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G-000-704 .46

**RECLASSIFICATION OF THE BIO-SURGE LAGOON (HAZARDOUS
WASTE MANAGEMENT UNIT 40)**

07/06/94

DOE-2043-94
DOE-FN OEPA
14
LETTER



Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
Cincinnati, Ohio 45239-8705

JUL 06 1994
DOE-2034-94

DOE-2034-94

Mr. Mark Metcalf, Group Leader
Southwest District Office
Division of Hazardous Waste Management
Ohio Environmental Protection Agency
401 East Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Metcalf:

RECLASSIFICATION OF THE BIO-SURGE LAGOON (HAZARDOUS WASTE MANAGEMENT UNIT 40)

Reference: Letter, C:OP:93-0737, from N.K. Kaufman, FERMCO and Thomas J. Rowland, DOE, dated May 13, 1993

In the referenced letter the Fernald Environmental Management Project (FEMP) concluded that wastewaters managed in its Wastewater Treatment System (WWTS) met the conditions of the Mixture Rule Exclusion (OAC 3745-51-03 (A)(2)(e)) and the surface impoundments in the WWTS were not considered to be hazardous waste management units (HWMUs) due to the potential treatment of spent solvents. The FEMP also stated that the Bio-Surge Lagoon (BSL) would continue to be classified as a HWMU due to the uncertainty of the characteristics of the sludge in the unit, until such time a final determination of the unit status could be made based on sampling and analysis.

The uncertainty about the sludge in the BSL came about from analysis of sludge previously removed from the unit. In 1987, 2041 drums of sludge were collected from the Bio-Surge Lagoon as part of the BSL upgrade project. Composite samples of the sludge were analyzed in 1992 using the Toxicity Characteristic Leaching Procedure (TCLP). Benzene (D018) and tetrachloroethylene (D039) were detected at concentrations slightly above the Toxicity Characteristic (TC) regulatory levels. However, the BSL was not a HWMU: since the sludge was removed from the Lagoon in 1987 (prior to the September 25, 1990 implementation date of the TC rule for benzene and tetrachloroethylene), the Lagoon would not be regulated as a Resource Conservation and Recover Act (RCRA) Subtitle C unit for the storage or treatment of a characteristic waste.

In October 1993, the Ohio EPA (OEPA) was notified of the Bio-Surge Lagoon sampling effort and concurred with the sampling plan (see Enclosure 1). Samples of liquid and sludges present in the Lagoon since 1988 were tested in 1993 and do not exhibit any hazardous waste characteristics (see Enclosures 2A, 2B, and 2C). All analytical data associated with the sampling effort will be kept on file for review by request. Enclosure 3 provides a map of the liquid and sludge sample locations within the Bio-Surge Lagoon.

The 1993 sampling data shows that contents of the Bio-Surge Lagoon are not characteristically hazardous.

In summary, the Bio-Surge Lagoon does not fall into the category of a HWMU based upon 1) the application of the Mixture Rule Exclusion to Wastewaters managed in the FEMP Wastewater Treatment System, 2) removal of the sludge in 1987 prior to the effective date of the TC rule, and 3) 1993 sampling results did not exhibit any hazardous waste characteristics. Enclosure 4 provides additional information on the regulatory basis for not classifying the Lagoon as a HWMU (Reference: RCRA Permit Policy Compendium Update Package, EPA 530-R-92-018, April 1992). The FEMP requests the OEPA concurrence to reclassify the Bio-Surge Lagoon from a HWMU to a SWMU.

If you should have any questions concerning this matter or require additional information, please contact John Sattler at (513) 648-3145.

Sincerely,



Walter J. Quaid
Acting Associate Director
Safety, Operations & Technical Support

FN: Sattler

Enclosures: as stated

cc w/enc:

H. O'Connell, OEPA-Dayton
T. Schneider, OEPA-Dayton
J. Saric, USEPA Region V
D. Schregardus, OEPA-Columbus
K. Alkema, FERMCO/65-2
Administrative Record
RCRA Operating Record

cc w/o enc:

J. Van Kley, Ohio AGO
K. Hayes, EM-424 TREV
M. McDermontt, DOJ
D. Rast, DOE-FN
J. Reising, DOE-FN
J. Curtis, FERMCO/8
D. Ofte, FERMCO/1
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ENCLOSURE #1

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State of Ohio Environmental Protection Agency

Southwest District Office

40 South Main Street
Dayton, Ohio 45402-2086
(513) 285-6357
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George V. Voinovich
Governor

MEMORANDUM

TO: TOM WALSH, FERMCO, REGULATORY INTEGRATION \

FROM: PHIL HARRIS, OEPA, DHWM, SWDO *Return*

DATE: OCTOBER 18, 1993

SUBJECT: BIOSURGE LAGOON / PROPOSED SAMPLING PLAN

This memo transmits DHWM concurrence with FERMCO's proposed plan for characterization sampling of the FEMP Biosurge Lagoon, as outlined in Project-Specific Sampling and Analysis Plan #93-518 and amended in your facsimile correspondence of October 15, 1993.

Please contact me if you have any questions.

/ph

cc: File - HWMU Activity
R. Fisher
P. Pardi

Table 1. BSL Sludge Sample Analytical Data Summary

Constituent	Sample Point Location										ER		
	S-1	S-1D	S-2	S-3	S-4	S-5	S-6	S-7	TB	FB			
	TCLP Base Neutral Acids (mg/L)												
o-Cresol	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
m,p-Cresol	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
1,4-Dichlorobenzene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
2,4-Dinitrotoluene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
Hexachlorobenzene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
Hexachloro-1,3-butadiene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
Hexachloroethane	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
Nitrobenzene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
Pentachlorophenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1
Pyridine	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
2,4,5-Trichlorophenol	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
2,4,6-Trichlorophenol	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	<0.02	<0.02
TCLP Pesticides (mg/L)													
Chlordane	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	NA	<0.0001	<0.0001
Endrin	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	NA	<0.0001	<0.0001
Heptachlor	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005
Heptachlor epoxide	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005
Lindane	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005
Methoxychlor	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA	<0.0005	<0.0005
Toxaphene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001

Table 1. BSL Sludge Sample Analytical Data Summary

Constituent	Sample Point Location										ER	
	S-1	S-1D	S-2	S-3	S-4	S-5	S-6	S-7	TB	FB		
TCLP Herbicides (mg/L)												
2,4-D	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA	<0.0005	<0.0005
Silvex (2,4,5-TP)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA	<0.0005	<0.0005

Note:

TB = Trip Blank

FB = Field Blank

ER = Equipment Rinsate

NA = Constituent not analyzed

< = Data qualifier code of "U". Constituent was analyzed for and was not present above the level of the associated value, which indicates approximate concentration necessary to detect the constituent in the sample.

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Table 2. BSL Water Sample Analytical Data Summary

Constituent	Sample Point Location											
	W-1	W-2	W-3	W-4	W-5	W-5D	W-6	W-7	W-8	W-9	W-10	
	Volatile Organics** (mg/L)											
Benzene	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
Carbon Tetrachloride	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
Chlorobenzene	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
Chloroform	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
1,2-Dichloroethane	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
1,1-Dichloroethylene	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
Methyl Ethyl Ketone	<0.010 J	<0.010 J	<0.010	<0.250	<0.010	<0.100 J	<0.010 J	<0.110	<0.050	<0.050	<0.050	<0.020
Tetrachloroethylene	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
Trichloroethylene	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
Vinyl Chloride	<0.010 J	<0.010 J	<0.010	<0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
	Metals** (mg/L)											
Arsenic	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Barium	0.0383	<0.035	0.037	0.0352	0.0371	0.0346	0.0395	0.0365	0.0339	0.0347	0.0353 J	0.0353 J
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Lead	0.012 J	<0.001 J	<0.001 J	0.018 J	<0.001 J	0.0051 J						
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00012	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Selenium	<0.001 J	<0.001 J	<0.001 J	<0.001	<0.001	<0.001	<0.001 J	<0.001	<0.001	0.0015 J	<0.001 J	<0.001 J
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

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Table 2. BSL Water Sample Analytical Data Summary

Constituent	Sample Point Location										
	W-1	W-2	W-3	W-4	W-5	W-5D	W-6	W-7	W-8	W-9	W-10
Semi-Volatile Organics** (mg/L)											
1,4-Dichlorobenzene	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010 J	<0.010	<0.010
2,4-Dinitrotoluene	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010 J	<0.010	<0.010
Hexachlorobenzene	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010 J	<0.010	<0.010
Hexachlorobutadiene	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010 J	<0.010	<0.010
Hexachloroethane	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010 J	<0.010	<0.010
Nitrobenzene	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010 J	<0.010	<0.010
Pentachlorophenol	<0.025	<0.050	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.026	<0.025	<0.025
Pyridine	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010 J	<0.010	<0.010
2,4,5-Trichlorophenol	<0.025	<0.050	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.026	<0.025	<0.025
2,4,6-Trichlorophenol	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010 J	<0.010	<0.010
TCLP Pesticides* (mg/L)											
Chlordane	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Endrin	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Heptachlor	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Heptachlor epoxide	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Lindane	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Methoxychlor	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toxaphene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
TCLP Herbicides* (mg/L)											
2,4-D	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silvex (2,4,5-TP)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

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Note:

- = Results obtained from actual TCLP analysis (EPA 1311)
- = Results from Target Compound List or Target Analyte List analyses for D-listed regulated constituents
- J = Constituent was analyzed for and positively identified, but the associated numerical value may not be consistent with the amount present in the environmental sample.
- R = Constituent was analyzed for, but the presence or absence of the constituent was not verified.
- < = Data qualifier code of "U". Constituent was analyzed for and was not present above the level of the associated value, which indicates the approximate concentration necessary to detect the constituent in the sample.



ENCLOSURE #2c

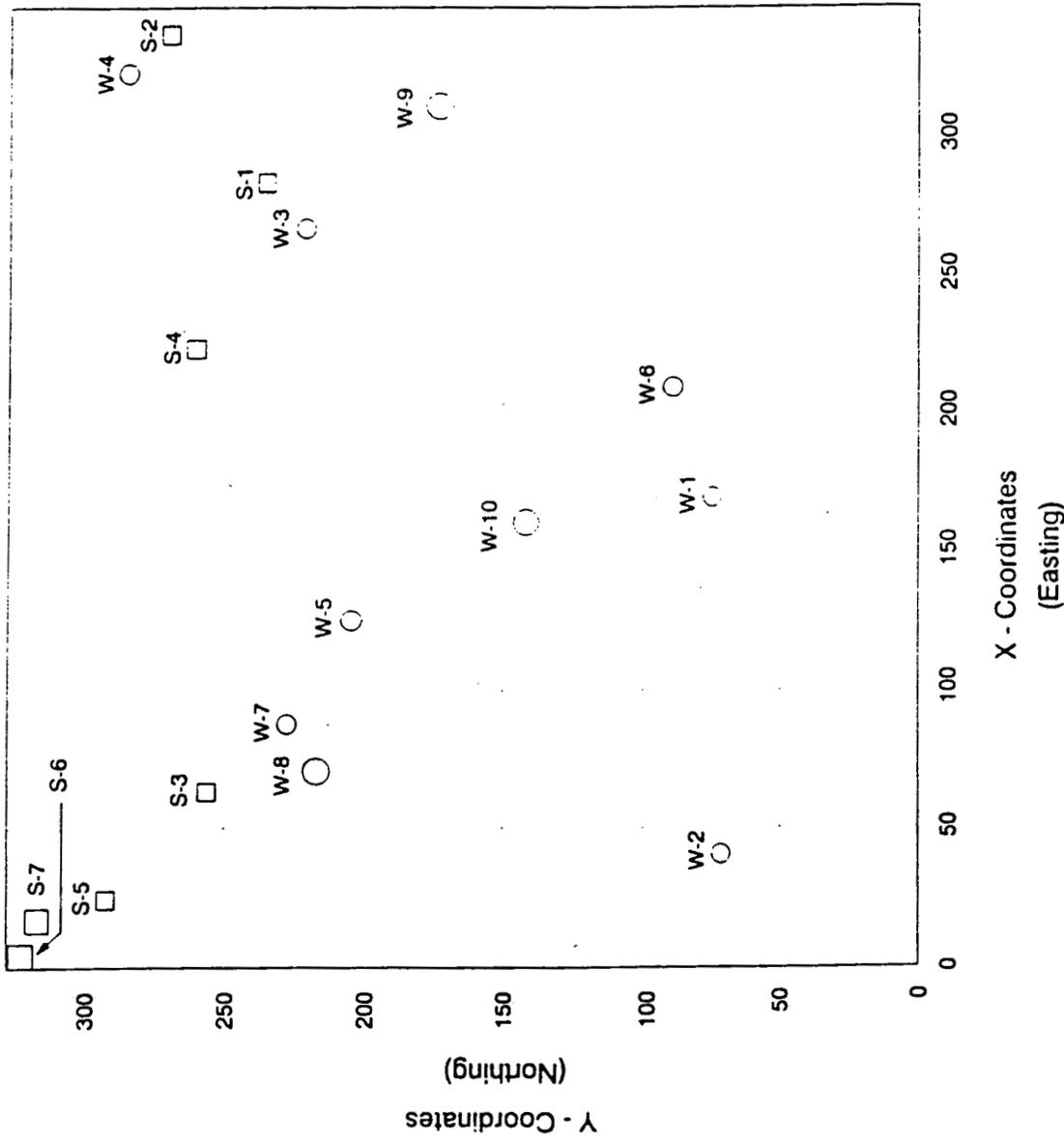
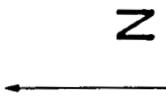
Table 2. (cont) BSL Water QC Sample Analytical Data Summary				
Constituent	QC Sample			
	Trip Blank	Trip Blank	Field Blank	Rinsate
Volatile Organics** (mg/L)				
Benzene	<0.010	<0.050	<0.010	<0.010 J
Carbon Tetrachloride	<0.010	<0.050	<0.010	<0.010 J
Chlorobenzene	<0.010	<0.050	<0.010	<0.010 J
Chloroform	<0.010	<0.050	0.009 J	0.006 J
1,2-Dichloroethane	<0.010	<0.050	<0.010	<0.010 J
1,1-Dichloroethene	<0.010	<0.050	<0.010	<0.010 J
Methyl Ethyl Ketone	<0.010 J	<0.050	<0.010	<0.010 J
Tetrachloroethylene	<0.010	<0.050	<0.010	<0.010 J
Trichloroethylene	<0.010	<0.050	<0.010	<0.010 J
Vinyl Chloride	<0.010	<0.050	<0.010	<0.010 J
Metals** (mg/L)				
Arsenic	NA	NA	<0.002	<0.002
Barium	NA	NA	<0.002	<0.002
Cadmium	NA	NA	<0.005	<0.005
Chromium	NA	NA	<0.006	<0.006
Lead	NA	NA	<0.001	<0.001
Mercury	NA	NA	<0.0001	<0.0001
Selenium	NA	NA	<0.001	<0.001
Silver	NA	NA	<0.001	<0.001

Table 2. (cont) BSL Water QC Sample Analytical Data Summary				
Constituent	QC Sample			
	Trip Blank	Trip Blank	Field Blank	Rinsate
Semi-Volatile Organics** (mg/L)				
1,4-Dichlorobenzene	NA	NA	<0.020	<0.010
2,4-Dinitrotoluene	NA	NA	<0.020	<0.010
Hexachlorobenzene	NA	NA	<0.020	<0.010
Hexachlorobutadiene	NA	NA	<0.020	<0.010
Hexachloroethane	NA	NA	<0.020	<0.010
Nitrobenzene	NA	NA	<0.020	<0.010
Pentachlorophenol	NA	NA	<0.050	<0.025
Pyridine	NA	NA	<0.020	<0.010
2,4,5-Trichlorophenol	NA	NA	<0.050	<0.025
2,4,6-Trichlorophenol	NA	NA	<0.020	<0.010
TCLP Pesticides* (mg/L)				
Chlordane	NA	NA	<0.0001	<0.0001
Endrin	NA	NA	<0.0001	<0.0001
Heptachlor	NA	NA	<0.00005	<0.00005
Heptachlor epoxide	NA	NA	<0.00005	<0.00005
Lindane	NA	NA	<0.00005	<0.00005
Methoxychlor	NA	NA	<0.0005	<0.0005
Toxaphene	NA	NA	<0.001	<0.001
TCLP Herbicides* (mg/L)				
2,4-D	NA	NA	<0.0005	<0.0005
Silvex (2,4,5-TP)	NA	NA	<0.0005	<0.0005

Note:

- = Results obtained from actual TCLP analysis (EPA 1311)
- = Results from Target Compound List or Target Analyte List analyses for D-listed regulated constituents
- NA = Constituent not analyzed
- J = Constituent was analyzed for and positively identified, but the associated numerical value may not be consistent with the amount present in the environmental sample.
- R = Constituent was analyzed for, but the presence or absence of the constituent was not verified.
- < = Data qualifier code of "U". Constituent was analyzed for and was not present above the level of the associated value, which indicates the approximate concentration necessary to detect the constituent in the sample.

ENCLOSURE #3



Sample Point	Sample Matrix	Easting (Feet)	Northing (Feet)
S-1	Sludge	282	235
S-2	Sludge	335	269
S-3	Sludge	63	256
S-4	Sludge	222	262
S-5	Sludge	24	292
S-6	Sludge	2	325
S-7	Sludge	17	321
W-1	Liquid	169	75
W-2	Liquid	41	72
W-3	Liquid	266	220
W-4	Liquid	322	285
W-5	Liquid	225	204
W-6	Liquid	209	89
W-7	Liquid	87	226
W-8	Liquid	70	218
W-9	Liquid	306	176
W-10	Liquid	158	144

Figure 1. Sludge and Liquid Sample Point Locations for BDN Surge Lagoon

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RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

NOVEMBER 1991

3. Removal of Toxicity Characteristic Wastes from a Surface Impoundment

A generator produced a solid waste and disposed of his waste in an on-site surface impoundment. After the September 25, 1990, effective date of the toxicity characteristic (TC) rule, the waste would meet the definition of a newly-identified TC waste (40 CFR §261.24). If he chooses to remove the waste from his surface impoundment and dispose of it off-site, would his surface impoundment be a regulated unit under Subtitle C of RCRA?

No, not under the following circumstances. The generator may remove the waste from the surface impoundment prior to the effective date of the TC rule and the unit will not be regulated as a subtitle C unit. EPA has also clarified that the Agency would not normally consider the one-time removal of waste from a unit on or after the TC effective date to bring the unit into the hazardous waste management system (e.g., as a storage unit). As stated in the September 27, 1990, Federal Register clarification notice, "EPA does not consider one-time removal of waste from a unit on or after the TC effective date, in and of itself, to make the unit a storage unit and thus subject to Subtitle C. The Agency does not view one-time removal of waste as part of a closure as changing the status of the unit, as long as there has not been ongoing management of the waste in the impoundment." The preamble language goes on to state that this removal is beneficial to human health and the environment since it would eliminate potential sources of groundwater contamination. (55 ER 39410)

Should the generator choose to remove the hazardous waste from the unit on a one-time basis, he may use the impoundment as a non-Subtitle C unit (provided no other hazardous wastes are generated, managed, or disposed of in the unit). On the other hand, if the generator chooses to leave the waste in place and does not use the unit for hazardous waste management after the effective date of the TC rule (for example, if he intends for the surface impoundment to be the final disposal site for the waste), the unit would not be a regulated Subtitle C surface impoundment.

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