

CLARIFICATION

ENVIRONMENTAL MONITORING PROGRAM REFINEMENTS

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PROBLEM STATEMENT

The first environmental monitoring occurred at two PSDDA nondispersive disposal sites during spring 1990. During program implementation, several issues were raised regarding sample collection, sample processing, and data interpretation. Interim solutions to these issues were developed through technical discussions with the PSDDA agencies and the monitoring program contractor. These solutions enabled the program to continue without substantial delays. The purpose of this paper is to briefly clarify minor changes to the monitoring program.

PROPOSED CLARIFICATIONS**Acid Volatile Sulfides**

The U.S. Environmental Protection Agency has determined through intensive laboratory and field investigations that the concentration of acid volatile sulfides (AVS) in sediment affects the bioavailability and toxicity of certain metals. As research and development on the use of AVS continues, the PSDDA agencies recognize the potential utility of collecting AVS data at the disposal sites. AVS analyses were performed during the 1990 monitoring program at all stations where biological analyses were conducted. The environmental monitoring program will continue to analyze AVS in future monitoring events using the U.S. EPA laboratory analysis method, to preserve future program options. The PSDDA agencies will continue following the research on this variable, and may make additional recommendations on its use in future Annual Review Meetings.

Chemical Analyses at Benchmark Stations

The original environmental monitoring program called for the archival of sediments for chemical analysis at benchmark stations. The 1990 monitoring program identified the need for the immediate analysis of sulfides and volatile organic compounds due to short holding time requirements. In the future, sediments collected for analysis of sulfides and volatile organic compounds will be analyzed immediately instead of archived.

Sediment Vertical Profiling System Schedule

The sediment vertical profiling system (SVPS) is used to map the distribution of dredged material at the nondispersive disposal sites. The contractor conducting the 1990 monitoring program recommended that the schedule for the SVPS sampling be accelerated so that this survey occurred as soon after dredging ceased as possible instead of simultaneously with

sediment sampling. This strategy has the advantage of minimizing the period of time over which benthic organisms may bioturbate the sediment, causing a layer of dredged material to become less distinct. Additionally, the resulting data may be used to better select perimeter and gradient stations. The PSDDA agencies agreed to implement this strategy for the 1990 program. As a result, SVPS images were obtained about one month prior to biological and chemical sampling, and were used to select station locations for sediment sampling. The PSDDA agencies will adopt this strategy for all future monitoring

because it optimizes mapping dredged material and selecting stations for sediment sampling.

Benchmark Station in Port Gardner

Port Gardner benchmark station PGB02 contains sediment with a substantially different grain size distribution relative to ambient conditions in the vicinity of the Port Gardner disposal site. Hence, the benthic community at PGB02 naturally differs from the baseline benthic community at the disposal site. Furthermore, the station has repeatedly demonstrated high toxicity in the absence of significant chemical contamination. Therefore, this station is not an appropriate benchmark station. A new benchmark station will be identified and sampled for baseline information prior to the start of the next dredging year which begins in June 1991.