

First Quarter 2024 Monitoring Report

LRI Landfill Graham, Washington

Pierce County Recycling, Composting
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SCS ENGINEERS

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This document is the First Quarter 2024 Monitoring Report for the LRI Landfill located in Graham, Washington. Activities this quarter included monitoring the volume and specific conductance of water pumped from the leak detection/collection system, quarterly groundwater monitoring, monthly landfill gas monitoring, and weekly surface water monitoring. This document was prepared by Jovany Estrada, Dan Venchiarutti and Travis Berndahl of SCS Engineers and submitted to Mr. Keith Johnston of the Tacoma-Pierce County Health Department (TPCHD).



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Attachments: Attachment A: Groundwater Flow Map
Attachment B: Groundwater Data Summary Tables
Attachment C: Field Sampling Documentation
Attachment D: Statistical Calculations
Attachment E: Trilinear Diagrams
Attachment F: Analytical Data Validation Report
Attachment G: Groundwater and LDCS Time Trend Plots
Attachment H: LDCS & Leachate Pumping Records and Conductivity Measurements
Attachment I: Surface Water Data
Attachment J: Landfill Gas Data

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GROUNDWATER MONITORING

First quarter 2024 groundwater samples were collected on March 19 and 20, 2024. Nine monitoring wells (MW-1A, MW-2A, MW-3, MW-4, MW-5A, MW-6, MW-7, MW-9, and MW-10) and eleven leak detection collection locations (LDCS-1, LDCS-2A, LDCS-2B, LDCS-3A, LDCS-4A, LDCS-4B, LDCS-5, LDCS-6, LDCS-7, LDCS-8, and LDCS-9A) were sampled this quarter. Water level elevations were measured on March 19 and 20, 2024. Field quality control samples consisted of one field blank and one duplicate sample collected at MW-7. Sampling procedures followed the LRI Landfill Groundwater Monitoring Plan (GWMP), dated March 10, 2014.

Groundwater samples were collected using low-flow purging and sampling techniques with dedicated pumps at all monitoring wells except MW-4, where a non-dedicated QED Sample Pro pump was deployed. Samples for laboratory analyses were submitted to Eurofins Scientific of Denver, Colorado for the parameters listed in Appendix I and II of WAC 173-351-990. Groundwater sampling locations are shown on Figure 1.

A groundwater surface elevation map for the first quarter monitoring event is included as Figure 1. The average groundwater gradients and flow directions calculated for the quarter remain similar to those previously reported at the facility, with a flow rate of about 45 feet per year towards the northwest for horizontal groundwater movement within the uppermost aquifer (assuming a horizontal hydraulic conductivity of 1×10^{-3} centimeters per second and an effective porosity of 30 percent).

Field measurements and analytical results for groundwater, leak detection/collection system (LDCS), leachate, and quality control samples are summarized on the following tables presented in Attachment B: Groundwater Level Elevations, Field Parameters, Inorganic Parameters, Appendix I Metals, Appendix II Metals, Volatile Organic Compounds, Cation-Anion Balance, and Duplicate Sample Results.

Copies of the Field Sampling Data Sheets are included in Attachment C. Statistical calculations are provided in Attachment D. Trilinear (Piper) plots of groundwater and LDCS sample results are included in Attachment E. Data validation results are summarized in Attachment F.

Groundwater results were reviewed and validated (see attached Data Validation Report). Field measurements and analytical data were uploaded into the Washington State Department of Ecology (Ecology) Environmental Information Management (EIM) System. Laboratory reports were provided to the Tacoma-Pierce County Health Department (TPCHD) and the Washington Department of Ecology (Ecology) under separate cover.

A nonparametric inter-well prediction limit approach was used to evaluate the water quality results for Appendix I parameters listed in WAC 173-351-990 (15 total metals and nitrate). Prediction limits were generated using background data for nitrate and eight rounds of quarterly sampling conducted in 2014 and 2015 for fifteen (15) total metals. Using this procedure, the highest concentration of each parameter in the data set was selected as the prediction limit for that parameter. In addition, the prediction limit data set includes ongoing water quality results from background (upgradient) wells MW-9 and MW-10. Appendix I total metal and nitrate concentrations measured at the downgradient monitoring wells were less than or equal to prediction limit values at all of the monitoring wells this quarter.

Groundwater time-trend plots for inorganic parameters and metals are included in Attachment G. The following four plots are provided for each monitoring well:

- Plot 1 — ammonia, nitrate, chloride, total organic carbon (TOC)
- Plot 2 — alkalinity, sulfate, total dissolved solids (TDS)
- Plot 3 — calcium, magnesium, sodium, potassium
- Plot 4 — iron, manganese, zinc, arsenic

Time trend plots show that concentrations of metals and inorganic parameters remained generally consistent with previously observed values during the first quarter unless otherwise noted. The highest concentrations of chloride and nitrate in the uppermost aquifer continue to be observed in background well MW-10.

Reported detections of inorganic parameters and metals measured at downgradient monitoring wells during the first quarter were less than or equal to the groundwater quality criteria listed in WAC 173-200-040, with the exceptions shown in Exhibit 1.

Exhibit 1. Groundwater Results Greater Than WAC 173-200-040 Criteria

Parameter	Groundwater Quality Criteria	MW-1A	MW-2A	MW-3	MW-4	MW-5A	MW-6	MW-7
Arsenic, Total	0.00005	0.02	**	**	0.011	0.006	0.0079	0.0056
Chromium, Total	0.05	0.089	*	*	*	*	*	*
Iron, Dissolved	0.30	*	0.85	*	*	*	*	*
Manganese, Dissolved	0.05	*	0.31	0.41	0.1	0.19	0.25	0.23
Notes: Concentrations listed as mg/L = milligrams per liter. ** = Not detected above the method reporting limit (MRL), but MRL exceeded WAC 173-200-040 GW Quality Criteria. * = Reported value was less than WAC 173-200-040 Groundwater Quality Criteria.								

The results summarized in Exhibit 1 are typical of previous results (see time-trend plots in Attachment G), are interpreted to be within natural background variation, and in the case of total arsenic, are less than or equal to the background level used to establish the prediction limit (prediction limits are not applicable for dissolved iron or manganese). The method reporting limit (MRL) for arsenic is 0.005 milligrams per liter (mg/L), which is greater than the WAC 173-200-040 criteria of 0.00005 mg/L. Therefore, arsenic results reported as non-detect are considered to be greater than the WAC 173-200-040 criterion.

Low-level detections of ammonia (ranging between 0.12 and 0.19 mg/L) were reported at downgradient wells MW-2A, MW-3, MW-5A, and MW-6, and MW-7. The ammonia concentrations appear to be consistent with historic well data.

The cation-anion balance evaluates the difference in the sum of cations and anions (in milliequivalents per liter [meq/L]) within a water sample to determine if it is electroneutral (balanced cation and anion charges). Consistent with WAC 173-350-430(5), a threshold of ten percent difference is used if the total cation-anion sum is less than 5.0 meq/L, and a threshold of five percent difference is used if the total cation-anion sum is greater than or equal to 5.0 meq/L. During

the first quarter, the cation-anion balance evaluation did not exceed the appropriate threshold for any monitoring wells.

Graphical plots of the current monitoring well water quality results are presented on trilinear (piper) diagrams in Attachment E. These plots demonstrate the inherent water quality differences between groundwater from the monitoring wells, shallow groundwater from the LDCS, and leachate (collected annually in December).

No VOCs were reported in samples collected from the monitoring wells during the first quarter 2024.

LEAK DETECTION/COLLECTION SYSTEM (LDCS) MONITORING

A leak detection/collection system (LDCS) is present directly beneath the composite liner of each landfill cell to provide for early leak detection and to collect leachate in the event a leachate leak develops in the composite liner or leachate force main. The system consists of a high permeability gravel blanket that is underlain and overlain by geosynthetic fabrics. The system also dewateres groundwater that is present within the glacial till. Leachate leaks are indicated by the presence acetone and 2-butanone (primary leachate indicator parameters) and increases in concentrations of ammonia and chloride (secondary leachate indicator parameters), as well as increases in specific conductance (conductivity), total dissolved solids, alkalinity, sodium, potassium, and total organic carbon.

LDCS Maintenance. No significant maintenance activities occurred this quarter.

LDCS Daily Monitoring. Daily monitoring of the LDCS sumps for volume of water pumped, liquid level, and specific conductance (conductivity) was performed by using a programmable logic controller (PLC) and through direct measurements by LRI site personnel. Rainfall data were recorded manually using an on-site rain gauge. The combined field and PLC data, as well as time series plots of the data, are included in Attachment H.

Conductivity data from the LDCS sumps trended within typical historical ranges during the first quarter of 2024.

LDCS Quarterly Monitoring. Samples were collected using disposable bailers at LDCS-1, LDCS-2A, and LDCS-2B, and with dedicated QED Sleeper Pumps at LDCS-3A, LDCS-4A, LDCS-4B, LDCS-5, LDCS-6, and LDCS-7. The samples obtained from LDCS-8 and LDCS-9 were collected as a grab samples from a dewatering pump discharge spigot.

LDCS-1 water quality results included a low-level detection of acetone at 24 µg/L and 1,4-dichlorobenzene at 0.95 µg/L. Concentrations of secondary leachate indicator parameters, ammonia and chloride, were reported at 2.0 and 5.2 mg/L, respectively. Therefore, the acetone detection does not appear to be the result of leachate.

LDCS-2A water quality results included a low-level detection of 1,4-dichlorobenzene at 0.5 µg/L. Primary leachate indicator parameter, acetone, was detected at 14 µg/L. Concentrations of secondary leachate indicator parameters, ammonia (0.8 mg/L) and chloride (10 mg/L), remained low. Therefore, the 1,4-dichlorobenzene detection does not appear to be the result of leachate.

LDCS-2B water quality results include a low-level detection of carbon disulfide at 0.64 µg/L. Primary leachate indicator parameter acetone was also detected at 38 µg/L. Secondary leachate indicator parameters, ammonia and chloride, were detected at low-level concentrations of 2.6 mg/L

and 29 mg/L, respectively. Therefore, the detection of carbon disulfide does not appear to be a result of leachate.

LDCS-4A and LDCS-4B water quality results display generally increasing, isolated trends in chloride (see the time trend plots in Attachment G). However, the remaining leachate indicator parameters remained mostly non-detect, therefore, the water quality trends noted above do not appear to be the result of leachate.

LDCS-7 and LDCS-8 water quality results both included low-level detections of benzene at 1.7 µg/L and 0.52 µg/L, respectively. However, primary leachate indicator parameters acetone and 2-butanone were not detected in either sample. Additionally, secondary leachate indicator parameters, ammonia and chloride, remained low; the concentrations of ammonia and chloride were reported at 0.21 mg/L and 7.1 mg/L, respectively, for LDCS- 7 and 0.14 mg/L and 22 mg/L, respectively, for LDCS-8. Therefore, these benzene detections do not appear to be the result of leachate.

Water quality results for LDCS-3, LDCS-5, LDCS-6 and LDCS-9 did not show any significant detections.

LDCS time trend plots for inorganic parameters and dissolved metals are included in Attachment G. The following four plots are provided for each leak detection sump:

- Plot 1 — ammonia, nitrate, chloride, TOC
- Plot 2 — alkalinity, sulfate, TDS
- Plot 3 — calcium, magnesium, sodium, potassium
- Plot 4 — iron, manganese, zinc, arsenic

Graphical plots of the LDCS water quality results are presented on trilinear (piper) diagrams in Attachment D. These plots demonstrate the inherent water quality differences between groundwater from the monitoring wells, shallow groundwater from the LDCS, and leachate (collected annually in December).

SURFACE WATER MONITORING

Surface water monitoring was performed per the requirements of NPDES Construction Stormwater General Permit (CSWGP) WAR 002603C and NPDES Industrial Stormwater General Permit (ISGP) WAR 002557. During the first quarter of 2024, construction and industrial stormwater treatment with Chitosan Sand Enhanced Filtration (CESF) was utilized each month

Discharge Monitoring Reports (DMR's) were submitted to Ecology on a monthly (Construction Permit) and quarterly (Industrial Permit) basis. Copies of the first quarter 2024 DMR's are included in Attachment I. No surface water benchmarks or water quality effluent limits were exceeded this quarter.

LEACHATE MONITORING

Leachate volumes were monitored using the automated PLC system and through direct measurements by LRI site personnel. A summary of daily volumes pumped and leachate sump level data is provided in Attachment H.

Collected leachate was truck-hauled to the pretreatment facility at the Hidden Valley Landfill where it was subsequently discharged to the Pierce County sewer system in accordance with Pierce County Utilities Department Industrial Discharge Permit Number PC03096, and to the City of Tacoma and City of Salem Wastewater Treatment Plants for proper disposal. A summary of year to date leachate volume data based on volumes truck-hauled off site is provided on Exhibit 2.

Exhibit 2. 2024 Leachate Volume Data

Month	Leachate Trucked Offsite for Proper Disposal (gallons)	Monthly Rainfall (inches)
January	5,191,007	6.87
February	4,863,281	2.87
March	3,127,021	1.78
Totals	13,181,309	11.52
Notes: Leachate was trucked off-site for proper disposal. Leachate volumes were determined by trucking records kept on a daily basis.		

LANDFILL GAS MONITORING

Monthly monitoring of the landfill gas probes was conducted on January 22, February 19, and March 7 using a Landtec GEM2000 portable gas monitor. Monitoring results for performance probes installed adjacent to the landfill within the perimeter berm are included in Exhibit 3.

Exhibit 3. 2024 Landfill Gas Probe Monitoring Summary (Percent Methane) Performance Probes

Monitoring Date	GP-1	GP-2	GP-3	GP-4	GP-9	GP-10	GP-10P	GP-11	GP-12	GP-13	GP-14	GP-15	GP-16
January 22	37.6	4.2	0.0	0.0	0.0	27.7	17.0	0.4	0.0	0.0	0.0	0.0	0.0
February 19	38.6	2.4	0.0	0.0	0.0	14.8	11.7	0.0	0.0	0.0	0.0	0.0	0.0
March 7	3.9	1.5	0.0	0.0	0.0	0.0	2.7	0.0	12.8	0.0	0.0	0.0	0.0

Notes: All values are reported as percent methane by volume.

Methane measurements at or above the lower explosive limit of 5.0% by volume are shown in **bold**.

Monitoring results for five probes that were installed in September 2022 in native soils closer to the property boundary of the facility are included in Exhibit 4. Methane measurements were less than the lower explosive limit (LEL) of five percent by volume at each of these probes.

Exhibit 4. 2024 Landfill Gas Probe Monitoring Summary (Percent Methane)
Native Soils Probes

Monitoring Date	GP-17	GP-18	GP-19	GP-20	GP-21
January 22	0.0	0.0	0.0	0.0	0.0
February 19	0.0	0.0	0.0	0.0	0.0
March 7	0.0	0.0	0.0	0.0	0.0

Notes: All values are reported as percent methane by volume.

Indoor air was tested for the presence of methane on February 14, 2024. The office, maintenance building, scale house, work shop and energy plant building were tested with a portable flame ionization detector (MicroFID). Methane was detected at all locations, except the scale house, ranging from 2.0 ppm to 8.0 ppm. These results are below the regulatory threshold for methane in site structures.

Field records for gas probe and indoor air monitoring are included in Attachment J.

LANDFILL GAS EXTRACTION WELL CONSTRUCTION

No new landfill gas extraction wells were installed at the landfill during the first quarter of 2024.

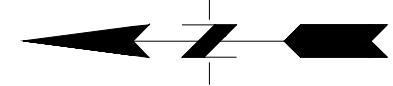
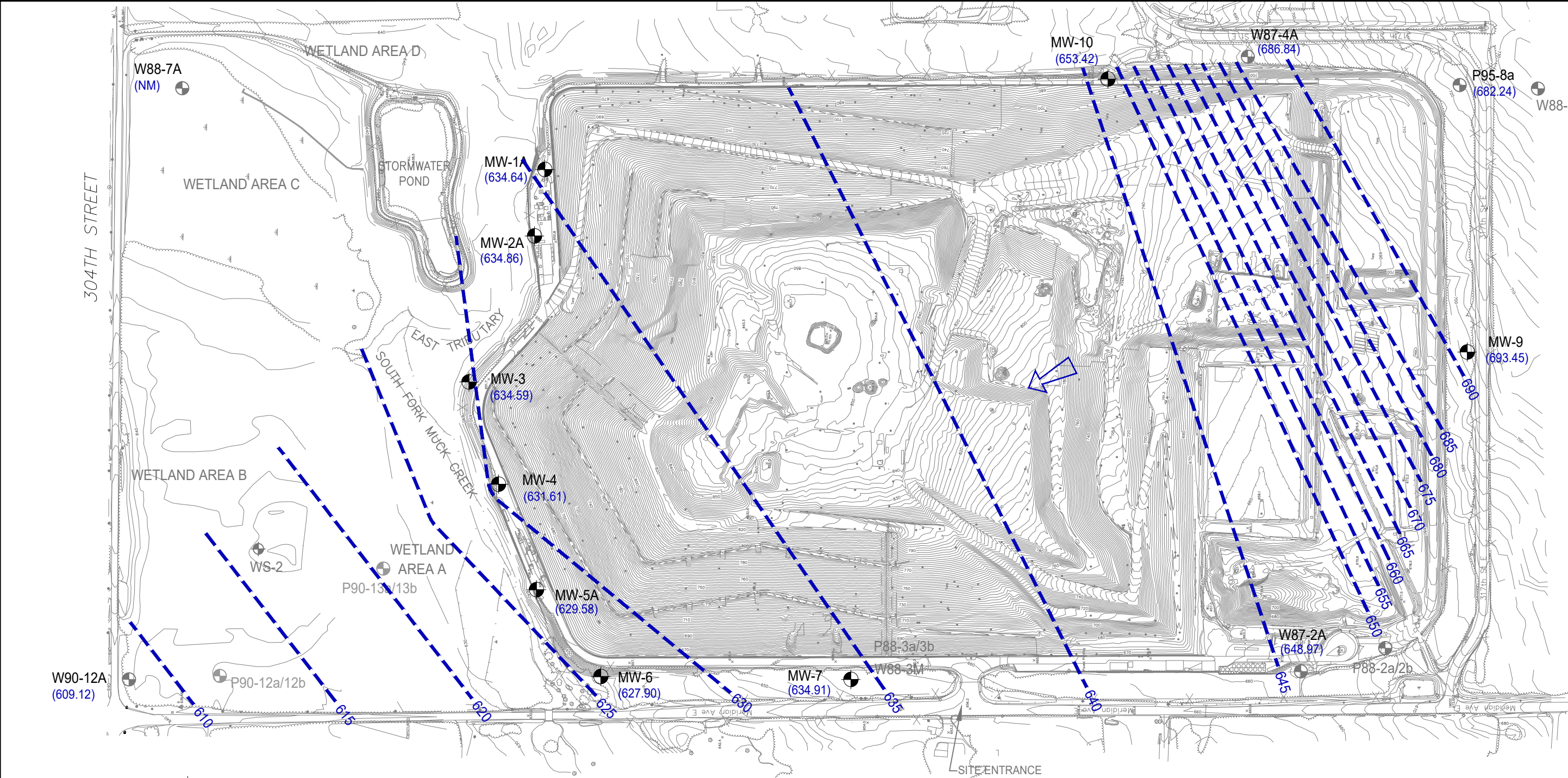
GROUNDWATER MONITORING WELL CONSTRUCTION AND MAINTENANCE

No well construction or significant well maintenance activities were performed this quarter.



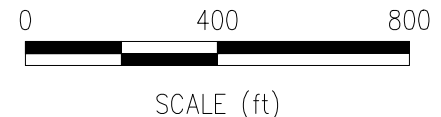
Attachment A

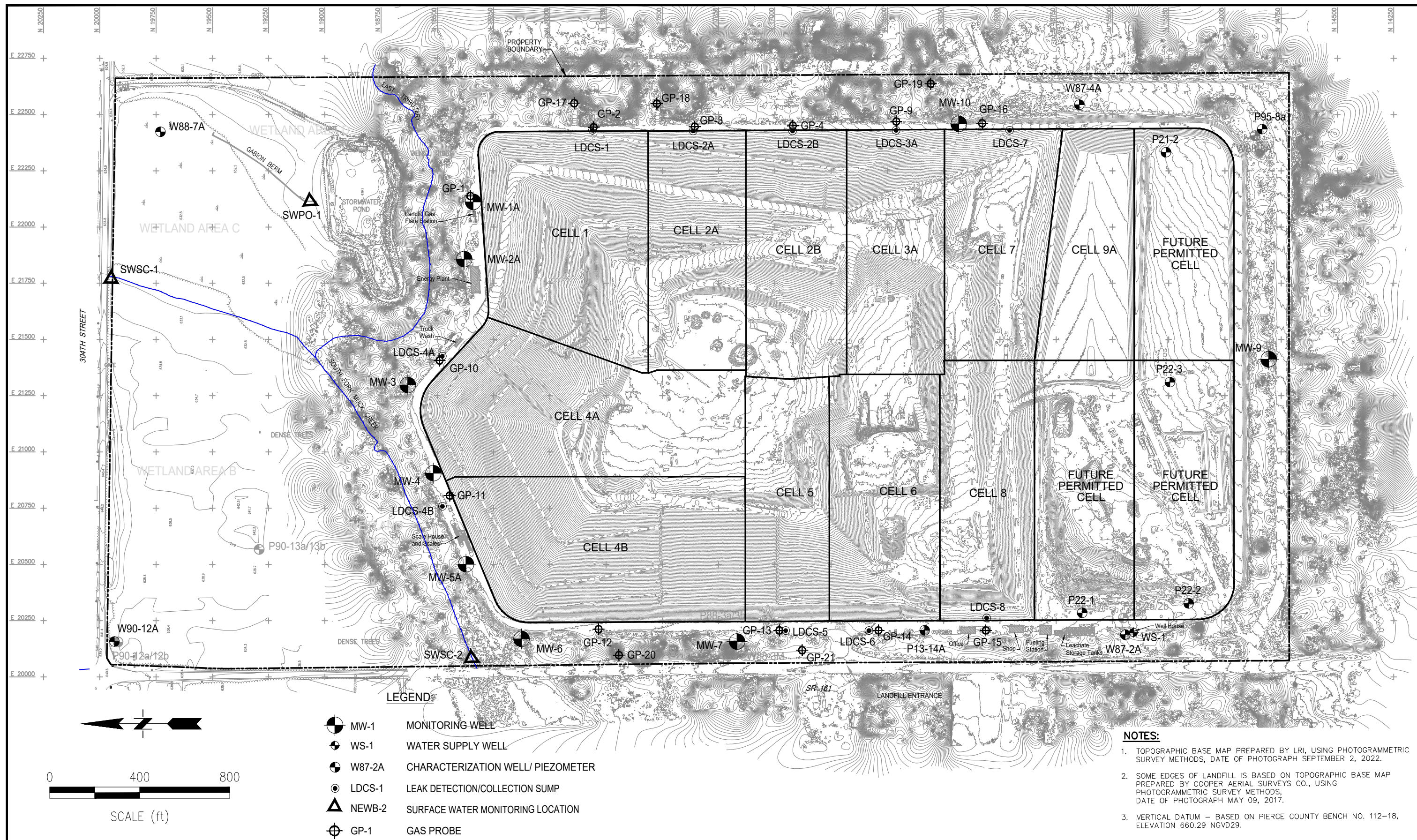
Groundwater Flow Map



NOTES:
VERTICAL DATUM - BASED ON
PIERCE COUNTY BENCH NO. 112-28,
ELEVATION 660.29 NGVD29

- LEGEND:**
- MW-1A MONITORING WELL
 - W87-2A CHARACTERIZATION WELL/ PIEZOMETER
 - (646.11) GROUNDWATER ELEVATION (IN FEET ABOVE MSL)
 - INFERRED GROUNDWATER FLOW DIRECTION
 - (NM) NOT MEASURED







Attachment B

Groundwater Data Summary Tables

**Table 1. Groundwater Level Elevations
March 19 and 20, 2024
LRI Landfill, Pierce County, Washington**

Location	Well Casing Elevation (ft)	Depth to Water (ft)	Water Level Elevation (ft, NGVD29)
Wells			
W87-2A	664.01	15.04	648.97
W87-4A	693.29	6.45	686.84
W90-12A	640.84	31.72	609.12
MW-1A	652.57	17.93	634.64
MW-2A	651.93	17.34	634.59
MW-3	637.41	5.76	631.65
MW-4	652.37	20.76	631.61
MW-5A	655.55	25.87	629.68
MW-6	635.71	7.81	627.90
MW-7	656.03	21.12	634.91
MW-9	701.77	8.32	693.45
MW-10	678.37	24.95	653.42
Piezometers			
P13-14A	665.96	24.71	641.25
P88-3A	656.20	17.32	638.88
P88-3B	655.98	20.98	635.00
P90-12A	640.84	14.33	626.51
P90-12B	640.73	13.74	626.99
GP-1P	652.00	13.91	638.09
GP-2P	658.61	15.64	642.97
GP-3P	658.51	9.72	648.79
GP-4P	662.01	9.59	652.42
GP-9P	674.03	11.28	662.70
GP-14P		11.45	--
GP-15P		14.89	--
GP-16P	689.51	19.14	662.70
GP-17P		5.36	--
P21-2		20.85	--
P22-1		26.43	--
P22-2		5.27	--
P22-3		11.02	--
South Creek			
SWSC-1	632.68	3.32	662.70
SWSC-2	629.98	4.86	662.70
Leak Detection System			
LDCS-1	657.26	29.05	662.70
LDCS-2A	659.24	29.83	662.70
LDCS-2B	661.70	27.32	662.70

Notes:

NM = not measured

-- = not applicable

All measurements taken on March 19 & 20, 2024

Table 2. Field Parameters
First Quarter 2024
LRI Landfill, Pierce County, Washington

Location	Sample Number	Sample Date	Sampling Method	pH	Conductivity	Temperature
Units				(SU)	(µS/cm)	(°C)
WAC 173-200 Criteria				6.5-8.5	700 ^b	—
Monitoring Wells						
MW-1A	304-031924-01	3/19/2024	DP	7.01	132	14.8
MW-2A	304-031924-02	3/19/2024	DP	7.10	288	13.1
MW-3	304-031924-03	3/19/2024	DP	7.12	434	10.9
MW-4	304-031924-04	3/19/2024	SP	7.36	366	14.8
MW-5A	304-031924-05	3/19/2024	DP	7.42	405	12.5
MW-6	304-031924-06	3/19/2024	DP	7.53	380	10.8
MW-7	304-031924-07	3/19/2024	DP	7.49	374	11.3
MW-9	304-031924-09	3/19/2024	DP	6.57	135	10.4
MW-10	304-031924-10	3/19/2024	DP	6.21	271	11.9
Leak Detection System						
LDCS-1	304-032024-12	3/20/2024	DB	6.47	333	21.2
LDCS-2A	304-032024-13	3/20/2024	DB	6.53	803	20.7
LDCS-2B	304-032024-14	3/20/2024	DB	6.71	1030	16.0
LDCS-3A	304-032024-15	3/20/2024	DP	6.20	878	19.4
LDCS-4A	304-032024-16	3/20/2024	DP	6.57	1168	21.1
LDCS-4B	304-032024-17	3/20/2024	DP	6.19	1,001	25.8
LDCS-5	304-032024-18	3/20/2024	DP	6.12	683	21.3
LDCS-6	304-032024-19	3/20/2024	DP	6.36	1,137	21.4
LDCS-7	304-032024-20	3/20/2024	DP	6.09	661	23.0
LDCS-8	304-032024-21	3/20/2024	GB	6.19	989	21.6
LDCS-9	304-032024-22	3/20/2024	GB	5.71	827	12.5

Notes:

Groundwater (monitoring well) concentrations greater than the WAC 173-200 criteria are shown in **bold**

b = Secondary Drinking Water Standard

°C = degrees celcius

DB = disposable bailer

DP = dedicated pump

GB = grab sample

SP = submersible pump

SU = standard units

µS/cm = microsiemens per centimeter

Table 3. Inorganic Parameters
First Quarter 2024
LRI Landfill, Pierce County, Washington

Parameter	Alkalinity, Total	Ammonia	Chloride	Nitrate	Sulfate	Total Dissolved Solids	Total Organic Carbon	Total Suspended Solids
MRL	10	0.10	0.20	0.50	0.20	10	1.0	4.0
WAC 173-200 Criteria	—	—	250	10	250	500	—	—
Prediction Limit	—	—	—	6.4	—	—	—	—
Monitoring Wells								
MW-1A	61	*	0.58	*	8.4	95	1.4	490
MW-2A	130	0.13	3.7	*	18	180	*	6.8
MW-3	200	0.12	4.0	0.64	30	240	1.3	*
MW-4	170	*	3.8	*	13	210	1.4	9.6
MW-5A	200	0.17	3.9	*	22	240	1.1	*
MW-6	190	0.14	6.1	*	8.0	210	1.2	*
MW-7	200	0.19	3.4	*	4.1	200	*	*
(BG) MW-9	67	*	1.6	*	1.6	110	*	*
(BG) MW-10	120	*	6.9	2.7	6.3	180	*	*
Leak Detection System								
LDCS-1	210	2.0	5.2	*	6.8	310	210	-
LDCS-2A	400	0.8	10	*	34	500	5.9	-
LDCS-2B	360	2.6	29	*	42	520	68	-
LDCS-3A	410	0.28	4.7	*	59	520	2.0	-
LDCS-4A	320	*	32	*	270	770	6.1	-
LDCS-4B	320	0.17	33	*	160	620	6.7	-
LDCS-5	240	0.33	33	*	59	400	10	-
LDCS-6	450	0.23	28	*	120	680	3.9	-
LDCS-7	360	0.21	7.1	*	24	450	5.4	-
LDCS-8	460	0.14	22	*	59	570	6.8	-
LDCS-9	400	0.15	6.2	*	47	500	2.7	-

Notes:

All sample units are milligrams per liter (mg/L)

Groundwater (monitoring well) concentrations greater than prediction limits or WAC 173-200 criteria are shown in **bold**

Analyses performed by Eurofins TestAmerica of Denver, Colorado

Method Reporting Limit (MRL) is typical and may be elevated for some samples

* = Sample result was not reported at or above the MRL

— = Not applicable or not performed

BG = Background

B = compound was detected in the method blank and the sample

**Table 4. WAC 173-351 Appendix I Metals
First Quarter 2024
LRI Landfill, Pierce County, Washington**

Parameter	Antimony-D	Antimony-T	Arsenic-D	Arsenic-T	Barium-D	Barium-T	Beryllium-D	Beryllium-T	Cadmium-D	Cadmium-T	Chromium-D	Chromium-T	Cobalt-D	Cobalt-T	Copper-D	Copper-T	Lead-D	Lead-T	Nickel-D	Nickel-T	Selenium-D	Selenium-T	Silver-D	Silver-T	Thallium-D	Thallium-T	Vanadium-D	Vanadium-T	Zinc-D	Zinc-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.05	0.05	0.005	0.005	0.005	0.005	0.001	0.001	0.001	0.001	0.005	0.005	0.001	0.001	0.01	0.01	0.002	0.002	0.02	0.02	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.01
WAC 173-200 Criteria	—	—	—	0.00005	—	1.0	—	—	—	0.01	—	—	—	—	—	1.0	—	0.05	—	—	0.01	—	0.05	—	—	—	—	—	—	5.0
Prediction Limit	—	0.05	—	0.011	—	0.091	—	0.005	—	0.005	—	0.011	—	0.01	—	0.063	—	0.042	—	0.020	—	0.005	—	—	0.01	—	0.005	—	0.016	0.290
Monitoring Wells																														
MW-1A	—	*	—	0.02	—	0.27	—	*	—	*	—	0.089	—	0.034	—	0.17	—	0.033	—	0.089	—	*	—	*	—	*	—	0.12	—	0.34
MW-2A	—	*	—	*	—	0.015	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-3	—	*	—	*	—	0.016	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-4	—	*	—	0.011	—	0.018	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	0.036
MW-5A	—	*	—	0.006	—	0.016	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-6	—	*	—	0.0079	—	0.016	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-7	—	*	—	0.0056	—	0.015	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
(BG) MW-9	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	0.014	—	*
(BG) MW-10	—	*	—	*	—	0.015	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
Leak Detection System																														
LDCS-1	*	—	0.0063	—	0.014	—	—	—	—	—	*	—	0.002	—	*	—	*	—	*	—	—	—	—	—	—	—	—	*	*	—
LDCS-2A	*	—	0.059	—	0.083	—	—	—	—	—	*	—	0.0015	—	*	—	*	—	*	—	—	—	—	—	—	—	0.0053	*	*	—
LDCS-2B	*	—	0.33	—	0.18	—	—	—	—	—	*	—	0.0032	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	*	—
LDCS-3A	*	—	0.016	—	0.022	—	—	—	—	—	*	—	0.0043	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	*	—
LDCS-4A	*	—	*	—	0.018	—	—	—	—	—	*	—	*	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	0.031	—
LDCS-4B	*	—	0.0067	—	0.024	—	—	—	—	—	*	—	0.0014	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	*	—
LDCS-5	*	—	0.0053	—	0.034	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	*	—
LDCS-6	*	—	0.0052	—	0.05	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	*	—
LDCS-7	*	—	0.0066	—	0.026	—	*	—	*	—	*	—	0.0017	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	*	—
LDCS-8	*	—	0.0052	—	0.04	—	*	—	*	—	*	—	0.0017	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	*	—
LDCS-9	*	—	*	—	0.034	—	*	—	*	—	*	—	0.011	—	*	—	*	—	*	—	—	—	—	—	—	—	*	*	*	—

Notes:

All sample units are milligrams per liter (mg/L)

WAC 173-200-040 Table 1 Groundwater Quality Criteria are for total metals

Groundwater (monitoring well) concentrations greater than prediction limits or WAC 173-200 criteria are shown in **bold**

Parameter concentrations for monitoring wells are total (T) metals

Parameter concentrations for LDCS sumps are dissolved (D) metals

Parameter concentrations for leachate samples are total (T) metals

Analyses performed by Eurofins TestAmerica of Denver, Colorado

Method Reporting Limit (MRL) is typical and may be elevated for some samples

* = sample result was not reported at or above the MRL

— = not applicable or not performed

BG = Background

**Table 5. WAC 173-351 Appendix II Metals (Dissolved)
First Quarter 2024
LRI Landfill, Pierce County, Washington**

Parameter	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MRL	0.20	0.10	0.10	0.005	2.0	1.0
WAC 173-200 Criteria	—	0.30	—	0.050	—	—
Monitoring Wells						
MW-1A	17	*	2.9	0.03	*	5
MW-2A	25	0.85	12	0.31	3.5	16
MW-3	45	*	20	0.41	4.2	14
MW-4	33	0.16	18	0.1	5.6	12
MW-5A	30	0.11	12	0.19	4.3	39
MW-6	39	*	18	0.25	5	11
MW-7	32	0.21	22	0.23	5.2	11
(BG) MW-9	10	*	6.7	*	*	7.1
(BG) MW-10	26	*	11	*	2.2	12
Leak Detection System						
LDCS-1	36	53	17	2.4	4.7	18
LDCS-2A	100	5.5	41	2.7	9.6	30
LDCS-2B	110	120	45	1.3	7.4	21
LDCS-3A	100	2	47	4.4	6.6	23
LDCS-4A	170	*	44	0.38	4.5	34
LDCS-4B	120	0.68	45	1.3	5.9	30
LDCS-5	59	0.27	37	1	6.8	29
LDCS-6	100	0.33	84	1.8	7.4	29
LDCS-7	86	0.88	35	2.6	4.3	24
LDCS-8	86	1.1	77	1.8	5.4	24
LDCS-9	110	*	35	1.4	4.3	35

Notes:

All sample units are milligrams per liter (mg/L)

WAC 173-200-040 Table 1 Groundwater Quality Criteria are for total metals

Groundwater (monitoring well) concentrations greater than WAC 173-200 criteria are shown in **bold**

Analyses performed by Eurofins TestAmerica of Denver, Colorado

Method Reporting Limit (MRL) is typical and may be elevated for some samples

* = sample result was not reported at or above the MRL

** = Reported concentrations for leachate are total metals

— = not applicable or not performed

BG = Background

Table 6. Volatile Organic Compounds (µg/L)
First Quarter 2024
LRI Landfill, Pierce County, Washington

Parameter	1,4-Dichlorobenzene	2-Butanone (MEK)	4-Methyl-2-pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Ethylbenzene	m-Xylene & p-Xylene	o-Xylene	Toluene
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MRL	0.50	6.0	5.0	10.0	0.50	0.63	1.0	0.50	0.50	0.50
WAC 173-200 Criteria	4.0	—	—	—	1.0	—	—	—	—	—
Monitoring Wells										
MW-1	*	*	*	*	*	*	*	*	*	*
MW-2	*	*	*	*	*	*	*	*	*	*
MW-3	*	*	*	*	*	*	*	*	*	*
MW-4	*	*	*	*	*	*	*	*	*	*
MW-5	*	*	*	*	*	*	*	*	*	*
MW-6	*	*	*	*	*	*	*	*	*	*
MW-7	*	*	*	*	*	*	*	*	*	*
(BG) MW-9	*	*	*	*	*	*	*	*	*	*
(BG) MW-10	*	*	*	*	*	*	*	*	*	*
Leak Detection System										
LDCS-1	0.95	*	*	24	*	*	*	*	*	*
LDCS-2A	0.5	*	*	14	*	*	*	*	*	*
LDCS-2B	*	*	*	38	*	0.64	*	*	*	*
LDCS-3A	*	*	*	*	*	*	*	*	*	*
LDCS-4A	*	*	*	*	*	*	*	*	*	*
LDCS-4B	*	*	*	*	*	*	*	*	*	*
LDCS-5	*	*	*	*	*	*	*	*	*	*
LDCS-6	*	*	*	*	*	*	*	*	*	*
LDCS-7	*	*	*	*	1.7	*	*	*	*	*
LDCS-8	*	*	*	*	0.52	*	*	*	*	*
LDCS-9	*	*	*	*	*	*	*	*	*	*
Quality Control Samples										
Field Blank	*	*	*	*	*	*	*	*	*	*

Notes:

All sample units are micrograms per liter (µg/L)

Analyses performed by Eurofins TestAmerica of Denver, Colorado

Groundwater (monitoring well) concentrations greater than WAC 173-200 criteria are shown in **bold**

Method Reporting Limit (MRL) is typical and may be elevated for some samples

* = sample result was not reported at or above the MRL

— = not applicable or not performed

BG = Background

**Table 7. Cation-Anion Balance
First Quarter 2024
LRI Landfill, Pierce County, Washington**

Cations	mg/L					meq/L					% of Total		
	Ca	Mg	K	Na	Total	Ca	Mg	K	Na	Total	Na+K	Ca	Mg
MW-1A	17	2.9	2.0	5.0	26.9	0.85	0.24	0.05	0.22	1.35	19.5	62.9	17.7
MW-2A	25	12	3.5	16	56.5	1.25	0.99	0.08	0.70	3.01	25.7	41.4	32.8
MW-3	45	20	4.2	14	83.2	2.25	1.65	0.09	0.61	4.60	15.3	48.9	35.8
MW-4	33	18	5.6	12	68.6	1.65	1.48	0.13	0.52	3.78	17.2	43.6	39.2
MW-5A	30	12	4.3	39	85.3	1.50	0.99	0.10	1.70	4.28	41.9	35.0	23.1
MW-6	39	18	5.0	11.0	73	1.95	1.48	0.11	0.48	4.02	14.7	48.4	36.9
MW-7	32	22	5.2	11	70.2	1.60	1.81	0.12	0.48	4.00	14.9	39.9	45.2
MW-9	10	6.7	2.0	7.1	25.8	0.50	0.55	0.05	0.31	1.40	25.2	35.5	39.3
MW-10	26	11	2.2	12	51.2	1.30	0.91	0.05	0.52	2.77	20.6	46.8	32.6
LDCS-1	36	17	4.7	18	75.7	1.80	1.40	0.11	0.78	4.08	21.8	44.0	34.3
LDCS-2A	100	41	9.6	30	180.6	4.99	3.37	0.22	1.31	9.89	15.4	50.5	34.1
LDCS-2B	110	45	7.4	21	183.4	5.49	3.70	0.17	0.91	10.27	10.5	53.4	36.1
LDCS-3A	100	47	6.6	23	176.6	4.99	3.87	0.15	1.00	10.01	11.5	49.9	38.7
LDCS-4A	170	44	4.5	34	252.5	8.48	3.62	0.10	1.48	13.68	11.6	62.0	26.5
LDCS-4B	120	45	5.9	30	200.9	5.99	3.70	0.13	1.31	11.13	12.9	53.8	33.3
LDCS-5	59	37	6.8	29	131.8	2.94	3.05	0.15	1.26	7.40	19.1	39.8	41.1
LDCS-6	100	84	7.4	29	220.4	4.99	6.91	0.17	1.26	13.33	10.7	37.4	51.9
LDCS-7	86	35	4.3	24	149.3	4.29	2.88	0.10	1.04	8.31	13.7	51.6	34.7
LDCS-8	86	77	5.4	24	192.4	4.29	6.34	0.12	1.04	11.79	9.9	36.4	53.7
LDCS-9	110	35	4.3	35	184.3	5.49	2.88	0.10	1.52	9.99	16.2	54.9	28.8

Anions	mg/L					meq/L					% of Total			Total Ions (meq/L)	Cation - Anion Balance	Applicable Ratio (%)	Ratio Exceedance
	Alk	Cl	NO ₃	SO ₄	Total	Alk	Cl	NO ₃	SO ₄	Total	Cl	Alk	SO ₄				
MW-1A	73.2	0.6	0.0	8.4	82.18	1.20	0.02	0.000	0.17	1.39	1.2	86.3	12.6	2.74	1.5	10	O
MW-2A	156	3.7	0.0	18.0	177.7	2.56	0.10	0.000	0.37	3.04	3.4	84.2	12.3	6.05	0.4	5	O
MW-3	240	4.0	0.64	30	274.64	3.94	0.11	0.010	0.62	4.68	2.4	84.0	13.3	9.28	0.9	5	O
MW-4	204	3.8	0.0	13	220.8	3.35	0.11	0.000	0.27	3.72	2.9	89.9	7.3	7.50	0.7	5	O
MW-5A	240	3.9	0.0	22	265.9	3.94	0.11	0.000	0.46	4.50	2.4	87.4	10.2	8.78	2.6	5	O
MW-6	228	6.1	0.0	8.0	242.1	3.74	0.17	0.000	0.17	4.08	4.2	91.7	4.1	8.10	0.7	5	O
MW-7	240	3.4	0.0	4.1	247.5	3.94	0.10	0.000	0.09	4.12	2.3	95.6	2.1	8.12	1.4	5	O
MW-9	80.4	1.6	0.0	1.6	83.6	1.32	0.05	0.000	0.03	1.40	3.2	94.4	2.4	2.80	0.3	10	O
MW-10	144	6.9	3.0	6.3	160.2	2.36	0.19	0.048	0.13	2.74	7.1	86.3	4.8	5.51	0.7	5	O
LDCS-1	252	5.2	0.0	6.8	264	4.13	0.15	0.000	0.14	4.42	3.3	93.5	3.2	8.51	4.0	5	O
LDCS-2A	480	10.0	0.0	34	524	7.87	0.28	0.000	0.71	8.86	3.2	88.8	8.0	18.75	5.5	5	Exceeds
LDCS-2B	432	29	0.0	42	503	7.08	0.82	0.000	0.87	8.78	9.3	80.7	10.0	19.05	7.9	5	Exceeds
LDCS-3A	492	4.7	0.0	59	555.7	8.07	0.13	0.000	1.23	9.43	1.4	85.6	13.0	19.44	3.0	5	O
LDCS-4A	384	32	0.0	270	686	6.30	0.90	0.000	5.62	12.82	7.0	49.1	43.8	26.50	3.3	5	O
LDCS-4B	384	33	0.0	160	577	6.30	0.93	0.000	3.33	10.56	8.8	59.7	31.5	21.69	2.6	5	O
LDCS-5	288	33	0.0	59	380	4.72	0.93	0.000	1.23	6.88	13.5	68.6	17.8	14.29	3.7	5	O
LDCS-6	540	28	0.0	120	688	8.86	0.79	0.000	2.50	12.14	6.5	72.9	20.6	25.47	4.7	5	O
LDCS-7	432	7.1	0.0	24	463	7.08	0.20	0.000	0.50	7.78	2.6	91.0	6.4	16.10	3.3	5	O
LDCS-8	552	22	0.0	59	633	9.05	0.62	0.000	1.23	10.90	5.7	83.1	11.3	22.69	3.9	5	O
LDCS-9	480	6.2	0.0	47	533	7.87	0.17	0.000	0.98	9.02	1.9	87.2	10.8	19.01	5.1	5	Exceeds

Notes:

mg/L = milligrams per liter

meq/L = milliequivalents per liter

Total alkalinity concentration, reported as calcium carbonate (CaCO₃), is converted to the bicarbonate (HCO₃⁻) ion by multiplying by a factor of 1.2

Cation / anion balance equation is the equivalent percent difference in cations minus anions divided by the sum of cations and anions [(cations-anions)/(anions+cations)*100].

The MRL was used for analytes that were non-detect

A 10% difference threshold is used if the total cation-anion sums are < 5.0 meq/liter

A 5% difference threshold is used if the total cation-anion sums are > or = to 5.0 meq/liter

Table 8. Duplicate Sample Results
First Quarter 2024 Monitoring Report
LRI Landfill, Pierce County, Washington

Parameter	MRL	MW-7	MW-7 (Duplicate)	RPD (%)
Volatile Organic Compounds (µg/L)				
No Detections	-	-	-	-
Inorganic Parameters (mg/L)				
Alkalinity, Total	10	200	200	0.0
Ammonia	0.1	0.19	0.17	11.1
Chloride	0.2	3.4	3.3	3.0
Sulfate	0.2	4.1	3.5	15.8
Total Dissolved Solids	10	200	200	0.0
Total Organic Carbon	1	1	1	0.0
Dissolved Metals (mg/L)				
Calcium	0.2	32	32	0.0
Iron	0.1	0.21	0.22	4.7
Magnesium	0.1	22	22	0.0
Manganese	0.005	0.23	0.23	0.0
Potassium	2.0	5.2	5.2	0.0
Sodium	1.0	11	11	0.0
Total Metals (mg/L)				
Arsenic	0.005	0.0056	0.0056	0.0
Barium	0.005	0.015	0.015	0.0

Notes:

Analyses performed by Eurofins TestAmerica of Denver, Colorado

Parameters not listed were not present at concentrations exceeding the Method Reporting Limit (MRL)

RPD = relative percent difference

µg/L = micrograms per liter

mg/L = milligrams per liter

U= parameter was not detected in sample

* = sample result was not reported at or above the MRL

The MRL was used to calculate the RPD for analytes where one sample was non-detect



Attachment C

Field Sampling Documentation

March 21, 2024
File No. 04224001.02

Subject: **First Quarter 2024 Groundwater Monitoring Event**
LRI Landfill, Pierce County, Washington

NOTES/SAMPLE DECODING:

Event Dates: March 19-20, 2024

Field Staff: Jovany Estrada & Alex Deszo

- This event served as a quarterly monitoring event.
- Dedicated pumps were used for purging and sampling wells MW-1A, MW-2A, MW-3, MW-5A, MW-6, MW-7, MW-9, MW-10, and leak detection/collection system points LDCS-3A, LDCS-4A, LDCS-4B, LDCS-5, LDCS-6, and LDCS-7.
- Disposable bailers were used to sample leak detection/collection system points LDCS-1, LDCS-2A, LDCS-2B.
- The sample from LDCS-8 and LDCS-9 was collected from the channel discharge spigot.
- A non-dedicated Sample Pro pump was used for purging and sampling monitoring point MW-4.
- A round of water level measurements was completed concurrent with monitoring.
- Multiparameter field meters were calibrated daily, prior to sampling.
- Source water for the field blank was lab-grade deionized water (VOC-free) provided by TestAmerica in Tacoma, Washington.

Sample Number	Well Number
304-031924-01	MW-1A
304-031924-02	MW-2A
304-031924-03	MW-3
304-031924-04	MW-4
304-031924-05	MW-5A
304-031924-06	MW-6
304-031924-07	MW-7
304-031924-08	MW-7 DUPLICATE
304-031924-09	MW-9
304-031924-10	MW-10
304-031924-11	FIELD BLANK
304-032024-12	LDCS-1
304-032024-13	LDCS-2A
304-032024-14	LDCS-2B
304-032024-15	LDCS-3

304-032024-16	LDCS-4A
304-032024-17	LDCS-4B
304-032024-18	LDCS-5
304-032024-19	LDCS-6
304-032024-20	LDCS-7
304-032024-21	LDCS-8
304-032024-22	LDCS-9

SCS ENGINEERS

2405 140th ave NE #107

Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #	04224001-02	Site	LR1 304th	Dedicated	1.75" QED SamplePro	Bail	Peristaltic	Grab	Other
Well ID:	MW-1A	Well ID:	MW-1A	1L = 0.26 gallons					
Sample ID:	301-031924-01	Sample ID:	301-031924-01	1 ft. water = 0.62L					
Date:	3/19/24	Date:	3/19/24	One Well Volume (liters)					
Weather:	Clear	Weather:	Clear	Other: Flow Setting:					
Filtered? (Y/N)	Y	Filtered? (Y/N)	Y	Total Volume Bailed (liters)					
Sample Containers:	1000 ml Poly	Sample Containers:	1000 ml Poly	Flow					
	500 ml HNO3 x2		500 ml H2SO4 x2	100 ml/min					
	125 ml NaOH		125 ml NaOH						

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1027		14.6	140	7.05	7.38	82.0	24.6	
1032		14.6	142	6.34	6.26	101.5	62.2	
1035		14.7	141	5.75	6.24	107.2	355.1	
1038		14.7	143	5.55	6.39	107.8	1095.3	
1041		14.7	137	4.94	6.79	102.3	1610.9	
1044		14.8	133	4.51	6.95	99.3	1431.3	
1047		14.8	132	4.24	7.01	97.8	1183.7	

Notes / Observations (color, odor, anomalies, etc):

took about 15 min for
water to surface
began to be very turbid @
1035

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

SAMPLER:

Jovan Estrada

Printed Name

Signature

SCS ENGINEERS

2405 140th ave NE #107

Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04224001-02	Site: LA 304th	Well ID: MW-2A	Sample ID: 304-031924-02	Date: 2/19/24	Weather: Clear								
Filtered? ☒ N	Locked? ☒ N	Water in Protector? ☒ N	Water in Poly	500 ml Poly	500 ml H2SO4	x2	500 ml NaOH	125 ml NaOH					
Sample Containers:	1000 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly					
DTW	17.34	TOS	7	Intake	BOS	Total Depth	250 ml Poly	40 ml VOA	x3	x6	125 ml Poly	1000 ml Amber	
Sampling Method:	DTW	Meter:	MP-20	YSI	Refill	Discharge	Pressure	Flow	Damage?	Y	N	125 ml Poly	1000 ml Amber
Dedicated	1.75" QED SamplePro	Bail	1 ft water = 0.62L	One Well Volume (liters)	Other:	Flow	Setting:	Other:	1L = 0.26 gallons	Peristaltic	Grab	Other	
CONTROL SETTINGS:	9	6	30	100 ml/min	One Well Volume (liters)	Total Volume Bailed (liters)							

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1151		13.5	355	5.16	6.85	127.9	9.4	
1156		13.3	319	0.51	6.92	26.4	4.0	
1159		13.2	309	0.42	7.05	-17.2	3.7	
1202		13.2	293	0.36	7.09	-47.1	3.2	
1205		13.1	291	0.34	7.10	-57.2	3.2	
1205		13.1	290	0.32	7.10	-62.2	3.3	
1211		13.1	288	0.31	7.10	-65.8	3.4	

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

SAMPLER: Jovan Estrada

Printed Name

Signature

SCS ENGINEERS

2405 140th ave NE #107

Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 6477400102 Site: 125 304th Well ID: MW-3 Sample ID: 304-031924-03 Date: 3/19/24 Weather: Sunny 86°F

Filtered? ☒ N Locked? ☒ N 1000 ml Poly 500 ml HNO₃ x2 125 ml NaOH

Sample Containers: 1000 ml Poly 500 ml H₂SO₄ x2 125 ml NaOH

Sampling Method: DTW 5.76 TOS / Intake / BOS / Total Depth /

Water in Protector? ☒ N 250 ml Poly 40 ml VOA x3 x6 1000 ml Amber

CONTROL SETTINGS: 1.75" QED SamplePro Bail 1 ft water = 0.62L 1L = 0.26 gallons

One Well Volume (liters) 9 Total Volume Bailed (liters) 35 550 ml/min

Refill Discharge Pressure Flow

Other: Flow Setting: /

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1018		10.9	437.2	3.12	6.30	247.6	4.12	
1023		10.9	430.8	0.95	6.98	223.6	3.39	
1026		11.0	432.5	0.87	7.05	214.0	3.40	
1029		11.2	433.4	0.89	7.09	191.0	3.23	
1032		10.8	430.6	0.88	7.09	185.7	3.16	
1035		10.9	433.5	0.83	7.09	172.4	3.03	
1038		10.9	434.6	0.78	7.12	159.6	2.99	

- 1028: Swept CO₂

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER:

Printed Name

Signature

AD

SCS ENGINEERS

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Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 0422460102 Site: LOT 304th
 Well ID: AW-4
 Sample ID: 304-031924-04
 Date: 3/15/21
 Weather: Sunny 53°F
 Filtered? ☒ N Locked? ☒ N
 Sample Containers: 1000 ml Poly 500 ml HNO3 · x2 125 ml NaOH
 500 ml H2SO4 x2 125 ml Poly
 500 ml H2O
 125 ml NaOH

Sampling Method: DTW
 Meter: MP-20
 YSI
 Refill 9
 Discharge 6
 Pressure 50
 Flow 300 ml/min
 Total Depth
 Water in Protector? ☒ N
 500 ml Poly
 500 ml H2SO4 x2
 125 ml NaOH

Dedicated 175" QED SamplePro Bail
 Peristaltic Grab
 Other
 1 ft water = 0.62L
 One Well Volume (liters)
 Total Volume Bailed (liters)
 Other:
 Flow
 Setting:

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1315		15.7	369.6	1.43	7.73	93.9	42	
1320		15.0	367.2	0.96	7.53	97.9	22	
1323		14.9	366.6	0.90	7.45	97.0	32	
1326		14.9	366.6	0.87	7.41	95.9	26	
1329		14.9	366.8	0.83	7.39	93.8	24	
1332		14.8	366.3	0.80	7.39	91.1	19	
1335		14.8	366.1	0.77	7.36	89.1	21	

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Alex Desno
 Printed Name

AD
 Signature

SCS ENGINEERS

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Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 0422400102 Site: LR 304th Well ID: MW-SA Sample ID: 304-031924-05 Date: 3/19/24 Weather: Clear

Sampling Method: Dedicated 1.75" QED SamplePro Bail Peristaltic Grab Other

CONTROL SETTINGS: Refill 9 One Well Volume (liters) 6 Other: Flow
Discharge 40 Total Volume Bailed (liters) 400 ml/min
Pressure 400 Flow 400

DTW 25.87 TOS 7 Intake 7 BOS 7 Total Depth 7

Water in Protector? Y(N) Damage? Y(N)

Sample Containers: 1000 ml Poly 500 ml HNO3 x2 125 ml NaOH 500 ml Poly 500 ml H2SO4 x2 40 ml VOA x3 x6 125 ml Poly 1000 ml Amber

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1246		12.8	293	6.70	7.12	65.9	12.1	
1251		12.6	419	0.46	7.45	37.1	11.6	
1254		12.6	409	0.39	7.42	9.2	8.7	
1257		12.6	403	0.36	7.36	-5.4	8.8	
1300		12.6	403	0.35	7.37	-13.8	10.4	
1303		12.6	405	0.34	7.40	-20.7	12.7	
1306		12.5	405	0.33	7.42	-26.7	11.4	

Notes / Observations (color, odor, anomalies, etc):

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Jovany Estrada

Printed Name

Signature

SCS ENGINEERS

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Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04224001.02 Site: LOT 301th Well ID: MW-6 Sample ID: 304-031924-06 Date: 3/19/24 Weather: Sunny 500 F

Filtered? ☒ N Locked? ☒ N Sample Containers: 1000 ml Poly 500 ml HNO3 x2 500 ml NaOH 125 ml NaOH

Water in Protector: ☒ N 500 ml Poly 500 ml H2SO4 x2 125 ml NaOH

Sampling Method: DTW 7.81 Meter: MP-20 YSI

CONTROL SETTINGS: Refill 9 One Well Volume (liters) 6 Discharge 40 Total Volume Bailed (liters) 25 Pressure 325 Flow min

Dedicated ☒ 1.75" QED SamplePro Bail 1 ft water = 0.62L 1L = 0.26 gallons

Peristaltic Grab Other

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1103		11.0	410.7	4.21	6.76	39.4	2.50	
1108		10.7	384.1	1.21	6.84	47.8	2.73	
1111		10.8	381.4	0.96	7.14	44.4	2.72	
1114		10.8	380.5	0.87	7.34	42.6	2.70	
1117		10.8	380.1	0.82	7.45	41.1	2.70	
1120		10.8	380.1	0.80	7.50	40.7	2.70	
1123		10.8	380.1	0.78	7.53	40.5	2.70	

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Alex Deseo Printed Name

AD Signature

SCS ENGINEERS

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Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04224001.02 Site: LRS 304m Well ID: MW-7 Sample ID: 304-031924-07 Date: 3/19/24 Weather: Sunny 50.1°

Filtered? ☒ N Locked? ☒ N Sample Containers: 1000 ml Poly 500 ml HNO₃ x2 125 ml NaOH 500 ml H₂SO₄ x2 125 ml Poly 40 ml VOA x3 1000 ml Amber

Sampling Method: Dedicated 1.75" QED SamplePro Bail 1L = 0.26 gallons

CONTROL SETTINGS: Refill 9 One Well Volume (liters) Discharge 6 Other: Flow Pressure 30 Total Volume Bailed (liters) Flow 500 ml/min Setting: _____

Water in Protector? ☒ N Damage? ☒ N 125 ml Poly 250 ml Poly 500 ml Poly 1000 ml Poly

Water in Protector? ☒ N Damage? ☒ N 125 ml Poly 250 ml Poly 500 ml Poly 1000 ml Poly

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1151		10.9	347.8	3.77	7.55	96.0	7.01	
1156		11.3	376.9	0.94	6.94	62.9	3.60	
1159		11.3	377.4	0.81	7.27	23.2	3.40	
1202		11.3	377.2	0.76	7.45	-19.0	3.35	
1205		11.3	376.9	0.74	7.52	-46.5	3.23	
1208		11.3	375.5	0.73	7.52	-64.5	3.06	
1211		11.3	374.7	0.73	7.49	-72.7	3.19	

Notes / Observations (color, odor, anomalies, etc):

DUP ② 1226
304-031924-08

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Alex Deszce

Printed Name

Signature

(425) 746-4600

Groundwater Sampling Data Sheet

Project #:	04224001.02										
Site	LRI 304th										
Well ID:	NW-4										
Sample ID:	304-031424-09										
Date:	3/19/24										
Weather:	Sunny 45°F										
Filtered?	☒ Y	☐ N	Locked?	☒ Y	☐ N	Water in Protector?	☐ Y	☐ N	Damage?	☐ Y	☐ N
Sample Containers:	1000 ml Poly		500 ml HNO3		x2	500 ml H2SO4		x2	40 ml VOA		x3
	125 ml NaOH		125 ml Poly			125 ml Poly			1000 ml Amber		

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
0906		10.3	140.1	4.40	5.48	271.3	3.68	
0911		10.4	134.4	4.30	6.26	250.5	3.68	
0914		10.4	134.4	4.28	6.42	248.4	3.67	
0917		10.4	135.1	4.26	6.50	249.8	3.62	
0920		10.4	135.3	4.25	6.53	249.9	3.57	
0923		10.4	135.3	4.24	6.55	249.8	3.50	
0926		10.4	135.4	4.24	6.57	249.7	3.52	

Notes / Observations (color, odor, anomalies, etc):

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

SAMPLER:

Printed Name

Signature

Bellevue, WA 98005

Groundwater Sampling Data Sheet

Notes / Observations (color, odor, anomalies, etc):

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

Printed Name _____

Signature _____

Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04224001-02																	
Site: LRI 304th																	
Well ID: Field Blank																	
Sample ID: 304-031924-1)																	
Date: 3/19/24																	
Weather: Clear																	
Filtered? (Y)N						Locked?		Y N U/A		Water in Protector?		Y N U/A		Damage?		Y N U/A	
Sample Containers:						1000 ml Poly		500 ml Poly		250 ml Poly		125 ml Poly		1000 ml Amber			
						500 ml HNO ₃		x2		500 ml H ₂ SO ₄		x2		40 ml VOA		x3 x6	
						125 ml NaOH											

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1330		18.1	7	7.18	8.05	-6.9	6.1	

Notes / Observations (color, odor, anomalies, etc):

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

SAMPLER: Travis Estrada

Printed Name _____

Signature

(425) 746-4600

Groundwater Sampling Data Sheet

Project #:	04224001.02		Site	LR1304th		Well ID:	4DCS - 1		Sample ID:	304-032024-12		Date:	3/20/24		Weather:	Cloudy		Filtered?	(Y) N		Locked?	Y (N) N		1000 ml Poly	500 ml HNO3		x2		125 ml NaOH		
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW			TOS			Intake			BOS			Total Depth			Water in Protector?	Y (N) N		500 ml Poly	500 ml H2SO4		x2		40 ml VOA		x3		x6	
	29.05		DTW</																												

Notes / Observations (color, odor, anomalies, etc):

Ask lab to filter.

[illegible]Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb $\pm 10\%$ or ≤ 5

SAMPLER:

fovanj Estrada

Printed Name _____

Signature

(425) 746-4600

Project #: 64224061.02

Site LP 304th

Well ID: LPDS-2A

Sample ID: 304-032024-13

Date: 3/20/24

Weather: Cloudy

Filtered? ☒ Y ☐ N

Locked? Y (N)

Sample Containers:

1000 ml Poly 500

500 ml HNO₃

125 ml NaOH

1

TIME

DTW

Temp.

Sp. Cond.

DO

10

43

Turbidity

Q / Vol.

5/21

1	
---	--

205

4.06

6.559

28.6

31-8

[illegible]

--	--

10

10

10

1

100

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

Jovan + Estrada

Printed Name _____

Signature

(425) 746-4600

Groundwater Sampling Data Sheet

Project #:	04224001-02	Site	LE1 304th	Well ID:	WCS-2B	Sample ID:	304-032024-14	Date:	3/20/24	Weather:	Cloudy	Filtered?	(Y) N	Locked?	Y (N)	1000 ml Poly	500 ml HNO3	x2	125 ml NaOH
Sampling Method:	DTW	Meter:	MP-20	TOS	Intake	BOS	Total Depth	Water in Protector?	Y (N)	500 ml Poly	500 ml H2SO4	x2	125 ml NaOH						
Dedicated	1.75" QED SamplePro	Bail	1 ft water = 0.62L	One Well Volume (liters)	Other:	Flow	Setting:	Peristaltic	Grab	Other									
CONTROL SETTINGS:										Notes / Observations (color, odor, anomalies, etc):									
Refill																			
Discharge																			
Pressure																			
Flow																			

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1145		16.0	1030	3.52	6.91	-34.9	331.2	

Notes / Observations (color, odor, anomalies, etc):

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb $\pm 10\%$ or ≤ 5

Jovan Estrada

SAMPLER:

Printed Name _____

Signature

SCS ENGINEERS

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Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 64224001-02 Site: LF1 304th

Well ID: 304-032024-15 Sample ID: LDGS-3

Date: 3/20/24 Weather: Cloudy

Filtered? ☒ Y/N Locked? ☒ Y/N

Sample Containers: 1000 ml Poly 500 ml HNO₃ x2 125 ml NaOH

Water in Protector? ☒ Y/N 500 ml Poly 500 ml H₂SO₄ x2 125 ml Poly

Sampling Method: DTW TOS Intake BOS Total Depth

Meter: MP-20 YSI

CONTROL SETTINGS: Refill Discharge Pressure Flow

1.75" QED SamplePro Bail 1 ft water = 0.62L One Well Volume (liters) Total Volume Bailed (liters)

Peristaltic Grab Other

1L = 0.26 gallons

Other: Flow Setting:

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1054		13.7	884	7.86	7.07	104.5	22.9	
1059		16.5	905	4.11	6.43	115.9	15.5	
1102		17.6	918	2.06	6.31	116.2	1900	
1105		18.3	910	0.62	6.25	56.5	1636	
1108		18.8	881	0.51	6.21	45.2	320.6	
1111		19.3	878	0.44	6.20	43.7	77.1	
1114		19.4	878	0.38	6.20	41.5	52.8	

Notes / Observations (color, odor, anomalies, etc):

NTU increased dramatically

to 1102

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5 SAMPLER: Jovany Estrada

Printed Name

Signature

SCS ENGINEERS

2405 140th ave NE #107

Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: ~~04224000~~ 04224001.02
 Site: ~~Pond~~ LCI 30416
 Well ID: LDCS-4A
 Sample ID: 304-032024-16
 Date: 2/29/2024 3/20/24
 Weather: Overcast 47°F

DTW ☒ TOS ☐ Intake ☐ BOS ☐ Total Depth ☐

Sampling Method: Meter: MP-20 YSI

CONTROL SETTINGS: Refill 11 Discharge 4 Pressure 40 Flow 675ml/min

Dedicated 1.75" QED SamplePro Bail 1 ft water = 0.62L One Well Volume (liters) Total Volume Bailed (liters)

Peristaltic Grab Other

1L = 0.26 gallons

Other: Flow Setting:

Filtered? ☒Locked? ☒ Y ☒ NWater in Protector? ☒ Y ☒ NDamage? ☒ Y ☒ N

Sample Containers:

1000 ml Poly

500 ml Poly

250 ml Poly

125 ml Poly

500 ml HNO3 x2

500 ml H2SO4 x2

40 ml VOA x3

1000 ml Amber

125 ml NaOH

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1319		19.6	1192	0.87	6.37	-4.4	24.97	
1324		21.1	1167	0.79	6.57	-28.8	6.51	
1327		21.2	1168	0.78	6.57	-17.8	5.55	
1330		21.1	1168	0.77	6.57	-10.8	5.68	
1333		21.2	1168	0.76	6.57	-5.4	5.60	
1336		21.2	1168	0.76	6.57	-1.3	5.57	
1339		21.1	1168	0.76	6.57	1.2	6.39	

Notes / Observations (color, odor, anomalies, etc):

*Add Lead to Filter

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

SAMPLER:

Alex 72320

Printed Name

Signature

AD

(425) 746-4600

Groundwater Sampling Data Sheet

Project #:	Site	Well ID:	Sample ID:	Date:	Weather:	Filtered?	Locked?	Water in Protector?	Damage?	125 ml Poly	500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3	x6	1000 ml Amber	Notes / Observations (color, odor, anomalies, etc):
042240000-04	042240000-04	042240000-04	042240000-04	042240000-04	042240000-04	Y	Y	Y	Y	125 ml Poly	500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3	x6	1000 ml Amber	Notes / Observations (color, odor, anomalies, etc):
042240000-04	042240000-04	042240000-04	042240000-04	042240000-04	042240000-04	Y	Y	Y	Y	125 ml Poly	500 ml HNO3	x2	500 ml H2SO4	x2	40 ml VOA	x3	x6	1000 ml Amber	Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1221		21.1	719	6.28	7.44	64.6	39.76	
1226		23.4	726	5.17	7.27	86.6	46.74	
1229		23.5	844	4.04	6.53	110.6	52.35	
1232		23.6	977	2.05	6.25	114.8	51.90	
1235		23.6	949	1.33	6.20	103.0	51.30	
1238		23.8	1001	1.07	6.19	90.5	48.55	
1241		23.8	1001	0.95	6.19	78.9	47.85	

Notes / Observations (color, odor, anomalies, etc):

9.10

9-7

QAND - 957

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

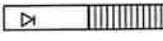
SAMPLER:

Printed Name _____

Signature

(425) 746-4600

Groundwater Sampling Data Sheet

Project #:	04224000-01 04224001 02																																																																																																											
Site	Perry LF L25 3046																																																																																																											
Well ID:	L0LS-5																																																																																																											
Sample ID:	304-032024-10																																																																																																											
Date:	2/29/2024 3/20/24																																																																																																											
Weather:	Overcast 48°F																																																																																																											
Filtered?	☒ N	Locked?	☒ Y	☒ N	Water in Protector?	☒ Y	☒ N	Damage?	☒ Y	☒ N																																																																																																		
Sample Containers:		1000 ml Poly	x2	500 ml HNO3	x2	500 ml H2SO4	x2	250 ml Poly	x3	125 ml Poly																																																																																																		
		125 ml NaOH				40 ml VOA	x6	1000 ml Amber																																																																																																				
 <table border="1"> <thead> <tr> <th colspan="2">Sampling Method:</th> <th colspan="2">Dedicated</th> <th colspan="2">1.75" QED SamplePro</th> <th colspan="2">Bail</th> <th colspan="2">Peristaltic</th> <th colspan="2">Grab</th> <th colspan="2">Other</th> </tr> </thead> <tbody> <tr> <td>Meter:</td> <td>DTW</td> <td colspan="10">1 ft water = 0.62L</td> </tr> <tr> <td>MP-20</td> <td>TOS</td> <td colspan="10">12 One Well Volume (liters)</td> </tr> <tr> <td>YSI</td> <td>Intake</td> <td colspan="10">343</td> </tr> <tr> <td></td> <td>BOS</td> <td colspan="10">40</td> </tr> <tr> <td>Total Depth</td> <td></td> <td colspan="10">200 ml/min</td> </tr> <tr> <td></td> <td></td> <td colspan="10">Total Volume Bailed (liters)</td> </tr> <tr> <td></td> <td></td> <td colspan="10">Flow Setting:</td> </tr> </tbody> </table>											Sampling Method:		Dedicated		1.75" QED SamplePro		Bail		Peristaltic		Grab		Other		Meter:	DTW	1 ft water = 0.62L										MP-20	TOS	12 One Well Volume (liters)										YSI	Intake	343											BOS	40										Total Depth		200 ml/min												Total Volume Bailed (liters)												Flow Setting:									
Sampling Method:		Dedicated		1.75" QED SamplePro		Bail		Peristaltic		Grab		Other																																																																																																
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		Flow Setting:																																																																																																										
Notes / Observations (color, odor, anomalies, etc):																																																																																																												

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1117		15.2	457	6.81	7.29	25.6	4.88	
1122		18.0	451.9	3.85 6.24	6.24	49.4	3.25	
1125		18.4	452.6	3.03	6.15	108.6	3.14	
1128		18.6	451.5	2.13	6.08	101.0	3.76	
1131		19.9	527	1.26	6.08	69.0	6.48	
1134		20.8	670	0.81	6.12	56.0	17.18	
1137		21.3	683	0.65	6.12	59.5	21.42	

Notes / Observations (color, odor, anomalies, etc):

$P_1 = 10.9$
 $P_2 = 8.2$
COND - 844

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

SAMPLER:

Printed Name

Signature

SCS ENGINEERS

2405 140th ave NE #107

Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04224001.02

Site: LRT 304th

Well ID: LDCS-6

Sample ID: 304-032024-19

Date: 3/20/24

Weather: Overcast 48°F

Filtered? ☒ N

Locked? ☒ N

Water in Protector? ☒ N

Damage? ☒ N

Sample Containers:

1000 ml Poly

500 ml Poly

250 ml Poly

125 ml Poly

500 ml HNO3 x2

500 ml H2SO4 x2

40 ml VOA x3

1000 ml Amber

125 ml NaOH

Sampling Method:

DTW

TOS

Intake

BOS

Total Depth

Dedicated

CONTROL SETTINGS:

Refill

Discharge

Pressure

Flow

1.75" QED SamplePro

Bail

1 ft water = 0.62L

One Well Volume (liters)

Total Volume Bailed (liters)

Other

Peristaltic

Grab

Other

1L = 0.25 gallons

Other:

Flow

Setting:

Setting:

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1031		12.1	1018	8.14	7.34	30.1	5.68	
1036		17.2	1020	5.43	7.13	51.6	4.93	
1039		19.1	1043	3.26	6.57	54.9	11.08	
1042		20.3	1129	1.26	6.35	24.3	7.90	
1045		20.8	1138	0.85	6.35	18.3	6.01	
1048		21.2	1136	0.75	6.36	17.2	5.11	
1051		21.4	1137	0.71	6.36	18.1	5.02	

LCRS - 19.3

PLDCS - 2.4

COND - 1113

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER:

Alex Deszo

Printed Name

Signature

AD

(425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04224001-02		Site: LEI 304th		Well ID: LDCS-7		Sample ID: 304-032024-20		Date: 3/20/24		Weather: Cloudy		Filtered? ☒ Y ☐ N		Sample Containers:		1000 ml Poly 500 ml HNO3 x2 125 ml NaOH	
Sampling Method:		DTW		TOS		Intake		BOS		Total Depth		Water in Protector? ☒ Y ☐ N		500 ml Poly		500 ml H2SO4 x2	
Meter:		MP-20		YSI								Damage? ☐ Y ☒ N		125 ml Poly		1000 ml Amber	
Dedicated		1.75" QED SamplePro		1 ft water = 0.62L		One Well Volume (liters)		Total Volume Bailed (liters)		Flow Setting		Peristaltic		Grab		Other	
CONTROL SETTINGS:		11.5		3.5		40		200 ml/min									
Notes / Observations (color, odor, anomalies, etc):																	

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
0935		12.1	695	1.70	6.17	232.7	5.5	
0940		16.8	683	0.42	6.49	219.8	3.7	
0943		20.0	675	0.32	6.28	63.3	3.2	
0946		21.7	672	0.28	6.10	31.5	5.7	
0949		22.6	657	0.25	6.09	26.6	7.2	
0952		22.9	652	0.24	6.09	22.2	8.0	
0955		23.0	661	0.23	6.09	22.3	8.7	

Notes / Observations (color, odor, anomalies, etc):

WPS 12.0
WPS 10.8
Cond Fsq

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

SAMPLER: Javani Esracla

Printed Name

Signature

Bellevue, WA 98005

(425) 746-4600

Groundwater Sampling Data Sheet

Project #:	Dedicated	1.75" QED SamplePro	Bail	Peristaltic	Grab	Other
04224021.02			1 ft water = 0.62L 1L = 0.26 gallons			
Site: C2I 304 th	Meter: MP-20 <u>YSI</u>	CONTROL SETTINGS: Refill Discharge Pressure Flow	One Well Volume (liters)	Other :		
Well ID: LDCS-8	DTW / TOS / Intake / BOS / Total Depth		Total Volume Bailed (liters)	Flow Setting :		
Sample ID: 304-032024-21						
Date: 3/20/24						
Weather: overcast 48° F						
Filtered? Y <u>N</u>	Water in Protector? Y <u>N</u>	Damage? Y <u>N</u>				
Locked? Y <u>N</u>						
Sample Containers:						
1000 ml Poly	500 ml Poly	125 ml Poly				
500 ml HNO ₃ x2	500 ml H ₂ SO ₄ x2	40 ml VOA x3				
125 ml NaOH		1000 ml Amber				
Notes / Observations (color, odor, anomalies, etc):						

TIME	DTW	Temp.	Sp. Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1015		21.6	989	2.88	6.19	118.1	0.69	

Notes / Observations (color, odor, anomalies, etc):

~~Use Lab to Filter!~~

Stabilization Parameters: pH/DO ± 0.2 , SpC $\pm 10\%$, Temp $\pm 0.5^\circ\text{C}$, Turb. $\pm 10\%$ or ≤ 5

SAMPLER: Alex Deszo

Printed Name _____

Signature

Bellevue, WA 98005

Groundwater Sampling Data Sheet

Notes / Observations (color, odor, anomalies, etc):

Ask Lab to Filter!

Signature

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Date	3/19/24						
Time	0900						
Weather (sky or precip, temp)	clear						
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions	
Type of Calibration	Standard	Standard	Standard	Standard	Standard		
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 100, 20, <0.1		
Pre-Cal Reading	1303	3.96	7.05	10.3			
Post Cal Reading	1413	4.00	7.00	8.5			
Discrepancy	No						
Calib. Successful?	yes						
Calibration by	J. Estrada						
Instrument Type, ID	YSI Pro DDS		YSI 556		Rental		YSI Pro DDS / HACH2000
Calibration Location	MW-10						

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Date	3/19/24						
Time	830						
Weather (sky or precip, temp)	Sunny, 41°F						
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions	
Type of Calibration	Standard	Standard	Standard	Standard	Standard		
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 100, 20, <0.1		
Pre-Cal Reading	1379	3.99	6.83 7.00	8.34	—		
Post Cal Reading	1413	4.00	7.00	8.5	—		
Discrepancy	NO						
Calib. Successful?	YES						
Calibration by	AMD						
Instrument Type, ID	YSI Pro DDS / YSI 556 / Rental			YSI Pro DDS / HACH2000			
Calibration Location	CBI Office Lot						

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Date	03/20/24						
Time	0805						
Weather (sky or precip, temp)	Overcast, 45°F						
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions	
Type of Calibration	Standard	Standard	Standard	Standard	Standard		
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 100, 20, <0.1	800,	
Pre-Cal Reading	1415	4.01	7.14	8.22	—		
Post Cal Reading	1413	4.00	7.00	8.5	—		
Discrepancy	NO						
Calib. Successful?	YES						
Calibration by	AMD						
Instrument Type, ID	YSI Pro DDS / YSI 556 / Rental			YSI Pro DDS / HACH2000			
Calibration Location	LR 304m Office Lot						

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Date	3/20/24						
Time	0915						
Weather (sky or precip, temp)	cloudy						
Parameter	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions	
Type of Calibration	Standard	Standard	Standard	Standard	Standard		
Standard Value	1413	4.00	7.00	100% or ~8.5	1000, 10, 0.2 100, 20, <0.1	800,	
Pre-Cal Reading	1390	3.99	7.03	8.0			
Post Cal Reading	1413	4.00	7.00	8.5			
Discrepancy	No						
Calib. Successful?	yes						
Calibration by	Jovan H Estrada						
Instrument Type, ID	YSI Pro DDS / YSI 556 / Rental			YSI Pro DDS / HACH2000			
Calibration Location	LDCS - 7						

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)





Attachment D

Statistical Calculations

Statistical Summary of Total Metals and Nitrate Groundwater Data
Appendix I Parameters, First Quarter 2024
LRI Landfill, Pierce County, Washington

Location ID	Antimony (Sb)		Arsenic (As)		Barium (Ba)		Beryllium (Be)		Cadmium (Cd)		Chromium (Cr)		Cobalt (Co)		Copper (Cu)		Lead (Pb)		Nickel (Ni)		Selenium (Se)		Silver (Ag)		Thallium (Tl)		Vanadium (V)		Zinc (Zn)		Nitrate (NO ₃)		
	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	
MW-1	3/24/2014	0.002	L 0.001	0.005	L 0.0025	0.022	0.022	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	6/24/2014	0.002	L 0.001	0.005	L 0.0025	0.02	0.02	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	9/17/2014	0.05	L 0.025	0.005	L 0.0025	0.024	0.024	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.01	L 0.005	0.005	L 0.0025	0.01	L 0.005	0.02	0.02	0.5	L 0.25
	12/16/2014	0.05	L 0.025	0.005	L 0.0025	0.03	0.03	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.032	0.032	0.5	L 0.25
	3/23/2015	0.05	L 0.025	0.005	L 0.0025	0.02	0.02	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	6/8/2015	0.05	L 0.025	0.005	L 0.0025	0.022	0.022	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	9/16/2015	0.05	L 0.025	0.005	L 0.0025	0.021	0.021	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	12/14/2015	0.05	L 0.025	0.005	L 0.0025	0.024	0.024	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	Number Analyzed	8		8		8		8		8		8		8		8		8		8		8		8		8		8		8		8	
	Number Detected	0		0		8		0		0		0		0		0		0		0		0		0		0		0		2		0	
Minimum Concentration		0.001		0.0025		0.02		0.0005		0.0005		0.001		0.0005		0.001		0.0005		0.001		0.0025		0.0025		0.0005		0.0025		0.005		0.25	
Maximum Concentration	0.025		0.025		0.03		0.025		0.025		0.025		0.025		0.005		0.005		0.001		0.01		0.0025		0.005		0.0025		0.005		0.032		0.25
Average Concentration	NC		NC		0.02288		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Variance	NC		NC		1.1E-05		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Deviation	NC		NC		0.0033		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Coefficient of Variation (%)	NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Error	NC		NC		0.00116		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
MW-2	3/24/2014	0.002	L 0.001	0.005	L 0.0025	0.014	0.014	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	6/26/2014	0.002	L 0.001	0.005	L 0.0025	0.015	0.015	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	9/16/2014	0.05	L 0.025	0.005	L 0.0025	0.018	0.018	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.01	L 0.005	0.005	L 0.0025	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	12/16/2014	0.05	L 0.025	0.005	L 0.0025	0.014	0.014	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	3/23/2015	0.05	L 0.025	0.005	L 0.0025	0.012	0.012	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	6/8/2015	0.05	L 0.025	0.005	L 0.0025	0.013	0.013	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	9/16/2015	0.05	L 0.025	0.005	L 0.0025	0.013	0.013	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	12/14/2015	0.05	L 0.025	0.005	L 0.0025	0.014	0.014	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	Number Analyzed	8		8		8		8		8		8		8		8		8		8		8		8		8		8		8		8	
	Number Detected	0		0		8		0		0		0		0		0		0		0		0		0		0		0		8		0	
Minimum Concentration		0.001		0.0025		0.012		0.0005		0.0005		0.001		0.0005		0.001		0.0005		0.001		0.0025		0.0025		0.0005		0.0025		0.005		0.25	
Maximum Concentration	0.025		0.025		0.018		0.025		0.025		0.025		0.025		0.005		0.005		0.001		0.01		0.0025		0.005		0.0025		0.005		0.005		0.25
Average Concentration	NC		NC		0.01413		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Variance	NC		NC		3.3E-04		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Deviation	NC		NC		0.00181		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Coefficient of Variation (%)	NC		NC		12.798		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Error	NC		NC		0.00064		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
MW-3	3/26/2014	0.002	L 0.001	0.005	L 0.0025	0.014	0.014	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	6/25/2014	0.002	L 0.001	0.005	L 0.0025	0.011	0.011	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	9/17/2014	0.05	L 0.025	0.005																													

Statistical Summary of Total Metals and Nitrate Groundwater Data
Appendix I Parameters, First Quarter 2024
LRI Landfill, Pierce County, Washington

Location ID	Antimony (Sb)		Arsenic (As)		Barium (Ba)		Beryllium (Be)		Cadmium (Cd)		Chromium (Cr)		Cobalt (Co)		Copper (Cu)		Lead (Pb)		Nickel (Ni)		Selenium (Se)		Silver (Ag)		Thallium (Tl)		Vanadium (V)		Zinc (Zn)		Nitrate (NO ₃)		
	Monitoring Date	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
MW-5	3/24/2014	0.002	L 0.001	0.0072	0.0072	0.032	0.032	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	6/25/2014	0.002	L 0.001	0.0067	0.0067	0.033	0.033	0.001	L 0.0005	0.005	L 0.0025	0.0036	0.0036	0.01	L 0.005	0.0061	0.0061	0.001	L 0.0005	0.0043	0.0043	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	9/16/2014	0.05	L 0.025	0.0059	0.0059	0.036	0.036	0.005	L 0.0025	0.005	L 0.0025	0.0051	0.0051	0.01	L 0.005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.01	L 0.005	0.005	L 0.0025	0.01	L 0.005	0.01	0.01	0.5	L 0.25
	12/16/2014	0.05	L 0.025	0.0055	0.0055	0.022	0.022	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	3/23/2015	0.05	L 0.025	0.008	0.008	0.03	0.03	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	6/8/2015	0.05	L 0.025	0.0075	0.0075	0.02	0.02	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	9/18/2015	0.05	L 0.025	0.005	L 0.0025	0.014	0.014	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	12/14/2015	0.05	L 0.025	0.0072	0.0072	0.021	0.021	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	Number Analyzed	8		8		8		8		8		8		8		8		8		8		8		8		8		8		8		8	
Number Detected	0		7		8		0		0		2		0		1		0		1		0		0		0		0		1		0		
Minimum Concentration		0.001		0.0025		0.014		0.0005		0.0005		0.001		0.0005		0.001		0.0005		0.001		0.0025		0.0025		0.0005		0.0025		0.005		0.25	
Maximum Concentration		0.025		0.008		0.036		0.0025		0.0025		0.0051		0.005		0.0061		0.001		0.01		0.0025		0.005		0.0025		0.005		0.01		0.25	
Average Concentration		NC		0.00631		0.026		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
Variance		NC		3E-06		4E-05		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
Standard Deviation		NC		0.00175		0.00776		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
Coefficient of Variation (%)		NC		27.6653		29.863		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
Standard Error		NC		0.00062		0.00275		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
MW-6	3/26/2014	0.002	L 0.001	0.0075	0.0075	0.014	0.014	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	6/25/2014	0.002	L 0.001	0.0065	0.0065	0.011	0.011	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	9/18/2014	0.002	L 0.001	0.0078	0.0078	0.01	0.01	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	12/17/2014	0.05	L 0.025	0.0068	0.0068	0.012	0.012	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	3/26/2015	0.05	L 0.025	0.0068	0.0068	0.01	0.01	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	6/8/2015	0.05	L 0.025	0.0075	0.0075	0.01	0.01	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	9/17/2015	0.05	L 0.025	0.0069	0.0069	0.011	0.011	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	12/14/2015	0.05	L 0.025	0.0074	0.0074	0.011	0.011	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
	Number Analyzed	8		8		8		8		8		8		8		8		8		8		8		8		8		8		8		8	
Number Detected	0		8		8		0		0		0		0		0		0		0		0		0		0		0		0		0		
Minimum Concentration		0.001		0.0065		0.01		0.0005		0.0005		0.001		0.0005		0.001		0.0005		0.001		0.0025		0.0025		0.0005		0.0025		0.005		0.25	
Maximum Concentration		0.025		0.0078		0.014		0.0005		0.0025		0.0025		0.005		0.005		0.001		0.01		0.0025		0.005		0.0025		0.005		0.005		0.25	
Average Concentration		NC		0.00715		0.01113		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
Variance		NC		2.1E-07		1.8E-06		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
Standard Deviation		NC		0.00046		0.00136		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
Coefficient of Variation (%)		NC		6.38736		12.1906		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
Standard Error		NC		0.00016		0.00048		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC	
MW-7	3/26/2014	0.002	L 0.001	0.0054	0.0054	0.016	0.016	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	6/26/2014	0.002	L 0.001	0.0053	0.0053	0.016	0.016	0.001	L 0.0005	0.005	L 0.0025	0.002	L 0.001	0.01	L 0.005	0.002	L 0.001	0.001	L 0.0005	0.002	L 0.001	0.005	L 0.0025	0.01	L 0.005	0.001	L 0.0005	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	9/17/2014	0.05	L 0.025	0.0052	0.0052	0.015	0.015	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.01	L 0.005	0.01	L 0.005	0.002	L 0.001	0.02	L 0.01	0.005	L 0.0025	0.01	L 0.005	0.005	L 0.0025	0.01	L 0.005	0.01	L 0.005	0.5	L 0.25
	12/16/2014	0.05	L 0.025	0.005	0.005	0.014	0.014	0.001	L 0.0005	0.001	L 0.0005	0.005	L 0.0025	0.001	L 0.0005	0.01	L 0.00																

Appendix I Parameters, First Quarter 2024

3/25/2014	0.002	L	0.001	0.005	L	0.0025	0.0047	0.0047	0.001	L	0.0005	0.005	L	0.0025	0.002	L	0.001	0.01	L	0.005	0.002	L	0.001	0.001	L	0.0005	0.002	L	0.001	0.005	L	0.0005	0.014	0.016	0.01	0.01	0.5	L	0.25		
4/2/2014	0.002	L	0.001	0.005	L	0.0025	0.0045	0.0045	0.001	L	0.0005	0.005	L	0.0025	0.002	L	0.001	0.01	L	0.005	0.002	L	0.001	0.001	L	0.0005	0.002	L	0.001	0.005	L	0.0005	0.016	0.016	0.01	L	0.005	0.5	L	0.25	
9/18/2014	0.002	L	0.001	0.005	L	0.0025	0.0057	0.0057	0.001	L	0.0005	0.005	L	0.0025	0.002	L	0.001	0.01	L	0.005	0.002	L	0.001	0.001	L	0.0005	0.002	L	0.001	0.005	L	0.0005	0.014	0.014	0.014	0.014	0.5	L	0.25		
12/17/2014	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
3/24/2015	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.013	0.013	0.01	L	0.005	0.5	L	0.25
6/9/2015	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
9/18/2015	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0005	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
12/16/2015	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.042	0.042	0.5	L	0.25	
3/22/2016	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.028	0.028	0.5	L	0.25	
6/8/2016	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0005	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.023	0.023	0.5	L	0.25	
9/1/2016	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.015	0.015	0.042	0.042	0.5	L	0.25	
3/2/2016	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0005	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.015	0.015	0.042	0.042	0.5	L	0.25	
3/29/2017	0.05	L	0.025	0.005	L	0.0025	0.0056	0.0056	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25	
4/22/2017	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
9/26/2017	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.012	0.012	0.01	L	0.005	0.5	L	0.25
12/13/2017	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.013	0.013	0.01	L	0.005	0.5	L	0.25
3/21/2018	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.016	0.016	0.01	L	0.005	0.5	L	0.25
6/19/2018	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.013	0.013	0.01	L	0.005	0.5	L	0.25
9/19/2018	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.013	0.013	0.01	L	0.005	0.5	L	0.25
12/4/2018	0.05	L	0.025	0.005	L	0.0025	0.0051	0.0051	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25	
3/11/2019	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
6/19/2019	0.05	L	0.025	0.005	L	0.0025	0.0051	0.0051	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.013	0.013	0.01	L	0.005	0.5	L	0.25	
9/2/2019	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.015	0.015	0.042	0.042	0.5	L	0.25	
12/11/2019	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.016	0.016	0.01	L	0.005	0.5	L	0.25
3/17/2020	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.015	0.015	0.01	L	0.005	0.5	L	0.25
6/8/2020	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
9/22/2020	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.016	0.016	0.01	L	0.005	0.5	L	0.25
12/16/2020	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
3/9/2021	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.015	0.015	0.01	L	0.005	0.5	L	0.25
6/15/2021	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
9/15/2021	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.015	0.015	0.01	L	0.005	0.5	L	0.25
12/1/2021	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.015	0.015	0.01	L	0.005	0.5	L	0.25
3/30/2022	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.015	0.015	0.01	L	0.005	0.5	L	0.25
6/1/2022	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0005	0.001	L	0.0005	0.005	L	0.0005	0.005	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.014	0.014	0.01	L	0.005	0.5	L	0.25
9/1/2022	0.05	L	0.025	0.005	L	0.0025	0.005	L	0.0025	0.001	L	0.0005	0.005	L</																											

Appendix I Parameters, First Quarter 2024

3/25/2014	0.002	L	0.001	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.005	L	0.0025	0.002	L	0.001	0.01	L	0.005	0.002	L	0.001	0.001	L	0.0005	0.002	L	0.001	0.005	L	0.0025	0.01	L	0.005	0.001	L	0.0005	0.01	L	0.005	0.01	L	0.005	6.4	6.4
4/25/2014	0.002	L	0.001	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.005	L	0.0025	0.002	L	0.001	0.01	L	0.005	0.002	L	0.001	0.001	L	0.0005	0.002	L	0.001	0.005	L	0.0025	0.01	L	0.005	0.001	L	0.0005	0.01	L	0.005	0.01	L	0.005	6.8	5.8
9/14/2014	0.05	L	0.025	0.005	L	0.0025	0.015	0.015	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.01	L	0.005	0.005	L	0.0025	0.01	L	0.005	0.011	0.011	5.4	5.4	
12/17/2014	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.3	5.3		
3/25/2015	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.9	5.9		
6/8/2015	0.05	L	0.025	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.7	5.7		
9/15/2015	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.1	5.1		
12/16/2015	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	4.9	4.9		
3/21/2016	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.9	5.9		
6/6/2016	0.05	L	0.025	0.005	L	0.0025	0.012	0.012	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.9	5.9		
9/15/2016	0.05	L	0.025	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.4	5.4		
6/21/2016	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.2	5.2		
3/29/2017	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.8	5.8		
4/19/2017	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.5	5.5		
9/26/2017	0.05	L	0.025	0.005	L	0.0025	0.012	0.012	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.2	5.2		
12/12/2017	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	4.9	4.9		
3/20/2018	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.3	5.3		
6/18/2018	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	5.0	5.0		
9/18/2018	0.05	L	0.025	0.005	L	0.0025	0.016	0.016	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	4.7	4.7		
12/4/2018	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	4.3	4.3		
3/12/2019	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	4.4	4.4		
6/17/2019	0.05	L	0.025	0.005	L	0.0025	0.015	0.015	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	4.7	4.7		
9/2/2019	0.05	L	0.025	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	4.2	4.2		
12/11/2019	0.05	L	0.025	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	3.9	3.9		
3/17/2020	0.05	L	0.025	0.005	L	0.0025	0.015	0.015	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	0.034	0.034	3.7	3.7
6/9/2020	0.05	L	0.025	0.005	L	0.0025	0.016	0.016	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	3.7	3.7		
9/22/2020	0.05	L	0.025	0.005	L	0.0025	0.015	0.015	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.011	0.011	3.4	3.4				
12/16/2020	0.05	L	0.025	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	3.2	3.2		
3/9/2021	0.05	L	0.025	0.005	L	0.0025	0.015	0.015	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	3.2	3.2		
6/15/2021	0.05	L	0.025	0.005	L	0.0025	0.013	0.013	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.01	L	0.005	0.005	2.5	2.5		
9/15/2021	0.05	L	0.025	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L	0.005	0.002	L	0.001	0.02	L	0.01	0.005	L	0.0025	0.005	L	0.0025	0.005	L	0.0025	0.011	0.011	2.9	2.9				
12/15/2021	0.05	L	0.025	0.005	L	0.0025	0.014	0.014	0.001	L	0.0005	0.001	L	0.0005	0.005	L	0.0025	0.001	L	0.0005	0.01	L																								

Metals results are for total metals.
mg/l = milligrams per liter

Groundwater Prediction Limits (mg/L)
Appendix I Parameters, First Quarter 2024
LRI Landfill, Pierce County, Washington

	MRL (typical)	Prediction Limit	MW-1/ MW-1A	MW-2/ MW-2A	MW-3	MW-4	MW-5/ MW-5A	MW-6	MW-7	MW-9	MW-10
Antimony	0.050	0.050 L	0.050 L	0.050 L	0.050 L	0.050 L	0.050 L	0.050 L	0.050 L	0.050 L	0.050 L
Arsenic	0.005	0.011	0.005 L	0.005 L	0.005 L	0.011	0.008	0.008	0.006	0.005 L	0.005 L
Barium	0.005	0.091	0.030	0.018	0.015	0.091	0.036	0.014	0.016	0.0057	0.016
Beryllium	0.005	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.001 L	0.005 L	0.001 L	0.005 L
Cadmium	0.005	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L
Chromium	0.005	0.011	0.005 L	0.005 L	0.005 L	0.011	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L
Cobalt	0.010	0.010 L	0.010 L	0.010 L	0.010 L	0.004	0.010 L	0.010 L	0.010 L	0.010 L	0.010 L
Copper	0.010	0.063	0.010 L	0.010 L	0.010 L	0.063	0.010 L	0.010 L	0.010 L	0.010 L	0.010 L
Lead	0.002	0.042	0.002 L	0.002 L	0.002 L	0.042	0.002 L	0.002 L	0.002 L	0.002 L	0.002 L
Nickel	0.020	0.020 L	0.020 L	0.020 L	0.020 L	0.020 L	0.020 L	0.020 L	0.020 L	0.020 L	0.020 L
Selenium	0.005	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L
Silver	0.010	0.010 L	0.010 L	0.010 L	0.010 L	0.010 L	0.010 L	0.010 L	0.010 L	0.010 L	0.010 L
Thallium	0.005	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L	0.005 L
Vanadium	0.010	0.017	0.010 L	0.010 L	0.010 L	0.014	0.010 L	0.010 L	0.010 L	0.017	0.010 L
Zinc	0.01	0.290	0.032	0.010 L	0.010 L	0.290	0.010 L	0.010 L	0.010 L	0.043	0.034
Nitrate as Nitrogen	0.50	6.40	0.500 L	0.500 L	0.500 L	0.500 L	0.500 L	0.500 L	0.500 L	0.500 L	6.40

Notes:

Prediction Limits are shown in bold.

Prediction Limits for metals are for total metals.

L = not reported at or above the MRL (Method Reporting Limit).

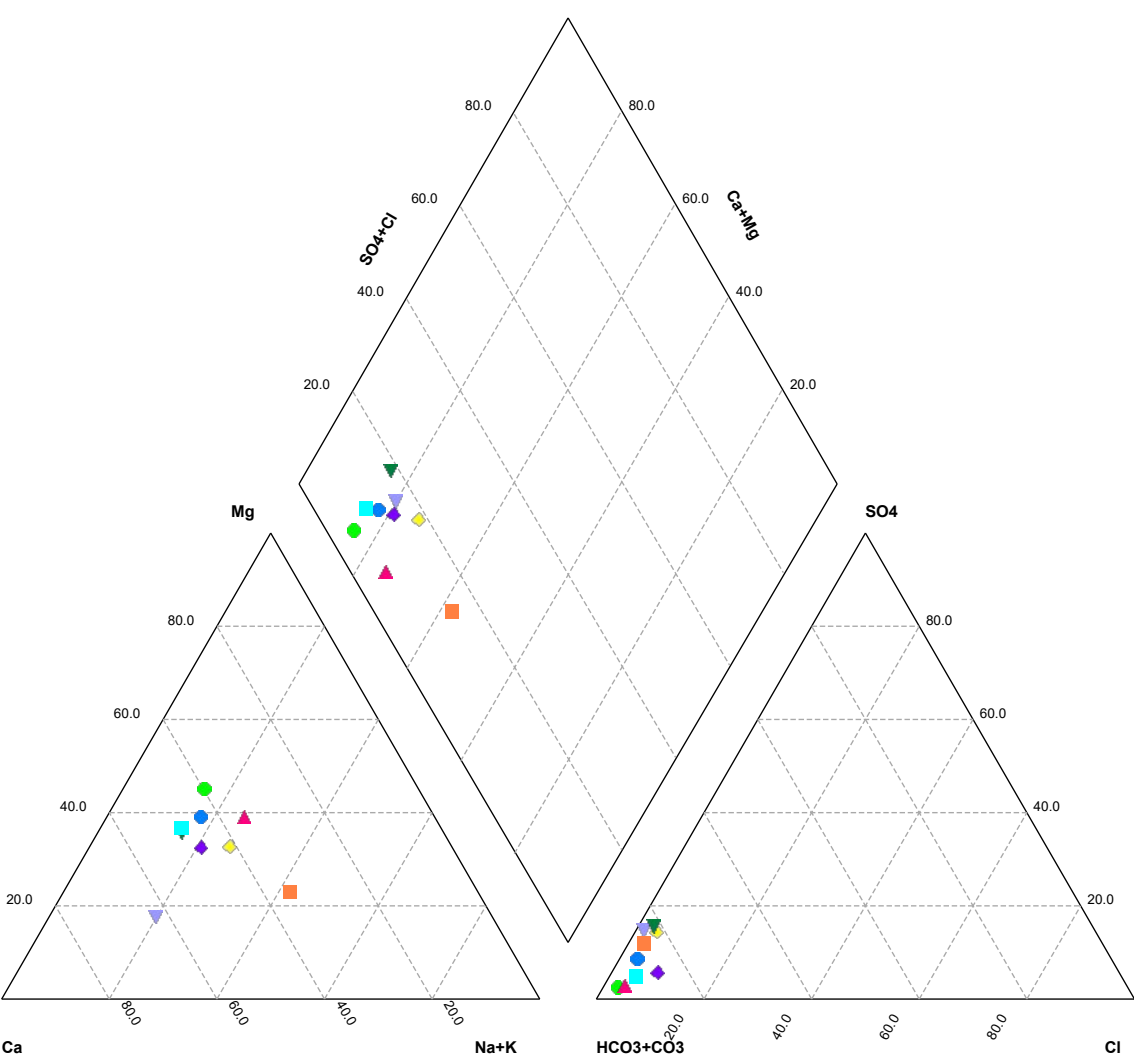
mg/L = milligrams per liter.



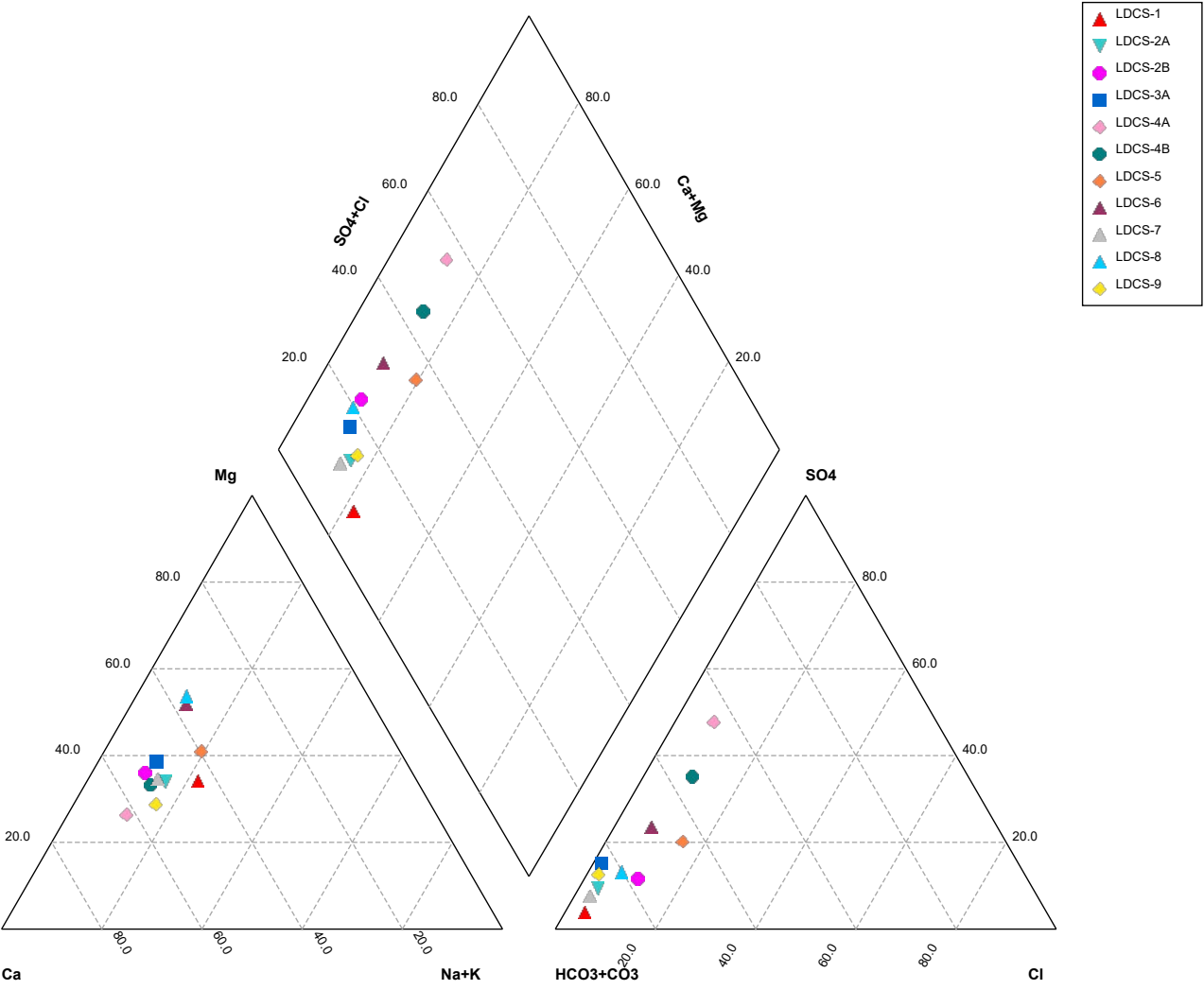
Attachment E

Trilinear Diagrams

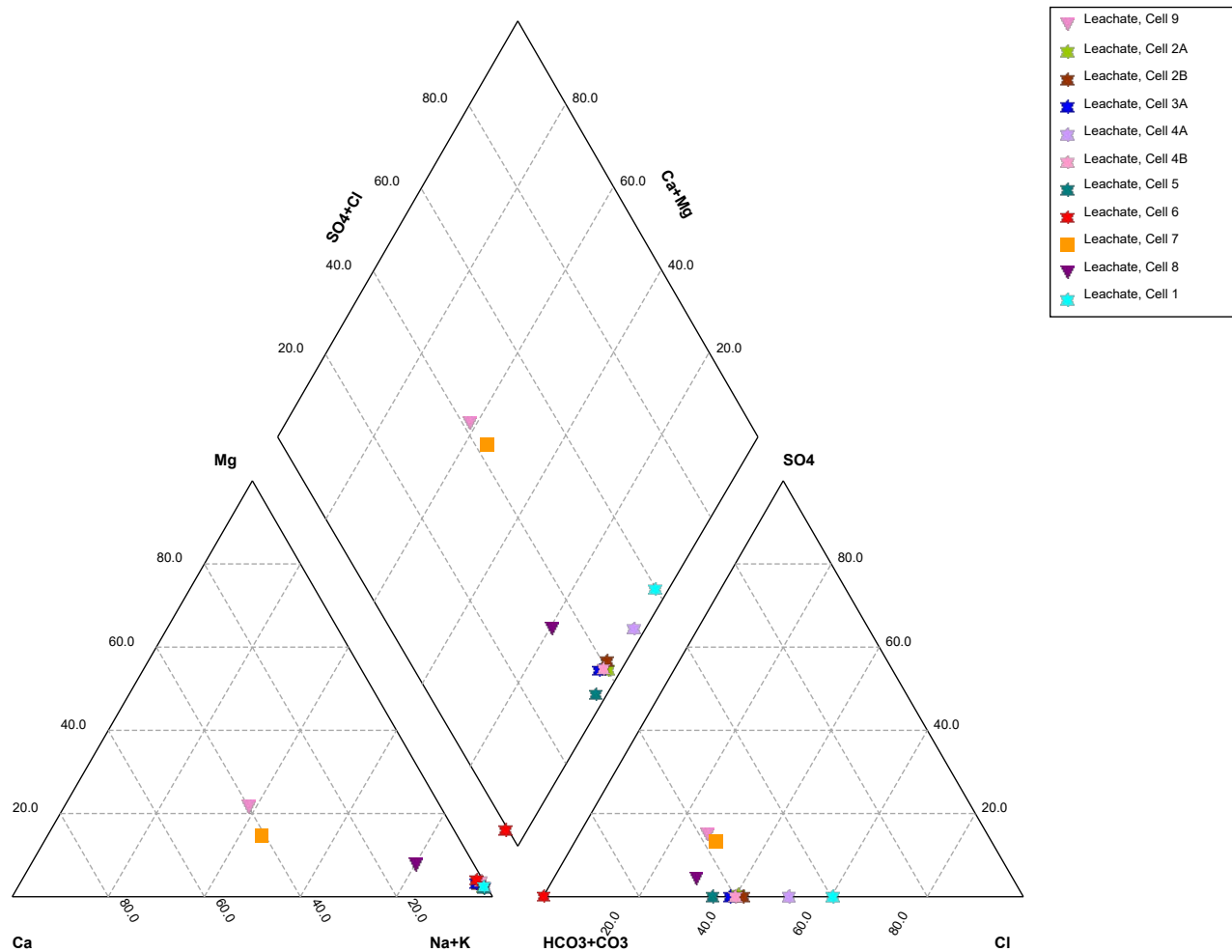
First Quarter 2024, Groundwater Monitoring Wells



First Quarter 2024, Leak Detection Collection Recovery System



Fourth Quarter 2023, Leachate





Attachment F

Analytical Data Validation Report

FIRST QTR. 2024 DATA VALIDATION REPORT – LRI LANDFILL

Project Details

Project No.	04224001.02	Site Name	LRI 304 th Street LF
Data Validator	Alex Deszo	Data Level	Level 2
Date	04/10/2024	DV Tier	Tier 1
QA Document	LRI Landfill Groundwater Monitoring Plan, March 10, 2014		

Sample Login Summary

Sample Group	Sample Login Comments	Analytical Lab (Primary)
280-189012-1	Due to a FedEx shipping delay; the following sample(s) was received with less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the Nitrate analysis within holding time: 304-031924-01 (280-189012-1), 304-031924-03 (280-189012-3), 304-031924-06 (280-189012-6), 304-031924-09 (280-189012-9) and 304-031924-10 (280-189012-10). A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC). The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): 304-031924-10 (280-189012-10). The 250 ml Plastic Dissolved Metals container label lists 304-03192024, while the COC lists 304-031924-10. The times match. Logged per the COC.	TestAmerica, Denver, CO
280-189006-1	No Comment.	TestAmerica, Denver, CO

Analytical Summary

Sample Group	Analyses					
	TDS/Alk/NO3	Metals	NH3/TOC	VOCs	Anions	TSS
280-189012-1	X	X	X	X	X	X
280-189006-1	X	X	X	X	X	-

Notes:

1. Dissolved metals analysis performed (field filtered)



2. Dissolved and Total metals analysis performed
3. Total Metals analysis performed

Laboratory Quality Assurance Samples

Lab QA Samples	Results	Comments
Method Blank	Acceptable.	See case narratives
LCS/LCSD	Acceptable.	See case narratives.
MS/MSD	Acceptable	See case narratives.
Metals	Acceptable.	See case narratives.
Duplicates	Acceptable.	See case narratives.
Organics	Acceptable.	See case narratives.
General Chemistry	Acceptable.	See case narratives.
General Comments	Acceptable.	See case narratives.

Field Quality Assurance Samples

Field QA Samples	Sample Group	Analytes	Notes
QC-FB	280-189012-1	None.	

Lab Quality Flags

Flag	Sample Groups	Comments
4	280-189012-1, 280-189006-1	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable. MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	280-189012-1, 280-189006-1	MS and/or MSD recovery exceeds control limits.
F2	280-189006-1	MS/MSD RPD exceeds control limits
E	280-189006-1	Result exceeded calibration range.
J	280-189012-1, 280-189006-1	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^+	280-189006-1	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.

Flag	Sample Groups	Comments
H	280-189012-1	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
*+	280-189006-1	LCS and/or LCSD is outside acceptance limits, high biased.
^1+	280-189006-1	LCS and/or LCSD is outside acceptance limits, high biased.

Duplicate Evaluation

Analyte	Units	MW-7 (304-)	MW-7 DUP (304-)	RPD (%)
Total Dissolved Solids		160	130	20.69
Total Organic Carbon		1	1.2	18.18

U = Non-detection. Reporting limit (RL) used for calculation of RPD when necessary.

Additional Data Flags

Flag	Description
U	Not detected above the method reporting limit.

Qualified Data and Usability

Lab qualifiers are noted. All data, as qualified, are acceptable for use.

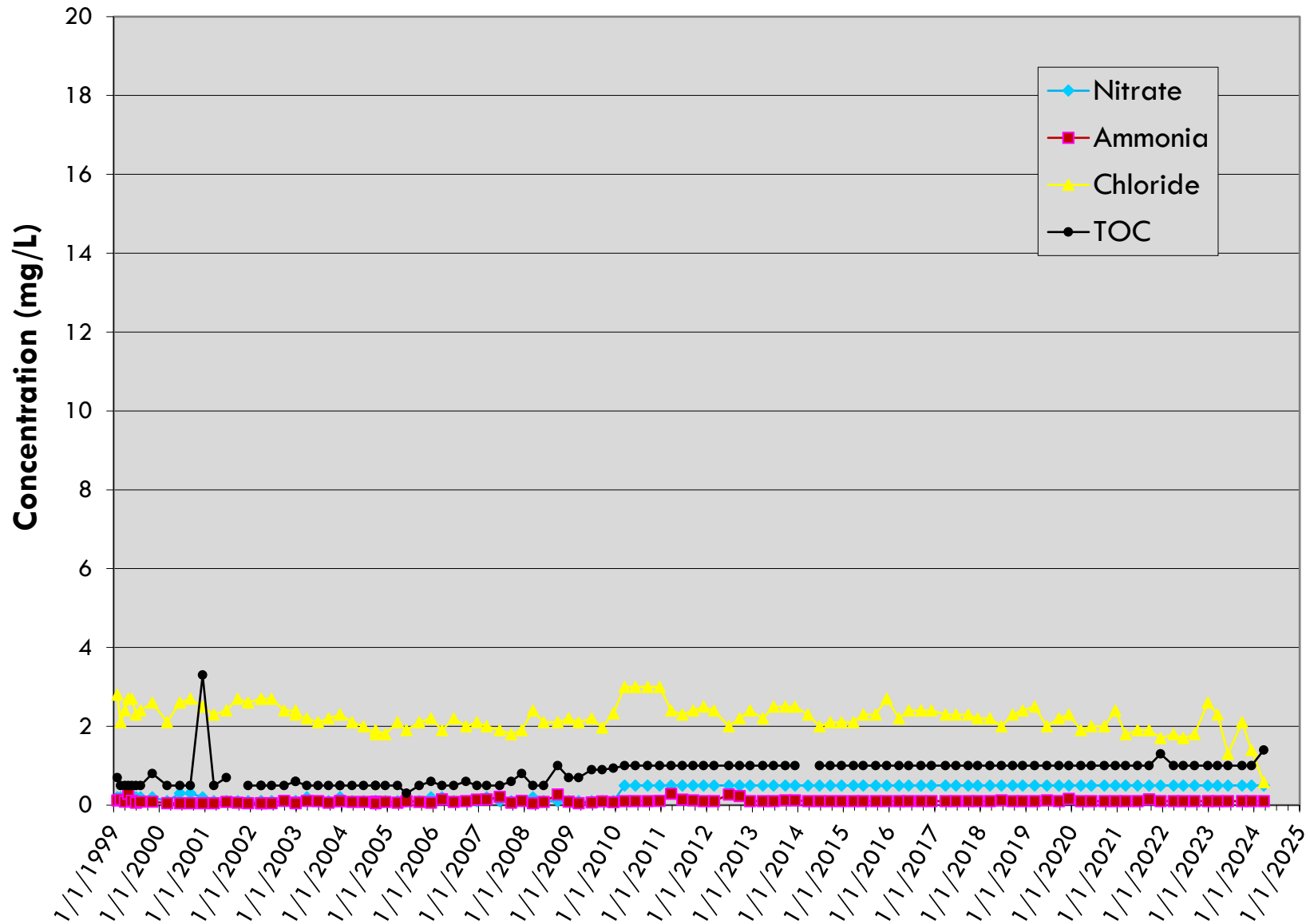


Attachment G

Groundwater and LDCS Time Trend Plots

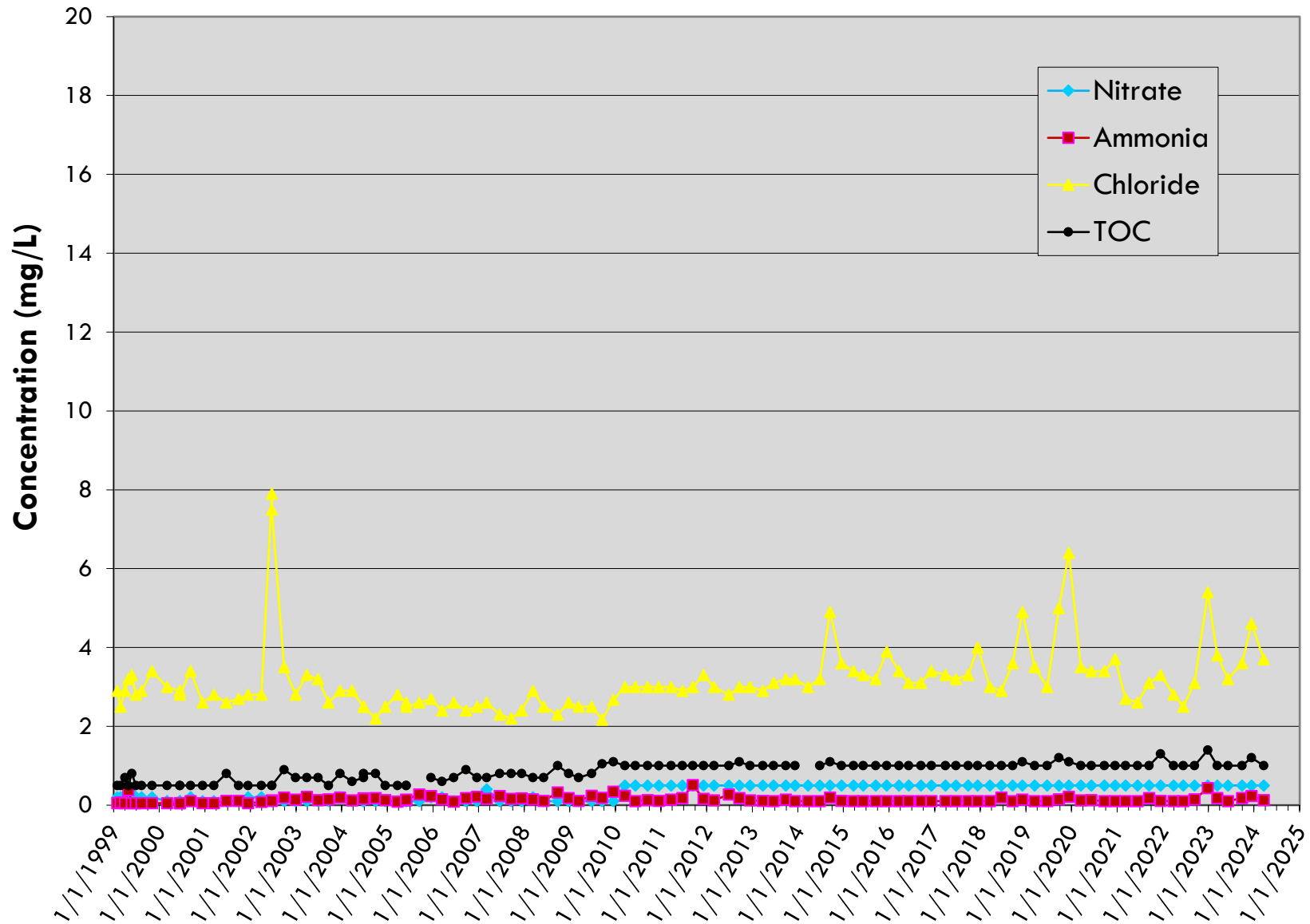
MW-1A

LRI Landfill, Pierce County, Washington



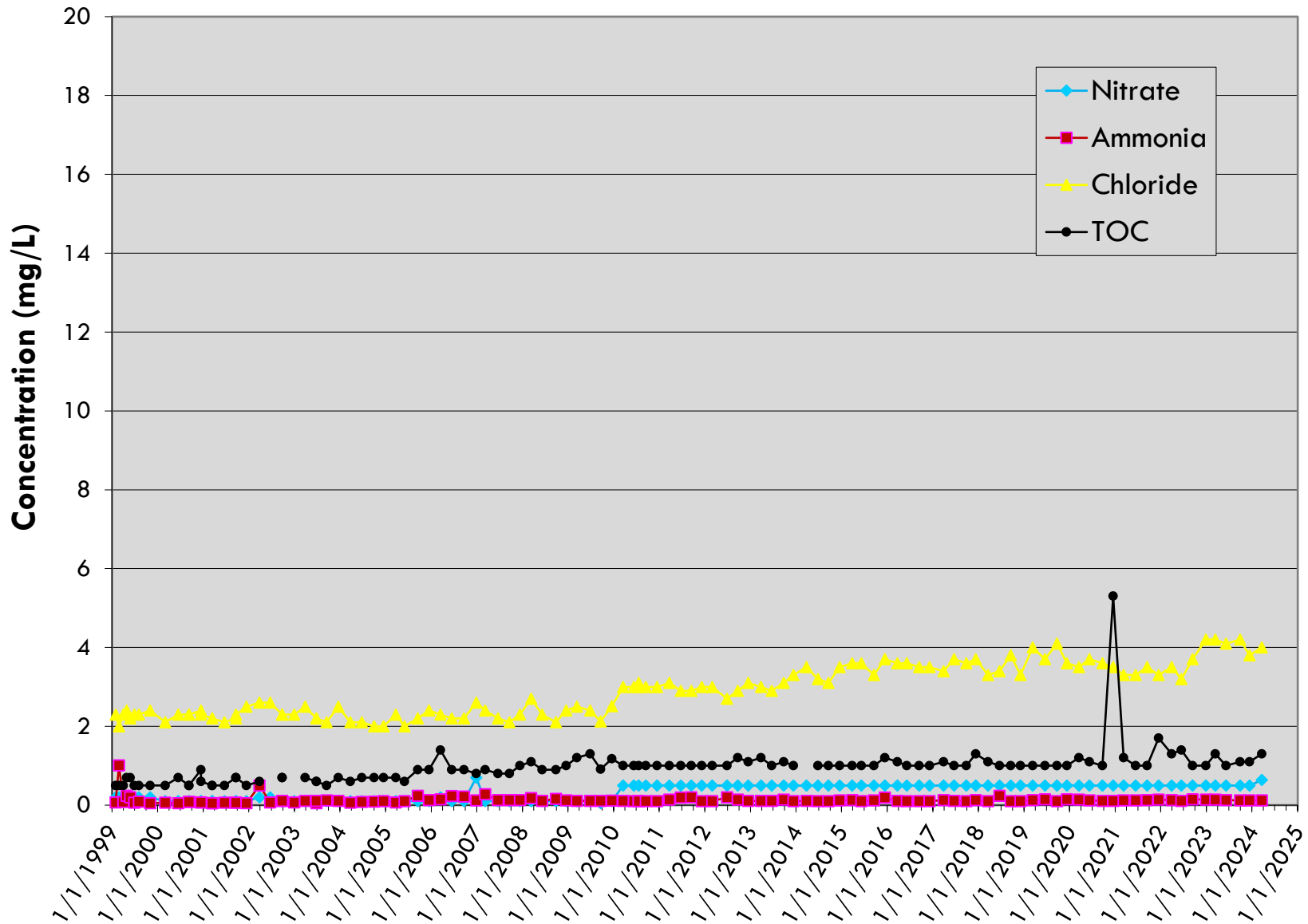
MW-2A

LRI Landfill, Pierce County, Washington



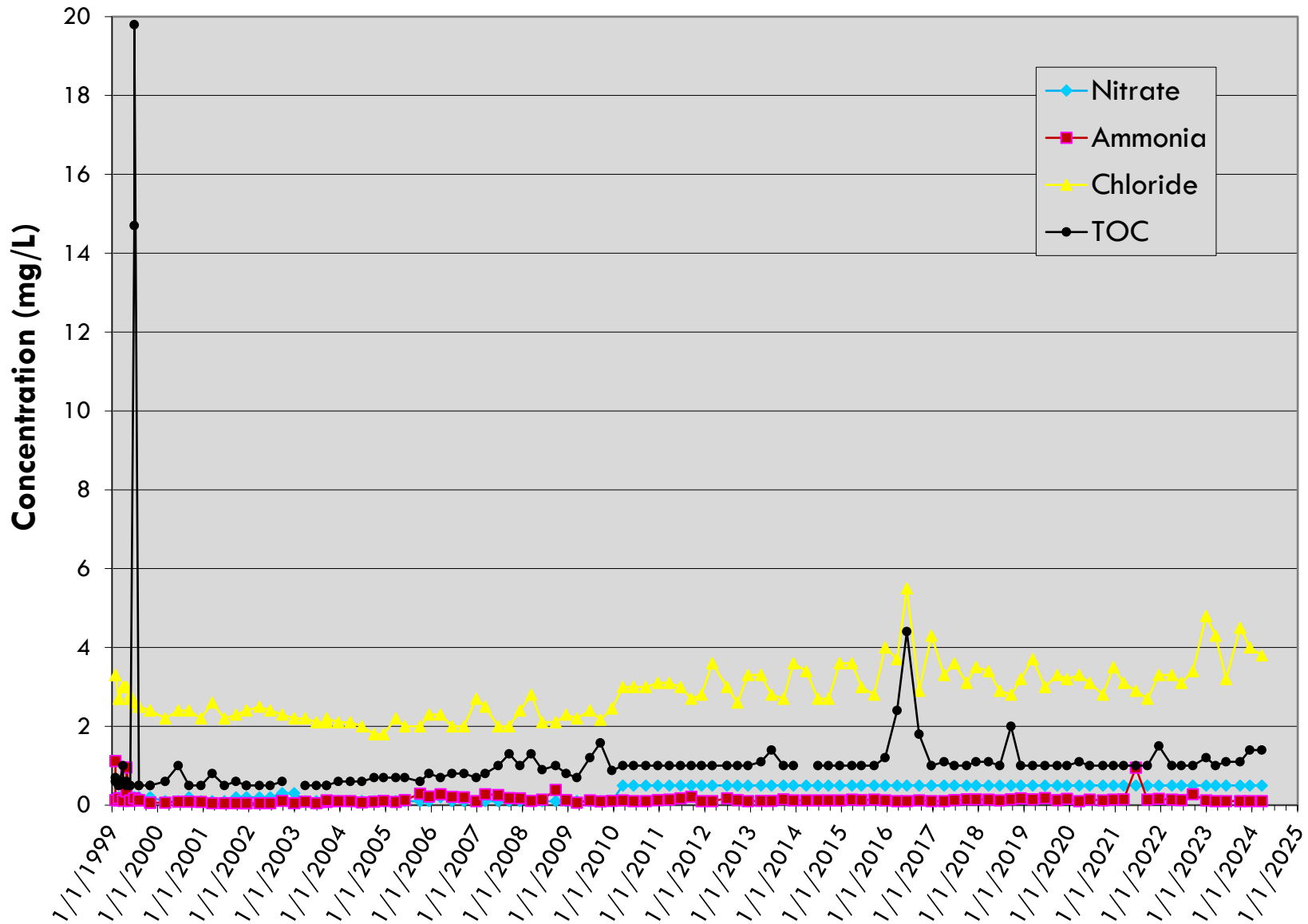
MW-3

LRI Landfill, Pierce County, Washington



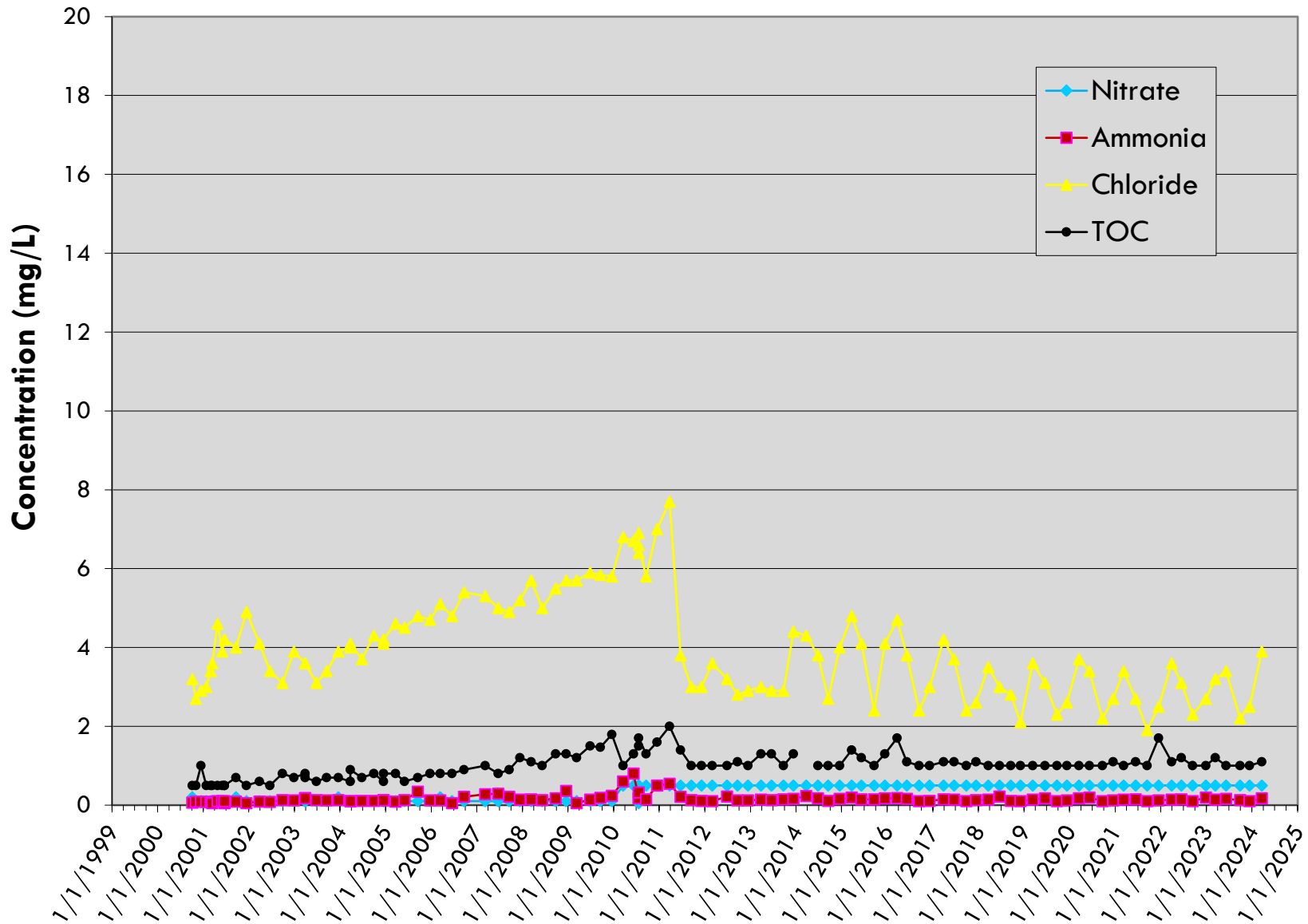
MW-4

LRI Landfill, Pierce County, Washington



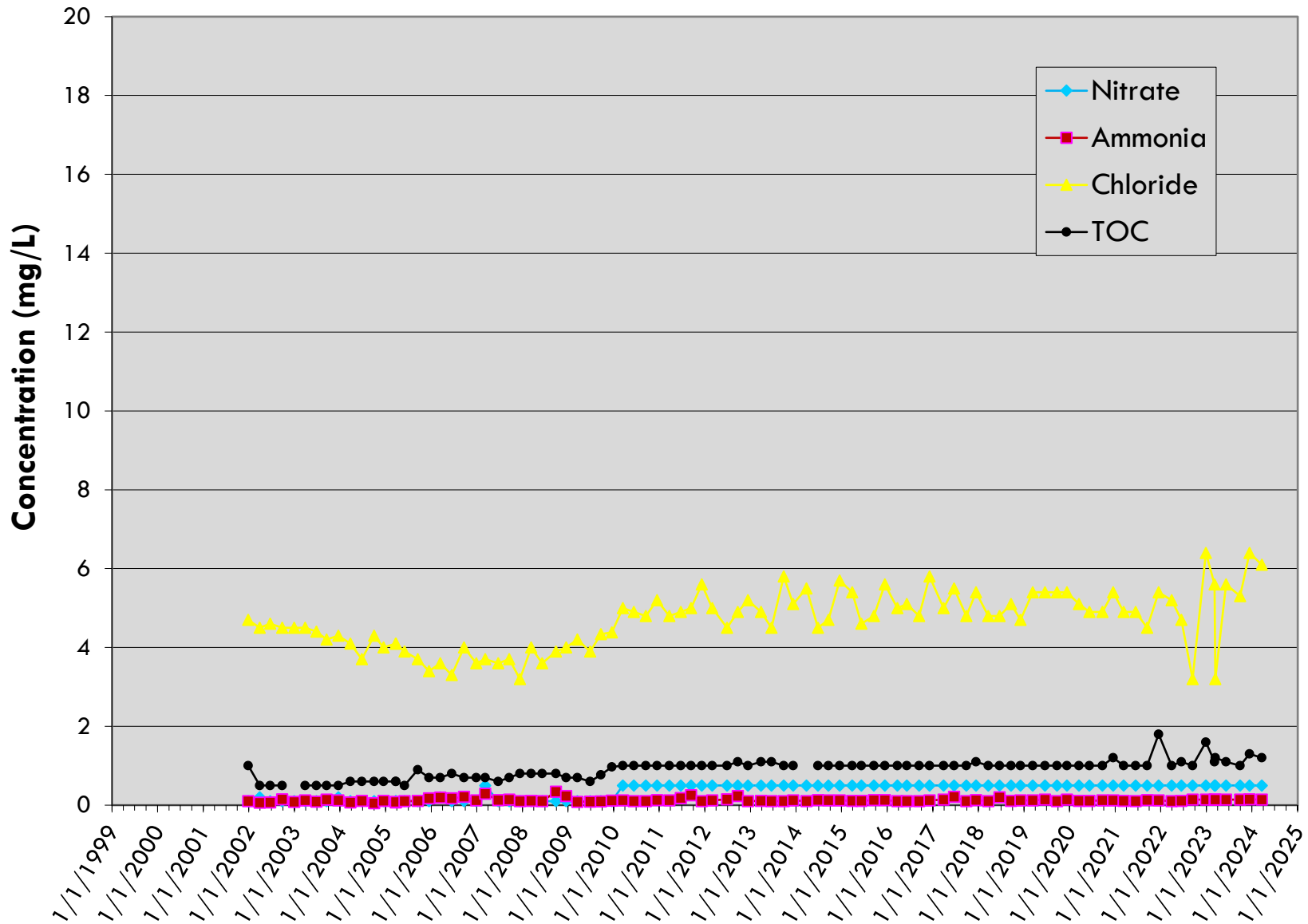
MW-5A

LRI Landfill, Pierce County, Washington



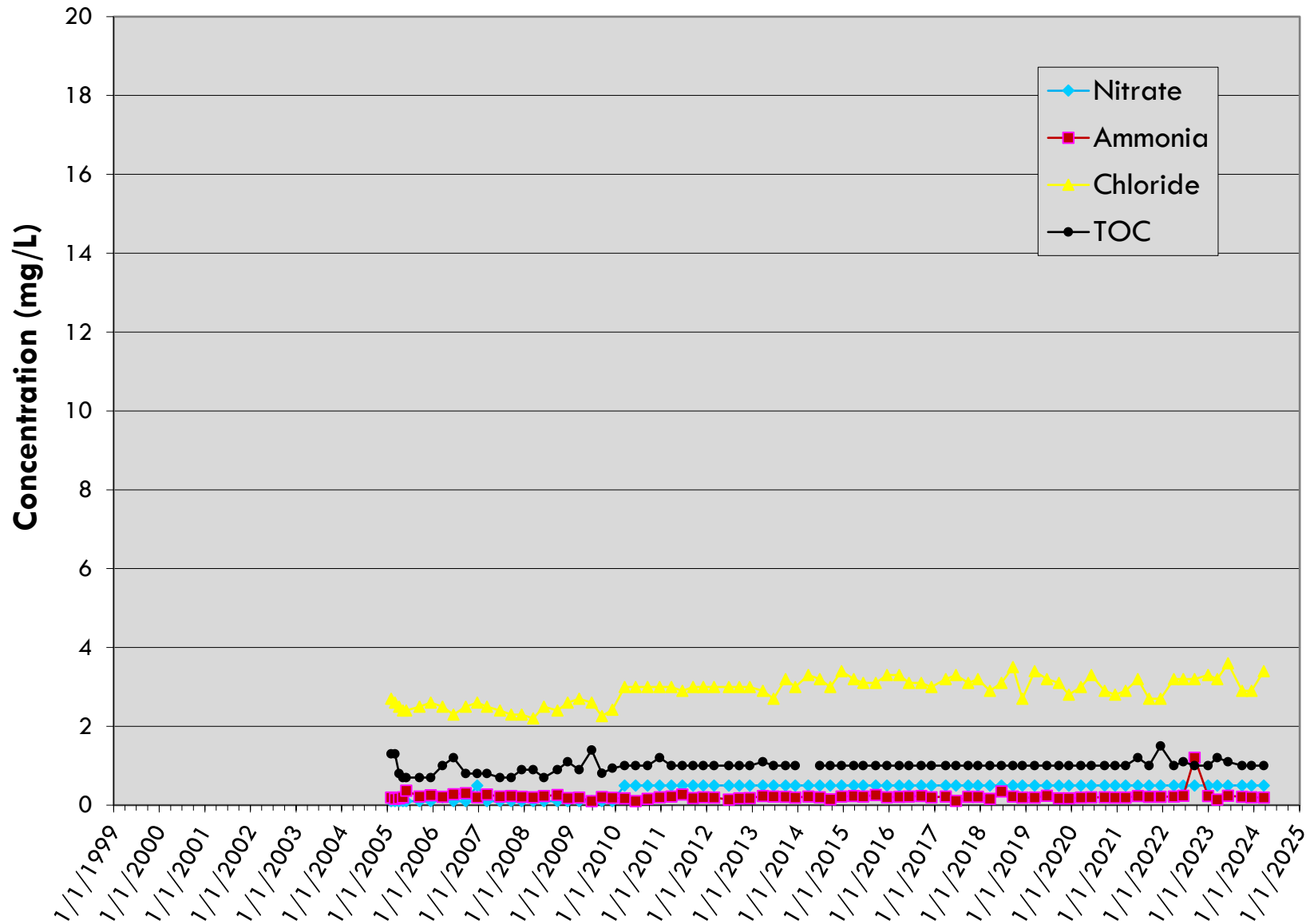
MW-6

LRI Landfill, Pierce County, Washington

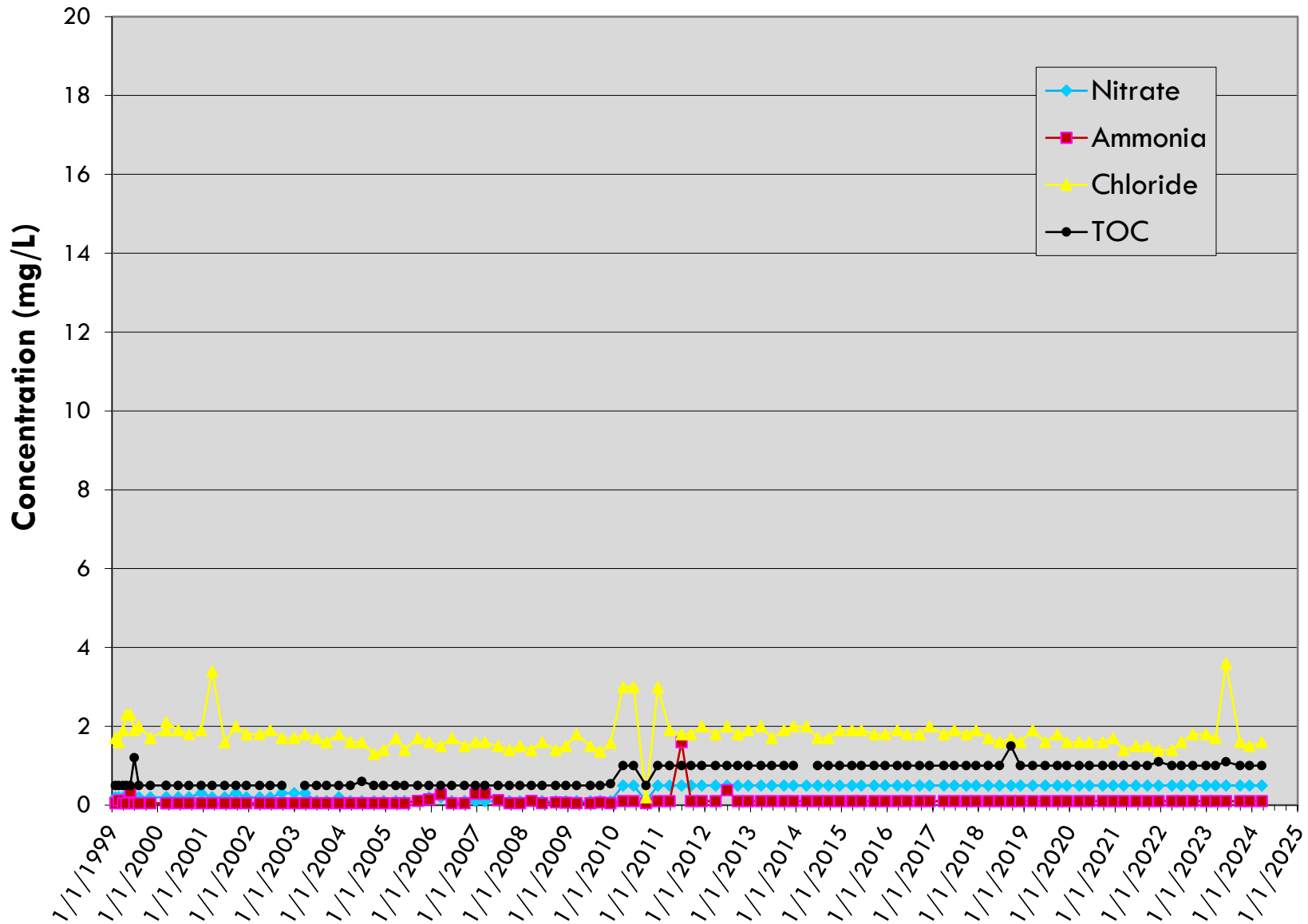


MW-7

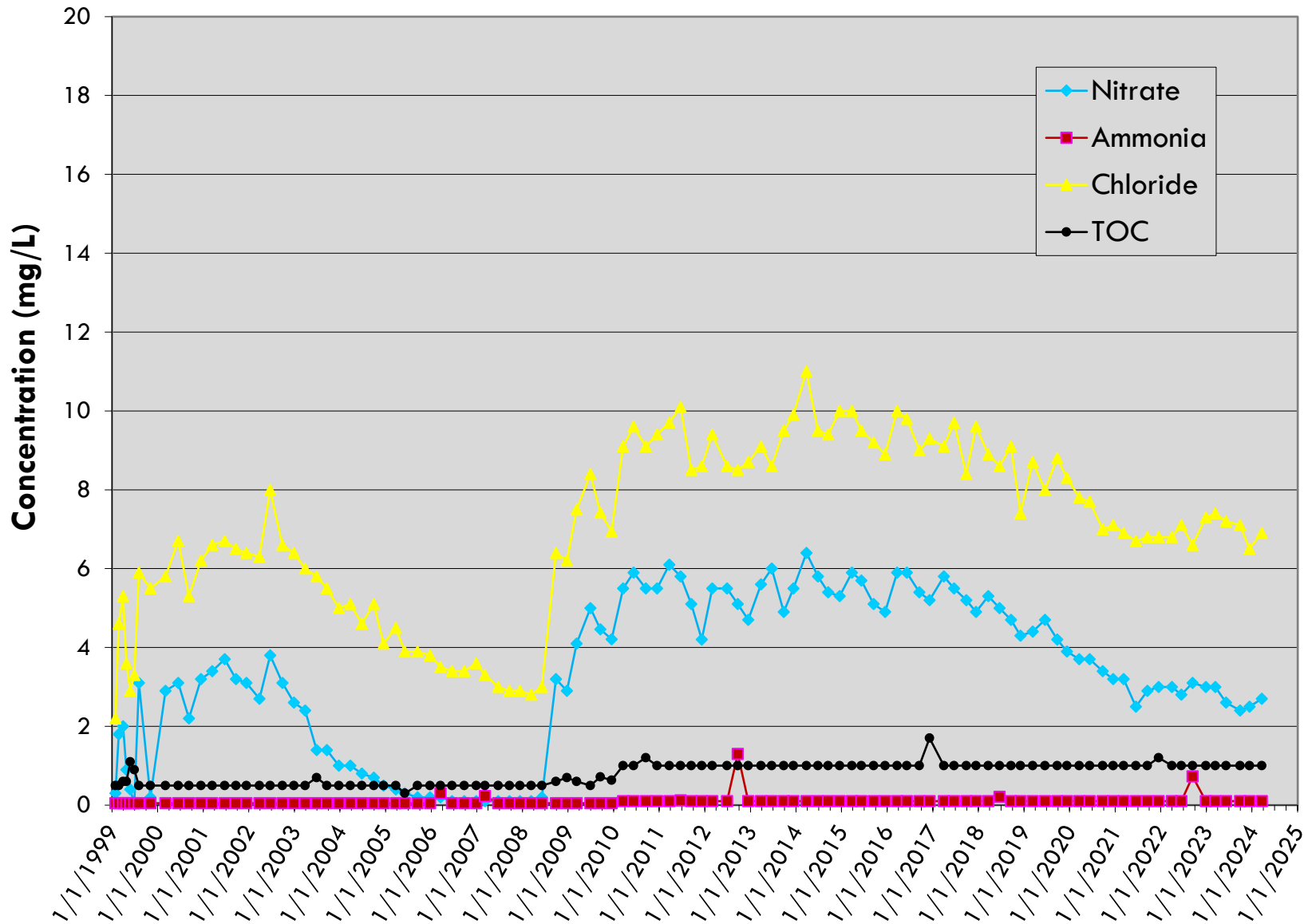
LRI Landfill, Pierce County, Washington



MW-9 (Background) LRI Landfill, Pierce County, Washington

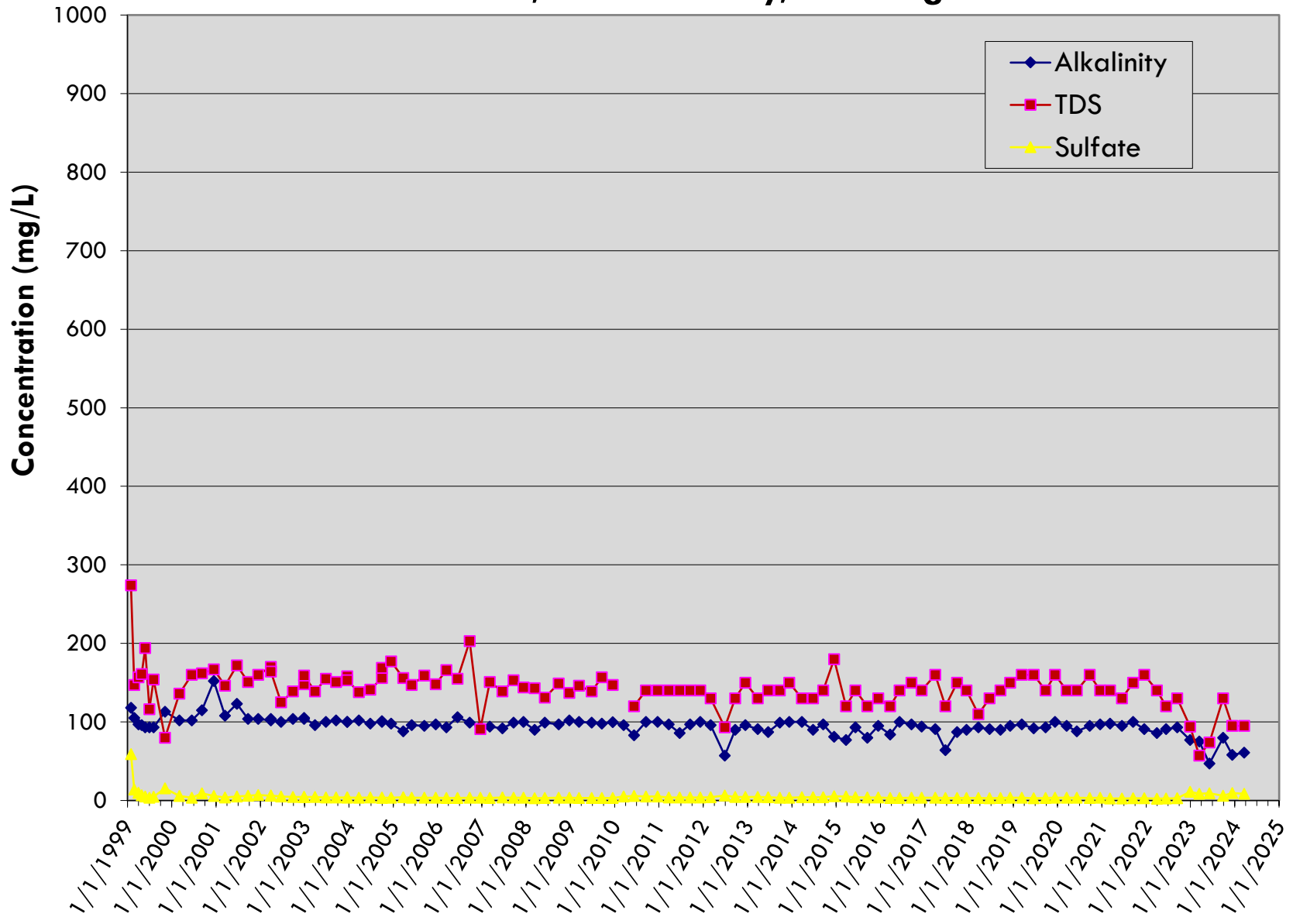


MW-10 (Background) LRI Landfill, Pierce County, Washington



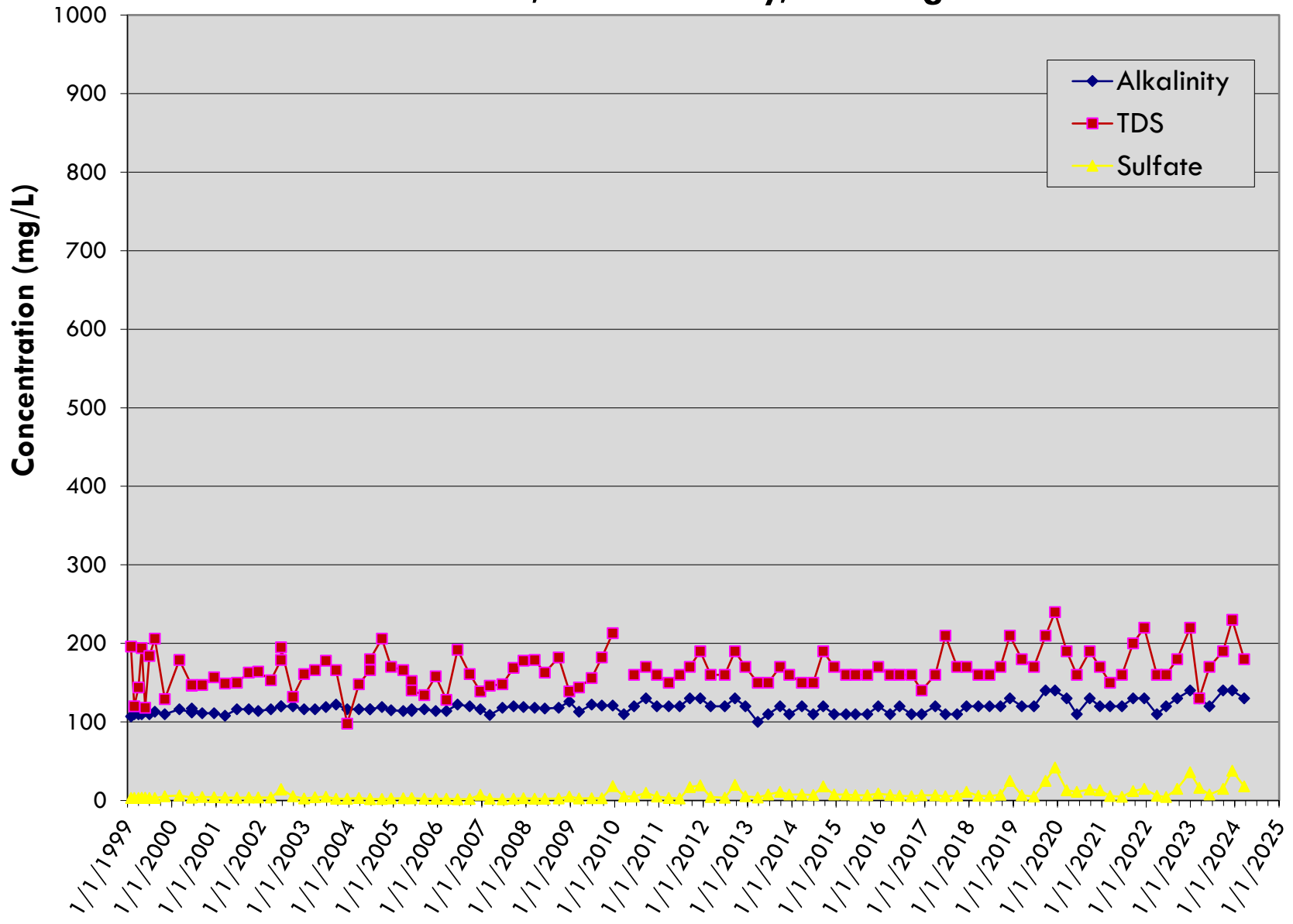
MW-1A

LRI Landfill, Pierce County, Washington

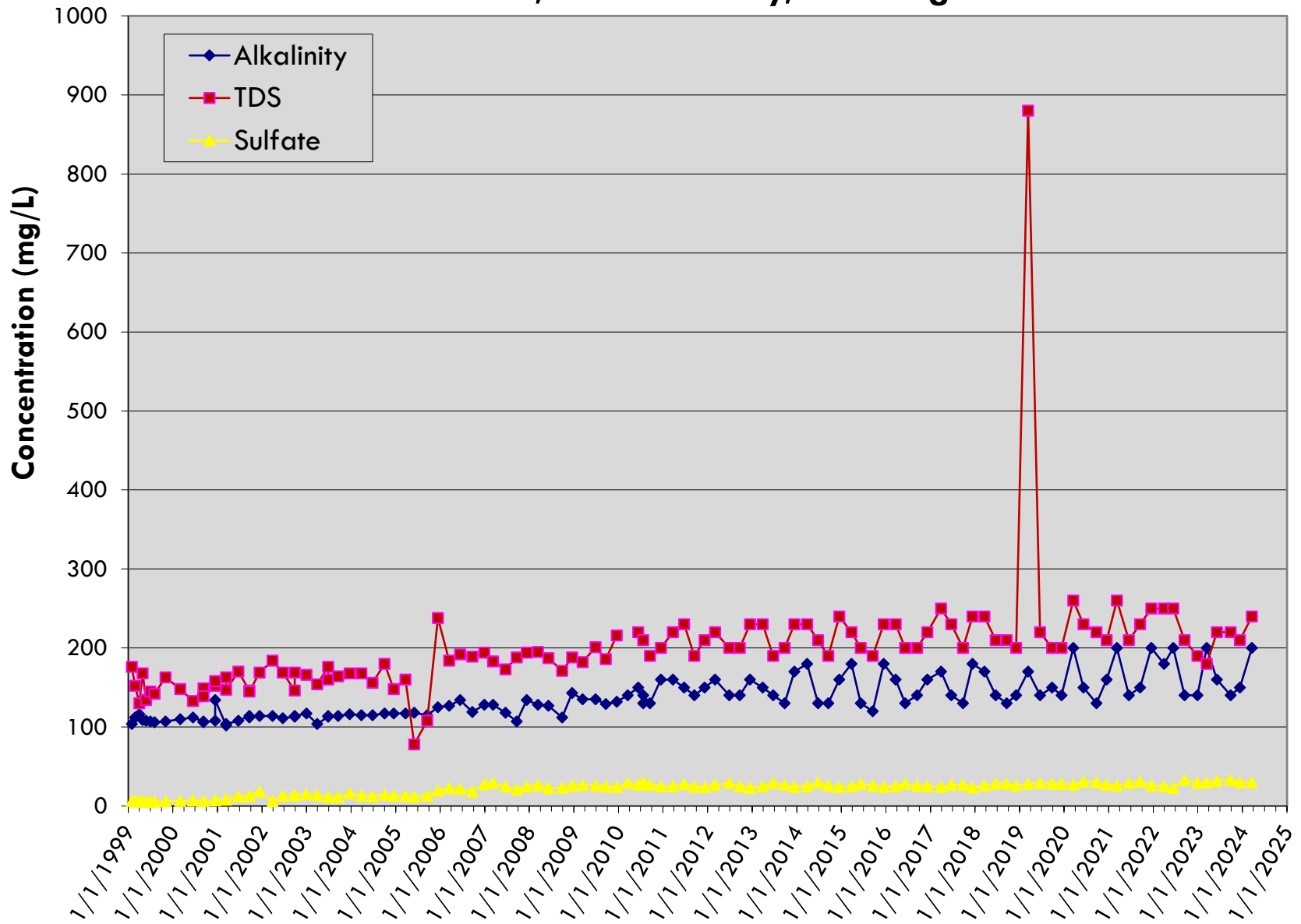


MW-2A

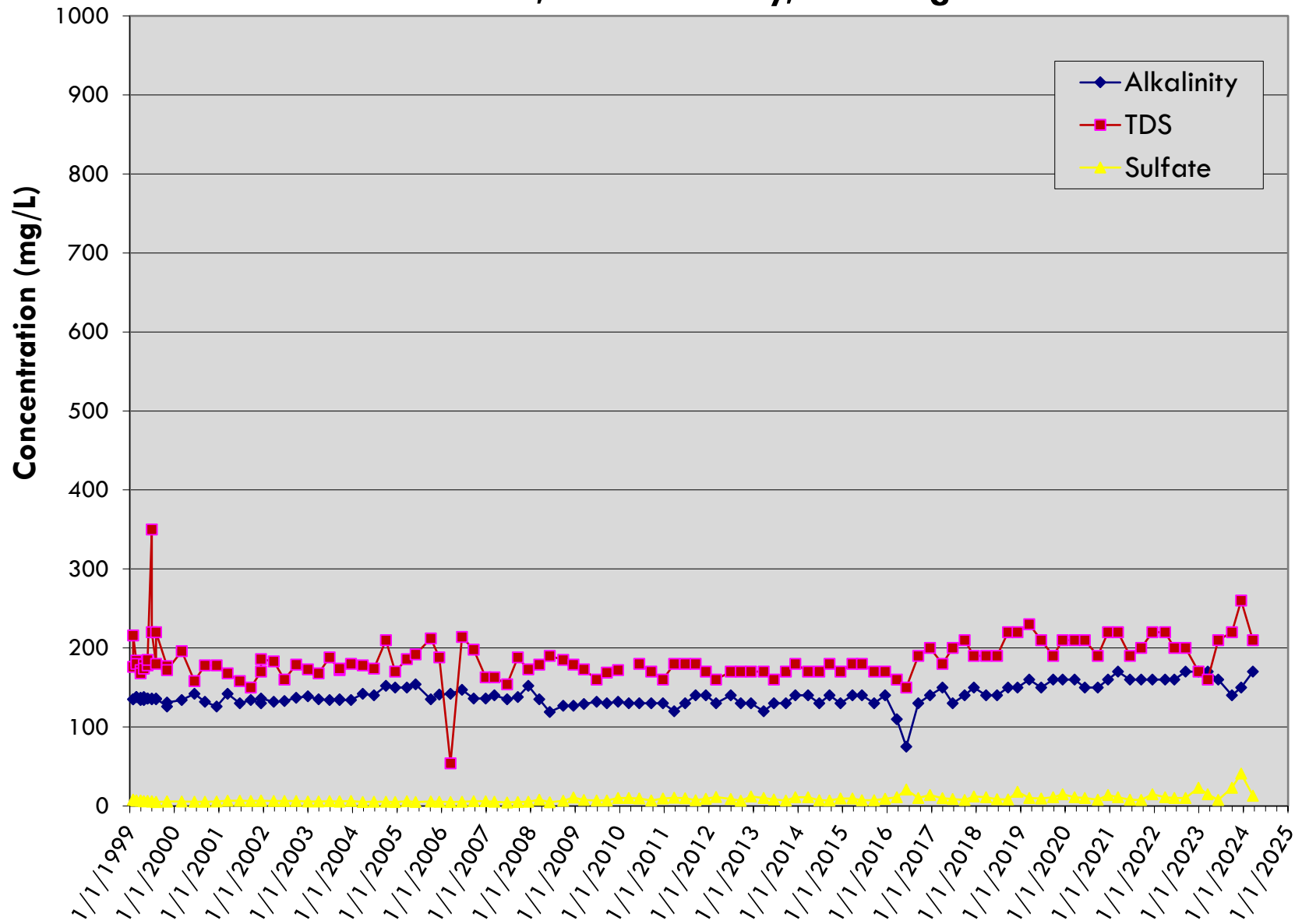
LRI Landfill, Pierce County, Washington



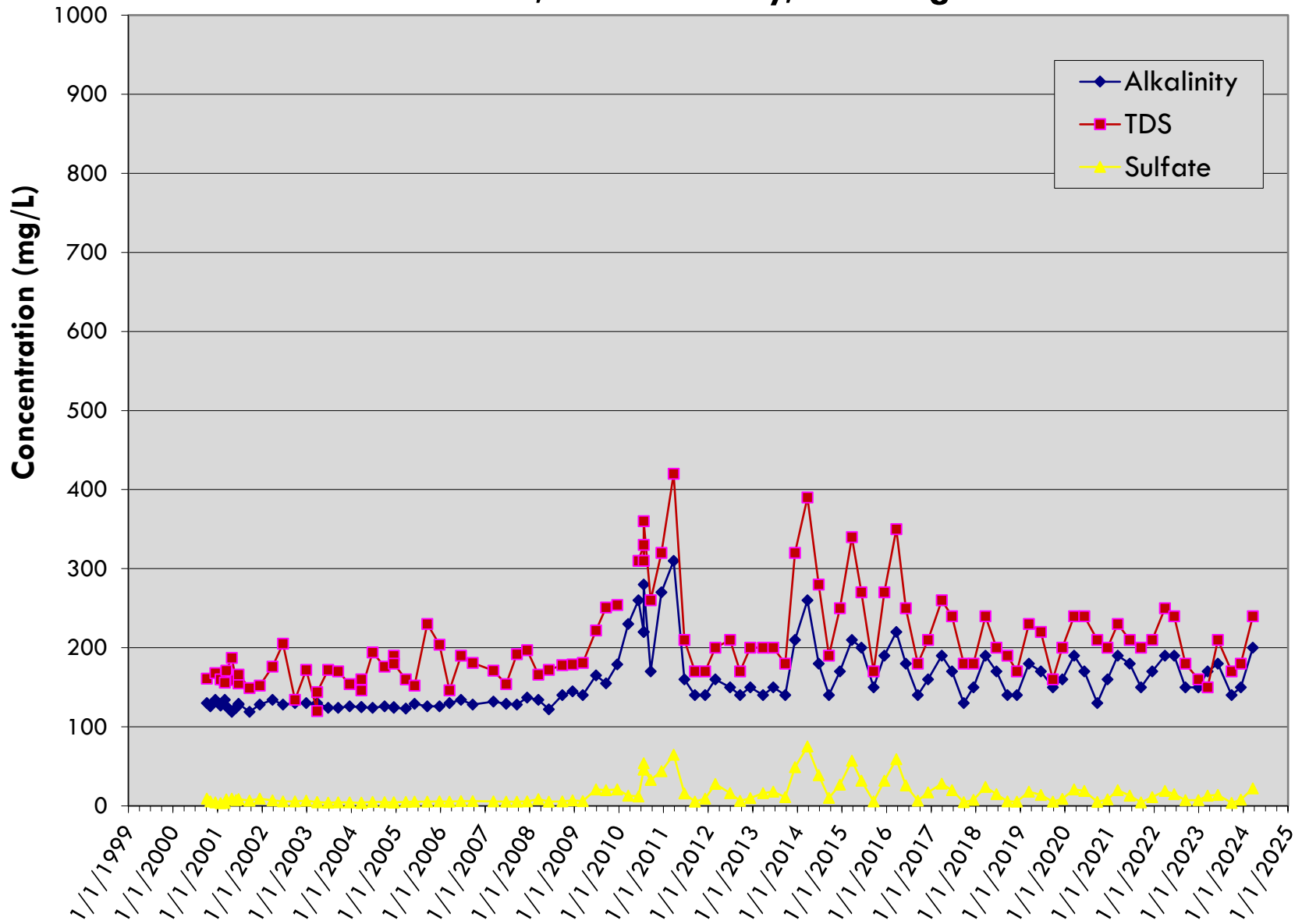
MW-3
LRI Landfill, Pierce County, Washington



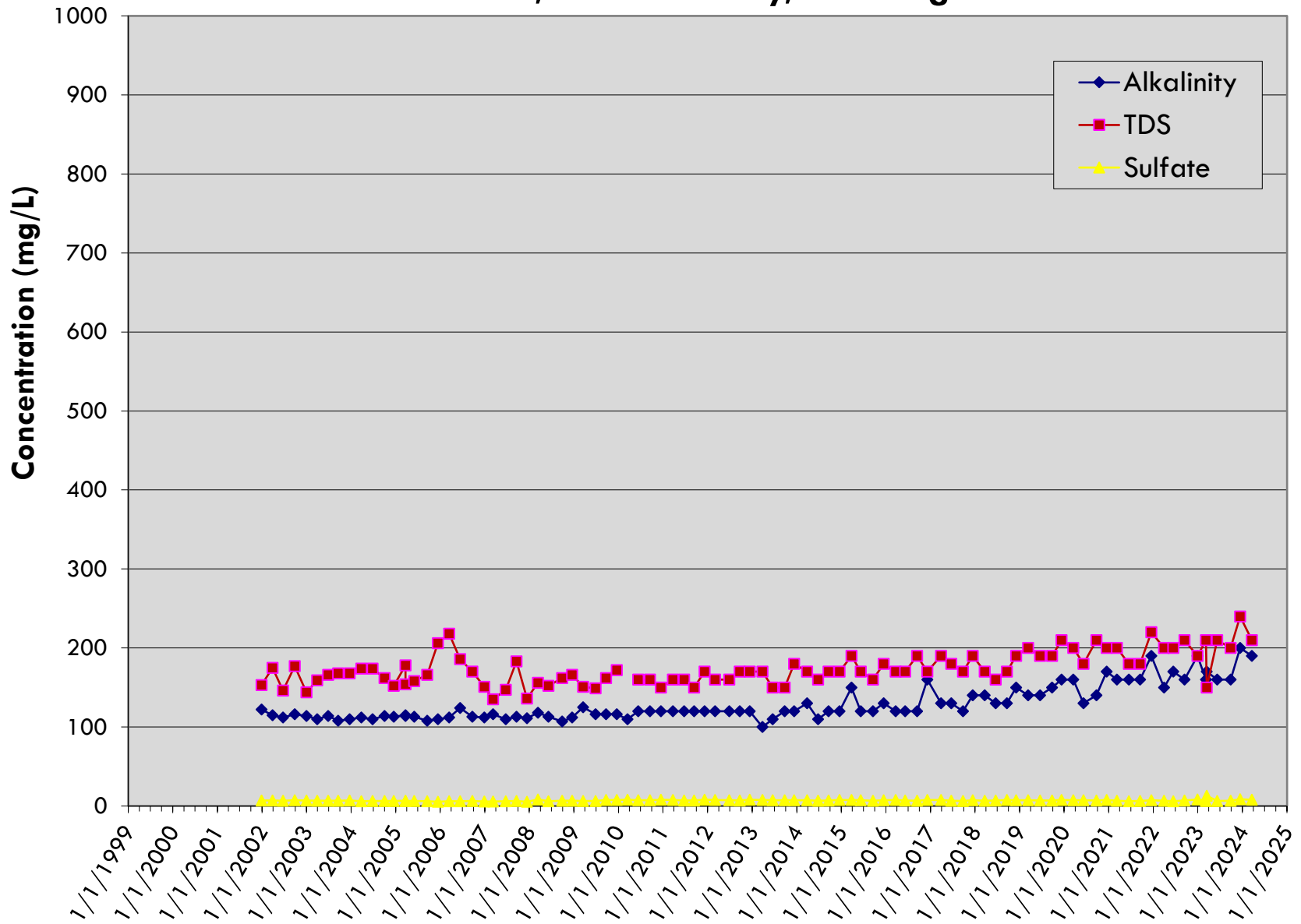
MW-4
LRI Landfill, Pierce County, Washington



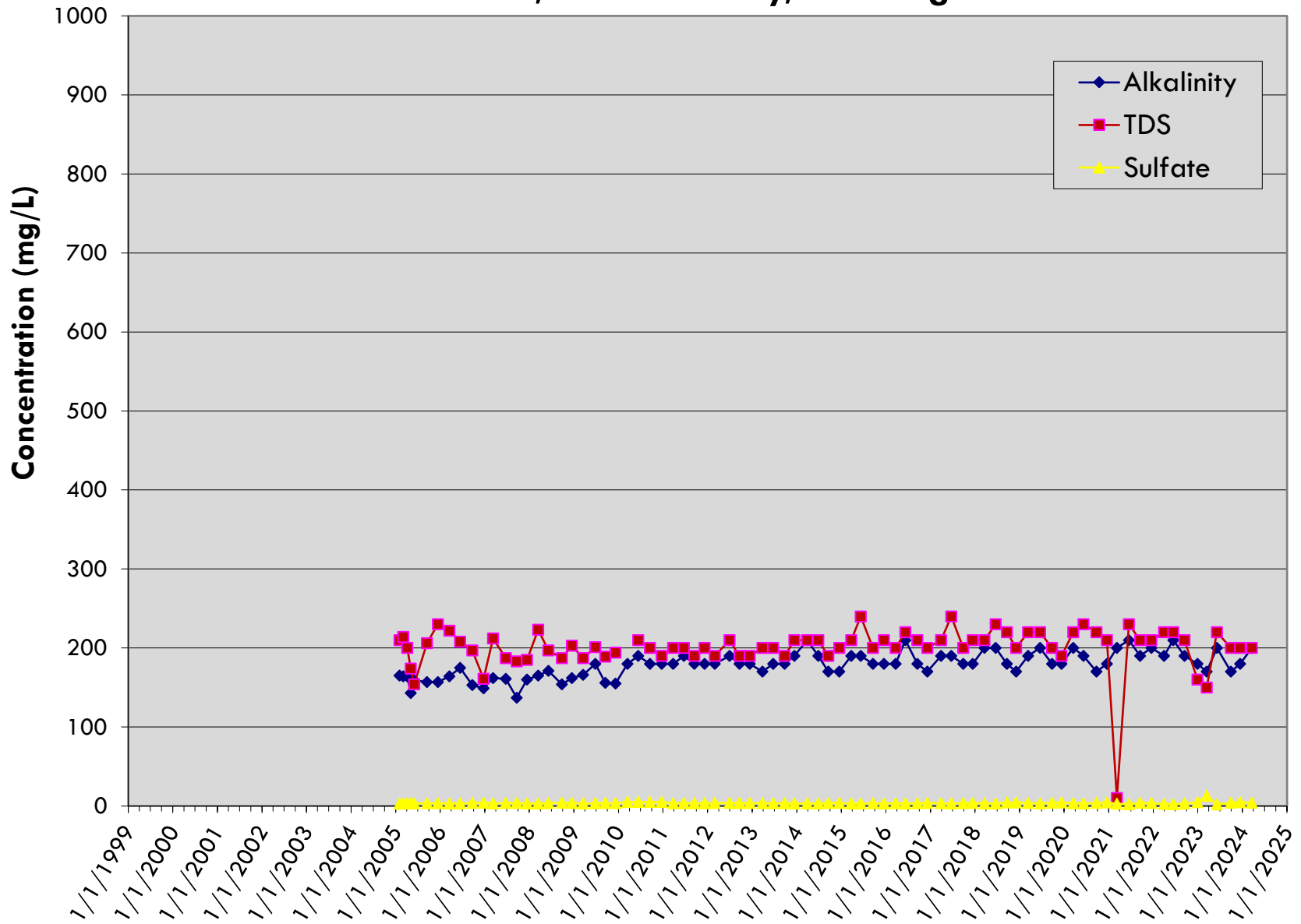
MW-5A
LRI Landfill, Pierce County, Washington



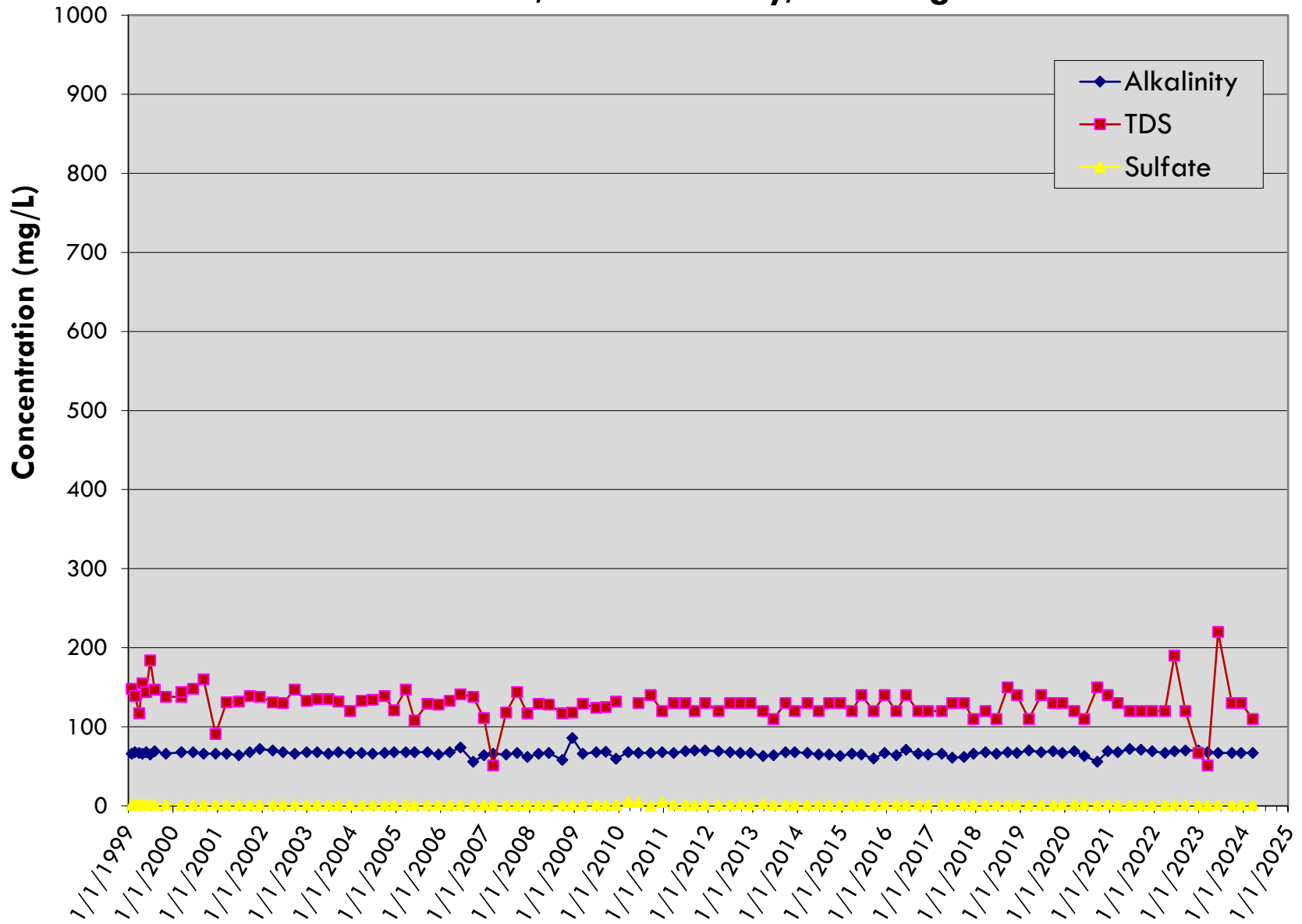
MW-6
LRI Landfill, Pierce County, Washington



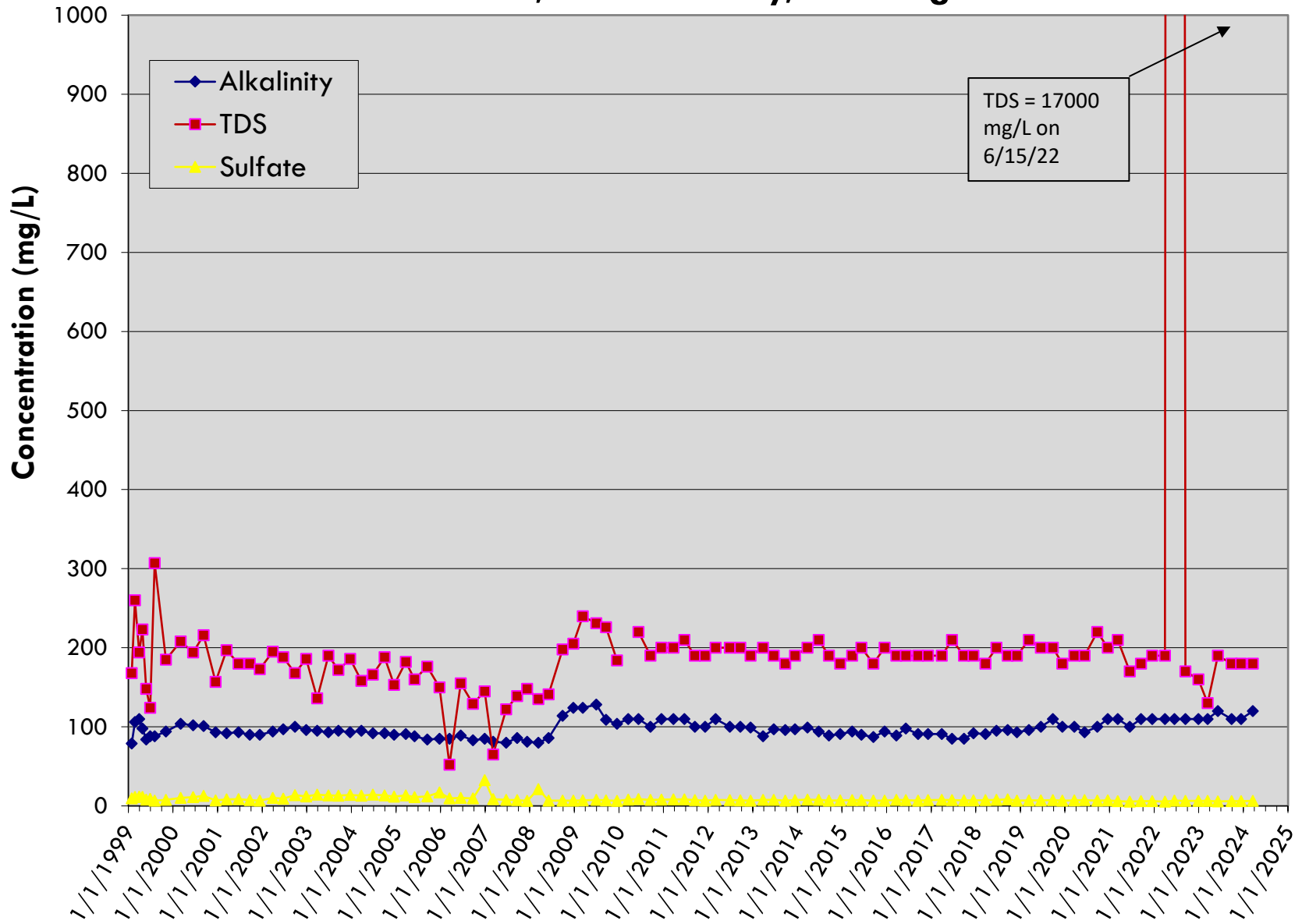
MW-7
LRI Landfill, Pierce County, Washington



MW-9 (Background)
LRI Landfill, Pierce County, Washington

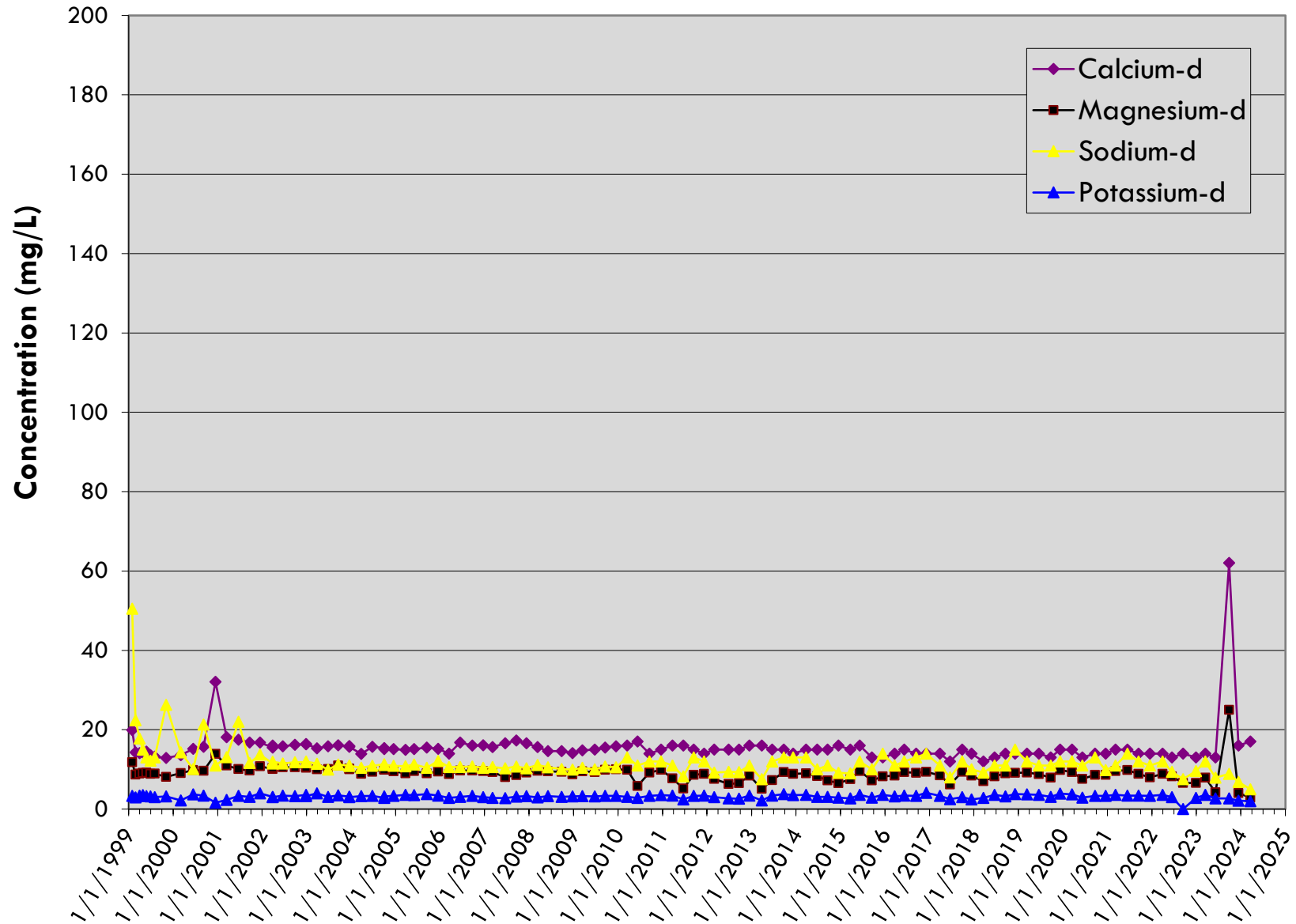


MW-10 (Background) LRI Landfill, Pierce County, Washington



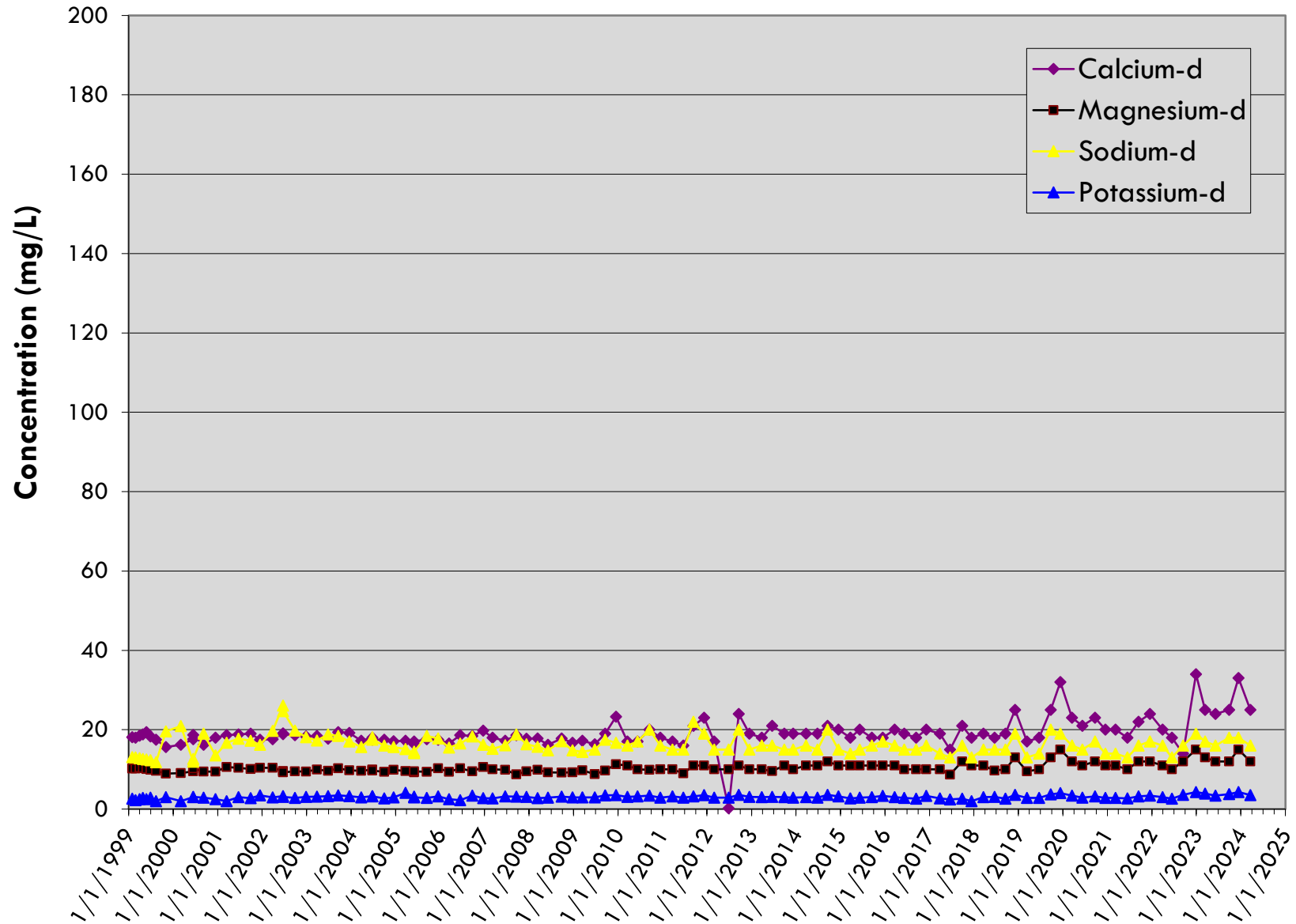
MW-1A

LRI Landfill, Pierce County, Washington

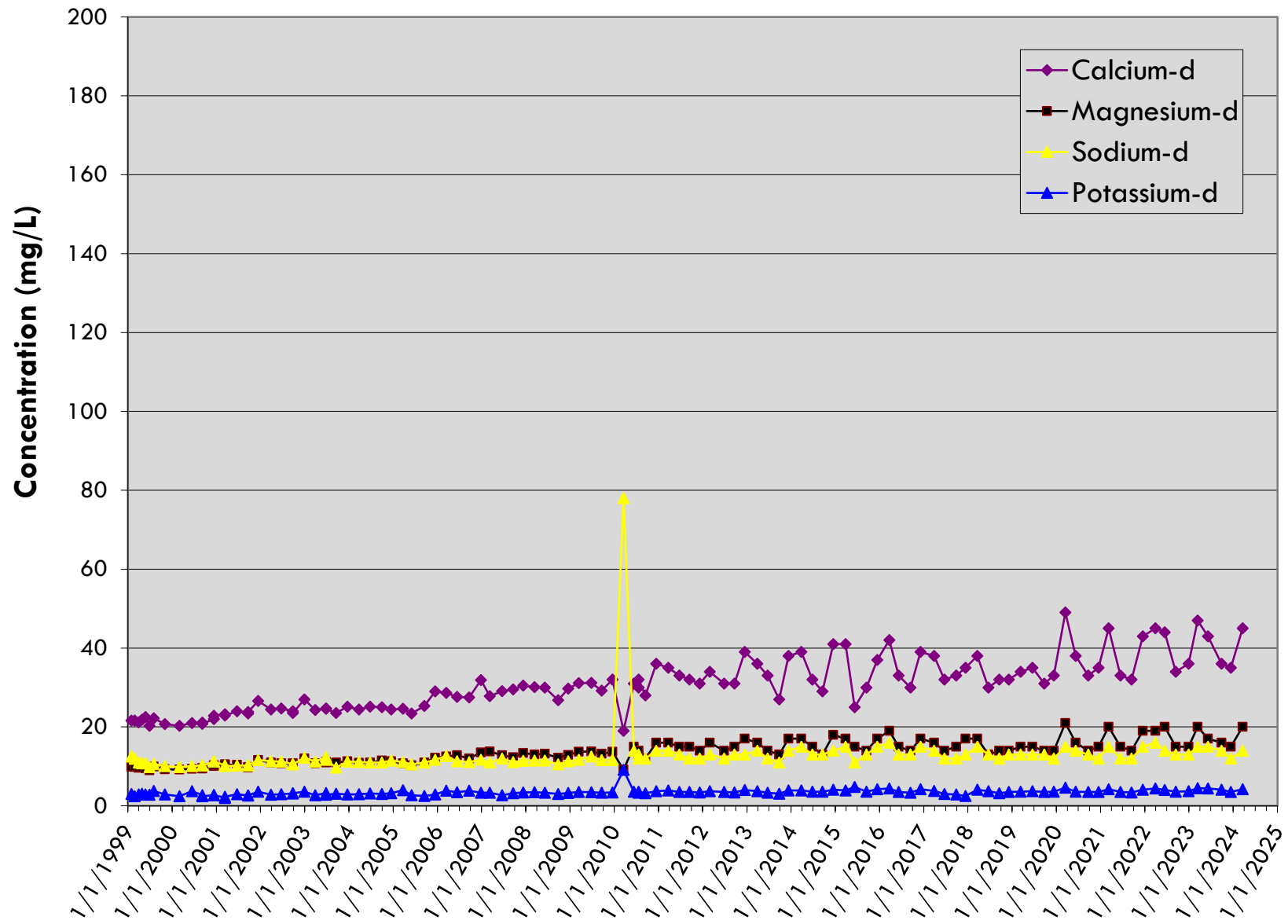


MW-2A

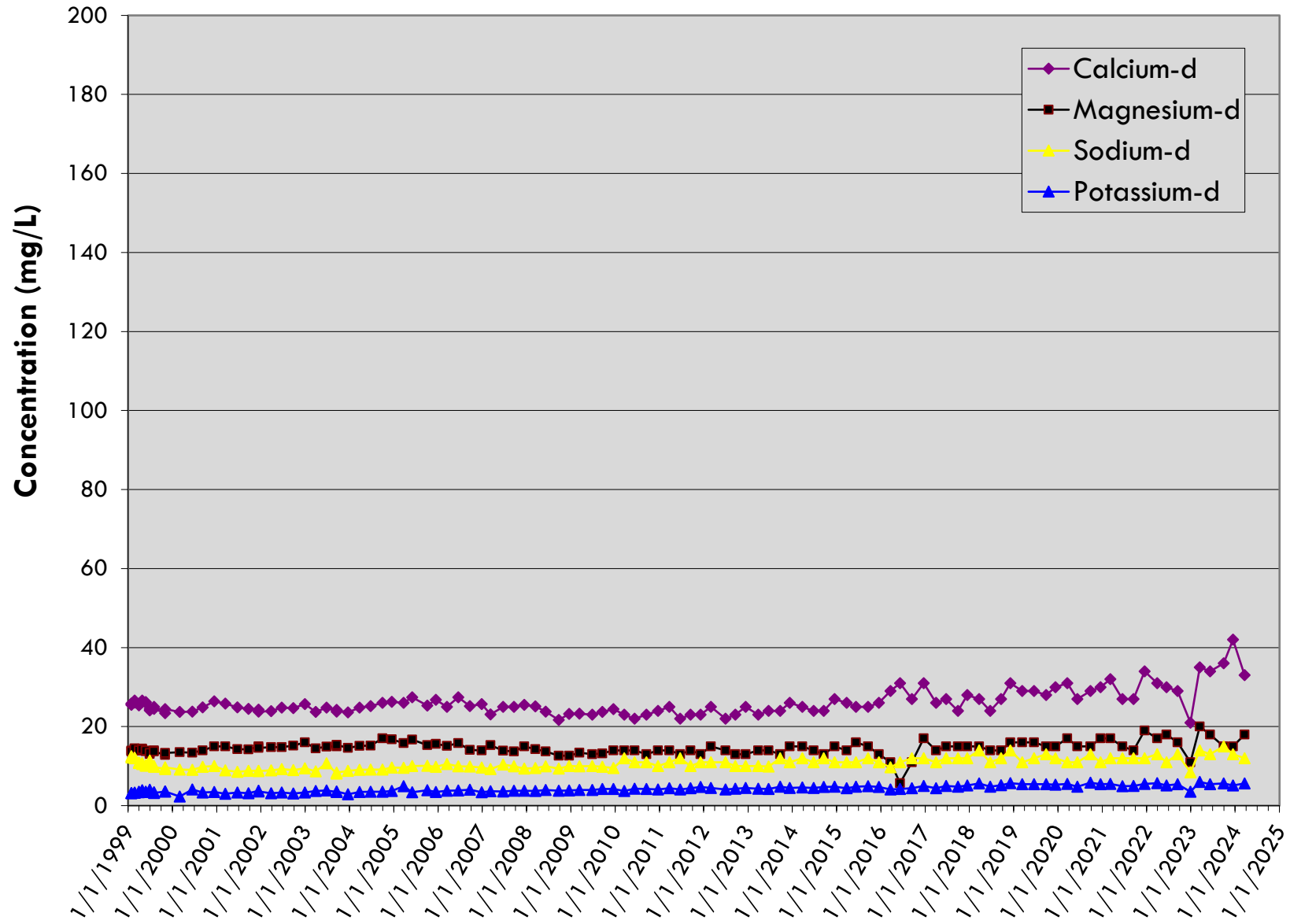
LRI Landfill, Pierce County, Washington



MW-3
LRI Landfill, Pierce County, Washington

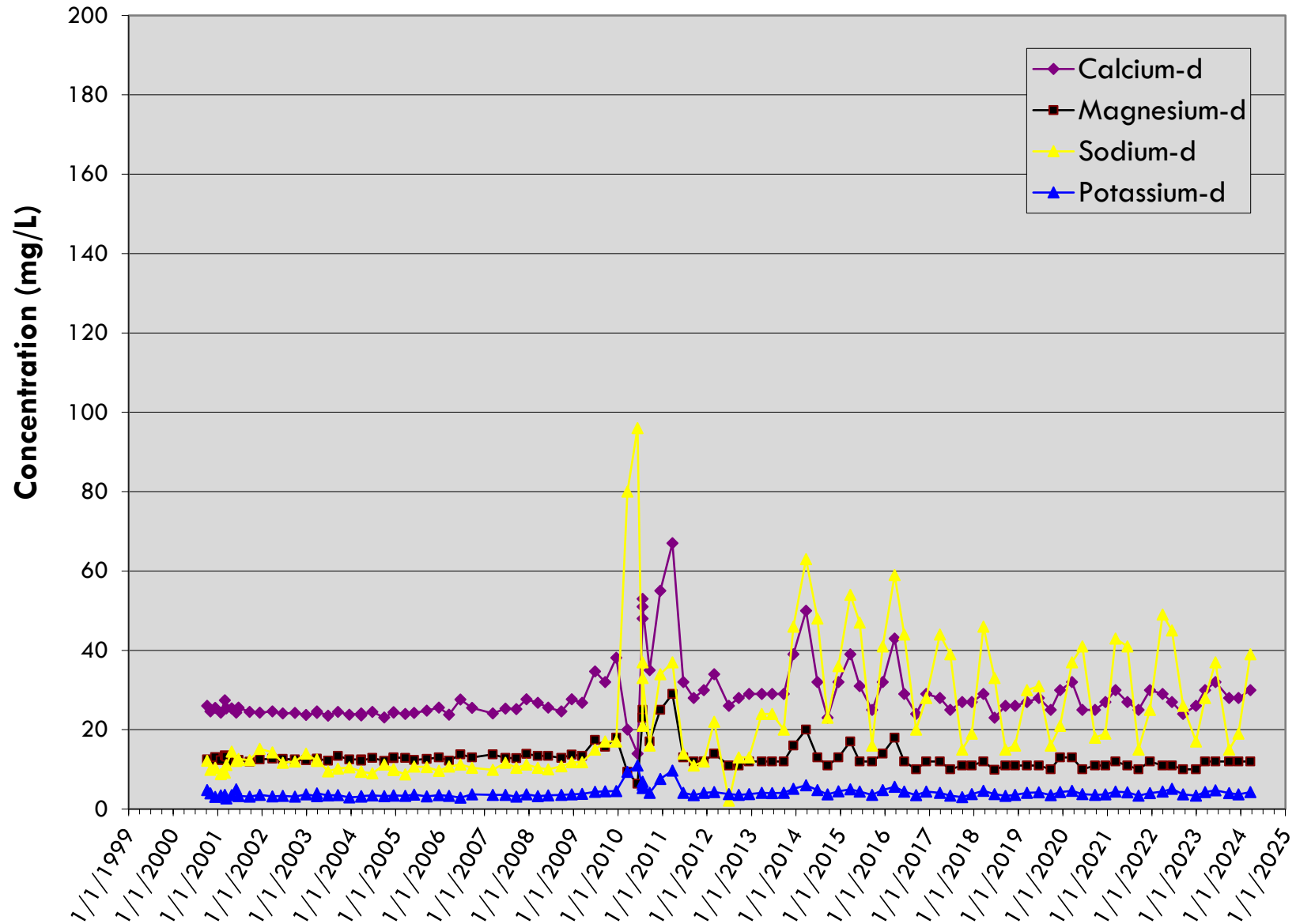


MW-4
LRI Landfill, Pierce County, Washington



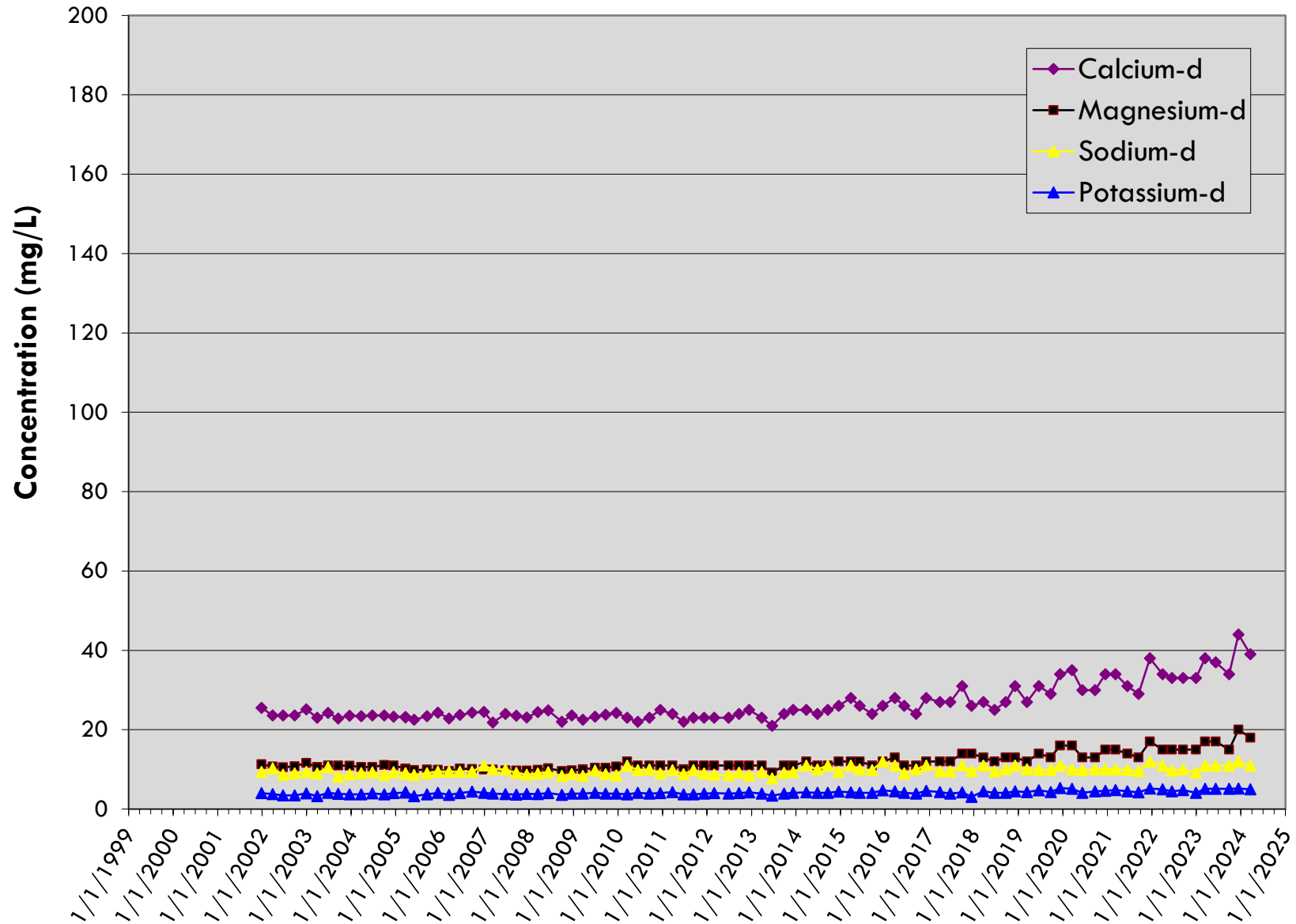
MW-5A

LRI Landfill, Pierce County, Washington

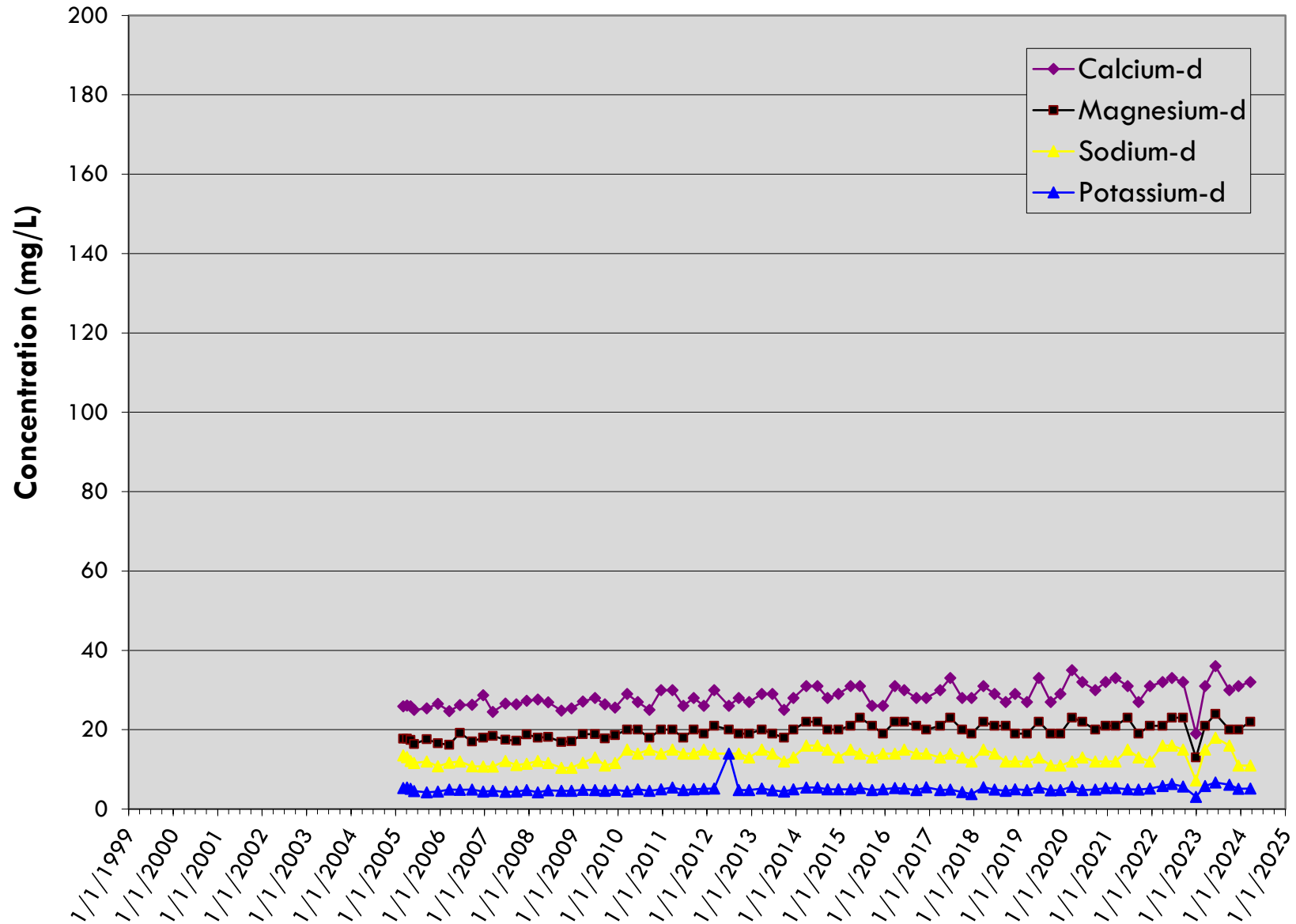


MW-6

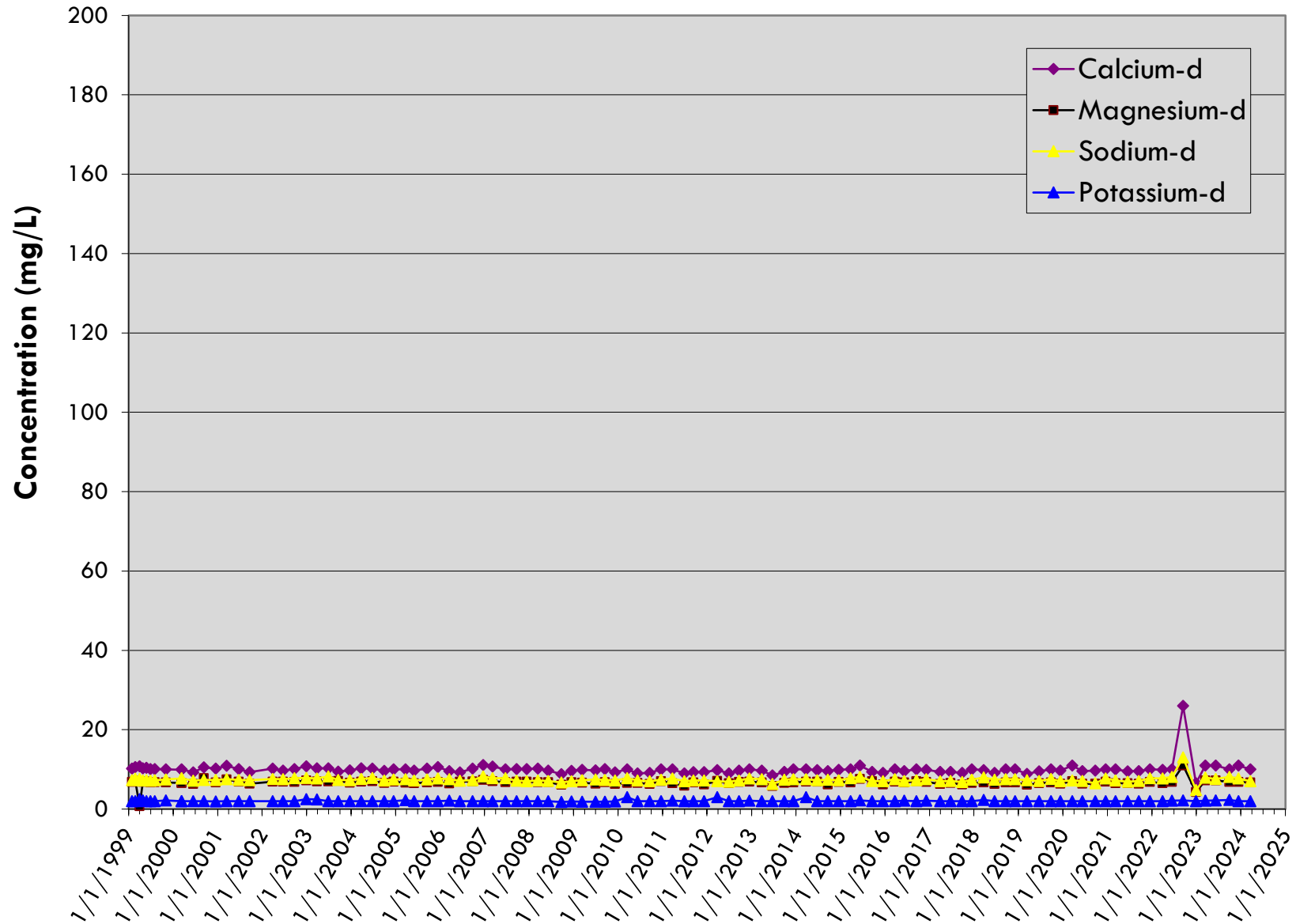
LRI Landfill, Pierce County, Washington



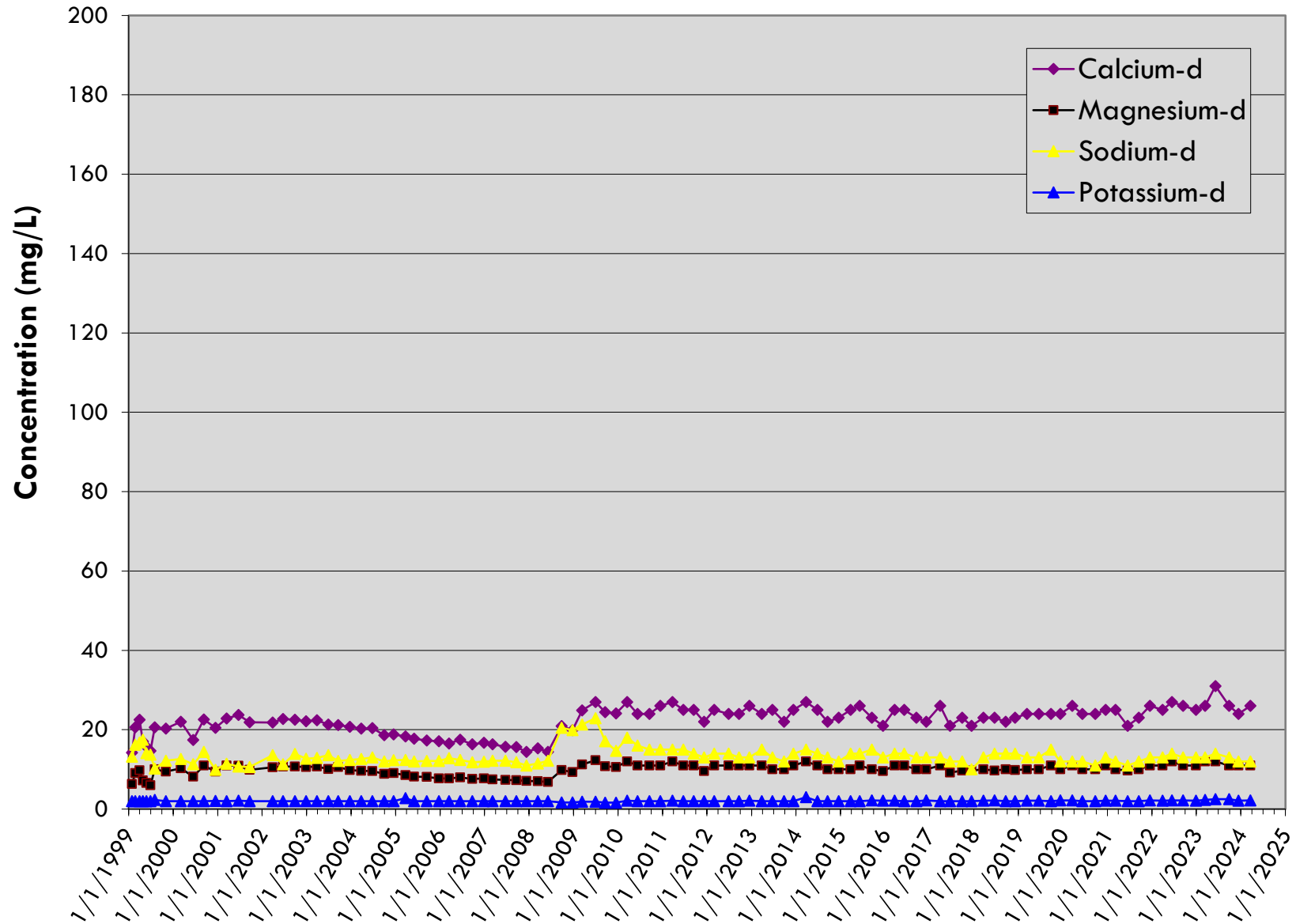
MW-7
LRI Landfill, Pierce County, Washington



MW-9 (Background)
LRI Landfill, Pierce County, Washington

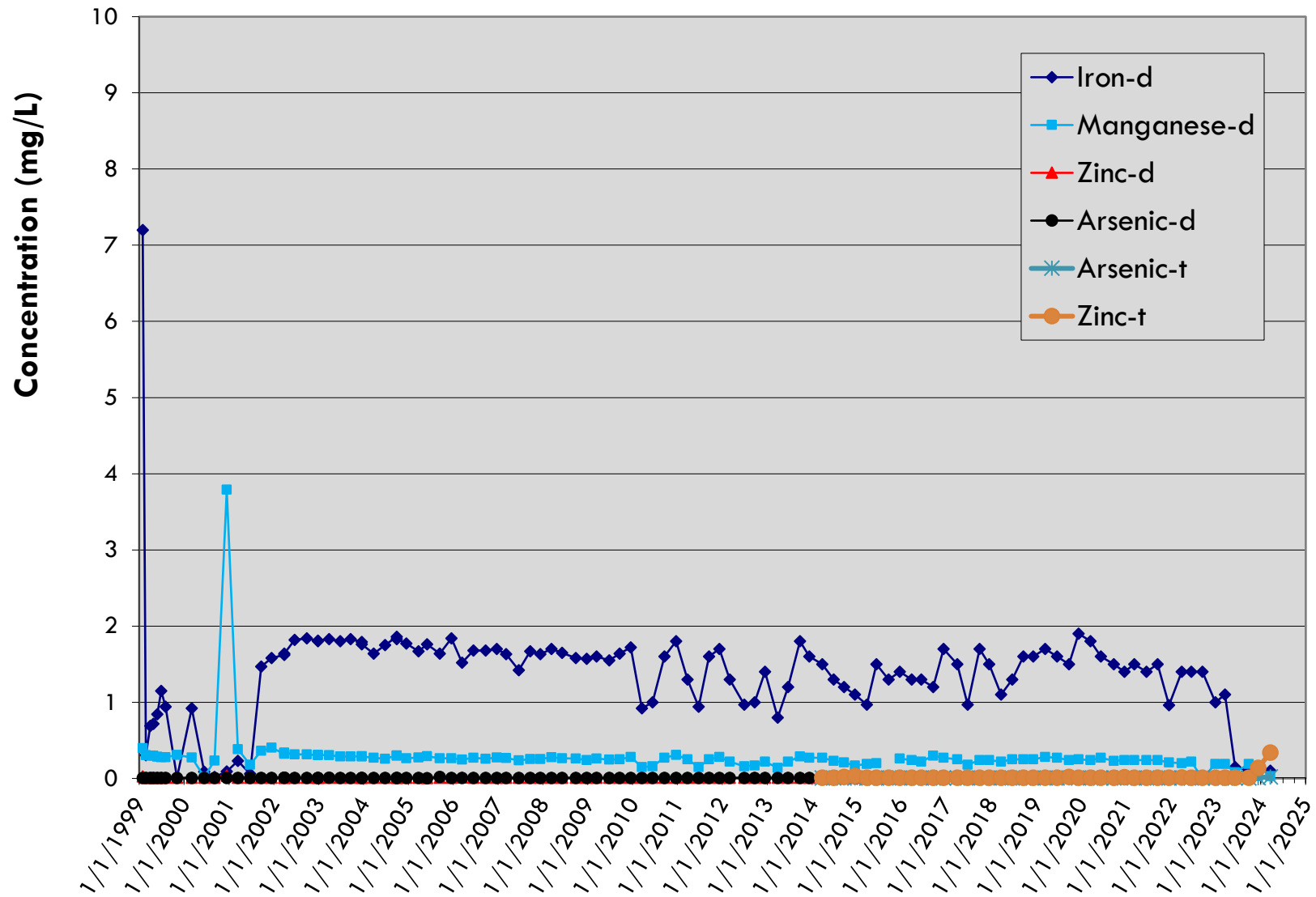


MW-10 (Background) LRI Landfill, Pierce County, Washington



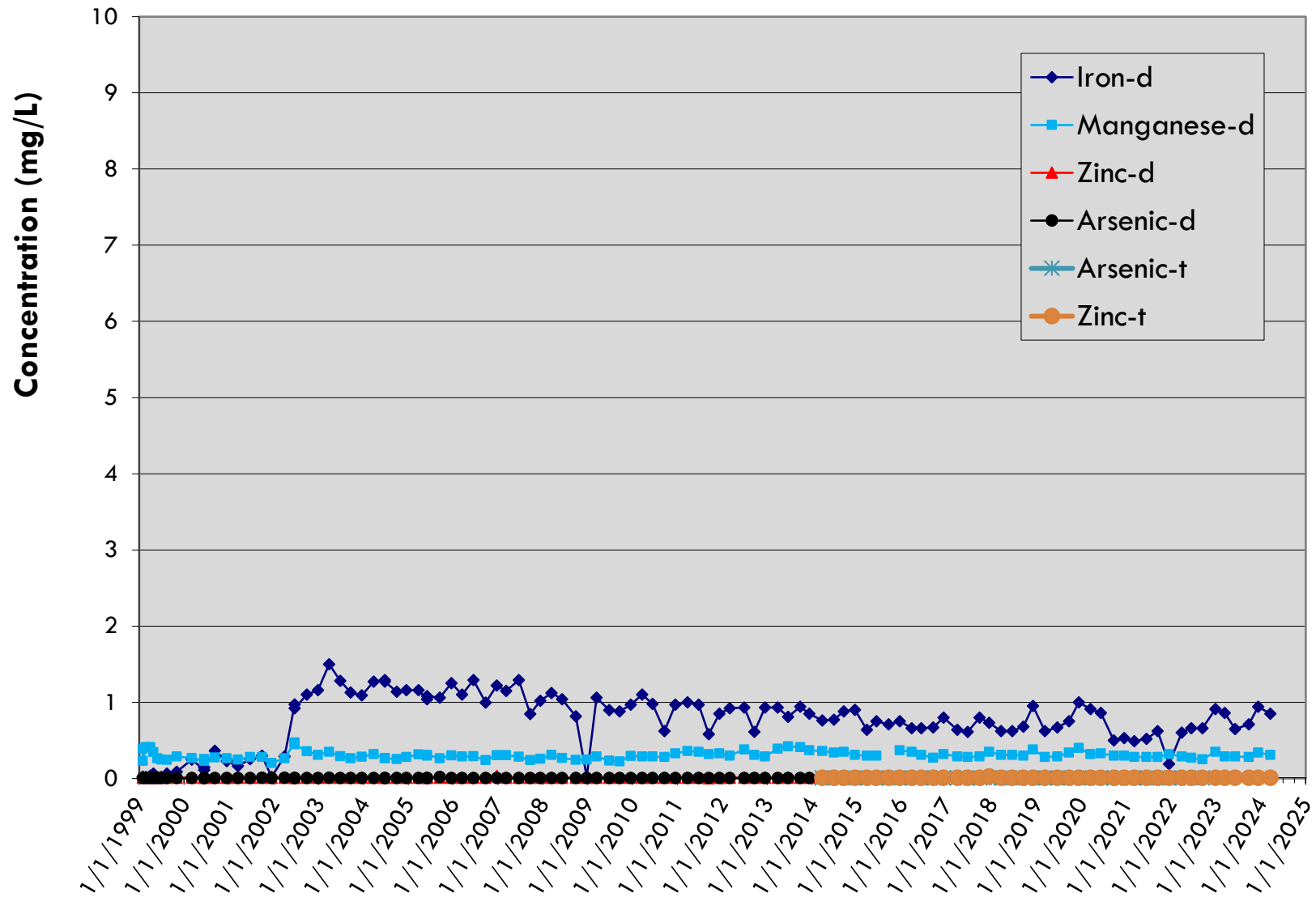
MW-1A

LRI Landfill, Pierce County, Washington



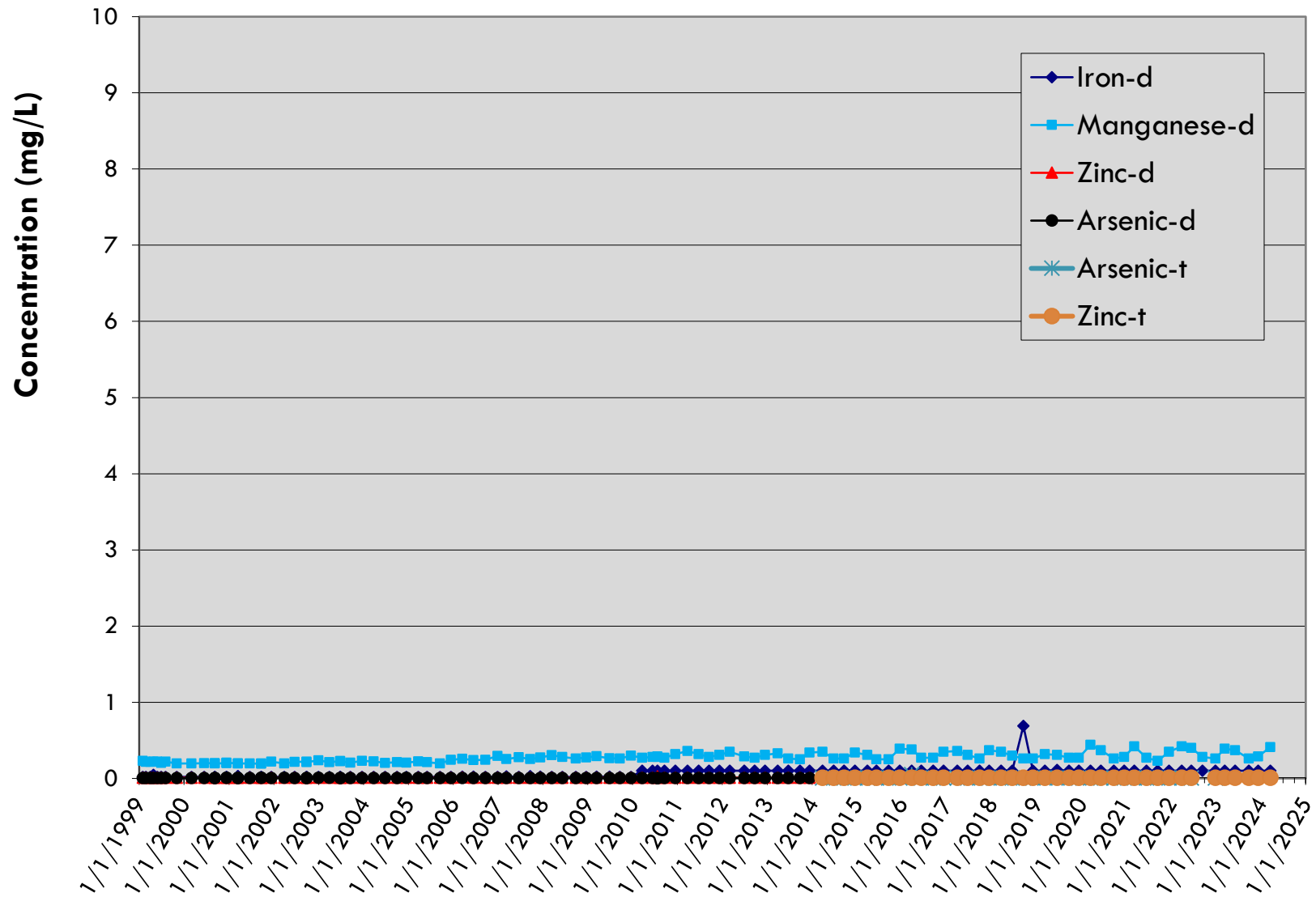
MW-2A

LRI Landfill, Pierce County, Washington

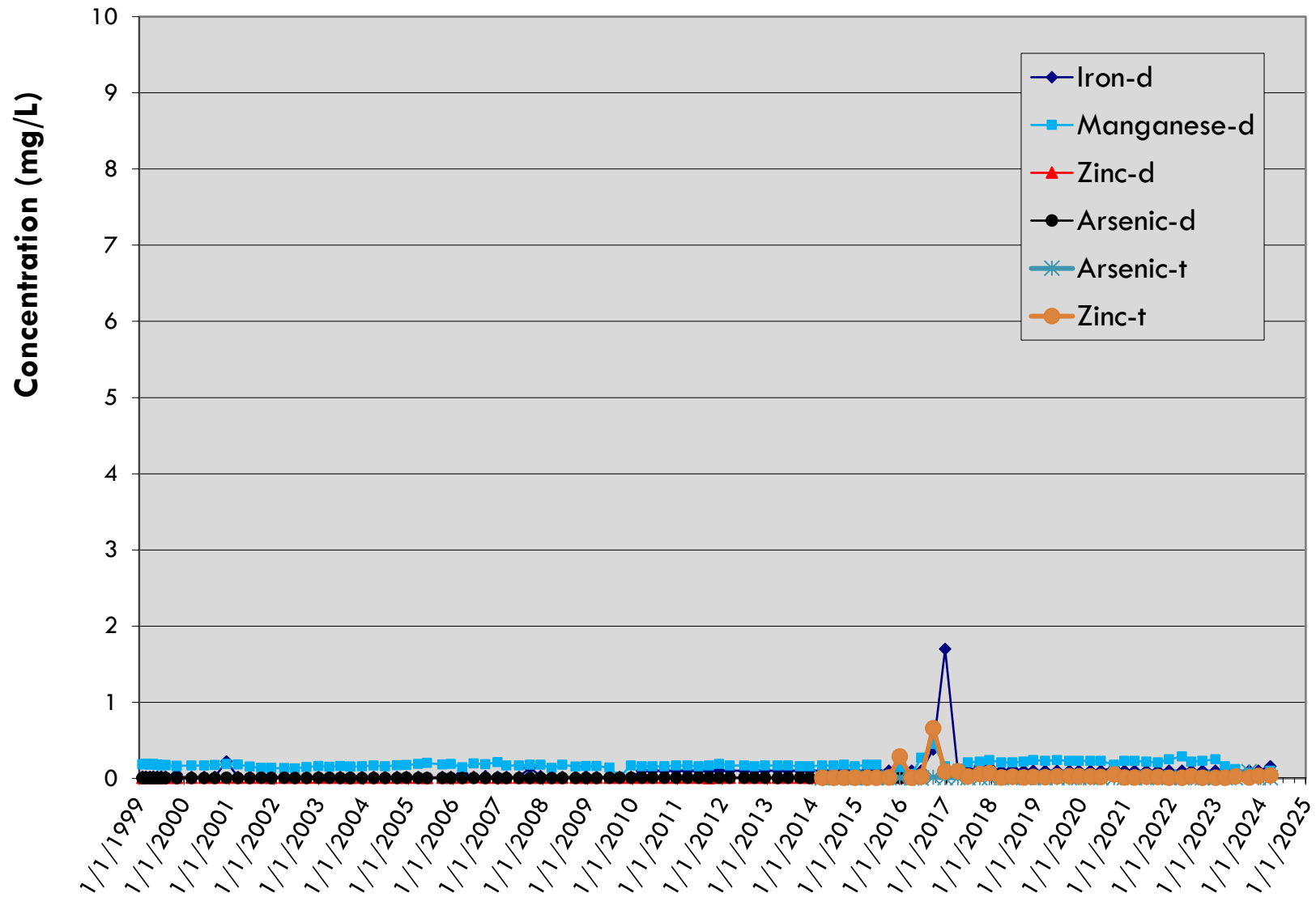


MW-3

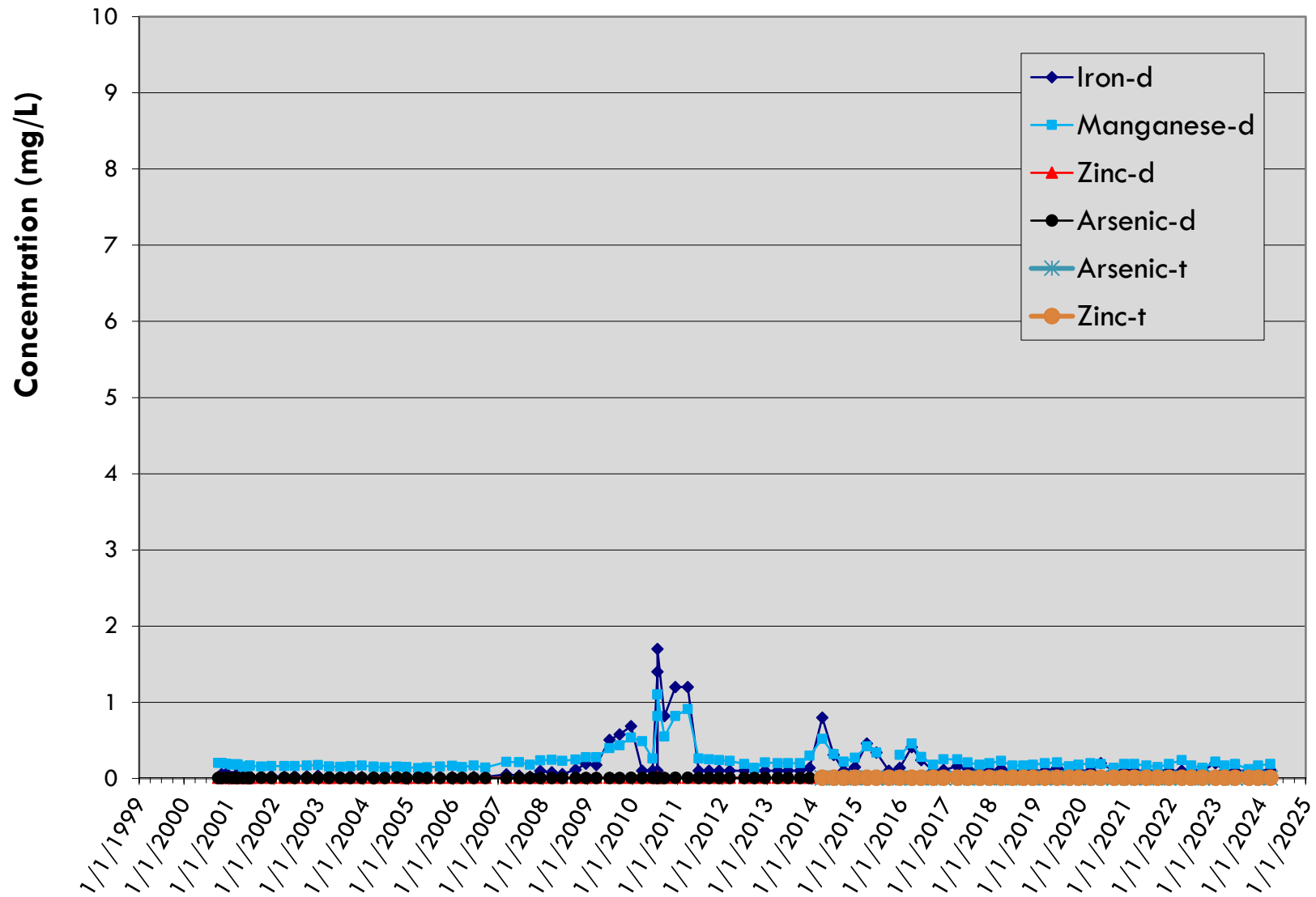
LRI Landfill, Pierce County, Washington



MW-4
LRI Landfill, Pierce County, Washington

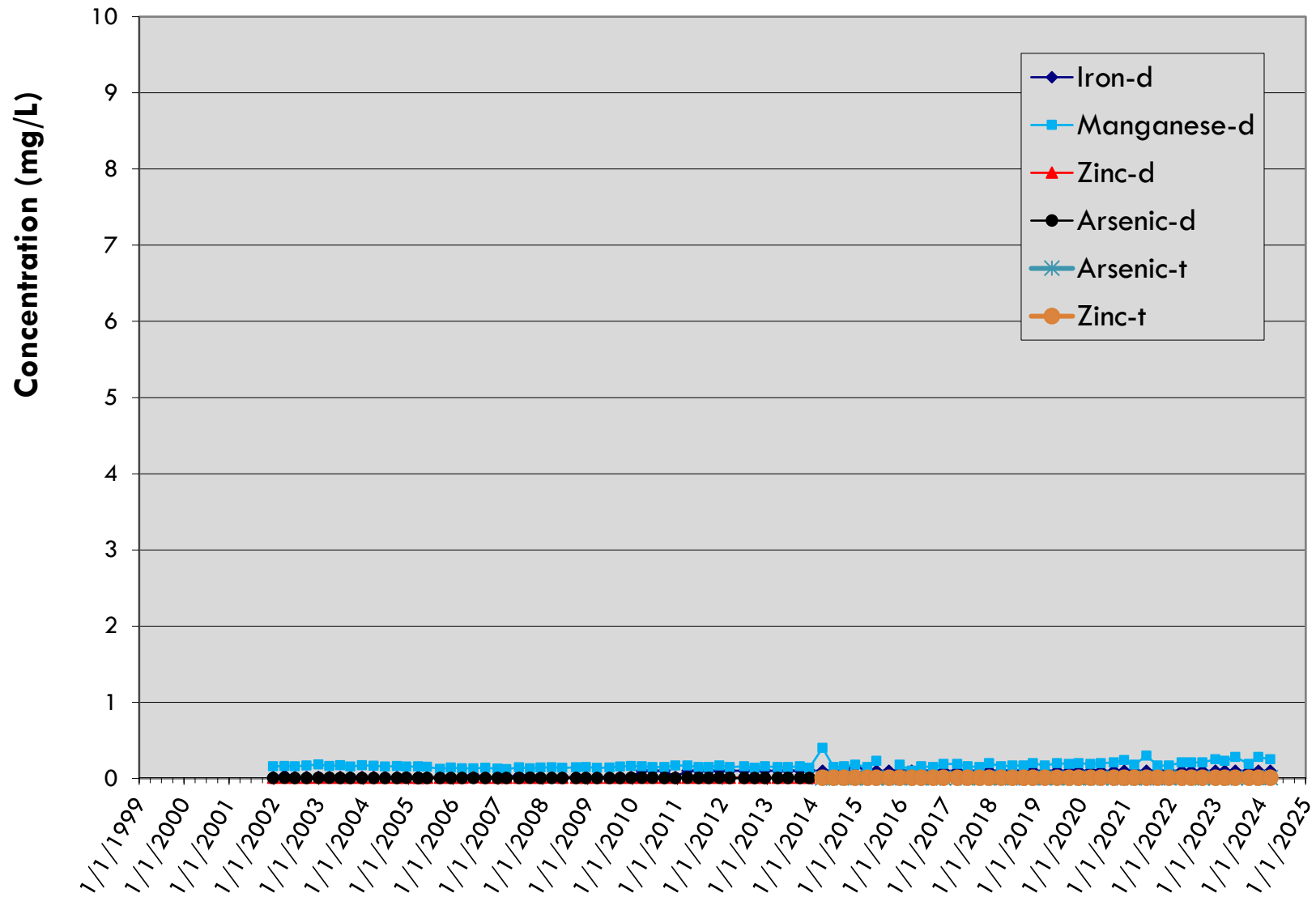


MW-5A
LRI Landfill, Pierce County, Washington

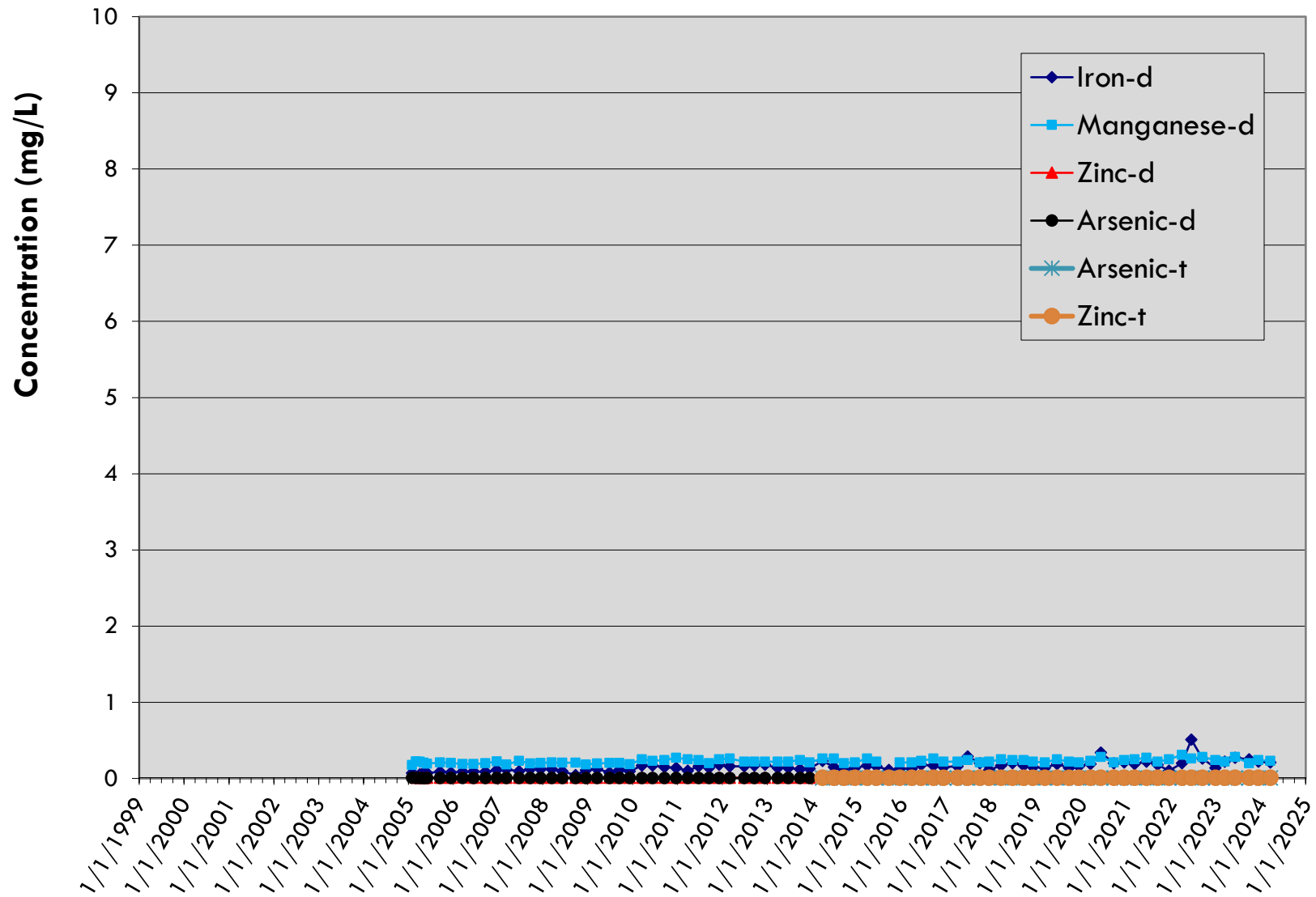


MW-6

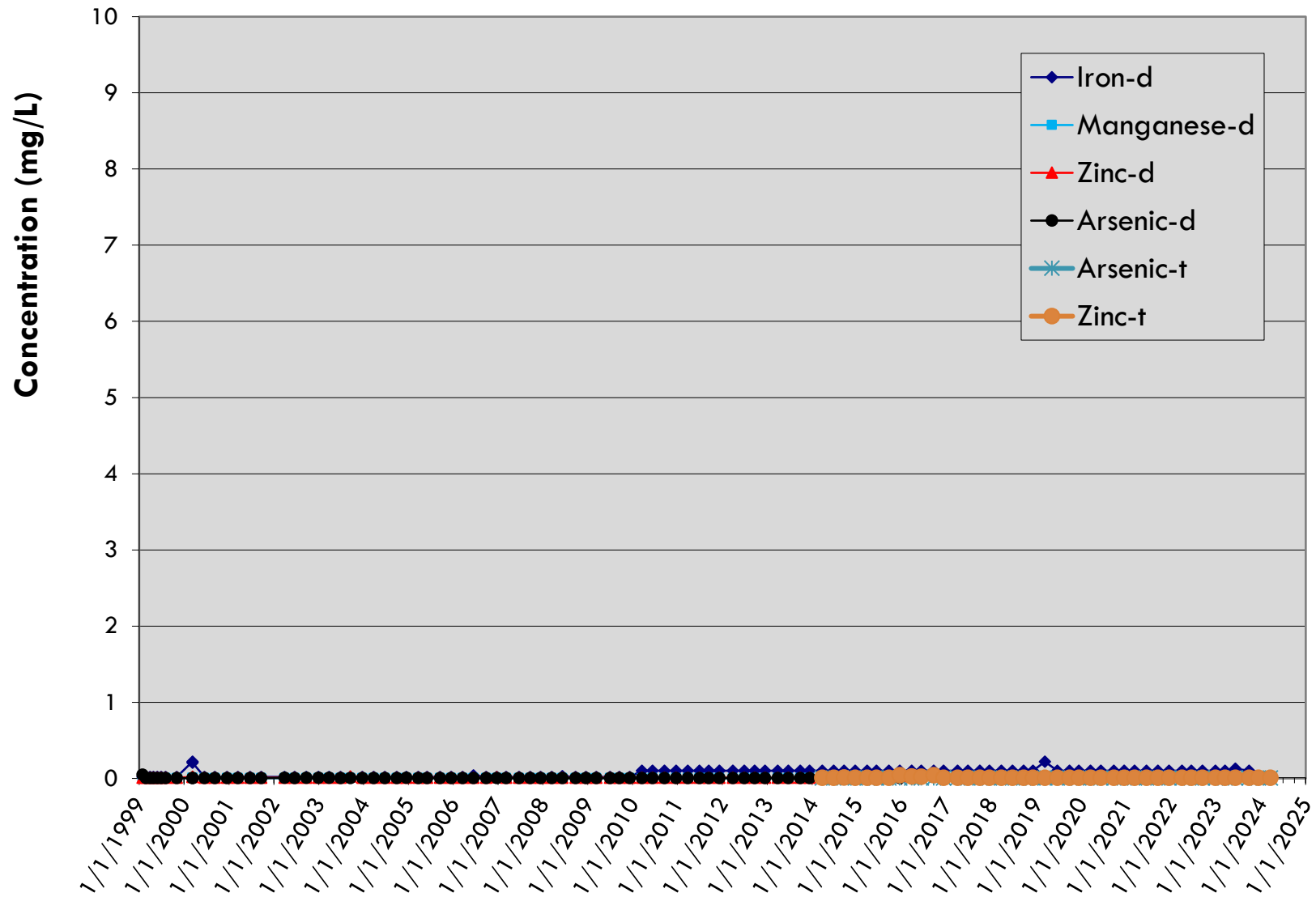
LRI Landfill, Pierce County, Washington



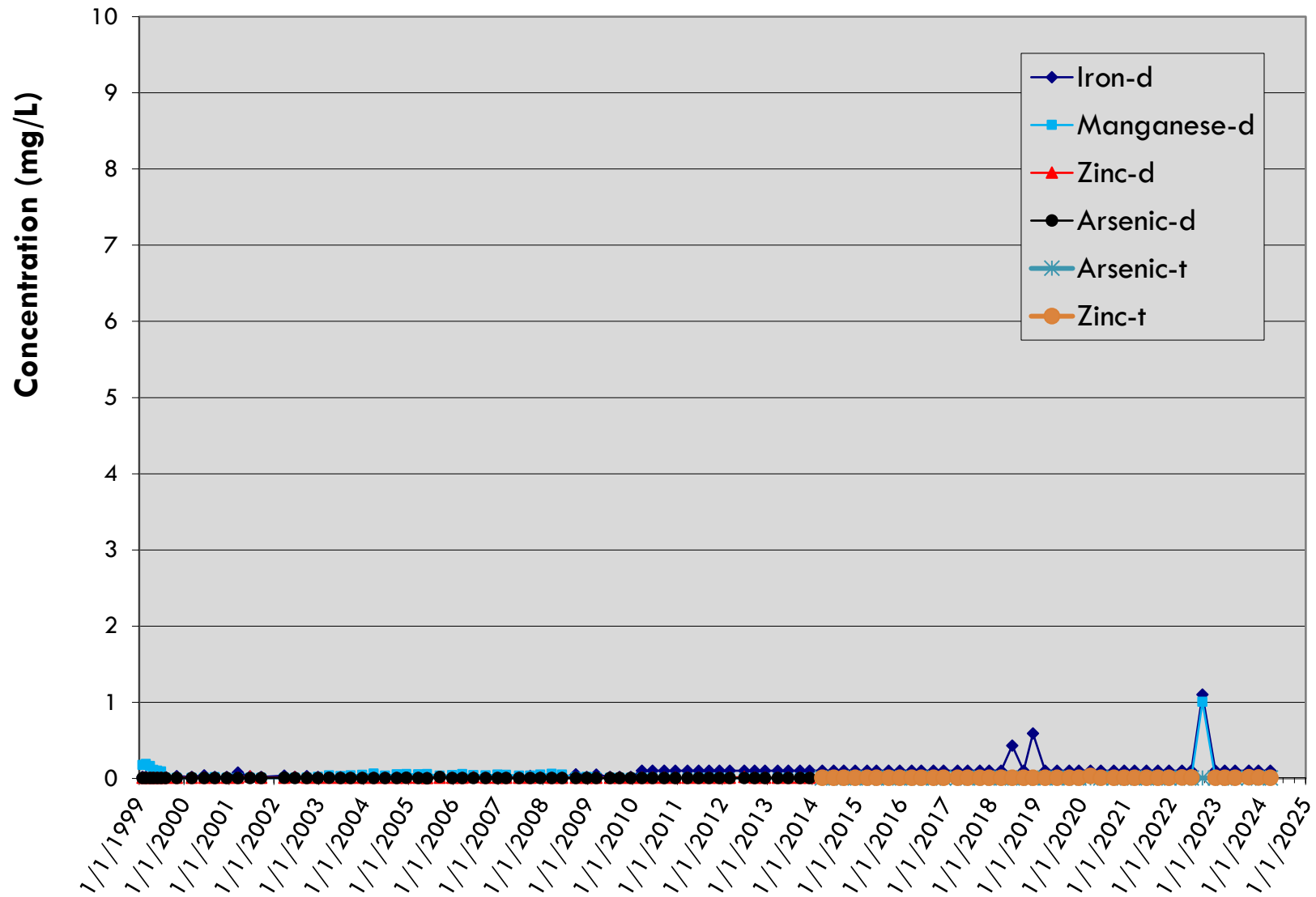
MW-7
LRI Landfill, Pierce County, Washington



MW-9 (Background)
LRI Landfill, Pierce County, Washington

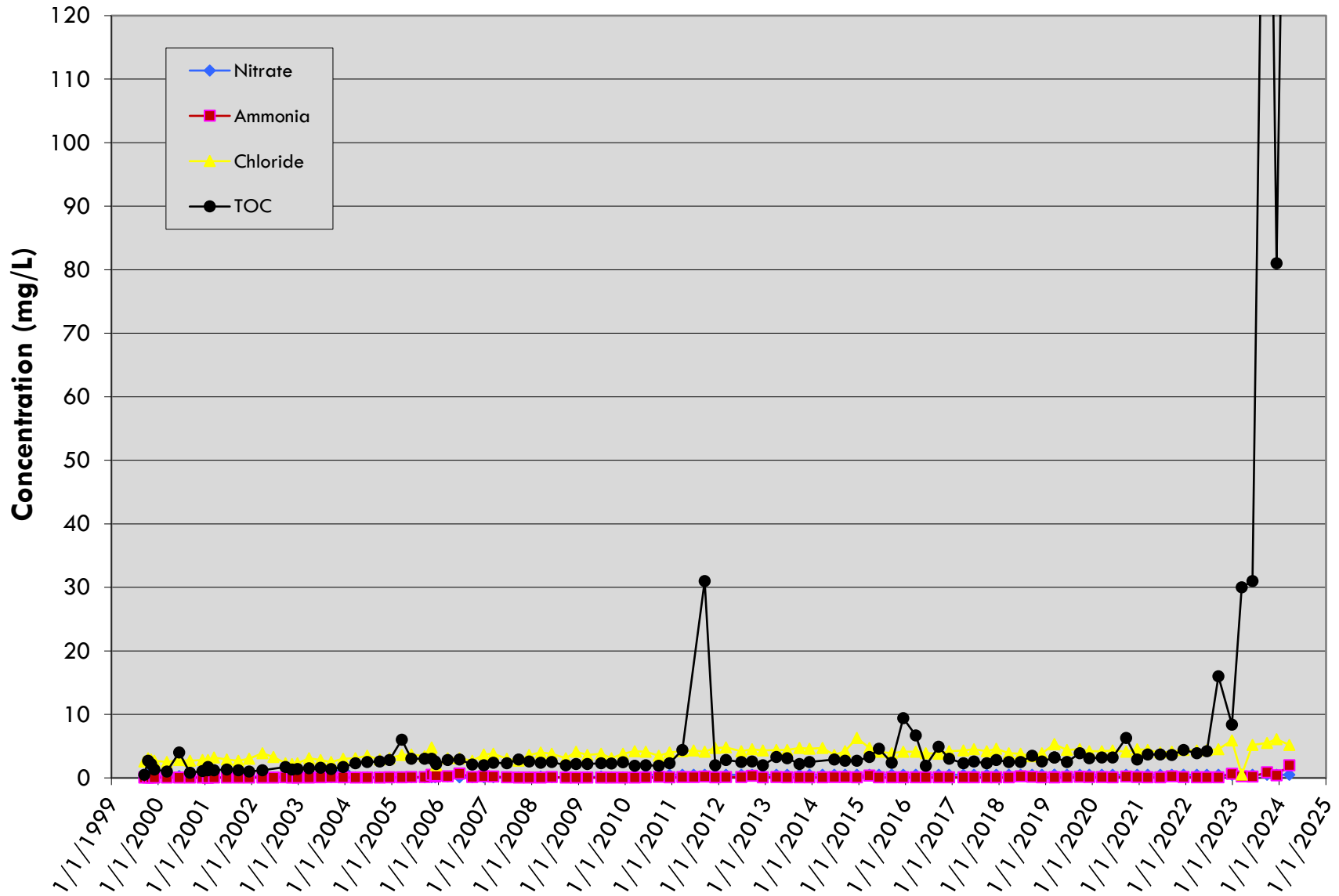


MW-10 (Background)
LRI Landfill, Pierce County, Washington



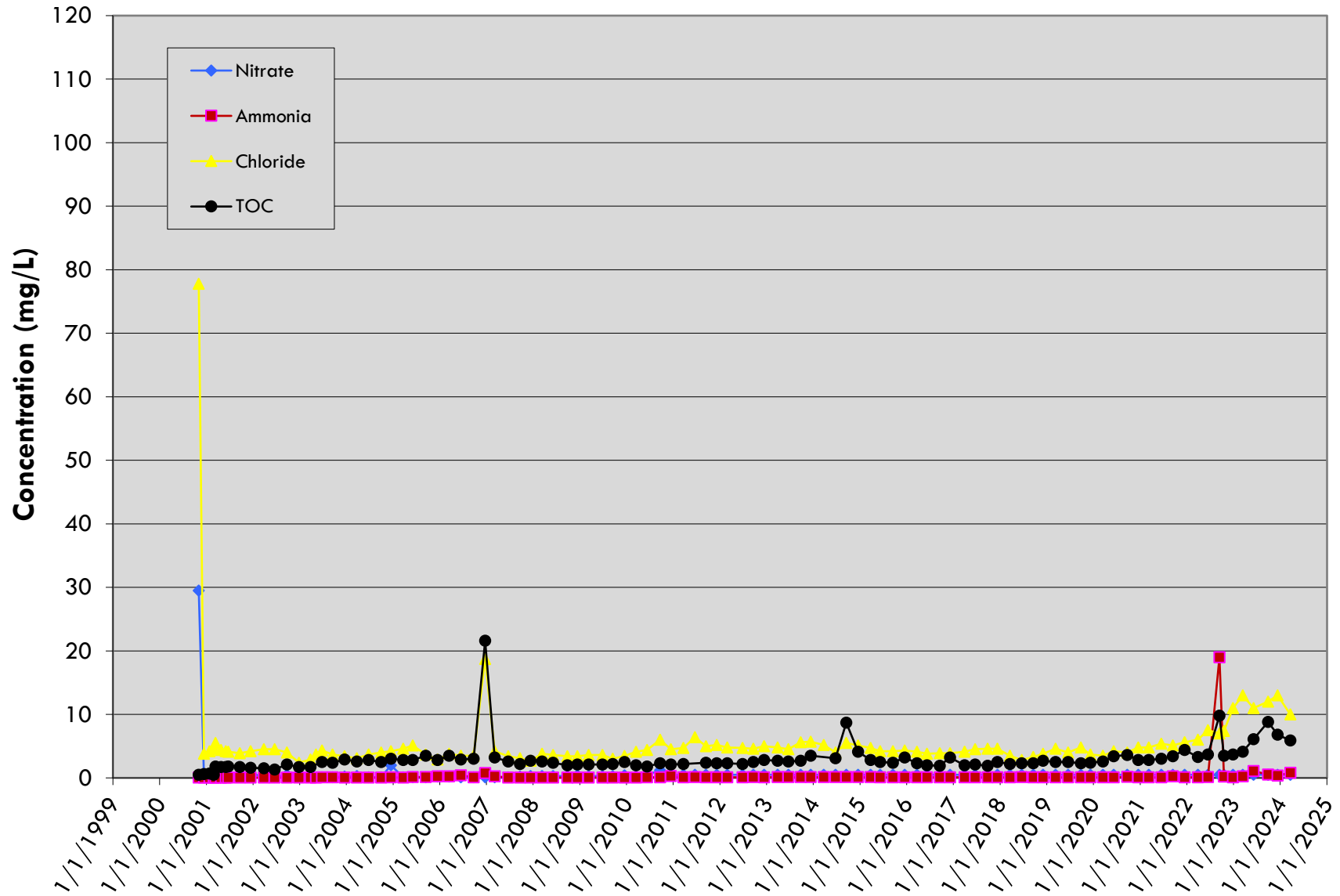
LDCS-1

LRI Landfill, Pierce County, Washington



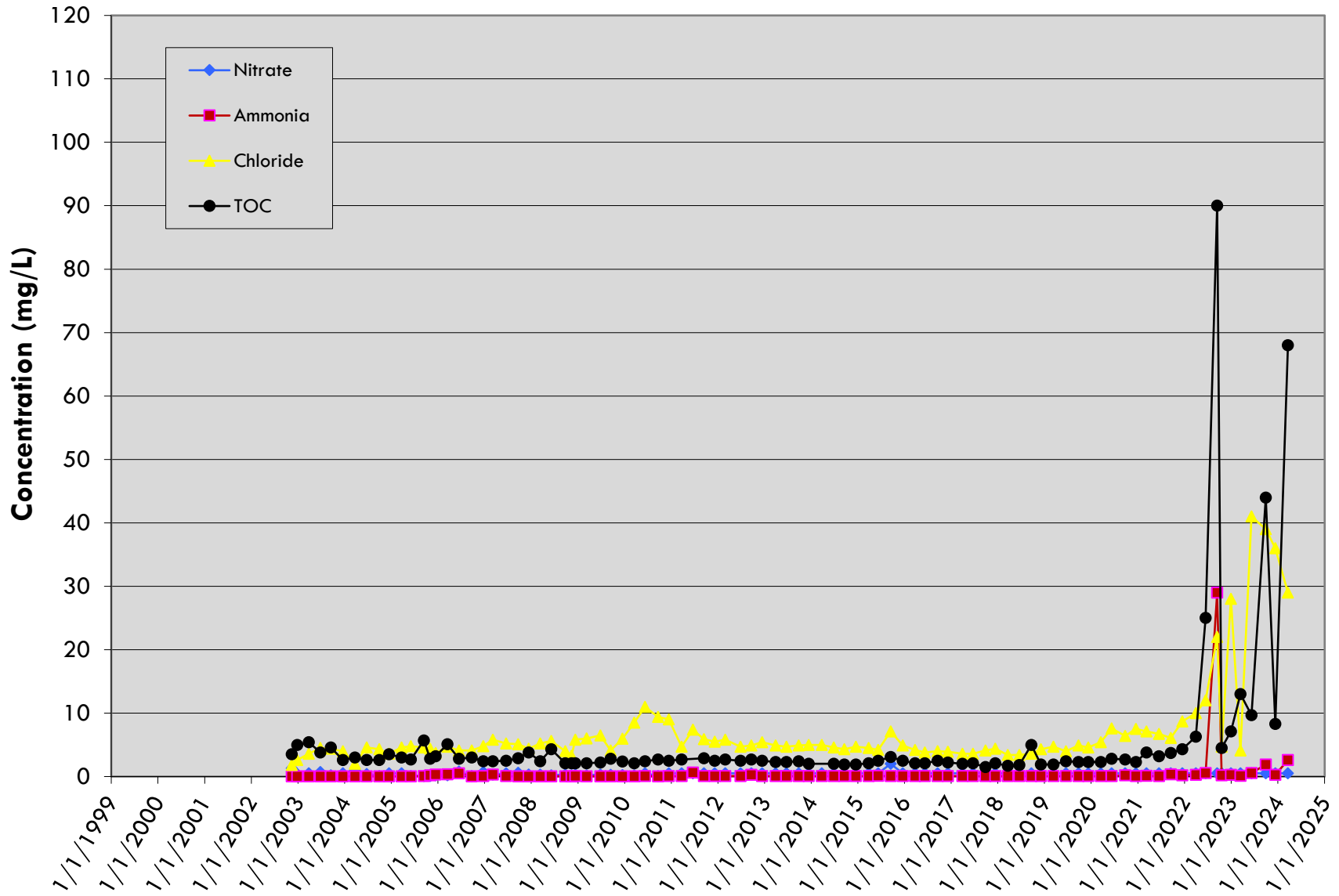
LDCS-2A

LRI Landfill, Pierce County, Washington



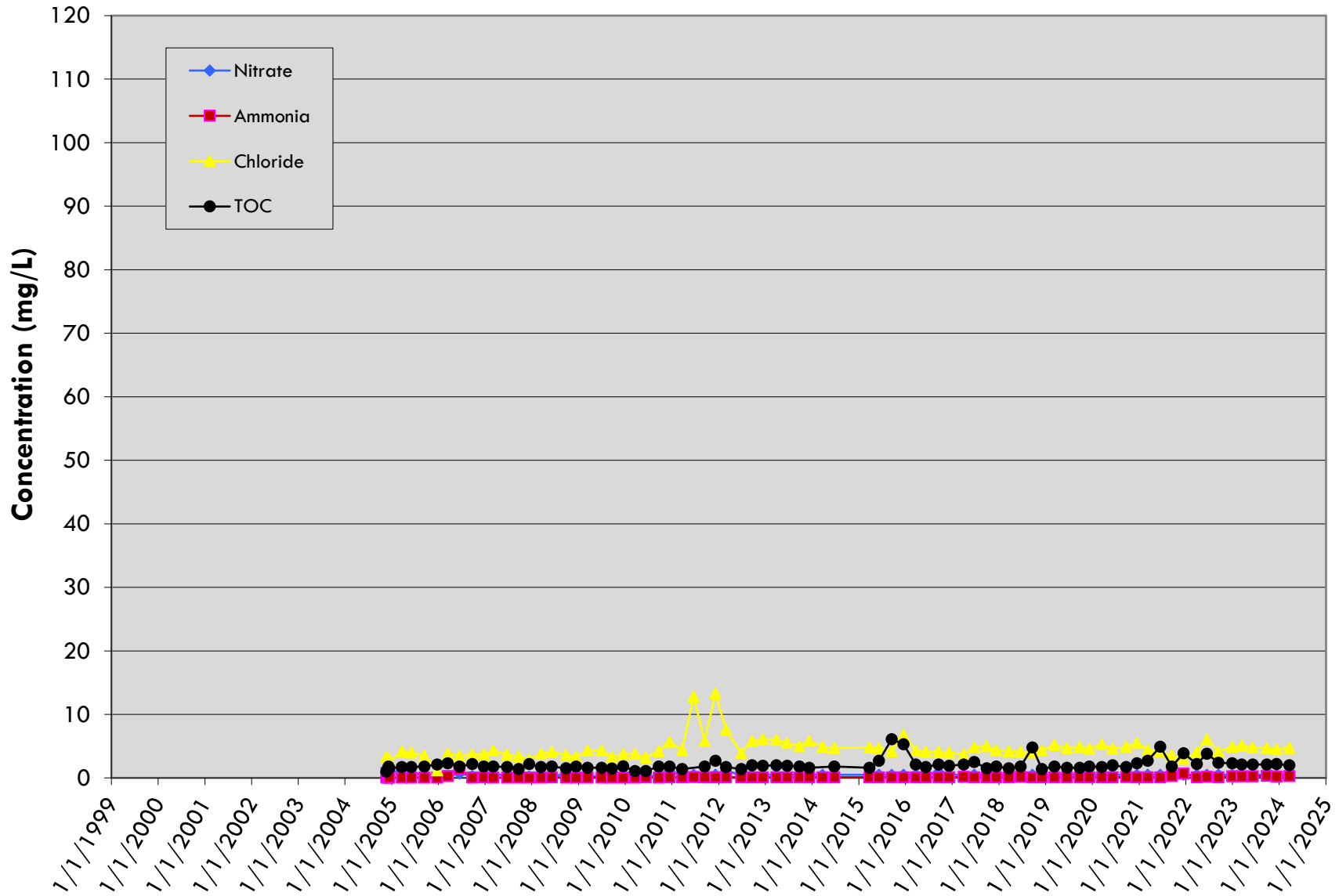
LDCS-2B

LRI Landfill, Pierce County, Washington



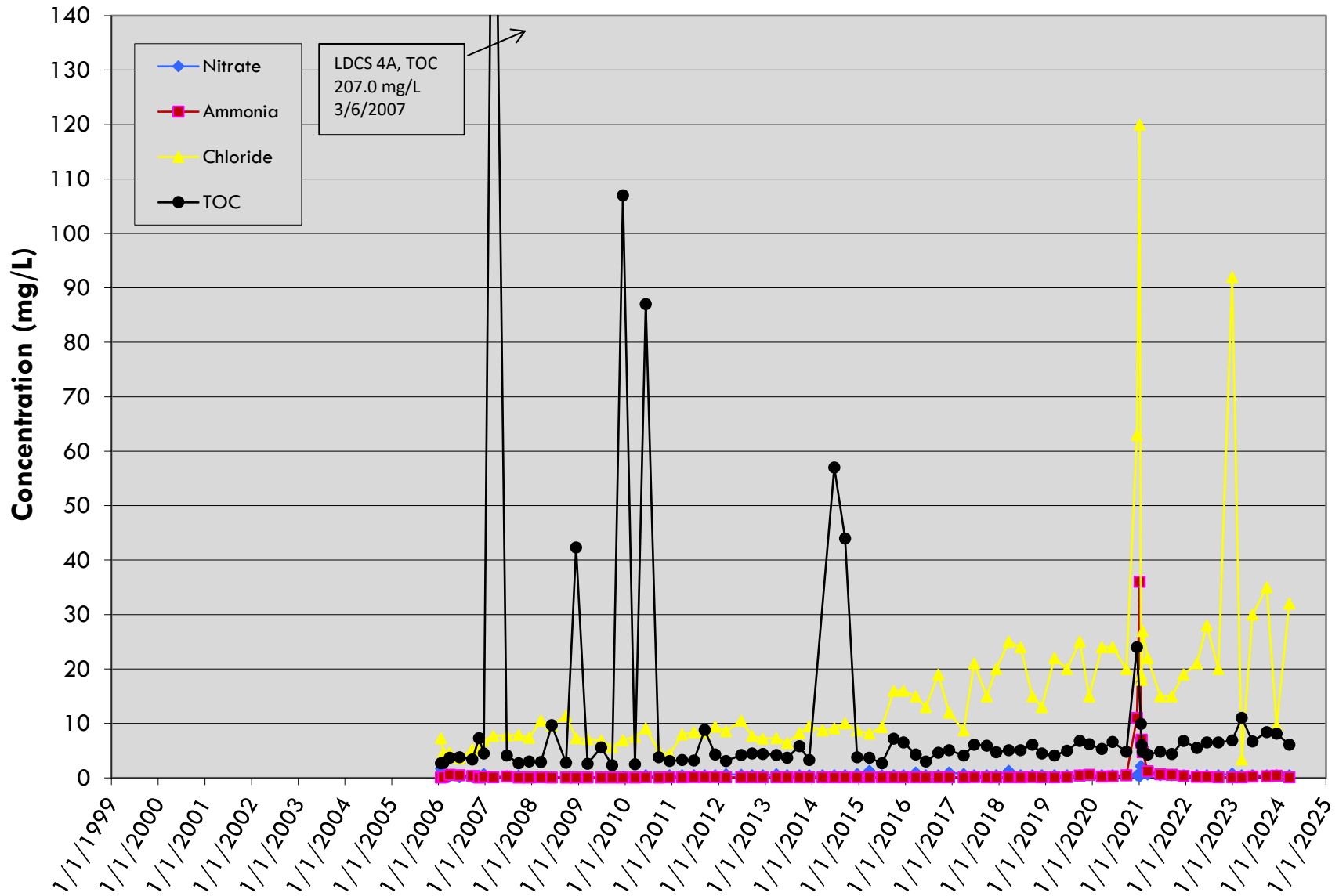
LDCS-3A

LRI Landfill, Pierce County, Washington



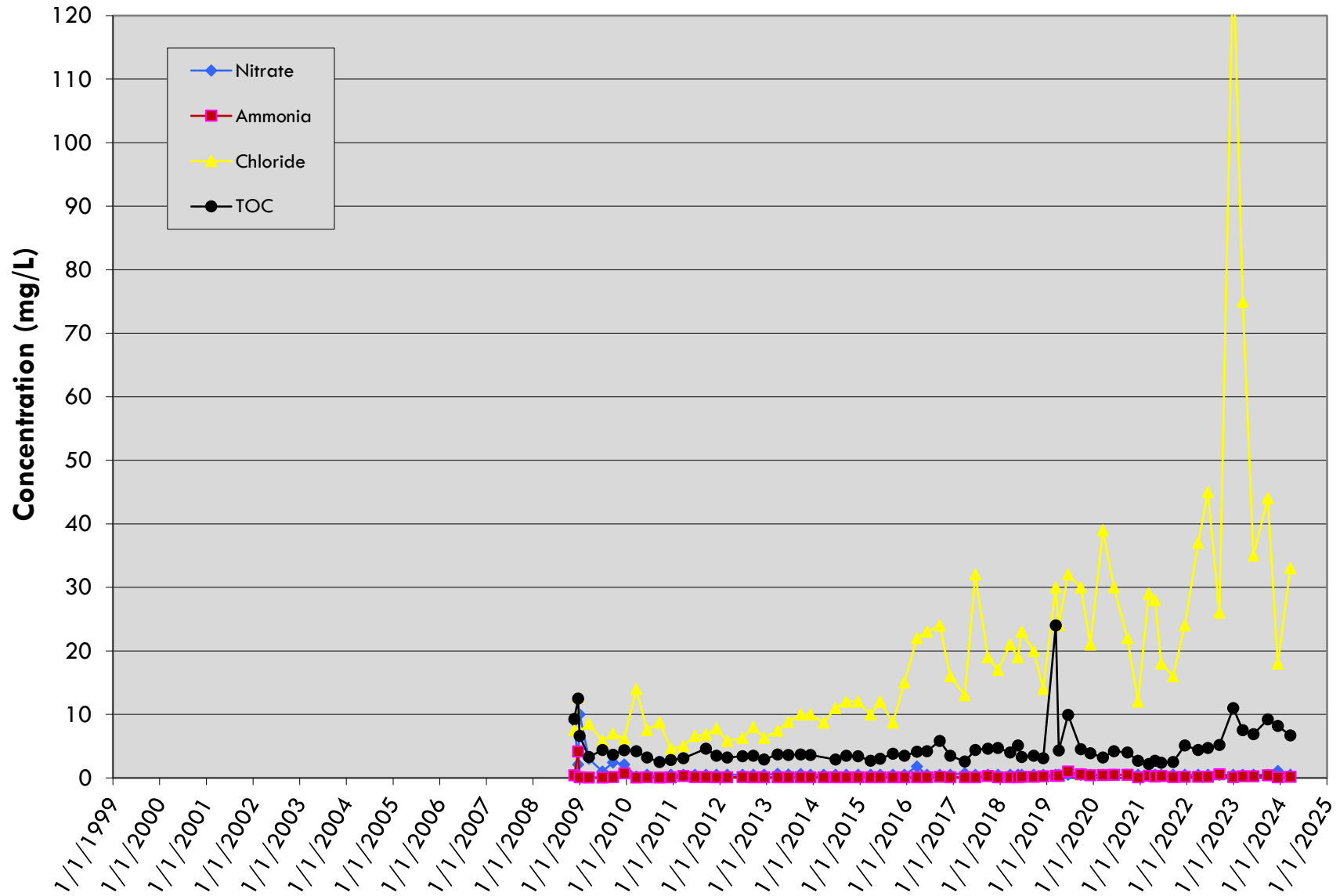
LDCS-4A

LRI Landfill, Pierce County, Washington



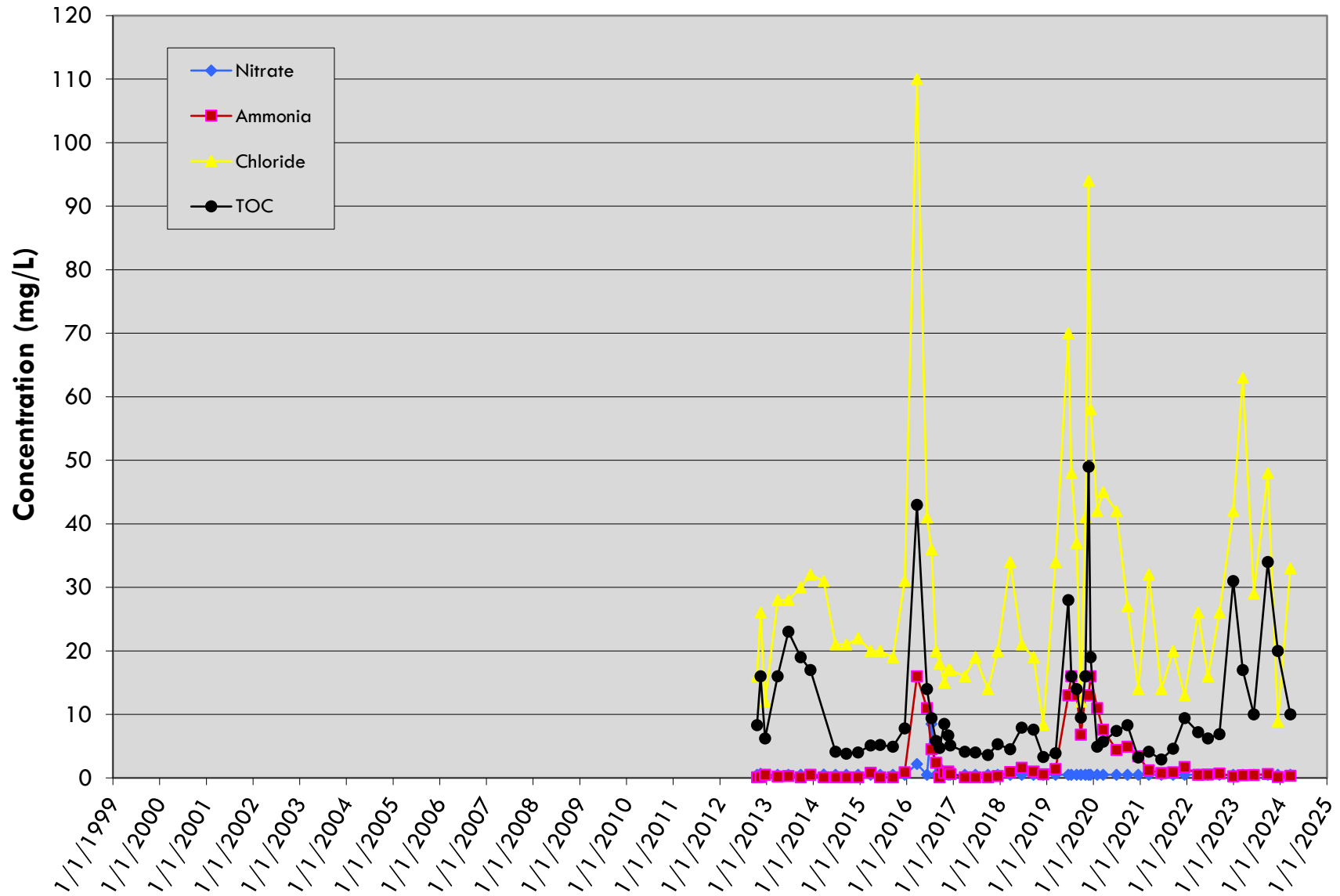
LDCS-4B

LRI Landfill, Pierce County, Washington



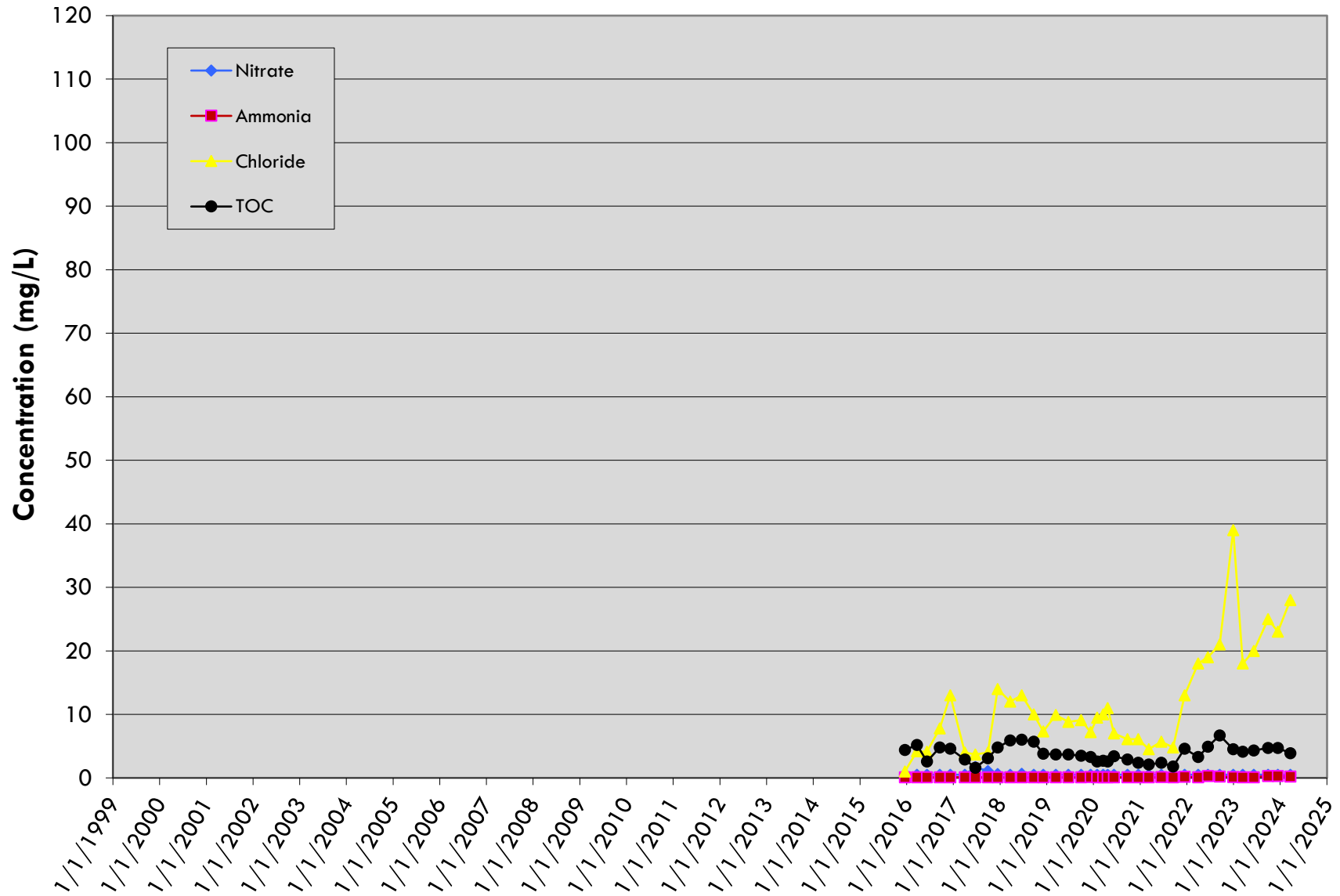
LDCS-5

LRI Landfill, Pierce County, Washington



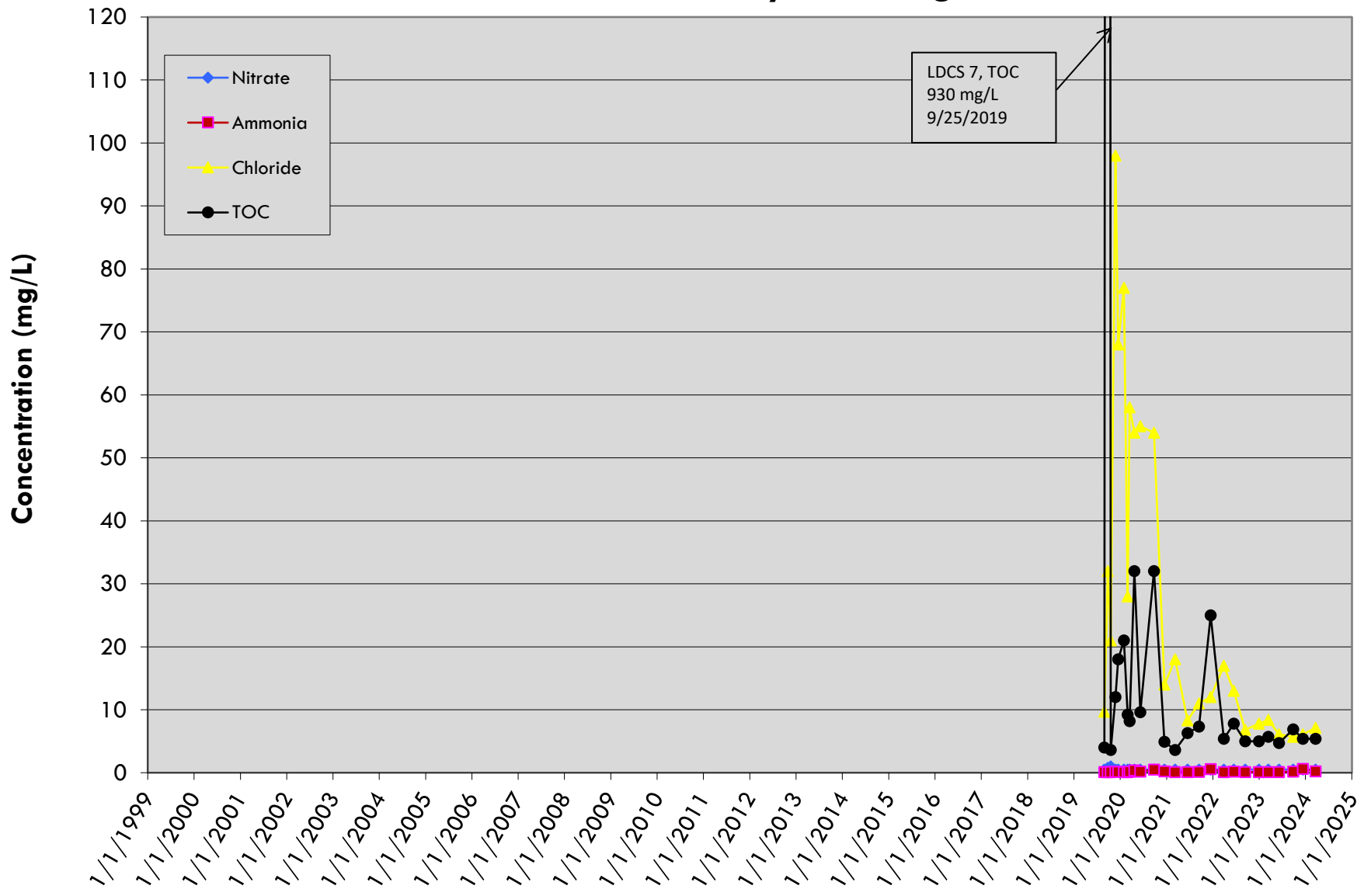
LDCS-6A

LRI Landfill, Pierce County, Washington



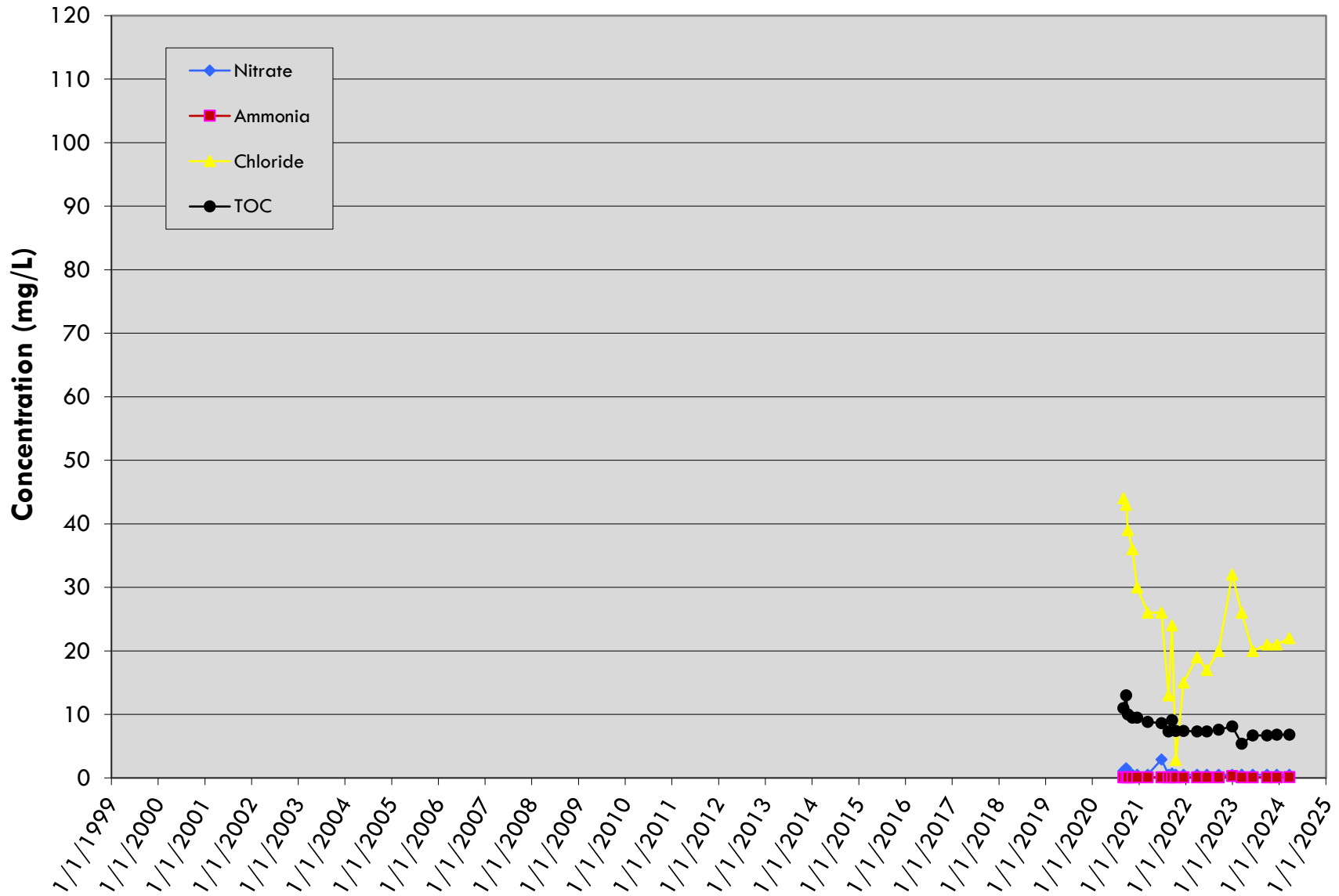
LDCS-7

LRI Landfill, Pierce County, Washington



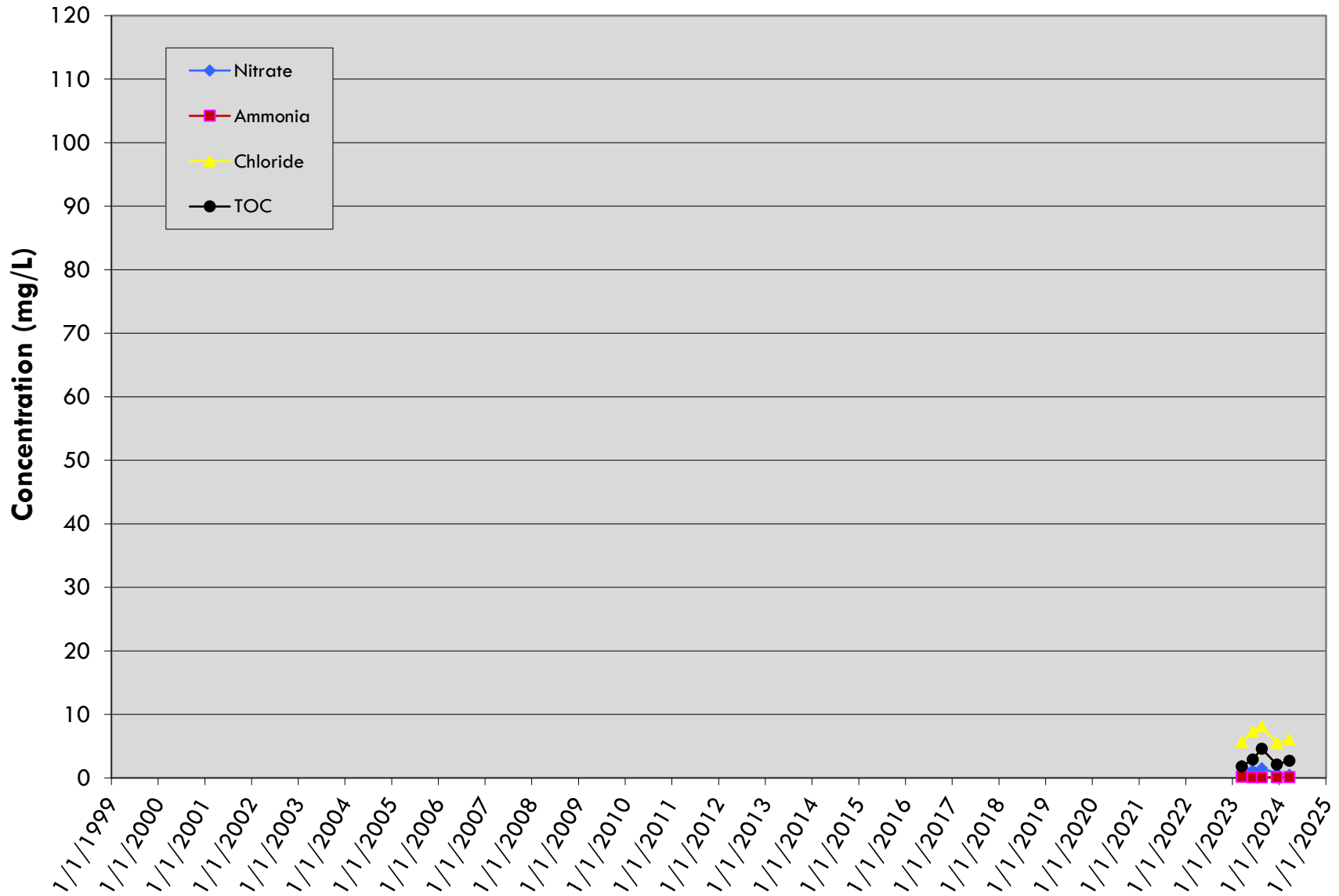
LDCS-8

LRI Landfill, Pierce County, Washington



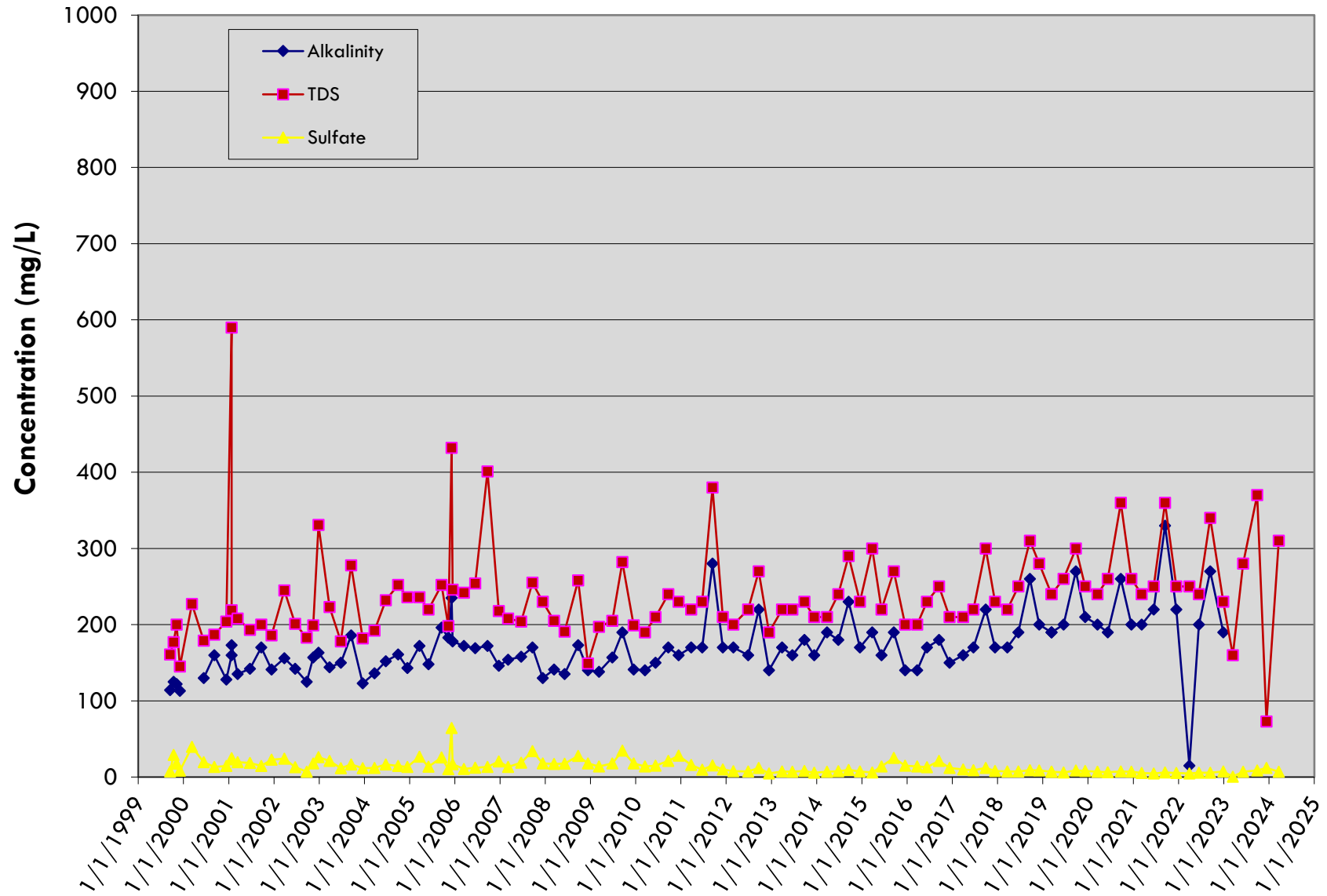
LDCS-9

LRI Landfill, Pierce County, Washington



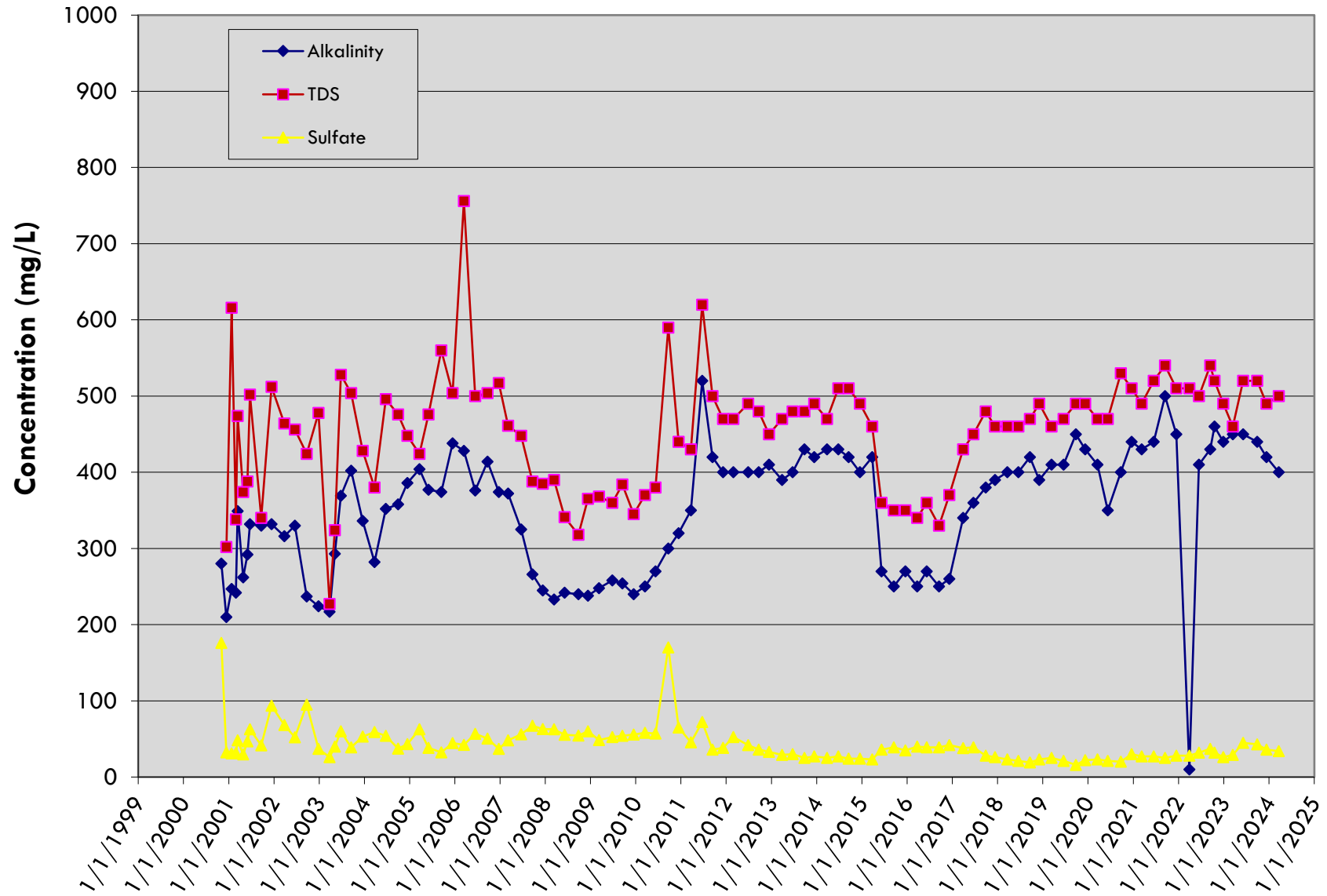
LDCS-1

LRI Landfill, Pierce County, Washington



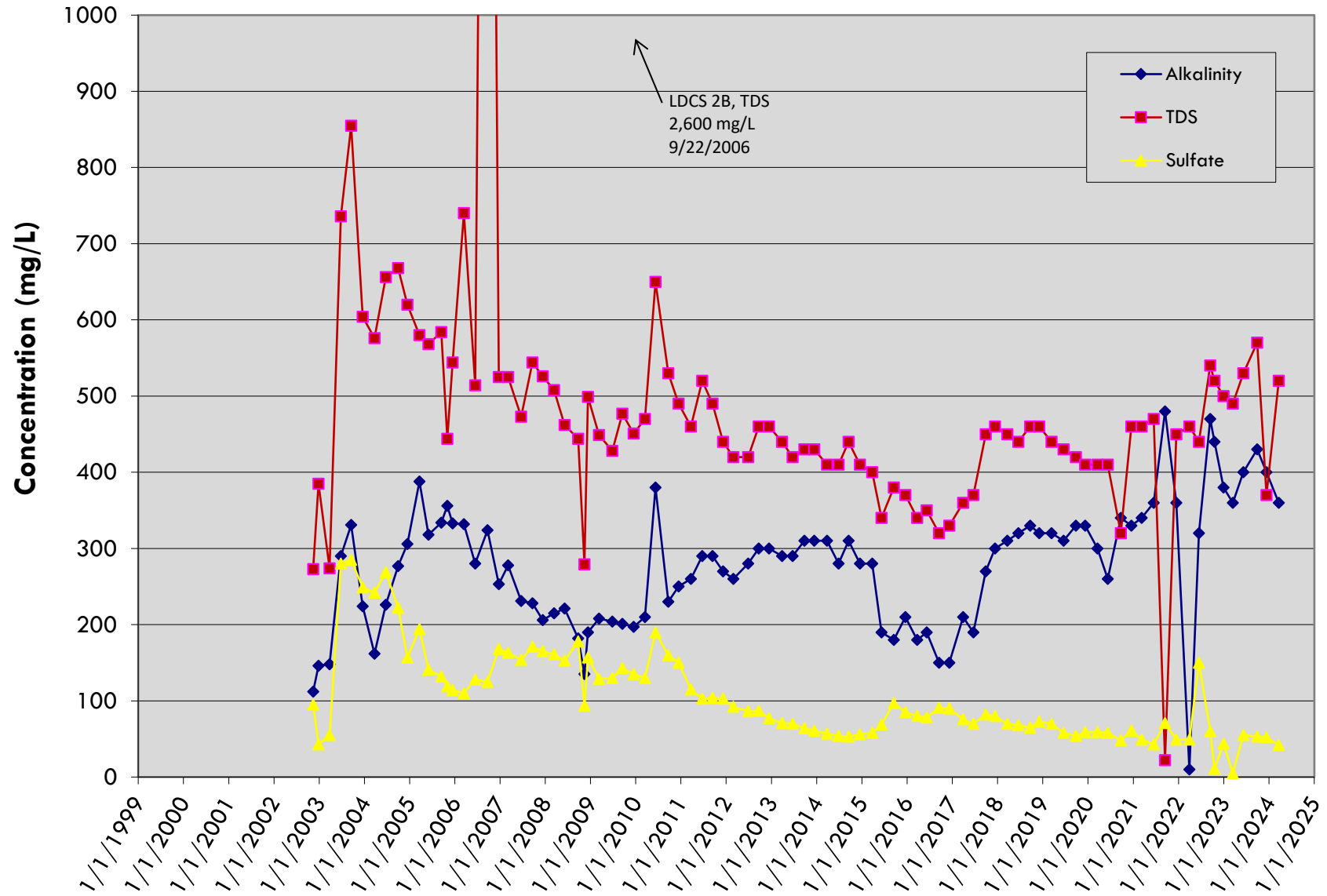
LDCS-2A

LRI Landfill, Pierce County, Washington



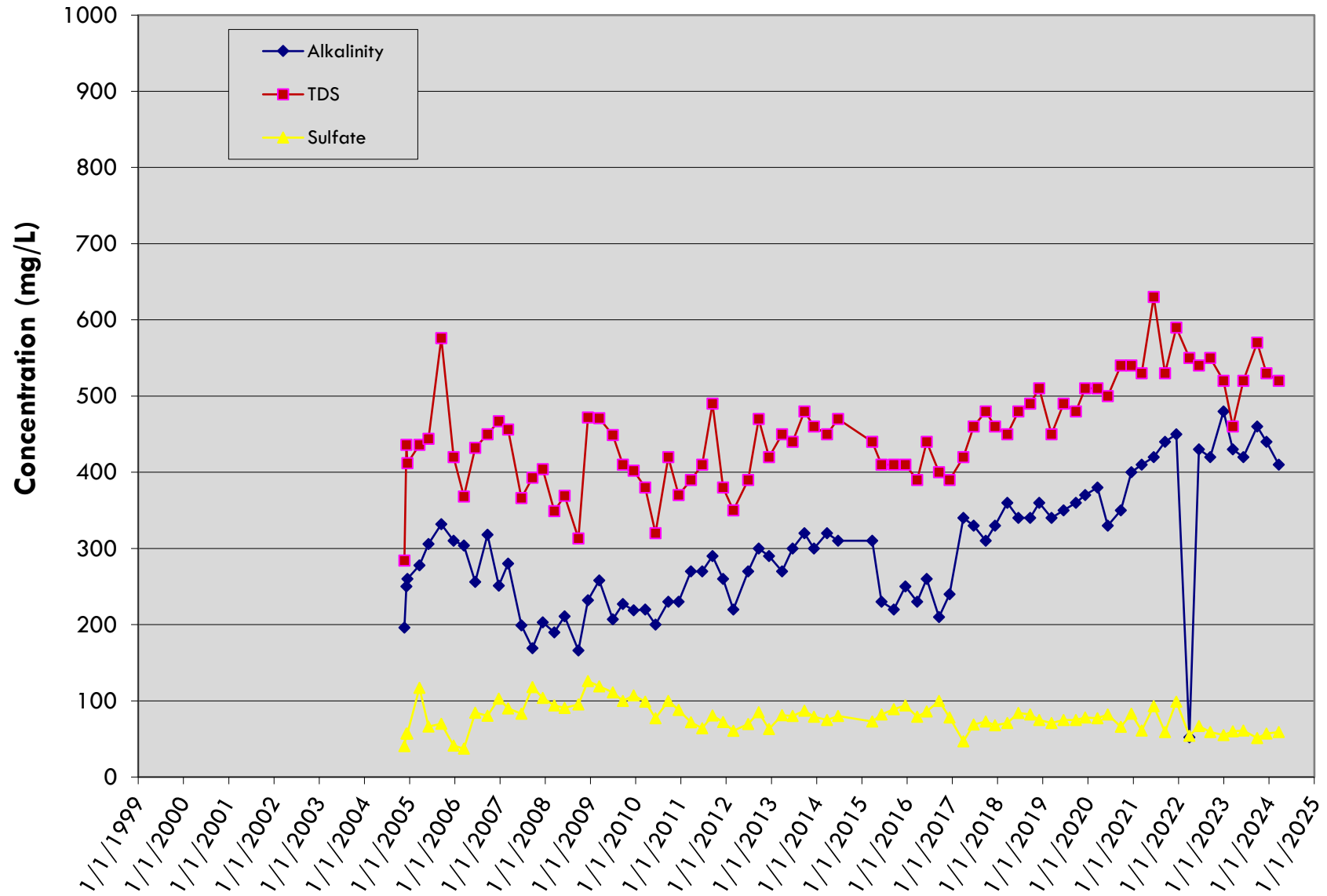
LDCS-2B

LRI Landfill, Pierce County, Washington



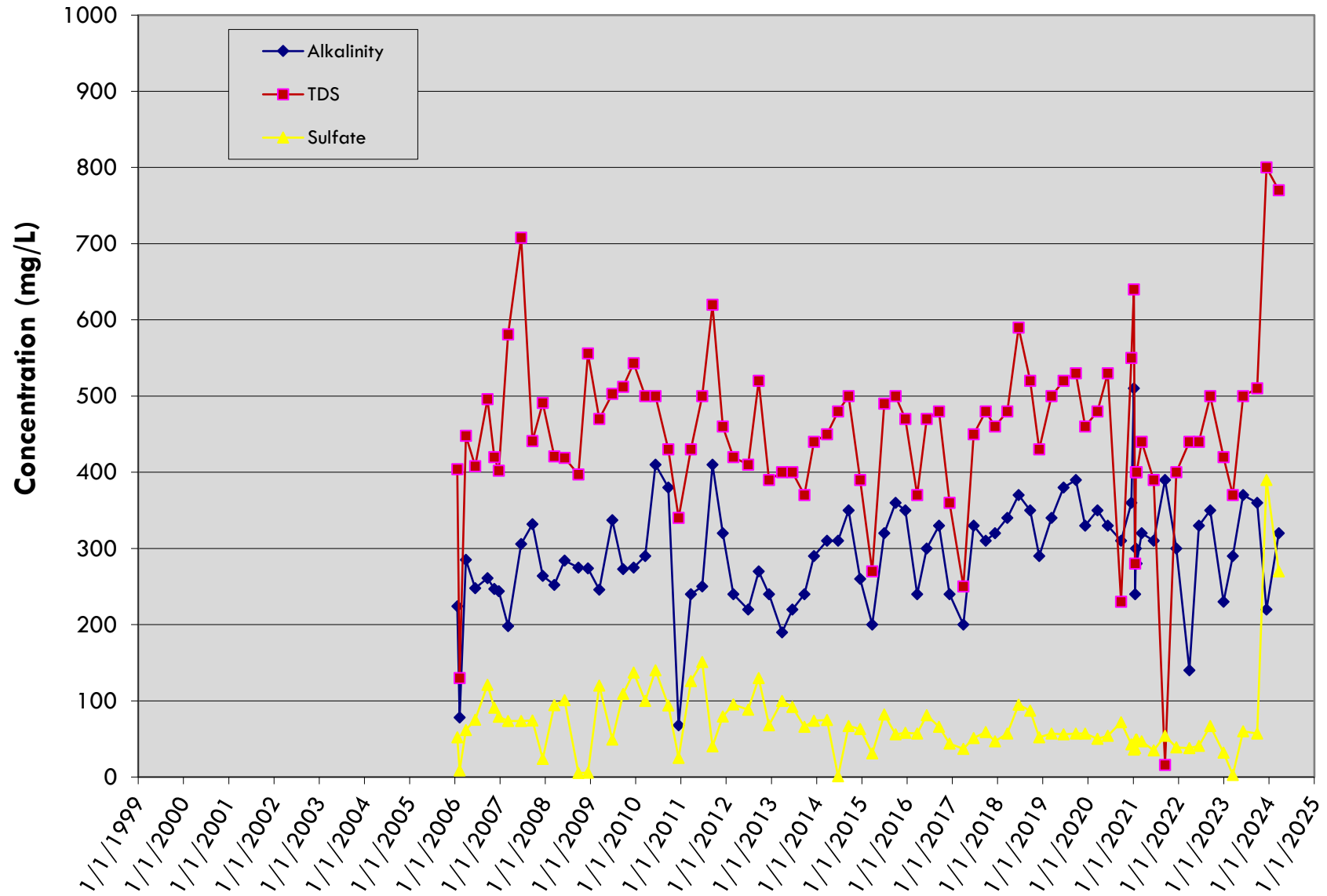
LDCS-3A

LRI Landfill, Pierce County, Washington



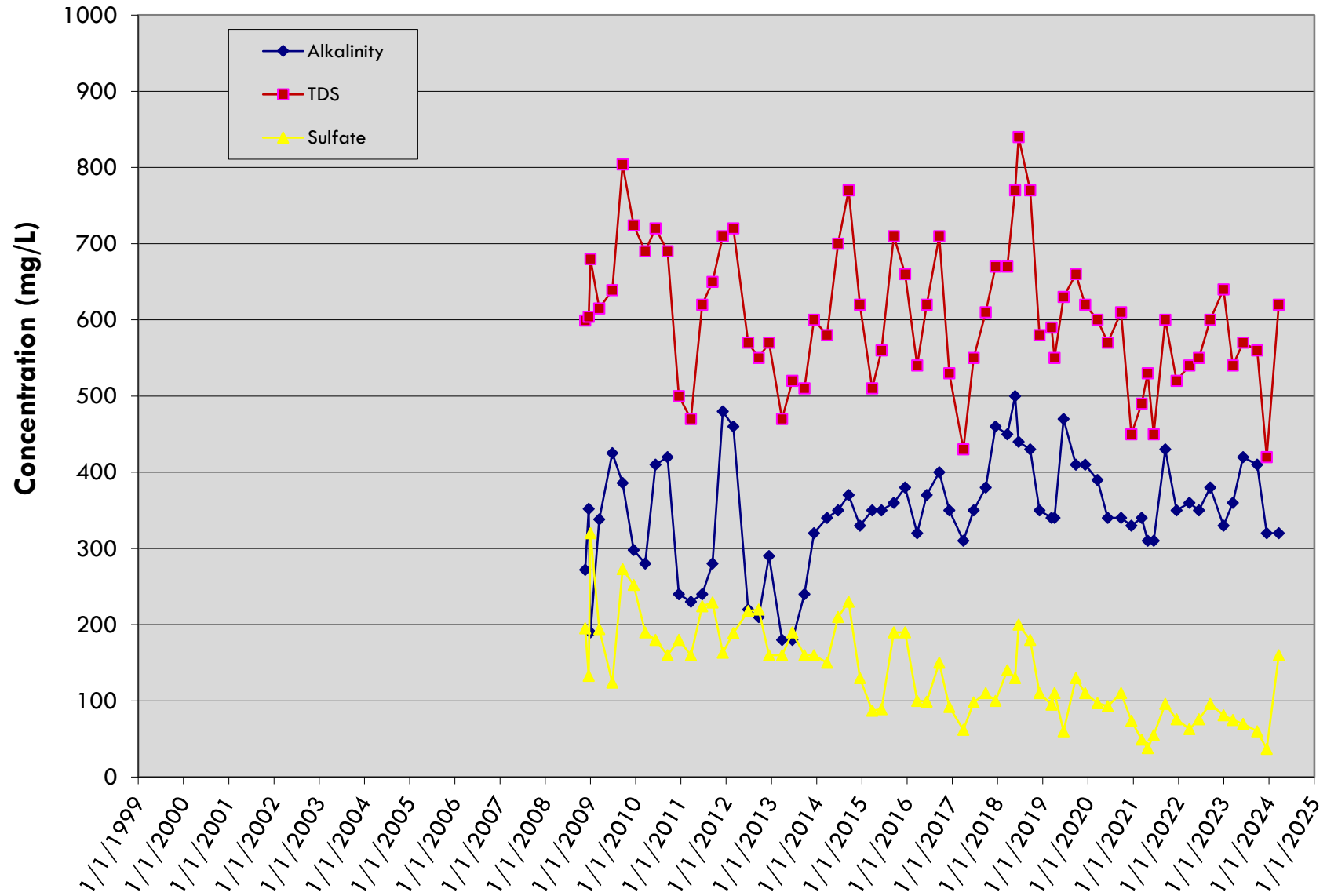
LDCS-4A

LRI Landfill, Pierce County, Washington



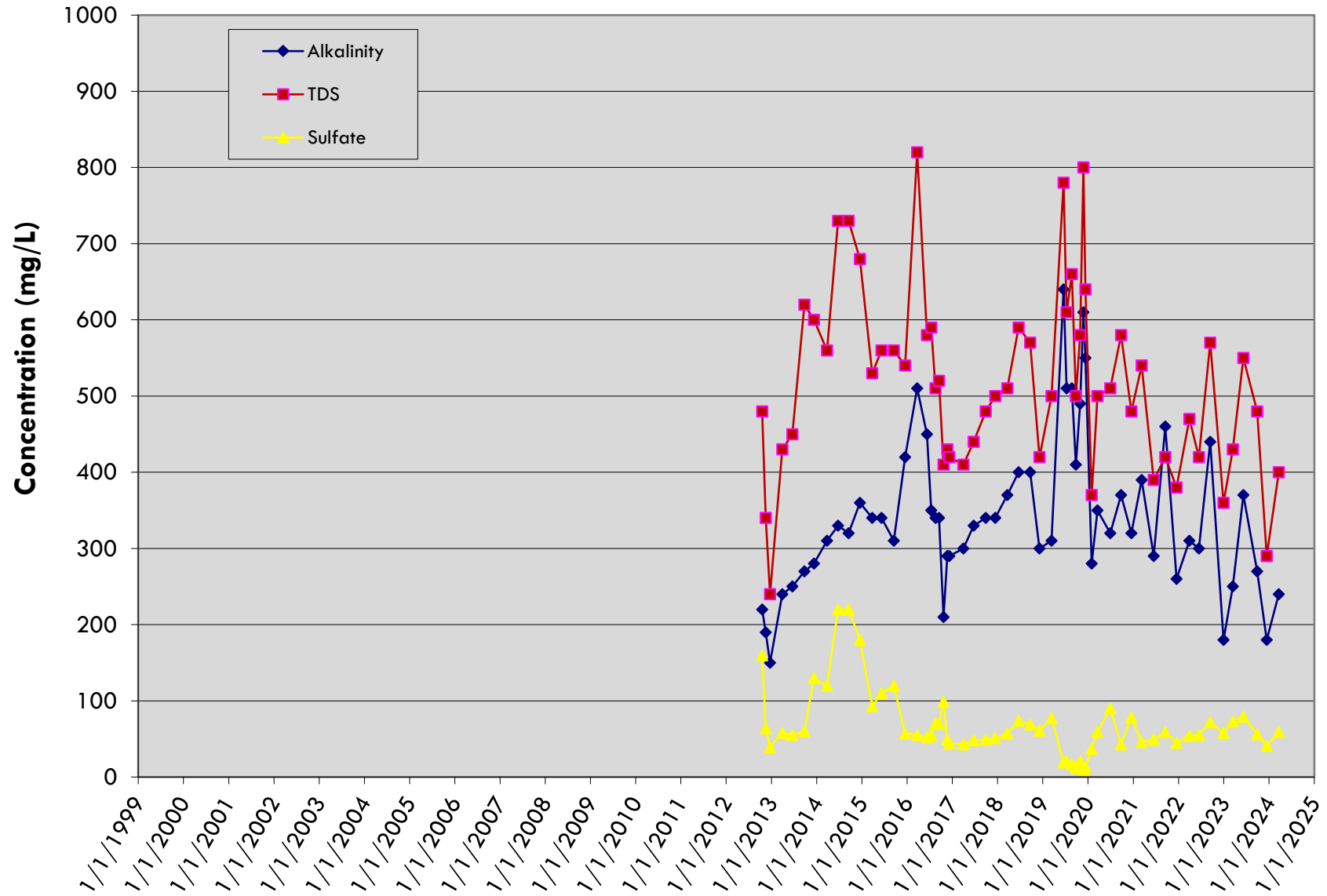
LDCS-4B

LRI Landfill, Pierce County, Washington



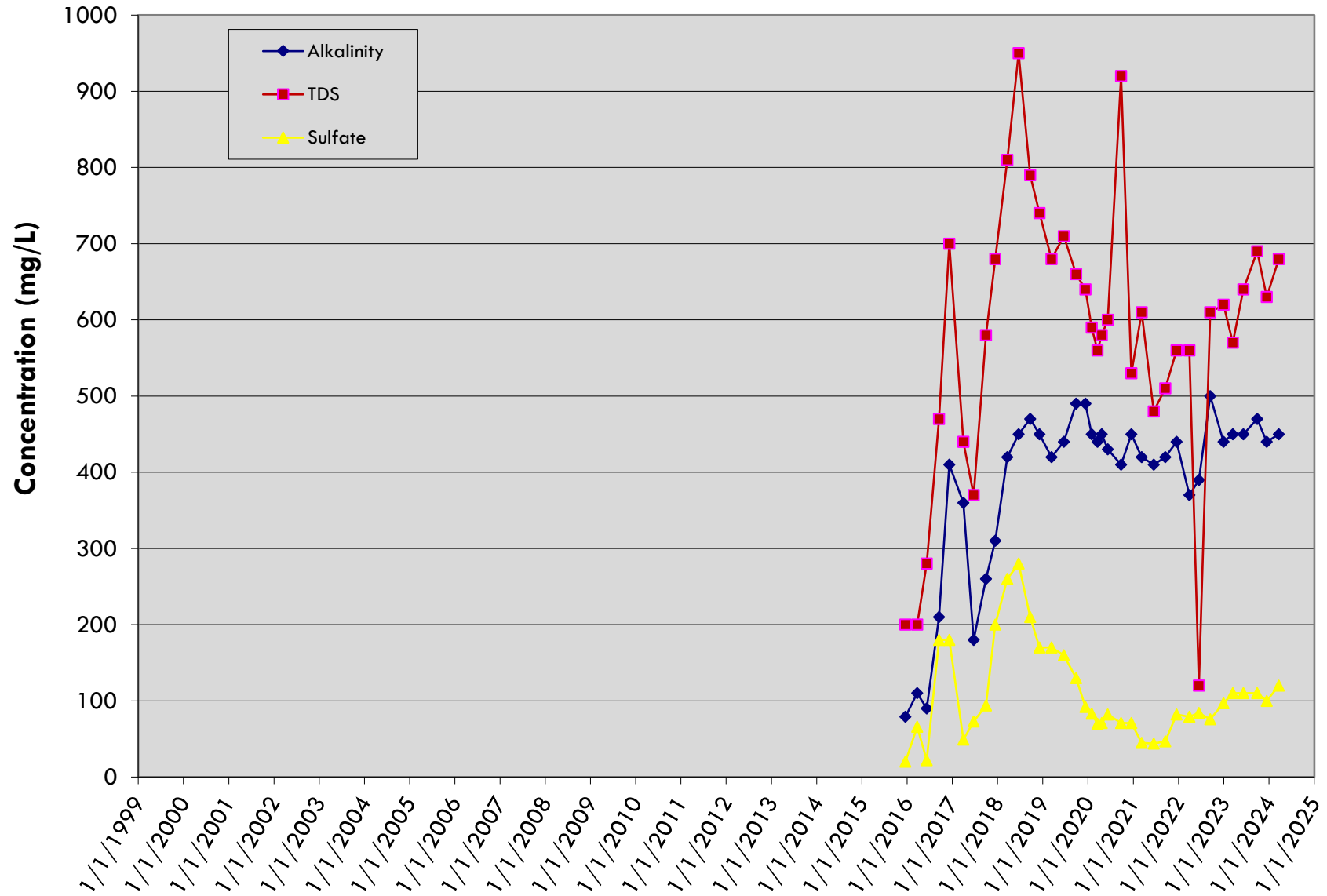
LDCS-5

LRI Landfill, Pierce County, Washington



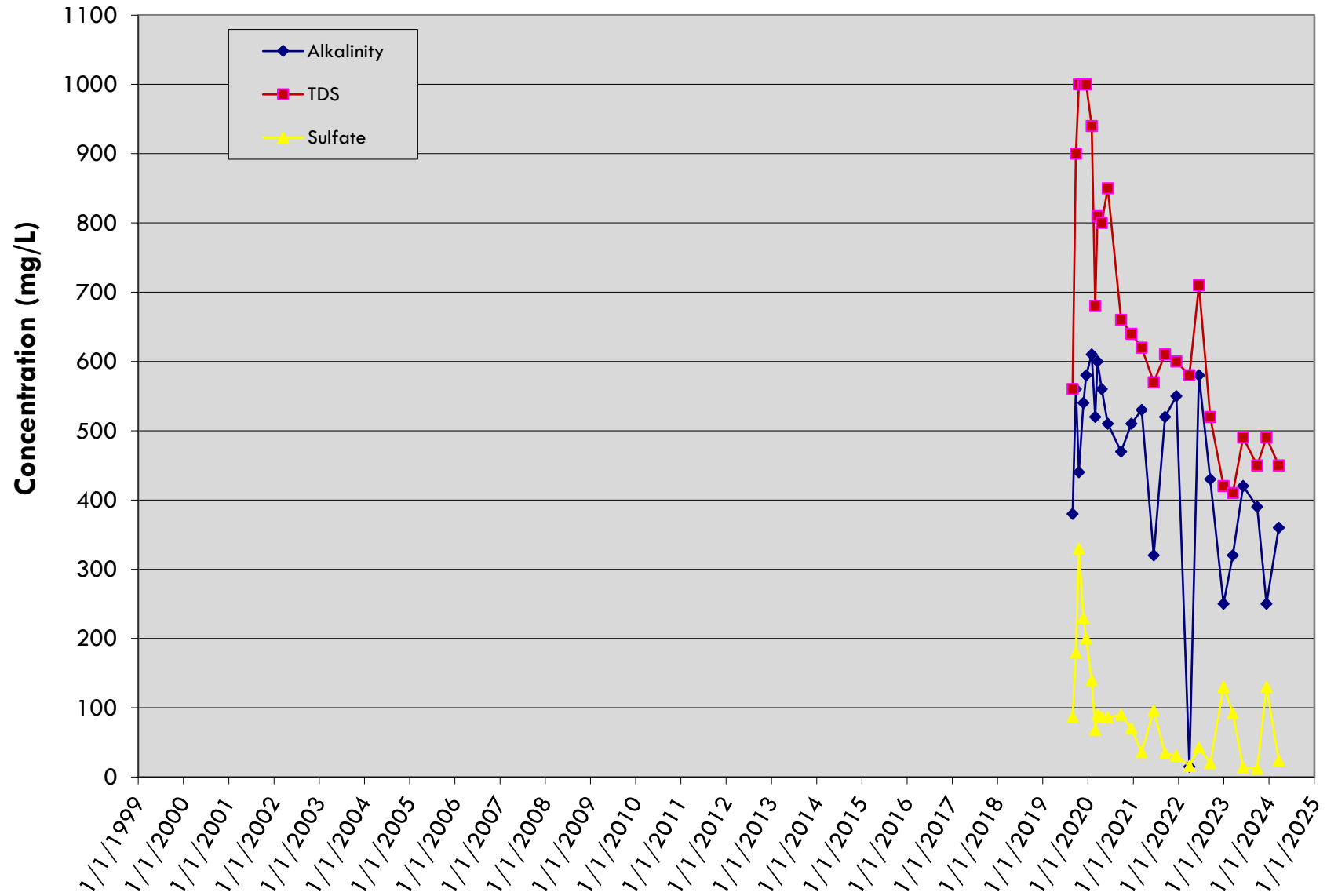
LDCS-6A

LRI Landfill, Pierce County, Washington



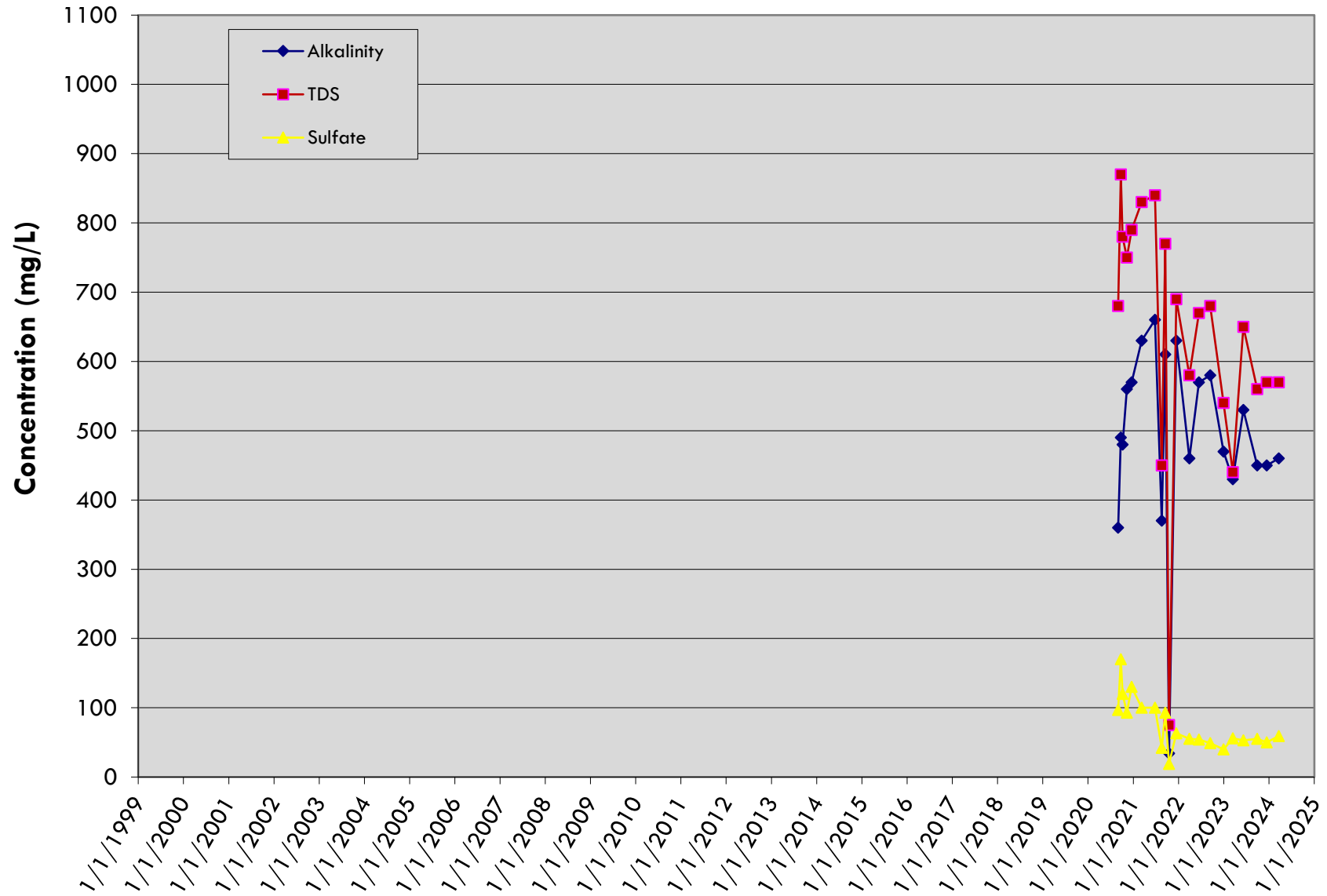
LDCS-7

LRI Landfill, Pierce County, Washington



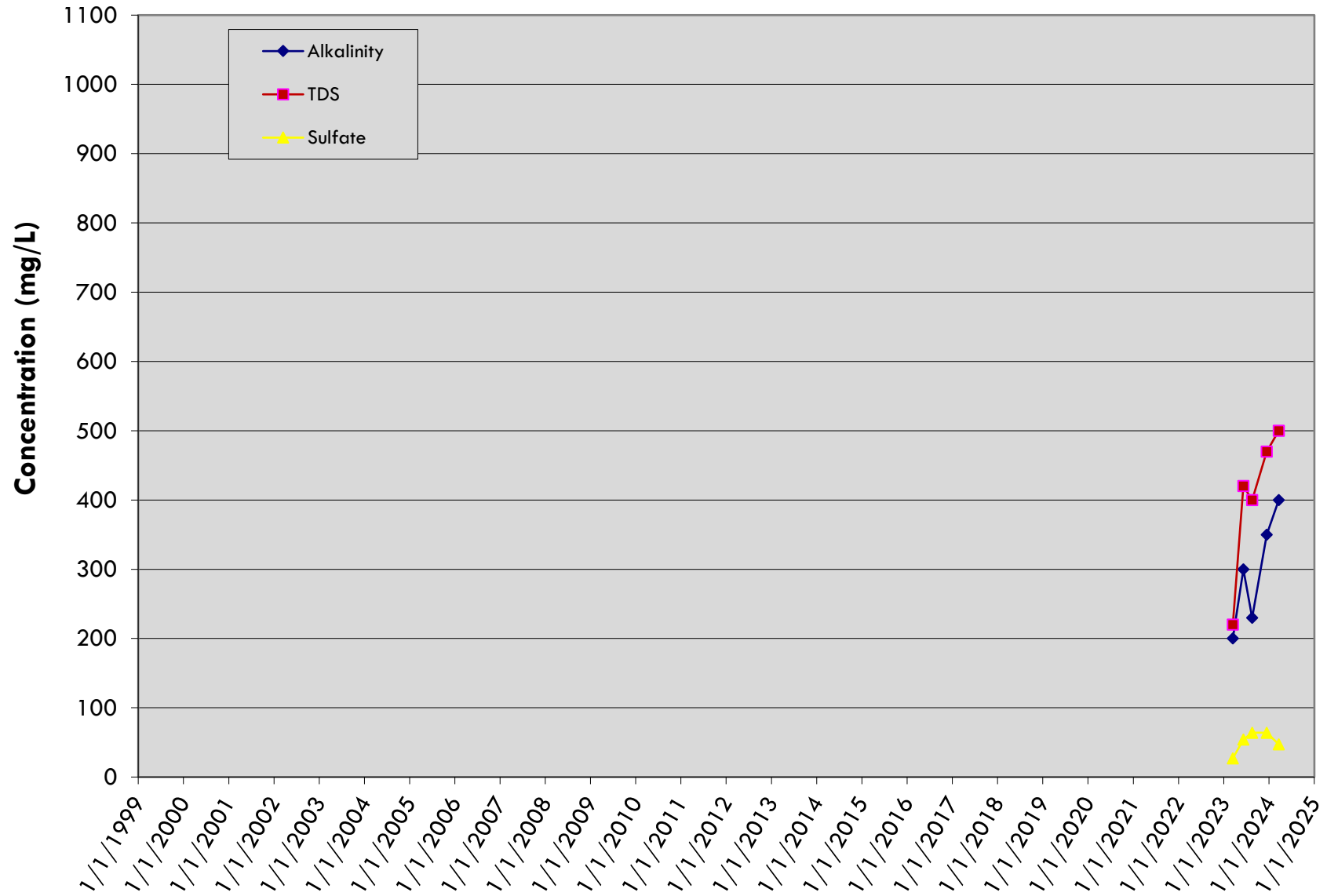
LDCS-8

LRI Landfill, Pierce County, Washington



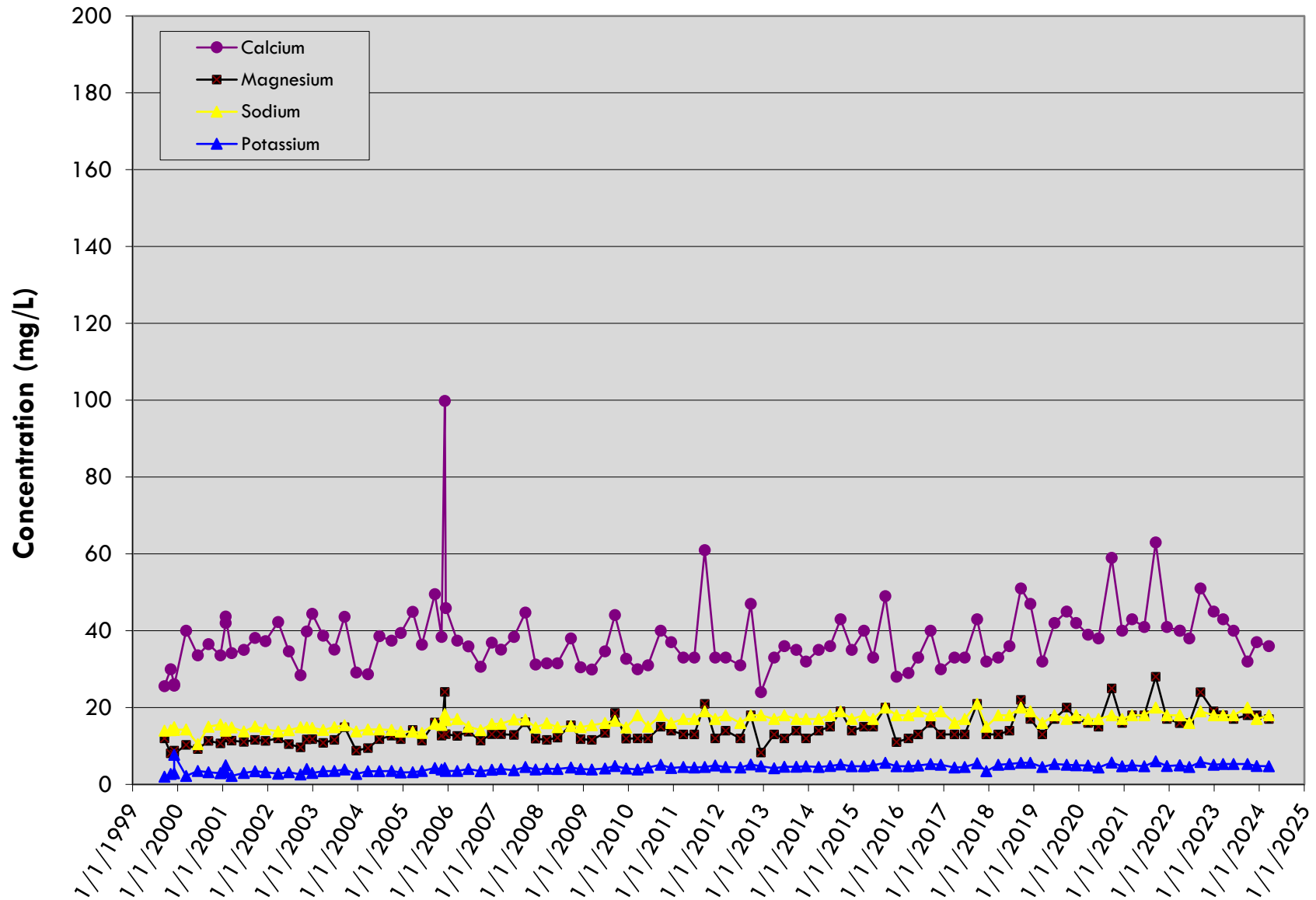
LDCS-9

LRI Landfill, Pierce County, Washington



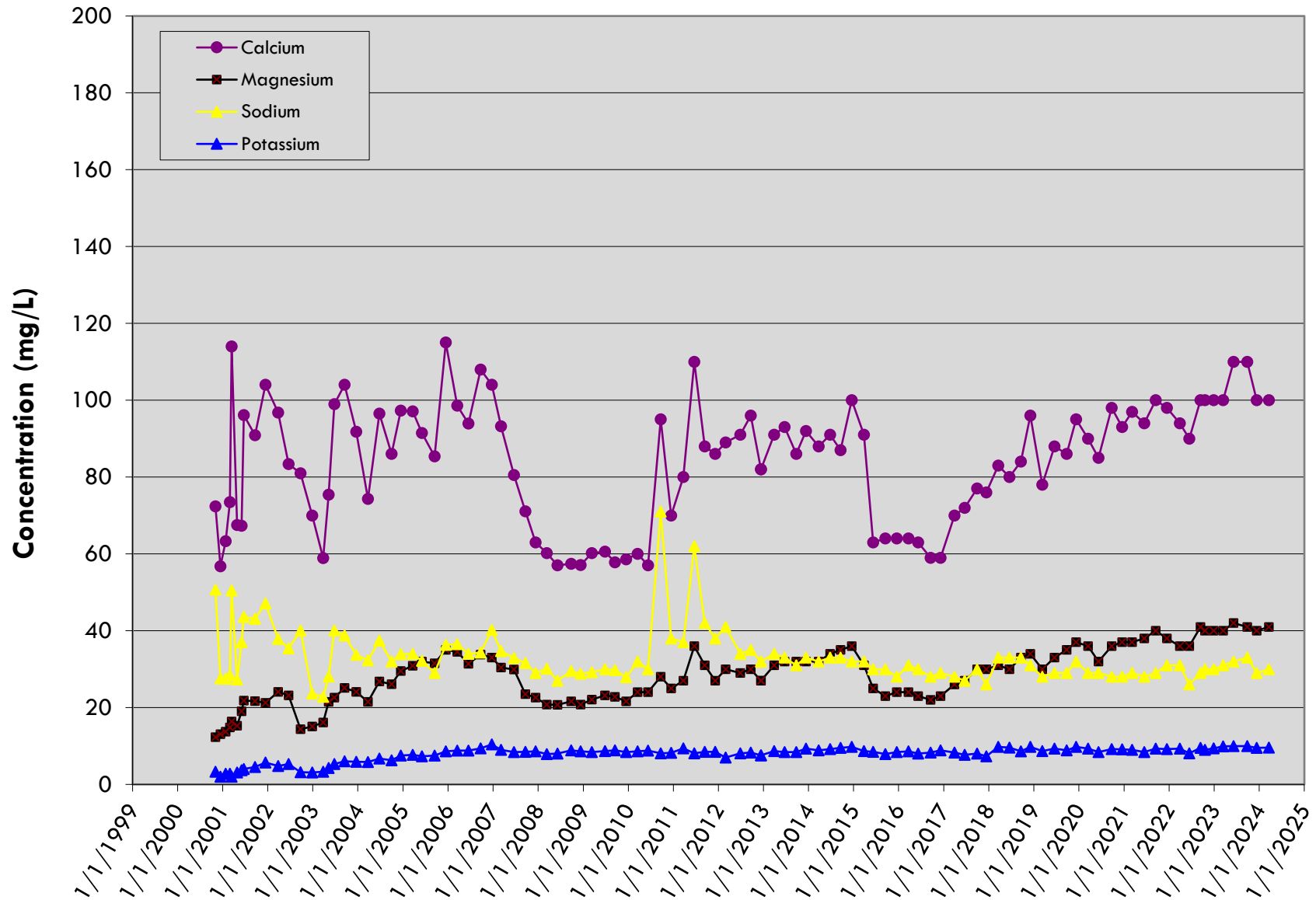
LDCS-1

LRI Landfill, Pierce County, Washington



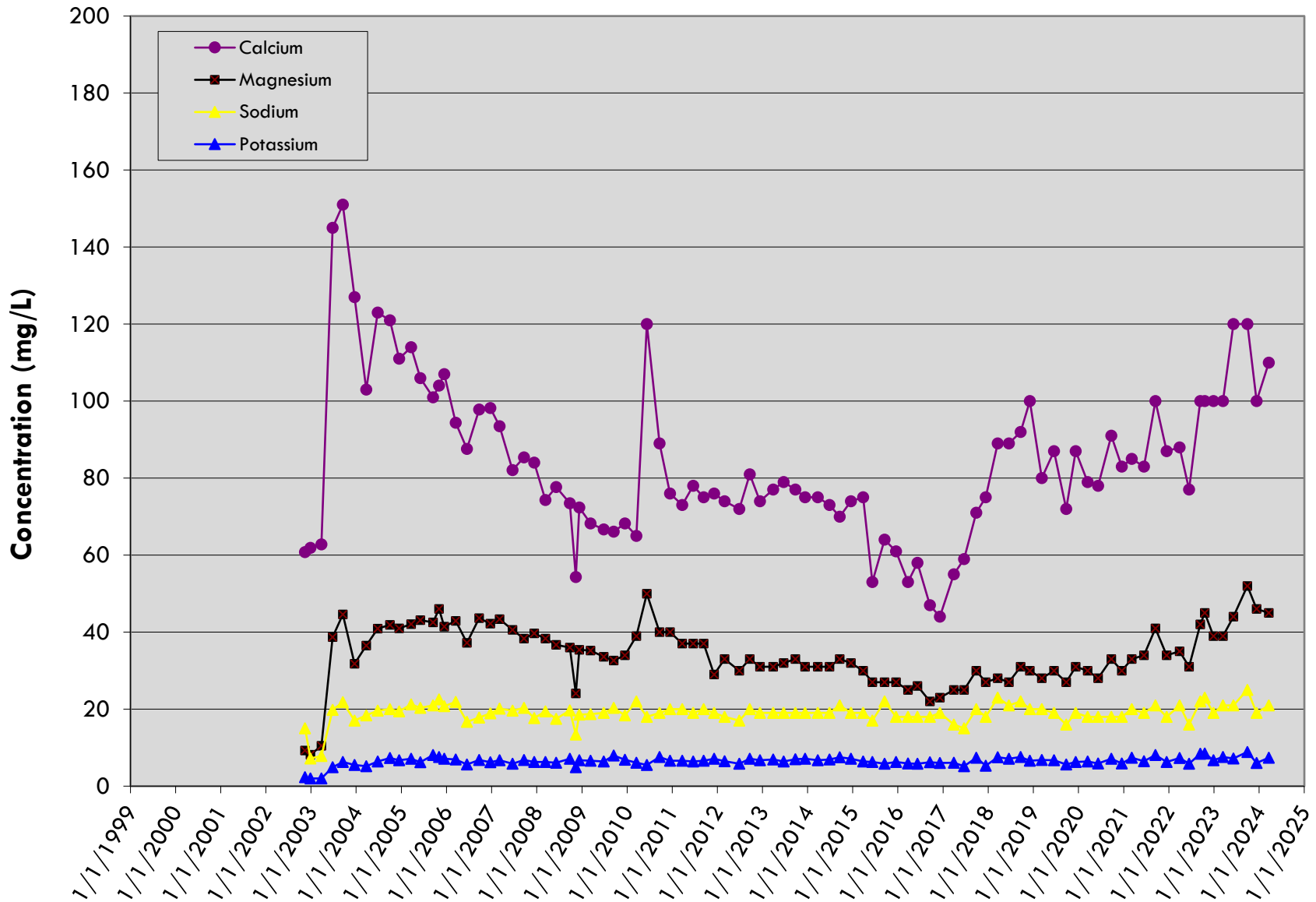
LDCS-2A

LRI Landfill, Pierce County, Washington



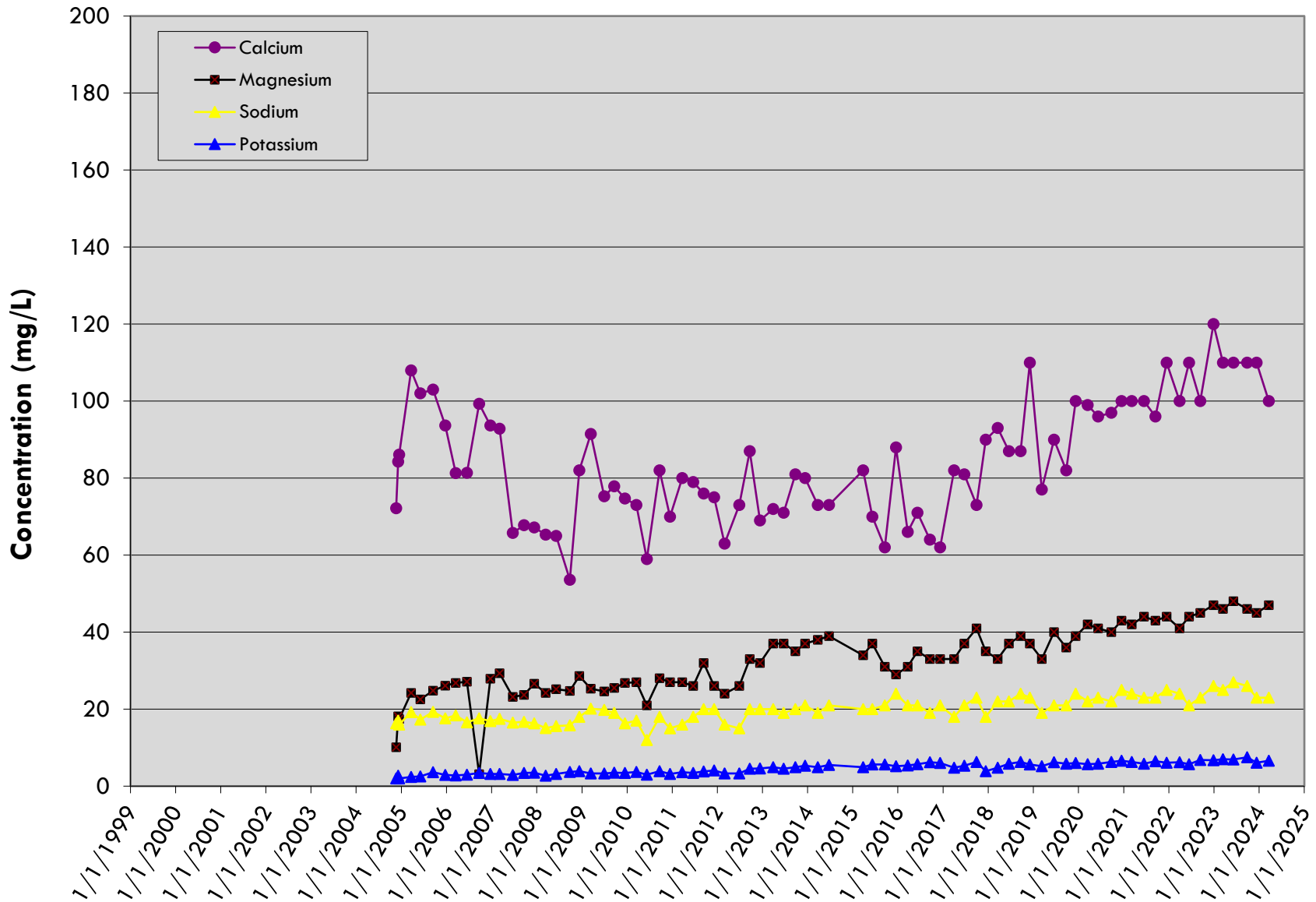
LDCS-2B

LRI Landfill, Pierce County, Washington



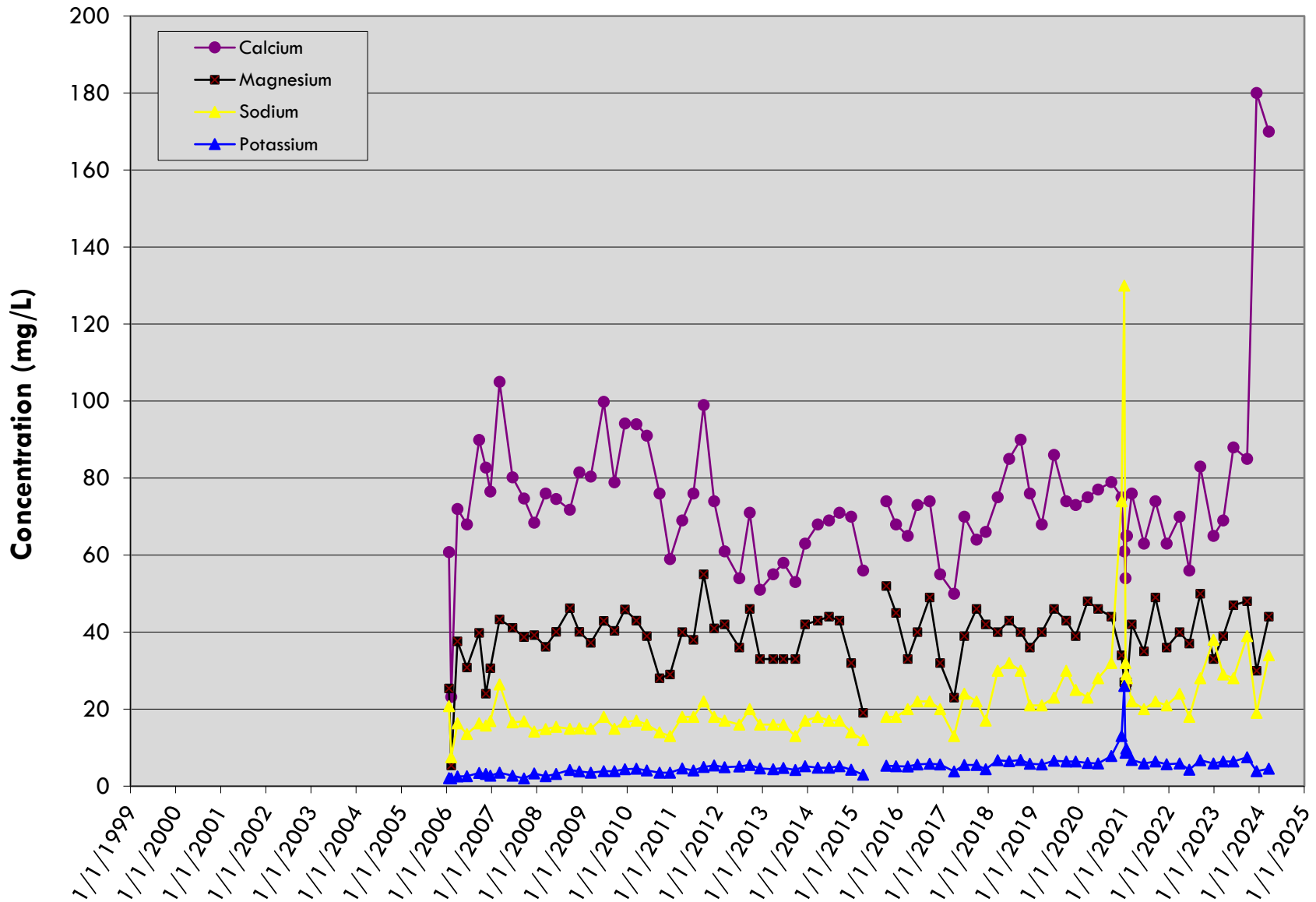
LDCS-3A

LRI Landfill, Pierce County, Washington



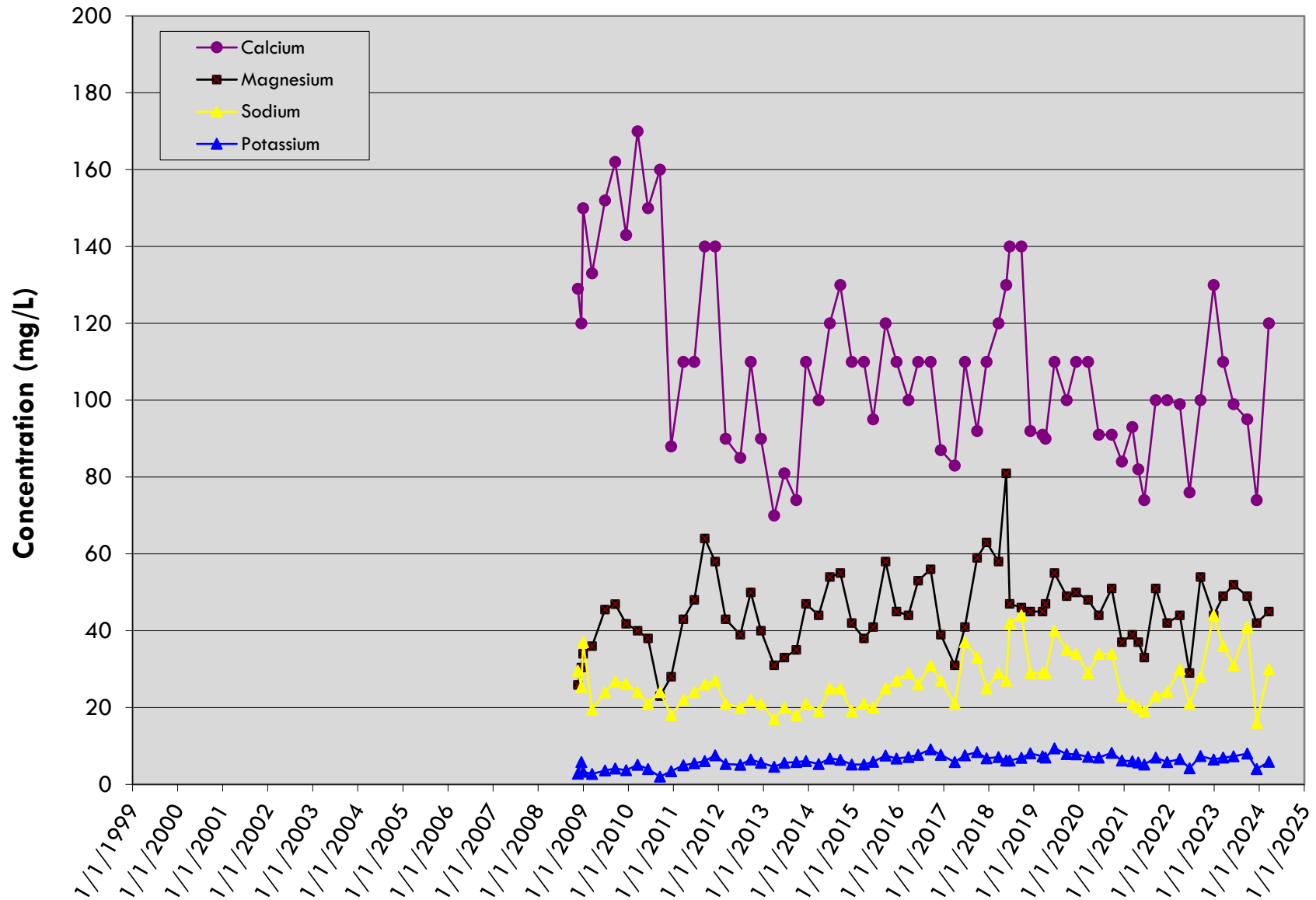
LDCS-4A

LRI Landfill, Pierce County, Washington



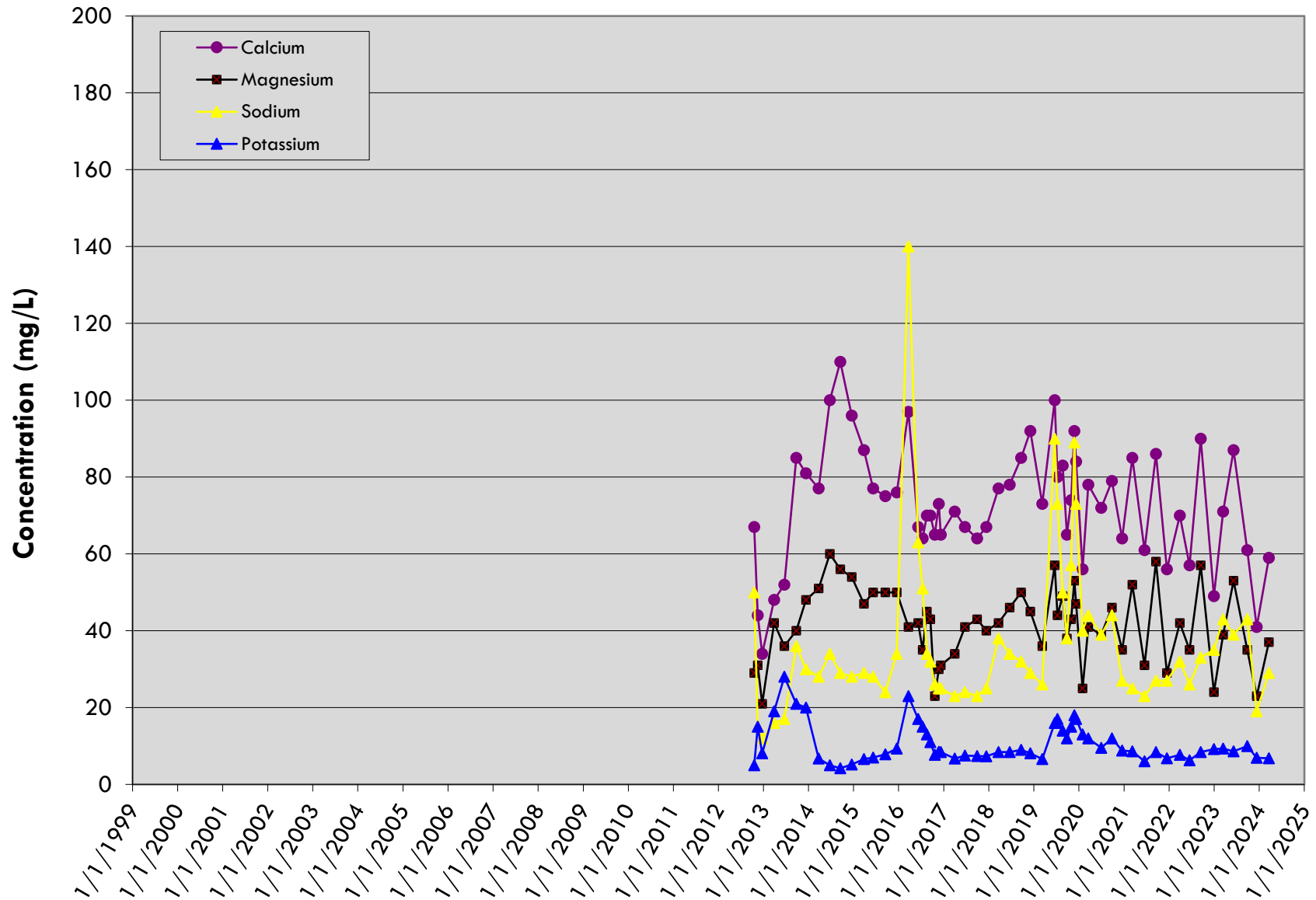
LDCS-4B

LRI Landfill, Pierce County, Washington



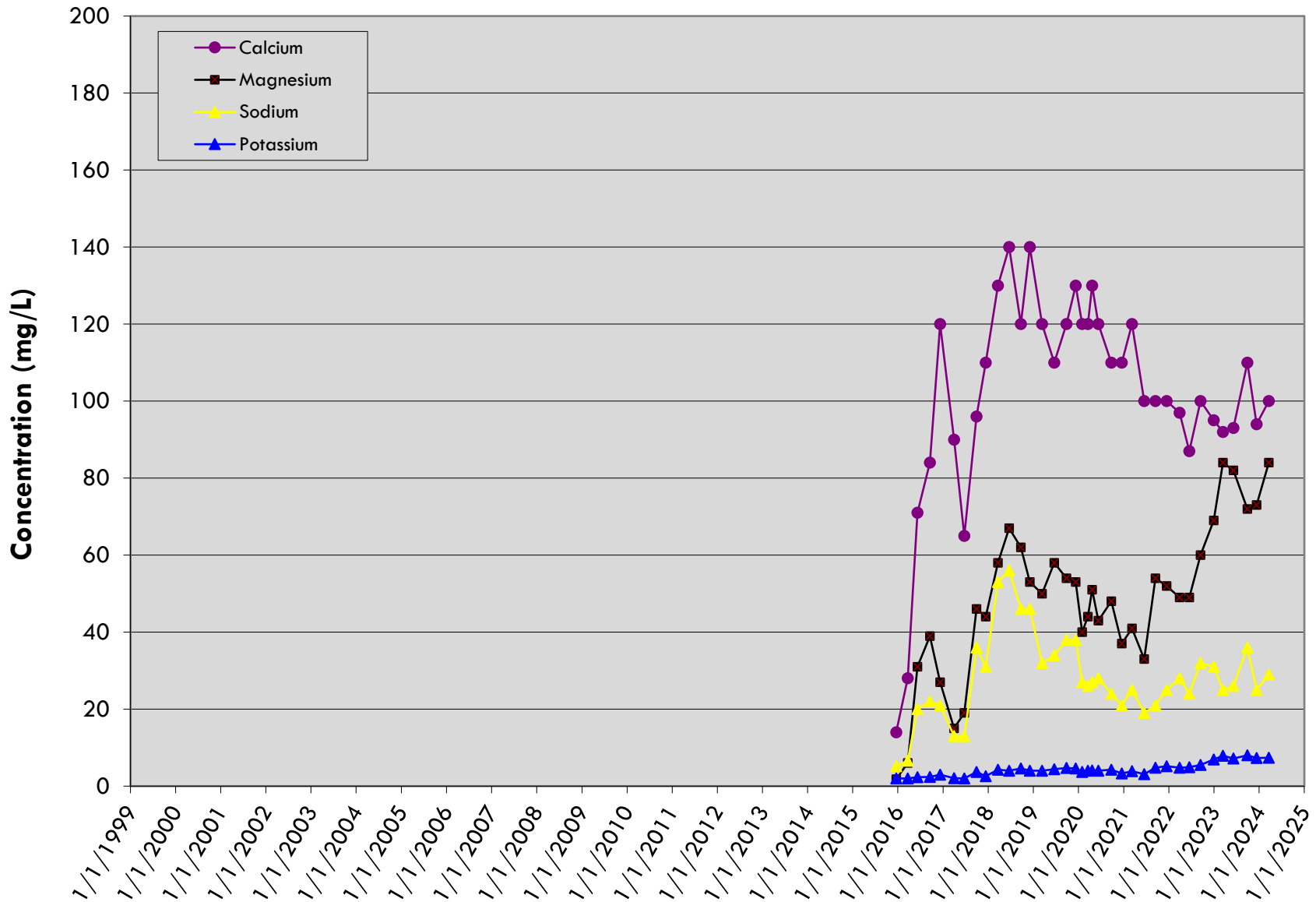
LDCS-5

LRI Landfill, Pierce County, Washington



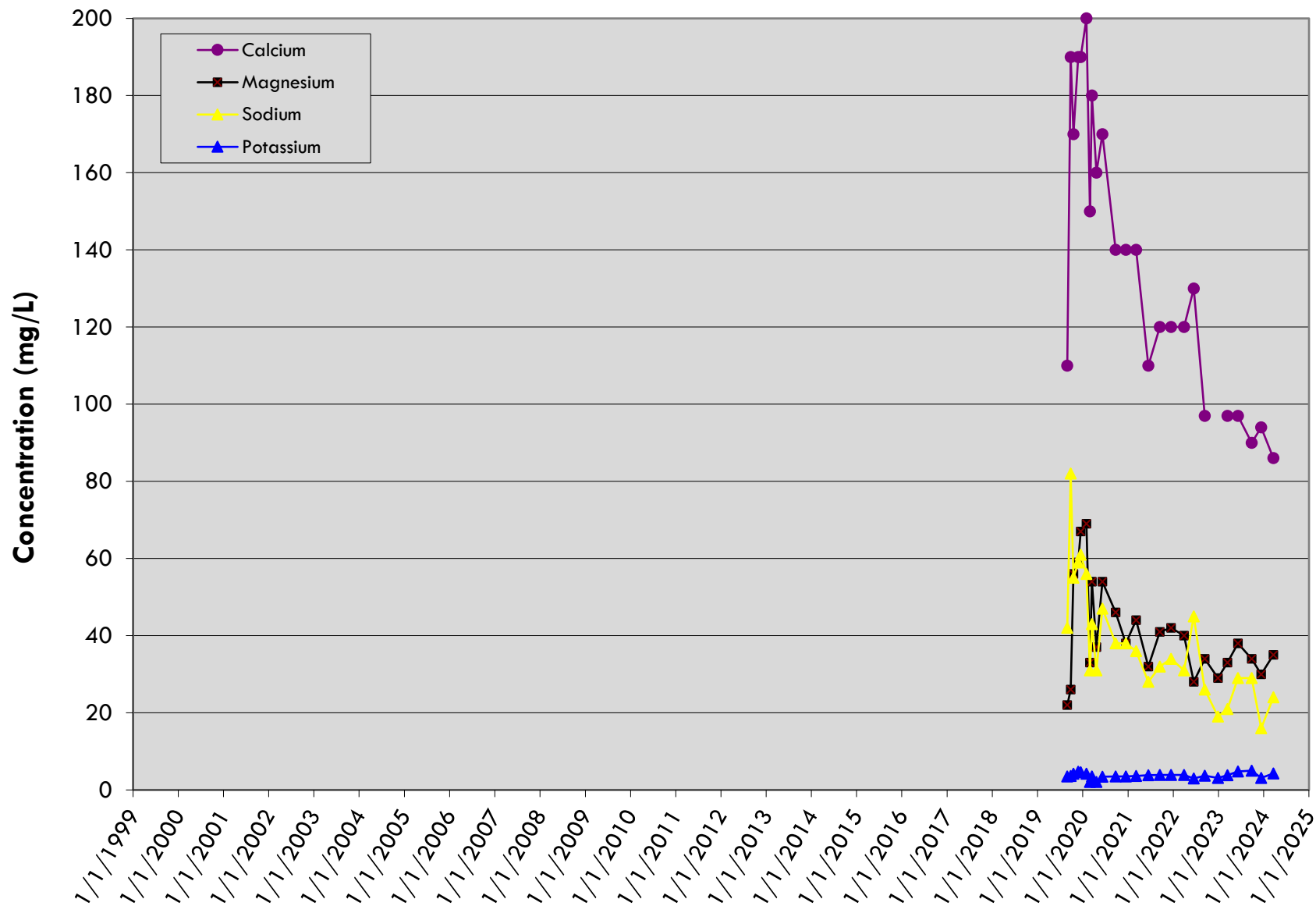
LDCS-6A

LRI Landfill, Pierce County, Washington



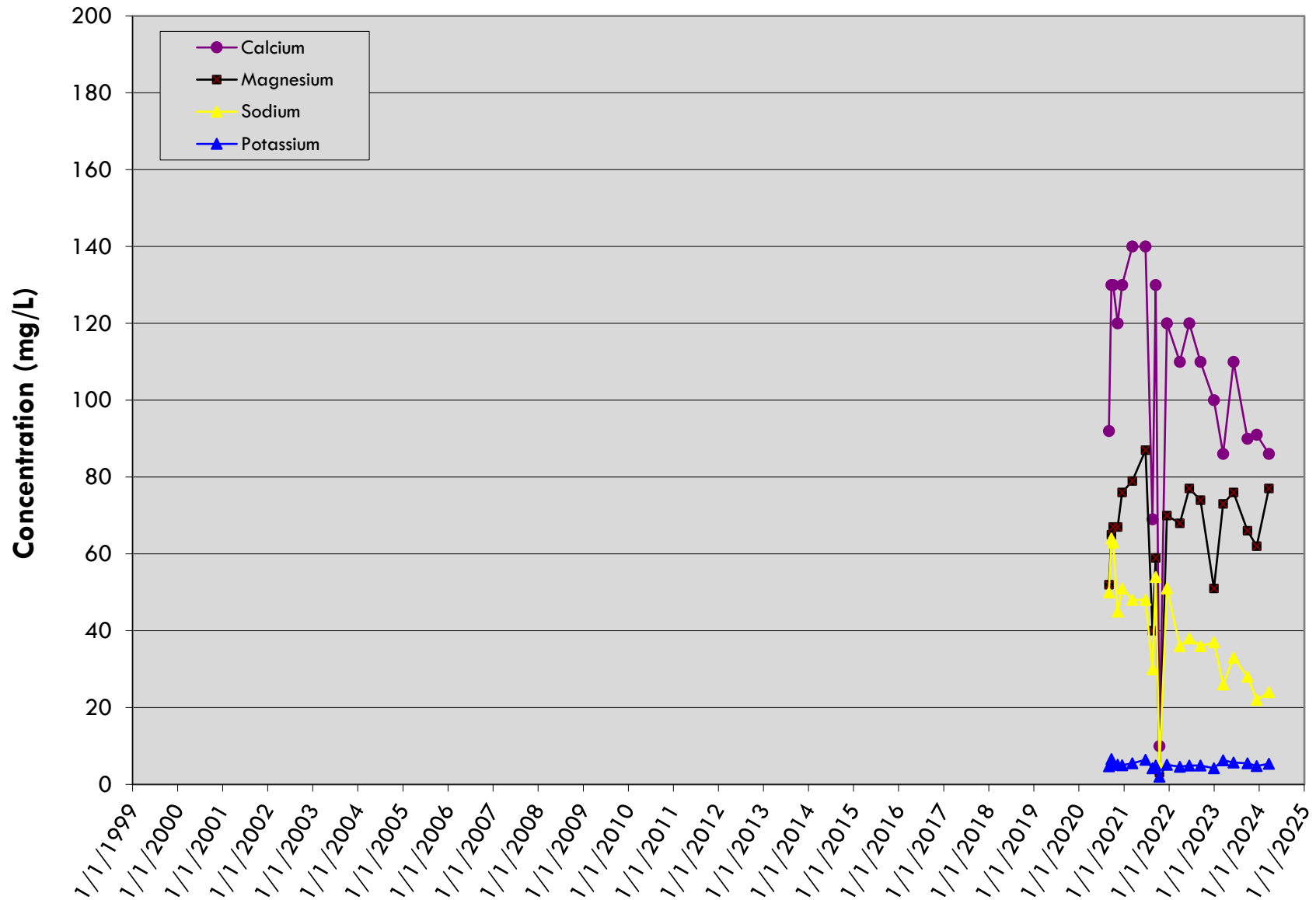
LDCS-7

LRI Landfill, Pierce County, Washington



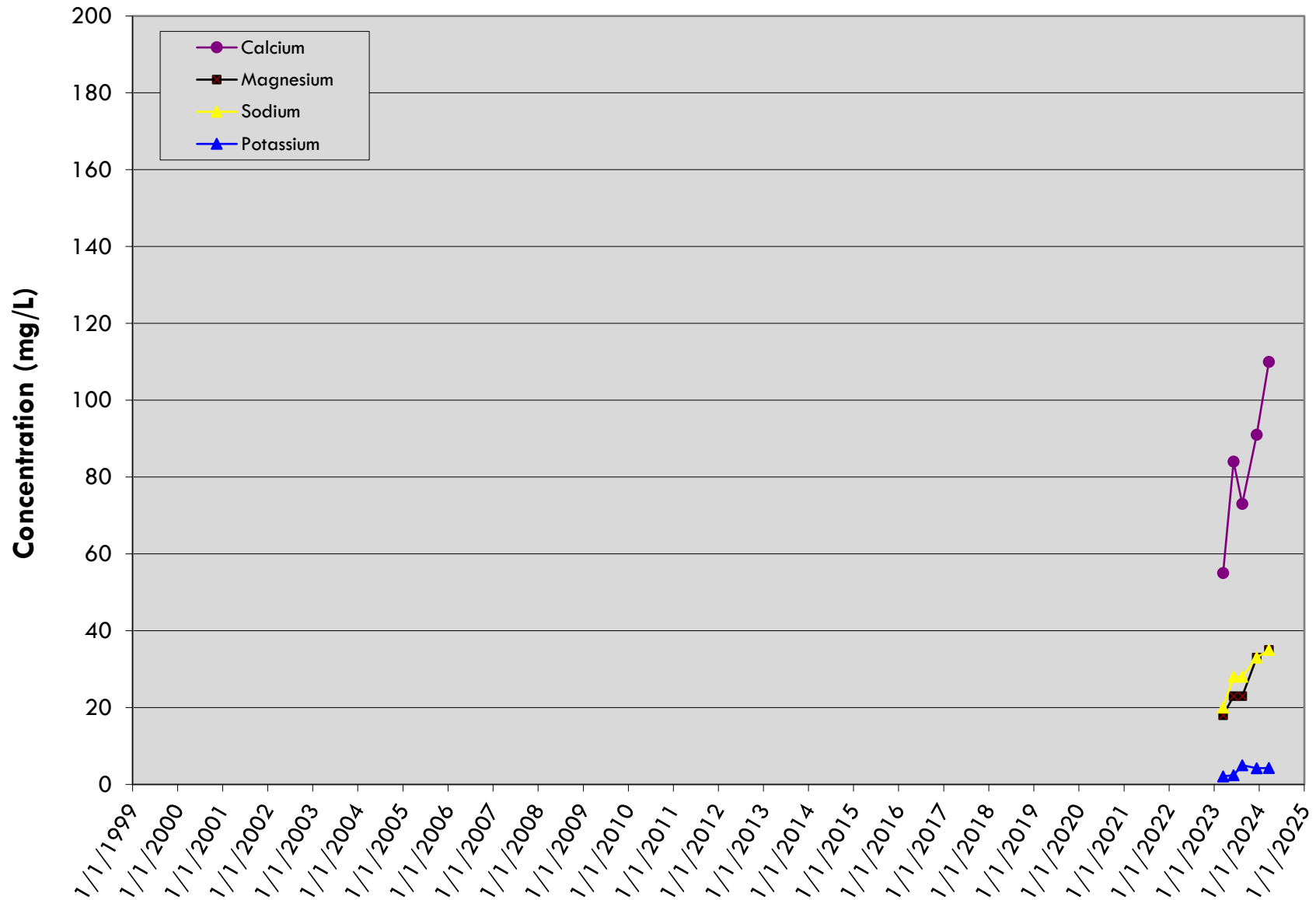
LDCS-8

LRI Landfill, Pierce County, Washington



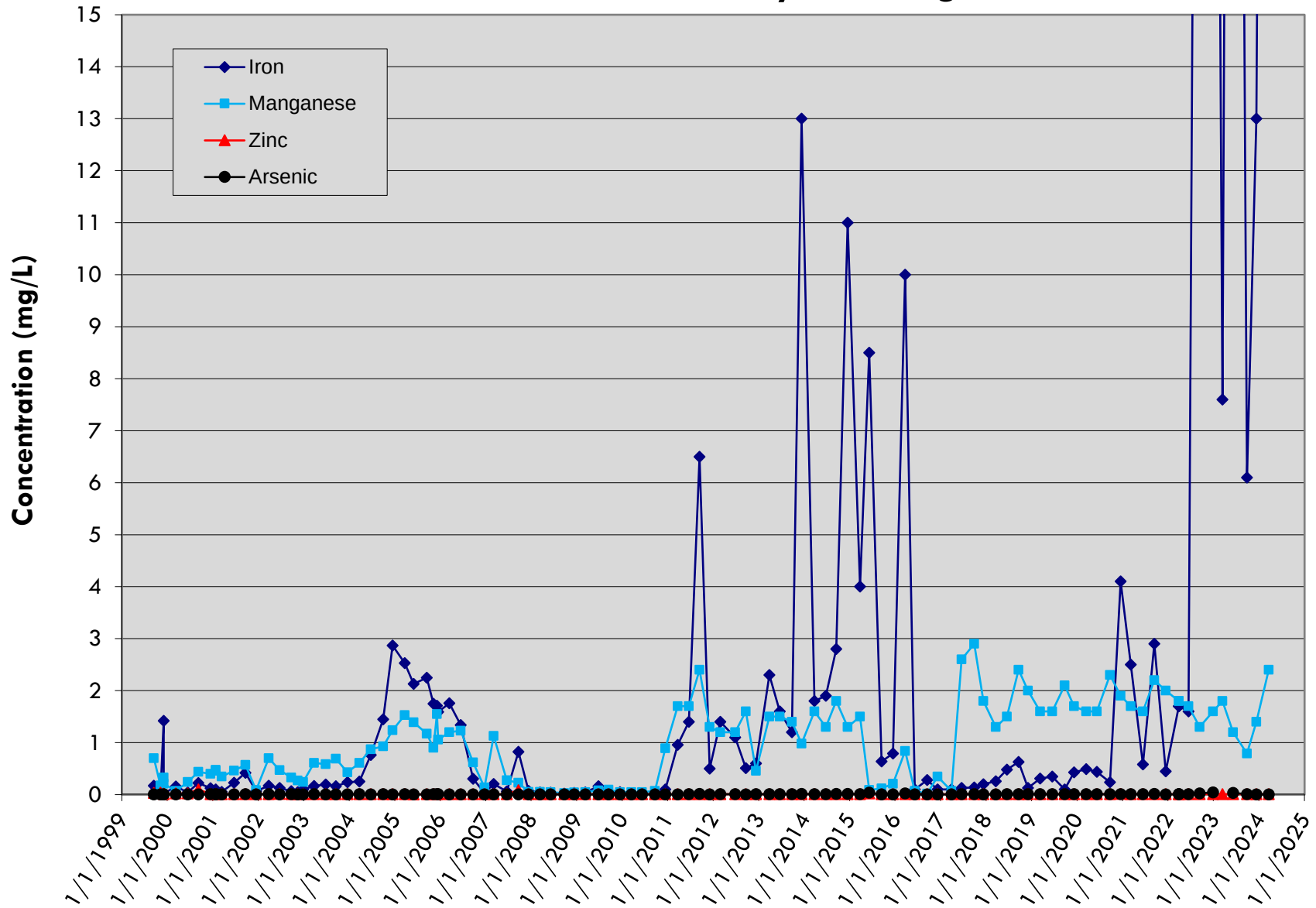
LDCS-9

LRI Landfill, Pierce County, Washington



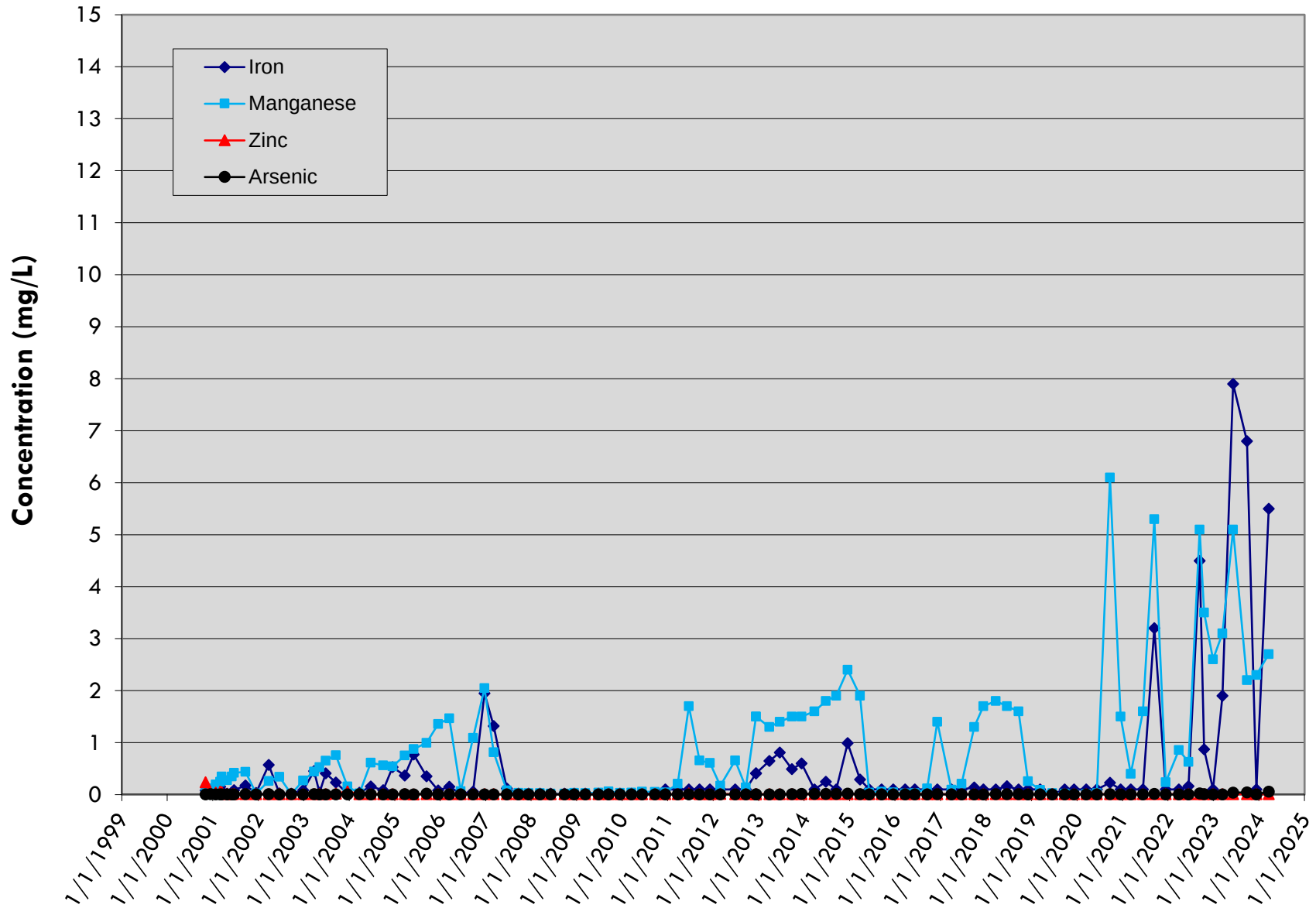
LDCS-1

LRI Landfill, Pierce County, Washington



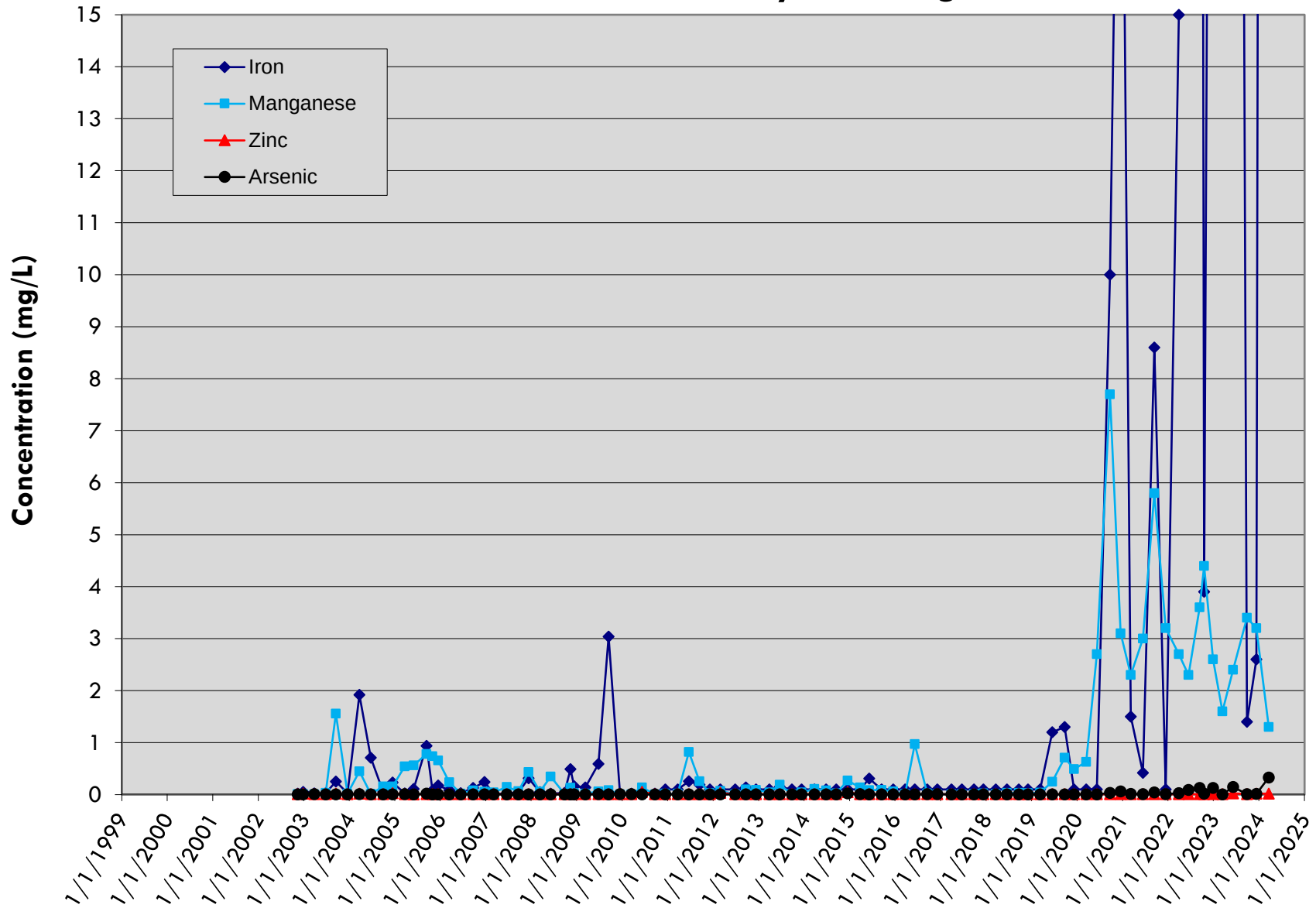
LDCS-2A

LRI Landfill, Pierce County, Washington



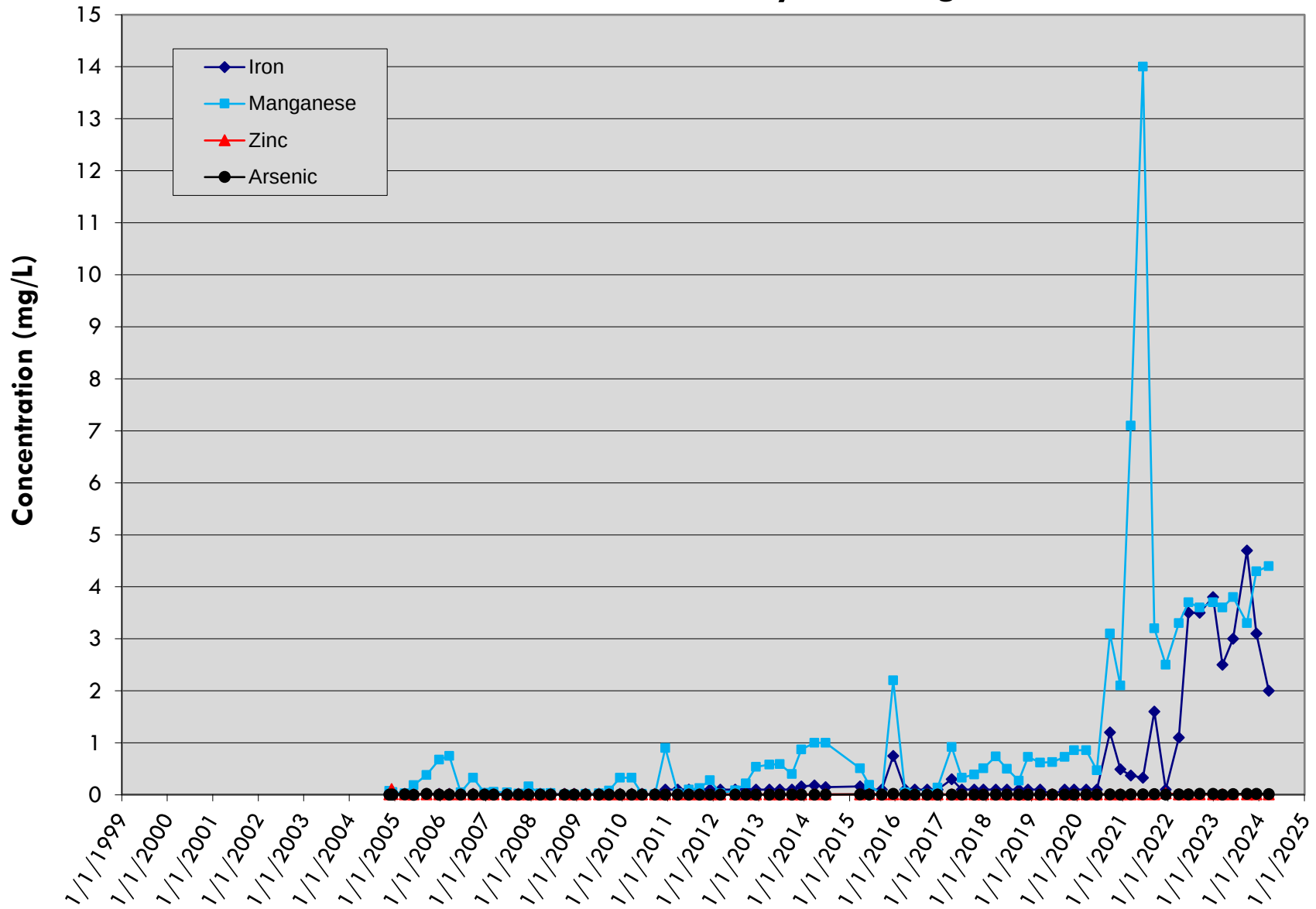
LDCS-2B

LRI Landfill, Pierce County, Washington



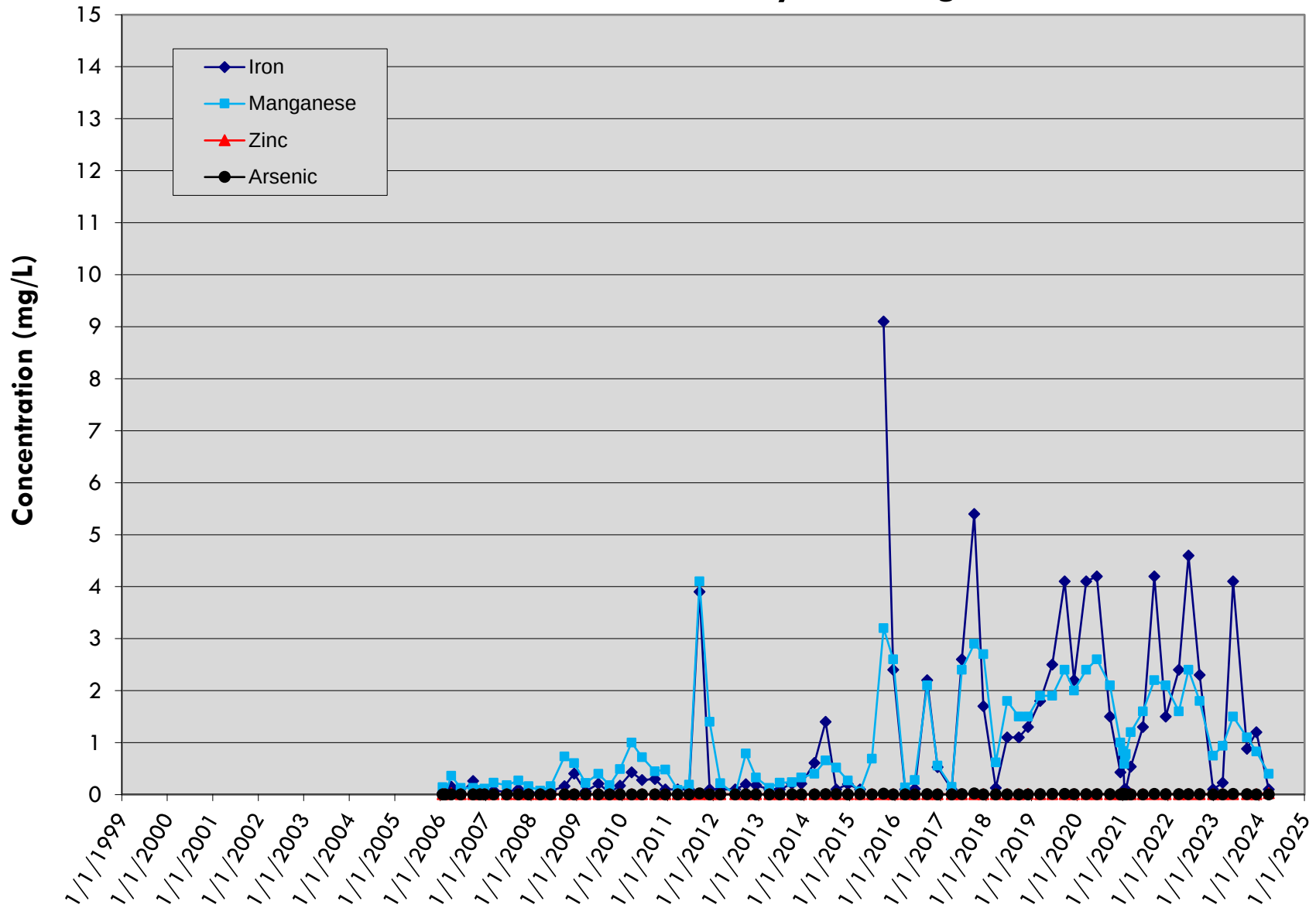
LDCS-3A

LRI Landfill, Pierce County, Washington



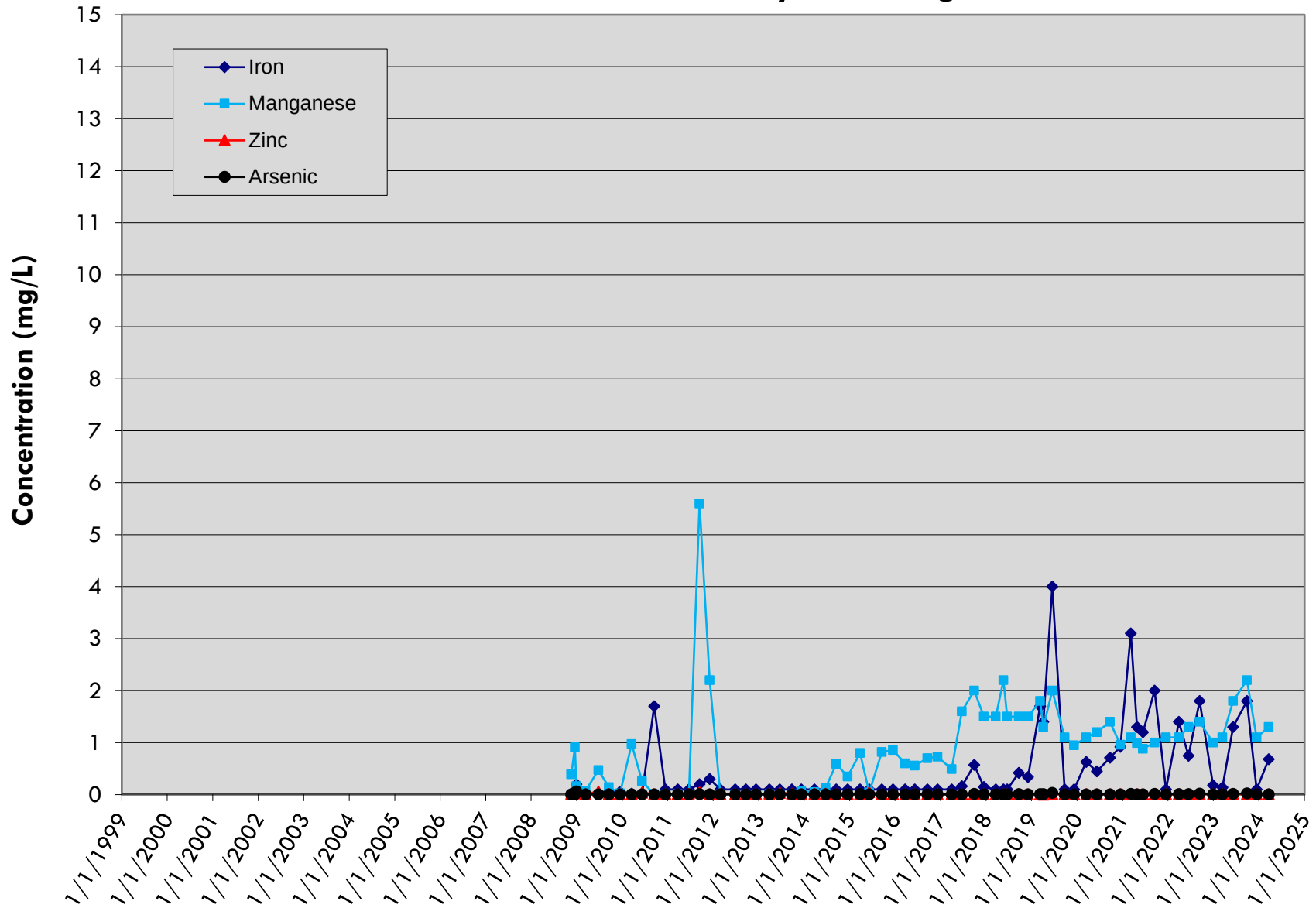
LDCS-4A

LRI Landfill, Pierce County, Washington



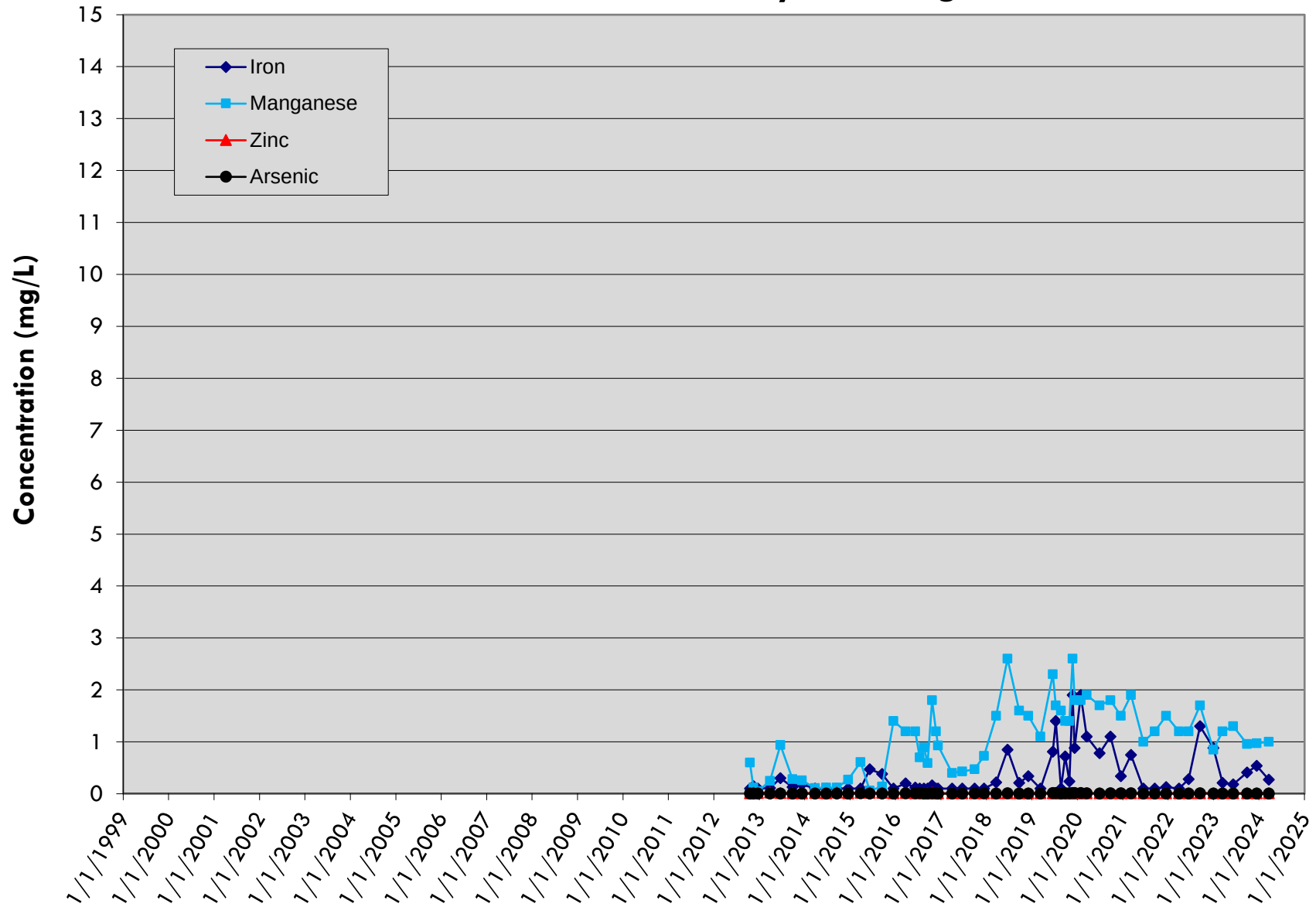
LDCS-4B

LRI Landfill, Pierce County, Washington



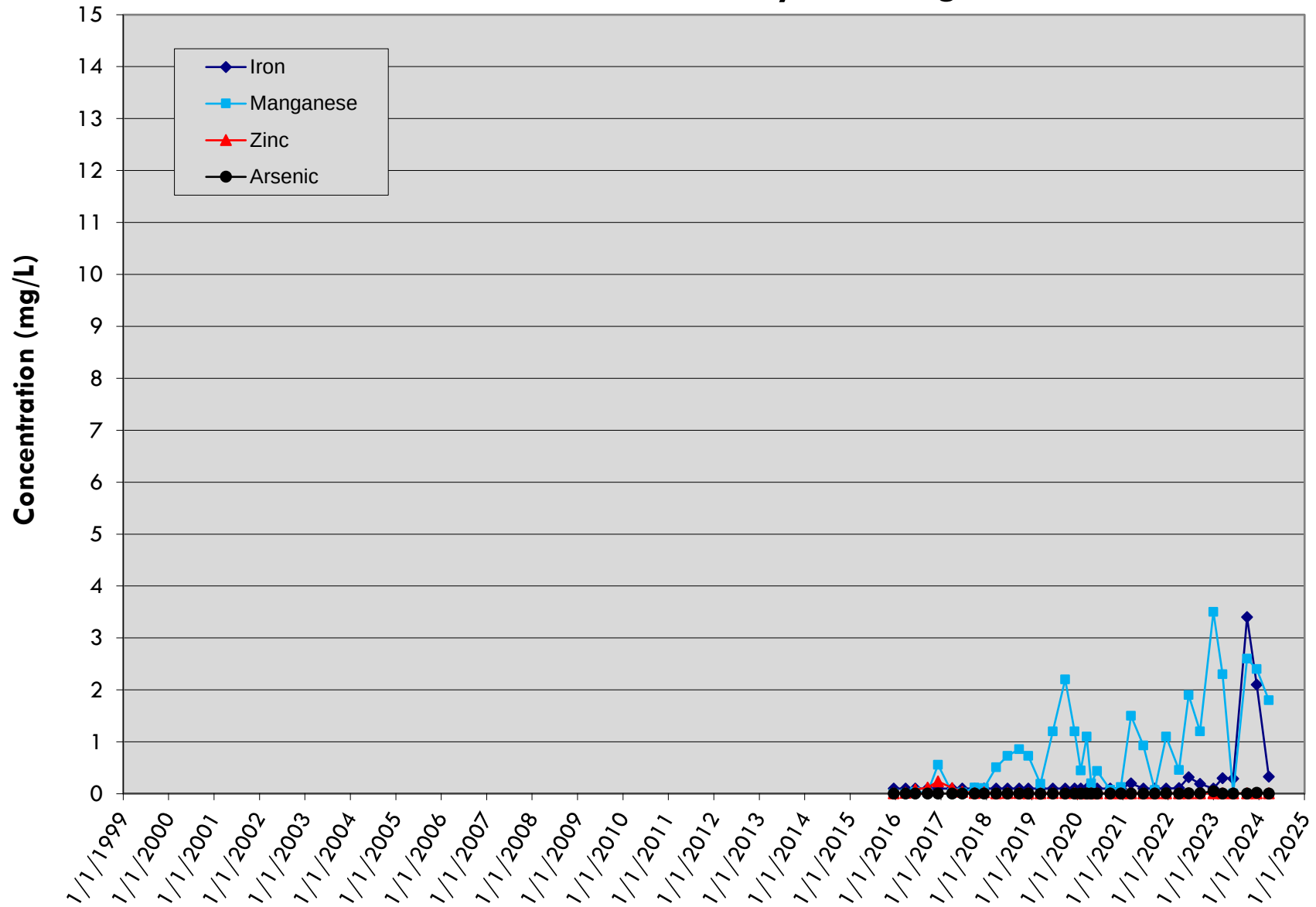
LDCS-5

LRI Landfill, Pierce County, Washington



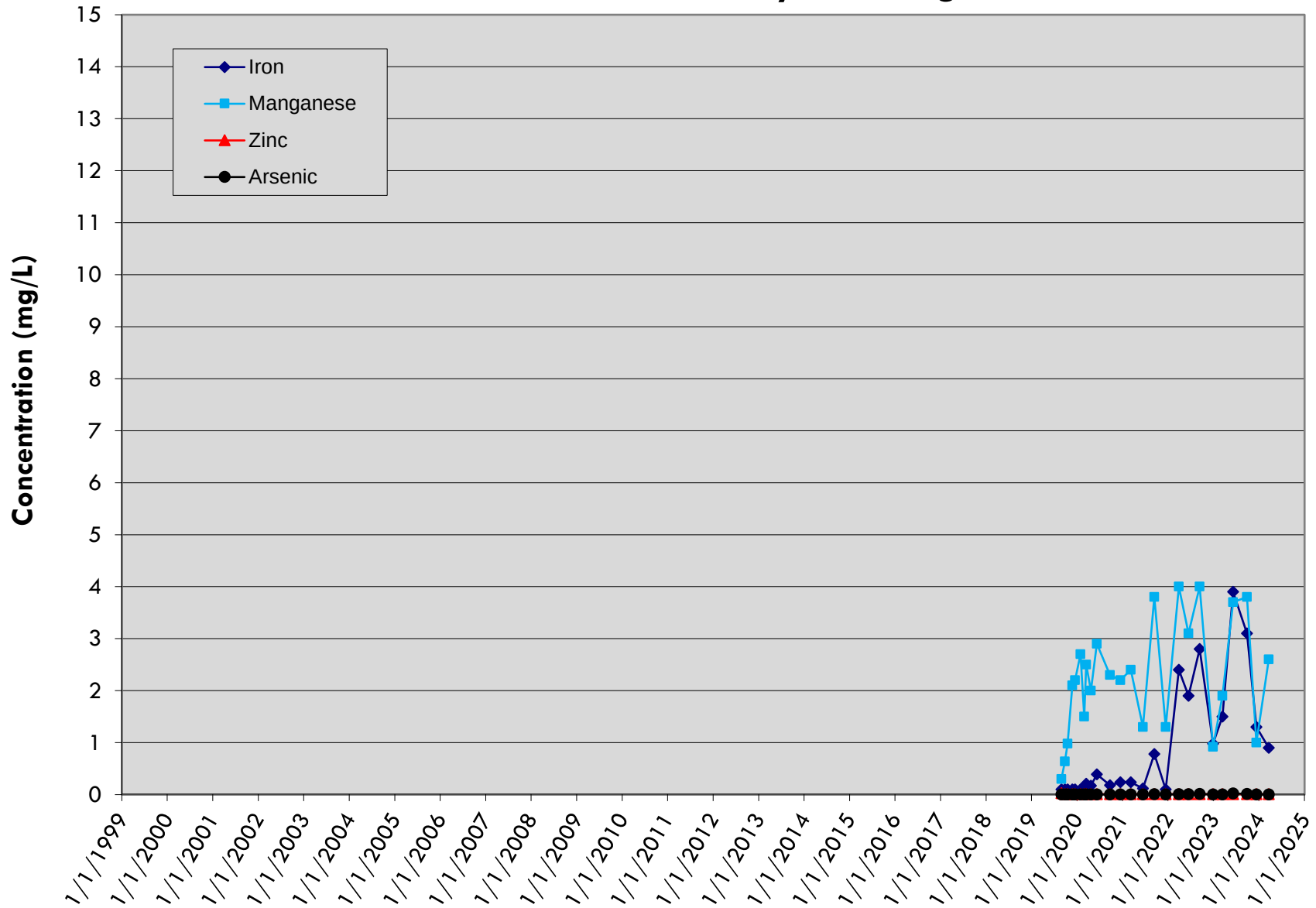
LDCS-6A

LRI Landfill, Pierce County, Washington



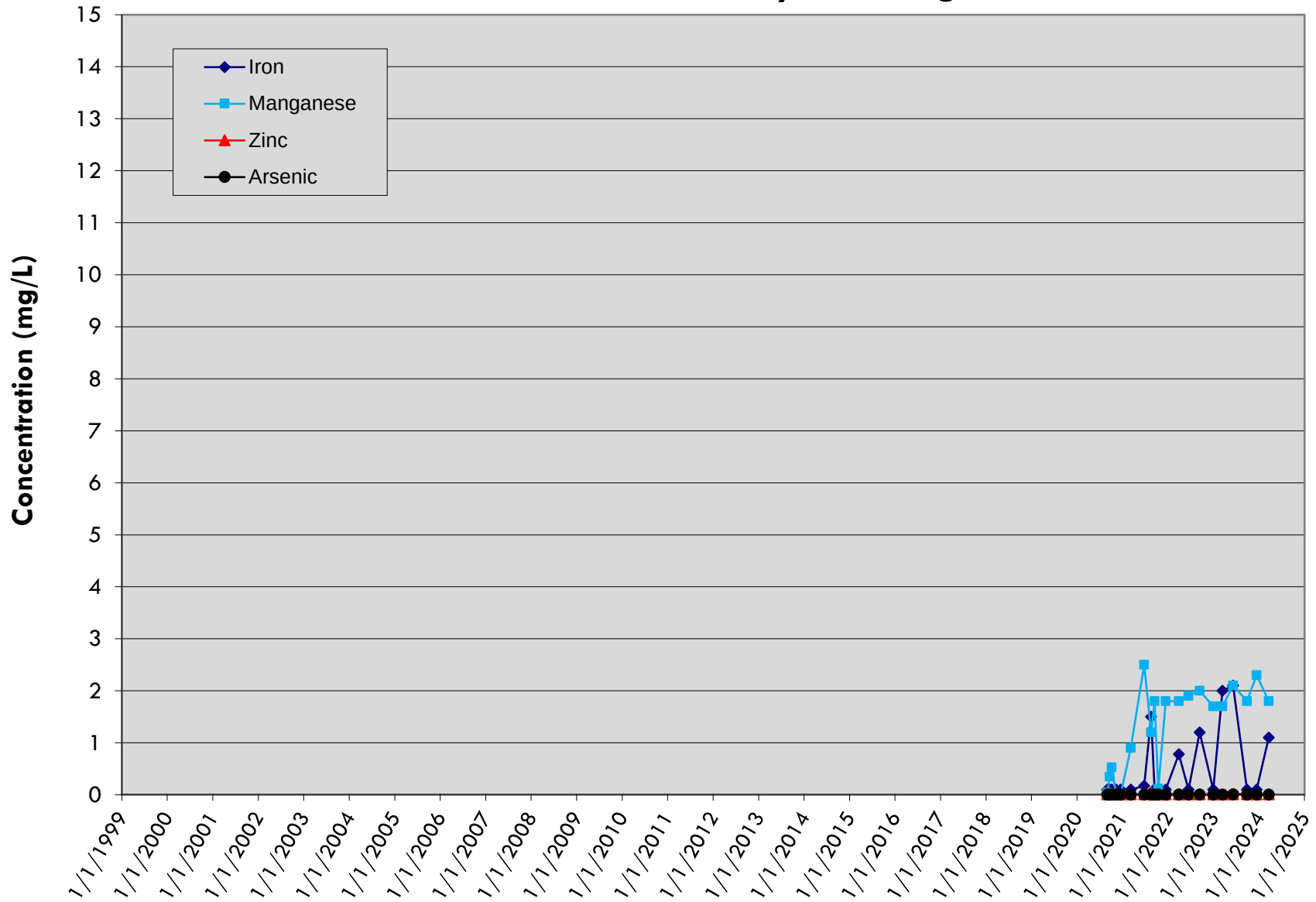
LDCS-7

LRI Landfill, Pierce County, Washington



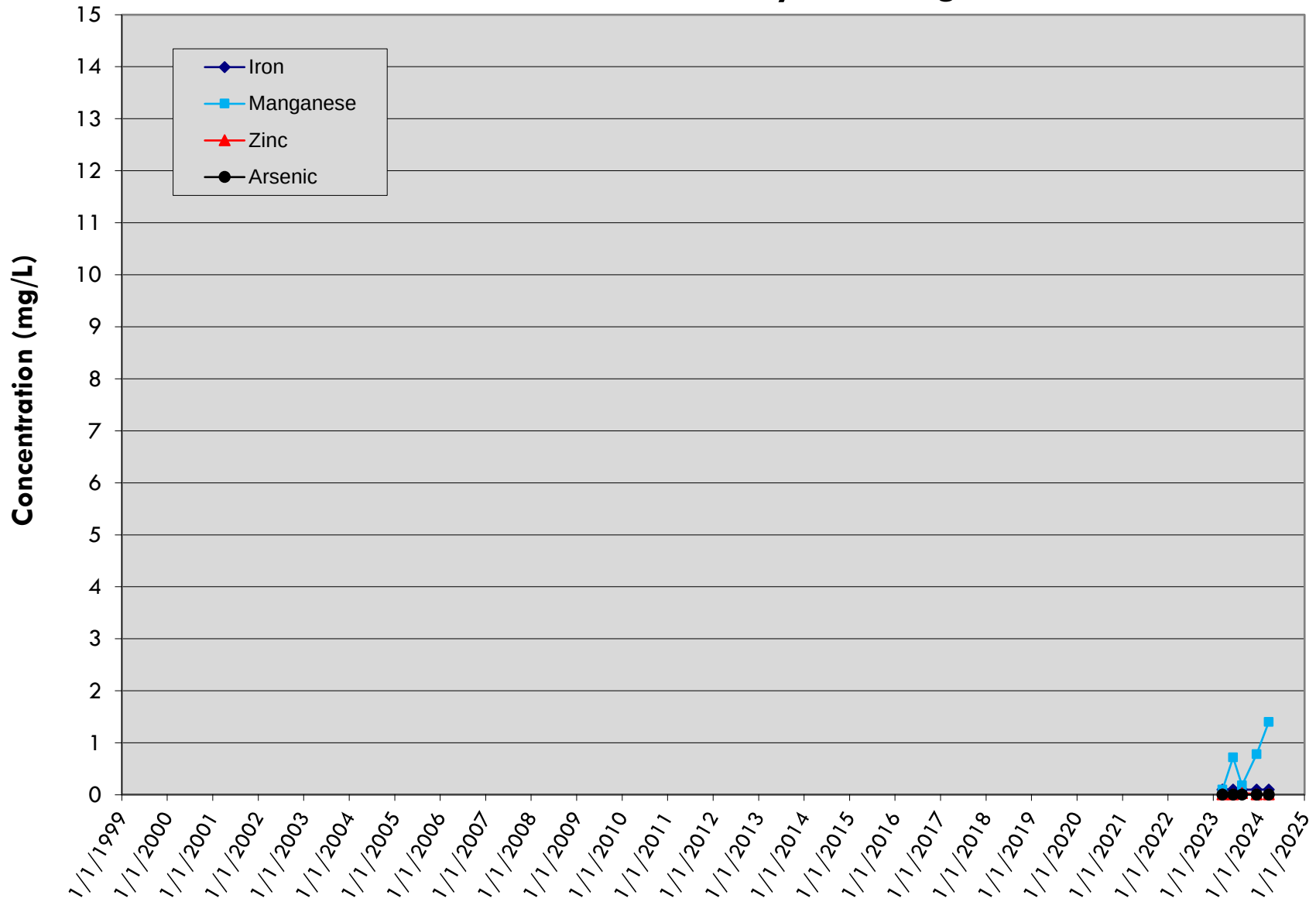
LDCS-8

LRI Landfill, Pierce County, Washington



LDCS-9

LRI Landfill, Pierce County, Washington







Attachment H

LDCS & Leachate Pumping Records and Conductivity Measurements

Summary of LDCS Volumes Pumped and Conductivity Data
Fourth Quarter 2024
LRI Landfill, Pierce County, Washington

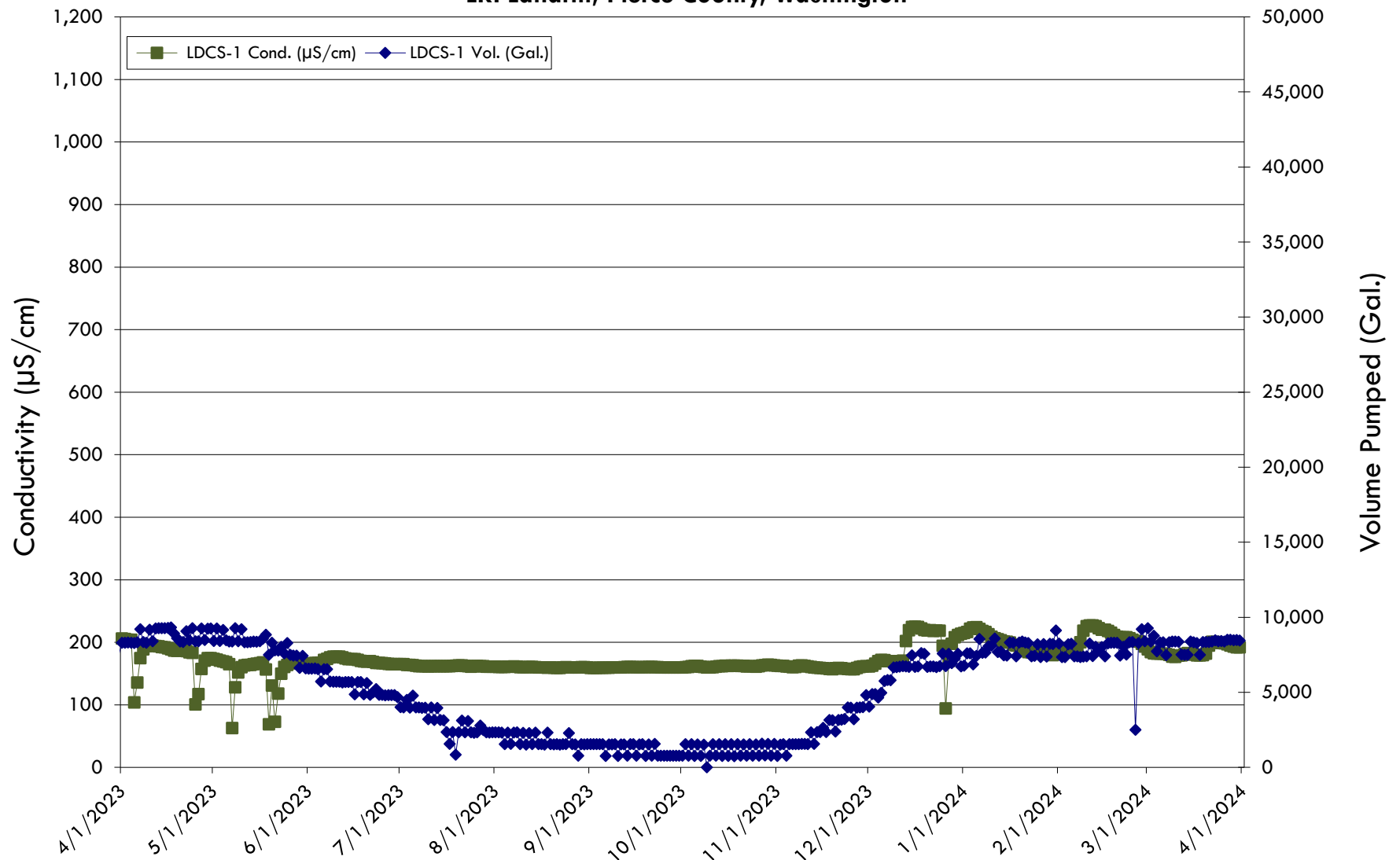
Date	Rainfall	LDCS-1 Vol. (Gal.)	LDCS-1 Cond. (µS/cm)	LDCS-2A Vol. (Gal)	LDCS-2A Cond. (µS/cm)	LDCS-2B Vol. (Gal)	LDCS-2B Cond. (µS/cm)	LDCS-3A Vol. (Gal)	LDCS-3A Cond. (µS/cm)	LDCS-4A Vol. (Gal)	LDCS-4A Cond. (µS/cm)*	LDCS-4B Vol. (Gal)	LDCS-4B Cond. (µS/cm)	LDCS-5 Vol. (Gal)	LDCS-5 Cond. (µS/cm)	LDCS-6 Vol. (Gal)	LDCS-6 Cond. (µS/cm)	LDCS-7 Vol. (Gal)	LDCS-7 Cond. (µS/cm)	LDCS-8 Vol. (Gal)	LDCS-8 Cond. (µS/cm)*	LDCS-9 Vol. (Gal)	LDCS-9 Cond. (µS/cm)*
1/1/2024	0.00	770	160	0	966	0	990	0	995	780	0	1,702	1,127	62	1,000	0	1,068	3,049	-	536	-	-	-
1/2/2024	0.00	1,550	160	0	956	0	990	0	996	1,990	0	7,172	1,085	530	948	1	1,066	2,050	-	1,074	-	-	-
1/3/2024	0.00	770	161	0	937	0	0	0	1,000	4,700	737	12,156	977	3,130	789	0	1,066	0	-	1,628	-	-	-
1/4/2024	0.00	1,550	162	0	942	0	0	0	1,000	2,390	740	12,770	956	589	751	0	1,065	0	-	1,076	-	-	-
1/5/2024	0.00	760	162	0	930	0	0	0	1,000	1,970	653	10,954	948	388	774	0	1,062	0	-	1,075	-	-	-
1/6/2024	0.00	1,530	162	0	923	0	0	0	1,000	1,880	689	9,208	950	385	784	0	1,060	5,086	-	1,070	-	-	-
1/7/2024	0.00	760	161	0	935	0	0	0	1,000	1,630	526	7,964	958	320	797	0	1,057	0	-	1,066	-	-	-
1/8/2024	0.00	1,520	161	415	952	154	0	214	1,000	1,720	503	6,698	967	319	808	0	1,056	0	-	437	-	-	-
1/9/2024	0.00	0	160	635	961	511	0	561	1,000	130	710	960	973	63	813	0	1,055	0	-	0	-	-	-
1/10/2024	0.00	770	160	315	973	101	0	37	995	1,760	685	4,904	984	255	827	0	1,054	1,015	-	2,867	-	-	-
1/11/2024	0.00	1,540	160	527	986	918	0	169	989	2,850	608	7,920	979	1,604	833	0	1,054	4,125	-	1,632	-	-	-
1/12/2024	0.00	780	161	430	981	69	0	0	992	2,300	501	10,404	940	722	774	0	1,053	0	-	1,076	-	-	-
1/13/2024	0.00	1,540	162	947	962	448	0	0	997	2,050	501	9,416	915	388	765	0	1,052	0	-	1,073	-	-	-
1/14/2024	0.00	760	162	0	948	0	0	0	999	2,110	716	8,946	912	453	778	0	1,052	0	-	1,079	-	-	-
1/15/2024	0.00	1,540	163	531	937	314	0	0	996	2,300	716	9,136	909	453	781	0	1,053	5,050	-	1,347	-	-	-
1/16/2024	0.00	760	162	0	925	0	0	1,317	540	2,790	716	9,440	902	2,216	780	0	1,054	30	-	1,351	-	-	-
1/17/2024	0.00	1,540	163	850	923	464	0	0	613	5,150	716	13,536	861	1,647	745	0	1,054	0	-	1,346	-	-	-
1/18/2024	0.00	750	163	629	919	1,667	205	318	826	3,040	680	13,798	829	656	734	0	1,053	0	-	1,075	-	-	-
1/19/2024	0.00	1,540	162	329	922	13	602	245	907	2,920	718	12,282	820	388	747	0	1,052	4,021	-	1,071	-	-	-
1/20/2024	0.00	770	162	0	931	0	764	183	940	3,220	667	11,252	820	388	760	12	1,053	1,073	-	1,346	-	-	-
1/21/2024	0.00	1,530	162	0	944	0	906	0	951	2,990	667	10,536	819	387	768	0	1,054	0	-	1,074	-	-	-
1/22/2024	0.00	770	162	1,429	960	119	894	607	956	2,880	667	9,786	818	385	773	0	1,054	0	-	1,075	-	-	-
1/23/2024	0.00	1,540	162	0	974	0	736	0	960	2,710	878	8,674	815	321	776	0	1,054	0	-	1,072	-	-	-
1/24/2024	0.00	770	162	852	976	891	710	363	958	3,130	878	7,208	819	320	776	0	1,052	5,071	-	1,341	-	-	-
1/25/2024	0.20	1,530	161	548	966	1,172	874	242	953	5,540	514	10,826	815	2,813	763	3,671	1,026	0	-	1,349	-	-	-
1/26/2024	0.71	780	162	442	953	6	938	180	952	5,790	742	12,950	799	1,358	733	0	1,034	0	-	1,077	-	-	-
1/27/2024	0.65	1,580	163	0	930	0	963	0	956	3,010	681	12,672	793	521	726	0	1,060	243	-	1,077	-	-	-
1/28/2024	0.70	800	164	0	905	0	986	0	964	2,910	684	11,146	791	452	739	0	1,064	4,827	-	1,081	-	-	-
1/29/2024	0.45	1,570	164	1,300	891	429	995	543	969	2,860	684	9,328	797	321	755	0	1,062	0	-	1,075	-	-	-
1/30/2024	0.04	780	164	432	904	431	998	181	971	2,770	499	8,118	807	321	767	0	1,059	0	-	1,077	-	-	-
1/31/2024	0.00	1,560	163	0	929	0	999	0	970	2,820	410	6,900	818	320	780	10	1,056	0	-	805	-	-	-
2/1/2024	0.83	760	163	0	949	251	1,000	1,810	968	3,140	436	6,660	831	319	791	2,464	1,053	3,894	-	1,072	-	-	-
2/2/2024	0.45	1,520	162	969	966	378	1,000	2,420	962	7,370	444	12,286	833	5,177	773	2,169	966	1,629	-	1,629	-	-	-
2/3/2024	0.49	1,550	162	435	976	4,654	1,000	1,810	953	7,500	623	18,362	807	2,027	724	384	566	0	-	1,349	-	-	-
2/4/2024	0.98	780	162	437	966	81	989	1,830	946	7,470	832	21,756	799	6,920	706	0	825	6,612	-	1,894	-	-	-
2/5/2024	0.31	1,540	161	0	954	247	972	3,030	946	7,630	690	25,372	798	1,919	683	0	971	0	-	1,346	-	-	-
2/6/2024	1.03	1,550	160	1,087	944	0	990	2,430	954	7,170	690	23,124	802	4,318	673	2,063	919	1,903	-	1,616	-	-	-
2/7/2024	0.00	1,540	161	538	942	735	996	1,820	957	7,200	822	33,228	785	4,893	643	593	761	4,193	-	1,351	-	-	-
2/8/2024	0.00	1,550	163	0	934	0	997	2,400	955	7,040	822	28,268	804	991	629	0	825	0	-	1,343	-	-	-
2/9/2024	0.14	1,560	163	1,091	922	970	997	2,420	958	6,870	516	22,932	806	522	645	1,139	855	0	-	1,075	-	-	-
2/10/2024	0.14	1,560	162	538	926	4	999	1,800	961	6,740	419	19,860	803	452	676	0	883	2,810	-	1,340	-	-	-
2/11/2024	0.41	1,550	161	0	929	0	990	2,410	963	6,670	419	19,776	795	7,361	679	0	963	2,350	-	2,180	-	-	-
2/12/2024	0.31	2,330	161	0	926	0	993	2,400	958	6,610	419	22,698	765	2,385	620	0	1,001	0	-	1,610	-	-	-
2/13/2024	0.00	1,560	160	1,921	921	2,772	992	3,020	956	6,610	457	27,314	749	5,441	595	0	1,013	5,670	-	1,890	-	-	-
2/14/2024	0.00	2,350	160	1,532	908	1,736	993	2,420	958	6,630	427	26,350	746	1,411	583	0	1,020	0	-	1,343	-	-	-
2/15/2024	0.00	2,350	159	0	906	0	997	3,010	963	6,640	427	27,164	756	860	592	0	1,026	0	-	1,611	-	-	-
2/16/2024	0.00	2,630	159	1,211	913	0	999	2,410	965	6,510	427	21,950	773	455	618	0	1,031	313	-	1,340	-	-	-
2/17/2024	0.00	2,360	158	0	908	933	1,000	2,410	967	6,430	479	17,080	782	387	650	0	1,033	4,851	-	1,605	-	-	-
2/18/2024	0.00	3,160	157	0	523	28	1,000	2,410	966	6,420	456	14,980	794	388	677	0	1,035	0	-	1,338	-	-	-
2/19/2024	0.27	3,140	157	739	585	1,405	1,000	2,410	960	6,410	456	17,228	788	2,518	667	0	1,038	0	-	1,613	-	-	-
2/20/2024	0.00	2,390	159	0	784	0	995	2,410	944	6,440	303	15,494	782	787	633	2,670	915	1,234	-	1,539	-	-	-
2/21/2024	0.00	3,150	159	1,531	851	1,363	995	2,410	937	6,430	651	13,794	777	520	641	0	886	3,817	-	1,337	-	-	-
2/22/2024	0.28	3,180	158	756	883	62	998	3,010	939	6,410	583	14,756	773	2,882	643	0	969	0	-	1,607	-	-	-
2/23/2024	0.00	3,220	158	754	886	209	999	2,400	946	6,420	424	15,824	749	1,156	621	0	1,005	0	-	1,607	-	-	-
2/24/2024	0.00	3,990	157	0	881	0	1,000	3,010	953	6,400	424	13,322	750	603	641	0	1,018	3,113	-	1,338	-	-	-
2/25/2024	0.00	3,980	157	1,532	881	951	1,000	3,020	960	6,390	453	11,532	755	454	652	2,841	857	2,032	-	1,340	-	-	-
2/26/2024	0.00	3,200	157	761	885	0	1,000	2,420	962	6,390	453	10,254	757	388	667	1,323	350	0	-	1,604	-	-	-
2/27/2024	0.00	3,980	159	0	895	180	1,000	2,410	961	6,350	446	9,090	760	451	681	349	195	0	-	1,308	-	-	-
2/28/2024	0.00	3,990	161	1,622	902	0	1,000	3,010	956	6,330	424	8,468	765	386	691	0	607	3,378	-	1,605	-	-	-
2/29/2024	0.00	4,010	162	1,642	903	0	1,000	2,480	952	6,270	351												

Summary of LDCS Volumes Pumped and Conductivity Data
Fourth Quarter 2024
LRI Landfill, Pierce County, Washington

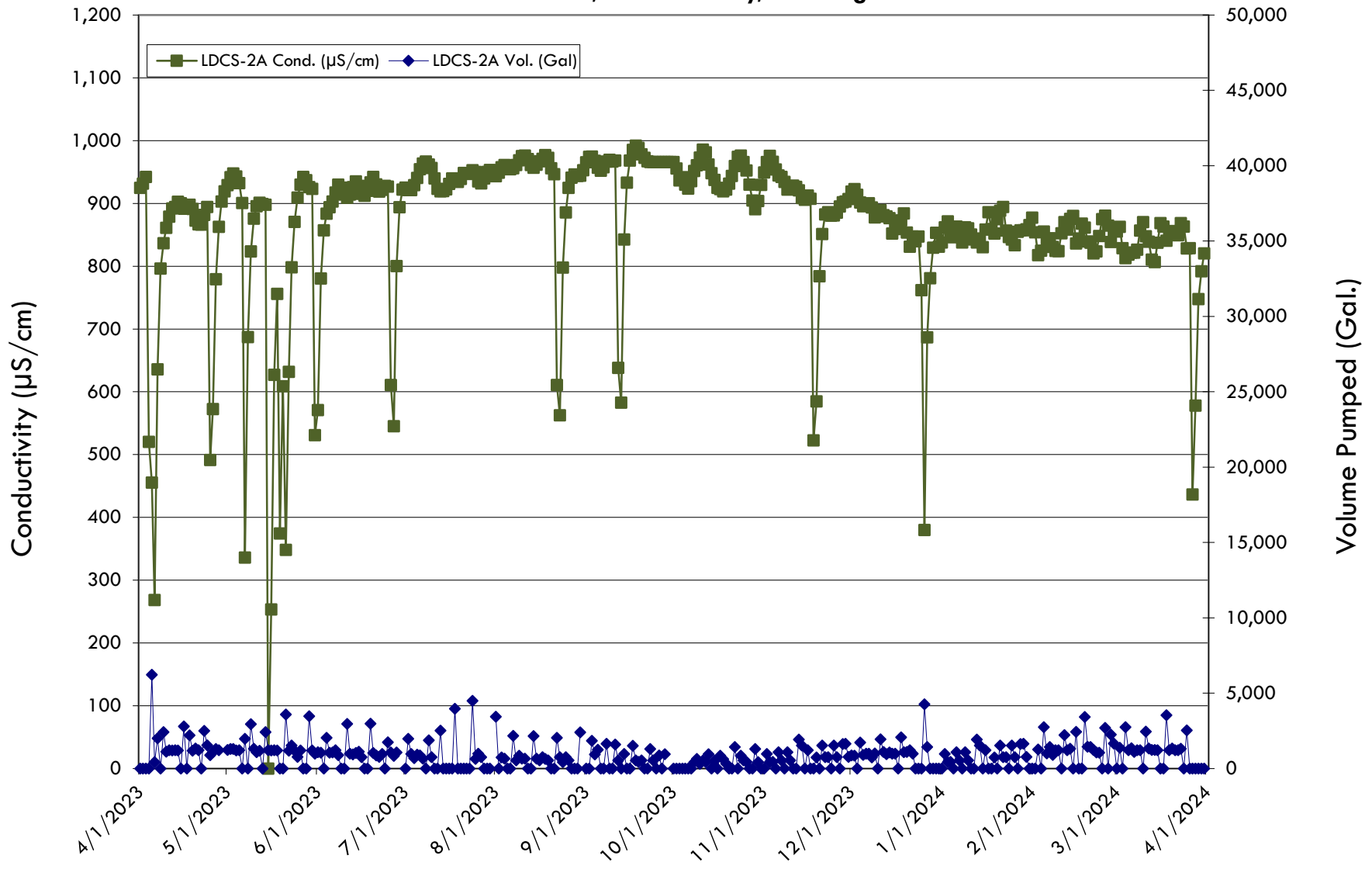
Date	Rainfall	LDCS-1 Vol. (Gal.)	LDCS-1 Cond. (µS/cm)	LDCS-2A Vol. (Gal.)	LDCS-2A Cond. (µS/cm)	LDCS-2B Vol. (Gal.)	LDCS-2B Cond. (µS/cm)	LDCS-3A Vol. (Gal.)	LDCS-3A Cond. (µS/cm)	LDCS-4A Vol. (Gal.)	LDCS-4A Cond. (µS/cm)*	LDCS-4B Vol. (Gal.)	LDCS-4B Cond. (µS/cm)	LDCS-5 Vol. (Gal.)	LDCS-5 Cond. (µS/cm)	LDCS-6 Vol. (Gal.)	LDCS-6 Cond. (µS/cm)	LDCS-7 Vol. (Gal.)	LDCS-7 Cond. (µS/cm)	LDCS-8 Vol. (Gal.)	LDCS-8 Cond. (µS/cm)*	LDCS-9 Vol. (Gal.)	LDCS-9 Cond. (µS/cm)*
3/2/2024	0.22	4,040	161	871	919	2,570	1,000	3,000	951	6,000	389.9	8,370	767	2,733	720	0	1,002	0	633	2,156	-	-	-
3/3/2024	0.87	4,880	162	856	923	1,422	1,000	3,610	950	5,970	400.4	15,210	754	8,225	671	2,061	841	6,849	633	2,452	-	-	-
3/4/2024	0.11	4,880	166	0	914	0	999	3,020	955	5,980	0	16,976	734	4,800	608	1,164	341	0	633	2,156	-	-	-
3/5/2024	0.22	4,650	170	1,732	901	410	999	3,610	948	5,990	588.1	19,760	724	4,136	578	318	208	949	633	2,151	-	-	-
3/6/2024	1.83	4,960	172	904	896	1,965	1,000	3,640	949	6,020	685.4	27,566	717	16,242	555	0	621	5,035	633	4,185	-	-	-
3/7/2024	2.00	5,750	171	984	896	1,786	1,000	3,620	952	6,040	725.9	38,766	719	9,549	497	0	864	7,481	633	4,144	-	-	-
3/8/2024	0.30	5,820	170	982	900	152	997	4,220	954	6,070	719.7	7,516	743	5,928	469	0	960	0	633	2,998	-	-	-
3/9/2024	0.30	5,800	170	736	893	3,273	477	3,610	951	6,060	568.7	1,274	737	2,356	471	0	999	3,386	219	2,422	-	-	-
3/10/2024	0.00	6,660	170	997	878	472	665	3,610	955	6,090	703.8	1,306	702	5,870	496	2,143	886	2,043	100	2,689	-	-	-
3/11/2024	0.72	6,680	168	0	883	0	874	3,610	957	6,080	0	1,226	686	8,604	481	0	861	4,316	383	2,707	-	-	-
3/12/2024	0.10	6,710	167	1,942	889	77	908	3,610	954	6,070	947.3	1,256	684	2,060	472	0	926	1,619	501	2,401	-	-	-
3/13/2024	0.00	6,740	171	1,099	881	2,238	752	4,200	949	6,070	865.3	1,206	687	1,269	500	0	967	0	544	800	-	-	-
3/14/2024	0.00	6,720	202	961	879	183	763	3,610	946	6,060	691.7	1,234	689	790	540	0	993	0	560	3,676	-	-	-
3/15/2024	0.00	6,700	219	1,074	876	3,555	747	3,610	940	6,030	686.2	1,282	694	996	577	1	1,008	5,409	566	2,293	-	-	-
3/16/2024	0.14	7,470	225	989	852	692	713	3,620	936	6,000	549.6	1,258	705	924	592	0	1,017	0	568	2,141	-	-	-
3/17/2024	0.00	6,700	225	980	859	11	838	3,610	932	5,970	543	1,384	720	786	602	0	1,023	0	569	1,881	-	-	-
3/18/2024	0.00	6,730	225	0	862	0	906	3,600	929	5,930	0	1,460	739	588	617	0	1,030	5,141	569	1,878	-	-	-
3/19/2024	0.00	7,610	222	2,077	873	192	949	3,600	922	5,920	337.1	1,422	763	521	645	2,396	1,014	0	569	2,137	-	-	-
3/20/2024	0.05	7,570	220	1,092	884	4,218	970	3,610	914	5,900	461.7	1,408	790	1,951	664	6	971	0	569	2,420	-	-	-
3/21/2024	0.12	6,700	219	1,097	854	636	924	3,130	911	5,890	435.4	1,354	816	1,475	631	0	967	3,923	569	1,876	-	-	-
3/22/2024	0.00	6,730	219	1,214	831	7	810	3,610	916	5,890	433.5	1,250	841	855	620	0	977	1,232	358	2,138	-	-	-
3/23/2024	0.00	6,720	218	989	847	11	889	3,590	915	5,860	419.2	1,194	860	1,863	630	2,504	852	0	0	2,151	-	-	-
3/24/2024	0.60	6,680	219	0	840	0	923	3,600	913	5,830	0	1,296	864	1,334	615	0	826	0	0	1,877	-	-	-
3/25/2024	0.00	6,750	219	0	847	0	943	3,600	915	5,820	0	1,284	854	786	621	0	942	5,089	0	1,876	-	-	-
3/26/2024	0.00	7,580	194	0	762	0	835	3,720	810	5,790	0	1,172	835	790	647	0	822	0	0	2,140	-	-	-
3/27/2024	0.50	6,740	94	4,263	380	2,042	327	3,610	373	5,790	597.1	1,368	815	2,599	660	0	-81	0	75	2,421	-	-	-
3/28/2024	0.05	7,570	170	1,438	687	2,809	616	3,620	696	5,800	605.3	17,074	790	1,058	636	0	532	5,183	436	72	-	-	-
3/29/2024	0.12	6,950	198	0	781	0	663	3,590	824	5,800	0	36,598	830	788	648	0	869	0	630	0	-	-	-
3/30/2024	0.03	7,240	208	0	830	0	675	3,610	878	5,790	0	37,780	1,007	654	667	0	996	16	286	0	-	-	-
3/31/2024	0.00	7,570	212	0	853	0	752	4,210	898	5,770	0	35,910	1,179	1,325	684	0	1,045	334	0	7,838	-	-	-

Notes:
 --- = Data not available due to equipment malfunction or meter out of range

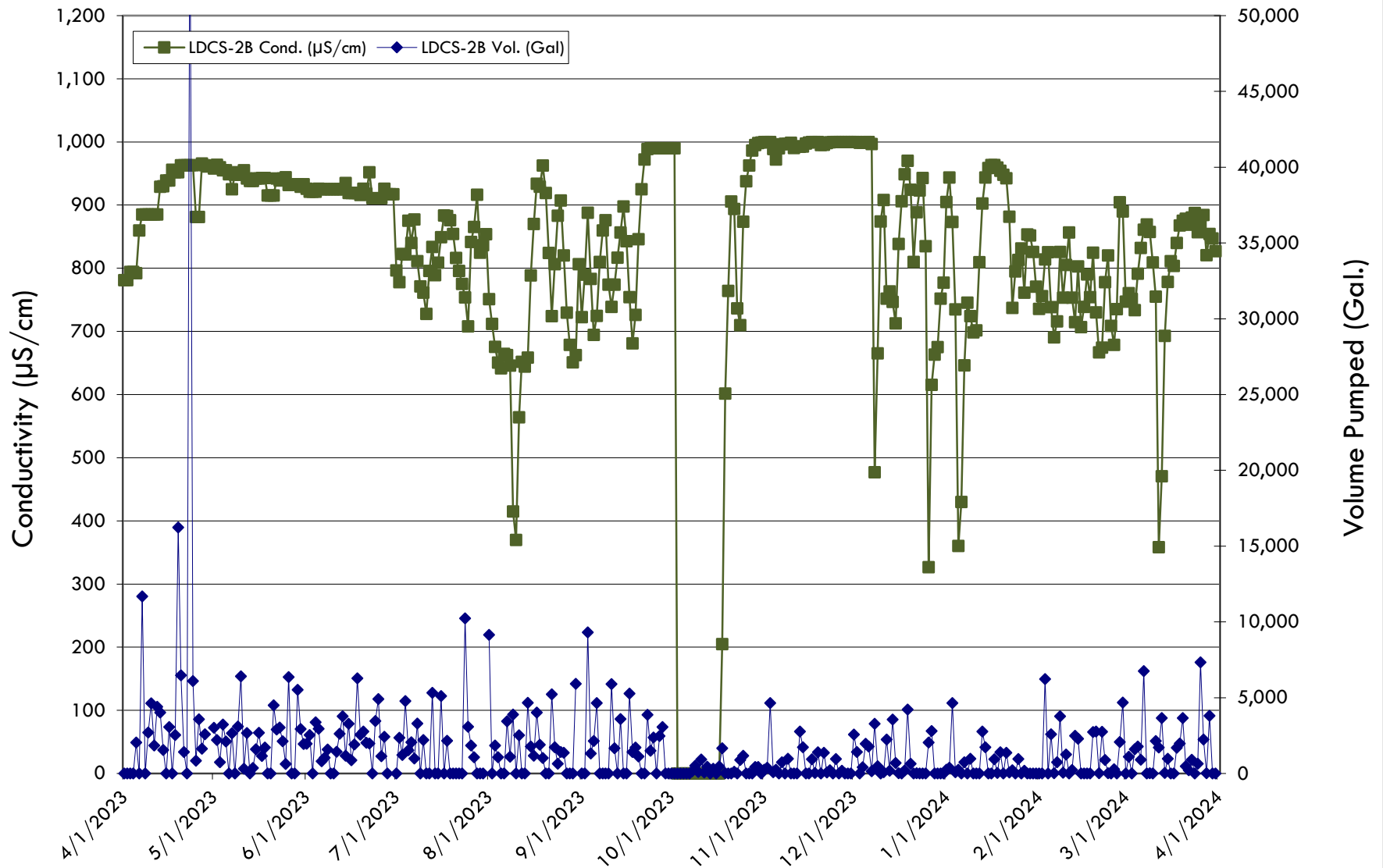
LDCS-1 (DailyTotals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



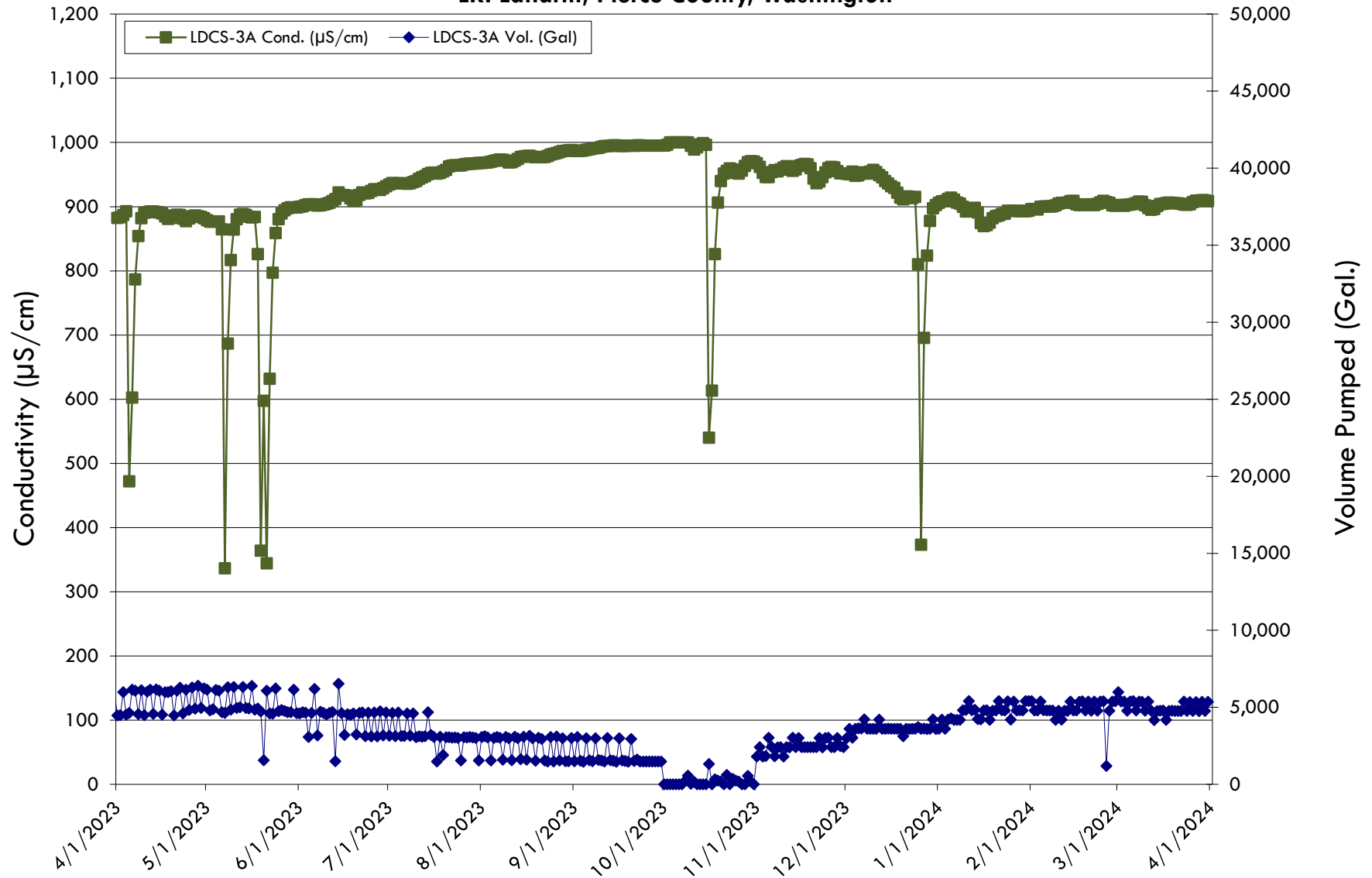
LDCS-2A (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



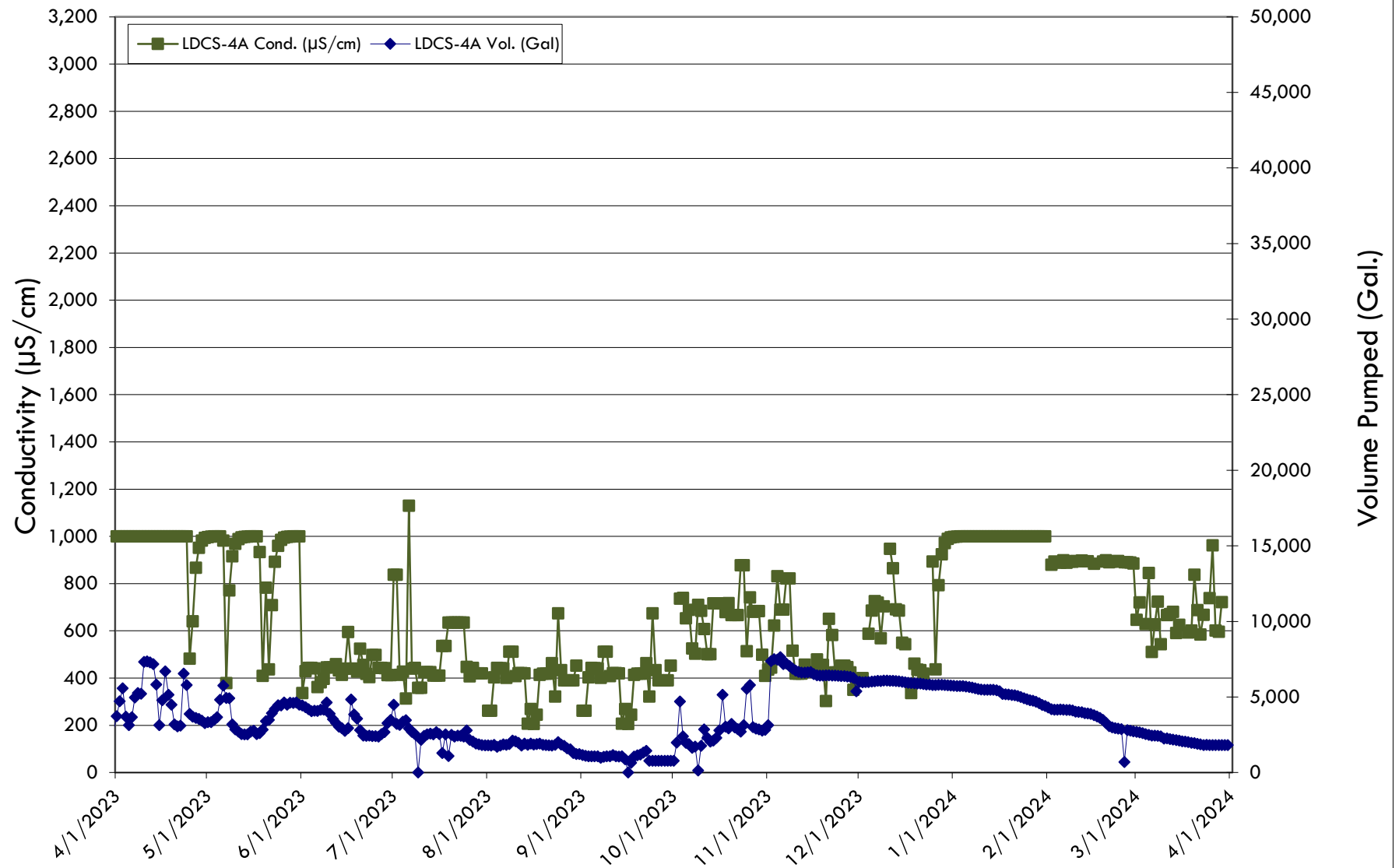
LDCS-2B (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



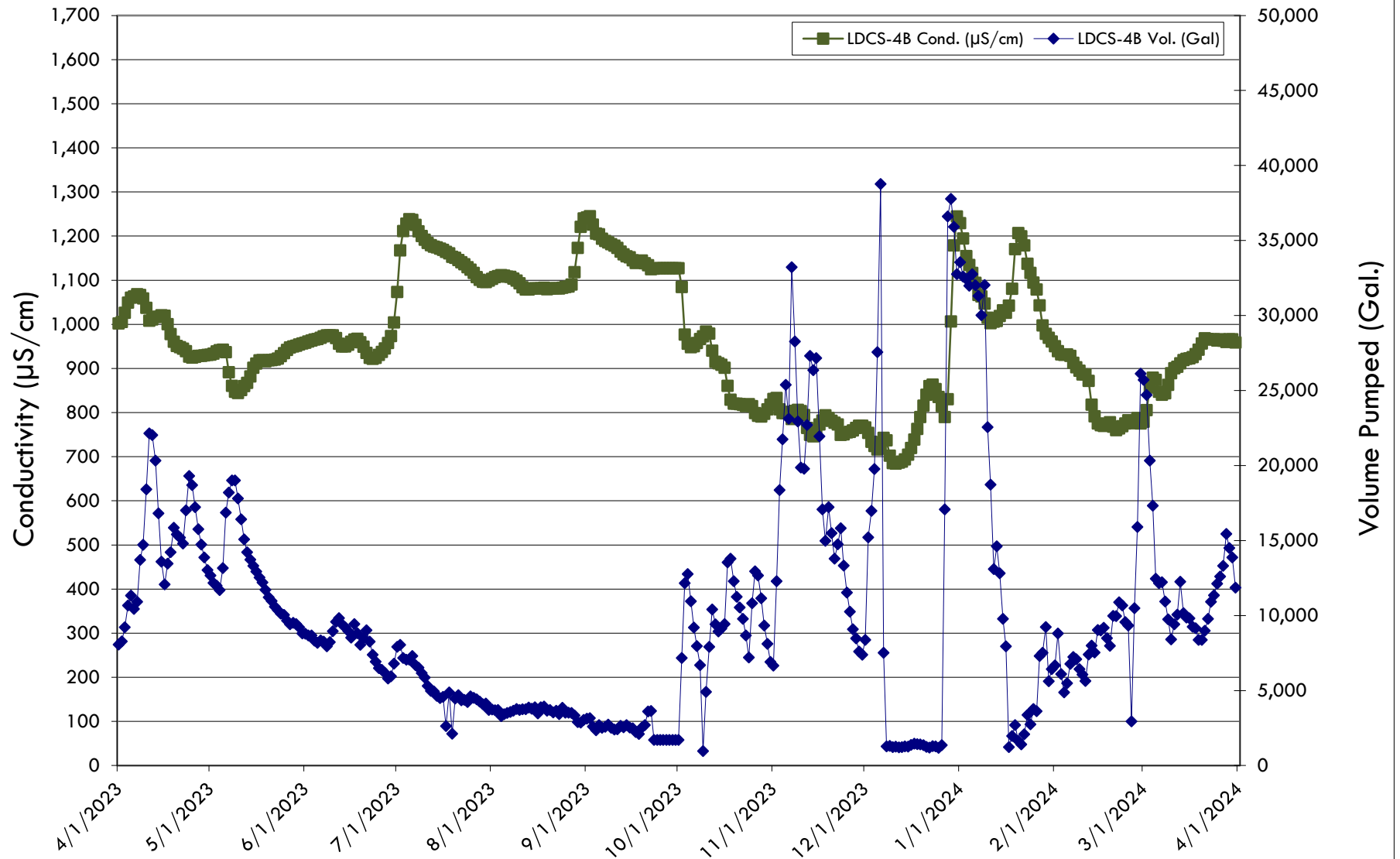
LDCS-3A (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



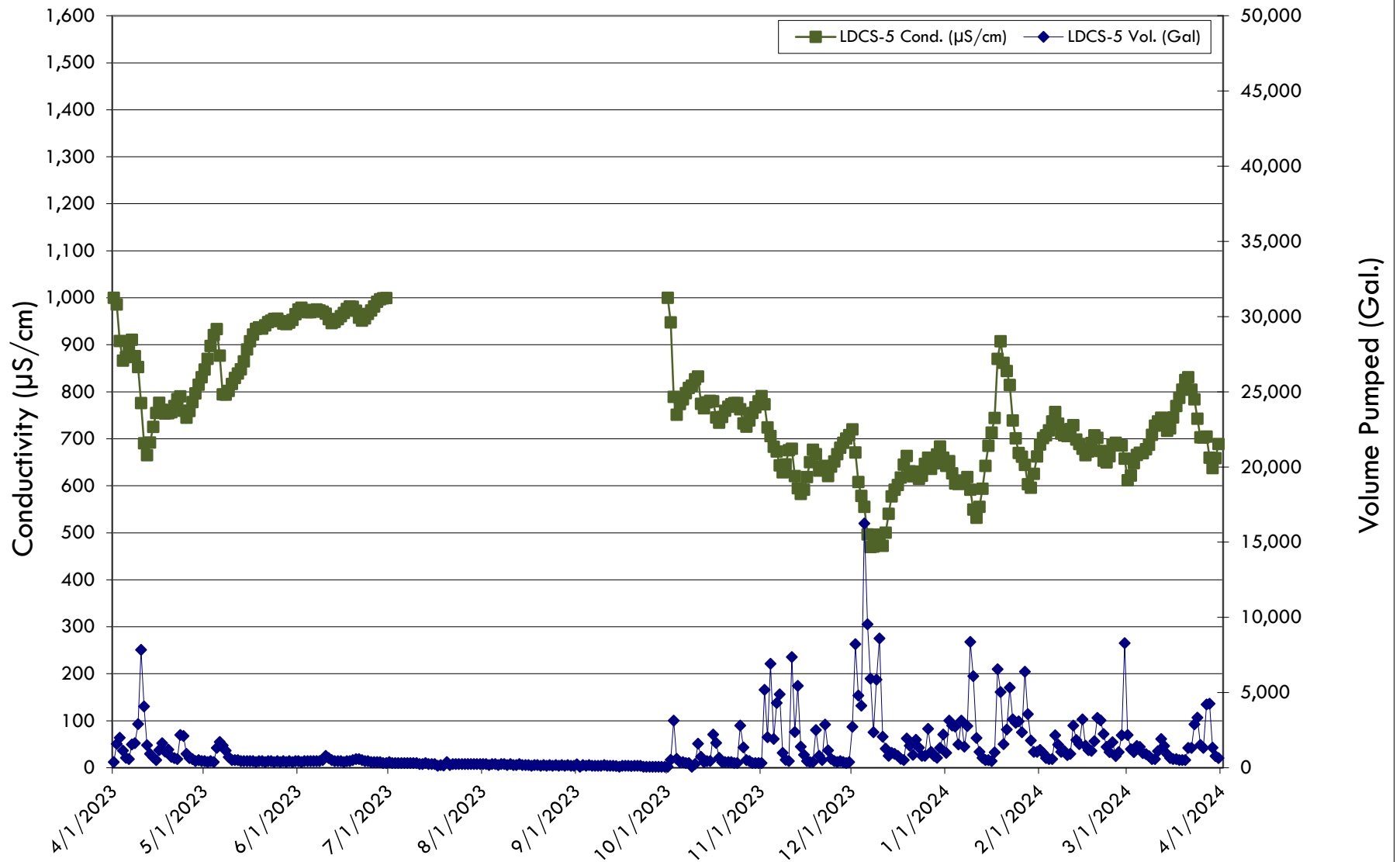
LDCS-4A (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



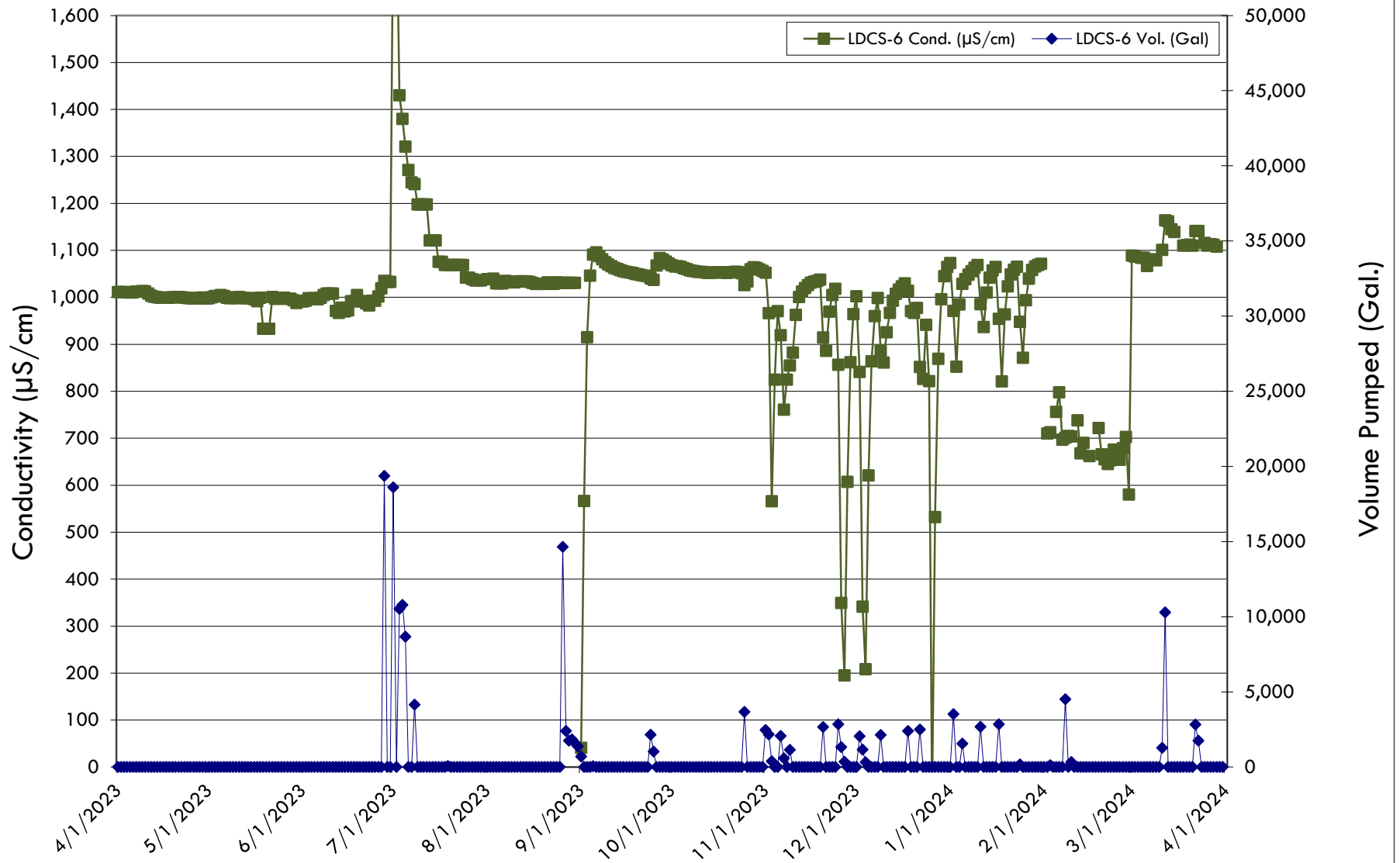
LDCS-4B (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



LDCS-5 (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington

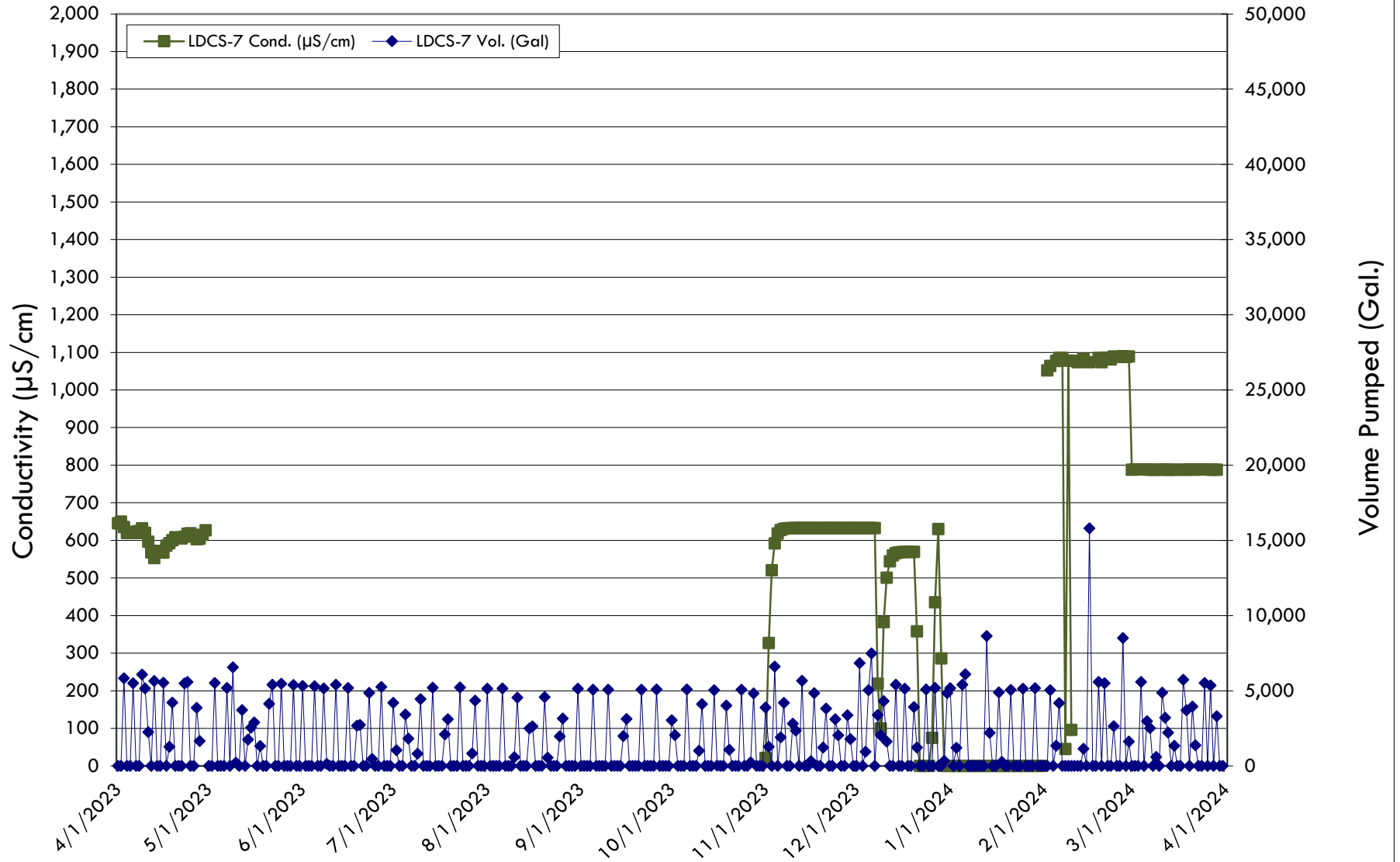


LDCS-6 (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



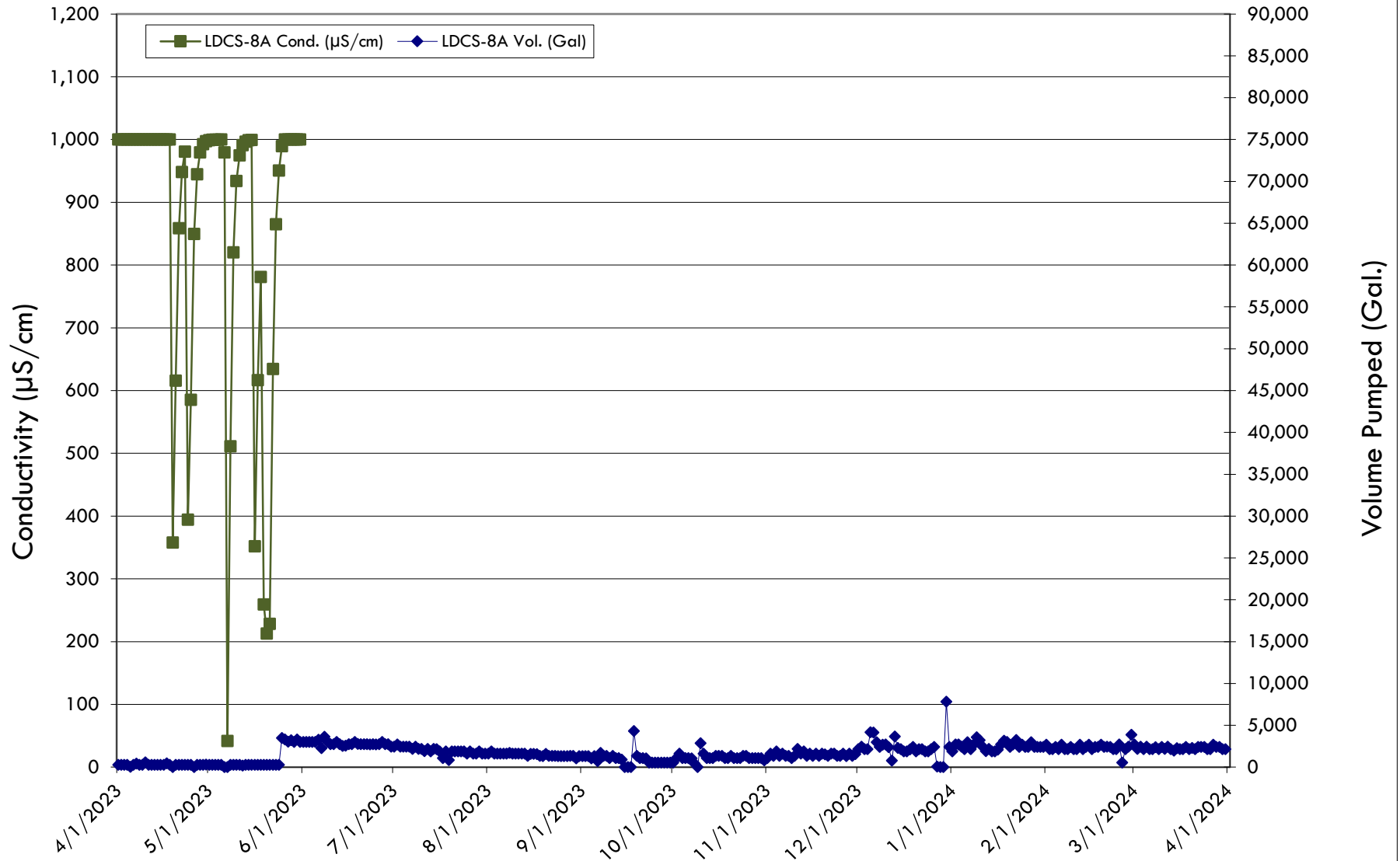
LDCS-7 (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington

*Conductivity Probe malfunction May 2023 through November 2023



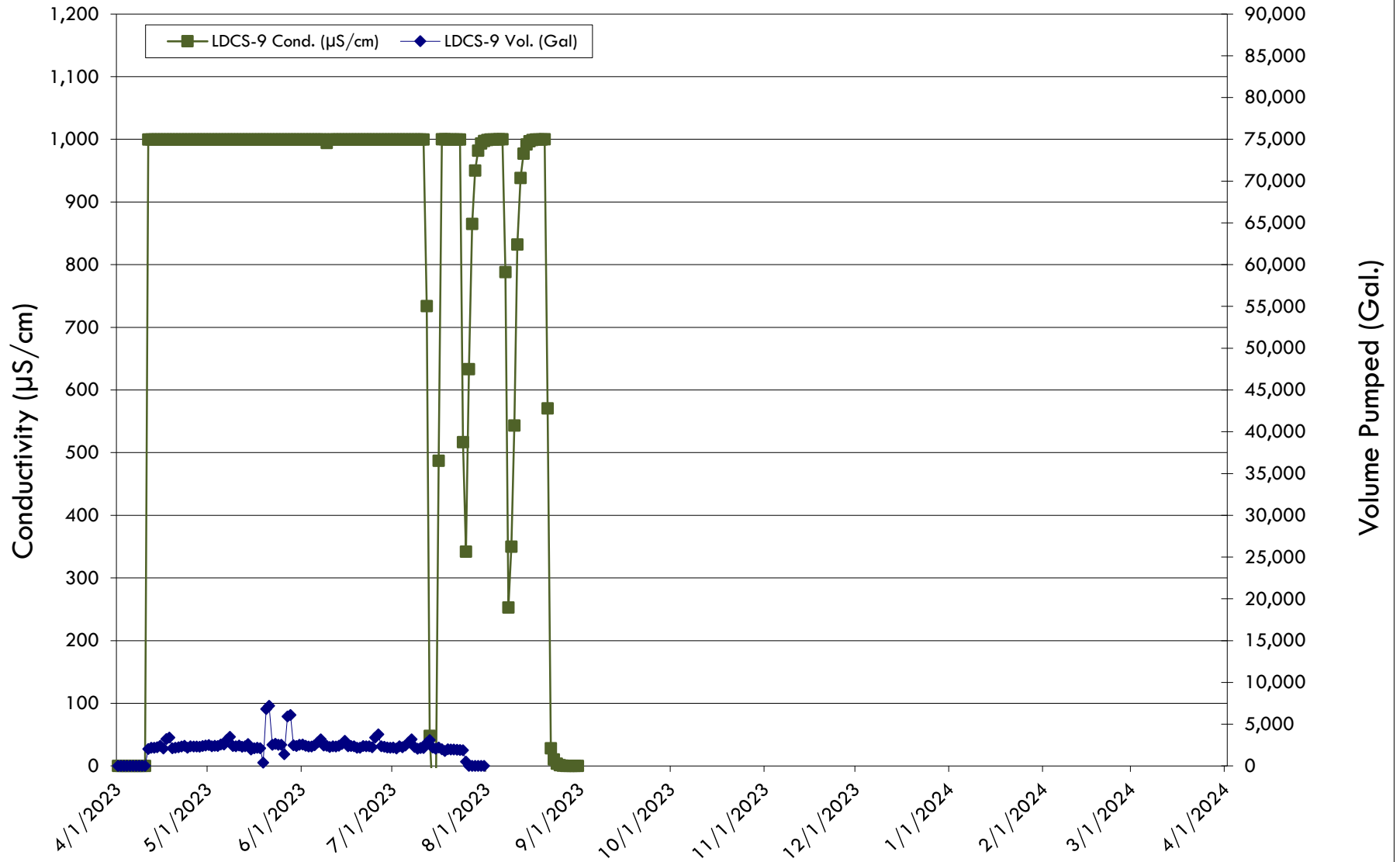
LDCS-8 (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington

*Conductivity Probe malfunction June 2023 through December 2023

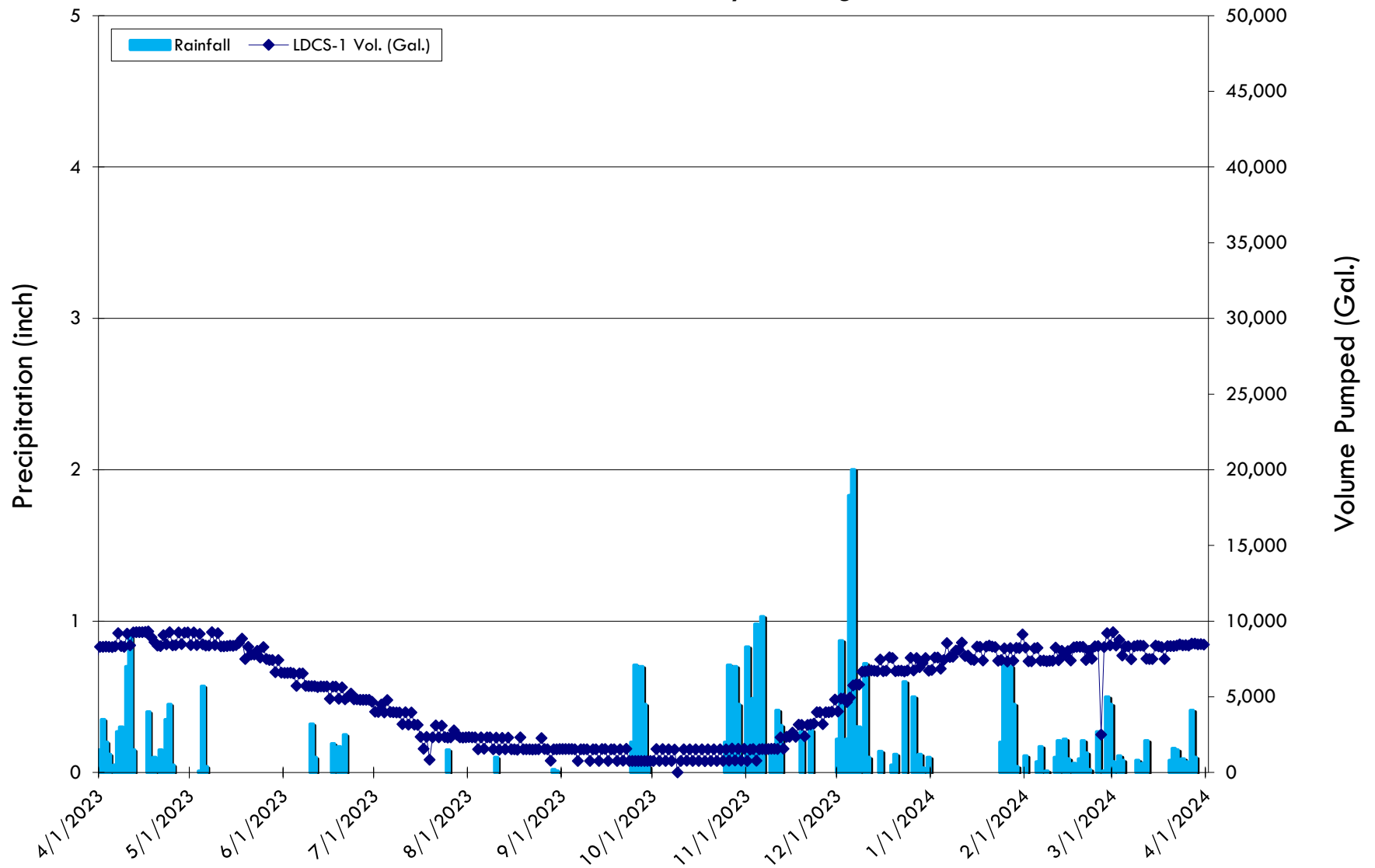


LDCS-9 (Daily Totals)
Conductivity vs Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington

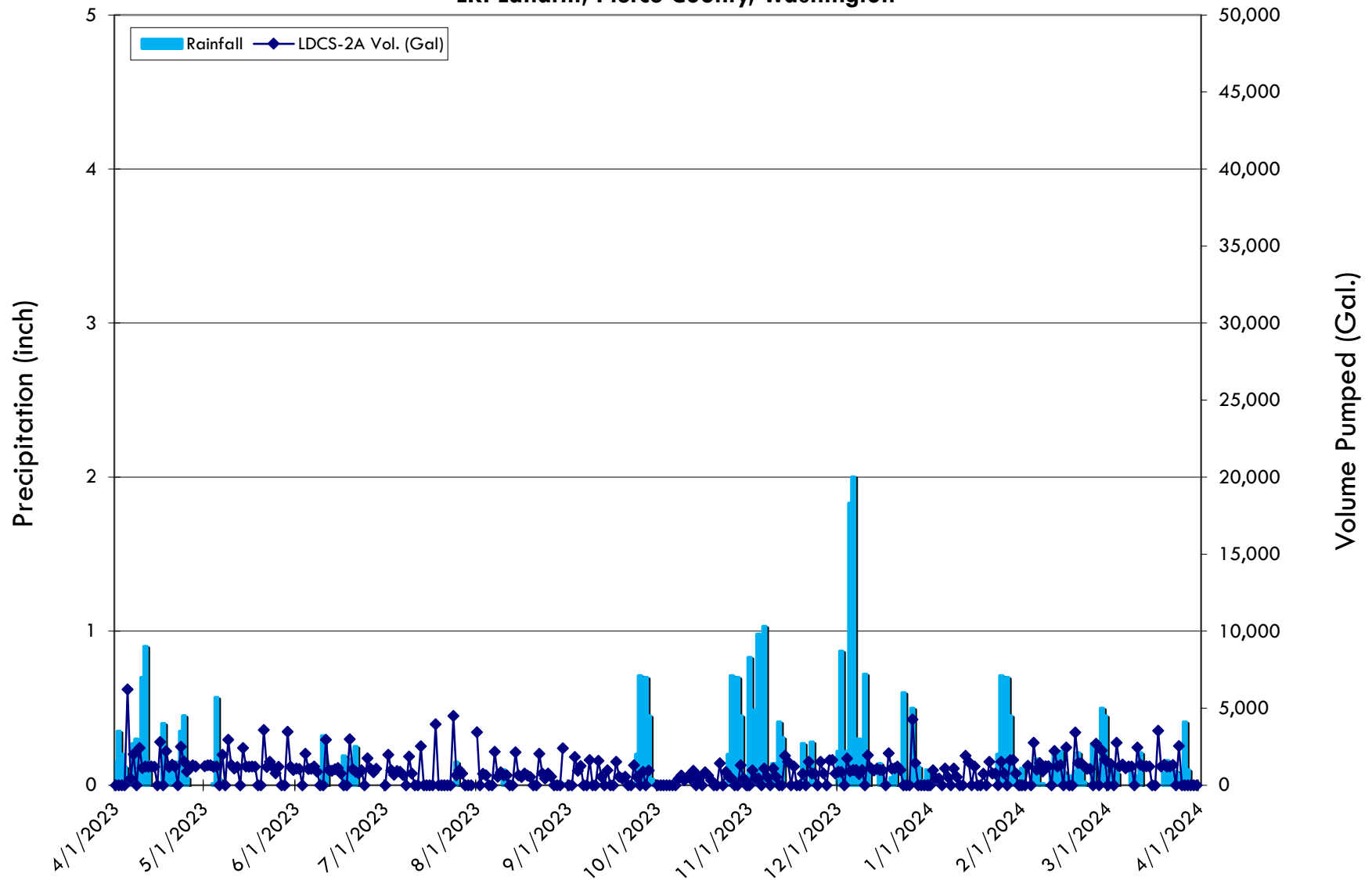
*Conductivity Probe and pump
malfunction August 2023 through
March 2024



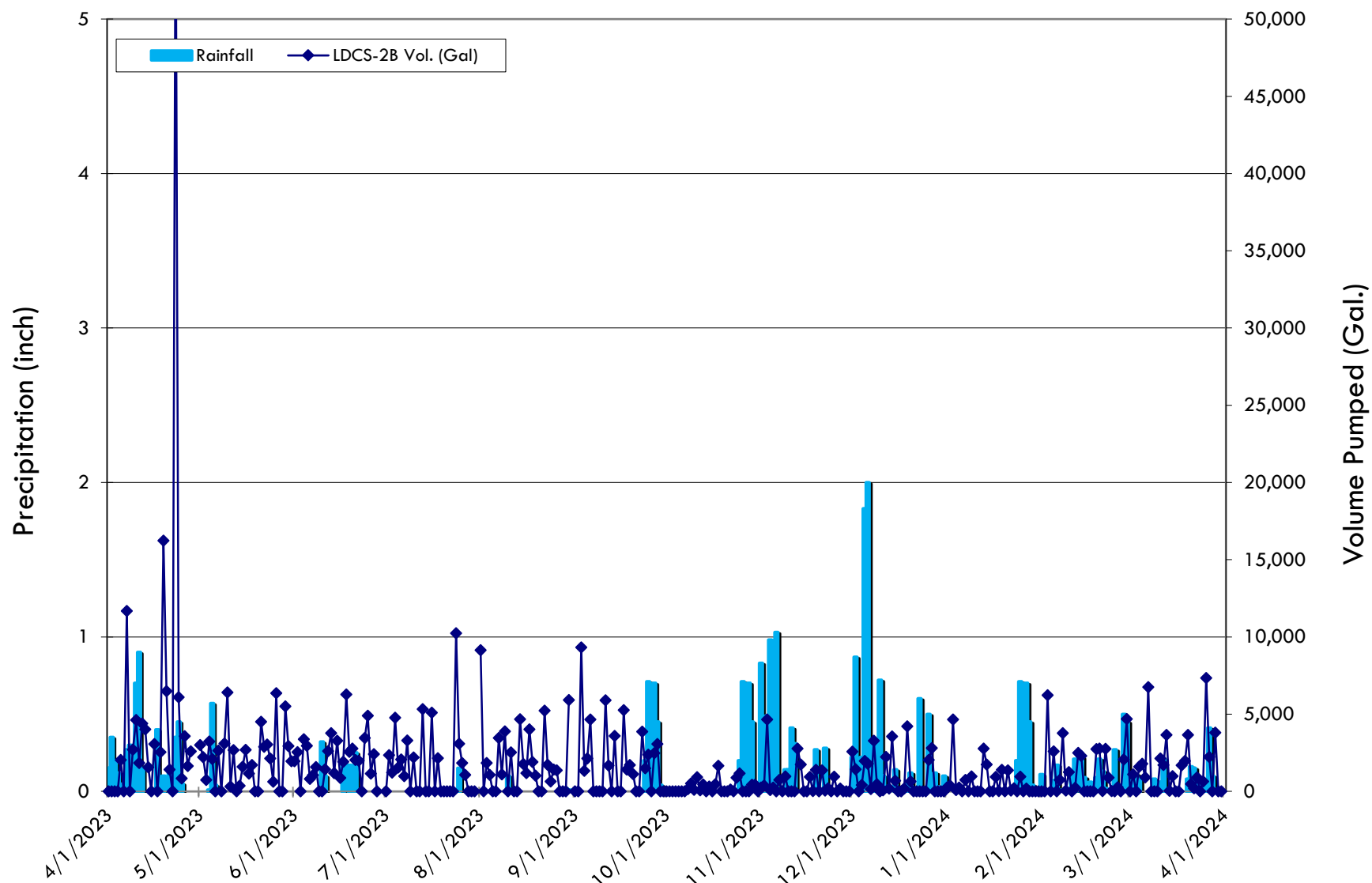
**LDCS-1 (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington**



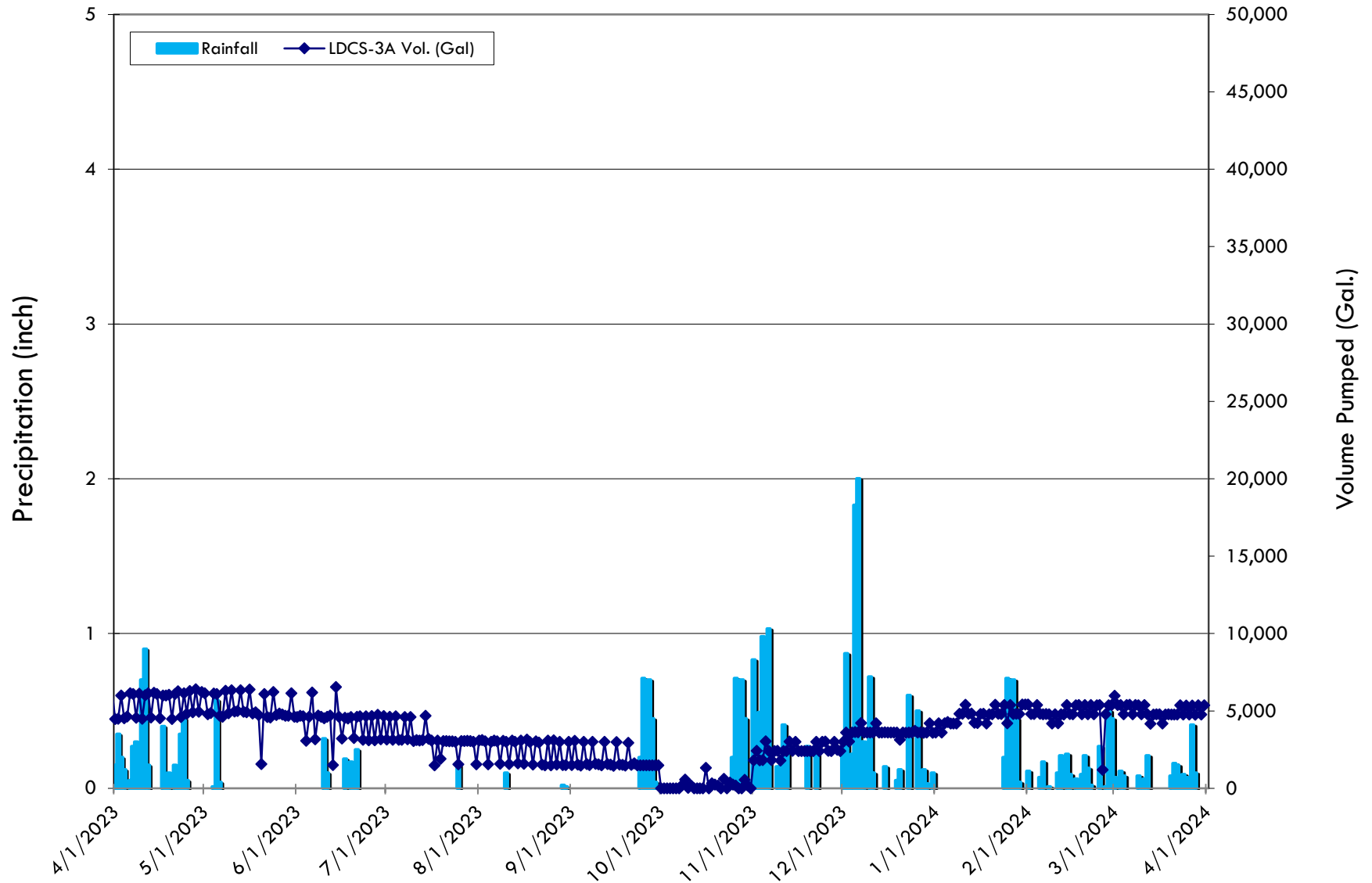
LDCS-2A (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington



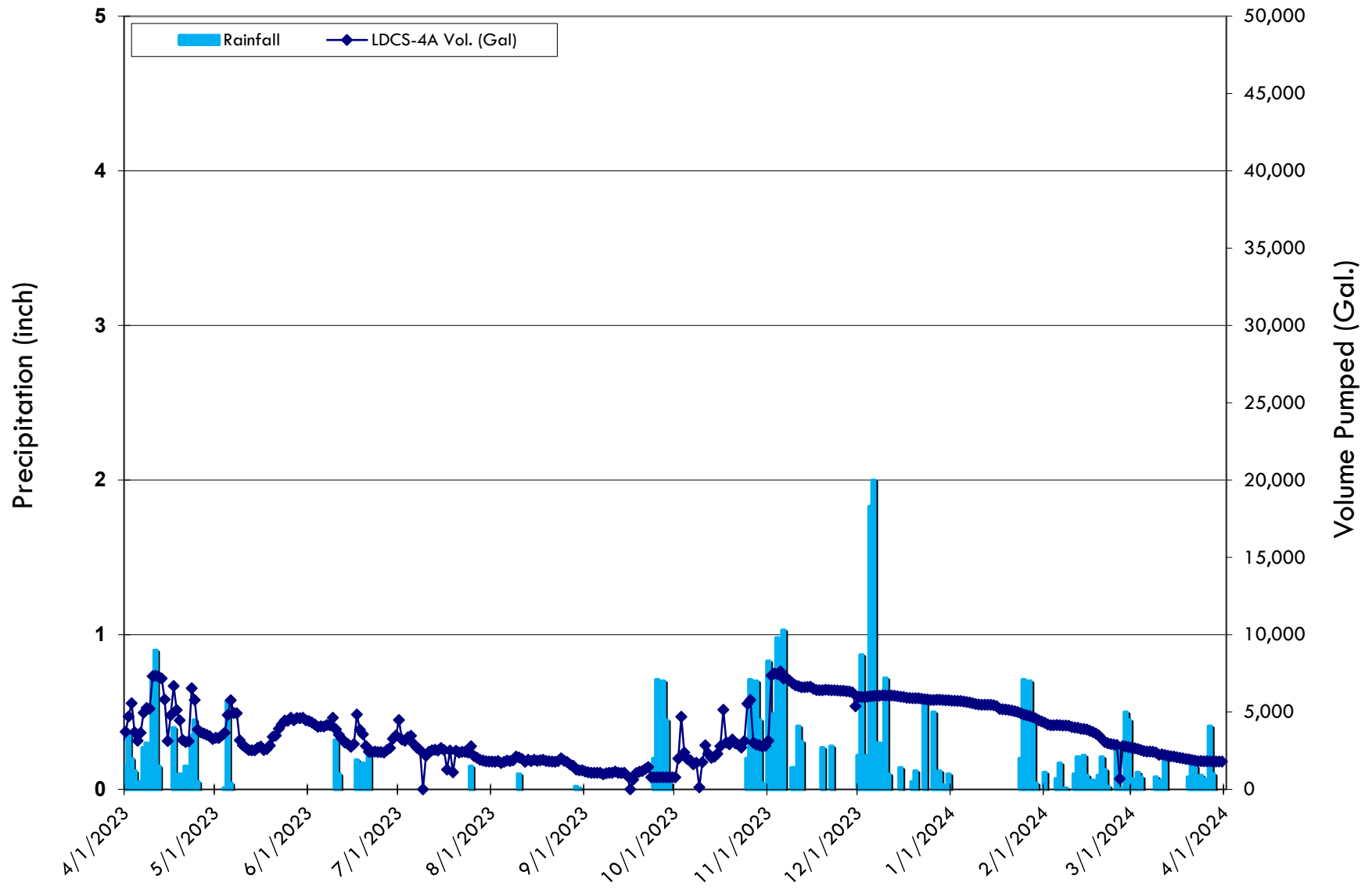
LDCS-2B (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington



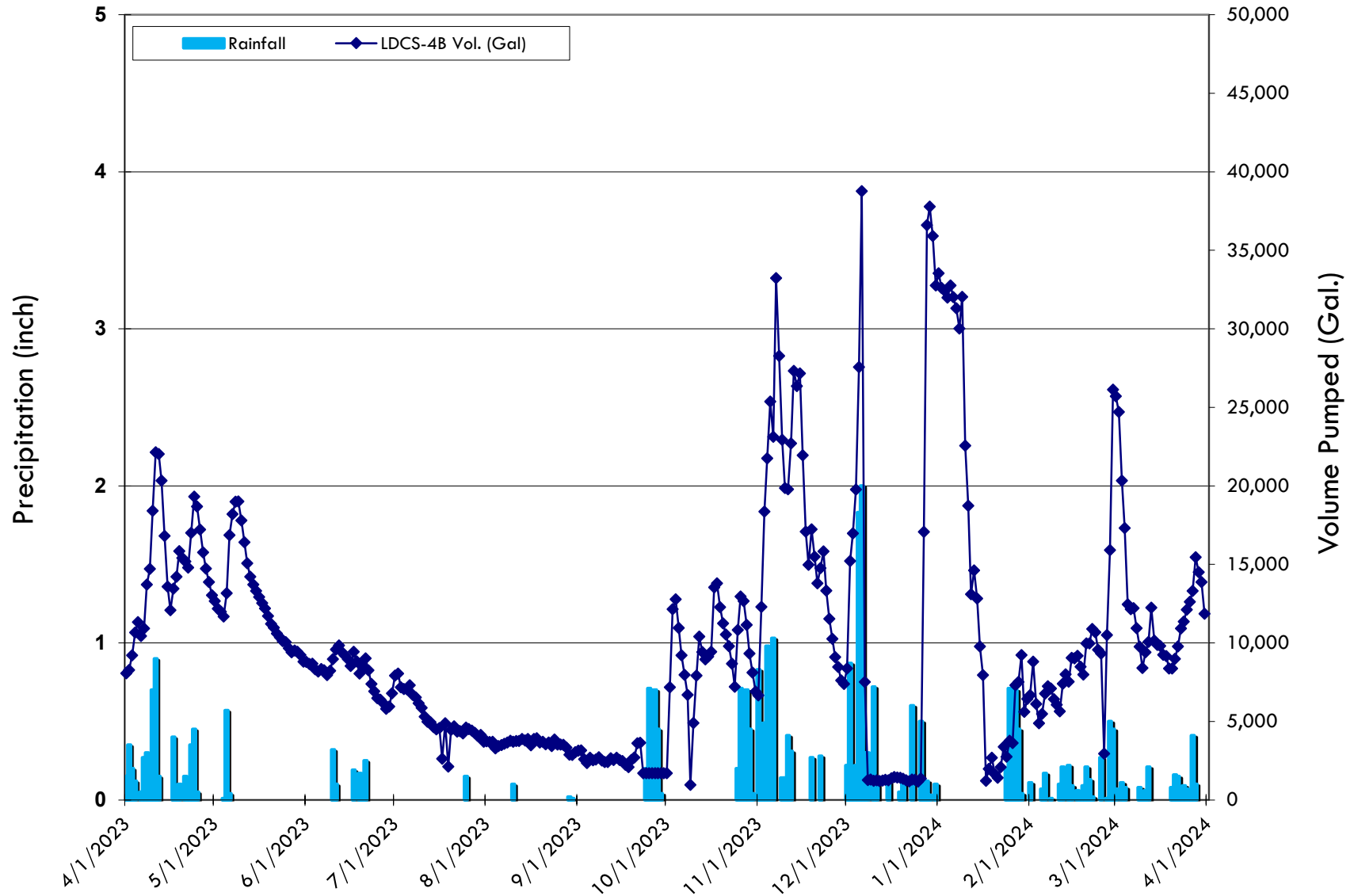
LDCS-3A (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington



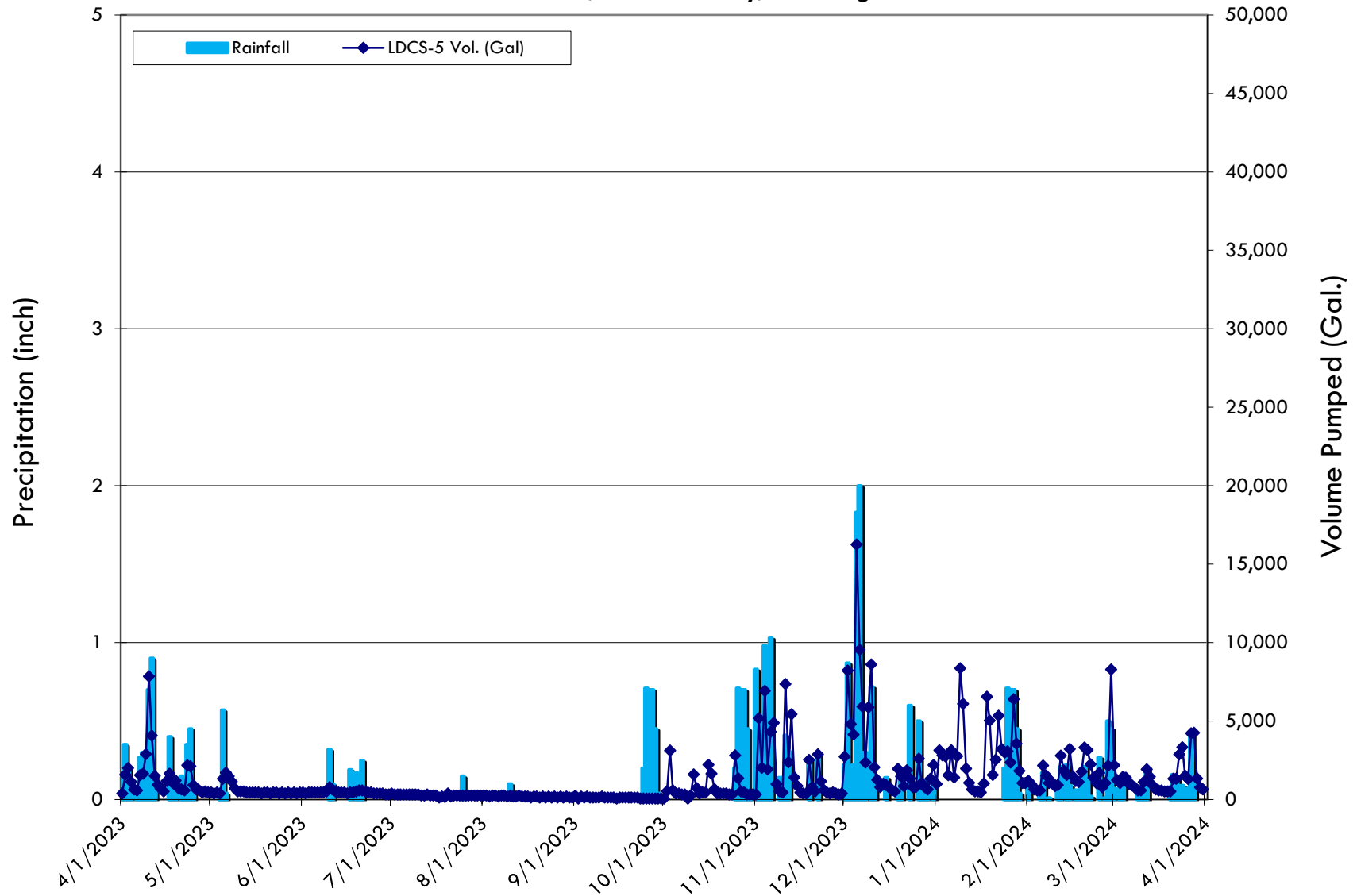
LDCS-4A (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington



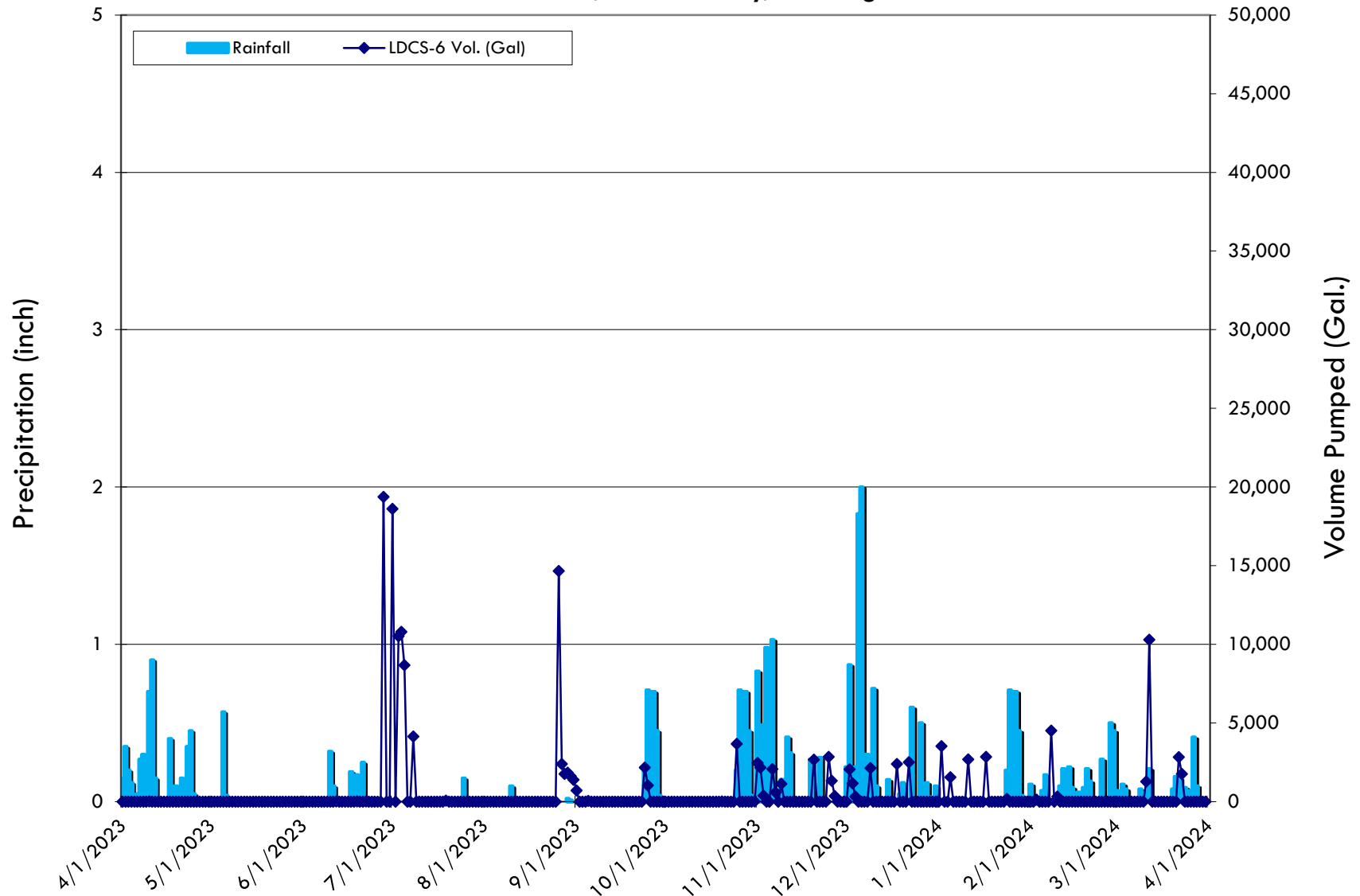
LDCS-4B (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington



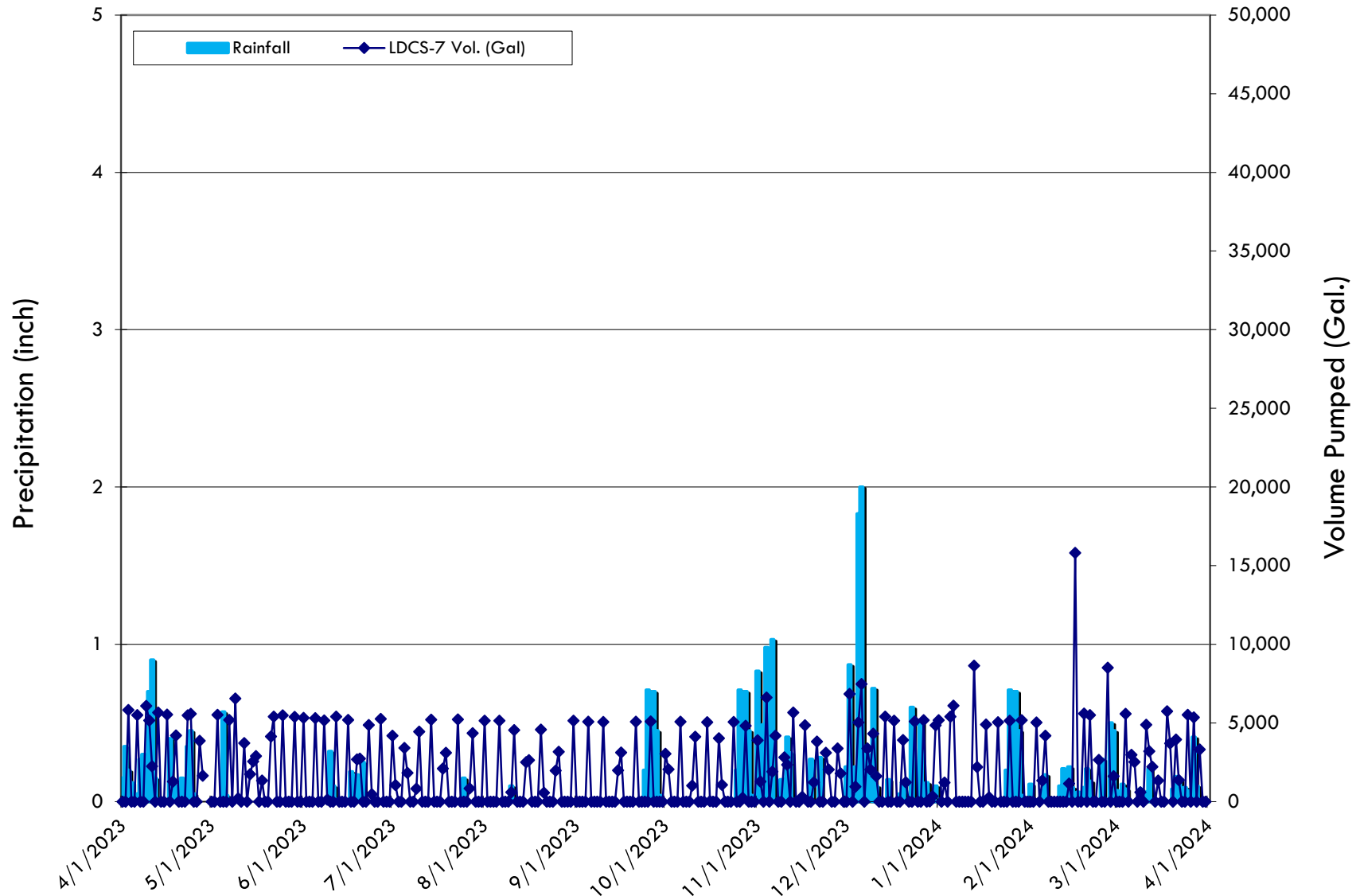
LDCS-5 (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington



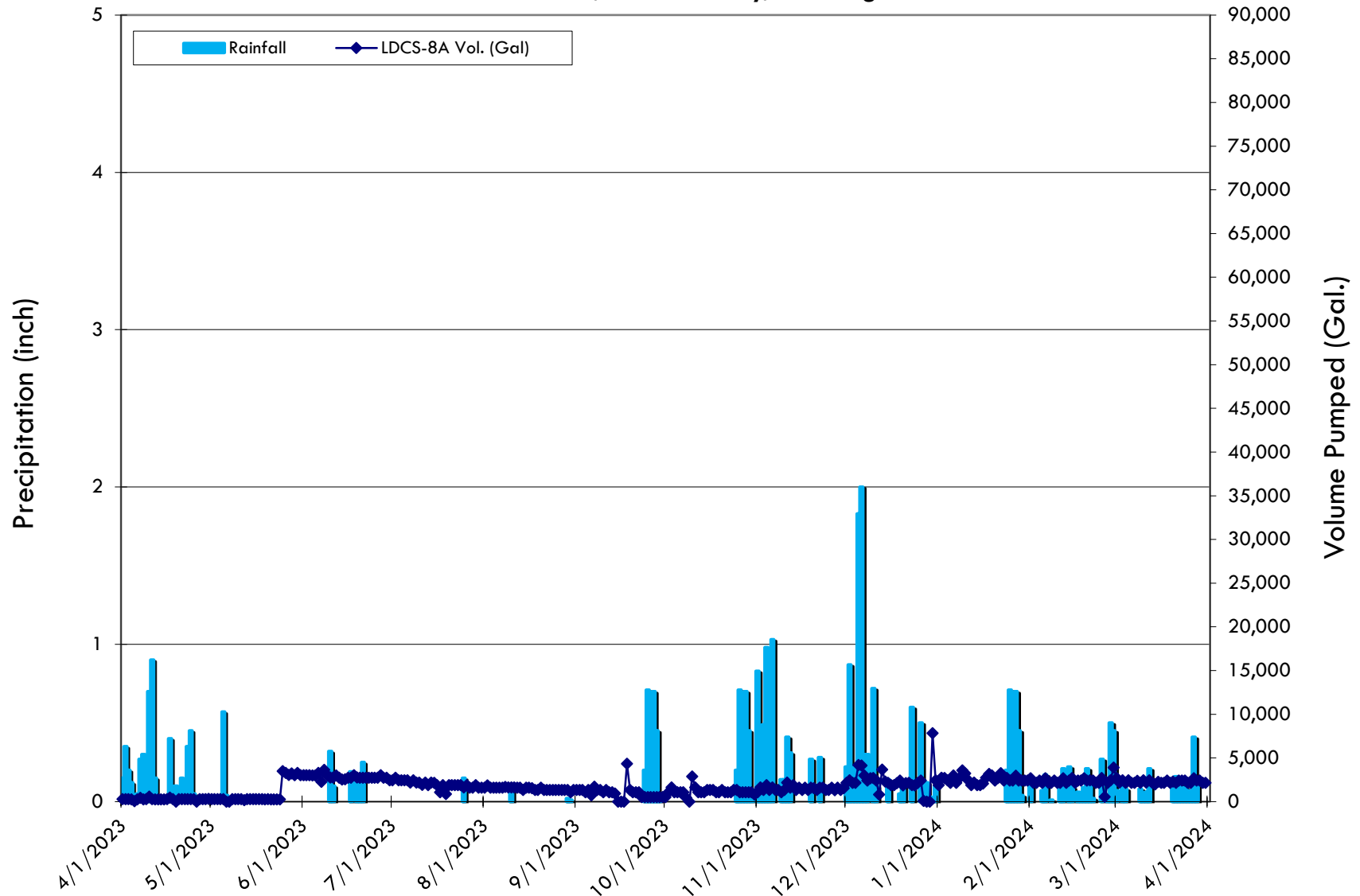
LDCS-6 (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington



LDCS-7 (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington

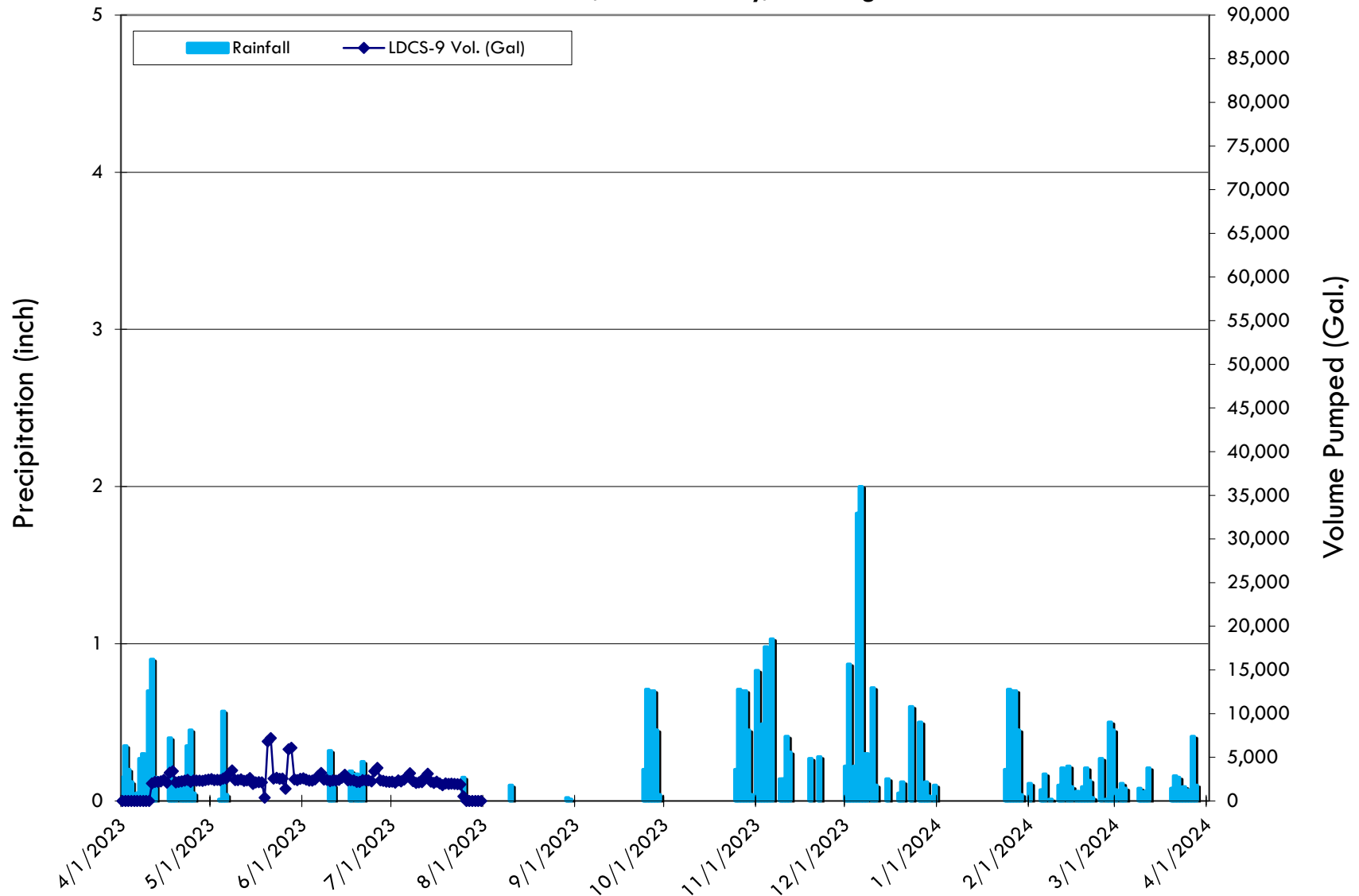


LDCS-8A (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington

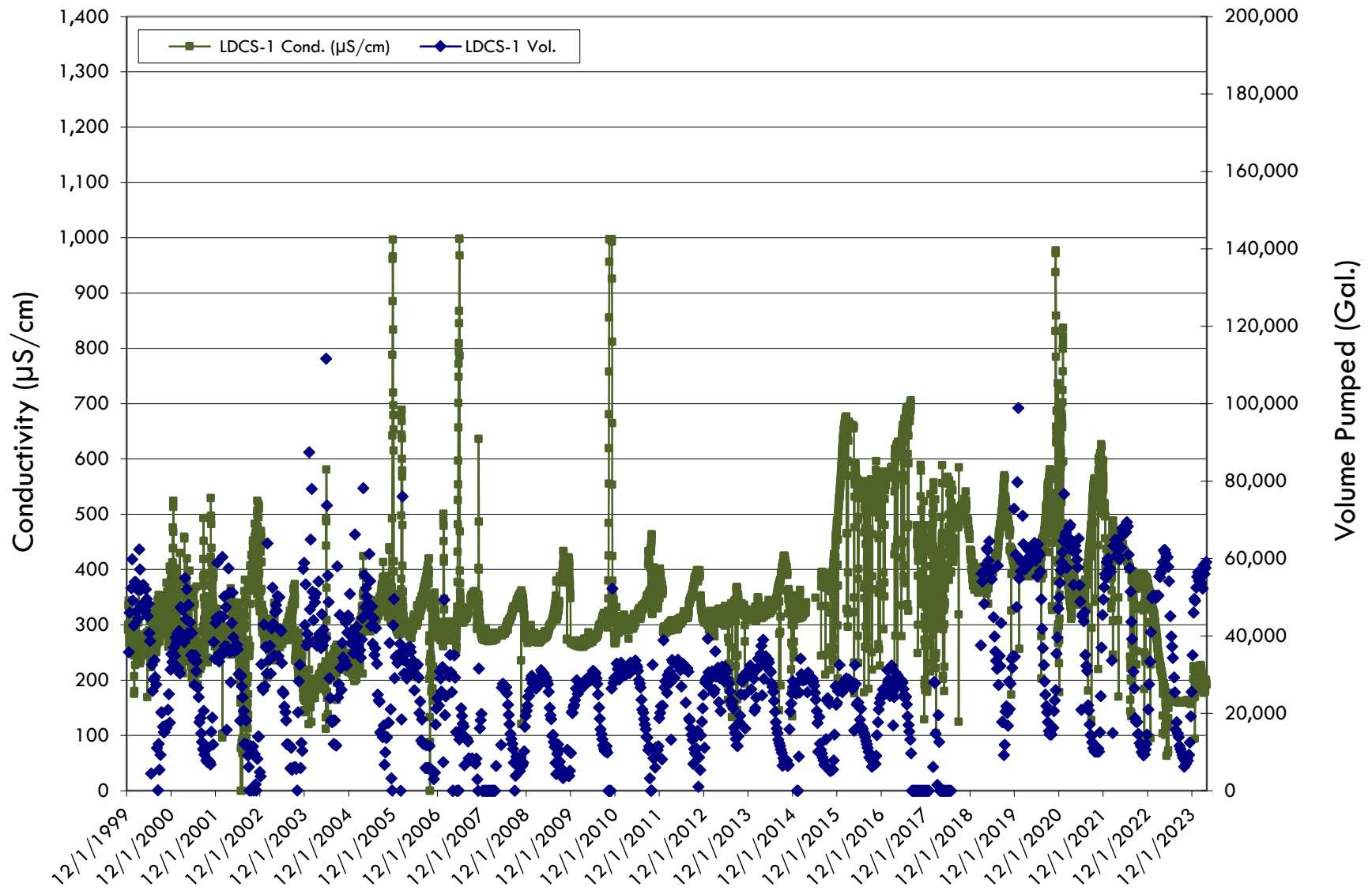


LDCS-9 (Daily Totals)
Volume Pumped vs Precipitation
First Quarter 2024
LRI Landfill, Pierce County, Washington

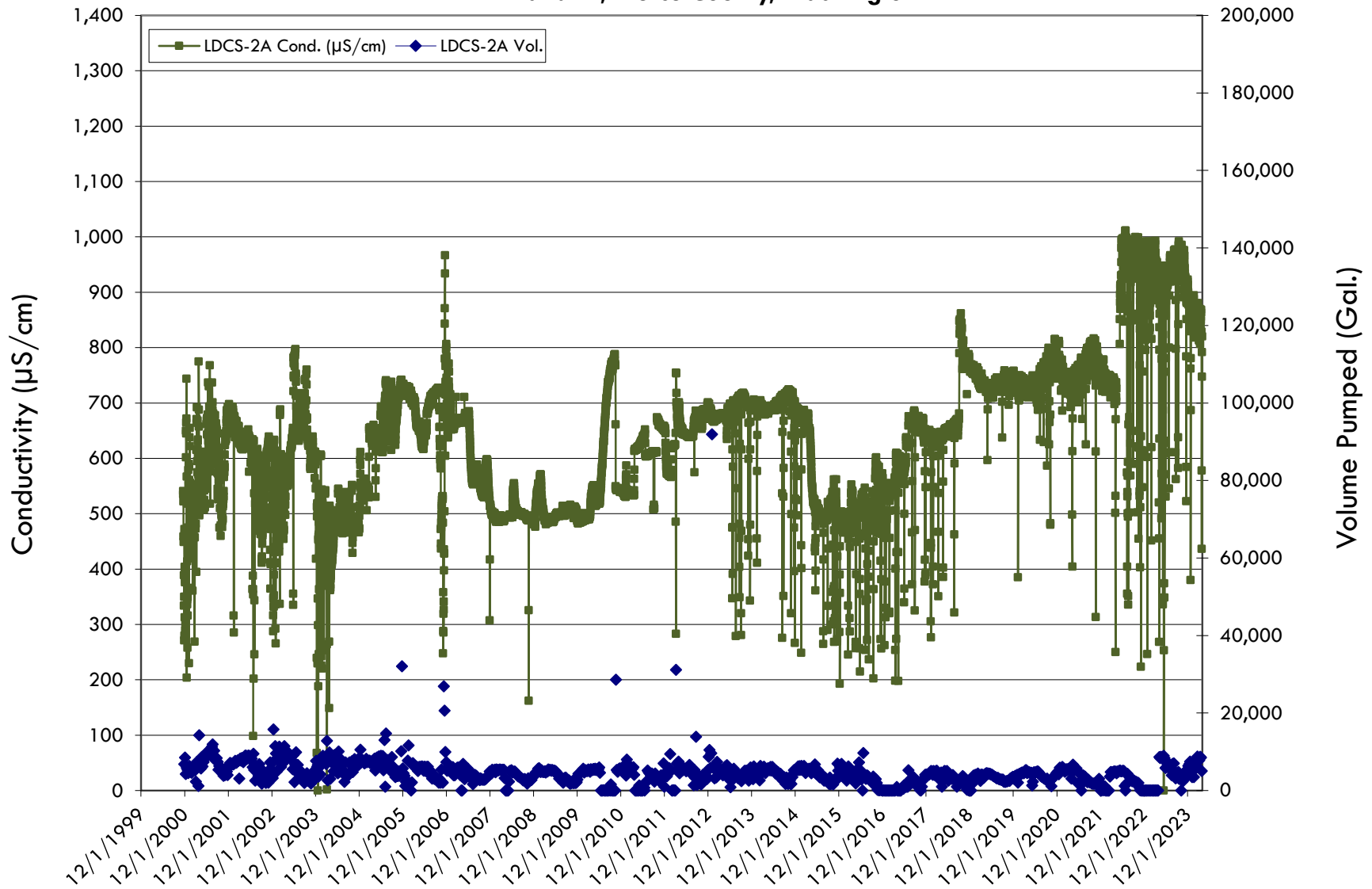
Probe malfunction from August 2023
through March 2024



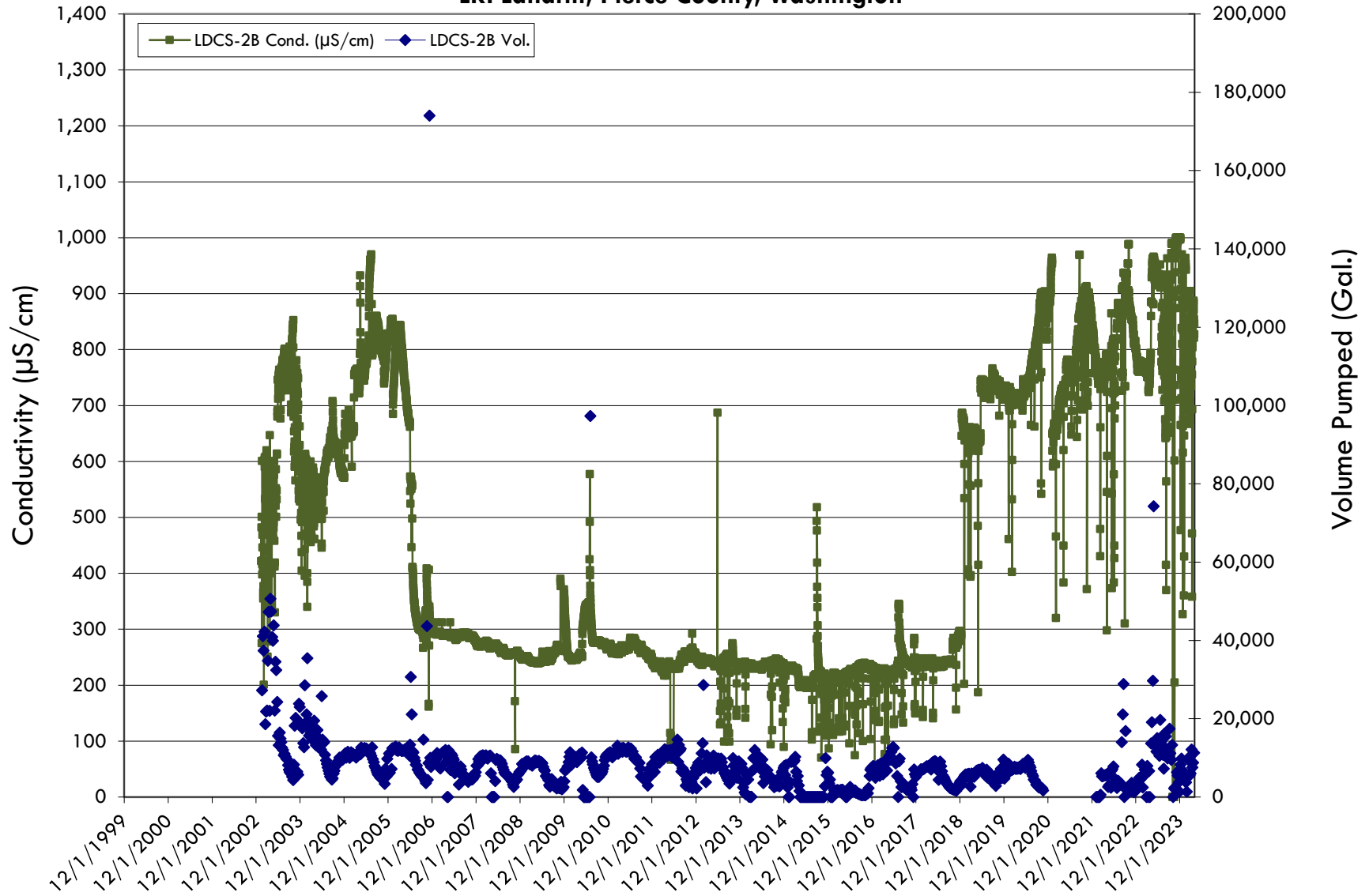
LDCS-1
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



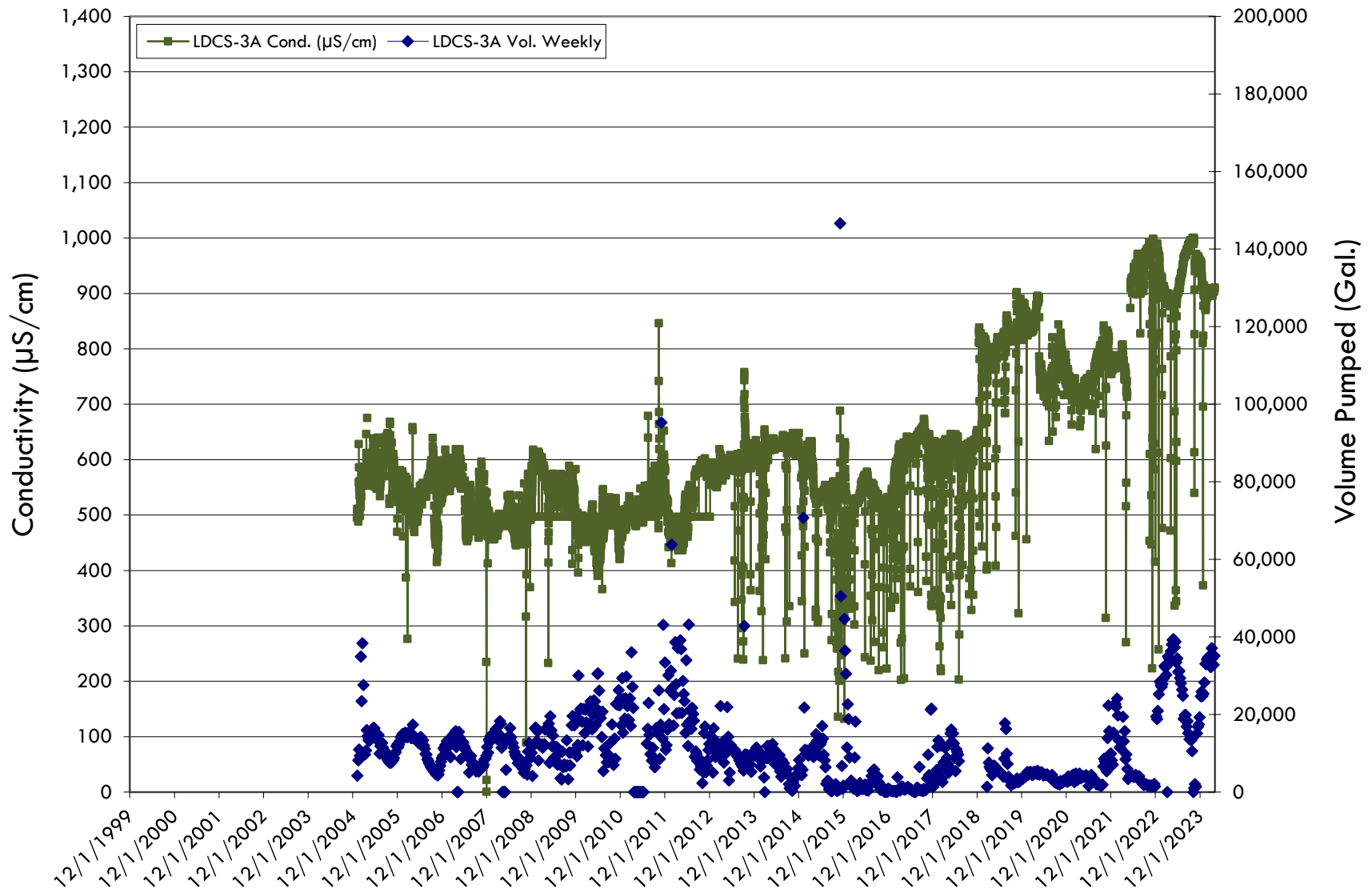
LDCS-2A
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



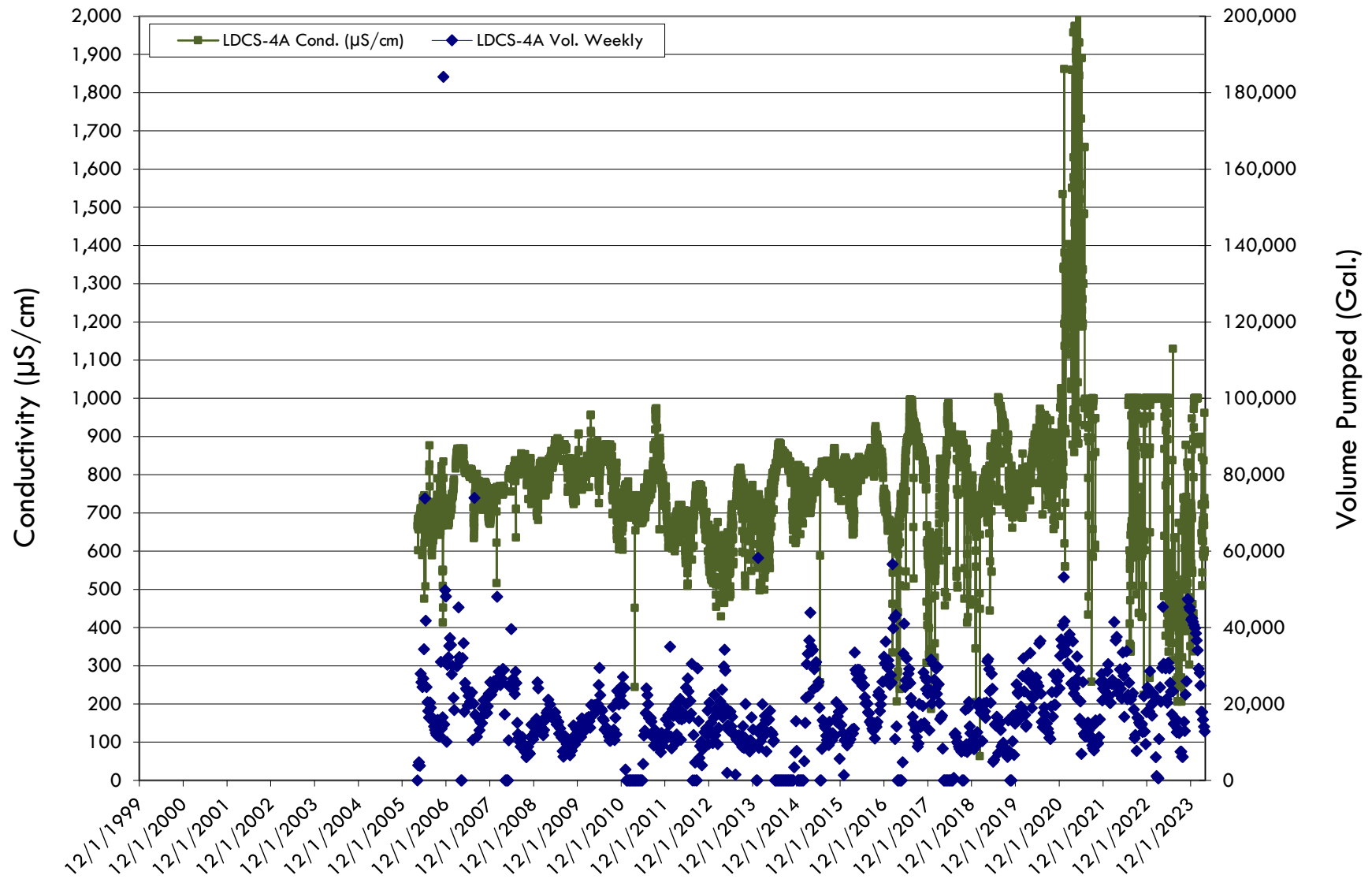
LDCS-2B
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



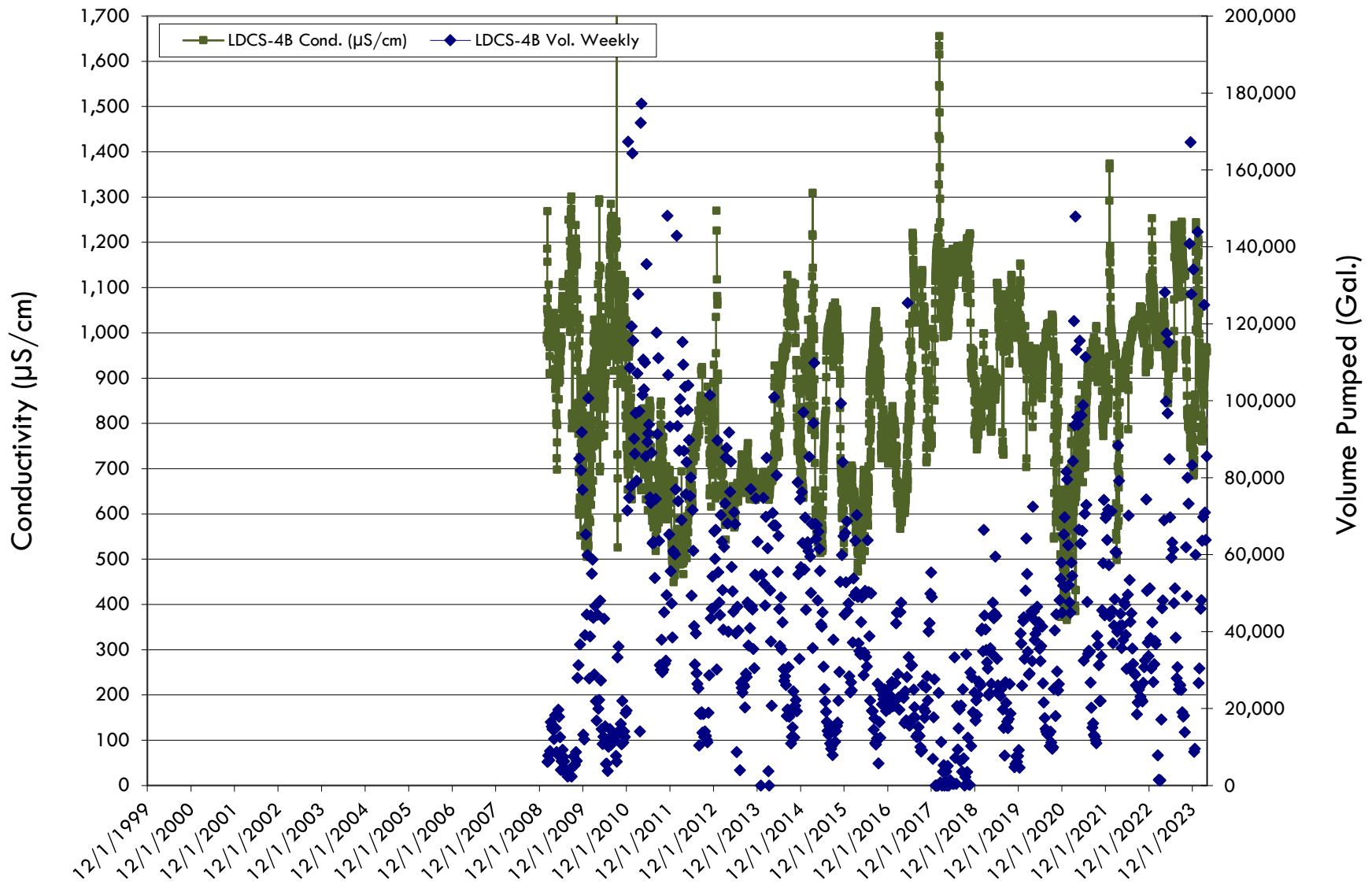
LDCS-3A
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



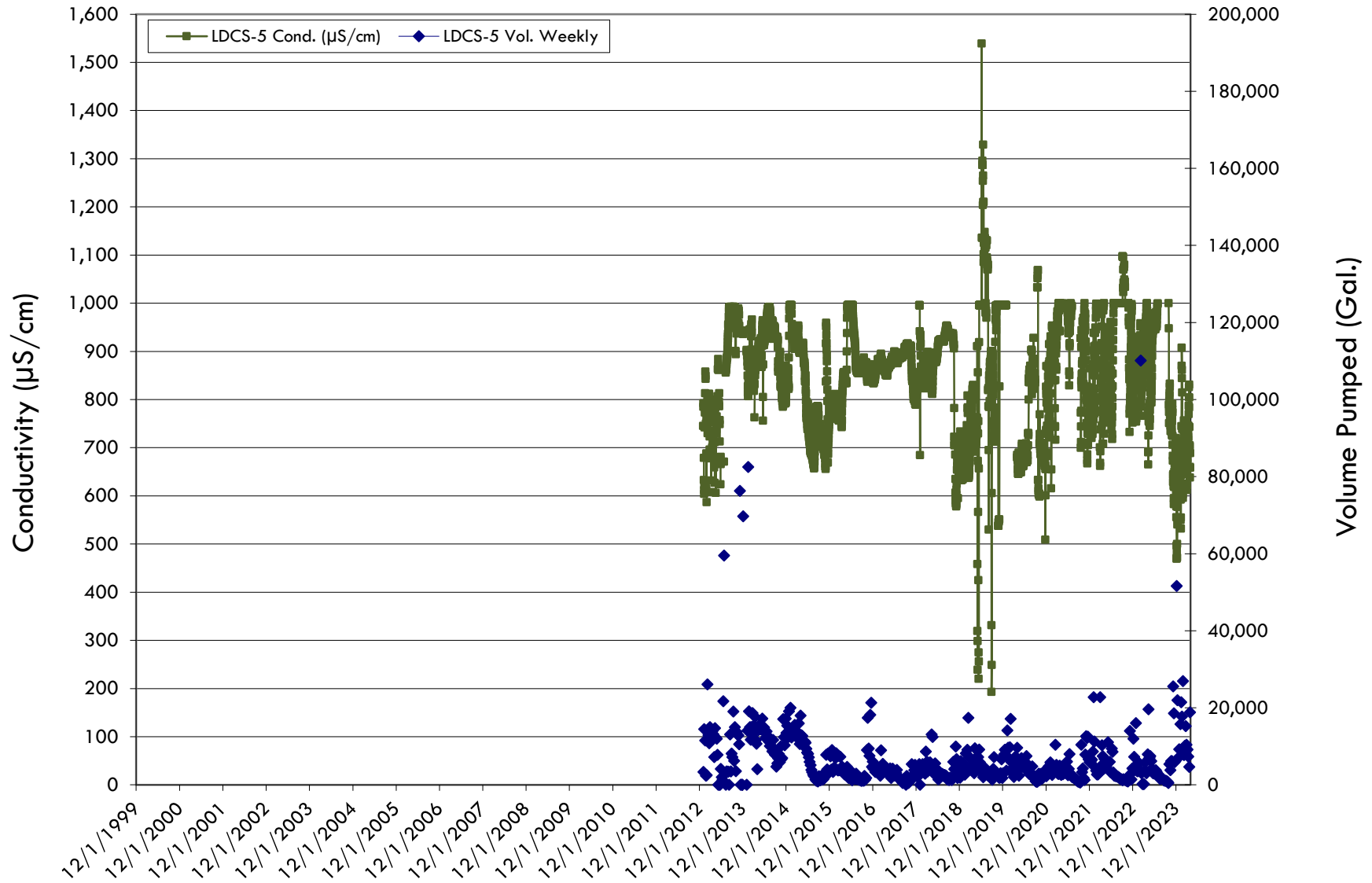
LDCS-4A
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



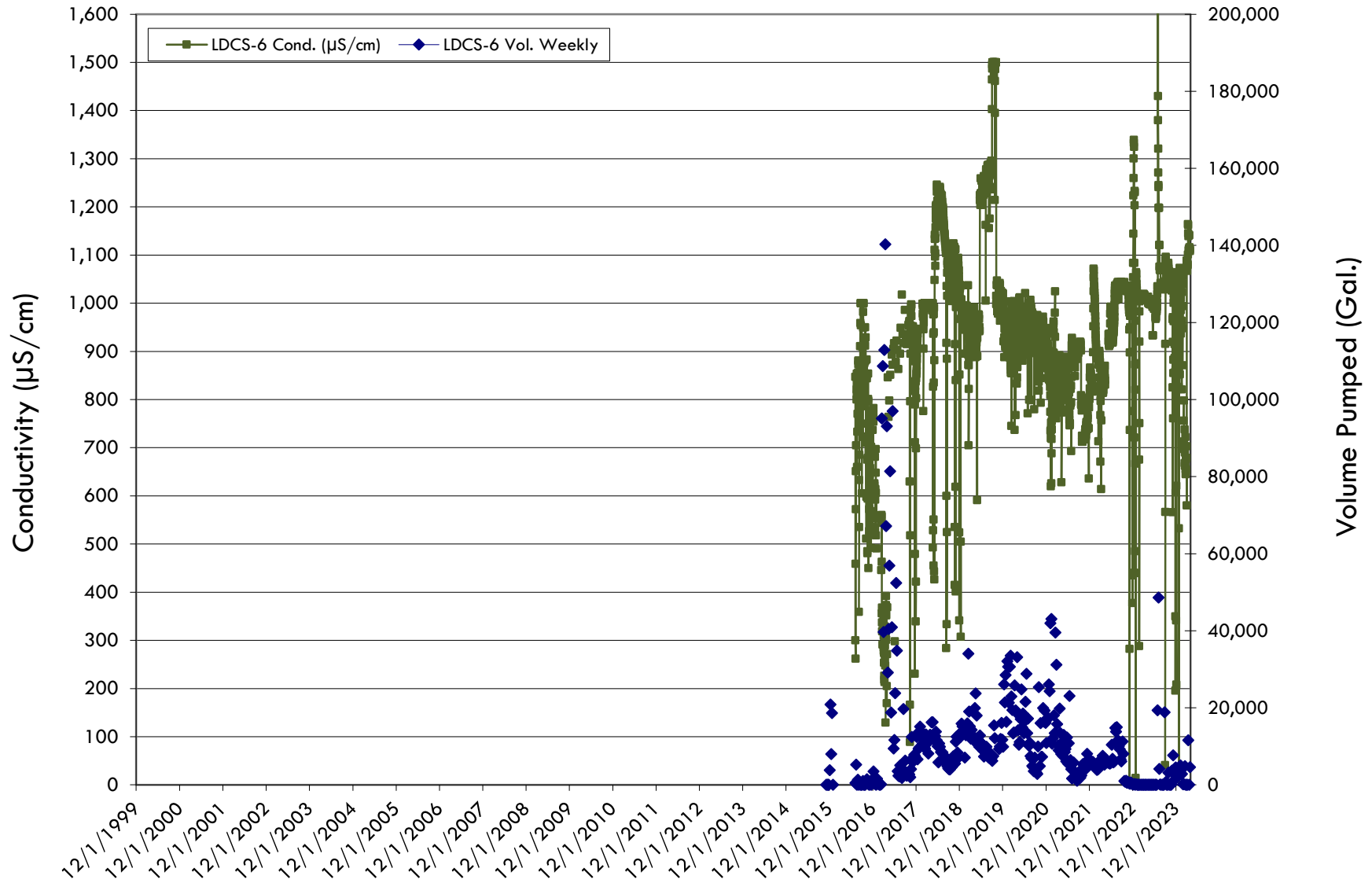
LDCS-4B
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



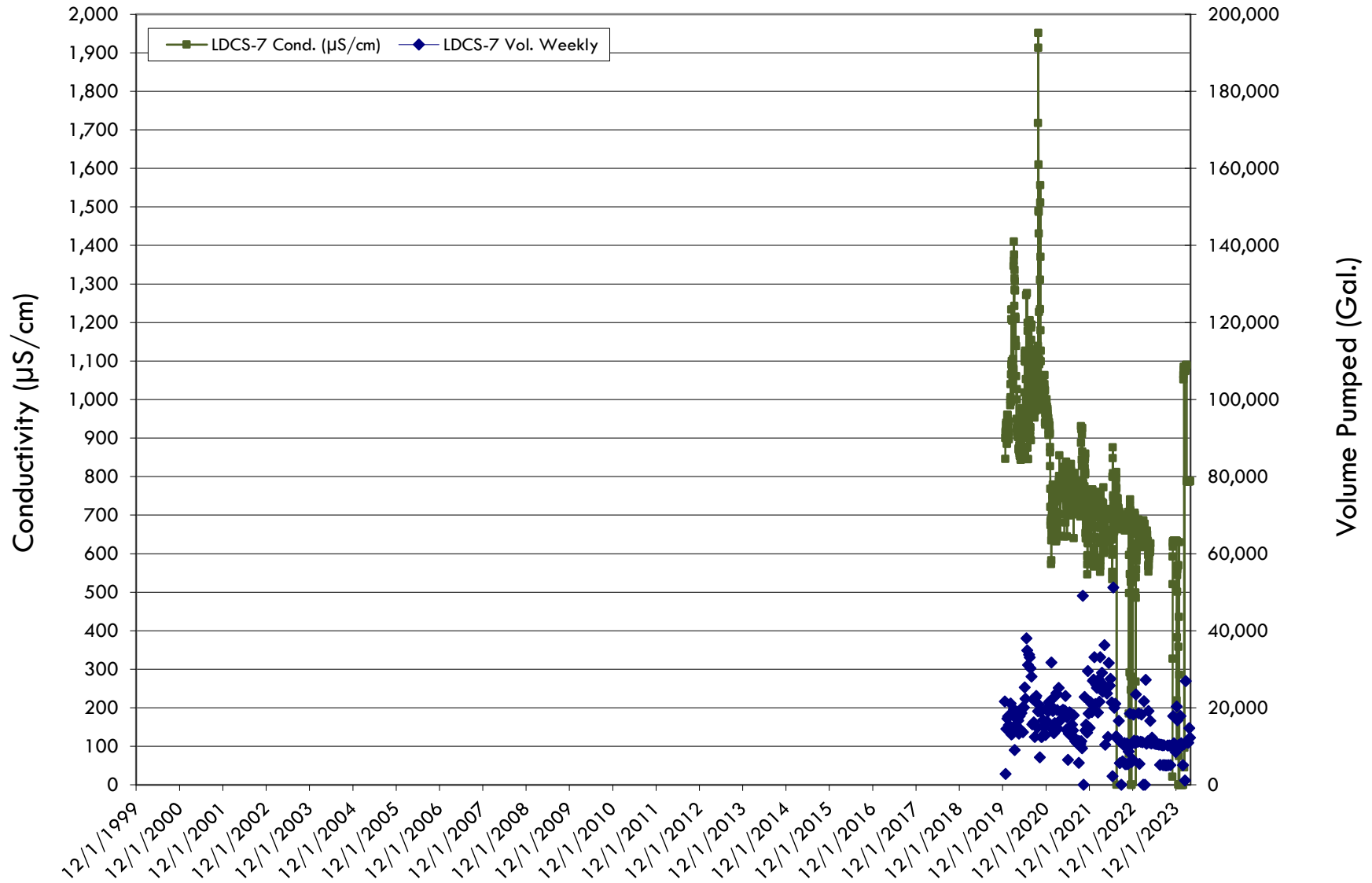
LDCS-5
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



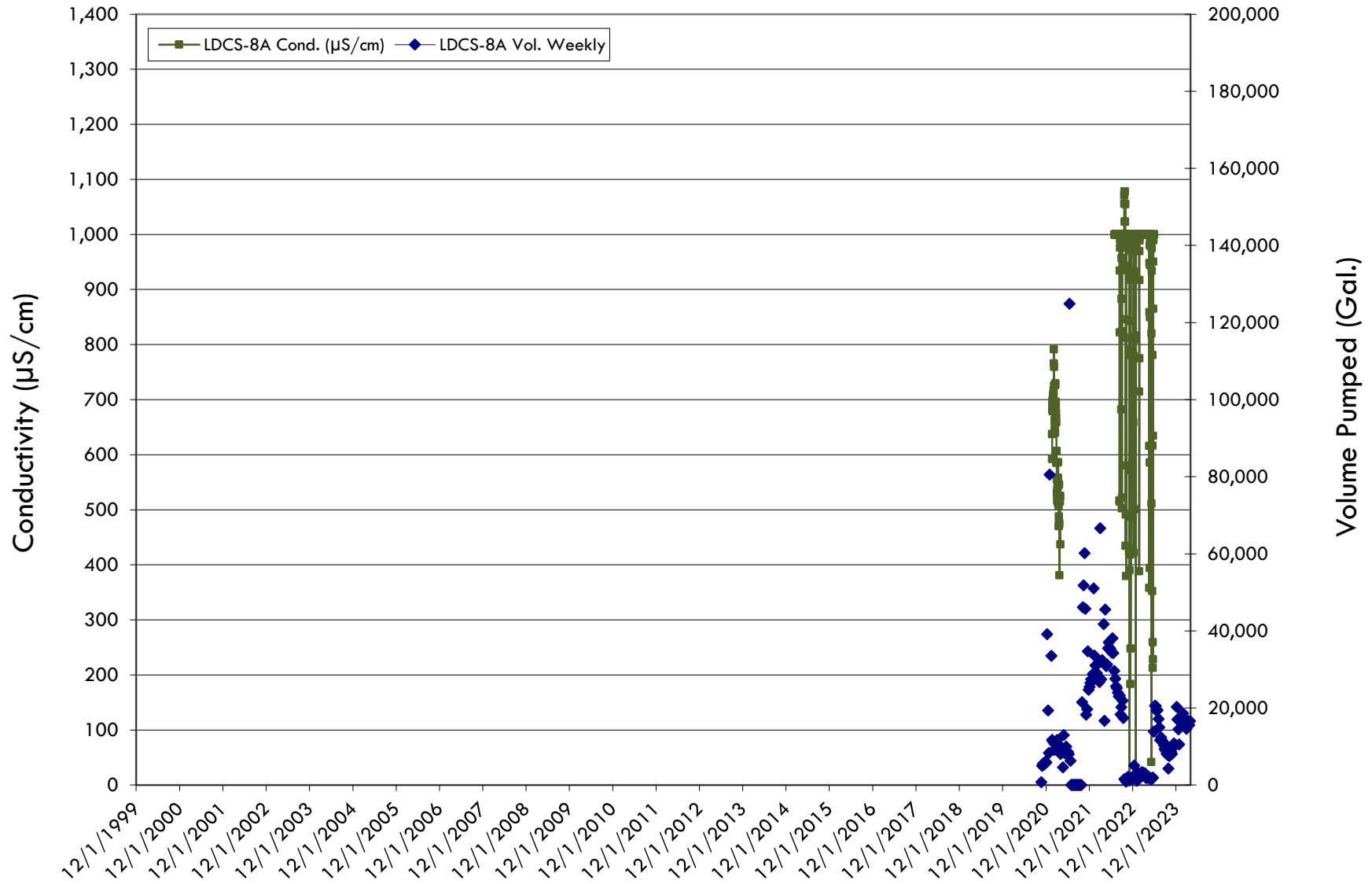
LDCS-6
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



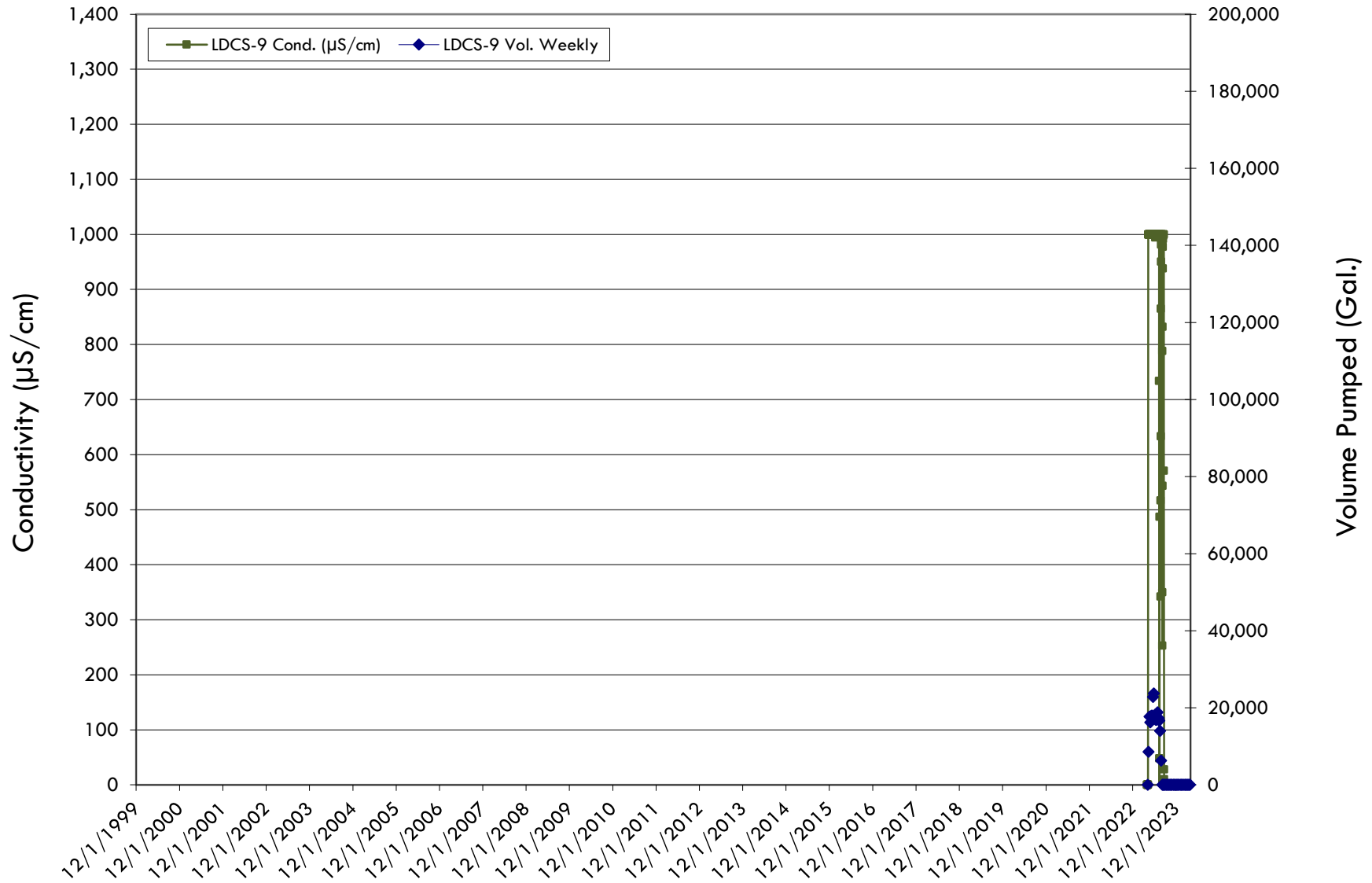
LDCS-7
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



LDCS-8A
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



LDCS-9
Daily Conductivity vs Weekly Volume Pumped
First Quarter 2024
LRI Landfill, Pierce County, Washington



Summary of Leachate Volume and Depth Data
First Quarter 2024
LRI Landfill, Pierce County, Washington

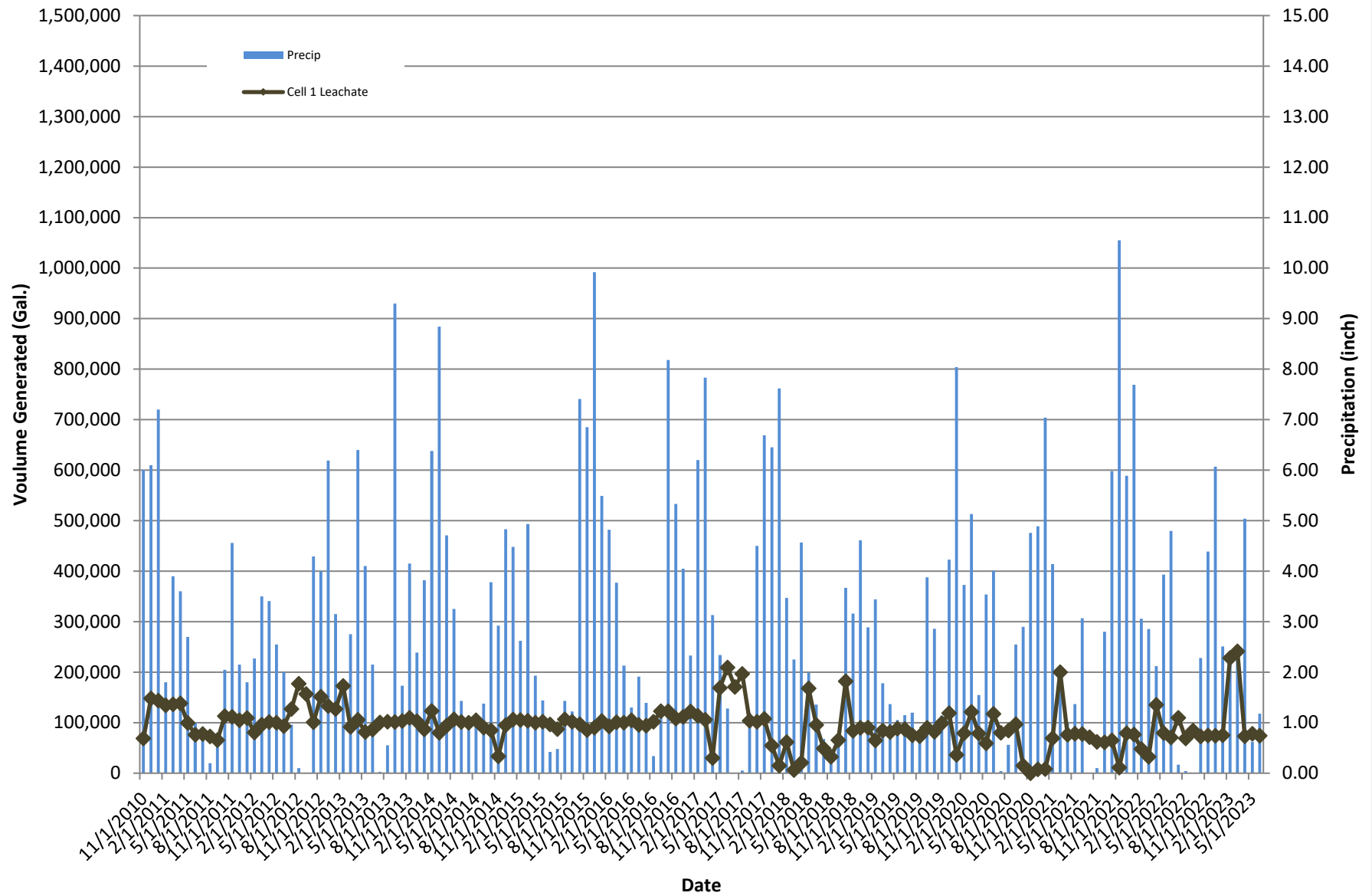
Date	Cell 1 Leachate Volume (GPD)	Cell 1 Leachate Level (in.)	Cell 2A Leachate Volume (GPD)	Cell 2A Leachate Level (in.)	Cell 2B Leachate Volume (GPD)	Cell 2B Leachate Level (in.)	Cell 3A Leachate Volume (GPD)	Cell 3A Leachate Level (in.)	Cell 4A Leachate Volume (GPD)	Cell 4A Leachate Level (in.)	Cell 4B Leachate Volume (GPD)	Cell 4B Leachate Level (in.)	Cell 5 Leachate Volume (GPD)	Cell 5 Leachate Level (in.)	Cell 6 Leachate Volume (GPD)	Cell 6 Leachate Level (in.)	Cell 7 Leachate Volume (GPD)	Cell 7 Leachate Level (in.)	Cell 8A Leachate Volume (GPD)	Cell 8A Leachate Level (in.)	Cell 9A Leachate Volume (GPD)	Cell 9A Leachate Level (in.)
1/1/2024	3,792	0.0	4,401	8.5	7,022	32.1	7,290	11.8	3,218	16.6	10,785	17.0	3,942	12.1	25,703	70.6	18,618	61.0	31,644	69.8	898	45.2
1/2/2024	3,936	0.0	4,226	5.9	8,835	25.3	7,371	13.7	5,724	16.1	19,348	14.2	3,512	11.2	56,653	69.6	11,274	59.5	56,165	68.9	22,355	45.0
1/3/2024	2,451	0.0	2,375	4.8	9,456	20.4	10,948	14.1	13,436	15.1	13,213	11.0	3,959	11.1	55,937	68.0	10,639	54.2	63,410	68.4	8,281	44.3
1/4/2024	1,508	0.0	0	5.5	9,255	15.6	11,195	13.6	18,879	10.9	8,858	10.6	3,808	11.0	65,141	64.6	12,120	55.4	69,594	66.9	9,788	45.2
1/5/2024	3,484	0.0	0	7.4	7,437	11.5	9,093	13.5	18,006	9.4	8,600	10.6	3,582	10.9	64,952	59.4	12,120	57.4	67,531	64.8	10,750	46.0
1/6/2024	3,455	0.0	3,313	7.1	9,410	12.0	9,488	13.0	13,598	9.8	8,731	10.5	3,865	11.0	60,534	53.6	13,904	58.0	58,901	67.8	10,750	46.8
1/7/2024	1,832	0.0	2,555	6.5	7,266	13.1	9,249	10.7	11,889	9.5	7,115	11.0	3,917	11.1	44,407	47.7	10,074	0.0	48,800	67.8	10,136	49.5
1/8/2024	6,627	0.0	0	8.4	9,083	18.8	9,533	11.9	10,897	9.6	10,556	10.8	3,924	11.2	49,352	41.2	10,074	0.0	52,648	66.5	10,136	52.2
1/9/2024	1,361	0.0	6,358	7.8	14,795	15.7	9,279	12.0	12,937	9.2	8,815	10.6	4,338	10.8	51,855	47.0	9,297	57.0	56,011	68.9	10,136	52.7
1/10/2024	2,683	0.0	6,619	4.9	11,253	14.4	8,835	12.1	8,823	11.5	8,668	10.6	3,990	11.0	47,024	57.8	14,317	57.6	46,009	71.7	5,395	52.9
1/11/2024	4,614	0.0	3,183	6.7	7,854	20.9	9,456	11.0	8,267	11.5	10,213	10.8	3,993	11.2	43,156	58.1	14,317	57.5	47,324	71.5	26,019	53.5
1/12/2024	1,963	0.0	2,014	21.3	6,547	19.7	8,894	9.7	9,125	10.3	7,169	10.6	3,454	11.4	43,061	54.0	14,317	56.6	43,313	70.2	26,019	53.8
1/13/2024	3,470	0.0	2,130	24.7	5,172	33.4	4,994	13.0	2,965	12.7	6,379	11.6	2,822	12.6	24,010	51.8	24,752	56.7	22,576	69.6	26,019	54.1
1/14/2024	4,001	0.0	1,905	20.3	5,195	22.5	4,944	10.7	3,126	14.7	7,173	11.6	3,095	12.3	22,145	52.2	4,261	56.5	23,580	68.9	37,802	54.8
1/15/2024	1,766	0.0	2,154	17.8	6,675	14.4	5,366	14.8	12,265	12.6	9,798	11.0	4,196	11.2	46,500	50.3	4,261	55.7	54,859	67.3	3,599	54.4
1/16/2024	4,018	0.0	1,837	15.6	5,316	11.0	3,540	13.9	11,920	9.6	7,931	10.4	3,109	11.2	52,015	40.5	4,261	56.3	51,149	64.8	3,599	55.4
1/17/2024	3,137	0.0	969	4.7	6,153	11.4	11,837	14.8	11,837	11.4	8,985	10.7	4,047	11.1	49,811	39.9	10,980	56.5	51,619	64.5	3,599	56.3
1/18/2024	1,603	0.0	2,223	4.9	12,277	11.2	11,952	9.9	13,644	8.7	9,395	10.5	4,178	10.7	52,902	40.2	7,685	55.3	62,181	65.0	5,915	56.0
1/19/2024	2,964	0.0	1,860	3.2	9,422	18.5	7,077	12.1	7,718	10.9	7,104	10.9	3,673	11.3	41,449	55.6	7,685	54.1	38,999	69.0	8,990	56.4
1/20/2024	4,161	0.0	1,907	4.0	8,375	19.4	8,799	15.2	4,642	12.7	9,988	10.9	4,204	11.5	33,061	54.7	9,222	54.0	37,150	68.7	8,990	56.4
1/21/2024	2,638	0.0	15	2.8	8,836	23.3	8,113	17.9	4,671	13.2	8,830	11.2	3,756	11.7	33,064	57.2	9,474	53.4	32,961	69.6	3,935	55.3
1/22/2024	0	0.0	6	4.0	6,900	41.8	7,316	15.1	2,235	15.6	9,425	10.9	3,196	12.8	27,050	61.9	9,234	53.4	28,046	71.8	10,939	53.2
1/23/2024	2,645	0.0	4	5.5	12,301	59.3	11,848	13.8	5,265	15.1	9,048	11.7	5,033	13.3	33,083	65.3	9,234	53.0	35,542	73.6	5,387	50.4
1/24/2024	3,004	0.0	5	7.3	7,865	56.8	8,457	13.3	2,651	15.7	9,247	11.4	3,368	12.6	26,788	66.3	9,521	53.0	28,845	74.3	5,387	46.5
1/25/2024	1,437	0.0	2	8.5	11,009	44.3	10,547	10.7	8,403	14.3	8,906	10.8	3,918	12.1	41,923	68.3	7,709	51.8	44,731	75.2	4,371	43.4
1/26/2024	4,193	0.0	3	10.7	6,874	43.2	8,718	11.8	6,828	13.7	7,657	10.7	3,219	12.2	35,051	67.3	7,709	51.4	37,531	76.6	3,458	42.2
1/27/2024	2,436	0.0	4	11.6	7,984	93.0	4,606	13.3	2,522	15.4	3,765	12.0	2,719	14.0	14,111	75.3	7,273	52.1	14,969	85.2	3,458	38.3
1/28/2024	6,609	0.0	8,909	8.9	6,882	124.7	5,285	13.9	1,422	17.2	5,883	13.5	3,821	14.6	15,945	78.9	7,067	52.2	17,011	88.5	6,915	31.7
1/29/2024	3,763	0.0	1	7.9	13,600	103.1	8,277	13.7	1,850	17.9	8,500	13.8	4,527	13.3	21,262	79.7	7,518	51.8	24,475	89.2	6,024	21.8
1/30/2024	5,663	0.0	0	9.5	10,066	33.3	14,705	13.5	9,962	17.7	17,297	11.6	4,783	11.2	53,793	79.1	0	50.0	66,921	88.1	3,208	19.0
1/31/2024	4,581	0.0	0	10.7	7,637	21.2	8,763	18.2	11,807	13.9	7,885	10.7	3,929	11.2	55,733	77.0	0	49.7	51,943	86.9	0	25.0
2/1/2024	1,805	0.0	7,928	9.3	7,811	19.2	12,458	15.4	12,781	13.2	10,115	10.8	4,308	11.1	0	0.0	0	0.0	59,860	86.5	0	27.1
2/2/2024	2,141	0.0	0	7.6	7,060	17.1	12,954	13.6	15,640	12.4	8,537	10.7	3,942	11.1	62,475	73.5	56,620	48.2	67,986	85.0	14,788	28.4
2/3/2024	3,964	0.0	6,900	7.2	6,349	18.6	7,204	11.6	7,366	12.0	7,636	11.2	3,265	11.5	0	70.1	0	46.8	39,563	83.9	0	0.0
2/4/2024	2,962	0.0	445	6.9	4,836	23.0	6,668	12.8	5,529	14.4	9,235	10.7	2,736	12.1	88,729	0.0	80,411	0.0	35,662	82.9	46,279	23.3
2/5/2024	3,969	0.0	1,072	6.5	6,857	29.2	9,342	14.4	10,049	14.4	6,973	10.7	4,426	11.9	22,095	66.2	28,181	44.5	47,293	82.1	13,276	23.4
2/6/2024	3,608	0.0	0	7.5	7,673	21.7	11,277	14.8	12,225	13.3	8,369	10.8	3,609	11.4	0	67.5	0	43.8	56,167	81.9	0	27.9
2/7/2024	1,760	0.0	0	9.2	7,392	20.9	10,937	15.8	14,008	12.8	8,137	10.7	3,754	11.2	56,691	64.2	60,072	41.3	63,419	80.5	1,702	29.8
2/8/2024	1,558	0.0	0	10.1	6,359	18.8	10,122	13.2	12,980	11.5	8,116	10.7	3,286	11.4	59,768	59.2	34,138	40.6	59,586	78.4	10,093	32.9
2/9/2024	1,874	0.0	5,774	10.7	6,165	18.6	9,979	11.7	15,636	10.4	6,301	10.7	3,237	11.3	59,610	51.2	49,761	37.4	60,568	76.5	0	35.2
2/10/2024	3,583	0.0	7,346	7.9	6,194	20.5	9,409	12.6	12,788	10.5	9,076	10.6	3,456	11.3	54,896	42.2	45,600	36.1	60,364	74.4	121	0.0
2/11/2024	2,790	0.0	0	4.7	4,824	24.1	7,028	14.4	6,519	10.3	7,579	10.3	2,542	11.8	95,293	0.0	87,765	0.0	39,834	73.1	0	38.9
2/12/2024	1,914	0.0	0	5.9	9,295	26.1	11,629	12.7	13,351	10.4	9,717	10.7	4,309	11.5	57,925	27.6	64,533	28.2	66,620	74.5	0	40.5
2/13/2024	3,215	0.0	1,423	6.9	7,433	11.4	9,760	15.2	22,997	8.0	6,005	10.2	3,544	10.8	43,268	20.8	46,771	18.2	82,997	69.0	23,226	39.0
2/14/2024	3,650	0.0	8,023	5.7	7,797	9.3	8,069	16.9	27,216	7.4	9,105	10.1	3,758	10.6	0	21.8	0	11.6	93,065	57.5	0	0.0
2/15/2024	3,266	0.0	1,750	4.2	8,467	9.2	7,982	11.0	15,459	8.1	8,304	10.2	3,744	10.6	99,135	0.0	27,869	0.0	93,263	47.9	57,573	36.5
2/16/2024	1,526	0.0	871	7.2	6,566	9.3	7,806	8.9	21,741	8.1	8,947	10.3	3,383	10.8	0	14.8	0	9.2	45,304	20.6	0	0.0
2/17/2024	3,623	0.0	2,136	5.0	6,561	9.3	7,488	12.6	31,051	7.6	4,868	10.4	3,641	10.7	0	0.0	0	0.0	28,920	18.7	0	0.0
2/18/2024	3,839	0.0	1	3.7	6,406	9.4	8,206	15.5	27,910	7.8	9,404	10.1	3,786	10.7	108,417	0.0	36,940	0.0	32,360	19.4	29,798	39.0
2/19/2024	1,966	0.0	562	5.3	6,967	9.3	8,514	17.9	29,149	7.7	9,012	10.2	3,798	10.6	56,590	16.9	16,965	12.0	35,726	19.8	29,980	38.0
2/20/2024	1,824	0.0	0	6.1	8,289	9.2	8,181	15.5	28,836	7.4	9,213	10.2	3,734	10.6	47,901	15.6	16,157	12.0	38,345	18.0	20,280	36.5
2/21/2024	1,816	0.0	0	7.0	8,694	9.2	7,724	13.0	882	9.2	8,954	10.4	3,545	10.7	53,547	20.3	14,690	11.9	53,741	16.7	13,904	37.3
2/22/2024	1,478	0.0	0	8.6	7,602	9.3	7,483	8.7	6,820	9.1												

Summary of Leachate Volume and Depth Data
First Quarter 2024
LRI Landfill, Pierce County, Washington

Date	Cell 1 Leachate Volume (GPD)	Cell 1 Leachate Level (in.)	Cell 2A Leachate Volume (GPD)	Cell 2A Leachate Level (in.)	Cell 2B Leachate Volume (GPD)	Cell 2B Leachate Level (in.)	Cell 3A Leachate Volume (GPD)	Cell 3A Leachate Level (in.)	Cell 4A Leachate Volume (GPD)	Cell 4A Leachate Level (in.)	Cell 4B Leachate Volume (GPD)	Cell 4B Leachate Level (in.)	Cell 5 Leachate Volume (GPD)	Cell 5 Leachate Level (in.)	Cell 6 Leachate Volume (GPD)	Cell 6 Leachate Level (in.)	Cell 7 Leachate Volume (GPD)	Cell 7 Leachate Level (in.)	Cell 8A Leachate Volume (GPD)	Cell 8A Leachate Level (in.)	Cell 9A Leachate Volume (GPD)	Cell 9A Leachate Level (in.)
3/2/2024	2,062	0.0	1,969	4.5	6,663	13.6	10,639	13.1	17,137	7.8	12,083	10.4	3,940	10.9	34,471	23.0	13,581	12.0	25,468	16.9	0	42.7
3/3/2024	3,021	0.0	1,811	5.6	6,646	9.4	10,680	11.1	8,140	8.6	6,845	10.4	3,654	10.7	0	23.0	0	13.0	38,087	15.7	0	42.7
3/4/2024	1,857	0.0	1,644	6.8	6,058	9.4	8,716	9.0	22,131	8.5	7,055	10.3	3,594	10.7	86,227	23.0	27,749	12.0	40,755	16.8	17,831	42.7
3/5/2024	1,791	0.0	2,212	7.5	5,960	9.5	8,318	7.8	4,213	9.5	8,144	10.0	3,242	10.8	40,427	23.0	11,310	12.0	28,144	15.7	12,484	42.7
3/6/2024	1,800	0.0	1,950	10.1	5,685	9.4	7,869	7.7	10,060	8.1	6,131	10.5	3,216	10.9	42,260	23.0	12,219	12.0	23,559	15.5	25,943	42.5
3/7/2024	1,585	0.0	1,451	10.3	5,210	9.5	7,993	7.1	7,064	9.6	7,017	10.1	3,102	10.9	31,826	23.0	9,384	12.0	16,494	18.7	8,892	42.3
3/8/2024	5,056	0.0	604	5.9	5,049	9.6	7,330	8.9	15,333	10.0	8,076	10.4	3,191	11.2	40,334	23.0	11,135	12.0	15,572	21.2	17,202	40.3
3/9/2024	1,816	0.0	3	4.1	5,414	9.4	7,890	13.6	12,230	7.7	7,933	10.3	3,446	10.8	35,305	23.0	11,356	12.0	21,926	20.8	11,671	42.4
3/10/2024	3,597	0.0	2	5.0	5,351	9.4	8,209	14.9	14,594	9.3	6,915	10.5	3,407	10.7	0	23.0	0	12.0	22,113	20.6	0	42.4
3/11/2024	1,548	0.0	4,268	5.0	5,821	9.4	9,243	14.3	6,958	8.8	7,004	10.2	3,518	10.8	99,199	23.0	24,354	12.0	31,921	20.5	14,334	42.8
3/12/2024	3,213	0.0	511	4.4	6,186	9.4	8,941	11.8	14,140	8.6	8,291	10.1	3,424	10.8	42,519	23.0	12,439	12.0	45,775	20.4	21,967	42.2
3/13/2024	1,739	0.0	4,750	6.2	5,361	9.5	4,800	9.2	6,796	9.4	7,536	10.2	3,138	10.9	55,745	23.0	12,177	12.0	15,884	20.9	15,396	42.0
3/14/2024	3,182	0.0	1,159	7.8	5,086	9.5	3,655	13.9	6,590	9.2	5,661	10.6	3,308	10.8	36,651	23.0	10,792	12.0	10,654	20.4	25,646	40.8
3/15/2024	3,284	0.0	1,486	6.1	4,998	9.5	3,476	13.2	7,490	8.9	7,906	10.1	3,271	10.8	40,313	23.0	10,662	12.0	14,201	20.6	24,940	39.8
3/16/2024	1,641	0.0	1,885	4.7	5,288	9.5	14,269	8.5	19,965	8.0	8,062	10.4	3,322	10.8	0	23.0	0	12.0	16,736	21.0	0	37.7
3/17/2024	1,602	0.0	1,407	3.5	4,854	9.5	8,663	8.9	13,813	9.2	5,739	10.5	3,203	10.8	0	23.0	0	12.0	23,178	20.9	0	38.9
3/18/2024	3,542	0.0	2,293	3.6	5,078	9.5	8,903	11.5	7,458	9.3	8,559	10.1	3,246	10.8	109,264	23.0	33,117	12.0	14,188	20.9	12,285	39.5
3/19/2024	1,608	0.0	1,677	3.7	5,114	9.5	8,637	15.4	14,109	8.0	8,113	10.3	3,326	10.8	36,313	23.0	10,783	12.0	16,527	20.5	22,360	38.4
3/20/2024	3,459	0.0	6	3.6	5,336	9.5	8,865	15.7	13,205	9.5	8,257	10.3	3,405	10.8	43,500	23.0	11,633	12.0	17,019	20.6	19,680	37.1
3/21/2024	1,784	0.0	4	5.3	5,141	9.5	8,727	15.4	7,607	8.9	5,755	10.4	3,378	10.8	38,933	23.0	14,809	12.0	47,455	20.5	18,974	36.0
3/22/2024	3,780	0.0	4	7.1	5,361	9.5	8,751	17.0	6,399	8.8	8,067	10.1	3,537	10.7	39,339	23.0	11,352	12.0	46,748	18.9	17,819	33.8
3/23/2024	4,077	0.0	4	8.3	6,471	9.4	10,158	13.5	17,043	7.7	8,733	10.2	3,957	10.5	47,585	23.0	16,877	12.0	58,487	18.9	35,624	30.6
3/24/2024	1,733	0.0	4	9.2	7,328	9.3	10,399	10.9	8,166	8.5	9,193	10.1	3,764	10.6	0	23.0	0	12.0	50,874	19.7	0	30.1
3/25/2024	3,350	0.0	102	10.0	6,339	9.4	9,816	10.0	14,704	8.9	8,125	10.2	3,577	10.7	74,285	23.0	28,473	12.0	32,200	22.0	2,736	31.9
3/26/2024	1,595	0.0	8,089	10.6	5,748	9.4	9,242	9.3	14,415	8.3	8,018	10.3	3,487	10.7	43,383	23.0	14,664	12.0	34,060	25.5	15,743	29.9
3/27/2024	4,025	0.0	1,198	6.5	8,796	9.2	9,893	12.8	12,114	9.4	7,758	10.3	3,593	10.7	29,382	23.0	12,994	12.0	63,660	30.7	18,373	27.7
3/28/2024	1,597	0.0	3,525	5.6	9,260	9.2	11,079	13.7	17,195	8.4	7,903	10.3	3,785	10.6	49,176	23.0	19,103	12.0	54,071	31.3	19,139	7.5
3/29/2024	3,546	0.0	1,278	5.1	6,112	9.4	10,043	12.1	6,773	8.6	8,082	10.3	3,570	10.7	33,412	23.0	12,177	12.0	24,773	27.7	15,226	22.5
3/30/2024	1,649	0.0	4,295	5.4	2,298	31.6	9,991	11.8	6,881	9.2	7,692	10.3	3,437	10.7	0	23.0	0	12.0	23,953	30.1	0	20.3
3/31/2024	1,628	0.0	1,723	6.3	0	92.0	9,360	11.9	8,394	9.0	8,064	10.2	3,385	10.7	0	23.0	0	12.0	23,588	31.2	0	25.3

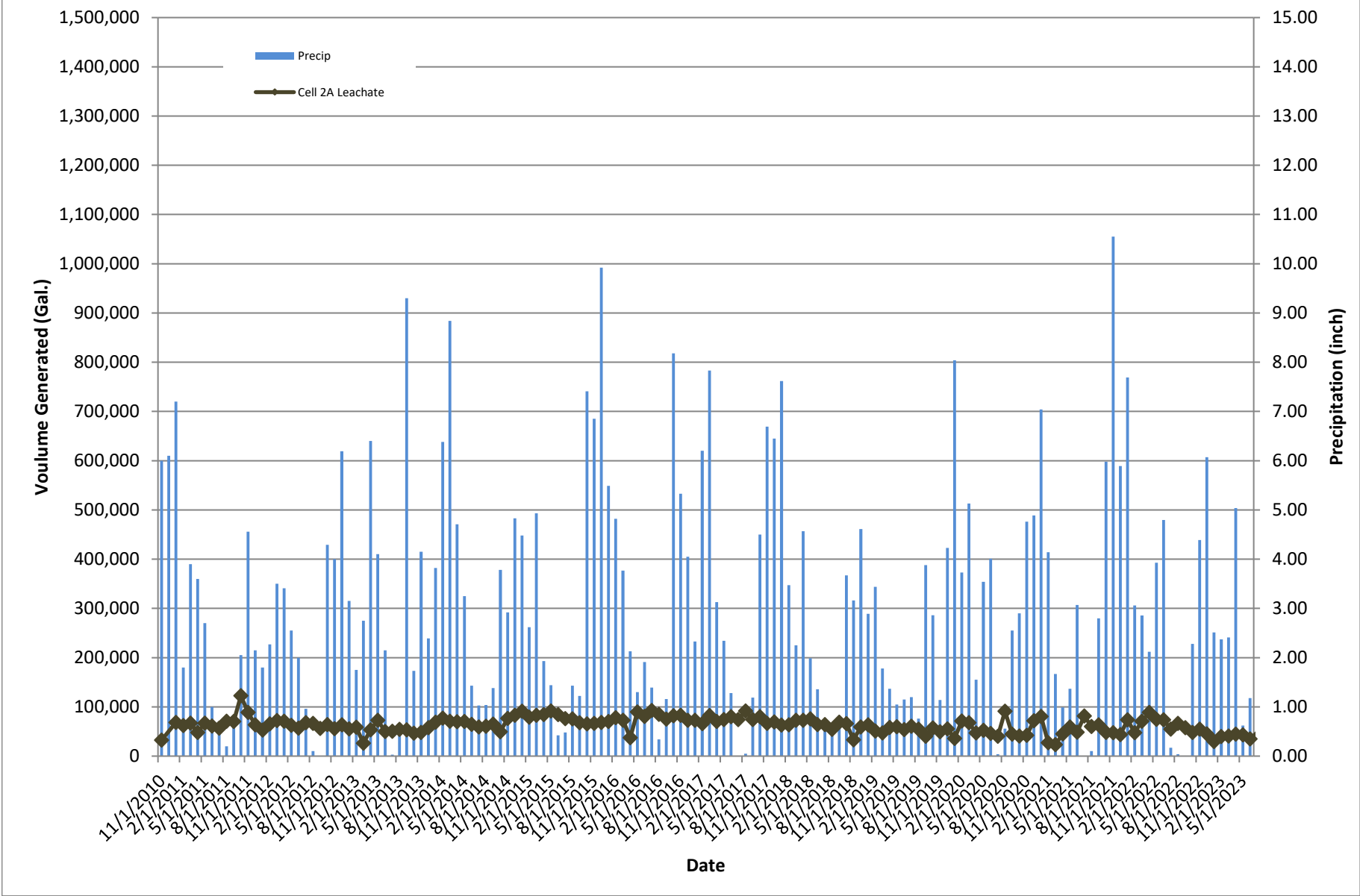
Cell 1 Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



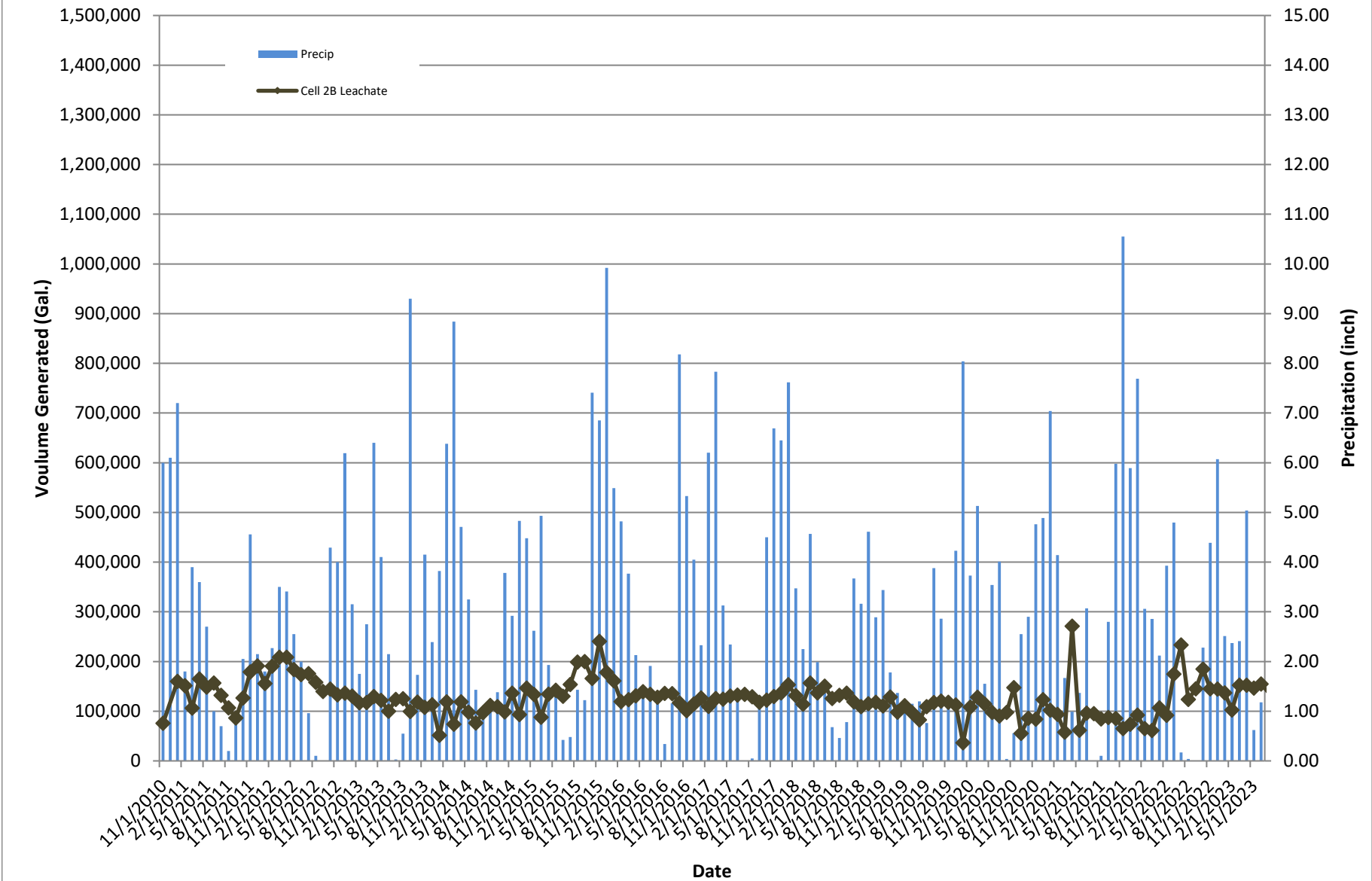
Cell 2A Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



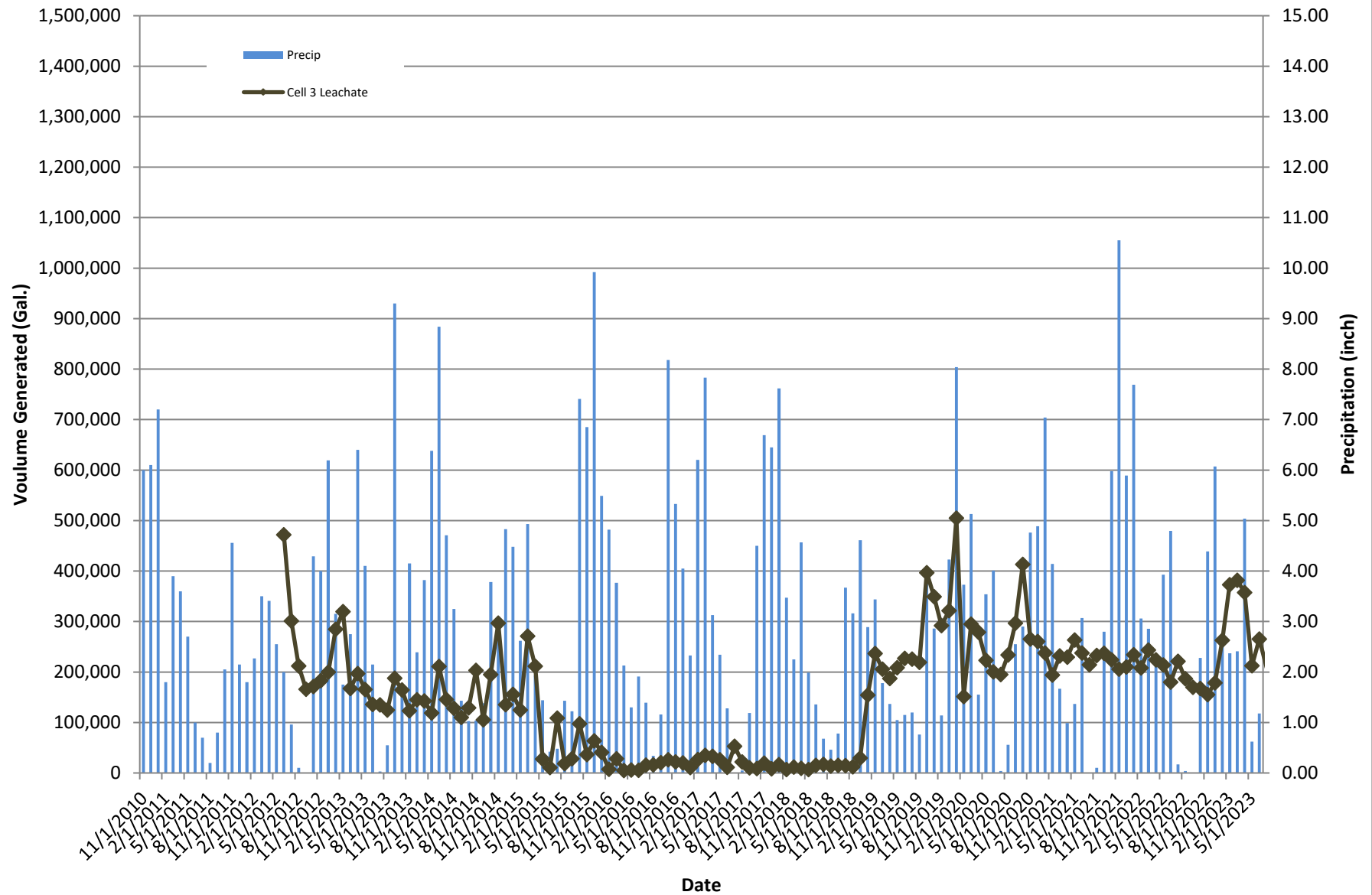
Cell 2B Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



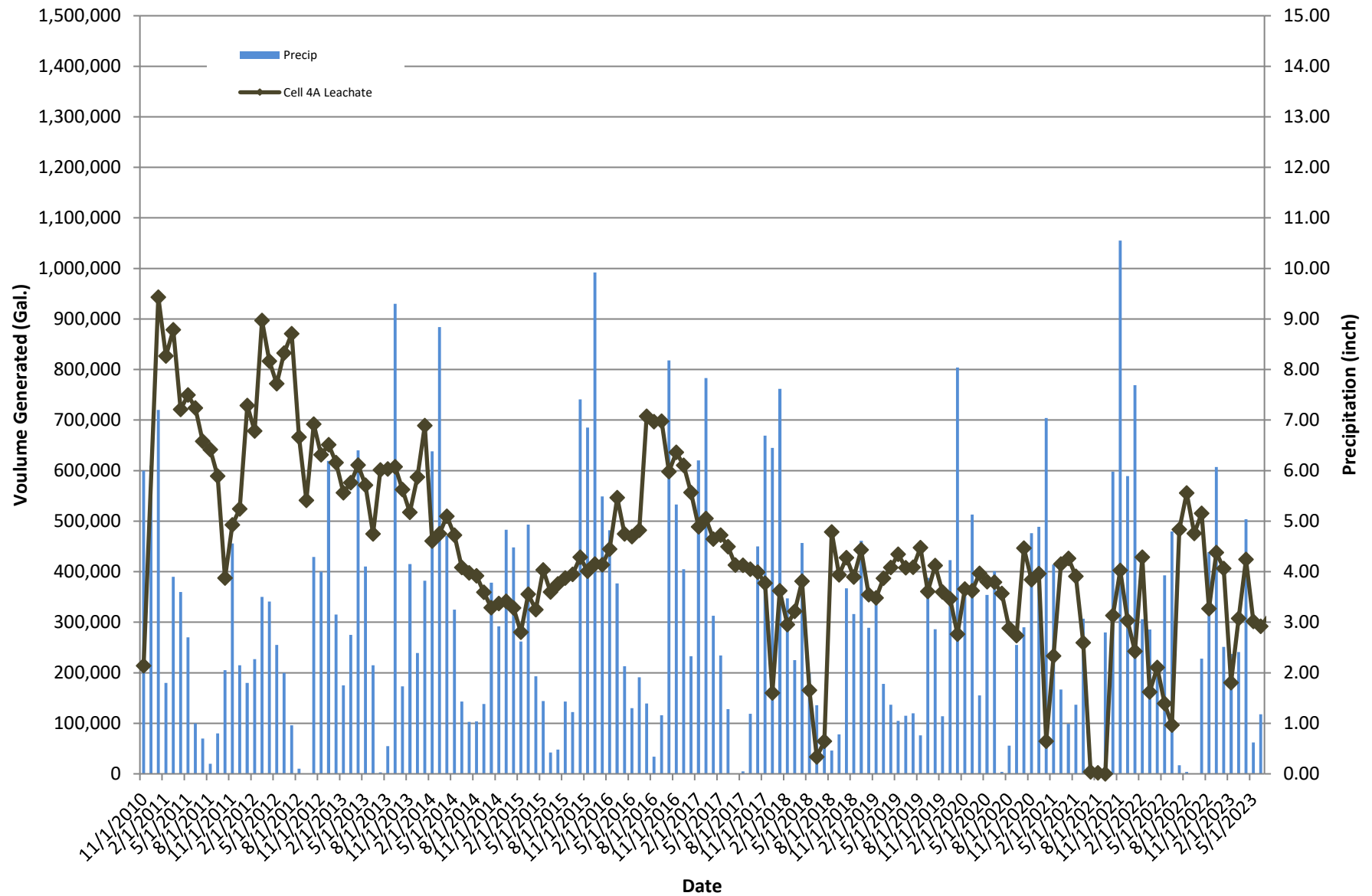
Cell 3A Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



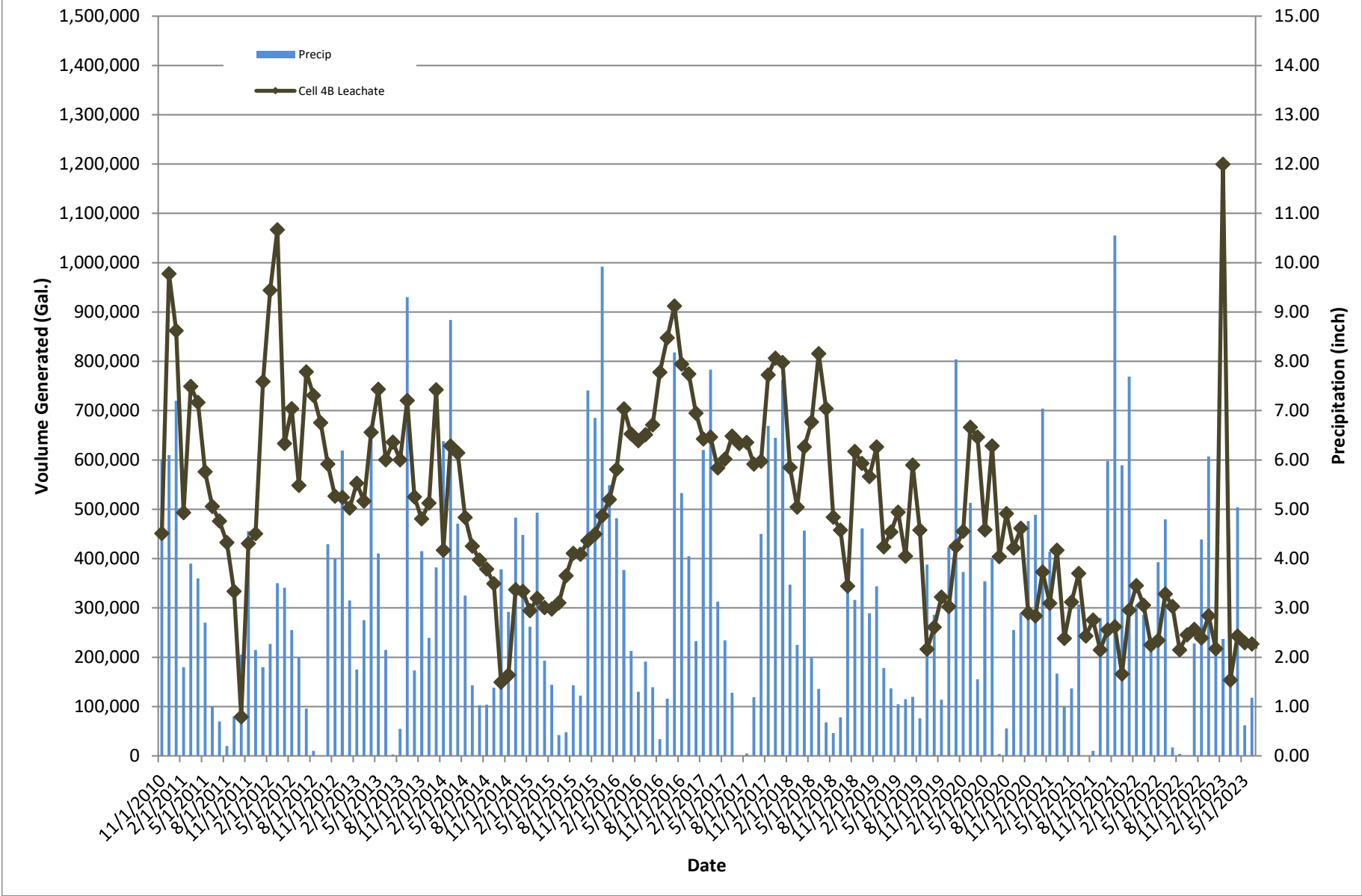
Cell 4A Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



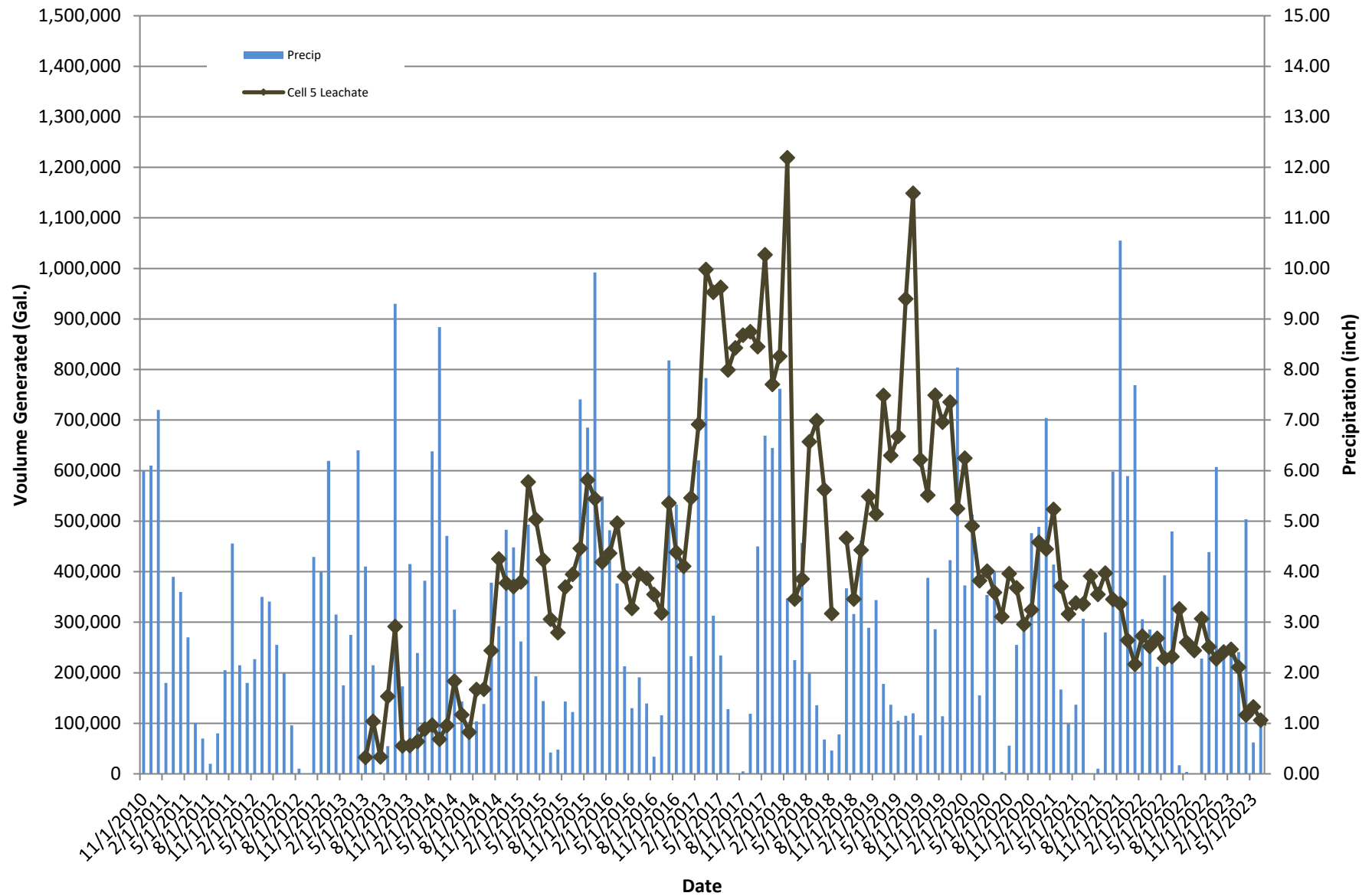
Cell 4B Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



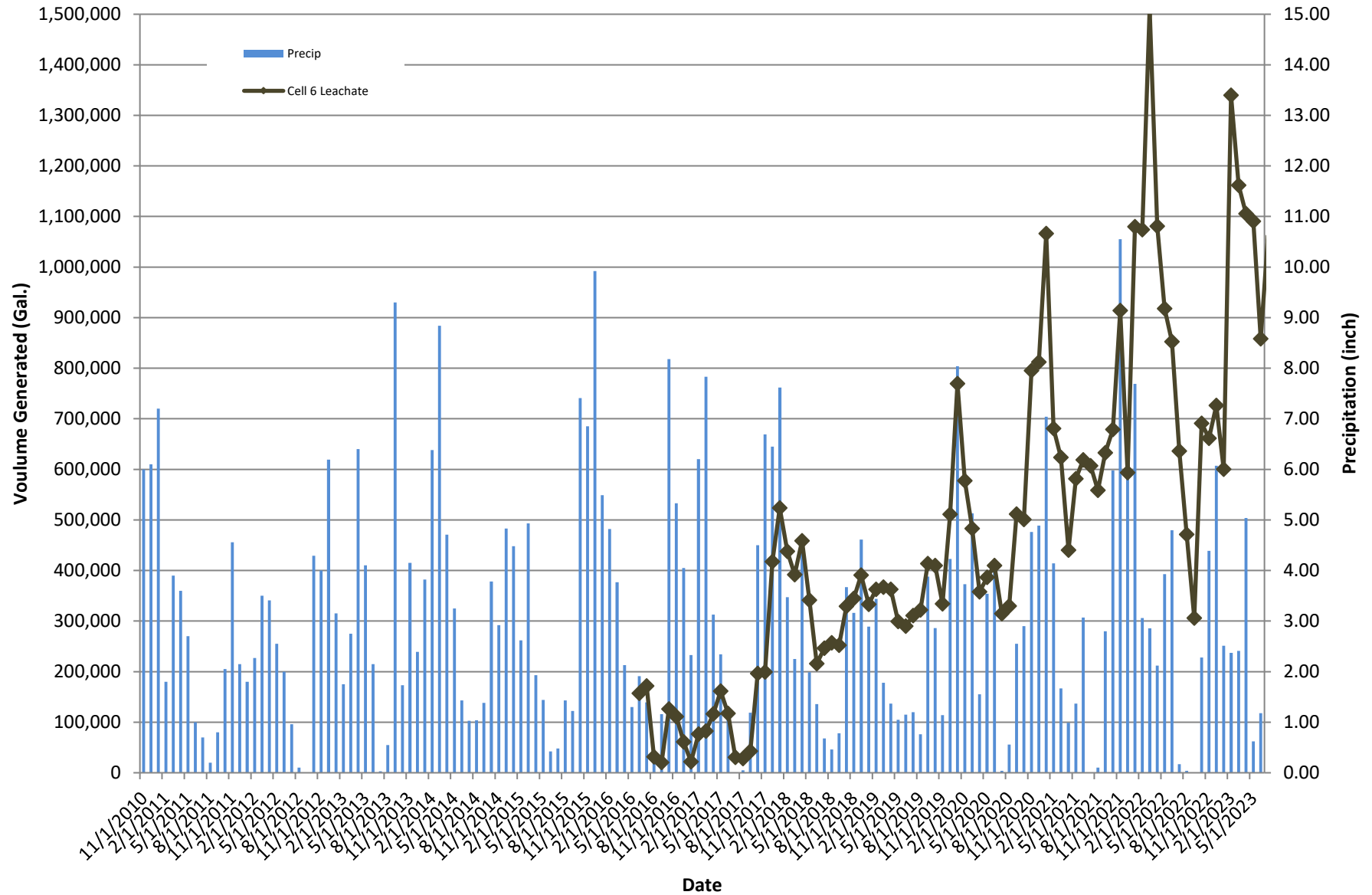
Cell 5 Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



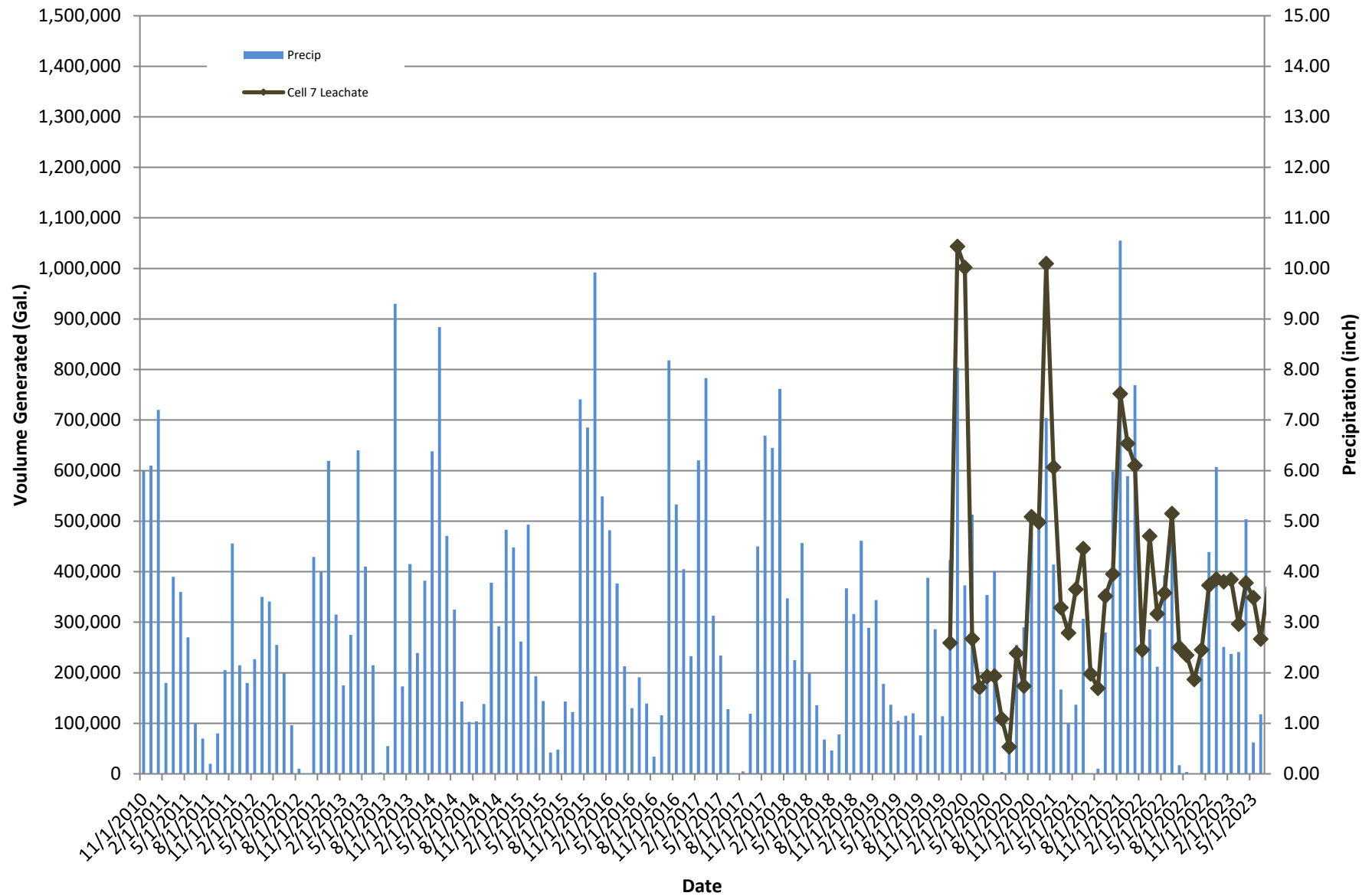
Cell 6 Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



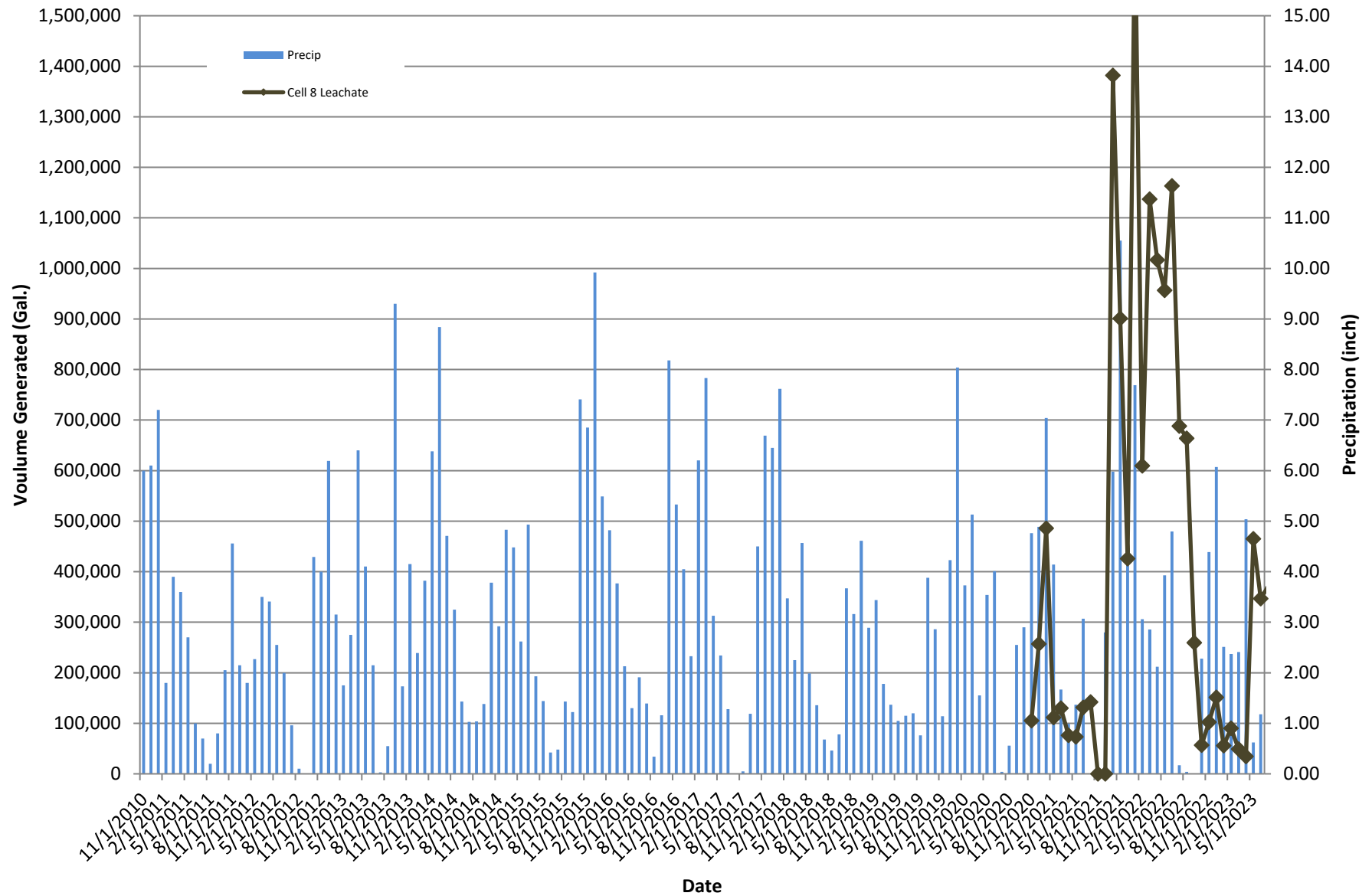
Cell 7 Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



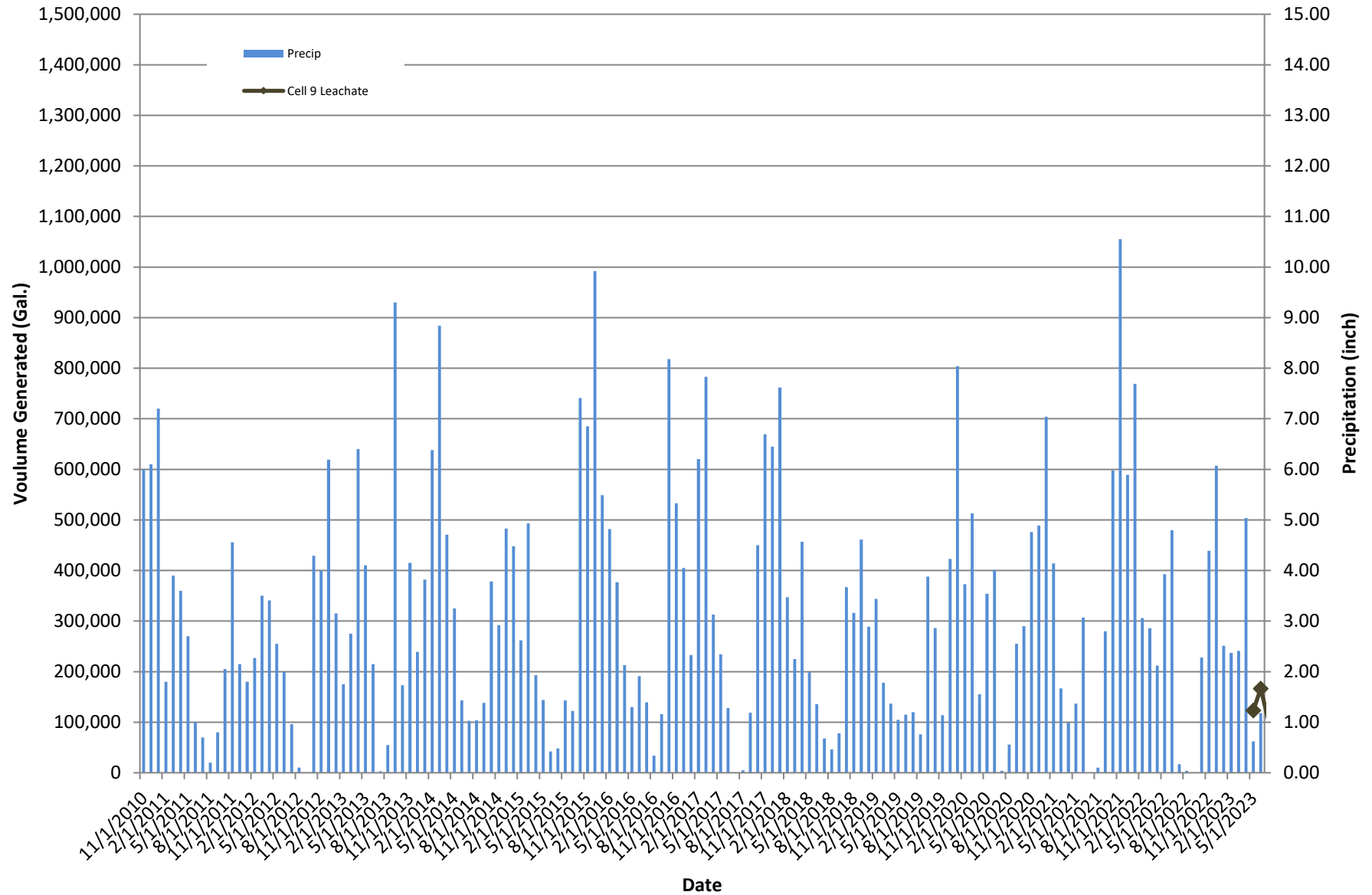
Cell 8 Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA



Cell 9 Monthly Leachate Generation vs Precipitation

LRI Landfill, Pierce County, WA







Attachment I

Surface Water Monitoring Data



Permit Number: WAR002557

Permittee: Pierce County Recycling - 304th Street L

Facility County: Pierce

Receiving Waterbody:

Monitoring Period: 01/01/2024 - 03/31/2024

Outfall: SWPO - Discharge from SW pond

Version: 1

Reporting Codes Used: B - Below Detection Limit/No Detection

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Kevin Green

Signature

4/23/2024 2:18:58 PM

Date



		Phenol Micrograms/L (ug/L) Quarterly Grab	Zinc Total Micrograms/L (ug/L) Quarterly Grab	pH Standard Units Quarterly Grab
Week	Monitoring Point	SWPO	SWPO	SWPO
		ISGP Non-Haz Waste Landfill (40CFR part 445 subpart B)- 2020 permit	ISGP Non-Haz Waste Landfill (40CFR part 445 subpart B)- 2020 permit	ISGP Non-Haz Waste Landfill (40CFR part 445 subpart B)- 2020 permit
Limit Set				
2-Th	1/11/24	B 9.6	B 35	7.01
Minimum				7.01
				>= 6.0 (RO)
Average				
Maximum				7.01
				<= 9.0 (RO)
Month 1 Average	9.6	35		
	<= 15	<= 110		
Month 2 Average	9.6	35		
	<= 15	<= 110		
Month 3 Average	9.6	35		
	<= 15	<= 110		



Attachment J
Landfill Gas Monitoring Data

LRI Landfill

04223001.04

January-24

Location Refer <i>Design.</i>	Date	Time	P _(well) (in W.C.)	Gas Composition - <i>Note 1</i>					Depth to Water <i>Note 2</i> (ft-TOC)	Exposed Portion of Perforations - <i>Note 3</i>		Comments
				CH ₄ Spike	CH ₄	CO ₂	O ₂	Balance (N ₂ & H ₂ O)		(ft)	(%)	
				(% by vol.)	(% by vol.)	(% by vol.)	(% by vol.)	(% by vol.)				
Normal Operating Range:												
(min)			-	-	0.3	-	-				20.0	
(max)			1.49	-	5.0	5.0	20.3				90.0	

Perimeter Gas Probes

GP-1A	1/22/2024	9:21	0.23	--	37.6	62.1	0.1	0.2	13.4	0.0	0.0	
GP-2	1/22/2024	9:09	0.18	--	4.2	12.8	3.8	79.2	15.3	0.0	0.0	
GP-3	1/22/2024	8:55	0.15	--	0.0	4.4	16.0	79.6	9.5	0.0	0.0	
GP-4	1/22/2024	8:51	0.14	--	0.0	4.6	14.0	81.4	9.1	0.0	0.0	
GP-9	1/22/2024	8:45	0.08	--	0.0	0.2	21.4	78.4	10.5	0.0	0.0	
GP-10	1/22/2024	9:28	1.49	--	27.7	30.7	0.2	41.4		0.0	0.0	
GP-10P	1/22/2024	9:32	0.18	--	17.0	24.7	5.2	53.1		0.0	0.0	
GP-11	1/22/2024	9:44	-0.66	--	0.4	6.5	15.5	77.6		0.0	0.0	
GP-12	1/22/2024	9:59	1.09	--	0.0	0.1	21.3	78.6		0.0	0.0	
GP-13	1/22/2024	10:08	-0.36	4.9	0.0	13.0	12.0	75.0		0.0	0.0	
GP-14	1/22/2024	10:27	0.33	--	0.0	1.5	20.4	78.1	11.4	0.0	0.0	
GP-15	1/22/2024	11:16	0.15	--	0.0	9.1	6.8	84.1	15.6	0.0	0.0	
GP-16	1/22/2024	8:41	0.64	--	0.0	1.8	20.3	77.9	18.2	0.0	0.0	
GP-17	1/22/2024	9:13	1.3	--	0.0	0.1	21.9	78.0	5.1	0.0	0.0	
GP-18	1/22/2024	9:01	-1.5	--	0.0	0.1	21.9	78.0	3.2	0.0	0.0	
GP-19	1/22/2024	11:22	0.3	--	0.0	5.5	12.4	82.1	5.4	0.0	0.0	
GP-20	1/22/2024	10:18	0.2	--	0.0	0.3	21.4	78.3	3.4	0.0	0.0	
GP-21	1/22/2024	10:12	-0.9	--	0.0	0.8	20.9	78.3	7.6	0.0	0.0	

General Data:

	Beginning	Ending	Average	Starting Date:	1/22/2024
Weather:	Sunny	Sunny	Sunny	Starting Time:	8:41
Temperature, T (deg F):	62	69	65.5	Finishing Date:	1/22/2024
Wind Speed (mph):	5	10	7.5	Finishing Time:	11:22
Wind Direction:	292.5	315	303.75	Monitored by:	TWH
Barometric Pressure, P (in Hg):	29.62	29.61	29.62	Instruments:	GEM 2000
24hr Baro.Trend (rising / falling / steady / unsteady)	Falling			Calibration Date:	1/22/2024

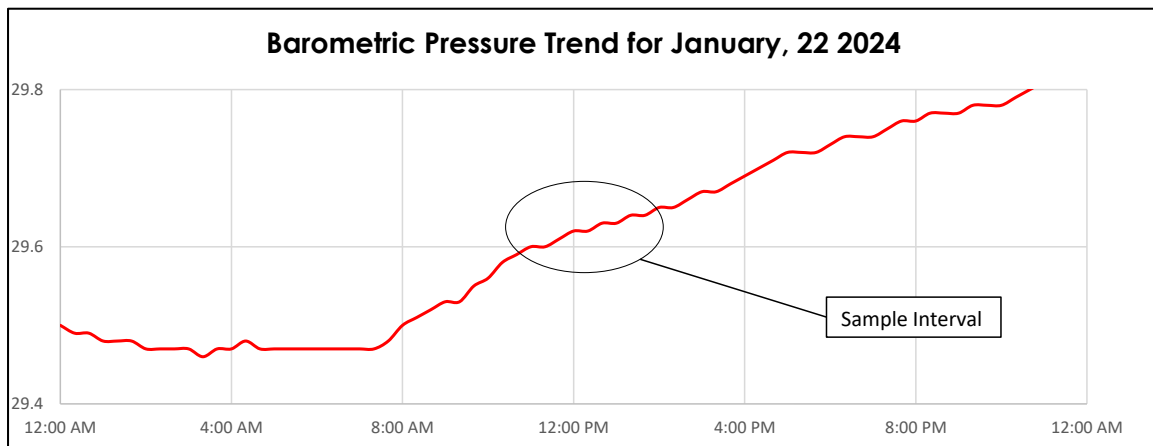
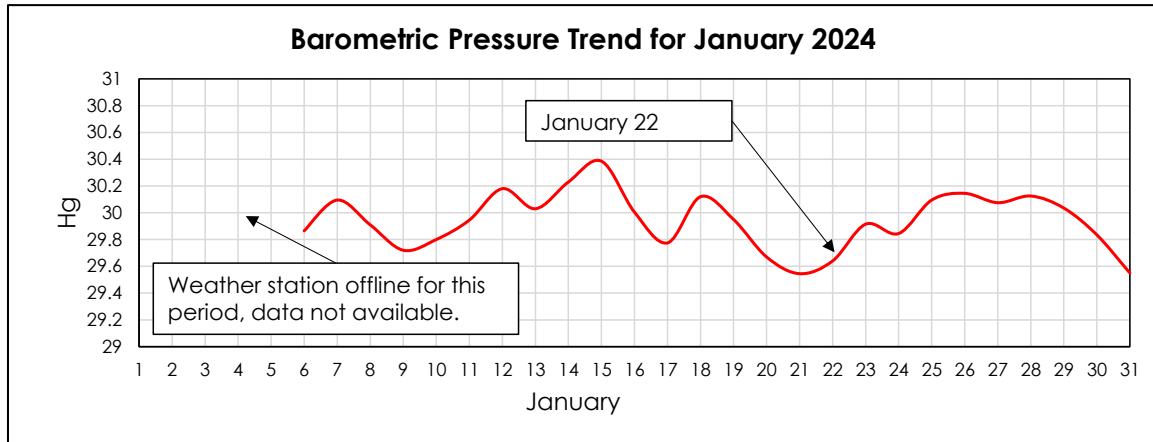
Headings:

Notes:

P _(well)	Relative Pressure	1.	Measurement for spike concentrations of CH ₄ and CO ₂ are recorded as a comment if observed during sampling.
CH ₄	Methane		
CO ₂	Carbon Dioxide	2.	Water level measurements made where gas probe monitoring port allows for measurement, or where there is an adjacent measurement piezometer.
O ₂	Oxygen		
H ₂ O	Water Vapor	3.	Exposed Perforation = perforated pipe section not submerged by liquid.
N ₂	Nitrogen		
TOC	Top of Casing		

Barometric Pressure Trend - January 2024

LRI Landfill, Pierce County, Washington



Monthly Data Source: Wunderground.com (South Hill, WA)

Lat: 46.98 Long: 122.34 Elev: 692 ft-AMSL

Data Source:

<https://www.wunderground.com/dashboard/pws/KWAGRAHA52/table/2024-01-20/2024-01-20/monthly>

Daily Data Source: Wunderground.com (South Hill, WA)

Lat: 46.98 Long: 122.34 Elev: 692 ft-AMSL

Data Source:

<https://www.wunderground.com/dashboard/pws/KWAGRAHA52/table/2024-01-22/2024-01-22/daily>

LRI Landfill

04223001.04

February-24

[illegible]

Normal Operating Range:

(min)			-	-	0.3	-	-				20.0	
(max)			1.14	-	5.0	5.0	20.3				90.0	

Perimeter Gas Probes

GP-1A	2/19/2024	12:14	0.93	--	38.6	61.1	0.2	0.1		0.0	0.0	
GP-2	2/19/2024	12:24	0.17	--	2.4	11.6	4.9	81.1		0.0	0.0	
GP-3	2/19/2024	12:30	0.23	--	0.0	4.7	16.4	78.9		0.0	0.0	
GP-4	2/19/2024	12:40	0.18	--	0.0	6.1	9.9	84.0		0.0	0.0	
GP-9	2/19/2024	12:44	0.22	--	0.0	9.0	7.2	83.8		0.0	0.0	
GP-10	2/19/2024	12:07	0.31	--	14.8	22.4	4.0	58.8		0.0	0.0	
GP-10P	2/19/2024	12:09	1.14	--	11.7	25.7	4.5	58.1		0.0	0.0	
GP-11	2/19/2024	11:58	0.25	--	0.0	12.4	9.7	77.9		0.0	0.0	
GP-12	2/19/2024	11:56	0.65	--	0.0	15.1	6.6	78.3		0.0	0.0	
GP-13	2/19/2024	11:31	0.11	4.9	0.0	0.2	21.9	77.9		0.0	0.0	
GP-14	2/19/2024	11:26	0.17	--	0.0	1.5	20.3	78.2		0.0	0.0	
GP-15	2/19/2024	11:23	0.15	--	0.0	0.4	21.2	78.4		0.0	0.0	
GP-16	2/19/2024	12:49	0.19	--	0.0	0.4	21.7	77.9		0.0	0.0	
GP-17	2/19/2024	12:19	0.2	--	0.0	0.4	21.8	77.8		0.0	0.0	
GP-18	2/19/2024	12:34	0.2	--	0.0	0.2	21.8	78.0		0.0	0.0	
GP-19	2/19/2024	13:12	0.2	--	0.0	0.3	20.8	78.9		0.0	0.0	
GP-20	2/19/2024	11:40	0.2	--	0.0	0.1	22.2	77.7		0.0	0.0	
GP-21	2/19/2024	11:34	0.0	--	0.0	0.1	22.0	77.9		0.0	0.0	

General Data:

	Beginning	Ending	Average	Starting Date:	2/19/2024
Weather:	Sunny	Sunny	Sunny	Starting Time:	11:23
Temperature, T (deg F):	62	69	65.5	Finishing Date:	2/19/2024
Wind Speed (mph):	5	10	7.5	Finishing Time:	13:12
Wind Direction:	292.5	315	303.75	Monitored by:	TWH
Barometric Pressure, P (in Hg):	29.62	29.61	29.62	Instruments:	GEM 2000
24hr Baro.Trend (rising / falling / steady / unsteady)	Falling			Calibration Date:	2/19/2024

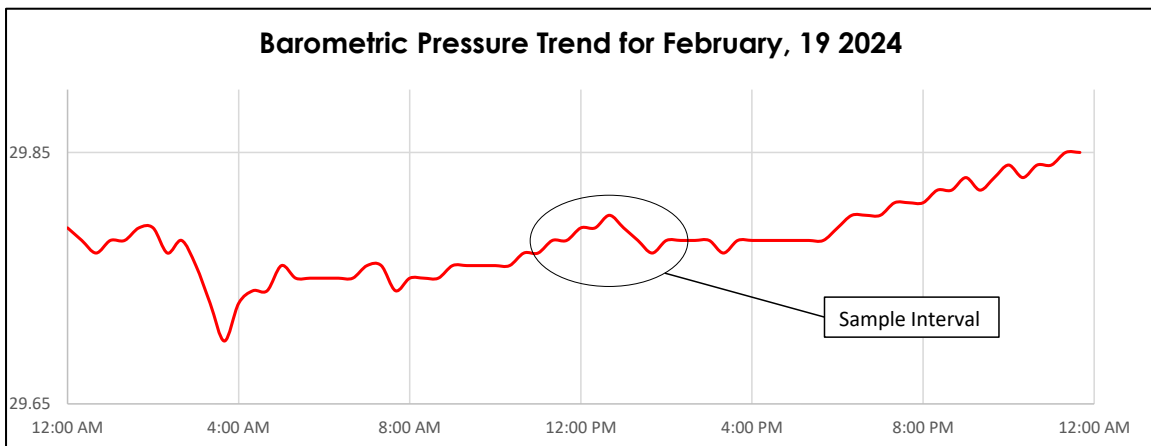
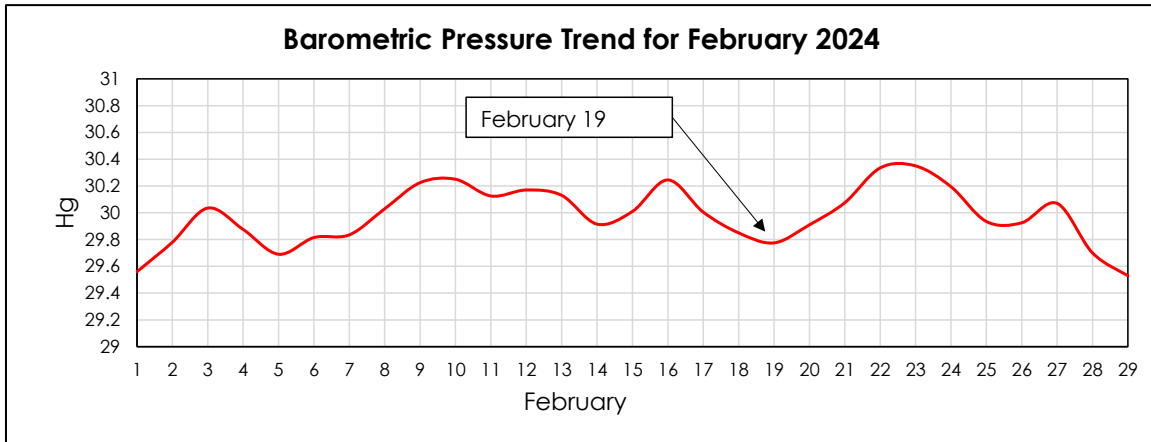
Headings:

Notes:

P _(well)	Relative Pressure	1.	Measurement for spike concentrations of CH ₄ and CO ₂ are recorded as a comment if observed during sampling.
CH ₄	Methane		
CO ₂	Carbon Dioxide	2.	Water level measurements made where gas probe monitoring port allows for measurement, or where there is an adjacent measurement piezometer.
O ₂	Oxygen		
H ₂ O	Water Vapor	3.	Exposed Perforation = perforated pipe section not submerged by liquid.
N ₂	Nitrogen		
TOC	Top of Casing		

Barometric Pressure Trend - February 2024

LRI Landfill, Pierce County, Washington



Monthly Data Source: Wunderground.com (South Hill, WA)

Lat: 46.98 Long: 122.34 Elev: 692 ft-AMSL

Data Source:

<https://www.wunderground.com/dashboard/pws/KWAGRAHA52/table/2024-02-20/2024-02-20/monthly>

Daily Data Source: Wunderground.com (South Hill, WA)

Lat: 46.98 Long: 122.34 Elev: 692 ft-AMSL

Data Source:

<https://www.wunderground.com/dashboard/pws/KWAGRAHA52/table/2024-02-19/2024-02-19/daily>

Landfill Gas Control System

SCS Engineers

04223001.04

March-24

Perimeter Gas Probes

	Beginning	Ending	Average
Weather:	Partly Cloudy	Partly Cloudy	Partly Cloudy
Temperature, T (deg F):	39	46	42.5
Wind Speed (mph):	3	6	4.5
Wind Direction:	180	292.5	236.25
Barometric Pressure, P (in Hg):	29.75	29.75	29.75
Wind (/ steady / unsteady)	Steady		

Starting Date:	3/7/2024
Starting Time:	13:55
Finishing Date:	3/20/2024
Finishing Time:	14:05
Monitored by:	A. Deszo
Instruments:	Envision
Calibration Date:	3/7/2024

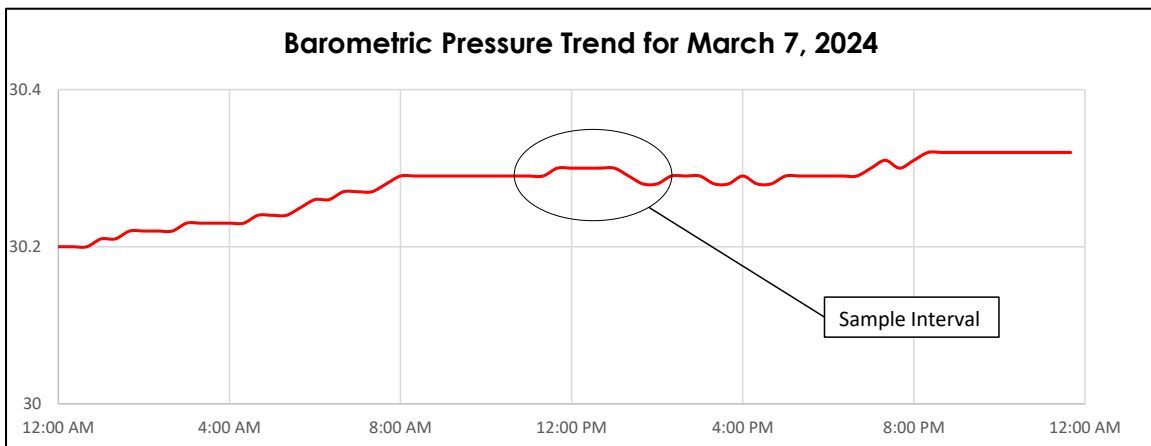
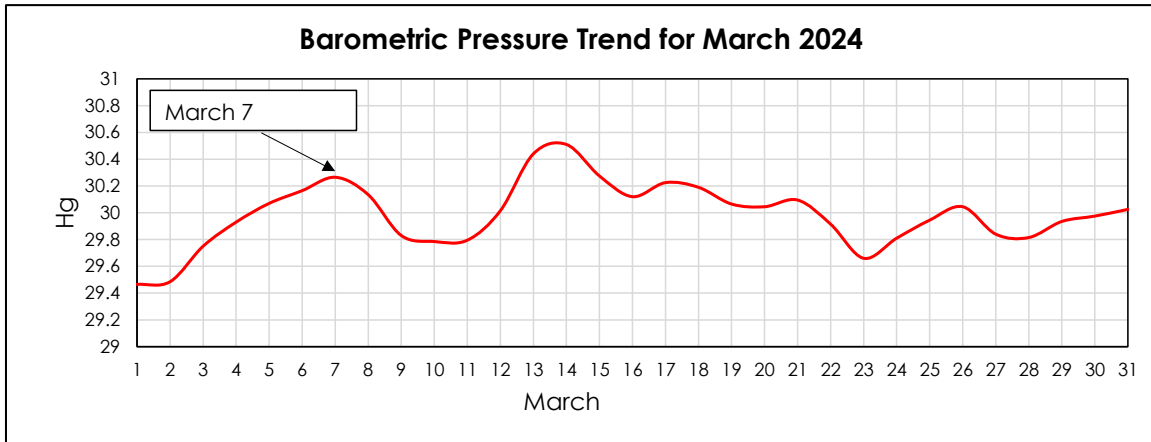
Headings:

Notes:

P _(well)	Relative Pressure	1.	Measurement for spike concentrations of CH ₄ and CO ₂ are recorded as a comment if observed during sampling.
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CO ₂	Carbon Dioxide	2.	Water level measurements made where gas probe monitoring port allows for measurement, or where there is an adjacent measurement piezometer.
O ₂	Oxygen		
H ₂ O	Water Vapor	3.	Exposed Perforation = perforated pipe section not submerged by liquid.
N ₂	Nitrogen		
TOC	Top of Casing		

Barometric Pressure Trend - March 2024

LRI Landfill, Pierce County, Washington



Monthly Data Source: Wunderground.com (South Hill, WA)

Lat: 46.98 Long: 122.34 Elev: 692 ft-AMSL

Data Source:

<https://www.wunderground.com/dashboard/pws/KWAGRAHA52/table/2024-03-20/2024-03-20/monthly>

Daily Data Source: Wunderground.com (South Hill, WA)

Lat: 46.98 Long: 122.34 Elev: 692 ft-AMSL

Data Source:

<https://www.wunderground.com/dashboard/pws/KWAGRAHA52/table/2024-03-7/2024-03-7/daily>

LRI 304th Street Landfill
Landfill Gas Monitoring of On-site Buildings

Project Number: 04224001.04

Date: 2-14-24
Weather Conditions: overcast
Instrument: Micro FID
Measured By: JTF

The atmosphere inside buildings at the landfill were monitored for possible intrusion of methane gas. Per WAC 173-351, concentrations of methane in on-site structures must not exceed 25% of the lower explosive limit (LEL). If off-site gas migration is suspected, concentrations of methane in off-site structures must not exceed 100 ppm methane.

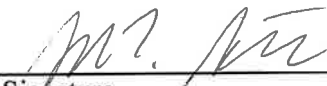
The areas monitored included:

- The general overall work area
- Floor drains
- Underground conduit protrusions
- Closed areas where landfill gas could collect, such as under cupboards and inside closets

The gas detection instrument must be calibrated using calibration gas containing methane equal to 50 % LEL. Calibration must be performed before and after the survey is completed.

Checked boxes indicate that the survey revealed **no detectable methane**.

8.0 ppm ☐	Main Office - individual office spaces, storage areas and within open crawl-space area.
6.0 ppm ☐	Repair Shop - survey atmosphere conditions throughout (lower height levels).
0.0 ppm ☐	Pay/Scale Booth - interior of building.
4.0 ppm ☐	Work Shop - interior of shed adjacent to stormwater ponds.
2.0 ppm ☐	Energy Plant - occupied spaces of building adjacent to blower flare station.
MAX	


Signature

Upwind 0.0 ppm
Downwind 19.2 ppm MAX @ near a Drive Face

