

APPENDIX F

ESTIMATES FROM THE 1988 NATIONAL SEWAGE SLUDGE SURVEY (NSSS)

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	80th Percentile
CALCIUM	Metals	MG/KG	176	7750	100	35,300.00	46,500.00	533,000.00	313,000.00	151,000.00	94,600.00	86,800.00	26,200.00
IRON	Metals	MG/KG	176	7750	100	18,000.00	21,100.00	229,000.00	81,400.00	79,900.00	59,800.00	41,700.00	12,400.00
MAGNESIUM	Metals	MG/KG	176	7750	100	7,480.00	17,800.00	134,000.00	75,500.00	50,780.00	17,500.00	9,750.00	4,270.00
PHOSPHORUS	Metals	MG/KG	176	7750	100	4,580.00	8,870.00	71,700.00	42,800.00	17,800.00	13,400.00	12,100.00	1,330.00
SODIUM	Metals	MG/KG	176	7750	100	7,870.00	18,800.00	141,000.00	103,000.00	48,100.00	21,400.00	17,200.00	2,070.00
ALUMINUM	Metals	MG/KG	176	7750	100	11,200.00	14,800.00	82,700.00	85,300.00	70,200.00	36,400.00	16,400.00	7,560.00
BARIUM	Metals	MG/KG	176	7750	100	873.00	840.00	5,570.00	3,000.00	2,370.00	1,730.00	1,230.00	488.00
dioxins b	Dioxins	NG/KG	174	7714	100	80.40	172.00	1,820.00	956.00	532.00	311.00	218.00	90.40
MANGANESE	Metals	MG/KG	176	7750	100	538.00	1,040.00	13,200.00	4,080.00	3,720.00	1,820.00	928.00	278.00
OCTACHLORODIBENZO-P-DIOXIN	Dioxins	NG/KG	174	7714	100	11.70	58.20	905.00	127.00	116.00	33.70	15.60	3.32
TITANIUM	Metals	MG/KG	176	7750	96	109.00	140.00	2,380.00	578.00	418.00	363.00	237.00	66.50
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	Dioxins	NG/KG	174	7714	96	9.32	37.00	525.00	163.00	79.70	27.80	14.00	3.35
NITRATE	Chemicals	MG/KG	176	7750	95	1,420.00	5,040.00	35,300.00	26,500.00	15,500.00	5,020.00	1,880.00	96.50
SILVER	Metals	MG/KG	176	7750	84	48.20	112.00	652.00	546.00	218.00	128.00	75.80	25.50
TR	Metals	MG/KG	176	7750	84	108.00	278.00	2,100.00	1,370.00	715.00	138.00	130.00	51.80
NITRITE	Chemicals	MG/KG	176	7750	83	201.00	1,210.00	17,700.00	2,870.00	2,810.00	482.00	215.00	12.80
OCTACHLORODIBENZO-FURAN	Dioxins	NG/KG	174	7714	80	0.87	4.38	69.50	5.04	4.75	3.31	0.25	0.11
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-FURAN	Dioxins	NG/KG	174	7714	71	2.31	7.14	71.00	31.50	27.80	5.72	3.08	0.57
2,3,7,8-TETRACHLORODIBENZO-FURAN	Dioxins	NG/KG	174	7714	85	2.50	3.32	33.70	14.80	14.70	7.88	4.70	1.78
FLUORIDE	Chemicals	MG/KG	176	7750	83	126.00	230.00	1,510.00	1,280.00	1,040.00	411.00	318.00	44.20

(b) Compounds considered a detect if at least one congener is measured above the minimum level.

* Dioxins and Furans Reported as Toxic Equivalents

Note: Three significant figures are reported

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondefects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Defect	Mean	Standard Deviation	Observed Maximum	99th Percentile		98th Percentile		95th Percentile		90th Percentile		50th Percentile		
									Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean
BIS(2-ETHYLHEXYL) PHTHALATE	Organics	UG/KG	176	7750	62	55,600.00	106,000.00	891,000.00	525,000.00	459,000.00	191,000.00	148,000.00	17,200.00						
VANADIAM	Metals	MG/KG	176	7750	82	25.30	43.70	570.00	181.00	130.00	64.10	54.20	14.90						
YTTTRIUM	Metals	MG/KG	176	7750	81	6.62	5.77	52.50	21.40	21.00	20.00	14.10	5.20						
TOLUENE	Organics	UG/KG	176	7750	81	41,300.00	118,000.00	1,180,000.00	575,000.00	439,000.00	238,000.00	83,400.00	1,680.00						
2-PROPANONE	Organics	UG/KG	176	7750	58	64,300.00	323,000.00	2,430,000.00	1,480,000.00	738,000.00	118,000.00	65,200.00	4,710.00						
1,2,3,4,7,8-HEXACHLORO-DIBENZO-P-DIOXIN	Dioxins	NG/KG	174	7714	49	5.20	10.60	73.70	58.50	47.70	13.10	8.43	2.73						
BORON	Metals	MG/KG	178	7750	48	34.10	65.30	310.00	304.00	283.00	182.00	88.70	13.20						
P-CRESOL	Organics	UG/KG	176	7750	43	52,300.00	110,000.00	1,180,000.00	542,000.00	430,000.00	308,000.00	202,000.00	11,000.00						
1,2,3,4,7,8-HEXACHLORO-DIBENZO-FURAN	Dioxins	NG/KG	174	7714	43	7.08	20.80	150.00	109.00	73.20	15.40	11.00	2.80						
METHYLENE CHLORIDE	Organics	UG/KG	178	7750	42	8,580.00	37,800.00	282,000.00	184,000.00	114,000.00	31,300.00	3,080.00	553.00						
1,2,3,7,8-HEXACHLORO-DIBENZO-P-DIOXIN	Dioxins	NG/KG	174	7714	38	4.12	6.58	73.70	22.20	18.50	13.30	8.28	2.80						
ANTHRONY	Metals	MG/KG	178	7750	38	8.47	20.00	880.00	27.30	25.50	24.00	13.80	3.20						
CYANIDES (SOLUBLE SALTS AND COMPLEXES)	Chemicals	MG/KG	178	7750	37	35.20	58.00	372.00	255.00	155.00	130.00	68.40	11.50						
HEXANOIC ACID	Organics	UG/KG	178	7750	35	40,000.00	93,800.00	1,080,000.00	408,000.00	280,000.00	202,000.00	125,000.00	13,100.00						
1,2,3,5,7,8-HEXACHLORO-DIBENZO-FURAN	Dioxins	NG/KG	174	7714	35	3.43	5.84	73.70	18.80	15.00	11.70	7.71	1.80						
2-BUTANONE	Organics	UG/KG	178	7750	34	25,500.00	88,800.00	1,540,000.00	553,000.00	544,000.00	66,300.00	38,400.00	2,550.00						
PHENOL	Organics	UG/KG	178	7750	34	19,700.00	40,400.00	920,000.00	177,000.00	158,000.00	57,500.00	37,800.00	10,200.00						
2,4,5-TRICHLORO-PHENYLAETIC ACID	Pesticides	UG/KG	178	7750	29	21.00	134.00	2,170.00	73.80	67.10	50.50	28.30	8.88						
2,3,4,6,7,8-HEXACHLORO-DIBENZO-FURAN	Dioxins	NG/KG	174	7714	27	3.30	5.80	73.70	19.70	14.00	8.89	6.04	1.60						
1,2,3,4,7,8-HEPTACHLORO-DIBENZO-FURAN	Dioxins	NG/KG	174	7714	26	0.39	0.73	8.42	2.14	1.48	1.21	0.78	0.23						

Note: Three significant figures are reported

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Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	Percent Detected	Mean	Standard Deviation	Observed Maximum	98th Percentile		95th Percentile		80th Percentile		50th Percentile	
								Percentile	Value	Percentile	Value	Percentile	Value	Percentile	Value
2,3,4,7,8-PENTACHLORODIBENZOFURAN	Dioxins	NG/KG	174	7714	26	11.30	27.40	74.50	68.00	48.50	37.80	5.22			
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	Dioxins	NG/KG	174	7714	25	3.73	6.07	19.00	19.00	13.60	7.87	2.25			
BEVYLLURM	Metals	MG/KG	176	7750	22	1.84	2.43	8.56	8.33	5.00	5.00	0.88			
1,2,3,7,8-PENTACHLORODIBENZOFURAN	Dioxins	NG/KG	174	7714	22	1.04	2.63	7.15	8.08	4.22	1.85	0.48			
PCB b	Pesticides	UG/KG	175	7720	19	2,120.00	2,450.00	13,400.00	12,300.00	5,800.00	3,050.00	1,480.00			
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	Dioxins	NG/KG	174	7714	18	9.97	25.70	68.70	60.10	38.00	18.30	4.92			
ACETIC ACID (2,4-DICHLOROPHENOXY)	Pesticides	UG/KG	176	7750	18	10.40	17.60	68.40	65.80	30.00	18.00	6.06			
1,2,3,7,8-HEXACHLORODIBENZO-P-DIOXIN	Dioxins	NG/KG	174	7714	18	3.58	8.88	24.10	18.90	8.18	8.82	1.80			
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	Dioxins	NG/KG	174	7714	18	10.80	12.80	42.30	33.80	26.70	24.00	6.86			
N-HEXACOSANE	Organics	UG/KG	176	7750	15	11,800.00	32,800.00	58,800.00	43,300.00	33,300.00	28,800.00	4,780.00			
N-TETRACOSANE	Organics	UG/KG	176	7750	15	14,800.00	44,200.00	101,000.00	87,200.00	42,800.00	31,200.00	5,280.00			
2,4,5-TRICHLOROPHENOXYPROPIONIC ACID	Pesticides	UG/KG	176	7750	15	10.80	14.50	66.20	60.10	40.00	17.30	8.28			
TYMALLUM	Metals	MG/KG	176	7750	15	5.20	16.80	82.80	29.50	10.80	8.54	2.00			
N-DODECANE	Organics	UG/KG	176	7750	14	19,800.00	62,800.00	221,000.00	201,000.00	88,700.00	35,800.00	5,870.00			
N-TETRADECANE	Organics	UG/KG	176	7750	14	14,100.00	28,800.00	84,500.00	83,500.00	80,300.00	32,800.00	5,380.00			
N-TRIACONTANE	Organics	UG/KG	176	7750	14	14,800.00	42,800.00	156,000.00	154,000.00	37,000.00	31,100.00	4,800.00			
N-HECANE	Organics	UG/KG	176	7750	13	12,400.00	18,400.00	67,300.00	52,700.00	43,100.00	31,300.00	5,280.00			
N-HEXADECANE	Organics	UG/KG	176	7750	12	14,800.00	50,000.00	121,000.00	48,800.00	33,800.00	31,200.00	5,780.00			
N-OCTACOSANE	Organics	UG/KG	176	7750	12	12,800.00	28,800.00	68,100.00	43,400.00	33,300.00	31,800.00	5,280.00			
ENDOBULFAN-R	Pesticides	UG/KG	175	7720	12	19.00	29.20	184.00	128.00	88.70	41.10	10.00			

(b) Compounds considered a detect if at least one PCB analyzer is measured above the minimum level.

Note: Three significant figures are reported

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Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Defect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
CARBON DISULFIDE	Organics	UG/KG	176	7750	10	1,082.00	3,260.00	31,890.00	19,200.00	5,400.00	3,130.00	2,080.00	408.00
PENTACHLOROTROBENZENE	Pesticides	UG/KG	175	7720	10	161.00	1,160.00	8,630.00	3,970.00	221.00	79.30	43.30	20.60
N-DECANE	Organics	UG/KG	176	7750	10	12,700.00	23,900.00	199,000.00	151,000.00	81,300.00	31,300.00	30,400.00	4,780.00
PCB-1760	Pesticides	UG/KG	175	7720	10	337.00	561.00	4,010.00	2,920.00	1,670.00	627.00	465.00	209.00
COBALT	Metals	MG/KG	176	7750	9	23.50	30.60	262.00	107.00	104.00	100.00	57.10	11.60
BUTYL BENZYL PHTHALATE	Organics	UG/KG	176	7750	9	9,690.00	13,400.00	154,000.00	48,700.00	43,000.00	33,900.00	27,700.00	6,760.00
PCB-1148	Pesticides	UG/KG	175	7720	9	275.00	311.00	5,200.00	1,660.00	1,500.00	675.00	420.00	209.00
N-DODECANE	Organics	UG/KG	176	7750	8	10,300.00	13,600.00	154,000.00	96,500.00	43,200.00	33,300.00	29,300.00	5,810.00
N-OCTADECANE	Organics	UG/KG	176	7750	8	11,300.00	16,500.00	154,000.00	83,100.00	51,600.00	33,300.00	30,300.00	5,260.00
PCB-1254	Pesticides	UG/KG	175	7720	8	501.00	1,260.00	9,350.00	5,460.00	2,530.00	1,570.00	818.00	209.00
CHLOROBENZENE	Pesticides	UG/KG	175	7720	7	29.50	30.80	211.00	149.00	109.00	66.70	54.20	20.00
P-CYMELE	Organics	UG/KG	178	7750	7	10,800.00	14,600.00	154,000.00	88,100.00	43,200.00	33,800.00	30,800.00	5,280.00
BENZONFLUORANTHENE	Organics	UG/KG	176	7750	6	9,830.00	13,500.00	154,000.00	66,700.00	43,000.00	33,000.00	28,000.00	4,780.00
BETA-BHC	Pesticides	UG/KG	175	7720	8	14.30	15.80	163.00	93.20	71.20	41.60	22.20	10.00
ENDRIN	Pesticides	UG/KG	175	7720	8	14.70	18.80	123.00	86.20	64.80	41.60	22.30	10.20
O-CRESOL	Organics	UG/KG	176	7750	8	16,900.00	49,300.00	329,000.00	327,000.00	257,000.00	42,800.00	29,300.00	4,780.00
FLUORANTHENE	Organics	UG/KG	178	7750	5	9,950.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,780.00
P-CHLOROBIPHENYLENE	Organics	UG/KG	176	7750	5	9,840.00	13,800.00	154,000.00	46,700.00	43,000.00	33,300.00	28,800.00	4,780.00
PYRENE	Organics	UG/KG	178	7750	5	9,850.00	13,600.00	154,000.00	46,700.00	43,000.00	33,000.00	28,000.00	4,780.00
TRICHLOROFLUOROMETHANE	Organics	UG/KG	176	7750	5	1,000.00	2,840.00	31,800.00	7,210.00	5,110.00	3,470.00	2,060.00	357.00

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Pollutant	Type	Unit	Sample Size	POTWs	Percent Defect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
2-HEXANONE	Organics	UG/KG	176	7750	5	4,850.00	14,800.00	159,000.00	36,100.00	25,500.00	15,500.00	10,400.00	1,790.00
BENZONITRILE	Organics	UG/KG	176	7750	4	9,750.00	13,400.00	154,000.00	46,100.00	43,000.00	33,000.00	28,000.00	4,750.00
BENZOKYFLORANTHENE	Organics	UG/KG	176	7750	4	9,790.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	28,000.00	4,760.00
BENZONIC ACID	Organics	UG/KG	176	7750	4	53,100.00	76,200.00	835,000.00	314,000.00	313,000.00	187,000.00	151,000.00	23,500.00
CHRYSENE	Organics	UG/KG	176	7750	4	8,750.00	13,400.00	154,000.00	46,700.00	43,000.00	33,100.00	28,000.00	4,760.00
D,N-BUTYL PHTHALATE	Organics	UG/KG	176	7750	4	11,200.00	17,800.00	331,000.00	73,300.00	68,100.00	50,300.00	30,200.00	4,950.00
DIELDRIN	Pesticides	UG/KG	175	7720	4	13.40	13.70	105.00	74.20	53.00	30.30	20.80	10.20
ETHYLBENZENE	Organics	UG/KG	176	7750	4	995.00	2,800.00	31,800.00	7,280.00	5,120.00	3,190.00	2,080.00	370.00
HEPTACHLOR EPOXIDE	Pesticides	UG/KG	175	7720	4	25.50	26.70	211.00	148.00	107.00	65.70	38.10	18.70
M-XYLENE	Organics	UG/KG	176	7750	4	885.00	2,820.00	31,800.00	7,430.00	5,170.00	3,050.00	2,080.00	360.00
TETRACHLOROMETHANE	Organics	UG/KG	176	7750	4	888.00	2,820.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
ALDRIN	Pesticides	UG/KG	175	7720	3	13.00	13.40	105.00	74.20	53.00	25.20	20.50	10.00
BENZOCAPTRENE	Organics	UG/KG	176	7750	3	8,740.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,760.00
CHLOROPYRIFOS	Pesticides	UG/KG	178	7750	3	65.30	73.00	529.00	428.00	335.00	187.00	105.00	51.70
ISOBUTYL ALCOHOL	Organics	UG/KG	178	7750	3	987.00	2,820.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	367.00
NITROFEN (TON)	Pesticides	UG/KG	175	7720	3	28.50	28.80	211.00	164.00	123.00	68.50	46.80	28.00
O-P XYLENE	Organics	UG/KG	178	7750	3	871.00	2,820.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	367.00
STYRENE	Organics	UG/KG	178	7750	3	12,100.00	24,000.00	310,000.00	67,300.00	63,800.00	37,300.00	30,400.00	4,760.00
TETRACHLOROETHYLENE	Organics	UG/KG	176	7750	3	984.00	2,820.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
TROFURALIN (TREFLAN)	Pesticides	UG/KG	175	7720	3	65.00	68.00	526.00	371.00	268.00	158.00	107.00	50.00

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Pollutant	Type	Unit	Sample Size	POTWs	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
AZIRPHOS METHYL	Pesticides	UG/KG	176	7750	2	156.00	165.00	1,210.00	890.00	643.00	311.00	269.00	130.00
CHLOROBENZENE	Organics	UG/KG	176	7750	2	995.00	2,920.00	31,809.00	7,290.00	5,120.00	3,130.00	2,090.00	357.00
DELTA-BHC	Pesticides	UG/KG	175	7720	2	31.00	33.70	293.00	166.00	135.00	62.30	51.70	24.93
DIAZINON	Pesticides	UG/KG	178	7750	2	64.00	66.79	463.00	367.00	257.00	150.00	107.00	51.90
DIBENZOFURAN	Organics	UG/KG	176	7750	2	9,809.00	13,900.00	154,000.00	99,800.00	43,200.00	33,300.00	28,900.00	4,760.00
MALED (DEBROM)	Pesticides	UG/KG	178	7750	2	424.00	448.00	3,290.00	2,400.00	1,750.00	840.00	707.00	340.00
PHENANTHRENE	Organics	UG/KG	178	7750	2	8,830.00	13,500.00	154,000.00	46,700.00	43,000.00	33,300.00	28,900.00	4,760.00
PHOSPHORIC ACID, TRI-O-TOLYL ESTER	Pesticides	UG/KG	176	7750	2	742.00	878.00	7,060.00	5,160.00	3,640.00	1,530.00	1,310.00	570.00
SANTOX (EPN)	Pesticides	UG/KG	178	7750	2	62.80	66.10	545.00	356.00	258.00	124.00	104.00	51.90
TETRAETHYLPIROPHOSPHATE	Pesticides	UG/KG	176	7750	2	1,270.00	1,100.00	20,000.00	3,820.00	3,100.00	2,850.00	2,800.00	1,080.00
1,2,3,4-DIBPOXYBUTANE	Organics	UG/KG	178	7750	2	19,600.00	26,900.00	306,000.00	93,300.00	86,000.00	66,000.00	58,000.00	9,520.00
1,4-DICHLOROBENZENE	Organics	UG/KG	178	7750	2	8,720.00	13,600.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
1,4-DIOXANE	Organics	UG/KG	176	7750	2	667.00	2,960.00	36,000.00	7,540.00	5,170.00	3,130.00	2,690.00	357.00
4-METHYL-2-PENTANONE	Organics	UG/KG	176	7750	2	10,200.00	66,800.00	1,580,000.00	36,100.00	25,500.00	15,600.00	10,400.00	1,760.00
4,6-DDT	Pesticides	UG/KG	175	7720	2	25.50	26.90	211.00	155.00	125.00	68.40	41.50	19.70
ACETOPHENONE	Organics	UG/KG	178	7750	2	8,720.00	13,600.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
ALPHA-BHC	Pesticides	UG/KG	175	7720	2	11.80	13.80	105.00	74.20	53.80	22.80	20.10	10.00
ALPHA-TERPINEOL	Organics	UG/KG	178	7750	2	8,690.00	13,600.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
ANTHRACENE	Organics	UG/KG	178	7750	2	9,740.00	13,600.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
BIPHENYL	Organics	UG/KG	176	7750	1	66,700.00	947,000.00	15,300,000.00	78,900.00	43,900.00	33,300.00	29,000.00	4,760.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
CHLOROFORM	Organics	UG/KG	176	7750	1	986.00	2,950.00	31,600.00	7,530.00	5,160.00	3,130.00	2,060.00	357.00
DIA-OCTYL PHTHALATE	Organics	UG/KG	176	7750	1	9,700.00	13,400.00	154,000.00	46,700.00	43,000.00	33,900.00	27,700.00	4,760.00
DIKE THOATE	Pesticides	UG/KG	176	7750	1	62.40	56.30	463.00	412.00	259.00	126.00	104.00	50.10
DI-METHYL PHTHALATE	Organics	UG/KG	176	7750	1	9,800.00	13,500.00	154,000.00	46,700.00	43,000.00	33,100.00	28,800.00	4,760.00
ENDOSULFAN-I	Pesticides	UG/KG	176	7720	1	63.30	67.00	526.00	371.00	269.00	115.00	95.90	49.20
N-NITROSO-DIPHENYLENE	Organics	UG/KG	176	7750	1	19,400.00	26,900.00	306,000.00	93,300.00	86,000.00	65,600.00	50,500.00	8,520.00
NAPHTHALENE	Organics	UG/KG	176	7750	1	9,690.00	13,500.00	154,000.00	46,700.00	43,000.00	32,800.00	26,000.00	4,760.00
TRANS-1,2-DICHLOROETHENE	Organics	UG/KG	176	7750	1	875.00	2,830.00	31,800.00	7,530.00	5,160.00	2,840.00	2,060.00	367.00
TRICHLOROETHENE	Organics	UG/KG	178	7750	1	978.00	2,820.00	31,800.00	7,210.00	5,110.00	3,150.00	2,060.00	357.00
2-CHLORONAPHTHALENE	Organics	UG/KG	178	7750	1	9,720.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,760.00
2-METHYLNAPHTHALENE	Organics	UG/KG	176	7750	1	10,100.00	15,500.00	154,000.00	66,100.00	43,200.00	33,300.00	26,800.00	4,760.00
2-PICOLINE	Organics	UG/KG	176	7750	1	48,900.00	67,400.00	769,000.00	238,000.00	215,000.00	165,000.00	136,000.00	23,900.00
4,4'-DDE	Pesticides	UG/KG	176	7720	1	63.60	67.10	528.00	371.00	269.00	124.00	99.10	49.30
ANILINE, 2,4,5-TRIMETHYL-	Organics	UG/KG	178	7750	0	18,400.00	27,000.00	308,000.00	100,000.00	88,100.00	68,000.00	56,000.00	9,500.00
ARABITE	Organics	UG/KG	178	7750	0	48,400.00	67,200.00	769,000.00	233,000.00	215,000.00	164,000.00	136,000.00	23,900.00
AZINPHOS ETHYL	Pesticides	UG/KG	178	7750	0	155.00	165.00	1,210.00	863.00	643.00	308.00	260.00	125.00
BENZANTHRONE	Organics	UG/KG	178	7750	0	48,400.00	67,200.00	769,000.00	233,000.00	215,000.00	164,000.00	136,000.00	23,900.00
BENZENE	Organics	UG/KG	178	7750	0	968.00	2,920.00	31,800.00	7,210.00	5,110.00	3,150.00	2,060.00	357.00
BENZENETHIOL	Organics	UG/KG	178	7750	0	9,690.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,760.00
BENZONINE	Organics	UG/KG	178	7750	0	48,400.00	67,200.00	769,000.00	233,000.00	215,000.00	164,000.00	136,000.00	23,900.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondefects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Defect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
BENZ(GH)PERYLENE	Organics	UG/KG	176	7750	0	19,400.00	26,900.00	108,000.00	93,300.00	86,000.00	65,800.00	55,500.00	9,520.00
BENZONITRILE, 3,5-DIBROMO-4-HYDROXY-	Organics	UG/KG	176	7750	0	48,400.00	67,200.00	769,000.00	233,000.00	215,000.00	164,000.00	139,000.00	23,800.00
BENZYL ALCOHOL	Organics	UG/KG	176	7750	0	9,720.00	13,600.00	156,000.00	47,800.00	43,000.00	32,900.00	27,900.00	4,760.00
BETA-NAPHTHYLAMINE	Organics	UG/KG	176	7750	0	48,400.00	67,200.00	769,000.00	233,000.00	215,000.00	164,000.00	139,000.00	23,800.00
BIPHENYL, 4-NITRO	Organics	UG/KG	178	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,760.00
BIS(2-CHLOROETHOXY)METHANE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,760.00
BIS(2-CHLOROETHYL) ETHER	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,760.00
BIS(2-CHLOROPROPYL) ETHER	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,760.00
BROMOCHLOROMETHANE	Organics	UG/KG	176	7750	0	968.00	2,970.00	31,800.00	7,210.00	5,110.00	3,120.00	2,080.00	357.00
BROMOMETHANE	Organics	UG/KG	176	7750	0	4,830.00	14,800.00	158,000.00	38,100.00	25,500.00	15,800.00	10,400.00	1,790.00
CAPTAN	Pesticides	UG/KG	175	7720	0	632.00	870.00	5,280.00	3,710.00	2,880.00	1,140.00	851.00	492.00
CAPTAN	Pesticides	UG/KG	175	7720	0	127.00	154.00	1,050.00	747.00	541.00	328.00	194.00	98.50
CARBACOLE	Organics	UG/KG	176	7750	0	18,400.00	28,900.00	308,000.00	83,300.00	66,000.00	66,800.00	55,500.00	9,520.00
CARBOPHENOTHION (TRITHIONA)	Pesticides	UG/KG	175	7720	0	832.00	870.00	5,280.00	3,710.00	2,880.00	1,140.00	851.00	492.00
CHLORDANE	Pesticides	UG/KG	175	7720	0	317.00	335.00	2,830.00	1,860.00	1,340.00	588.00	504.00	248.00
CHLORACETONITRILE	Organics	UG/KG	176	7750	0	868.00	2,830.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
CHLOROMETHANE	Organics	UG/KG	178	7750	0	4,830.00	14,800.00	158,000.00	38,100.00	25,500.00	15,800.00	10,400.00	1,790.00
CHLOROPENTAPHOS	Pesticides	UG/KG	178	7750	0	62.10	65.80	483.00	367.00	257.00	124.00	104.00	50.00
CHLOROMETHANE	Organics	UG/KG	178	7750	0	4,830.00	14,800.00	158,000.00	38,100.00	25,500.00	15,800.00	10,400.00	1,790.00
CHLORIN	Pesticides	UG/KG	175	7614	0	128.00	133.00	970.00	723.00	517.00	249.00	208.00	102.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile		98th Percentile		95th Percentile		80th Percentile		50th Percentile	
									Mean	Standard Deviation	Observed Maximum	Percentile	Percentile	Percentile	Percentile	Percentile	Percentile	Percentile
CIS-1,3-DICHLOROPROPENE	Organics	UG/GG	176	7750	0	966.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00					
COUMAPHOS	Pesticides	UG/GG	176	7750	0	124.00	132.00	970.00	716.00	514.00	247.00	208.00	100.00					
CROTONALDEHYDE	Organics	UG/GG	176	7750	0	4,830.00	14,800.00	159,000.00	36,100.00	25,500.00	15,600.00	10,400.00	1,790.00					
CROTONPHOS	Organics	UG/GG	176	7750	0	85,800.00	133,000.00	1,520,000.00	462,000.00	428,000.00	328,000.00	275,000.00	47,100.00					
DEMETON	Pesticides	UG/GG	176	7750	0	124.00	132.00	970.00	716.00	514.00	247.00	208.00	100.00					
DI-N-PROPYLANTROSAMINE	Organics	UG/GG	176	7750	0	19,400.00	26,900.00	308,000.00	93,300.00	86,000.00	65,800.00	55,500.00	9,520.00					
DIALLATE	Pesticides	UG/GG	176	7750	0	128.00	135.00	1,050.00	743.00	537.00	251.00	188.00	88.40					
DIBENZONA MIANTHACENE	Organics	UG/GG	176	7750	0	18,400.00	26,800.00	308,000.00	83,300.00	88,800.00	65,800.00	55,500.00	9,520.00					
DIBENZOTHIOPHENE	Organics	UG/GG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,790.00					
DIBROMOCHLOROMETHANE	Organics	UG/GG	176	7750	0	968.00	2,870.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00					
DIBROMOMETHANE	Organics	UG/GG	176	7750	0	968.00	2,870.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00					
DICHLORVDS	Pesticides	UG/GG	176	7750	0	82.10	85.80	483.00	357.00	257.00	124.00	104.00	50.00					
DICROTOPHOS (BDDPH)	Pesticides	UG/GG	176	7750	0	358.00	380.00	2,790.00	2,080.00	1,680.00	712.00	568.00	268.00					
DIMETHYL ETHER	Organics	UG/GG	176	7750	0	4,890.00	14,800.00	159,000.00	38,100.00	25,500.00	15,600.00	10,400.00	1,790.00					
DIMETHYL PHTHALATE	Organics	UG/GG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,790.00					
DIMETHYL SULFONE	Organics	UG/GG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,790.00					
DIOXATHION	Pesticides	UG/GG	176	7750	0	487.00	528.00	3,870.00	2,880.00	2,080.00	968.00	831.00	400.00					
DIPHENYL ETHER	Organics	UG/GG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,790.00					
DIPHENYLAMINE	Organics	UG/GG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,790.00					
DIPHENYLSULFIDE	Organics	UG/GG	176	7750	0	19,400.00	26,900.00	308,000.00	83,300.00	88,800.00	65,800.00	55,500.00	9,520.00					

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondefects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	Sample Size	Percent Detect	Mean	Standard Deviation	Observed Maximum	93th Percentile	94th Percentile	95th Percentile	96th Percentile	90th Percentile	50th Percentile
DISULFIDON	Pesticides	UG/KG	176	176	0	62.10	65.60	483.00	357.00	257.00	124.00	104.00	104.00	50.00
ENDOSULFAN SULFATE	Pesticides	UG/KG	175	175	0	63.30	67.00	526.00	371.00	269.00	114.00	96.20	96.20	49.20
ENDRIIN ALDEHYDE	Pesticides	UG/KG	175	175	0	31.80	33.50	263.00	166.00	135.00	57.10	47.70	47.70	24.90
ENDREN KETONE	Pesticides	UG/KG	175	175	0	63.30	67.00	526.00	371.00	269.00	114.00	96.20	96.20	49.20
ETHANE, PENTACHLORO-	Organics	UG/KG	178	178	0	19,400.00	26,900.00	308,000.00	90,300.00	66,000.00	66,800.00	55,500.00	55,500.00	9,520.00
ETHANON	Pesticides	UG/KG	176	176	0	62.10	65.60	483.00	357.00	257.00	124.00	104.00	104.00	50.00
ETHYL CYANIDE	Organics	UG/KG	176	176	0	1,010.00	3,400.00	64,700.00	7,530.00	5,180.00	3,130.00	2,060.00	2,060.00	357.00
ETHYL METHACRYLATE	Organics	UG/KG	176	176	0	968.00	2,920.00	31,900.00	7,210.00	5,110.00	3,130.00	2,060.00	2,060.00	357.00
ETHYL METHANESULFONATE	Organics	UG/KG	176	176	0	19,400.00	26,900.00	308,000.00	90,300.00	66,000.00	66,800.00	55,500.00	55,500.00	9,520.00
ETHYLENETHIOUREA	Organics	UG/KG	176	176	0	19,400.00	26,900.00	308,000.00	90,300.00	66,000.00	66,800.00	55,500.00	55,500.00	9,520.00
FAMPHUR	Pesticides	UG/KG	178	178	0	62.10	65.60	483.00	357.00	257.00	124.00	104.00	104.00	50.00
FENSULFOTHRON	Pesticides	UG/KG	176	176	0	154.00	163.00	1,200.00	867.00	636.00	306.00	258.00	258.00	124.00
FENTHRON	Pesticides	UG/KG	178	178	0	62.10	65.60	483.00	357.00	257.00	124.00	104.00	104.00	50.00
FLUORENE	Organics	UG/KG	178	178	0	9,880.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	27,700.00	4,780.00
HEPTACHLOR	Pesticides	UG/KG	175	175	0	25.30	28.80	211.00	148.00	107.00	46.70	38.10	38.10	19.70
HEXACHLOROBENZENE	Organics	UG/KG	178	178	0	9,880.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	27,700.00	4,780.00
HEXACHLOROCYCLOHEXANE	Organics	UG/KG	178	178	0	9,880.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	27,700.00	4,780.00
HEXACHLOROCYCLOPENTADIENE	Organics	UG/KG	178	178	0	9,880.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	27,700.00	4,780.00
HEXACHLOROCYCLOHEXANE	Organics	UG/KG	178	178	0	9,880.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	27,700.00	4,780.00
HEXACHLOROPROPENE	Organics	UG/KG	178	178	0	19,400.00	26,900.00	308,000.00	90,300.00	66,000.00	66,800.00	55,500.00	55,500.00	9,520.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
INDEN(1,2,3-CD)PYRENE	Organics	UG/KG	176	7750	0	19,400.00	26,900.00	308,000.00	93,300.00	86,000.00	65,800.00	55,500.00	9,520.00
IODOMETHANE	Organics	UG/KG	176	7750	0	968.00	2,970.00	31,800.00	7,210.00	5,110.00	3,130.00	2,060.00	357.00
ISOBORN	Pesticides	UG/KG	175	7720	0	83.30	87.00	526.00	371.00	269.00	114.00	95.20	49.20
ISOPHOROIE	Organics	UG/KG	176	7750	0	9,640.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,780.00
ISOSAFROLE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,780.00
LEPTOPHOS	Pesticides	UG/KG	176	7750	0	75.20	78.80	583.00	402.00	315.00	148.00	125.00	50.40
LINDANE (GAMMA-BHC)	Pesticides	UG/KG	175	7720	0	31.90	33.50	263.00	186.00	135.00	57.10	51.80	24.80
LONGIOLENE	Organics	UG/KG	176	7750	0	48,400.00	87,200.00	788,000.00	233,000.00	215,000.00	184,000.00	139,000.00	23,800.00
MALACHITE GREEN	Organics	UG/KG	178	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,780.00
MALATHION	Pesticides	UG/KG	176	7750	0	82.10	85.80	483.00	357.00	257.00	124.00	104.00	50.00
MESTRANOL	Organics	UG/KG	176	7750	0	19,400.00	28,900.00	308,000.00	93,300.00	88,000.00	65,800.00	55,500.00	8,520.00
METHAUFYLENE	Organics	UG/KG	176	7750	0	8,840.00	13,400.00	154,000.00	48,700.00	43,000.00	32,800.00	27,700.00	4,780.00
METHOXYCHLOR	Pesticides	UG/KG	175	7720	0	83.30	87.00	578.00	371.00	268.00	114.00	95.20	49.20
METHYL METHACRYLATE	Organics	UG/KG	178	7750	0	968.00	2,970.00	31,800.00	7,210.00	5,110.00	3,130.00	2,060.00	357.00
METHYL METHANESULFONATE	Organics	UG/KG	178	7750	0	19,400.00	28,900.00	308,000.00	93,300.00	88,000.00	65,800.00	55,500.00	8,520.00
METHYL PARATHION	Pesticides	UG/KG	178	7750	0	62.10	85.80	483.00	357.00	257.00	124.00	104.00	50.00
MEVPHOS (PHOSORIN)	Pesticides	UG/KG	178	7750	0	62.10	85.80	483.00	357.00	257.00	125.00	104.00	50.00
MIREX	Pesticides	UG/KG	175	7720	0	83.30	87.00	526.00	371.00	268.00	114.00	95.20	49.20
MONOCROTAPHOS	Pesticides	UG/KG	178	7750	0	1,880.00	1,980.00	14,500.00	10,700.00	7,710.00	3,700.00	3,120.00	1,300.00
N-NITROSODI-N-BUTYLAMINE	Organics	UG/KG	178	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,800.00	27,700.00	4,780.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile	95th Percentile	80th Percentile	50th Percentile
N-NITROSOETHYLAMINE	Organics	UG/GG	176	7750	0	9,680.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
N-NITROSOBME THYLAMINE	Organics	UG/GG	176	7750	0	48,400.00	769,000.00	733,000.00	215,000.00	139,000.00	23,600.00
N-NITROSOBME THYLETHYLAMINE	Organics	UG/GG	176	7750	0	9,650.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
N-NITROSOBME THYLPHENYLAMINE	Organics	UG/GG	176	7750	0	95,800.00	1,520,000.00	462,000.00	426,000.00	275,000.00	47,100.00
N-NITROSOBMOBPHOLINE	Organics	UG/GG	176	7750	0	9,660.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
N-NITROSOBPFERIDINE	Organics	UG/GG	176	7750	0	9,690.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
N,N-DIMETHYLFORMAMIDE	Organics	UG/GG	176	7750	0	9,690.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
NITROBENZENE	Organics	UG/GG	176	7750	0	9,690.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
O-ANISIDINE	Organics	UG/GG	176	7750	0	9,690.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
O-TOLUIDINE	Organics	UG/GG	176	7750	0	9,690.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
O-TOLUIDINE, 5-CHLORO-	Organics	UG/GG	176	7750	0	9,680.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
P-ORBETHYLAMINAZOBENZENE	Organics	UG/GG	176	7750	0	18,400.00	26,900.00	83,900.00	86,000.00	55,500.00	9,520.00
P-NITROANILINE	Organics	UG/GG	176	7750	0	48,400.00	67,700.00	233,000.00	215,000.00	138,000.00	23,600.00
PARATHION	Pesticides	UG/GG	176	7750	0	12.40	132.00	870.00	514.00	208.00	100.00
PENTACHLOROBENZENE	Organics	UG/GG	176	7750	0	18,400.00	26,900.00	308,000.00	86,000.00	55,500.00	9,520.00
PENTACHLOROPHENOL	Organics	UG/GG	176	7750	0	48,400.00	67,700.00	788,000.00	215,000.00	138,000.00	23,600.00
PENTAMETHYLBENZENE	Organics	UG/GG	176	7750	0	9,680.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
PERYLENE	Organics	UG/GG	176	7750	0	8,720.00	13,500.00	154,000.00	43,000.00	28,000.00	4,760.00
PHENACETIN	Organics	UG/GG	176	7750	0	9,660.00	154,000.00	46,700.00	43,000.00	27,700.00	4,760.00
PHENOL, 2-METHYL-4-NITRO-	Organics	UG/GG	176	7750	0	18,400.00	26,900.00	308,000.00	86,000.00	55,500.00	9,520.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTVs	Percent Defect	Mean	Standard Deviation	Observed Maximum	99th Percentile	95th Percentile	90th Percentile	50th Percentile	
PHENOTHIAZINE	Organics	UG/KG	176	7750	0	48,400.00	87,200.00	769,000.00	233,000.00	215,000.00	164,000.00	139,000.00	23,800.00
PHORATE	Pesticides	UG/KG	176	7750	0	62.10	65.80	483.00	357.00	257.00	124.00	104.00	50.00
PHOSMET	Pesticides	UG/KG	176	7750	0	124.00	132.00	970.00	716.00	514.00	247.00	208.00	100.00
PHOSPHAMIDON	Pesticides	UG/KG	176	7750	0	373.00	396.00	2,900.00	2,150.00	1,540.00	741.00	623.00	300.00
PHOSPHORIC ACID, TRIMETHYL ESTER	Pesticides	UG/KG	176	7750	0	87.10	92.40	678.00	501.00	360.00	173.00	145.00	70.00
PHOSPHORIC TRIAMIDE, HEXAMETHYL-	Pesticides	UG/KG	176	7750	0	311.00	330.00	2,420.00	1,790.00	1,290.00	617.00	518.00	250.00
PRONAMIDE	Organics	UG/KG	176	7750	0	9,690.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,780.00
PYRIDINE	Organics	UG/KG	176	7750	0	9,690.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,780.00
RESORCINOL	Organics	UG/KG	176	7750	0	48,400.00	87,200.00	769,000.00	233,000.00	215,000.00	164,000.00	139,000.00	23,800.00
SAPROLE	Organics	UG/KG	176	7750	0	9,690.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,780.00
SQUALENE	Organics	UG/KG	176	7750	0	95,800.00	133,000.00	1,520,000.00	462,000.00	426,000.00	326,000.00	275,000.00	47,100.00
TERBUPFOS	Pesticides	UG/KG	176	7750	0	82.10	85.80	483.00	357.00	257.00	124.00	104.00	50.00
TETRACHLOROBIPHOS	Pesticides	UG/KG	176	7750	0	62.10	65.80	483.00	357.00	257.00	124.00	104.00	50.00
TETRAETHYLDITHIOPHOSPHATE	Pesticides	UG/KG	176	7750	0	62.10	65.80	483.00	357.00	257.00	124.00	104.00	50.00
THIAMPHITHENE	Organics	UG/KG	176	7750	0	9,690.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,780.00
THIOACETAMIDE	Organics	UG/KG	176	7750	0	19,400.00	26,800.00	308,000.00	93,300.00	86,000.00	65,800.00	55,800.00	9,520.00
THIOXANTHENE-8-ONE	Organics	UG/KG	176	7750	0	19,400.00	26,800.00	308,000.00	93,300.00	86,000.00	65,800.00	55,800.00	9,520.00
TOLUENE, 2,4-DIAMINO-	Organics	UG/KG	176	7750	0	95,800.00	133,000.00	1,520,000.00	462,000.00	426,000.00	326,000.00	275,000.00	47,100.00
TOXAPENE	Pesticides	UG/KG	176	7750	0	1,260.00	1,340.00	10,500.00	7,430.00	5,370.00	2,270.00	1,800.00	864.00
TRANS-1,3-DICHLOROPROPENE	Organics	UG/KG	176	7750	0	988.00	2,870.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Defect	Mean	Standard Deviation	Observed Maximum	95th Percentile	96th Percentile	95th Percentile	90th Percentile	50th Percentile
TRANS-1,4-DICHLORO-2-BUTENE	Organics	UG/KG	176	7750	0	4,880.00	14,600.00	159,000.00	36,100.00	25,500.00	15,600.00	10,400.00	1,790.00
TRIBROMOMETHANE	Organics	UG/KG	176	7750	0	966.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
TRICHLOROFENOL	Pesticides	UG/KG	176	7750	0	561.00	701.00	5,130.00	3,790.00	2,730.00	1,220.00	1,100.00	535.00
TRIPHENYLENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
TRIPROPYLENEGLYCOL METHYL ETHER	Organics	UG/KG	176	7750	0	95,800.00	133,000.00	1,520,000.00	462,000.00	428,000.00	328,000.00	275,000.00	47,100.00
VINYL ACETATE	Organics	UG/KG	176	7750	0	4,030.00	14,600.00	159,000.00	36,100.00	25,500.00	15,600.00	10,400.00	1,790.00
VINYL CHLORIDE	Organics	UG/KG	176	7750	0	966.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
1-BROMO-2-CHLOROBENZENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
1-BROMO-3-CHLOROBENZENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
1-CHLORO-3-NITROBENZENE	Organics	UG/KG	176	7750	0	48,400.00	87,200.00	769,000.00	233,000.00	215,000.00	164,000.00	136,000.00	25,800.00
1-METHYLFLUORENE	Organics	UG/KG	176	7750	0	8,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
1-METHYLPHENANTHRENE	Organics	UG/KG	176	7750	0	9,730.00	13,500.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
1-NAPHTHYLAMINE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
1-PHENYLNAPHTHALENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
1,1-DICHLOROETHANE	Organics	UG/KG	176	7750	0	988.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
1,1,1-TRICHLOROETHANE	Organics	UG/KG	176	7750	0	988.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
1,1,1,2-TETRACHLOROETHANE	Organics	UG/KG	176	7750	0	1,000.00	3,210.00	31,800.00	18,000.00	5,200.00	3,130.00	2,080.00	357.00
1,1,2-TRICHLOROETHANE	Organics	UG/KG	176	7750	0	988.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
1,1,2,2-TETRACHLOROETHANE	Organics	UG/KG	176	7750	0	988.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondefects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	Percent Defect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
1,2-DIBROMO-3-CHLOROPROPANE	Organics	UG/KG	176	7750	0	19,400.00	26,900.00	93,300.00	86,000.00	65,800.00	55,500.00	9,570.00
1,2-DIBROMOETHANE	Organics	UG/KG	176	7750	0	966.00	2,920.00	31,800.00	5,110.00	3,130.00	2,060.00	357.00
1,2-DICHLOROBENZENE	Organics	UG/KG	176	7750	0	9,700.00	13,500.00	154,000.00	43,000.00	32,900.00	27,800.00	4,760.00
1,2-DICHLOROETHANE	Organics	UG/KG	176	7750	0	966.00	2,920.00	31,800.00	5,110.00	3,130.00	2,060.00	357.00
1,2-DICHLOROPROPANE	Organics	UG/KG	176	7750	0	966.00	2,920.00	31,800.00	5,110.00	3,130.00	2,060.00	357.00
1,2-DIPHENYLHYDRAZINE	Organics	UG/KG	176	7750	0	19,400.00	26,900.00	308,000.00	86,000.00	65,800.00	55,500.00	9,570.00
1,2,3-TRICHLOROBENZENE	Organics	UG/KG	176	7750	0	9,680.00	13,500.00	154,000.00	43,000.00	32,900.00	27,800.00	4,760.00
1,2,3-TRICHLOROPROPANE	Organics	UG/KG	176	7750	0	966.00	2,920.00	31,800.00	5,110.00	3,130.00	2,060.00	357.00
1,2,3-TRIMETHOXYBENZENE	Organics	UG/KG	176	7750	0	9,690.00	13,400.00	154,000.00	43,000.00	32,900.00	27,700.00	4,760.00
1,2,4-TRICHLOROBENZENE	Organics	UG/KG	176	7750	0	9,710.00	13,700.00	184,000.00	43,000.00	32,900.00	27,800.00	4,760.00
1,2,4,5-TETRACHLOROBENZENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	43,000.00	32,900.00	27,700.00	4,760.00
1,3-BUTADIENE, 2-CHLORO	Organics	UG/KG	176	7750	0	868.00	2,920.00	31,800.00	5,110.00	3,130.00	2,060.00	357.00
1,3-DICHLORO-2-PROPANOL	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	43,000.00	32,900.00	27,700.00	4,760.00
1,3-DICHLOROBENZENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	43,000.00	32,900.00	27,800.00	4,760.00
1,3-DICHLOROPROPANE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	43,000.00	32,900.00	27,800.00	4,760.00
1,3,5-TRITHANE	Organics	UG/KG	176	7750	0	868.00	2,920.00	31,800.00	5,110.00	3,130.00	2,060.00	357.00
1,4-DIBROMOBENZENE	Organics	UG/KG	176	7750	0	48,400.00	67,200.00	788,000.00	215,000.00	164,000.00	138,000.00	23,900.00
1,4-DIBROMOBENZENE	Organics	UG/KG	176	7750	0	19,400.00	28,800.00	308,000.00	86,000.00	65,800.00	55,500.00	9,570.00
1,4-NAPHTHOQUINONE	Organics	UG/KG	176	7750	0	95,800.00	133,000.00	1,570,000.00	428,000.00	328,000.00	275,000.00	47,100.00
1,4-NAPHTHOQUINONE, 2,3-DICHLORO-	Pesticides	UG/KG	175	7720	0	401.00	370.00	2,630.00	1,430.00	964.00	624.00	280.00
1,5-NAPHTHALENE-DIAMINE	Organics	UG/KG	176	7750	0	95,800.00	133,000.00	1,570,000.00	428,000.00	328,000.00	275,000.00	47,100.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POIWs	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	80th Percentile
2-(METHYLTHIO)BENZOTHAZOLE	Organics	UG/KG	176	7750	0	9,710.00	13,500.00	154,000.00	50,400.00	43,000.00	33,000.00	28,000.00	4,760.00
2-CHLOROETHYL VINYL ETHER	Organics	UG/KG	176	7750	0	986.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
2-CHLOROPHENOL	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2-ISOPROPYLNAPHTHALENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2-METHYLBENZOTHAZOLE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2-NITROANILINE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2-NITROPHENOL	Organics	UG/KG	176	7750	0	19,400.00	26,900.00	308,000.00	93,300.00	86,000.00	66,800.00	56,500.00	9,520.00
2-PHENYLNAPHTHALENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2-PROPEN-1-OL	Organics	UG/KG	176	7750	0	966.00	2,920.00	31,800.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
2-PROPENAL	Organics	UG/KG	176	7750	0	4,830.00	14,600.00	159,000.00	36,100.00	25,500.00	15,900.00	10,400.00	1,780.00
2-PROPENE NITROLE, 2-METHYL-	Organics	UG/KG	176	7750	0	1,130.00	8,610.00	216,000.00	7,530.00	5,160.00	3,130.00	2,080.00	357.00
2,3-BENZOFURONE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2,3-DICHLOROANILINE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2,3-DICHLORONITROBENZENE	Organics	UG/KG	176	7750	0	48,400.00	87,200.00	768,000.00	233,000.00	215,000.00	184,000.00	136,000.00	23,800.00
2,3,4,8-TETRACHLOROPHENOL	Organics	UG/KG	176	7750	0	19,400.00	26,900.00	308,000.00	83,300.00	86,000.00	66,800.00	56,500.00	9,520.00
2,3,6-TRICHLOROPHENOL	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2,4-DICHLOROPHENOL	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2,4-DIMETHYLPHENOL	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2,4-DINITROPHENOL	Organics	UG/KG	176	7750	0	48,400.00	87,200.00	768,000.00	233,000.00	215,000.00	184,000.00	136,000.00	23,800.00
2,4-DINITROTOLUENE	Organics	UG/KG	176	7750	0	9,680.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
2,4,5-TRICHLOROPHENYL	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2,4,6-TRICHLOROPHENYL	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2,6-DI-TERT-BUTYL-P-BENZODIAXINE	Organics	UG/KG	176	7750	0	95,960.00	133,000.00	1,520,000.00	462,000.00	426,000.00	326,000.00	275,000.00	47,100.00
2,6-DICHLORO-4-NITROANILINE	Organics	UG/KG	176	7750	0	95,960.00	133,000.00	1,520,000.00	462,000.00	426,000.00	326,000.00	275,000.00	47,100.00
2,6-DICHLOROPHENYL	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
2,6-DINITROTOLUENE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
3-CHLOROPROPENE	Organics	UG/KG	176	7750	0	967.00	2,820.00	31,600.00	7,210.00	5,110.00	3,130.00	2,080.00	357.00
3-METHYLCHLORANTHRENE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
3-NITROANILINE	Organics	UG/KG	176	7750	0	19,400.00	26,900.00	308,000.00	90,300.00	86,000.00	65,800.00	56,500.00	8,520.00
3,3'-DICHLOROBENZIDINE	Organics	UG/KG	176	7750	0	48,400.00	67,200.00	769,000.00	233,000.00	215,000.00	164,000.00	139,000.00	23,800.00
3,3'-DIMETHOXYBENZIDINE	Organics	UG/KG	176	7750	0	48,400.00	67,200.00	769,000.00	233,000.00	215,000.00	164,000.00	139,000.00	23,800.00
3,6-DIMETHYLPHENANTHRENE	Organics	UG/KG	176	7750	0	8,750.00	13,500.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
4-AMINOBIPHENYL	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
4-BROMOPHENYL PHENYL ETHER	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
4-CHLORO-2-NITROANILINE	Organics	UG/KG	176	7750	0	18,400.00	26,900.00	308,000.00	90,300.00	86,000.00	65,800.00	56,500.00	9,520.00
4-CHLORO-3-METHYLPHENOL	Organics	UG/KG	176	7750	0	9,780.00	13,800.00	154,000.00	50,400.00	43,000.00	33,000.00	28,000.00	4,760.00
4-CHLOROPHENYLPHENYL ETHER	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
4-NITROPHENOL	Organics	UG/KG	176	7750	0	48,400.00	67,200.00	769,000.00	233,000.00	215,000.00	164,000.00	139,000.00	23,800.00
4,4'-DDD	Pesticides	UG/KG	175	7720	0	63.30	67.10	528.00	419.00	394.00	114.00	85.30	49.20
4,4'-METHYLENES(2-CHLOROANILINE)	Organics	UG/KG	178	7750	0	19,400.00	26,900.00	308,000.00	90,300.00	86,000.00	65,800.00	56,500.00	9,520.00

TABLE 3. NATIONAL POLLUTANT CONCENTRATION PERCENTILE ESTIMATES FROM THE NATIONAL SEWAGE SLUDGE SURVEY
Candidate Pollutants for Round Two Regulations

Nonparametric Substitution Method Estimation Procedure - Nondetects Set to the Minimum Level

Pollutant	Type	Unit	Sample Size	POTWs	Percent Detect	Mean	Standard Deviation	Observed Maximum	99th Percentile	98th Percentile	95th Percentile	90th Percentile	50th Percentile
4,5-METHYLENE PHENANTHRENE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
5-NITRO-O-TOLUIDINE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
7,12-DIMETHYLBENZ(A)ANTHRACENE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
ACENAPHTHENE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
ACENAPHTHYLENE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
ACRYLONITRILE	Organics	UG/KG	176	7750	0	4,830.00	14,600.00	159,000.00	36,100.00	25,500.00	15,600.00	10,400.00	1,790.00
ANILINE	Organics	UG/KG	176	7750	0	9,660.00	13,400.00	154,000.00	46,700.00	43,000.00	32,900.00	27,700.00	4,760.00
dioxins a	Dioxins	NG/KG	174	7714	0	90.40	177.00	1,820.00	586.00	532.00	311.00	218.00	50.40
PCB a	Polychlorinated Biphenyls	UG/KG	175	7720	0	2,120.00	2,480.00	14,700.00	13,400.00	12,300.00	5,400.00	3,050.00	1,490.00
PCB-1016	Polychlorinated Biphenyls	UG/KG	175	7720	0	253.00	268.00	2,110.00	1,490.00	1,070.00	454.00	381.00	197.00
PCB-1221	Polychlorinated Biphenyls	UG/KG	175	7720	0	253.00	268.00	2,110.00	1,490.00	1,070.00	454.00	381.00	197.00
PCB-1232	Polychlorinated Biphenyls	UG/KG	175	7720	0	253.00	268.00	2,110.00	1,490.00	1,070.00	454.00	381.00	197.00
PCB-1242	Polychlorinated Biphenyls	UG/KG	175	7720	0	253.00	268.00	2,110.00	1,490.00	1,070.00	454.00	381.00	197.00

(a) Compounds considered a detect if all individual congeners or PCBs are measured above the minimum level.