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June 16, 1997

Nadine L. Romero
Industrial Section
Department of Ecology
PO Box 47706
Olympia, WA 98504-7600

**Subject: Forwarding letter from Beazer related to Weyerhaeuser Everett
Former Mill E/Koppers Facility**

Dear Nadine:

Enclosed is a letter from Beazer East Inc., which they requested be forwarded to Ecology. Their letter relates to comments we received from Ecology. As part of our tolling agreement, we provide Beazer and Asarco review and comment time for deliverables, and simultaneous copy for information we transmit to regulatory agencies related to the Mill E/Koppers Facility. Additionally, we provide them copy of letters and correspondence from regulatory agencies.

If you have any questions, please contact me at 425-339-2871.

Sincerely,

A handwritten signature in blue ink that reads "Stuart Triolo".

Stuart Triolo
Environmental Engineer
061697.DOC

Enclosures: June 6, 1997 letter from Beazer East, Inc.

cc: Mark Schneider -- Perkins Coie -- via email - w/out enclosure
John Gross -- CH1K29 -- via email - w/out enclosure
Joe Jackowski -- CH2J28 -- via email - w/out enclosure
Kevin Godbout -- CH1L28 -- via email - w/out enclosure
Harold Ruppert -- via email - w/out enclosure
Arlan Ruf -- -- via email -- w/out enclosure
Jane Patarcity -- Beazer East -- w/out enclosure
File -- MLEKOP04



BEAZER EAST, INC., ONE OXFORD CENTRE, SUITE 3000, PITTSBURGH, PA 15219-6401

FACSIMILE AND EXPRESS MAIL

June 6, 1997

Mr. Stuart Triolo
Weyerhaeuser Company
101 East Marine View Drive
Everett, WA 98201

SUBJECT: Response to Comments from Washington Department of Ecology on EMCON's Feasibility Study for the Former Mill E/Koppers Facility, Everett, Washington

Dear Stuart:

Beazer East, Inc. ("Beazer") has reviewed the comments from the Washington Department of Ecology ("Ecology") on the Feasibility Study for the Former Mill E/Koppers Site in Everett and the Semi-Annual Groundwater Monitoring Results for 1994 through 1996, and has reviewed the prepared notes from the meeting of May 12, 1997 transmitted under your cover letter dated May 14, 1997. We have provided the attached responses for your transmittal to Ecology.

As you will see by the attached responses, Beazer's greatest concern relates to the suggestions by Ecology that a groundwater pump and treat action is needed at this site. Groundwater pump and treat is not warranted by the conditions and public health and environmental risks presented by the site and will have limited effectiveness in the presence of DNAPL. We further take exception to some of the comments that indicate further investigation is needed at the site. We feel that EMCON/Weyerhaeuser collected sufficient information at the site to complete an appropriate remedy selection process.

In my letter to you dated February 6, 1997, I stated Beazer's opinion that the selection of Alternative 4 over Alternative 3 did not appear to represent any additional net benefits for the environment in return for the additional costs and technical issues that would result from implementation of Alternative 4.

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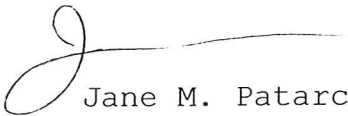
Department of Ecology
Industrial Section

Mr. Stuart Triolo
June 6, 1997
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Selection of Alternative 3, which eliminates the excavation and consolidation of soils, would address Ecology's concerns about the potential for breaching of the silt layer as a result of excavation/dewatering. Additionally, on May 12, 1994, EPA published in the *Federal Register* the Final Land Disposal Restriction (LDRs) for wood preserving wastes F032, F034 and F035 which may significantly affect the cost and implementability of Alternative 4. Please call me to discuss upon what final conclusions EMCON/Weyerhaeuser based their selection of Alternative 4 and if EMCON/Weyerhaeuser has considered the effects of the LDRs on Alternative 4.

Please contact me at (412) 208-8813 to discuss these issues further once you have read our response. Also, I would appreciate being advised in advance of any further meetings with Ecology on remedy selection so we may attend or make additional comment if appropriate to lend support in addressing what I think is our mutual concern - effectively resolving Ecology's request for a groundwater pump and treat action.

Sincerely,



Jane M. Patacity
Environmental Risk Manager

cc: W. Giarla
J. Gross

RESPONSE BY BEAZER EAST, INC. TO

PRELIMINARY TECHNICAL COMMENTARY ON THE WEYERHAEUSER
MILL E/KOPPERS FEASIBILITY STUDY OF 1997

By

Nadine L. Romero, Senior Hydrogeologist, Industrial Section
May 8, 1997

A. ECOLOGY COMMENTS: Review of Ground Water Data Analyses

Comments 1 through 6 of the Ecology letter generally address requests for additional discussion of contaminant fate and transport in relation to the information presented in the semi-annual reports. Characterization of the site, development of the site conceptual model, and discussion of constituent fate and transport were fully and clearly presented in the Remedial Investigation and Feasibility Study reports. Further investigation or discussion of the issues raised in Comments 1 through 6 will not significantly affect the selection of the remedy for the site. At this stage of the process at the Former Everett Mill E/Koppers site, focussing resources on the selection of a proper remedy would seem to be a better use of resources and generally more beneficial than the preparation of additional reports or studies.

Comments 1 and 6 specifically raise issues related to DNAPL/LNAPL presence and the results of the product recovery tests. Findings of the recovery tests are adequately presented in the Feasibility Study Report in Section 2.6.3; further discussion in another report does not seem warranted. Based on the findings of the product recovery tests, EMCON concluded that active recovery was not feasible due to the low recovery rates (only 3.3 gallons of product after six recovery test events). Passive recovery is the method of product collection proposed in the various alternatives in the Feasibility Study. The low recovery rates indicate that no extensive DNAPL or LNAPL "plumes" exist at the site; DNAPL/LNAPL are more likely present in discrete lenses or as residual product in interstitial pore spaces in the soils. The presence of DNAPL/LNAPL is sufficiently described in the Remedial Investigation Report for purposes of site characterization. As stated by EMCON in the Feasibility Study Report, if further information on the presence of DNAPL/LNAPL is needed for design of a selected remedy, this information can be collected as part of any pre-design studies.

B. ECOLOGY COMMENTS: Review of Remediation Alternatives

Groundwater-Related Comments

Beazer is greatly concerned about the suggestion that groundwater remediation be considered at this site. Selection of any remedies for groundwater should be based on current and anticipated future groundwater use; the impact of groundwater on other media; the technical practicability of active remediation; and the availability of equally protective and more cost effective alternative processes like reduction of infiltration through capping and ongoing intrinsic natural attenuation. Beazer believes groundwater remediation at this site is not warranted for several reasons:

- o Groundwater beneath the site is not used currently as a source of drinking water and is not anticipated to be used for drinking purposes in the future based in part on other sources being available and in part of upgradient sources of arsenic to groundwater;
- o There are no significant impacts from the site on surface water and sediment quality in the Snohomish River adjacent to the site (see discussion of sediments below);
- o The Snohomish River is not used as a source of drinking water and is not anticipated to be used in the future for drinking water based on the salinity of the river water adjacent to and down gradient of the site, the availability of other drinking water sources;
- o The U.S.EPA has acknowledged the technical impracticability of remediating groundwater in the presence of DNAPL/LNAPL; and
- o Other actions proposed as part of the remedy will provide sufficient protection to human health and the environment against the presence of chemical constituents in groundwater.

Groundwater Use. The Baseline Risk Assessment for the site concluded that future use of groundwater for drinking water was not likely, and groundwater use was therefore not evaluated in the Risk Assessment. Ecology's review of the Risk Assessment did

not object to this conclusion. Therefore, it is unclear why drinking water standards should be considered when determining the Indicator Hazardous Substances (see comment from May 12, 1997 meeting notes) or in the assessment of the need for groundwater remediation. The development of action levels for groundwater in the Feasibility Study based on the protection of surface water appears to be more appropriate than the use of drinking water standards. However, actions levels based on the protection of surface water may still not adequately account for the impact of DNAPL on the attainment of cleanup levels.

Impact on Other Media. Since groundwater is not used for drinking water and the extent of impact remains on-site (to the property limits at the Snohomish River), the next major consideration is the impact of groundwater discharges to the Snohomish River and its sediments. As stated in the Feasibility Study Report, the sediments adjacent to the site were listed on Ecology's Sediment Management Standards Contaminated Sediment Site List (Ecology, 1996) based on the results of the 1992 Phase I and II site sediment sampling events. However, based on the results of the Phase III sediment sampling conducted at the site in 1995 and on discussions with Ecology, Ecology is expected to delist the sediments adjacent to the site; therefore, sediment was eliminated as a medium of concern in the Feasibility Study. The available sampling data indicate that there is no clear evidence that the site is having any impact on surface water quality. The site is located in an industrial area in which other potential discharge sources to the Snohomish River are present. The River is also affected by salinity from tidal fluctuations. Thus, it does not appear groundwater discharges to the Snohomish River and its sediments are a significant concern, or one that cannot be adequately addressed by actions other than active groundwater remediation.

Technical Practicability. U.S.EPA has issued several guidance documents on the effectiveness of groundwater remediation at sites where DNAPL/LNAPL is present (*Guidance for Evaluating the Technical Impracticability of Groundwater Restoration, OSWER Directive No. 9234.2-25, September 1993 and Subsequent Memoranda, and Consideration in Groundwater Remediation at Superfund Sites and RCRA Facilities, OSWER Directive No. 9283.1-06, May 27, 1992*). In general, these guidance documents acknowledge that attainment of groundwater cleanup levels at sites where DNAPL/LNAPL is present is extremely difficult and may be

technically impracticable from a realistic engineering perspective and within realistic time-frames. Beazer's experience with DNAPL at many wood-treating sites has confirmed these difficulties in implementing effective groundwater pump and treat systems. In response to the impact of DNAPL in groundwater remediation, these U.S. EPA directives stress:

- o development of remedial approach alternatives to active groundwater remediation;
- o development of phased remedial approaches;
- o development of alternate cleanup levels and corrective measure strategies such as DNAPL source control;
- o establishment of zones within which attainment of cleanup standards may be impossible to achieve; and,
- o development of alternate points of compliance.

The proposed remedy includes methods for DNAPL recovery-source control-and containment of the affected groundwater to control further discharge to the Snohomish River - alternate corrective strategies that appear to be consistent with the guidance recommendations. In addition, consistent with the recommendation for phased remedies in the guidance documents, Beazer proposes that the results of the long-term monitoring program should be evaluated before other, more aggressive actions, such as groundwater pump and treat, are initiated. This additional data collection and review period allows proper assessment of the effectiveness of the capping and containment actions at the site, as well as continued natural attenuation, in restoring groundwater quality. Since no real risks from potential groundwater exposures are present, this phased approach is supportable.

Other Comments

Ecology requests further detail or calculations on the possible rupture of the silt unit as a result of soil removal. The May 12, 1997 meeting notes indicate that the Hong West Report on this subject was to be provided to Ms. Romero. In relation to this comment, Beazer suggests that implementation of Alternative 3 be considered instead of Alternative 4. Implementation of Alternative 3 is viable since:

- o Dewatering/excavation of soils at the site and potential breaching of the silt layer would be avoided;

- o Most of the soils identified for excavation in Alternative 4 are within the unsaturated zone and capping of these areas would control the potential mobilization of constituents to groundwater; and
- o Some areas slated for excavation include soils containing CPAHs. Excavation of these soils does not seem warranted since the CPAH concentrations were just above the soil action levels, the CPAHs were detected in unsaturated soils, and CPAHs in groundwater were not a concern.

The limits of the cap in Alternative 3 could be further refined to provide coverage of the most highly affected areas.

Additionally, on May 12, 1997 EPA promulgated the Land Disposal Restrictions (LDRs) for wood preserving wastes F032, F034, and F035. The LDRs may affect the cost and implementability of Alternative 4.

Ecology comments also address the potential for breaching of the silt layer through installation of the vertical containment barrier. While this comment is valid, proper design and installation procedures should be sufficient to adequately address this issue. Ms. Romero also questions if the long-term integrity of the vertical containment barrier will be compromised by varying hydraulic heads against the barrier. As Beazer stated in previous comments to Weyerhaeuser on the Draft Feasibility Study Report, methods to control differential hydraulic heads at and within the barrier should be addressed in the remedial design.

The May 12 meeting notes also indicate that some discussion occurred about elimination of the cap to allow continued infiltration and the subsequent aerobic or anaerobic decomposition of chemical constituents in soil and groundwater at the site. Natural decomposition and attenuation processes are no doubt occurring at the site to some degree and can represent an integral factor in the overall remediation of the site. However, capping is considered a typical remedial action to limit the further mobilization of constituents from soils, particularly unsaturated soils, to groundwater. Beazer questions the utility of eliminating the cap and its more measurable effects, particularly when the suggested alternative appears to be implementation of a less quantifiable and likely unsuccessful

groundwater pump and treat option. While the concepts presented by Ms. Romero regarding the cap, enhanced or continued natural attenuation, and re-evaluation of the vertical containment barrier may warrant further consideration and discussion, Beazer still stresses that groundwater pump and treat is not an applicable or warranted alternative for this site, and, in particular, should not be a replacement for the other options as proposed.