



South Coast Air Quality Management District

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Expanded Monitoring of Hexavalent Chromium in Paramount– Assessment of Initial Data

November 4, 2016

Summary

As part of an ongoing investigation to identify and address sources of hexavalent chromium that may be impacting the nearby communities, SCAQMD staff deployed several monitors in the mostly industrial areas of the City of Paramount in October 2016. Given the recent findings from the expanded air monitoring, SCAQMD staff are providing this update to the community. Results from the expanded monitoring showed high levels in the industrial areas, indicative of a source of hexavalent chromium near those monitors. SCAQMD staff has already dispatched a large team of inspectors to conduct detailed investigations of the industrial facilities in the area. Intensive air monitoring, inspections, and investigation in this area continues and has been given the highest priority.

Assessment of Initial Data from Expanded Monitoring of Hexavalent Chromium

SCAQMD staff began conducting monitoring in Paramount neighborhoods in late 2013, after receiving community complaints about metallic odors. The complaints alleged Carlton Forge Works as a potential source of these metallic odors, and the facility has since implemented measures to reduce emissions and odors—these changes and a summary of the air monitoring data are described in reports from January 23, 2014 (<http://www.aqmd.gov/docs/default-source/air-quality/special-monitoring-and-emissions-studies/carlton-forge-works/cfwreport2014.pdf>) and August 10, 2016 (<http://www.aqmd.gov/docs/default-source/compliance/Carlton-Forge-Works/report-on-air-mon-paramount.pdf?sfvrsn=6>).

Based on the hexavalent chromium results from Sites 1, 2 and 3 (located on Vermont Ave and California Ave between Jefferson St. and Somerset Blvd), SCAQMD staff discussed with the community at an August 2016 Town Hall Meeting that levels were elevated, but that additional investigation was needed to determine the source of the hexavalent chromium. Levels of hexavalent chromium at Site 2 on Vermont Avenue were approximately 5 times higher than typical background levels in Southern California, but levels increased slightly in the first several months of 2016. Typical background levels are estimated by using the average concentration of hexavalent chromium in the South Coast Air Basin, based on the [Multiple Air Toxics Exposure Study \(MATES\) IV](#).

Hexavalent chromium is a toxic metal air pollutant, and a known human carcinogen. Breathing high levels of hexavalent chromium for many years may increase a person's risk of developing lung cancer. As previously reported, estimated cancer risks based on the long-term monitoring data from 10/31/2013 to 5/30/2016 for hexavalent chromium at the Site 2 (Vermont Avenue near Jefferson Street) were approximately 165 in a million, if the levels persisted for 30 years. As a point of comparison, the overall average cancer risk across the South Coast Air Basin from all air toxics emission sources (including cars, trucks, factories, etc.) is approximately 900 chances in a million. These cancer risk estimates reflect an estimated probability of cancer, and are not a prediction of how many cases will occur.

As a part of the ongoing investigation of the sources of hexavalent chromium, SCAQMD staff implemented expanded monitoring efforts for hexavalent chromium in the largely industrial areas indicated on the map below (see Figure 1), while continuing to monitor at the Vermont Avenue and California Avenue sites. The purpose of this targeted monitoring is to narrow and identify the specific source or sources of hexavalent chromium in the area. The first samples from the expanded monitoring were collected beginning on October 15, 2016. Consistent with many other air toxics monitoring efforts, samples are collected over a 24-hour period every third day. These first few results indicated that there are likely sources of hexavalent chromium located near some of these newly deployed monitors. The highest measurements (up to 26 ng/m³) were detected at the sites near the intersections of Madison Street and Minnesota Avenue, and Madison Street at Garfield Avenue. Measurements at these mostly industrial sites were approximately 350 times higher than typical background and would pose a potential health risk with long-term exposure. While the highest levels were detected in the mostly industrial areas, the levels found at air monitors located closer to the residential neighborhoods near the intersection of Madison Street and Illinois Avenue were still higher than background levels, and higher than the levels detected at the Vermont Avenue site. The levels found heighten the need to take swift action to identify and mitigate the source or sources of hexavalent chromium. Ongoing monitoring efforts at Site 3, California Ave. near Lincoln Elementary School were about 3 times higher than typical background levels, but similar to average levels detected at the MATES IV Compton station. Data from the expanded monitoring are reported in this table below.

Sample Date	Site #4	Site #5	Site #6	Site #7	Site #8	Site #9	Site #10	Site #11	Site #12
10/15/2016	0.28	0.06	1	7.9	N/A	N/A	N/A	N/A	0.08
10/18/2016	0.43	1.2	0.46	Invalid	N/A	N/A	N/A	N/A	0.2
10/21/2016	0.41	0.68	0.9	1.1	N/A	N/A	N/A	N/A	0.24
10/24/2016	0.34	0.59	0.89	4.2	N/A	N/A	N/A	N/A	0.24
10/27/2016	0.21	0.28	0.98	5	26	2.7	1.4	17	0.2
10/30/2016	0.08	0.23	0.29	4.8	25	1.1	0.31	0.15	Invalid
11/2/2016	0.2	0.42	0.53	2.7	12	2.4	1.3	11	0.11

Notes:

N/A Means no monitor at this location to collect sample.

Invalid means sample collected was invalid due to a variety of reasons such as loss of power, equipment malfunction, etc.



Figure 1. Expanded monitoring to identify source(s) of hexavalent chromium in the Paramount area.

Because the long-term levels of hexavalent chromium in the industrial areas and nearby residential areas near Madison Street and Illinois Avenue are not known, an estimate of the community's cancer risk with long-term exposure is difficult. Any estimate of cancer risk based on a few days of monitoring data would be subject to substantial uncertainty. Additionally, the purpose of the expanded monitoring was to locate the sources of hexavalent chromium. Therefore, the highest levels detected should not be interpreted as community-wide exposure, but instead, they are indicators that the monitors are very close to potential sources of hexavalent chromium. Additional monitors will be added in the residential areas to help provide information to the public about the levels of hexavalent chromium in the nearby residential communities.

With this new data, out of an abundance of caution, SCAQMD has already intensified efforts in the area, including dispatching a large team of inspectors to conduct detailed investigations of the industrial facilities. Intensive air monitoring, inspections, and investigation in this area continues and has been given the highest priority. Actions to mitigate emissions, including enforcement action where possible, will be employed. Additional data from the air monitoring efforts will be posted on this website as they become available. SCAQMD staff is also coordinating efforts with other public agencies and officials to address this issue.

SCAQMD is hosting a Town Hall Meeting in the Paramount area on November 9, 2016, at 6:00 PM at Progress Plaza West Community Center, 15500 Downey Avenue, Paramount, CA 90723. We will be presenting monitoring results and next steps. SCAQMD staff is also seeking the public's input for any additional information they may have on potential emission sources.