

CCN: CTO-0026/0202  
FILE: 0208

### MEETING MINUTES

<b>Meeting Subject:</b>  Technical Workshop on Data Evaluation and Response to Comments on Draft Addendum to RI/FS Work Plan and Risk Assessment Work Plan (RAWP)  Site 7 (CTO-026) - West Basin	<b>Meeting date:</b> 19 January 1995  <b>Meeting time:</b> 0830																																	
<b>Attendees:</b>  <table><thead><tr><th><u>U.S. Navy SWDIV</u></th><th><u>BNI</u></th><th><u>Other</u></th></tr></thead><tbody><tr><td>Alan Lee</td><td>Krish Kapur</td><td>Hugh Marley, LARWQCB</td></tr><tr><td>Mike Radecki, RPM</td><td>Ömer Kadaster (Kleinfelder)</td><td>Alvaro Gutierrez, DTSC-R4</td></tr><tr><td>Bill Fisher</td><td>David Liu</td><td>Sheryl Lauth, USEPA</td></tr><tr><td>Chris Leadon</td><td>Bong Kown</td><td>John Christopher, DTSC</td></tr><tr><td></td><td>Allan Chartrand (Kleinfelder)</td><td>Michael Lyons, LARWQCB</td></tr><tr><td></td><td>Douglas Diener (MEC Analytical)</td><td>Clarence Callahan, USEPA</td></tr><tr><td></td><td>Sharon Rudolph (Kleinfelder)</td><td></td></tr><tr><td></td><td>Tom McDonnell (Brown &amp; Caldwell)</td><td></td></tr><tr><td></td><td>Aklile Gessesse</td><td></td></tr><tr><td></td><td>Serge Baghdikian</td><td></td></tr></tbody></table>		<u>U.S. Navy SWDIV</u>	<u>BNI</u>	<u>Other</u>	Alan Lee	Krish Kapur	Hugh Marley, LARWQCB	Mike Radecki, RPM	Ömer Kadaster (Kleinfelder)	Alvaro Gutierrez, DTSC-R4	Bill Fisher	David Liu	Sheryl Lauth, USEPA	Chris Leadon	Bong Kown	John Christopher, DTSC		Allan Chartrand (Kleinfelder)	Michael Lyons, LARWQCB		Douglas Diener (MEC Analytical)	Clarence Callahan, USEPA		Sharon Rudolph (Kleinfelder)			Tom McDonnell (Brown & Caldwell)			Aklile Gessesse			Serge Baghdikian	
<u>U.S. Navy SWDIV</u>	<u>BNI</u>	<u>Other</u>																																
Alan Lee	Krish Kapur	Hugh Marley, LARWQCB																																
Mike Radecki, RPM	Ömer Kadaster (Kleinfelder)	Alvaro Gutierrez, DTSC-R4																																
Bill Fisher	David Liu	Sheryl Lauth, USEPA																																
Chris Leadon	Bong Kown	John Christopher, DTSC																																
	Allan Chartrand (Kleinfelder)	Michael Lyons, LARWQCB																																
	Douglas Diener (MEC Analytical)	Clarence Callahan, USEPA																																
	Sharon Rudolph (Kleinfelder)																																	
	Tom McDonnell (Brown & Caldwell)																																	
	Aklile Gessesse																																	
	Serge Baghdikian																																	
<b>Additional Distribution (in addition to attendees):</b>  Denise Klimas, NOAA Carol Roberts, USFWS																																		

Upon the review of the RAWP by the DON and Agencies USEPA, RWQCB, DTSC, NOAA and USFWS) a technical workshop was convened at the BNI offices in Norwalk. Mike Radecki, SWDIV RPM, opened the Technical Workshop at 0830.

RECEIVED  
COTR  
CODE 180  
13 FEB 95 14 20

## **I. Workshop Objectives:**

Ömer Kadaster, CTO-026 Lead for BNI, provided an overview to the workshop and summarized the workshop objectives. These included:

- (1) Issuing to the Agencies preliminary data obtained from laboratory analyses of sediment and tissue;
- (2) Providing an overview concerning how the data are currently being evaluated and discussions on statistical analysis as part of the Remedial Investigation; and,
- (3) Achieving technical resolution on comments received from Agencies which relate to the Draft RAWP. Responses to the comments were issued by DON/BNI to the Agencies prior to the workshop.

## **II. Issues Relating to Project Data:**

1. Tabulated summaries of preliminary analytical data were issued to all the attendees. A. Chartrand discussed the data. The summaries included surface sediment chemistry, subsurface sediment chemistry, clam tissue, fish tissue, and fish bile data. Only compounds which were detected were presented on the summary sheets. BNI also explained that qualifiers from the validation process would be added to the final data package. BNI stated that as data validation was still in progress, the summaries issued today should be considered as preliminary, and subject to change upon completion of validation. Attendees expressed their acceptance of this condition.
2. A preliminary data evaluation matrix was presented by BNI. The purpose of the matrix is to support the preponderance of evidence approach on a station-by-station basis in preparation of defining sediment evaluation zones. USEPA expressed the desire to review the evaluation matrix prior to its completion. DON/BNI agreed to this request.
3. Numerical chemical-specific sediment quality guidelines were presented by BNI. These guidelines are important because they will be used to determine chemicals of potential concern (COPCs) and support definition of Sediment Quality Objectives (SQOs); there are no enforceable, chemical-specific ARARs for marine sediments.
4. A general discussion of the data package followed, which included:
  - A summary of progress on data evaluation. Surface sediment data have been validated and BNI is in the process of adding qualifiers to its database. Subsurface chemistry data have been validated; validation of tissue data is not complete.
  - The reference stations used for this project were those specified in Tech Memo #4, adopted from the State Bay Protection (BPTCP) Program. The bioassay data from these stations are directly comparable to the results published in the current Bay

Protection Program report. The Agencies requested that when all data are available from the state report, a comparison be made for both chemical and biological data in the general vicinity of Los Angeles and Long Beach Harbors. DON/BNI agreed to this task.

- C. Callahan (USEPA) requested an explanation as to how the concentrations above reference were determined. A. Chartrand explained that the reference concentrations were used to generate an arithmetic mean and variance, and using these statistical descriptors to produce a 95% upper confidence limit (UCL) of the pooled reference data set. Pooled reference chemistry data were compared with data from individual stations. The Agencies noted that this approach to delineating COPCs was acceptable to them even though it was thought to be conservative.

5. Sediment evaluation zones. A. Chartrand presented a project base map with preliminary sediment evaluation zones based on physical and chemical characteristics (using sediment particle size and carbon-normalized PAH concentrations only). Mr. Chartrand explained that the CLEAN I Work Plan proposed "zones" based only on circulation patterns (depositional zones) rather than site-specific measurements, and that it was now possible to define zones based on physical and chemical measurements of sediments. The zones proposed were based on carbon-normalized total PAH concentrations and percent fines. These zones were defined by cluster analysis, a multivariate statistical technique, using the two parameters noted above. T. McDonnell provided an explanation for the approach used to define these zones.

It was noted in the discussion that surface sediment data were used in the cluster analysis instead of subsurface sediment data because more surface sediment data were available. Total PAH data was used for the cluster analysis because it was the most ubiquitous type of contaminant and thus avoided confounding due to non-detects (with the detection limit being regarded by the software as actual data). PAH data were expressed on a carbon-normalized basis because their distribution is known to be determined in part by distribution of carbon in sediments.

USEPA suggested that because TOC and particle size are highly related covariates cluster analysis should not be run using both variables only. BNI responded that TOC-normalization reduces or eliminates covariance and explains some aspects of contaminant distribution in sediment. BNI stated that additional analyses (e.g., regression analysis) using different chemicals would be appropriate to explore and evaluate further influence on cluster distributions

The Agencies suggested that the dissimilarity axis shown for the cluster analysis should be from 0 - 1 rather than 0 - 5. The current results appear to indicate that 80% of the stations are the same. They further suggested that the analysis be fine-tuned by superimposing other contaminants. DON/BNI agreed to this modification. USEPA suggested that toxicity be included in defining the zones; DTSC stated that this represents circular logic. This matter was not resolved, but DON/BNI agreed to use biological data to help define zones.

BNI explained that only the open water stations were used for the cluster analysis; no pier or outer Mole stations were used. The LARWQCB suggested including reference stations within the cluster to give a better indication of how to pool reference stations. Also, pier data should be included in the analysis. BNI responded that the piers will not fall out by themselves if chemistry alone is used. The LARWQCB replied that the biological data show the piers are significantly different from the open water; the chemistry data shows a significance both under the piers and in the open water. Intermediate steps of the cluster analysis which could be useful in explaining this phenomenon could include TOC or grain size by themselves (under the piers).

Break

### III. Key Issues Raised by the Agencies' review comments on the Draft RAWP:

Mike Radecki explained that the Draft RAWP had undergone independent review by a toxicologist. Results of this review indicated similar issues to those raised by the Agencies, but no fundamental flaws were identified in the approach to the ecological and human health risk assessments as proposed in the Draft RAWP.

BNI opened the discussion on review comments by making the observation that the review comments provided by the Agencies appear to lend themselves to being consolidated into essentially six major issues. These issues were described by BNI as follows:

1. **Conceptual Site Model/Selection of Endpoints.** Review comments suggested a table format to identify all possible endpoints to be evaluated. BNI agreed it was a good idea to clarify the approach, although the endpoints had been defined during CLEAN I and Tech Memo #4 and should not be changed. The focus should remain on sediments.
2. **Level of Effort - "Focused" Ecological Risk Assessment.** BNI noted that adopting the term "focused" rather than "screening level" ecological risk assessment more closely represents the emphasis on addressing potential problems in sediments.
3. **Water Column Characterization.** BNI noted that additional characterization could become necessary if the focused ecological risk assessment identifies potential problems in sediments.
4. **Benthic Community Analysis.** BNI noted that preliminary evaluation of data indicates that the triggers for benthic community analysis specified in Tech Memo #4 should be activated. Benthic community analysis will allow for more reliable site-specific decision-making regarding the potential for sediment remediation.
5. **Statistically-Based Design.** Creation of sediment evaluation zones will establish replicates which strengthen the basis for statistical testing. Such testing will help to detect potential biological effects associated with contamination of sediments.

**6. Integration of Earlier Documents/Agency Comments.** BNI weighed each suggestion and comment made by the agencies and attempted to integrate the ideas into the Draft RAWP. The focus on addressing sediment as a potential pathway was consistently maintained.

The following concerns were raised in association with these six issues:

USEPA suggested that some evaluation of water column effects be conducted, and asked how BNI intends to assure compliance with ambient water quality criteria without water chemistry data. BNI responded that the RI provides for comparison of modeled concentrations in groundwater with state and federal ambient quality criteria for protection of surface water in the West Basin. No other water column evaluation is planned. BNI expressed its concern that water column data would not shed enough light on the problem to justify collection.

USEPA asked for a clarification of how the focused ecological risk assessment endpoints relate to the overall goal of the program, i.e., how and why did BNI reach the endpoints. Also, USEPA asked that the level of detail of the focused ecological risk assessment be clarified; USEPA did not agree that what is proposed is an ecological risk assessment. USEPA also questioned whether the water column should be addressed. BNI responded that the ecological risk assessment was focused on sediments and at the same time designed to address the need for potential sediment remediation. As such, it is not a screening-level assessment but rather a comprehensive assessment of sediment quality. All measurements selected and tested relate to sediment quality except for fish tissue, which addresses biouptake as a potential pathway from sediments.

BNI stated that the water column is too dynamic to gain any meaningful results from water column measurements. BNI further commented that the benthic sediment/organisms are the closest media to assess past activities associated with the operation of the Naval Facility. This assessment is the main purpose of the RI. The water column is expressive of current activities.

Agencies stated that they wanted to see the risk assessment process documented in the RAWP and the RI rather than simply being presented with results. BNI expressed willingness to include the Agencies in this process.

USEPA stated that the exclusive focus on sediments assumes that all land-based sources such as storm drains are controlled. BNI and the DON commented that all storm drains are controlled and will provide documentation to that effect. DTSC agreed that storm drains were removed as a source from the Conceptual Site Model (CSM) during the CLEAN I scoping process.

USEPA requested that the risk assessment portion of the RI report be constructed similar to the Hunter's Point RI report, with particular reference to characterization of habitats/biota, contaminant migration pathways/exposure routes, food-web characterization (e.g., why the halibut was chosen), and measurement/assessment of endpoints. BNI responded that

Hunter's Point will be used as a case study and that the discussion on selection of endpoints would be expanded to clarify the overall rationale.

BNI commented that USEPA appears to be requesting a new RAWP rather than the Addendum to the CLEAN I RI/FS Work Plan. The Addendum assumes that the biological resource inventory, selection of endpoints, and basic approach are as stated in the CLEAN I Work Plan, as well as in Tech Memos #4 and #5.

The Agencies commented that the RAWP should include the reasoning behind why some Agency comments were not included, and that the "activation" of data triggers should be included. DTSC requested an appendix of concordance to be included in the final version of the RAWP. This "road map" would indicate how individual comments were or were not addressed. The DON/BNI agreed to this request.

USEPA suggested that the statistics discussion be clarified and expressed, where appropriate, on the basis of hypothesis testing. The DON/BNI agreed to that request

USEPA requested that they be faxed revised figures, tables and decision trees prior to the data being incorporated into any final document. The DON/BNI agreed to this request.

USEPA requested that this project take into account the future use of West Basin. The DON/BNI agreed to this request.

#### Lunch break

Following the lunch break, the Workshop continued with discussions of individual comments selected by the Agencies, and the DON/BNI responses to those comments.

#### Discussions included:

- No-adverse effect levels (benchmark values) were used in the toxicological assessment.
- Further clarification will be provided by BNI on the preponderance of evidence approach used to support Sediment Quality Objectives.
- Clarification and, if appropriate, simplification of Figure 3-1 in the Draft RAWP by BNI to highlight decision points and further elaboration on specific exposure scenarios.
- Show on Figure 4-2 of RAWP which species of fish were collected in West Basin.
- Elaboration of potential habitats and pathways (assessment endpoints) discussed in the RAWP. For example, phytoplankton/zooplankton could be important ecologically if the West Basin supported a fishery.
- Clarification on the distinction between the preponderance of evidence and multivariate statistical approaches outlined in the RAWP.
- The use of "non-detect" values in cluster analysis; USEPA suggested sources of guidance provided by USEPA for such analyses.
- Reference stations: USEPA noted that organic contaminants are not being screened by comparison to reference areas or background as inorganics are. BNI disagreed with this statement and stated that it was always intended to screen for organics as well as inorganics.

- Clarification on chemical concentrations in fish bile which could constitute a potential for ecological impacts to fish or other organisms.

Prepared by:	Ömer Kadaster/ Allan Chartrand	Date: 23 January 1995
Approved by: (DON)		Date: 1-30-95
Approved by: (DTSC)		Date:
Approved by: (EPA)		Date:

Post-It™ brand fax transmittal memo 7671 # of pages >

To <i>Ömer Kadaster</i>	From <i>Mike Radewski</i>
Co. <i>BWT</i>	Co. <i>SWDIV</i>
Dept. <i>Clear T</i>	Phone # <i>619-532-2450</i>
Fax # <i>310-807-3090</i>	Fax # <i>1242</i>