TABLE C.1.2–4.—*Contaminants with Values Greater than or without Defined Water Quality Criteria for Surface Water Sampling Locations at Permitted Outfalls and Pantex Playas for 1990 to 1994*

PARAMETER	UNITS	STD	MAX	AVG	# OF SAMP	YEAR	LOCATION
3,3'-dichlorobenzidine	mg/L	0.00015	0.04	0.034	4	1993	OW–WR–01
Aluminum	mg/L	0.84	13	2.2	10	1991	11–20
Aluminum	mg/L	0.84	6.1	2.4	8	1991	12–17–N
Aluminum	mg/L	0.84	8.9	2.4	22	1992	16–1
Aluminum	mg/L	0.84	5.8	3.7	9	1993	16–1
Aluminum	mg/L	0.84	27	4.5	12	1994	16–1
Aluminum	mg/L	0.84	12	5.3	9	1991	16–1
Aluminum	mg/L	0.84	2.4	2.4	1	1994	NDITCH
Aluminum	mg/L	0.84	12	7.4	5	1993	OW–WR–01
Aluminum	mg/L	0.84	32	19.6	3	1994	OW–WR–01
Aluminum	mg/L	0.84	2.1	2.1	1	1994	OW–WR–24
Aluminum	mg/L	0.84	15	9.7	5	1994	OW–WR–27
Aluminum	mg/L	0.84	2.2	1.9	2	1993	OW–WR–34
Aluminum	mg/L	0.84	22.7	9.5	6	1994	OW–WR–34
Aluminum	mg/L	0.84	130	70	3	1993	OW–WR–36
Aluminum	mg/L	0.84	7	3.1	8	1992	Z–12–EN
Aluminum	mg/L	0.84	16	5.5	5	1991	Z–12–EN
Aluminum	mg/L	0.84	44	8	9	1994	Z–12–EN
Aluminum	mg/L	0.84	27	10.2	5	1993	Z–12–EN
Aluminum	mg/L	0.84	21	4.4	37	1993	Z–12–S
Aluminum	mg/L	0.84	18	5.3	21	1994	Z–12–S
Aluminum	mg/L	0.84	9.3	5.7	4	1990	Z–12–S
Aluminum	mg/L	0.84	30	7.7	13	1991	Z–12–S
Aluminum	mg/L	0.84	6.4	1.1	12	1991	Z–12–W
Aluminum	mg/L	0.84	6.3	1.5	15	1994	Z–12–W
Aluminum	mg/L	0.84	9	2.7	9	1993	Z–12–W
Aluminum	mg/L	0.84	19	4.2	22	1992	Z–12–W
Ammonia (as N)	mg/L	5/10	12	5.8	14	1993	INCOMING
Ammonia (as N)	mg/L	5/10	12.5	7.9	15	1994	INCOMING
Antimony	mg/L	Report	0.06	0.03	91	1994	DACAUTO
Barium	mg/L	1	10.0	1.7	6	1993	11–20
Barium	mg/L	1	3.4	1.2	3	1990	12–17–N
Beryllium	mg/L	Report	0.005	0.003	91	1994	DACAUTO

TABLE C.1.2–4.—*Contaminants with Values Greater than or without Defined Water Quality Criteria for Surface Water Sampling Locations at Permitted Outfalls and Pantex Playas for 1990 to 1994*-Continued

PARAMETER	UNITS	STD	MAX	AVG	# OF SAMP	YEAR	LOCATION
Beryllium	mg/L	Report	0.005	0.005	64	1991	DACAUTO
Beryllium	mg/L	Report	0.004	0.005	14	1993	INCOMING
BOD	mg/L	30/70	152	45	80	1994	INCOMING
Chromium	mg/L	0.043	28	3.5	8	1990	Z–12–S
Chromium	mg/L	0.009	0.1	NA	1	1990	11–20
Chromium	mg/L	0.009	0.012	<0.006	10	1991	11–20
Chromium	mg/L	0.043	0.057	0.038	2	1991	OW–WR–24
Chromium	mg/L	0.043	0.08	0.04	3	1993	OW–WR–36
Chromium	mg/L	0.043	0.3	0.03	16	1994	Incoming
Chromium (hexavalent)	mg/L	0.016	0.12	0.12	1	1990	12–17–N
Chromium (hexavalent)	mg/L	0.016	0.02	0.02	3	1994	OW–WR–34
Chromium (hexavalent)	mg/L	0.016	0.8	0.2	7	1990	Z–12–S
Copper	mg/L	0.024	0.15	0.044	8	1991	12–17–N
Copper	mg/L	0.024	0.051	0.033	11	1993	12–17–S
Copper	mg/L	0.024	0.093	0.025	10	1993	12–19–N
Copper	mg/L	0.024	0.26	0.061	10	1993	12–19–S
Copper	mg/L	0.024	0.54	0.068	14	1993	INCOMING
Copper	mg/L	0.024	13	0.8	16	1994	INCOMING
Copper	mg/L	0.024	0.046	0.038	2	1991	OW–WR–24
Copper	mg/L	0.024	0.07	0.04	3	1993	OW–WR–36
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	NA	1	1990	11–20
Gross Alpha (dissolved)	µCi E-9/ml	NA	3	3	1	1993	11–50
Gross Alpha (dissolved)	µCi E-9/ml	NA	9	NA	2	1990	12–43
Gross Alpha (dissolved)	µCi E-9/ml	NA	6	6	2	1993	12–43
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	0.7	6	1993	16–1
Gross Alpha (dissolved)	µCi E-9/ml	NA	6	0.88	8	1991	16–1
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	0.92	7	1994	16–1
Gross Alpha (dissolved)	µCi E-9/ml	NA	7	NA	2	1990	DAC
Gross Alpha (dissolved)	µCi E-9/ml	NA	12	7.2	15	1994	DAC
Gross Alpha (dissolved)	µCi E-9/ml	NA	14	7.9	14	1993	DAC
Gross Alpha (dissolved)	µCi E-9/ml	NA	1	NA	1	1990	DACAUTO
Gross Alpha (dissolved)	µCi E-9/ml	NA	11	4.25	12	1991	DACAUTO
Gross Alpha (dissolved)	µCi E-9/ml	NA	11	3.92	12	1991	INCOMING
Gross Alpha (dissolved)	µCi E-9/ml	NA	8	4.75	4	1990	INCOMING
Gross Alpha (dissolved)	µCi E-9/ml	NA	8	5	14	1994	INCOMING

TABLE C.1.2–4.—*Contaminants with Values Greater than or without Defined Water Quality Criteria for Surface Water Sampling Locations at Permitted Outfalls and Pantex Playas for 1990 to 1994*-Continued

PARAMETER	UNITS	STD	MAX	AVG	# OF SAMP	YEAR	LOCATION
Gross Alpha (dissolved)	µCi E-9/ml	NA	12	6.2	13	1993	INCOMING
Gross Alpha (dissolved)	µCi E-9/ml	NA	9	6.2	13	1993	Lagoon
Gross Alpha (dissolved)	µCi E-9/ml	NA	13	6.93	14	1994	Lagoon
Gross Alpha (dissolved)	µCi E-9/ml	NA	3	2	3	1994	OW–WR–01
Gross Alpha (dissolved)	µCi E-9/ml	NA	11	2.43	7	1991	OW–WR–01
Gross Alpha (dissolved)	µCi E-9/ml	NA	12	5	5	1993	OW–WR–01
Gross Alpha (dissolved)	µCi E-9/ml	NA	1	1	1	1994	OW–WR–24
Gross Alpha (dissolved)	µCi E-9/ml	NA	3	1.5	2	1991	OW–WR–24
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	NA	5	1991	OW–WR–27
Gross Alpha (dissolved)	µCi E-9/ml	NA	3	1.4	5	1994	OW–WR–27
Gross Alpha (dissolved)	µCi E-9/ml	NA	1	0.8	4	1993	OW–WR–34
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	1.5	4	1994	OW–WR–34
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	1	3	1993	OW–WR–36
Gross Alpha (dissolved)	µCi E-9/ml	NA	1	NA	5	1991	Z–12–EN
Gross Alpha (dissolved)	µCi E-9/ml	NA	1	0.33	3	1994	Z–12–EN
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	1.5	2	1993	Z–12–EN
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	0.8	7	1994	Z–12–S
Gross Alpha (dissolved)	µCi E-9/ml	NA	7	1.92	12	1991	Z–12–S
Gross Alpha (dissolved)	µCi E-9/ml	NA	8	4.1	8	1993	Z–12–S
Gross Alpha (dissolved)	µCi E-9/ml	NA	4	NA	1	1990	Z–12–W
Gross Alpha (dissolved)	µCi E-9/ml	NA	2	1.03	9	1994	Z–12–W
Gross Alpha (dissolved)	µCi E-9/ml	NA	6	1.92	12	1991	Z–12–W
Gross Alpha (dissolved)	µCi E-9/ml	NA	6	2.7	6	1993	Z–12–W
Gross Alpha (suspended)	µCi E-9/ml	NA	0	NA	1	1990	11–20
Gross Alpha (suspended)	µCi E-9/ml	NA	1	1	1	1993	11–50
Gross Alpha (suspended)	µCi E-9/ml	NA	1	0.5	2	1993	12–43
Gross Alpha (suspended)	µCi E-9/ml	NA	2	1.22	7	1994	16–1
Gross Alpha (suspended)	µCi E-9/ml	NA	2	1.5	6	1993	16–1
Gross Alpha (suspended)	µCi E-9/ml	NA	7	2.5	8	1991	16–1
Gross Alpha (suspended)	µCi E-9/ml	NA	3	NA	2	1990	DAC
Gross Alpha (suspended)	µCi E-9/ml	NA	1	0.1	14	1993	DAC
Gross Alpha (suspended)	µCi E-9/ml	NA	1	0.2	15	1994	DAC
Gross Alpha (suspended)	µCi E-9/ml	NA	12	NA	1	1990	DACAUTO
Gross Alpha (suspended)	µCi E-9/ml	NA	1	0.08	12	1991	DACAUTO
Gross Alpha (suspended)	µCi E-9/ml	NA	3	0.8	13	1993	INCOMING

TABLE C.1.2–4.—*Contaminants with Values Greater than or without Defined Water Quality Criteria for Surface Water Sampling Locations at Permitted Outfalls and Pantex Playas for 1990 to 1994*-Continued

PARAMETER	UNITS	STD	MAX	AVG	# OF SAMP	YEAR	LOCATION
Gross Alpha (suspended)	µCi E-9/ml	NA	3	1.25	4	1990	INCOMING
Gross Alpha (suspended)	µCi E-9/ml	NA	5	1.43	14	1994	INCOMING
Gross Alpha (suspended)	µCi E-9/ml	NA	6	1.58	12	1991	INCOMING
Gross Alpha (suspended)	µCi E-9/ml	NA	2	0.2	13	1993	Lagoon
Gross Alpha (suspended)	µCi E-9/ml	NA	1	0.29	14	1994	Lagoon
Gross Alpha (suspended)	µCi E-9/ml	NA	4	2	5	1993	OW–WR–01
Gross Alpha (suspended)	µCi E-9/ml	NA	7	2.86	7	1991	OW–WR–01
Gross Alpha (suspended)	µCi E-9/ml	NA	17	9.67	3	1994	OW–WR–01
Gross Alpha (suspended)	µCi E-9/ml	NA	8	6	2	1991	OW–WR–24
Gross Alpha (suspended)	µCi E-9/ml	NA	2	0.2	5	1991	OW–WR–27
Gross Alpha (suspended)	µCi E-9/ml	NA	5	3.4	5	1994	OW–WR–27
Gross Alpha (suspended)	µCi E-9/ml	NA	1	1	4	1993	OW–WR–34
Gross Alpha (suspended)	µCi E-9/ml	NA	12	8.5	4	1994	OW–WR–34
Gross Alpha (suspended)	µCi E-9/ml	NA	8	5	2	1991	OW–WR–36
Gross Alpha (suspended)	µCi E-9/ml	NA	39	18.7	3	1993	OW–WR–36
Gross Alpha (suspended)	µCi E-9/ml	NA	1	0.33	3	1994	Z–12–EN
Gross Alpha (suspended)	µCi E-9/ml	NA	3	1.6	5	1991	Z–12–EN
Gross Alpha (suspended)	µCi E-9/ml	NA	7	5	2	1993	Z–12–EN
Gross Alpha (suspended)	µCi E-9/ml	NA	3	0.9	8	1993	Z–12–S
Gross Alpha (suspended)	µCi E-9/ml	NA	5	2.32	7	1994	Z–12–S
Gross Alpha (suspended)	µCi E-9/ml	NA	17	4.08	12	1991	Z–12–S
Gross Alpha (suspended)	µCi E-9/ml	NA	7	0.5	12	1991	Z–12–W
Gross Alpha (suspended)	µCi E-9/ml	NA	2	0.74	9	1994	Z–12–W
Gross Alpha (suspended)	µCi E-9/ml	NA	2	1	6	1993	Z–12–W
Gross Beta (dissolved)	µCi E-9/ml	NA	2	NA	1	1990	11–20
Gross Beta (dissolved)	µCi E-9/ml	NA	9	9	1	1993	11–50
Gross Beta (dissolved)	µCi E-9/ml	NA	7	NA	2	1990	12–43
Gross Beta (dissolved)	µCi E-9/ml	NA	9	7.5	2	1993	12–43
Gross Beta (dissolved)	µCi E-9/ml	NA	16	7.8	6	1993	16–1
Gross Beta (dissolved)	µCi E-9/ml	NA	13	8.75	8	1991	16–1
Gross Beta (dissolved)	µCi E-9/ml	NA	37	12.14	7	1994	16–1
Gross Beta (dissolved)	µCi E-9/ml	NA	13	NA	2	1990	DAC
Gross Beta (dissolved)	µCi E-9/ml	NA	17	11.5	14	1993	DAC
Gross Beta (dissolved)	µCi E-9/ml	NA	46	13.2	15	1994	DAC
Gross Beta (dissolved)	µCi E-9/ml	NA	16	9.92	12	1991	DACAUTO

TABLE C.1.2–4.—*Contaminants with Values Greater than or without Defined Water Quality Criteria for Surface Water Sampling Locations at Permitted Outfalls and Pantex Playas for 1990 to 1994*-Continued

PARAMETER	UNITS	STD	MAX	AVG	# OF SAMP	YEAR	LOCATION
Gross Beta (dissolved)	µCi E-9/ml	NA	14	10.25	12	1991	INCOMING
Gross Beta (dissolved)	µCi E-9/ml	NA	21	11.2	13	1993	INCOMING
Gross Beta (dissolved)	µCi E-9/ml	NA	13	11.5	4	1990	INCOMING
Gross Beta (dissolved)	µCi E-9/ml	NA	22	11.5	14	1994	INCOMING
Gross Beta (dissolved)	µCi E-9/ml	NA	18	11.2	13	1993	Lagoon
Gross Beta (dissolved)	µCi E-9/ml	NA	18	11.43	14	1994	Lagoon
Gross Beta (dissolved)	µCi E-9/ml	NA	12	9.43	7	1991	OW–WR–01
Gross Beta (dissolved)	µCi E-9/ml	NA	15	11.33	3	1994	OW–WR–01
Gross Beta (dissolved)	µCi E-9/ml	NA	16	11.8	5	1993	OW–WR–01
Gross Beta (dissolved)	µCi E-9/ml	NA	8	8	1	1994	OW–WR–24
Gross Beta (dissolved)	µCi E-9/ml	NA	19	17	2	1991	OW–WR–24
Gross Beta (dissolved)	µCi E-9/ml	NA	15	12.2	5	1991	OW–WR–27
Gross Beta (dissolved)	µCi E-9/ml	NA	24	17	5	1994	OW–WR–27
Gross Beta (dissolved)	µCi E-9/ml	NA	62	29.5	4	1994	OW–WR–34
Gross Beta (dissolved)	µCi E-9/ml	NA	40	38.3	4	1993	OW–WR–34
Gross Beta (dissolved)	µCi E-9/ml	NA	25	13.5	2	1991	OW–WR–36
Gross Beta (dissolved)	µCi E-9/ml	NA	18	13.7	3	1993	OW–WR–36
Gross Beta (dissolved)	µCi E-9/ml	NA	8	7	5	1991	Z–12–EN
Gross Beta (dissolved)	µCi E-9/ml	NA	9	7.67	3	1994	Z–12–EN
Gross Beta (dissolved)	µCi E-9/ml	NA	12	10.5	2	1993	Z–12–EN
Gross Beta (dissolved)	µCi E-9/ml	NA	11	5.44	7	1994	Z–12–S
Gross Beta (dissolved)	µCi E-9/ml	NA	13	6.42	12	1991	Z–12–S
Gross Beta (dissolved)	µCi E-9/ml	NA	11	7	8	1993	Z–12–S
Gross Beta (dissolved)	µCi E-9/ml	NA	8	NA	1	1990	Z–12–W
Gross Beta (dissolved)	µCi E-9/ml	NA	14	NA	12	1991	Z–12–W
Gross Beta (dissolved)	µCi E-9/ml	NA	11	7.7	6	1993	Z–12–W
Gross Beta (dissolved)	µCi E-9/ml	NA	20	8.26	9	1994	Z–12–W
Gross Beta (suspended)	µCi E-9/ml	NA	2	2	1	1993	11–50
Gross Beta (suspended)	µCi E-9/ml	NA	2	1	2	1993	12–43
Gross Beta (suspended)	µCi E-9/ml	NA	4	2.42	7	1994	16–1
Gross Beta (suspended)	µCi E-9/ml	NA	7	3.8	6	1993	16–1
Gross Beta (suspended)	µCi E-9/ml	NA	16	4.63	8	1991	16–1
Gross Beta (suspended)	µCi E-9/ml	NA	2	NA	2	1990	DAC
Gross Beta (suspended)	µCi E-9/ml	NA	3	1.2	14	1993	DAC
Gross Beta (suspended)	µCi E-9/ml	NA	3	1.27	15	1994	DAC

TABLE C.1.2–4.—*Contaminants with Values Greater than or without Defined Water Quality Criteria for Surface Water Sampling Locations at Permitted Outfalls and Pantex Playas for 1990 to 1994*-Continued

PARAMETER	UNITS	STD	MAX	AVG	# OF SAMP	YEAR	LOCATION
Gross Beta (suspended)	µCi E-9/ml	NA	3.5	NA	1	1990	DACAUTO
Gross Beta (suspended)	µCi E-9/ml	NA	4	0.92	12	1991	DACAUTO
Gross Beta (suspended)	µCi E-9/ml	NA	5	0.92	12	1991	INCOMING
Gross Beta (suspended)	µCi E-9/ml	NA	2	1.07	14	1994	INCOMING
Gross Beta (suspended)	µCi E-9/ml	NA	3	1.1	13	1993	INCOMING
Gross Beta (suspended)	µCi E-9/ml	NA	3	1.75	4	1990	INCOMING
Gross Beta (suspended)	µCi E-9/ml	NA	4	1.64	14	1994	Lagoon
Gross Beta (suspended)	µCi E-9/ml	NA	4	1.7	13	1993	Lagoon
Gross Beta (suspended)	µCi E-9/ml	NA	8	4.8	5	1993	OW–WR–01
Gross Beta (suspended)	µCi E-9/ml	NA	14	5.14	7	1991	OW–WR–01
Gross Beta (suspended)	µCi E-9/ml	NA	24	14	3	1994	OW–WR–01
Gross Beta (suspended)	µCi E-9/ml	NA	13	8	2	1991	OW–WR–24
Gross Beta (suspended)	µCi E-9/ml	NA	2	0.6	5	1991	OW–WR–27
Gross Beta (suspended)	µCi E-9/ml	NA	14	10.4	5	1994	OW–WR–27
Gross Beta (suspended)	µCi E-9/ml	NA	4	3.5	4	1993	OW–WR–34
Gross Beta (suspended)	µCi E-9/ml	NA	16	13.3	4	1994	OW–WR–34
Gross Beta (suspended)	µCi E-9/ml	NA	12	10.5	2	1991	OW–WR–36
Gross Beta (suspended)	µCi E-9/ml	NA	93	48	3	1993	OW–WR–36
Gross Beta (suspended)	µCi E-9/ml	NA	5	2.67	3	1994	Z–12–EN
Gross Beta (suspended)	µCi E-9/ml	NA	9	3.4	5	1991	Z–12–EN
Gross Beta (suspended)	µCi E-9/ml	NA	14	8.5	2	1993	Z–12–EN
Gross Beta (suspended)	µCi E-9/ml	NA	11	4.1	8	1993	Z–12–S
Gross Beta (suspended)	µCi E-9/ml	NA	12	4.33	12	1991	Z–12–S
Gross Beta (suspended)	µCi E-9/ml	NA	8	4.48	7	1994	Z–12–S
Gross Beta (suspended)	µCi E-9/ml	NA	1	NA	1	1990	Z–12–W
Gross Beta (suspended)	µCi E-9/ml	NA	5	0.67	12	1991	Z–12–W
Gross Beta (suspended)	µCi E-9/ml	NA	3	1.45	9	1994	Z–12–W
Gross Beta (suspended)	µCi E-9/ml	NA	5	3	6	1993	Z–12–W
Mercury	mg/L	0.0024	0.0033	0.0033	1	1990	NDITCH
Methylene Chloride	mg/L	NA	0.031	0.0075	15	1994	INCOMING
Methylene Chloride	mg/L	NA	0.006	0.0058	6	1994	Z–12–S
Nickel	mg/L	0.03	2.2	2.2	1	1990	11–20
Oil & Grease	mg/L	15	160	24.38	13	1994	INCOMING
Oil & Grease	mg/L	15	30	16	2	1990	Z–12–S
Oil & Grease	mg/L	15	16	16	1	1990	Z–12–W

TABLE C.1.2–4.—*Contaminants with Values Greater than or without Defined Water Quality Criteria for Surface Water Sampling Locations at Permitted Outfalls and Pantex Playas for 1990 to 1994*-Continued

PARAMETER	UNITS	STD	MAX	AVG	# OF SAMP	YEAR	LOCATION
Orthophosphate	mg/L	NA	0.2	0.2	1	1990	11–20
PETN	mg/L	0.8	0.79	0.426	11	1993	11–50
RDX	mg/L	NA	0.019	0.017	5	1993	OW–WR–01
RDX	mg/L	NA	0.014	0.018	3	1994	OW–WR–01
Selenium	mg/L	0.02	0.034	0.034	1	1990	12–19–N
Selenium	mg/L	0.02	0.056	0.04	4	1990	NDITCH
Tetrahydrofuran	mg/L	NA	0.62	0.093	7	1993	12–43
Tetrahydrofuran	mg/L	NA	330	124	10	1990	12–43
Tetrahydrofuran	mg/L	NA	0.084	0.0138	9	1994	INCOMING
Total Suspended Solids	mg/L	NA	260	158.7	7	1993	OW–WR–01
Total Suspended Solids	mg/L	NA	330	195	3	1991	OW–WR–01
Total Suspended Solids	mg/L	NA	600	465	2	1994	OW–WR–01
Total Suspended Solids	mg/L	NA	255	191.67	3	1994	OW–WR–27
Total Suspended Solids	mg/L	NA	557	280.33	6	1994	OW–WR–34
Total Suspended Solids	mg/L	NA	2900	1316	5	1993	OW–WR–36
Zinc	mg/L	0.144	0.7	0.165	8	1991	12–17–N
Zinc	mg/L	0.144	0.47	0.47	1	1990	12–43
Zinc	mg/L	0.144	0.44	0.24	3	1993	OW–WR–36

Note: The Wastewater Treatment Facility (Outfall 001) includes the following specific effluent sampling locations: Influent into the Wastewater Treatment facility (INCOMING), treatment lagoon, composite sampler at chlorinator (DACAUTO), and effluent. It should be noted that wastewater influent collected at the inlet weir (INCOMING) to the Wastewater Treatment Facility and the treatment lagoon have not undergone wastewater treatment and, therefore, would not be expected to meet the effluent discharge limitations.

Constituent abbreviations:

BOD - Biological oxygen demand
PETN- pentaerythritohetranitrate
RDX - Research development explosive

NA - Not Applicable

Sources: MH 1991; Battelle 1992; Battelle 1993; DOE 1994a; DOE 1995