



DEPARTMENT OF THE NAVY

NORTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
BUILDING 77L, U.S. NAVAL BASE  
PHILADELPHIA, PENNSYLVANIA 19112-5094

N60478.AR.000111  
NWS EARLE  
5090.3a

5090 IN REPLY REFER TO  
Ser 1287/1421/GFH  
29 JUN 1991

State of New Jersey  
Department of Environmental Protection  
Division of Hazardous Waste Management  
Attn: Joseph Freudenberg  
CN 028  
Trenton, NJ 08625-0028

Re: INSTALLATION RESTORATION PROJECT, NAVAL WEAPONS STATION  
(NWS) EARLE, COLTS NECK, NJ

Dear Mr. Freudenberg:

This letter forwards an addendum to the Remedial Investigation (RI) Work Plan of January 1991 for the subject project. These corrections are in response to the New Jersey Department of Environmental Protection's review comments dated February 8, 1991.

As requested, we have revised Section 4.5.2.3, Sediment and Soil Criteria, page 30; Table 4-7, pages 31 & 32; and Section 5.5.1, Site 4, Table 5-9, page 5-25 of the RI Work Plan. This addendum replaces the corresponding pages in the existing RI Work Plan.

If you have any questions please contact me at (215) 897-6432.

Sincerely,

Gerald F. Hoover  
Remedial Project Manager  
By direction of the Commanding Officer

Encl:  
(1) Addendum to RI Work Plan

Copy to:  
EPA Region II, Paul Ingrisano  
NWS Earle, Greg Goepfert  
NWS Earle, Pat Muldrow



WESTON WAY  
WEST CHESTER, PA 19380  
PHONE: 215-692-3030  
TELEX: 83-5348

9 MAY 1991

Jerry Hoover  
Northern Division  
NAVAL FACILITIES ENGINEERING Command  
Building 77L. U.S. Naval Base  
Philadelphia, PA 19112-5094

Dear Jerry,

Enclosed, are the revisions to Section 4.5.2.3, Sediment and Soil Criteria, page 4-30 and Section 5.5.1, Site 4, Table 5-9 of the RI Work Plan. These revisions are in response to the comments presented by NJDEP (see attachment). The revisions should be incorporated into the Work Plan in place of the existing sections.

This information should be forwarded to J. Freudenburg, at NJDEP. If you have any questions concerning this submittal, please contact me at (215) 430-7256.

Very truly yours,

ROY F. WESTON, INC.

John A. Williams, Jr.  
Senior Project Geologist  
Geosciences Department

JAW/

Attachment

cc: E. Neilands - NAVFAC  
R. Johnson - Weston

Internal Copy to: (w/encl)  
Jerry Hoover  
Nick Stencel



reflect location conditions. Under SARA, however, remedial actions must attain a level or standard of control equivalent to these criteria, unless a waiver has been granted.

The water quality criteria are generally represented in categories that are aligned with different surface water use designations. Concentrations are specified which, if not exceeded, should protect most aquatic life against acute toxicity or chronic toxicity (24-hour average). Specific criteria have not been established for many chemical compounds because of insufficient data.

Under the New Jersey Water Pollution Control Act, the State has set criteria for surface water based on classification. Mine Brook, Hockhockson Brook, and Pine Brook have been classified FW2 (general freshwater).

Non-point discharges from the sites to surface waters and storm water sewers may be regulated under the Sewage Infrastructure Improvement Act.

#### 4.5.2.3 Sediment and Soil Criteria

The Toxicity Characteristic Leaching Procedure (TCLP), "Test Method for Evaluating Solid Waste" (SW 846-Method 1311) provides an indication of contaminant mobility and is used to determine whether wastes are considered hazardous wastes. Under the TCLP, the extraction from a representative sample of the waste is analyzed for the contaminants, included in Table 4-7. The solid wastes are classified as non-hazardous if the contaminant concentrations are below the limits given in Table 4-7. These limits are 100 times higher than the primary drinking water standard. The TCLP criteria can be used to determine whether waste is non-hazardous and to assess the potential impact from precipitation infiltration through the waste to shallow groundwater underlying the waste. These standards will be appropriate for comparison of remedial alternatives for contaminated soils and sediments.

Currently, under the new TCLP contaminant category, 25 new petrochemicals, including volatile and acid extractable or base neutrals have been added.

Acceptable levels of some organic hazardous constituents have been established for the disposal of spent solvent wastes, based on the amount of the constituents released from these compounds during the toxicity characteristic leaching procedure (TCLP) (see Table 4-7).

New Jersey cleanup levels for sediments and soils are generally determined based on background levels for inorganics and risk assessment for organics. In their absence, NJDEP has established surrogate or action levels to guide cleanups (see Table 4-8).

In addition to levels applicable to specific contaminants, levels for compound groups in soils have been established: 1 ppm total volatile organics, 10 ppm total base-neutral/acid-extractable organics, and 100 ppm total petroleum hydrocarbons, unless primarily benzene or polynuclear aromatic hydrocarbons (PAHs).

Table 4-7

**Maximum Concentration of Contaminants for  
Toxicity Characteristic Leaching Procedures\***

EPA Hazardous Waste Number	Contaminant	Chronic Toxicity Reference Level (mg/L)	Regulatory Level (mg/L)	EPA Hazardous Waste Number	Contaminant	Chronic Toxicity Reference Level (mg/L)	Regulatory Level (mg/L)
<u>Metals</u>				<u>Herbicides</u>			
D004	Arsenic	0.05	5.0	D016	2,4-D	0.1	10.0
D005	Barium	1.0	100	D017	2,4,5-TP (silvex)	0.01	1.0
D006	Cadmium	0.01	1.0	<u>Base-Neutrals</u>			
D007	Chromium	0.05	5.0	D027	1,4-Dichlorobenzene	0.075	7.5
D008	Lead	0.05	5.0	D030	2,4-Dinitrotoluene	0.0005	0.13
D009	Mercury	0.002	0.2	D032	Hexachlorobenzene	0.002	0.13
D010	Selenium	0.01	1.0	D033	Hexachloro-1,3-butadiene	0.005	0.5
D011	Silver	0.05	5.0	D034	Hexachloroethane	0.03	3.0
<u>Acid-Extractables</u>				D038	Pyridine	0.04	5.0
D023	o-Cresol	2	200.0	<u>Pesticides</u>			
D024	m-Cresol	2	200.0	D012	Endrin	0.0002	0.02
D025	p-Cresol	2	200.0	D031	Heptachlor	0.00008	0.0008
D026	Cresol	2	200.0	D013	Lindane	0.004	0.4
D037	Pentachlorophenol	1	100.0	D014	Methoxychlor	0.1	10.0
D041	2,4,5-Trichlorophenol	4	400.0	D015	Toxaphene	0.005	0.5
D042	2,4,6-Trichlorophenol	0.02	2.0				

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\*Adapted from Haztech International News, March, 1991, "A Fixation Technology Challenge: Metals with Organics".

**Table 4-7**  
(continued)

EPA Hazardous Waste Number	Contaminant	Chronic Toxicity Reference Level (mg/L)	Regulatory Level (mg/L)	EPA Hazardous Waste Number	Contaminant	Chronic Toxicity Reference Level (mg/L)	Regulatory Level (mg/L)
<u>Volatiles</u>							
D018	Benzene	0.005	0.5	D029	1,2-Dichloroethylene	0.007	0.7
D019	Carbon tetrachloride	0.005	0.5	D035	Methyl Ethyl Ketone	2	200.0
D020	Chlordane	0.0003	0.03	D036	Nitrobenzene	0.02	2.0
D021	Chlorobenzene	1	100.0	D039	Tetrachloroethylene	0.007	0.7
D022	Chloroform	0.06	6.0	D040	Trichloroethylene	0.005	0.5
D028	1,2-Dichloroethane	0.005	0.5	D043	Vinyl Chloride	0.002	0.2

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\*Adapted from Haztech International News, March, 1991, "A Fixation Technology Challenge: Metals with Organics".

Table 5-9

**Analytical Results for Groundwater Samples Collected in July 1986 -- Site 4,  
NWS Earle, Colts Neck, NJ**

Analyte	4-1	4-2	4-3	Regulatory Limit
Total organic halogens ( $\mu\text{g/L}$ )	17.0	18.0	17.0	NRC
Total organic carbon (mg/L)	1.94	4.74	2.15	NRC
Volatile organic compounds ( $\mu\text{g/L}$ )	ND	ND	ND	10
Petroleum hydrocarbons (mg/L)	ND	ND	ND	1
Pesticides ( $\mu\text{g/L}$ )	ND	ND	ND	Compound specific
Nitrate/nitrite (mg/L)	ND	ND	ND	10
<u>Base/neutral/acid compounds</u> ( $\mu\text{g/L}$ )	---	ND	ND	100
Bis(2-ethylhexyl) phthalate	53	ND	ND	---
<u>Soluble metals</u> (mg/L)				
Antimony	ND	ND	ND	NRC
Arsenic	ND	ND	ND	0.050
Beryllium	ND	ND	ND	NRC
Cadmium	ND	ND	ND	0.010

\*Field measured

ND - Not detected

NR - Analysis not requested

NRC - No specific regulatory concentration