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LETTER DOCUMENTING CHANGES TO SCOPE OF WORK FOR REMEDIAL
INVESTIGATION AT OPERABLE UNIT 3 (OU 3) NAS JACKSONVILLE FL
9/19/1997
HARDING LAWSON ASSOCIATES



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Commanding Officer
SOUTHNAVFACENGC
Attn.: Mr. Dana Gaskins, Code 1857
2155 Eagle Drive
P.O. Box 190010
North Charleston, SC 29419-9010

Subject: Documentation of Changes to Scope of Work for Remedial Investigation at Operable Unit 3, Naval Air Station Jacksonville, Jacksonville, Florida

Dear Mr. Gaskins:

ABB Environmental Services, Inc. (ABB-ES), under the Comprehensive Long-term Environmental Action, Navy (CLEAN) Contract No. N62467-89-D-0317/076 prepared and submitted to the Navy, the U.S. Environmental Protection Agency (USEPA), and the Florida Department of Environmental Protection (FDEP), a Remedial Investigation and Feasibility Study (RI/FS) Work and Project Management Plan for Operable Unit 3 (OU 3) at Naval Air Station (NAS) Jacksonville in Jacksonville, Florida. This plan was approved by the Navy, USEPA, and FDEP and submitted as a final document in March 1995. The RI/FS Workplan for OU 3 is designated as Volume 7 of the Navy Installation Restoration Program (NIRP) plan. Within the workplan, Chapter 6 presented the proposed remedial investigation scope of work. Following approval of the workplan, the NAS Jacksonville Partnering Team (which includes the Navy, USEPA, and FDEP) agreed to implement several accelerated actions as identified in Chapter 8 of the workplan.

The accelerated actions undertaken at OU 3 addressed ten areas which had elevated concentrations of chlorinated hydrocarbons in the groundwater. A description of the field programs and a summary of the results are presented in the following documents:

- *Engineering Evaluation and Cost Analysis, Buildings 106 and 780 at Operable Unit 3, Naval Air Station Jacksonville, August 1995*
- *Engineering Evaluation of Areas With Elevated Groundwater Contamination, Operable Unit 3, Naval Air Station Jacksonville, Florida, Final Draft, July 1997.*

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The field programs associated with the accelerated actions provided additional understanding of subsurface conditions and contaminant characterization at OU 3. As a result, it was determined that some of the remedial investigation scope of work, as identified in Chapter 6 of the RI/FS workplan, was no longer required. Therefore, the purpose of this letter is to document the changes and/or deviations to the approved scope of work as presented in the March 1995 RI/FS Work and Project Management Plan for OU 3.

SUMMARY OF CHANGES TO FIELD PROGRAM

The following provides a summary of the changes and the rationale for making the change. (Table 6-1 in the RI/FS workplan lists those field activities which were projected as being needed when the workplan was prepared.)

OU 3 RI/FS Workplan

- Twenty-two pairs of piezometers (44 total piezometers) were to be installed around the perimeter of OU 3.

The purpose of the piezometers was to further define groundwater flow direction in the area of OU 3 and for use in calibrating the USGS groundwater flow model. The groundwater flow model, which provides groundwater flow direction, was able to be calibrated using the existing piezometer and monitoring well data. Based on a review by USGS, it was agreed that additional piezometers (other than the additional one in the deep zone) are not needed.

- Ten pairs of piezometers were to be installed within OU 3.

The purpose of these piezometers was to provide data to further evaluate groundwater flow characteristics for areas with anomalous water levels. Further evaluation of these areas by USGS, using both on-site observation and the groundwater model, has determined that infiltration of groundwater into the storm sewers is the cause of the anomalous water levels. Therefore, additional piezometers in these areas are not needed.

- No consideration was given to the storm sewers in the workplan.

RI Modification

- Only 1 additional deep piezometer will be installed outside of OU 3.

- No additional piezometers will be required in OU 3.

- Samples will be collected from the storm sewers, under dry weather flow conditions, at points both upgradient and downgradient of Areas A, E, F, and G.

As noted above, the U.S. Geological Survey (USGS) has determined that the storm sewers are acting as a conduit for some groundwater in the surficial aquifer. To assess whether the storm sewers are transporting contaminated groundwater from areas having elevated contamination (also referred to as hot spots), samples from within the storm sewers will be collected and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs). Since storm sewers are located relatively near Areas A, E, F, and G, and these are also areas in which the shallow groundwater is significantly contaminated, both upgradient and downgradient samples from each area will be collected and analyzed.

- Up to 272 direct push technology (DPT) locations and associated groundwater samples would be collected within OU 3.
- Forty-eight DPT points were completed and associated groundwater samples collected.

During the two field programs associated with accelerated actions (documented above), it was determined that groundwater contamination at OU 3 is located within discrete isolated areas. Since the groundwater contamination has been adequately characterized during these two previous investigations, no additional DPT points are warranted.

- Up to 102 monitoring wells (51 pairs) were projected to be needed in and around OU 3.
- Eleven monitoring wells were installed and 4 additional wells will be installed as part of the Phase 1 RI program.

Since the previous investigations determined that the groundwater contamination was mainly limited to the hot spots, a well has been installed within the center, or immediately adjacent to the contamination at each area. Further evaluation of the groundwater conditions indicate that, due to stratigraphy, groundwater movement is slow to very slow. Therefore, the only additional monitoring wells which will be necessary are the four wells which will be placed downgradient of selected hot spots: an intermediate depth well along the sea wall downgradient of Areas C and D; an intermediate depth well near the west end of Building 868, which is downgradient of Area F; and a shallow and intermediate depth well pair approximately 200 feet downgradient from monitoring well NARF B-1 (Area G).

- Groundwater samples from all 27 existing piezometers, 16 selected monitoring wells, and all new wells, were to be analyzed for full TCL/Target Analyte List (TAL) parameters.
- Groundwater samples were collected from 6 piezometers, 1 existing monitoring well, and the 6 new wells and were analyzed for TCL VOCs only. In addition, 1 deep monitoring well and the 3 intermediate depth wells at Area D will be sampled and analyzed for TCL VOCs. Also, four selected monitoring wells (3 shallow

and 1 intermediate depth) will be sampled and analyzed for TAL metals.

All groundwater samples (DPT samples) from the 1993 Scoping Study Field Program (SSFP) and extraction well samples from Areas A and D (collected in 1996) were analyzed for full suite TCL/TAL parameters. Results from these analyses did not detect semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), nor pesticides, which exceeded regulatory limits (except for three isolated shallow groundwater samples, which exceeded Florida's maximum contaminant level (MCL) for total petroleum hydrocarbons [TPH]). Based on this data, and since VOCs were the only organic contaminants in groundwater which were identified in the RI/FS Workplan as "Preliminary Chemicals of Potential Concern", there is no reason to expect that organic contamination other than VOCs would be found. Thus, only TCL VOC analysis is being done on groundwater from OU 3.

Samples from the extraction wells at Areas A and D did not reveal significant inorganic contamination in 1996. However, to further evaluate the concentration of metals in groundwater at OU 3, samples will be collected, using low flow sampling techniques, from four representative areas (Building 780 and Areas A, D, and F) and analyzed for TAL metals.

- Soil borings were to be advanced and soil samples collected at each monitoring well location and at potential sources of contamination (PSCs) 14 and 15.
- Subsurface soil samples were collected at four of the identified hot spots and at PSCs 12 and 14.

Laboratory analysis of the soil samples did not detect significant contamination, even in the hot spot areas. Based on this data, in conjunction with the approximately 80 soil samples that had been collected and analyzed previously, and the fact that OU 3 is, for the most part paved, it was agreed that no additional soil samples are required. Also, since no evidence of disposal was identified during the geophysical survey and test pitting operations at PSC 15 no soil borings were advanced nor soil samples collected in that area.

- Eight surface soil samples were to be collected and analyzed from PSC 15.
- No surface soil samples will be collected.

Since no evidence has been found which would indicate that surface disposal took place in the area around PSC 15, and since the OU is not expected to be converted to residential use anytime in the foreseeable future, surface soil samples in this area are not warranted. The only unpaved portion of this area is associated with a drainage ditch and the area which was investigated as part of the test pitting program.

- Nine surface water and sediment samples were to be collected along the southern boundary of the OU. In addition, 2 surface water and sediment reference samples were to be collected and analyzed. Also, 2 additional samples were to be submitted for toxicity testing.
- Ten surface water and sediment samples will be collected along the eastern and southern boundaries of the OU. In addition, 3 surface water and sediment reference samples will be collected and analyzed and 4 samples will be submitted for toxicity testing.

Since the USGS groundwater model has shown that groundwater and surface runoff is discharging into the St. John's River along the eastern and southern boundary of OU 3, surface water and sediment samples will be collected from both areas. Likewise, samples for toxicity testing will be collected from both areas as well as from the reference area (south of OU 3 in the river adjacent to the housing area).

The above changes to the workplan were presented by ABB-ES to the NAS Jacksonville Partnering Team, and received consensus by the partners on August 20, 1997 during the Partnering meeting in Tallahassee, Florida.

As per the request from Ms. Martha Berry (USEPA) and Mr. Jorge Caspary (FDEP), we have prepared this letter as a record of the scope changes to the OU 3 RI/FS Workplan.

If you have any questions concerning these changes please contact either Wayne Britton, Technical Lead, at (703) 769-8123 or me at (904) 269-7012.

Sincerely,

ABB Environmental Services



Phyllisa S. Miller
Task Order Manager

cc: Martha Berry, USEPA
Jorge Caspary, FDEP
Diane Lancaster, NAS Jacksonville
Hal Davis, USGS
ABB-ES - File