



Summary of Efforts in Compton

The South Coast Air Quality Management District has undertaken extensive efforts to identify and reduce sources of hexavalent chromium in Compton. This report summarizes these efforts and provides highlights of monitoring, enforcement, rule development, public outreach, and coordination efforts.

November 2018

Introduction

This report summarizes the efforts and progress made by the South Coast Air Quality Management District (SCAQMD) in assessing and reducing levels of hexavalent chromium in the air in the city of Compton. It includes a brief background on what led to this effort and highlights some of the key work and results.

Hexavalent chromium can cause cancer over years to decades of exposure. Hexavalent chromium emissions can result from chrome plating, forging, welding, heat treating operations and other metal finishing processes used in various industrial applications.

The efforts in Compton stemmed from an intensive monitoring and enforcement campaign that began in 2016, when the SCAQMD initiated an extensive community air monitoring program in the city of Paramount to assess levels of hexavalent chromium in the air near several metal-processing facilities and in adjacent residential neighborhoods. The initial results in Paramount showed high levels of this toxic compound in the area. More extensive monitoring and source testing helped identify specific facilities and the types of operations that contributed to the increased hexavalent chromium levels in the air.

During these efforts, SCAQMD discovered previously unknown sources of hexavalent chromium such as metal heat treating and unregulated tanks at chromic acid anodizing facilities. Through a collaborative and transparent effort with different agencies, local businesses, and the community, several facilities made a range of improvements, some voluntary, and some through rule amendments, and others through compliance and enforcement actions. These changes substantially reduced ambient hexavalent chromium levels in the Paramount area.

As a result of the lessons learned during the investigation in Paramount, SCAQMD extended its air monitoring, public outreach, and enforcement efforts to Compton in June 2017. The Compton area has several potential chrome-emitting facilities in the community in close proximity to each other and to schools, homes, other businesses, and hospitals and senior centers. Air monitoring efforts were focused initially on chromium plating and anodizing operations and expanded through a systematic process to identify other metal-processing facilities.

Hexavalent Chromium

- Hexavalent chromium can cause cancer over years to decades of exposure
- Some metal finishing, welding, heat treating and other industrial operations lead to the formation and release of hexavalent chromium
- SCAQMD has rules for some of these operations, and is working on additional rules to cover previously unknown sources that need to be controlled

Levels are much lower than what was initially seen in Paramount and are now generally low. As shown below, readings from air samples collected and analyzed over the last year show some sites with occasional high levels, but levels have been generally low at all sites since May.

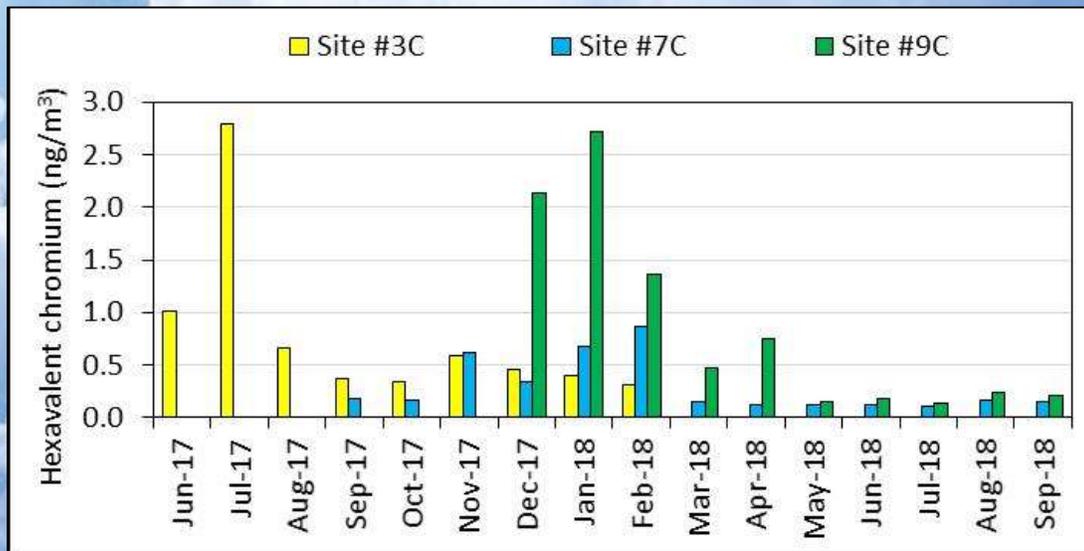


Figure 1. Monthly average levels of hexavalent chromium at Sites #3C, #7C, and #9C

The next series of maps shows the location of samples and the monthly average levels of hexavalent chromium.

Trace amounts of hexavalent chromium are measured in nanograms (ng), or billionths of a gram

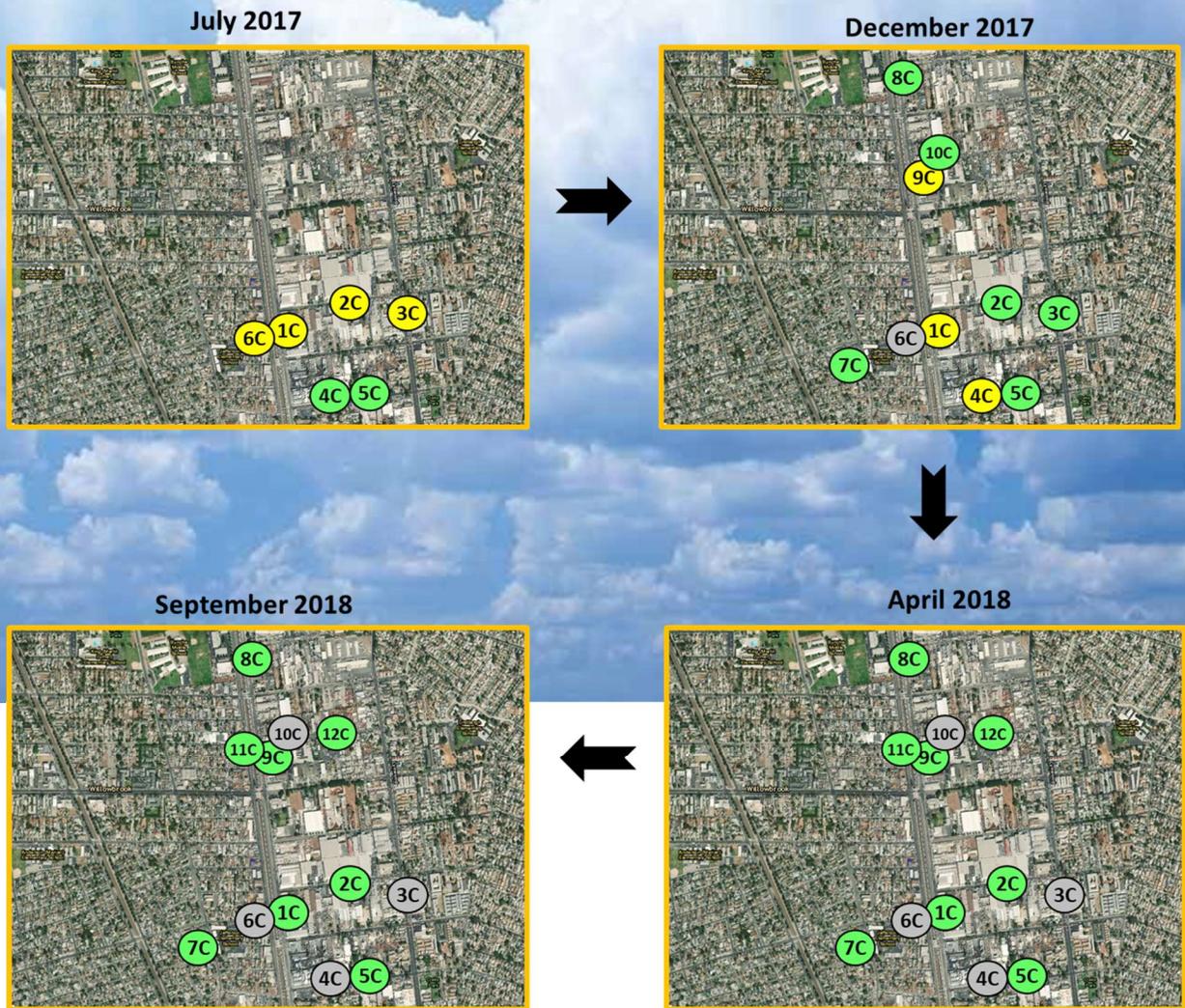


Figure 2. Location of sampling sites and monthly average levels of hexavalent chromium



SCAQMD will continue to conduct periodic surveillance, respond to air quality complaints, and investigate potential sources of hexavalent chromium. Staff will take enforcement and other actions where/when needed. More detailed information about the air monitoring methods and results, compliance efforts, meetings and events are available on the SCAQMD's website.¹

Monitoring

Through an innovative use of portable air samplers, filter samples are collected and then analyzed in SCAQMD's state-of-the-art laboratory. The chemical analysis at the low concentrations seen in community air samples (trace amounts measured in nanograms, or billionths of a gram) can only be done by a few laboratories in the nation.

Air samples are collected over a 24-hour period once every three days on filters using portable samplers that can be mounted on light and electric poles. The filters are analyzed in SCAQMD's laboratory to measure the levels of hexavalent chromium in the air.

Air Monitoring in Compton

- 12 locations
- More than 1,100 air samples
- Tested 10 pieces of equipment at two facilities

Monitoring has occurred at 12 locations in Compton. As of September 2018, samplers are in place at eight locations (Figure 2) and over 1,120 filter samples have been analyzed for hexavalent chromium. Levels have been generally low, so the level of monitoring in Compton will taper down so monitors can be used in other cities.

In addition to monitoring, at specific locations, mobile monitoring of hexavalent chromium was done for six weeks to identify potential "hotspots" in other areas of Compton. The study was done in the spring of 2018 and did not find elevated hexavalent chromium levels in Compton and nearby areas.

SCAQMD staff have also tested emissions from 10 pieces of equipment at two facilities in Compton. This work has helped to identify the types of operations/sources that contribute to higher levels of hexavalent chromium in the air. Emissions were reduced due to voluntary and enforcement actions.

¹ Community Air Toxics Initiative – Compton: <http://www.aqmd.gov/home/news-events/community-investigations/air-toxics-action-plan/community-air-toxics-init-compton>

Inspections and Enforcement Actions

SCAQMD and other agencies have done joint inspections at approximately 50 potential metal handling/processing facilities. SCAQMD has also done 99 unannounced door-to-door inspections. Inspections identified a variety of compliance and permitting issues (the majority not related to hexavalent chromium). An inspection warrant was executed at one facility and samples were collected, including tank solutions and paint debris.

Nine Notices of Violation (NOVs) have been issued to nine facilities and approximately 60 Notices to Comply (NCs) were issued to facilities in Compton, resulting in changes to operations and additional facilities coming under SCAQMD permits. Seven additional Notices of Violation have been issued to a facility located on the Compton city border as part of this effort.

Inspections, air monitoring and equipment testing, and evaluation of wind data helped identify facilities with hexavalent chromium emissions. Several facilities implemented voluntary measures to reduce emissions of hexavalent chromium, reducing the potential health risk to Compton residents and workers.

Between June 1, 2017 and mid-October 2018, the SCAQMD responded to over 80 air quality complaints in Compton for odors, dust, overspray and asbestos. Air quality inspectors are in the area on a regular basis to respond to complaints and perform odor surveillance. SCAQMD also continues to conduct regular, unannounced inspections, surveillance and complaint investigations, and follows up with facilities that have been issued NOVs or NCs to ensure compliance.

Positive Results

- Almost 100 joint agency door-to-door inspections identified potential sources of hexavalent chromium in various equipment processes
- Over 50 facility inspections and regular surveillance activity resulted in subsequent facility improvements in general housekeeping techniques or cleaning methods/equipment which have yielded positive results
- Inspection and air monitoring efforts resulted in facilities to implement voluntary measures to limit emissions of hexavalent chromium
- Air samples show quick reductions in emission levels which have generally remained low

Facility Improvements

Changes at facilities have occurred due to compliance and enforcement efforts, voluntary actions, and new rule requirements.

Morrell's Electroplating and E.M.E., Inc. have proactively installed or will be installing controls on their chrome anodizing tanks. Morrell's, has also voluntarily enclosed the building that houses their metal finishing operation.

Changes to Rule 1469 approved in November 2018 will add new requirements for certain process tanks at chrome plating and anodizing facilities, and will further reduce emissions from these operations throughout SCAQMD's jurisdiction.

Outreach and Collaboration

SCAQMD has one of the few labs in the U.S. that can accurately analyze community air samples for hexavalent chromium. Our staff quickly analyzes samples and makes monitoring data available on the website in a matter of days after samples are collected.

In an effort to inform the community of SCAQMD's monitoring activities related to the hexavalent chromium investigation, we hosted three town hall meetings, as well as working group and public consultation meetings for proposed rule enhancements related to metal processing. In addition, the agency has issued two press releases regarding the monitoring in the City.

There has been inter-agency coordination and communication with the City of Compton, Los Angeles County Department of Public Health, Los Angeles County Fire Department, U.S. Environmental Protection Agency, California EPA, California Air Resources Board, California Department of Toxic Substances Control, and Los Angeles Regional Water Quality Control Board.

Next Steps

- Periodic mobile platform or other sampling to ensure levels remain low
- Lessons learned are being applied to other facilities and other cities

Approach

- Approach: transparency, accessibility, collaboration solution oriented
- Joint inspections and information sharing
- Three Town Hall Meetings

Conclusions and Next Steps

In this 17-month long effort to investigate hexavalent chromium levels in areas near metal-related facilities in Compton, the SCAQMD used air monitoring tools, enforcement measures, and outreach to local businesses to identify and address areas where consistent higher levels were found. Overall, hexavalent chromium levels have decreased over the time span of this investigation, especially in the northern area near the cement batch facility, which was addressed through enforcement efforts leading to improved housekeeping measures. This investigation also confirmed that the higher levels, which were much lower than those initially seen in Paramount, were not widespread, despite the clustering of facilities in the area.

Hexavalent chromium levels near facilities were occasionally high, though not consistently high. There continue to be some locations very close to these facilities that have hexavalent chromium levels

that are somewhat higher than typical background levels found in mostly commercial and residential areas. This finding speaks to proximity of sources being an important factor that influences ambient metal pollutant levels.

SCAQMD staff developed new and amended rules to reduce metal air pollutant emissions from certain industrial operations. These efforts include the amendments to Rule 1469 that address chrome plating and anodizing operations, and Proposed Rule 1407.I to address toxic metal emissions from metal melting operations. In addition, staff has begun work on Proposed Rule 1480 to conduct ambient air toxics monitoring near metal-related facilities, which will improve information on facility emissions.

The efforts in Paramount and Compton highlighted the power of using a variety of air monitoring tools, enforcement, outreach, and rulemaking to investigate, identify, and reduce sources of toxic air pollutants. In 2017, with the passage of Assembly Bill (AB) 617, the SCAQMD began working to implement similar and additional programs to address local air pollution issues in other environmental justice areas.

For more information on the status of air toxics actions in Compton:

Visit our Compton webpage at:

<http://www.aqmd.gov/home/news-events/community-investigations/air-toxics-action-plan/community-air-toxics-init-compton>

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