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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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October 7, 2003

Mr. Joel B. Hebdon, Director
Regulatory Compliance and Analysis Division
United States Department of Energy
P.O. Box 550, MSIN: A5-15
Richland, Washington 99352

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EDMC

Dear Mr. Hebdon:

Re: Letter dated July 1, 2003, from J. Hebdon, USDOE, to J. Hedges, Ecology,
"Contained-In Determination Request for Radioactive Debris from Pacific
Northwest National Laboratory Activities" (03-RCA-0279)

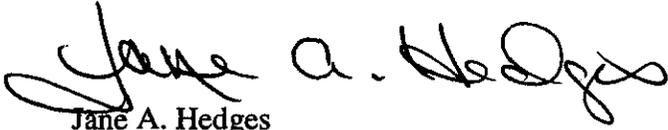
The Washington State Department of Ecology (Ecology) has received and reviewed the above referenced request. The information was evaluated to determine if the 111 drums of laboratory debris waste should be managed as dangerous waste in accordance with the principles of the contained-in policy. Based on the analytical reporting limits in the information provided, Ecology was unable to determine if the 111 drums of laboratory debris could qualify for a contained-in determination. Ecology met with representatives from the Pacific Northwest National Laboratory (PNNL) and the United States Department of Energy (USDOE) to request additional information. The enclosed table, listing minimum detection levels for each hazardous substance, was provided.

The 111 drums of laboratory waste are subject to the Land Disposal Restrictions (LDR). In accordance with the contained-in policy, waste destined for land disposal must also comply with the (LDR) treatment standards. The data submitted indicates the analytical minimum detection limit for 2-Methylphenol (o-Cresol) was 6,200 $\mu\text{g}/\text{Kg}$ for five of the six samples analyzed. LDR treatment standards for F001 through F005 hazardous waste, as specified in 40 Code of Federal Regulations 268.40, established a treatments standard of 5,600 $\mu\text{g}/\text{Kg}$ for o-Cresol. Because the minimum detection limit used for laboratory analysis is greater than the LDR treatment standard, the USDOE has not demonstrated compliance with the LDR treatment standards. The USDOE must resubmit, to Ecology, o-Cresol analytical data for drum samples 1, 2, 3, 5, and 6, using minimum detection limits below 5,600 $\mu\text{g}/\text{Kg}$. Once this data has been received and reviewed, Ecology will make a contained-in determination for the 111 drums of laboratory debris.

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If you have any questions regarding the contained-in policy or this letter, please feel free to contact Brenda Becker-Khaleel at (509) 736-3003.

Sincerely,



Jane A. Hedges
Cleanup Section Manager
Nuclear Waste Program

BBK:lkd

Enclosure

cc: Nick Ceto, EPA
Terri Aldridge, USDOE
Ellen Dagan, USDOE
Harold Tilden, PNNL
Todd Martin, HAB
Rick Gay, CTUIR
Pat Sobotta, NPT
Russell Jim, YN
Ken Niles, OOE
Administrative Record

TABLE 1

Analytical Results: Suspect Mixed Waste Debris (From Severn Trent Laboratories, September 10, 2002)
 Values given in micrograms per kilogram (ug/kg)

Analyte	Sample 1 (PNL-99-359)			Sample 2 (PNL-01-015)			Sample 3 (PNL-00-115)			Sample 4 (PNL-01-013)			Sample 5 (PNL-01-163)			Sample
	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL	Result
Acetone	88 J,B	100	12	8600 J,B	10000	2600	7800 J,B	10000	2600	7900 J,B	10000	2600	7800 J,B	10000	2600	3500 J,B
Methylene Chloride	21 J,B	25	1.2	1500 J,B	2500	1100	1400 J,B	2500	1100	1500 J,B	2500	1100	1600 J,B	2500	1100	760 J,B
2-Butanone (Methyl Ethyl Ketone)	ND	100	8.4	ND	10000	1400	ND	10000	1400	ND	10000	1400	ND	10000	1400	ND
1,1,1-Trichloroethane	ND	25	1.4	ND	2500	890	ND	2500	890	ND	2500	890	ND	2500	890	ND
Carbon Tetrachloride	ND	25	1.2	ND	2500	860	ND	2500	860	ND	2500	860	ND	2500	860	ND
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	ND	100	3.5	ND	10000	1000	ND	10000	1000	19000	10000	1000	5300 J	10000	1000	ND
2-Methylphenol (o-Cresol)	ND	560000	6200	ND	1300000	62	ND	250000	6200	ND	89000	6200	ND	200000	6200	ND
4-Methylphenol (p-Cresol) ¹	ND	560000	5100	ND	1300000	51	ND	250000	5100	ND	89000	5100	ND	200000	5100	ND

Notes:

RL: Reporting limit.

MDL: Method Detection Limit.

J: Estimated result. Result is less than reporting limit.

B: Method blank contamination. The associated method blank contains the target analyte at a reportable level.

¹ Severn-Trent reports the results for m-cresol (3-methylphenol) and p-cresol (4-methylphenol) as a combined result and labels it 4-methylphenol. These two compounds co-elute during gas chromatography.

TABLE 1

Analytical Results: Suspect Mixed Waste Debris (From Severn Trent Laboratories, September 10, 2002)
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Analyte	Sample 1 (PNL-99-359)			Sample 2 (PNL-01-015)			Sample 3 (PNL-00-115)			Sample 4 (PNL-01-013)			Sample 5 (PNL-01-163)			Sample 6 (PNL-01-167)		
	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL
Acetone	88 J,B	100	12	8600 J,B	10000	2600	7800 J,B	10000	2600	7900 J,B	10000	2600	7800 J,B	10000	2600	3500 J,B	5000	1300
Methylene Chloride	21 J,B	25	1.2	1500 J,B	2500	1100	1400 J,B	2500	1100	1500 J,B	2500	1100	1600 J,B	2500	1100	760 J,B	1200	550
2-Butanone (Methyl Ethyl Ketone)	ND	100	8.4	ND	10000	1400	ND	10000	1400	ND	10000	1400	ND	10000	1400	ND	5000	710
1,1,1-Trichloroethane	ND	25	1.4	ND	2500	890	ND	2500	890	ND	2500	890	ND	2500	890	ND	2300	450
Carbon Tetrachloride	ND	25	1.2	ND	2500	860	ND	2500	860	ND	2500	860	ND	2500	860	ND	1200	430
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	ND	100	3.5	ND	10000	1000	ND	10000	1000	19000	10000	1000	5300 J	10000	1000	ND	5000	520
2-Methylphenol (o-Cresol)	ND	560000	6200	ND	1300000	62	ND	250000	6200	ND	89000	6200	ND	200000	6200	ND	160000	6200
4-Methylphenol (p-Cresol) ¹	ND	560000	5100	ND	1300000	51	ND	250000	5100	ND	89000	5100	ND	200000	5100	ND	160000	5100

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