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NTC ORLANDO
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LETTER REGARDING POTENTIAL INTERIM REMEDIAL ACTION FOR SOIL REMOVAL AT
STUDY AREA 8 AND 9 NTC ORLANDO FL
9/15/1998
HARDING LAWSON ASSOCIATES



September 15, 1998

Commanding Officer
SOUTHNAVFACENCOM
2155 Eagle Drive
North Charleston, SC 29419-9010

ATTN: Ms. Barbara Nwokike, Code 187300

Subject: **NTC, Orlando Operable Unit (OU) 3
Potential Interim Remedial Action
Soil Removal at Study Areas 8 and 9
Contract: N62467-89-D-0317**

Dear Barbara:

At your request, Harding Lawson Associates (HLA) has prepared the following summary of conditions at Operable Unit (OU) 3, Study Areas 8 and 9 at NTC, Orlando. This information is intended to provide background for a potential interim remedial action (IRA) consisting of limited soil removals to be conducted by the Environmental Detachment Charleston. We recommend that this information be discussed with the OPT during the September meeting.

OU 3 is being evaluated under CERCLA provisions. Current status is that the draft Remedial Investigation (RI) report has been submitted, with review comments pending, and the draft Feasibility Study is being prepared for a November 1998 submittal. The data discussed herein were collected as part of the RI.

Soil sample analytical results were evaluated by comparing the concentration of the various compounds detected to screening criteria. Exceedances of regulatory screening concentrations are displayed near their respective explorations on the attachments (1 and 2). In addition, analytical results were used to support both human health and ecological baseline risk evaluations.

The following is an outline, by study area, of the areas to be evaluated for soil removal actions.

Study Area 9

RI sampling and analysis results indicated that the only area where soil contamination remains at concentrations exceeding screening values is within the channel of the shallow drainage swale along the eastern boundary of the study area (Attachment 1). Soil samples were collected from the interval of zero to one foot from the base of the channel. The swale is shallow, with gently sloping walls (approximate dimensions are 2 feet deep, 3 feet wide at the base, and 6 feet wide at the land surface).

A soil removal in the area indicated on the attachment would encompass an area of approximately 180 feet in length, 2 feet in depth, and 3 feet in width, for a total volume of 1,080 cubic feet or 40 cubic yards. In addition, any material that has accumulated in the culvert under Trident Lane should be flushed out and disposed of with the soil so that it cannot serve as a potential source to recontaminate the swale. The volume of material within the culvert is not known. This area encompasses the entire lower reach of the swale, north of Trident Lane, until the channel disorganizes and disappears into the bordering wetlands along Lake Baldwin. The removal should also include soil extending south from the culvert to approximately five feet beyond sample location 09S009. An excavation depth of two feet has been used for estimating purposes (double the sample depth and the limit of soils considered in evaluation of surface soil exposure pathways), although contamination in exceedance of screening criteria may be present at greater depth. The water table may be encountered during excavation (approximate depth to water is 2 to 5 feet below ground surface).

After excavation of soil from the designated area, an adequate number of confirmation samples should be collected and submitted to an approved offsite laboratory for analysis of arsenic and pesticides to verify that remediation goals have been achieved. HLA recommends that a sample be collected every 20 feet from both sidewalls, along the length of the excavation.

Study Area 8

RI sampling and analysis results indicated that soil contamination remains at concentrations exceeding screening values across most of the study area (Attachment 2). The primary contaminant of concern across most of the site is arsenic. Soil samples were collected from the interval of zero to one foot below ground surface at all locations indicated. In order to focus soil removal actions on areas where limited removal will have the greatest impact on reducing overall risk, while at the same time minimizing disruption, HLA proposes soil removal centered on seven individual sample locations within the fenced compound, and excavation of the surface drainage pathway between the fence and the Mower Storage Building, encompassing three sample locations.

The individual sample locations proposed for "hot spot" removal include (from north to south):

| | |
|--------|--------|
| 08S023 | 08S025 |
| 08S028 | 08S031 |
| 08S029 | 08S041 |
| 08S044 | |

Soil removals should be centered on the sample locations and extend equidistant to cover a five- by five-foot area. Where building foundations or fencelines impede the dimensions of the excavation, they should be offset in the available directions. Excavations should extend to a depth of two feet (double the sample interval depth and the extent of soils considered in risk evaluations of surface soil exposures).

Elevated arsenic concentrations were also detected in three surface soil samples collected in a drainage pathway, between the fence and the south side of the Mower Storage Building, in the southwestern corner of the compound. These locations are 08S033, 08S034, and 08S035. Soil removal in this area should encompass the entire surface between the building and the fence (north and south), and from the western fence boundary to the access road to the east. This area is approximately 90 feet long and 10 feet wide.

Groundwater is not likely to be encountered in any of these excavations. Total estimated soil to be removed from the seven individual hotspots (5 ft by 5 ft by 2 ft) is 350 cubic feet. Total estimated soil to be removed from the drainage pathway is 1800 cubic feet (90 ft by 10 ft by 2 ft). The total estimate for soil removal at Study Area 8 is 2,150 cubic feet or approximately 80 cubic yards.

After excavation of soil from the designated areas at Study Area 8, an adequate number of confirmation samples should be collected and submitted to an approved offsite laboratory for analysis of arsenic, lead, and/or pesticides (depending on the original contaminants of concern at each location) to verify that remediation goals have been achieved. HLA recommends that a minimum of one sample be collected from each excavation sidewall, with at least four samples collected from each sidewall of the long excavation.

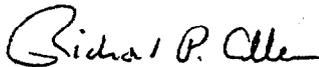
All excavations should be returned to original grade and slope, using clean fill material of comparable grade to the native (sandy) soil. All excavations should also be reseeded to stabilize the surface.

HLA wishes to emphasize that the data OU3 were collected under the CERCLA Program and were intended to characterize the sites and identify areas where environmental media had contaminant concentrations that potentially pose an unacceptable risk to human health or the environment. We recommend that the Navy solicit public comment prior to the implementation of a potential IRA to maintain the spirit of the CERCLA process. The RI data were not intended to delineate soil contamination "hot spots" for the express purpose of soil removal, and, as such, the estimated dimensions and volumes of soil to be excavated should be considered as rough estimates only. In addition, any future soil removal should be accompanied by the collection of an adequate number of confirmation samples to verify that concentrations in remaining soils meet established remediation goals. Further, any remedial actions that occur from this point forward will delay the submittal of the Final RI/FS report for OU 3 because revisions, including complete recalculations of risk associated with surface soil at both study areas will be required.

Should you have any questions or need additional information, please call me at (904) 269-7012.

Very Truly Yours,

Harding Lawson Associates



Richard P. Allen
Technical Lead

Attachments

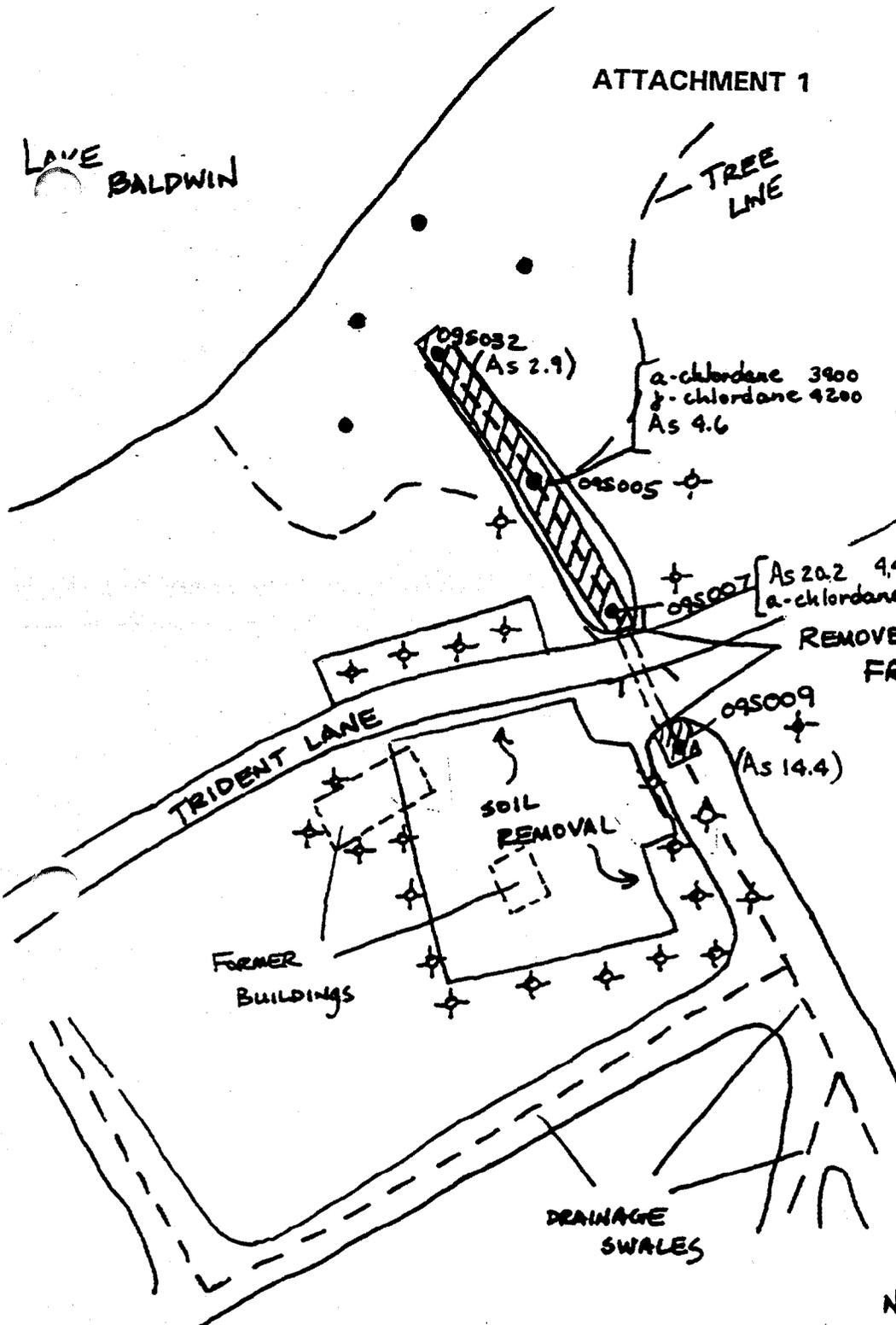
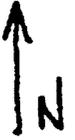
soilrem.doc

PROPOSED SOIL REMOVAL
STUDY AREA 9
OU 3, NTC ORLANDO

ATTACHMENT 1

LAKE BALDWIN

TREE LINE



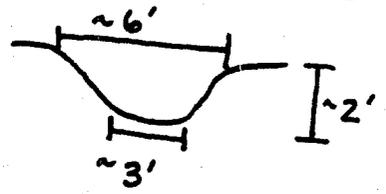
- SAMPLE LOCATIONS EXCEEDING CRITERIA
- ⊕ RI SAMPLE LOCATIONS BELOW SCREENING CRITERIA



AREA OF PROPOSED SOIL REMOVAL

Inorganics - mg/kg
Organics - μg/kg

NOTE: APPROXIMATE DIMENSION OF DRAINAGE SWALE



SCALE: 1 INCH = 60 FEET

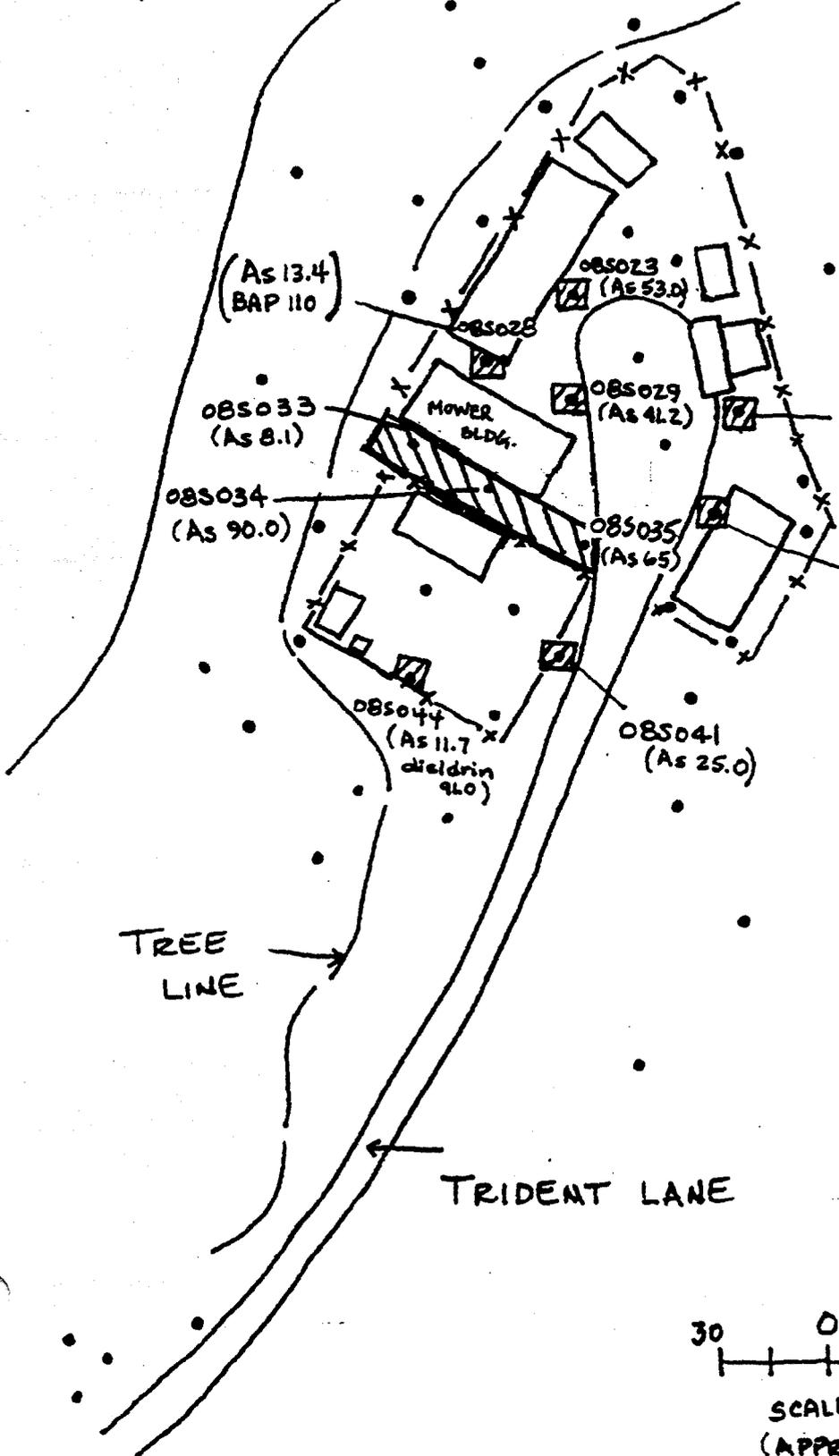




ATTACHMENT 2

PROPOSED SOIL REMOVAL STUDY AREA 8 OU3, NTC ORLANDO

LAKE
BALDWIN



(As 13.4)
BAP 110

OBS023
(As 53.0)

OBS033
(As 8.1)

MOWER
BLDG.

OBS029
(As 41.2)

OBS025
(Pb 541.0)

OBS034
(As 90.0)

OBS035
(As 65)

OBS031
[As 39.2
a-chlordane 3700
γ-chlordane 2900
heptachlor 680
heptachlor epoxide 130]

OBS044
(As 11.7
dieldrin
940)

OBS041
(As 25.0)

TREE
LINE

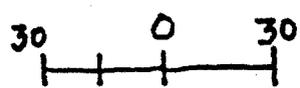
inorganic concentrations
in mg/kg
organic concentrations - μg/kg

FENCELINE

• RI SAMPLE LOCATIONS

 AREA OF PROPOSED
SOIL REMOVAL

TRIDENT LANE



SCALE
(APPROX)

9/98