2021
Air Quality Report
Garfield Avenue Group Sites

Attached is a technical summary of air-quality data for 2021 at the Garfield Avenue cleanup sites submitted by PPG's air-monitoring consultant to the New Jersey Department of Environmental Protection.

This document provides detailed results that supplement data from the air-monitoring program published on the Chromium Cleanup Partnership's website, www.chromecleanup.com. In particular, this report provides information about conditions at the fenceline and along the edge of cleanup work areas.

Also, this document notes any deviations from the monitoring plan and work schedule caused by factors beyond the control of cleanup contractors, such as inclement weather and malfunctioning equipment.

Site activities requiring air monitoring at the Garfield Avenue cleanup sites were completed on November 11, 2021 and this report also serves as the overall program report for the duration of the air monitoring program.

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Annual Air Monitoring Report
PPG Garfield Avenue Group Site
Jersey City, New Jersey

Reporting Period: 2021

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List of Acronyms and Abbreviations

AAC – Acceptable Air Concentration

AMP – Air Monitoring Plan

AMS – Air Monitoring Station

ATSDR MRL – Agency for Toxic Substances and Disease Registry, Minimal Risk Levels

BTEX – benzene, toluene, ethylbenzene and xylenes

Cr^{+6} – hexavalent chromium

FAM – fixed air monitoring

GA – Garfield Avenue

H_2S – hydrogen sulfide

JCO – Judicial Consent Order

$\mu g/m^3$ – micrograms per cubic meter

ng – nanograms

ng/m^3 – nanograms per cubic meter of air

NJDEP – New Jersey Department of Environmental Protection

PAM – portable air monitoring

PM_{10} – particulate matter 10 microns or less in diameter

ppb – parts per billion

ppm – parts per million

TVOC – total volatile organic compounds

VOC – volatile organic compounds

Executive Summary

Air monitoring and sampling took place at the PPG Garfield Avenue (GA) Group Site (the Site) in Jersey City, New Jersey in accordance with the approved Air Monitoring Plan (AMP) and its applicable amendments. With the substantial completion of excavation and backfilling activities, the air monitoring and sampling program ended on November 11, 2021.

This program was designed to measure various aspects of air quality at the Site to ensure that the remedial activities did not have an adverse effect on the surrounding community.

The air monitoring and sampling included a combination of the following:

- Integrated 8-hour hexavalent chromium (Cr^{+6}) sampling and analysis;
- Real-time respirable particulate matter with a diameter of 10 microns or less (PM_{10}), total volatile organic compounds (TVOC) and hydrogen sulfide (H_2S) monitoring (as applicable); and
- Meteorological monitoring.

This annual report is designed to evaluate the air monitoring program's effectiveness on an annual basis as well as the program completion. This report will also serve as the final program report. The results of the air monitoring and sampling data collected over the latest year in addition to the data collected during the baseline period (June 9, 2010 through June 30, 2010) and the overall program operational period (July 1, 2010 through November 11, 2021) are summarized herein.

Results of the integrated Cr^{+6} sampling and analysis during the overall program indicated that program average airborne Cr^{+6} concentrations were significantly less than the Acceptable Air Concentration (AAC) set by New Jersey Department of Environmental Protection (NJDEP) at each of the Air Monitoring Station (AMS) locations. The results and calculations document compliance with the Cr^{+6} AAC and confirm that dust control measures were effective throughout the program.

Results of the real-time PM_{10} and TVOC monitoring during the overall program indicated that there were short-term periods of elevated concentrations greater than the fenceline Action Levels and perimeter of the exclusion zone Early Warning Action Levels. Results of the real-time H_2S monitoring during the overall program remained at concentrations less than the fenceline Action Level. Program averages of PM_{10} and TVOCs are similar to those that were observed during the baseline period, indicating that the dust and vapor control measures during intrusive activities were effective at minimizing concentrations in ambient air.

1.0 Introduction

This annual air monitoring report includes both tabular information and written discussions summarizing the ambient air-quality data collected in accordance with the Air Monitoring Plan (AMP) at the PPG Garfield Avenue (GA) Group Site (the Site) in Jersey City, New Jersey.

This annual report is designed to provide a summary of the air monitoring and sampling data collected during the baseline period (June 9, 2010 through June 30, 2010) and the operational period (July 1, 2010 through the end of the program on November 11, 2021), while focusing on the latest year of data collection results. This report includes both annual and program-to-date summaries of the following:

- Integrated hexavalent chromium (Cr^{+6}) analytical results;
- Real-time respirable particulate matter with a diameter of 10 microns or less (PM_{10}) concentrations;
- Real-time average total volatile organic compounds (TVOC) concentrations;
- Periodic hand-held PM_{10}, TVOC and hydrogen sulfide (H_2S) (as applicable) concentrations; and
- Meteorological conditions.

Results have been evaluated and compared to the Site-specific Acceptable Air Concentration (AAC) and Action Levels in accordance with the AMP.

During the operational period, the integrated Cr^{+6} sampling and analysis results have confirmed compliance with the Cr^{+6} AAC. There have been several short-term periods of elevated PM_{10} and TVOC concentrations greater than the fenceline Action Levels or the perimeter of the exclusion zone Early Warning Action Levels. These occurrences, however, have been infrequent during the program and have been largely mitigated by on-Site dust and vapor control operations.

Success is ultimately determined at the end of the remediation program when the average Cr^{+6} concentrations at each Air Monitoring Station (AMS) location are compared to the Site-specific AAC for Cr^{+6}. This annual report has been designed to evaluate the program's effectiveness on an annual basis and, given the end of the remediation program during 2021, provides an evaluation of the success and compliance of the overall program from an air monitoring perspective. Thus, the annual reports have focused largely on the integrated analytical results collected as part of the Cr^{+6} fenceline air monitoring.

1.1 Program Modifications

Air monitoring and sampling at the Site was conducted in accordance with the Garfield Avenue AMP. Through the development of various phases of remediation activities, components have been added to, modified, or eliminated from the Garfield Avenue AMP. Changes to the AMP since the start of the project in 2010 have been documented in various amendments. **Table 1-1** includes a list of these program modifications/amendments and the dates they were implemented. Changes to the AMP and

the work conducted in 2021 were completed in accordance with AMP Amendment 37. Monitoring was conducted from March 29, 2021 to the end of the program on November 11, 2021 due to the completion of substantial excavation and backfilling activities. Specific details regarding dates of operation may be found in **Table 2-1**.

Table 1-1: Program Modifications

Title	Date Implemented	Description of Modification
Revised AMP	July 16, 2010	Established additional 24- to 72-hour Cr^{+6} samples collected at 2 fenceline AMS;
	August 9, 2010	Established Alert Levels for PM_{10} and TVOC;
	October 26, 2010	Established 1-minute early warning monitoring for PM_{10} and TVOC and associated Early Warning Alert Levels;
	December 6, 2010	Installed PM_{10} impactors on each of the Cr^{+6} sampling pumps to provide size selective measurement of Cr^{+6};
	December 2010	Established 30-, 60- and 90-day running average criteria for Cr^{+6} concentrations; and
	December 2010	Established monthly reporting criteria.
AMP Amendment 01	April 5, 2012	FAM-5 and FAM-6 added to the program to address increased excavation in the southwest portion of the Site.
AMP Amendment 02	October 17, 2012	FAM-7 added to the program to address increased excavation in the northeast portion of the Site.
AMP Amendment 03	Not Implemented	Plans for the modification of air monitoring and sampling for the Phase 3 excavation in the GA Group Site south of Carteret Street. This Amendment depicted a conceptual layout of AMS during remedial activities in Phase 3 and was not implemented. Since that time, more details on the specific remedial activities in Phase 3 have been determined, resulting in the implementation of a sequenced air monitoring strategy at the Carteret South portion of the Site. The details of the sequenced air monitoring approach to date will be provided in future AMP Amendments.
AMP Amendment 04	May 2, 2012 – February 13, 2017	H_2S monitoring added to the program at FAM-2, FAM-3 and FAM-5 to address the use of Ferro Black mixing agent along the Morris Canal excavation.
AMP Amendment 05	Not Implemented	Planned for the modification of air monitoring and sampling for Site 132's stockpile operations. While a remedial strategy that included stockpiling at Site 132 was proposed at one time, it was never implemented. Therefore, this Amendment was never implemented.
AMP Amendment 06	March 5, 2013	FAM-3 and FAM-4 were converted from line power to battery power. These locations operate during scheduled work hours, estimated to be Monday – Friday (7:00AM – 5:00PM). The H_2S monitoring was relocated from FAM-3 to FAM-7 location and the 24-hr Cr^{+6} sampling was relocated from FAM-3 to FAM-5. Once electricity is returned to this portion of the fenceline the FAM-3 and FAM-4 locations will return to operating 24-hours a day 7-days per week. However, the H_2S monitoring and 24-hr Cr^{+6} sampling will remain at their new locations.
AMP Amendment 07	June 24, 2013 – July 31, 2013	Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling was added to the program at PAM-5, PAM-6, PAM-7 and PAM-8 for the demolition of structures at GA Group Sites 132 and 143 south of Carteret Avenue.
AMP Amendment 08	August 19, 2013 – November 1, 2013	Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling was added to the program at PAM-9 and PAM-10 for excavation activities at GA Group Site 186. Data associated with the excavation at Site 186 will be included in the appropriate Remedial Action Report.
AMP Amendment 09	July 3, 2013	Modified and provided clarification of the AMP and DCP documents as they relate to QA/QC and reporting requirements.
AMP Amendment 10	August 26, 2013 – September 5, 2013	Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling was added to the program at PAM-5, PAM-11, PAM-12 and PAM-13 for the demolition of structures at GA Group Site 137B south of Carteret Avenue.

Definitions:

AMP – Air Monitoring Plan
AMS – Air Monitoring Station
BTEX – benzene, toluene, ethylbenzene and xylenes
Cr^{+6} – hexavalent chromium
FAM – fixed air monitoring station
H_2S – hydrogen sulfide
NA – not applicable
NJDEP – New Jersey Department of Environmental Protection
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TBD – to be determined
TVOC – total volatile organic compounds

Table 1–1: Program Modifications Continued

Title	Date Implemented	Description of Modification
AMP Amendment 11 Rev 01	February 27, 2014 – May 21, 2014 June 17, 2014 – July 8, 2014	Site fenceline was expanded further south to capture activities associated with Phase 3A south of Carteret Avenue. Four (4) fenceline AMS (PAM-5, PAM-6, PAM-7 and PAM-8) and three (3) exclusion zone AMS (PAM-E, PAM-F and PAM-G) were added to the program. Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling will be conducted at each AMS. AMP Amendment 11 was submitted and NJDEP provided comments. AMP Amendment Rev 01 was generated in response and ultimately approved.
AMP Amendment 12	March 25, 2014 – April 14, 2014	Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling was added to the program at PAM-11 and PAM-14 for the demolition of structures at GA Group Site 137A south of Carteret Avenue.
AMP Amendment 13 Rev 01	May 22, 2014 – June 16, 2014	Site fenceline south of Carteret Avenue was expanded further east to capture activities associated with Phase 3A and Phase 3B. One (1) PAM station and one (1) FAM station will be added and two (2) existing PAM stations will be repositioned along the fenceline. Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling will be conducted at each AMS. AMP Amendment 13 was submitted and NJDEP provided comments. AMP Amendment 13 Rev 01 was approved by NJDEP.
AMP Amendment 13 Rev 03	July 8, 2014 – August 29, 2014	AMP Amendment 13 Rev 01 was revised based on conversation with Weston regarding the sequencing of work activities. PAM-6 remained in place and a PAM from Site 114 was relocated to the fenceline south of Carteret Avenue. Additionally, a perimeter exclusion zone monitor (PAM-H) was added to the area south of Carteret Avenue. AMP Amendment 13 Rev02 was submitted to NJDEP for review and comment. AMP Amendment 13 Rev 03 was approved by the NJDEP.
AMP Amendment 14 Rev 02	Not Implemented	Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling was planned to be added to the program at four (4) PAM stations for the demolition of structures at GA Group Site 133E south of Carteret Avenue. This AMP Amendment was replaced with AMP Amendment 15 for the demolition and excavation of Site 133E structure. AMP Amendment 14 and Rev01 were submitted to the NJDEP for review and comment. AMP Amendment 14 Rev 02 was approved by NJDEP.
AMP Amendment 15 Rev 04	August 30, 2014	Site fenceline south of Carteret Avenue was expanded further east to capture activities associated with Phase 3A, Phase 3B and Phase 3C resulting in the repositioning of three (3) existing PAM stations. Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling will be conducted at each AMS. AMP Amendment 15 and Rev01 were submitted to the NJDEP for review and comment. AMP Amendment Rev 02 was approved by NJDEP. The sequencing of work on-Site was different than expected; therefore, AMP Amendment 15 Rev 03 was submitted to NJDEP for review and comment. AMP Amendment 15 Rev 04 was approved by the NJDEP.
AMP Amendment 16 Rev 02	March 18, 2014 – June 13, 2014 July 1, 2014 – July 2, 2014	Hand-held PM_{10} monitoring was added along the fenceline at the edge of the Western Sliver excavation area. AMP Amendment 16 and Rev 01 were submitted for NJDEP review and comment. AMP Amendment Rev 02 was approved by the NJDEP.
AMP Amendment 17 Rev01	March 14, 2014 – March 31, 2015	Revised the Action Level Communication Protocol in accordance with revisions to the Contingency and Communications Plan dated March 2014. AMP Amendment 17 was submitted to the NJDEP for review and comment. AMP Amendment 17 Rev01 was approved by NJDEP.
AMP Amendment 17 Rev 02	March 31, 2015 –January 3, 2016	Revised the Action Level Communication Protocol in accordance with revisions to the Contingency and Communications Plan dated March 2015.
AMP Amendment 17 Rev 03	January 4, 2016 – May 15, 2016	Revised the Action Level Communication Protocol in accordance with revisions to the Contingency and Communications Plan dated April 2016.

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FAM – fixed air monitoring station
H_2S – hydrogen sulfide
NA – not applicable
NJDEP – New Jersey Department of Environmental Protection
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TBD – to be determined
TVOC – total volatile organic compounds

Table 1–1: Program Modifications Continued

Title	Date Implemented	Description of Modification
AMP Amendment 17 Rev 04	May16, 2016 - October 3, 2016	Revised the Action Level Communication Protocol in accordance with revisions to the Contingency and Communications Plan dated May 2016
AMP Amendment 17 Rev 05	October 4, 2016 - April 20, 2017	Revised the Action Level Communication Protocol in accordance with revisions to the Contingency and Communications Plan dated October 2016
AMP Amendment 17 Rev 06	April 21, 2017 – April 18, 2018	Revised the Action Level Communication Protocol in accordance with revisions to the Contingency and Communications Plan dated April 2017
AMP Amendment 17 Rev 07	April 19, 2018	Revised the Action Level Communication Protocol in accordance with revisions to the Contingency and Communications Plan dated April 2018
AMP Amendment 18 Rev 01	April 16, 2014 – May 13, 2014	Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling was added to the program at two (2) PAM stations for the removal of the concrete slab at GA Group Site 137B south of Carteret Avenue. AMP Amendment 18 was submitted for NJDEP review and comment. AMP Amendment 18 Rev 01 was approved by the NJDEP.
AMP Amendment 19 Rev 01	May 21, 2014	Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling was added to the program at two (2) PAM stations for the remedial activities at the Caven Point Avenue Site. AMP Amendment 19 was submitted for NJDEP review and comment. AMP Amendment 19 Rev 01 was approved by the NJDEP.
AMP Amendment 20	August 12, 2014 –August 13, 2014	Hand-held PM_{10} monitoring was added along the fenceline at the edge of the Phase 3A Sidewalk excavation area.
AMP Amendment 21	September 16, 2014 – October 6, 2014	Hand-held PM_{10} monitoring was conducted along the fenceline at the edge of the Phase 1C Clean Corridor Excavation and the Excavation and Restoration North of the Phase 1C Permanent Sheet Pile.
AMP Amendment 22 Rev 01	August 1, 2014 – February 13, 2017	H_2S monitoring was added to the program at PAM-7 and PAM-11 to address the use of Ferro Black mixing agent during backfill activities south of Carteret Avenue. H_2S monitoring was expanded/relocated to PAM-7, PAM-17 and PAM-20 following the transition into AMP Amendment 15. AMP Amendment 22 was submitted for NJDEP review and comment. AMP Amendment 22 Rev 01 was approved by the NJDEP.
AMP Amendment 23 Rev 01	NA	AMP Amendment 23 was submitted to the NJDEP for review and comment. AMP Amendment 23 Rev01 was approved and implemented in the following phases.
	April 13, 2015	Real-time TVOC monitoring was added to PAM-17, PAM-18 and PAM-20.
	April 22, 2015	Real-time PM_{10} and VOC (TVOC and BTEX where applicable) monitoring and integrated Cr^{+6} and PM_{10} sampling at FAM-1, FAM-3, PAM-2, PAM-A, PAM-B, PAM-C and PAM-D were shutdown. Real-time VOC (TVOC and BTEX, where applicable) monitoring were shut down at FAM-2, FAM-4, FAM-5, FAM-6 and FAM-7. Integrated 24-hour Cr^{+6} samples collected at FAM-2 and FAM-5 were relocated to FAM-6 and PAM-17. Hand-held monitoring for PM_{10} and TVOC was also stopped north of Carteret Avenue.
	May 29, 2015	Real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling at FAM-4 were shutdown.

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NA – not applicable
NJDEP – New Jersey Department of Environmental Protection
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TBD – to be determined
TVOC – total volatile organic compounds
VOC – volatile organic compounds

Table 1–1: Program Modifications Continued

Title	Date Implemented	Description of Modification
AMP Amendment 24 Rev 02	January 6, 2016	The Site fenceline was expanded further east on the south of Carteret Avenue side of the Site for the demolition and excavation of Site 135, former Vitarroz / Narula Property. As a result, real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling at PAM-6 and PAM-19 was shut down at the end of the day on January 5, 2016 and was started up at PAM-21 and PAM-22 at the beginning of the day on January 6, 2016. AMP Amendment 24 and Rev01 were submitted for NJDEP review and comment. AMP Amendment 24 Rev 02 was approved by the NJDEP.
AMP Amendment 25	December 4, 2015	During periods where there are no excavation or backfilling activities the real-time PM_{10} monitoring and integrated Cr^{+6} and PM_{10} sampling at the perimeter of the exclusion zone may be suspended until such activities resume. Suspensions will occur only when no such activities are anticipated for a duration of one day or longer.
AMP Amendment 26	October 12, 2016	In response to Building 51 demolition, excavation and backfilling activities, real-time PM_{10} and TVOC monitoring and integrated Cr^{+6} and PM_{10} sampling at PAM-18 was shut down at the end of the day on October 11, 2016 and started up at PAM-23 at the beginning of the day on October 12, 2016. AMP Amendment 26 was submitted for review and was approved by the NJDEP.
AMP Amendment 27	February 13, 2017	Historical H_2S monitoring results have demonstrated that the use of Ferro Black at the Site has not resulted in elevated H_2S concentrations. Real-time H_2S monitoring at the fenceline was eliminated while real-time H_2S hand-held monitoring will continue at the perimeter of the exclusion zone. AMP Amendment 27 was submitted for review and was approved by the NJDEP.
AMP Amendment 28 Rev02	February 13, 2017	In response to work transitioning from large-scale excavation/backfill operations to smaller excavation/backfill areas, areas of the Site where remediation and backfilling have been completed will transition into restoration-type activities. The Site will operate on a reduced air monitoring and sampling program. AMP Amendment 28 and Rev01 were submitted for review by the NJDEP. AMP Amendment 28 Rev02 was approved by the NJDEP.
AMP Amendment 29	March 23, 2017	In response to the excavation and backfilling at the Forrest Street Area, real-time PM_{10} and TVOC monitoring in addition to integrated Cr^{+6} and PM_{10} sampling started up at FAM-4, FAM-7, PAM-24 and PAM-25 at the start of the day on March 23, 2017. AMP Amendment 29 was submitted for review and was approved by the NJDEP.
AMP Amendment 30	July 10, 2017	In response to the demolition, excavation and backfilling activities of the Al Smith Moving Property, real-time PM_{10} and TVOC monitoring, in addition to integrated Cr^{+6} and PM_{10} sampling, began at PAM-17 and PAM-26 at the start of the day on July 10, 2017. AMP Amendment 30 was submitted for review and was approved by the NJDEP.
AMP Amendment 31	June 29, 2017	In response to the concrete processing and stockpiling activities in the Phase 3B South Stockpile Area, real-time PM_{10} and TVOC monitoring, in addition to integrated Cr^{+6} and PM_{10} sampling, began at PAM-7 and PAM-13 at the start of the day on June 29, 2017 and at PAM-23 at the start of the day on July 1, 2017. AMP Amendment 31 was submitted for review and was approved by the NJDEP.
	June 11, 2018	In response to concrete processing and stockpiling activities associated with AMP Amendment 32 Rev01, air monitoring and sampling restarted at PAM-5, PAM12 and PAM-13.

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H_2S – hydrogen sulfide
NA – not applicable
NJDEP – New Jersey Department of Environmental Protection
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TBD – to be determined
TVOC – total volatile organic compounds

Table 1–1: Program Modifications Continued

Title	Date Implemented	Description of Modification
AMP Amendment 32 Rev01	April 24, 2018	In response to the demolition, excavation and backfilling activities of the Halsted and Halladay Street North Area, real-time PM_{10} and TVOC monitoring in addition to integrated Cr^{+6} sampling started up at PAM-27, PAM-28, PAM-29, and PAM-30 at the start of the day on April 24, 2018. The location of PAM-27 was elevated (at approximately 12-13 feet above the ground) at the rear of the Fresenius Medical Center building during demolition activities only. AMP Amendment 32Rev01 was submitted for review and was approved by the NJDEP. In response to excavation and backfilling activities resuming in the Halladay Street North Area and ongoing activities in Carteret Avenue (described in AMP Amendment 35), PAM-28 was restarted on January 15, 2020 (although Cr^{+6} sampling began on January 13, 2020), and PAM-32 was started on March 9, 2020 to cover the combined work area.
AMP Amendment 33 Rev01	February 13, 2018	In response to changing conditions at the GA Group Sites, including: smaller areas of soil remediation, completion of the majority of the restoration activities, and project-to-date Cr^{+6} concentrations well below the established AAC, Site-wide monitoring, sampling and reporting reductions were implemented. AMP Amendment 33 Rev01 was submitted for review and was approved by the NJDEP.
AMP Amendment 34 Rev01	August 20, 2018 – April 29, 2019	In response to the excavation and backfilling activities of the Site 133W and Site 137B combined area, real-time PM_{10} and TVOC monitoring, in addition to integrated Cr^{+6} sampling, began at PAM-12, PAM-13, and PAM-17 at the start of the day on August 20, 2018. In response to modular tank cleaning, monitoring and sampling at PAM-8 began at the start of the day on April 15, 2019. AMP Amendment 34 Rev01 was submitted for review and was approved by the NJDEP.
AMP Amendment 35	May 6, 2019	In response to the excavation and backfilling activities of the Carteret Avenue area, real-time PM_{10} and TVOC monitoring, in addition to integrated Cr^{+6} sampling, began at PAM-1, PAM-7, and PAM-31 at the start of the day on May 6, 2019. Monitoring and sampling at PAM-29 was started on July 29, 2019. Monitoring and sampling at PAM-20 began at the start of the day on October 17, 2019. AMP Amendment 35 was submitted for review and was approved by the NJDEP.
AMP Amendment 36 Rev01	December 11, 2018	This amendment describes the changes to the AMP and applicable amendments regarding exceedance notifications per the Real-Time Action Level Communication Protocol included as Figure 2-3 in the Contingency and Communication Plan (April 2018). AMP Amendment 36 Rev01 was submitted for review and was approved by the NJDEP.
AMP Amendment 37	March 29, 2021	This amendment describes the air monitoring and sampling performed during demolition, excavation, and backfilling activities in the Phase 3BS and Ten West Building Combined Area that began on March 29, 2021 and ended on November 11, 2021. Demolition of the Ten West structure and the excavation of contaminated soils for the combined area could potentially create fugitive dust emissions. Dust generated could potentially contain Cr^{+6}; therefore, an approach that includes both real-time monitoring and integrated sampling was included to minimize the impact on the surrounding community. The air monitoring and sampling associated with the Phase 3BS and Ten West Building Combined Area was stopped upon completion of backfilling activities and excavated areas were fully covered with clean fil/material. AMP Amendment 37 was submitted for review and was approved by the NJDEP.

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H_2S – hydrogen sulfide
NA – not applicable
NJDEP – New Jersey Department of Environmental Protection
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TBD – to be determined
TVOC – total volatile organic compounds

2.0 Air Monitoring and Sampling Approach

This section of the report summarizes the air monitoring and sampling approach at the GA Group Site performed during the baseline period (June 9, 2010 through June 30, 2010) and the overall program operational period (July 1, 2010 through November 11, 2021), with a focus on data collected during the recent year of activities.

Air monitoring and sampling at the GA Group Site provided two tiers of protection in terms of air monitoring. The first level of air monitoring (used as an early warning indicator) included hand-held monitoring conducted at the perimeter of the exclusion zone (active work area). The second level of air monitoring was conducted at each AMS at the fenceline of the Site. **Table 2-1** provides an overview of the air monitoring and sampling approach and a list of AMS where air monitoring and sampling occurred during the reporting period. Site activities related to the active AMP amendments were completed on November 11, 2021 with the completion of the program.

Table 2-1: Air Monitoring Approach March 29, 2021 through November 11, 2021

Site Area	AMP Amendment	Date	AMS	Integrated Sampling and Analysis	Real-time Monitoring
Phase 3BS and Ten West Building Combined Area	AMP Amendment 37	3/29/2021 – 4/9/2021	**PAM-33 PAM-34 PAM-35 PAM-36**	• Integrated 8-hour Cr^{+6} sampling and analysis 5 days per week (Monday – Friday).	• 15-minute average PM_{10} and TVOC monitoring, 8-10 hours per day, 5 days per week (Monday – Friday).
			Hand-Held Air Monitoring	---	• Hourly instantaneous PM_{10} and TVOC monitoring, 5 days per week (Monday – Friday). Hourly instantaneous H_2S monitoring during periods of backfilling activities.
		4/12/2021 – 6/3/2021	**PAM-33 PAM-34 PAM-35 PAM-36 PAM-37**	• Integrated 8-hour Cr^{+6} sampling and analysis 5 days per week (Monday – Friday).	• 15-minute average PM_{10} and TVOC monitoring, 8-10 hours per day, 5 days per week (Monday – Friday).
			Hand-Held Air Monitoring	---	• Hourly instantaneous PM_{10} and TVOC monitoring, 5 days per week (Monday – Friday). Hourly instantaneous H_2S monitoring during periods of backfilling activities.
		6/4/2021 – 9/17/2021	**PAM-33 PAM-34 PAM-35 PAM-36 PAM-37 PAM-38**	• Integrated 8-hour Cr^{+6} sampling and analysis 5 days per week (Monday – Friday).	• 15-minute average PM_{10} and TVOC monitoring, 8-10 hours per day, 5 days per week (Monday – Friday).
			Hand-Held Air Monitoring	---	• Hourly instantaneous PM_{10} and TVOC monitoring, 5 days per week (Monday – Friday). Hourly instantaneous H_2S monitoring during periods of backfilling activities.
		9/20/2021 – 11/11/2021	**PAM-33 PAM-35 PAM-36 PAM-38**	• Integrated 8-hour Cr+6 sampling and analysis 5 days per week (Monday – Friday). Additional sampling and analysis as applicable for Saturday work activities.	• 15-minute average PM_{10} and TVOC monitoring, 8-10 hours per day, 5 days per week (Monday – Friday). Additional monitoring as applicable for Saturday work activities.
			Hand-Held Air Monitoring	---	• Hourly instantaneous PM_{10} and TVOC monitoring, 5 days per week (Monday – Friday). Hourly instantaneous H_2S monitoring during periods of backfilling activities. Additional monitoring as applicable for Saturday work activities.

Definitions:
AMP – Air Monitoring Plan
AMS – Air Monitoring Station
Cr^{+6} – hexavalent chromium
H_2S – hydrogen sulfide
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

Notes:
Work at the Site in the Phase 3B South and Ten West Building Combined area began on March 29, 2021 in accordance with AMP Amendment 37. The program ended on November 11, 2021.

3.0 Site-Specific Acceptable Air Concentration and Real-Time Alert and Action Levels

A Site-specific AAC for Cr^{+6} and real-time Action Levels for PM_{10} and TVOC concentrations were developed by NJDEP as part of the approved AMP and in accordance with risk assessment procedures to protect off-Site receptors from potential adverse health impacts from Cr^{+6} and TVOC during the intrusive remediation activities. In addition to the real-time Action Levels, PPG and AECOM developed a series of real-time Alert Levels for PM_{10} and TVOC concentrations at both the fenceline and the perimeter of the exclusion zone. PPG and AECOM also developed the Alert and Action Levels for H_2S for use on this program.

Integrated results and real-time monitoring were continuously compared to the corresponding AAC and real-time Action Levels, respectively, to alert Site management of the potential need to enhance control of emissions and curtail operations to maintain concentrations at levels less than the specified criteria. The AAC for integrated Cr^{+6} and real-time Alert and Action Levels for PM_{10}, TVOC and H_2S concentrations are outlined in the following sections.

3.1 Integrated Cr^{+6} Acceptable Air Concentration

A Site-specific Cr^{+6} AAC has been developed by NJDEP to protect off-Site receptors from potential adverse health impacts due to potential exposure to Cr^{+6} in dust. The AAC of **49 ng/m^3** is applicable at the Site fenceline and was developed to represent the maximum allowable average concentration of Cr^{+6} in dust at each fenceline AMS over the program duration. In accordance with New Jersey regulatory requirements, the AAC represents a maximum level corresponding to a one in one million (1E-06) excess cancer risk to nearby residents due to potential exposure to Cr^{+6} from the Site. The AAC also provides a way to evaluate the effectiveness of dust control.

To ensure that emissions of Cr^{+6} were minimized to the greatest extent practicable and maintained at concentrations less than the AAC over the duration of the program, shorter-duration rolling averages were utilized to provide for the early and regular assessment of performance trends and, if necessary, to allow for responsive corrective measures to be implemented. These shorter-duration average concentration metrics include: 30-day, 60-day and 90-day running averages where the average Cr^{+6} concentrations over the previous 30-day, 60-day and 90-day periods are calculated for each workday. Workdays are days where routine sampling was conducted (typically Monday – Friday). The shorter-term average concentrations are compared against the list of running Cr^{+6} metrics provided in **Table 3-1,** which also depicts the associated response action.

Table 3-1: Running Cr^{+6} Metrics

Metric Observation	Response Action
30-day[1] Cr^{+6} average concentration greater than or equal to 45 ng/m^3	External meeting (appropriate Judicial Consent Order (JCO) participants) to review levels, evaluate activities each day when elevated concentrations were observed, and trigger corrective action (defined in the Dust Control Plan 2010) if required.
60-day[1] Cr^{+6} average concentration greater than or equal to 40 ng/m^3	
90-day[1] Cr^{+6} average concentration greater than or equal to 35 ng/m^3	

Definitions:
Cr^{+6} – hexavalent chromium
JCO – Judicial Consent Order
ng/m^3 – nanograms per cubic meter

Notes:
[1] Workdays, days when routine sampling was conducted (typically Monday – Friday).

3.2 Real-Time Alert and Action Levels

A series of real-time Alert and Action Levels were designed to monitor and assist in controlling Site emissions to ensure protection of human health. These Alert and Action Levels represent an important aspect of the remedial program at the Site. The real-time Alert and Action Levels used on-Site are shown in **Table 3-2**.

Action Levels for PM_{10} and TVOC were developed by NJDEP as part of the approved AMP and in accordance with risk assessment procedures to protect off-Site receptors from potential adverse health impacts from particulates potentially impacted with Cr^{+6} and TVOC during the intrusive remediation activities.

Alert Levels for PM_{10} and TVOC were developed by PPG and AECOM to provide early warning that fenceline or exclusion zone concentrations are approaching the Action Levels. These Alert Levels were not used to establish any type of compliance but were used to manage the implementation of dust and vapor control responses prior to an exceedance of an Action Level.

The H_2S Alert and Action Levels were developed by PPG and AECOM and were approved by NJDEP as part of an AMP Amendment.

Table 3-2: Site-Specific Alert and Action Levels

Parameter	Early Warning Alert Level Fenceline (1-minute)	Alert Level Exclusion Zone and Fenceline (5- or 15-minute)	Early Warning Action Level Exclusion Zone (5-minute or Instantaneous)	Action Level Fenceline (15-minute or 24-hour)
PM_{10}	100 µg/m^3	250 µg/m^3	333 µg/m^3	333 µg/m^3
TVOC	NA	0.7 ppm	0.9 ppm	0.9 ppm
H_2S	NA	20 ppb	1000 ppb*	20 ppb**

Definitions:

ATSDR MRL - Agency for Toxic Substances and Disease Registry Minimal Risk Levels
H_2S – hydrogen sulfide
NA – not applicable
PM_{10} – respirable particulate matter
ppm – parts per million
ppb – parts per billion
TVOC – total volatile organic compounds
µg/m^3 – micrograms per cubic meter

Notes:

* Early Warning Action Level at the Exclusion Zone is based on the Exclusion Zone Action Level of 10 ppm included in the AECOM Health & Safety Plan for the Site. By incorporating an additional safety factor of 10, AECOM developed the Early Warning Action Level at the Exclusion Zone of 1000 ppb (instantaneous concentration).

**Action Level at the Site fenceline is based on the ATSDR MRL of 28 µg/m^3, or 20 ppb, for intermediate duration exposure to H_2S.

4.0 Air Sampling and Monitoring Results

Results of air sampling and monitoring conducted during the baseline period (June 9, 2010 through June 30, 2010) and the overall program operational period (July 1, 2010 through November 11, 2021) are summarized herein. The following sections and the associated Appendices present the air sampling and monitoring results for the reporting period including:

- Annual integrated and real-time results;
- Final overall program integrated and real-time summaries;
- Evaluation of program success versus the Site-specific AAC and Action Levels; and
- Meteorological results.

Air sampling and monitoring results are presented in detail in the Appendices of this report as follows:

- **Appendix A** includes a summary of the integrated 8-hour Cr^{+6} concentrations, elevated 8-hour Cr^{+6} concentration table, and short-term metrics;
- **Appendix B** includes a summary of the real-time PM_{10} and TVOC concentrations;
- **Appendix C** includes meteorological results;
- **Appendix D** includes Site map(s);
- **Appendix E** describes the Site activities; and
- **Appendix F** lists and summarizes overall program's air sampling and monitoring results.

NOTE – **Appendix A** and **Appendix B** include the results for the AMS that were operational during the reporting period. For the stations that are no longer operational, please refer to the summaries in **Appendix F**. Specific operational periods for each AMS can be inferred from **Table 2-1**.

4.1 Integrated Air Sampling Results

Integrated Cr^{+6} air sampling was conducted at the fenceline in accordance with the AMP and applicable amendments. Results of the 8-hour integrated Cr^{+6} sampling and analysis for the reporting period and program overview are discussed in this section.

Reporting Period Results

Individual integrated 8-hour Cr^{+6} concentrations measured at the fenceline during the reporting period are presented in **Appendix A**. If an individual sample result exceeded 80% of the program duration AAC, additional evaluation and review of relevant Site conditions and activities were performed to potentially modify procedures, if necessary, to reduce the potential for increasing Cr^{+6} concentration trends. If applicable, elevated concentration data during the reporting period are listed and discussed in **Appendix A**. During the reporting period there was one individual daily 8-hour fenceline Cr^{+6} concentration greater than 80% of the program duration-based AAC (see **Table 4-1**).

Table 4-1: Cr^{+6} Samples Greater than 80% of the AAC (49 ng/m^3) for the Reporting Period

Date(s)	AMS	Concentration(s) (ng/m^3)
11/6/21	PAM-35	44.57

Definitions:
AAC – acceptable ambient concentration
AMS – air monitoring station
Cr^{+6} – hexavalent chromium
NA – non applicable
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:
- PAM reported Cr^{+6} concentrations represent 8- to 10-hour average concentrations.
- The AAC is applicable at the Site fenceline and represents the maximum allowable average concentration measured over the program duration and was developed to ensure the protection of human health.
- To ensure ongoing compliance with the AAC, shorter-duration rolling averages were utilized to provide for early and regular assessment of performance trends and, if necessary, to allow for responsive corrective measures to be implemented to ensure that emissions of Cr^{+6} are maintained at levels less than the AAC over the duration of the program and are minimized to the greatest extent practicable.

Plots of the shorter-duration 30-day, 60-day and 90-day Cr^{+6} running averages are included in **Appendix A** and document a similar trend in the Cr^{+6} average concentrations at each AMS. During the reporting period, the 30-day, 60-day and 90-day Cr^{+6} running average concentrations were less than each of the Cr^{+6} metrics.

Final Program Overview

Program sampling results summaries for integrated 8-hour Cr^{+6} results are shown in **Appendix F**, along with a comparison of the baseline, annual and program average Cr^{+6} concentrations. During the program, there were 15 individual daily 8-hour fenceline and perimeter of the exclusion zone Cr^{+6} concentrations greater than the program duration-based AAC (see **Table 4-2**).

Detailed plots containing the individual sample concentrations and the program-to-date Cr^{+6} average concentrations are included in **Appendix F**.

Table 4-2: Cr^{+6} Samples Greater than the AAC (49 ng/m^3) for the Overall Program

Date(s)	AMS	Concentration(s) (ng/m^3)
7/22/10	PAM-C	57.36
8/2/10	PAM-C	86.06
8/13/10	PAM-C	54.42
8/30/10	PAM-B	59.52
6/10/13	FAM-6	83.85
6/18/13	PAM-A	253.76
3/24/14	PAM-5	54.41
8/28/14	PAM-3	133.20
8/28/14	PAM-E	63.54
1/5/15	PAM-H	130.05
1/8/15	PAM-H	68.28
1/16/15	PAM-H	69.85
12/6/18*	PAM-17	49.21 J+
12/7/18*	PAM-13	51.87 J+
8/12/19	PAM-31	106.63

Definitions:

AAC – acceptable ambient concentration
AMS – air monitoring station
Cr^{+6} – hexavalent chromium
FAM – fixed air monitoring station
J+ - indicates the analyte was positively identified; the associated numerical value is an estimated quantity with a potential high bias
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- FAM/PAM reported Cr^{+6} concentrations represent 8- to 10-hour average concentrations.
- The AAC is applicable at the Site fenceline and represents the maximum allowable average concentration measured over the program duration and was developed to ensure the protection of human health.
- To ensure ongoing compliance with the AAC, shorter-duration rolling averages were utilized to provide for early and regular assessment of performance trends and, if necessary, to allow for responsive corrective measures to be implemented to ensure that emissions of Cr^{+6} are maintained at levels less than the AAC over the duration of the program and are minimized to the greatest extent practicable.

* Sample results for 12/6/18 and 12/7/18 were found to be suspect based on the elevated blank result (on 12/6/18) and the method detection limit was estimated to be equal to the measured weight. Results are suspected to have a high positive bias (J+ flag) and, therefore, represent the worst-case results as documented in the Suspect Cr^{+6} Investigation Report dated March 2019.

4.2 Real-Time Air Monitoring Results

Real-time air monitoring for PM_{10}, TVOC and H_2S was conducted at the fenceline (15-minute average concentrations) and at the perimeter of the exclusion zone (5-minute average concentrations and hand-held periodic instantaneous concentrations) in accordance with the AMP and applicable amendments. The results of the real-time air monitoring are presented in the following sections.

4.2.1 PM_{10} Monitoring Results

Results of the real-time PM_{10} monitoring for the reporting period and program are discussed in this section.

Reporting Period Results

Real-time fenceline PM_{10} concentrations measured during the reporting period are presented in **Appendix B**. Real-time PM_{10} concentrations were compared directly to the PM_{10} Action Level (333 $\mu g/m^3$) and concentrations greater than the Action Level were subject to additional evaluation. If applicable, elevated PM_{10} concentrations are listed and discussed in **Appendix B**.

The data indicate that during the reporting period there were no real-time fenceline PM_{10} concentrations greater than the PM_{10} Action Level.

Final Program Overview

A comparison of the baseline, annual and program average real-time PM_{10} concentrations measured are shown in **Appendix F** for each AMS.

There have been several short-term periods of elevated PM_{10} concentrations greater than the fenceline Action Levels or the perimeter of the exclusion zone Early Warning Action Levels. These occurrences, however, have been infrequent during the program and have been largely mitigated by on-Site dust control operations. The data indicate that on average the real-time PM_{10} concentrations measured on-Site during the program are similar to those observed during the baseline period (when no intrusive activities were occurring). Therefore, the data indicate that ground intrusive activities have not increased PM_{10} concentrations on-Site.

4.2.2 TVOC Monitoring Results

Results of the real-time TVOC monitoring for the reporting period and program are discussed in this section.

Reporting Period Results

Real-time fenceline TVOC concentrations measured during the reporting period are presented in **Appendix B**. Real-time TVOC concentrations were compared directly to the TVOC Action Level (0.9 ppm). If applicable, elevated TVOC concentrations are listed and discussed in **Appendix B**.

The data indicate that during the reporting period there were two real-time fenceline TVOC concentrations greater than the TVOC Action Level.

Final Program Overview

A comparison of the baseline, annual and program average real-time TVOC concentrations measured are shown in **Appendix F** for each AMS.

There have been several short-term periods of elevated TVOC concentrations greater than the fenceline Action Levels or the perimeter of the exclusion zone Early Warning Action Levels. These occurrences, however, have been infrequent during the program and have been largely mitigated by on-Site vapor control operations. The data indicate that on average the real-time TVOC concentrations measured on-Site during the program are similar to those observed during the baseline period (when no intrusive activities were occurring). Therefore, the data indicate that ground intrusive activities have not increased TVOC concentrations on-Site.

4.2.3 Hand-Held Monitoring Results

Monitoring results collected as part of the hand-held monitoring program were documented in the field on field-data sheets. The daily maximum concentrations measured are provided in the weekly reports. If applicable, elevated hand-held concentrations are listed and discussed in **Appendix B**.

The data indicate that during the reporting period, hand-held PM_{10} and H_2S concentrations measured at the perimeter of the exclusion zone were less than the Early Warning Action Levels. There was, however, one hand-held TVOC concentration measured at the perimeter of the exclusion zone greater than the Early Warning Action Level.

4.3 Meteorological Monitoring Results

Wind rose plots depicting the frequency of wind direction and wind speed and time series plots for wind speed, temperature and relative humidity for the reporting period, broken down by month, are shown in **Appendix C**.

4.4 Site Map(s)

Site maps that document the key sampling features for the reporting period are included in **Appendix D**.

4.5 Site Activities

Site activities during the reporting period are documented and included in **Appendix E**.

5.0 Summary and Conclusions

Results of the integrated sampling program and the real-time air monitoring at the Site are presented and summarized herein. The results for the reporting period and program overview are included in the Appendices.

A summary of the annual and overall program integrated air sampling results and analysis and the real-time monitoring results are included in the following sections.

5.1 Annual Integrated Air Sampling Results Summary

During the reporting period there were no individual daily 8-hour fenceline Cr^{+6} concentrations greater than the program duration-based AAC (shown in **Table 4-1**). The short-term 30-day, 60-day and 90-day Cr^{+6} average concentrations at the fenceline AMS also continued to be less than the respective short-term running metrics (plots are shown in **Appendix A**).

The detailed summaries included in **Appendix F** document that the annual 8-hour Cr^{+6} average results measured at each of the fenceline AMS were less than the AAC. The annual 8-hour Cr^{+6} average concentrations based upon laboratory analytical results at each fenceline AMS were less than 15% of the AAC, demonstrating that the dust control measures were extremely effective.

5.2 Final Program Integrated Air Sampling Results Summary

During the program, there were 15 individual daily 8-hour fenceline and perimeter of the exclusion zone Cr^{+6} concentrations greater than the program duration-based AAC (See **Table 4-2**). Previously submitted monthly and annual reports go into more depth regarding elevated concentrations.

The detailed summaries included in **Appendix F** document that the even with several individual results being elevated, the 8-hour Cr^{+6} average results measured at each of the fenceline AMS for the overall program were less than 15% of the AAC demonstrating that the dust control measures were effective at maintaining ambient concentrations of Cr^{+6} near the conditions documented during the baseline period.

5.3 Annual Real-Time Monitoring Results Summary

Results of the real-time monitoring were used largely as an on-Site management tool to control short-term emissions from the Site and minimize potential exposure of off-Site residential receptors to unacceptable levels of Cr^{+6} and TVOC. The average PM_{10} and TVOC concentrations measured during intrusive activities were similar to concentrations measured during the baseline period demonstrating that dust and vapor control measures during intrusive activities were effective at minimizing fugitive emissions.

5.4 Final Program Real-Time Monitoring Results Summary

Results of the real-time monitoring were used largely as an on-Site management tool to control short-term emissions from the Site and minimize potential exposure of off-Site residential receptors to unacceptable levels of Cr^{+6} and TVOC. Program averages of PM_{10} and TVOC were similar to those that were observed during the baseline period. The average PM_{10} and TVOC concentrations measured during intrusive activities were similar to concentrations measured during the baseline period demonstrating that dust and vapor control measures during intrusive activities were effective at minimizing fugitive emissions.

5.5 Conclusions

Results of the air sampling at the GA Group Site indicate that the annual and program average Cr^{+6} concentrations for each fenceline AMS were less than the AAC of 49 ng/m^3. The program concentrations and the short-duration metrics demonstrate that the dust control measures were effective at maintaining Cr^{+6} in dust at concentrations less than the AAC at the GA Group Site, therefore, remaining less than the NJDEP health-based criteria designed to protect the community.

Appendix A

Integrated Cr^{+6} Results

- Integrated 8-Hour Cr^{+6} Concentrations
- Elevated 8-Hour Cr^{+6} Concentrations
- Running Cr^{+6} Metrics Plots

Appendix A

Integrated Cr^{+6} Results

- Integrated 8-Hour Cr^{+6} Concentrations

March Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-34 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)
3/1/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/2/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/3/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/4/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/5/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/8/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/9/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/10/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/11/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/12/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/15/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/16/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/17/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/18/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/19/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/22/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/23/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/24/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/25/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/26/2021	NA[1]	NA[1]	NA[1]	NA[1]
3/29/2021	9.75	5.52	9.75	5.23
3/30/2021	4.83	4.73	4.73	4.83
3/31/2021	5.12	4.97	4.87	5.07

Definitions:

AAC – acceptable ambient concentration
AMP – air monitoring plan
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] PAM-33, PAM-34, PAM-35 and PAM-36 were started up at the beginning of the day on March 29, 2021 in accordance with AMP Amendment 37.

April Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-34 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)	PAM-37 (ng/m^3)
4/1/2021	5.02	4.92	7.42	5.02	NA[1]
4/2/2021	5.71	5.40	5.34	5.52	NA[1]
4/5/2021	3.88	3.71	3.68	3.79	NA[1]
4/6/2021	3.82	4.29	3.65	3.79	NA[1]
4/7/2021	3.88	3.77	3.74	3.85	NA[1]
4/8/2021	3.82	3.71	3.77	5.18	NA[1]
4/9/2021	5.46	5.34	5.29	5.34	NA[1]
4/12/2021	3.98	3.85	3.85	3.98	3.98
4/13/2021	3.85	3.91	3.91	3.74	3.77
4/14/2021	5.34	5.34	5.34	5.40	5.34
4/15/2021	5.92	12.61	5.34	5.65	5.71
4/16/2021	5.18	5.34	5.34	5.12	5.18
4/19/2021	5.46	5.29	5.23	5.46	5.40
4/20/2021	4.78	4.97	4.97	4.73	4.78
4/21/2021	4.69	4.78	4.73	4.73	5.02
4/22/2021	4.52	4.65	4.65	4.52	4.78
4/23/2021	4.69	4.97	4.92	4.73	5.12
4/26/2021	4.65	4.97	4.92	4.52	4.73
4/27/2021	4.60	4.92	4.83	4.69	4.52
4/28/2021	4.73	4.83	4.83	4.65	4.60
4/29/2021	5.02	5.23	5.12	4.73	5.02
4/30/2021	4.83	4.78	4.78	4.78	4.78

Definitions:

AAC – acceptable ambient concentration
AMP – air monitoring plan
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] PAM-37 was started up at the beginning of the day on April 12, 2021 in accordance with AMP Amendment 37.

May Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-34 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)	PAM-37 (ng/m^3)
5/3/2021	4.87	4.87	4.83	4.52	5.18
5/4/2021	5.18	4.78	4.78	4.83	4.83
5/5/2021	4.60	4.78	4.73	4.52	4.56
5/6/2021	4.44	4.60	4.60	4.36	6.54
5/7/2021	4.48	4.69	4.65	4.48	4.48
5/10/2021	4.83	4.87	4.83	4.65	4.69
5/11/2021	4.56	4.73	4.73	4.52	4.56
5/12/2021	4.40	4.32	4.32	4.52	4.52
5/13/2021	4.73	4.65	4.60	4.87	4.83
5/14/2021	4.29	4.29	4.32	4.25	4.25
5/17/2021	4.25	4.44	4.36	4.25	4.29
5/18/2021	4.48	4.60	4.60	4.44	4.44
5/19/2021	4.87	5.02	4.97	4.78	4.87
5/20/2021	4.97	4.87	4.87	4.87	4.78
5/21/2021	4.87	5.02	4.97	4.97	4.97
5/24/2021	4.60	4.83	4.78	4.56	4.60
5/25/2021	5.02	5.18	5.18	4.97	5.02
5/26/2021	5.07	5.52	5.46	4.97	5.02
5/27/2021	4.56	4.92	4.83	4.52	4.52
5/28/2021	5.92	5.99	5.99	5.85	5.85
5/31/2021	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]

Definitions:

AAC – acceptable ambient concentration
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] Site was closed due to the Memorial Day holiday (no Site activities).

June Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-34 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)	PAM-37 (ng/m^3)	PAM-38 (ng/m^3)
6/1/2021	5.23	5.29	5.23	5.13	5.18	NA[1]
6/2/2021	4.94	4.98	4.98	4.89	4.94	NA[1]
6/3/2021	5.34	5.40	5.40	5.29	5.29	NA[1]
6/4/2021	5.34	6.10	5.89	5.29	5.34	6.56
6/7/2021	5.57	5.23	5.18	5.45	5.45	5.29
6/8/2021	5.13	4.59	4.55	5.03	5.08	4.67
6/9/2021	5.08	5.45	5.29	4.98	5.08	5.51
6/10/2021	5.40	5.08	5.08	5.29	5.29	5.29
6/11/2021	5.57	5.57	5.51	5.51	5.57	9.97
6/14/2021	4.47	4.71	4.67	4.43	4.43	4.51
6/15/2021	3.55	3.70	3.68	3.53	3.53	3.53
6/16/2021	5.08	5.18	5.13	5.08	5.13	5.18
6/17/2021	5.18	5.34	5.40	5.08	6.48	5.13
6/18/2021	6.17	6.64	6.56	6.17	6.17	6.24
6/21/2021	5.18	5.45	5.51	5.03	5.13	5.18
6/22/2021	5.34	5.34	5.29	5.03	5.08	5.40
6/23/2021	5.08	5.34	5.29	5.08	5.03	5.08
6/24/2021	4.89	5.08	5.08	4.84	4.89	4.89
6/25/2021	5.34	5.89	5.57	5.34	5.34	5.40
6/28/2021	5.29	5.34	5.57	5.23	5.23	5.29
6/29/2021	5.45	5.57	5.51	5.40	5.45	5.51
6/30/2021	5.45	5.69	5.69	5.34	5.34	5.45

Definitions:

AAC – acceptable ambient concentration
AMP – air monitoring plan
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] PAM-38 was started up at the beginning of the day on June 4, 2021 in accordance with AMP Amendment 37.

July Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-34 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)	PAM-37 (ng/m^3)	PAM-38 (ng/m^3)
7/1/2021	6.40	7.00	6.91	6.40	6.40	6.48
7/2/2021	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]
7/5/2021	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]
7/6/2021	5.29	5.57	5.57	5.18	5.23	5.34
7/7/2021	5.40	5.69	5.63	5.29	5.34	5.40
7/8/2021	6.40	6.73	6.73	6.32	6.32	6.56
7/9/2021	6.10	6.17	6.40	6.10	6.17	ND[2]
7/12/2021	5.82	6.17	6.24	5.63	5.69	5.82
7/13/2021	6.03	5.57	5.76	5.51	5.51	5.57
7/14/2021	4.89	5.34	5.40	5.23	5.96	5.29
7/15/2021	5.40	5.45	5.45	5.40	5.40	5.45
7/16/2021	7.62	5.76	5.89	5.40	5.51	5.51
7/19/2021	5.18	5.45	5.63	5.13	5.18	5.23
7/20/2021	5.23	5.29	5.23	5.18	5.18	5.29
7/21/2021	4.80	4.80	4.84	4.75	4.75	4.80
7/22/2021	5.34	5.45	5.45	5.34	5.34	5.63
7/23/2021	5.45	5.69	ND[2]	5.40	5.45	5.45
7/26/2021	5.40	5.69	5.82	5.34	5.40	5.51
7/27/2021	4.98	5.23	5.34	4.94	5.13	4.98
7/28/2021	5.40	5.63	5.69	5.34	5.18	5.45
7/29/2021	5.96	5.89	5.96	5.96	5.96	5.96
7/30/2021	4.89	5.23	5.23	4.80	4.63	4.84

Definitions:

AAC – acceptable ambient concentration
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] Site was closed due to the Independence Day holiday (no Site activities).
[2] Sample did not meet method specifications.

August Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-34 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)	PAM-37 (ng/m^3)	PAM-38 (ng/m^3)
8/2/2021	5.13	5.34	5.45	5.08	5.13	5.13
8/3/2021	5.29	5.51	5.63	5.29	5.40	5.34
8/4/2021	5.18	5.34	5.40	5.13	5.13	5.18
8/5/2021	5.13	5.40	5.45	9.78	5.13	5.18
8/6/2021	5.08	5.23	12.05	5.03	5.03	5.34
8/9/2021	4.84	5.13	5.23	4.84	4.84	4.84
8/10/2021	5.76	5.40	5.51	5.40	5.23	5.69
8/11/2021	5.40	5.63	5.69	5.29	5.96	5.40
8/12/2021	6.10	6.48	6.48	6.03	6.03	6.17
8/13/2021	6.48	6.56	6.73	6.32	6.40	6.56
8/16/2021	5.76	6.03	5.96	5.69	5.76	5.82
8/17/2021	5.76	5.89	5.82	5.76	5.76	5.76
8/18/2021	5.29	5.63	5.57	5.23	5.23	5.29
8/19/2021	5.40	5.82	5.82	5.34	5.40	5.45
8/20/2021	5.69	6.10	ND[1]	5.89	5.63	5.69
8/23/2021	6.17	6.82	6.73	6.10	6.17	6.24
8/24/2021	5.08	5.82	5.82	5.03	5.08	5.13
8/25/2021	5.69	6.40	6.24	5.51	5.57	9.60
8/26/2021	5.29	5.96	6.03	5.23	5.29	6.17
8/27/2021	5.63	6.32	6.17	5.57	5.63	6.03
8/30/2021	5.63	6.56	6.32	5.45	6.91	5.76
8/31/2021	5.76	6.56	6.48	5.51	5.69	5.76

Definitions:

AAC – acceptable ambient concentration
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] Sample did not meet method specifications.

September Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-34 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)	PAM-37 (ng/m^3)	PAM-38 (ng/m^3)
9/1/2021	5.90	6.78	6.43	5.83	5.83	6.04
9/2/2021	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]
9/3/2021	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]
9/6/2021	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]
9/7/2021	5.57	6.19	6.19	5.45	5.57	5.70
9/8/2021	5.57	6.04	5.97	5.39	5.51	5.63
9/9/2021	5.51	6.27	6.12	5.28	5.39	5.63
9/10/2021	5.57	5.90	5.83	5.39	5.45	5.70
9/13/2021	5.45	6.12	6.12	5.33	5.39	5.57
9/14/2021	5.51	6.19	6.12	ND[2]	5.33	5.70
9/15/2021	5.45	6.27	6.12	5.28	5.39	5.63
9/16/2021	5.76	6.35	6.12	5.63	5.63	5.90
9/17/2021	5.97	6.69	6.60	5.83	5.97	5.97
9/20/2021	5.63	NA[3]	5.76	5.51	NA[3]	5.63
9/21/2021	4.48	NA[3]	4.32	4.48	NA[3]	4.56
9/22/2021	5.63	NA[3]	6.60	5.51	NA[3]	5.63
9/23/2021	5.45	NA[3]	5.63	5.39	NA[3]	5.57
9/24/2021	5.63	NA[3]	5.83	5.51	NA[3]	5.70
9/27/2021	5.39	NA[3]	5.63	5.28	NA[3]	5.45
9/28/2021	5.45	NA[3]	5.70	5.33	NA[3]	5.63
9/29/2021	5.51	NA[3]	5.63	5.45	NA[3]	5.51
9/30/2021	5.51	NA[3]	5.70	5.51	NA[3]	5.63

Definitions:

AAC – acceptable ambient concentration
AMP – air monitoring plan
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] Site was closed due to a combination of preparing for the arrival of Hurricane Ida and the Labor Day holiday (no Site activities).
[2] Sample did not meet method specifications.
[3] PAM-34 and PAM-37 were shut down at the end of the day on September 17, 2021 in accordance with AMP Amendment 37.

October Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)	PAM-38 (ng/m^3)
10/1/2021	5.83	6.19	5.63	5.97
10/4/2021	5.57	5.63	5.45	5.57
10/5/2021	5.57	6.27	5.45	5.70
10/6/2021	5.57	6.19	5.45	5.63
10/7/2021	5.70	5.90	5.51	5.83
10/8/2021	5.70	5.97	5.57	5.83
10/11/2021	5.63	5.83	5.51	5.70
10/12/2021	5.45	5.70	5.39	5.57
10/13/2021	5.63	5.83	5.45	5.70
10/14/2021	5.57	5.83	5.45	5.70
10/15/2021	5.83	ND[1]	5.70	11.66
10/18/2021	5.33	5.57	5.22	5.45
10/19/2021	5.70	5.83	5.57	5.70
10/20/2021	5.63	5.90	5.51	5.76
10/21/2021	5.28	5.39	5.22	5.33
10/22/2021	5.33	5.90	5.22	5.39
10/23/2021	6.69	6.87	6.60	6.78
10/25/2021	5.07	5.17	5.01	5.07
10/26/2021	6.19	6.87	6.19	6.96
10/27/2021	5.70	5.76	5.63	5.63
10/28/2021	5.01	5.07	4.96	5.07
10/29/2021	5.22	5.39	5.12	5.28

Definitions:

AAC – acceptable ambient concentration
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] Sample did not meet method specifications.

November Daily Fenceline Integrated 8-Hour Cr^{+6} Sampling Results

	PAM-33 (ng/m^3)	PAM-35 (ng/m^3)	PAM-36 (ng/m^3)	PAM-38 (ng/m^3)
11/1/2021	5.12	5.22	5.07	5.17
11/2/2021	5.33	5.45	5.22	5.39
11/3/2021	5.51	5.63	5.45	5.51
11/4/2021	4.92	5.01	4.96	4.96
11/5/2021	5.01	5.12	5.33	5.07
11/6/2021	9.83	44.57	9.64	10.03
11/8/2021	4.73	4.82	4.69	4.78
11/9/2021	4.82	4.92	4.73	4.82
11/10/2021	5.39	5.51	5.33	5.45
11/11/2021	5.63	5.76	5.51	5.70
11/12/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/15/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/16/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/17/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/18/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/19/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/22/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/23/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/24/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/25/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/26/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/29/2021	NA[1]	NA[1]	NA[1]	NA[1]
11/30/2021	NA[1]	NA[1]	NA[1]	NA[1]

Definitions:

AAC – acceptable ambient concentration
AMP – air monitoring plan
Cr^{+6} – hexavalent chromium
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station

Notes:

- Highlighted values indicate concentrations greater than 80% of the AAC. If the concentrations are greater than 80% of the AAC, further analysis is presented in **Appendix A**.

[1] PAM-33, PAM-35, PAM- 36 and PAM-38 were shut down at the end of the day on November 11, 2021 in accordance with AMP Amendment 37. Air monitoring at the Site was shut down for the remainder of the reporting period.

Appendix A

Integrated Cr^{+6} Results

- Elevated 8-Hour Cr^{+6} Concentrations

Annual Elevated Fenceline Integrated Cr^{+6} Concentration Summary

Date	Location	Wind Conditions	Elevated Cr^{+6} Concentration (ng/m^3)	Explanation
Fenceline Air Sampling				
Sat 11/6/21	PAM-35	NNW 3 - 7 mph	44.57	On Saturday, November 6, 2021, one Cr^{+6} concentration exceeded 80% of the Cr^{+6} AAC at PAM-35 at the fenceline. The daily Site activities included loading of dense graded aggregate (DGA) nearby PAM-36, at the southern portion of the Site. PAM-35's position is central to the overall Garfield Avenue Group of Sites and is not located in the breathing zone of any sensitive receptors. Winds were from the north-northwest between 3 and 7 miles per hour. Daily real-time PM_{10} concentrations were less than 100 $\mu g/m^3$. Based on the daily Site activities and the wind direction, it is unlikely that Site activities were the source of Cr^{+6} in this sample. An additional factor in the elevated Cr^{+6} concentration is related to the shorter sample duration. Although Cr^{+6} was detected through the laboratory analysis, the same detected result would not have exceeded 80% of the AAC, if it was collected for the full 8-hour duration. The effectiveness of the air monitoring program is evaluated at the end of the program when the total program average concentration at each air monitoring station is compared to the AAC of 49 ng/m^3. The elevated Cr^{+6} concentration measured on November 6, 2021 resulted in minimal impact to the current running program-to-date average at PAM-35. The PAM-35 program-to-date average Cr^{+6} concentration through November 6, 2021 is 5.8 ng/m^3. The elevated concentration measured on November 6, 2021 does not represent non-compliance with the Site AAC since the AAC for Cr^{+6} represents the acceptable average concentration over the project duration.

Definitions:
AAC – Acceptable Ambient Concentration (49 ng/m^3)
Cr^{+6} – hexavalent chromium measured in nanograms per cubic meter (ng/m^3)
mph – miles per hour
NA – not applicable
ND – no data
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station
$\mu g/m^3$ – micrograms per cubic meter

Notes:
- PAM reported Cr^{+6} concentrations represent 8- to 10-hour average concentrations.
- The AAC is applicable at the Site fenceline and represents the maximum allowable average concentration measured over the program duration and was developed to ensure the protection of human health.
- To ensure ongoing compliance with the AAC, shorter-duration rolling averages were utilized to provide for early and regular assessment of performance trends and, if necessary, to allow for responsive corrective measures to be implemented to ensure that emissions of Cr^{+6} are maintained at levels less than the AAC over the duration of the program, and are minimized to the greatest extent practicable.
- Elevated fenceline concentrations are discussed in more detail in the event documentation reports posted to the Chromium Cleanup website.

Appendix A

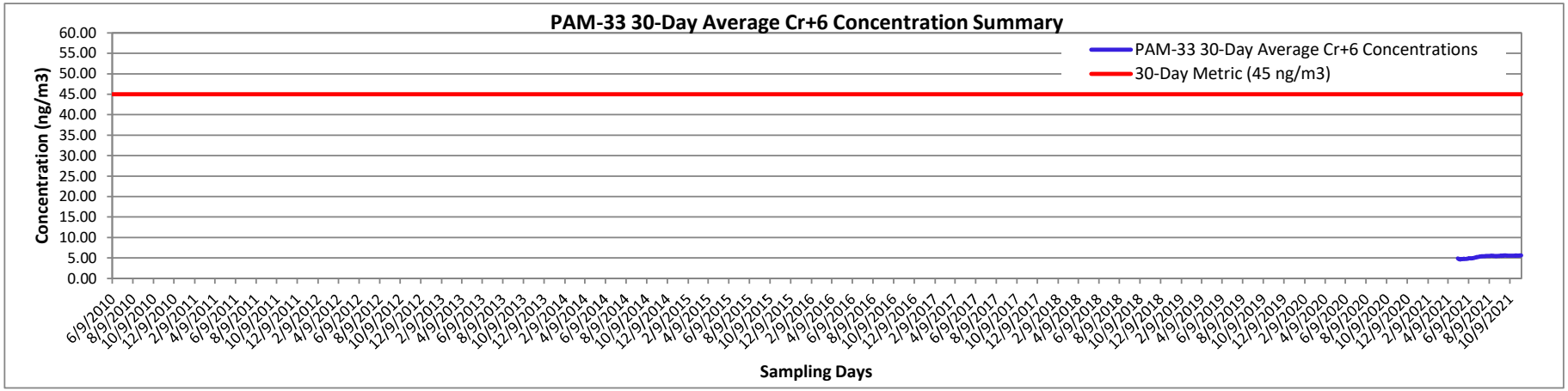
Integrated Cr^{+6} Results

- Running Cr^{+6} Metrics Plots

Appendix A

Integrated Cr^{+6} Results

- Running Cr^{+6} Metrics Plots


PAM-33 30-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-33 30-Day Average Cr+6 Concentrations
30-Day Metric (45 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
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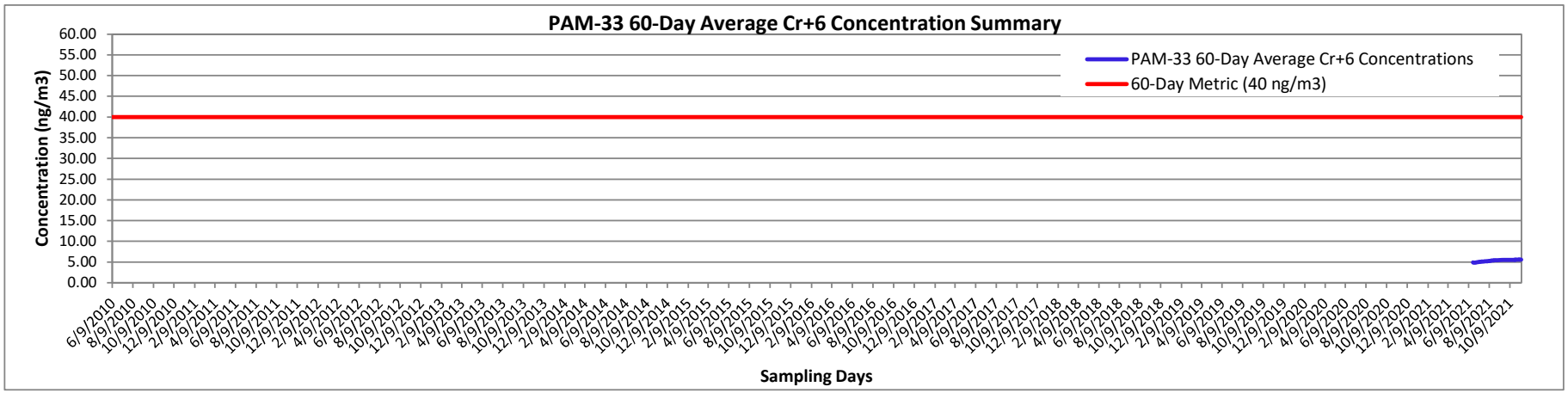
6/9/2021
8/9/2021
10/9/2021
Sampling Days


PAM-33 60-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-33 60-Day Average Cr+6 Concentrations
60-Day Metric (40 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
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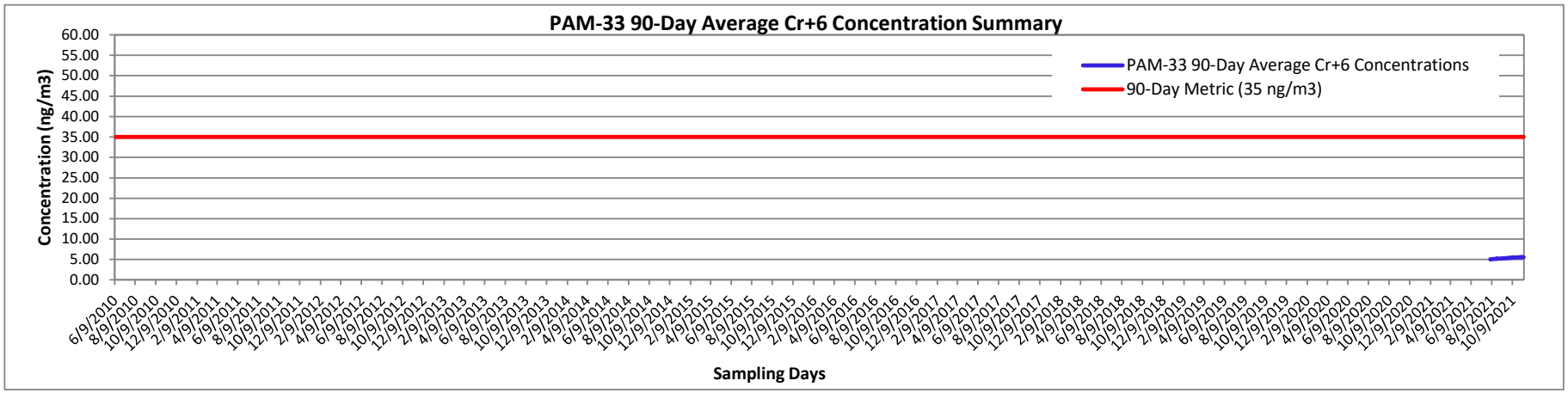
8/9/2021
10/9/2021
Sampling Days


PAM-33 90-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-33 90-Day Average Cr+6 Concentrations
90-Day Metric (35 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
2/9/2012
4/9/2012
6/9/2012
8/9/2012
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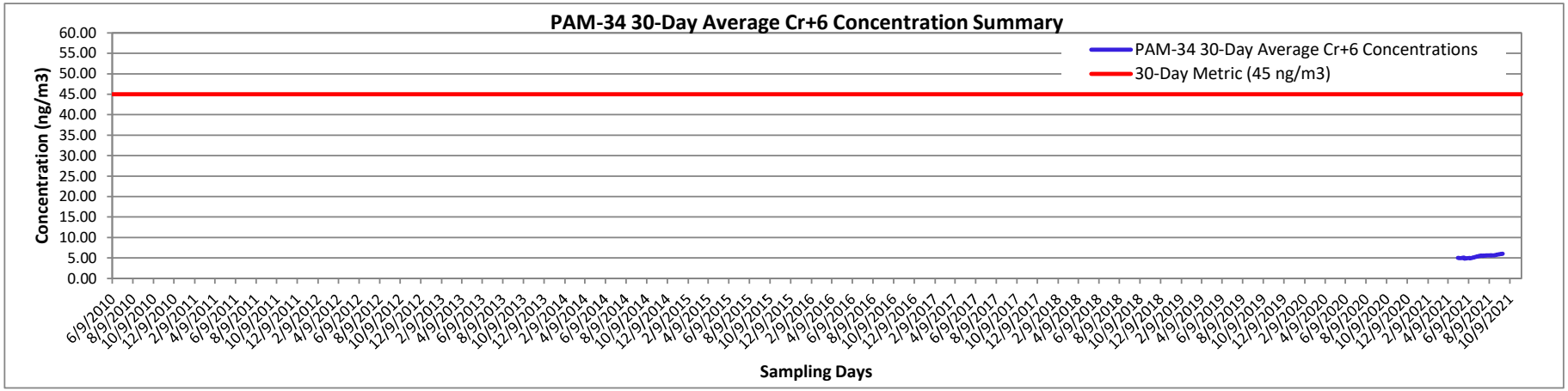
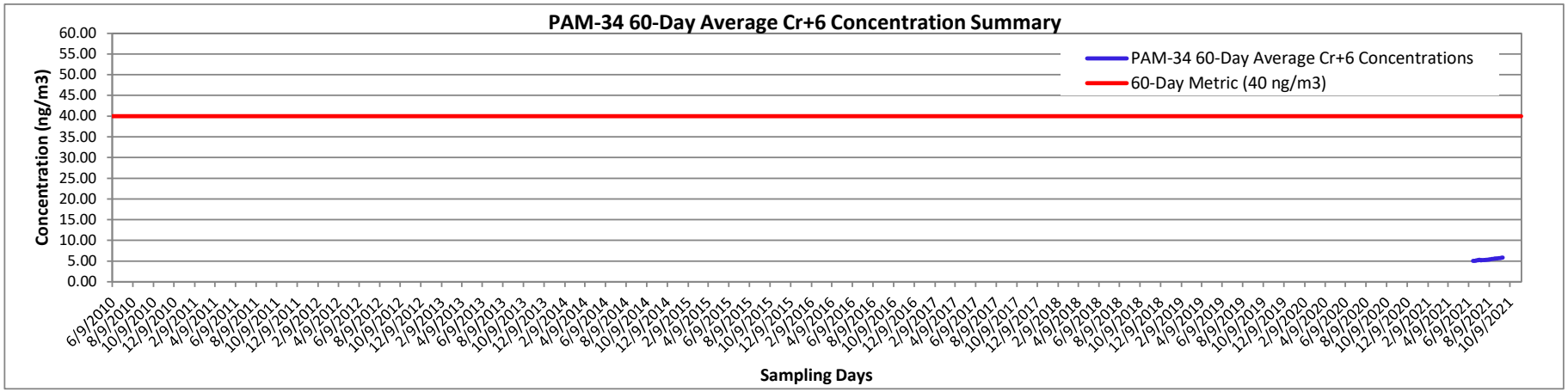
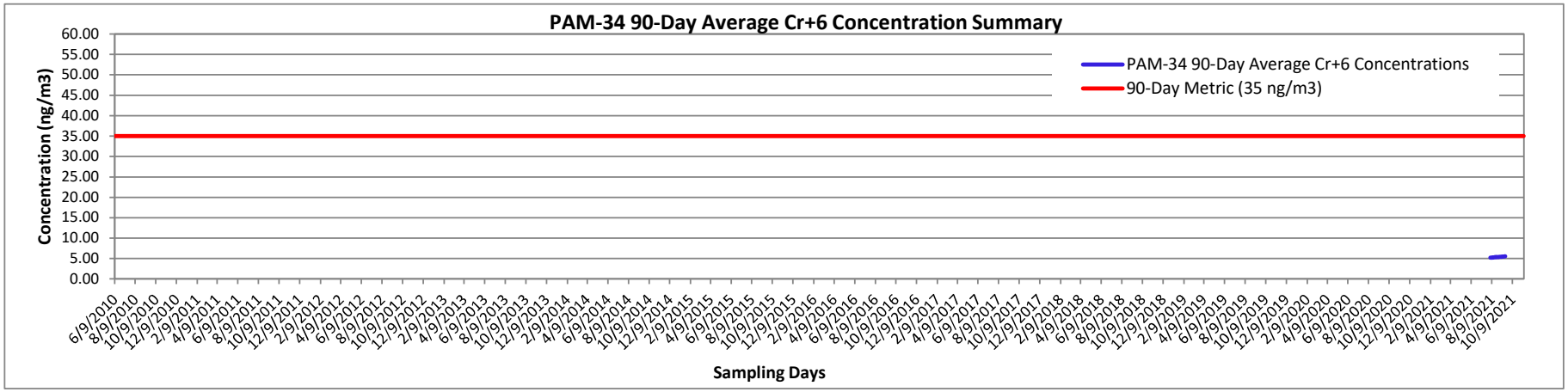
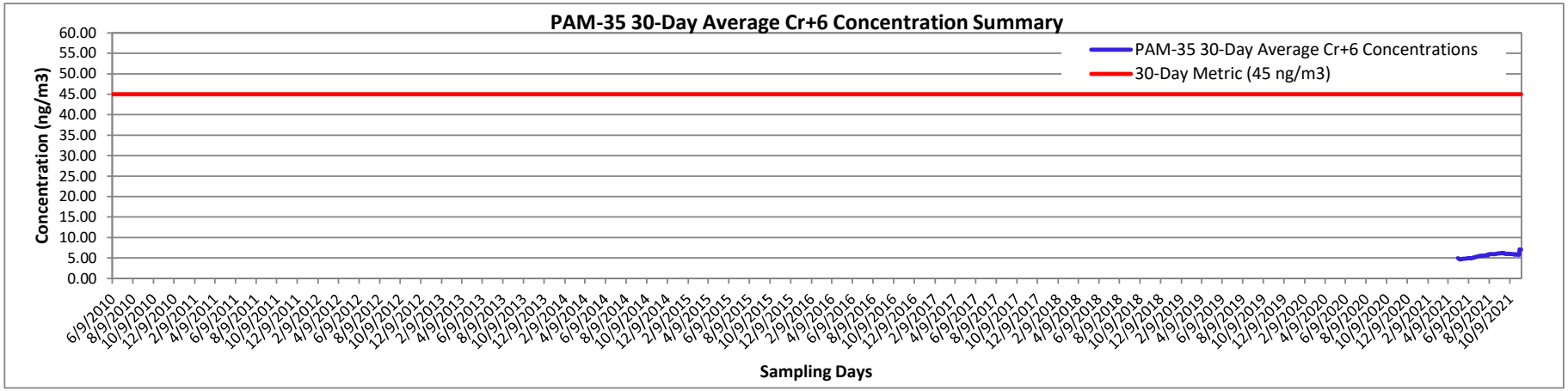
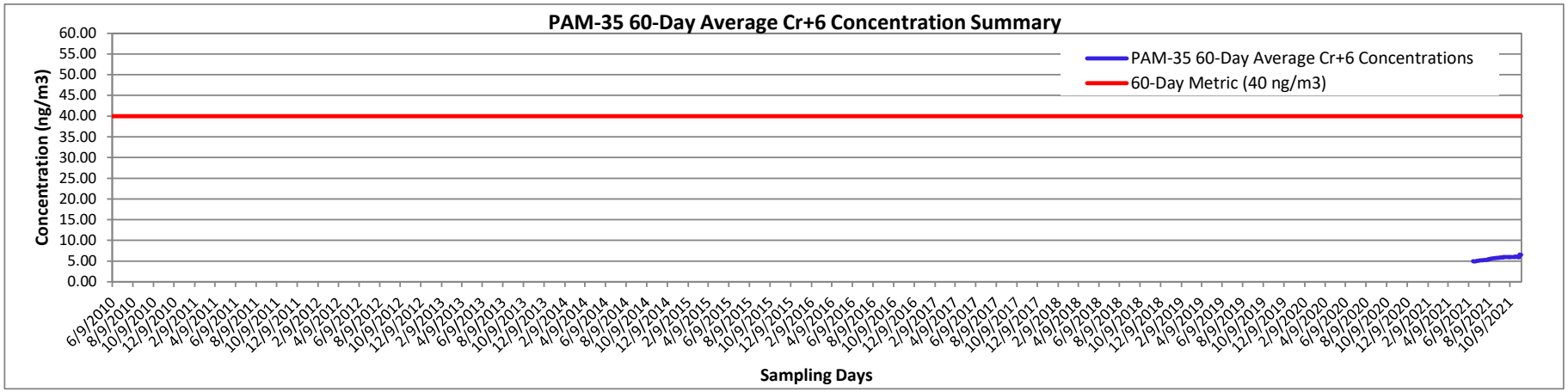
8/9/2021
10/9/2021
Sampling Days

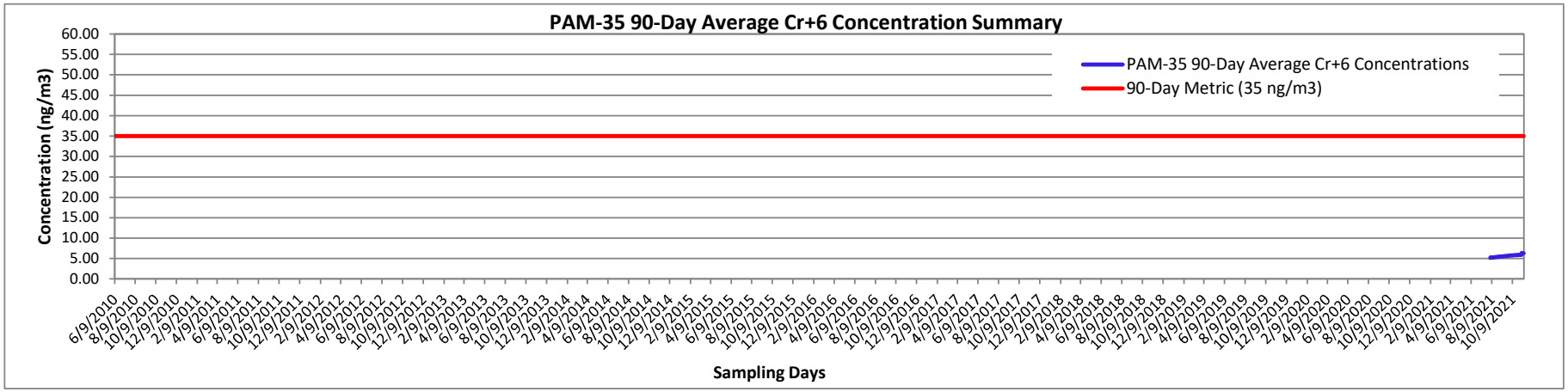

PAM-34 30-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
PAM-34 30-Day Average Cr+6 Concentrations
30-Day Metric (45 ng/m3)
Sampling Days

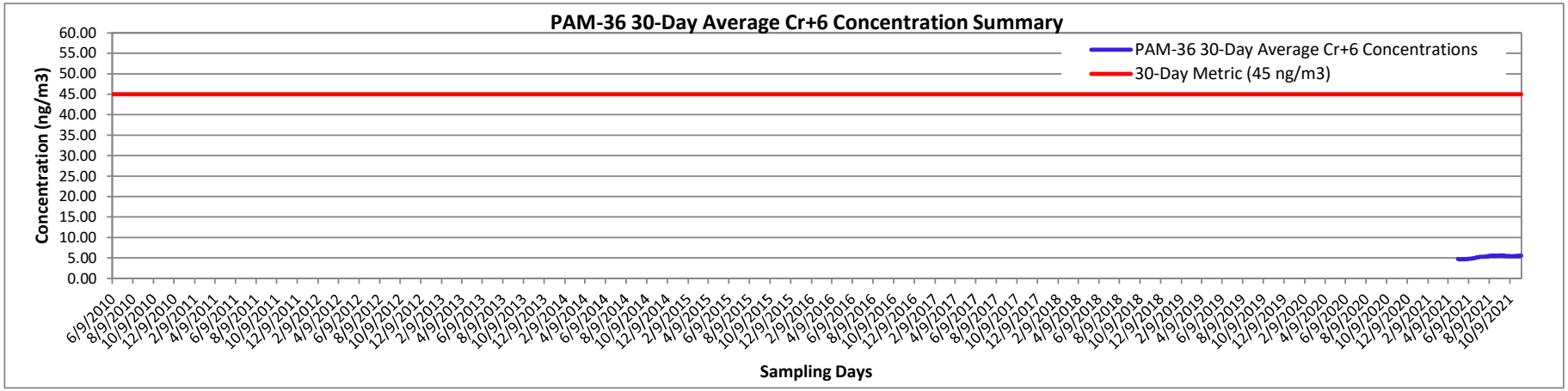

PAM-34 60-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
PAM-34 60-Day Average Cr+6 Concentrations
60-Day Metric (40 ng/m3)
Sampling Days


PAM-34 90-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
PAM-34 90-Day Average Cr+6 Concentrations
90-Day Metric (35 ng/m3)
Sampling Days


PAM-35 30-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
PAM-35 30-Day Average Cr+6 Concentrations
30-Day Metric (45 ng/m3)
Sampling Days


PAM-35 60-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
PAM-35 60-Day Average Cr+6 Concentrations
60-Day Metric (40 ng/m3)
Sampling Days


PAM-35 90-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
PAM-35 90-Day Average Cr+6 Concentrations
90-Day Metric (35 ng/m3)
Sampling Days


PAM-36 30-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-36 30-Day Average Cr+6 Concentrations
30-Day Metric (45 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
2/9/2012
4/9/2012
6/9/2012
8/9/2012
10/9/2012
12/9/2012
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8/9/2013
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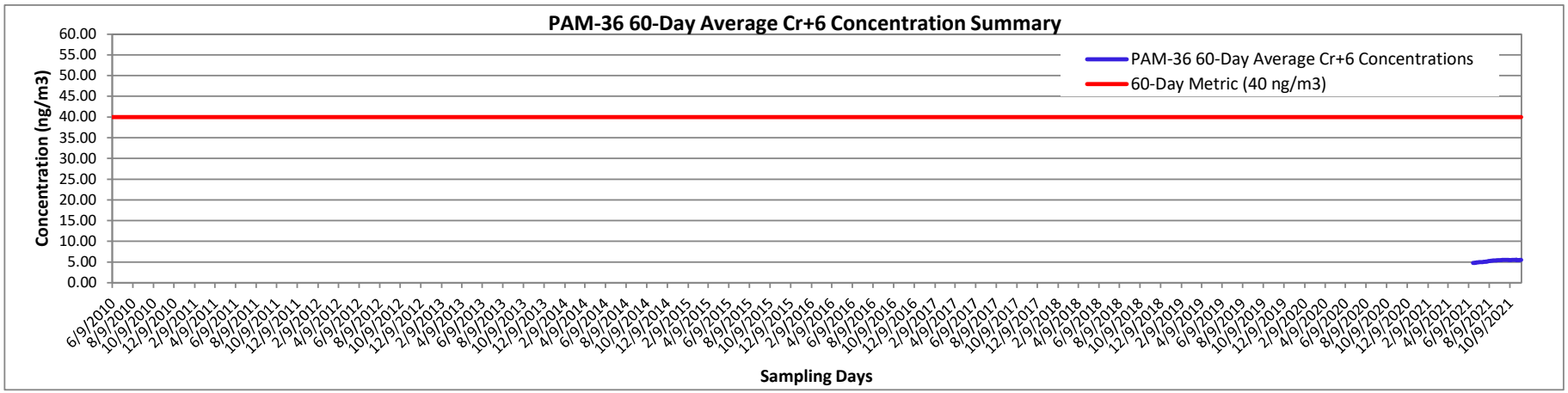
4/9/2019
6/9/2019
8/9/2019
10/9/2019
12/9/2019
2/9/2020
4/9/2020
6/9/2020
8/9/2020
10/9/2020
12/9/2020
2/9/2021
4/9/2021
6/9/2021
8/9/2021
10/9/2021
Sampling Days


PAM-36 60-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-36 60-Day Average Cr+6 Concentrations
60-Day Metric (40 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
2/9/2012
4/9/2012
6/9/2012
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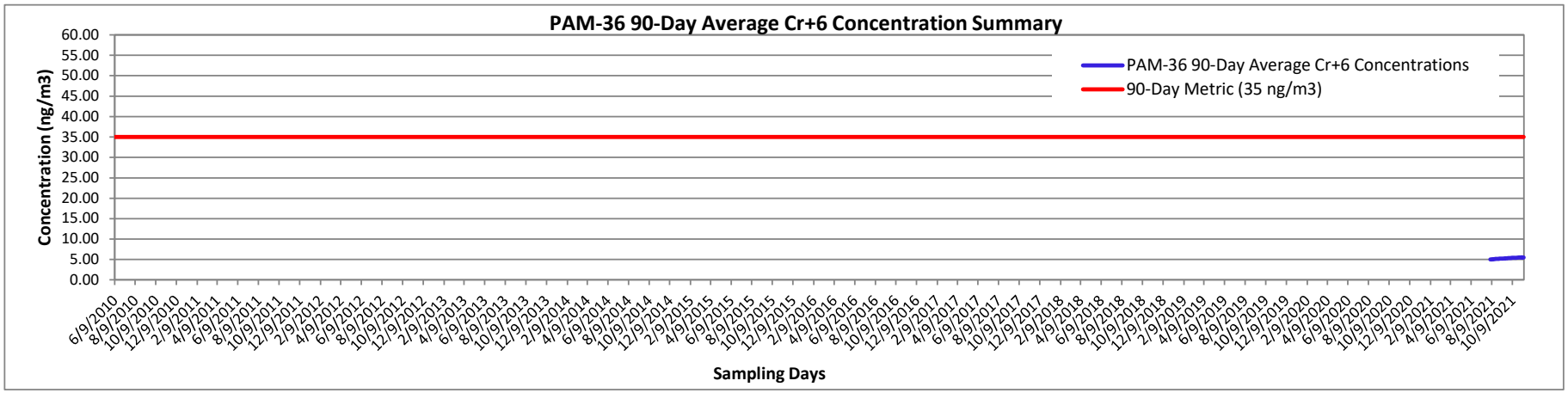
10/9/2019
12/9/2019
2/9/2020
4/9/2020
6/9/2020
8/9/2020
10/9/2020
12/9/2020
2/9/2021
4/9/2021
6/9/2021
8/9/2021
10/9/2021
Sampling Days


PAM-36 90-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-36 90-Day Average Cr+6 Concentrations
90-Day Metric (35 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
2/9/2012
4/9/2012
6/9/2012
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6/9/2019
8/9/2019
10/9/2019
12/9/2019
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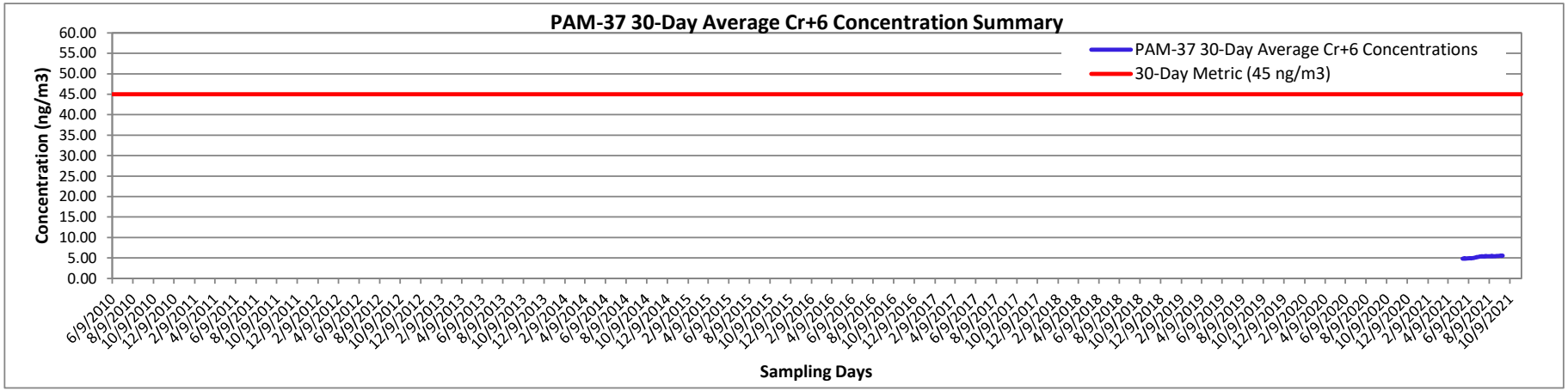
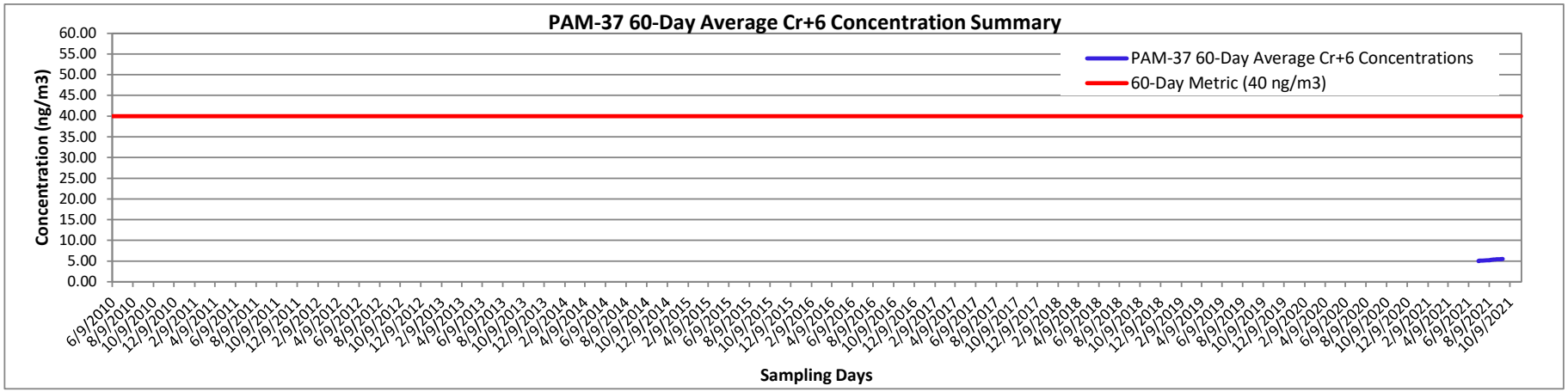
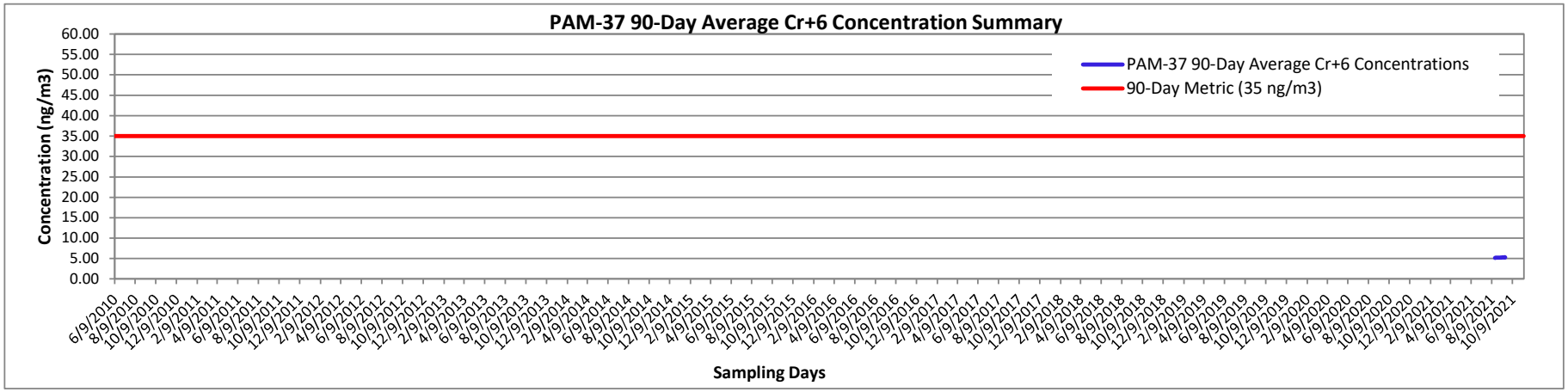
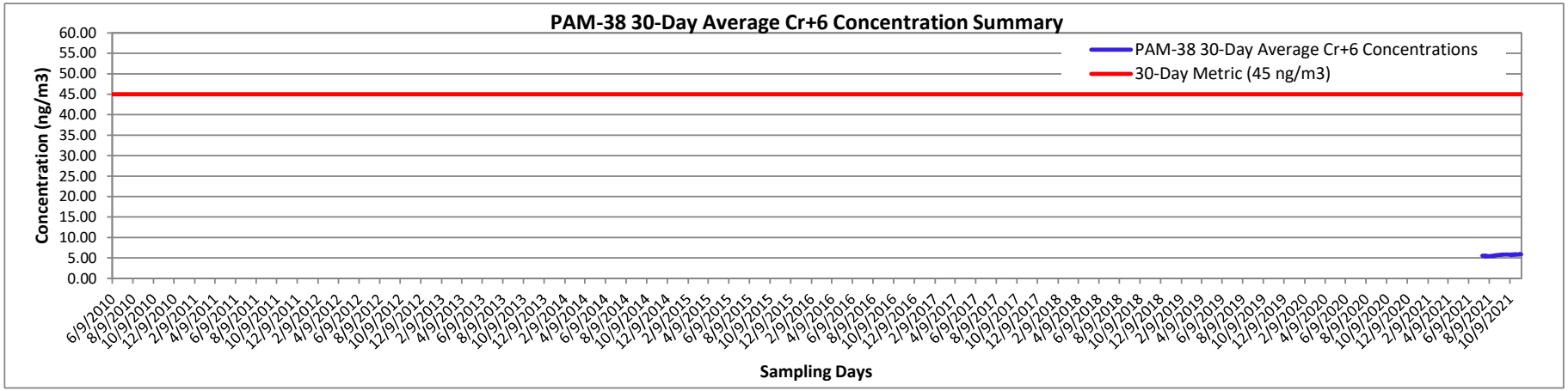
6/9/2020
8/9/2020
10/9/2020
12/9/2020
2/9/2021
4/9/2021
6/9/2021
8/9/2021
10/9/2021
Sampling Days


PAM-37 30-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-37 30-Day Average Cr+6 Concentrations
30-Day Metric (45 ng/m3)
Sampling Days


PAM-37 60-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-37 60-Day Average Cr+6 Concentrations
60-Day Metric (40 ng/m3)
Sampling Days


PAM-37 90-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-37 90-Day Average Cr+6 Concentrations
90-Day Metric (35 ng/m3)
Sampling Days


PAM-38 30-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-38 30-Day Average Cr+6 Concentrations
30-Day Metric (45 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
2/9/2012
4/9/2012
6/9/2012
8/9/2012
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8/9/2020
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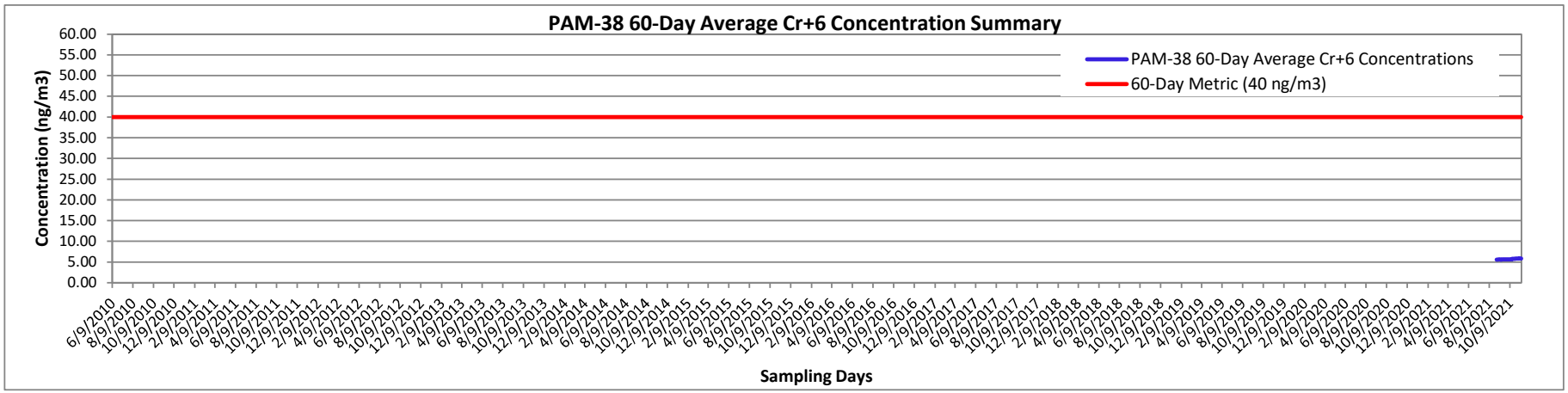
12/9/2020
2/9/2021
4/9/2021
6/9/2021
8/9/2021
10/9/2021
Sampling Days


PAM-38 60-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-38 60-Day Average Cr+6 Concentrations
60-Day Metric (40 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
2/9/2012
4/9/2012
6/9/2012
8/9/2012
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2/9/2013
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8/9/2020
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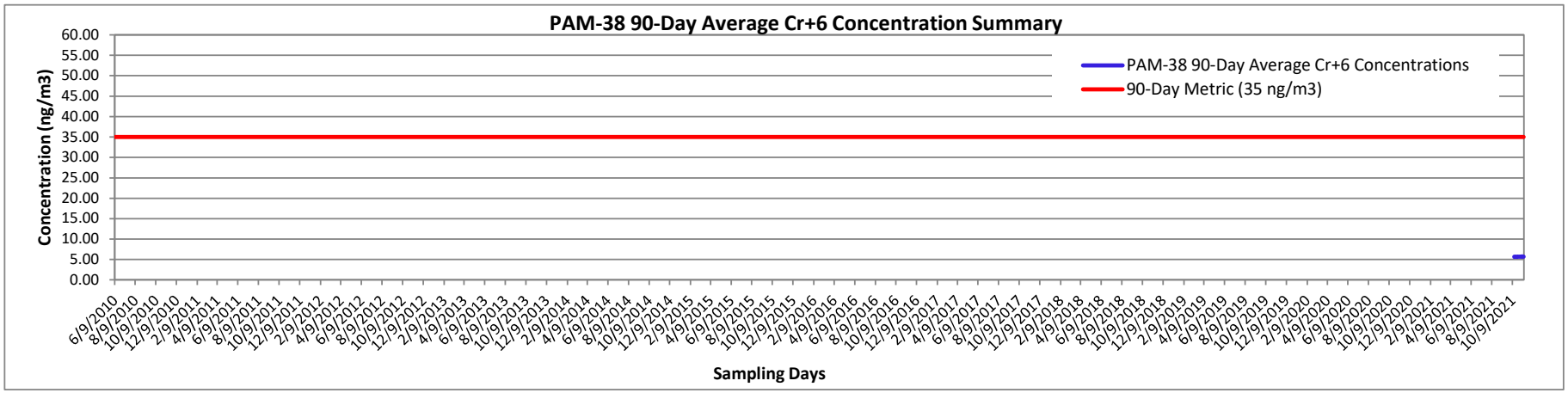
2/9/2021
4/9/2021
6/9/2021
8/9/2021
10/9/2021
Sampling Days


PAM-38 90-Day Average Cr+6 Concentration Summary
Concentration (ng/m3)
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
PAM-38 90-Day Average Cr+6 Concentrations
90-Day Metric (35 ng/m3)
6/9/2010
8/9/2010
10/9/2010
12/9/2010
2/9/2011
4/9/2011
6/9/2011
8/9/2011
10/9/2011
12/9/2011
2/9/2012
4/9/2012
6/9/2012
8/9/2012
10/9/2012
12/9/2012
2/9/2013
4/9/2013
6/9/2013
8/9/2013
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2/9/2020
4/9/2020
6/9/2020
8/9/2020
10/9/2020
12/9/2020
2/9/2021
4/9/2021
6/9/2021
8/9/2021
10/9/2021
Sampling Days

Appendix B

Real-time Results Summaries

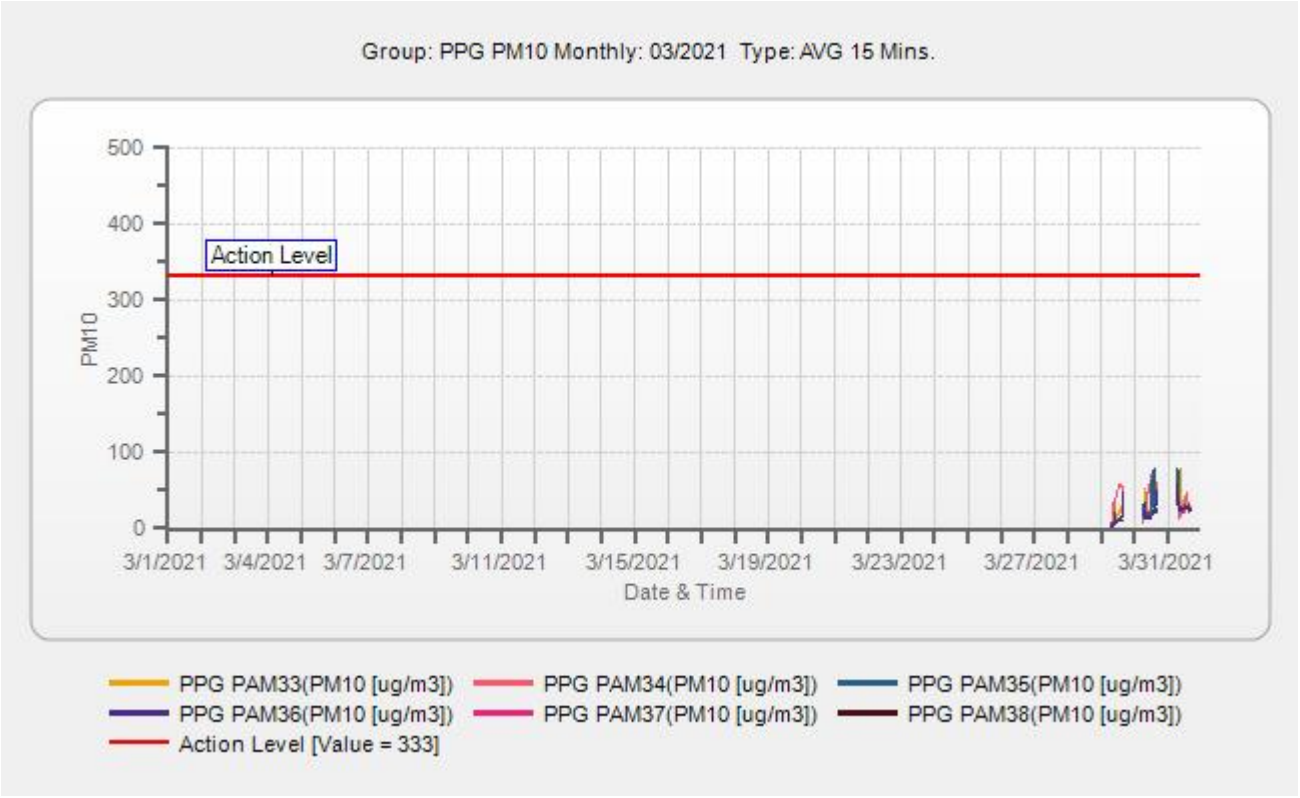
- Real-time fenceline PM_{10} and TVOC concentrations
- Elevated fenceline PM_{10} and TVOC concentrations
- Elevated perimeter of the exclusion zone PM_{10}, TVOC and H_2S concentrations

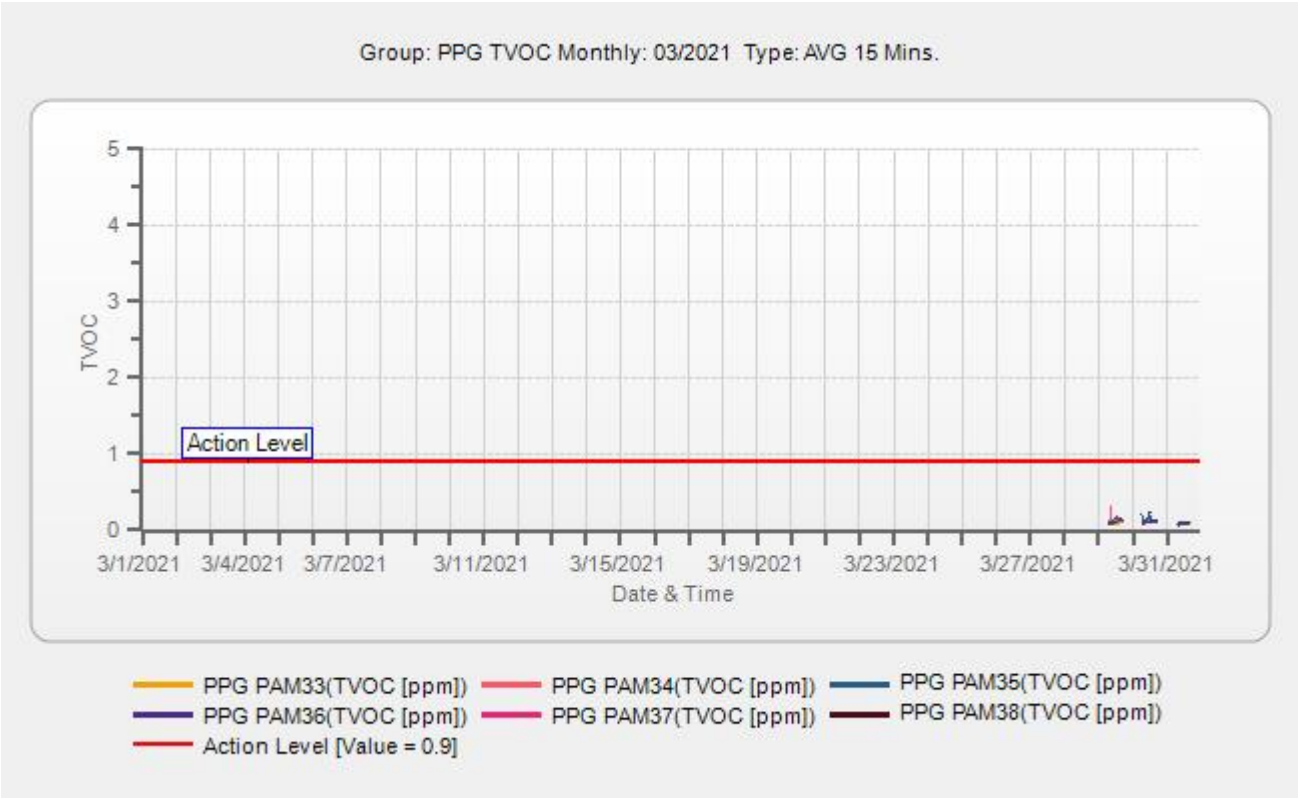
Appendix B

Real-time Results Summaries

- Real-time fenceline PM_{10} and TVOC concentrations

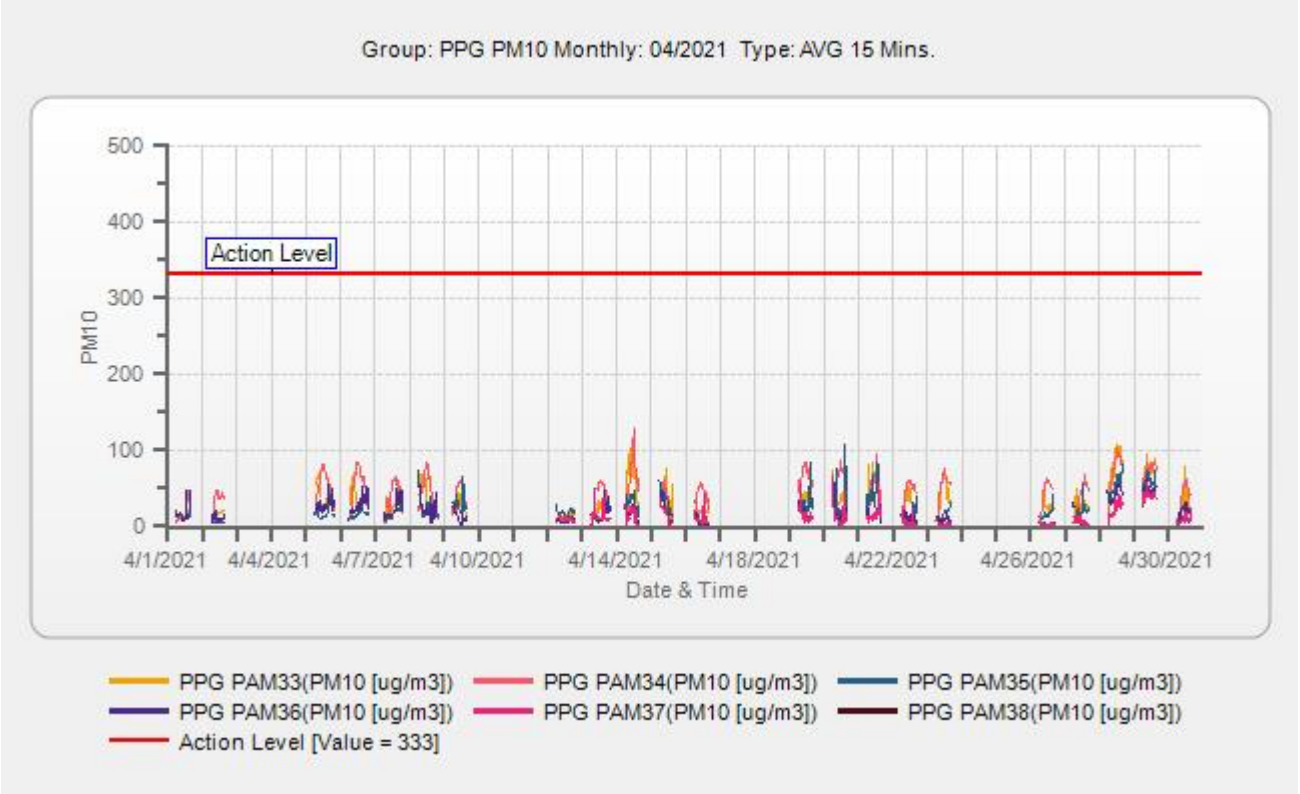
March Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results

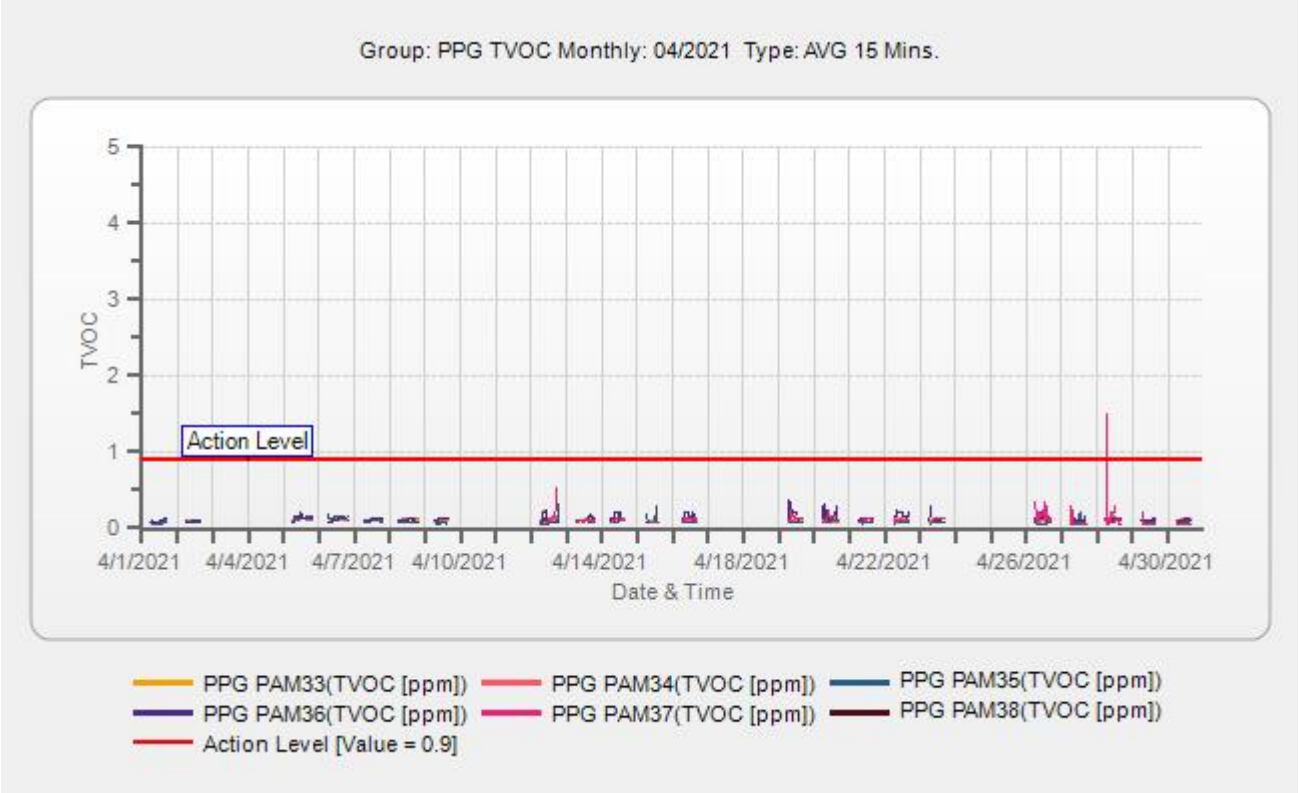




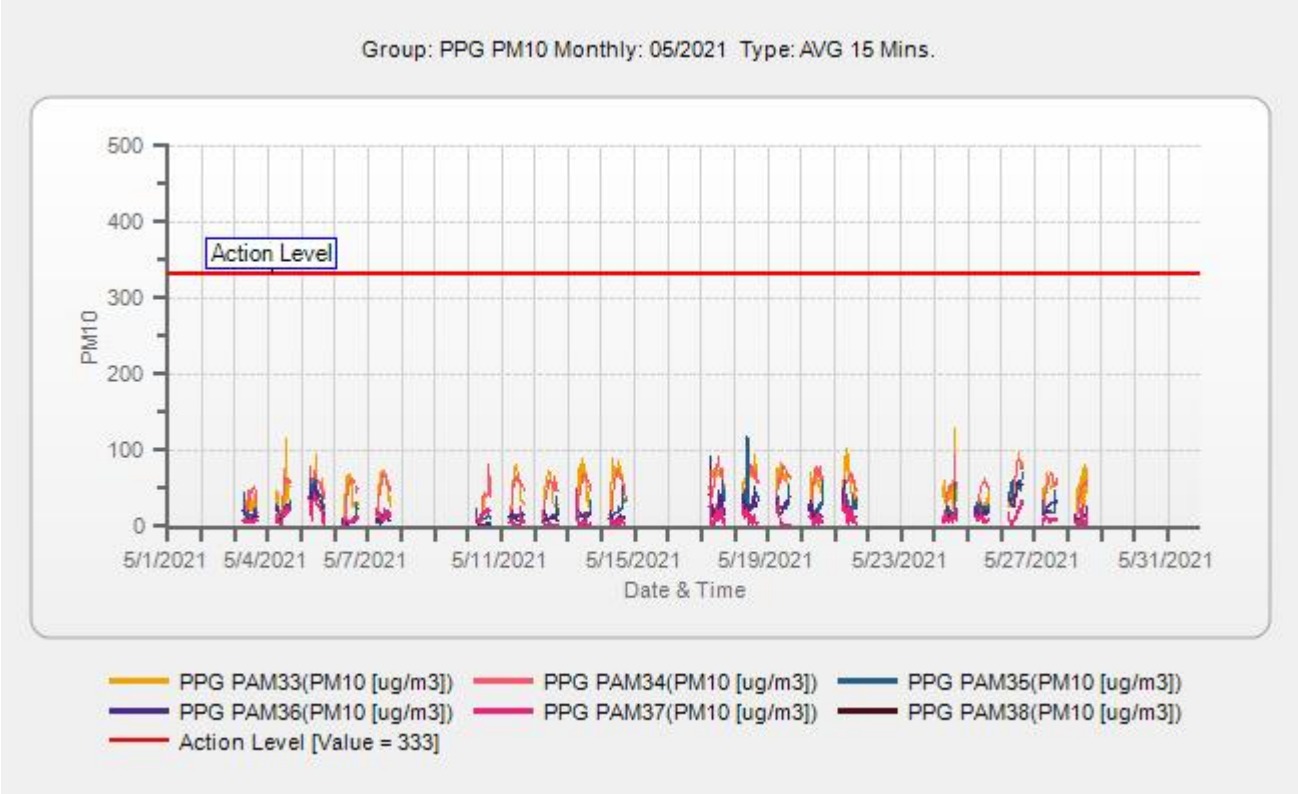
Note: Air monitoring was started on March 29, 2021.

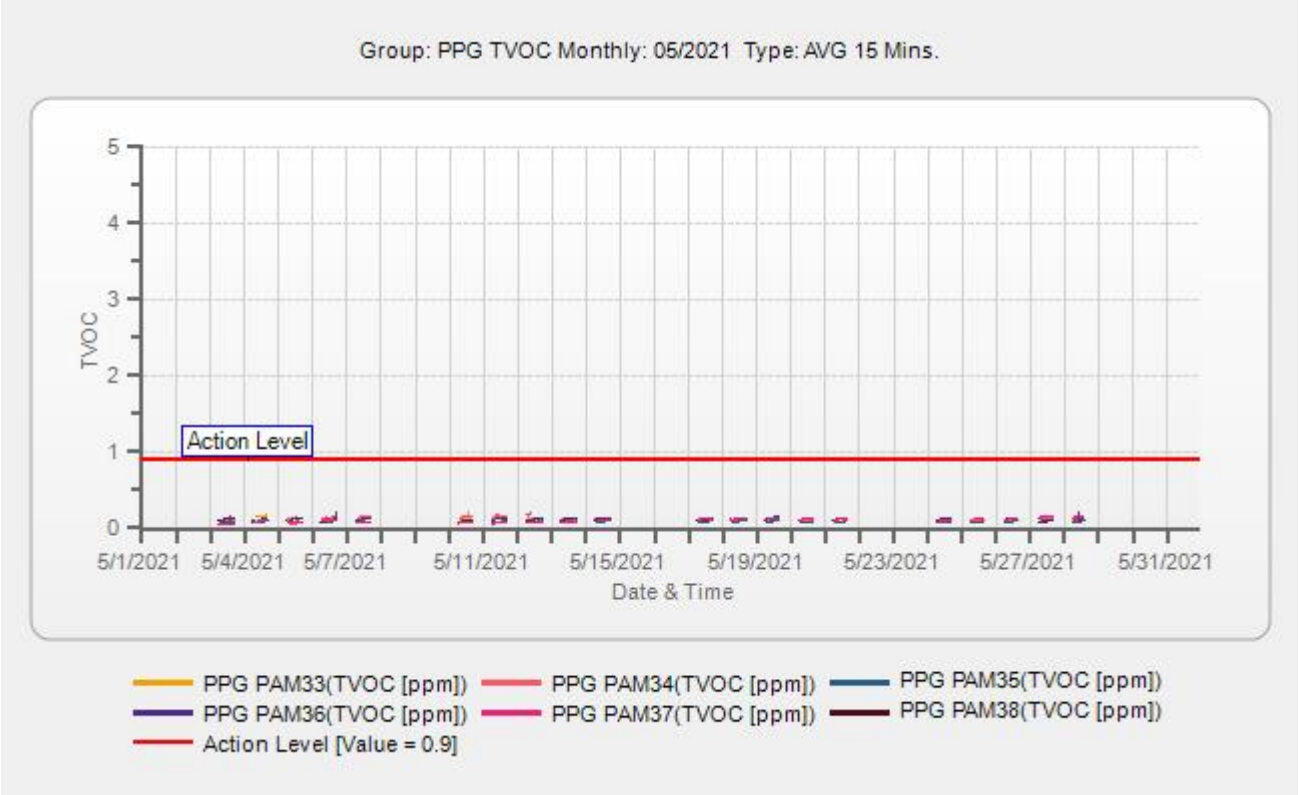
April Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results



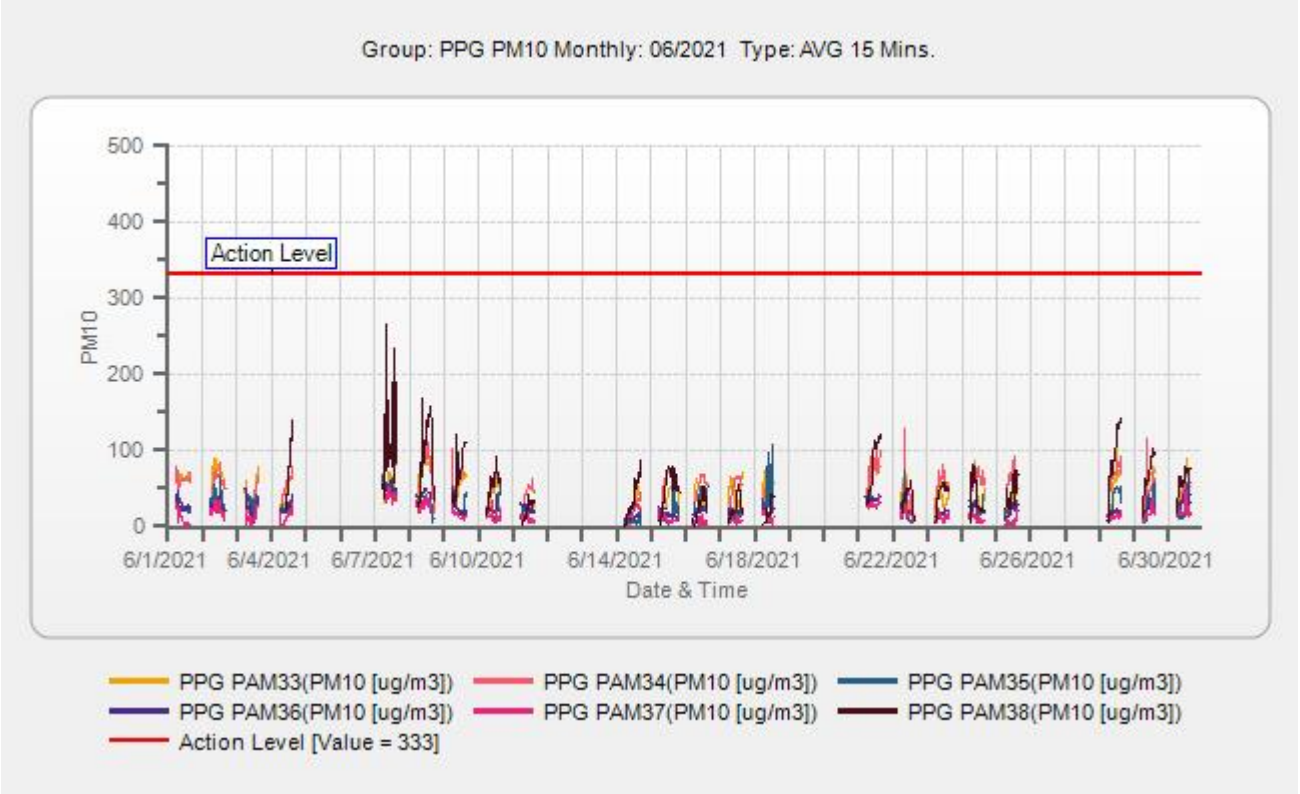


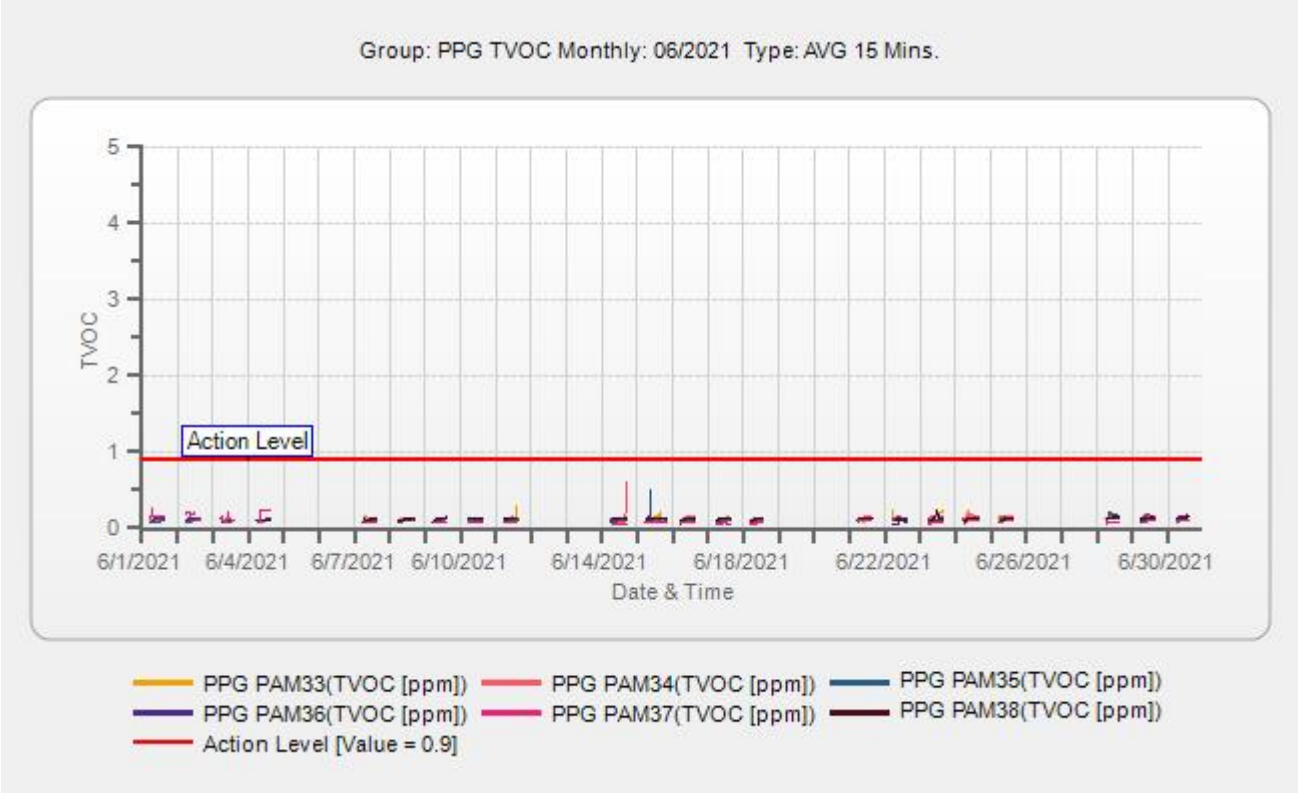
May Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results



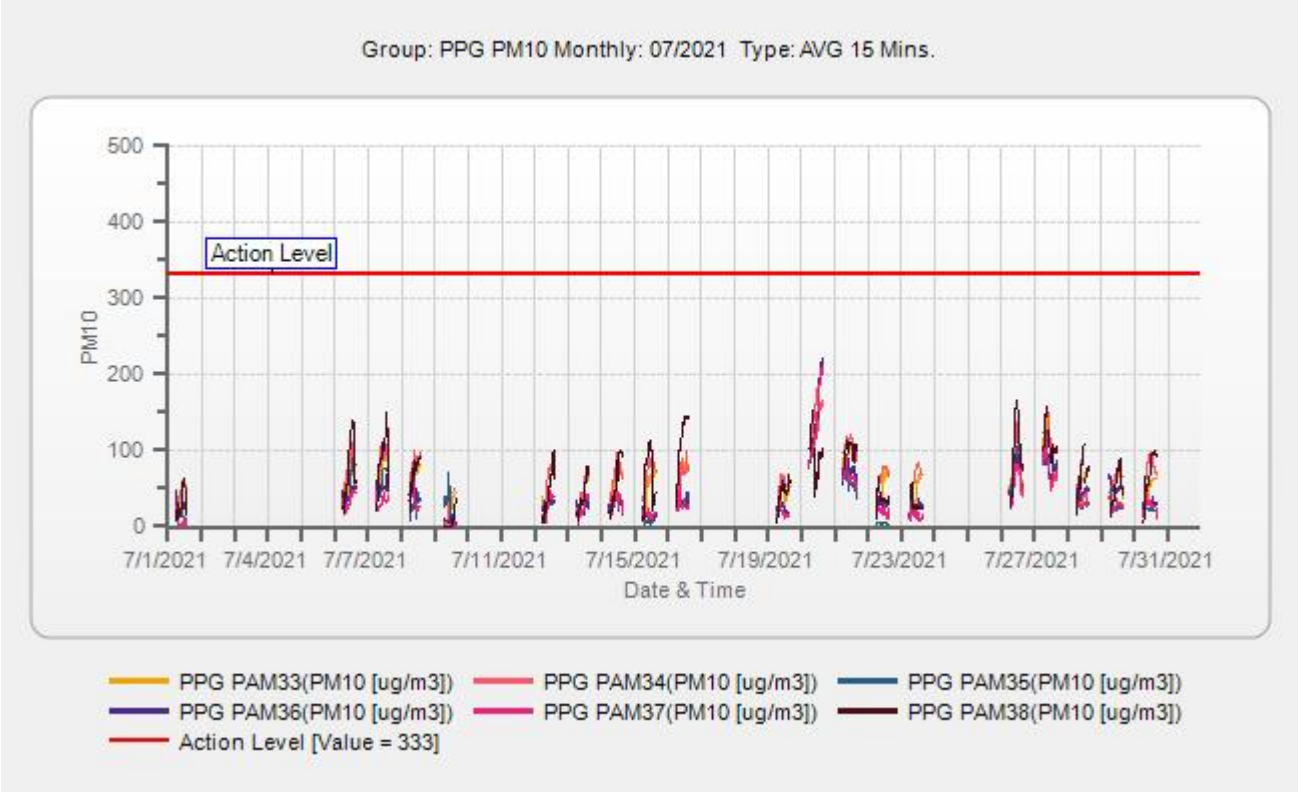


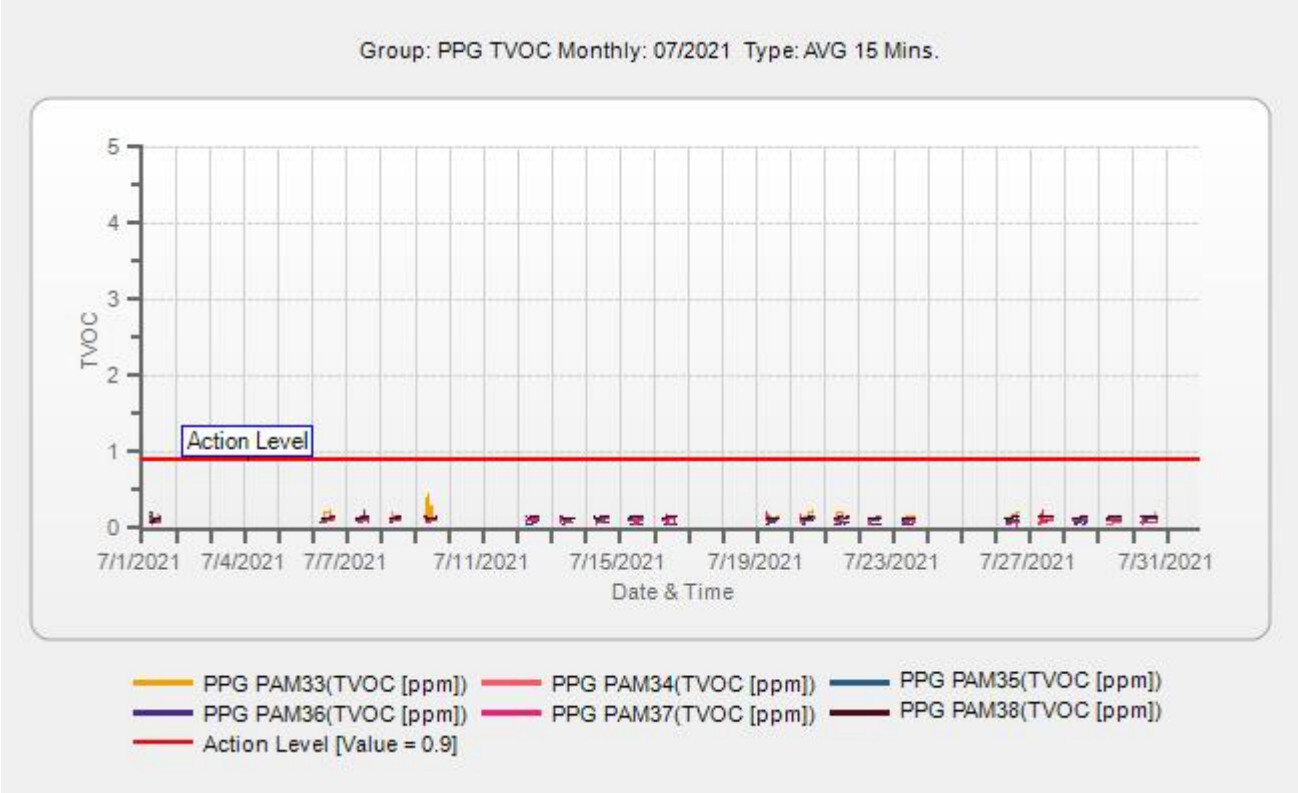
June Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results



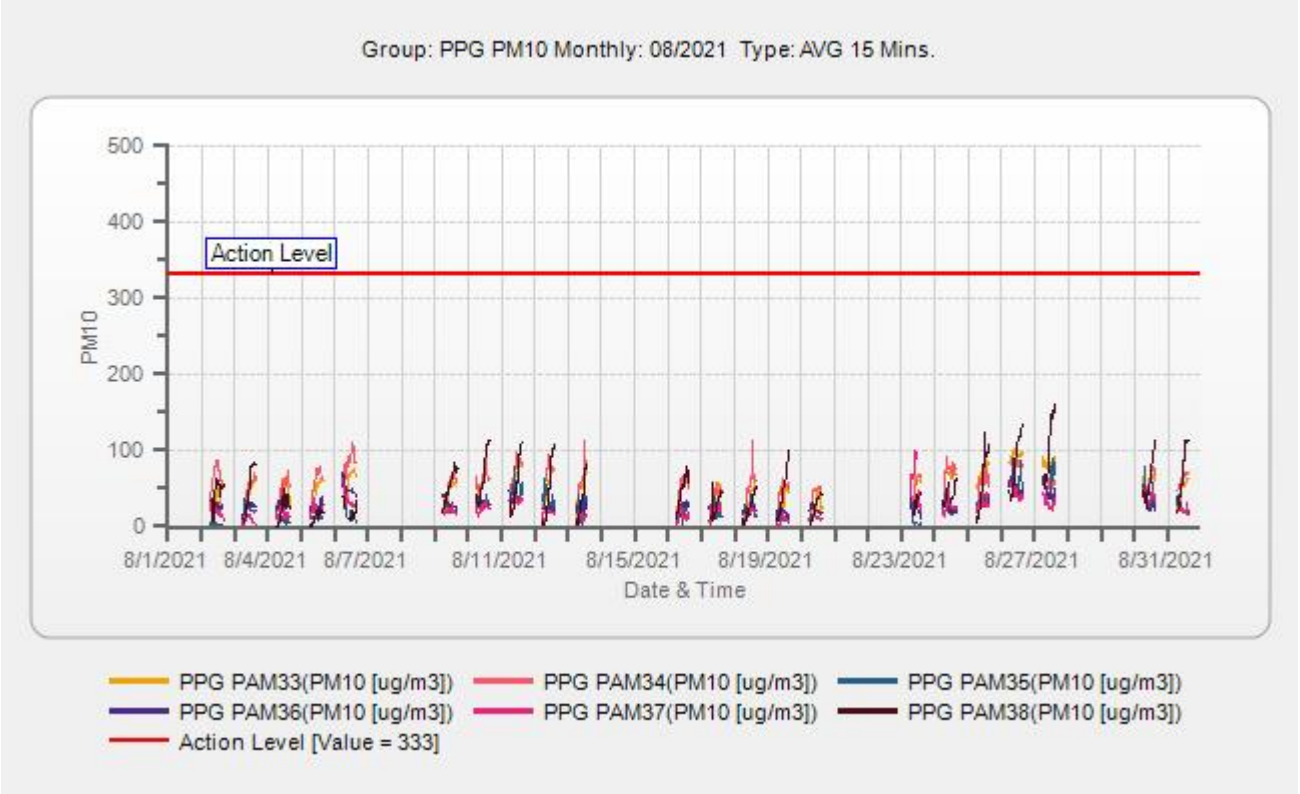


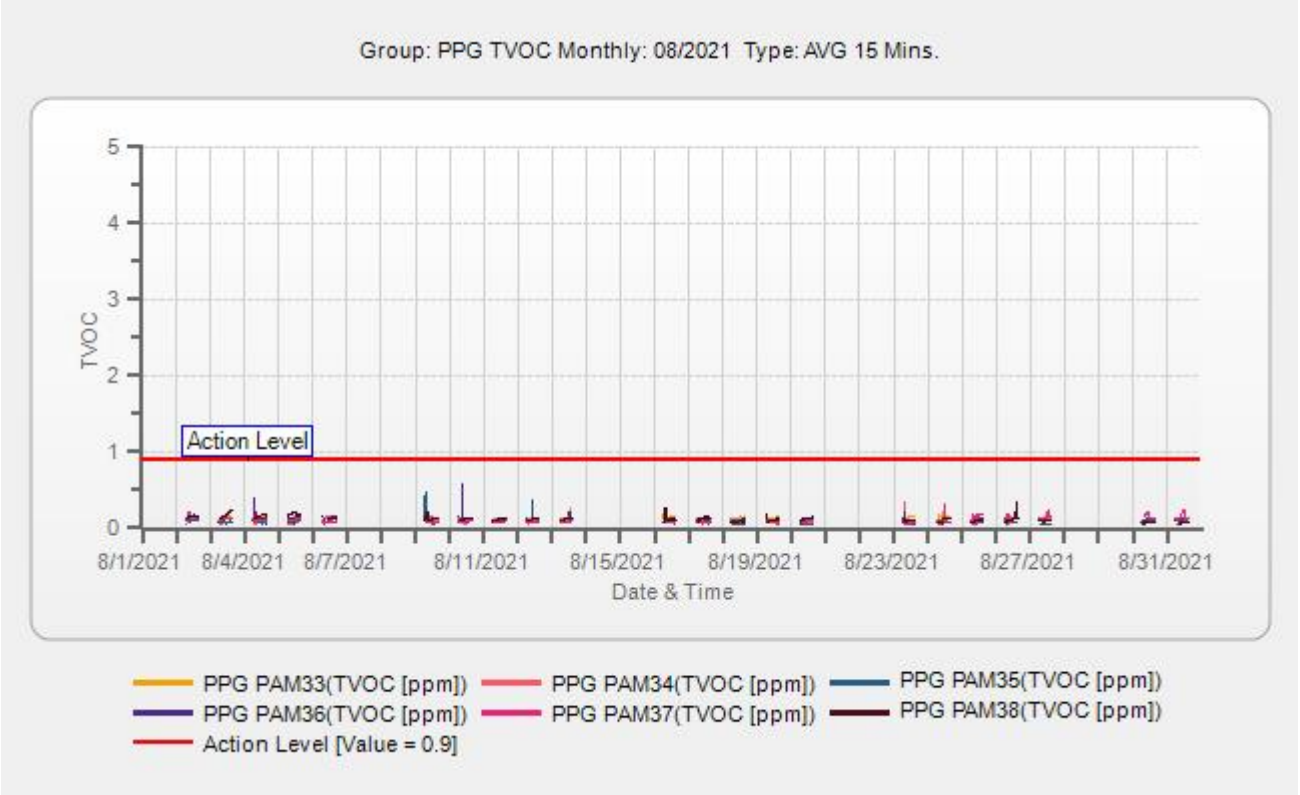
July Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results



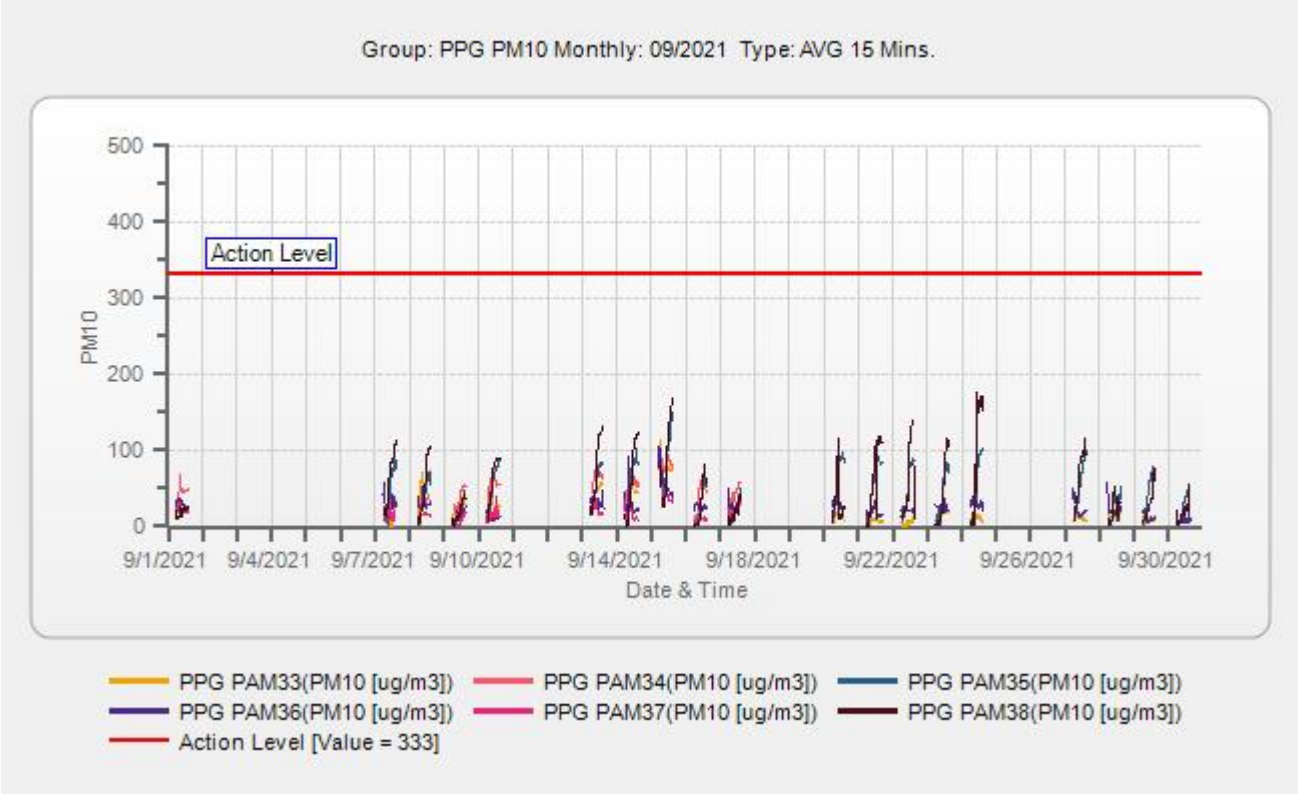


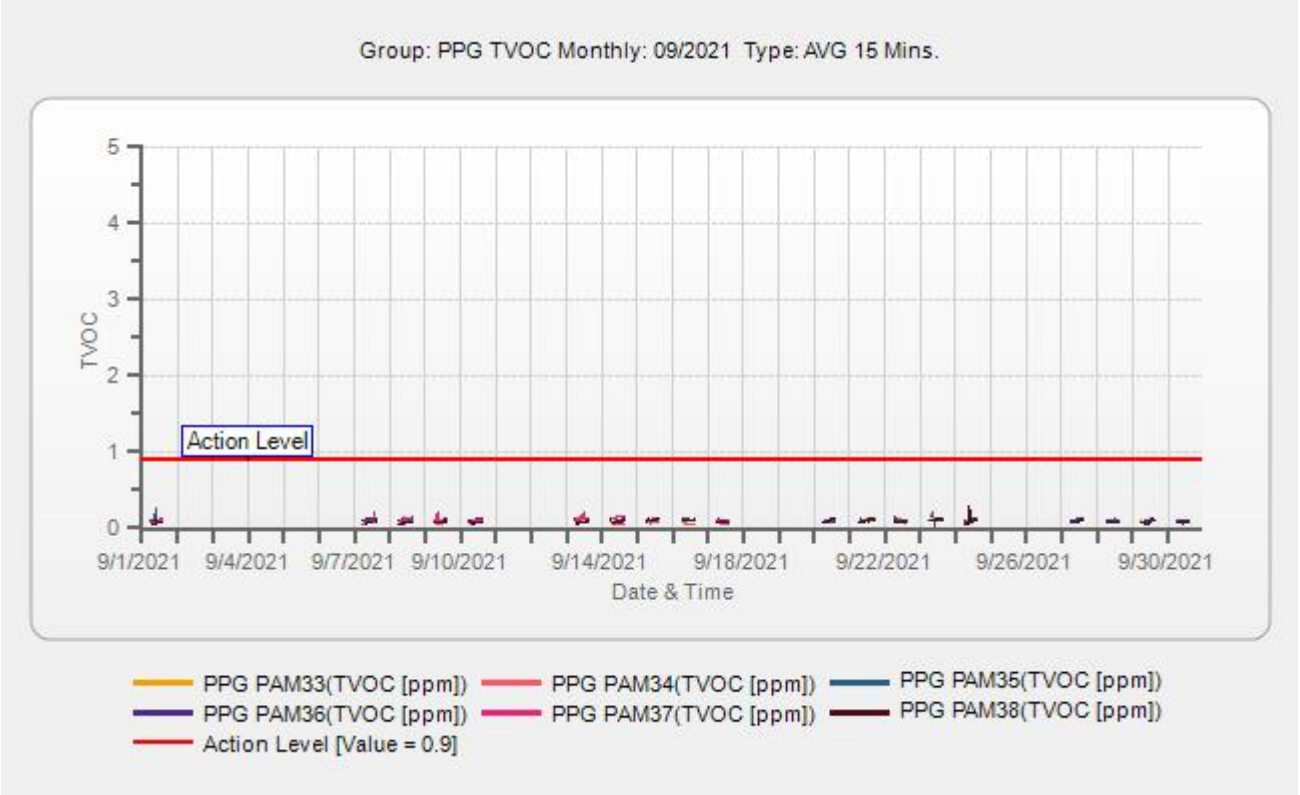
August Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results



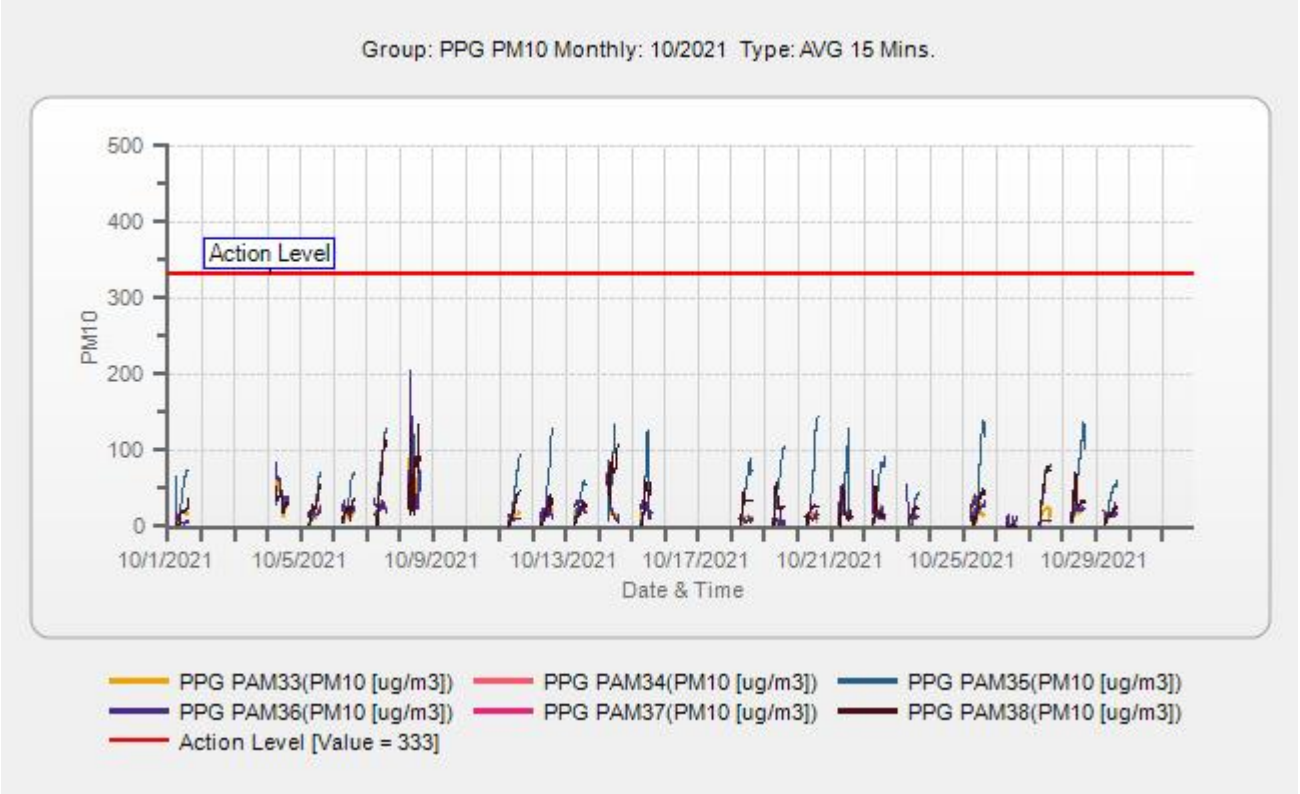


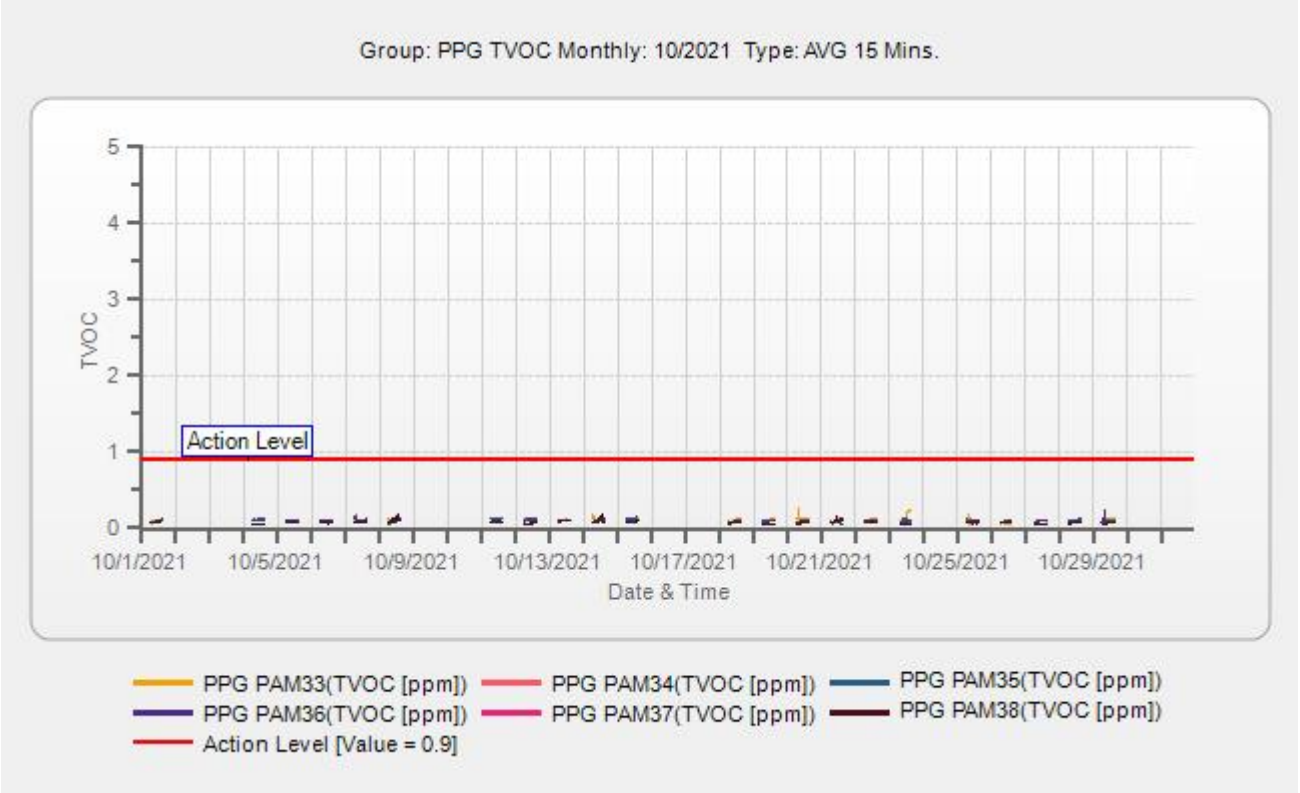
September Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results



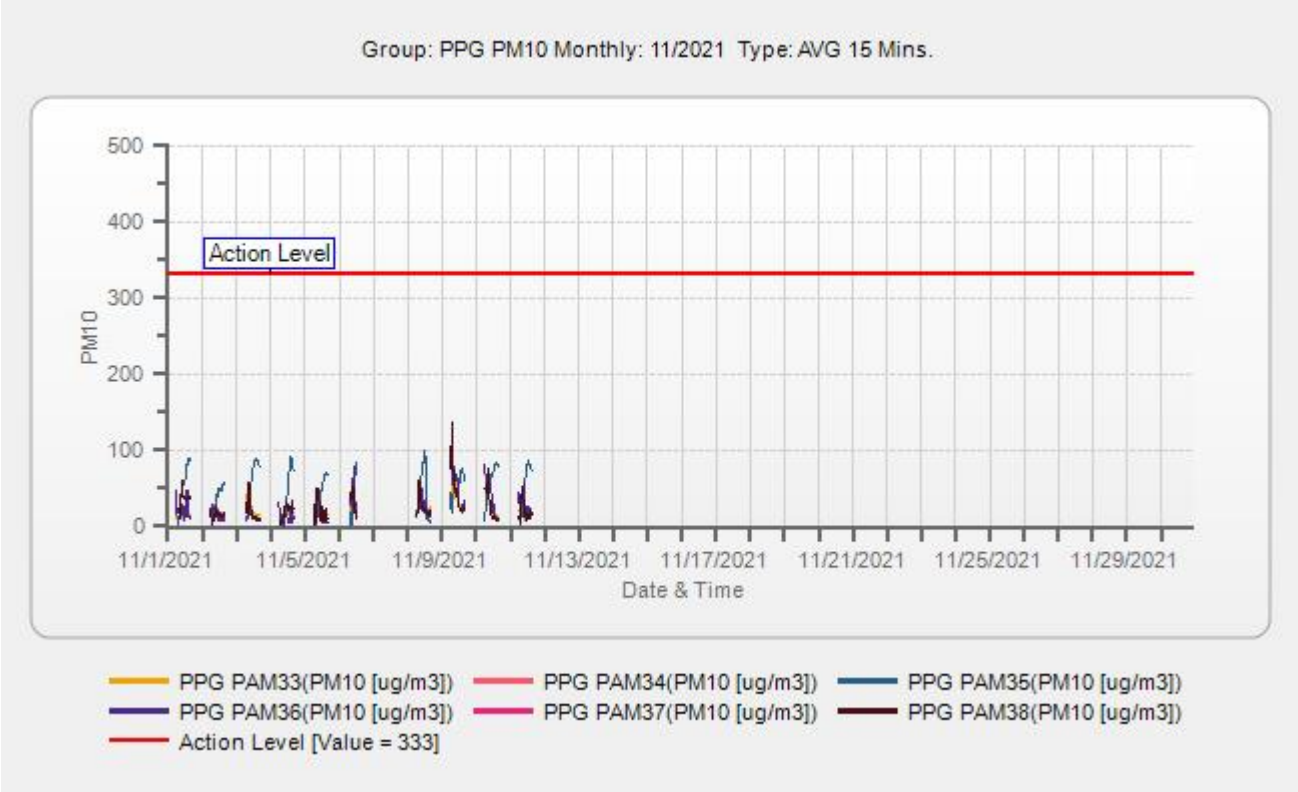


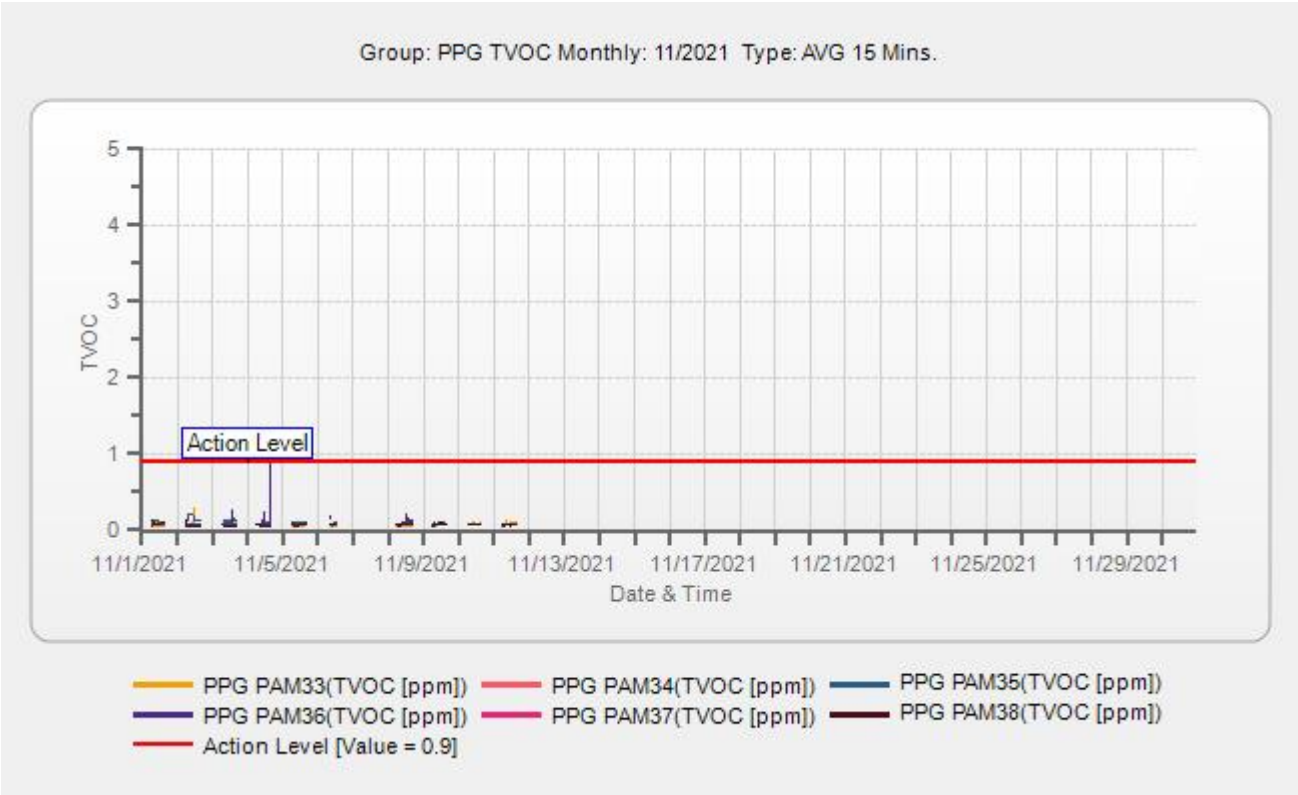
October Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results





November Real-Time Fenceline 15-Minute Average PM_{10} and TVOC Monitoring Results





Note: Site activities associated with air monitoring were completed at the end of the day on November 11, 2021 and air monitoring was shut down.

Appendix B

Real-time Results Summaries

- Elevated fenceline PM_{10} and TVOC concentrations

Elevated Fenceline Real-Time Concentration Summary

Parameter	Date	Time	Location	Wind Conditions	Elevated Concentration	Explanation
TVOC	Wed 4/28/21	7:00 AM	PAM-37	NW 2.1 mph	1.5 ppm	The elevated concentration was caused by uncovering a stockpile upwind of PAM-37. There were VOC odors observed at PAM-37 at this time and the event was confirmed with a second photoionization detector (PID). This event occurred prior to the start of loadout or excavation activities. It is believed that the elevated TVOC concentrations built up under the polyethylene cover during the overnight hours and when the cover was lifted, they were released in a single wave. Winds were coming from the northwest at 2.1 mph which put PAM-37 in the downwind direction. The air monitoring field technician notified the appropriate on-Site personnel. Work was stopped at 7:06 AM before soil loadout began, and the stockpile was foamed to prevent additional emissions. PAM-37 concentrations were less than the Fenceline Action Level at 7:15 AM.
TVOC	Thu 11/4/21	3:45 PM	PAM-36	NNW 3.9 mph	1.1 ppm	The elevated concentration was caused by excavation activities upwind of the station with winds from the north-northwest. VOC odors were observed at PAM-36 at this time. The air monitoring technician notified the onsite Dust Control Manager (DCM) and remediation contractor of the 1-minute elevated concentration at 3:37 PM and then Weston was notified once the 15-minute concentration was confirmed. The air monitoring technician mobilized to PAM-36 and walked with the PID towards the downwind fenceline along Pacific Avenue and observed no odors and documented that TVOC concentrations were 0.0 ppm. Once notified at 3:37 PM, the remediation contractor began spraying Biosolve foam. The 1-minute average concentrations showed a reduction in TVOCs after the foam application. The 4:00 PM concentration was less than the Action Level. At 4:08 PM, Rusmar foam was applied, and excavation activities stopped for the day.
PM_{10}	NA	NA	NA	NA	NA	PM_{10} concentrations were less than the Action Levels.

Definitions:
mph – miles per hour
NA – not applicable
PAM – portable air monitoring station
PM_{10} – respirable particulate matter measured in micrograms per cubic meter ($\mu g/m^3$)
ppm – parts per million
TVOC – total volatile organic compound measured in ppm (by volume)
VOC – volatile organic compound

Notes:
- PAM reported PM_{10} and TVOC values represent 15-minute block averages at the fenceline.
- Site-specific Action Levels can be found in **Table 3-2**
- Elevated fenceline concentrations are discussed in more detail in the event documentation reports posted to the Chromium Cleanup website.

Appendix B

Real-time Results Summaries

- Elevated perimeter of the exclusion zone PM_{10}, TVOC and H_2S concentrations

Elevated Perimeter of the Exclusion Zone Hand-Held Concentration Summary

Parameter	Date	Time	Location	Wind Conditions	Elevated Concentration	Explanation
TVOC	Wed 11/3/21	1:15 PM	HH-1	WNW 7.9 mph	1.5 ppm	The elevated concentration was sustained for 2 minutes and the concentration further downwind was below the Action Level. Site personnel were notified, and the work area was treated with Biosolve foam. The area was monitored closely while work continued.
PM_{10} H_2S	NA	NA	NA	NA	NA	PM_{10} and H_2S concentrations were less than the Early Warning Action Levels.

Definitions:
HH – hand-held monitoring location
H_2S – hydrogen sulfide
mph – miles per hour
NA – not applicable
PM_{10} – respirable particulate matter measured in micrograms per cubic meter ($\mu g/m^3$)
ppm – parts per million
TVOC – total volatile organic compound measured in ppm (by volume)

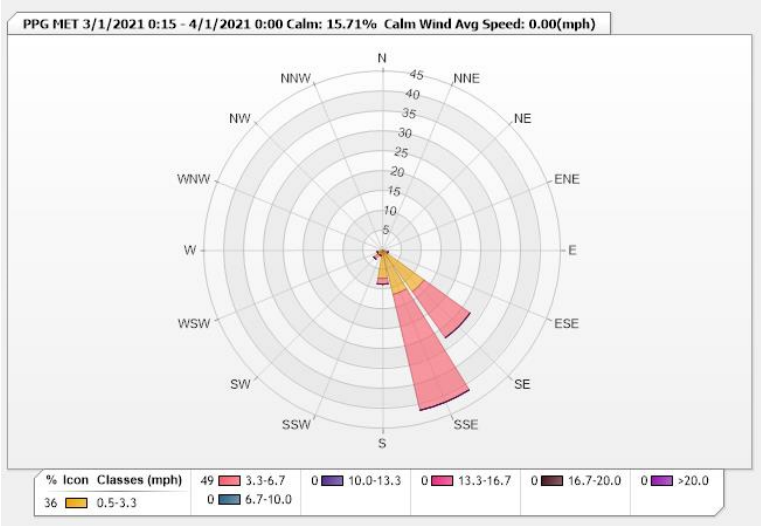
Notes:
- Hand-held $PM_{10,}$ TVOC and H_2S monitoring values represent instantaneous concentrations measured at the perimeter of the exclusion zone.
- Site-specific Action Levels can be found in **Table 3-2**

Appendix C

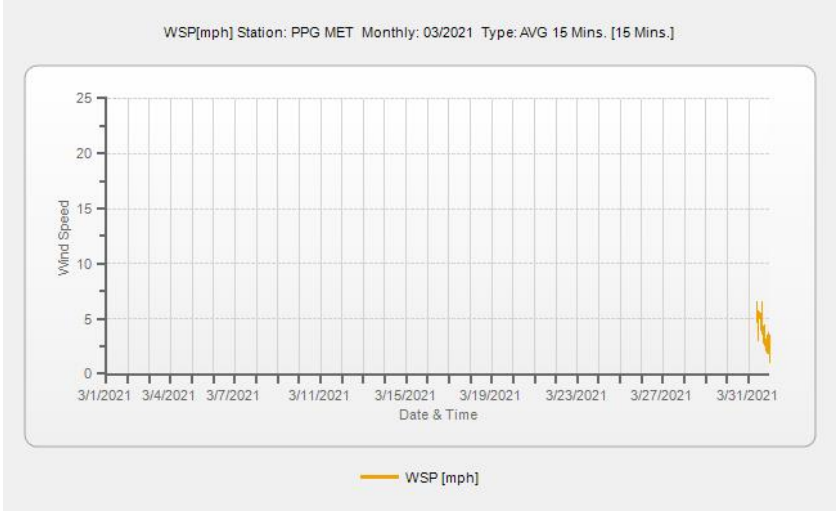
Meteorological Results

March Meteorological Monitoring Results Summary

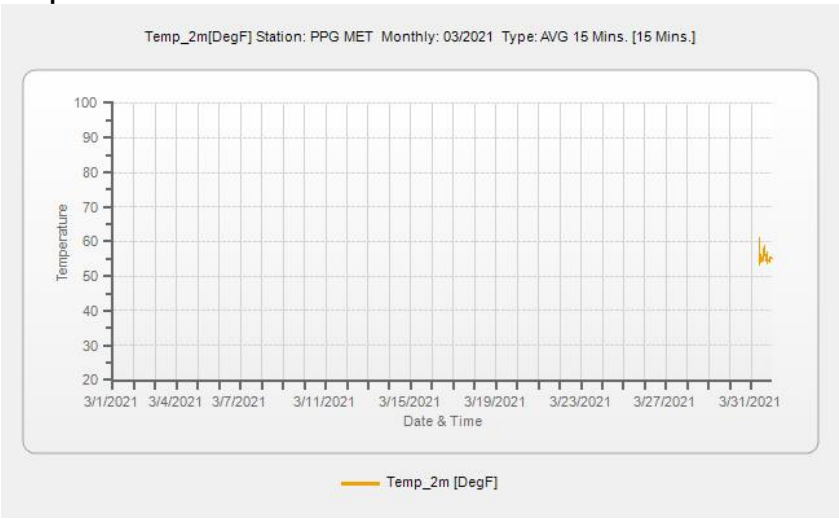
Wind Rose[1]



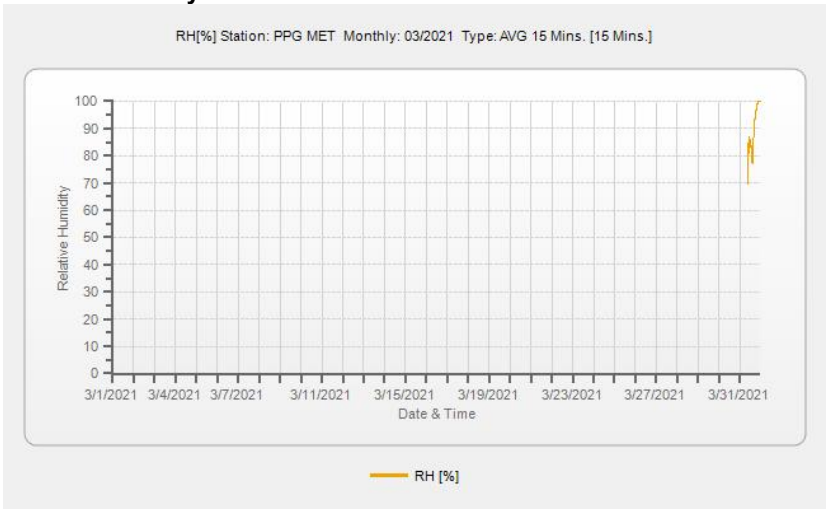
Wind Speed[1]



Temperature[1]



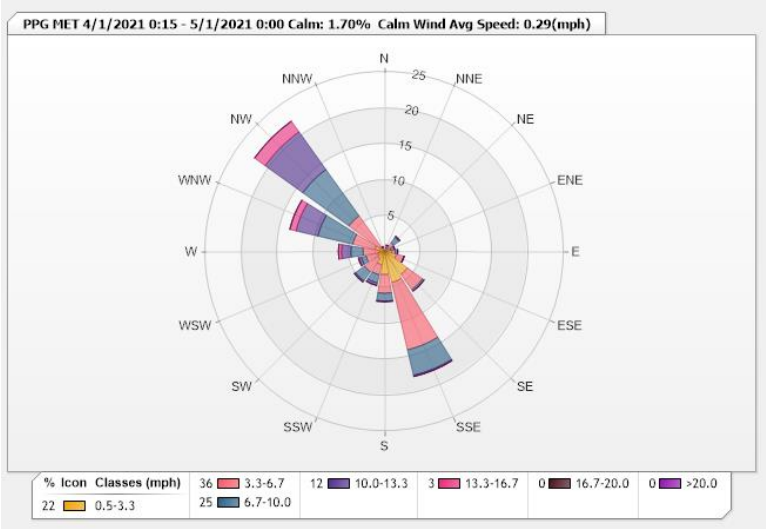
Relative Humidity[1]



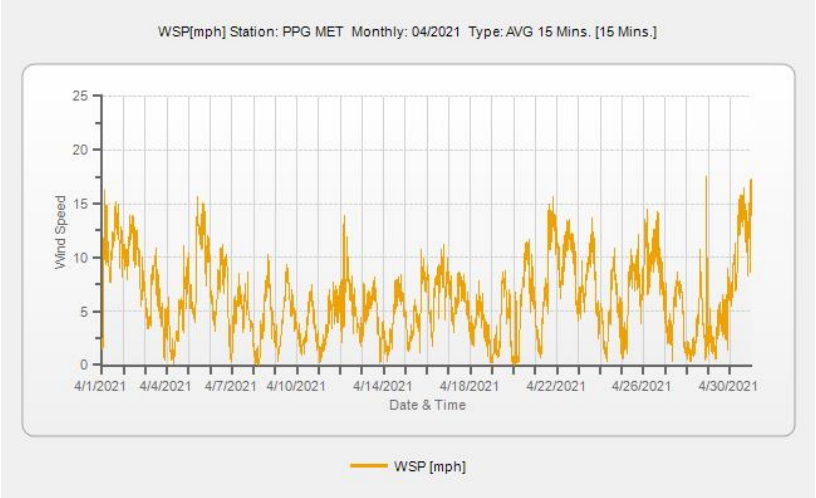
[1] The air monitoring program started up on March 29, 2021.

April Meteorological Monitoring Results Summary

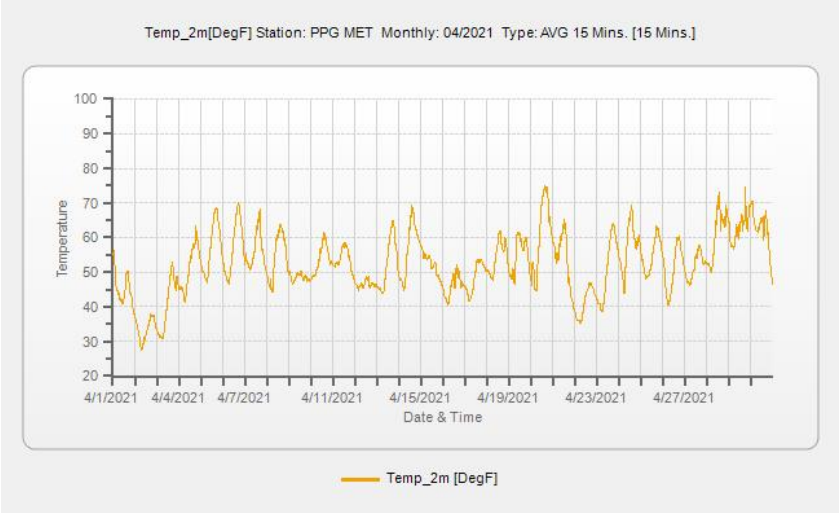
Wind Rose



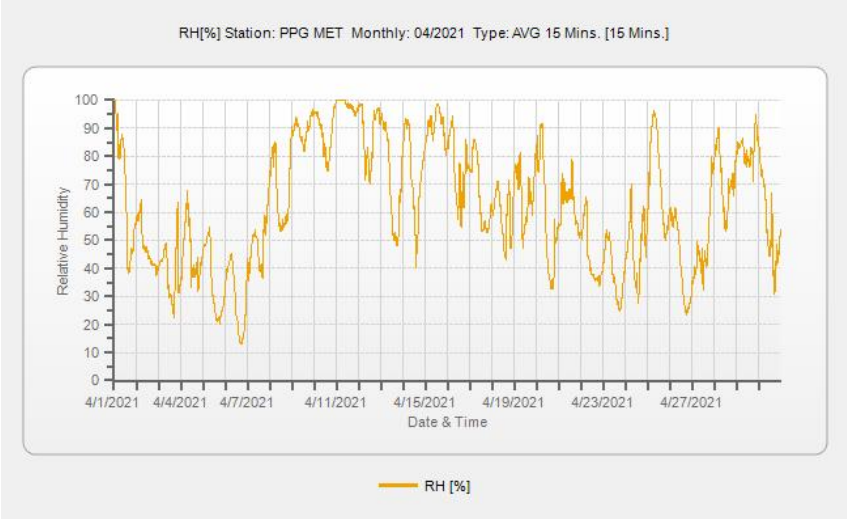
Wind Speed



Temperature

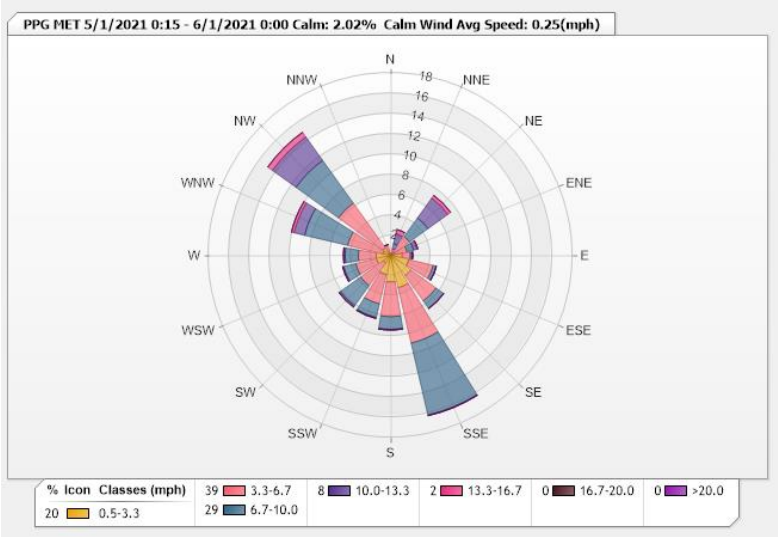


Relative Humidity

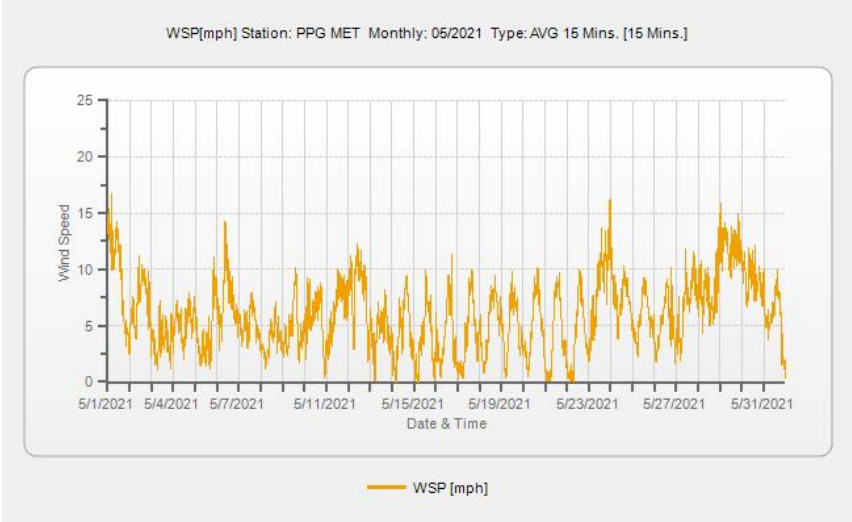


May Meteorological Monitoring Results Summary

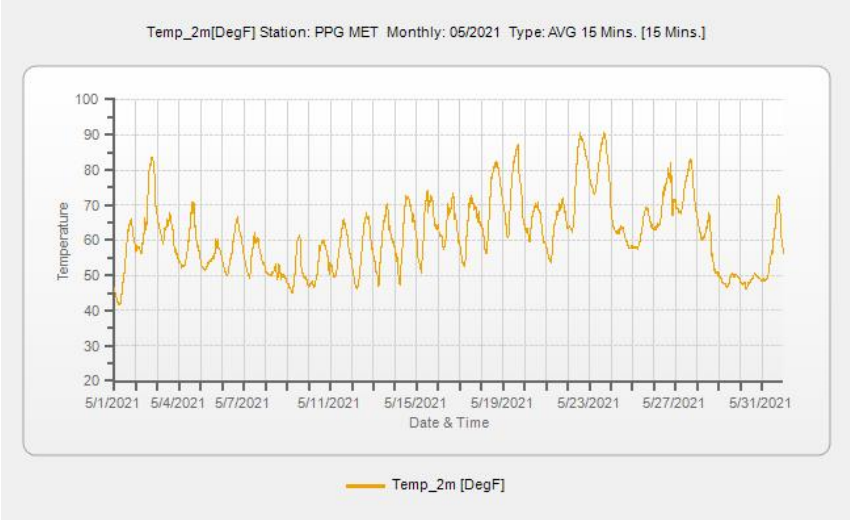
Wind Rose



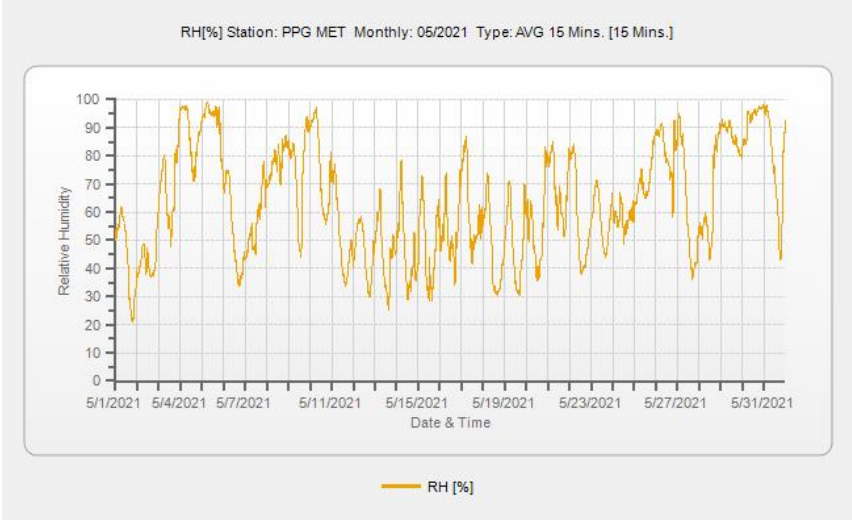
Wind Speed



Temperature

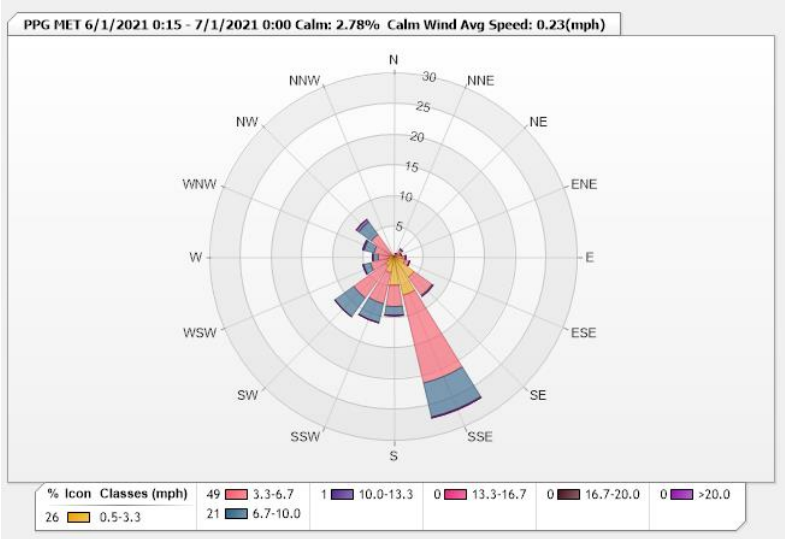


Relative Humidity

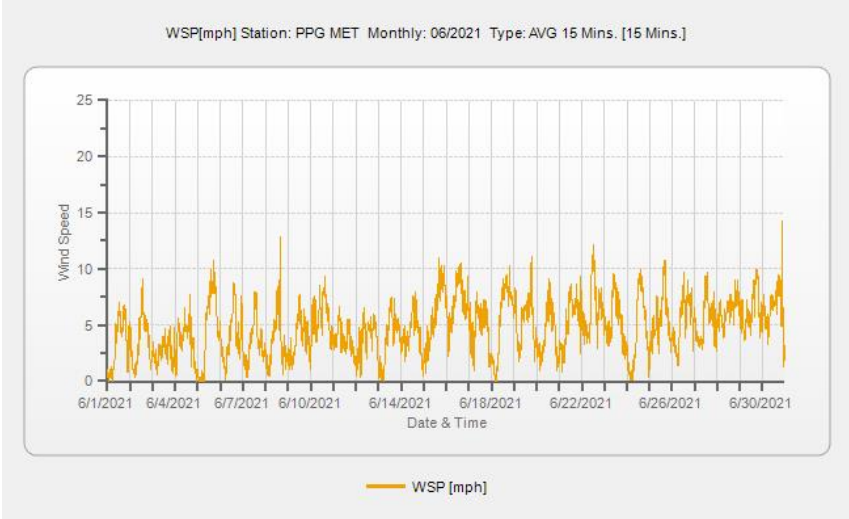


June Meteorological Monitoring Results Summary

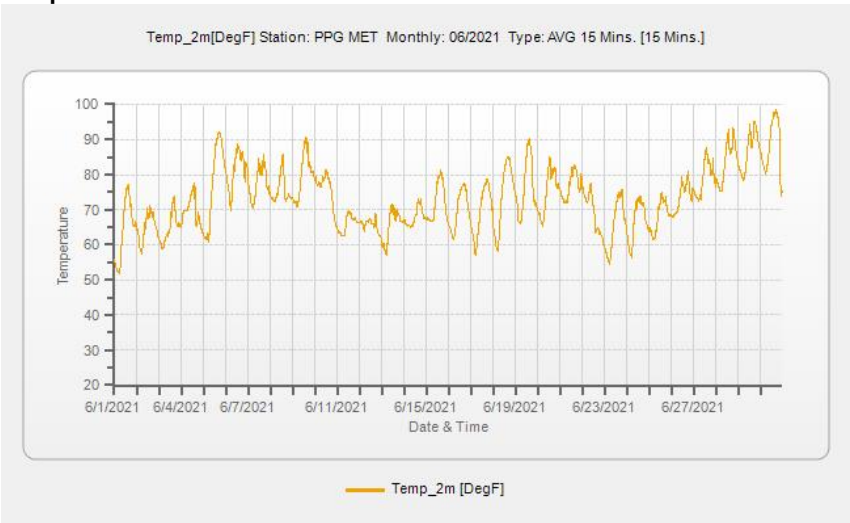
Wind Rose



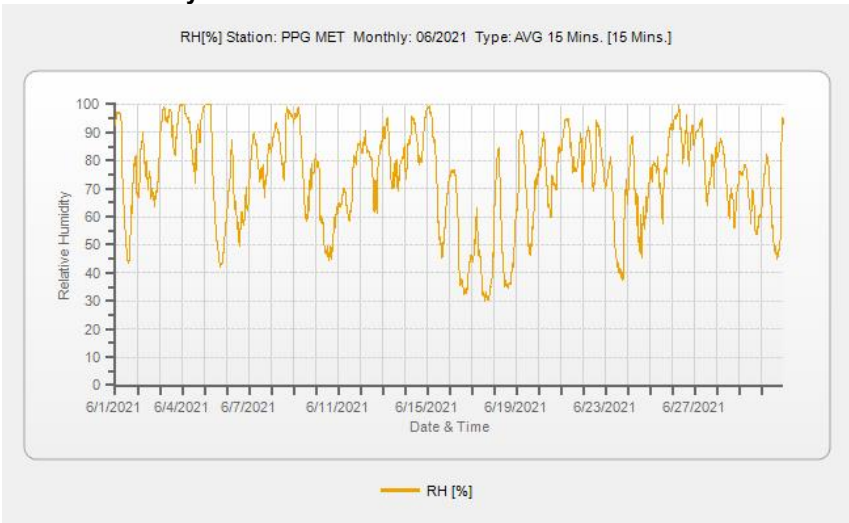
Wind Speed



Temperature

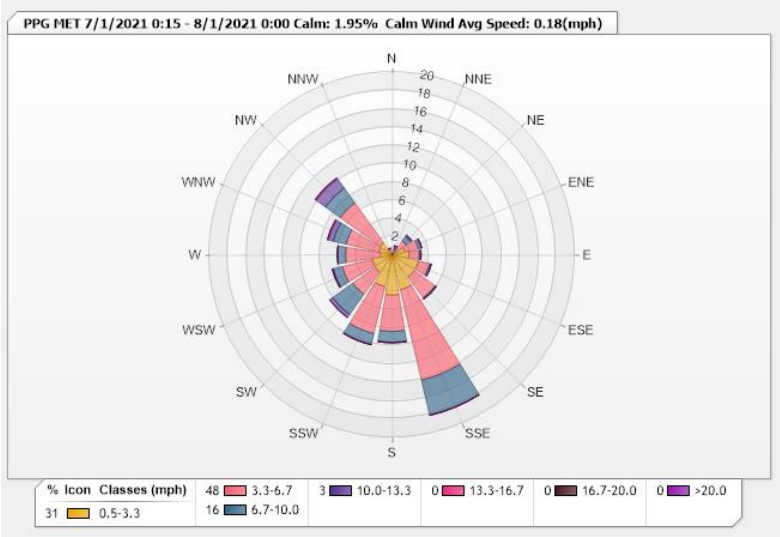


Relative Humidity

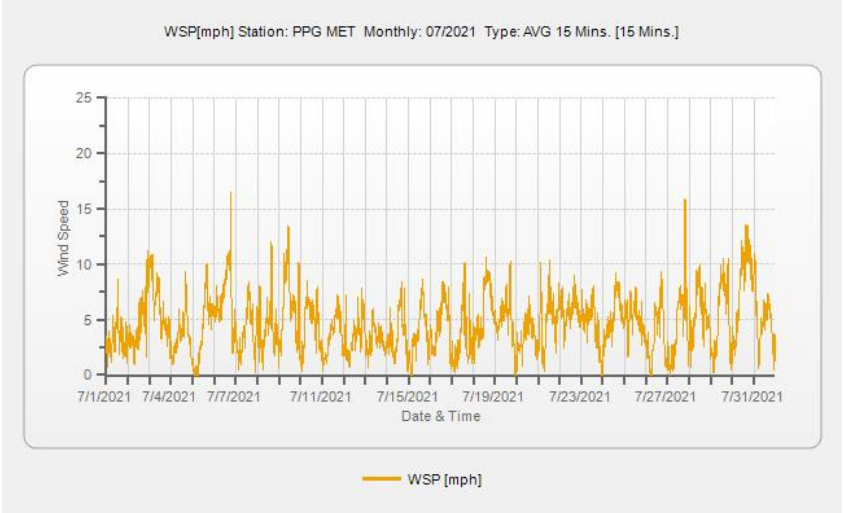


July Meteorological Monitoring Results Summary

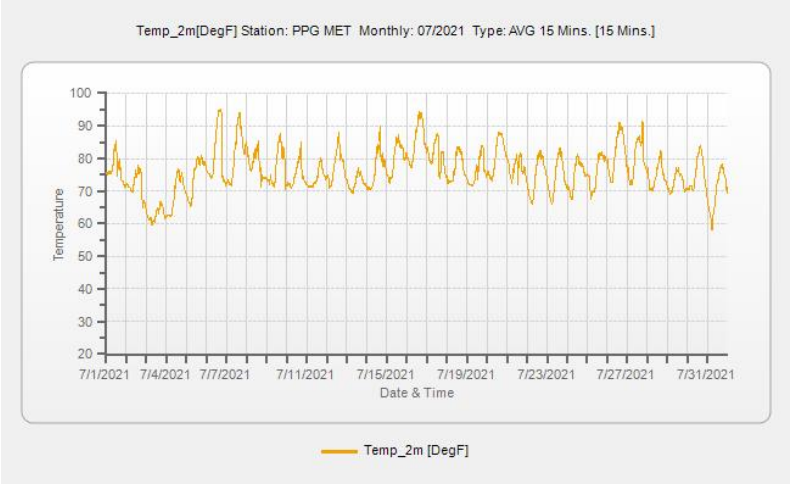
Wind Rose



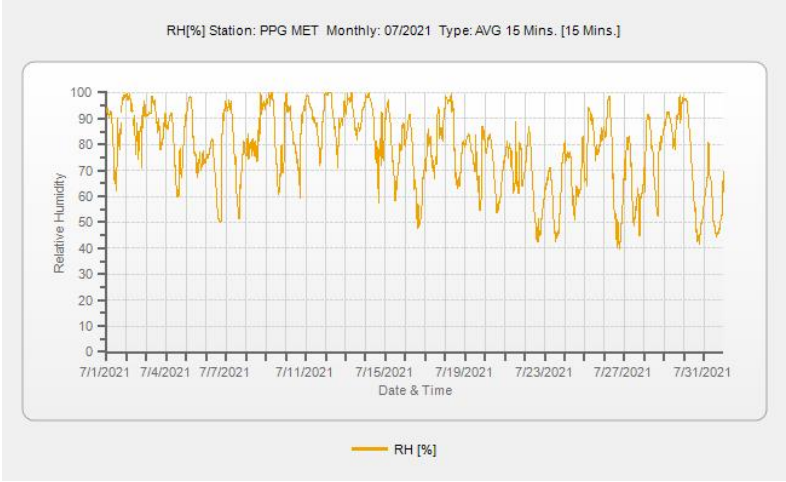
Wind Speed



Temperature

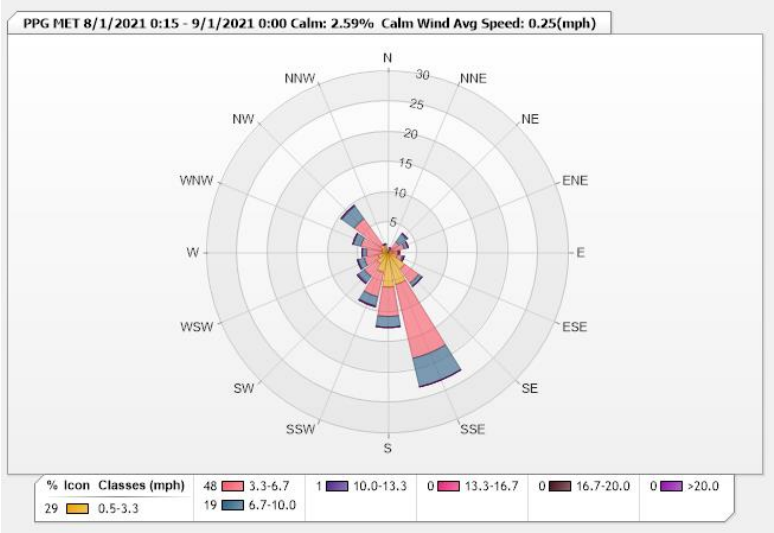


Relative Humidity

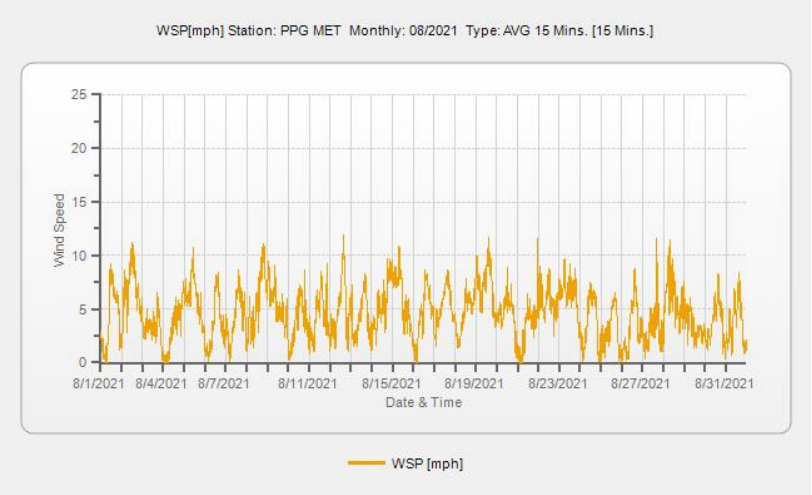


August Meteorological Monitoring Results Summary

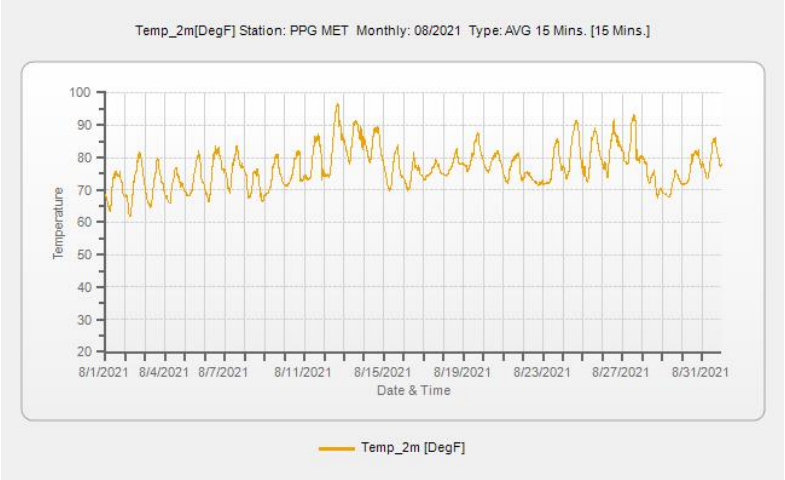
Wind Rose



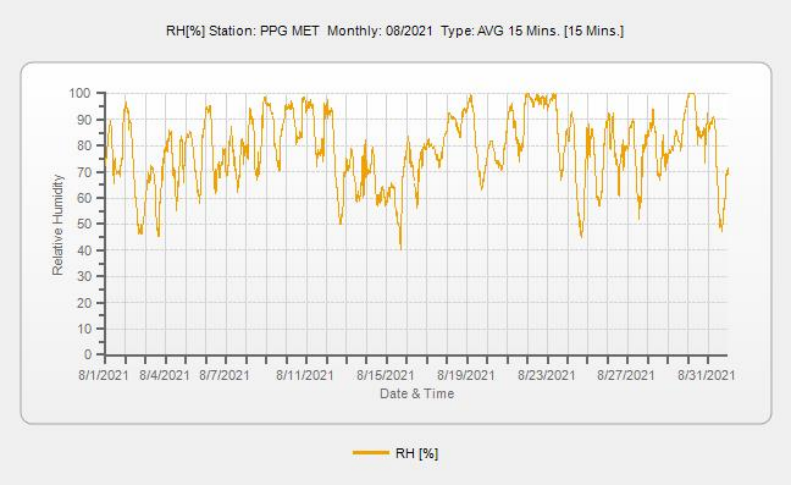
Wind Speed



Temperature

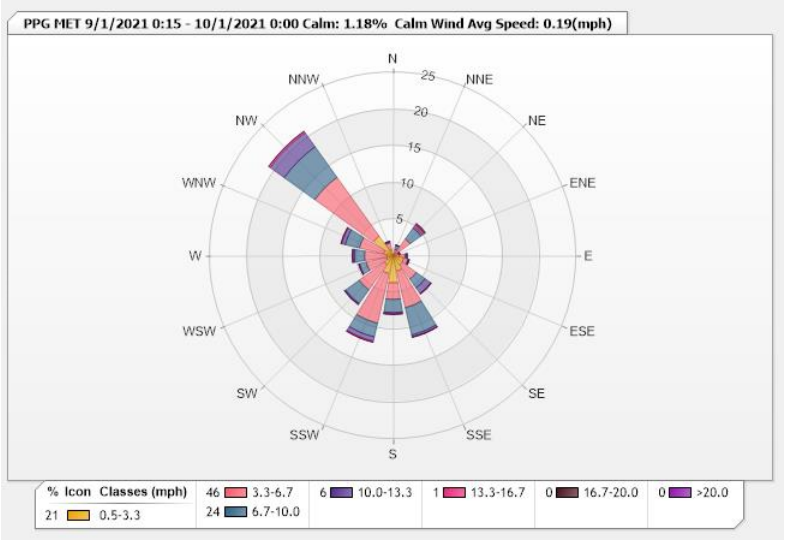


Relative Humidity

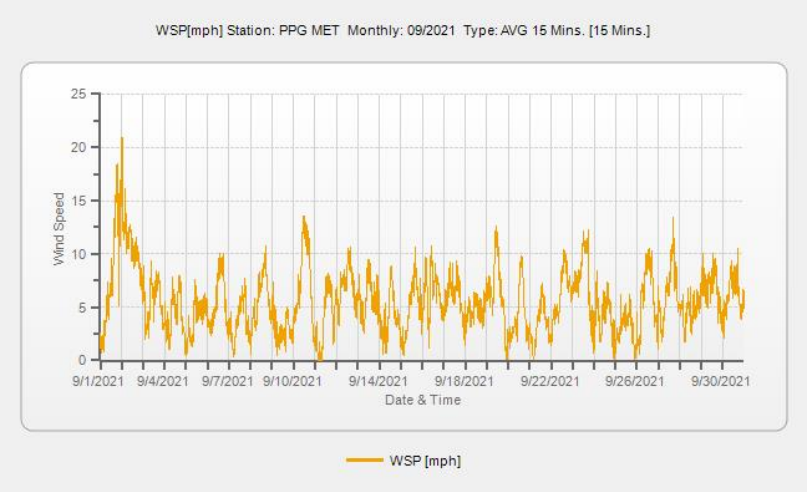


September Meteorological Monitoring Results Summary

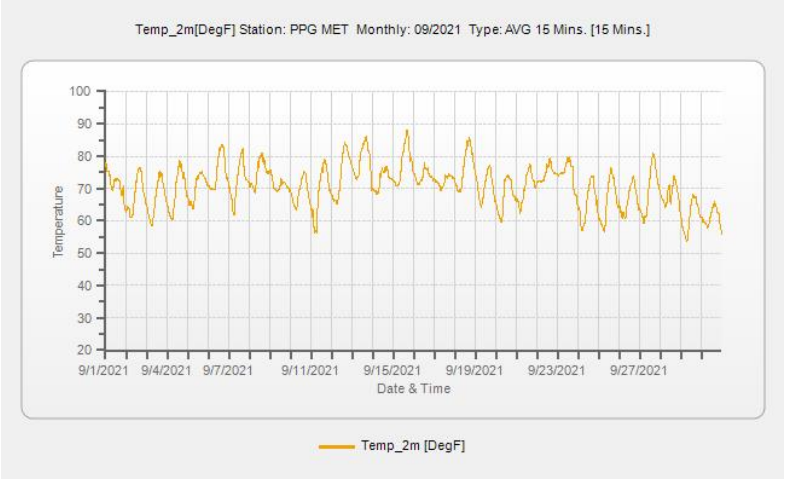
Wind Rose



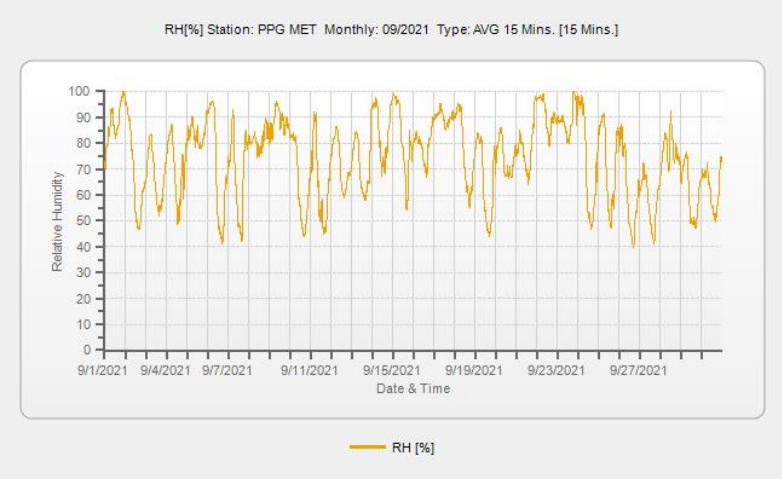
Wind Speed



Temperature

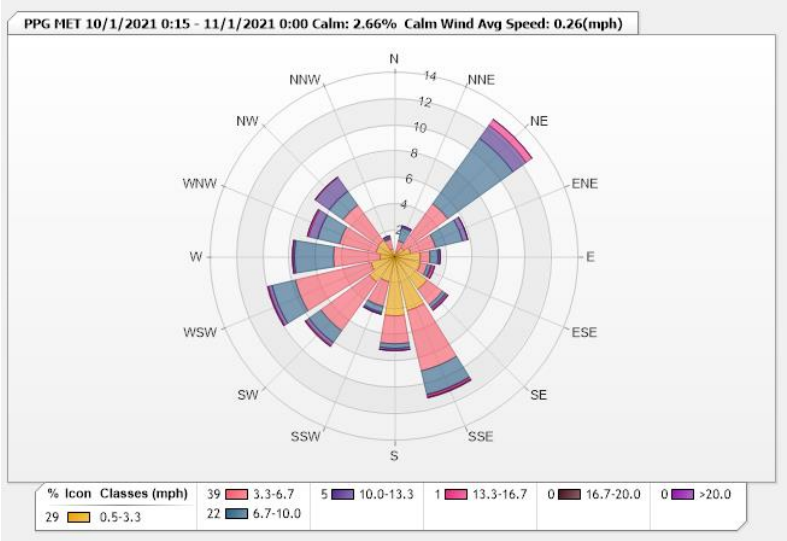


Relative Humidity

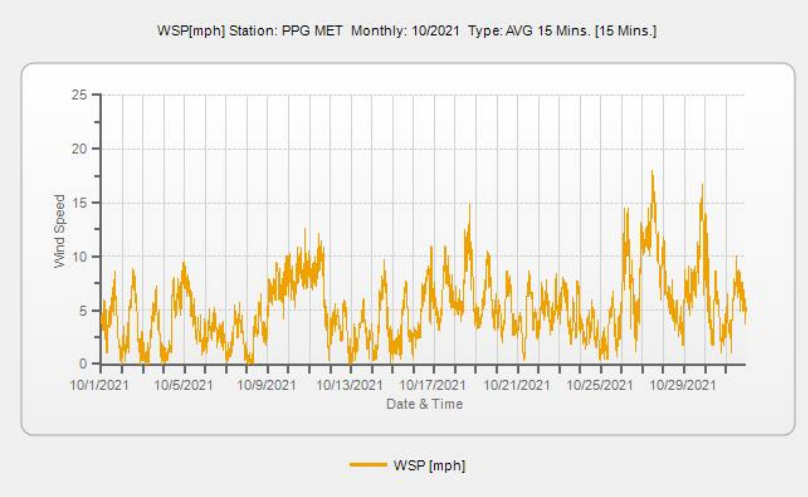


October Meteorological Monitoring Results Summary

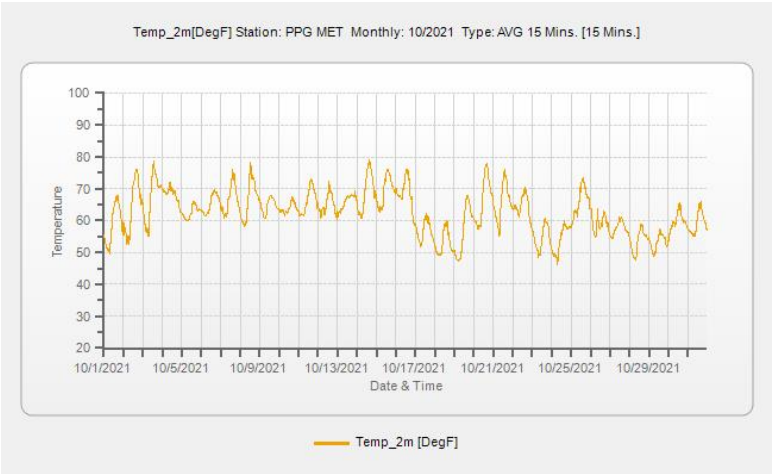
Wind Rose



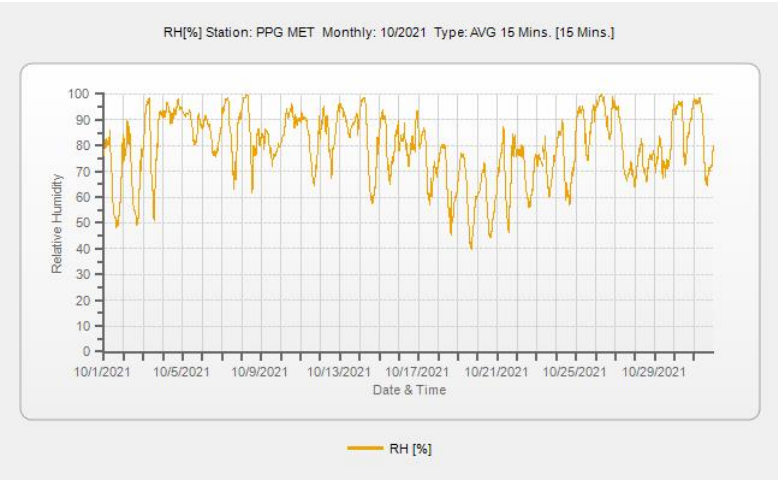
Wind Speed



Temperature

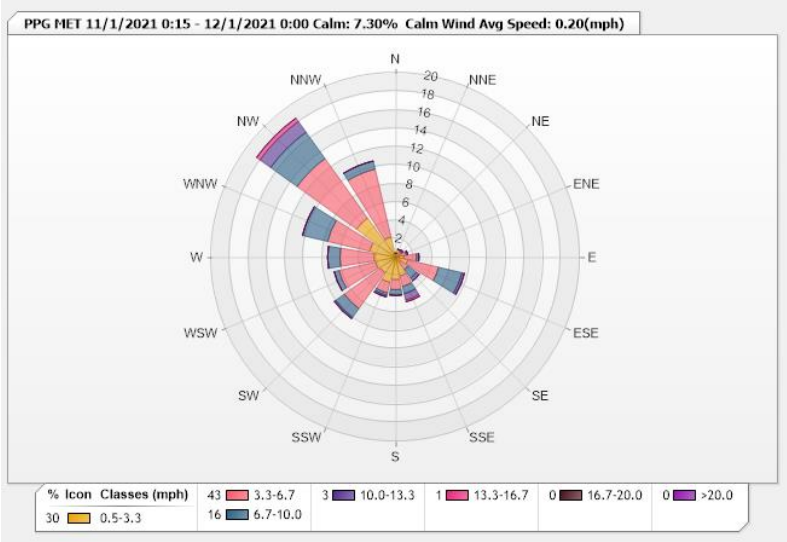


Relative Humidity

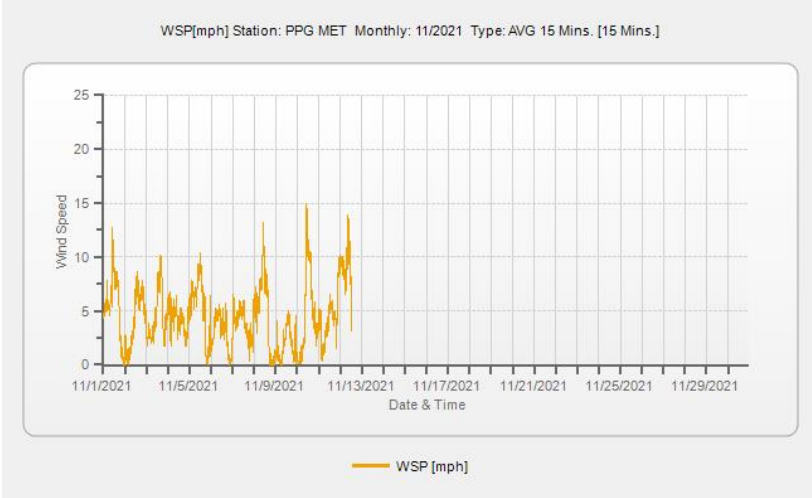


November Meteorological Monitoring Results Summary

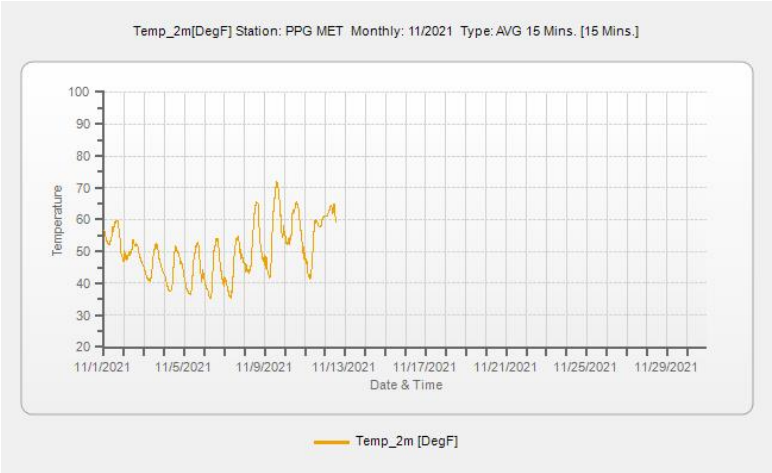
Wind Rose[1]



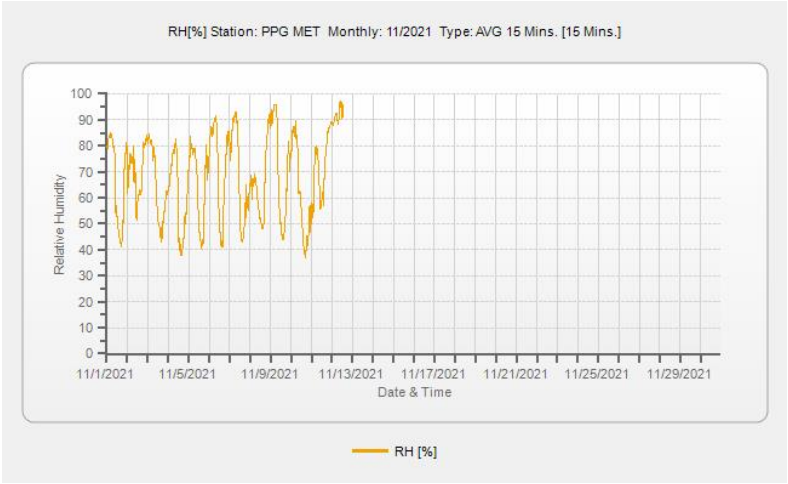
Wind Speed[1]



Temperature[1]



Relative Humidity[1]

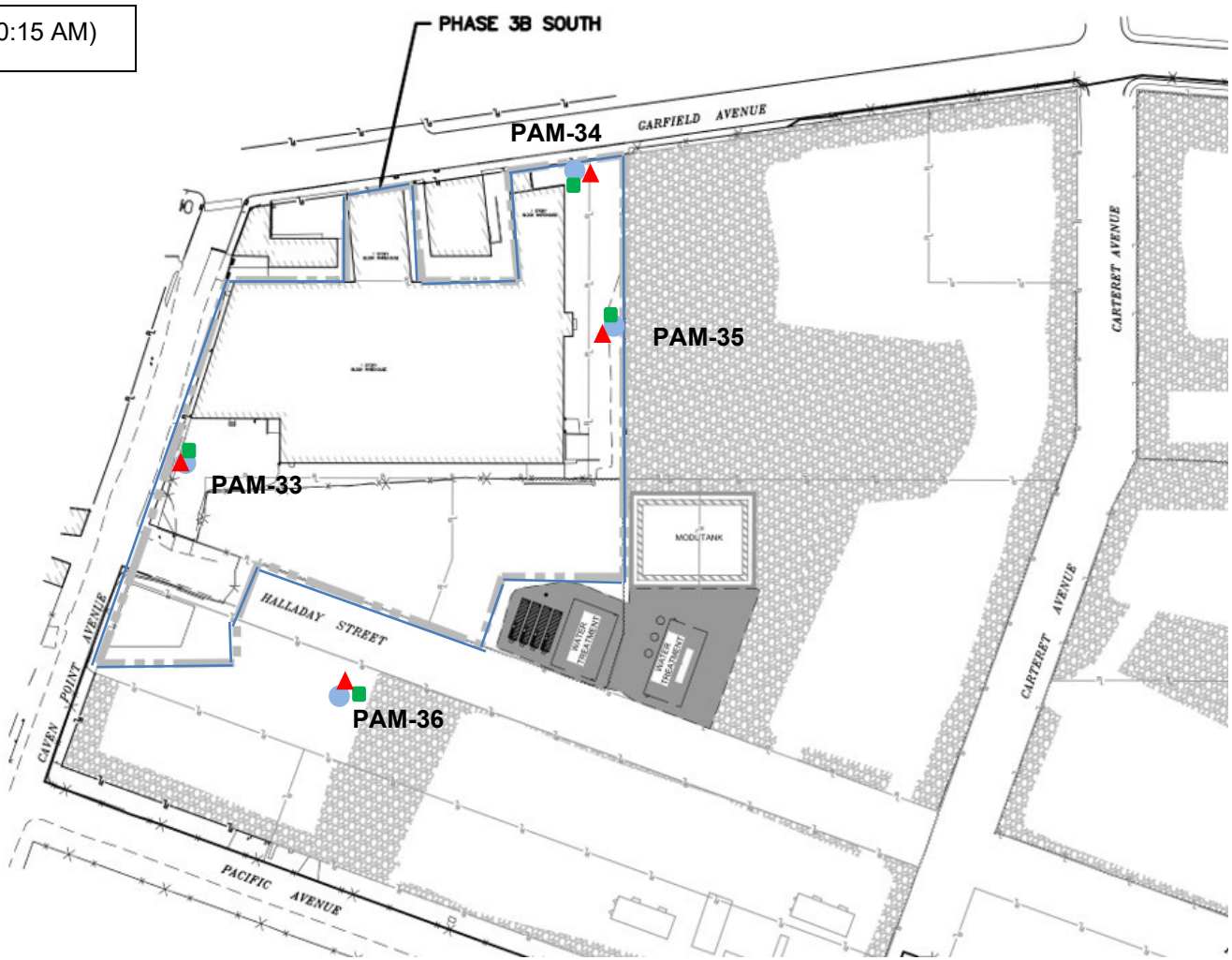


[1] Site activities associated with air monitoring were completed at the end of the day on November 11, 2021 and air monitoring was shut down.

Appendix D

Site Maps

3/29/21 – 3/31/21 (10:15 AM)



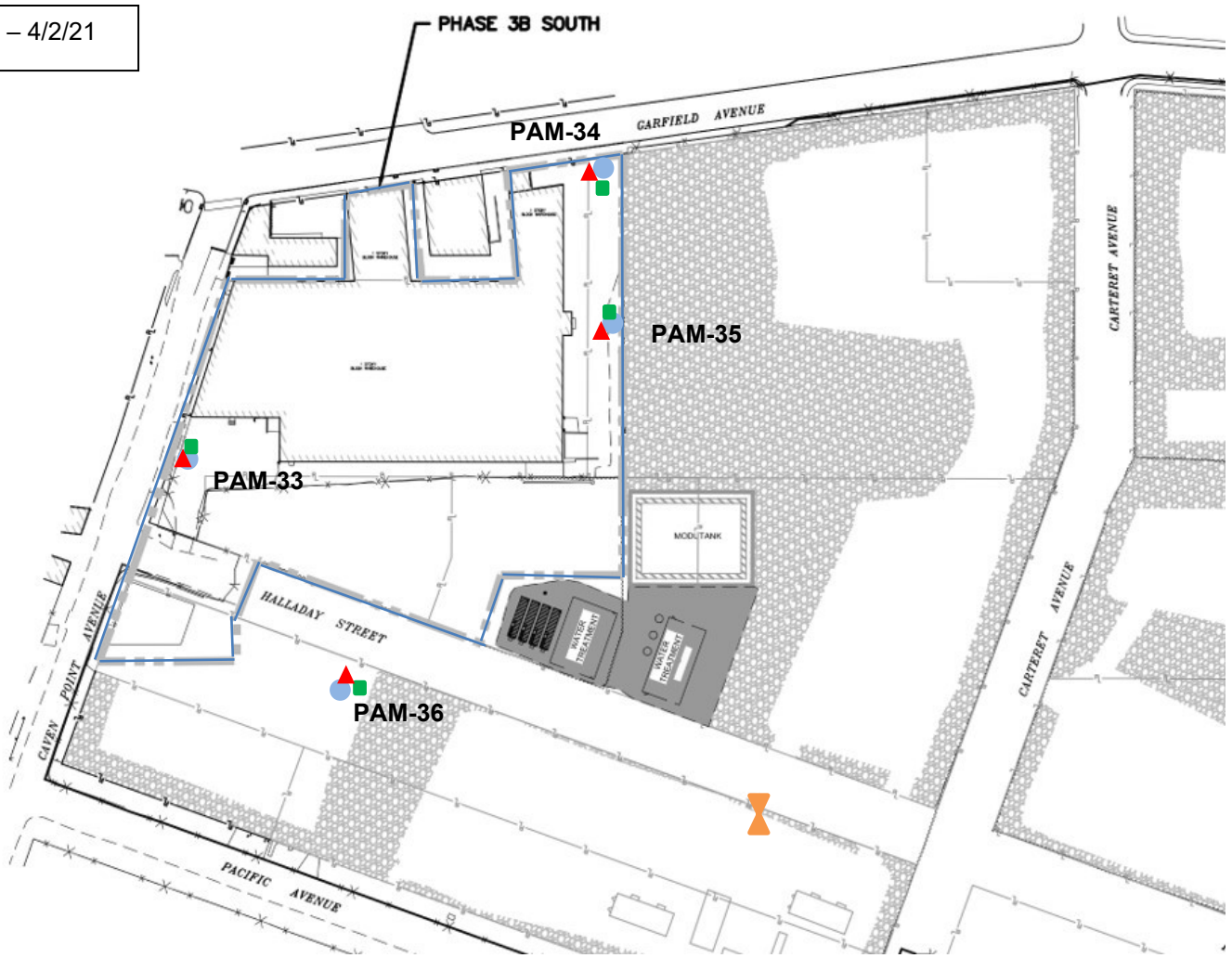
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

3/31/21 (10:30 AM) – 4/2/21



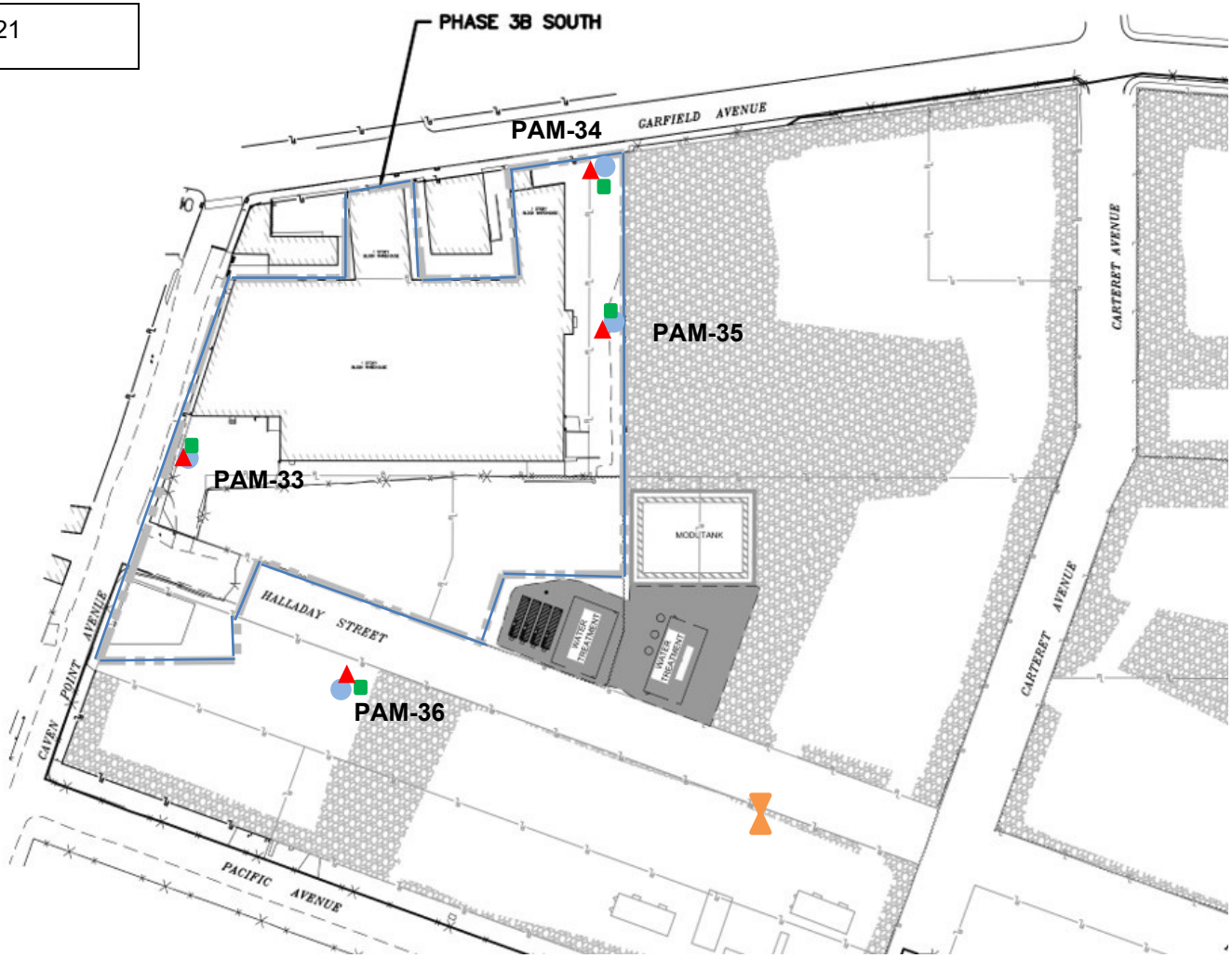
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

4/5/21 – 4/9/21



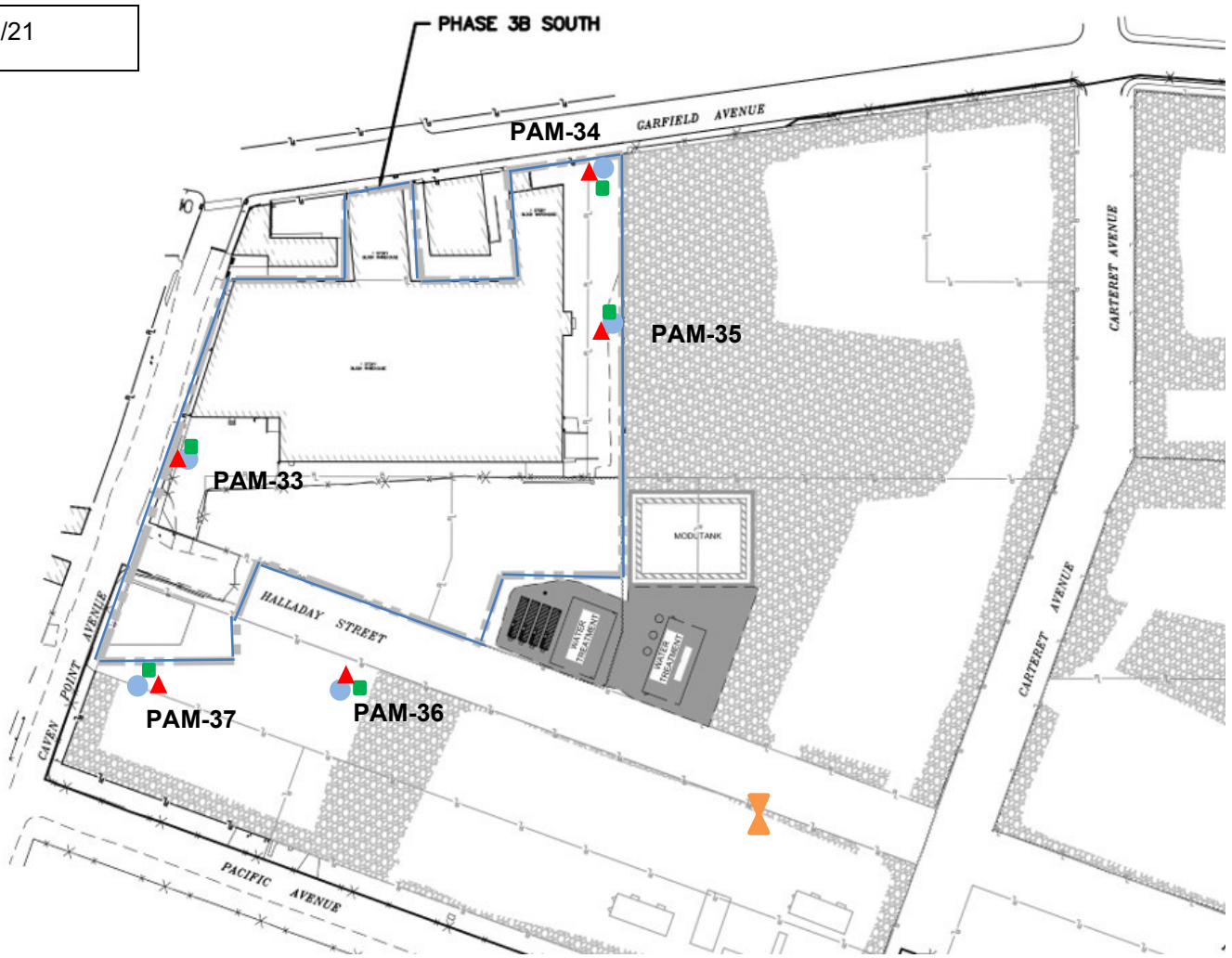
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

4/12/21 – 4/13/21



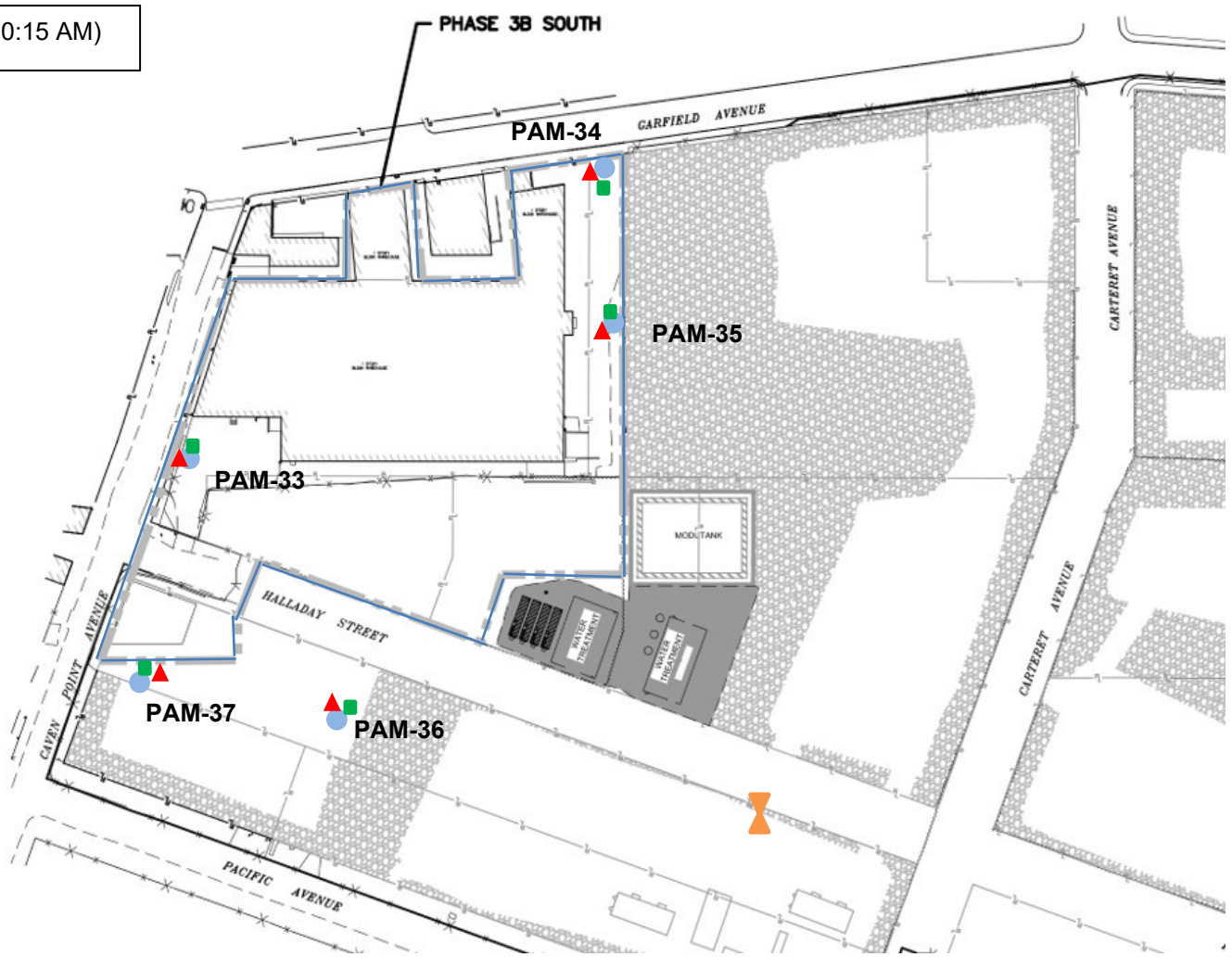
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

4/14/21 – 4/14/21 (10:15 AM)



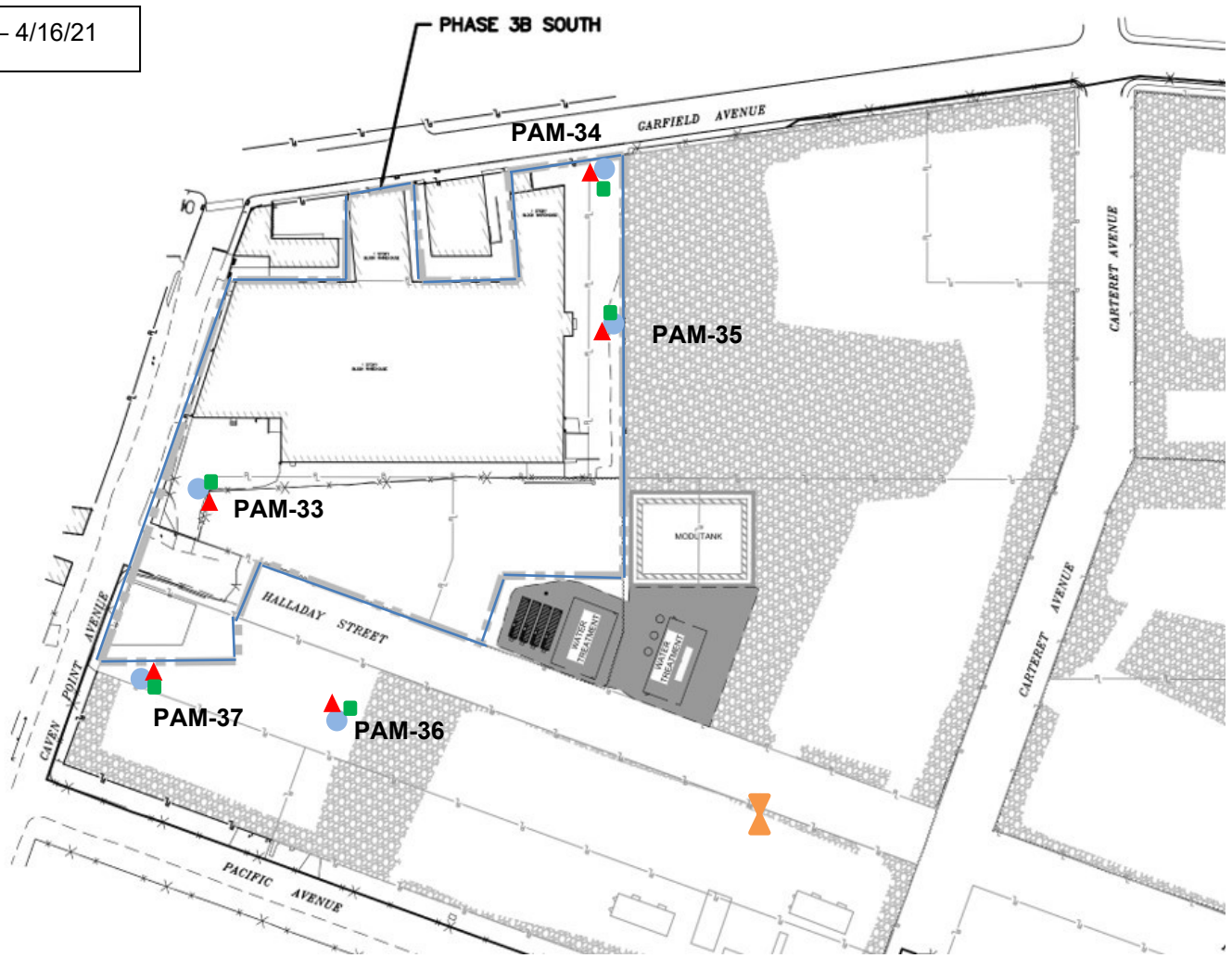
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

4/14/21 (10:30 AM)– 4/16/21



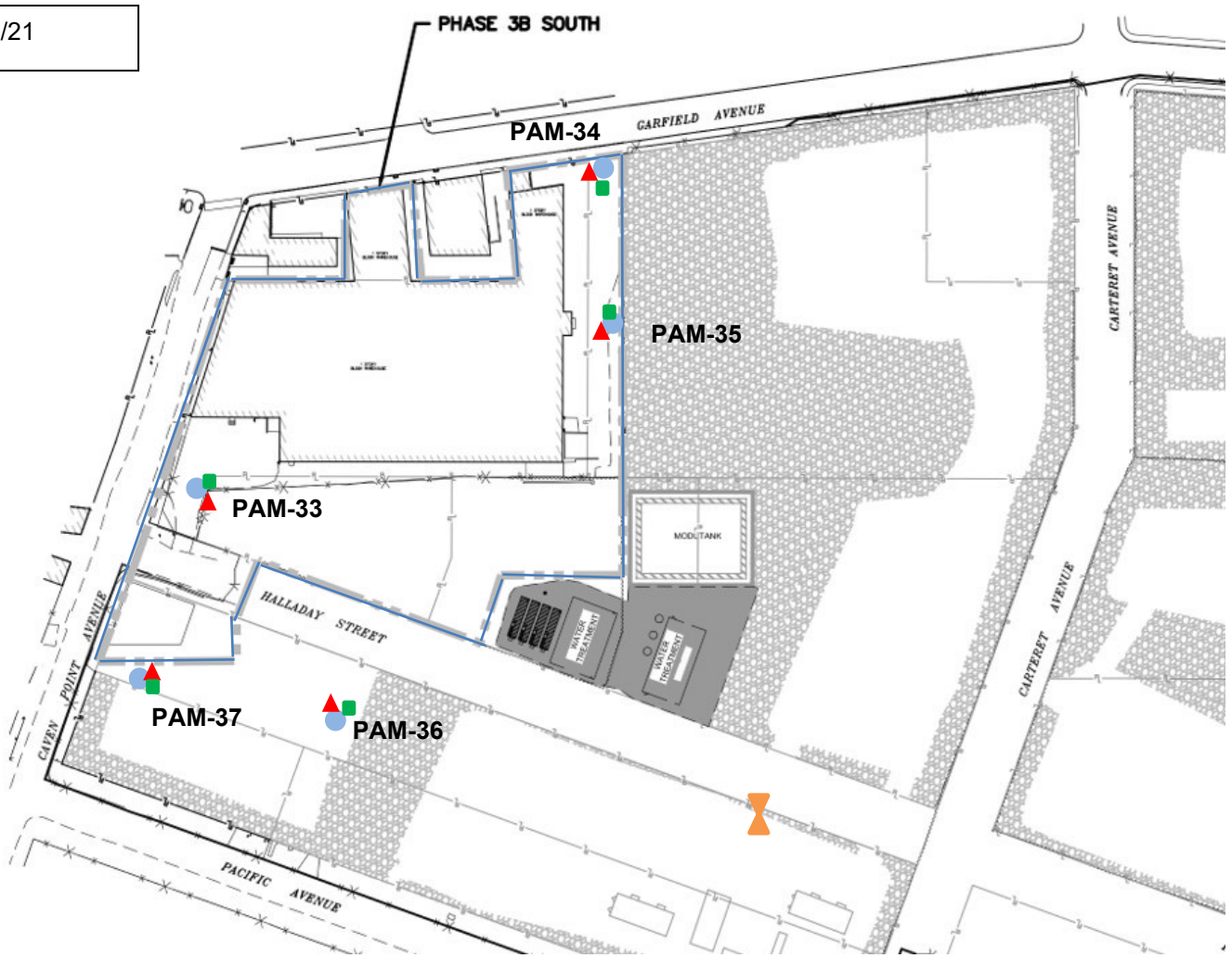
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

4/19/21 – 4/20/21



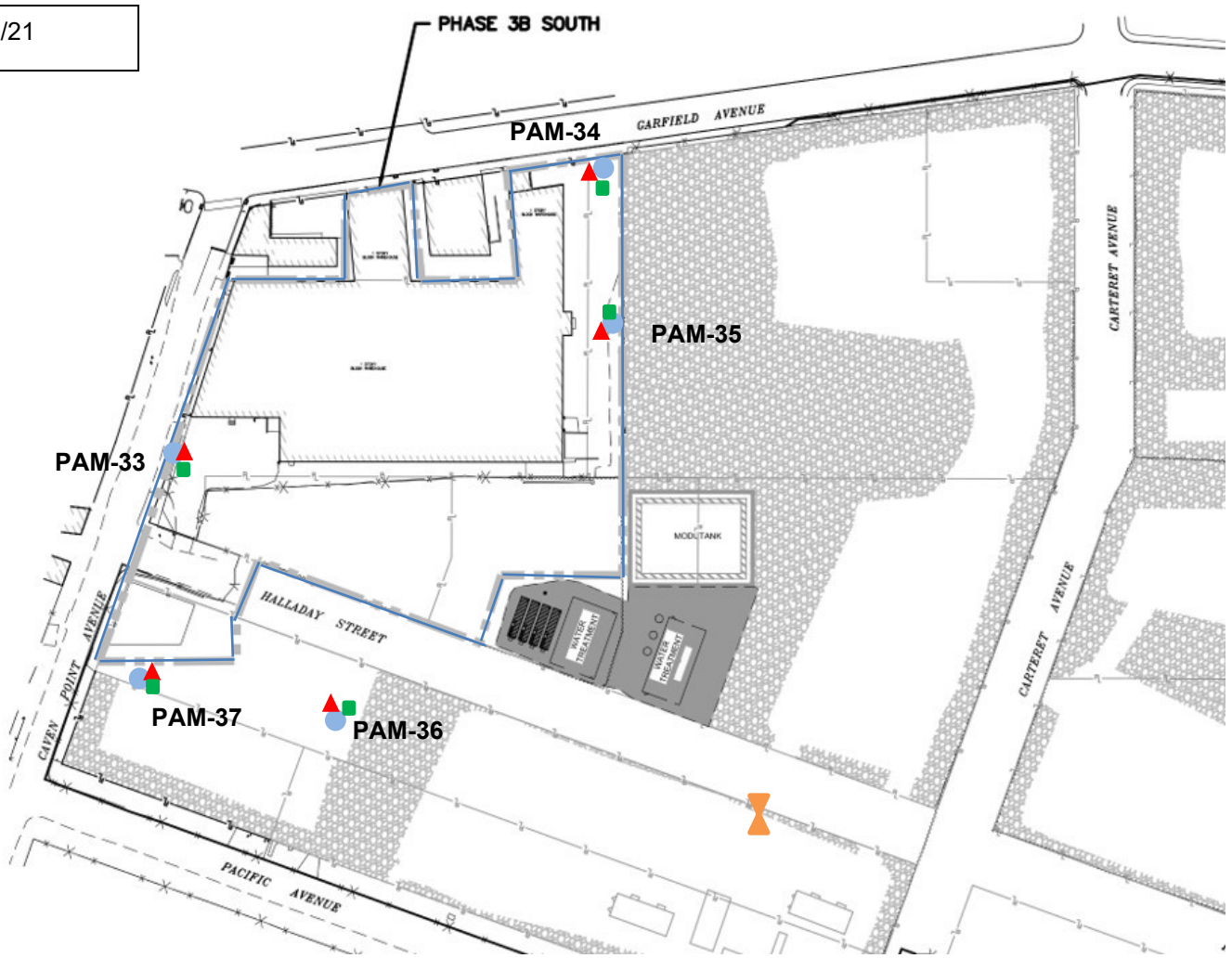
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

4/21/21 – 4/23/21



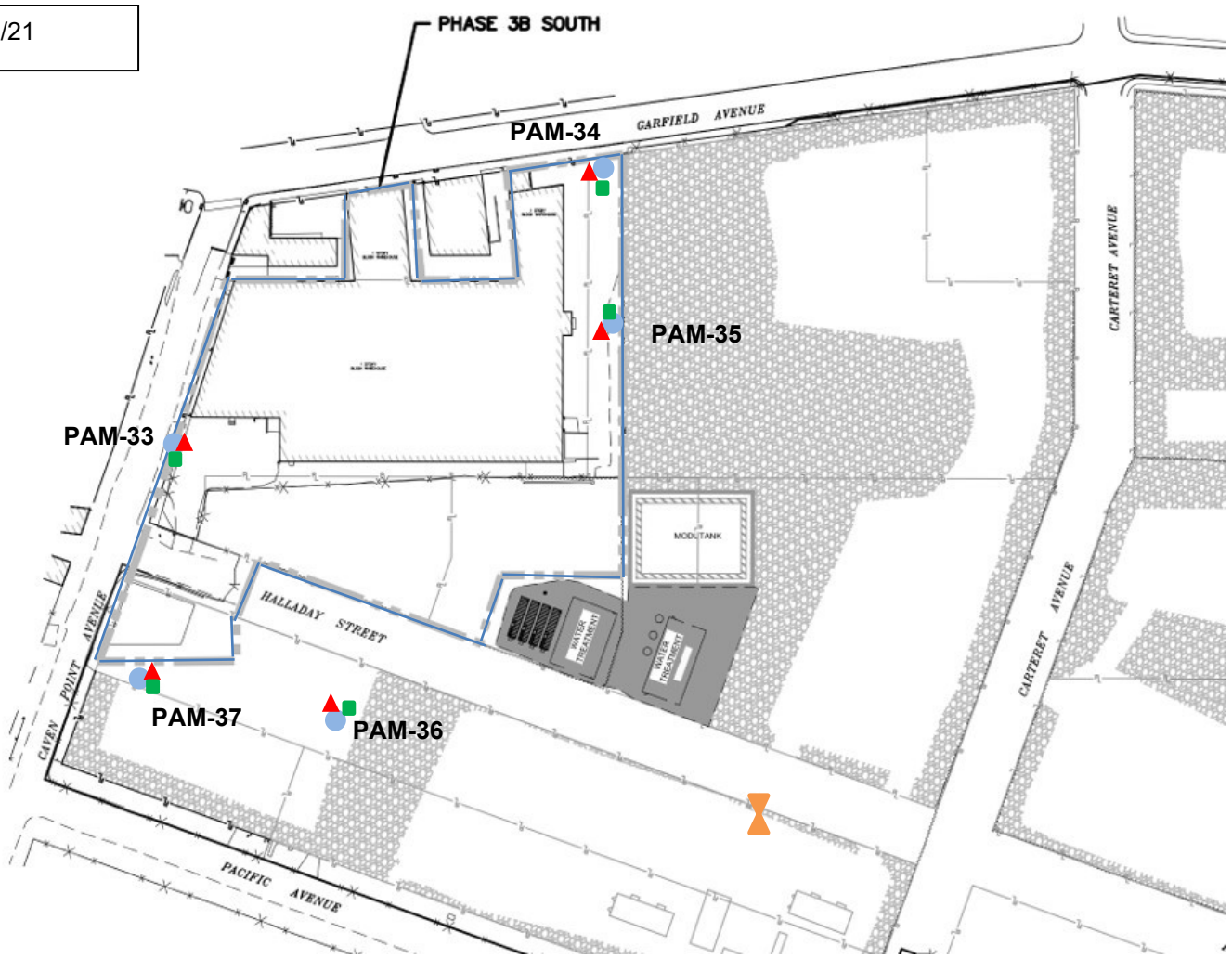
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

4/26/21 – 4/30/21



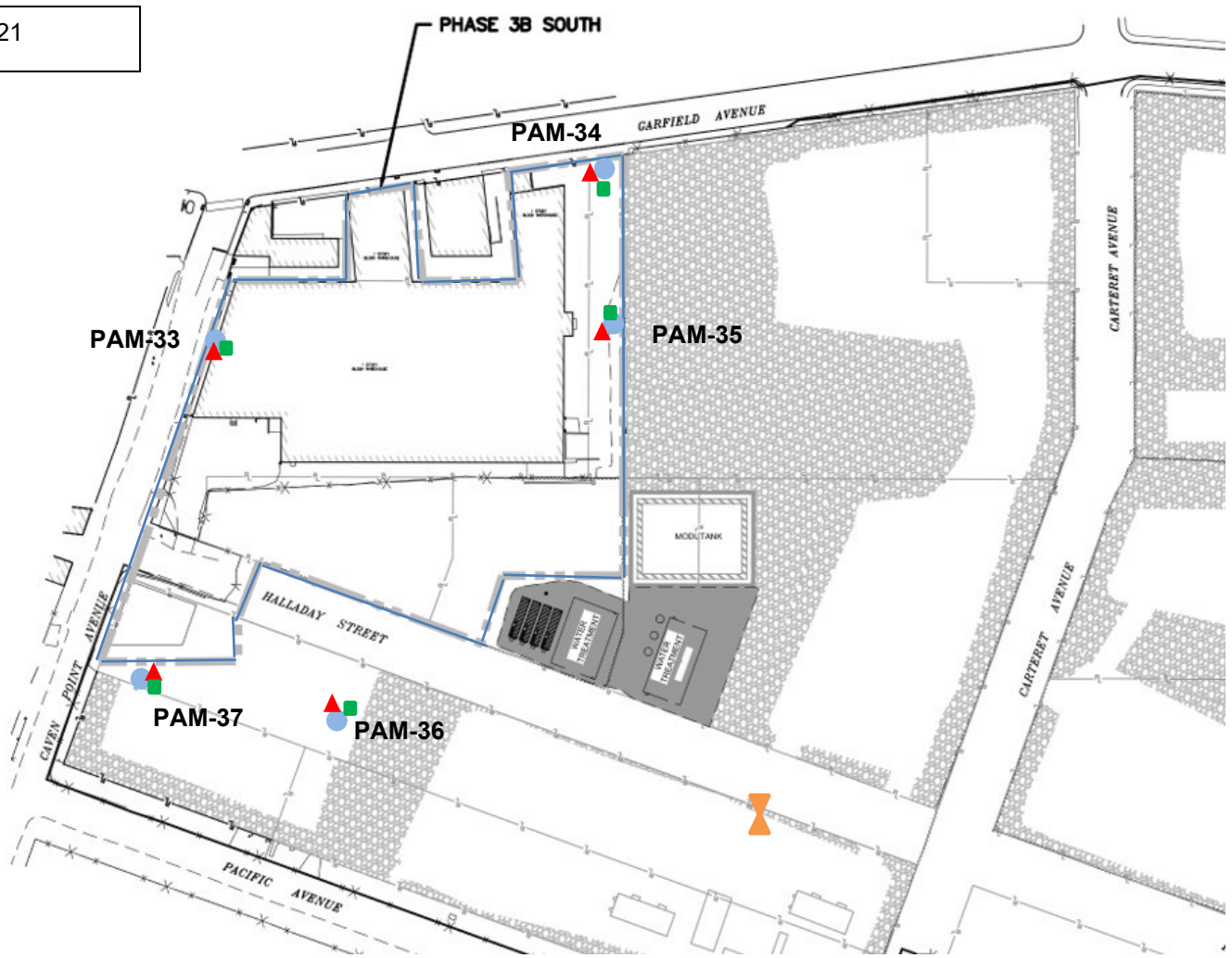
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

5/3/21 – 5/4/21



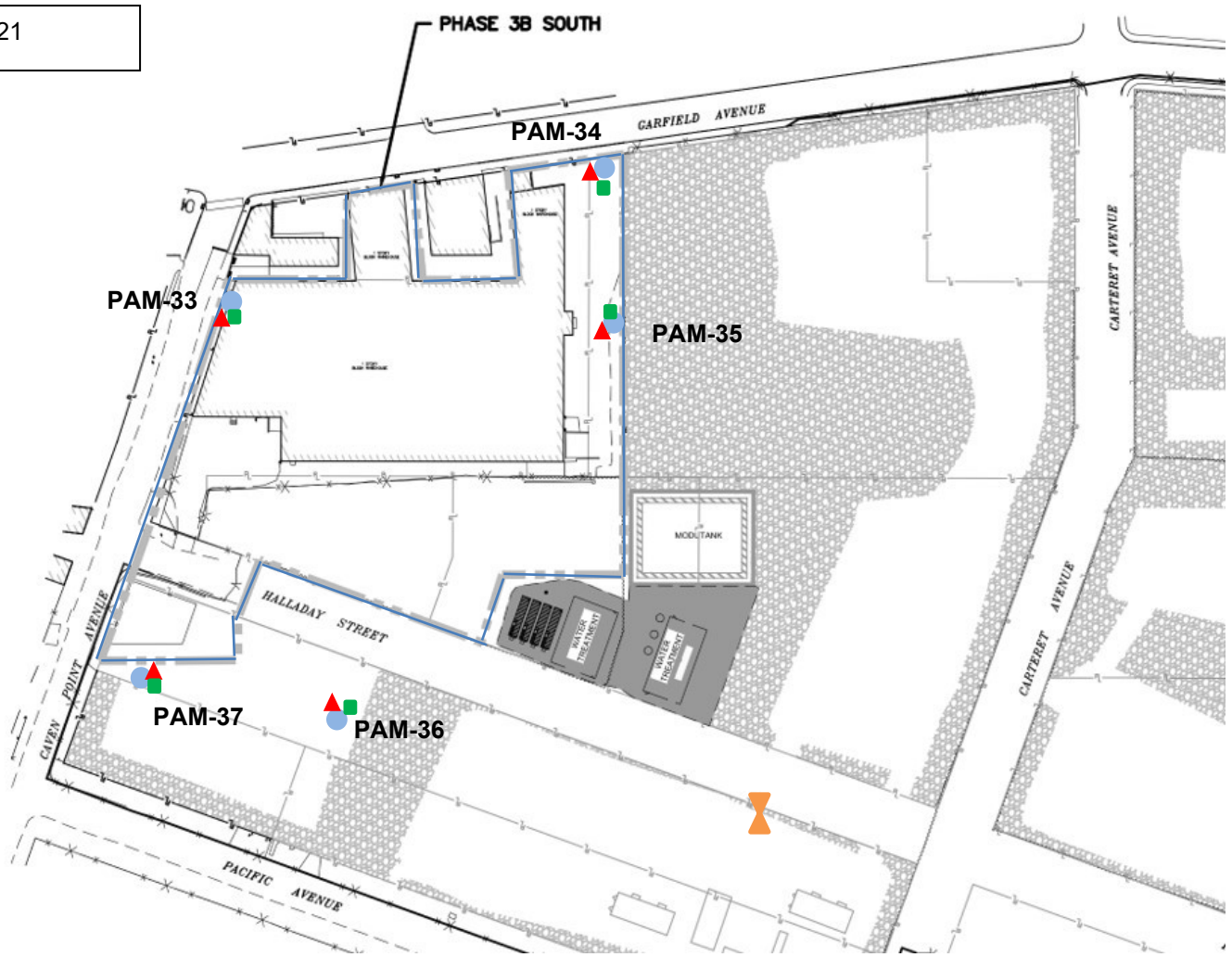
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

5/5/21 – 5/7/21



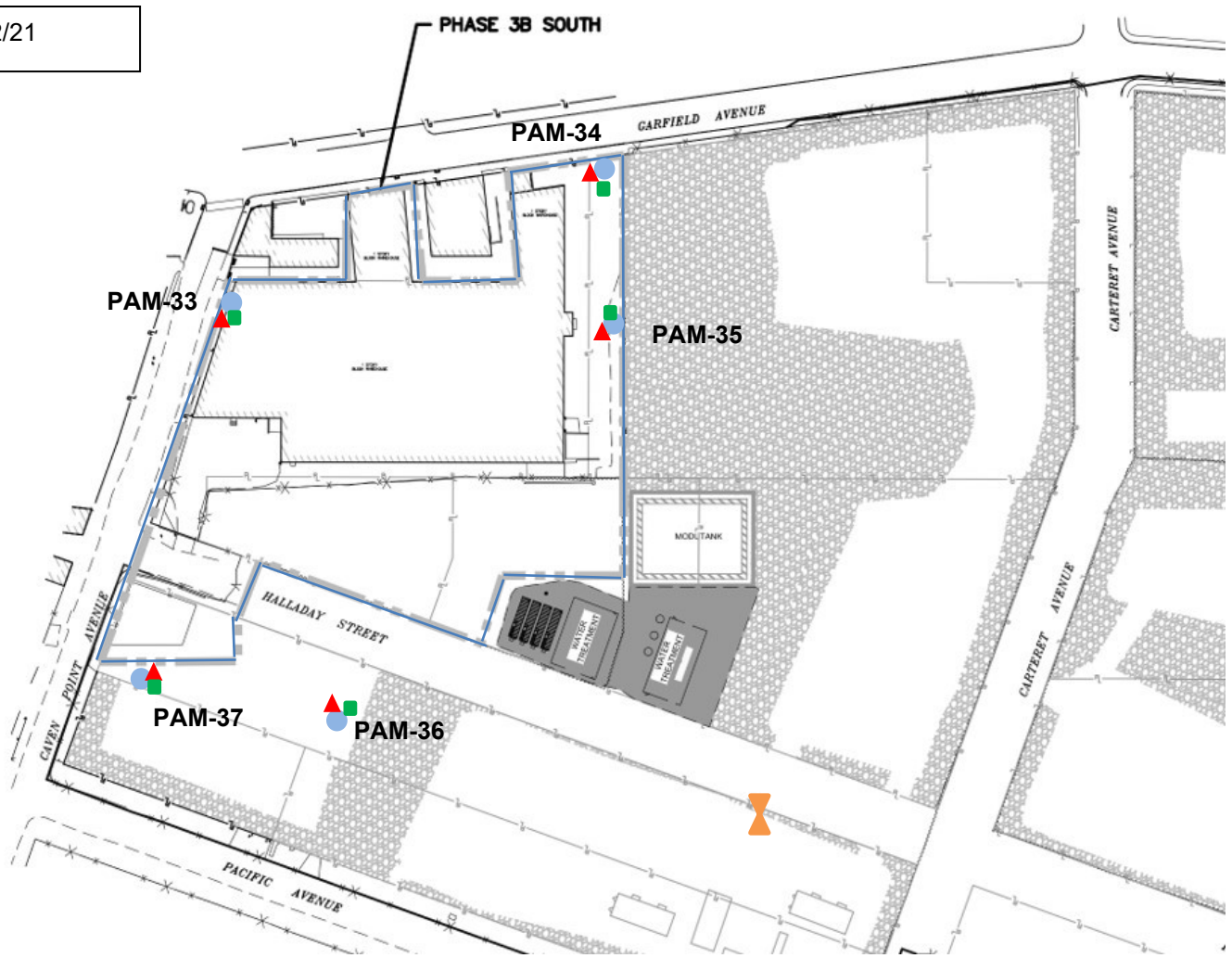
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

5/10/21 – 5/12/21



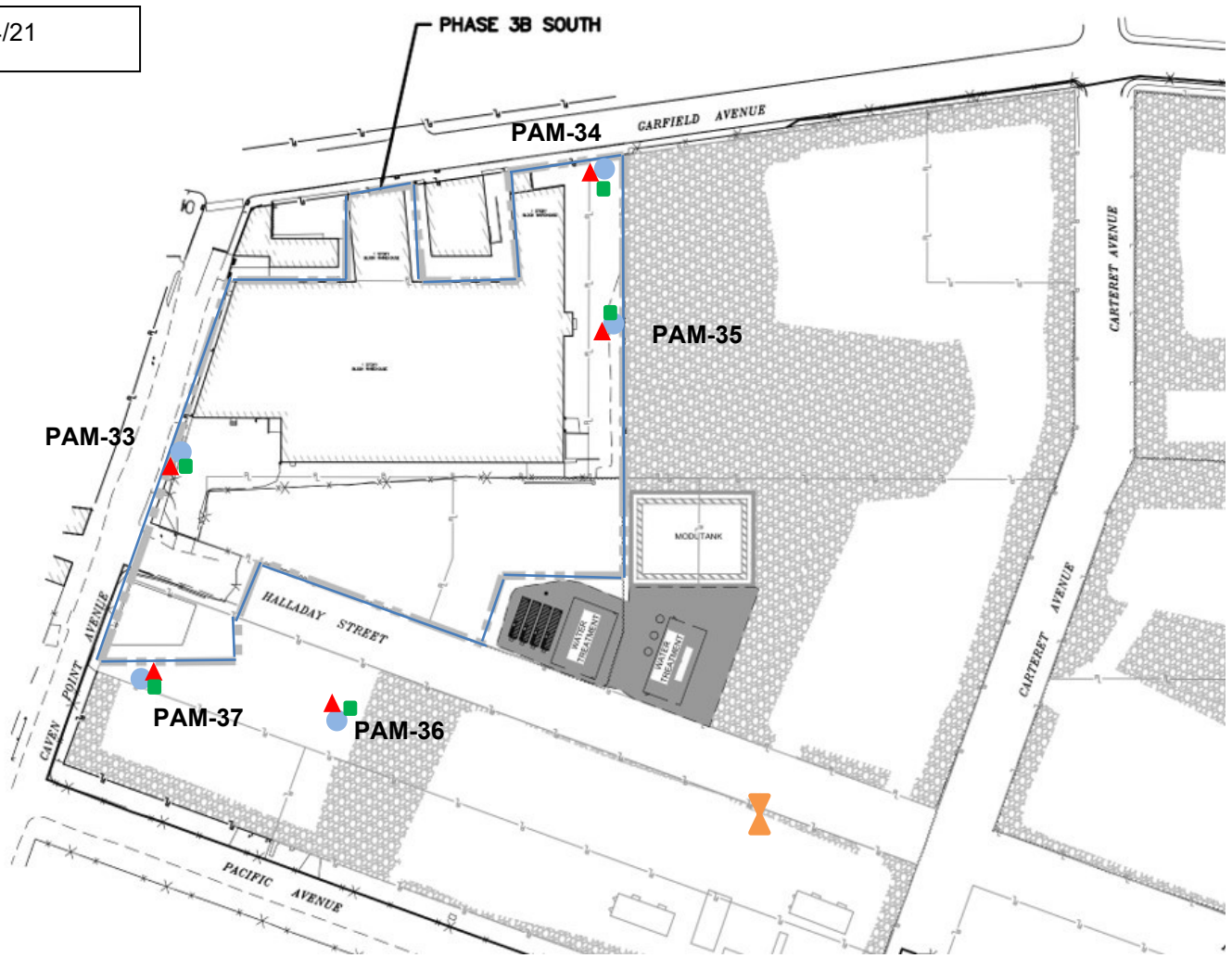
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

5/13/21 – 5/14/21



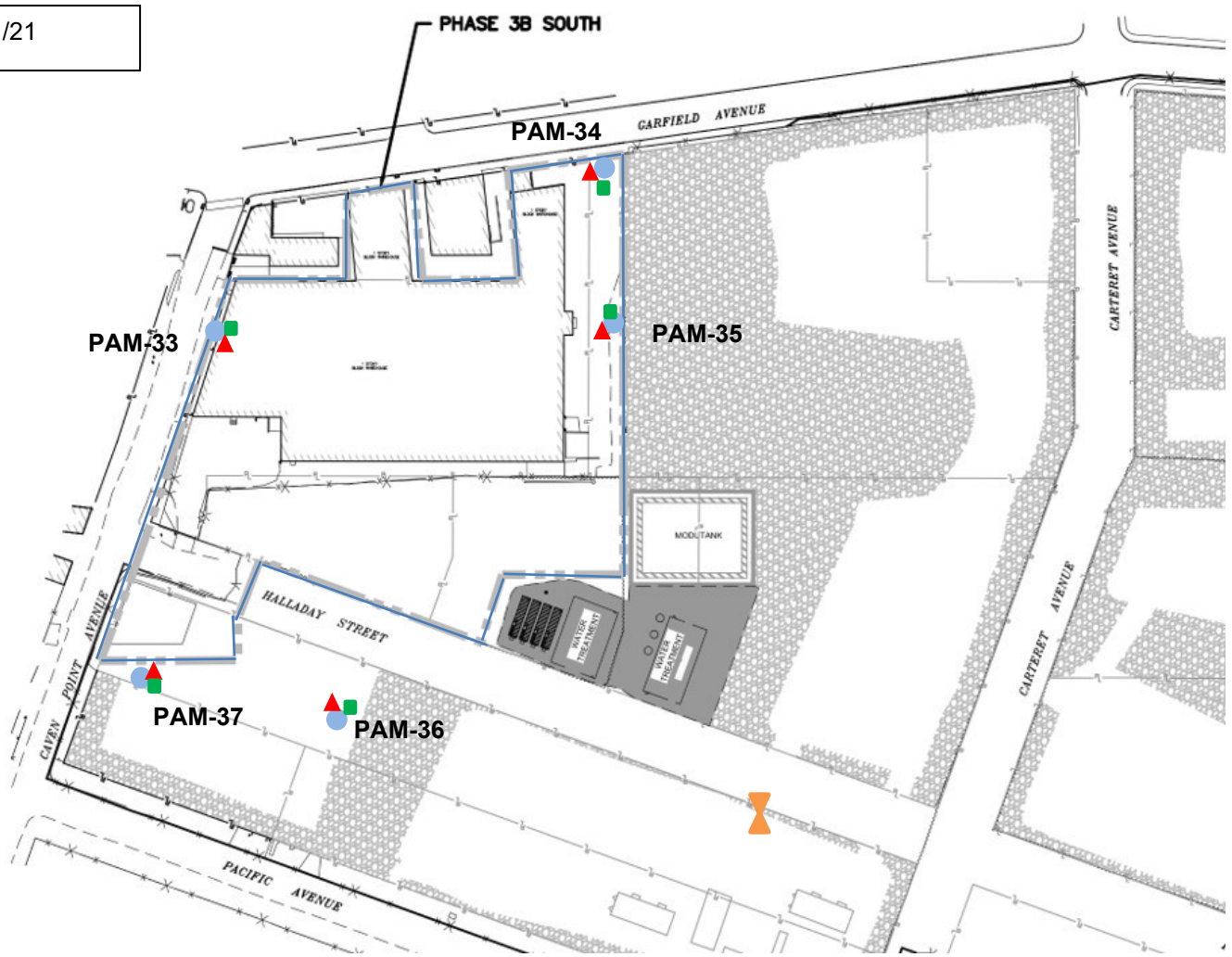
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

5/17/21 – 5/21/21



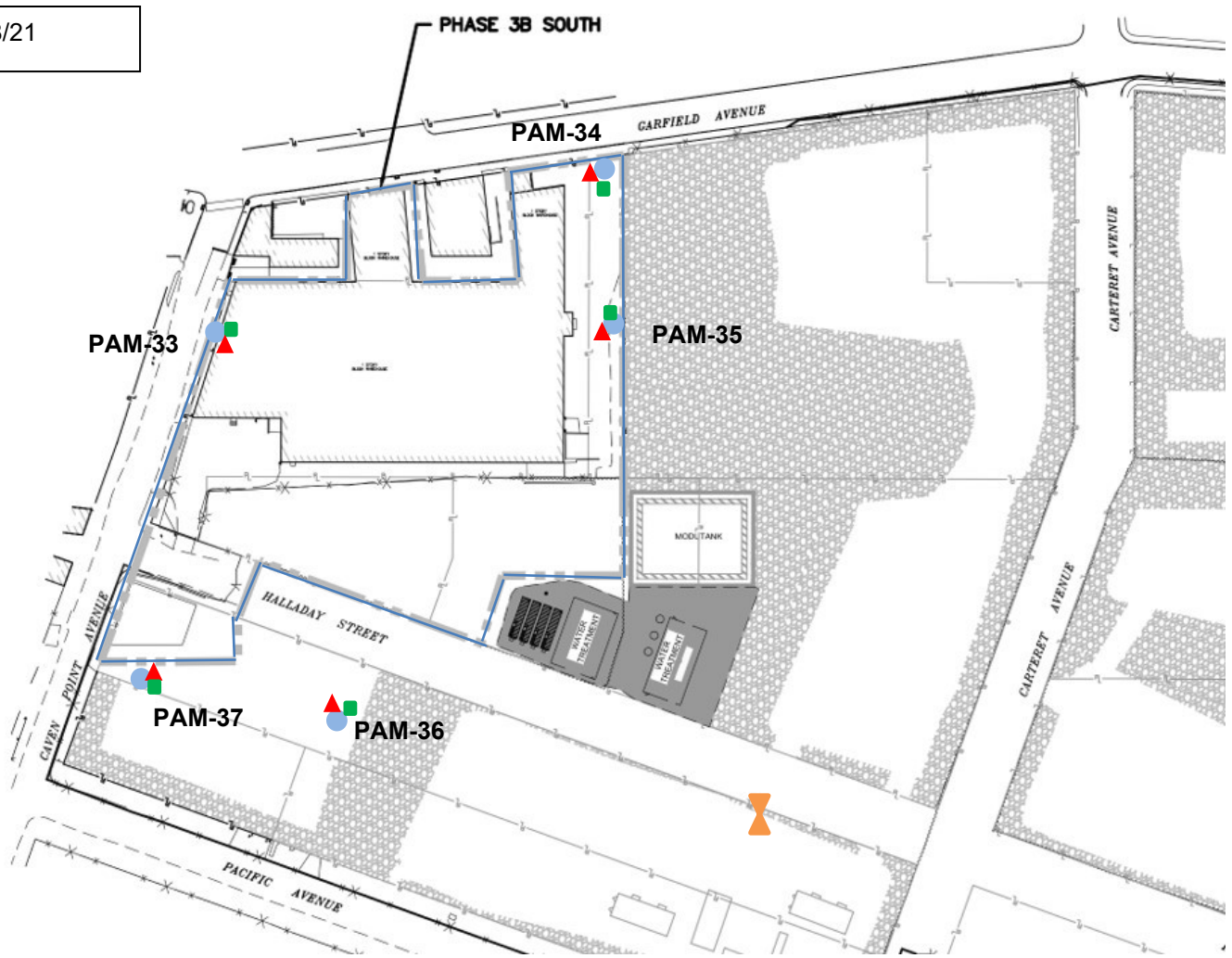
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

5/24/21 – 5/28/21



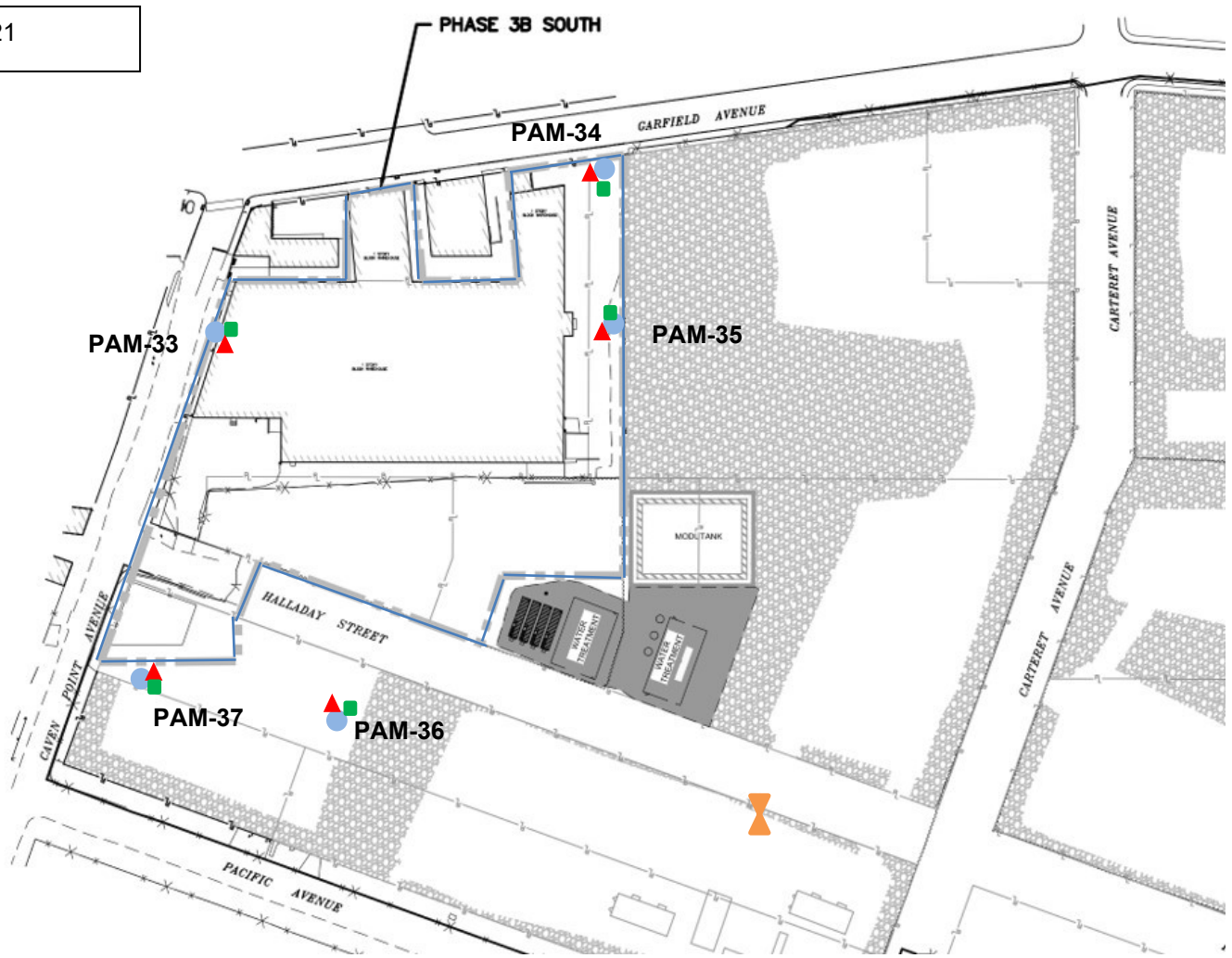
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

6/1/21 – 6/3/21



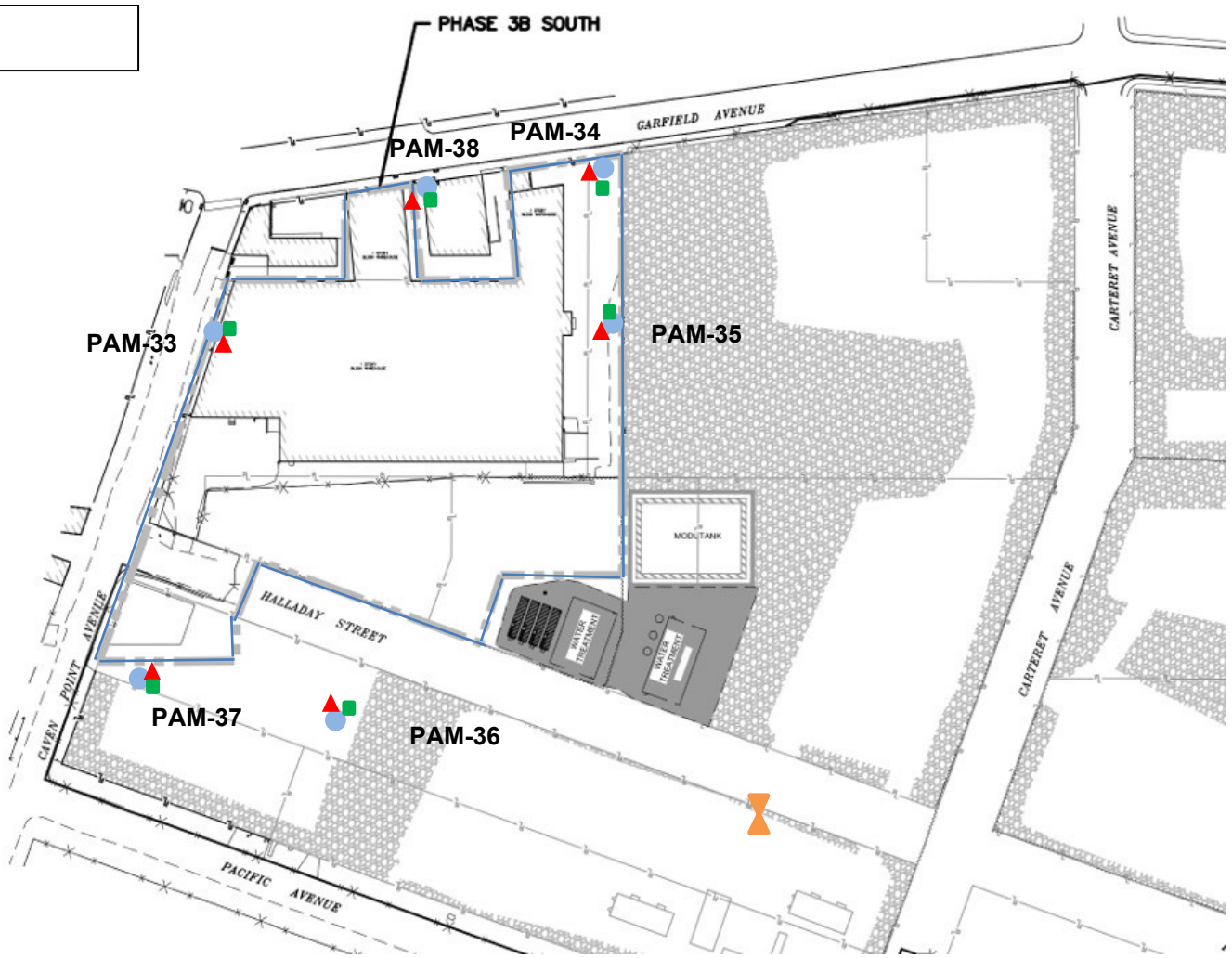
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

6/4/21



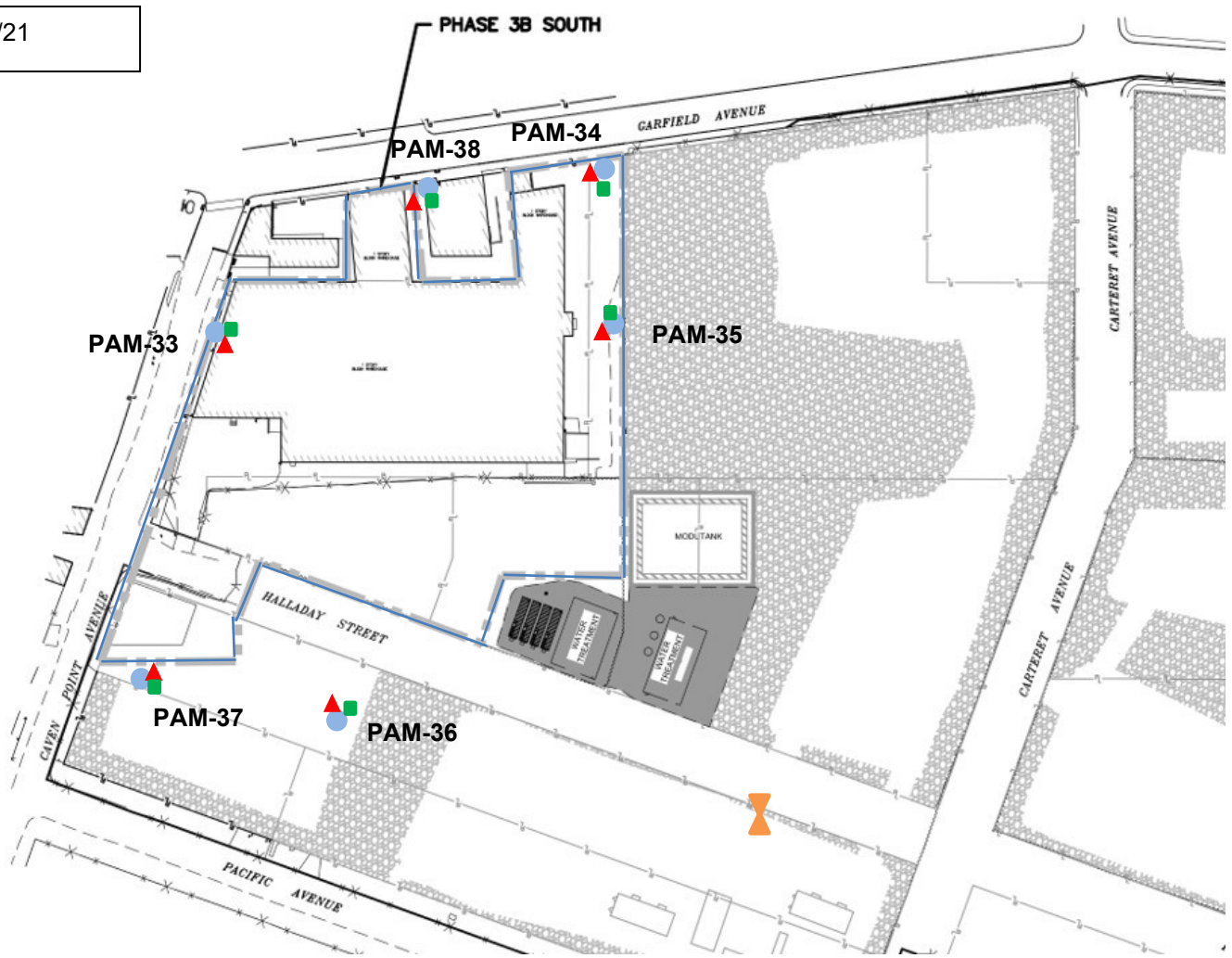
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

6/7/21 – 6/11/21



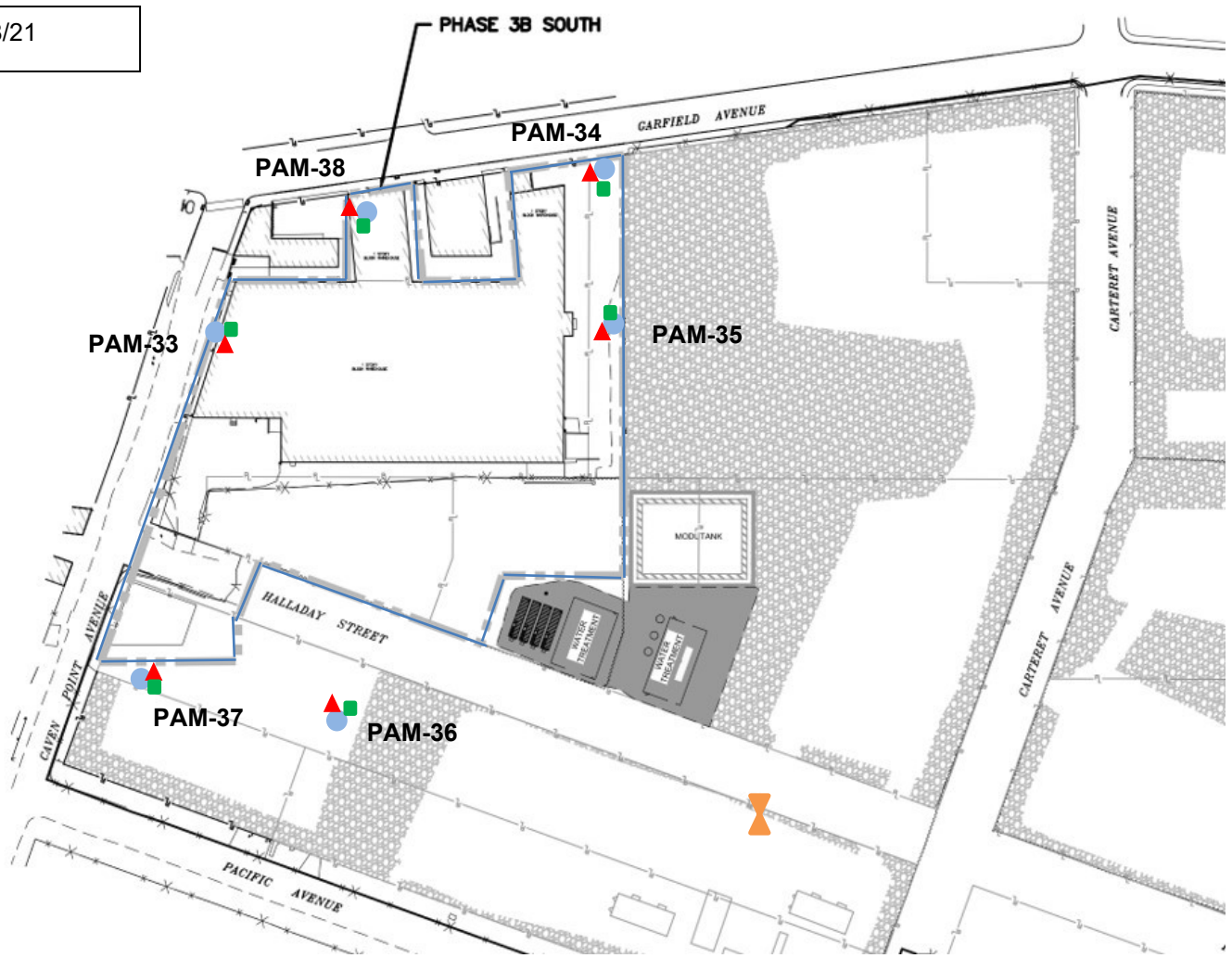
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

6/14/21 – 6/18/21



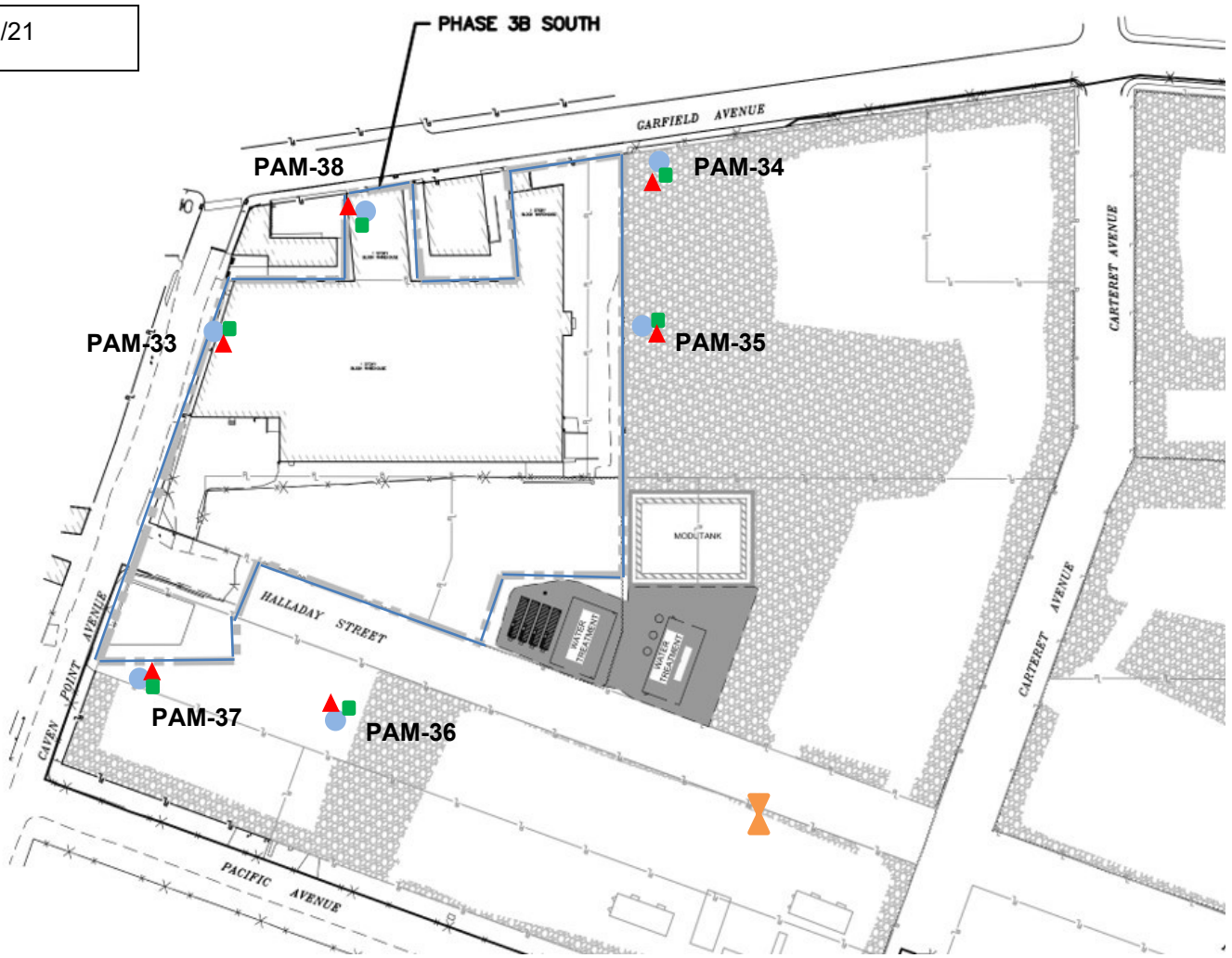
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

6/21/21 – 6/25/21



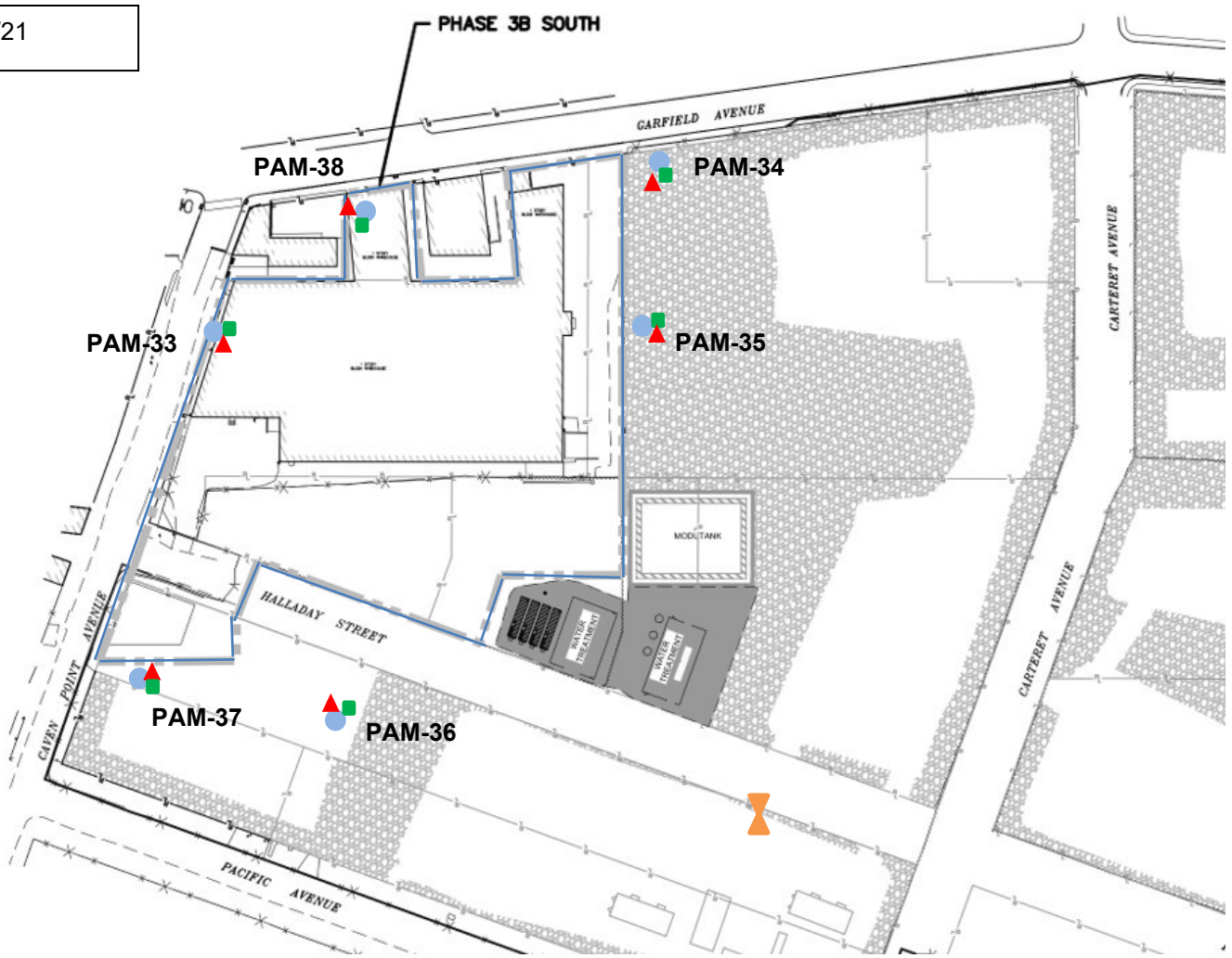
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

6/28/21 – 7/1/21



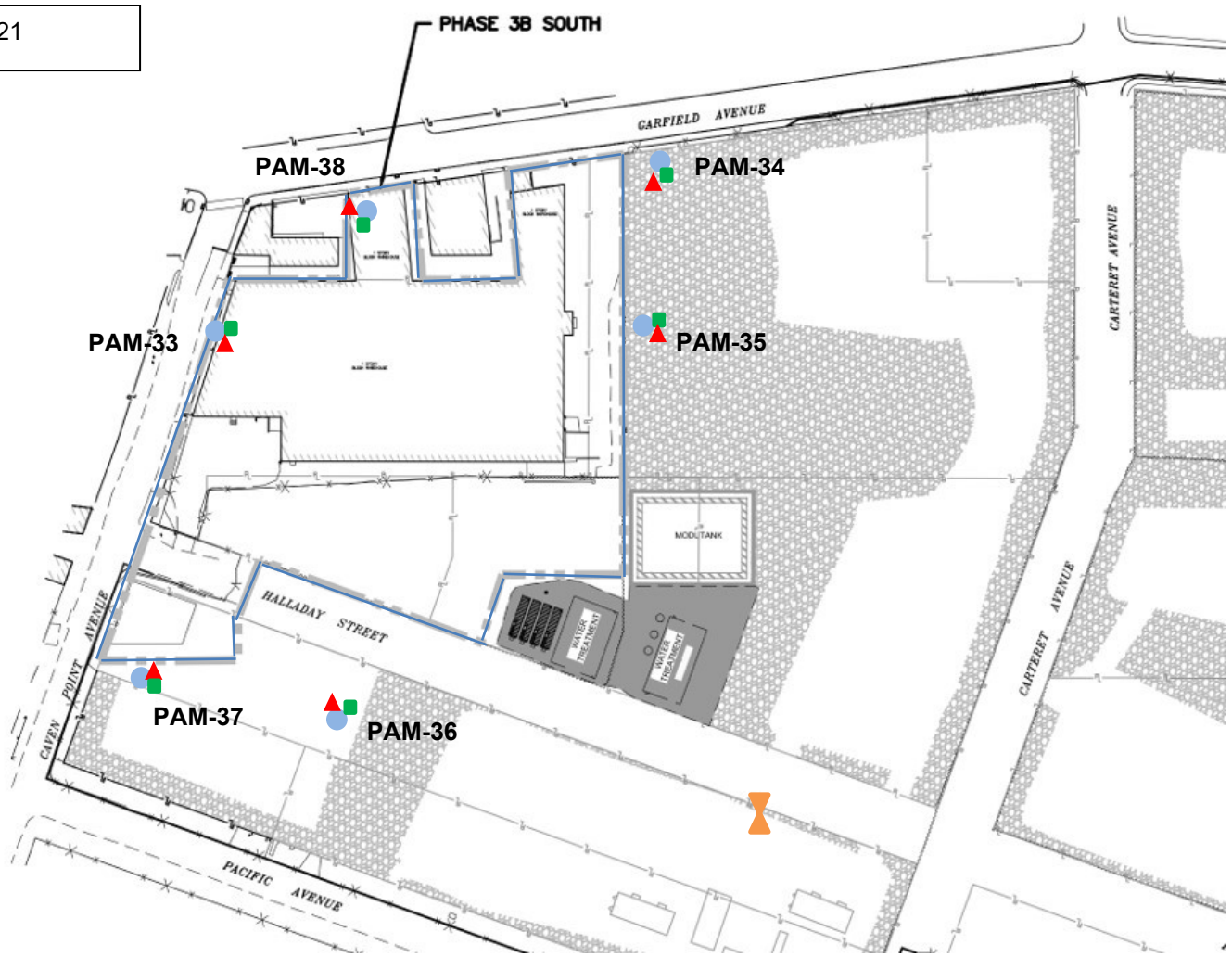
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

7/6/21 – 7/9/21



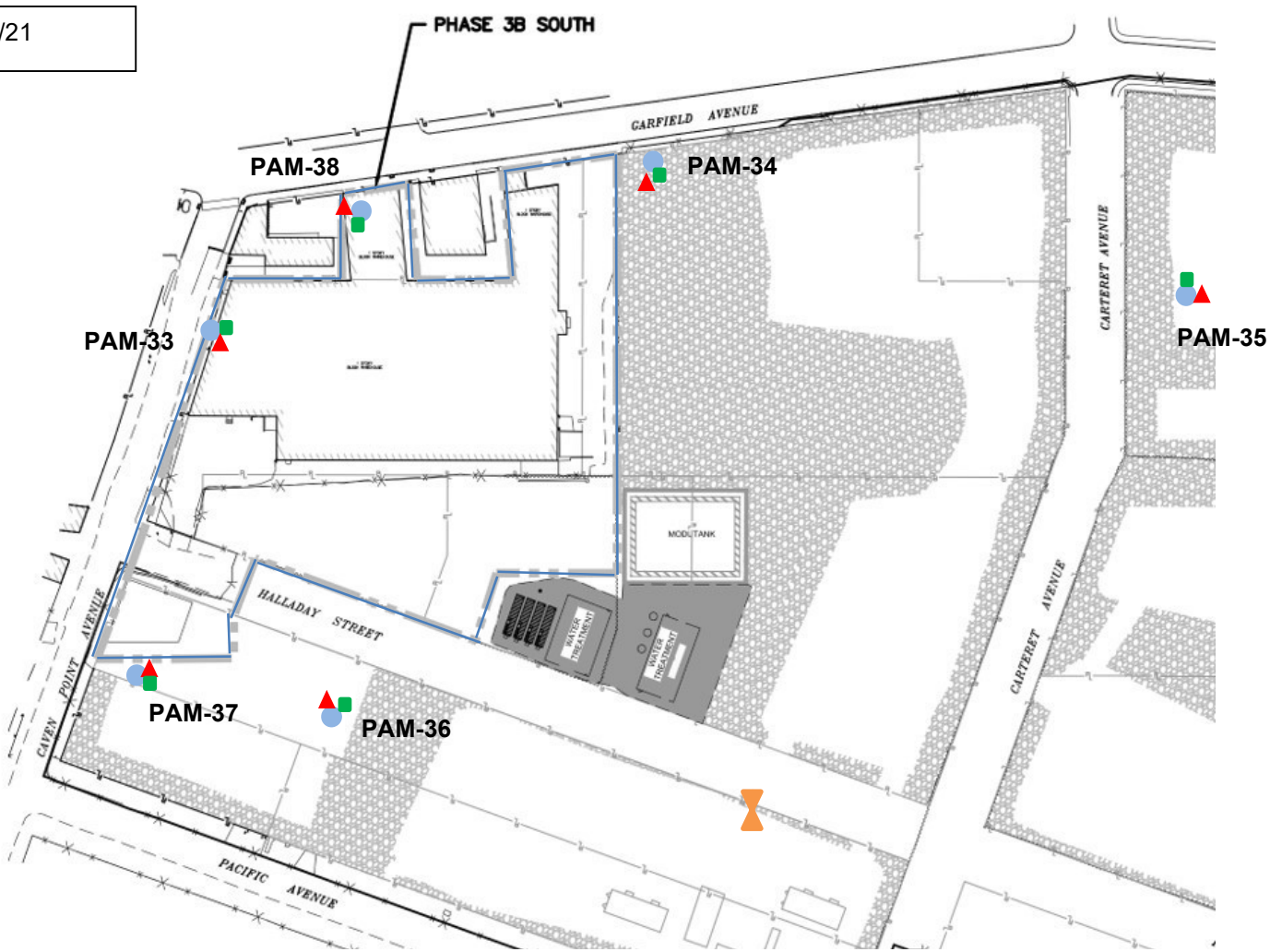
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

7/12/21 – 7/16/21



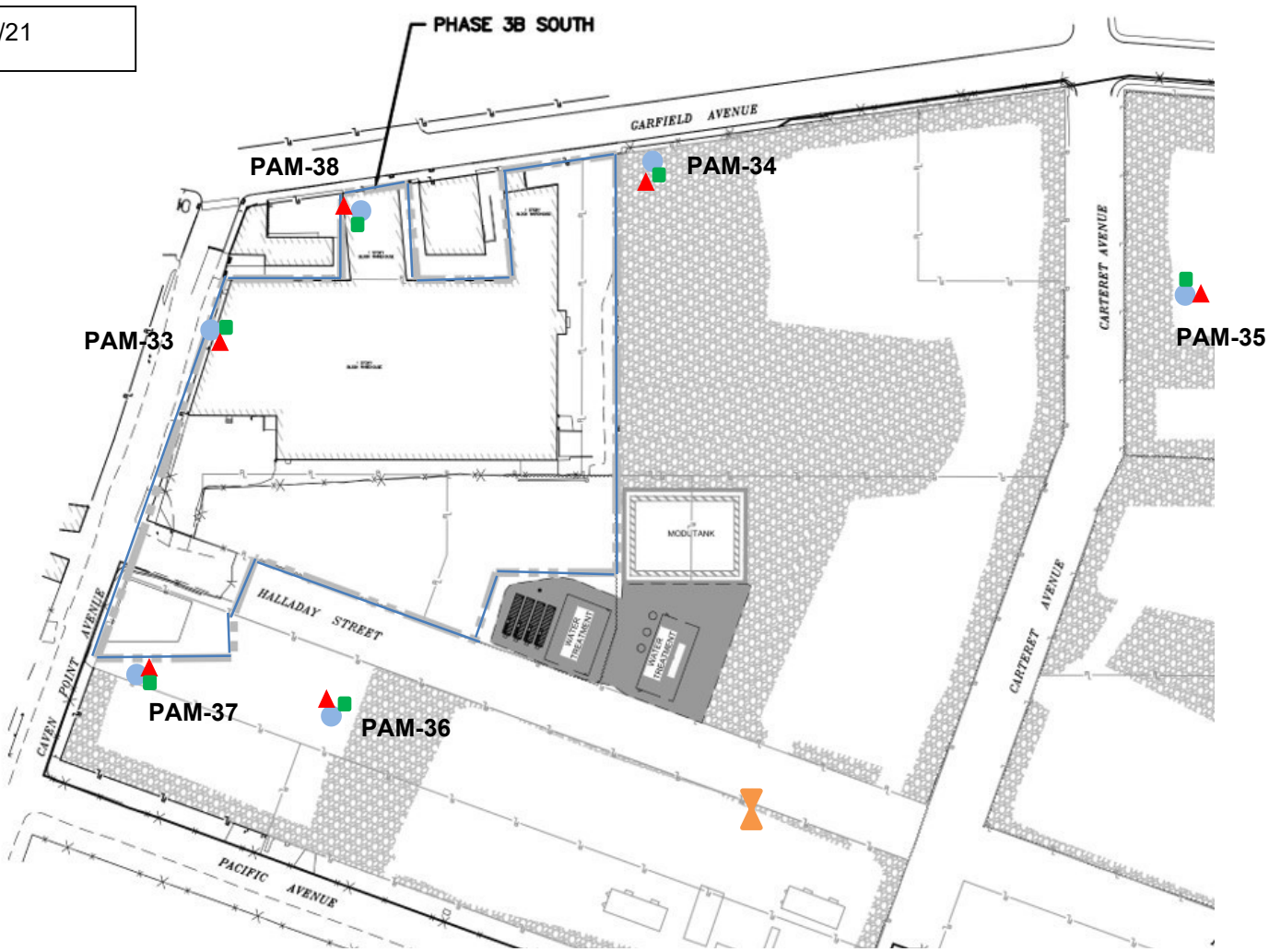
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

7/19/21 – 7/23/21



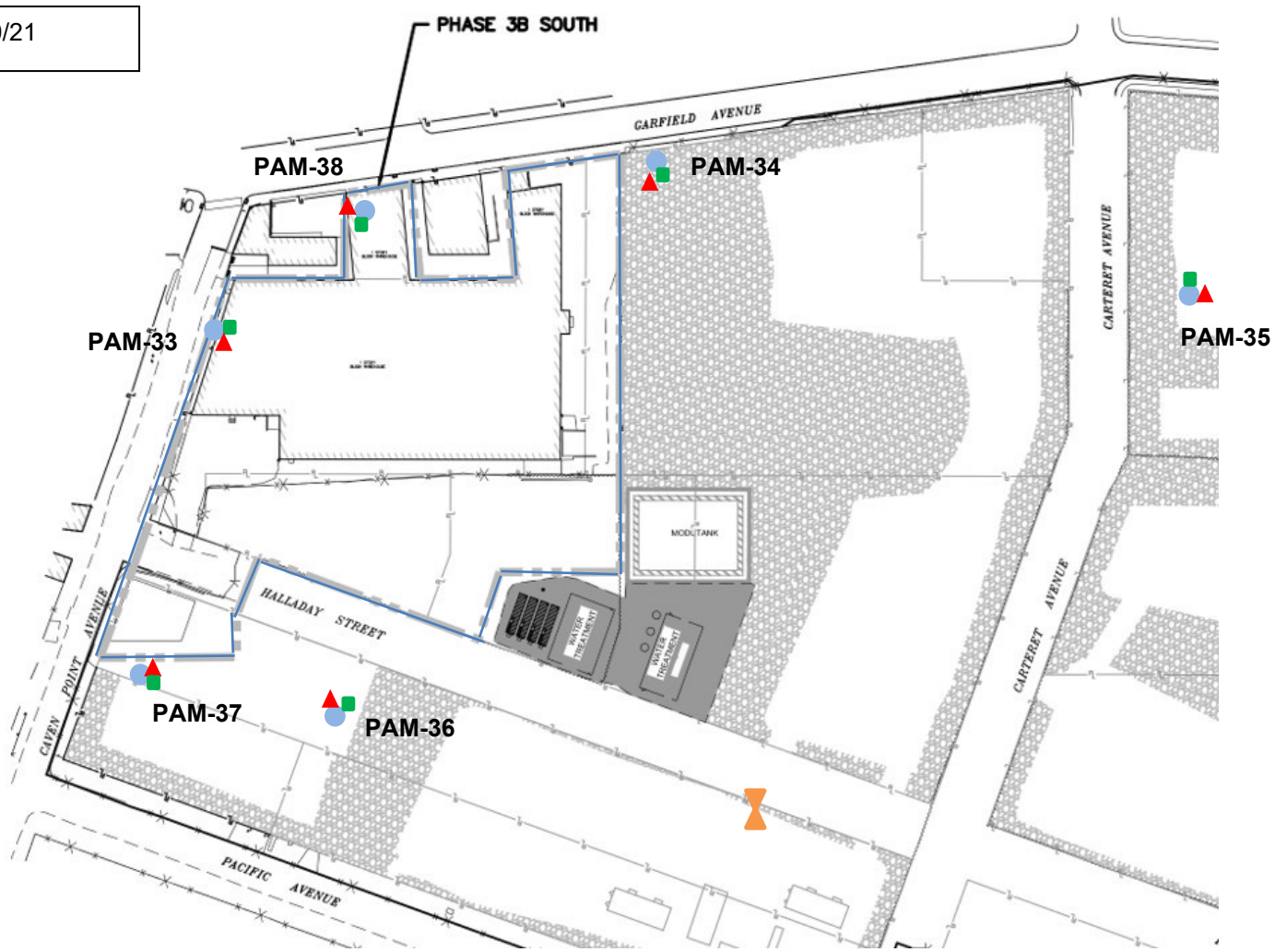
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

7/26/21 – 7/30/21



Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

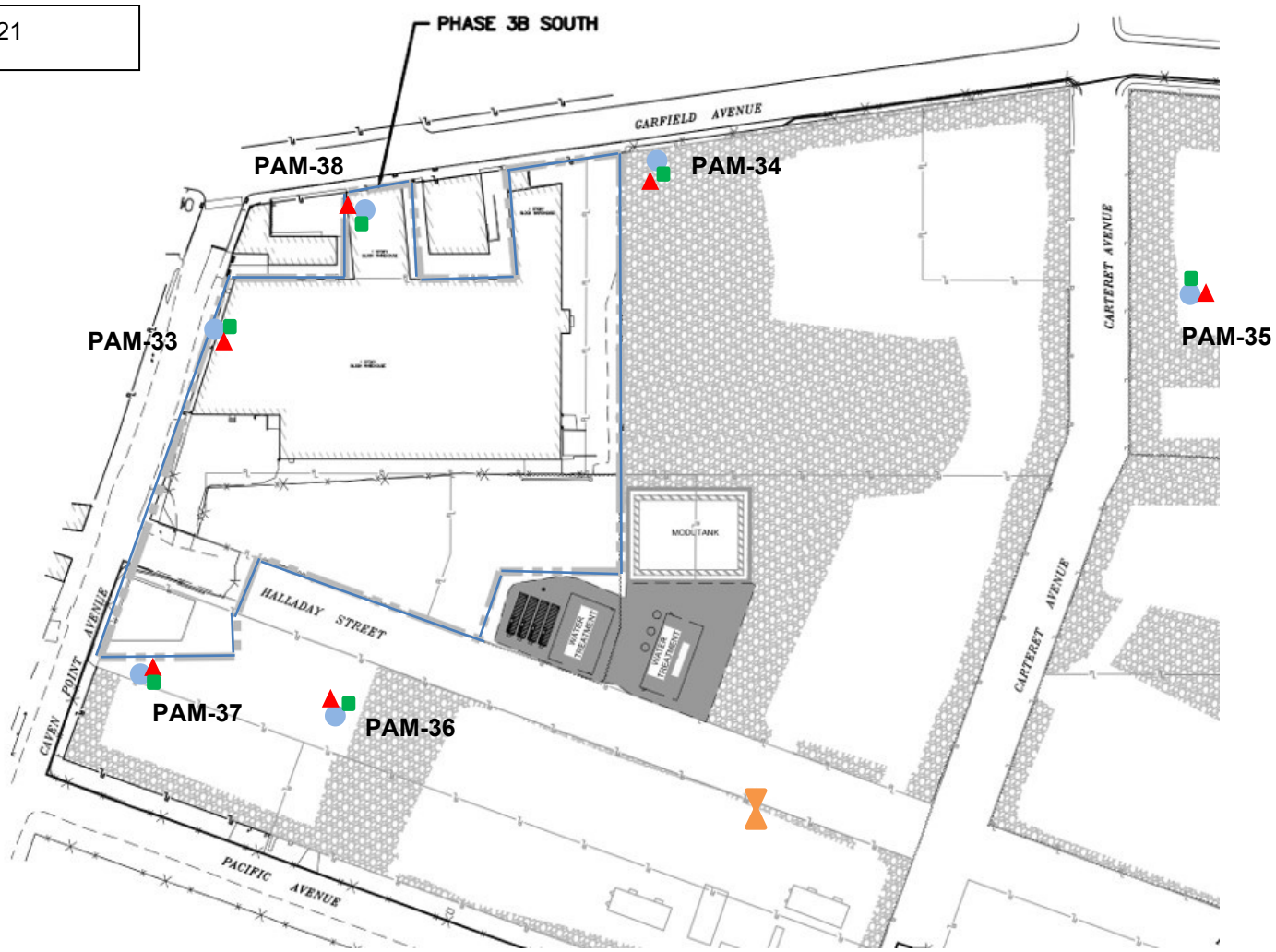
Cr^{+6} – hexavalent chromium

PAM – portable air monitoring station

PM_{10} – respirable particulate matter

TVOC – total volatile organic compounds

8/2/21 – 8/4/21



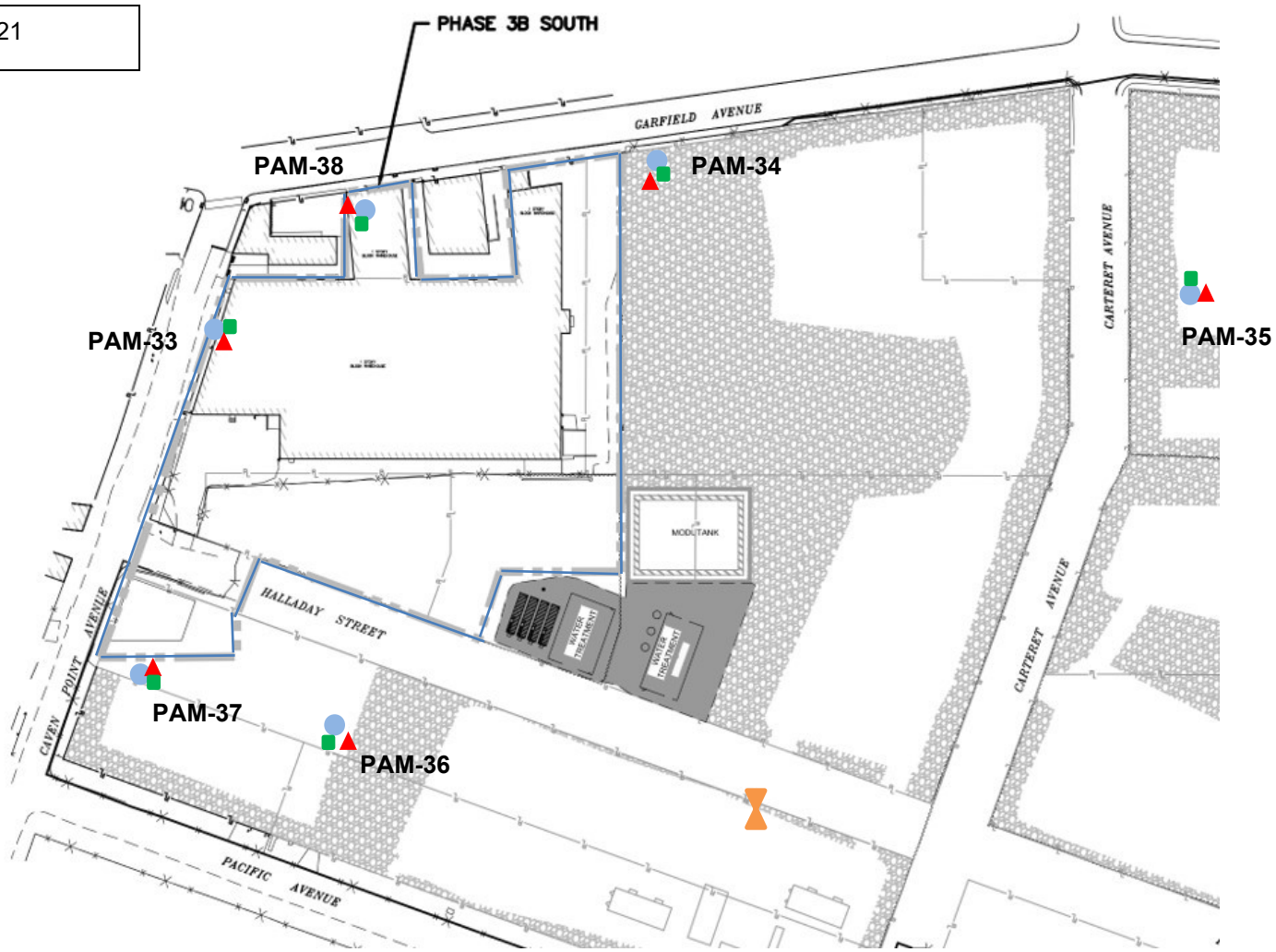
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

8/5/21 – 8/6/21



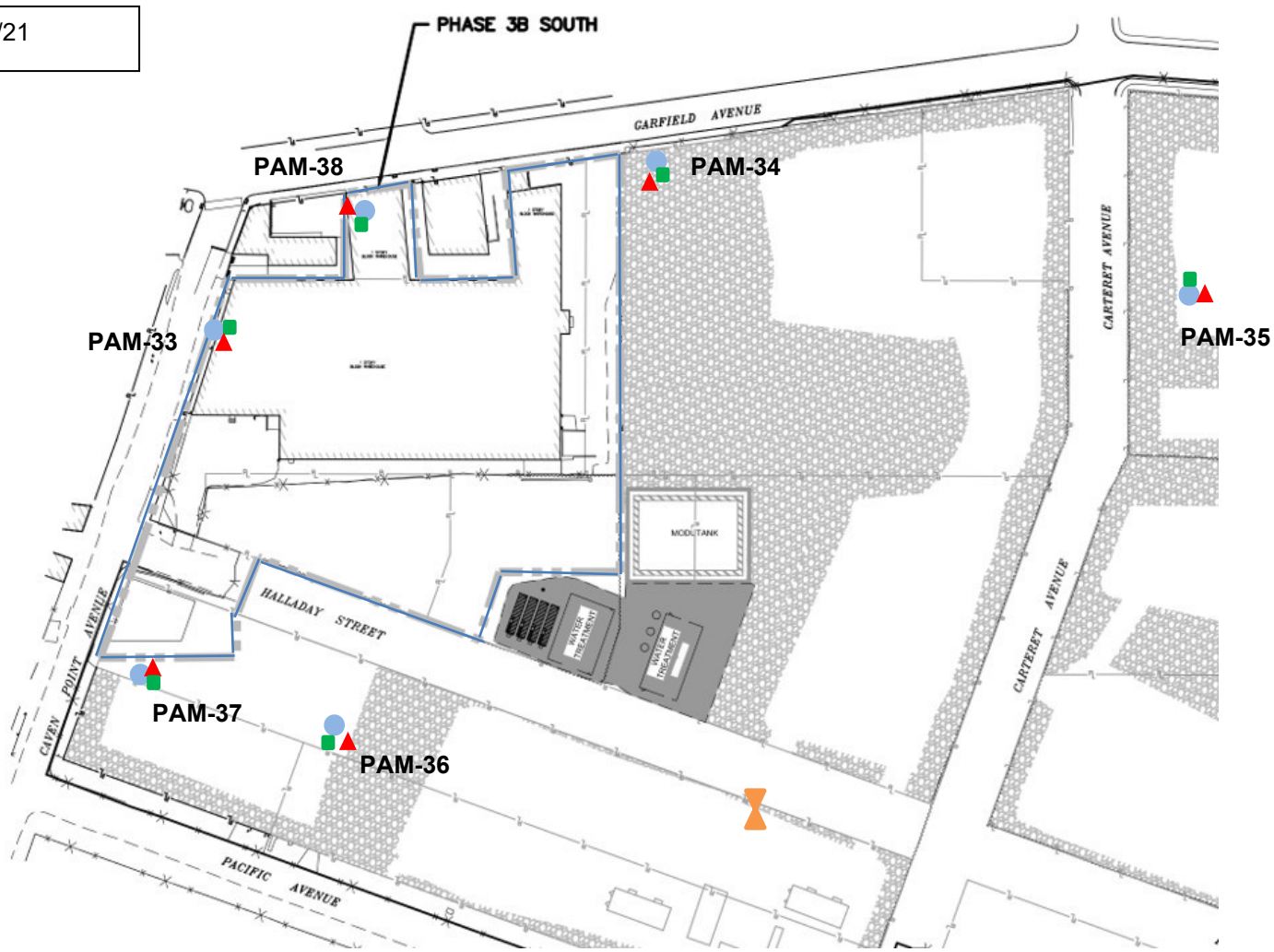
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

8/9/21 – 8/10/21



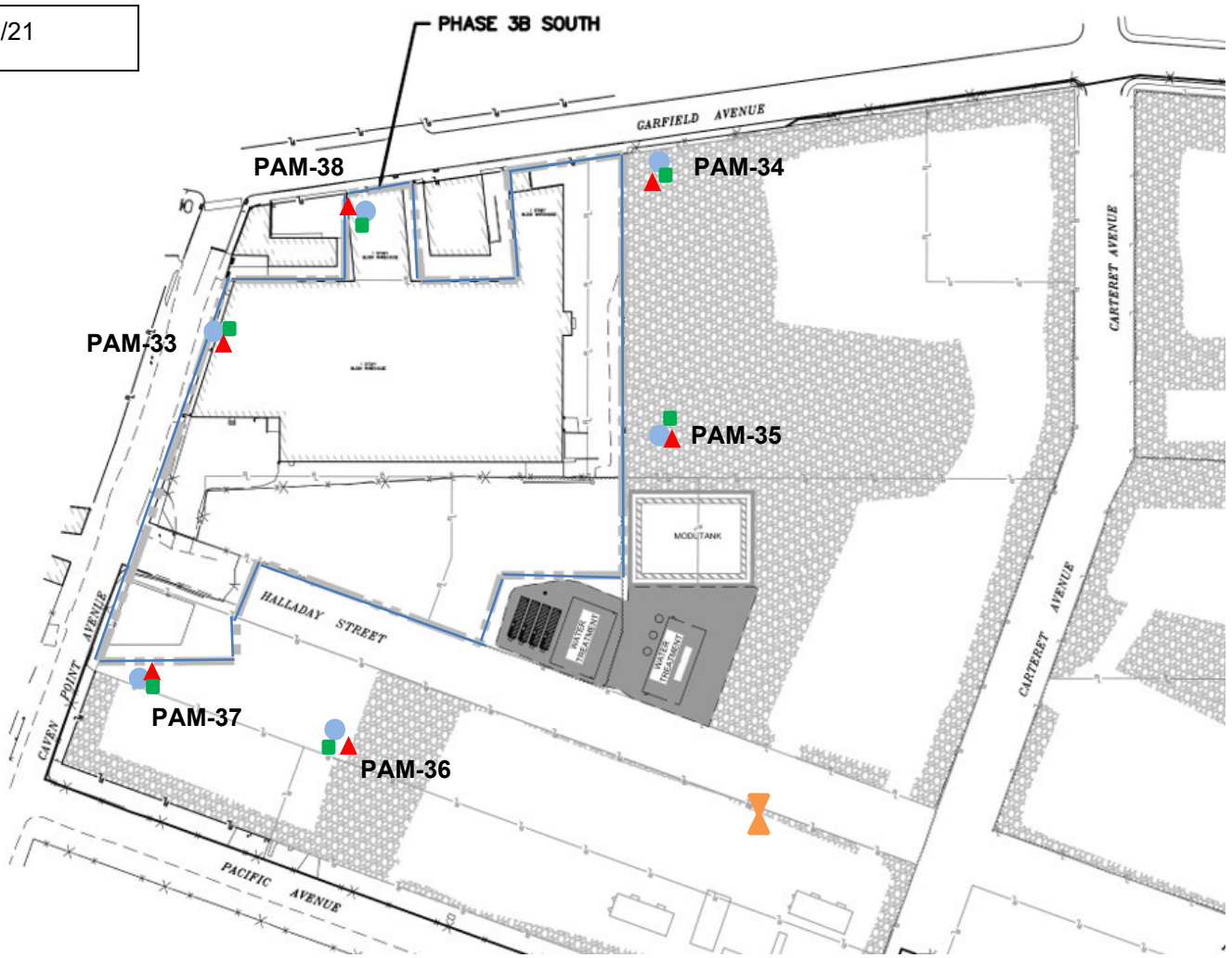
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

8/11/21 – 8/13/21



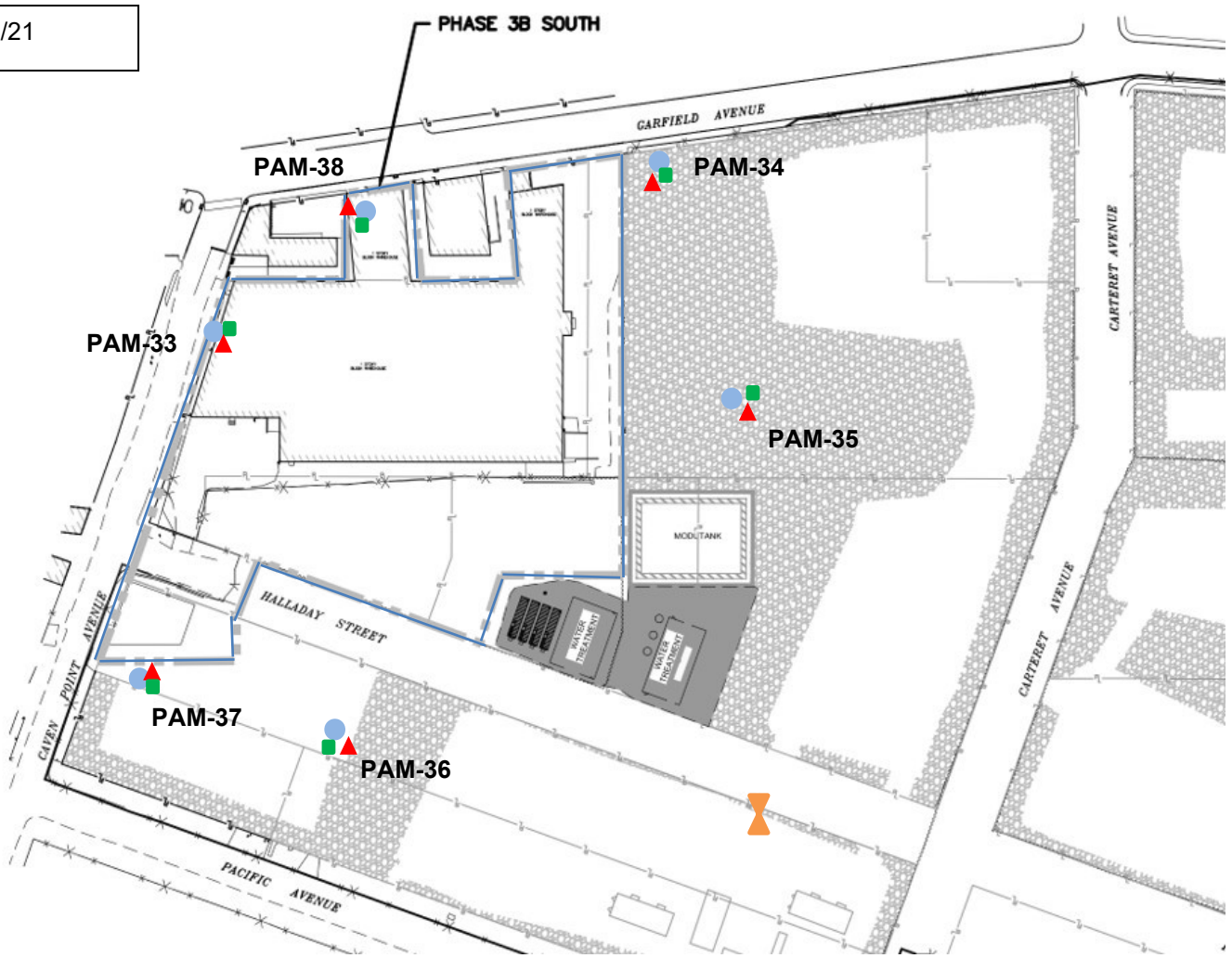
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

8/16/21 – 8/20/21



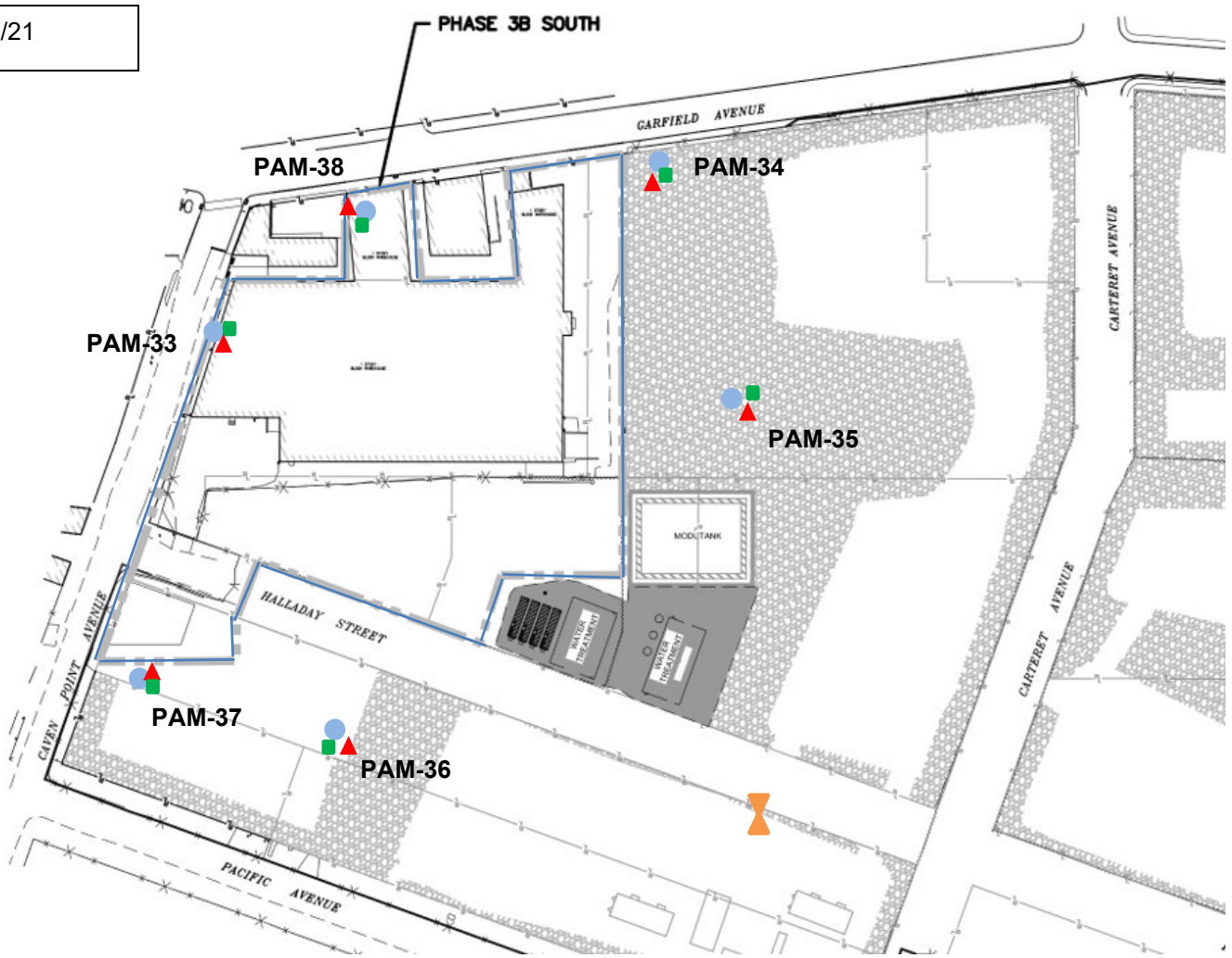
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

8/23/21 – 8/27/21



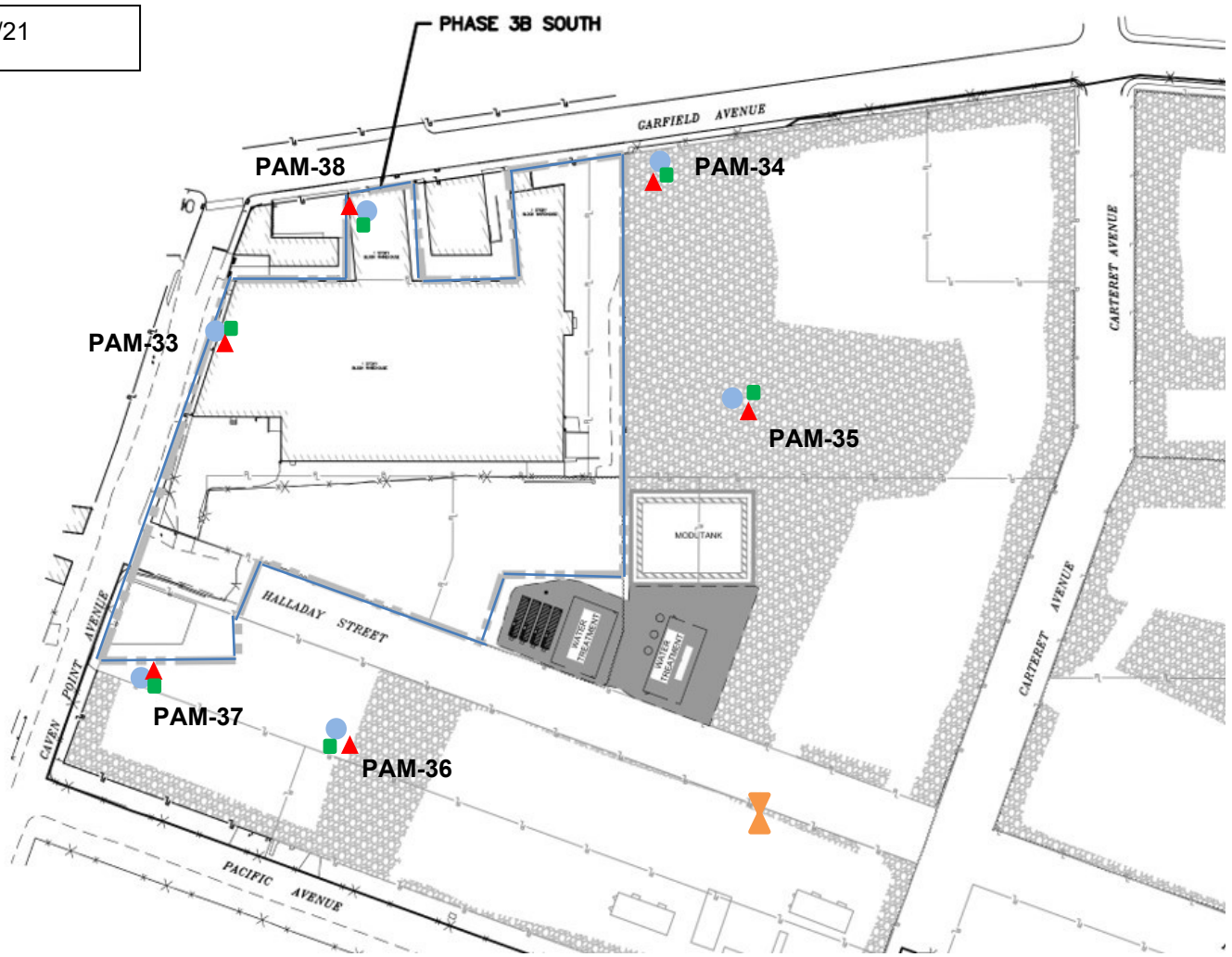
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

8/30/21 – 9/1/21



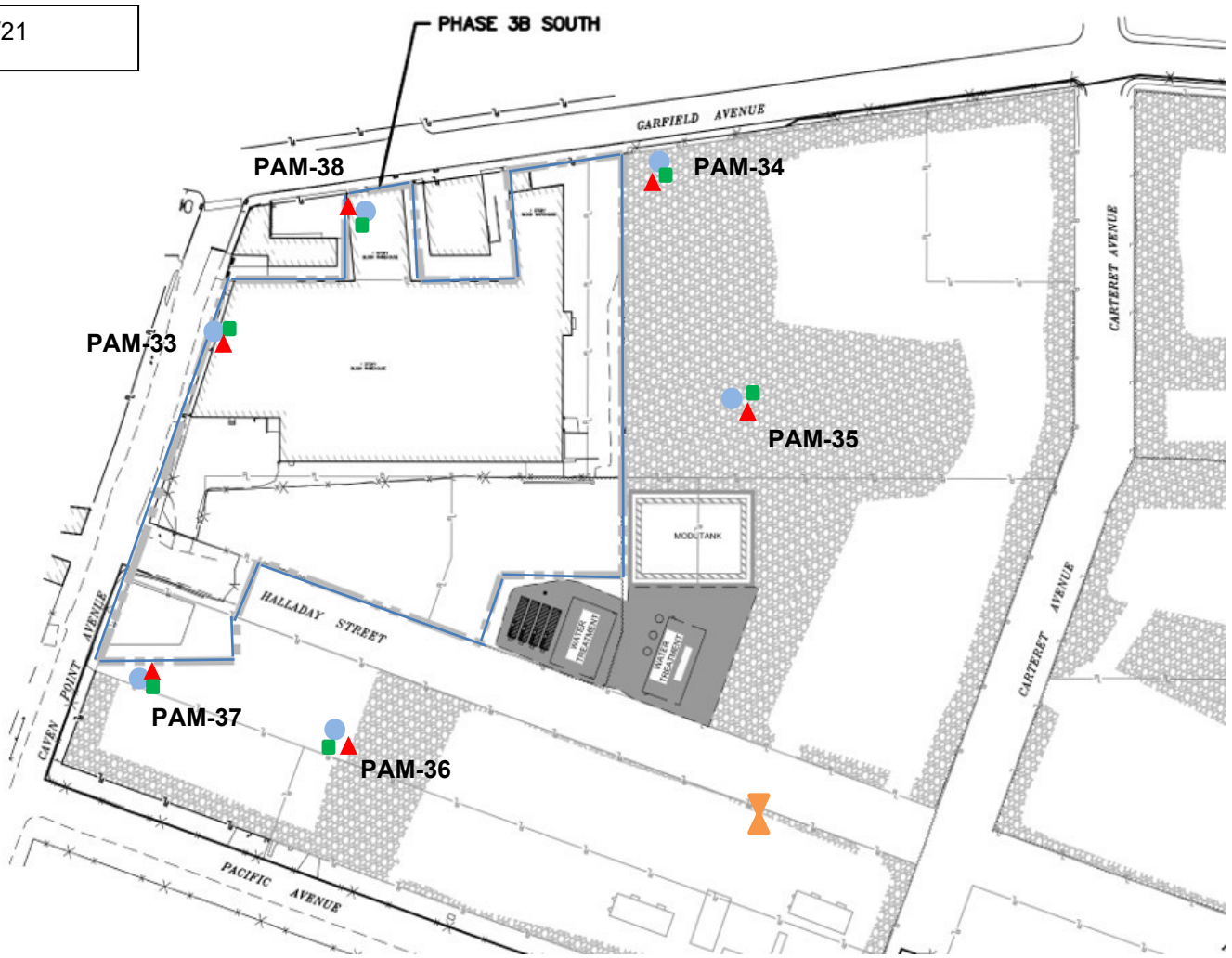
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

9/7/21 – 9/10/21



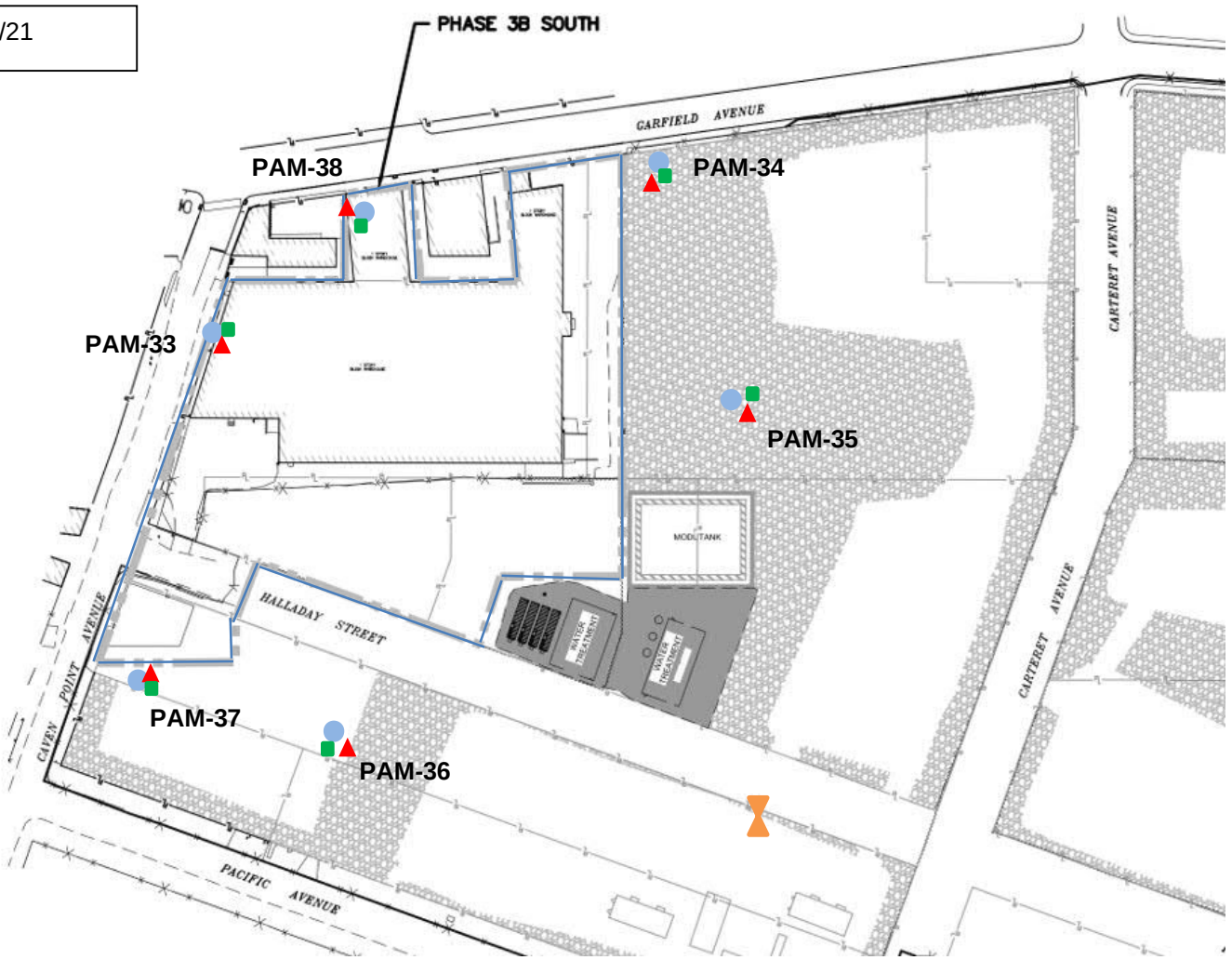
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

9/13/21 – 9/17/21



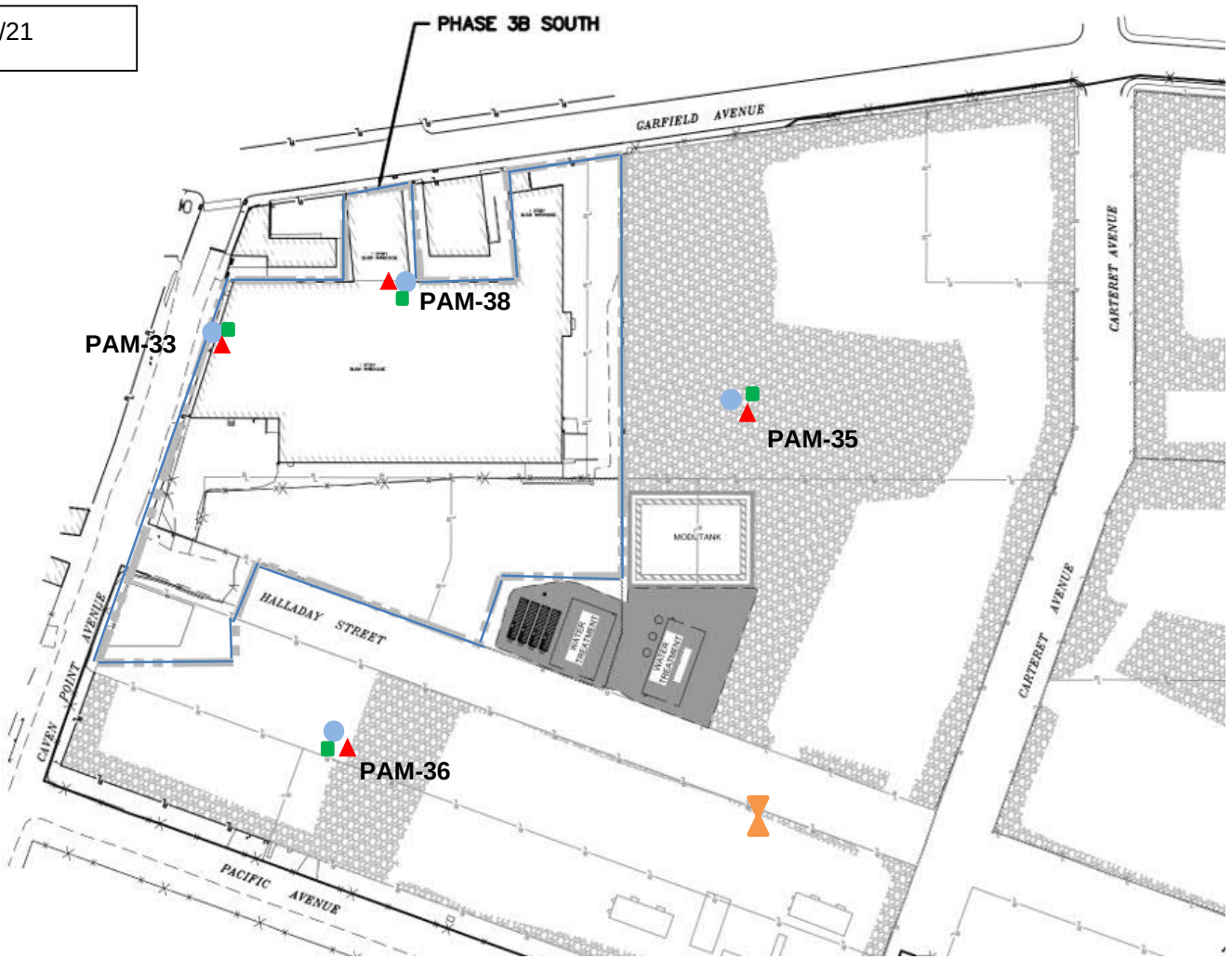
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

9/20/21 – 9/24/21



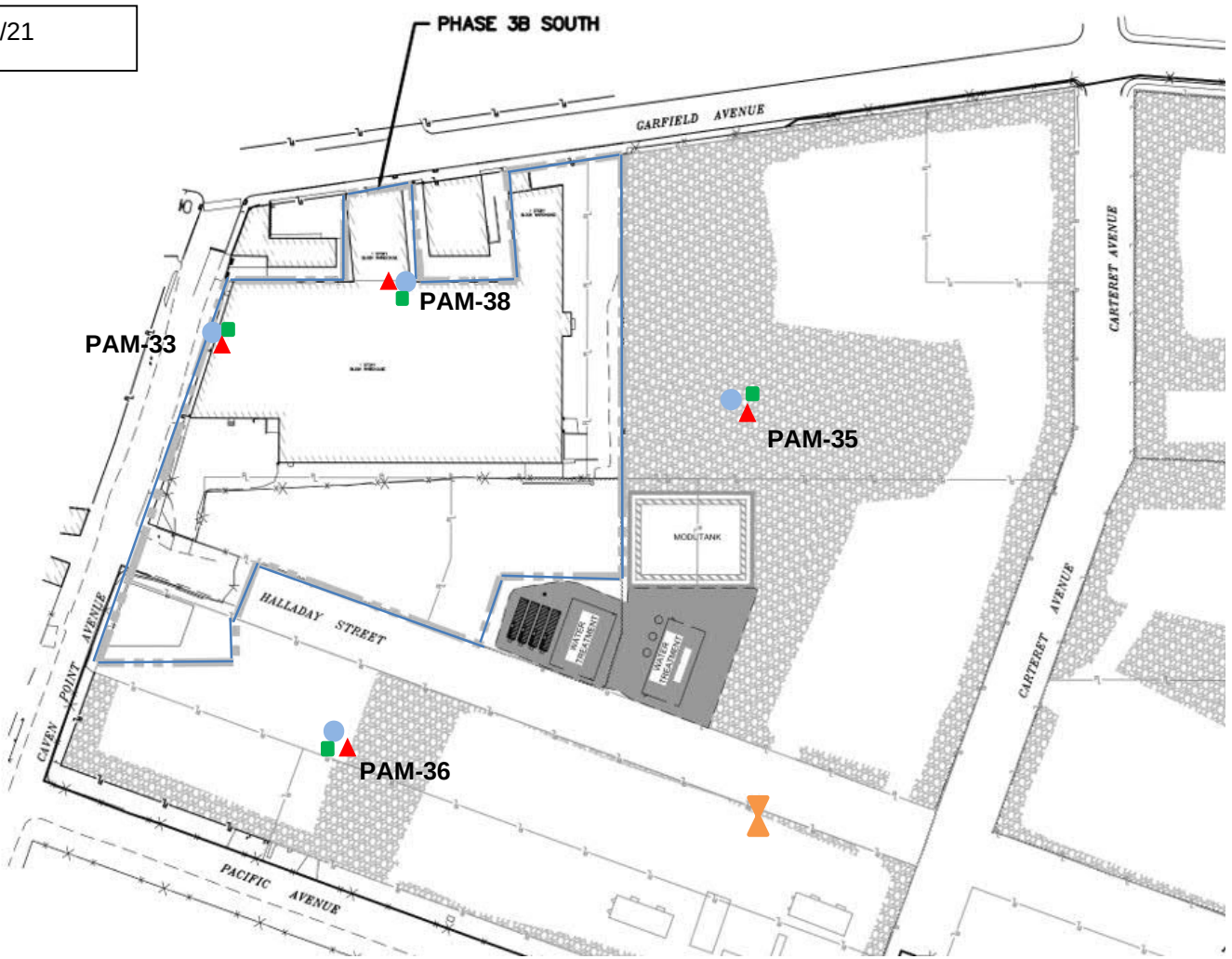
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

9/27/21 – 10/1/21



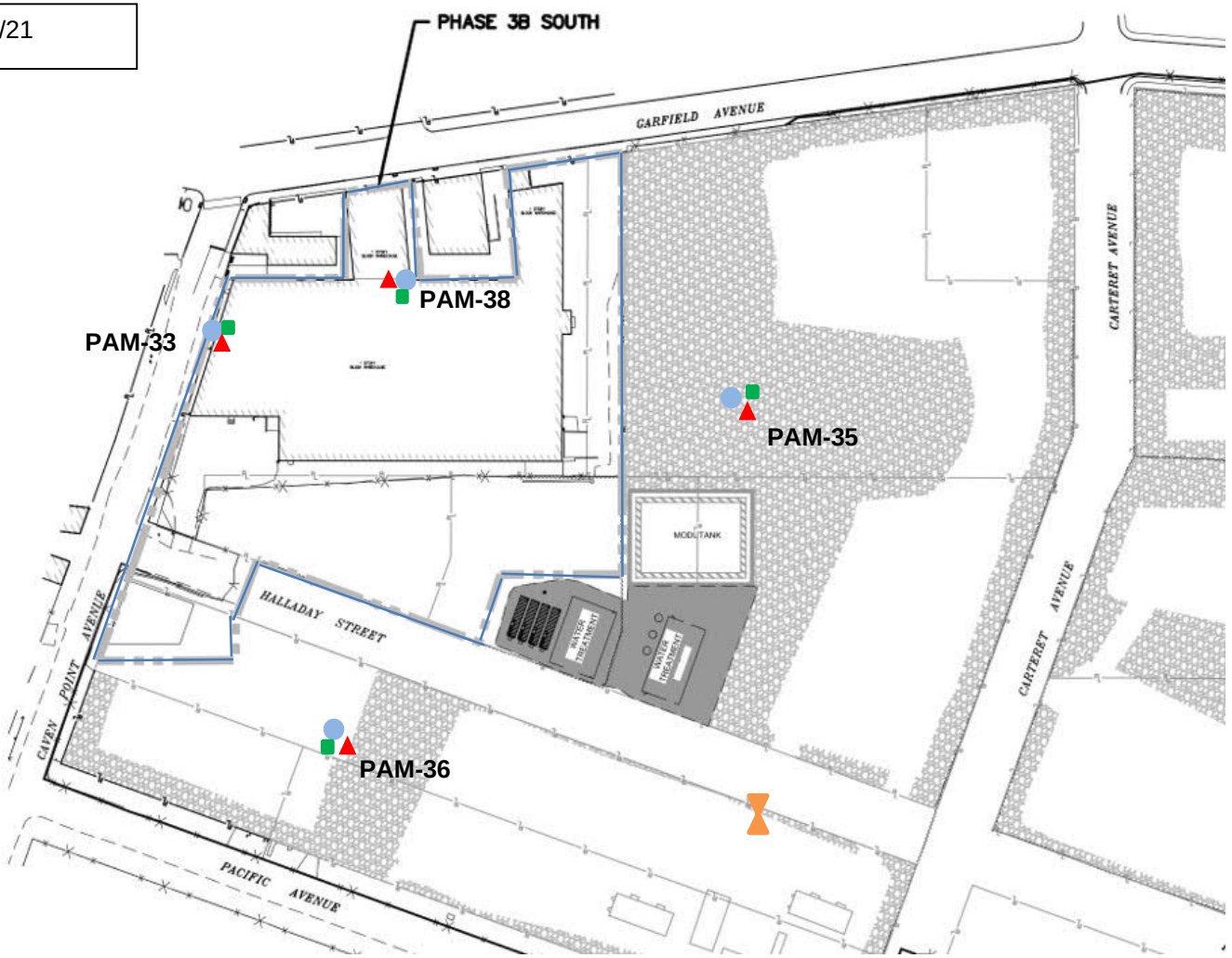
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

10/4/21 – 10/8/21



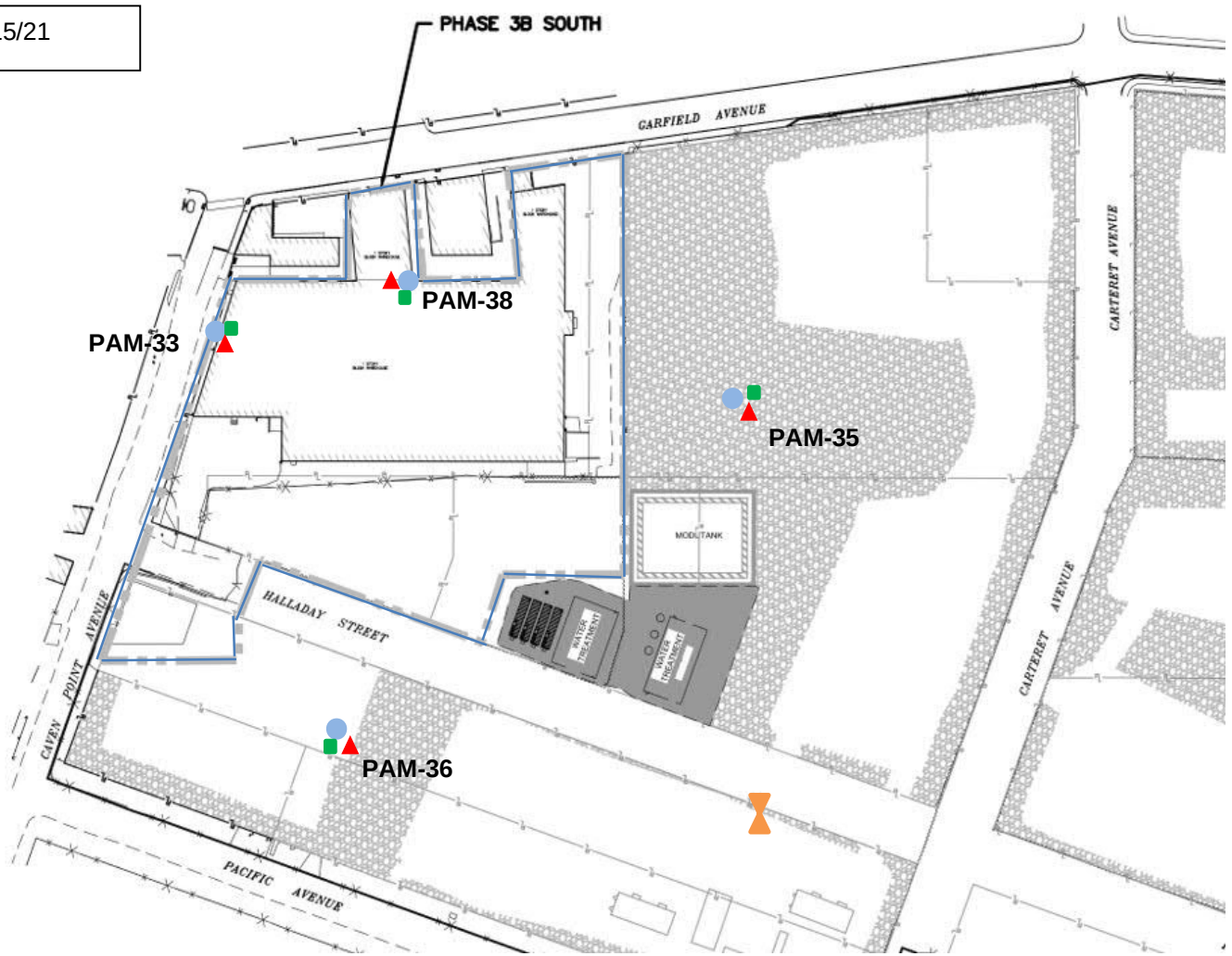
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

10/11/21 – 10/15/21



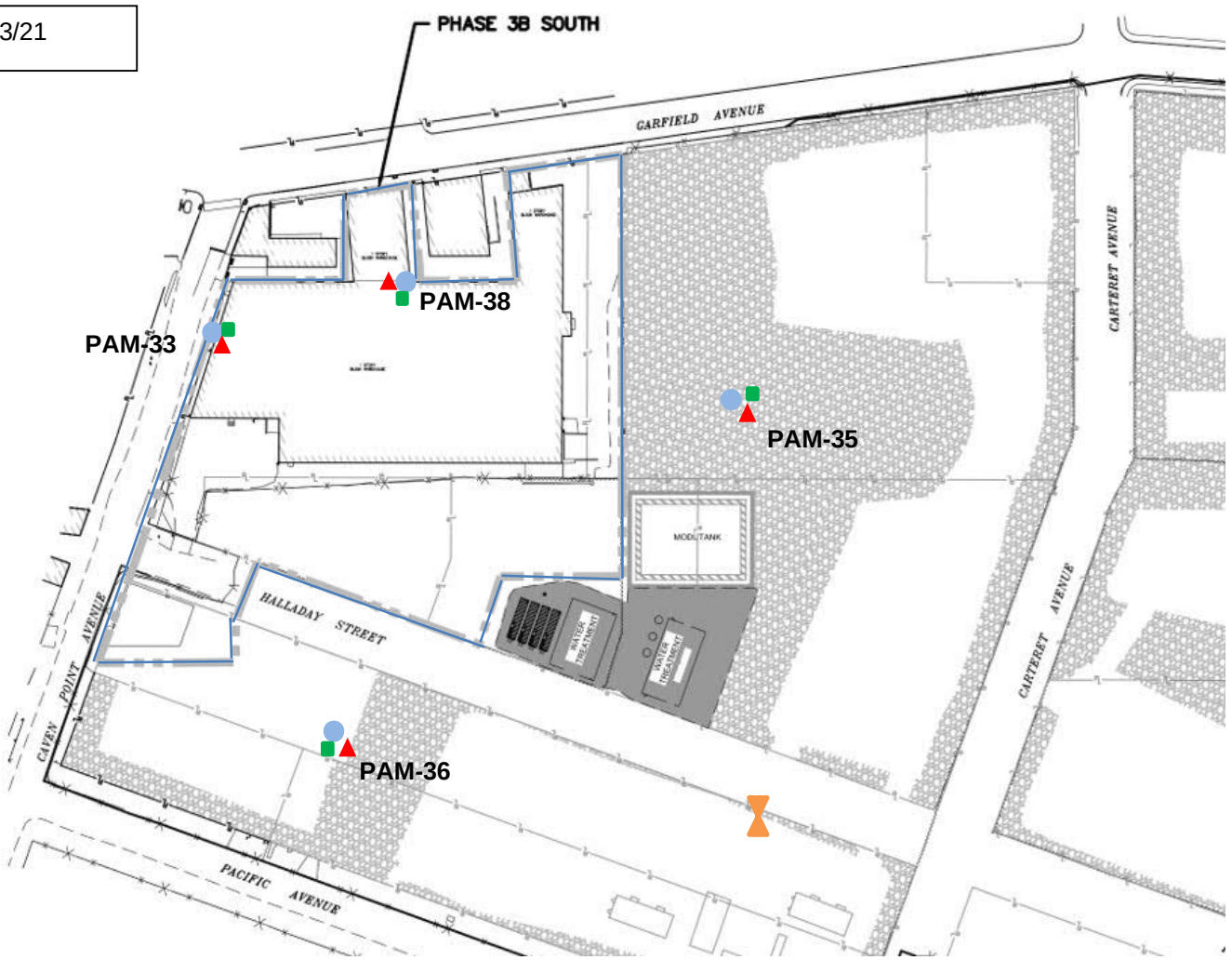
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

10/18/21 – 10/23/21



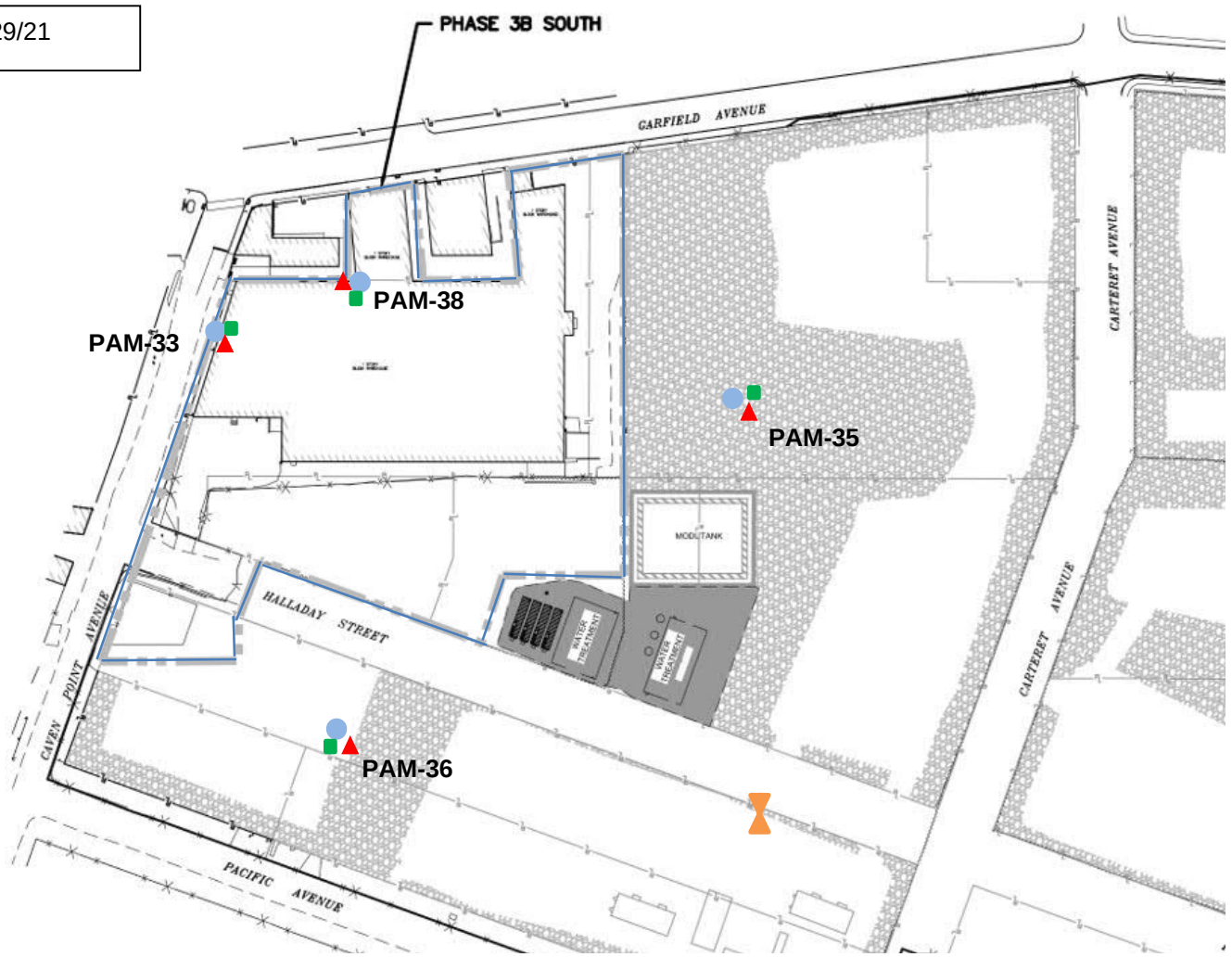
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

10/25/21 – 10/29/21



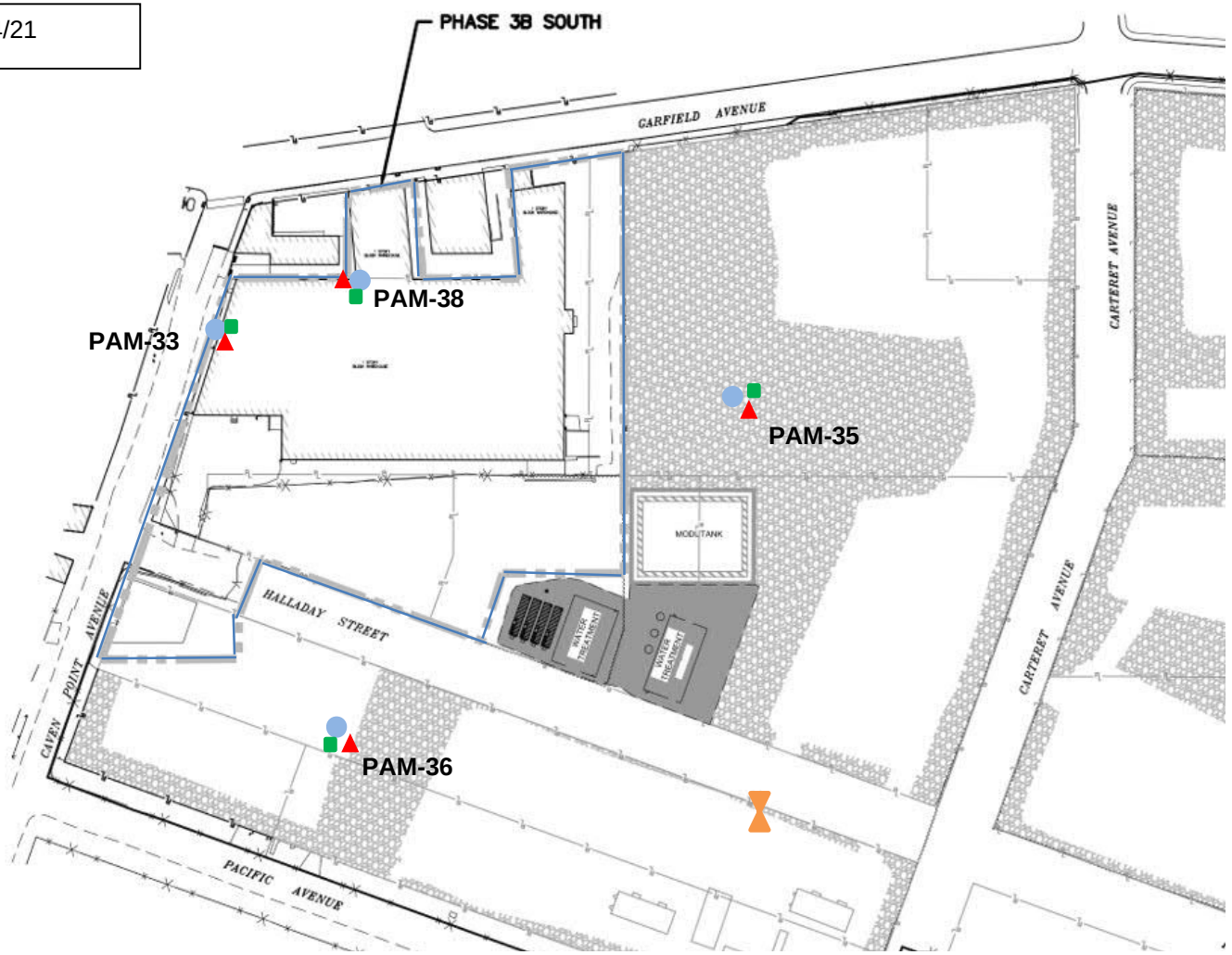
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

11/1/21 – 11/4/21



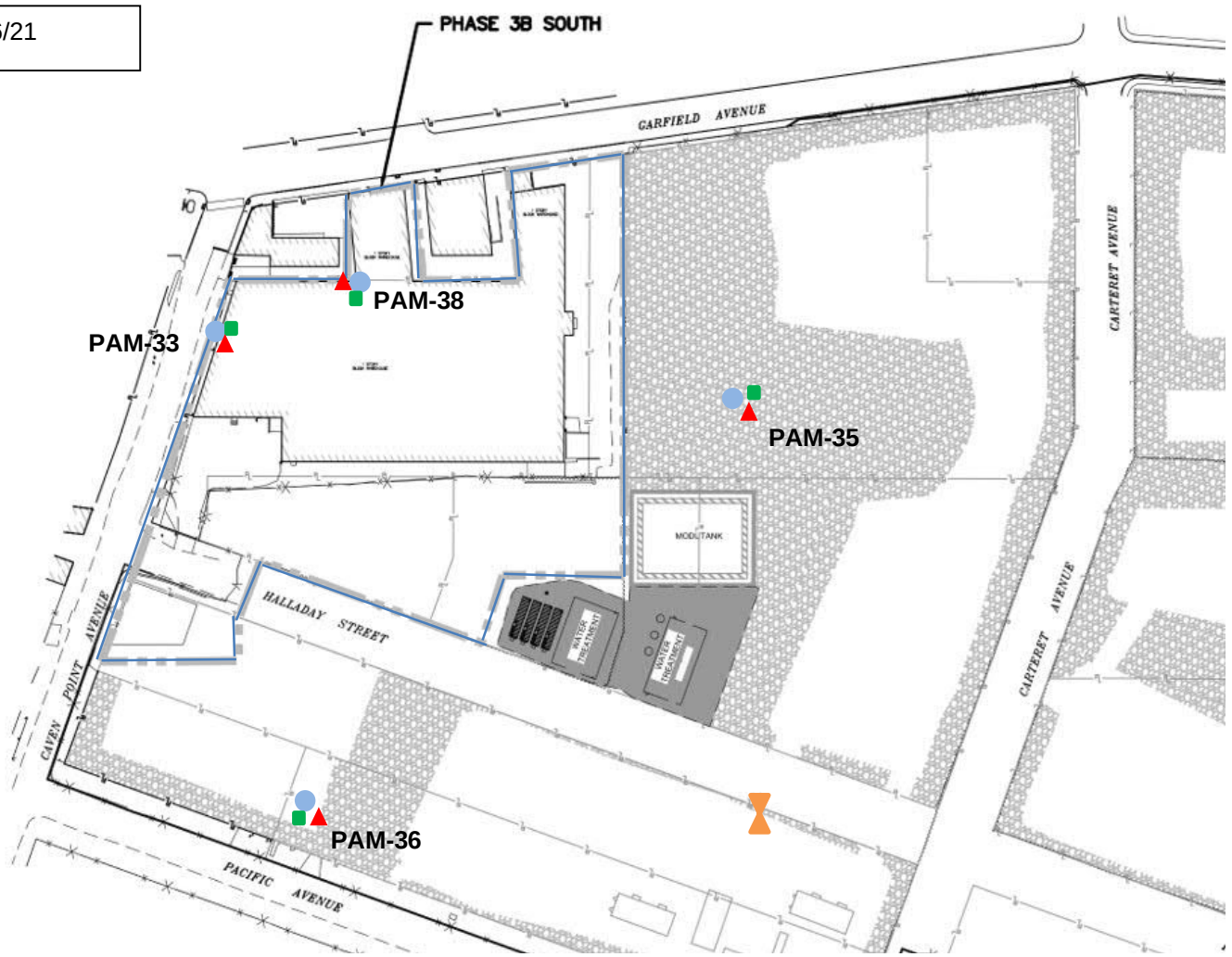
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

11/5/21 – 11/6/21



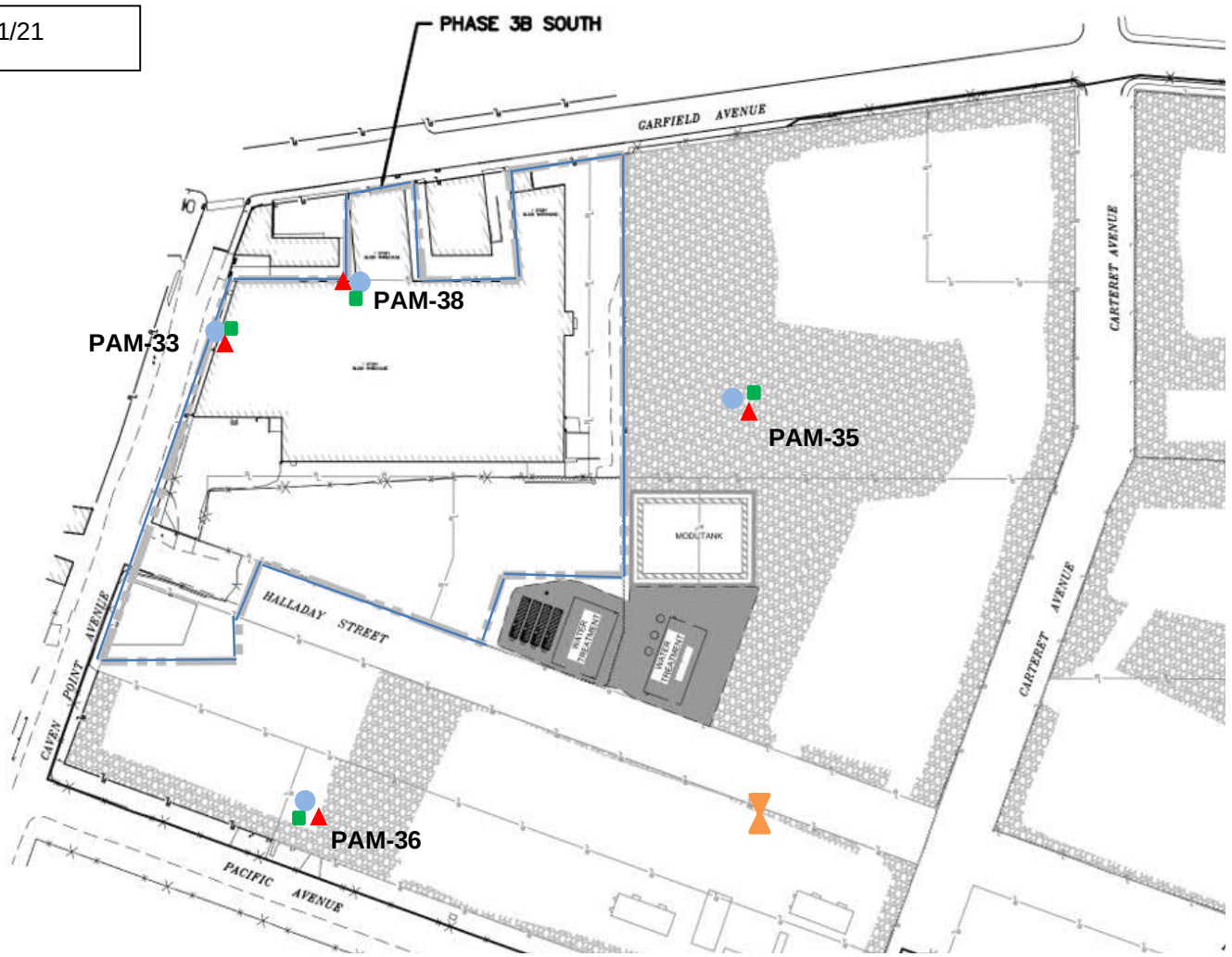
Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

11/8/21 – 11/11/21



Legend

- fenceline PAM station
- integrated 8- to 10-hour Cr^{+6} sampling station
- real-time PM_{10} and TVOC monitoring station
- meteorological tower
- Site fenceline

Definitions:

Cr^{+6} – hexavalent chromium
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
TVOC – total volatile organic compounds

Appendix E

Site Activities

March **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling						Loadout																							Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Ground Water Treatment Plant Sludge	Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	
3/1/2021																														
3/2/2021																														
3/3/2021																														
3/4/2021																														
3/5/2021																														
3/6/2021																														
3/7/2021																														
3/8/2021																														
3/9/2021																														
3/10/2021																														
3/11/2021																														
3/12/2021																														
3/13/2021																														
3/14/2021																														
3/15/2021																												x		
3/16/2021																												x		
3/17/2021																												x		
3/18/2021																												x		
3/19/2021																												x		
3/20/2021																														
3/21/2021																														
3/22/2021																												x		
3/23/2021																												x		
3/24/2021																												x		
3/25/2021																												x		
3/26/2021																												x		
3/27/2021																														
3/28/2021																														
3/29/2021																					x				x	x	x	x		
3/30/2021																					x				x	x	x	x		
3/31/2021																					x				x	x	x	x		

Air Monitoring was started on 3/29/2021*

Definitions:
MGP - manufactured gas plant

Notes:
***Site activities requiring air monitoring were started on March 29, 2021. Prior to this, there were no ongoing Site activities other than maintenance during the reporting period.**

April **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling								Loadout																					Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Asbestos Containng Material	Demolition Material	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Hazardous - SVOC and Pb	Ground Water Treatment Plant Sludge	Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	
4/1/2021																									x		x	x	x		x	
4/2/2021																	x								x		x	x	x	x	x	
4/3/2021																																Weekend, No Site Activities
4/4/2021																																Weekend, No Site Activities
4/5/2021							x	x									x				x				x		x	x	x		x	
4/6/2021							x	x									x				x				x		x	x	x		x	
4/7/2021							x	x									x				x				x		x	x	x		x	
4/8/2021								x																	x		x	x	x		x	
4/9/2021								x									x								x		x	x	x		x	
4/10/2021																																Weekend, No Site Activities
4/11/2021																																Weekend, No Site Activities
4/12/2021	x					x							x														x	x	x		x	
4/13/2021					x	x							x				x										x	x	x		x	
4/14/2021						x							x										x				x	x	x		x	
4/15/2021	x					x							x														x	x	x	x	x	
4/16/2021	x				x	x																			x		x	x	x		x	
4/17/2021																																Weekend, No Site Activities
4/18/2021																																Weekend, No Site Activities
4/19/2021													x				x										x	x	x		x	
4/20/2021													x				x										x	x	x		x	
4/21/2021			x								x												x				x	x	x		x	
4/22/2021	x		x						x		x			x			x										x	x	x		x	
4/23/2021	x								x				x														x	x	x		x	
4/24/2021																																Weekend, No Site Activities
4/25/2021																																Weekend, No Site Activities
4/26/2021	x							x	x				x				x										x	x	x		x	
4/27/2021	x												x				x										x	x	x		x	
4/28/2021													x			x											x	x	x		x	
4/29/2021																x	x										x	x	x	x	x	
4/30/2021																x											x	x	x	x	x	

Definitions:
MGP - manufactured gas plant
Pb- lead
SVOC-semi-volatile organic compounds

May **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling										Loadout																								Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous - SVOC and Pb	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Asbestos Containng Material	Demolition Material/concrete	VOC	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Hazardous - SVOC and Pb	Ground Water Treatment Plant Sludge	Demolition Material/concrete	VOC	Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	
5/1/2021																																			Weekend, No Site Activities
5/2/2021																																			Weekend, No Site Activities
5/3/2021													x								x									x	x	x		x	
5/4/2021							x						x		x						x									x	x	x		x	
5/5/2021															x					x	x									x	x	x		x	
5/6/2021						x	x								x															x	x	x		x	
5/7/2021				x			x								x	x														x	x	x		x	
5/8/2021																																			Weekend, No Site Activities
5/9/2021																																			Weekend, No Site Activities
5/10/2021			x				x								x						x									x	x	x		x	
5/11/2021							x						x		x					x	x								x		x	x	x		x	
5/12/2021							x													x									x		x	x	x		x	
5/13/2021	x						x						x		x						x										x	x	x		x	
5/14/2021	x						x						x		x																x	x	x		x	
5/15/2021																																			Weekend, No Site Activities
5/16/2021																																			Weekend, No Site Activities
5/17/2021															x			x		x											x	x	x		x	
5/18/2021													x		x	x				x											x	x	x		x	
5/19/2021													x					x	x		x										x	x	x		x	
5/20/2021			x				x						x		x			x													x	x	x		x	
5/21/2021										x			x		x				x		x										x	x	x		x	
5/22/2021																																			Weekend, No Site Activities
5/23/2021																																			Weekend, No Site Activities
5/24/2021									x				x		x	x		x		x	x														x	
5/25/2021													x		x	x			x	x															x	
5/26/2021													x		x	x															x	x	x		x	
5/27/2021									x				x		x				x												x	x	x		x	
5/28/2021	x						x								x				x		x										x	x	x		x	
5/29/2021																																			Weekend, No Site Activities
5/30/2021																																			Weekend, No Site Activities
5/31/2021																																			Holiday, No Site Activities

Definitions:
MGP - manufactured gas plant
Pb- lead
SVOC-semi-volatile organic compounds
VOC-volatile organic compounds

June **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling										Loadout									Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Asbestos Containng Material	Demolition Material	Hazardous - SVOC and Pb	VOC	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Hazardous - SVOC and Pb	Ground Water Treatment Plant Sludge	VOC	Demolition Material																
6/1/2021	z		x			x			x	x					x														x	x	x		x	
6/2/2021								x			x				x			x			x								x	x	x		x	
6/3/2021	x												x		x			x			x								x	x	x		x	
6/4/2021						x		x			x				x					x	x								x	x	x		x	
6/5/2021																																		Weekend, No Site Activities
6/6/2021																																		Weekend, No Site Activities
6/7/2021											x				x					x									x	x	x		x	
6/8/2021						x									x					x	x								x	x	x		x	
6/9/2021						x					x																		x	x	x		x	
6/10/2021						x									x														x	x	x		x	
6/11/2021						x									x								x						x	x	x		x	
6/12/2021																																		Weekend, No Site Activities
6/13/2021																																		Weekend, No Site Activities
6/14/2021						x					x				x			x		x									x	x	x		x	
6/15/2021						x									x			x		x									x	x	x		x	
6/16/2021											x				x					x									x	x	x		x	
6/17/2021						x					x				x					x									x	x	x		x	
6/18/2021						x					x				x					x	x								x	x	x		x	
6/19/2021																																		Weekend, No Site Activities
6/20/2021																																		Weekend, No Site Activities
6/21/2021						x					x				x				x										x	x	x		x	
6/22/2021						x									x				x										x	x	x		x	
6/23/2021						x									x				x	x			x						x	x	x		x	
6/24/2021											x							x	x										x	x	x		x	
6/25/2021						x									x				x	x									x	x	x		x	
6/26/2021																																		Weekend, No Site Activities
6/27/2021																																		Weekend, No Site Activities
6/28/2021															x				x	x			x						x	x	x		x	
6/29/2021						x									x				x	x									x	x	x		x	
6/30/2021						x									x				x	x									x	x	x		x	

Definitions:
MGP - manufactured gas plant
Pb- lead
SVOC-semi-volatile organic compounds
VOC-volatile organic compounds

July **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling										Loadout									Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Asbestos Containng Material	Demolition Material	Hazardous - SVOC and Pb	VOC	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Hazardous - SVOC and Pb	Ground Water Treatment Plant Sludge	VOC	Demolition Material																
7/1/2021						x									x	x														x	x	x		x	
7/2/2021																																			Holiday, No Site Activities
7/3/2021																																			Weekend, No Site Activities
7/4/2021																																			Weekend, No Site Activities
7/5/2021																																			Holiday, No Site Activities
7/6/2021											x				x				x											x	x	x		x	
7/7/2021						x							x		x				x	x										x	x	x		x	
7/8/2021	x														x				x	x										x	x	x		x	
7/9/2021													x		x															x	x	x		x	
7/10/2021																																			Weekend, No Site Activities
7/11/2021																																			Weekend, No Site Activities
7/12/2021						x									x					x										x	x	x		x	
7/13/2021	x		x			x					x		x		x					x										x	x	x		x	
7/14/2021			x			x							x		x					x										x	x	x		x	
7/15/2021	x		x										x							x										x	x	x		x	
7/16/2021	x		x								x		x							x										x	x	x		x	
7/17/2021																																			Weekend, No Site Activities
7/18/2021																																			Weekend, No Site Activities
7/19/2021											x				x															x	x	x		x	
7/20/2021						x									x					x										x	x	x		x	
7/21/2021	x					x									x					x										x	x	x		x	
7/22/2021						x									x															x	x	x		x	
7/23/2021						x			x		x		x		x															x	x	x		x	
7/24/2021																																			Weekend, No Site Activities
7/25/2021																																			Weekend, No Site Activities
7/26/2021	x							x	x						x					x										x	x	x		x	
7/27/2021	x					x			x		x				x					x	x										x	x	x		x	
7/28/2021									x						x													x			x	x	x		x	
7/29/2021						x									x																x	x	x		x	
7/30/2021															x																x	x	x		x	

Definitions:
MGP - manufactured gas plant
Pb- lead
SVOC-semi-volatile organic compounds
VOC-volatile organic compounds

August **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling										Loadout									Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Asbestos Containng Material	Demolition Material	Hazardous - SVOC and Pb	VOC	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Hazardous - SVOC and Pb	Ground Water Treatment Plant Sludge	VOC	Demolition Material																
8/1/2021																																		Weekend, No Site Activities
8/2/2021	x					x					x				x						x									x	x	x		x	
8/3/2021	x					x					x										x									x	x	x		x	
8/4/2021	x										x										x									x	x	x		x	
8/5/2021	x										x				x								x							x	x	x		x	
8/6/2021	z					x					z				x															x	x	x		x	
8/7/2021																																			Weekend, No Site Activities
8/8/2021																																			Weekend, No Site Activities
8/9/2021	x					x					x				x						x									x	x	x		x	
8/10/2021	x										x				x					x										x	x	x		x	
8/11/2021						x					x				x					x										x	x	x		x	
8/12/2021	x					x					x				x															x	x	x		x	
8/13/2021	x					x					x				x					x										x	x	x		x	
8/14/2021																																			Weekend, No Site Activities
8/15/2021																																			Weekend, No Site Activities
8/16/2021						x									x					x										x	x	x		x	
8/17/2021	x												x		x					x										x	x	x		x	
8/18/2021	x					x							x		x					x										x	x	x		x	
8/19/2021	x					x					x				x					x										x	x	x		x	
8/20/2021						x									x					x										x	x	x		x	
8/21/2021																																			Weekend, No Site Activities
8/22/2021																																			Weekend, No Site Activities
8/23/2021	x					x									x															x	x	x		x	
8/24/2021	x					x					x				x															x	x	x		x	
8/25/2021						x														x										x	x	x		x	
8/26/2021	x		x			x					x									x										x	x	x		x	
8/27/2021	x					x									x					x										x	x	x		x	
8/28/2021																																			Weekend, No Site Activities
8/29/2021																																			Weekend, No Site Activities
8/30/2021			x			x							x		x					x										x	x	x		x	
8/31/2021	x		x			x							x							x										x	x	x		x	

Definitions:
MGP - manufactured gas plant
Pb- lead
SVOC-semi-volatile organic compounds
VOC-volatile organic compounds

September **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling										Loadout									Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Asbestos Containng Material	Demolition Material	Hazardous - SVOC and Pb	VOC	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Hazardous - SVOC and Pb	Ground Water Treatment Plant Sludge	VOC	Demolition Material																
9/1/2021	x		x	x							x		x	x																			x	
9/2/2021																																		Tropical Storm Ida, No Site Activities
9/3/2021																																		Tropical Storm Ida, No Site Activities
9/4/2021																																		Weekend, No Site Activities
9/5/2021																																		Weekend, No Site Activities
9/6/2021																																		Holiday, No Site Activities
9/7/2021	x		x	x							x		x	x																x	x	x		x	
9/8/2021			x	x									x	x						x										x	x	x		x	
9/9/2021			x	x		x							x	x						x										x	x	x		x	
9/10/2021			x	x		x							x	x																x	x	x		x	
9/11/2021																																		Weekend, No Site Activities
9/12/2021																																		Weekend, No Site Activities
9/13/2021													x							x										x	x	x		x	
9/14/2021			x	x		x							x	x						x										x	x	x		x	
9/15/2021			x	x									x	x																x	x	x		x	
9/16/2021			x	x									x	x						x										x	x	x		x	
9/17/2021	x			x							x			x																x	x	x		x	
9/18/2021																																		Weekend, No Site Activities
9/19/2021																																		Weekend, No Site Activities
9/20/2021	x										x									x										x	x	x		x	
9/21/2021	x										x									x	x									x	x	x		x	
9/22/2021	x						x				x									x				x						x	x	x		x	
9/23/2021	x		x								x					x				x	x									x	x	x		x	
9/24/2021	x										x										x									x	x	x		x	
9/25/2021																																		Weekend, No Site Activities
9/26/2021																																		Weekend, No Site Activities
9/27/2021	x										x									x										x	x	x		x	
9/28/2021	x										x									x										x	x	x		x	
9/29/2021	x										x									x										x	x	x		x	
9/30/2021	x		x								x		x							x										x	x	x		x	

Definitions:
MGP - manufactured gas plant
Pb- lead
SVOC-semi-volatile organic compounds
VOC-volatile organic compounds

October **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling										Loadout									Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Asbestos Containng Material	Demolition Material	Hazardous - SVOC and Pb	VOC	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Hazardous - SVOC and Pb	Ground Water Treatment Plant Sludge	VOC	Demolition Material																
10/1/2021	x		x								x		x							x										x	x	x		x	
10/2/2021																																			Weekend, No Site Activities
10/3/2021																																			Weekend, No Site Activities
10/4/2021	x										x									x	x									x	x	x		x	
10/5/2021	x										x									x										x	x	x		x	
10/6/2021	x										x				x		x			x										x	x	x		x	
10/7/2021	x										x						x			x										x	x	x		x	
10/8/2021	x										x									x										x	x	x		x	
10/9/2021																																			Weekend, No Site Activities
10/10/2021																																			Weekend, No Site Activities
10/11/2021	x										x									x										x	x	x		x	
10/12/2021	x								x		x					x				x										x	x	x		x	
10/13/2021	x								x		x					x				x										x	x	x		x	
10/14/2021	x								x		x					x				x										x	x	x		x	
10/15/2021	x								x		x					x				x										x	x	x		x	
10/16/2021																																			Weekend, No Site Activities
10/17/2021																																			Weekend, No Site Activities
10/18/2021	x								x		x					x				x										x	x	x		x	
10/19/2021									x							x				x										x	x	x		x	
10/20/2021															x	x				x										x	x	x		x	
10/21/2021	x								x		x					x	x			x										x	x	x		x	
10/22/2021						x														x										x	x	x		x	
10/23/2021						x														x										x	x	x		x	
10/24/2021																																			Weekend, No Site Activities
10/25/2021	x								x		x					x				x										x	x	x		x	
10/26/2021																															x		x	x	
10/27/2021	x										x									x										x	x	x		x	
10/28/2021	x					x					x									x										x	x	x		x	
10/29/2021	x										x									x										x	x	x		x	
10/30/2021																																			Weekend, No Site Activities
10/31/2021																																			Weekend, No Site Activities

Definitions:
MGP - manufactured gas plant
Pb- lead
SVOC-semi-volatile organic compounds
VOC-volatile organic compounds

November **Site Actvities for Garfield Avenue Group Site**

	Excavation and Hauling										Loadout									Backfilling Activities	Concrete Breakdown / Hammering	Sheeting	Pretrenching	Test Pitting	Asbestos Abatement	Subsurface Drilling	Rebar Sawing	Hotwork and Welding	Demolition	Underground Storage Tank Removal	Covering / Uncovering Stockpiles	Vehicles Driving/Idling	Water Misting	Site Maintenance	Air Monitoring	Comments
	Hazardous Chrome	Hazardous Concrete	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Asphalt	Non-Hazardous Soil	Asbestos Containng Material	Demolition Material	Hazardous - SVOC and Pb	VOC	Hazardous Chrome	Non-Hazardous Asphalt	Hazardous Lead	Hazardous MGP-Chrome Comingled	Non-Hazardous Soil	Hazardous - SVOC and Pb	Ground Water Treatment Plant Sludge	VOC	Demolition Material																
11/1/2021	x								x		x					x				x										x	x	x		x	
11/2/2021									x							x				x										x	x	x		x	
11/3/2021	x								x		x					x				x										x	x	x		x	
11/4/2021	x										x									x										x	x	x		x	
11/5/2021	x								x		x					x				x										x	x	x		x	
11/6/2021						x														x													x	x	
11/7/2021																																			Weekend, No Site Activities
11/8/2021									x							x				x										x	x	x		x	
11/9/2021									x							x				x										x	x	x		x	
11/10/2021	x										x				x					x										x	x	x		x	
11/11/2021	x								x		x				x					x										x	x	x		x	
11/12/2021																				x											x	x			
11/13/2021																																			
11/14/2021																																			
11/15/2021																				x											x	x			
11/16/2021																				x											x	x			
11/17/2021																				x											x	x			
11/18/2021																				x											x	x			
11/19/2021																				x											x	x			
11/20/2021																																			
11/21/2021																																			
11/22/2021																				x											x	x			
11/23/2021																				x											x	x			
11/24/2021																				x											x	x			
11/25/2021																				x											x	x			
11/26/2021																				x											x	x			
11/27/2021																																			
11/28/2021																																			
11/29/2021																				x											x	x			
11/30/2021																				x											x	x			

Air Monitoring was shut down on 11/11/2021*

Definitions:
MGP - manufactured gas plant
Pb- lead
SVOC-semi-volatile organic compounds
VOC-volatile organic compounds

Notes:
***Site activities requiring air monitoring were completed at the end of the day on November 11, 2021 and air monitoring was shut down.**

Appendix F

Final Program Results

- Baseline, Annual and Program Comparisons
- Integrated Cr^{+6} Program Plots

Appendix F

Final Program Results

- Baseline, Annual and Program Comparisons

Fenceline Average Baseline, Annual and Program Concentrations

	FAM-1	FAM-2	FAM-3	FAM-4	FAM-5	FAM-6	FAM-7	PAM-1	PAM-2	PAM-3	PAM-4	PAM-5	PAM-6	PAM-7	PAM-8	PAM-11	PAM-12	PAM-13	PAM-14	PAM-17	PAM-18	PAM-19	PAM-20	PAM-21	PAM-22	PAM-23	PAM-24	PAM-25	PAM-26	PAM-27	PAM-28	PAM-29	PAM-30	PAM-31	PAM-32	PAM-33	PAM-34	PAM-35	PAM-36	PAM-37	PAM-38
	Baseline Summary																																								
Cr^{+6} Conc. (ng/m^3)	7.91	8.79	8.19	7.99	NA	NA	NA	8.69	7.97	8.29	7.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PM_{10} Conc. ($\mu g/m^3$)	14.12	15.60	11.55	11.83	NA	NA	NA	13.53	13.09	12.73	12.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Real-Time PM_{10} Conc. ($\mu g/m^3$)	30.4	38.8	40.4	35.6	NA	NA	NA	43.1	30.9	40.5	37.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Real-Time TVOC Conc. (ppm)	0.1	0.1	0.1	0.1	NA	NA	NA	0.1	0.1	0.1	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Annual Summary																																							
Cr^{+6} Conc. (ng/m^3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.32	5.44	5.76	5.24	5.24	5.69
PM_{10} Conc. ($\mu g/m^3$)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Real-Time PM_{10} Conc. ($\mu g/m^3$)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39.4	55.2	33.0	25.8	19.6	47.9
Real-Time TVOC Conc. (ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	0.1	0.1	0.1	0.1	0.1
	Program Summary																																							
Cr^{+6} Conc. (ng/m^3)	5.90	5.97	6.02	5.94	5.77	5.88	5.68	6.10	6.12	6.21	6.10	5.88	5.82	5.85	5.85	6.11	6.61	6.15	6.06	6.05	6.04	6.16	5.99	6.12	6.10	6.17	6.30	6.37	6.13	6.38	6.45	6.24	6.39	6.91	6.27	5.32	5.44	5.76	5.24	5.24	5.69
PM_{10} Conc. ($\mu g/m^3$)	31.85	30.49	33.36	33.88	32.85	33.27	30.33	35.43	36.27	38.37	43.71	25.19	25.80	24.24	45.51	47.46	44.06	25.40	46.56	32.14	28.56	31.35	33.17	44.83	41.12	41.64	21.65	25.52	64.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Real-Time PM_{10} Conc. ($\mu g/m^3$)	21.5	17.8	24.2	23.9	20.4	21.3	20.5	29.3	34.6	33.6	32.7	32.0	37.0	23.2	43.7	33.0	41.9	29.9	29.4	25.9	35.5	28.6	23.0	34.9	30.7	56.7	24.8	26.9	63.3	57.8	27.5	23.0	39.3	31.5	22.6	39.4	55.2	33.0	25.8	19.6	47.9
Real-Time TVOC Conc. (ppm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	NA	0.1	NA	NA	0.1	0.1	NA	0.1	0.1	NA	0.1	NA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1

Definitions:

Conc. – Concentration
Cr^{+6} – hexavalent chromium
FAM – fixed air monitoring station
NA – not applicable
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
ppm – parts per million
TVOC – total volatile organic compound
$\mu g/m^3$ – micrograms per cubic meter

Notes:

- FAM/PAM Cr^{+6} and PM_{10} concentrations represent integrated 8-hour concentrations at the fenceline.
- FAM/PAM real-time PM_{10} and TVOC concentrations represent 15-minute block averages at the fenceline.
- Baseline monitoring conducted between June 6 and June 30, 2010 for applicable stations.
- Refer to **Table 2-1** for an overview of the air monitoring and sampling approach and a list of air monitoring stations where air monitoring and sampling occurred during the reporting period.

Perimeter of the Exclusion Zone Average Baseline, Annual and Program Concentrations

	PAM-A	PAM-B	PAM-C	PAM-D	PAM-E	PAM-F	PAM-G	PAM-H
	Baseline Summary							
Cr^{+6} Conc. (ng/m^3)	8.20	9.10	8.27	9.13	NA	NA	NA	NA
PM_{10} Conc. ($\mu g/m^3$)	14.01	18.25	21.47	13.95	NA	NA	NA	NA
Real-Time PM_{10} Conc. ($\mu g/m^3$)	26.2	45.3	31.1	35.2	NA	NA	NA	NA
Real-Time TVOC Conc. (ppm)	0.1	0.1	0.1	0.1	NA	NA	NA	NA
	Annual Summary							
Cr^{+6} Conc. (ng/m^3)	NA	NA	NA	NA	NA	NA	NA	NA
PM_{10} Conc. ($\mu g/m^3$)	NA	NA	NA	NA	NA	NA	NA	NA
Real-Time PM_{10} Conc. ($\mu g/m^3$)	NA	NA	NA	NA	NA	NA	NA	NA
Real-Time TVOC Conc. (ppm)	NA	NA	NA	NA	NA	NA	NA	NA
	Program Summary							
Cr^{+6} Conc. (ng/m^3)	6.58	6.36	6.37	6.46	6.28	5.74	5.76	6.48
PM_{10} Conc. ($\mu g/m^3$)	39.69	41.27	37.98	43.50	30.20	27.75	27.63	29.56
Real-Time PM_{10} Conc. ($\mu g/m^3$)	38.9	35.7	33.1	33.4	30.6	35.5	34.1	31.1
Real-Time TVOC Conc. (ppm)	0.1	0.1	0.1	0.1	NA	NA	NA	NA

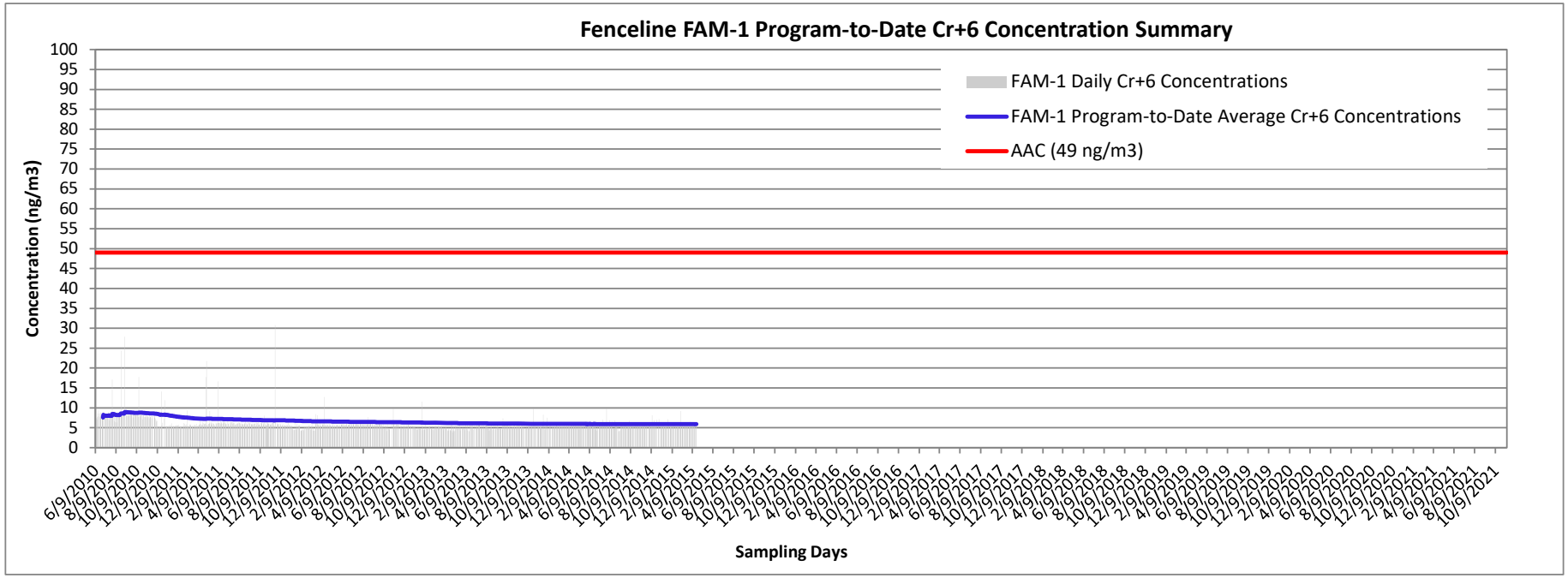
Definitions:
Cr^{+6} – hexavalent chromium
NA – not applicable
ng/m^3 – nanograms per cubic meter
PAM – portable air monitoring station
PM_{10} – respirable particulate matter
ppm – parts per million
TVOC – total volatile organic compound
$\mu g/m^3$ – micrograms per cubic meter

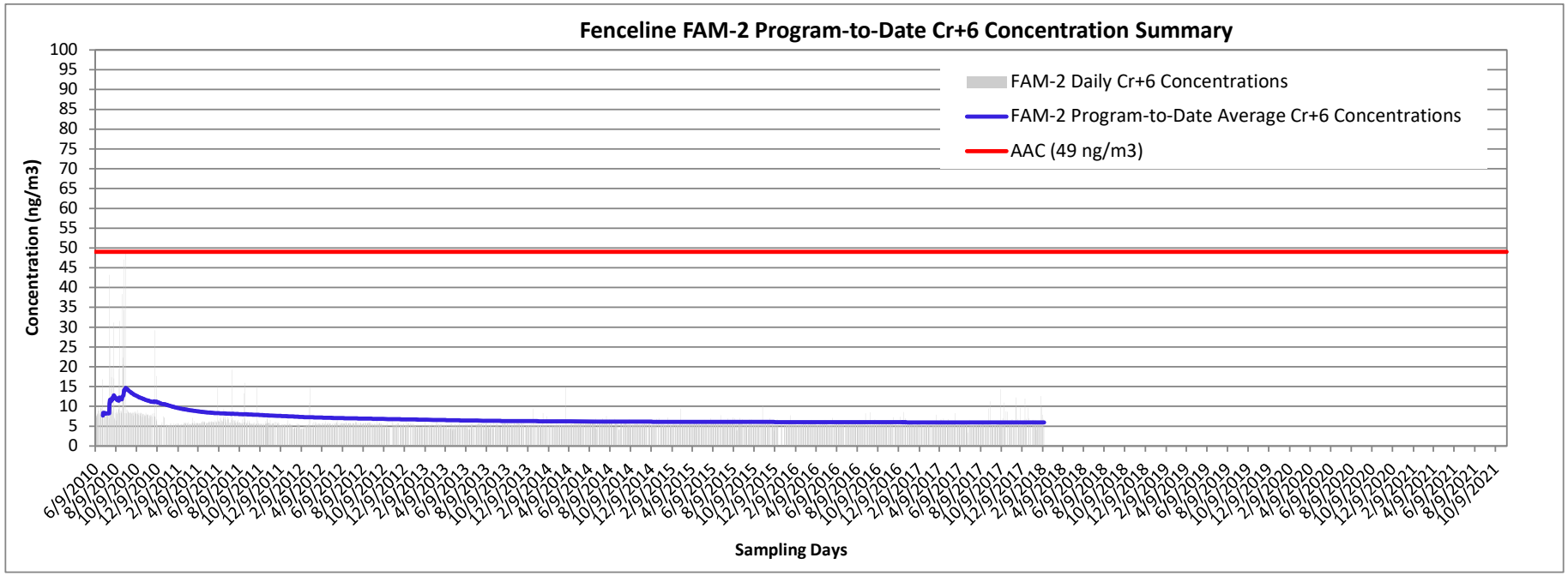
Notes:
- PAM Cr^{+6} and PM_{10} concentrations represent integrated 8-hour concentrations at the perimeter of the exclusion zone.
- PAM real-time PM_{10} and TVOC concentrations represent 5-minute block averages at the perimeter of the exclusion zone.
- Refer to **Table 2-1** for an overview of the air monitoring and sampling approach and a list of air monitoring stations where air monitoring and sampling occurred during the reporting period.

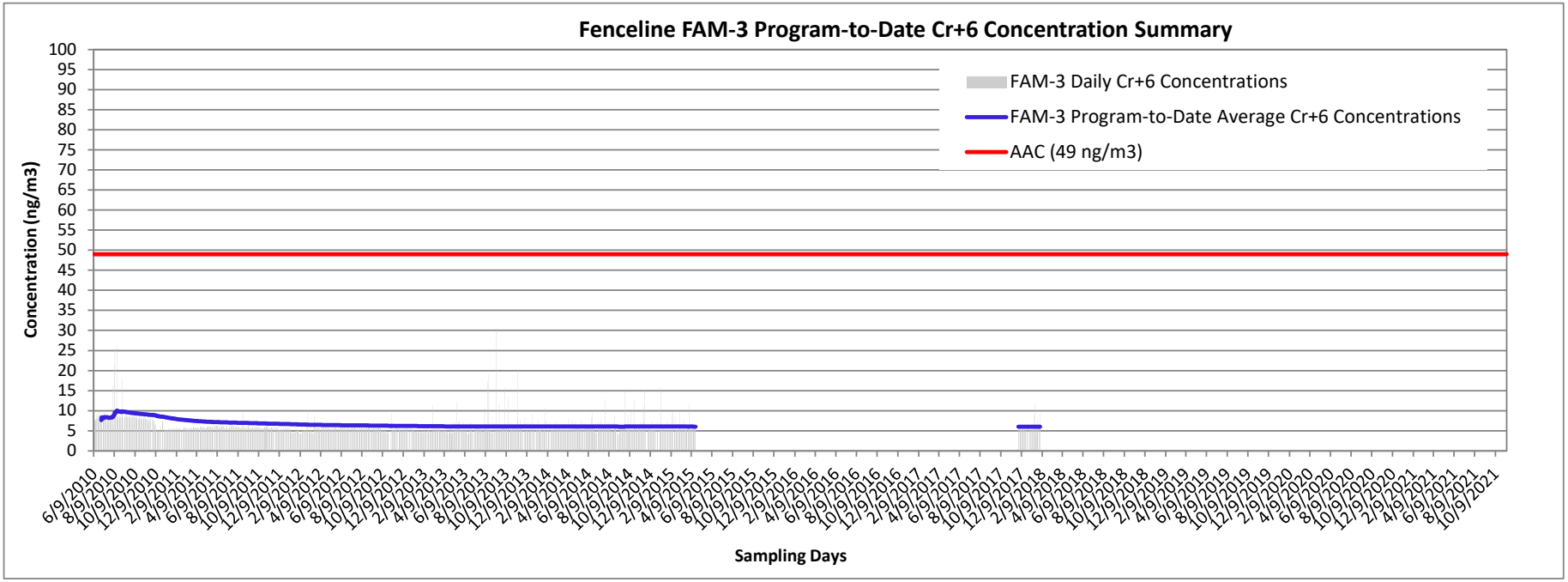
Appendix F

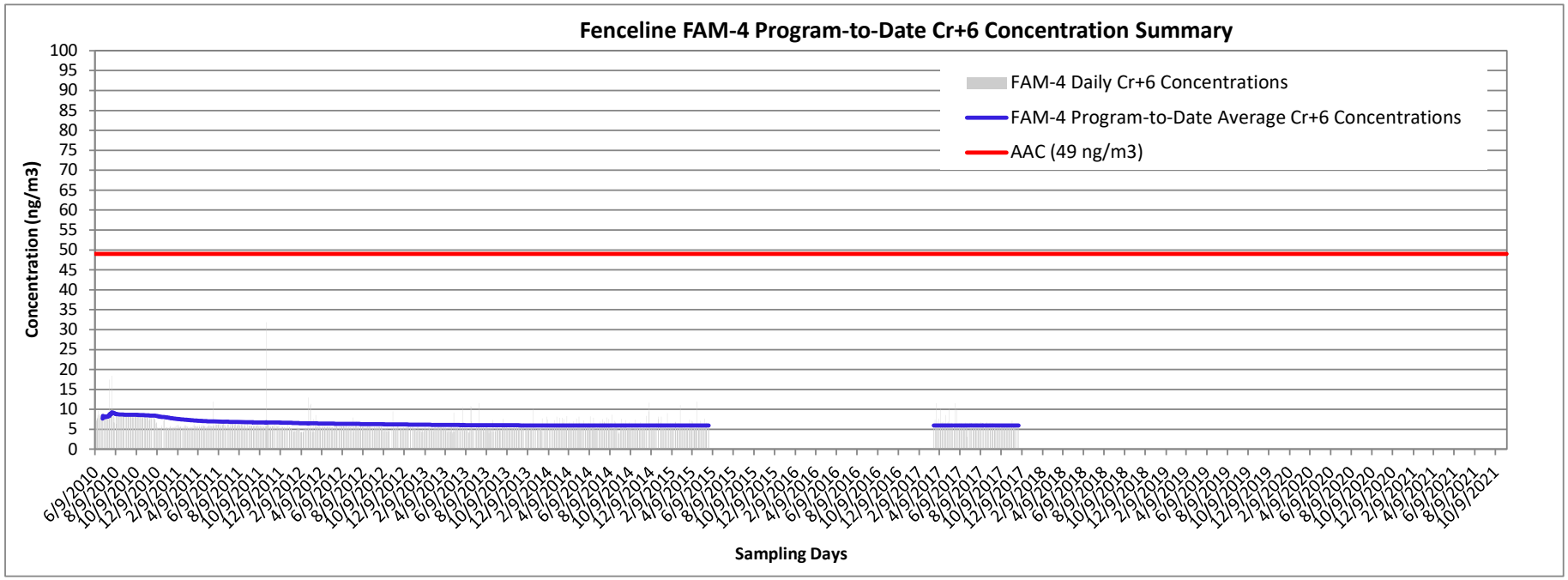
Final Program Results

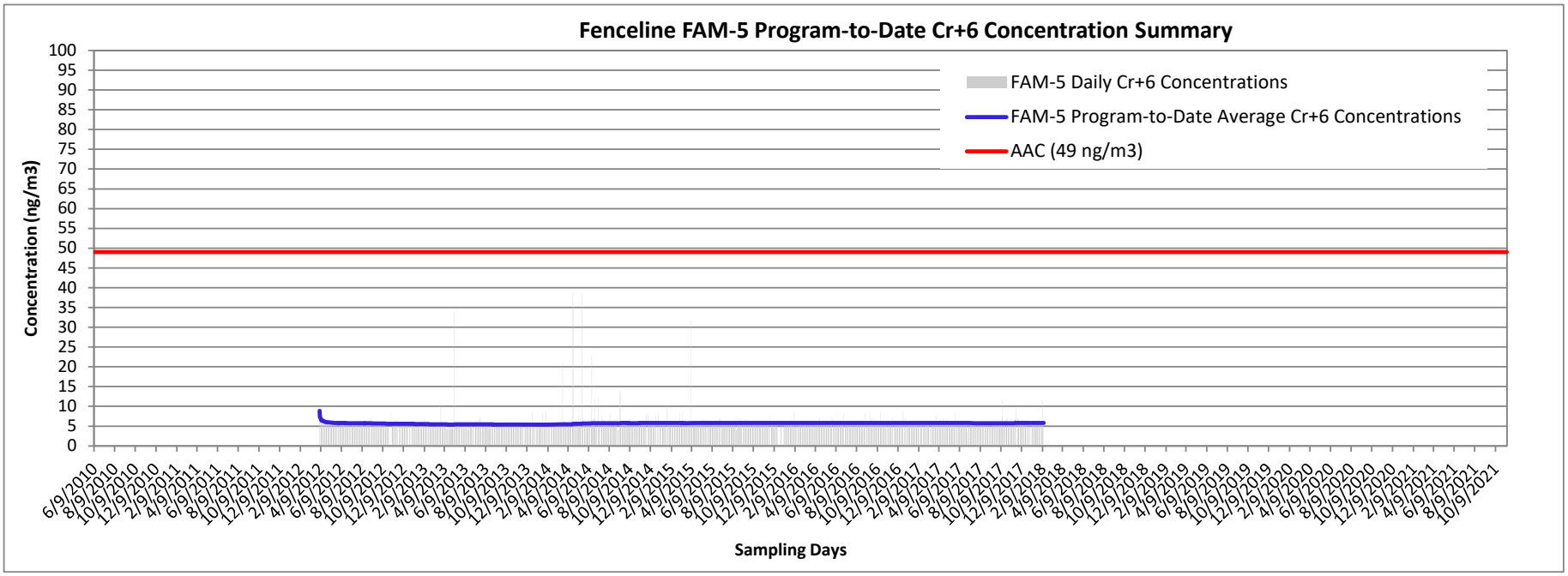
- Integrated Cr^{+6} Program Plots

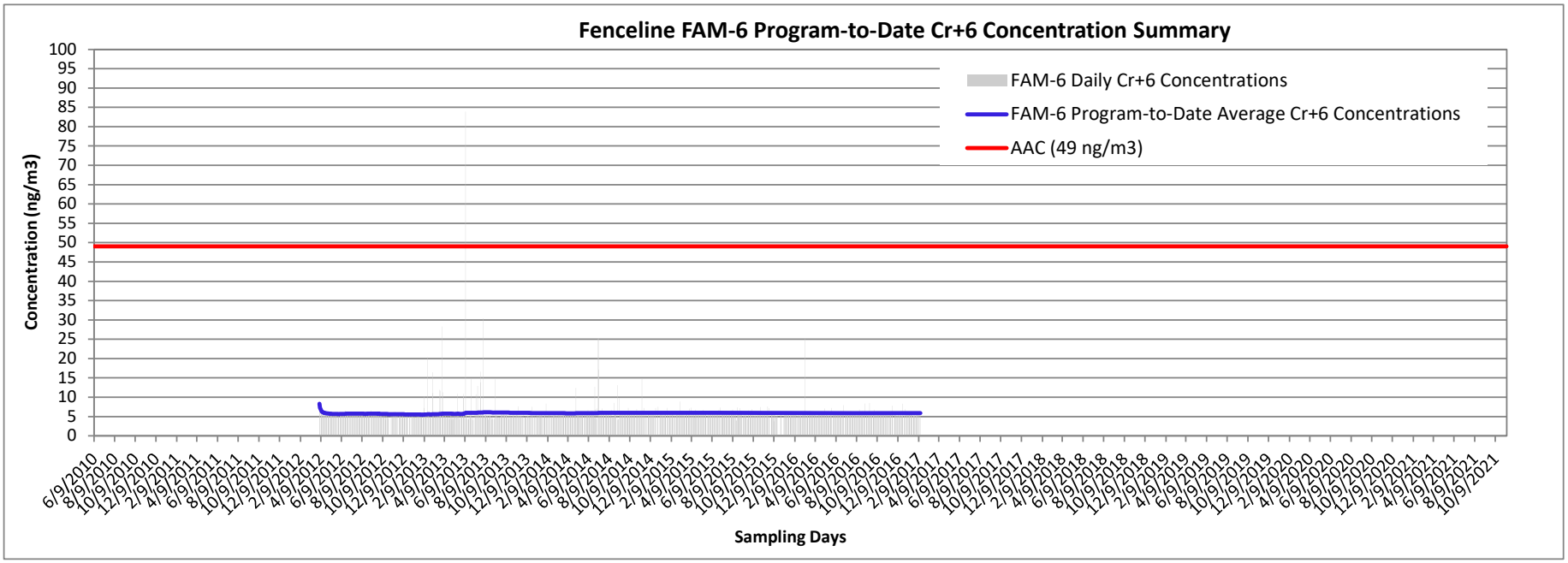

Fenceline FAM-1 Program-to-Date Cr+6 Concentration Summary
FAM-1 Daily Cr+6 Concentrations
FAM-1 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

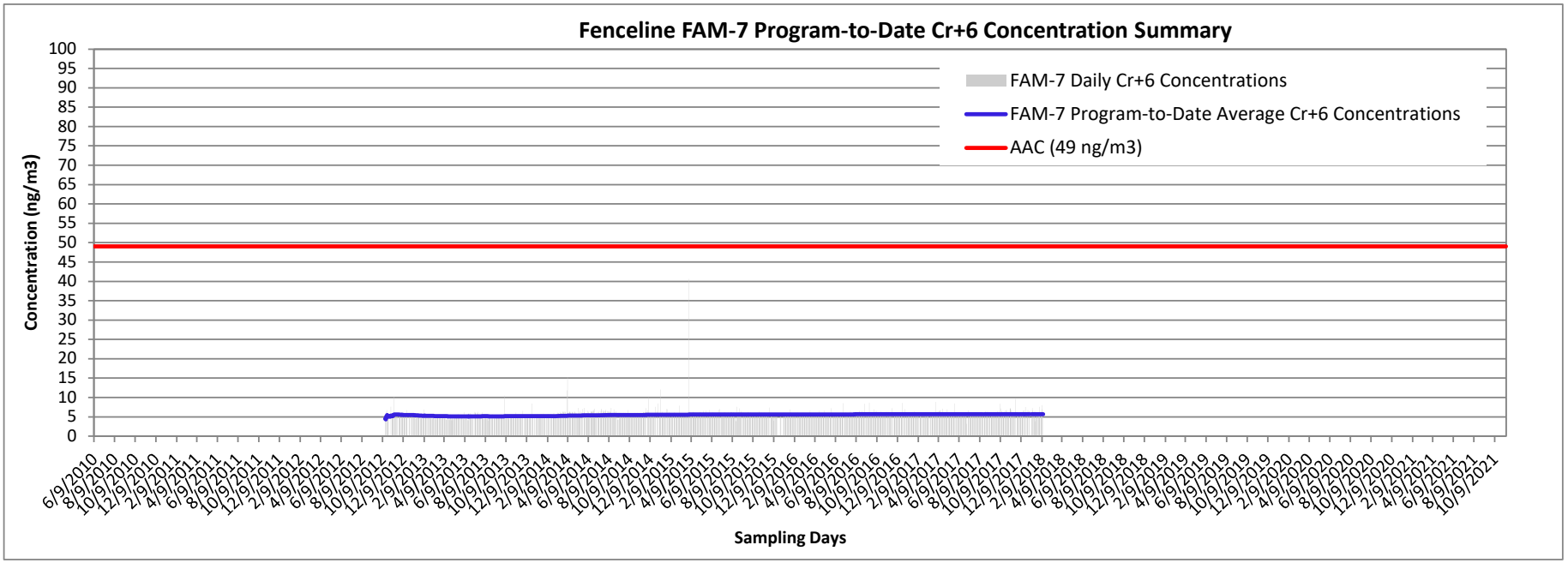

Fenceline FAM-2 Program-to-Date Cr+6 Concentration Summary
FAM-2 Daily Cr+6 Concentrations
FAM-2 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

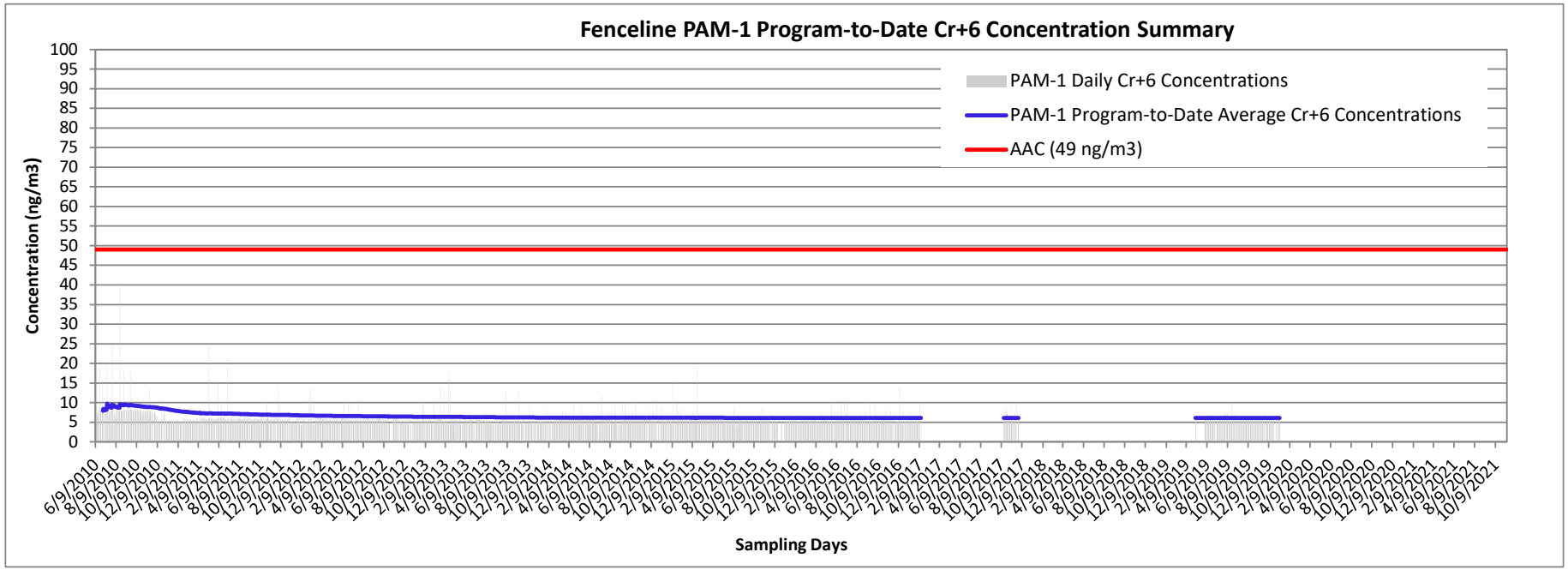

Fenceline FAM-3 Program-to-Date Cr+6 Concentration Summary
FAM-3 Daily Cr+6 Concentrations
FAM-3 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

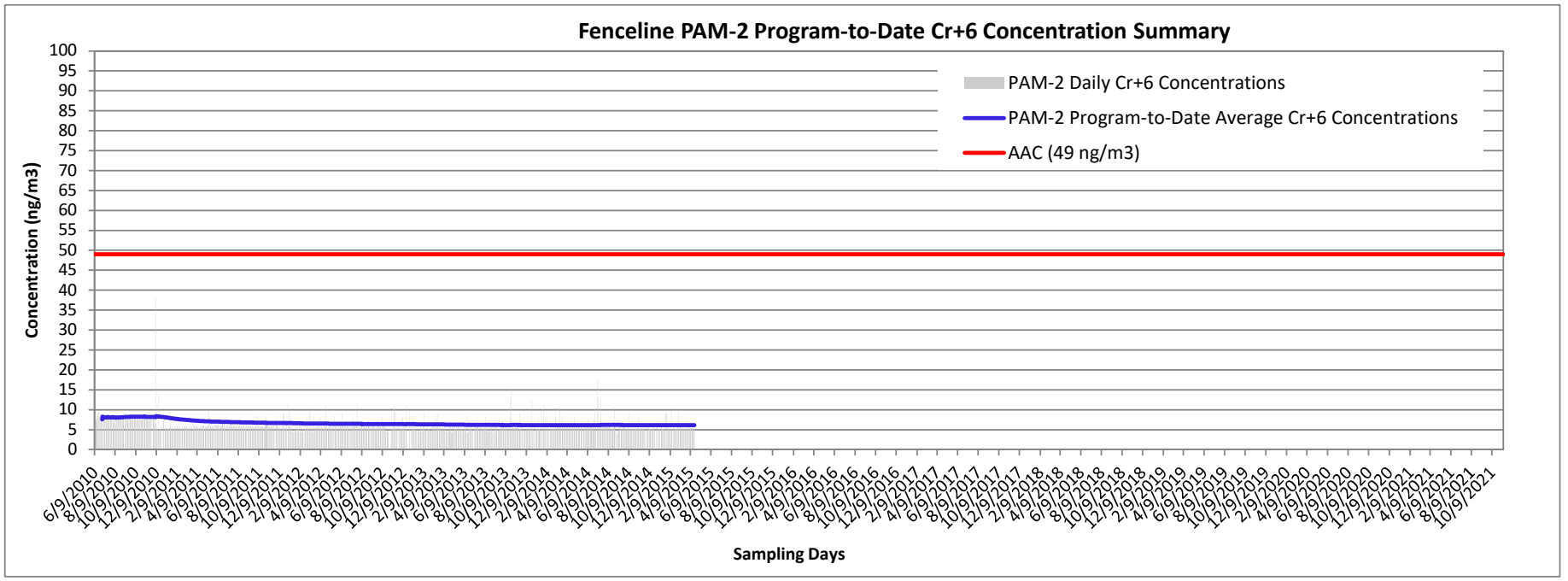

Fenceline FAM-4 Program-to-Date Cr+6 Concentration Summary
FAM-4 Daily Cr+6 Concentrations
FAM-4 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

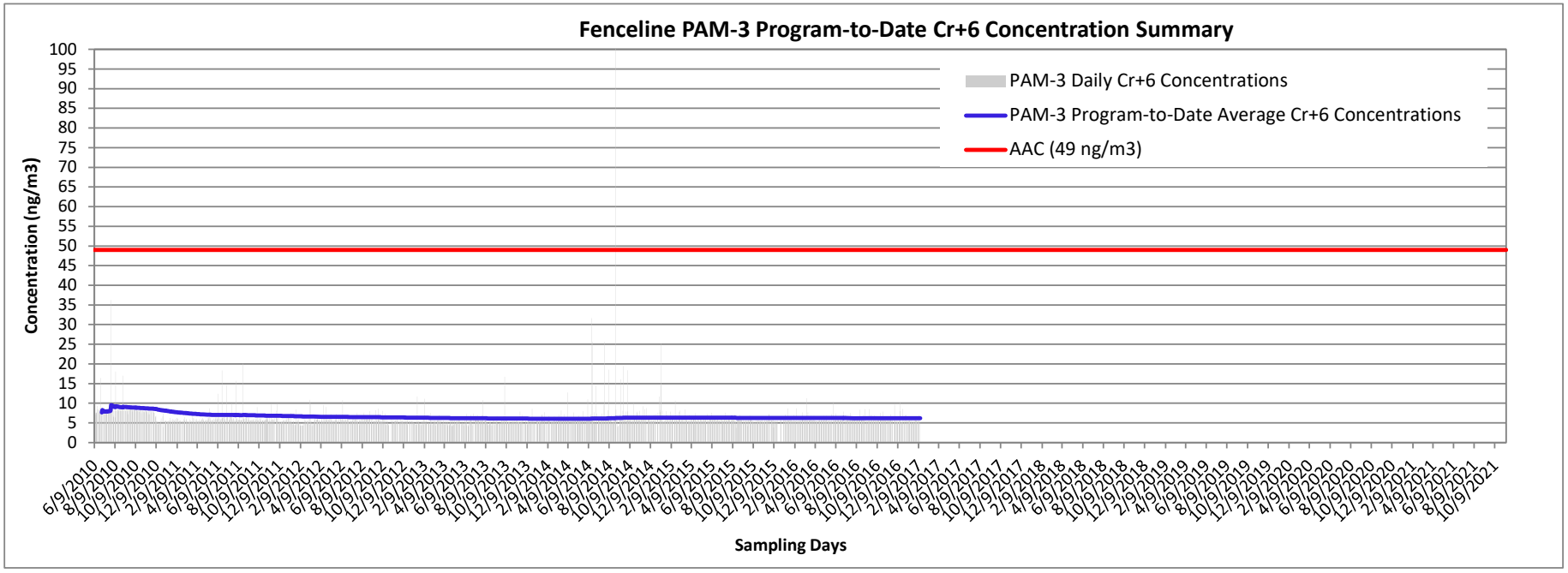

Fenceline FAM-5 Program-to-Date Cr+6 Concentration Summary
FAM-5 Daily Cr+6 Concentrations
FAM-5 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

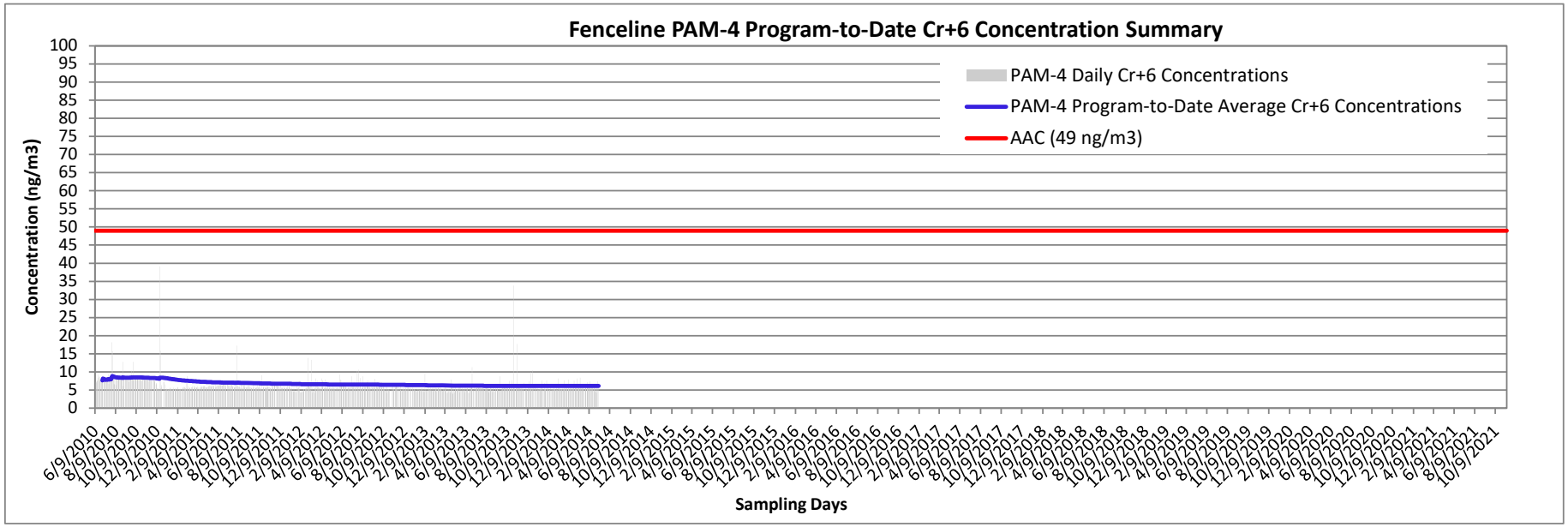

Fenceline FAM-6 Program-to-Date Cr+6 Concentration Summary
FAM-6 Daily Cr+6 Concentrations
FAM-6 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

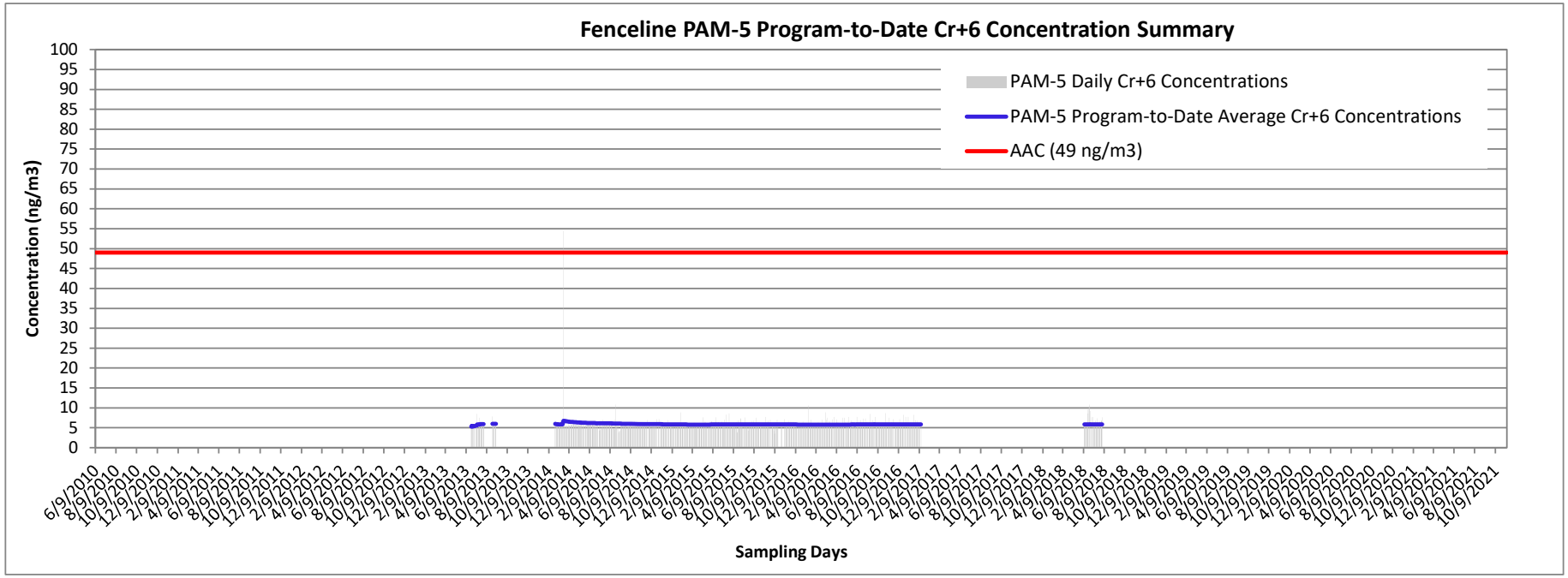

Fenceline FAM-7 Program-to-Date Cr+6 Concentration Summary
FAM-7 Daily Cr+6 Concentrations
FAM-7 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

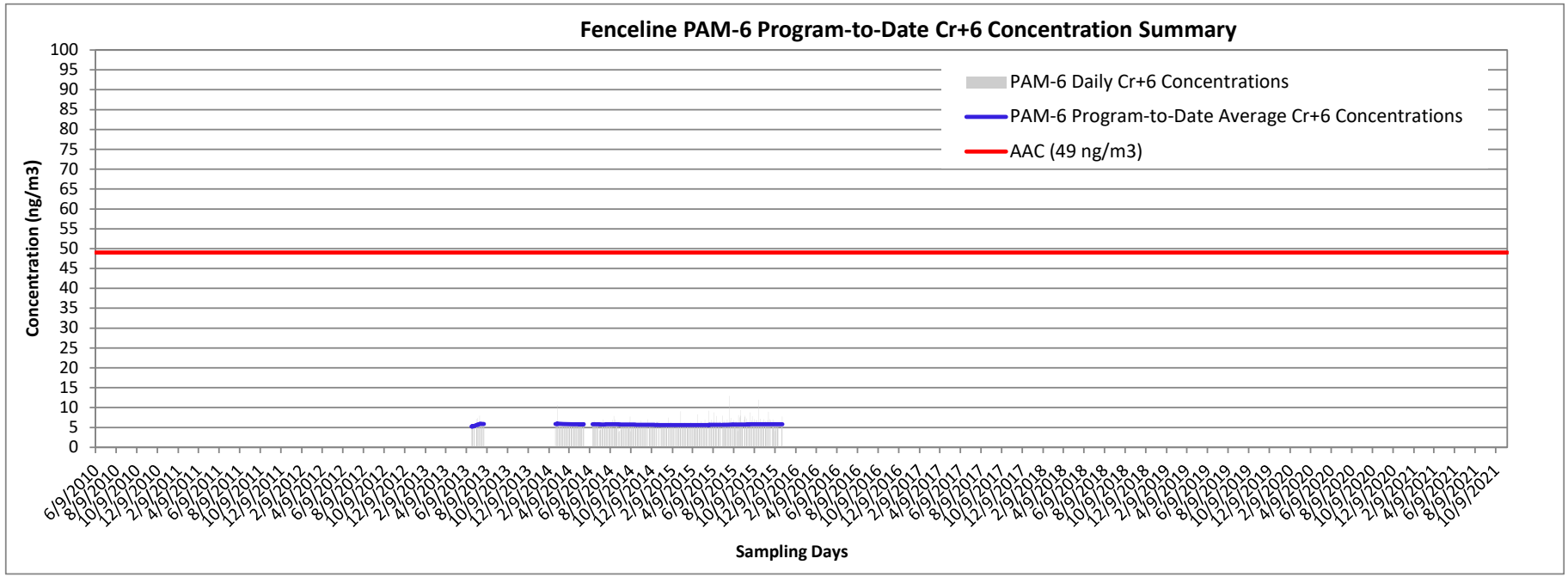

Fenceline PAM-1 Program-to-Date Cr+6 Concentration Summary
PAM-1 Daily Cr+6 Concentrations
PAM-1 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

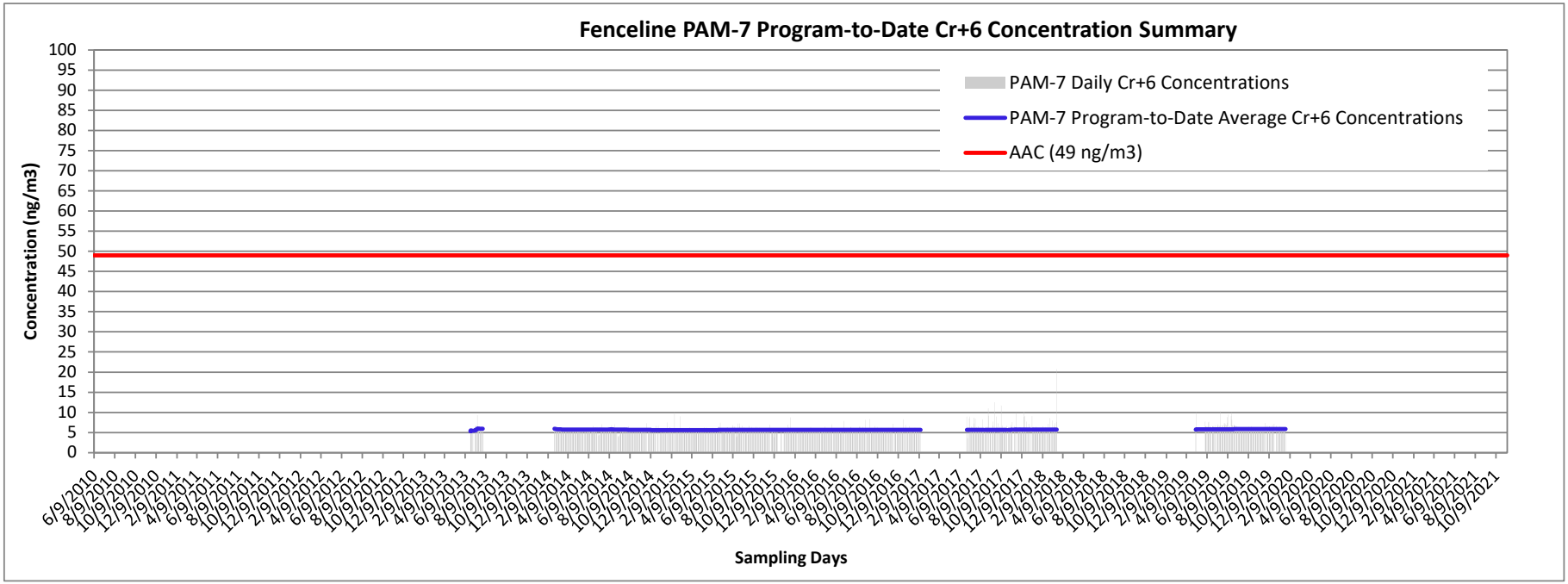

Fenceline PAM-2 Program-to-Date Cr+6 Concentration Summary
PAM-2 Daily Cr+6 Concentrations
PAM-2 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

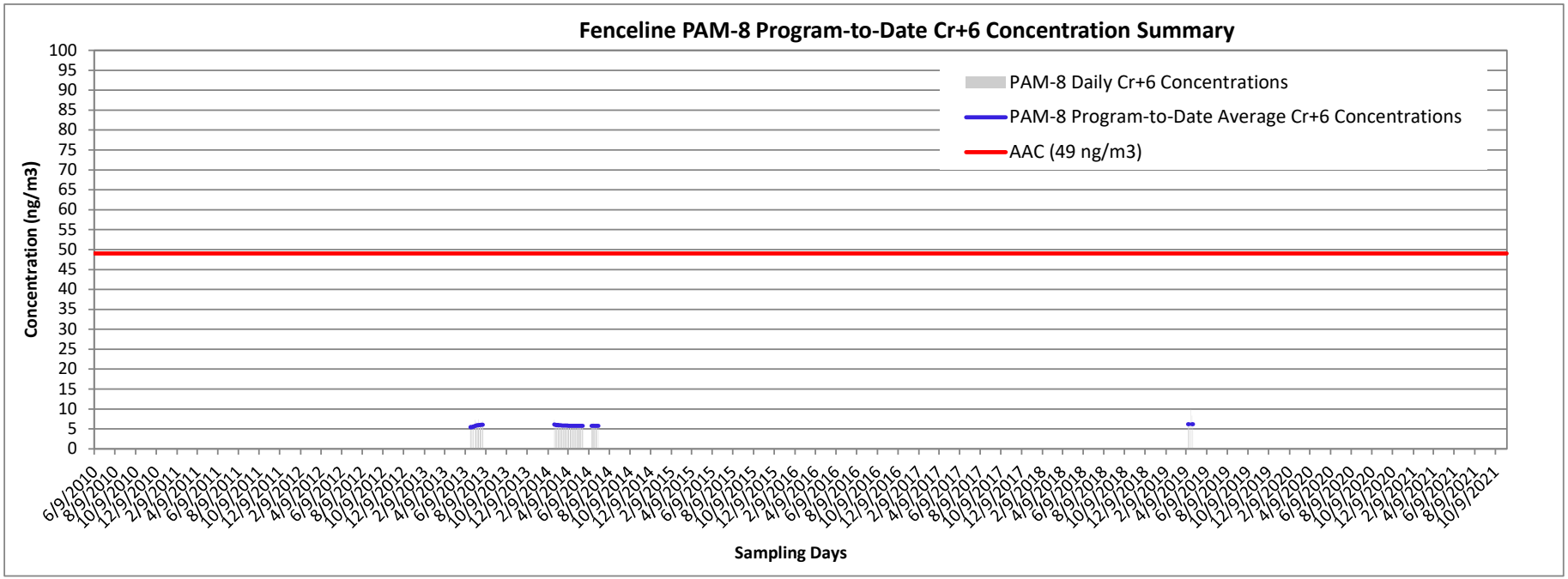

Fenceline PAM-3 Program-to-Date Cr+6 Concentration Summary
PAM-3 Daily Cr+6 Concentrations
PAM-3 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

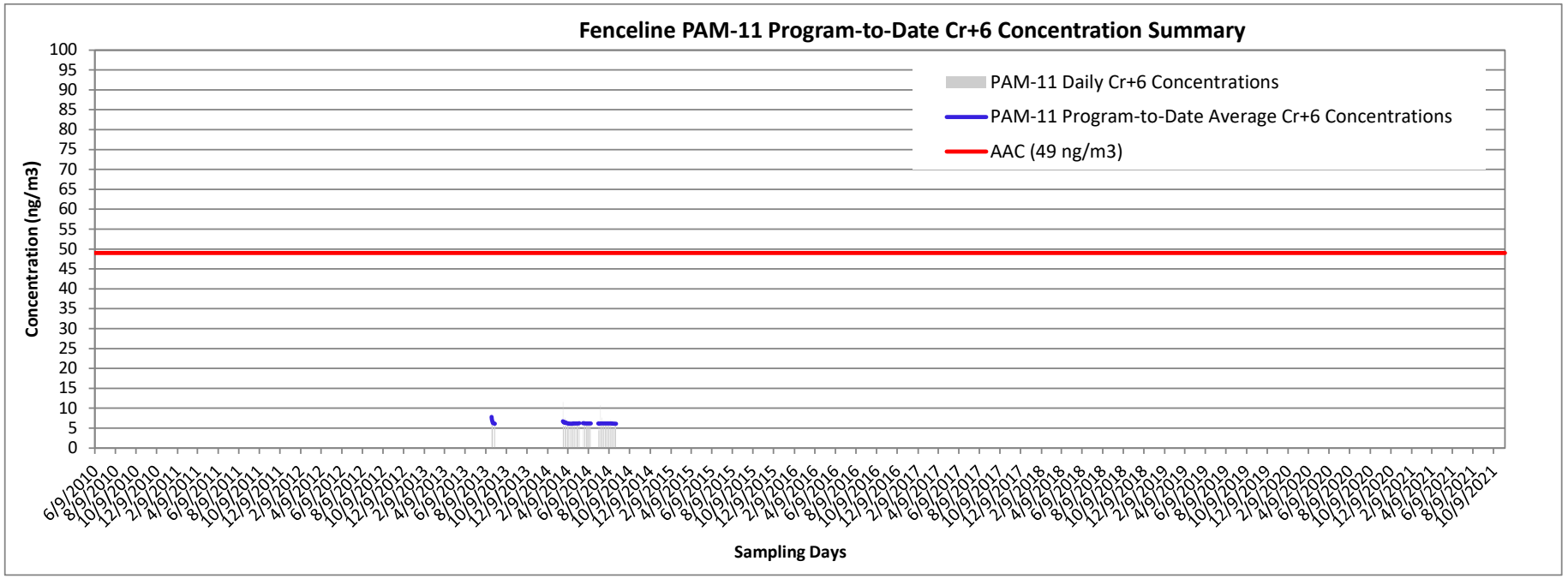

Fenceline PAM-4 Program-to-Date Cr+6 Concentration Summary
Concentration (ng/m3)
Sampling Days
PAM-4 Daily Cr+6 Concentrations
PAM-4 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)

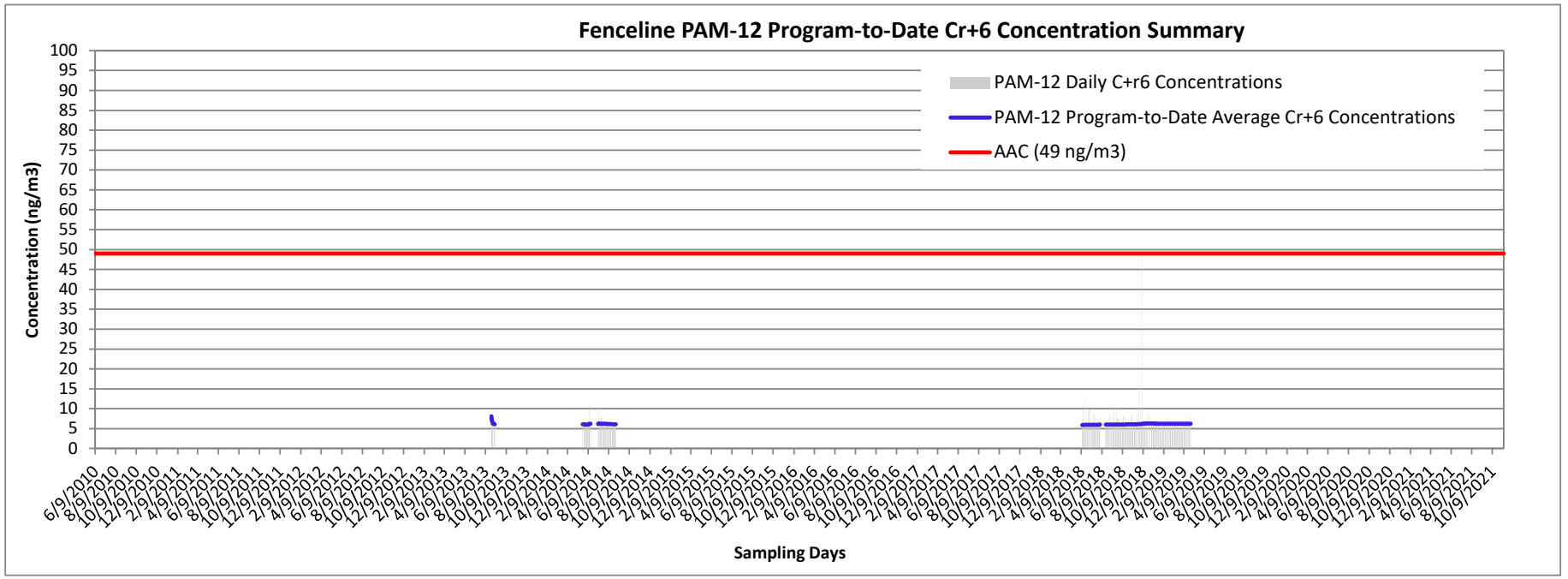

Fenceline PAM-5 Program-to-Date Cr+6 Concentration Summary
PAM-5 Daily Cr+6 Concentrations
PAM-5 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

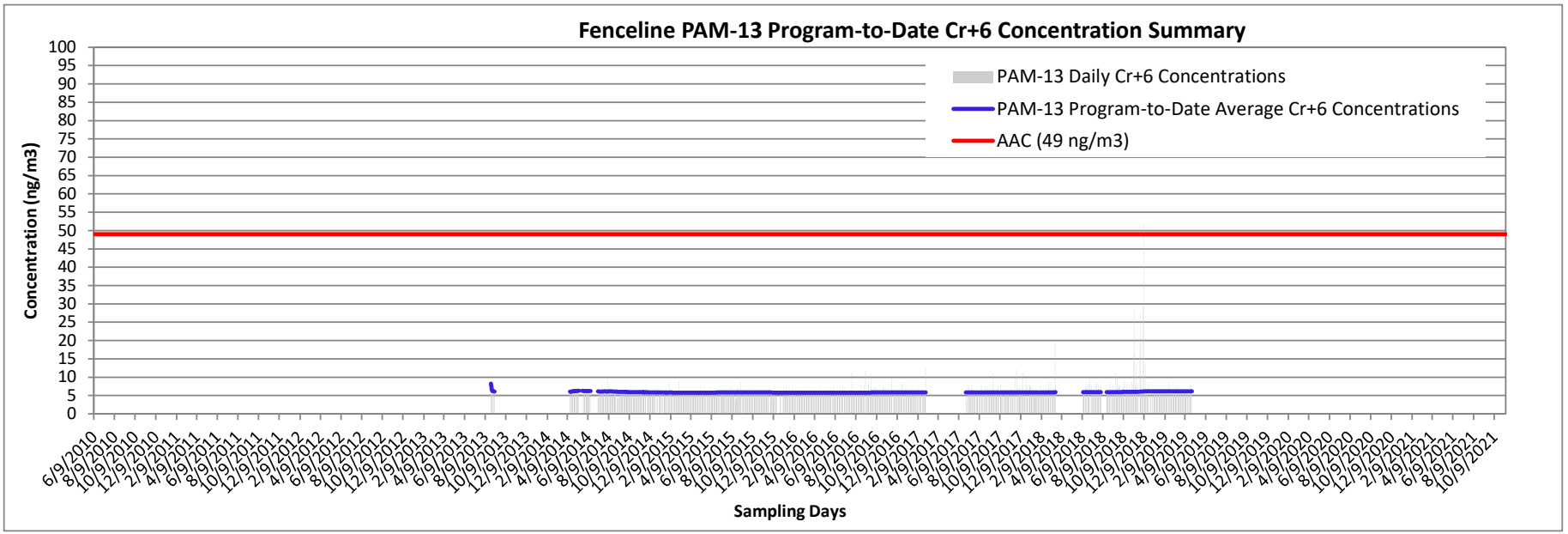

Fenceline PAM-6 Program-to-Date Cr+6 Concentration Summary
PAM-6 Daily Cr+6 Concentrations
PAM-6 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

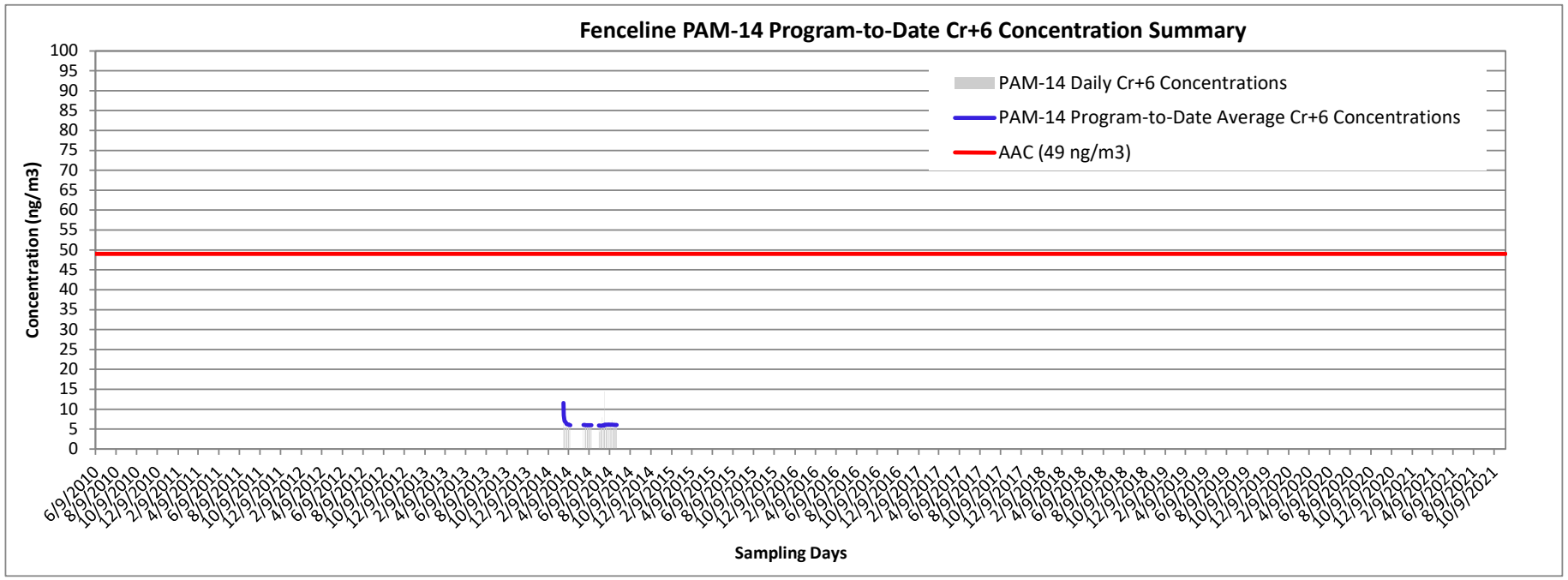

Fenceline PAM-7 Program-to-Date Cr+6 Concentration Summary
PAM-7 Daily Cr+6 Concentrations
PAM-7 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

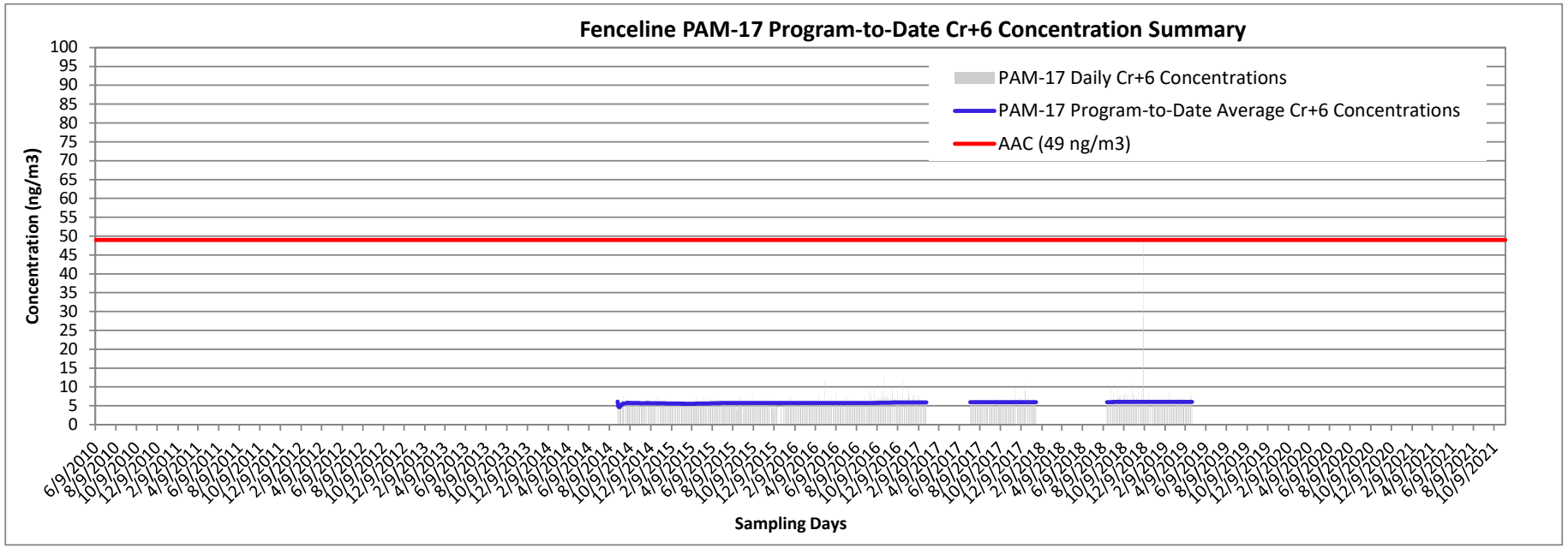

Fenceline PAM-8 Program-to-Date Cr+6 Concentration Summary
PAM-8 Daily Cr+6 Concentrations
PAM-8 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

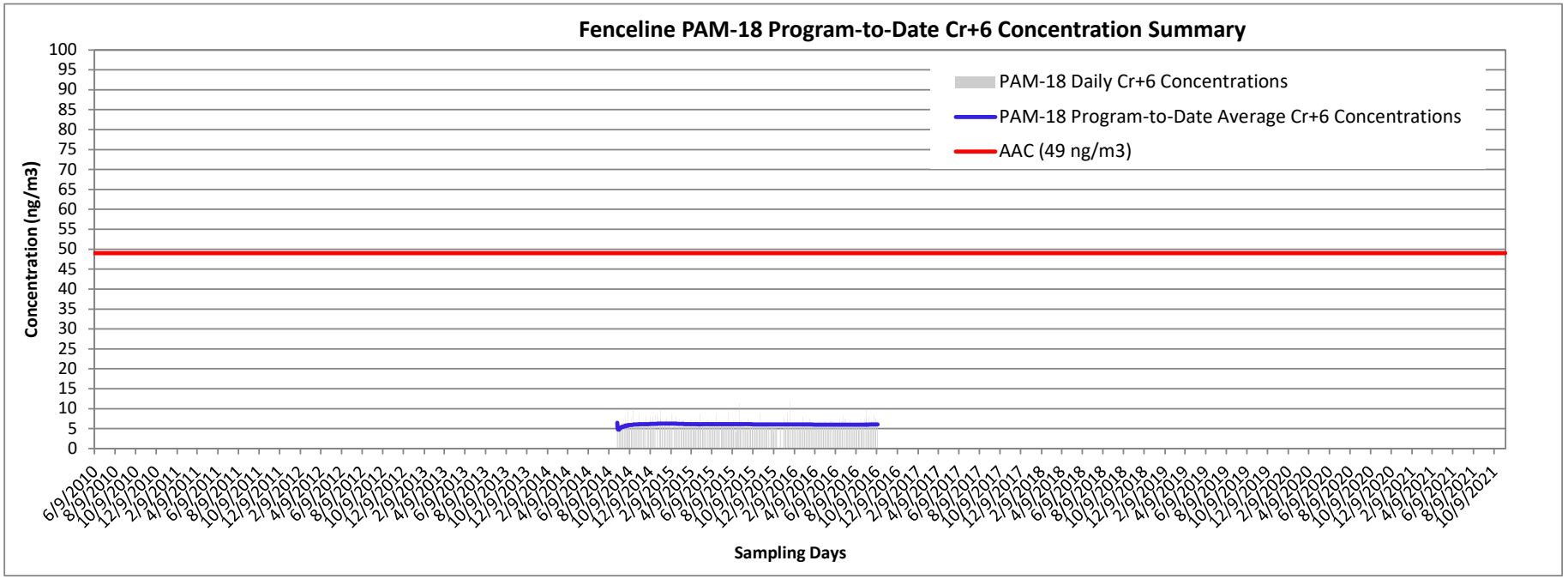

Fenceline PAM-11 Program-to-Date Cr+6 Concentration Summary
PAM-11 Daily Cr+6 Concentrations
PAM-11 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

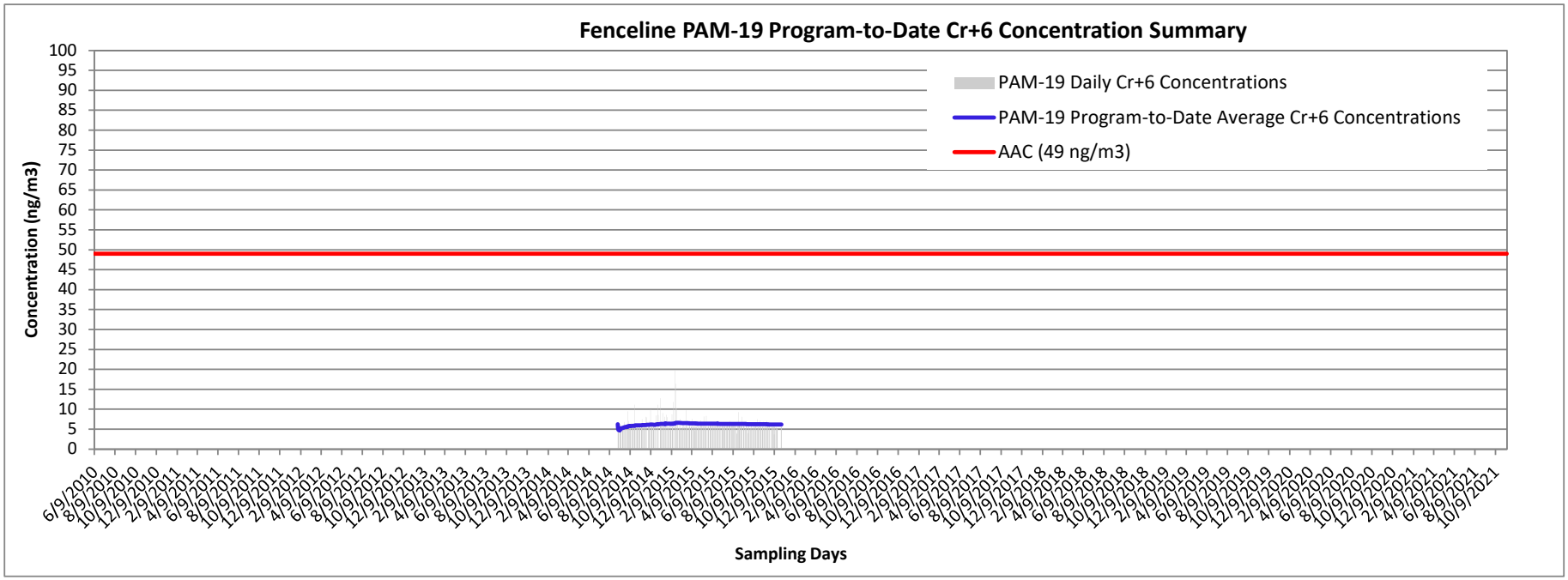

Fenceline PAM-12 Program-to-Date Cr+6 Concentration Summary
PAM-12 Daily C+r6 Concentrations
PAM-12 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

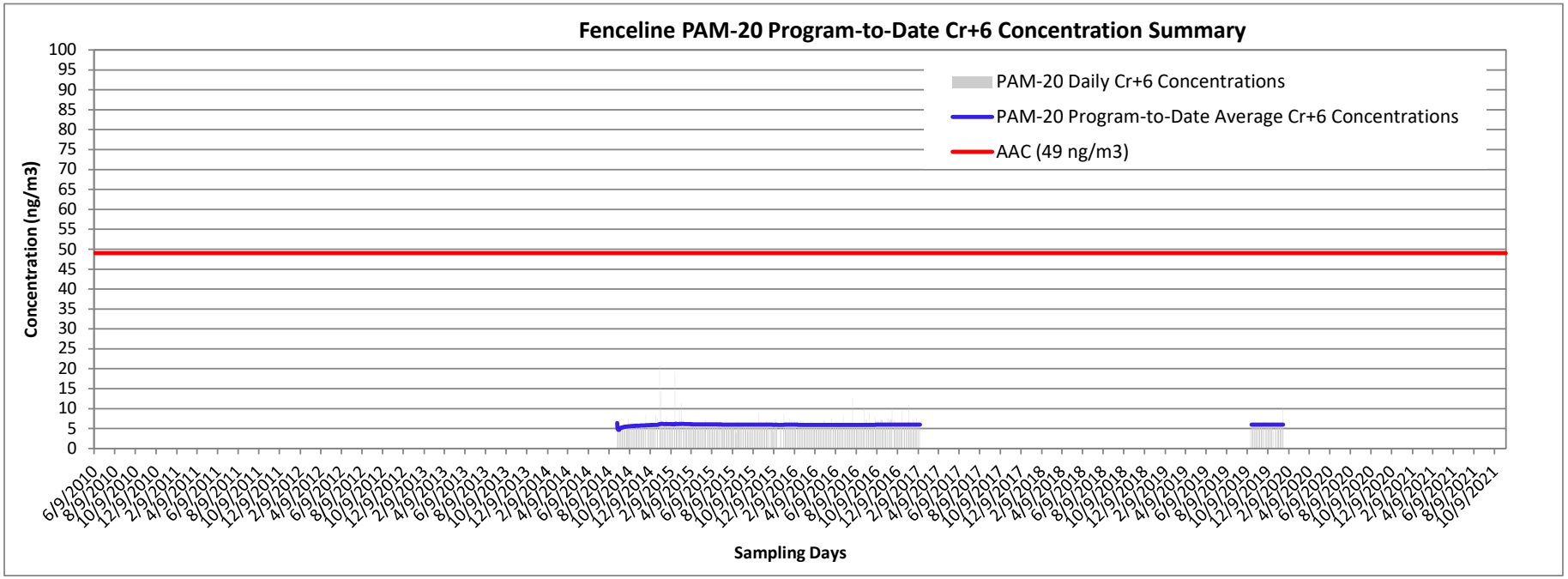

Fenceline PAM-13 Program-to-Date Cr+6 Concentration Summary
PAM-13 Daily Cr+6 Concentrations
PAM-13 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

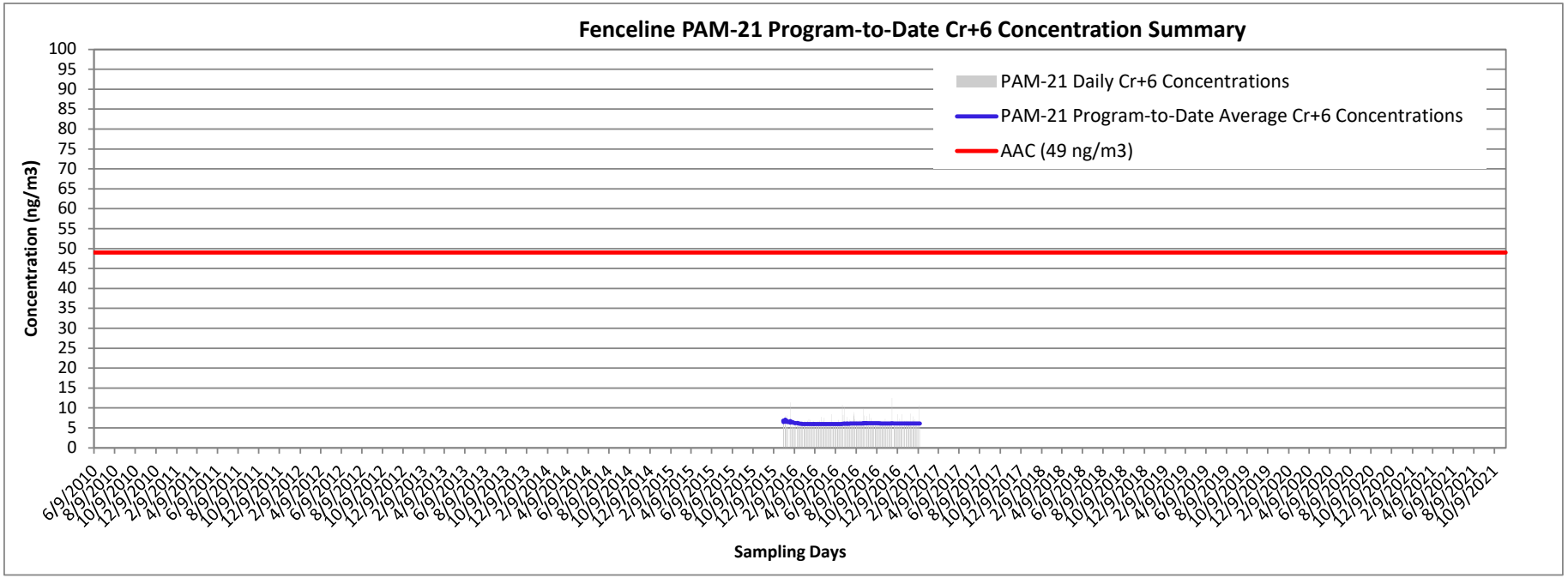

Fenceline PAM-14 Program-to-Date Cr+6 Concentration Summary
PAM-14 Daily Cr+6 Concentrations
PAM-14 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

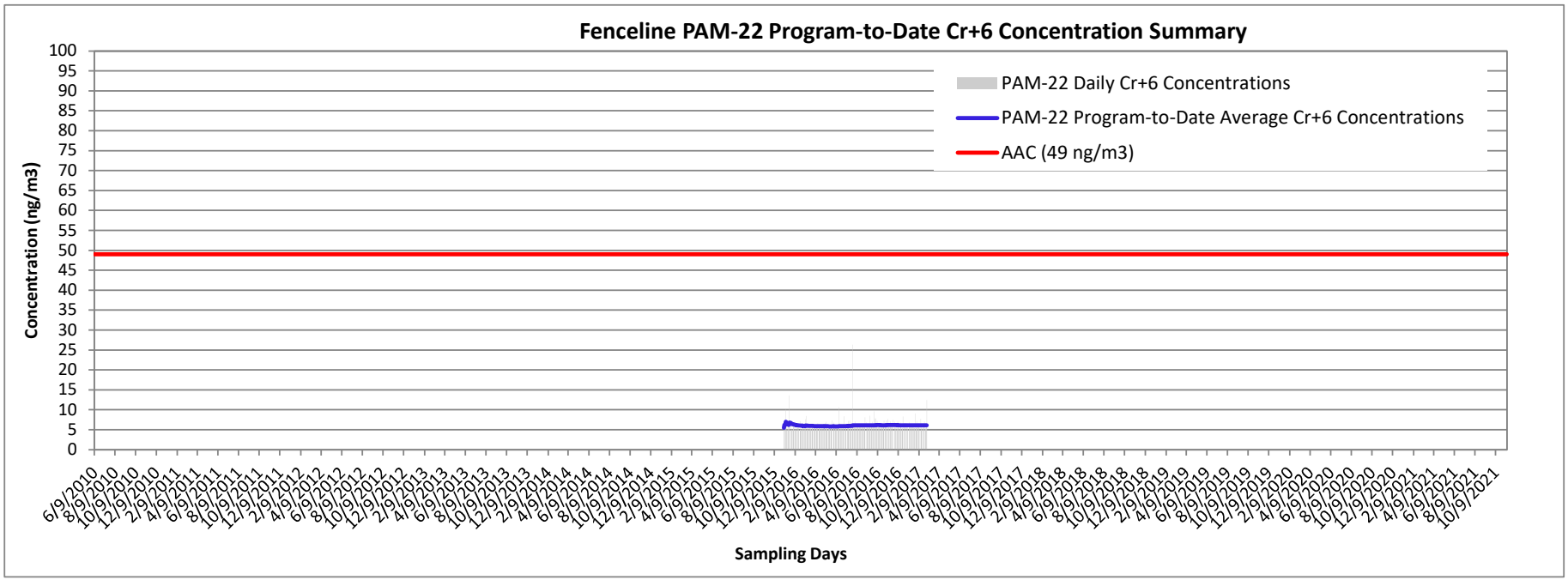

Fenceline PAM-17 Program-to-Date Cr+6 Concentration Summary
PAM-17 Daily Cr+6 Concentrations
PAM-17 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

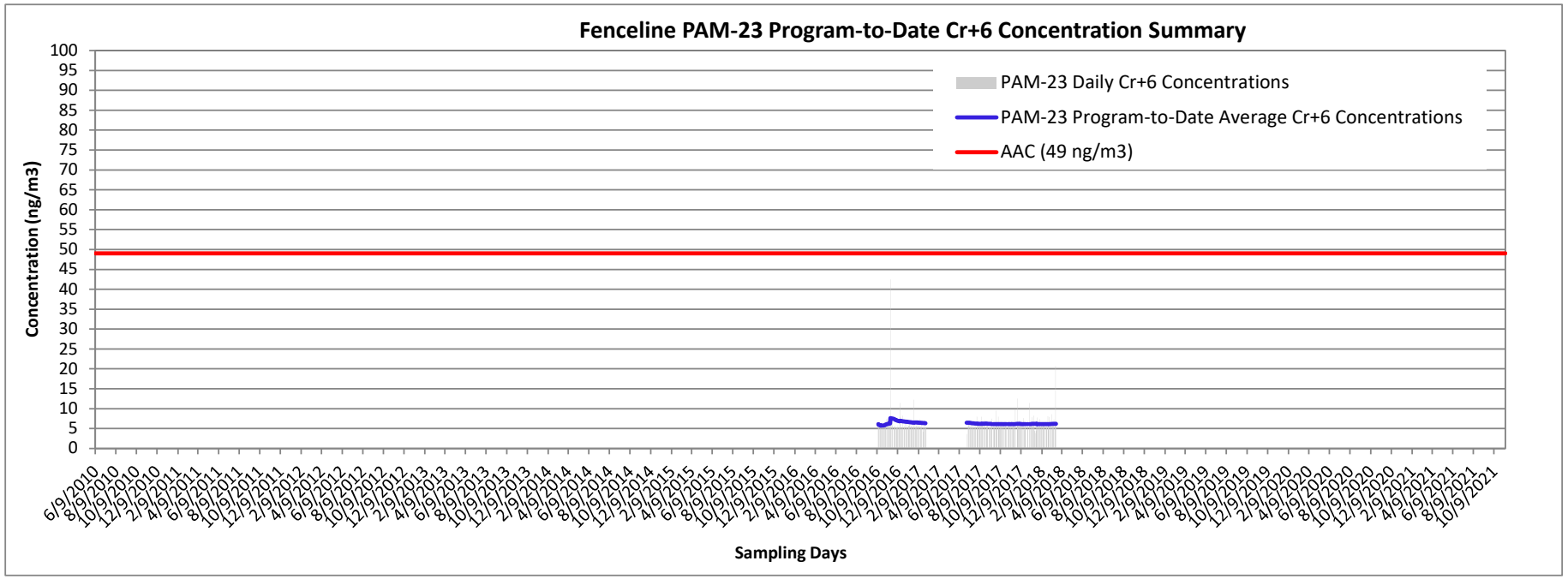

Fenceline PAM-18 Program-to-Date Cr+6 Concentration Summary
PAM-18 Daily Cr+6 Concentrations
PAM-18 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

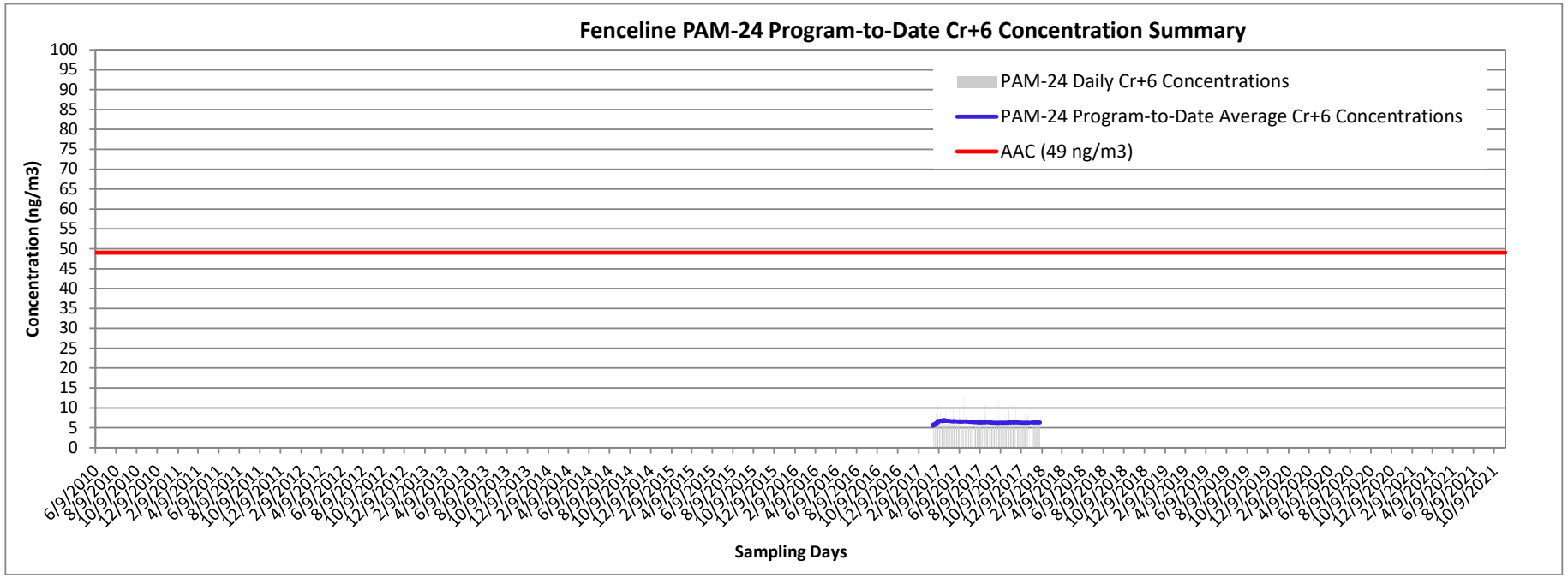

Fenceline PAM-19 Program-to-Date Cr+6 Concentration Summary
PAM-19 Daily Cr+6 Concentrations
PAM-19 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

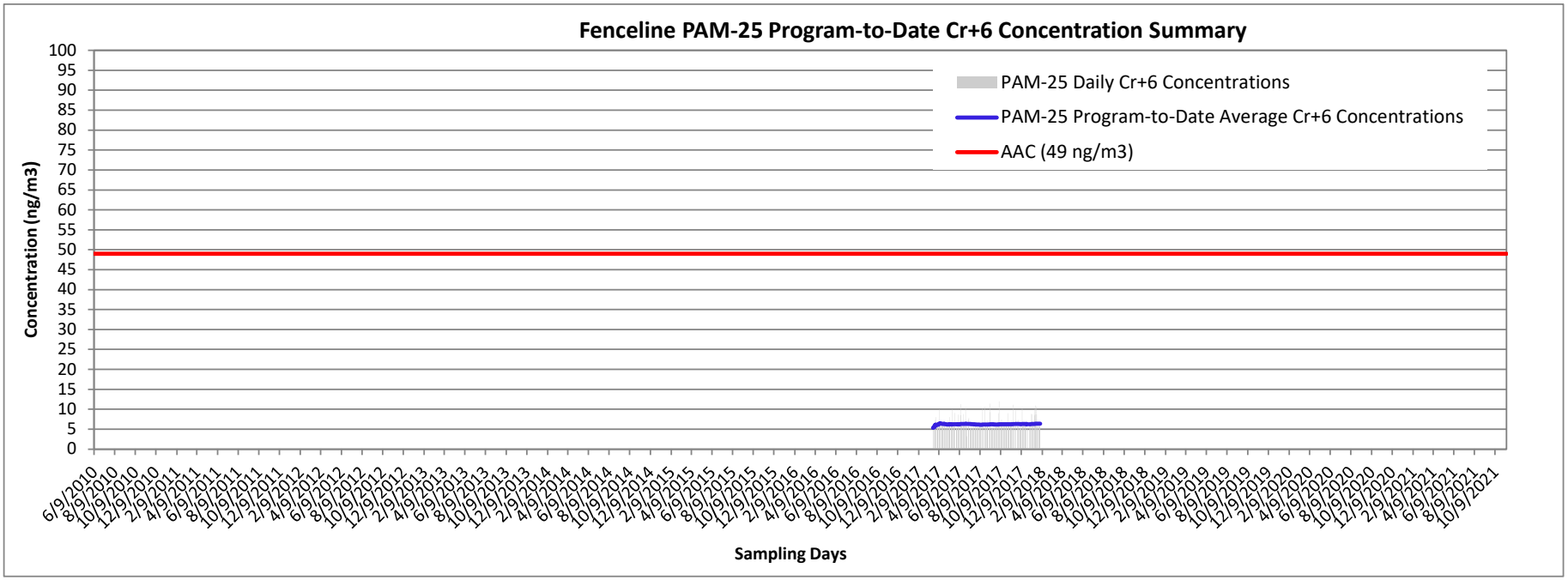

Fenceline PAM-20 Program-to-Date Cr+6 Concentration Summary
PAM-20 Daily Cr+6 Concentrations
PAM-20 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

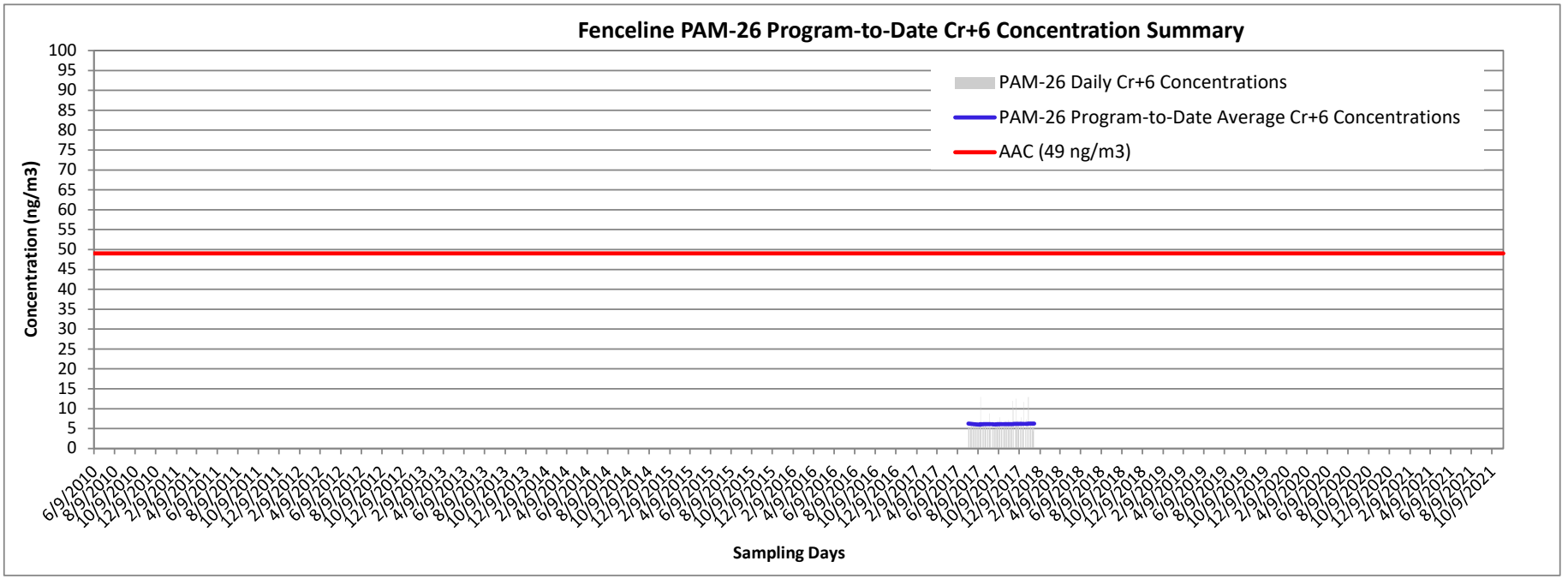

Fenceline PAM-21 Program-to-Date Cr+6 Concentration Summary
PAM-21 Daily Cr+6 Concentrations
PAM-21 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

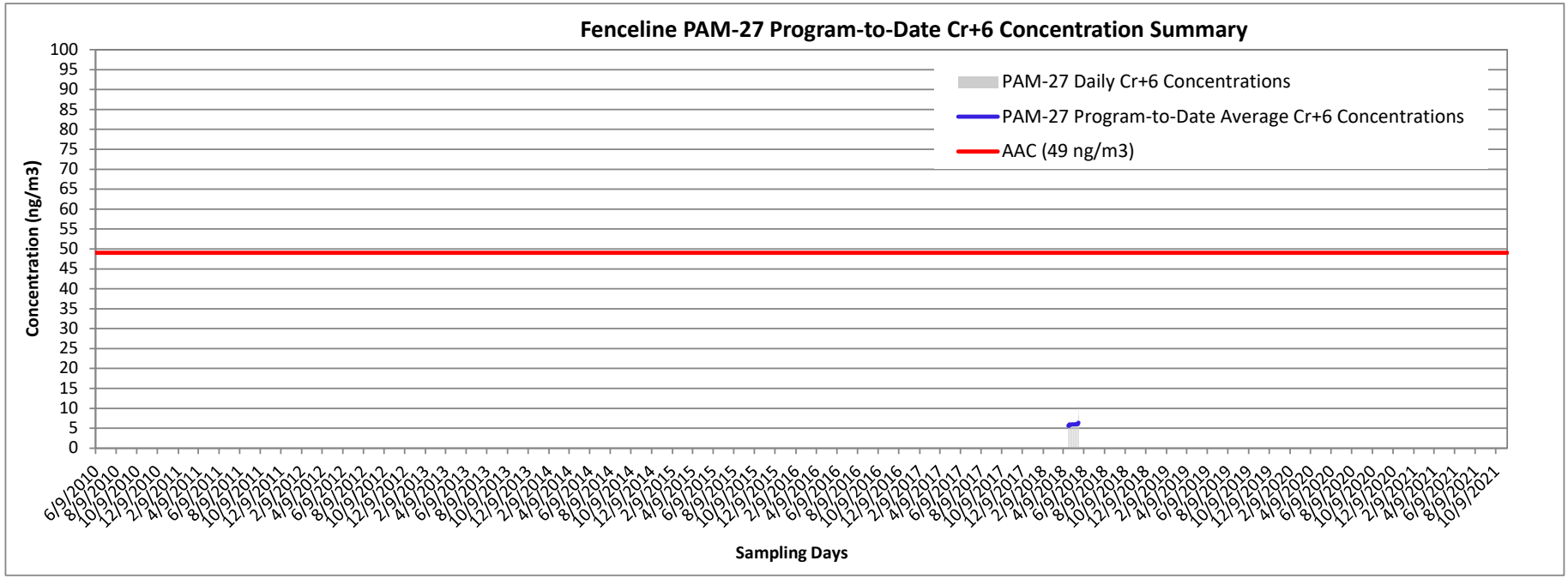

Fenceline PAM-22 Program-to-Date Cr+6 Concentration Summary
PAM-22 Daily Cr+6 Concentrations
PAM-22 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

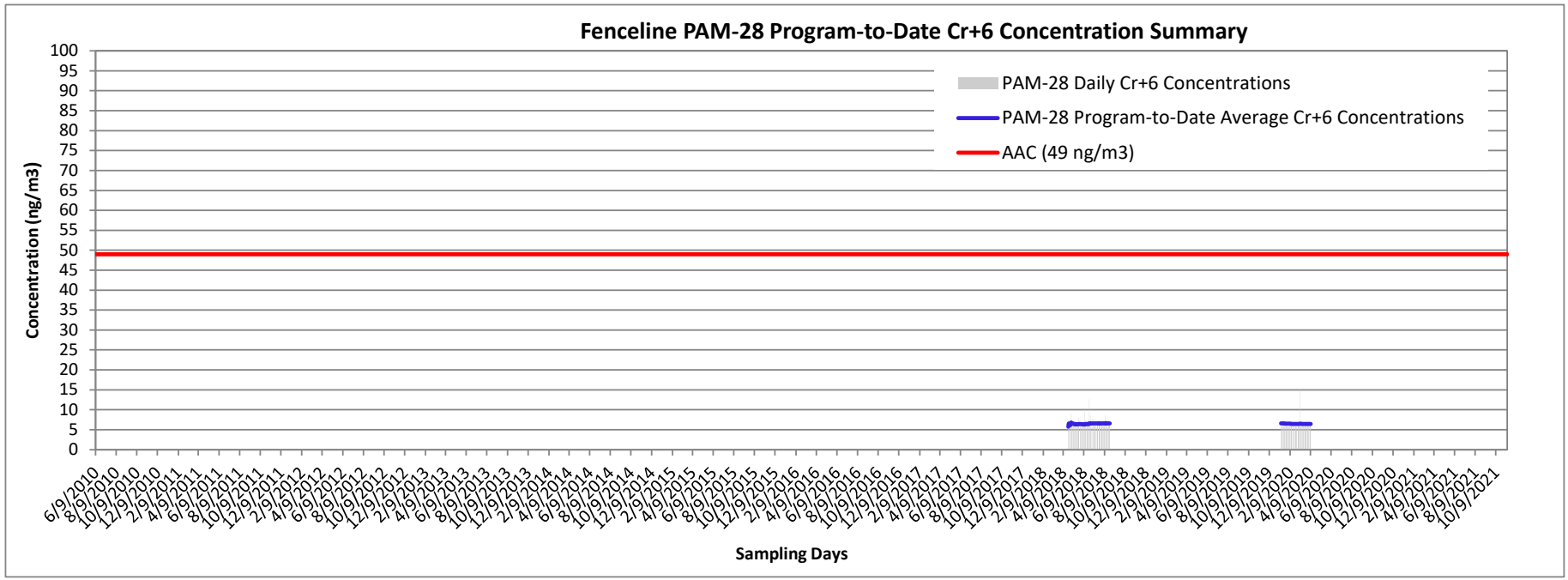

Fenceline PAM-23 Program-to-Date Cr+6 Concentration Summary
PAM-23 Daily Cr+6 Concentrations
PAM-23 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

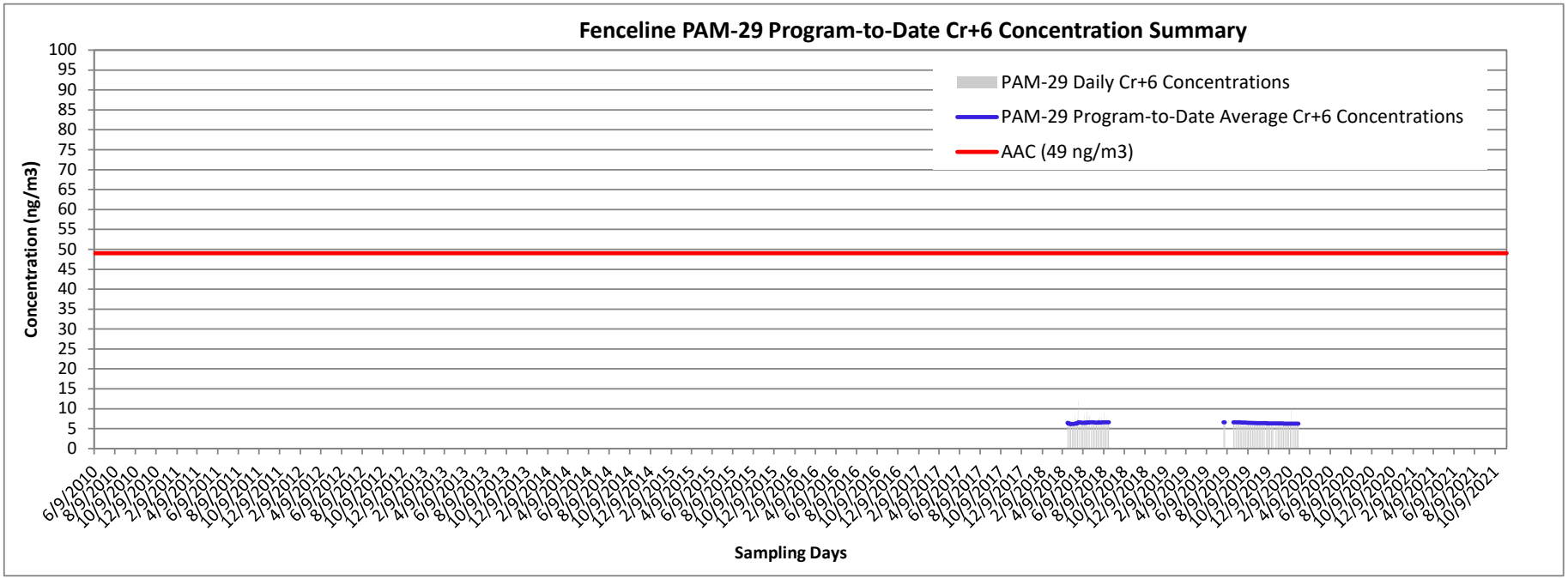

Fenceline PAM-24 Program-to-Date Cr+6 Concentration Summary
PAM-24 Daily Cr+6 Concentrations
PAM-24 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

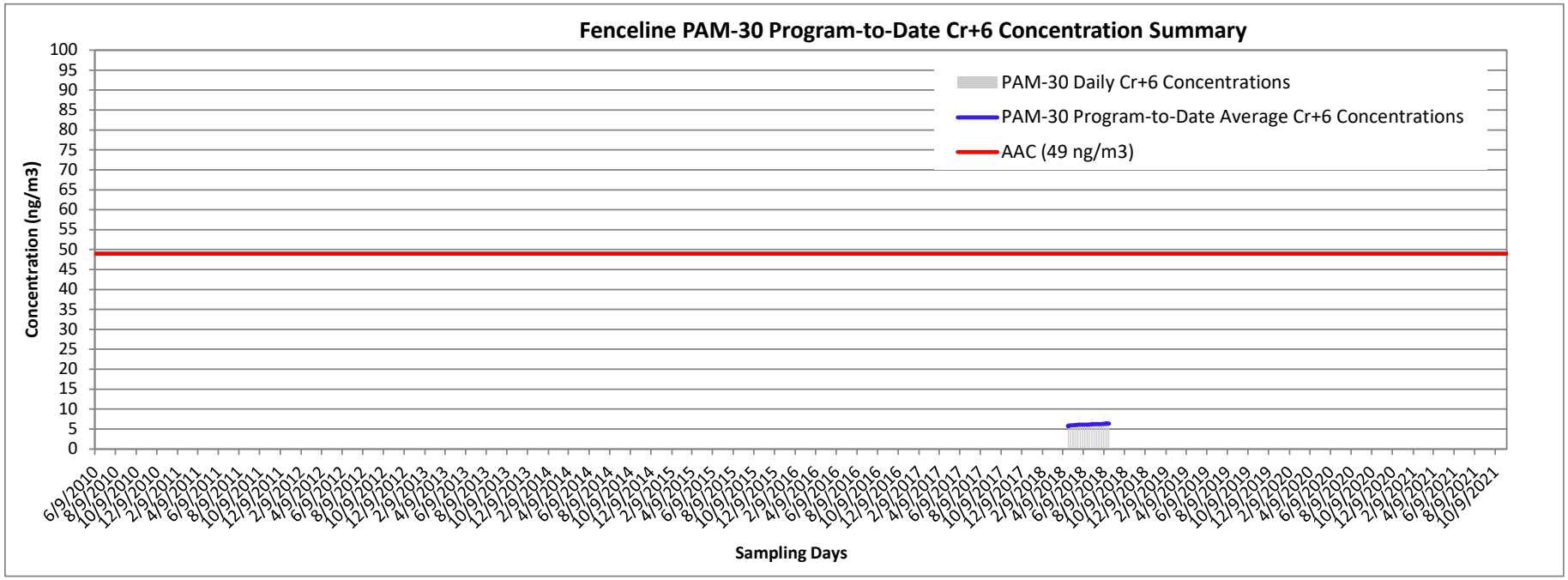

Fenceline PAM-25 Program-to-Date Cr+6 Concentration Summary
PAM-25 Daily Cr+6 Concentrations
PAM-25 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

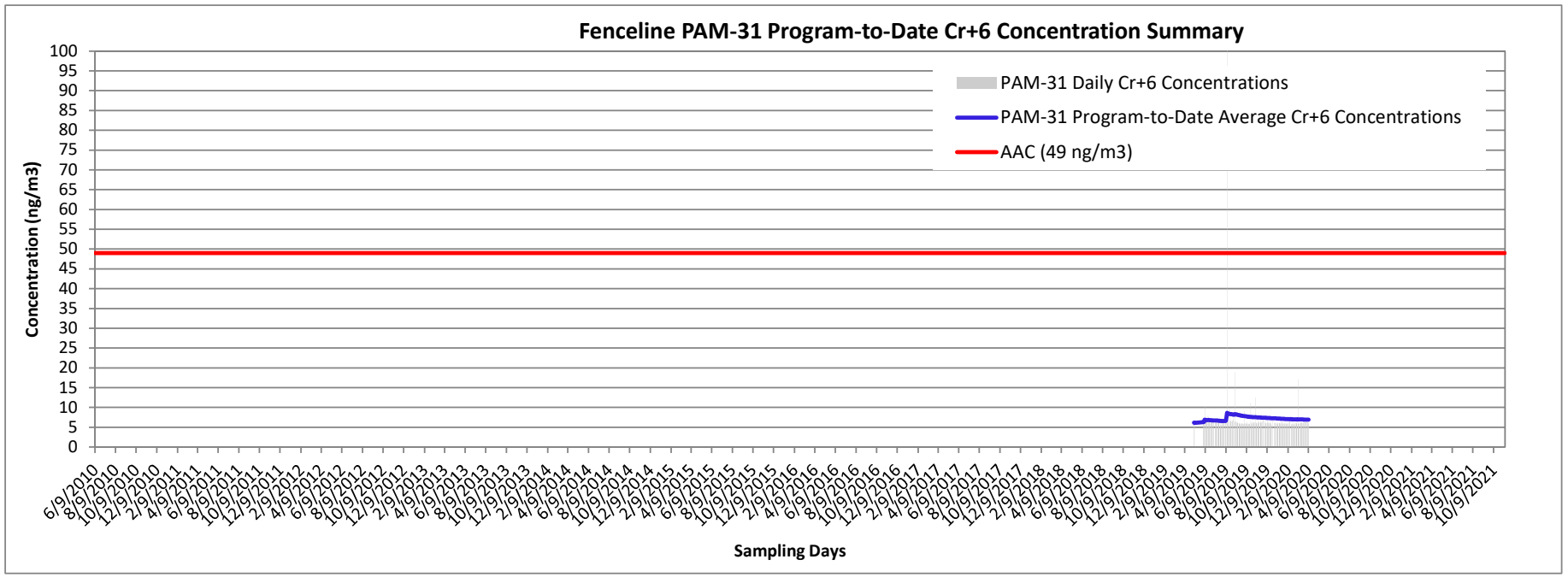

Fenceline PAM-26 Program-to-Date Cr+6 Concentration Summary
PAM-26 Daily Cr+6 Concentrations
PAM-26 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

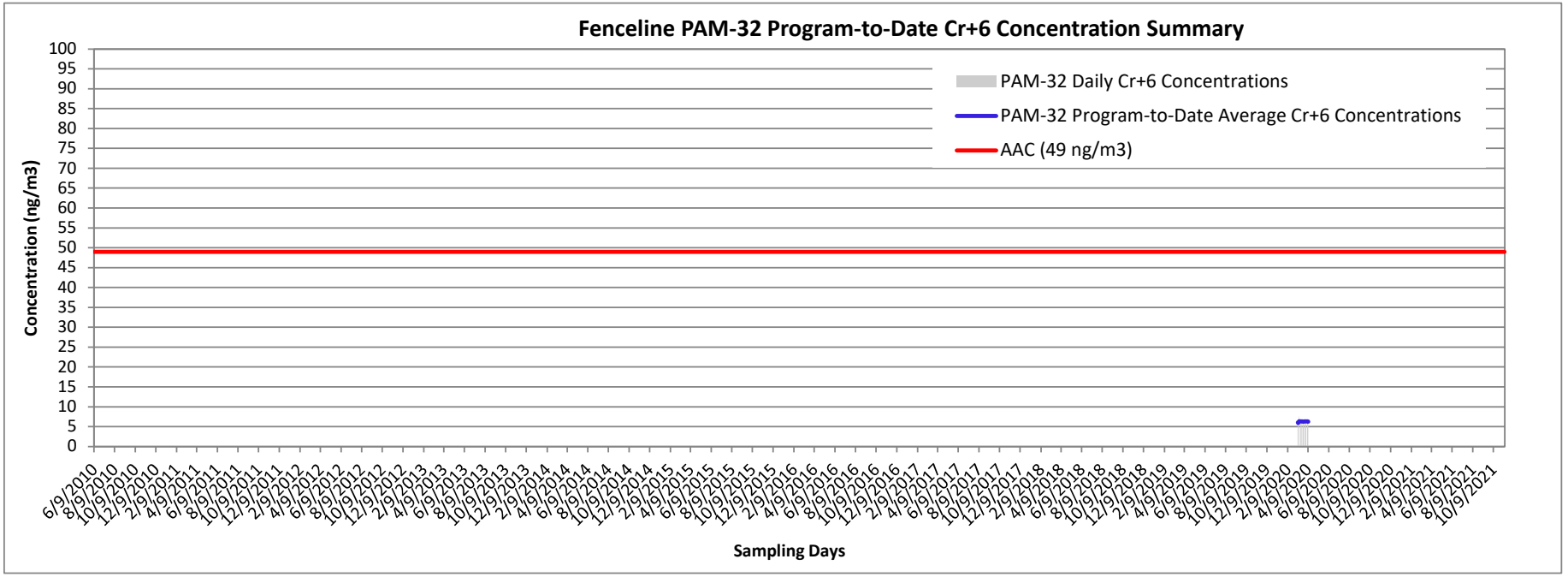

Fenceline PAM-27 Program-to-Date Cr+6 Concentration Summary
PAM-27 Daily Cr+6 Concentrations
PAM-27 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

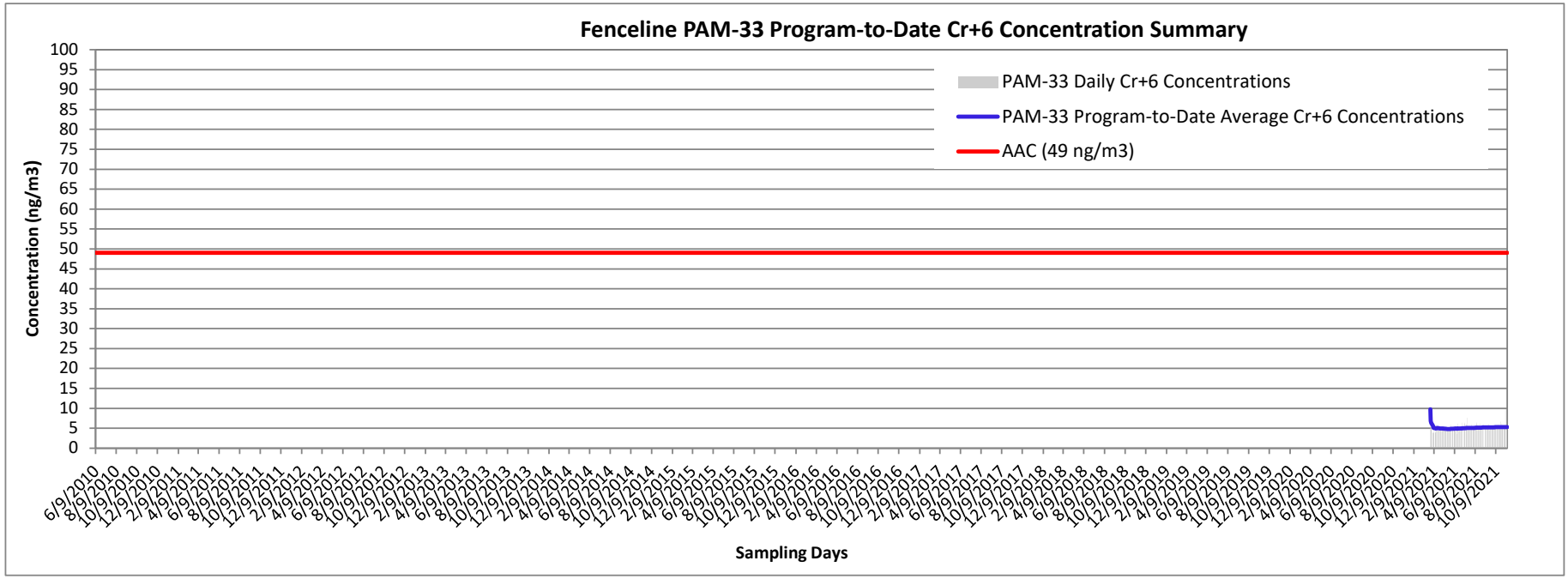

Fenceline PAM-28 Program-to-Date Cr+6 Concentration Summary
PAM-28 Daily Cr+6 Concentrations
PAM-28 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

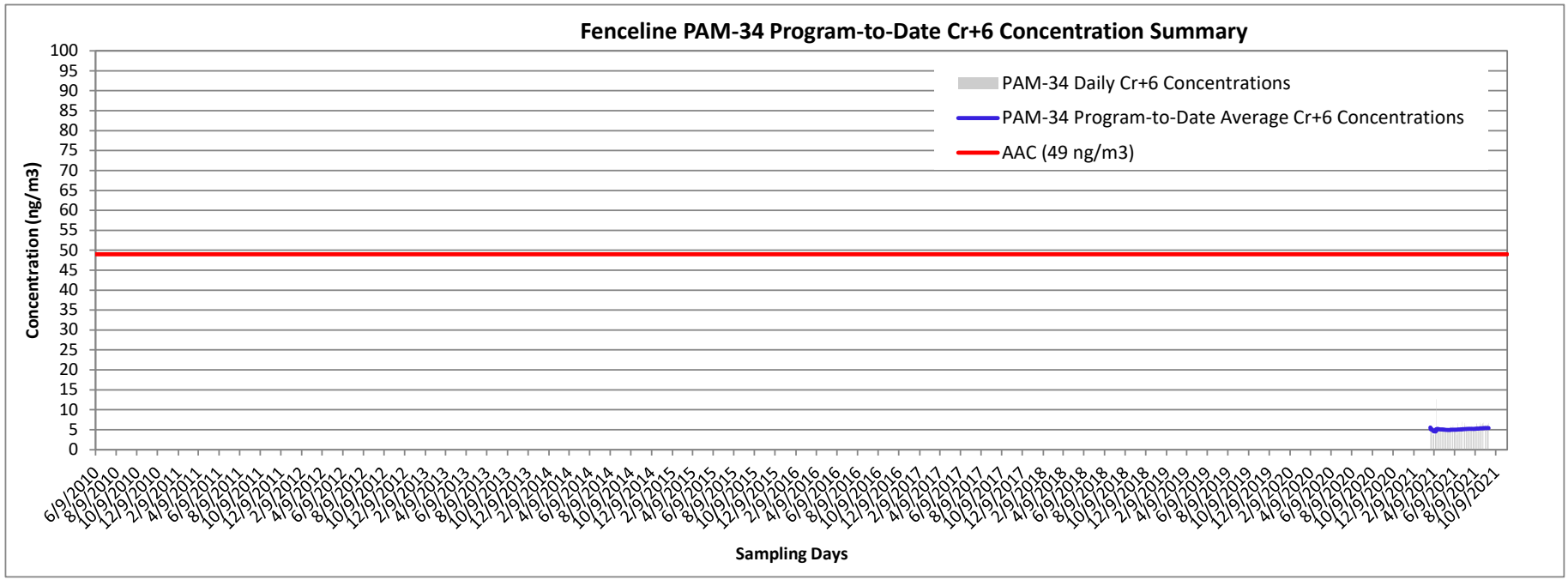

Fenceline PAM-29 Program-to-Date Cr+6 Concentration Summary
PAM-29 Daily Cr+6 Concentrations
PAM-29 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

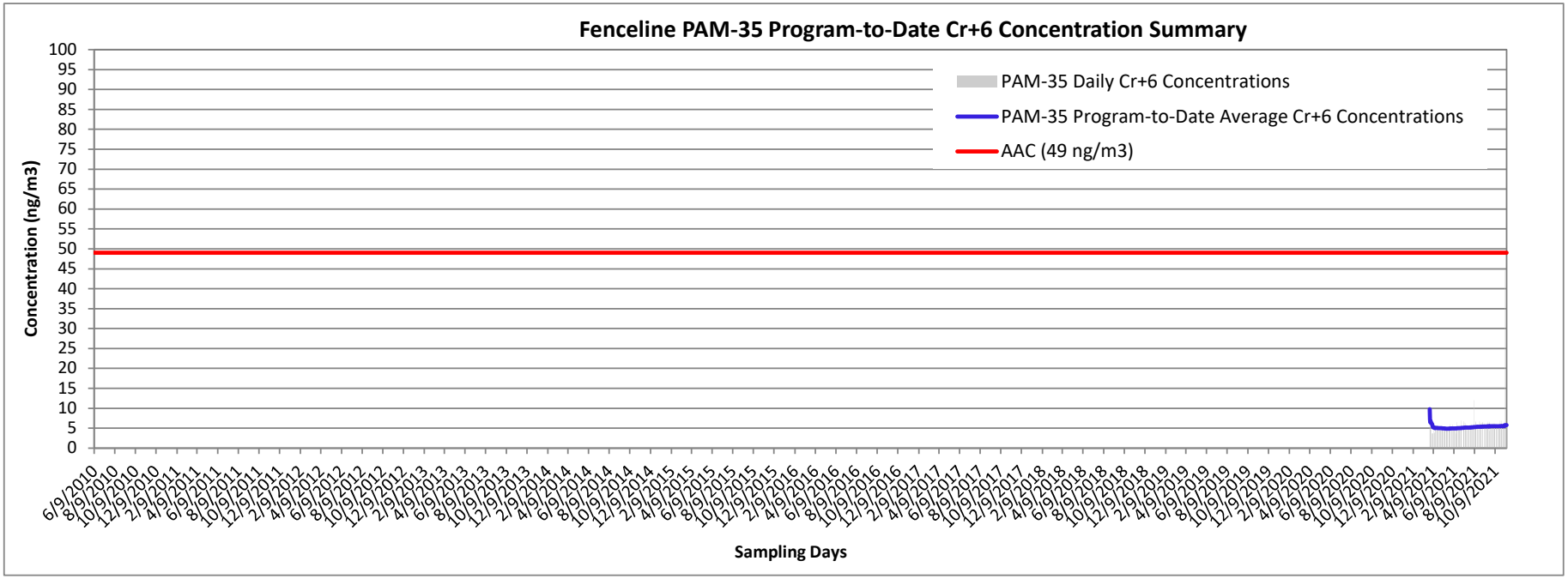

Fenceline PAM-30 Program-to-Date Cr+6 Concentration Summary
PAM-30 Daily Cr+6 Concentrations
PAM-30 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

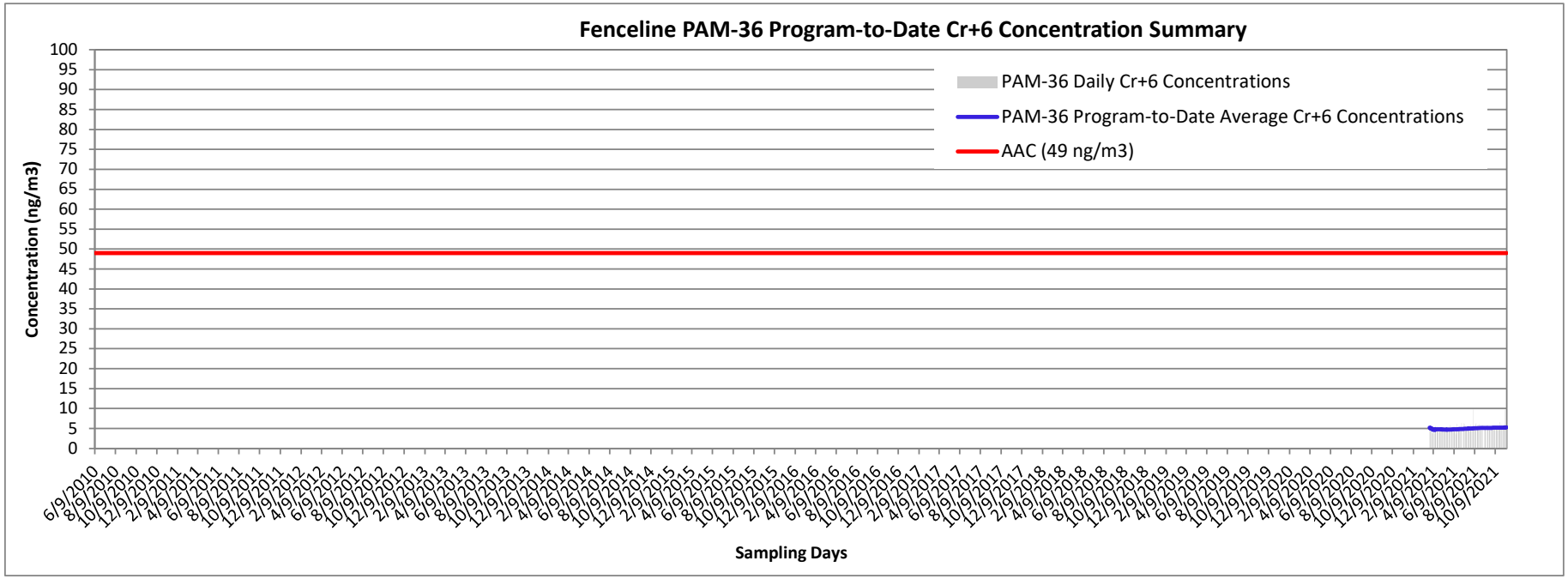

Fenceline PAM-31 Program-to-Date Cr+6 Concentration Summary
PAM-31 Daily Cr+6 Concentrations
PAM-31 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

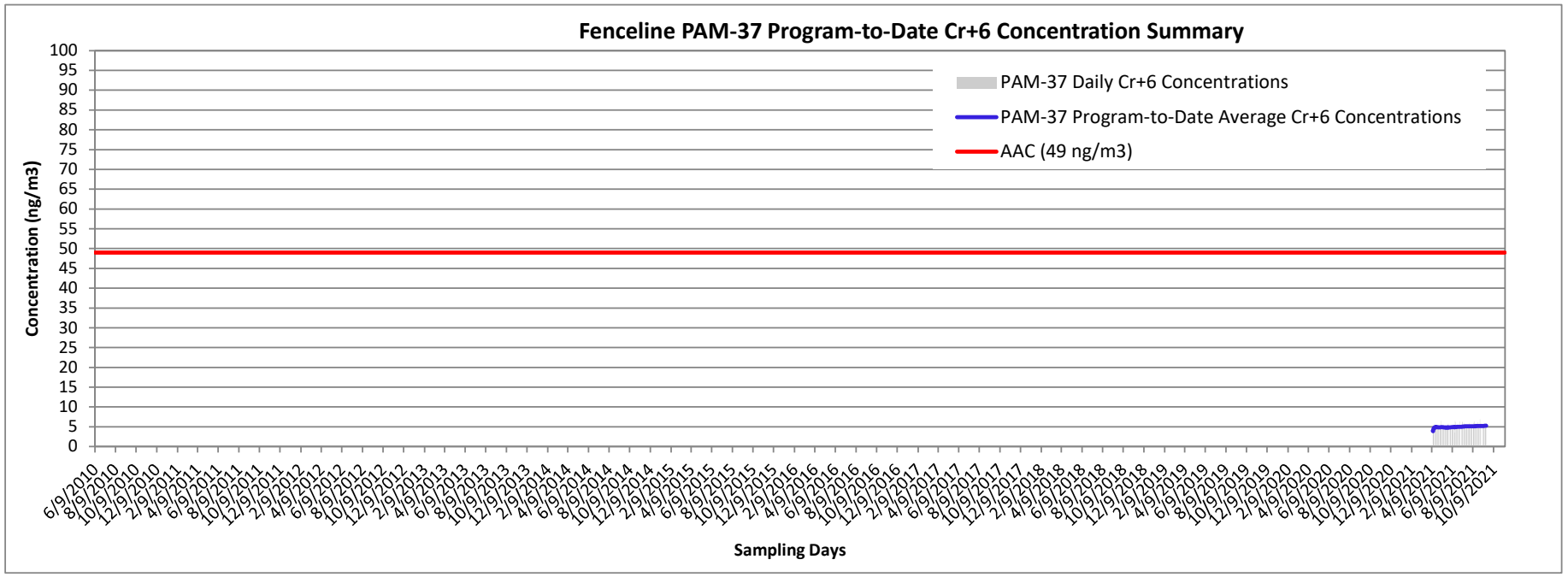

Fenceline PAM-32 Program-to-Date Cr+6 Concentration Summary
PAM-32 Daily Cr+6 Concentrations
PAM-32 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

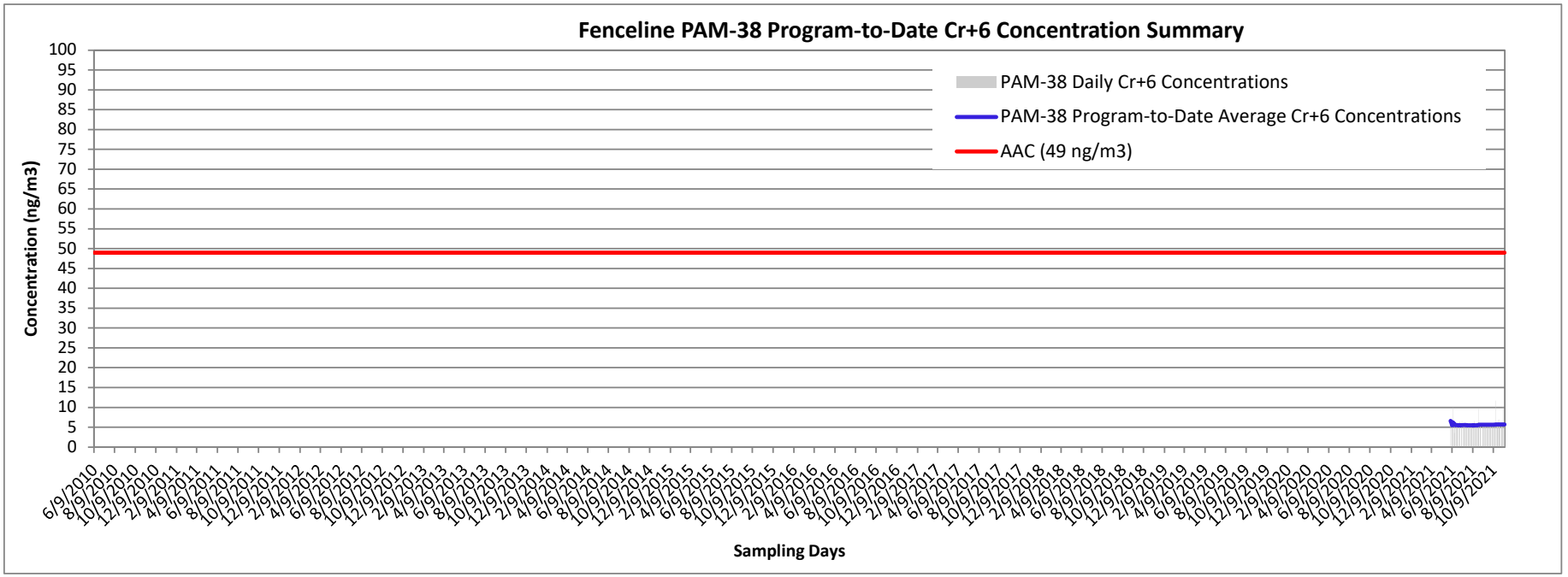

Fenceline PAM-33 Program-to-Date Cr+6 Concentration Summary
PAM-33 Daily Cr+6 Concentrations
PAM-33 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

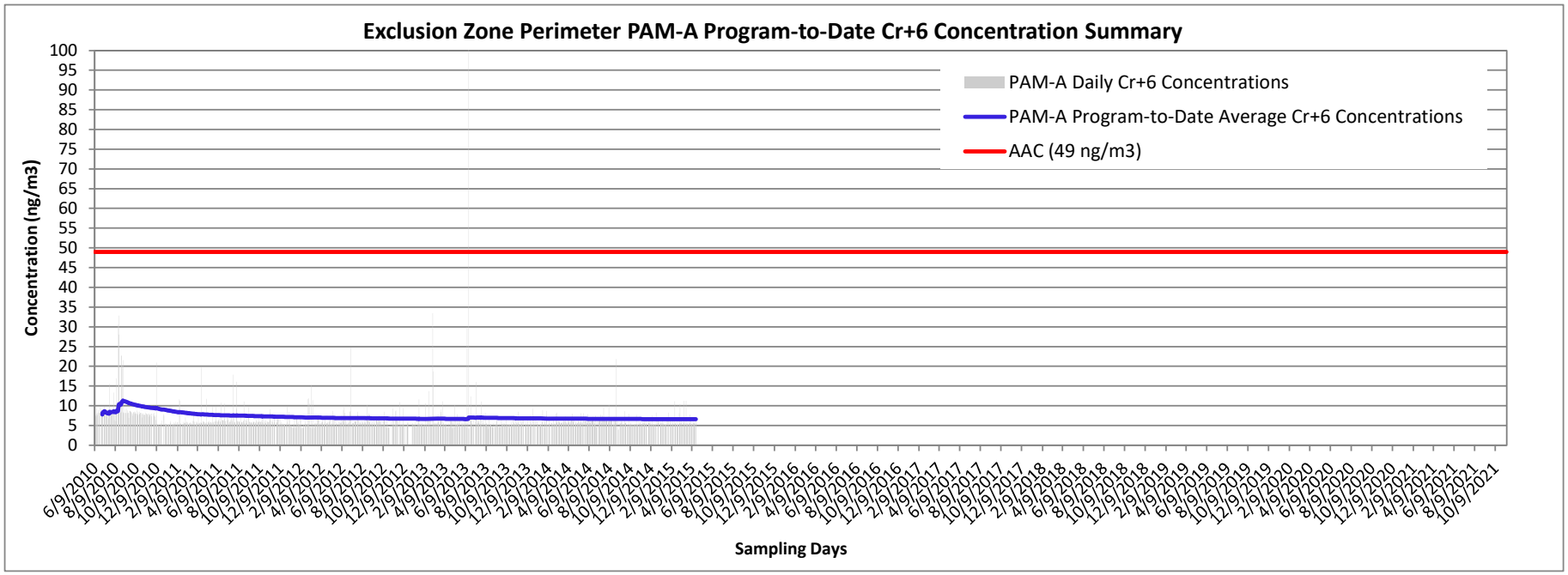

Fenceline PAM-34 Program-to-Date Cr+6 Concentration Summary
PAM-34 Daily Cr+6 Concentrations
PAM-34 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

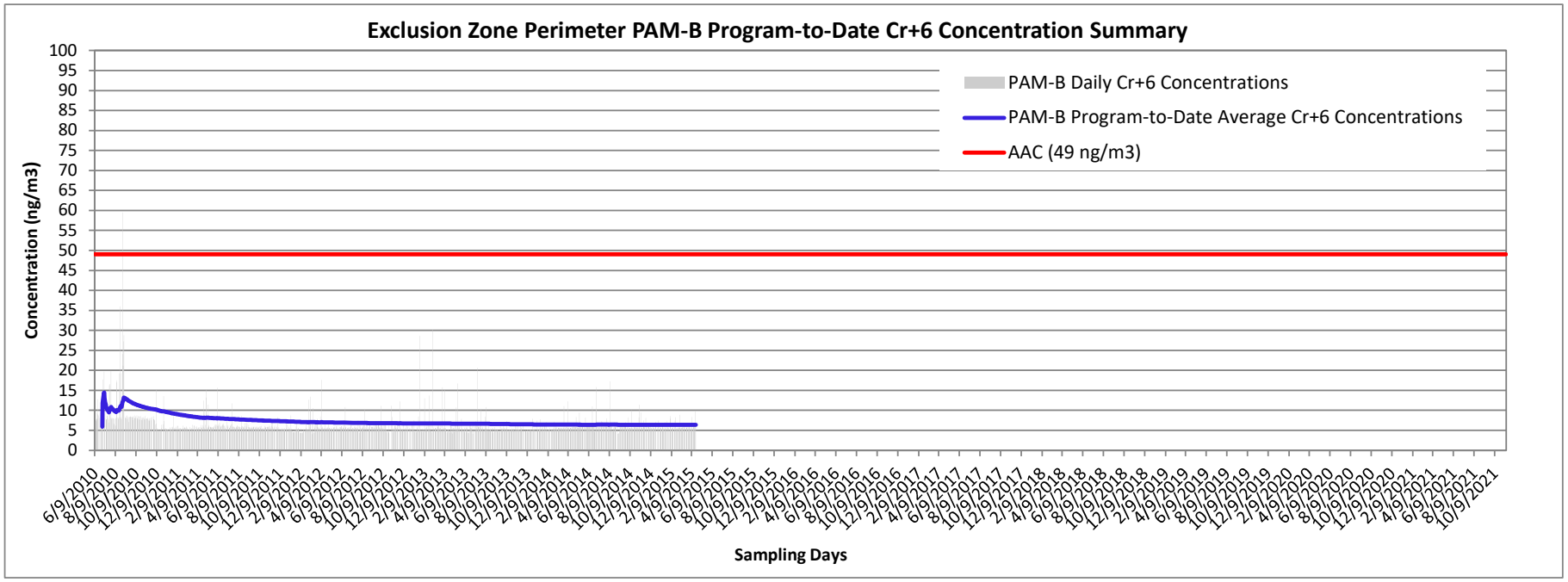

Fenceline PAM-35 Program-to-Date Cr+6 Concentration Summary
PAM-35 Daily Cr+6 Concentrations
PAM-35 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days


Fenceline PAM-36 Program-to-Date Cr+6 Concentration Summary
PAM-36 Daily Cr+6 Concentrations
PAM-36 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

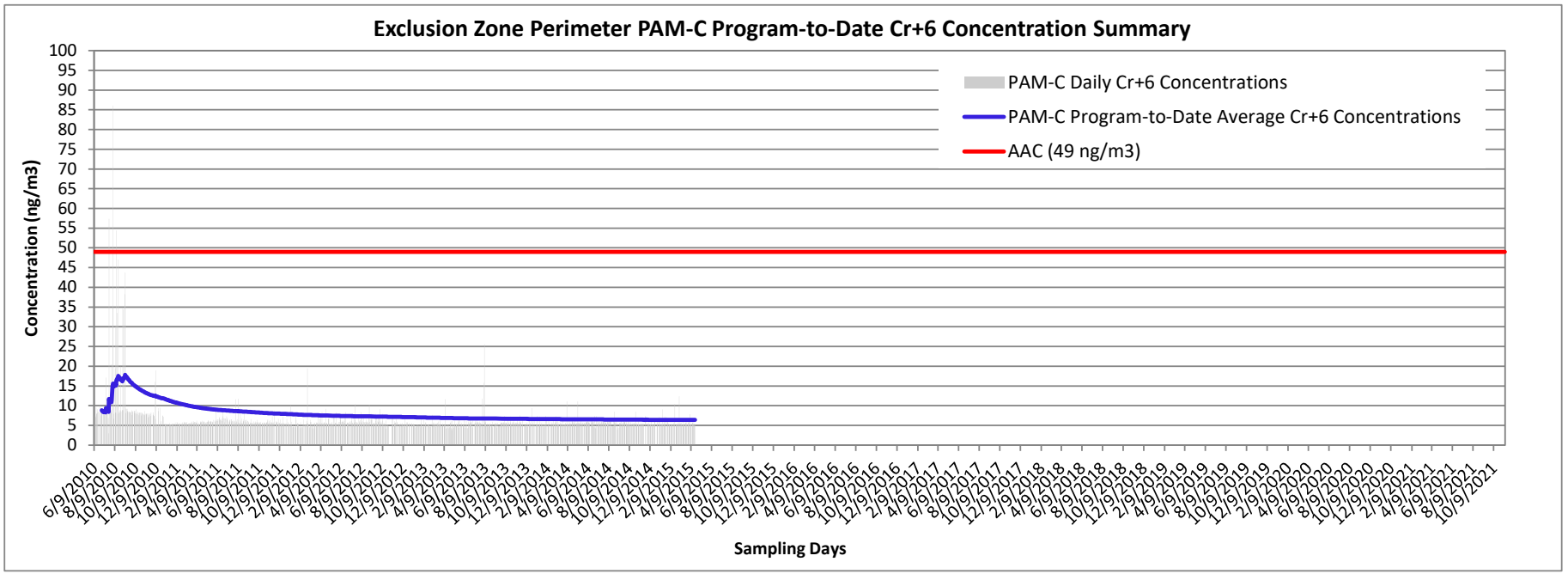

Fenceline PAM-37 Program-to-Date Cr+6 Concentration Summary
PAM-37 Daily Cr+6 Concentrations
PAM-37 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days

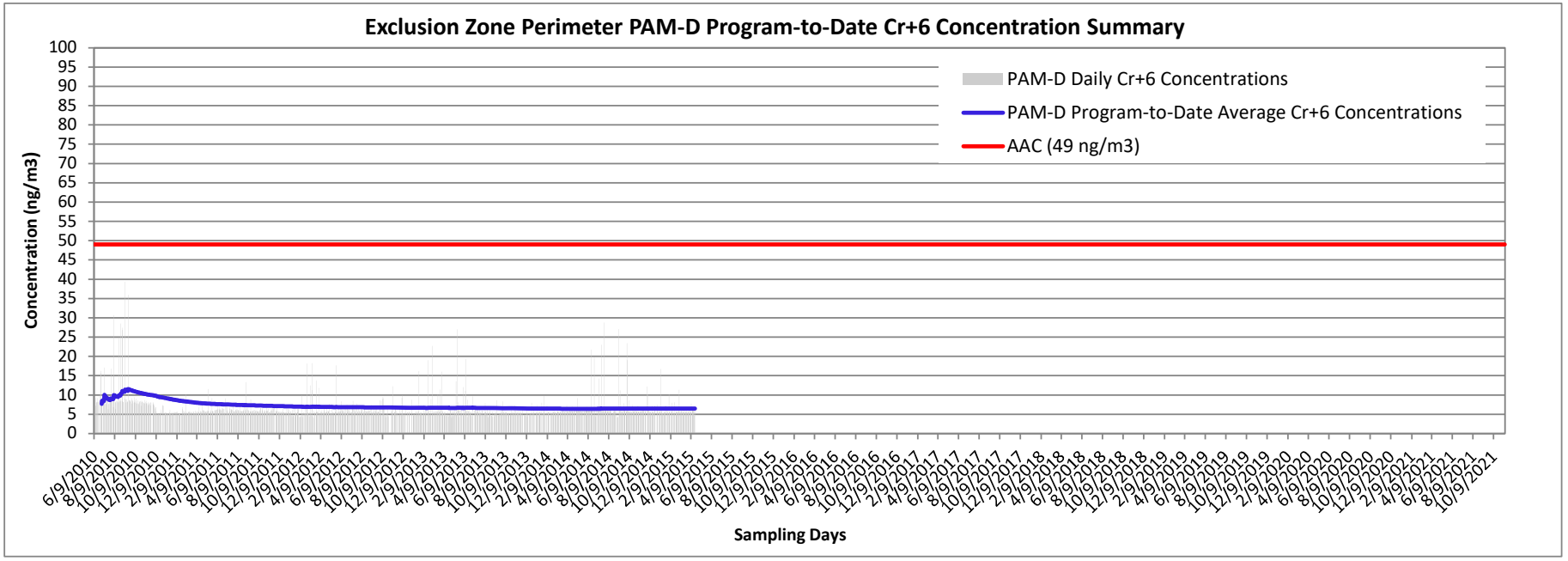

Fenceline PAM-38 Program-to-Date Cr+6 Concentration Summary
PAM-38 Daily Cr+6 Concentrations
PAM-38 Program-to-Date Average Cr+6 Concentrations
AAC (49 ng/m3)
Concentration (ng/m3)
Sampling Days



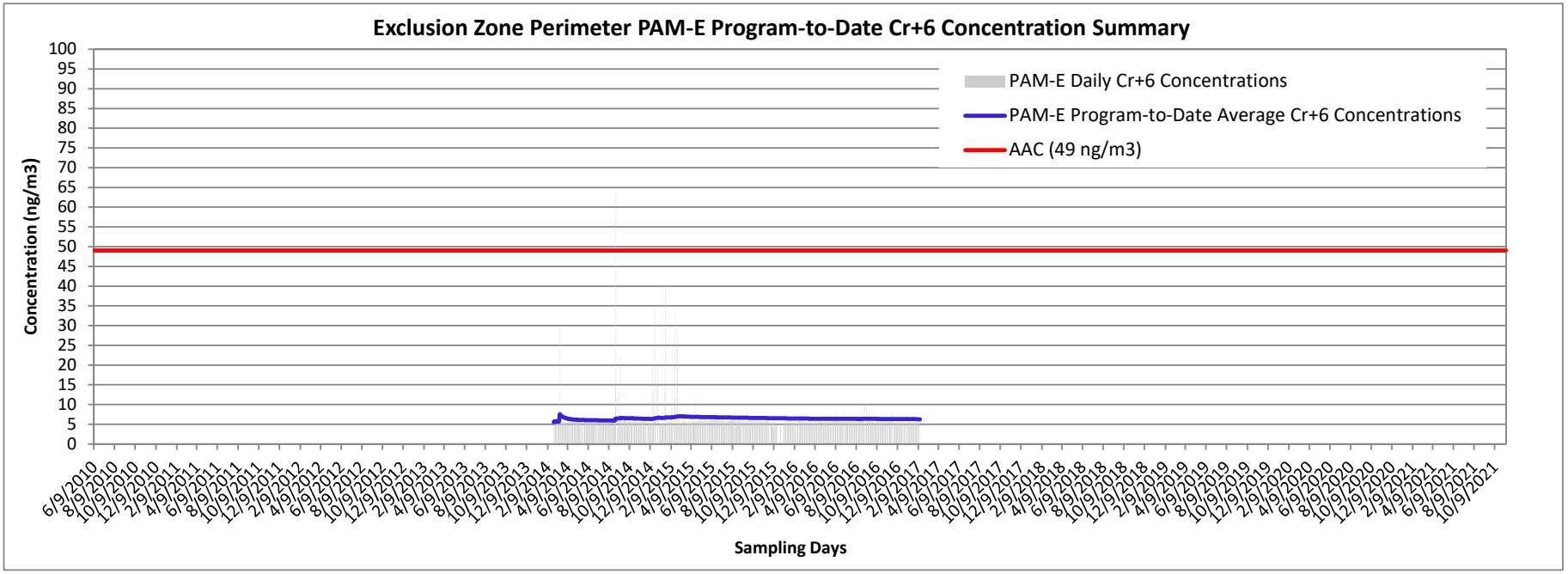


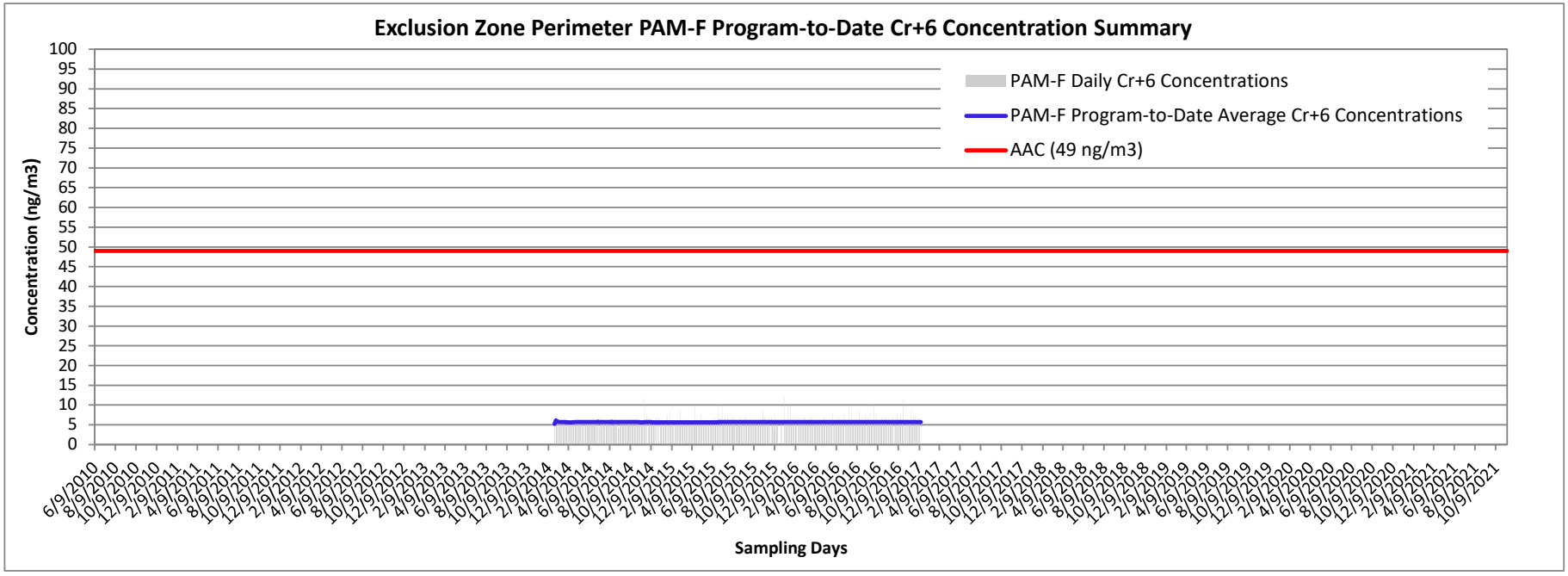
* AAC represents the allowable 8-hour fenceline average program-to-date Cr6 concentration and does not apply at the exclusion zone perimeter.



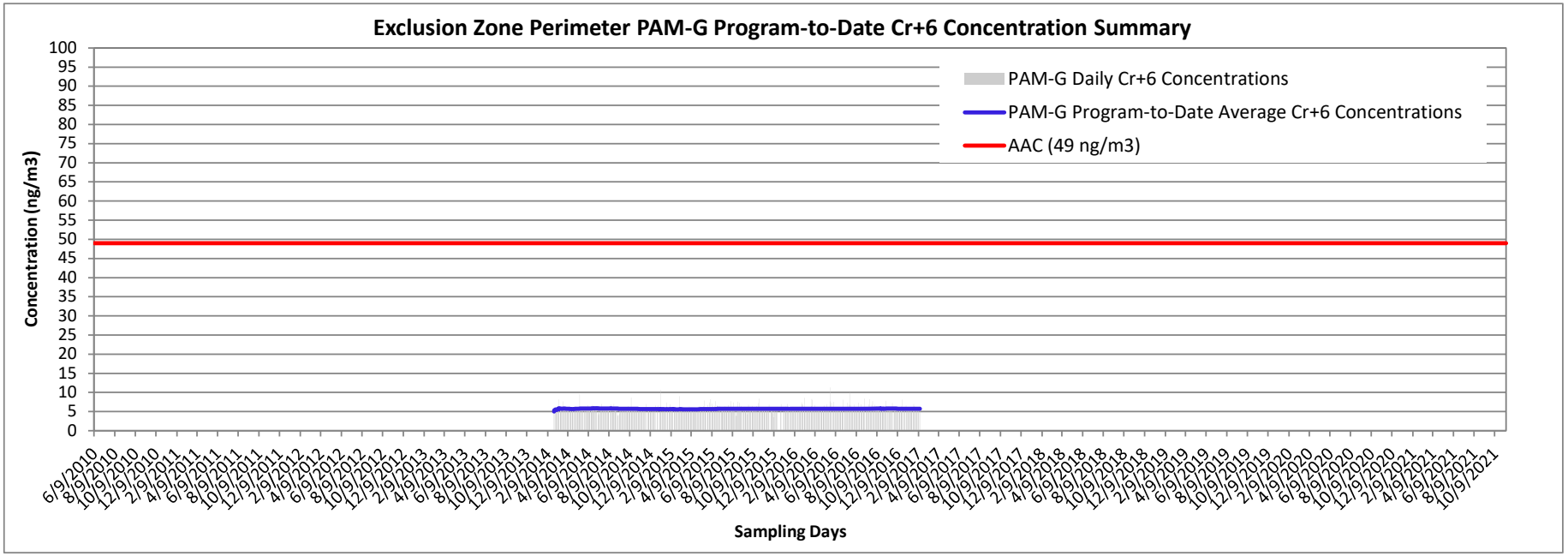


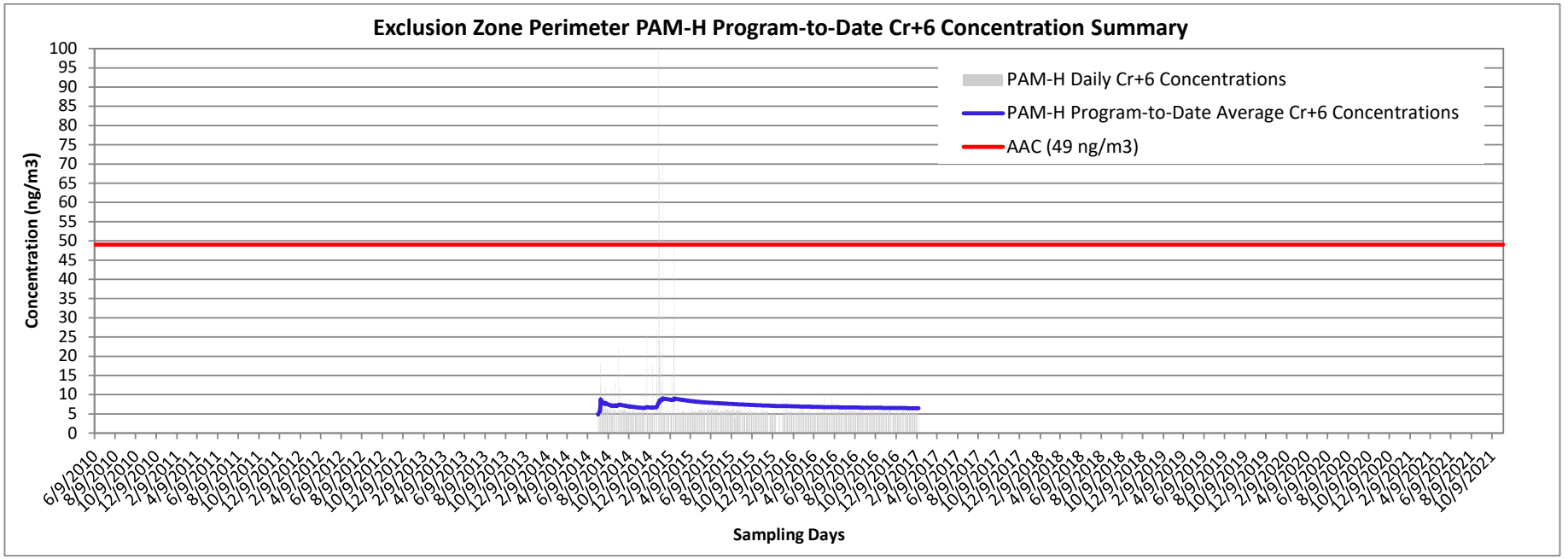
* AAC represents the allowable 8-hour fenceline average program-to-date Cr6 concentration and does not apply at the exclusion zone perimeter.





* AAC represents the allowable 8-hour fenceline average program-to-date Cr6 concentration and does not apply at the exclusion zone perimeter.





* AAC represents the allowable 8-hour fenceline average program-to-date Cr6 concentration and does not apply at the exclusion zone perimeter.