Limit	Constituent							
	Acrolein	p-DAB	4-AB	Aramite	СВ	DBP	MMS	2-NA
E F	9999 9999	48.26 1.78	0.065 14.18	2.37 9999	11.34 10.53	9999 9999	9999 1.37	2.43 9999

## TABLE 1.—DETECTION LIMITS—Continued

## TABLE 2.—PERCENT RECOVERY

% Rec	Constituent							
	Acrolein	p-DAB	4-AB	Aramite	СВ	DBP	MMS	2-NA
A B	1.6 0	36 118.87	13.661 473.41	5.47 79.23	138.04 175.85	0	50.7 63.54	8.77 125.48
<u> </u>	1.954	40.77	34.95	120.34	105.99	27.34	100.38	18.73
D E	0 0	126.74 134.65	1.69 31.54	0.11 80	160.43 247.725	0 0	74.11 0	3.98 8.89
F	0	558.13	17.55	330.24	436.82	0	33.31	3.08

Although ETC reports relatively few detection limits for acrolein, the consistently problematic low recoveries, all below 2% were the basis of EPA's concern in the Third Third rule. Similarly, dibenzo(a,e)pyrene exhibits extremely and consistently low recoveries while several detection limits are missing from the report. Aramite exhibited several extremely high detection limits plus an erratic set of percent recoveries ranging from very high to very low. The other four constituents, p-dimethylaminoazobenzene, 4-aminobiphenyl, chlorobenzilate and 2-naphthylamine show a pattern of generally high detection limits and high recoveries, with much variation in recoveries and with several significantly high values in each set. The methylmethanesulfonate data were supplied by ETC despite the fact that EPA did not propose a nonwastewater standard for this constituent in the Third Third rule; this data is presented here for completeness and to stimulate comment on the development of today's proposed methylmethanesulfonate nonwastewater standard discussed below.

(ii) EPA's Treatability Data Detection Limits and Recoveries. High or erratic detection limits and recoveries are of concern to EPA. For both parameters, high values indicate a barrier to quantification and erratic values indicate unreliable quantification.

Analysis of the fourteen EPA incinerator burns used to generate nonwastewater treatability data shows both a narrower range of detection limits and lower values of detection limits than the ETC study achieved. The following table presents the ranges of detection limits achieved.

In generating treatability data for listed hazardous wastes EPA undertook

a series of fourteen incinerator burns. Analysis of ash from these burns provided the numerical basis for nonwastewater standards. Detection limit data were obtained from the ash itself for all constituents. However, recovery levels were determined for only a handful of constituents. After these recoveries were determined by spiking ash with the selected constituents and measuring the percentage of the spike which was recovered, these recovery values were transferred to chemically similar constituents and incorporated into the nonwastewater treatment standard calculations. EPA generally rejected recoveries ranging outside the 20% to 200% range following the guidance of the BDAT program's Quality Assurance Project Plan.

ORIGINAL EPA NONWASTEWATER INCINERATOR BURN DETECTION LIMITS

EPA test burn	Detection limits for volatile organics	Detection limits for semivolatile organics
Test #1	0.1–10.0	0.11–10.0
Test #2	0.2–50.0	0.08–5.0
Test #3	0.05–10.0	0.01–10.1
Test #4	2.0–10.0	2.0–50.0
Test #5	a 2.0–50.0	0.5–10.0
Test #6	<sup>b</sup> 0.2–50.0	0.4–7.0
Test #7	° 2.0–20	0.2–5
Test #8	0.025-2.0	1.0–10.0
Test #9	0.005-0.4	0.42-4.0
Test #10	° 1.5–30	1.00-5.0
Test #11	0.005-0.4	0.531-4.0
Test #13	0.01–2.0	0.36–1.8
Test #14	a 0.010–2	0.36–1.8

<sup>a</sup> Excluding one outlier out of 40 analytes.
<sup>b</sup> Excluding five outliers out of 40 analytes.
<sup>c</sup> Excluding two outliers out of 40 analytes.

(iii) Solicitation of Treatability Data.

EPA solicits additional treatability and

analytical data concerning nonwastewater forms of these constituents. By taking comment on whether to promulgate nonwastewater standards for these constituents, EPA is reopening the discussion of the issues of detection limits and recoveries raised by ETC in the comments following the Third Third proposal. EPA opens the question of whether advances in detectability, notably the use of HLPC (high pressure liquid phase chromatography) may allow reliable measurement. EPA also solicits comment whether more reliable recovery values have been achieved for these constituents, and at what detection level are reliable results achieved

(iv) Additional Potential Nonwastewater UTS Based on Treatability Groups. EPA is also soliciting comment on potential treatment standards for 2-chlorovinyl ether, 1,2-diphenylhydrazine, ethylene oxide and methyl methanesulfonate based on the Treatability Group categories outlined in the LDR Phase II Final Background Document for Universal Standards, Volume A, Universal Standards for Nonwastewater Forms of Listed Hazardous Wastes. Specifically, for each of the constituents listed above, EPA is considering as potential UTS the lowest nonwastewater treatment standard for the treatability group to which that constituent belongs.

Treatability groups collect the UTS constituents into sets of chemically similar compounds with similar behavior in treatment processes and analytical instruments. UTS for nonwastewater UTS are based on the detection limits of that compound in incinerator ash. Since these detection limits reflect the constituent's "fate and transport" in the analytical unit