2021 ANNUAL ENVIRONMENTAL MONITORING REPORT

INMAN LANDFILL

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March 2022

2021 Annual Environmental Monitoring Report
Inman Landfill
Skagit County, Washington

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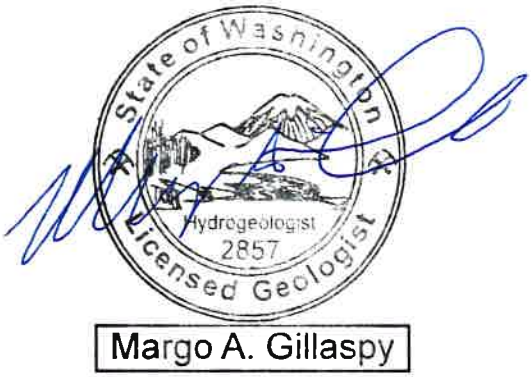

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TABLE OF CONTENTS

TABLES

FIGURES

APPENDICIES

1.0 INTRODUCTION

This report presents a summary of environmental monitoring data collected during 2020 at the Inman Landfill. Annual reporting of environmental monitoring data is required by *Minimum Functional Standards for Solid Waste Handling* (Chapter 173-304 Washington Administrative Code [WAC]) and *Special Incinerator Ash Management Standards* (Chapter 173-306 WAC). This annual monitoring report includes a summary of leachate generation, groundwater quality and flow characteristics, landfill gas extraction system operations, and methane concentrations measured in perimeter gas probes.

1.1. Site Background

Inman Landfill is located in the northwestern portion of Skagit County, approximately 7.5 miles northwest of Mount Vernon, Washington (Figure 1). The site occupies a former gravel pit and was operated as a solid waste disposal facility by Skagit County beginning in 1973. The site stopped accepting waste in April 1994 and closure construction was completed in 1995.

Solid waste was first disposed in an unlined area covering approximately 16 acres in the eastern portion of the site (Phase I). Beginning in 1986, solid waste was disposed in a lined portion of the site (Phase II), which covers approximately 10 acres, part of which overlaps the Phase I area. Incinerator ash was also disposed in the lined (Phase II) area. The lined portion of the site includes a combination of composite, geomembrane, and soil liner systems. The leachate collection system consists of a series of perforated pipes placed above the bottom liner. The perforated pipes collect and route leachate through a pump station to a lined aeration pond where it is subsequently hauled to a local wastewater treatment plant for disposal.

1.2. Landfill Closure

The landfill stopped receiving waste on April 8, 1994. Closure activities followed in accordance with the approved closure plans. An assessment of potential contaminant sources was conducted in response to the detection of groundwater impacts in the landfill monitoring wells. Based on the results of this assessment, several corrective actions were incorporated into the final closure design to reduce or eliminate identified potential contaminant sources and to protect public health. Corrective actions implemented during and after closure included:

- Relining the leachate aeration pond and upgrading the pump station.
- Improving the surface water collection, conveyance, and storage facilities.
- Recapping the Phase I portion of the landfill with a cover that exceeded the standards required at the time.
- Connecting surrounding homes to a public water system and abandoning drinking water wells.

In addition to these corrective actions, closure activities also included the construction of a landfill gas (LFG) extraction system and expansion of the perimeter gas monitoring probe network. The LFG extraction system has operated since closure to alleviate the accumulation of methane beneath the landfill cap and to control off-site methane migration.

These measures were intended to reduce leachate generation by reducing surface water infiltration, minimizing the potential transport of contaminants in the gas stream into groundwater, and eliminating suspected groundwater contaminant sources and potential exposure pathways. Since closure was completed, these actions have resulted in a gradual long-term decrease in leachate generation and a long-term improvement of groundwater quality as discussed in subsequent sections of this report.

2.0 LEACHATE

2.1. Leachate Collection System Operation

Post-closure activities at Inman Landfill include operation of a leachate collection system. The leachate collection system consists of a network of drain pipes situated under the newer (Phase II) portion of the landfill. These drain pipes lead to a single concrete sump and pump station (PS#1). Leachate enters the sump and is pumped up to a double-lined leachate collection pond. Leachate in the pond is pre-treated with aerators. The pre-treated leachate is periodically pumped from the pond and hauled to the City of Mount Vernon wastewater treatment plant for disposal as authorized by a State Wastewater Discharge Permit.

2.2. Leachate Generation

The amount of leachate collected from the lined, Phase II portion of the landfill generally increased each year until closure in 1994 (Figure 2). Since 1994 leachate generation has generally decreased. In 2006, leachate generation was 3 percent of the amount collected during 1991 and 1992, which was prior to installation of the landfill cover system. Leachate generation rates leveled off approximately twelve years ago, and then decreased again from 2002 through 2005 before increasing in 2007. There was an approximate four-fold increase between 2006 and 2007; this increase was due to the complete draining of the leachate pond during the third quarter of 2007 for cleaning and repair.

In 2021, ongoing equipment issues at the site meant that no leachate was pumped from the leachate pond. The equipment was repaired at the end of 2021, and it is anticipated that leachate will again be pumped in 2022.

The stabilization of leachate generation rates during the late 1990s may indicate the removal of easily-drained leachate that entered the landfill prior to construction of the existing cover system. One point that is clear from the graph is that the landfill cover has been effective in reducing the amount of precipitation entering the landfill and, consequently the amount of leachate that is generated.

The Phase I area of the landfill does not have a bottom liner and therefore, no leachate collection system. A significant amount of leachate generated from this portion of the site does potentially reach the underlying groundwater system. However, since the landfill cover system placed over the Phase I area is similar to that placed over the Phase II area, it is reasonable to assume that potential leachate generated from the Phase I area has also decreased in amounts proportional to those observed for the Phase II area.

3.0 HYDROGEOLOGY

Inman Landfill is located on the north side of Bay View Ridge. Bay View Ridge is composed of a series of glacial and glaciomarine deposits and rises up to 200 feet above the surrounding delta valleys. A previous investigation concludes that the Inman Landfill site is underlain by two aquifers (Sweet Edwards & Associates 1987). These aquifers consist of a shallow, unconfined perched aquifer that is typically located above sea level, and a deeper regional aquifer (referred to as the upper regional aquifer or the regional aquifer) that is situated near or below sea level. The shallow perched aquifer occurs in a sand unit that is situated above a dense silt/clay layer at elevations of approximately 1 to 13 feet above sea level. The silt/clay layer appears to dip to the west and southwest into Bay View Ridge. Monitoring Wells B-6, B-7, B-8, B-9, B-11, and B-13 and Gas Probe GP-6 are screened in the perched aquifer (Figure 3). Previous groundwater measurements in these wells indicate that groundwater in this aquifer follows the dip of the silt/clay layer and flows generally to the southwest.

The upper regional aquifer is located in fine to coarse sand deposits that are present beneath the silt/clay layer (Sweet Edwards & Associates 1987). The upper regional aquifer is confined by the overlying silt/clay layer. The top of this aquifer is reportedly situated at elevations ranging from 6 to 14 feet below sea level. Monitoring Wells B-1, B-2, B-3, B-4, B-5, B-10, and B-12 are screened in the upper regional aquifer (Figure 4). Previous groundwater measurements in these wells indicate that groundwater in this aquifer flows in a radial pattern away from Bay View Ridge to the north, northeast, and east.

Water level measurements were collected during three quarterly monitoring events during 2020 (April, September, and December) from monitoring wells completed within each aquifer. Based on the measured water levels, computer-generated potentiometric surface maps were created for each aquifer for each of these quarters (Figures 3a-3c, 4a-4c). These maps were prepared with the kriging method in the Surfer™ version 12.8 contouring software package using elevations from the monitoring wells in each aquifer (Table 1 & 2). Wells B-7 and B-11 were not measured during the April measuring event in 2020; therefore, these wells were not used to construct the water table contour map for the second quarter. Hydrographs of groundwater elevations collected since landfill closure for both aquifers were also prepared (Figures 5 & 6).

3.1. Perched Aquifer

Static water level elevations measured in 2021 for the perched aquifer ranged from a minimum of 9.18 feet above mean sea level (amsl) at B-11 (April & September) to a maximum of 12.55 feet amsl at B-13 (April) (Table 1).

Table 1. 2021 Static Water Level Elevations: Perched Aquifer

	April	June	September	December
B-6	11.69	11.45	10.79	11.44
B-7	11.25	11.25	11.25	NM
B-8	11.48	11.58	11.48	NM
B-9	10.57	10.70	10.17	10.16
B-11	9.18	9.28	9.18	NM
B-13	12.55	12.32	11.77	NM
GP-6	11.43	12.43	11.43	NM

Elevations are in feet above mean sea level (NGVD 29); NM = Not Measured

The water table contour maps indicate that perched groundwater flow was fairly consistent during 2021, flowing generally from the east towards the west (Figures 3a-3c). Local groundwater velocities can be variable because of the complex local groundwater flow patterns. For simplicity, the average groundwater velocity across the site within this aquifer was calculated using gradients observed across the central and southern portions of the site. Since only 2 water levels were gathered during the fourth quarter monitoring event, those results will be dropped by the gradient calculations.

Based on these criteria, the average gradient in 2021 ranged from about 0.0014 to 0.0016 feet per foot (ft/ft), with an average gradient of approximately 0.0015 ft/ft. The average porosity of the perched aquifer material was estimated to be approximately 27.5 percent and the hydraulic conductivity was estimated to be approximately 28 feet per day (ft/day) (Sweet Edwards & Associates 1987). These parameters were used in conjunction with the average hydraulic gradient of 0.0015 ft/ft to estimate the average linear velocity of groundwater in the perched aquifer using Darcy's Law, where: **V = Ki/n,** and

V = average linear velocity,
K = hydraulic conductivity,
i = hydraulic gradient, and
n = porosity.

This calculation indicates that the average linear velocity of groundwater in the perched aquifer during 2021 was approximately 0.15 ft/day.

A review of the hydrograph for the perched aquifer (Figure 5) shows that the water levels fluctuate in a typical seasonal manner. Prior to 2004 the hydrograph shows an overall slightly decreasing trend in all of the wells since 1995; however, the 2004 through 2021 measurements indicate that this decreasing trend has stabilized. The decreasing trend may be a result of reduced infiltration of rainwater over the landfill since construction of the cap was completed in 1995.

3.2. Upper Regional Aquifer

Static water level elevations measured in 2021 for the upper regional aquifer ranged from a minimum of 2.24 feet amsl at B-5 (September) to a maximum of 9.44 feet amsl at B-2 (April) (Table 2).

Table 2. 2021 Static Water Level Elevations: Upper Regional Aquifer

Well	April	June	September	December
B-1	8.93	8.03	8.33	8.63
B-2	9.24	8.88	8.79	8.94
B-3	8.57	8.28	8.41	8.52
B-4	9.07	8.90	8.47	8.87
B-5	2.77	2.47	1.96	4.12
B-10	9.13	9.10	8.44	9.13
B-12	8.56	8.29	7.74	NM

Elevations are in feet above mean sea level (NGVD 29)

The water table contour maps for 2021 indicate that the upper regional aquifer groundwater generally flowed from the west towards the east (Figures 4a-4c). Using the information in these maps, hydraulic gradients were calculated between Well B-10, the most upgradient well, and Well B-12, the most

downgradient well for the majority of the monitoring events. The calculated hydraulic gradients from Well B-10 to Well B-12 for 2021 ranged from 0.0003 to 0.0005 ft/ft, with an average of approximately 0.0004 ft/ft.

In addition to the construction of the potentiometric surface maps, groundwater elevations were also used to calculate estimated groundwater flow velocities for the upper regional aquifer. Because of the similarity in material in the perched and upper regional aquifers, the same values for porosity and hydraulic conductivity used for the perched aquifer were also used for the upper regional aquifer. These parameters were used in conjunction with the average hydraulic gradient for 2021 of 0.0004 ft/ft (calculated previously) to estimate the average linear velocity of groundwater in the upper regional aquifer using Darcy's Law. The result of this calculation indicates that the average linear velocity of groundwater in the upper regional aquifer during 2021 was approximately 0.04 ft/day across the central landfill site.

In addition to the potentiometric surface map showing the central landfill area, potentiometric surface maps were also prepared showing groundwater contours beyond the northern and eastern boundaries of the landfill and into the topographically lower Samish River Valley (Figures 7a-7c). A map was not generated for the December event due to a lack of water level data. These maps were also prepared with the wells used for the central landfill area in addition to elevations from a single well located in the valley (Well B-5; refer to Table 2) and estimated groundwater elevations for points located along nearby Joe Leary Slough. Groundwater elevations along Joe Leary Slough were estimated using the elevation of surface water measured in the slough. It should be noted that water level elevations at both the slough and at Well B-5 show significant tidal influence.

The flow pattern in the upper regional aquifer continues to be a radial flow into the Samish River valley, although the hydraulic gradient appears to increase significantly as groundwater enters the Samish River Valley from the central landfill area. Also, flow in the upper regional aquifer appears more radial than in the perched aquifer, flowing from the western side of the site toward the north, northeast, and east.

Hydraulic gradients were calculated from the west side of the landfill and extending into the valley. The gradients were calculated using the groundwater elevations measured at Well B-10, located in the southwestern portion of the site, and Well B-5, which is located in the valley and downgradient of Well B-10. The gradients calculated between these two points ranged from approximately 0.0024 to 0.0032 ft/ft during 2021, with an average of approximately 0.0029 ft/ft. This gradient is steeper than that calculated for the central landfill area because it combines the flatter gradient beneath the landfill with the steeper gradient measured between the landfill proper and the Samish Valley. As noted above, this gradient is significantly influenced by the tide. Using this average hydraulic gradient and the aquifer parameters presented above, the resulting average linear velocity of groundwater in the upper regional aquifer across the landfill area and into the Samish Valley in 2021 was approximately 0.30 ft/day.

A review of the hydrograph for the upper regional aquifer (Figure 6) shows that the water levels fluctuate in a typical seasonal manner. Well B-5 shows the greatest variation of all wells in the upper regional aquifer, but this variation is likely a reflection of different tidal stages in which measurements are made and is to a lesser extent due to seasonal variation. Prior to 2004 the hydrograph shows an overall slightly decreasing trend in all of the wells except Well B-5; however, since 2004 generally water levels have stabilized. The decreasing trend may be a result of reduced infiltration of rainwater over the landfill since construction of the cap was completed in 1995.

4.0 GROUNDWATER SAMPLING METHODS

4.1. Sample Locations and Frequency

Groundwater sampling at Inman Landfill is conducted on a quarterly basis. The Inman Landfill groundwater monitoring network consists of 13 monitoring wells: seven wells screened in the upper regional aquifer (B-1, B-2, B-3, B-4, B-5, B-10, and B-12), and six wells screened in the perched aquifer (B-6, B-7, B-8, B-9, B-11, and B-13). Quarterly sampling in 2021 was conducted in April, June, September, and December. Declining water levels in the perched aquifer prevented sample collection at Wells B-7, B-8, B-11, and B-13 during the 2021 sampling events. Well B-7 has been dry for over 20 years and has not been sampled since landfill closure in 1994. Monitoring well B-11 was last sampled during the first quarter of 2017 (March 2017). Monitoring well B-13 was last sampled during the fourth quarter of 2010 (December 2010).

4.2. Sample Collection

All monitoring wells were purged and sampled in accordance with the *Quality Assurance Project Plan* (QAPP) for Inman Landfill (Skagit County Public Works (SCPW) Dept., 2010).

4.3. Analytical Parameters

Groundwater samples were submitted to Edge Analytical of Burlington, Washington for analysis. Parameters tested consisted of analytes specified in the QAPP (SCPW Dept., 2010). Beginning with the second quarter of 2008 sampling event, additional parameters were tested during each subsequent quarterly sampling event. These additional parameters were measured for a two year period based on a request from the Washington Department of Ecology to further characterize groundwater at the landfill site. These additional parameters were measured for the last time during the first quarter 2010 monitoring event. These additional parameters included total dissolved solids (TDS), alkalinity, bicarbonate, total calcium, total magnesium, total potassium, total sodium, and the following dissolved metals: antimony, barium, beryllium, cobalt, copper, nickel, selenium, silver, thallium, and vanadium.

Based on a subsequent request from the Washington Department of Ecology, most of these additional parameters were sampled again beginning in the third quarter of 2011. Three parameters that were never detected above practical quantitation limits during the 2008 to 2010 sampling rounds were dropped from the sampling request, and included dissolved metals: beryllium, silver, and thallium. The additional parameters from the 2011 request that are presently analyzed for include TDS, alkalinity, bicarbonate, total magnesium, total potassium, and the following dissolved metals: antimony, barium, chromium, cobalt, copper, nickel, selenium, and vanadium. For quality assurance purposes, duplicate samples were collected from Well B-3 during each sampling round.

5.0 GROUNDWATER QUALITY RESULTS

A discussion of groundwater quality based on analytical results from the monitoring well network is presented in this section. Separate discussions are included for the perched and upper regional aquifers. A background well has not been established for either the perched aquifer or the upper regional aquifer monitoring networks because of apparent or potential landfill impacts at each monitoring well location as indicated by historical monitoring results.

Tabulated groundwater monitoring results for 2021 are presented in Appendices A-1 and B-1 for the perched and upper regional aquifers, respectively. Time-series plots were generated from data collected from 1994 through 2021 (Appendices A-2 and B-2).

For quality assurance purposes, a data validation report was generated that reviews laboratory groundwater quality data from the sampling event. The fourth quarter data validation report is presented in Appendix C.

5.1. Perched Aquifer

The perched aquifer monitoring system for the site is comprised of Monitoring Wells B-6, B-7, B-8, B-9, B-11, and B-13. As mentioned in Section 4.1, only monitoring wells B-6 and B-9 had sufficient water to collect representative groundwater samples during the four quarterly sampling events in 2021. One analyte (dissolved arsenic) was found to exceed state groundwater standards (Chapter 173-200 WAC) in the perched aquifer during 2021 (Table 3).

Table 3. Summary of Maximum Concentrations of Analytes Exceeding Groundwater Quality Standards in Perched Aquifer Wells: 2021

Contaminant	GW Quality Standards (173-200 WAC)	B-6	B-9
Carcinogen			
Arsenic (mg/L)	0.00005	0.00071	0.00082

NE Not Exceeded

The 2021 analytical data indicate that elevated concentrations of dissolved arsenic tended to be widespread, with exceedances of the water quality standards occurring in each of the perched aquifer wells sampled.

5.2. Upper Regional Aquifer

The upper regional aquifer monitoring well network comprises Wells B-1, B-2, B-3, B-4, B-5, B-10, and B-12. Seven wells were found to exceed state groundwater standards (Chapter 173-200 WAC) for at least one sampling event during 2021 in the upper regional aquifer (Table 4).

Table 4. Summary of Maximum Concentrations of Analytes Exceeding Groundwater Quality Standards in Upper Regional Aquifer Wells: 2021

Contaminant	GW Quality Standards (173-200 WAC)	Maximum Concentration Detected						
		B-1	B-2	B-3	B-4	B-5	B-10	B-12
Carcinogen								
Arsenic, dissolved (mg/L)	0.00005	0.05	0.0009	0.0033	0.0022	0.0055	0.0025	0.0043
Vinyl chloride (µg/L)	0.02	NE	NE	0.025	NE	0.137	NE	NE
1,4 Dioxane (µg/L)	7	NE	NE	NE	NE	7.4	NE	NE
Secondary								
Iron, dissolved (mg/L)	0.3	2.61	NE	9.85	5.56	16.4	1.75	0.63
Manganese, dissolved (mg/L)	0.05	2.75	NE	1.14	1.32	2.37	0.381	0.0747
pH (standard units)	6.5-8.5	NE	NE	5.89	NE	6.41	NE	NE
Total dissolved solids (mg/L)	500	618	NE	NE	621	512	NE	NE

NE: Not exceeded

The 2021 analytical data for the upper regional aquifer show areal distribution trends that are somewhat similar to those observed in the perched aquifer. Elevated concentrations of metals, tended to be widespread, with exceedances of water quality standards for dissolved arsenic, iron, and manganese occurring in almost all of the upper regional aquifer wells. Vinyl chloride concentrations tended to be more localized in the upper regional aquifer in 2021, with water quality standards exceeded in only two wells (B-3 and B-5), which are located in the northwestern and western margins of the landfill.

In general, concentrations of all analytes tended to be lower in upgradient wells (B-1, B-10, and B-12) and higher in downgradient wells (B-2, B-3, B-4, and B-5), as would be expected. VOCs were not detected above PQLs in either well B-1, B-2, B-4, B-10, or B-12, during any of the 2021 monitoring events.

5.3. Trend Plots

A review of analyte trends over the past twenty-eight years in the time-series plots (Appendix A-2 and B-2) shows that water quality within both the perched aquifer and the regional aquifer has improved markedly from conditions observed in 1994. Some analytes are still above groundwater quality standards, but those may also indicate background conditions instead of landfill impact (dissolved arsenic and iron). Many analytes tend to show seasonal variability, but overall the general trend shows decreasing concentrations.

5.4. Domestic Wells

No domestic wells were sampled in 2021. Domestic wells located to the southwest and southeast of the landfill site have been sampled previously. The results of these analyses were presented in earlier annual reports. Refer to those reports for a discussion of domestic well results.

6.0 LANDFILL GAS EXTRACTION AND MONITORING ACTIVITIES

To alleviate the accumulation of methane beneath the landfill cap and to control off-site methane migration, Inman Landfill has a LFG extraction system consisting of 27 wells and trenches (Figure 8). The landfill also contains perimeter LFG monitoring probes to monitor for off-site migration of LFG.

6.1. LFG Extraction System Operation

The LFG system was not operated during 2021 due to low methane levels within the landfill and over-capacity of the current equipment configuration of the system.

6.2. Perimeter Monitoring

Section (2)(b)(i) of Chapter 173-304-460 WAC specifies minimum functional air quality standards for landfills. These standards limit the concentration of explosive gases at the property boundary to the lower explosive limit (LEL) for that gas. For methane, the LEL occurs at a concentration of approximately 5 percent by volume. To monitor for potential exceedance of this standard, concentrations of methane and associated landfill gases (oxygen and carbon dioxide) are measured in 10 nested perimeter LFG monitoring probe sets that include a total of 24 individual probes. Measurements of LFG concentrations in perimeter monitoring probes were conducted during every quarterly monitoring events in 2021. The results of these measurements are presented in Table D-1 located in Appendix D.

The LFG probes are located on all sides of the landfill perimeter as depicted in Figure 9. Some of the probes are co-located with groundwater monitoring wells (Wells B-6, B-7, B-9, B-11, and B-13) and some are stand-alone probes (Probes GDW-1, GDW-2, GDW-3, GDW-5, GP-6, and GP-7). The depths of the screened intervals of the probes vary from 7 to 87 feet below ground surface (Table F-1). For assessment purposes, methane concentrations measured in each probe were compared to the methane air quality standard of 5 percent methane by volume.

Comparisons of the methane results to the air quality standard shows that there no detections of methane exceeding the LEL in 2021. Historically, methane has been detected in GDW-1 and B-13 at concentrations above the LEL. Probe set GDW-1 is located near the southeastern corner of the Inman Landfill site. The properties adjacent to the east and south of the landfill are vacant. Currently, subsurface methane concentrations in this area do not appear to present an immediate risk to the public. The highest methane concentration measured in 2021 was 3.8% in the shallow probe of GDW-1 during the fourth quarter monitoring event.

7.0 INSPECTIONS

Inspections were conducted in conjunction with quarterly groundwater monitoring in 2021.

8.0 SUMMARY AND CONCLUSIONS

Inman Landfill closed in 1994. Post-closure activities have been on-going since closure was completed in 1995. These activities include: leachate collection and disposal, LFG collection, perimeter groundwater monitoring, subsurface LFG monitoring, surface water monitoring, and site maintenance. Groundwater monitoring activities include collection of groundwater samples from two aquifers: an unconfined perched aquifer and a confined upper regional aquifer. Monitoring data indicate that groundwater in the perched aquifer generally flows to the west and southwest, and the upper regional aquifer flows in a radial pattern toward the north, northeast, and east.

Assessment of groundwater monitoring results shows that several groundwater quality standards were exceeded at one or more monitoring wells in both aquifers during 2021. Standards exceeded include the WAC 173-200 carcinogen standards for dissolved arsenic, 1,4-dioxane, and vinyl chloride, and the WAC 173-200 secondary standards for dissolved iron, dissolved manganese, total dissolved solids, and pH.

Only two of the original six perched aquifer wells had sufficient water to collect groundwater samples in 2021. These include B-6 and B-9. The three perched aquifer monitoring wells sampled during 2020 contained elevated concentrations of landfill-related analytes, specifically dissolved arsenic, relative to state standards. However, there has never been an exceedance of Nitrate parameter above the WAC-173-200 primary contaminant standard. No VOCs show any increasing trends. Out of all of the perched aquifer wells, most inorganic analytes show decreasing trends.

All wells screened in the upper regional aquifer sampled during 2021 contained elevated concentrations of landfill-related analytes relative to state standards. Exceedance of standards for metals also tended to be widespread, while exceedance of standards for VOCs also tended to be more localized, occurring in only two wells (B-3 and B-5). Four of these inorganic analytes (dissolved iron, dissolved manganese, pH, and TDS) exceed regulatory limits. Significant VOC concentrations were limited to wells B-3 and B-5. One VOC, Chlorodifluoromethane (Freon 22), shows an increasing long-term trend at wells B-1 and B-4; however Freon 22 has no regulatory limit. VOCs were not detected above laboratory PQLs in Wells B-10 and B-12 during 2020. This VOC distribution is consistent with the regional groundwater flow characteristics for this aquifer.

Although apparent impacts from the landfill continue within both aquifers, most of the time-series plots show decreasing concentration trends in most wells, indicating that groundwater quality in the vicinity of the landfill has stabilized. Decreasing trends were most apparent in wells completed within the perched aquifer, which historically has shown the highest degree of impact. However, there are some increasing trends in the regional aquifer which could indicate continued impact to the groundwater quality below the landfill. Improvements to groundwater quality underlying the site appear to be directly attributable to several specific corrective actions conducted at suspected groundwater contaminant sources during general closure activities conducted in 1994 and 1995. These corrective actions included:

- Recapping the old, unlined (Phase I) portion of the landfill which reduced the amount of precipitation infiltrating the landfill, and consequently the amount of leachate entering groundwater.

- Eliminating leachate seeps that allowed leachate to enter into the drainage system.

- Improving the old infiltration basin and constructing a new infiltration basin.
- Relining the pre-treatment leachate pond and pump station.
- Constructing and operating an active LFG extraction system that reduced the potential for VOCs to enter groundwater via partitioning.
- Making other drainage improvements which eliminated surface water run-on to the site and consequently reduced the amount of leachate generated.

In addition to these corrective actions, Skagit County connected several homes located southwest and southeast of the landfill to a public water system and subsequently abandoned their drinking water wells. Because of their location and well construction characteristics, these wells had the potential to be impacted by contaminants from the landfill. These connections have removed the threat of impacts to nearby drinking water sources.

The results of perimeter gas monitoring activities indicate that the historical operation of the LFG system has been effective at controlling landfill gas migration.

9.0 RECOMMENDATIONS

The risk of potential impacts to domestic wells located southeast and southwest of the landfill has been eliminated due to their abandonment and the connection of the homes to a public water source. As a result of closure activities and the implementation of corrective actions, groundwater quality at the site has shown signs of significant stabilization.

Skagit County is recommending that the groundwater monitoring program at the Inman Landfill be modified to reflect the stabilizing trends over the last ten years of certain contaminants of concern (COC) particularly dissolved metals arsenic, iron, and manganese, and organic COCs vinyl chloride and 1,4-dioxane. It is recommended that the frequency of sampling be reduced to a semi-annual schedule coinciding with wet months when water levels are usually the highest (March-April), and dry months when water levels are usually the lowest (September-October). In addition, it is recommended that the list of analytes be reviewed with the objective of removing both inorganic and organic COCs that have never had exceedances, or have only been detected slightly above the laboratory practical quantification level.

Perimeter gas monitoring results indicate that the historical operation of the LFG system has been effective at controlling methane concentrations in the vicinity of GDW-1. However, it is anticipated that based on the capacity of the current system configuration, and decreasing levels of LFG measured over the last several years, future operation of the LFG extraction system is impractical. Skagit County is recommending that the LFG extraction piping system be modified to continuously and passively vent remaining concentrations of LFG at the site.

10.0 REFERENCES

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FIGURES

FIGURES

Figure 1. Inman Landfill Location Map

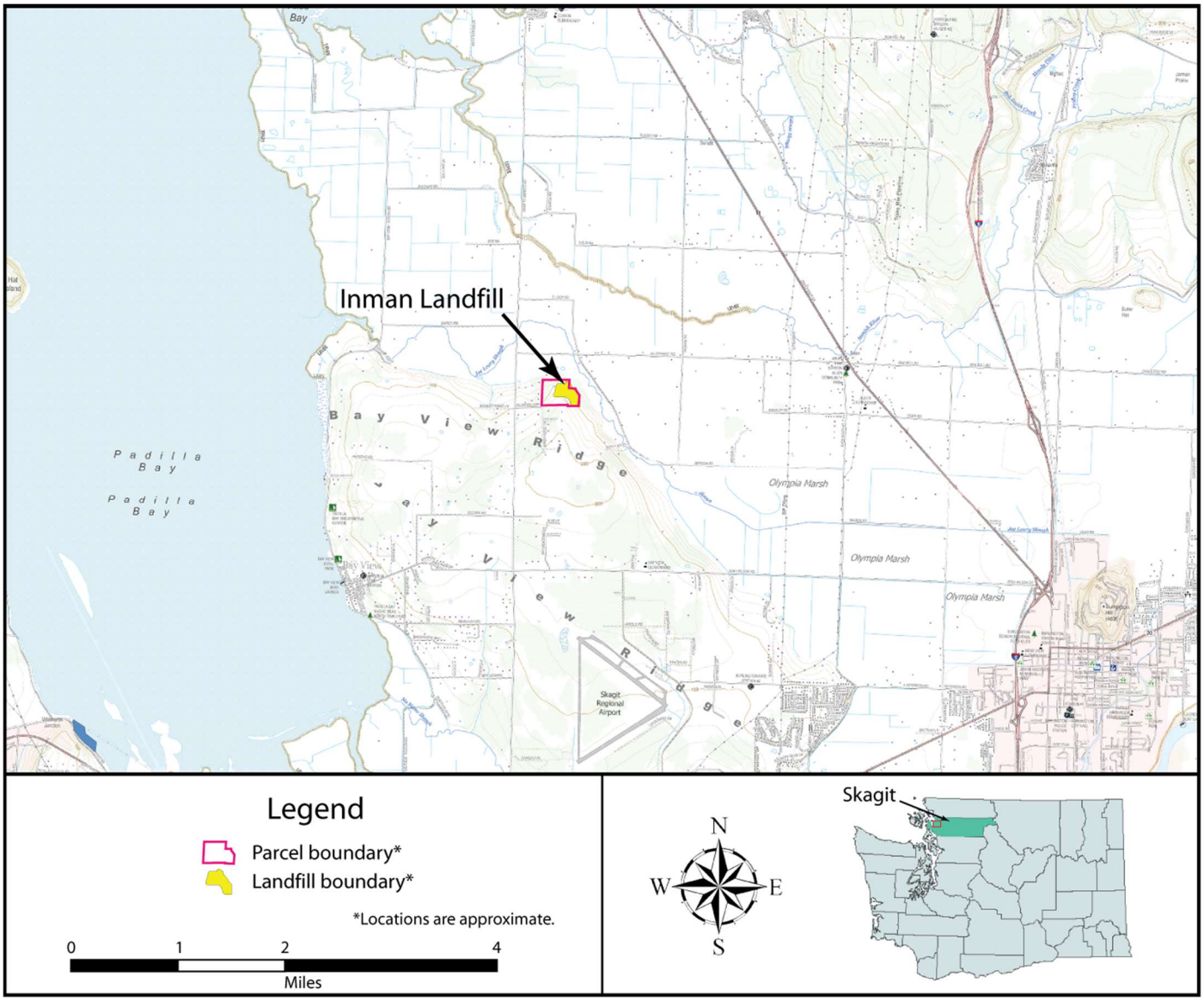


Figure 2. Annual Volume of Leachate Disposed.

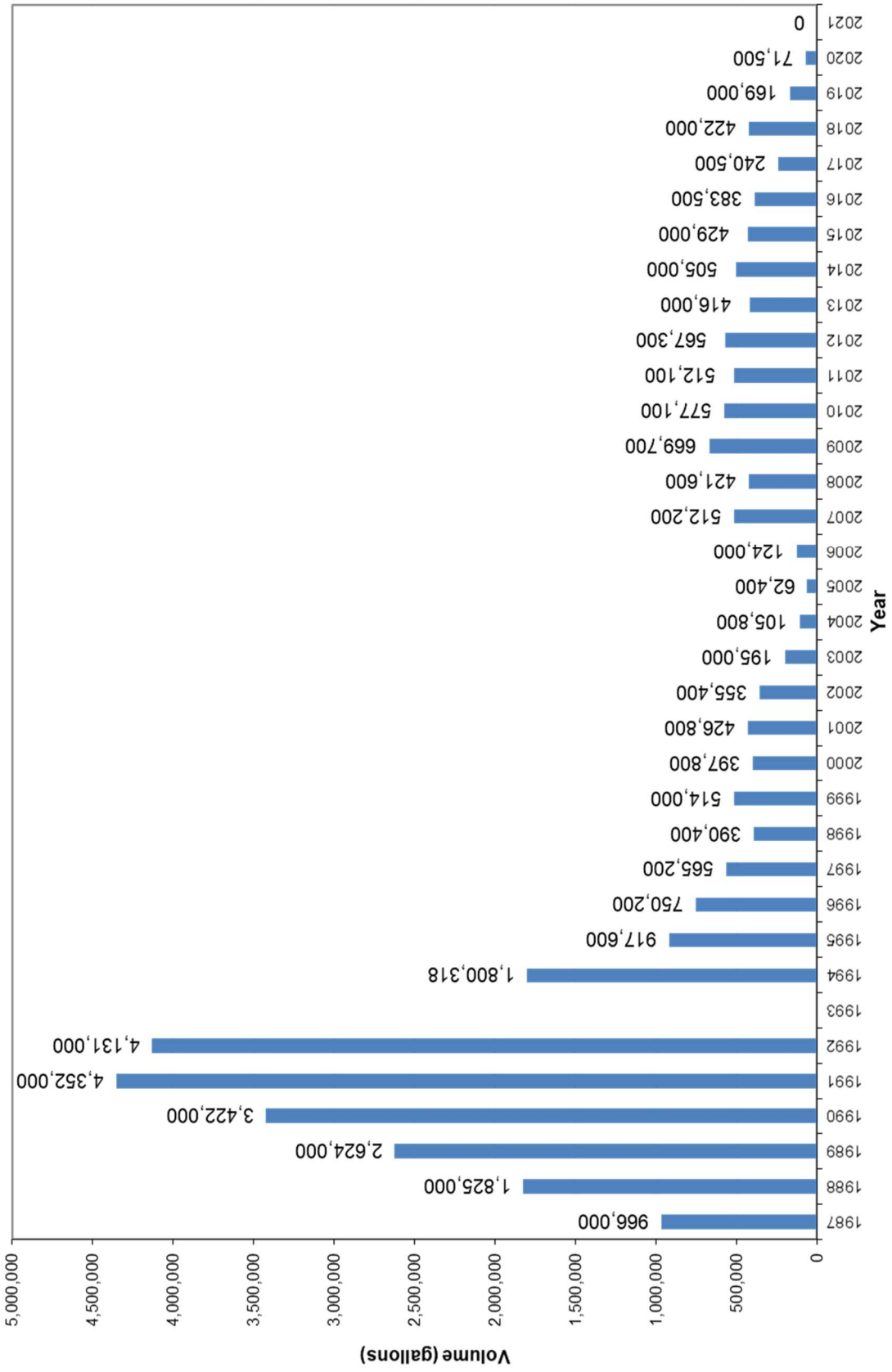
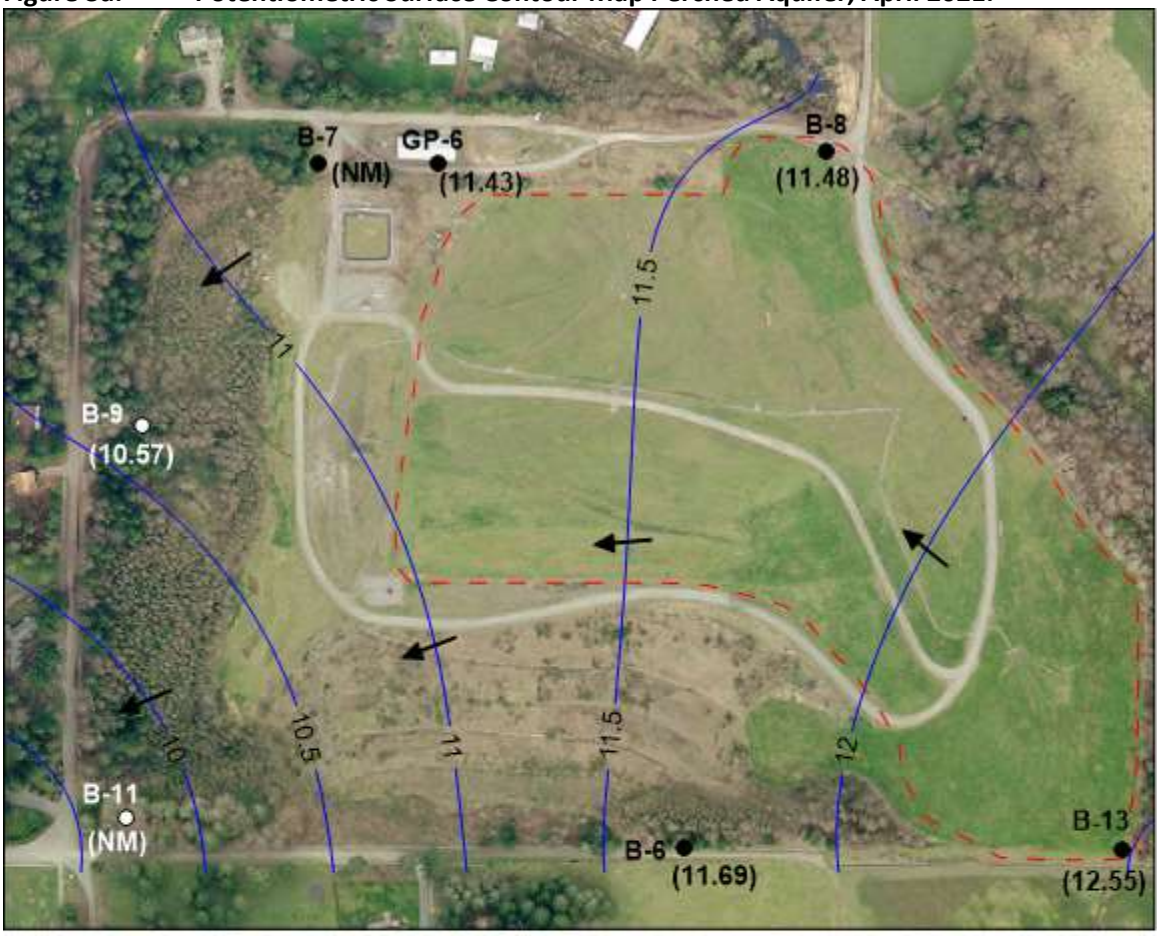


Figure 3. Perched Aquifer Monitoring Well Locations.

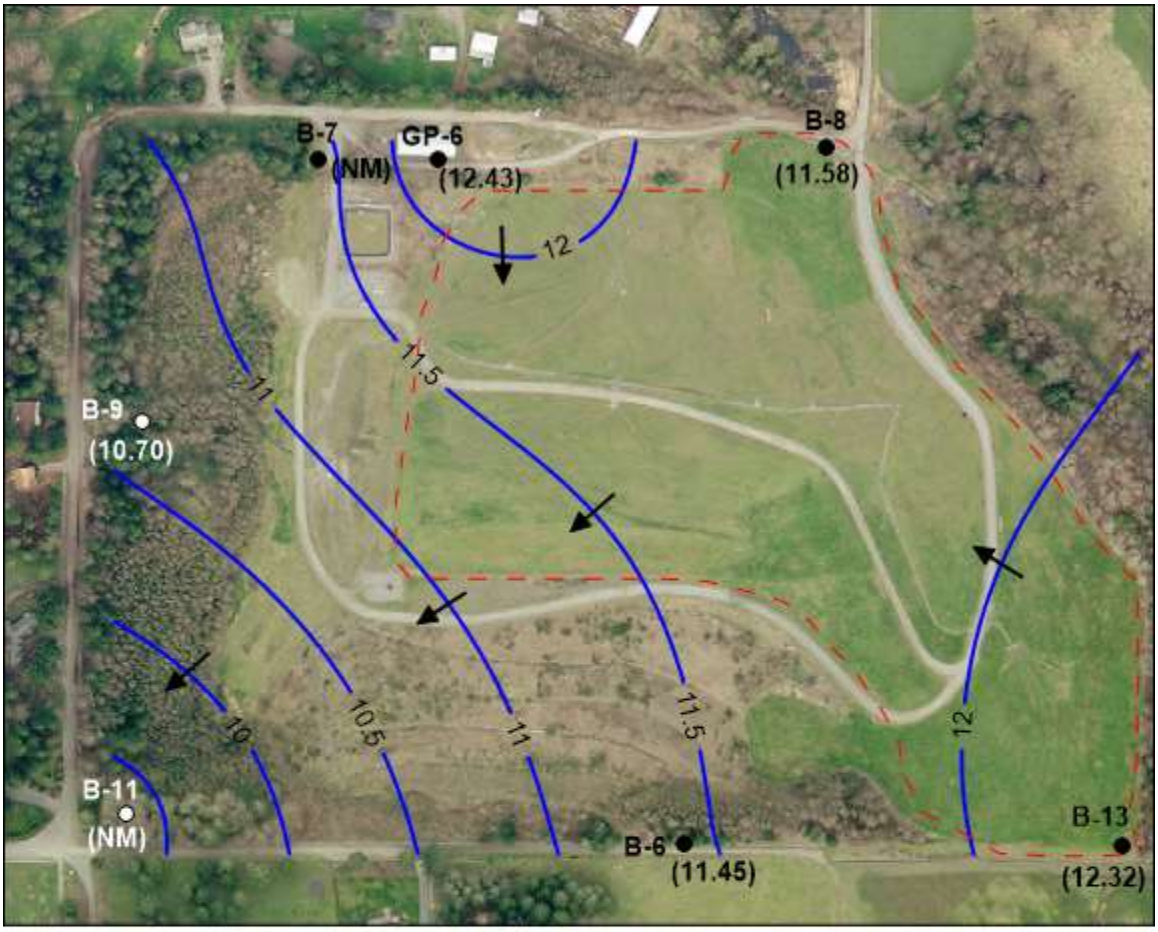
Figure 3a. Potentiometric Surface Contour Map Perched Aquifer, April 2021.



LEGEND

B-6 ●	Monitoring Well
—12.5—	Potentiometric Surface Contour (feet above MSL)
↙	Direction of Groundwater Flow
(9.03)	Measured Static Water-Level Elevation (feet above MSL)
Not Measured	NM
- - -	Approximate Landfill Boundary

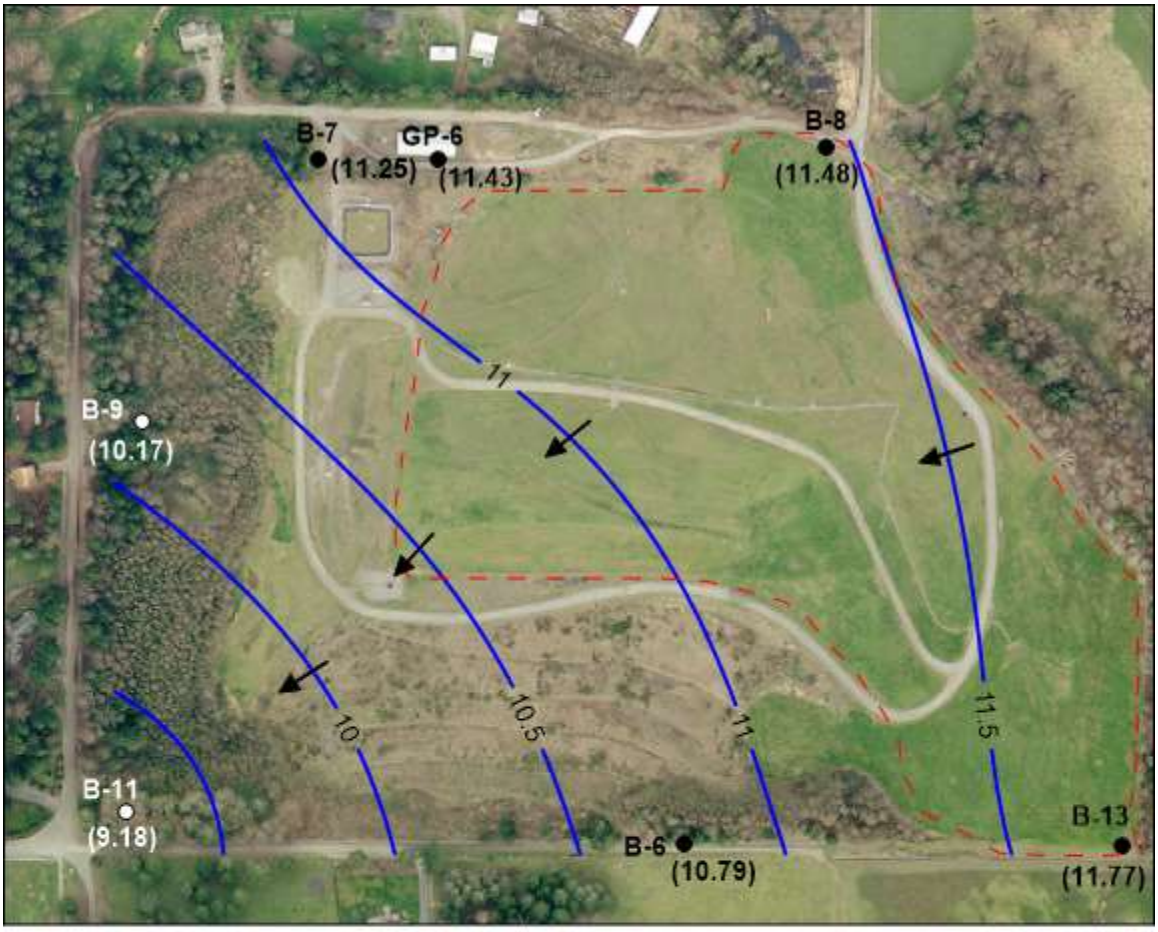
Figure 3b. Potentiometric Surface Contour Map Perched Aquifer, June 2021.



LEGEND

B-6	Monitoring Well
—12.5—	Potentiometric Surface Contour (feet above MSL)
↙	Direction of Groundwater Flow
(9.03)	Measured Static Water-Level Elevation (feet above MSL)
Not Measured	NM
- - -	Approximate Landfill Boundary

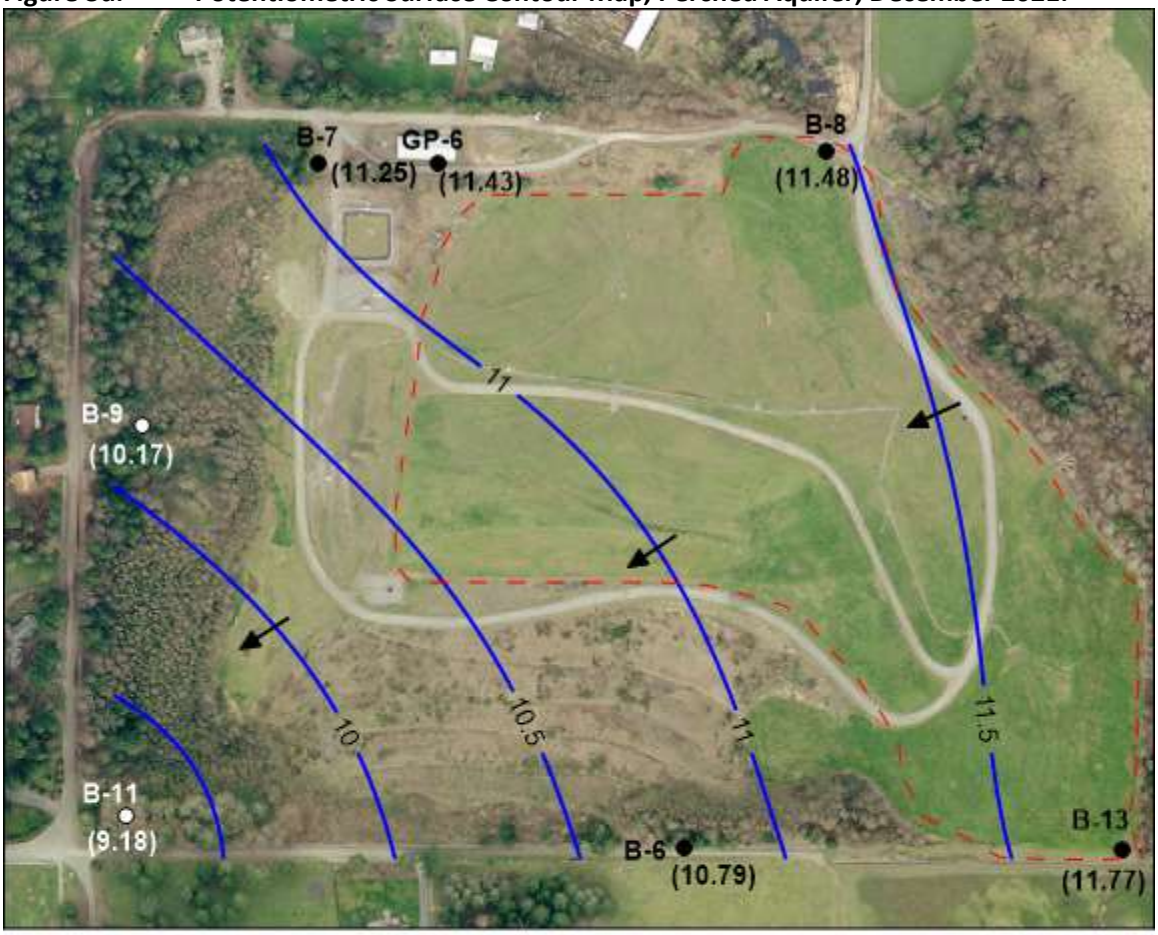
Figure 3c. Potentiometric Surface Contour Map, Perched Aquifer, September 2021.



LEGEND

B-6	Monitoring Well
—12.5—	Potentiometric Surface Contour (feet above MSL)
↙	Direction of Groundwater Flow
(9.03)	Measured Static Water-Level Elevation (feet above MSL)
Not Measured	NM
– – –	Approximate Landfill Boundary

Figure 3d. Potentiometric Surface Contour Map, Perched Aquifer, December 2021.



LEGEND

B-6	Monitoring Well
—12.5—	Potentiometric Surface Contour (feet above MSL)
↙	Direction of Groundwater Flow
(9.03)	Measured Static Water-Level Elevation (feet above MSL)
Not Measured	NM
– – –	Approximate Landfill Boundary

Figure 4. **Regional Aquifer Monitoring Well Locations.**

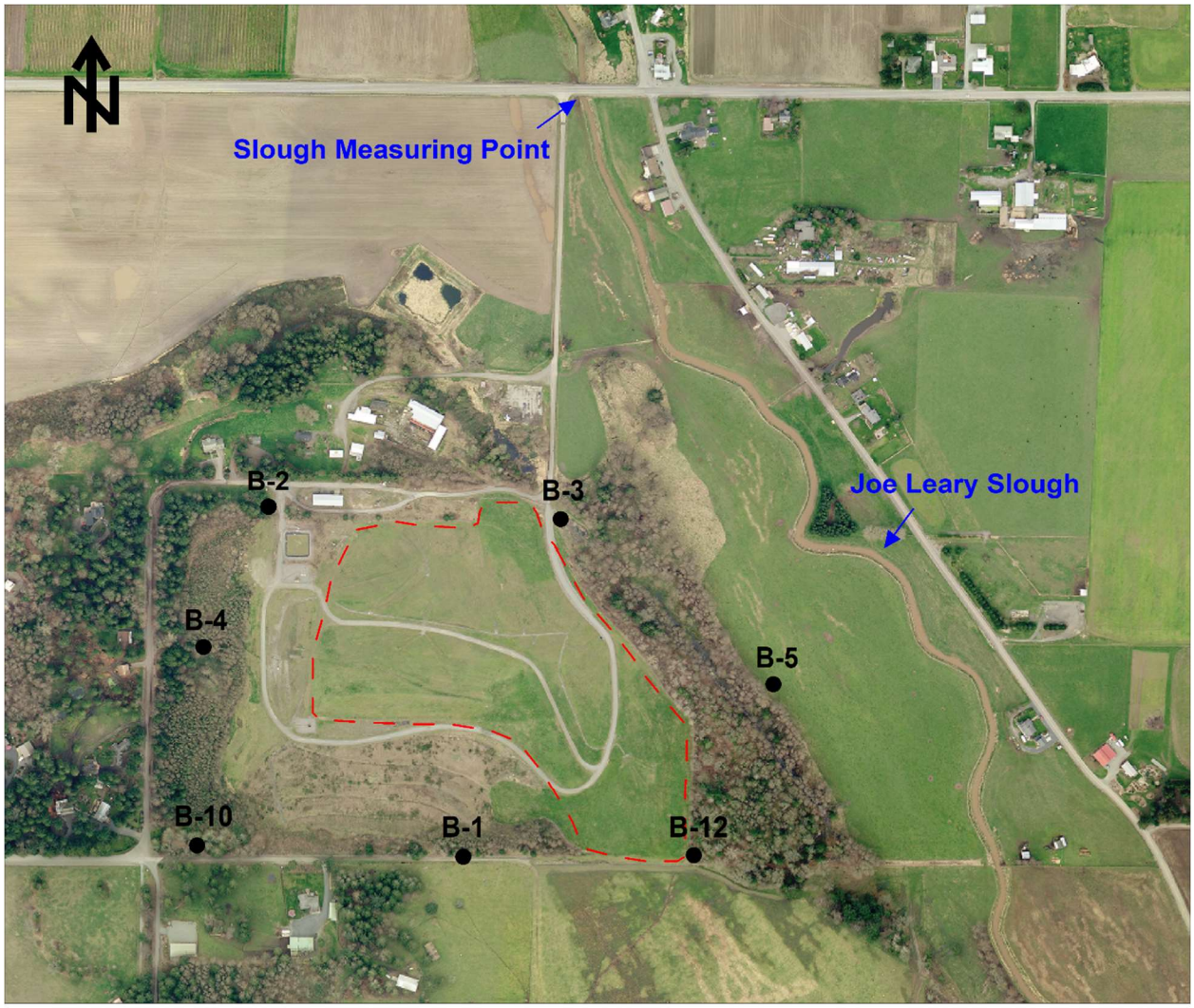


Figure 4a. Potentiometric Surface Contour, Central Landfill, Regional Aquifer, April 2021.

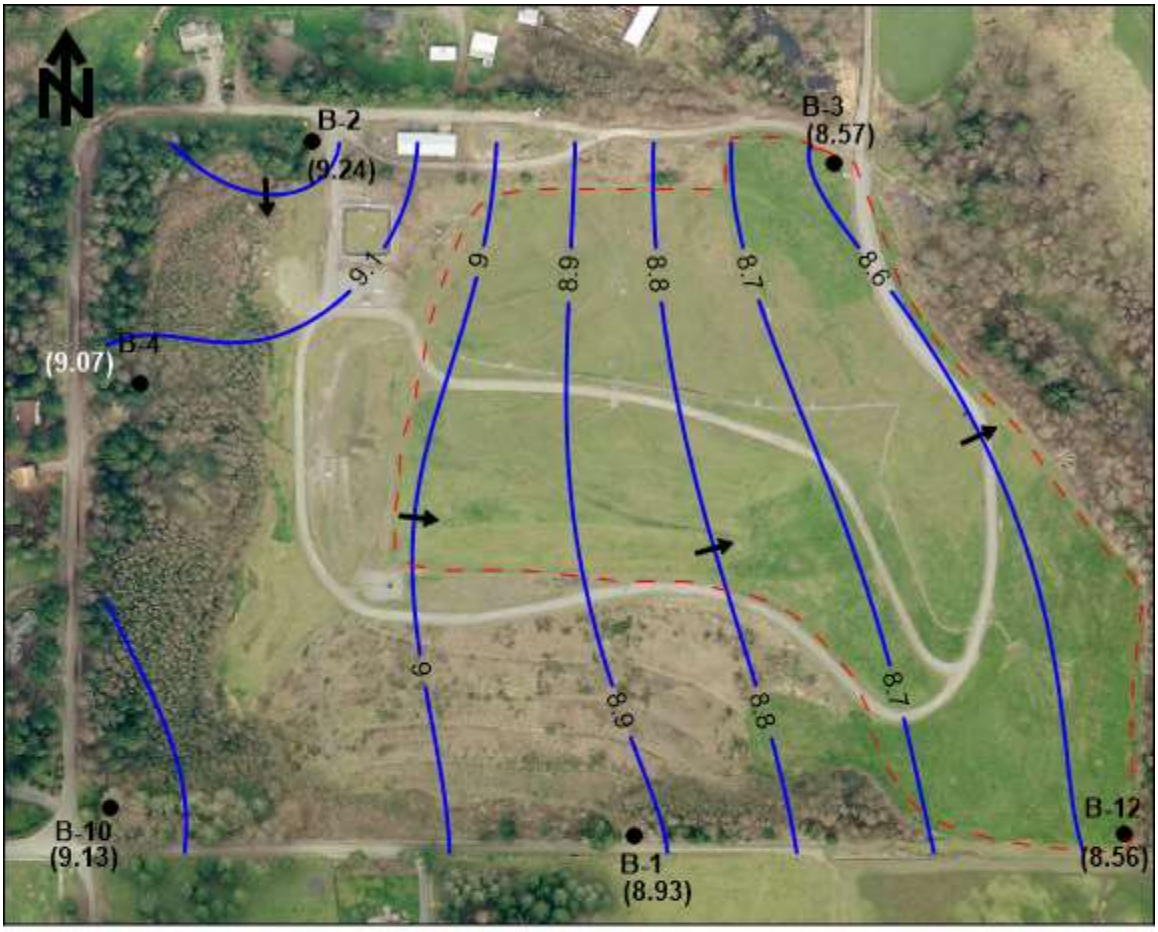
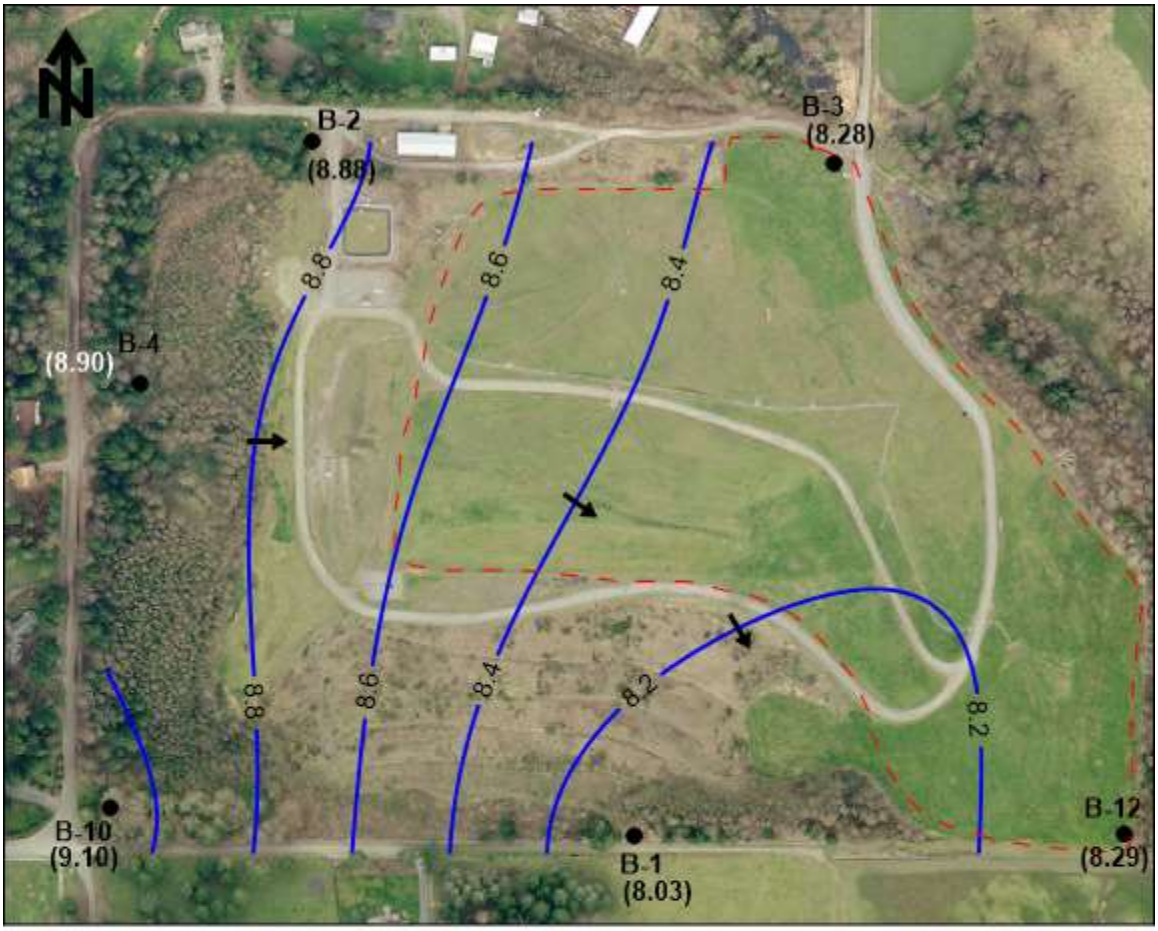


Figure 4b. Potentiometric Surface Contour, Central Landfill, Regional Aquifer, June 2021.



LEGEND

B-6 Monitoring Well

—8.2— Potentiometric Surface Contour (feet above MSL)

Direction of Groundwater Flow

(8.43) Measured Static Water-Level Elevation (feet above MSL)

Approximate Landfill Boundary

Figure 4c. Potentiometric Surface Contour, Central Landfill, Regional Aquifer, September 2021.

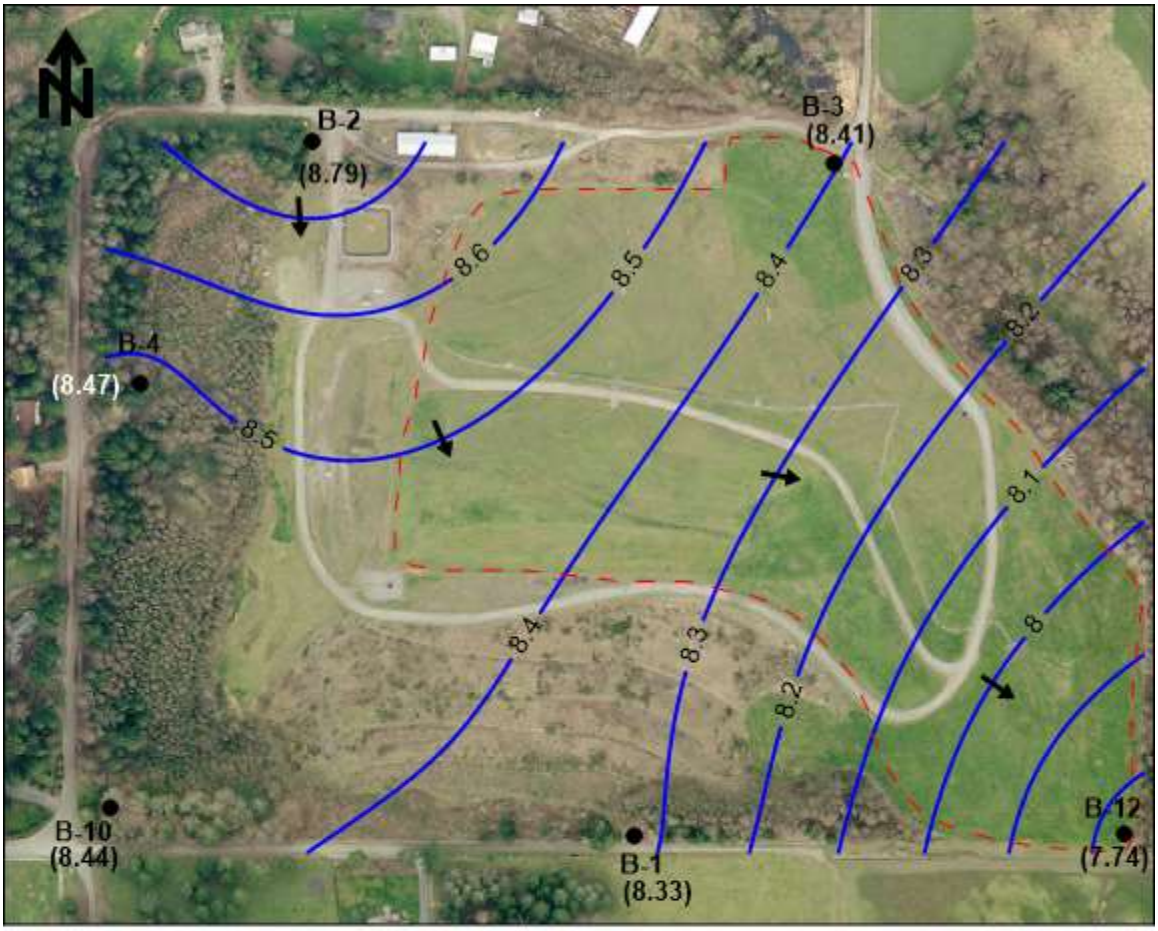
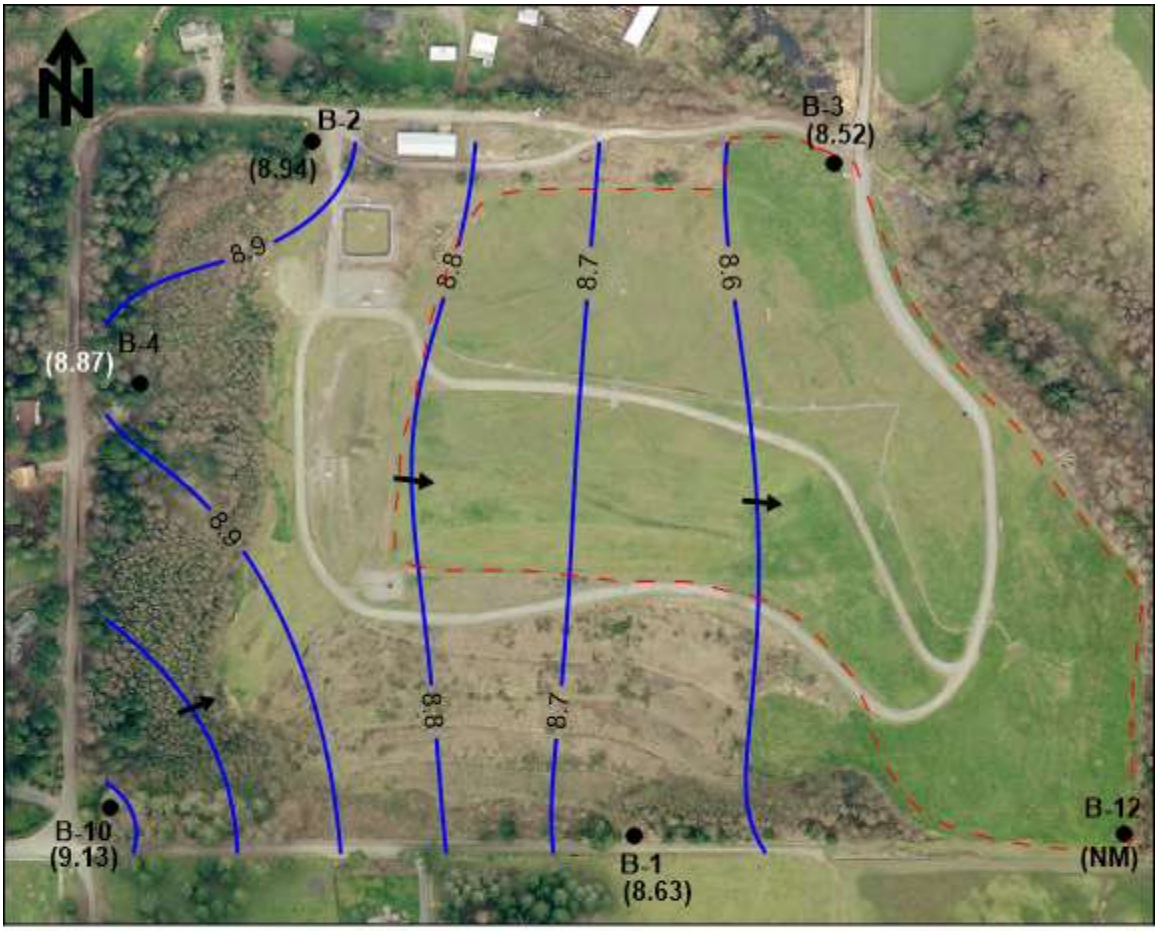


Figure 4d. Potentiometric Surface Contour, Central Landfill, Regional Aquifer, December 2021.



LEGEND

B-6 Monitoring Well

—8.2— Potentiometric Surface Contour (feet above MSL)

Direction of Groundwater Flow

(8.43) Measured Static Water-Level Elevation (feet above MSL)

Approximate Landfill Boundary

Figure 5. Perched Aquifer Hydrograph, 1994-2021

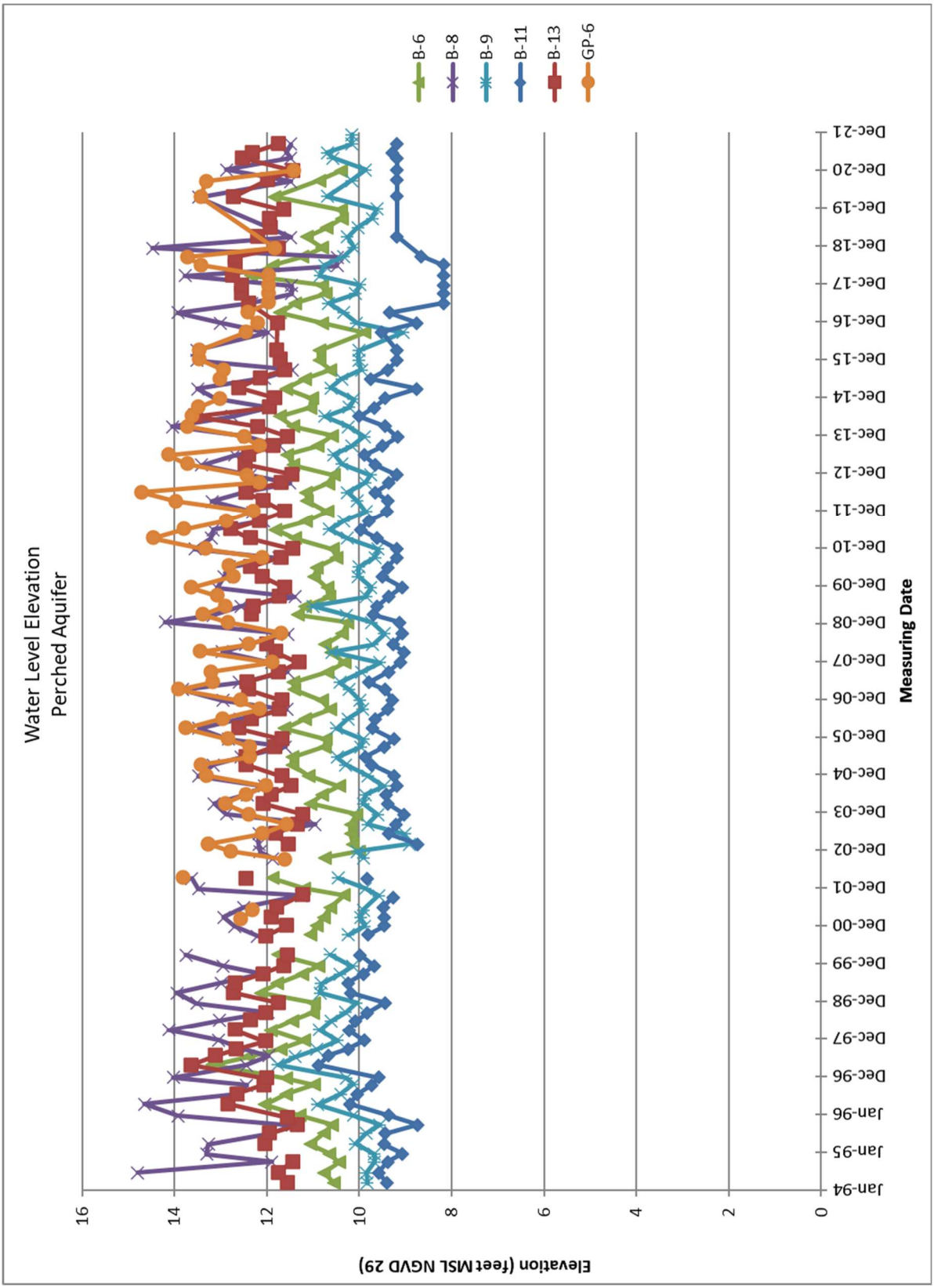


Figure 6. Regional Aquifer Hydrograph, 1994-2021

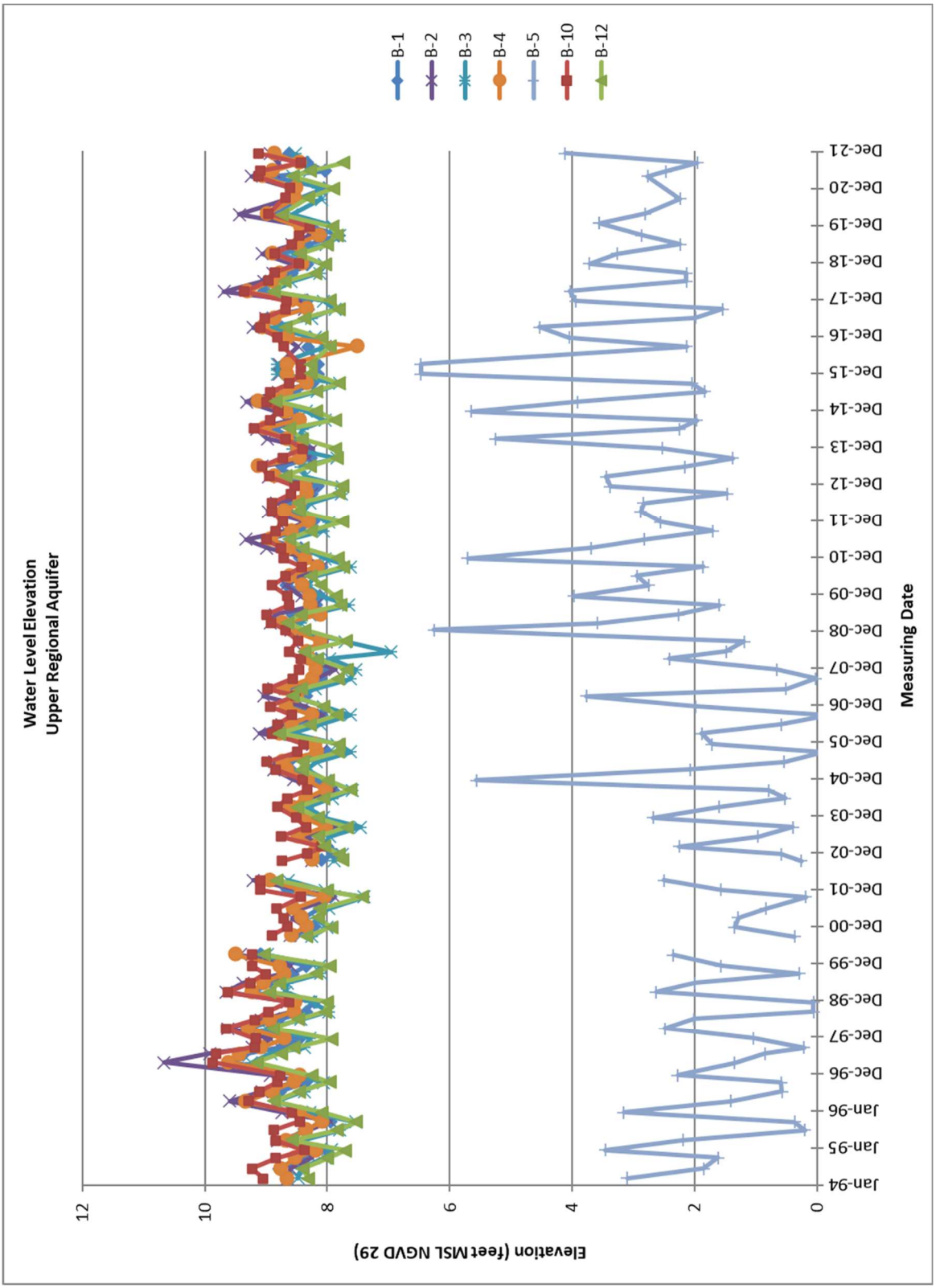


Figure 7a. Potentiometric Surface Contour Map, Regional Aquifer, April 2021.

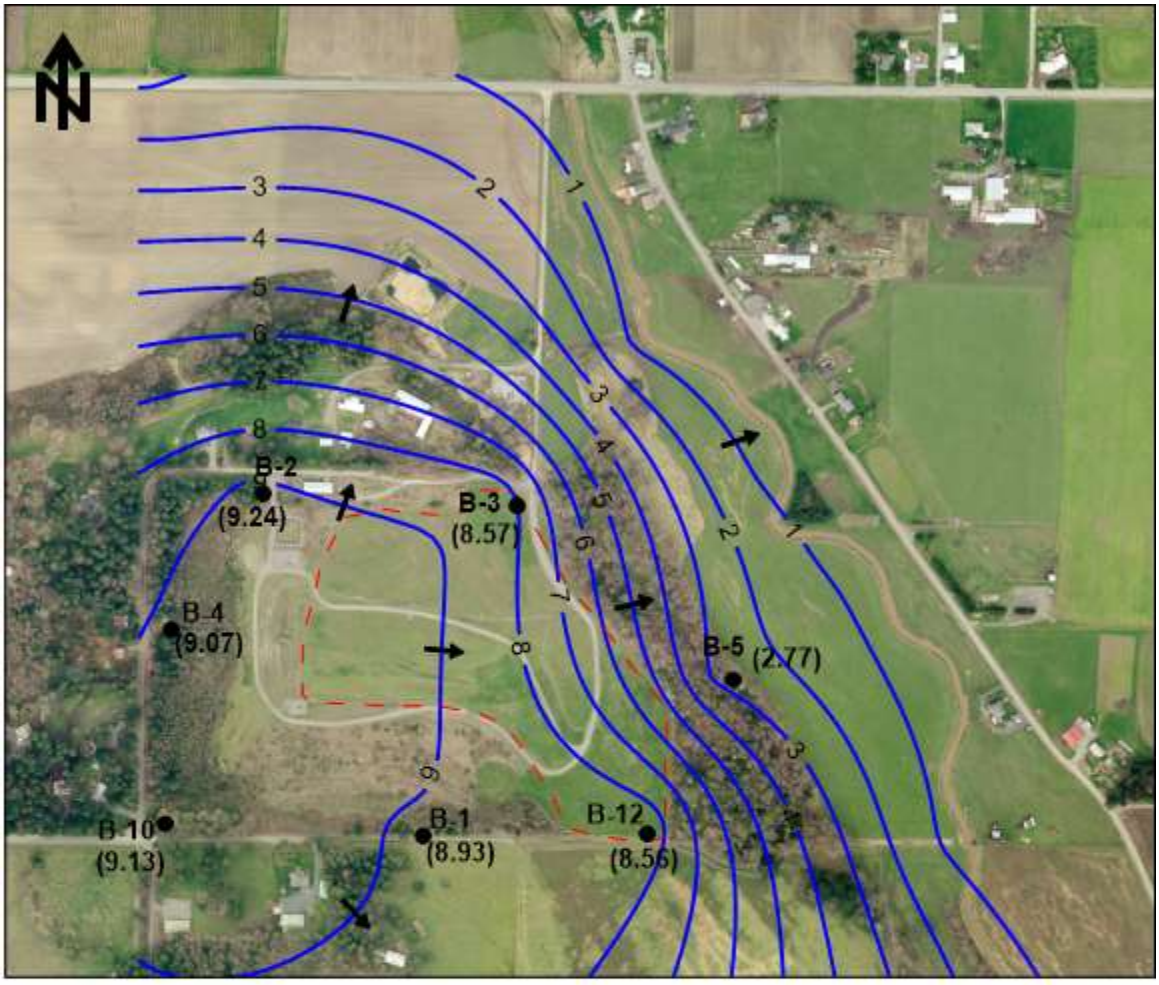


Figure 7b. Potentiometric Surface Contour Map, Regional Aquifer, June 2021.

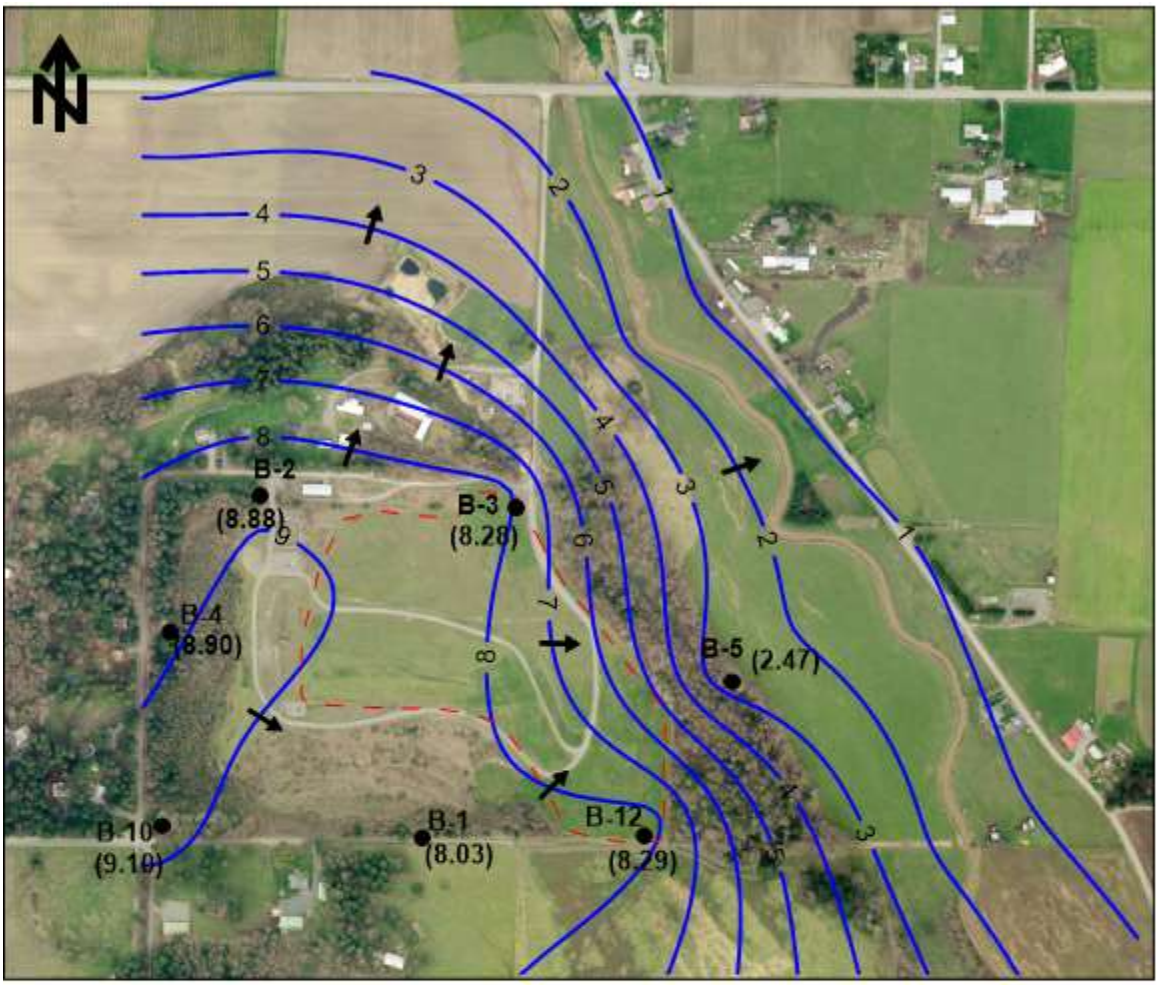


Figure 7c. Potentiometric Surface Contour Map, Regional Aquifer, September 2021.

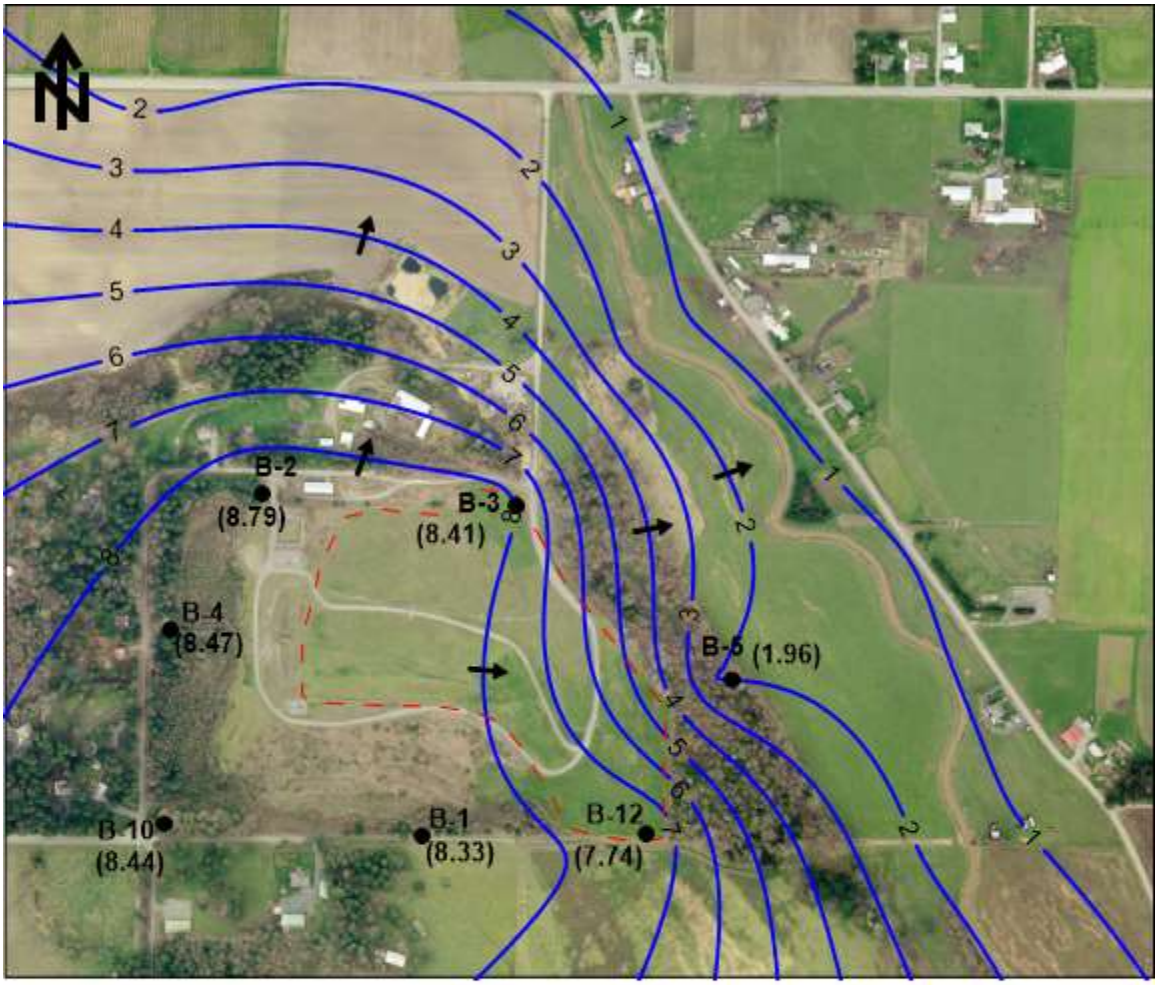


Figure 8. Inman Landfill Gas Extraction System Layout

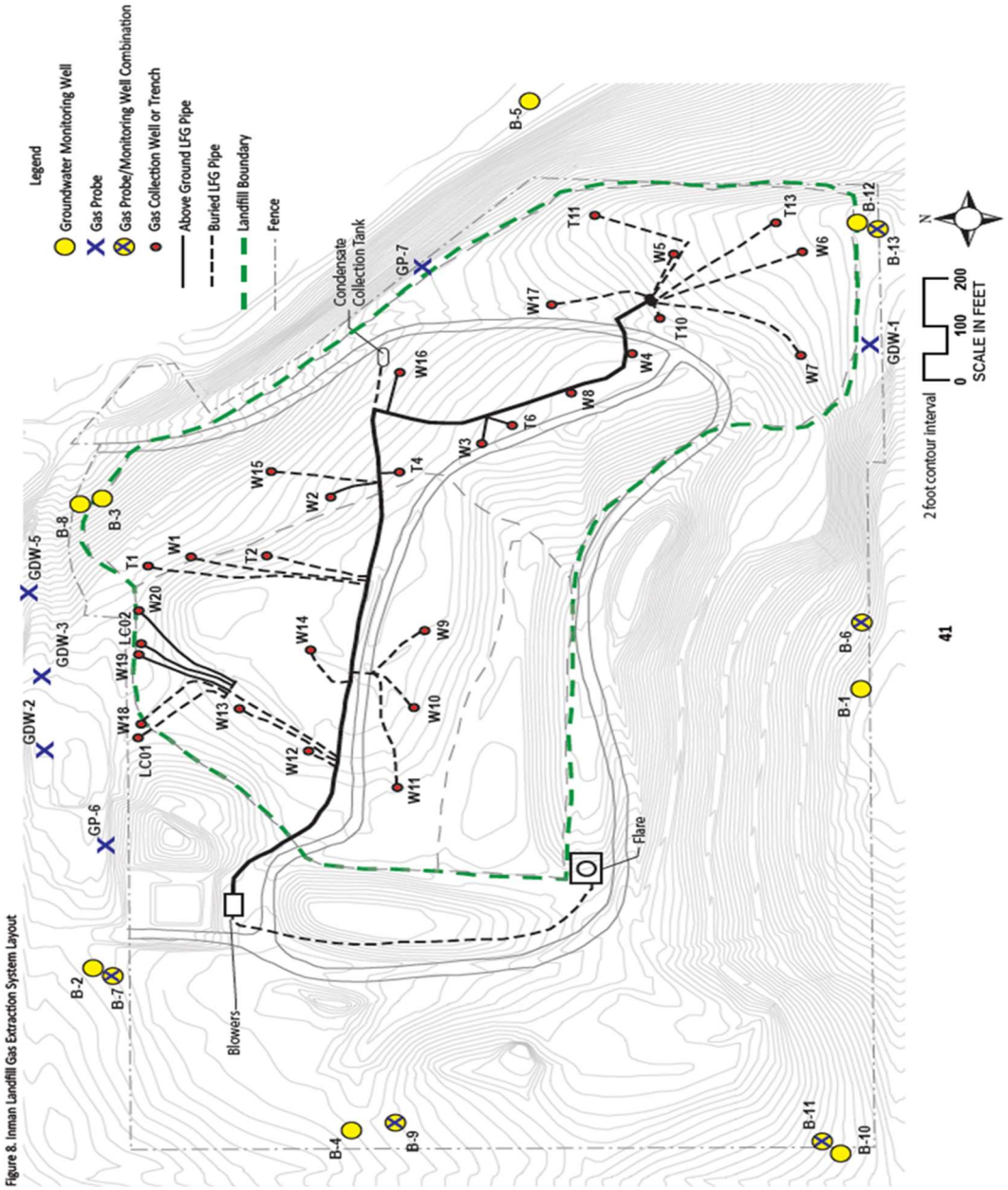


Figure 9. Landfill Gas Perimeter Monitoring Probe Locations.

LEGEND

B-6 Perimeter Gas Monitoring Well

(6.9%) Maximum methane concentration (<=0.1% for wells with no concentrations shown)

– – – Approximate Landfill Boundary

APPENDIX A-1
2021 Groundwater Monitoring Data – Perched Aquifer

2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL			B-6	B-6	B-6	B-6
Sampling Date			4/21/2021	6/14/2021	9/2/2021	12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
CONVENTIONALS						
Chemical Oxygen Demand	mg/L		8 U	8 U	20 U	7 J
Total Organic Carbon	mg/L		2.36	2.04	1.91	1.95
Total Dissolved Solids †	mg/L	**500	290	291	302	236
Alkalinity †	mg/L		254	227	218	193
Bicarbonate †	mg CaCO3/L		254	227	218	193
Ammonia as nitrogen	mg/L		0.01 U	0.01 U	0.01 U	0.01 U
Nitrate as nitrogen	mg/L	*10	3.14	3.3	3.28	3.35
Nitrite as nitrogen	mg/L		0.1 U	0.1 U	0.005 U	0.01
Chloride	mg/L	**250	6	5.4	4.7	2
Sulfate	mg/L	**250	8.4	8.1	8.89	10.9
pH	SU	**6.5-8.5	7.17	7.91	7.76	6.97
Specific Conductance	µS/cm		336	457	517	353
Temperature	C		10.78	11.04	11.28	9.96
METALS						
Dissolved Antimony †	mg/L		0.00019 J	0.01 U	0.00028 J	0.00025 J
Dissolved Arsenic	mg/L	***0.00005	**0.00071** J	**0.00048** J	**0.00059** J	**0.0006** J
Dissolved Barium †	mg/L	*1.0	0.0324	0.0299	0.0337	0.0252
Dissolved Cadmium	mg/L	*0.01	2.5E-05 J	2.4E-05 J	2E-05 J	3E-05 J
Dissolved Chromium †	mg/L	*0.05	0.004 J	0.0011	0.002 J	0.0017
Dissolved Cobalt †	mg/L		0.00014 J	0.00017 J	0.00013 J	0.0001 J
Dissolved Copper †	mg/L	**1.0	0.00083 J	0.001 J	0.00086 J	0.0012 J
Dissolved Iron	mg/L	**0.3	0.05 U	0.05 U	0.05 U	0.05 U
Dissolved Lead	mg/L	*0.05	0.001 U	0.001 U	2E-05 J	0.001 U
Dissolved Manganese	mg/L	**0.05	0.0017 J	0.0057	0.0035 J	0.0004 J
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Dissolved Nickel †	mg/L		0.0019	0.0026	0.0023	0.0021
Dissolved Selenium †	mg/L	*0.01	0.00024 J	0.00035 J	0.00044 J	0.0007 J
Dissolved Vanadium †	mg/L		0.0023	0.0017 J	0.0016	0.0017
Dissolved Zinc	mg/L	**5.0	0.00085 J	0.05 U	0.00064 J	0.0007 J
Total Calcium	mg/L		62.6	64.3	54.3	44.5
Total Magnesium †	mg/L		25.8	27.1	21.8	17.7
Total Potassium †	mg/L		3.1	2.9	2.6	2.6
Total Sodium	mg/L		4.7	4.5	4.2	4.9

Groundwater Quality Criteria:
* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen

Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:
U — Indicates the analyte of interest was not detected, to the limit of detection
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded
NT — Not tested.

Results shown in bold exceed Ground Water Quality Criteria.
† Indicates supplement analytes measured due to Ecology request

2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL			B-9	B-9	B-9	B-9
Sampling Date			4/22/2021	6/15/2021	9/3/2021	12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
CONVENTIONALS						
Chemical Oxygen Demand	mg/L		8 U	20 U	20 U	20 U
Total Organic Carbon	mg/L		1.36	1.27	1.17	1.38
Total Dissolved Solids †	mg/L	**500	115	117	128	143
Alkalinity †	mg/L		70.4	78	86.8	98.3
Bicarbonate †	mg CaCO3/L		69.6	78	0.00	98.3
Ammonia as nitrogen	mg/L		0.01	0.01 U	0.01 U	0.01 U
Nitrate as nitrogen	mg/L	*10	1.14	1.24	0.84	0.83
Nitrite as nitrogen	mg/L		0.1 U	0.03	0.1 U	0.005 U
Chloride	mg/L	**250	0.71	0.7	0.66	0.8
Sulfate	mg/L	**250	4.8	4.1	6.12	7.4
pH	SU	**6.5-8.5	7.1	6.87	6.86	6.65
Specific Conductance	µS/cm		196	240	192	190
Temperature	C		10.32	10.64	12.08	9.79
METALS						
Dissolved Antimony †	mg/L		0.00013 J	0.0002 J	0.00016 J	0.0001 J
Dissolved Arsenic	mg/L	***0.00005	**0.00078** J	**0.00067** J	**0.00082** J	**0.0008** J
Dissolved Barium †	mg/L	*1.0	0.0095	0.01	0.0111	0.0119
Dissolved Cadmium	mg/L	*0.01	1.2E-05 J	1.2E-05 J	1E-05 J	3E-05 J
Dissolved Chromium †	mg/L	*0.05	0.0017	0.00078 J	0.0018 J	0.0018
Dissolved Cobalt †	mg/L		3.7E-05 J	0.01 U	5E-05 J	5E-05 J
Dissolved Copper †	mg/L	**1.0	0.0011 J	0.001 J	0.0008 J	0.001 J
Dissolved Iron	mg/L	**0.3	0.05 U	0.008 J	0.05 U	0.004 J
Dissolved Lead	mg/L	*0.05	0.001 U	0.001 U	0.001 U	0.001 U
Dissolved Manganese	mg/L	**0.05	0.00019 J	0.00033 J	0.0037 J	0.0017
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Dissolved Nickel †	mg/L		0.00086 J	0.00019 J	0.0011	0.0013
Dissolved Selenium †	mg/L	*0.01	0.0009 J	0.0011 J	0.00105 J	0.0008 J
Dissolved Vanadium †	mg/L		0.0019	0.00021 J	0.0017	0.002
Dissolved Zinc	mg/L	**5.0	0.00091 J	0.00092 J	0.00105 J	0.0048
Total Calcium	mg/L		14.4	16	15.5	17.2
Total Magnesium †	mg/L		10.1	11.5	11.5	12.9
Total Potassium †	mg/L		1.4	1.6	1.6	1.8
Total Sodium	mg/L		2.8	3.2	3.1	3.5

Groundwater Quality Criteria:
* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen

Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:
U — Indicates the analyte of interest was not detected, to the limit of detection
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded
NT — Not tested.

Results shown in bold exceed Ground Water Quality Criteria.
† Indicates supplement analytes measured due to Ecology request

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-6 4/21/2021	B-6 6/14/2021	B-6 9/2/2021	B-6 12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	5 U	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U	5 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U	3 U
Acrolein	µg/L		4 U	4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.4	0.4 U	0.3 B	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Diethyl ether	µg/L		0.4 U	0.4 U	0.4 U	0.4 U

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-6 4/21/2021	B-6 6/14/2021	B-6 9/2/2021	B-6 12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
Ethyl methacrylate	µg/L		3 U	3 U	2 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U	0.4 U
Methylacrylonitrile	µg/L		4 U	4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		3 U	3 U	3 U	3 U
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	0.01 U	0.01 U	0.01 U	0.01 U

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

Units:

µg/L= micrograms per liter

Results shown in bold exceed Ground Water Quality Criteria.

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-9 4/22/2021	B-9 6/15/2021	B-9 9/3/2021	B-9 12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	5 U	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U	5 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U	3 U
Acrolein	µg/L		4 U	4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.3 J	0.4 U	0.5 B	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		0.6	0.4	0.5	0.5
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Diethyl ether	µg/L		0.4 U	0.4 U	0.4 U	0.4 U

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-9 4/22/2021	B-9 6/15/2021	B-9 9/3/2021	B-9 12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
Ethyl methacrylate	µg/L		3 U	3 U	2 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U	0.4 U
Methylacrylonitrile	µg/L		4 U	4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		3 U	3 U	3 U	3 U
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	0.01 U	0.01 U	0.01 U	0.01 U

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

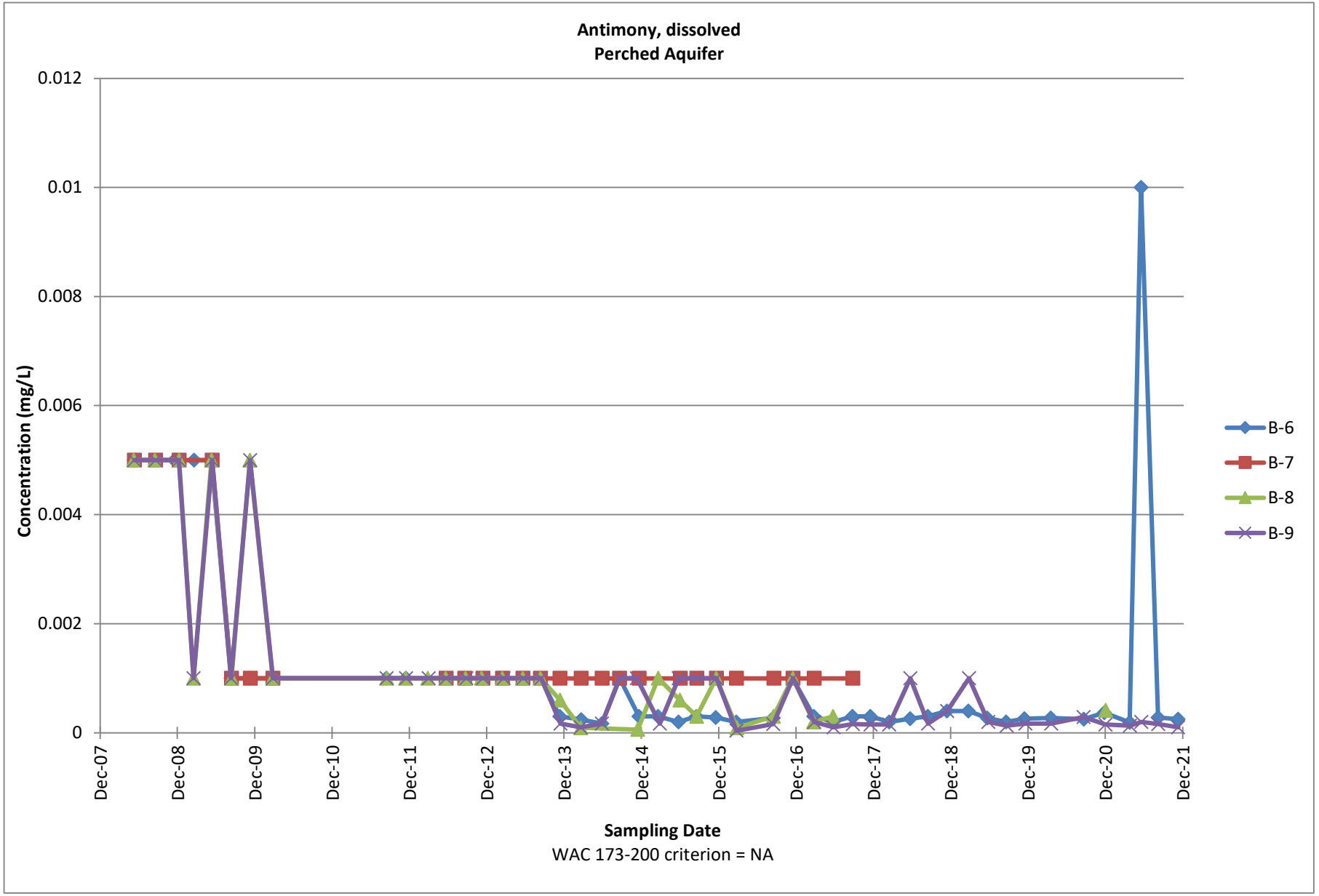
U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

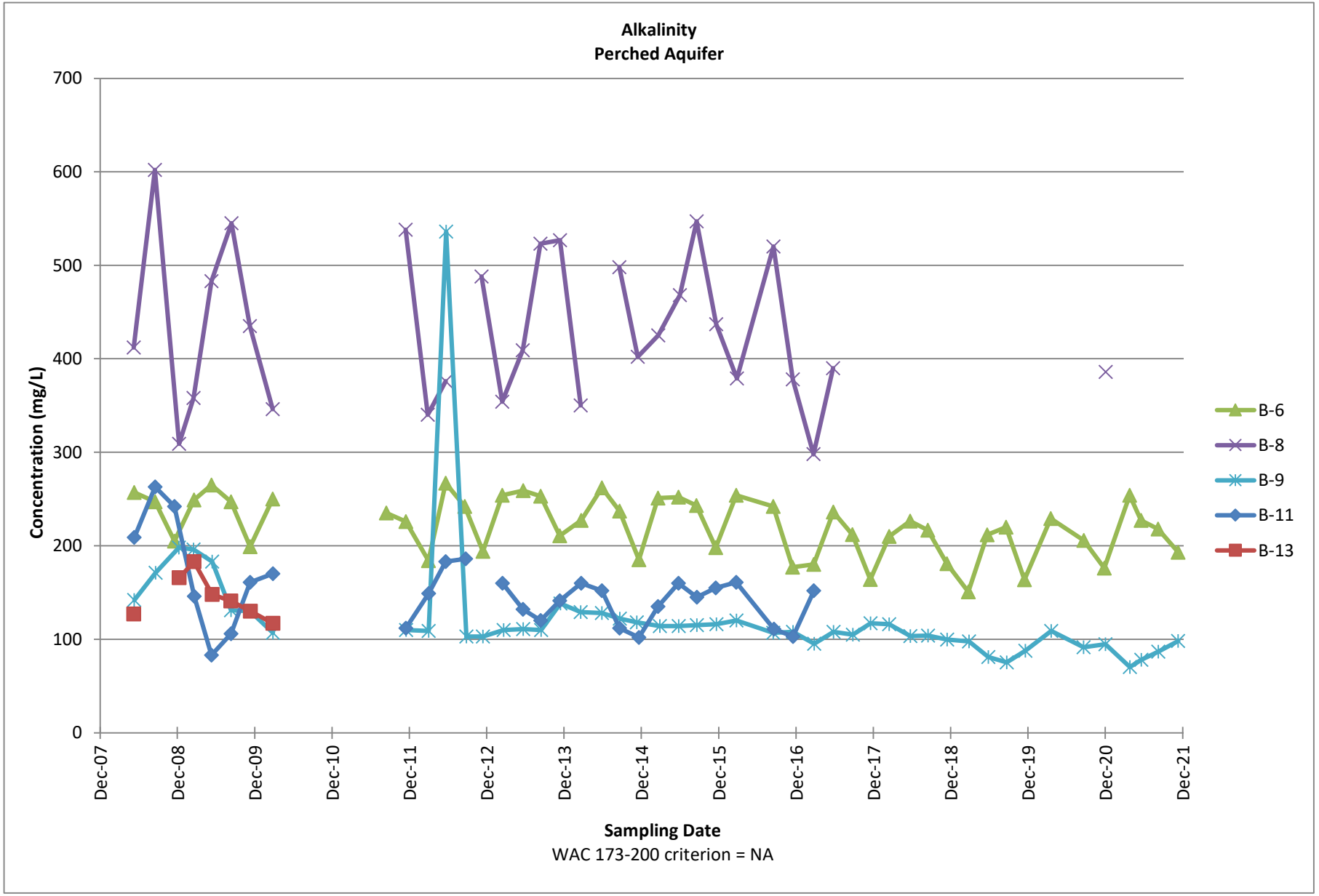
Units:

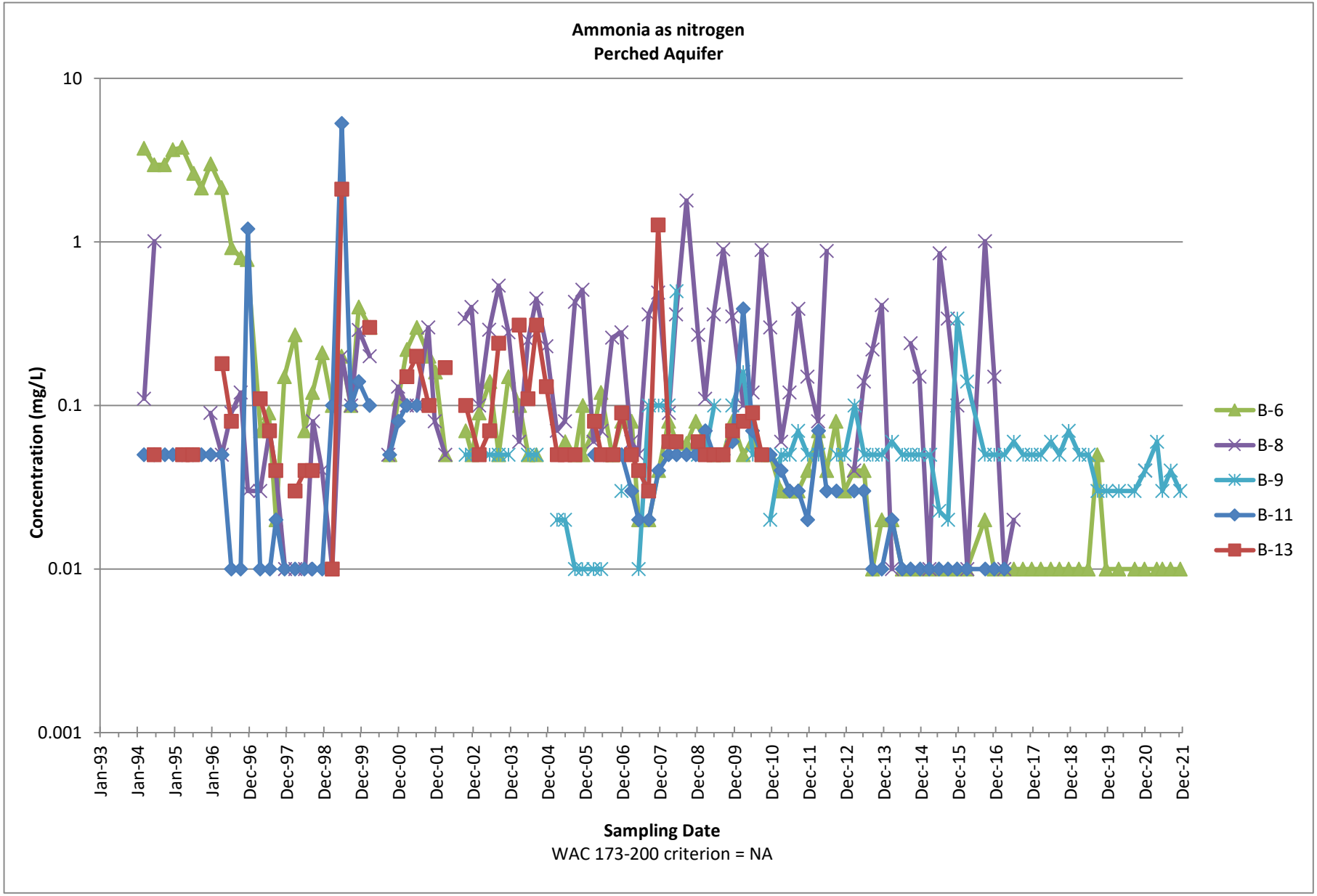
µg/L= micrograms per liter

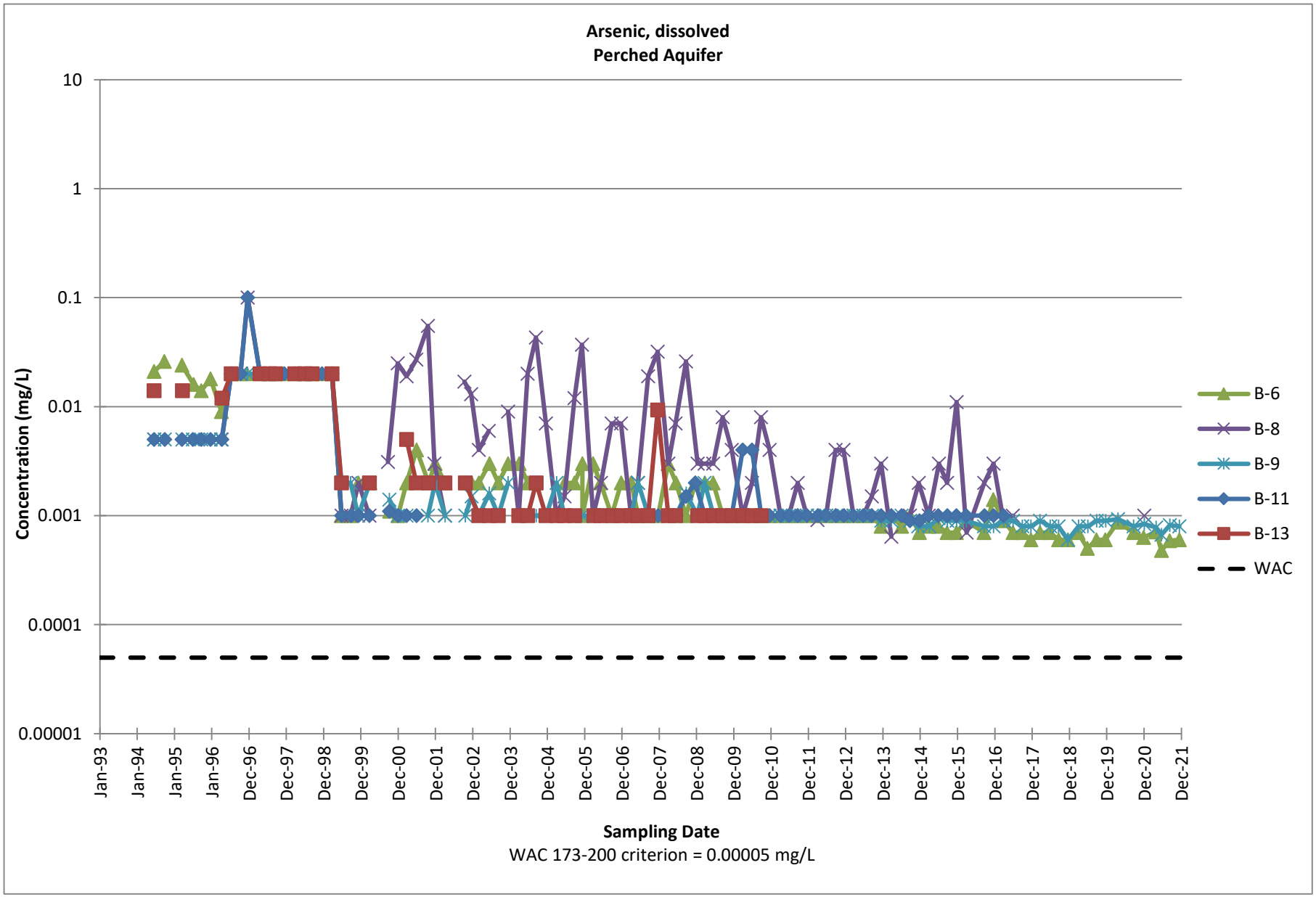
Results shown in bold exceed Ground Water Quality Criteria.

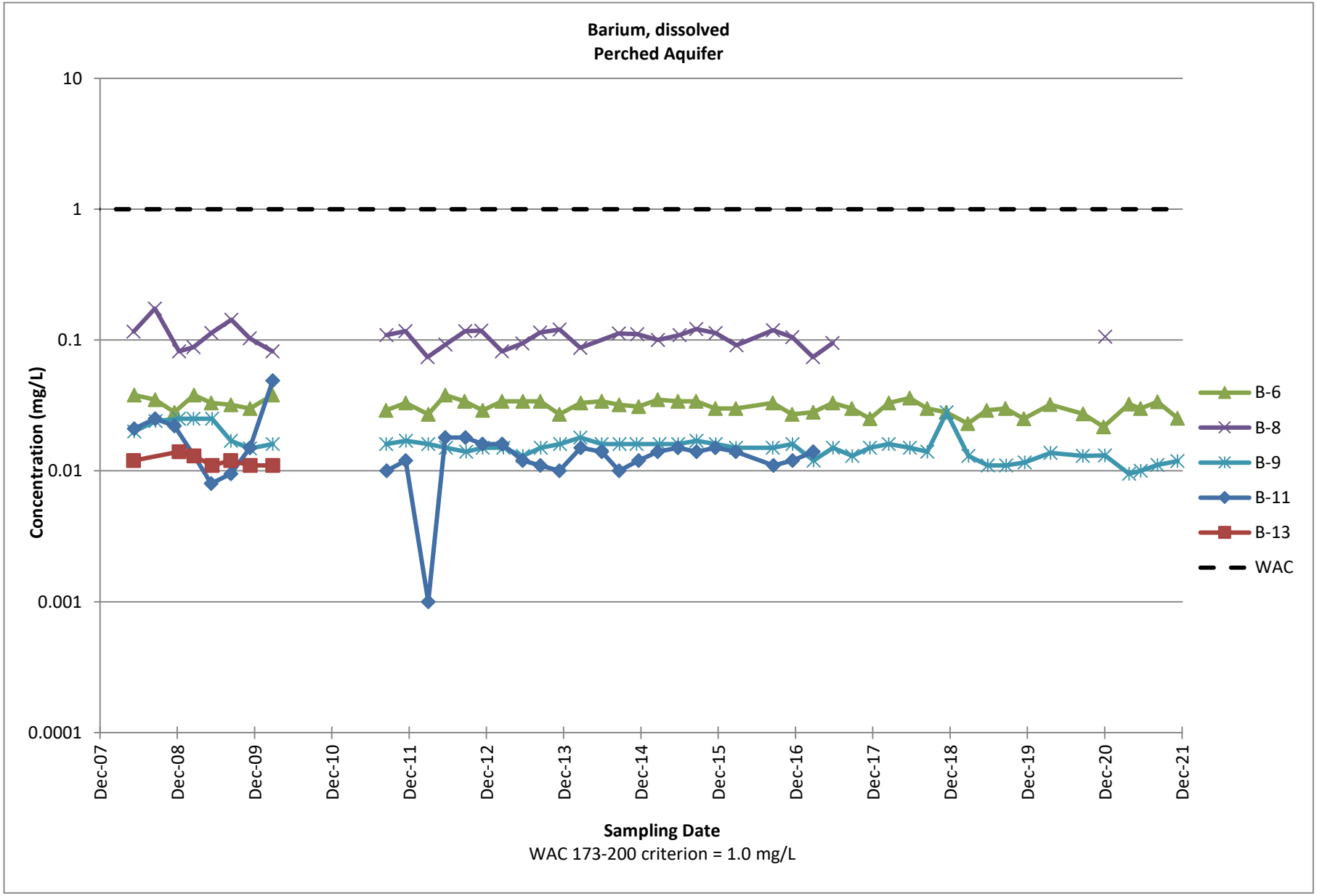
APPENDIX A-2
Long Term Time Series Plots 1994-2021 – Perched Aquifer

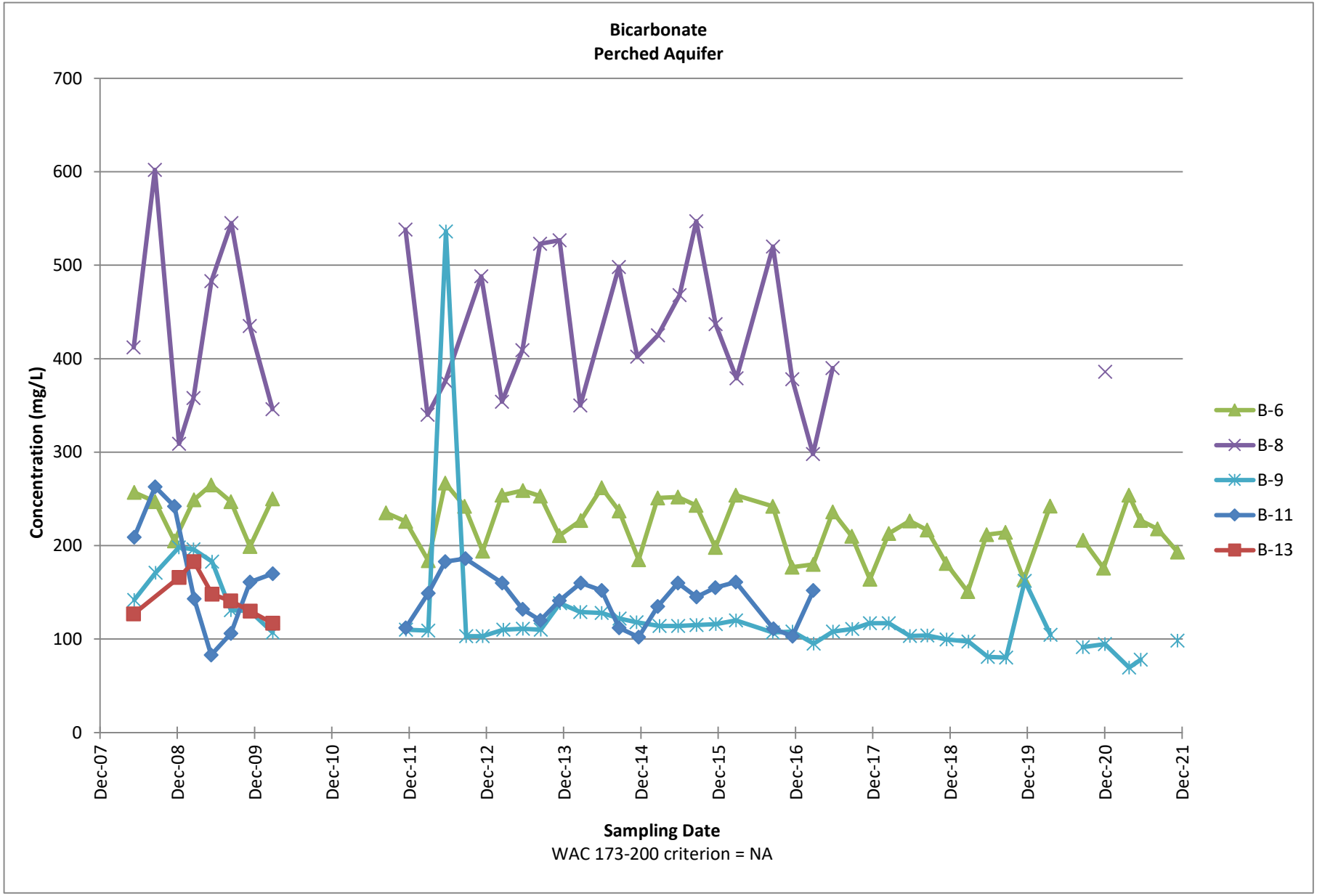

Antimony, dissolved
Perched Aquifer
0.012
0.01
0.008
0.006
0.004
0.002
0
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-6
B-7
B-8
B-9

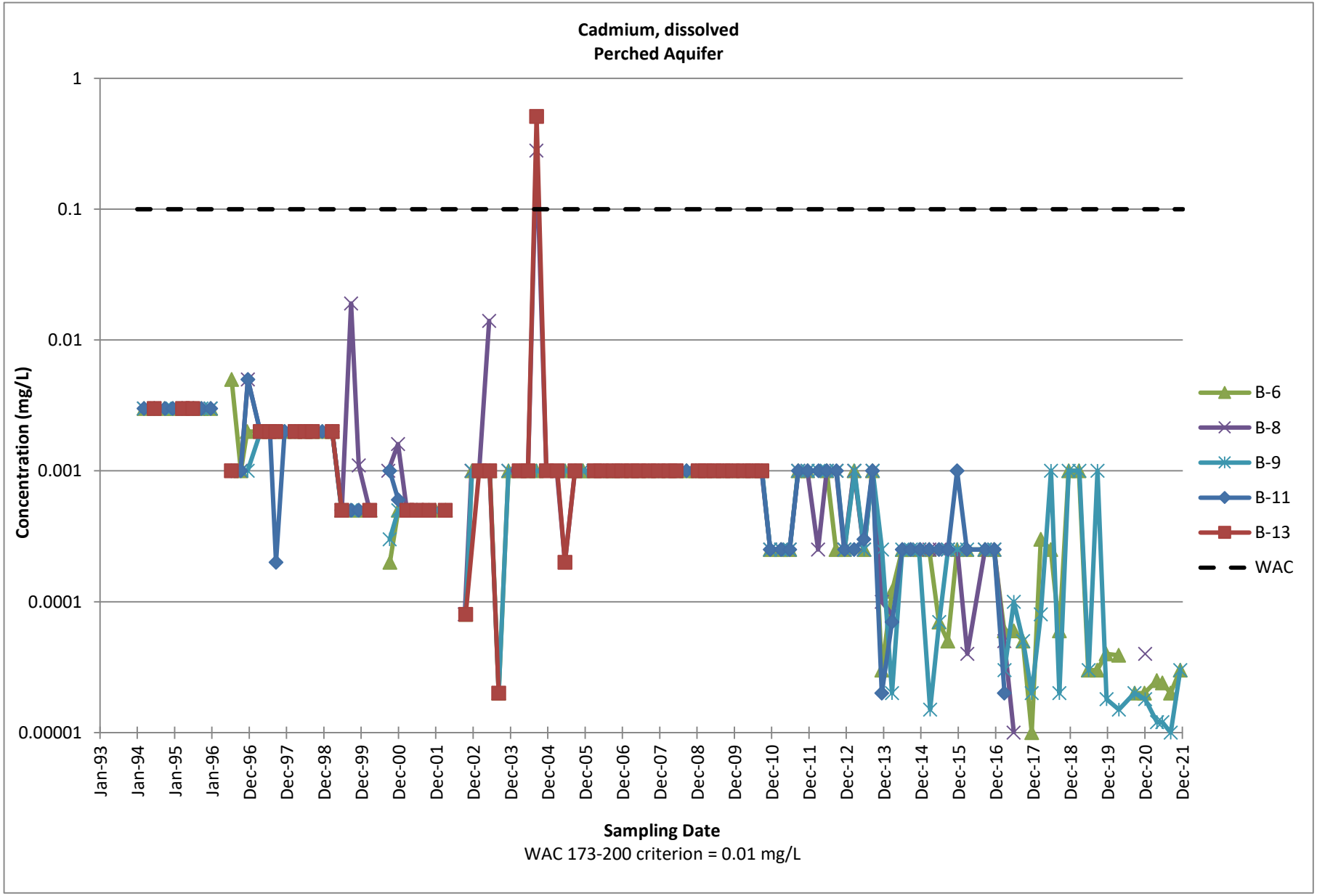

Alkalinity
Perched Aquifer
700
600
500
400
300
200
100
0
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-6
B-8
B-9
B-11
B-13

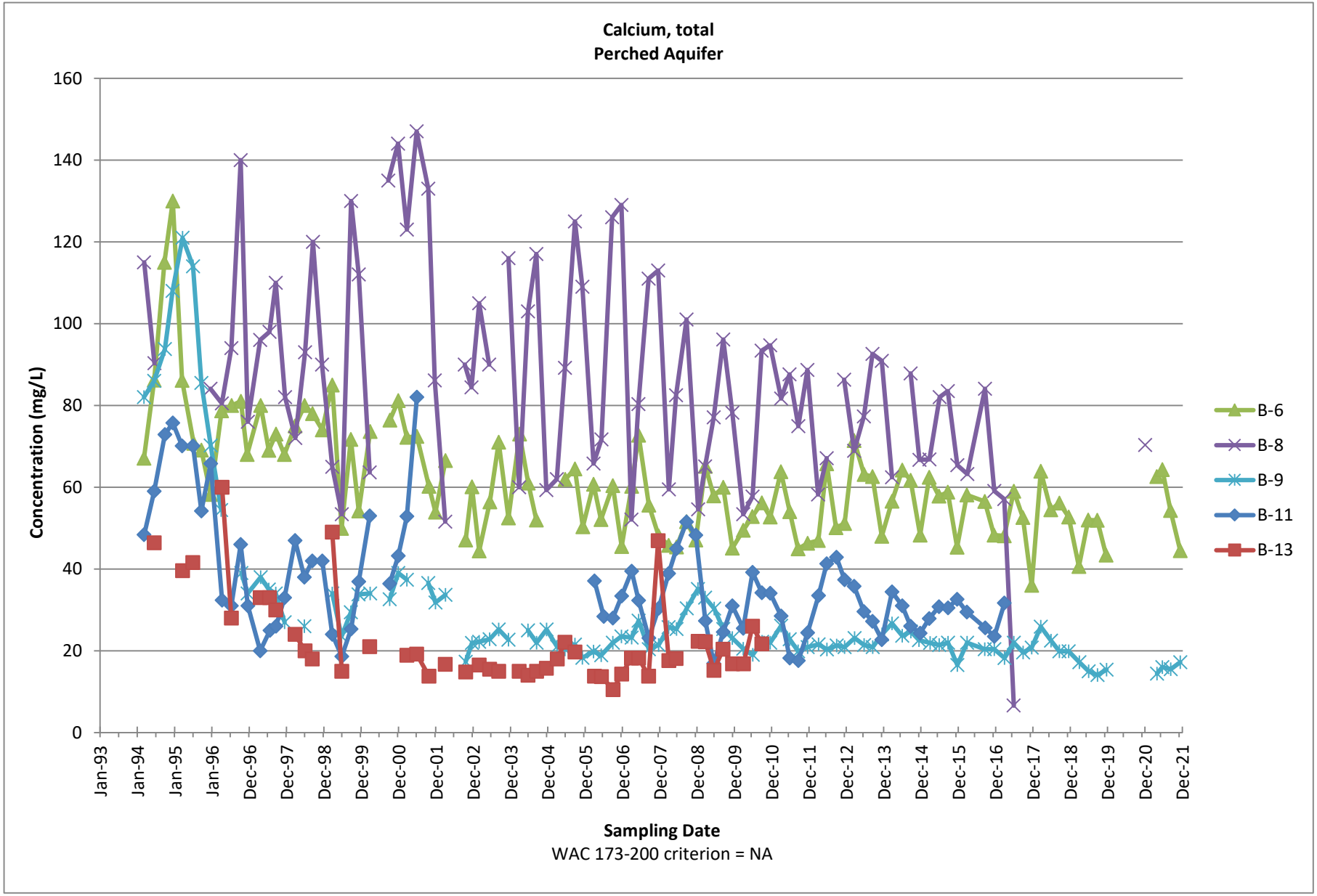

Ammonia as nitrogen
Perched Aquifer
10
1
0.1
0.01
0.001
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-6
B-8
B-9
B-11
B-13

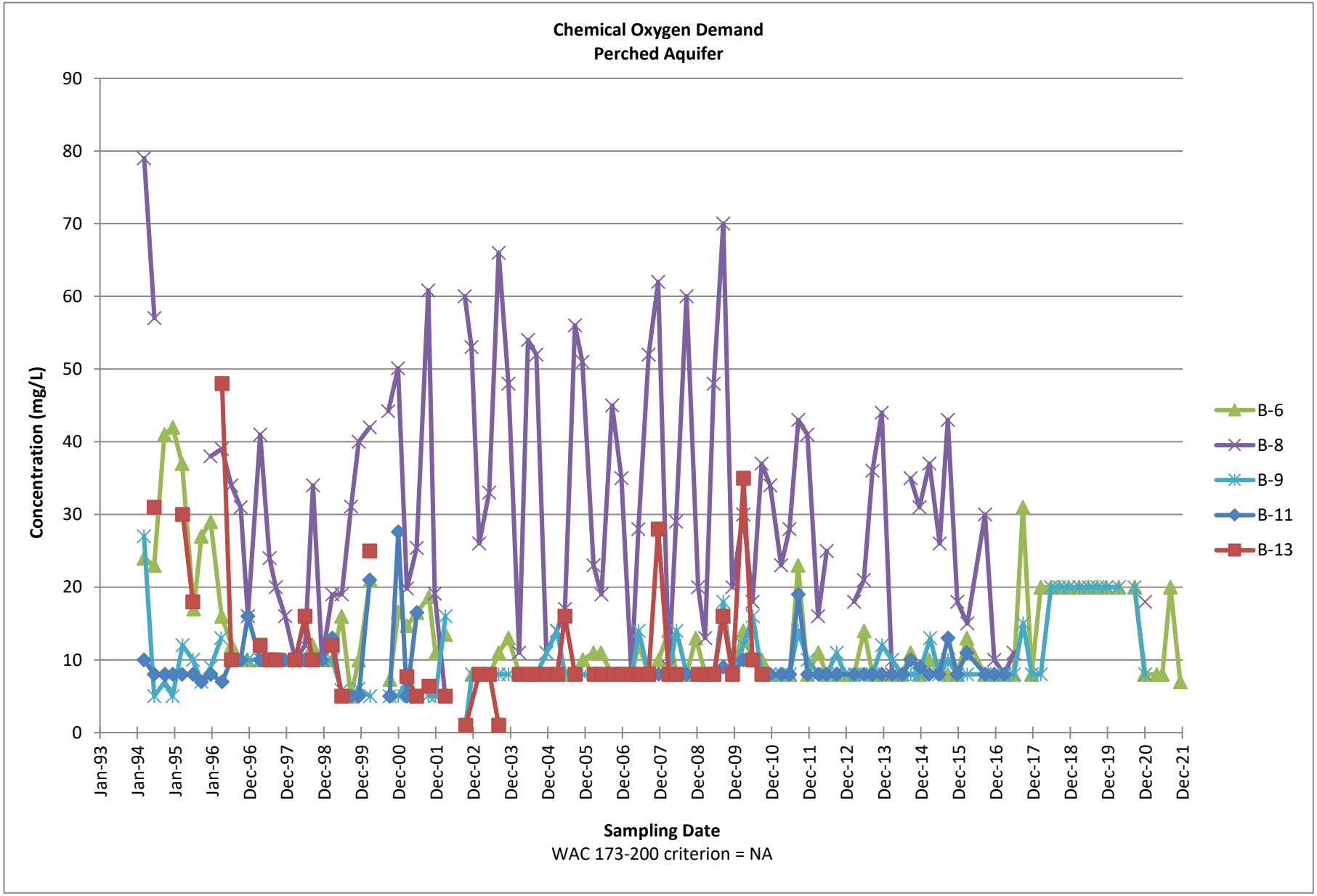

Arsenic, dissolved
Perched Aquifer
10
1
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-6
B-8
B-9
B-11
B-13
WAC
WAC 173-200 criterion = 0.00005 mg/L

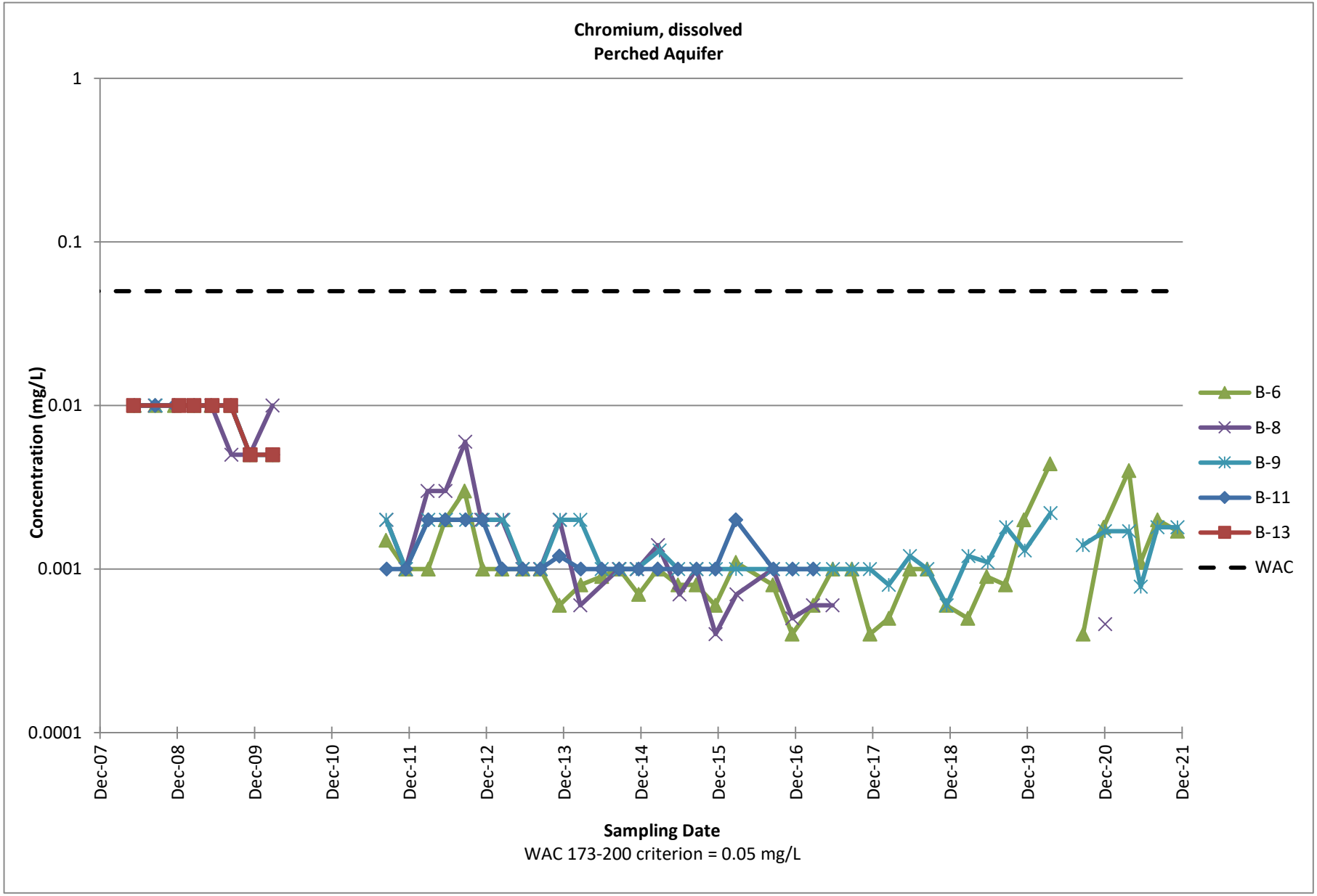

Barium, dissolved
Perched Aquifer
10
1
0.1
0.01
0.001
0.0001
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
WAC
Sampling Date
WAC 173-200 criterion = 1.0 mg/L

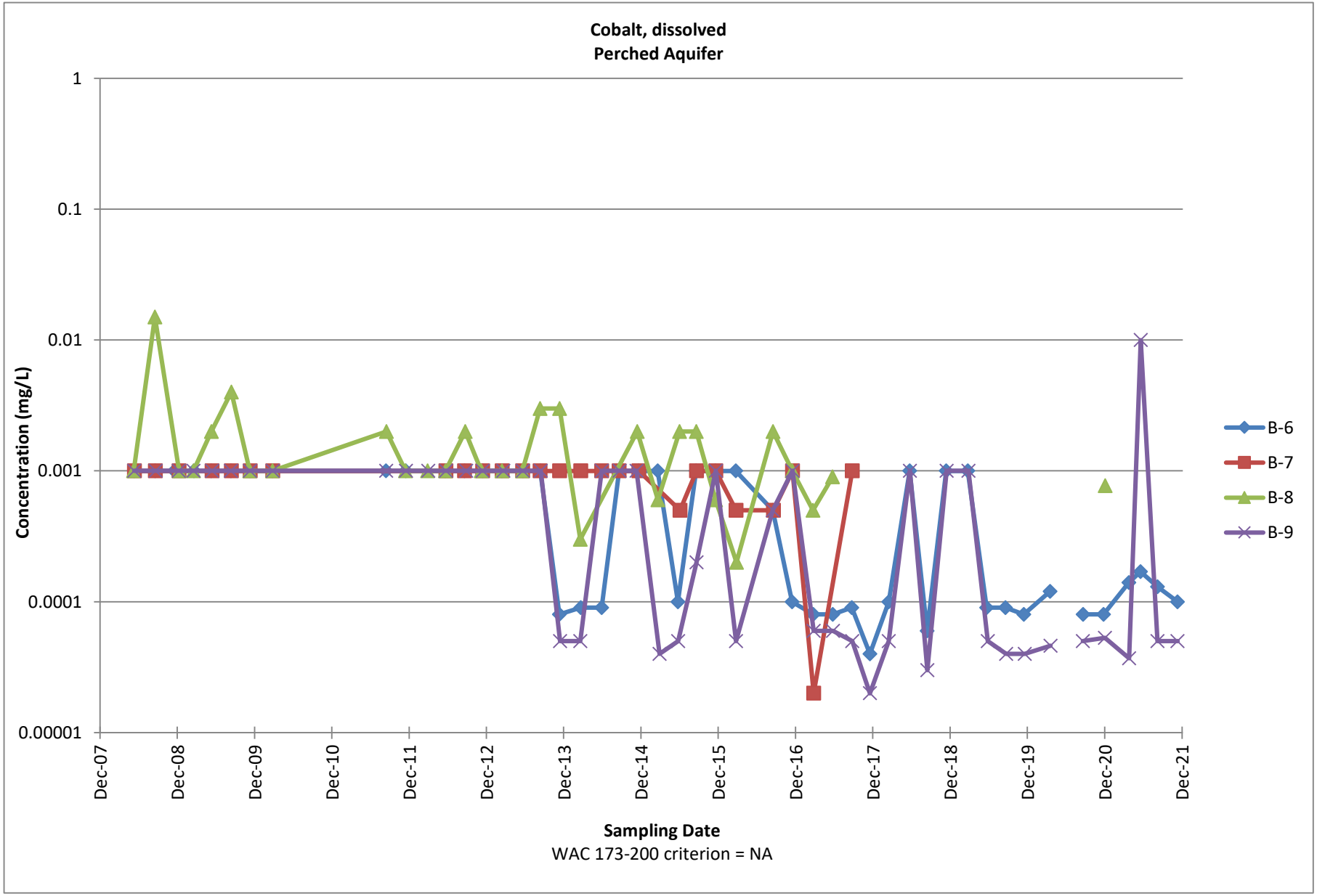

Bicarbonate
Perched Aquifer
700
600
500
400
300
200
100
0
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-6
B-8
B-9
B-11
B-13

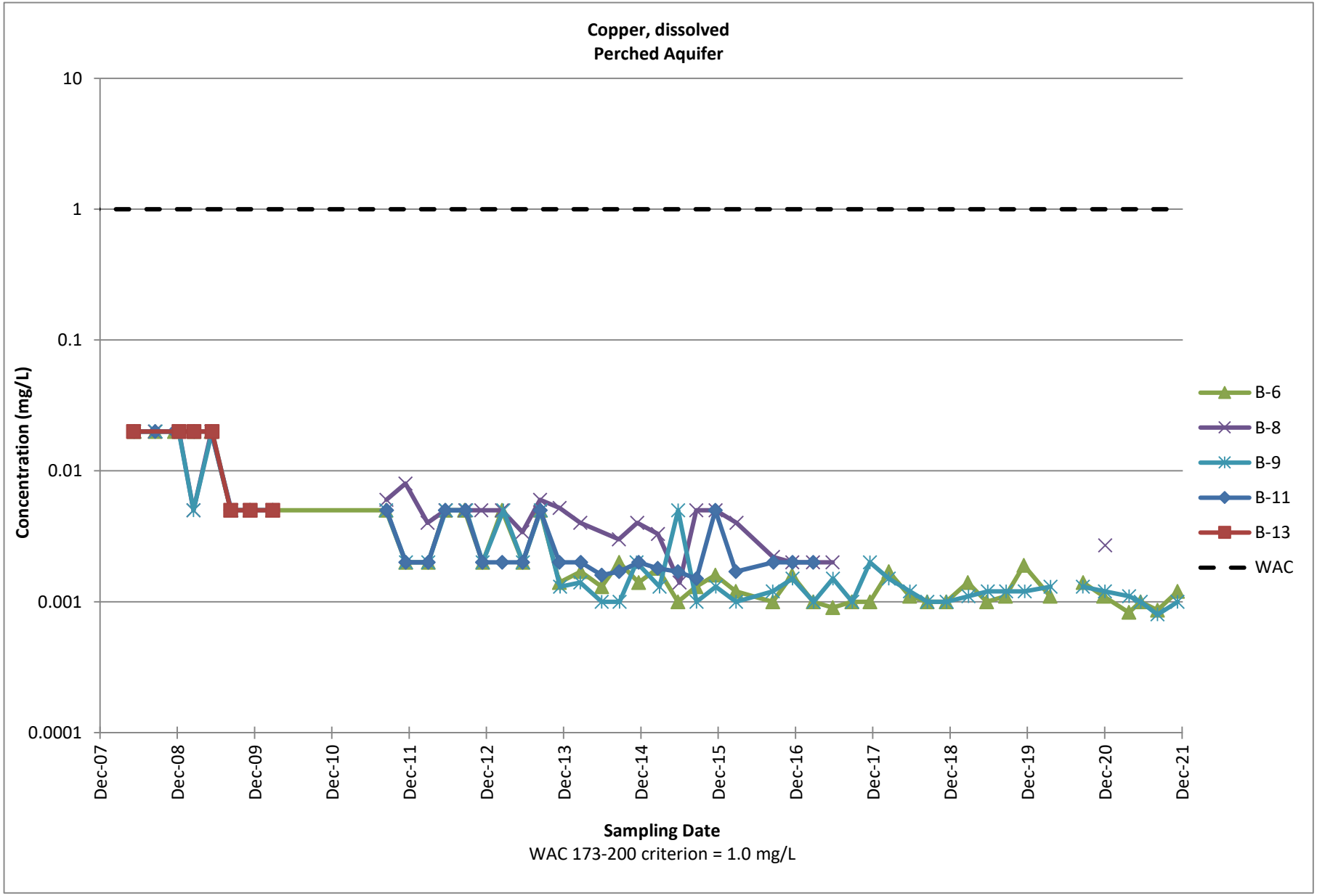

Cadmium, dissolved
Perched Aquifer
Concentration (mg/L)
1
0.1
0.01
0.001
0.0001
0.00001
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
WAC
Sampling Date
WAC 173-200 criterion = 0.01 mg/L

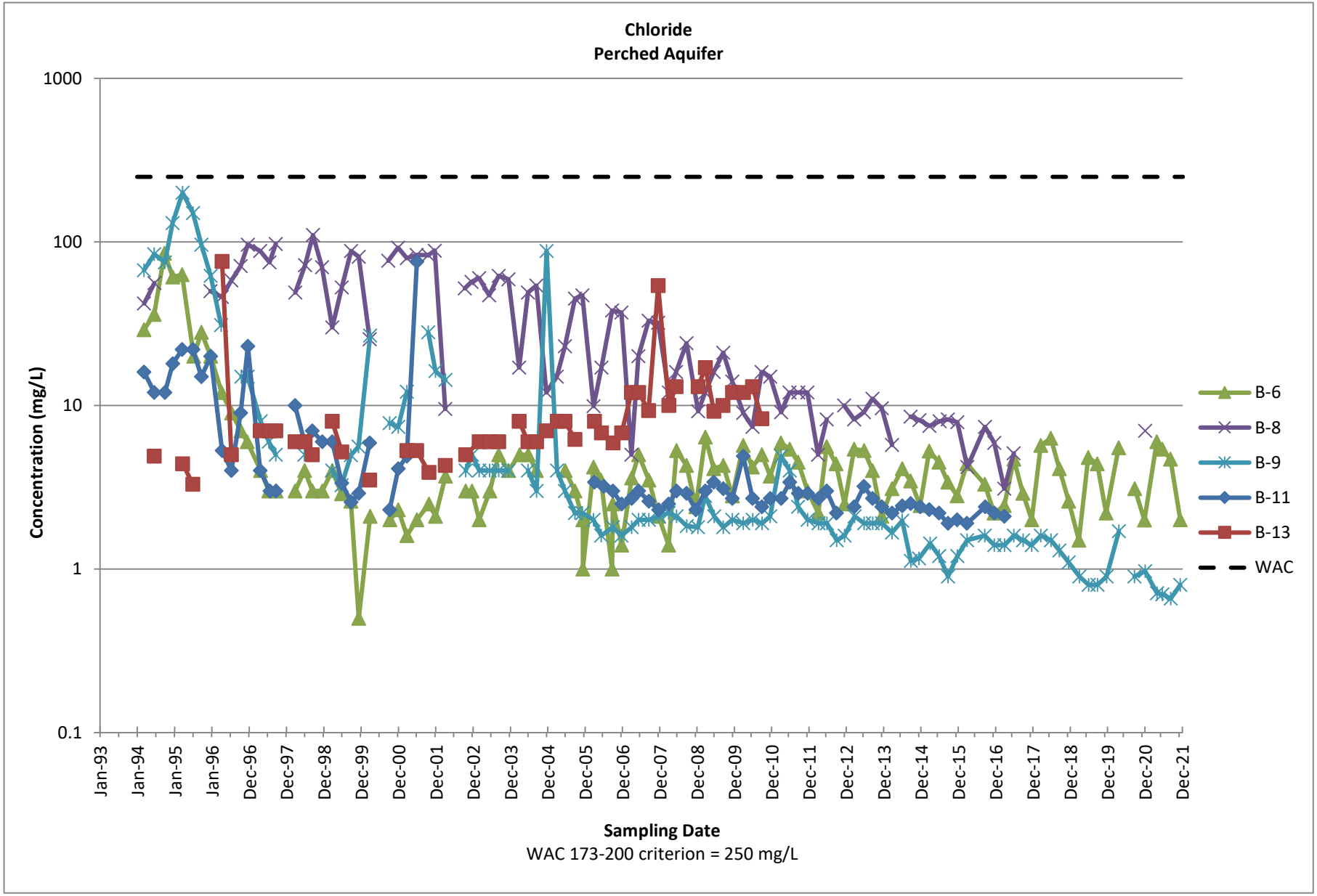

Calcium, total
Perched Aquifer
Concentration (mg/L)
160
140
120
100
80
60
40
20
0
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
Sampling Date
WAC 173-200 criterion = NA

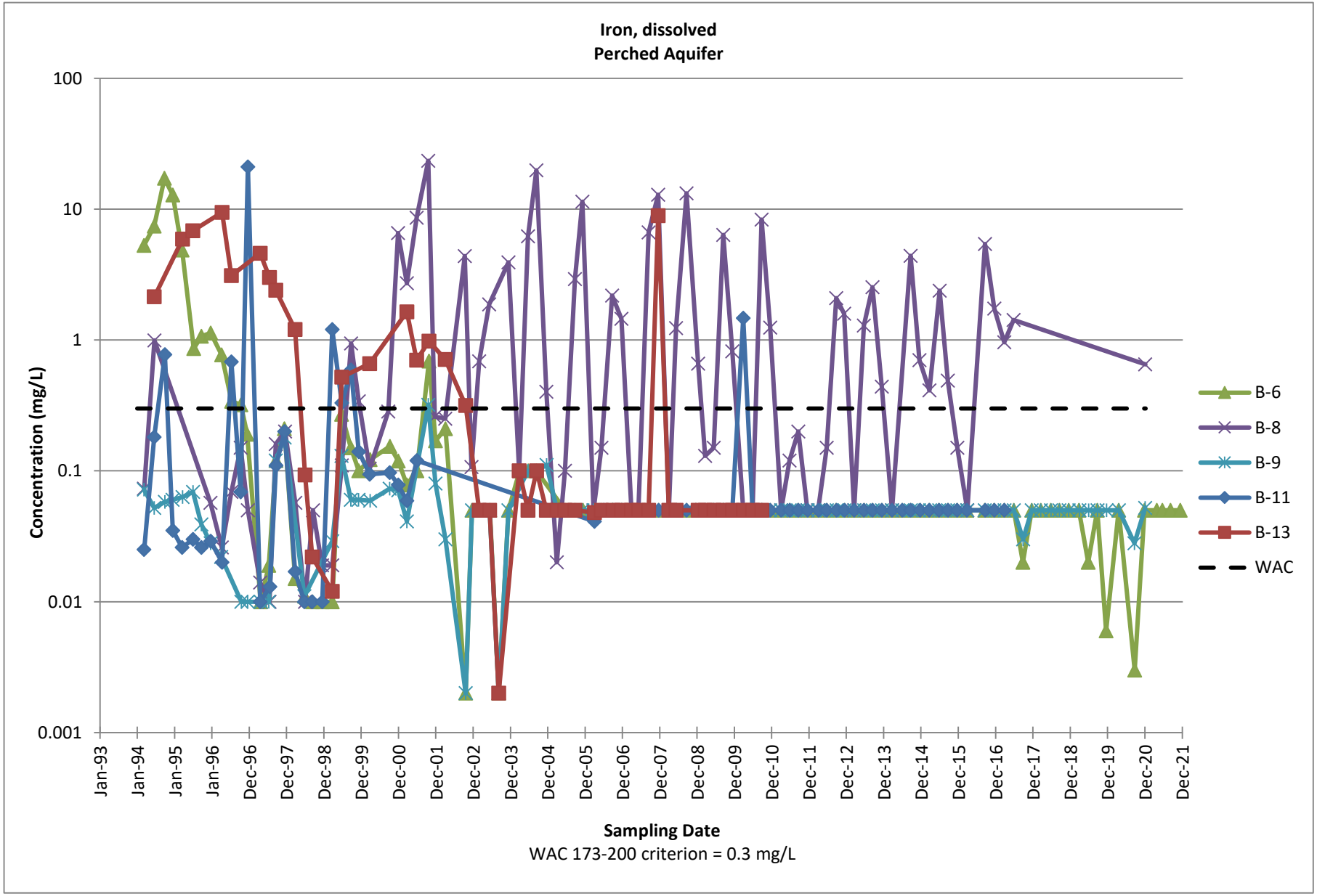

Chemical Oxygen Demand
Perched Aquifer
Concentration (mg/L)
90
80
70
60
50
40
30
20
10
0
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
Sampling Date
WAC 173-200 criterion = NA

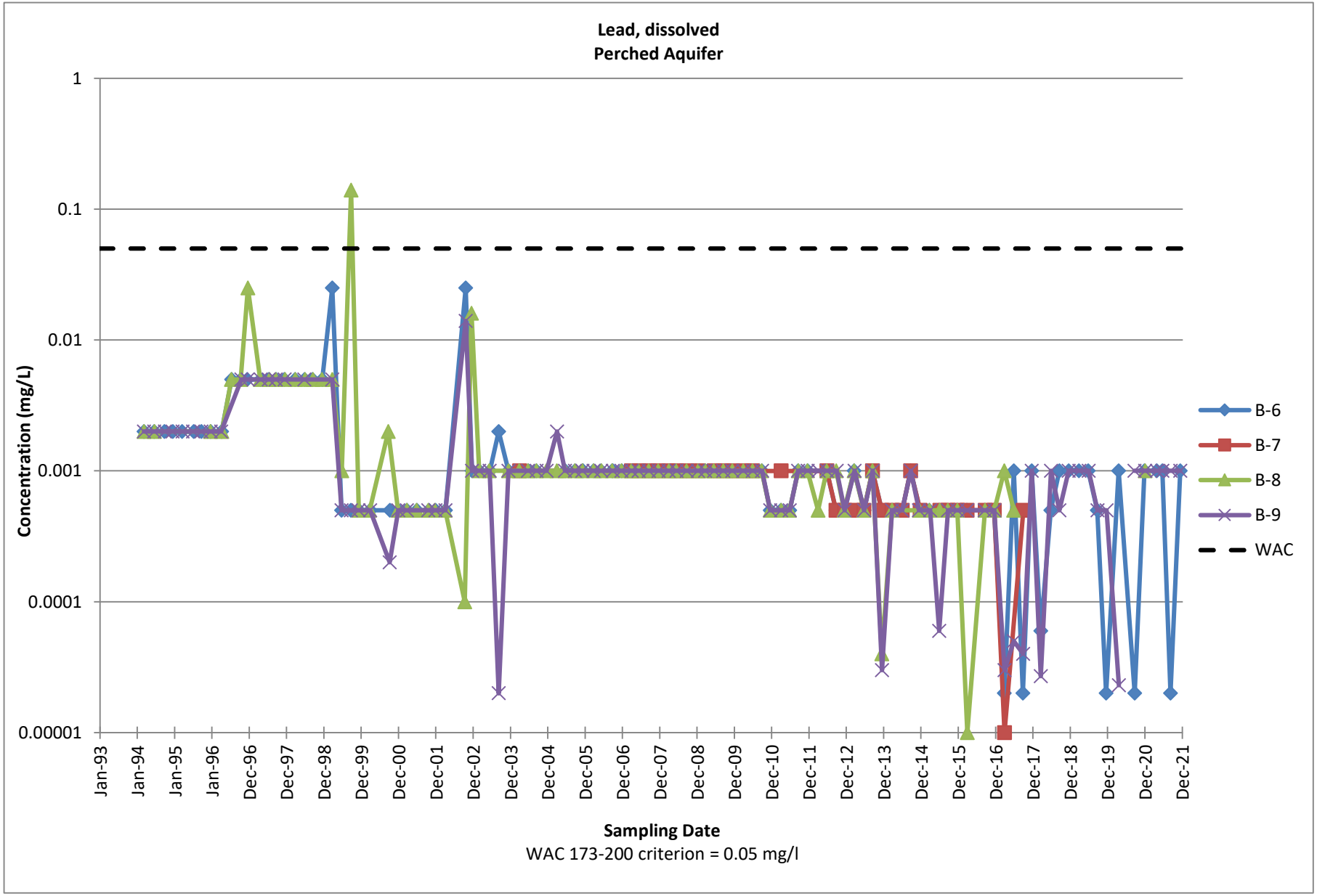

Chromium, dissolved
Perched Aquifer
1
0.1
0.01
0.001
0.0001
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
WAC
Sampling Date
WAC 173-200 criterion = 0.05 mg/L

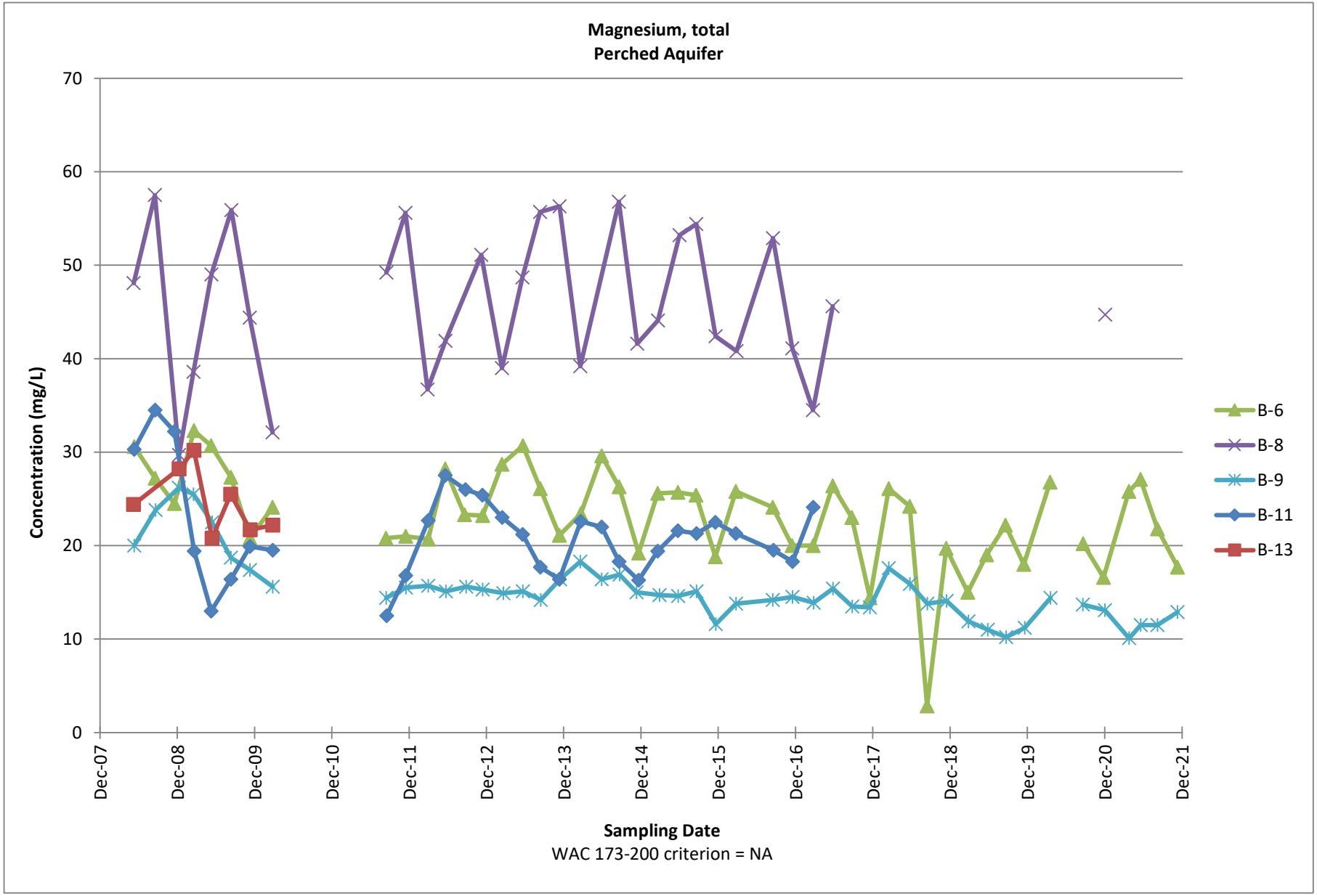

Cobalt, dissolved
Perched Aquifer
1
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-7
B-8
B-9
Sampling Date
WAC 173-200 criterion = NA

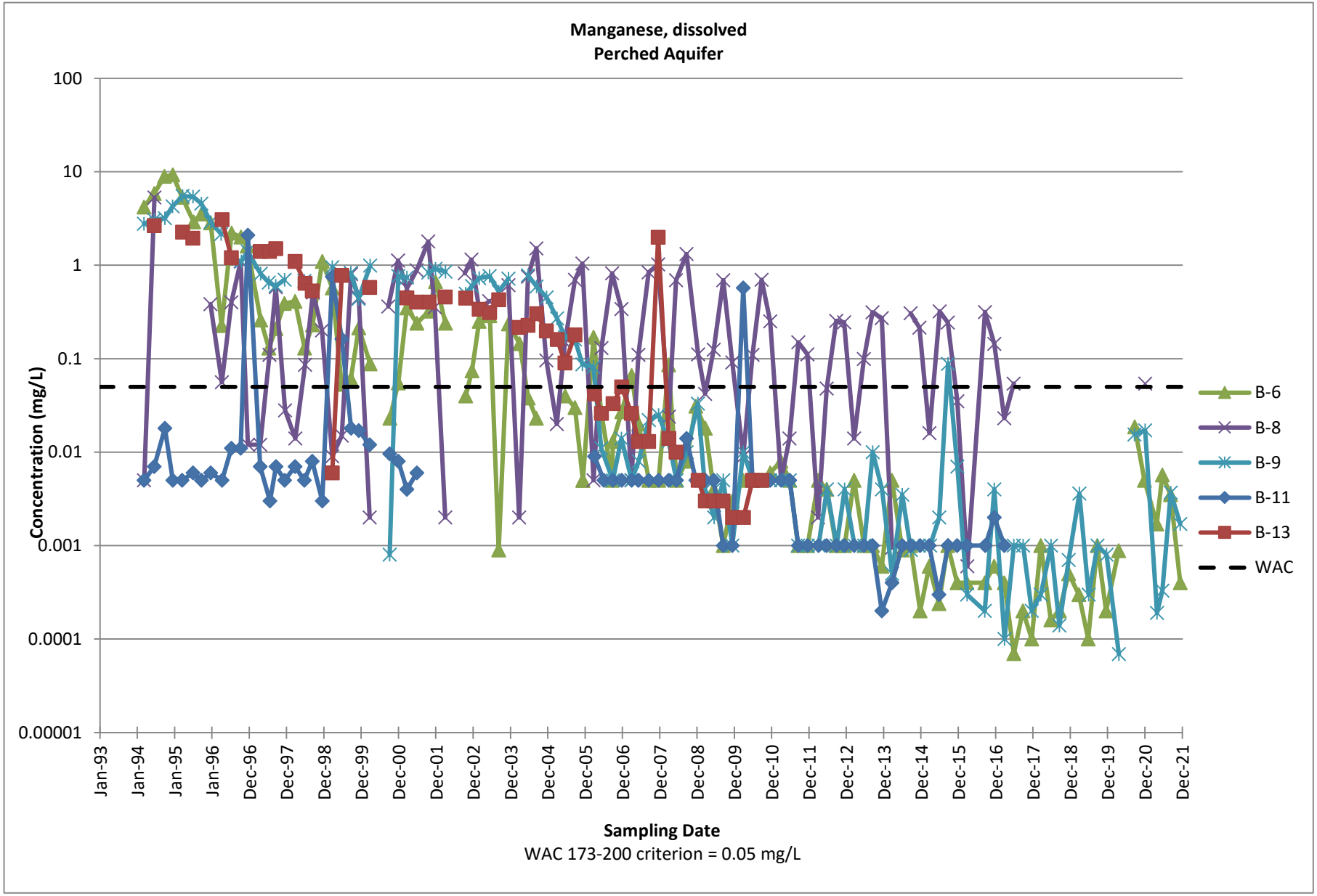

Copper, dissolved
Perched Aquifer
10
1
0.1
0.01
0.001
0.0001
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
WAC
Sampling Date
WAC 173-200 criterion = 1.0 mg/L

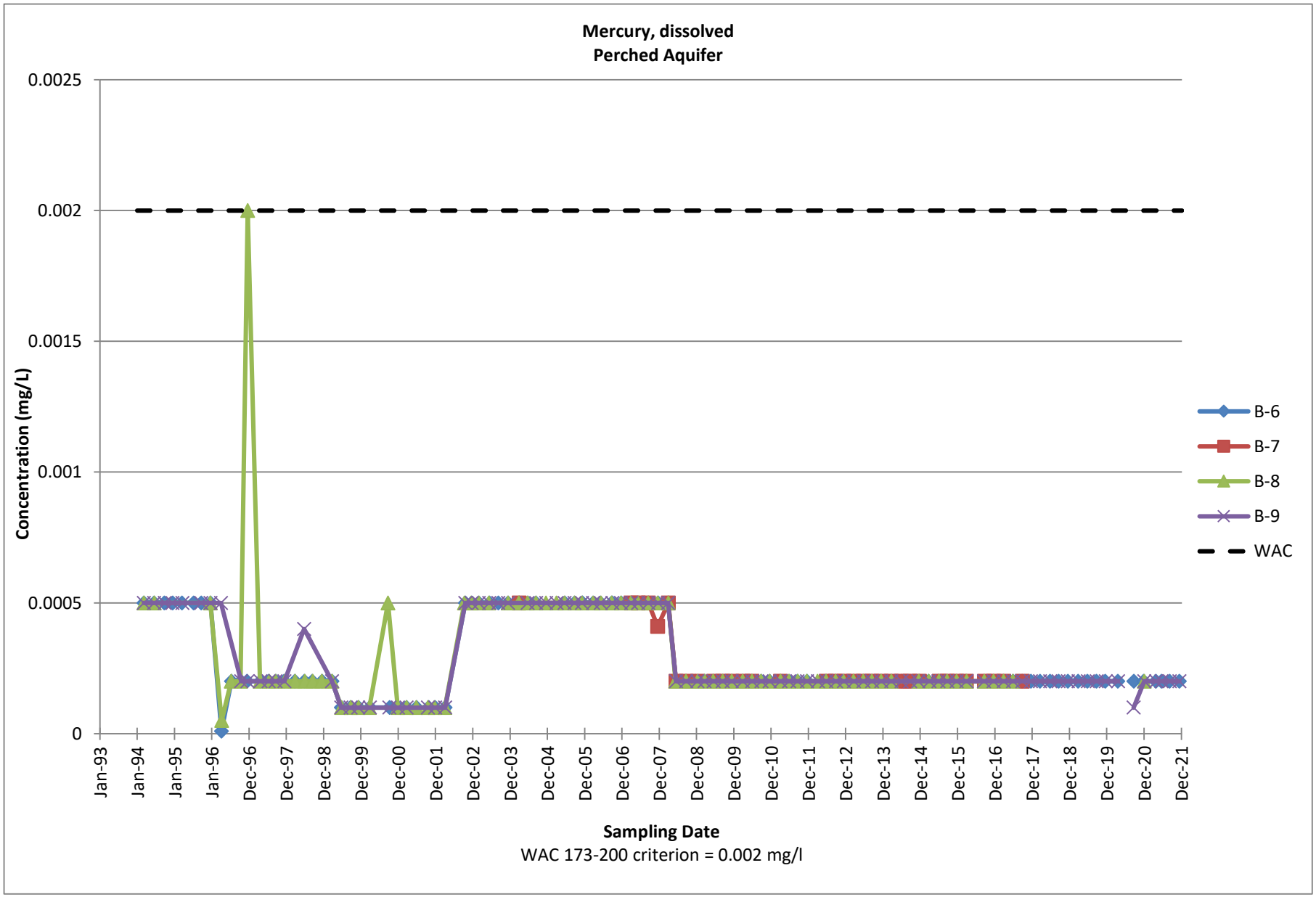

Chloride
Perched Aquifer
1000
100
10
1
0.1
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-6
B-8
B-9
B-11
B-13
WAC
WAC 173-200 criterion = 250 mg/L

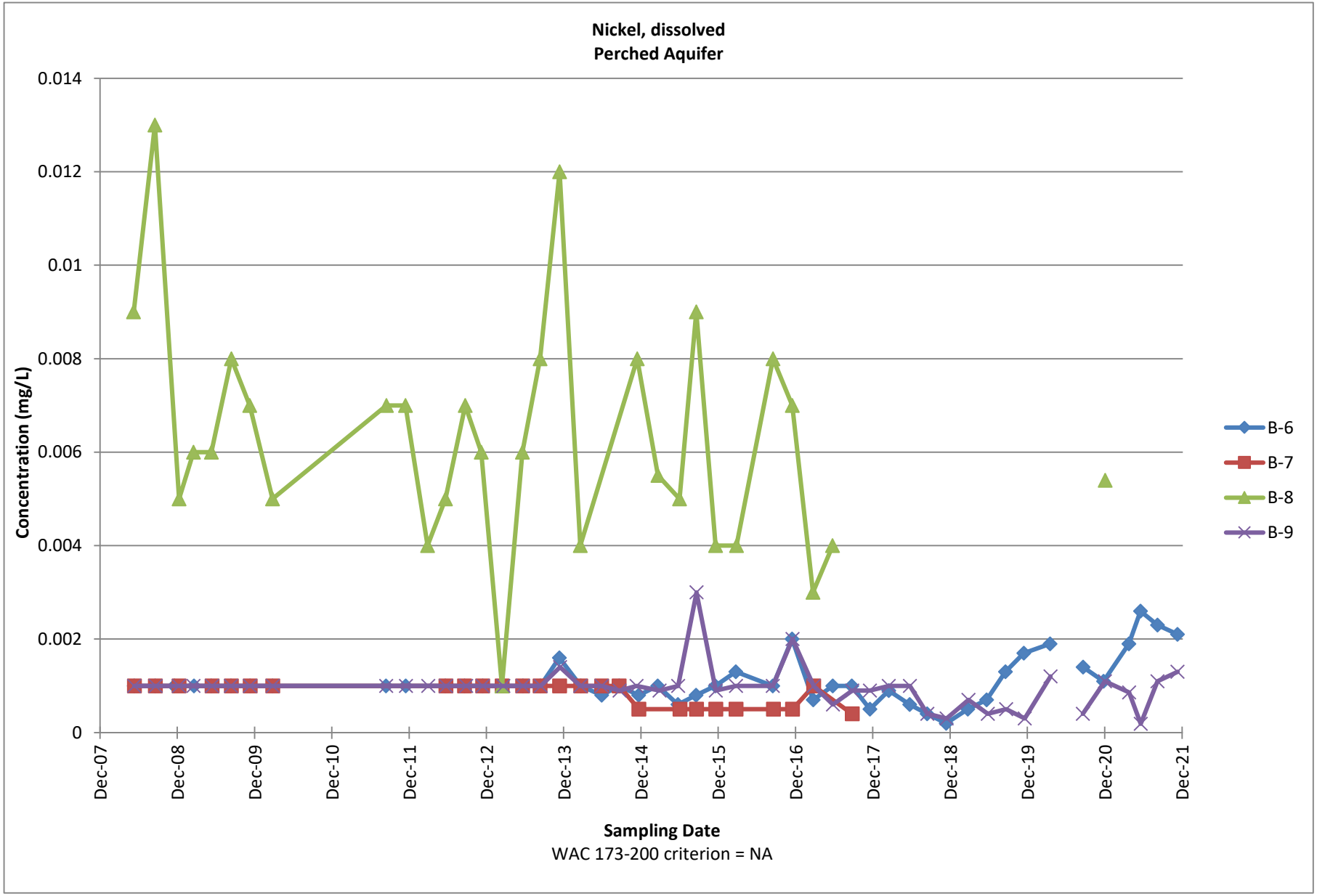

Iron, dissolved
Perched Aquifer
100
10
1
0.1
0.01
0.001
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-6
B-8
B-9
B-11
B-13
WAC
WAC 173-200 criterion = 0.3 mg/L

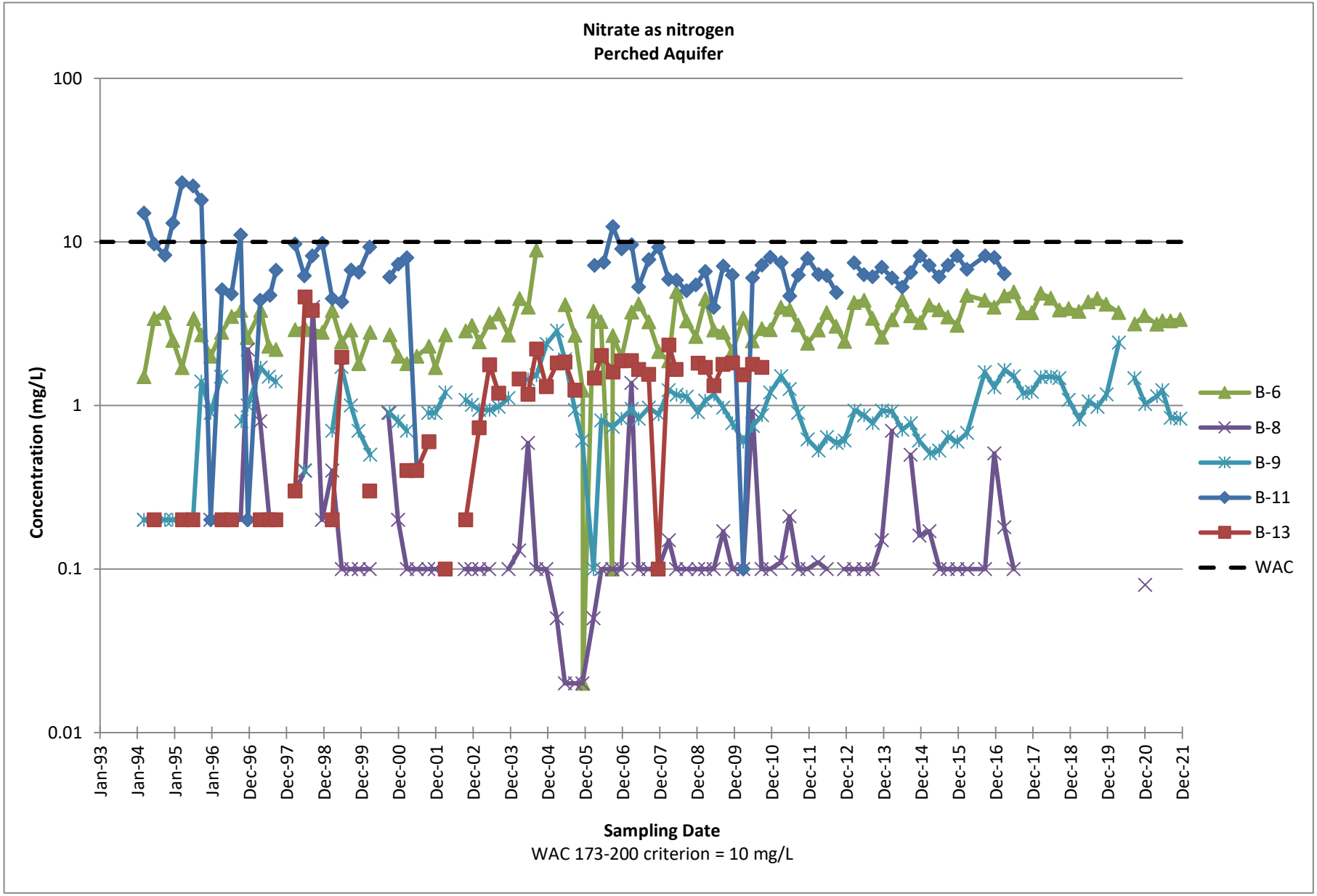

Lead, dissolved
Perched Aquifer
1
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-6
B-7
B-8
B-9
WAC
WAC 173-200 criterion = 0.05 mg/l

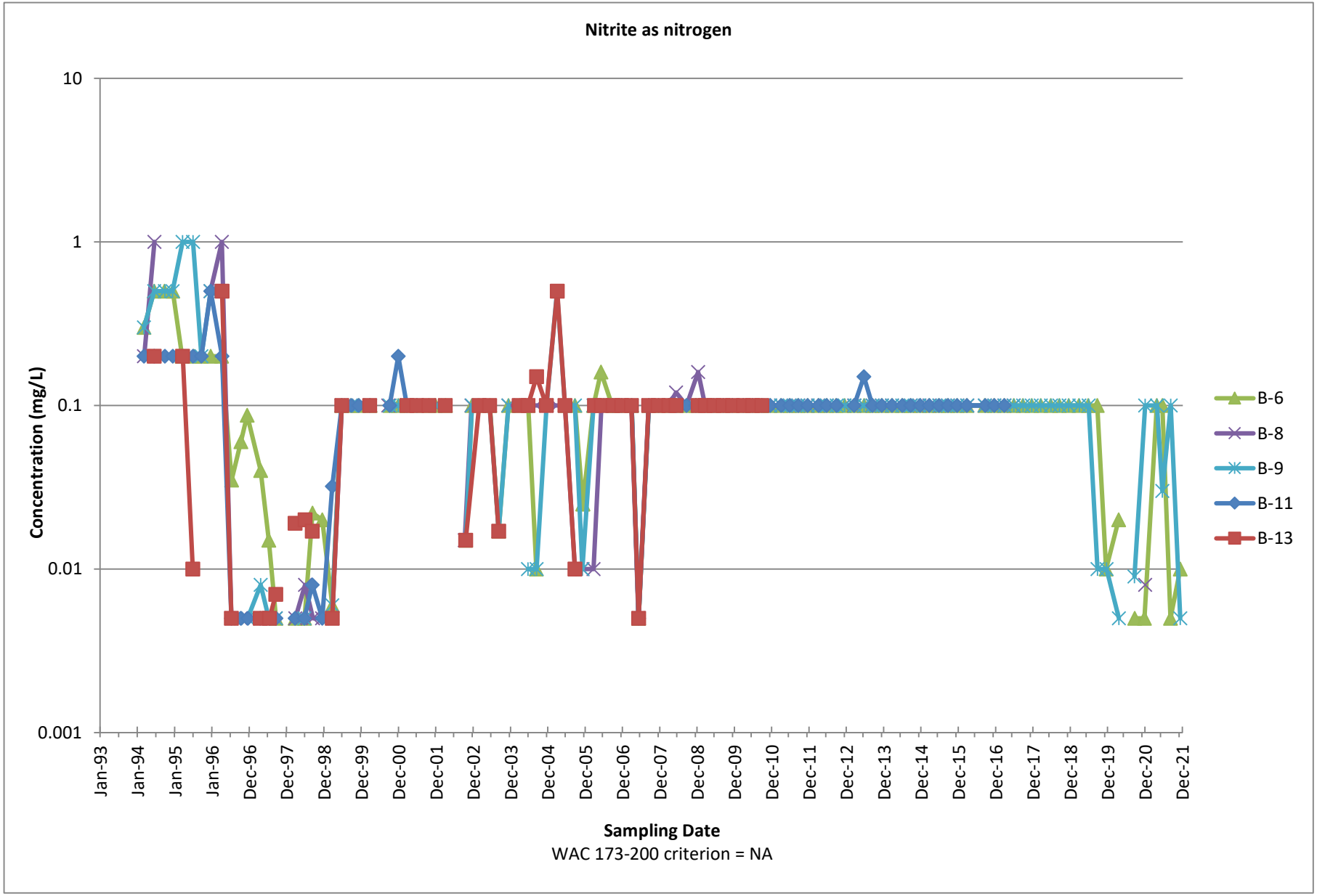

Magnesium, total
Perched Aquifer
Concentration (mg/L)
70
60
50
40
30
20
10
0
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
Sampling Date
WAC 173-200 criterion = NA

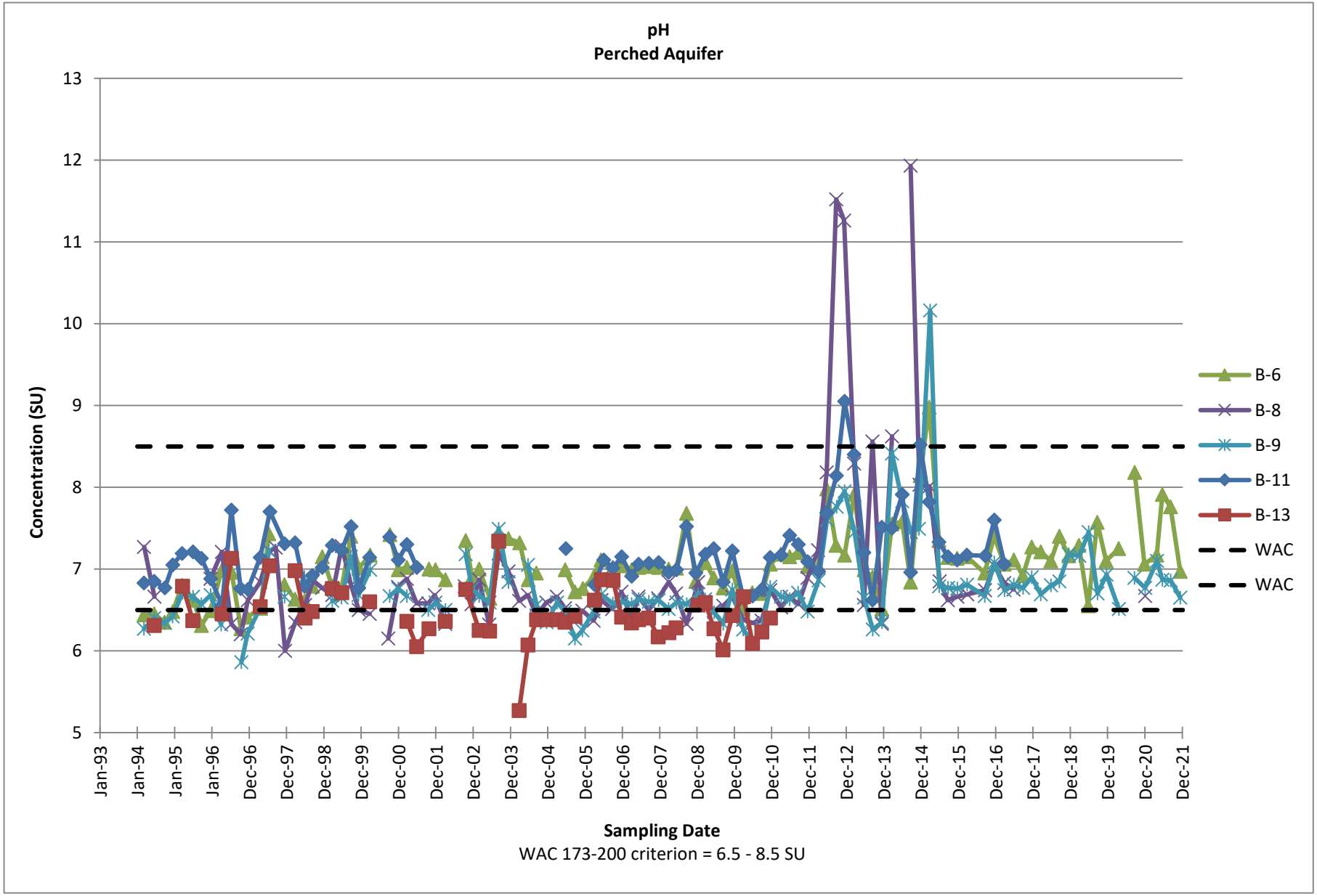

Manganese, dissolved
Perched Aquifer
100
10
1
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 0.05 mg/L
B-6
B-8
B-9
B-11
B-13
WAC

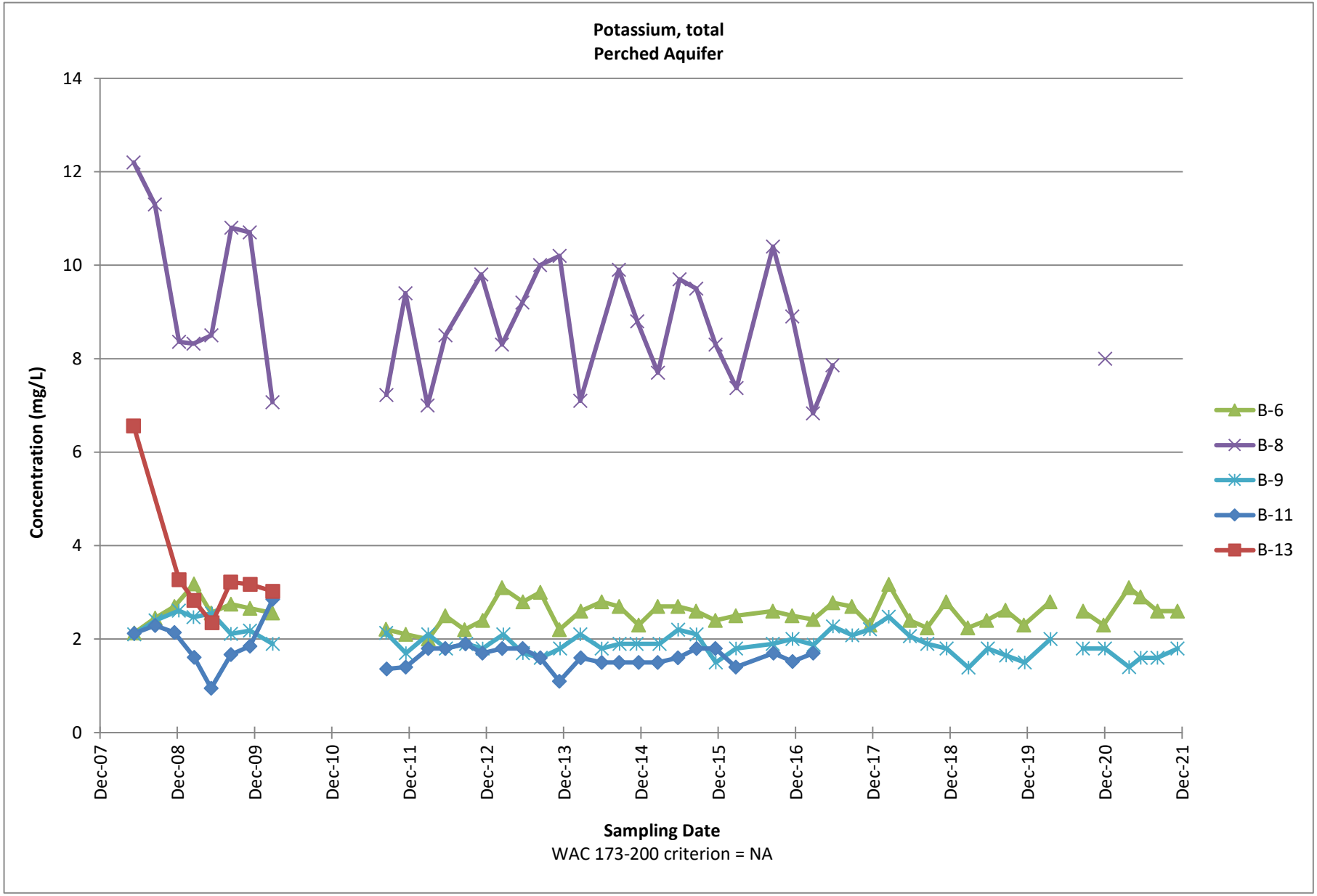

Mercury, dissolved
Perched Aquifer
0.0025
0.002
0.0015
0.001
0.0005
0
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-6
B-7
B-8
B-9
WAC
WAC 173-200 criterion = 0.002 mg/l

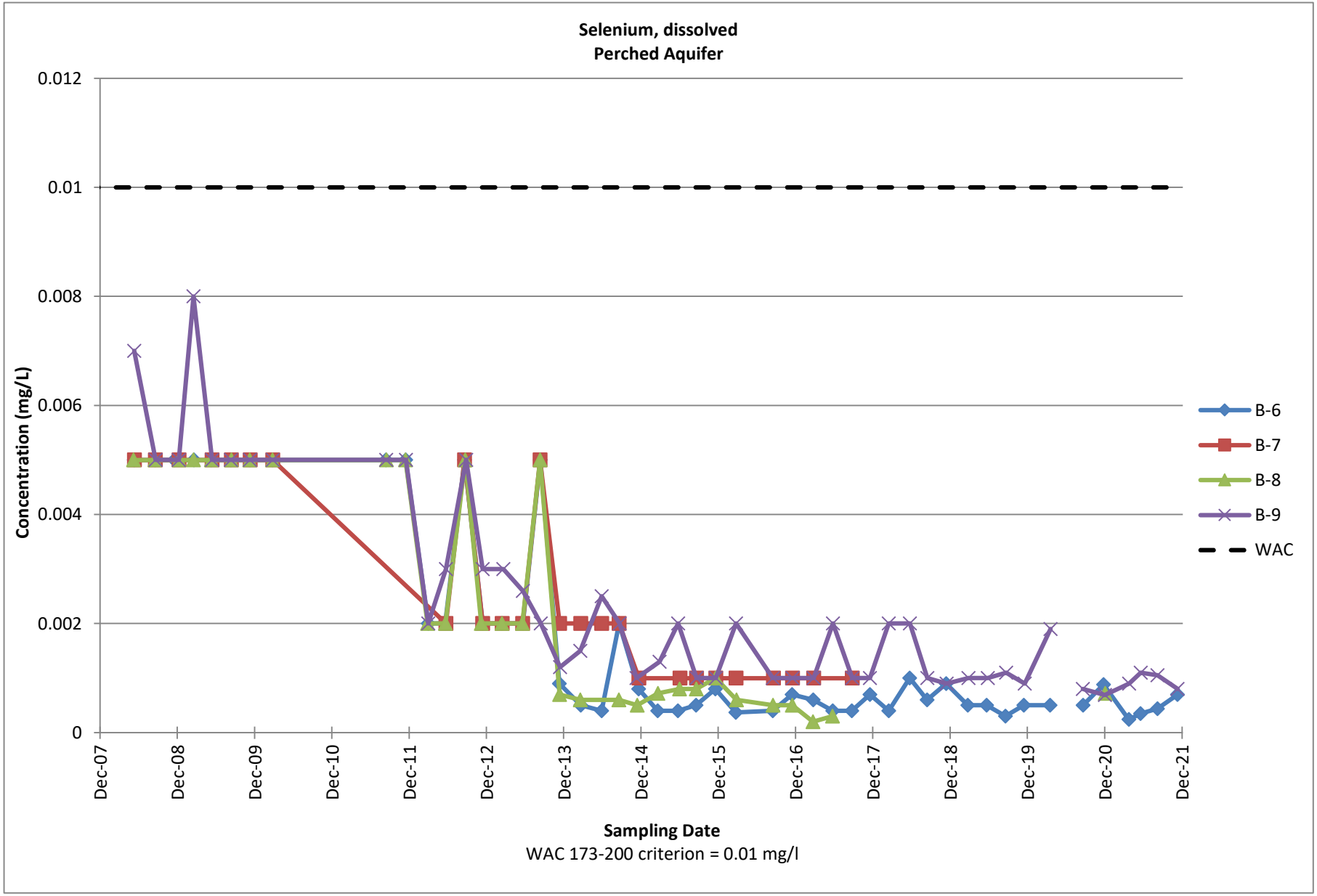

Nickel, dissolved
Perched Aquifer
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-7
B-8
B-9
Sampling Date
WAC 173-200 criterion = NA

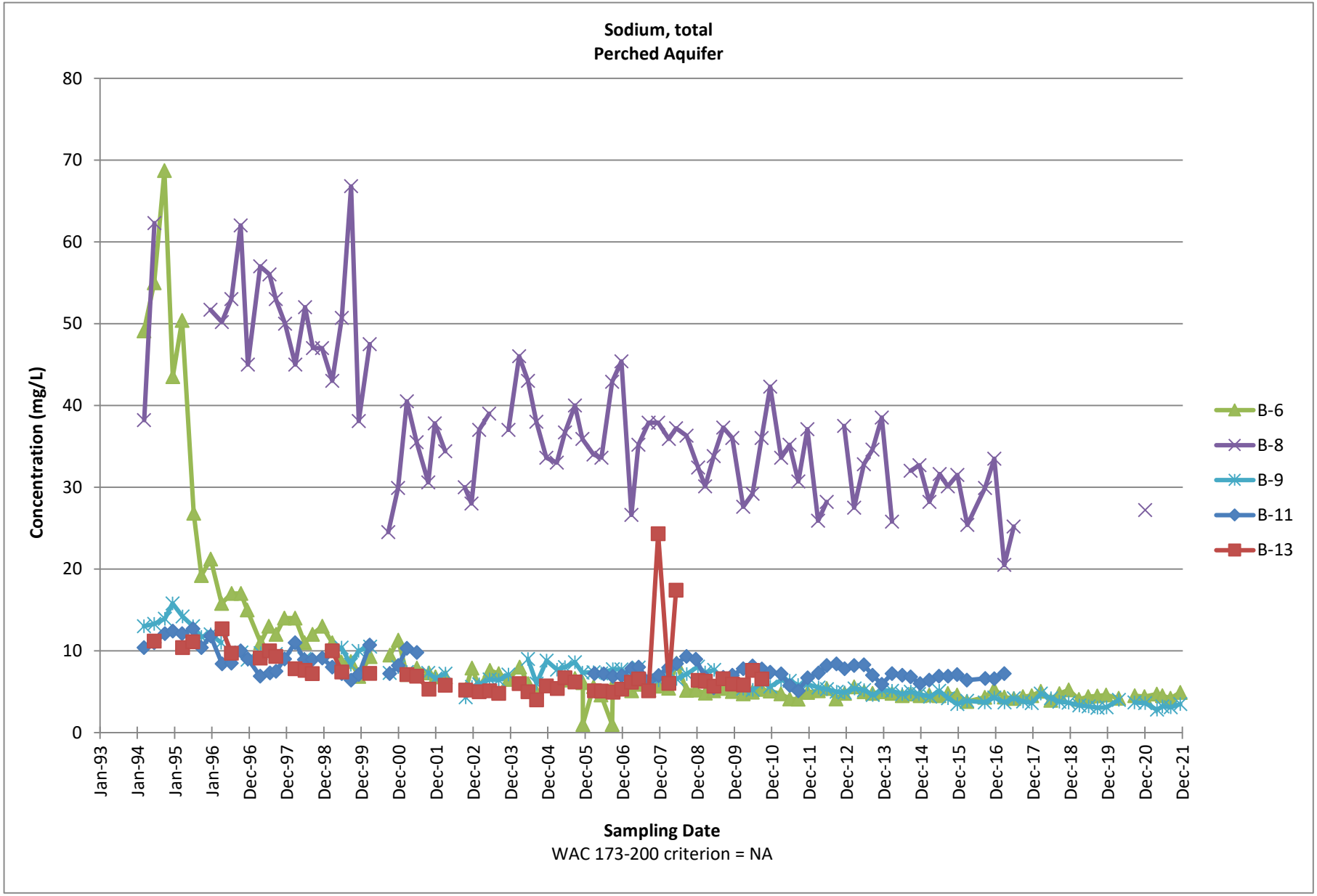

Nitrate as nitrogen
Perched Aquifer
100
10
1
0.1
0.01
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-6
B-8
B-9
B-11
B-13
WAC
WAC 173-200 criterion = 10 mg/L

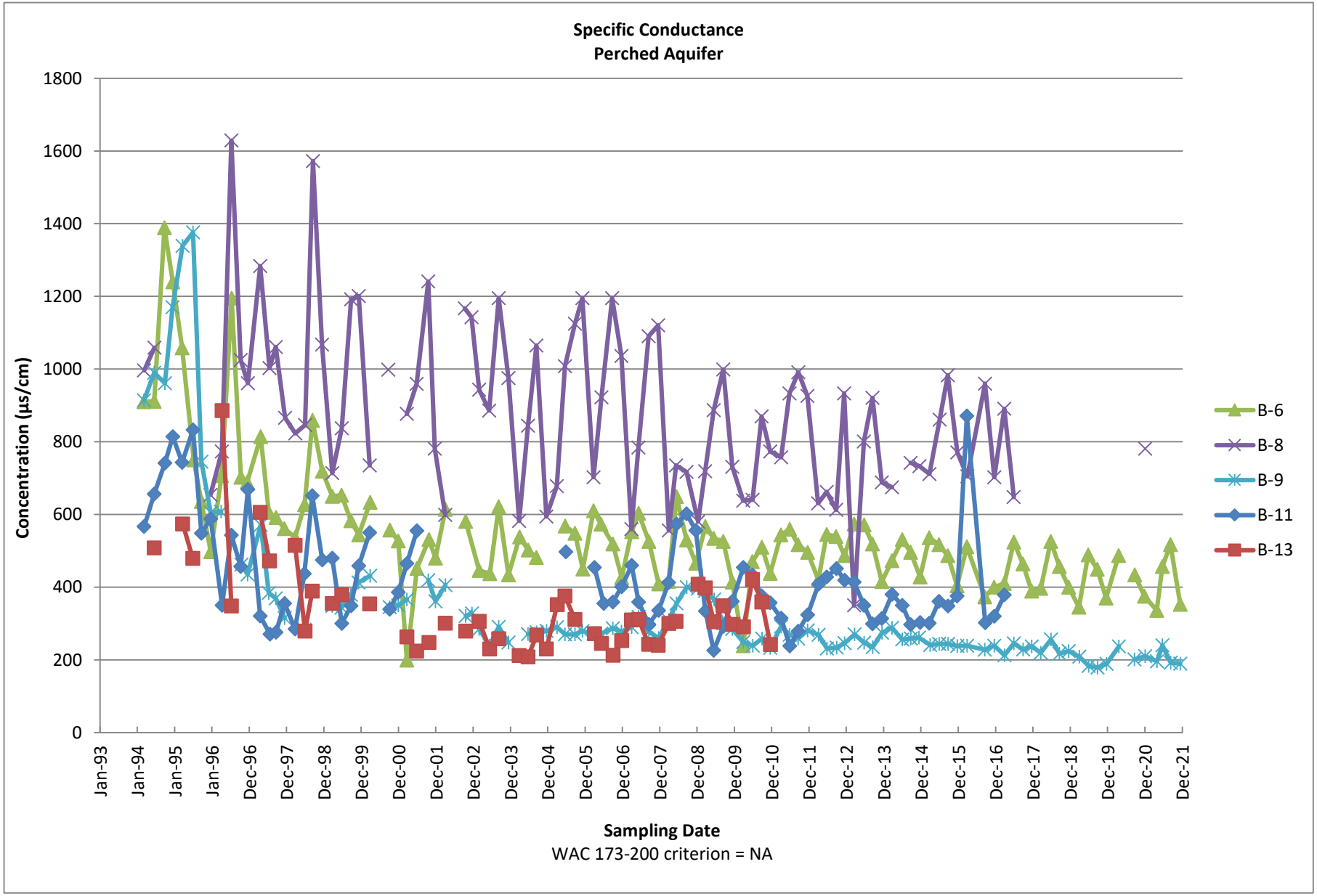

Nitrite as nitrogen
10
1
0.1
0.01
0.001
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-6
B-8
B-9
B-11
B-13

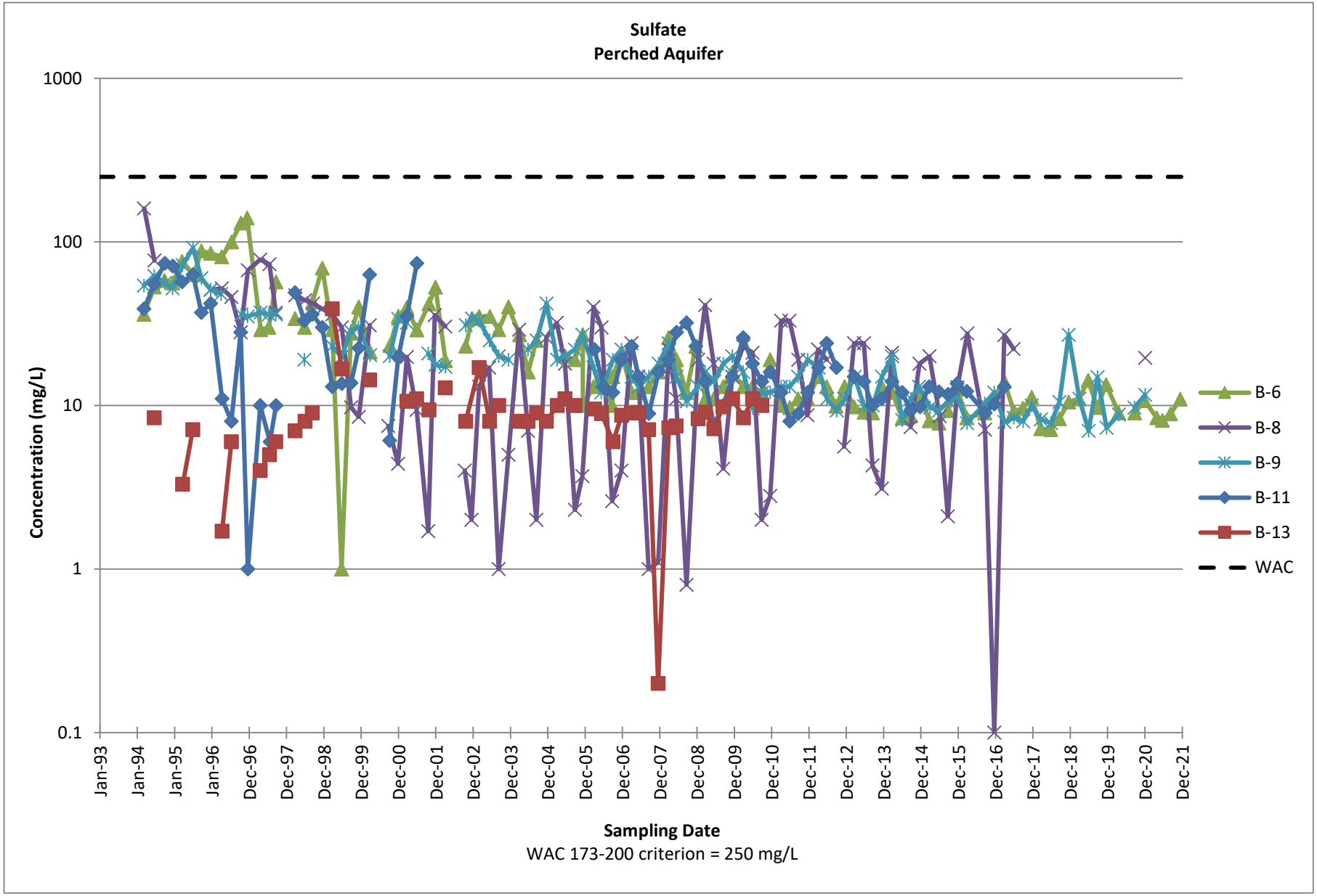

pH
Perched Aquifer
Concentration (SU)
13
12
11
10
9
8
7
6
5
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
WAC
WAC
Sampling Date
WAC 173-200 criterion = 6.5 - 8.5 SU

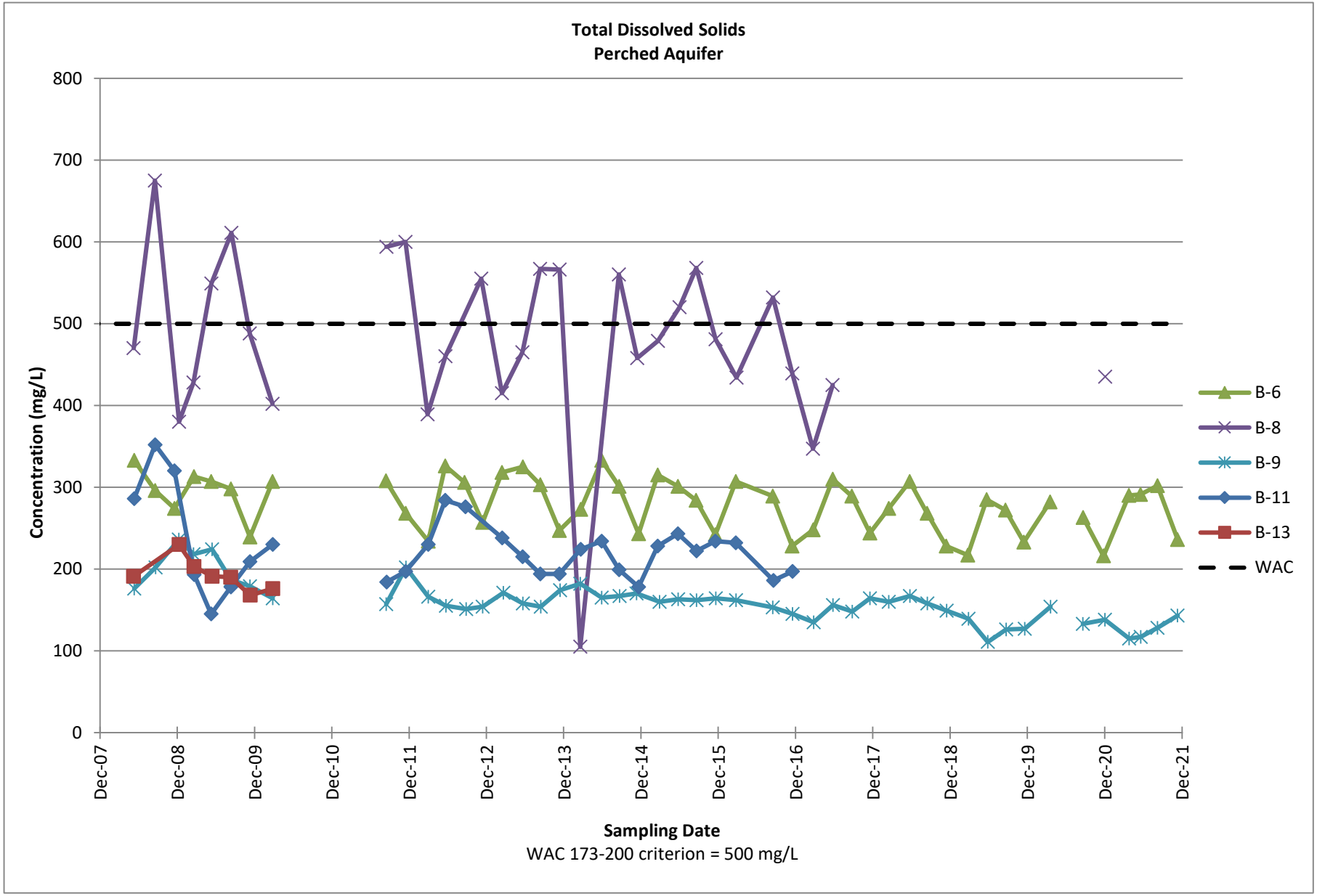

Potassium, total
Perched Aquifer
Concentration (mg/L)
14
12
10
8
6
4
2
0
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
Sampling Date
WAC 173-200 criterion = NA

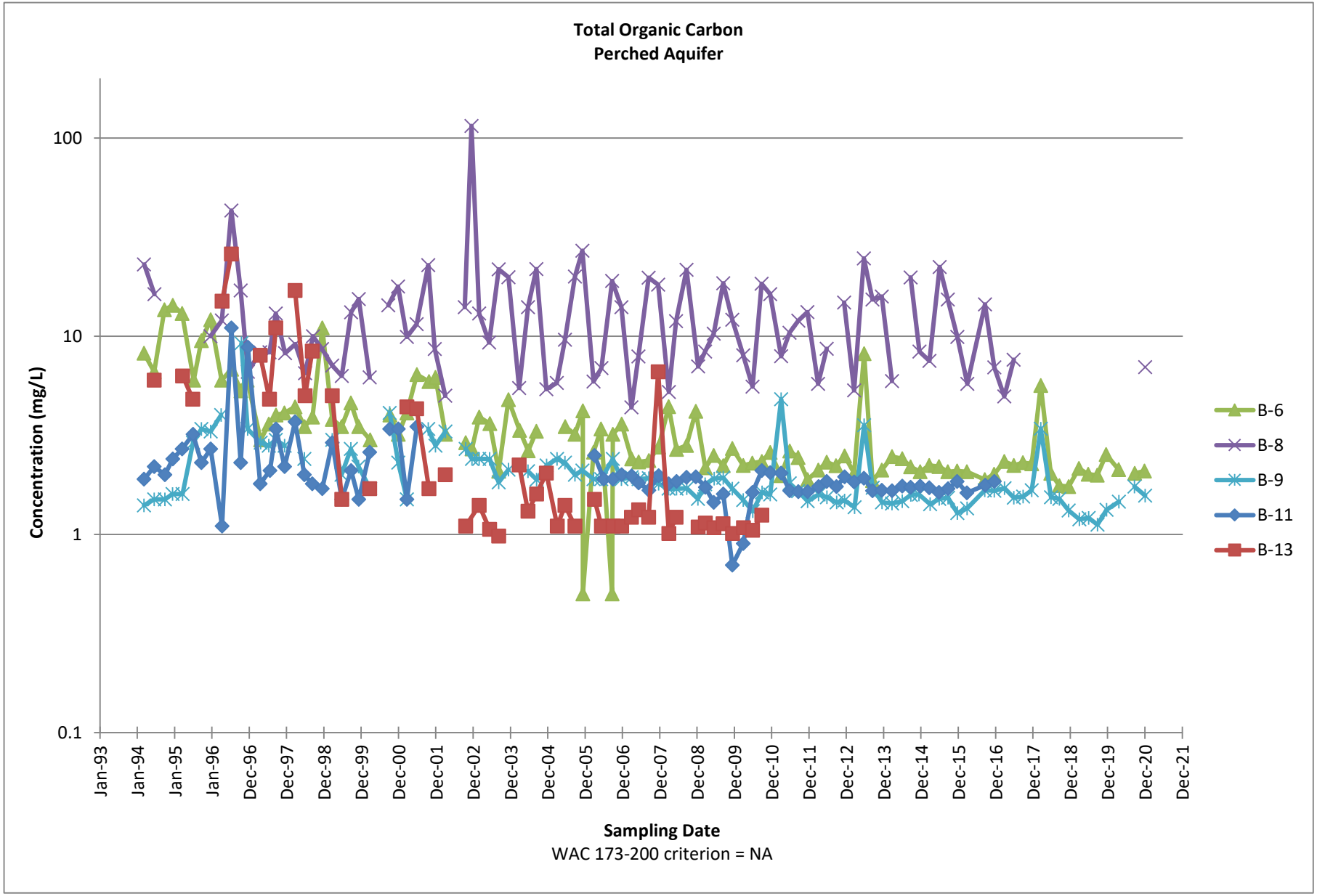

Selenium, dissolved
Perched Aquifer
0.012
0.01
0.008
0.006
0.004
0.002
0
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-7
B-8
B-9
WAC
Sampling Date
WAC 173-200 criterion = 0.01 mg/l

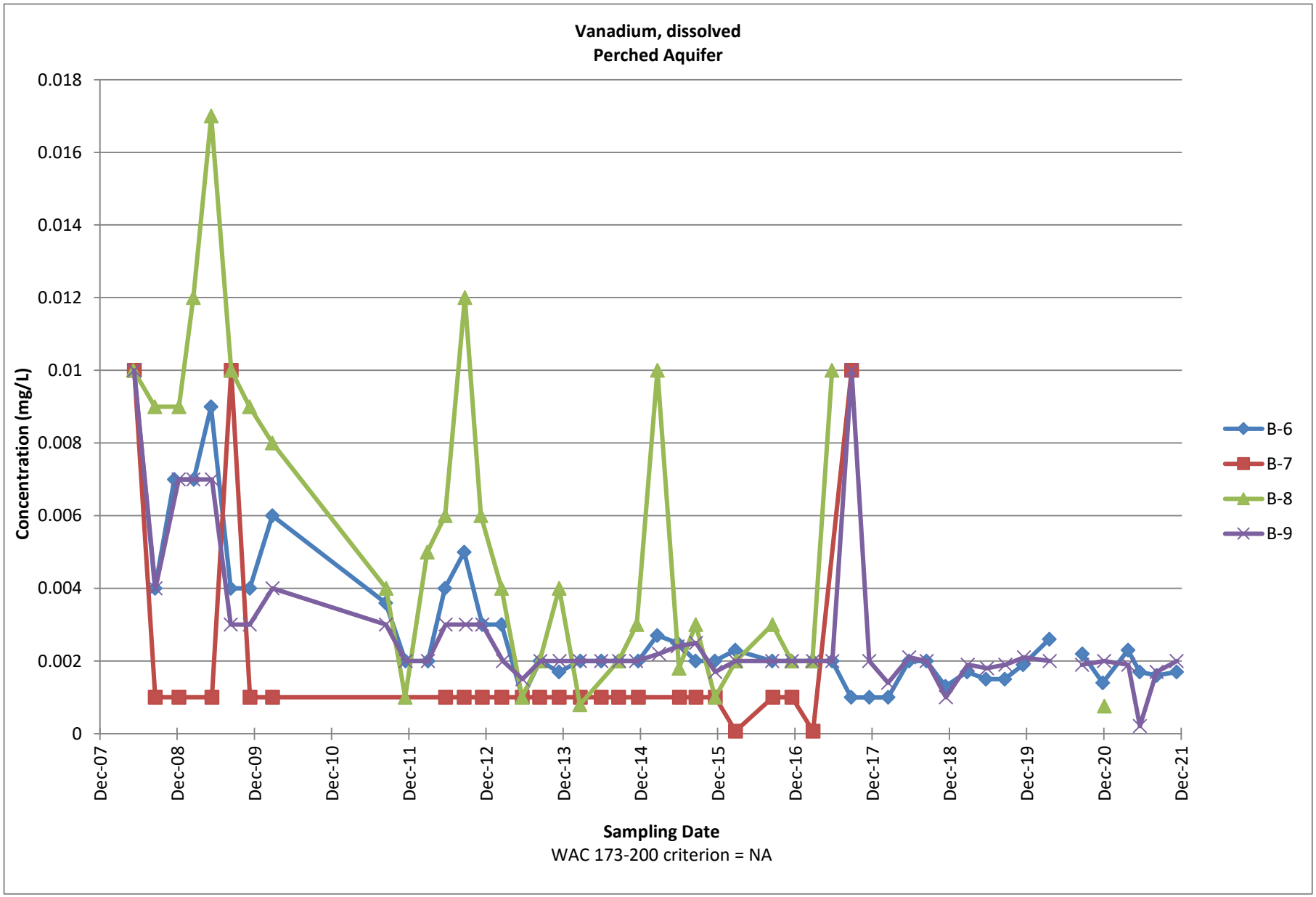

Sodium, total
Perched Aquifer
Concentration (mg/L)
80
70
60
50
40
30
20
10
0
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
Sampling Date
WAC 173-200 criterion = NA

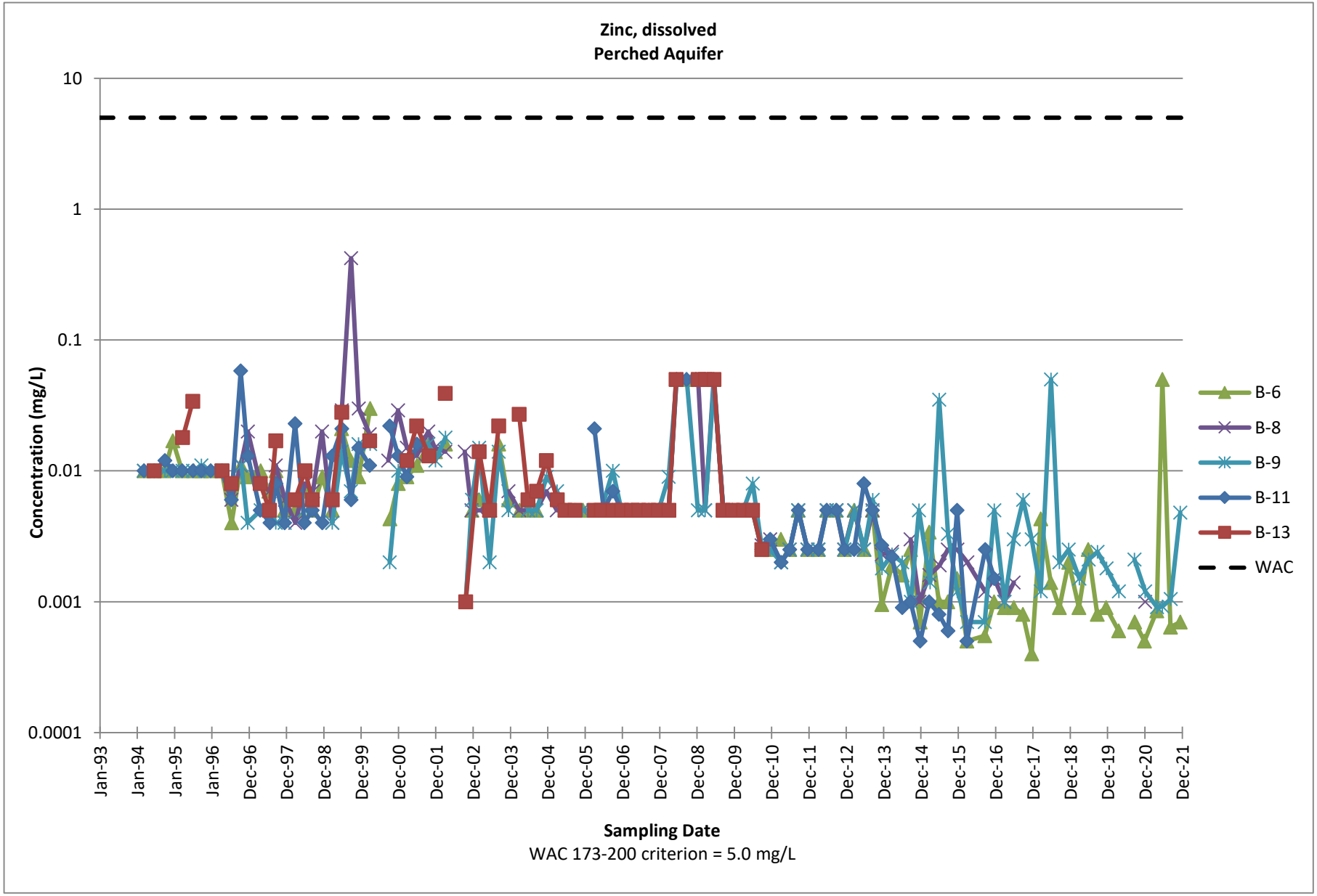

Specific Conductance
Perched Aquifer
Concentration (µs/cm)
1800
1600
1400
1200
1000
800
600
400
200
0
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
Sampling Date
WAC 173-200 criterion = NA


Sulfate
Perched Aquifer
1000
100
10
1
0.1
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
WAC
Sampling Date
WAC 173-200 criterion = 250 mg/L


Total Dissolved Solids
Perched Aquifer
Concentration (mg/L)
800
700
600
500
400
300
200
100
0
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
WAC
Sampling Date
WAC 173-200 criterion = 500 mg/L


Total Organic Carbon
Perched Aquifer
Concentration (mg/L)
100
10
1
0.1
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-8
B-9
B-11
B-13
Sampling Date
WAC 173-200 criterion = NA


Vanadium, dissolved
Perched Aquifer
Concentration (mg/L)
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-6
B-7
B-8
B-9
Sampling Date
WAC 173-200 criterion = NA


Zinc, dissolved
Perched Aquifer
10
1
0.1
0.01
0.001
0.0001
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-6
B-8
B-9
B-11
B-13
WAC
WAC 173-200 criterion = 5.0 mg/L

APPENDIX B-1
2021 Groundwater Monitoring Data – Upper Regional Aquifer

2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL			B-1	B-1	B-1	B-1
Sampling Date			4/22/2021	6/15/2021	9/3/2021	12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
CONVENTIONALS						
Chemical Oxygen Demand	mg/L		8 U	20 U	20 U	13 J
Total Organic Carbon	mg/L		1.65	2.27	1.75	1.74
Total Dissolved Solids †	mg/L	**500	**521**	349	**525**	**520**
Alkalinity †	mg/L		364	261	354	379
Bicarbonate †	mg CaCO3/L		389	261	0.00	379
Ammonia as nitrogen	mg/L		0.31	0.28	0.24	0.23
Nitrate as nitrogen	mg/L	*10	0.1 U	0.01 U	0.1 U	0.005 U
Nitrite as nitrogen	mg/L		0.1 U	0.005 U	0.1 U	0.0039 J
Chloride	mg/L	**250	64.3	39.6	56.2	57.7
Sulfate	mg/L	**250	5.28	2.6	4.51	4.8
pH	SU	**6.5-8.5	6.97	7.01	6.94	6.97
Specific Conductance	µS/cm		401	1096	1001	944
Temperature	C		10.7	11.24	12.6	10.38
METALS						
Dissolved Antimony †	mg/L		0.005 U	0.00011 J	0.005 U	0.001 U
Dissolved Arsenic	mg/L	***0.00005	**0.046**	**0.0369**	**0.0444**	**0.05**
Dissolved Barium †	mg/L	*1.0	0.0383	0.0314	0.0391	0.0412
Dissolved Cadmium	mg/L	*0.01	1.3E-05 J	0.001 U	0.001 U	1E-05
Dissolved Chromium †	mg/L	*0.05	0.0042	0.00036 J	0.0044	0.0042
Dissolved Cobalt †	mg/L		0.00083 J	0.01 U	0.0009	0.0011
Dissolved Copper †	mg/L	**1.0	0.02 U	0.00013 J	0.02 U	0.002 U
Dissolved Iron	mg/L	**0.3	**2.61**	**1.59**	**2.56**	**2.56**
Dissolved Lead	mg/L	*0.05	3.8E-05 J	3.5E-05 J	4E-05 J	3E-05
Dissolved Manganese	mg/L	**0.05	**2.75**	**2.35**	**2.61**	**2.99**
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U	0.0005 U
Dissolved Nickel †	mg/L		0.0064	0.0026	0.0077	0.0076
Dissolved Selenium †	mg/L	*0.01	0.0011 J	0.00064 J	0.0015 J	0.0021
Dissolved Vanadium †	mg/L		0.0019	0.00019 J	0.002	0.002
Dissolved Zinc	mg/L	**5.0	0.00056 J	0.05 U	0.00051 J	0.0004 J
Total Calcium	mg/L		92.2	52.4	84.3	86.4
Total Magnesium †	mg/L		63.2	37.2	6.7	60.2
Total Potassium †	mg/L		6.8	4.9	60	5.8
Total Sodium	mg/L		16.4	14.8	16.4	16.1

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen

Units:

mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:

U — Indicates the analyte of interest was not detected, to the limit of detection
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded
NT — Not tested.

Results shown in bold exceed Ground Water Quality Criteria.
† Indicates supplement analytes measured due to Ecology request

2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL			B-2	B-2	B-2	B-2
Sampling Date			4/21/2021	6/11/2021	9/2/2021	12/3/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
CONVENTIONALS						
Chemical Oxygen Demand	mg/L		10	8 U	20 U	20 U
Total Organic Carbon	mg/L		1.47	0.82	1.12	1.1
Total Dissolved Solids †	mg/L	**500	241	221	228	206
Alkalinity †	mg/L		88.9	132	134	139
Bicarbonate †	mg CaCO3/L		88.6	132	134	139
Ammonia as nitrogen	mg/L		0.01 U	0.01 U	0.01	0.01 U
Nitrate as nitrogen	mg/L	*10	2	1.21	1.9	2.16
Nitrite as nitrogen	mg/L		0.1 U	0.1 U	0.005 U	0.1 U
Chloride	mg/L	**250	8.9	4.9	8.5	9.5
Sulfate	mg/L	**250	31	30	29	35.1
pH	SU	**6.5-8.5	6.79	6.7	6.67	7.91
Specific Conductance	µS/cm		357	401	401	377
Temperature	C		10.94	11.94	12.48	9.97
METALS						
Dissolved Antimony †	mg/L		0.005 U	0.0001 J	0.0001 J	0.001 U
Dissolved Arsenic	mg/L	***0.00005	**0.00081** J	**0.0008** J	**0.00087** J	**0.0009** J
Dissolved Barium †	mg/L	*1.0	0.0313	0.0278	0.029	0.0335
Dissolved Cadmium	mg/L	*0.01	1.2E-05 J	1.2E-05 J	0.001 U	0.001 U
Dissolved Chromium †	mg/L	*0.05	0.0032	0.0022	0.0019	0.0022
Dissolved Cobalt †	mg/L		8.4E-05 J	0.0001 J	8E-05 J	9E-05 J
Dissolved Copper †	mg/L	**1.0	0.00052 J	0.0007 J	0.00045 J	0.002 U
Dissolved Iron	mg/L	**0.3	0.014 J	**15.54**	0.05 U	0.051
Dissolved Lead	mg/L	*0.05	0.001 U	0.001 U	0.001 U	0.001 U
Dissolved Manganese	mg/L	**0.05	0.01	0.0067	0.0028 J	0.0059
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Dissolved Nickel †	mg/L		0.002	0.0025	0.0021	0.0025
Dissolved Selenium †	mg/L	*0.01	0.0034 J	0.0032	0.0022 J	0.0014
Dissolved Vanadium †	mg/L		0.0022	0.002	0.002	0.002
Dissolved Zinc	mg/L	**5.0	0.00054 J	0.0006 J	0.00059 J	0.0004 J
Total Calcium	mg/L		34.8	28.8	28.6	32.4
Total Magnesium †	mg/L		13.4	11.9	11.3	13
Total Potassium †	mg/L		29.1	27.6	25.4	27.6
Total Sodium	mg/L		8.8	8	8	9.2

Groundwater Quality Criteria:
* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen

Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:
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J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded
NT — Not tested.

Results shown in bold exceed Ground Water Quality Criteria.
† Indicates supplement analytes measured due to Ecology request

2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL			B-3	B-3	B-3	B-3
Sampling Date			4/21/2021	6/14/2021	9/2/2021	12/3/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
CONVENTIONALS						
Chemical Oxygen Demand	mg/L		8 U	8 U	20 U	20
Total Organic Carbon	mg/L		2.63	2.14	1.15	4.8
Total Dissolved Solids †	mg/L	**500	194	175	165	311
Alkalinity †	mg/L		143	111	109	250
Bicarbonate †	mg CaCO3/L		143	111	109	250
Ammonia as nitrogen	mg/L		1.25	1.07	0.79	1.46
Nitrate as nitrogen	mg/L	*10	0.1 U	0.1 U	0.01 U	0.1 U
Nitrite as nitrogen	mg/L		0.1 U	0.1 U	0.005 U	0.1 U
Chloride	mg/L	**250	12.7	7.8	4.78	34.1
Sulfate	mg/L	**250	0.2 U	0.2 U	0.2 U	0.2 U
pH	SU	**6.5-8.5	6.94	7.22	7.12	7.88
Specific Conductance	µS/cm		425	270	262	573
Temperature	C		13.81	13.32	13.63	13.05
METALS						
Dissolved Antimony †	mg/L		0.005 U	0.01 U	0.005 U	0.001 U
Dissolved Arsenic	mg/L	***0.00005	**0.003**	**0.0022**	**0.0021**	**0.0033**
Dissolved Barium †	mg/L	*1.0	0.0962	0.0603	0.0577	0.183
Dissolved Cadmium	mg/L	*0.01	0.001 U	1.6E-05 J	0.001 U	0.001 U
Dissolved Chromium †	mg/L	*0.05	0.00041 J	0.0008 J	0.00054 J	0.0019
Dissolved Cobalt †	mg/L		0.00022 J	0.0002 J	7E-05 J	0.0004 J
Dissolved Copper †	mg/L	**1.0	0.00042 J	0.00019 J	0.002 U	0.002 U
Dissolved Iron	mg/L	**0.3	**5.51**	**3.77**	**2.77**	**9.85**
Dissolved Lead	mg/L	*0.05	0.001 U	0.001 U	0.001 U	0.001 U
Dissolved Manganese	mg/L	**0.05	**0.454**	**0.435**	**0.273**	**1.14**
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Dissolved Nickel †	mg/L		0.001	0.0011 J	0.0006 J	0.0025
Dissolved Selenium †	mg/L	*0.01	0.00021 J	0.00019 J	0.00011 J	0.0008 J
Dissolved Vanadium †	mg/L		0.00045 J	0.0003 J	0.00037 J	0.001
Dissolved Zinc	mg/L	**5.0	0.00066 J	0.00054 J	0.0002 J	0.0003 J
Total Calcium	mg/L		23.3	20.5	15	43.1
Total Magnesium †	mg/L		15.8	13.8	10.2	29.9
Total Potassium †	mg/L		5.2	5.3	3.5	6.6
Total Sodium	mg/L		12	10.4	7.7	15

Groundwater Quality Criteria:
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** = Secondary Contaminant
*** = Carcinogen

Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:
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J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded
NT — Not tested.

Results shown in bold exceed Ground Water Quality Criteria.
† Indicates supplement analytes measured due to Ecology request

2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL			B-4	B-4	B-4	B-4
Sampling Date			4/22/2021	6/15/2021	9/3/2021	12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
CONVENTIONALS						
Chemical Oxygen Demand	mg/L		18 U	20 U	20 U	12 J
Total Organic Carbon	mg/L		6.98	1.68	1.58	1.81
Total Dissolved Solids †	mg/L	**500	435	**601**	**619**	**621**
Alkalinity †	mg/L		325	332	315	375
Bicarbonate †	mg CaCO3/L		386	332	0.00	375
Ammonia as nitrogen	mg/L		1.01	0.96	0.92	1
Nitrate as nitrogen	mg/L	*10	0.1 U	0.01 U	0.11	0.005 U
Nitrite as nitrogen	mg/L		0.1 U	0.01	0.1 U	0.02 M
Chloride	mg/L	**250	108	109	108	98.4
Sulfate	mg/L	**250	52.9	48.8	49.3	45
pH	SU	**6.5-8.5	6.67	6.7	6.88	6.67
Specific Conductance	µS/cm		1102	1101	1048	1013
Temperature	C		10.27	9.96	11.03	10.03
METALS						
Dissolved Antimony †	mg/L		0.005 U	5.8E-05 J	0.005 U	0.001 U
Dissolved Arsenic	mg/L	***0.00005	**0.0022**	**0.0021**	**0.0022**	**0.0021**
Dissolved Barium †	mg/L	*1.0	0.0982	0.0933	0.0964	0.0955
Dissolved Cadmium	mg/L	*0.01	0.001 U	0.001 U	0.001 U	0.001 U
Dissolved Chromium †	mg/L	*0.05	0.0034 J	0.0004 J	0.004 J	0.0026
Dissolved Cobalt †	mg/L		0.00024 J	0.01 U	0.00022 J	0.0002 J
Dissolved Copper †	mg/L	**1.0	0.02 U	0.00082 J	0.02 U	0.002 U
Dissolved Iron	mg/L	**0.3	**5.27**	**5.56**	**5.33**	**5.44**
Dissolved Lead	mg/L	*0.05	0.001 U	0.001 U	0.001 U	0.001 U
Dissolved Manganese	mg/L	**0.05	**1.29**	**1.32**	**0.994**	**1.29**
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Dissolved Nickel †	mg/L		0.0026	0.0013	0.0032	0.0034
Dissolved Selenium †	mg/L	*0.01	0.0016 J	0.0012 J	0.002 J	0.0023
Dissolved Vanadium †	mg/L		0.001 J	0.00014 J	0.0011	0.0007 J
Dissolved Zinc	mg/L	**5.0	0.00059 J	0.05 U	0.00043 J	0.0005 J
Total Calcium	mg/L		80.3	86.2	77.8	80
Total Magnesium †	mg/L		66.6	72.2	65.6	68.1
Total Potassium †	mg/L		7.6	7	7.4	6.9
Total Sodium	mg/L		16.4	18.6	16.4	17

Groundwater Quality Criteria:
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*** = Carcinogen

Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:
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2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL			B-5	B-5	B-5	B-5
Sampling Date			4/21/2021	6/11/2021	9/2/2021	12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
CONVENTIONALS						
Chemical Oxygen Demand	mg/L		14	27	33	68
Total Organic Carbon	mg/L		7.5	8.4	7.94	9.36
Total Dissolved Solids †	mg/L	**500	397	**512**	457	393
Alkalinity †	mg/L		262	325	285	111
Bicarbonate †	mg CaCO3/L		262	325	285	111
Ammonia as nitrogen	mg/L		1.28	1.38	1.37	0.17
Nitrate as nitrogen	mg/L	*10	0.47	0.17	0.47	23.8
Nitrite as nitrogen	mg/L		0.1 U	0.1 U	0.04	0.005 U
Chloride	mg/L	**250	70	95.6	85.8	40.9
Sulfate	mg/L	**250	0.2	0.2	0.34	5.7
pH	SU	**6.5-8.5	7.67	8.36	8.01	6.41
Specific Conductance	µS/cm		837	824	810	961
Temperature	C		11.59	11.42	11.68	13.54
METALS						
Dissolved Antimony †	mg/L		0.005 U	0.005 U	0.005 U	0.0001 J
Dissolved Arsenic	mg/L	***0.00005	**0.0051**	**0.0049**	**0.0055**	**0.0007** J
Dissolved Barium †	mg/L	*1.0	0.0868	0.122	0.104	0.0511
Dissolved Cadmium	mg/L	*0.01	1.7E-05 J	1.7E-05 J	0.001 U	0.0004 J
Dissolved Chromium †	mg/L	*0.05	0.0011 J	0.0029	0.001	0.0014
Dissolved Cobalt †	mg/L		0.0008 J	0.0013	0.00081 J	0.0003 J
Dissolved Copper †	mg/L	**1.0	0.02 U	0.0004 J	0.002 U	0.0019 J
Dissolved Iron	mg/L	**0.3	**12.12**	**15.04**	**16.4**	0.13
Dissolved Lead	mg/L	*0.05	0.001 U	0.001 U	0.001 U	1.7E-05 J
Dissolved Manganese	mg/L	**0.05	**1.69**	**2.37**	**1.85**	0.0352
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U	0.0005 U
Dissolved Nickel †	mg/L		0.005	0.0079	0.0051	0.0061
Dissolved Selenium †	mg/L	*0.01	0.0019 J	0.0022	0.0031 J	0.0019
Dissolved Vanadium †	mg/L		0.00042 J	0.0011	0.0006 J	0.0004 J
Dissolved Zinc	mg/L	**5.0	0.00062 J	0.0004 J	0.00065 J	0.0086
Total Calcium	mg/L		44.6	54.6	43.2	40.7
Total Magnesium †	mg/L		37.2	45.7	35.8	25.5
Total Potassium †	mg/L		5.5	6.8	6	4.6
Total Sodium	mg/L		41.8	47.2	44.8	24.3

Groundwater Quality Criteria:
* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen

Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:
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2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL			B-10	B-10	B-10	B-10
Sampling Date			4/22/2021	6/15/2021	9/3/2021	12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
CONVENTIONALS						
Chemical Oxygen Demand	mg/L		8 U	20 U	20 U	6 J
Total Organic Carbon	mg/L		0.86	0.9	0.86	0.93
Total Dissolved Solids †	mg/L	**500	200	186	185	175
Alkalinity †	mg/L		137	132	124	128
Bicarbonate †	mg CaCO3/L		146	132	0.00	128
Ammonia as nitrogen	mg/L		0.37	0.26	0.39	0.16
Nitrate as nitrogen	mg/L	*10	0.1 U	0.01 U	0.1 U	0.03
Nitrite as nitrogen	mg/L		0.1 U	0.02	0.1 U	0.005 U
Chloride	mg/L	**250	4.18	4.1	4.11	4.4
Sulfate	mg/L	**250	29.5	20.8	14.3	19.1
pH	SU	**6.5-8.5	8.36	7.36	7.11	7.7
Specific Conductance	µS/cm		298	311	287	398
Temperature	C		10.18	11.1	10.47	9.94
METALS						
Dissolved Antimony †	mg/L		0.005 U	0.005 U	0.005 U	0.001 U
Dissolved Arsenic	mg/L	***0.00005	**0.0019**	**0.0017**	**0.0017**	**0.0025**
Dissolved Barium †	mg/L	*1.0	0.0373	0.0361	0.031	0.033
Dissolved Cadmium	mg/L	*0.01	0.001 U	0.001 U	0.001 U	5E-05 J
Dissolved Chromium †	mg/L	*0.05	0.0014	0.00011 J	0.0014 J	0.0009 J
Dissolved Cobalt †	mg/L		6.3E-05 J	0.01 U	6E-05 J	7E-05 J
Dissolved Copper †	mg/L	**1.0	0.02 U	0.02 U	0.02 U	0.002 U
Dissolved Iron	mg/L	**0.3	**1.59**	**1.75**	**1.43**	**1.23**
Dissolved Lead	mg/L	*0.05	0.001 U	0.001 U	0.001 U	0.001 U
Dissolved Manganese	mg/L	**0.05	**0.381**	**0.36**	**0.32**	**0.3**
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U	0.0005 U
Dissolved Nickel †	mg/L		0.00069 J	0.001 U	0.00072 J	0.001
Dissolved Selenium †	mg/L	*0.01	0.005 U	0.005 U	0.00016 J	0.0008 J
Dissolved Vanadium †	mg/L		0.00047 J	0.01 U	0.001 U	0.0003 J
Dissolved Zinc	mg/L	**5.0	0.00028 J	0.05 U	0.00018 J	0.0017 J
Total Calcium	mg/L		31.5	26.5	22.2	24.4
Total Magnesium †	mg/L		22.4	19.3	16.4	17.1
Total Potassium †	mg/L		3.7	3.3	3.2	3
Total Sodium	mg/L		9.7	9	7.8	7.9

Groundwater Quality Criteria:
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*** = Carcinogen

Units:
mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:
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2021 Inorganic Monitoring Results
Inman Landfill

AQUIFER			Regional		
MONITORING WELL			B-12	B-12	B-12
Sampling Date			4/21/2021	6/14/2021	9/2/2021
Analyte	Units	GW Quality Standards (173-200 WAC)			
CONVENTIONALS					
Chemical Oxygen Demand	mg/L		8 U	8 U	20 U
Total Organic Carbon	mg/L		0.51	0.65	0.61
Total Dissolved Solids †	mg/L	**500	227	231	247
Alkalinity †	mg/L		194	178	203
Bicarbonate †	mg CaCO3/L		194	178	203
Ammonia as nitrogen	mg/L		0.2	0.37	0.26
Nitrate as nitrogen	mg/L	*10	0.1 U	0.1 U	0.01 U
Nitrite as nitrogen	mg/L		0.1 U	0.1 U	0.006
Chloride	mg/L	**250	4.3	4.3	4.25
Sulfate	mg/L	**250	14.4	14.3	15.9
pH	SU	**6.5-8.5	8.27	7.7	7.37
Specific Conductance	µS/cm		360	410	394
Temperature	C		11.84	12.2	12.08
METALS					
Dissolved Antimony †	mg/L		0.005 U	0.01 U	0.005 U
Dissolved Arsenic	mg/L	***0.00005	**0.004**	**0.0034**	**0.0043**
Dissolved Barium †	mg/L	*1.0	0.0336	0.0324	0.0348
Dissolved Cadmium	mg/L	*0.01	0.001 U	0.001 U	0.001 U
Dissolved Chromium †	mg/L	*0.05	0.01 U	0.0004	0.0015
Dissolved Cobalt †	mg/L		6.4E-05 J	9E-05 J	5E-05 J
Dissolved Copper †	mg/L	**1.0	0.00042 J	0.00017 J	0.002 U
Dissolved Iron	mg/L	**0.3	**0.63**	**0.61**	**0.61**
Dissolved Lead	mg/L	*0.05	0.001 U	0.001 U	0.001 U
Dissolved Manganese	mg/L	**0.05	**0.06**	**0.0747**	**0.0577**
Dissolved Mercury	mg/L	*0.002	0.0002 U	0.0002 U	0.0002 U
Dissolved Nickel †	mg/L		0.00069 J	0.0009 J	0.00084 J
Dissolved Selenium †	mg/L	*0.01	0.005 U	0.00019 J	0.0002 J
Dissolved Vanadium †	mg/L		0.00054 J	0.0006 J	0.00084 J
Dissolved Zinc	mg/L	**5.0	0.00028 J	0.05 U	0.00021 J
Total Calcium	mg/L		28	29.3	27.3
Total Magnesium †	mg/L		25.8	27.5	25.1
Total Potassium †	mg/L		4.8	4.7	4.5
Total Sodium	mg/L		13.6	13	12.9

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen

Units:

mg/L = milligrams per liter
µg/L = micrograms per liter
SU = standard units
µS/cm = microsiemens per centimeter
C = degrees centigrade
mg CaCO3/L = milligrams of calcium carbonate per liter

Qualifiers:

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J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded
NT — Not tested.

Results shown in bold exceed Ground Water Quality Criteria.
† Indicates supplement analytes measured due to Ecology request

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-1 4/22/2021	B-1 6/15/2021	B-1 9/3/2021	B-1 12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	5.2	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U	5 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U	3.4 JN
Acrolein	µg/L		4 U	4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		2.8	0.4 U	2.5	2.2
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.4	0.4 U	0.5 B	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Diethyl ether	µg/L		0.4 U	0.4 U	0.4 U	0.4 U

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-1 4/22/2021	B-1 6/15/2021	B-1 9/3/2021	B-1 12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
Ethyl methacrylate	µg/L		3 U	3 U	2 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U	0.4 U
Methylacrylonitrile	µg/L		4 U	4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		3 U	3 U	3 U	3 U
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	0.01 U	0.01 U	0.01 U	0.01 U

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

Units:

µg/L= micrograms per liter

Results shown in bold exceed Ground Water Quality Criteria.

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-2 4/21/2021	B-2 6/11/2021	B-2 9/2/2021	B-2 12/3/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	5 U	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U	5 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U	3 U
Acrolein	µg/L		4 U	4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.4	0.4 U	0.4 U	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		1	0.8	0.4 U	0.8
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.4 U	0.4 U	0.7	0.4 U
Diethyl ether	µg/L		0.4 U	0.4 U	0.4 U	0.4 U

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-2 4/21/2021	B-2 6/11/2021	B-2 9/2/2021	B-2 12/3/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
Ethyl methacrylate	µg/L		3 U	3 U	2 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U	0.4 U
Methylacrylonitrile	µg/L		4 U	4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		3 U	3 U	3 U	3 U
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	0.01 U	0.01 U	0.01 U	0.01 U

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

Units:

µg/L= micrograms per liter

Results shown in bold exceed Ground Water Quality Criteria.

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-3 4/21/2021	B-3 6/14/2021	B-3 9/2/2021	B-3 12/3/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	5 U	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U	5 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U	3 U
Acrolein	µg/L		4 U	4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		1.4	0.4 U	0.4 U	2.5
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.5	0.4 U	0.4 U	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.3 J	0.4 U	0.4 U	0.8
Diethyl ether	µg/L		1	0.4 U	0.4 U	4.2

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-3 4/21/2021	B-3 6/14/2021	B-3 9/2/2021	B-3 12/3/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
Ethyl methacrylate	µg/L		3 U	3 U	2 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U	0.4
Methylacrylonitrile	µg/L		4 U	4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		3 U	3 U	3 U	2.1
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	**0.025**	0.01 U	0.01 U	0.068 CE

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

Units:

µg/L= micrograms per liter

Results shown in bold exceed Ground Water Quality Criteria.

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-4 4/22/2021	B-4 6/15/2021	B-4 9/3/2021	B-4 12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	5 U	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U	5 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U	3 U
Acrolein	µg/L		4 U	4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		8.6	3.2	5.8	5.5
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.4 U	0.4 U	0.4 B	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Diethyl ether	µg/L		0.4 U	0.4 U	0.4 U	0.4 U

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-4 4/22/2021	B-4 6/15/2021	B-4 9/3/2021	B-4 12/6/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
Ethyl methacrylate	µg/L		3 U	3 U	2 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U	0.4 U
Methylacrylonitrile	µg/L		4 U	4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		3 U	3 U	3 U	3 U
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	0.01 U	0.01 U	0.01 U	0.01 U

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

Units:

µg/L= micrograms per liter

Results shown in bold exceed Ground Water Quality Criteria.

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-5 4/21/2021	B-5 6/11/2021	B-5 9/2/2021	B-5 12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	**7.4**	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U	5 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U	3 U
Acrolein	µg/L		4 U	4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		1.5	0.6	1.3	0.9
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.5	0.4 U	0.5 B	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.3 J	0.4 U	0.5	0.4 U
Diethyl ether	µg/L		3.3	3.6	5	0.3 J

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-5 4/21/2021	B-5 6/11/2021	B-5 9/2/2021	B-5 12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
Ethyl methacrylate	µg/L		3 U	3 U	2 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U	0.4 U
Methylacrylonitrile	µg/L		4 U	4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		4.1	5	4.5	3 U
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	**0.073**	**0.094**	**0.137**	0.01 U

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

Units:

µg/L= micrograms per liter

Results shown in bold exceed Ground Water Quality Criteria.

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-10 4/22/2021	B-10 6/15/2021	B-10 9/3/2021	B-10 12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	5 U	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U	5 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U	3 U
Acrolein	µg/L		4 U	4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.5	0.4 U	0.4 B	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Diethyl ether	µg/L		0.4 U	0.4 U	0.4 U	0.4 U

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional			
MONITORING WELL Sampling Date			B-10 4/22/2021	B-10 6/15/2021	B-10 9/3/2021	B-10 12/8/2021
Analyte	Units	GW Quality Standards (173-200 WAC)				
Ethyl methacrylate	µg/L		3 U	3 U	2 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U	0.4 U
Methylacrylonitrile	µg/L		4 U	4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		3 U	3 U	3 U	3 U
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	0.01 U	0.01 U	0.01 U	0.01 U

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

Units:

µg/L= micrograms per liter

Results shown in bold exceed Ground Water Quality Criteria.

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional		
MONITORING WELL Sampling Date			B-12 4/21/2021	B-12 6/14/2021	B-12 9/2/2021
Analyte	Units	GW Quality Standards (173-200 WAC)			
1,1,1,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	µg/L	200*	0.4 U	0.4 U	0.4 U
1,1,2,2-tetrachloroethane	µg/L		0.4 U	0.4 U	0.4 U
1,1,2-trichloroethane	µg/L		0.4 U	0.4 U	0.4 U
1,1,2-trichlorofluorotoluene (Freon-113)	µg/L		0.4 U	0.4 U	0.4 U
1,1-dichloroethane	µg/L	1.0***	0.4 U	0.4 U	0.4 U
1,1-dichloroethene	µg/L	7****	0.4 U	0.4 U	0.4 U
1,1-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U
1,2,3-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U
1,2,3-trichloropropane	µg/L		0.4 U	0.4 U	0.4 U
1,2,4-trichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U
1,2,4-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U
1,2-dibromo-3-chloropropane (DBCP)	µg/L	0.2****	1 U	1 U	1 U
1,2-dibromoethane (EDB)	µg/L	0.001***	0.01 U	0.01 U	0.01 U
1,2-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U
1,2-dichloroethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U
1,2-dichloropropane	µg/L	0.6***	0.4 U	0.4 U	0.4 U
1,3,5-trimethylbenzene	µg/L		0.4 U	0.4 U	0.4 U
1,3-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U
1,4-dichlorobenzene	µg/L	4***	0.4 U	0.4 U	0.4 U
1,4-dioxane	µg/L	7***	5 U	5 U	5 U
2,2-dichloropropane	µg/L		0.4 U	0.4 U	0.4 U
2-butanone	µg/L		3 U	3 U	2 U
2-chloroethyl vinyl ether	µg/L		2 U	2 U	2 U
2-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U
2-nitropropane	µg/L		10 U	10 U	10 U
2-phenylbutane	µg/L		0.4 U	0.4 U	0.4 U
4-chlorotoluene	µg/L		0.4 U	0.4 U	0.4 U
4-methyl-2-pentanone	µg/L		4 U	4 U	4 U
Acetone	µg/L		3 U	3 U	3 U
Acrolein	µg/L		4 U	4 U	4 U
Acrylonitrile	µg/L	0.07***	0.05 U	0.05 U	0.05 U
Allyl chloride	µg/L		2 U	2 U	2 U
Benzene	µg/L	1.0***	0.4 U	0.4 U	0.4 U
Bromobenzene	µg/L		0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.3***	0.4 U	0.4 U	0.4 U
Bromomethane	µg/L		0.4 U	0.4 U	0.4 U
Carbon disulfide	µg/L		0.4 U	0.4 U	0.4 U
Carbon tetrachloride	µg/L	0.3***	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	100****	0.4 U	0.4 U	0.4 U
Chlorobromomethane	µg/L		0.4 U	0.4 U	0.4 U
Chlorodibromomethane	µg/L	0.5***	0.4 U	0.4 U	0.4 U
Chlorodifluoromethane (Freon-22)	µg/L		0.4 U	0.4 U	0.4 U
Chloroethane	µg/L		0.4 U	0.4 U	0.4 U
Chloroform	µg/L	7.0***	0.4 U	0.4 U	0.4 U
Chloromethane	µg/L		0.7	0.4 U	0.4 U
cis-1,2-dichloroethene	µg/L	70****	0.4 U	0.4 U	0.4 U
cis-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U
Cymene	µg/L		0.4 U	0.4 U	0.4 U
Dibromomethane	µg/L		0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane (CFC-12)	µg/L		0.4 U	0.4 U	0.4 U
Dichloromethane	µg/L	5***	0.4 U	0.4 U	0.4 U
Dichloromonofluoromethane (Freon-21)	µg/L		0.4 U	0.4 U	0.4 U
Diethyl ether	µg/L		0.4 U	0.4 U	0.4 U

2021 Volatile Organic Compound Monitoring Results
Inman Landfill

AQUIFER			Regional		
MONITORING WELL Sampling Date			B-12 4/21/2021	B-12 6/14/2021	B-12 9/2/2021
Analyte	Units	GW Quality Standards (173-200 WAC)			
Ethyl methacrylate	µg/L		3 U	3 U	2 U
Ethylbenzene	µg/L	700****	0.4 U	0.4 U	0.4 U
Hexachloro-1,3-butadiene	µg/L		0.4 U	0.4 U	0.4 U
Hexachloroethane	µg/L		0.4 U	0.4 U	0.4 U
Isopropylbenzene	µg/L		0.4 U	0.4 U	0.4 U
m-dichlorobenzene	µg/L		0.4 U	0.4 U	0.4 U
Methyl acrylate	µg/L		2 U	2 U	0.8 U
Methyl iodide	µg/L		5 U	5 U	5 U
Methyl methacrylate	µg/L		2 U	2 U	1 U
Methyl n-butyl ketone	µg/L		5 U	5 U	5 U
Methyl tert-butyl ether	µg/L		1 U	1 U	1 U
Methylacrylonitrile	µg/L		4 U	4 U	4 U
Naphthalene	µg/L		1 U	1 U	1 U
n-butyl chloride	µg/L		0.4 U	0.4 U	0.4 U
n-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U
n-propylbenzene	µg/L		0.4 U	0.4 U	0.4 U
o-xylene	µg/L		0.4 U	0.4 U	0.4 U
Pentachloroethane	µg/L		0.4 U	0.4 U	0.4 U
Styrene (monomer)	µg/L	100****	0.4 U	0.4 U	0.4 U
Tert-butylbenzene	µg/L		0.4 U	0.4 U	0.4 U
Tetrachloroethene	µg/L	0.8***	0.4 U	0.4 U	0.4 U
Tetrahydrofuran	µg/L		3 U	3 U	3 U
Toluene	µg/L	1****	0.4 U	0.4 U	0.4 U
Trans-1,2-dichloroethene	µg/L	100****	0.4 U	0.4 U	0.4 U
Trans-1,3-dichloropropene	µg/L		0.4 U	0.4 U	0.4 U
Trans-1,4-dichlorobutene	µg/L		5 U	5 U	5 U
Tribromomethane (Bromoform)	µg/L	5***	0.4 U	0.4 U	0.4 U
Trichloroethene	µg/L	3***	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (CFC-11)	µg/L		0.4 U	0.4 U	0.4 U
Vinyl chloride	µg/L	0.02***	0.01 U	0.01 U	0.01 U

Groundwater Quality Criteria:

* = Primary Contaminant
** = Secondary Contaminant
*** = Carcinogen
**** = 246-290 WAC criteria

Qualifiers:

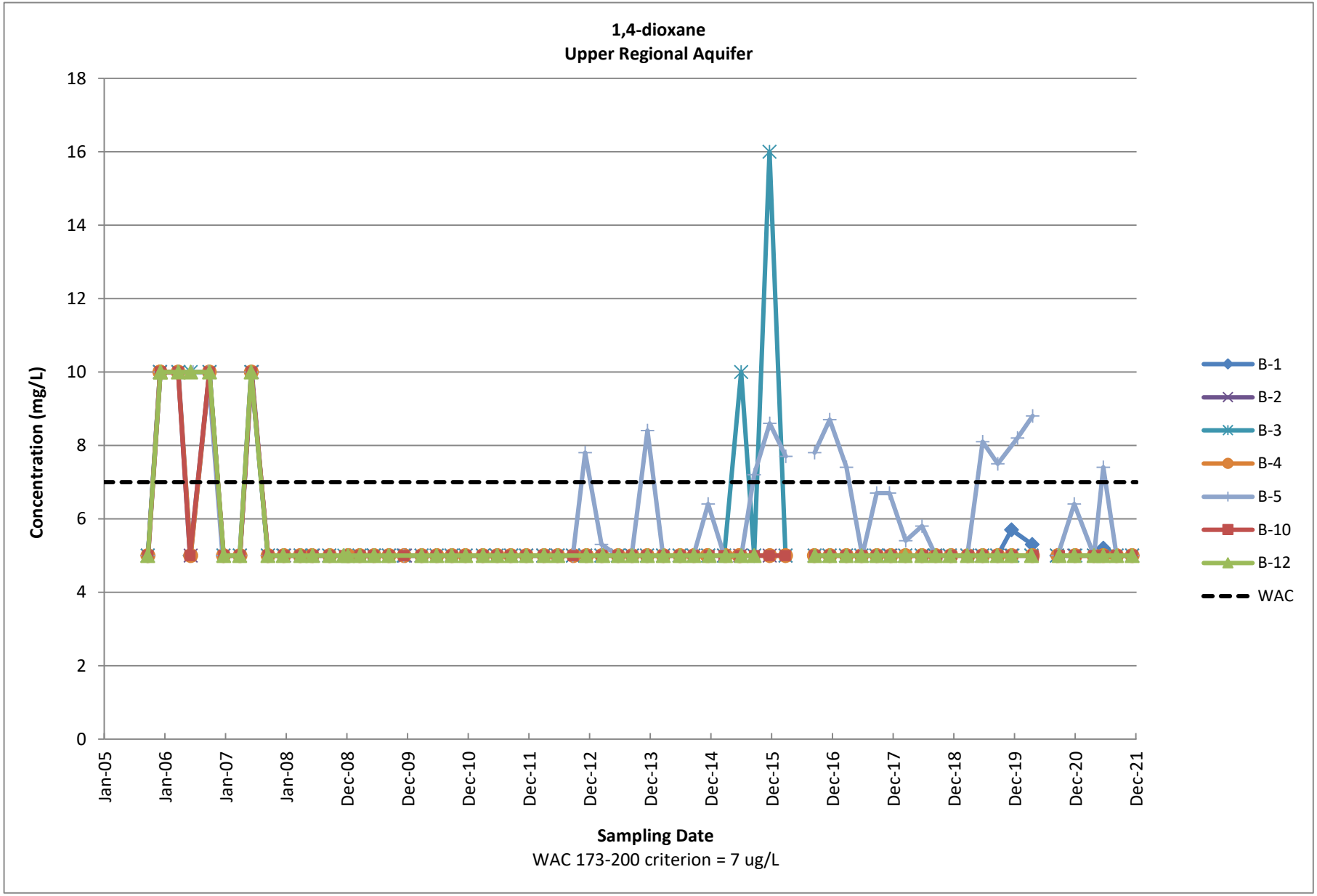
U — Indicates the analyte of interest was not detected, to the limit of
J — Indicates the analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

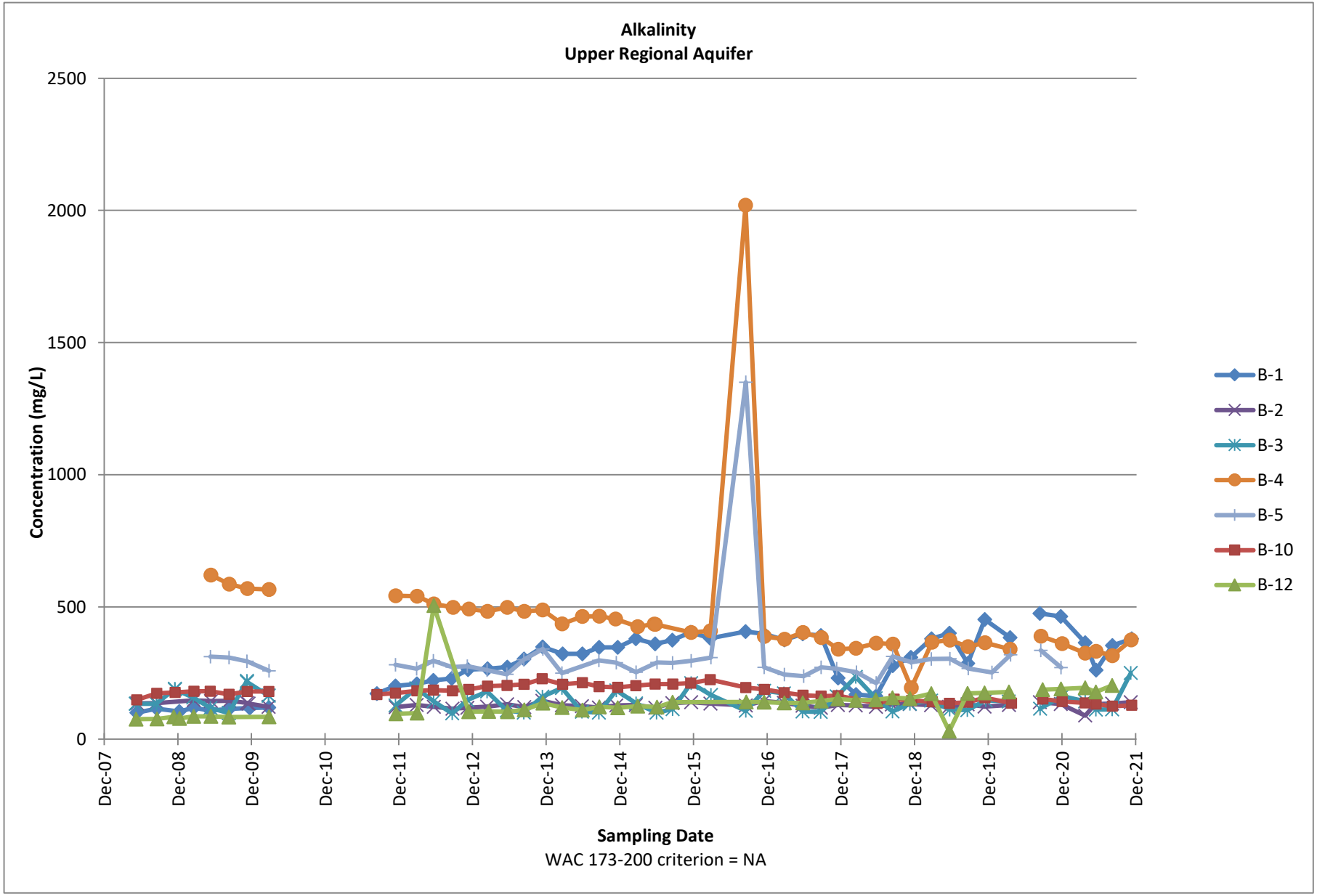
Units:

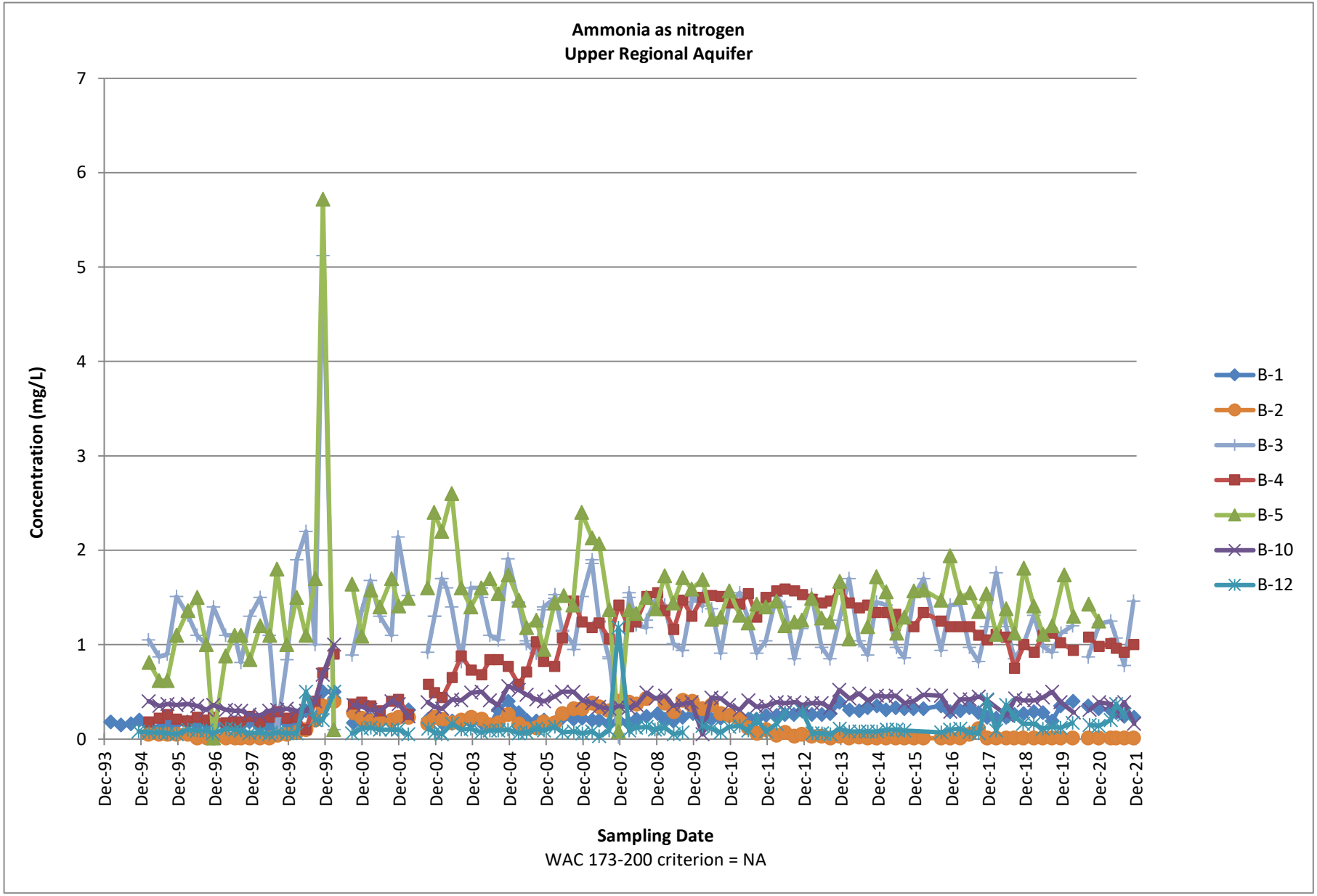
µg/L= micrograms per liter

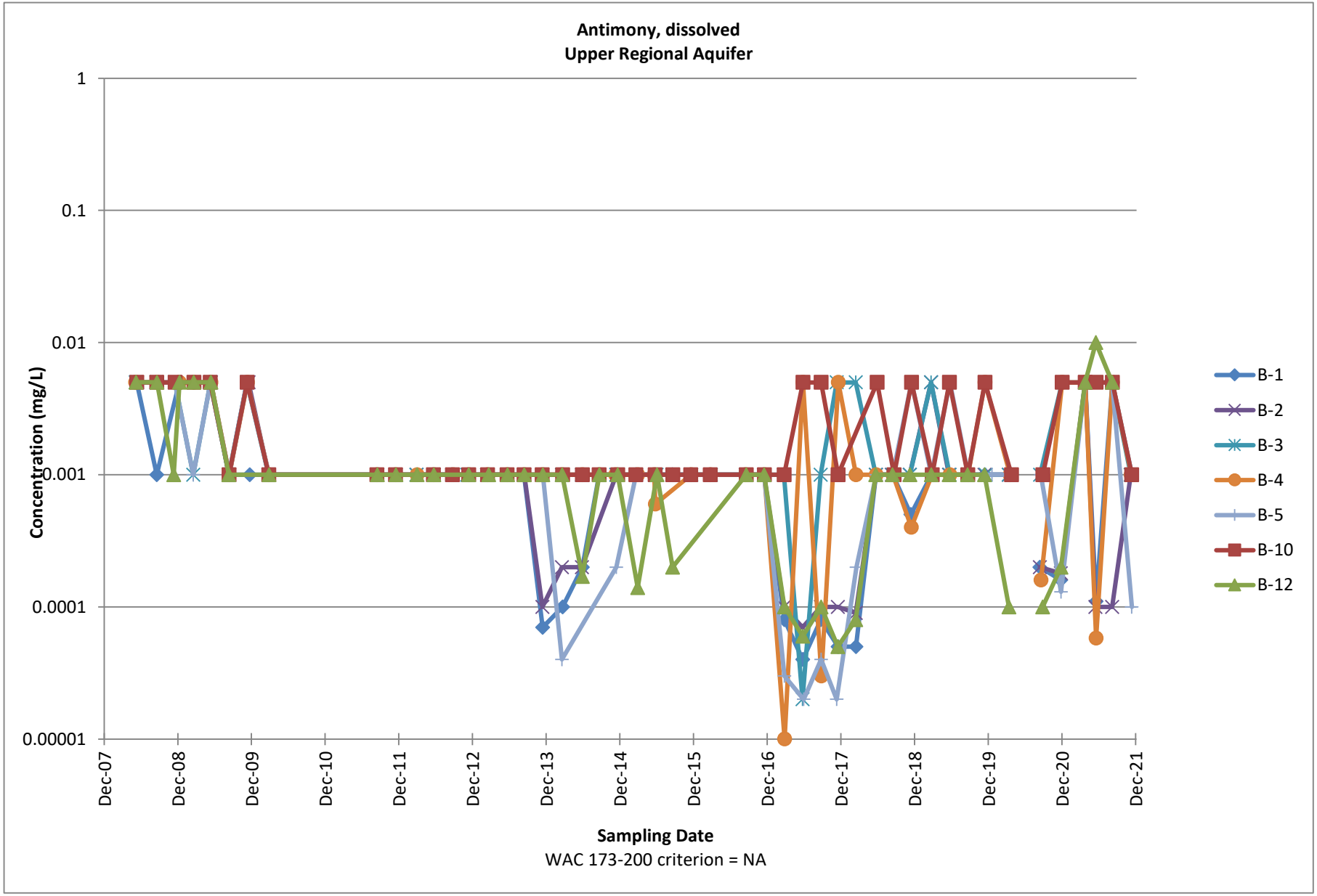
Results shown in bold exceed Ground Water Quality Criteria.

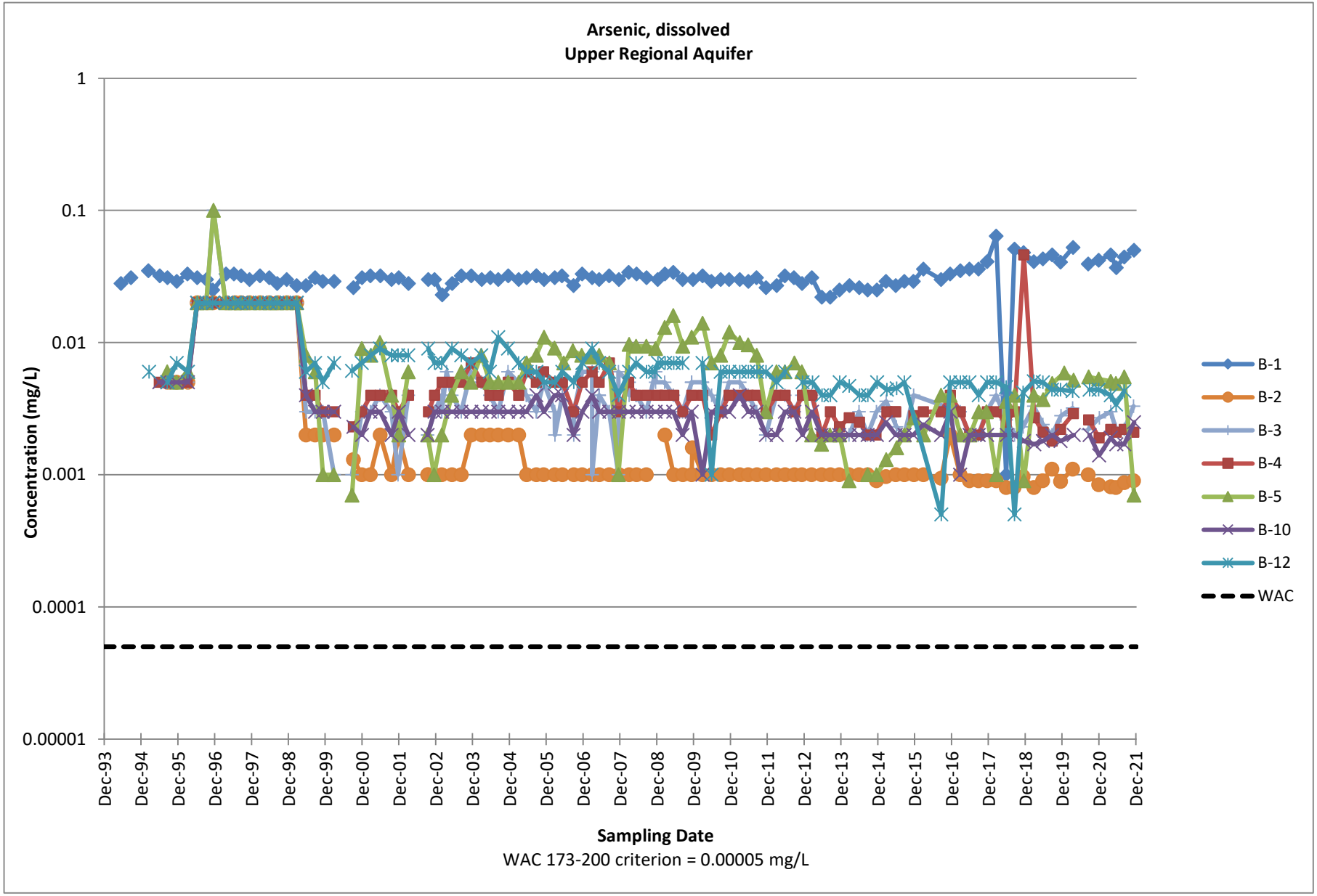
APPENDIX B-2
Long-Term Time Series Plots 1994-2021 – Upper Regional Aquifer

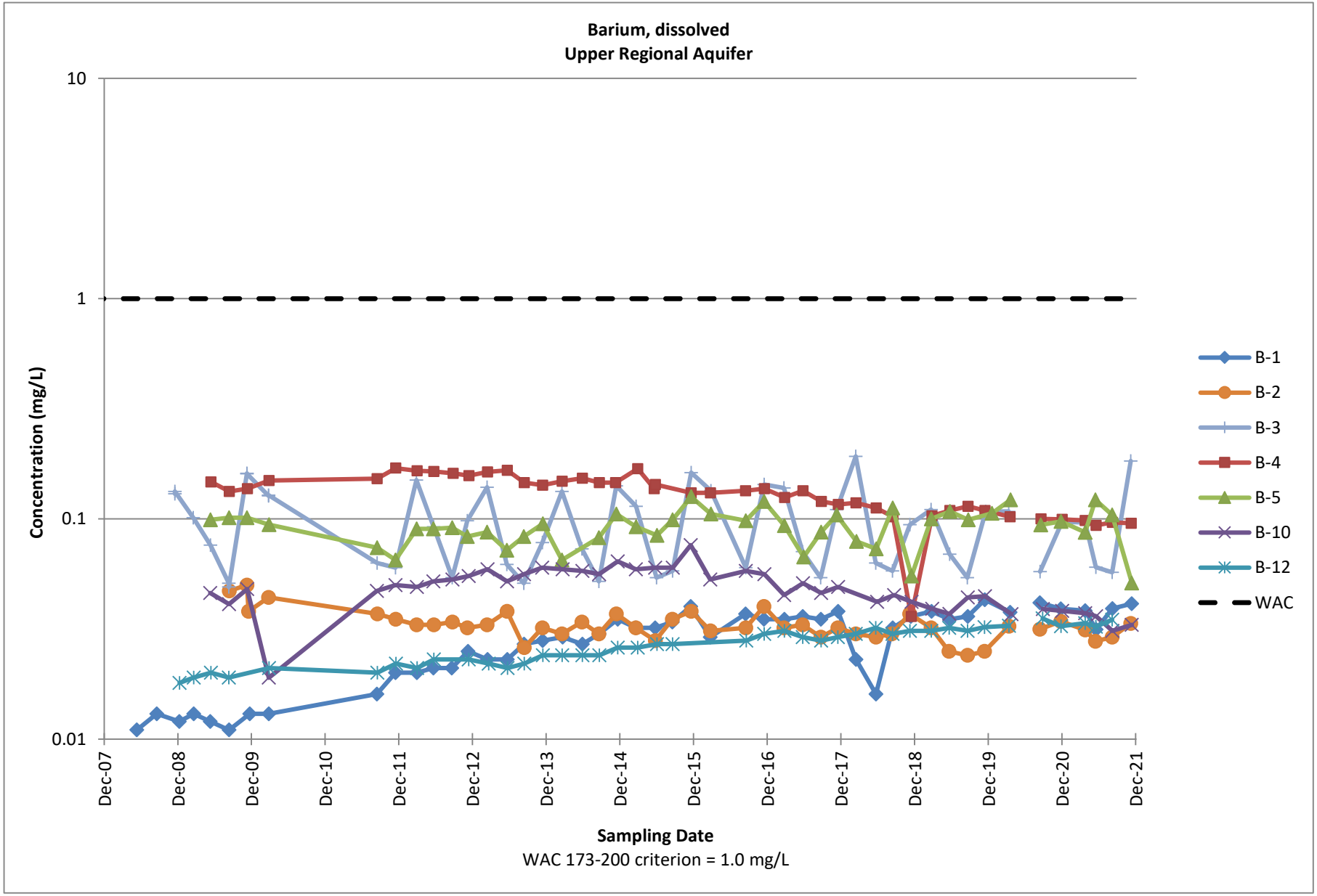

1,4-dioxane
Upper Regional Aquifer
Concentration (mg/L)
18
16
14
12
10
8
6
4
2
0
Jan-05
Jan-06
Jan-07
Jan-08
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC
WAC 173-200 criterion = 7 ug/L

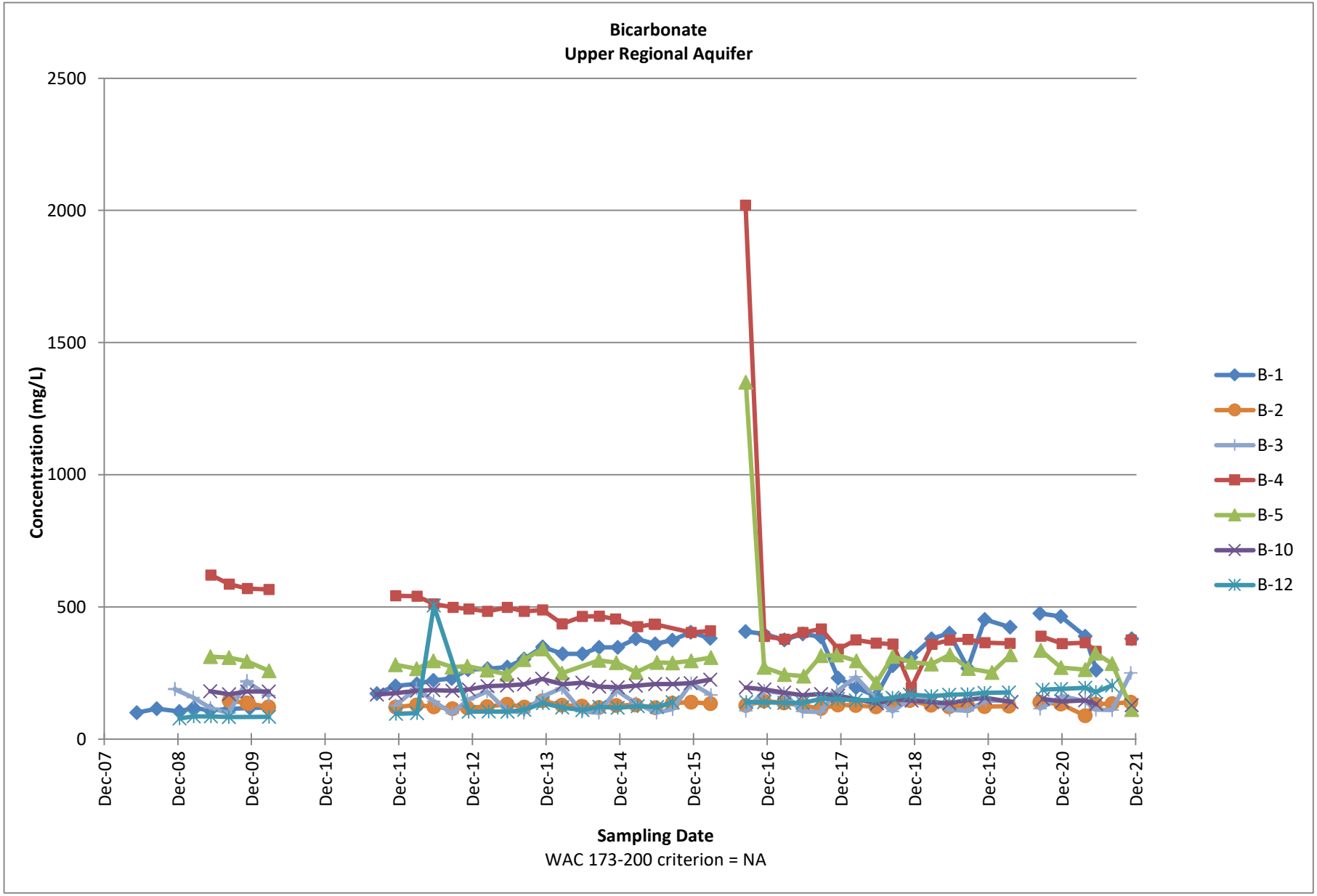

Alkalinity
Upper Regional Aquifer
2500
2000
1500
1000
500
0
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

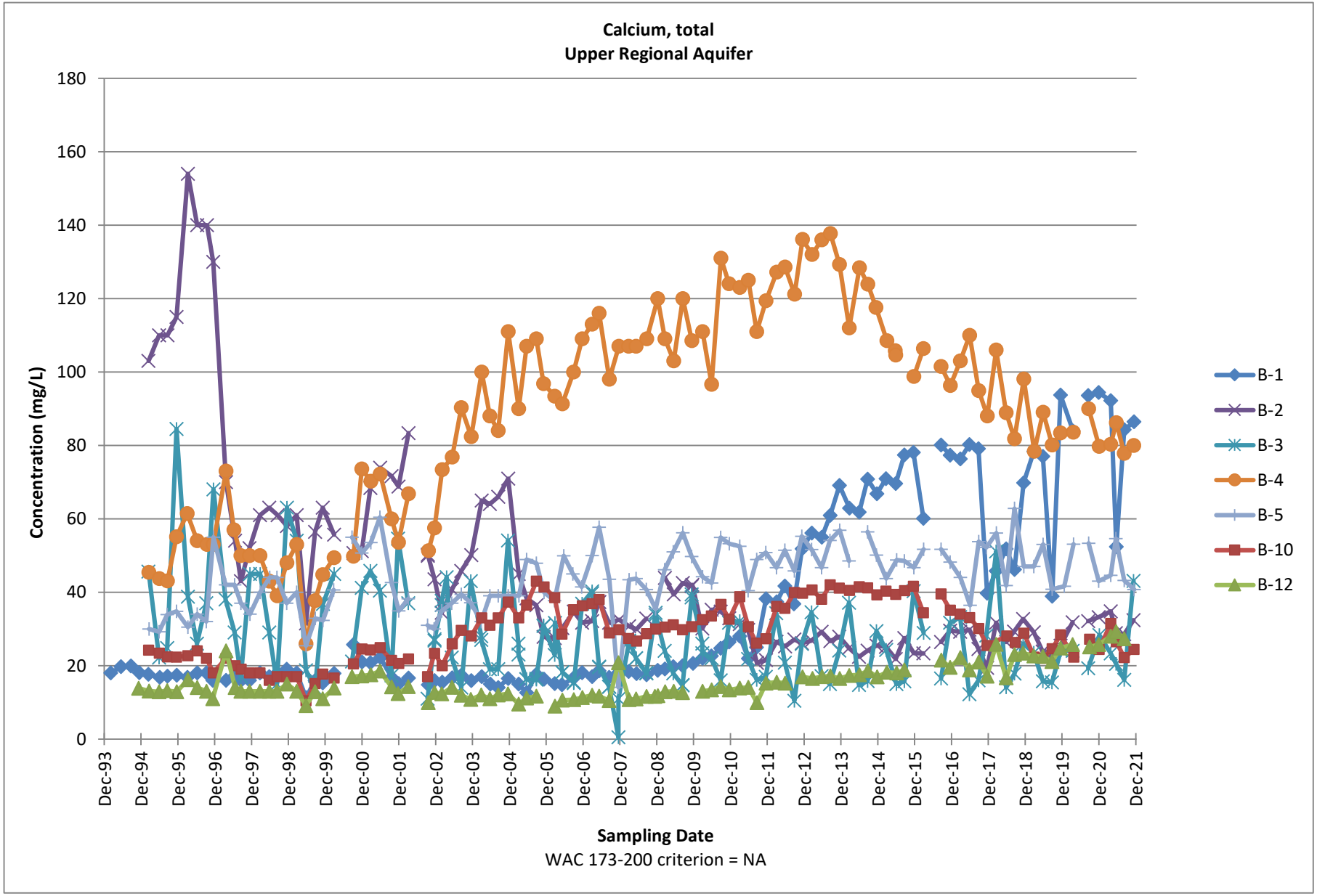

Ammonia as nitrogen
Upper Regional Aquifer
Concentration (mg/L)
0
1
2
3
4
5
6
7
Dec-93
Dec-94
Dec-95
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-1
B-2
B-3
B-4
B-5
B-10
B-12
Sampling Date
WAC 173-200 criterion = NA

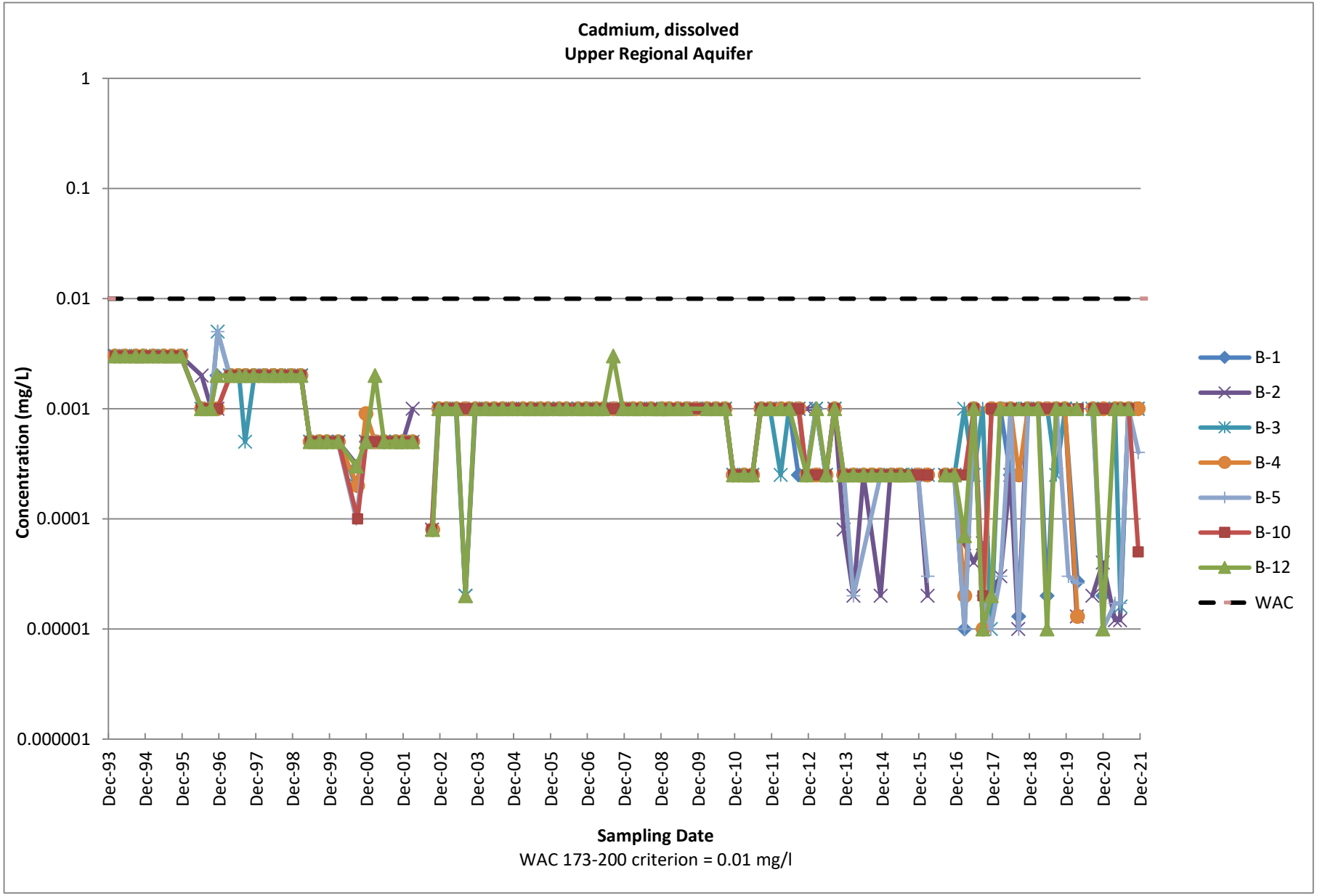

Antimony, dissolved
Upper Regional Aquifer
1
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

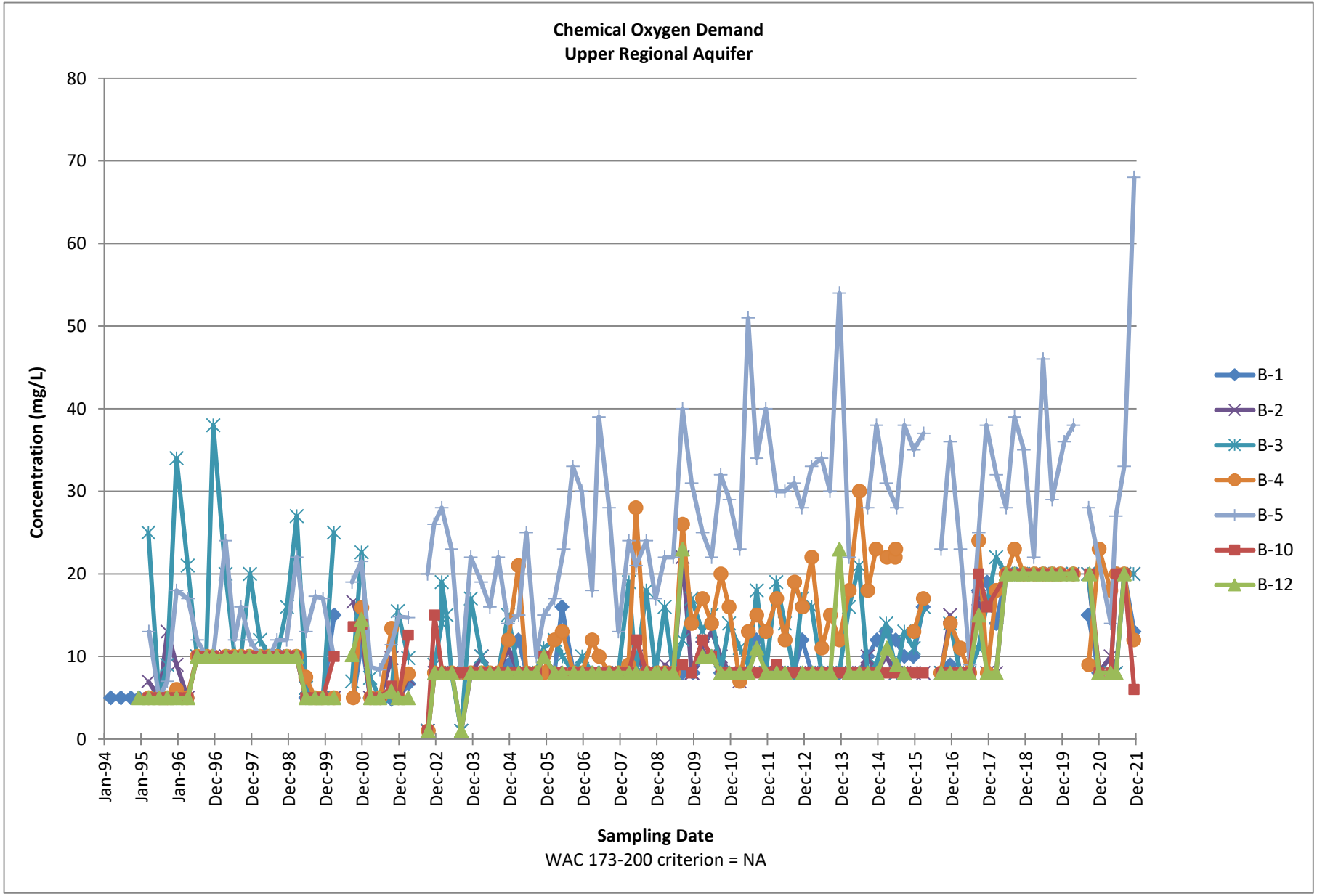

Arsenic, dissolved
Upper Regional Aquifer
Concentration (mg/L)
1
0.1
0.01
0.001
0.0001
0.00001
Dec-93
Dec-94
Dec-95
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC
WAC 173-200 criterion = 0.00005 mg/L

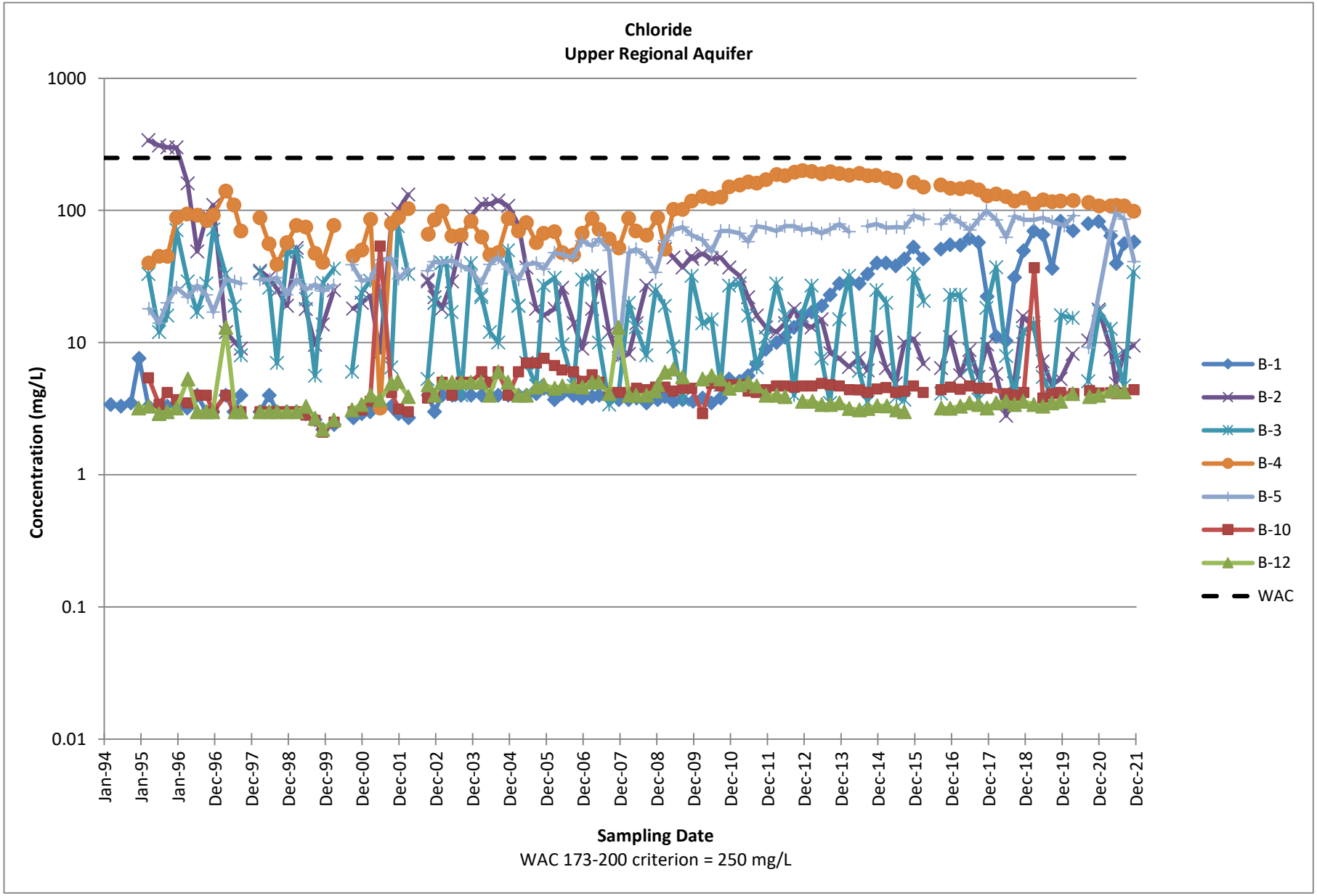

Barium, dissolved
Upper Regional Aquifer
10
1
0.1
0.01
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 1.0 mg/L
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

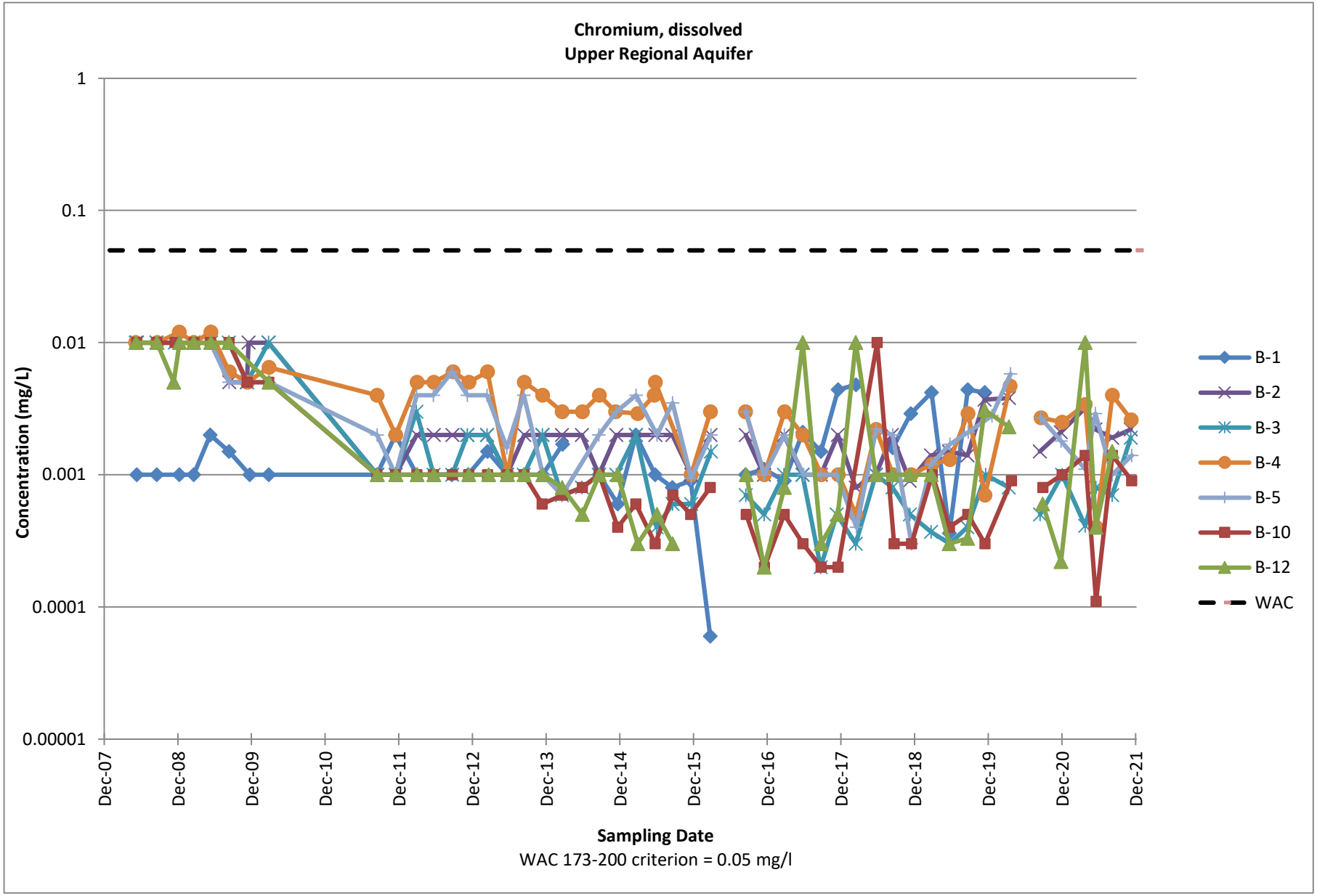

Bicarbonate
Upper Regional Aquifer
2500
2000
1500
1000
500
0
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

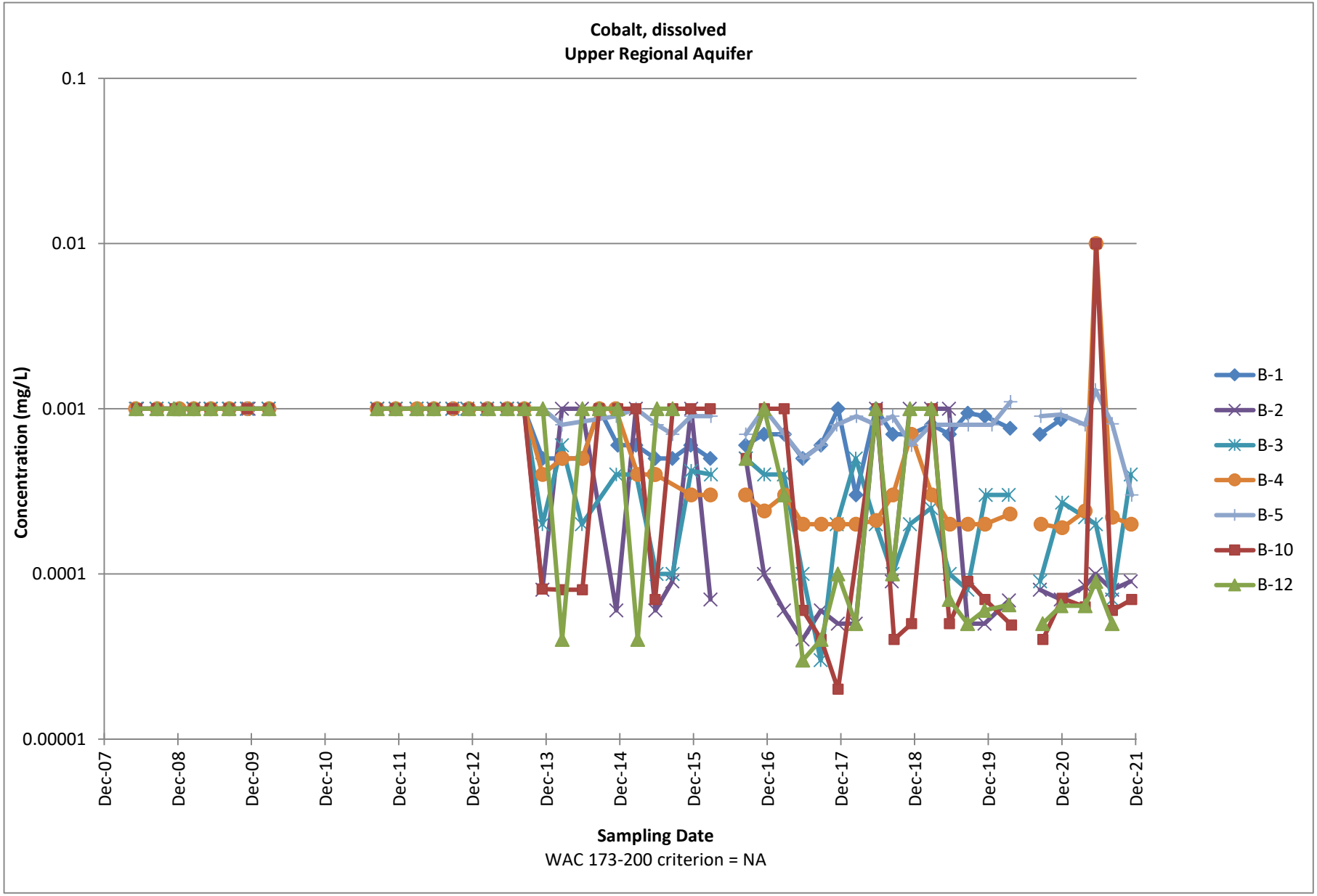

Calcium, total
Upper Regional Aquifer
Concentration (mg/L)
180
160
140
120
100
80
60
40
20
0
Dec-93
Dec-94
Dec-95
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
B-1
B-2
B-3
B-4
B-5
B-10
B-12
Sampling Date
WAC 173-200 criterion = NA

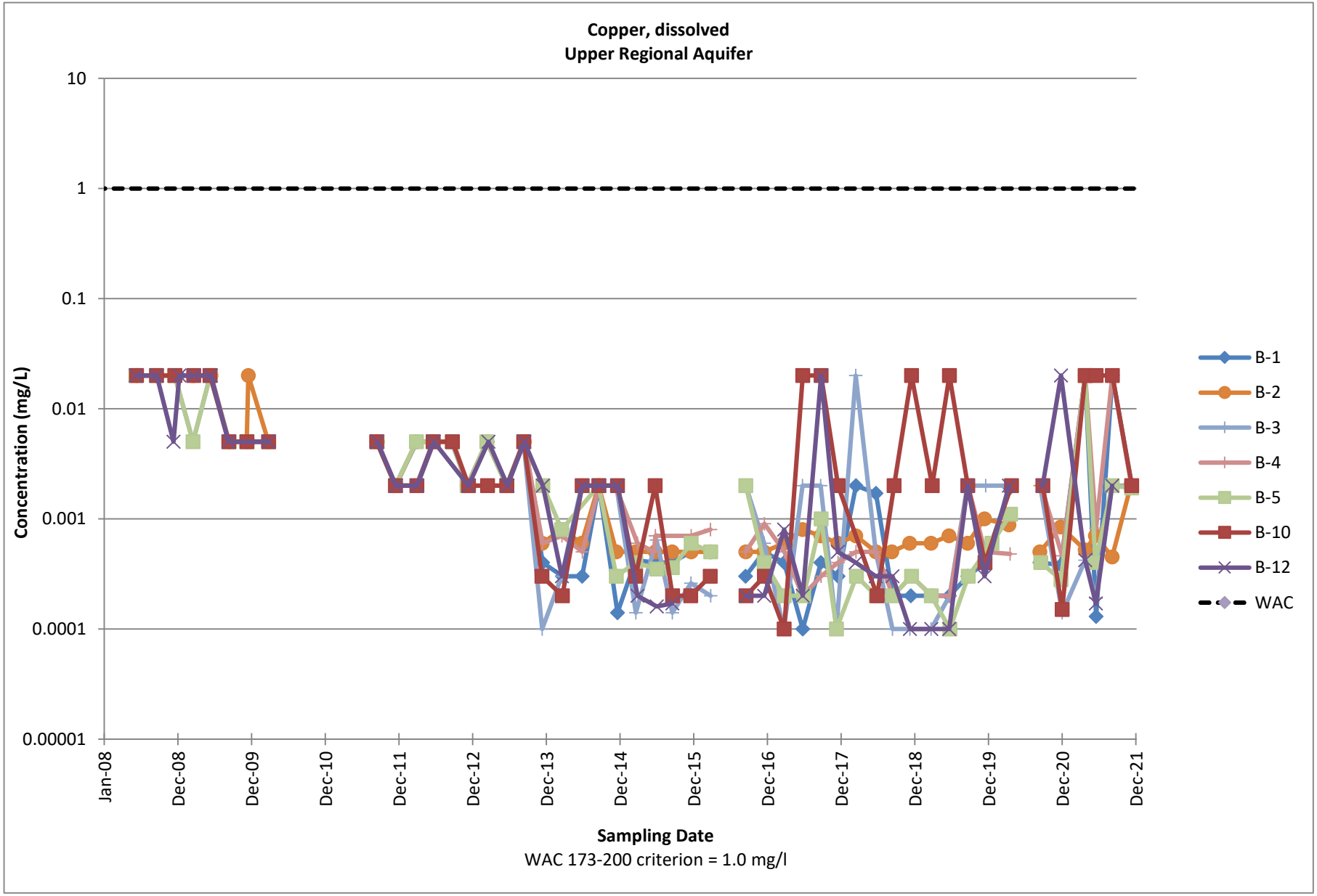

Cadmium, dissolved
Upper Regional Aquifer
Concentration (mg/L)
1
0.1
0.01
0.001
0.0001
0.00001
0.000001
Dec-93
Dec-94
Dec-95
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 0.01 mg/l
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

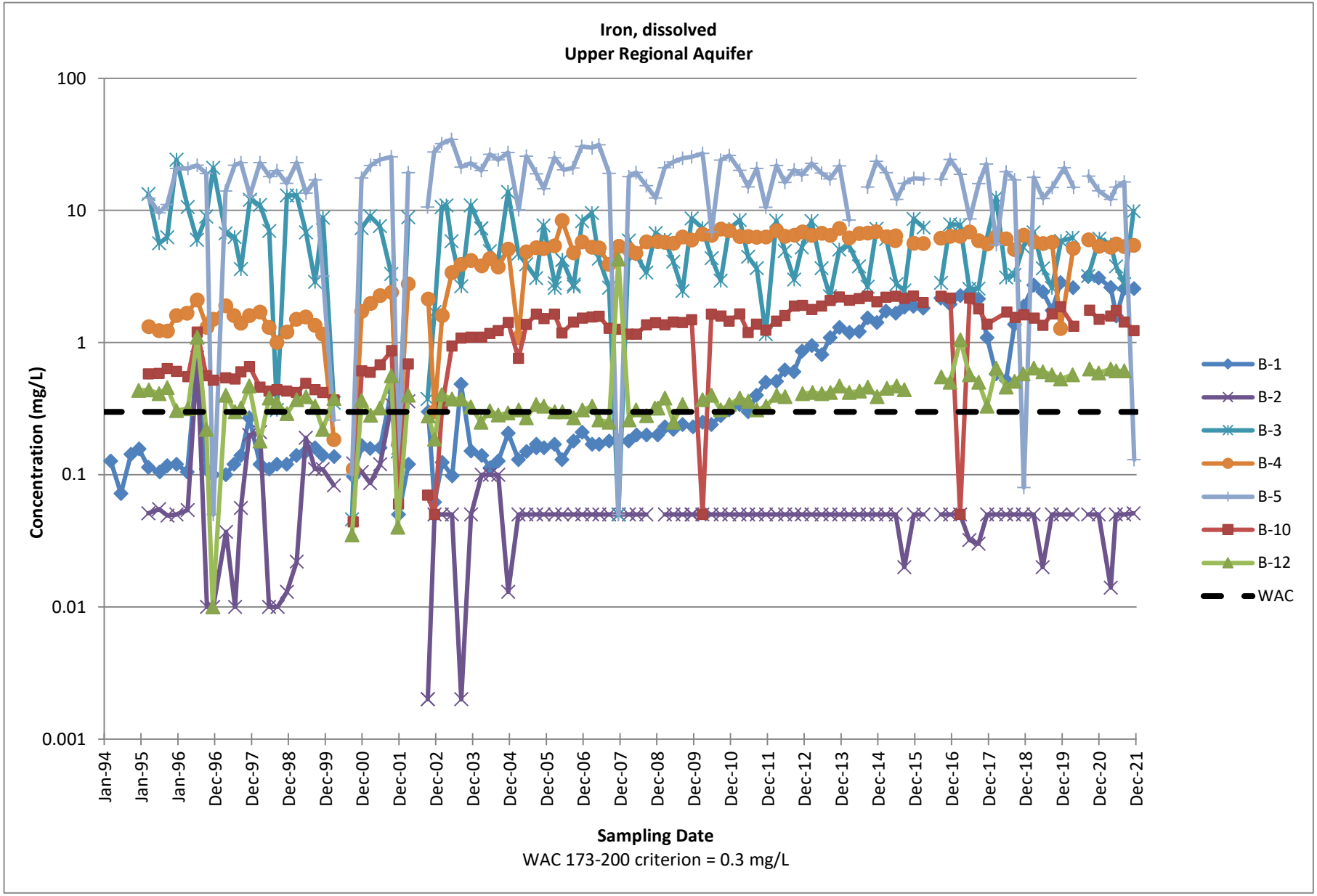

Chemical Oxygen Demand
Upper Regional Aquifer
Concentration (mg/L)
0
10
20
30
40
50
60
70
80
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

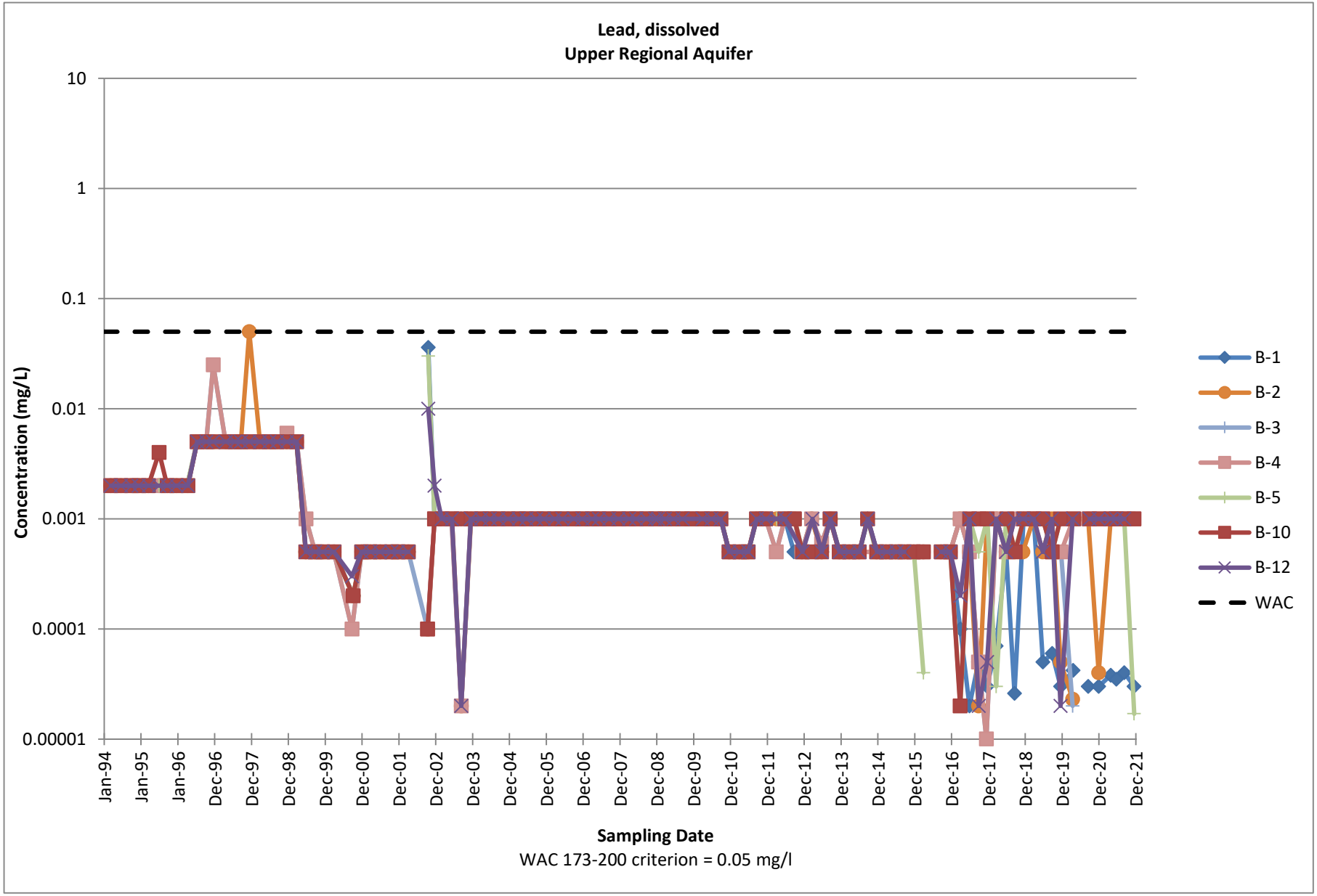

Chloride
Upper Regional Aquifer
1000
100
10
1
0.1
0.01
Concentration (mg/L)
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC
WAC 173-200 criterion = 250 mg/L

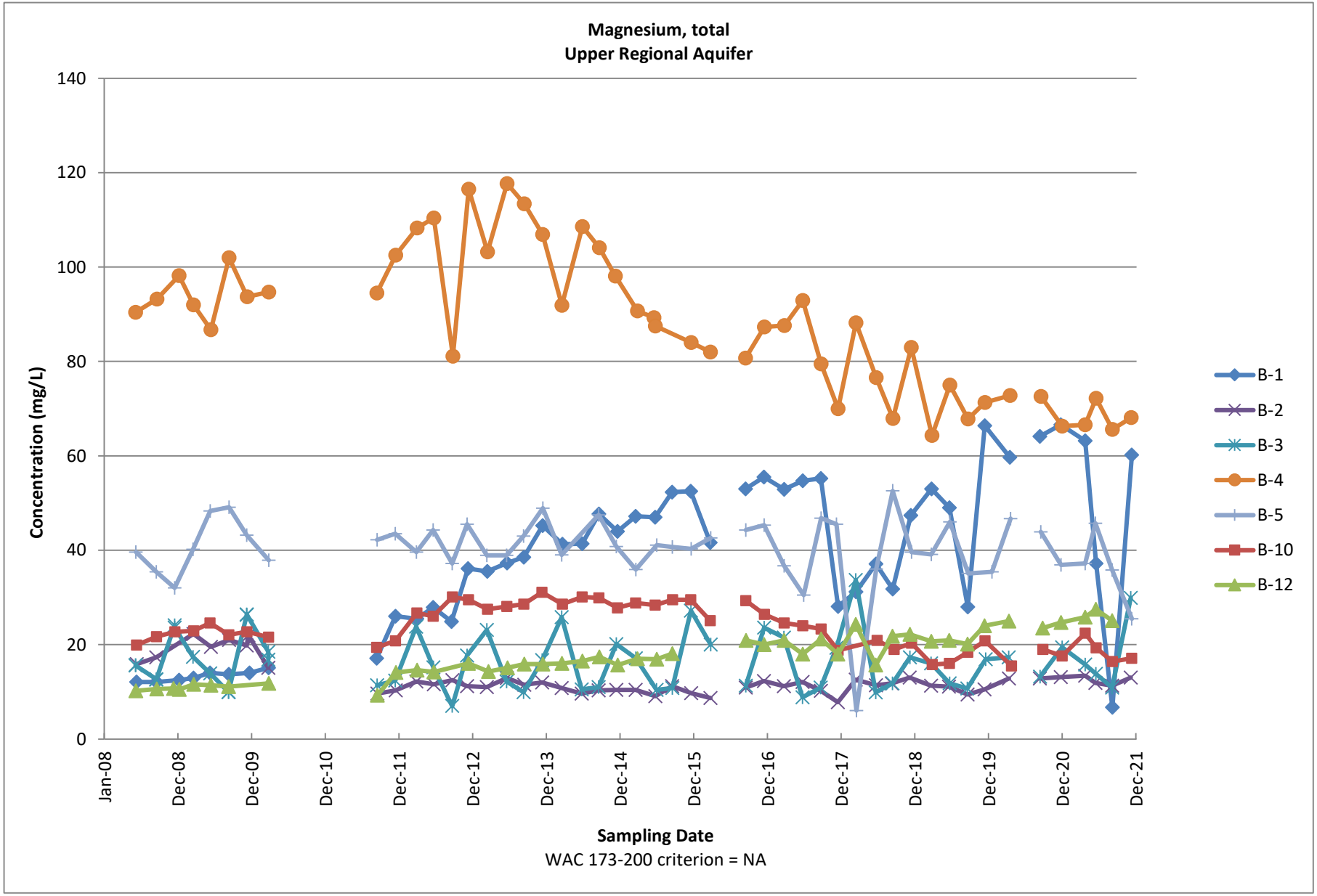

Chromium, dissolved
Upper Regional Aquifer
1
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 0.05 mg/l
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

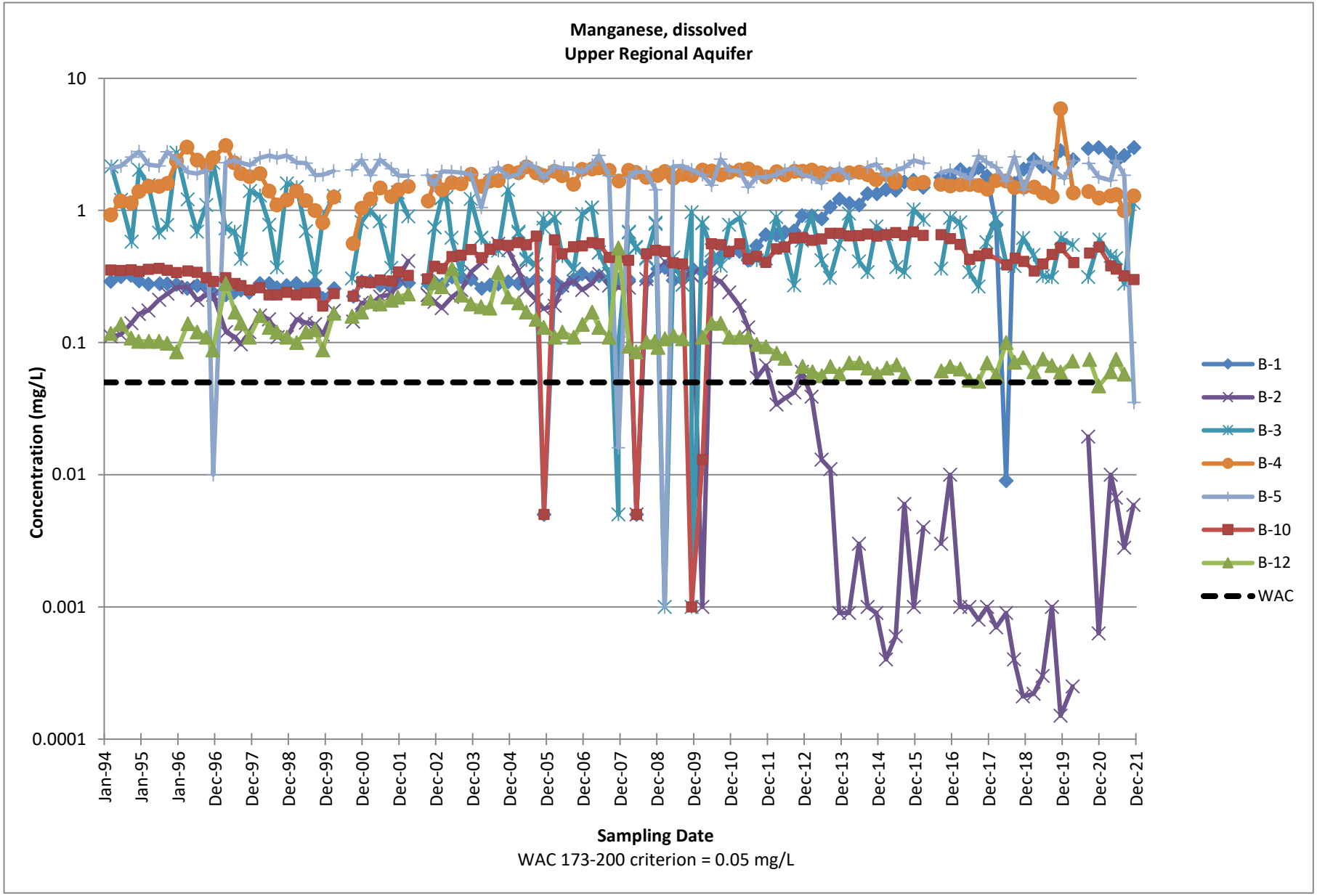

Cobalt, dissolved
Upper Regional Aquifer
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

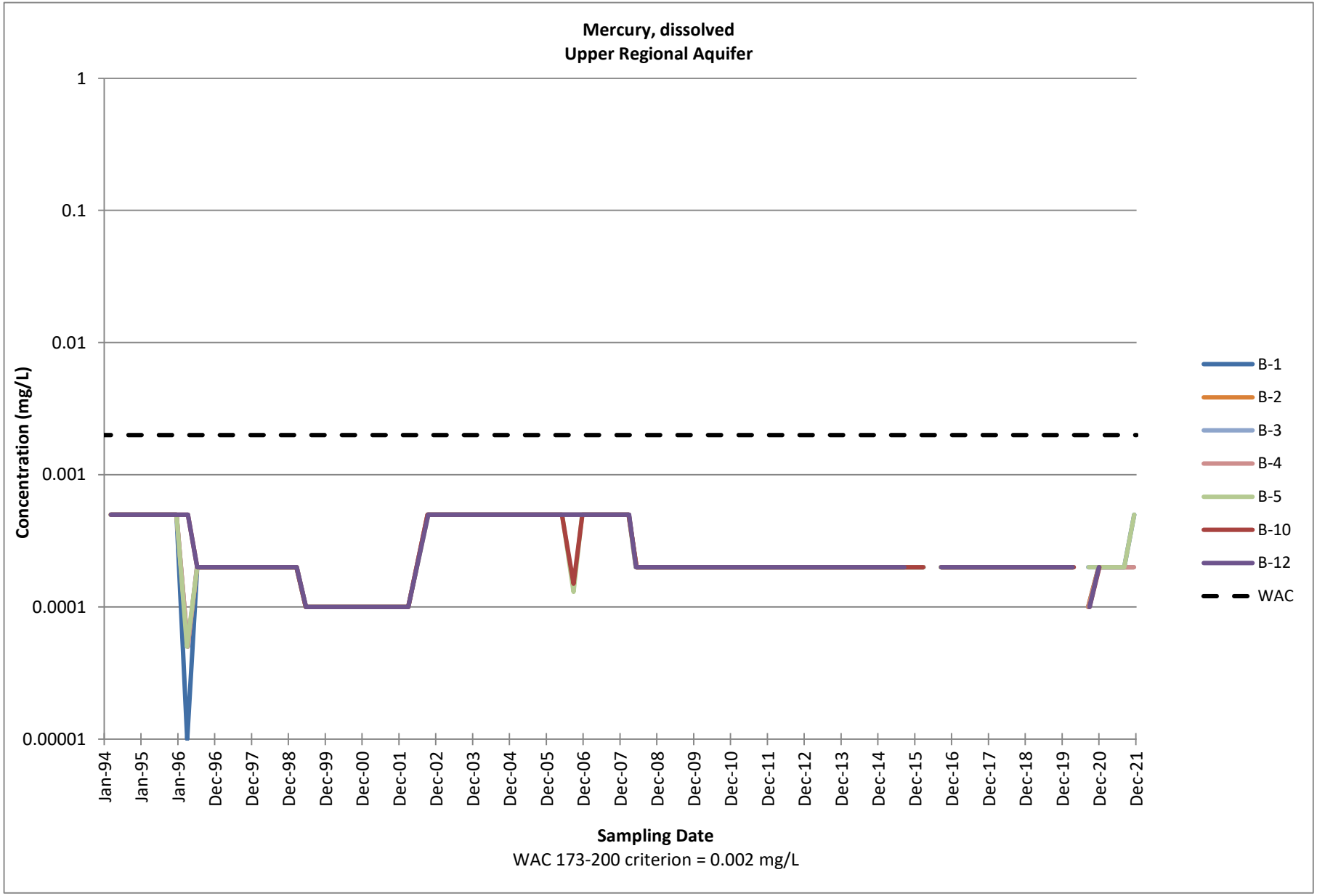

Copper, dissolved
Upper Regional Aquifer
10
1
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Jan-08
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 1.0 mg/l
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

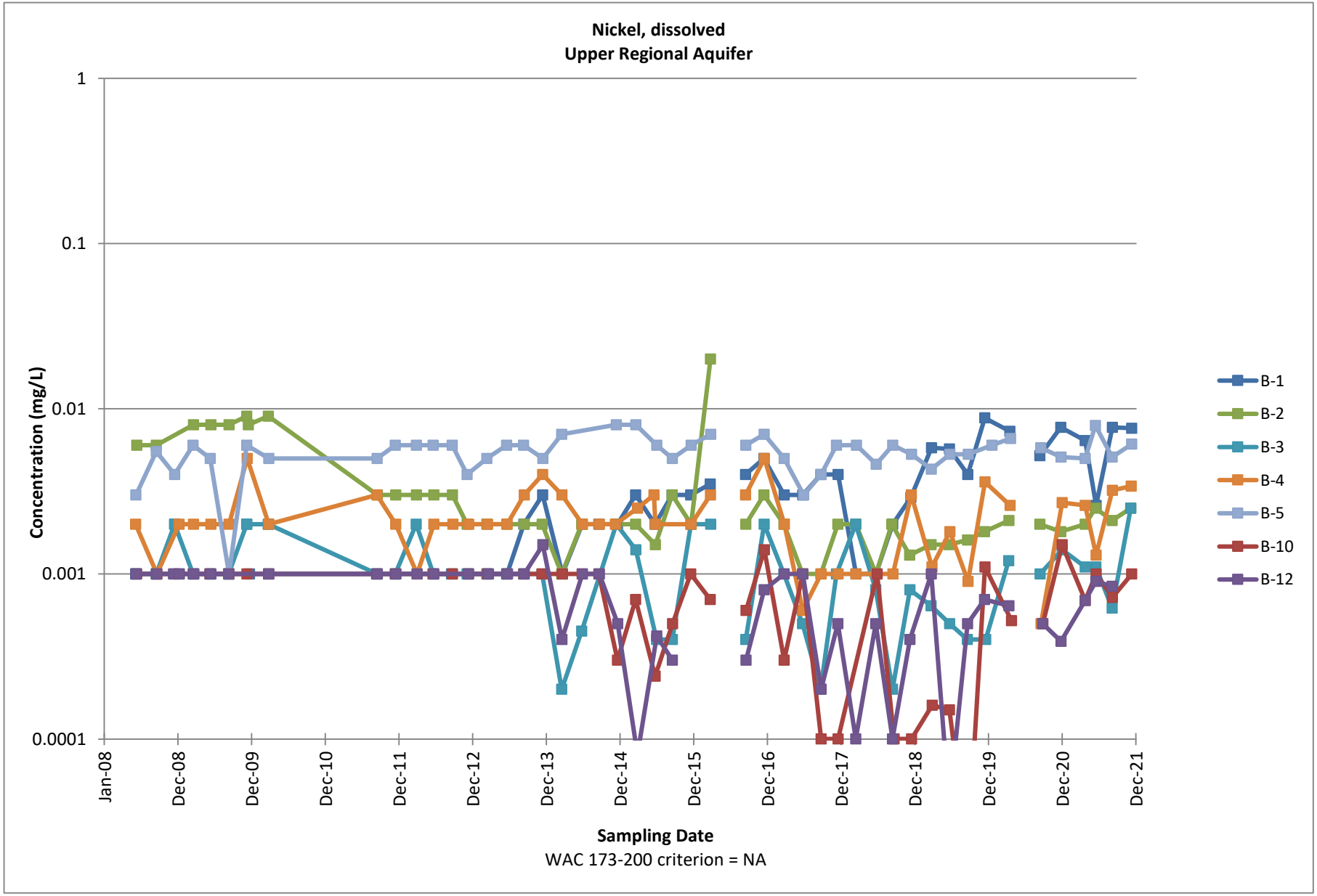

Iron, dissolved
Upper Regional Aquifer
Concentration (mg/L)
100
10
1
0.1
0.01
0.001
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 0.3 mg/L
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

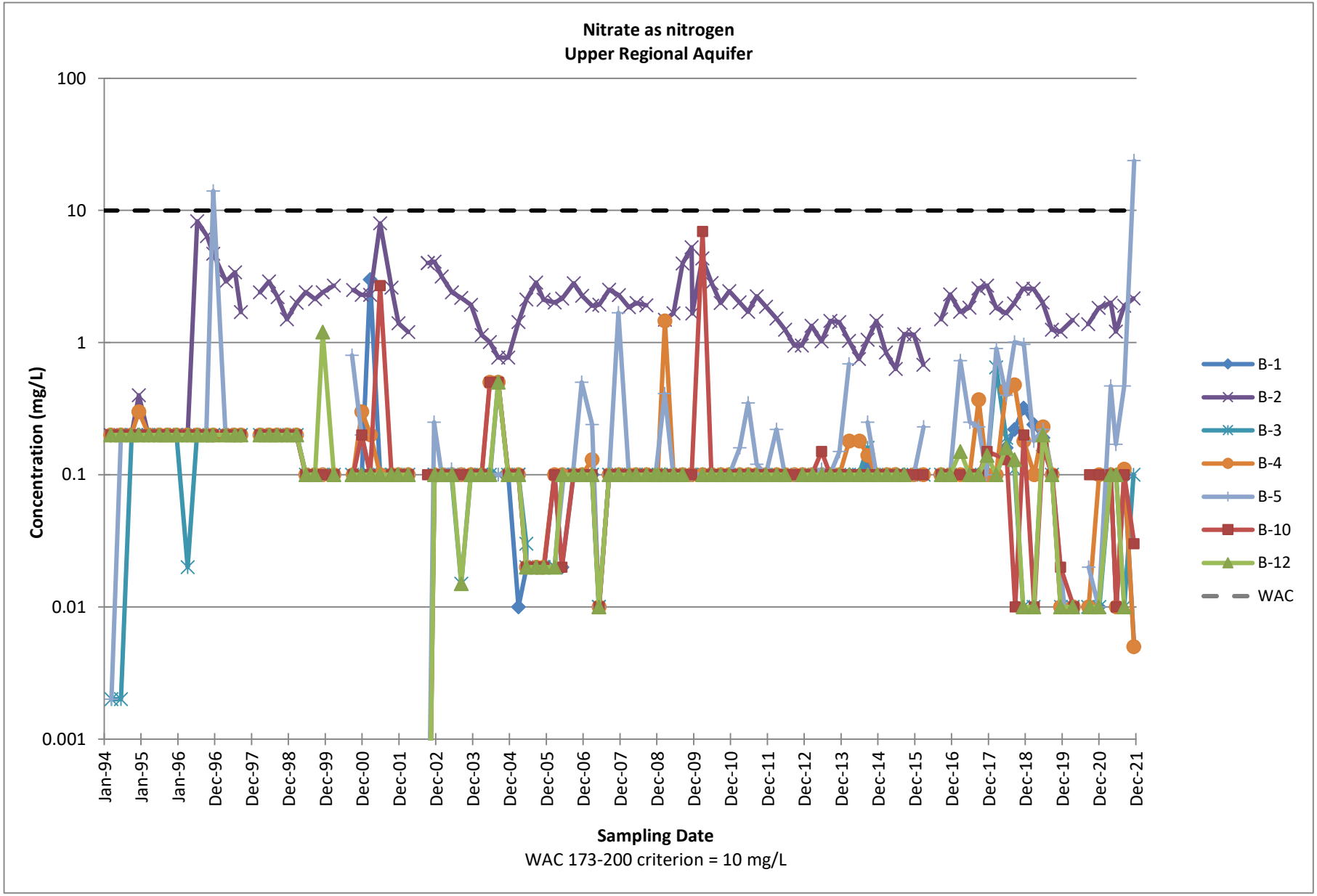

Lead, dissolved
Upper Regional Aquifer
Concentration (mg/L)
10
1
0.1
0.01
0.001
0.0001
0.00001
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 0.05 mg/l
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

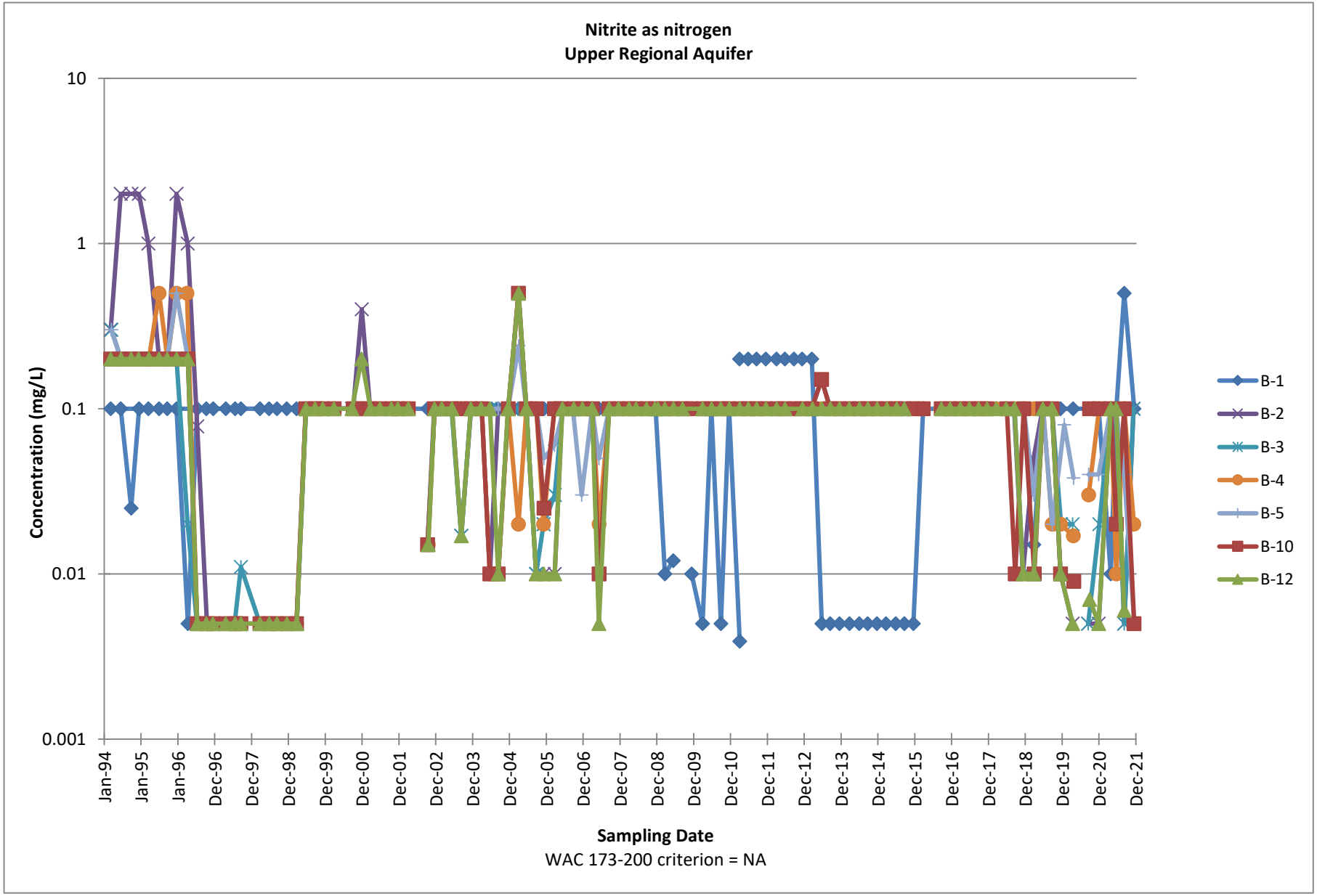

Magnesium, total
Upper Regional Aquifer
Concentration (mg/L)
140
120
100
80
60
40
20
0
Jan-08
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

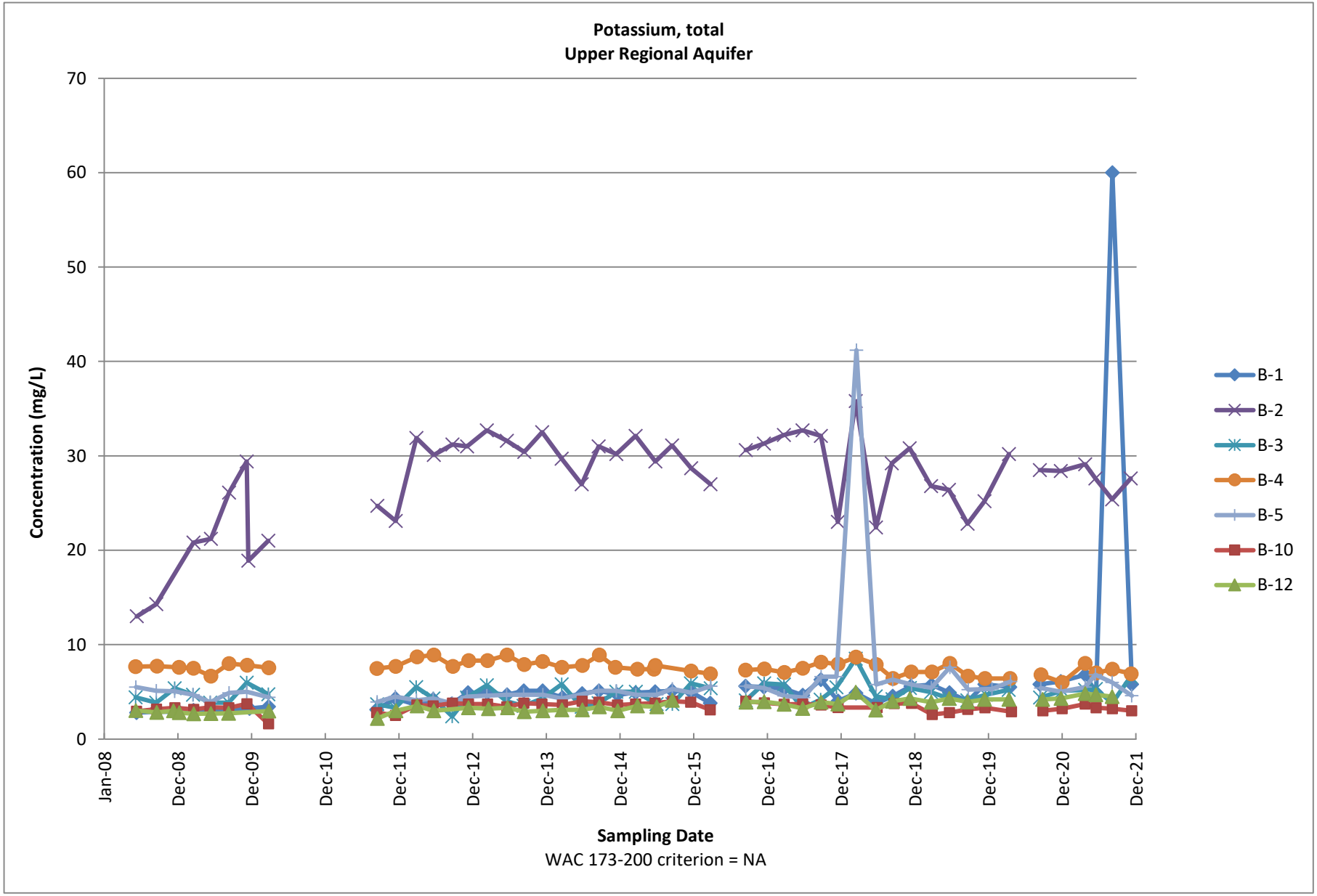

Manganese, dissolved
Upper Regional Aquifer
10
1
0.1
0.01
0.001
0.0001
Concentration (mg/L)
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 0.05 mg/L
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

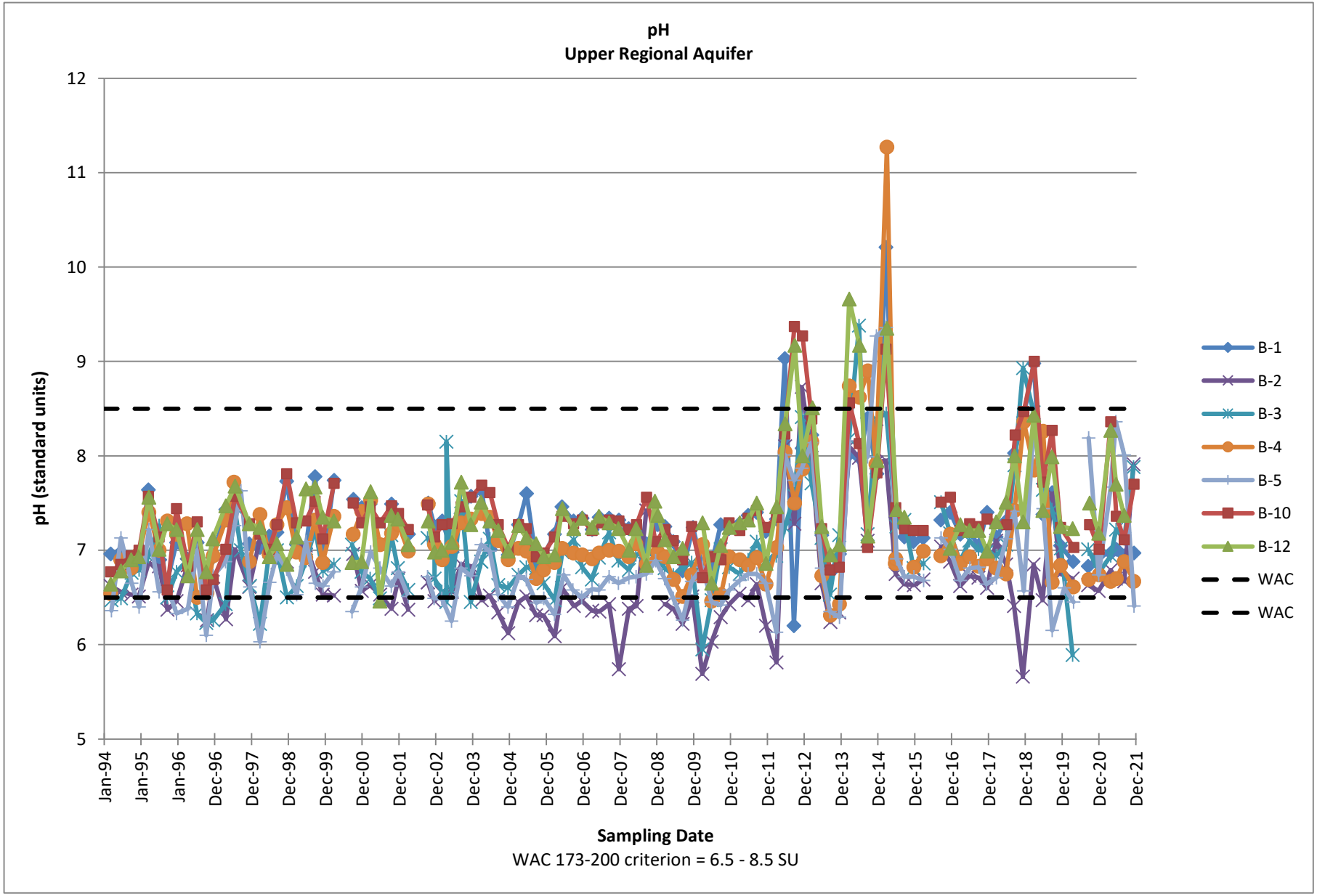

Mercury, dissolved
Upper Regional Aquifer
Concentration (mg/L)
1
0.1
0.01
0.001
0.0001
0.00001
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC
WAC 173-200 criterion = 0.002 mg/L

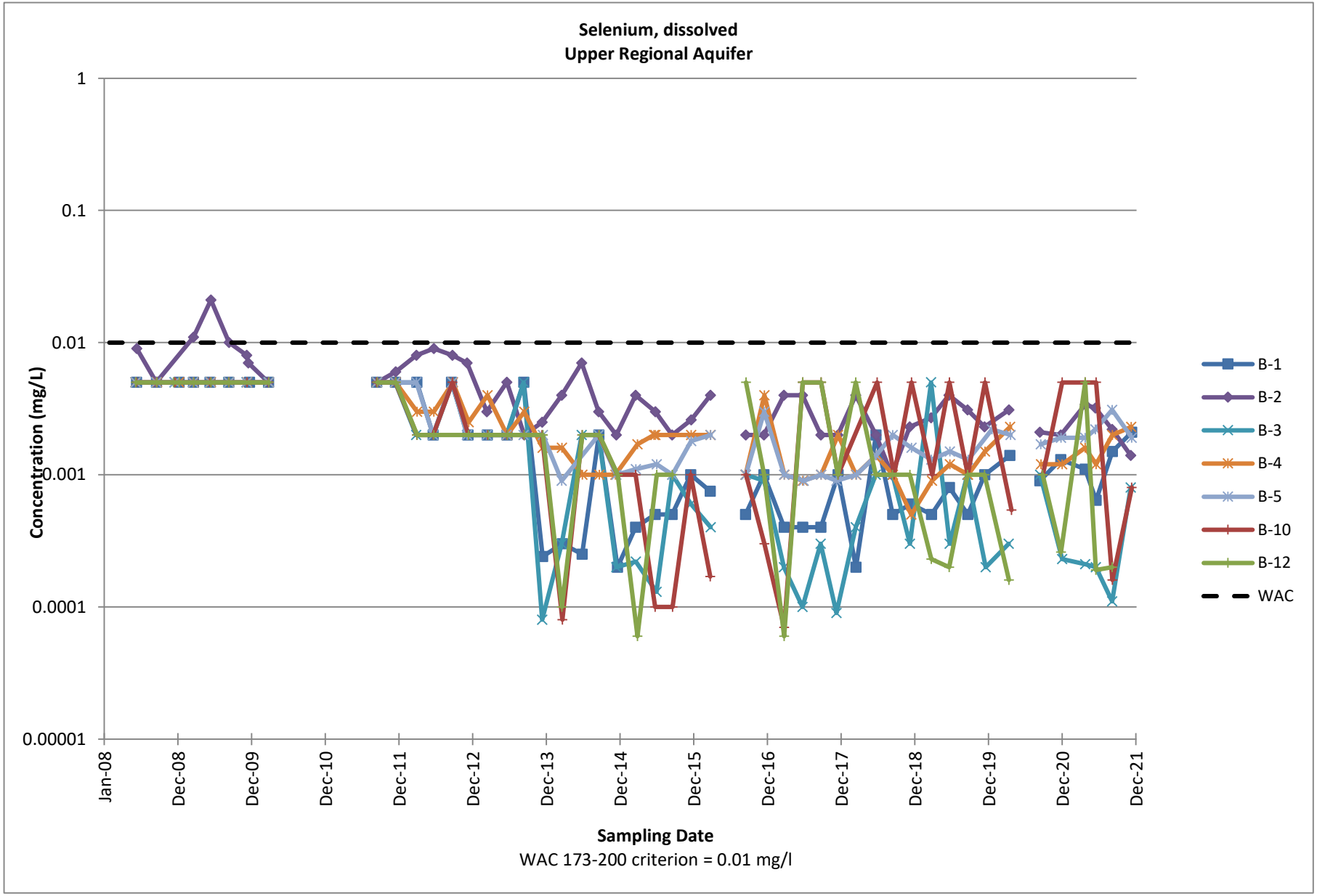

Nickel, dissolved
Upper Regional Aquifer
1
0.1
0.01
0.001
0.0001
Concentration (mg/L)
Jan-08
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

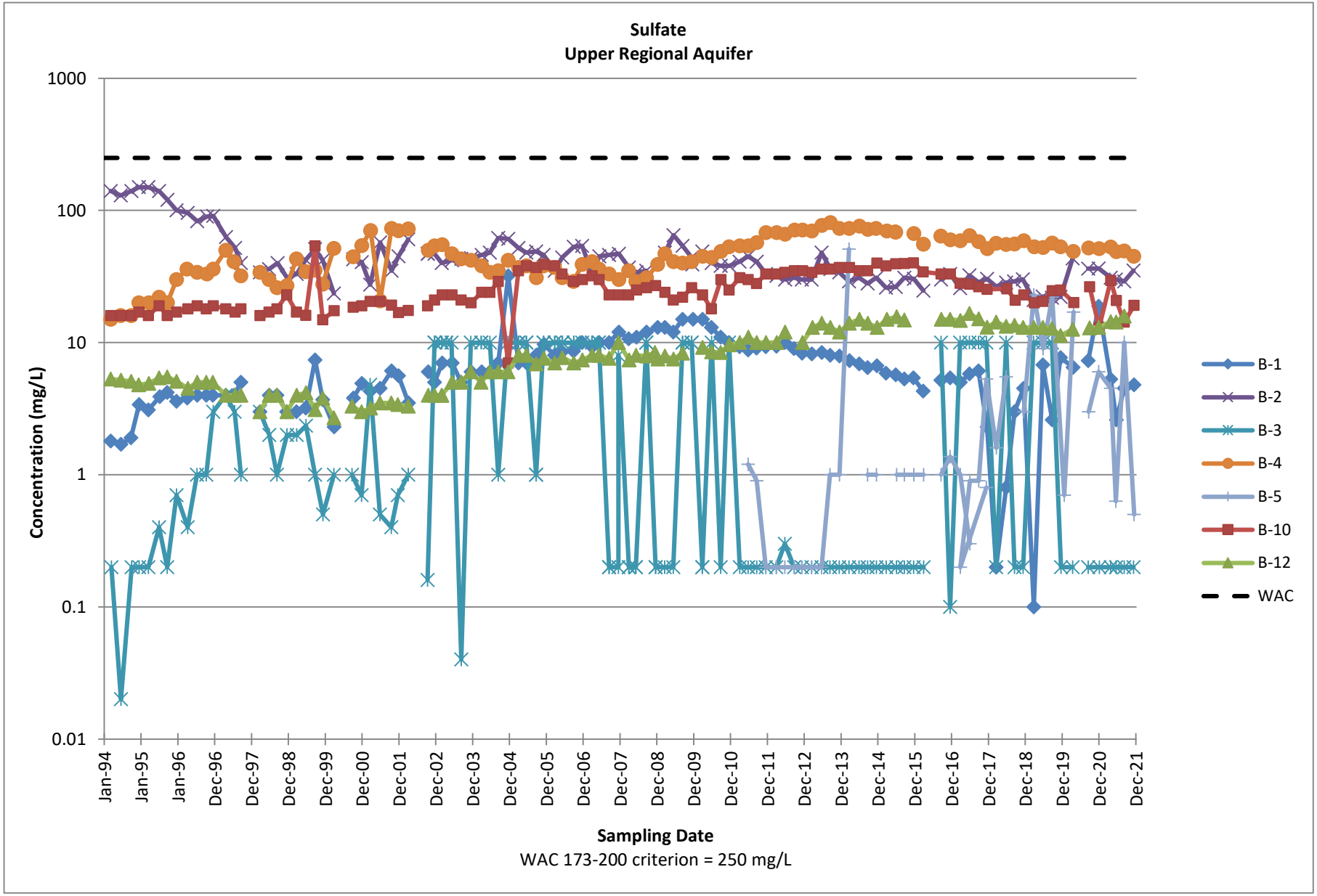

Nitrate as nitrogen
Upper Regional Aquifer
100
10
1
0.1
0.01
0.001
Concentration (mg/L)
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 10 mg/L
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

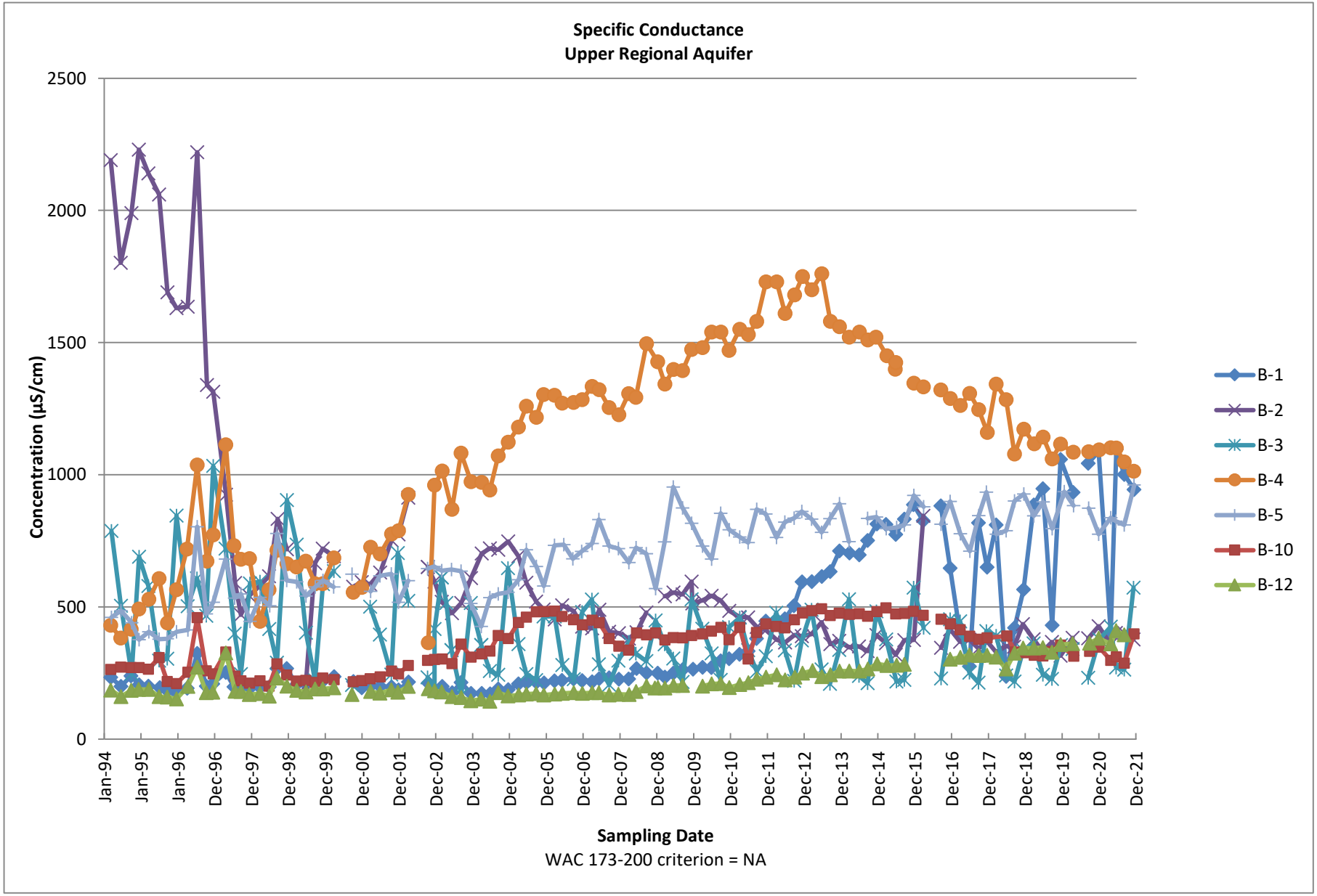

Nitrite as nitrogen
Upper Regional Aquifer
10
1
0.1
0.01
0.001
Concentration (mg/L)
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

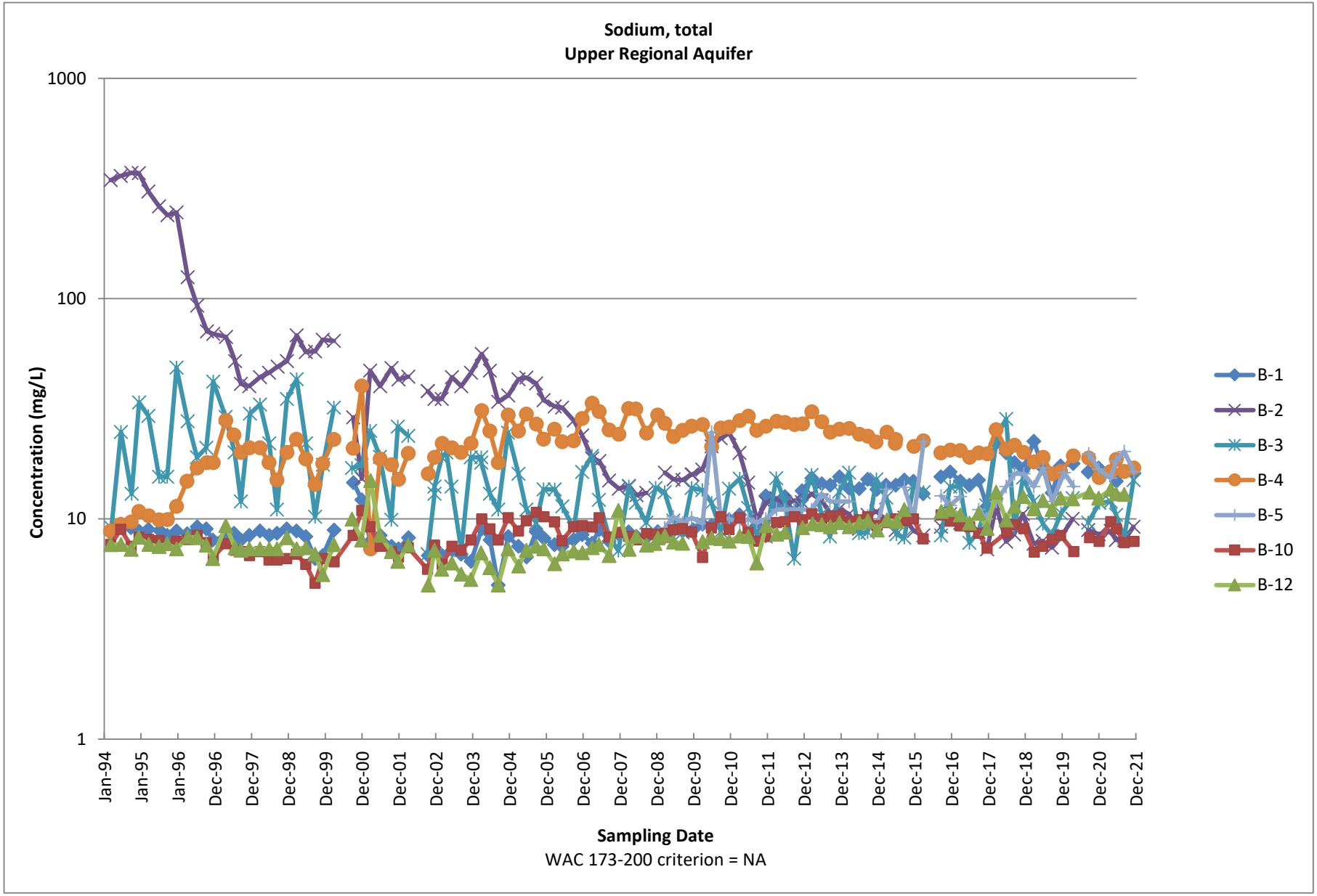

Potassium, total
Upper Regional Aquifer
Concentration (mg/L)
70
60
50
40
30
20
10
0
Jan-08
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12

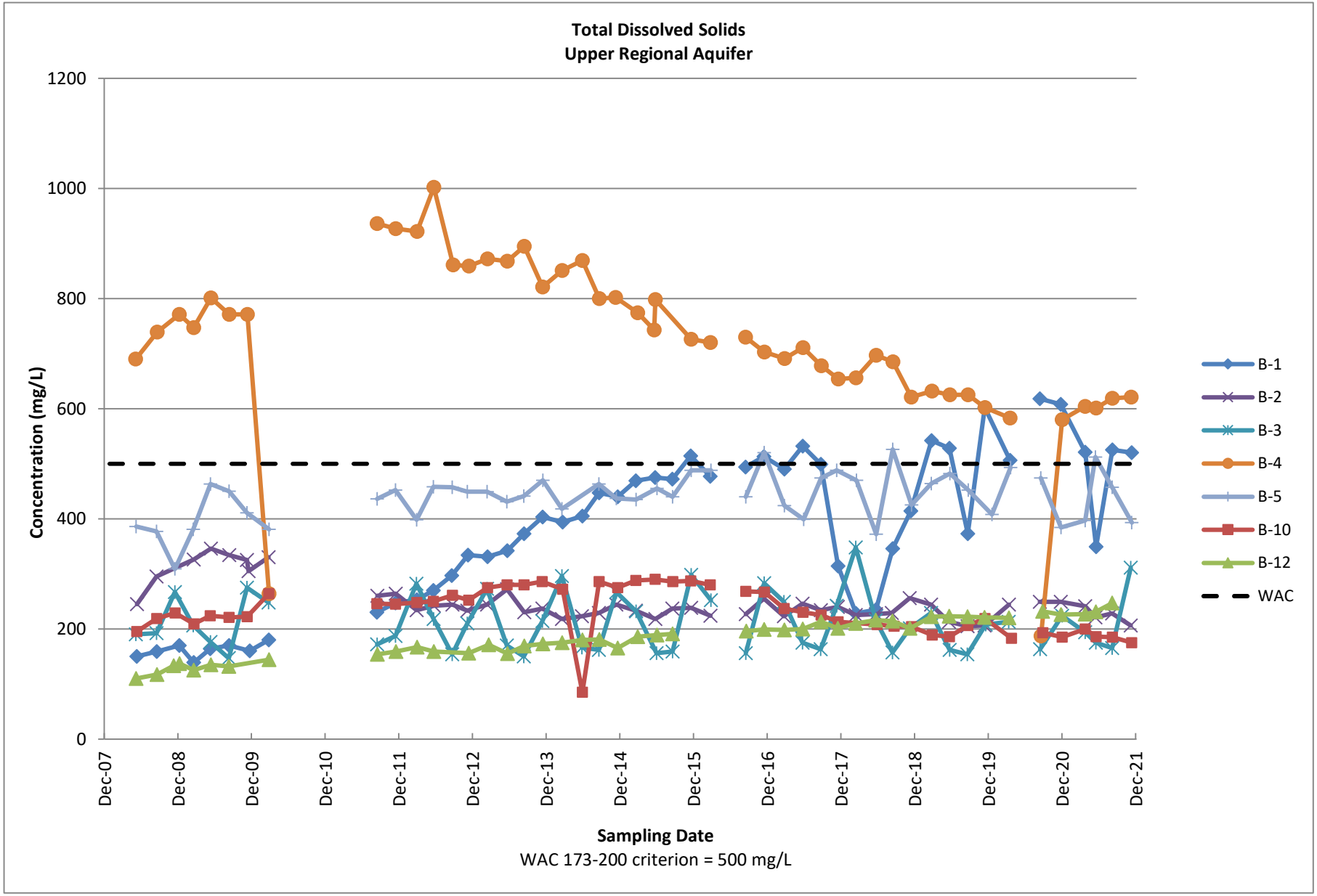

pH
Upper Regional Aquifer
pH (standard units)
12
11
10
9
8
7
6
5
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 6.5 - 8.5 SU
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC
WAC

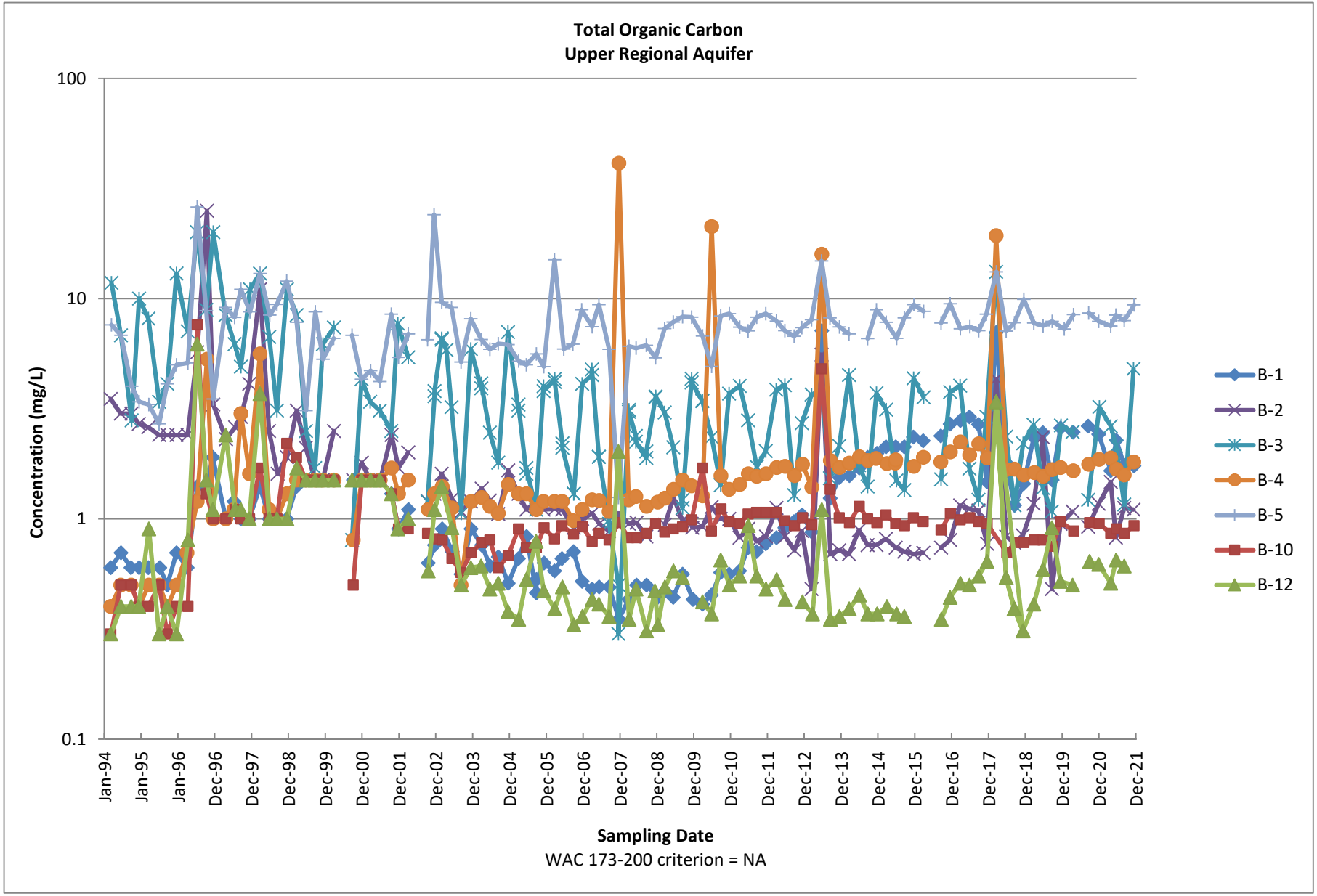

Selenium, dissolved
Upper Regional Aquifer
1
0.1
0.01
0.001
0.0001
0.00001
Concentration (mg/L)
Jan-08
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC
WAC 173-200 criterion = 0.01 mg/l

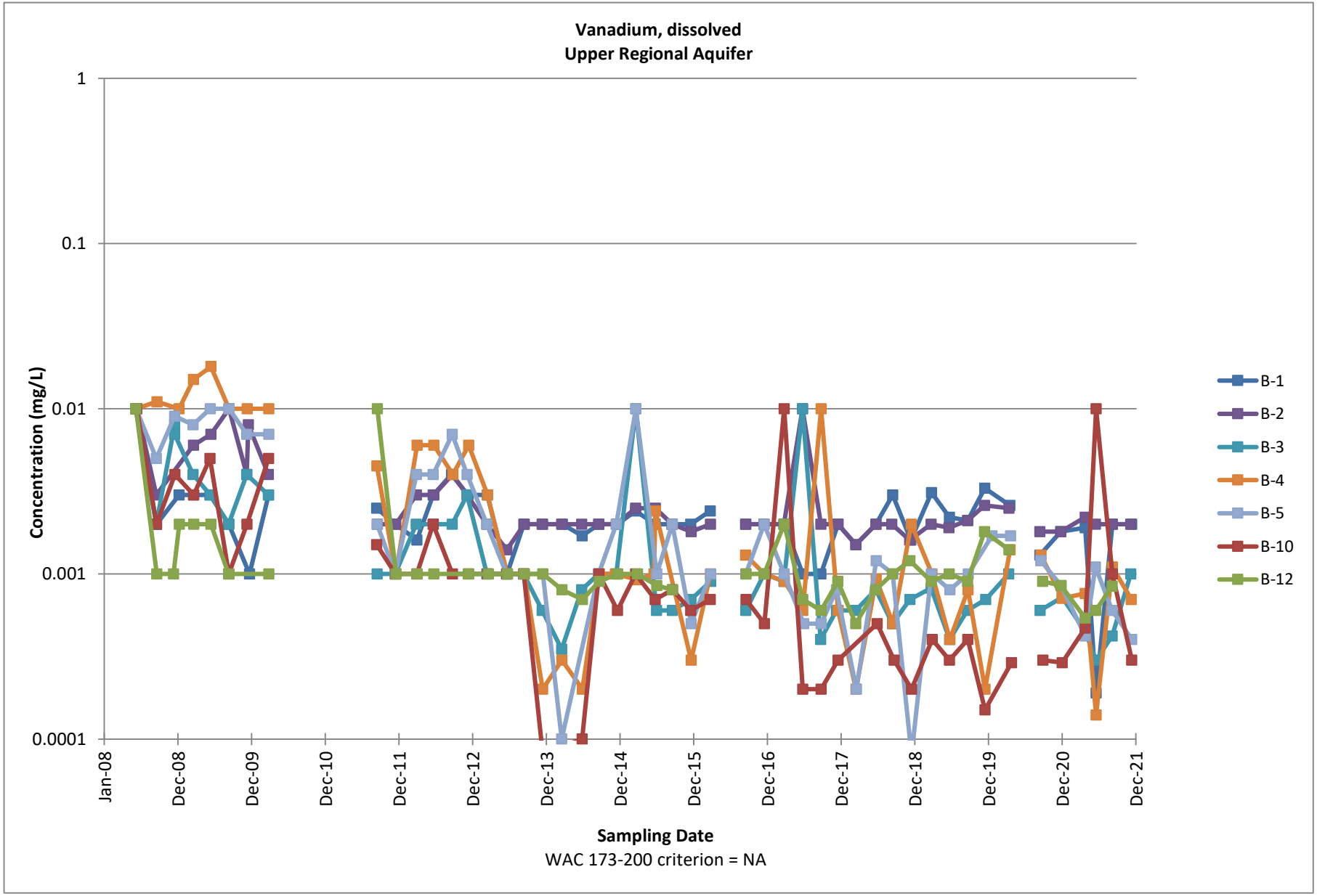

Sulfate
Upper Regional Aquifer
1000
100
10
1
0.1
0.01
Concentration (mg/L)
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 250 mg/L
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

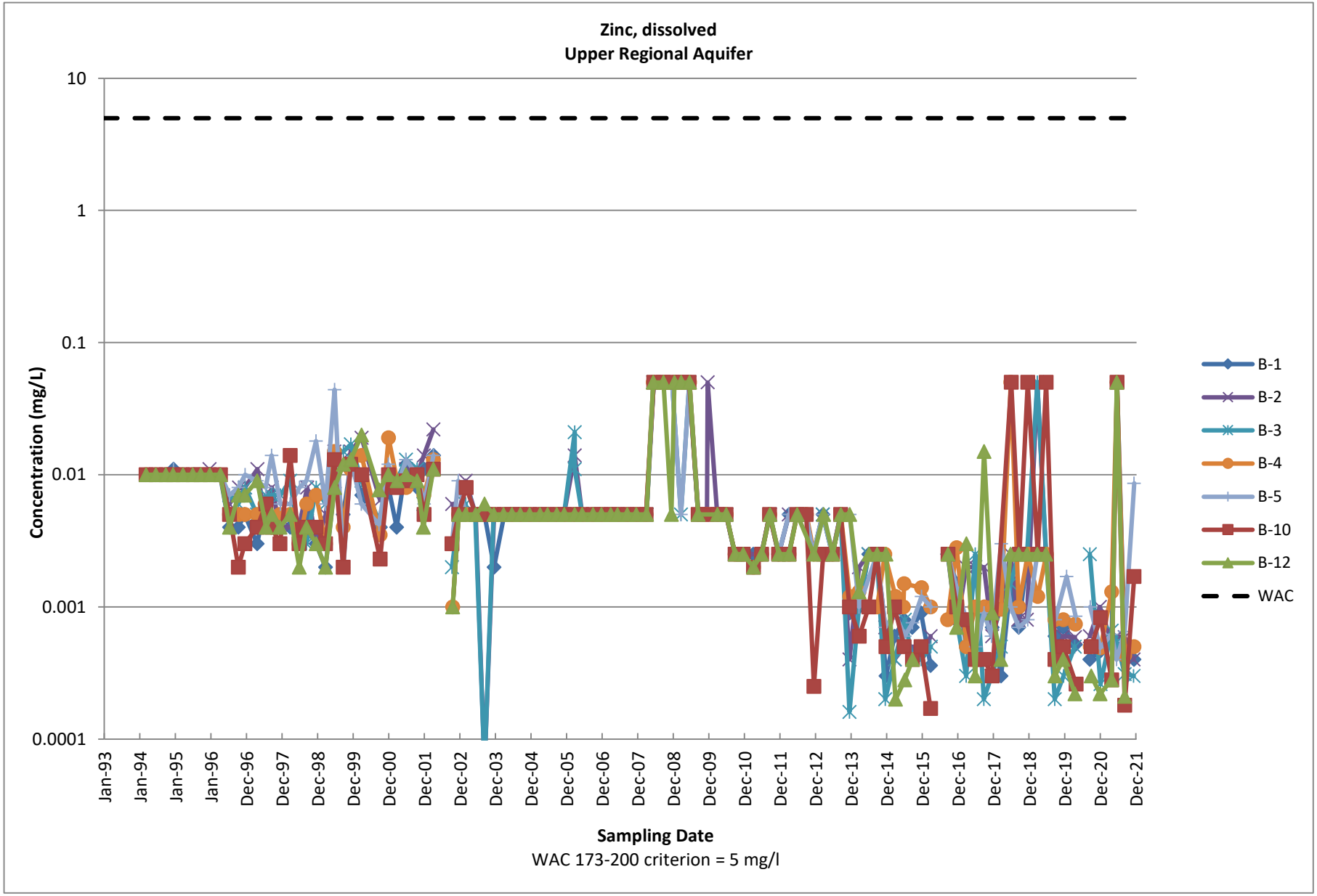

Specific Conductance
Upper Regional Aquifer
Concentration (µS/cm)
2500
2000
1500
1000
500
0
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC 173-200 criterion = NA

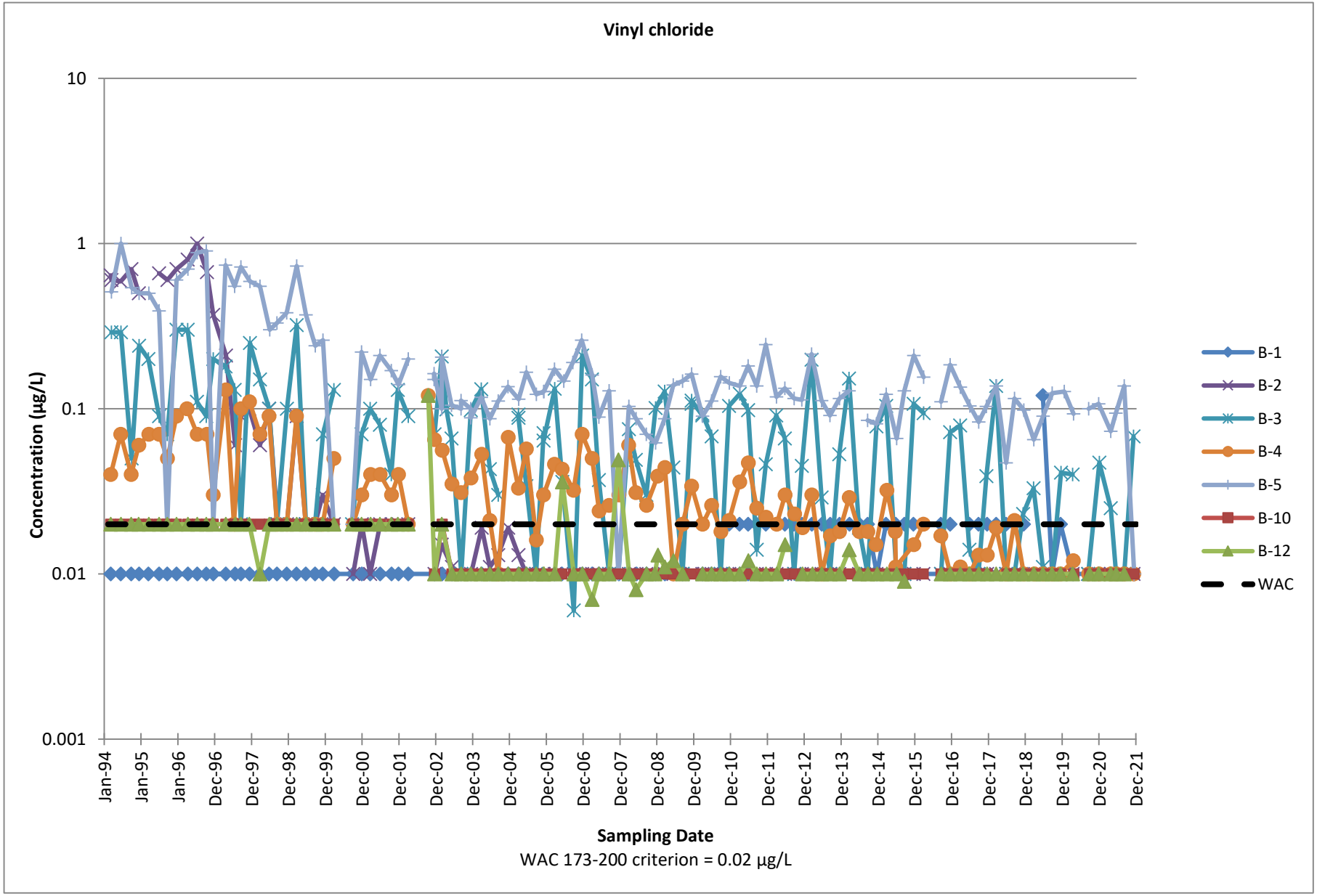

Sodium, total
Upper Regional Aquifer
1000
100
10
1
Concentration (mg/L)
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12


Total Dissolved Solids
Upper Regional Aquifer
Concentration (mg/L)
1200
1000
800
600
400
200
0
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC
WAC 173-200 criterion = 500 mg/L


Total Organic Carbon
Upper Regional Aquifer
100
10
1
0.1
Concentration (mg/L)
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12


Vanadium, dissolved
Upper Regional Aquifer
1
0.1
0.01
0.001
0.0001
Concentration (mg/L)
Jan-08
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = NA
B-1
B-2
B-3
B-4
B-5
B-10
B-12


Zinc, dissolved
Upper Regional Aquifer
10
1
0.1
0.01
0.001
0.0001
Concentration (mg/L)
Jan-93
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 5 mg/l
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC


Vinyl chloride
10
1
0.1
0.01
0.001
Concentration (µg/L)
Jan-94
Jan-95
Jan-96
Dec-96
Dec-97
Dec-98
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
Dec-21
Sampling Date
WAC 173-200 criterion = 0.02 µg/L
B-1
B-2
B-3
B-4
B-5
B-10
B-12
WAC

APPENDIX C
Data Validation Report
Fourth Quarter 2021

INMAN LANDFILL FOURTH QUARTER 2021 DATA VALIDATION REPORT

1. INTRODUCTION

This report presents the results of data validation for laboratory reports 21-45745, 21-45893, and 21-46358 by Edge Analytical, Burlington, Washington. Sample identifications and the analyses requested are provided in the following table.

Sample Location	Skagit County Sample ID	Lab Sample ID	Lab Report	Analysis (All Samples)
B-1	3151	89485	21-46358	Dissolved Sb, As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Mn, Ni, Pb, Se, Vd, Zn: 200.7/Filter, 200.8/Filter, 245.1/Filter Total Metals (Ca, K, Mg, Na): 200.7 Inorganic Anions (NO_3, NO_2, Cl, SO_4): 300.0 Nutrients (NH_3): SM 4500 Demand (TOC, COD): SM 5310B, SM 5220D Organics (VOCs): 8260B, 8260SIM Properties (Alkalinity, TDS, Bicarbonate): SM 2320B, SM 2540C
B-2	3152	88086	21-45745	
B-3	3153	88087	21-45745	
B-3 Duplicate	3154	88088	21-45745	
B-4	3155	88424	21-45893	
B-5	3156	89486	21-46358	
B-6	3157	88245	21-45893	
B-9	3158	88426	21-45893	
B-10	3159	89487	21-46358	

The samples were collected on December 3, 6, and 8, 2021.

2. SAMPLE HANDLING AND CUSTODY REQUIREMENTS

Samples were transported off site for analysis. Custody of the samples was controlled and documented on a chain of custody form. Unique sample identification numbers were recorded on the chain of custody forms along with date, time, matrix type, preservative, analysis required for each sample, and other required information.

2.1 Dissolved Metals

Sample custody was maintained throughout collection, transport, and lab receipt.

2.2 Total Metals

Sample custody was maintained throughout collection, transport, and lab receipt.

2.3 Inorganic Anions

Sample custody was maintained throughout collection, transport, and lab receipt.

2.4 Nutrients

Sample custody was maintained throughout collection, transport, and lab receipt.

2.5 Demand

Sample custody was maintained throughout collection, transport, and lab receipt.

2.6 Organics

Sample custody was maintained throughout collection, transport, and lab receipt.

2.7 Properties

Sample custody was maintained throughout collection, transport, and lab receipt.

3. HOLDING TIME

3.1 Dissolved Metals

All analyses were performed within the recommended maximum holding time.

3.2 Total Metals

All analyses were performed within the recommended maximum holding time.

3.3 Inorganic Anions

All analyses were performed within the recommended maximum holding time.

3.4 Nutrients

All analyses were performed within the recommended maximum holding time.

3.5 Demand

All analyses were performed within the recommended maximum holding time.

3.6 Organics

All analyses were performed within the recommended maximum holding time.

3.7 Properties

All analyses were performed within the recommended maximum holding time.

4. METHOD BLANKS

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory activities.

4.1 Dissolved Metals

Goals for blank analyses were met. Method blanks were analyzed and were target analyte free.

4.2 Total Metals

Goals for blank analyses were met. Method blanks were analyzed and were target analyte free.

4.3 Inorganic Anions

Goals for blank analyses were met. Method blanks were analyzed and were target analyte free.

4.4 Nutrients

Goals for blank analyses were met. Method blanks were analyzed and were target analyte free.

4.5 Demand

Goals for blank analyses were met. Method blanks were analyzed and were target analyte free.

4.6 Organics

Goals for blank analyses were met. Method blanks were analyzed and were target analyte free.

4.7 Properties

Goals for blank analyses were met. Method blanks were analyzed and were target analyte free.

5. LABORATORY FORTIFIED BLANK

Data for laboratory control samples (LCS) were provided in order to evaluate the accuracy and performance of the analytical method. GC and GC/MS method performance on individual samples is established by means of spiking system monitoring compounds (surrogates), and internal standards which are added just prior to analyses.

5.1 Dissolved Metals

Goals for all LCS recovery were met.

5.2 Total Metals

Goals for LCS recovery were met.

5.3 Inorganic Anions

Goals for all other LCS recovery were met.

5.4 Nutrients

Goals for LCS recovery were met.

5.5 Demand

Goals for LCS recovery were met.

5.6 Organics

2-BUTANONE, 2-HEXANONE, ACETONE, ACROLEIN, METHYL IODIDE: Samples were flagged with high quality control sample (QCS) due to increased detector response. There were no sample detections, therefore, no further action was taken for this analysis set.

BROMOMETHANE: Low recovery could not be accounted for. However, there was adequate sensitivey to detect the compound at the MRL. There were no sample detections, so no further action taken for this analysis set.

Goals for all other LCS recovery were met.

5.7 Properties

Goals for LCS recovery were met.

6. LABORATORY DUPLICATE PRECISION

6.1 Dissolved Metals

The RPD values for all other duplicate analyses performed on dissolved metal samples were within acceptable limits.

6.2 Total Metals

The RPD values for all other duplicate analyses performed on total metal samples were within acceptable limits.

6.3 Inorganic Anions

The RPD values for all other duplicate analyses performed on inorganic anion samples were within acceptable limits.

6.4 Nutrients

The RPD values for all other duplicate analyses performed on nutrient samples were within acceptable limits.

6.5 Demand

The RPD values for all other duplicate analyses performed on demand samples were within acceptable limits.

6.6 Organics

The RPD values for duplicate analyses performed on organic samples were within acceptable limits.

6.7 Properties

The RPD values for all other duplicate analyses performed on organic samples were within acceptable limits.

7. MATRIX SPIKE AND MATRIX SPIKE DUPLICATE ANALYSIS

7.1 Dissolved Metals

Dissolved iron sample was flagged: The ratio of the spike concentration to sample background was too low to meet performance criteria.

The matrix spike and matrix spike duplicate (MS/MSD) analyses were in control for all recoveries.

7.2 Total Metals

Two samples for total sodium were flagged: The ratio of the spike concentration to sample background was too low to meet performance criteria.

One sample for total calcium was flagged: The ratio of the spike concentration to sample background was too low to meet performance criteria.

One sample for total magnesium was flagged: The ratio of the spike concentration to sample background was too low to meet performance criteria.

The matrix spike and matrix spike duplicate (MS/MSD) analyses were in control for all other recoveries.

7.3 Inorganic Anions

One sample for chloride was flagged: The ratio of the spike concentration to sample background was too low to meet performance criteria.

One sample for sulfate was flagged: The ratio of the spike concentration to sample background was too low to meet performance criteria.

One sample for nitrate was flagged: The ratio of the spike concentration to sample background was too low to meet performance criteria.

The matrix spike and matrix spike duplicate (MS/MSD) analyses were in control for all other recoveries.

7.4 Nutrients

The MS/MSD analyses performed on the nutrient samples were in control for all recoveries and RPDs.

7.5 Demand

One total organic carbon sample was flagged. The ratio of the spike concentration to sample background was too low to meet performance criteria.

The MS/MSD analyses performed on the demand samples were in control for all other recoveries and RPDs.

7.6 Organics

The MS/MSD analyses performed on the organic samples were in control for all recoveries and RPDs.

7.7 Properties

The MS/MSD analyses performed on other samples were in control for all recoveries and RPDs.

8. FIELD DUPLICATE

Analyte	Field Duplicate		
	B-3 (3153)	B-3 Duplicate (3154)	RPD (%)
Dissolved Metals (mg/L)			
Arsenic	0.0033	0.0034	3.0
Barium	0.183	0.182	0.5
Chromium	**0.0019**	**0.0014**	**30.3**
Cobalt	0.0004	0.0004	0.0
Copper	ND	ND	0.0
Iron	9.85	9.78	0.7
Manganese	1.14	1.14	0.0
Nickel	0.0025	0.0025	0.0
Selenium	0.0008	0.0009	11.8
Vanadium	0.001	0.0009	10.5
Zinc	0.0003	0.0003	0.0
Total Metals (mg/L)			
Calcium	43.1	45	4.3
Magnesium	29.9	30.5	2.0
Potassium	6.6	6.9	4.4
Sodium	15	15.2	1.3
Inorganic Anions (mg/L)			
Chloride	34.1	33	3.3
Nutrients (mg/L)			
Ammonia	1.46	1.51	3.4
Demand (mg/L)			
Total organic carbon	**1.8**	**4.85**	**91.7**
Properties (mg/L)			
Alkalinity	250	258	3.1
Bicarbonate	250	258	3.1
Total dissolved solids	311	305	1.9

Bold = Relative Percent Difference (RPD) exceeds 20% acceptance criteria
Non-detects are not shown.

8.1 Dissolved Metals

The RPD for dissolved chromium exceeded the acceptance criteria of 20%; however, the values were estimates, and below the groundwater standard. No further action was taken with this data set. All RPDs between the duplicate samples were within $\leq$ 20%.

8.2 Total Metals

All RPDs between the duplicate samples were within $\leq$ 20%.

8.3 Inorganic Anions

All RPDs between the duplicate samples were within ≤ 20%.

8.4 Nutrients

All RPDs between the duplicate samples were within ≤ 20%.

8.5 Demand

The RPD for total organic carbon exceeded the acceptance criteria of 20%; however, the values were below the groundwater standard. No further action was taken with this data set. All RPDs between the duplicate samples were within ≤ 20%.

All RPDs between the duplicate samples were within ≤ 20%.

8.6 Organics

All RPDs between the duplicate samples were within ≤ 20%.

8.7 Properties

All RPDs between the duplicate samples were within ≤ 20%.

9. DETECTION LIMITS

If detection limit goals are met, then the analytic method is considered to have provided detection limits low enough to allow site data to be compared to the applicable groundwater criteria.

9.1 Dissolved Metals – 200.8/Filter, 245.1/Filter

Detection limit goals were met for all results.

9.2 Total Metals – 200.7

Detection limit goals were met for all results.

9.3 Inorganic Anions – 300.0

Detection limit goals were met for all results.

9.4 Nutrients – SM 4500

Detection limit goals were met for all results.

9.5 Demand – SM 5310B, SM 5220D

With the exception of 1,2-dibromo-3-chloropropane (DBCP), 1,2-dibromoethane (EDB), Bromodichloromethane, and Carbon tetrachloride, detection limit goals were met for all results.

9.6 Organics – 8260B, 8260SIM

Detection limit goals were met for all results.

9.7 Properties – SM2320 B, SM2540 C

Detection limit goals were met for all results.

10. DATA VALIDATION AND USABILITY

With the exception of the above noted anomalies, standard analytical protocols were followed in the analysis of the samples and all laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits. Limitations were stated and clearly identified where applicable. As a result of this review, the data are found to be acceptable as reported by the laboratory for the intended use in this project.

APPENDIX D
Landfill Gas Monitoring Data – 2021

Table D-1. Perimeter Landfill Gas Measurements, 2021
Inman Landfill

Well Identifier	Probe Identifier	Screened Interval Depth (ft bgs)	Date	CH4 Concentration (%v/v)	CO2 Concentration (%v/v)	O2 Concentration (%v/v)	Barometric Pressure inches Hg	Static Pressure (inches H2O)	LFG Extraction System Status
GDW-1	Shallow	19-21	04/21/21	1.6	2.50	16.00	29.97	0.05	off
			06/14/21	2.4	2.50	16.00	30.12	0.05	off
			09/02/21	3.6	2.50	16.00	30.12	NM	off
			12/8/21	3.8	2.40	17.00	29.95	NM	off
GDW-1	Intermediate	58-60	NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
GDW-1	Deep	82-84	04/21/21	0.2	7.90	5.60	29.97	0.02	off
			06/14/21	0.2	7.90	5.60	30.12	0.02	off
			09/02/21	0.4	7.90	5.60	30.12	NM	off
			12/8/21	1.1	0.90	18.50	29.95	NM	off
GDW-2	Shallow	14.5-15.5	04/22/21	0.0	3.30	19.90	30.02	0.00	off
			06/15/21	0.0	3.30	19.90	30.12	0.00	off
			09/02/21	0.0	3.30	19.90	30.12	NM	off
			12/8/21	0.0	0.70	19.80	29.97	NM	off
GDW-2	Intermediate	27-28	04/22/21	0.0	3.10	15.20	30.02	0.07	off
			06/15/21	0.0	3.10	15.20	30.12	0.07	off
			09/02/21	0.0	3.10	15.20	30.12	NM	off
			12/8/21	0.0	5.40	13.80	29.97	NM	off
GDW-2	Deep	44-45	04/22/21	0.0	3.80	14.30	30.02	0.04	off
			06/15/21	0.0	3.80	14.30	30.12	0.04	off
			09/02/21	0.0	3.80	14.30	30.12	NM	off
			12/8/21	0.0	3.70	15.10	29.98	NM	off
GDW-5	Shallow	9-10	NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
GDW-5	Intermediate	19-20	NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
GDW-5	Deep	29-30	NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off

Table D-1. Perimeter Landfill Gas Measurements, 2021
Inman Landfill

Well Identifier	Probe Identifier	Screened Interval Depth (ft bgs)	Date	CH4 Concentration (%v/v)	CO2 Concentration (%v/v)	O2 Concentration (%v/v)	Barometric Pressure inches Hg	Static Pressure (inches H2O)	LFG Extraction System Status
GP-6	Shallow	7-27	04/22/21	0.0	2.50	18.10	30.03	0.04	off
			06/15/21	0.0	2.50	18.10	30.12	0.04	off
			09/02/21	0.0	2.50	18.10	30.12	NM	off
			12/8/21	0.1	2.30	15.30	29.98	NM	off
GP-6	Deep	34-74	04/22/21	0.0	1.60	17.50	30.03	0.04	off
			06/15/21	0.0	1.60	17.50	30.12	0.04	off
			09/02/21	0.0	1.60	17.50	30.12	NM	off
			12/8/21	0.0	2.10	16.40	29.98	NM	off
GP-7	Shallow	7-17	04/21/21	0.0	10.70	8.80	30.00	0.13	off
			06/14/21	0.0	10.70	8.80	30.00	0.13	off
			NM	NM	NM	NM	NM	NM	off
			12/8/21	0.0	10.60	6.70	29.97	NM	off
GP-7	Deep	26-49	04/21/21	0.0	7.70	11.30	30.00	0.13	off
			06/14/21	0.0	7.70	11.30	30.00	0.13	off
			09/02/21	0.0	10.70	8.80	30.00	NM	off
			12/8/21	0.0	2.60	18.90	29.97	NM	off
B-6	Shallow	39-40	04/21/21	0.0	0.40	19.50	29.97	0.03	off
			06/14/21	0.0	0.40	19.50	30.12	0.03	off
			09/02/21	0.0	7.70	11.30	30.00	NM	off
			12/8/21	0.0	0.30	19.80	29.95	NM	off
B-6	Intermediate	94-95	NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
B-6	Deep	134-135	04/21/21	0.0	0.10	20.00	29.98	0.05	off
			06/14/21	0.0	0.10	20.00	30.11	0.05	off
			09/03/21	0.0	0.40	19.50	30.12	NM	off
			12/8/21	0.0	0.10	20.00	29.95	NM	off
B-7	Shallow	14-15	04/22/21	0.0	0.00	20.50	30.04	0.03	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
B-7	Deep	50-51	04/22/21	0.0	0.00	20.50	30.04	0.03	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off
			NM	NM	NM	NM	NM	NM	off

Table D-1. Perimeter Landfill Gas Measurements, 2021
Inman Landfill

Well Identifier	Probe Identifier	Screened Interval Depth (ft bgs)	Date	CH4 Concentration (%v/v)	CO2 Concentration (%v/v)	O2 Concentration (%v/v)	Barometric Pressure inches Hg	Static Pressure (inches H2O)	LFG Extraction System Status
B-9	Shallow	10-11	04/22/21	0.0	4.20	15.40	30.04	0.01	off
			06/15/21	0.0	4.50	15.80	30.12	0.01	off
			09/03/21	0.0	4.50	15.80	30.12	NM	off
			12/08/21	0.0	0.40	19.60	29.97	NM	off
B-9	Deep	49-50	04/22/21	0.0	4.20	15.40	30.04	0.01	off
			06/15/21	0.0	0.00	18.00	30.12	0.01	off
			09/03/21	0.0	0.00	18.00	30.12	NM	off
			12/08/21	0.0	0.10	20.10	29.97	NM	off
B-11	Shallow	66-67	04/22/21	0.0	0.00	20.00	30.00	0.04	off
			06/15/21	0.0	0.00	20.00	30.11	0.04	off
			09/03/21	0.0	0.00	20.00	30.11	NM	off
			12/08/21	0.0	0.30	19.70	29.98	NM	off
B-11	Deep	86-87	04/22/21	0.0	0.00	20.00	30.01	0.01	off
			06/15/21	0.0	0.00	20.00	30.11	0.01	off
			09/03/21	0.0	0.00	20.00	30.11	NM	off
			12/08/21	0.0	0.30	19.50	29.98	NM	off
B-13	Shallow	38-40	04/21/21	0.0	0.10	19.60	29.96	0.04	off
			06/14/21	0.0	0.10	19.60	30.12	0.04	off
			09/03/21	0.0	0.10	19.60	30.12	NM	off
			12/8/21	0.0	0.10	20.00	29.97	NM	off
B-13	Deep	73-74	04/21/21	0.0	0.10	19.70	29.97	0.06	off
			06/14/21	0.0	0.10	19.70	29.97	0.06	off
			09/03/21	0.0	0.10	19.70	29.97	NM	off
			12/8/21	0.0	0.40	19.70	29.97	NM	off

Notes:
ft bgs = feet below ground surface
%v/v = percent by volume
NA = Flow restriction error.
NM = Not measured
Methane results above lower explosive limit shown in **bold.**