Utah Division of Water Quality
Statement of Basis
ADDENDUM
Wagtaland Analysis and Antidegradation Le

Wasteload Analysis and Antidegradation Level I Review

Date: July 10, 2020

Prepared by: Suzan Tahir

Standards and Technical Services

Facility: Monticello City Waste Water Treatment Plant,

UPDES Permit No. UT002450

Receiving water: Montezuma Creek (1C, 2A, 3B, 4)

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge

001 Outfall (Lagoon Discharge) 0.32 MGD maximum daily discharge 001R Reuse Discharge

Receiving Water

The designated beneficial uses of the Montezuma Creek-2, Montezuma Creek and tributaries from Verdure Creek confluence to U.S. 191 are 1C, 2A, 3B, 4.

- Class 1C Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water
- Class 2A Protected for frequent primary contact recreation where there is a high likelihood of ingestion of water or a high degree of bodily contact with the water. Examples include, but are not limited to, swimming, rafting, kayaking, diving, and water skiing.
- Class 3B protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 Protected for agricultural uses including irrigation of crops and stock watering.

Flow

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). There was very limited data; therefore the data from the previous permit cycle was retained in the WLA. The 20th percentile flow values were used for each season. These values are displayed in

Table 1.

Table 1. Seasonal Flow Values (20th percentile)

Season	20 th (cfs)	percentile
Summer	2.0	
Fall	2.0	
Winter	2.0	
Spring	2.0	
Overall	10.0	

Ambient receiving water quality was characterized using data from DWQ monitoring station #4953720 MONTEZUMA CK AB MONTICELLO for the period 1975-2020.

Discharge data was characterized using data from DWQ monitoring station #4953710 MONTICELLO WWTP for the period 1975-2020.

Total Maximum Daily Load (TMDL)

According to the Utah's 2016 303(d) Water Quality Assessment Report, the receiving water for the discharge, Montezuma Creek-2, Montezuma Creek and tributaries from Verdure Creek confluence to U.S. 191 (UT14080203-003_00) is supporting all assessed uses and exhibits no evidence of water quality impairment.

Mixing Zone

The maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and for chronic conditions is 2500 ft, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

Based on the results of the mixing zone modeling, plume width was 100 % of the river at 2500 feet. 100 % of the seasonal critical low flow was used to calculate chronic limits. Acute limits were calculated using 50% of the seasonal critical low flow.

Parameters of Concern

No additional potential parameters of concern were identified based on review of the impairment status of the receiving water and review of the previous permit.

Utah Division of Water Quality Wasteload Analysis Monticello City WWTP, UPDES Permit No. UT0024503

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC₅₀ (lethal concentration, 50%) percent effluent for acute toxicity and the IC₂₅

(inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC₅₀ is typically 100% effluent and does not need to be determined by the WLA.

IC25 WET limits for Outfall 001 should be based on 19.8 % effluent.

Wasteload Allocation Methods

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ 2012). The mass balance analysis is summarized in the Wasteload Addendums.

The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII was used to determine ammonia effluent limits (Lewis et al. 2002). The analysis is summarized in the Wasteload Addendum.

Models and supporting documentation are available for review upon request.

Antidegradation Level I Review

The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload.

A Level II Antidegradation Review (ADR) is not required because the receiving waterbody is classified as a 1C drinking water source. The proposed permit is a simple renewal of an existing UPDES permit. No increase in flow or concentration of pollutants over those authorized in the existing permit is being requested.

Documents:

WLA Document: Monticello_WLA_2020.docx

Wasteload Analysis and Addendums: Monticello_WLA_7-6-2020.xlsm

References:

Utah Division of Water Quality. 2012. Utah Wasteload Analysis Procedures Version 1.0.

WASTELOAD ANALYSIS [WLA] Addendum: Statement of Basis 6-Jul-20

Facilities: **Monticello City WWTP** UPDES No: UT-0024503

Discharging to: **Montezuma Creek**

I. Introduction

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated interms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

Montezuma Creek: 1C, 2A, 3B, 4

Antidegradation Review: Level I review completed. Level II review required.

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3) Varies as a function of Temperature and

pH Rebound. See Water Quality Standards

Chronic Total Residual Chlorine (TRC) 0.011 mg/l (4 Day Average)

0.019 mg/l (1 Hour Average)

Chronic Dissolved Oxygen (DO) 5.50 mg/l (30 Day Average)

4.00 mg/l (7Day Average)

3.00 mg/l (1 Day Average

Maximum Total Dissolved Solids 1200.0 mg/l

Acute and Chronic Heavy Metals (Dissolved)

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
Parameter	Concentration	Load*	Concentration		Load*
Aluminum	87.00 ug/l**	0.150 lbs/day	750.00	ug/l	1.294 lbs/day
Arsenio	•	0.328 lbs/day	340.00	ug/l	0.586 lbs/day
Cadmium	0.61 ug/l	0.001 lbs/day	6.52	ug/l	0.011 lbs/day
Chromium III	211.92 ug/l	0.366 lbs/day	4433.71	ug/l	7.647 lbs/day
ChromiumVI	11.00 ug/l	0.019 lbs/day	16.00	ug/l	0.028 lbs/day
Copper	23.85 ug/l	0.041 lbs/day	39.41	ug/l	0.068 lbs/day
Iron	1		1000.00	ug/l	1.725 lbs/day
Lead	l 12.88 ug/l	0.022 lbs/day	330.60	ug/l	0.570 lbs/day
Mercury	v 0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.004 lbs/day
Nickel	l 132.13 ug/l	0.228 lbs/day	1188.44	ug/l	2.050 lbs/day
Selenium	4.60 ug/l	0.008 lbs/day	20.00	ug/l	0.034 lbs/day
Silver	· N/A ug/l	N/A lbs/day	25.04	ug/l	0.043 lbs/day
Zinc	: 303.93 ug/l	0.524 lbs/day	303.93	ug/l	0.524 lbs/day
* Allov	wed below discharge				

^{**}Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO3

Metals Standards Based upon a Hardness of 300 mg/l as CaCO3

Organics [Pesticides]

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard			
Parameter	Concen	tration	Load*	Concentration	on	Load*
Aldrin				1.500) ug/l	0.003 lbs/day
Chlordane	0.004	ug/l	0.058 lbs/day	1.200) ug/l	0.002 lbs/day
DDT, DDE	0.001	ug/l	0.013 lbs/day	0.550) ug/l	0.001 lbs/day
Dieldrin	0.002	ug/l	0.026 lbs/day	1.250) ug/l	0.002 lbs/day
Endosulfan	0.056	ug/l	0.753 lbs/day	0.110) ug/l	0.000 lbs/day
Endrin	0.002	ug/l	0.031 lbs/day	0.090) ug/l	0.000 lbs/day
Guthion				0.010) ug/l	0.000 lbs/day
Heptachlor	0.004	ug/l	0.051 lbs/day	0.260) ug/l	0.000 lbs/day
Lindane	0.080	ug/l	1.076 lbs/day	1.000) ug/l	0.002 lbs/day
Methoxychlor				0.030) ug/l	0.000 lbs/day
Mirex				0.010) ug/l	0.000 lbs/day
Parathion				0.040) ug/l	0.000 lbs/day
PCB's	0.014	ug/l	0.188 lbs/day	2.000) ug/l	0.003 lbs/day
Pentachlorophenol	13.00	ug/l	174.827 lbs/day	20.000) ug/l	0.034 lbs/day
Toxephene	0.0002	ug/l	0.003 lbs/day	0.7300) ug/l	0.001 lbs/day

IV. Numeric Stream Stand	dards for Protection of A	Agriculture			
4	Day Average (Chronic) S	Standard	1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration	Load*	
Arsenic			100.0 ug/l	lbs/day	
Boron			750.0 ug/l	0.65 lbs/day	
Cadmium			10.0 ug/l	0.01 lbs/day	
Chromium			100.0 ug/l	lbs/day	
Copper			200.0 ug/l	lbs/day	
Lead			100.0 ug/l	lbs/day	
Selenium			50.0 ug/l	lbs/day	
TDS, Summer			1200.0 mg/l	1.03 tons/day	

V. Numeric Stream Standards for Protection of Human Health (Class 1C Waters)

4	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
Metals	Concentration	Load*	Concentration	on	Load*
Arsenic			50.0	ug/l	0.672 lbs/day
Barium			1000.0	ug/l	13.448 lbs/day
Cadmium			10.0	ug/l	0.134 lbs/day
Chromium			50.0	ug/l	0.672 lbs/day
Lead			50.0	ug/l	0.672 lbs/day
Mercury			2.0	ug/l	0.027 lbs/day
Selenium			10.0	ug/l	0.134 lbs/day
Silver			50.0	ug/l	0.672 lbs/day
Fluoride (3)			1.4	ug/l	0.019 lbs/day
to			2.4	ug/l	0.032 lbs/day
Nitrates as N			10.0	ug/l	0.134 lbs/day
Chlorophenoxy Herbici	des				
2,4-D			100.0	ug/l	1.345 lbs/day
2,4,5-TP			10.0	ug/l	0.134 lbs/day
Endrin			0.2	ug/l	0.003 lbs/day
ocyclohexane (Lindane)			4.0	ug/l	0.054 lbs/day
Methoxychlor			100.0	ug/l	1.345 lbs/day
Toxaphene			5.0	ug/l	0.067 lbs/day

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

Maximum Conc., ug/I - Acute Standards

	Class 1C	, G		Class 3	A, 3B
Toxic Organics	[2 Liters/Day for 70	Kg Person over 70 Yr.]	[6.5 (for 70 k	(g Person over 70 Yr.]
Acenaphthene	1200.00 ug/l	16.14 lbs/day	2700.0	ug/l	36.31 lbs/day
Acrolein	320.00 ug/l	4.30 lbs/day	780.0	ug/l	10.49 lbs/day
Acrylonitrile	0.06 ug/l	0.00 lbs/day	0.7	ug/l	0.01 lbs/day
Benzene	1.20 ug/l	0.02 lbs/day	71.0	ug/l	0.95 lbs/day
Benzidine	0.00012 ug/l	0.00 lbs/day	0.0	ug/l	0.00 lbs/day
Carbon tetrachloride	0.25 ug/l	0.00 lbs/day	4.4	ug/l	0.06 lbs/day
Chlorobenzene	680.00 ug/l	9.14 lbs/day	21000.0	ug/l	282.41 lbs/day
1,2,4-Trichlorobenzene					
Hexachlorobenzene	0.00075 ug/l	0.00 lbs/day	0.0	ug/l	0.00 lbs/day
1,2-Dichloroethane	0.38 ug/l	0.01 lbs/day	99.0	ug/l	1.33 lbs/day
1,1,1-Trichloroethane	-	•		-	•
Hexachloroethane	1.90 ug/l	0.03 lbs/day	8.9	ug/l	0.12 lbs/day

1,1-Dichloroethane						
1,1,2-Trichloroethane	0.61 ug/l	0.01	lbs/day	42.0	ua/l	0.56 lbs/day
1,1,2,2-Tetrachloroethai	0.17 ug/l		lbs/day	11.0	ug/l	0.15 lbs/day
Chloroethane	o.ir agri	0.00	ibo, day	0.0	ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	0.03 ug/l	0.00	lbs/day	1.4		0.02 lbs/day
2-Chloroethyl vinyl ether	0.00 ug/l		lbs/day	0.0	ug/l	0.00 lbs/day
2-Chloronaphthalene	1700.00 ug/l		lbs/day	4300.0	ug/l	57.83 lbs/day
2,4,6-Trichlorophenol	2.10 ug/l		lbs/day	6.5	ug/l	0.09 lbs/day
p-Chloro-m-cresol		0.00		0.0	ug/l	0.00 lbs/day
Chloroform (HM)	5.70 ug/l	0.08	lbs/day	470.0	ug/l	6.32 lbs/day
2-Chlorophenol	120.00 ug/l		lbs/day	400.0	ug/l	5.38 lbs/day
1,2-Dichlorobenzene	2700.00 ug/l		lbs/day	17000.0	ug/l	228.62 lbs/day
1,3-Dichlorobenzene	400.00 ug/l		lbs/day	2600.0	ug/l	34.97 lbs/day
1,4-Dichlorobenzene	400.00 ug/l		lbs/day	2600.0	ug/l	34.97 lbs/day
3,3'-Dichlorobenzidine	0.04 ug/l		lbs/day	0.1	ug/l	0.00 lbs/day
1,1-Dichloroethylene	0.06 ug/l		lbs/day		ug/l	0.04 lbs/day
1,2-trans-Dichloroethyle	700.00 ug/l		lbs/day	0.0	ug/l	0.00 lbs/day
2,4-Dichlorophenol	93.00 ug/l		lbs/day	790.0	ug/l	10.62 lbs/day
1,2-Dichloropropane	0.52 ug/l		lbs/day	39.0	ug/l	0.52 lbs/day
1,3-Dichloropropylene	10.00 ug/l		lbs/day	1700.0	ug/l	22.86 lbs/day
2,4-Dimethylphenol	540.00 ug/l		lbs/day	2300.0	ug/l	30.93 lbs/day
2,4-Dinitrotoluene	0.11 ug/l		lbs/day	9.1	ug/l	0.12 lbs/day
2,6-Dinitrotoluene	0.00 ug/l		lbs/day	0.0	ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	0.04 ug/l		lbs/day	0.5	ug/l	0.01 lbs/day
Ethylbenzene	3100.00 ug/l		lbs/day	29000.0	ug/l	390.00 lbs/day
Fluoranthene	300.00 ug/l		lbs/day	370.0	_	4.98 lbs/day
4-Chlorophenyl phenyl eth	•			0.0.0	u.g, .	
4-Bromophenyl phenyl eth						
Bis(2-chloroisopropyl) e	1400.00 ug/l	18.83	lbs/day	170000.0	ug/l	2286.21 lbs/day
Bis(2-chloroethoxy) met	0.00 ug/l		lbs/day	0.0	ug/l	0.00 lbs/day
Methylene chloride (HM	4.70 ug/l		lbs/day	1600.0	ug/l	21.52 lbs/day
Methyl chloride (HM)	0.00 ug/l		lbs/day	0.0	ug/l	0.00 lbs/day
Methyl bromide (HM)	0.00 ug/l		lbs/day	0.0	ug/l	0.00 lbs/day
Bromoform (HM)	4.30 ug/l		lbs/day	360.0	ug/l	4.84 lbs/day
Dichlorobromomethane	0.27 ug/l		lbs/day	22.0	ug/l	0.30 lbs/day
Chlorodibromomethane	0.41 ug/l		lbs/day	34.0	ug/l	0.46 lbs/day
Hexachlorobutadiene(c)	0.44 ug/l		lbs/day	50.0		0.67 lbs/day
Hexachlorocyclopentadi	240.00 ug/l		lbs/day	17000.0		228.62 lbs/day
Isophorone	8.40 ug/l		lbs/day	600.0	_	8.07 lbs/day
Naphthalene	3		,		J	,
Nitrobenzene	17.00 ug/l	0.23	lbs/day	1900.0	ug/l	25.55 lbs/day
2-Nitrophenol	0.00 ug/l		lbs/day		ug/l	0.00 lbs/day
4-Nitrophenol	0.00 ug/l		lbs/day		ug/l	0.00 lbs/day
2,4-Dinitrophenol	70.00 ug/l		lbs/day	14000.0	ug/l	188.28 lbs/day
4,6-Dinitro-o-cresol	13.00 ug/l		lbs/day	765.0	ug/l	10.29 lbs/day
N-Nitrosodimethylamine	0.00069 ug/l		lbs/day	8.1	ug/l	0.11 lbs/day
N-Nitrosodiphenylamine	5.00 ug/l	0.07	lbs/day	16.0		0.22 lbs/day
N-Nitrosodi-n-propylami	0.01 ug/l		lbs/day		ug/l	0.02 lbs/day
Pentachlorophenol	0.28 ug/l		lbs/day		ug/l	0.11 lbs/day
Phenol	2.10E+04 ug/l	2.82E+02	-	4.6E+06		6.19E+04 lbs/day
Bis(2-ethylhexyl)phthala	1.80 ug/l		lbs/day		ug/l	0.08 lbs/day
Butyl benzyl phthalate	3000.00 ug/l		lbs/day	5200.0		69.93 lbs/day
Di-n-butyl phthalate	2700.00 ug/l		lbs/day	12000.0		161.38 lbs/day
Di-n-octyl phthlate	-		•		~	·

Diethyl phthalate	23000.00 ug/l	309.31 lbs/day	120000.0 u	g/l 1613.79 lbs/day
Dimethyl phthlate	3.13E+05 ug/l	4.21E+03 lbs/day	2.9E+06 u	•
Benzo(a)anthracene (P/	0.0028 ug/l	0.00 lbs/day	0.0 u	•
Benzo(a)pyrene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 u	,
Benzo(b)fluoranthene (F	0.0028 ug/l	0.00 lbs/day	0.0 u	•
Benzo(k)fluoranthene (F	0.0028 ug/l	0.00 lbs/day	0.0 u	•
Chrysene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 u	
Acenaphthylene (PAH)	0.0020 ug/i	0.00 lbs/day	0.0 u	g/i 0.00 lbs/day
Anthracene (PAH)	9600.00 ug/l	129.10 lbs/day	0.0 u	g/l 0.00 lbs/day
Dibenzo(a,h)anthracene	0.0028 ug/l	0.00 lbs/day	0.0 u	
Indeno(1,2,3-cd)pyrene	0.0028 ug/l	0.00 lbs/day	0.0 u	
` ,	960.00 ug/l	12.91 lbs/day		ig/l 147.93 lbs/day
Pyrene (PAH) Tetrachloroethylene	0.80 ug/l	0.01 lbs/day	8.9 u	
Toluene	6800.00 ug/l	91.45 lbs/day		-
	•	-	81.0 u	•
Trichloroethylene	2.70 ug/l	0.04 lbs/day		
Vinyl chloride	2.00 ug/l	0.03 lbs/day	525.0 u	•
Dogtinidon			0.0	0.00 lbs/day
Pesticides	0.0004/	0.00 lb =/-l=	0.0	0.00 lbs/day
Aldrin	0.0001 ug/l	0.00 lbs/day	0.0 u	•
Dieldrin	0.0001 ug/l	0.00 lbs/day	0.0 u	•
Chlordane	0.0006 ug/l	0.00 lbs/day	0.0 u	•
4,4'-DDT	0.0006 ug/l	0.00 lbs/day	0.0 u	
4,4'-DDE	0.0006 ug/l	0.00 lbs/day	0.0 u	•
4,4'-DDD	0.0008 ug/l	0.00 lbs/day	0.0 u	•
alpha-Endosulfan	0.9300 ug/l	0.01 lbs/day	2.0 u	
beta-Endosulfan	0.9300 ug/l	0.01 lbs/day	2.0 u	
Endosulfan sulfate	0.9300 ug/l	0.01 lbs/day	2.0 u	•
Endrin	0.7600 ug/l	0.01 lbs/day	0.8 u	
Endrin aldehyde	0.7600 ug/l	0.01 lbs/day	0.8 u	•
Heptachlor	0.0002 ug/l	0.00 lbs/day	0.0 u	g/l 0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 124	0.000044 ug/l	0.00 lbs/day	0.0 u	g/l 0.00 lbs/day
PCB-1254 (Arochlor 128	0.000044 ug/l	0.00 lbs/day	0.0 u	•
PCB-1234 (Arochlor 12)	0.000044 ug/l	0.00 lbs/day		ig/l 0.00 lbs/day
PCB-1221 (Arochlor 123)	0.000044 ug/l	0.00 lbs/day	0.0 u	•
PCB-1232 (Arochlor 124	0.000044 ug/l	0.00 lbs/day	0.0 u	
PCB-1246 (Arochlor 124 PCB-1260 (Arochlor 124	0.000044 ug/l	0.00 lbs/day	0.0 u	
PCB-1200 (Arochlor 12)	0.000044 ug/l	0.00 lbs/day	0.0 u	
PCB-1016 (Alochiol 10	0.000044 ug/i	0.00 lbs/day	0.0 u	g/l 0.00 lbs/day
Pesticide				
Toxaphene	0.000750 ug/l	0.00	0.0 u	g/l 0.00 lbs/day
-				
Dioxin				
Dioxin (2,3,7,8-TCDD)	1.30E-08 ug/l	0.00 lbs/day	1.40E-08	0.00
Metals				
Antimony	14.0 ug/l	0.19 lbs/day		
Arsenic	50.0 ug/l	0.67 lbs/day	4300.00 u	g/l 57.83 lbs/day
Asbestos	7.00E+06 ug/l	9.41E+04 lbs/day		5 111 111 111 111 11 11 11 11 11 11 11 1
Beryllium	 			
Cadmium				

Chromium (III) Chromium (VI)				
` '				
Copper				
Cyanide	1.30E+03 ug/l	17.48 lbs/day	2.2E+05 ug/l	2958.62 lbs/day
Lead	700.0 ug/l	9.41 lbs/day	_	•
Mercury			0.15 ug/l	0.00 lbs/day
Nickel			4600.00 ug/l	61.86 lbs/day
Selenium	0.1 ug/l	0.00 lbs/day		
Silver	610.0 ug/l	8.20 lbs/day		
Thallium			6.30 ug/l	0.08 lbs/day
Zinc				

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

- (1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).
- (2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.
- (3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8
- (4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

- (1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.
- (2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

Flow, Q, (cfs or MGD) D.O. mg/l

Temperature, Deg. C. Total Residual Chlorine (TRC), mg/l

рН	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

Model Inputs

Current Upstream Information

Metals

All Seasons

ug/l

0.0000

ug/l

0.53*

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Stream Critical Low Temp. рΗ **Flow** T-NH3 BOD5 DO **TRC TDS** Deg. C mg/l as N mg/l mg/l cfs mq/l mg/l Summer (Irrig. Season) 2.0 20.0 8.2 0.01 0.50 6.23 0.00 500.0 Fall 2.0 12.0 8.1 0.01 0.50 0.00 500.0 Winter 2.0 4.0 8.0 0.01 0.50 ---0.00 500.0 Spring 2.0 12.0 8.1 0.01 0.50 0.00 500.0 Dissolved ΑI As Cd CrIII CrVI Copper Fe Pb Metals ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l All Seasons 1.59* 0.53* 0.053* 0.53* 2.65* 0.53* 0.83* 0.53*Dissolved Hg Ni Se Ag Zn Boron

ug/l

1.06*

ug/l

0.1*

ug/l

0.053*

ug/l

10.0

* 1/2 MDL

Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	0.32000	17.0	500.00	0.66707
Fall	0.32000	15.0		
Winter	0.32000	12.0		
Spring	0.32000	15.0		

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

IX. Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Averag	je
Summer	0.320 MGD	0.495 cfs
Fall	0.320 MGD	0.495 cfs
Winter	0.320 MGD	0.495 cfs
Spring	0.320 MGD	0.495 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.32 MGD. If the discharger is allowed to have a flow greater than 0.32 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occuring, the permit writers must include the discharge flow limitiation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segements if the values below are met.

WET Requirements	LC50 >	EOP Effluent	[Acute]
	IC25 >	19.8% Effluent	[Chronic]

Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD limitation as follows:

Season	Concentration	
Summer	25.0 mg/l as BOD5	66.7 lbs/day
Fall	25.0 mg/l as BOD5	66.7 lbs/day
Winter	25.0 mg/l as BOD5	66.7 lbs/day
Spring	25.0 mg/l as BOD5	66.7 lbs/day

Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent D.O. limitation as follows:

Season	Concentration
Summer	5.50
Fall	5.50
Winter	5.50
Spring	5.50

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

S	ea	S	n	n

	Concent	ration	Load	
Summer	4 Day Avg Chronic	13.8 mg/l as N		lbs/day
	1 Hour Avg Acute	53.8 mg/l as N	143.4	lbs/day
Fall	4 Day Avg Chronic	19.1 mg/l as N	51.1 l	lbs/day
	1 Hour Avg Acute	53.4 mg/l as N	142.5 l	lbs/day
Winter	4 Day Avg Chronic	17.6 mg/l as N	46.9 l	lbs/day
	1 Hour Avg Acute	41.3 mg/l as N	110.1	lbs/day
Spring	4 Day Avg Chronic	19.1 mg/l as N	51.1 l	lbs/day
	1 Hour Avg Acute	53.4 mg/l as N	142.5	lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 50.%.

Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

Season		Concentration		Load	Load	
Summer	4 Day Avg Chronic	0.074	mg/l	0.20	lbs/day	
	1 Hour Avg Acute	0.075	mg/l	0.20	lbs/day	
Fall	4 Day Avg Chronic	0.074	mg/l	0.20	lbs/day	
	1 Hour Avg Acute	0.075	mg/l	0.20	lbs/day	
Winter	4 Day Avg Chronic	0.074	mg/l	0.20	lbs/day	
	1 Hour Avg Acute	0.075	mg/l	0.20	lbs/day	
Spring	4 Day Avg Chronic	0.074	mg/l	0.00	lbs/day	
_	1 Hour Avg Acute	0.075	mg/l	0.00	lbs/day	

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load		
	Summer Fall Winter Spring	Maximum, Acute Maximum, Acute Maximum, Acute 4 Day Avg Chronic	4028.1 4028.1 4028.1 4028.1	mg/l mg/l mg/l mg/l	5.37 5.37 5.37 5.37	tons/day tons/day tons/day tons/day
Colorado Salinity Forum Limits		Determine	d by Perm	itting Section		

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 300 mg/l):

		4 Day Aver	age	1 Hour	Average	
	Concen	tration	Load	Concentration		Load
Aluminum	N/A		N/A	2,260.2	ug/l	3.9 lbs/day
Arsenic	954.40	ug/l	1.6 lbs/day	1,025.2	ug/l	1.8 lbs/day
Cadmium	2.76	ug/l	0.0 lbs/day	19.5	ug/l	0.0 lbs/day
Chromium III	1,064.87	ug/l	1.8 lbs/day	13,388.4	ug/l	23.1 lbs/day
Chromium VI	39.38	ug/l	0.1 lbs/day	40.3	ug/l	0.1 lbs/day
Copper	117.01	ug/l	0.2 lbs/day	117.4	ug/l	0.2 lbs/day
Iron	N/A		N/A	3,017.5	ug/l	5.2 lbs/day
Lead	61.72	ug/l	0.1 lbs/day	996.8	ug/l	1.7 lbs/day
Mercury	0.06	ug/l	0.0 lbs/day	7.2	ug/l	0.0 lbs/day
Nickel	662.74	ug/l	1.1 lbs/day	3,587.5	ug/l	6.2 lbs/day
Selenium	16.76	ug/l	0.0 lbs/day	57.2	ug/l	0.1 lbs/day
Silver	N/A	ug/l	N/A lbs/day	75.6	ug/l	0.1 lbs/day
Zinc	1,531.53	ug/l	2.6 lbs/day	917.7	ug/l	1.6 lbs/day

Cyanide	26.21 ug/l	0.0 lbs/day	66.4	ug/l	0.1 lbs/day
- ,				- J	- · · · · · · · · · · · · · · · · · · ·

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	26.0 Deg. C.	78.9 Deg. F
Fall	18.0 Deg. C.	64.5 Deg. F
Winter	10.0 Deg. C.	50.1 Deg. F
Spring	18.0 Deg. C.	64.5 Deg. F

Effluent Limitations for Organics [Pesticides] Based upon Water Quality Standards

In-stream criteria of downstream segments for Organics [Pesticides] will be met with an effluent limit as follows:

	4 Day Average		1 Hour Average		
	Concentration	Load	Concentration		Load
Aldrin			1.5E+00	ug/l	4.00E-03 lbs/day
Chlordane	4.30E-03 ug/l	1.15E-02 lbs/day	1.2E+00	ug/l	3.20E-03 lbs/day
DDT, DDE	1.00E-03 ug/l	2.67E-03 lbs/day	5.5E-01	ug/l	1.47E-03 lbs/day
Dieldrin	1.90E-03 ug/l	5.07E-03 lbs/day	1.3E+00	ug/l	3.34E-03 lbs/day
Endosulfan	5.60E-02 ug/l	1.49E-01 lbs/day	1.1E-01	ug/l	2.94E-04 lbs/day
Endrin	2.30E-03 ug/l	6.14E-03 lbs/day	9.0E-02	ug/l	2.40E-04 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	2.67E-05 lbs/day
Heptachlor	3.80E-03 ug/l	1.01E-02 lbs/day	2.6E-01	ug/l	6.94E-04 lbs/day
Lindane	8.00E-02 ug/l	2.13E-01 lbs/day	1.0E+00	ug/l	2.67E-03 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	8.00E-05 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	2.67E-05 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	1.07E-04 lbs/day
PCB's	1.40E-02 ug/l	3.74E-02 lbs/day	2.0E+00	ug/l	5.34E-03 lbs/day
Pentachlorophenol	1.30E+01 ug/l	3.47E+01 lbs/day	2.0E+01	ug/l	5.34E-02 lbs/day
Toxephene	2.00E-04 ug/l	5.34E-04 lbs/day	7.3E-01	ug/l	1.95E-03 lbs/day

Effluent Targets for Pollution Indicators Based upon Water Quality Standards

In-stream criteria of downstream segments for Pollution Indicators will be met with an effluent limit as follows:

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	8.6 lbs/day
Nitrates as N	4.0 mg/l	6.9 lbs/day
Total Phosphorus as P	0.05 mg/l	0.1 lbs/day
Total Suspended Solids	90.0 mg/l	155.2 lbs/day

Note: Pollution indicator targets are for information purposes only.

Effluent Limitations for Protection of Human Health [Toxics Rule] Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

omaoni iiriii ao foliowo.	Maximum Concentration			
	Concentration	Load		
Toxic Organics				
Acenaphthene	6.05E+03 ug/l	1.61E+01 lbs/day		
Acrolein	1.61E+03 ug/l	4.30E+00 lbs/day		
Acrylonitrile	2.97E-01 ug/l	7.93E-04 lbs/day		
Benzene	6.05E+00 ug/l	1.61E-02 lbs/day		
Benzidine	ug/l	lbs/day		
Carbon tetrachloride	1.26E+00 ug/l	3.36E-03 lbs/day		
Chlorobenzene	3.43E+03 ug/l	9.14E+00 lbs/day		
1,2,4-Trichlorobenzene				
Hexachlorobenzene	3.78E-03 ug/l	1.01E-05 lbs/day		
1,2-Dichloroethane	1.92E+00 ug/l	5.11E-03 lbs/day		
1,1,1-Trichloroethane	_			
Hexachloroethane	9.58E+00 ug/l	2.56E-02 lbs/day		
1,1-Dichloroethane				
1,1,2-Trichloroethane	3.07E+00 ug/l	8.20E-03 lbs/day		
1,1,2,2-Tetrachloroethane	8.57E-01 ug/l	2.29E-03 lbs/day		
Chloroethane				
Bis(2-chloroethyl) ether	1.56E-01 ug/l	4.17E-04 lbs/day		
2-Chloroethyl vinyl ether	-			
2-Chloronaphthalene	8.57E+03 ug/l	2.29E+01 lbs/day		
2,4,6-Trichlorophenol	1.06E+01 ug/l	2.82E-02 lbs/day		
p-Chloro-m-cresol				
Chloroform (HM)	2.87E+01 ug/l	7.67E-02 lbs/day		
2-Chlorophenol	6.05E+02 ug/l	1.61E+00 lbs/day		
1,2-Dichlorobenzene	1.36E+04 ug/l	3.63E+01 lbs/day		
1,3-Dichlorobenzene	2.02E+03 ug/l	5.38E+00 lbs/day		
1,4-Dichlorobenzene	2.02E+03 ug/l	5.38E+00 lbs/day		
3,3'-Dichlorobenzidine	2.02E-01 ug/l	5.38E-04 lbs/day		

1,1-Dichloroethylene 2.87E-01 ug/l 7.67E-04 lbs/day 1,2-trans-Dichloroethylene1 2,4-Dichlorophenol 4.69E+02 ug/l 1.25E+00 lbs/day 1,2-Dichloropropane 2.62E+00 ug/l 6.99E-03 lbs/day 1,3-Dichloropropylene 5.04E+01 ug/l 1.34E-01 lbs/day 2,4-Dimethylphenol 2.72E+03 ug/l 7.26E+00 lbs/day 2,4-Dinitrotoluene 5.54E-01 ug/l 1.48E-03 lbs/day 2,6-Dinitrotoluene 2.02E-01 ug/l 5.38E-04 lbs/day 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 1.51E+03 ug/l 1.88E+01 lbs/day Bis(2-chlorosopropyl) ether 7.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chlorodethoxy) methane Methyl chloride (HM) 2.37E+01 ug/l 5.78E-02 lbs/day Methyl bromide (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Dichlorobromomethane (HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 4.23E+01 ug/l 1.	2-trans-Dichloroethylene1 4-Dichlorophenol 4. 2-Dichloropropane 2. 3-Dichloropropylene 5. 4-Dimethylphenol 2. 4-Dinitrotoluene 5 6-Dinitrotoluene 2-Diphenylhydrazine thylbenzene 1. uoranthene 1Chlorophenyl phenyl ether Bromophenyl phenyl ether (s(2-chloroisopropyl) ether (s(2-chloroethoxy) methane ethylene chloride (HM) (HM) ethyl bromide (HM)	69E+02 ug/ 62E+00 ug/ 04E+01 ug/ 72E+03 ug/ 54E-01 ug/ 02E-01 ug/ 66E+03 ug/ 06E+03 ug/	1.25E+00 lbs 1.34E-01 lbs 1.34E-01 lbs 1.34E-03 lbs 1.48E-03 lbs 1.48E-03 lbs 1.48E-04 lbs 1.47E+01 lbs 1.48E+00 lbs 1.48E+01 lbs 1.48E+01 lbs 1.48E+01 lbs 1.48E+01 lbs 1.48E+01 lbs 1.48E+01 lbs	s/day s/day s/day s/day s/day s/day s/day
2,4-Dichlorophenol 4.69E+02 ug/l 1.25E+00 lbs/day 1,2-Dichloropropane 2.62E+00 ug/l 6.99E-03 lbs/day 1,3-Dichloropropylene 5.04E+01 ug/l 1.34E-01 lbs/day 2,4-Dimethylphenol 2.72E+03 ug/l 7.26E+00 lbs/day 2,4-Dinitrotoluene 5.54E-01 ug/l 1.48E-03 lbs/day 2,6-Dinitrotoluene 1.2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day 2,0-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 4.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chloroisopropyl) ether 7.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chloroethoxy) methane 2.37E+01 ug/l 6.32E-02 lbs/day Methyl chloride (HM) 2.37E+01 ug/l 5.78E-02 lbs/day Methyl bromide (HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 3.23E+00 lbs/day Leschlorocyclopentadiene 1.21E+03 ug/l 1.13E-01 lbs/day </td <td>4-Dichlorophenol 4. 2-Dichloropropane 2. 3-Dichloropropylene 5. 4-Dimethylphenol 2. 4-Dinitrotoluene 5. 6-Dinitrotoluene 2. Diphenylhydrazine 2. thylbenzene 1. uoranthene 1. Chlorophenyl phenyl ether 3. (2-chloroisopropyl) ether 5. (2-chloroethoxy) methane 6. ethylene chloride (HM) 2. ethyl chloride (HM) 6.</td> <td>62E+00 ug/ 04E+01 ug/ 02E+03 ug/ 54E-01 ug/ 02E-01 ug/ 66E+04 ug/ 61E+03 ug/ 06E+03 ug/</td> <td> 6.99E-03 lbs 1.34E-01 lbs 7.26E+00 lbs 1.48E-03 lbs 5.38E-04 lbs 4.17E+01 lbs 4.03E+00 lbs 1.88E+01 lbs 6.32E-02 lbs</td> <td>s/day s/day s/day s/day s/day s/day s/day</td>	4-Dichlorophenol 4. 2-Dichloropropane 2. 3-Dichloropropylene 5. 4-Dimethylphenol 2. 4-Dinitrotoluene 5. 6-Dinitrotoluene 2. Diphenylhydrazine 2. thylbenzene 1. uoranthene 1. Chlorophenyl phenyl ether 3. (2-chloroisopropyl) ether 5. (2-chloroethoxy) methane 6. ethylene chloride (HM) 2. ethyl chloride (HM) 6.	62E+00 ug/ 04E+01 ug/ 02E+03 ug/ 54E-01 ug/ 02E-01 ug/ 66E+04 ug/ 61E+03 ug/ 06E+03 ug/	6.99E-03 lbs 1.34E-01 lbs 7.26E+00 lbs 1.48E-03 lbs 5.38E-04 lbs 4.17E+01 lbs 4.03E+00 lbs 1.88E+01 lbs 6.32E-02 lbs	s/day s/day s/day s/day s/day s/day s/day
1,2-Dichloropropane 2.62E+00 ug/l 6.99E-03 lbs/day 1,3-Dichloropropylene 5.04E+01 ug/l 1.34E-01 lbs/day 2,4-Dimethylphenol 2.72E+03 ug/l 7.26E+00 lbs/day 2,4-Dinitrotoluene 5.54E-01 ug/l 1.48E-03 lbs/day 2,6-Dinitrotoluene 2.02E-01 ug/l 5.38E-04 lbs/day 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 4.03E+00 lbs/day Bis(2-chloroisopropyl) ether 7.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chloroethoxy) methane 8.32E-02 lbs/day Methyl chloride (HM) 2.37E+01 ug/l 6.32E-02 lbs/day Methyl bromide (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Dichlorobromomethane(HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day 1.13E-01 lbs/day 1.13E-01 lbs/day	2-Dichloropropane 2. 3-Dichloropropylene 5. 4-Dimethylphenol 2. 4-Dinitrotoluene 5. 6-Dinitrotoluene 2. 2-Diphenylhydrazine 2. thylbenzene 1. uoranthene 1Chlorophenyl phenyl ether 3Sc2-chloroisopropyl) ether 3Sc2-chlorode (HM) 2. ethyl chloride (HM) 2. ethyl bromide (HM)	62E+00 ug/ 04E+01 ug/ 02E+03 ug/ 54E-01 ug/ 02E-01 ug/ 66E+04 ug/ 61E+03 ug/ 06E+03 ug/	6.99E-03 lbs 1.34E-01 lbs 7.26E+00 lbs 1.48E-03 lbs 5.38E-04 lbs 4.17E+01 lbs 4.03E+00 lbs 1.88E+01 lbs 6.32E-02 lbs	s/day s/day s/day s/day s/day s/day s/day
1,3-Dichloropropylene 5.04E+01 ug/l 1.34E-01 lbs/day 2,4-Dimethylphenol 2.72E+03 ug/l 7.26E+00 lbs/day 2,4-Dinitrotoluene 5.54E-01 ug/l 1.48E-03 lbs/day 2,6-Dinitrotoluene 1.2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 4.03E+00 ug/l 1.88E+01 lbs/day Bis(2-chloroethoxy) methane 7.06E+03 ug/l 1.88E+01 lbs/day Methylene chloride (HM) 2.37E+01 ug/l 6.32E-02 lbs/day Methyl bromide (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Dichlorobromomethane(HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	3-Dichloropropylene 5. 4-Dimethylphenol 2. 4-Dinitrotoluene 5 6-Dinitrotoluene 2. 2-Diphenylhydrazine 2. thylbenzene 1. uoranthene 1. Chlorophenyl phenyl ether 3. Bromophenyl phenyl ether 3. (2-chloroisopropyl) ether 5. (2-chloroethoxy) methane 6. ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	04E+01 ug/ 072E+03 ug/ 054E-01 ug/ 02E-01 ug/ 06E+04 ug/ 06E+03 ug/ 06E+03 ug/	1.34E-01 lbs 7.26E+00 lbs 7.1.48E-03 lbs 7.38E-04 lbs 7.38E-04 lbs 7.38E-04 lbs 7.38E-04 lbs 7.38E-04 lbs 7.4.17E+01 lbs 7.4.03E+00 lbs 7.4.17E+01 lbs 7.5.38E-02 lbs	s/day s/day s/day s/day s/day s/day
2,4-Dimethylphenol 2.72E+03 ug/l 7.26E+00 lbs/day 2,4-Dinitrotoluene 5.54E-01 ug/l 1.48E-03 lbs/day 2,6-Dinitrotoluene 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 7.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chloroethoxy) methane Methylene chloride (HM) 2.37E+01 ug/l 6.32E-02 lbs/day Methyl chloride (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Methyl bromide (HM) 2.17E+01 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	4-Dimethylphenol 2. 4-Dinitrotoluene 5 6-Dinitrotoluene 2-Diphenylhydrazine 2. thylbenzene 1. uoranthene 1Chlorophenyl phenyl ether Bromophenyl phenyl ether (s(2-chloroisopropyl) ether (s(2-chloroethoxy) methane ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	72E+03 ug/ 54E-01 ug/ 56E+04 ug/ 51E+03 ug/ 56E+04 ug/ 51E+03 ug/	7.26E+00 lbs 1.48E-03 lbs 1.48E-04 lbs 1.47E+01 lbs 1.403E+00 lbs 1.403E+01 lbs 1.403E+01 lbs 1.403E+01 lbs 1.403E+01 lbs	s/day s/day s/day s/day s/day
2,4-Dimethylphenol 2.72E+03 ug/l 7.26E+00 lbs/day 2,4-Dinitrotoluene 5.54E-01 ug/l 1.48E-03 lbs/day 2,6-Dinitrotoluene 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 7.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chloroethoxy) methane Methylene chloride (HM) 2.37E+01 ug/l 6.32E-02 lbs/day Methyl chloride (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Methyl bromide (HM) 2.17E+01 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	4-Dimethylphenol 2. 4-Dinitrotoluene 5 6-Dinitrotoluene 2-Diphenylhydrazine 2. thylbenzene 1. uoranthene 1Chlorophenyl phenyl ether Bromophenyl phenyl ether (s(2-chloroisopropyl) ether (s(2-chloroethoxy) methane ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	72E+03 ug/ 54E-01 ug/ 56E+04 ug/ 51E+03 ug/ 56E+04 ug/ 51E+03 ug/	7.26E+00 lbs 1.48E-03 lbs 1.48E-04 lbs 1.47E+01 lbs 1.403E+00 lbs 1.403E+01 lbs 1.403E+01 lbs 1.403E+01 lbs 1.403E+01 lbs	s/day s/day s/day s/day s/day
2,4-Dinitrotoluene 2,6-Dinitrotoluene 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l Fluoranthene 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether Bis(2-chloroisopropyl) ether Bis(2-chloroethoxy) methane Methylene chloride (HM) Methyl bromide (HM) Bromoform (HM) Dichlorobromomethane(HM) Chlorodibromomethane (HM) Plant A	4-Dinitrotoluene 5 6-Dinitrotoluene 2-Diphenylhydrazine 2 thylbenzene 1. uoranthene 1. Chlorophenyl phenyl ether Bromophenyl phenyl ether (s(2-chloroisopropyl) ether (s(2-chloroethoxy) methane ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	54E-01 ug/ 02E-01 ug/ 56E+04 ug/ 51E+03 ug/ 06E+03 ug/	1.48E-03 lbs 1.48E-03 lbs 1.48E-03 lbs 1.48E-04 lbs 1.47E+01 lbs 1.403E+00 lbs 1.88E+01 lbs 1.403E-02 lbs	s/day s/day s/day s/day
2,6-Dinitrotoluene 1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether Bis(2-chloroisopropyl) ether Bis(2-chloroethoxy) methane Methylene chloride (HM) Methyl bromide (HM) Bromoform (HM) Bromoform (HM) Dichlorobromomethane(HM) Chlorodibromomethane (HM) Hexachlorocyclopentadiene I.21E+03 ug/l J.363E-02 lbs/day J.363E-03 lbs/day J.363E-03 lbs/day J.363E-03 lbs/day J.31E-03 lbs/day	6-Dinitrotoluene 2-Diphenylhydrazine 2-thylbenzene 1. uoranthene 1. Chlorophenyl phenyl ether Bromophenyl phenyl ether s(2-chloroisopropyl) ether s(2-chloroethoxy) methane ethylene chloride (HM) ethyl bromide (HM)	02E-01 ug/ 66E+04 ug/ 61E+03 ug/ 06E+03 ug/	5.38E-04 lbs 4.17E+01 lbs 4.03E+00 lbs 4.188E+01 lbs 6.32E-02 lbs	s/day s/day s/day s/day
1,2-Diphenylhydrazine 2.02E-01 ug/l 5.38E-04 lbs/day Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether Bis(2-chloroisopropyl) ether 7.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chloroethoxy) methane Methylene chloride (HM) 2.37E+01 ug/l 6.32E-02 lbs/day Methyl chloride (HM) Methyl bromide (HM) Sromoform (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Dichlorobromomethane (HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day lsophorone 4.23E+01 ug/l 1.13E-01 lbs/day 1.13E-01 lbs/day Isophorone	2-Diphenylhydrazine 2 thylbenzene 1. uoranthene 1Chlorophenyl phenyl ether -Bromophenyl phenyl ether s(2-chloroisopropyl) ether 7. s(2-chloroethoxy) methane ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	56E+04 ug/ 51E+03 ug/ 56E+03 ug/ 57E+01 ug/	4.17E+01 lbs 4.03E+00 lbs 4.03E+01 lbs 4.03E+01 lbs 6.32E-02 lbs	s/day s/day s/day
Ethylbenzene 1.56E+04 ug/l 4.17E+01 lbs/day Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether Bis(2-chloroisopropyl) ether 7.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chloroethoxy) methane Methylene chloride (HM) 2.37E+01 ug/l 6.32E-02 lbs/day Methyl chloride (HM) Methyl bromide (HM) Bromoform (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Dichlorobromomethane(HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	thylbenzene 1. uoranthene 1. Chlorophenyl phenyl ether Bromophenyl phenyl ether is(2-chloroisopropyl) ether 7. is(2-chloroethoxy) methane ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	56E+04 ug/ 51E+03 ug/ 56E+03 ug/ 57E+01 ug/	4.17E+01 lbs 4.03E+00 lbs 4.03E+01 lbs 4.03E+01 lbs 6.32E-02 lbs	s/day s/day s/day
Fluoranthene 1.51E+03 ug/l 4.03E+00 lbs/day 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether Bis(2-chloroisopropyl) ether 7.06E+03 ug/l 1.88E+01 lbs/day Bis(2-chloroethoxy) methane Methylene chloride (HM) 2.37E+01 ug/l 6.32E-02 lbs/day Methyl chloride (HM) Methyl bromide (HM) Bromoform (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Dichlorobromomethane(HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	uoranthene 1. Chlorophenyl phenyl ether Bromophenyl phenyl ether is(2-chloroisopropyl) ether 7. is(2-chloroethoxy) methane ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	51E+03 ug/ 96E+03 ug/ 87E+01 ug/	4.03E+00 lbs 1.88E+01 lbs 1.6.32E-02 lbs	s/day
4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether Bis(2-chloroisopropyl) ether Ris(2-chloroethoxy) methane Methylene chloride (HM) Methyl chloride (HM) Methyl bromide (HM) Bromoform (HM) Dichlorobromomethane(HM) Chlorodibromomethane (HM) Hexachlorocyclopentadiene Isophorone 7.06E+03 ug/l 2.37E+01 ug/l 2.37E+01 ug/l 3.32E-02 lbs/day 4.23E+00 ug/l 3.63E-03 lbs/day 5.51E-03 lbs/day 3.23E+00 lbs/day 1.21E+03 ug/l 3.23E+00 lbs/day 1.13E-01 lbs/day	Chlorophenyl phenyl ether Bromophenyl phenyl ether (s(2-chloroisopropyl) ether (s(2-chloroethoxy) methane ethylene chloride (HM) ethyl chloride (HM) ethyl bromide (HM)	06E+03 ug/ 87E+01 ug/	g/l 1.88E+01 lbs g/l 6.32E-02 lbs	s/day
4-Bromophenyl phenyl ether Bis(2-chloroisopropyl) ether Bis(2-chloroethoxy) methane Methylene chloride (HM) Methyl chloride (HM) Bromoform (HM) Bromoform (HM) Dichlorobromomethane(HM) Chlorodibromomethane (HM) Hexachlorocyclopentadiene Isophorone 7.06E+03 ug/l 1.88E+01 lbs/day 6.32E-02 lbs/day 6.32E-02 lbs/day 6.32E-02 lbs/day 6.32E-02 lbs/day 6.32E-02 lbs/day 6.3E-03 lbs/day 7.06E+03 ug/l	Bromophenyl phenyl ether is(2-chloroisopropyl) ether is(2-chloroethoxy) methane ethylene chloride (HM) ethyl chloride (HM) ethyl bromide (HM)	37E+01 ug/	g/l 6.32E-02 lbs	•
Bis(2-chloroisopropyl) ether Bis(2-chloroethoxy) methane Methylene chloride (HM) Methyl chloride (HM) Bromoform (HM) Dichlorobromomethane(HM) Chlorodibromomethane (HM) Hexachlorocyclopentadiene Isophorone 7.06E+03 ug/l 2.37E+01 ug/l 2.37E+01 ug/l 3.32E-02 lbs/day 5.78E-02 lbs/day 5.78E-02 lbs/day 3.63E-03 lbs/day 3.63E-03 lbs/day 3.23E+00 lbs/day 3.23E+00 lbs/day	s(2-chloroisopropyl) ether 7. s(2-chloroethoxy) methane ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	37E+01 ug/	g/l 6.32E-02 lbs	•
Bis(2-chloroethoxy) methane Methylene chloride (HM) Methyl chloride (HM) Methyl bromide (HM) Bromoform (HM) Dichlorobromomethane(HM) Chlorodibromomethane (HM) Hexachlorocyclopentadiene Isophorone 2.37E+01 ug/l 2.37E+01 ug/l 3.32E-02 lbs/day 5.78E-02 lbs/day 3.63E-03 lbs/day 3.63E-03 lbs/day 4.23E+01 ug/l 3.23E+00 lbs/day 3.23E+00 lbs/day	s(2-chloroethoxy) methane ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)	37E+01 ug/	g/l 6.32E-02 lbs	•
Methylene chloride (HM) Methyl chloride (HM) Methyl bromide (HM) Bromoform (HM) Dichlorobromomethane (HM) Chlorodibromomethane (HM) Hexachlorocyclopentadiene Isophorone 2.37E+01 ug/l 2.17E+01 ug/l 3.63E-02 lbs/day 5.78E-02 lbs/day 3.63E-03 lbs/day 3.63E-03 lbs/day 4.23E+00 ug/l 3.23E+00 lbs/day 3.23E+00 lbs/day	ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)			/day
Methylene chloride (HM) Methyl chloride (HM) Methyl bromide (HM) Bromoform (HM) Dichlorobromomethane (HM) Chlorodibromomethane (HM) Hexachlorocyclopentadiene Isophorone 2.37E+01 ug/l 2.17E+01 ug/l 3.63E-02 lbs/day 5.78E-02 lbs/day 3.63E-03 lbs/day 3.63E-03 lbs/day 4.23E+00 ug/l 3.23E+00 lbs/day 3.23E+00 lbs/day	ethylene chloride (HM) 2. ethyl chloride (HM) ethyl bromide (HM)			s/day
Methyl chloride (HM) Methyl bromide (HM) Bromoform (HM) Dichlorobromomethane(HM) Chlorodibromomethane (HM) Hexachlorocyclopentadiene Isophorone 2.17E+01 ug/l 1.36E+00 ug/l 2.07E+00 ug/l 3.63E-03 lbs/day 5.51E-03 lbs/day 3.23E+00 lbs/day 3.23E+00 lbs/day	ethyl chloride (HM) ethyl bromide (HM)			,
Methyl bromide (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Bromoform (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Dichlorobromomethane(HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	ethyl bromide (HM)	7F±01 µa/		
Bromoform (HM) 2.17E+01 ug/l 5.78E-02 lbs/day Dichlorobromomethane(HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	• ,	7F±01 ug/		
Dichlorobromomethane(HM) 1.36E+00 ug/l 3.63E-03 lbs/day Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	$(\Box \Box $		√/ E 70 ⊑ 02 lbc	\/dov
Chlorodibromomethane (HM) 2.07E+00 ug/l 5.51E-03 lbs/day Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day	ichlorobromomothono(UMA)			
Hexachlorocyclopentadiene 1.21E+03 ug/l 3.23E+00 lbs/day lsophorone 4.23E+01 ug/l 1.13E-01 lbs/day				-
Isophorone 4.23E+01 ug/l 1.13E-01 lbs/day				
				•
Naphthalene		!3E+01 ug/	ا/ا 1.13E-01 lbs	:/day
	aphthalene			
Nitrobenzene 8.57E+01 ug/l 2.29E-01 lbs/day	itrobenzene 8.	57E+01 ug/	رارا 2.29E-01 lbs	:/day
2-Nitrophenol	Nitrophenol			
4-Nitrophenol	Nitrophenol			
2,4-Dinitrophenol 3.53E+02 ug/l 9.41E-01 lbs/day	4-Dinitrophenol 3.	3E+02 ug/	y/l 9.41E-01 lbs	/day
4,6-Dinitro-o-cresol 6.55E+01 ug/l 1.75E-01 lbs/day	6-Dinitro-o-cresol 6.	EE . 04	,	بأطمأر
N-Nitrosodimethylamine 3.48E-03 ug/l 9.28E-06 lbs/day		າວ⊏+ບ⊺ ug/	₁/I 1.75E-01 lbs	i/uay
		-		-
· · ·	-Nitrosodimethylamine 3	48E-03 ug/	g/l 9.28E-06 lbs	s/day
	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2.	48E-03 ug/ 52E+01 ug/	9.28E-06 lbs g/l 6.72E-02 lbs	s/day s/day
•	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2	48E-03 ug/ 52E+01 ug/ 52E-02 ug/	9.28E-06 lbs 1/l 9.28E-02 lbs 6.72E-02 lbs 6.72E-05 lbs	s/day s/day s/day
•	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2 -Nitrosodi-n-propylamine 2 entachlorophenol 1.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/	9/1 9.28E-06 lbs 1/1 6.72E-02 lbs 1/1 6.72E-05 lbs 1/1 3.77E-03 lbs	s/day s/day s/day s/day
	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs	s/day s/day s/day s/day s/day
Putul bonzul phthalato 1.515 i.04 ug/l 4.035 i.01 lbc/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs 9/1 2.42E-02 lbs	s/day s/day s/day s/day s/day
Butyl benzyl phthalate 1.51E+04 ug/l 4.03E+01 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 51E+04 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs	s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 51E+04 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs	s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1. i-n-octyl phthalate	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 51E+04 ug/	9.28E-06 lbs 9/l 9.28E-02 lbs 9/l 6.72E-02 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.63E+01 lbs	s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthalate 1.16E+05 ug/l 3.09E+02 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1. i-n-octyl phthalate iethyl phthalate 1.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 51E+04 ug/ 66E+04 ug/	9.28E-06 lbs 9/l 9.28E-05 lbs 9/l 6.72E-02 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.63E+01 lbs 9/l 3.09E+02 lbs	s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthalate 1.16E+05 ug/l 3.09E+02 lbs/day Dimethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1. i-n-octyl phthalate iethyl phthalate 1. imethyl phthalate 1.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 51E+04 ug/ 66E+05 ug/ 58E+06 ug/	9.28E-06 lbs 9/l 9.28E-05 lbs 9/l 6.72E-02 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.63E+01 lbs 9/l 3.09E+02 lbs 9/l 4.21E+03 lbs	s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate Diethyl phthalate 1.16E+05 ug/l 3.09E+02 lbs/day Dimethyl phthlate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1. i-n-octyl phthalate iethyl phthalate 1. imethyl phthalate 1. imethyl phthalate 1. imethyl phthlate 1. enzo(a)anthracene (PAH) 1	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 51E+04 ug/ 36E+04 ug/ 16E+05 ug/ 41E-02 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.09E+02 lbs 9/l 3.07E-03 lbs 9/l 3.07E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1. i-n-octyl phthalate 1. iethyl phthalate 1. imethyl phthalate 1. imethyl phthlate 1. enzo(a)anthracene (PAH) 1 enzo(a)pyrene (PAH) 1	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 51E+04 ug/ 66E+05 ug/ 66E+06 ug/ 41E-02 ug/ 41E-02 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.09E+02 lbs 9/l 4.21E+03 lbs 9/l 3.77E-05 lbs 9/l 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate Diethyl phthalate 1.16E+05 ug/l 3.09E+02 lbs/day Dimethyl phthlate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1. i-n-octyl phthalate 1. iethyl phthalate 1. imethyl phthalate 1. imethyl phthlate 1. enzo(a)anthracene (PAH) 1 enzo(a)pyrene (PAH) 1	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 51E+04 ug/ 36E+04 ug/ 68E+06 ug/ 41E-02 ug/ 41E-02 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.09E+02 lbs 9/l 4.21E+03 lbs 9/l 3.77E-05 lbs 9/l 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 3Nitrosodi-n-propylamine 4Nitrosodi-n-propylamine 5Nitrosodi-n-propylamine 6Nitrosodi-n-propylamine 6Nitrosodi-n-propylamine 7Nitrosodi-n-propylamine 7Nitroso	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 51E+04 ug/ 66E+04 ug/ 46E+05 ug/ 41E-02 ug/ 41E-02 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.63E+01 lbs 9/l 3.77E-05 lbs 9/l 3.77E-05 lbs 9/l 3.77E-05 lbs 9/l 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2. entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1. i-n-octyl phthalate 1. i-n-octyl phthalate 1. imethyl phthalate 1. imethyl phthalate 1. imethyl phthalate 1. enzo(a)anthracene (PAH) 1. enzo(b)fluoranthene (PAH) 1. enzo(k)fluoranthene (PAH) 1.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 06E+04 ug/ 06E+05 ug/ 06E+05 ug/ 041E-02 ug/ 041E-02 ug/ 041E-02 ug/ 041E-02 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.63E+01 lbs 9/l 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 3Nitrosodi-n-propylamine 4Nitrosodi-n-propylamine 5Nitrosodi-n-propylamine 6Nitrosodi-n-propylamine 6Nitrosodi-n-propylamine 6Nitrosodi-n-propylamine 9Nitrosodi-n-propylamine 9Nitroso	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 06E+04 ug/ 06E+05 ug/ 06E+05 ug/ 041E-02 ug/ 041E-02 ug/ 041E-02 ug/ 041E-02 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.63E+01 lbs 9/l 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Dimethyl phthlate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Acenaphthylene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 3Nitrosodi-n-propylamine 4Nitrosodi-n-propylamine 5Nitrosodi-n-propylamine 6Nitrosodi-n-propylamine 7Nitrosodi-n-propylamine 7Nitroso	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 06E+04 ug/ 06E+05 ug/ 06E+05 ug/ 041E-02 ug/ 041E-02 ug/ 041E-02 ug/ 041E-02 ug/	9.28E-06 lbs 9/l 6.72E-02 lbs 9/l 6.72E-05 lbs 9/l 3.77E-03 lbs 9/l 2.82E+02 lbs 9/l 2.42E-02 lbs 9/l 4.03E+01 lbs 9/l 3.63E+01 lbs 9/l 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate Di-n-octyl phthlate Diethyl phthalate Diethyl phthalate Diethyl phthalate Dimethyl phthalate 1.58E+06 ug/l 1.58E+06 ug/l 3.77E-05 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) Acenaphthylene (PAH) Anthracene (PAH) Anthracene (PAH)	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 3 -Nitrosodi-n-propylamine 3 -Nitrosodi-n-propylamine 4	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 61E+04 ug/ 66E+05 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs 9/1 2.42E-02 lbs 9/1 4.03E+01 lbs 9/1 3.63E+01 lbs 9/1 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate Di-n-octyl phthlate Diethyl phthalate Diethyl phthalate Diethyl phthalate Dimethyl phthalate Dimethyl phthlate Dimethyl phthalate 1.58E+06 ug/l 1.58E+06 ug/l 3.77E-05 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) Acenaphthylene (PAH) Anthracene (PAH) Dibenzo(a,h)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 3 -Nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 3 -nitrosodi-n-propylamine 3 -nitrosodi-n-propylamine 4 -nitrosodi-n-propylamine 4 -nitrosodi-n-propylamine 5 -nitrosodi-n-propylamine 9	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 51E+04 ug/ 66E+05 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs 9/1 2.42E-02 lbs 9/1 4.03E+01 lbs 9/1 3.63E+01 lbs 9/1 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Dimethyl phthlate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(k)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Acenaphthylene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Indeno(1,2,3-cd)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 3 -Nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 3 -nitrosodi-n-propylamine 3 -nitrosodi-n-propylamine 4 -nitrosodi-n-propylamine 5 -nitrosodi-n-propylamine 9	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 51E+04 ug/ 66E+05 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs 9/1 2.42E-02 lbs 9/1 4.03E+01 lbs 9/1 3.63E+01 lbs 9/1 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Dimethyl phthlate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Acenaphthylene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Indeno(1,2,3-cd)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Pyrene (PAH) 4.84E+03 ug/l 1.29E+01 lbs/day	-Nitrosodimethylamine 3 -Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 3 -nitrosodi-n-propylamine 2 -nitrosodi-n-propylamine 3 -nitrosodi-n-propylamine 3 -nitrosodi-n-propylamine 4 -nitrosodi-n-propylamine 4 -nitrosodi-n-propylamine 5 -nitrosodi-n-propylamine 9	48E-03 ug/ 52E+01 ug/ 52E+02 ug/ 11E+00 ug/ 06E+05 ug/ 07E+00 ug/ 61E+04 ug/ 66E+05 ug/ 68E+06 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs 9/1 2.42E-02 lbs 9/1 4.03E+01 lbs 9/1 3.63E+01 lbs 9/1 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(k)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Acenaphthylene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Indeno(1,2,3-cd)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Pyrene (PAH) 4.84E+03 ug/l 1.29E+01 lbs/day Tetrachloroethylene 4.03E+00 ug/l 1.08E-02 lbs/day	-Nitrosodimethylamine 2Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2. entachlorophenol 1. henol 1. is(2-ethylhexyl)phthalate 9. utyl benzyl phthalate 1. i-n-butyl phthalate 1. i-n-octyl phthalate 1.	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 56E+05 ug/ 51E+04 ug/ 56E+04 ug/ 56E+04 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs 9/1 2.42E-02 lbs 9/1 3.63E+01 lbs 9/1 3.09E+02 lbs 9/1 3.77E-05 lbs	s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Acenaphthylene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Indeno(1,2,3-cd)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Pyrene (PAH) 4.84E+03 ug/l 1.29E+01 lbs/day Tetrachloroethylene 4.03E+00 ug/l 1.08E-02 lbs/day Toluene 3.43E+04 ug/l 9.14E+01 lbs/day	-Nitrosodimethylamine 2Nitrosodiphenylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 2Nitrosodi-n-propylamine 3Nitrosodi-n-propylamine 3Nitroso	48E-03 ug/ 52E+01 ug/ 52E-02 ug/ 11E+00 ug/ 56E+05 ug/ 51E+04 ug/ 56E+04 ug/ 56E+05 ug/ 58E+06 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-04 ug/ 41E-04 ug/ 41E-04 ug/ 41E-04 ug/ 41E-04 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs 9/1 2.42E-02 lbs 9/1 3.63E+01 lbs 9/1 3.09E+02 lbs 9/1 3.77E-05 lbs	s/day s/s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/day s/s/s/s/ s/day s/s/s/s/ s/s/s/s/ s/day s/s/s/s/s/s/ s/day s/day s/day s/day s/s/s/s/s/s/s/s/s/ s/day s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/
Di-n-butyl phthalate 1.36E+04 ug/l 3.63E+01 lbs/day Di-n-octyl phthlate 1.16E+05 ug/l 3.09E+02 lbs/day Diethyl phthalate 1.58E+06 ug/l 4.21E+03 lbs/day Benzo(a)anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(a)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(b)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Benzo(k)fluoranthene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Chrysene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Acenaphthylene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Anthracene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Indeno(1,2,3-cd)pyrene (PAH) 1.41E-02 ug/l 3.77E-05 lbs/day Pyrene (PAH) 4.84E+03 ug/l 1.29E+01 lbs/day Tetrachloroethylene 4.03E+00 ug/l 1.08E-02 lbs/day	-Nitrosodimethylamine 2Nitrosodiphenylamine 2Nitrosodi-n-propylamine 3Nitrosodi-n-propylamine 3Nitroso	48E-03 ug/ 52E+01 ug/ 52E+02 ug/ 11E+00 ug/ 56E+05 ug/ 51E+04 ug/ 56E+04 ug/ 56E+05 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-01 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-02 ug/ 41E-01 ug/ 41E-02 ug/	9/1 9.28E-06 lbs 9/1 6.72E-02 lbs 9/1 6.72E-05 lbs 9/1 3.77E-03 lbs 9/1 2.82E+02 lbs 9/1 2.42E-02 lbs 9/1 3.63E+01 lbs 9/1 3.09E+02 lbs 9/1 3.77E-05 lbs	s/day s/day

Pesticides		
Aldrin	6.55E-04 ug/l	1.75E-06 lbs/day
Dieldrin	7.06E-04 ug/l	1.88E-06 lbs/day
Chlordane	2.87E-03 ug/l	7.67E-06 lbs/day
4,4'-DDT	2.97E-03 ug/l	7.93E-06 lbs/day
4,4'-DDE	2.97E-03 ug/l	7.93E-06 lbs/day
4,4'-DDD	4.18E-03 ug/l	1.12E-05 lbs/day
alpha-Endosulfan	4.69E+00 ug/l	1.25E-02 lbs/day
beta-Endosulfan	4.69E+00 ug/l	1.25E-02 lbs/day
Endosulfan sulfate	4.69E+00 ug/l	1.25E-02 lbs/day
Endrin	3.83E+00 ug/l	1.02E-02 lbs/day
Endrin aldehyde	3.83E+00 ug/l	1.02E-02 lbs/day
Heptachlor	1.06E-03 ug/l	2.82E-06 lbs/day
Heptachlor epoxide		
PCB's		
PCB 1242 (Arochlor 1242)	2.22E-04 ug/l	5.92E-07 lbs/day
PCB-1254 (Arochlor 1254)	2.22E-04 ug/l	5.92E-07 lbs/day
PCB-1221 (Arochlor 1221)	2.22E-04 ug/l	5.92E-07 lbs/day
PCB-1232 (Arochlor 1232)	2.22E-04 ug/l	5.92E-07 lbs/day
PCB-1248 (Arochlor 1248)	2.22E-04 ug/l	5.92E-07 lbs/day
PCB-1260 (Arochlor 1260)	2.22E-04 ug/l	5.92E-07 lbs/day
PCB-1016 (Arochlor 1016)	2.22E-04 ug/l	5.92E-07 lbs/day
Pesticide		
Pesticide Toxaphene	3.68E-03 ug/l	9.82E-06 lbs/day
Toxaphene	3.68E-03 ug/l	9.82E-06 lbs/day
Toxaphene Metals	·	·
Toxaphene Metals Antimony	70.56 ug/l	0.19 lbs/day
Toxaphene Metals Antimony Arsenic	70.56 ug/l 248.79 ug/l	0.19 lbs/day 0.66 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos	70.56 ug/l	0.19 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium	70.56 ug/l 248.79 ug/l	0.19 lbs/day 0.66 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium	70.56 ug/l 248.79 ug/l	0.19 lbs/day 0.66 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III)	70.56 ug/l 248.79 ug/l	0.19 lbs/day 0.66 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI)	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide Lead	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l 0.00	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day 0.00
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide Lead Mercury	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l 0.00 0.71 ug/l	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day 0.00 0.00 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide Lead Mercury Nickel	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l 0.00 0.71 ug/l 3074.45 ug/l	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day 0.00 0.00 lbs/day 8.20 lbs/day
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide Lead Mercury Nickel Selenium	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l 0.00 0.71 ug/l 3074.45 ug/l 0.00	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day 0.00 0.00 lbs/day 8.20 lbs/day 0.00
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide Lead Mercury Nickel Selenium Silver	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l 0.00 0.71 ug/l 3074.45 ug/l 0.00 0.00	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day 0.00 0.00 lbs/day 8.20 lbs/day 0.00 0.00
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide Lead Mercury Nickel Selenium Silver Thallium Zinc	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l 0.00 0.71 ug/l 3074.45 ug/l 0.00 0.00	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day 0.00 0.00 lbs/day 8.20 lbs/day 0.00 0.00
Toxaphene Metals Antimony Arsenic Asbestos Beryllium Cadmium Chromium (III) Chromium (VI) Copper Cyanide Lead Mercury Nickel Selenium Silver Thallium	70.56 ug/l 248.79 ug/l 3.53E+07 ug/l 6552.10 ug/l 3528.05 ug/l 0.00 0.71 ug/l 3074.45 ug/l 0.00 0.00	0.19 lbs/day 0.66 lbs/day 9.41E+04 lbs/day 17.48 lbs/day 9.41 lbs/day 0.00 0.00 lbs/day 8.20 lbs/day 0.00 0.00

Metals Effluent Limitations for Protection of All Beneficial Uses Based upon Water Quality Standards and Toxics Rule

Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/I N/A
	2200.2	70.6	21672 3			IN/A
504.0	1025.2		21072.0	0.0		954.4
000	.020.2					• • • • • • • • • • • • • • • • • • • •
					0.0	
50.1	19.5			0.0	19.5	2.8
	13388.4			0.0	13388.4	1064.9
500.8	40.3			0.0	40.29	39.38
1004.8	117.4	6552.1			117.4	117.0
	66.4	1108817.1			66.4	26.2
	3017.5				3017.5	
500.8	996.8				500.8	61.7
	7.25	0.7	0.76	0.0	0.71	0.060
	3587.5	3074.4	23184.4		3074.4	662.7
245.6	57.2			0.0	57.2	16.8
	75.6			0.0		
		8.6	31.8		8.6	
	917.7				917.7	1531.5
3780.1					3780.1	
	Acute Agricultural ug/l 504.0 50.1 500.8 1004.8	Class 4 Acute Aquatic Agricultural ug/l 2260.2 504.0 1025.2 504.0 1025.2 504.0 1025.2 500.8 40.3 1004.8 117.4 66.4 3017.5 500.8 996.8 7.25 3587.5 245.6 57.2 75.6	Class 3 Acute Aquatic Water Agricultural ug/l 2260.2 70.6 504.0 1025.2 248.8 50.1 19.5 13388.4 500.8 40.3 1004.8 117.4 6552.1 66.4 1108817.1 3017.5 500.8 996.8 7.25 0.7 3587.5 3074.4 245.6 57.2 75.6 8.6 917.7	Class 3 Toxics Acute Aquatic Water Toxics Agricultural ug/l 2260.2 504.0 1025.2 70.6 21672.3 500.8 40.3 1004.8 117.4 6552.1 66.4 1108817.1 3017.5 500.8 996.8 7.25 0.7 0.76 3587.5 3074.4 23184.4 245.6 57.2 75.6 8.6 31.8 917.7	Class 4	Class 4 Acute Agricultural ug/l Acute Wildlife ug/l Drinking Water Source ug/l Acute Toxics Wildlife ug/l 1C Acute Health Criteria ug/l Acute Most 504.0 2260.2 70.6 21672.3 70.6 504.0 1025.2 248.8 0.0 248.8 504.0 19.5 5040.1 5040.1 5040.1 50.1 19.5 0.0 19.5 13388.4 0.0 19.5 0.0 13388.4 500.8 40.3 0.0 40.29 1004.8 117.4 6552.1 0.0 40.29 1004.8 117.4 6552.1 0.0 3017.5 500.8 996.8 0.0 0.0 500.8 7.25 0.7 0.76 0.0 0.71 3587.5 3074.4 23184.4 0.0 57.2 75.6 8.6 31.8 0.0 57.2 0.0 75.6 0.0 75.6 8.6 917.7 917.7 0.0 0.0

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]

[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute	WLA Chronic	
	ug/l	ug/l	
Aluminum	2260.2	N/A	
Antimony	70.56		
Arsenic	248.8	954.4	Acute Controls
Asbestos	3.53E+07		
Barium			
Beryllium			
Cadmium	19.5	2.8	
Chromium (III)	13388.4	1065	
Chromium (VI)	40.3	39.4	
Copper	117.4	117.0	
Cyanide	66.4	26.2	
Iron	3017.5		
Lead	500.8	61.7	
Mercury	0.706	0.060	
Nickel	3074.4	663	
Selenium	57.2	16.8	
Silver	75.6	N/A	
Thallium	8.6		
Zinc	917.7	1531.5	Acute Controls
Boron	3780.06		

Other Effluent Limitations are based upon R317-1.

E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an Antidegradation Level II Review is not required.

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.

XII. Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important downstream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

XIII. Notice of UPDES Requirement

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis [TMDL] are not compromised. See special provisions in Utah Water Quality Standards for adjustments in the Total Dissolved Solids values based upon background concentration.

Utah Division of Water Quality 801-538-6052

File Name: Monticello_WLA_7-6-20

APPENDIX - Coefficients and Other Model Information

CBOD	CBOD	CBOD	REAER.	REAER.	REAER.	NBOD	NBOD
Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
(Kd)20	FORCED	(Ka)T	(Ka)20	FORCED	(Ka)T	(Kn)20	(Kn)T
1/day	(Kd)/day	1/day	(Ka)/day	1/day	1/day	1/day	1/day
2.000	0.000	2.000	59.157	0.000	59.157	0.400	0.400
Open	Open	NH3	NH3	NO2+NO3	NO2+NO3	TRC	TRC
Coeff.	Coeff.	LOSS		LOSS		Decay	
(K4)20	(K4)T	(K5)20	(K5)T	(K6)20	(K6)T	K(CI)20	K(CI)(T)
1/day	1/day	1/day	1/day	1/day	1/day	1/day	1/day
0.000	0.000	4.000	4.000	0.000	0.000	32.000	32.000
BENTHIC DEMAND (SOD)20 gm/m2/day 1.000	BENTHIC DEMAND (SOD)T gm/m2/day 1.000						
K1 CBOD {theta} 1.0	K2 Reaer. {theta} 1.0	K3 NH3 {theta} 1.1	K4 Open {theta} 1.0		K6 NO2+3 {theta} 1.0	K(CI) TRC {theta} 1.1	S Benthic {theta} 1.1

Antidegredation Review

An antidegradation review (ADR) was conducted to determine whether the proposed activity complies with the applicable antidegradation requirements for receiving waters that may be affected. The Level I ADR evaluated the criteria of R317-2-3.5(b) and determined that a Level II antidegradation Review is required because the receiving waterbody is classified as a 1C drinking water source.