



Greater Maple Valley Unincorporated Area Council  
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August 11, 2020

To: Kay Morrison ([morrison.kay@epa.gov](mailto:morrison.kay@epa.gov))

Re: Docket No. EPA-HQ-SFUND-EPA-HQ-SFUND-2005-0011 — *“Notice of Intent to partially delete the soils at Queen City Farms Superfund Site from the National Priorities List (NPL, list of Superfund Sites).”*

## **Introduction**

Please accept the comments herein from the Greater Maple Valley Unincorporated Area Council (GMVUAC), a community council of volunteer citizens who reside in the unincorporated area outside the City of Maple Valley and represents and advocates with King County, state officials, and other organizations for the interests of the citizens of our unincorporated area.

Our comments herein are based primarily on review of the *Soil Response Action Report* (EPA, 2020), the document that forms the technical basis for EPA's proposal to delete the soils at the Queen City Farms Superfund site. In particular, they also are based on our Principal Investigator, Marcia Knadle's, personal knowledge of EPA's actions at the site based on her 29 years as the EPA Hydrogeologist working on the project.

## **General Comments**

From around 1955 through 1965, several Seattle-area companies dumped various liquid wastes into three adjacent ponds at Queen City Farms. The ponds were burned as needed to control the liquid levels to prevent them from overflowing into Queen City Lake. Although plating wastes were among the liquids, most of them were waste oils, including various

chlorinated compounds like PCBs and chlorinated solvents. (The denser liquids seeped into underlying soils and proceeded to interact with groundwater, but the solvent trichloroethylene was the only one that migrated beyond the waste pond area to cause a groundwater plume.)

Below is a photo of what one of the three waste ponds looked like in 1983, shortly before the site was listed on the National Priorities list to designate it a Superfund site.



*One of the three disposal ponds at Queen City Farms site discovery in 1983 (this was EPA Region 10 hydrogeologist René Fuentes' introduction to Superfund).*

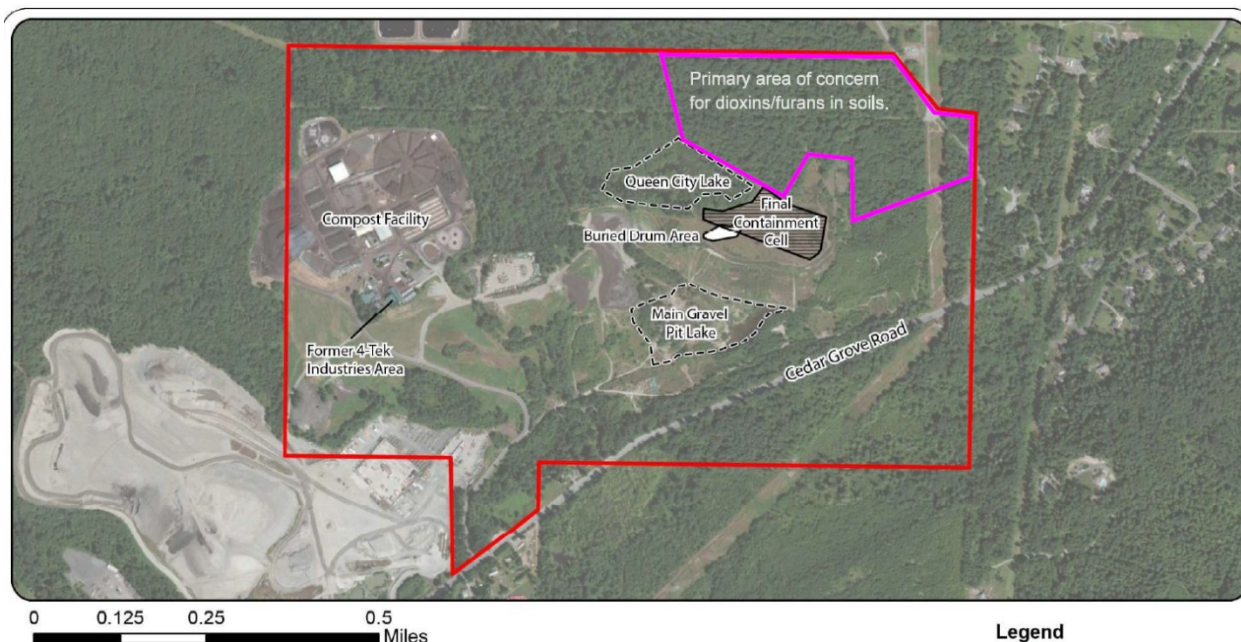
The contents of the ponds were removed within a few years, filled with low permeability soils and capped. In the mid-1990s, the cap was extended and the area surrounded by a deep barrier wall (the Final Containment Cell) to prevent upgradient water from flowing into the contaminated soils, picking up contamination, and flowing out again.



*Queen City Farms disposal ponds initial cleanup (removal of contents) in 1985.*

When chlorinated organics are burned at a moderate temperature, dioxins and furans typically form. As such, these are chemicals that could reasonably be expected to have been produced from the repeated burning of the waste ponds. They'd have traveled up with the smoke and settled back to the ground, with the highest concentrations presumably accumulating nearest the ponds. These compounds don't breakdown naturally, although they're likely no longer right at the surface, either in areas which have been regraded or in areas that haven't (forested areas to the north, NE, and NW). However, in the undisturbed forested areas, they'd still be there in the soil profile, just buried under 60 years of accumulated forest debris. On the following figure, I've outlined in pink the areas of the Queen City Farms site near the former waste ponds that haven't been regraded, and thus are most likely to still contain dioxins and furans in the shallow soils.

Figure 2: Detailed Site Map



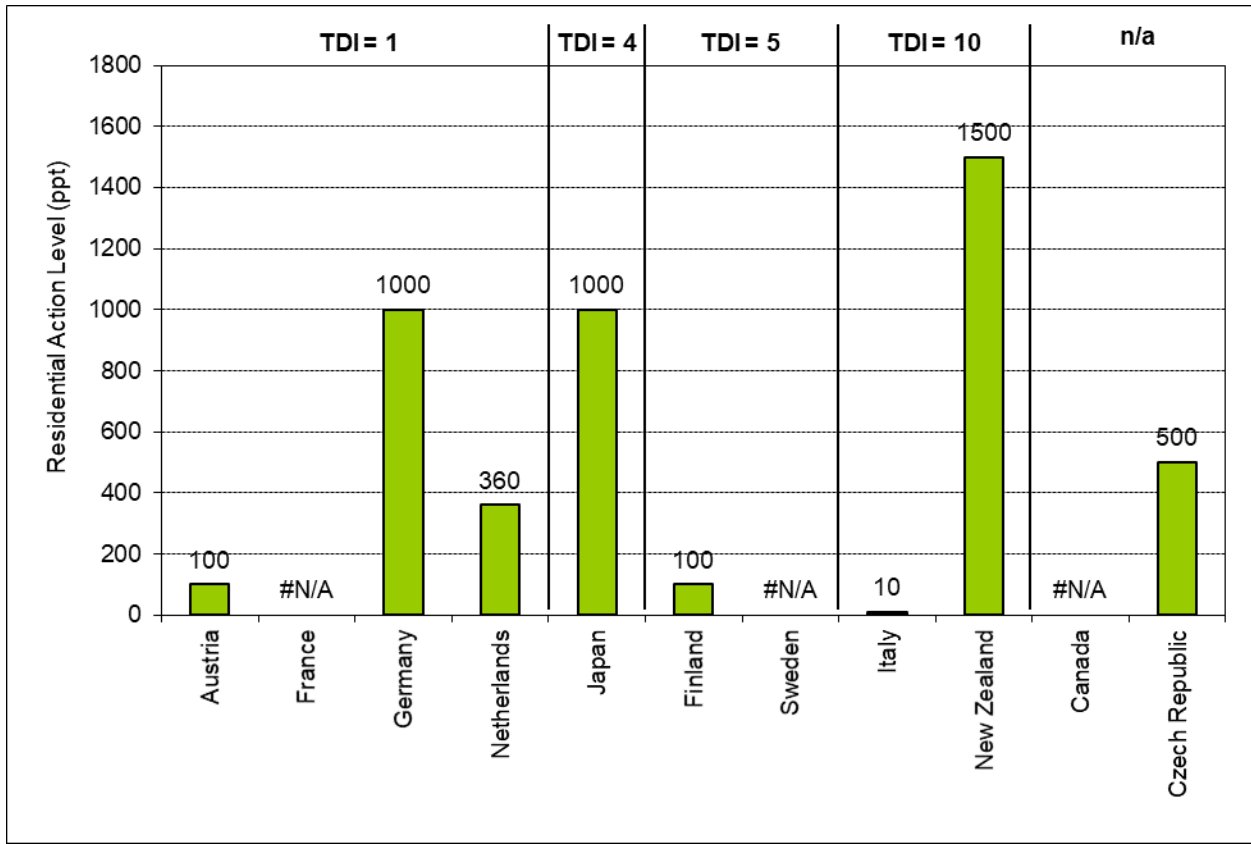
When EPA and Boeing developed the scope for the Remedial Investigation performed by Boeing in the mid- to late 1980s, they made a conscious decision NOT to sample for dioxins and furans anywhere. This is because they didn't know what to do about it if they were found. EPA hasn't established any Superfund cleanup goals for dioxins or furans, or even settled on basic toxicity values. (This has also kept the State of Washington's Department of Ecology from establishing cleanup levels under the Model Toxics Control Act.) The major technical disagreement seems to be about whether there's a threshold level below which they cannot be expected to cause cancer. However, there are also political and practical considerations which have hindered EPA from setting cleanup goals.

In the early 1980s, EPA used a cleanup goal of 1 ppb (1  $\mu\text{g}/\text{kg}$ ) in soils at Times Beach, MO – the most famous dioxin site in the US and a major impetus for the establishment of the Superfund program. However, there was soon recognition that some commonly used plastics contain enough chlorine that, when they are burned, they create dioxins and furans. This raised the fear among regulators that, if the cleanup levels were set at a level similar to what was used at Times Beach, backyards where people had burned garbage in barrels could require cleanups. If backyard burn barrels could potentially produce enough dioxins and furans to exceed the cleanup level used in the early 1980s, it's reasonable to expect that repeatedly burning ponds of PCBs and chlorinated solvents would have produced much, much more.

The following article outlines some of EPA's struggles with this class of chemicals:  
<https://www.npr.org/2010/12/28/132368362/a-chemical-conundrum-how-dangerous-is-dioxin>

After nearly 40 years, EPA is still grappling with these questions. However, these technical and practical issues haven't kept other countries from establishing at least screening levels (levels at which cleanup is considered) for dioxin, and some have established actual cleanup action levels for residential soils.

Below is Figure 2 from "Review of International Soil Levels for Dioxin" (EPA, 2009):  
International Residential Action Levels



#N/A – not available

Please note that the 1000 ppt level used by Germany and Japan is equivalent to the 1 ppb level used at Times Beach.

In the first paragraph on page 11, of their *Soil Response Action Report*, EPA states that "Soils outside of the Final Containment Cell (FCC) have no hazardous substances, pollutants or contaminants that remain above levels that could prevent unlimited use and unrestricted exposure." This, of course, is limited to hazardous substances that were sampled and tested.

The Queen City Farms property is currently not zoned for residential use, and this is unlikely to change in the foreseeable future. However, the zoning could conceivably change to residential at some point in the future, even near the FCC. One might question

whether anyone would want to own a house just south of the landfill (presumably closed by then) and overlooking the FCC, although it would have an amazing view of Mt. Rainier. However, by deleting the soils at Queen City Farms, EPA will effectively be certifying that, outside the FCC (which will be protected in perpetuity), they're safe for unrestricted land use, including conceivably residential. Ideally, EPA would first determine whether a reasonably expected class of very long-lived contaminants exists in surface soils, at least where there are still undisturbed native soils near the old waste ponds. Given the lack of regulatory clarity regarding dioxins and furans, coupled with the low chance of the zoning changing to allow residential use in the foreseeable future, it appears unlikely that such sampling would occur before deletion. However, the deletion document should somehow note that this is a significant unknown should residential use ever be allowed, even far into the future, and that these areas near the FCC should be evaluated for dioxins in near surface soils before such a land use change is approved. Hopefully by then, EPA will have figured out how they should regulate dioxins at Superfund sites.

Even if the land use remains rural industrial, should the land owners ever pursue a use that could itself produce dioxins and furans (for example, a waste incinerator), it would probably be in their best interest first to establish whether there are areas of dioxins that already exist in the soils.

### **Specific Comment**

Table 1 on p. 6 of the *Soil Response Action Report* presents the soil cleanup levels from EPA's 1994 Record of Decision (ROD). The WA State Model Toxics Control Act (MTCA) was the basis for these cleanup levels. Most are "set in stone" unless new toxicological information indicates that the cleanup level is no longer "protective" per EPA's excess cancer risk range or non-cancer Hazard Index. The exception under MTCA is for contaminants whose cleanup levels were set above the levels calculated according to risk because laboratories couldn't reliably quantify levels that low at the time. As a result, those levels were set to the practical quantitation limit (PQL) at that time. The PQL is almost certainly lower since the ROD was written, and since the last five year review for this site (Sept. 2018), the WA State Dept. of Ecology (Ecology) has issued new MTCA cleanup levels for Polycyclic aromatic hydrocarbons (PAHs) in unrestricted-use soils which are now 1/10<sup>th</sup> of the ROD cleanup level:

[https://www.ezview.wa.gov/Portals/\\_1987/Documents/Documents/NewMTCA\\_PAHCleanupLevels\\_May2019.pdf](https://www.ezview.wa.gov/Portals/_1987/Documents/Documents/NewMTCA_PAHCleanupLevels_May2019.pdf)

### **Recommendations**

1. The deletion document should note the likely presence of dioxins and furans in undisturbed soils near the FCC is a significant unknown. Should residential use ever be allowed in this area, even far into the future, these areas near the Final Containment Cell should be evaluated for dioxins in near surface soils before such a land-use change is approved.

2. Before finalizing the deletion, EPA should evaluate whether the ROD cleanup level for PAHs is still protective. If it's not, the confirmation sampling results from the Buried Drum area outside the Final Containment Cell should be re-evaluated to see if that area still meets risk-based cleanup levels.

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