

Updated Air Monitoring Plan for Paramount

The South Coast Air Quality Management District (SCAQMD) has been collecting air samples for toxic metals analysis in the City of Paramount since 2013. This investigation focused on two toxic metals of concern: nickel and hexavalent chromium (Cr6+). In July 2016, a larger number of samplers were deployed to allow the SCAQMD to better measure spatial and temporal variations of Cr6+ in the area and identify its potential sources. Once potential sources were identified, the sampling strategy was adjusted to focus on specific facilities and on characterizing Cr6+ levels in the adjacent communities. As a result, several facilities made a range of improvements, some voluntary and some through rule changes and enforcement actions. These changes have substantially reduced ambient Cr6+ levels in the Paramount area.

Throughout this period, air monitoring in Paramount has occurred at a total of 38 locations (Figure 1) and 12 schools. School sampling has been supported by the California Air Resources Board. Currently, the SCAQMD collects air samples for Cr6+ analysis at 16 locations in the City of Paramount. Among these active monitoring locations, six are adjacent to facilities that are currently under an Order of Abatement with the SCAQMD's independent Hearing Board ("Compliance" sites; see white circles in Figure 1). The remaining monitoring sites are close to other potential sources or near residential areas and sensitive receptors of the City ("Area Wide" sites; see blue circles in Figure 1).

Table 1 provides summary statistics of Cr6+ concentrations measured at each currently-active sites since the beginning of this study as well as the facilities being monitored to ensure compliance with an Order of Abatement. Figures 2 and 3 illustrate the monthly average Cr6+ levels at "Compliance" and "Area Wide" sites, respectively, since the beginning of this study. It is evident that ambient Cr6+ concentrations at all locations have declined substantially over time, and monthly average Cr6+ levels at all currently-active sites have been consistently near or below $1\text{ng}/\text{m}^3$ during the past nine months.

Because Cr6+ levels in the City of Paramount have been declining steadily and are now within the typical levels, the size of this monitoring network can be reduced to focus on other areas that have higher potential for air toxics exposure. Considering the large number of samples that have been collected and analyzed at each monitoring location (see column "N" in Table 1) and the consistently low Cr6+ levels measured over the past nine months (Figures 2 and 3), staff recommends to modify the sampling strategy as described below and summarized in Table 2:

- Continue monitoring at "Compliance" sites #8, #11, #14, #15 and at "Area Wide" site #16 with a 1-in-3 day sampling frequency until the Order of Abatement for the facilities closest to these sites (i.e., Anaplex and Aerocraft) has been lifted. To ensure that Cr6+ levels remain low after the Order of Abatement has been lifted, continue monitoring at the aforementioned sites with a 1-in-6 day sampling frequency for a few weeks before removing the samplers.
- Continue monitoring at "Compliance" sites #29 and #38 with a 1-in-3 day sampling frequency until the Order of Abatement for the facility closest to these sites (i.e., LubeCo) has been lifted. To ensure that Cr6+ levels remain low after the Order of Abatement has been lifted, continue

monitoring at the aforementioned sites with a 1-in-6 day sampling frequency for a few weeks before removing the samplers.

- Remove “Area Wide” samplers #24, #27, #28, #31, and #37 in May, 2018.
- Decrease the sampling frequency of the remaining “Area Wide” sites (#2, #19, #23, and #25) from 1-in-3 day to 1-in-6 day until the City of Paramount has a strategy/contract in place for their monitoring effort.

The updated plan will help maintain a comprehensive, efficient, and cost-effective monitoring effort and meet the increasing demand for more extensive metal monitoring as part of CATI. It should be noted that the City of Paramount owns three time-integrated filter samplers (i.e., two BGI PQ100 and one BGI OMNI) that have been used by the SCAQMD’s staff to collect filter samples as part of this monitoring effort. SCAQMD’s staff will work with the City of Paramount to provide them with guidance on where to locate their samplers and a list of certified contractors and laboratories to collect and analyze samples for Cr6+. The SCAQMD will perform sampling at selected locations within the community as needed, and as the result of inspection activities or other unexpected events that may arise in the area.

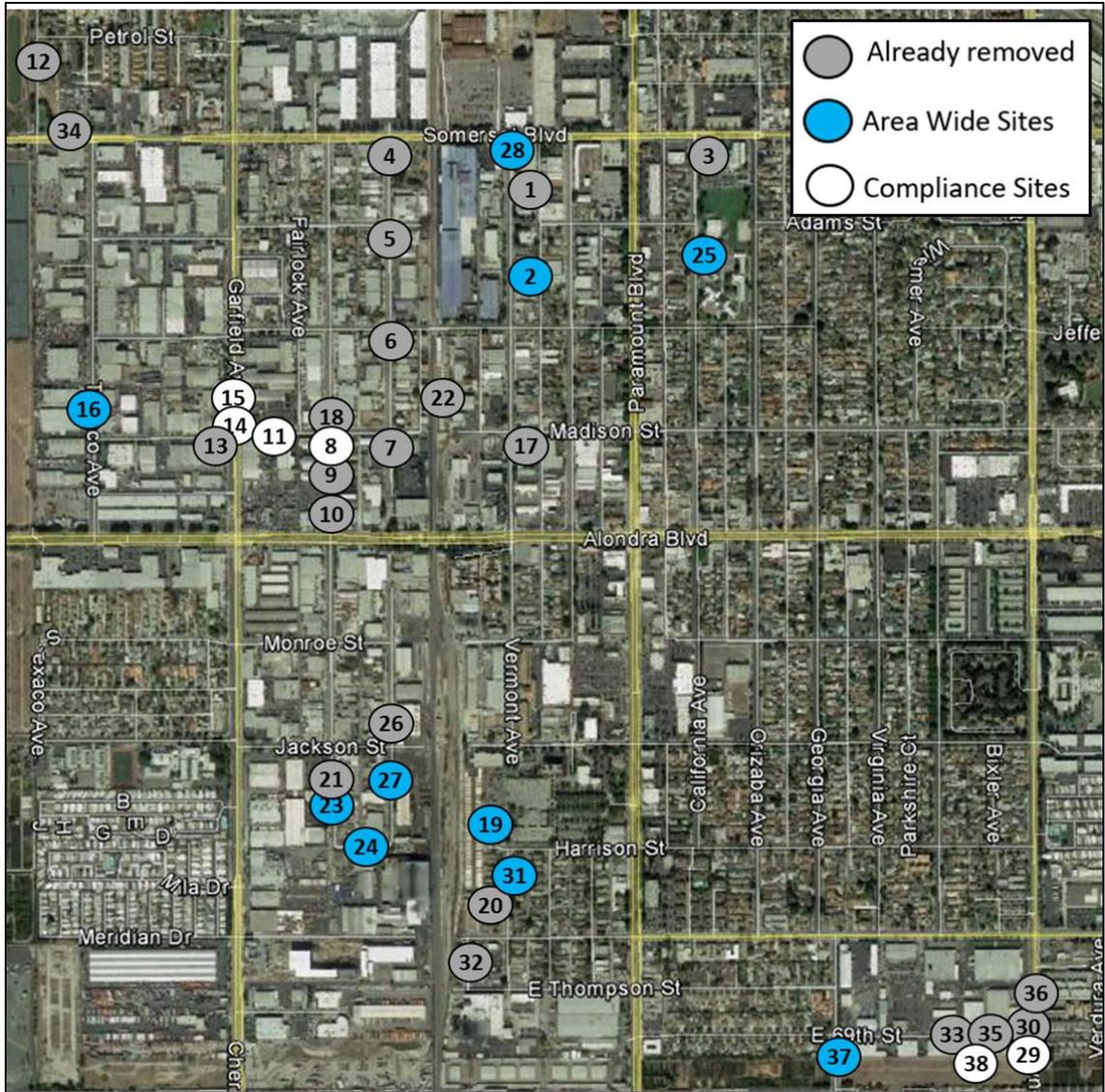


Figure 1. Location of the monitoring sites in the City of Paramount.

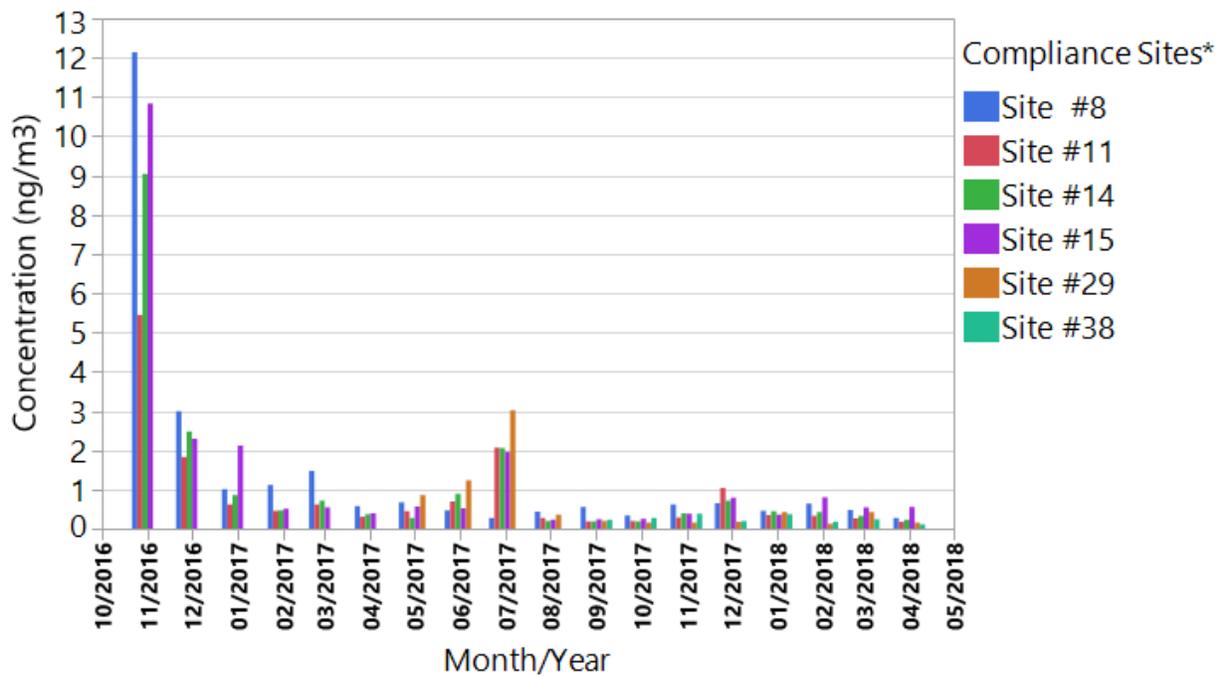


Figure 2. Monthly average levels of hexavalent chromium (Cr6+) at Compliance sites.
 *Compliance sites target the facilities that are currently under an Order of Abatement with the SCAQMD's independent Hearing Board.

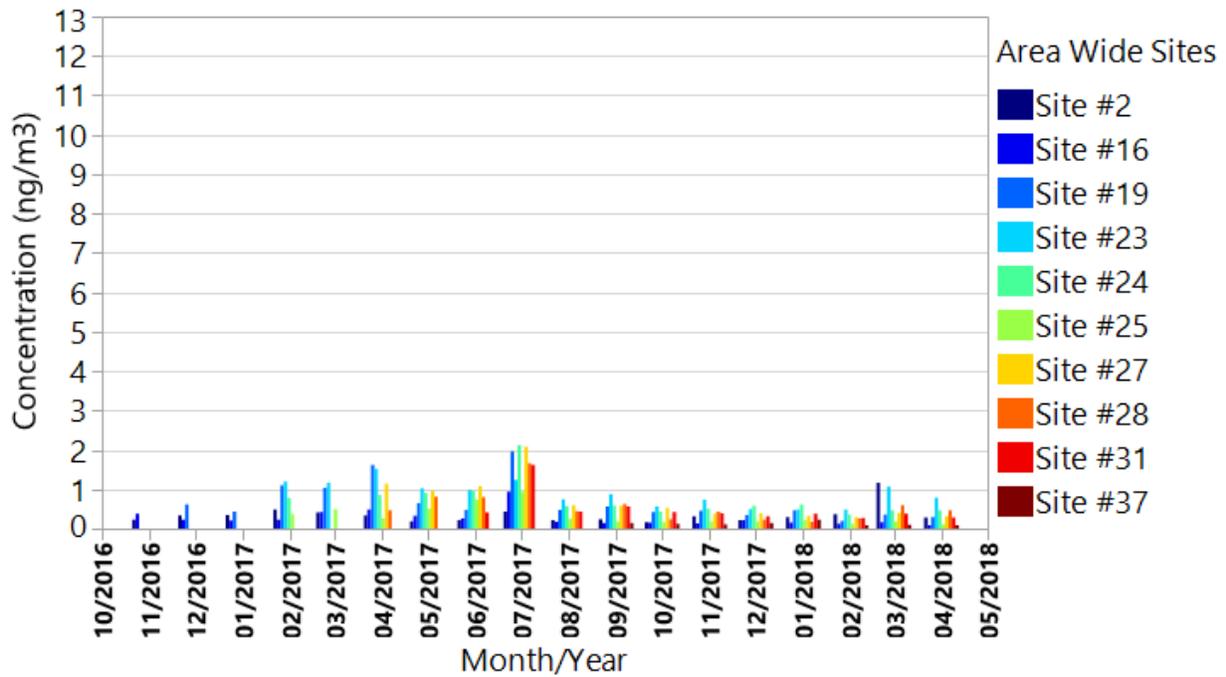


Figure 3. Monthly average levels of hexavalent chromium (Cr6+) at Area Wide sites.

Table 1. Summary statistics of hexavalent chromium (Cr6+) concentrations at currently-active monitoring sites in the City of Paramount since the beginning of the study. The total number of samples that have been collected and analyzed at each monitoring location is reported in column "N".

	Site	N	Min (ng/m3)	Max (ng/m3)	Average (ng/m3)	Median (ng/m3)	Target Facility
Compliance Sites	Site #8	179	0.02	26	1.61	0.40	Aerocraft
	Site #11	168	0.05	17	0.92	0.29	Anaplex
	Site #14	170	0.05	18	1.05	0.28	Anaplex
	Site #15	174	0.05	26	1.25	0.35	Anaplex
	Site #29	110	0.05	15.4	0.61	0.20	LubeCo
	Site #38	72	0.05	1.30	0.26	0.17	LubeCo
Area Wide Sites	Site #2	176	0.02	4.07	0.36	0.27	
	Site #16	164	0.03	3.26	0.27	0.15	
	Site #19	156	0.02	5.19	0.69	0.42	
	Site #23	141	0.01	3.38	0.89	0.72	
	Site #24	124	0.07	7.69	0.73	0.61	
	Site #25	137	0.03	4.27	0.34	0.20	
	Site #27	120	0.04	7.66	0.70	0.40	
	Site #28	116	0.04	7.40	0.57	0.33	
	Site #31	98	0.04	3.71	0.51	0.39	
	Site #37	69	0.04	0.59	0.13	0.11	

Table 2. Summary of the recommended actions for the currently-active monitoring sites in Paramount.

Site	Recommended action	Recommended sampling frequency
#2	Continue Sampling*	1-in-6 day
#8	Continue Sampling#	1-in-3 day
#11	Continue Sampling#	1-in-3 day
#14	Continue Sampling#	1-in-3 day
#15	Continue Sampling#	1-in-3 day
#16	Continue Sampling#	1-in-3 day
#19	Continue Sampling*	1-in-6 day
#23	Continue Sampling*	1-in-6 day
#24	Remove	-
#25	Continue Sampling*	1-in-6 day
#27	Remove	-
#28	Remove	-
#29	Continue Sampling#	1-in-3 day
#31	Remove	-
#37	Remove	-
#38	Continue Sampling#	1-in-3 day

**Sampling will continue at the specified frequency until the City of Paramount has a strategy/contract in place for their monitoring effort*

#Sampling will continue at the specified frequency until the Orders of Abatement for the facilities closest to these sites have been lifted. Then the monitoring will continue with a 1-in-6 day sampling frequency for a few weeks to ensure that Cr6+ levels remain low after the Orders of Abatement have been lifted.