

Updated Air Monitoring Plan for Compton

The South Coast Air Quality Management District (SCAQMD) has been measuring levels of ambient air hexavalent chromium (Cr^{6+} , a toxic metal of concern) near several industrial facilities in the Compton area since June 2017. This air monitoring effort was part of the SCAQMD's Community Air Toxics Initiative (CATI) and aimed to identify and prioritize high-risk facilities with the potential to emit Cr^{6+} , then use the latest air monitoring technology to confirm specific sources of high emissions. The monitoring is conducted by deploying a large number of samplers to allow the SCAQMD to better measure spatial and temporal variations of Cr^{6+} in the area and identify its potential sources. Once potential sources are identified, the sampling strategy is to make adjustments to the monitoring network to focus on specific facilities and to characterize Cr^{6+} levels near residential areas and sensitive receptors of the City. Adjustments to monitoring network may also occur due to siting and access constraints.

Time-integrated 24-hour air samples are collected once every three days and analyzed at SCAQMD's laboratory in Diamond Bar. SCAQMD initiated the air monitoring campaign near two chrome-plating and anodizing facilities in June 2017, namely:

- EME Inc. at 431 E. Oaks St. in unincorporated Los Angeles County
- Morrell's Electro Plating Inc. at 432 E. Euclid Ave., Compton

In December 2017, air monitoring efforts were expanded to the areas near several chrome-plating and anodizing facilities as well as a concrete batch plant:

- AAA Plating & Inspection, Inc., at 410 & 424 Dixon St., Compton;
- Alloy Processing at 1900 W. Walnut St., Compton;
- Barken's Hard Chrome at 239 E. Greenleaf Blvd., Compton;
- Bowman Plating Co. Inc. at 2631 E. 126th St. in unincorporated Los Angeles County;
- CEMEX, 2722 Alameda St., Compton;
- S & K Plating Co. at 2727 N. Compton Ave., Compton;
- Triumph Processing Inc. at 2605 Industry Way, Lynwood.

As of October 29th, 2018, a total of 1210 valid samples have been collected and analyzed from 12 monitoring locations (Figure 1). The summary statistics of Cr^{6+} concentrations measured at each site since the beginning of the study are listed in Table 1. Given the potential elevation in metals concentrations (including Cr^{6+}) due to fireworks, eight samples collected on July 4th 2018 (one for each active site) were excluded from this analysis since Independence Day is an exceptional event.

The monthly average Cr^{6+} concentrations at the south sites and at the north sites are shown in Figures 2 and 3, respectively. Cr^{6+} levels at most sites were within the typical levels found in the Greater Los Angeles area, however, elevated levels of Cr^{6+} were observed at some locations at the beginning of the sampling campaign. These elevated levels have been declining steadily over the past several months (Figures 2 and 3), as a result of voluntarily improved housekeeping practices at some of the facilities. The decrease at Site #9C is probably due to these improved housekeeping practices at the CEMEX batch plant facility.

Other facilities such as Morrell's Electro Plating and Electro Machine & Engineering (EME) Metal Finishing also have taken voluntarily steps that coincides with a decline in Cr⁶⁺ levels at sites #1C and #2C, adjacent to Morrell's and sites #4C and #5C near EME (Figure 3). Some of these housekeeping efforts include, installation of strip curtains, filtering building air, limiting building openings, and keeping dichromate seal tanks at lower temperatures when not in use. These were steps that were not required by any SCAQMD rules, but helped to reduce ambient levels of Cr⁶⁺.

Overall, the ambient air Cr⁶⁺ concentrations measured in the City of Compton and nearby areas were found to be within the typical levels measured in the Greater Los Angeles area. In addition, a limited mobile monitoring demonstration study for several air toxic metals (including Cr⁶⁺) has been conducted by SCAQMD, in partnership with Aerodyne Inc. and Desert Research Institute. The study was done in the spring of 2018 and did not find elevated Cr⁶⁺ levels in Compton and nearby areas. Therefore, based upon the assessment of the data from a large number of samples collected over a year, staff has modified the sampling strategy as described below:

- Continue monitoring at all active sites with a 1-in-3 day sampling frequency until November 4th;
- After November 4th remove samplers at Sites 1C, 7C, 8C, 11C, and 12C;
- After November 4th continue monitoring at Sites 2C, 5C, and 9C with a 1-in-6 day sampling frequency until the end of November
- Periodically check Cr⁶⁺ and other particulate-bound metal levels by adding temporary monitors at locations where monitors have been removed and using mobile monitoring platforms.

The updated plan will help maintain a comprehensive, efficient, and cost-effective strategy while shifting towards more extensive air monitoring efforts as part of AB 617. The SCAQMD may perform sampling at selected locations within the community periodically, and as the result of inspection activities or other unexpected events that may arise in the area.

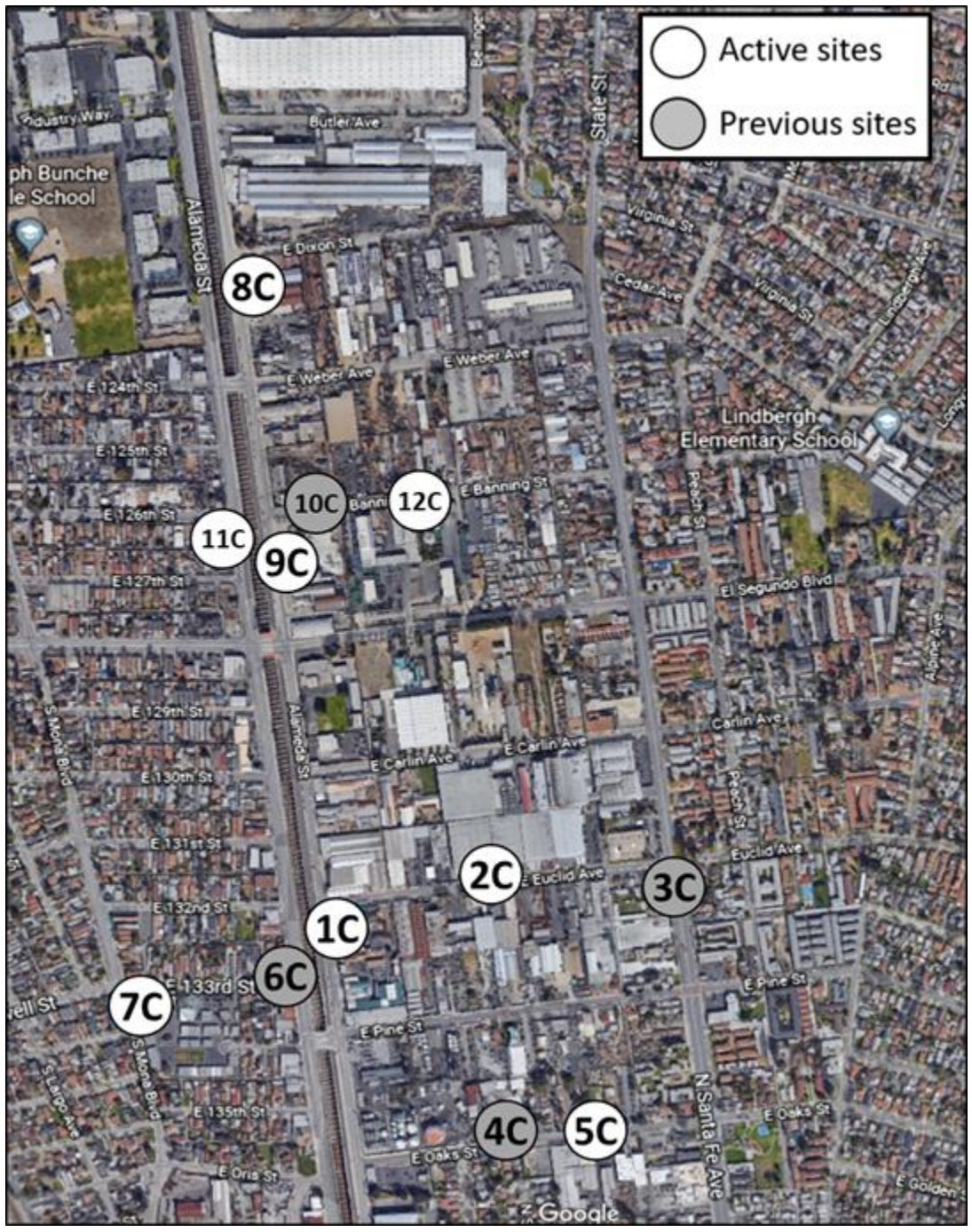


Figure 1. Location of the monitoring sites in the City of Compton and nearby area.

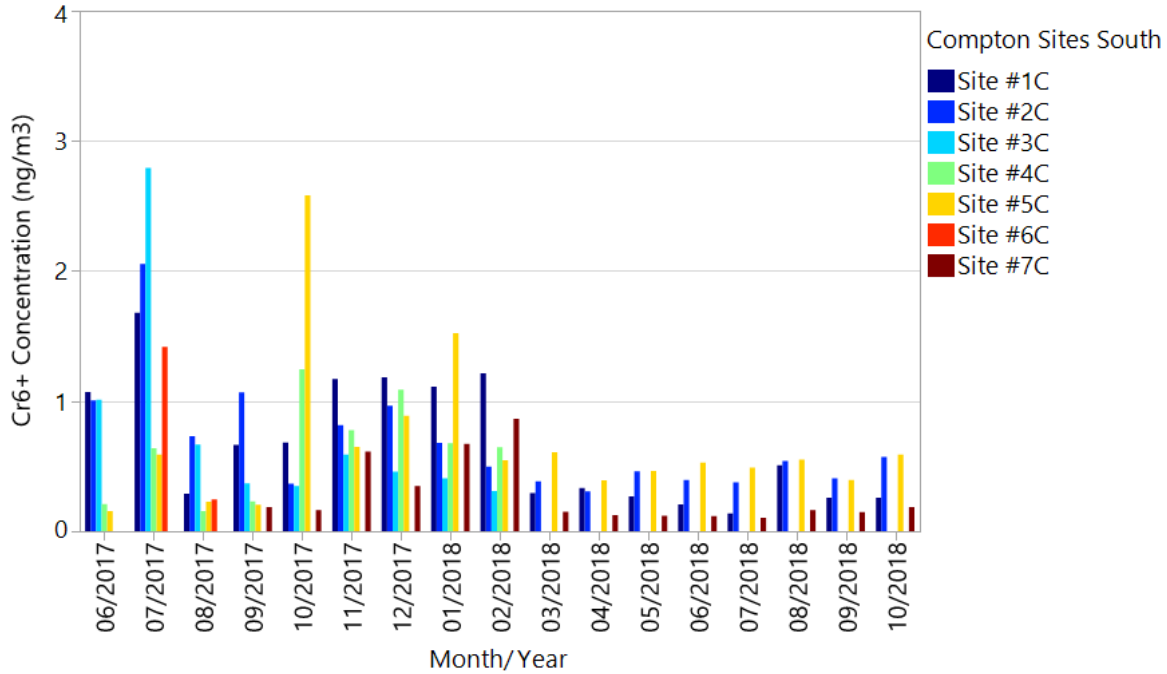


Figure 2. Monthly average levels of hexavalent chromium (Cr⁶⁺) at Compton sites – South. Samples collected on July 4th, 2018 were excluded due to potential elevation due to fireworks.

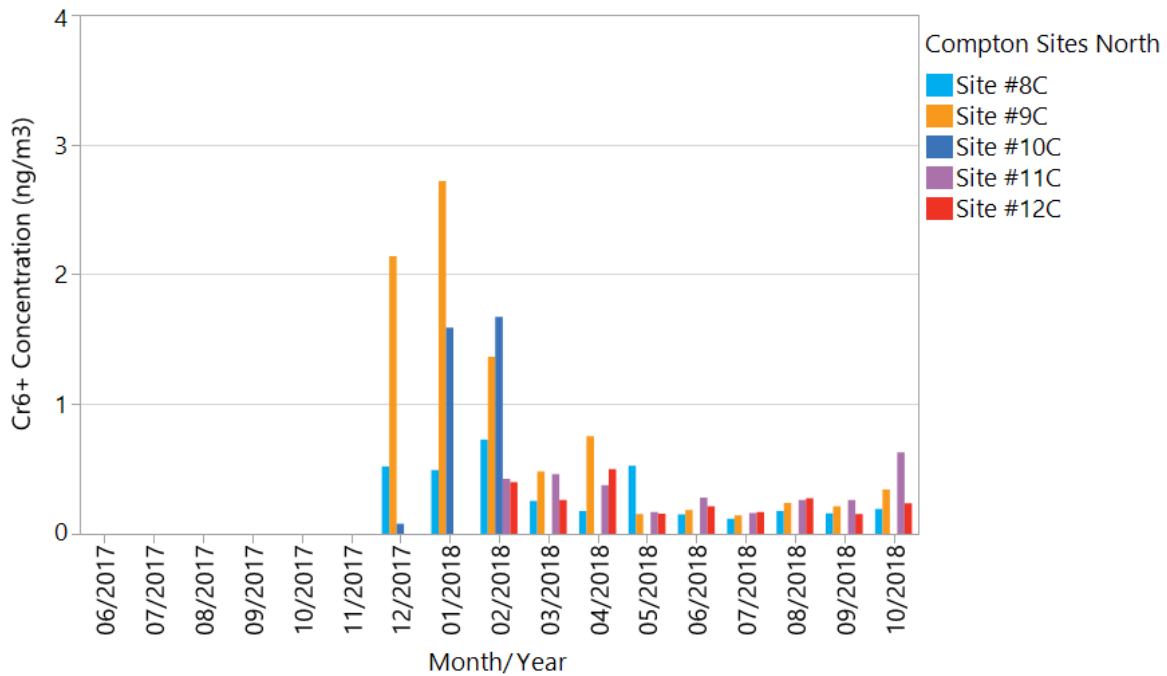


Figure 3. Monthly average levels of hexavalent chromium (Cr⁶⁺) at Compton sites – North. Samples collected on July 4th, 2018 were excluded due to potential elevation due to fireworks.

Table 1. Summary of hexavalent chromium (Cr⁶⁺) concentrations since the beginning of the Compton study. Samples collected on July 4th, 2018 were excluded due to potential elevation due to fireworks. Monitoring at sites with a “*” ended before March, 2018.

Site	Valid samples collected as of Oct 29th, 2018	Min (ng/m³)	Max (ng/m³)	Average (ng/m³)	Median (ng/m³)
Site #1C	165	0.04	7.51	0.67	0.24
Site #2C	165	0.06	16.00	0.69	0.44
Site #3C*	80	0.06	12.72	0.82	0.38
Site #4C*	83	0.03	7.18	0.64	0.24
Site #5C	166	0.04	23.64	0.68	0.30
Site #6C*	19	0.14	2.87	0.80	0.24
Site #7C	135	0.04	4.38	0.28	0.14
Site #8C	104	0.05	3.35	0.31	0.18
Site #9C	101	0.06	10.34	0.73	0.20
Site #10C*	17	0.07	4.93	1.54	1.62
Site #11C	82	0.06	2.31	0.34	0.21
Site #12C	85	0.04	3.34	0.26	0.19