1 Aug 97

FAX...

To: Doug, Becky & Jim

Last Page didn't get there before. Donnie resent all of Ohio EPA comments.

URGENT Thanks Linda

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To: Linda Ingram Rec'd 1 Aug 97

CEORN-ER-M

From: Don Burton

Description: Linda

Attached are responses to OEPA's technical comments on the draft Groundwater Investigation Report. Sorry for the delay

Number of Pages (including cover page) 4

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RESPONSE TO OEPA COMMENTS
DRAFT GROUNDWATER INVESTIGATION REPORT
FORMER PLUM BROOK ORDNANCE WORKS,
SANDUSKY, OHIO

Comments of Ellen J. Gerber, Ohio EPA

Comment 1.a: **International Technology Corporation (IT) noted difficulty with sampling wells IT-MW09 and IT-MW10 following development by surging and attributed this to seasonal fluctuation in water levels. Ohio EPA believes that a more likely source was the surging itself. Ohio EPA recommended not using this technique in our review of the sampling and analysis plans for the site because of the fine-grained nature of the overburden and the risk of reducing hydraulic response.**

Response 1.a: The OEPA recommended against using surging during well sampling at PBOW in their comments dated November 11, 1996, which was the second set of comments on the work plans. Originally, OEPA commented on the work plans on September 5, 1996. At the time that the second set of comments were received field activities associated with the groundwater investigation had already been completed. However, the OEPA's recommendation is noted and will be incorporated during future field activities.

Comment 1.b: **Ohio EPA also recommended maximum screen lengths of 5 feet for the new wells. Samples collected from wells with longer screens tend to misrepresent actual ground water concentrations due to possible dilution effects.**

Response 1.b: As with comment number 1.a, the recommendation for 5-foot screen lengths in the overburden wells was not received until after the completion of field activities. However, as stated in the response document for the November 11, 1996, comments, the use of 10-foot screen lengths is in accordance with minimum USACE requirements.

A five-foot screen interval is not recommended for new monitoring wells at PBOW (where aquifer conditions permit the installation of longer screen intervals) for the following reasons:

- Groundwater samples obtained over broader aquifer thicknesses are more likely to represent water quality that a possible resident or industrial worker would be exposed to since water extraction wells are typically screened over greater aquifer thicknesses. Therefore, from a risk analysis perspective

longer screen intervals should provide more representative groundwater quality data.

- Screen intervals longer than 5 feet will allow for greater seasonal fluctuations in water levels, assuring that groundwater samples can be collected under a greater variety of water level conditions

- The 10-foot screen interval is in accordance with minimum USACE requirements

Comment 1.c: **There are numerous typographical errors in the Risk Based Concentrations (RBCs) shown on the tables in Section 4; the value is typically off by an order of magnitude. Consequently, IT appears to have inaccurately highlighted ground water concentrations that exceeded the RBCs. It is possible, though, that the same error involving the decimal point may be repeated in the ground water concentrations reflected on these tables. IT should have included copies of the reporting sheets from the laboratory so any suspected errors in the data could be investigated.**

Response 1.c: The RBCs used in the evaluation of detected constituents in groundwater at PBOW were derived using EPA Region III published RBCs, but using a hazard index (HI) of 0.1 or a cancer risk of 10^{-6}, not an HI of 1 as stated in Section 3.3. These values were selected to provide a first-line indicator that a given chemical in groundwater may be present at levels that are near the low end of the National Contingency Plan (NCP) target risk range. Section 3.3 has been revised to correct the erroneous HI discussion.

Comment 2.a: **This investigation did not determine the horizontal and vertical limits of contamination in any of the areas of concern except for semi-volatiles in the vicinity of TNT Area B. Future investigations should delineate the rate and extent of contamination in the areas of concern at the facility.**

Response 2.a: A subsequent groundwater investigation is currently planned for PBOW, and will be conducted beginning in August 1997. This supplemental or follow-on investigation will consist of two semi-annual groundwater sampling events and four quarterly groundwater level measurement events on a more site-wide basis. A total of fifty-nine groundwater monitoring wells will be sampled on two occasions, including twelve (12) new wells installed to fill identified data gaps in the groundwater monitoring network at PBOW.

Comment 2.b: **Ohio EPA notes that for the purposes of comparing the downgradient to upgradient ground water data, the chemistry in the overburden is typically quite different from the chemistry in the bedrock in this area.**

Response 2.b: Agreed.

Comment 3: **IT should explain the rationale for filtering samples for nitroaromatics. Method 8330 states that samples collected for this type of analysis should be subject to the same collection and storage methods as for semi-volatiles and that any filtering is actually done by the laboratory on an as-needed basis, not in the field.**

Response 3: Groundwater samples collected for nitroaromatic analyses were normally not filtered. However, when a given well could not be purged or developed to a turbidity of less than 20 NTUs, an additional sample was collected and filtered to provide an indication of whether any detected nitroaromatic compounds were due to suspended solids in the sample or were primarily present in the dissolved phase. This supplemental sample does not affect the original unfiltered sample or corresponding results, it merely serves to provide additional analytical information relevant to specific wells.

Comment 4: **Well IT-MW06 is shown with this designation on the tables but is designated as IT-MW9 on the maps.**

Response 4: Proposed monitoring well IT-MW06 was renamed to IT-MW10 during the field investigation due to the existence of a previously designated IT-MW06. Tables referencing IT-MW06 have been changed to IT-MW10.