



DEPARTMENT OF THE NAVY

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE, INDIANA 47522-5000

IN REPLY REFER TO
5090
095/8044
10 MAR 1998

Indiana Department of Environmental Management
Solid and Hazardous Waste Management
Solid Waste Facilities Branch
Attn: Laura Steadham, Acting Chief
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

Dear Ms. Steadham:

Regarding the telephone conversation held on December 9, 1997 with Mr. Bill Holland, Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane) is submitting an Insignificant Modification for the NAVSURFWARCENDIV Crane Sanitary Landfill. This Insignificant Modification is to inform the Indiana Department of Environmental Management of intentions by NAVSURFWARCENDIV Crane to use composted soils as daily cover for the NAVSURFWARCENDIV Crane Sanitary Landfill.

The composted soils are a result of a composting treatment facility designed for use on explosive contaminated soils. The Interim Measures Cleanup involves four Solid Waste Management Units, which include approximately 16 acres, or 110,000 cubic yards of explosives contaminated soil to be treated. In a joint effort by NAVSURFWARCENDIV Crane and the United States Environmental Protection Agency (U.S. EPA) Region V, an Interim Measures Cleanup utilizing the composting process was developed. Initially, a Pilot Scale test was conducted which involved several small test piles consisting of different compost mixtures to determine the correct composting mixture to use on soils found at NAVSURFWARCENDIV Crane. The U.S. EPA Region V has approved the Full Scale Operations Plan, which details the operation of the composting facility. The Operations Plan describes the optimized mixture of amendments and explosives contaminated soils that are blended and monitored daily to successfully reduce the explosive contaminants to industrial cleanup standards. The industrial cleanup standards, based on Table 1-2 from the Full Scale Operations Plan, as approved by the U.S. EPA Region V, are attached as enclosure (1).

After the soil has been successfully treated, the soil will then be stockpiled at the NAVSURFWARCENDIV Crane Sanitary Landfill for use as daily cover. The stockpile would be positioned as close as possible to the current operating area without obstructing operations. Erosion at the NAVSURFWARCENDIV Crane Sanitary Landfill will be held at a minimum by using silt-fencing around, and diverting surface water from, the stockpile area.

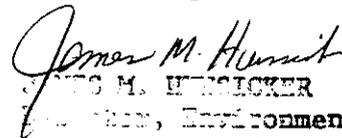
5090
095/8044

10 MAR 1988

Due to the large quantities of soils being treated, it was not desirable to use all the soil as daily cover. Therefore, at the end of the first cycle of the Full Scale activities, toxicity tests will be performed on the composted soil according to the approved Operations Plan. The results of the toxicity tests will determine whether or not treated soil meeting the remedial goals can be used for approved land use options or as backfill at the original excavation sites.

NAVSURFWARCENDIV Crane point of contact is Mr. Robert E. Lee, Code 0958, telephone 812-854-6158, or Ms. Christine D. Freeman, Code 09511, telephone 812-854-4423.

Sincerely,


JAMES M. HENSICKER

Commander, Environmental Protection Department
in Charge of
the Commander

Encl:

(1) Table 1-2 Industrial Cleanup Standards

Copy to:

ADMINISTRATIVE RECORD

IDEM (S. Riddle)

IDEM (M. Timmermann)

MK Crane

NAVSEASYSKOM (SEA 00T)

NAVSURFWARCENDIV Crane (0958)

NAVSURFWARCENDIV Crane (ROICC)

SOUTHNAVFACENGCOM (CODE 1864)

USEPA Region V (DRP-8J)

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
EXPLOSIVES							
Pentaerythritol tetranitrate (PETN)	X	X	X	X	To be determined by U.S. EPA 1998	8330	0.25
2,4,6-trinitrotoluene (TNT)	X	X	X	X	64	8330	0.50
Cyclotrimethylene trinitramine (RDX) (Hexahydro 1,3,5 trinitro 1,3,5 triazine)	X	X	X	X	17	8330	0.625
Cyclotetremethylene tetranitramine (HMX) (Octahydro 1,3,5,7 tetranitro 1,3,5,7 tetrazocine)	X	X	X	X	34,000	8330	1.60
Tetryl (Methyl 2,4,6 trinitro phenylnitroamine)	X	X	X	X	6,800	8330	0.38
Trinitrobenzene (TNB)	X	X	X	X	34	8330	0.575
1,3-Dinitrobenzene (DNB)	X	X	X	X	68	8330	0.49
1,2 DNB	X	X	X	X	270	8330	#
1,4 DNB	X	X	X	X	270	8330	#
Nitrobenzene (NB) [#]	X	X	X	X	94	8330	0.26
Dinitrotoluene (DNT) (total)	X	X	X	X	2.8	8330	0.63
4-Amino 2,6 Dinitrotoluene (4-Am DNT)	X	X	X	X	680 **	8330	0.45

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
2-Amino 4,6 Dinitrotoluene (2-Am DNT)	X	X	X	X	1,400 ***	8330	0.40
2,4 DNT	X	X	X	X	1,400	8330	0.24
2,6-DNT	X	X	X	X	680	8330	0.39
2-nitrotoluene (2 NT)	X	X	X	X	6,800	8330	0.72
3 NT	X	X	X	X	6,800	8330	0.50
4 NT	X	X	X	X	6,800	8330	0.48

NOTES: MA = Mine Fill A, MB = Mine Fill B, ABG = Ammunition Burning Ground, and RE = Rockeye.

X = Parameter is a Chemical of Concern at the SWMU.

1. Analytical methods listed above are SW-846 methods, unless otherwise indicated.

* = Region 9 Preliminary Remedial Goal (PRG) value.

** = Using 2,6 DNT as the surrogate for toxicity potential.

*** = Using 2,4 DNT as the surrogate for toxicity potential.

= Not currently analyzed by proposed method.

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
METALS							
Aluminum	X	X	X	X	100,000	6010	15.0
Antimony			X	X	680	6010	6.0
Arsenic	T	T	X T	X T	2.4	7060	0.80
Barium	X T	X T	X T	X T	100,000	6010	1.0
Beryllium			X	X	1.1	6010	0.5
Cadmium	X T	X T	X T	X T	850	6010	0.5
Chromium (total)	X T	X T	X T	X T	450	6010	1.0
Cobalt			X	X	97,000	6010	2.5
Copper			X	X	63,000	6010	2.5
Iron				X	EN-BG	6010	10.0
Lead	X T	X T	X T	X T	1,000	6010	10.0
Magnesium				X	EN-BG	6010	50.0
Nickel			X	X	34,000	6010	4.0
Zinc			X	X	100,000	6010	2.0
Mercury	X T	X T	X T	X T	510 **	7471	0.033

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
Selenium	T	T	T	T	8,500	6010	25.0
Silver	T	T	T	T	8,500	6010	1.0
Manganese			X		43,000 *	6010	1.0
Thallium			X		140 *	6010	25.0
Vanadium			X		12,000 *	6010	2.0
Cyanide			X		14,000 *	9010	0.50

NOTES: MA = Mine Fill A, MB = Mine Fill B, ABG = Ammunition Burning Ground, and RE = Rockeye.
 X = Parameter is a Chemical of Concern at the SWMU.
 T = Parameter is a TCLP parameter for waste characterization.
 1. Analytical methods listed above are SW-846 methods, unless otherwise indicated.
 * = Region 9 PRG.

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
VOLATILE ORGANICS							
Dichloromethane (methylene chloride)	X	X	X		18	8260	0.005
Acetone	X	X	X		8,800	8260	0.005
Methyl ethyl ketone (2 - butanone)	X T	X T	X T		27,000	8260	0.005
Methyl isobutyl ketone (4 - methyl -2- pentanone)	X	X			2,800	8260	0.005
Toluene	X	X			880	8260	0.005
Xylene (total)	X	X		X	320	8260	0.005
Trans 1,3 dichloropropene				X	0.55 *	8260	0.005
1,1,1 Trichloroethane			X	X	3,000	8260	0.005
1,1,2 Trichloroethane			X	X	1.5	8260	0.005
1,1 Dichloroethylene			X		0.08 *	8260	0.005
1,2 Dichloroethylene			X		0.55 *	8260	0.010
Trichloroethylene (TCE)			X		7 *	8260	0.005
1,1,2,2 Tetrachloroethane			X T		1.1 *	8260	0.005
Vinyl Chloride			X T		0.035 *	8260	0.005
Chloroethane			X		1,600 *	8260	0.005

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
Chloroform	T		X T		0.53 *	8260	0.005
Tetrachloroethylene			X		17 *	8260	0.005
1,2 Dichloroethane	T				0.55 *	8260	0.005
1,1 Dichloroethane	T				1,700 *	8260	0.005

NOTES: MA = Mine Fill A, MB = Mine Fill B, ABG = Ammunition Burning Ground, and RE = Rockeye.
 X = Parameter is a Chemical of Concern at the SWMU.
 T = Parameter is a TCLP parameter for waste characterization.
 1. Analytical methods listed above are SW-846 methods, unless otherwise indicated.
 * = Region 9 PRG.

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
SEMI-VOLATILE ORGANICS							
Phenanthrene				X		8270	0.33
Fluoranthene				X	27,000	8270	0.33
Pyrene				X	100	8270	0.33
Bis (2-ethylhexyl) phthalate			X		140 *	8270	0.33
di-n-butyl phthalate			X		68,000 *	8270	0.33
N-Nitrosodiphenylamine			X		390 *	8270	0.33
Benzo (b) fluoranthene			X		2.6 *	8270	0.33
4 - Nitrophenol			X		NA	8270	1.60
Benzo (a) anthracene			X		2.6 *	8270	0.33
Chrysene			X		7 *	8270	0.33

NOTES: MA = Mine Fill A, MB = Mine Fill B, ABG = Ammunition Burning Ground, and RE = Rockeye.
 X = Parameter is a Chemical of Concern at the SWMU.
 T = Parameter is a TCLP parameter for waste characterization.
 1. Analytical methods listed above are SW-846 methods, unless otherwise indicated.
 * = Region 9 PRG.

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
POLYCHLORINATED BIPHENYLS (PCBs)							
Arochlor 1242		X			0.34 #	8081	0.033
Arochlor 1254		X			19 #	8081	0.067
Arochlor 1260		X			0.34 #	8081	0.067

NOTES: MA = Mine Fill A, MB = Mine Fill B, ABG = Ammunition Burning Ground, and RE = Rockeye.
 X = Parameter is a Chemical of Concern at the SWMU.
 T = Parameter is a TCLP parameter for waste characterization.
 1. Analytical methods listed above are SW-846 methods, unless otherwise indicated.
 # = This is probably a single assay for PCBs; you cannot analyze PCBs in an old release to soil by assuming that the PCB congener/chlorine content will be similar to the original commercial product.

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Parameter	SWMU Parameter Applicable To				IM Industrial Cleanup Goal (Human Health Only) (mg/kg)	Method of Analysis ¹	Analytical Reporting Limit (mg/kg)
	M A	M B	A B G	R E			
DIOXINS							
2,3,7,8 TCDD equivalents			X *		0.005 - 0.020 +	8290	0.000001

NOTES: MA = Mine Fill A, MB = Mine Fill B, ABG = Ammunition Burning Ground, and RE = Rockeye.
 X = Parameter is a Chemical of Concern at the SWMU.
 T = Parameter is a TCLP parameter for waste characterization.
 * - Dioxin Soil Sampling is limited to a proximity around solvent burning areas.
 1. Analytical methods listed above are SW-846 methods, unless otherwise indicated.
 + = This is U.S. EPA remedial policy for industrial areas (5-10 parts per billion); However, U.S. EPA may elect to adopt a more stringent State standard if one is available.

**TABLE 1 - 2
INDUSTRIAL USE SOIL REMEDIAL GOALS,
SWMU-SPECIFIC CHEMICALS OF CONCERN,
AND ACCEPTABLE REPORTING LIMITS
NAVAL SURFACE WARFARE CENTER - CRANE**

Preliminary Exposure Scenarios and Land Use Options:

These values only address direct inhalation and ingestion.

Worker safety is not addressed.

No cumulative risk is calculated.

No agricultural crop use is allowed.

No residential use is allowed.

No gardening or food chain use is allowed.

No animal grazing is allowed.

No site-specific risk assessment values are calculated.

Leaching and ground water impacts at the disposal site are not addressed.

Uncontrolled use of soil is not allowed without restrictions.

Industrial construction exposure is not addressed.