

N65928.AR.001078  
NTC ORLANDO  
5090.3a

EMAIL COMMENTS ON REMEDIAL INVESTIGATION (RI) FOR OPERABLE UNIT 2 (OU 2),  
MCCOY ANNEX LANDFILL NTC ORLANDO FL  
9/15/2000  
U S EPA REGION IV

VIA E-MAIL

9/15/00  
3.1.2.0005

**Remedial Investigation for Operable Unit 2, McCoy Annex Landfill,**  
Naval Training Center, Orlando

**Risk Assessment Comment:**

03.01.02.0005

10 00099

Risks from Benzo(a)Pyrene in Surface Water. EPA has suggested in previous correspondence that sufficient uncertainty surrounded the calculation of risk from B(a)P from the dermal pathway and that this pathway should be discussed qualitatively only. Nonetheless, risks from benzo(a)pyrene in surface water is, we believe, a gross overestimate of risk. It is recommended to remove this calculation from the risk assessment and that the issue be discussed as a qualitative uncertainty.

**Technical Comment No. 1:**

Over all this report appears to be a thorough site characterization effort. What remains to be seen is what is done with these data in the FS. Because PCE, TCE, and fuels contamination have been detected in groundwater, I would recommend that the monitoring program be evaluated to verify that sufficient data for an evaluation of natural attenuation is being collected. As described later in this memo, the apparent increases in iron and manganese in groundwater should not be viewed only as a problem to be remediated. These increases may indicate that natural attenuation is performing well at this site. If this is true, remediation efforts must be careful not to upset this balance. Additional data may be necessary to make this determination. If so, the acquisition should begin as soon as possible to minimize delays in the FS process.

Also, the report notes that the 1998 Phase II groundwater data has been superceded by the 1999 Phase III groundwater data. The application of low flow sampling procedures in Phase III greatly reduced the turbidity of samples from the monitoring wells. The average turbidity for 48 samples obtained in Phase II was 897 NTU. The average turbidity for 40 samples obtained in Phase III was 10 NTU. Samples from 6 wells remained turbid despite special efforts during sampling. The report states "*...the widespread reductions in chemical concentrations and in the frequency of exceedances of the screening criteria observed in the Phase III data, across all analytical fractions, is attributed primarily to the reduction in groundwater sample turbidity.*" (p5-154). Future sampling events must utilize similar care and techniques so that sample results are comparable from event to event, and so that bad data doesn't create the appearance of an intermittent source of contamination.

**Technical Comment No. 2:**

Section 5.3.2.3 (p.5-135) suggests that the reduction in VOC concentration in the 7 wells sampled during Phase III (1999) may be due to a reduction in turbidity in the samples when compared to the Phase II (1998) results. Any reduction in VOC concentrations is good news. While turbidity may have caused apparent elevated VOC

concentrations, in the long run, it may be important to determine whether some or all of the reduction in VOCs may be due to natural attenuation processes. Chlorinated solvents have been detected in groundwater monitoring wells (Table 5-3H), and indicators of natural attenuation have been observed (see next comment). Future groundwater monitoring events should include analyses appropriate for evaluation of natural attenuation.

**Technical Comment No. 3:**

Section 5.3.2.8 (p.5-143) suggests that iron and manganese may have been released from the former landfill or that changes in the groundwater chemistry due to the landfill may be responsible for the increases observed groundwater samples relative to background locations. Numerous exceedances of background concentrations, Screening Criteria and Secondary MCLs are noted in the report (Table 5-3I), but it isn't clear at this time, what might be done about the concentrations of these elements in groundwater. Their presence in groundwater has been characterized appropriately in this RI report. Remedial options will be evaluated in the FS. For future investigations, it is important to note that both of these elements may be indicators that natural attenuation processes are working beneath the landfill. Their presence in elevated concentrations may be good news as indicators of reductive dechlorination occurring somewhere in the landfill.

**Technical Comment No. 4:**

Typically, monitoring wells have not been installed into waste away from the margins of the landfill. Because the margins of the landfill are almost identical to the groundwater discharge areas at the canals, some of the data commonly acquired for evaluation of natural attenuation processes is not available now and may not be available in the future. However, it may be important to determine whether some or all of the increase in iron and manganese is due to natural attenuation processes before any measures which might reduce the iron and manganese concentrations are implemented. If the increases are due to attenuation of solvents, the evaluation of remedial measures must consider the possibility of inhibiting the natural attenuation process when mitigating iron and manganese concentrations. Remediation of iron and manganese should not enhance the potential migration of chlorinated solvents or other contaminants.