November 22, 2011

Comments on "Draft Preliminary Site Characterization Report" (PSCR) July 2011, San Jacinto River Waste Pits Superfund Site

On behalf of the Port of Houston Authority (PHA), HDR has reviewed the aforementioned draft report and submits the following comments. The focus of this review is on the aspects of the report that will apparently influence the cleanup goals and the remedy selection, especially Sections 5-8. Previously submitted comments on the PSCR (included in Memorandum on "Summary of RIFS Data Gap and Sampling Proposal Outline") are incorporated for completeness. General comments are provided, followed by page-specific comments.

GENERAL COMMENTS

The PSCR analyses are described as preliminary. Many of the analyses offered lay the groundwork for how remedial alternatives will apparently be analyzed, what goals will be proposed, what remedy will be recommended and how it may be designed. Some of the following PSCR comments illustrate this approach. Assumptions seem to be advanced as to the anticipated outcome of additional testing and how the results will be used, rather than objectively proposing to collect data to answer pending questions about the extent of Site contamination in sediment and tissue.

Are blue crabs and hardhead catfish the only edible species of concern, or are they conservatively representative species for the human health (ingestion) risks? Do crabs, catfish and killifish define the ecological risk pathways that will be considered in selecting a "risk-based" remedy? Blue crabs and hardhead catfish are not the most sensitive species; analyses of other species for both human health and ecological risks would likely lead to lower cleanup objectives. At least the species listed in the draft PSCR Appendix G1, Section 4.1 Ecological Receptors, should be discussed. The cited historical category 2 data for other species should be referenced for comparison to the category 1 PSCR/RI contemporary data.

The PSCR should describe what conditions are projected to change over the design life of any remedy as a result of upstream development, improvements in wastewater treatment, changes in flood control and erosion controls, and long term projected changes in precipitation and sea levels.

POTENTIAL REMEDIAL TECHNOLOGIES AND ARARs (Section 3)

Table 3-1 offers preliminary ARARs, but includes no sediment guidance or tissue guidance. Such guidance may qualify as "to be considered" ARARs in this PSCR, or the RI. While dioxins and furans are the focus contaminants, metals also are elevated at the site and may warrant remediation. Many sites with contaminated sediments have had investigations, remedial decisions, and/or fish advisories, which may guide remedial decisions for this Site.

Henningson, Durham & Richardson Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

One Blue Hill Plaza, 12th Floor
P.O. Box 1509
Pearl River, NY 10965

Phone: (845) 735-8300
Fax: (845) 735-7466
www.hdrinc.com

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REMEDIAL INVESTIGATION AND FEASIBILITY STUDY DATASETS (Section 5)
Table 5-4 lists only one category 1 data set for water, and it only provides three samples. Additional water quality data should be collected or existing data sets upgraded to category 1.

Table 5-5 reports that tissue analyses (as category 2 data) are available for many other fish species. Those data should be compared to the tissue analyses developed for the PSCR, to confirm that the contemporary PSCR tissue data are representative of edible tissue and ecological exposures.

HYDRODYNAMIC SETTING (Section 6.1.1.6)
Pages 6-13 through 6-15 fail to report interpretations of the stream flow: whether the tidal flow has any stratification, whether there is net flow landward at the bottom of the channel, and what the tidal excursion length is transporting contaminants upstream.

BACKGROUND DATASETS, REFERENCE ENVELOPE VALUES (Section 6.2.1.1)
The data interpretation at page 6-29 offers a rationale for use of Reference Envelope Values at 95%ile levels. While the PSCR states that the Reference Envelope Values (REVs) are not used specifically in the report, use of the 95%ile to define the envelope leads to excessively high background concentration intervals. Rather a "best estimate" (50%ile) concentration should be used for comparison to map contaminants and their impacts. Use of the upper confidence interval of background data would err on the side of underestimating the effects of the Site and should not be applied to the interpretations. Background interpretations should be selected conservatively, since other factors in the RIFS scope are not conservative:

- While multiple COCs are associated with the site, only dioxins and furans are being considered indictor contaminants.
- Multiple contaminants contribute to risks from fish and shellfish ingestion from the Site, but risk quantification is apparently limited by the tissue analyses of only blue crabs and hardhead catfish.
- The RIFS is focused on existing conditions rather than future conditions that are expected to offer a more diverse ecosystem, more recreational uses and greater ingestion of fishes. Future conditions are expected to pose greater risks than those based on existing conditions.

Calculation and uses of statistics on small data sets are especially not likely to represent the sampled populations. On page 6-31 reference is made to tissue analysis REVs (Tables 6-48 through 6-53), citing as few as 3 samples and in all cases no more than 20 samples in the development of the REV statistics. Use of REVs on small data sets is especially unjustified.

SUFFICIENCY OF BACKGROUND DATA SET – SEDIMENT (Section 6.2.1.3)
At page 6-36 Figure 6-19 is cited, showing lower organic content and fewer sediment samples with fines upstream from the site. The interpretation of the non-polar contaminant data should recognize that any upstream areas with more representative (higher) organic carbon

and/or more fines in the sediment are expected to have higher contaminant levels than the concentrations shown for existing data, Figure 6-13 and 6-14.

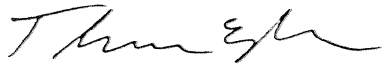
PATTERNS OF DIOXINS AND FURANS IN SOIL AND SEDIMENT (Section 6.2.3)
Description of the NMF method (at Page 6-47) and the unmixing analyses should note that assumptions of the method are that individual congeners and contaminants are conserved (not degraded), and not differentially adsorbed or desorbed from sediment or soils. The validity of these and any other inherent assumptions for this application should be demonstrated.

RESULTS SOUTH OF ROUTE I-10, PRELIMINARY ASSESSMENT OF CONTAMINATION (Section 7.1.2)
The text of the section emphasizes the presence of other anthropogenic wastes rather than paper wastes. The characterization (on page 7-13) that sediment concentrations southwest of the peninsula "do not show dioxin and furans contamination above background" is not accurate unless background is set to be over 50 ppt. Similarly, the conclusion on page 8-6 noting small correlations with nearby sediments does not recognize the selective uptake of biota or other explanations for the low correlations.

REMEDIAL TECHNOLOGIES (Appendix H)
Appendix H of the PSCR provides a screening of remedial technologies. The descriptions are not comprehensive and should not be interpreted or assumed to be adequate for a feasibility study. The scope and methods for removal of contaminated materials are more complex and varied than summarized. Permanent remedies should be emphasized.

Any questions concerning these comments should be communicated to Linda Henry, Port of Houston Authority.

Sincerely,



Thomas E. Pease, PE, PhD
Senior Professional Associate

cc: Kerri Snyder, AICP, Project Manager
Neil McLellan