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WORK PLAN

SOIL CONTAMINATION REMOVAL  
SITE 20 - GRIT BLASTING AREA AT BUILDING 544

NAVAL WEAPONS STATION EARLE  
COLTS NECK, NEW JERSEY

AUGUST 1994

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## I. OBJECTIVE

Site 20 includes a small pile at the southeast corner of Bldg. 544 (approximately 10 feet in diameter and 1 foot high) of spent blasting grit. The Remedial Investigation of the site found elevated levels of chromium, copper, nickel, lead and zinc in the pile. Traces of blasting grit are also evident on the soil surface near the pile. Surface drainage at the site discharges to a potentially critical marsh area northeast of the site by way of a shallow drainage ditch. The objective of this removal action is to minimize the threat to the marsh area by removing an obvious source of contamination. The grit pile and any impacted soils will be excavated and disposed off-site in accordance with appropriate RCRA standards as determined by chemical analysis.

The New Jersey Non-Residential Surface Soil Clean-up Standards and NOAA's Sediment Quality Criteria (Effects Range - Low) will be used as clean up criteria for this removal. These standards were chosen because there is limited threat of human exposure, but there is a significant possibility of impact to wetlands. Since a significant color difference exists between the black beauty grit and the indigenous soils the extent of the excavation will be determined by visual observation. All visible traces of the grit will be removed and then the soil will be sampled to determine remaining contaminant levels.

## II. SCOPE OF WORK

The scope of this project can be divided into six elements. All work will be performed in accordance with the site Health & Safety Plan (Appendix A). Work will be performed by NWS Earle Public Works Department personnel under the direction of a training contractor familiar with removal operations. A list of all personnel involved in this removal action is included as Appendix B.

### A. Mobilization

The mobilization phase will include delivery of a front-end loader and a support trailer to the site. The support trailer will include shower, changing, and sanitary facilities. A water connection will be established from a hydrant located at the site along Midway Road approximately 1/2 mile south of Esperance Road.

Even though Site 20 is in a restricted access area, security and operational zones for the removal action will be established during the mobilization phase. Site access will be controlled at the site entrance on Normandy Road. An exclusion zone will be delineated around the areas to be excavated.

A stockpile area will be established within the exclusion zone east of Bldg. 544. A contamination reduction corridor will be established southwest of Bldg. 544. The command post, equipment staging area and support trailer will be located between Bldg. 544 and Midway Road. Figure 1 shows the proposed site layout.

#### B. Excavation and Stockpiling

The grit pile and areas of impacted soil will be excavated using a front-end loader. Approximately 100 cubic yards are expected to be removed. These materials will be deposited upon a tarpaulin within the stockpile area. Fugitive dust emissions from the excavation area and the stockpile will be controlled by a water spray. At the end of each day's activities, another tarpaulin will be secured over the stockpile. Erosion of the excavated area will be controlled by silt fencing (Figure 2).

#### C. Sampling and Analysis

Sampling kits will be supplied by the laboratory contracted for analysis. This laboratory will be a participant in the EPA Contract Laboratory Program for metals and semi-volatiles. The sampling kits will be packaged in coolers and include appropriate sample containers, preservatives and Chain of Custody records. The sampling containers will be cleaned in accordance with OSWER Directive 9240.0-05A. The laboratory will also provide "demonstrated analyte-free water" for equipment decontamination.

Samples will be collected using a soil auger for deep (6-24 inches) samples of the excavated material and a hand trowel for surface soil samples at the base of the excavation. Sampling equipment will be decontaminated between each sampling point using the following sequence.

- (1) Potable water and non-phosphate detergent wash
- (2) Potable water rinse
- (3) Distilled/deionized water rinse
- (4) 10% nitric acid rinse
- (5) Distilled/deionized water rinse
- (6) Acetone (pesticide grade) rinse
- (7) Total air dry
- (8) Distilled/deionized water rinse
- (9) Wrap sampling device in clean aluminum foil if not to be immediately reused

6 composite samples will be taken from the stockpile to characterize the waste for disposal. These samples will be collected in 500-ml amber glass jars with teflon lined lids and analyzed for RCRA characteristics of ignitability, corrosivity, reactivity, and toxicity in accordance with EPA SW-846. The samples will also be analyzed for PCBs to determine the feasibility of recycling into asphalt mix.

Soil samples will be taken at 12 locations at the base of the excavated areas to confirm removal of contaminants. Each of these samples will be analyzed for metals and semi-volatile organics. These parameters were chosen based on sampling results from the Remedial Investigation and the known history of the site which indicated no other disposal. Metals samples will be collected in 250-ml amber glass jars with teflon lined lids and analyzed in accordance with EPA CLP ILM01.0 (3/90 SOW). Semi-volatile organic samples will be collected in 500-ml amber glass jars with teflon lined lids and analyzed in accordance with EPA CLP OLM01 (6/91 SOW).

Quality control samples will be performed. 3 duplicate semi-volatile organic samples and 2 duplicate metals samples will be taken. Field blank samples will also be collected. A summary of parameters, holding times, preservation requirements, and sample bottle information is presented below.

#### SAMPLING PARAMETERS

<u>Parameter</u>	<u>Container</u>	<u>Preservation</u>	<u>Holding Time</u>
TCL SVOC (Soils)	1 500-ml amber glass, with teflon lined lid	Cool, 4°C	Extract within 5 days, analyze within 40 days
(Field blank)	4 1-l amber glass, with teflon lined lid	Cool, 4°C	Extract within 5 days, analyze within 40 days
TAL Metals (Soils)	1 250-ml amber glass, with teflon lined lid	Cool, 4°C	180 days
(Field blank)	1 1-l high density polyethylene	HNO <sub>3</sub> pH<2 Cool, 4°C	180 days
RCRA Char.	1 500-ml amber	None	180 days
PCBs	1 250-ml amber glass, with teflon lined lid	Cool, 4°C	180 days

Each sample collected will be assigned a unique field sample number. All relevant information for sample identification will be recorded in the field logbooks and on sample log sheets. Sampling locations will be recorded as accurately as possible on the site sketch by measuring distances and compass directions to permanent site features such as building 544.

Chain of Custody sample forms shall be completed including project name, sample number, source of the sample, location of the sampling point, description of the location, matrix of the sample and the type of sample (grab, composite, etc.)

Similar information will also be provided on the sample label which will be securely attached to the sample bottle. The label will also include a description of the analyses to be performed on the sample. Samples will be placed into the coolers and cooled to 4 degrees C using sealed coolants.

Samples shall be accompanied from the sampling site to the laboratory by a Chain of Custody record. Relinquishing and receiving individuals will each sign and date the form and note the time when custody is transferred.

Data validation for the verification samples will be performed by the Navy's RI/FS contractor prior to completion of the risk assessment for Site 20.

#### D. Backfilling

The site will be backfilled where necessary upon receipt of confirmation sample analyses unless additional soil excavation is warranted by the analyses. Fill material will be obtained from an on-site borrow area in a remote section of NWS Earle. This fill material will be sampled to determine background metals concentrations prior to use at Site 20.

#### E. Disposal

Stockpiled soils and blasting grit will be disposed based upon the RCRA analyses. If the waste is classified as New Jersey Class ID27, it will be transported by 3 Navy-owned dump trucks registered for this waste to Monmouth County landfill. If it is classified as any other RCRA waste, disposal will be accomplished through a permitted transporter to an appropriately permitted Treatment, Storage, and Disposal Facility (TSDF). All necessary manifesting procedures will be followed.

#### F. Decontamination

All site workers will be required to undergo decontamination each time they leave the exclusion zone as outlined in the Health & Safety Plan (Appendix A). Disposable protective clothing will be placed into containers for disposal as contaminated materials.

Equipment used in the exclusion zone will be decontaminated with a soap solution when removed from the zone. All wash and rinse waters will be containerized and analyzed for proper disposal.

## III. SCHEDULE

(pending Defense Environmental Restoration Account funding)

Mobilization	7 days after Public Comment period
Excavation & Stockpiling	11 days after Public Comment period
Sampling	11 days after Public Comment period
Analyses	18 days after Public Comment period
Backfilling	20 days after Public Comment period
Disposal	28 days after Public Comment period (if Navy vehicles to Landfill) 60 days after Public Comment period (if Contract disposal)