

## December 2019

In our ongoing effort to inform tenants about the [Goodfellow Environmental Project](#), the following provides recent results of GSA's air, water, wipe and dust sampling for levels of contaminants at the [Goodfellow Federal Center](#). The results are detailed below. As a reminder, GSA's records of environmental sampling and analysis are available in the Goodfellow Federal Center online reading room at [gsa.gov/GoodfellowReadingRoom](https://gsa.gov/GoodfellowReadingRoom). Paper copies of these documents also are available at GSA's Field Office in Building 107 between 7 a.m. and 3 p.m. Monday – Friday.

### Recent sampling results

#### Air sampling for chromium

Air sampling collected in May 2019 was found to be inconclusive, because of background contamination on the filters used, as described in [Goodfellow Stakeholder Memo #18](#). In September and October 2019, air samples were collected campus-wide using a different sampling media, polyvinyl chloride (PVC) filters, which has been found to have little or no background contamination. A lab analyzed for total chromium a total of 175 air samples, including blanks, from within 17 buildings. **All but 10 samples had levels of total chromium below the limits of detection of the analytical method.** The levels measured in 10 samples ranged from 1.3 to 1.5 micrograms per cubic meter of air (ug/m<sup>3</sup>) of total chromium. Although there are regulatory limits for occupational exposure to chromium and chromium compounds, there are not many health-based screening levels for indoor air exposures. The U.S. Environmental Protection Agency has not established a reference concentration of continuous inhalation of chromium particulate, but has reported the Lowest Observable Adverse Effect Level for inhalation of chromium, as chromic acid, to be 2 ug/m<sup>3</sup>. Even though the 10 samples did not exceed the EPA's guideline, GSA Region 6 adopted the principle of "as low as reasonably achievable" for exposure to chromium and takes action when there is any detectable chromium in an air sample. Therefore, GSA's contractors performed additional cleaning in the 10 areas where samples resulted in detectable levels of chromium. Then GSA's contractor again collected air samples from these areas. All 10 samples resulted in levels of total chromium less than the limits of detection of the analytical method. The full sampling reports are available at [gsa.gov/goodfellowreadingroom](https://gsa.gov/goodfellowreadingroom).

#### Sampling for airborne mercury-containing dust

The [Resource Conservation and Recovery Act](#) (RCRA) lists and monitors a group of eight heavy metals that are considered toxic in the environment. Mercury is one of these metals. The campus-wide sampling GSA undertakes twice per year tests for seven of the RCRA metals, except mercury. This is due to the analytical method being different from the other seven metals. In November 2019, GSA conducted a separate sampling event to assess levels of airborne mercury-containing dust. A total of 55 representative air samples were taken within 15 buildings at Goodfellow. **All samples resulted in levels below the Limit of Detection (LOD).** The LOD is the lowest concentration of a substance that a laboratory can reliably detect using a given analytical method. The laboratory's LOD was 25 nanograms or 0.025 micrograms. Based on these data, GSA will not conduct further sampling events for airborne mercury-containing dust at Goodfellow. The full sampling reports are available at [gsa.gov/goodfellowreadingroom](https://gsa.gov/goodfellowreadingroom).

#### Drinking water sampling for PCBs and PAHs

Between July and October 2019, drinking water samples were collected campus-wide to look for polychlorinated biphenyls (PCBs) and semi-volatile organic compounds, specifically polycyclic aromatic hydrocarbons (PAHs), based on a recommendation from the National Institute for Occupational Safety and Health. **None of the 146 samples collected exceeded the minimum reporting limits (MRL)** for each PCB congener and PAH. The results for anthracene, one of the 20 PAHs, in samples from Buildings 103, 110 and 105 were invalidated due to quality control and calibration variance issues at the laboratory. These data make up less than 2 percent of the total sampling data, and it was not prudent for GSA to resample when the validated results for the other samples were all below the MRLs. The full sampling reports are available at [gsa.gov/goodfellowreadingroom](https://gsa.gov/goodfellowreadingroom).

#### OSHA comparative sampling results in Buildings 104E, 104F, 105, 105L, 106, 107, 110, 115 and Gate 5 Guard Shack

##### Asbestos in air

The asbestos airborne clearance level is 0.01 fiber per cubic centimeter (f/cc) contained in 40 CFR Part 763, Subpart E, of the Asbestos in Schools Rule, which also applies to public buildings, and was issued by the U.S. Environmental Protection Agency (EPA). Of the samples GSA's industrial hygiene contractor collected adjacent to OSHA, GSA's results for airborne asbestos **were below** the asbestos airborne clearance level.



## Metals in air

GSA's results for airborne lead, arsenic and cadmium **were all found to be below** the reporting limit of the analytical method used by the laboratory. The full report is available at [gsa.gov/goodfellowreadingroom](https://gsa.gov/goodfellowreadingroom).

## Metals in settled dust

Of GSA's 28 wipe samples, **all but one were found to be at or below** the [Brookhaven Laboratory guidance](#) (Attachment 9.3). The sample result above the Brookhaven Laboratory guidance contained 54 micrograms of cadmium per square foot and was taken from the top of equipment on the 2nd floor, Room 318, near Column C41 of Building 105. This sample was collected from a piece of equipment that was only accessible by step ladder and was not cleaned regularly.

For surface lead, GSA Region 6 uses lower, more stringent levels as its action level, which conform to [EPA](#) and [HUD](#) guidelines. **Four samples exceeded** this internal action level.

- The first (12 micrograms of lead per square foot) was from the same sample that contained 54 micrograms of cadmium per square foot in Room 318 of Building 105.
- The second (16 micrograms of lead per square foot) was from the top of a built-in cabinet on the 2nd floor, Room 318, near Column F42 of Building 105.
- The third (9.9 micrograms of lead per square foot) was taken from the first floor near Column B21 of Building 105.
- The fourth (40 micrograms of lead per square foot) was taken from the floor in the west storage room of Building 105L.

GSA had the areas re-cleaned and will continue to monitor them.

GSA's sampling reports from Buildings [104E](#), [104E](#), [105](#), [105L](#), [106](#), [107](#), [110](#), [115](#) and [Gate 5 Guard Shack](#) are available at [gsa.gov/goodfellowreadingroom](https://gsa.gov/goodfellowreadingroom).

## Dust-monitoring results

Real-time dust monitoring is ongoing around areas outside of projects, and samples are being compared to background levels to determine if adequate work practices and engineering controls are effective to control dust. These monitoring data provide particle counts and not the content of the dust.

- **Building 104 during file storage removal project.** While file removal was occurring, dust screenings were taken in areas around the project between September 25 and November 22. The results showed dust levels **were highest in the west egress hallway** on November 12 in the mid-morning and midday sample, and that the dust was mostly fine particulate. GSA's industrial hygiene consultant evaluated the engineering controls and work practices of the contractor performing the equipment removal and found them to be working close to the barriers. Foot traffic and doors opening and closing are additional contributors to elevated dust levels. **Levels returned to background concentrations the following day** in this area. The dust monitoring will be ongoing throughout the duration of the project. The [full report](#) is available at [gsa.gov/goodfellowreadingroom](https://gsa.gov/goodfellowreadingroom).
- **Building 110 during basement project.** Between September 26 and November 14, dust screenings were taken in stairwells on three levels: Basement, First Floor, and Second Floor. Over half of the data are background levels when no activities were occurring at the time of sampling. Monitoring during the duct demolition, from [October 30 through November 13](#), showed **higher dust levels than the background measurements** and the dust was composed mostly of fine particulate. GSA's industrial hygiene consultant evaluated the engineering controls and work practices of the contractor performing the demolition and found them to be **adequate in controlling dust during the demolition**. To further assess the dust migrating from the project, [air samples for lead](#) were collected in the stairwells before and during the duct demolition. **All 30 samples resulted in levels less than the limit of detection for the analytical method.** The dust monitoring will be ongoing throughout the duration of the project. The full reports are available at [gsa.gov/goodfellowreadingroom](https://gsa.gov/goodfellowreadingroom).

## Updated schedule on Building 105 basement exhaust project

As a reminder, GSA completed in February a project in Building 103 which included a way to better manage air pressure in the tunnel network. At the conclusion of that project, an air pressure test revealed that further adjustments were required to achieve proper air pressure in Buildings 105, 105E and 105F. GSA's project will increase exhaust at the Building 105 tunnel by adding fans, eliminating areas of air infiltration at Building 105, and adjusting Building 105 building controls to ensure proper pressure from the building to the basement. Adjustments to the building controls and eliminating areas of air infiltration is already complete. The project to add exhaust fans to the tunnel system near Building 105 has been initiated. It was originally scheduled to be completed this month. However, during the design phase, the design team's solution to ensure proper pressure could be maintained was more involved than originally thought

and took longer to complete. The design was completed in November and it is now expected that the new fans will be installed, and the project is scheduled to be completed in March 2020.

If you have any questions, please email [r6environmental@gsa.gov](mailto:r6environmental@gsa.gov).

GSA Region 6 Environmental Team  
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