

**LIVERMAN Alex**

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**From:** LIVERMAN Alex  
**Sent:** Monday, August 06, 2012 10:25 AM  
**To:** 'Scheffler, Linda'; 'Klinger, Nanci'  
**Cc:** ANDERSON Jim M; POULSEN Mike; 'Dave Johnson'  
**Subject:** PCBs at Cathedral Park - Qualitative Risk Analysis

Linda and Nanci:  
Per your request, DEQ has prepared this e-mail to provide the City with a qualitative risk evaluation of limited data on soils in the Cathedral Park area impacted with Polychlorinated Biphenyls (also known as PCBs).

BACKGROUND

DEQ understands that:

- 2011 soil sampling in the vicinity of Cathedral Park shows elevated levels of PCBs. A number of the samples show lower levels of PCBs (<0.5 mg/kg), some exceed 0.5 mg/kg, with the highest sample at 21.7 mg/kg, and the average concentration in soils sampled is about 4 mg/kg.
- The samples were collected on either City-owned property south of Peninsula Iron Works or along the railroad tracks on North Bradford Street. Both areas are commonly used by people accessing Cathedral Park.
- The City is concerned whether soils contaminated with PCBs at these levels pose a significant threat to park users that would necessitate actions by the City to limit exposure to the public.

EVALUATION

DEQ's first step in evaluating risk is to compare site concentrations with screening values, called risk-based concentrations (RBCs).

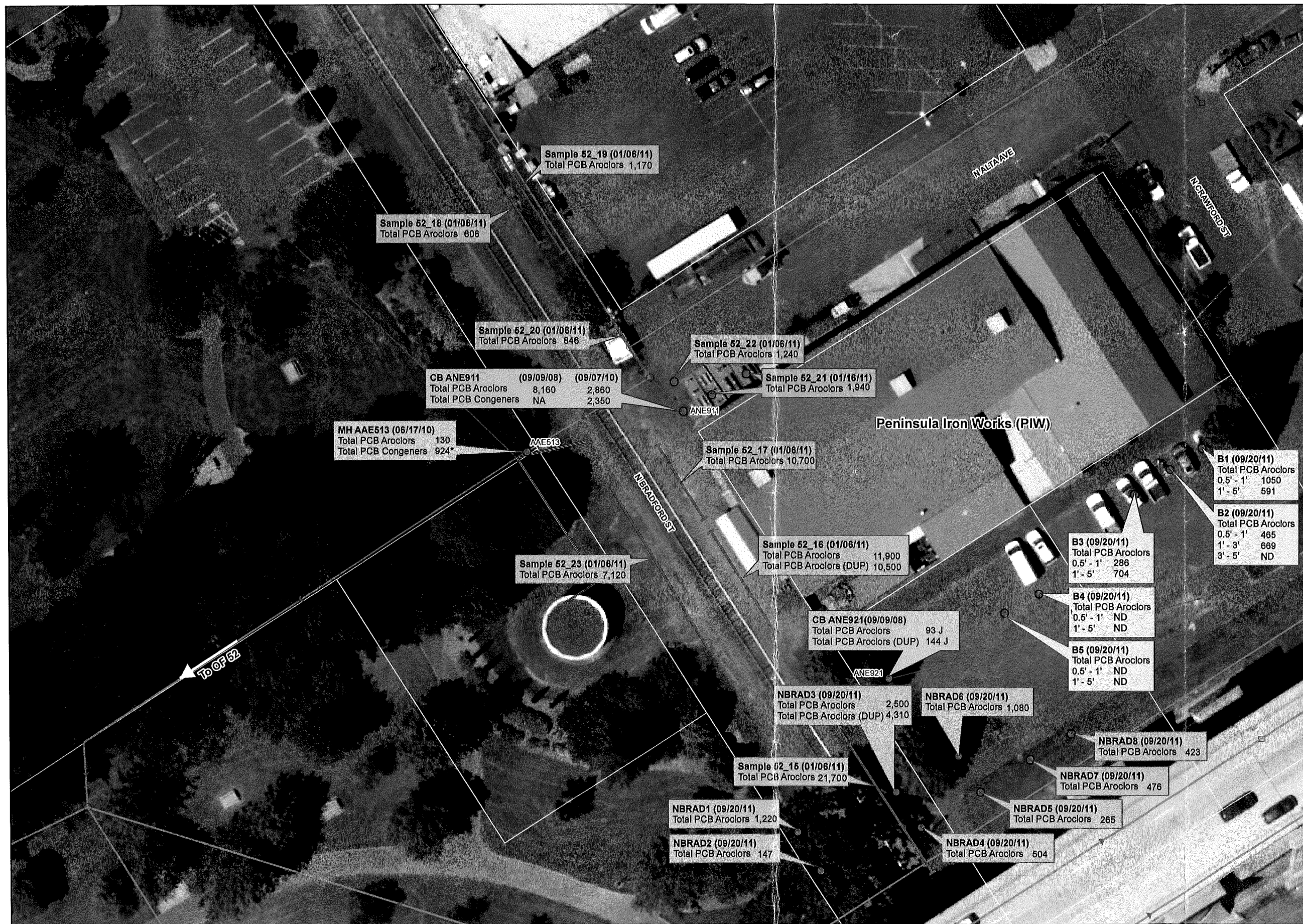
- RBCs are developed after considering both non-cancer and cancer effects of chemicals. PCBs and some other chemicals accumulate in our bodies over time, so for these bioaccumulating chemicals we also look at potential impacts to infants through breastfeeding. The lowest RBCs developed for non-cancer or cancer effects in adults, children, or infants are included in DEQ's screening table.
- RBCs are developed for different exposure scenarios, including people exposed in residential and occupational settings, but we do not have screening levels specific to recreational users. To evaluate recreational use risk, we use screening values based on one of the more conservative exposure scenarios.
  - On the Portland Harbor project, for beaches with the potential for extensive use, we used residential RBCs to screen for recreational use.
  - For a site such as Peninsula Iron Works and the access path to Cathedral Park, the exposure assumptions for occupational RBCs are likely sufficiently conservative to protect recreational users. [We assume frequent (250 days/year) and long-term (25 years) exposure in developing occupational RBCs. Using these assumptions of long-term exposure, our occupational screening RBC for PCBs in soil is 0.56 mg/kg. For less frequent or shorter term exposure, there will be correspondingly lower risk, and proportionally higher RBCs.]

Because PCB soil concentrations in these areas are above the soil occupational RBC, DEQ will pursue the investigation and will likely require remediation to eliminate or limit long-term exposure. DEQ began this process by inviting the Peninsula Iron Works site into the voluntary cleanup program, who is currently assessing contamination levels at and around their site. We anticipate that source control efforts will address contaminants on the site and all pathways for contaminants to leave the site.

Cathedral Park  
August 2012

Peninsula Iron Works  
PCB Concentrations in Soil

| Sample Location     | PCB Conc (ug/kg) |        |             |        |
|---------------------|------------------|--------|-------------|--------|
| Composite           |                  |        |             |        |
| 52-15               | 21,700           |        |             |        |
| 52-16               | 11,200           | 11,900 | 10,500 dups |        |
| 52-17               | 10,700           |        |             |        |
| 52-18               | 606              |        |             |        |
| 52-19               | 1,170            |        |             |        |
| 52-20               | 846              |        |             |        |
| 52-23               | 7,120            |        |             |        |
| Composite Average = |                  | 7,620  | 90UCL =     | 12,000 |
| Discrete            |                  |        |             |        |
| NBRAD1              | 1,220            |        |             |        |
| NBRAD2              | 147              |        |             |        |
| NBRAD3              | 3,405            | 2,500  | 4,310 dups  |        |
| NBRAD4              | 504              |        |             |        |
| NBRAD5              | 265              |        |             |        |
| NBRAD6              | 1,080            |        |             |        |
| NBRAD7              | 476              |        |             |        |
| NBRAD8              | 423              |        |             |        |
| Discrete Average =  |                  | 940    | 90UCL =     | 1,700  |
| Average =           | 4,057            |        | 90UCL =     | 14,000 |



#### LEGEND

● Outfall Basin 52

● Sample Locations

#### Sample Type

■ Surface Soil Sample

■ Subsurface Soil Sample

■ Inline Solids Sample

■ Sediment Trap Sample

— Composite Sample

#### All Other Features

→ Storm Line

○ Manhole (MH)

□ Catch Basin (CB)

--- Tax Lot

#### NOTE:

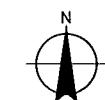
NA = Not analyzed

ND = Not detected

J = Estimated

Total PCBs Aroclor and congener results in µg/Kg.

\*Total PCBs concentration includes one or more estimated value(s). Because estimated values are not significant relative to the total concentration (i.e. <1%), the PCBs concentration is only slightly biased.



0 20 40  
Feet

### FIGURE 1

Total PCBs Concentrations in  
Vicinity of Peninsula Iron Works

Disclaimer:  
Information contained on this map is accurate according to available records, however the City of Portland makes no warranty, expressed or implied, as to the completeness or accuracy of the information published.

Prepared By:  
GSI, October 28, 2011  
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Source:  
City of Portland BES,  
Aerial Photo 2010

ENVIRONMENTAL SERVICES  
CITY OF PORTLAND  
1200 SW Fifth Avenue, Room 1000  
Portland, Oregon, 97204-1912