JBaxter

January 10, 2002

Mr. Dean Yasuda
Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

Re: Response to Washington State Department of Ecology's (Ecology)
Treated Excess Stormwater Disposal Letter
J.H. Baxter Arlington Facility

Dear Mr. Yasuda:

Thank you for your November 21, 2001, letter to Georgia Baxter responding to Hart Crowser's request for a "contained-in" determination, dated July 2, 2001. The letter conditionally approves Baxter's "contained-in" request. I am writing to discuss the need to modify one of the conditions in the letter and to present our understanding of the requirement to meet the MTCA Method B cleanup levels for all hazardous constituents. In addition, this letter request a meeting to discuss other issues related to the implications of the contained-in determination.

DATA SUBMITTAL REQUIREMENT

The November 21 conditional approval letter requires Baxter to submit copies of all stormwater treatment confirmation data to Ecology within 30 calendar days after the sample is collected. We do not believe that it will be possible to meet this time frame. Typically it is taking over a month to obtain final data packages for dioxin/furans. We request that the data submittal requirement be modified to allow Baxter 30 days after all final laboratory certifications are received from the laboratory to submit the data to Ecology. This allows time to validate the data and summarize the data in tables prior to submittal.

MTCA CLEANUP LEVELS

Procedures to establish cleanup levels under the MTCA can result in a variety of cleanup levels. For example, cleanup levels for groundwater can be based on state and federal law (e.g., drinking water MCLs), calculations using MTCA formula, or by considering analytical

limitations. To avoid misunderstandings regarding the appropriate cleanup level for an individual hazardous waste constituent, the attached Table 1 presents a summary of the MTCA Method B groundwater cleanup levels Baxter intends to use for the treated stormwater discharge. Additional technical discussion regarding how the cleanup levels were developed is contained in Attachment A.

TECHNICAL PRACTICABILITY

Several factors will influence the effectiveness of the activated carbon including the variability of the dioxin concentrations in the storm water; the amount of total dissolved and suspended solids; the adsorption of the dioxin onto fine particulates; the concentrations of other constituents such as polycyclic aromatic hydrocarbons (PAHs), chlorophenols, and oil and grease; and the specific physical characteristics of the batch of activated carbon being used. To some extent design considerations can address the removal of dioxin from the storm water, but uncertainties will still exist and the design would be overly conservative and very costly for the reduction in risk achieved (if any).

REQUEST FOR A MEETING

Baxter is striving to coordinate multiple programs and agency requirements concerning issues at the Arlington facility. There are other issues regarding consistency between programs and technical feasibility for the treatment of stormwater that remain unresolved.. Baxter would like to meet with you and EPA on January 16, 17, or 18 or the following week to discuss our concerns. Please let me know if you are available on one of these days for a meeting in Seattle.

If you have any questions or need additional information please call me at 541-689-3801.

Sincerely,

RueAnn Thomas

RUEANN THOMAS
Environmental Programs Director
Attachments:
Table 1 - MTCA Method B Cleanup Levels for Hazardous Constituents
Attachment A - MTCA Method B Cleanup Levels

cc: Kim Ogle, EPA Region 10
Georgia Baxter

Table 1 - MTCA Method B Cleanup Levels for Hazardous Constituents

REGULATED HAZARDOUS CONSTITUENT		MTCA
Common Name	CAS Number	Groundwater Cleanup Levels in ug/L (1)
Acenaphthene	83-32-9	960
Anthracene	120-12-7	2,400
Benz(a)anthracene	56-55-3	(8)
Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	(8)
Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	(8)
Benzo(a)pyrene	50-32-8	0.1 (9)(10)
Chrysene	218-01-9	(8)
Dibenz(a,h)anthracene	53-70-3	(8)
2-4 Dimethyl phenol	105-67-9	320
Fluorene	86-73-7	640
Hexachlorodibenzo-p-dioxins	NA	(2)
Hexachlorodibenzofurans	NA	(2)
Indeno (1,2,3-c,d) pyrene	193-39-5	(8)
Naphthalene	91-20-3	160
Pentachlorodibenzo-p-dioxins	NA	(2)
Pentachlorodibenzofurans	NA	(2)
Pentachlorophenol	87-86-5	1 (3)
Phenanthrene	85-01-8	NDA
Phenol	108-95-2	9,600
Pyrene	129-00-0	480
Tetrachlorodibenzo-p-dioxins	NA	0.0000006 (4)
Tetrachlorodibenzfurans	NA	(2)
2,3,4,6-Tetrachlorophenol	58-90-2	480
2,4,5-Trichlorophenol	95-95-4	1,600
2,4,6-Trichlorophenol	88-06-2	8
Arsenic	7440-38-2	5 (5)
Chromium(Total)	7440-47-3	48 (6)
Lead	7439-92-1	15 (7)
Toluene	108-88-3	1,000 (3)
Xylene(total)	1330-20-7	10,000 (3)

Notes:

(1) From Cleanup Levels and Risk Calculation Under the MTCA (Version 3.0, August 2001), unless otherwise noted.

(2) Included in the TEQ calculation for TCDD equivalents using WHO 1998.

(3) Based on the drinking water MCL.

(4) Based on the TCDD TEQs.

(5) Based on background for groundwater in Washington State (see MTCA Method A Table notes).

(6) Based on chromium VI.

(7) Based on the drinking water action level.

(8) Included in the B(a)P cleanup level per WAC 173-340-708(8)(e).

(9) Total B(a)P equivalents calculated using the TEFs per WAC 173-340-708(8)(e).

(10) Based on applicable state and federal law (WAC 246-290-310 and 40 CFR 141.61) adjusted to the 10-5 risk per WAC 173-340-720(7)(

NDA No data available to calculate a MTCA Method B cleanup level.

ATTACHMENT A
MTCA METHOD B CLEANUP LEVELS

In general, the cleanup levels in the attached Table 1 were developed using fairly straightforward MTCA procedures as indicated by footnotes on the table. In the case of dioxins/furans and carcinogenic polycyclic aromatic hydrocarbons (cPAHs), the process to develop MTCA cleanup levels is more complex. Additional discussion regarding how the cleanup levels were developed for these two classes of compounds is provided in the following two sections.

Dioxin/Furan Cleanup Levels

Both EPA and Ecology's water quality program have indicated that the World Health Organization (WHO) toxicity equivalent factors (TEFs) published in 1998 are appropriate for use at Baxter's Arlington site. The WHO 1998 TEFs are being used for the site investigations to comply with EPAs Administrative Order on Consent (AOC) and the State Waste Discharge Permit (SWDP - Permit No. ST-7425) for the treatment and discharge of stormwater to ground, including discharges from the excess stormwater treatment system. To maintain consistency with these ongoing activities, dioxin/furan cleanup levels will be based on calculated 2,3,7,8 TCDD TEQs using the toxicity equivalent factors TEFs published by the World Health Organization (WHO) in 1998. Table A-1 of this attachment presents the WHO 1998 TEFs to be used to determine compliance with your conditional approval letter, the SWDP, and groundwater cleanup under the AOC.

EPA Method 1613B will be used to analyze effluent from the excess stormwater treatment system. This is the most sensitive EPA-approved analytical method available for dioxin/furan analysis. However, even with the use of this sensitive method, reliable quantitations at the MTCA Method B groundwater cleanup level (0.6 pg/L TCDD TEQ) cannot be achieved. Method procedures found in 40 CFR 136, Appendix A, Method 1613, Revision B, specify acceptable quantitation levels for each of the individual dioxin/furan congeners in Table 2 of the method. EPA refers to the acceptable quantitation levels as the "minimum levels" which are comparable to the practical quantitation limit (PQL) as defined by WAC 173-340-200. The PQLs for the individual congeners are presented in Table A-1 of this attachment.

The MTCA regulations allow for consideration of analytical limitations in assessing compliance with cleanup levels. Even though Baxter is using the most sensitive EPA approved analytical method for dioxin/furan analysis, the MTCA cleanup levels for TCDD and the other dioxin/furan congeners are well below the PQLs specified for Method 1613B. Thus, the PQL will be used as the basis for assessing compliance with Method B groundwater cleanup levels. Zero will be used for any congener that does not exceed their

respective PQL when calculating TCDD TEQs. The TCDD TEQ has not been modified and will remain at the MTCA cleanup level of 0.6 pg/L. This approach is consistent with the effluent limit provisions in the SWDP as specified in the Stipulated Agreement between Baxter and Ecology.

cPAH Cleanup Levels

The seven cPAHs are included in the hazardous constituent list for the listed codes Region 10 believes may be contained in stormwater at the site. Consistent with the MTCA, the cleanup level for cPAHs will be expressed in benzo(a)pyrene equivalents using the 1994 CalEPA TEFs (see WAC 173-340-708[8][e]). The cleanup level for benzo(a)pyrene presented in Table 1 is based on state and federal law (WAC 246-290-310 and 40 CFR 141.61) and has been adjusted to the 1 in 100,000 excess cancer risk following procedures in WAC 173-340-720(7)(b). This is the same procedure used by Ecology to establish the Method A groundwater cleanup level for cPAHs.

Attachments:

Table A-1 - Practical Quantitation Limits (PQLs) and World Health Organization (1998) Toxicity Equivalency Factors (TEFs) for Dioxin/Furan Congeners

Table A-1 - Practical Quantitation Limits (PQLs) and World Health Organization (1998) Toxicity Equivalency Factors (TEFs) for Dioxin/Furan Congeners

DIOXIN/FURAN CONGENER	METHOD 1613B PQL IN (PG/L)	TEF (WHO 1998)
2,3,7,8-TCDD	10	1.0
1,2,3,7,8-PeCDD	50	1.0
1,2,3,4,7,8-HxCDD	50	0.1
1,2,3,6,7,8-HxCDD	50	0.1
1,2,3,7,8,9-HxCDD	50	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01
OCDD	100	0.0001
2,3,7,8-TCDF	10	0.1
1,2,3,7,8-PeCDF	50	0.05
2,3,4,7,8-PeCDF	50	0.5
1,2,3,4,7,8-HxCDF	50	0.1
1,2,3,6,7,8-HxCDF	50	0.1
1,2,3,7,8,9-HxCDF	50	0.1
2,3,4,6,7,8-HxCDF	50	0.1
1,2,3,4,6,7,8-HpCDF	50	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01
OCDF	100	0.0001