**To:** McClintock, Katie[McClintock.Katie@epa.gov]
**From:** Narvaez, Madonna
**Sent:** Thur 2/11/2016 11:16:33 PM
**Subject:** FW: SE Portland Metals Emissions Briefing - Air Monitoring update

**From:** Koprowski, Paul
**Sent:** Thursday, February 11, 2016 2:40 PM
**To:** Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>; Elleman, Robert <Elleman.Robert@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>
**Cc:** Islam, Mahbubul <Islam.Mahbubul@epa.gov>; Stifelman, Marc <Stifelman.Marc@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing - Air Monitoring update

I forgot to add that they are getting some monitors from LRAPA too and are also talking about monitoring at Precision. I told him to let us know if there are other needs he has so we can get them elevated as soon as possible.

Paul

Paul Koprowski

U.S. EPA; Oregon Operations Office

805 SW Broadway, Suite 500

Portland, Oregon 97205

(503) 326-6363

**From:** Narvaez, Madonna
**Sent:** Thursday, February 11, 2016 2:34 PM
**To:** Koprowski, Paul <Koprowski.Paul@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>; Elleman, Robert <Elleman.Robert@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>
**Cc:** Islam, Mahbubul <Islam.Mahbubul@epa.gov>; Stifelman, Marc

<Stifelman.Marc@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing - Air Monitoring update

Thanks, Paul!

**From:** Koprowski, Paul
**Sent:** Thursday, February 11, 2016 2:33 PM
**To:** Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>; Elleman, Robert <Elleman.Robert@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>
**Cc:** Islam, Mahbubul <Islam.Mahbubul@epa.gov>; Stifelman, Marc <Stifelman.Marc@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing - Air Monitoring update

Yes, Anthony Barnack told me just now that they are deploying two monitors to collect information about speciated chrome per our request. They will be at the daycare center and will run for two weeks. They'll reassess after two week of data collection. Aaron Borisenko is the lab working on it. They'll run the monitors form 6am to 6pm weekdays and 24hours on the weekend. They are consulting with OHA on the deployment. Anthony told me he is consolidating all the monitoring efforts into a plan and will try to share it with us later today or tomorrow.

Paul

Paul Koprowski

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**From:** Narvaez, Madonna
**Sent:** Thursday, February 11, 2016 2:11 PM

**To:** Koprowski, Paul <Koprowski.Paul@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>; Elleman, Robert <Elleman.Robert@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>
**Cc:** Islam, Mahbubul <Islam.Mahbubul@epa.gov>; Stifelman, Marc <Stifelman.Marc@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing - Air Monitoring update

Chrome – you mean speciated chromium? So far it's just been total chromium.

**From:** Koprowski, Paul
**Sent:** Thursday, February 11, 2016 2:07 PM
**To:** Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Hall, Chris <Hall.Christopher@epa.gov>; Elleman, Robert <Elleman.Robert@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>
**Cc:** Islam, Mahbubul <Islam.Mahbubul@epa.gov>; Stifelman, Marc <Stifelman.Marc@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing - Air Monitoring update

I was told this morning they were putting something together to monitor for chrome.

Paul

Paul Koprowski

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Portland, Oregon 97205

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**From:** Narvaez, Madonna
**Sent:** Thursday, February 11, 2016 1:50 PM
**To:** Hall, Chris <Hall.Christopher@epa.gov>; Elleman, Robert <Elleman.Robert@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Koprowski, Paul <Koprowski.Paul@epa.gov>

**Cc:** Islam, Mahbubul <Islam.Mahbubul@epa.gov>; Stifelman, Marc <Stifelman.Marc@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing - Air Monitoring update

Chris, ODEQ has the ability to analyze for speciated chromium and nickel, right?

**From:** Hall, Chris
**Sent:** Thursday, February 11, 2016 1:35 PM
**To:** Elleman, Robert <Elleman.Robert@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Koprowski, Paul <Koprowski.Paul@epa.gov>
**Cc:** Islam, Mahbubul <Islam.Mahbubul@epa.gov>; Stifelman, Marc <Stifelman.Marc@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing - Air Monitoring update

All, I spoke with Anthony Barnack at DEQ this morning to get a better understanding of the air monitoring work they have and are currently performing. Anthony is presently on the ground setting up new air monitoring equipment for the follow-up study in SE Portland near the Bullseye Glass Company. He filled me in on the relevant details of the Oct 2015 screening study and their current plans for a more intense follow-up study. Following are the details I was able to gather during our phone conversation.

Oct 2015 Screening Study:

- One site with two PM10 low volume monitor located 220 meters NE of Bullseye GC.

- One month study from Oct 6 through Nov 2; 18 sample days.

- BGI PQ200 monitor – same as used for school air toxics study at Harriet Tubman MS.

- ICP-MS analysis of Teflon filters conducted by Desert Research Institute, Reno NV.

- 9 metals analyzed – Cr, Co, As, Se, Cd, Pb, Ni, Mg, and Be.

o Average As, Cd, and Ni concentrations above ambient benchmark levels

- No QAPP or study report developed.

- Lab results can be found at http://www.deq.state.or.us/nwr/docs/PowellSE22nddata.pdf

Current Study:

- 4 sites; following NATTS monitoring protocols

o Winterhaven K-8 ES; 460 meters WSW of BGC (not running – power issues)

o Fred Meyer parking lot, 220 meters NNW of BGC (not running – power issues)

o CCLC daycare; 215 meters SSE of BGC (currently running)

o A site NW of BGC (not running – site location tbd)

o A site near Uroboros Glass Studio (not running - site location tbd); approx 5.0 km NNW

- 3 monitors at CCLC

o 2x PM10 high volume; 1x running 12hr and 1x running 24hr

o 1x BGI PQ200 for sampler comparison analysis

- 1 PM10 high volume at other 3 sites

o 12 hr averaging period

- Hi-vols - quartz filters with ICP-MS analysis by DEQ lab

- BGI lo-vol – Teflon with ICP-MS analysis by DRI

- Everyday sampling initially for 2 weeks – further sampling may occur and will be based on the results from this initial 2 weeks.

Anthony also mentioned that the moss study shows a potential for high Ni and Cd near Precision Castparts in NW Portland and that this could be a future concern for us all.

Thanks, Chris

**From:** Elleman, Robert
**Sent:** Thursday, February 11, 2016 9:49 AM
**To:** Hall, Chris <Hall.Christopher@epa.gov>
**Subject:** FW: SE Portland Metals Emissions Briefing

**From:** Hastings, Janis
**Sent:** Thursday, February 11, 2016 9:01 AM
**To:** Elleman, Robert <Elleman.Robert@epa.gov>
**Cc:** Koprowski, Paul <Koprowski.Paul@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>
**Subject:** Re: SE Portland Metals Emissions Briefing

Thanks, Rob. This is interesting and I appreciate the background.

We had a briefing with Janet McCabe this week, and also she wanted to let us know that HQ is available to assist.

We should be aware of and on top of ODEQ's current air monitoring in the area. Let me know if there are needs or concerns. Paul and Madonna can coordinate with you.

Jan

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**From:** Elleman, Robert
**Sent:** Thursday, February 11, 2016 8:48 AM
**To:** Hastings, Janis; Bray, Dave; Narvaez, Madonna
**Subject:** RE: SE Portland Metals Emissions Briefing

Is this no longer relevant?

Regardless, I'm back in the office and can tell you what I know. The USFS presented their moss results to NW-AIRQUEST last summer: http://www.lar.wsu.edu/nw-airquest/docs/20150624_meeting/20150625_Donovan_moss.pdf. ODEQ had initiated this effort and had reached out to the USFS to use moss as a surveillance method (surveillance in the scientific definition, not a conspiracy theory definition). They found high levels of Cd and As in a bull's eye around Bullseye and also to some extent Uruboros. A moss study gives you an estimate of deposition, not concentration, and so there was no information from that study to cause concern. ODEQ told everyone they planned to follow up with monitoring. That wasn't particularly shocking or notable, since the AQ community is always looking into various issues and they rarely blow up like this one did.

The moss study gives an integrated deposition, and the time period over which that deposition occurred is a big unknown with that kind of measurement. So there's no time period to speak of.

I am not aware of a written report from USFS about the moss study, though I suspect one exists.

I heard from ODEQ last week that the monitoring started in the fall and they only had a month or so of ambient air data processed before they started to get concerned. I know the technical folks at DEQ wanted to spend more time checking the data and doing analysis before it entered the public sphere. But that didn't happen.

---

**From:** Hastings, Janis
**Sent:** Wednesday, February 10, 2016 7:43 AM
**To:** Bray, Dave <Bray.Dave@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>
**Cc:** Elleman, Robert <Elleman.Robert@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing

I'm copying Rob on this in case he might also have information.

Jan

---

**From:** Bray, Dave
**Sent:** Tuesday, February 09, 2016 6:39 PM
**To:** Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing

I'll look back through the emails tomorrow to see if I can figure out what monitoring it was talking about.

Dave

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**From:** Narvaez, Madonna
**Sent:** Tuesday, February 09, 2016 6:35 PM
**To:** Bray, Dave <Bray.Dave@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing

It may be that the correlation is only one month, because that's how much data ODEQ had.

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**From:** Bray, Dave
**Sent:** Tuesday, February 09, 2016 6:34 PM

**To:** Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing

I though the one month of data was referring to the ODEQ air monitoring, not the USFS moss study. There is no reason for the USFS data to be so limited, but I guess it could be. But given the biological processes for bioaccumulation of metals and the dispersion of pollutants from a point source, I would have some concerns about a short sampling period for the moss study.

Dave

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**From:** Narvaez, Madonna
**Sent:** Tuesday, February 09, 2016 6:27 PM
**To:** Bray, Dave <Bray.Dave@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing
**Importance:** High

I had asked Judy is EPA did have a copy of the report. I remember Sarah telling me since the actual study belonged to USFS, she was not able to share it with us. Paul gave her the USFS contact to try to see if they would let us look at it. It is based on one month's worth of data, and still is draft, I think.

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**From:** Bray, Dave
**Sent:** Tuesday, February 09, 2016 6:25 PM
**To:** Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing

Hmmm. That statement has been in this draft desk statement for many versions and no one has asked who is reviewing it or even if we have it for review.

I wonder if our enforcement folks got it somehow or ASTDR?

Dave

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**From:** Narvaez, Madonna
**Sent:** Tuesday, February 09, 2016 5:53 PM
**To:** Hastings, Janis <Hastings.Janis@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing
**Importance:** High

EPA is not reviewing the USFS report. Although DEQ has seen the study, they are not free to share it. Paul Koprowski has a call in to the USFS contact to see if we can get a copy of the study.

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**From:** Hastings, Janis
**Sent:** Tuesday, February 09, 2016 5:35 PM
**To:** McCabe, Janet <McCabe.Janet@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Koerber, Mike <Koerber.Mike@epa.gov>; Wayland, Richard <Wayland.Richard@epa.gov>; Millett, John <Millett.John@epa.gov>; Wood, Anna <Wood.Anna@epa.gov>
**Cc:** McLerran, Dennis <mclerran.dennis@epa.gov>; Pirzadeh, Michelle <Pirzadeh.Michelle@epa.gov>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Holsman, Marianne <Holsman.Marianne@epa.gov>; Kowalski, Ed <Kowalski.Edward@epa.gov>
**Subject:** RE: SE Portland Metals Emissions Briefing

Below is a draft agenda for our call tomorrow and the Desk Statement.

**Briefing for Janet McCabe on SE Portland Air Toxics**

1. Agenda Review - Most important questions OAR would like to focus on?

2. How EPA/Oregon learned about the facility/facilities (background on previous ODEQ ambient air toxics monitoring and modeling efforts in Portland) – Region 10

3. Basics of our MACT and area source rules for glass manufacturing facilities and why they do not apply to this facility (i.e., what we knew when we finalized them) -- OAQPS

4. Current status and activities underway by State and federal agencies (monitoring, facility inspection, health assessment, etc.) – Region 10

5. Next steps

**Desk Statement: SE Portland Metals Contamination** (draft, 2/9/2016)

The Oregon Department of Environmental Quality found a significant "hot spot" of cadmium and arsenic during air sampling in Portland, Oregon near SE 22nd Ave. and Powell Blvd. DEQ is collecting additional air samples in the affected area, and is working collaboratively with county, state and federal health agencies (Oregon Health Authority, Multnomah County Health Department, and the Agency for Toxic Substances and Disease Registry) to assess and mitigate impacts to public health. EPA is keeping fully informed about this developing situation and is ready to support and assist ODEQ as needed. EPA and ATSDR are evaluating these findings in relation to EPA health standards.

Additional information, including a link to air sampling data and a map of the affected area, can be found at: http://www.deq.state.or.us/nwr/metalsemissions.htm. DEQ's initial findings are that the monthly average is 49 times greater than the state air toxics benchmark for cadmium and 159 times the state air toxics benchmark for arsenic.

**Questions and Answers**

*How is EPA involved?*

EPA Region 10 was briefed on the situation by ODEQ one-week prior to the February 3, 2016 press release. We remain ready to support DEQ, OHA, MCHD and ATSDR in assessing, monitoring or communicating about the situation as needed.

*If so, what is our role?*

EPA Region 10 is looking at our records to identify other potential sources in the affected area. We are also comparing federal regional screening levels (RSL) with the ODEQ state health benchmarks in relation to the amount of contamination found in the study. In addition to EPA, the ATSDR is working with DEQ, OHA and Multnomah County Heath to communicate the potential impact on the community from the monitored levels of contamination.

*Are we determining or confirming the air pollution and/or the source?*

ODEQ is keeping EPA informed of their actions to monitor the situation and exposure levels. As of Friday, February 5, they were proceeding with additional particulate monitoring at nearby schools and day care centers.

*Why isn't this source regulated by EPA?*

When EPA adopted the National Emission Standards for Hazardous Air Pollutants for glass manufacturing facilities in 2007, art glass facilities were not known to be a source of significant emissions. EPA is evaluating what next steps may be appropriate based on the recent discovery of cadmium and arsenic pollution in Portland, Oregon.

*Do we know any more about the USFS role or study mentioned in the news media?*

EPA is reviewing this study, which was a collaborative study between US Forest Service and DEQ to better understand the sources and distribution of toxic metals, including arsenic and cadmium, air pollution in Portland.

-----Original Appointment-----
**From:** McCabe, Janet
**Sent:** Tuesday, February 09, 2016 6:28 AM
**To:** McCabe, Janet; Niebling, William; Kowalski, Ed; Page, Steve; Koerber, Mike; Wayland, Richard; Millett, John; Wood, Anna; Bray, Dave; Narvaez, Madonna; Holsman, Marianne; Hastings, Janis
**Cc:** McLerran, Dennis; Pirzadeh, Michelle
**Subject:** SE Portland Metals Emissions Briefing
**When:** Wednesday, February 10, 2016 1:30 PM-2:00 PM (UTC-05:00) Eastern Time (US & Canada).

**Where:** WJC-N 5400 Ex. 6 - Personal Privacy