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LETTER REGARDING REMEDIAL INVESTIGATION FIELD PROGRAM AT OPERABLE UNIT  
3 (OU 3) STUDY AREAS 8 AND 9 NTC ORLANDO FL  
5/12/1998  
HARDING LAWSON ASSOCIATES

Harding Lawson Associates

00179



May 12, 1998

Commanding Officer  
SOUTHNAVFACENGCOM  
ATTN: Mr. Wayne Hansel, P.E., Code 18B7  
P.O. Box 190010  
2155 Eagle Drive  
Charleston, SC 24019-9010

**SUBJECT: Remedial Investigation Field Program,  
Operable Unit 3 (Study Areas 8 and 9) (STATUS), NTC Orlando  
CTO 107, Contract N62467-89-D-0317/CTO 107**

Dear Mr. Hansel:

Harding Lawson Associates (HLA; formerly ABB Environmental Services, Inc.) has prepared the following status report regarding subsurface soil sampling at Operable Unit (OU) 3 (Study Areas 8 and 9) at Naval Training Center (NTC), Orlando, Florida. This letter is intended to provide information to the Orlando Partnering Team (OPT) to aid in their decision-making and planning process.

As stated in our March 18, 1998 status letter report (attached), only one of the subsurface samples proposed in the Remedial Investigation/Feasibility Study (RI/FS) Workplan has been collected at the OU. This was due to an unusually high water table caused by extreme wet weather conditions throughout the winter in Central Florida. In the March 18 letter, we proposed delaying completion of the sampling program to enable collection of non-saturated samples from the shallow subsurface. This recommendation was made with the expectation that the water table would recede before the onset of the typical annual wet season in Orlando, which begins in the late spring.

The depth of the water table at the OU was most recently measured on April 27, 1998. At that time, the depth to water was still unusually high, ranging from approximately 1.5 to 2.5 feet below the land surface (bls) at Study Area (SA) 8 and from 2 to 3 feet bls in most areas at SA 9. Based on these observations, and because the regional weather in the summer months is typically characterized by an increase in precipitation, collection of unsaturated subsurface soil samples to depths up to 5 feet bls may not be possible until the fall or winter of 1998, which would delay completion of the Draft RI Report by approximately one year.

Since this schedule delay would be viewed as unacceptable, the RI could be completed using a different approach which would not require subsurface soil analytical data and would thereby meet the original schedule. A qualitative approach can be used to evaluate subsurface soil conditions in

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terms of risks to human health and the environment and remedial requirements. A qualitative evaluation could be considered an appropriate approach based on the following points.

- 1) The expected sources of contamination at OU3 are releases to surface soil. Although, in general, contaminants can migrate vertically through the soil column, the primary contaminants of concern at OU3 have relatively low solubility and have a low vertical migration potential. Therefore, the highest contaminant concentrations are expected to be in surface soil, for which data is available, and contaminant concentrations are expected to decrease with depth.
- 2) Sufficient groundwater data exist to evaluate whether or not subsurface soil is a continuing source of groundwater contamination.
- 3) The expected future land use at OU3 is recreational, but the RI will be based on the assumption that future use will be unrestricted and could be residential. Under a future recreational use scenario, there would be no expected exposure to soils deeper than 2 feet. Under a future residential use scenario, exposure to soils deeper than 2 feet at OU3 would be limited to construction and/or utility workers. Health risks to these receptors from exposure to soil contaminants could be quantitatively evaluated using surface soil data.
- 4) As stated above, the highest contaminant concentrations are expected to be within the surface soil (i.e., the upper two feet of soil). If remediation of this contaminated soil is required, the final remediation depth will be determined by the remedial technique, and will include all appropriate soil based on established cleanup goals, which may include soil deeper than 2 feet, if appropriate.

In addition to these points, a cost-benefit analysis of the project does not support a lengthy delay of the RI Report to allow inclusion of subsurface soil data. Therefore, HLA proposes the following course of action.

- HLA will proceed with completion of the RI according to the previously established schedule using data collected to date.
- HLA will continue to monitor the water table at OU3. If conditions for collection of non-saturated subsurface soil samples to a reasonable depth become favorable prior to completion of the Draft RI Report, we will immediately notify the OPT.

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- If subsurface soil sampling becomes possible after submission of the Draft but prior to report finalization, the feasibility of conducting subsurface sampling at that point, including any schedule and budget impacts, could be discussed.

HLA looks forward to a response from the OPT regarding this matter and appreciates your continued patience. If you have questions or comments, please do not hesitate to call me at (703) 769-8145.

Very Truly Yours,

HARDING LAWSON ASSOCIATES



Shannon B. Gleason, P.E.  
Task Order Manager

Attachment

cc: John Kaiser, HLA  
Nancy Rodriguez, USEPA Region IV  
John Mitchell, FDEP  
Barbara Nwokike, Southern Division  
Lt. G. Whipple, NTC-Public Works Officer  
Bob Cohose, BEI  
Steve McCoy, Brown & Root  
file

ABB

FILE 0037

March 18, 1998

Document No.: 02530.061

Commanding Officer  
SOUTHNAVFACENGCOM  
ATTN: Mr. Wayne Hansel, P.E., Code 18B7  
P.O. Box 190010  
2155 Eagle Drive  
Charleston, SC 24019-9010

**SUBJECT: Status of Phase II Remedial Investigation Field Program,  
Operable Unit 3 (Study Areas 8 and 9), NTC Orlando  
CTO 107, Contract N62467-89-D-0317/CTO 107**

Dear Mr. Hansel:

ABB Environmental Services, Inc (ABB-ES) has prepared the following status report regarding subsurface soil sampling at Operable Unit (OU) 3 (Study Areas 8 and 9). This letter is meant to provide information to the Orlando Partnering Team to aid in their decision-making and planning process.

All activities proposed as part of the Phase II Remedial Investigation (RI) at OU3 have been completed, with the exception of subsurface (below two foot depth) soil sampling. Completed activities include surface soil sampling, microwell installation, and groundwater sampling and toxicity testing. Data gathered from these activities is currently being evaluated. Results of subsurface sampling and analysis are necessary to complete the evaluation of nature and extent of contamination for the RI report.

Due to the extreme wet weather conditions this winter, the water table at NTC Orlando is approximately four feet higher than usual. The average depth to water in the vicinity of SAs 8 and 9 was two feet below land surface (ft bls) at the time of the Phase II field investigation (February 1998). Because of this, it was impossible to collect non-saturated soil samples from the subsurface intervals of the nine borings as proposed (intervals were two to three ft, three to four ft, and four to five ft). To date, only one subsurface sample has been collected, from one of the borings in SA 8.

From a technical standpoint, delaying the sampling program to enable collection of non-saturated samples from the shallow subsurface is preferable for several reasons. Based on site screening results and information on site use history, contamination at these two sites was introduced at the land surface and is potentially migrating vertically. The water table at these two sites fluctuates seasonally, but under normal conditions, it occurs at approximately 6 ft bls. In order to accurately characterize the distribution of contaminants in the subsurface soil, it is necessary to evaluate these soils under normal conditions (above the water table), so that potential influences or interferences associated with groundwater are not factored in to the delineation or to the risk assessment. In this way, fate and transport mechanisms may be evaluated for contaminants under normal conditions.

ABB Environmental Services Inc.

Sponsor  
Special Olympics  
World Games  
Connecticut 1998



1080 Woodcock Road, Suite 100  
St. Paul Building  
Orlando, Florida 32803

Telephone (407) 895-8845  
Fax (407) 896-6150

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Finally, by convention, the risk assessment process is based on the assumption that data is representative of standard conditions at the site. Collecting saturated samples to represent subsurface soil conditions to a depth of six feet is not representative of these sites under standard conditions.

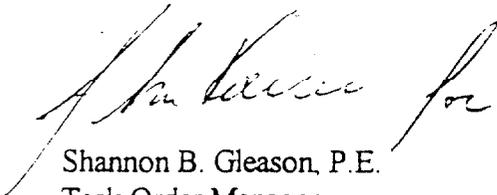
In order to complete the Phase II RI, ABB-ES proposes the following. Our current estimate is that the high water table conditions will have receded sufficiently by mid-April to enable the subsurface sampling as proposed. However, the continued influence of El Nino may require further delay. We are currently monitoring the water table at SAs 8 and 9, and will mobilize as soon as conditions are favorable. Once the sampling is completed, we will request expedited turnaround from the laboratory. Samples from SA8 will be analyzed for SVOCs, pesticides, PCBs, herbicides, and TAL metals, while samples from SA9 will be analyzed for only pesticides and TAL metals, in accordance with the workplan for Phase II activities, as discussed at the January OPT meeting. If sampling can occur by mid-April, the overall schedule for submittal of the draft RI (July 10) will not be affected. If sampling must be delayed until May, the submittal date will need to change.

It should also be noted that collection of subsurface soil samples to 5 ft bls may not be practical. For soil borings closer to the lake, it is possible that unsaturated soil may be encountered at a depth of less than 5 ft bls. ABB-ES will attempt to collect as many of the subsurface soil samples from the intervals stated in the workplan. Any change to this plan will be discussed with the OPT.

ABB-ES will provide schedule updates as information becomes available. Thank you for your continued patience. If you have any questions or comments regarding this matter, please call me at (703) 769-8145.

Very Truly Yours,

**ABB ENVIRONMENTAL SERVICES, INC.**



Shannon B. Gleason, P.E.  
Task Order Manager

cc: John Kaiser, ABB-ES  
Nancy Rodriguez, USEPA Region IV  
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