



Brown & Root Environmental

55 Jonspin Road
Wilmington, MA 01887-1062

Phone (508) 658-7899
FAX: (508) 658-7870

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September 30, 1997

Project Number 4725

Mr. James Shafer
Remedial Project Manager
Northern Division, Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop 82
Lester, Pennsylvania 19113

Reference: CLEAN Contract No. N62472-90-D-1298
Contract Task Order No. 0197

Subject: Submittal of Minutes
EAB Meeting No. 12

Dear Mr. Shafer:

Enclosed are three copies of the minutes to the Ecorisk Advisory Board (EAB) Meeting No. 12, which was held on September 18, 1997. These minutes were prepared to describe technical discussions and agreements made during that meeting.

As you know, there are several outstanding questions and issues with the PRGs voiced by the EAB (refer to Page 8 of the minutes), and we are working toward the resolution of these issues as of the date of this letter. We will keep the members of the EAB updated on the evolution of these issues through forthcoming correspondence.

If you have any questions about this material, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read "Stephen S. Parker".

Stephen S. Parker
Project Manager

SSP/

attachment

- c: B. Wheeler, NETC Newport - (w/encl. - 4)
- K. Keckler, U.S. EPA - (w/encl. - 3)
- P. Kulpa, RIDEM - (w/encl. - 4)
- J. Hayes, Gannet Flemming (w/encl - 1)
- D. Egan, TAG - (w/encl. - 1)
- K. Finkelstein - (w/encl. - 1)
- NETC Restoration Advisory Board - (w/encl. - 4)
- J. Trepanowski/G. Glenn, B&RE (w/encl. - 1)
- File 4725-3.2 (w/o encl.)

1340

bc: H. Laguette (w/encl.)
D. McKenna (w/encl.)
File: 4725-8.0 (w/encl.)

**MINUTES OF THE TWELFTH ECORISK ADVISORY BOARD MEETING
NAVY INSTALLATION RESTORATION PROGRAM
NAVAL EDUCATION AND TRAINING CENTER (NETC)
NEWPORT, RHODE ISLAND**

September 18, 1997

**BROWN & ROOT ENVIRONMENTAL
CONTRACT NO. N62472-90-D-1298
CONTRACT TASK ORDER NO. 0173**

**Prepared by:
Mr. Hector Laguette
Brown & Root Environmental**

**Prepared for:
Mr. Jim Shafer
Remedial Project Manager
U.S. Navy, Northern Division**

MINUTES OF THE TWELFTH ECORISK ADVISORY BOARD MEETING

September 18, 1997

The twelfth meeting of the Ecorisk Advisory Board (EAB) for Naval Education and Training Center (NETC) sites was held in Building 1 of the NETC in Newport, Rhode Island, on September 18, 1997. The EAB meeting was held primarily to present and discuss the proposed approach for developing sediment Preliminary Remediation Goals (PRGs) for the McAllister Point Landfill (MPLF) site. In addition, the EAB meeting was held (time permitting) to also discuss the stillwater basin at the former Derecktor Shipyard.

The minutes of the EAB meeting are included below, followed by three attachments: Attachment A presents a list of meeting attendants; Attachment B presents the meeting agenda; and Attachment C includes a subset of the overheads used at the meeting (Please notice that the remaining meeting overheads correspond to selected tables and figures included in the *Draft Proposed Plan for Development and Implementation of Preliminary Remedial Goals (PRGs) for NETC McAllister Point Landfill*, dated September 10, 1997, which was provided to the attendants prior to the meeting). These minutes present an overall summary of the meeting discussions. The main focus of the meeting minutes is on presenting the items on which consensus was reached after general discussion, without necessarily relating in detail the discussions that lead to the consensus. The minutes do not describe the proposed approach for the development and implementation of sediment PRGs for the site; the reader is asked to please refer to the *Draft Proposed Plan for Development and Implementation of Preliminary Remedial Goals (PRGs) for NETC McAllister Point Landfill* (henceforth referred to as the "PRG document") for a detailed description of the proposed approach.

I INTRODUCTORY REMARKS

At approximately 8:45 am Simeon Hahn (Navy) initiated the meeting. Mr. Hahn referred to the meeting agenda and stated that the main goal of the meeting was to present an overview of the proposed approach presented in the PRG document, and to then discuss and seek agreement from the regulatory agencies on the approach to be used in the Feasibility Study (FS) for the site. Mr. Hahn indicated that the RI report had indicated that the groundwater pathway was not of concern at the site and, thus, PRGs were not developed for this pathway; however, Mr. Hahn pointed out that the Navy would continue the long-term groundwater monitoring program at the site. Mr. Hahn then acknowledged that the RIDEM had commented on a couple of issues pertaining to the RI report, one issue referring to the groundwater and the other to the human health risk assessment.

Paul Kulpa (RIDEM) indicated that the RIDEM had reviewed the available long-term groundwater monitoring data, and acknowledged commenting on this data with regards to the RI report. Mr. Kulpa then indicated that the RIDEM had recently obtained some FDA information on shellfish consumption rates which are more conservative than the consumption rates that were used for the human health risk assessment. Such shellfish consumption information, Mr. Kulpa explained, would probably cause the risk estimates for children to increase at all the locations. Mr. Kulpa said that there would be no need to revise the risk assessment based on the FDA information since human health risk had already been identified in relation to the subsistence fisherman scenario; however, Mr. Kulpa indicated that the RIDEM would want the FDA information on shellfish consumption rates to be taken into account when calculating the sediment PRGs for the site. Susan Svirsky (USEPA) asked Mr. Kulpa to please issue a letter explaining RIDEM's position on the issue for the Remediation Advisory Board (RAB). Responding to a question from Dave Egan (TAG), Ms. Svirsky indicated that the USEPA generally defers to the States for state-specific information regarding consumption rates, and that it is not USEPA policy to simply apply the FDA data to all the Superfund sites. Mr. Kulpa and Bob Richardson (RIDEM) clarified that the FDA shellfish consumption rate data was based only on the consumption of clams and mussels, and that it did not include lobster for the calculation of the consumption rates.

II PROPOSED APPROACH FOR SEDIMENT PRG DEVELOPMENT FOR McALLISTER POINT LANDFILL

Greg Tracey (SAIC) proceeded to present an overview of the proposed approach described in the PRG document. Mr. Tracey indicated that the approach had been developed under the assumption that the sediment contaminants at the site are co-located, in such a way that by remediating for the main risk drivers all other contaminants of concern will also be addressed.

Kymerlee Keckler (USEPA) asked if the location-specific risks of physical injury will also be addressed in the FS.

Jim Shafer (Navy) and Diane McKenna (BRE) explained that the risks of physical injury were not addressed *per se* in the FS, but that they would be addressed as a consequence of any remedial action carried out at the site.

Greg Tracey (SAIC) indicated that the proposed approach for PRG development had been based largely on the available EPA guidance for the development of human health PRGs, and that a parallel approach had been applied to the development of ecological PRGs. Mr. Tracey also explained that modelling of porewater concentrations through equilibrium partitioning and comparison to Ambient Water Quality Criteria (AWQC) values were an integral part of the proposed PRG development approach. Mr. Tracey then indicated that the proposed development of PRGs was based on the human health and ecological risk assessments for the site; therefore, the PRGs thus developed would be site-specific. Mr. Tracey said the PRGs should be effective (in relation to risk areas), protective (in relation to ARARs), feasible (not below background concentrations), and practical (in relation to implementability). Mr. Tracey indicated that the proposed PRG development approach takes into consideration multiple exposure pathways, including aquatic (sediment, porewater, shellfish, fish), avian (avian predators consuming aquatic prey species) and human (consumption of clams and mussels).

Paul Kulpa (RIDEM) asked if results from elutriate testing had been considered in the proposed PRG development approach. Bob Richardson (RIDEM) commented that consideration of porewater plus elutriate concentrations may be more representative of the in-and-out fluxing conditions in the sediments resulting from the tidal and wave actions.

Greg Tracey (SAIC) indicated that elutriate results had not been considered in the proposed PRG approach and explained that, based on frequency, duration, dilution and concentrations, the exposure associated with porewater (directly measured for metals, and estimated through equilibrium partitioning for organic contaminants) was likely to be more significant. Mr. Tracey indicated, however, that he would look into the available site elutriate test data for possible consideration within the PRG development process.

Paul Kulpa (RIDEM) expressed that the RIDEM feels that perhaps elutriate results should also be considered as representative of an exposure pathway in the development of PRGs, and indicated that this would need to be further discussed, possibly as part of a conference call.

Greg Tracey (SAIC) indicated that the intercomparison of pathway-specific PRGs (aquatic, avian and human) was based on concentrations normalized to "no observable effect concentrations" represented as "hazard quotients" (HQs). Mr. Tracey pointed out that the final PRG concentrations are expressed as sediment concentrations in a dry weight basis. Responding to Susan Svirsky (USEPA), Mr. Tracey indicated that concentrations used in the PRG development approach represented NOELs, and confirmed that when LOELs were used, these values had been adjusted to represent NOELs.

Bob Richardson (RIDEM) commented that the AWQC were based on bioassays which did not really have chronic effect endpoints, but mostly extrapolations from acute/lethal endpoints. Mr. Richardson indicated this should be kept in mind during PRG development through equilibrium partitioning extrapolations.

Greg Tracey (SAIC) presented a flow diagram summarizing the proposed approach for PRG development. Mr. Tracey indicated that the PRG development approach took into consideration site-specific conditions, including bioavailability. Mr. Tracey said that the final PRGs are based on the contaminants of concern considered to be most determinant because of being the main risk drivers. Mr. Tracey explained that confirmation of the appropriateness of the final PRGs was achieved by verifying that the areas of main risk concern were addressed by the chosen PRGs.

Ken Finkelstein (NOAA) asked to Greg Tracey (SAIC) if he preferred the equilibrium partitioning approach or if he preferred comparing sediment concentrations to ER-Ls and ER-Ms.

Greg Tracey (SAIC) indicated that he preferred the equilibrium partitioning approach for the development of PRGs, but indicated that such PRGs were then compared against ER-L and ER-M values. Simeon Hahn (Navy) indicated that the final PRG values developed through the proposed approach fell between corresponding ER-L and ER-M values.

Jennifer Hayes (Gannett Fleming) requested Greg Tracey (SAIC) to please emphasize during his presentation the process by which the metals had been eliminated from final PRG development, and the process by which risk-driver contaminants had been identified.

Greg Tracey (SAIC) proceeded to present specific details on the development of PRGs according to the proposed approach. Mr. Tracey used data for fluorene to exemplify the approach followed for the aquatic exposure pathway. Mr. Tracey explained that he had identified toxic and non-toxic concentrations, and then compared these data to AWQC to generate HQs. Responding to Jennifer Hayes (Gannett Fleming), Mr. Tracey clarified that in addition to individual PAHs, the parameter of total PAHs had also been considered for PRG development but that it had been eliminated during the screening process. Responding to Susan Svirsky (USEPA), Mr. Tracey indicated that porewater concentrations for organic contaminants had been estimated through equilibrium partitioning, while direct porewater measurements had been made for metals; Mr. Tracey recognized that the database for organic contaminants was larger (approximately 50 data points) than that for metals (approximately 20 data points). Mr. Tracey pointed out that there were some non-toxic porewater concentrations that were as high as 10 times over the corresponding AWQC; however, Mr. Tracey explained, outlier data were eliminated since the 95% UCL of the non-toxic data was used to determine the NOEQ. Responding to Ms. Svirsky, Mr. Tracey indicated that the NOEQs were, in most cases, very close to 1.0, indicating that in general the 95% UCLs of the non-toxic data were comparable to the corresponding AWQC and, therefore, were an appropriate basis for the development of PRGs to address the instances of site-specific toxicity. In the case of fluorene, Mr. Tracey pointed out that there were many data points for this contaminant that were associated with exceeding the NOEQ, and that this contaminant was kept as a limiting PRG value for the site.

Susan Svirsky (USEPA) indicated that, as part of a more conservative approach, the USEPA would prefer that the lowest porewater concentrations among species-specific (amphipod or sea urchin) toxicity test results be used for the PRG derivation process, instead of using average or median values. Ms. Svirsky explained that the lowest values would have a direct basis on the existing data base, and therefore would be less ambiguous than statistic values.

Greg Tracey (SAIC) agreed with Ms. Svirsky's request.

In response to questioning by Ken Finkelstein (NOAA), Greg Tracey (SAIC) explained that arsenic was screened out as a driver PRG because of its geochemistry, in the sense that this element is a component of rocks, resulting in high background concentrations, and does not appear to be bioavailable at the site. Also responding to Mr. Finkelstein, Mr. Tracey indicated that, in the case of total PAHs and copper, high concentrations of these contaminants were probably found to be non-toxic due to complexation by dissolved organic carbon in porewater which controls the ionic form of copper that is generally considered to be toxic.

The representatives of the regulatory agencies (USEPA, RIDEM and NOAA) expressed the need for further clarification of the process by which certain analytes, especially metals, were eliminated from the derivation of final sediment PRGs. Paul Kulpa (RIDEM) expressed concern of possible instances in which high concentrations of metals may be present at certain locations without the presence of associated high concentrations of organic contaminants that would trigger addressing the locations based on the selected final PRGs. Susan Svirsky (USEPA) also commented that, for example, a treatment remedy based on a specific risk-driver PRG derived from human health determinations may not necessarily address all other contaminants in the sediments, which may represent an ecological concern, if the treatment involves a process which is not compatible with all the other contaminants co-located with the risk-driver contaminant in a given area.

Greg Tracey (SAIC) indicated that these issues would be addressed in the remaining portion of his presentation. Responding to Susan Svirsky's (USEPA) comment, Mr. Tracey agreed that the treatment remedy would only be appropriate if it was effective for all the co-located contaminants of concern and did not involve, for example, selective fractioning of metals.

Greg Tracey (SAIC) explained that a combined data base for reference locations had been used in the PRG development process, which included the data for the reference locations associated with the ecological risk assessments for Allen Harbor, Former Derecktor Shipyard and McAllister Point Landfill. Mr. Tracey pointed out that all of these reference locations are situated in the lower portion of Narragansett Bay.

Susan Svirsky (USEPA) questioned the validity for taking into consideration data from reference locations associated to ecological risk assessments for sites other than the McAllister Point Landfill. Ms. Svirsky explained that physical and chemical conditions at such reference locations may not be compatible for comparison with conditions associated with the McAllister Point Landfill site. Ms. Svirsky, however, recognized the advantage of increasing the size of the reference data base for statistical purposes. After some discussion among USEPA and RIDEM representatives, Chris Deacutis (RIDEM) and Ms. Svirsky requested that a well supported rationale be included in the FS report to sustain the comparability of the combined reference data base to the site data; such rationale should particularly emphasize the comparability of physical conditions (for example, types of habitat and presence of depositional areas). Dave Egan (TAG) requested that the identity of the corresponding reference areas, in relation to specific location and associated site (Allen Harbor, Derecktor Shipyard or McAllister Point Landfill), be included in all appropriate tables when listing reference location data (Mr. Egan specifically referred to Table 4 of the PRG document).

Greg Tracey (SAIC) agreed to provide the additional information requested by the representatives of the regulatory agencies and the TAG. Mr. Tracey then explained that data normalization to organic carbon content in the sediments should largely address possible differences in chemical bioavailability among reference stations and site stations. Mr. Tracey also explained that outlier data were eliminated when calculating the 95% UCL for reference data, and indicated that PAH data for reference station JCC-D1 was not taken into consideration because of being statistical outlier data.

Paul Kulpa (RIDEM) indicated that he would investigate if there were any Rhode Island criteria specific to porewater concentrations, as well as any Rhode Island criteria lower than the Federal AWQC, which might apply to the site.

Greg Tracey (SAIC) asked Paul Kulpa (RIDEM) to please identify as soon as possible if such criteria exist, since the timely development of PRGs and the preparation of the FS report would require the prompt availability of such information.

Greg Tracey (SAIC) presented an overhead of Table 15 of the PRG document and discussed the development of human health PRGs for contaminants in shellfish tissue, indicating that most of the PRG values were based on the probabilistic determinations of carcinogenic risk. Responding to Susan Svirsky (USEPA), Mr. Tracey agreed that some PRG determinations are likely to change because of the shellfish consumption rates reported by the FDA which the RIDEM has now requested the Navy to take into consideration.

Greg Tracey (SAIC) then presented an overhead of Table 7 of the PRG document and discussed the derivation of avian aquatic predator PRGs. Responding to Susan Svirsky (USEPA), Mr. Tracey agreed that the column currently named "ROC-specific TRV-EPC" should better be identified as NOECs.

Susan Svirsky (USEPA) indicated that, from a policy standpoint, the lower of the "NOEC" values from the two species (herring gull and great blue heron) should be chosen for comparison to the reference data and subsequent determination of the avian aquatic predator PRG values.

Greg Tracey (SAIC) agreed to use the lower of the "NOEC" values. Mr. Tracey then presented an overhead of Table 16 of the PRG document and explained the summary of maximum PRG-HQs by station from all the exposure pathways (aquatic, avian predator and human). Mr. Tracey pointed out that, as a consequence of the identification of the maximum PRG-HQs, the "limiting" contaminant at each station had also been identified. Such limiting contaminants included chrysene, fluorene, anthracene, pyrene and total PCBs, and final sediment PRGs were then derived for these limiting contaminants (Table 17). For illustrative purposes, Mr. Tracey explained that if one chose to eliminate from consideration the limiting contaminant at a particular station, then the contaminant with the next highest PRG-HQ at that station would take its place as the limiting contaminant for the station. Mr. Tracey also indicated that, based on the magnitude of the maximum PRG-HQs, the area of greatest concern corresponds to that of the intertidal stations.

Susan Svirsky (USEPA) commented that it was necessary to make consistent and appropriate use of the term Hazard Quotient, and that some revisions of the terminology were needed to restrict the term to its more conventional use.

Greg Tracey (SAIC) agreed with Susan Svirsky (USEPA). Diane McKenna (BRE) commented that a more restrictive use of the term PRG would also be recommendable, suggesting that the term be reserved for the final sediment PRG values, perhaps using the term "threshold" in all other instances.

Ken Finkelstein (NOAA) commented that he was somewhat surprised that mostly PAHs had been identified as the limiting contaminants, while metals had not been identified as such.

Greg Tracey (SAIC) suggested that combustion residues had been deposited in the landfill, which would account for the presence of PAHs, while the metals were mostly present as large pieces of debris which did not represent a bioavailable form.

Ken Finkelstein (NOAA) asked if there was a concern of "compounding the probability of error" because of the initial equilibrium partitioning calculations based on Koc, and then the backcalculation to sediment concentrations for the final PRG values.

Greg Tracey (SAIC) acknowledged that there is some uncertainty associated with the use of Koc values and equilibrium partitioning, but indicated that there was no "compounding effect" of the uncertainty by backcalculating to final PRG sediment concentrations when using the same Koc values as those used in the initial equilibrium partitioning calculations.

Susan Svirsky (USEPA) and Jennifer Hayes (Gannett Fleming) asked why the aquatic PRG number for copper on Table 17 was different from that on Table 5, and why was there an aquatic PRG number for arsenic on Table 17 when there was none for this element on Table 5?

Greg Tracey (SAIC) acknowledged the transcription errors, and indicated that the correct information was presented on Table 5.

Recess at 10:45 am. The meeting reconvened at 11:10 am.

Susan Svirsky (USEPA) pointed out that the PRG-HQ column from Table 17 presented values of 2 and 6, and then stated that EPA policy should be applied, which indicates the use of HQ = 1 when determining final PRG values and identifying areas for potential remediation. Ms. Svirsky indicated that, therefore, the adjusted final PRGs presented in the PRG document should be revised to be representative of an HQ = 1.

Ken Finkelstein (NOAA) asked how final sediment PRG concentrations would have been calculated for metals if any of these analytes had been identified as limiting contaminants.

Greg Tracey (SAIC) indicated that such calculation of final PRGs for metals would have to be based on SEM/AVS and Kd data, as well as establishing and confirming the correlation between measured porewater concentrations and measured bulk sediment concentrations at the site.

Susan Svirsky (USEPA) commented that the theory of SEM/AVS is still being discussed in the scientific literature and that no consensus has been reached. Ken Finkelstein (NOAA) and Ms. Svirsky requested the Navy to include, as part of the PRG development approach, a discussion of the conceptual procedure that would be used for deriving final sediment PRG concentrations for metals if these contaminants had been retained as limiting contaminants at the site. Jennifer Hayes (Gannett Fleming) requested that the explanations in the footnotes on Table 17 be expanded, particularly to indicate why final sediment PRGs were derived only for some organic contaminants, while final PRGs were not derived for metals and the remaining organic contaminants.

Greg Tracey (SAIC) presented an overhead of Figure 4 of the PRG document and discussed the implementation of the maximum PRG-HQ for chrysene, which had a human health risk basis.

Susan Svirsky (USEPA) indicated that there is no reason to adjust the final PRG for chrysene (as presented on Table 17) to exclude potential offshore areas of concern, since this PRG should only be applied to the intertidal zone which was the basis for the human health risk assessment. Ms. Svirsky reiterated that the adjusted final PRGs should be revised to be representative of an HQ = 1, and stated that the PRGs should only be applied to the exposure areas on which their derivation was based. Ms. Svirsky requested that the exposure basis (aquatic or human) of the PRGs be identified, as appropriate, in the corresponding maps (Figures 4 through 8 of the PRG document) for each of the limiting contaminants.

Greg Tracey (SAIC) proceeded to present overheads of Figures 5 through 8 of the PRG document, and discussed the implementation of the maximum PRG-HQs for the remaining limiting contaminants (anthracene, pyrene, fluorene and total PCBs). Mr. Tracey indicated that the basis for these maximum PRG-HQs had been the aquatic exposure scenario. Mr. Tracey then presented an overhead of Figure 9 of the PRG document, and identified the combined area of implementation of the *adjusted* final sediment PRGs (as presented on Table 17) for the five limiting contaminants. Simeon Hahn (Navy) indicated that the Navy supported the adjustment of the PRGs based on the determinations from the ecological risk assessment, which had followed a weight-of-evidence approach, in an effort to take into consideration ecological significance and relevance when determining potential remediation areas.

General discussion ensued on the differences of affected areas resulting from the implementation of the adjusted (Figure 9) versus unadjusted PRGs (Figures 4 through 8 were overlapped and presented as a "composite figure" at the meeting). Susan Svirsky (USEPA) stated that EPA policy (i.e., HQ = 1) should be applied to identify all the potential areas for remediation (as presented in the "composite figure"); the representatives of RIDEM expressed agreement with this position. Ms. Svirsky indicated that deviating from USEPA policy was not an alternative since it would create a precedent, and because the regulatory agencies should be able to retain the option of requesting long-term monitoring for all the potentially affected areas identified under the policy of HQ = 1. Ms. Svirsky commented that the aquatic PRGs are based on realistic effects and exposure determinations for the benthic community. The regulatory agency representatives indicated that it was not appropriate to restrict the area of risk to the intertidal zone by adjusting the final PRGs. The preliminary nature of the PRGs was emphasized, indicating that additional sampling is then conducted during the pre-design investigation to better define the potential remediation areas. Ms. Svirsky commented that risk management decisions also enter the process of defining the final remediation areas. Ken Finkelstein (NOAA) indicated that he would not support dredging just for the sake of chasing high concentrations of one contaminant at scattered locations, since such an approach may cause environmental damage of a greater magnitude than the one associated with the isolated high concentrations of a contaminant.

Jim Shafer (Navy) indicated that the Record of Decision (ROD) is usually prepared before the pre-design investigation data is generated.

Kymerlee Keckler and Susan Svirsky (USEPA) indicated that the ROD could be written with generic language similar to "... where appropriate, remediate sediment contamination in the vicinity of the MPLF by using the agreed upon technologies."

Discussion then ensued on the approach to be followed in the FS to evaluate remediation alternatives for the site. Referring to the areas that exceed unadjusted PRG values, general agreement was reached on separately addressing the intertidal and offshore zones when evaluating the remediation alternatives in the FS report. It was indicated that the comprehensive remediation alternative for the site would likely involve a combination of intertidal and offshore alternatives. Consensus was reached in evaluating, based on the nine FS criteria, the following five remediation alternatives: 1) no action; 2) institutional controls and long-term monitoring (limited action); 3) capping; 4) dredging with off-site disposal; and 5) dredging with treatment and off-site disposal. The EPA representatives (Kymerlee Keckler and Susan Svirsky) expressed differing points of view as to whether the components of remediation alternative 2 (institutional controls *and* long-term monitoring) should be considered jointly or individually; the EPA representatives indicated that Diane McKenna (BRE) could follow her preferred approach when preparing the FS report. Based on comments made by Paul Kulpa (RIDEM) at the meeting, it was agreed that, if dredging was to take place, boulders and large rocks could be returned to the dredged locations in order to reduce the volume of dredged material requiring off-site disposal and, therefore, reduce the cost of the remedial action. Mr. Kulpa indicated that the remediation concern was for the finer materials with adsorbed contaminants.

Kymerlee Keckler (USEPA) indicated that the screening of remediation alternatives should be properly documented in the FS report. Ms. Keckler commented that cost will probably be of considerable importance in the evaluation of remediation alternatives. Ms. Keckler stated that, based on the NCP, it was important to include at least one treatment alternative.

Diane McKenna (BRE) pointed out that evaluation of implementability and short-term effectiveness probably will also be critical for the evaluation and possible elimination of remediation alternatives for offshore locations. Ms. McKenna expressed agreement on the importance of considering a remediation alternative involving treatment. Ms. McKenna commented that, if dredging was deemed to be necessary in the vicinity of MPLF, it would be complicated to conduct the dredging operations because of the shallow water and wave action near the landfill. Ms. McKenna also commented that the landfill cap and revetment had been designed to allow, if necessary, the dredging of materials all the way to the revetment edge without resulting in structural damage to the landfill cap or the revetment.

It was agreed that a conference call would take place at the beginning of the week of September 23, 1997, among RIDEM and Navy representatives, to discuss remaining outstanding issues raised by RIDEM. USEPA representatives indicated that they did not need to be included in the conference call. Outstanding issues identified by RIDEM at the meeting included: 1) possible existence of Rhode Island criteria specific to porewater concentrations and other Rhode Island criteria that might be lower than the Federal AWQC; 2) consideration of the elutriate exposure scenario in the development of PRGs; 3) use of FDA shellfish consumption rates for humans; and 4) possible need to develop PRGs for metal contaminants.

Dave Egan (TAG) indicated that the community feels there are several outstanding issues related to the RI report and the human health and ecological risk assessments, as well as the particular issues identified during the meeting regarding the development of PRGs and their implementation. Mr. Egan indicated that, because of the outstanding issues, the community thinks the FS report should not be rushed through to meet the deadline of October 13, 1997, without first having resolved all the outstanding issues. Mr. Egan commented that, based on the information and discussions from the EAB meeting, it is possible that the potential remediation area to be addressed in the FS may change in size. Mr. Egan indicated that, therefore, he would want an agreement to exist on the area ("polygons") to be addressed before issuing the FS report.

Paul Kulpa (RIDEM) indicated that risks related to the MPLF have already been identified by the human health and ecological risk assessments; Mr. Kulpa explained that the RIDEM is requesting that the FDA shellfish consumption rate information be considered only as part of the PRG development process in the FS report, and not be used to revise the human health risk assessment and RI report. Mr. Kulpa mentioned that the other outstanding issues identified by the RIDEM also applied only to the development of PRGs in the FS report, and not to the risk assessments and RI report. Kymerlee Keckler (USEPA) and Mr. Kulpa indicated that some revisions to the RI report would still be required, but that such revisions were not significant as to justify delaying the submittal of the FS report. Ms. Keckler and Mr. Kulpa mentioned that it is common for the RI and the FS processes to run simultaneously.

Diane McKenna (BRE) indicated that, by also including the offshore area identified by the use of unadjusted final sediment PRGs, the FS project had literally doubled in size. Ms. McKenna said that the FS report deadline is not compatible with the new magnitude of the FS project, since now the intertidal zone and the offshore area would have to be assessed separately through all 9 remediation alternative evaluation criteria of the FS. Ms. McKenna commented that the FS report could probably be rushed just to meet the deadline, but that the quality of the report would be compromised.

Paul Kulpa (RIDEM) indicated that, under the FFA, the Navy could ask for an extension of the submittal deadline to obtain the additional required time to complete the FS report. Ken Finkelstein (NOAA) expressed that an extension of the deadline was reasonable in the interest of properly addressing the environmental concerns. Kymberlee Keckler (USEPA) said that specific conditions were required to warrant a deadline extension, and that she was not willing to grant one at this point. Ms. Keckler said that the MPLF project has been ongoing for several years, and that she did not feel that meeting the long-established deadline for the FS report represented rushing the project. Dave Egan (TAG) indicated that he has been involved with the project only recently and, based on current circumstances and his knowledge of outstanding issues, it was his opinion that the preparation of the FS report was being rushed just to meet the submittal deadline. The EPA representatives indicated that after the remedial goals for the ROD are identified based on the information contained in the FS report, and once the pre-design investigation has been conducted, then the ROD can still be changed based on an amendment or an Explanation of Significant Differences (ESD).

Greg Tracey (SAIC) commented that the determinations for the intertidal zone would probably not change significantly based on the outstanding issues, but the polygons in the offshore area which would need to be addressed in the FS report were yet to be properly determined. Diane McKenna (BRE) indicated that the possible changes in areas to be addressed represented an obstacle for estimating, in the FS report, the volumes of sediment for potential remediation. Responding to Paul Kulpa (RIDEM), Ms. McKenna indicated that, if capping or dredging were to take place, trash and other extraneous debris found at targeted locations would also be removed. Mr. Tracey pointed out that the trash and other debris present in the vicinity of MPLF are generally found in locations where contamination was also identified.

Jim Shafer (Navy) indicated that the next RAB meeting was scheduled for October 16, 1997, and that the tentative agenda included the presentation of an overview of the FS report. Mr. Shafer indicated that, however, the agenda could be changed if necessary.

III STILLWATER BASIN AT THE FORMER DERECKTOR SHIPYARD

It was agreed that during the conference call to be held between RIDEM and Navy representatives at the beginning of the week of September 22, 1997, any outstanding issues recently identified by RIDEM in relation to the stillwater basin (also referred to as the "dead zone") at the Former Derecktor Shipyard will also be discussed.

The meeting concluded at approximately 12:50 pm.

ATTACHMENT A

List of Meeting Attendants

LIST OF ATTENDANTS
 EAB MEETING No. 12
 September 18, 1997

INDIVIDUAL	AFFILIATION	PHONE#	e-mail
Hector Maguette	BRE	978-658-7899	hmaguette@b-r.com
Diane McKenna	BRE	"	
Tom Nicholson	Pau Engineering (TAG)	99-334-4100	
Dave Egan	Louis Berger (TAG)	401-521-5980	degan@louisberger.com
Jennifer Hayes	Gannett Fleming	717-763-7211 ext 2885	jhayes@gfnet.com
Susan Swirsky	USEPA	617-573-9649	
Paul Kulp	RIDE-1	401-277-2917	
Bob Richardson	RIDE-1	401-277-4700 ext 7240	
Chris Deacutis	RIDE-1	401-277-3861 x 7270	deacutis@uri.acuri.edu
JIM SHAFER	NORTHMAVERAC	610-595-0567 x 241	
KyMBERLEE KECKLER	USEPA	617.573.5777	keckler.kyMBERLEE@epamail.epa
Ken Finkelstein	NSAA	617-223-5537	Ken-Finkelstein@NSAA.S
Greg Tracey	SAIC	(401)782-1900	

ATTACHMENT B

Meeting Agenda

AGENDA

EAB Meeting No. 12

SEPTEMBER 18, 1997 (Thursday)

Building 1, NETC Newport

0830 - Convene

- 1. Meeting Objectives - Navy**
- 2. Proposed approach for developing PRGs for Marine Sediments at McAllister**
- 3. Comments on Proposed Approach**
 - a. USEPA**
 - b. RIDEM & Other State Agencies**
 - c. NOAA**
 - d. Other Members**
- 4. Preliminary Results Conclusions & Recommendations**
- 5. Discussion of Stillwater Basin at Derecktor Shipyard**

1200 - Adjourn

ATTACHMENT C

Subset of Handouts

NOTE: The remaining overheads used at the meeting corresponded to selected tables and figures already included in the *Draft Proposed Plan for Development and Implementation of Preliminary Remedial Goals (PRGs) for NETC McAllister Point Landfill*, dated September 10, 1997, which was provided to the attendants prior to the meeting.

Preliminary Remedial Goals (PRGs)

- Location-specific:
 - e.g., debris removal to reduce risk of physical injury for site visitors
- Chemical-specific:
 - reduce concentrations of Chemicals of Concern (CoCs) to prevent chemical injury to aquatic biota, terrestrial (e.g. avian) biota and humans.

Preliminary Remedial Goals (PRGs)

- PRGs are:
 - CoCs and associated concentrations that are responsible for the majority of baseline risk;
- Implementing PRGs will:
 - Reduce chemical risks for all site-related CoCs.

Requirements for PRGs

- Consistent with Remedial Action Objectives (RAOs)
- Complies with Federal/State "Applicable or Relevant and Appropriate Requirements"
- Follows EPA guidance for derivation.

Attributes of Chemical-specific PRGs

- Risk-based;
- Protective;
- Site-specific;
- Feasible;
- Effective;
- Practical.

PRG Development Process

- **Derive** PRGs applicable to CoCs in marine sediments offshore of McAllister Point associated with the landfill;
- **Implement** PRGs to assess potential spatial extent of remedial action;
- **Assess** PRG results against RAOs/ARARs.

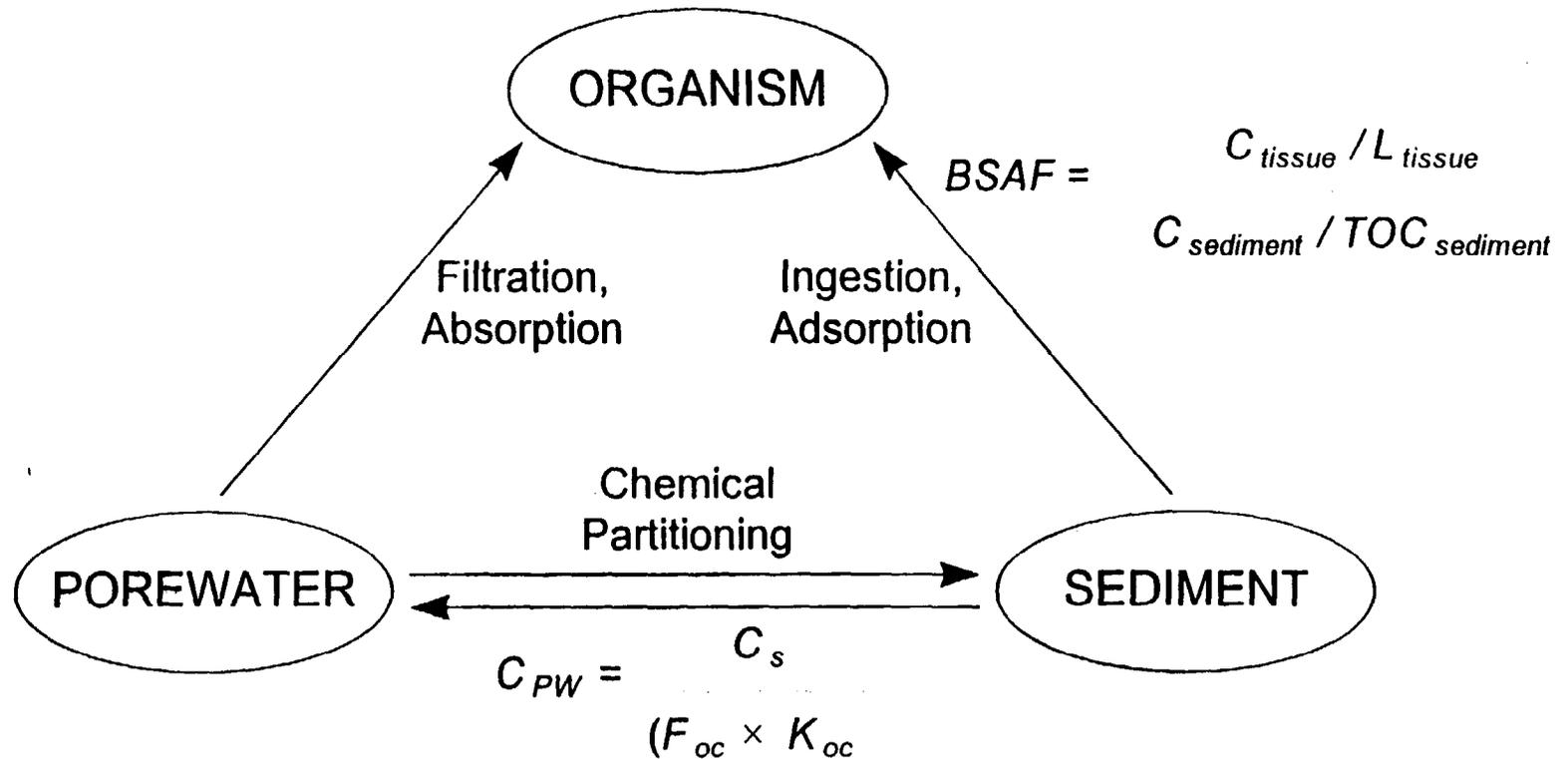
PRGs address multiple CoC Exposure Pathways

- Aquatic:
 - CoCs in sediment, porewater and fish/shellfish tissue;
- Terrestrial:
 - CoCs in prey species consumed by avian predators (herring gull, great blue heron);
- Human:
 - CoCs in clams and mussels consumed by site visitors.

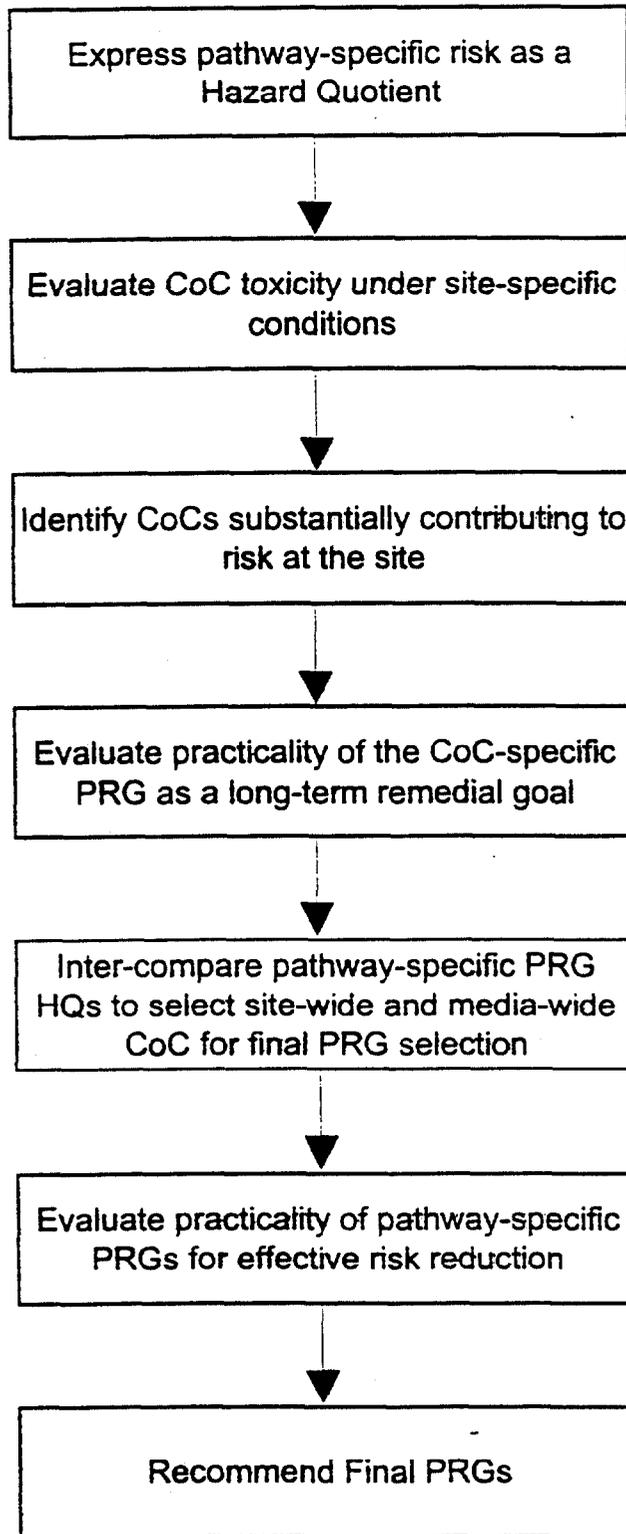
PRG Intercomparison

- Pathway-specific PRGs normalized to "No Observable Effect Concentration" (i.e., HQ)
 - Aquatic: EPA Water Quality Criteria-Saltwater Chronic (WQC-SC) value;
 - Avian: Toxicity Reference Value- Exposure Point Concentration (TRV-EPC) NOEC;
 - Human: Carc.: $<1 \times 10^{-6}$, Non-C: HQ <1 .
- Final PRGs calculated in sediment concentration units (ug/kg dry weight).

Equilibrium Partitioning



Procedures for PRG Development for McAllister Point Landfill.



AQUATIC EXPOSURE PATHWAY

Site-specific PRG-HQ Derivation: Fluorene

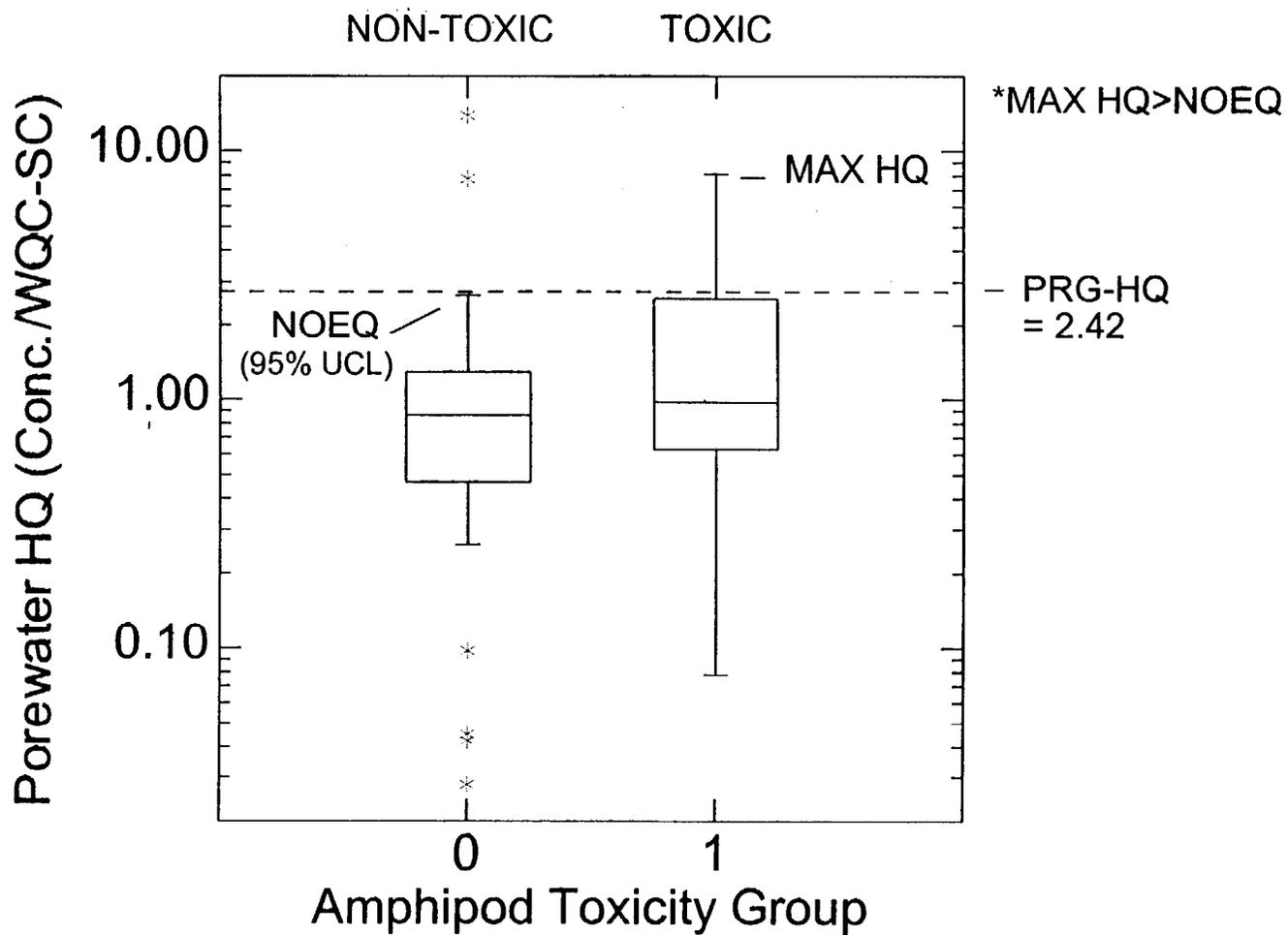
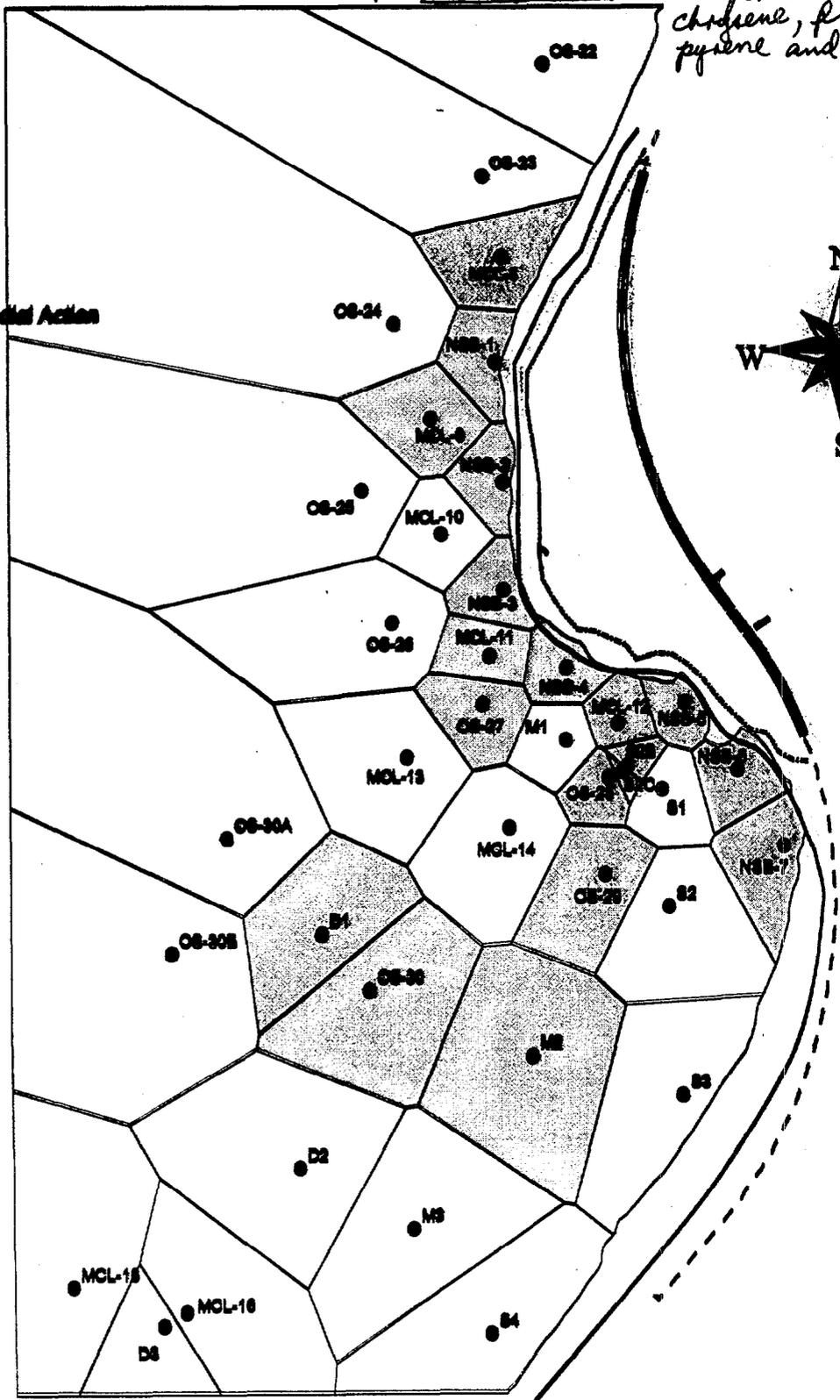


Figure 5. Summary of maximum PRG-HQs among aquatic, avian predator, and human health exposure for McAllister Point.*

PRG Implementation for Dioxin PCBs

"Composite" figure of implementation of unadjusted PRGs for anthracene, chrysene, fluorene, pyrene and total PCBs.

- Top of Bank
- Shoreline at High Tide
- Railroad
- Railroad (TRC Survey)
- Stations
- Thiessen Polygons
- Candidate Areas for Remedial Action



* Indicated polygonal area does not necessarily represent the final remediation area; final area dependent on PRG selection and additional spatial resolution.

