



State of Ohio Environmental Protection Agency

Northwest District Office

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Bob Taft
Governor

RE: U.S. NASA PLUM BROOK
ERIE COUNTY
OHIO I.D#: 322-0552
RED WATER PONDS AREAS
PHASE 2 ECOLOGICAL RISK
ASSESSMENT COMMENTS

August 23, 2000

Department of the Army
Nashville District, Corps of Engineers
Ms. Linda S. Ingram
P.O. Box 1070
Nashville, TN 37202-1070

Dear Ms. Ingram:

The Ohio Environmental Protection Agency (EPA), Division of Emergency and Remedial Response (DERR), has reviewed the "Draft Work Plan and Site-Specific Safety and Health Plan for the Phase 2 Ecological Assessment of the Red Water Ponds Areas" for the Former Plum Brook Ordnance Works, Sandusky, Ohio. This document was submitted to the Ohio EPA by the International Technology Corporation (IT) on behalf of the Corps of Engineers, June 15, 2000 for review and comments. The Ohio EPA, DERR is providing the following comments concerning the ecological risk assessment.

1) **Section 4.1.2 Exposure Pathways, page 9**

Soil Exposure Pathway: For the soil exposure pathway, soil samples should be obtained from a depth of 0-2 feet for non-burrowing animals and soil samples obtained from a depth of 0-4 feet are considered for burrowing animals. For plant exposure, soil samples should be obtained from a depth of 0- 4 feet.

Sediment Exposure Pathway: What depths are considered when evaluating sediment exposure?

2) **Section 4.2.1.1 Soil Sampling for Earthworm COPEC Uptake Estimates, page 12**

What depth will surface samples be collected for the uptake study? Are the soil samples discrete or composite samples? What methods or protocols are used to collect soil samples?

Will the analytical results be evaluated prior to conducting earthworm uptake studies? If the analytical results show that the COPECs are non-detect, is the next step to automatically initiate soil spiking in the laboratory?

If field collected soil samples are non-detect for 1,3-DNB and 4-amino-2,6-DNT, what method or protocol will be used to spike soil samples in order to determine the bioaccumulation factor? Will laboratory grade soil be used as the spiking media?

3) **Section 4.2.1.2 Fish Sampling for COPEC Uptake Estimates Based on Tissue, page 13**

What other factors will be taken into consideration when compositing similar fish species into individual samples? Will the ages, lengths and body weights of fish be measured and recorded before compositing?

If fish can not be collected from PRRWP, what approach will be used to determine the bioaccumulation factor for these COPECs? Ohio EPA recommends consulting the U.S. EPA's Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors, March 1995, EPA-820-B-95-005 and the Great lakes Water Quality Initiative Technical Support Document for Wildlife Criteria, March 1995, EPA-820-B-95-009.

4) **Section 4.2.1.3 Sediment Sampling for COPEC Uptake Estimates, page 14**

What depth will sediments be collected for the uptake study? How will these sediments be collected? Will the sediment samples be discrete or composite samples? Will the analytical results for the sediments be evaluated prior to conducting the uptake study? What methods will be used to spike sediments if a laboratory bioassay is necessary based on the analytical results?

5) **Section 4.2.1.4 Sediment Sampling for COPEC Sediment Toxicity, page 15**

How were the sample locations selected for toxicity testing? What depth are sediments collected for toxicity testing? What methods are used to collect sediment samples?

6) **Section 4.2.1.5 Surface Water Sampling for COPEC Surface Water Toxicity, page 16**

How were the surface water sample locations for toxicity testing selected? Are the surface water samples unfiltered or filtered? Are they grab or composite samples?

7) **Section 4.2.1.6 Background Sampling, page 16**

If nitroaromatic compounds are detected in background samples, how will the data be used? This may indicate that the sample location is impacted and not appropriate for determining background.

Will PAHs be sampled for at background sediment locations? If PAHs are considered to be anthropogenic at this site, then it is recommended to establish site-specific background concentrations for anthropogenic PAHs in sediments, in addition to soils.

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When is the field verification task scheduled to be conducted? Have background soil sample locations been selected?

8) **Section 4.2.2 Analytical Procedures, page 17**

What age organisms will be used for chronic freshwater toxicity tests, chronic freshwater sediment toxicity tests, and the bioaccumulation tests for freshwater sediments and upland surface soils?

How many test treatments and replicates will be used for each toxicity test and bioaccumulation test?

What water quality parameters will be measured during the toxicity test period (ie. hardness, alkalinity, pH, dissolved oxygen, etc.)?

Prior to the bioaccumulation tests, will the test organisms be allowed to depurate prior to introducing them to the test media? How long will depuration occur?

9) **Section 4.2.3.2 Surface Water Sampling, page 19**

Will hardness and alkalinity measures be taken in the field? This information will be helpful when determining the appropriate hardness level for the hardness control that is used in the freshwater toxicity test.

10) **Section 4.2.3.3 Sediment Sampling, page 20**

Please indicate what depth sediments will be collected.

Please review these comments and incorporate them in the revised version of this document. Should you desire a meeting, or have questions and comments regarding these comments feel free to contact me at (419) 373-3147 or Laurie Moore at (937) 285-6457.

Sincerely,



Ron Nabors
Site Coordinator
Division of Emergency and Remedial Response
Northwest District Office

/csr

cc: Richard L. Meadows, USACE
Laurie Moore, OFFO, SWDO
DERR file