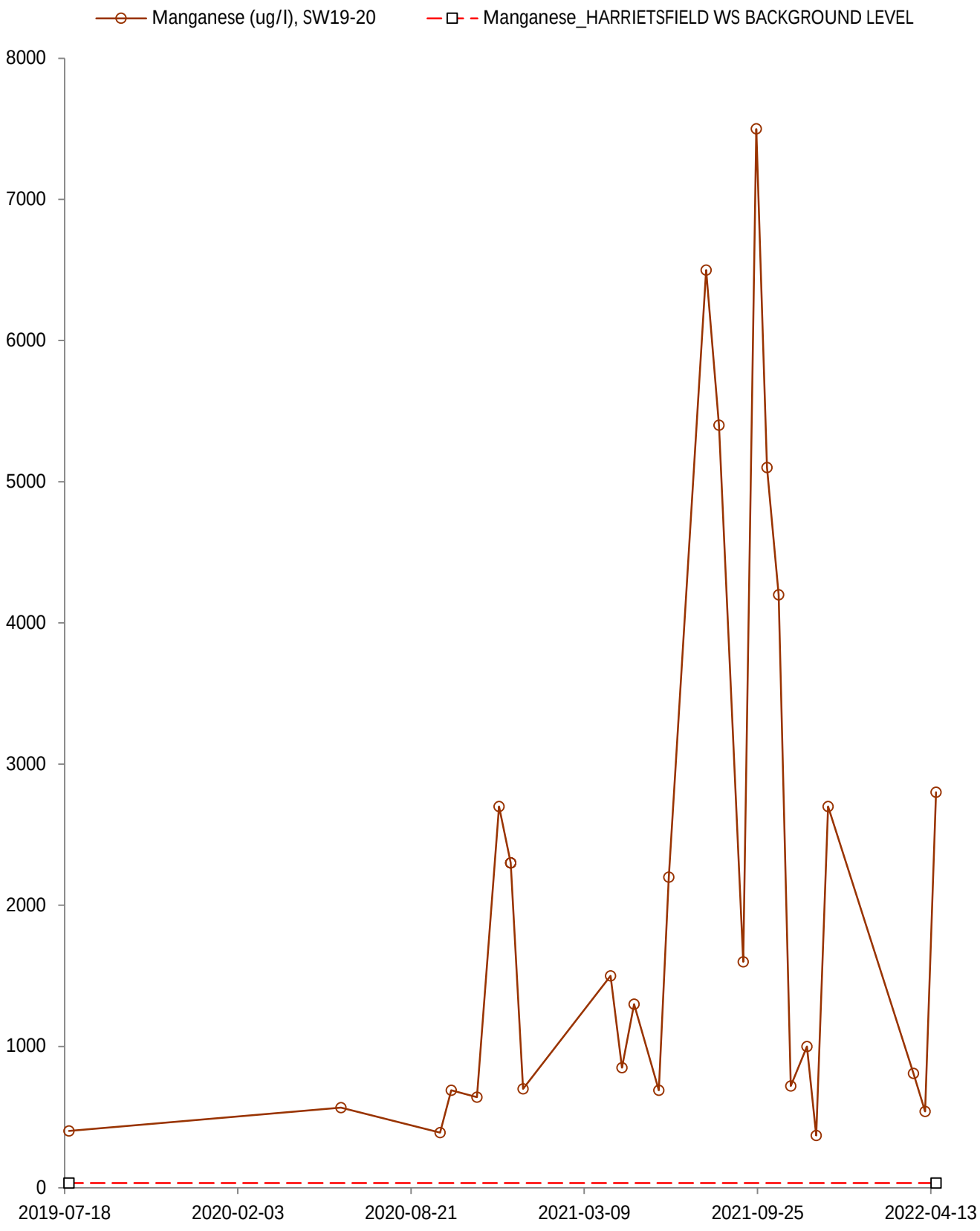
SW19-20-Lead


Lead (ug/l), SW19-20
Lead_HARRIETSFIELD WS BACKGROUND LEVEL
14
12
10
8
6
4
2
0
2019-07-18
2020-02-03
2020-08-21
2021-03-09
2021-09-25
2022-04-13

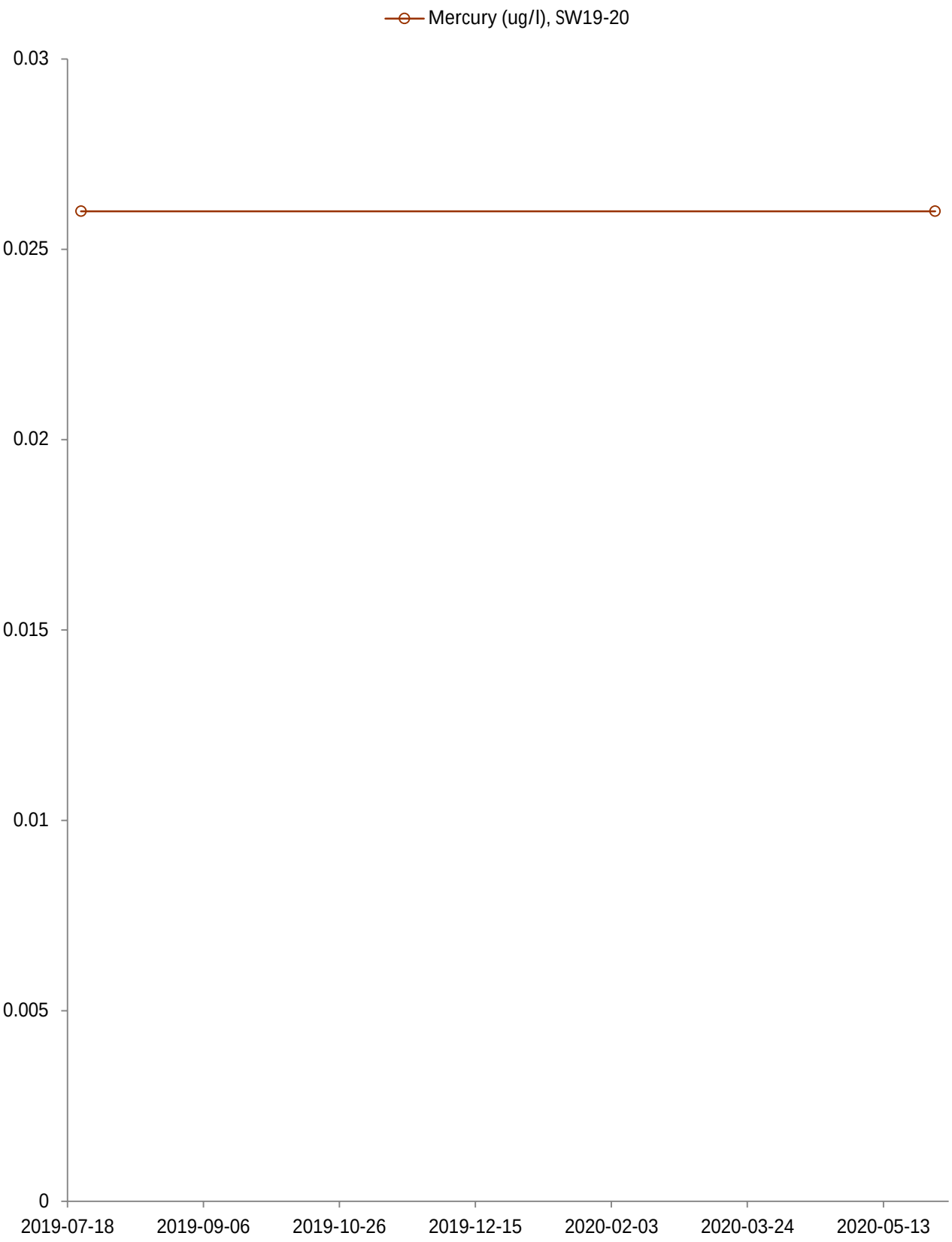
SW19-20-Magnesium



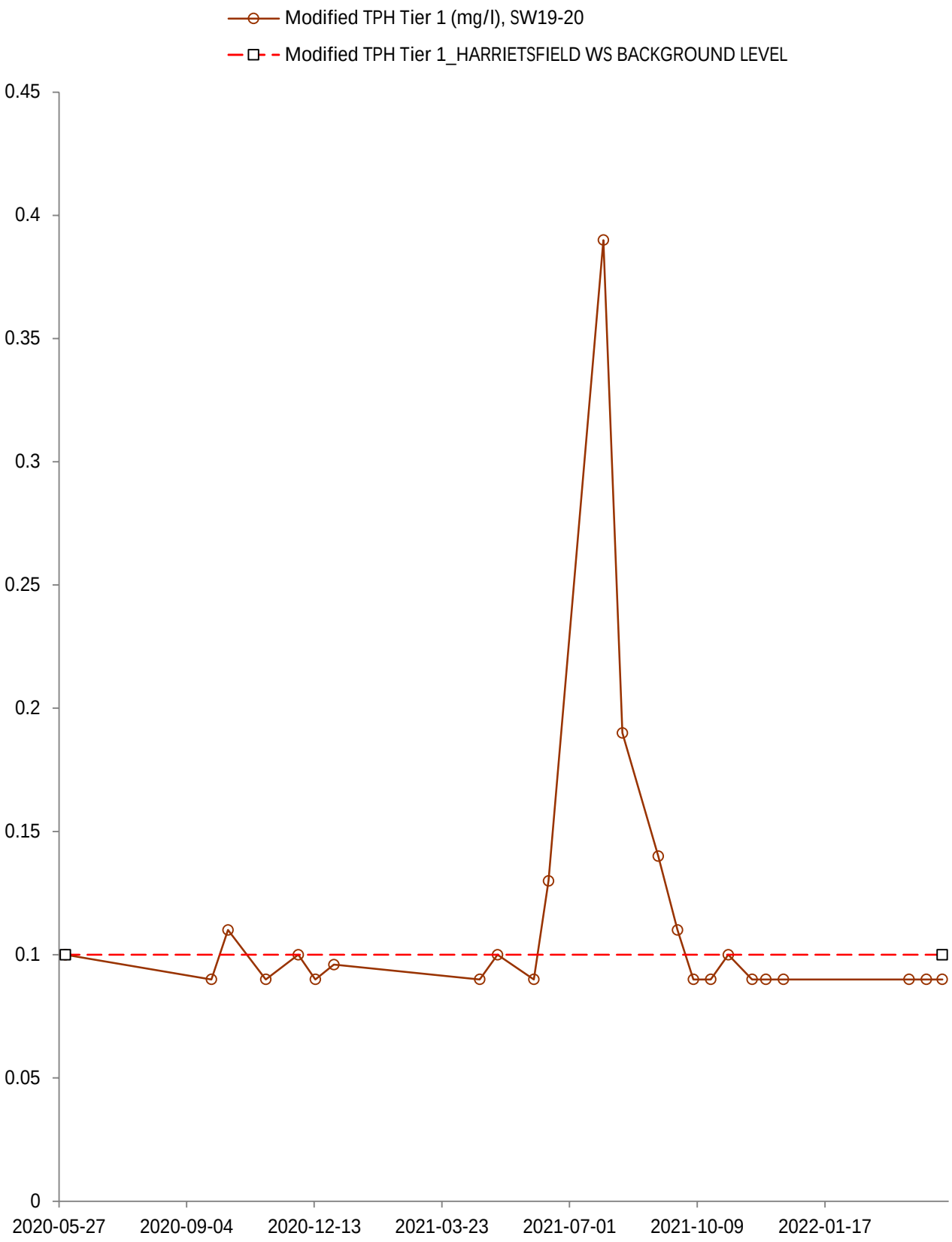
SW19-20-Manganese



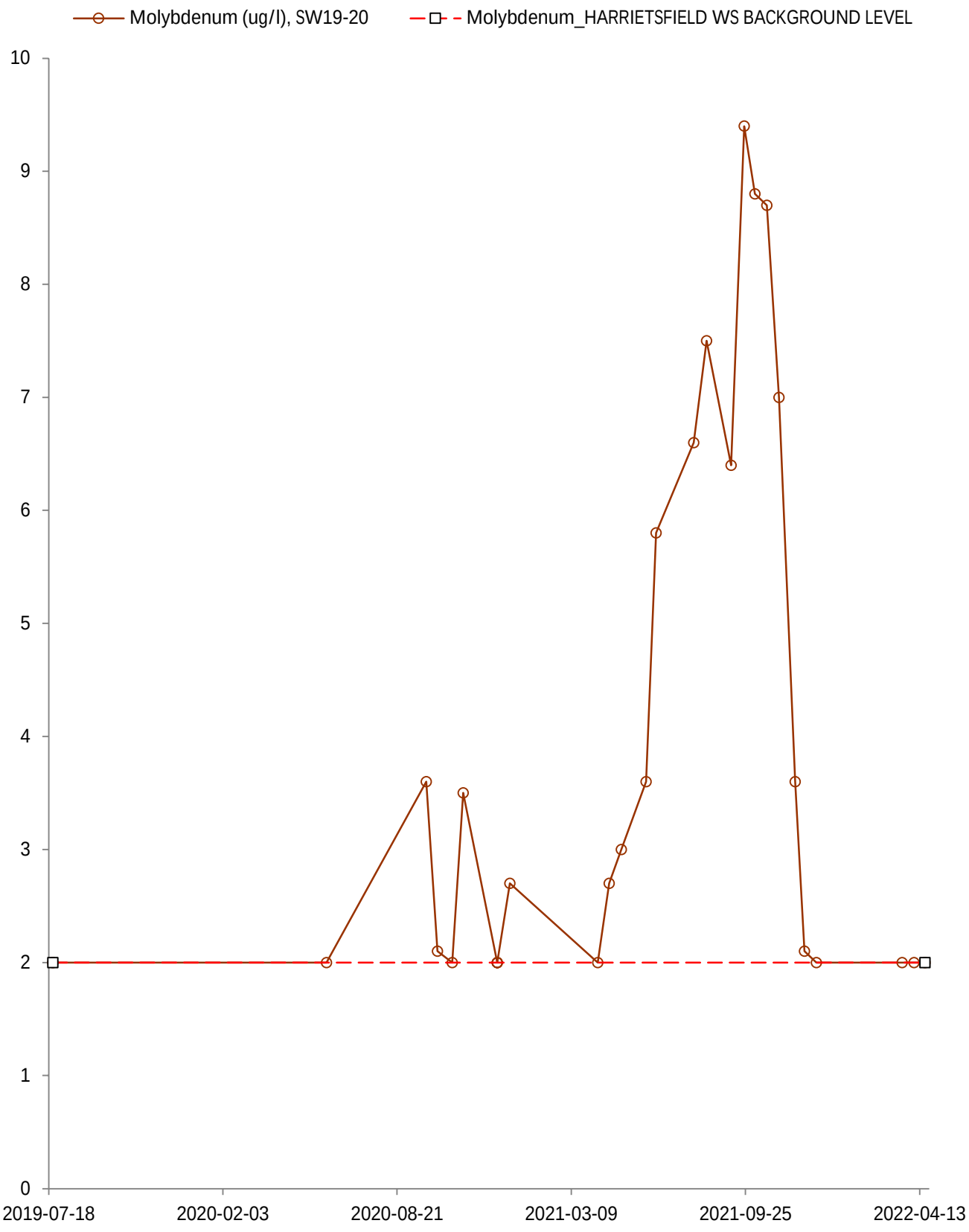
SW19-20-Mercury



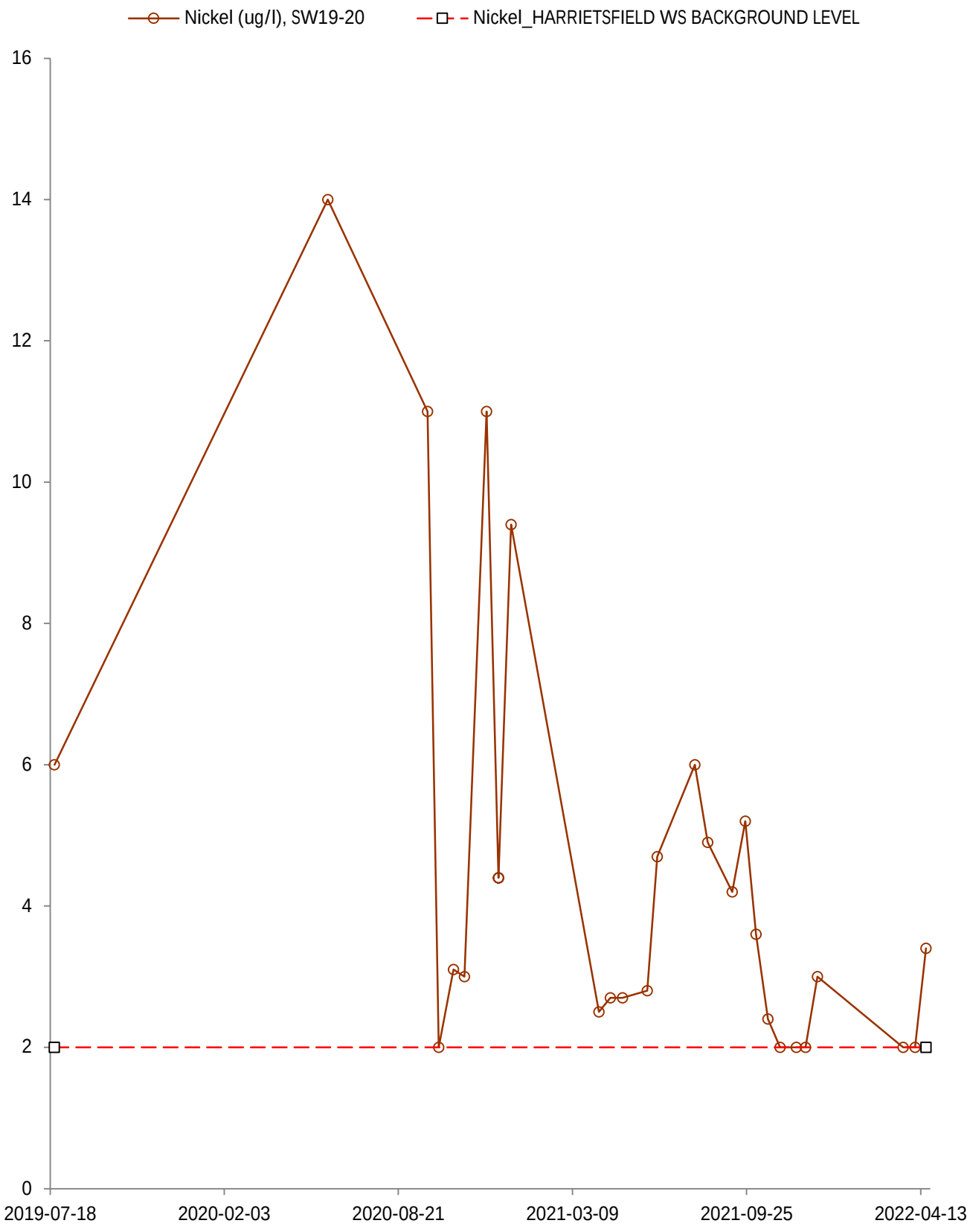
SW19-20-Modified TPH Tier 1



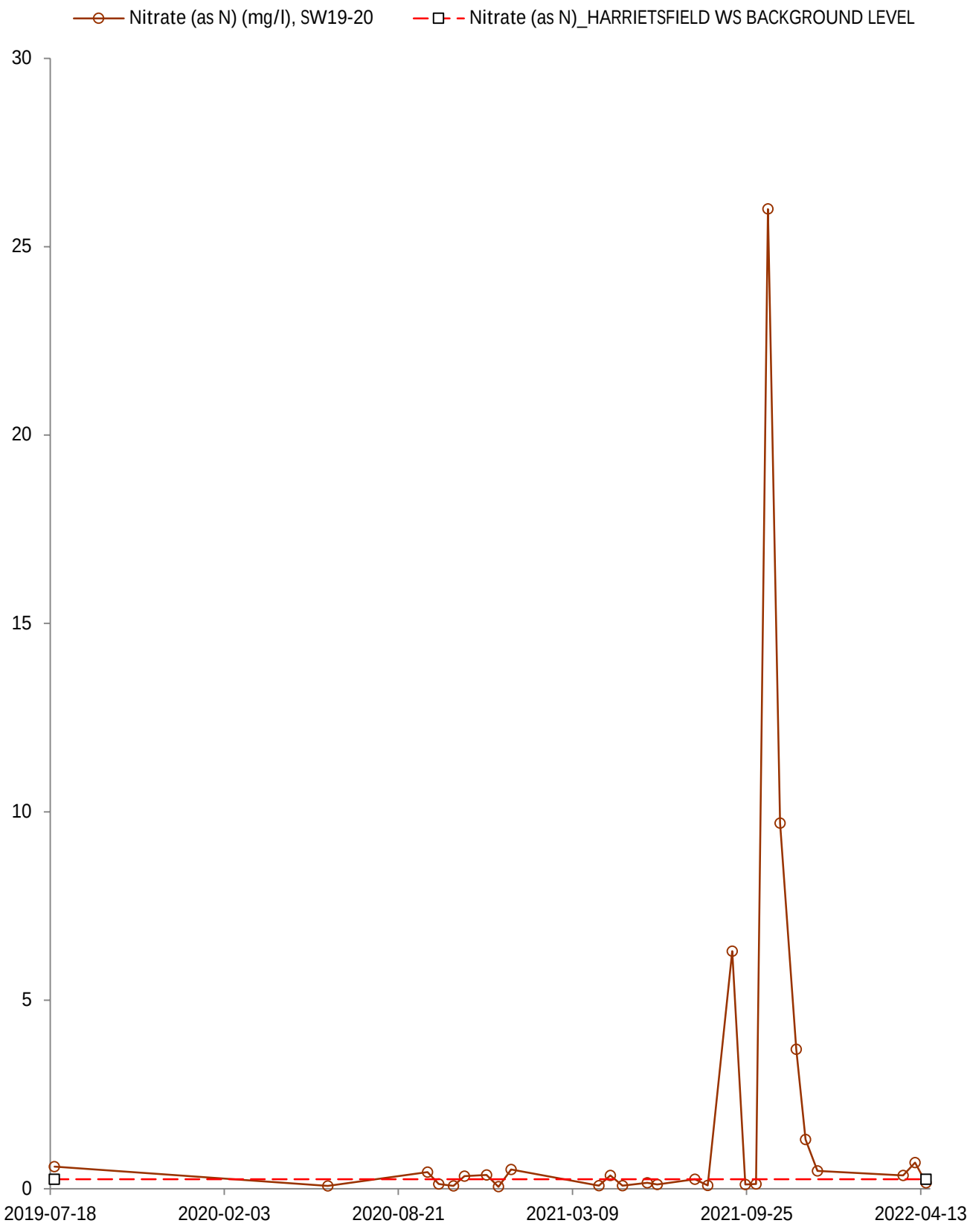
SW19-20-Molybdenum



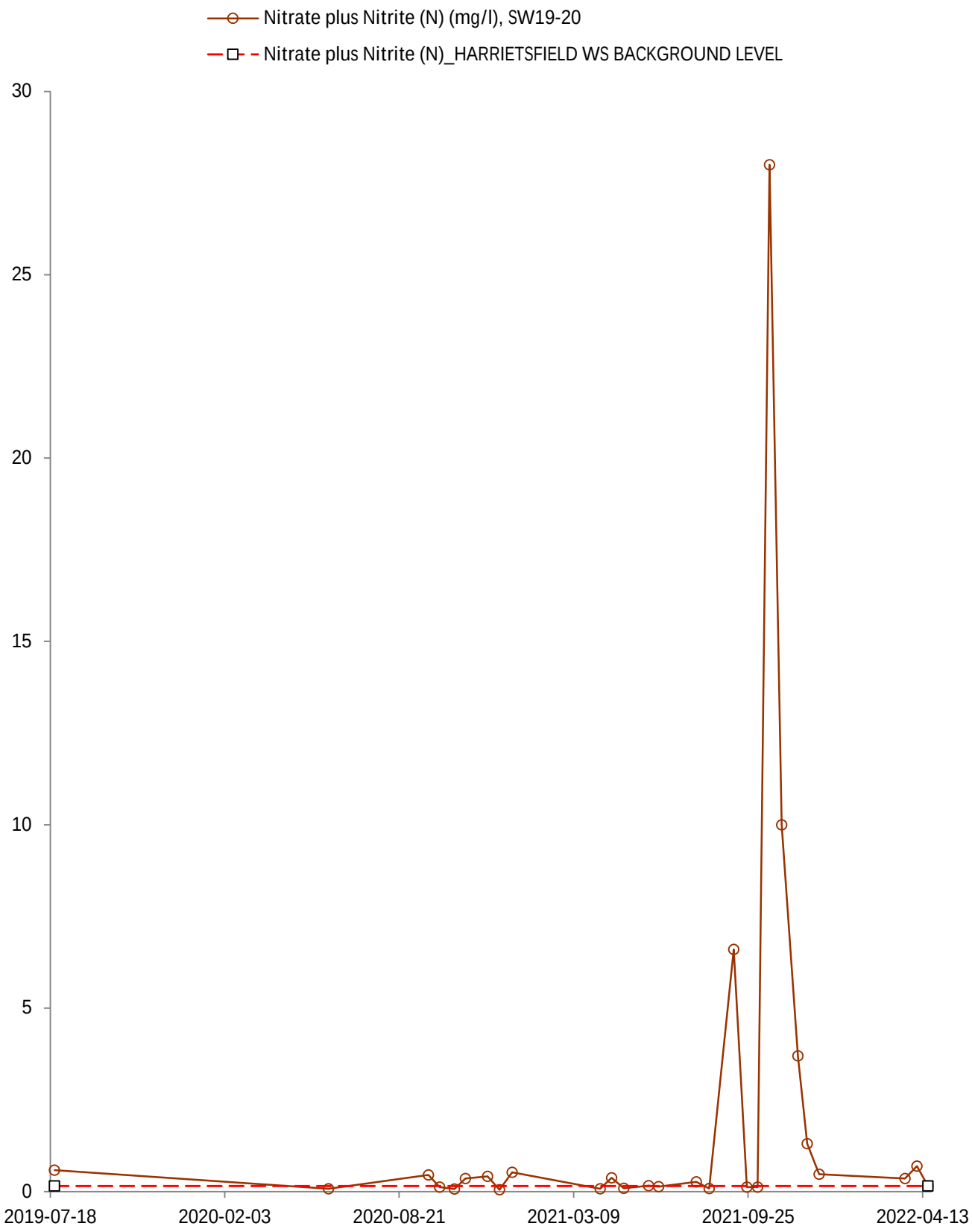
SW19-20-Nickel



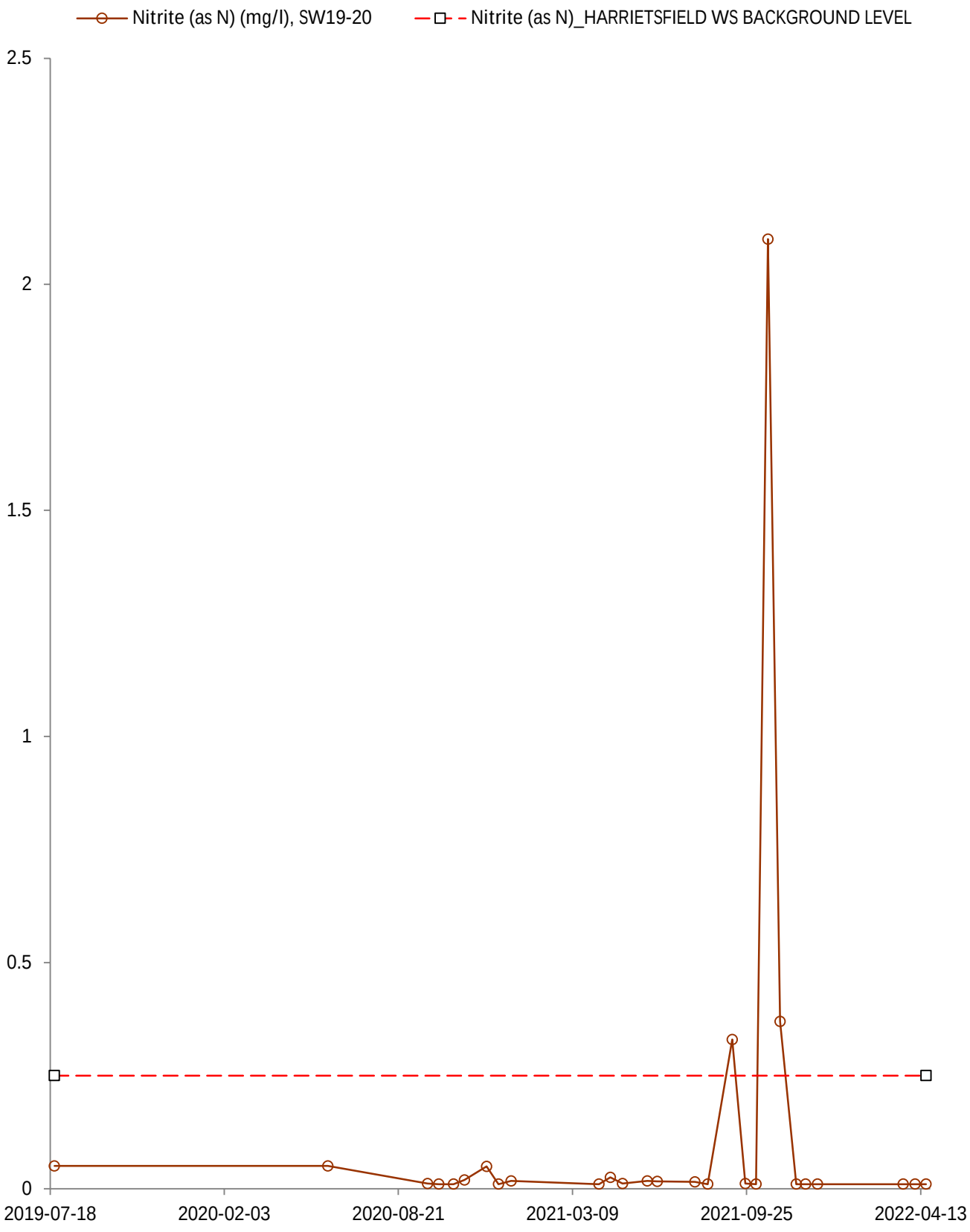
SW19-20-Nitrate (as N)



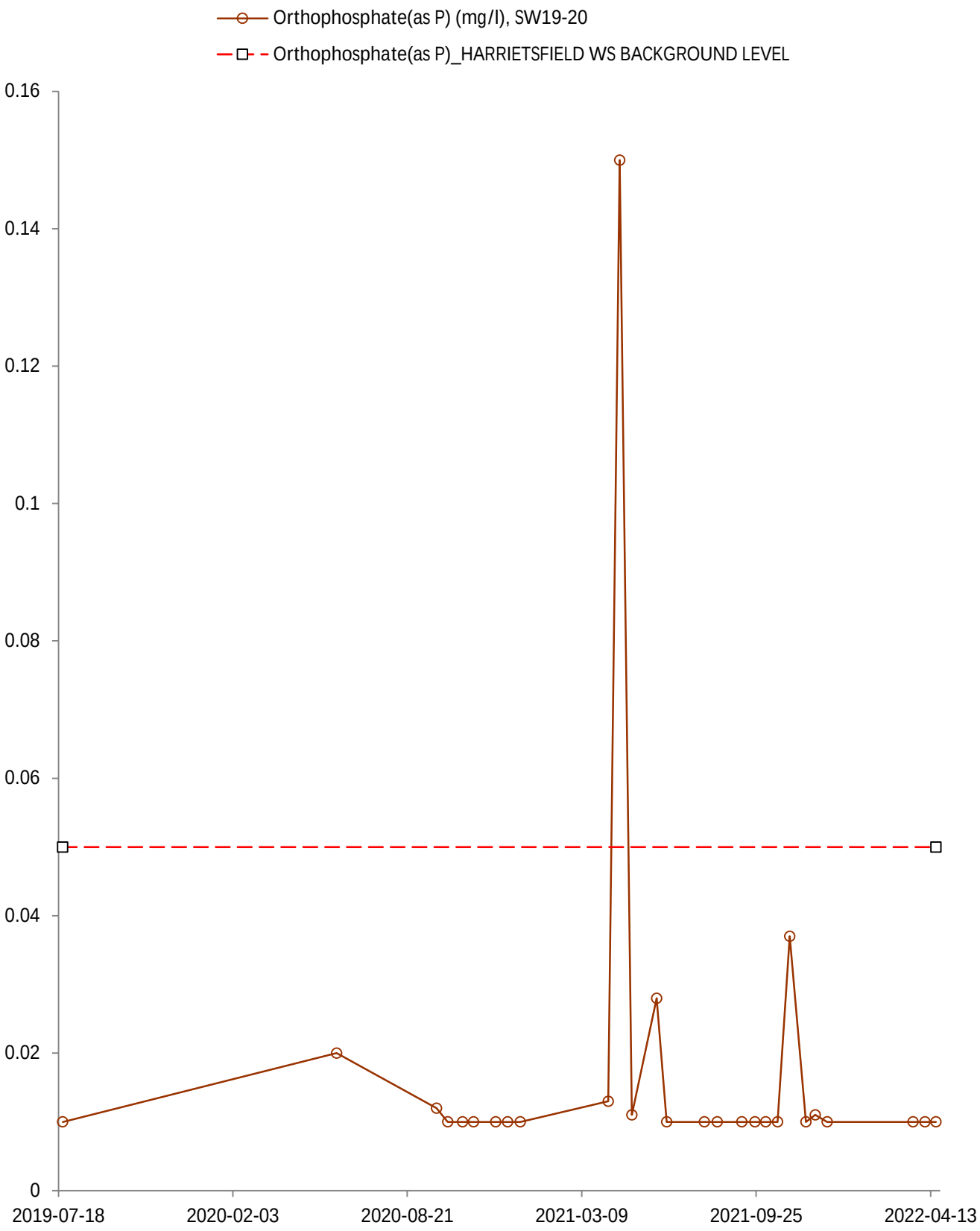
SW19-20-Nitrate plus Nitrite (N)



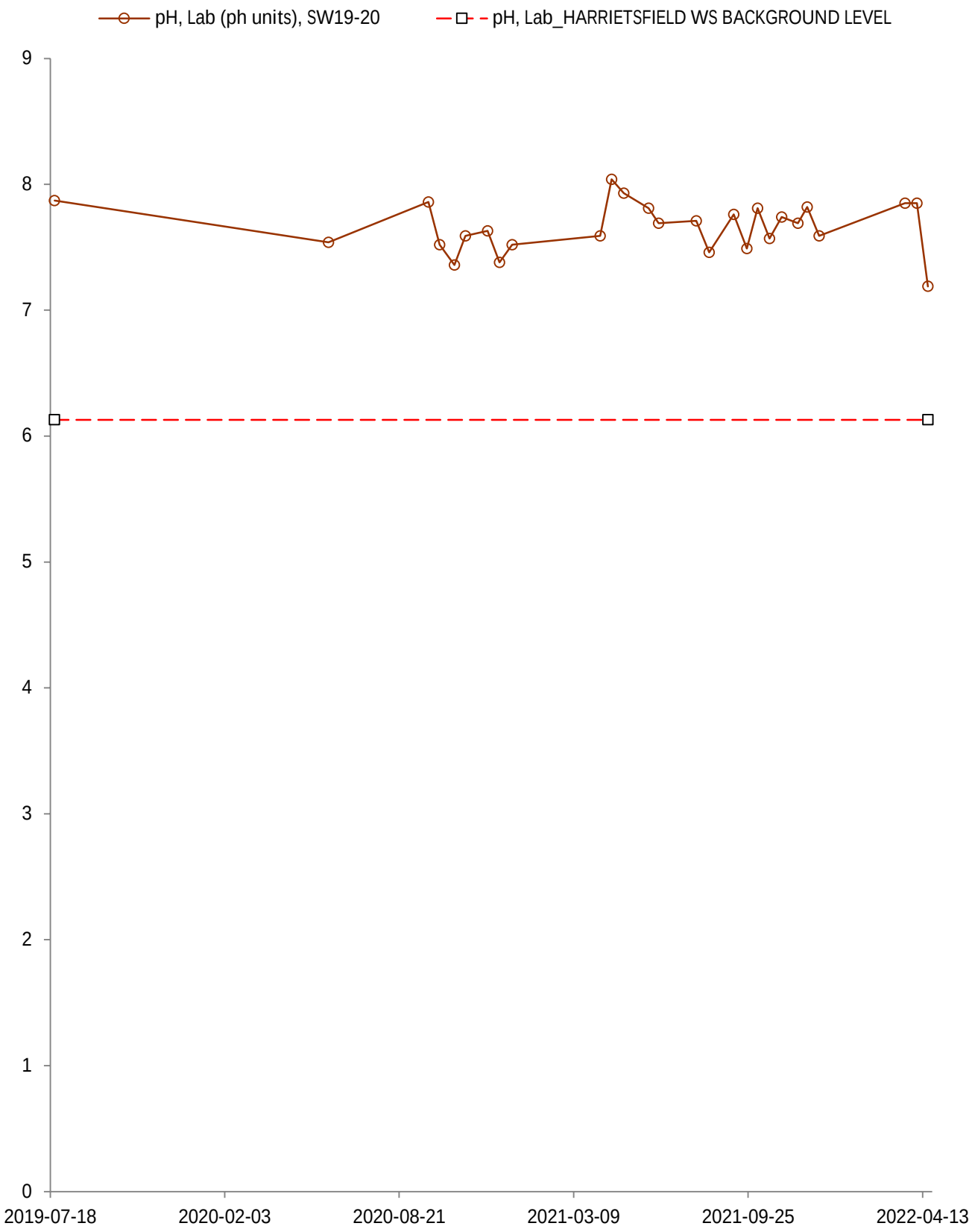
SW19-20-Nitrite (as N)



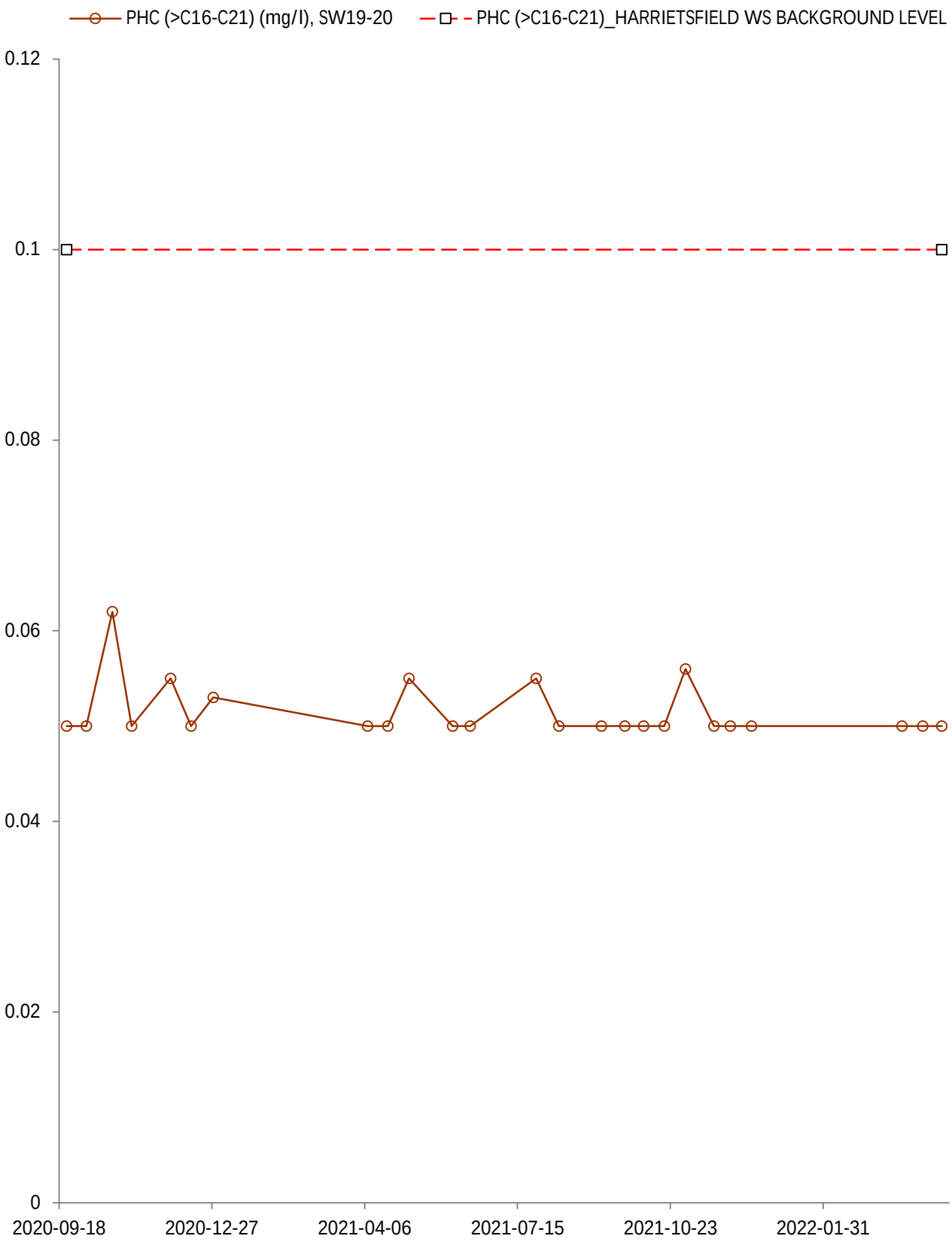
SW19-20-Orthophosphate(as P)



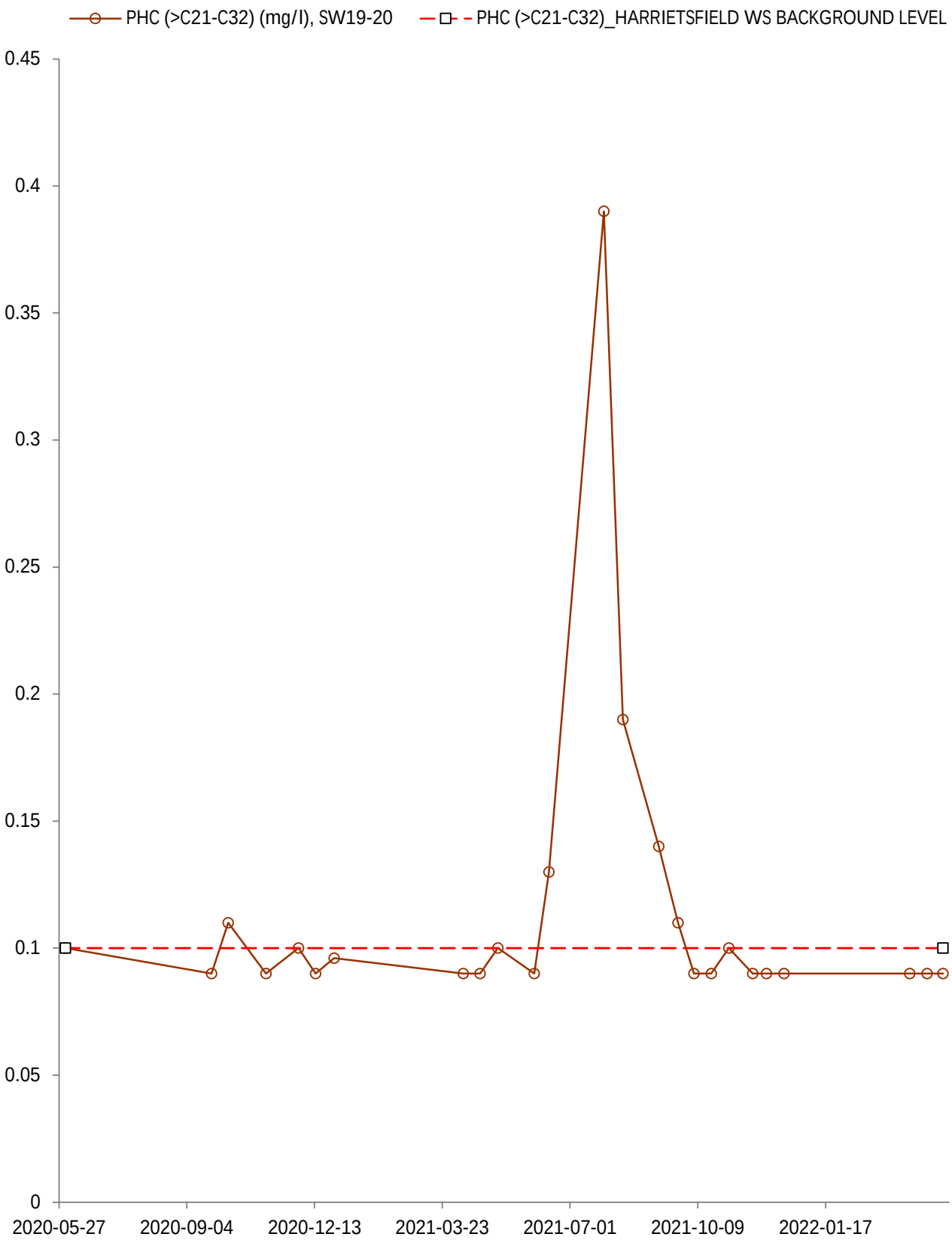
SW19-20-pH, Lab



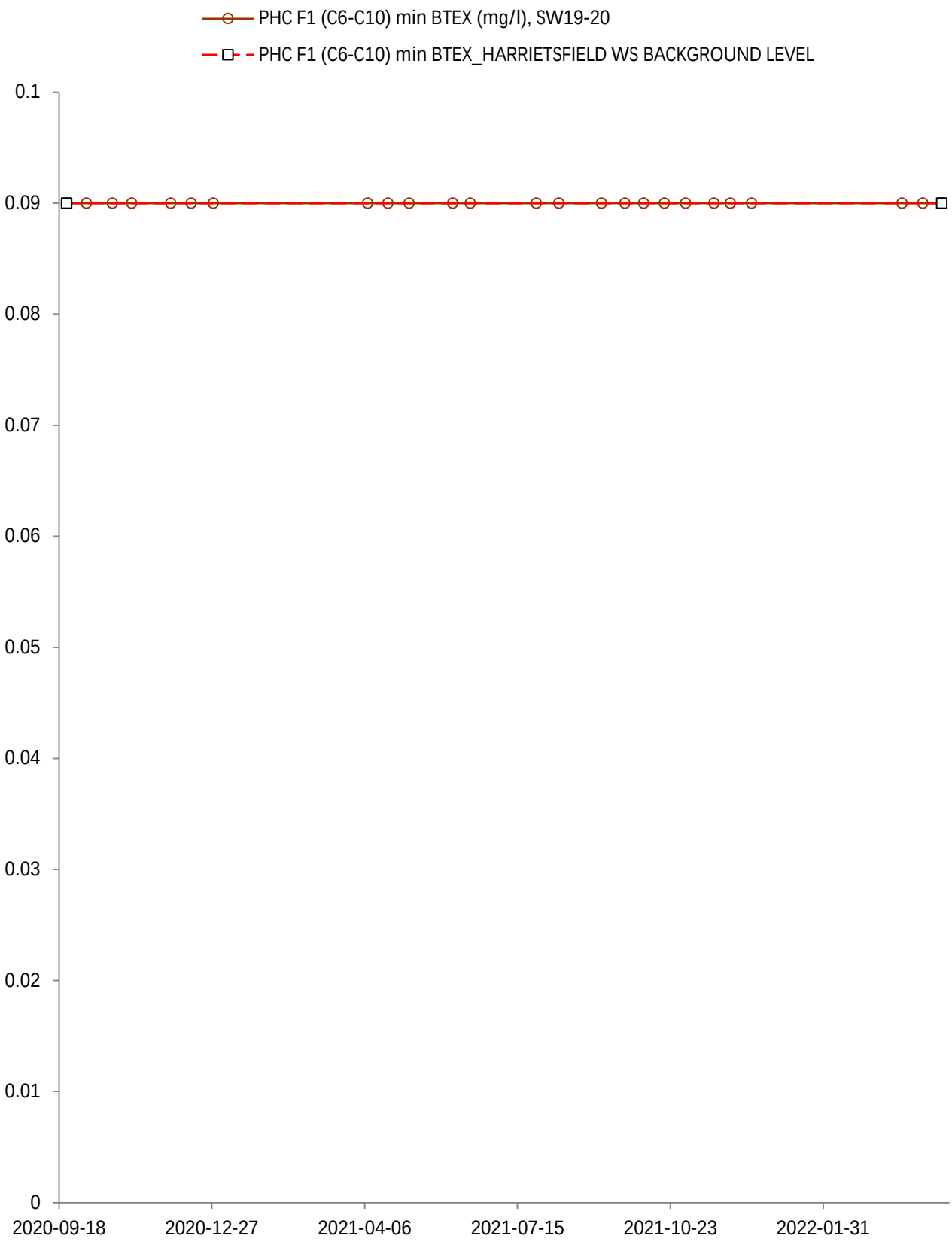
SW19-20-PHC (>C16-C21)



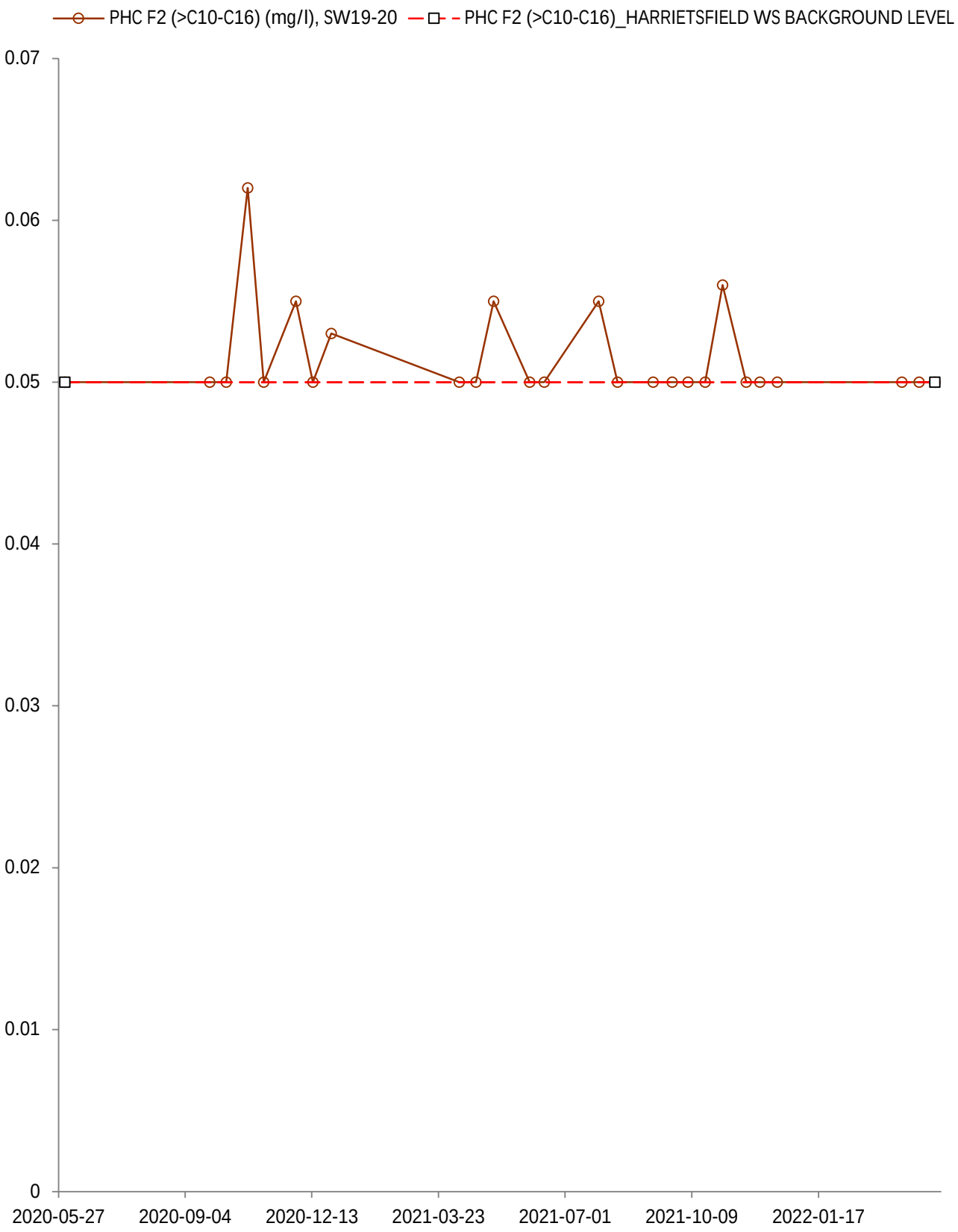
SW19-20-PHC (>C21-C32)



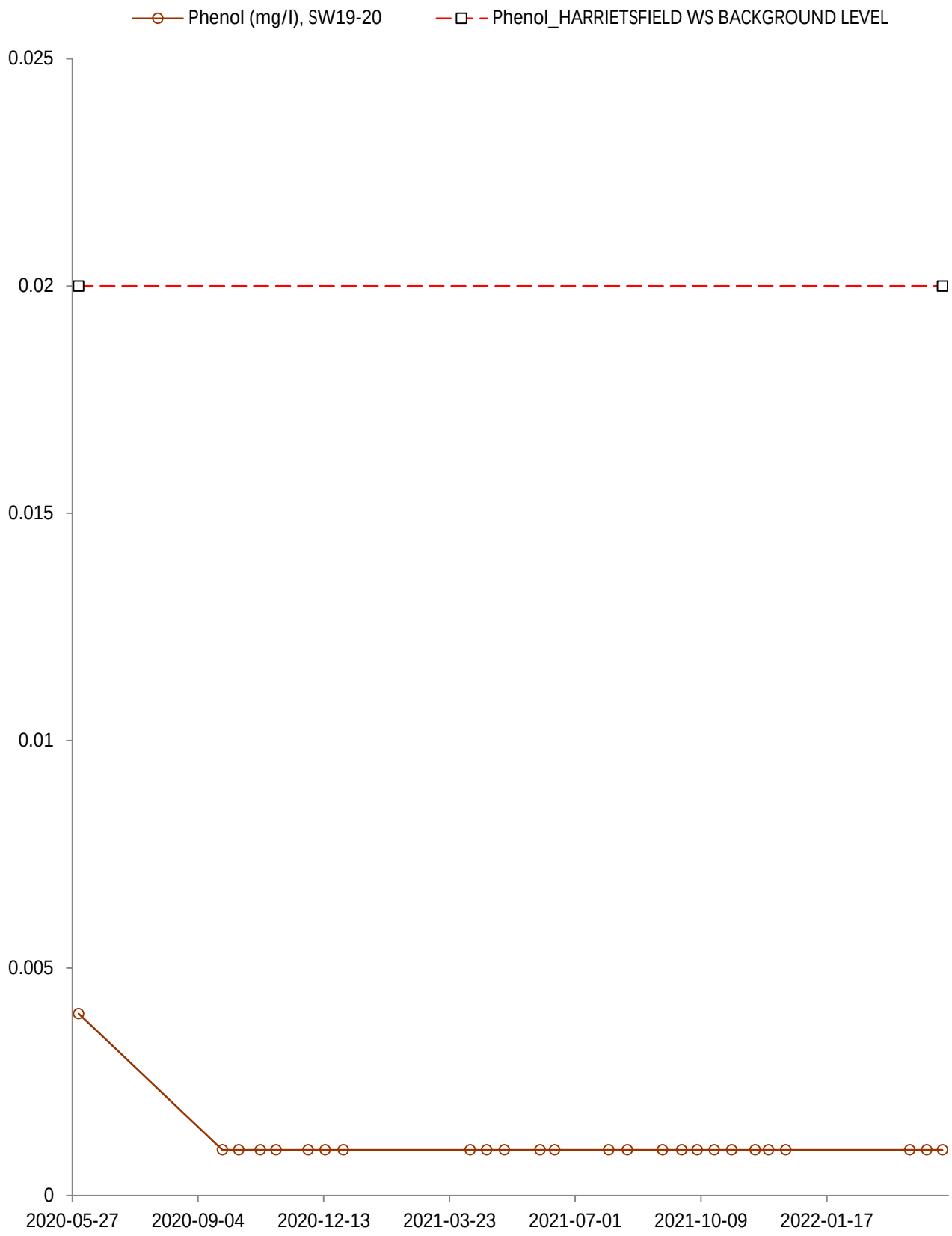
SW19-20-PHC F1 (C6-C10) min BTEX



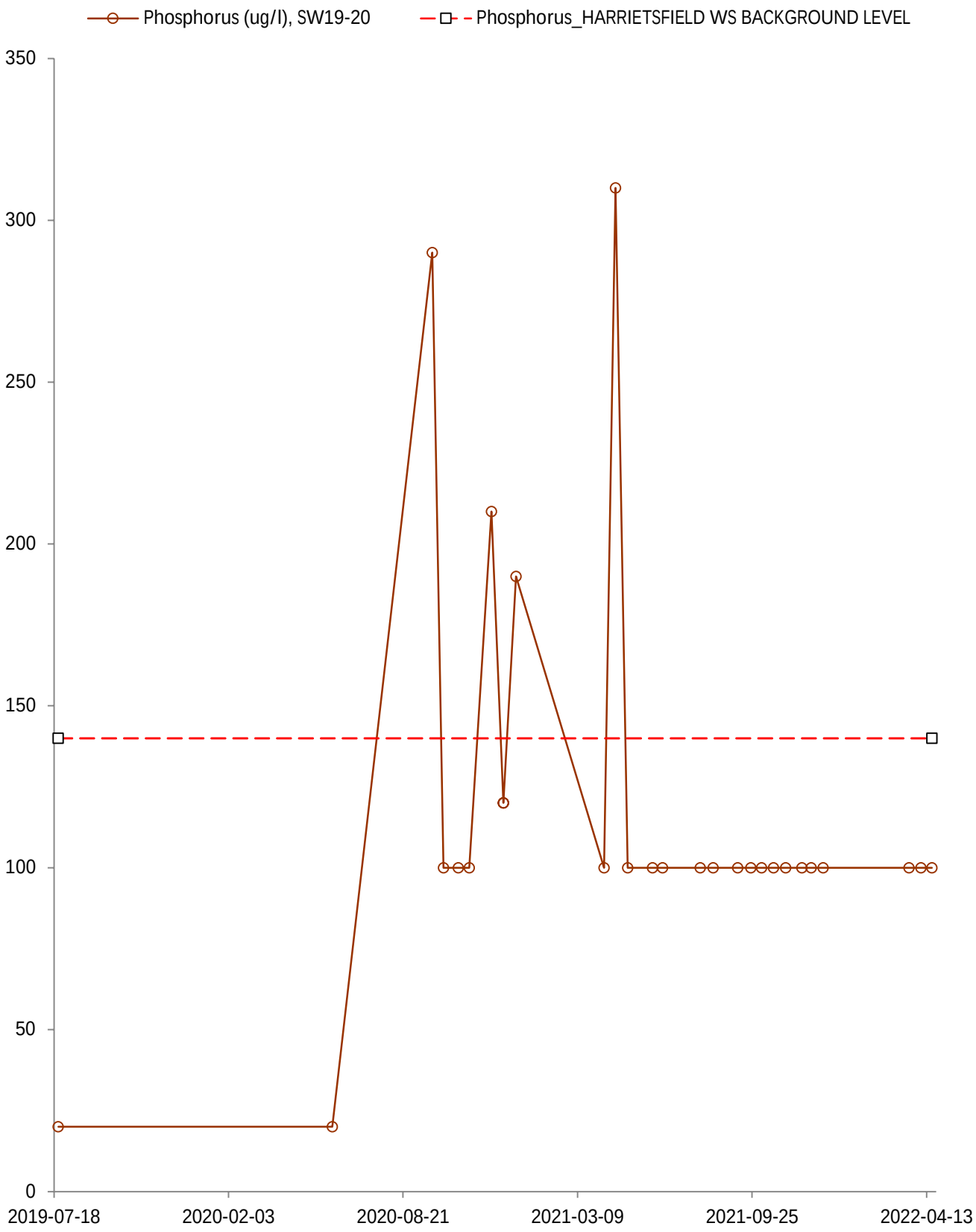
SW19-20-PHC F2 (>C10-C16)



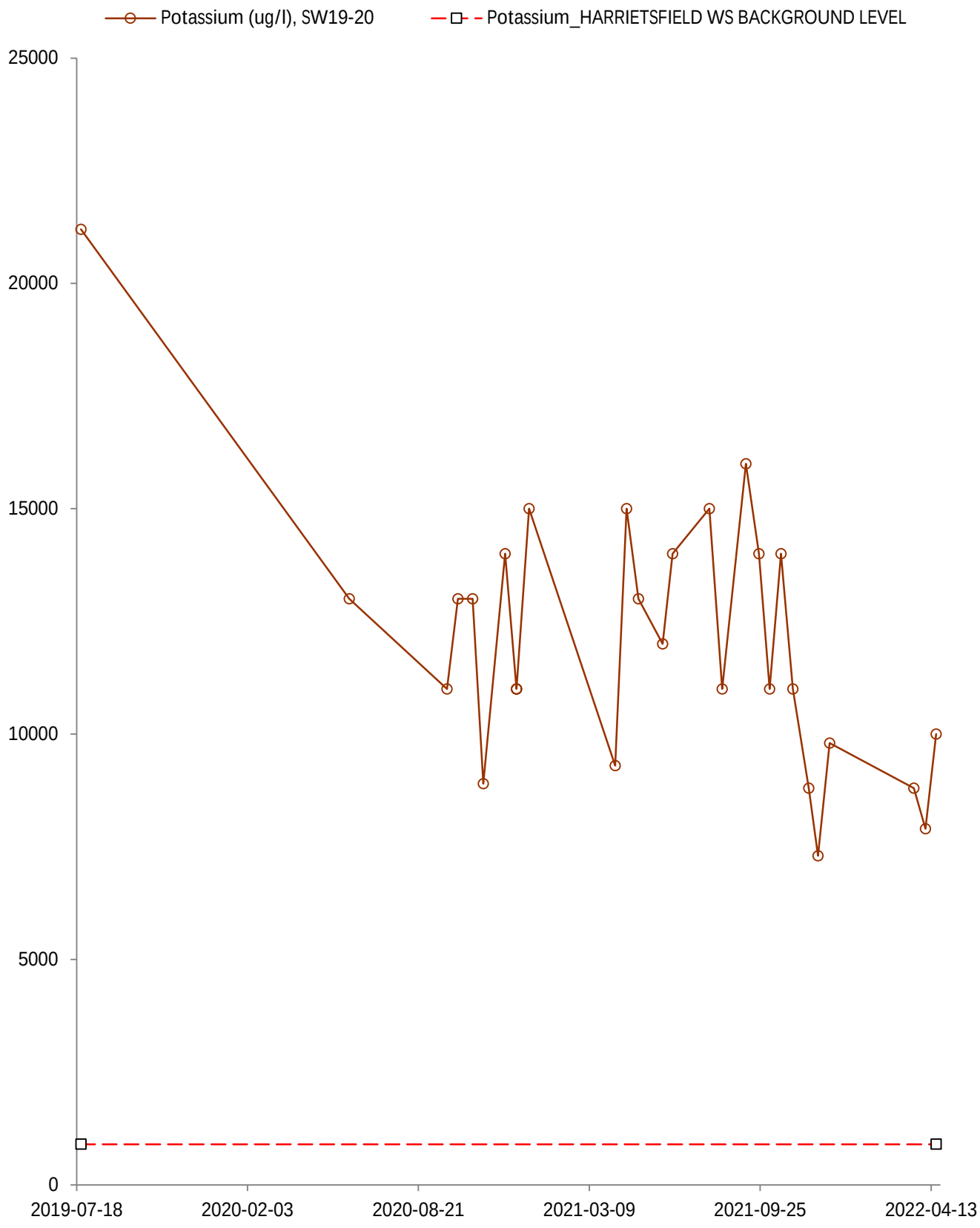
SW19-20-Phenol



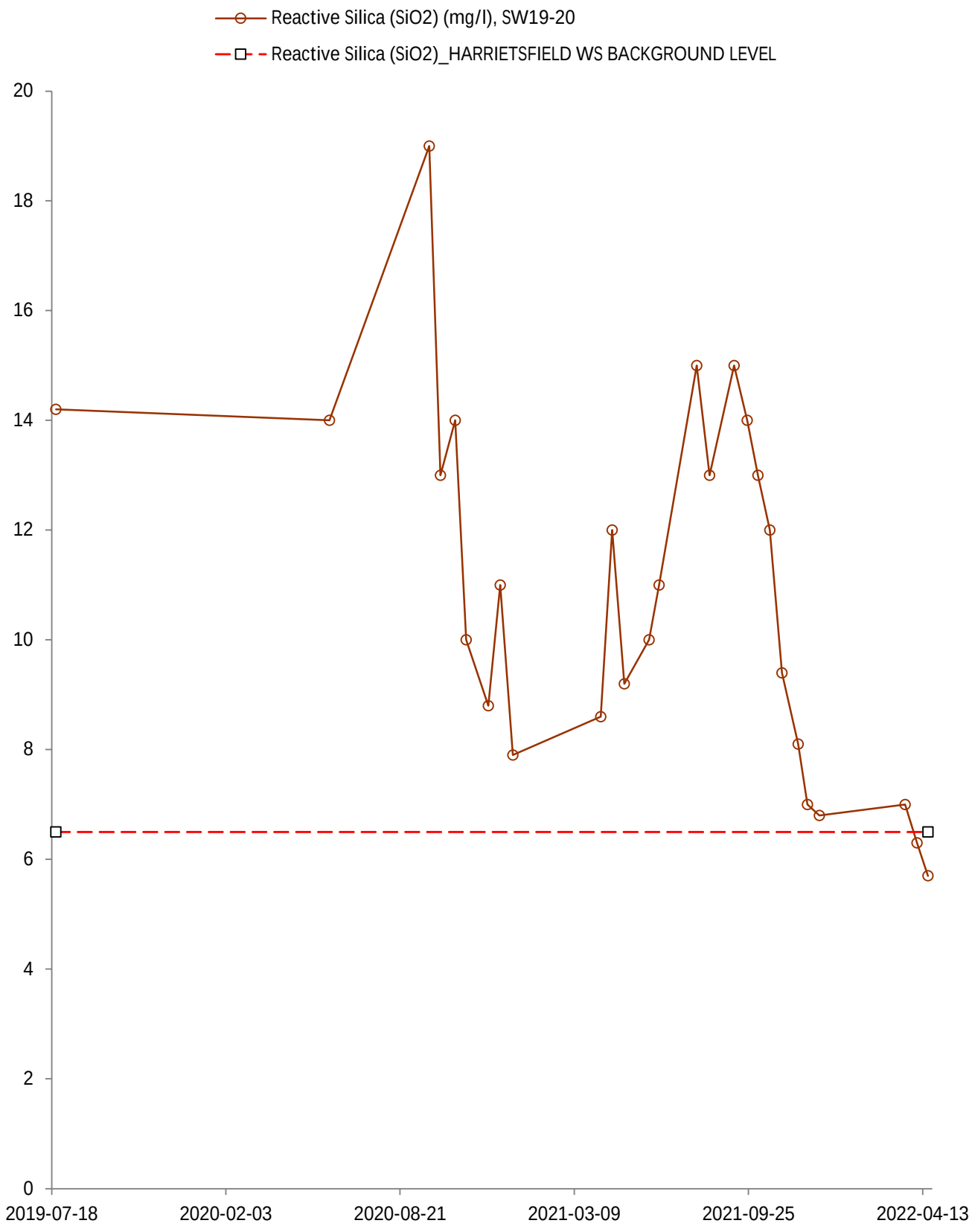
SW19-20-Phosphorus



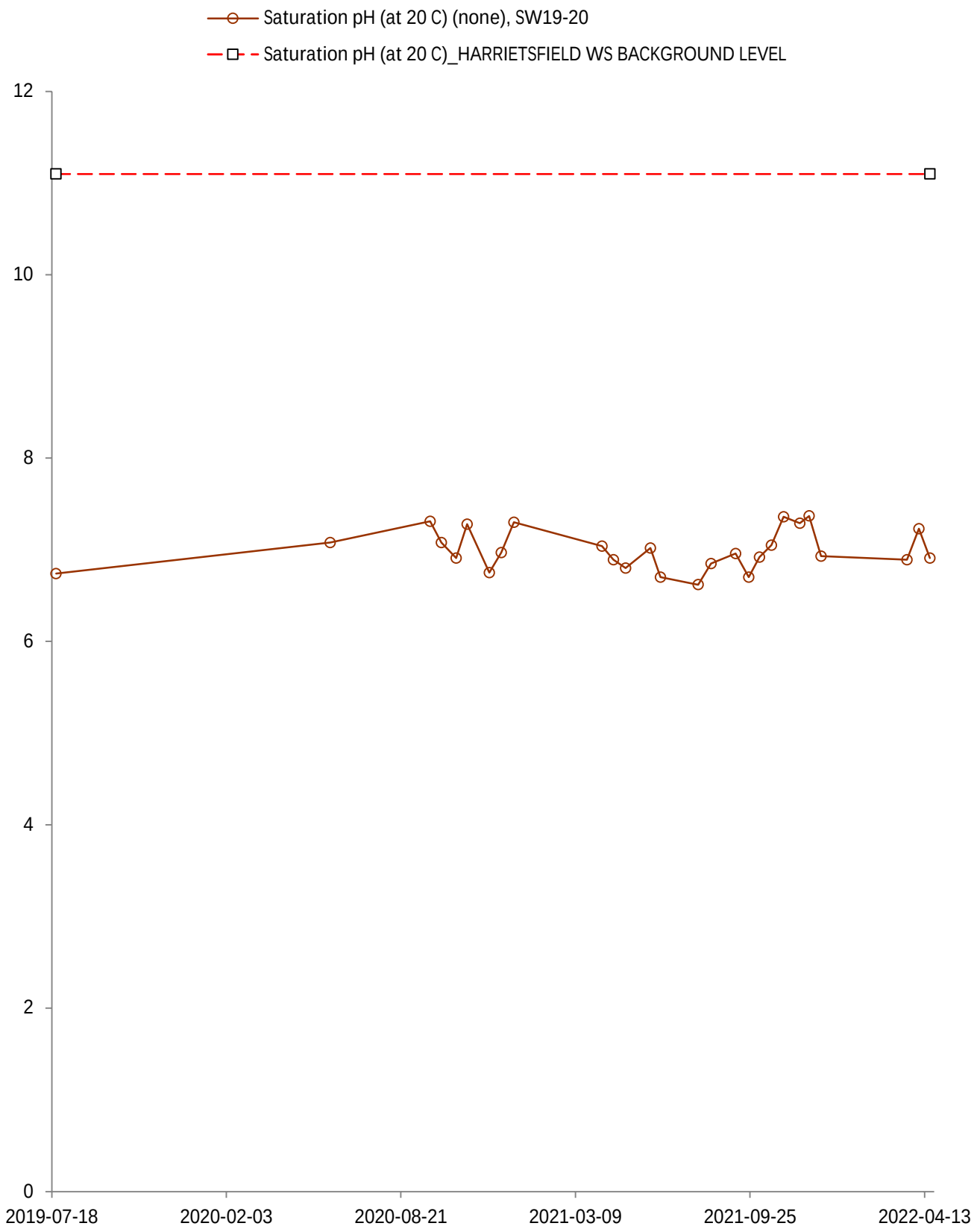
SW19-20-Potassium



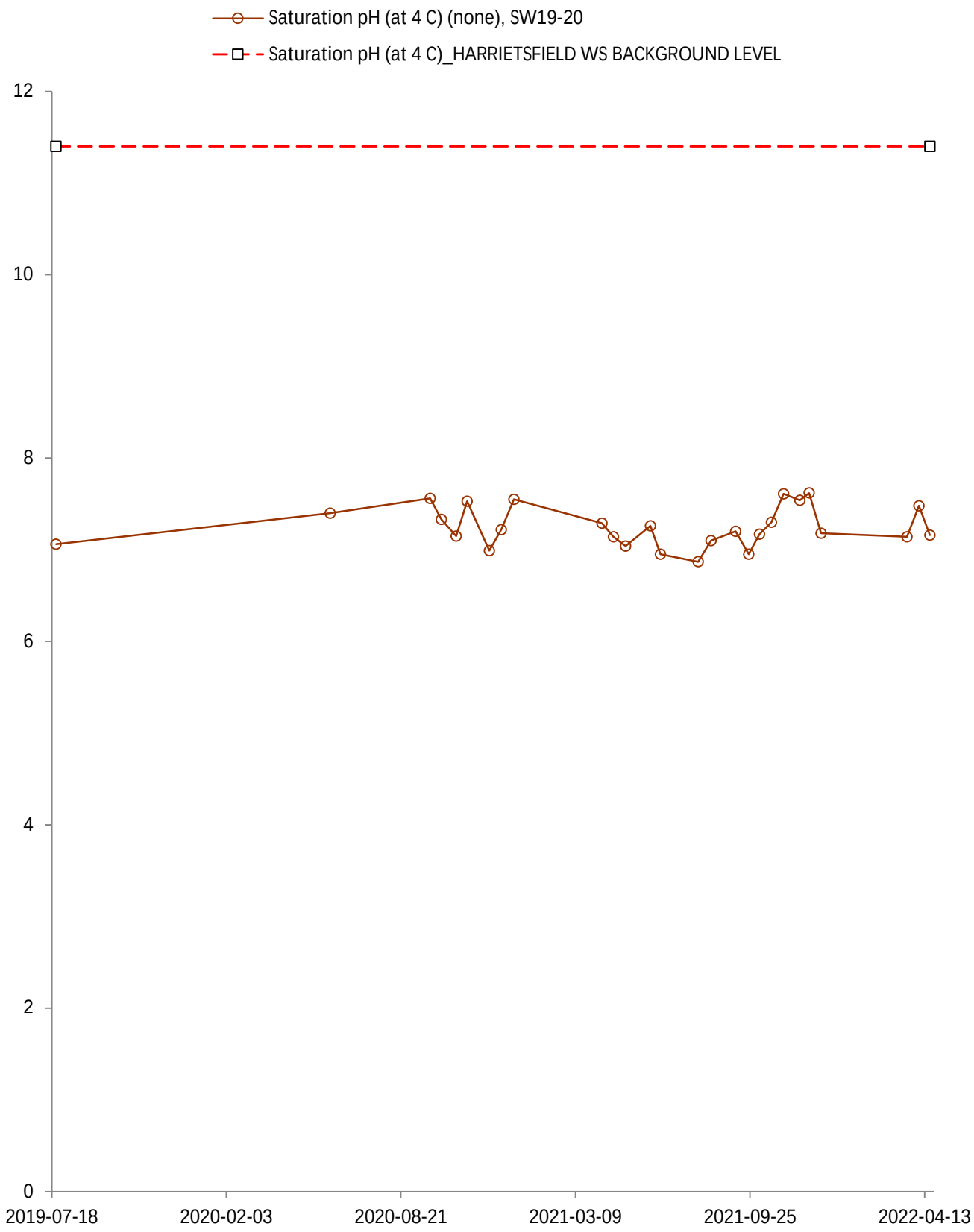
SW19-20-Reactive Silica (SiO2)



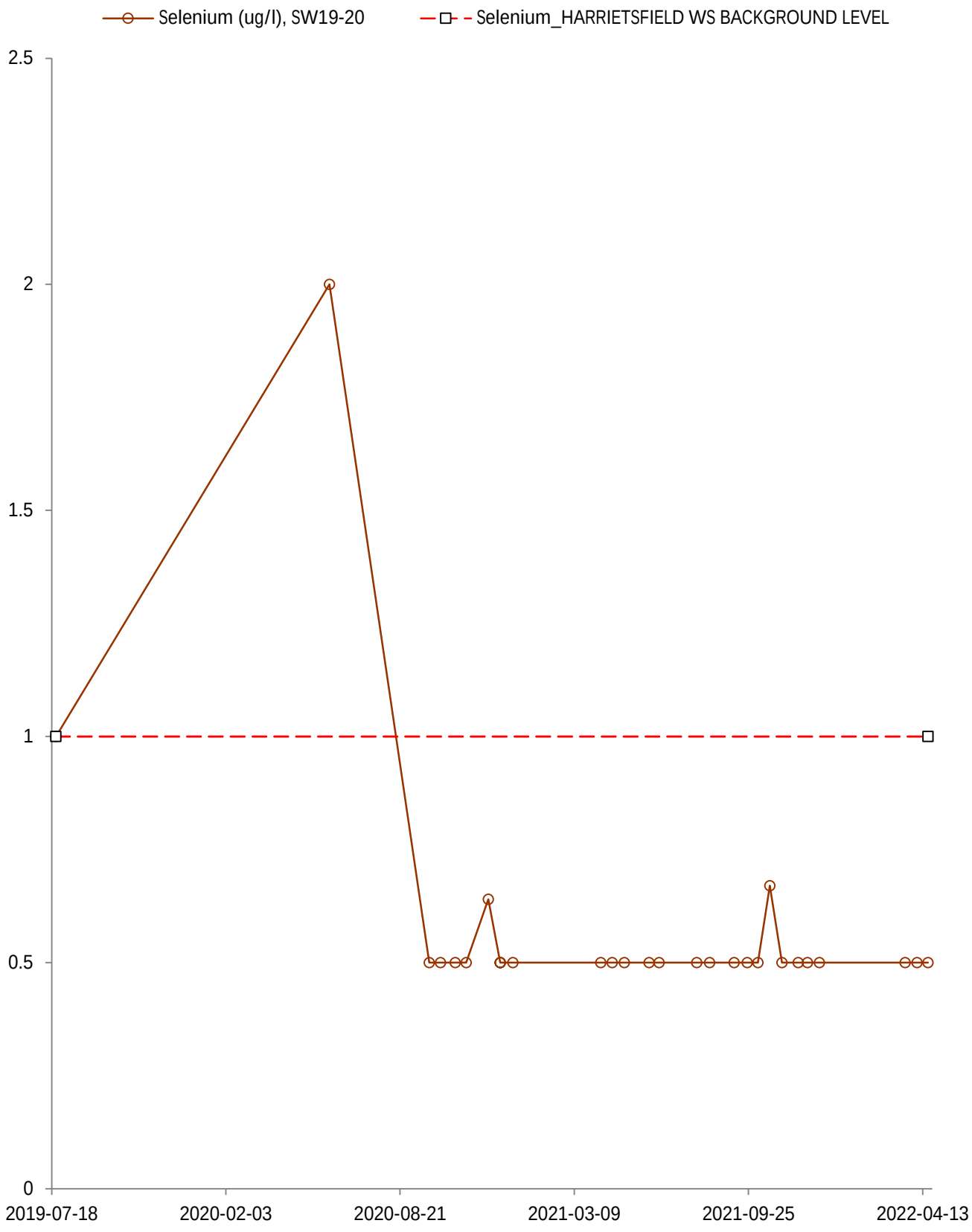
SW19-20-Saturation pH (at 20 C)



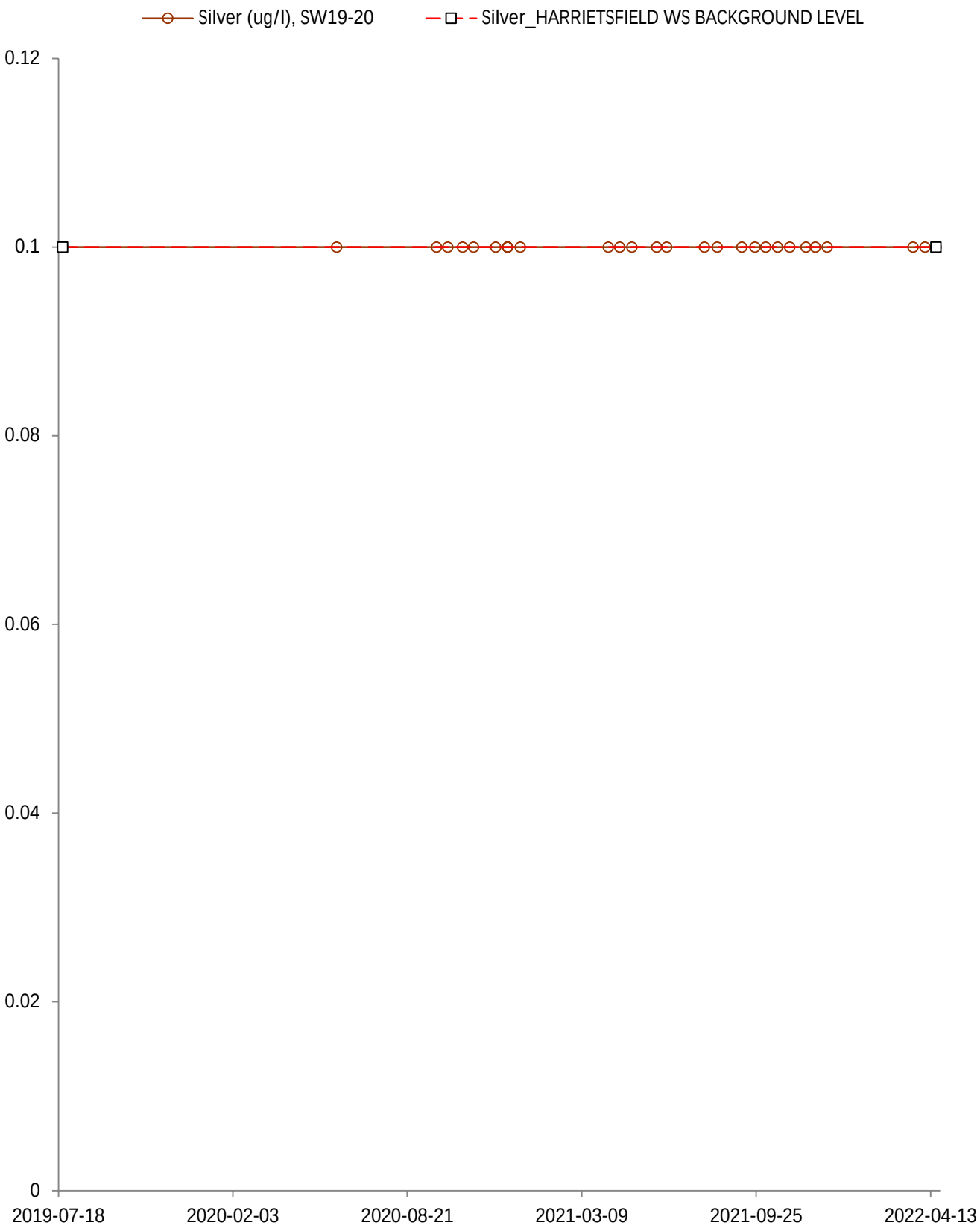
SW19-20-Saturation pH (at 4 C)



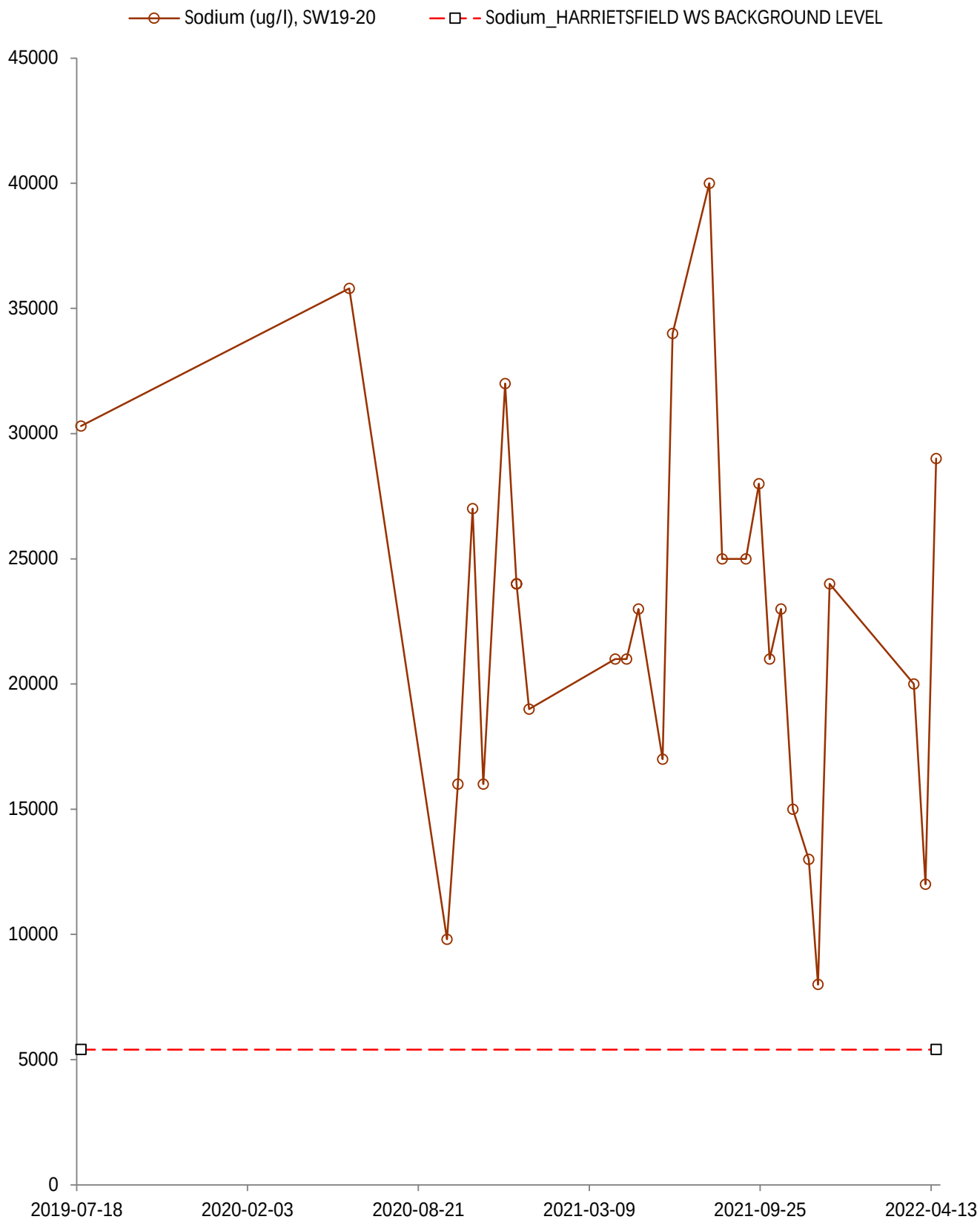
SW19-20-Selenium



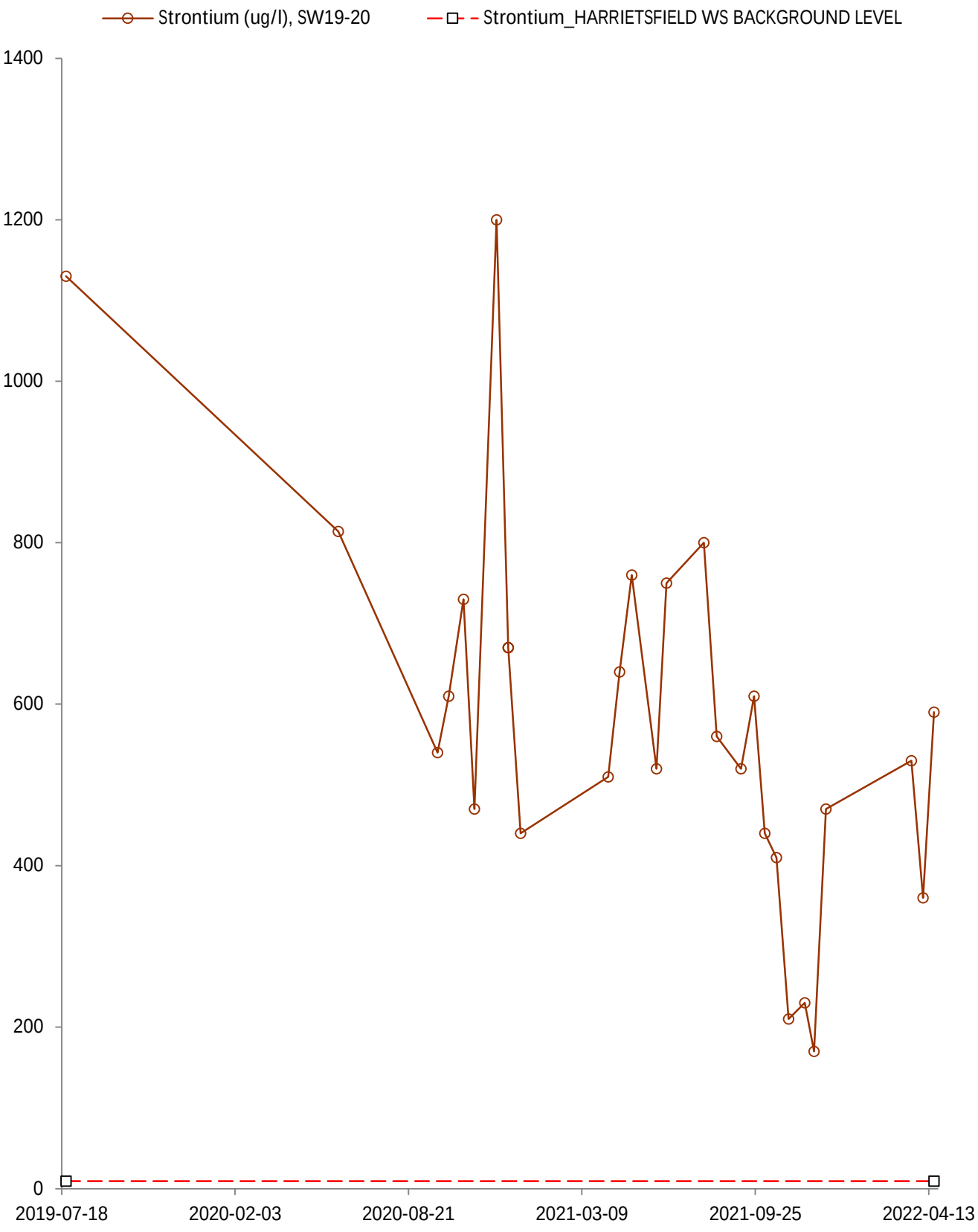
SW19-20-Silver



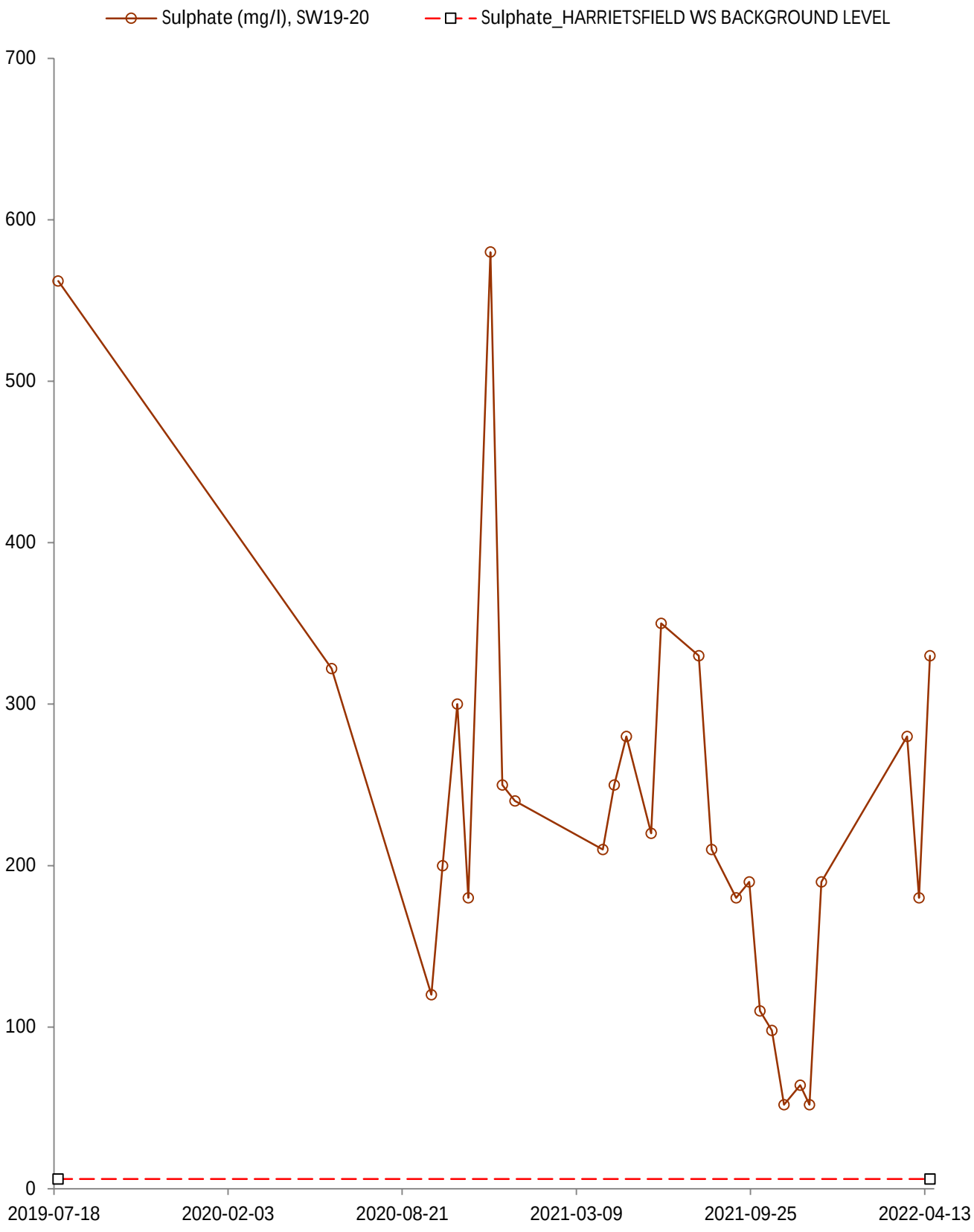
SW19-20-Sodium



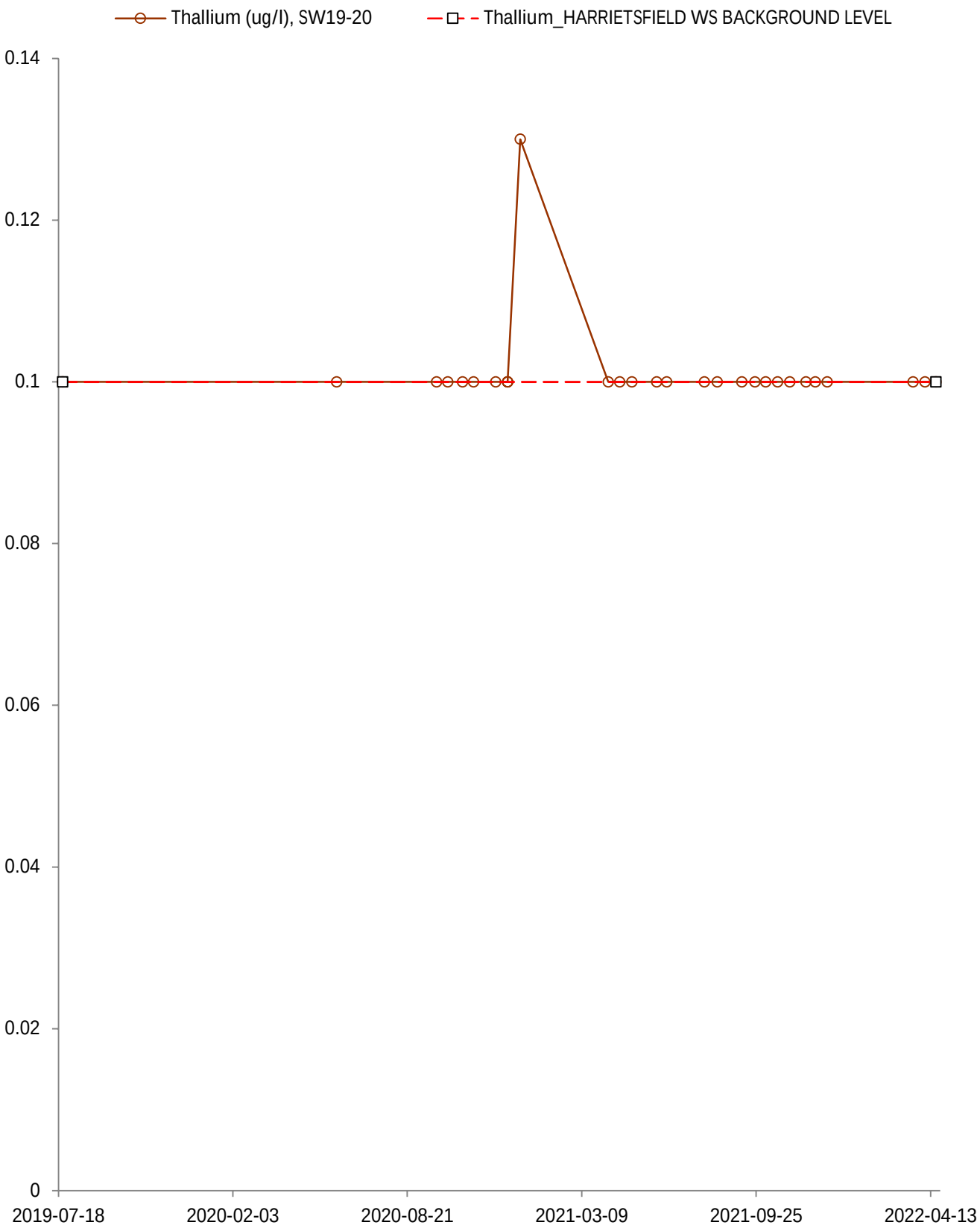
SW19-20-Strontium



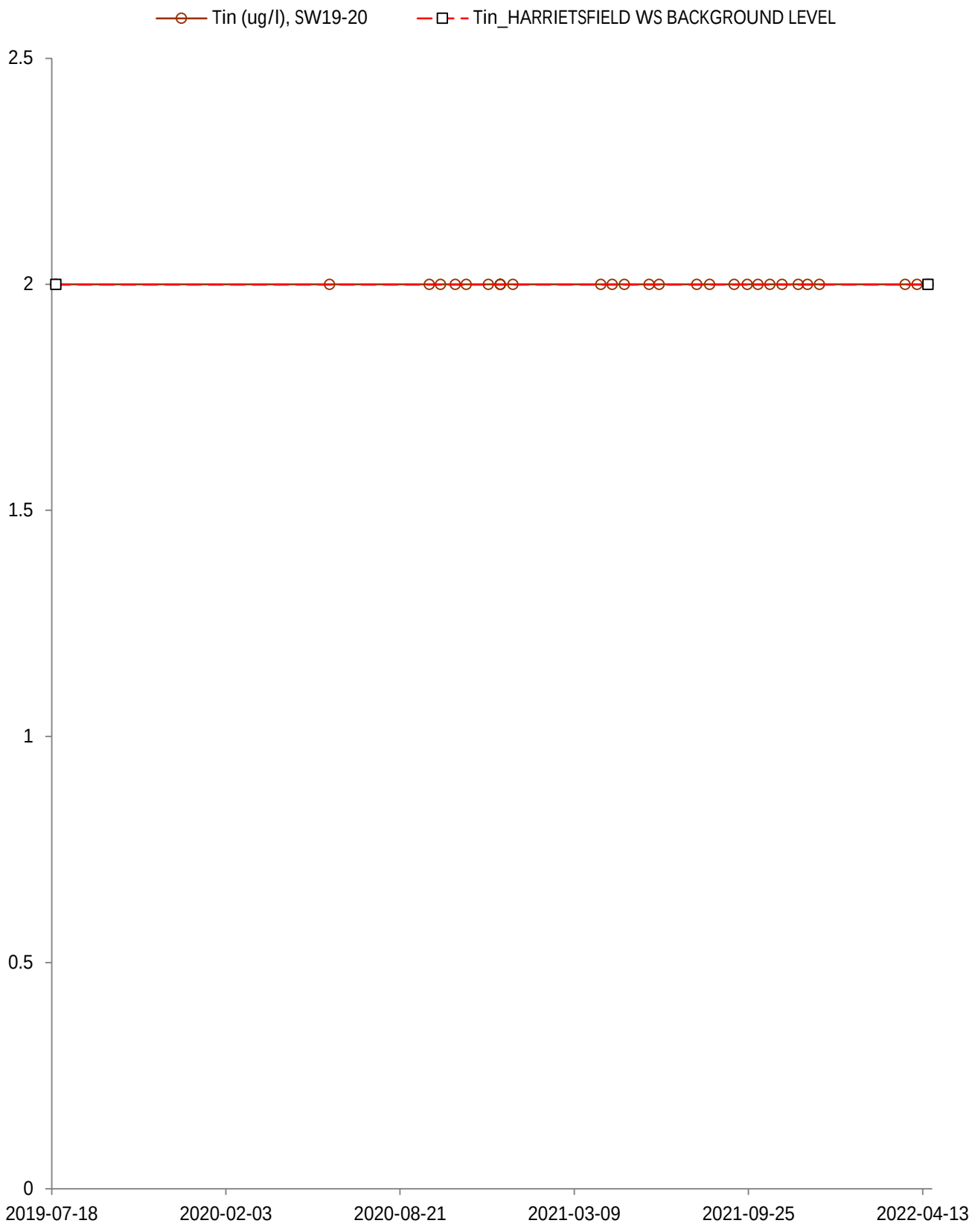
SW19-20-Sulphate



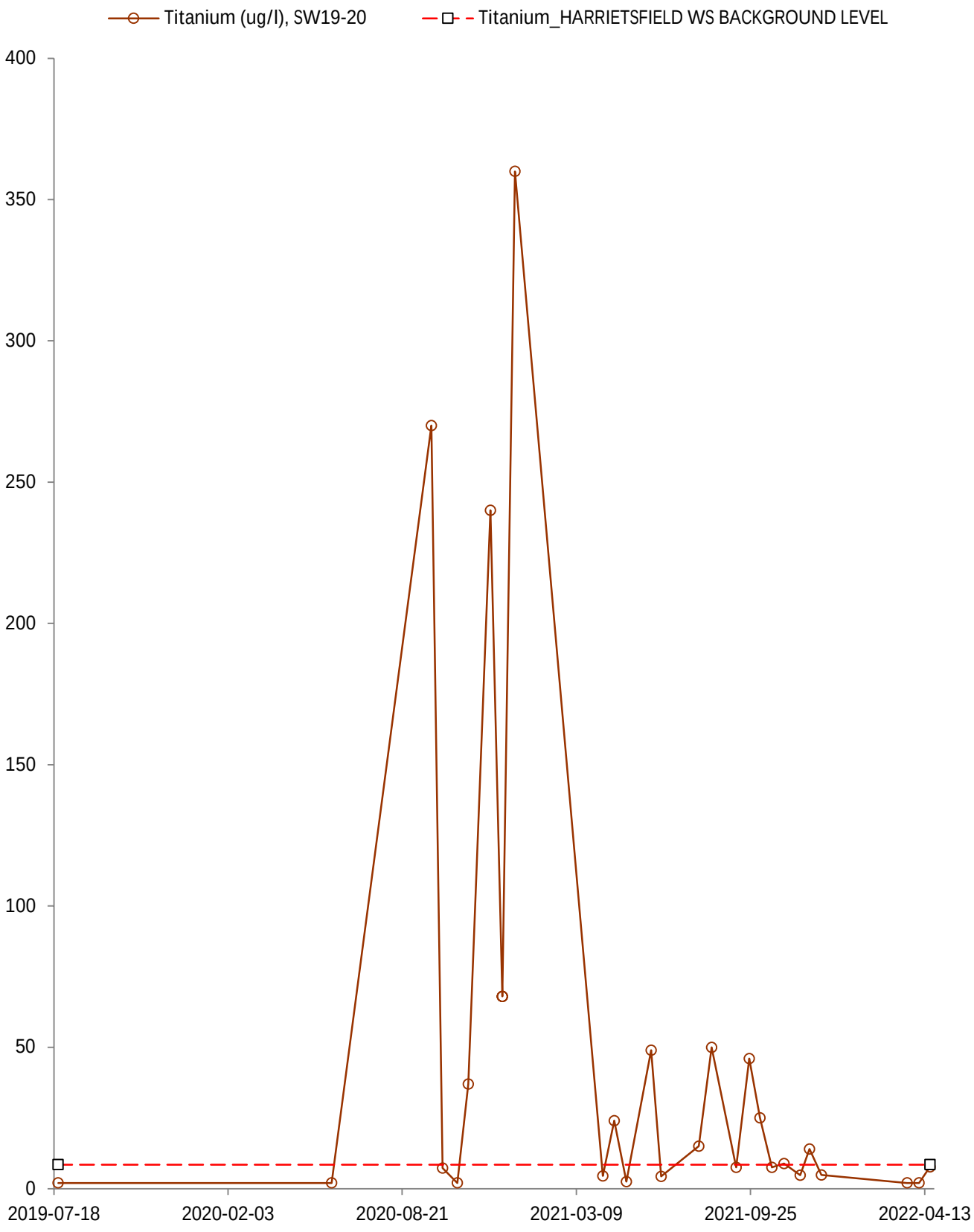
SW19-20-Thallium



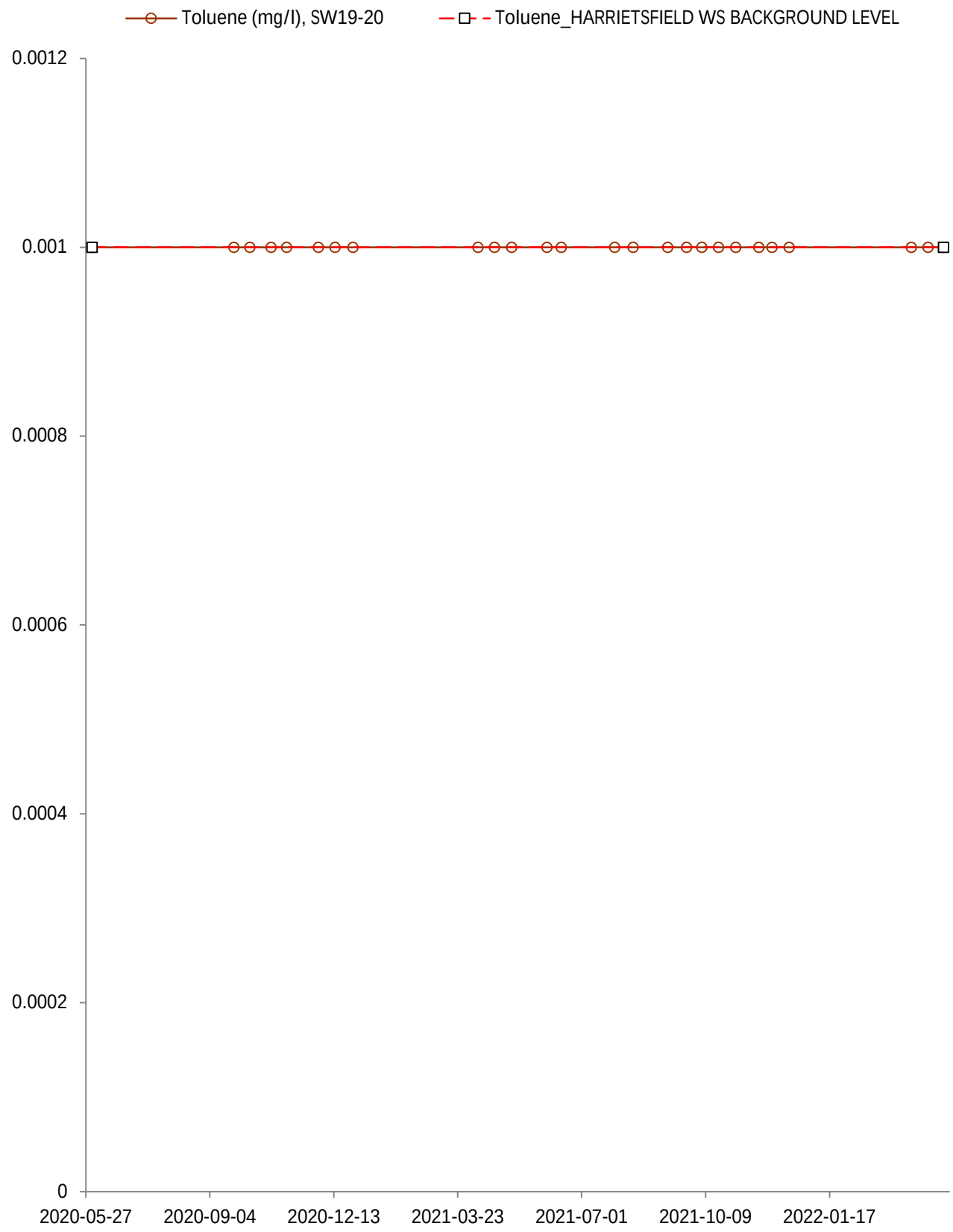
SW19-20-Tin


Tin (ug/l), SW19-20
Tin_HARRIETSFIELD WS BACKGROUND LEVEL
2.5
2
1.5
1
0.5
0
2019-07-18
2020-02-03
2020-08-21
2021-03-09
2021-09-25
2022-04-13

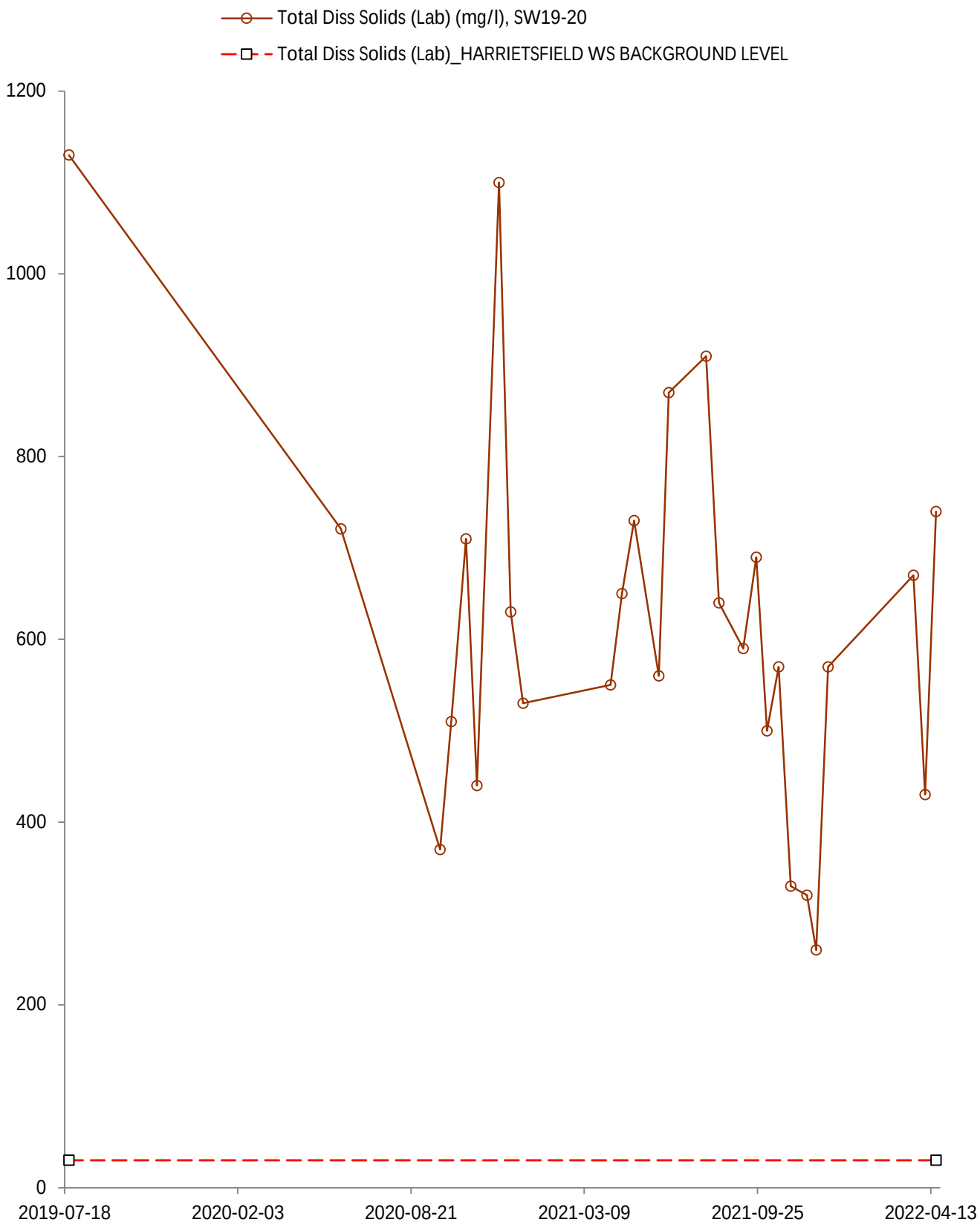
SW19-20-Titanium



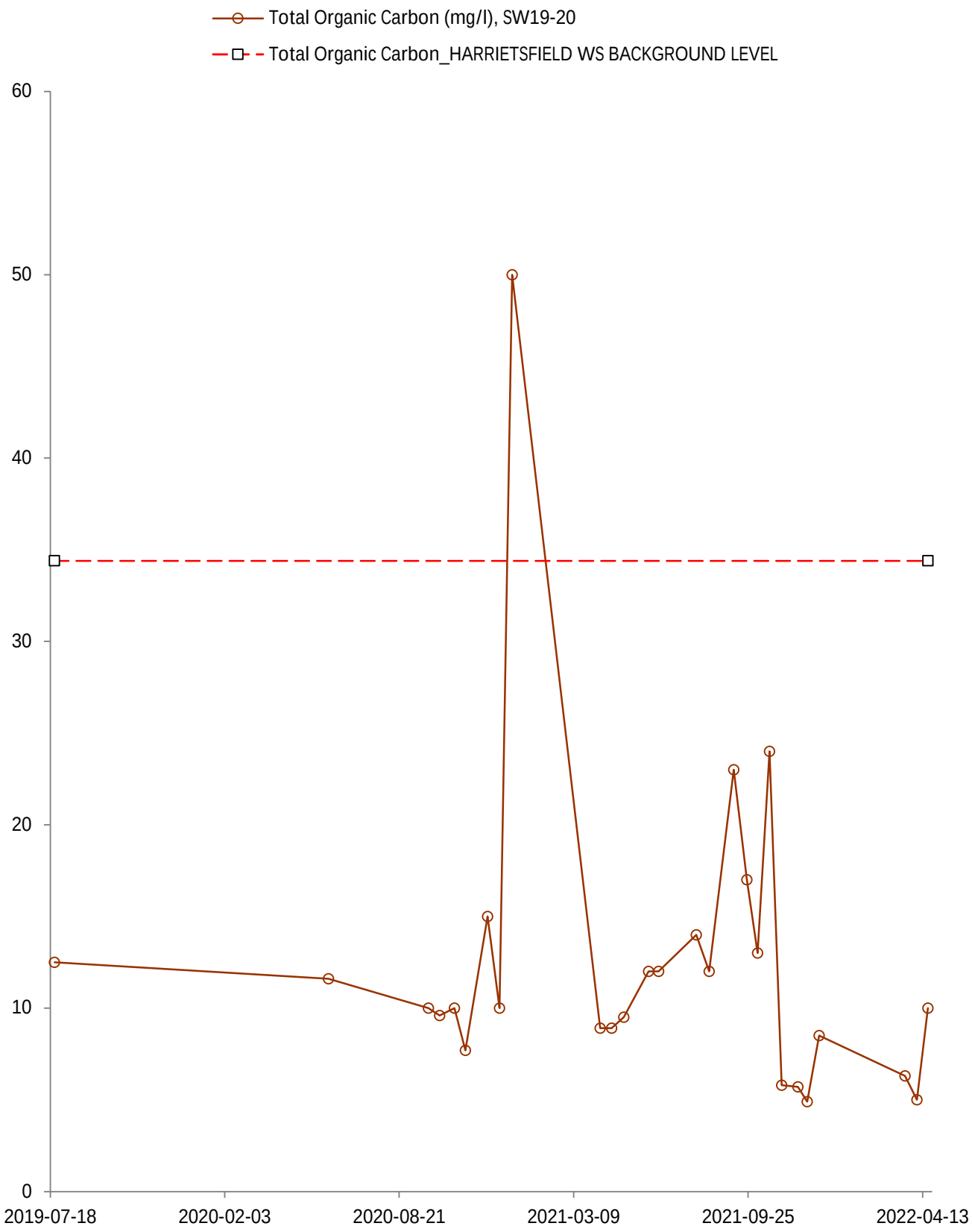
SW19-20-Toluene



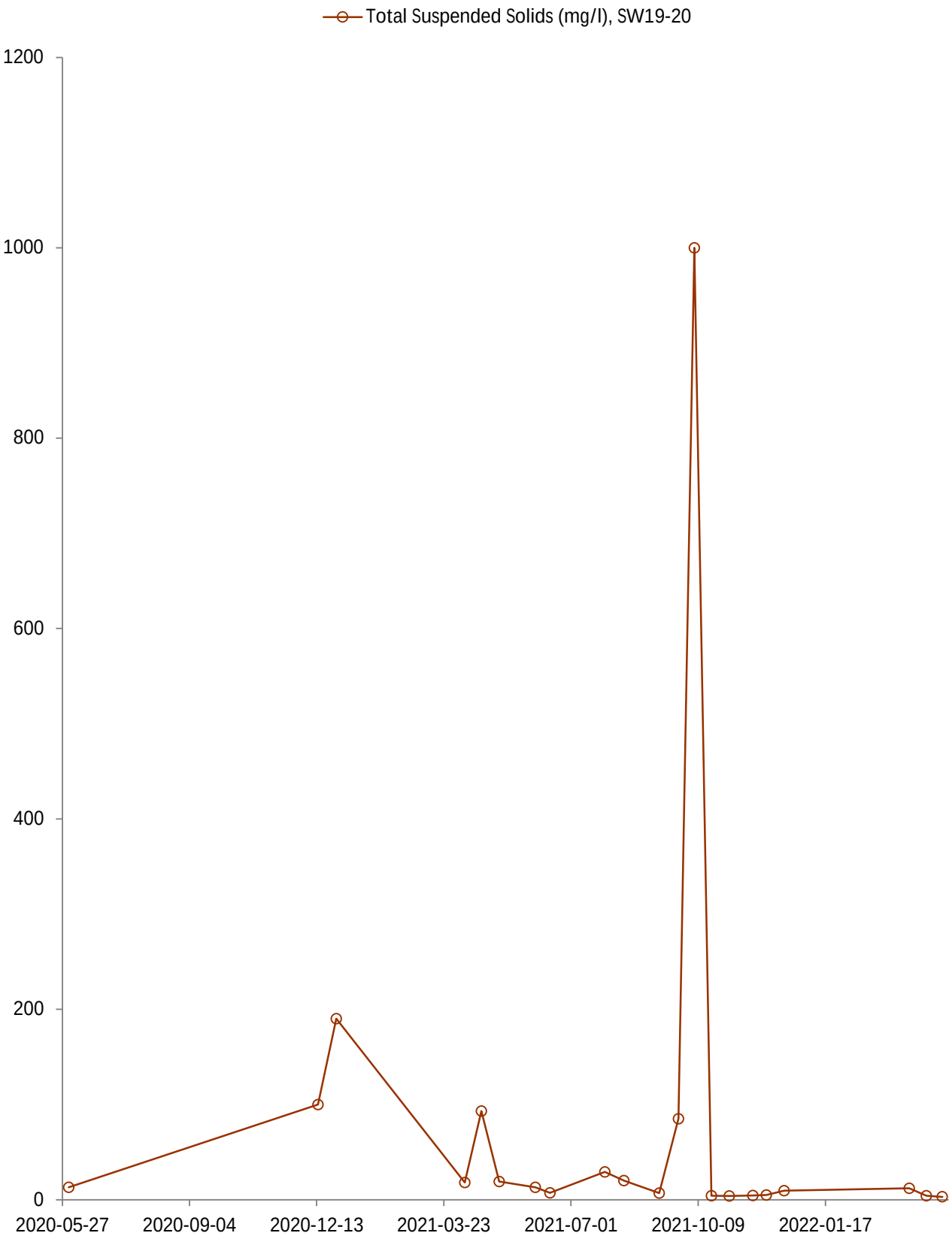
SW19-20-Total Diss Solids (Lab)



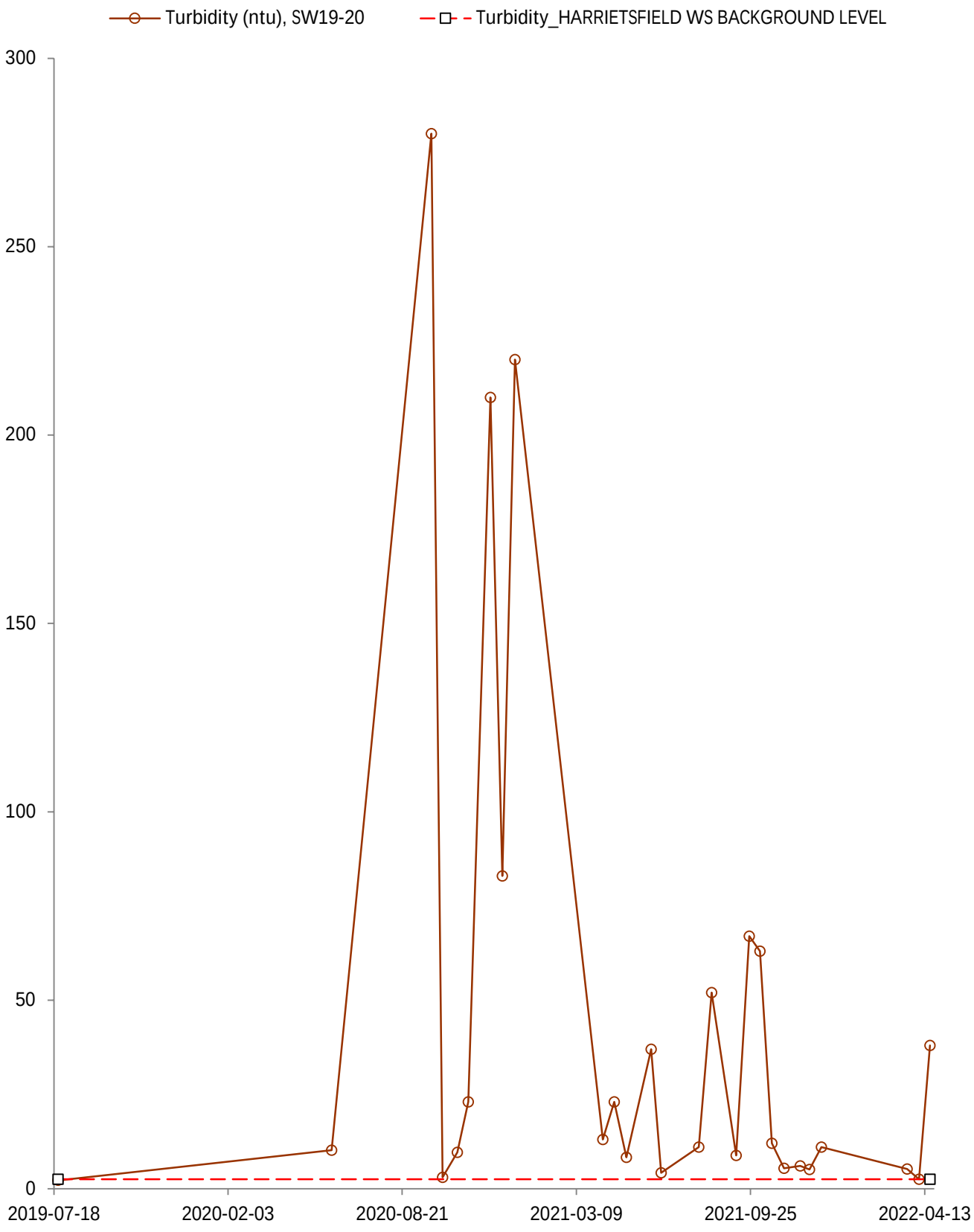
SW19-20-Total Organic Carbon



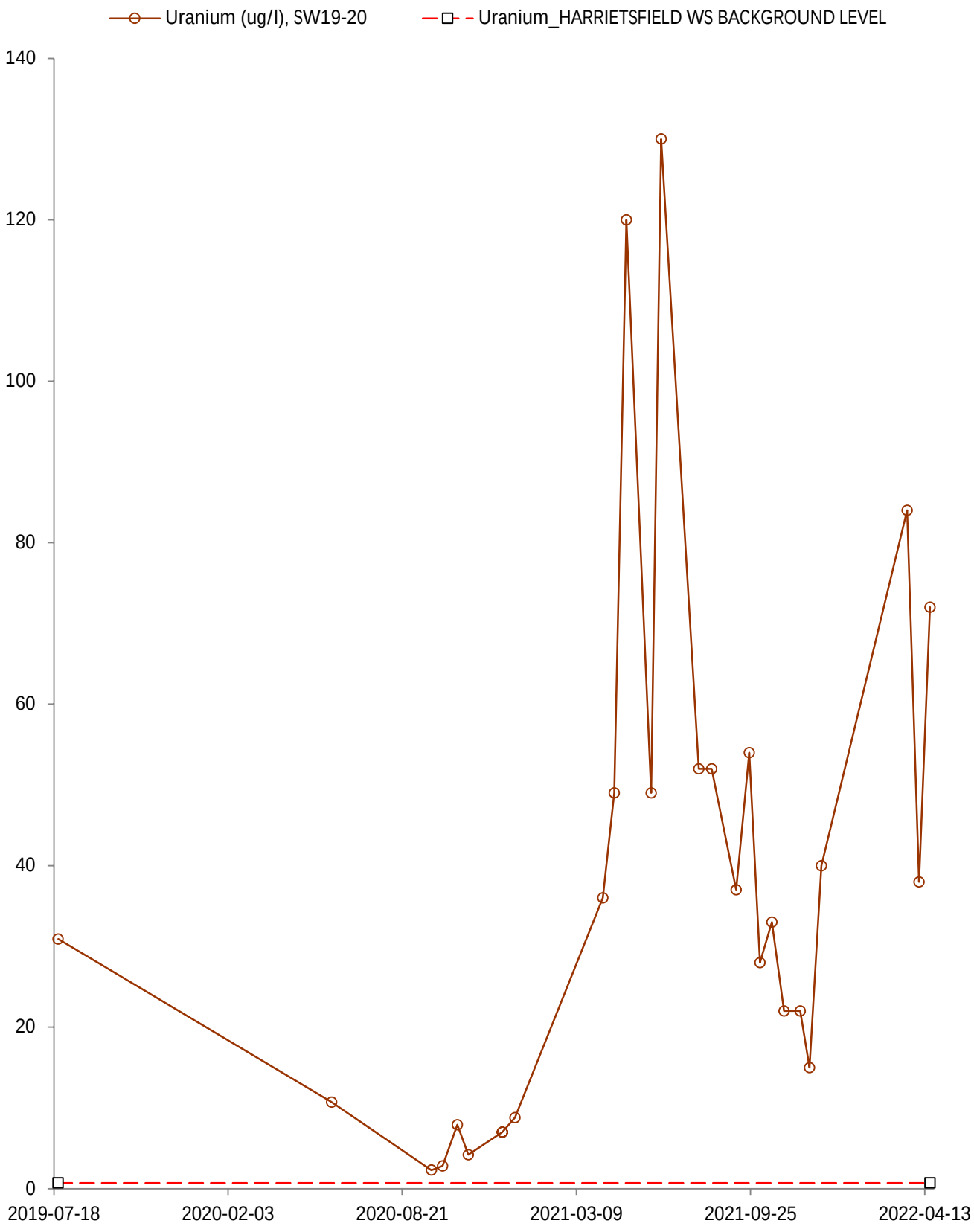
SW19-20-Total Suspended Solids



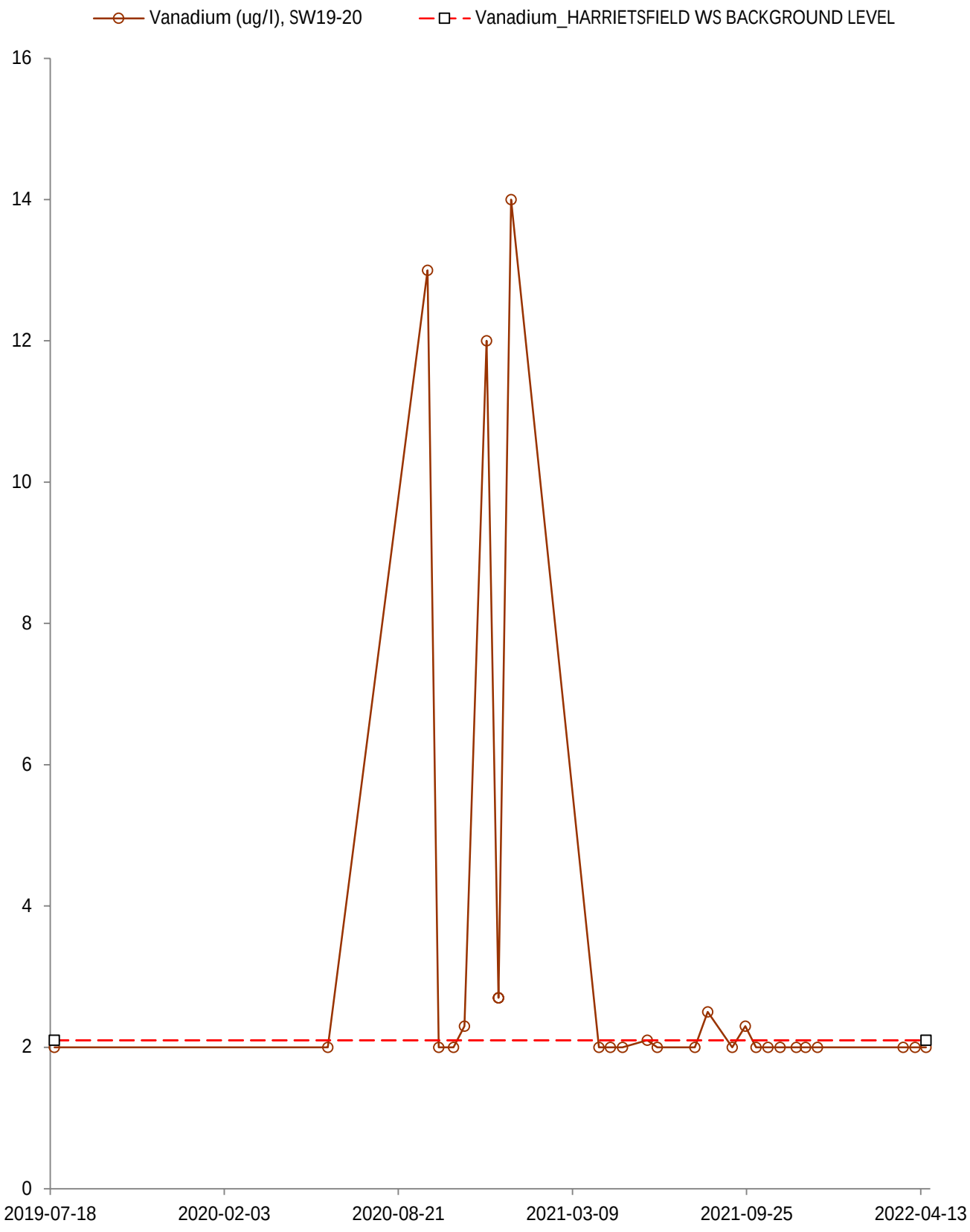
SW19-20-Turbidity



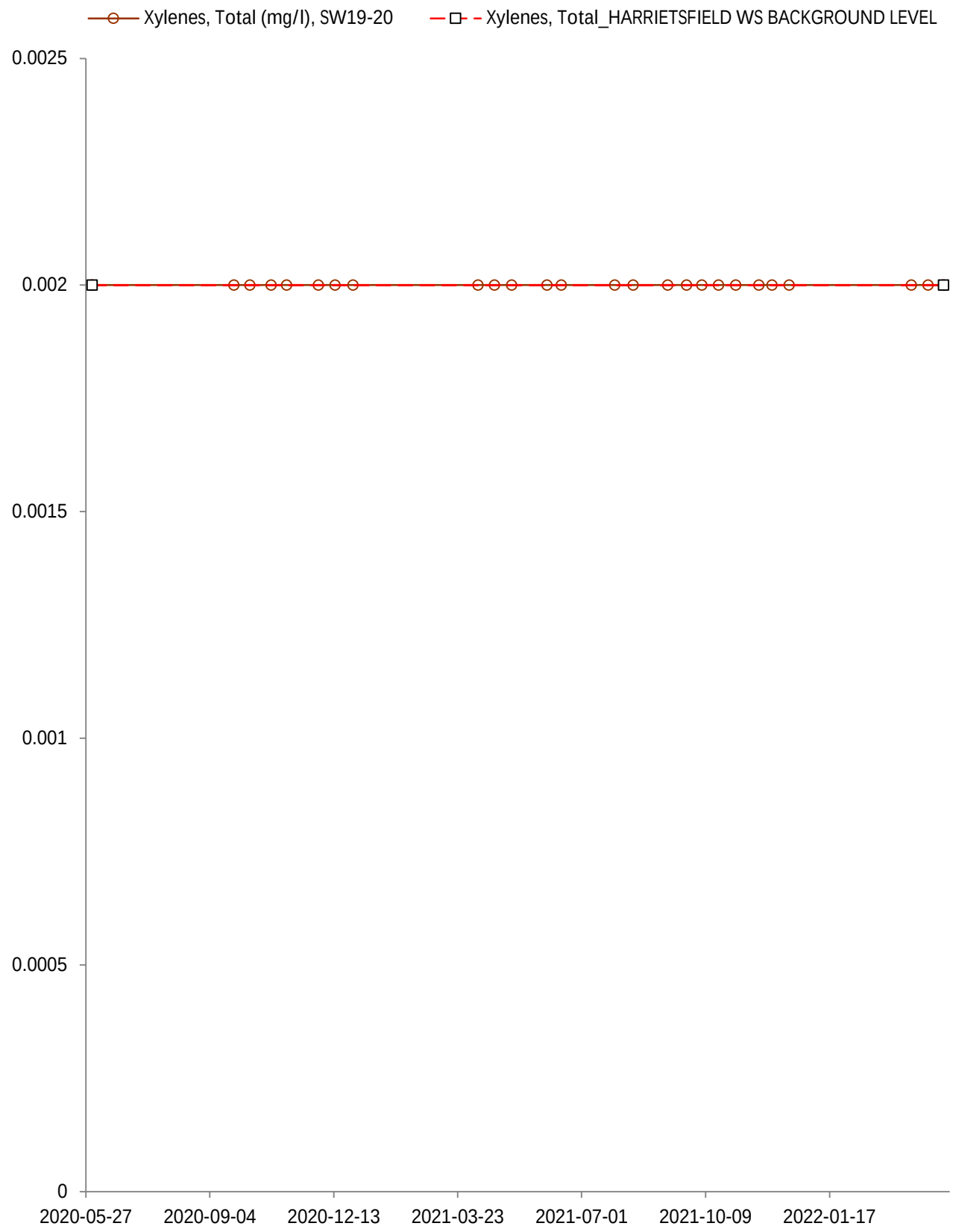
SW19-20-Uranium



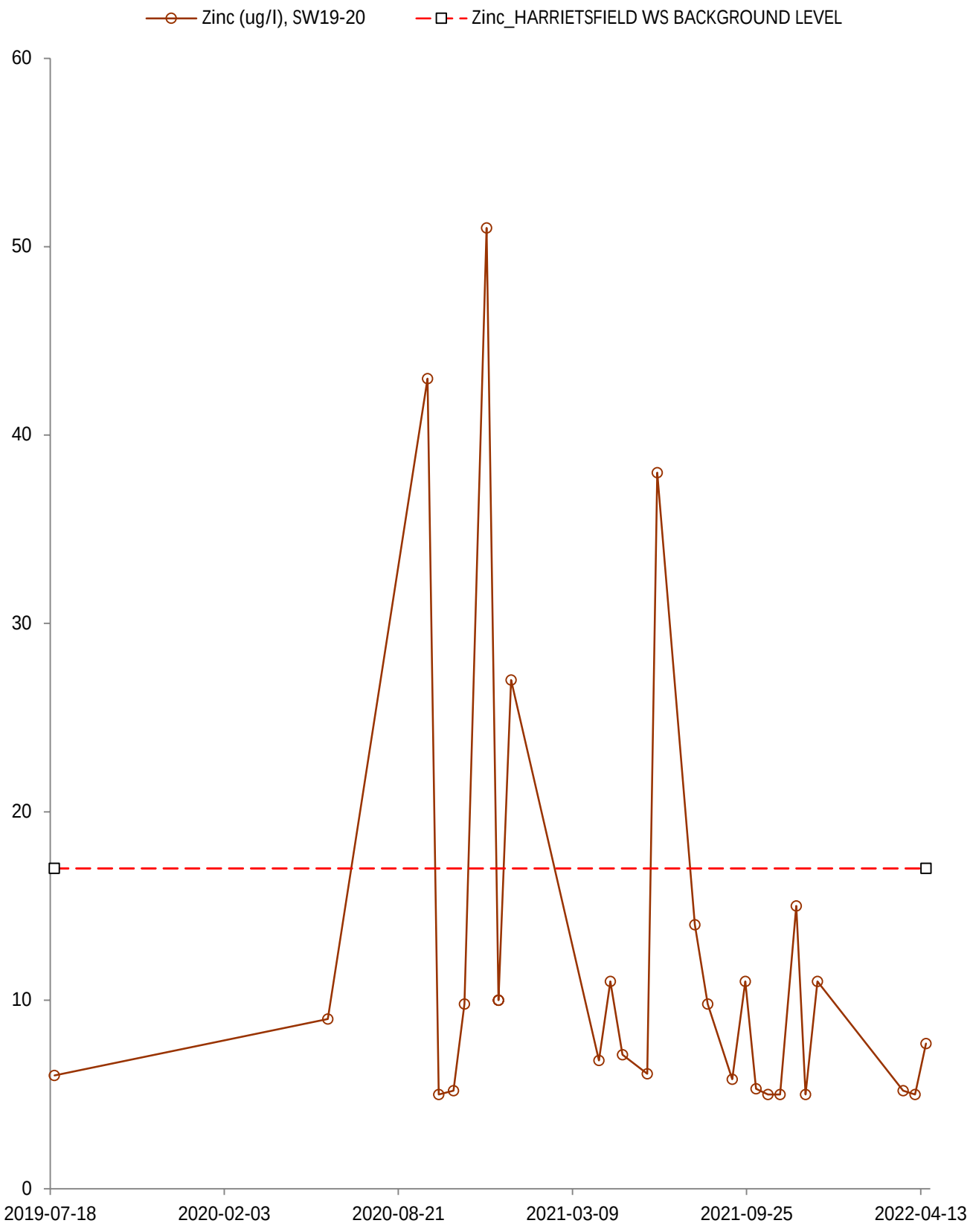
SW19-20-Vanadium



SW19-20-Xylenes, Total



SW19-20-Zinc


Zinc (ug/l), SW19-20
Zinc_HARRIETSFIELD WS BACKGROUND LEVEL
60
50
40
30
20
10
0
2019-07-18
2020-02-03
2020-08-21
2021-03-09
2021-09-25
2022-04-13

Appendix G. Mann-Kendall Evaluation and Narrative

PARAMETERS	UNIT	MW19-03D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	96.10	98.31	97.50	3.81	0.04	-1.12	89.00	100.00	10	5	No Trend
Aluminum	**(ug/l)**	10.20	11.90	9.90	2.74	0.27	0.26	6.50	14.00	9	-15	No Trend
Boron	**(ug/l)**	34.30	39.43	30.00	8.86	0.26	1.82	30.00	53.00	10	-24	Negative Trend
Cadmium	**(ug/l)**	0.008	0.01	0.005	0.009	1.10	3.00	0.005	0.03	9	-6	No Trend
Calcium	**(ug/l)**	21,960.00	23,431.28	22,000.00	2,538.24	0.12	-2.41	15,200.00	24,400.00	10	-14	No Trend
Chloride ion	**(mg/l)**	7.19	7.94	7.10	1.30	0.18	-0.18	5.00	9.10	10	10	No Trend
Chromium	**(ug/l)**	1.05	1.59	0.50	0.93	0.88	1.39	0.50	3.00	10	-19	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	2.9E-17	1.5E-16	1.19	0.20	0.20	10	0	No Trend
Copper	**(ug/l)**	1.44	2.79	0.25	2.34	1.63	2.26	0.25	7.40	10	14	No Trend
Electrical Conductivity	**(umhos/cm)**	210.50	217.01	210.00	11.23	0.05	-0.48	190.00	226.00	10	-20	No Trend
Hardness (as CaCO3)	**(mg/l)**	67.80	72.42	69.50	7.96	0.12	-2.61	46.20	75.20	10	-14	No Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	9	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	10	0	No Trend
Magnesium	**(ug/l)**	3,050.00	3,315.28	3,200.00	457.65	0.15	-1.37	2,000.00	3,700.00	10	15	No Trend
Manganese	**(ug/l)**	19.19	27.63	14.00	14.56	0.76	0.71	1.00	43.00	10	-23	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.3E-18	1.5E-16	1.19	0.05	0.05	10	0	No Trend
pH, Lab	**(ph units)**	8.04	8.10	8.07	0.12	0.01	-0.54	7.82	8.19	10	7	No Trend
Sulphate	**(mg/l)**	5.13	5.98	4.60	1.36	0.27	1.57	4.00	8.00	9	-4	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	121.50	124.77	120.00	5.64	0.05	0.69	112.00	132.00	10	-12	No Trend
Total Organic Carbon	**(mg/l)**	1.03	1.93	0.25	1.56	1.52	2.45	0.25	5.10	10	-4	No Trend
Turbidity	**(ntu)**	372.53	847.91	17.50	820.13	2.20	2.72	2.40	2,600.00	10	-27	Negative Trend
Uranium	**(ug/l)**	20.80	23.57	20.00	4.77	0.23	1.01	15.00	30.50	10	-34	Negative Trend

PARAMETERS	UNIT	MW19-09S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	111.30	123.05	100.00	20.27	0.18	0.87	92.00	140.00	10	7	No Trend
Aluminum	**(ug/l)**	9.50	11.12	8.40	2.42	0.25	0.55	7.00	13.00	8	-2	No Trend
Boron	**(ug/l)**	31.70	36.23	30.00	7.82	0.25	2.61	23.00	53.00	10	8	No Trend
Cadmium	**(ug/l)**	0.01	0.02	0.009	0.009	0.70	0.53	0.005	0.03	10	-9	No Trend
Calcium	**(ug/l)**	30,790.00	34,509.02	29,000.00	6,416.03	0.21	1.01	23,000.00	44,000.00	10	-4	No Trend
Chloride ion	**(mg/l)**	6.89	7.64	6.95	1.29	0.19	-0.0016	5.00	8.70	10	11	No Trend
Chromium	**(ug/l)**	1.82	2.83	0.75	1.74	0.95	1.07	0.50	5.40	10	-9	No Trend
Cobalt	**(ug/l)**	0.43	0.73	0.20	0.53	1.23	2.47	0.20	1.80	10	1	No Trend
Copper	**(ug/l)**	1.34	2.20	0.25	1.49	1.11	0.87	0.25	4.10	10	14	No Trend
Electrical Conductivity	**(umhos/cm)**	264.10	301.18	241.50	63.97	0.24	0.86	200.00	370.00	10	6	No Trend
Hardness (as CaCO3)	**(mg/l)**	94.47	106.35	89.00	20.50	0.22	1.23	69.00	140.00	10	-2	No Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	9	0	No Trend
Lead	**(ug/l)**	0.49	0.92	0.25	0.74	1.53	3.16	0.25	2.60	10	1	No Trend
Magnesium	**(ug/l)**	4,360.00	5,023.27	4,000.00	1,144.26	0.26	1.71	3,000.00	7,100.00	10	2	No Trend
Manganese	**(ug/l)**	21.44	49.32	4.70	44.96	2.10	2.88	1.00	140.00	9	-23	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.3E-18	1.6E-16	1.19	0.05	0.05	10	0	No Trend
pH, Lab	**(ph units)**	8.01	8.08	8.01	0.11	0.01	-1.12	7.76	8.15	10	13	No Trend
Sulphate	**(mg/l)**	16.20	22.84	10.10	11.45	0.71	1.06	6.00	37.00	10	16	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	153.60	174.74	140.00	36.48	0.24	0.91	118.00	220.00	10	6	No Trend
Total Organic Carbon	**(mg/l)**	2.45	3.88	2.50	1.73	0.71	0.99	0.30	5.50	6	2	No Trend
Turbidity	**(ntu)**	1,717.50	2,852.01	1,000.00	1,957.25	1.14	2.70	515.00	7,020.00	10	-6	No Trend
Uranium	**(ug/l)**	4.63	5.55	4.75	1.58	0.34	-1.82	0.70	6.20	10	21	Positive Trend

PARAMETERS	UNIT	MW19-10S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	85.75	107.75	83.50	18.70	0.22	0.62	66.00	110.00	4	0	No Trend
Aluminum	**(ug/l)**	2.50	2.50	2.50	0.00	0.00	--	2.50	2.50	4	0	No Trend
Boron	**(ug/l)**	317.25	405.53	337.00	75.03	0.24	-1.43	210.00	385.00	4	-4	No Trend
Cadmium	**(ug/l)**	0.05	0.07	0.04	0.02	0.46	1.07	0.03	0.08	4	-2	No Trend
Calcium	**(ug/l)**	62,700.00	77,405.15	65,900.00	12,499.07	0.20	-1.35	45,000.00	74,000.00	4	0	No Trend
Chloride ion	**(mg/l)**	13.50	17.16	12.50	3.11	0.23	1.60	11.00	18.00	4	-2	No Trend
Chromium	**(ug/l)**	1.25	2.65	0.75	1.19	0.95	1.78	0.50	3.00	4	-3	No Trend
Cobalt	**(ug/l)**	0.65	1.71	0.20	0.90	1.38	2.00	0.20	2.00	4	-3	No Trend
Copper	**(ug/l)**	1.60	2.42	1.55	0.70	0.44	0.07	1.00	2.30	4	3	No Trend
Electrical Conductivity	**(umhos/cm)**	475.50	562.07	486.00	73.58	0.15	-0.69	380.00	550.00	4	-2	No Trend
Hardness (as CaCO3)	**(mg/l)**	202.50	245.82	215.00	36.82	0.18	-1.48	150.00	230.00	4	0	No Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	4	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	4	0	No Trend
Magnesium	**(ug/l)**	11,025.00	14,006.56	11,350.00	2,534.27	0.23	-0.69	7,700.00	13,700.00	4	-2	No Trend
Manganese	**(ug/l)**	197.63	581.83	53.25	326.57	1.65	1.89	1.00	683.00	4	-6	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	8.5E-18	1.9E-16	-2.45	0.05	0.05	3	--	--
pH, Lab	**(ph units)**	6.98	7.18	7.00	0.17	0.02	-0.48	6.76	7.16	4	2	No Trend
Sulphate	**(mg/l)**	130.50	172.97	134.00	36.10	0.28	-0.53	84.00	170.00	4	-2	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	303.50	376.82	302.00	62.32	0.21	0.13	230.00	380.00	4	-2	No Trend
Total Organic Carbon	**(mg/l)**	3.00	8.68	3.00	1.27	0.42	--	2.10	3.90	2	--	--
Turbidity	**(ntu)**	3,180.00	6,221.23	2,820.00	2,584.98	0.81	0.26	1,000.00	6,080.00	4	-3	No Trend
Uranium	**(ug/l)**	6.08	8.45	5.75	2.02	0.33	0.90	4.00	8.80	4	0	No Trend

PARAMETERS	UNIT	MW19-11D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	943.33	993.61	900.00	81.09	0.09	1.00	870.00	1,080.00	9	-13	No Trend
Aluminum	**(ug/l)**	30.67	38.59	30.00	12.78	0.42	0.66	8.00	58.00	9	6	No Trend
Boron	**(ug/l)**	5,763.33	6,508.52	6,100.00	1,201.92	0.21	-0.21	3,800.00	7,720.00	9	-25	Negative Trend
Cadmium	**(ug/l)**	0.15	0.23	0.17	0.12	0.79	0.56	0.02	0.37	9	-24	Negative Trend
Calcium	**(ug/l)**	468,888.89	506,222.27	470,000.00	60,215.12	0.13	-0.49	360,000.00	560,000.00	9	-18	Negative Trend
Chloride ion	**(mg/l)**	37.22	40.51	39.00	5.31	0.14	-1.12	28.00	42.00	9	-25	Negative Trend
Chromium	**(ug/l)**	7.34	16.12	0.50	14.15	1.93	2.03	0.50	40.00	9	-7	No Trend
Cobalt	**(ug/l)**	13.89	15.88	13.00	3.22	0.23	0.82	10.00	20.00	9	-27	Negative Trend
Copper	**(ug/l)**	8.96	14.89	8.00	9.57	1.07	1.45	0.67	30.00	9	-16	No Trend
Electrical Conductivity	**(umhos/cm)**	2,558.89	2,738.75	2,500.00	290.11	0.11	-0.20	2,100.00	2,960.00	9	-27	Negative Trend
Hardness (as CaCO3)	**(mg/l)**	1,487.78	1,630.30	1,500.00	229.88	0.15	-0.43	1,100.00	1,800.00	9	-23	Negative Trend
Iron	**(ug/l)**	10,292.22	13,364.92	12,000.00	4,955.96	0.48	-1.44	30.00	14,900.00	9	10	No Trend
Lead	**(ug/l)**	0.29	0.36	0.25	0.12	0.40	3.00	0.25	0.60	9	-6	No Trend
Magnesium	**(ug/l)**	83,322.22	94,431.03	85,000.00	17,917.43	0.22	-0.48	54,000.00	108,000.00	9	-26	Negative Trend
Manganese	**(ug/l)**	21,377.78	23,683.85	21,000.00	3,719.47	0.17	0.82	16,000.00	29,000.00	9	-19	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.08	0.13	0.05	0.08	0.94	2.19	0.05	0.26	8	-7	No Trend
pH, Lab	**(ph units)**	7.14	7.26	7.07	0.19	0.03	1.47	6.97	7.55	9	18	Positive Trend
Sulphate	**(mg/l)**	609.56	690.73	610.00	130.93	0.21	-0.39	400.00	775.00	9	-34	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	1,907.78	2,058.43	1,900.00	242.99	0.13	-0.53	1,500.00	2,200.00	9	-31	Negative Trend
Total Organic Carbon	**(mg/l)**	33.46	42.15	27.00	14.02	0.42	1.88	23.00	65.00	9	-15	No Trend
Turbidity	**(ntu)**	158.51	209.03	130.00	81.48	0.51	1.13	57.60	300.00	9	1	No Trend
Uranium	**(ug/l)**	422.67	488.81	420.00	106.69	0.25	0.15	260.00	597.00	9	-24	Negative Trend

PARAMETERS	UNIT	MW19-11M (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	635.44	763.41	650.00	206.40	0.32	1.37	400.00	1,100.00	9	-22	Negative Trend
Aluminum	**(ug/l)**	99.56	183.99	54.00	136.18	1.37	2.89	32.00	459.00	9	-12	No Trend
Boron	**(ug/l)**	3,731.11	4,929.08	3,800.00	1,932.21	0.52	0.67	1,200.00	7,600.00	9	-26	Negative Trend
Cadmium	**(ug/l)**	0.21	0.28	0.21	0.12	0.55	0.32	0.05	0.41	9	0	No Trend
Calcium	**(ug/l)**	323,666.67	405,944.66	340,000.00	132,706.44	0.41	0.78	150,000.00	600,000.00	9	-27	Negative Trend
Chloride ion	**(mg/l)**	25.56	32.46	26.00	11.14	0.44	0.64	11.00	48.00	9	-20	Negative Trend
Chromium	**(ug/l)**	4.06	8.50	0.50	7.17	1.77	1.75	0.50	19.00	9	-13	No Trend
Cobalt	**(ug/l)**	8.98	11.86	8.40	4.65	0.52	0.34	3.70	16.00	9	-24	Negative Trend
Copper	**(ug/l)**	2.84	3.42	2.50	0.92	0.32	0.07	1.60	4.00	9	-10	No Trend
Electrical Conductivity	**(umhos/cm)**	1,741.11	2,175.33	1,700.00	700.35	0.40	0.91	850.00	3,200.00	9	-19	Negative Trend
Hardness (as CaCO3)	**(mg/l)**	1,043.33	1,309.05	1,100.00	428.57	0.41	0.55	460.00	1,900.00	9	-25	Negative Trend
Iron	**(ug/l)**	4,493.33	7,678.76	2,600.00	5,137.79	1.14	1.43	450.00	15,000.00	9	-10	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	9	0	No Trend
Magnesium	**(ug/l)**	55,100.00	70,248.57	59,000.00	24,433.17	0.44	0.17	20,000.00	100,000.00	9	-24	Negative Trend
Manganese	**(ug/l)**	17,544.44	21,312.71	19,000.00	6,077.85	0.35	-0.58	8,300.00	26,000.00	9	-18	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.10	0.21	0.05	0.16	1.56	2.83	0.05	0.49	8	-3	No Trend
pH, Lab	**(ph units)**	7.17	7.26	7.14	0.14	0.02	0.81	7.00	7.39	9	21	Positive Trend
Sulphate	**(mg/l)**	376.11	515.02	340.00	224.05	0.60	0.66	94.00	820.00	9	-28	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	1,260.00	1,603.57	1,200.00	554.14	0.44	0.79	560.00	2,400.00	9	-24	Negative Trend
Total Organic Carbon	**(mg/l)**	35.61	42.79	33.00	11.58	0.33	0.41	19.00	55.00	9	-8	No Trend
Turbidity	**(ntu)**	613.33	868.18	630.00	411.04	0.67	-0.03	150.00	1,080.00	9	3	No Trend
Uranium	**(ug/l)**	239.67	329.20	230.00	144.42	0.60	1.25	63.00	560.00	9	-20	Negative Trend

PARAMETERS	UNIT	MW19-12D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	118.00	130.92	110.00	20.84	0.18	0.23	90.00	150.00	9	11	No Trend
Aluminum	**(ug/l)**	4.88	7.85	2.50	4.79	0.98	2.49	2.50	17.00	9	11	No Trend
Boron	**(ug/l)**	97.56	113.66	92.00	25.97	0.27	2.55	78.00	164.00	9	-25	Negative Trend
Cadmium	**(ug/l)**	0.12	0.14	0.12	0.03	0.25	-0.01	0.08	0.16	9	2	No Trend
Calcium	**(ug/l)**	48,433.33	53,050.98	47,000.00	7,447.82	0.15	0.53	39,000.00	60,600.00	9	2	No Trend
Chloride ion	**(mg/l)**	10.70	12.60	12.00	3.07	0.29	-0.62	6.30	14.00	9	18	Positive Trend
Chromium	**(ug/l)**	0.72	1.04	0.50	0.51	0.70	2.51	0.50	2.00	9	-13	No Trend
Cobalt	**(ug/l)**	0.27	0.35	0.20	0.14	0.52	1.97	0.20	0.58	9	7	No Trend
Copper	**(ug/l)**	1.36	1.77	1.00	0.66	0.48	0.56	0.69	2.40	9	7	No Trend
Electrical Conductivity	**(umhos/cm)**	346.44	367.01	340.00	33.16	0.10	0.47	304.00	400.00	9	15	No Trend
Hardness (as CaCO3)	**(mg/l)**	154.00	165.25	150.00	18.14	0.12	0.28	130.00	180.00	9	7	No Trend
Iron	**(ug/l)**	260.56	380.83	220.00	193.99	0.74	0.21	30.00	540.00	9	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	9	0	No Trend
Magnesium	**(ug/l)**	8,333.33	9,089.50	8,600.00	1,219.63	0.15	-0.94	5,900.00	10,000.00	9	19	Positive Trend
Manganese	**(ug/l)**	82.58	127.83	64.00	72.99	0.88	0.95	7.50	207.00	9	-16	No Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.4E-18	1.6E-16	1.25	0.05	0.05	8	0	No Trend
pH, Lab	**(ph units)**	7.22	7.29	7.23	0.12	0.02	0.07	7.04	7.41	9	8	No Trend
Sulphate	**(mg/l)**	46.67	50.23	47.00	5.74	0.12	-0.90	35.00	53.00	9	5	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	208.33	224.27	210.00	25.71	0.12	-0.31	163.00	250.00	9	13	No Trend
Total Organic Carbon	**(mg/l)**	2.06	2.41	2.50	0.58	0.28	-0.88	1.00	2.50	9	-7	No Trend
Turbidity	**(ntu)**	599.33	1,107.68	250.00	819.91	1.37	2.52	85.00	2,680.00	9	-18	Negative Trend
Uranium	**(ug/l)**	14.22	17.38	11.80	5.10	0.36	0.44	8.20	22.00	9	13	No Trend

PARAMETERS	UNIT	MW19-12S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	166.50	205.56	165.00	33.20	0.20	0.07	136.00	200.00	4	6	Positive Trend
Aluminum	**(ug/l)**	15.13	29.34	10.00	12.09	0.80	1.84	7.50	33.00	4	2	No Trend
Boron	**(ug/l)**	146.50	227.47	142.00	68.83	0.47	0.14	82.00	220.00	4	-4	No Trend
Cadmium	**(ug/l)**	0.05	0.06	0.05	0.01	0.30	-1.12	0.03	0.06	4	0	No Trend
Calcium	**(ug/l)**	69,075.00	77,261.83	68,500.00	6,958.63	0.10	0.46	61,300.00	78,000.00	4	2	No Trend
Chloride ion	**(mg/l)**	9.80	16.28	7.45	5.51	0.56	1.92	6.30	18.00	4	-2	No Trend
Chromium	**(ug/l)**	0.88	1.76	0.50	0.75	0.86	2.00	0.50	2.00	4	-3	No Trend
Cobalt	**(ug/l)**	0.65	1.71	0.20	0.90	1.38	2.00	0.20	2.00	4	-3	No Trend
Copper	**(ug/l)**	7.10	11.50	7.70	3.74	0.53	-0.93	2.00	11.00	4	6	Positive Trend
Electrical Conductivity	**(umhos/cm)**	423.00	470.39	430.00	40.28	0.10	-0.66	372.00	460.00	4	2	No Trend
Hardness (as CaCO3)	**(mg/l)**	201.25	223.97	205.00	19.31	0.10	-1.00	175.00	220.00	4	2	No Trend
Iron	**(ug/l)**	55.75	116.34	30.00	51.50	0.92	2.00	30.00	133.00	4	-3	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	4	0	No Trend
Magnesium	**(ug/l)**	6,625.00	8,503.41	6,550.00	1,596.61	0.24	0.05	5,200.00	8,200.00	4	2	No Trend
Manganese	**(ug/l)**	164.70	546.91	2.90	324.87	1.97	2.00	1.00	652.00	4	0	No Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	8.5E-18	1.9E-16	-2.45	0.05	0.05	3	--	--
pH, Lab	**(ph units)**	7.61	7.84	7.60	0.20	0.03	0.36	7.38	7.86	4	4	No Trend
Sulphate	**(mg/l)**	44.25	67.57	38.00	19.82	0.45	1.33	29.00	72.00	4	-4	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	252.75	281.65	255.00	24.57	0.10	-0.51	221.00	280.00	4	2	No Trend
Total Organic Carbon	**(mg/l)**	6.80	12.98	7.60	3.67	0.54	-0.94	2.80	10.00	3	--	--
Turbidity	**(ntu)**	1,230.00	2,226.91	970.00	847.35	0.69	1.61	520.00	2,460.00	4	-4	No Trend
Uranium	**(ug/l)**	3.58	5.36	3.05	1.52	0.43	1.72	2.40	5.80	4	-4	No Trend

PARAMETERS	UNIT	MW19-13D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	29.70	40.19	24.00	18.10	0.61	2.89	18.00	80.00	10	-16	No Trend
Aluminum	**(ug/l)**	23.90	30.25	22.50	10.95	0.46	-0.27	3.00	40.00	10	5	No Trend
Boron	**(ug/l)**	216.20	246.88	232.50	52.93	0.24	-2.38	76.00	271.00	10	-8	No Trend
Cadmium	**(ug/l)**	0.12	0.15	0.14	0.05	0.37	-2.01	0.009	0.17	10	23	Positive Trend
Calcium	**(ug/l)**	15,210.00	16,812.28	15,500.00	2,764.24	0.18	-1.67	8,300.00	19,400.00	10	0	No Trend
Chloride ion	**(mg/l)**	10.98	12.35	10.00	2.37	0.22	1.09	8.00	16.00	10	0	No Trend
Chromium	**(ug/l)**	0.50	0.50	0.50	0.00	0.00	--	0.50	0.50	10	0	No Trend
Cobalt	**(ug/l)**	1.42	2.24	0.70	1.42	0.99	2.29	0.50	5.10	10	-2	No Trend
Copper	**(ug/l)**	11.44	14.55	10.95	5.36	0.47	0.27	4.00	21.00	10	2	No Trend
Electrical Conductivity	**(umhos/cm)**	212.50	224.59	210.00	20.87	0.10	1.72	190.00	264.00	10	-15	No Trend
Hardness (as CaCO3)	**(mg/l)**	54.85	60.75	56.60	10.18	0.19	-2.39	27.70	66.60	10	12	No Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	10	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	10	0	No Trend
Magnesium	**(ug/l)**	4,010.00	4,505.21	4,400.00	854.34	0.21	-2.65	1,700.00	4,500.00	10	28	Positive Trend
Manganese	**(ug/l)**	105.89	136.33	87.00	49.10	0.46	0.49	48.00	175.00	9	-20	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.4E-18	1.6E-16	1.21	0.05	0.05	9	0	No Trend
pH, Lab	**(ph units)**	6.82	7.06	6.83	0.41	0.06	1.28	6.32	7.76	10	-11	No Trend
Sulphate	**(mg/l)**	54.10	57.72	55.50	6.24	0.12	-1.44	41.00	60.00	10	9	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	133.80	141.55	130.00	13.37	0.10	0.26	114.00	157.00	10	2	No Trend
Total Organic Carbon	**(mg/l)**	2.26	2.74	2.50	0.83	0.37	-1.19	0.75	3.40	10	-10	No Trend
Turbidity	**(ntu)**	1,315.56	2,657.86	280.00	2,165.00	1.65	2.09	64.00	6,420.00	9	-12	No Trend
Uranium	**(ug/l)**	3.16	4.54	2.35	2.38	0.75	3.12	2.20	9.90	10	-11	No Trend

PARAMETERS	UNIT	MW19-13S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	6.33	7.77	6.20	2.32	0.37	-0.41	3.00	9.20	9	25	Positive Trend
Aluminum	**(ug/l)**	379.78	472.72	460.00	149.91	0.39	-0.95	128.00	540.00	9	22	Positive Trend
Boron	**(ug/l)**	285.56	336.04	270.00	81.42	0.29	0.18	142.00	437.00	9	-12	No Trend
Cadmium	**(ug/l)**	0.17	0.21	0.15	0.06	0.35	0.46	0.10	0.27	9	18	Positive Trend
Calcium	**(ug/l)**	14,522.22	17,726.91	12,700.00	5,168.84	0.36	2.77	12,000.00	28,000.00	9	-14	No Trend
Chloride ion	**(mg/l)**	12.19	14.56	12.00	3.82	0.31	0.56	7.00	18.00	9	-4	No Trend
Chromium	**(ug/l)**	0.50	0.50	0.50	0.00	0.00	--	0.50	0.50	9	0	No Trend
Cobalt	**(ug/l)**	2.88	4.36	2.00	2.39	0.83	2.57	1.30	9.00	9	-12	No Trend
Copper	**(ug/l)**	1.97	3.01	1.20	1.68	0.86	2.15	1.00	6.00	9	11	No Trend
Electrical Conductivity	**(umhos/cm)**	196.67	228.84	180.00	51.90	0.26	2.62	160.00	330.00	9	-17	No Trend
Hardness (as CaCO3)	**(mg/l)**	59.08	71.26	51.80	19.65	0.33	2.71	48.00	110.00	9	-20	Negative Trend
Iron	**(ug/l)**	172.67	348.07	92.00	282.91	1.64	2.89	30.00	920.00	9	19	Positive Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	9	0	No Trend
Magnesium	**(ug/l)**	5,655.56	6,934.51	4,900.00	2,062.83	0.36	2.70	4,400.00	11,000.00	9	-22	Negative Trend
Manganese	**(ug/l)**	476.56	735.32	250.00	417.37	0.88	1.04	89.00	1,200.00	9	18	Positive Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.08	0.05	0.04	0.62	3.00	0.05	0.15	9	-2	No Trend
pH, Lab	**(ph units)**	5.80	5.93	5.76	0.21	0.04	0.29	5.56	6.12	9	-4	No Trend
Sulphate	**(mg/l)**	63.67	81.93	58.00	29.46	0.46	2.67	41.00	140.00	9	-7	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	116.22	143.22	108.00	43.55	0.37	2.76	84.00	230.00	9	-1	No Trend
Total Organic Carbon	**(mg/l)**	16.71	26.96	9.00	16.54	0.99	1.88	4.30	55.00	9	12	No Trend
Turbidity	**(ntu)**	2,884.44	5,245.50	1,000.00	3,808.15	1.32	1.91	220.00	11,700.00	9	-14	No Trend
Uranium	**(ug/l)**	0.28	0.35	0.27	0.11	0.41	1.02	0.15	0.50	9	-21	Negative Trend

PARAMETERS	UNIT	MW1-D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	775.79	815.01	768.50	82.86	0.11	0.69	650.00	950.00	14	16	No Trend
Aluminum	**(ug/l)**	9.50	11.81	9.00	4.22	0.44	0.17	3.00	16.00	11	-18	No Trend
Boron	**(ug/l)**	6,556.43	7,230.33	6,270.00	1,423.77	0.22	0.57	4,700.00	9,200.00	14	-68	Negative Trend
Cadmium	**(ug/l)**	1.60	1.90	1.45	0.65	0.41	0.70	0.62	3.00	14	-8	No Trend
Calcium	**(ug/l)**	354,000.00	370,447.69	351,000.00	34,749.65	0.10	0.50	310,000.00	427,000.00	14	12	No Trend
Chloride ion	**(mg/l)**	47.86	58.29	38.00	22.04	0.46	1.05	29.00	87.00	14	-49	Negative Trend
Chromium	**(ug/l)**	6.27	11.85	0.50	10.21	1.63	1.44	0.50	28.00	11	1	No Trend
Cobalt	**(ug/l)**	12.96	15.17	11.50	4.67	0.36	1.13	8.40	23.00	14	-59	Negative Trend
Copper	**(ug/l)**	3.17	4.50	2.20	2.42	0.76	1.07	1.00	8.30	11	23	Positive Trend
Electrical Conductivity	**(umhos/cm)**	2,361.43	2,437.36	2,400.00	160.43	0.07	0.004	2,100.00	2,700.00	14	-19	No Trend
Hardness (as CaCO3)	**(mg/l)**	1,340.71	1,398.58	1,315.00	122.25	0.09	0.50	1,200.00	1,590.00	14	-9	No Trend
Iron	**(ug/l)**	2,417.69	3,365.57	2,100.00	1,917.86	0.79	0.31	30.00	5,700.00	13	-40	Negative Trend
Lead	**(ug/l)**	0.53	0.72	0.51	0.34	0.63	1.18	0.25	1.30	11	-11	No Trend
Magnesium	**(ug/l)**	112,428.57	117,426.40	110,000.00	10,559.10	0.09	0.12	98,000.00	130,000.00	14	-43	Negative Trend
Manganese	**(ug/l)**	8,015.00	8,487.46	8,050.00	998.17	0.12	-0.58	5,670.00	9,900.00	14	-11	No Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.3E-18	1.6E-16	1.17	0.05	0.05	11	0	No Trend
pH, Lab	**(ph units)**	6.91	7.01	6.94	0.22	0.03	-0.66	6.46	7.23	14	55	Positive Trend
Sulphate	**(mg/l)**	661.64	698.58	670.00	78.03	0.12	-0.26	535.00	770.00	14	-40	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	1,766.43	1,842.56	1,800.00	160.84	0.09	-0.009	1,500.00	2,000.00	14	-28	No Trend
Total Organic Carbon	**(mg/l)**	21.07	24.97	20.50	8.24	0.39	-0.89	0.30	34.40	14	-23	No Trend
Turbidity	**(ntu)**	162.93	283.15	70.50	254.00	1.56	3.01	19.00	986.00	14	-28	No Trend
Uranium	**(ug/l)**	849.57	912.83	850.00	133.65	0.16	0.08	630.00	1,100.00	14	-30	No Trend

PARAMETERS	UNIT	MW1-S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	449.33	536.89	385.00	168.88	0.38	0.44	190.00	740.00	12	47	Positive Trend
Aluminum	**(ug/l)**	330.83	680.31	31.00	674.06	2.04	2.13	5.00	2,000.00	12	7	No Trend
Boron	**(ug/l)**	3,119.17	3,726.30	3,200.00	1,171.04	0.38	0.14	1,400.00	5,090.00	12	-1	No Trend
Cadmium	**(ug/l)**	0.11	0.15	0.06	0.08	0.70	0.79	0.04	0.23	12	-27	Negative Trend
Calcium	**(ug/l)**	246,250.00	308,326.12	200,000.00	119,731.61	0.49	1.08	100,000.00	510,000.00	12	29	Positive Trend
Chloride ion	**(mg/l)**	26.25	31.96	28.00	11.01	0.42	-0.39	8.00	43.00	12	-1	No Trend
Chromium	**(ug/l)**	3.16	5.63	0.50	4.51	1.43	1.68	0.50	12.00	11	13	No Trend
Cobalt	**(ug/l)**	2.80	3.46	3.40	1.21	0.43	-0.37	1.00	4.30	11	5	No Trend
Copper	**(ug/l)**	2.14	2.75	2.00	1.13	0.53	0.15	1.00	3.60	11	21	No Trend
Electrical Conductivity	**(umhos/cm)**	1,480.75	1,802.99	1,250.00	621.53	0.42	0.67	610.00	2,700.00	12	29	Positive Trend
Hardness (as CaCO3)	**(mg/l)**	840.00	1,041.76	730.00	389.14	0.46	0.99	360.00	1,700.00	12	22	No Trend
Iron	**(ug/l)**	718.50	1,144.94	235.00	822.52	1.14	1.03	30.00	2,500.00	12	32	Positive Trend
Lead	**(ug/l)**	2.32	2.54	2.50	0.44	0.19	-2.23	1.20	2.50	12	1	No Trend
Magnesium	**(ug/l)**	53,150.00	64,606.76	55,500.00	22,097.66	0.42	0.29	25,000.00	94,000.00	12	15	No Trend
Manganese	**(ug/l)**	4,404.67	6,871.02	2,550.00	4,757.07	1.08	1.42	206.00	15,000.00	12	24	No Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.06	0.06	0.00	0.00	--	0.06	0.06	9	0	No Trend
pH, Lab	**(ph units)**	7.39	7.58	7.53	0.37	0.05	-0.46	6.69	7.90	12	48	Positive Trend
Sulphate	**(mg/l)**	321.08	384.24	330.00	121.82	0.38	0.09	120.00	540.00	12	24	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	992.25	1,185.53	915.00	372.81	0.38	0.38	420.00	1,700.00	12	30	Positive Trend
Total Organic Carbon	**(mg/l)**	28.15	40.05	29.00	21.78	0.77	0.97	0.30	78.00	11	23	Positive Trend
Turbidity	**(ntu)**	1,897.50	3,388.15	1,000.00	2,224.91	1.17	2.09	160.00	6,940.00	8	-9	No Trend
Uranium	**(ug/l)**	206.27	269.29	180.00	115.35	0.56	1.22	64.00	450.00	11	24	Positive Trend

PARAMETERS	UNIT	MW20-14D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	87.75	96.14	88.00	12.52	0.14	0.41	70.00	110.00	8	4	No Trend
Aluminum	**(ug/l)**	7.01	8.69	6.95	2.50	0.36	0.70	3.00	12.00	8	6	No Trend
Boron	**(ug/l)**	285.50	317.86	280.00	48.31	0.17	0.79	230.00	370.00	8	-9	No Trend
Cadmium	**(ug/l)**	0.26	0.30	0.26	0.06	0.23	-0.66	0.14	0.35	8	-21	Negative Trend
Calcium	**(ug/l)**	79,500.00	89,495.37	73,500.00	14,918.83	0.19	0.52	61,000.00	100,000.00	8	-17	Negative Trend
Chloride ion	**(mg/l)**	9.46	10.93	9.70	2.19	0.23	-0.15	6.00	13.00	8	13	No Trend
Chromium	**(ug/l)**	0.94	1.77	0.50	1.24	1.32	2.83	0.50	4.00	8	-7	No Trend
Cobalt	**(ug/l)**	0.45	0.65	0.35	0.30	0.67	0.86	0.20	1.00	8	-18	Negative Trend
Copper	**(ug/l)**	1.36	2.03	0.95	1.00	0.73	0.66	0.25	3.00	8	-6	No Trend
Electrical Conductivity	**(umhos/cm)**	724.38	789.42	692.50	97.08	0.13	0.74	630.00	870.00	8	-16	Negative Trend
Hardness (as CaCO3)	**(mg/l)**	312.00	349.34	293.00	55.73	0.18	0.52	240.00	390.00	8	-17	Negative Trend
Iron	**(ug/l)**	59.13	100.75	30.00	62.13	1.05	2.63	30.00	210.00	8	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	8	0	No Trend
Magnesium	**(ug/l)**	27,037.50	29,758.74	26,150.00	4,061.65	0.15	0.24	21,000.00	33,000.00	8	-18	Negative Trend
Manganese	**(ug/l)**	65.38	94.21	59.50	43.04	0.66	0.27	18.00	127.00	8	-20	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.06	0.06	0.00	0.00	--	0.06	0.06	8	0	No Trend
pH, Lab	**(ph units)**	6.99	7.06	7.00	0.11	0.02	-0.55	6.79	7.15	8	10	No Trend
Sulphate	**(mg/l)**	273.25	308.11	263.00	52.03	0.19	0.35	200.00	350.00	8	-15	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	485.25	532.26	456.00	70.17	0.14	0.49	390.00	600.00	8	-14	No Trend
Total Organic Carbon	**(mg/l)**	2.34	2.59	2.35	0.37	0.16	0.39	1.80	3.00	8	-18	Negative Trend
Turbidity	**(ntu)**	138.25	328.33	40.00	283.71	2.05	2.79	12.00	838.00	8	-2	No Trend
Uranium	**(ug/l)**	2.08	2.67	1.70	0.89	0.43	1.79	1.40	4.00	8	-21	Negative Trend

PARAMETERS	UNIT	MW20-14S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	83.29	99.28	91.00	21.78	0.26	-1.16	42.00	110.00	7	-9	No Trend
Aluminum	**(ug/l)**	45.86	79.02	25.00	45.15	0.98	1.01	3.00	120.00	7	11	No Trend
Boron	**(ug/l)**	166.71	225.44	210.00	79.97	0.48	-1.30	30.00	220.00	7	-12	No Trend
Cadmium	**(ug/l)**	0.05	0.06	0.05	0.01	0.26	0.06	0.03	0.07	7	-5	No Trend
Calcium	**(ug/l)**	50,900.00	68,622.43	63,000.00	24,132.34	0.47	-0.53	15,000.00	81,000.00	7	-15	Negative Trend
Chloride ion	**(mg/l)**	9.04	10.39	9.30	1.83	0.20	-0.55	6.00	11.00	7	-1	No Trend
Chromium	**(ug/l)**	1.00	1.97	0.50	1.32	1.32	2.65	0.50	4.00	7	-6	No Trend
Cobalt	**(ug/l)**	1.89	2.42	2.00	0.71	0.38	-0.59	0.65	2.70	7	-2	No Trend
Copper	**(ug/l)**	1.81	2.59	1.30	1.06	0.58	1.64	1.00	3.90	7	12	No Trend
Electrical Conductivity	**(umhos/cm)**	439.71	561.74	460.00	166.15	0.38	-0.67	160.00	660.00	7	-11	No Trend
Hardness (as CaCO3)	**(mg/l)**	180.29	240.68	220.00	82.24	0.46	-0.59	57.00	280.00	7	-15	Negative Trend
Iron	**(ug/l)**	248.86	413.93	180.00	224.77	0.90	0.30	30.00	550.00	7	10	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	7	0	No Trend
Magnesium	**(ug/l)**	13,371.43	17,596.69	16,000.00	5,753.47	0.43	-0.66	4,600.00	20,000.00	7	-17	Negative Trend
Manganese	**(ug/l)**	216.00	309.03	190.00	126.67	0.59	1.28	79.00	460.00	7	1	No Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.06	0.06	0.00	0.00	--	0.06	0.06	7	0	No Trend
pH, Lab	**(ph units)**	6.97	7.15	6.93	0.24	0.03	0.91	6.69	7.40	7	-11	No Trend
Sulphate	**(mg/l)**	130.14	184.04	150.00	73.39	0.56	-0.19	17.00	240.00	7	-15	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	282.86	366.83	326.00	114.35	0.40	-0.56	94.00	440.00	7	-11	No Trend
Total Organic Carbon	**(mg/l)**	5.06	7.64	5.60	2.71	0.54	0.59	2.50	9.00	5	5	No Trend
Turbidity	**(ntu)**	1,587.14	2,797.33	1,000.00	1,647.89	1.04	2.63	790.00	5,320.00	7	-3	No Trend
Uranium	**(ug/l)**	0.16	0.24	0.17	0.11	0.70	0.21	0.05	0.30	7	-16	Negative Trend

PARAMETERS	UNIT	MW20-15D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	348.00	362.47	355.00	21.59	0.06	-0.25	314.00	380.00	8	6	No Trend
Aluminum	**(ug/l)**	2.91	3.69	2.50	1.17	0.40	2.83	2.50	5.80	8	-3	No Trend
Boron	**(ug/l)**	65.13	70.20	64.50	7.57	0.12	-0.07	53.00	76.00	8	-7	No Trend
Cadmium	**(ug/l)**	0.11	0.15	0.10	0.06	0.60	1.67	0.04	0.25	8	-14	No Trend
Calcium	**(ug/l)**	177,250.00	186,937.50	175,000.00	14,459.30	0.08	0.13	160,000.00	198,000.00	8	-15	No Trend
Chloride ion	**(mg/l)**	28.13	32.02	26.00	5.82	0.21	0.70	22.00	38.00	8	-7	No Trend
Chromium	**(ug/l)**	2.06	5.02	0.50	4.42	2.14	2.83	0.50	13.00	8	-7	No Trend
Cobalt	**(ug/l)**	0.62	1.28	0.20	0.98	1.58	2.61	0.20	3.00	8	-13	No Trend
Copper	**(ug/l)**	1.51	2.25	1.04	1.11	0.74	1.94	0.61	4.00	8	-8	No Trend
Electrical Conductivity	**(umhos/cm)**	1,241.25	1,293.94	1,250.00	78.64	0.06	-0.67	1,100.00	1,330.00	8	-14	No Trend
Hardness (as CaCO3)	**(mg/l)**	614.00	646.52	615.00	48.54	0.08	0.26	550.00	692.00	8	-17	Negative Trend
Iron	**(ug/l)**	48.75	84.28	30.00	53.03	1.09	2.83	30.00	180.00	8	-5	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	8	0	No Trend
Magnesium	**(ug/l)**	42,000.00	44,264.96	41,500.00	3,380.62	0.08	0.68	38,000.00	48,000.00	8	-14	No Trend
Manganese	**(ug/l)**	88.89	151.94	60.50	94.11	1.06	1.45	2.10	285.00	8	-16	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.09	0.15	0.06	0.08	0.94	2.83	0.06	0.30	8	-5	No Trend
pH, Lab	**(ph units)**	7.52	7.62	7.49	0.15	0.02	0.91	7.36	7.79	8	10	No Trend
Sulphate	**(mg/l)**	322.63	353.75	320.00	46.45	0.14	0.43	270.00	401.00	8	-13	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	846.38	883.00	850.00	54.66	0.06	-0.08	780.00	911.00	8	-14	No Trend
Total Organic Carbon	**(mg/l)**	2.89	3.43	2.55	0.82	0.28	2.31	2.30	4.80	8	-13	No Trend
Turbidity	**(ntu)**	102.50	187.63	41.00	127.07	1.24	2.04	12.00	390.00	8	-18	Negative Trend
Uranium	**(ug/l)**	259.63	282.84	253.50	34.66	0.13	0.54	210.00	310.00	8	4	No Trend

PARAMETERS	UNIT	MW20-15S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	264.80	311.17	284.00	48.63	0.18	-0.45	200.00	320.00	5	-4	No Trend
Aluminum	**(ug/l)**	8.88	15.31	8.40	6.74	0.76	0.42	2.50	18.00	5	1	No Trend
Boron	**(ug/l)**	158.60	184.62	150.00	27.29	0.17	0.91	130.00	200.00	5	2	No Trend
Cadmium	**(ug/l)**	0.04	0.06	0.03	0.03	0.73	1.81	0.02	0.09	5	-4	No Trend
Calcium	**(ug/l)**	92,800.00	110,883.08	100,000.00	18,965.76	0.20	-0.45	71,000.00	110,000.00	5	-4	No Trend
Chloride ion	**(mg/l)**	6.88	8.15	7.20	1.33	0.19	-0.29	5.00	8.60	5	2	No Trend
Chromium	**(ug/l)**	2.40	6.45	0.50	4.25	1.77	2.24	0.50	10.00	5	-4	No Trend
Cobalt	**(ug/l)**	1.30	3.29	0.20	2.09	1.61	2.12	0.20	5.00	5	-7	No Trend
Copper	**(ug/l)**	5.90	10.95	4.30	5.30	0.90	1.81	1.60	15.00	5	8	Positive Trend
Electrical Conductivity	**(umhos/cm)**	722.20	838.87	780.00	122.37	0.17	-0.52	580.00	831.00	5	-8	Negative Trend
Hardness (as CaCO3)	**(mg/l)**	313.60	373.71	350.00	63.05	0.20	-0.58	240.00	368.00	5	-6	No Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	5	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	5	0	No Trend
Magnesium	**(ug/l)**	20,060.00	24,101.59	22,000.00	4,238.87	0.21	-0.51	15,000.00	24,000.00	5	-4	No Trend
Manganese	**(ug/l)**	338.80	856.41	51.00	542.88	1.60	2.03	30.00	1,290.00	5	-6	No Trend
Modified TPH Tier 1	**(mg/l)**	0.07	0.10	0.06	0.03	0.34	2.00	0.06	0.11	4	1	No Trend
pH, Lab	**(ph units)**	7.67	7.72	7.67	0.06	0.007	0.09	7.60	7.74	5	0	No Trend
Sulphate	**(mg/l)**	119.80	143.16	120.00	24.50	0.20	0.56	94.00	155.00	5	-8	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	458.40	524.55	490.00	69.37	0.15	-0.51	370.00	530.00	5	-6	No Trend
Total Organic Carbon	**(mg/l)**	2.53	3.05	2.50	0.45	0.18	0.33	2.00	3.10	4	-1	No Trend
Turbidity	**(ntu)**	3,384.00	9,314.57	720.00	6,220.05	1.84	2.23	340.00	14,500.00	5	-8	Negative Trend
Uranium	**(ug/l)**	4.14	5.42	4.80	1.35	0.33	-0.49	2.50	5.50	5	-6	No Trend

PARAMETERS	UNIT	MW20-16 (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	94.50	96.93	95.50	3.63	0.04	-1.38	87.00	98.00	8	6	No Trend
Aluminum	**(ug/l)**	25.13	35.97	19.00	16.18	0.64	1.25	10.00	55.00	8	4	No Trend
Boron	**(ug/l)**	28.75	31.12	30.00	3.54	0.12	-2.83	20.00	30.00	8	7	No Trend
Cadmium	**(ug/l)**	0.03	0.04	0.03	0.01	0.44	0.97	0.02	0.06	8	-16	Negative Trend
Calcium	**(ug/l)**	29,175.00	30,228.72	28,500.00	1,572.76	0.05	0.38	27,400.00	31,000.00	8	-2	No Trend
Chloride ion	**(mg/l)**	16.13	19.04	15.00	4.36	0.27	-0.50	8.00	22.00	8	2	No Trend
Chromium	**(ug/l)**	1.95	4.10	0.50	3.21	1.65	2.47	0.50	9.60	8	-9	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	3.0E-17	1.5E-16	1.25	0.20	0.20	8	0	No Trend
Copper	**(ug/l)**	2.15	2.77	1.80	0.92	0.43	1.31	1.20	4.00	8	-10	No Trend
Electrical Conductivity	**(umhos/cm)**	242.38	251.77	240.00	14.02	0.06	-0.15	220.00	260.00	8	-4	No Trend
Hardness (as CaCO3)	**(mg/l)**	94.36	97.87	94.00	5.23	0.06	-0.59	84.90	100.00	8	4	No Trend
Iron	**(ug/l)**	39.00	50.22	30.00	16.74	0.43	1.48	30.00	69.00	8	3	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	8	0	No Trend
Magnesium	**(ug/l)**	5,237.50	5,606.10	5,400.00	550.16	0.11	-1.93	4,000.00	5,700.00	8	8	No Trend
Manganese	**(ug/l)**	22.50	34.10	22.50	17.31	0.77	0.76	2.90	54.00	8	-7	No Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.09	0.05	0.04	0.62	2.83	0.05	0.16	8	-3	No Trend
pH, Lab	**(ph units)**	7.55	7.64	7.56	0.14	0.02	0.05	7.33	7.77	8	6	No Trend
Sulphate	**(mg/l)**	7.53	7.95	7.50	0.63	0.08	0.43	6.70	8.60	8	-4	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	141.00	150.53	145.00	14.22	0.10	-2.19	108.00	150.00	8	7	No Trend
Total Organic Carbon	**(mg/l)**	1.89	2.25	1.90	0.49	0.26	0.05	1.20	2.50	7	-7	No Trend
Turbidity	**(ntu)**	268.50	578.43	120.00	462.60	1.72	2.79	45.00	1,410.00	8	-3	No Trend
Uranium	**(ug/l)**	15.94	17.35	15.50	2.11	0.13	0.25	13.00	19.00	8	1	No Trend

PARAMETERS	UNIT	MW20-17D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	92.25	94.59	93.50	3.49	0.04	-1.05	86.00	96.00	8	1	No Trend
Aluminum	**(ug/l)**	8.63	14.01	5.90	8.03	0.93	2.09	2.50	27.00	8	-13	No Trend
Boron	**(ug/l)**	29.13	30.78	30.00	2.47	0.08	-2.83	23.00	30.00	8	7	No Trend
Cadmium	**(ug/l)**	0.005	0.005	0.005	0.00	0.00	--	0.005	0.005	8	0	No Trend
Calcium	**(ug/l)**	19,575.00	24,324.09	23,000.00	7,088.37	0.36	-1.37	7,000.00	25,000.00	8	20	Positive Trend
Chloride ion	**(mg/l)**	7.51	9.10	7.85	2.36	0.31	-0.71	3.00	11.00	8	6	No Trend
Chromium	**(ug/l)**	0.81	1.40	0.50	0.88	1.09	2.83	0.50	3.00	8	-7	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	3.0E-17	1.5E-16	1.25	0.20	0.20	8	0	No Trend
Copper	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	8	0	No Trend
Electrical Conductivity	**(umhos/cm)**	202.38	209.15	200.00	10.11	0.05	0.30	190.00	219.00	8	-11	No Trend
Hardness (as CaCO3)	**(mg/l)**	60.58	75.42	71.50	22.16	0.37	-1.36	21.60	78.00	8	21	Positive Trend
Iron	**(ug/l)**	55.00	102.38	30.00	70.71	1.29	2.83	30.00	230.00	8	7	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	8	0	No Trend
Magnesium	**(ug/l)**	2,837.50	3,559.04	3,350.00	1,076.95	0.38	-1.22	1,000.00	3,800.00	8	23	Positive Trend
Manganese	**(ug/l)**	143.75	231.93	122.00	131.61	0.92	0.63	19.00	370.00	8	12	No Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.4E-18	1.6E-16	1.25	0.05	0.05	8	0	No Trend
pH, Lab	**(ph units)**	8.09	8.22	8.09	0.19	0.02	0.02	7.78	8.40	8	-11	No Trend
Sulphate	**(mg/l)**	6.49	7.50	6.45	1.51	0.23	0.11	4.00	9.00	8	-6	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	120.25	123.49	120.00	4.83	0.04	0.62	112.00	130.00	8	1	No Trend
Total Organic Carbon	**(mg/l)**	2.95	3.80	2.50	1.27	0.43	2.83	2.50	6.10	8	-7	No Trend
Turbidity	**(ntu)**	5,318.75	14,114.34	805.00	13,128.07	2.47	2.83	150.00	37,800.00	8	-15	No Trend
Uranium	**(ug/l)**	11.20	12.46	10.50	1.88	0.17	0.42	8.90	14.00	8	-2	No Trend

PARAMETERS	UNIT	MW20-17S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	87.13	91.72	85.50	6.85	0.08	0.75	78.00	100.00	8	-7	No Trend
Aluminum	**(ug/l)**	18.34	26.98	14.50	12.89	0.70	0.70	2.50	39.00	8	-12	No Trend
Boron	**(ug/l)**	28.25	31.57	30.00	4.95	0.18	-2.83	16.00	30.00	8	7	No Trend
Cadmium	**(ug/l)**	0.007	0.01	0.005	0.005	0.73	2.83	0.005	0.02	8	-7	No Trend
Calcium	**(ug/l)**	22,612.50	24,049.65	22,000.00	2,145.05	0.09	0.19	20,000.00	25,000.00	8	-6	No Trend
Chloride ion	**(mg/l)**	8.43	9.55	8.50	1.68	0.20	-0.009	6.00	11.00	8	5	No Trend
Chromium	**(ug/l)**	0.81	1.40	0.50	0.88	1.09	2.83	0.50	3.00	8	-7	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	3.0E-17	1.5E-16	1.25	0.20	0.20	8	0	No Trend
Copper	**(ug/l)**	1.61	3.18	0.61	2.34	1.45	2.22	0.25	7.00	8	3	No Trend
Electrical Conductivity	**(umhos/cm)**	199.88	212.74	200.00	19.20	0.10	1.31	180.00	240.00	8	-18	Negative Trend
Hardness (as CaCO3)	**(mg/l)**	68.34	72.59	66.50	6.34	0.09	0.25	61.70	76.00	8	-6	No Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	8	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	8	0	No Trend
Magnesium	**(ug/l)**	2,912.50	3,122.66	2,900.00	313.68	0.11	-0.89	2,300.00	3,300.00	8	-5	No Trend
Manganese	**(ug/l)**	53.13	75.12	50.00	32.83	0.62	0.88	2.00	120.00	8	7	No Trend
Modified TPH Tier 1	**(mg/l)**	0.24	0.61	0.05	0.55	2.26	2.83	0.05	1.60	8	-3	No Trend
pH, Lab	**(ph units)**	8.11	8.21	8.11	0.15	0.02	-0.06	7.89	8.35	8	5	No Trend
Sulphate	**(mg/l)**	7.81	8.68	8.10	1.30	0.17	-0.78	5.60	9.20	8	-6	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	118.13	123.17	120.00	7.53	0.06	-0.49	105.00	130.00	8	-2	No Trend
Total Organic Carbon	**(mg/l)**	2.50	2.50	2.50	0.00	0.00	--	2.50	2.50	8	0	No Trend
Turbidity	**(ntu)**	2,087.50	4,536.09	1,000.00	3,654.69	1.75	2.79	120.00	11,100.00	8	-14	No Trend
Uranium	**(ug/l)**	1.84	2.56	1.60	1.07	0.58	0.24	0.38	3.30	8	-22	Negative Trend

PARAMETERS	UNIT	MW2-D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	230.08	247.07	230.00	34.39	0.15	0.30	188.00	280.00	13	-37	Negative Trend
Aluminum	**(ug/l)**	3.53	4.38	2.50	1.73	0.49	1.49	2.50	7.70	13	8	No Trend
Boron	**(ug/l)**	39.25	45.32	30.00	11.71	0.30	0.54	30.00	57.00	12	29	Positive Trend
Cadmium	**(ug/l)**	0.07	0.08	0.05	0.03	0.42	1.82	0.04	0.14	13	-41	Negative Trend
Calcium	**(ug/l)**	76,976.92	83,110.72	72,000.00	12,410.62	0.16	0.44	63,000.00	95,000.00	13	-60	Negative Trend
Chloride ion	**(mg/l)**	30.92	35.82	28.00	9.90	0.32	0.48	17.00	48.00	13	-32	Negative Trend
Chromium	**(ug/l)**	1.19	1.87	0.50	1.36	1.14	1.68	0.50	4.00	13	-6	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	0.00	0.00	--	0.20	0.20	13	0	No Trend
Copper	**(ug/l)**	0.67	0.99	0.25	0.64	0.96	1.38	0.25	2.10	13	38	Positive Trend
Electrical Conductivity	**(umhos/cm)**	621.85	664.42	600.00	86.14	0.14	0.52	520.00	750.00	13	-39	Negative Trend
Hardness (as CaCO3)	**(mg/l)**	277.31	299.30	260.00	44.50	0.16	0.40	228.00	340.00	13	-54	Negative Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	13	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	13	0	No Trend
Magnesium	**(ug/l)**	20,661.54	22,374.29	19,000.00	3,465.43	0.17	0.50	17,000.00	26,000.00	13	-58	Negative Trend
Manganese	**(ug/l)**	2.83	5.05	1.00	4.48	1.58	3.09	1.00	17.00	13	-38	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.07	0.05	0.02	0.41	3.00	0.05	0.11	9	-4	No Trend
pH, Lab	**(ph units)**	7.41	7.49	7.44	0.17	0.02	-0.94	7.05	7.59	13	40	Positive Trend
Sulphate	**(mg/l)**	64.31	68.73	64.00	8.94	0.14	0.24	48.00	81.00	13	-28	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	368.92	397.72	360.00	58.26	0.16	0.38	282.00	460.00	13	-41	Negative Trend
Total Organic Carbon	**(mg/l)**	2.53	2.98	2.50	0.90	0.36	0.25	0.70	4.60	13	-21	No Trend
Turbidity	**(ntu)**	103.12	141.15	72.00	76.94	0.75	1.16	26.00	260.00	13	2	No Trend
Uranium	**(ug/l)**	247.15	281.39	230.00	69.27	0.28	0.35	133.00	360.00	13	-55	Negative Trend

PARAMETERS	UNIT	MW2-M (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	132.92	139.51	130.00	13.33	0.10	0.09	110.00	150.00	13	-19	No Trend
Aluminum	**(ug/l)**	7.18	11.43	2.50	8.61	1.20	1.95	2.50	27.00	13	22	No Trend
Boron	**(ug/l)**	103.23	110.78	98.00	15.27	0.15	0.96	86.00	134.00	13	13	No Trend
Cadmium	**(ug/l)**	0.09	0.10	0.09	0.03	0.29	0.69	0.05	0.14	13	-38	Negative Trend
Calcium	**(ug/l)**	49,900.00	53,175.42	47,000.00	6,627.22	0.13	0.50	41,000.00	62,000.00	13	-41	Negative Trend
Chloride ion	**(mg/l)**	15.92	18.71	13.00	5.65	0.35	1.12	11.00	28.00	13	-34	Negative Trend
Chromium	**(ug/l)**	0.96	1.53	0.50	1.14	1.19	2.33	0.50	4.00	13	-7	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	0.00	0.00	--	0.20	0.20	13	0	No Trend
Copper	**(ug/l)**	0.76	1.23	0.25	0.95	1.24	2.61	0.25	3.60	13	55	Positive Trend
Electrical Conductivity	**(umhos/cm)**	455.38	483.96	430.00	57.81	0.13	0.93	390.00	560.00	13	-38	Negative Trend
Hardness (as CaCO3)	**(mg/l)**	193.85	206.49	180.00	25.59	0.13	0.48	160.00	240.00	13	-42	Negative Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	13	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	13	0	No Trend
Magnesium	**(ug/l)**	16,576.92	17,617.59	16,000.00	2,105.61	0.13	0.47	14,000.00	20,000.00	13	-44	Negative Trend
Manganese	**(ug/l)**	1.72	2.22	1.00	1.02	0.60	1.13	1.00	4.00	13	-36	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.07	0.10	0.05	0.06	0.80	2.51	0.05	0.21	9	5	No Trend
pH, Lab	**(ph units)**	7.17	7.26	7.19	0.18	0.03	-0.03	6.80	7.49	13	40	Positive Trend
Sulphate	**(mg/l)**	81.62	88.08	77.00	13.09	0.16	1.05	65.00	110.00	13	-57	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	276.54	293.70	260.00	34.72	0.13	0.82	240.00	340.00	13	-37	Negative Trend
Total Organic Carbon	**(mg/l)**	1.80	2.15	1.70	0.71	0.40	0.08	0.79	2.90	13	4	No Trend
Turbidity	**(ntu)**	81.35	116.62	60.00	71.35	0.88	0.82	7.60	235.00	13	9	No Trend
Uranium	**(ug/l)**	26.70	31.14	29.00	8.57	0.32	-0.45	12.00	37.00	12	-27	Negative Trend

PARAMETERS	UNIT	MW2-S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	158.83	174.12	156.50	29.48	0.19	0.35	120.00	200.00	12	35	Positive Trend
Aluminum	**(ug/l)**	14.15	21.02	9.10	13.26	0.94	1.52	2.50	47.00	12	-11	No Trend
Boron	**(ug/l)**	142.58	173.37	131.00	59.38	0.42	1.08	81.00	270.00	12	-21	No Trend
Cadmium	**(ug/l)**	0.04	0.05	0.03	0.02	0.54	1.02	0.01	0.08	12	-44	Negative Trend
Calcium	**(ug/l)**	68,266.67	71,894.03	70,500.00	6,996.41	0.10	-0.63	54,900.00	78,000.00	12	4	No Trend
Chloride ion	**(mg/l)**	7.84	10.04	7.10	4.24	0.54	0.60	2.60	16.00	12	31	Positive Trend
Chromium	**(ug/l)**	0.92	1.47	0.50	1.06	1.16	2.72	0.50	4.00	12	-5	No Trend
Cobalt	**(ug/l)**	0.35	0.54	0.20	0.34	0.97	1.94	0.20	1.10	11	-1	No Trend
Copper	**(ug/l)**	2.98	3.87	2.35	1.72	0.58	1.27	1.00	7.00	12	-13	No Trend
Electrical Conductivity	**(umhos/cm)**	434.50	458.52	445.00	46.32	0.11	-0.18	360.00	510.00	12	22	No Trend
Hardness (as CaCO3)	**(mg/l)**	201.33	211.85	205.00	20.28	0.10	-0.60	161.00	230.00	12	6	No Trend
Iron	**(ug/l)**	34.33	39.62	30.00	10.20	0.30	2.13	30.00	59.00	12	3	No Trend
Lead	**(ug/l)**	0.29	0.36	0.25	0.14	0.49	3.46	0.25	0.74	12	-5	No Trend
Magnesium	**(ug/l)**	7,400.00	8,033.44	7,150.00	1,221.77	0.17	0.48	5,900.00	9,500.00	12	8	No Trend
Manganese	**(ug/l)**	41.84	74.23	4.30	59.30	1.42	1.31	1.00	160.00	11	-18	No Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.08	0.05	0.03	0.54	2.83	0.05	0.13	8	-3	No Trend
pH, Lab	**(ph units)**	7.30	7.39	7.27	0.16	0.02	0.94	7.12	7.62	12	9	No Trend
Sulphate	**(mg/l)**	59.17	71.43	60.00	23.65	0.40	0.69	28.00	110.00	12	-40	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	260.92	277.19	260.00	31.38	0.12	-0.40	204.00	300.00	12	-1	No Trend
Total Organic Carbon	**(mg/l)**	18.35	24.66	14.00	11.55	0.63	-0.01	3.70	30.00	11	23	Positive Trend
Turbidity	**(ntu)**	1,113.88	1,839.69	950.00	1,083.33	0.97	2.43	251.00	3,700.00	8	1	No Trend
Uranium	**(ug/l)**	0.89	1.20	0.73	0.59	0.66	3.06	0.51	2.70	12	4	No Trend

PARAMETERS	UNIT	MW3 (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	99.79	101.33	100.00	3.26	0.03	1.79	96.00	109.00	14	-6	No Trend
Aluminum	**(ug/l)**	9.46	14.16	5.30	9.07	0.96	1.24	2.50	28.00	12	22	No Trend
Boron	**(ug/l)**	28.14	30.64	30.00	5.27	0.19	-3.12	11.00	30.00	14	5	No Trend
Cadmium	**(ug/l)**	0.007	0.010	0.005	0.005	0.76	2.24	0.005	0.02	13	-7	No Trend
Calcium	**(ug/l)**	30,214.29	31,098.78	30,000.00	1,868.71	0.06	2.84	29,000.00	36,200.00	14	-1	No Trend
Chloride ion	**(mg/l)**	9.29	10.08	9.70	1.66	0.18	-0.35	7.00	11.00	14	-9	No Trend
Chromium	**(ug/l)**	0.73	1.01	0.50	0.56	0.77	2.18	0.50	2.00	13	-6	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	0.00	0.00	--	0.20	0.20	14	0	No Trend
Copper	**(ug/l)**	0.83	1.32	0.25	1.04	1.26	2.31	0.25	3.90	14	39	Positive Trend
Electrical Conductivity	**(umhos/cm)**	235.64	238.79	240.00	6.65	0.03	-1.03	220.00	244.00	14	38	Positive Trend
Hardness (as CaCO3)	**(mg/l)**	96.55	99.33	95.20	5.88	0.06	3.16	93.00	116.00	14	13	No Trend
Iron	**(ug/l)**	44.29	69.59	30.00	53.45	1.21	3.74	30.00	230.00	14	3	No Trend
Lead	**(ug/l)**	0.31	0.38	0.25	0.15	0.50	2.51	0.25	0.75	14	-5	No Trend
Magnesium	**(ug/l)**	4,923.08	5,096.83	5,000.00	351.55	0.07	-1.55	4,000.00	5,300.00	13	14	No Trend
Manganese	**(ug/l)**	10.15	16.18	5.00	12.20	1.20	1.63	1.00	38.00	13	7	No Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.3E-18	1.6E-16	1.17	0.05	0.05	11	0	No Trend
pH, Lab	**(ph units)**	8.09	8.15	8.11	0.14	0.02	-0.78	7.83	8.25	14	15	No Trend
Sulphate	**(mg/l)**	9.84	10.53	10.00	1.41	0.14	0.33	7.00	13.00	13	13	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	138.21	141.62	140.00	7.19	0.05	-0.86	124.00	150.00	14	-3	No Trend
Total Organic Carbon	**(mg/l)**	3.11	4.59	2.50	3.13	1.01	3.39	0.60	13.70	14	-7	No Trend
Turbidity	**(ntu)**	943.56	1,175.53	1,000.00	374.16	0.40	-1.90	32.00	1,460.00	9	1	No Trend
Uranium	**(ug/l)**	9.66	9.95	9.70	0.59	0.06	0.75	8.80	11.00	13	15	No Trend

PARAMETERS	UNIT	MW5-D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	91.92	98.22	89.00	12.75	0.14	2.46	80.00	130.00	13	17	No Trend
Aluminum	**(ug/l)**	19.12	27.45	18.00	16.86	0.88	1.05	2.50	52.00	13	-14	No Trend
Boron	**(ug/l)**	31.15	36.12	30.00	10.05	0.32	2.50	16.00	62.00	13	3	No Trend
Cadmium	**(ug/l)**	0.09	0.12	0.09	0.05	0.55	0.64	0.04	0.19	12	-9	No Trend
Calcium	**(ug/l)**	33,692.31	48,034.21	26,400.00	29,018.23	0.86	3.57	22,000.00	130,000.00	13	39	Positive Trend
Chloride ion	**(mg/l)**	17.64	29.57	12.00	24.15	1.37	3.45	6.00	97.00	13	30	Positive Trend
Chromium	**(ug/l)**	0.63	0.85	0.50	0.43	0.69	3.46	0.50	2.00	12	-3	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	0.00	0.00	--	0.20	0.20	13	0	No Trend
Copper	**(ug/l)**	0.82	1.29	0.25	0.95	1.16	1.48	0.25	2.70	13	21	No Trend
Electrical Conductivity	**(umhos/cm)**	251.69	326.30	220.00	150.96	0.60	3.50	170.00	750.00	13	33	Positive Trend
Hardness (as CaCO3)	**(mg/l)**	106.93	149.11	85.00	85.34	0.80	3.56	71.00	390.00	13	43	Positive Trend
Iron	**(ug/l)**	35.62	42.48	30.00	13.89	0.39	2.30	30.00	72.00	13	-3	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	13	0	No Trend
Magnesium	**(ug/l)**	5,669.23	7,369.91	5,000.00	3,441.02	0.61	3.47	3,800.00	17,000.00	13	46	Positive Trend
Manganese	**(ug/l)**	60.68	85.33	73.00	49.88	0.82	0.24	1.00	140.00	13	0	No Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.08	0.05	0.03	0.57	3.00	0.05	0.14	9	-2	No Trend
pH, Lab	**(ph units)**	7.33	7.47	7.29	0.30	0.04	0.52	6.89	7.93	13	49	Positive Trend
Sulphate	**(mg/l)**	13.97	25.73	7.20	23.80	1.70	3.58	4.00	93.00	13	-11	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	151.31	199.06	130.00	96.61	0.64	3.49	103.00	470.00	13	22	No Trend
Total Organic Carbon	**(mg/l)**	2.11	2.56	2.20	0.92	0.44	0.26	0.67	3.90	13	-8	No Trend
Turbidity	**(ntu)**	82.55	105.77	75.00	46.98	0.57	-0.14	9.80	149.00	13	10	No Trend
Uranium	**(ug/l)**	53.28	113.73	19.00	122.29	2.30	3.60	13.00	460.00	13	12	No Trend

PARAMETERS	UNIT	MW5-S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	78.38	91.91	77.00	27.37	0.35	2.32	44.00	160.00	13	41	Positive Trend
Aluminum	**(ug/l)**	18.01	24.59	13.50	12.69	0.70	0.68	2.50	44.00	12	-26	Negative Trend
Boron	**(ug/l)**	42.31	67.29	30.00	50.55	1.19	3.56	16.00	210.00	13	3	No Trend
Cadmium	**(ug/l)**	0.31	0.39	0.32	0.17	0.55	0.50	0.10	0.65	13	-16	No Trend
Calcium	**(ug/l)**	31,269.23	48,966.83	22,900.00	35,807.85	1.15	3.56	16,000.00	150,000.00	13	47	Positive Trend
Chloride ion	**(mg/l)**	24.75	52.30	9.80	55.74	2.25	3.59	5.00	210.00	13	33	Positive Trend
Chromium	**(ug/l)**	0.96	1.53	0.50	1.14	1.19	2.33	0.50	4.00	13	-5	No Trend
Cobalt	**(ug/l)**	0.39	0.59	0.20	0.41	1.05	2.27	0.20	1.50	13	-1	No Trend
Copper	**(ug/l)**	0.89	1.36	0.55	0.95	1.08	1.83	0.25	3.40	13	19	No Trend
Electrical Conductivity	**(umhos/cm)**	275.46	443.04	191.00	339.06	1.23	3.56	120.00	1,400.00	13	49	Positive Trend
Hardness (as CaCO3)	**(mg/l)**	100.82	154.39	75.00	108.40	1.08	3.55	51.00	460.00	13	53	Positive Trend
Iron	**(ug/l)**	34.54	42.63	30.00	16.36	0.47	3.61	30.00	89.00	13	-4	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	13	0	No Trend
Magnesium	**(ug/l)**	5,353.85	7,551.36	4,400.00	4,446.27	0.83	3.47	2,900.00	20,000.00	13	52	Positive Trend
Manganese	**(ug/l)**	328.62	601.12	120.00	551.37	1.68	3.21	56.00	2,100.00	13	-5	No Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.08	0.05	0.03	0.56	3.00	0.05	0.15	9	-2	No Trend
pH, Lab	**(ph units)**	7.06	7.23	7.00	0.34	0.05	0.91	6.62	7.78	13	55	Positive Trend
Sulphate	**(mg/l)**	24.29	51.88	8.60	55.83	2.30	3.60	6.00	210.00	13	-21	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	160.46	254.31	120.00	189.89	1.18	3.56	79.00	790.00	13	37	Positive Trend
Total Organic Carbon	**(mg/l)**	2.51	2.97	2.30	0.94	0.37	1.92	1.50	5.10	13	-25	No Trend
Turbidity	**(ntu)**	72.47	112.10	50.00	80.19	1.11	2.01	0.05	290.00	13	4	No Trend
Uranium	**(ug/l)**	16.98	32.41	8.80	31.20	1.84	3.51	5.00	120.00	13	37	Positive Trend

PARAMETERS	UNIT	MW6-D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	1,175.71	1,257.73	1,180.00	173.28	0.15	0.06	960.00	1,400.00	14	15	No Trend
Aluminum	**(ug/l)**	74.43	91.15	67.50	35.34	0.47	0.18	12.00	130.00	14	-31	Negative Trend
Boron	**(ug/l)**	13,857.14	14,722.51	13,450.00	1,828.29	0.13	0.52	11,000.00	17,000.00	14	-66	Negative Trend
Cadmium	**(ug/l)**	0.04	0.05	0.05	0.01	0.29	-1.06	0.02	0.05	13	33	Positive Trend
Calcium	**(ug/l)**	479,857.14	499,505.38	492,500.00	41,511.55	0.09	-1.23	384,000.00	530,000.00	14	-44	Negative Trend
Chloride ion	**(mg/l)**	107.43	121.24	96.50	29.18	0.27	0.87	72.00	160.00	14	-50	Negative Trend
Chromium	**(ug/l)**	7.52	10.65	5.00	6.32	0.84	2.63	5.00	26.00	13	-36	Negative Trend
Cobalt	**(ug/l)**	23.07	26.16	20.50	6.53	0.28	0.47	12.00	33.00	14	-44	Negative Trend
Copper	**(ug/l)**	2.50	2.50	2.50	0.00	0.00	--	2.50	2.50	13	0	No Trend
Electrical Conductivity	**(umhos/cm)**	3,545.00	3,653.71	3,500.00	229.67	0.06	0.31	3,200.00	3,900.00	14	-36	Negative Trend
Hardness (as CaCO3)	**(mg/l)**	1,758.57	1,819.72	1,800.00	129.19	0.07	-1.08	1,500.00	1,900.00	14	-38	Negative Trend
Iron	**(ug/l)**	15,115.38	16,672.28	14,000.00	3,150.09	0.21	0.74	11,000.00	20,000.00	13	-45	Negative Trend
Lead	**(ug/l)**	2.50	2.50	2.50	0.00	0.00	--	2.50	2.50	14	0	No Trend
Magnesium	**(ug/l)**	131,928.57	136,180.20	130,500.00	8,982.58	0.07	-1.04	110,000.00	144,000.00	14	-39	Negative Trend
Manganese	**(ug/l)**	21,038.46	21,879.52	22,000.00	1,701.73	0.08	-0.24	19,000.00	23,000.00	13	38	Positive Trend
Modified TPH Tier 1	**(mg/l)**	0.16	0.23	0.13	0.13	0.82	0.60	0.05	0.35	11	-2	No Trend
pH, Lab	**(ph units)**	6.82	6.90	6.82	0.16	0.02	0.05	6.50	7.15	14	49	Positive Trend
Sulphate	**(mg/l)**	836.93	884.94	846.00	101.45	0.12	-0.17	640.00	1,000.00	14	-57	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	2,587.86	2,674.22	2,565.00	182.47	0.07	0.66	2,300.00	3,000.00	14	-59	Negative Trend
Total Organic Carbon	**(mg/l)**	67.72	71.87	66.00	8.39	0.12	-0.08	51.30	81.00	13	-41	Negative Trend
Turbidity	**(ntu)**	160.29	171.68	158.50	24.08	0.15	0.57	130.00	210.00	14	-20	No Trend
Uranium	**(ug/l)**	266.50	283.77	270.00	36.49	0.14	0.03	207.00	340.00	14	-39	Negative Trend

PARAMETERS	UNIT	MW6-S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	130.38	155.27	130.00	50.36	0.39	2.42	91.00	280.00	13	9	No Trend
Aluminum	**(ug/l)**	129.46	167.60	89.00	77.17	0.60	1.24	61.00	300.00	13	-36	Negative Trend
Boron	**(ug/l)**	1,071.54	1,414.67	840.00	694.26	0.65	1.30	360.00	2,600.00	13	-26	No Trend
Cadmium	**(ug/l)**	0.05	0.07	0.04	0.04	0.69	1.16	0.01	0.14	13	-41	Negative Trend
Calcium	**(ug/l)**	82,846.15	95,854.94	72,000.00	26,320.89	0.32	1.46	51,300.00	150,000.00	13	-15	No Trend
Chloride ion	**(mg/l)**	18.08	24.29	13.00	12.57	0.70	1.80	5.00	52.00	13	-14	No Trend
Chromium	**(ug/l)**	1.36	2.11	0.50	1.52	1.11	1.39	0.50	4.00	13	1	No Trend
Cobalt	**(ug/l)**	1.04	1.61	0.20	1.14	1.10	0.97	0.20	3.30	13	-17	No Trend
Copper	**(ug/l)**	2.46	2.84	2.40	0.77	0.31	0.62	1.00	4.30	13	9	No Trend
Electrical Conductivity	**(umhos/cm)**	544.38	628.56	470.00	170.31	0.31	1.27	380.00	880.00	13	-24	No Trend
Hardness (as CaCO3)	**(mg/l)**	259.54	305.93	230.00	93.87	0.36	1.78	158.00	510.00	13	-20	No Trend
Iron	**(ug/l)**	175.31	311.41	53.00	275.37	1.57	2.58	30.00	1,000.00	13	-45	Negative Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	13	0	No Trend
Magnesium	**(ug/l)**	12,346.15	15,563.36	11,500.00	6,509.43	0.53	2.22	6,900.00	31,000.00	13	-23	No Trend
Manganese	**(ug/l)**	1,563.85	2,167.52	1,500.00	1,221.42	0.78	0.50	130.00	3,700.00	13	-33	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.06	0.09	0.05	0.05	0.85	3.16	0.05	0.21	10	-1	No Trend
pH, Lab	**(ph units)**	6.77	6.97	6.84	0.40	0.06	-1.08	5.90	7.29	13	43	Positive Trend
Sulphate	**(mg/l)**	115.62	139.56	102.00	48.45	0.42	1.47	58.00	240.00	13	-37	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	340.08	399.07	280.00	119.36	0.35	1.41	240.00	600.00	13	-25	No Trend
Total Organic Carbon	**(mg/l)**	18.42	20.46	19.00	4.13	0.22	1.91	14.00	30.00	13	12	No Trend
Turbidity	**(ntu)**	20.55	26.63	17.50	12.29	0.60	1.10	6.40	49.00	13	7	No Trend
Uranium	**(ug/l)**	4.95	8.94	2.10	8.08	1.63	2.90	0.94	30.00	13	-4	No Trend

PARAMETERS	UNIT	MW7-D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	297.29	384.59	210.00	184.44	0.62	1.23	109.00	690.00	14	-19	No Trend
Aluminum	**(ug/l)**	82.36	92.88	88.50	22.23	0.27	-1.62	28.00	106.00	14	5	No Trend
Boron	**(ug/l)**	2,648.57	3,818.69	1,350.00	2,472.16	0.93	1.48	690.00	8,100.00	14	-37	Negative Trend
Cadmium	**(ug/l)**	0.77	1.13	0.37	0.72	0.94	0.90	0.12	2.10	13	-52	Negative Trend
Calcium	**(ug/l)**	191,928.57	246,620.58	135,000.00	115,549.83	0.60	1.41	98,000.00	460,000.00	14	-33	Negative Trend
Chloride ion	**(mg/l)**	24.36	33.31	15.50	18.92	0.78	1.42	7.00	64.00	14	-23	No Trend
Chromium	**(ug/l)**	1.68	2.80	0.50	2.37	1.41	1.68	0.50	7.00	14	-8	No Trend
Cobalt	**(ug/l)**	12.15	17.47	5.80	11.24	0.92	1.30	4.00	37.00	14	-38	Negative Trend
Copper	**(ug/l)**	2.48	3.18	2.45	1.47	0.59	1.33	1.00	6.00	14	-7	No Trend
Electrical Conductivity	**(umhos/cm)**	1,153.64	1,448.37	875.00	622.68	0.54	1.26	535.00	2,500.00	14	-27	No Trend
Hardness (as CaCO3)	**(mg/l)**	645.57	857.16	430.00	447.03	0.69	1.50	300.00	1,700.00	14	-33	Negative Trend
Iron	**(ug/l)**	691.57	840.28	760.00	314.18	0.45	-0.49	137.00	1,100.00	14	0	No Trend
Lead	**(ug/l)**	4.69	6.75	2.35	4.34	0.92	1.30	1.40	14.00	14	-68	Negative Trend
Magnesium	**(ug/l)**	38,735.71	55,362.27	20,500.00	35,127.54	0.91	1.43	10,200.00	120,000.00	14	-32	Negative Trend
Manganese	**(ug/l)**	4,837.86	5,803.41	4,150.00	2,039.96	0.42	1.26	2,630.00	9,800.00	14	-14	No Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.06	0.05	0.02	0.38	3.32	0.05	0.11	11	-2	No Trend
pH, Lab	**(ph units)**	6.71	6.80	6.76	0.18	0.03	-0.37	6.40	6.97	14	41	Positive Trend
Sulphate	**(mg/l)**	334.43	433.35	275.00	208.98	0.62	1.23	127.00	800.00	14	-34	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	822.14	1,065.46	610.00	514.06	0.63	1.29	338.00	2,000.00	14	-28	No Trend
Total Organic Carbon	**(mg/l)**	22.74	24.93	21.00	4.63	0.20	0.89	17.00	32.00	14	-49	Negative Trend
Turbidity	**(ntu)**	46.71	69.69	24.00	48.53	1.04	1.53	9.90	162.00	14	-36	Negative Trend
Uranium	**(ug/l)**	103.28	173.67	22.50	148.73	1.44	1.57	3.10	460.00	14	-45	Negative Trend

PARAMETERS	UNIT	MW7-S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	159.17	189.84	160.00	59.17	0.37	0.09	73.00	240.00	12	26	Positive Trend
Aluminum	**(ug/l)**	149.36	240.08	104.00	166.04	1.11	2.35	20.00	600.00	11	-15	No Trend
Boron	**(ug/l)**	290.83	452.96	157.00	312.71	1.08	1.43	30.00	1,000.00	12	-45	Negative Trend
Cadmium	**(ug/l)**	0.04	0.06	0.02	0.05	1.19	1.39	0.005	0.14	12	-32	Negative Trend
Calcium	**(ug/l)**	77,083.33	84,039.73	80,400.00	13,417.41	0.17	-0.66	48,000.00	99,500.00	12	-2	No Trend
Chloride ion	**(mg/l)**	6.39	8.05	5.55	3.19	0.50	1.78	2.00	15.00	12	8	No Trend
Chromium	**(ug/l)**	1.21	1.95	0.50	1.44	1.19	2.11	0.50	5.00	12	-6	No Trend
Cobalt	**(ug/l)**	0.64	0.93	0.34	0.56	0.88	1.03	0.20	1.80	12	-33	Negative Trend
Copper	**(ug/l)**	4.64	5.97	3.80	2.57	0.55	1.11	1.60	10.00	12	-33	Negative Trend
Electrical Conductivity	**(umhos/cm)**	451.17	492.22	490.00	79.18	0.18	-0.53	310.00	530.00	12	5	No Trend
Hardness (as CaCO3)	**(mg/l)**	210.67	227.46	220.00	32.40	0.15	-0.84	140.00	261.00	12	-4	No Trend
Iron	**(ug/l)**	201.83	417.68	30.00	416.31	2.06	2.98	30.00	1,460.00	12	8	No Trend
Lead	**(ug/l)**	0.60	1.02	0.25	0.81	1.34	2.80	0.25	3.00	12	-6	No Trend
Magnesium	**(ug/l)**	4,575.00	5,377.62	4,600.00	1,548.09	0.34	0.58	2,500.00	7,600.00	12	1	No Trend
Manganese	**(ug/l)**	829.40	1,444.52	146.00	1,186.43	1.43	1.25	2.20	3,200.00	12	-46	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.4E-18	1.6E-16	1.21	0.05	0.05	9	0	No Trend
pH, Lab	**(ph units)**	7.12	7.42	7.30	0.57	0.08	-0.60	6.04	7.79	12	36	Positive Trend
Sulphate	**(mg/l)**	63.29	96.33	31.00	63.73	1.01	1.25	6.50	190.00	12	-43	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	271.25	302.59	276.50	60.45	0.22	-0.17	170.00	360.00	12	-17	No Trend
Total Organic Carbon	**(mg/l)**	29.13	38.41	21.00	17.90	0.61	0.74	8.50	57.00	12	39	Positive Trend
Turbidity	**(ntu)**	1,199.33	1,976.17	1,000.00	1,498.36	1.25	1.71	16.00	4,470.00	12	24	No Trend
Uranium	**(ug/l)**	0.99	1.31	0.75	0.62	0.63	1.95	0.52	2.40	12	23	No Trend

PARAMETERS	UNIT	MW8-D (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	120.08	127.46	125.00	14.95	0.12	-0.66	90.00	140.00	13	35	Positive Trend
Aluminum	**(ug/l)**	5.68	8.20	2.50	5.09	0.90	1.35	2.50	16.00	13	-2	No Trend
Boron	**(ug/l)**	46.38	56.68	30.00	20.83	0.45	0.98	30.00	91.00	13	3	No Trend
Cadmium	**(ug/l)**	0.03	0.03	0.03	0.007	0.26	0.71	0.02	0.04	12	11	No Trend
Calcium	**(ug/l)**	81,138.46	96,683.66	75,000.00	31,452.86	0.39	0.32	26,000.00	140,000.00	13	1	No Trend
Chloride ion	**(mg/l)**	59.83	76.39	52.00	31.94	0.53	1.29	10.00	140.00	12	0	No Trend
Chromium	**(ug/l)**	0.73	1.01	0.50	0.56	0.77	2.18	0.50	2.00	13	-6	No Trend
Cobalt	**(ug/l)**	0.20	0.20	0.20	0.00	0.00	--	0.20	0.20	13	0	No Trend
Copper	**(ug/l)**	1.07	2.06	0.25	2.00	1.86	3.24	0.25	7.50	13	22	No Trend
Electrical Conductivity	**(umhos/cm)**	580.00	681.58	540.00	205.52	0.35	0.48	220.00	970.00	13	14	No Trend
Hardness (as CaCO3)	**(mg/l)**	253.00	301.01	230.00	97.14	0.38	0.37	86.00	440.00	13	0	No Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	13	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	13	0	No Trend
Magnesium	**(ug/l)**	11,838.46	13,800.27	11,000.00	3,969.37	0.34	0.28	5,000.00	19,000.00	13	-3	No Trend
Manganese	**(ug/l)**	41.35	61.64	23.00	41.06	0.99	1.56	9.50	140.00	13	-12	No Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.4E-18	1.6E-16	1.21	0.05	0.05	9	0	No Trend
pH, Lab	**(ph units)**	7.77	7.88	7.80	0.22	0.03	-1.83	7.17	8.01	13	30	Positive Trend
Sulphate	**(mg/l)**	72.85	93.47	64.00	41.71	0.57	0.93	9.10	170.00	13	21	No Trend
Total Dissolved Solids (Lab)	**(mg/l)**	345.85	400.54	350.00	110.66	0.32	0.07	130.00	550.00	13	7	No Trend
Total Organic Carbon	**(mg/l)**	1.09	1.54	0.72	0.92	0.84	0.99	0.30	2.70	13	13	No Trend
Turbidity	**(ntu)**	16.89	26.31	6.10	19.05	1.13	1.40	3.20	60.00	13	-21	No Trend
Uranium	**(ug/l)**	354.46	415.05	370.00	122.60	0.35	-1.63	16.00	520.00	13	29	Positive Trend

PARAMETERS	UNIT	MW8-S (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	190.69	212.28	190.00	43.68	0.23	-0.95	83.00	256.00	13	6	No Trend
Aluminum	**(ug/l)**	4.12	5.63	2.50	3.04	0.74	1.98	2.50	12.00	13	-14	No Trend
Boron	**(ug/l)**	143.69	173.79	130.00	60.89	0.42	0.10	30.00	260.00	13	-1	No Trend
Cadmium	**(ug/l)**	0.11	0.15	0.10	0.07	0.63	0.99	0.03	0.28	12	-26	Negative Trend
Calcium	**(ug/l)**	171,615.38	198,772.65	190,000.00	54,947.76	0.32	-1.77	24,000.00	235,000.00	13	-4	No Trend
Chloride ion	**(mg/l)**	176.72	215.79	170.00	79.05	0.45	-0.41	9.40	300.00	13	-36	Negative Trend
Chromium	**(ug/l)**	1.19	2.03	0.50	1.69	1.42	2.18	0.50	5.00	13	-6	No Trend
Cobalt	**(ug/l)**	0.32	0.40	0.20	0.17	0.53	1.21	0.20	0.71	13	-36	Negative Trend
Copper	**(ug/l)**	2.50	3.21	2.40	1.43	0.57	-0.12	0.25	5.00	13	4	No Trend
Electrical Conductivity	**(umhos/cm)**	1,409.23	1,622.65	1,600.00	431.81	0.31	-2.02	210.00	1,820.00	13	-11	No Trend
Hardness (as CaCO3)	**(mg/l)**	522.54	605.66	590.00	168.19	0.32	-1.66	79.00	721.00	13	-5	No Trend
Iron	**(ug/l)**	30.00	30.00	30.00	0.00	0.00	--	30.00	30.00	13	0	No Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	13	0	No Trend
Magnesium	**(ug/l)**	23,030.77	26,616.60	25,000.00	7,255.27	0.32	-1.46	4,400.00	32,600.00	13	-5	No Trend
Manganese	**(ug/l)**	98.95	134.99	107.00	72.94	0.74	-0.07	9.00	200.00	13	-42	Negative Trend
Modified TPH Tier 1	**(mg/l)**	0.05	0.05	0.05	7.4E-18	1.6E-16	1.21	0.05	0.05	9	0	No Trend
pH, Lab	**(ph units)**	7.79	7.87	7.80	0.18	0.02	-2.28	7.27	7.98	13	-3	No Trend
Sulphate	**(mg/l)**	261.08	318.33	250.00	110.42	0.42	-0.80	11.00	420.00	12	30	Positive Trend
Total Dissolved Solids (Lab)	**(mg/l)**	866.15	997.90	930.00	266.57	0.31	-2.01	120.00	1,170.00	13	1	No Trend
Total Organic Carbon	**(mg/l)**	3.31	4.66	2.50	2.74	0.83	2.36	1.20	11.00	13	16	No Trend
Turbidity	**(ntu)**	49.44	92.31	21.00	86.74	1.75	2.93	0.97	319.00	13	-2	No Trend
Uranium	**(ug/l)**	134.65	160.99	150.00	53.29	0.40	-1.24	9.50	200.00	13	-7	No Trend

PARAMETERS	UNIT	PW19-01 (01-Jan-2015-02-Jun-2022)										
		Mean	UCL	Median	Standard Deviation	Coefficient of Variation	Skewness	Minimum	Maximum	Count (n)	Mann-Kendall S	95% confidence
Alkalinity, Total (as CaCO3)	**(mg/l)**	273.33	318.51	250.00	72.86	0.27	0.52	194.00	380.00	9	22	Positive Trend
Aluminum	**(ug/l)**	5.80	8.88	2.50	5.32	0.92	1.70	2.50	18.00	10	-4	No Trend
Boron	**(ug/l)**	54.56	64.20	54.00	15.55	0.29	-0.83	30.00	72.00	9	-21	Negative Trend
Cadmium	**(ug/l)**	0.005	0.005	0.005	9.1E-19	1.8E-16	1.19	0.005	0.005	10	0	No Trend
Calcium	**(ug/l)**	90,233.33	95,823.31	90,000.00	9,016.10	0.10	1.28	80,000.00	110,000.00	9	0	No Trend
Chloride ion	**(mg/l)**	9.15	10.07	9.15	1.59	0.17	-0.13	6.90	11.00	10	-8	No Trend
Chromium	**(ug/l)**	0.85	1.21	0.50	0.63	0.74	1.56	0.50	2.00	10	-21	Negative Trend
Cobalt	**(ug/l)**	0.72	0.92	0.50	0.34	0.47	0.62	0.41	1.20	10	2	No Trend
Copper	**(ug/l)**	0.49	0.79	0.25	0.52	1.07	2.72	0.25	1.90	10	14	No Trend
Electrical Conductivity	**(umhos/cm)**	586.33	641.19	570.00	88.48	0.15	0.98	500.00	750.00	9	12	No Trend
Hardness (as CaCO3)	**(mg/l)**	275.78	296.16	280.00	32.87	0.12	1.49	240.00	350.00	9	4	No Trend
Iron	**(ug/l)**	347.70	606.46	103.00	446.41	1.28	1.07	30.00	1,100.00	10	28	Positive Trend
Lead	**(ug/l)**	0.25	0.25	0.25	0.00	0.00	--	0.25	0.25	10	0	No Trend
Magnesium	**(ug/l)**	12,033.33	13,152.77	11,500.00	1,805.55	0.15	1.35	9,800.00	16,000.00	9	12	No Trend
Manganese	**(ug/l)**	1,053.70	1,711.77	495.00	1,135.29	1.08	0.86	51.00	3,100.00	10	20	No Trend
Modified TPH Tier 1	**(mg/l)**	0.31	0.74	0.05	0.65	2.11	2.74	0.05	1.90	8	-1	No Trend
pH, Lab	**(ph units)**	7.89	7.93	7.89	0.07	0.009	0.17	7.79	8.01	10	-7	No Trend
Sulphate	**(mg/l)**	41.33	54.17	43.00	20.71	0.50	0.32	19.00	75.00	9	-18	Negative Trend
Total Dissolved Solids (Lab)	**(mg/l)**	347.78	375.74	340.00	45.09	0.13	0.47	284.00	420.00	9	11	No Trend
Total Organic Carbon	**(mg/l)**	4.55	6.79	2.50	3.86	0.85	1.16	0.70	12.00	10	-4	No Trend
Turbidity	**(ntu)**	345.59	580.56	150.00	378.99	1.10	1.02	58.80	1,000.00	9	11	No Trend
Uranium	**(ug/l)**	9.75	12.46	8.70	4.67	0.48	1.58	3.30	21.00	10	-7	No Trend

Trend Analysis:

All identified outliers were excluded from the trend analysis, which was performed using Mann-Kendall to determine if there is an upward or downward trend in the dataset at the 95% confidence level. All Trend Analysis data was performed by Earthsoft's EQuIS Professional using the Analytical Statistics (by location) standard report. Any non-detects were taken as half the relative detection level (0.5*RDL). Below outlines the statistical parameters provided and what the definition and/or calculation is for each parameter.

Statistical Parameter	Definition/Calculation
Mean	The mean is the average of the results.
UCL	The Student T distribution is used to calculate the Upper Confidence Level as UCL = Mean + t *SD/N , t= Student t, SD= stdev, N= number of results
Median	Median is the value which divides a data set in two halves – one with values lower than the median and the other with the higher values.
Standard Deviation	The standard deviation is a statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the variance. Standard Deviation=n−1∑i=1n(xi−x)2 where: xi=Value of the ith point in the data set x=The mean value of the data set n=The number of data points in the data set
Coefficient of Variation	coefficient of variation. It is equal to the standard deviation, divided by the mean. Coefficient of variation = SD/ x
Skewness	Skewness represents an imbalance and asymmetry from the mean of a data distribution. $\frac{n}{(n\text{-}1)(n\text{-}2)}\sum\left(\frac{x_i\text{-}\bar{x}}{s}\right)^3$
Minimum	Minimum is the smallest result
Maximum	Maximum is the largest result
Count (n)	Count (n) provides the number of results

Statistical Parameter	Definition/Calculation
Mann-Kendall S	The Mann Kendall S score is essentially the net number of point-pairs indicating an upward trend. A positive S score indicates the possibility of an upward trend, negative indicates a possible downward trend and 0 no trend. It is computed as follows: The difference between the later-measured value and all earlier-measured values, (yj-yi), where j>i, are compared and assigned the integer value of 1, 0, or –1 to positive differences, no differences, and negative differences, respectively. The test statistic, S, is then computed as the sum of the integers: the S equation where sign (yj - yi), is equal to +1, 0, or -1 as indicated above (n ≥ 3) . $$S = \sum_{i=1}^{n-1} \sum_{j=i+1}^{n} \text{sign}\,(y_j - y_i)$$
Confidence_95%	A statistical test is applied to determine whether the Mann-Kendall S score is sufficiently large to indicate that the trend hypothesis is accepted for a preset level of probability. For this report, the Mann-Kendall was used to determine whether a trend was statistically significant at a 0.05 significance level, corresponding to a confidence level of 95% for a two-sided probability. If the trend is determined to not be statistically significant 'No Trend' is indicated.

Appendix H. Field Data Summary Tables

Table H1: Groundwater Levels and Elevations (October 2021)

Well ID	Date	GPS Coordinates		TOC ELEVATION	Static Water Level (mbtoc)	Bottom of Well (mbtoc)	GW Elevation	Temp (^{o}C)	pH	Cond (m/s)
Static Water Levels								Field Parameters		
MW1-S	A	4936163.536	25568040.815	86.012	1.020	1.940	84.992	13.8	6.79	2328
MW1-D	A	4936162.568	25568040.673	85.685	2.340	8.170	83.345	12.0	6.61	2377
MW2-S	A	4936277.310	25568375.605	91.820	1.620	4.190	90.200	13.4	6.85	499.2
MW2-M	A	4936274.757	25568375.361	91.449	5.240	9.350	86.209	9.8	7.51	468.1
MW2-D	A	4936272.861	25568375.262	91.406	5.400	13.130	86.006	8.6	7.00	558.3
MW3	A	4936457.437	25568057.254	113.582	2.590	11.340	110.992	10.6	7.75	241.6
MW5-S	B	4936482.333	25568427.429	97.217	2.160	5.100	95.057	13.4	6.77	201.6
MW5-D	B	4936483.003	25568426.186	97.211	2.170	9.630	95.041	11.7	7.02	222.9
MW6-S	A	4936176.081	25568121.534	89.726	2.310	3.380	87.416	16.3	7.22	4714
MW6-D	A	4936174.415	25568121.994	89.760	2.370	6.370	87.390	12.8	6.78	3617
MW7-S	A	4936202.281	25568000.533	88.540	2.100	2.890	86.440	11.7	7.14	807.7
MW7-D	A	4936202.901	25567999.515	88.574	2.710	5.060	85.864	14.8	6.71	1079
MW8-S	B	4936310.700	25568302.379	98.204	5.540	7.470	92.664	13.5	6.86	920.0
MW8-D	B	4936311.210	25568303.588	97.882	7.210	24.440	90.672	9.9	7.35	659.0
MW19-03D	A	4936457.362	25568056.050	113.514	9.360	14.800	104.154	9.9	7.69	207.6
MW19-09S	A	4936315.097	25567976.210	95.753	1.930	7.070	93.823	14.3	7.90	213.1
MW19-10S	A	4936383.454	25568157.550	102.697	DRY	4.530	DRY	DRY	DRY	DRY
MW19-11M	A	4936205.289	25568220.310	90.382	2.030	5.630	88.352	13.6	7.18	1508
MW19-11D	A	4936206.602	25568220.720	90.487	2.180	7.970	88.307	11.1	7.26	2731
PW19-01	A	4936311.923	25568005.700	95.980	1.980	7.060	94.000	13.8	7.13	563.1
MW19-12S	B	4936362.937	25568382.920	95.684	DRY	3.050	DRY	DRY	DRY	DRY
MW19-12D	B	4936364.332	25568382.470	95.579	3.860	7.680	91.719	10.8	6.57	340.3
MW19-13S	A	4936123.500	25567992.758	76.949	2.500	4.100	74.449	14.7	6.75	189.7
MW19-13D	A	4936123.422	25567991.611	76.979	3.790	8.480	73.189	11.7	6.67	210.2
MW20-14S	A	4936220.664	25568307.2	90.727	3.300	5.210	87.427	13.3	7.78	409.1
MW20-14D	A	4936220.163	25568306.64	90.615	4.690	9.970	85.925	10.9	7.26	648.9
MW20-15S	A	4936242.801	25568334.52	93.05	4.900	5.435	88.150	DRY	DRY	DRY
MW20-15D	A	4936242.238	25568333.65	92.999	7.210	9.910	85.789	10.2	7.04	1166
MW20-16	B	4936523.067	25568356.68	103.832	6.040	12.170	97.792	11.0	6.83	261.9
MW20-17S	A	4936428.866	25567865.24	102.516	1.750	8.440	100.766	10.6	7.75	193.2
MW20-17D	A	4936428.017	25567864.95	102.969	6.170	12.640	96.799	8.6	7.72	198.7

Measurement Date A: 4 October 2021

Measurement Date B: 6 October 2021

Table H2: Groundwater Levels and Elevations (13 December 2021)

Well ID	GPS Coordinates		TOC ELEVATION	Static Water Level (mbtoc)	Bottom of Well (mbtoc)	GW Elevation	Temp (^{o}C)	pH	Cond (m/s)
Static Water Levels							Field Parameters		
MW1-S	4936163.536	25568040.815	86.012	0.980	1.940	85.032	6.3	7.30	2058
MW1-D	4936162.568	25568040.673	85.685	2.045	8.170	83.640	9.8	7.36	2510
MW2-S	4936277.310	25568375.605	91.820	1.220	4.190	90.600	7.1	6.89	564.3
MW2-M	4936274.757	25568375.361	91.449	4.170	9.350	87.279	4.7	6.90	448.2
MW2-D	4936272.861	25568375.262	91.406	4.415	13.130	86.991	4.3	6.76	608.6
MW3	4936457.437	25568057.254	113.582	2.020	11.340	111.562	9.4	7.68	286.1
MW5-S	4936482.333	25568427.429	97.217	1.400	5.100	95.817	9.6	7.47	271.4
MW5-D	4936483.003	25568426.186	97.211	1.370	9.630	95.841	8.6	7.41	247.2
MW6-S	4936176.081	25568121.534	89.726	2.125	3.380	87.601	7.7	7.96	575.3
MW6-D	4936174.415	25568121.994	89.760	2.170	6.370	87.590	10.3	6.52	3542
MW7-S	4936202.281	25568000.533	88.540	2.420	2.890	86.120	8.2	7.36	383.4
MW7-D	4936202.901	25567999.515	88.574	1.325	5.060	87.249	9.7	6.39	354.0
MW8-S	4936310.700	25568302.379	98.204	4.070	7.470	94.134	10.2	6.77	1405
MW8-D	4936311.210	25568303.588	97.882	5.830	24.440	92.052	9.2	6.82	554.1
MW19-03D	4936457.362	25568056.050	113.514	8.965	14.800	104.549	8.7	7.63	252.1
MW19-09S	4936315.097	25567976.210	95.753	1.515	7.070	94.238	9.8	7.60	2771
MW19-10S	4936383.454	25568157.550	102.697	4.555	4.530	98.142	Dry	Dry	Dry
MW19-11M	4936205.289	25568220.310	90.382	*	*	*	7.6	7.07	501.0
MW19-11D	4936206.602	25568220.720	90.487	1.510	7.970	88.977	10.0	6.52	2309
PW19-01	4936311.923	25568005.700	95.980	1.350	7.060	94.630	9.5	7.53	534.4
MW19-12S	4936362.937	25568382.920	95.684	1.530	3.050	94.154	5.1	6.83	498.0
MW19-12D	4936364.332	25568382.470	95.579	1.405	7.680	94.174	6.3	7.07	505.0
MW19-13S	4936123.500	25567992.758	76.949	2.130	4.100	74.819	9.0	4.00	332.5
MW19-13D	4936123.422	25567991.611	76.979	3.605	8.480	73.374	9.4	3.60	217.3
MW20-14S	4936220.664	25568307.2	90.727	3.850	5.210	86.877	8.7	7.22	251.1
MW20-14D	4936220.163	25568306.64	90.615	3.825	9.970	86.790	9.6	7.21	704.7
MW20-15S	4936242.801	25568334.52	93.05	3.815	5.435	89.235	9.4	6.89	636.8
MW20-15D	4936242.238	25568333.65	92.999	6.335	9.910	86.664	9.4	6.70	1338
MW20-16	4936523.067	25568356.68	103.832	5.160	12.170	98.672	10.1	7.62	274.3
MW20-17S	4936428.866	25567865.24	102.516	1.155	8.440	101.361	8.9	7.62	231.8
MW20-17D	4936428.017	25567864.95	102.969	5.495	12.640	97.474	8.5	7.63	241.7

* = MW19-11M required repairs as water level probe cannot get deep enough to monitor groundwater levels (blocked).

Table H3: Groundwater Levels and Elevations (March 2022)

Well ID	Date	GPS Coordinates		TOC ELEVATION	Static Water Level (mbtoc)	Bottom of Well (mbtoc)	GW Elevation	Temp (^{o}C)	pH	Cond (m/s)
Static Water Levels								Field Parameters		
MW1-S	A	4936163.536	25568040.815	86.012	0.960	1.940	85.052	1.4	6.96	1588
MW1-D	A	4936162.568	25568040.673	85.685	2.000	8.170	83.685	3.3	6.24	2041
MW2-S	B	4936277.310	25568375.605	91.820	1.255	4.190	90.565	13.4	6.85	499.2
MW2-M	B	4936274.757	25568375.361	91.449	4.330	9.350	87.119	9.8	7.51	468.1
MW2-D	B	4936272.861	25568375.262	91.406	4.540	13.130	86.866	8.6	7.00	558.3
MW3	C	4936457.437	25568057.254	0.000	2.040	11.340	-2.040	7.2	7.98	227.4
MW5-S	C	4936482.333	25568427.429	97.217	1.375	5.100	95.842	13.4	6.77	201.6
MW5-D	C	4936483.003	25568426.186	97.211	1.370	9.630	95.841	11.7	7.02	222.9
MW6-S	A	4936176.081	25568121.534	89.726	2.150	3.380	87.576	0.6	7.32	1369
MW6-D	A	4936174.415	25568121.994	89.760	2.240	6.370	87.520	3.2	7.38	4568
MW7-S	A	4936202.281	25568000.533	88.540	1.305	2.890	87.235	1.4	7.15	252.0
MW7-D	A	4936202.901	25567999.515	88.574	2.480	5.060	86.094	3.0	6.07	550
MW8-S	B	4936310.700	25568302.379	98.204	3.875	7.470	94.329	13.5	6.86	920.0
MW8-D	B	4936311.210	25568303.588	97.882	5.840	24.440	92.042	9.9	7.35	659.0
MW19-03D	C	4936457.362	25568056.050	113.514	2.040	14.800	111.474	6.3	7.54	206.2
MW19-09S	B	4936315.097	25567976.210	95.753	1.570	7.070	94.183	14.3	7.90	213.1
MW19-10S	B	4936383.454	25568157.550	102.697	4.550	4.530	98.147	DRY	DRY	DRY
MW19-11M	-	4936205.289	25568220.310	90.382	*	*	*	13.6	7.18	1508
MW19-11D	A	4936206.602	25568220.720	90.487	1.005	7.970	89.482	11.1	7.26	2731
PW19-01	B	4936311.923	25568005.700	95.980	1.460	7.060	94.520	2.2	6.98	488.3
MW19-12S	B	4936362.937	25568382.920	95.684	1.756	3.050	93.929	1.1	6.63	356
MW19-12D	B	4936364.332	25568382.470	95.579	1.600	7.680	93.979	2.9	6.29	380.9
MW19-13S	A	4936123.500	25567992.758	76.949	2.115	4.100	74.834	2.5	6.59	171.7
MW19-13D	A	4936123.422	25567991.611	76.979	3.580	8.480	73.399	4.6	6.01	194.2
MW20-14S	A	4936220.664	25568307.2	90.727	1.960	5.210	88.767	13.3	7.78	409.1
MW20-14D	A	4936220.163	25568306.64	90.615	3.865	9.970	86.750	10.9	7.26	648.9
MW20-15S	B	4936242.801	25568334.52	93.05	4.140	5.435	88.910	1.2	6.7	595.0
MW20-15D	B	4936242.238	25568333.65	92.999	6.255	9.910	86.744	2.1	6.88	1121
MW20-16	C	4936523.067	25568356.68	103.832	5.260	12.170	98.572	4.1	7.02	239.4
MW20-17S	C	4936428.866	25567865.24	102.516	1.325	8.440	101.191	10.6	7.75	193.2
MW20-17D	C	4936428.017	25567864.95	102.969	5.820	12.640	97.149	8.6	7.72	198.7

Measurement Date A: 28 March 2022

Measurement Date B: 29 March 2022

Measurement Date A: 30 March 2022

* = MW19-11M required repairs as water level probe cannot get deep enough to monitor groundwater levels (blocked).

Table H4: Surface Water Field Parameters

SW Location	Diffuser		SW1		SW2		SW3		SW4		SW13		SW14		SW19-20	
Parameters	pH	Cond (us/cm)	pH	Cond (us/cm)	pH	Cond (us/cm)	pH	Cond (us/cm)	pH	Cond (us/cm)	pH	Cond (us/cm)	pH	Cond (us/cm)	pH	Cond (us/cm)
2018																
11/8/2018	-	-	7.68	556.0	6.14	63.9	6.14	35.1	6.55	46.5	8.48	573.0	7.79	354.7	-	-
2019																
11/19/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020																
4/1/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/1/2020	5.22	31.5	5.19	33.2	5.33	32.7	5.41	32.2	5.28	31.8	7.42	121.9	-	-	6.69	1069
7/17/2020	4.90	36.3	4.83	34.5	4.97	36.0	5.32	43.3	4.96	36.6	-	-	-	-	-	-
7/29/2020	5.35	35.3	5.56	35.6	5.90	36.2	5.81	40.9	5.25	35.5	-	-	-	-	-	-
8/11/2020	5.62	118.3	5.71	116.6	5.57	121.2	5.54	123.8	5.47	118.0	-	-	-	-	-	-
8/24/2020	5.90	122.5	5.88	124.6	6.22	132.3	5.81	130.3	5.84	124.0	DRY	DRY	DRY	DRY	DRY	DRY
9/8/2020	5.95	125.5	6.14	131.6	5.88	125.9	5.86	127.9	-	-	DRY	DRY	DRY	DRY	DRY	DRY
9/23/2020	4.84	183.5	5.53	181.4	6.31	184.4	4.94	187.9	4.89	186.2	5.97	223.1	6.94	1272	7.54	1951
10/6/2020	4.92	152.1	4.92	156.7	5.11	153.8	5.24	218.8	5.09	157.7	6.69	425.3	DRY	DRY	7.10	2302
10/23/2020	4.67	175.2	4.41	180.4	4.71	175.7	5.59	226.1	4.78	181.1	6.56	291.6	DRY	DRY	7.06	3460
11/5/2020	5.09	181.7	4.41	184.9	4.67	186.5	5.56	199.3	4.97	185.0	7.01	333.2	DRY	DRY	7.28	2480
11/20/2020	4.60	183.4	4.93	177.1	4.60	182.7	5.54	326.7	4.92	184.4	6.33	266.7	DRY	DRY	DRY	DRY
11/30/2020	5.16	184.9	5.60	180.7	5.21	185.9	5.92	449.3	5.01	191.2	6.55	316.4	DRY	DRY	7.29	5318
12/14/2020	3.97	51.2	4.54	55.6	4.02	52.6	4.11	51.1	3.97	51.2	5.24	82.0	DRY	DRY	5.84	938
12/28/2020	4.71	55.9	4.21	52.8	4.74	54.8	5.62	99.6	4.88	55.5	5.73	84.9	DRY	DRY	6.59	564
2021																
3/25/2021	5.78	37.3	6.16	35.1	6.00	37.8	5.77	40.7	5.79	39.1	7.21	67.7	6.29	478.2	Frozen	Frozen
4/8/2021	4.64	32.7	5.14	32.9	4.71	32.6	5.33	51.0	4.69	32.7	8.07	62.6	DRY	DRY	6.71	871
4/21/2021	4.57	35.8	4.64	36.2	4.87	37.0	4.98	37.7	4.67	36.9	7.26	75.1	DRY	DRY	5.89	945
5/5/2021	5.84	36.3	6.10	35.9	6.69	37.8	5.84	46.7	5.71	36.9	8.00	80.4	DRY	DRY	6.11	997
5/19/2021	5.31	33.4	5.44	32.6	6.08	34.2	5.47	34.2	5.20	33.5	7.56	102.5	DRY	DRY	DRY	DRY
6/3/2021	5.83	37.8	5.71	34.2	5.93	37.4	5.86	39.4	5.66	37.6	7.00	77.6	DRY	DRY	6.61	852
6/14/2021	5.65	37.6	6.50	37.0	6.17	36.8	5.72	37.7	5.89	37.6	6.51	360.6	DRY	DRY	6.78	1233
6/30/2021	6.08	40.0	6.38	41.1	6.15	39.5	5.79	43.0	5.78	39.9	6.30	350.6	DRY	DRY	DRY	DRY
7/14/2021	6.11	40.4	5.88	41.1	6.06	40.6	6.61	41.2	6.74	40.9	6.41	324.2	DRY	DRY	DRY	DRY
7/27/2021	5.68	40.7	5.61	41.1	5.67	40.8	5.63	41.1	5.62	62.6	6.58	87.7	DRY	DRY	6.93	1314
8/11/2021	4.60	40.7	4.65	40.8	4.72	40.8	4.76	40.8	4.72	40.4	6.81	103.5	DRY	DRY	6.69	1001
9/8/2021	5.70	44.8	7.87	46.2	6.33	44.7	5.86	46.7	5.76	44.9	6.68	289.8	DRY	DRY	7.27	864
9/23/2021	5.53	42.7	5.74	40.6	5.48	43.3	5.59	47.7	5.66	42.9	6.22	280.4	DRY	DRY	6.65	1143
10/6/2021	5.21	44.9	6.67	44.0	5.52	45.2	5.26	49.7	5.08	45.0	6.66	316.0	DRY	DRY	6.63	776
10/19/2021	4.82	44.8	5.35	42.1	4.89	44.9	5.07	56.2	5.02	44.7	5.36	248.1	DRY	DRY	5.14	873
11/2/2021	4.51	44.2	4.51	43.2	4.65	44.5	4.66	45.2	4.60	44.3	6.37	390.8	DRY	DRY	6.78	1038
11/21/2021	-	-	4.66	63.8	4.88	50.0	4.68	60.9	4.53	49.9	6.21	87.6	DRY	DRY	5.44	721
12/1/2021	-	-	*	*	*	*	6.68	47.9	*	*	6.58	68.5	DRY	DRY	5.87	429
12/15/2021	-	-	4.53	43.0	3.63	43.6	3.76	47.2	3.21	46.2	5.99	70.4	DRY	DRY	4.90	556
2022																
3/25/2022	-	-	4.14	36.0	5.94	37.7	6.35	37.8	5.02	36.2	6.74	72.6	DRY	DRY	6.51	460
4/6/2022	-	-	5.58	31.9	5.51	30.9	5.31	30.5	5.04	30.4	6.79	65.2	DRY	DRY	6.32	392
4/19/2022	-	-	4.16	31.6	4.36	31.6	4.71	33.0	4.65	32.3	5.28	97.5	DRY	DRY	6.47	766

"-": data not available or collected

Diffuser installed mid-July 2020 and removed 16 September 2021

* - Field parameter reading error

Appendix I. Trend Analysis Summary Tables

TABLE I1: Groundwater Trend Analysis Summary Table

Monitoring Well (MW) ID	Shallow or Deep MW	Landfill Cell Area	Former BDAs	LTPA and SPs	METALS																	
					Arsenic		Boron		Cadmium		Cobalt		Chromium		Iron		Lead		Manganese		Uranium	
					Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020
MW1-S	**Shallow**	**Downgradient**	Cross-Gradient	Cross-Gradient	no	no	up	no	down	no	no	no	no	no	no	no	no	no	down	up	up	up
MW1-D	**Deep**	**Downgradient**	Cross-Gradient	Cross-Gradient	no	no	up	no	no	no	no	no	no	no	no	no	no	no	up	no	up	no
MW2-S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
MW2-M	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	no	no	up	no	down	no	no	no	no	no	no	no	no	no	down	no	up	up
MW2-D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	no	no	up	no	no	no	no	no	no	no	no	no	no	no	no	no	no	down
MW3	**Shallow**	**Upgradient**	**Upgradient**	**Upgradient**	no	no	up	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
MW5-S	**Shallow**	Upgradient	**Downgradient**	Cross-Gradient	no	up	up	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
MW5-D	**Deep**	Upgradient	**Downgradient**	Cross-Gradient	no	no	up	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
MW6-S	**Shallow**	**Downgradient**	Cross-Gradient	Cross-Gradient	no	no	no	no	down	no	down	no	no	no	no	no	no	no	no	no	no	no
MW6-D	**Deep**	**Downgradient**	Cross-Gradient	Cross-Gradient	down*	no	down*	no	down	no	no	no	no	no	down*	no	no	no	down*	no	no	down
MW7-S	**Shallow**	Cross-Gradient	**Downgradient**	**Downgradient**	no	no	down	no	down	no	down	no	no	no	no	no	no	no	down	no	no	no
MW7-D	**Deep**	Cross-Gradient	**Downgradient**	**Downgradient**	up	up	no	no	down	down	up	no	no	no	down	no	no	no	up	no	up	no
MW8-S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
MW8-D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	no	no	no	no	down	no	no	no	no	no	no	no	no	no	up	no	up	down
MW19-03D	**Deep**	**Upgradient**	**Upgradient**	**Upgradient**	-	up	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-09S	**Shallow**	Upgradient	Cross-Gradient	**Downgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-10S	**Shallow**	Upgradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-11M	**Deep**	**Downgradient**	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	down	-	down
MW19-11D	**Deep**	**Downgradient**	**Downgradient**	Cross-Gradient	-	no	-	down	-	down	-	down	-	down	-	no	-	no	-	down	-	down
MW19-12S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-12D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-13S	**Shallow**	Cross-Gradient	**Downgradient**	**Downgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-13D	**Deep**	Cross-Gradient	**Downgradient**	**Downgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW20-14S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	down	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW20-14D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	down	-	no	-	no	-	no	-	no	-	no
MW20-15S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW20-15D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW20-16	**Deep**	**Upgradient**	**Upgradient**	**Upgradient**	-	no	-	no	-	down	-	no	-	no	-	no	-	no	-	no	-	no
MW20-17S	**Shallow**	**Upgradient**	**Upgradient**	**Upgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW20-17D	**Deep**	**Upgradient**	**Upgradient**	**Upgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
PW19-01	**Shallow**	Upgradient	Cross-Gradient	**Downgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no

Monitoring Well (MW) ID	Shallow or Deep MW	Landfill Cell Area	Former BDAs	LTPA and SPs	GENERAL CHEMISTRY																PETROLEUM HYDROCARBONS	
					Alkanility		Calcium		Chloride		Conductivity		Hardness		pH		Sulphate		Total Organic Carbon (TOC)		Total Dissolved Solids (TDS)		Total Petroleum Hydrocarbons (TPH)	
					Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020
MW1-S	**Shallow**	**Downgradient**	Cross-Gradient	Cross-Gradient	up	up	up	up	no	no	no	up	up	up	up	up	no	no	no	no	no	up	no	no
MW1-D	**Deep**	**Downgradient**	Cross-Gradient	Cross-Gradient	up	no	up	no	up	no	up	no	up	no	no	no	up	no	no	no	up	no	no	no
MW2-S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	no	no	no	no	down	no	down	no	no	no	no	no	down	down	no	no	down	down	no	no (UC)
MW2-M	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	up	no	no	no	down	no	no	no	no	no	no	up	no	down	no	no	no	no	no	no (UC)
MW2-D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	up	no	no	down	down	no	no	no	no	down	no	no	no	no	no	no	no	no	no	no (UC)
MW3	**Shallow**	**Upgradient**	**Upgradient**	**Upgradient**	no	no	up	no	no	no	no	no	up	no	no	no	no	no	no	no	no	no	no	no
MW5-S	**Shallow**	Upgradient	**Downgradient**	Cross-Gradient	up	no	no	no	no	no	no	no	no	up	no	no	no	no	no	no	no	no	no	no (UC)
MW5-D	**Deep**	Upgradient	**Downgradient**	Cross-Gradient	up	no	up	no	no	no	no	no	up	no	no	no	no	no	no	no	no	no	no	no
MW6-S	**Shallow**	**Downgradient**	Cross-Gradient	Cross-Gradient	up	no	no	no	no	no	down	no	down	no	up	no	down	no	no	no	down	no	no	no (UC)
MW6-D	**Deep**	**Downgradient**	Cross-Gradient	Cross-Gradient	down*	no	down*	no	no	no	no	no	down*	no	no	no	down*	down	no	no	down*	no	no	no
MW7-S	**Shallow**	Cross-Gradient	**Downgradient**	**Downgradient**	up	no	down	no	down	no	down	no	down	no	up	no	down	no	no	no	down	down	no	no
MW7-D	**Deep**	Cross-Gradient	**Downgradient**	**Downgradient**	up	no	up	no	no	no	no	no	up	no	up	no	no	no	no	no	up	no	no	no (UC)
MW8-S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	up	no	no	no	down	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
MW8-D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	no	no	up	down	no	down	no	no	no	down	down	no	up	down	no	no	up	down	no	no
MW19-03D	**Deep**	**Upgradient**	**Upgradient**	**Upgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-09S	**Shallow**	Upgradient	Cross-Gradient	**Downgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-10S	**Shallow**	Upgradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	-
MW19-11M	**Deep**	**Downgradient**	**Downgradient**	Cross-Gradient	-	no	-	no	-	down	-	down	-	down	-	no	-	down	-	no	-	down	-	no (UC)
MW19-11D	**Deep**	**Downgradient**	**Downgradient**	Cross-Gradient	-	no	-	down	-	down	-	down	-	down	-	no	-	down	-	no	-	down	-	no (UC)
MW19-12S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	up	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	-
MW19-12D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW19-13S	**Shallow**	Cross-Gradient	**Downgradient**	**Downgradient**	-	no	-	no	-	no	-	no	-	down	-	no	-	down	-	no	-	no	-	no (UC)
MW19-13D	**Deep**	Cross-Gradient	**Downgradient**	**Downgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW20-14S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	down	-	down	-	no	-	down	-	down	-	no	-	down	-	no	-	down	-	no
MW20-14D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW20-15S	**Shallow**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no (UC)
MW20-15D	**Deep**	Cross-Gradient	**Downgradient**	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no (UC)
MW20-16	**Deep**	**Upgradient**	**Upgradient**	**Upgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no (UC)
MW20-17S	**Shallow**	**Upgradient**	**Upgradient**	**Upgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
MW20-17D	**Deep**	**Upgradient**	**Upgradient**	**Upgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
PW19-01	**Shallow**	Upgradient	Cross-Gradient	**Downgradient**	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no (UC)

Notes:

Up = upward trend
Down = downward trend
Down* = upward trend until 2012, then downward trend
No = no trend identified
No (UC) = false trend change - unidentified compound
Pre-2015: any changes in trend direction since 2015
Post-2020: any changes in trend direction starting in 2020 (August 2020 when on-site construction commenced)
MW19-xx, PW19-xx and MW20-xx: these wells do not have associated historic data (Pre-2015)
- = Not Applicable

TABLE I2: Surface Water Trend Analysis Summary Table

SW Location	Landfill Cell Area	Former BDAs	LTPA and SPs	METALS																	
				Aluminum		Arsenic		Boron		Cadmium		Cobalt		Chromium		Iron		Lead		Manganese		Uranium	
				Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020
SW1	Upgradient	Upgradient	Upgradient	no	no	no	no	up	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
SW2	Upgradient	Downgradient	Downgradient	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
SW3	Downgradient	Downgradient	Downgradient	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
SW4	Downgradient	Downgradient	Downgradient	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	down	no	no	no
Diffuser	Cross-Gradient	Cross-Gradient	Downgradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
SW13	Upgradient	Downgradient	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
SW19-20	Downgradient	Downgradient	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no

SW Location	Landfill Cell Area	Former BDAs	LTPA and SPs	GENERAL CHEMISTRY																	
				Alkanility		Calcium		Chloride		Conductivity		Hardness		pH		Sulfate		Total Organic Carbon		Total Dissolved Solids		Total Suspended (TSS)	
				Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020	Pre-2015	Post-2020
SW1	Upgradient	Upgradient	Upgradient	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	-	no
SW2	Upgradient	Downgradient	Downgradient	no	no	down	no	no	no	down	no	down	no	no	no	down	no	no	no	down	no	-	no
SW3	Downgradient	Downgradient	Downgradient	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	down	no	-	down
SW4	Downgradient	Downgradient	Downgradient	no	no	down	no	no	no	down	no	down	no	no	no	down	no	up	no	down	no	-	down
Diffuser	Cross-Gradient	Cross-Gradient	Downgradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
SW13	Upgradient	Downgradient	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no
SW19-20	Downgradient	Downgradient	Cross-Gradient	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no	-	no

SW Location	Landfill Cell Area	Former BDAs	LTPA and SPs	PETROLEUM HYDROCARBONS	
				Total Petroleum Hydrocarbons (TPH)	
				Pre-2015	Post-2020
SW1	Upgradient	Upgradient	Upgradient	-	no
SW2	Upgradient	Downgradient	Downgradient	-	no
SW3	Downgradient	Downgradient	Downgradient	-	no
SW4	Downgradient	Downgradient	Downgradient	-	no
Diffuser	Cross-Gradient	Cross-Gradient	Downgradient	-	no
SW13	Upgradient	Downgradient	Cross-Gradient	-	no
SW19-20	Downgradient	Downgradient	Cross-Gradient	-	no

Notes:

Up = upward trend

Down = downward trend

No = no trend identified

Pre-2015: Any changes in trend direction since 2015

Post-2020: Any changes in trend direction starting in 2020 (August 2020 when on-site construction commenced)

SW14: Not enough data to provide trends analysis for all parameters. Minimum sample results required for trend analysis is 4 samples.

SW13, SW19-20, Diffuser: These sample locations do not have associated historical analytical data.

Total Petroleum Hydrocarbons (TPH), Total Suspended Solids (TSS): Collected starting in 2019 / 2020 and do not have associated historical analytical data.

Appendix J. QA/QC Summary Tables

Appendix J — QA/QC Review

Groundwater

To assess the quality of the analytical data gathered during this program, a review of the laboratory results relating to field duplicate analyses was completed. Criteria was based on the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, and amended as of July 1, 2011, published by the Laboratory Services Branch of the Ministry of the Environment (MOE).

The Quality Control parameter reviewed was duplicate precision (relative percent difference (RPD)). Since the uncertainty associated with a measurement increases dramatically as the result approaches the reporting limit (RL), the duplicate acceptance limits apply only when the two duplicates had detectable quantities and the average of the two duplicates is greater than five times the RL. The RPD limit for groundwater is 30%.

All field duplicates met the duplicate acceptance limits except for the ones listed in **Table J1** below.

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units	Primary	Duplicate	Primary vs. Duplicate
				MW19-13D_20220328	**DUP1_20220328**	
Ion Balance	0	0	%	2.22	3.31	39.40%
				MW2-D_20211005	**DUP2_20211005**	
Ion Balance	0	0	%	5.92	8.95	40.80%
Total Suspended Solids	5	17	mg/l	110	670	143.60%
Turbidity	1	1	ntu	260	420	47.10%
				MW20-15D_20211213	**DUP1_20211213**	
Cadmium, D	0.01	0.01	ug/l	0.057	0.097	51.90%
Ion Balance	0	0	%	1.51	2.07	31.30%
				MW20-16_20211006	**DUP3_20211006**	
Copper, D	0.5	0.5	ug/l	1.2	2.6	73.70%
				MW20-16_20211213	**DUP2_20211213**	
Copper, D	0.5	0.5	ug/l	1.6	2.7	51.20%
Ion Balance	0	0	%	2.89	1.65	54.60%
Total Suspended Solids	170	5	mg/l	470	140	108.20%
Turbidity	0.1	1	ntu	96	140	37.30%
				MW20-17D_20211005	**DUP1_20211005**	
Ion Balance	0	0	%	5.21	3.6	36.50%
Total Suspended Solids	10	17	mg/l	510	1000	64.90%
Turbidity	1	1	ntu	420	280	40.00%
				MW3_20220330	**DUP3_20220330**	
Ion Balance	0	0	%	0.420	0.21	66.70%
				MW8-D_20211213	**DUP3_20211213**	
Ion Balance	0	0	%	7.17	4.88	38.00%

Notes: bold - exceedance to applicable NSE-EQS criteria

The specific analyte results for these samples are thus qualified as estimated likely due to variability caused by sample heterogeneity, as the laboratory replicate RPD's all met acceptable limits. It should be noted that of the analytes that have applicable criteria, both the primary and duplicate results are far below the NSE-EQS criteria or already are indicated as an exceedance, thus the acceptability of these samples should not be affected.

Surface Water

To assess the quality of the analytical data gathered during this program, a review of the laboratory results relating to field duplicate analyses was completed. Criteria was based on the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, and amended as of July 1, 2011, published by the Laboratory Services Branch of the Ministry of the Environment (MOE).

The Quality Control parameter reviewed was duplicate precision (relative percent difference (RPD)). Since the uncertainty associated with a measurement increases dramatically as the result approaches the reporting limit (RL), the duplicate acceptance limits apply only when the two duplicates had detectable quantities and the average of the two duplicates is greater than five times the RL. The RPD limit for surface water is 30%.

All field duplicates met the duplicate acceptance limits except for the ones listed in **Table J1** below.

Table J1: Surface Water RPD Summary

Analyte, Fraction	Detection Limit Pri.	Detection Limit Dup.	Units	Primary	Duplicate	Primary vs. Duplicate
				SW1_20210811	**DUP1_20210811**	
Aluminum, T	5	5	ug/l	940	560	50.70%
Anion Sum	0	0	meq/l	0.21	1.45	149.40%
Barium, T	1	1	ug/l	5.2	13	85.70%
Calcium, T	100	100	ug/l	1300	8300	145.80%
Cation Sum	0	0	meq/l	0.36	1.17	105.90%
Chloride ion, D	1	1	mg/l	7.4	25	108.60%
Color	25	25	tcu	230	150	42.10%
Copper, T	0.5	0.5	ug/l	0.67	4.4	147.10%
Electrical Conductivity	1	1	us/cm	38	130	109.50%
Hardness (as CaCO3)	1	1	mg/l	5.5	28	134.30%
Ion Balance	0	0	%	26.3	10.7	84.30%
Iron, T	50	50	ug/l	820	1500	58.60%
Lead, T	0.5	0.5	ug/l	1.1	5.8	136.20%
Magnesium, T	100	100	ug/l	550	1900	110.20%
Manganese, T	2	2	ug/l	26	260	163.60%
pH, Lab	0	0	ph units	4.94	6.71	30.40%
Potassium, T	100	100	ug/l	240	770	105.00%
Reactive Silica (SiO2)	0.5	0.5	mg/l	4.1	6.6	46.70%
Sodium, T	100	100	ug/l	4700	12000	87.40%
Strontium, T	2	2	ug/l	7.5	27	113.00%
Total Dissolved Solids (Lab)	1	1	mg/l	19	83	125.50%
Turbidity	0.1	0.1	ntu	3.1	5.1	48.80%
Uranium, T	0.1	0.1	ug/l	0.29	0.99	109.40%
				SW13_20210811	**DUP1_20210811**	
Ion Balance	0	0	%	2.95	10.7	113.60%
Sulphate, D	2	2	mg/l	3.9	12	101.90%
Turbidity	0.1	0.1	ntu	7.1	5.1	32.80%
				SW1_20211121	**DUP1_20211121**	
Turbidity	0.1	0.1	ntu	1	1.9	62.10%
				SW1_20220324	**DUP1_20220324**	
Ion Balance	0	0	%	0	7.32	200.00%
				SW4_20211215	**DUP1_20211215**	
Ion Balance	0	0	%	33.3	23.8	33.30%
				SW13_20210908	**DUP1_20210908**	
Turbidity	0.1	0.1	ntu	20	9.3	73.00%

Notes: bold - exceedance to applicable NSE-EQS criteria

The specific analyte results for these samples are thus qualified as estimated likely due to variability caused by sample heterogeneity, as the laboratory replicate RPD's all met acceptable limits. It should be noted that of the analytes that have applicable criteria, both the primary and duplicate results are far below the NSE-EQS criteria or already are indicated as an exceedance, thus the acceptability of these samples should not be affected.

Appendix K. NSE Non-Compliance & Corrective Actions Documentation

AECOM Canada Ltd.
1701 Hollis Street
SH400 (PO Box 576 CRO)
Halifax, NS B3J 3M8
Canada

T: 902 428 2021
F: 902 428 2031
www.aecom.com

To: Wilfred Kaiser, P.Eng.
Nova Scotia Lands

Date: April 9, 2021
Project #: 60639002
From: J. Brand
B. Trenouth

cc:

Memorandum

Subject: **Harrietsfield C&D Landfill: Cap Replacement and Site Closure – Erosion and Sediment Control (Updated)**

Nova Scotia Environment (NSE) issued an Inspection Report as well as an Environmental Directive to Nova Scotia Lands Inc. (Client) regarding suspected silt or sediment leaving the former RDM Recycling Limited property (site) located at 1275 Old Sambro Road. The report and directive were issued as a result of construction activities and heavy rains experienced near the end of March 2021, which are suspected of contributing to a sediment release from the site. Refer to **Appendix A** for the inspection report and Environmental Directive. As part of the Directive, NSE has requested that the Client provide an inspection report (**Appendix D**) as well as an updated ESC plan to be implemented on-site to correct the issues that were identified, including any deficiencies identified in the Approval Holder's ESC inspection report pursuant to Section 7(f) of the Approval (2020-2664911-00, June 22, 2020). This memorandum has been issued to address the requirements to provide an updated ESC plan to mitigate downstream impacts as a result of on-site construction activities and correct deficiencies identified in NSE's Inspection Report, as well as AECOM's inspection logs.

In August 2020, AECOM completed a detailed ESC plan addressing all NSE requirements for safe and effective containment of eroded sediments and to mitigate erosion on-site due to construction activities relating to the closure of the existing landfill. The August 2020 report identified the minimum requirements for the Contractor to follow to manage on-site erosion and sedimentation. The document acknowledged that construction practices are dynamic and difficult to appropriately stage; therefore, AECOM provided detailed information relating to the ESC measures, inspection frequencies, maintenance, contingency planning due to failures, spills, and extreme weather with the responsibility placed on the Contractor to maintain, replace, and monitor all ESC measures as required, in addition to monitoring local weather forecasts and implementing proactive plans in advance of rainfall events 25 mm or greater in size.

Generally, the site experienced minimal issues relating to erosion and sedimentation during construction throughout the fall and winter of 2020 as a result of the measures implemented; however, as a result of the winter thaw and heavy rains received in March 2021, increased erosion and offsite sediment transport occurred, as identified by inspection staff from NSE. As a result of the severe rainfall events, at the direction of AECOM, the Contractor constructed additional rock check dams, provided pumps and siltation sacks to filter water from the existing ponds, installed a turbidity curtain in Sheas Lake, among other measures. Additionally, the on-site storm sewer designed to discharge to Sheas Lake and intercept drainage from the diversion trench was blocked off due to runoff transporting sediment laden water to the outlet; no additional discharge has outlet through this

pipe since. These improved erosion and sediment transport management outcomes across the site by reducing the scour potential and volume of drainage, and by capturing and settling/filtering sediment-laden runoff prior to discharge.

As per the Environmental Directive issued by NSE as a result of their inspections, an updated ESC plan has been completed. This plan is in addition to the approved August 2020 ESC plan and existing measures, as its intent is to support the site Contractor and to further improve current site conditions by reducing erosion potential and improving sedimentation until such time that the site can be considered adequately stabilized. The Contractor will remain responsible for the implementation, maintenance, monitoring, and any corrective measures for all items included herein as a result of their construction activities until such time the site is deemed to be stable and the Client indicates removal of the measures is permissible.

The updated plan includes the consideration of the following:

- Re-grading and installation of new rolled erosion control products (RECPs) such as coconut matting;
- Installation of new rock check dams in channels throughout the site;
- Installation of fibre roll flow check dams to act as slope interrupters on steep slopes, which will function to reduce rilling and to provide filtration in strategic locations;
- Construction of an erosion and sediment control basin complete with outlet and maintenance pipe; and,
- Confirmation of installation of a turbidity curtain installed at the sites ultimate outlet in Shea's Lake.

The measures are to be installed according to the ESC plan, typical or standard drawings, and or manufacturer's specification, while following NSE approval requirements including the August 2020 ESC plan relating to inspection, maintenance, corrective measures, severe weather monitoring, and contingency measures. Additionally, it will continue to be the Contractor's responsibility to monitor, maintain, and provide corrective measures to any and all existing ESC measures on-site. This includes covering all exposed soil with appropriate matting, stabilizing slopes, and the safe removal and disposal of accumulated sediment. Refer to the attached ESC plan in **Appendix B** for additional details.

The design of the proposed ESC basin was completed using the Sustainable Technologies Evaluation Program *Erosion and Sediment Control Guide for Urban Construction (2019)* guidelines, requiring the following criteria:

- Approximately 2.0 ha of drainage area;
- 185 m^3/ha permanent pool volume;
- 125 m^3/ha active storage volume; and,
- 4:1 length-to-width ratio.

The ESC basin is designed to attenuate and promote settling of sediments from upstream areas, reducing discharge to downgradient properties. The ESC basin critical elevations will be determined in the field to provide an adequate outlet elevation and to provide the required dimensions as per the attached detailed calculations. Refer to **Appendix C** for detailed stage-storage calculations and basin dimensions (volume, footprint, etc.).

The Contractor will be responsible for weekly inspections (minimum), including before and after significant rainfall events (equal to or greater than 25 mm in 24 hours). Inspection of basin slopes, outlet pipe, emergency spillway, presence of contamination (oil, hydrocarbon, etc.), effluent quality (presence of sediment), and redress of any deficiencies in a timely manner will also be required (again by the site Contractor). This basin will require maintenance when sediment accumulates to a level equal to 30% of the permanent pool storage volume (approximately 0.75 m depth). The ESC basin will need to be safely drained with no discharge of sediments, and the accumulated sediments are to be removed and disposed of in a safe and secure manner in accordance

with Provincial regulations. When the upstream area has been effectively stabilized, and the Client indicates the ESC basin is no longer required, it can be safely deconstructed.

If you have any questions or comments regarding any of the details identified in this memorandum, do not hesitate to contact the undersigned.

Sincerely,

Jack Brand, M.Eng., P.Eng.
Water Resources Engineer

Bill Trenouth, Ph.D., P.Eng., CAN-CISEC
Water Resources Engineer

Attachments:

1. Appendix A – NSE Documentation
2. Appendix B – Erosion and Sediment Control Plan
3. Appendix C – ESC Basin Calculations and Profile Schematic
4. Appendix D – AECOM Daily Inspection Reports

AECOM Imagine it. Delivered.

Appendix A

Nova Scotia Environment Documentation

NOVA SCOTIA
Environment

30 Damascus Road, Suite 115
Bedford, N.S.B4A 0C1

Phone: (902) 424-7773
Fax: (902) 424-0597

Process RSN Number: 14196849

INSPECTION REPORT

APPLICATION/APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Nova Scotia Land Inc. (c/o Wilfred Kaiser)
APPLICATION/APPROVAL NUMBER:	2020-2664911-00
INSPECTION DATE:	March 31, 2021
MAILING ADDRESS:	PO BOX 430, SYDNEY, NS B1P 6H2
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

OVERVIEW OF INSPECTION

On March 30, 2021 Inspector Dodd and O'Brien visited the above site following a receipt of a report of brown water running in watercourse across Club Road. Upon inspection, we observed that an unnamed tributary traversing north to south across Club road was brown with suspected silt or sediment. At this time we proceeded to the former RDM site at the above location. Contact was made with the representatives with Nova Scotia Lands and in turn representatives from AECOM arrived to escort us onto the site.

While onsite we inspected portions of where site storm water management system discharges to the Sheas Lake to the southwest. At the time the water in Sheas Lake was brown similar to the watercourse at Club Road, furthermore silt was observed suspended in the shallow water column along the shore line immediately downgradient of the site. Also observed visual evidence of silt and mud deposited in the vegetation immediately downgradient of a large black pipe extending from the subsurface and associated rip rap.

While walking the site noted that there was some areas of exposed soils and areas where erosion and sedimentation controls have been damaged and no longer effective against mitigating potential erosion and sedimentation.

Inspector Dodd also inspected the discharge from a (reportedly) former settling pond to the west of the site operations (west of the above mentioned pipe). At this location observed brown (silt) colored water discharging from the former pond in the direction of Sheas Lake. Also noted visual evidence of soil and mud deposited among the vegetation.

See attached Directive.

COMPLIANCE ITEMS

In order to ensure compliance with the Environment Act and Regulations, the following items must be addressed:

Item # 14196849-001 *Environment Act 67(2)*

No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.

In order to comply with this section you must:

Comply with the attached Directive

Item #14196849-001 must be complied with by April 9, 2021

This inspection report was prepared on March 31, 2021 by Jeffrey Dodd, Inspector Specialist with Nova Scotia Environment who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
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Environment

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Process RSN Number: 14196849

Environment Act
DIRECTIVE

APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Nova Scotia Land Inc. (c/o Wilfred Kaiser)
APPROVAL NUMBER:	2020-2664911-00
DATE ISSUED:	March 31, 2021
MAILING ADDRESS:	PO BOX 430, SYDNEY, NS B1P 6H2
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

Pursuant to Environment Act 122A(1) the following action(s) must be completed by April 9, 2021

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream.

In accordance with Section 7(f) of the Approval, the Approval Holder shall submit to the Department a detailed inspection report of the erosion and sedimentation controls at the site including recommendations to be taken to correct any deficiencies noted in the report.

Pursuant to Environment Act 122A(1) the following action(s) must be completed by April 9, 2021

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream.

Submit an updated sediment and erosion control plan to the Department. Implement sediment and erosion controls that will address the issues identified at the site during our inspection (above) and deficiencies identified in the Approval Holders Erosion and Sedimentation Controls inspection report carried out pursuant to Section 7(f) of the Approval (see attached Directive).

The action(s) outlined in this Directive are the minimum required. Additional actions may be needed to address the non-compliance item(s) identified in this report. Where necessary, you may need to secure the services of a firm/person with sufficient knowledge, experience, and certification to address any item (s) of non-compliance.

Be advised that failing to undertake all action(s) within the time frame specified in this Directive is an offence and may result in further enforcement. An investigation involving the non-compliance item(s) identified in this report continues and is separate from the requirements of this Directive.

This Directive was issued by Jeffrey Dodd, Inspector Specialist with Nova Scotia Environment, who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone: (902) 424-7773
Fax: (902) 424-0597
http://www.gov.ns.ca/nse

****

Supporting text where applicable:

Prohibition s.67 - (1) No person shall knowingly release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.(2) No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations. Environment Act 1994-95, c. 1

Duty to take remedial measures s.71 - Any person responsible for the release of a substance under this Part shall, at that person's own cost, and as soon as that person knows or ought to have known of the release of a substance into the environment that has caused, is causing or may cause an adverse effect, (a) take all reasonable measures to(i) prevent, reduce and remedy the adverse effects of the substance, and (ii) remove or otherwise dispose of the substance in such a manner as to minimize adverse effects; (b) take any other measures required by an inspector or an administrator; and (c) rehabilitate the environment to a standard prescribed or adopted by the Department. Environment Act 1994-95, c. 1

Assistance to inspectors s.118 - The owner or occupier of any place, or any person the inspector reasonably believes is related to or associated with any activity at the place, in respect of which an inspector is exercising powers or carrying out duties pursuant to this Part shall(a)give the inspector all reasonable assistance to enable the inspector to exercise those powers and carry out those duties(b) furnish all information relative to the exercising of those powers and the carrying out of those duties that the inspector may reasonably require. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120, may, at any reasonable time, (g) where the inspector believes that any thing may release, is releasing or has released into the environment a substance that may cause, is causing or has caused an adverse effect,(i) require the person having care, management or control of the thing to detain the thing at the place where it is found. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120, may, at any reasonable time (h) require the production of any documents that are required to be kept pursuant to this Act or any other documents that are related to the purpose for which the inspector is exercising any power under clauses (a) to (g). Environment Act, 1994-95, c.1

Inspector Directives s. 122A (1) - An inspector may issue a directive to a person requiring the person to (a) take such measures in accordance with clause 71(b) as the inspector may specify;

(b) furnish the inspector with information in accordance with clause 118(b);
(c) detain a thing in accordance with subclause 119(1)(g)(i);
(d) produce a document in accordance with clause 119(1)(h); or
(e) take any action prescribed by the regulations in any circumstance prescribed by the regulations.
(2) A directive is not subject to appeal or review under this Act. Environment Act, 1994-95, c.1

AECOM Imagine it. Delivered.

Appendix B

Erosion and Sediment Control Plan

ANSI B 279.4mm x 431.8mm
Approved: ____
Checked: ____
Designer: ____
Project Management Initials: ____
Last saved by: FIERHELLER,I (2021-02-26) Last Plotted: 2021-02-26
Filename: L:\LEGACY\CAEDM1FP0011\PROD\PROJECTS\60639002\910-CAD\30-FIGURES\B\02\60639002-FIG-02-0000-B-0001.DWG

250 mm-tall compost biofilter check dam
Re-grading and rolled-erosion control (RECP)
Heavy-duty silt fencing (Type 2)
450 mm-tall rock check dam (HS707) (20 m spacing)
Turbidity curtain.

N

Divert flow from west to south channel (new)
Clean drainage - no sediment issues
Culvert Collapse - correct barrel and erosion
RECP & re-grading
EROSION CONTROL AREA
RECP & re-grading
Ex. Straw Bale Berm
EROSION CONTROL AREA
EROSION CONTROL AREA
Compost biofilter U/S of Culvert Inlets
13 m
54 m
ESC Basin Complete with Outlet
EROSION CONTROL AREA
Fix pond "blow-out", hole in pond berm, block outlet
Turbidity curtain along shoreline adja-cent to site
0 50 100 m
1:2000
RECP & re-grading
double row of HD silt fencing

Former Harriertsfield C&D Landfill
Erosion Control Plan
Nova Scotia Lands Inc.
Project No.: 60639002 Date: 2021-03-24

Surface Water Management and Erosion Control Plan

AECOM

Figure: 1

Appendix C

ESC Basin Calculations and Profile Schematic

AECOM

Component	Elevation [2]	Stage Depth	Overall Depth	Stage Volume	Cumulative Storage Volume	Side Slope	Area	Maintenance Pipe #1 Discharge [2]	Primary Outlet Pipe #2 Discharge [3]	Overflow Weir			Total Flow - Outlet #1 + Weir	Total Flow - Outlet #2 + Weir	Drawdown Time - Outlet #1				Drawdown Time - Outlet #2			
										Top Width	Average Width	High-Flow/ Emergency Outlet Flow			Stage	Cumulative	Cumulative	Cumulative	Stage	Cumulative	Cumulative	Cumulative
(Description)	(m)	(m)	(m)	(m^3)	(m^3)	(H:V)	(m^2)	(m^3/s)	(m^3/s)	(m)	(m)	(m^3/s)	(m^3/s)	(m^3/s)	(min)	(min)	(hr)	(Days)	(min)	(min)	(hr)	(Days)
Permanent Pool	83.10	0.00	0.00	0	0	4	84	0.00	-	-	-	-	0.00	-	0	0	0	0.0	-	-	-	-
	83.35	0.25	0.25	26	26	4	125	0.03	-	-	-	-	0.03	-	34	34	1	0.0	-	-	-	-
	83.60	0.50	0.50	37	64	4	174	0.04	-	-	-	-	0.04	-	20	55	1	0.0	-	-	-	-
	83.85	0.75	0.75	51	114	4	231	0.04	-	-	-	-	0.04	-	21	76	1	0.1	-	-	-	-
	84.10	1.00	1.00	66	180	4	295	0.05	-	-	-	-	0.05	-	23	99	2	0.1	-	-	-	-
	84.35	1.25	1.25	83	263	4	368	0.06	-	-	-	-	0.06	-	26	124	2	0.1	-	-	-	-
	84.60	1.50	1.50	102	365	4	449	0.06	-	-	-	-	0.06	-	29	153	3	0.1	-	-	-	-
Quantity Control	84.60	0.00	1.50	0	365	4	449	0.06	0.00	-	-	-	0.06	0.00	0	99	2	0.1	0	0	0	0.0
	84.70	0.10	1.60	47	412	4	483	0.06	0.00	-	-	-	0.06	0.00	12	111	2	0.1	387	387	6	0.3
	84.80	0.20	1.70	50	462	4	519	0.07	0.01	-	-	-	0.07	0.01	13	124	2	0.1	172	559	9	0.4
	84.90	0.30	1.80	54	516	4	556	0.07	0.01	-	-	-	0.07	0.01	13	137	2	0.1	142	700	12	0.5
	85.00	0.40	1.90	162	573	4	595	0.07	0.01	-	-	-	0.07	0.01	40	151	3	0.1	446	833	14	0.6
	85.06	0.46	1.96	149	611	4	618	0.07	0.01	-	-	-	0.07	0.01	36	160	3	0.1	347	905	15	0.6
Overflow	85.06	0.00	1.96	0	573	4	595	0.07	0.01	3.00	3.00	0.00	0.07	0.01	0	151	3	0.1	0	833	14	0.6
	85.36	0.30	2.26	197	770	4	718	0.08	0.01	3.90	3.45	1.00	1.08	1.01	6	157	3	0.1	6	839	14	0.6

Catchment Area:	1.97	ha
Required Permanent Pool Volume:	185	m^3/ha [3]
Required Permanent Pool Volume:	365	m^3
Provided Permanent Pool Volume:	180	m^3
Required Attenuation Volume:	125	m^3/ha [3]
Required Attenuation Volume:	246	m^3
Provided Attenuation Volume:	246	m^3
Total Volume Required:	310	m^3/ha
Total Volume Required:	611	m^3
Total Volume Provided:	310	m^3/ha
Total Volume Provided:	611	m^3
Bottom of Pond Footprint Length:	18	m (4:1 Ratio)
Bottom of Pond Footprint Width:	5	m (4:1 Ratio)
Bottom of Pond Min. Footprint:	84	m^2
Top of Perm. Pool Footprint Length:	42	m (4:1 Ratio)
Top of Perm. Pool Footprint Width:	11	m (4:1 Ratio)
Top of Perm. Pool Min. Footprint:	449	m^2
Top of Pond Footprint Length:	54	m (4:1 Ratio)
Top of Pond Footprint Width:	13	m (4:1 Ratio)
Top of Pond Min. Footprint:	718	m^2

Maintenance Pipe #1 Size [2]		Primary Outlet Size		Outlet Weir	
Dia (m) =	0.150	Dia (m) =	0.075	Inside Width (m) =	3
Area (m^2) =	0.02	Area (m^2) =	0.00	Side Slope (x:1) =	3
Invert (m) =	83.10	Invert (m) =	84.60	Invert (m) =	85.06
Discharge Coeff, Cd =	0.65	Discharge Coeff, Cd =	0.65	Coefficient =	1.77

Outlet Sizing								
Outlet	Peak Discharge	Manning's 'n'	Pipe Dia.	Storm Slope	Full-Flow Capacity	Full-Flow Velocity	Rip Rap Size (D50)	Rip Rap Depth [1]
	(m^3/s)	(-)	(mm)	(%)	(m^3/s)	(m/s)	(mm)	(mm)
Minor Outlet	0.01	0.013	150	0.50	0.01	0.61	150	225
Major Overflow Outlet	1.08	-	-	-	1.08	1.04	150	225

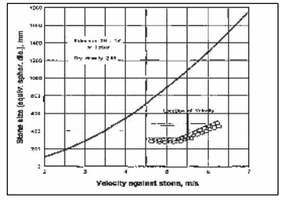


Figure 7 from Transportation Association of Canada's Guide to Bridge Hydraulics (June, 2011).

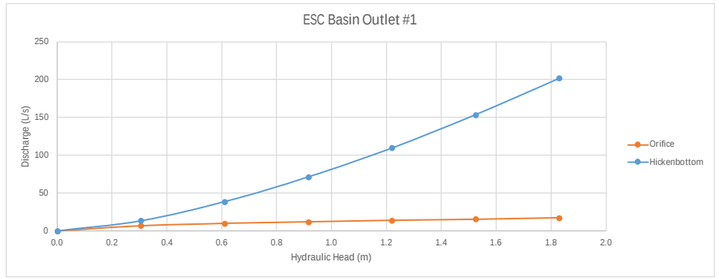
Notes:

1. Elevations to be confirmed in field, absolute depths are to be ensured.
2. Maintenance pipe to be complete with removable mechanical cap for drawing down entire basin for maintenance purposes.
3. Based on Sustainable Technologies Evaluation Program *Erosion and Sediment Control Guide for Urban Construction* Appendix B, 2019.

Depth		Hickenbottom Flow [1]		75 mm - Orifice [2]
(foot)	(m)	(ft^3/s)	(L/s)	(L/s)
0	0.0	0	0	0
1	0.3	0.5	14	7
2	0.6	1.4	39	10
3	0.9	2.5	71	12
4	1.2	3.9	110	14
5	1.5	5.4	153	16
6	1.8	7.1	202	17

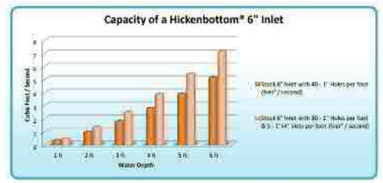
Notes:

1. Hickenbottom 6-inch inlet. 30 x 1-inch holes per foot and 5 x 1-inch x 4" slots per foot.
2. Outlet based on 75 mm orifice.



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Look for the bright orange inlet - Hickenbottom®'s Trademark®

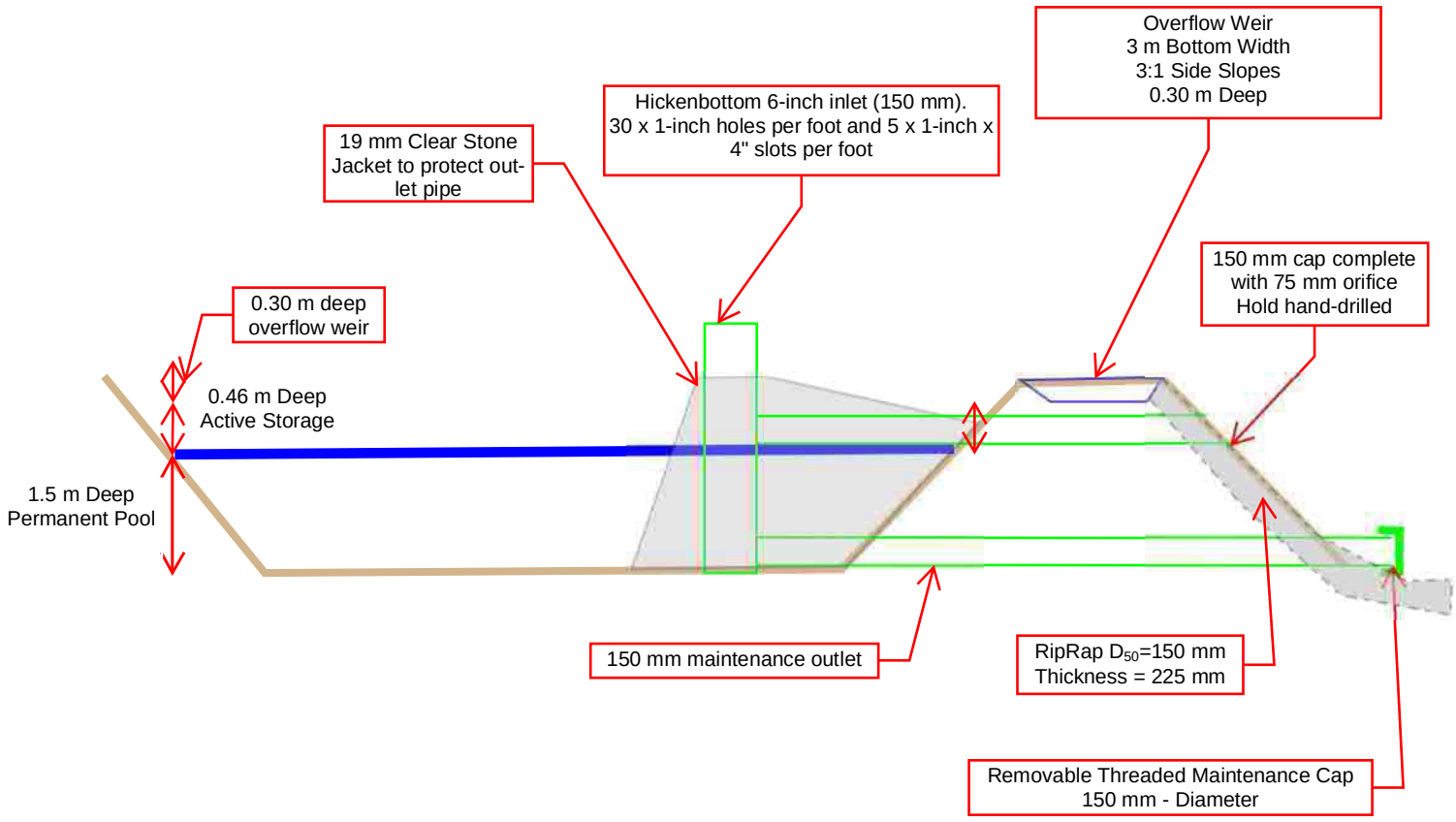


Water Depth	Stock 6" Inlet with 40 - 1" Holes per foot (feet³ / second)	Stock 6" Inlet with 30 - 1" Holes per foot & 5 - 1"x4" slots per foot (feet³ / second)
1 ft	0.35	0.48
2 ft	0.99	1.37
3 ft	1.82	2.52
4 ft	2.8	3.88
5 ft	3.91	5.42
6 ft	5.14	7.13

The above capacity charts are based on the following assumptions:
1) 50% of the holes in the inlet are plugged.
2) There is no flow through the top of the inlet. The top of the inlet is either capped or the top of the inlet extends above the water elevation.
3) The perforations in the inlet extend as high as the water depth.
4) The flow in the inlet is not restricted by any other component of the system. For example, flow is not restricted due to an orifice plate, an offset pipe that limits flow, or full pipe flow in the mainline that could create a tailwater effect in the inlet.

The capacities were calculated using the *Natural Resources Conservation Service Engineering Field Tools* software.

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Notes:

1. ESC basin elevations (bottom, top, outlet etc.) to be confirmed in the field.
2. Refer to detailed stage-storage calculation for staging depths; total depth of basin is 2.26 m.
3. Refer to ESC plan for length and width sizing (ultimate footprint).
4. Figure is not drawn to scale.

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Appendix D

AECOM Daily Inspection Reports

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Wednesday **Date:** Feb 17, 2021 **Report #:** 129

Weather: Overcast

Temperature: 0 °C (Max) -2 °C (Min) **Precipitation :** 0 mm

Work Start: 7:00 AM **Work End:** 5:00 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
David Bugden (DB)	Engineer		
Wilf Kaiser (WK)	NSLI		
Rob McCullough (RM)	Technical lead		
Rory McNeil (RM2)	Engineer		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
1	**Excavator** (Deere 180G)	180G	
1	**Excavator** (CAT 320)	320	
1	**Rock Truck** (CAT 725)	725	
1	**Bulldozer** (Deere 650K)	650K	
1	**Mini Excavator**		

Erosion and Sediment Control Inspection(s)

7:45	Minor erosion observed onsite.
15:15	No additional erosion observed.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade
	AECOM: Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

07:00	DB arrives on-site. ARCP safety meeting.
07:30	ARCP pumping water out of excavation for lined ditch. ARCP continues digging from east to west. DB talked to ARCP foreman about continuing ditch and creating silty water to flow to pond that previously breached. DB completes site tour to observer any silt issues onsite. Some flow from the 500 mm discharge pipe.
08:00	DB completes air quality monitoring. Out of date asbestos signage removed from front gate. Some minor erosion and silt observed onsite.
10:00	ARCP delivers a mini excavator to site and takes the roller offsite.
10:30	ARCP dug up the 150 mm ground water interceptor pipe and installs the blank to block flow through the pipe.
11:45	ARCP continues digging lined ditch at the eastern end of the cell working to the west.
12:15	WK arrives onsite.
12:15	Elmsdale landscaping delivers a trailer load of hay bales to continue hay mulching tomorrow.
12:20	RM and RM2 arrive onsite.
12:30	AECOM site tour with WK. Flow from 500 mm discharge pipe eliminated by installing the blank into 150 mm pipe.
13:20	WK leaves site.
14:00	RM2 leaves site.
14:45	DB completes air quality monitoring.
16:45	ARCP completes daily work and leaves site.
16:55	DB leaves site.
17:30	RM leaves site.

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: ARCP setting up pump to pump water out of the lined ditch excavation.



Photo 2: Asbestos signage from previous demolition work. Signage was removed.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: Flow from 500 mm discharge pipe prior to blank being placed in 150 mm pipe.





Photo 4: ARCP installs blank into 150 mm pipe.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 5: ARCP continues digging lined trench. Some bedrock encountered.

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Feb 17, 2021 (Wed)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Feb 17, 2021 (Wed)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	7:54	W	23 km/hr winds with gusts to 41 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	7:57			0.0	No odours (0)
AQM-003	East (E)	7:59			0.0	No odours (0)
AQM-004	Northeast (NE)	8:01			0.0	No odours (0)
AQM-005	North (N)	8:05			0.0	No odours (0)
Morning Monitoring Notes: -1ºC, Overcast						
Afternoon						
AQM-001	South (S)	14:43	NW	22 km/hr winds with gusts to 38 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	14:45			0.0	No odours (0)
AQM-003	East (E)	14:48			0.0	No odours (0)
AQM-004	Northeast (NE)	14:04			0.0	No odours (0)
AQM-005	North (N)	14:53			0.0	No odours (0)
Afternoon Monitoring Notes: -1ºC, Partly Cloudy						

Note: Wind Direction to be noted as the direction wind originates from relative to the observer. Wind Intensity to be described in relative terms (calm, slight breeze, strong gusts, ect).

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Tuesday **Date:** Feb 23, 2021 **Report #:** 133

Weather: Drizzle/overcast

Temperature: 7 °C (Max) 4 °C (Min) **Precipitation :** 12 mm

Work Start: 7:00 AM **Work End:** 5:00 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
David Bugden (DB)	Engineer		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
1	**Excavator** (Deere 180G)	180G	
1	**Excavator** (CAT 320)	320	
1	**Rock Truck** (CAT 725)	725	
1	**Bulldozer** (Deere 650K)	650K	
1	**Mini Excavator**		

Erosion and Sediment Control Inspection(s)

8:30	Minor erosion observed. Ground frozen most precipitation is running off.
11:30	No additional erosion observed.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade
	AECOM: Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

08:00	DB arrives on-site. Completes air quality monitoring.
08:30	DB completes a site tour to check ditches and the lake for erosion and sediment.
10:00	ARCP (Paul) arrives onsite. Discuss site activity and sediment/erosion. He is arranging staff for tomorrow to deploy hay blankets and coco matting.
10:30	ARCP leaves site.
11:00	DB completes an additional site tour to check site conditions.
12:00	DB leaves site.

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Some silty water in the newly constructed lined ditch, 3 check dams in place to help manage silt.





Photo 2: Silty water continues to enter the pond west of the turnaround and flows out the breached section on the west side.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: No discharge from the 500 mm discharge pipe once the blank was installed in the 150 mm ground water interceptor pipe.





Photo 4: Area ABO.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 5: ARCP Shea's lake looking South from the dock.

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Feb 23, 2021 (Tue)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Feb 23, 2021 (Tue)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	8:05	SW	10 km/hr winds with gusts to 35 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	8:07			0.0	No odours (0)
AQM-003	East (E)	8:09			0.0	No odours (0)
AQM-004	Northeast (NE)	8:10			0.0	No odours (0)
AQM-005	North (N)	8:13			0.0	No odours (0)

Morning Monitoring Notes: -8ºC, Partly cloudy

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Tuesday **Date:** Mar 30, 2021 **Report #:** 139.5

Weather: Sun - Partly cloudy

Temperature: 9 °C (Max) 0 °C (Min) **Precipitation :** 0 mm

Work Start: 3:30 PM **Work End:** 7:00 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
Justin Ogden(JO)	Engineer		
Derek Heath (DH)	Engineer		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments

Erosion and Sediment Control Inspection(s)

16:00	Some erosion observed from rain on Monday.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
	Daily Air Quality Monitoring		

Report By:	**AECOM:** Derek Heath
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

15:00	NSE (Jeffrey Dodd snd Kelsey O'Brien arrive on site (entrance gate located)
15:30	JO arrives onsite and opens gate and tours site with NS staff
16:00	DH arrives onsite Kelly O'Brien (NSE) leaves site. JO and DH continue site tour with NSE (Jeff Dodd).
16:30	NSE (Jeff Dodd) leaves site.
17:00	JO and DH collect TSS surface water samples from sample locations SW1, SW2, SW3, SW4.
19:00	JO and DH leaves site.

Report By:	**AECOM:** Derek Heath
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Southwestern view of Sheas Lake from the lower BDA I Area.



Photo 2: Northwestern view of Sheas Lake.

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Wednesday **Date:** Mar 31, 2021 **Report #:** 140

Weather: Sun - Partly cloudy

Temperature: 13 °C (Max) 3 °C (Min) **Precipitation :** 0 mm

Work Start: 7:00 AM **Work End:** 5:00 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
David Bugden (DB)	Engineer		
Rob McCullough (RM)	Technical Lead		
Derek Heath (DH)	Site Professional		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
1	Back hoe		

Erosion and Sediment Control Inspection(s)

7:30	Some erosion observed from rain on Monday.
15:00	No additional erosion observed.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade
	AECOM: Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

07:00	DB arrives on-site. ARCP onsite to install additional erosion and sediment controls.
07:00	DB completes air quality monitoring.
07:25	RM arrives onsite. Complete site tour. DB and RM talk with ARCP (Paul) to understand their plan to address sedimentation issues onsite and entering Shea's Lake. ARCP was notified that they must comply with the sediment and erosion control plan prepared by AECOM and approved by NSE.
07:30	ARCP installing sand bags in the drainage North and West of the turnaround area.
09:15	DH arrives onsite.
10:30	RM leaves site. ARCP brings a backhoe to site.
10:35	ARCP installs check dams in the ditch on the south side of the access road, south of the terra pure pad. Check dams installed using hay bales covered with clear stone.
13:00	ARCP continues building check dams. ARCP picking up broken sand bags and garbage around terra pure pad. ARCP placing extra staples in hay blankets, unfolding sections disturbed by the wind.
15:50	Backhoe taken offsite.
16:00	DH leaves site.
17:00	ARCP and DB leave site.
	Work Planned for April 1, 2021
	ARCP to install silt curtain in Sheas Lake
	ARCP to repair berm of sediment pond
	ARCP to deliver pumps and hoses to site to prepare for rain event on April1-April2. ARCP will have a crew on stand by for erosion.
	AECOM to observe sediment and erosion control measures being installed by ARCP.
	AECOM to monitor site during rain event.

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

Daily Photographic Record	
Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002



Photo 1: Sand bag berm placed in the dutch North West side of the Turn around..



Photo 2: Check dam installation.

	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: Check dam installation..

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Thursday **Date:** Apr 01, 2021 **Report #:** 141

Weather: cloud - rain

Temperature: 13 **°C (Max)** 8 **°C (Min)** **Precipitation :** 5 to 10 **mm**

Work Start: 7:00 AM **Work End:** 5:00 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
David Bugden (DB)	Engineer		
Derek Heath (DH)	Engineer		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
1	Back hoe		
1	John Deere Mini Excavator	75G	

Erosion and Sediment Control Inspection(s)

7:45	No additional erosion observed.
13:00	No additional erosion observed.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

07:00	DB arrives on-site. ARCP delivers a mini excavator to site. ARCP onsite to install additional erosion and sediment controls. DB completes air quality monitoing.
07:30	ARCP prepares boom to be installed in Sheas Lake.
08:45	ARCP begins installing the silt cutain/ boom in Sheas Lake (west of BDA I). ARCP brings a backhoe to site.
09:15	DH arrives onsite.
11:00	ARCP delives 2 * 3" water pumps to site. ARCP sets up and tests water pumps to pump into silt bags. ARCP makes repairs to the settling pond West of the turn around area (Silt boom installation complete). ARCP uses the backhoe to clean silt off the asphalt pad and debris onsite.
12:15	ARCP take the backhoe offsite.
12:30	DH leaves site.
14:00	DB completes air quality monitoring and site tour to check silt controls put in place.
15:00	ARCP starts pumping water through filter bags.
17:00	DB leaves site.

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Silt boom being installed in Sheas Lake.



Photo 2: Silt boom installed in Sheas Lake.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: Pumps set up with silt bags if future pumping is required to control water during pending rain event(s).



Photo 4: Repairs to the settling pond west of the turnaround area.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 5: Silt boom providing silt control within Sheas Lake.



Photo 6: Check dam in the ditch north of the landfill cell.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 7: Pumping silty water, using filter bags to reduce silt.



Photo 8: Silt control along the shoreline west of BDA I.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 9: Berm northwest of turn around area to reduce surface water flow.

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 01, 2021 (Thu)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 01, 2021 (Thu)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	7:03	S	9 km/hr winds with gusts to 21 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	7:06			0.0	No odours (0)
AQM-003	East (E)	7:08			0.0	No odours (0)
AQM-004	Northeast (NE)	7:09			0.0	No odours (0)
AQM-005	North (N)	7:13			0.0	No odours (0)
Morning Monitoring Notes: +9ºC, Cloudy						
Afternoon						
AQM-001	South (S)	13:55	S	21 km/hr winds with gusts to 45 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	13:57			0.0	No odours (0)
AQM-003	East (E)	13:59			0.0	No odours (0)
AQM-004	Northeast (NE)	14:00			0.0	No odours (0)
AQM-005	North (N)	14:03			0.0	No odours (0)
Afternoon Monitoring Notes: 10ºC, Heavy rain						

Note: Wind Direction to be noted as the direction wind originates from relative to the observer. Wind Intensity to be described in relative terms (calm, slight breeze, strong gusts, ect).

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Saturday **Date:** Apr 03, 2021 **Report #:** 142

Weather: Overcast - Cloudy

Temperature: 4 °C (Max) 0 °C (Min) **Precipitation :** 0 mm

Work Start: 8:00 AM **Work End:** 9:30 AM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
Rob McCullough (RM)	Technical Lead		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
2	3" water pumps	3"	Used to pump water
1	Light plant		

Erosion and Sediment Control Inspection(s)

8:15	Some erosion observed across site.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade
	AECOM: Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

08:00	RM arrives onsite. RM completes air quality monitoring. RM completes site tour observe water and silt conditions.
09:30	RM leaves site.

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Water accumulated behind check dams.



Photo 2: Standing water in settling pond.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: Water accumulated behind berm, Water being pumped through filter bags from this location.

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 03, 2021 (Sat)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 03, 2021 (Sat)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	8:00	W	5 km/hr winds	0.0	No odours (0)
AQM-002	Southeast (SE)	8:02			0.0	No odours (0)
AQM-003	East (E)	8:05			0.0	No odours (0)
AQM-004	Northeast (NE)	8:06			0.0	No odours (0)
AQM-005	North (N)	8:08			0.0	No odours (0)
Morning Monitoring Notes:						

Note: Wind Direction to be noted as the direction wind originates from relative to the observer. Wind Intensity to be described in relative terms (calm, slight breeze, strong gusts, ect).

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Sunday **Date:** Apr 04, 2021 **Report #:** 143

Weather: Freezing rain - rain

Temperature: 4 °C (Max) -1 °C (Min) **Precipitation :** 14.2 mm

Work Start: 9:45 AM **Work End:** 4:30 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
David Bugden (DB)	Engineer		
Justin Ogden (JO)	EIT		
Derek Heath (DH)	Engineer		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
2	3" water pumps	3"	
1	Light plant		

Erosion and Sediment Control Inspection(s)

10:00	Some erosion observed onsite.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade
	AECOM: Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

09:45	DB arrives onsite. DB completes air quality monitoring. DB completes a site tour to observe onsite water and silt conditions. DB contacts ARCP to discuss pumping. Paul (ARCP) will have employees onsite when roads improve and continue overnight.
10:30	DB leaves site.
11:30	JO arrives onsite. JO completes a site tour to observe onsite water and silt conditions.
12:30	ARCP arrives onsite to begin pumping water through filter bags.
12:30	JO leaves site.
15:30	DH arrives onsite. DH completes a site tour to observe onsite water and silt conditions.
16:30	DH leaves site.

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Ditch north of landfill cell (10:00am).



Photo 2: Silty water in settling pond, pumps setup to pump through filter bags (10:05am).

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: Silt boom installed in Sheas Lake (10:10am).



Photo 4: Check dams along access road (3:35pm)

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 5: Ditch north of landfill cell (3:40pm).



Photo 6: Southernmost settling pond surface water containment (3:45pm)

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 7: Sheas Lake west of BDA I (3:50pm)



Photo 8: Silt control boom area along the shoreline west of BDA I (3:55pm).

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 04, 2021 (Sun)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 04, 2021 (Sun)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	9:52	N	16 km/hr winds with gusts to 52 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	9:54			0.0	No odours (0)
AQM-003	East (E)	9:57			0.0	No odours (0)
AQM-004	Northeast (NE)	9:58			0.0	No odours (0)
AQM-005	North (N)	10:01			0.0	No odours (0)

Morning Monitoring Notes: -1ºC, Freezing rain

Note: Wind Direction to be noted as the direction wind originates from relative to the observer. Wind Intensity to be described in relative terms (calm, slight breeze, strong gusts, ect).

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Monday **Date:** Apr 05, 2021 **Report #:** 144

Weather: Showers - afternoon sunny breaks

Temperature: 7 °C (Max) 4 °C (Min) **Precipitation :** 8.2 mm

Work Start: 7:30 AM **Work End:** 4:30 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
David Bugden (DB)	Engineer		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
2	3" water pumps	3"	
1	Light plant		

Erosion and Sediment Control Inspection(s)

7:45	No additional erosion observed.
13:00	No additional erosion observed.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade
	AECOM: Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

07:40	DB arrives onsite.
08:00	DB completes air quality monitoring, and site tour to observe water and silt conditions.
08:00	ARCP has pumps running to pump silty water through filter bags. ARCP not onsite.
10:45	ARCP (Paul) arrives onsite.
11:00	DB and ARCP discussed pumping activities. DB asked if staffing was arranged to continue pumping today/tonight. ARCP respose was initially pump operation and staffing was setup Thursday through Sunday as discussed with Rob McCullough. Staff operating the pumps last night were told to fill the pumps and leave them running. Staff and pumping activities are expensive and ARCP does not concider it part of their contract. Staff for continued pumping could be discussed if required.
12:15	ARCP left site.
15:00	DB completes air quality monitoring, and site tour to observe water and silt conditions.
16:30	DB leaves site.

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Water in settling pond.



Photo 2: Erosion in BDA ABO.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: Silt containment along the edge of Sheas Lake.



Photo 4: Water pumped through filter bags.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 5: Silty water being pumped into filter bags.

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 05, 2021 (Mon)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 05, 2021 (Mon)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	8:03	NE	10 km/hr winds with gusts to 35 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	8:05			0.0	No odours (0)
AQM-003	East (E)	8:08			0.0	No odours (0)
AQM-004	Northeast (NE)	8:09			0.0	No odours (0)
AQM-005	North (N)	8:13			0.0	No odours (0)
Morning Monitoring Notes: +5ºC, Cloudy						
Afternoon						
AQM-001	South (S)	14:57	E	20 km/hr winds with gusts to 27 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	14:59			0.0	No odours (0)
AQM-003	East (E)	15:01			0.0	No odours (0)
AQM-004	Northeast (NE)	15:03			0.0	No odours (0)
AQM-005	North (N)	15:07			0.0	No odours (0)
Afternoon Monitoring Notes: 7ºC, Cloudy						

Note: Wind Direction to be noted as the direction wind originates from relative to the observer. Wind Intensity to be described in relative terms (calm, slight breeze, strong gusts, ect).

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Tuesday **Date:** Apr 06, 2021 **Report #:** 145

Weather: Overcast

Temperature: 12 °C (Max) 3 °C (Min) **Precipitation :** 0.0 mm

Work Start: 8:00 AM **Work End:** 3:45 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
David Bugden (DB)	Engineer	Jack Brand (JB)	Engineer
Rob McCullough (RM)	Technical Lead	Derek Heath (DH)	Engineer
Rory McNeil (RM2)	Engineer		
Wilf Kaiser (WK)	NSLI		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
2	3" water pumps	3"	Not Running

Erosion and Sediment Control Inspection(s)

7:45	No additional erosion observed.
13:00	No additional erosion observed.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade
	AECOM: Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

08:00	DB arrives onsite.
08:00	DB completes air quality monitoring, and site tour to observe water and silt conditions.
11:10	ARCP (Paul) arrives onsite.
12:05	ARCP leaves site, light plant taken offsite.
12:30	DH, JB arrives onsite.
12:50	RM, RM2 arrives onsite.
13:15	WK arrives onsite.
13:15	Site tour to observe erosion and sediment controls and identify area's where additional controls are required. Discuss site conditions and remaining work.
14:20	JB leaves site.
14:25	WK leaves site.
14:35	DH leaves site.
14:55	RM and RM2 leave site.
15:00	DB completes air quality monitoring.
15:45	DB leaves site.

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Silt fence failure south of existing fire pond. Corrective measures required.



Photo 2: Channel immediately upstream of existing fire pond. Reasonable condition.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: Culvert collapse/failure immediately upstream of existing fire pond. Corrective action required.



Photo 4: Channel upstream of existing damaged culvert. Good condition.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 5: Easterly channel on north property line, erosion present, remedial action required, erosion control matting.



Photo 6: North-facing landfill cap - erosion measure failure - immediate action required.

Daily Photographic Record	
Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002



Photo 7: Erosion occuring in low-area west side of abandoned treatment pad. Culvert failure/crushed pipe exacerbating erosion.



Photo 8: Installation of new rock check dams - retention of sediment upstream. Sediment presence indication of unstable surfaces upstream - Upstream areas require remedial action. Relatively clean water filtering through.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 9: Installation of new rock check dams - retention of sediment upstream. Sediment presence indication of unstable surfaces upstream - Upstream areas require remedial action. Relatively clean water filtering through.



Photo 10: Silt fence failure south of existing fire pond. Corrective measures required.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 11: Existing pond with suspended sediment - pumped and filtered through silt sack - continual monitoring and pumping/filtering as required.



Photo 12: Swale on north side of cell cap experiencing heavy erosion and sediment deposit. Channel stabilization, rock check dams, and removal of sediment required. Storm sewer capped.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 13: Channel with heavy sediment deposits, failed straw bale check dams and silt fence. Removal of sediment, stabilization of channel, and remediation of measures required.



Photo 14: Sand bag check dam functioning well. Minor maintenance required to prevent short-circuiting along perimeter.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 15: Slope exposed and unprotected/stabilized. Heavy erosion occuring. Rolled erosion control products required to stabilize slope. Failure to secure erosion matting.

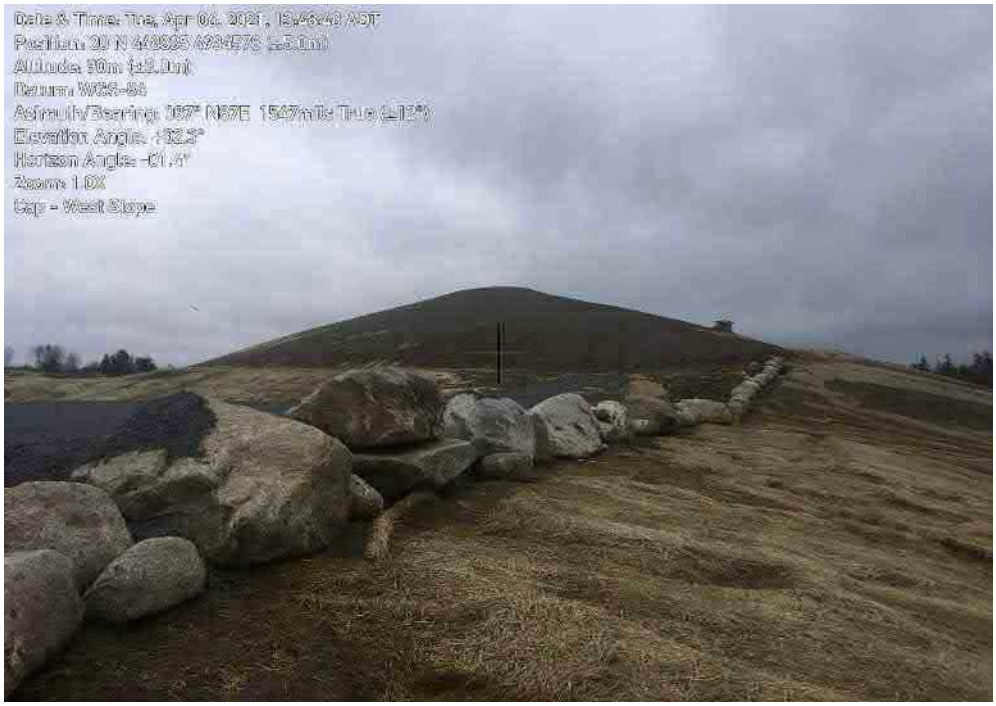


Photo 16: West slope of cell cap - erosion measure failure - immediate action required.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 17: Berm corrected on existing pond - sediment laden water still short-curcuiting berm - immediate correction required.



Photo 18: South slope of cell cap - erosion measure failure - immediate action required.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 19: South slope of landfill cap - resonable coverage of slope with erosion control mapping - incomplete in some areas with significant erosion present.



Photo 20: Southeast corner of landfill cap slope. Heavy erosion occuring. Re-grading and slope stabilization required, additional erosion control matting and biofilter check dams in localized channel. Immediate action required.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 21: Southeast corner of landfill cap slope. Heavy erosion occuring. Re-grading and slope stabilization required, additional erosion control matting and biofilter check dams in localized channel. Silt fence failure and accumulated

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 06, 2021 (Tue)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 06, 2021 (Tue)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	8:03	NE	7 km/hr winds with gusts to18 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	8:05			0.0	No odours (0)
AQM-003	East (E)	8:07			0.0	No odours (0)
AQM-004	Northeast (NE)	8:08			0.0	No odours (0)
AQM-005	North (N)	8:11			0.0	No odours (0)
Morning Monitoring Notes: 3ºC, Fog						
Afternoon						
AQM-001	South (S)	15:02	NE	10 km/hr winds with gusts to 21 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	15:04			0.0	No odours (0)
AQM-003	East (E)	15:06			0.0	No odours (0)
AQM-004	Northeast (NE)	15:07			0.0	No odours (0)
AQM-005	North (N)	15:11			0.0	No odours (0)
Afternoon Monitoring Notes: 11ºC, Cloudy						

Note: Wind Direction to be noted as the direction wind originates from relative to the observer. Wind Intensity to be described in relative terms (calm, slight breeze, strong gusts, ect).

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Wednesday **Date:** Apr 07, 2021 **Report #:** 146

Weather: Overcast

Temperature: 14 °C (Max) 5 °C (Min) **Precipitation :** 0.0 mm

Work Start: 9:50 AM **Work End:** 10:30 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
Derek Heath (DH)	Engineer		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments
2	3" water pumps	3"	Not running
1	Light plant		Not running

Erosion and Sediment Control Inspection(s)

10:00:AM	No additional erosion observed.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** Derek Heath
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

09:50	DH arrives onsite.
10:00	DH completes air quality monitoring, and site tour to observe water and silt conditions.
10:30	DH leaves site.

Report By:	**AECOM:** Derek Heath
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Water in settling pond.



Photo 2: Check dam in the ditch north of the landfill cell.

AECOM

Daily Photographic Record	
Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002



Photo 3: Drainage ditch on north side of landfill cell

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 07, 2021 (Wed)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 07, 2021 (Wed)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	10:00	South	35 km/hr winds with gusts to 45 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	10:05			0.0	No odours (0)
AQM-003	East (E)	10:08			0.0	No odours (0)
AQM-004	Northeast (NE)	10:09			0.0	No odours (0)
AQM-005	North (N)	10:13			0.0	No odours (0)

Morning Monitoring Notes: +9ºC, Cloudy

Note: Wind Direction to be noted as the direction wind originates from relative to the observer. Wind Intensity to be described in relative terms (calm, slight breeze, strong gusts, ect).

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Contractor: Atlantic Road Construction and Paving (ARCP)

Location: Former C&D Landfill, 1275 Old Sambro Road, Harrietsfield, Nova Scotia

Week Day: Thursday **Date:** Apr 08, 2021 **Report #:** 147

Weather: Cloud - Sun

Temperature: 16 °C (Max) 4 °C (Min) **Precipitation :** 0.00 mm

Work Start: 8:00 AM **Work End:** 3:45 PM

AECOM Staff Onsite
(attach list if required)

Name	Position	Name	Position
David Bugden (DB)	Engineer		
Justin Ogden (JO)	EIT		

Contractor Major Equipment List
(attach list if required)

No	Description	Size	Comments

Erosion and Sediment Control Inspection(s)

7:45	No additional erosion observed.
13:00	No additional erosion observed.

Safety Observations

Report Attachments

X	**Daily Photographic Record**		
X	**Daily Air Quality Monitoring**		

Report By:	**AECOM:** David Bugden
Distribution:	**NSLI:** Wilfred Kaiser, Donnie Burke, Trish Larade **AECOM:** Rob McCullough, Derek Heath, Rory Mcneil, Cody Sipkema, Steve Johnson, Miln Harvey, Dana McEachren

AECOM

Project Daily Report

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002

Chronological Account of Day's Work:

07:20	DB arrives onsite.
07:45	DB completes air quality monitoring, and site tour to observe water and silt conditions.
08:30	JO arrives onsite.
08:30	DB and JO prepare equipment and bottle for bi weekly surface water sampling.
10:30	ARCP (paul) arrives onsite. ARCP disconnects 3" water pumps and stores them in job trailer.
11:30	Surface water sampling completed.
12:15	JO leaves site, surface water samples delivered to the lab.
14:00	DB completes air quality monitoring.
14:30	DB leaves site.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 1: Landfill cell looking East.



Photo 2: Rocks exposed in the landfill cap.

AECOM	Daily Photographic Record	
	Client:	Nova Scotia Lands Inc. (NSLI)
	Project:	Harrietsfield Construction Oversight
	Project Number:	60639002



Photo 3: Looking west from landfill cell.



Photo 4: Looking North from landfill cell.

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 08, 2021 (Thu)

Odour Monitoring Locations (Site Map):



Daily Monitoring Notes:

AECOM

Daily Air Quality Monitoring

Client:	Nova Scotia Lands Inc. (NSLI)
Project:	Harrietsfield Construction Oversight
Project Number:	60639002
Date:	Apr 08, 2021 (Thu)

Location ID	Location Description	Time (hh:mm)	Wind Direction [1)]	Wind Intensity [1)]	H2S (ppm)	Detectable odours and relative intensity (0 to 10)
Morning						
AQM-001	South (S)	7:41	N	11 km/hr winds with gusts to27 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	7:44			0.0	No odours (0)
AQM-003	East (E)	7:46			0.0	No odours (0)
AQM-004	Northeast (NE)	7:47			0.0	No odours (0)
AQM-005	North (N)	7:51			0.0	No odours (0)
Morning Monitoring Notes: 3ºC, Fog						
Afternoon						
AQM-001	South (S)	14:07	N	16 km/hr winds with gusts to 33 km/hr	0.0	No odours (0)
AQM-002	Southeast (SE)	14:09			0.0	No odours (0)
AQM-003	East (E)	14:11			0.0	No odours (0)
AQM-004	Northeast (NE)	14:12			0.0	No odours (0)
AQM-005	North (N)	14:16			0.0	No odours (0)
Afternoon Monitoring Notes: 16ºC, Sun						

Note: Wind Direction to be noted as the direction wind originates from relative to the observer. Wind Intensity to be described in relative terms (calm, slight breeze, strong gusts, ect).

AECOM Imagine it. Delivered.

AECOM Canada Ltd.
1701 Hollis Street
SH400 (PO Box 576 CRO)
Halifax, NS B3J 3M8
Canada

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F: 902.428.2031
aecom.com

To: Wilfred Kaiser, P.Eng.
Nova Scotia Lands

CC:

Project #:
60639002

From:
Derek Heath, P.Geo.
Jack Brand, M. Eng., P. Eng.
Bill Trenouth, Ph.D., P.Eng., CAN-CISEC

Date:
May 4 2021

Memorandum

Subject: Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control

Nova Scotia Environment (NSE) issued an Inspection Report/ Compliance Update and an associated Environmental Directive to Nova Scotia Lands Inc. (Client), along with a one-week extension, regarding suspected silt or sediment leaving the former RDM Recycling Limited property (site) located at 1275 Old Sambro Road. This NSE report and directive were issued as a follow-up to an Erosion and Sediment Control Plan (ESCP) Memo (AECOM, April 9, 2021). The below text is considered to be the Nova Scotia Lands Inc. (NSLI) and AECOM Canada Ltd. (AECOM) response to the NSE report and directive provided in **Appendix A.**

The ESCP shall be revised and resubmitted to address the following NSE comments:

1. A date by which the final cap shall be installed.

   NSLI/ AECOM Response: Based on the most recent contractor submitted schedule - August 21, 2021.

2. Once soil and sediment on the site is stabilized, drainage from interceptor trenches upgradient of the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead is diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.

   NSLI/ AECOM Response: The previously provided Erosion and Sediment Control Plan (ESCP) was intended to be implemented during contractor earthworks construction activities. The ESCP measures implemented during the site construction phase are considered to be temporary control measures until the site surface conditions are re-stabilize, which will not be complete until the final cap is installed on the landfill cell and the establishment of surface vegetation regrowth. Once the subject site has restabilized, the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead water will be diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.

3. Once soil and sediment on the site is stabilized, the blanks shall be removed from the groundwater interceptor trench and discharge piping, such that the groundwater interceptor trench functions as originally designed.

   NSLI/ AECOM Response: Agreed

4. Water accumulating in the sedimentation pond proposed east of the cell shall be tested for a determination of whether it is impacted water, prior to initial discharge. Impacted water shall be managed as per the requirements of Approval #2020-2664911-00. If it is not impacted water, discharge from the pond shall be added to the site surface water quality monitoring program as per the requirements of the Approval.

NSLI/ AECOM Response:
On April 22, 2021, water within the sedimentation basin located east of the cell was tested for the analytical parameters listed within Table 1 of Approval #2020-2664911-00. Analytical results **(Appendix B)** associated with this surface water sample exceed the groundwater infiltration performance criteria listed within Table 1 of Approval #2020-2664911-00 for the following analytical parameters: TDS, Hardness, Total Alkalinity, COD, Chloride, TOC, Aluminum, Calcium, Iron, Manganese and Uranium. It should be noted that COD, TOC, Aluminum and Iron levels are considered to within background concentrations for surface water. Based on historical surface water analytical data for the immediately downgradient SW19-01 sample location with respect to the above noted analytical parameters that exceeded groundwater infiltration performance criteria (TDS, Hardness, Total Alkalinity, COD, Chloride, TOC, Aluminum, Calcium, Iron, Manganese and Uranium), these parameter concentrations are similar or lower than their respective concentrations before on-site construction activities commenced at the subject property, with the exception of Aluminum, Manganese and Uranium concentrations. Also, historical surface water analytical data for the immediately downgradient SW19-01 sample location suggest that uranium concentrations in surface water will diminish well below the above noted groundwater infiltration performance criteria along with provincial and federal drinking water criteria once the subject site is stabilized.

With respect to revising the ESCP document, NSLI/ AECOM has the following response:

Following the most recent Environmental Directive issued by Nova Scotia Environment (April 20, 2021), AECOM has determined that an ESC basin complete with a piped outlet cannot meet the recent effluent quality criteria set forth in the Directive. The ESCP plan update (April 9, 2021) identified the design of the ESC basin to assist with settling sediments transported from disturbed and unstable surfaces upslope of the site outlet where the proposed basin was to be sited. However, due to construction limitations identified by ARCP as well as the additional Environmental Directive, which stipulates adherence to strict effluent criteria that cannot be practically achieved using a sedimentation basin, AECOM has concluded that the basin construction no longer constitutes a viable ESCP option.

During multiple recent site visits, it was observed that soils and sloped areas upgradient of the subject outlet have not been stabilized by the contractor, as demonstrated by a number of large rills (approximately 300 mm deep in some locations), channelization within the low-lying areas, and the presence of a large quantity of silt deposited adjacent to the then collapsed silt fencing. The accumulated sediment has since been removed from the basin area and the collapsed fencing repaired. All efforts will be focused on stabilizing the upstream areas as described to mitigate the transport of sediments to the outlet, and efforts will include effective monitoring, maintenance and correction for any and all required ESC measures for the entire site affected by construction activities. This also includes observing weather forecasts in order to facilitate effective planning and to ensure all required ESC measures are installed and in good working order prior to and after any significant rainfall event. Furthermore, regular inspection and maintenance must be completed in order to facilitate the removal and safe disposal of accumulated sediments. Additionally, emergency contingency measures - such as pumps and hoses as well as equipment to correct and prevent failure - is required as per AECOM reporting and Nova Scotia Environment approvals.

Given the elimination of the ESC basin (due to the above noted restrictions), the Contractor is to provide any and all necessary ESC and emergency response measures until such time that the site has been adequately stabilized in order to eliminate the discharge of sediments. The Contractor must:

- Stabilize the upstream areas through application of robust erosion control measures to mitigate against sediment detachment and transport from the site as required;
- Correct and repair any rilling and channelization that has formed as a result of erosion which has occurred to date in the absence of preventative and corrective maintenance;
- Adhere to all requirements set forth by Contract Specifications:
    - 01 35 43 – Environmental Procedures;

1.6 Drainage

.1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.

.2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.

.3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

.4 The Contractor shall provide erosion control devices such as silt fences as required to satisfy local authority requirements, or as directed by the Owner or Consultant.

.5 Suspended sediment controls shall be applied to all water discharged from the site, to the satisfaction of regulators and/or the Owner and Consultant.

1.8 Pollution Control

.1 Maintain temporary erosion and pollution control features installed under this contract.

.2 Control emissions from equipment and plant to local authorities' emission requirements.

.3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

- 01 51 00 – Temporary Utilities;

3.1 Temporary Erosion and Sedimentation Control

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

1.6 Protection

.1 Erosion, sediment and drainage controls shall be maintained during all stages of work.

.2 At the conclusion of the work, remove the erosion, sediment and drainage controls, as directed by the Consultant.

.3 Restore and grade all areas affected by erosion, sediment and drainage controls.

- Comply with any and all ESC documentation submitted by AECOM as per Nova Scotia Environment permitting and Directives.

A revised ESCP Plan is provided in **Appendix C.**

With respect to NSLI/ AECOM providing detailed inspection report of the erosion and sedimentation for the below noted compliance item within the attached NSE document:

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream. In accordance with Section 7(f) of the Approval, the Approval Holder shall submit to the Department a detailed inspection report of the erosion and sedimentation controls at the site including

recommendations to be taken to correct any deficiencies noted in the report.

NSLI/ AECOM will provide copies of our daily reports completed for the site on a flash drive via mail, as these documents are too large to submit via email. Recommendations taken to correct any ESCP deficiencies were conveyed to the contractor site manager both verbally and by email communication requesting the contractor to follow the direction provided in the ESCP.

Appendix A

Nova Scotia Environment Documentation

NOVA SCOTIA
Environment

30 Damascus Road, Suite 115
Bedford, N.S.B4A 0C1

Phone: (902) 424-7773
Fax: (902) 424-0597

Process RSN Number: 14240345

INSPECTION REPORT
Compliance Update

APPLICATION/APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Nova Scotia Lands Inc. (c/o Wilfred Kaiser)
APPLICATION/APPROVAL NUMBER:	2020-2664911-00
INSPECTION DATE:	April 20, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

OVERVIEW OF INSPECTION

Inspector O'Brien received the Erosion and Sediment Control Plan (ESCP) on April 9, 2021 from Derek Health, AECOM.

The ESCP was reviewed and was deemed insufficient. The ESCP shall be revised and resubmitted to address the following:

- A date by which the final cap shall be installed.
- Once soil and sediment on the site is stabilized, drainage from interceptor trenches upgradient of the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead is diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.
- Once soil and sediment on the site is stabilized, the blanks shall be removed from the groundwater interceptor trench and discharge piping, such that the groundwater interceptor trench functions as originally designed.
- Water accumulating in the sedimentation pond proposed east of the cell shall be tested for a determination of whether it is impacted water, prior to initial discharge. Impacted water shall be managed as per the requirements of Approval #2020-2664911-00. If it is not impacted water, discharge from the pond shall be added to the site surface water quality monitoring program as per the requirements of the Approval.

Inspector O'Brien will issue a Compliance Update.

COMPLIANCE ITEMS

In order to ensure compliance with the Environment Act and Regulations, the following items must be addressed:

Item # 14196849-003 *Environment Act 122A(1)*

An inspector may issue a directive to a person requiring the person to take such measures in accordance with clause 71(b) as the inspector may specify, furnish the inspector with information in accordance with

clause 118(b), detain a thing in accordance with subclause 119(1)(g)(i), produce a document in accordance with clause 119(1)(h), or take any action prescribed by the regulations in any circumstance prescribed by the regulations.

In order to comply with this section you must:

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream.In accordance with Section 7(f) of the Approval, the Approval Holder shall submit to the Department a detailed inspection report of the erosion and sedimentation controls at the site including recommendations to be taken to correct any deficiencies noted in the report.

Item #14196849-003 was complied with on April 20, 2021

Item # 14196849-001 *Environment Act 67(2)*

No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.

In order to comply with this section you must:

Comply with the attached Directive

Item #14196849-001 must be complied with by April 27, 2021

This inspection report was prepared on April 21, 2021 by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone:(902) 424-7773
Fax: (902) 424-0597
http://www.gov.ns.ca/nse

NOVA SCOTIA
Environment

30 Damascus Road, Suite 115
Bedford, N.S.B4A 0C1

Phone: (902) 424-7773
Fax: (902) 424-0597

Process RSN Number: 14240345

Environment Act
DIRECTIVE

APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Nova Scotia Lands Inc. (c/o Wilfred Kaiser)
APPROVAL NUMBER:	2020-2664911-00
DATE ISSUED:	April 21, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

Pursuant to Environment Act 122A(1) the following action(s) must be completed by April 27, 2021

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream. Submit an updated sediment and erosion control plan to the Department. Implement sediment and erosion controls that will address the issues identified at the site during our inspection (above) and deficiencies identified in the Approval Holders Erosion and Sedimentation Controls inspection report carried out pursuant to Section 7(f) of the Approval (see attached Directive).
**********After review, the April 9, 2021, ESCP is insufficient. The ESCP shall be revised and resubmitted to address the following:- A date by which the final cap shall be installed.- Once soil and sediment on the site is stabilized, drainage from interceptor trenches upgradient of the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead is diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.- Once soil and sediment on the site is stabilized, the blanks shall be removed from the groundwater interceptor trench and discharge piping, such that the groundwater interceptor trench functions as originally designed. - Water accumulating in the sedimentation pond proposed east of the cell shall be tested for a determination of whether it is impacted water, prior to initial discharge. Impacted water shall be managed as per the requirements of Approval #2020-2664911-00. If it is not impacted water, discharge from the pond shall be added to the site surface water quality monitoring program as per the requirements of the Approval.

The action(s) outlined in this Directive are the minimum required. Additional actions may be needed to address the non-compliance item(s) identified in this report. Where necessary, you may need to secure the services of a firm/person with sufficient knowledge, experience, and certification to address any item (s) of non-compliance.

Be advised that failing to undertake all action(s) within the time frame specified in this Directive is an offence and may result in further enforcement. An investigation involving the non-compliance item(s) identified in this report continues and is separate from the requirements of this Directive.

This Directive was issued by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment, who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone: (902) 424-7773
Fax: (902) 424-0597
http://www.gov.ns.ca/nse

****

Supporting text where applicable:

Prohibition s.67 - (1) No person shall knowingly release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.(2) No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations. Environment Act 1994-95, c. 1

Duty to take remedial measures s.71 - Any person responsible for the release of a substance under this Part shall, at that person's own cost, and as soon as that person knows or ought to have known of the release of a substance into the environment that has caused, is causing or may cause an adverse effect, (a) take all reasonable measures to(i) prevent, reduce and remedy the adverse effects of the substance, and (ii) remove or otherwise dispose of the substance in such a manner as to minimize adverse effects; (b) take any other measures required by an inspector or an administrator; and (c) rehabilitate the environment to a standard prescribed or adopted by the Department. Environment Act 1994-95, c. 1

Assistance to inspectors s.118 - The owner or occupier of any place, or any person the inspector reasonably believes is related to or associated with any activity at the place, in respect of which an inspector is exercising powers or carrying out duties pursuant to this Part shall(a)give the inspector all reasonable assistance to enable the inspector to exercise those powers and carry out those duties(b) furnish all information relative to the exercising of those powers and the carrying out of those duties that the inspector may reasonably require. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120, may, at any reasonable time, (g) where the inspector believes that any thing may release, is releasing or has released into the environment a substance that may cause, is causing or has caused an adverse effect,(i) require the person having care, management or control of the thing to detain the thing at the place where it is found. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120, may, at any reasonable time (h) require the production of any documents that are required to be kept pursuant to this Act or any other documents that are related to the purpose for which the inspector is exercising any power under clauses (a) to (g). Environment Act, 1994-95, c.1

Inspector Directives s. 122A (1) - An inspector may issue a directive to a person requiring the person to
(a) take such measures in accordance with clause 71(b) as the inspector may specify;
(b) furnish the inspector with information in accordance with clause 118(b);
(c) detain a thing in accordance with subclause 119(1)(g)(i);
(d) produce a document in accordance with clause 119(1)(h); or
(e) take any action prescribed by the regulations in any circumstance prescribed by the regulations.
(2) A directive is not subject to appeal or review under this Act. Environment Act, 1994-95, c.1

NOVA SCOTIA
Environment

30 Damascus Road, Suite 115
Bedford, N.S.B4A 0C1

Phone: (902) 424-7773
Fax: (902) 424-0597

Process RSN Number: 14250994

INSPECTION REPORT
Compliance Update

APPLICATION/APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Nova Scotia Lands Inc (c/o Wilfred Kaiser)
APPLICATION/APPROVAL NUMBER:	2020-2664911-00
INSPECTION DATE:	April 27, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

OVERVIEW OF INSPECTION

April 26, 2021:
"Good Afternoon Kelsey,

With respect to the attached compliance update document, we (NSLI and AECOM) would like to request a one (1) week time extension on the NSE submission deadline (Tuesday, April 27), since the surface water sample (collected from the new pond east of the landfill cell) lab report, to confirm whether or not impacted water conditions exist within this pond, will not be available until later this week, as the H2S parameter within this analytical package is analyzed at the BV Calgary lab location.

Please advise as soon as possible on this matter.

Thank you,
Derek
"

Inspector O'Brien will issue 1 week extn.

COMPLIANCE ITEMS

In order to ensure compliance with the Environment Act and Regulations, the following items must be addressed:

Item # 14196849-001 *Environment Act 67(2)*

No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.

In order to comply with this section you must:

Comply with the attached Directive

Item #14196849-001 must be complied with by May 4, 2021

This inspection report was prepared on April 27, 2021 by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
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30 Damascus Road, Suite 115
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Phone: (902) 424-7773
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Process RSN Number: 14250994

Environment Act
DIRECTIVE

APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Nova Scotia Lands Inc (c/o Wilfred Kaiser)
APPROVAL NUMBER:	2020-2664911-00
DATE ISSUED:	April 27, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

Pursuant to Environment Act 122A(1) the following action(s) must be completed by May 4, 2021

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream. Submit an updated sediment and erosion control plan to the Department. Implement sediment and erosion controls that will address the issues identified at the site during our inspection (above) and deficiencies identified in the Approval Holders Erosion and Sedimentation Controls inspection report carried out pursuant to Section 7(f) of the Approval (see attached Directive).
**********After review, the April 9, 2021, ESCP is insufficient. The ESCP shall be revised and resubmitted to address the following:- A date by which the final cap shall be installed.- Once soil and sediment on the site is stabilized, drainage from interceptor trenches upgradient of the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead is diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.- Once soil and sediment on the site is stabilized, the blanks shall be removed from the groundwater interceptor trench and discharge piping, such that the groundwater interceptor trench functions as originally designed. - Water accumulating in the sedimentation pond proposed east of the cell shall be tested for a determination of whether it is impacted water, prior to initial discharge. Impacted water shall be managed as per the requirements of Approval #2020-2664911-00. If it is not impacted water, discharge from the pond shall be added to the site surface water quality monitoring program as per the requirements of the Approval.

The action(s) outlined in this Directive are the minimum required. Additional actions may be needed to address the non-compliance item(s) identified in this report. Where necessary, you may need to secure the services of a firm/person with sufficient knowledge, experience, and certification to address any item (s) of non-compliance.

Be advised that failing to undertake all action(s) within the time frame specified in this Directive is an offence and may result in further enforcement. An investigation involving the non-compliance item(s) identified in this report continues and is separate from the requirements of this Directive.

This Directive was issued by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment, who may be contacted at:

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30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone: (902) 424-7773
Fax: (902) 424-0597
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****

Supporting text where applicable:

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Appendix B

Laboratory Analytical Data for Sedimentation Basin

Your Project #: 60639002
Site Location: HARRIETSFILED
Your C.O.C. #: D 52681

Attention: Derek Heath

AECOM Canada Ltd
1701 Hollis St
SH400
Halifax , NS
CANADA B3J 3M8

Report Date: 2021/05/03
Report #: R6618790
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1A8038
Received: 2021/04/22, 15:51

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	1	N/A	2021/04/26	N/A	SM 23 4500-CO2 D
Alkalinity	1	N/A	2021/04/26	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	1	N/A	2021/04/26	ATL SOP 00014	SM 23 4500-Cl- E m
Chemical Oxygen Demand (COD)	1	2021/04/23	2021/04/23	ATL SOP 00042	SM 23 5220D m
Colour	1	N/A	2021/04/26	ATL SOP 00020	SM 23 2120C m
Chromium (VI) in Water (1)	1	N/A	2021/04/26	CAM SOP-00436	EPA 7199 m
Conductance - water	1	N/A	2021/04/26	ATL SOP 00004	SM 23 2510B m
TEH in Water (PIRI)	1	2021/04/23	2021/04/23	ATL SOP 00113	Atl. RBCA v3.1 m
Hardness (calculated as CaCO3)	1	N/A	2021/04/26	ATL SOP 00048	Auto Calc
Metals Water Total MS	1	2021/04/23	2021/04/26	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	1	N/A	2021/04/27	N/A	Auto Calc.
Anion and Cation Sum	1	N/A	2021/04/27	N/A	Auto Calc.
Sulphide (as H2S) (2)	1	N/A	2021/04/27	Auto Calc	Auto Calc
Total Sulphide (2)	1	N/A	2021/04/27	AB SOP-00080	SM 23 4500 S2-A D Fm
Nitrogen Ammonia - water	1	N/A	2021/04/26	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2021/04/26	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2021/04/26	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2021/04/26	ATL SOP 00018	ASTM D3867-16
pH (3)	1	N/A	2021/04/26	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	1	N/A	2021/04/26	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	1	N/A	2021/04/27	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2021/04/27	ATL SOP 00049	Auto Calc.
Reactive Silica	1	N/A	2021/04/26	ATL SOP 00022	EPA 366.0 m
Sulphate	1	N/A	2021/04/26	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	1	N/A	2021/04/27	N/A	Auto Calc.
Organic carbon - Total (TOC) (4)	1	N/A	2021/04/23	ATL SOP 00203	SM 23 5310B m
ModTPH (T1) Calc. for Water	1	N/A	2021/04/26	N/A	Atl. RBCA v3 m
Total Suspended Solids	1	2021/04/23	2021/04/26	ATL SOP 00007	SM 23 2540D m
Turbidity	1	N/A	2021/04/23	ATL SOP 00011	EPA 180.1 R2 m
VPH in Water (PIRI)	1	N/A	2021/04/23	ATL SOP 00130	Atl. RBCA v3.1 m

Bureau Veritas Laboratories 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.bvlabs.com

Your Project #: 60639002
Site Location: HARRIETSFILED
Your C.O.C. #: D 52681

Attention: Derek Heath

AECOM Canada Ltd
1701 Hollis St
SH400
Halifax , NS
CANADA B3J 3M8

Report Date: 2021/05/03
Report #: R6618790
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1A8038
Received: 2021/04/22, 15:51

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Laboratories Mississauga
(2) This test was performed by BVLabs Calgary via Bedford
(3) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.
(4) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Marie Muise, Key Account Specialist
Email: Marie.MUISE@bureauveritas.com
Phone# (902)420-0203 Ext:253

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C1A8038
Report Date: 2021/05/03

AECOM Canada Ltd
Client Project #: 60639002
Site Location: HARRIETSFILED
Sampler Initials: DH

RESULTS OF ANALYSES OF WATER

BV Labs ID		PJV584			PJV584		
Sampling Date		2021/04/22 14:30			2021/04/22 14:30		
COC Number		D 52681			D 52681		
	UNITS	ABO BASIN	RDL	QC Batch	ABO BASIN Lab-Dup	RDL	QC Batch
Calculated Parameters							
Anion Sum	me/L	12.1	N/A	7314679			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	280	1.0	7314676			
Calculated TDS	mg/L	710	1.0	7314683			
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.0	1.0	7314676			
Cation Sum	me/L	11.6	N/A	7314679			
Hardness (CaCO3)	mg/L	510	1.0	7314677			
Ion Balance (% Difference)	%	2.28	N/A	7314678			
Langelier Index (@ 20C)	N/A	1.05		7314681			
Langelier Index (@ 4C)	N/A	0.802		7314682			
Nitrate (N)	mg/L	0.52	0.050	7314680			
Saturation pH (@ 20C)	N/A	6.83		7314681			
Saturation pH (@ 4C)	N/A	7.07		7314682			
Sulphide (as H2S)	mg/L	0.0054	0.0020	7321806			
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	280	25	7317908			
Total Chemical Oxygen Demand	mg/L	34	20	7314908	26	20	7314908
Dissolved Chloride (Cl-)	mg/L	26	1.0	7318004			
Colour	TCU	18	5.0	7318034			
Nitrate + Nitrite (N)	mg/L	0.54	0.050	7318038			
Nitrite (N)	mg/L	0.017	0.010	7318040			
Nitrogen (Ammonia Nitrogen)	mg/L	0.56	0.050	7318221			
Total Organic Carbon (C)	mg/L	10	0.50	7314819			
Orthophosphate (P)	mg/L	0.41	0.010	7318035			
pH	pH	7.87		7317990			
Reactive Silica (SiO2)	mg/L	11	0.50	7318033			
Total Suspended Solids	mg/L	18	1.0	7315477			
Dissolved Sulphate (SO4)	mg/L	270	10	7318032			
Total Sulphide	mg/L	0.0051	0.0018	7321807			
Turbidity	NTU	16	0.10	7314811			
Conductivity	uS/cm	1000	1.0	7317986			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas Laboratories 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.bvlabs.com

BV Labs Job #: C1A8038
Report Date: 2021/05/03

AECOM Canada Ltd
Client Project #: 60639002
Site Location: HARRIETSFILED
Sampler Initials: DH

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		PJV584		
Sampling Date		2021/04/22 14:30		
COC Number		D 52681		
	UNITS	ABO BASIN	RDL	QC Batch
Metals				
Total Aluminum (Al)	ug/L	580	5.0	7314991
Total Antimony (Sb)	ug/L	1.0	1.0	7314991
Total Arsenic (As)	ug/L	2.7	1.0	7314991
Total Barium (Ba)	ug/L	62	1.0	7314991
Total Beryllium (Be)	ug/L	<1.0	1.0	7314991
Total Bismuth (Bi)	ug/L	<2.0	2.0	7314991
Total Boron (B)	ug/L	610	50	7314991
Total Cadmium (Cd)	ug/L	0.065	0.010	7314991
Total Calcium (Ca)	ug/L	170000	100	7314991
Total Chromium (Cr)	ug/L	1.1	1.0	7314991
Total Cobalt (Co)	ug/L	1.3	0.40	7314991
Total Copper (Cu)	ug/L	5.0	0.50	7314991
Total Iron (Fe)	ug/L	760	50	7314991
Total Lead (Pb)	ug/L	0.51	0.50	7314991
Total Magnesium (Mg)	ug/L	19000	100	7314991
Total Manganese (Mn)	ug/L	1400	2.0	7314991
Total Molybdenum (Mo)	ug/L	2.8	2.0	7314991
Total Nickel (Ni)	ug/L	3.0	2.0	7314991
Total Phosphorus (P)	ug/L	490	100	7314991
Total Potassium (K)	ug/L	14000	100	7314991
Total Selenium (Se)	ug/L	<0.50	0.50	7314991
Total Silver (Ag)	ug/L	<0.10	0.10	7314991
Total Sodium (Na)	ug/L	22000	100	7314991
Total Strontium (Sr)	ug/L	660	2.0	7314991
Total Thallium (Tl)	ug/L	<0.10	0.10	7314991
Total Tin (Sn)	ug/L	<2.0	2.0	7314991
Total Titanium (Ti)	ug/L	21	2.0	7314991
Total Uranium (U)	ug/L	140	0.10	7314991
Total Vanadium (V)	ug/L	2.3	2.0	7314991
Total Zinc (Zn)	ug/L	16	5.0	7314991

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C1A8038
Report Date: 2021/05/03

AECOM Canada Ltd
Client Project #: 60639002
Site Location: HARRIETSFILED
Sampler Initials: DH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID		PJV584		
Sampling Date		2021/04/22 14:30		
COC Number		D 52681		
	UNITS	ABO BASIN	RDL	QC Batch
Metals				
Chromium (VI)	ug/L	0.57	0.50	7313662

RDL = Reportable Detection Limit
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BV Labs Job #: C1A8038
Report Date: 2021/05/03

AECOM Canada Ltd
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Site Location: HARRIETSFILED
Sampler Initials: DH

ATLANTIC RBCA HYDROCARBONS (WATER)

BV Labs ID		PJV584			PJV584		
Sampling Date		2021/04/22 14:30			2021/04/22 14:30		
COC Number		D 52681			D 52681		
	UNITS	ABO BASIN	RDL	QC Batch	ABO BASIN Lab-Dup	RDL	QC Batch
Petroleum Hydrocarbons							
Benzene	mg/L	<0.0010	0.0010	7315012	<0.0010	0.0010	7315012
Toluene	mg/L	<0.0010	0.0010	7315012	<0.0010	0.0010	7315012
Ethylbenzene	mg/L	<0.0010	0.0010	7315012	<0.0010	0.0010	7315012
Total Xylenes	mg/L	<0.0020	0.0020	7315012	<0.0020	0.0020	7315012
C6 - C10 (less BTEX)	mg/L	<0.090	0.090	7315012	<0.090	0.090	7315012
>C10-C16 Hydrocarbons	mg/L	<0.050	0.050	7315384			
>C16-C21 Hydrocarbons	mg/L	<0.050	0.050	7315384			
>C21-<C32 Hydrocarbons	mg/L	<0.090	0.090	7315384			
Modified TPH (Tier1)	mg/L	<0.090	0.090	7314659			
Reached Baseline at C32	mg/L	NA	N/A	7315384			
Hydrocarbon Resemblance	mg/L	NA	N/A	7315384			
Surrogate Recovery (%)							
Isobutylbenzene - Extractable	%	91		7315384			
n-Dotriacontane - Extractable	%	80		7315384			
Isobutylbenzene - Volatile	%	108		7315012	106		7315012

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Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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BV Labs Job #: C1A8038
Report Date: 2021/05/03

AECOM Canada Ltd
Client Project #: 60639002
Site Location: HARRIETSFILED
Sampler Initials: DH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.7°C

Revised Report: Change sample ID from ABO Pond to ABO Basin as requested by Derek Heath. 2021/05/03 MMC

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7313662	LLE	Matrix Spike	Chromium (VI)	2021/04/26		97	%	80 - 120
7313662	LLE	Spiked Blank	Chromium (VI)	2021/04/26		99	%	80 - 120
7313662	LLE	Method Blank	Chromium (VI)	2021/04/26	<0.50		ug/L	
7313662	LLE	RPD	Chromium (VI)	2021/04/26	NC		%	20
7314811	SHW	QC Standard	Turbidity	2021/04/23		102	%	80 - 120
7314811	SHW	Spiked Blank	Turbidity	2021/04/23		99	%	80 - 120
7314811	SHW	Method Blank	Turbidity	2021/04/23	<0.10		NTU	
7314811	SHW	RPD	Turbidity	2021/04/23	0.22		%	20
7314819	YLG	Matrix Spike	Total Organic Carbon (C)	2021/04/23		93	%	85 - 115
7314819	YLG	Spiked Blank	Total Organic Carbon (C)	2021/04/23		96	%	80 - 120
7314819	YLG	Method Blank	Total Organic Carbon (C)	2021/04/23	<0.50		mg/L	
7314819	YLG	RPD	Total Organic Carbon (C)	2021/04/23	NC		%	15
7314908	ZZH	Matrix Spike [PJV584-06]	Total Chemical Oxygen Demand	2021/04/23		103	%	80 - 120
7314908	ZZH	QC Standard	Total Chemical Oxygen Demand	2021/04/23		100	%	80 - 120
7314908	ZZH	Spiked Blank	Total Chemical Oxygen Demand	2021/04/23		104	%	80 - 120
7314908	ZZH	Method Blank	Total Chemical Oxygen Demand	2021/04/23	<20		mg/L	
7314908	ZZH	RPD [PJV584-06]	Total Chemical Oxygen Demand	2021/04/23	24		%	25
7314991	BAN	Matrix Spike	Total Aluminum (Al)	2021/04/24		88	%	80 - 120
			Total Antimony (Sb)	2021/04/24		98	%	80 - 120
			Total Arsenic (As)	2021/04/24		86	%	80 - 120
			Total Barium (Ba)	2021/04/24		83	%	80 - 120
			Total Beryllium (Be)	2021/04/24		95	%	80 - 120
			Total Bismuth (Bi)	2021/04/24		87	%	80 - 120
			Total Boron (B)	2021/04/24		NC	%	80 - 120
			Total Cadmium (Cd)	2021/04/24		86	%	80 - 120
			Total Calcium (Ca)	2021/04/24		NC	%	80 - 120
			Total Chromium (Cr)	2021/04/24		88	%	80 - 120
			Total Cobalt (Co)	2021/04/24		89	%	80 - 120
			Total Copper (Cu)	2021/04/24		84	%	80 - 120
			Total Iron (Fe)	2021/04/24		94	%	80 - 120
			Total Lead (Pb)	2021/04/24		87	%	80 - 120
			Total Magnesium (Mg)	2021/04/24		NC	%	80 - 120
			Total Manganese (Mn)	2021/04/24		NC	%	80 - 120
			Total Molybdenum (Mo)	2021/04/24		NC	%	80 - 120
			Total Nickel (Ni)	2021/04/24		86	%	80 - 120
			Total Phosphorus (P)	2021/04/24		98	%	80 - 120
			Total Potassium (K)	2021/04/24		NC	%	80 - 120
			Total Selenium (Se)	2021/04/24		84	%	80 - 120
			Total Silver (Ag)	2021/04/24		90	%	80 - 120
			Total Sodium (Na)	2021/04/24		NC	%	80 - 120
			Total Strontium (Sr)	2021/04/24		NC	%	80 - 120
			Total Thallium (Tl)	2021/04/24		89	%	80 - 120
			Total Tin (Sn)	2021/04/24		96	%	80 - 120
			Total Titanium (Ti)	2021/04/24		92	%	80 - 120
			Total Uranium (U)	2021/04/24		92	%	80 - 120
			Total Vanadium (V)	2021/04/24		94	%	80 - 120
			Total Zinc (Zn)	2021/04/24		86	%	80 - 120
7314991	BAN	Spiked Blank	Total Aluminum (Al)	2021/04/24		101	%	80 - 120
			Total Antimony (Sb)	2021/04/24		102	%	80 - 120
			Total Arsenic (As)	2021/04/24		92	%	80 - 120
			Total Barium (Ba)	2021/04/24		94	%	80 - 120
			Total Beryllium (Be)	2021/04/24		100	%	80 - 120
			Total Bismuth (Bi)	2021/04/24		100	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Boron (B)	2021/04/24		99	%	80 - 120
			Total Cadmium (Cd)	2021/04/24		92	%	80 - 120
			Total Calcium (Ca)	2021/04/24		95	%	80 - 120
			Total Chromium (Cr)	2021/04/24		96	%	80 - 120
			Total Cobalt (Co)	2021/04/24		99	%	80 - 120
			Total Copper (Cu)	2021/04/24		97	%	80 - 120
			Total Iron (Fe)	2021/04/24		107	%	80 - 120
			Total Lead (Pb)	2021/04/24		98	%	80 - 120
			Total Magnesium (Mg)	2021/04/24		114	%	80 - 120
			Total Manganese (Mn)	2021/04/24		99	%	80 - 120
			Total Molybdenum (Mo)	2021/04/24		99	%	80 - 120
			Total Nickel (Ni)	2021/04/24		98	%	80 - 120
			Total Phosphorus (P)	2021/04/24		104	%	80 - 120
			Total Potassium (K)	2021/04/24		101	%	80 - 120
			Total Selenium (Se)	2021/04/24		93	%	80 - 120
			Total Silver (Ag)	2021/04/24		96	%	80 - 120
			Total Sodium (Na)	2021/04/24		110	%	80 - 120
			Total Strontium (Sr)	2021/04/24		98	%	80 - 120
			Total Thallium (Tl)	2021/04/24		99	%	80 - 120
			Total Tin (Sn)	2021/04/24		100	%	80 - 120
			Total Titanium (Ti)	2021/04/24		97	%	80 - 120
			Total Uranium (U)	2021/04/24		106	%	80 - 120
			Total Vanadium (V)	2021/04/24		101	%	80 - 120
			Total Zinc (Zn)	2021/04/24		97	%	80 - 120
7314991	BAN	Method Blank	Total Aluminum (Al)	2021/04/24	<5.0		ug/L	
			Total Antimony (Sb)	2021/04/24	<1.0		ug/L	
			Total Arsenic (As)	2021/04/24	<1.0		ug/L	
			Total Barium (Ba)	2021/04/24	<1.0		ug/L	
			Total Beryllium (Be)	2021/04/24	<1.0		ug/L	
			Total Bismuth (Bi)	2021/04/24	<2.0		ug/L	
			Total Boron (B)	2021/04/24	<50		ug/L	
			Total Cadmium (Cd)	2021/04/24	<0.010		ug/L	
			Total Calcium (Ca)	2021/04/24	<100		ug/L	
			Total Chromium (Cr)	2021/04/24	<1.0		ug/L	
			Total Cobalt (Co)	2021/04/24	<0.40		ug/L	
			Total Copper (Cu)	2021/04/24	<0.50		ug/L	
			Total Iron (Fe)	2021/04/24	<50		ug/L	
			Total Lead (Pb)	2021/04/24	<0.50		ug/L	
			Total Magnesium (Mg)	2021/04/24	<100		ug/L	
			Total Manganese (Mn)	2021/04/24	<2.0		ug/L	
			Total Molybdenum (Mo)	2021/04/24	<2.0		ug/L	
			Total Nickel (Ni)	2021/04/24	<2.0		ug/L	
			Total Phosphorus (P)	2021/04/24	<100		ug/L	
			Total Potassium (K)	2021/04/24	<100		ug/L	
			Total Selenium (Se)	2021/04/24	<0.50		ug/L	
			Total Silver (Ag)	2021/04/24	<0.10		ug/L	
			Total Sodium (Na)	2021/04/24	<100		ug/L	
			Total Strontium (Sr)	2021/04/24	<2.0		ug/L	
			Total Thallium (Tl)	2021/04/24	<0.10		ug/L	
			Total Tin (Sn)	2021/04/24	<2.0		ug/L	
			Total Titanium (Ti)	2021/04/24	<2.0		ug/L	
			Total Uranium (U)	2021/04/24	<0.10		ug/L	
			Total Vanadium (V)	2021/04/24	<2.0		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Zinc (Zn)	2021/04/24	<5.0		ug/L	
7314991	BAN	RPD	Total Aluminum (Al)	2021/04/26	9.2		%	20
			Total Antimony (Sb)	2021/04/26	NC		%	20
			Total Arsenic (As)	2021/04/26	NC		%	20
			Total Barium (Ba)	2021/04/26	3.6		%	20
			Total Beryllium (Be)	2021/04/26	NC		%	20
			Total Bismuth (Bi)	2021/04/26	NC		%	20
			Total Boron (B)	2021/04/26	NC		%	20
			Total Cadmium (Cd)	2021/04/26	NC		%	20
			Total Calcium (Ca)	2021/04/26	3.9		%	20
			Total Chromium (Cr)	2021/04/26	NC		%	20
			Total Cobalt (Co)	2021/04/26	NC		%	20
			Total Copper (Cu)	2021/04/26	NC		%	20
			Total Iron (Fe)	2021/04/26	15		%	20
			Total Lead (Pb)	2021/04/26	NC		%	20
			Total Magnesium (Mg)	2021/04/26	2.9		%	20
			Total Manganese (Mn)	2021/04/26	NC		%	20
			Total Molybdenum (Mo)	2021/04/26	NC		%	20
			Total Nickel (Ni)	2021/04/26	NC		%	20
			Total Phosphorus (P)	2021/04/26	NC		%	20
			Total Potassium (K)	2021/04/26	4.9		%	20
			Total Selenium (Se)	2021/04/26	NC		%	20
			Total Silver (Ag)	2021/04/26	NC		%	20
			Total Sodium (Na)	2021/04/26	6.9		%	20
			Total Strontium (Sr)	2021/04/26	1.2		%	20
			Total Thallium (Tl)	2021/04/26	NC		%	20
			Total Tin (Sn)	2021/04/26	NC		%	20
			Total Titanium (Ti)	2021/04/26	NC		%	20
			Total Uranium (U)	2021/04/26	0.17		%	20
			Total Vanadium (V)	2021/04/26	2.2		%	20
			Total Zinc (Zn)	2021/04/26	NC		%	20
7315012	THL	Matrix Spike	Isobutylbenzene - Volatile	2021/04/23		107	%	70 - 130
			Benzene	2021/04/23		107	%	70 - 130
			Toluene	2021/04/23		102	%	70 - 130
			Ethylbenzene	2021/04/23		102	%	70 - 130
			Total Xylenes	2021/04/23		103	%	70 - 130
7315012	THL	Spiked Blank	Isobutylbenzene - Volatile	2021/04/23		109	%	70 - 130
			Benzene	2021/04/23		101	%	70 - 130
			Toluene	2021/04/23		100	%	70 - 130
			Ethylbenzene	2021/04/23		103	%	70 - 130
			Total Xylenes	2021/04/23		100	%	70 - 130
7315012	THL	Method Blank	Isobutylbenzene - Volatile	2021/04/23		107	%	70 - 130
			Benzene	2021/04/23	<0.0010		mg/L	
			Toluene	2021/04/23	<0.0010		mg/L	
			Ethylbenzene	2021/04/23	<0.0010		mg/L	
			Total Xylenes	2021/04/23	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2021/04/23	<0.090		mg/L	
7315012	THL	RPD [PJV584-08]	Benzene	2021/04/23	NC		%	40
			Toluene	2021/04/23	NC		%	40
			Ethylbenzene	2021/04/23	NC		%	40
			Total Xylenes	2021/04/23	NC		%	40
			C6 - C10 (less BTEX)	2021/04/23	NC		%	40
7315384	MGN	Matrix Spike	Isobutylbenzene - Extractable	2021/04/23		102	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			n-Dotriacontane - Extractable	2021/04/23		91	%	70 - 130
			>C10-C16 Hydrocarbons	2021/04/23		101	%	70 - 130
			>C16-C21 Hydrocarbons	2021/04/23		97	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/04/23		102	%	70 - 130
7315384	MGN	Spiked Blank	Isobutylbenzene - Extractable	2021/04/23		85	%	70 - 130
			n-Dotriacontane - Extractable	2021/04/23		89	%	70 - 130
			>C10-C16 Hydrocarbons	2021/04/23		101	%	70 - 130
			>C16-C21 Hydrocarbons	2021/04/23		99	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/04/23		103	%	70 - 130
7315384	MGN	Method Blank	Isobutylbenzene - Extractable	2021/04/23		90	%	70 - 130
			n-Dotriacontane - Extractable	2021/04/23		84	%	70 - 130
			>C10-C16 Hydrocarbons	2021/04/23	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2021/04/23	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2021/04/23	<0.090		mg/L	
7315384	MGN	RPD	>C10-C16 Hydrocarbons	2021/04/23	NC		%	40
			>C16-C21 Hydrocarbons	2021/04/23	NC		%	40
			>C21-<C32 Hydrocarbons	2021/04/23	40		%	40
7315477	MKX	QC Standard	Total Suspended Solids	2021/04/26		96	%	80 - 120
7315477	MKX	Method Blank	Total Suspended Solids	2021/04/26	<1.0		mg/L	
7315477	MKX	RPD	Total Suspended Solids	2021/04/26	2.7		%	20
7317908	MCN	Matrix Spike	Total Alkalinity (Total as CaCO3)	2021/04/26		NC	%	80 - 120
7317908	MCN	Spiked Blank	Total Alkalinity (Total as CaCO3)	2021/04/26		105	%	80 - 120
7317908	MCN	Method Blank	Total Alkalinity (Total as CaCO3)	2021/04/26	<5.0		mg/L	
7317908	MCN	RPD	Total Alkalinity (Total as CaCO3)	2021/04/26	1.6		%	20
7317986	SHW	Spiked Blank	Conductivity	2021/04/26		100	%	80 - 120
7317986	SHW	Method Blank	Conductivity	2021/04/26	<1.0		uS/cm	
7317986	SHW	RPD	Conductivity	2021/04/26	1.5		%	10
7317990	SHW	Spiked Blank	pH	2021/04/26		100	%	97 - 103
7317990	SHW	RPD	pH	2021/04/26	1.2		%	N/A
7318004	MCN	Matrix Spike	Dissolved Chloride (Cl-)	2021/04/26		NC	%	80 - 120
7318004	MCN	Spiked Blank	Dissolved Chloride (Cl-)	2021/04/26		104	%	80 - 120
7318004	MCN	Method Blank	Dissolved Chloride (Cl-)	2021/04/26	<1.0		mg/L	
7318004	MCN	RPD	Dissolved Chloride (Cl-)	2021/04/26	1.7		%	20
7318032	MCN	Matrix Spike	Dissolved Sulphate (SO4)	2021/04/26		113	%	80 - 120
7318032	MCN	Spiked Blank	Dissolved Sulphate (SO4)	2021/04/26		114	%	80 - 120
7318032	MCN	Method Blank	Dissolved Sulphate (SO4)	2021/04/26	<2.0		mg/L	
7318032	MCN	RPD	Dissolved Sulphate (SO4)	2021/04/26	0.38		%	20
7318033	MCN	Matrix Spike	Reactive Silica (SiO2)	2021/04/26		91	%	80 - 120
7318033	MCN	Spiked Blank	Reactive Silica (SiO2)	2021/04/26		103	%	80 - 120
7318033	MCN	Method Blank	Reactive Silica (SiO2)	2021/04/26	<0.50		mg/L	
7318033	MCN	RPD	Reactive Silica (SiO2)	2021/04/26	0.91		%	20
7318034	MCN	Spiked Blank	Colour	2021/04/26		103	%	80 - 120
7318034	MCN	Method Blank	Colour	2021/04/26	<5.0		TCU	
7318034	MCN	RPD	Colour	2021/04/26	3.1		%	20
7318035	MCN	Matrix Spike	Orthophosphate (P)	2021/04/26		90	%	80 - 120
7318035	MCN	Spiked Blank	Orthophosphate (P)	2021/04/26		93	%	80 - 120
7318035	MCN	Method Blank	Orthophosphate (P)	2021/04/26	<0.010		mg/L	
7318035	MCN	RPD	Orthophosphate (P)	2021/04/26	NC		%	20
7318038	MCN	Matrix Spike	Nitrate + Nitrite (N)	2021/04/26		92	%	80 - 120
7318038	MCN	Spiked Blank	Nitrate + Nitrite (N)	2021/04/26		83	%	80 - 120
7318038	MCN	Method Blank	Nitrate + Nitrite (N)	2021/04/26	<0.050		mg/L	
7318038	MCN	RPD	Nitrate + Nitrite (N)	2021/04/26	2.8		%	20
7318040	MCN	Matrix Spike	Nitrite (N)	2021/04/26		106	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7318040	MCN	Spiked Blank	Nitrite (N)	2021/04/26		105	%	80 - 120
7318040	MCN	Method Blank	Nitrite (N)	2021/04/26	<0.010		mg/L	
7318040	MCN	RPD	Nitrite (N)	2021/04/26	NC		%	20
7318221	MCN	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2021/04/26		95	%	80 - 120
7318221	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2021/04/26		100	%	80 - 120
7318221	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2021/04/26	<0.050		mg/L	
7318221	MCN	RPD	Nitrogen (Ammonia Nitrogen)	2021/04/26	NC		%	20
7321807	PK8	Matrix Spike	Total Sulphide	2021/04/27		90	%	80 - 120
			Total Sulphide	2021/04/27		90	%	80 - 120
7321807	PK8	Spiked Blank	Total Sulphide	2021/04/27		93	%	80 - 120
			Total Sulphide	2021/04/27		93	%	80 - 120
7321807	PK8	Method Blank	Total Sulphide	2021/04/27	<0.0018		mg/L	
			Total Sulphide	2021/04/27	<0.0018		mg/L	

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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BV Labs Job #: C1A8038
Report Date: 2021/05/03

AECOM Canada Ltd
Client Project #: 60639002
Site Location: HARRIETSFILED
Sampler Initials: DH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

Mike MacGillivray, Scientific Specialist (Inorganics)

Phil Deveau, Scientific Specialist (Organics)

Sandy (Wei) Yuan, M.Sc., QP, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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CHAIN OF CUSTODY RECORD

COC #: D 52681 Page 1 of 1

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: AECOM Canada Ltd.	Company Name: Same	Quotation #:	☐ Regular TAT (5 business days) Most analyses
Contact Name: Derek Heath	Contact Name:	Purchase Order#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 1701 Hollis St. Suite 400 Hfx, NS PC:	Address: PC:	Project #: 60639002	IF RUSH please specify date (Surcharges will be applied)
Phone: (902) 233-1674	Phone:	Site Location: HARRIETSFIELD	DATE REQUIRED: RUSH
Email: derek.heath@aecom.com	Email:	Site Province: NS	
Report Copies:	Report Copies:	Site #: -	
		Sampled By: DH	

| Laboratory Use Only | | | | Analysis Requested | | | |

Appendix C

Erosion and Sediment Control Plan

ANSI B 279.4mm x 431.8mm
Approved: ____
Checked: ____
Designer: ____
Project Management Initials: ____
Last saved by: FIERHELLER,I (2021-02-26) Last Plotted: 2021-02-26
Filename: L:\LEGACY\CAEDM1FP0011\PROD\PROJECTS\60639002\910-CAD\30-FIGURES\B\02\60639002-FIG-02-0000-B-0001.DWG

250 mm-tall compost biofilter check dam
Re-grading and rolled-erosion control (RECP)
Heavy-duty silt fencing (Type 2)
450 mm-tall rock check dam (HS707) (20 m spacing)
Turbidity curtain.

N

Divert flow from west to south channel (new)

Clean drainage - no sediment issues

Culvert Collapse - correct barrel and erosion

RECP & re-grading

EROSION CONTROL AREA

EROSION CONTROL AREA

EROSION CONTROL AREA

RECP & re-grading

Ex. Straw Bale Berm

EROSION CONTROL AREA

Compost biofilter U/S of Culvert Inlets

Removal of rills and gullies on side slopes and channel. Re-grading required.
Stabilize with machine tracking (parallel to contours, perpendicular to flow), crimped straw on bare surface overlain with RECP matting. Biofilter check dams in concentrated flow areas.

EROSION CONTROL AREA

Fix pond "blow-out", hole in pond berm, block outlet

Turbidity curtain along shoreline adja-cent to site

0 50 100 m
1:2000

RECP & re-grading

Double row of HD silt fencing - reinforced with 4"x4" posts

Former Harriertsfield C&D Landfill
Erosion Control Plan
Nova Scotia Lands Inc.
Project No.: 60639002 Date: 2021-05-04

Surface Water Management and Erosion Control Plan

AECOM

Figure: 1

Appendix D

AECOM Daily Inspection Reports

TO BE PROVIDED TO NSE SEPARATELY ON FLASH DRIVE VIA MAIL

AECOM Canada Ltd.
1701 Hollis Street
SH400 (PO Box 576 CRO)
Halifax, NS B3J 3M8
Canada

T: 902 428 2021
F: 902 428 2031
www.aecom.com

Wilfred Kaiser, P.Eng.
Project Director
Nova Scotia Lands Inc.
Harbourside Place
45 Wabana Court
Sydney, Nova Scotia, Canada

May 20, 2021

Project #
60639002

Dear Mr. Kaiser:

Subject: Harrietsfield C&D Landfill: Cap Replacement and Site Closure – Erosion and Sediment Control (Update)

On May 6, 2021, Nova Scotia Environment (NSE) issued an Inspection Report (Compliance Update), as well as an Environmental Directive to Nova Scotia Lands Inc. (NSLI), regarding suspected silt or sediment leaving the former RDM Recycling Limited property (site) located at 1275 Old Sambro Road. The report and directive were issued as a result of construction activities and heavy rains experienced near the end of March 2021, which are suspected of contributing to a sediment release from the site. Refer to the attached Environmental Directive document. *Harrietsfield C&D Landfill: Cap Replacement and Site Closure – Erosion and Sediment Control (Updated)*. As part of the Directive, NSE has requested that that NSLI provide a report from a Professional Engineer to NSE Inspector O'Brien confirming preliminary/short term AECOM/NSLI recommendations have been implemented as per the submitted Harrietsfield C&D Landfill: Cap Replacement and Site Closure – Erosion and Sediment Control (ESC) document (Updated – AECOM, May 4, 2021).

Upon NSLI request, AECOM provided the contractor the above noted updated erosion and sediment control document for implementation purposes. The content of this ESC document includes, but is not limited to, the repair of existing ESC measures, as well as stabilizing exposed slopes in critical areas. The proposed ESC basin located in the low-lying area of former *BDA ABO* was not constructed and instead, rolled erosion control products were laid on the exposed channelized areas in the vicinity of former *BDA ABO* in conjunction with gravel check dams (including gravel-covered straw bale check dams) to reduce the erosivity of the soils. Existing gullies and rills were also corrected. The former BDA ABO basin outlet was reinforced with silt fencing as a temporary ESC measure. The turbidity curtain/boom installed along the shoreline of Sheas Lake has been in place for a number of weeks and is considered to be in good condition and sediment beyond the curtain boundary has not been observed since its installation. Conveyance channels located throughout the site have been generally filled in with rock to reduce erosion and stabilize the channel side slopes.

AECOM has prepared and attached a photolog on behalf of the Client to demonstrate to NSE the work that has been completed as of May 18, 2021 and the site has begun to stabilize as a result. The only remaining portion of the site that has yet to be stabilized is the landfill cell cap area. NSLI/AECOM and the Contractor have been co-ordinating and are preparing the landfill cap area to have the liner installed. The Client is constrained by schedule, and there are no viable options to stabilize the cap in the short-term that would not pose a construction issue at such time the liner is to be installed.

Additionally, the Contractor is still bound contractually, as well as by the NSE approval, to ensure the site is stable prior to, and after, any wet weather events and provide ESC maintenance measures in a timely measure to ensure sediment controls are sufficient to stop sediment from leaving the subject site. This includes continued monitoring and ensuring any exposed soil is stabilized, accumulated sediment is removed and disposed of in a safe manner along with managing ponded water via pumping and filtering prior to discharge. AECOM has been

diligent in documenting site conditions and will continue to do so until the site is fully stabilized, and then the temporary ESC measures can be removed from the site.

We trust the information included herein satisfies the items requested by the compliance letter. If you have any questions, comments, or concerns do not hesitate to contact the undersigned.

Sincerely,
AECOM Canada Ltd.



Jack Brand, M.Eng., P.Eng.
Water Resources Engineer
jack.brand@aecom.com

Attached:

1. NSE Inspection Report Compliance Update
2. AECOM Inspection Photolog

AECOM Imagine it. Delivered.

Appendix A

NSE Inspection Report Compliance Update

NOVA SCOTIA
Environment

30 Damascus Road, Suite 115
Bedford, N.S.B4A 0C1

Phone: (902) 424-7773
Fax: (902) 424-0597

Process RSN Number: 14271825

INSPECTION REPORT
Compliance Update

APPLICATION/APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Nova Scotia Lands Inc (c/o Wilfred Kaiser)
APPLICATION/APPROVAL NUMBER:	2020-2664911-00
INSPECTION DATE:	May 06, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

OVERVIEW OF INSPECTION

Based on the Directive issued by Jeff Dodd on March 31, 2021, and the Compliance Update issued by Kelsey O'Brien on April 27, 2021, the Department has received final comments/responses from NSLI and AECOM: Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control (Updated)", AECOM and NSLI, April 9, 2021, and Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control" AECOM and NSLI, May 4, 2021.

1. As per the above Directives, the Department is issuing a Compliance Update to implement these Erosion and Sediment Control Measures. Provide a report from a P.Eng to Inspector O'Brien confirming all AECOM/NSLI recommendations have been implemented as per the submitted Erosion and Sediment Control document. This includes confirmation of the final capping.

2. As per the above Directives, the Department is issuing a Compliance Update to implement these Erosion and Sediment Control Measures. Provide a report from a P.Eng to Inspector O'Brien confirming preliminary/short term AECOM/NSLI recommendations have been implemented as per the submitted Erosion and Sediment Control document. This includes confirmation of correction/repair of ESC that were damaged or destroyed that led to the March 2021 siltation event.

COMPLIANCE ITEMS

In order to ensure compliance with the Environment Act and Regulations, the following items must be addressed:

Item # 14196849-001 *Environment Act 67(2)*

No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.

In order to comply with this section you must:

Comply with the attached Directive

Item #14196849-001 must be complied with by August 31, 2021

This inspection report was prepared on May 06, 2021 by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone:(902) 424-7773
Fax: (902) 424-0597
http://www.gov.ns.ca/nse

NOVA SCOTIA
Environment

30 Damascus Road, Suite 115
Bedford, N.S.B4A 0C1

Phone: (902) 424-7773
Fax: (902) 424-0597

Process RSN Number: 14271825

Environment Act
DIRECTIVE

APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Nova Scotia Lands Inc (c/o Wilfred Kaiser)
APPROVAL NUMBER:	2020-2664911-00
DATE ISSUED:	May 6, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

Pursuant to Environment Act 122A(1) the following action(s) must be completed by May 14, 2021

Based on the Directive issued by Jeff Dodd on March 31, 2021, and the Compliance Update issued by Kelsey O'Brien on April 27, 2021, the Department has received final comments/responses from NSLI and AECOM: Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control (Updated)", AECOM and NSLI, April 9, 2021, and Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control" AECOM and NSLI, May 4, 2021.

As per the above Directives, the Department is issuing a Compliance Update to implement these Erosion and Sediment Control Measures. Provide a report from a P.Eng to Inspector O'Brien confirming preliminary/short term AECOM/NSLI recommendations have been implemented as per the submitted Erosion and Sediment Control document. This includes confirmation of correction/repair of ESC that were damaged or destroyed that led to the March 2021 siltation event.

Pursuant to Environment Act 122A(1) the following action(s) must be completed by August 31, 2021

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream. Submit an updated sediment and erosion control plan to the Department. Implement sediment and erosion controls that will address the issues identified at the site during our inspection (above) and deficiencies identified in the Approval Holders Erosion and Sedimentation Controls inspection report carried out pursuant to Section 7(f) of the Approval (see attached Directive).
**********After review, the April 9, 2021, ESCP is insufficient. The ESCP shall be revised and resubmitted to address the following:- A date by which the final cap shall be installed.- Once soil and sediment on the site is stabilized, drainage from interceptor trenches upgradient of the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead is diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.- Once soil and sediment on the site is stabilized, the blanks shall be removed from the groundwater interceptor trench and discharge piping, such that the groundwater interceptor trench functions as originally designed. - Water accumulating in the sedimentation pond

proposed east of the cell shall be tested for a determination of whether it is impacted water, prior to initial discharge. Impacted water shall be managed as per the requirements of Approval #2020-2664911-00. If it is not impacted water, discharge from the pond shall be added to the site surface water quality monitoring program as per the requirements of the Approval.
****

Based on the Directive issued by Jeff Dodd on March 31, 2021, and the Compliance Update issued by Kelsey O'Brien on April 27, 2021, the Department has received final comments/responses from NSLI and AECOM: Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control (Updated)", AECOM and NSLI, April 9, 2021, and Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control" AECOM and NSLI, May 4, 2021.

As per the above Directives, the Department is issuing a Compliance Update to implement these Erosion and Sediment Control Measures. Provide a report from a P.Eng to Inspector O'Brien confirming all AECOM/NSLI recommendations have been implemented as per the submitted Erosion and Sediment Control document. This includes confirmation of the final capping.

The action(s) outlined in this Directive are the minimum required. Additional actions may be needed to address the non-compliance item(s) identified in this report. Where necessary, you may need to secure the services of a firm/person with sufficient knowledge, experience, and certification to address any item (s) of non-compliance.

Be advised that failing to undertake all action(s) within the time frame specified in this Directive is an offence and may result in further enforcement. An investigation involving the non-compliance item(s) identified in this report continues and is separate from the requirements of this Directive.

This Directive was issued by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment, who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone: (902) 424-7773
Fax: (902) 424-0597
http://www.gov.ns.ca/nse

****

Supporting text where applicable:

Prohibition s.67 - (1) No person shall knowingly release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.(2) No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations. Environment Act 1994-95, c. 1

Duty to take remedial measures s.71 - Any person responsible for the release of a substance under this Part shall, at that person's own cost, and as soon as that person knows or ought to have known of the release of a substance into the environment that has caused, is causing or may cause an adverse effect, (a) take all reasonable measures to(i) prevent, reduce and remedy the adverse effects of the substance, and (ii) remove or otherwise dispose of the substance in such a manner as to minimize adverse effects; (b) take any other measures required by an inspector or an administrator; and (c) rehabilitate the environment to a standard prescribed or adopted by the Department. Environment Act 1994-95, c. 1

Assistance to inspectors s.118 - The owner or occupier of any place, or any person the inspector reasonably believes is related to or associated with any activity at the place, in respect of which an inspector is exercising powers or carrying out duties pursuant to this Part shall(a)give the inspector all reasonable assistance to enable the inspector to exercise those powers and carry out those duties(b) furnish all information relative to the exercising of those powers and the carrying out of those duties that the inspector may reasonably require. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120, may, at any reasonable time, (g) where the inspector believes that any thing may release, is releasing or has released into the environment a substance that may cause, is causing or has caused an adverse effect,(i) require the person having care, management or control of the thing to detain the thing at the place where it is found. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120, may, at any reasonable time (h) require the production of any documents that are required to be kept pursuant to this Act or any other documents that are related to the purpose for which the inspector is exercising any power under clauses (a) to (g). Environment Act, 1994-95, c.1

Inspector Directives s. 122A (1) - An inspector may issue a directive to a person requiring the person to
(a) take such measures in accordance with clause 71(b) as the inspector may specify;
(b) furnish the inspector with information in accordance with clause 118(b);
(c) detain a thing in accordance with subclause 119(1)(g)(i);
(d) produce a document in accordance with clause 119(1)(h); or
(e) take any action prescribed by the regulations in any circumstance prescribed by the regulations.
(2) A directive is not subject to appeal or review under this Act. Environment Act, 1994-95, c.1

AECOM Imagine it. Delivered.

Appendix B

AECOM Inspection Photolog

AECOM	Erosion Controls Around Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 1:Silt Boom in Sheas Lake.



Photo 2: Silt Boom in Sheas Lake

AECOM	Erosion Controls Around Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 3: Basin at the bottom of former BDA ABO. Silt fencing, hay bails and cocomats placed surrounding the basin.



Photo 4: Looking from the basin up towards the asphalt pad. Cocomats and hay bails covered in gravel down the middle of the swale.

AECOM	Erosion Controls Around Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 5: Hay bail and rock dam holding water North of the turnaround pad.



Photo 6: Rocks placed in ditch by turnaround pad.

AECOM	Erosion Controls Around Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 7: Rock lined ditches North of the landfill cell.



Photo 8: Rock lined ditch with rock and hay check dams. This flows into basin in Photo 5.

AECOM	Erosion Controls Around Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 9: Rock lined ditch with rock and hay check dams. Ditch is located along the access roadway.



Photo 10: Rock lined ditch along the North side of the access roadway.

Erosion Controls Around Harrietsfield C&D Landfill	
Client:	NSLI
Project:	Harrietsfield
Project Number:	60639002



Photo 11: Cocomatting, hay bail and rock check dams placed in ditch dug through former BDA CDELM. The ditch travels from the North of the site to the access roadway ditching.



Photo 12: Cocomatting, hay bail and rock check dams placed in ditch dug through former BDA CDELM. The ditch travels from the North of the site to the access roadway ditching.

Erosion Controls Around Harrietsfield C&D Landfill	
Client:	NSLI
Project:	Harrietsfield
Project Number:	60639002



Photo 13: Cocomatting, and rock lined ditch for outflow of old fire pond.



Photo 14: Hay blankets and bails placed in swale to the northwest of the old borrow area.

AECOM	Erosion Controls Around Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 15: Silt fencing in swale of the old borrow area.



Photo 16: Three (3) silt fences placed across slope travelling to Sheas Lake.

AECOM Canada Ltd.
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Wilfred Kaiser, P.Eng.
Project Director
Nova Scotia Lands Inc.
Harbourside Place
45 Wabana Court
Sydney, Nova Scotia, Canada

October 18, 2021

Project #
60639002

Subject: Harrietsfield C&D Landfill: Cap Replacement and Site Closure – Erosion and Sediment Control (Update)

Dear Mr. Kaiser:

In response to the *Inspection Report Compliance Updates* (**Attachment A**), AECOM Canada Limited, on behalf of Nova Scotia Lands Inc., confirms that the landfill cell final capping has been completed at the subject site.

Confirmation of final capping is provided within the photolog in **Attachment B.**

We trust this information included herein satisfies the requirements set forth by Nova Scotia Environment. If you have any questions, comments, or concerns, do not hesitate to contact the undersigned.

Sincerely,
AECOM Canada Ltd.



Jack Brand, M.Eng., P.Eng.
Water Resources Engineer
jack.brand@aecom.com

Attachments:
Attachment A: NSE Inspection Report Compliance Updates
Attachment B: AECOM Photolog

Attachment A

NSE Inspection Report Compliance Updates

NOVA SCOTIA
Environment

30 Damascus Road, Suite 115
Bedford, N.S.B4A 0C1

Phone: (902) 424-7773
Fax: (902) 424-0597

Process RSN Number: 14460721

INSPECTION REPORT
Compliance Update

APPLICATION/APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Wilfred Kaiser (Nova Scotia Lands Inc)
APPLICATION/APPROVAL NUMBER:	2020-2664911-00
INSPECTION DATE:	August 24, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

OVERVIEW OF INSPECTION

August 24, 2021 - Inspector O'Brien received an email from Derek Health on August 20:
"the capping of the landfill will not be 100% complete at the end of August. It should be noted that the majority of the landfill cell will be capped by the end of August, but we would like to request a one month extension to this NSE compliance reporting requirement (end of September 2021). Derek"

Inspector O'Brien will issue a one month extension.

COMPLIANCE ITEMS

In order to ensure compliance with the Environment Act and Regulations, the following items must be addressed:

Item # 14196849-001 *Environment Act 67(2)*

No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.

In order to comply with this section you must:

Comply with the attached Directive

Item #14196849-001 must be complied with by September 30, 2021

This inspection report was prepared on August 24, 2021 by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone:(902) 424-7773
Fax: (902) 424-0597
http://www.gov.ns.ca/nse

NOVA SCOTIA
Environment

30 Damascus Road, Suite 115
Bedford, N.S.B4A 0C1

Phone: (902) 424-7773
Fax: (902) 424-0597

Process RSN Number: 14460721

Environment Act
DIRECTIVE

APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Wilfred Kaiser (Nova Scotia Lands Inc)
APPROVAL NUMBER:	2020-2664911-00
DATE ISSUED:	August 24, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

Pursuant to Environment Act 122A(1) the following action(s) must be completed by September 30, 2021

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream. Submit an updated sediment and erosion control plan to the Department. Implement sediment and erosion controls that will address the issues identified at the site during our inspection (above) and deficiencies identified in the Approval Holders Erosion and Sedimentation Controls inspection report carried out pursuant to Section 7(f) of the Approval (see attached Directive).
**********After review, the April 9, 2021, ESCP is insufficient. The ESCP shall be revised and resubmitted to address the following:- A date by which the final cap shall be installed.- Once soil and sediment on the site is stabilized, drainage from interceptor trenches upgradient of the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead is diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.- Once soil and sediment on the site is stabilized, the blanks shall be removed from the groundwater interceptor trench and discharge piping, such that the groundwater interceptor trench functions as originally designed. - Water accumulating in the sedimentation pond proposed east of the cell shall be tested for a determination of whether it is impacted water, prior to initial discharge. Impacted water shall be managed as per the requirements of Approval #2020-2664911-00. If it is not impacted water, discharge from the pond shall be added to the site surface water quality monitoring program as per the requirements of the Approval.
****

Based on the Directive issued by Jeff Dodd on March 31, 2021, and the Compliance Update issued by Kelsey O'Brien on April 27, 2021, the Department has received final comments/responses from NSLI and AECOM: Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control (Updated)", AECOM and NSLI, April 9, 2021, and Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control" AECOM and NSLI, May 4, 2021.

As per the above Directives, the Department is issuing a Compliance Update to implement these Erosion and Sediment Control Measures. Provide a report from a P.Eng to Inspector O'Brien confirming all AECOM/NSLI recommendations have been implemented as per the submitted Erosion and Sediment Control document. This includes confirmation of the final capping.

The action(s) outlined in this Directive are the minimum required. Additional actions may be needed to address the non-compliance item(s) identified in this report. Where necessary, you may need to secure the services of a firm/person with sufficient knowledge, experience, and certification to address any item (s) of non-compliance.

Be advised that failing to undertake all action(s) within the time frame specified in this Directive is an offence and may result in further enforcement. An investigation involving the non-compliance item(s) identified in this report continues and is separate from the requirements of this Directive.

This Directive was issued by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment, who may be contacted at:

Nova Scotia Environment
30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone: (902) 424-7773
Fax: (902) 424-0597
http://www.gov.ns.ca/nse

****

Supporting text where applicable:

Prohibition s.67 - (1) No person shall knowingly release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.(2) No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations. Environment Act 1994-95, c. 1

Duty to take remedial measures s.71 - Any person responsible for the release of a substance under this Part shall, at that person's own cost, and as soon as that person knows or ought to have known of the release of a substance into the environment that has caused, is causing or may cause an adverse effect, (a) take all reasonable measures to(i) prevent, reduce and remedy the adverse effects of the substance, and (ii) remove or otherwise dispose of the substance in such a manner as to minimize adverse effects; (b) take any other measures required by an inspector or an administrator; and (c) rehabilitate the environment to a standard prescribed or adopted by the Department. Environment Act 1994-95, c. 1

Assistance to inspectors s.118 - The owner or occupier of any place, or any person the inspector reasonably believes is related to or associated with any activity at the place, in respect of which an inspector is exercising powers or carrying out duties pursuant to this Part shall(a)give the inspector all reasonable assistance to enable the inspector to exercise those powers and carry out those duties(b) furnish all information relative to the exercising of those powers and the carrying out of those duties that the inspector may reasonably require. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120, may, at any reasonable time, (g) where the inspector believes that any thing may release, is releasing or has released into the environment a substance that may cause, is causing or has caused an adverse effect,(i) require the person having care, management or control of the thing to detain the thing at the place where it is found. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120,

may, at any reasonable time (h) require the production of any documents that are required to be kept pursuant to this Act or any other documents that are related to the purpose for which the inspector is exercising any power under clauses (a) to (g). Environment Act, 1994-95, c.1

Inspector Directives s. 122A (1) - An inspector may issue a directive to a person requiring the person to
(a) take such measures in accordance with clause 71(b) as the inspector may specify;
(b) furnish the inspector with information in accordance with clause 118(b);
(c) detain a thing in accordance with subclause 119(1)(g)(i);
(d) produce a document in accordance with clause 119(1)(h); or
(e) take any action prescribed by the regulations in any circumstance prescribed by the regulations.
(2) A directive is not subject to appeal or review under this Act. Environment Act, 1994-95, c.1

NOVA SCOTIA
Environment

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Phone: (902) 424-7773
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Process RSN Number: 14290321

INSPECTION REPORT
Compliance Update

APPLICATION/APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Wilfred Kaiser (Nova Scotia Lands Inc)
APPLICATION/APPROVAL NUMBER:	2020-2664911-00
INSPECTION DATE:	May 25, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

OVERVIEW OF INSPECTION

Derek Health (AECOM) called Inspector O'Brien May 18, 11am. Said that all the initial SEC were complete, and he was waiting on the P.Eng to do a final site visit. He was aware he was a few days over the Friday deadline, and Inspector O'Brien said to get the report to her as soon as possible.

May 21, 2021: Inspector O'Brien received the report from a P.Eng documenting the sediment and erosion control measures implemented. She will issue a compliance update for the remaining item.

COMPLIANCE ITEMS

In order to ensure compliance with the Environment Act and Regulations, the following items must be addressed:

Item # 14271825-003 *Environment Act 122A(1)*

An inspector may issue a directive to a person requiring the person to take such measures in accordance with clause 71(b) as the inspector may specify, furnish the inspector with information in accordance with clause 118(b), detain a thing in accordance with subclause 119(1)(g)(i), produce a document in accordance with clause 119(1)(h), or take any action prescribed by the regulations in any circumstance prescribed by the regulations.

In order to comply with this section you must:

Based on the Directive issued by Jeff Dodd on March 31, 2021, and the Compliance Update issued by Kelsey O'Brien on April 27, 2021, the Department has received final comments/responses from NSLI and AECOM: Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control (Updated)", AECOM and NSLI, April 9, 2021, and Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control" AECOM and NSLI, May 4, 2021.

As per the above Directives, the Department is issuing a Compliance Update to implement these Erosion

and Sediment Control Measures. Provide a report from a P.Eng to Inspector O'Brien confirming preliminary/short term AECOM/NSLI recommendations have been implemented as per the submitted Erosion and Sediment Control document. This includes confirmation of correction/repair of ESC that were damaged or destroyed that led to the March 2021 siltation event.

Item #14271825-003 was complied with on May 21, 2021

Item # 14196849-001 *Environment Act 67(2)*

No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.

In order to comply with this section you must:

Comply with the attached Directive

Item #14196849-001 must be complied with by August 31, 2021

This inspection report was prepared on May 25, 2021 by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment who may be contacted at:

Nova Scotia Environment
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NOVA SCOTIA
Environment

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Process RSN Number: 14290321

Environment Act
DIRECTIVE

APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Wilfred Kaiser (Nova Scotia Lands Inc)
APPROVAL NUMBER:	2020-2664911-00
DATE ISSUED:	May 25, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

Pursuant to Environment Act 122A(1) the following action(s) must be completed by August 31, 2021

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream. Submit an updated sediment and erosion control plan to the Department. Implement sediment and erosion controls that will address the issues identified at the site during our inspection (above) and deficiencies identified in the Approval Holders Erosion and Sedimentation Controls inspection report carried out pursuant to Section 7(f) of the Approval (see attached Directive).
**********After review, the April 9, 2021, ESCP is insufficient. The ESCP shall be revised and resubmitted to address the following:- A date by which the final cap shall be installed.- Once soil and sediment on the site is stabilized, drainage from interceptor trenches upgradient of the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead is diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.- Once soil and sediment on the site is stabilized, the blanks shall be removed from the groundwater interceptor trench and discharge piping, such that the groundwater interceptor trench functions as originally designed. - Water accumulating in the sedimentation pond proposed east of the cell shall be tested for a determination of whether it is impacted water, prior to initial discharge. Impacted water shall be managed as per the requirements of Approval #2020-2664911-00. If it is not impacted water, discharge from the pond shall be added to the site surface water quality monitoring program as per the requirements of the Approval.
****

Based on the Directive issued by Jeff Dodd on March 31, 2021, and the Compliance Update issued by Kelsey O'Brien on April 27, 2021, the Department has received final comments/responses from NSLI and AECOM: Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control (Updated)", AECOM and NSLI, April 9, 2021, and Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control" AECOM and NSLI, May 4, 2021.

As per the above Directives, the Department is issuing a Compliance Update to implement these Erosion and Sediment Control Measures. Provide a report from a P.Eng to Inspector O'Brien confirming all AECOM/NSLI recommendations have been implemented as per the submitted Erosion and Sediment Control document. This includes confirmation of the final capping.

The action(s) outlined in this Directive are the minimum required. Additional actions may be needed to address the non-compliance item(s) identified in this report. Where necessary, you may need to secure the services of a firm/person with sufficient knowledge, experience, and certification to address any item (s) of non-compliance.

Be advised that failing to undertake all action(s) within the time frame specified in this Directive is an offence and may result in further enforcement. An investigation involving the non-compliance item(s) identified in this report continues and is separate from the requirements of this Directive.

This Directive was issued by Kelsey O'Brien, Inspector Specialist with Nova Scotia Environment, who may be contacted at:

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30 Damascus Road, Suite 115
Bedford, N.S. B4A 0C1
Phone: (902) 424-7773
Fax: (902) 424-0597
http://www.gov.ns.ca/nse

****

Supporting text where applicable:

Prohibition s.67 - (1) No person shall knowingly release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.(2) No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations. Environment Act 1994-95, c. 1

Duty to take remedial measures s.71 - Any person responsible for the release of a substance under this Part shall, at that person's own cost, and as soon as that person knows or ought to have known of the release of a substance into the environment that has caused, is causing or may cause an adverse effect, (a) take all reasonable measures to(i) prevent, reduce and remedy the adverse effects of the substance, and (ii) remove or otherwise dispose of the substance in such a manner as to minimize adverse effects; (b) take any other measures required by an inspector or an administrator; and (c) rehabilitate the environment to a standard prescribed or adopted by the Department. Environment Act 1994-95, c. 1

Assistance to inspectors s.118 - The owner or occupier of any place, or any person the inspector reasonably believes is related to or associated with any activity at the place, in respect of which an inspector is exercising powers or carrying out duties pursuant to this Part shall(a)give the inspector all reasonable assistance to enable the inspector to exercise those powers and carry out those duties(b) furnish all information relative to the exercising of those powers and the carrying out of those duties that the inspector may reasonably require. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120, may, at any reasonable time, (g) where the inspector believes that any thing may release, is releasing or has released into the environment a substance that may cause, is causing or has caused an adverse effect,(i) require the person having care, management or control of the thing to detain the thing at the place where it is found. Environment Act, 1994-95, c.1

Right of entry and inspection s.119 (1) - For the purpose of ensuring compliance with this Act, the regulations, a standard or an order made under Part XIII, an inspector, subject to Sections 22 and 120,

may, at any reasonable time (h) require the production of any documents that are required to be kept pursuant to this Act or any other documents that are related to the purpose for which the inspector is exercising any power under clauses (a) to (g). Environment Act, 1994-95, c.1

Inspector Directives s. 122A (1) - An inspector may issue a directive to a person requiring the person to
(a) take such measures in accordance with clause 71(b) as the inspector may specify;
(b) furnish the inspector with information in accordance with clause 118(b);
(c) detain a thing in accordance with subclause 119(1)(g)(i);
(d) produce a document in accordance with clause 119(1)(h); or
(e) take any action prescribed by the regulations in any circumstance prescribed by the regulations.
(2) A directive is not subject to appeal or review under this Act. Environment Act, 1994-95, c.1

NOVA SCOTIA
Environment

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Process RSN Number: 14513769

INSPECTION REPORT
Compliance Update

APPLICATION/APPROVAL HOLDER:	NOVA SCOTIA LANDS INC.
ISSUED TO:	Wilfred Kaiser (Nova Scotia Lands Inc)
APPLICATION/APPROVAL NUMBER:	2020-2664911-00
INSPECTION DATE:	September 24, 2021
SITE NAME:	Former RDM Recycling Limited
SITE ADDRESS:	1275 OLD SAMBRO RD. HARRIETSFIELD NS B3V 1B2

OVERVIEW OF INSPECTION

After phone and email conversations with DEREK HEATH it has been determined that due to scheduling constraints with the chosen contractor an extension to Directive Process 14460721 is required. A Warning report is being issued for the immanent non-compliance (October 1, 2021) along with a new directive with a Comply by Date of October 25, 2021

COMPLIANCE ITEMS

In order to ensure compliance with the Environment Act and Regulations, the following items must be addressed:

Item # 14196849-001 *Environment Act 67(2)*

No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause an adverse effect, unless authorized by an approval or the regulations.

In order to comply with this section you must:

Comply with the attached Directive

Item #14196849-001 must be complied with by October 25, 2021

Item # 14196849-002 *Environment Act 122A(1)*

An inspector may issue a directive to a person requiring the person to take such measures in accordance with clause 71(b) as the inspector may specify, furnish the inspector with information in accordance with clause 118(b), detain a thing in accordance with subclause 119(1)(g)(i), produce a document in accordance with clause 119(1)(h), or take any action prescribed by the regulations in any circumstance prescribed by the regulations.

In order to comply with this section you must:

During the inspection there was visual evidence of silt and mud reaching the watercourse downgradient of the site. Section 7 of the Approval outlines requirements for the development of a Erosion and Sedimentation Control Plan, installation of controls, and regular inspection of these controls to confirm controls are working. Section 8 of the Approval specifies water quality limits for the water resource down stream. Submit an updated sediment and erosion control plan to the Department. Implement sediment and erosion controls that will address the issues identified at the site during our inspection (above) and deficiencies identified in the Approval Holders Erosion and Sedimentation Controls inspection report carried out pursuant to Section 7(f) of the Approval (see attached Directive).
**********After review, the April 9, 2021, ESCP is insufficient. The ESCP shall be revised and resubmitted to address the following:- A date by which the final cap shall be installed.- Once soil and sediment on the site is stabilized, drainage from interceptor trenches upgradient of the site shall be managed so that water does not infiltrate into the ground upgradient of the containment cell and instead is diverted to a location cross-gradient or down-gradient from the cell for further settling and infiltration.- Once soil and sediment on the site is stabilized, the blanks shall be removed from the groundwater interceptor trench and discharge piping, such that the groundwater interceptor trench functions as originally designed. - Water accumulating in the sedimentation pond proposed east of the cell shall be tested for a determination of whether it is impacted water, prior to initial discharge. Impacted water shall be managed as per the requirements of Approval #2020-2664911-00. If it is not impacted water, discharge from the pond shall be added to the site surface water quality monitoring program as per the requirements of the Approval.
****
Based on the Directive issued by Jeff Dodd on March 31, 2021, and the Compliance Update issued by Kelsey O'Brien on April 27, 2021, the Department has received final comments/responses from NSLI and AECOM: Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control (Updated)", AECOM and NSLI, April 9, 2021, and Memorandum "Harrietsfield C&D Landfill: Cap Replacement and Site Closure Erosion and Sediment Control" AECOM and NSLI, May 4, 2021.

As per the above Directives, the Department is issuing a Compliance Update to implement these Erosion and Sediment Control Measures. Provide a report from a P.Eng to Inspector O'Brien confirming all AECOM/NSLI recommendations have been implemented as per the submitted Erosion and Sediment Control document. This includes confirmation of the final capping.

Item #14196849-002 must be complied with by October 25, 2021

This inspection report was prepared on September 24, 2021 by Andrew Nogueira, Inspector Specialist with Nova Scotia Environment who may be contacted at:

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Attachment B

AECOM Photolog

AECOM	Erosion Controls - Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 1:Southern view of the main landfill cell area (capped).



Photo 2: Southern view of the main landfill cell area (capped).

AECOM	Erosion Controls - Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 3: Southwestern view of the main landfill cell area (capped).



Photo 4: Southwestern view of the eastern slope area (capped).

AECOM	Erosion Controls - Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 5: Southern view of the eastern slope area (capped).



Photo 6: Southern view of the eastern slope area (capped).

AECOM	Erosion Controls - Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 7: Northern view of the eastern slope area (capped).



Photo 8: Southeastern view of the eastern slope area (capped).

AECOM	Erosion Controls - Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 9: Northern view of the southeastern portion of the main landfill cell area (capped).



Photo 10: Western view of the south side of the main landfill cell area (capped) from the SE corner of the cell.

Erosion Controls - Harrietsfield C&D Landfill	
Client:	NSLI
Project:	Harrietsfield
Project Number:	60639002



Photo 11: Western view of the southside of the main landfill cell area (capped) from the middle of the cell.



Photo 12: Eastern view of the southside of the main landfill cell area (capped) from the middle of the cell.

Erosion Controls - Harrietsfield C&D Landfill	
Client:	NSLI
Project:	Harrietsfield
Project Number:	60639002



Photo 13: Eastern view of the western of the main landfill cell area (capped)



Photo 14: Eastern view of the north side of the main landfill cell area (capped) from the NW corner of the cell.

Erosion Controls - Harrietsfield C&D Landfill	
Client:	NSLI
Project:	Harrietsfield
Project Number:	60639002



Photo 15: Eastern view of the top of the main landfill cell area (capped) - western portion of cell.



Photo 16: Western view of the top of the main landfill cell area (capped) - western portion of cell.

AECOM	Erosion Controls Around Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 17: Northern view taken from the middle top area of the main landfill cell area (capped).



Photo 18: Western view of the top of the main landfill cell area (capped) - eastern portion of cell.

AECOM	Erosion Controls - Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 19: Eastern view taken from the eastern top area of the main landfill cell area (capped).



Photo 20: Southeastern view taken from the eastern top area of the main landfill cell area (capped).

AECOM	Erosion Controls - Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 21: Southern view taken from the eastern top area of the main landfill cell area (capped).



Photo 22: Southern view taken from the middle top area of the main landfill cell area (capped).

AECOM	Erosion Controls - Harrietsfield C&D Landfill	
	Client:	NSLI
	Project:	Harrietsfield
	Project Number:	60639002



Photo 23: Southern view taken from the middle top area of the main landfill cell area (capped).



Photo 24: Southwestern view taken from the western top area of the main landfill cell area (capped).

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