

**TABLE C.1.2-1.—Defined Surface Water Quality Decision
Criteria for Pantex Plant Surface Water**

PARAMETERS	UNITS	STD	BACKGROUND (BUSHLAND) (1994)	
			MAX.	AVG.
METALS				
Aluminum	mg/L	0.84/1.77 ⁽³⁾	22.700	9.500
Antimony	mg/L	*	NA	0.048
Arsenic	mg/L	0.360 ⁽¹⁾	0.030	0.010
Barium	mg/L	1.0 ⁽²⁾	0.300	0.270
Beryllium	mg/L	*	NA	0.008
Boron	mg/L	NA	0.100	0.075
Bromide	mg/L	NA	1.300	0.610
Cadmium	mg/L	0.045 ^(1,5)	NA	0.004
Calcium	mg/L	NA	47.800	39.700
Chromium (hexavalent)	mg/L	0.016 ⁽¹⁾	0.020	0.020
Chromium	mg/L	*	0.020	0.009
Cobalt	mg/L	*	0.005	0.012
Copper	mg/L	0.024 ^(1,5)	0.040	0.016
Cyanide	mg/L	0.046 ⁽¹⁾	0.010	0.006
Fluoride	mg/L	4.0 ⁽²⁾	0.600	0.500
Iron	mg/L	NA	15.400	6.400
Lead	mg/L	0.112 ^(1,5)	0.020	0.010
Magnesium	mg/L	NA	9.000	7.200
Manganese	mg/L	*	0.200	0.200
Mercury	mg/L	0.0024 ⁽¹⁾	NA	0.0001
Molybdenum	mg/L	*	NA	0.200
Nickel	mg/L	1.75 ^(1,5)	0.020	0.011
Nitrate [as Nitrogen (N)]	mg/L	10.0 ⁽²⁾	0.890	0.500
Nitrite (N)	mg/L	NA	0.490	0.150
Potassium	mg/L	NA	23.400	19.800
Selenium	mg/L	0.02 ⁽¹⁾	NA	0.005
Scandium	mg/L	NA	NM	NM
Silica	mg/L	NA	53.000	26.100
Silver	mg/L	0.05 ^(2,6)	NA	0.005
Sodium	mg/L	NA	25.000	5.700
Strontium	mg/L	NA	0.170	0.200
Thallium	mg/L	*	NA	0.200

**TABLE C.1.2-1.—Defined Surface Water Quality Decision
Criteria for Pantex Plant Surface Water-Continued**

PARAMETERS	UNITS	STD	BACKGROUND (BUSHLAND) (1994)	
			MAX.	AVG.
Tin	mg/L	NA	NA	0.040
Titanium	mg/L	*	0.300	0.130
Vanadium	mg/L	NA	0.040	0.030
Zinc	mg/L	0.144 ^(1,5)	0.200	0.070
RADIOACTIVE MATERIALS				
Gross Alpha (dissolved)	μCi E-9/ml	NA	2 +/-1	1.5 +/-1.0
Gross Alpha (suspended)	μCi E-9/ml	NA	12 +/-5	8.5 +/-4.0
Gross Beta (dissolved)	μCi E-9/ml	NA	62 +/-6	29.5 +/-3.0
Gross Beta (suspended)	μCi E-9/ml	NA	100 +/-20	58.5 +/-11.5
Plutonium-239/240	μCi E-9/ml	30.0 ⁽⁴⁾	0.03 +/-0.04	0.015 +/-0.033
Radium-226	μCi E-9/ml	100.0 ⁽⁴⁾	0.9 +/-0.4	0.65 +/-0.33
Radium-228	μCi E-9/ml	100.0 ⁽⁴⁾	1.4 +/-0.5	1.15 +/-0.6
Tritium	μCi E-6/ml	2000.0 ⁽⁴⁾	0.12 +/-0.21	0.078 +/-0.205
Uranium-234	μCi E-9/ml	500.0 ⁽⁴⁾	0.6 +/-0.2	0.3 +/-0.15
Uranium-238	μCi E-9/ml	600.0 ⁽⁴⁾	0.3 +/-0.2	0.23 +/-0.15
ORGANICS				
2,4-dinitrotoluene	mg/L	0.1 ⁽²⁾	NM	NM
3,3'-dichlorobenzidine	mg/L	*	NM	NM
4-methyl-2-pentanone	mg/L	NA	NM	NM
4-methylphenol	mg/L	NA	NM	NM
Acetone	mg/L	NA	NM	NM
Benzoic Acid	mg/L	NA	NM	NM
Chloroform	mg/L	*	NM	NM
Dieldrin	mg/L	0.0025 ⁽¹⁾	NM	NM
Endrin	mg/L	0.00018 ⁽¹⁾	NM	NM
Ethylbenzene	mg/L	*	NM	NM
Heptachlor	mg/L	0.00052 ⁽¹⁾	NM	NM
Lindane	mg/L	0.002 ⁽¹⁾	NM	NM
Methylene chloride	mg/L	*	NM	NM
Phenol	mg/L	*	0.030	0.020
Tetrahydrofuran	mg/L	NA	NM	NM
Toluene	mg/L	*	NM	NM
Total Xylenes	mg/L	NA	NM	NM

**TABLE C.1.2-1.—Defined Surface Water Quality Decision
Criteria for Pantex Plant Surface Water-Continued**

PARAMETERS	UNITS	STD	BACKGROUND (BUSHLAND) (1994)	
			MAX.	AVG.
HIGH EXPLOSIVES				
HMX	mg/L	*	NM	NM
PETN	mg/L	*	NM	NM
RDX	mg/L	*	NM	NM
TNT	mg/L	*	NM	NM
MISCELLANEOUS				
Ammonia (as N)	mg/L	*	0.200	0.180
Biochemical Oxygen Demand	mg/L	*	21.000	11.800
Chemical Oxygen Demand	mg/L	*	120.000	67.000
Chloride	mg/L	NA	7.000	4.500
Oil & Grease	mg/L	*	6.000	2.320
Sulfate	mg/L	NA	13.000	6.460
Specific Conductance	µmho/cm	NA	NM	NM
Total Dissolved Solids	mg/L	*	420.000	331.670
Total Organic Carbon	mg/L	NA	31.000	15.670
Total Organic Halogen	mg/L	NA	14.000	9.340
Total Suspended Solids	mg/L	*	557.000	280.330
pH		*	8.800	7.940

¹TWC 1991:Table 1

²TWC 1991:Table 3

³TNRCC Permit No. 02296 (daily average/daily maximum) (TNRCC 1996).

⁴DOE Derived Concentration Guidelines (DCGs) (DOE Order 5400.5).

⁵Specific numerical criteria exists, however it is a function of water hardness which was not measured (assume a hardness of 128 mg/L as CaCO₃ to estimate each).

⁶Used Human Health Protection because Aquatic Life Protection had silver as free ion (0.00092 mg/L), which was not measured.

* NPDES Permit No. TX-0107107. Permit limits vary per sampling location. See Table C.1.2-2.

HMX - High melt explosive

NA - Not Applicable; NM - Not Measured; STD - Standard

PTEN - Pentaerythritoltetranitrate

RDX - Research development explosive

TNT - Trinitrotoluene