Second Quarter 2021 Monitoring Report

LRI Landfill
Graham, Washington

Pierce County Recycling, Composting
& Disposal, LLC dba LRI
17925 Meridian Street East
Puyallup, Washington 98375

SCS ENGINEERS

04221001.02 | November 8, 2021

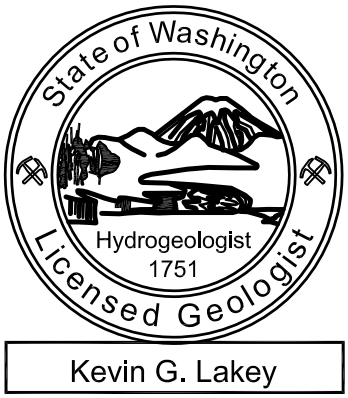
2405 140th Avenue NE, Suite 107
Bellevue, WA 98005
425-746-4600

This document is the Second Quarter 2021 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 Sam Graber, Dan Venchiarutti and Kevin Lakey of SCS Engineers and submitted to Mr. Keith Johnston of the Tacoma-Pierce County Health Department (TPCHD).

Sam Graber
Staff Scientist II
SCS Engineers

Daniel A. Venchiarutti, LG, LHG
Project Director
SCS Engineers

Kevin Lakey, LHG, PE
Vice President/Project Director
SCS Engineers



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

cc:
Peter Lyon, Ecology (email)
Eugene Radcliff, Ecology (email and hard copy)
George Duvendack, LRI (email and hard copy)
Kevin Green, LRI (email)
Jody Snyder, LRI (email)
Olivier Moi, LRI (email)
Ryan Roth, LRI (email)
Maria Finley, LRI (email and CD)

GROUNDWATER MONITORING

Second Quarter 2021 groundwater samples were collected on June 14, 15, and 24, 2021. Additionally, due to the results from the First Quarter sample collected at LDCS-4B, a confirmation sample was subsequently collected from this location on April 26, 2021. Water level elevations were measured on June 15, 2021. Nine monitoring well samples (MW-1A, MW-2A, MW-3, MW-4, MW-5A, MW-6, MW-7, MW-9, and MW-10) and one leachate sample were collected during this monitoring period. Field quality control samples consisted of one field blank and one duplicate sample collected at MW-5A. Sampling procedures followed the LRI Landfill Groundwater Monitoring Plan (GWMP), dated March 10, 2014.

Groundwater samples were obtained 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 TestAmerica, Inc. of Denver, Colorado for the parameters listed in Appendix I and II of WAC 173-351-990. The groundwater sampling locations are shown on Figure 1.

A groundwater surface elevation map for the Second Quarter monitoring event is included as Figure 1 in Attachment A. 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), 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, TOC
- Plot 2 — alkalinity, sulfate, 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 Second Quarter. 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 Second 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	**	**	**	0.0110	0.0055	0.0069	**
Iron, Dissolved	0.30	1.4	0.52	*	*	*	*	*
Manganese, Dissolved	0.05	0.24	0.28	0.27	0.22	0.17	0.30	0.27

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 values listed 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.

Ammonia was reported at a concentration of 0.95 mg/L in the sample collected from MW-4 during the second quarter. However, secondary indicator parameter, chloride, remained low and primary leachate indicator parameters, acetone and 2-butanone, were non-detect. Therefore, the slightly elevated ammonia concentration at MW-4 does not appear to be related to a leachate leak. Additionally, Low-level detections of ammonia (up to 0.23 mg/L) were reported at downgradient wells MW-3, MW-5A and MW-7. Similar low-level ammonia detections have been reported in the past; including at background well MW-10 during the Second Quarter 2018 monitoring event. Therefore, the low-level ammonia concentrations appear to be due to site-wide aquifer chemistry, which has also affected water quality within the LDCS.

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. Cation-anion balance evaluations were below the appropriate threshold for all of the monitoring wells this quarter.

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 Second Quarter.

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 dewaters 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 specific conductance (conductivity), total dissolved solids, alkalinity, sodium, potassium, and total organic carbon.

LDCS Maintenance. The liquid flow meter, liquid level sensor and conductivity probe were removed from the temporary sump at Cell 8 on June 21, 2021, in order to allow for construction of Cell 8B. As a result, there is no volume pumping, liquid level or conductivity data after this date. The leachate liquid level sensor was redeployed and has been recording data since July 27, 2021.

No other significant maintenance activities occurred during the Second 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.

The flowmeter at LDCS-2B is not currently working properly. LRI is working on replacing the meter.

LDCS-4A conductivity readings displayed a spike beginning on December 30, 2020. As discussed in the First Quarter monitoring report, a leak was subsequently discovered in the single-walled leachate force main near LDCS-4A on January 4, 2021. Following the discovery of the leak, the forcemain was promptly repaired by LRI staff and groundwater withdrawn from LDCS-4A was routed to the leachate collection system for disposal as leachate. The single-walled forcemain was subsequently replaced with a dual-walled forcemain in June 2021 as part of the two-year leachate forcemain improvements project. LDCS-4A conductivity readings during the second quarter monitoring period remained somewhat elevated.

The conductivity meter at LDCS-5 malfunctioned between April 1, 2021 and June 1, 2021. However, conductivity values measured before and after displayed very little change.

Conductivity data from the remaining LDCS sumps trended within typical historical ranges during the Second Quarter of 2021.

LDCS Quarterly Monitoring. Samples were collected with 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. In addition, a sample was collected from the temporary HDPE sump at LDCS-8A with a peristaltic pump.

LDCS-1 water quality results included a low-level detection of 1-4-dichlorobenzene at a concentration of 0.79 µg/L. A similar low level detection of 1-4-dichlorobenzene was reported at this location during the First Quarter of 2021 (0.73 µg/L). During both events the primary leachate indicator parameters, acetone and 2-butanone, were not detected and secondary leachate indicator parameters, ammonia and chloride, remained low. Therefore, the recent VOC detections reported at LDCS-1 do not appear to be the result of leachate.

LDCS-3A water quality results from the second quarter included elevated concentrations of dissolved manganese (14 mg/L) and total dissolved solids (630 mg/L). Additionally, results from LDCS-3A display a slowly increasing trend of alkalinity and TDS (see the time trend plot in Attachment G). However, primary leachate indicator parameters, acetone and 2-butanone, were non-detect and secondary indicator parameters, ammonia and chloride, remained low during the second quarter. Therefore, the elevated concentrations listed above do not appear to be the result of leachate.

During the First Quarter monitoring event in March of 2021, the sample from LDCS-4B reported detections of primary leachate indicator parameters acetone and 2-butanone, at concentrations of 12 µg/L and 6.9 µg/L, respectively. LDCS-4B was resampled on April 26, 2021, and again during the Second Quarter monitoring event. No VOCs were reported in the samples collected in April and June. Additionally, secondary leachate indicator parameters, ammonia and chloride, remained consistent with historic results in the samples collected in March, April and June. Therefore, the VOC detections reported in the First Quarter sample do not appear to be the result of leachate.

Due to a slowly increasing trend of chloride at LDCS-4B (see Attachment G), water from LDCS-4B has been routed into the leachate collection system since July of 2019 and is not being discharged through the concrete channel. However, the overall water quality results do not indicate a leachate impact (see the summary tables in Attachment B and the piper plots in Attachment E).

LDCS-5 water quality continues to display fluctuating, but elevated, concentrations of secondary leachate indicator parameters ammonia and chloride, as well as alkalinity, iron, manganese, sodium, potassium, TDS, and TOC (see summary tables in Attachment B and time trend plots in Attachment G). Primary leachate indicator parameters acetone and 2-butanone have not been detected at LDCS-5 since 2018. Groundwater withdrawn from LDCS-5 continues to be directed to the leachate collection system, as it has been since May of 2016, and is not being discharged through the concrete channel.

LDCS-7 water quality results included a reported detection of carbon disulfide at a concentration of 11.0 µg/L. This result is similar to past results, including background water quality testing that found detections of VOC's and elevated concentrations of inorganic parameters and metals. Elevated concentrations continue to be reported for alkalinity, chloride, sulfate, TDS, total organic carbon, dissolved calcium, magnesium, manganese, and sodium. Since carbon disulfide and elevated concentrations of

general chemistry parameters were detected at LDCS-7 prior to the placement of refuse in the cell, the reported detections appear to be due to background water quality. Additionally, no detections of primary leachate indicator parameters acetone and 2-butanone were reported in the sample collected during the Second Quarter.

LDCS-8A water quality results included relatively elevated concentrations of alkalinity, chloride, nitrate, sulfate, TDS, total organic carbon, and dissolved barium, calcium, magnesium, manganese, and sodium. These results are consistent with background sampling performed at LDCS-8A prior to the placement of waste in the cell. Additionally, no detections of the primary leachate indicator parameters acetone and 2-butanone, or secondary leachate indicator, ammonia, were reported in the sample collected during the Second Quarter. Therefore, the elevated concentrations of general chemistry parameters detected at LDCS-8A do not appear to be the result of leachate.

Water quality results from the remaining LDCS locations were consistent with historical trends.

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 Second Quarter, construction stormwater treatment using Chitosan Sand Enhanced Filtration (CESF) was utilized in April. No discharges of construction stormwater occurred during the months of May or June.

Discharge Monitoring Reports (DMR's) were submitted to Ecology on a monthly (Construction Permit) and quarterly (Industrial Permit) basis. Copies of the Second Quarter 2021 DMR's are included in Attachment I. No surface water benchmarks or water quality effluent limits were exceeded this quarter.

LEACHATE MONITORING

The single-walled leachate forcemain located between Cell 4A and the leachate storage tank farm was replaced with a dual-walled forcemain during the period of February through May 2021. This work completed the two-year leachate forcemain improvements project which began in 2020. A summary report of the 2021 leachate improvements was submitted to the TPCHD on June 1, 2021.

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 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. 2021 Leachate Volume Data

Month	Leachate Trucked Offsite for Proper Disposal (gallons)	Monthly Rainfall (inches)
January	4,295,910	7.04
February	2,909,325	4.14
March	3,093,766	1.67
April	2,382,949	0.99
May	2,628,941	1.37
June	2,843,182	3.07
Totals	18,154,073	18.28

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 performance probes was conducted on April 10, May 8, and June 7 using a Landtec GEM2000 portable gas monitor. Methane measurements were less than the lower explosive limit (LEL) of five percent by volume during the Second Quarter except at performance probes GP-10P and GP-12 (see Exhibit 3). Previous barhole monitoring surveys, such as the survey conducted on December 18, 2019 along the base of the perimeter berm adjacent to gas probe GP-2, have shown that similar methane levels at these probes do not result in the migration of landfill gas to the property line.

Exhibit 3. 2021 Landfill Gas Probe Monitoring Summary (Percent Methane)

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 16	3.0	3.0	0.0	0.0	0.0	0.0	**13.1**	0.0	**23.5**	0.2	0.0	0.0	0.0
February 20	1.2	2.1	0.0	0.0	0.0	0.1	**9.3**	0.0	**27.6**	0.0	0.0	0.0	0.0
March 8	1.8	2.0	0.0	0.0	0.0	1.6	**14.8**	0.0	3.6	0.0	0.0	0.0	0.0
April 10	1.9	1.8	0.0	0.0	0.0	0.3	**14.3**	0.0	**30.7**	0.0	0.0	0.0	0.0
May 8	1.9	1.3	0.0	0.0	0.0	0.0	**14.3**	0.0	**24.4**	0.0	0.0	0.0	0.0
June 7	3.9	0.3	0.0	0.0	0.0	4.3	**13.6**	0.0	**25.7**	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**.

Indoor air was tested for the presence of methane on April 9. The office, maintenance building, scale house, and work shed located next to the stormwater treatment ponds were tested with a portable flame ionization detector (MicroFID). No detectable levels of methane were recorded.

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

LANDFILL GAS EXTRACTION WELL CONSTRUCTION

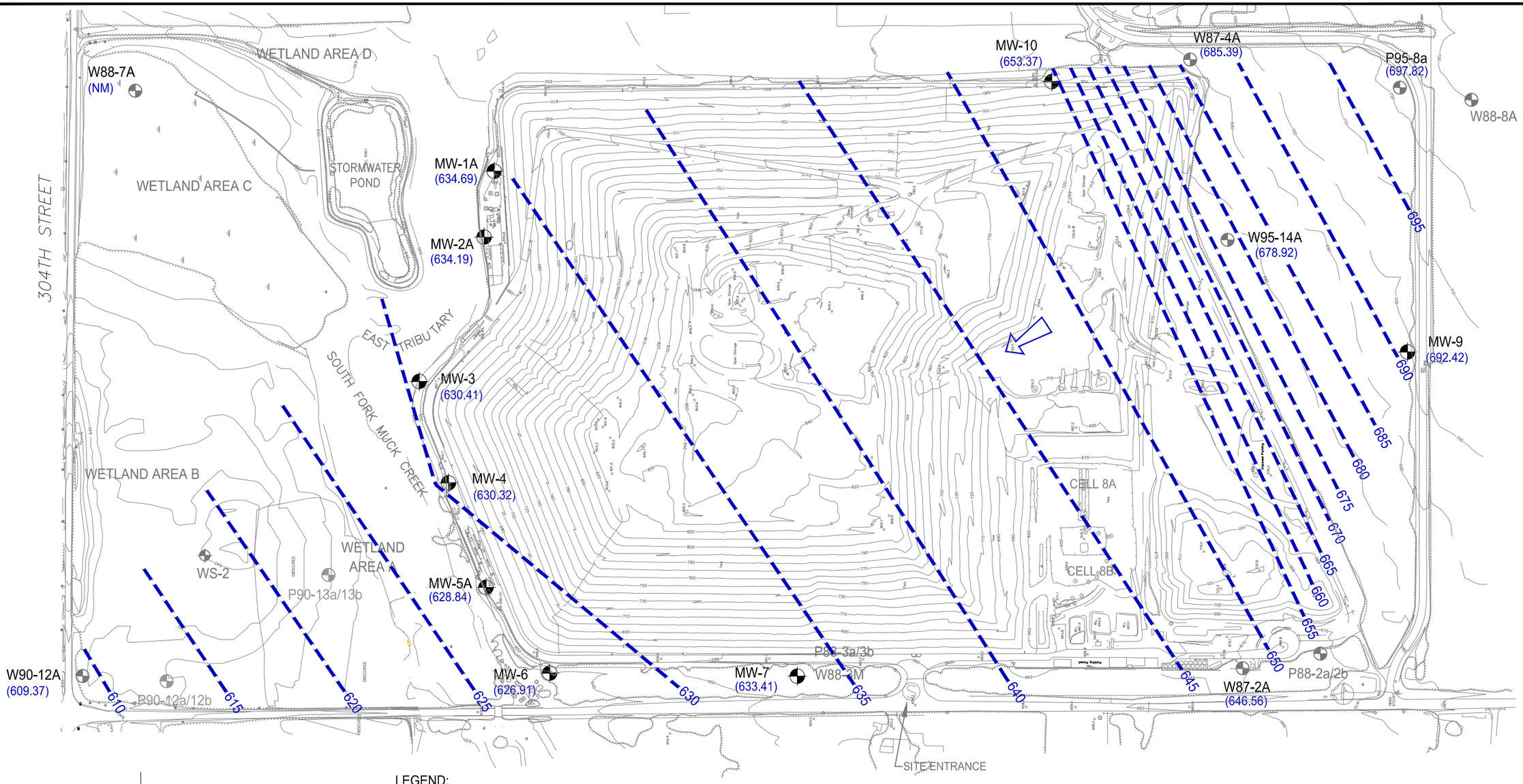
Sixteen (16) new landfill gas extraction wells were installed between June 22 and July 2, 2021. A copy of the Well Installation Report will be included with the Third Quarter Monitoring Report.

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
(646.56)	GROUNDWATER ELEVATION (IN FEET ABOVE MSL)
	INFERRED GROUNDWATER FLOW DIRECTION
(NM)	NOT MEASURED

0 400 800

SCALE (ft)

SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04221001.02	DES BY SG	POTENTIOMETRIC SURFACE CONTOUR MAP JUNE 15, 2021	DATE SEPTEMBER 2021
SCALE AS SHOWN	CHK BY KGL	LRI LANDFILL 30919 MERIDIAN STREET E. GRAHAM, WASHINGTON	FIGURE 1
CAD FILE FIGURE 1	APP BY KGL		

Attachment B

Groundwater Data Summary Tables

Table 1. Groundwater Level Elevations
June 15, 2021
LRI Landfill, Pierce County, Washington

Location	Well Casing Elevation (ft)	Depth to Water (ft)	Water Level Elevation (ft, NGVD29)
Wells			
W87-2A	664.01	17.45	646.56
W87-4A	693.29	7.90	685.39
W88-3M	658.11	12.60	645.51
W88-7A	632.51	NM*	--
W88-8M	721.05	39.68	681.37
W90-12A	640.84	31.47	609.37
W95-14A	680.49	1.57	678.92
MW-1A	652.57	17.88	634.69
MW-2A	651.93	17.74	634.19
MW-3[a]	637.41	7.00	630.41
MW-4	652.37	22.05	630.32
MW-5A	655.55	26.71	628.84
MW-6[a]	635.71	8.80	626.91
MW-7	656.03	22.62	633.41
MW-9	701.77	9.35	692.42
MW-10	678.37	25.00	653.37
Piezometers			
P13-14A	665.96	21.49	644.47
P88-2A	663.96	NM*	--
P88-2B	663.48	NM*	--
P88-3A	656.20	15.72	640.48
P88-3B	655.98	18.42	637.56
P95-8A	722.07	24.25	697.82
P90-12A	640.79	4.42	636.37
P90-12B	640.73	2.99	637.74
P90-13A	645.19	NM*	--
P90-13B	643.63	NM*	--
GP-1P[b]	652.00	17.15	634.85
GP-2P[b]	658.61	16.12	642.49
GP-3P[b]	658.51	7.35	651.16
GP-4P[b]	662.01	10.77	651.24
GP-9P[b]	674.03	11.25	662.78
GP-16[b]	689.51	20.30	669.21
South Creek			
SWSC-1	632.68	0.92	631.76
SWSC-2	629.98	5.30	624.68
Leak Detection System			
LDCS-1[a]	657.26	26.30	630.96
LDCS-2A[a]	659.24	28.98	630.26
LDCS-2B[a]	661.70	27.83	633.87

Notes:

NM= not measured

-- = not applicable

Measurements taken on 6/15/2021 unless otherwise noted

a = measurements taken on 6/14/2021

b = Gas probe measurements taken on 6/7/2021

* = Water level wells W88-7A, P88-2A, P88-2B, P90-13A, and P90-13B cannot be located

Table 2. Field Parameters
Second Quarter 2021
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	304-061421-01	6/14/2021	DP	6.63	183	13.6
MW-2A	304-061421-03	6/14/2021	DP	7.00	240	13.2
MW-3	304-061421-05	6/14/2021	DP	7.19	343	10.6
MW-4	304-061521-18	6/15/2021	SP	7.64	304	14.2
MW-5A	304-061421-07	6/14/2021	DP	7.55	357	12.4
MW-6	304-061421-11	6/14/2021	DP	7.60	313	10.6
MW-7	304-061521-15	6/15/2021	DP	7.23	398	10.8
MW-9	304-061521-13	6/15/2021	DP	**6.44**	135	10.4
MW-10	304-061521-17	6/15/2021	DP	**6.32**	252	12.0
Leak Detection System						
LDCS-1	304-061421-10	6/14/2021	DB	6.27	426	22.5
LDCS-2A	304-061421-08	6/14/2021	DB	6.88	825	22.8
LDCS-2B	304-061421-06	6/14/2021	DB	6.71	741	20.8
LDCS-3A	304-061421-04	6/14/2021	DP	6.43	934	21.1
LDCS-4A	304-061421-12	6/14/2021	DP	6.31	669	22.4
LDCS-4B^ (4/26/21)	304-042621-01	4/26/2021	DP	6.21	792	25.5
LDCS-4B	304-061421-14	6/14/2021	DP	6.32	722	28.0
LDCS-5	304-061521-16	6/15/2021	DP	6.40	654	25.6
LDCS-6	304-061521-22	6/15/2021	DP	6.87	900	24.2
LDCS-7	304-061421-02	6/14/2021	DP	6.14	823	20.0
LDCS-8A	304-062421-21	6/24/2021	PP	6.43	746	25.0
Leachate Collection System						
Leachate, Cell 8A	304-061521-19	6/15/2021	PP	6.42	2,830	23.5

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

PP = peristaltic pump

SP = submersible pump

SU = standard units

µS/cm = microsiemens per centimeter

^ = Additional sample collected from LDCS-4B serves as confirmation water quality data

Table 3. Inorganic Parameters
Second Quarter 2021
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	0.2-1.2	0.50	0.2-1.0	10	1.0	4.0
WAC 173-200 Criteria	—	—	250	10	250	500	—	—
Prediction Limit	—	—	—	6.4	—	—	—	—
Monitoring Wells								
MW-1A	95	*	1.9	*	2.6	130	*	*
MW-2A	120	*	2.6	*	4.7	160	*	*
MW-3	140	0.12	3.3	*	29	210	*	*
MW-4	160	0.95	2.9	*	7.9	190	1.0	6.0
MW-5A	180	0.15	2.7	*	13	210	1.1	*
MW-6	160	*	4.9	*	6.1	180	1.0	*
MW-7	210	0.23	3.2	*	2.4	230	1.2	*
(BG) MW-9	72	*	1.5	*	1.3	120	*	*
(BG) MW-10	100	*	6.7	2.5	5.4	170	*	12
Leak Detection System								
LDCS-1	220	0.11	4.0	*	4.6	250	3.7	—
LDCS-2A	440	*	5.4	*	27	520	3.0	—
LDCS-2B	360	*	6.7	*	43	470	3.2	—
LDCS-3A	420	0.11	4.2	*	93	630	4.9	—
LDCS-4A	310	0.68	15	*	35	390	4.8	—
LDCS-4B^ (4/26/21)	310	0.20	28	*	38	530	2.7	—
LDCS-4B	310	0.30	18	*	55	450	2.4	—
LDCS-5	290	0.76	14	*	49	390	2.9	—
LDCS-6	410	0.12	5.7	*	44	480	2.4	—
LDCS-7	320	*	8.3	*	96	570	6.3	—
LDCS-8A	660	*	26	2.9	100	840	8.6	—
Leachate Collection System								
Leachate, Cell 8A	990	130	240	*	32	1,500	370	—

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

^ = Additional sample collected from LDCS-4B serves as confirmation water quality data

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

— = Not applicable or not performed

BG = Background

Table 4. WAC 173-351 Appendix I Metals
Second Quarter 2021
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	0.005-0.02	0.005	0.01	0.01
WAC 173-200 Criteria	—	—	—	0.00005	—	1.0	—	—	—	0.01	—	0.05	—	—	—	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	—	*	—	*	—	0.020	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-2A	—	*	—	*	—	0.014	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-3	—	*	—	*	—	0.012	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-4	—	*	—	**0.0110**	—	0.016	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	0.022
MW-5A	—	*	—	**0.0055**	—	0.013	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-6	—	*	—	**0.0069**	—	0.011	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
MW-7	—	*	—	*	—	0.016	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
(BG) MW-9	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	0.014	—	*
(BG) MW-10	—	*	—	*	—	0.013	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*
Leak Detection System																														
LDCS-1	*	—	0.0086	—	0.021	—	—	—	—	—	*	—	0.0011	—	*	—	*	—	*	—	—	—	—	—	—	—	*	—	*	—
LDCS-2A	*	—	*	—	0.022	—	—	—	—	—	*	—	0.00085	—	*	—	*	—	*	—	—	—	—	—	—	—	*	—	*	—
LDCS-2B	*	—	0.0082	—	0.027	—	—	—	—	—	*	—	0.0067	—	*	—	*	—	*	—	—	—	—	—	—	—	*	—	*	—
LDCS-3A	*	—	0.0076	—	0.020	—	—	—	—	—	*	—	0.0170	—	*	—	*	—	*	—	—	—	—	—	—	—	*	—	*	—
LDCS-4A	*	—	*	—	0.027	—	—	—	—	—	*	—	0.0021	—	*	—	*	—	*	—	—	—	—	—	—	—	*	—	*	—
LDCS-4B^ (4/26/21)	*	—	0.0067	—	0.030	—	—	—	—	—	*	—	*	—	*	—	*	—	*	—	—	—	—	—	—	—	*	—	*	—
LDCS-4B	*	—	0.0068	—	0.028	—	—	—	—	—	*	—	0.0007	—	*	—	*	—	*	—	—	—	—	—	—	—	*	—	*	—
LDCS-5	*	—	*	—	0.037	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—
LDCS-6	*	—	0.0053	—	0.014	—	*	—	*	—	*	—	0.00082	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—
LDCS-7	*	—	*	—	0.030	—	*	—	*	—	*	—	0.0020	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—
LDCS-8A	*	—	*	—	0.048	—	*	—	*	—	*	—	0.0029	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—	*	—
Leachate Collection System																														
Leachate, Cell 8A	—	*	—	0.014	—	0.083	—	*	—	*	—	0.023	—	0.010	—	0.016	—	0.0043	—	0.061	—	*	—	*	—	*	—	0.019	—	1.3

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

^ = Additional sample collected from LDCS-4B serves as confirmation water quality data

* = 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)
Second Quarter 2021
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	15	**1.4**	9.8	**0.24**	3.4	14
MW-2A	18	**0.52**	10	**0.28**	2.7	13
MW-3	33	*	15	**0.27**	3.5	12
MW-4	27	*	15	**0.22**	4.9	12
MW-5A	27	*	11	**0.17**	4.2	41
MW-6	31	*	14	**0.30**	4.5	9.9
MW-7	31	0.22	23	**0.27**	5.0	15
(BG) MW-9	10	*	6.5	*	*	6.9
(BG) MW-10	21	*	9.7	*	*	11
Leak Detection System						
LDCS-1	41	0.58	18	1.6	4.7	18
LDCS-2A	94	*	38	1.6	8.4	28
LDCS-2B	83	0.42	34	3.0	6.5	19
LDCS-3A	100	0.33	44	14	5.8	23
LDCS-4A	63	1.3	35	1.6	5.9	20
LDCS-4B^ (4/26/21)	82	1.3	37	0.99	5.7	20
LDCS-4B	74	1.2	33	0.88	5.2	19
LDCS-5	61	*	31	1.0	6.0	23
LDCS-6	100	*	33	0.93	3.1	19
LDCS-7	110	0.12	32	1.3	3.8	28
LDCS-8A	140	0.17	87	2.5	6.4	48
Leachate Collection System**						
Leachate, Cell 8A	120	9.3	47	3.0	84	210

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

^ = Additional sample collected from LDCS-4B serves as confirmation water quality data

* = 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)
Second Quarter 2021
LRI Landfill, Pierce County, Washington

Parameter	1,2-Dichloroethane	1,4-Dichlorobenzene	2-Butanone (MEK)	4-Methyl-2-pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Methylene Chloride	m-Xylene & p-Xylene	o-Xylene	Toluene	Trichloroethene	Vinyl Chloride
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MRL	0.50	0.50	6.00	5.00	10	0.5	0.5-0.84	0.50	0.50	1.00	2.00	0.50	0.50	0.50	0.50	0.50
WAC 173-200 Criteria	0.50	4.0	—	—	—	1.0	—	7.0	—	—	5.0	—	—	—	3.0	0.02
Monitoring Wells																
MW-1A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-2A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-3	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-4	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-5A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW-7	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
(BG) MW-9	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
(BG) MW-10	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Leak Detection System																
LDCS-1	*	0.79	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-2A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-2B	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-3A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-4A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-4B^ (4/26/21)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-4B	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-5	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LDCS-7	*	*	*	*	*	*	11	*	*	*	*	*	*	*	*	*
LDCS-8A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Leachate Collection System																
Leachate, Cell 8A	10	*	4,200	65	2,900	4.1	*	3.5	3.5	7.6	9.7	18	8.0	79	3.3	2.1
Quality Control Samples																
Field Blank	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Notes:
All sample units are milligrams 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
^ = Additional sample collected from LDCS-4B serves as confirmation water quality data
* = sample result was not reported at or above the MRL
— = not applicable or not performed
BG = Background

Table 7. Cation-Anion Balance
Second Quarter 2021
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	15	9.8	3.4	14	42.2	0.75	0.81	0.08	0.61	2.24	31	33	36
MW-2A	18	10	2.7	13	43.7	0.90	0.82	0.06	0.57	2.35	27	38	35
MW-3	33	15	3.5	12	63.5	1.65	1.23	0.08	0.52	3.48	17	47	35
MW-4	27	15	4.9	12	58.9	1.35	1.23	0.11	0.52	3.21	20	42	38
MW-5A	27	11	4.2	41	83.2	1.35	0.91	0.09	1.78	4.13	45	33	22
MW-6	31	14	4.5	10	59.4	1.55	1.15	0.10	0.43	3.23	16	48	36
MW-7	31	23	5.0	15	74	1.55	1.89	0.11	0.65	4.21	18	37	45
MW-9	9.5	6.5	2.0	6.9	24.9	0.47	0.53	0.05	0.30	1.35	25	35	39
MW-10	21	9.7	2.0	11	43.7	1.05	0.80	0.05	0.48	2.37	22	44	34
LDCS-1	41	18	4.7	18	81.7	2.05	1.48	0.11	0.78	4.42	20	46	34
LDCS-2A	94	38	8.4	28	168.4	4.69	3.13	0.19	1.22	9.23	15	51	34
LDCS-2B	83	34	6.5	19	142.5	4.14	2.80	0.15	0.83	7.91	12	52	35
LDCS-3A	100	44	5.8	23	172.8	4.99	3.62	0.13	1.00	9.74	12	51	37
LDCS-4A	63	35	5.9	20	123.9	3.14	2.88	0.13	0.87	7.03	14	45	41
LDCS-4B^ (4/26/21)	82	37	5.7	20	144.7	4.09	3.05	0.13	0.87	8.14	12	50	37
LDCS-4B	74	33	5.2	19	131.2	3.69	2.72	0.12	0.83	7.35	13	50	37
LDCS-5	61	31	6.0	23	121.0	3.04	2.55	0.14	1.00	6.73	17	45	38
LDCS-6	100	33	3.1	19	155.1	4.99	2.72	0.07	0.83	8.60	10	58	32
LDCS-7	110	32	3.8	28	173.8	5.49	2.63	0.09	1.22	9.43	14	58	28
LDCS-8A	140	87	6.4	48	281.4	6.99	7.16	0.14	2.09	16.38	14	43	44
Leachate, Cell 8	120	47	84	210	461	5.99	3.87	1.90	9.14	20.89	53	29	19

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	114	1.9	0.5	2.6	119	1.87	0.05	0.008	0.05	1.99	3	94	3	4.23	6.0	10	O
MW-2A	144	2.6	0.5	4.7	151.8	2.36	0.07	0.008	0.10	2.54	3	93	4	4.89	3.9	10	O
MW-3	168	3.3	0.5	29	200.8	2.76	0.09	0.008	0.60	3.46	3	80	17	6.94	0.3	5	O
MW-4	192	2.9	0.5	7.9	203.3	3.15	0.08	0.008	0.16	3.40	2	93	5	6.62	2.8	5	O
MW-5A	216	2.7	0.5	13	232.2	3.54	0.08	0.008	0.27	3.90	2	91	7	8.03	2.9	5	O
MW-6	192	4.9	0.5	6.1	203.5	3.15	0.14	0.008	0.13	3.42	4	92	4	6.65	2.9	5	O
MW-7	252	3.2	0.5	2.4	258.1	4.13	0.09	0.008	0.05	4.28	2	97	1	8.49	0.9	5	O
MW-9	86.4	1.5	0.5	1.3	89.7	1.42	0.04	0.008	0.03	1.49	3	95	2	2.85	4.9	10	O
MW-10	120	6.7	2.5	5.4	134.6	1.97	0.19	0.040	0.11	2.31	8	85	5	4.68	1.3	10	O
LDCS-1	264	4.0	0.5	4.6	273.1	4.33	0.11	0.008	0.10	4.55	2	95	2	8.96	1.4	5	O
LDCS-2A	528	5.4	0.5	27	560.9	8.66	0.15	0.008	0.56	9.38	2	92	6	18.61	0.8	5	O
LDCS-2B	432	6.7	0.5	43	482.2	7.08	0.19	0.008	0.89	8.18	2	87	11	16.09	1.6	5	O
LDCS-3A	504	4.2	0.5	93	601.7	8.27	0.12	0.008	1.93	10.33	1	80	19	20.07	2.9	5	O
LDCS-4A	372	15	0.5	35	423	6.10	0.42	0.008	0.73	7.26	6	84	10	14.29	1.6	5	O
LDCS-4B^ (4/26/21)	372	28	0.5	38	439	6.10	0.79	0.008	0.79	7.69	10	79	10	15.82	2.8	5	O
LDCS-4B	372	18	0.5	55	446	6.10	0.51	0.008	1.14	7.76	7	79	15	15.11	2.7	5	O
LDCS-5	348	14	0.5	49	412	5.71	0.39	0.008	1.02	7.13	6	80	14	13.86	2.9	5	O
LDCS-6	492	5.7	0.5	44	542	8.07	0.16	0.008	0.92	9.15	2	88	10	17.76	3.1	5	O
LDCS-7	384	8.3	0.5	96	489	6.30	0.23	0.008	2.00	8.54	3	74	23	17.96	5.0	5	O
LDCS-8A	792	26	2.9	100	921	12.99	0.73	0.047	2.08	15.85	5	82	13	32.23	1.6	5	O
Leachate, Cell 8	1,188	240	0.50	32	1,461	19.48	6.77	0.008	0.67	26.92	25	72	2	47.81	12.6	5	Exceeds

Notes:
mg/L = milligrams per liter
meq/L = milliequivalents per liter
Total alkalinity concentration, reported as calcium carbonate ($CaCO_3$), is converted to the bicarbonate (HCO_3^-) 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].
^ = Additional sample collected from LDCS-4B serves as confirmation water quality data
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
Second Quarter 2021 Monitoring Report
LRI Landfill, Pierce County, Washington

Parameter	MRL	MW-5A	MW-5A (Duplicate)	RPD (%)
Volatile Organic Compunds (µg/L)				
No Detections	-	-	-	-
Inorganic Parameters (mg/L)				
Alkalinity, Total	10	180	180	0.0
Ammonia	0.1	0.15	0.16	6.5
Chloride	0.2	2.7	2.7	0.0
Sulfate	0.2	13	13	0.0
Total Dissolved Solids	10	210	210	0.0
Total Organic Carbon	1.0	1.1	1.1	0.0
Dissolved Metals (mg/L)				
Calcium	0.2	27	25	7.7
Magnesium	0.1	11	11	0.0
Manganese	0.005	0.17	0.18	5.7
Potassium	2.0	4.2	3.9	7.4
Sodium	1.0	41	34	18.7
Total Metals (mg/L)				
Arsenic	0.005	0.0055	0.0055	0.0
Barium	0.005	0.013	0.013	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

Attachment C

Field Sampling Documentation

June 24, 2021
File No. 04221001.02

Subject: **Second Quarter 2021 Groundwater Monitoring Event**
LRI Landfill, Pierce County, Washington

NOTES/SAMPLE DECODING:

Event Dates: June 14, 15 & 24, 2021
Field Staff: Sam Graber, Andres Lopez & Ruben Martinez

- This event served as a quarterly monitoring event.
- Dedicated pumps were used for purging and sampling MW-1A, MW-2A, MW-3, MW-5A, MW-6, MW-7, MW-9, MW-10, LDCS-3A, LDCS-4A, LDCS-4B, LDCS-5, LDCS-6, and LDCS-7.
- Disposable bailers were used to sample LDCS-1, LDCS-2A, and LDCS-2B.
- A peristaltic pump was used to sample LDCS-8 and Cell 8 leachate.
- A non-dedicated Sample Pro pump was used for purging and sampling well MW-4.
- A round of water level measurements was completed on June 15, 2021.
- Multi-parameter 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
304-061421-01	MW-1A
304-061421-02	LDCS-7
304-061421-03	MW-2A
304-061421-04	LDCS-3A
304-061421-05	MW-3
304-061421-06	LDCS-2B
304-061421-07	MW-5A
304-061421-08	LDCS-2A
304-061421-09	MW-5A (Duplicate)
304-061421-10	LDCS-1
304-061421-11	MW-6
304-061421-12	LDCS-4A
304-061521-13	MW-9
304-061421-14	LDCS-4B
304-061521-15	MW-7
304-061521-16	LDCS-5
304-061521-17	MW-10
304-061521-18	MW-4
304-061521-19	Leachate, Cell 8A
304-061521-20	Field Blank
304-062421-21	LDCS-8
304-061521-22	LDCS-6
304-042621-01^	LDCS-4B

^ = Additional sample collected from LDCS-4B serves as confirmation sample.

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-1A
Sample ID: 304-06 14 21-01
Date: 6/ 14 /21
Weather: Rain

17.93' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI

CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 30
Flow 350 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? (Y) N
Water in Protector? (Y) N
Damage? 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 x6
1000 ml Amber
125 ml NaOH

Notes / Observations (color, odor, anomalies, etc):
Replace tubing. Existing is pinched and restricting flow.

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
956	17.93'	17.4	192.9	8.27	6.24	148.9	3.00	
1001		13.9	184.1	1.24	6.61	152.2	3.35	
1004		13.8	182.0	0.49	6.62	149.2	2.90	
1007		13.7	179.6	0.37	6.62	145.8	2.69	
1010		13.7	182.3	0.48	6.57	113.4	2.73	
1013		13.6	179.4	0.60	6.59	71.9	2.69	
1016		13.6	180.2	0.64	6.61	32.0	2.81	
1019	22.40'	13.6	182.6	0.63	6.63	2.5	3.23	

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS-7
Sample ID: 304-06 14 21- 02
Date: 6/ 14 /21
Weather: rainy

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

Meter: MP-20 / (YSI)

DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill: 12
Discharge: 3
Pressure: 45
Flow: 150 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

spc panel

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q Vol.
1000		18.64	1074	0.58	6.06	123.9		671
1005		19.8	1040	0.34	6.96	110.3		
10:08		19.04	1043	0.31	7.03	105.6		
10:11		19.29	1045	0.28	7.1	96.2		
10:14		19:55	1046	0.27	7.16	89		
10:17		19.69	~~1045~~ 1046	0.26	7.18	76.5		
10:20		19.82	1043	0.26	6.92	-115		670
10:23		19:92	1022	0.33	6.46	-205		
10:26		19:92	936	0.29	6.25	-213		
10.29		20.01	855	0.45	6.17	-366.9		
10:32		20.06	829	0.35	6.14	-339		
10:35		19.98	823	0.31	6.14	-337	2.63	

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

LDCS at 8.1 level.

water to surface right around

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

SAMPLER: Ruben Martinez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-2A
Sample ID: 304-06 14 21-03
Date: 6/ 14 /21
Weather: Rain

17.82' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI

CONTROL SETTINGS: 1 ft water = 0.62L 1L = 0.26 gallons
Refill 9
Discharge 6
Pressure 30
Flow 400mL/min
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6
1000 ml Amber
125 ml NaOH

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

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1053	17.82'	14.4	237.0	7.67	7.30	47.6	2.32	
1058		13.3	241.5	0.75	6.76	43.4	2.75	
1101		13.2	242.6	0.33	6.90	16.5	2.71	
1104		13.1	241.5	0.27	6.94	-0.8	3.36	
1107		13.1	240.4	0.24	6.98	-19.0	2.89	
1110		13.1	240.1	0.24	6.99	-29.5	2.85	
1113	19.00'	13.2	239.9	0.23	7.00	-38.3	2.75	

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS-3
Sample ID: 304-06 14 21-04
Date: 6/14/21
Weather: rainy

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS:
Refill 12
Discharge 3
Pressure 45
Flow 150 mL/min
1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

DTW
TOS
Intake
BOS
Total Depth

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Qr Vol.
11:25		17.05	830	3.31	6.30	212		
11:30		17.40	853	0.36	6.31	196		
11:33		18.76	859	0.28	6.32	-19.2		
11:36		19.96	924	0.24	6.42	8.2		
11:39		20.49	939	0.24	6.43	25.2		
11:42		20.80	938	0.23	6.43	36.2		
11:45		21.14	934	0.21	6.43	36.7	12.6	4th

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

level at 13.5, water right away

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

SAMPLER: Ruben Martinez
Printed Name
Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-3
Sample ID: 304-06 14 21-05
Date: 6/ 14 /21
Weather: Rain

7.00' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: (Dedicated) | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill: 9
Discharge: 6
Pressure: 30
Flow: 400 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

Filtered? (Y) N
Locked? (Y) N
Water in Protector? Y (N)
Damage? 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 x6
1000 ml Amber
125 ml NaOH

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

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1151	7.00'	13.6	431.8	8.99	7.56	50.9	2.33	
1156		10.5	392.2	3.16	6.72	72.7	4.62	
1159		10.6	358.2	1.21	6.70	69.7	3.34	
1202		10.6	346.2	0.62	6.91	63.3	2.77	
1205		10.6	343.7	0.44	7.06	58.7	2.69	
1208		10.6	343.1	0.35	7.15	53.8	2.72	
1211	8.05'	10.6	343.0	0.31	7.19	49.4	2.68	

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS - 2B
Sample ID: 304-06 14 21- 06
Date: 6/ 14 /21
Weather: rainy

27.83 DTW
TOS
Intake
BOS
Total Depth

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

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? Y N
Locked? Y N
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
250 ml Poly
40 ml VOA x3 x6
125 ml Poly
1000 ml Amber

SPC Pump

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1230		20.84	741	3.34	6.71	9.2	39.7	N/A

Notes / Observations (color, odor, anomalies, etc):
Conductivity meter is off

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

SAMPLER: Sam Brauer
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-5A
Sample ID: 304-06 14 21- 07
Date: 6/ 14 /21
Weather: Partly Cloudy

26.70 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 50
Flow 500 mL/min
1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6
1000 ml Amber
125 ml NaOH

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1253	26.70'	14.5	407.6	7.84	7.47	69.4	8.64	
1258		12.5	358.2	0.39	7.56	23.5	7.16	
1301		12.4	353.7	0.32	7.59	2.2	5.35	
1304		12.4	353.0	0.41	7.55	-11.9	5.09	
1307		12.4	354.5	0.41	7.54	-24.9	5.06	
1310		12.4	355.7	0.38	7.54	-34.2	6.60	
1313	29.50'	12.4	356.7	0.35	7.55	-42.4	10.70	

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

304-061421-09 DUP taken @ 1335

Use lower pressure next event

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDC5-2A
Sample ID: 304-06 IM 21-03
Date: 6/ IM /21
Weather: rainy

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

28.98 DTW
TOS
Intake
BOS
Total Depth

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6 | 1000 ml Amber
125 ml NaOH

spc panel

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1300		22.30	825	3.69	6.88	170.1	6.91	741

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

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

SAMPLER: Sam Graber
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDC5-1
Sample ID: 304-06 14 21- 10
Date: 6/ 14 /21
Weather: overcast

26.30 DTW
TOS
Intake
BOS
Total Depth

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

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

SpC µmol

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1330		22.51	426	3.60	6.27	116.7	13.2	351

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

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

SAMPLER: Sam [signature]
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-6
Sample ID: 304-06 14 21- 11
Date: 6/ 14 /21
Weather: Cloudy

8.80'
8.80' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI

CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 30
Flow 500 mL/min

1 ft water = 0.62L 1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? (Y) N
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
~~1449~~	~~8.8'~~	~~10.6~~	~~322.9~~	~~1.75~~	~~6.80~~	~~42.9~~	~~2.62~~	
1449	8.80'	10.6	322.9	1.75	6.80	42.9	2.62	
1454		10.6	313.5	0.30	7.10	43.1	2.55	
1457		10.6	312.8	0.28	7.45	43.8	2.38	
1500		10.6	312.8	0.25	7.51	44.6	2.30	
1503		10.6	313.0	0.22	7.57	45.0	2.39	
1506		10.6	313.2	0.21	7.58	45.0	2.32	
1509		10.6	313.4	0.19	7.60	45.0	2.40	

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

NEEDS CLEARING!
Heavy vegetation
use lower pressure next event
Lid needs to be replaced
Too difficult to lock
was left unlocked

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS-4A
Sample ID: 304-06 14 21- 12
Date: 6/ 14 /21
Weather: Rainy

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: CONTROL SETTINGS:
MP-20
YSI

DTW
TOS
Intake
BOS
Total Depth

Refill: 11
Discharge: 4
Pressure: 25
Flow: 200 ml/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

SPC panel

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	~~Q1~~ Vol.
1402		18.71	719	8.94	6.59	206.4		
1407		19.66	731	1.18	5.39	107.3		
1410		20.78	676	0.61	6.32	-36.2		
1413		21.58	676	0.34	6.33	16.0		
1416		21.99	670	0.25	6.32	30.4		
1419		22.25	668	0.21	6.31	32.9		
1422		22.39	669	0.20	6.31	32.4	11.4	1359
1425							5.64	

Notes / Observations (color, odor, anomalies, etc):
level @ 45 water right away

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

SAMPLER: Ruben Martinez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-9
Sample ID: 304-06 15 21-13
Date: 6/ 15 /21
Weather: Cloudy

9.35' DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI

CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 40
Flow 200 ml/min

1 ft water = 0.62L 1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? (Y) N
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

Notes / Observations (color, odor, anomalies, etc):
Need clearing! Heavy vegetation

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
924	9.35'	11.5	138.7	6.54	6.07	204.8	2.74	
929		10.4	134.8	4.32	6.21	214.3	2.46	
932		10.5	134.8	4.26	6.33	215.7	2.70	
935		10.4	134.8	4.23	6.38	217.1	2.99	
938		10.4	134.8	4.21	6.41	217.3	3.61	
941		10.4	134.8	4.20	6.42	216.1	4.19	
944	9.60'	10.4	134.8	4.19	6.44	214.9	5.69	

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS-4B
Sample ID: 304-06 14 21-14
Date: 6/ 14 /21
Weather: overcast

DTW
TOS
Intake
BOS
Total Depth

Sampling Method : Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS:
Refill 11
Discharge 4
Pressure 45
Flow 200 mL/min
1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other :
Flow Setting :

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

Spec pump

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	~~Cv~~ Vol.
1447		Began purge						
1455		23.04	758	0.39	6.34	-173.4		
15:00		27.45	721	0.25	6.33	-164.2		
15:03		27.67	721	0.20	6.33	-173.3		
15:06		27.84	722	0.18	6.33	-178.7		
15:09		27.31	721	0.18	6.33	-180		
15:12		27.94	722	0.17	6.32	-183.5	~~2.38~~	
1515		27.95	722	0.17	6.32	-185.2	2.28	.703

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

level at 25,

8min for water to come out

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

SAMPLER: Ruben Martinez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-7
Sample ID: 304-06 15 21- 15
Date: 6/ 15 /21
Weather: Sunny

22.62' DTW
TOS
Intake
BOS
Total Depth

Sampling Method : Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 30
Flow 350 ml/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other :
Flow Setting :

Filtered? (Y) N
Locked? (Y) N
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1041	22.62'	11.2	378.4	5.78	7.09	181.3	2.80	
1046		10.8	404.8	0.50	6.70	157.3	3.40	
1049		10.8	404.7	0.32	6.97	141.5	3.30	
1052		10.8	402.4	0.24	7.18	86.4	3.20	
1055		10.7	399.0	0.32	7.21	32.1	3.11	
1058		10.8	398.7	0.37	7.21	22.0	3.15	
1101	25.65'	10.8	398.0	0.52	7.23	1.6	3.20	

Notes / Observations (color, odor, anomalies, etc):
Needs clearing! Heavy vegetation

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS-5
Sample ID: 304-06 15 21-16
Date: 6/15/21
Weather: partly sunny

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

Meter: MP-20 YSI

DTW
TOS
Intake
BOS
Total Depth

CONTROL SETTINGS:
Refill 12
Discharge 3
Pressure 40
Flow 150 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

spc pump

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / ~~Vol.~~
900		begun purge, water right away						411
910		23.97	861	0.40	6.60	201.7		
920		25.03	668	0.54	6.42	104.1		
923		25.35	654	0.44	6.40	121.8		
926		25.42	654	0.42	6.40	129.6		
929		25.52	654	0.41	6.40	138.2		807
932		25.47	654	0.40	6.40	143.4	6.75	
935		25.57	654	0.39	6.40	145.9	6.76	801

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

level at 9.2, water right away

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

SAMPLER: Sam Gabel
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-10
Sample ID: 304-06 15 21-17
Date: 6/ 15 /21
Weather: Sunny

25.00' DTW
TOS
Intake
BOS
Total Depth

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

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill 9
Discharge 6
Pressure 40
Flow 300 mL/min

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? Y N
Locked? Y N
Water in Protector? Y N
Damage? 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 x6
1000 ml Amber
125 ml NaOH

Notes / Observations (color, odor, anomalies, etc):
Bolts need WD-40. (Washcoat)

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1200	25.00'	12.8	257.8	1.71	6.78	96.4	5.42	
1205		11.9	261.3	0.98	6.31	94.8	22.08	
1208		11.8	257.3	0.52	6.32	93.3	21.47	
1211		11.8	256.0	0.49	6.31	92.8	21.85	
1214		11.8	254.7	0.45	6.31	91.4	22.90	
1217		11.9	254.4	0.42	6.31	90.0	23.04	
1220		11.9	253.7	0.39	6.31	88.6	23.10	
1225		11.9	252.8	0.36	6.32	86.9	23.07	
1230	29.15'	12.0	252.3	0.34	6.32	85.2	22.15	

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: MW-4
Sample ID: 304-0615 21- 18
Date: 6/15/21
Weather: sunny

22.05 DTW
TOS
Intake
BOS
77.70 Total Depth

Sampling Method : Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 YSI
CONTROL SETTINGS: 1 ft water = 0.62L 1L = 0.26 gallons
Refill 8
Discharge 7
Pressure 40
Flow 300 mL/min
One Well Volume (liters)
Total Volume Bailed (liters)
Other :
Flow Setting :

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6
1000 ml Amber
125 ml NaOH

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1045		15.61	318	2.73	7.59	147		
1050		14.33	308	0.85	7.58	95.1	168	
1053		14.10	307	0.55	7.59	85.8	16.8	
1059		13.89	306	0.38	7.62	36.0		
11:02		13.87	306	0.33	7.63	9.8		
11:05	22.53	13.87	305	0.30	7.64	-9.9	8.41	
11:08		13.93	305	0.28	7.64	-24.8		
11:11		14.16	304	0.26	7.64	-29.9	6.89	

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

DTW 22.05 @ 1012
22.05 @ 1020
22.53 @ 11:04

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

SAMPLER: Ruben Martinez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: Leachate Cell E
Sample ID: 304-06 15 21- 19
Date: 6/ 15 /21
Weather: Sunny

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

DTW
TOS
Intake
BOS
Total Depth

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

Filtered? Y (N)
Locked? Y (N)
Water in Protector? Y N
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1432		23.5	2830	1.16	6.42	-70.7 ~~144.3~~	144.60	

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

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: Field blank
Sample ID: 304-06 15 21- [illegible] 20
Date: 6/ 15 /21
Weather: cloudy

DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | (Grab) | Other
Meter: MP-20 (YSI)
CONTROL SETTINGS: Refill, Discharge, Pressure, Flow

1 ft water = 0.62L
1L = 0.26 gallons

One Well Volume (liters):
Other:
Flow Setting:
Total Volume Bailed (liters):

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1215		25.48	3	3.25	8.09	139.8	2.16	

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

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

SAMPLER: Sam Graber
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS-8
Sample ID: 304-062421-21
Date: 6/24/21
Weather: Sunny

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

DTW
TOS
Intake
BOS
Total Depth

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L 1L = 0.26 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other :
Flow Setting :

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y N
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1230		25.0	746.1	2.80	6.43	140.9	4.70	

Notes / Observations (color, odor, anomalies, etc):
Purged for 5 mins
Temp probe exposed to hot sun

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

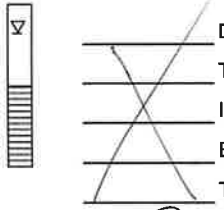
SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS-6
Sample ID: 304-06 IS 21- 22
Date: 6/15/21
Weather: Sunny



Sampling Method: (Dedicated) | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill: 12
Discharge: 3
Pressure: 50
Flow: 125 mL/min

1 ft water = 0.62L
1L = 0.26 gallons
One Well Volume (liters):
Total Volume Bailed (liters):
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N)
Water in Protector? Y (N)
Damage? 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 x6 | 1000 ml Amber
125 ml NaOH

SPC panel

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q/Vol.
1218		22.81	899	9.57	7.55	194.1		
1223		22.19	895	4.80	7.54	215.7		
1226		22.62	896	4.42	7.21	225		
1229		22.93	897	3.40	7.00	226		
1232		23.52	898	2.99	6.88	228.7		
1235		23.84	899	3.03	6.86	230.0		
1238		24.08	899	2.90	6.88	230.7	10.4	
1241		24.19	900	2.79	6.87	231.4	9.08	763

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

36.5 LDCRS IVI

764 cond on panel

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

SAMPLER: Ruben Martinez
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04221001.02
Site: LRI 304th
Well ID: LDCS-4B
Sample ID: 304-042621-01
Date: 4/26/21
Weather: Sunny

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

Meter: MP-20 YSI

CONTROL SETTINGS: 1 ft water = 0.62L 1L = 0.26 gallons

DTW
TOS
Intake
BOS
Total Depth

Refill 11
Discharge 4
Pressure [redacted]50
Flow 350 mL/min

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? Y N
Locked? Y (N)
Water in Protector? Y N
Damage? 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 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1420	Start purge							
1435	water appears							
1439		22.6	797	0.70	6.05	6.0	4.79	
1444		24.3	803	0.31	6.22	-9.2	3.60	
1447		24.8	793	0.24	6.22	[redacted]-2.2	3.48	
1450		25.1	792	0.21	6.22	-2.2	3.47	
1453		25.4	792	0.17	6.22	-4.5	3.44	
1456		25.4	792	0.16	6.22	-4.8	3.42	
1459		25.5	792	0.15	6.21	-5.4	3.39	

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

LDCS level @ 10 @ 14:20 (20 mins w/ pump off)

15 minutes to get water

* Leak @ gas fitting

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

SAMPLER: Andres Lopez
Printed Name

Signature

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	4/26/21					
Time	13:45					
Weather (sky or precip, temp)	Sunny					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1444	3.72	6.78	7.46	—	
Post Cal Reading	1415	4.01	7.00	8.5	—	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	AEL					
Instrument Type, ID	MP20 / YSI 556				MicoTPW / HACH2000	
Calibration Location	LDCS - 4B @ LRI 304					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Date	6-14-21					
Time	9:00					
Weather (sky or precip, temp)	~~tight~~ lite rain					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	~~1455~~ 1451	4.05	7.02	7.19		
Post Cal Reading	1413	4.01	7.00	8.5		
Descrepancy	no					
Calib. Successful?	yes					
Calibration by	RMB					
Instrument Type, ID	YSI Pro DDS / (YSI 556) / Rental				YSI Pro DDS / HACH2000	
Calibration Location	LRI @ flame station					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Date	6/14/21					
Time	900					
Weather (sky or precip, temp)	Light rain					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1398	3.97	6.88	7.15	—	
Post Cal Reading	1413	4.01	7.00	8.5	—	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	AEL					
Instrument Type, ID	YSI Pro DDS / YSI 556 / Rental				YSI Pro DDS / HACH2000	
Calibration Location	LRI @ Flare Station					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Date	6-15-21					
Time	8:30 am					
Weather (sky or precip, temp)	cloudy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1410	3.98	7.01	10.60		
Post Cal Reading	1413	4.01	7.00	8.5		
Descrepancy	no					
Calib. Successful?	yes					
Calibration by	RMR					
Instrument Type, ID	YSI Pro DDS / (YSI 556) / Rental				YSI Pro DDS / (HACH2000)	
Calibration Location	LRI office parking lot					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Date	6/15/21					
Time	750					
Weather (sky or precip, temp)	Cloudy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1399	4.14	7.16	8.86	—	
Post Cal Reading	1413	4.01	7.00	8.50	—	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	AEL					
Instrument Type, ID	YSI Pro DDS / YSI 556 / Rental				YSI Pro DDS / HACH2000	
Calibration Location	LRI @ office					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH 4	pH 7	D.O.	Turbidity	Comments/Exceptions
Date	6/24/21					
Time	1200					
Weather (sky or precip, temp)	Sunny					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1441	3.93	6.90	6.93	—	
Post Cal Reading	1413	4.01	7.00	8.5	—	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	AEL					
Instrument Type, ID	(YSI Pro DDS) / YSI 556 / Rental				(YSI Pro DDS) / HACH2000	
Calibration Location	LRI @ Cell 813					

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

LRI Landfill

Water Level Data

Date: 6/15/21

Measured by: SEG & AEL

	Ground Elevation	PVC Elevation	Total Depth	Depth to Water	Water Level Elevation	Time	Comments
Wells							
W87-2A	662.5	664.01		17.45	664.01		
W88-3M	654.8	656.48		12.60	656.48		
W87-4a	691.9	693.29		7.90	693.29		
W88-7A	631.3	632.51		Lost	632.51		
W88-8M	719.7	721.05		34.63	721.05		
W90-12A	638.6	640.84		31.47	640.84		
W95-14A	678.6	680.49		1.57	680.49		
MW-1A	653.2	652.57	75.7	17.80	652.57		
MW-2A	652.2	651.93	67.2	17.74	651.93		
MW-3 *	635.7	637.41	70.4	7.00	637.41	* measured 6/14	
MW-4		652.37		22.05	652.37		
MW-5		654.40		abandoned	654.40		
MW-5A		655.55		26.71	655.55		
MW-6 *	633.4	635.71	52.4	8.80	635.71	* measured 6/14	
MW-7	654.7	656.03	58.0	22.62	656.03		
MW-9	699.1	701.77	76.8	9.35	701.77		
MW-10	671.5	674.17		25.00	674.17		
Piezometers							
P88-2a	633.0	663.96		Lost			
P88-2b	633.0	663.48		Lost			
P88-3a	655.1	656.20	27.4	15.72	656.20		
P88-3b	655.1	655.98	39.8	18.42	655.98		
P95-8a	721.2	722.07		24.25	722.07		
P90-12a	638.6	640.79		4.42			
P90-12b	638.6	640.73		2.99			
P90-13a	643.5	645.19		Lost			
P90-13b	643.5	643.63		Lost			
P13-14A				21.49			
GP-1P		652.00			652.00		
GP-2P		656.61			656.61		
GP-3P		658.51			658.51		
GP-4P		662.01			662.01		
GP-9P		674.03			674.03		
GP-10P		649.86			649.86		
GP-11P							
GP-12P							
GP-13P							
South Creek		Head Wall					
SWSC-1		632.79		0.92		From top of concrete	
SWSC-2		629.95		5.30	629.95	↓	
Leak Detection System							
LDCS-1 *		657.26		26.30	657.26		
LDCS-2A *		659.24		28.98	659.24		
LDCS-2B *		661.70		27.33	661.70		

Measured on 6/14

Attachment D

Statistical Calculations

Groundwater Prediction Limits (mg/L)
Appendix I Parameters, Second Quarter 2021
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	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	**0.016**	0.010 L	0.010 L	0.010 L	0.014	0.010 L	0.010 L	0.010 L	**0.016**	0.010 L
Zinc	0.01	**0.290**	0.032	0.010 L	0.010 L	**0.290**	0.010	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.

Statistical Summary of Total Metals and Nitrate Groundwater Data
Appendix I Parameters, Second Quarter 2021
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-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		0.0025		0.03		0.0025		0.0025		0.0025		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
Variance		NC		NC		1.1E-05		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
Coefficient of Variation (%)		NC		NC		14.2974		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
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		0		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		0.0025		0.018		0.0025		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		NC		0.01413		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Variance		NC		NC		3.3E-06		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
Coefficient of Variation (%)		NC		NC		12.798		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
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	L 0.0025	0.01	0.01	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	0.012	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	0.005	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
6/9/2015	0.05	L 0.025	0.005	L 0.0025	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
9/16/2015	0.05	L 0.025	0.005	L 0.0025	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
12/14/2015	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	0.005	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		0		0	
Minimum Concentration		0.001		0.0025		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		0.0025		0.015		0.0025		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		NC		0.012		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Variance		NC		NC		3.4E-06		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Deviation		NC		NC		0.00185		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Coefficient of Variation (%)		NC		NC		15.4303		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Error		NC		NC		0.00065		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC

Statistical Summary of Total Metals and Nitrate Groundwater Data
Appendix I Parameters, Second Quarter 2021
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-4																																
3/24/2014	0.002	L 0.001	0.0074	0.0074	0.012	0.012	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	0.0086	0.0086	0.012	0.012	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	0.0099	0.0099	0.013	0.013	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	0.0076	0.0076	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
3/24/2015	0.05	L 0.025	0.0079	0.0079	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
6/9/2015	0.05	L 0.025	0.0094	0.0094	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
9/18/2015	0.05	L 0.025	0.0094	0.0094	0.017	0.017	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	0.014	0.014	0.5	L 0.25
12/15/2015	0.05	L 0.025	0.011	0.011	0.091	0.091	0.001	L 0.0005	0.001	L 0.0005	0.011	0.011	0.0039	0.0039	0.063	0.063	0.042	0.042	0.02	L 0.01	0.005	L 0.0025	0.005	L 0.0025	0.005	L 0.0025	0.014	0.014	0.29	0.29	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		1		1		1		1		0		0		0		0		1		2		0	
Minimum Concentration		0.001		0.0074		0.011		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		0.011		0.091		0.0025		0.0025		0.011		0.005		0.063		0.042		0.01		0.0025		0.005		0.0025		0.014		0.29		0.25
Average Concentration		NC		0.0089		0.02275		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Variance		NC		1.6E-06		0.00076		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Deviation		NC		0.00125		0.02763		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Coefficient of Variation (%)		NC		14.0465		121.469		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Error		NC		0.00044		0.00977		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
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		6E-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		NC
Variance		NC		2.1E-07		1.8E-06		NC		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		NC
Coefficient of Variation (%)		NC		6.38736		12.1906		NC		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		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 0.005	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
3/24/2015	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	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
6/9/2015	0.05	L 0.025	0.0054	0.0054	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	0.005	L 0.0025	0.01	L 0.005	0.5	L 0.25
9/17/2015	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
12/15/2015	0.05	L 0.025	0.0055	0.0055	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	0.005	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		6		8		0		0		0		0		0		0		0		0		0		0		0		0		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		0.0055		0.016		0.0025		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		0.0046		0.01488		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Variance		NC		1.7E-06		1.8E-06		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Deviation		NC		0.0013		0.00136		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Coefficient of Variation (%)		NC		28.3682		9.11733		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC
Standard Error		NC		0.00046		0.00048		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC

Statistical Summary of Total Metals and Nitrate Groundwater Data
Appendix I Parameters, Second Quarter 2021
LRI Landfill, Pierce County, Washington

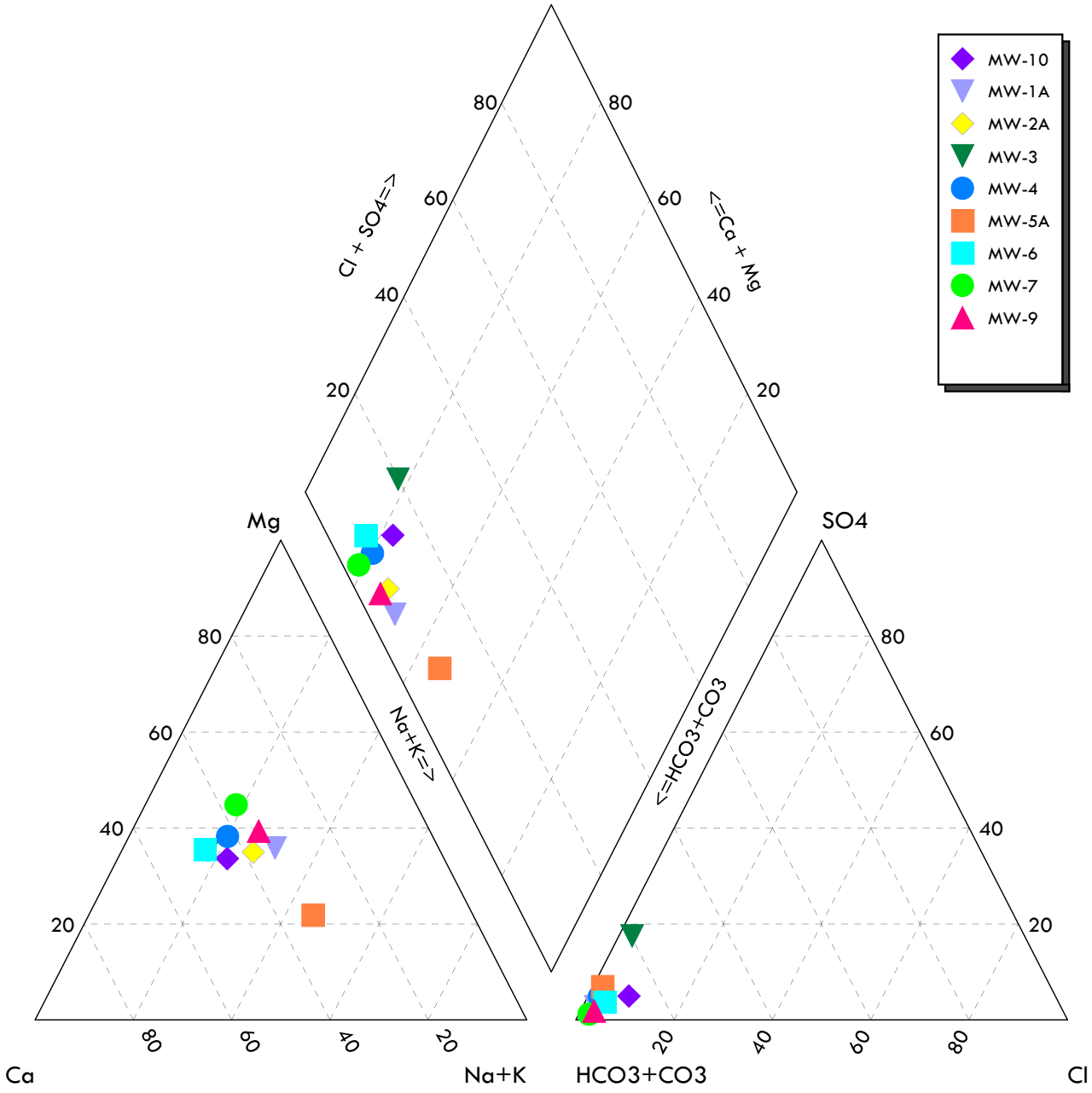
Location ID	Antimony (Sb)		Arsenic (As)		Barium (Ba)		Beryllium (Be)		Cadmium (Cd)		Chromium (Cr)		Cobalt (Co)		Copper (Cu)		Lead (Pb)		Nickel (Ni)		Selenium (Se)		Silver (Ag)		Thallium (Tl)		Vanadium (V)		Zinc (Zn)		Nitrate (NO_3)	
Monitoring Date	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	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-9																																
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 0.0025	0.01	L 0.005	0.001	L 0.0005	0.016	0.016	0.01	0.01	0.5	L 0.25
6/24/2014	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 0.0025	0.01	L 0.005	0.001	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 0.0025	0.01	L 0.005	0.001	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	0.001	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	0.014	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	0.001	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	0.013	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	0.001	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	0.014	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	0.005	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	0.014	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	0.001	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	0.014	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	0.001	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	0.014	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	0.005	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	0.014	0.014	0.023	0.023	0.5	L 0.25
9/16/2016	0.05	L 0.025	0.005	L 0.0025	0.005	L 0.0025	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	0.015	0.015	0.043	0.043	0.5	L 0.25
12/6/2016	0.05	L 0.025	0.005	L 0.0025	0.005	L 0.0025	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	0.014	0.014	0.01	L 0.005	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	0.001	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	0.014	0.014	0.01	L 0.005	0.5	L 0.25
6/22/2017	0.05	L 0.025	0.005	L 0.0025	0.005	L 0.0025	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	0.014	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	0.001	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	0.012	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	0.001	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	0.013	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	0.001	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	0.016	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	0.001	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	0.013	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	0.001	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	0.013	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	0.001	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	0.014	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	0.001	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	0.014	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	0.001	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	0.013	0.013	0.01	L 0.005	0.5	L 0.25
9/26/2019	0.05	L 0.025	0.005	L 0.0025	0.005	L 0.0025	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	0.014	0.014	0.01	L 0.005	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	0.001	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	0.016	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	0.001	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	0.015	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	0.001	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	0.014	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	0.001	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	0.016	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	0.001	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	0.014	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	0.001	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	0.015	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	0.001	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	0.014	0.014	0.01	L 0.005	0.5	L 0.25
Number Analyzed	30		30		30		30		30		30		30		30		30		30		30		30		30		30		30		30	
Number Detected	0		0		8		0		0		0		0		0		0		0		0		0		0		30		6		0	
Minimum Concentration		0.001		0.0025		0.0025		0.0005		0.0005		0.001		0.0005		0.001		0.0005		0.001		0.0025		0.0025		0.0005		0.012		0.005		0.25
Maximum Concentration		0.025		0.0025		0.0057		0.0005		0.0025		0.0025		0.005		0.005		0.001		0.01		0.0025		0.005		0.0025		0.016		0.043		0.25
Average Concentration		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		0.0142		NC		NC
Variance		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		1.1E-06		NC		NC
Standard Deviation		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		0.00103		NC		NC
Coefficient of Variation (%)		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		7.25752		NC		NC
Standard Error		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		0.00019		NC		NC
MW-10																																
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
6/25/2014	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	0.01	5.8	5.8
9/16/2014	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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 0.005	5.4	5.4
12/6/2016	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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 0.005	5.8	5.8
6/19/2017	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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 0.005	4.7	4.7
9/25/2019	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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	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	0.005	L 0.0025	0.01	L 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	0.005	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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 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	0.005	L 0.0025	0.01	L 0.005	2.5	2.5
Number Analyzed	30		30		30		30		30		30		30		30		30		30		30		30		30		30		30		30	
Number Detected	0		0		30		0		0		0		0		0		0		0		0		0		0		0		4		30	
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		2.5
Maximum Concentration		0.025		0.0025		0.016		0.0025		0.0025		0.0025		0.005		0.005		0.001		0.01		0.0025		0.005		0.0025		0.005		0.034		6.4
Average Concentration		NC		NC		0.0137		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		4.816667
Variance		NC		NC		1.1E-06		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		0.950402
Standard Deviation		NC		NC		0.00106		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		0.974886
Coefficient of Variation (%)		NC		NC		7.70339		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		20.23984
Standard Error		NC		NC		0.00019		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		NC		0.177989

Notes: Metals results are for total metals.
mg/L = milligrams per liter.
L = not reported at or above the MRL (Method Reporting Limit).
One-half the MRL value used for statistical calculations when concentrations not reported at or above the MRL.
NC = not calculated due to insufficient number of reported detections.

Attachment E

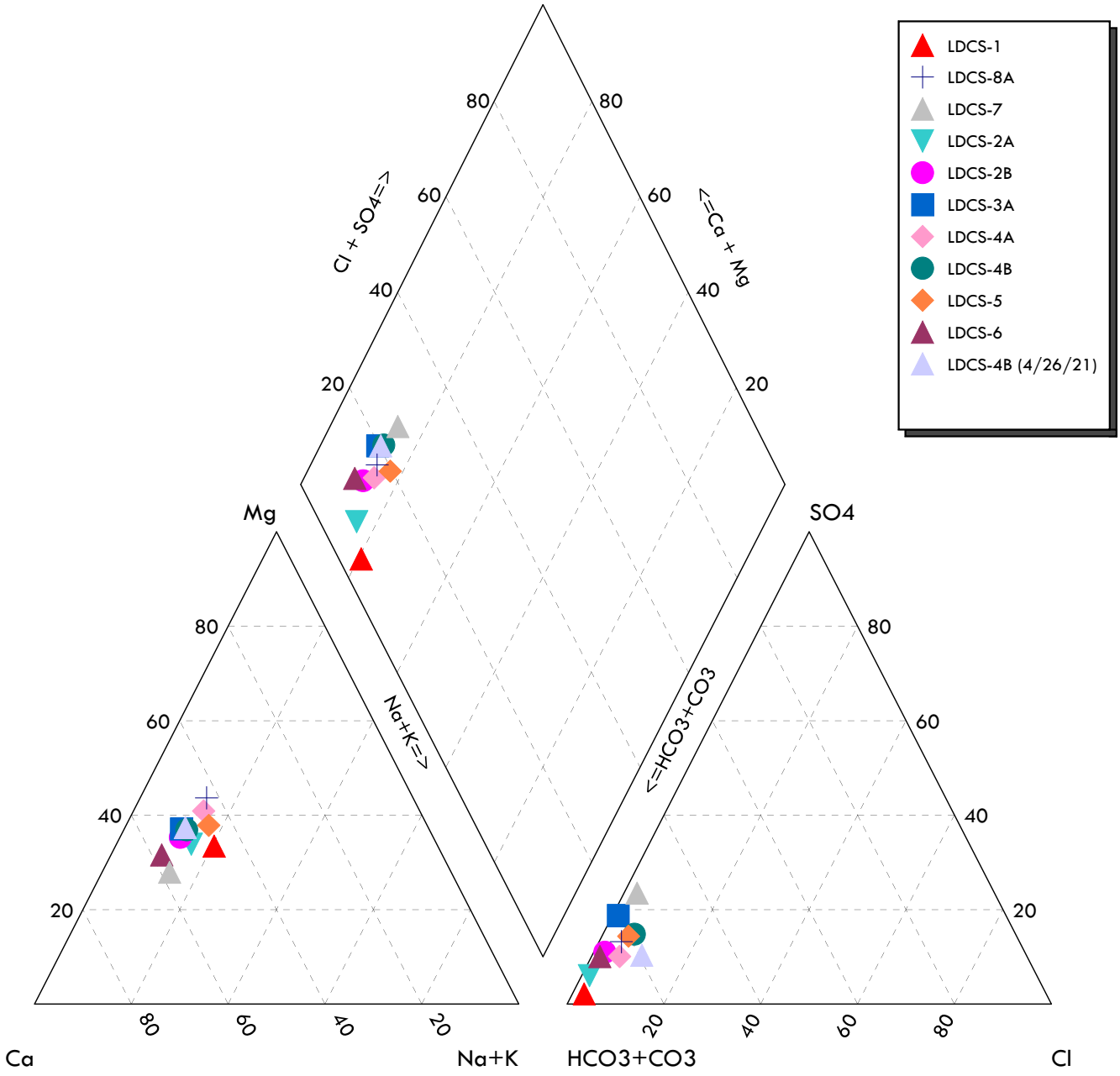
Trilinear Diagrams

Second Quarter 2021, Groundwater Monitoring Wells



DESCRIPTION: Piper Diagram - 2Q21 Groundwater		
	PROJECT: LRI Landfill	PROJECT NO: 04221001.02
	CLIENT: LRI, Inc.	DATE: September 2021

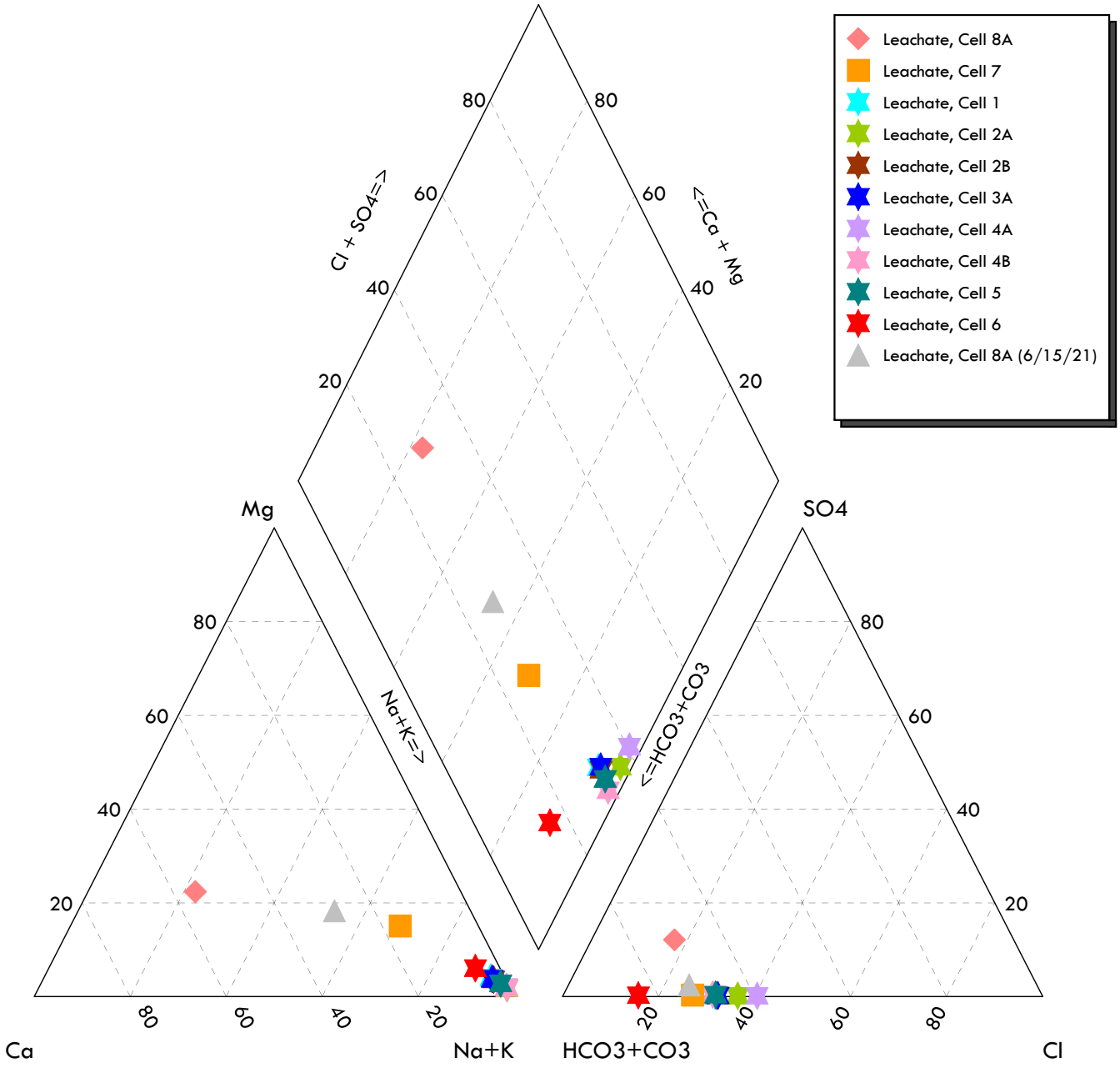
Second Quarter 2021, Leak Detection Collection Recovery System



DESCRIPTION: Piper Diagram - 2Q21 LDCRS

	PROJECT: LRI Landfill	PROJECT NO: 04221001.02
	CLIENT: LRI, Inc.	DATE: September 2021

Fourth Quarter 2020, Leachate



DESCRIPTION: Piper Diagram - 4Q20 Leachate		
	PROJECT: LRI Landfill	PROJECT NO: 04221001.02
	CLIENT: LRI, Inc.	DATE: September 2021

Attachment F

Analytical Data Validation Report

SECOND QTR. 2021 DATA VALIDATION REPORT – LRI LANDFILL

Project Details

Project No.	04221001.02	**Site Name**	LRI 304th Street LF
Data Validator	Andres Lopez	**Data Level**	Level 2
Date	7/29/2021	**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)
280-150190-1	No comments.	TestAmerica, Denver, CO
280-149815-1	No comments.	TestAmerica, Denver, CO
280-149813-1	No comments.	TestAmerica, Denver, CO
280-149872-1	No comments.	TestAmerica, Denver, CO
280-149874-1	No comments.	TestAmerica, Denver, CO
280-149875-1	No comments.	TestAmerica, Denver, CO
280-147875-1	No comments.	TestAmerica, Denver, CO

Analytical Summary

Sample Group	Analyses					
	TDS/Alk/NO3	Metals	NH3/TOC	VOCs	Anions	TSS
280-150190-1	X	X[1]	X	X	X	--
280-149815-1	X	X[1]	X	X	X	--
280-149813-1	X	X[2]	X	X	X	X
280-149872-1	X	X[1]	X	X	X	--
280-149874-1	X	X[2]	X	X	X	X
280-149875-1	X	X[3]	X	X	X	--
280-147875-1	X	X[1]	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.	Reporting limits were elevated for sample 304-061521-19.
General Chemistry	Acceptable.	See case narratives.
General Comments	Acceptable.	See case narratives.

Field Quality Assurance Samples

Field QA Samples	Sample Group	Analytes	Notes
QC-TB	280-150190-1	None.	
QC-TB	280-149815-1	None.	
QC-TB	280-149813-1	Methylene Chloride (9.0 ug/L)	
QC-FB	280-149874-1	None.	
QC-TB	280-149874-1	None.	
QC-TB	280-149875-1	None.	
QC-TB	280-147875-1	None.	

Lab Quality Flags

Flag	Sample Groups	Comments
4	280-150190-1, 280-149815-1, 280-149813-1, 280-149872-1, 280-149874-1, 280-149875-1	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	280-149815-1, 280-149872-1	Result exceeded calibration range.
F1	280-150190-1, 280-147875-1	MS and/or MSD recovery exceeds the control limits.
J	280-150190-1, 280-149813-1, 280-149874-1, 280-147875-1	Result is less than RL but greater than or equal to the MDL and concentration is an approximate value.
^3+	280-149874-1	Reporting Limit Check Standard is outside acceptance limits, high biased.
^2	280-150190-1, 280-149813-1	Calibration Blank (ICB and/or CCB) is outside acceptance limits.

*+	280-150190-1	LCS and/or LCSD is outside acceptance limits, high biased.

Duplicate Evaluation

Analyte	Units	MW-5A (304-061421-07)	MW-5A DUP (304-061421-09)	RPD (%)
Alkalinity, Total	mg/L	180	180	0.00
Ammonia	mg/L	0.15	0.16	6.45
Arsenic, Total	mg/L	0.0055	0.0055	0.00
Barium, Total	mg/L	0.013	0.013	0.00
Calcium, Dissolved	mg/L	27	25	7.69
Chloride	mg/L	2.7	2.7	0.00
Magnesium, Dissolved	mg/L	11	11	0.00
Manganese, Dissolved	mg/L	0.17	0.18	5.71
Potassium, Dissolved	mg/L	4.2	3.9	7.41
Sodium, Dissolved	mg/L	41	34	18.67
Sulfate	mg/L	13	13	0.00
Total Dissolved Solids	mg/L	210	210	0.00
Total Organic Carbon	mg/L	1.1	1.1	0.00

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

Additional Data Flags

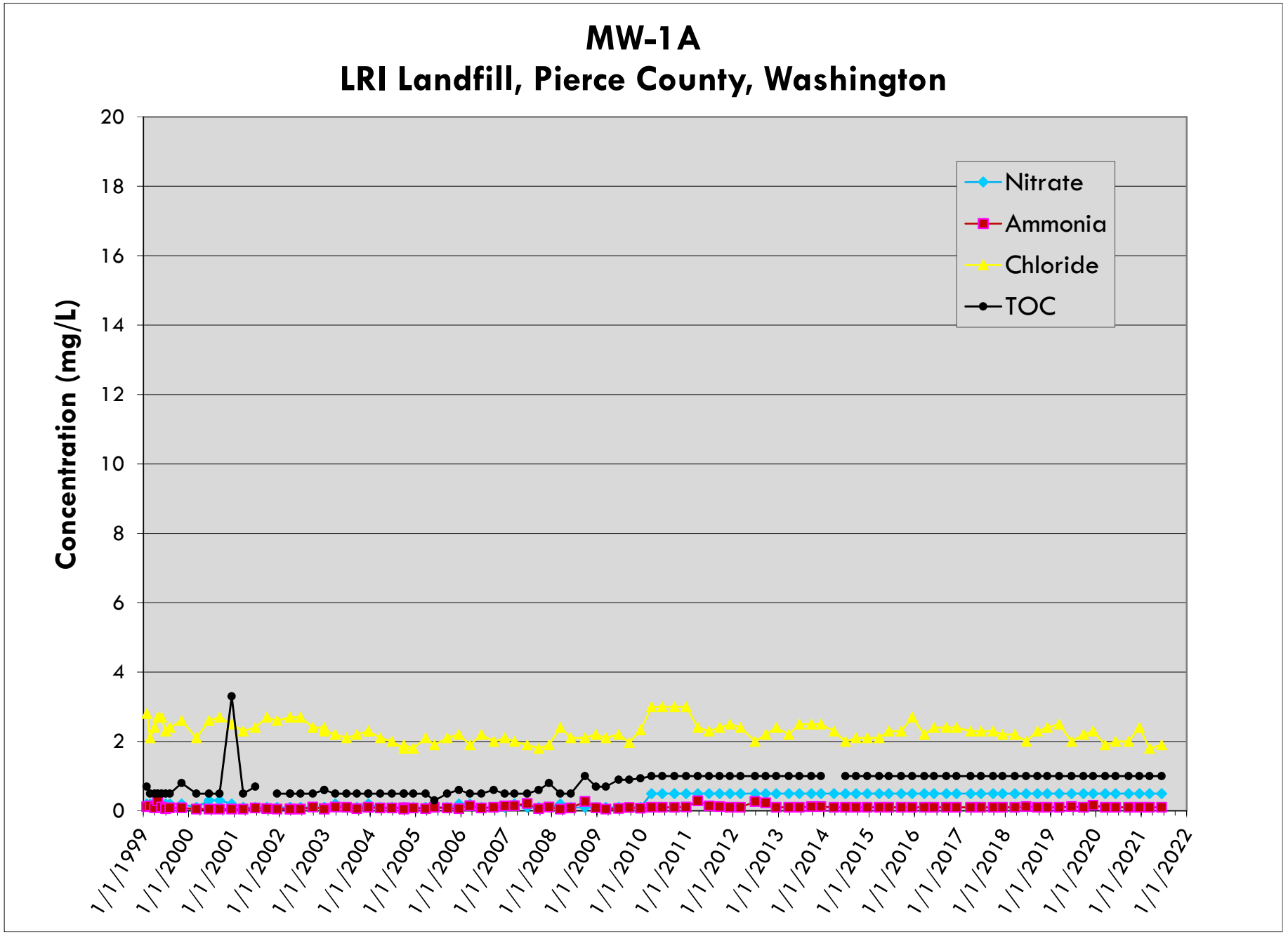
Flag	Description
U	Not detected above the method reporting limit.

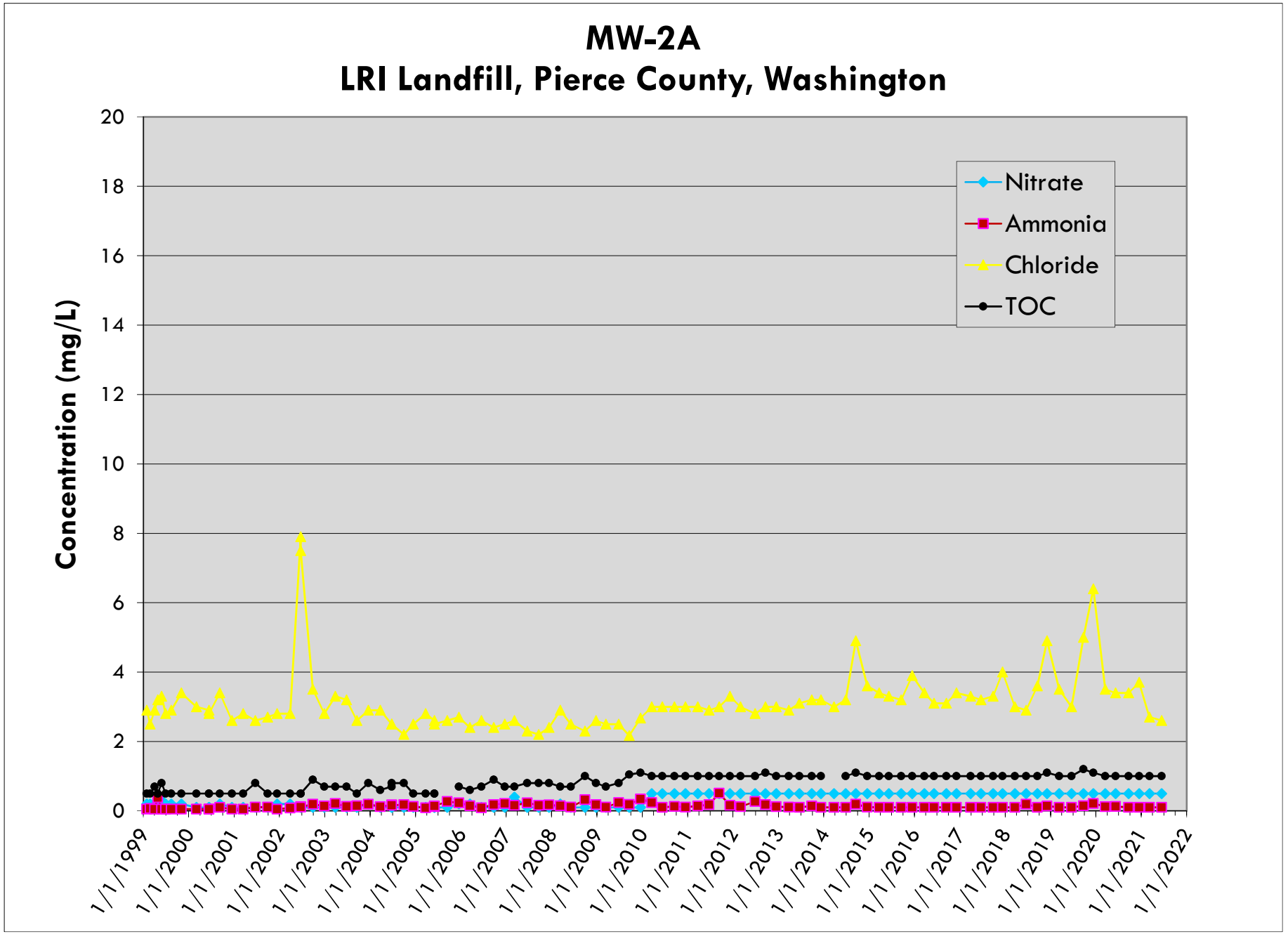
Qualified Data and Usability

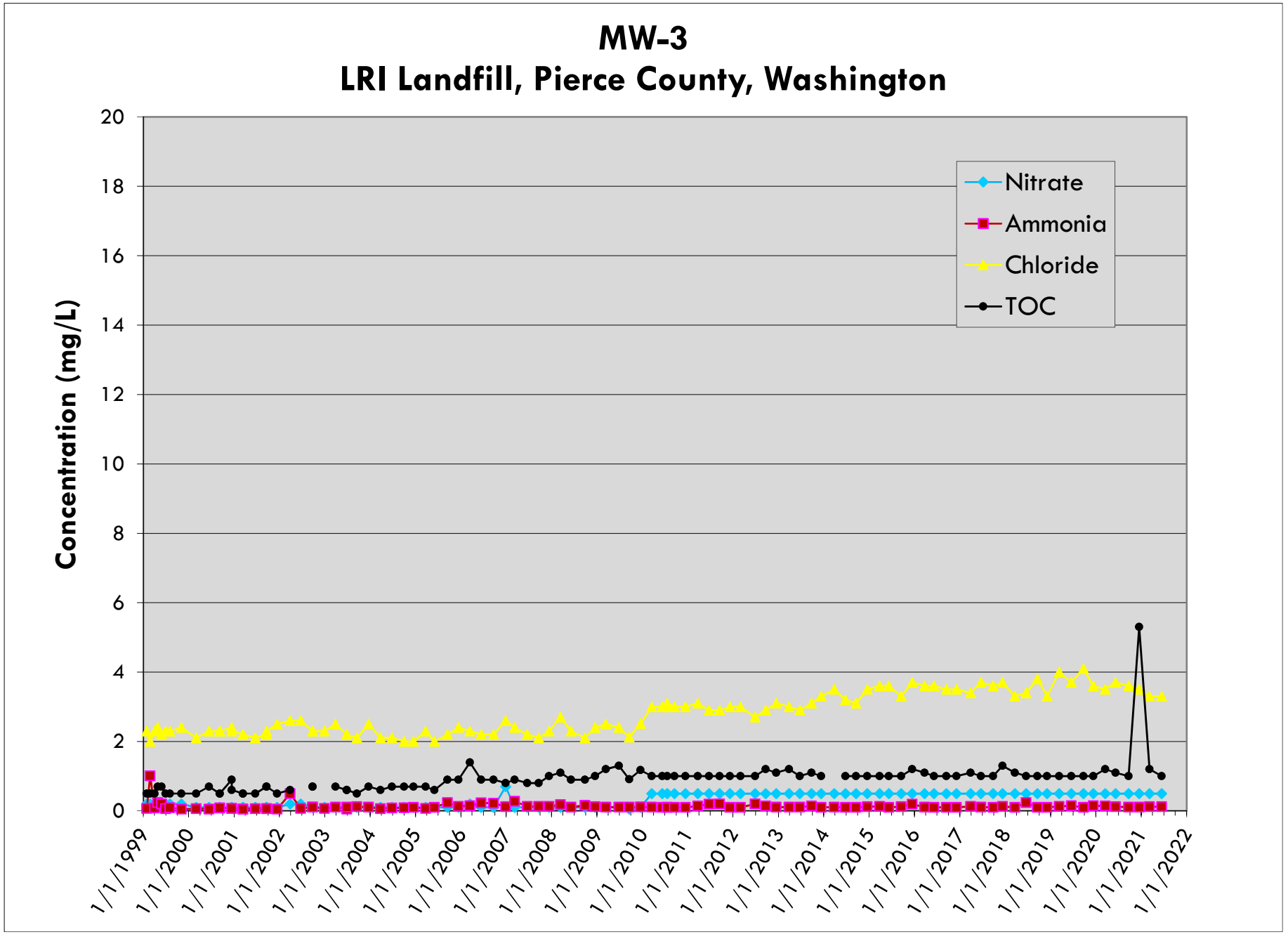
Lab qualifiers are noted. All data, as qualified, are acceptable for use.

Attachment G

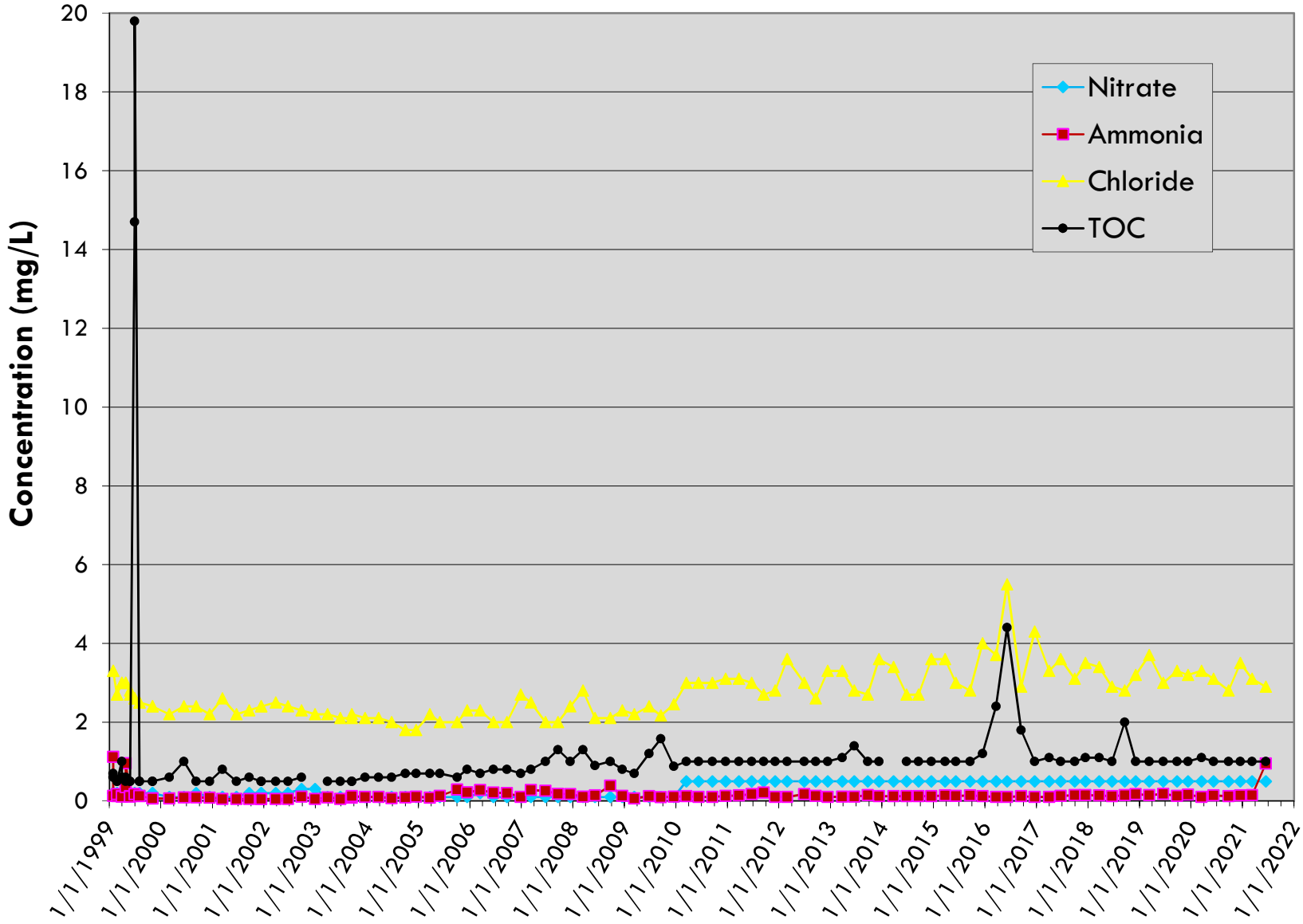
Groundwater and LDCS Time Trend Plots

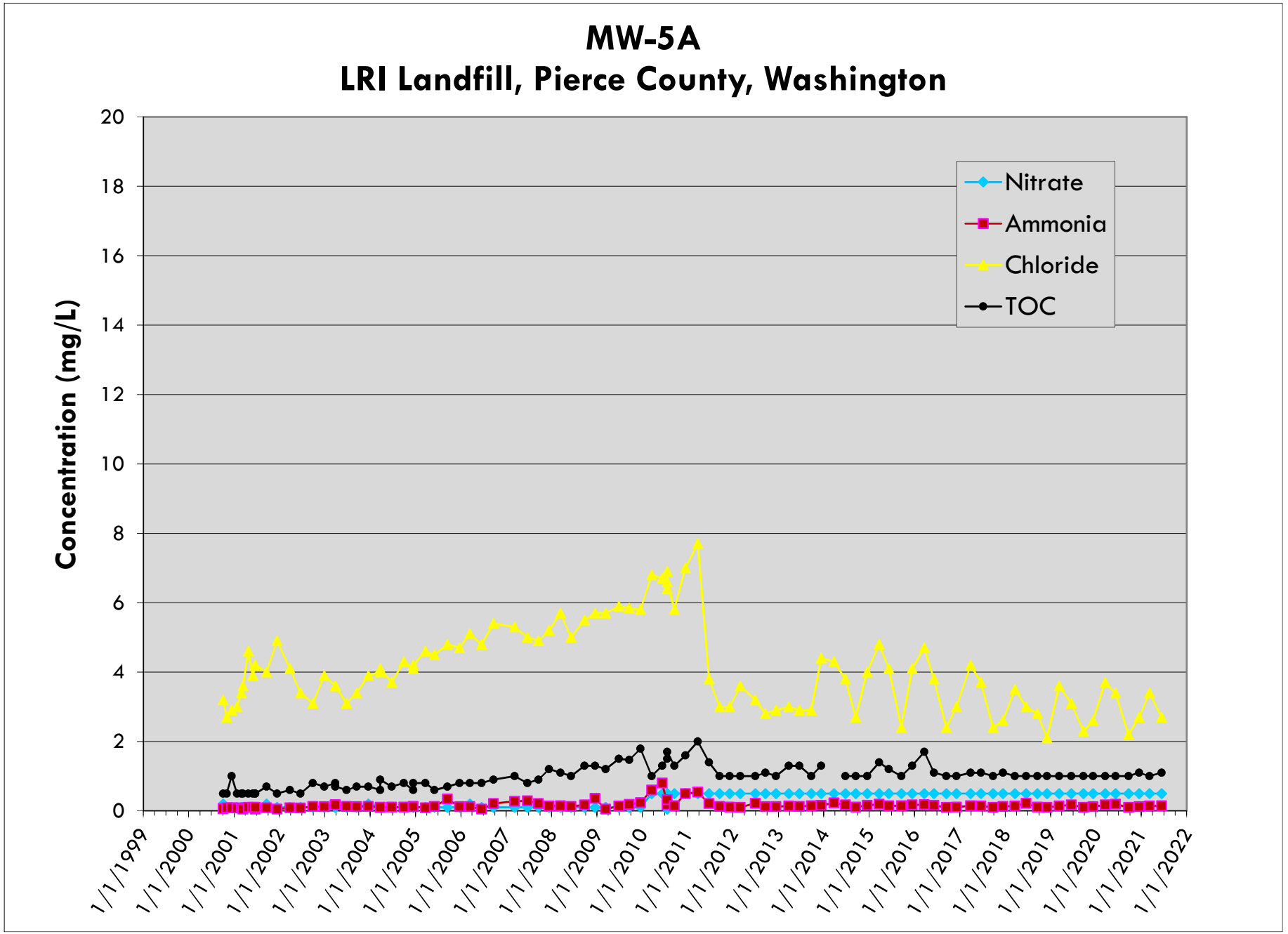

MW-1A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

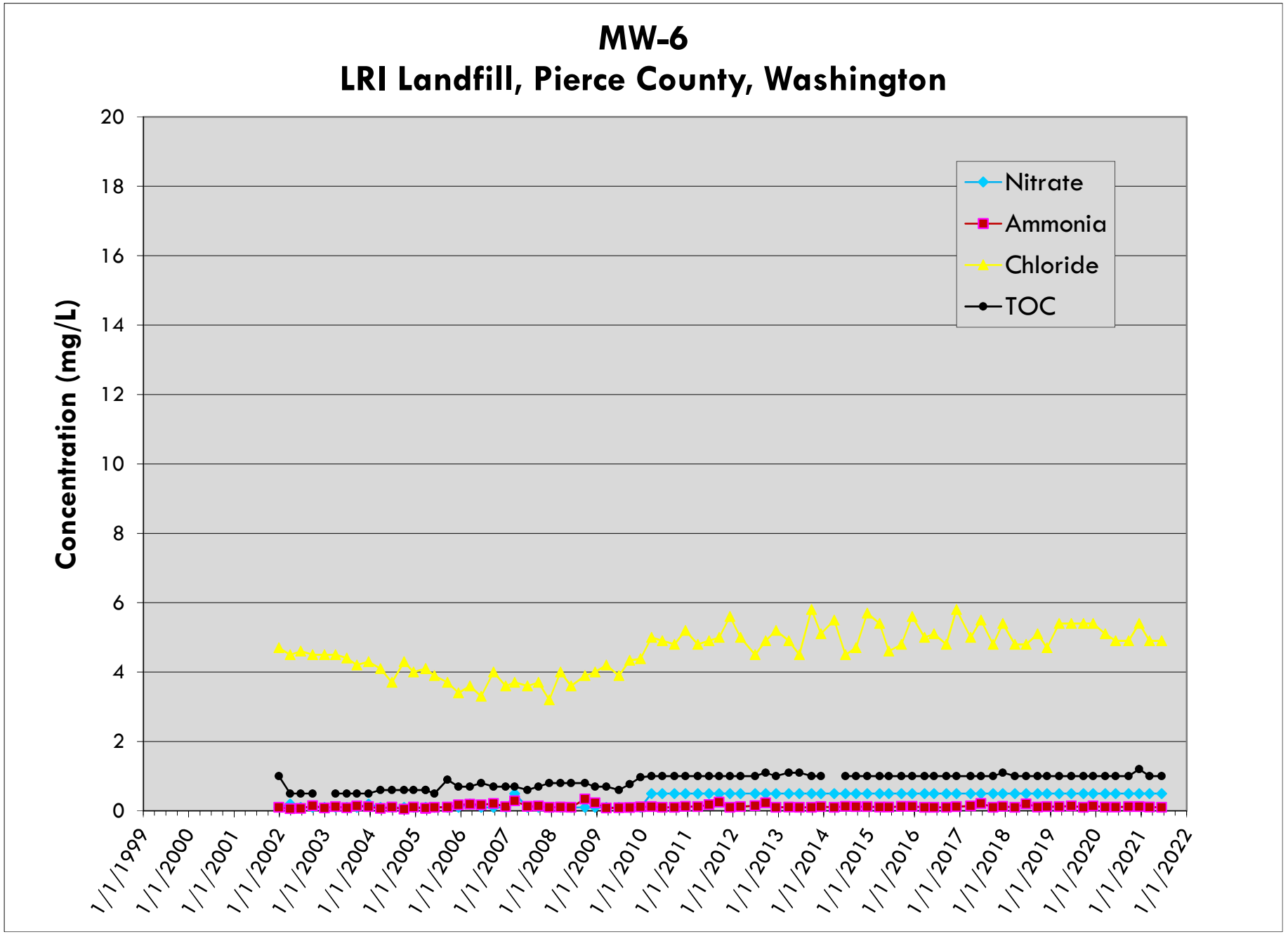

MW-2A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

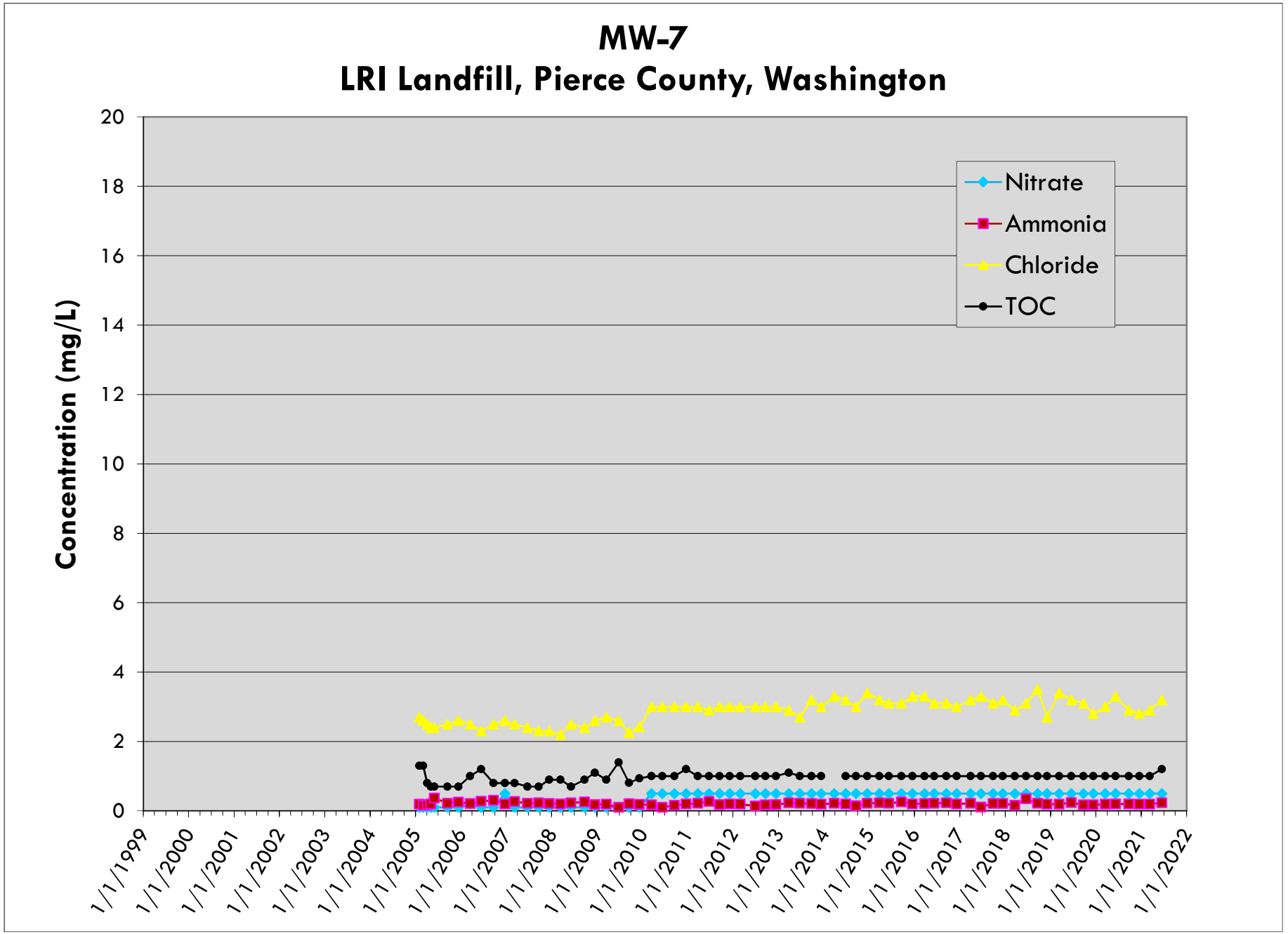

MW-3
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

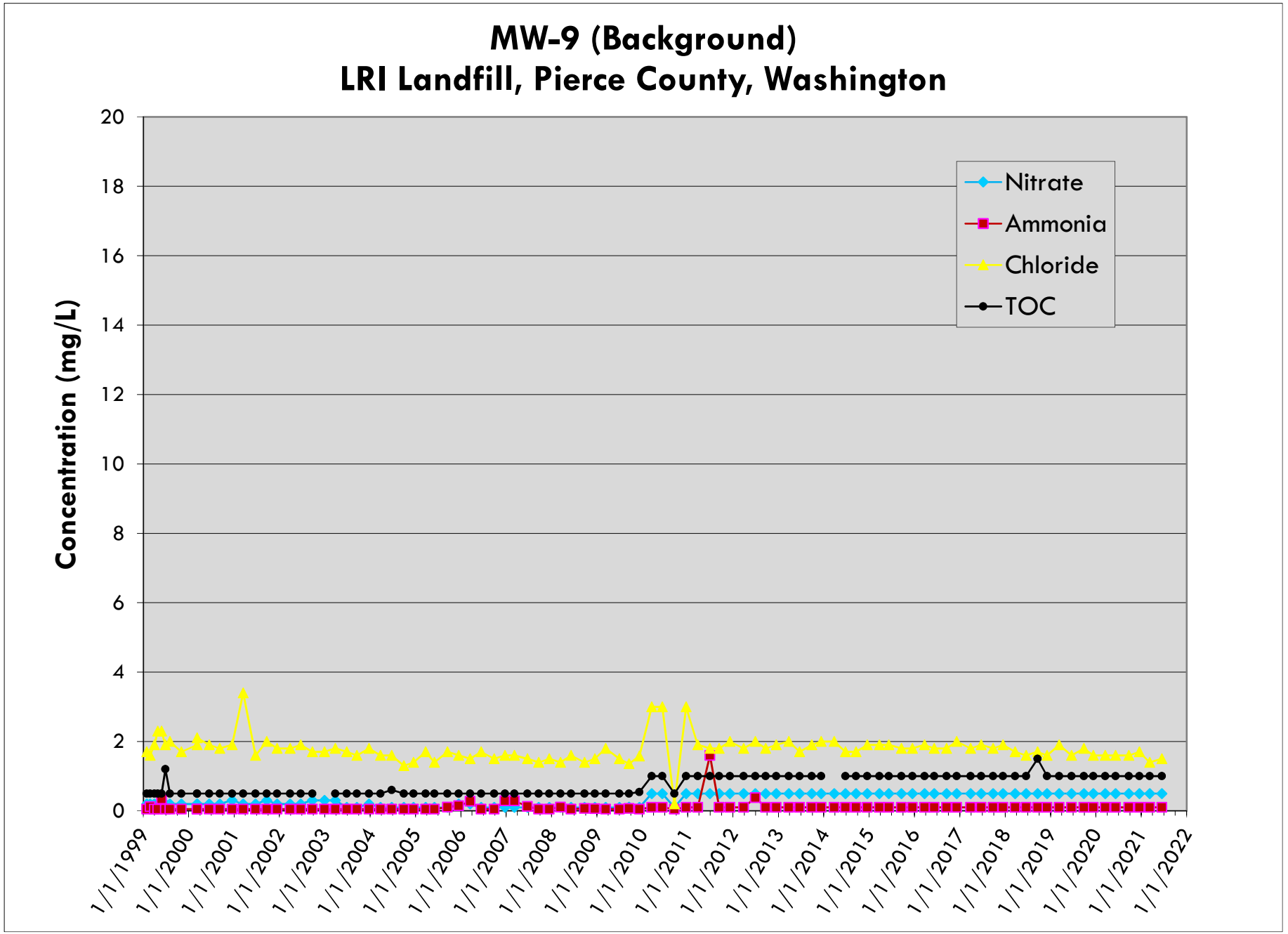
MW-4
LRI Landfill, Pierce County, Washington

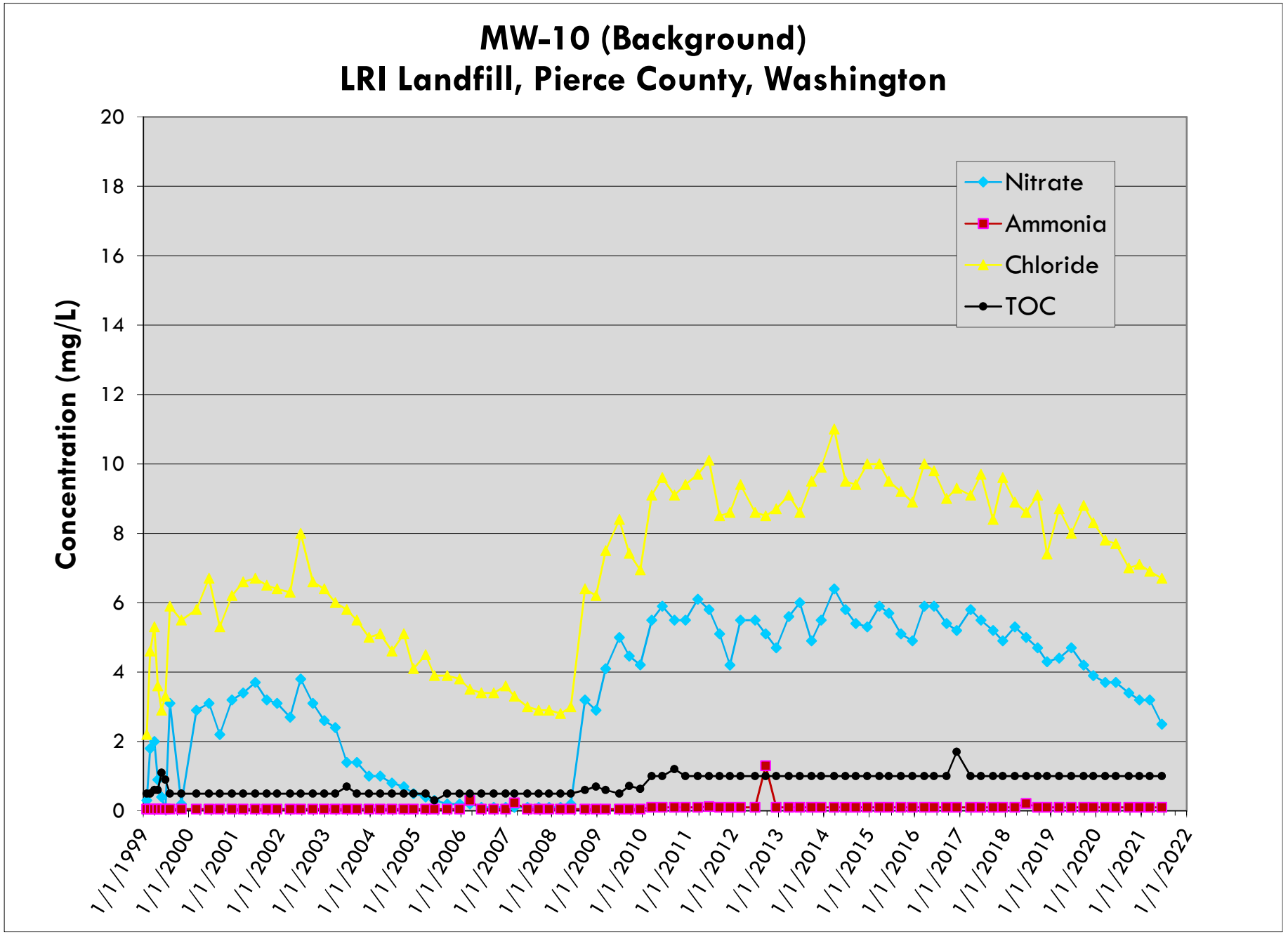


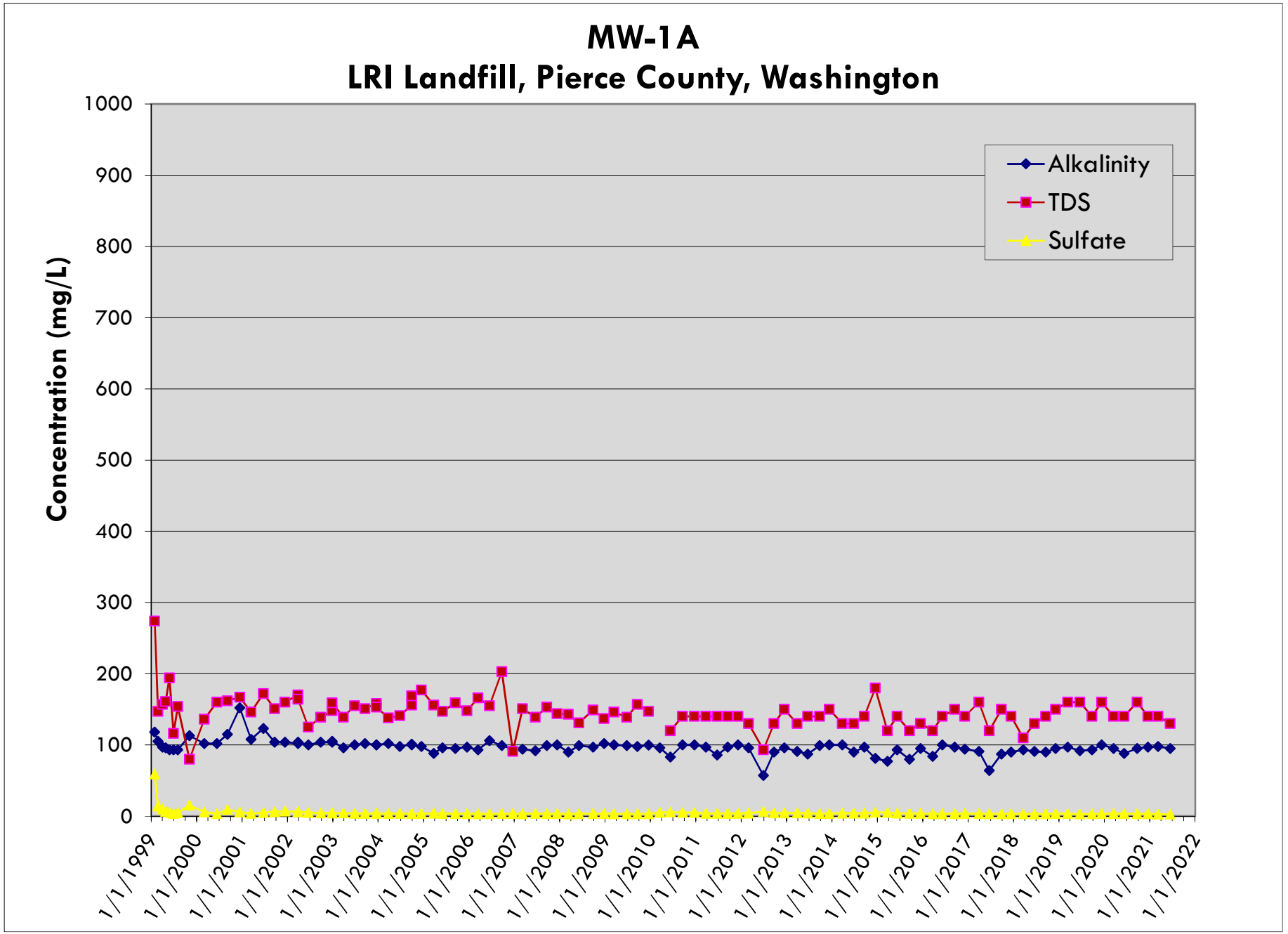

MW-5A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

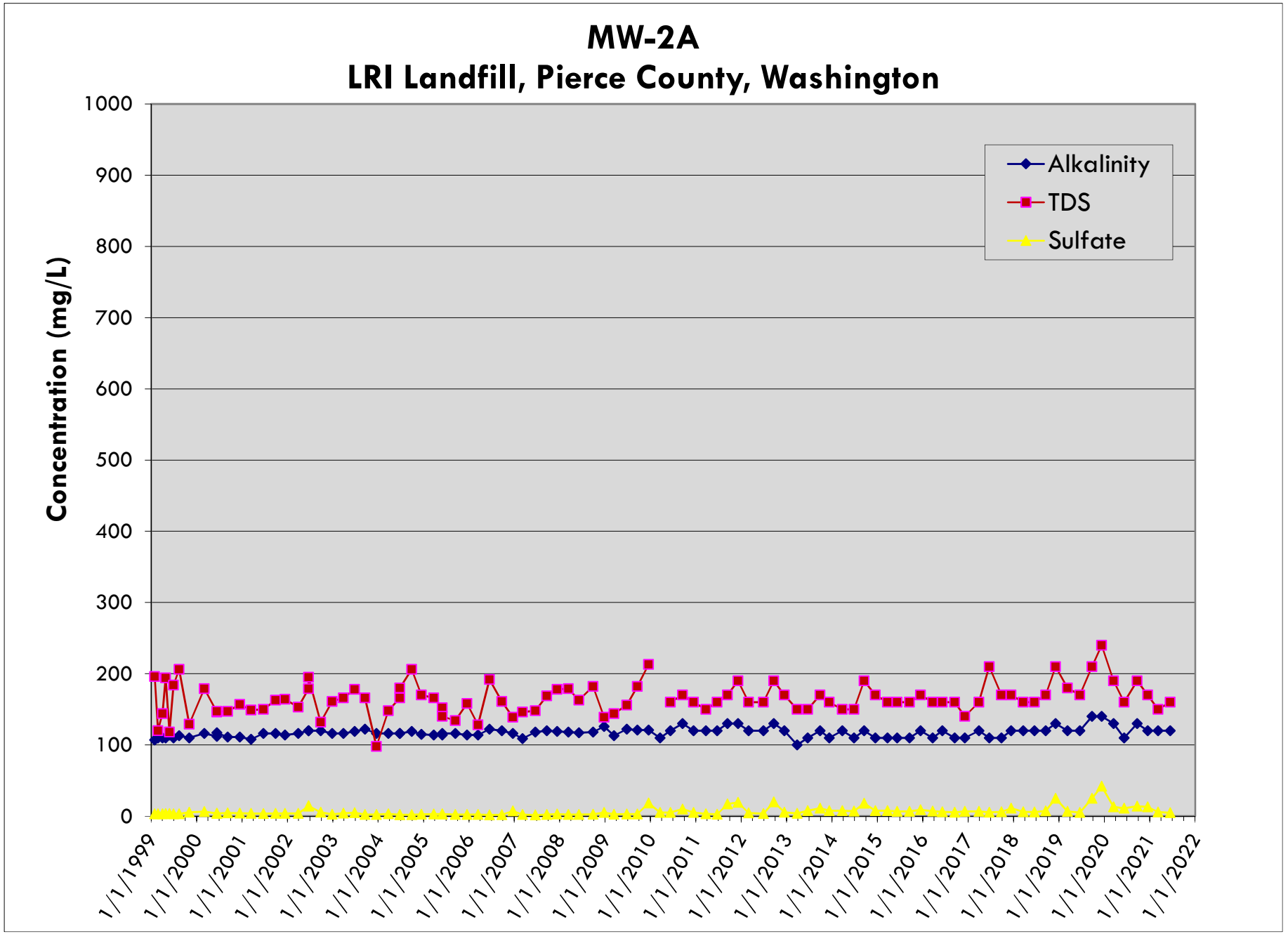

MW-6
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

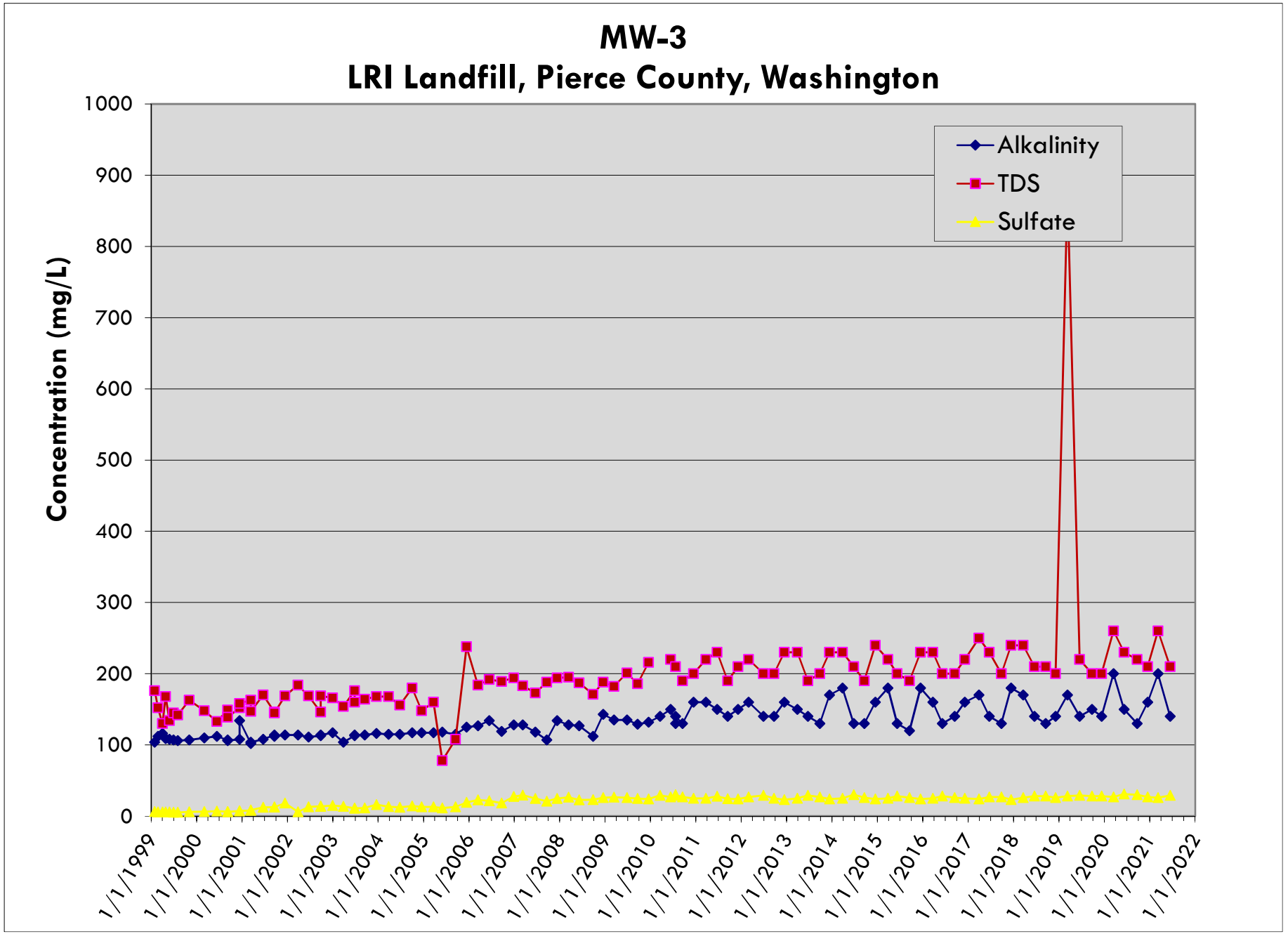

MW-7
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

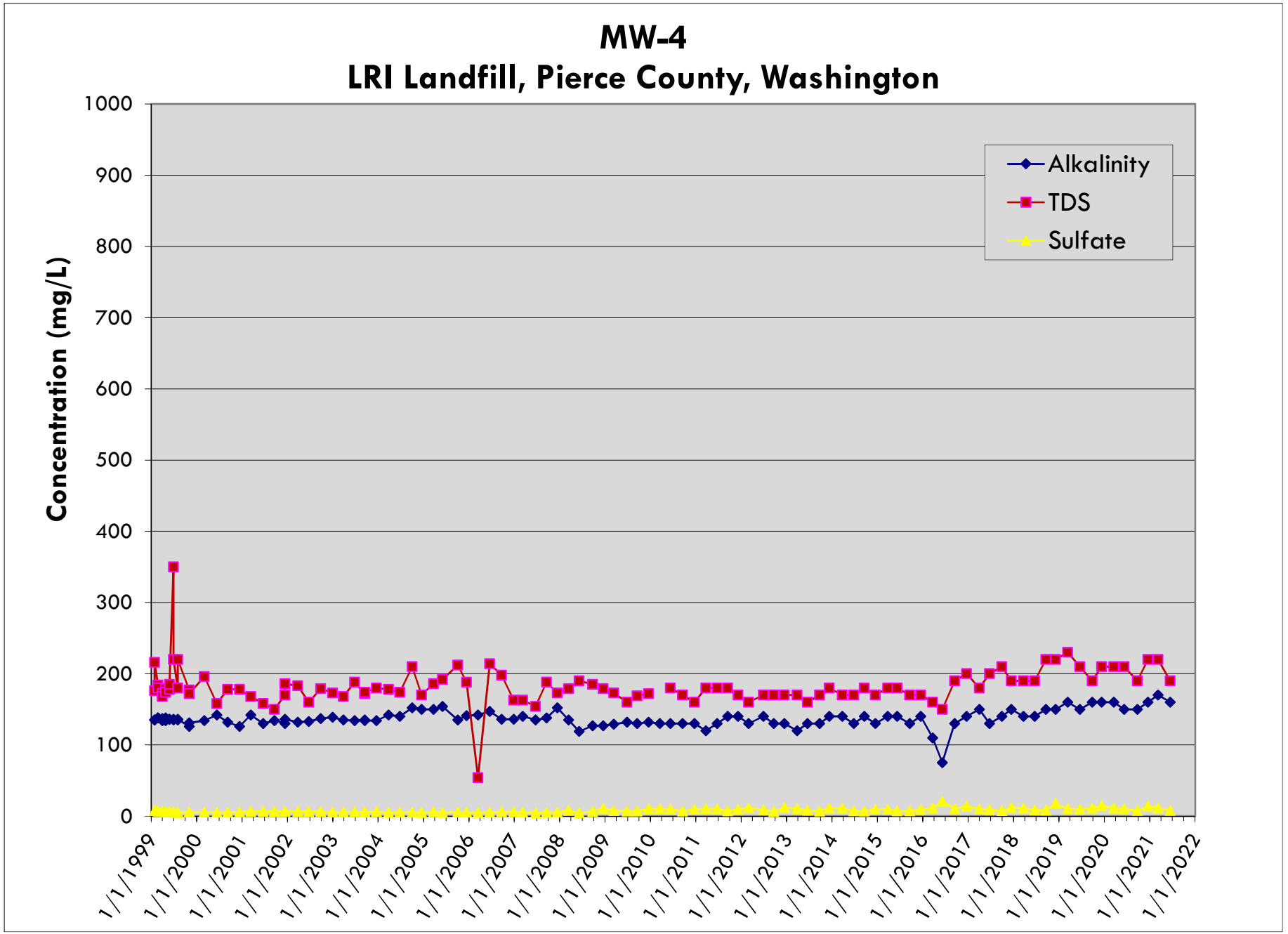

MW-9 (Background)
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

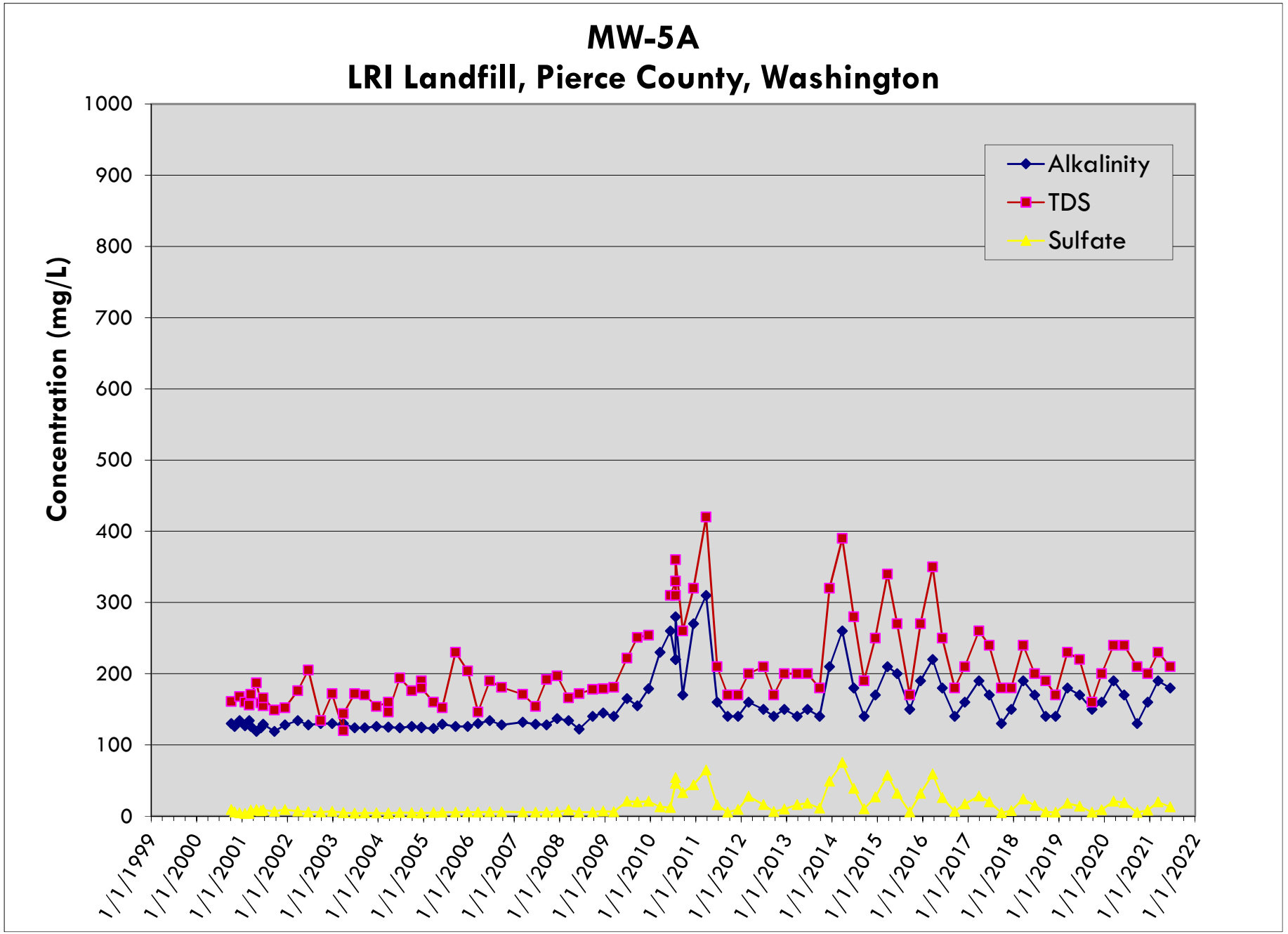

MW-10 (Background)
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

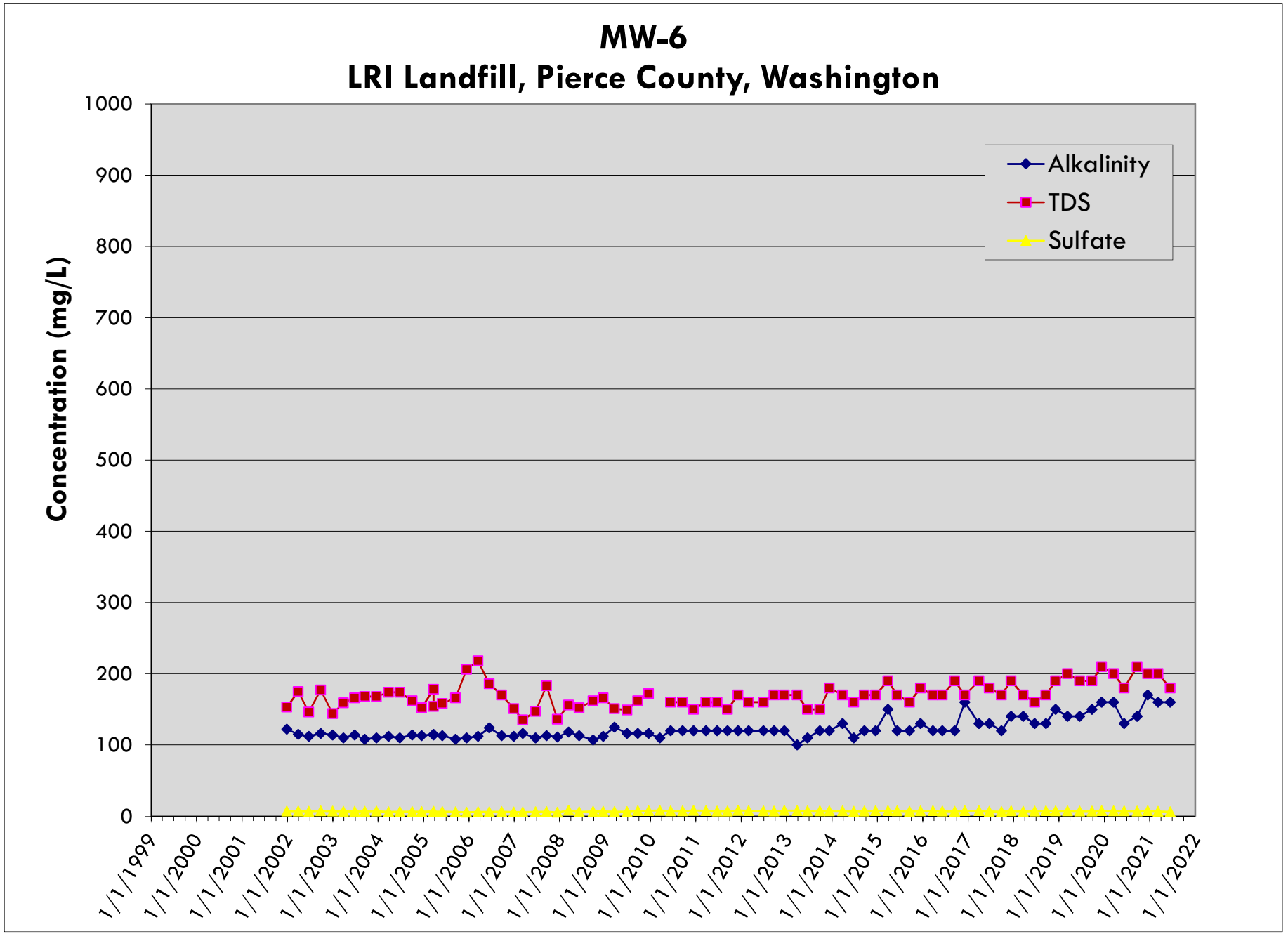

MW-1A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

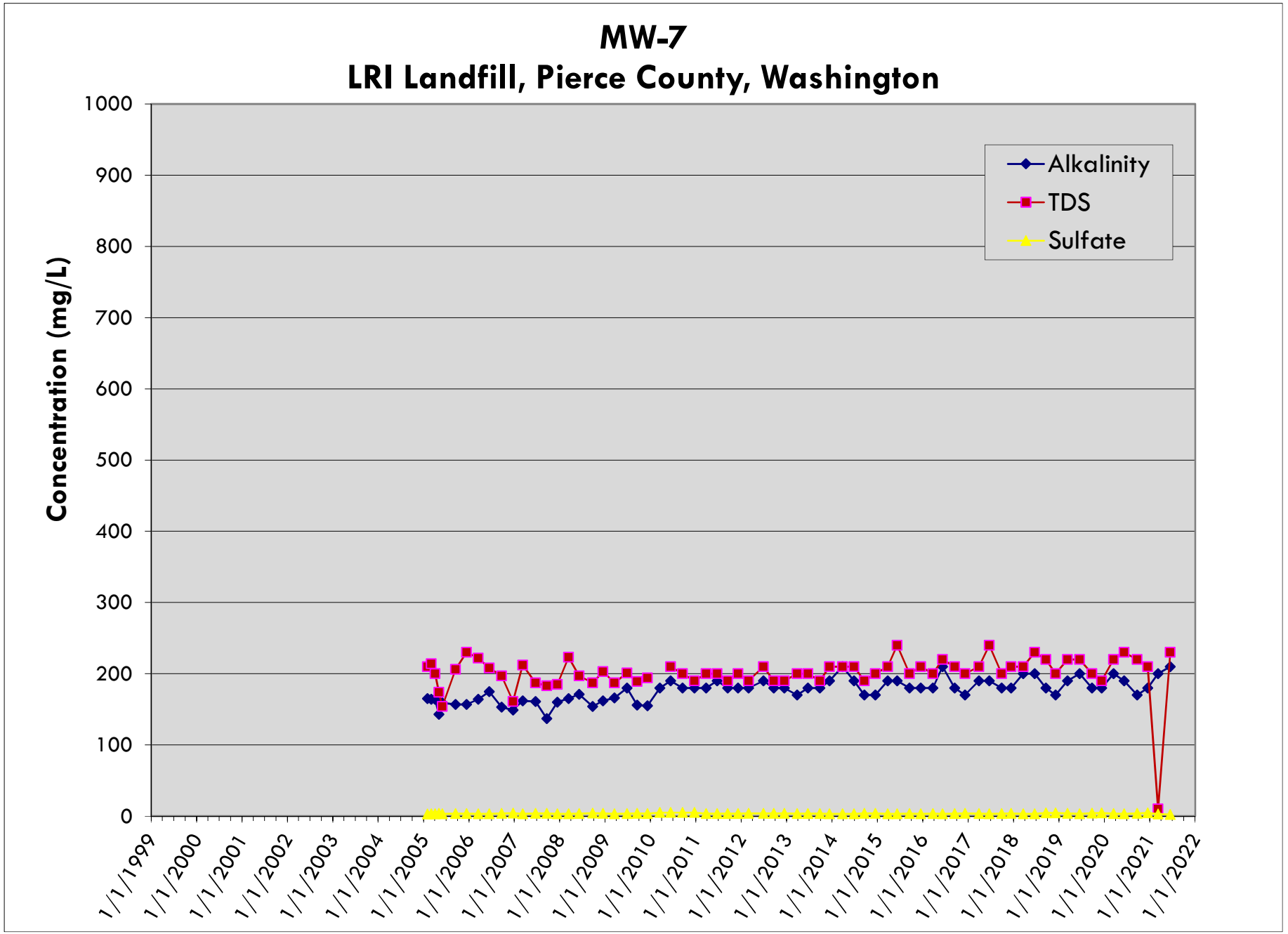

MW-2A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

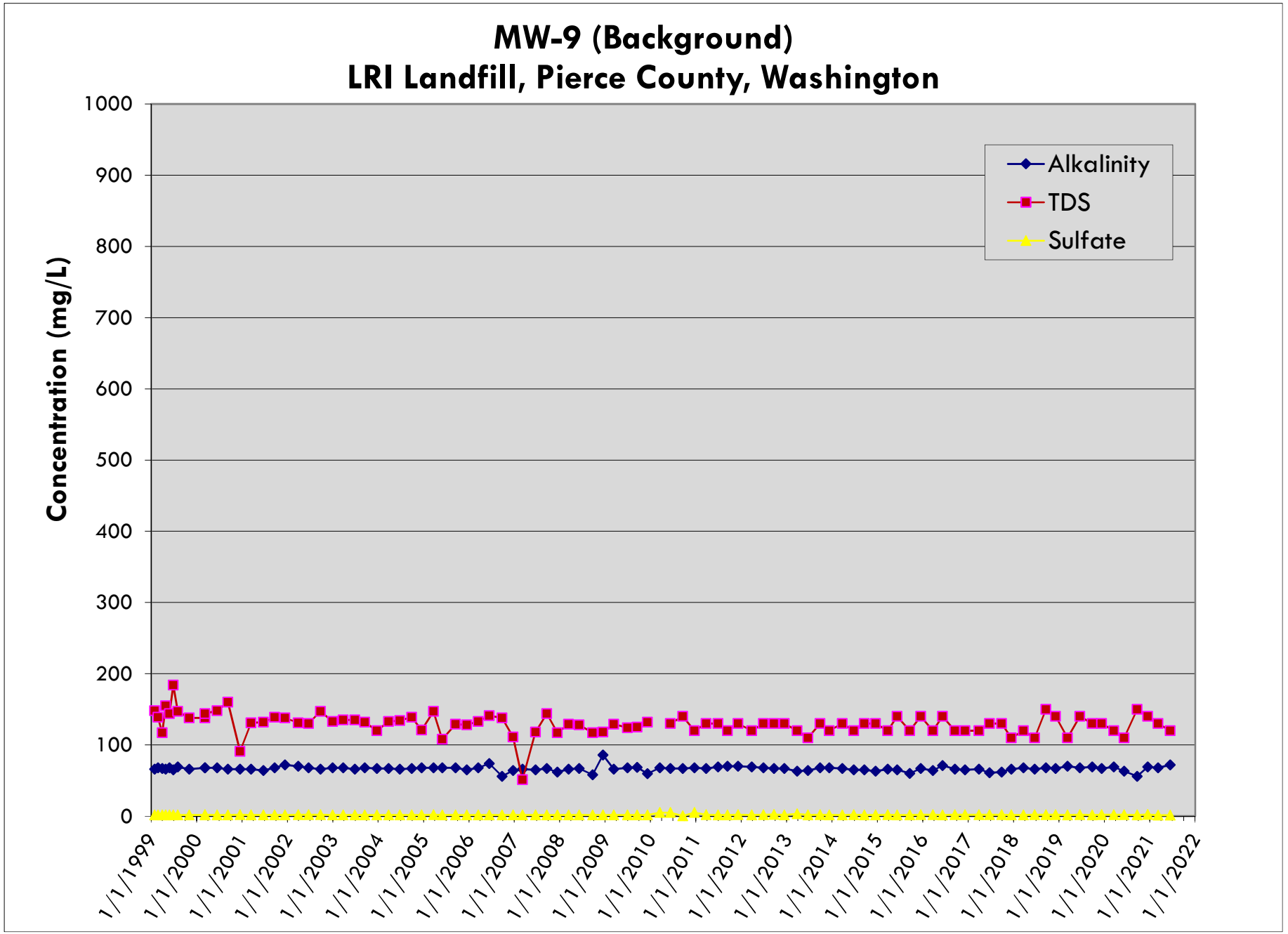

MW-3
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

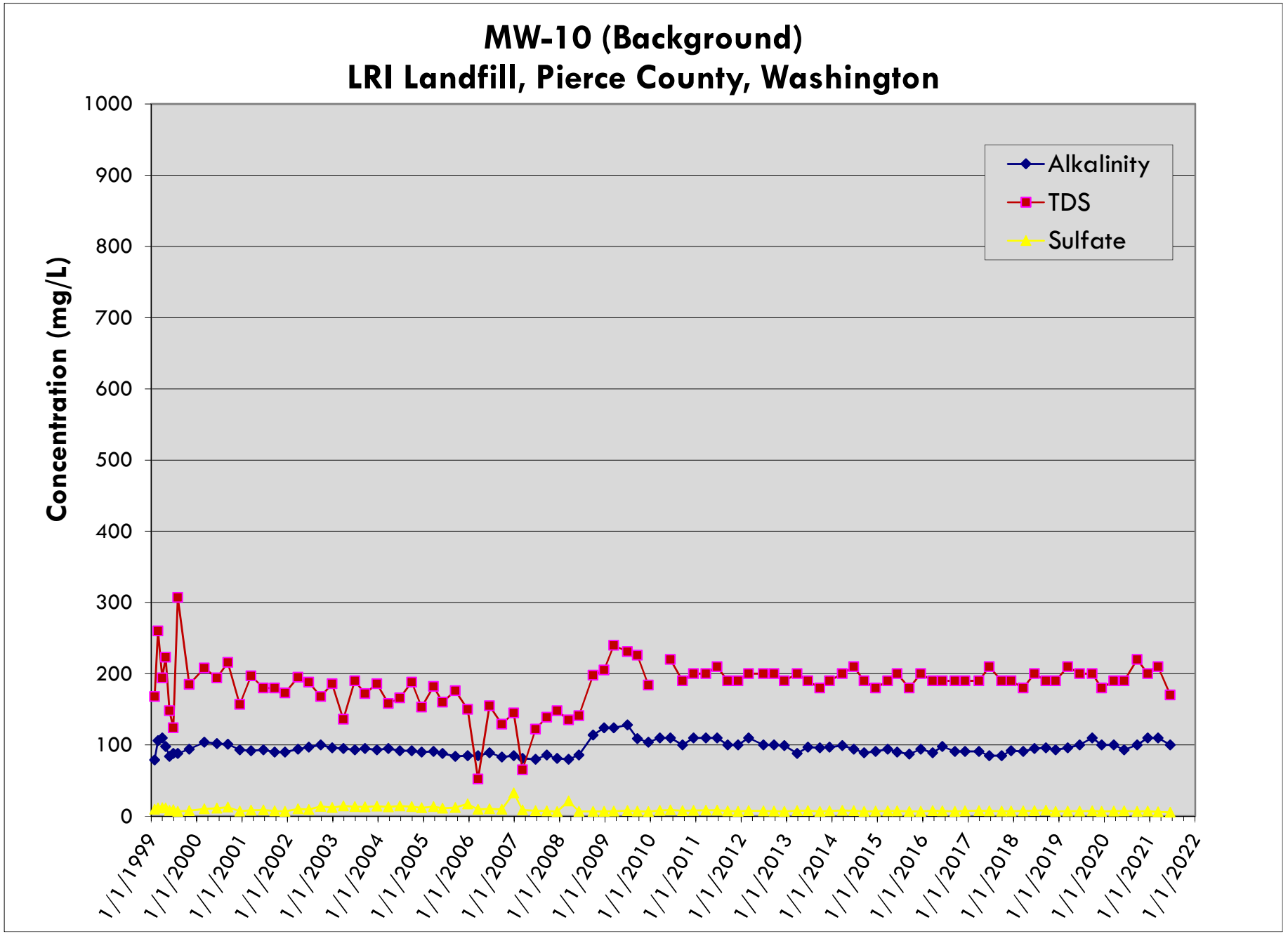

MW-4
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

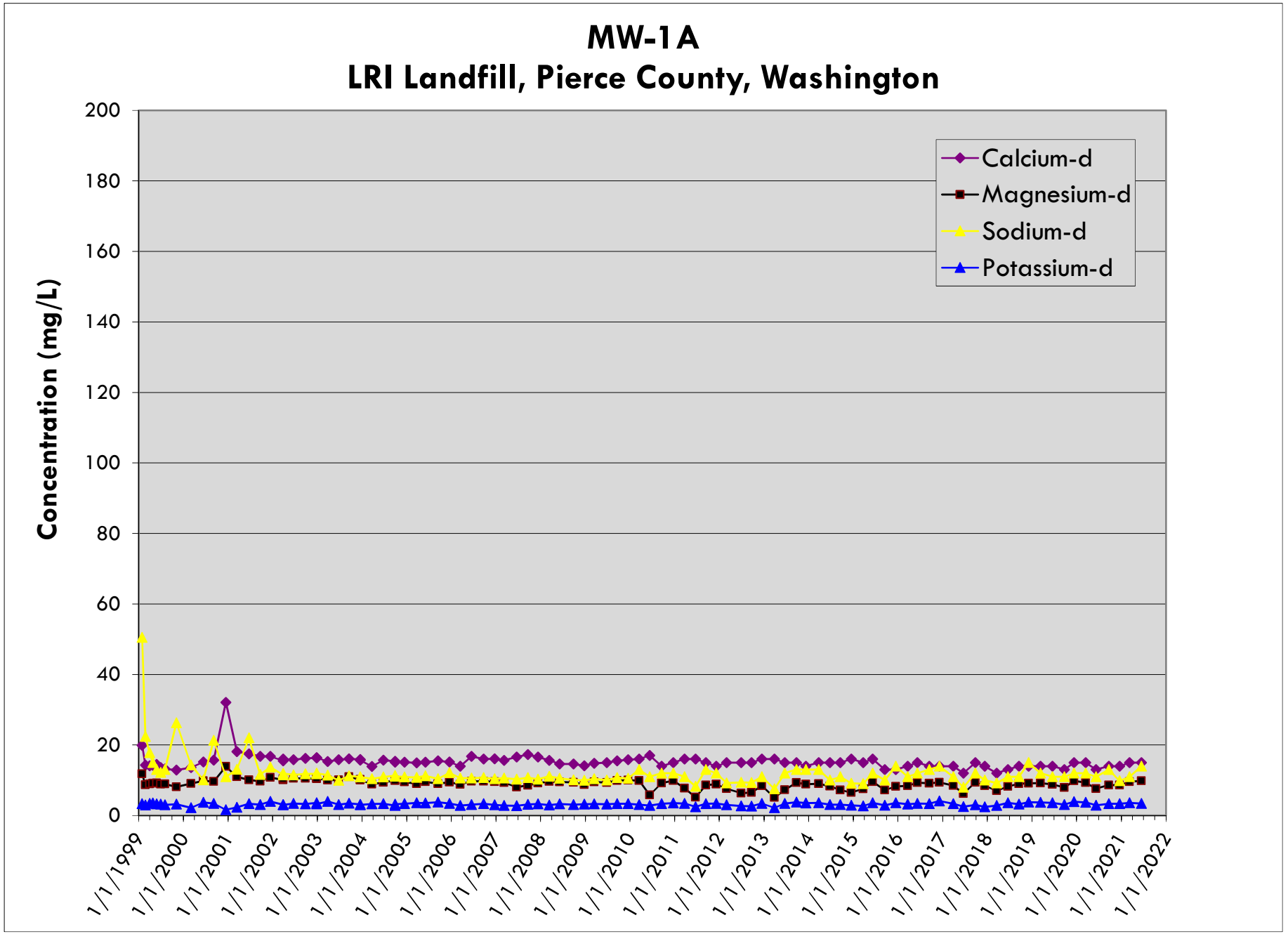

MW-5A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022


MW-6
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

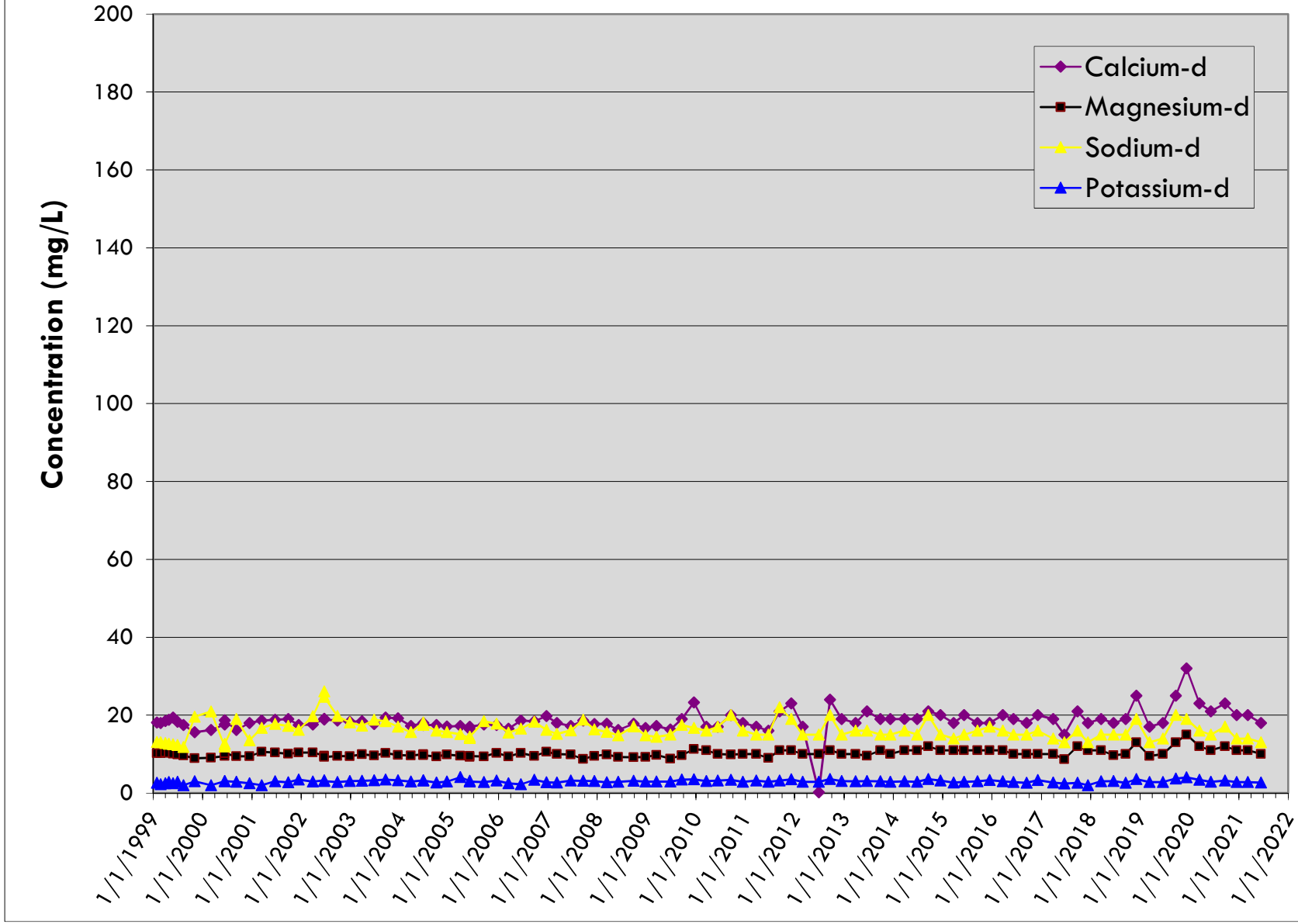

MW-7
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

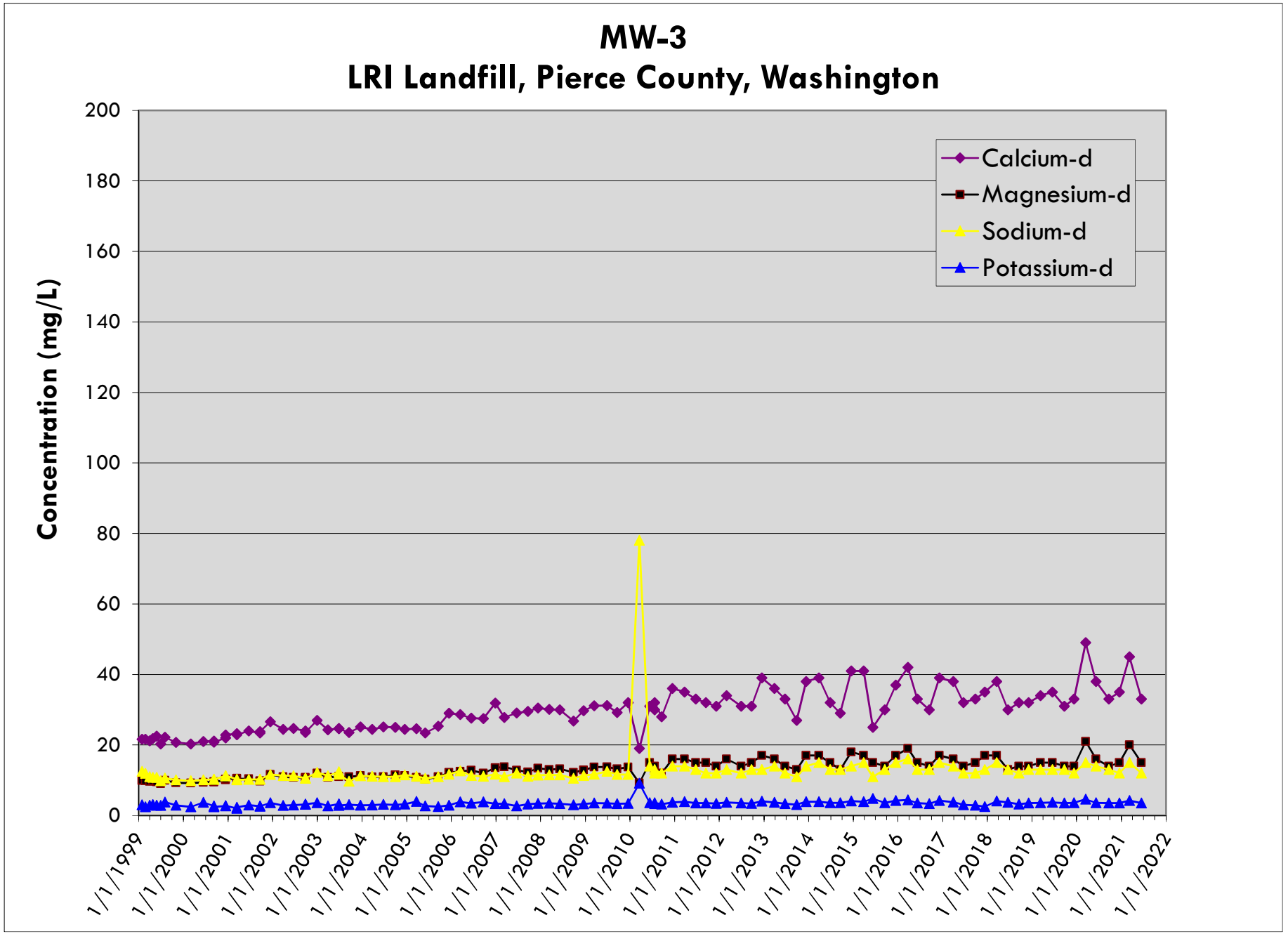

MW-9 (Background)
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

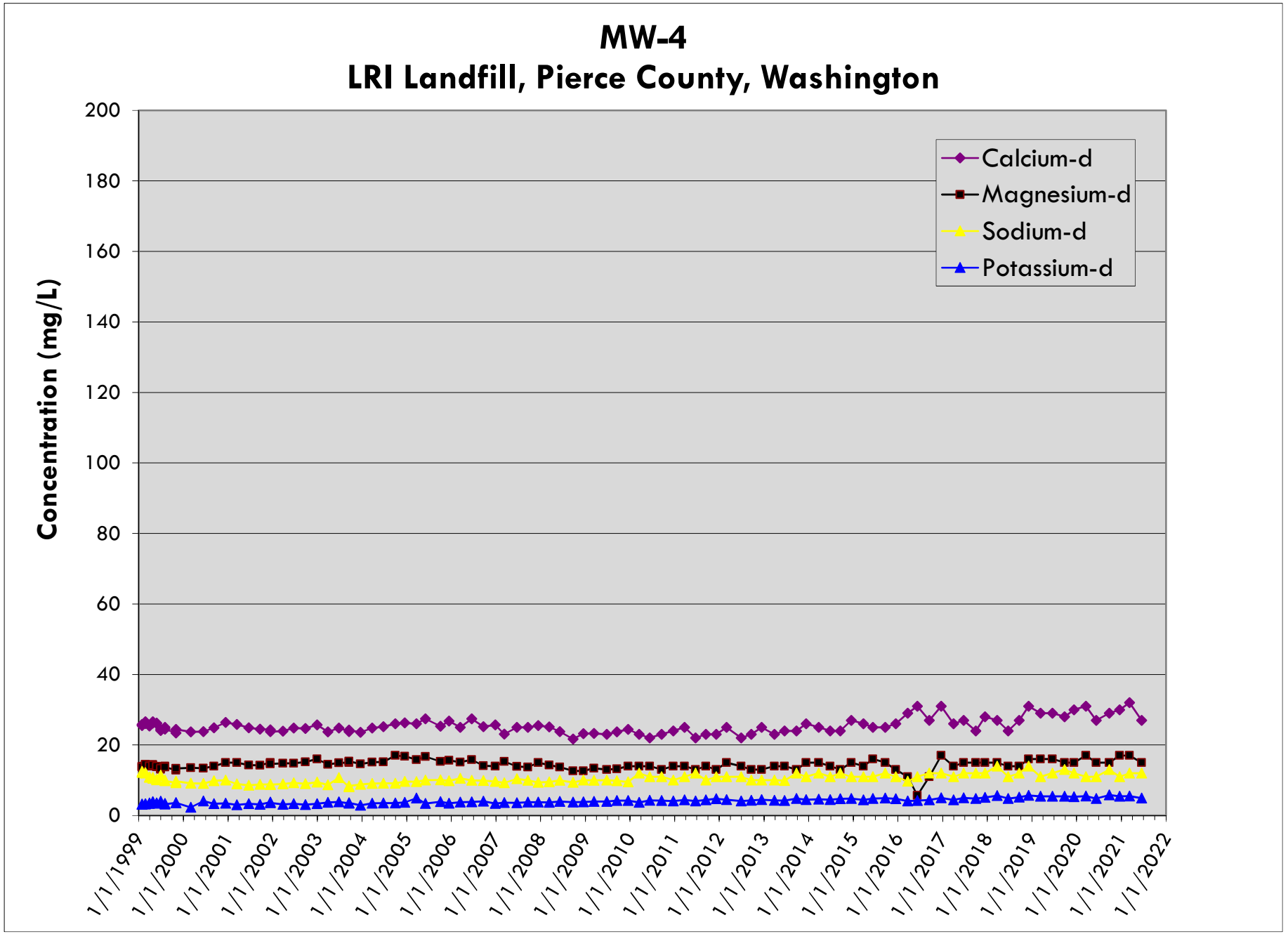

MW-10 (Background)
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Alkalinity
TDS
Sulfate
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

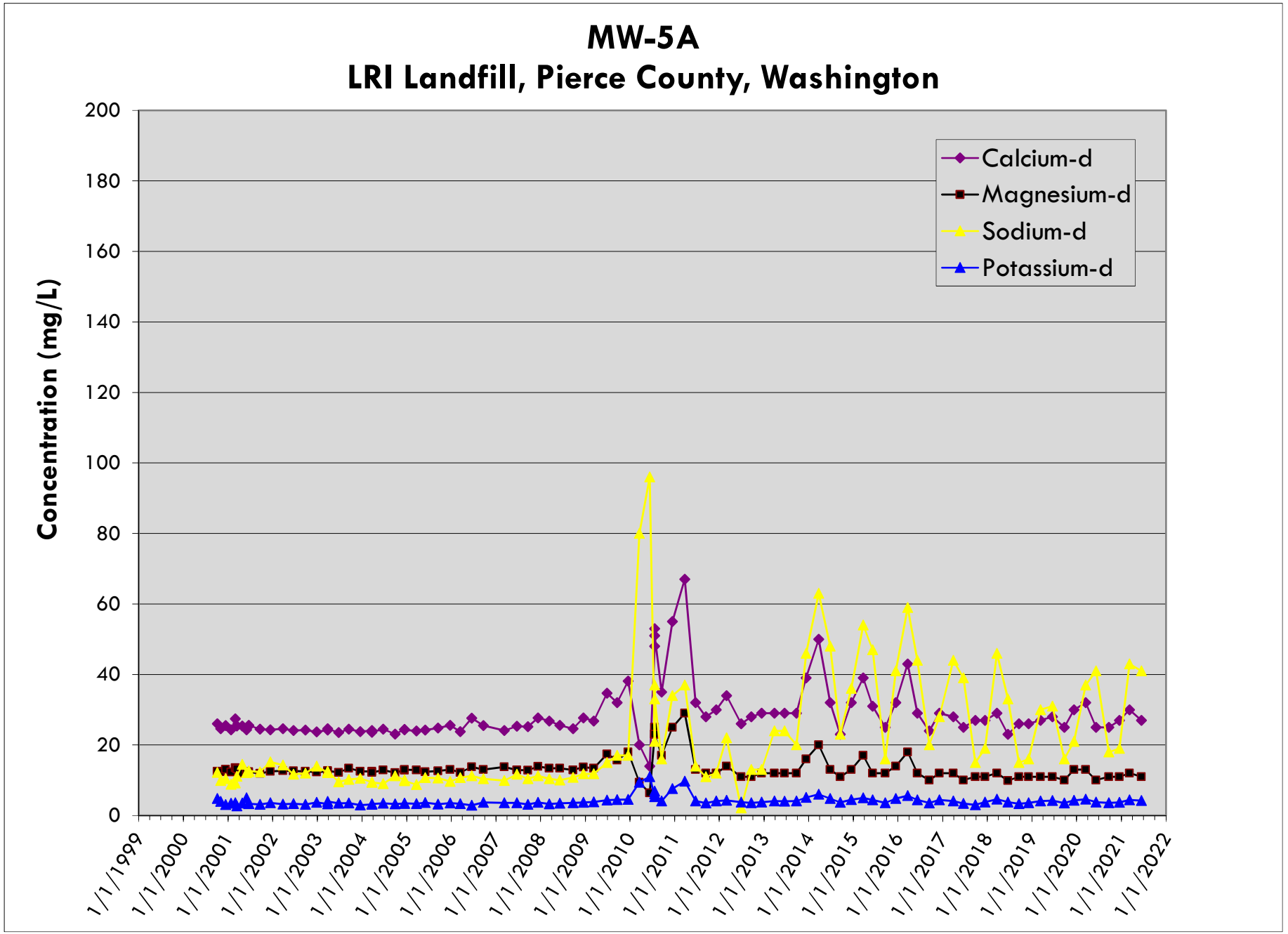

MW-1A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Calcium-d
Magnesium-d
Sodium-d
Potassium-d
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

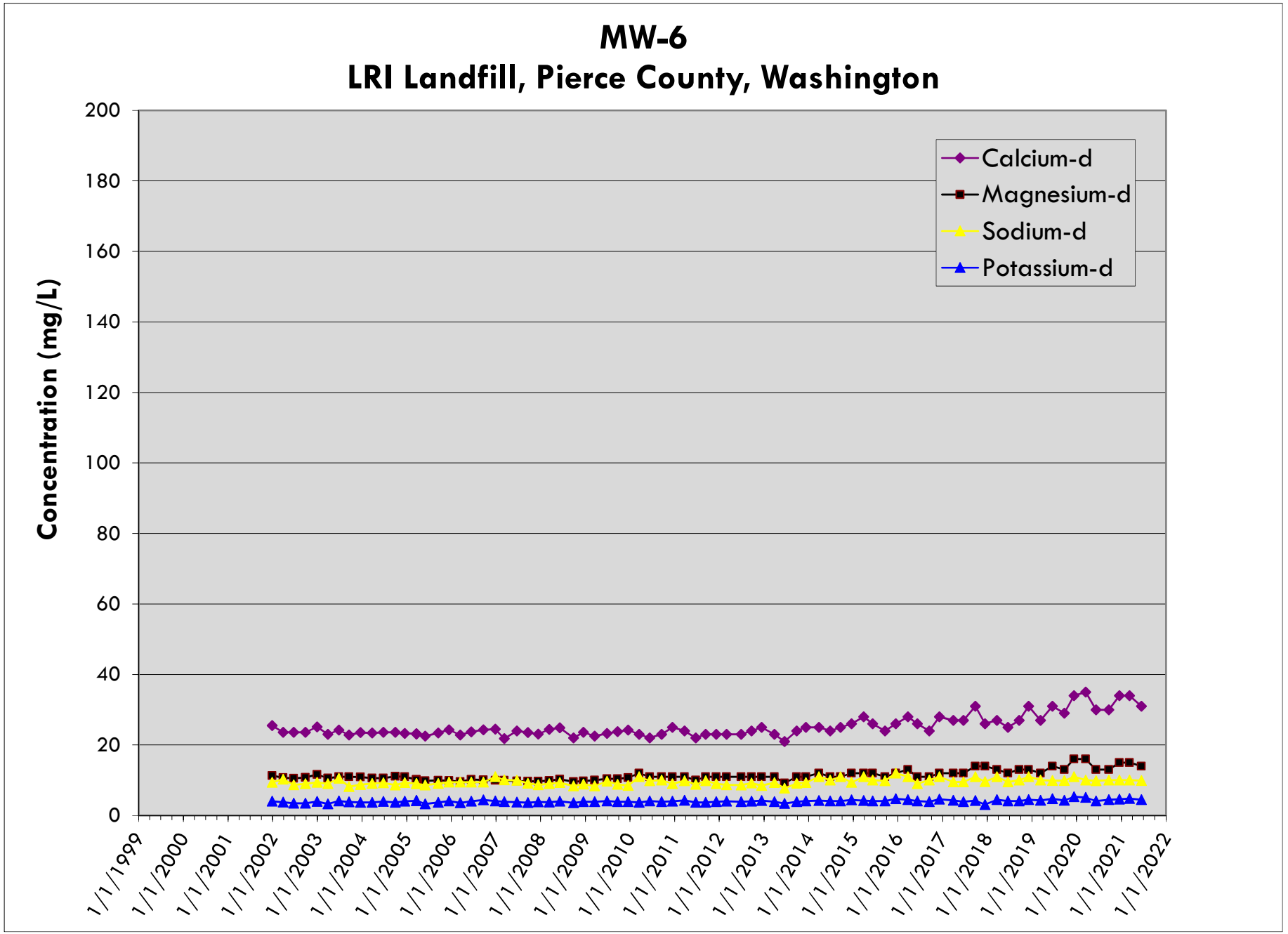
MW-2A
LRI Landfill, Pierce County, Washington

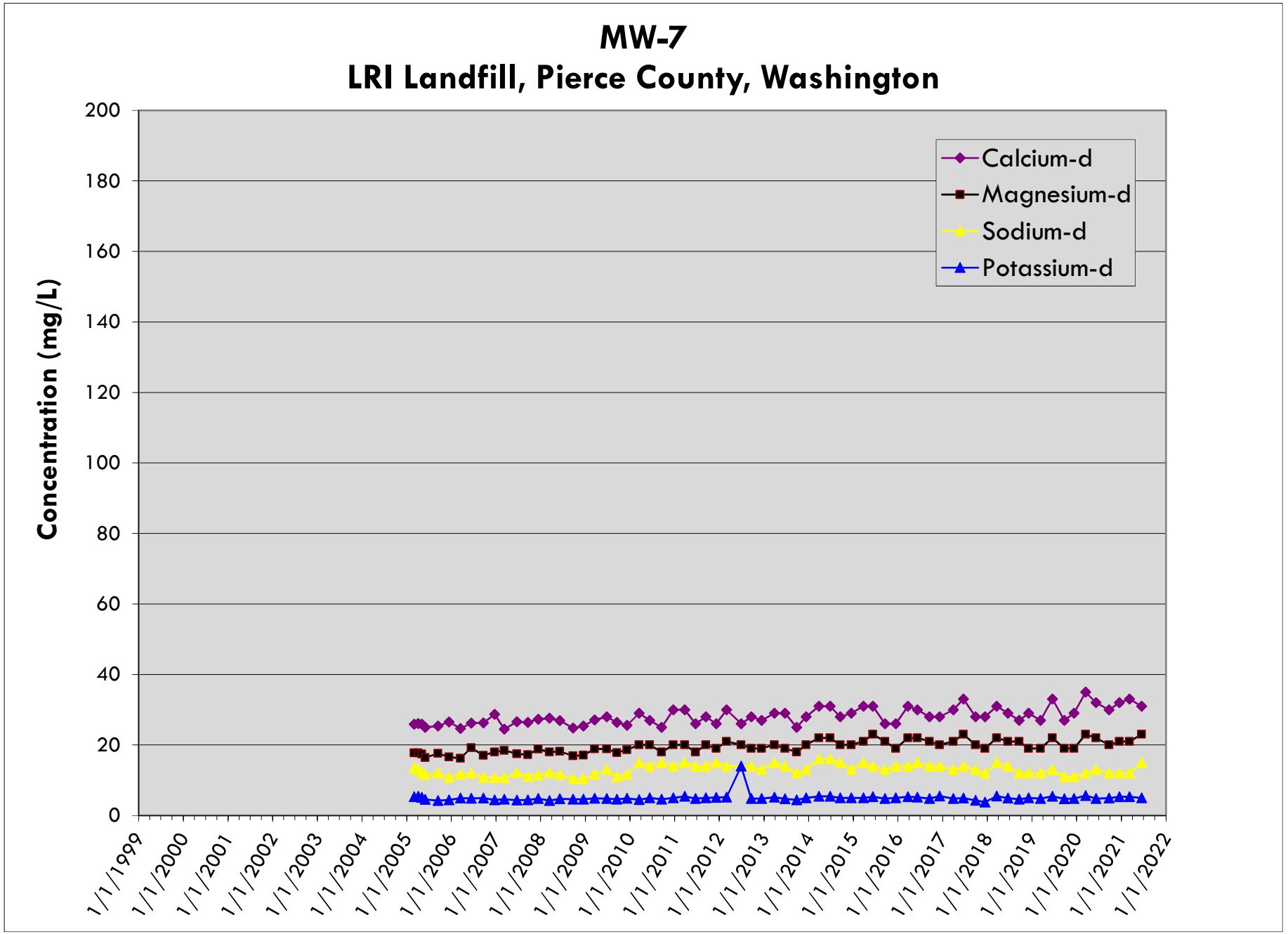


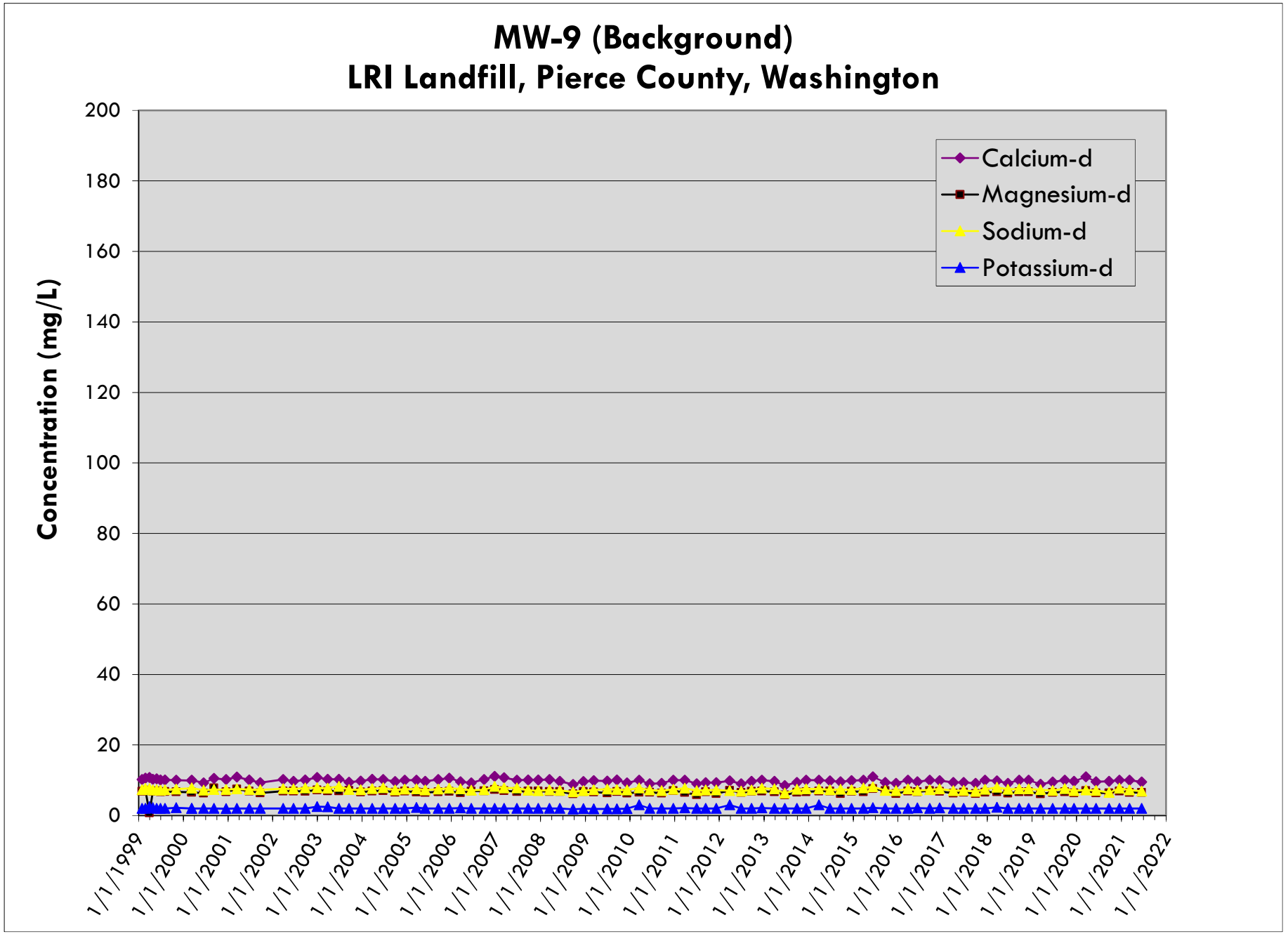

MW-3
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Calcium-d
Magnesium-d
Sodium-d
Potassium-d
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

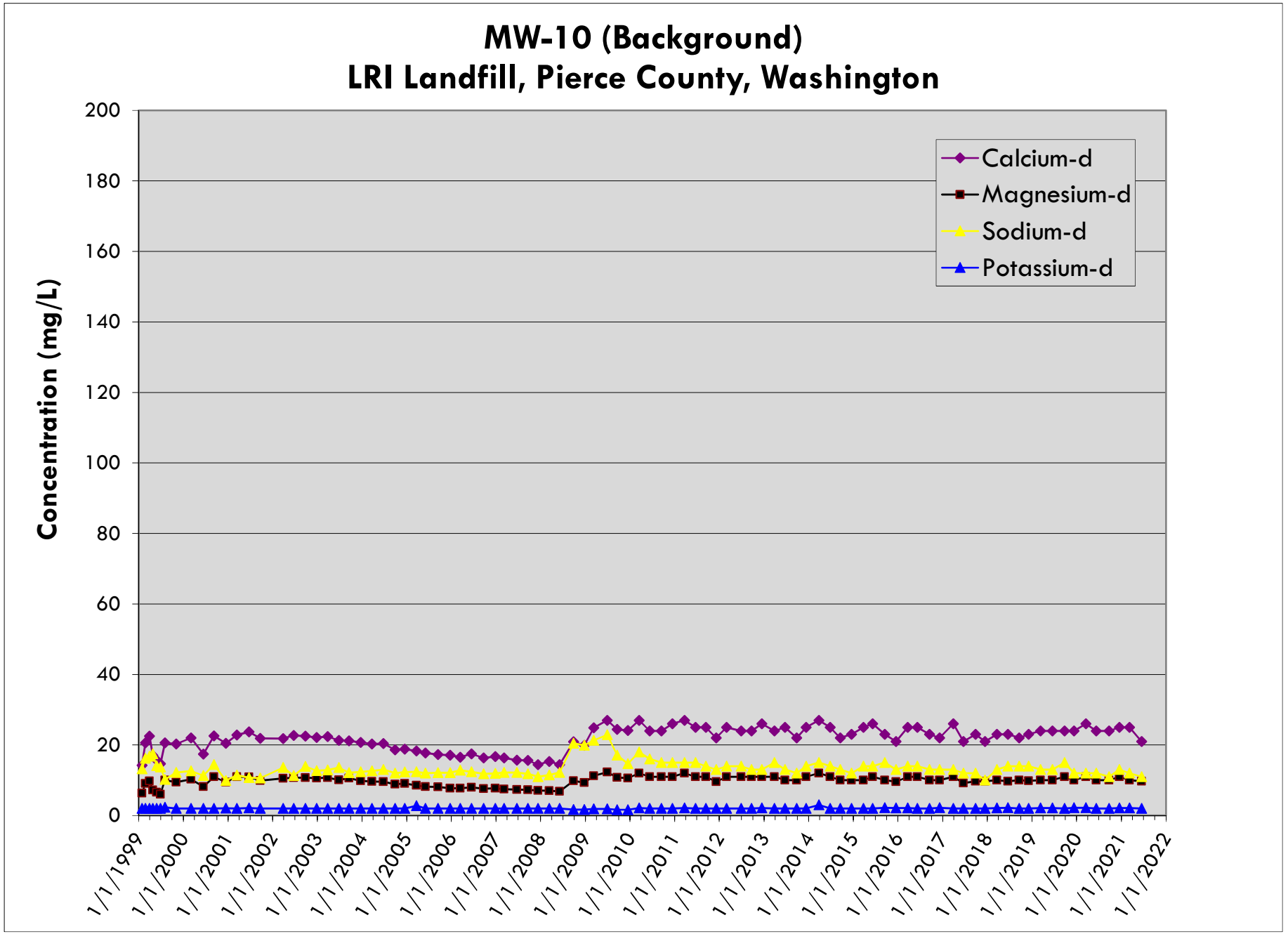

MW-4
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Calcium-d
Magnesium-d
Sodium-d
Potassium-d
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022


MW-5A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Calcium-d
Magnesium-d
Sodium-d
Potassium-d
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

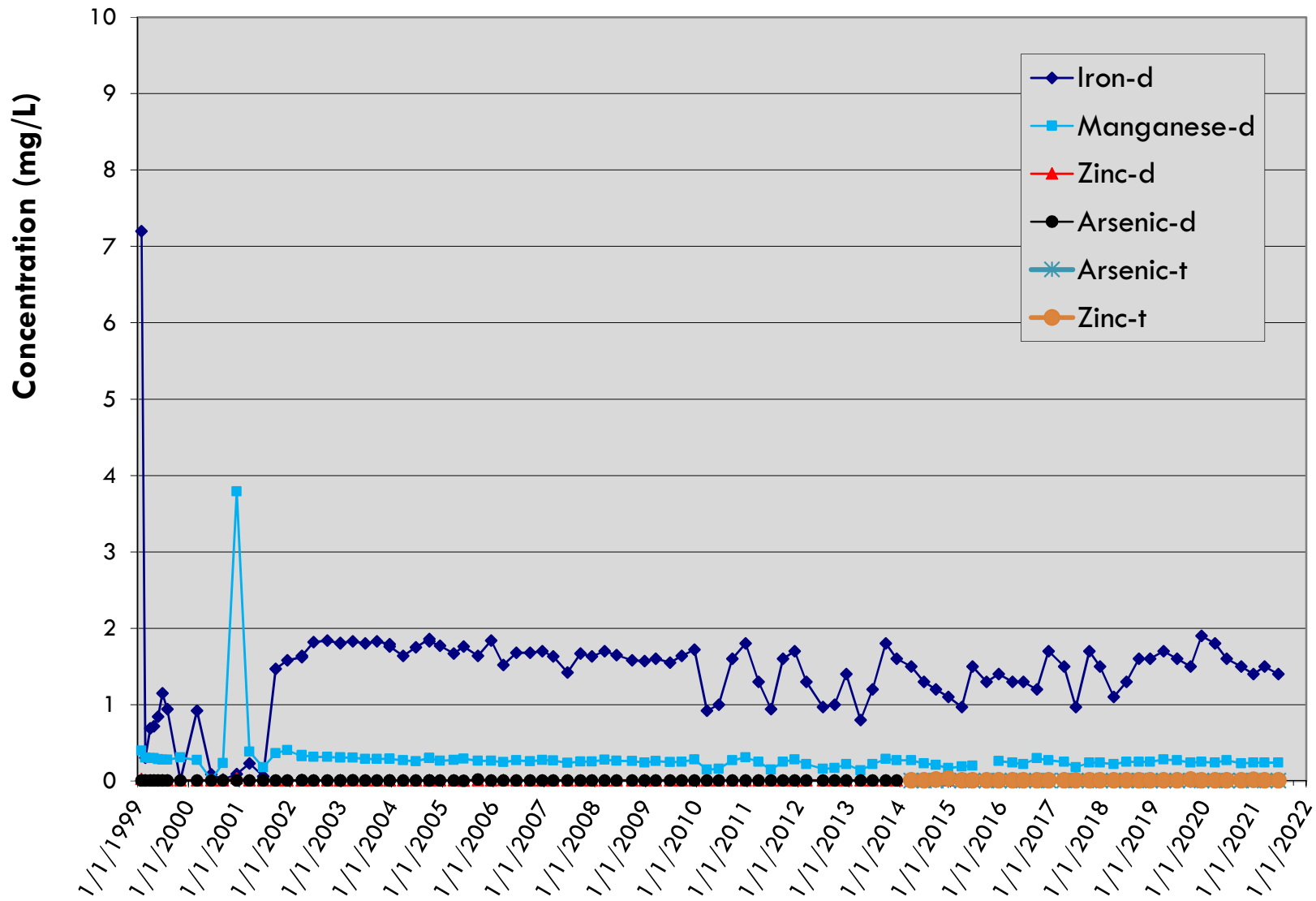

MW-6
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Calcium-d
Magnesium-d
Sodium-d
Potassium-d
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022


MW-7
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Calcium-d
Magnesium-d
Sodium-d
Potassium-d
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

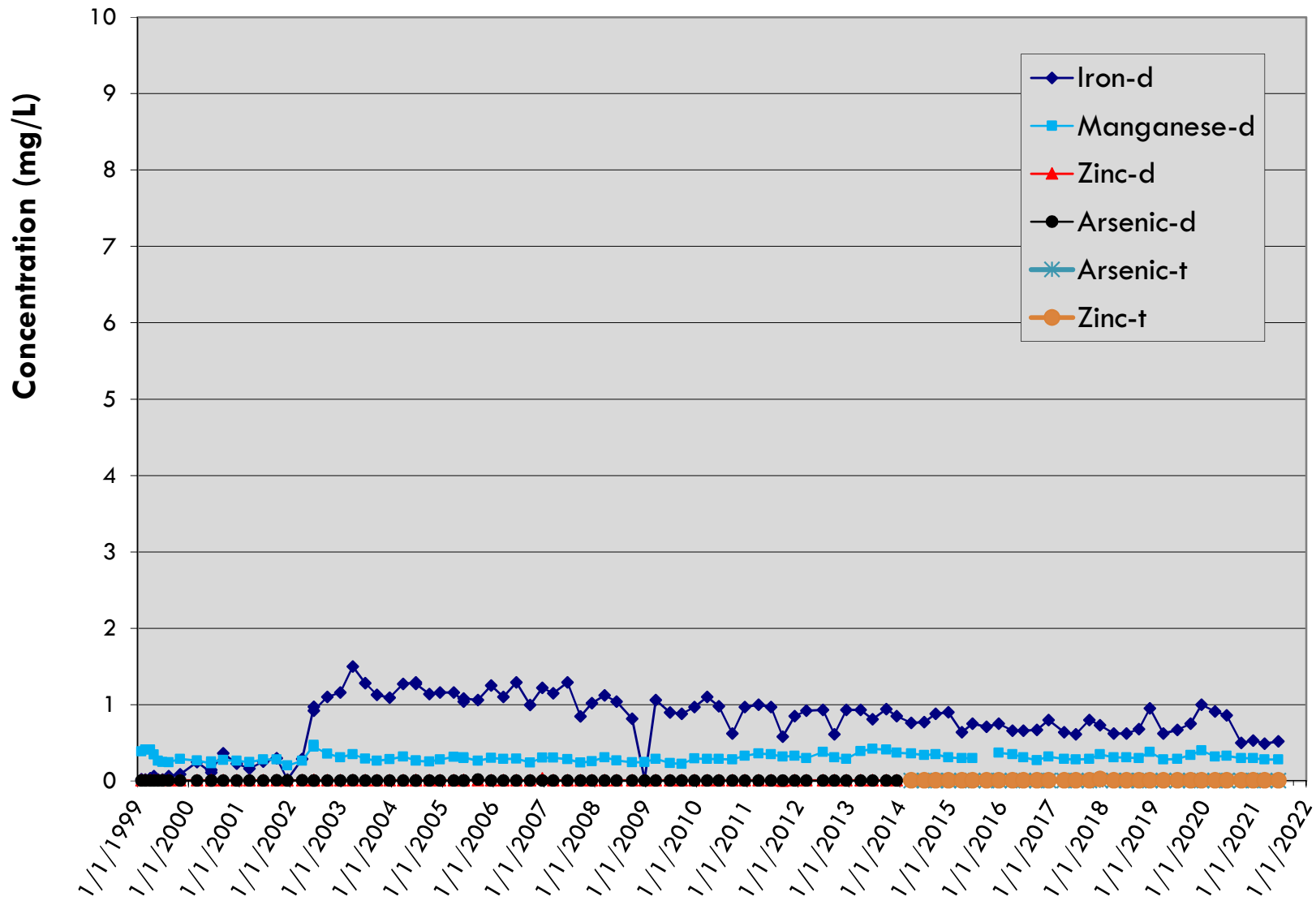

MW-9 (Background)
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Calcium-d
Magnesium-d
Sodium-d
Potassium-d
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022


MW-10 (Background)
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Calcium-d
Magnesium-d
Sodium-d
Potassium-d
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

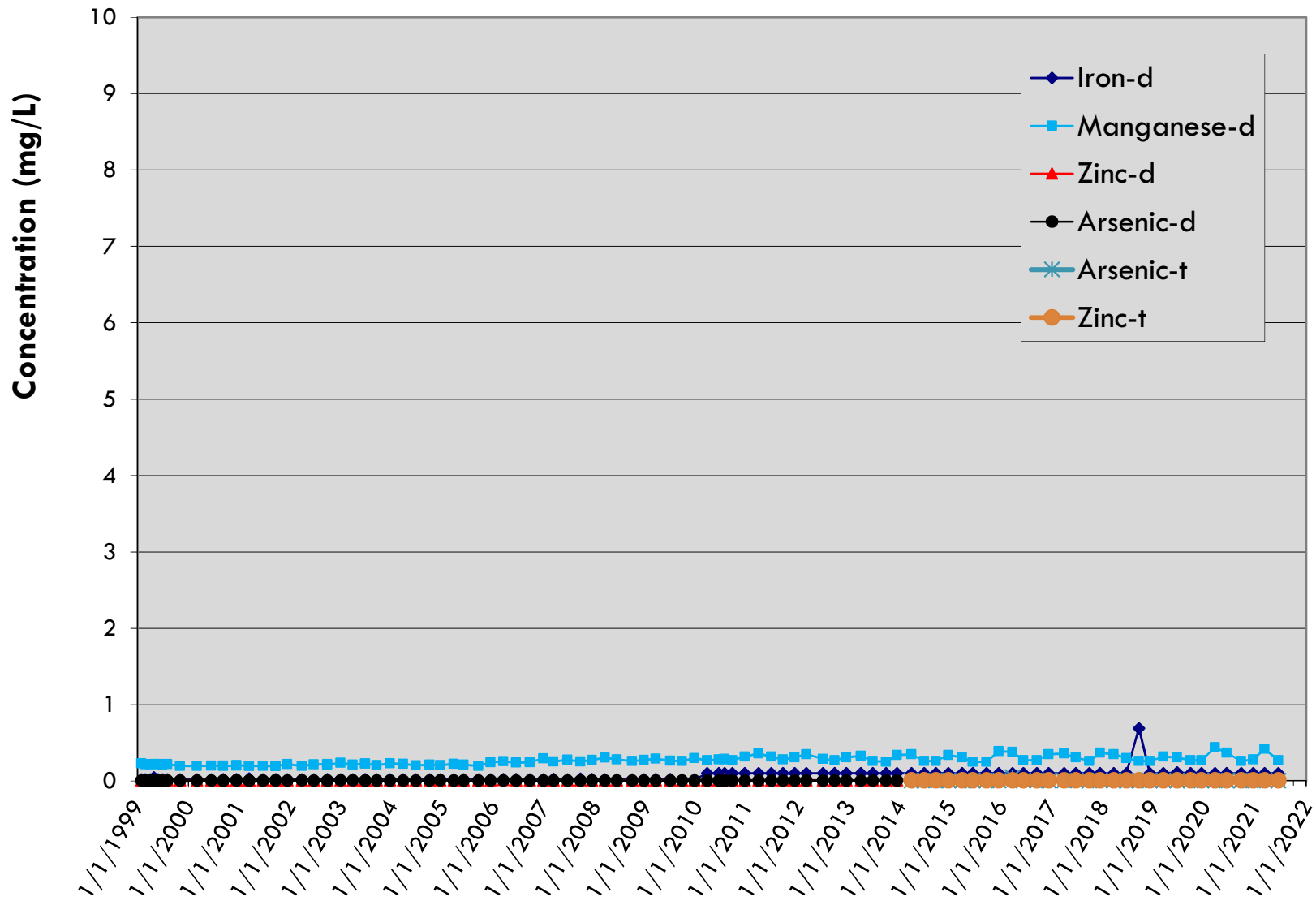
MW-1A
LRI Landfill, Pierce County, Washington



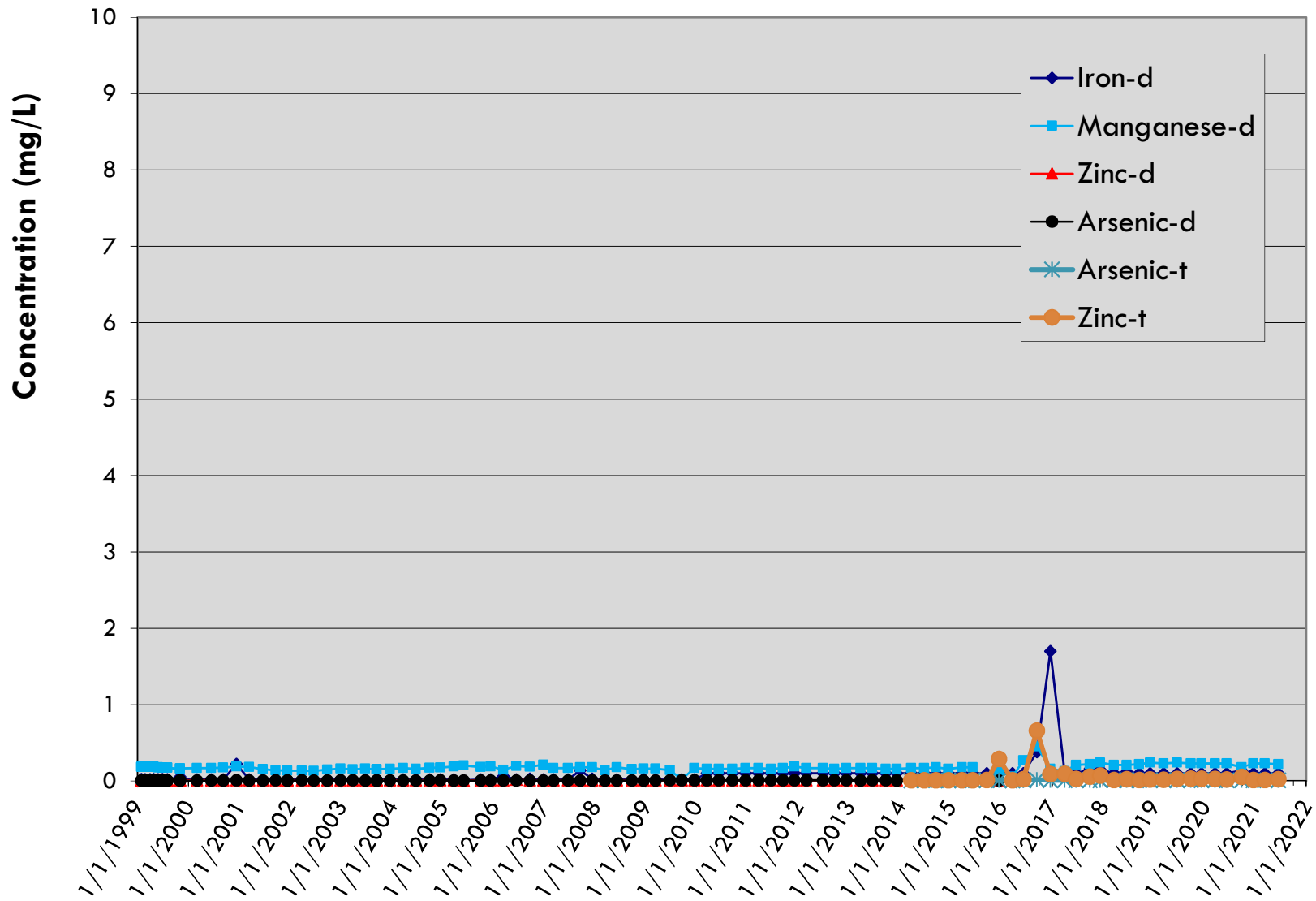
MW-2A
LRI Landfill, Pierce County, Washington



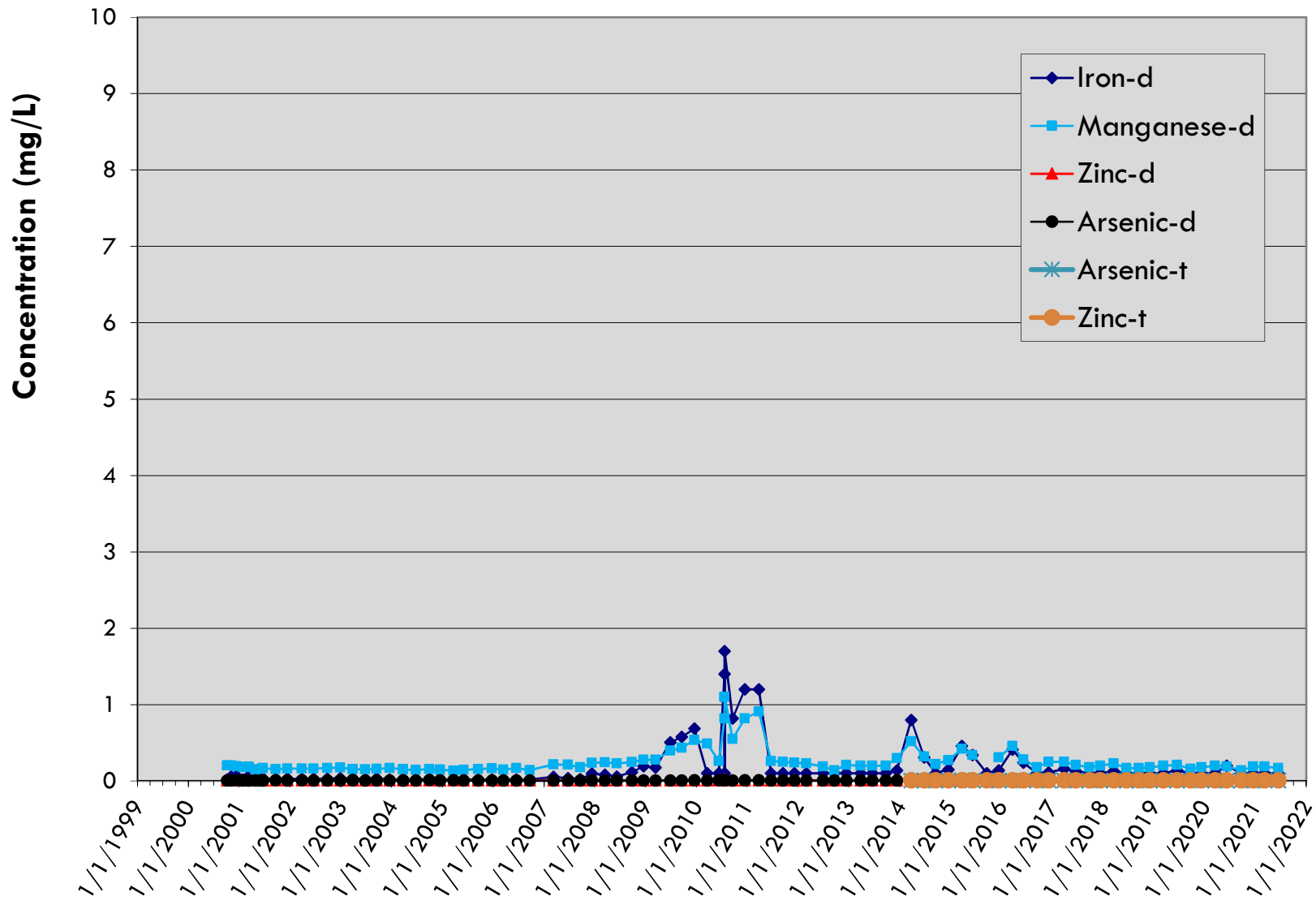
MW-3
LRI Landfill, Pierce County, Washington



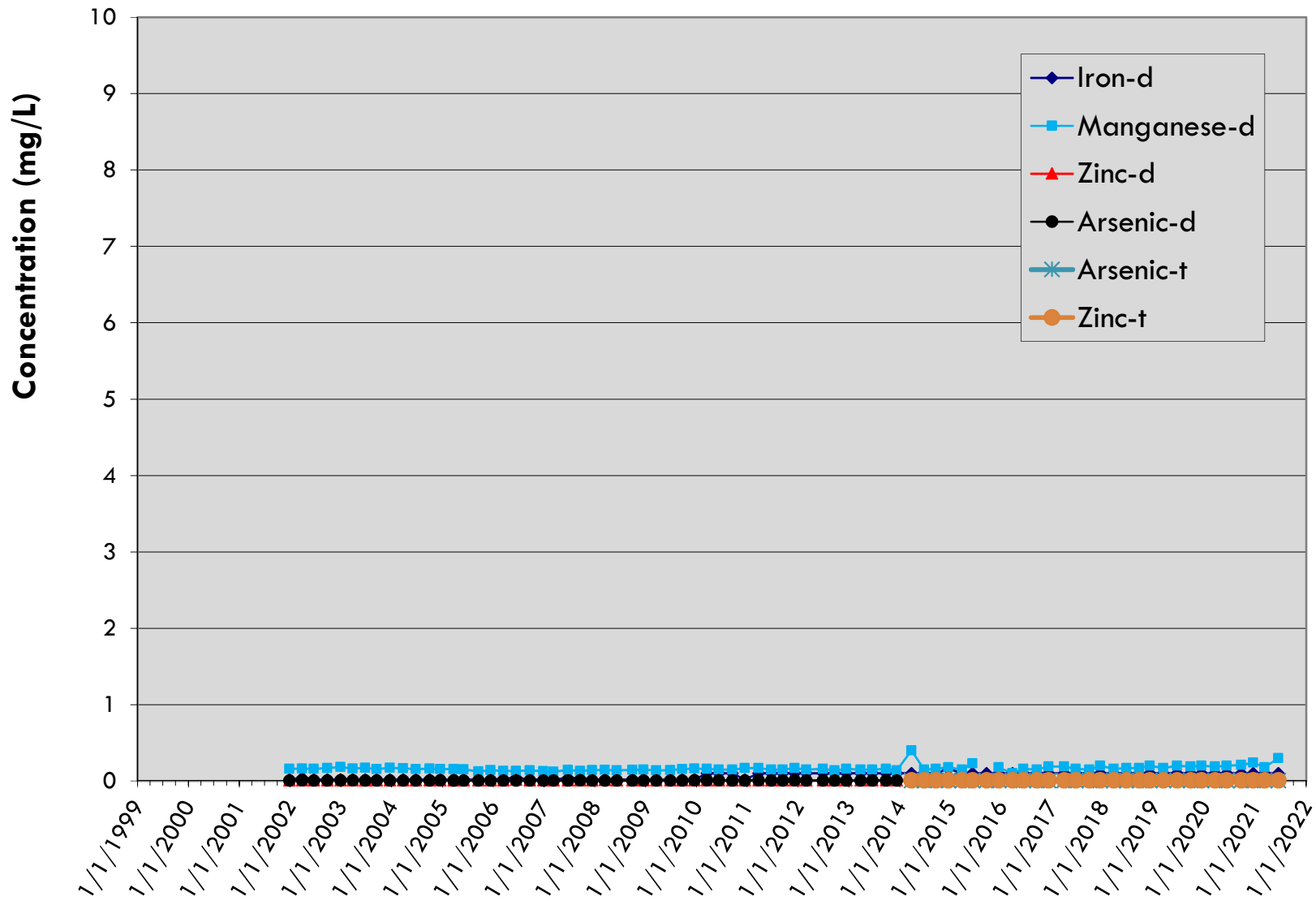
MW-4
LRI Landfill, Pierce County, Washington



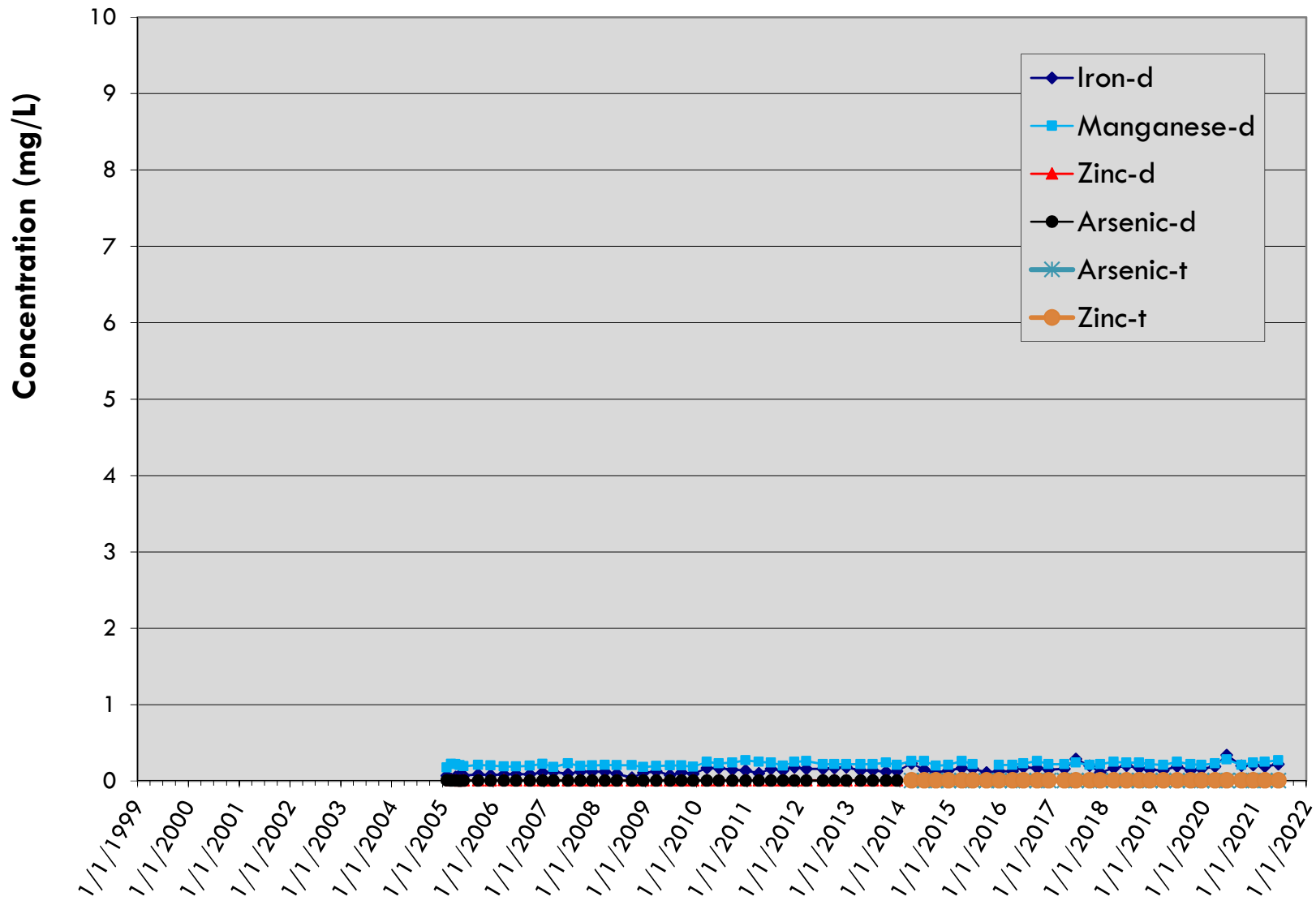
MW-5A
LRI Landfill, Pierce County, Washington

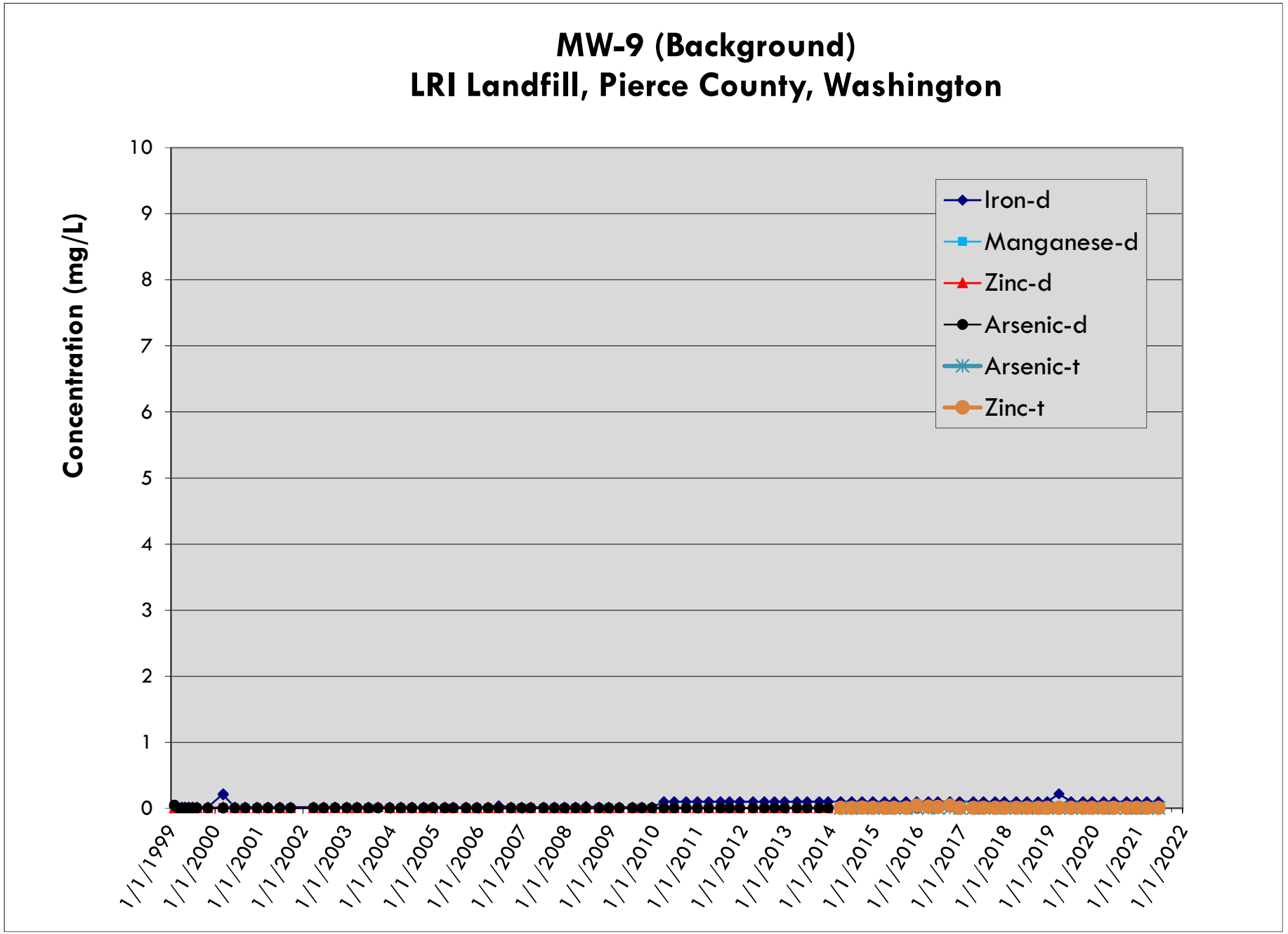


MW-6
LRI Landfill, Pierce County, Washington

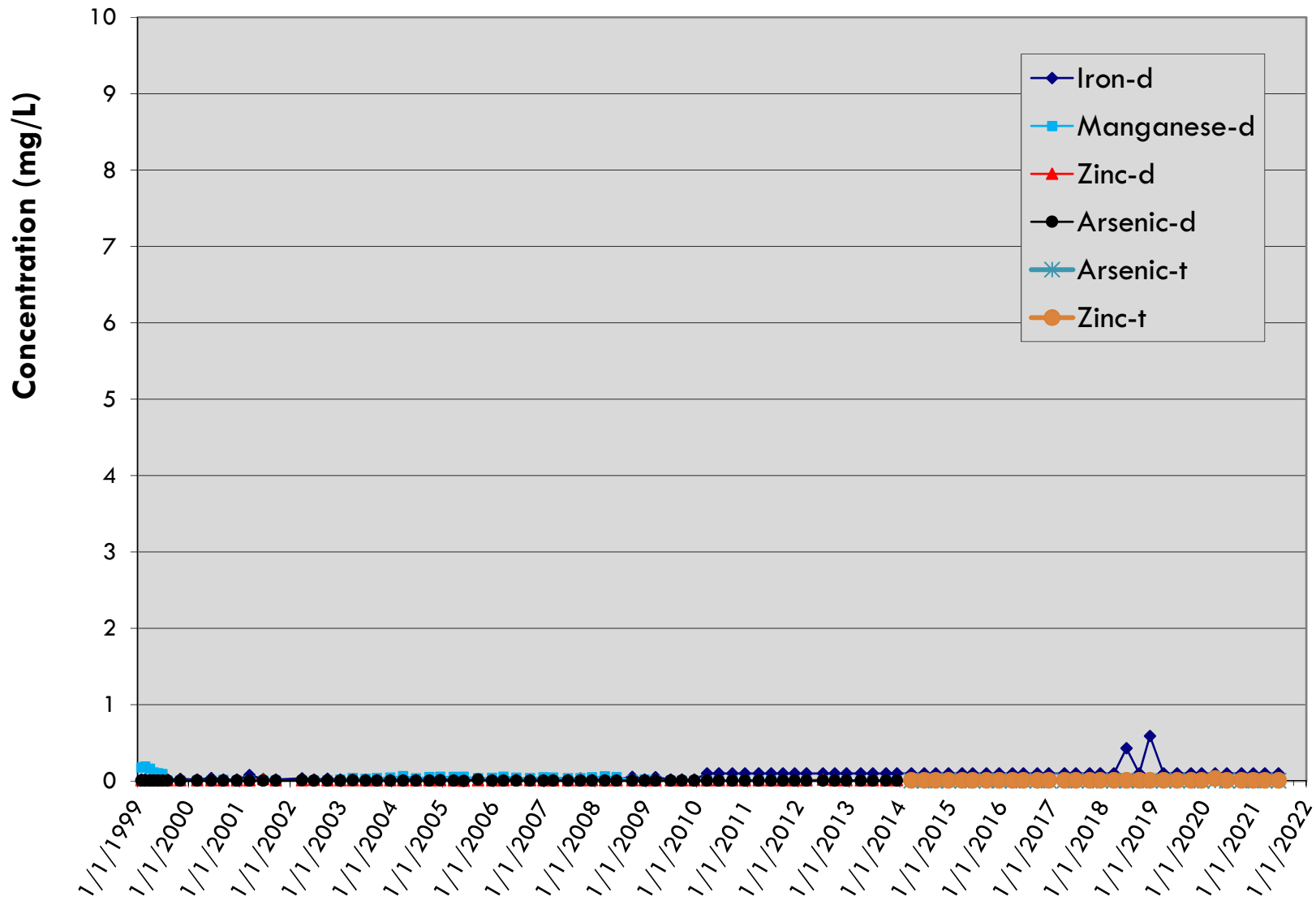


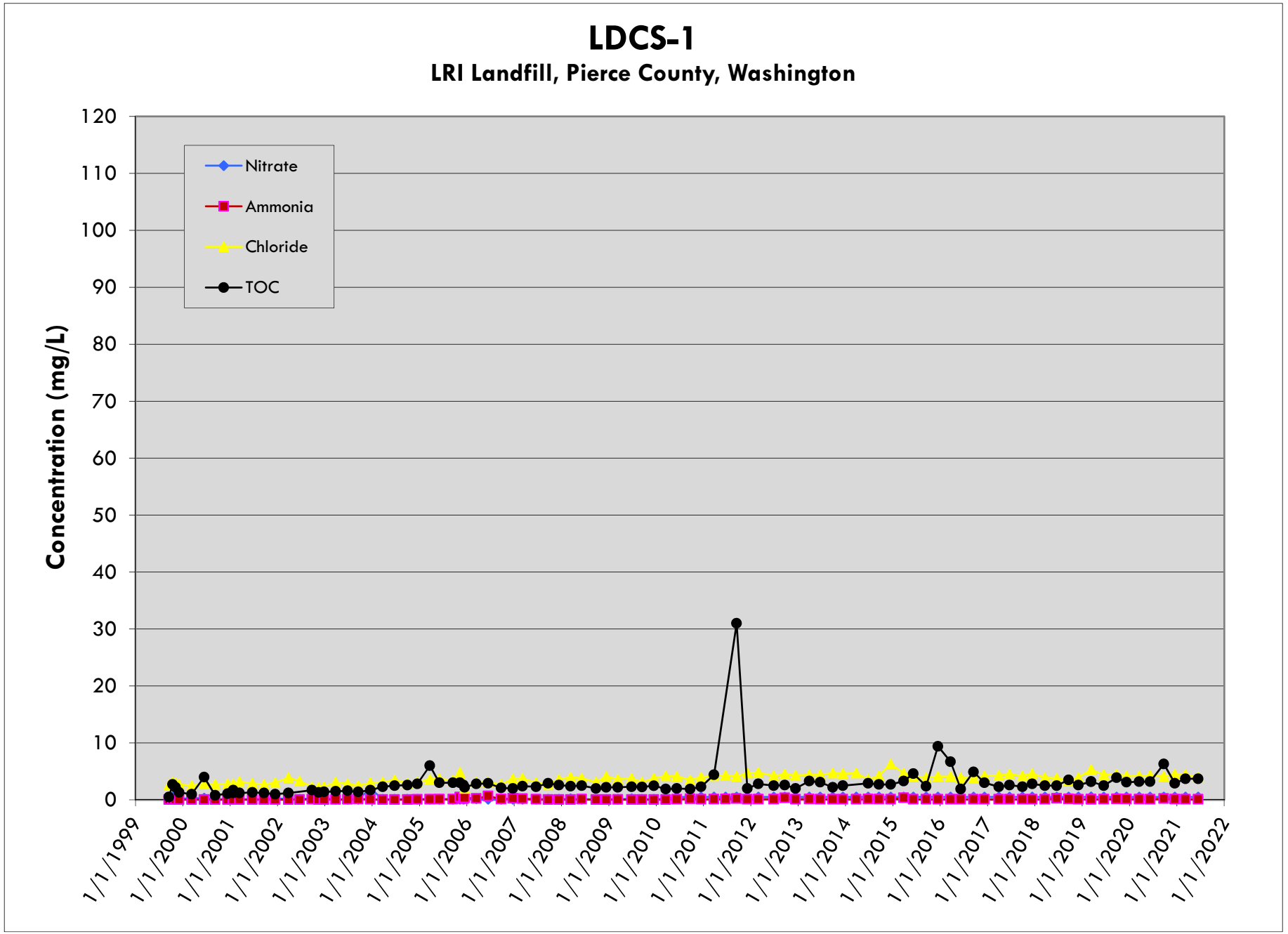
MW-7
LRI Landfill, Pierce County, Washington



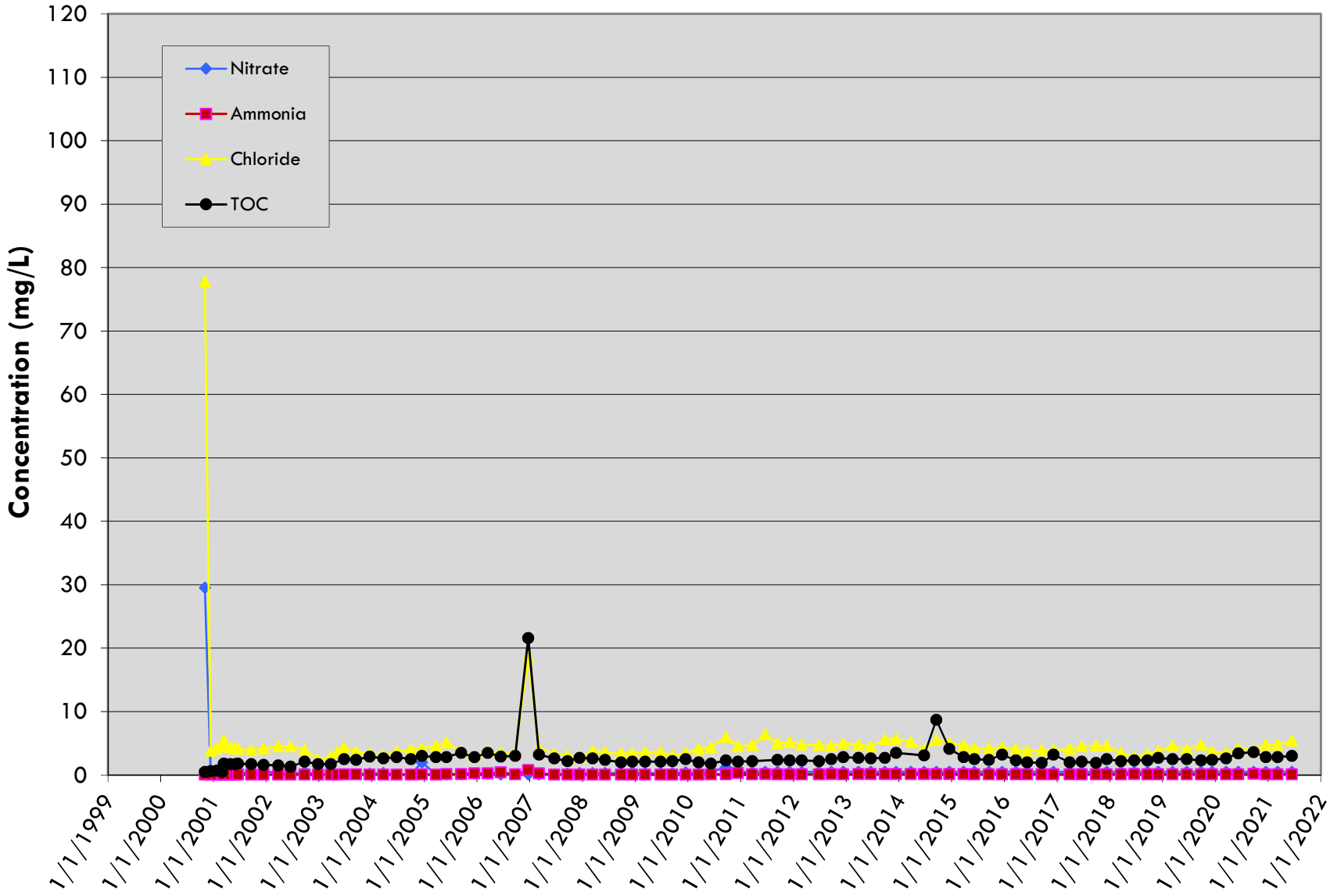

MW-9 (Background)
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Iron-d
Manganese-d
Zinc-d
Arsenic-d
Arsenic-t
Zinc-t
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

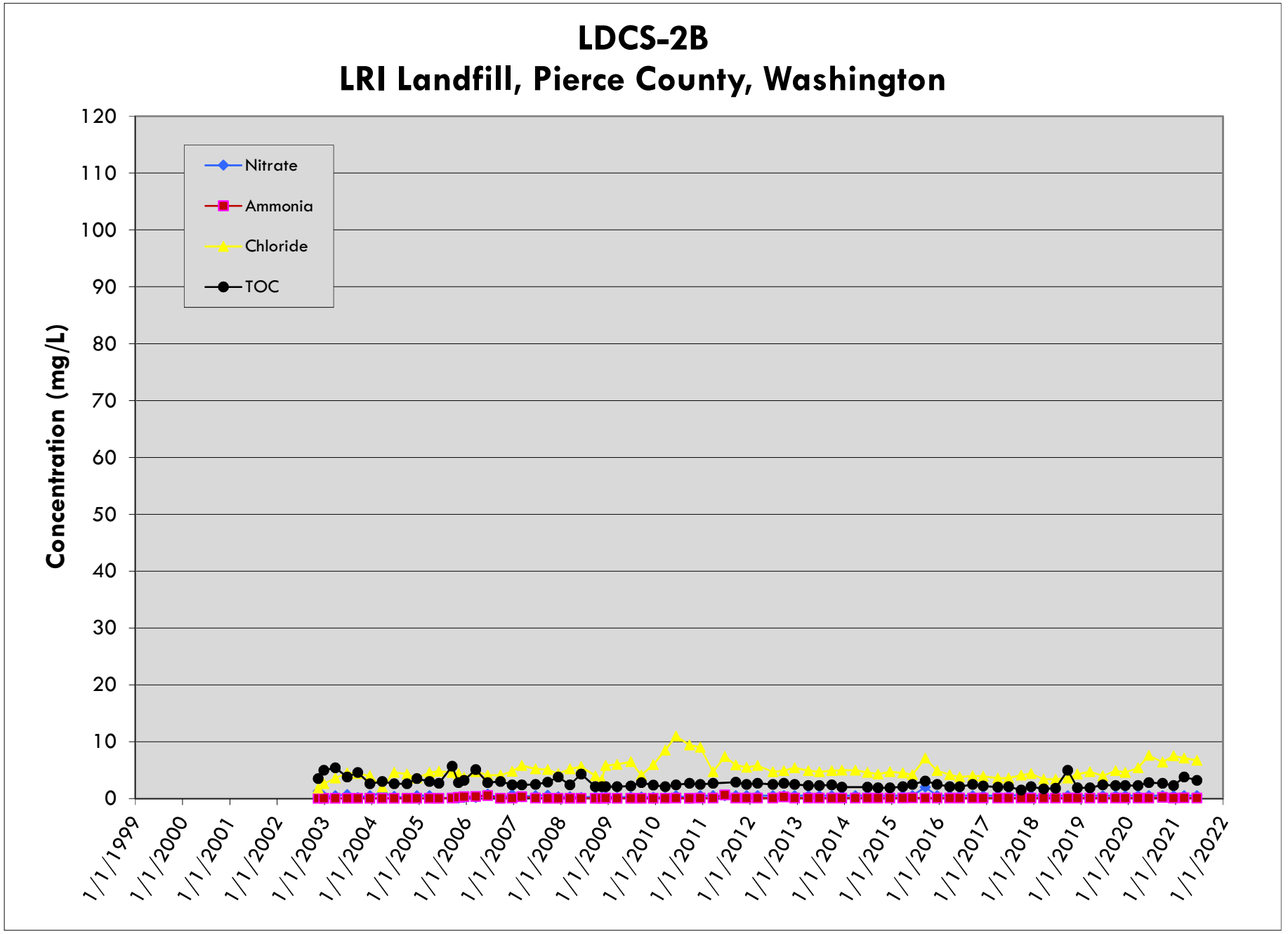
MW-10 (Background)
LRI Landfill, Pierce County, Washington



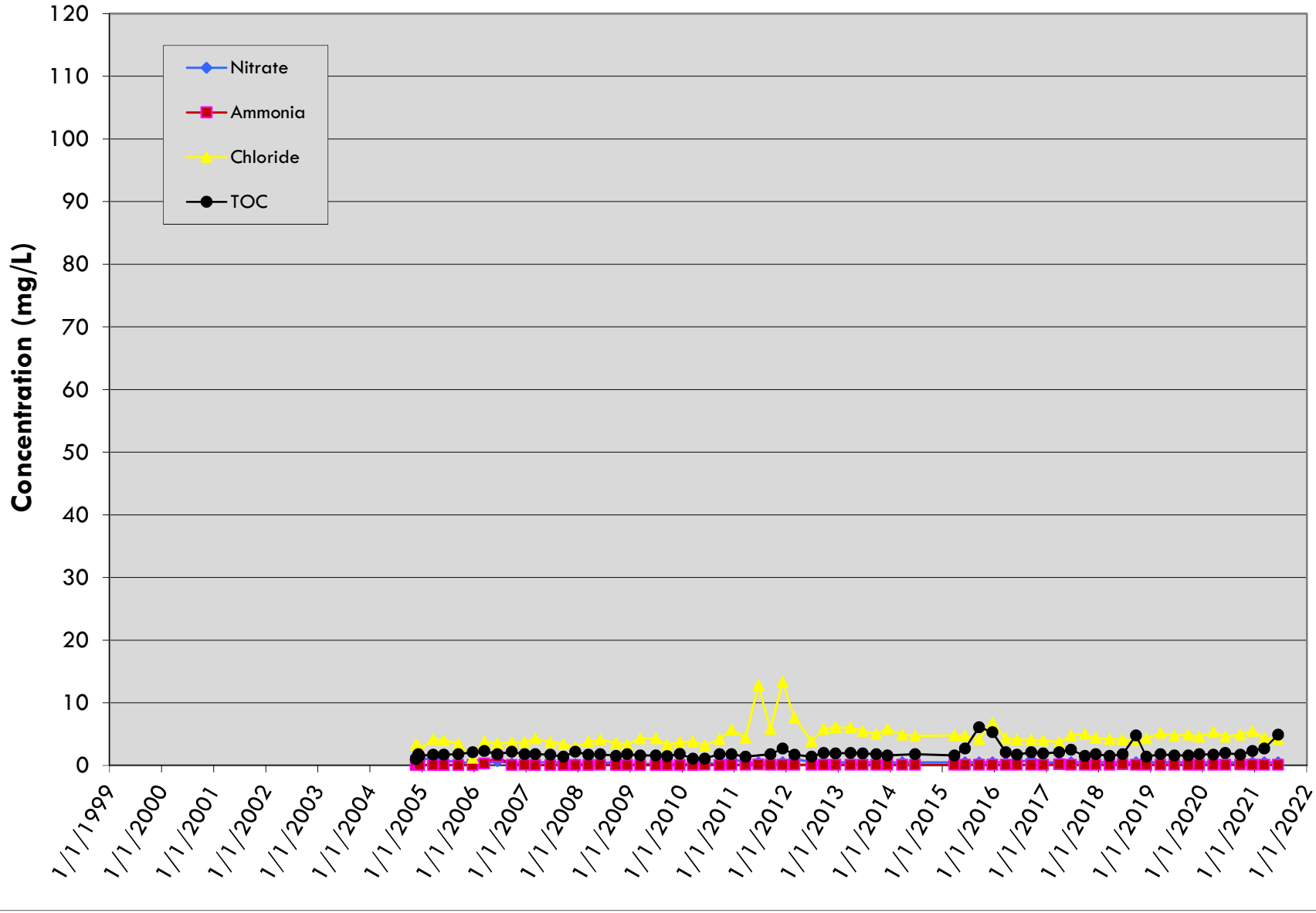

LDCS-1
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
120
110
100
90
80
70
60
50
40
30
20
10
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

LDCS-2A
LRI Landfill, Pierce County, Washington

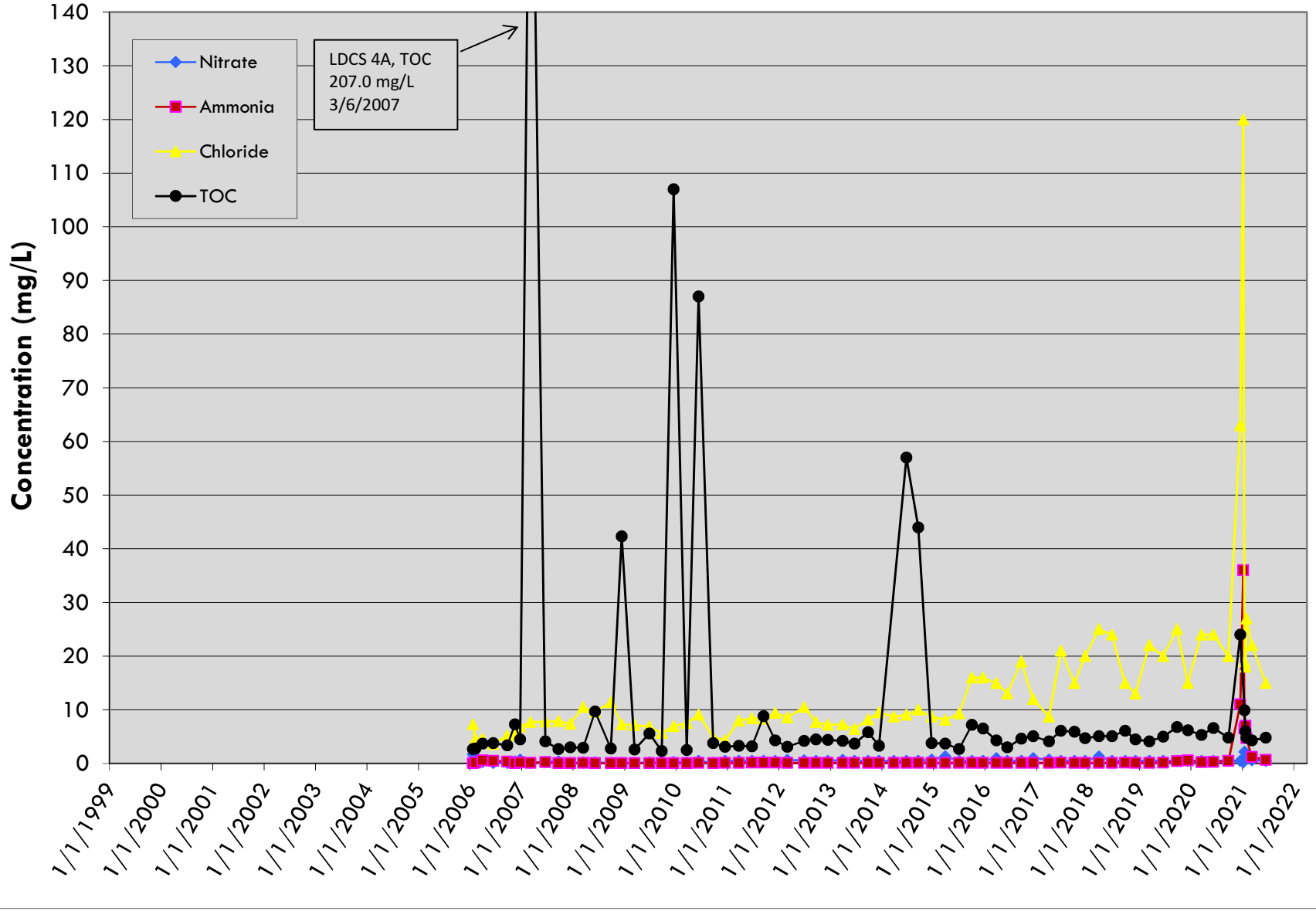



LDCS-2B
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
120
110
100
90
80
70
60
50
40
30
20
10
0
Nitrate
Ammonia
Chloride
TOC
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

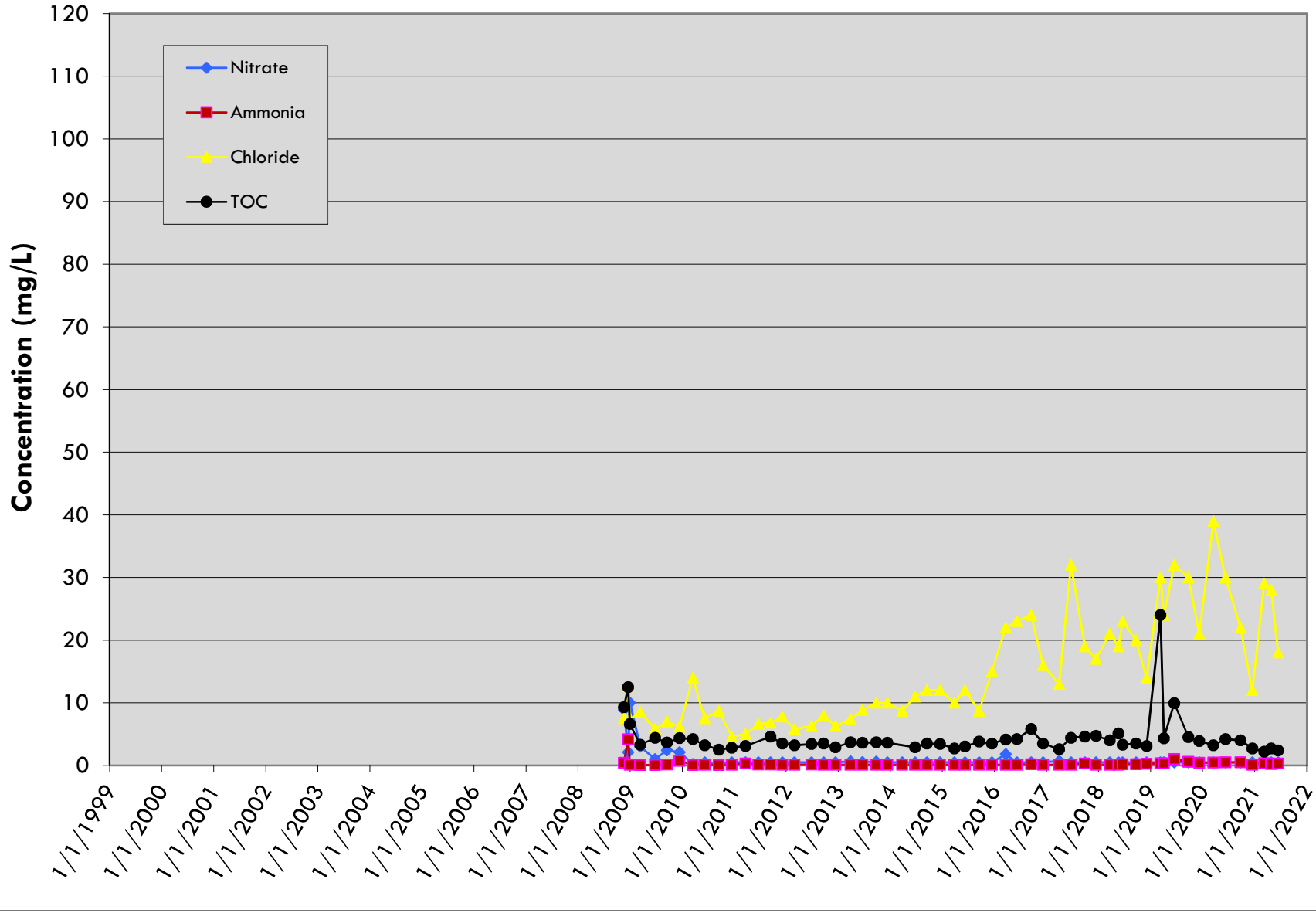
LDCS-3A
LRI Landfill, Pierce County, Washington



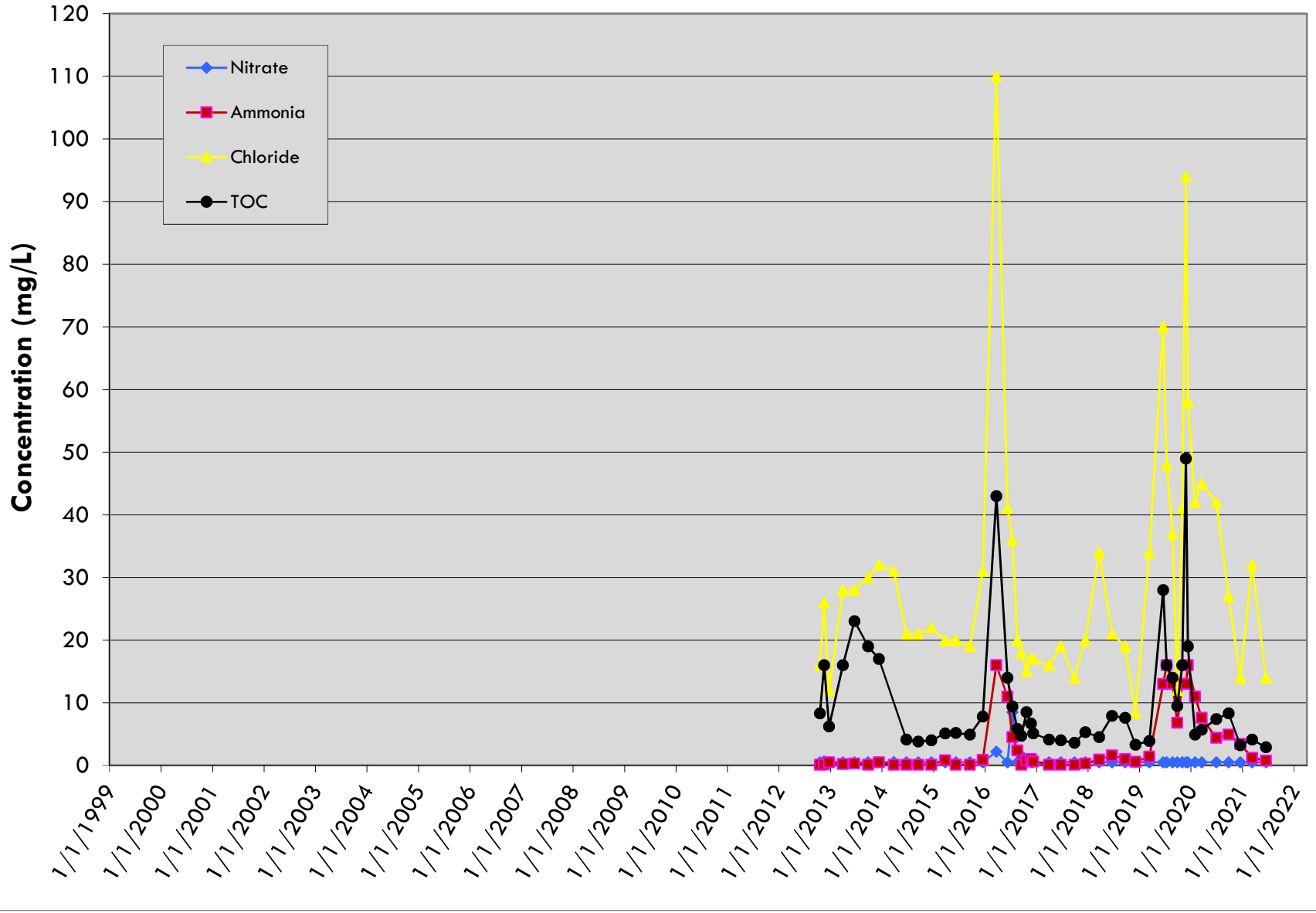
LDCS-4A
LRI Landfill, Pierce County, Washington



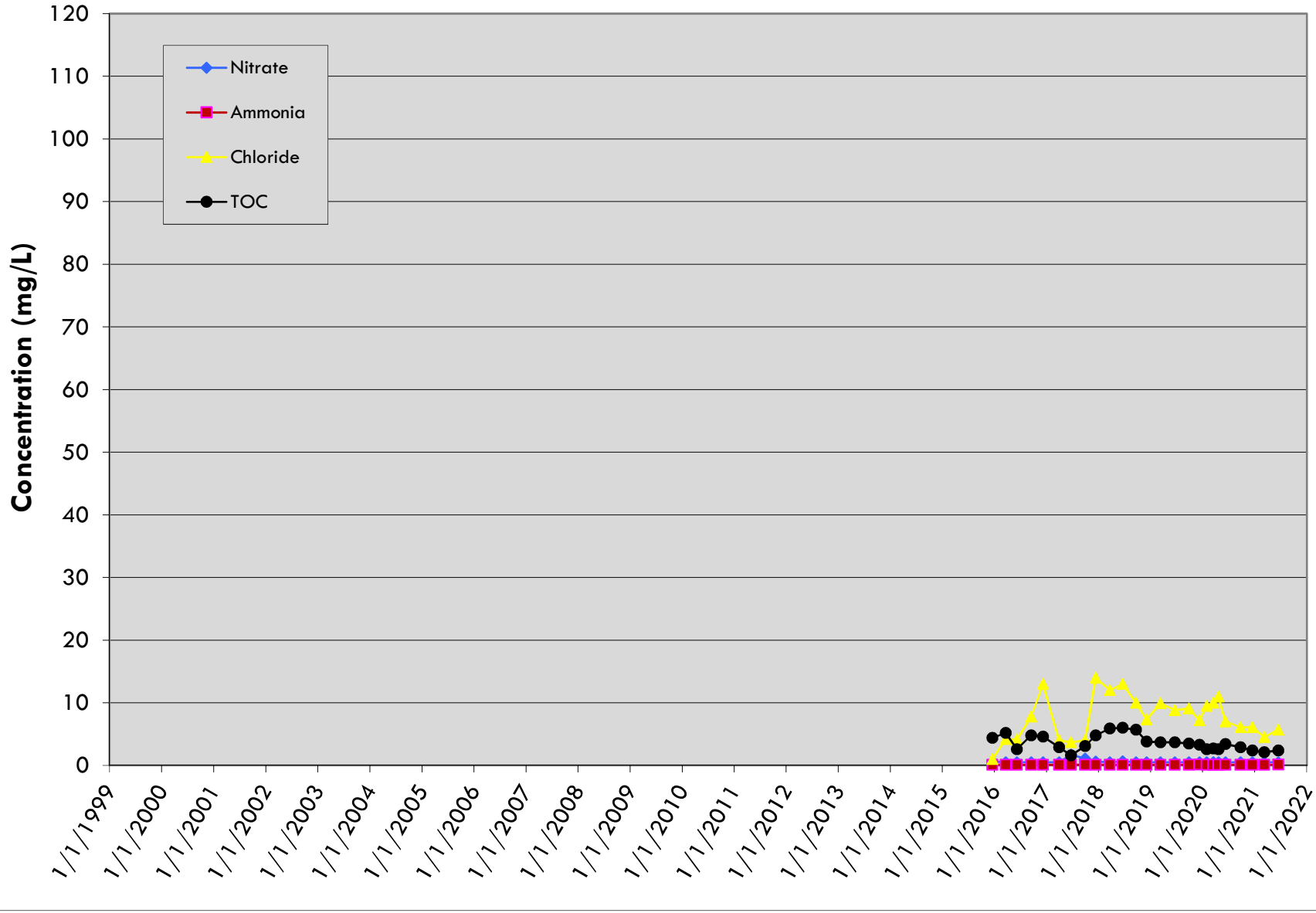
LDCS-4B
LRI Landfill, Pierce County, Washington

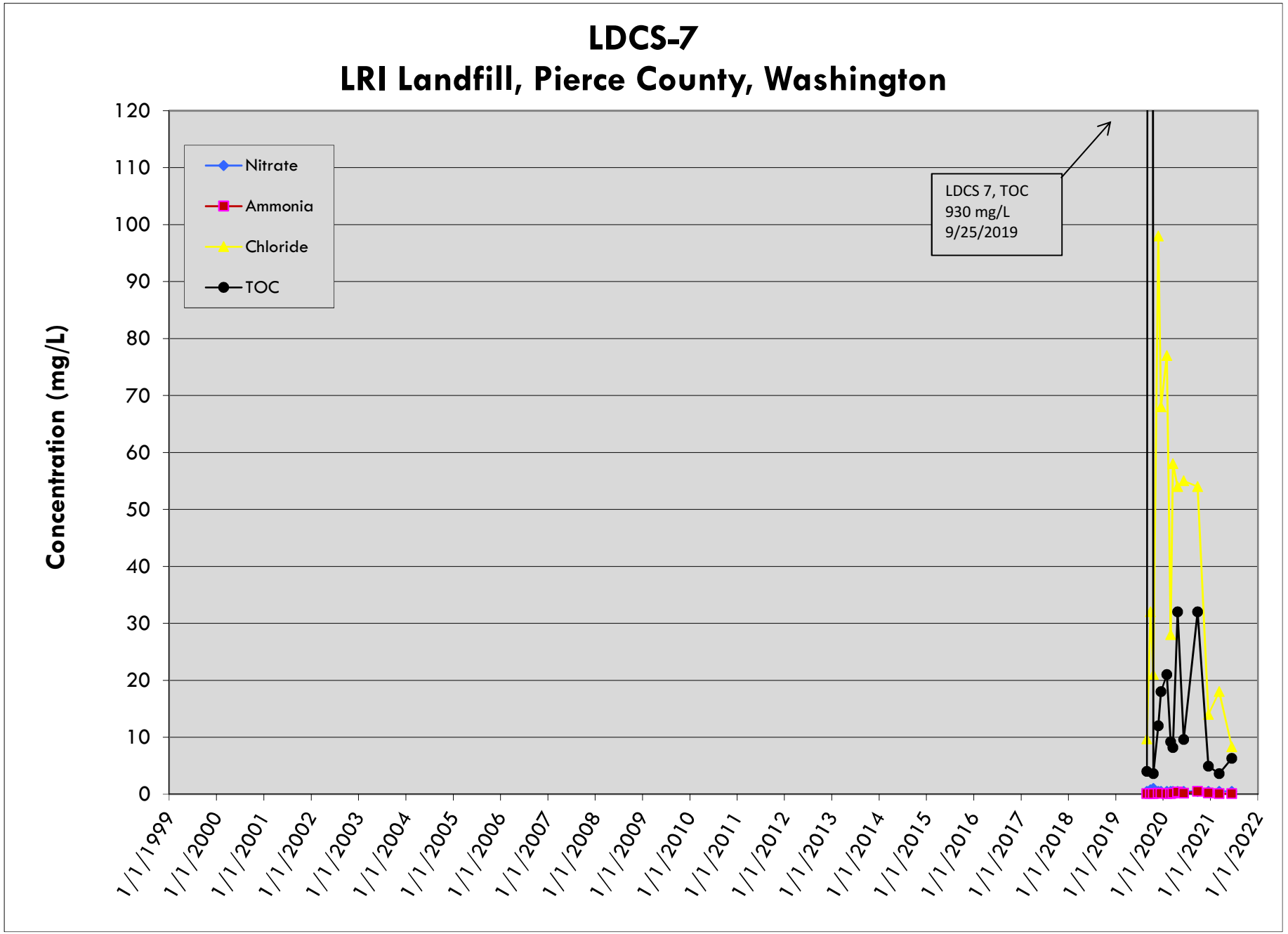


LDCS-5
LRI Landfill, Pierce County, Washington

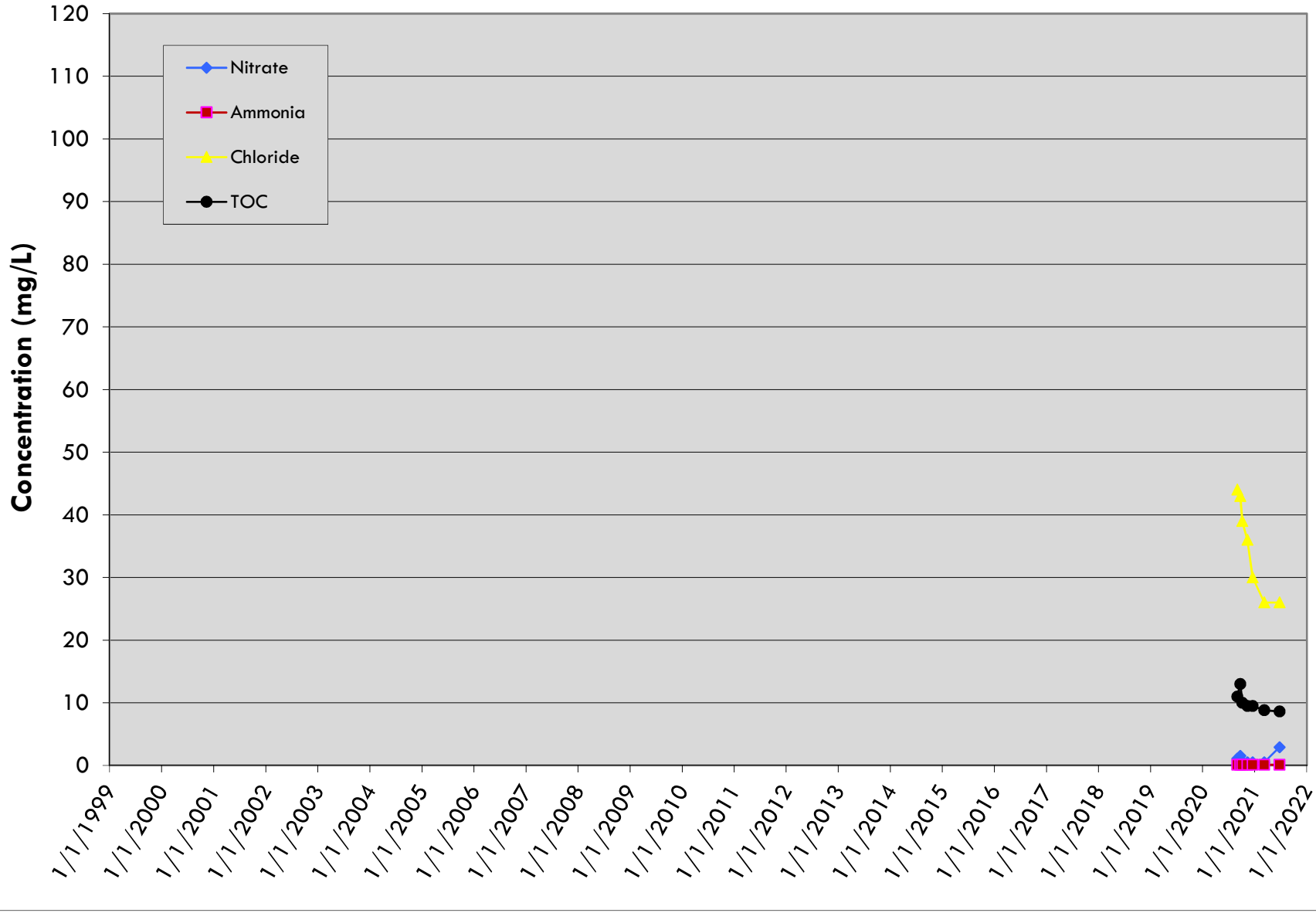


LDCS-6A
LRI Landfill, Pierce County, Washington

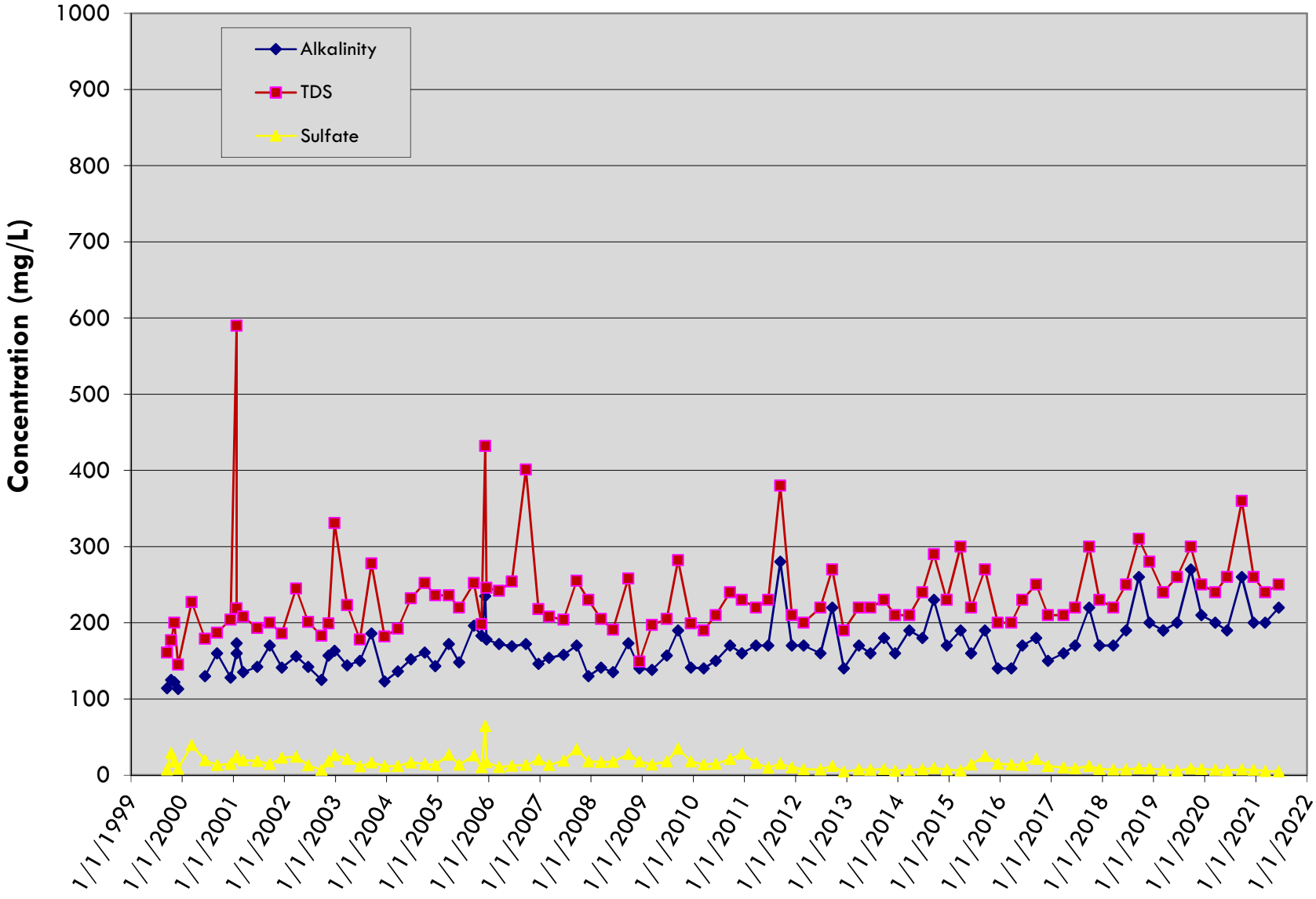



LDCS-7
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
120
110
100
90
80
70
60
50
40
30
20
10
0
Nitrate
Ammonia
Chloride
TOC
LDCS 7, TOC
930 mg/L
9/25/2019
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

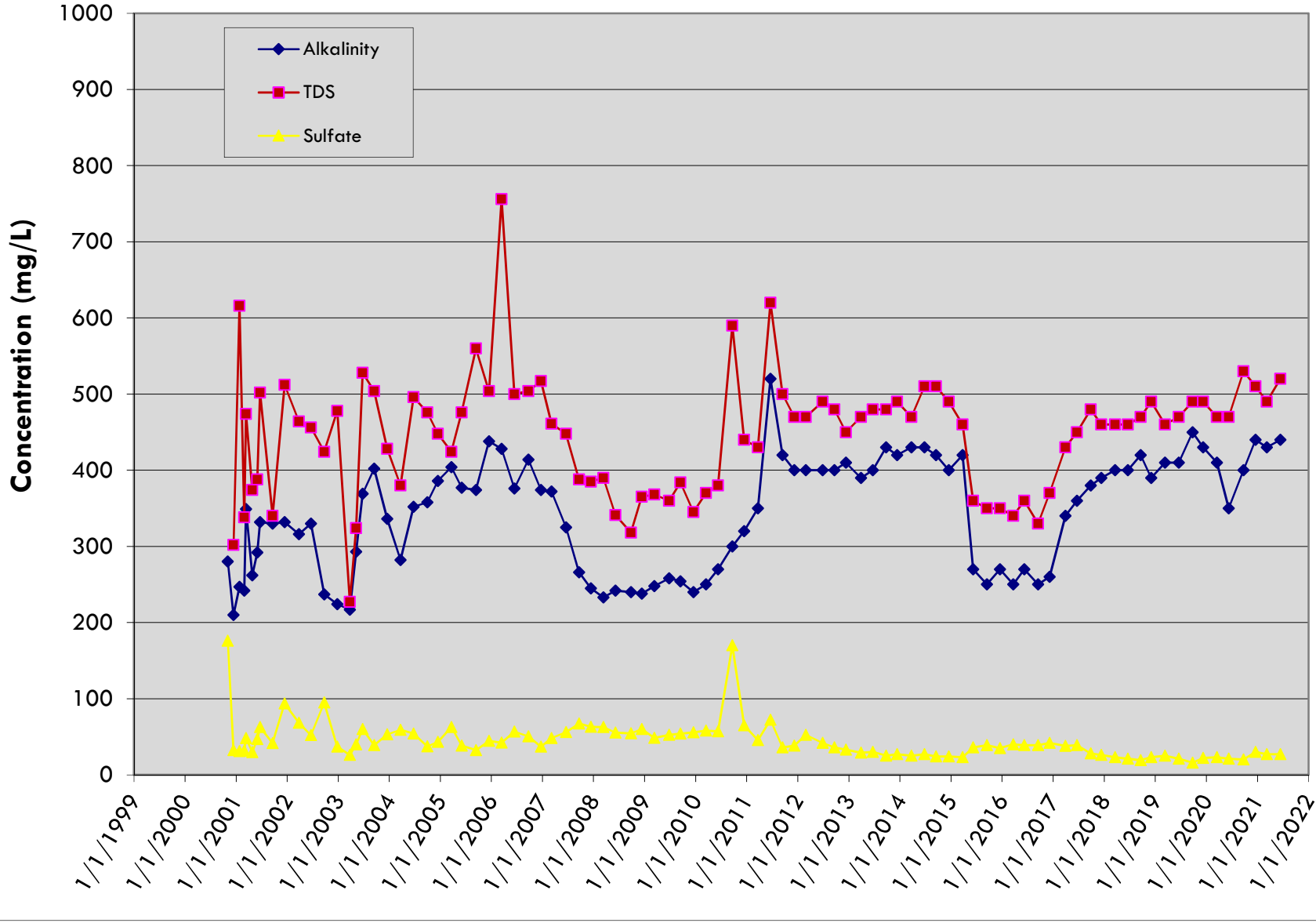
LDCS-8A
LRI Landfill, Pierce County, Washington



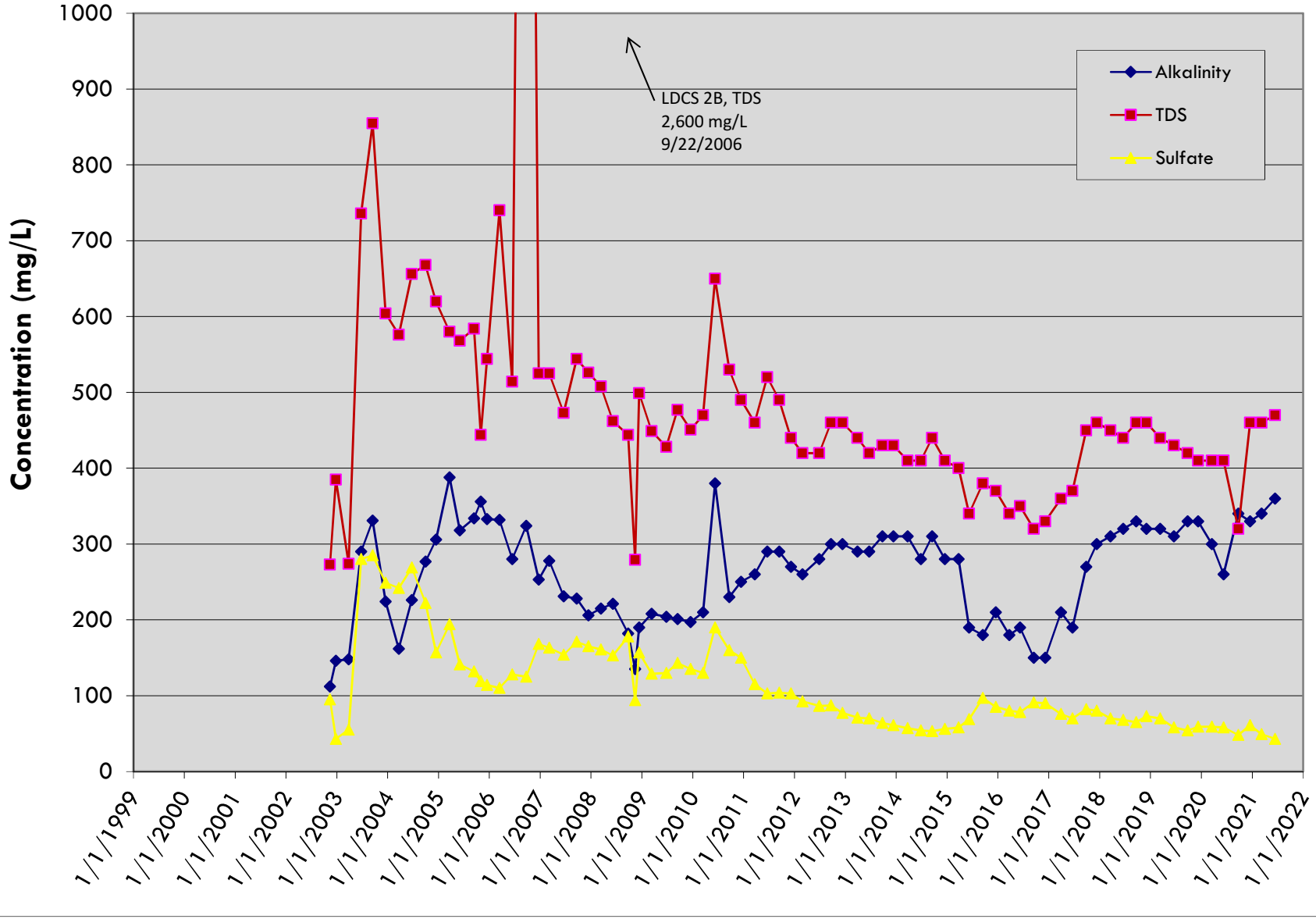
LDCS-1
LRI Landfill, Pierce County, Washington



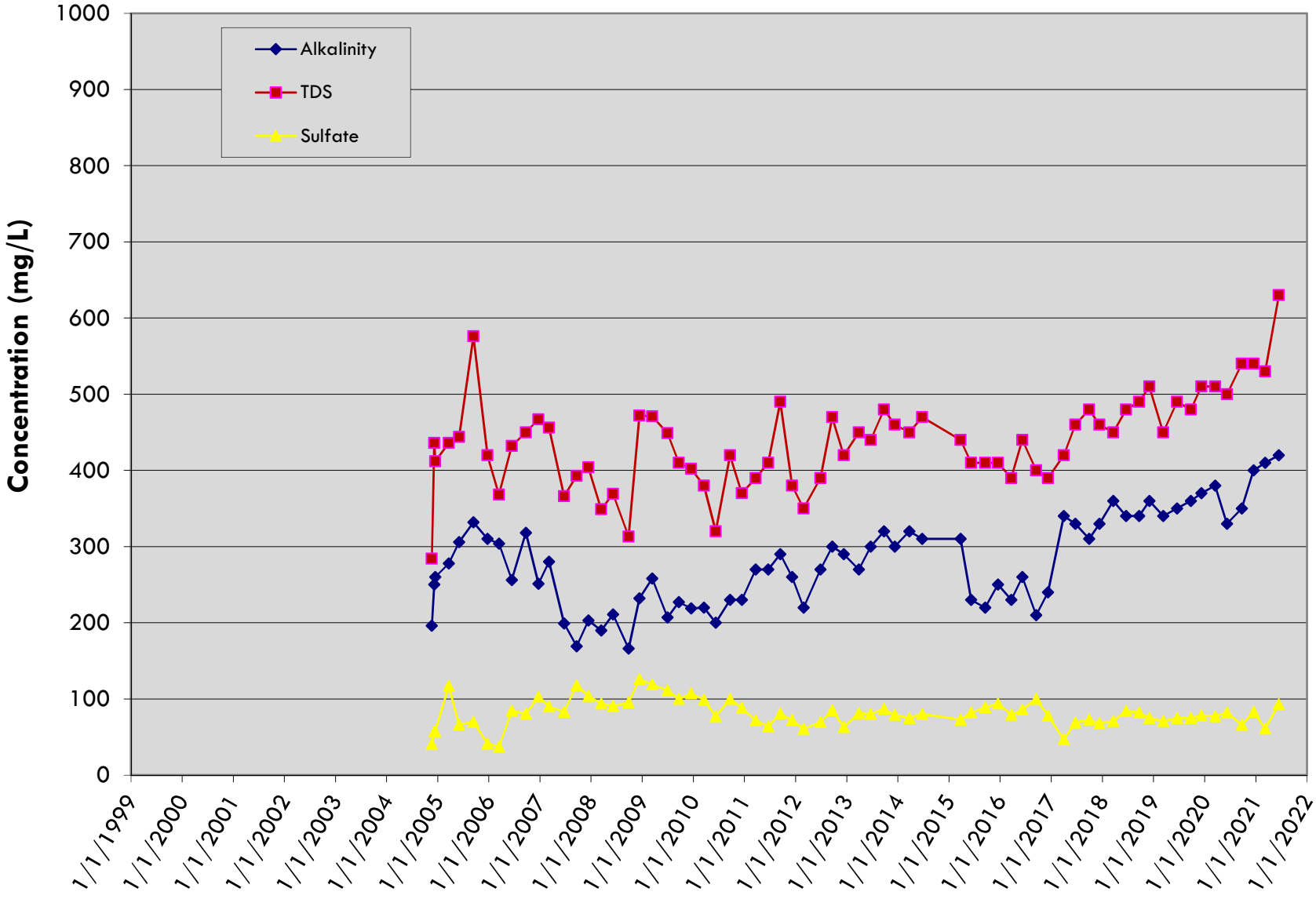
LDCS-2A
LRI Landfill, Pierce County, Washington

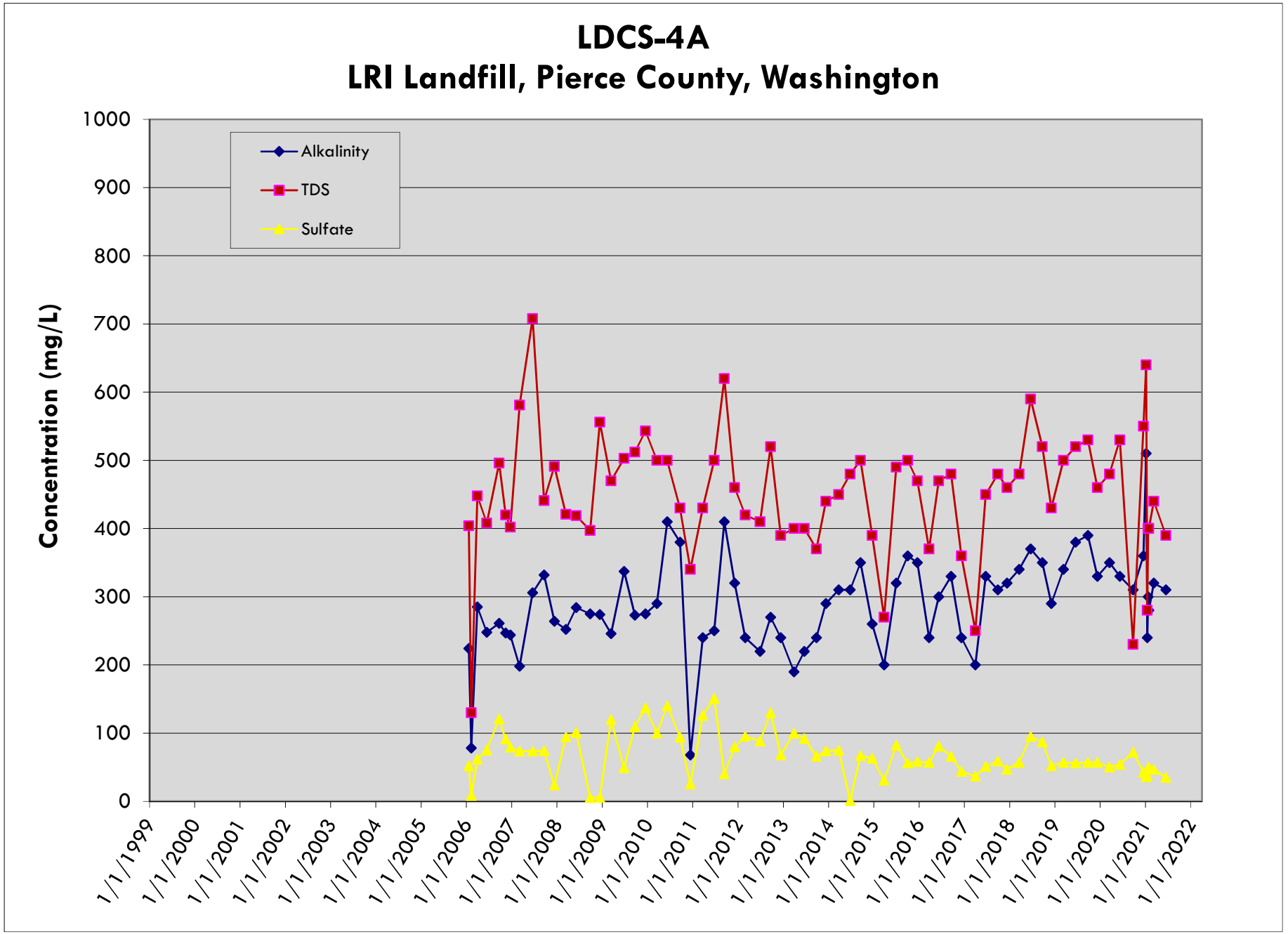


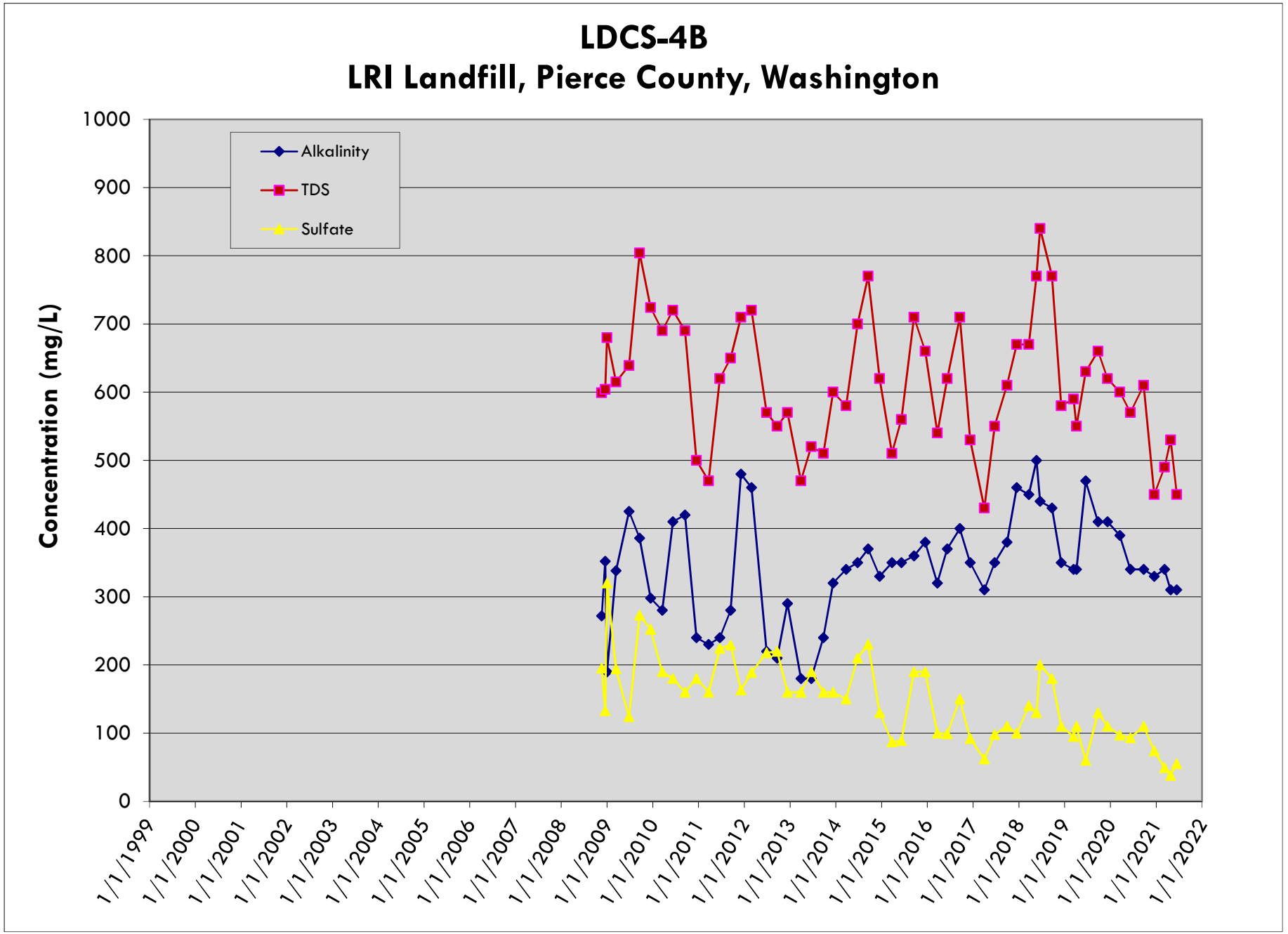
LDCS-2B
LRI Landfill, Pierce County, Washington



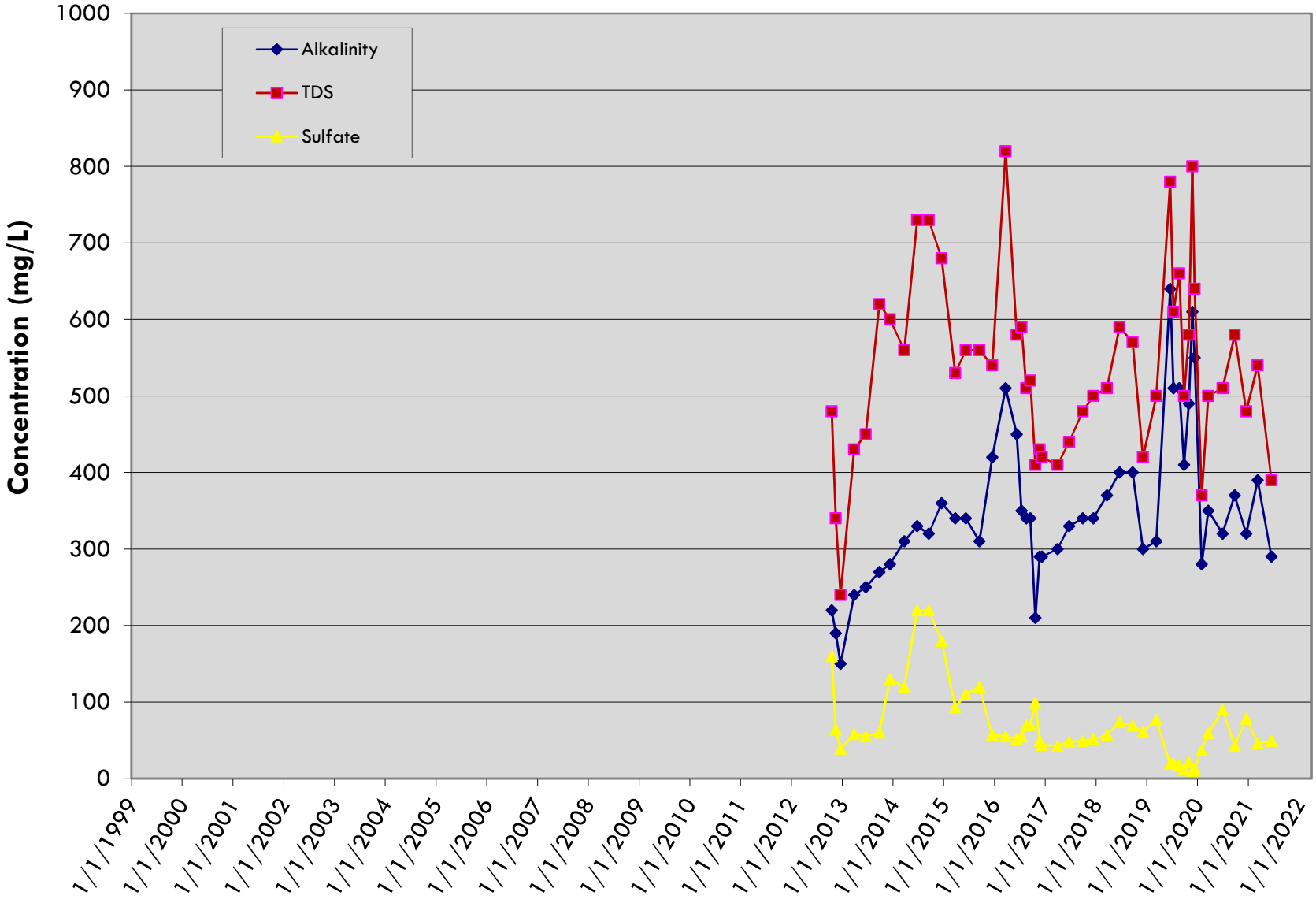
LDCS-3A
LRI Landfill, Pierce County, Washington



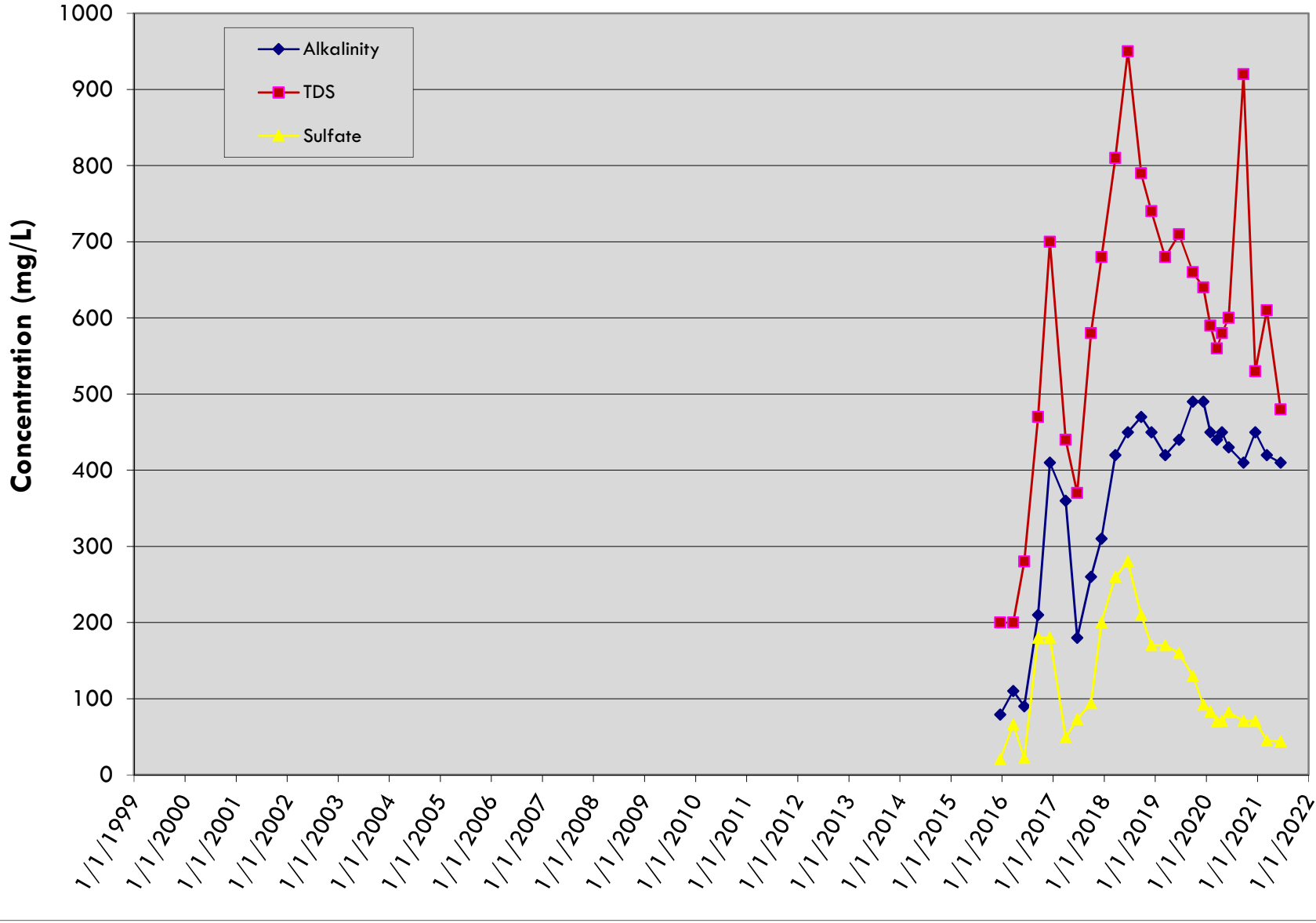

LDCS-4A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
Alkalinity
TDS
Sulfate
1000
900
800
700
600
500
400
300
200
100
0
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022


LDCS-4B
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
Alkalinity
TDS
Sulfate
1000
900
800
700
600
500
400
300
200
100
0
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

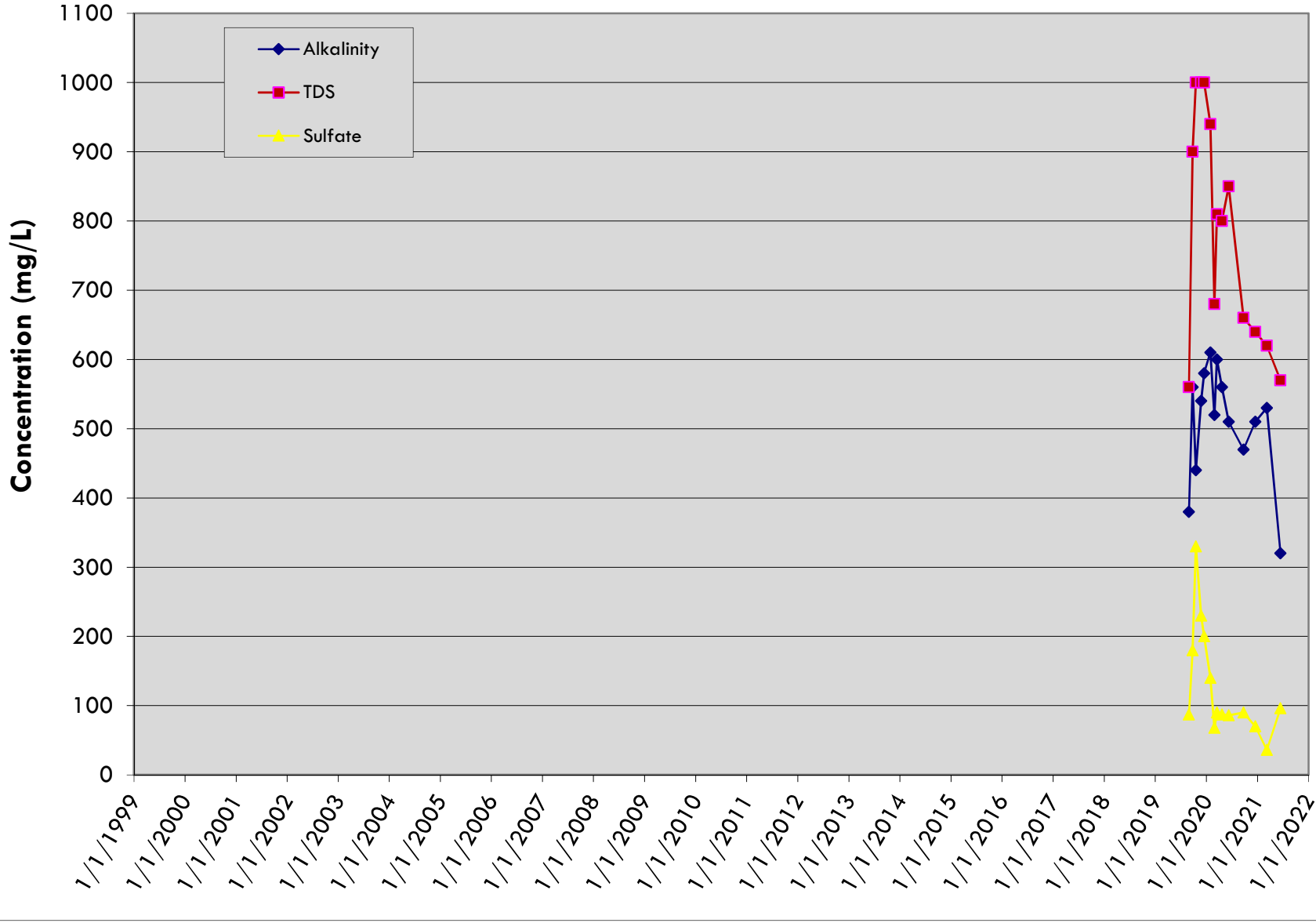
LDCS-5
LRI Landfill, Pierce County, Washington



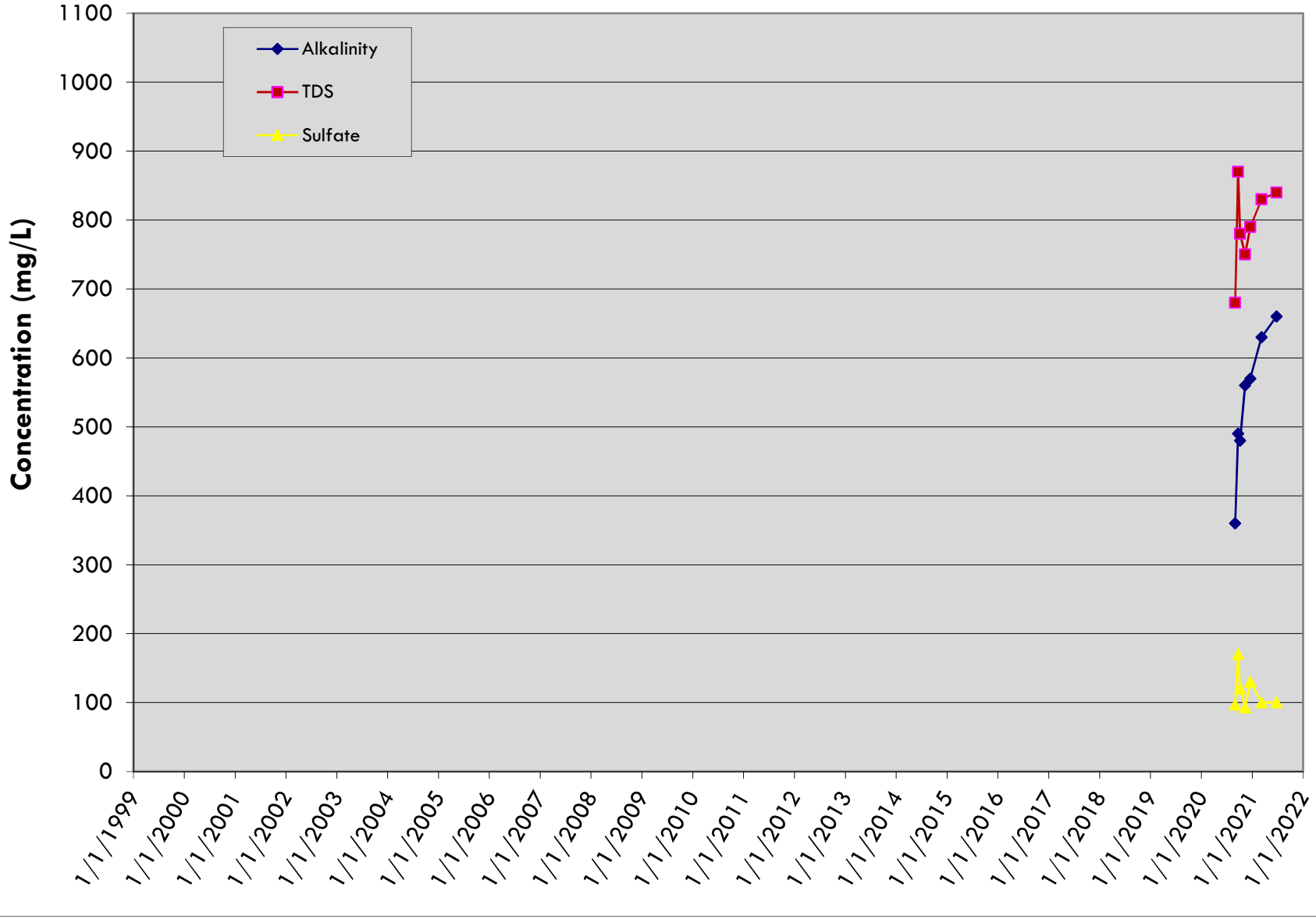
LDCS-6A
LRI Landfill, Pierce County, Washington



LDCS-7
LRI Landfill, Pierce County, Washington

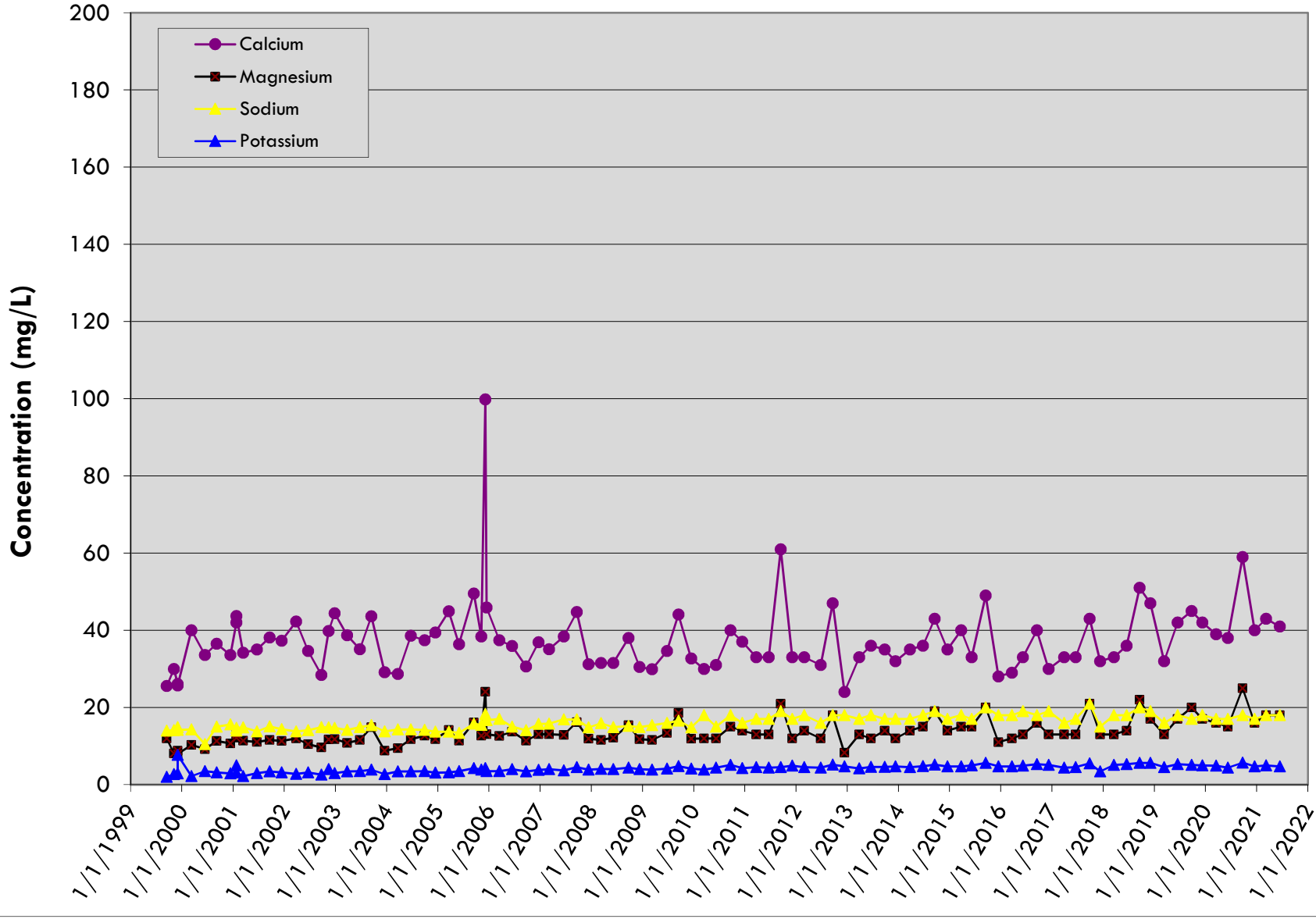


LDCS-8A
LRI Landfill, Pierce County, Washington

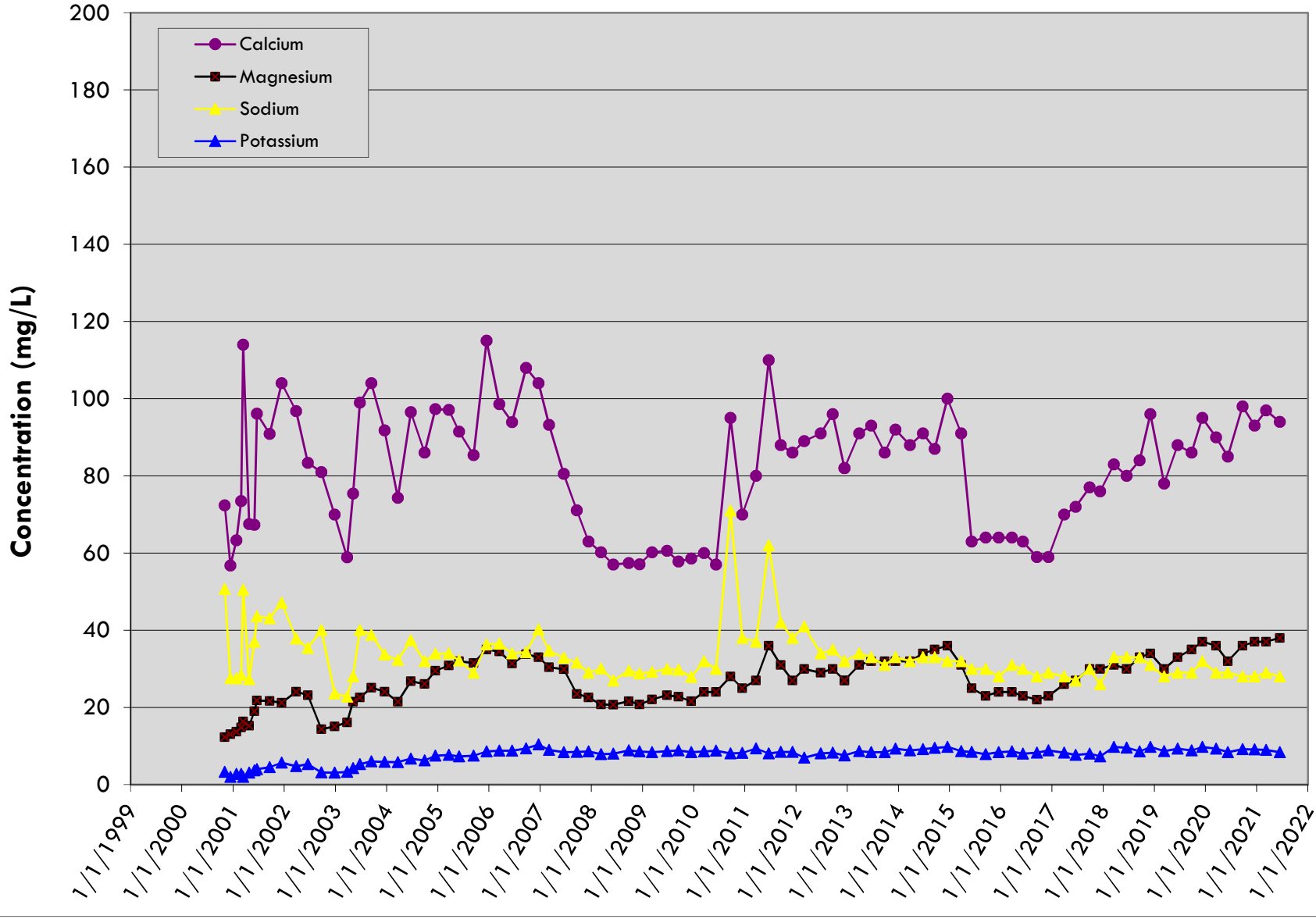


LDCS-1

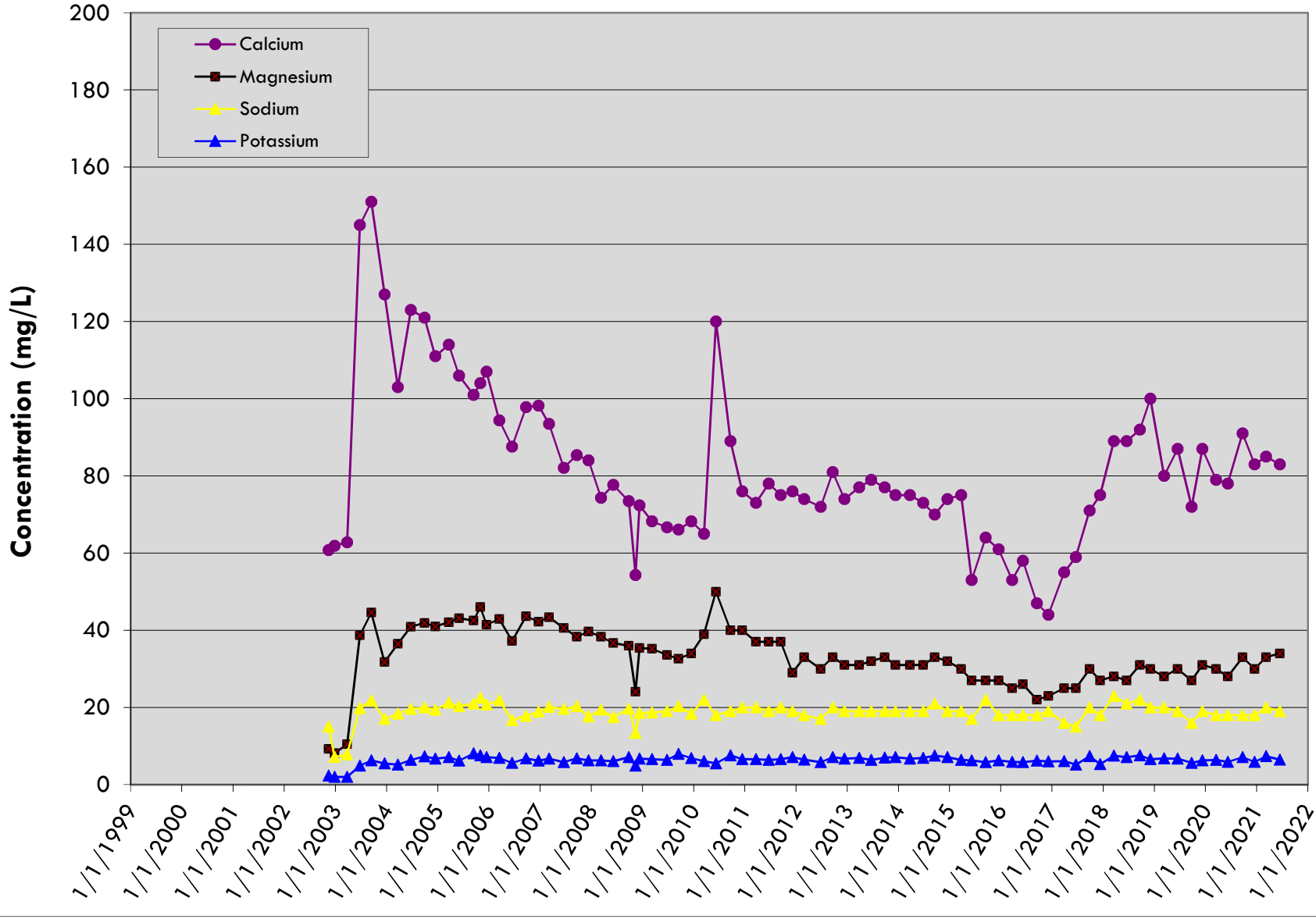
LRI Landfill, Pierce County, Washington



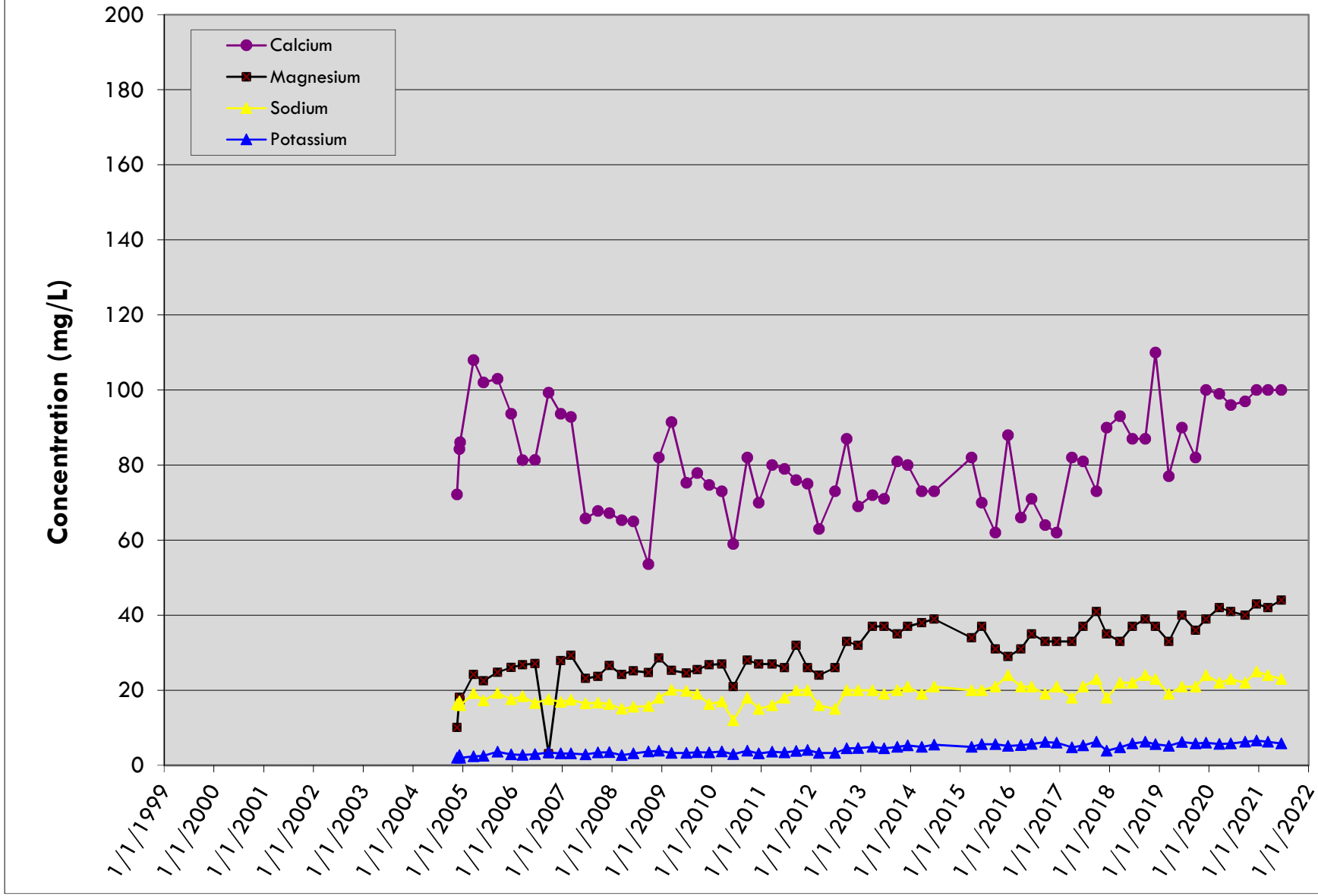
LDCS-2A
LRI Landfill, Pierce County, Washington



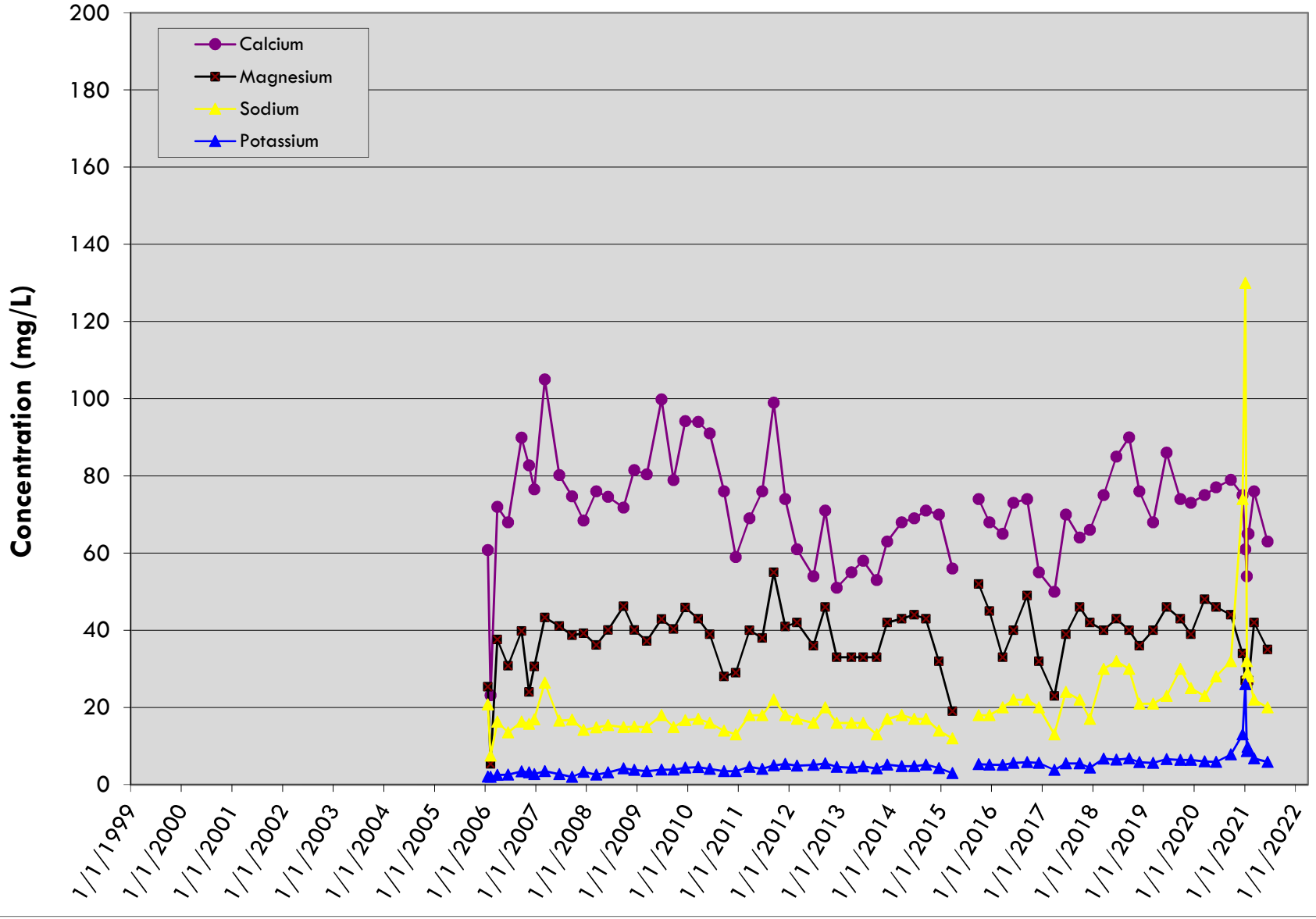
LDCS-2B
LRI Landfill, Pierce County, Washington



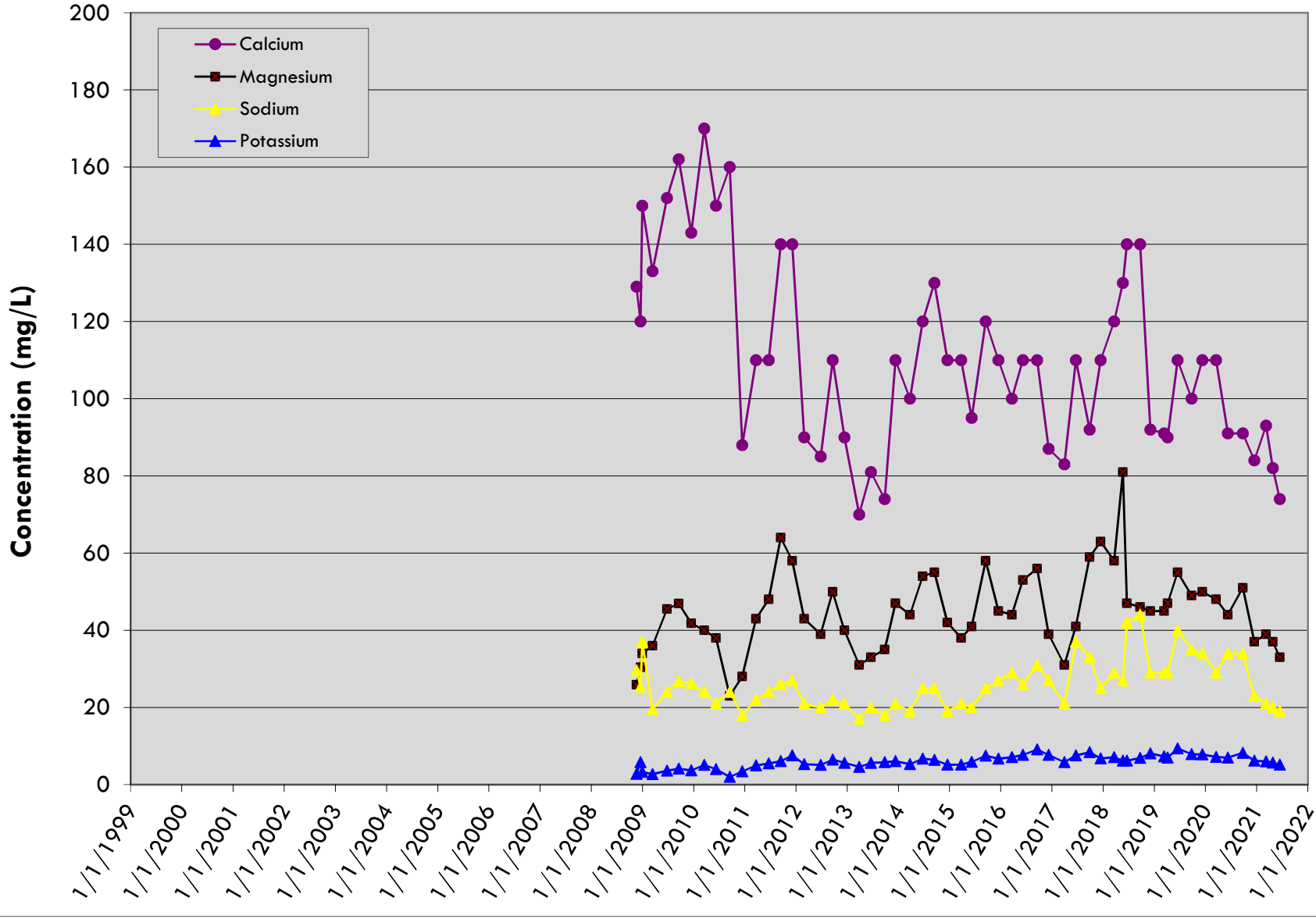
LDCS-3A
LRI Landfill, Pierce County, Washington



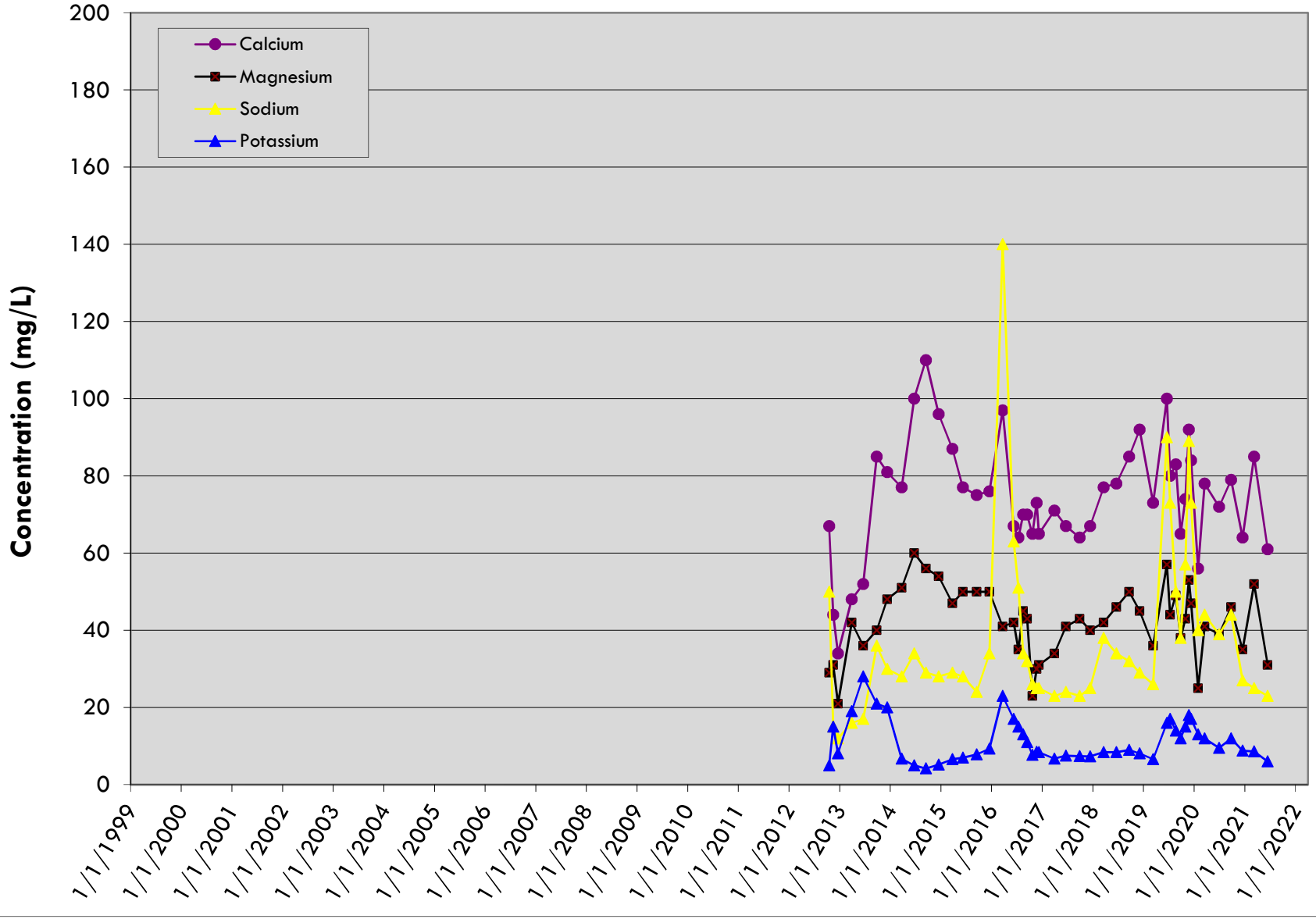
LDCS-4A
LRI Landfill, Pierce County, Washington



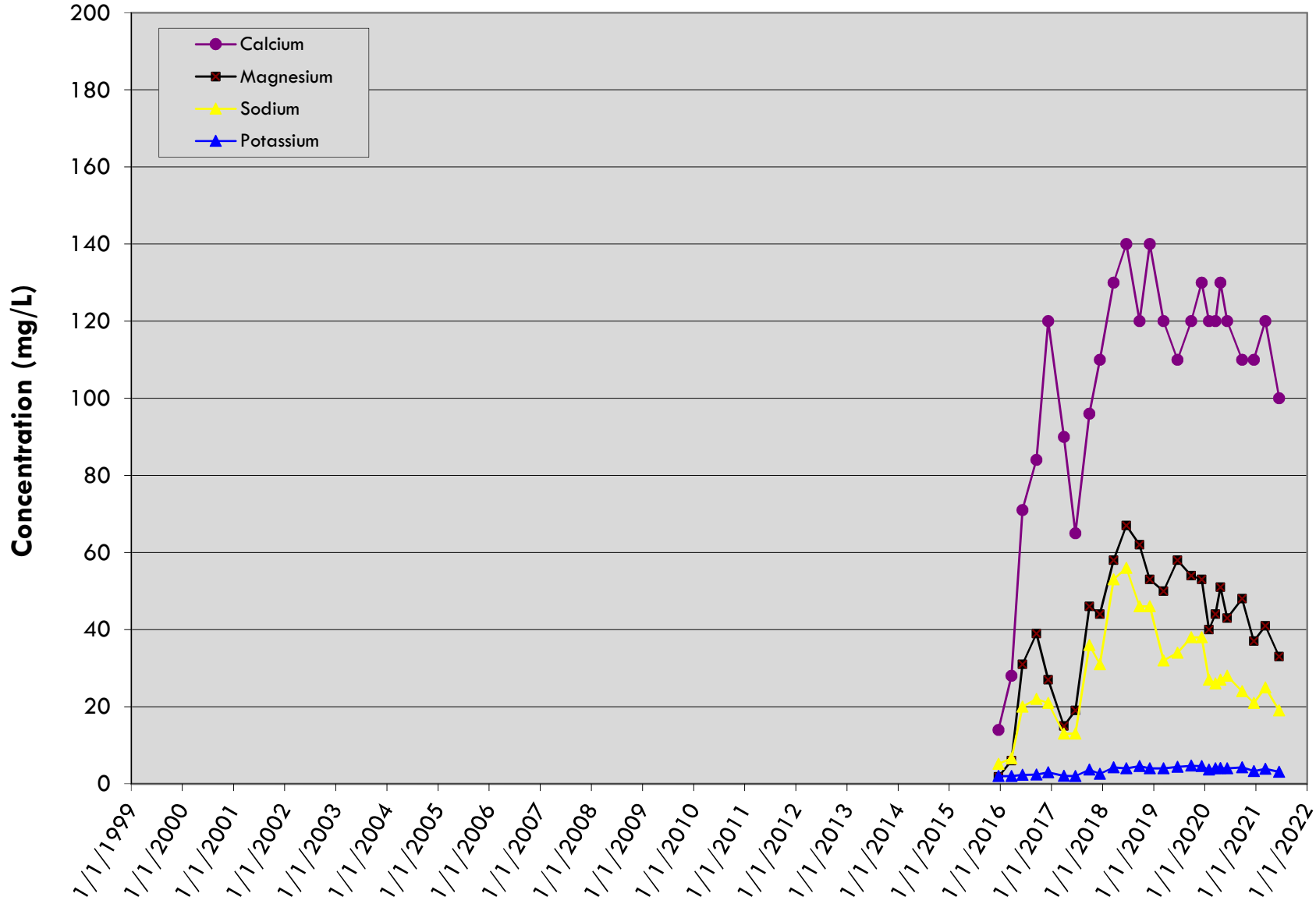
LDCS-4B
LRI Landfill, Pierce County, Washington



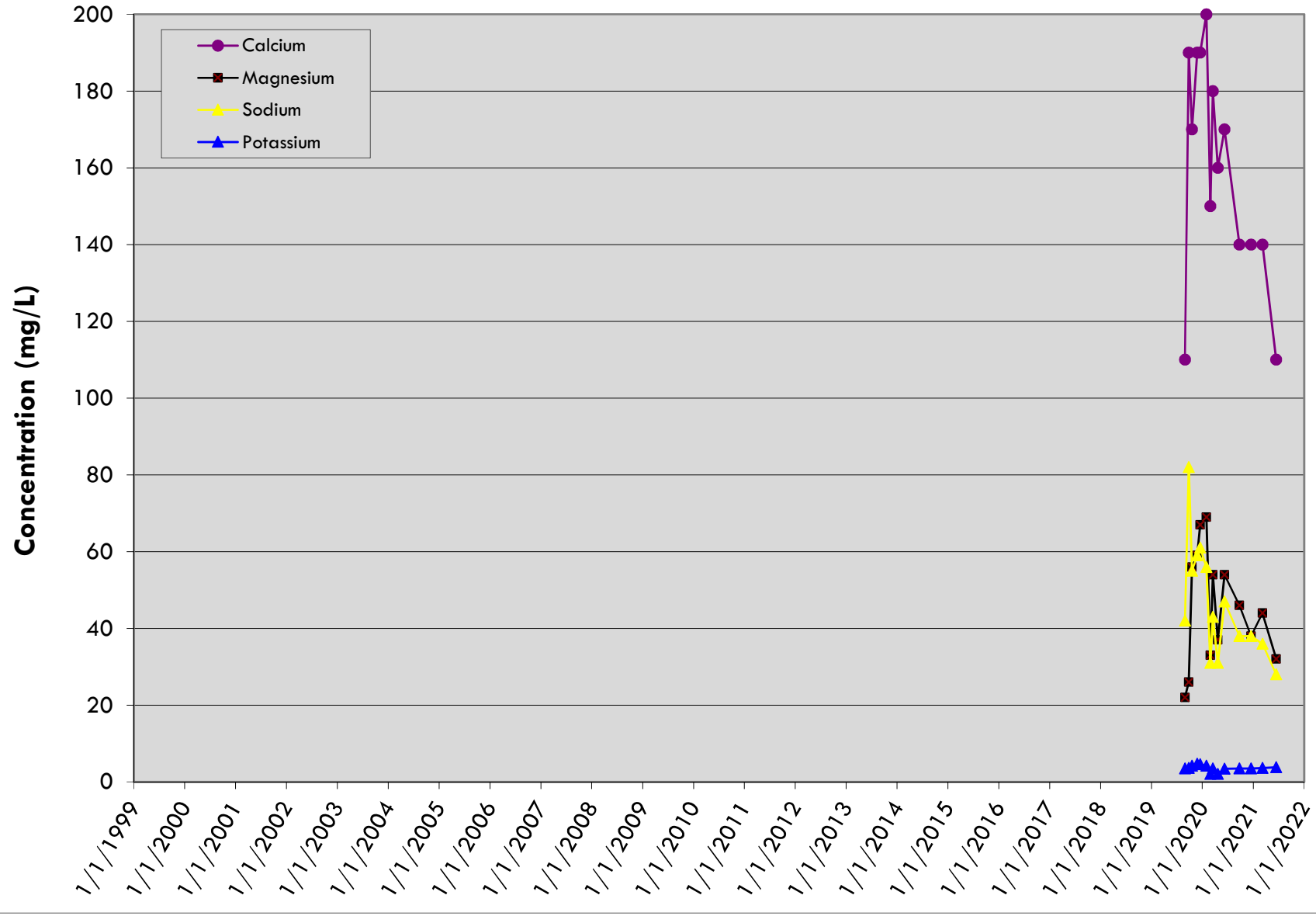
LDCS-5
LRI Landfill, Pierce County, Washington



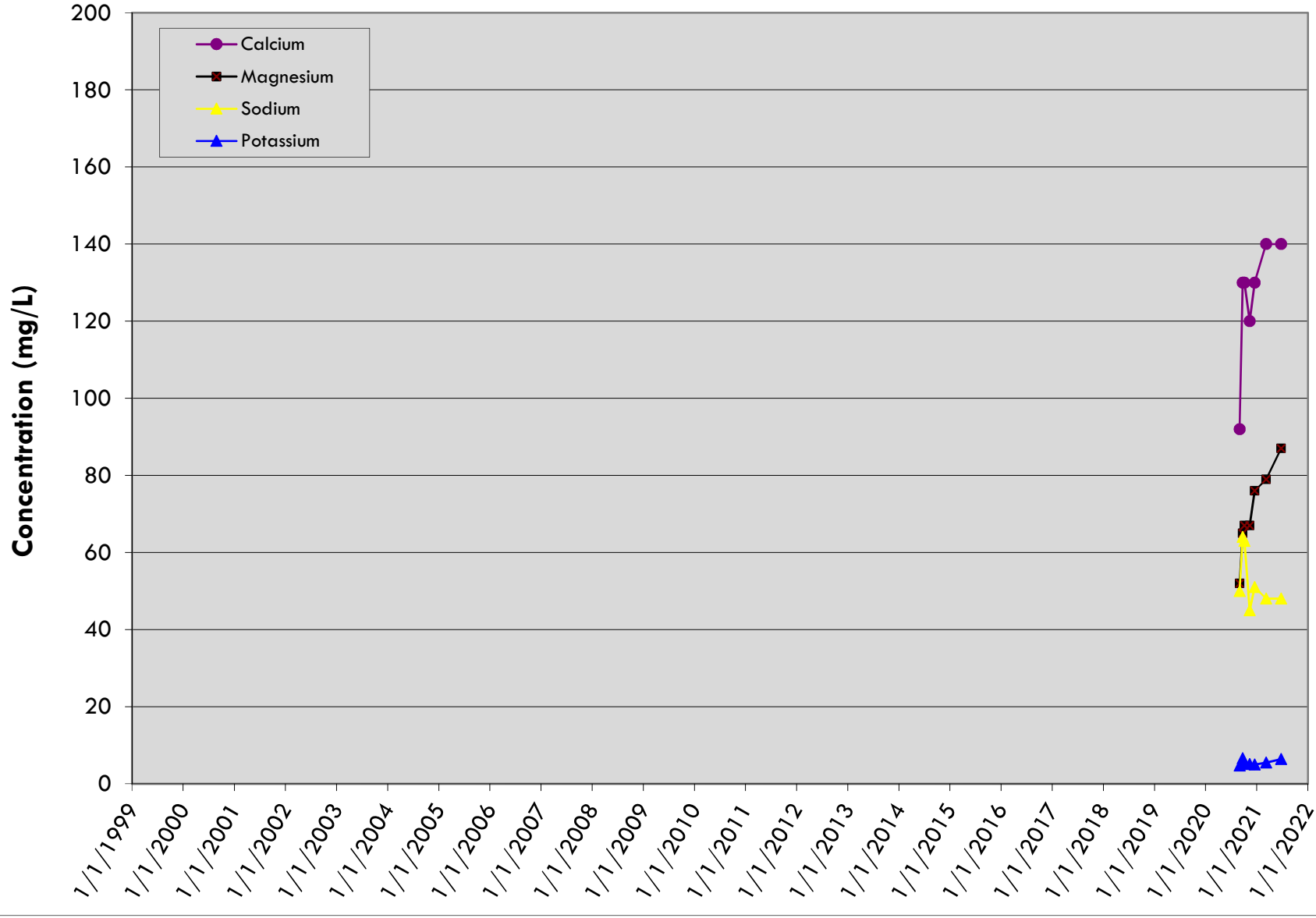
LDCS-6A
LRI Landfill, Pierce County, Washington



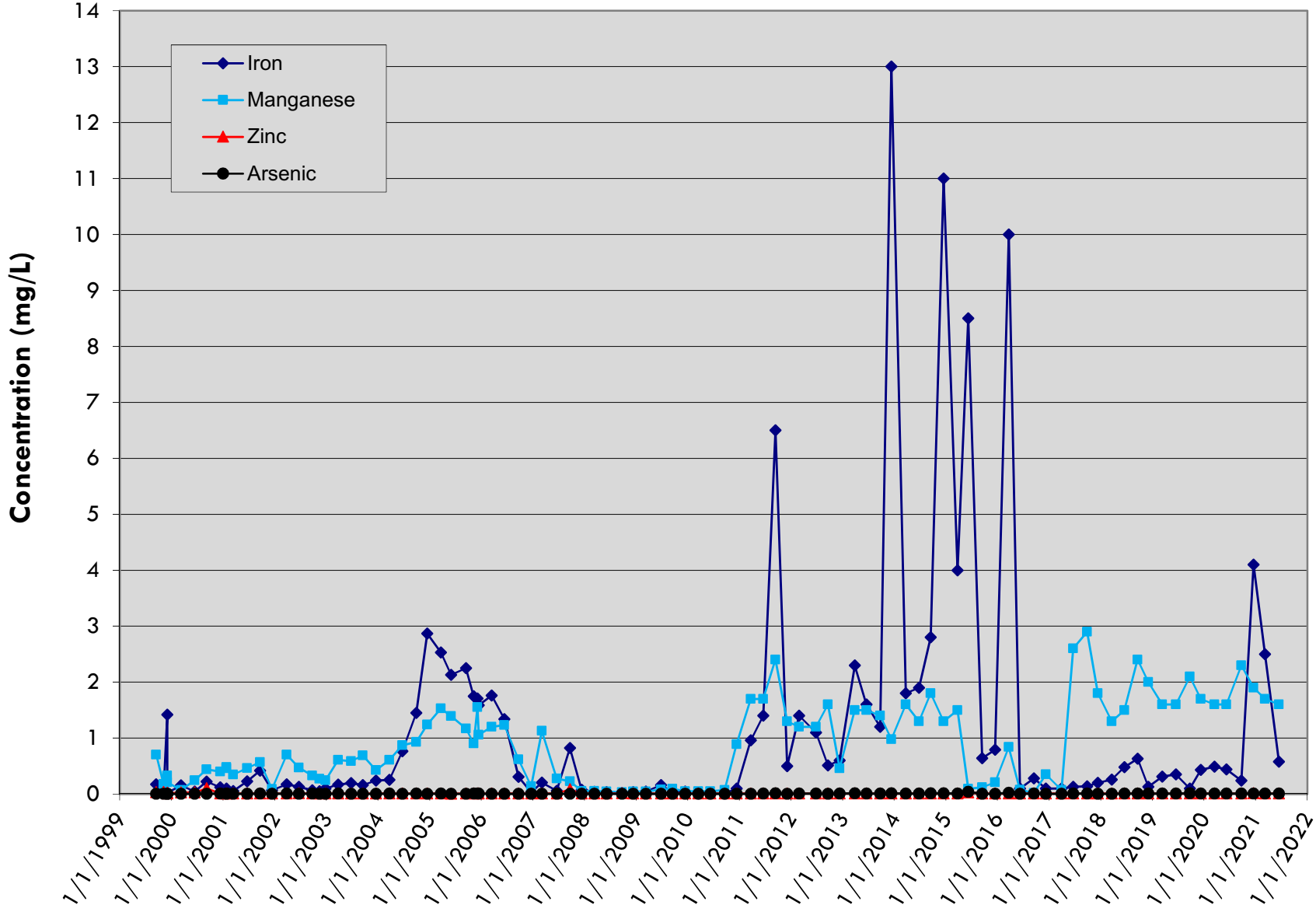
LDCS-7
LRI Landfill, Pierce County, Washington



LDCS-8A
LRI Landfill, Pierce County, Washington

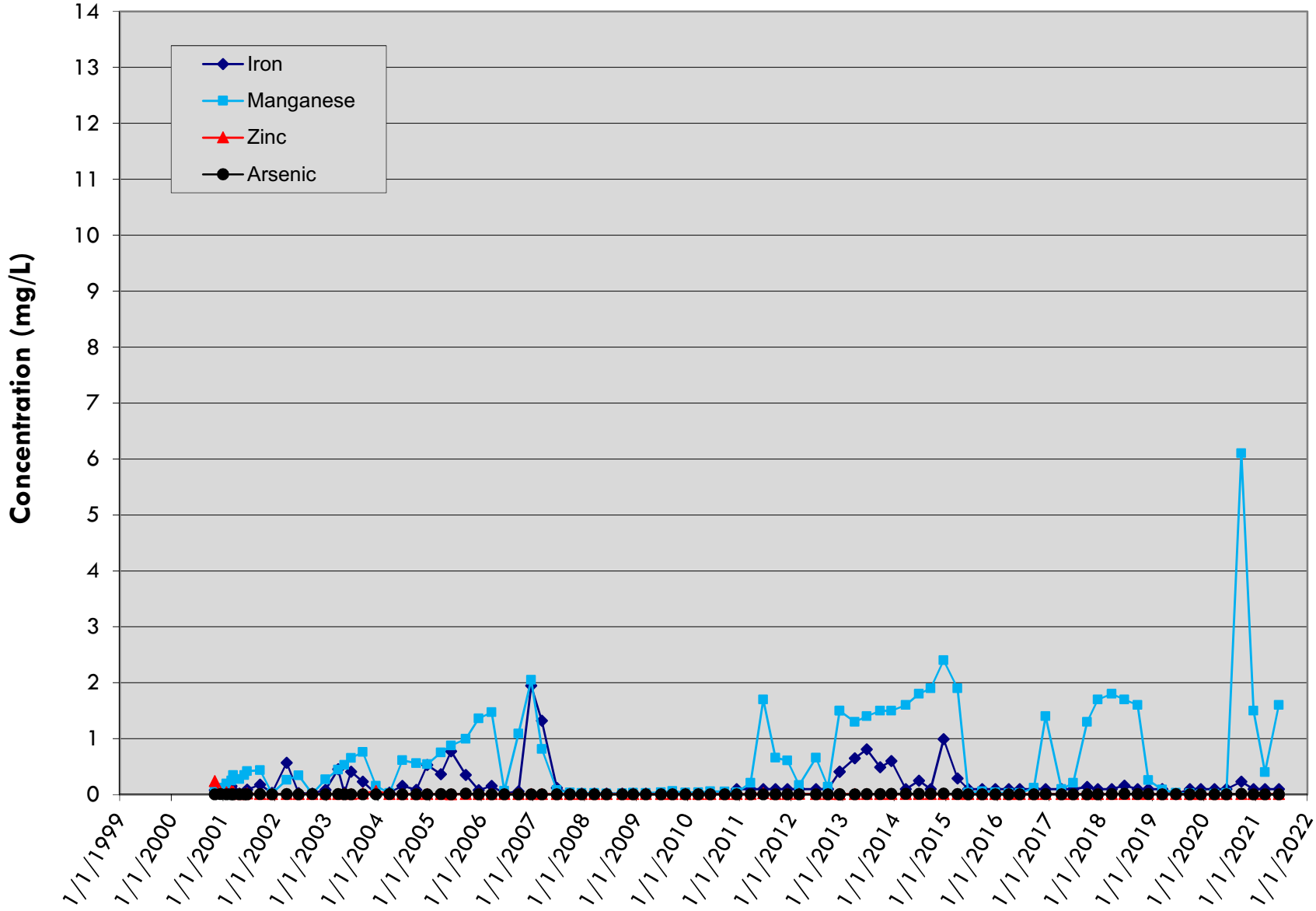


LDCS-1
LRI Landfill, Pierce County, Washington

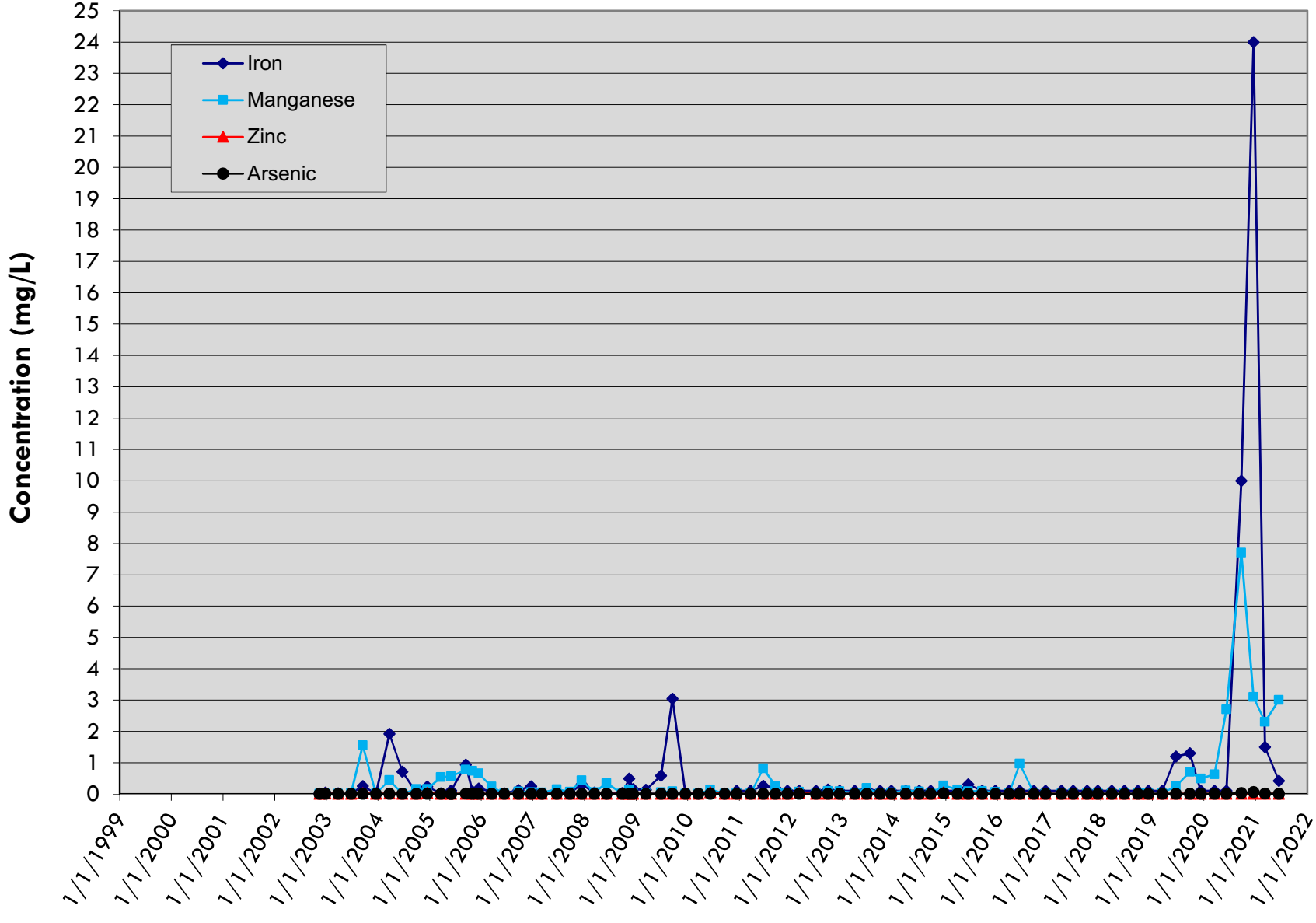


LDCS-2A

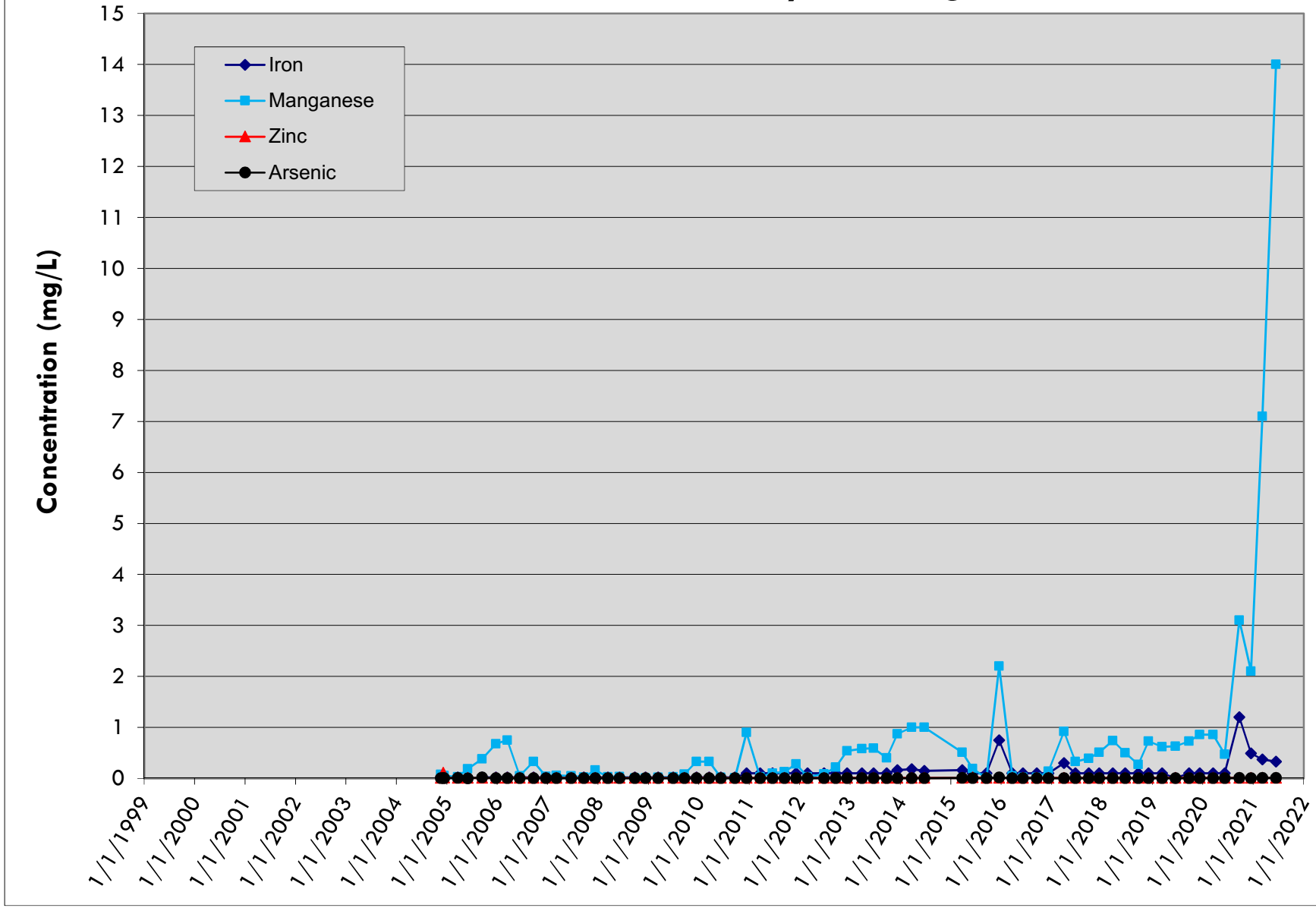
LRI Landfill, Pierce County, Washington

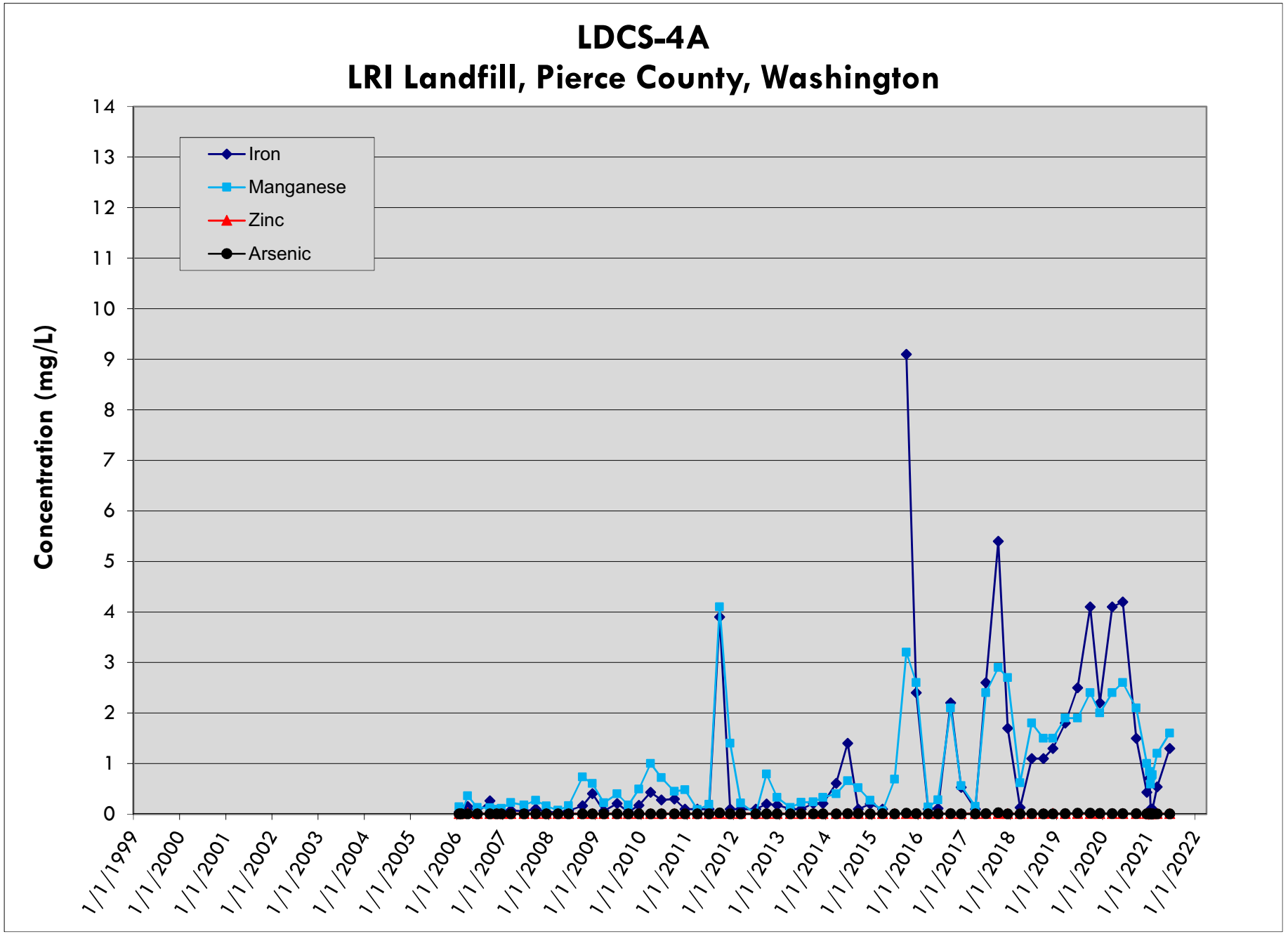


LDCS-2B
LRI Landfill, Pierce County, Washington

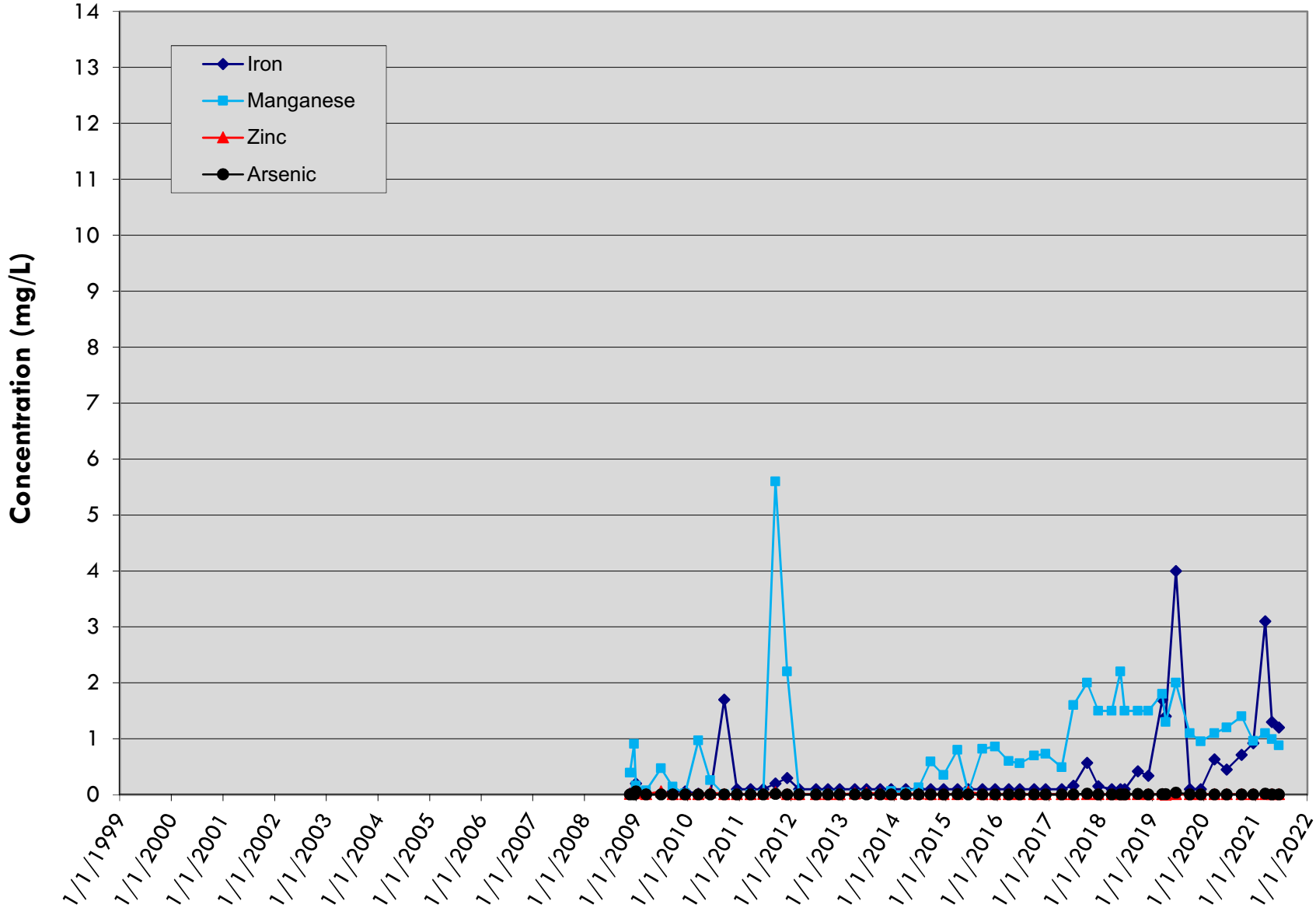


LDCS-3A
LRI Landfill, Pierce County, Washington

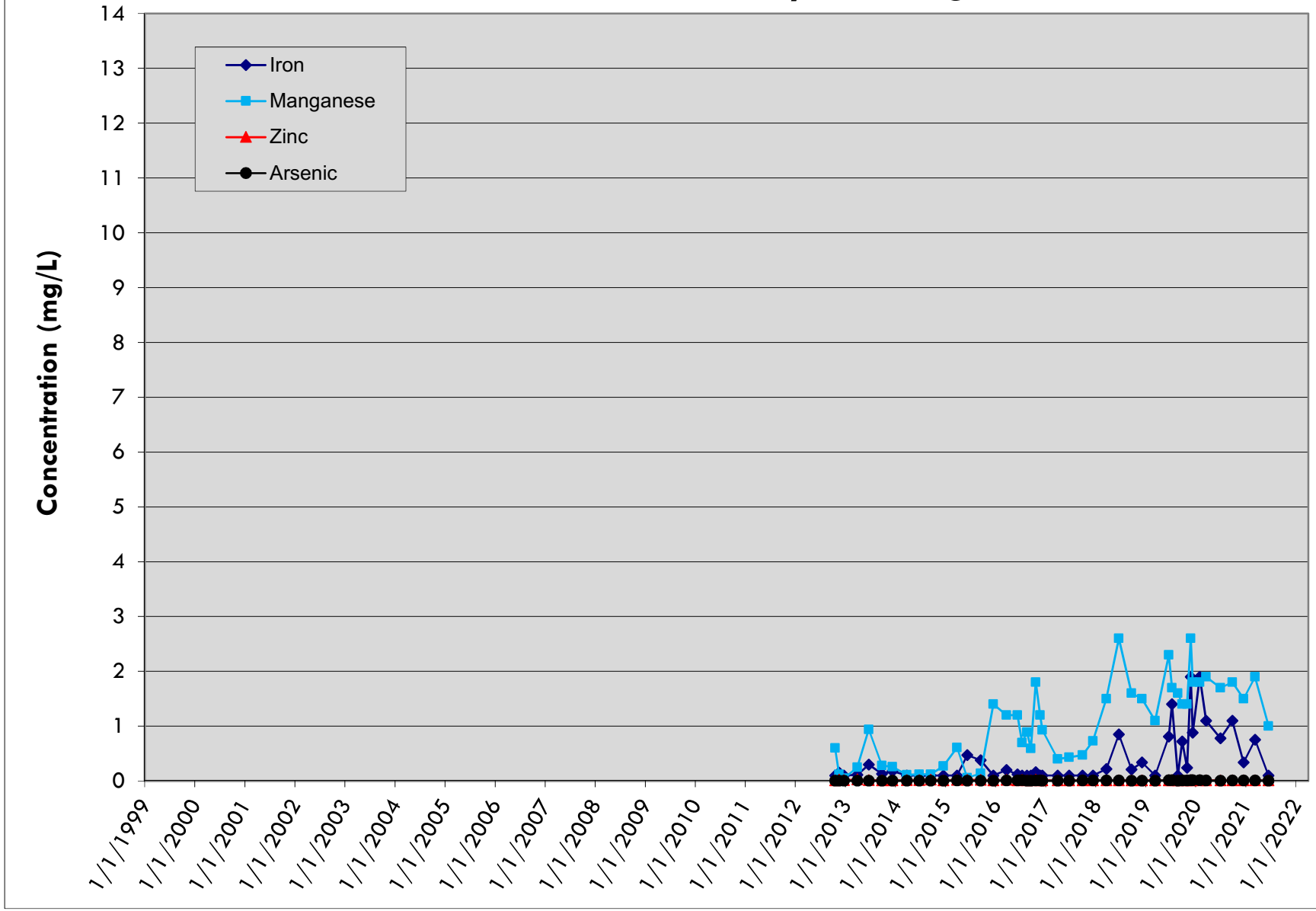


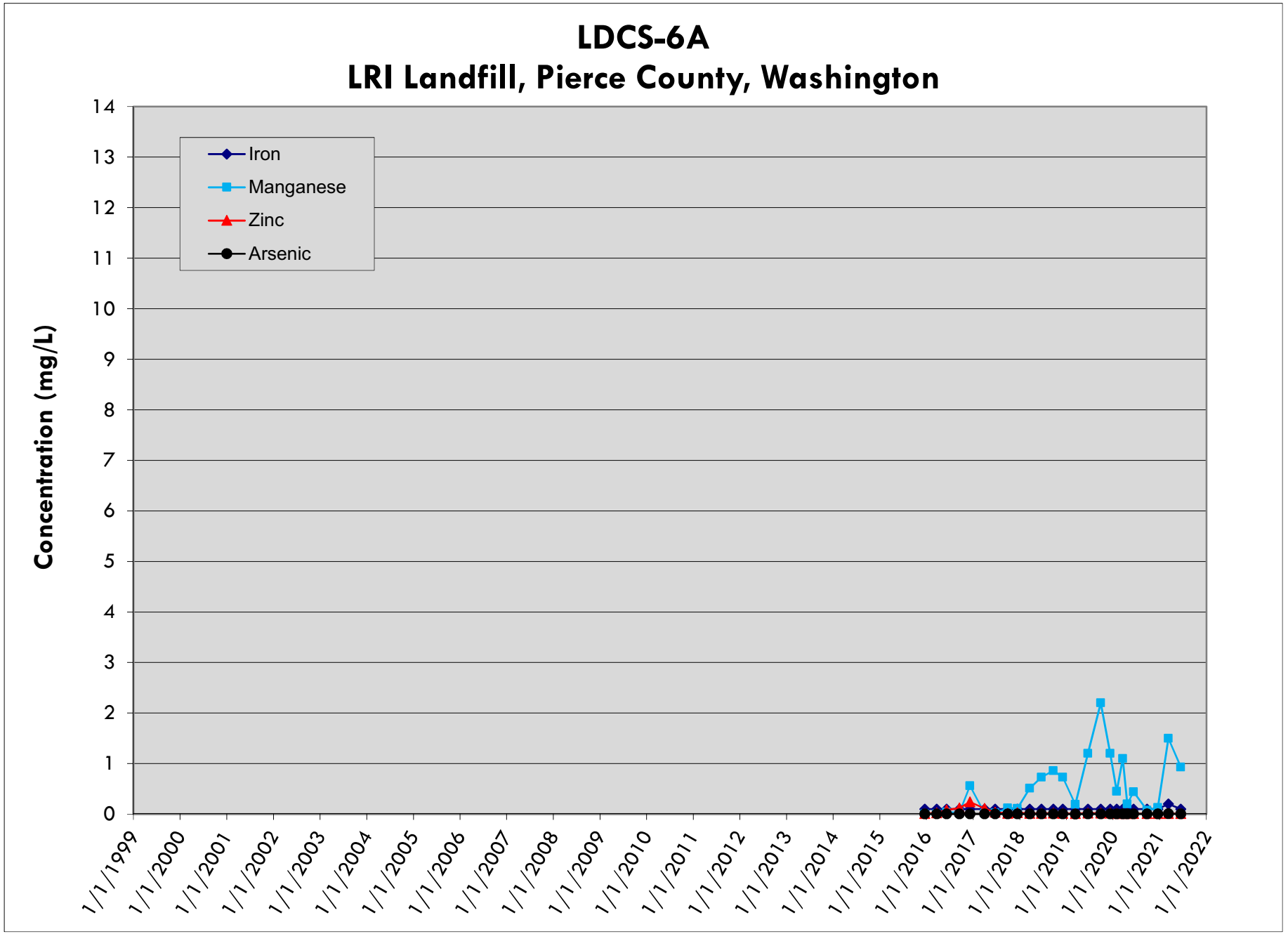

LDCS-4A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
Iron
Manganese
Zinc
Arsenic
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

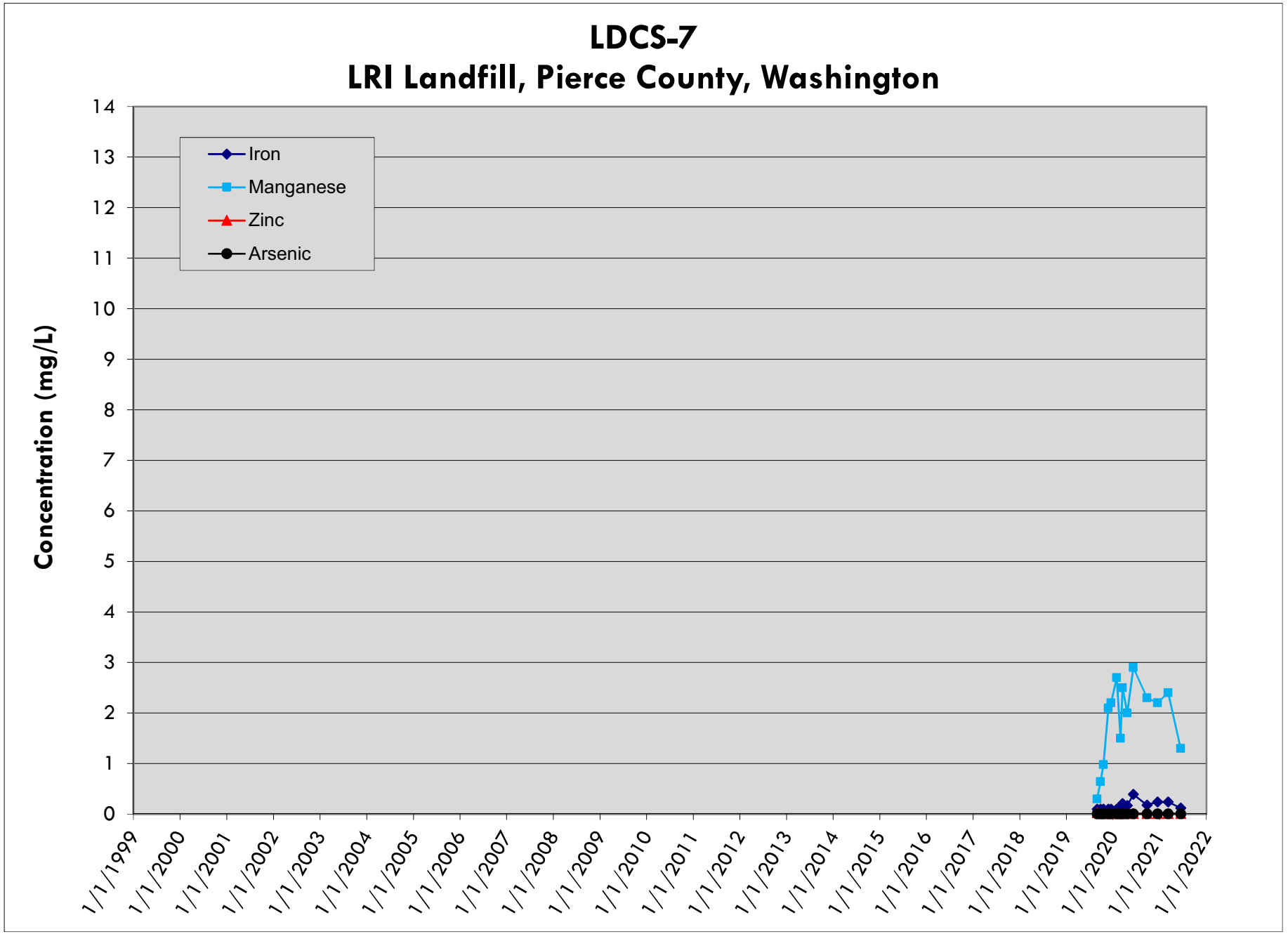
LDCS-4B
LRI Landfill, Pierce County, Washington



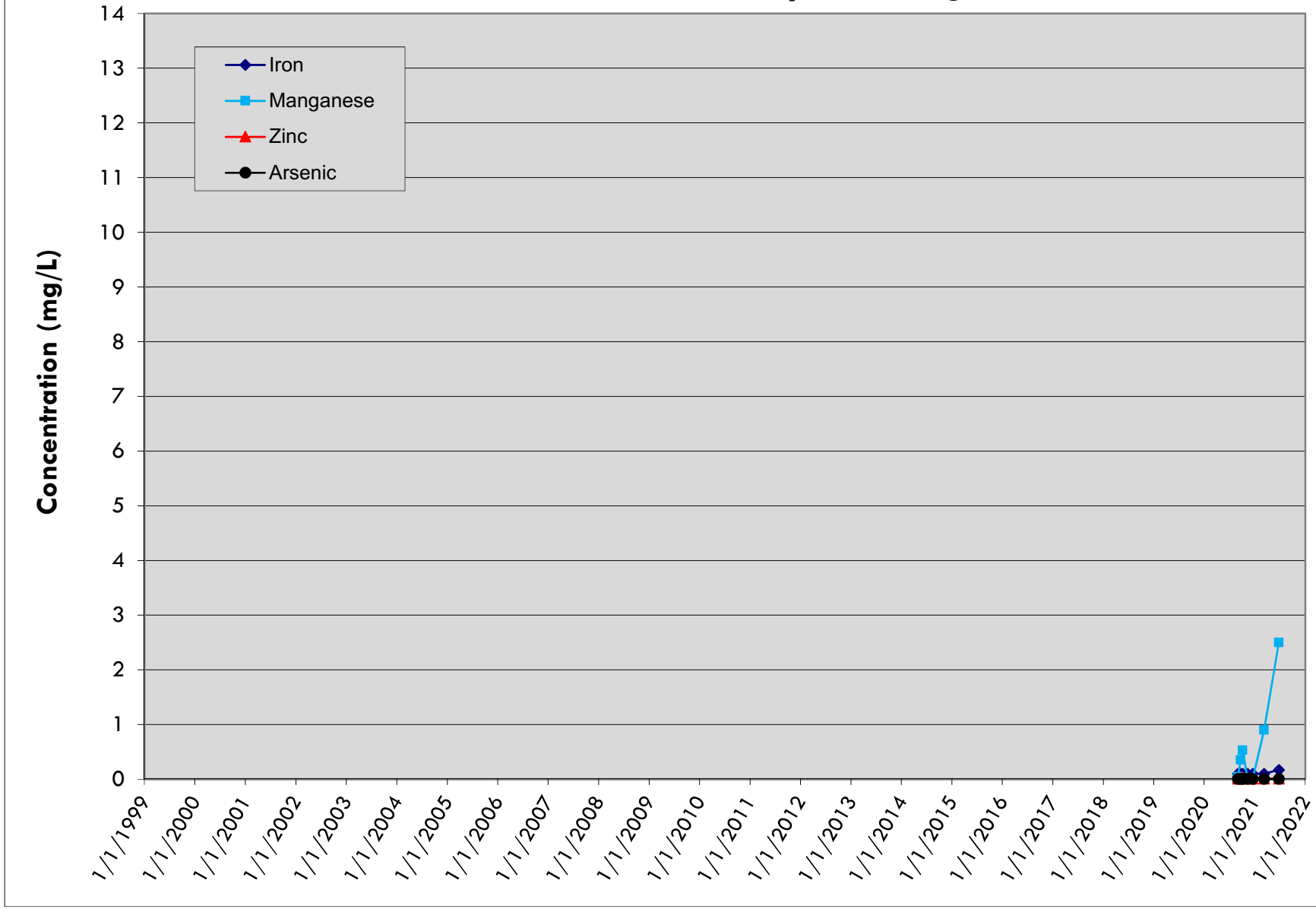
LDCS-5
LRI Landfill, Pierce County, Washington



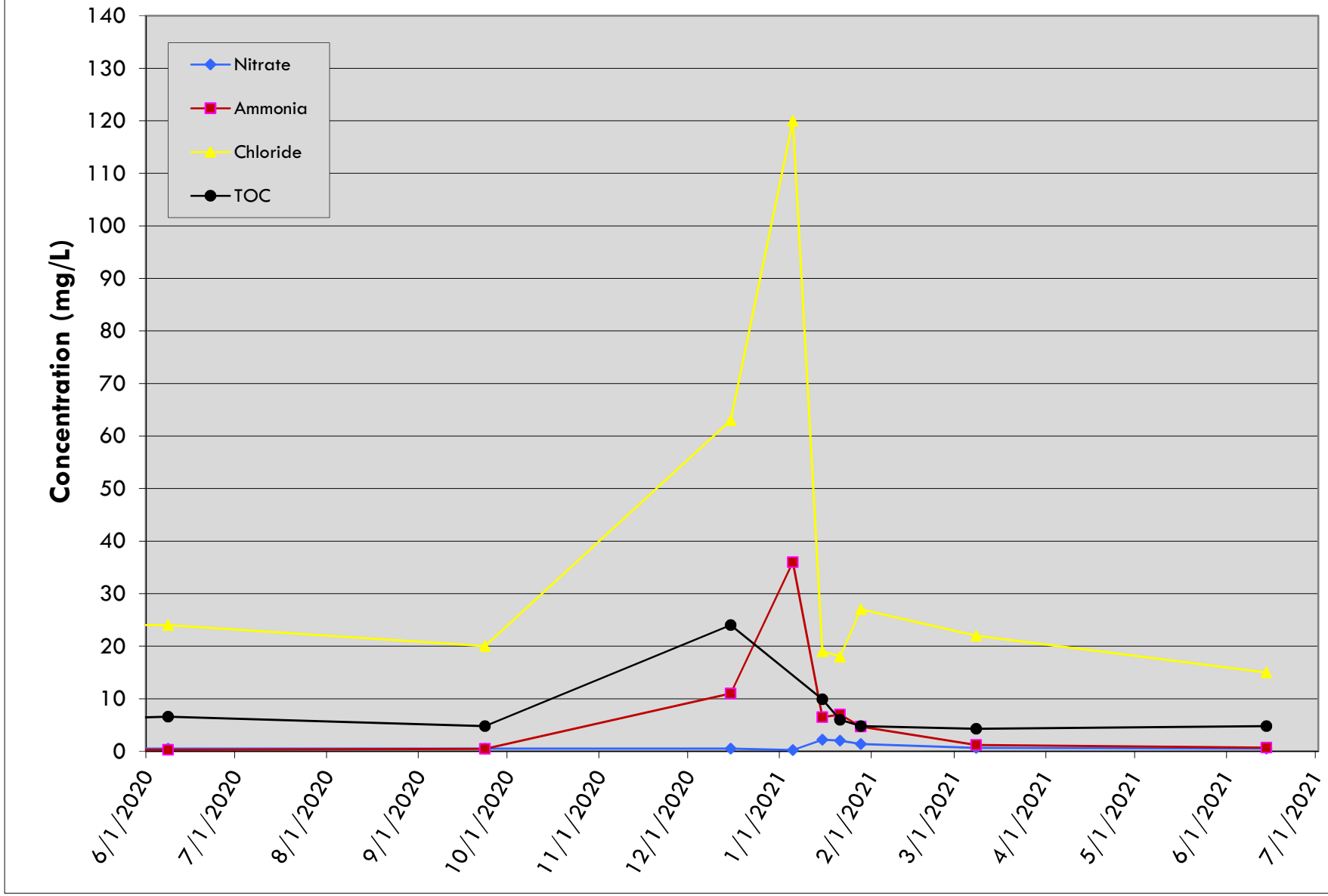

LDCS-6A
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
Iron
Manganese
Zinc
Arsenic
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022


LDCS-7
LRI Landfill, Pierce County, Washington
Concentration (mg/L)
Iron
Manganese
Zinc
Arsenic
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
1/1/2006
1/1/2007
1/1/2008
1/1/2009
1/1/2010
1/1/2011
1/1/2012
1/1/2013
1/1/2014
1/1/2015
1/1/2016
1/1/2017
1/1/2018
1/1/2019
1/1/2020
1/1/2021
1/1/2022

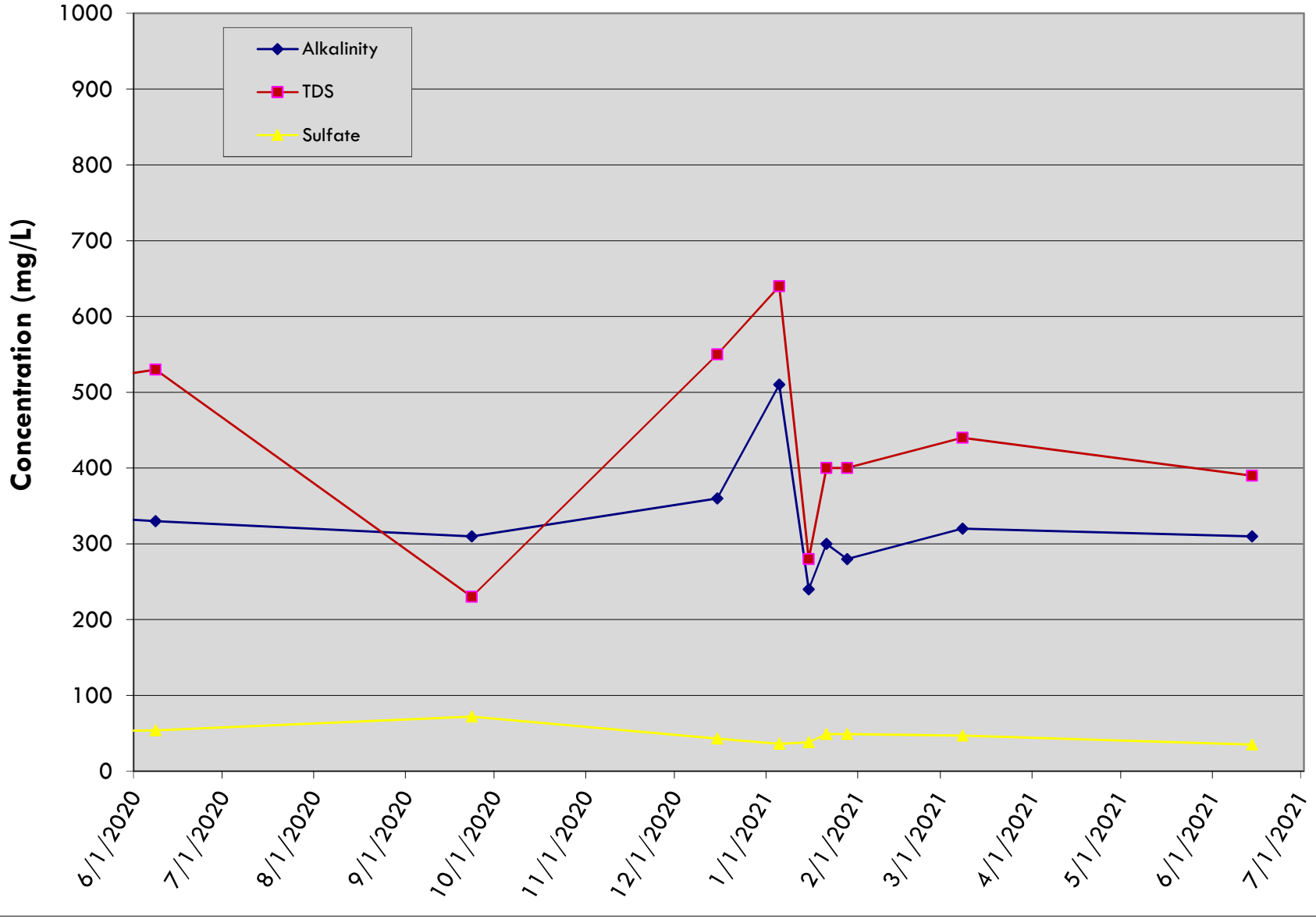
LDCS-8A
LRI Landfill, Pierce County, Washington



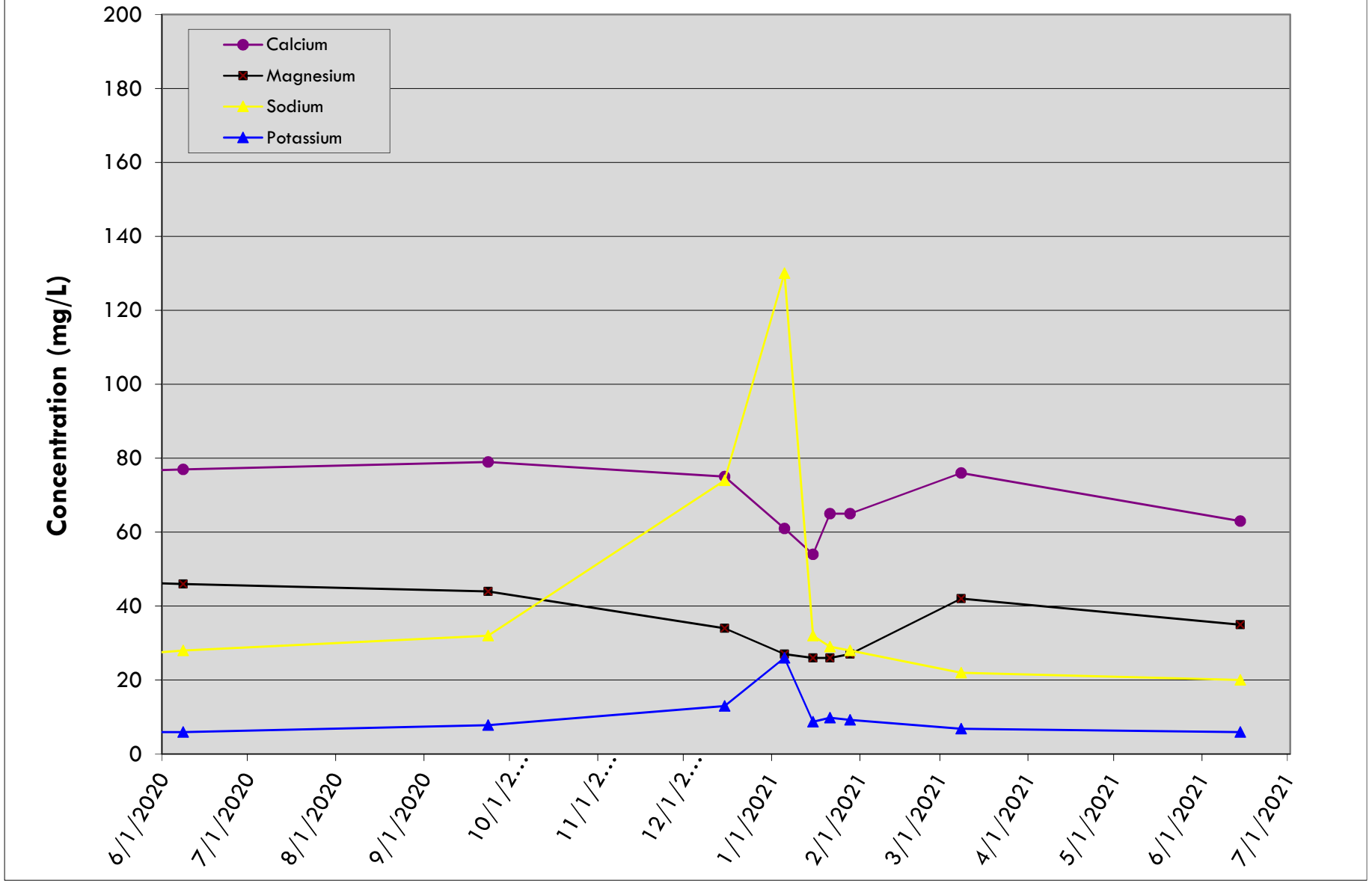
LDCS-4A
LRI Landfill, Pierce County, Washington



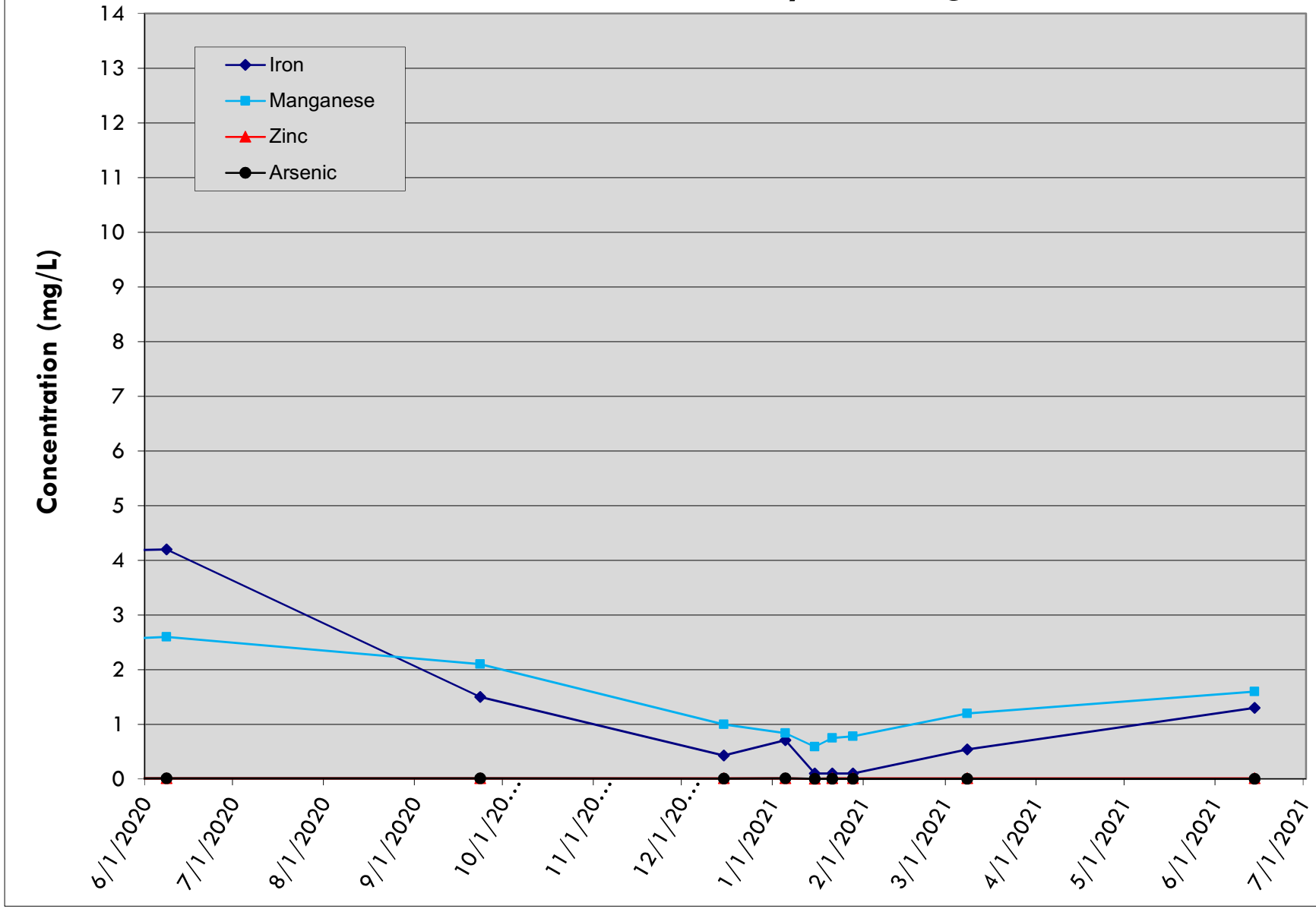
LDCS-4A
LRI Landfill, Pierce County, Washington



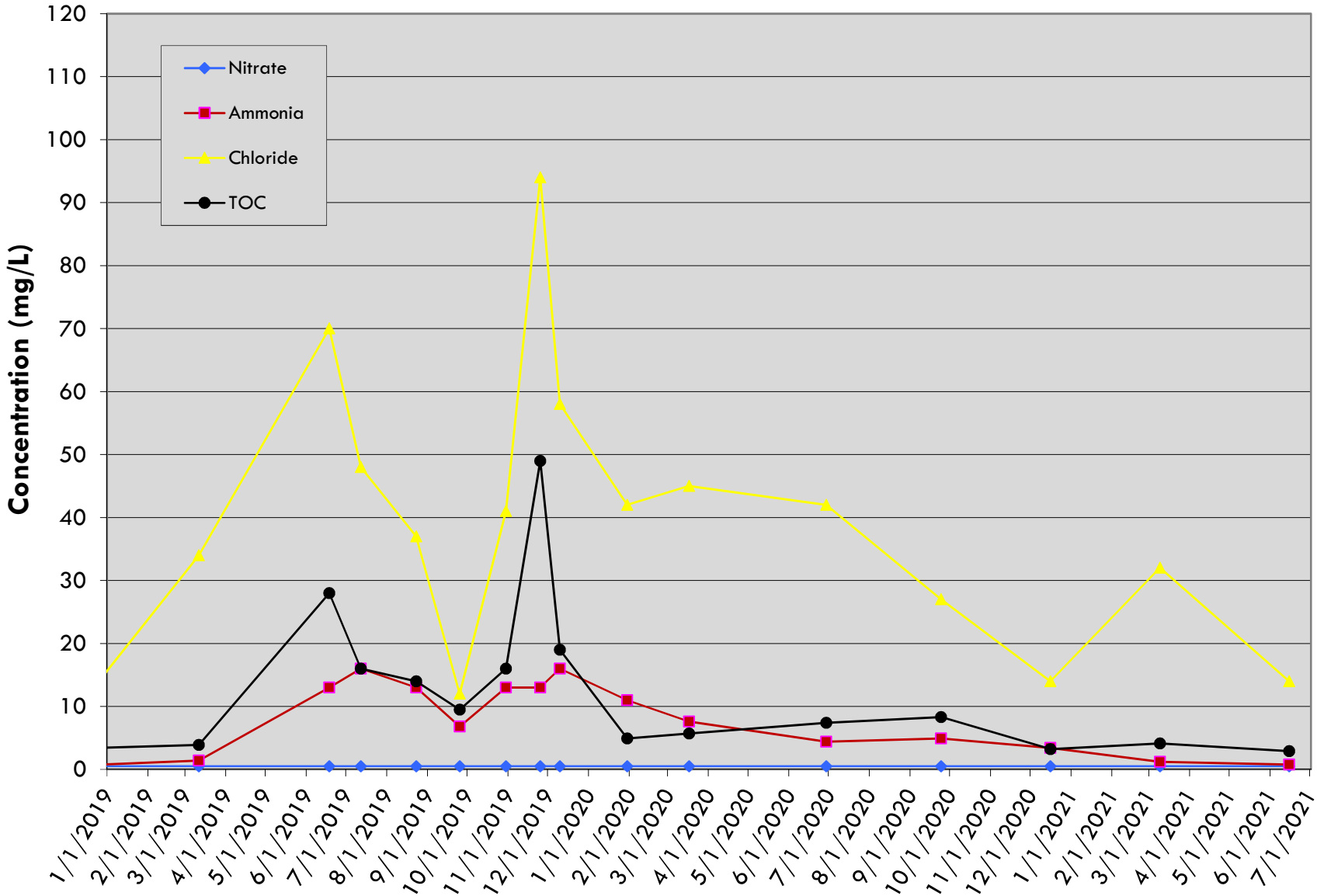
LDCS-4A
LRI Landfill, Pierce County, Washington



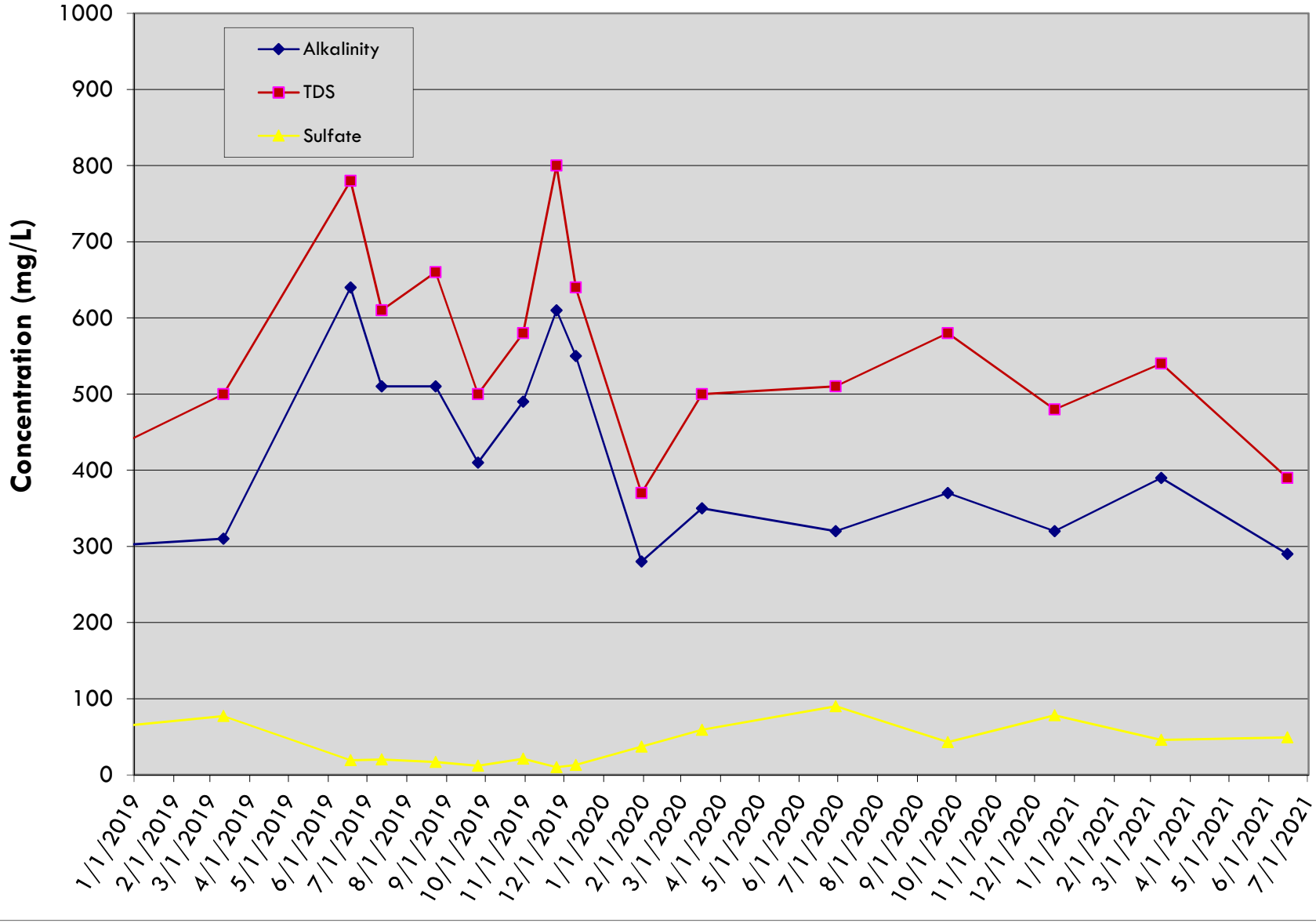
LDCS-4A
LRI Landfill, Pierce County, Washington



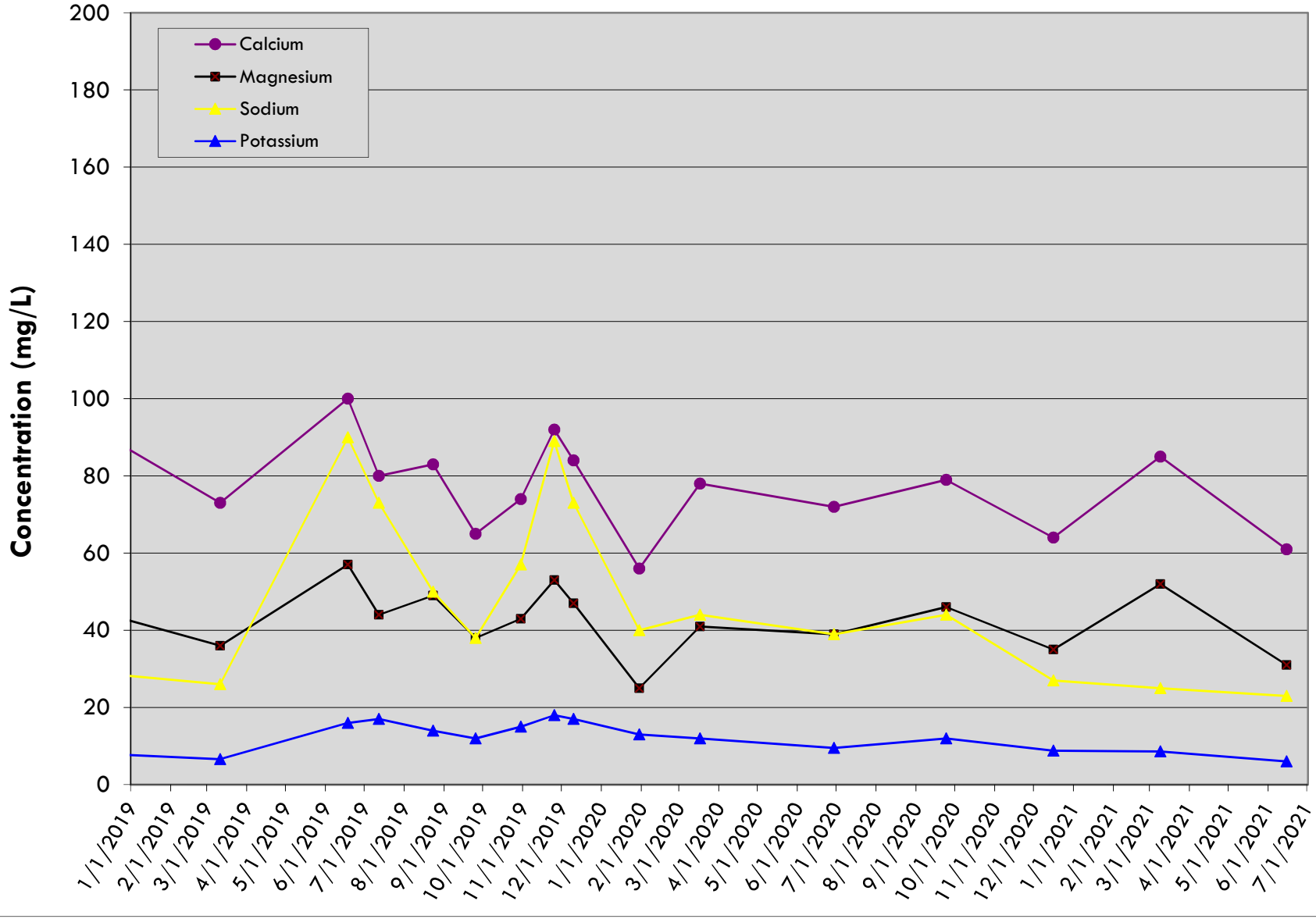
LDCS-5
LRI Landfill, Pierce County, Washington



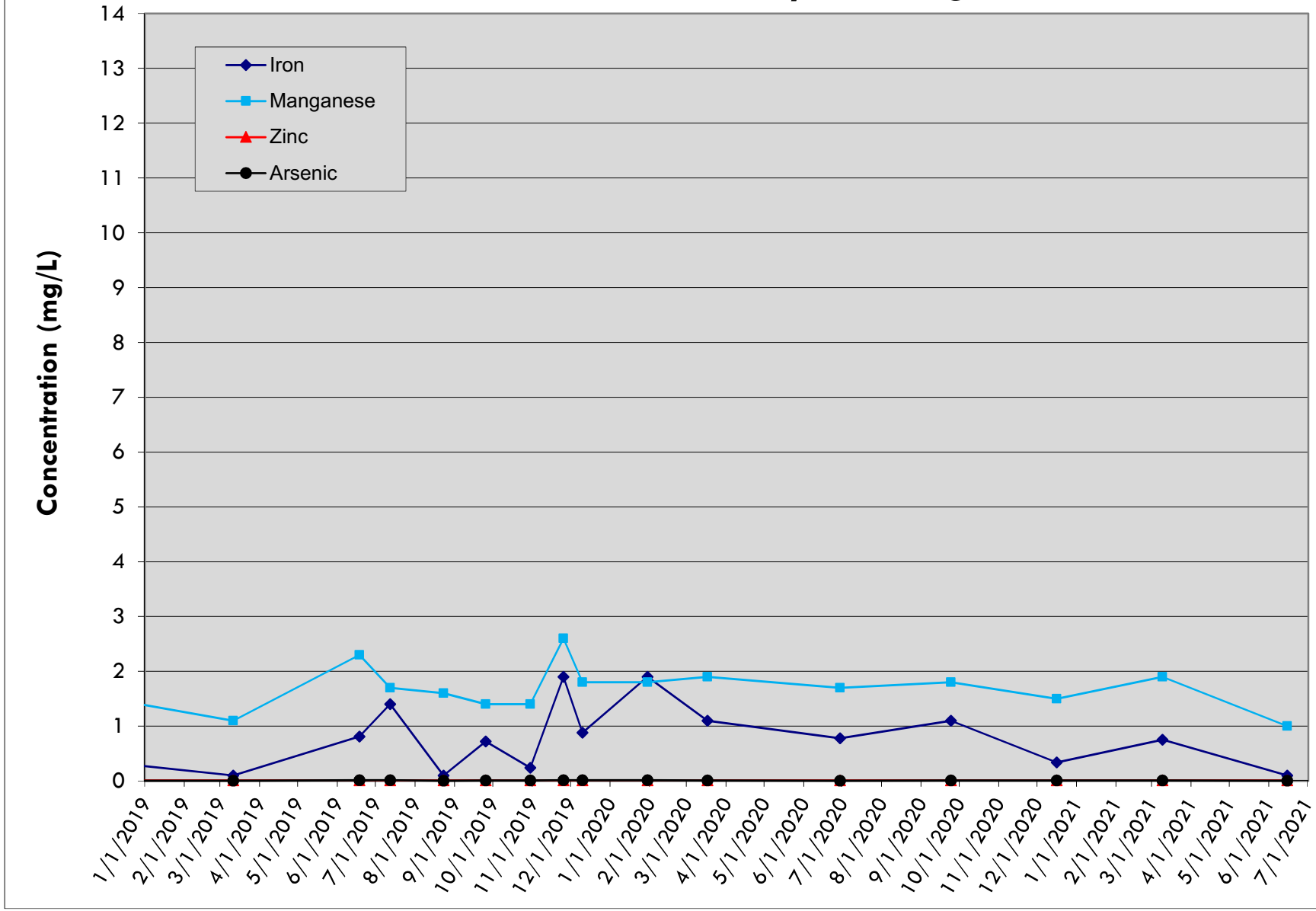
LDCS-5
LRI Landfill, Pierce County, Washington



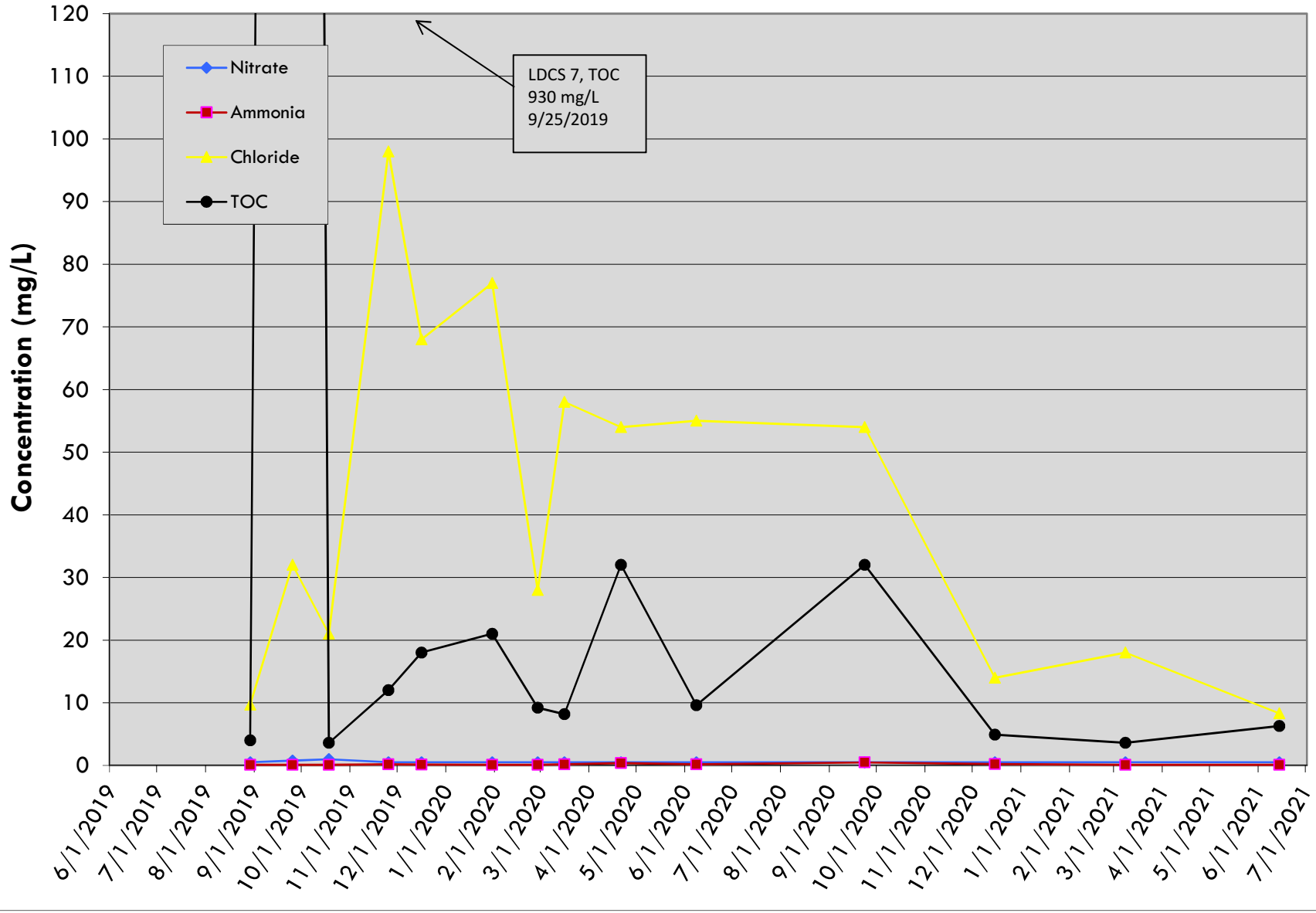
LDCS-5
LRI Landfill, Pierce County, Washington



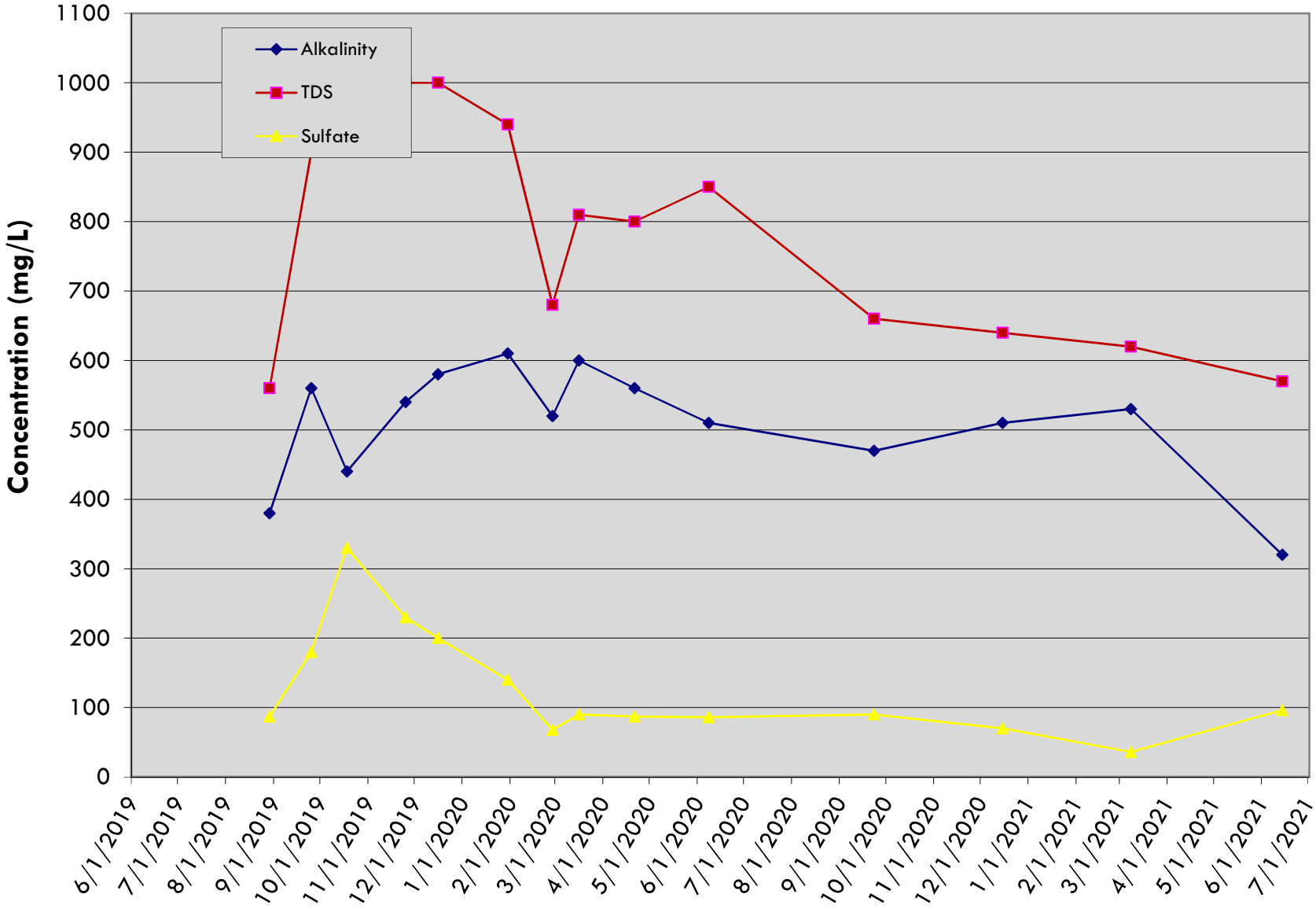
LDCS-5
LRI Landfill, Pierce County, Washington



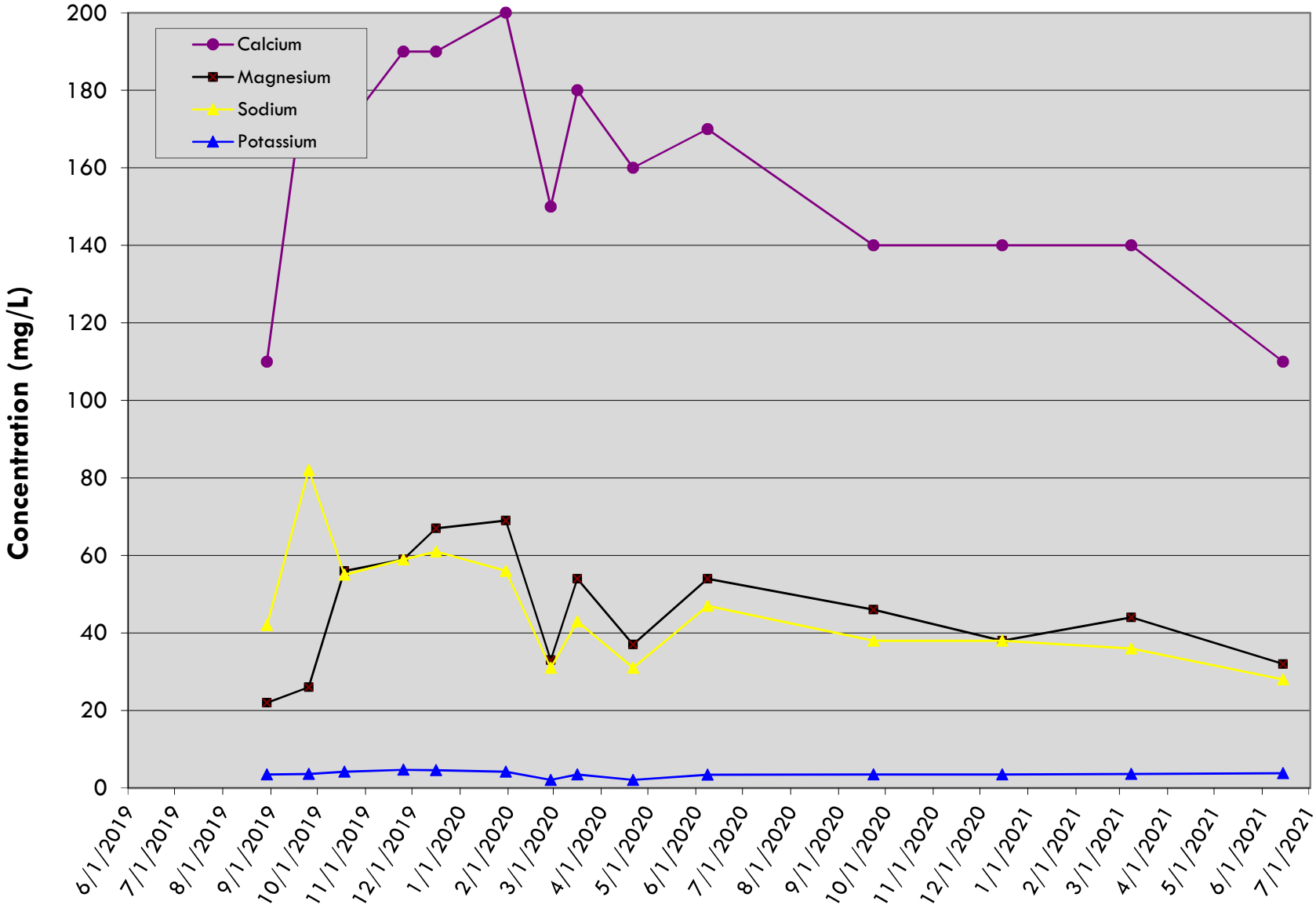
LDCS-7
LRI Landfill, Pierce County, Washington



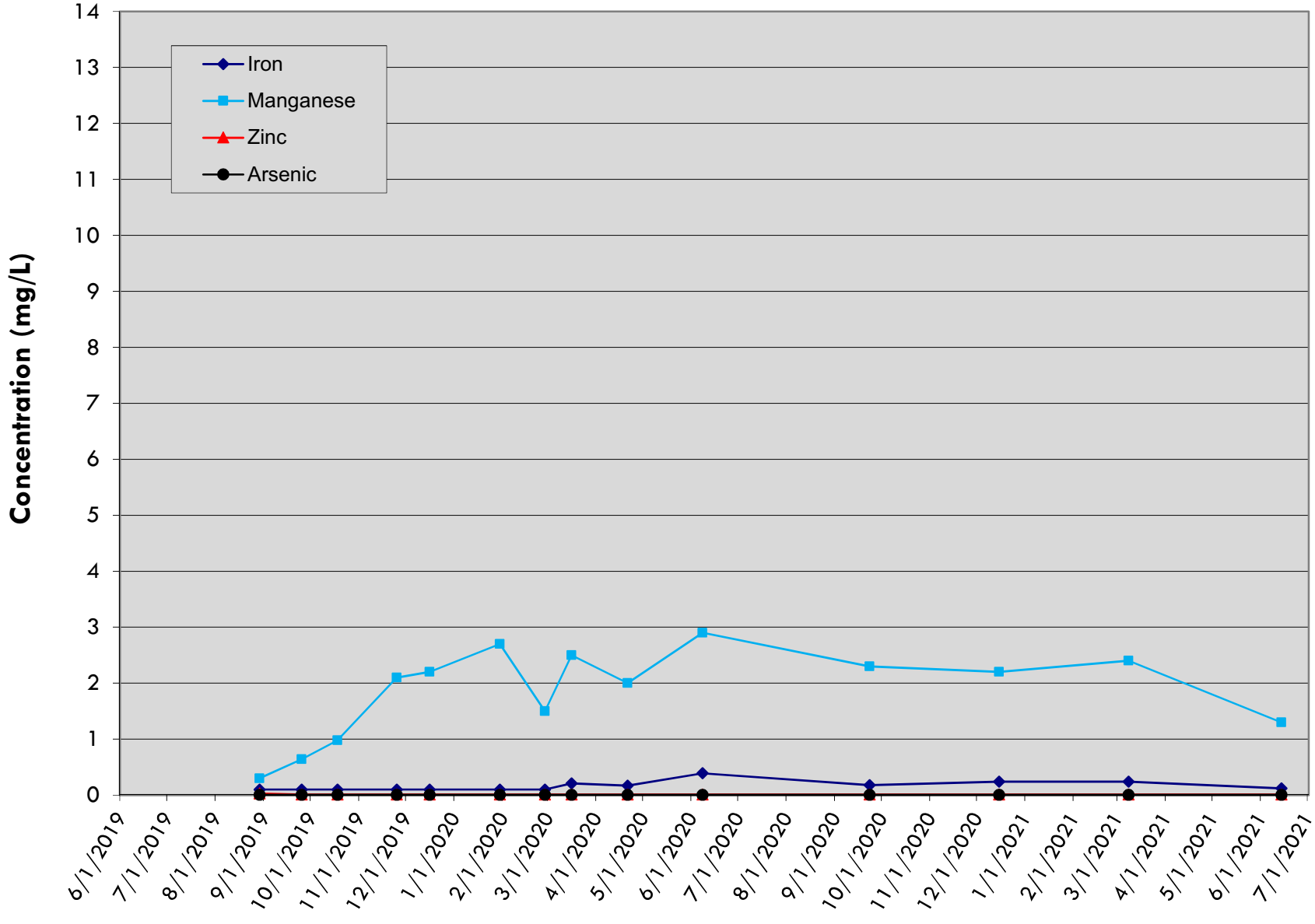
LDCS-7
LRI Landfill, Pierce County, Washington



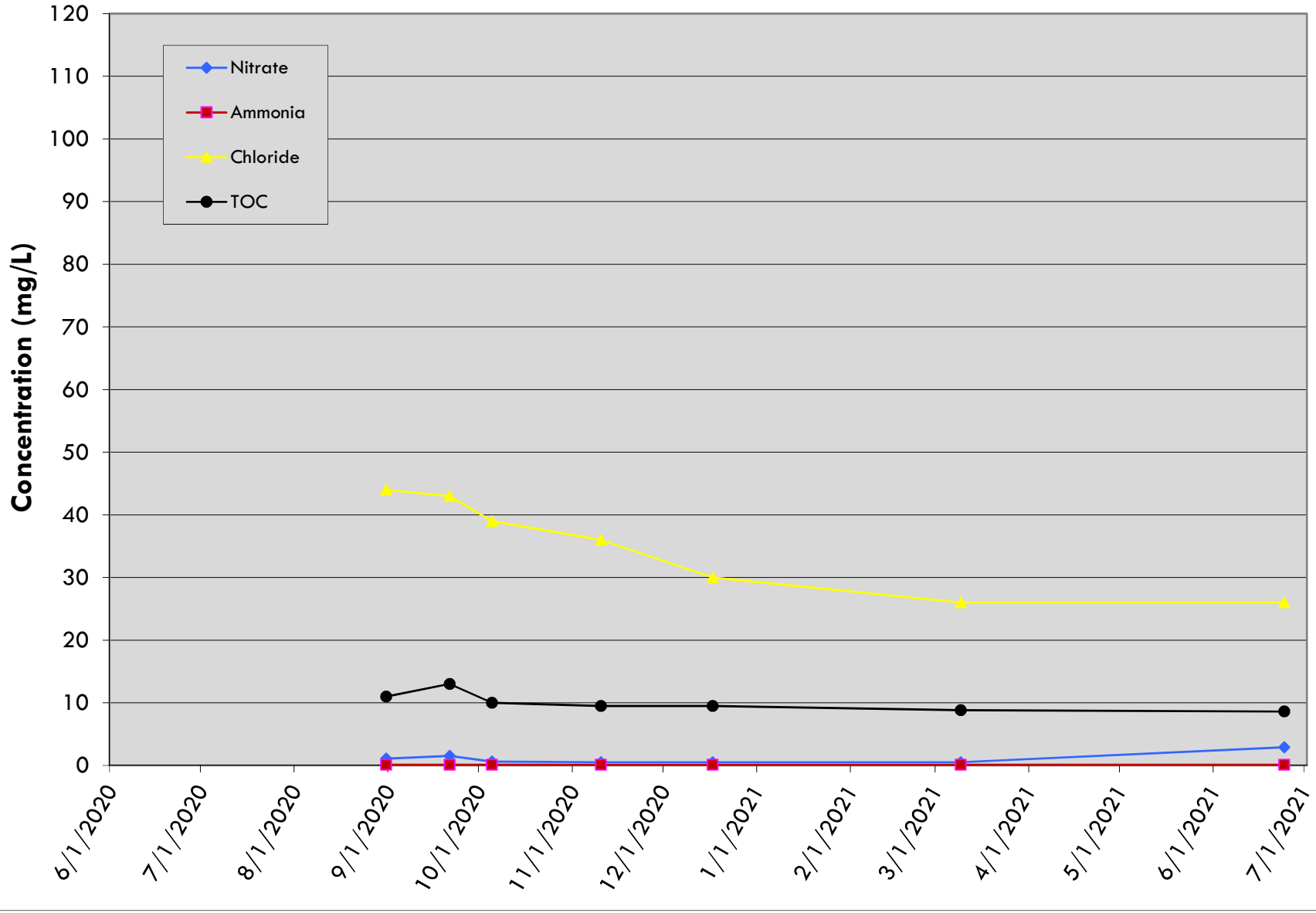
LDCS-7
LRI Landfill, Pierce County, Washington



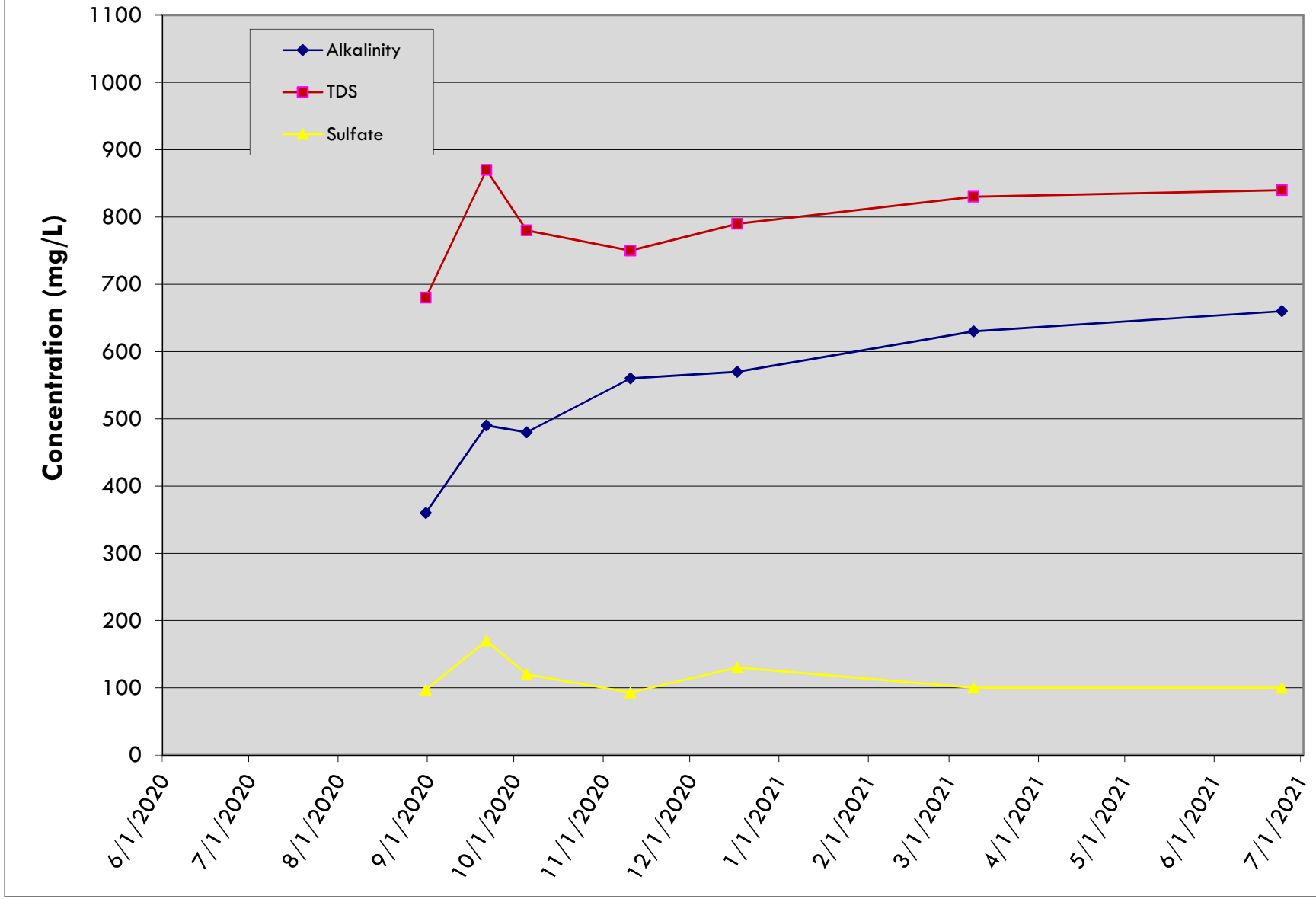
LDCS-7
LRI Landfill, Pierce County, Washington



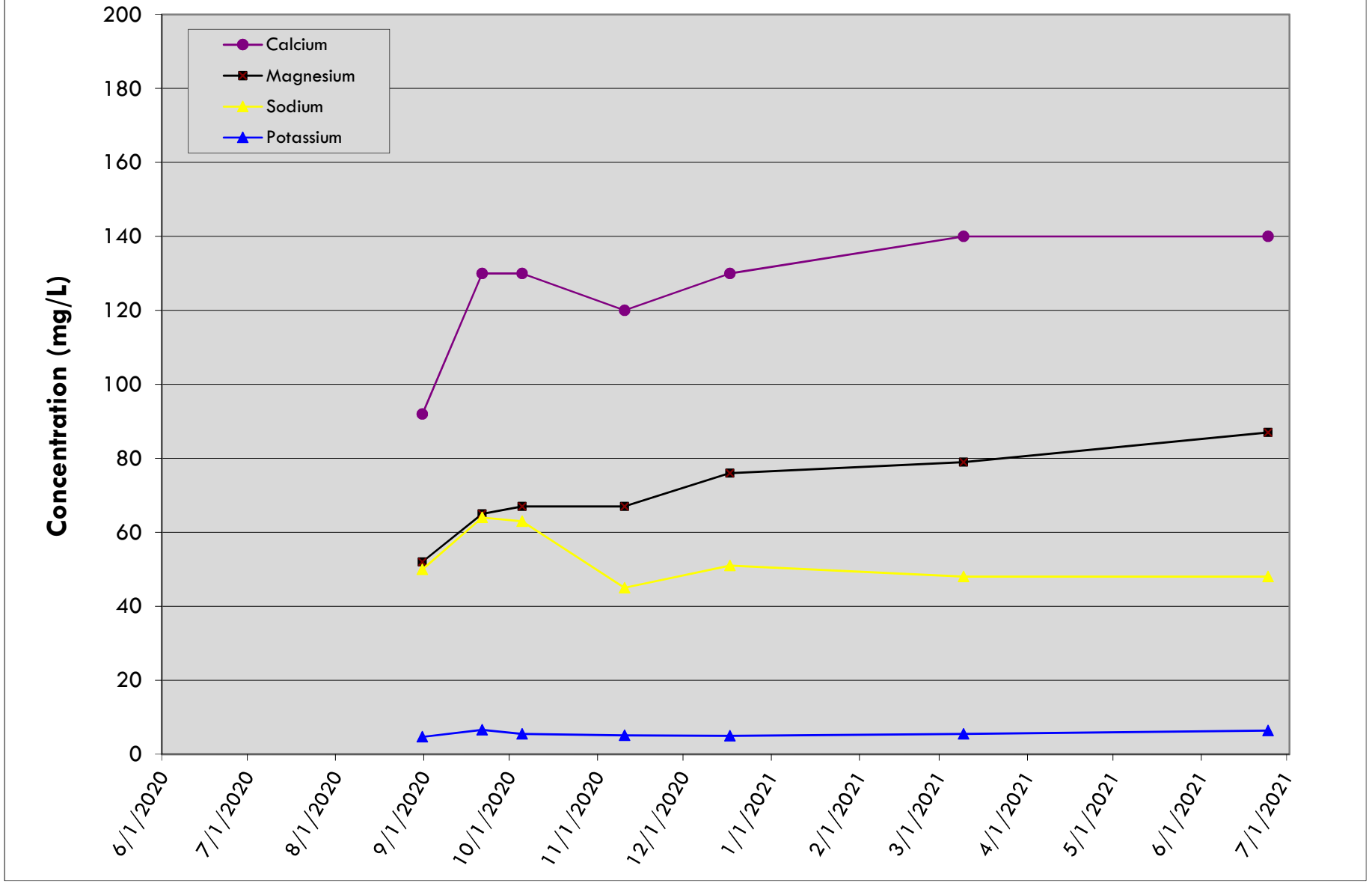
LDCS-8A
LRI Landfill, Pierce County, Washington



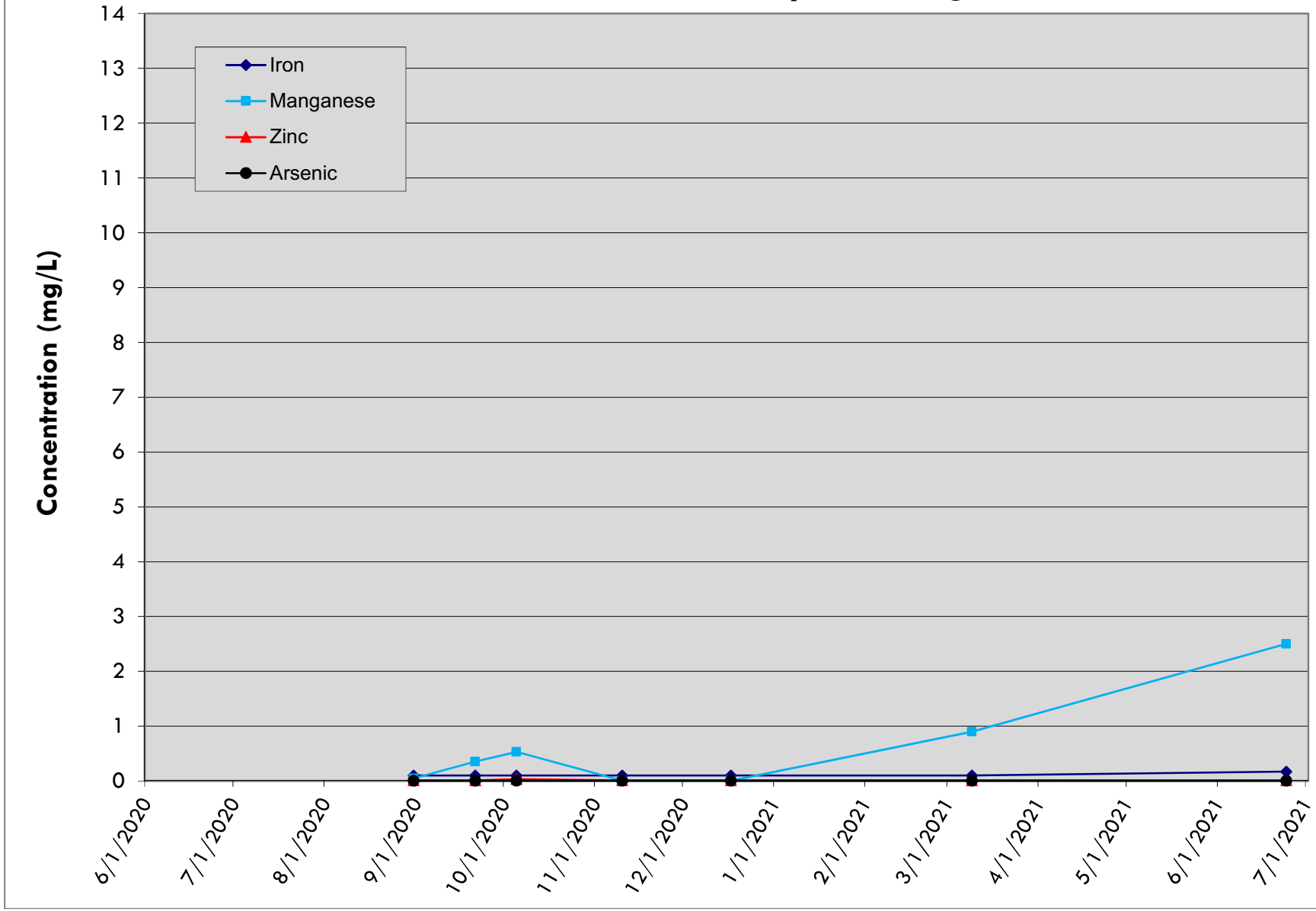
LDCS-8A
LRI Landfill, Pierce County, Washington



LDCS-8A
LRI Landfill, Pierce County, Washington



LDCS-8A
LRI Landfill, Pierce County, Washington



Attachment H

LDCS & Leachate Pumping Records and Conductivity Measurements

Summary of LDCS Volumes Pumped and Conductivity Data
Second Quarter 2021
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-8A Vol. (Gal)	LDCS-8A** Cond. (µS/cm)
4/1/2021	0.00	--	358	--	748	--	719	--	705	--	1298	--	679	--	--	--	779	--	789	--	--
4/2/2021	0.00	9,000	386	720	724	--	711	545	717	3,270	970	15,700	653	0	--	1,298	812	6,530	774	1,375	--
4/3/2021	0.00	9,420	398	760	721	--	721	560	727	3,250	970	12,774	697	477	--	1,233	788	0	755	1,307	--
4/4/2021	0.00	9,010	394	800	723	--	727	542	728	3,240	970	12,008	726	477	--	1,168	798	1,289	797	1,306	--
4/5/2021	0.00	9,060	389	720	723	--	728	693	729	3,340	1566	13,772	739	537	--	1,128	809	4,708	763	1,241	--
4/6/2021	0.02	9,180	386	760	732	--	730	553	729	3,390	859	11,594	750	477	--	1,117	821	0	774	1,374	--
4/7/2021	0.00	9,450	384	720	737	--	734	548	727	3,460	1387	10,836	764	0	--	1,087	833	6,587	779	1,310	--
4/8/2021	0.00	9,120	381	780	498	--	736	558	722	4,230	1459	19,082	744	628	--	954	837	0	759	1,244	--
4/9/2021	0.16	8,650	378	1160	404	--	383	558	716	3,640	1974	13,432	700	477	--	1,888	865	1,334	797	1,305	--
4/10/2021	0.00	9,480	375	1170	613	--	450	635	719	4,410	1974	18,468	686	538	--	2,415	628	4,703	762	1,305	--
4/11/2021	0.14	8,320	373	1070	672	--	620	555	712	3,560	1974	17,186	673	537	--	1,936	773	0	777	1,169	--
4/12/2021	0.07	9,530	370	850	712	--	679	548	722	3,490	948	14,214	680	477	--	1,502	841	6,512	792	1,305	--
4/13/2021	0.00	8,720	367	890	725	--	704	532	727	3,450	948	12,020	700	417	--	21	841	0	753	1,304	--
4/14/2021	0.00	8,930	365	720	734	--	713	553	726	3,360	948	9,656	730	417	--	0	841	803	789	1,307	--
4/15/2021	0.00	9,680	363	820	739	--	719	692	725	3,410	948	8,824	758	415	--	3,301	779	5,295	762	1,366	--
4/16/2021	0.00	8,480	361	750	727	--	723	548	727	3,520	948	10,012	772	356	--	1,204	818	0	781	1,301	--
4/17/2021	0.00	9,300	359	690	725	--	726	545	728	3,700	948	9,944	783	356	--	1,148	830	6,502	801	1,236	--
4/18/2021	0.00	8,500	357	680	733	--	728	550	728	3,740	948	9,670	795	416	--	1,094	838	0	758	1,242	--
4/19/2021	0.00	8,960	355	690	727	--	729	550	726	3,810	1907	9,354	806	417	--	1,051	845	0	795	851	--
4/20/2021	0.00	9,080	353	770	729	--	729	684	728	3,820	1544	9,024	815	417	--	1,025	852	6,464	770	0	--
4/21/2021	0.00	8,440	351	720	737	--	729	552	730	3,890	1889	9,118	822	415	--	984	857	0	772	0	--
4/22/2021	0.00	9,200	350	840	746	--	732	546	727	3,980	2443	9,386	831	416	--	984	861	6,510	792	0	--
4/23/2021	0.00	9,210	349	740	744	--	735	688	728	4,030	1460	9,182	850	416	--	970	865	0	757	0	--
4/24/2021	0.00	9,110	348	720	751	--	736	541	728	7,330	1460	16,596	852	478	--	1,166	870	1,457	801	6,899	--
4/25/2021	0.08	8,390	348	910	759	--	738	688	726	6,050	1460	21,818	759	785	--	2,503	874	4,613	767	1,371	--
4/26/2021	0.23	9,100	347	730	742	--	742	540	728	4,240	902	19,716	703	785	--	3,086	872	0	788	1,176	--
4/27/2021	0.18	7,810	346	750	716	--	746	548	724	3,630	937	17,860	700	540	--	1,908	864	6,285	803	1,106	--
4/28/2021	0.04	7,578	345	810	709	--	740	563	738	3,580	892	16,980	732	539	--	1,830	851	6,285	744	1,195	--
4/29/2021	0.00	8,530	345	700	748	--	744	536	742	3,520	907	13,452	768	478	--	1,479	812	0	825	1,195	--
4/30/2021	0.00	7,690	345	660	743	--	764	536	739	3,590	946	12,090	795	417	--	1,326	822	2,087	702	1,195	--
5/1/2021	0.00	8,178	--	710	--	--	--	597	--	4,130	--	12,773	--	0	--	1,237	--	0	--	1,178	--
5/2/2021	0.00	8,178	--	710	--	--	--	597	--	4,130	--	12,773	--	0	--	1,237	--	0	--	1,178	--
5/3/2021	0.15	8,178	342	710	736	--	772	597	718	4,130	949	12,773	798	1,248	--	1,237	819	10,725	644	1,178	--
5/4/2021	0.00	8,728	339	820	747	--	772	538	717	1,980	990	0	--	477	--	1,227	832	0	822	1,178	--
5/5/2021	0.00	8,233	340	600	759	--	768	546	705	0	1216	0	783	479	--	1,091	841	625	760	1,178	--
5/6/2021	0.06	8,518	340	1380	763	--	778	540	729	3,350	1042	12,410	795	477	--	1,182	806	5,840	--	1,178	--
5/7/2021	0.08	8,200	340	660	714	--	741	540	717	3,350	882	12,410	790	477	--	1,182	820	5,840	765	1,111	--
5/8/2021	0.00	8,160	340	720	714	--	748	559	717	3,350	882	12,094	790	477	--	1,182	820	0	751	1,173	--
5/9/2021	0.00	8,230	340	750	734	--	766	553	717	4,470	882	14,307	790	0	--	1,182	820	0	782	1,231	--
5/10/2021	0.00	8,170	338	690	744	--	776	553	739	4,470	1595	14,307	759	0	--	1,182	836	0	788	1,239	--
5/11/2021	0.00	8,180	337	740	748	--	782	553	743	4,470	2587	14,307	792	1,862	--	1,182	841	6,256	748	1,172	--
5/12/2021	0.00	7,943	338	710	754	--	777	550	742	2,900	1785	10,198	811	601	--	1,170	852	6,353	785	1,178	--
5/13/2021	0.00	16,258	337	1440	729	--	775	1091	744	5,790	1675	18,578	821	1,139	--	2,230	856	4,598	681	1,178	--
5/14/2021	0.00	7,888	337	660	753	--	767	548	741	2,260	1931	8,236	821	0	--	1,080	860	4	803	1,178	--
5/15/2021	0.00	7,850	337	750	753	--	767	599	741	2,260	1931	6,801	821	0	--	0	860	0	803	1,594	--
5/16/2021	0.00	7,850	337	750	753	--	767	599	741	2,260	1931	6,801	821	0	--	0	860	0	803	1,594	--
5/17/2021	0.10	7,850	340	740	737	--	767	599	702	2,260	2625	6,801	885	2,144	--	836	889	6,501	833	1,594	--
5/18/2021	0.04	7,380	341	690	703	--	767	556	698	1,940	1845	8,402	833	454	--	0	859	6,347	763	1,594	--
5/19/2021	0.08	7,130	341	850	744	--	760	542	730	2,410	3074	15,416	763	635	--	3,086	869	0	839	1,210	--
5/20/2021	0.04	7,200	341	700	753	--	763	429	743	2,690	1521	13,730	743	699	--	1,091	877	1,470	725	1,210	--
5/21/2021	0.00	7,123	342	650	719	--	759	554	747	2,810	2130	14,356	734	695	--	1,227	878	4,791	809	1,210	--
5/22/2021	0.00	6,885	342	0	719	--	759	539	747	2,370	2130	9,711	734	0	--	0	878	0	809	1,210	--
5/23/2021	0.08	6,885	342	0	719	--	759	539	747	2,370	2130	9,711	734	0	--	0	878	0	809	1,210	--
5/24/2021	0.23	6,885	343	0	766	--	765	539	734	2,370	2575	9,711	788	1,606	--	3,582	882	6,368	824	1,210	--
5/25/2021	0.12	6,710	343	0	766	--	768	536	736	3,080	2746	17,250	701	1,097	--	1,377	882	0	822	1,210	--
5/26/2021	0.21	7,148	343	600	719	--	768	535	736	4,440	1216	20,186	670	1,797	--	4,128	869	6,377	645	1,210	--
5/27/2021	0.18	7,203	343	610	768	--	768	538	737	3,210	1349	17,900	716	821	--	2,019	833	0	825	1,210	--
5/28/2021	0.00	7,130	343	620	701	--	768	539	701	3,390	1342	17,212	716	1,669	--	3,320	864	684	762	1,210	--
5/29/2021	0.00	--	343	--	701	--	768	--	701	--	1342	--	716	--	--	--	864	--	762	1,245	--
5/30/2021	0.00	--	343	--	701	--	768	--	701	--	1342	--	716	--	--	--	864	--	762	1,245	--
5/31/2021	0.00	--	343	--	701	--	768	--	701	--	1342	--	716	--	--	--	864	--	762	1,245	--

Summary of LDCS Volumes Pumped and Conductivity Data
Second Quarter 2021
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-8A Vol. (Gal)	LDCS-8A** Cond. (µS/cm)
6/1/2021	0.00	--	343	--	769	--	765	--	738	--	1732	--	820	--	--	--	799	--	819	1,245	--
6/2/2021	0.00	7,280	343	680	760	--	779	535	739	1,840	1560	8,038	806	409	980	1,120	822	5,466	792	1,235	--
6/3/2021	0.00	6,510	343	660	757	--	774	540	737	1,720	1891	7,218	823	423	962	1,064	801	317	754	1,173	--
6/4/2021	0.00	6,600	344	620	742	--	770	541	738	1,630	1891	6,692	832	434	969	1,034	807	0	795	1,111	--
6/5/2021	0.16	6,550	344	660	741	--	766	538	740	1,760	1891	7,790	837	397	982	1,008	817	6,202	804	1,164	--
6/6/2021	0.62	6,420	344	610	739	--	763	548	734	1,990	1891	11,260	822	519	985	1,029	825	0	758	1,174	--
6/7/2021	0.06	6,940	345	600	751	--	761	563	736	2,760	1216	14,948	790	1,164	947	3,291	834	0	801	1,172	--
6/8/2021	0.00	5,930	345	640	753	--	758	412	739	2,570	1188	12,838	766	637	938	1,792	838	6,025	774	1,100	--
6/9/2021	0.00	6,600	346	640	739	--	749	545	742	2,230	1188	9,272	771	515	939	1,388	832	0	772	1,099	--
6/10/2021	0.04	6,040	347	560	742	--	752	534	746	2,010	1231	7,858	788	457	940	1,253	827	1,075	810	1,164	--
6/11/2021	0.14	6,460	348	600	756	--	754	538	745	1,970	1189	8,986	802	399	960	1,144	825	4,583	768	1,235	--
6/12/2021	0.15	6,260	348	620	763	--	757	535	741	2,220	1189	13,334	796	515	972	1,236	825	0	772	1,098	--
6/13/2021	1.37	6,220	349	390	765	--	716	532	737	4,490	1189	16,276	774	3,179	939	6,042	832	7,682	791	1,168	--
6/14/2021	0.11	6,500	350	0	756	--	662	582	742	4,610	1260	14,304	729	1,493	858	7,062	814	590	734	10,324	--
6/15/2021	0.42	6,610	350	0	741	--	648	503	746	5,530	1336	20,548	703	976	829	3,378	787	0	699	32,311	--
6/16/2021	0.00	6,340	351	0	730	--	690	413	748	3,790	1196	20,368	715	952	851	2,744	770	5,966	706	63,199	--
6/17/2021	0.00	7,260	352	0	756	--	718	543	754	3,110	1338	17,556	733	447	915	1,490	757	0	727	15,527	--
6/18/2021	0.00	7,380	352	0	770	--	741	679	754	2,680	1300	13,522	758	437	910	1,279	747	3,955	771	2,059	--
6/19/2021	0.00	7,430	353	0	771	--	752	539	751	2,220	1300	11,416	784	377	917	1,169	746	1,748	749	1,685	--
6/20/2021	0.00	7,410	354	0	776	--	751	541	749	2,050	1300	10,170	802	371	941	1,093	751	0	782	1,699	--
6/21/2021	0.00	4,190	355	0	781	--	755	269	748	990	1300	5,092	813	162	955	459	749	3,016	805	837	--
6/22/2021	0.00	4,190	355	0	782	--	756	269	747	990	1483	5,092	814	162	959	459	787	3,016	801	837	--
6/23/2021	0.00	7,140	357	0	767	--	762	1616	744	1,710	1483	20,496	826	792	977	975	787	647	816	837	--
6/24/2021	0.00	6,030	359	0	716	--	760	545	725	1,590	1483	7,164	843	372	999	981	792	6,259	761	0	--
6/25/2021	0.00	6,830	359	0	716	--	760	540	725	1,620	1483	6,852	847	311	997	77	792	0	748	0	--
6/26/2021	0.00	4,040	359	0	716	--	760	269	725	1,160	1483	4,620	852	267	987	0	792	0	799	0	--
6/27/2021	0.00	12,280	359	0	716	--	760	984	725	3,080	1483	12,066	867	719	993	921	792	6,953	805	0	--
6/28/2021	0.00	5,980	366	120	770	--	769	537	754	1,520	1658	6,556	864	364	1,000	869	822	0	774	0	--
6/29/2021	0.00	5,890	368	540	723	--	768	534	748	1,470	1658	6,114	862	373	998	848	828	0	833	0	--
6/30/2021	0.00	5,730	368	600	723	--	768	546	748	1,340	1658	5,866	861	390	986	821	828	6,121	791	0	--

-- = No data available

* = Due to a meter malfunction, no volume data was available for LDCS-2B during the Second Quarter.

** = Due to meter malfunctions, limited conductiivty data is available for Cell 5 and Cell 8A during the Second Quarter.

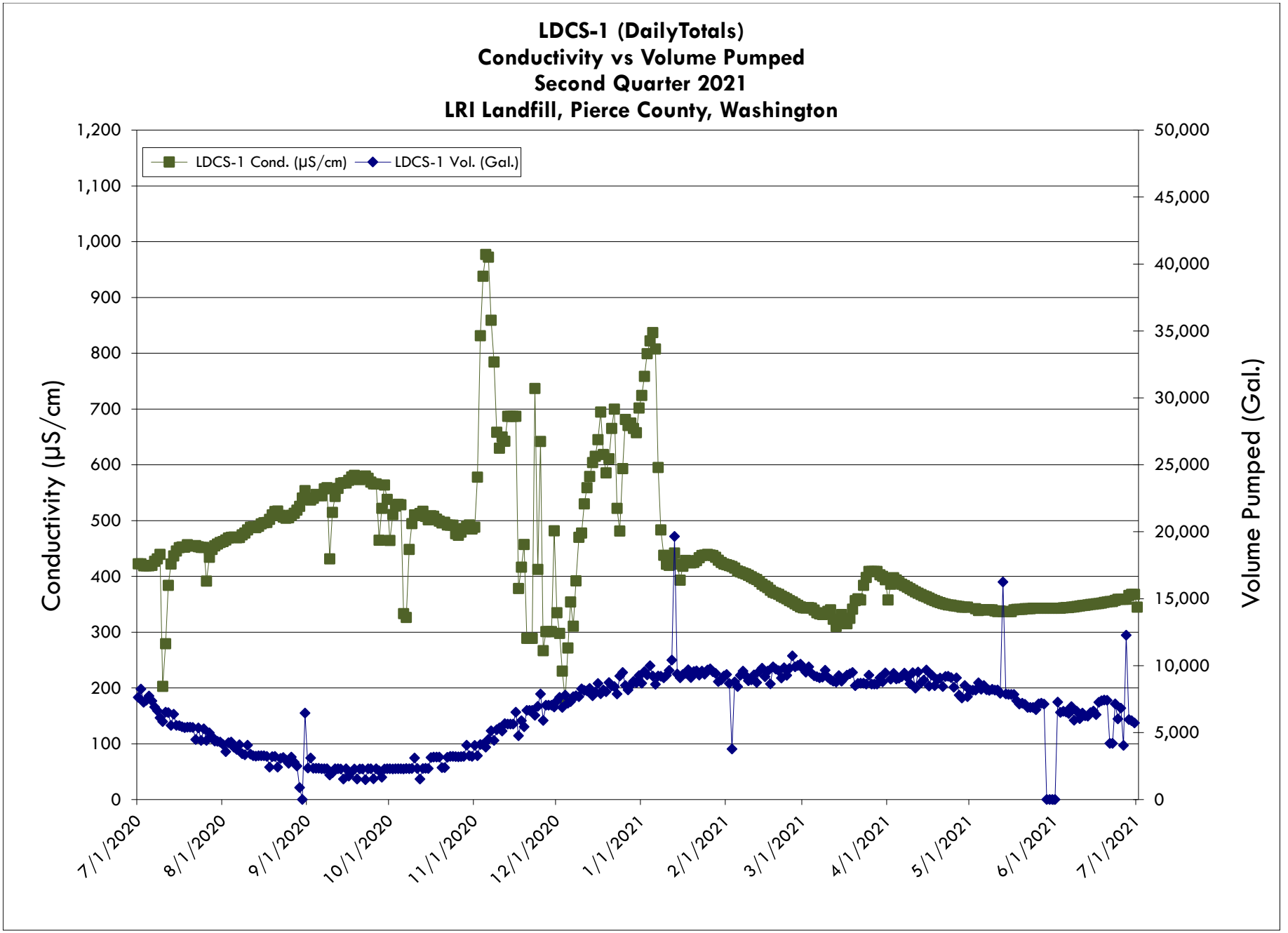
Summary of Leachate Volume and Depth Data
Second Quarter 2021
LRI Landfill, Pierce County, Washington

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.)
4/1/2021	0	11.0	0	9.0	0	9.0	6,294	9.0	15,824	2.0	18,473	10.0	11,612	16.0	11,148	9.9	4,642	10.6	2,504	9.8
4/2/2021	5,235	9.5	0	7.6	32,690	12.9	7,469	8.8	21,719	7.5	6,498	11.1	10,915	15.2	15,317	9.5	6,851	10.4	2,961	10.0
4/3/2021	0	10.5	0	8.5	33,393	16.8	6,894	9.3	16,768	11.1	13,232	12.9	10,915	14.3	15,317	9.4	4,852	10.4	0	10.9
4/4/2021	0	11.0	0	10.1	33,370	17.4	9,286	8.9	28,545	7.7	6,216	10.1	10,915	14.5	15,317	9.2	5,264	10.5	3,049	10.3
4/5/2021	7,898	9.7	0	9.5	32,324	12.6	6,310	8.8	26,782	1.3	0	12.7	9,168	15.0	13,317	9.2	10,371	10.3	2,633	10.8
4/6/2021	0	10.3	0	6.7	32,699	10.0	6,387	9.0	5,309	3.9	21,233	12.6	11,256	14.8	13,878	9.2	5,148	10.3	0	10.8
4/7/2021	0	11.0	0	7.9	31,552	10.7	9,540	8.7	23,270	6.5	0	10.7	11,932	15.3	20,246	9.2	5,270	10.4	2,623	10.7
4/8/2021	5,888	9.6	193	9.3	30,307	8.6	6,193	8.9	5,898	3.7	2,145	13.3	10,088	15.1	15,862	9.0	10,462	10.1	5,106	10.7
4/9/2021	0	10.5	43	10.8	12,406	9.3	9,783	8.9	16,122	8.7	19,374	10.4	11,256	15.2	17,188	9.2	7,420	10.5	2,137	10.8
4/10/2021	0	11.0	7,916	10.0	3	15.7	6,184	8.7	22,151	0.7	0	11.5	11,256	14.9	17,188	8.9	15,545	10.4	7,995	10.8
4/11/2021	6,959	9.4	2	7.2	4	17.2	6,313	9.0	8,078	1.2	14,443	12.9	11,256	15.1	17,188	9.2	14,199	10.4	1,791	11.0
4/12/2021	0	10.5	2	8.7	5,654	15.9	9,443	8.8	4,930	7.2	4,597	10.3	11,049	15.6	13,362	9.2	7,024	10.2	1,805	11.1
4/13/2021	7,191	9.4	2	10.3	4	16.9	6,350	8.9	0	12.5	0	13.1	11,049	15.1	13,362	9.2	7,011	10.7	1,694	11.2
4/14/2021	0	10.5	8,119	9.3	465	17.8	9,887	9.0	0	15.0	21,860	12.0	11,049	14.9	13,362	9.2	13,913	10.2	1,550	11.2
4/15/2021	6,678	9.4	3	6.6	496	18.0	6,510	8.9	0	16.7	0	11.0	11,049	15.2	13,362	9.3	6,974	10.4	1,508	11.2
4/16/2021	0	10.4	3	8.4	1,247	17.9	9,729	9.0	15,772	13.7	11,511	12.9	11,049	15.2	13,362	9.2	7,065	10.6	1,480	11.3
4/17/2021	7,098	9.3	2	9.6	2	18.3	6,594	8.8	26,840	7.5	6,696	10.3	11,049	13.9	13,362	9.1	13,739	10.1	2,515	11.3
4/18/2021	0	10.3	685	11.0	2	19.0	6,667	9.0	22,683	4.3	0	13.0	11,049	12.5	13,362	9.2	6,778	10.4	929	11.2
4/19/2021	0	11.0	3	11.9	3,146	18.0	9,616	8.9	9,895	4.3	21,779	12.5	15,940	12.8	12,357	9.2	6,819	10.5	1,034	11.5
4/20/2021	2,687	10.2	8,133	10.1	2,653	17.9	3,197	12.0	19,244	4.7	158	10.6	10,764	12.2	15,253	9.2	6,773	11.0	0	12.7
4/21/2021	6,752	9.3	4,009	7.3	2,295	18.2	12,639	15.3	18,523	9.7	0	13.2	4,368	12.6	13,265	9.3	13,859	11.8	0	14.0
4/22/2021	0	10.4	2	7.0	3,740	17.7	7,008	8.9	14,702	10.3	22,969	11.2	11,296	14.6	15,180	9.2	13,455	10.4	0	15.3
4/23/2021	6,283	9.7	4	9.0	2,726	17.5	10,272	9.0	28,444	2.5	0	10.8	13,207	14.5	21,220	9.2	6,496	10.5	0	16.4
4/24/2021	0	10.3	2	10.7	3	18.4	6,956	9.2	16,100	0.4	5,381	13.3	13,207	14.7	21,220	8.9	17,844	10.5	0	18.8
4/25/2021	0	11.0	7,791	8.1	3	19.0	10,438	9.0	18,141	4.9	16,485	10.3	13,207	14.8	21,220	8.9	18,284	10.1	11	22.5
4/26/2021	6,327	9.5	3	7.5	839	18.8	6,809	9.1	5,977	3.7	0	12.1	11,256	15.2	15,739	9.0	13,338	10.3	27,246	16.3
4/27/2021	0	10.4	0	9.3	4,268	17.4	7,200	9.1	8,462	10.9	10,099	13.7	8,444	15.4	9,853	9.2	8,007	10.3	2,238	11.8
4/28/2021	0	11.2	137	10.7	2,282	18.3	9,600	20.5	15,932	13.8	14,771	17.6	10,400	13.0	16,666	10.6	7,101	11.7	3,577	24.3
4/29/2021	7,127	11.7	8,133	12.1	2,457	18.4	9,954	11.3	10,304	11.9	55	11.0	6,356	17.9	12,889	10.0	14,539	12.0	0	11.9
4/30/2021	0	10.4	0	7.2	0	18.4	0	8.6	0	12.8	0	13.0	0	21.0	0	5.0	0	10.4	0	11.9
5/1/2021	0	--	0	--	0	--	7,807	--	0	--	13,393	--	10,189	--	16,211	--	8,728	--	2,440	--
5/2/2021	0	--	0	--	0	--	7,807	--	0	--	13,393	--	10,189	--	16,211	--	8,728	--	2,440	--
5/3/2021	6,765	10.4	0	11.9	1,016	19.2	7,807	8.8	952	22.9	13,393	10.0	10,189	7.6	48,633	9.6	8,728	11.8	2,440	--
5/4/2021	0	11.4	7,770	7.0	1,749	19.1	3,364	20.1	704	20.6	0	16.8	11,352	0.0	19,540	7.2	6,039	14.4	2,440	--
5/5/2021	0	11.8	0	9.0	2,260	19.3	12,762	8.6	28	20.5	6,376	17.0	9,336	16.0	15,638	9.9	19,906	9.4	2,440	--
5/6/2021	9,411	11.8	2	10.6	1,408	19.6	7,116	9.7	0	20.6	0	20.0	11,124	17.2	15,563	9.9	6,637	11.6	2,440	--
5/7/2021	5	11.1	5,301	8.0	553	19.2	10,328	9.0	17,548	13.0	23,432	17.0	11,932	15.6	15,563	9.9	13,063	10.0	4,409	--
5/8/2021	0	11.1	0	8.0	0	19.2	7,855	9.0	23,499	13.0	14,280	17.0	10,106	15.6	15,563	9.9	8,657	10.0	1,978	--
5/9/2021	0	11.1	0	8.0	0	19.2	7,855	9.0	23,499	13.0	14,280	17.0	10,106	15.6	15,563	9.9	8,657	10.0	1,702	--
5/10/2021	8,630	10.6	2,273	10.9	3,713	19.5	7,855	9.0	23,499	11.2	14,280	11.0	10,106	17.2	15,563	10.2	8,657	12.2	1,497	--
5/11/2021	0	11.4	62	12.4	1,811	19.5	7,096	10.1	17,240	11.0	1	14.0	10,106	16.6	11,524	10.8	8,621	12.2	1,242	--
5/12/2021	7,440	10.0	8,520	7.0	1,943	19.6	7,762	15.0	6,244	12.7	11,279	13.0	10,106	16.4	16,047	10.7	8,261	13.0	2,440	11.8
5/13/2021	0	11.1	0	8.6	1,499	19.5	11,718	9.0	16,790	15.2	14,765	10.0	10,106	17.4	18,687	7.8	15,534	9.4	1,189	--
5/14/2021	5,573	10.1	0	10.3	0	19.7	7,086	12.4	16,790	8.8	6,155	11.0	10,668	17.0	17,361	9.5	6,496	10.9	1,189	--
5/15/2021	0	10.1	0	10.3	0	19.7	9,683	12.4	16,790	8.8	8,009	11.0	10,444	17.0	15,911	9.5	8,633	10.9	1,189	--
5/16/2021	0	10.1	0	10.3	0	19.7	9,683	12.4	16,790	8.8	8,009	11.0	10,444	17.0	15,911	9.5	8,633	10.9	1,189	--
5/17/2021	5,685	11.1	4,584	11.3	1,573	22.0	9,683	9.6	16,790	1.0	8,009	12.0	10,444	16.7	15,911	9.9	8,633	11.8	1,189	11.9
5/18/2021	0	11.4	0	12.6	0	20.9	11,080	8.2	20,884	2.6	4,570	13.0	11,752	16.4	18,750	8.6	13,654	10.3	3,944	--
5/19/2021	4,958	10.2	0	14.2	3,990	20.6	7,186	9.3	0	12.8	20,814	10.0	10,536	16.0	12,688	10.0	12,306	8.4	3,944	--
5/20/2021	0	11.3	0	15.4	1,399	21.0	7,212	11.2	26,136	2.7	42	13.0	11,616	16.8	21,208	9.7	10,340	11.7	3,944	--
5/21/2021	0	11.6	0	16.4	0	19.8	10,996	8.6	14,852	2.4	19,306	10.0	10,492	16.9	15,760	9.9	13,775	10.6	3,944	--
5/22/2021	0	11.6	0	16.4	0	19.8	8,835	8.6	18,959	2.4	9,997	10.0	9,811	16.9	17,204	9.9	8,625	10.6	3,944	--
5/23/2021	0	11.6	0	16.4	0	19.8	8,835	8.6	18,959	2.4	9,997	10.0	9,811	16.9	17,204	9.9	8,625	10.6	3,944	--
5/24/2021	6,065	11.8	15,055	10.5	1,306	23.9	8,835	7.8	18,959	2.5	9,997	9.0	9,811	17.0	17,204	9.1	8,625	11.2	3,944	--
5/25/2021	4,184	10.6	0	11.9	10,866	18.3	4,056	17.6	13,292	9.4	60	13.0	14,520	16.8	17,180	11.5	18,456	13.8	3,944	--
5/26/2021	5,882	10.2	4,913	9.3	6,161	17.5	6,952	22.1	5,076	15.6	2,480	16.0	13,716	16.7	22,118	12.7	19,958	16.7	3,944	--
5/27/2021	5,447	10.3	4,699	7.4	5,929	15.5	10,176	16.8	5,840	18.8	15,250	14.0	13,190	17.4	26,509	10.6	20,298	11.8	3,944	13.3
5/28/2021	0	10.8	0	8.6	2,670	15.8	6,562	22.3	2,516	18.3	5,680	16.0	13,190	7.3	22,867	12.9	21,673	20.0	--	--
5/29/2021	2,671	10.8	2,059	8.6	3,890	15.8	9,740	22.3	16,015	18.3	14,791	16.0	10,796	7.3	22,460	12.9	15,363	20.0	--	--
5/30/2021	2,671	10.8	2,059	8.6	3,890	15.8	9,740	22.3	16,015	18.3	14,791	16.0	10,796	7.3	22,460	12.9	15,363	20.0	--	--
5/31/2021	2,671	10.8	2,059	8.6	3,890	15.8	9,740	22.3	16,015	18.3	14,791	16.0	10,796	7.3	22,460	12.9	15,363	20.0	--	--

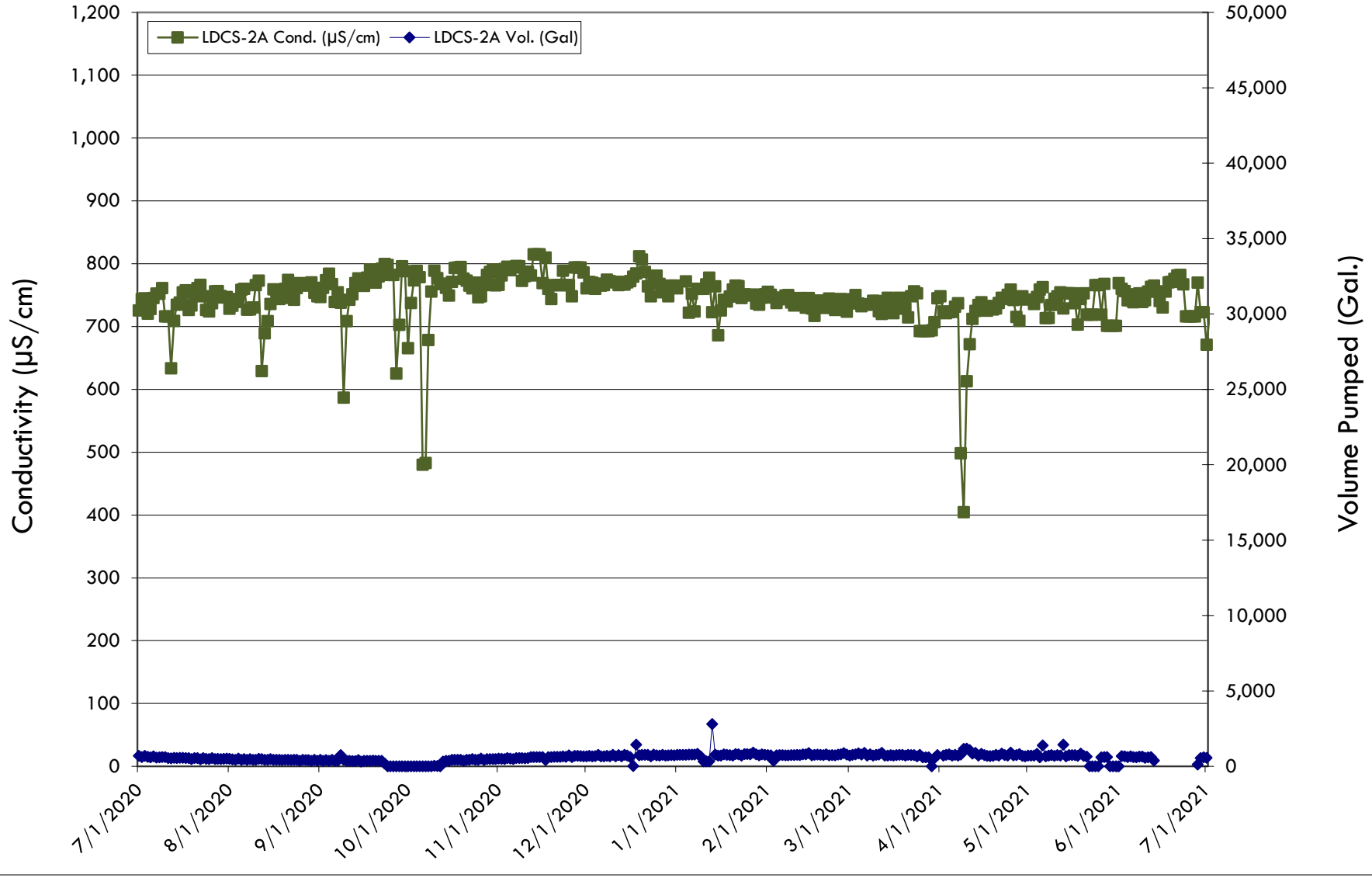
Summary of Leachate Volume and Depth Data
Second Quarter 2021
LRI Landfill, Pierce County, Washington

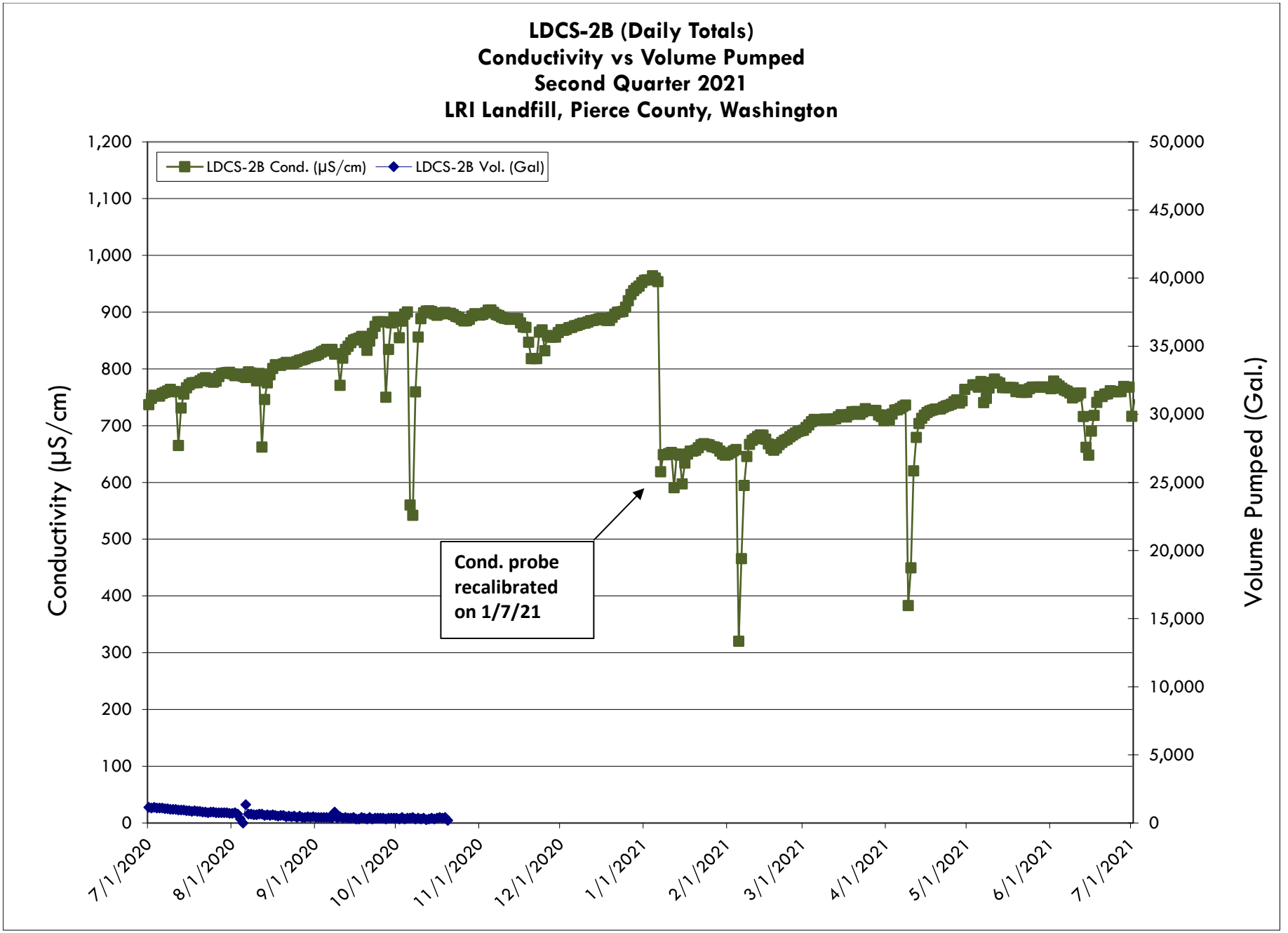
Date	Cell 1 Leachate Volume (GPD)	Cell 1 Leachate Level (in.)	Cell 2A Leachate Volume (GPD)	Cell 2A Leachate Level (in.)	Cell 2B Leachate Volume (GPD)	Cell 2B Leachate Level (in.)	Cell 3A Leachate Volume (GPD)	Cell 3A Leachate Level (in.)	Cell 4A Leachate Volume (GPD)	Cell 4A Leachate Level (in.)	Cell 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.)
6/1/2021	2,861	10.0	4,239	7.0	4,007	18.0	7,080	8.0	29,168	13.0	1	13.0	12,000	17.0	20,401	10.3	6,297	11.6	8,512	11.9
6/2/2021	5,721	9.2	4,018	9.1	4,065	13.4	10,698	8.5	22,111	7.4	6,039	13.4	9,788	16.1	16,409	9.7	6,234	10.8	1,419	11.8
6/3/2021	2,719	10.1	4,435	6.6	2,754	8.4	6,971	9.2	15,833	2.9	16,290	10.2	11,864	15.4	19,939	8.8	11,368	10.6	923	11.5
6/4/2021	1,268	9.7	0	7.4	4,087	8.6	6,839	9.2	7,353	8.9	17	11.7	12,457	15.7	24,553	8.9	6,268	10.2	1,099	11.6
6/5/2021	0	11.0	0	9.3	2,946	8.9	10,317	9.1	158	21.7	18,317	13.0	12,457	15.5	24,553	9.0	11,658	10.7	2,637	11.5
6/6/2021	6,543	9.4	6,609	8.4	3,625	8.5	7,040	9.2	0	28.3	36,234	9.6	12,457	15.1	24,553	8.7	20,005	10.4	11,199	11.4
6/7/2021	0	10.3	0	7.1	4,004	8.7	6,936	9.2	13,634	24.1	27,711	11.6	12,732	14.7	19,068	8.6	33,726	11.0	6,253	11.4
6/8/2021	0	11.0	2	9.4	2,908	8.7	8,325	10.3	14,702	19.4	14,894	13.0	10,940	15.1	19,573	9.0	6,310	10.3	2,186	11.6
6/9/2021	6,753	9.6	0	10.5	4,106	8.8	7,624	9.1	20,787	16.1	11,672	12.9	10,940	15.4	19,573	9.0	6,533	10.4	1,327	11.6
6/10/2021	0	10.1	8,021	9.7	2,826	8.6	7,628	9.3	19,351	14.1	10,054	13.1	9,456	15.1	19,573	8.9	6,958	10.7	1,524	11.5
6/11/2021	0	11.0	0	7.2	4,022	8.6	7,453	9.5	23,229	12.9	6,370	13.1	17,423	15.5	25,137	8.9	10,005	10.1	4,224	11.5
6/12/2021	6,842	9.5	0	8.9	2,903	8.7	7,668	9.2	15,989	12.7	18,023	13.3	17,423	15.2	25,137	8.8	13,768	10.2	3,140	11.5
6/13/2021	0	10.3	0	10.9	2,702	9.3	7,878	9.8	14,784	14.9	4,552	12.2	17,423	13.1	25,137	8.7	45,430	20.2	44,732	11.9
6/14/2021	0	11.0	3,525	10.9	2,925	11.7	5,192	10.9	1,826	19.8	7,011	14.8	15,152	14.7	20,691	12.3	20,007	34.2	13,241	13.7
6/15/2021	0	11.0	0	10.2	3,450	13.3	9,990	12.9	6,620	22.5	8,910	17.6	15,012	16.4	7	15.9	50,170	34.0	16,515	12.5
6/16/2021	0	11.5	0	11.9	2,677	10.7	7,003	9.5	23,281	16.4	15,804	17.9	11,772	15.4	8	20.3	61,336	28.4	3,076	11.5
6/17/2021	8,559	9.3	7,844	10.6	2,198	10.7	5,296	11.0	10,285	18.3	13,828	17.1	9,952	15.6	15	23.8	31,762	18.6	2,013	11.6
6/18/2021	4,340	9.2	0	9.1	4,139	11.0	10,107	12.8	12,752	18.7	16,982	17.4	10,850	15.5	14,945	27.3	18,975	12.4	2,453	11.7
6/19/2021	0	10.5	0	10.6	2,907	8.8	7,343	9.4	958	17.3	18,996	16.0	10,850	15.6	14,945	30.6	6,303	10.5	1,116	11.6
6/20/2021	5,392	9.7	0	12.3	3,935	8.8	7,090	9.3	261	12.1	24,114	11.2	10,850	15.6	14,945	32.9	8,569	10.6	1,000	11.5
6/21/2021	0	10.5	0	13.7	1,320	9.2	3,543	9.7	79	9.2	0	10.6	10,850	16.2	14,945	32.5	1,073	10.4	1,029	11.4
6/22/2021	0	11.0	0	14.0	1,320	10.0	3,543	10.0	79	9.0	0	11.0	10,130	17.0	44,704	30.9	1,073	11.0	1,029	11.1
6/23/2021	5,027	9.6	0	15.6	3,170	9.5	20,683	11.1	461	12.8	16,156	12.8	10,130	15.9	44,704	22.7	6,181	10.5	1,029	11.1
6/24/2021	0	10.7	0	17.9	2,754	8.6	9,296	11.8	358	16.3	14,716	13.3	11,473	15.5	35,908	16.1	6,119	10.5	--	--
6/25/2021	0	11.3	0	18.4	3,975	8.9	7,023	9.2	580	12.6	5,057	11.4	11,473	15.6	35,908	9.3	6,753	10.5	--	--
6/26/2021	5,177	9.1	0	19.5	1,335	9.2	3,443	9.5	2,176	9.2	5,332	13.3	11,473	13.7	35,908	9.2	6,527	10.4	--	--
6/27/2021	5,194	9.0	0	21.1	5,689	9.4	14,523	9.2	2,250	12.7	25,689	12.2	11,473	12.0	35,908	9.3	14,363	10.3	--	--
6/28/2021	6,814	9.4	3,797	20.1	2,582	8.8	7,084	9.3	221	17.8	1,249	10.8	7,324	10.9	21,763	8.8	6,295	10.6	--	--
6/29/2021	0	10.7	6,145	18.7	3,968	8.6	6,966	9.3	61	19.0	15,292	13.2	0	15.2	0	9.0	7,167	10.7	--	--
6/30/2021	4,505	10.3	0	17.5	2,744	8.5	6,808	9.2	0	12.3	10,603	10.0	0	15.6	0	9.0	8,280	10.4	--	--

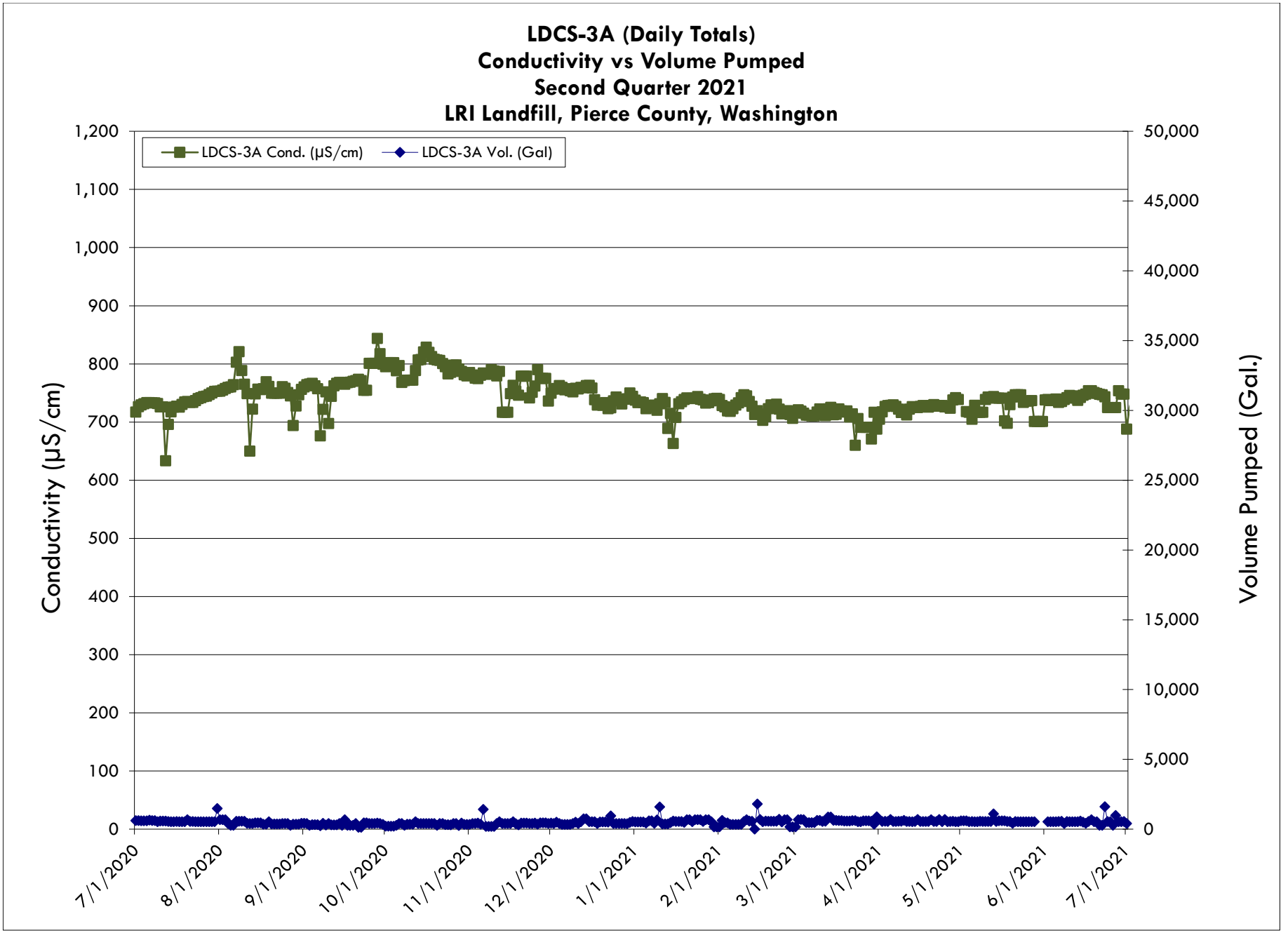
- = No data collected


LDCS-1 (DailyTotals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-1 Cond. (µS/cm)
LDCS-1 Vol. (Gal.)
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

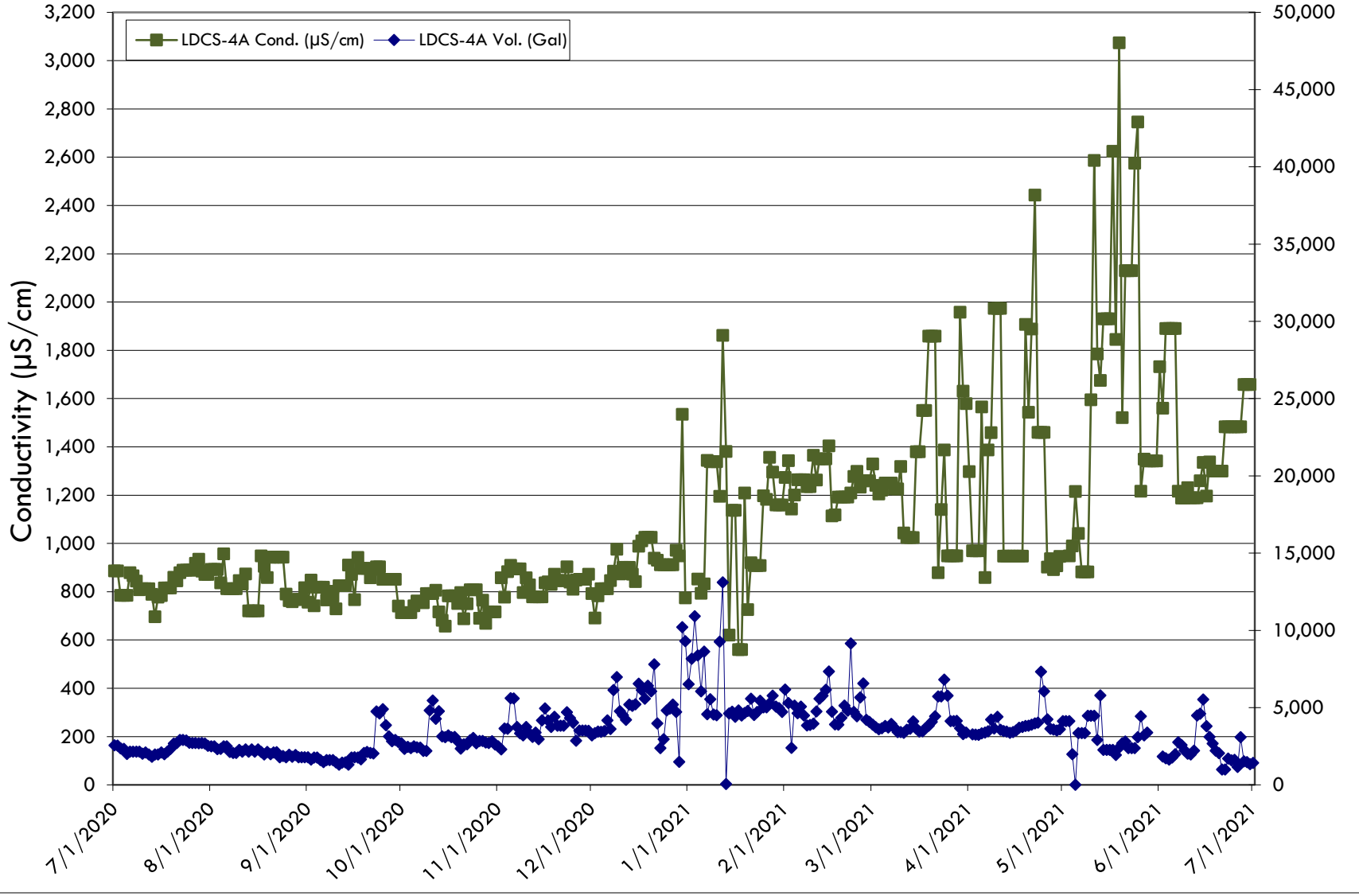
LDCS-2A (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington



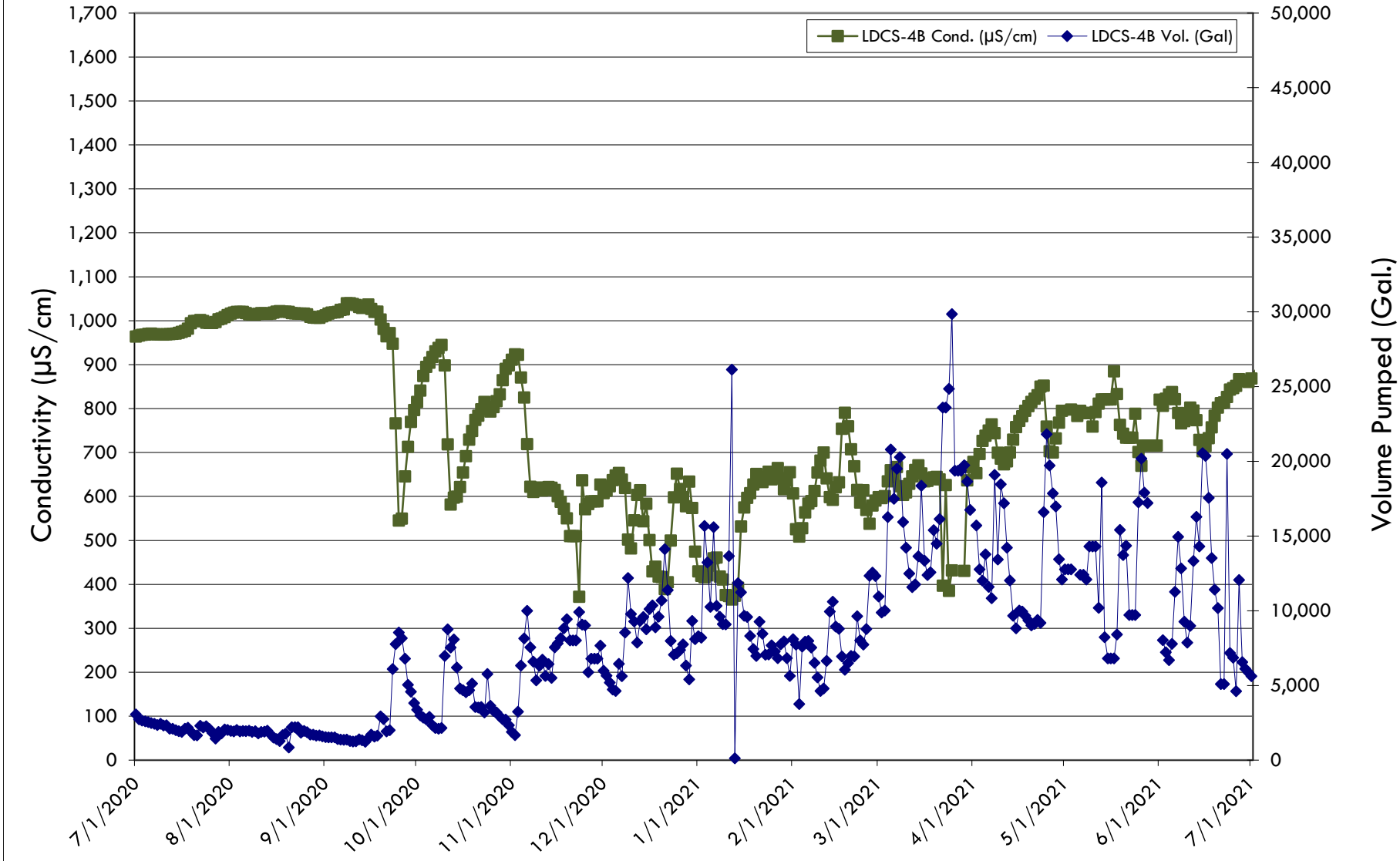

LDCS-2B (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-2B Cond. (µS/cm)
LDCS-2B Vol. (Gal)
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021
Cond. probe recalibrated on 1/7/21

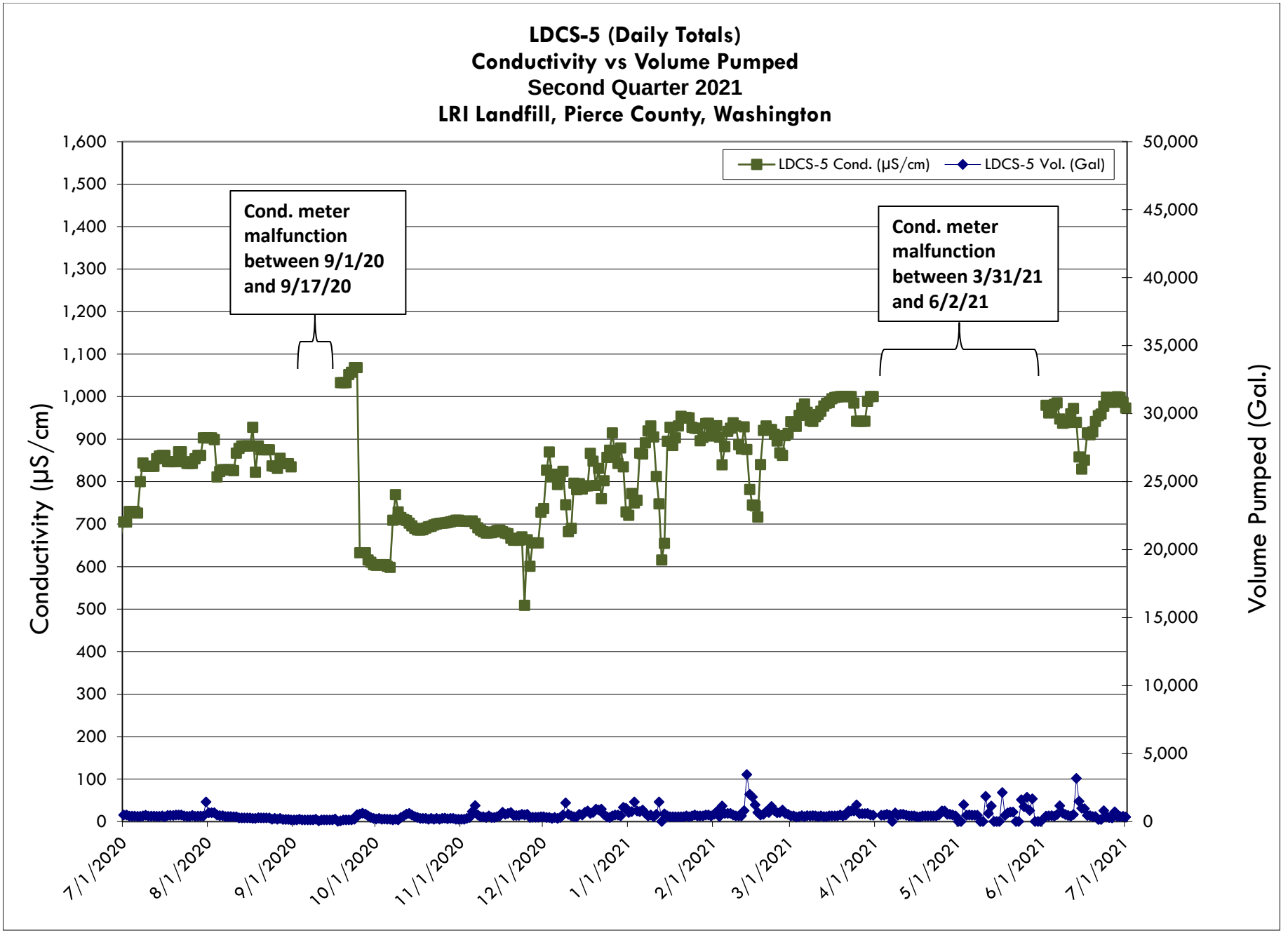

LDCS-3A (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-3A Cond. (µS/cm)
LDCS-3A Vol. (Gal)
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

LDCS-4A (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington

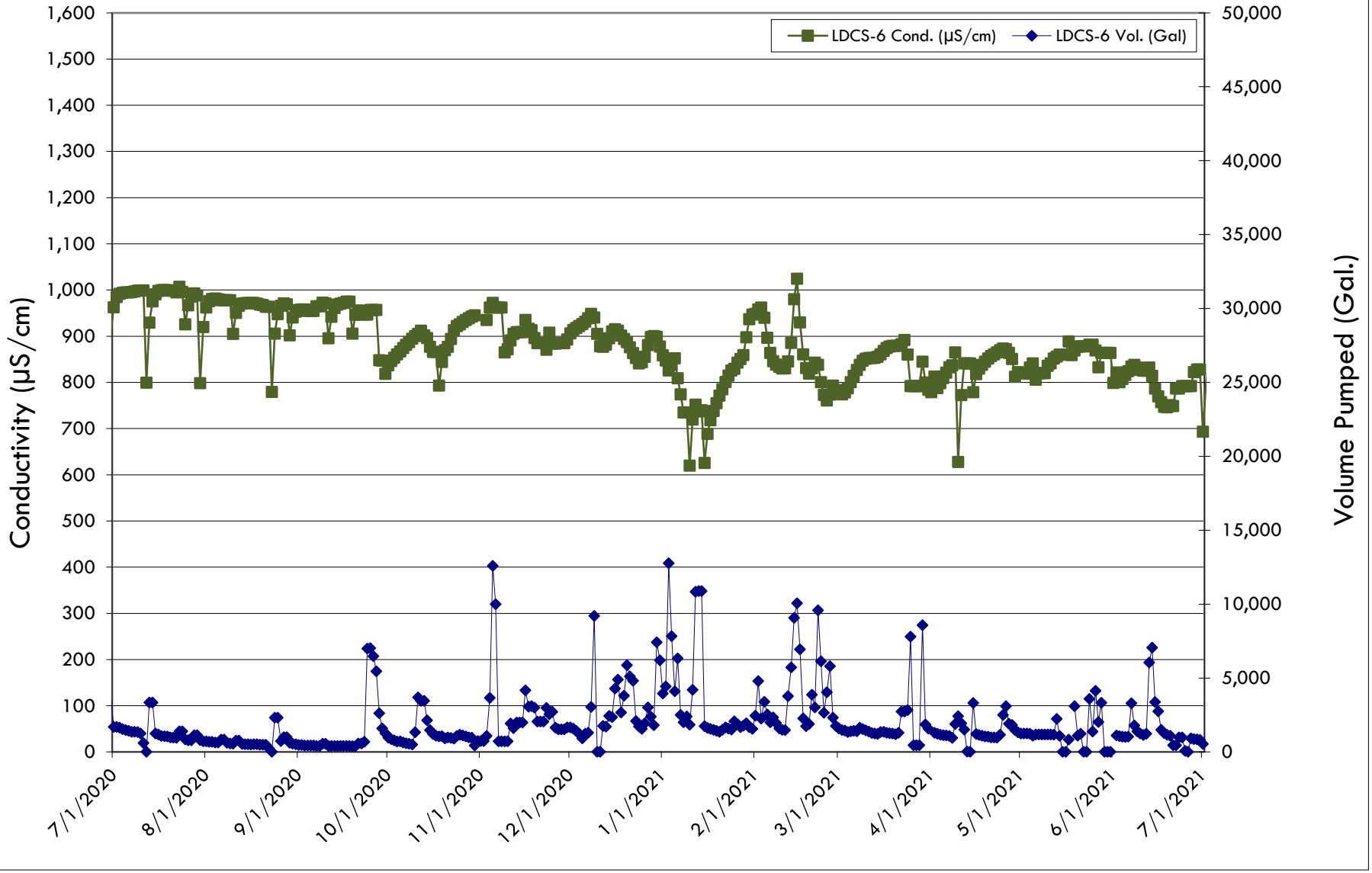


LDCS-4B (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington

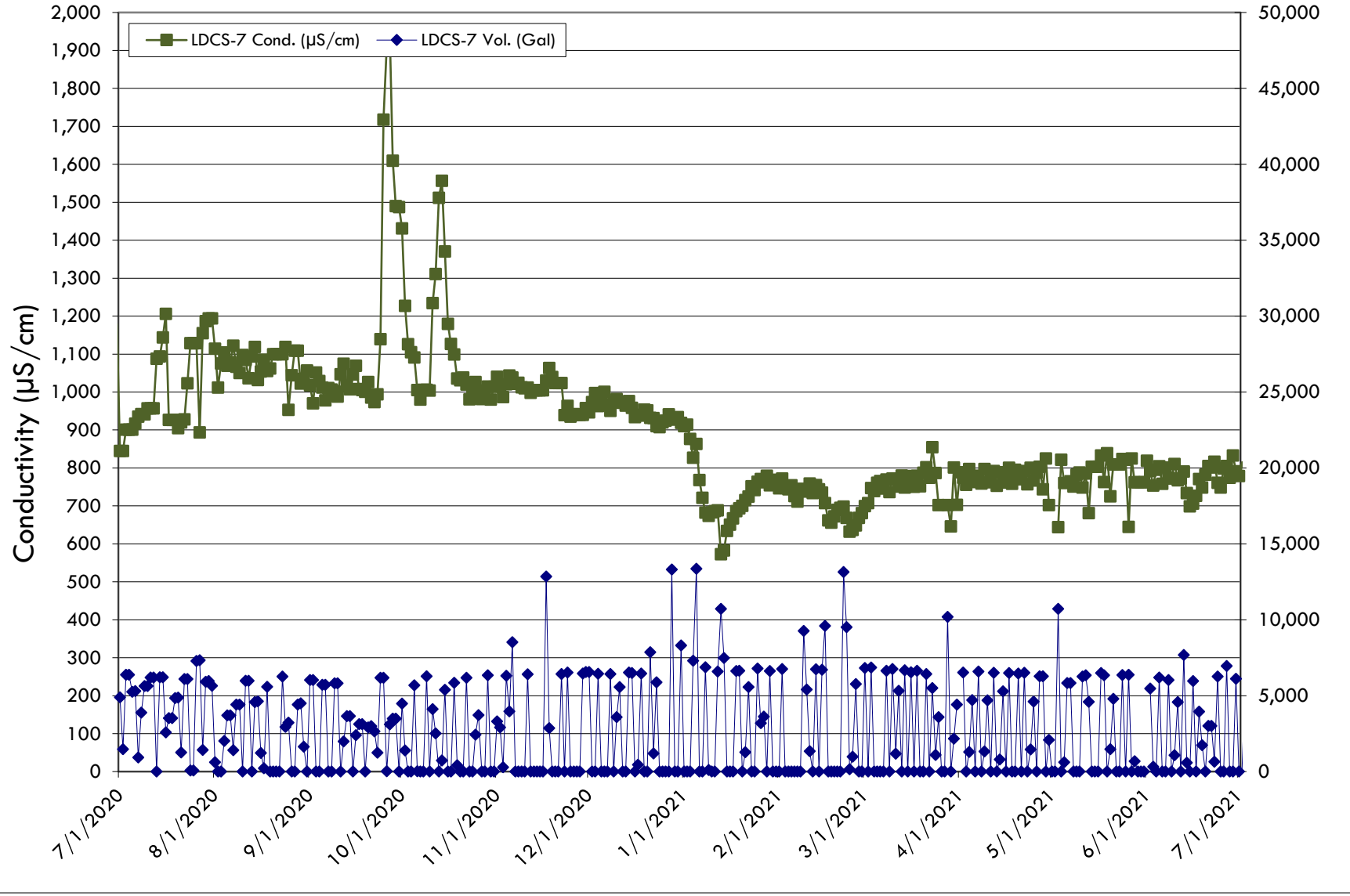


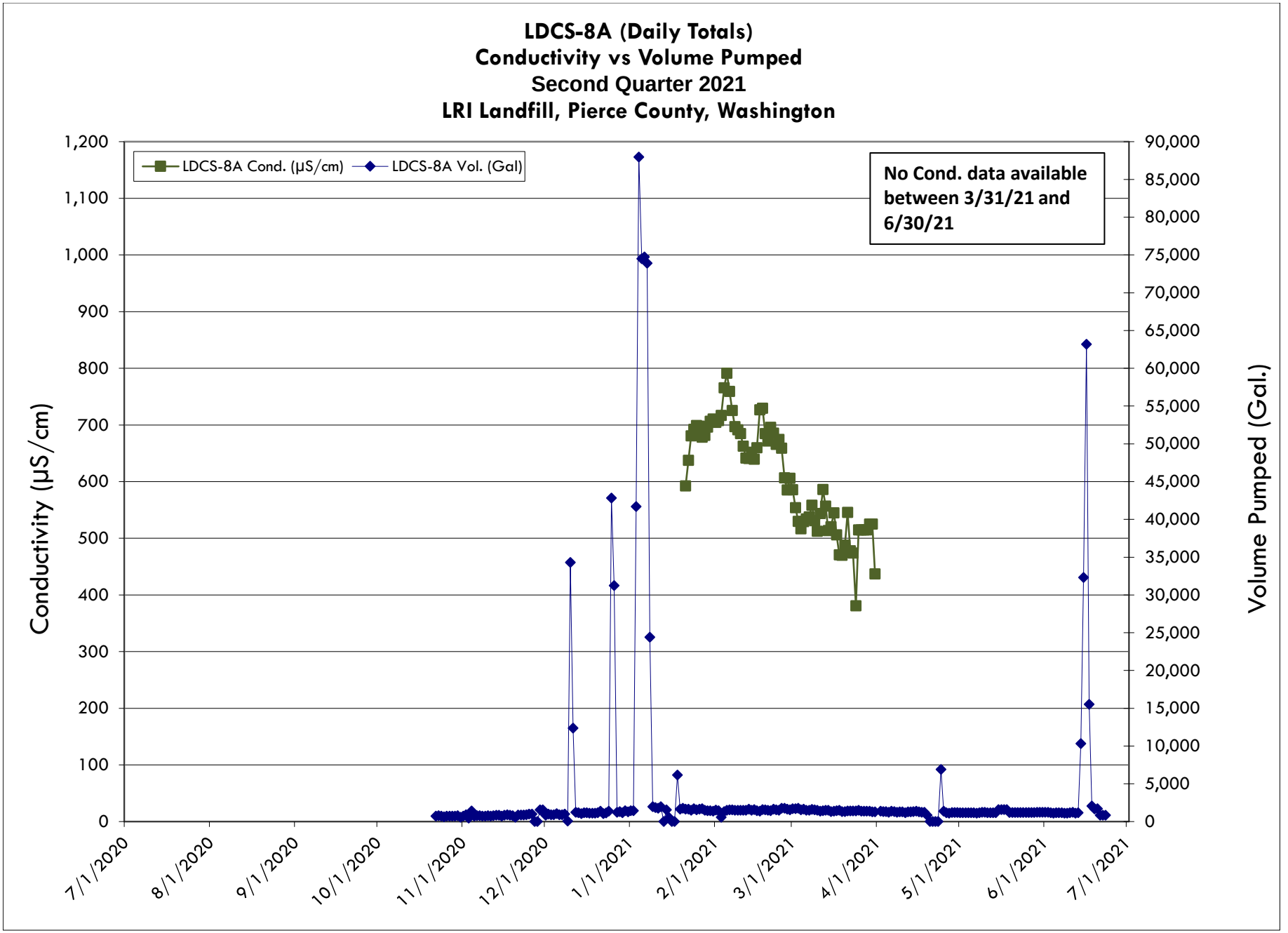

LDCS-5 (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-5 Cond. (µS/cm)
LDCS-5 Vol. (Gal)
Cond. meter malfunction between 9/1/20 and 9/17/20
Cond. meter malfunction between 3/31/21 and 6/2/21
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

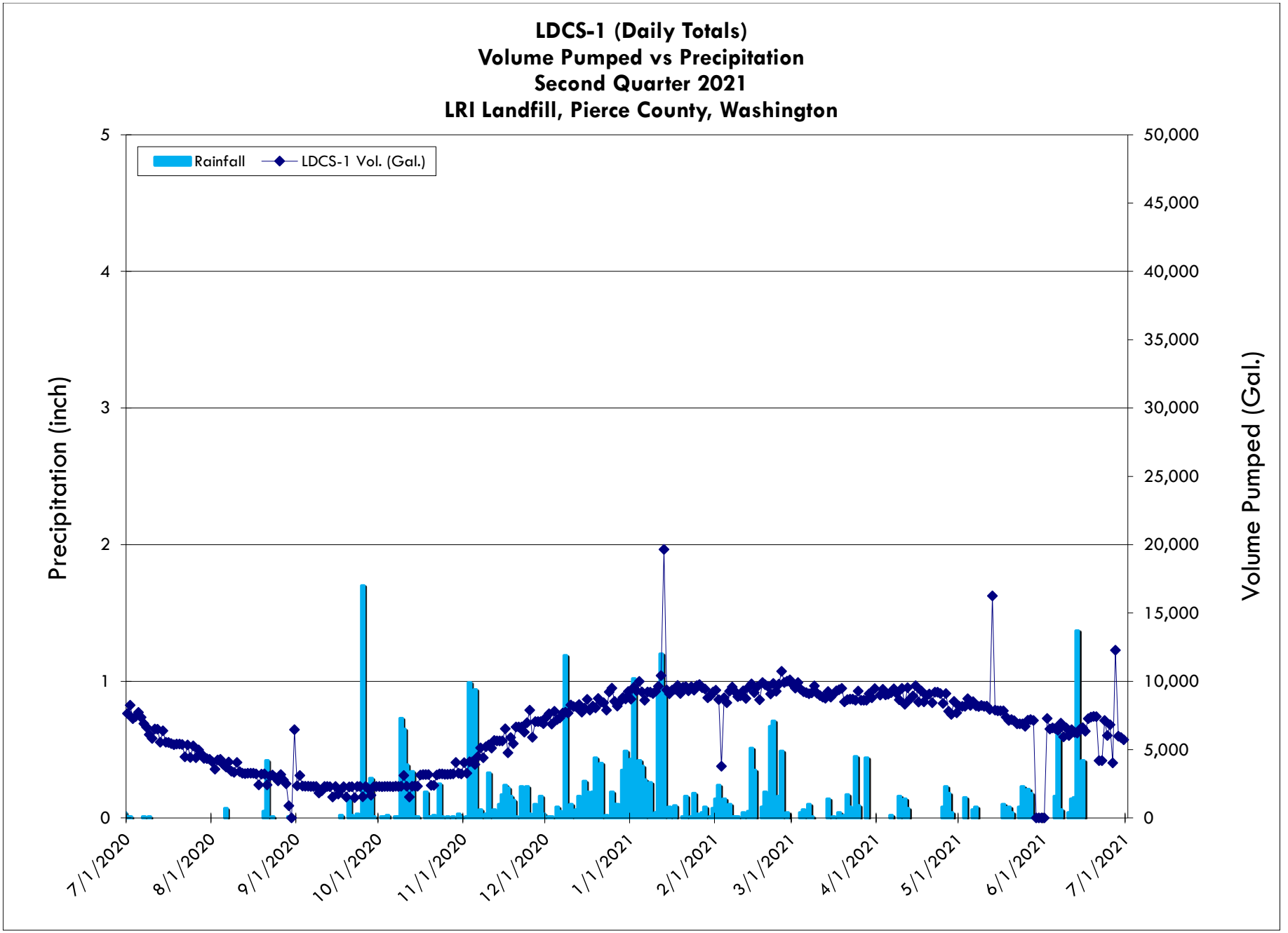
LDCS-6 (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington

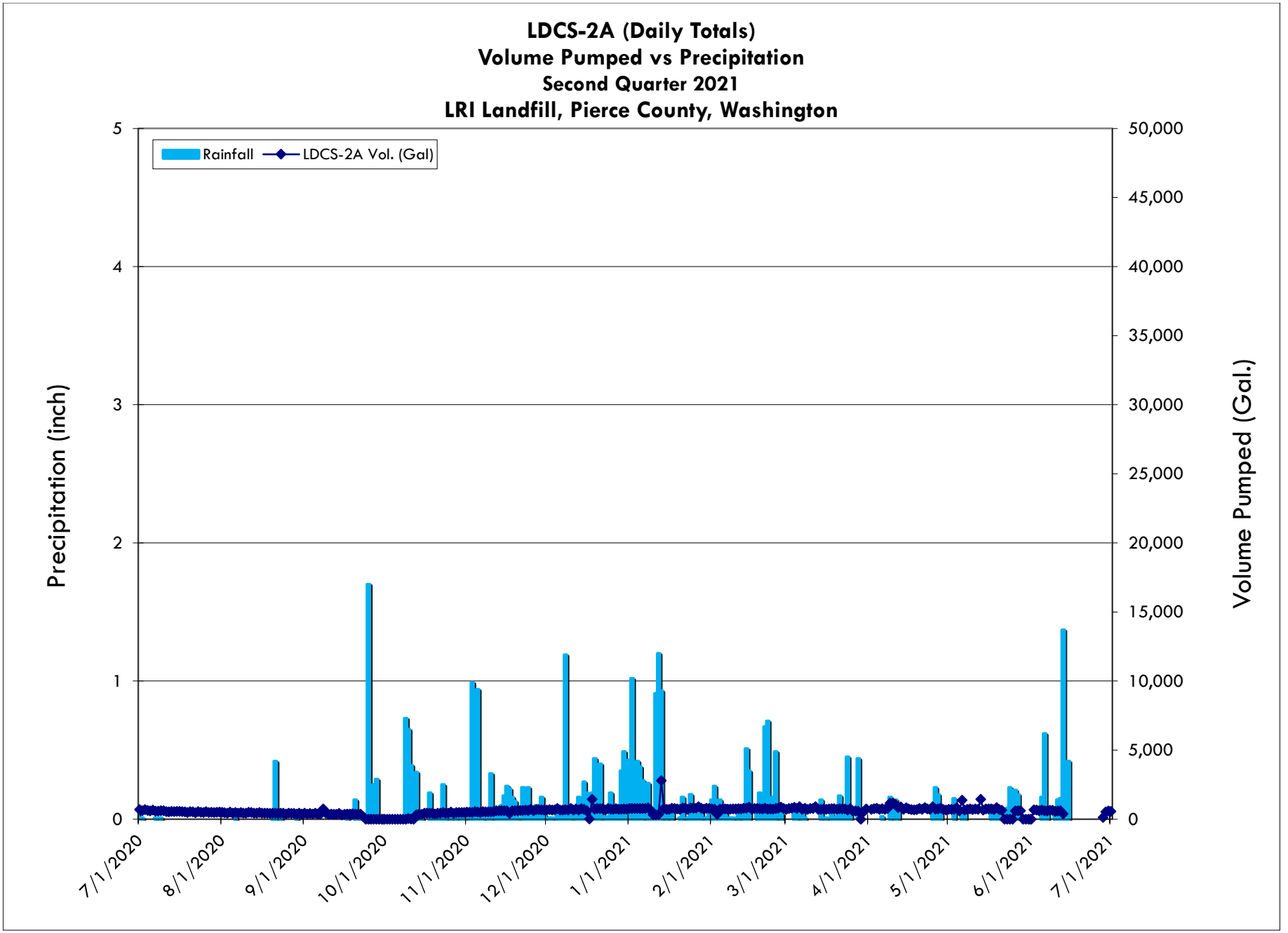


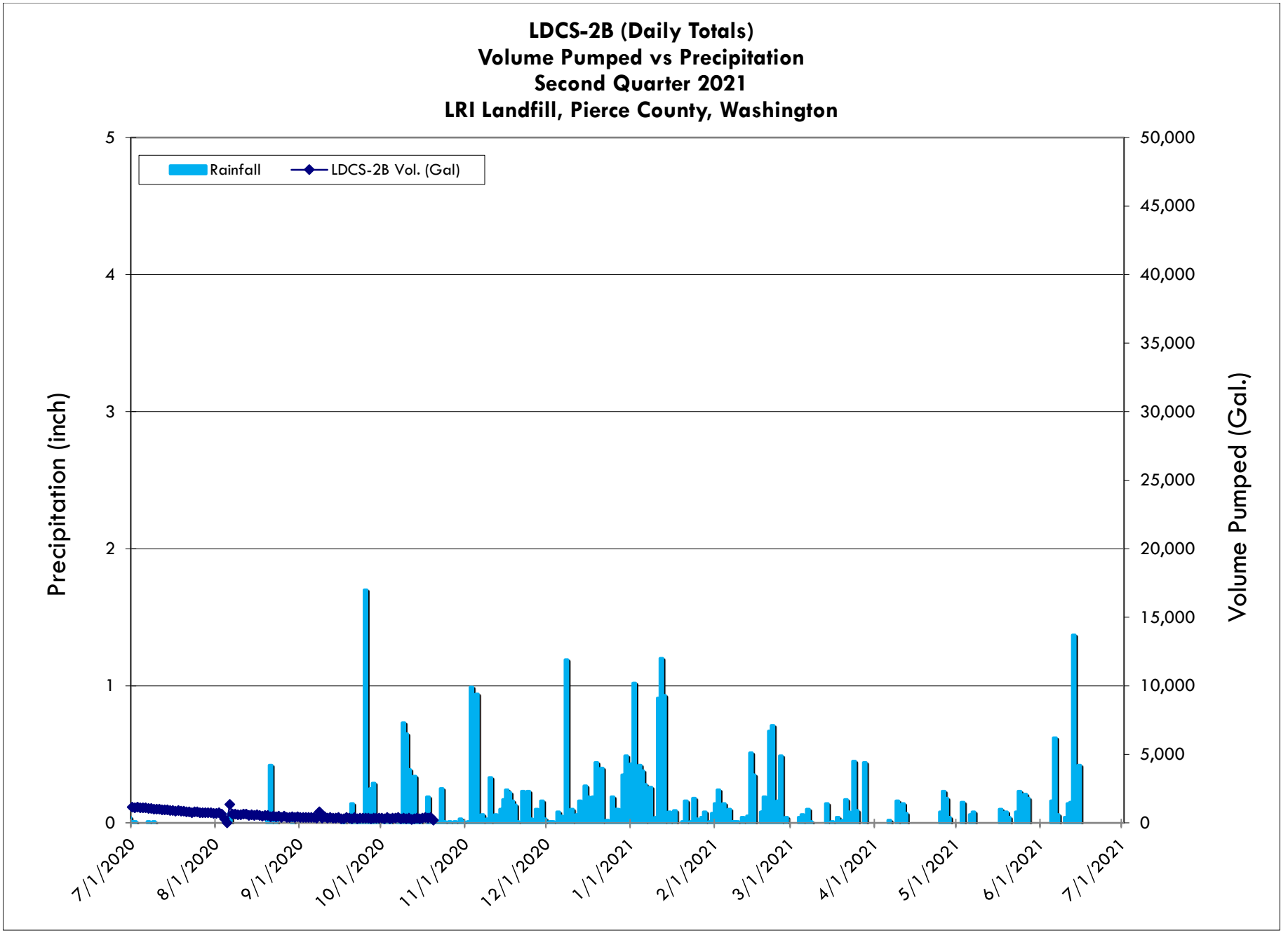
LDCS-7 (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington

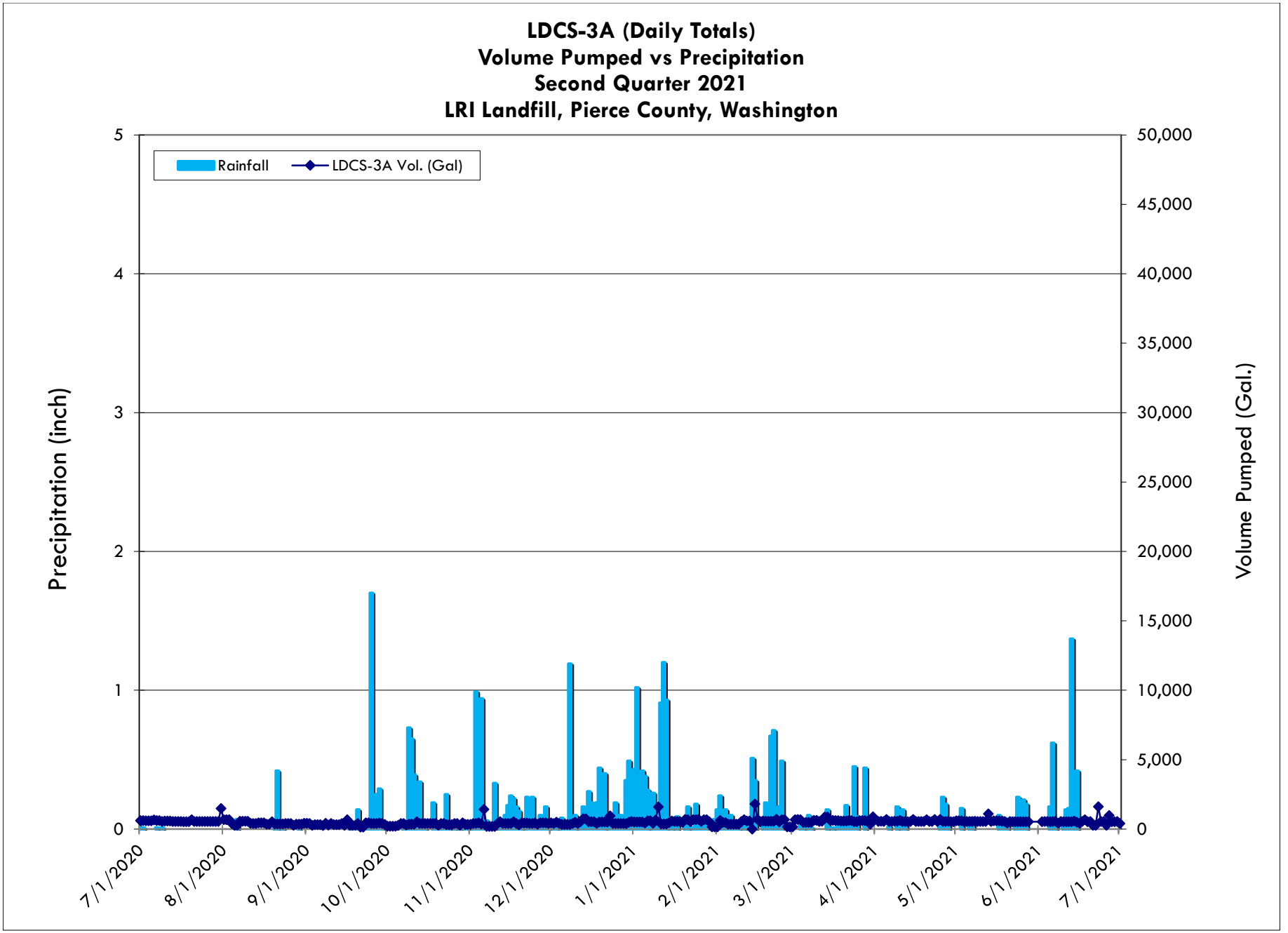


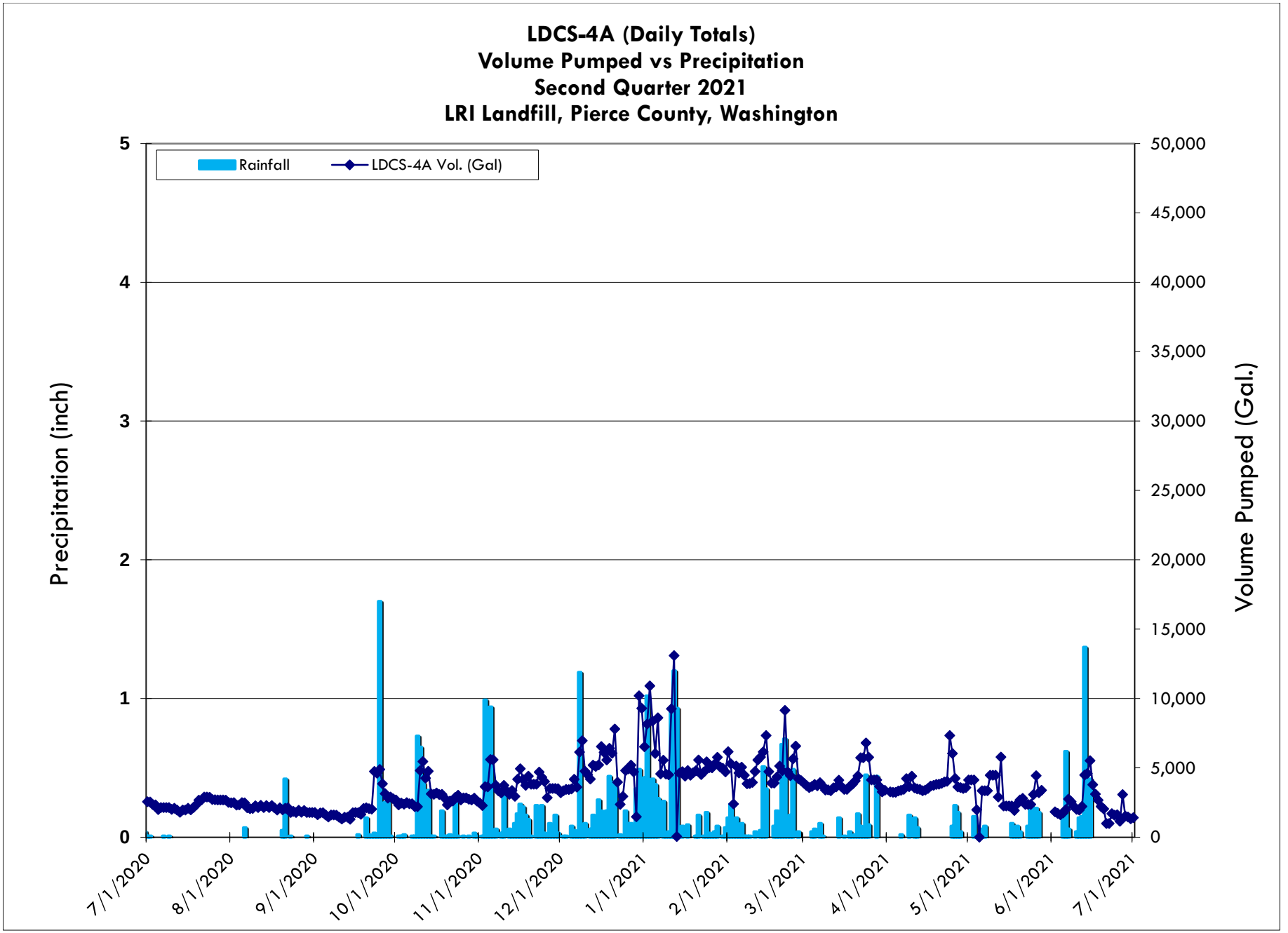

LDCS-8A (Daily Totals)
Conductivity vs Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-8A Cond. (µS/cm)
LDCS-8A Vol. (Gal)
No Cond. data available between 3/31/21 and 6/30/21
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
90,000
85,000
80,000
75,000
70,000
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

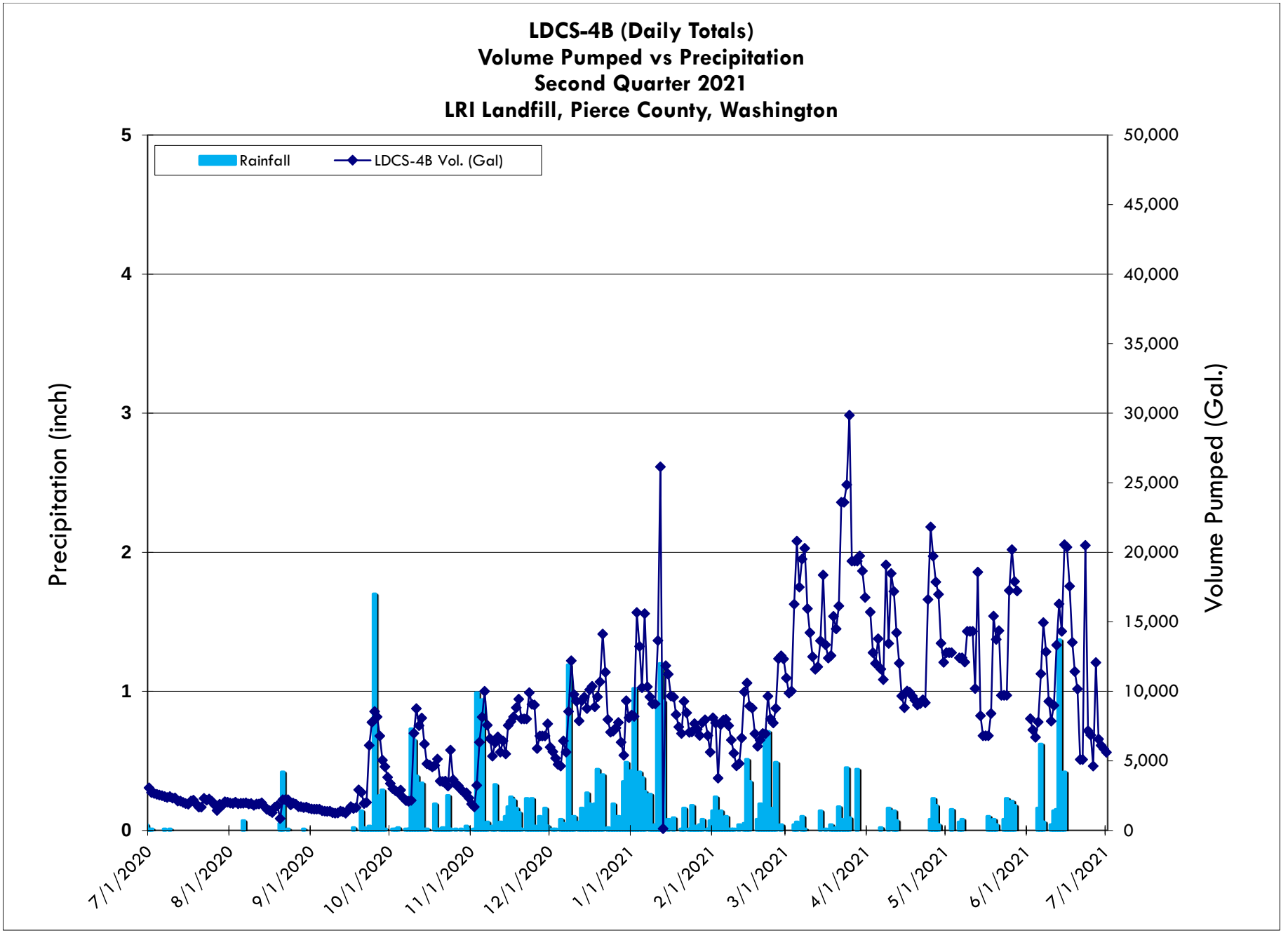

LDCS-1 (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-1 Vol. (Gal.)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

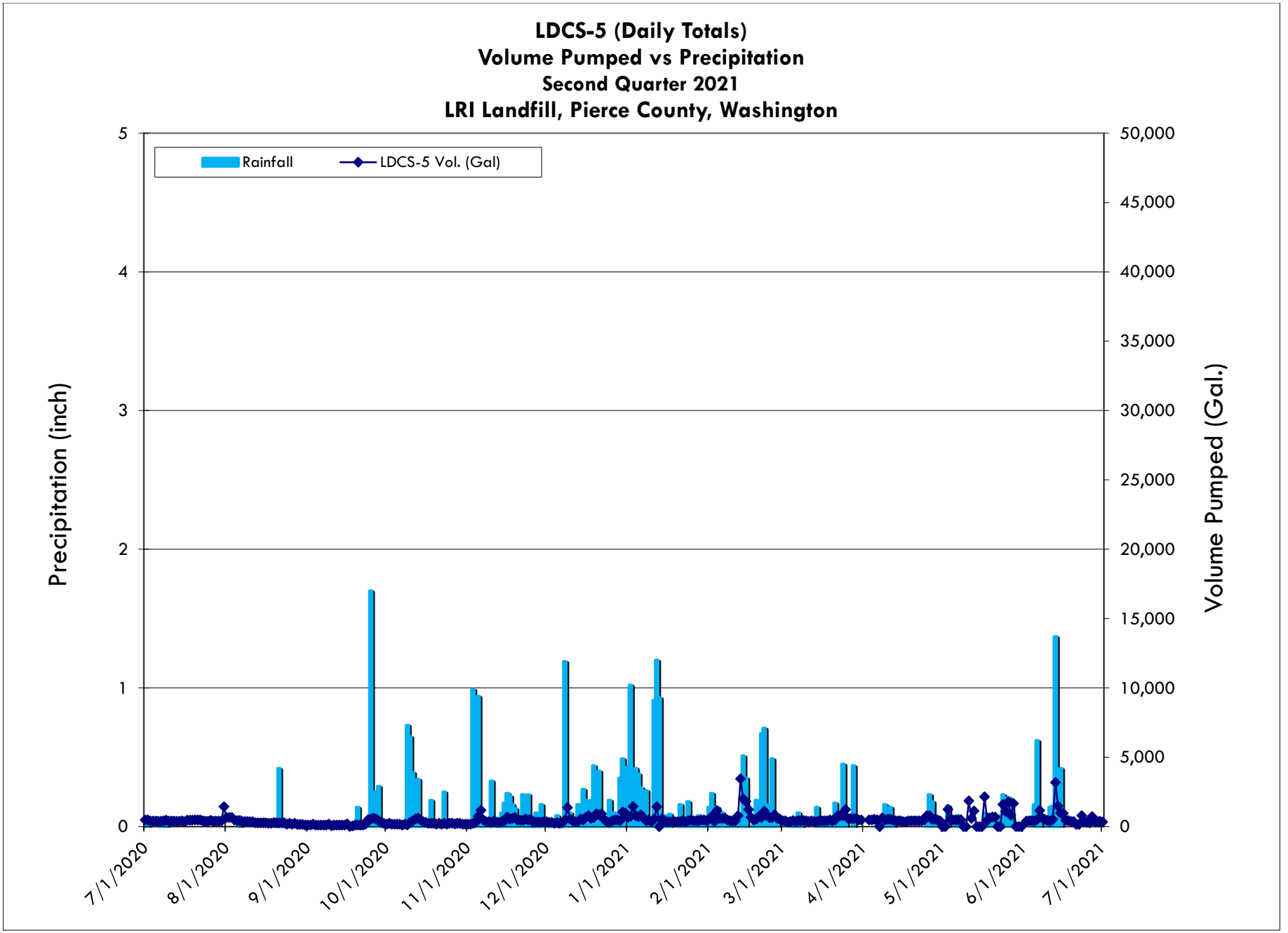

LDCS-2A (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-2A Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

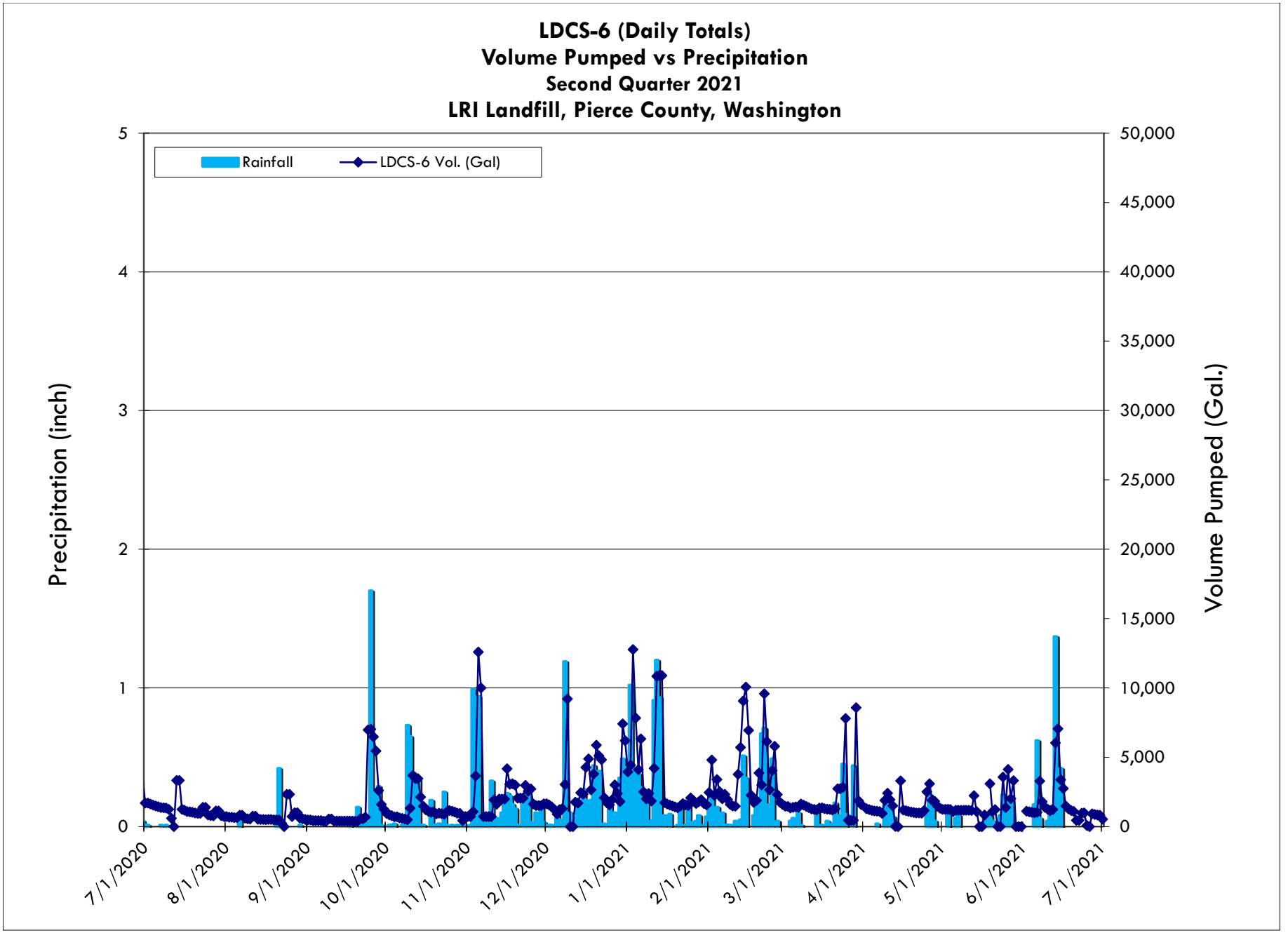

LDCS-2B (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-2B Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

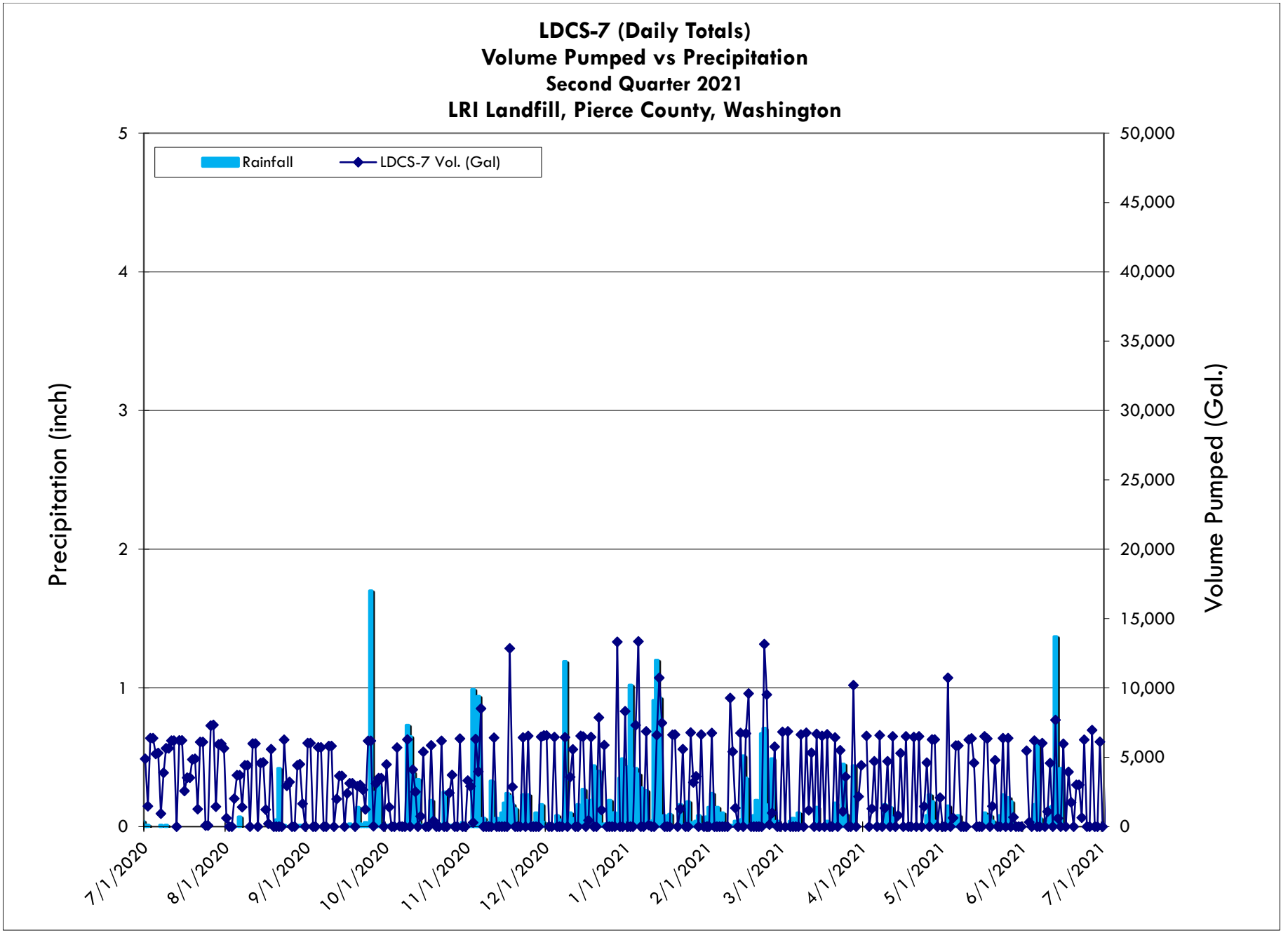

LDCS-3A (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-3A Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
5
4
3
2
1
0
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

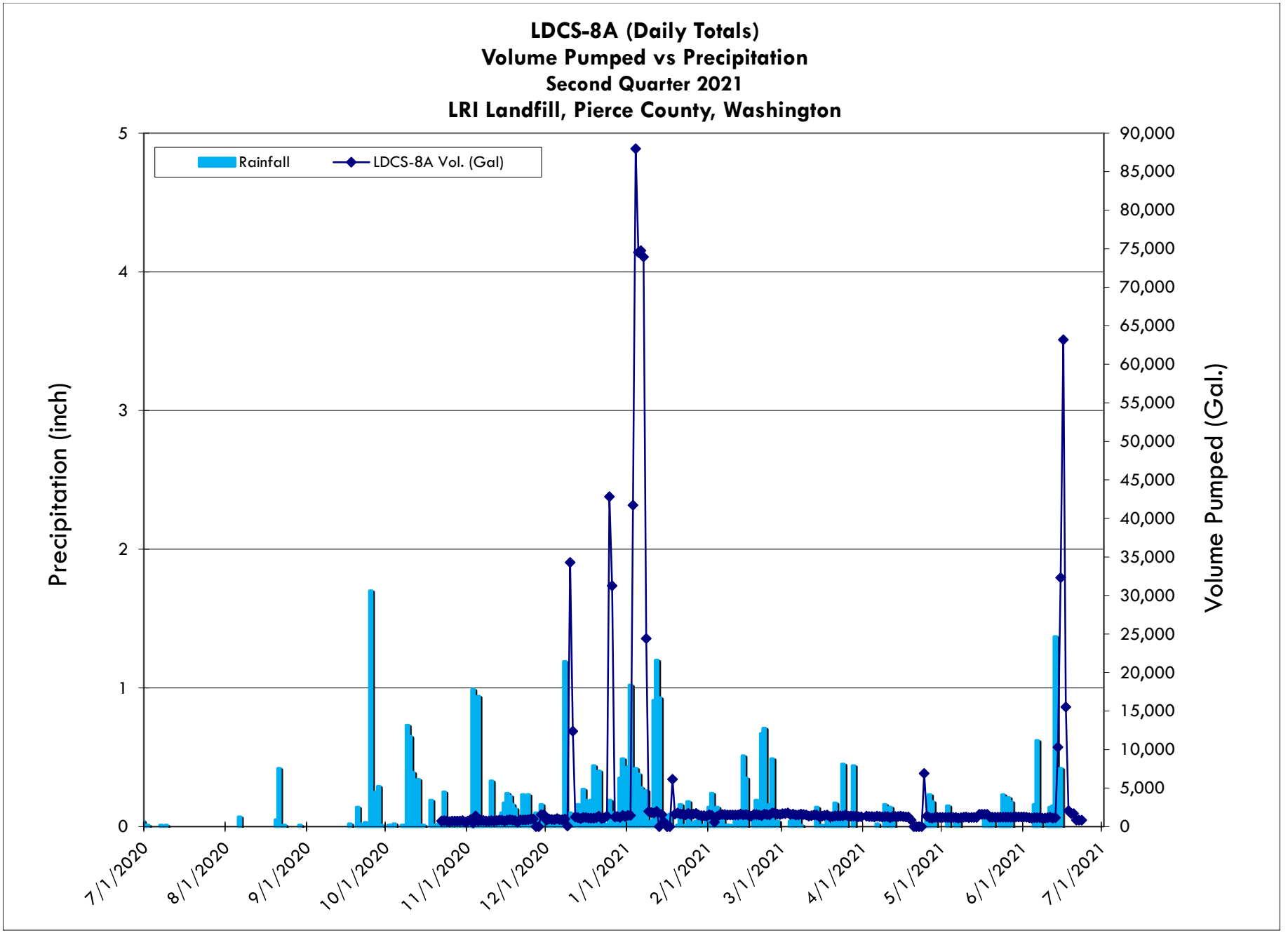

LDCS-4A (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-4A Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

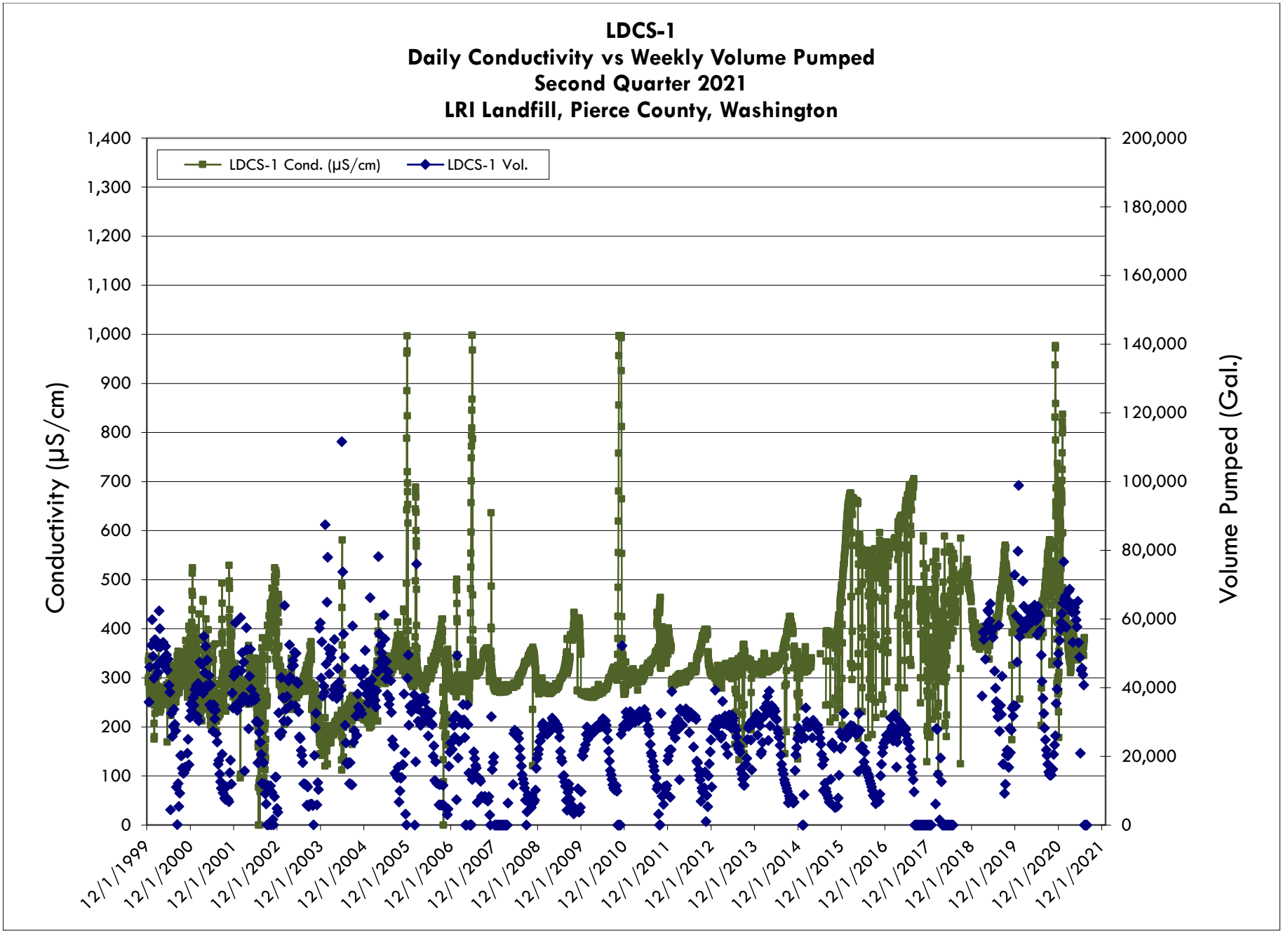

LDCS-4B (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-4B Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

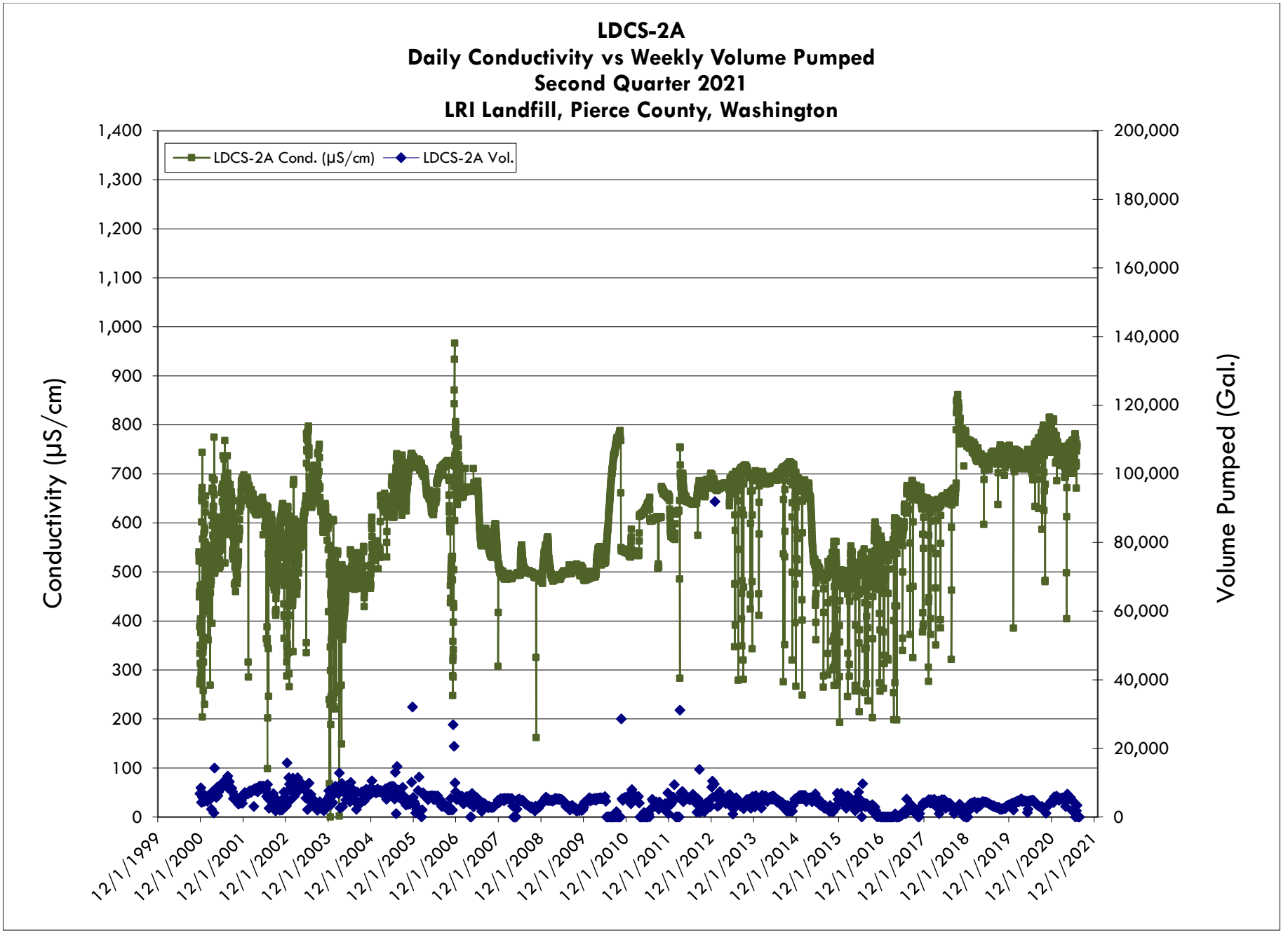

LDCS-5 (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-5 Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

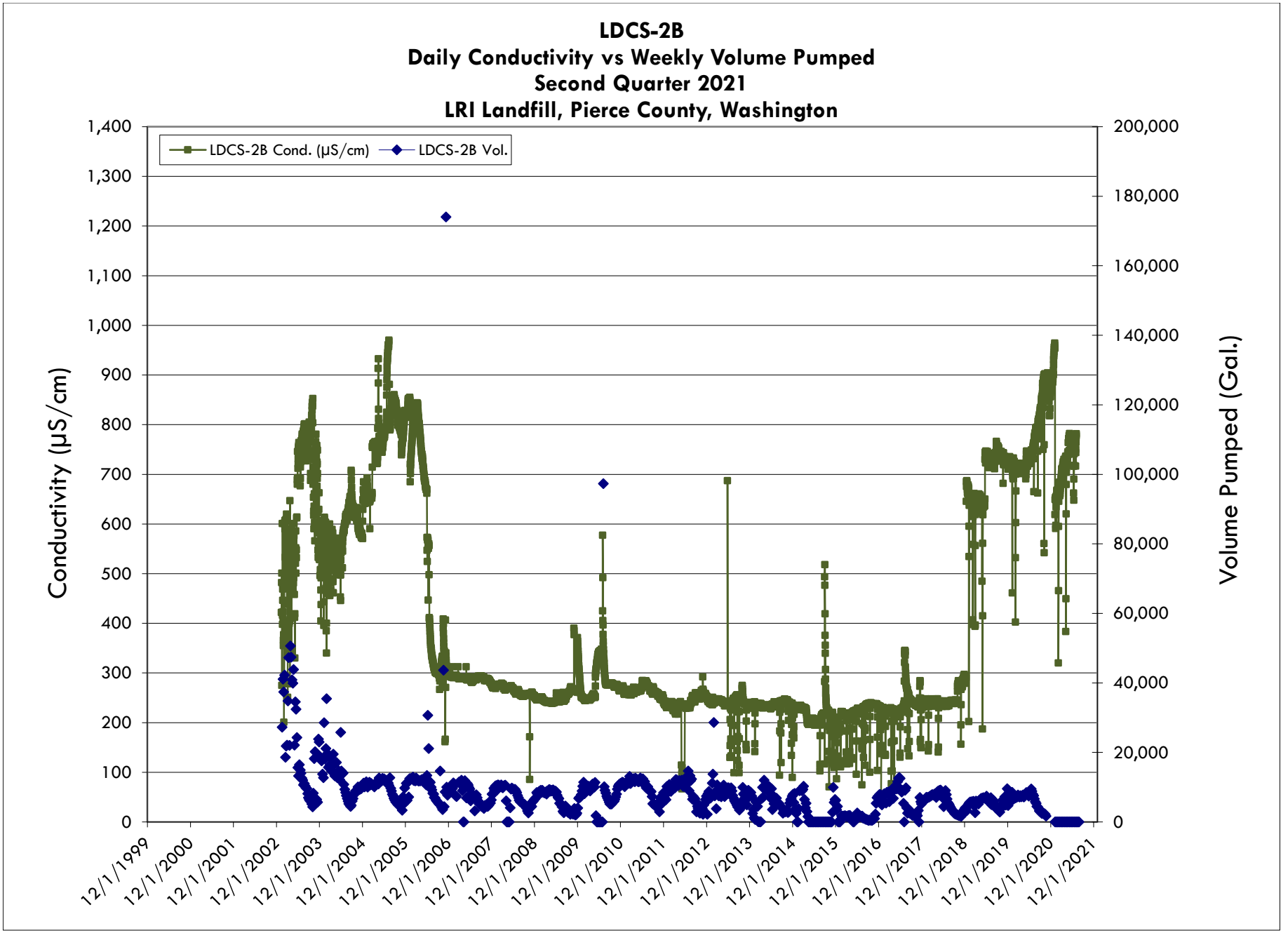

LDCS-6 (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-6 Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

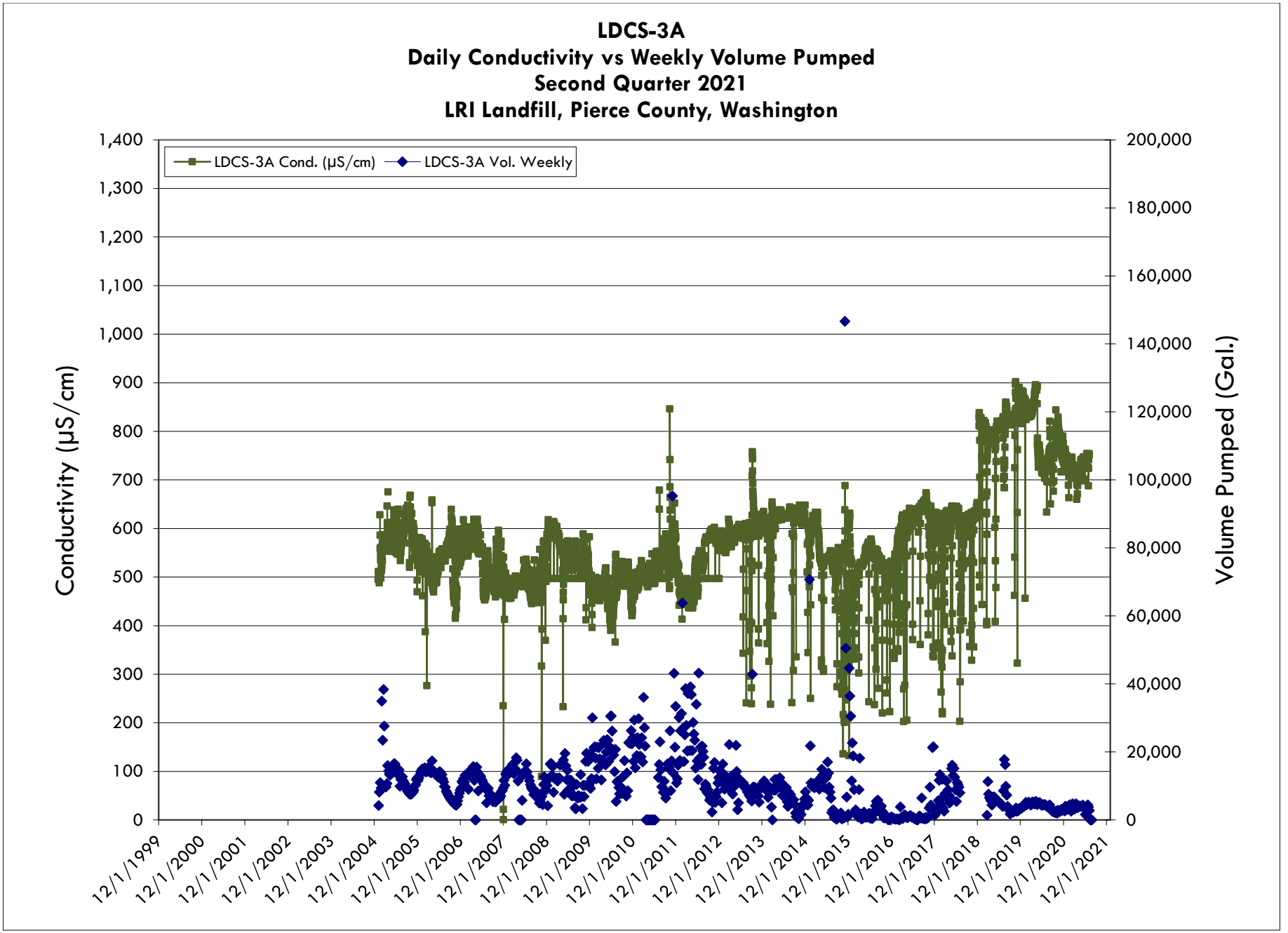

LDCS-7 (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-7 Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021


LDCS-8A (Daily Totals)
Volume Pumped vs Precipitation
Second Quarter 2021
LRI Landfill, Pierce County, Washington
Rainfall
LDCS-8A Vol. (Gal)
Precipitation (inch)
Volume Pumped (Gal.)
0
1
2
3
4
5
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
85,000
90,000
7/1/2020
8/1/2020
9/1/2020
10/1/2020
11/1/2020
12/1/2020
1/1/2021
2/1/2021
3/1/2021
4/1/2021
5/1/2021
6/1/2021
7/1/2021

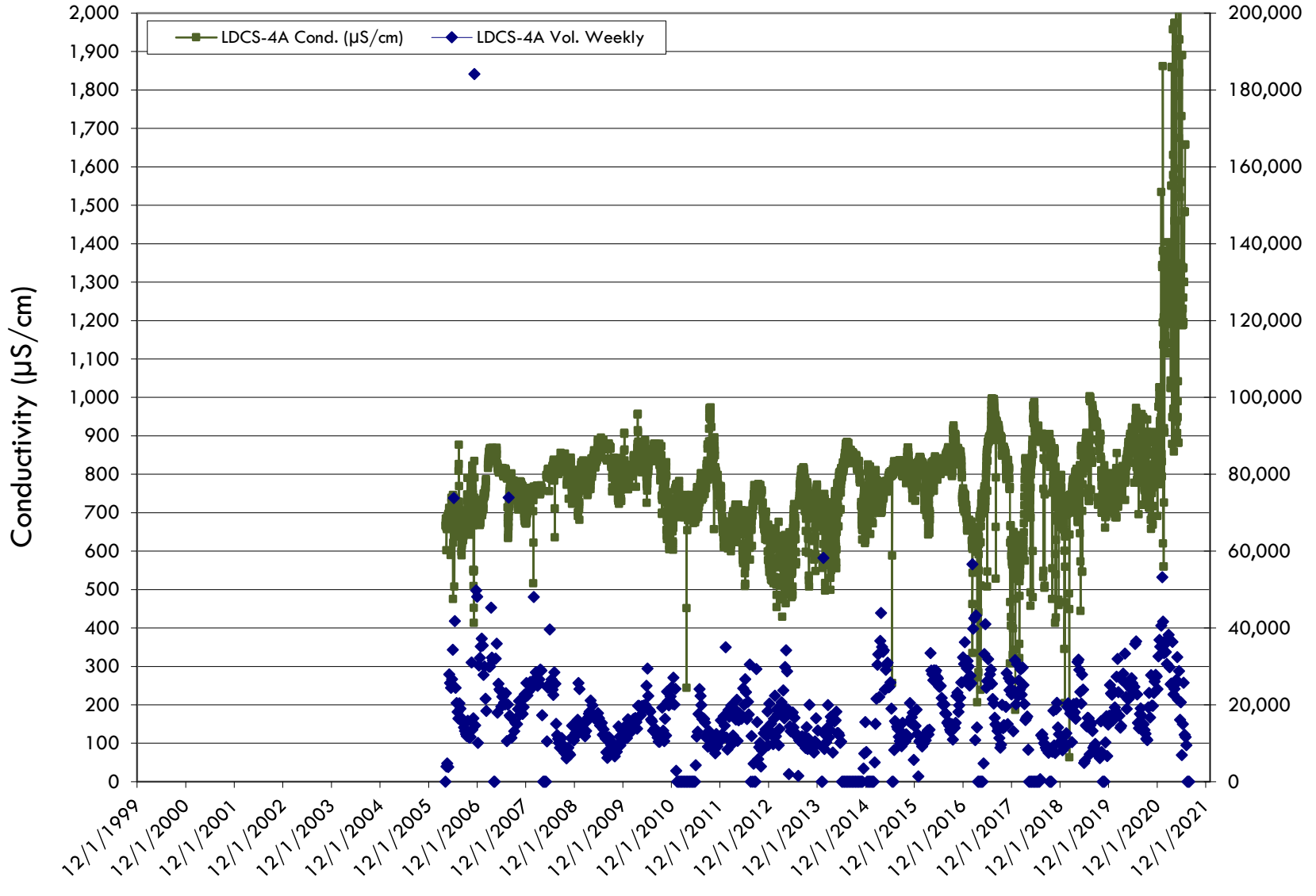

LDCS-1
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-1 Cond. (µS/cm)
LDCS-1 Vol.
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021

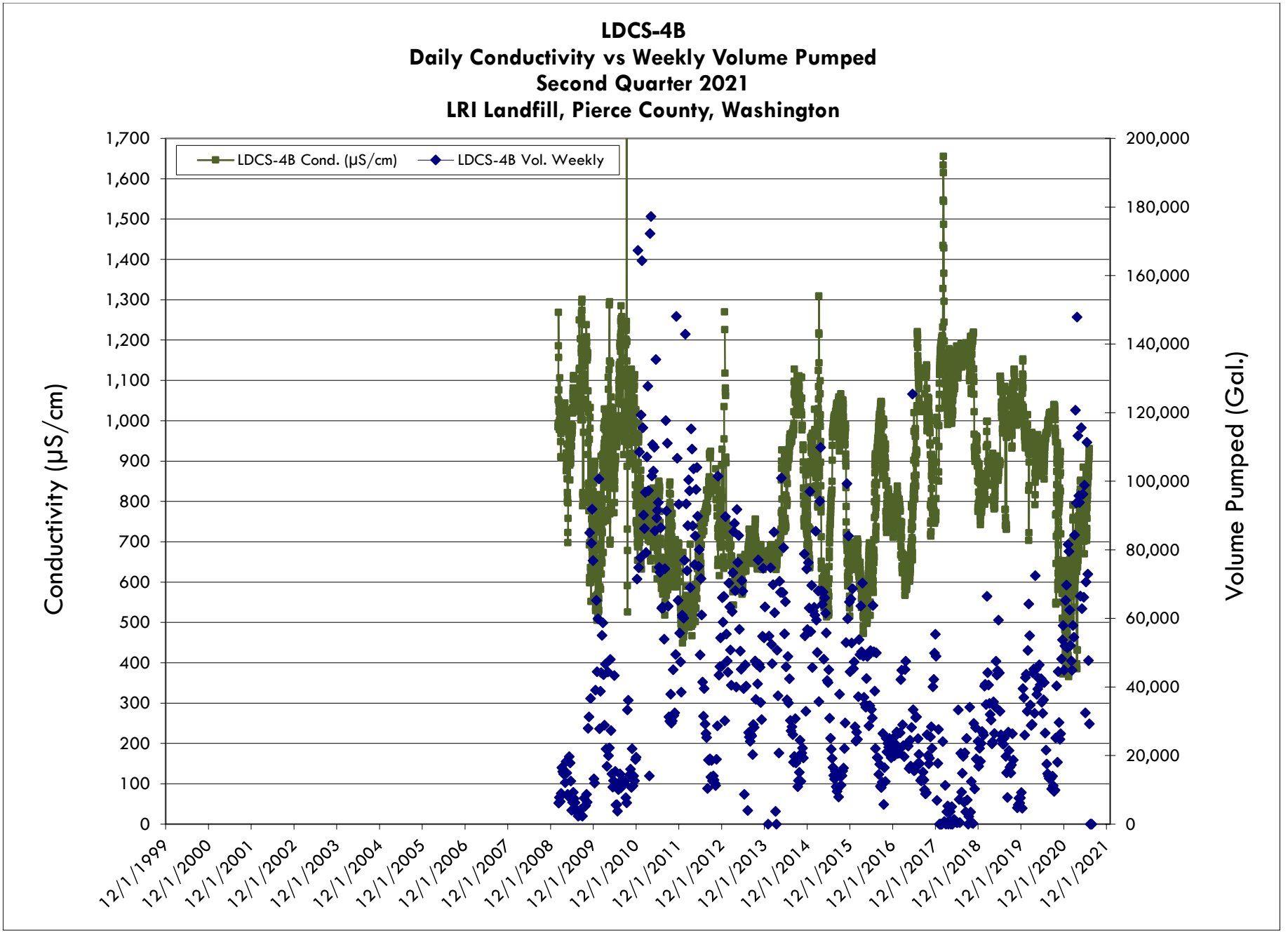

LDCS-2A
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-2A Cond. (µS/cm)
LDCS-2A Vol.
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021

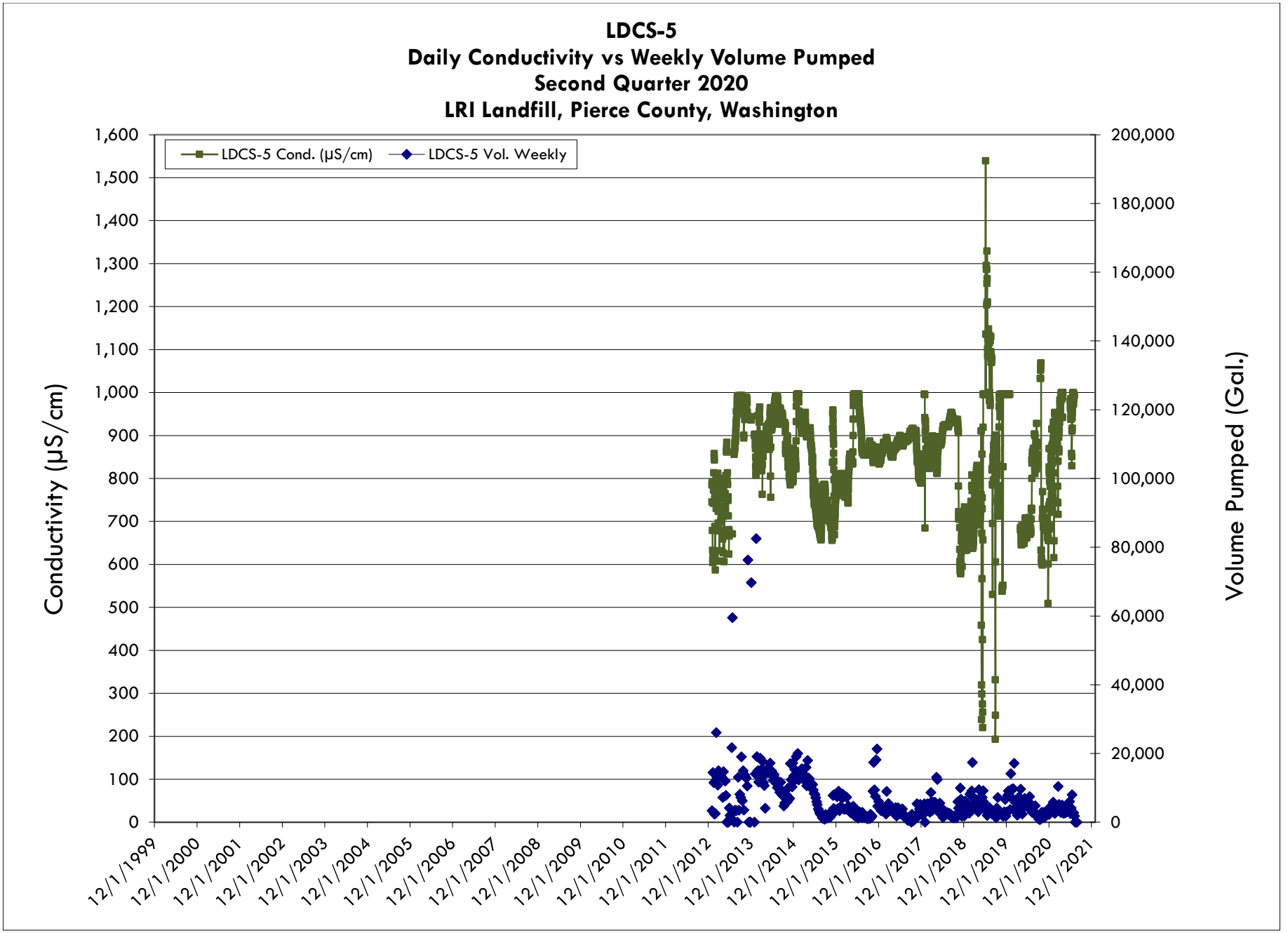

LDCS-2B
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-2B Cond. (µS/cm)
LDCS-2B Vol.
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021

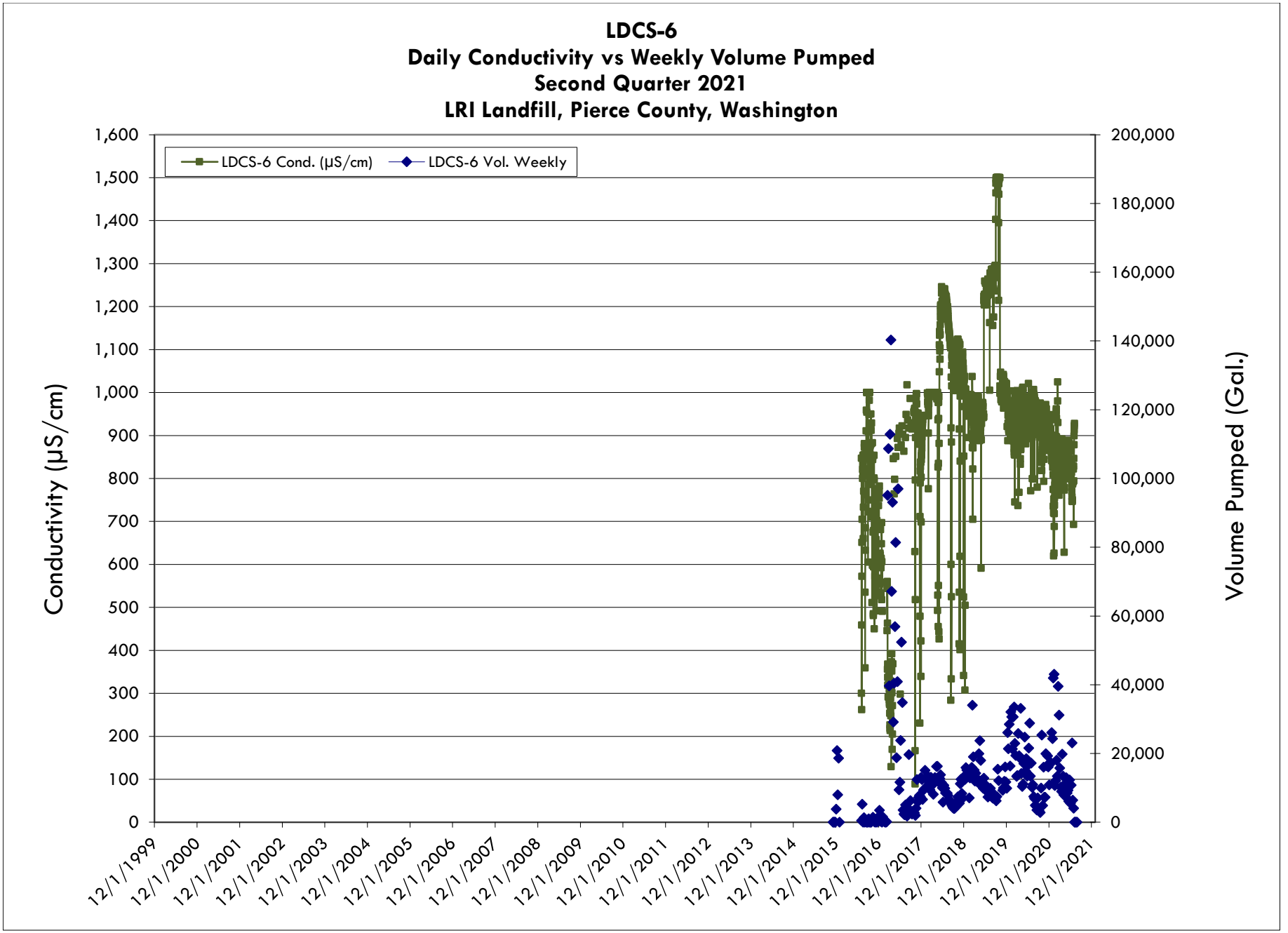

LDCS-3A
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-3A Cond. (µS/cm)
LDCS-3A Vol. Weekly
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021

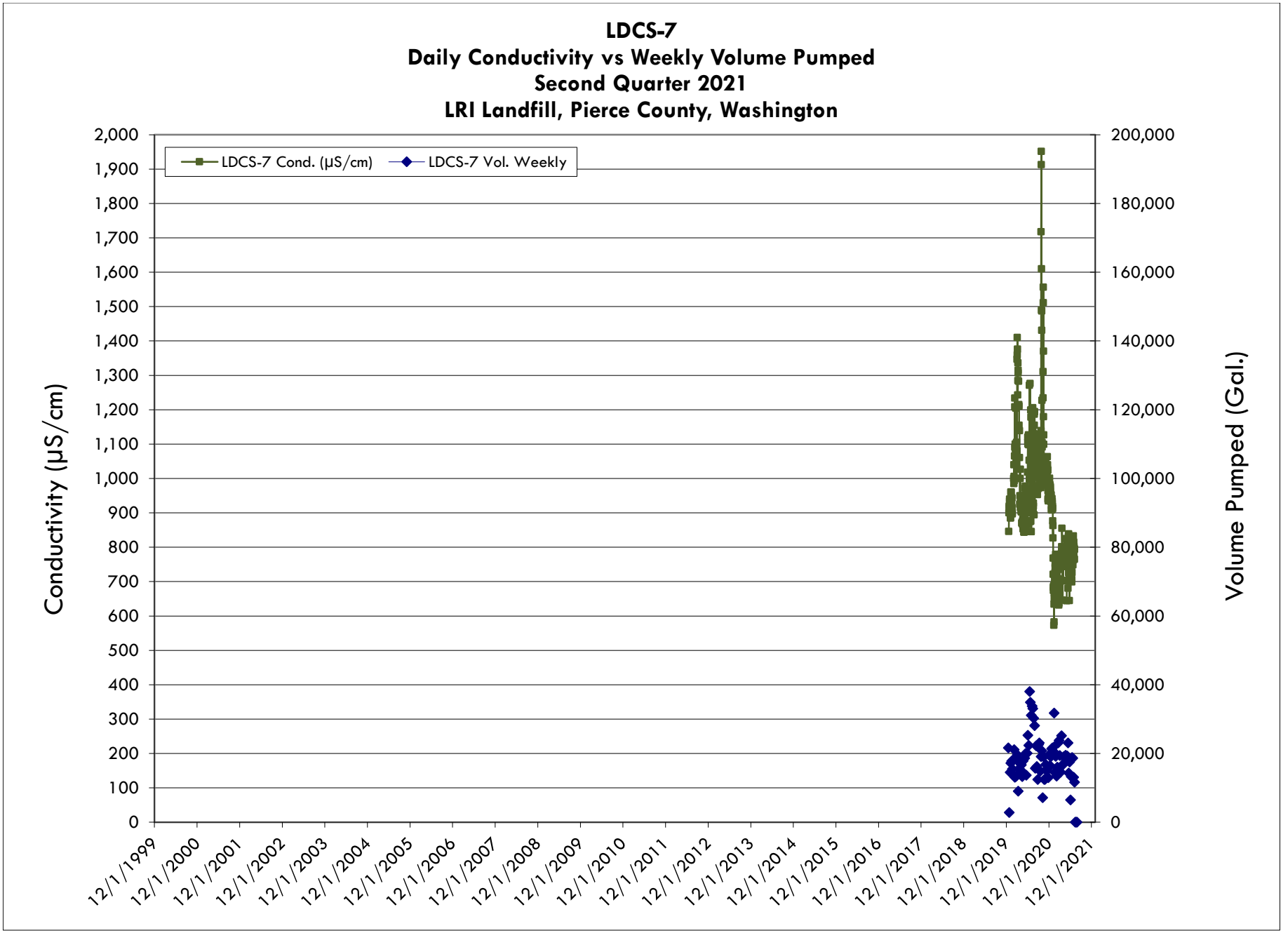
LDCS-4A
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington

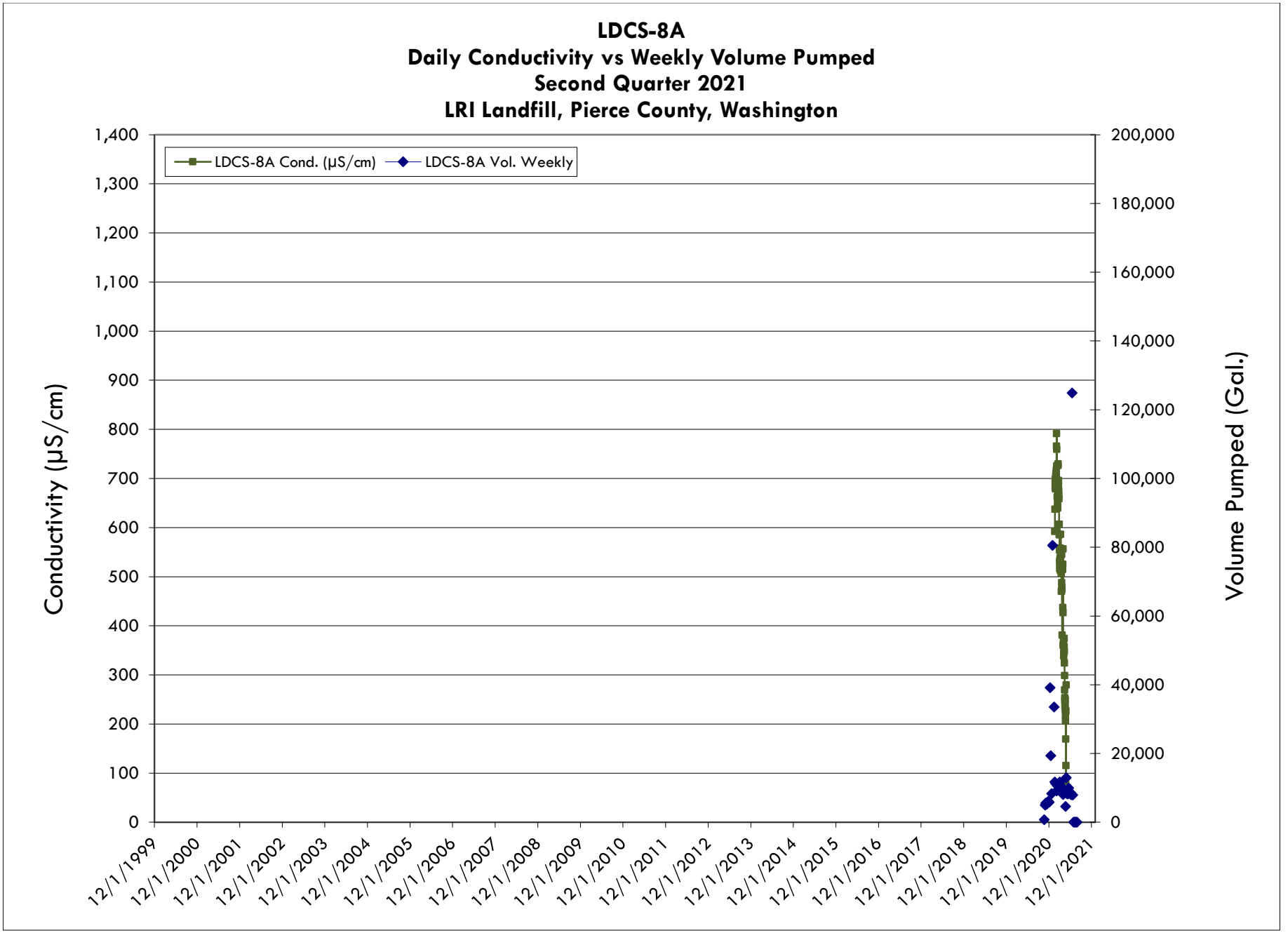



LDCS-4B
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-4B Cond. (µS/cm)
LDCS-4B Vol. Weekly
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,700
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021


LDCS-5
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2020
LRI Landfill, Pierce County, Washington
LDCS-5 Cond. (µS/cm)
LDCS-5 Vol. Weekly
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021


LDCS-6
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-6 Cond. (µS/cm)
LDCS-6 Vol. Weekly
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021


LDCS-7
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-7 Cond. (µS/cm)
LDCS-7 Vol. Weekly
Conductivity (µS/cm)
Volume Pumped (Gal.)
2,000
1,900
1,800
1,700
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021


LDCS-8A
Daily Conductivity vs Weekly Volume Pumped
Second Quarter 2021
LRI Landfill, Pierce County, Washington
LDCS-8A Cond. (µS/cm)
LDCS-8A Vol. Weekly
Conductivity (µS/cm)
Volume Pumped (Gal.)
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
12/1/1999
12/1/2000
12/1/2001
12/1/2002
12/1/2003
12/1/2004
12/1/2005
12/1/2006
12/1/2007
12/1/2008
12/1/2009
12/1/2010
12/1/2011
12/1/2012
12/1/2013
12/1/2014
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021

Attachment I

Surface Water Monitoring Data

Washington State Department of Ecology — Discharge Monitoring Report (DMR)

Permit Number: WAR002603 **Permittee:** LRI 304th Street Landfill

Facility County: Pierce **Receiving Waterbody:** South Creek

Monitoring Period: 04/01/2021 - 04/30/2021 **Outfall:** UNK - South Creek **Version:** 1

Week	Monitoring Point	Turbidity (NTU) Measured NTU Weekly Grab	pH Standard Units Weekly Grab
		C7-1	C7-1
1-Th	**4/1/21**	C	C
2-Su	**4/4/21**	C	C
3-Su	**4/11/21**	0.7	M
4-Su	**4/18/21**	C	C
5-Su	**4/25/21**	C	C
Minimum			M
			BM: >= 6.5 (RO)
Maximum		0.7	M
		BM: <= 25 (RO)	BM: <= 8.5 (RO)

Reporting Codes Used: C - No Discharge, M - Monitoring Is Conditional/Not Req This MP

Overall DMR Notes/Comment

Construction stormwater treatment using Chitosan Enhanced sand Filtration (CESF). The averaged turbidity value is reported for each day that a discharge occurred.

BMPs

Monitoring Point	Week	BMP
C7-1		Check Dams
C7-1		Construction Stormwater Chemical Treatment
C7-1		Other
C7-1		Sediment Trap
C7-1		Silt Fence

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.

George Duvendack — **Signature**

5/13/2021 3:49:45 PM — **Date**

Washington State Department of Ecology **Discharge Monitoring Report (DMR)**

Permit Number: WAR002603 **Permittee:** LRI 304th Street Landfill

Facility County: Pierce **Receiving Waterbody:** South Creek

Monitoring Period: 05/01/2021 - 05/31/2021 **Outfall:** UNK - South Creek **Version:** 1

Week	Monitoring Point	Turbidity (NTU) Measured NTU Weekly Grab	pH Standard Units Weekly Grab
		C7-1	C7-1
Minimum			
			BM: >= 6.5 (RO)
Maximum			
		BM: <= 25 (RO)	BM: <= 8.5 (RO)

Reporting Codes Used: C - No Discharge

Overall DMR Notes/Comment

Reporting Code: C - No Discharge

No construction stormwater discharges occurred during the month of May.

Outfall: UNK - South Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
C7-1	All Parameters		C	

BMPs

Monitoring Point	Week	BMP
C7-1		Check Dams
C7-1		Other
C7-1		Sediment Trap
C7-1		Silt Fence

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.

George Duvendack — **Signature**

6/15/2021 8:57:58 AM — **Date**

Washington State Department of Ecology **Discharge Monitoring Report (DMR)**

Permit Number: WAR002603 **Permittee:** LRI 304th Street Landfill

Facility County: Pierce **Receiving Waterbody:** NEWB 2

Monitoring Period: 06/01/2021 - 06/30/2021 **Outfall:** 001 - South Creek **Version:** 1

Week	Monitoring Point	Turbidity (NTU) Measured NTU Weekly Grab	pH Standard Units Weekly Grab	Turbidity (NTU) Measured NTU Weekly Grab	pH Standard Units Weekly Grab	Turbidity (NTU) Measured NTU Weekly Grab	pH Standard Units Weekly Grab
		C7-1	C7-1	C8-1	C8-1	C8-2	C8-2
Minimum							
			BM: >= 6.5 (RO)		BM: >= 6.5 (RO)		BM: >= 6.5 (RO)
Maximum							
		BM: <= 25 (RO)	BM: <= 8.5 (RO)	BM: <= 25 (RO)	BM: <= 8.5 (RO)	BM: <= 25 (RO)	BM: <= 8.5 (RO)

Reporting Codes Used: C - No Discharge

Overall DMR Notes/Comment

Reporting Code: C - No Discharge

No construction stormwater discharges occurred during the month of June.

Outfall: 001 - South Creek

Monitoring Point	Parameter	Sample Date/ Statistical Base	Value	Notes/Comment
C8-2	All Parameters		C	

BMPs

Monitoring Point	Week	BMP
C7-1		Check Dams
C7-1		Other
C7-1		Sediment Trap
C7-1		Silt Fence
C8-1		Check Dams
C8-1		Other
C8-1		Sediment Trap
C8-1		Silt Fence
C8-2		Check Dams
C8-2		Sediment Trap
C8-2		Silt Fence

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.

George Duvendack — **Signature**

7/13/2021 7:44:59 PM — **Date**

Washington State Department of Ecology **Discharge Monitoring Report (DMR)**

Permit Number: WAR002557 **Permittee:** Pierce County Recycling - 304th Street L

Facility County: Pierce **Receiving Waterbody:**

Monitoring Period: 04/01/2021 - 06/30/2021 **Outfall:** SWPO - Discharge from SW pond **Version:** 1

Week	Monitoring Point	Turbidity (NTU) Measured NTU Quarterly Grab	pH Standard Units Quarterly Grab	Oil & Grease Yes/No Quarterly Visual Observation	Copper Total Micrograms/L (ug/L) Quarterly Grab	Zinc Total Micrograms/L (ug/L) Quarterly Grab	Total BOD5 Total Milligrams/L (mg/L) Quarterly Grab	Solids (Residue) Total suspended (TSS) Milligrams/L (mg/L) Quarterly Grab	Ammonia Total Milligrams/L (mg/L) Quarterly Grab	Alpha-terpineol (3-Cyclohexene-1-methanol,.alpha.,alpha.,trimethyl-) Micrograms/L (ug/L) Quarterly Grab	Benzoic Acid Micrograms/L (ug/L) Quarterly Grab	p-Cresol (4-methylphenol) Micrograms/L (ug/L) Quarterly Grab
		SWPO	SWPO	SWPO	SWPO	SWPO	SWPO	SWPO	SWPO	SWPO	SWPO	SWPO
Limit Set		ISGP Western WA - 2020 Permit	ISGP Western WA - 2020 Permit	ISGP Western WA - 2020 Permit	ISGP Western WA - 2020 Permit	ISGP Western WA - 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	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	ISGP Non-Haz Waste Landfill (40CFR part 445 subpart B)- 2020 permit
2-F	**4/9/21**	4.0	6.9	No	J|4.2	J|7.8	2.3	5	B|0.5	B|10	B|61	B|10
Minimum			6.9									
			BM: >= 5.0 (RO)									
Average		4			J|4.2	J|7.8						
		BM: <= 25			BM: <= 14	BM: <= 117						
Maximum			6.9									
			BM: <= 9.0 (RO)									
Month 1 Average							2.3	5	B|0.50	B|10	B|61	B|10
							<= 37	<= 27	<= 4.9	<= 16	<= 71	<= 14
Month 2 Average							2.3	5	B|0.50	B|10	B|61	B|10
							<= 37	<= 27	<= 4.9	<= 16	<= 71	<= 14
Month 3 Average							2.3	5	B|0.50	B|10	B|61	B|10
							<= 37	<= 27	<= 4.9	<= 16	<= 71	<= 14

Reporting Codes Used: B - Below Detection Limit/No Detection, J - Estimated Value/Below Quantitation Limit

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.

George Duvendack
Signature

8/10/2021 8:14:37 AM
Date

Week	Monitoring Point	Phenol Micrograms/L (ug/L) Quarterly Grab	Zinc Total Micrograms/L (ug/L) Quarterly Grab	pH Standard Units Quarterly Grab
		SWPO	SWPO	SWPO
Limit Set		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
2-F	**4/9/21**	B|10	J|7.8	6.9
Minimum				6.9
				>= 6.0 (RO)
Average				
Maximum				6.9
				<= 9.0 (RO)
Month 1 Average		B|10	J|7.8	
		<= 15	<= 110	
Month 2 Average		B|10	J|7.8	
		<= 15	<= 110	
Month 3 Average		B|10	J|7.8	
		<= 15	<= 110	

Attachment J

Landfill Gas Monitoring Data

Exhibit 3 - Results of Landfill Gas Probe Monitoring

SCS Engineers

Landfill Gas Control System

04221001.04

LRI Landfill

April-21

Location Refer *Design.*	Date	Time	$P_{(well)}$ (in W.C.)	Gas Composition - *Note 1*: CH_4 Spike (% by vol.)	CH_4 (% by vol.)	CO_2 (% by vol.)	O_2 (% by vol.)	Balance (N_2 & H_2O) (% by vol.)	Depth to Water *Note 2* (ft-TOC)	Exposed Portion of Perforations - *Note 3*: (ft)	(%)	Comments
Normal Operating Rage:												
(min)			--		0.3	0.3	--				20.0	
(max)			5.00		5.0	5.0	20.3				90.0	
Perimeter Gas Probes												
GP-1	4/10/2021	8:45	--	2.3	1.9	3.5	14.7	79.9	16.5	9.5	100.0	
GP-2	4/10/2021	8:58	--	2.0	1.8	14.4	1.1	82.7	15.3	8.3	100.0	
GP-3	4/10/2021	9:07	--	--	0.0	6.6	9.4	84.0	17.4	13.4	100.0	
GP-4	4/10/2021	9:15	--	--	0.0	4.6	13.9	81.5	9.6	5.6	100.0	
GP-9	4/10/2021	9:22	--	--	0.0	10.6	6.0	83.4	11.4	0.0	0.0	
GP-10	4/10/2021	8:34	--	1.1	0.3	13.4	10.4	75.9				
GP-10P	4/10/2021	8:28	--	14.3	14.3	28.8	2.8	54.1				*Note 5*
GP-11	4/10/2021	8:16	--	--	0.0	7.8	13.7	78.5				
GP-12	4/10/2021	7:59	--	31.0	30.7	49.3	1.0	19.0				
GP-13	4/10/2021	7:44	--	--	0.0	15.3	6.7	78.0				
GP-14	4/10/2021	9:59	--	--	0.0	0.2	20.9	78.9	11.0	0.0	0.0	
GP-15	4/10/2021	9:45	--	--	0.0	0.1	21.3	78.6	9.9	0.0	0.0	
GP-16	4/10/2021	9:30	--	--	0.0	0.4	21.4	78.2	19.7	12.7	84.4	

	Beginning	Ending	Average
Weather:	Passing Clouds	Sunny	Partly Sunny
Temperature, T (deg F):	37.7	41.8	39.75
Wind Speed (mph):	5.9	10.3	8.1
Wind Direction:	203	225	214
Barometric Pressure, P (in Hg):	30.15	30.20	30.18
24hr Baro.Trend (rising / falling / steady / unsteady)	Rising		

Starting Date:	4/10/2021
Starting Time:	7:44
Finishing Date:	4/10/2021
Finishing Time:	9:59
Monitored by:	A. Lopez
Instruments:	GEM 2000
Calibration Date:	4/10/2021

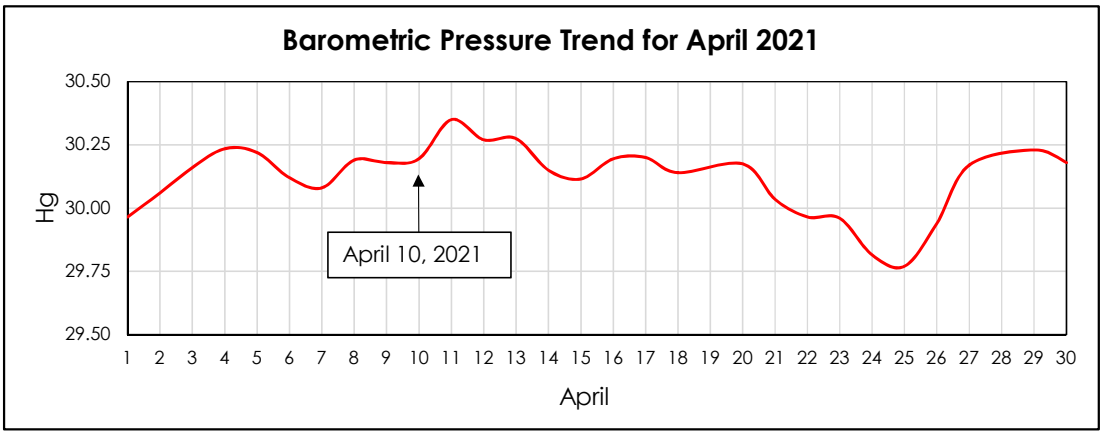
Headings:

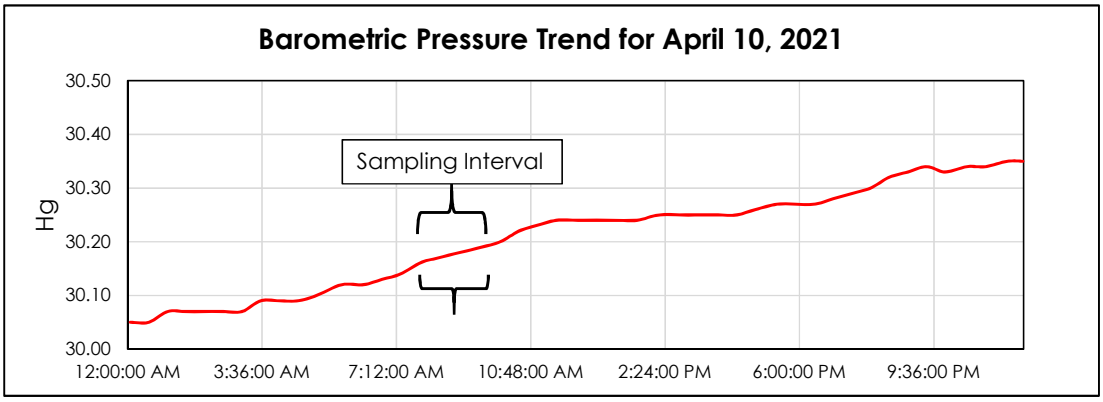
$P_{(well)}$	Relative Pressure
CH_4	Methane
CO_2	Carbon Dioxide
O_2	Oxygen
H_2O	Water Vapor
N_2	Nitrogen
TOC	Top of Casing

Notes:

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded as a comment if observed during sampling.
2. Water level measurements made where gas probe monitoring port allows for measurement, or where there is an adjacent measurement piezometer.
3. Exposed Perforation = perforated pipe section not submerged by liquid.
4. GP-10P added in January 2018. Monitoring performed at water level piezometer installed in the same boring as GP-10.
5. GP-10P connection repaired on October 23rd, 2020.
6. Pressure was not recorded this month due to a pressure transducer error.

Barometric Pressure Trend - April 2021
LRI 304th Landfill, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.10 Long: 122.29 Elev: 535 ft-AMSL
Data Source: https://www.wunderground.com/dashboard/pws/KWAPUYAL102/table/2021-04-16/2021-04-16/monthly

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.10 Long: 122.29 Elev: 535 ft-AMSL
Data Source: https://www.wunderground.com/dashboard/pws/KWAPUYAL102/table/2021-04-10/2021-04-10/daily

Exhibit 3 - Results of Landfill Gas Probe Monitoring

SCS Engineers

Landfill Gas Control System

04221001.04

LRI Landfill

May-21

Location Refer *Design.*	Date	Time	$P_{(well)}$ (in W.C.)	Gas Composition - *Note 1*: CH_4 Spike (% by vol.)	CH_4 (% by vol.)	CO_2 (% by vol.)	O_2 (% by vol.)	Balance (N_2 & H_2O) (% by vol.)	Depth to Water *Note 2* (ft-TOC)	Exposed Portion of Perforations - *Note 3*: (ft)	(%)	Comments
Normal Operating Rage:												
(min)			-		0.3	0.3	-				20.0	
(max)			5.00		5.0	5.0	20.3				90.0	
Perimeter Gas Probes												
GP-1	5/8/2021	8:08	1.0	2.1	1.9	3.1	15.5	79.5	16.7	9.7	100.0	
GP-2	5/8/2021	8:17	1.0	1.5	1.3	12.9	3.8	82.0	15.9	8.9	100.0	
GP-3	5/8/2021	8:25	0.3	--	0.0	4.7	12.9	82.4	8.0	4.0	79.0	
GP-4	5/8/2021	8:33	1.0	--	0.0	6.9	9.7	83.4	9.3	5.3	100.0	
GP-9	5/8/2021	8:39	1.0	--	0.0	9.8	7.3	82.9	10.9	0.0	0.0	
GP-10	5/8/2021	7:58	1.0	--	0.0	12.6	11.2	76.2				
GP-10P	5/8/2021	7:52	1.0	14.5	14.3	33.0	0.6	52.1				*Note 5*
GP-11	5/8/2021	7:31	1.0	--	0.0	9.4	14.5	76.1				
GP-12	5/8/2021	7:23	1.0	24.8	24.4	42.2	5.5	27.9				
GP-13	5/8/2021	7:15	1.0	--	0.0	21.0	2.4	76.6				
GP-14	5/8/2021	9:04	1.0	--	0.0	0.1	21.2	78.7	12.6	0.0	0.0	
GP-15	5/12/2021	10:10	0.1	--	0.0	0.1	20.9	79.0	10.8	0.0	0.0	
GP-16	5/8/2021	8:47	1.0	--	0.0	0.3	21.3	78.4	20.2	13.2	88.0	

	Beginning	Ending	Average
Weather:	Overcast	Overcast	Overcast
Temperature, T (deg F):	42.8	46.6	44.7
Wind Speed (mph):	3.9	5.8	4.85
Wind Direction:	180	203	191.5
Barometric Pressure, P (in Hg):	30.37	30.39	30.38
24hr Baro.Trend (rising / falling / steady / unsteady)	Rising		

Starting Date:	5/8/2021
Starting Time:	7:15
Finishing Date:	5/12/2021
Finishing Time:	10:10
Monitored by:	A. Lopez
Instruments:	GEM 2000
Calibration Date:	5/8/2021

Headings:

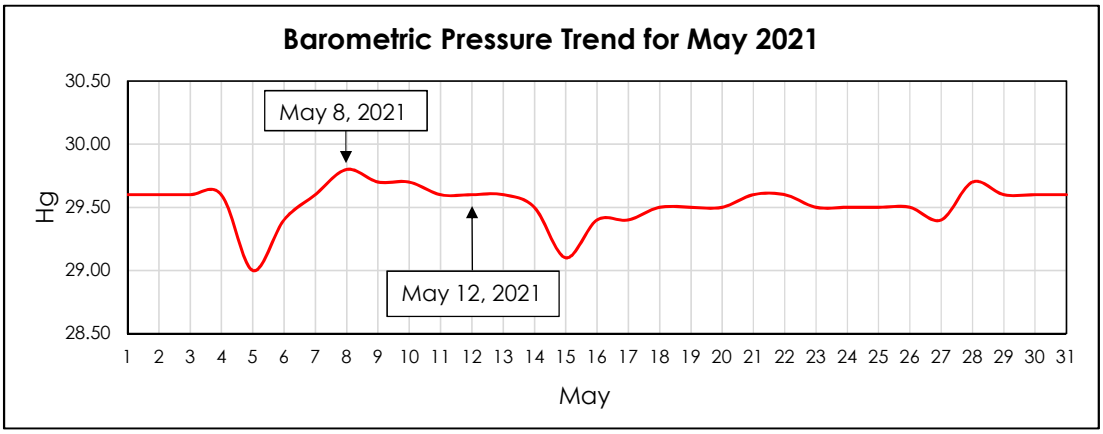
$P_{(well)}$	Relative Pressure
CH_4	Methane
CO_2	Carbon Dioxide
O_2	Oxygen
H_2O	Water Vapor
N_2	Nitrogen
TOC	Top of Casing

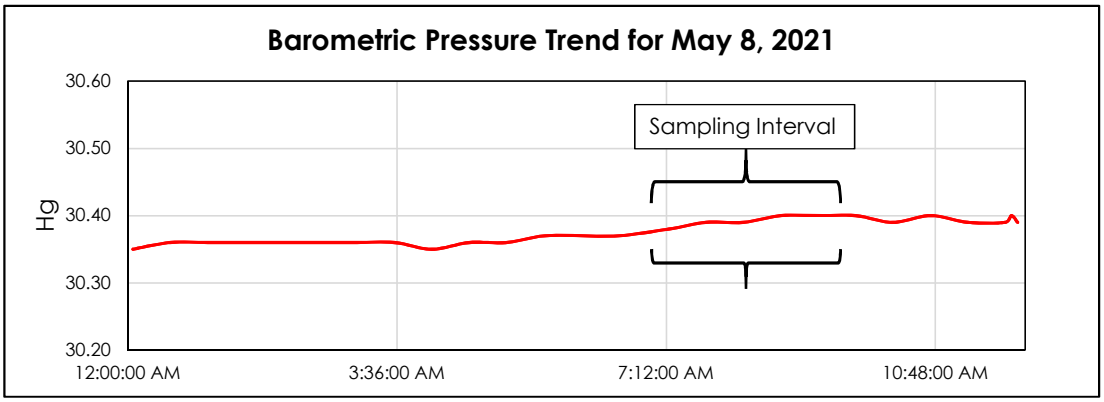
Notes:

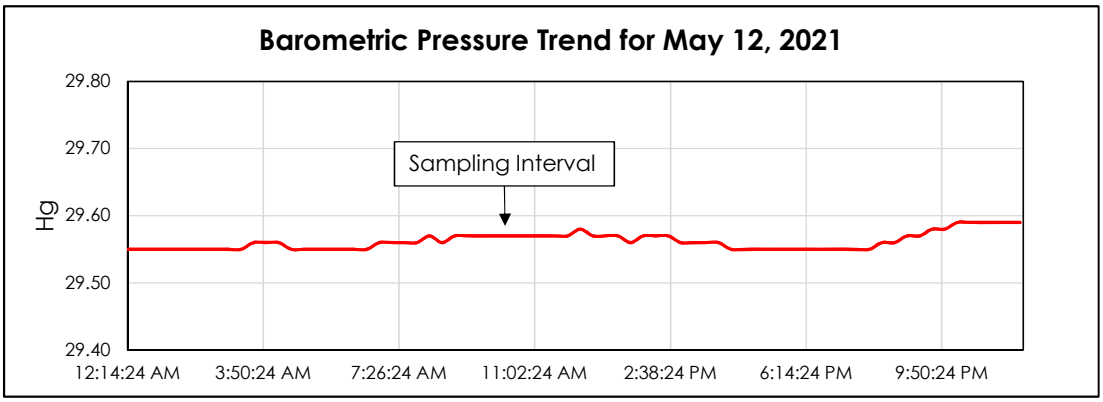
1. Measurement for spike concentrations of CH_4 and CO_2 are recorded as a comment if observed during sampling.
2. Water level measurements made where gas probe monitoring port allows for measurement, or where there is an adjacent measurement piezometer.
3. Exposed Perforation = perforated pipe section not submerged by liquid.
4. GP-10P added in January 2018. Monitoring performed at water level piezometer installed in the same boring as GP-10.

5 GP-10P connection repaired on October 23rd, 2020.

Barometric Pressure Trend - May 2021
LRI 304th Landfill, Washington







Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.10 Long: 122.29 Elev: 535 ft-AMSL
Data Source: https://www.wunderground.com/history/monthly/us/wa/puyallup/KPLU/date/2021-5

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.10 Long: 122.29 Elev: 535 ft-AMSL
Data Source: https://www.wunderground.com/dashboard/pws/KWAPUYAL102/table/2021-05-8/2021-05-8/daily
Data Source: https://www.wunderground.com/history/daily/us/wa/puyallup/KPLU/date/2021-5-12

Exhibit 3 - Results of Landfill Gas Probe Monitoring

SCS Engineers

Landfill Gas Control System

04221001.04

LRI Landfill

June-21

Location Refer *Design.*	Date	Time	$P_{(well)}$ (in W.C.)	Gas Composition - *Note 1*: CH_4 Spike (% by vol.)	CH_4 (% by vol.)	CO_2 (% by vol.)	O_2 (% by vol.)	Balance (N_2 & H_2O) (% by vol.)	Depth to Water *Note 2* (ft-TOC)	Exposed Portion of Perforations - *Note 3*: (ft)	(%)	Comments
Normal Operating Rage:												
(min)			-		0.3	0.3	-				20.0	
(max)			5.00		5.0	5.0	20.3				90.0	
Perimeter Gas Probes												
GP-1	6/7/2021	11:59	0.1	4.9	3.9	5.6	11.8	78.7	17.2	10.2	100.0	
GP-2	6/7/2021	12:09	0.0	0.2	0.3	14.4	0.9	84.4	16.1	9.1	100.0	
GP-3	6/7/2021	12:16	-3.0	--	0.0	9.4	5.7	84.9	7.4	3.4	67.0	
GP-4	6/7/2021	12:23	0.0	--	0.0	8.3	8.4	83.3	10.8	6.8	100.0	
GP-9	6/7/2021	12:30	0.0	--	0.0	11.9	4.1	84.0	11.3	0.0	0.0	
GP-10	6/7/2021	11:51	0.0	7.0	4.3	20.6	3.5	71.6				
GP-10P	6/7/2021	11:47	0.0	12.1	13.6	25.3	5.0	56.1				*Note 5*
GP-11	6/7/2021	11:41	0.0	0.1	0.0	17.0	7.1	75.9				
GP-12	6/7/2021	11:36	0.0	38.2	25.7	49.9	4.1	20.3				
GP-13	6/7/2021	11:30	0.0	--	0.0	24.3	0.8	74.9				
GP-14	6/7/2021	13:12	-0.1	--	0.0	0.1	20.6	79.3	13.7	0.0	0.0	
GP-15	6/7/2021	13:03	-1.9	--	0.0	0.2	20.7	79.1	11.8	0.0	0.0	
GP-16	6/7/2021	12:42	-0.1	--	0.0	1.2	20.2	78.6	20.7	13.7	91.3	

	Beginning	Ending	Average
Weather:	Overcast	Overcast	Overcast
Temperature, T (deg F):	53.8	56.8	55.3
Wind Speed (mph):	5.7	2.1	3.9
Wind Direction:	225	315	270
Barometric Pressure, P (in Hg):	29.99	29.98	29.99
24hr Baro.Trend (rising / falling / steady / unsteady)	Falling		

Starting Date:	6/7/2021
Starting Time:	11:30
Finishing Date:	6/7/2021
Finishing Time:	13:12
Monitored by:	R. Martinez
Instruments:	GEM 2000
Calibration Date:	6/7/2021

Headings:

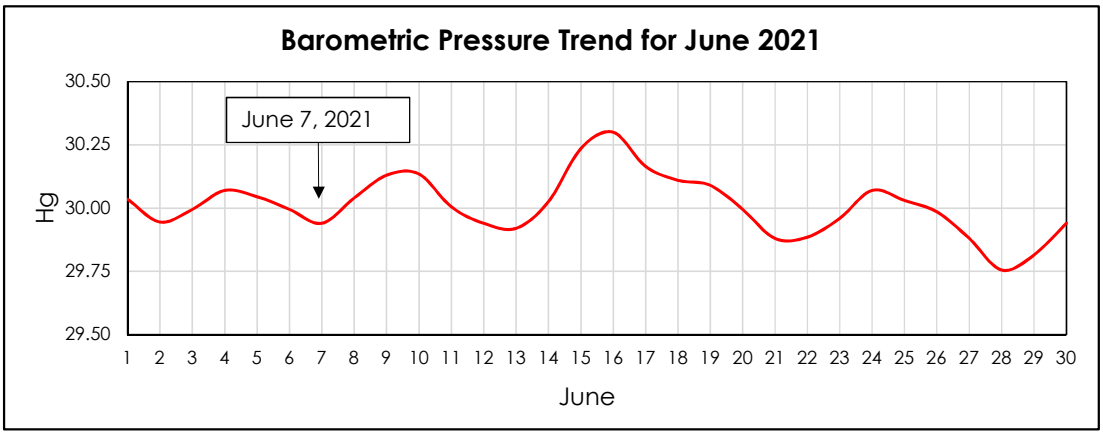
$P_{(well)}$	Relative Pressure
CH_4	Methane
CO_2	Carbon Dioxide
O_2	Oxygen
H_2O	Water Vapor
N_2	Nitrogen
TOC	Top of Casing

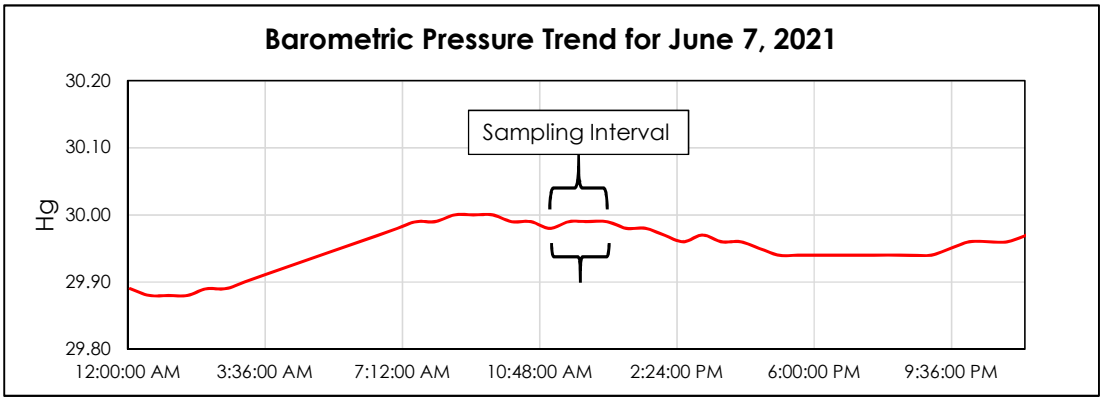
Notes:

1. Measurement for spike concentrations of CH_4 and CO_2 are recorded as a comment if observed during sampling.
2. Water level measurements made where gas probe monitoring port allows for measurement, or where there is an adjacent measurement piezometer.
3. Exposed Perforation = perforated pipe section not submerged by liquid.
4. GP-10P added in January 2018. Monitoring performed at water level piezometer installed in the same boring as GP-10.

5 GP-10P connection repaired on October 23rd, 2020.

Barometric Pressure Trend - June 2021
LRI 304th Landfill, Washington





Monthly Data Source: Wunderground.com (Puyallup)
Lat: 47.10 Long: 122.29 Elev: 535 ft-AMSL
Data Source: https://www.wunderground.com/dashboard/pws/KWAPUYAL102/table/2021-06-16/2021-06-16/monthly

Daily Data Source: Wunderground.com (Puyallup)
Lat: 47.10 Long: 122.29 Elev: 535 ft-AMSL
Data Source: https://www.wunderground.com/dashboard/pws/KWAPUYAL102/table/2021-06-7/2021-06-7/daily

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

Date: 4/9/2021
Weather Conditions: Cloudy
Instrument: MicroFID
Measured By: Andres Lopez

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**.

- ☑ Main Office - individual office spaces, storage areas and within open crawl-space area.
- ☑ Repair Shop – survey atmosphere conditions throughout (lower height levels).
- ☑ Pay/Scale Booth – interior of building.
- ☑ Work Shop – interior of shed adjacent to stormwater ponds.

Signature