



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

FILE COPY

JUN 04 2013

**CERTIFIED MAIL
(Return Receipt Requested)**

Shane Paddock
Jordanelle Special Service District
PO Box 519
Heber City, UT 84032



Dear Mr. Paddock:

Subject: UPDES Permit UT0022403, Jordanelle Special Service District

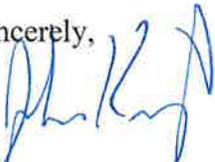
Enclosed is UPDES permit No. UT0022403 for your facility. Copies of EPA form 3320-1, Discharge Monitoring Report (DMR) forms, for reporting and self-monitoring requirements as specified in the permit, will be sent as soon as printed. This permit will become effective on June 01, 2013, subject to the right of appeal in accordance with the provisions of *Utah Administrative Code*, Section R317-9.

As the State agency charged with the administration of issuing UPDES Permits, we are continuously looking for ways to improve our quality of service to you. In effort to improve the State UPDES permitting process we are asking for your input. Since our customer permittee base is limited, your input is important. Please take a few moments to complete an online survey (Go to www.waterquality.utah.gov and click on the 'Give Feedback to DWQ' button on the left side of page.) The results will be used to improve our quality and responsiveness to our permittees and give us feedback on customer satisfaction. We will address the issues you have identified on an ongoing basis.

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Mr. Paddock

If you have any questions with regard to this matter, please contact Matthew Garn at mgarn@utah.gov or at (801) 536-4381.

Sincerely,



John Kennington, P.E. Manager
UPDES Engineering Section

JW:JK:MG:mc



Enclosures (4):

1. Fact Sheet Statement of Basis, (DWQ-2013-001309)
2. Waste Load Analysis, (DWQ-2013-001311)
3. Antidegradation Review Form, (DWQ-2013-002484)
4. Permit, (DWQ-2013-001310)

cc: Amy Clark, EPA Region VIII (w/encl)
Robert Swensen, Summit County Public Health Department (w/encl)

DWQ-2013-003692

**FACT SHEET STATEMENT OF BASIS
JORDANELLE SPECIAL SERVICE DISTRICT
UPDES PERMIT NUMBER: UT0022403
MAJOR INDUSTRIAL**

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FACILITY CONTACTS

Dan Matthews
Manager Jordanelle SSD
(435) 333-0475

Shane Paddock
Treatment Manager
(435) 333-0475

Facility Name: Jordanelle Special Service District
Keetley Water Treatment Plant
P.O. Box 519
10500 North 1420 West
Heber City, Utah 84032

DESCRIPTION OF FACILITY

Jordanelle Special Service District (JSSD) maintains a non-operational silver, lead and zinc mine near Park City, Utah. The mine has been inactive since 1982. The SIC code for this inactive mine is 1031, the NAICS code is 21223 for lead and zinc ores, the SIC code is 1044 and the NAICS code is 21222 for silver ores. Currently, Jordanelle Special Service District treats the mine water to provide drinking water to the community. The SIC code is 4941 and the NAICS code is 22131 for water supply. The discharge point from the facility to the Jordanelle Reservoir is Outfall 001 which is located at latitude 40°38'03" and longitude 111°26'13".

The treatment consists of two Ondeo-Degremont Densedeg high-rate solids contact clarifiers. Raw mine water flows from the drain tunnel to a splitter box. It then flows into the two rapid mixers where lime addition occurs to raise the pH. The water is then drawn into the solid contact reactors through an axial flow turbine. Polymer is injected into the water on the downstream side of the axial flow turbine. Floc particles are sheared as they are drawn through the turbine. As particles reach a specific density, they are drawn through an up-flow chamber and then cascade into the thickener. It is in the thickener that settling occurs. Sludge is drawn from the thickener and recycled into the solids contact reactor to facilitate coagulation. Water is then discharged from the thickener into troughs where it flows to a conditioning chamber. If needed the pH is adjusted downward using carbon dioxide prior to being discharged from the facility to the settling pond and then to the Jordanelle Reservoir via Outfall 001.

DISCHARGE

DESCRIPTION OF DISCHARGE

The Jordanelle SSD has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. A summary of the last 3 years of data is attached and there were no violations.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	The effluent is discharged from the southeast corner of the settling pond above the high water mark of the Jordanelle Reservoir. Located at latitude 40° 38' 03" and longitude 111° 26' 13".

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge flows into Jordanelle Reservoir. The Jordanelle Reservoir is classified as 1C, 2A, 3A, and 4 according to the Utah Administrative Code (UAC) R317-2-13;

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 3A	-Protected for cold water species of game fish and other cold 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.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), the daily maximum for total recoverable mercury and the maximum monthly average for total recoverable lead are based on 40CFR440.102(a). The limitations for copper, zinc, the daily maximum for lead, the maximum monthly average for mercury, and aluminum are based on water quality standards and the wasteload analysis. The limits for pH are based on current Utah Secondary Treatment Standards (*UAC R317-1-3.2*). Mass based limit are taken from the WLA. The oil and grease is based on best professional judgment (BPJ). The permit effluent limitations are:

Parameter	Maximum Monthly Average	Daily Minimum	Daily Maximum
TSS, mg/L	20	NA	30
Total Recoverable Copper, mg/L	NA	NA	.053
Total Recoverable Copper lbs/day	NA	NA	3.4
Total Recoverable Mercury, mg/L	0.00017	NA	0.002
Total Recoverable Mercury, lbs/day	NA	NA	0.5
Total Recoverable Lead, mg/L	0.03	NA	0.35
Total Recoverable Lead, lbs/day	2.1	NA	NA
Total Recoverable Zinc, mg/L	NA	NA	0.54
Total Recoverable Zinc, lbs/day	NA	NA	35.1
Total Recoverable Aluminum, mg/L	1.36	NA	2.43
Total Recoverable Aluminum, lbs/day	87.7	NA	157.3
Oil & Grease, mg/L	NA	NA	10
pH, Standard Units	NA	6.5	9

NA – Not Applicable.

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are shown in the table below. The permit will require reports to be submitted monthly and quarterly, as applicable, on Discharge Monitoring Report Form (EPA No. 3320-1) or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, “no discharge” shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part IV.G)*, and submitted by NetDMR, or to the Division of Water Quality.

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Daily	Recorder	MGD
TSS	Monthly	Grab	mg/L
Total Recoverable Copper	Quarterly	Composite	mg/L
Total Recoverable Mercury	Yearly	Composite/Grab	mg/L
Total Recoverable Lead	Quarterly	Composite	mg/L
Total Recoverable Zinc	Monthly	Composite	mg/L
Total Recoverable Aluminum a/	Quarterly	Composite	mg/L
Oil & Grease b/	Weekly	Visual/Grab	mg/L
WET, Chronic Biomonitoring	Quarterly	Composite	Pass/Fail
pH	Daily	Grab	Standard Units

a/ Sample required only if alum or aluminum additives are added.

b/ Monitoring and reporting the results of a laboratory analyzed sample for oil & grease is not required unless the visual sample produces a positive result.

WASTE LOAD ANALYSIS AND ANTIDegradation REVIEW

Effluent limitations are also derived using a waste load analysis (WLA), which is appended to this statement of basis as ADDENDUM. The WLA incorporates Secondary Treatment Standards, Water Quality Standards, Antidegradation Reviews (ADR), as appropriate and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During the UPDES permit development, a WLA and ADR were performed. An ADR Level I review was performed and the conclusion was that an ADR level II review was required, because the receiving water or downstream water is a 1C drinking water source. A copy of the ADR Level II is appended to this document.

STORM WATER

According to Utah Administrative Code (UAC) R317-8-3.9 this facility will not be required to maintain coverage under the UPDES multi-sector general permit for discharges associated with industrial activity, permit number UTR000000, sector G (Mineral Industry, SIC Major Group 10). This is because the storm water will not likely come in contact with or be contaminated by an overburden, raw material, intermediate product, finished product, by product, or waste product located on the site of the operation.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring)*. Authority to require effluent biomonitoring is provided in *Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2*.

Since Jordanelle SSD is classified as a major industrial discharger, the renewal permit will require whole effluent toxicity (WET) testing. This testing will consist of chronic toxicity testing using one species, *Ceriodaphnia dubia*, quarterly as detailed in the permit. WET testing of *Pimephales promelas* (fathead minnow) may be required by the Director if the permittee significantly changes its treatment system. The permit will contain the standard requirements for accelerated testing upon failure of a WET test, and a Preliminary Toxicity Investigation (PTI) and Toxicity Reduction Evaluation (TRE) as necessary.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by
Matthew Garn, Environmental Engineer
Utah Division of Water Quality,
January, 2013

PUBLIC NOTICE

Began: April 17, 2013
Ended: May 17, 2013
Public Noticed in: The Wasatch Wave

There were no comments received during the public notice period.
May 20, 2013

DWQ-2013-001309

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**WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY**

Discharging Facility: JSSD Water Treatment Plant
 UPDES No: 0022403
 Current Flow: 12.00 MGD Design Flow
 Design Flow 12.00 MGD

Receiving Water: Jordanelle Reservoir
 Lake Classification: 1C, 2A, 3A, 4

TDS (mg/l)	128.00	Average
Hardness (mg/l)	300.00	Average
pH	8.00	Average
Temp (C)	9.93	Average

Selected Effluent Limit Summary:		WQ Standard:
Flow, MGD:	12.00 MGD	Design Flow
BOD, mg/l:	25.0 All Season	5 Indicator
Dissolved Oxygen, mg/l:	5.00 All Season	6.50 30 Day Average
TNH3, Chronic, mg/l:	23.68 All Season	Varies Function of pH and Temperature
TDS, mg/l:	3656.07 All Season	1200
Zinc, ug/l	542.86 All Season Varies	Function of Hardness
Copper, ug/l	52.80 All Season Varies	Function of Hardness

Modeling Parameters:

Acute Dilution Ratio 3.29 to 1
 Chronic Dilution Ratio: 18.81 to 1

Level 1 Antidegradation Level Completed: Level II Review required - Class 1C drinking water source.

Date: 11/16/2012

Permit Writer:

WLA by:

WQM Sec. Approval:

TMDL Sec. Approval:

David M. Umm

11/20/12

Wasteload Analysis - Total Maximum Daily Load (Lake TMDL)

11/20/2012 18:05

Facility: JSSD Water Treatment Plant
Discharging to: Jordanelle Reservoir

UPDES No: UT- 0022403

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 lake water quality. The wasteload analysis does not take 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 100 100 may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), unionized ammonia (as a function of pH and temperature, measured and evaluated in terms of total ammonia), and dissolved oxygen.

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

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

II. Receiving Water and Lake / Reservoir Classification

Jordanelle Reservoir 1C, 2A, 3A, 4

III. Numeric Water Quality Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Function of Temperature and pH	pH	Temp
	3.04 mg/l as N (4 Day Average)	7.79	11.2
	7.60 mg/l as N (1 Hour Average)	7.84	10.9
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average)		
	0.019 mg/l (1 Hour Average)		
Chronic Dissolved Oxygen (DO)	6.50 mg/l (30 Day Average)		
	5.00 mg/l (7Day Average)		
	4.00 mg/l (1 Day Average)		
Maximum Total Dissolved Solids [Class 4 Ag]	1200 mg/l		
Maximum Boron [Class 4 Ag]	750 mg/l		

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard Concentration	1 Hour Average (Acute) Standard Concentration
Aluminum	87.000 ug/l	750 ug/l
Antimony	ug/l	ug/l
Arsenic	190.000 ug/l	360.00 ug/l

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Asbestos	ug/l		ug/l
Barium	ug/l	1000.00	ug/l
Beryllium	ug/l		ug/l
Cadmium	0.292 ug/l	3.46	ug/l
Chromium III	93.616 ug/l	1958.63	ug/l
Chromium VI	11.000 ug/l	16.00	ug/l
Copper	10.170 ug/l	15.40	ug/l
Cyanide	ug/l		ug/l
Iron	ug/l	1000.00	ug/l
Lead	3.618 ug/l	92.85	ug/l
Mercury	0.012 ug/l	2.40	ug/l
Nickel	96.11 ug/l	511.05	ug/l
Selenium	5.000 ug/l	20.00	ug/l
Silver	ug/l	4.50	ug/l
Thallium			
Zinc	130.528 ug/l	130.53	ug/l

Based upon a Hardness of 110.63 mg/l as CaCO₃

Based upon 160.77 mg/l as CaCO₃

Organics [Pesticides]

	4 Day Average (Chronic) Standard Concentration	1 Hour Average (Acute) Standard Concentration	
Aldrin		1.500	ug/l
Chlordane	0.0043 ug/l	1.200	ug/l
DDT, DDE	0.001 ug/l	0.550	ug/l
Dieldrin	0.0056 ug/l	0.240	ug/l
Endosulfan, a & b	0.056 ug/l	0.110	ug/l
Endrin	0.036 ug/l	0.086	ug/l
Guthion			
Heptachlor & H. epoxide	0.0038 ug/l	0.260	ug/l
Lindane	0.08 ug/l	1.000	ug/l
Methoxychlor		0.030	ug/l
Mirex		0.001	ug/l
Parathion	0.0130 ug/l	0.066	ug/l
PCB's	0.014 ug/l		
Pentachlorophenol	15.00 ug/l	19.000	ug/l
Toxephene	0.0002 ug/l	0.730	ug/l

IV. Numeric Water Quality Standards for Protection of Agriculture

	1 Hour Average (Acute) Standard Concentration	
TDS	1200	mg/l
Arsenic	100	ug/l
Boron	750	ug/l
Cadmium	10	ug/l
Chromium	100	ug/l
Copper	200	ug/l
Lead	100	ug/l
Selenium	50	ug/l
TDS	1200	mg/l

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

	1 Hour Average (Acute) Standard Concentration	
Metals		
Arsenic	10	ug/l
Barium	1000	ug/l

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Cadmium	10	ug/l
Chromium	50	ug/l
Lead	50	ug/l
Mercury	2	ug/l
Selenium	50	ug/l
Silver	50	ug/l
Fluoride (3)	1.4	ug/l
to	2.4	ug/l
Nitrates as N	10	ug/l
Chlorophenoxy Herbicides		
2,4-D	100	ug/l
2,4,5-TP	10	ug/l
Methoxychlor	100	ug/l

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

	Maximum Conc., ug/l - Acute Standards	
	Class 1C	Class 3A, 3B, 3C, 3D
	[2 Liters/Day for 70 Kg Person over 70 Yr.	[6.5 g for 70 Kg Person over 70 Yr.]
Antimony	5.6 ug/l	640 ug/l
Arsenic	A	A
Beryllium	C	C
Cadmium	C	C
Chromium III	C	C
Chromium VI	C	C
Copper	1,300 ug/l	
Lead	C	C
Mercury	A	A
Nickel	100 ug/l	4,600 ug/l
Selenium	A	4,200 ug/l
Silver		
Thallium	0.24 ug/l	6.3 ug/l
Zinc	7400 ug/l	26,000 ug/l
Cyanide	140 ug/l	220,000 ug/l
Asbestos	7.00E+06 Fibers/L	
2,3,7,8-TCDD Dioxin	5.0 E-9 ug/l	5.1 E-9 ug/l
Acrolein	190 ug/l	290 ug/l
Acrylonitrile	0.051 ug/l	0.25 ug/l
Alachlor	2 ug/l	
Benzene	2.2 ug/l	51 B ug/l
Bromoform	4.3 ug/l	140.00 ug/l
Carbofuran	40	
Carbon Tetrachloride	0.23 ug/l	1.60 ug/l
Chlorobenzene	100 ug/l	21,000 ug/l
Chlorodibromomethane	0.4 ug/l	13.00 ug/l
Chloroethane		
2-Chloroethylvinyl Ether		
Chloroform	5.7 ug/l	470.00 ug/l
Dalapon	200 ug/l	
Di(2ethylhexyl)adipate	400 ug/l	
Dichlorobromopropane	0.2	

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Dichlorobromomethane	0.55 ug/l	17.00 ug/l
1,1-Dichloroethane		
1,2-Dichloroethane	0.38 ug/l	37.00 ug/l
1,1-Dichloroethylene	7 ug/l	3.20 ug/l
Dichloroethylene (cis-1,2)	70	
Dinoseb	7	
Diquat	20	
1,2-Dichloropropane	0.5 ug/l	15.00 ug/l
1,3-Dichloropropene	0.34 ug/l	1,700 ug/l
Endothall	100	
Ethylbenzene	530 ug/l	29,000 ug/l
Ethylidibromide	0.05 ug/l	
Glyphosate	700 ug/l	
Haloacetic acids	60 ug/l E	
Methyl Bromide	47 ug/l	1,500 ug/l
Methyl Chloride	F	F
Methylene Chloride	4.6 ug/l	590.00 ug/l
Ocamyl (vidate)	200 ug/l	
Picloram	500 ug/l	
Simazine	4 ug/l	
Styrene	100 ug/l	
1,1,2,2-Tetrachloroethane	0.17 ug/l	4.00 ug/l
Tetrachloroethylene	0.69 ug/l	3.30 ug/l
Toluene	1000 ug/l	200,000 ug/l
1,2 -Trans-Dichloroethylene	100 ug/l	140,000 ug/l
1,1,1-Trichloroethane	200 ug/l	F
1,1,2-Trichloroethane	0.59 ug/l	16.00 ug/l
Trichloroethylene	2.5 ug/l	30.00 ug/l
Vinyl Chloride	0.025 ug/l	530.00 ug/l
Xylenes	10000 ug/l	
2-Chlorophenol	81 ug/l	150 ug/l
2,4-Dichlorophenol	77 ug/l	290 ug/l
2,4-Dimethylphenol	380 ug/l	850 ug/l
2-Methyl-4,6-Dinitrophenol	13 ug/l	280 ug/l
2,4-Dinitrophenol	69 ug/l	5,300 ug/l
2-Nitrophenol		
4-Nitrophenol		
3-Methyl-4-Chlorophenol		
Penetachlorophenol	0.27 ug/l	3.00 ug/l
Phenol	21000 ug/l	1,700,000 ug/l
2,4,6-Trichlorophenol	1.4 ug/l	2.40 ug/l
Acenaphthene	670 ug/l	990 ug/l
Acenaphthylene	ug/l	ug/l
Anthracene	8300 ug/l	40,000 ug/l
Benzidine	0.000086 ug/l	0.00 ug/l
Benzoanthracene	0.0038 ug/l	0.02 ug/l
Benzo(a)Pyrene	0.0038 ug/l	0.02 ug/l
Benzofluoranthene	0.0038 ug/l	0.02 ug/l
BenzoghiPerylene	ug/l	
Benzokfluoranthene	0.0038 ug/l	0.02 ug/l
Bis2-ChloroethoxyMethane	ug/l	
Bis2-ChloroethylEther	0.03 ug/l	0.53 ug/l
Bis2-ChloroisopropylEther	1400 ug/l	65,000 ug/l
Bis2-EthylhexylPhthalate	1.2 ug/l	2.20 ug/l

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4-Bromophenyl Phenyl Ether	ug/l		
Butylbenzyl Phthalate	1500 ug/l		1,900 ug/l
2-Chloronaphthalene	1000 ug/l		1,600 ug/l
4-Chlorophenyl Phenyl Ether	ug/l		
Chrysene	0.0038 ug/l		0.02 ug/l
Dibenzo(a, h)Anthracene	0.0038 ug/l		0.02 ug/l
1,2-Dichlorobenzene	420 ug/l		17,000 ug/l
1,3-Dichlorobenzene	320 ug/l		960 ug/l
1,4-Dichlorobenzene	63 ug/l		2,600 ug/l
3,3-Dichlorobenzidine	0.021 ug/l		0.03 ug/l
Diethyl Phthalate	17000 ug/l		44,000 ug/l
Dimethyl Phthalate	270000 ug/l		1,100,000 ug/l
Di-n-Butyl Phthalate	2000 ug/l		4,500 ug/l
2,4-Dinitrotoluene	0.11 ug/l		3.40 ug/l
2,6-Dinitrotoluene	ug/l		
Di-n-Octyl Phthalate	ug/l		
1,2-Diphenylhydrazine	0.036 ug/l		0.20 ug/l
Fluoranthene	130 ug/l		140.00 ug/l
Fluorene	1100 ug/l		5,300 ug/l
Hexachlorobenzene	0.00028 ug/l		0.00029 B ug/l
Hexachlorobutidine	0.44 ug/l		18.00 ug/l
Hexachloroethane	1.4 ug/l		3.30 ug/l
Hexachlorocyclopentadiene	40 ug/l		17,000 ug/l
Ideno 1,2,3-cdPyrene	0.0038 ug/l		0.02 ug/l
Isophorone	35 ug/l	B	960.00 ug/l
Naphthalene			
Nitrobenzene	17 ug/l		690 ug/l
N-Nitrosodimethylamine	0.00069 ug/l		3.00 ug/l
N-Nitrosodi-n-Propylamine	0.005 ug/l		0.51 ug/l
N-Nitrosodiphenylamine	3.3 ug/l		6.00 ug/l
Phenanthrene			
Pyrene	830 ug/l		4,000 ug/l
1,2,4-Trichlorobenzene	260 ug/l		940 ug/l
Aldrin	0.000049 ug/l		0.000050 ug/l
alpha-BHC	0.0026 ug/l		0.00 ug/l
beta-BHC	0.0091 ug/l		0.02 ug/l
gamma-BHC (Lindane)	0.2 ug/l		0.06 ug/l
delta-BHC			
Chlordane	0.0008 ug/l		0.00 ug/l
4,4-DDT	0.00022 ug/l		0.00 ug/l
4,4-DDE	0.00022 ug/l		0.00 ug/l
4,4-DDD	0.00031 ug/l		0.00 ug/l
Dieldrin	0.000052 ug/l	B	0.000054 ug/l
alpha-Endosulfan	62 ug/l		89 ug/l
beta-Endosulfan	62 ug/l		89 ug/l
Endosulfan Sulfate	62 ug/l		89 ug/l
Endrin	0.059 ug/l		0.81 ug/l
Endrin Aldehyde	0.29 ug/l		0.30 ug/l
Heptachlor	0.000079 ug/l	B	0.000079 ug/l
Heptachlor Epoxide	0.000039 ug/l	B	0.000039 ug/l
Polychlorinated Biphenyls	0.000064 ug/l	B,D	0.000064 ug/l
Toxaphene	0.00028 ug/l		0.00028 ug/l

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 Water Quality 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) 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.

The Utah Reservoir and Lake Model is a simple round jet model which was received from EPA Region 8. It assumes a discharge expands into the receiving water as a 1/2 cone from the point of discharge with the appropriate dilution.

The dilution ratios for this wasteload analysis are as follows:

Acute Dilution Ratio:	3.3 to 1
Chronic Dilution Ration:	18.8 to 1

VIII. Modeling Information

The required information for the model may include the following information for both the lake and effluent conditions:

Temperature, Deg. C.	Total Residual Chlorine (TRC), mg/l
pH	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

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D.O. mg/l

Other Conditions

In addition to the lake 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

Lake Information	Temp. Deg. C	pH	T-NH3 mg/l as N	BOD mg/l	DO mg/l	TRC mg/l	TDS mg/l	Metals ug/l
	11.3	7.8	0.00	N/A	N/A	0.00	128.0	0.0
Discharge Information	Season All Seasons		Flow, 12.0	Temp. 9.9				

IX. Effluent Limitations based upon Water Quality Standards

Effluent Limitation for Flow

All Seasons		
Not to Exceed:	12.00 MGD	Daily Average
	18.56 cfs	Daily Average
WET Requirements	As determined by Permits & Compliance Branch	

Effluent Limitation for Biological Oxygen Demand (BOD)

	Concentration
30 Day Average	25.0 mg/l as BOD5
30 Day Average	20.0 mg/l as CBOD5

Effluent Limitation for Dissolved Oxygen (DO)

	Concentration
	1 Day Average (Acute)
30 Day Average	5.00 mg/l

Effluent Limitation for Total Ammonia

4 Day Average [Chronic]	
Concentration	Load

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All Seasons	23.68 mg/l as N	2369.1 lbs/day
	1 Hour Average [Acute] Concentration	Load
	12.6 mg/l as N	1261.7 lbs/day

Effluent Limitation for Total Residual Chlorine

	4 Day Average [Chronic] Concentration	Load
All Seasons	0.207 mg/l	20.7 lbs/day
	1 Hour Average [Acute] Concentration	Load
	0.063 mg/l	6.3 lbs/day

Effluent Limitations for Metals

	4 Day Average (Chronic)		1 Hour Average (Acute)	
	Concentration	Load	Concentration	Load
Aluminum	1356.59 ug/l*	87.7 lbs/day	2432.36 ug/l	157.3 lbs/day
Arsenic	2785.87 ug/l	180.2 lbs/day	1114.46 ug/l*	72.1 lbs/day
Barium			3291.11 ug/l	212.9 lbs/day
Cadmium	3.66 ug/l*	0.2 lbs/day	10.35 ug/l	0.7 lbs/day
Chromium III	1097.36 ug/l*	71.0 lbs/day	2712.80 ug/l	175.5 lbs/day
Chromium VI	157.90 ug/l	10.2 lbs/day	46.36 ug/l*	3.0 lbs/day
Copper	56.30 ug/l	3.6 lbs/day	52.80 ug/l*	3.4 lbs/day
Iron			2.72 ug/l	0.2 lbs/day
Lead	33.01 ug/l*	2.1 lbs/day	352.90 ug/l	22.8 lbs/day
Mercury	0.17 ug/l*	0.011 lbs/day	7.89 ug/l	0.5 lbs/day
Nickel	833.87 ug/l*	53.9 lbs/day	2273.01 ug/l	147.0 lbs/day
Selenium	76.72 ug/l	5.0 lbs/day	59.30 ug/l*	3.8 lbs/day
Silver			23.96 ug/l	1.5 lbs/day
Zinc	30828.51 ug/l	1,994.0 lbs/day	542.86 ug/l*	35.1

* Most stringent between Chronic & Acute Effluent Limitations

Effluent Limitations for Organics [Pesticides]

Pesticide	4 Day Average		1 Hour Average	
	Concentration	Load	Concentration	Load
Aldrin			4.9367 ug/l	0.319 lbs/day
Chlordane	0.0809 ug/l*	0.005 lbs/day	3.9493 ug/l	0.255 lbs/day
DDT, DDE	0.0188 ug/l*	0.001 lbs/day	1.8101 ug/l	0.117 lbs/day
Dieldrin	0.1053 ug/l*	0.007 lbs/day	0.7899 ug/l	0.051 lbs/day
Endosulfan	1.0532 ug/l	0.068 lbs/day	0.3620 ug/l*	0.023 lbs/day
Endrin	0.6770 ug/l	0.044 lbs/day	0.2830 ug/l*	0.018 lbs/day

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Guthion			0.0000 ug/l	0.000 lbs/day
Heptachlor	0.0715 ug/l*	0.005 lbs/day	0.8557 ug/l	0.055 lbs/day
Lindane	1.5045 ug/l*	0.097 lbs/day	3.2911 ug/l	0.213 lbs/day
Methoxychlor			0.0987 ug/l	0.006 lbs/day
Mirex			0.0033 ug/l	0.000 lbs/day
Parathion			0.2172 ug/l	0.014 lbs/day
PCB's	0.2633 ug/l	0.017 lbs/day	0.0000 ug/l*	0.000 lbs/day
Pentachlorophenol	282.0948 ug/l	18.246 lbs/day	62.5310 ug/l*	4.045 lbs/day
Toxephene	0.0038 ug/l*	0.000 lbs/day	2.4025 ug/l	0.155 lbs/day

Effluent Limitations for Protection of Human Health (Class 1C Waters)

Metals	1 Hour Average (Acute) Standard	
	Concentration	Load
Arsenic	32.91 ug/l	2.13 lbs/day
Barium	3291.11 ug/l	212.87 lbs/day
Cadmium	32.91 ug/l	2.13 lbs/day
Chromium	164.56 ug/l	10.64 lbs/day
Lead	164.56 ug/l	10.64 lbs/day
Mercury	6.58 ug/l	0.43 lbs/day
Selenium	164.56 ug/l	10.64 lbs/day
Silver	164.56 ug/l	10.64 lbs/day
Fluoride	4.61 ug/l	0.30 lbs/day
to	7.90 ug/l	0.51 lbs/day
Nitrates as N	32.91 ug/l	2.13 lbs/day
Pesticides		
2,4-D	329.11 ug/l	21.29 lbs/day
2,4,5-TP	32.91 ug/l	2.13 lbs/day
Methoxychlor	329.11 ug/l	21.29 lbs/day

Effluent Limitations for Protection of Human Health [Toxics Rule]

Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)

Toxics Rule Parameters	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
	[2 Liters/Day for 70 Kg Person over 70 Yr.		[6.5 g for 70 Kg Person over 70 Yr. Period]	
Antimony	18.43 ug/l	1.19 lbs/day	18.43 ug/l	1.2 lbs/day
Arsenic				
Beryllium				
Cadmium				
Chromium III				
Chromium VI				
Copper	4278.44 ug/l	276.73 lbs/day	4278.44 ug/l	276.7 lbs/day
Lead				
Mercury		lbs/day	329.11 ug/l	21.3 lbs/day
Nickel	329.11 ug/l	21.29 lbs/day		
Selenium			24354.18 ug/l	1575.2 lbs/day
Silver			460.75 ug/l	29.8 lbs/day
Thallium	0.79 ug/l	0.05 lbs/day		
Zinc	24354.18 ug/l	1575.23 lbs/day	625.31 ug/l	40.4 lbs/day

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Cyanide	460.75 ug/l	29.80 lbs/day	0.17 ug/l	0.0 lbs/day
Asbestos	23037741.33 ug/l	1.49E+06 lbs/day	14.15 ug/l	0.9 lbs/day
0	0.00 ug/l	0.00 lbs/day		
2,3,7,8-TCDD Dioxin	0.00 ug/l	0.00 lbs/day	329.11 ug/l	21.3 lbs/day
Acrolein	625.31 ug/l	40.45 lbs/day	1.32 ug/l	0.1 lbs/day
Acrylonitrile	0.17 ug/l	0.01 lbs/day		
Benzene	7.24 ug/l	0.47 lbs/day		
Bromoform	14.15 ug/l	0.92 lbs/day	18.76 ug/l	1.2 lbs/day
Carbon Tetrachloride	0.00 ug/l	0.00 lbs/day		
Chlorobenzene	329.11 ug/l	21.29 lbs/day		
Chlorodibromomethane	1.32 ug/l	0.09 lbs/day	1.25 ug/l	0.1 lbs/day
Chloroethane	0.00 ug/l	0.00 lbs/day	23.04 ug/l	1.5 lbs/day
2-Chloroethylvinyl Ether	0.00 ug/l	0.00 lbs/day	1.65 ug/l	0.1 lbs/day
Chloroform	18.76 ug/l	1.21 lbs/day	1.12 ug/l	0.1 lbs/day
Dichlorobromomethane	1.81 ug/l	0.12 lbs/day	154.68 ug/l	10.0 lbs/day
1,1-Dichloroethane	0.00 ug/l	0.00 lbs/day		
1,2-Dichloroethane	1.25 ug/l	0.08 lbs/day	15.14 ug/l	1.0 lbs/day
1,1-Dichloroethylene	23.04 ug/l	1.49 lbs/day	0.56 ug/l	0.0 lbs/day
1,2-Dichloropropane	1.65 ug/l	0.11 lbs/day	3291.11 ug/l	212.9 lbs/day
1,3-Dichloropropene	1.12 ug/l	0.07 lbs/day	1.94 ug/l	0.1 lbs/day
Ethylbenzene	1744.29 ug/l	112.82 lbs/day	8.23 ug/l	0.5 lbs/day
Methyl Bromide	154.68 ug/l	10.00 lbs/day	0.08 ug/l	0.0 lbs/day
Methyl Chloride	0.00 ug/l	0.00 lbs/day	266.58 ug/l	17.2 lbs/day
Methylene Chloride	15.14 ug/l	0.98 lbs/day	253.42 ug/l	16.4 lbs/day
1,1,2,2-Tetrachloroethane	0.56 ug/l	0.04 lbs/day	1250.62 ug/l	80.9 lbs/day
Tetrachloroethylene	2.27 ug/l	0.15 lbs/day	42.78 ug/l	2.8 lbs/day
Toluene	3291.11 ug/l	212.87 lbs/day		
1,2 -Trans-Dichloroethylene	329.11 ug/l	21.29 lbs/day		
1,1,1-Trichloroethane	0.00 ug/l	0.00 lbs/day	0.89 ug/l	0.1 lbs/day
1,1,2-Trichloroethane	1.94 ug/l	0.13 lbs/day	69113.22 ug/l	4470.2 lbs/day
Trichloroethylene	8.23 ug/l	0.53 lbs/day	4.61 ug/l	0.3 lbs/day
Vinyl Chloride	0.08 ug/l	0.01 lbs/day	2205.04 ug/l	142.6 lbs/day
2-Chlorophenol	266.58 ug/l	17.24 lbs/day		
2,4-Dichlorophenol	253.42 ug/l	16.39 lbs/day	27316.18 ug/l	1766.8 lbs/day
2,4-Dimethylphenol	1250.62 ug/l	80.89 lbs/day		
2-Methyl-4,6-Dinitrophenol	42.78 ug/l	2.77 lbs/day	0.01 ug/l	0.0 lbs/day
2,4-Dinitrophenol	227.09 ug/l	14.69 lbs/day	0.01 ug/l	0.0 lbs/day
2-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.01 ug/l	0.0 lbs/day
4-Nitrophenol	0.0000 ug/l	0.0000 lbs/day		
3-Methyl-4-Chlorophenol	0.0000 ug/l	0.0000 lbs/day	0.01 ug/l	0.001 lbs/day
Penetachlorophenol	0.8886 ug/l	0.0575 lbs/day		
Phenol	69113.2240 ug/l	4.47E+03 lbs/day	0.10 ug/l	0.006 lbs/day
2,4,6-Trichlorophenol	4.6075 ug/l	0.2980 lbs/day	4607.55 ug/l	298.016 lbs/day
Acenaphthene	2205.04 ug/l	142.62 lbs/day		
Acenaphthylene	0.00 ug/l	0.00 lbs/day	4936.66 ug/l	319.3 lbs/day
Anthracene	27316.18 ug/l	1766.81 lbs/day	3291.11 ug/l	212.9 lbs/day
Benzidine	0.00 ug/l	0.00 lbs/day		
BenzoaAnthracene	0.01 ug/l	0.00 lbs/day	0.01 ug/l	0.0 lbs/day
BenzoaPyrene	0.01 ug/l	0.00 lbs/day	0.0 ug/l	0.0 lbs/day
BenzobFluoranthene	0.01 ug/l	0.00 lbs/day	1382.26 ug/l	89.4 lbs/day
BenzoghiPerylene	0.00 ug/l	0.00 lbs/day	1053.15 ug/l	68.1 lbs/day
BenzokFluoranthene				
Bis2-ChloroethoxyMethane				
Bis2-ChloroethylEther	0.0987 ug/l	0.00639 lbs/day	5.59E+04 ug/l	3.62E+03 lbs/day

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Bis2-Chloroisopropyl Ether	4607.5483 ug/l	2.98E+02 lbs/day	8.89E+05 ug/l	5.75E+04 lbs/day
Bis2-Ethylhexyl Phthalate	3.9493 ug/l	0.25544 lbs/day	##### ug/l	425.73746 lbs/day
4-Bromophenyl Phenyl Ether	0.0000 ug/l	0.00000 lbs/day	0.36202 ug/l	0.02342 lbs/day
Butylbenzyl Phthalate	4936.6589 ug/l	3.19E+02 lbs/day		
2-Chloronaphthalene	3291.1059 ug/l	212.86873 lbs/day		
4-Chlorophenyl Phenyl Ether	0.0000 ug/l	0.00000 lbs/day	0.11848 ug/l	0.00766 lbs/day
Chrysene	0.0125 ug/l	0.00081 lbs/day	427.84377 ug/l	27.67293 lbs/day
Dibenzo, hAnthracene	0.0125 ug/l	0.00081 lbs/day	##### ug/l	234.15560 lbs/day
1,2-Dichlorobenzene	1382.2645 ug/l	89.40487 lbs/day	0.00092 ug/l	0.00006 lbs/day
1,3-Dichlorobenzene	1053.1539 ug/l	68.11799 lbs/day	1.44809 ug/l	0.09366 lbs/day
1,4-Dichlorobenzene	207.3397 ug/l	13.41073 lbs/day	4.60755 ug/l	0.29802 lbs/day
3,3-Dichlorobenzidine				
Diethyl Phthalate				
Dimethyl Phthalate				
Di-n-Butyl Phthalate	6582.21181 ug/l	425.73746 lbs/day		
2,4-Dinitrotoluene	0.36202 ug/l	0.02342 lbs/day	55.948800 ug/l	3.618768 lbs/day
2,6-Dinitrotoluene	0.00000 ug/l	0.00000 lbs/day	0.002271 ug/l	0.000147 lbs/day
Di-n-Octyl Phthalate	0.00000 ug/l	0.00000 lbs/day	0.016456 ug/l	0.001064 lbs/day
1,2-Diphenylhydrazine	0.11848 ug/l	0.00766 lbs/day	10.860649 ug/l	0.702467 lbs/day
Fluoranthene	427.84377 ug/l	27.67293 lbs/day		
Fluorene	3620.21649 ug/l	234.15560 lbs/day	2.73E+03 ug/l	1.77E+02 lbs/day
Hexachlorobenzene				
Hexachlorobutidine				
Hexachloroethane	4.61 ug/l	0.30 lbs/day		
Hexachlorocyclopentadiene				
Ideno 1,2,3-cdPyrene				
Isophorone	115.19 ug/l	7.45 lbs/day		
Naphthalene				
Nitrobenzene				
N-Nitrosodimethylamine	0.00 ug/l	0.00 lbs/day		
N-Nitrosodi-n-Propylamine	0.02 ug/l	0.00 lbs/day	0.00 ug/l	0.0 lbs/day
N-Nitrosodiphenylamine	1.09E+01 ug/l	7.02E-01 lbs/day		
Phenanthrene	0.00 ug/l	0.00 lbs/day	204.05 ug/l	13.2 lbs/day
Pyrene	2731.62 ug/l	176.68 lbs/day		
1,2,4-Trichlorobenzene			204.05 ug/l	13.2 lbs/day
Aldrin			0.19 ug/l	0.0 lbs/day
alpha-BHC	0.00855688 ug/l	0.000553 lbs/day		
beta-BHC	0.02994906 ug/l	0.001937 lbs/day		
gamma-BHC (Lindane)	0.65822118 ug/l	0.042574 lbs/day		
delta-BHC		0.000000 lbs/day		
Chlordane	0.00263288 ug/l	0.000170 lbs/day		
4,4-DDT	0.00072404 ug/l	0.000047 lbs/day		
4,4-DDE	0.00072404 ug/l	0.000047 lbs/day		
4,4-DDD	0.00102024 ug/l	0.000066 lbs/day		
Dieldrin		0.000000 lbs/day		
alpha-Endosulfan	204.05 ug/l	13.198 lbs/day		
beta-Endosulfan	204.05 ug/l	13.198 lbs/day		
Endosulfan Sulfate	204.05 ug/l	13.198 lbs/day		
Endrin	0.19417525 ug/l	0.013 lbs/day		

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Endrin Aldehyde	0.95442071 ug/l	0.062 lbs/day		
Heptachlor		lbs/day		
Heptachlor Epoxide		lbs/day		
Polychlorinated Biphenyls		lbs/day		
0	0.00000000 ug/l	0.000000 lbs/day		
Toxaphene	0.00092151 ug/l	0.000060 lbs/day		
Specific Parameter: TDS	0 ug/l	0.000000 lbs/day	3656.07 mg/l	236.5 tons / day

Effluent Limitations for the Protection of Agriculture

	1 Hour Average (Acute) Standard	
	Concentration	Load
Arsenic	329.11 ug/l	21.29 lbs / day
Boron	2468.33 ug/l	159.65 lbs / day
Cadmium	32.91 ug/l	2.13 lbs / day
Chromium	329.11 ug/l	21.29 lbs / day
Copper	658.22 ug/l	42.57 lbs / day
Lead	329.11 ug/l	21.29 lbs / day
Selenium	164.56 ug/l	10.64 lbs / day

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

	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/l
Aluminum		2432.36				2432.36	1356.59
Antimony			18.43			18.43	
Arsenic	329.11	1114.46			32.91	32.91	2785.87
Asbestos							
Barium		3291.11			3291.11	3291.11	
Cadmium	32.91	10.35			32.91	10.35	3.66
Chromium (III)		2712.8			164.56	164.56	1097.36
Chromium (VI)	329.11	46.36				46.36	157.90
Copper	658.22	52.80				52.80	56.30
Cyanide				460.75		460.75	
Iron		2.72				2.72	
Lead	329.11	352.90			164.56	164.56	33.01
Mercury		7.8918			6.58	6.58	0.1723
Nickel		2273.01		329.11		329.11	833.87
Selenium	164.56	59.30			164.56	59.30	76.72
Silver		23.96			164.56	23.96	
Thallium				0.79		0.79	
Zinc		542.86				542.86	30828.51

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Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]

	Acute		Chronic	
	ug/l	lbs/day	ug/l	lbs/day
Aluminum	2432.36	243.4	1356.59	135.7
Antimony	18.43	1.8		
Arsenic	32.91	3.3	2785.87	278.8
Asbestos				
Cadmium	10.35	1.0	3.66	0.4
Chromium (III)	164.56	16.5	1097.36	109.8
Chromium (VI)	46.36	4.6	157.90	15.8
Copper	52.80	5.3	56.30	5.6
Cyanide	460.75	46.1		
Iron	2.72	0.3		
Lead	164.56	16.5	33.01	3.3
Mercury	6.58	0.7	0.17	0.0
Nickel	329.11	32.9	833.87	83.4
Selenium	59.30	5.9	76.72	7.7
Silver	23.96	2.4		
Zinc	542.86	54.3	30828.51	3084.7

Effluent Indicators / Targets for Pollution Indicators

Water quality targets for pollution Indicators will be met with an effluent limit as follows:

	Indicator / Target mg/l	Target	
		mg/l	lbs/day
Gross Beta (pCi/l)	50.0 pCi/L		
BOD	5.0	16.46	1668.03
Nitrates as N	4.0	13.16	1334.43
Total Phosphorus as P	0.05	0.16	16.68
Total Suspended Solids	90.0	296.20	30024.58

Other Effluent Limitations are based upon R317-1.

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 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 water users.

Category III waters fall under special rules for the determination of effluent limits. These rules allow more stringent effluent limitations based upon additional factors, including: "blue-ribbon" fisheries, special recreation areas, and drinking water sources.

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 shown that this is not attainable. Refer to the Forum's Guidelines for additional information.

The permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations.

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.

The permit writers may utilize other information to adjust these limits or to determine other limits based upon best available technology and other considerations. Under no circumstances however, may those alterations allow for the violation of water quality standards by the permittee.

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.

XIV. Notice of Availability of Information

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

Prepared by:
David Wham
Utah Division of Water Quality
801-536-4337

JSSD_Water_WLA_11-15-12

Antidegradation Review Form

Part A: Applicant Information

Facility Name: Keetley Water Treatment Plant

Facility Owner: Jordanelle Special Service District

Facility Location: 10500 N 1420 W Heber City Utah

Form Prepared By: Shane D. Paddock

Outfall Number: 001

Receiving Water: Jordanelle Reservoir

What Are the Designated Uses of the Receiving Water (R317-2-6)?
Domestic Water Supply: 1C
Recreation: 2A - Primary Contact
Aquatic Life: 3A - Cold Water Aquatic Life
Agricultural Water Supply: 4
Great Salt Lake: None

Category of Receiving Water (R317-2-3.2, -3.3, and -3.4): Category 3

UPDES Permit Number (if applicable): UT0022403

Effluent Flow Reviewed: 16mgd
Typically, this should be the maximum daily discharge at the design capacity of the facility. Exceptions should be noted.

What is the application for? (check all that apply)

- A UPDES permit for a new facility, project, or outfall.
- A UPDES permit renewal with an expansion or modification of an existing wastewater treatment works.
- A UPDES permit renewal requiring limits for a pollutant not covered by the previous permit and/or an increase to existing permit limits.
- A UPDES permit renewal with no changes in facility operations.

Part B. Is a Level II ADR required?

This section of the form is intended to help applicants determine if a Level II ADR is required for specific permitted activities. In addition, the Executive Secretary may require a Level II ADR for an activity with the potential for major impact on the quality of waters of the state (R317-2-3.5a.1).

B1. The receiving water or downstream water is a Class 1C drinking water source.

Yes A Level II ADR is required (Proceed to Part C of the Form)

No (Proceed to Part B2 of the Form)

B2. The UPDES permit is new or is being renewed and the proposed effluent concentration and loading limits are higher than the concentration and loading limits in the previous permit and any previous antidegradation review(s).

Yes (Proceed to Part B3 of the Form)

No No Level II ADR is required and there is no need to proceed further with review questions.

B3. Will any pollutants use assimilative capacity of the receiving water, i.e. do the pollutant concentrations in the effluent exceed those in the receiving waters at critical conditions? For most pollutants, effluent concentrations that are higher than the ambient concentrations require an antidegradation review? For a few pollutants such as dissolved oxygen, an antidegradation review is required if the effluent concentrations are less than the ambient concentrations in the receiving water. (Section 3.3.3 of Implementation Guidance)

Yes (Proceed to Part B4 of the Form)

No No Level II ADR is required and there is no need to proceed further with review questions.

B4. Are water quality impacts of the proposed project temporary and limited (Section 3.3.4 of Implementation Guidance)? Proposed projects that will have temporary and limited effects on water quality can be exempted from a Level II ADR.

Yes Identify the reasons used to justify this determination in Part B4.1 and proceed to Part G. No Level II ADR is required.

No A Level II ADR is required (Proceed to Part C)

B4.1 Complete this question only if the applicant is requesting a Level II review exclusion for temporary and limited projects (see R317-2-3.5(b)(3) and R317-2-3.5(b)(4)). For projects requesting a temporary and limited exclusion please indicate the factor(s) used to justify this determination (check all that apply and provide details as appropriate) (Section 3.3.4 of Implementation Guidance):

Water quality impacts will be temporary and related exclusively to sediment or turbidity and fish spawning will not be impaired.

Factors to be considered in determining whether water quality impacts will be temporary and limited:

- a) The length of time during which water quality will be lowered:
- b) The percent change in ambient concentrations of pollutants:
- c) Pollutants affected:
- d) Likelihood for long-term water quality benefits:
- e) Potential for any residual long-term influences on existing uses:
- f) Impairment of fish spawning, survival and development of aquatic fauna excluding fish removal efforts:

Additional justification, as needed:

Level II ADR

Part C, D, E, and F of the form constitute the Level II ADR Review. The applicant must provide as much detail as necessary for DWQ to perform the antidegradation review. Questions are provided for the convenience of applicants; however, for more complex permits it may be more effective to provide the required information in a separate report. Applicants that prefer a separate report should record the report name here and proceed to Part G of the form.

Optional Report Name:

Part C. Is the degradation from the project socially and economically necessary to accommodate important social or economic development in the area in which the waters are located? *The applicant must provide as much detail as necessary for DWQ to concur that the project is socially and economically necessary when answering the questions in this section. More information is available in Section 6.2 of the Implementation Guidance.*

C1. Describe the social and economic benefits that would be realized through the proposed project, including the number and nature of jobs created and anticipated tax revenues.

The facility provides culinary drinking water to the Northern part of Wasatch County. 17 jobs have been created by this facility (Management Operations, Maintenance, Clerical)

C2. Describe any environmental benefits to be realized through implementation of the proposed project.

The facility was put into service in 2000 primarily for the heavy metals removal. The facility is also beneficial in reducing the impact on the receiving water and the environment.

C3. Describe any social and economic losses that may result from the project, including impacts to recreation or commercial development.

N/A

C4. Summarize any supporting information from the affected communities on preserving assimilative capacity to support future growth and development.

N/A

C5. Please describe any structures or equipment associated with the project that will be placed within or adjacent to the receiving water.

16mgd lime softning water treatment plant.

Part D. Identify and rank (from increasing to decreasing potential threat to designated uses) the parameters of concern. *Parameters of concern are parameters in the effluent at concentrations greater than ambient concentrations in the receiving water. The applicant is responsible for identifying parameter concentrations in the effluent and DWQ will provide parameter concentrations for the receiving water. More information is available in Section 3.3.3 of the Implementation Guidance.*

Parameters of Concern:

Rank	Pollutant	Ambient Concentration	Effluent Concentration
1	Total Recoverable Zinc		0.02
2	Total Recoverable Lead		ND
3	Total Recoverable Mercury		ND
4	Total Recoverable Copper		.002
5	PH / TSS		7.8 / ND

Pollutants Evaluated that are not Considered Parameters of Concern:

Pollutant	Ambient Concentration	Effluent Concentration	Justification

Part E. Alternative Analysis Requirements of a Level II

Antidegradation Review. *Level II ADRs require the applicant to determine whether there are feasible less-degrading alternatives to the proposed project. More information is available in Section 5.5 and 5.6 of the Implementation Guidance.*

E1. The UPDES permit is being renewed without any changes to flow or concentrations. Alternative treatment and discharge options including changes to operations and maintenance were considered and compared to the current processes. No economically feasible treatment or discharge alternatives were identified that were not previously considered for any previous antidegradation review(s).

Yes (Proceed to Part F)

No or Does Not Apply (Proceed to E2)

E2. Attach as an appendix to this form a report that describes the following factors for all alternative treatment options (see 1) a technical description of the treatment process, including construction costs and continued operation and maintenance expenses, 2) the mass and concentration of discharge constituents, and 3) a description of the reliability of the system, including the frequency where recurring operation and maintenance may lead to temporary increases in discharged pollutants. Most of this information is typically available from a Facility Plan, if available.

Report Name:

E3. Describe the proposed method and cost of the baseline treatment alternative. The baseline treatment alternative is the minimum treatment required to meet water quality based effluent limits (WQBEL) as determined by the preliminary or final wasteload analysis (WLA) and any secondary or categorical effluent limits.

E4. Were any of the following alternatives feasible and affordable?

Alternative	Feasible	Reason Not Feasible/Affordable
Pollutant Trading	Yes	
Water Recycling/Reuse	Yes	
Land Application	Yes	
Connection to Other Facilities	Yes	
Upgrade to Existing Facility	Yes	
Total Containment	Yes	
Improved O&M of Existing Systems	Yes	
Seasonal or Controlled Discharge	Yes	
New Construction	Yes	
No Discharge	Yes	

E5. From the applicant's perspective, what is the preferred treatment option?

E6. Is the preferred option also the least polluting feasible alternative?

Yes

No

If no, what were less degrading feasible alternative(s)?

If no, provide a summary of the justification for not selecting the least polluting feasible alternative and if appropriate, provide a more detailed justification as an attachment.

Part F. Optional Information

F1. Does the applicant want to conduct optional public review(s) in addition to the mandatory public review? Level II ADRs are public noticed for a thirty day comment period. More information is available in Section 3.7.1 of the Implementation Guidance.

No

Yes

F2. Does the project include an optional mitigation plan to compensate for the proposed water quality degradation?

No

Yes

Report Name:

Part G. Certification of Antidegradation Review

G1. Applicant Certification

The form should be signed by the same responsible person who signed the accompanying permit application or certification.

Based on my inquiry of the person(s) who manage the system or those persons directly responsible for gathering the information, the information in this form and associated documents is, to the best of my knowledge and belief, true, accurate, and complete.

Print Name: _____

Signature: _____

Date: _____

G2. DWQ Approval

To the best of my knowledge, the ADR was conducted in accordance with the rules and regulations outlined in UAC R-317-2-3.

Water Quality Management Section

Print Name: _____

Signature: _____

Date: _____

FILE COPY

STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

AUTHORIZATION TO DISCHARGE UNDER THE
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM
(UPDES)

In compliance with provisions of the Utah *Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended* (the "Act"),

Jordanelle Special Service District

is hereby authorized to discharge from its facility located at Keetley Station, Wasatch County, Utah, with the Outfall 001 located at latitude 40°38'03" and longitude 111°26'13" to receiving waters named

The Jordanelle Reservoir

in accordance with discharge points (s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on June 01, 2013

This permit and the authorization to discharge shall expire at midnight, May 31, 2018

Signed this 4th day of June, 2013

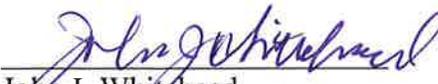

John J. Whitehead
Acting Director
Division of Water Quality

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I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions.

1. The "30-day and monthly average" is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
2. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.
3. "Composite samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the composite sample period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
 - a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;
 - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
 - d. Continuous collection of sample, with sample collection rate proportional to flow rate.
4. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
5. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
6. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
7. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

8. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
9. "Director" means Director of the Division of Water Quality.
10. "EPA" means the United States Environmental Protection Agency.
11. "Chronic toxicity" occurs when the survival, growth, or reproduction for either test species exposed to a dilution of 10 percent effluent (or lower) is significantly less (at the 95 percent confidence level) than the survival, growth or reproduction of the control specimens.
12. "Act" means the "*Utah Water Quality Act*".
13. "Best Management Practices" ("*BMP's*") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. *BMP's* also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
14. "*CWA*" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
15. "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a *UPDES* permit (other than the *UPDES* permit for discharges from the municipal separate storm sewer) and discharges from fire fighting activities, fire hydrant flushing, potable water sources including waterline flushing, uncontaminated ground water (including dewatering ground water infiltration), foundation or footing drains where flows are not contaminated with process materials such as solvents, springs, riparian habitats, wetlands, irrigation water, exterior building wash down where there are no chemical or abrasive additives, pavement wash water where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used, and air conditioning condensate.
16. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft

from which pollutants are or may be discharges. This term does not include return flows from irrigated agriculture or agriculture storm water runoff.

17. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under *Section 311* of the *Clean Water Act* (see *40 CFR 110.10* and *40 CFR 117.21*) or *Section 102* of *CERCLA* (see *40 CFR 302.4*).
18. "Storm water" means storm water runoff, snowmelt runoff, and surface runoff and drainage.

B. Description of Discharge Point(s).

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are in violation of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Number
001

Location of Discharge Point(s)
The effluent is discharged from the southeast corner of the settling pond above the high water mark of the Jordanelle Reservoir. Located at latitude 40° 38' 03" and longitude 111° 26' 13".

C. Narrative Standard.

It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.

D. Specific Limitations and Self-monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Maximum Monthly Average	Daily Minimum	Daily Maximum
TSS, mg/L	20	NA	30
Total Recoverable Copper, mg/L	NA	NA	.053
Total Recoverable Copper lbs/day	NA	NA	3.4
Total Recoverable Mercury, mg/L	0.00017	NA	0.002
Total Recoverable Mercury, lbs/day	NA	NA	0.5
Total Recoverable Lead, mg/L	0.03	NA	0.35
Total Recoverable Lead, lbs/day	2.1	NA	NA
Total Recoverable Zinc, mg/L	NA	NA	0.54
Total Recoverable Zinc, lbs/day	NA	NA	35.1
Total Recoverable Aluminum, mg/L	1.36	NA	2.43
Total Recoverable Aluminum, lbs/day	87.7	NA	157.3
Oil & Grease, mg/L	NA	NA	10
pH, Standard Units	NA	6.5	9

NA – Not Applicable

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Daily	Recorder	MGD
TSS	Monthly	Grab	mg/L
Total Recoverable Copper	Quarterly	Composite	mg/L
Total Recoverable Mercury	Yearly	Composite/Grab	mg/L
Total Recoverable Lead	Quarterly	Composite	mg/L
Total Recoverable Zinc	Monthly	Composite	mg/L
Total Recoverable Aluminum a/	Quarterly	Composite	mg/L
Oil & Grease b/	Weekly	Visual/Grab	mg/L
WET, Chronic Biomonitoring	Quarterly	Composite	Pass/Fail
pH	Daily	Grab	Standard Units

There shall be no visible sheen or floating solids or visible foam in other than trace amounts.

There shall be no discharge of sanitary wastes.

a/ Sample required only if alum or aluminum additives are added.

b/ Sample required only if sheen is observed or if oil is believed to be present.

2. Samples taken in compliance with the monitoring requirements specified above shall be taken at Outfall 001.

3. *Whole Effluent Testing – Chronic Toxicity.*

- a. Starting on the effective date of the permit, the permittee shall quarterly conduct chronic short-term toxicity tests on a composite sample of the final effluent. The sample shall be collected at outfall 001.

The monitoring frequency shall be quarterly. Samples shall be collected on a two-day progression; i.e., if the first sample is on a Monday, during the next sampling period, sampling shall be on a Wednesday. If chronic toxicity is detected, the test shall be repeated in less than four weeks from the date the initial sample was taken. The need for any additional samples, and/or a Toxicity Reduction Evaluation (TRE, see *Part I.D.3.b*), shall be determined by the Director. If the second test shows no chronic toxicity, routine monitoring shall be resumed.

The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms. Third Edition. July 1994, EPA-600-4-91-002* as per 40 CFR 136.3(a) *TABLE 1A-LIST OF APPROVED BIOLOGICAL METHODS*, and the *Region VIII EPA NPDES Chronic Test Conditions - Static Renewal Whole Effluent Toxicity Test (August, 1997)*. In case of conflicts, the Region VIII procedure will prevail. Test species shall consist of Ceriodaphnia dubia.

Chronic toxicity occurs when the survival, growth, or reproduction for either test species exposed to a dilution of 10 percent effluent (or lower) is significantly less (at the 95 percent confidence level) than the survival, growth or reproduction of the control specimens. If any of the acceptable control performance criteria are not met, the test shall be considered invalid.

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting calendar quarter (e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28). All test results shall be reported along with the DMR submitted for that reporting period. The format for the report shall be consistent with the latest revision of the *Region VIII Guidance for Chronic Whole Effluent Reporting (August, 1997)* and shall include all the physical testing as specified.

The current Utah whole effluent toxicity (WET) policy is in the process of being updated and revised to assure its consistency with the Environmental Protection Agency's national and regional WET policy. When said revised WET policy has been finalized and officially adopted, this permit will be reopened and modified to incorporate satisfactory follow-up chronic toxicity language (chronic pattern of toxicity, PTI and/or TIE/TRE, etc.) without a public notice, as warranted and appropriate.

- b. *Toxicity Reduction Evaluation (TRE)*. If toxicity is detected during the life of this permit and it is determined by the Director that a TRE is necessary, the permittee shall be so notified and shall initiate a TRE immediately thereafter. The purpose of the TRE will be to establish the cause of toxicity, locate the source(s) of the toxicity, and control or provide treatment for the toxicity.

A TRE may include but is not limited to one, all, or a combination of the following:

- 1) Phase I – Toxicity Characterization
- 2) Phase II – Toxicity Identification Procedures
- 3) Phase III – Toxicity Control Procedures
- 4) Any other appropriate procedures for toxicity source elimination and control.

If the TRE establishes that the toxicity cannot be immediately eliminated, the permittee shall submit a proposed compliance plan to the Director. The plan shall include the proposed approach to control toxicity and a proposed compliance schedule for achieving control. If the approach and schedule are acceptable to the Director, this permit may be reopened and modified.

If the TRE shows that the toxicity is caused by a toxicant(s) that may be controlled with specific numerical limitations, the permittee may:

- (a) Submit an alternative control program for compliance with the numerical requirements.
- (b) If necessary, provide a modified biomonitoring protocol, which compensates for the pollutant(s) being controlled numerically.

If acceptable to the Director, this permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the Director, and/or a modified biomonitoring protocol.

Failure to conduct an adequate TRE, or failure to submit a plan or program as described above, or the submittal of a plan or program judged inadequate by the Director, shall be considered a violation of this permit.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

- A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.
- B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10 and 40CFR Part 503*, unless other test procedures have been specified in this permit.
- C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. Reporting of Monitoring Results. Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1) or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part IV.G)*, and submitted by NetDMR, or to the Division of Water Quality at the following address:
- Department of Environmental Quality
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870
- E. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- F. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10 and 40CFR 503* or as otherwise specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

G. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

H. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location.

I. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance which may seriously endanger health or environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24 hour answering service (801) 536-4123.
2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance which may endanger health or the environment;
 - b. Any unanticipated bypass which exceeds any effluent limitation in the permit (See *Part III.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part III.H, Upset Conditions.*); or,
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;

- b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.
4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 538-4300.
 5. Reports shall be submitted to the addresses in *Part II.D, Reporting of Monitoring Results*.
- J. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part II.D* are submitted. The reports shall contain the information listed in *Part II.I.3*.
- K. Inspection and Entry. The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location.

III. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- B. Penalties for Violations of Permit Conditions. The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions of the Act is subject to a fine not exceeding \$25,000 per day of violation; Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at *Part III.G, Bypass of Treatment Facilities* and *Part III.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- F. Removed Substances. Collected screening, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to 2. and 3. of this section.

2. Prohibition of Bypass.

a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;

(2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

(3) The permittee submitted notices as required under section G.3.

b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in sections G.2a. (1), (2) and (3).

3. Notice.

a. Anticipated bypass. Except as provided above in section G.2. and below in section G. 3.b, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:

(1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages:

(2) A specific bypass plan describing the work to be performed including scheduled dates and times. The

permittee must notify the Director in advance of any changes to the bypass schedule;

- (3) Description of specific measures to be taken to minimize environmental and public health impacts;
 - (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;
 - (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and
 - (6) Any additional information requested by the Director.
- b. Emergency Bypass. Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in section G.3.a.(1) through (6i) to the extent practicable.
- c. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass to the Director as required under Part II.I., Twenty Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2. of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;

- b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under Part II.I, Twenty-four Hour Notice of Noncompliance Reporting; and,
 - d. The permittee complied with any remedial measures required under Part III.D, Duty to Mitigate.
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.
- I. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of *The Water Quality Act of 1987* for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- J. Changes in Discharge of Toxic Substances. Notification shall be provided to the Director as soon as the permittee knows of, or has reason to believe:
1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. One hundred micrograms per liter (100 ug/L);
 - b. Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(7)* or (10); or,
 - d. The level established by the Director in accordance with *UAC R317-8-4.2(6)*.
 2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. Five hundred micrograms per liter (500 ug/L);

- b. One milligram per liter (1 mg/L) for antimony:
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(9)*; or,
 - d. The level established by the Director in accordance with *UAC R317-8-4.2(6)*.
- K. Industrial Pretreatment. Any wastewaters discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, are subject to Federal, State and local pretreatment regulations. Pursuant to Section 307 of *The Water Quality Act of 1987*, the permittee shall comply with all applicable federal General Pretreatment Regulations promulgated at *40 CFR 403*, the State Pretreatment Requirements at *UAC R317-8-8*, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the wastewaters.

In addition, in accordance with *40 CFR 403.12(p)(1)*, the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under *40 CFR 261*. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

IV. GENERAL REQUIREMENTS

- A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.
- B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.
- E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.
 - 1. All permit applications shall be signed by either a principal executive officer or ranking elected official
 - 2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized

representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to authorization. If an authorization under paragraph IV.G.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph IV.G.2 must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
 4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

- I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential
- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.
- K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- M. Transfers. This permit may be automatically transferred to a new permittee if:
1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
 2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
 3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.
- N. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117*.
- O. Water Quality-Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
 2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
 3. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.
- P. Toxicity Limitation -Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include, whole effluent toxicity (WET) limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity (biomonitoring) protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur;
1. Toxicity is detected, as per Part I, D.3 of this permit, during the duration of this permit.
 2. The TRE results indicate that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits, and the Director agrees that numerical controls are the most appropriate course of action.
 3. Following the implementation of numerical control(s) of toxicant(s), the Director agrees that a modified biomonitoring protocol is necessary to compensate for those toxicants that are controlled numerically.
 4. The TRE reveals other unique conditions or characteristics which, in the opinion of the Director, justify the incorporation of unanticipated special conditions in the permit.