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COMMENTS ON REMEDIAL INVESTIGATION INTERIM REPORT NWS YORKTOWN VA
10/8/1991
VDWM

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF WASTE MANAGEMENT
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October 8, 1991

Ms. Brenda Norton
Atlantic Division Naval Facilities
Engineering Command
Code 1822
Norfolk, VA 23511-6287

Dear Ms. Norton:

We have reviewed the Remedial Investigation Interim Report for the Naval Weapons Station at Yorktown and have several general comments.

The EPA contract laboratory program's contract-required detection limits for some compounds on the target analyte list are higher than levels that can have an adverse effect on aquatic life. These compounds included cadmium, copper, lead, mercury, nickel (saltwater), silver, and cyanide. The method of analysis for these compounds should have a level of detection that is equal to or lower than the appropriate EPA chronic criterion for aquatic life when possible.

Samples in tidal streams should be taken when the effects of a site would be expected to be the most severe. For example, if the sample location is close to the point of entry of the contamination into the stream, this would be slack before flood tide. Also because tides are affected by local conditions such as wind, tidal charts may not reflect actual field tide conditions. Field observation of tidal conditions are necessary to ensure that samples are taken at the time intended.

Observation of field conditions is helpful in evaluating surface water sample results. The RI report should include such information as depth of the surface water samples, whether they were taken during or shortly after periods of heavy rainfall or during "low flow conditions". Surface water sampling locations should be described--e.g. flow, channel morphology, substrate. The

hydrologic work proposed in the interim report such as installation of staff gauges should be quite helpful to an understanding of the hydrology of the sites and consequently to assessing their effect on the environment. We would like to see this type of hydrologic assessment included in future investigative work at this installation.

The work plan states that the southern bald eagle is known to nest at Camp Peary. We understand that there is a nesting pair of bald eagles actually at the Weapons Station. Information on endangered species and other area biota can be obtained from the Virginia Department of Game and Inland Fisheries. If either you or your consultant is interested in getting such information and we can be of any help, please let us know.

Ground water analyses at all landfills should include testing for TCL pesticides unless they were not detected during the 1986/87 sampling. Landfills should also be inspected for signs of leachate. Leachate seeps and sediment in leachate drainageways should be included in sampling programs.

Metal analysis of ground water should be done on both filtered and unfiltered samples.

The following comments relate to specific sites:

Site 2--Turkey Road Landfill

The interim report does not recommend ground water sampling. We understood during our site visit on August 20, 1991, that ground water testing is now planned at this site. We agree that ground water testing is needed to characterize the site.

We recommend a surface water/sediment sampling location shortly downstream of the confluence of the two small streams that flow on either side of the landfill. (We think this location might be used instead of either 2SW06/2SD06 or 2SW07/2SD07.)

Site 3--Group 16 Magazines Landfill

We think an additional surface water/sediment sampling location between 1SW04 and 1SW05, opposite or a little downstream from site 3 would be helpful.

Site 6--Explosive-Contaminated Waste Water Impoundment

Only one sampling location is currently proposed for the impoundment area. This area was used to settle solids from the explosives-contaminated wastewater. Presumably much of the area

was covered by the impounded wastewater and is therefore potentially contaminated with the solids that settled out of the wastewater. We think additional sampling locations are needed to fully characterize the extent of any contamination. It is important to characterize the vertical extent of any contamination here. Therefore, we recommend core samples at a minimum of six sampling locations selected to be representative of the impounded area. Soil at the top, at the interface of the deposited and the natural soils, and possibly at the water table should be tested for explosives and solvents used at the site. This recommendation is based on our understanding that the wastewater really was impounded in this area, allowing solids to settle out and be deposited over the bottom of the site. If you have information that shows the area never really functioned as an impoundment, we would certainly reassess this recommendation.

Site 7--Plant 3 Explosives-Contaminated Wastewater Discharge Area

Earlier testing of soil along the drainageway leading to the short tributary to Felgates Creek did find explosives. These were apparently "near surface" samples. Explosives concentrations were greater toward the wastewater discharge location. Neither additional soil sampling nor ground water testing is proposed at this site. Without soil testing that characterizes the vertical extent of the soil contamination and without any ground water analyses, the site has not been adequately characterized.

Site 8--NEDED Explosive-Contaminated Waste Water Discharge Area

Surface water sampling done earlier at this site found some high levels of silver. Silver in several sediment samples were in excess of the 1 ppm level that can begin to affect benthic organisms. The freshwater chronic criterion of .12 micrograms per liter and the saltwater chronic criterion of 2.3 micrograms per liter were exceeded in samples from the water column. The criterion for lead may have been exceeded--depending on the hardness or salinity of the water. The RI should try to identify the source of these metals, particularly silver.

This discharge was from the Naval Explosives Development Engineering Department. If there is reason to believe that any compounds not included in previous site investigation would have been present in the wastewater discharge, we request that analysis here include the process used in the superfund CLP, or a similar process, for tentatively identifying compounds. Specifically a mass spectral library search could be conducted for each volatile fraction to determine the possible identity of the ten nonsurrogate organic compounds of greatest concentration which are not on the target compound list and for each base/neutral/acid fraction to

determine the possible identity of the twenty nonsurrogate organic compounds of greatest concentration which are not on the list. The RI report should include a discussion of these compounds.

Site 9--Plant 1 Explosive-Contaminated Wastewater Discharge Drainage Area and Site 19--Conveyor Belt Soils at Building 10

Explosives were found in the soil below the conveyor belt during the 1986-87 sampling. The work plan proposes sampling in the concrete ditch downhill from the conveyor belt area but apparently not soil directly under the conveyor belt. The current condition of the soil should be considered in any evaluation of remedial action at this site.

Sites 6,7, 8, 9 and 19--Ground Water Testing at Sites

No ground water testing is proposed for these sites that are associated with explosives wastewater discharge or, in the case of site 19, spilled bulk explosives. We assume the limited solubility of several of the compounds may be a reason for this. Nonetheless without ground water sampling, an environmental medium has not been addressed and characterizing the extent of contamination is not complete. This makes any decision on remediation or a "no action option" difficult. There are indications that the Weapons Station will be listed on the NPL. If this happens, we feel that EPA is quite likely to require ground water testing at these sites. Also there are several aspects of the sites that indicate ground water testing might be needed. For example--in addition to explosives, the wastewater discharges contained solvents which could have migrated to ground water. The interim report states that at Site 19 " a more likely surface flow condition is ponding along the railroad tracks and Bollman Road, followed by infiltration through relatively permeable soils suspected at the site." Alternatives to ground water testing might be appropriate at some of the sites--for example, core soil samples at the conveyor belt to determine the extent of downward migration of the bulk explosives.

Site 11--Abandoned Explosive Burning Pits

The ground water pH found in well 11GW09 seems low to be due solely to natural conditions.

Site 12--Barracks Road Landfill

Page 91 states that the former surface water/sediment sample location 1(12?)SD02 is probably most representative of contaminants emanating from the landfill. Therefore, if possible, we would like to see proposed station 12SW04/12SD04 moved upstream closer to the location of this earlier site and the landfill unless there is a specific reason for its proposed location. We also think that an

additional well south of the landfill and between wells 12GW02 and 03 might be a good location to help characterize ground water quality.

Site 18--Building 476 Discharges

The interim report did not recommend further testing at this site, but we understood during the site visit that several sediment samples would be taken in the drainage ditch. We think water column samples should accompany these sediment samples.

Our suggestions for adding or moving some of the proposed sampling locations are based on the diagrams in the interim report which are not necessarily detailed enough to use alone to determine the best monitoring locations. We recognize that actual field reconnaissance may indicate that our recommendations do not represent the best locations.

Thank you for the opportunity to comment on the interim report. If you have any questions or would like to discuss any of our recommendations, please let us know.

Sincerely yours,

Anne M. Field
ARAR's Coordinator

AMF/rw

cc: K.C. Das