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September 20, 2000

Jeanne Trans
Dept. of Ecology Water Quality Program, NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452

Re: Proposed Monitoring for State Waste Discharge Permit No. ST-7425
J. H. Baxter Arlington, Washington Facility
7026-02

Dear Jeanne:

This letter presents our proposed plan for monitoring under the State Waste Discharge Permit for the referenced facility. This monitoring plan is based on discussions during our September 15, 2000 meeting with the Department of Ecology, our understanding of the site environmental conditions, and our desire to better understand the potential migration of contaminants into the subsurface through stormwater infiltration.

Pertinent Background Conditions

As a result of the closure of the Parcel A french drains—FD #13/14, 23, 24, 25, and 26, there are no longer any point source discharges for adequate sampling of surface waters. Collection of ditch water near the former FD # 13/14, 23, 24 and 25 will not provide good technical data for assessing cleanup needs. In part, this is because of the potential to collect suspended solids in the water sample. Surface soils at the site are known to contain residual levels of PCP and dioxins (Hart Crowser Draft Remedial Investigation, March 2000). To date, the data collected at the french drains (i.e. before drain closure) does not provide adequate data for assessing the stormwater contribution to groundwater contamination.

Under the State Waste Discharge Permit, the point of compliance can be set at the closest receiving water body, which is the groundwater directly beneath Parcel A. Monitoring in the groundwater will provide adequate data in some places, however, the on-going RI/FS being conducted under an Ecology MTCA Agreed Order, has identified a

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plume of PCP-containing groundwater beneath the main treatment area. The groundwater contamination appears to result from a former spill(s) of wood treating product. The plume occurs beneath the former butt tank in the southeast Parcel A area, and extends to the northwest in the area of MW-3 and BXS-1. Monitoring of groundwater in the area of plume occurrence would not provide useful data on assessing any on-going stormwater sources.

A combination of groundwater monitoring and unsaturated zone monitoring will provide the best data for assessing any on-going source of contamination to groundwater from the stormwater. Observations at the site and knowledge of the site hydrogeology indicate that rainwater will infiltrate most areas of the site. During rainfall events that exceed the infiltration capacity of the surface soils, stormwater is captured in various ditches around the site for infiltration through the ditch bottoms. Our best chance of capturing infiltrating stormwater through unsaturated zone monitoring is likely to be in these ditch areas where it is known that sufficient stormwater infiltration will be occurring to allow capture through suction lysimeters.

Suction lysimeters are a device used for sampling soil-water as it moves down to the water table. The soil-water content of the material surrounding the lysimeter must reach an appropriate level to increase the soil conductivity, and the water storage within the soil to a level, which will deliver the volume of water required. The required volume of water is determined by analytical methods used by the laboratories—300 to 500 mL of sample is required for the analysis of PCP and up to 1 L for dioxins/furans. The volume of water that a lysimeter can yield is dependent upon soil texture, soil-water content, and recharge. Generally, in high saturation regimes, an increase in soil texture corresponds with an increase in hydraulic conductivity and soil-water storage. If recharge is coming from a relatively constant source (i.e. an infiltration pond, storm drainage trench) then the soil-water content is less likely to be depleted during sampling and the large water volumes required may be obtainable. In areas with a less constant source, there is a greater uncertainty in the ability to collect the volume of water required to complete the desired analyses.

Monitoring Proposal

Parcel A—Treated Product Storage Area

Groundwater and unsaturated zone monitoring is proposed as an alternate to sampling at the former drain locations during the interim compliance period. These data will better identify the quality of infiltrating stormwater and the potential impact of stormwater on

groundwater. We propose groundwater monitoring outside of the groundwater plume area, and unsaturated zone monitoring within the groundwater plume area as follows:

- Monitoring well HCMW-5 will be used to monitor groundwater beneath the former french drains 25 and 26. This well is located adjacent these former drains. The data from this well will replace the previous composite monitoring of stormwater from FD #25 (note that FD # 26 has never been monitored) and will provide representative data on the quality of water infiltrated in the southern portion of Parcel A. A lysimeter in this area is uncertain to obtain sufficient water for sampling and represents a redundancy to the groundwater monitoring well already installed for stormwater monitoring purposes (See RI Work Plan for rationale on this well location). (3)

- Three new lysimeters will be installed and used to monitor the quality of infiltrating stormwater in the central treatment area and southern portion of the pole storage yard. The lysimeters would be installed in or directly adjacent the main ditch lines as shown on the attached figure. Lysimeter L-1 would be installed in the ditch adjacent FD# 24; Lysimeter L-2 would be installed in the east-west section of the ditch that separates the pole storage yard and main treatment area where FD #13/14 formerly discharged; and Lysimeter L-3 would be installed in the center of the north-south ditch on the west side of the pole storage area.

- Monitoring well MW-2 would be monitored as planned, but the monitoring frequency would be increased to quarterly to provide data on stormwater infiltration from the ditch on the north side of the pole storage yard.

The parameters and frequency of monitoring for the monitoring wells HCMW-5 and MW-2 would include:

- Pentaclorophenol (PCP) quarterly to distinguish seasonal effects
- Dioxin/furan on a biannual basis as these are hydrophobic chemicals which are unlikely to be seen, and the tests are costly
- Total Suspended Solids quarterly to distinguish the effects of suspended solids on sample results
- Field parameters of pH, temperature, and conductivity
- Water levels

The parameters and frequency of monitoring for the 3 lysimeters would include:

- Pentaclorophenol (PCP) every 2 months beginning in November and extending through April (3 sampling events). Given the 2 month lag time between precipitation and water level response seen in the site data (See Figure 6 of the RI/FS Work Plan) it is likely to take 2 months for the sands and gravel to wet enough to allow stormwater migration to the water table (and thus into the lysimeters). We therefore propose the first sampling event occur in November, with another in January, and a third in March.

Other parameters would be monitored as sample volume collected in one day allows. The priority for additional analyses proposed is as follows:

- Dioxin/furans
- Total Suspended Solids (TSS)
- Field parameters including pH, temperature, and conductivity.

Interim Sampling Plan

At our September 15, 2000 meeting Ecology suggested an interim sampling plan to address the issue of the time needed to install the lysimeters and to have the soil wetted sufficiently for stormwater to begin migrating to the water table. During this time, Ecology would like to sample surface water at the former drain locations for the first fall sampling event. The samples will be collected from any ponded water that accumulates at the former drain locations; however, will not be collected if no ponding occurs. Flow measurements will not be able to made given the absence of a point discharge.

The collected samples will be field filtered using a 0.45 micron filter placed in line with a pneumatic pump that draws water from the ponded area. The samples will be analyzed for the following parameters:

- Oil and Grease (from an unfiltered sample)
- Total Suspended Solids (TSS) of filtered and unfiltered samples
- Pentachlorophenol (PCP)
- Dioxin/furans
- pH

Parcel B—Untreated Pole Storage Area

Water quality monitoring in the untreated pole area will be in the location of those drains identified in the State Waste Discharge Permit:

- Discrete samples from FD #16, 17, 18 and 22; and
- Composite samples from FD #19 through 21, 1 through 6, and 7 through 12.

The monitoring parameters and schedule as outlined in the State Waste Discharge permit will be implemented.

With respect to the criteria for drain closure if PCP is detected in stormwater from any of these samples above the final effluent limits, we propose the following criteria be used to determine drain closure or treatment alternative:

- A detection of PCP in stormwater at any drain sample will be confirmed if detected at any two successive sampling events; except that,
- Two successive detections in the composite sample will result in a switch to discrete sampling at each drain location. Following which, a confirmed detection of two successive sample exceedences will be required at any individual drain, before drain closure.

As an option to the drain closure, we propose that an activated carbon treatment unit designed for insert into the catch basin be used in areas where flooding could occur if the drain is closed. This option should satisfy the UIC requirements and prevent the adverse affect of flooding which could spread any PCP-containing soils which are causing the PCP in the stormwater.

We trust this proposal is consistent with our discussions at the Ecology meeting with Baxter on September 15, 2000. We would appreciate your prompt review as we are currently contracting with laboratories for sample collection and analysis and need time is needed to order the appropriate sampling devices and equipment.

Sincerely,

HART CROWSER, INC.

LORI HERMAN
Principal Hydrogeologist

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CC: Georgia Baxter
Kirk Cook
Ching Pi Wang