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NCBC GULFPORT
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LETTER REGARDING U S EPA REQUEST FOR APPROVAL OF DETAILED PROTOCOL
FOR VERIFICATION ANALYSIS OF RESIDUES FROM THE SHAKEDOWN AND FIELD
DEMONSTRATION OF EPA MOBILE INCINERATION SYSTEM NCBC GULFPORT MS

6/16/1987
U S EPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
HAZARDOUS WASTE ENGINEERING RESEARCH LABORATORY
CINCINNATI, OHIO 45268

NCBC Gulfport Administrative Record
Document Index Number

39501-SITE 8 INCINERATION
19.02.08.0002

REPLY TO:
Releases Control Branch
U.S. EPA
Woodbridge Avenue
Edison, New Jersey 08837

MEMORANDUM

DATE: June 16, 1987

SUBJECT: Request for Approval of Proposed Residue Verification Analysis Protocol for Modified Mobile Incineration System at Denney Farm

FROM: Frank J. Freestone, Chief *Frank J. Freestone*
Technology Evaluation Staff, RCB, LPCD, HWERL

TO: Lynn Harrington, Chief
Permits Section, Region VII

This is in response to my recent telephone conversations with you, Joe Galbraith and Mike Sanderson. We respectfully request your approval of our following detailed protocol for verification analyses of residues from the shakedown and field demonstration of the EPA Mobile Incineration System.

Our intention is to verify that the residues from the modified system meet the same criteria on which the original delisting decision was based. This is consistent with the intent of the recent memo from W. Porter to M. Kay on the subject of delisting of MIS residues.

The residues of the MIS are now ash (from kiln and cyclone), separator sludge and purge water. Sources of residue solids associated with the Incineration System, other than the foregoing, are filter cartridges on the separator loop and filter cartridges on the final purge water system. These solids are not being sampled because they are presumed to be identical to the separator sludge, and similar solids were included in our original delisting petition in the definition of "other solids." The CHEAF particulate filter has been removed from the system. Carbon cartridges will be incinerated.

We propose the following verification protocol:

- (1) Shakedown of the Mobile Incineration System will begin using clean soil. There will not be any testing for regulatory compliance during this time.
- (2) After shakedown on clean soil is completed, dioxin-contaminated soil will be fed to the system at a rate of 1,000 lb/hr. Loading will be increased to 2,000 lb/hr and stack testing for particulates will begin (to meet permit compliance criteria).

A.2.8.2

(c) Separator Sludge

Collection Frequency: Collect grab sample from each batch of sludge as discharged into drums and composite.

Location: From sludge discharge port on CPI separator.

Equipment: Glass sample jar

Procedure: Purge outlet valve by letting sludge flush into the containment drum. Rinse sample jar with sludge. Fill jar and seal.

Reference: S004, EPA-600/8-84-002; SW-846

In addition to the above samples, the kiln ash temperature will be monitored using a thermocouple and strip-chart recorder.

Analysis of the samples will be conducted at IT Analytical Services, Knoxville, TN in accordance with SW 846 procedures identified in Attachment (1) of this memo, and using the detection levels and QA/QC procedures identified in SW 846 for each procedure. Copies of all analytical results will be submitted to Region VII, MDNR, and OSW promptly.

All residues of the Incineration System will be held until the results of the analyses are received. If the delisting criteria are met, these materials will be disposed of as nonhazardous residues.

- (5) Upon successful completion of the particulate testing and verification analyses at a feed rate of 4,000 lb/hr, subsequent analyses during the field demonstration mode will be for metals only (see table below), as per the original delisting rule. In other words, when the Incineration System is processing soils from the original sites listed in our petition (e.g., Neosho, Baldwin Park, Denney Farm, etc.) as well as the recently-identified Region VII and ORD laboratory wastes, analyses will be performed only for mercury and selenium on the cyclone/kiln ash (these residue streams will be combined into a single sample if justified by previous data) and separator sludge. Analyses will be performed only for mercury, selenium and chromium on the purge water. Kiln ash temperatures will be monitored and recorded in accordance with the previously determined test protocol.

ATTACHMENT 1

Relisting Levels for the EPA Mobile Incineration System

<u>Constituent</u>	<u>Solids</u>		<u>Scrubber Water</u>		<u>SW-846 Method</u>
CDD/CDF	**1	(1 ppb) ³	**	(10 ppt) ³	8280
2,3,4-Trichlorophenol	--2	(1.0 ppm)	--	(50 ppb)	8270
2,4,5-Trichlorophenol	17,000 ppm		55 ppm		8270
2,4,6-Trichlorophenol	0.3 ppm		0.03 ppm		8270
2,5-Dichlorophenol	--	(0.2 ppm)	--	(10 ppb)	8270
3,4-Dichlorophenol	--	(0.2 ppm)	--	(10 ppb)	8270
2,3,4,5-Tetrachlorophenol	--	(1.0 ppm)	--	(50 ppb)	8270
2,3,4,6-Tetrachlorophenol	636 ppm		5 ppm		8270
1,2,4,5-Tetrachlorobenzene	64 ppm		0.2 ppm		8270
1,2,3,5-Tetrachlorobenzene	--	(1.0 ppm)	--	(50 ppb)	8270
Hexachlorophene	--	(10 ppm)	--	(500 ppb)	8270
PCBs	0.03 ppm	(0.05 ppm)	0.1 ppb	(0.3 ppb) ⁴	8080
Benz(a)pyrene	0.038 ppm	(0.20 ppm)	19 ppt	(10 ppb) ³	8270
Benz(a)anthracene	0.097 ppm	(0.20 ppm)	0.1 ppb	(10 ppb)	8270
Benzo(a)pyrene	15 ppm		3 ppb	(10 ppb)	8270
Dibenz(a,h)anthracene	0.007 ppm	(0.20 ppm)	11 ppt	(10 ppb)	8270
Indeno(1,2,3,-cd)pyrene	29 ppm		3 ppb	(10 ppb)	8270
Benz(b)fluoranthene	0.16 ppm	(0.20 ppm)	0.3 ppb	(10 ppb)	8270
Tetrachloromethane	0.17 ppm		5 ppb		8240
Hexachloroethane	67 ppm		0.4 ppm		8270

- (1)** All dioxin levels must be below the lowest achievable detection limits using the appropriate SW-846 Method.
- (2)-- Regulatory standards are not yet available for these constituents.
- (3) The values listed in parenthesis are the detection limits for the applicable SW-846 method with a 24-hour turnaround on the analysis.
- (4) Detection limit is 0.3 ppb for Arochlor 1256 and 1260. Detection limit for Arochlor 1242 is 0.1 ppb.

In addition, you would like to incinerate 540 drums of contaminated sampling materials, including unused samples, from the Eastern Missouri Dioxin Investigation and approximately six tons of ORD wastes from various dioxin stabilization and decontamination projects. These materials were not listed in the Federal Register as wastes to be treated; however, you have indicated that they are similar to these wastes identified in the Federal Register since they were all derived from the same still bottoms waste.

You have also listed the operating parameters which have remained unchanged in the system evaluated for the initial exclusion. These include:

- o The remaining untreated wastes that were listed in the exclusion.
- o The permit restrictions on POHCs despite the issuance of a new permit.
- o The kiln and SCC target temperatures.
- o The target SCC residence time.

Your presentations also have included statements regarding the continued ability of the MIS to decontaminate the soils and miscellaneous materials, and various verification measures that will be taken to demonstrate that the system will operate as projected. These arguments and test parameters include:

- o Since decontamination is a function of kiln temperature and residence time, you will ensure a consistently high ash temperature (i.e., at least as high as previously attained) as a means to demonstrate equivalent destruction capacity. You must specify how you will conduct the ash sampling. This sampling must be designed to determine that no temperature variation exists in the increased volume of waste in the kiln due to the increased soil throughput. The number of samples and the sampling frequency should be increased to represent this additional throughput. Similar additional sampling is required whenever the throughput increases.
- o Once the field demonstration is resumed, the treatment residues will be tested to ensure that organic constituents continue to be non-detectable or are present below the levels of regulatory concern.
- o The SCC remains unchanged and thus the wastes generated after the SCC (e.g., the filtered solids and the wastewater) should have a similar profile to the wastes generated from the unmodified system. (I am concerned that the

Attachment A

Delisting Levels for the EPA Mobile Incineration System

<u>Constituent</u>	<u>Solids</u>	<u>Water</u>
CDD/CDF	--1	--
2,3,4-Trichlorophenol	--2	--
2,4,5-Trichlorophenol	17,000 ppm	55 ppm
2,4,6-Trichlorophenol	0.3 ppm	0.03 ppm
2,5-Dichlorophenol	--	--
3,4-Dichlorophenol	--	--
2,3,4,5-Tetrachlorophenol	--	--
2,3,4,6-Tetrachlorophenol	636 ppm	5 ppm
1,2,4,5-Tetrachlorobenzene	64 ppm	0.2 ppm
1,2,3,5-Tetrachlorobenzene	--	--
Hexachlorophene	--	--
PCBs	0.03 ppm	0.1 ppb
Benz(a)pyrene	0.038 ppm	19 ppt
Benz(a)anthracene	0.097 ppm	0.1 ppb
Chrysene	15 ppm	3 ppb
Dibenz(a,h)anthracene	0.007 ppm	11 ppt
Indeno(1,2,3-cd)pyrene	29 ppm	3 ppb
Benz(b)fluoranthene	0.16 ppm	0.3 ppb
Tetrachloromethane	0.17 ppm	5 ppb
Hexachloroethane	67 ppm	0.4 ppm

¹ All dioxin levels must be below the lowest achievable detection limits using the appropriate SW-846 method.

² Regulatory standards are not yet available for these constituents.