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

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Major Industrial Permit No. **UT0025461**

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

PARK CITY MUNICIPAL CORPORATION

is hereby authorized to discharge from

PARK CITY TUNNELS - SPIRO AND JUDGE

to receiving waters named

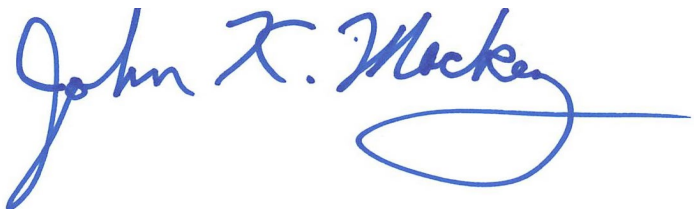
McLEOD CREEK,

in accordance with specific limitations, outfalls, and other conditions set forth herein.

This permit shall become effective on December 1, 2023

This permit expires at midnight on November 30, 2028.

Signed this Seventh day of November 2023.



John K. Mackey, P.E.
Director

DWQ-2023-006104

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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

A. Description of Discharge Points. The authorization to discharge wastewater provided under this part is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are violations 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 Numbers	Location of Discharge Outfalls
001	Outfall 001 is located at the golf course pond 18 outlet on the golf course East Ditch, which captures 3Kings WTP bypass and discharge, Thiriot Springs water, and Rockport Reservoir water. This outfall is at latitude 40° 39' 39.46" N and longitude of 111° 30' 43.58" W.
002	Outfall 002 is located at a weir adjacent to Three Kings Dr. on the golf course North Ditch, and will capture Spiro Tunnel and Rockport Reservoir water. This outfall is at latitude 40° 39' 35.21" N and longitude of 111° 31' 01.20" W.

B. 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 a bioassay or other tests performed in accordance with standard procedures.

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective on a schedule in accordance with the Amended Stipulated Compliance Order (ASCO), Docket # M14-01 entered into by PCMC and DWQ in February 2019, incorporated by reference herein, there shall be no acute or chronic toxicity in Outfall 001 or Outfall 002 as defined in *Part V*, and determined by test procedures described in *Part I.C.2 & 3* of this permit.

2.

a. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfalls 001 and 002.

b. In accordance with the dates identified in the ASCO Outfalls 001 and 002 will not be subject to the discharge parameter limitations in table below, until the dates outlined in the ASCO compliance schedule. **Monitoring and reporting only** will be required during the duration of this permit term, at the frequencies shown in table below.

c. These limits will come into effect in the future, as required in the ASCO. The schedule for compliance with these limits is contained in the separate ASCO to facilitate coordination of the compliance schedules for multiple UPDES permits.

Parameter	Future Effluent Limitations			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
Total Recoverable Antimony, ug/L	5.6	--	--	--
Total Recoverable Arsenic, ug/L	10	--	--	10
Total Recoverable Cadmium, ug/L	2.4	--	--	7.4
Total Recoverable Iron, ug/L	--	--	--	1000
Total Recoverable Thallium, ug/L	0.24	--	--	--
Total Recoverable Zinc, ug/L	387.9	--	--	387.9
Dissolved Oxygen, mg/L	--	--	8.0	--
WET, Chronic Biomonitoring	--	--	--	IC_{25} > 100% effluent Pass/Fail
pH, Standard Units	--	--	6.5	9
TDS, mg/L	--	--	--	1,200

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
Total Recoverable Antimony *d	Quarterly	Composite	ug/L
Total Recoverable Arsenic *f	Quarterly	Composite	ug/L
Total Recoverable Cadmium *e	Quarterly	Composite	ug/L
Total Recoverable Iron *e	Quarterly	Composite	ug/L
Total Recoverable Thallium *d	Quarterly	Composite	ug/L
Total Recoverable Zinc *e	Quarterly	Composite	ug/L
pH	Quarterly	Grab	Standard Units
DO	Quarterly	Grab	mg/L
WET – Biomonitoring Ceriodaphnia - Chronic Fathead Minnows – Chronic *i	Twice during permit term Twice during permit term	Composite	Pass/Fail
Orthophosphate, (as P) *g	Quarterly	Composite	mg/L
Phosphorus, Total *g	Quarterly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) *g	Quarterly	Composite	mg/L

Nitrate, NO3 *g	Quarterly	Composite	mg/L
Nitrite, NO2 *g	Quarterly	Composite	mg/L
TSS	Quarterly	Composite	mg/L
TDS	Quarterly	Grab	mg/L
Metals, mg/L *h	Yearly	Composite	mg/L

*a See Definitions, *Part VIII*, for definition of terms.

*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

*d Limitations are based on Based Human Health Criteria for consumption (R317-2-14.6).

*e Limitations are based on Class 3A, Numeric Criteria for Aquatic Wildlife. See WLA.

*f Limitations are based on Class 1C, Numeric Criteria for Domestic, Recreation, and Agricultural Uses. See WLA.

*g These reflect changes required with the 2014 adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.

*h This includes metals not sampled quarterly, including lead, copper, silver, selenium, mercury, nickel, chromium, barium, and manganese.

*i According to the UPDES Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (February 2018), WET tests are required at least quarterly for major industrial facilities. However, seeing as this facility is under the ASCO, testing for this permit cycle will only be twice during permit term.

In emergency situations, multiple 3Kings WTP overflows will be collected into a discrete pipe that discharges into Golf Course Pond 14 (upstream of Outfall 001). If overflow discharge occurs, it shall be reported to DWQ by telephone by the next workday, and PCMC must sample Outfall 001 for the following and report to DWQ within 5 days of receiving results. Additional sampling may be required if cause for concern is illustrated in the initial sampling event.

Outfall 001 Overflow Self-Monitoring and Reporting Requirements		
Parameter	Sample Type	Units
Total Residual Chlorine	Grab	mg/L
Total Recoverable Antimony	Grab	ug/L
Total Recoverable Arsenic	Grab	ug/L
Total Recoverable Cadmium	Grab	ug/L
Total Recoverable Iron	Grab	ug/L
Total Recoverable Thallium	Grab	ug/L

Total Recoverable Zinc	Grab	ug/L
TSS	Grab	mg/L
TDS	Grab	mg/L

3. Chronic Whole Effluent Toxicity (WET) Testing.

   a. *Whole Effluent Testing – Chronic Toxicity*.

   The permittee shall conduct chronic static renewal toxicity tests on a composite sample of the final effluent at Outfall 001 and 002 twice during the permit cycle. The sample shall be collected at the point of compliance before mixing with the receiving water.

   Three samples are required and samples shall be collected on Monday, Wednesday and Friday of each sampling period or collected on a two day progression for each sampling period. This may be changed with Director approval. 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, Fourth Edition*, October 2002, *EPA—821-R-02-013* as per *40 CFR 136.3(a)* TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. Test species shall consist of *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow).

   A multi dilution test consisting of at least five concentrations and a control is required at two dilutions below and two above the RWC, if possible. If test acceptability criteria are not met for control survival, growth, or reproduction, the test shall be considered invalid. A valid replacement test is required within the specified sampling period to remain in compliance with this permit. Chronic toxicity occurs when, during a chronic toxicity test, the 25% inhibition concentration (IC25) calculated on the basis of test organism survival and growth or survival and reproduction, is less than or equal to 100% effluent concentration (equivalent to the RWC). If a sample is found to be chronically toxic during a routine test, the monitoring frequency shall become biweekly (see Part I.3.b. Accelerated Testing). (the Director may enter acceptable variations in the test procedure here as documented in the Fact Sheet Statement of Basis and based on the test acceptability criteria as contained in Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control February, 2018). If possible, dilution water should be obtained from the receiving stream.

   If the permit contains a total residual chlorine limitation such that it may interfere with WET testing (>0.20 mg/L), the permittee may dechlorinate the sample in accordance with the standard method. If dechlorination is negatively affecting the test, the permittee may collect the sample just before chlorination with Director approval.

   Test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for that month. The format for the report shall be consistent with Appendix C of "Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity, Utah Division of Water Quality, February, 2018.

b. *Accelerated Testing*. When whole effluent toxicity is indicated during routine WET testing as specified in this permit, the permittee shall notify the Director in writing within 5 days after becoming aware of the test result. The permittee shall perform an accelerated schedule of WET testing to establish whether a pattern of toxicity exists unless the permittee notifies the Director and commences a PTI, TIE, or a TRE. Accelerated testing or the PTI, TIE, or TRE will begin within fourteen days after the permittee becomes aware of the test result. Accelerated testing shall be conducted as specified under Part I. Pattern of Toxicity. If the accelerated testing demonstrates no pattern of toxicity, routine monitoring shall be resumed.

c. *Pattern of Toxicity*. A pattern of toxicity is defined by the results of a series of up to five biomonitoring tests pursuant to the accelerated testing requirements using a full set of dilutions for acute (five plus the control) and five effluent dilutions for chronic (five plus the control), on the species found to be more sensitive, once every week for up to five consecutive weeks for acute and once every two weeks up to ten consecutive weeks for chronic.

If two (2) consecutive tests (not including the scheduled test which triggered the search for a pattern of toxicity) do not result in an exceedance of the acute or chronic toxicity criteria, no further accelerated testing will be required and no pattern of toxicity will be found to exist. The permittee will provide written verification to the Director within 5 days of determining no pattern of toxicity exists, and resume routine monitoring.

A pattern of toxicity may or may not be established based on the following:

WET tests should be run at least weekly (acute) or every two weeks (chronic) (note that only one test should be run at a time), for up to 5 tests, until either:

1) 2 consecutive tests fail, or 3 out of 5 tests fail, at which point a pattern of toxicity will have been identified, or

2) 2 consecutive tests pass, or 3 out of 5 tests pass, in which case no pattern of toxicity is identified.

d. *Preliminary Toxicity Investigation*.

(1) When a pattern of toxicity is detected the permittee will notify the Director in writing within 5 days and begin an evaluation of the possible causes of the toxicity. The permittee will have 15 working days from demonstration of the pattern of toxicity to complete an optional Preliminary Toxicity Investigation (PTI) and submit a written report of the results to the Director. The PTI may include, but is not limited to: additional chemical and biological monitoring, examination of pretreatment program records, examination of discharge monitoring reports, a thorough review of the testing protocol, evaluation of treatment processes and chemical use, inspection of material storage and transfer areas to determine if any spill may have occurred.

(2) If the PTI identifies a probable toxicant and/or a probable source of toxicity, the permittee shall submit, as part of its final results, written notification of that effect to the Director. Within thirty days of completing the PTI the permittee shall submit to the Director for approval a control program to control effluent toxicity and shall proceed to implement such plan in accordance with the

Director's approval. The control program, as submitted to or revised by the Director, will be incorporated into the permit. After final implementation, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit. With adequate justification, the Director may extend these deadlines.

(3) If no probable explanation for toxicity is identified in the PTI, the permittee shall notify the Director as part of its final report, along with a schedule for conducting a Phase I Toxicity Reduction Evaluation (TRE) (see Part I.3.e. Toxicity Reduction Evaluation).

(4) If toxicity spontaneously disappears during the PTI, the permittee shall submit written notification to that effect to the Director, with supporting testing evidence.

e. *Toxicity Reduction Evaluation (TRE)*. If a pattern of toxicity is detected the permittee shall initiate a TIE/TRE within 7 days unless the Director has accepted the decision to complete a PTI. With adequate justification, the Director may extend the 7-day deadline. The purpose of the TIE portion of a TRE will be to establish the cause of the toxicity, locate the source(s) of the toxicity, and the TRE will 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 toxicity spontaneously disappears during the TIE/TRE, the permittee shall submit written notification to that effect to the Director.

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

(a) An alternative control program for compliance with the numerical requirements.

(b) If necessary, as determined by the Director, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

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 modified WET testing requirements without public notice.

Failure to conduct an adequate TIE/TRE 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. After implementation of TIE/TRE plan, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit.

D. Reporting of Monitoring Results.

1. Reporting of Wastewater Monitoring Results Monitoring results obtained during the previous quarter shall be summarized 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. The first report is due on January 28, 2023. 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 VII.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

* Starting January 1, 2017 monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

II. PRETREATMENT REQUIREMENTS

This section is only applicable if the permittee discharges to a POTW.

A. Definitions. For this section, the following definitions shall apply:

1. *Indirect Discharge* means the introduction of pollutants into a publicly-owned treatment works (POTW) from any non-domestic source regulated under section 307 (b), (c) or (d) of the CWA.

2. *Interference* means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

   a. Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

   b. Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

3. *Pass Through means* a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

4. *Publicly Owned Treatment Works* or *POTW* means a treatment works, as defined by section 212 of the CWA, which is owned by a State or municipality (as defined by section 502(4) of the CWA). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality, as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

5. *Significant industrial user (SIU)* is defined as an industrial user discharging to a POTW that satisfies any of the following:

   a. Has a process wastewater flow of 25,000 gallons or more per average work day;

   b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;

   c. Is subject to Categorical Pretreatment Standards, or

   d. Has a reasonable potential for adversely affecting the operation of the POTW or violating any pretreatment standard or requirement.

6. *User or Industrial User (IU)* means a source of Indirect Discharge.

B. Discharge to POTW. 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. At a minimum, the discharge into a POTW must meet the requirements of Part II.D. and E. of the permit.

C. Hazardous Waste Notification. The permittee must notify the POTW, the EPA Regional Waste Management Director, the Director and the State hazardous waste authorities in writing if they discharge any substance into a POTW that, 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).

D. General and Specific Prohibitions.

1. General Prohibitions. The permittee may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference. These general prohibitions and the specific prohibitions in paragraph 2. of this section apply to the introducing pollutants into a POTW whether or not the permittee is subject to other National Pretreatment Standards or any national, State, or local Pretreatment Requirements.

2. Specific Prohibitions. The following pollutants shall not be introduced into a POTW:

a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140˚F (60˚C);

b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;

c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;

d. Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at such volume or strength as to cause interference in the POTW;

e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104˚F (40˚C));

f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

g. Pollutants, which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems;

h. Any trucked or hauled pollutants, except at discharge points designated by the POTW; or

i. Any pollutant that causes pass through or interference at the POTW.

j. Any specific pollutant which exceeds any local limitation established by the POTW.

E. Categorical Standards. In addition to the general and specific limitations expressed in *Part II. D.* of this section, applicable National Categorical Pretreatment Standards must be met by all industrial users discharging into a POTW. These standards are published in the federal regulations at *40 CFR 405 through 471*.

III. BIOSOLIDS REQUIREMENTS

A. The State of Utah has adopted the *40 CFR Part 503* federal regulations for the disposal of sewage sludge (biosolids) by reference. However, considering the facility, there is not any regular sludge production. Therefore 40 CFR 503 does not apply at this time. All byproduct removal associated with 3Kings WTP will be covered/ managed under the Utah Division of Drinking Water Permit.

IV. STORM WATER REQUIREMENTS.

A. Construction Storm Water Permit. Any construction at the facility that disturbs an acre or more of land, including less than an acre if it is part of a common plan of development or sale, is required to obtain coverage under the UPDES Construction General Storm Water Permit (UTRC00000). Permit coverage must be obtained prior to land disturbance. If the site qualifies, a Low Erosivity Waiver (LEW) Certification may be submitted instead of permit coverage.

V. MONITORING, RECORDING & GENERAL 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*, *UAC R317-8-4.1(10)(d)*, and/or *40 CFR 503* utilizing sufficiently sensitive test methods unless other test procedures have been specified in this permit. Monitoring must be conducted according to the test procedures listed above unless another method is required under 40 CFR subchapters N or O. Sufficiently sensitive test method means: (1) The method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or (2) The method has the lowest ML of the analytical methods approved under *40 CFR part 136* or required under *40 CFR chapter I, subchapter N or O* for the measured pollutant or pollutant parameter as per *40 CFR 122.44(i)(1)(iv)(A).*

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. 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.

E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under Permit Part V.B., the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form.

F. 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.

G. 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 five 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

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites 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 (DWQ) via the 24-hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall initially be reported by telephone to the DWQ via the 24-hour answering service 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 VI.G, Bypass of Treatment Facilities.)*;

   c. Any upset which exceeds any effluent limitation in the permit (See *Part VI.H*, *Upset Conditions*.);

   d. Violation of a daily discharge limitation for any of the pollutants listed in the permit. For other permit violations which will not endanger health or the environment, DWQ may otherwise be notified during business hours (801) 536-4300; or,

   e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.

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;

   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,

   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) 536-4300.

5. Reports shall be submitted to the addresses in *Part I.D*, *Reporting of Monitoring Results*.

I. 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 I.D* are submitted. The reports shall contain the information listed in *Part V.H.3*

J. 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, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;

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, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,

5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

VI. 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 or *the Act* is subject to a fine not exceeding $25,000 per day of violation. Any person convicted under *The Act Section 19-5-115(2)* a second time shall be punished by a fine not exceeding $50,000 per day. Except as provided at *Part VI.G*, *Bypass of Treatment Facilities* and *Part VI.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. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.

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, sludge, or other pollutants removed in the course of treatment shall be 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 paragraph 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 *Part VI.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 *Parts VI.G.2.a (1), (2) and (3)*.

c. The Director has approved the following categories of allowed infrequent bypasses, which meet the criteria identified in *Part V1.G.2.a*. if such bypasses will occur for no more than a cumulative 30 days in a calendar year. Notification of bypass will be reported to DWQ within 24 hours of event. Any bypasses that exceed the 30-day cumulative maximum in a calendar year must be approved in writing by the Director in response to a written request by the permittee which fully documents the circumstances, cause and need for the bypass. Such bypasses must meet the criteria identified in *Part V1. G. 2.a*. The permittee shall still comply with the notice requirements of *Part V1.G.2.a* for any such bypasses:

(1) Bypass necessitated by mine tunnel collapse or other major incident affecting the mine tunnel or flow of water from it;
(2) Bypass necessitated by flooding caused by excessively high flows from mine tunnel;
(3) Bypass necessitated by demolition and construction necessary to install treatment facilities needed to meet final effluent or drinking water standards; and
(4) Bypass necessitated by mine tunnel maintenance and repair.

3. Notice.

a. *Anticipated bypass*. Except as provided above in *Part VI.G.2* and below in *Part VI.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 *Part VI.G.3.a.(1) through (6)* to the extent practicable.

c. *Unanticipated bypass*. The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part V.H*, 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 other than bypasses listed in *Part VI.G.2.c*. 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 V.H*, *Twenty-four Hour Notice of Noncompliance Reporting*; and,

d. The permittee complied with any remedial measures required under *Part VI.D*, *Duty to Mitigate*.

e. Demonstration requirements do not apply to bypasses listed under *Part VI.G.2.c*

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 Executive Secretary 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. Except when conditions exist under *Part VI.G.2.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 Executive Secretary 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. 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,

   c. The level established by the Executive Secretary in accordance with *UAC R317-8-4.2(6)*.

VII. 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:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit nor to notification requirements under Subsection R317-8-4.1(15).

3. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. 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. 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.

(1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
   (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who perfoms similar policy- or decision-making functions for the corporation, or
   (b) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
   (a) The chief executive officer of the agency, or
   (b) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

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.

3. Changes to authorization. If an authorization under *paragraph VII.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 VII.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 permittee's 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 or Federal 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 *Sections 19-5-117* and *510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.

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. Revisions to the current CWA § 208 areawide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.

P. Biosolids – Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations (and compliance schedule, if necessary), management practices, other appropriate requirements to protect public health and the environment, or if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices; applicable management practices or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit; and/or it has been determined that the permittees biosolids use or land application practices do not comply with existing applicable state of federal regulations.

Q. Toxicity Limitation - Reopener Provision. Use the following paragraph if WET testing is required at the facility:

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.C.4.a* of this permit, during the duration of this permit.

2. The TRE results indicate that the toxicant(s) represent pollutant(s) or pollutant parameter(s) that may be controlled with specific numerical limits, and the Director concludes that numerical controls are appropriate.

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 permit issuing authority justify the incorporation of unanticipated special conditions in the permit.

VIII. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.

2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

3. "Act," means the *Utah Water Quality Act*.

4. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or "LC_{50}").

5. "Bypass," means the diversion of waste streams from any portion of a treatment facility.

6. "Chronic toxicity" occurs when the IC_{25}< 100% effluent. The 100% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.

7. "IC_{25}" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.

8. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing 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 sample volume, with sample collection rate proportional to flow rate.

9. "CWA" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.

10. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.

11. "EPA," means the United States Environmental Protection Agency.

12. "Director," means Director of the Division of Water Quality.

13. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

14. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

15. "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.

16. "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 preventative maintenance, or careless or improper operation.

FACT SHEET AND STATEMENT OF BASIS
PARK CITY MUNICIPAL CORPORATION
PARK CITY TUNNELS - SPIRO AND JUDGE
RENEWAL PERMIT AND MODIFICATION: DISCHARGE, BIOSOLIDS
UPDES PERMIT NUMBER: UT0025461
MAJOR INDUSTRIAL

FACILITY CONTACTS

Person Name:	Clint McAffee, P.E.
Position:	Public Utilities Director
Phone Number:	(435) 615-5339
Person Name:	Michelle De Haan
Position:	Water Quality and Treatment Manager
Phone Number:	(435) 659-6771
Permitee:	Park City Municipal Corporation (PCMC)
Facility Name:	Park City Tunnels – Spiro and Judge
Mailing Address:	PO Box 1480 Park City, Utah 84060-1480
Facility Address:	3Kings Water Treatment Plant 1884 Three Kings Drive Park City, Utah 84060
Telephone:	(435) 615-5339

DESCRIPTION OF FACILITY

The Park City Spiro and Judge Tunnels were built in the late 1800s/ early 1900s to drain groundwater from mining activities. Now both tunnels are operated by Park City Municipal Corporation (PCMC) and water collected is used as a source of potable and raw water for Park City. In 2023 PCMC completed the construction of the Three Kings Water Treatment Plant (3Kings WTP) to provide drinking water for Park City and to satisfy the effluent parameters of this UPDES Permit No. UT0025461.

The Spiro Tunnel is located just southwest of 3Kings WTP, across Three Kings Drive. Judge Tunnel is located roughly 2.5 miles southeast of 3Kings WTP, at the end of Daly Drive. Both Tunnel discharges are piped to 3Kings WTP where they are combined. Once combined, they are treated by 3Kings WTP or discharged into the North Ditch. 3Kings WTP discharges/ bypasses into Pond 18. Thereafter, flows enter McLeod Creek and through diversion structures into East Canyon Creek and/or Silver Creek drainages.

The Division of Water Quality (DWQ) and PCMC entered into a Stipulated Compliance Order (SCO) and Amended Stipulated Compliance Order (ASCO) (Docket #M14-01) to set a compliance schedule for PCMC's compliance with the terms of PCMC's UPDES Permit.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Previously Judge Tunnel discharge was covered under UPDES Permit No. UT0025925 with permitted discharge to Empire Creek, but now all Judge Tunnel water is being piped to 3Kings WTP, and discharge will be covered under UPDES Permit No. UT0025461. UPDES Permit No. UT0025925 is voided with this permit issue in accordance with the ASCO. It was determined a Level II Antidegradation Review (ADR) is not required at this time, as there is no increase in total flow or new receiving water.

If discharge into Empire Creek is warranted in the future, it will be covered under the Empire Tank General Permit No. UTG640044.

OUTFALLS

There is a new outfall, Outfall 001, which will capture 3Kings WTP bypass and discharge, Thiriot Springs water, and, starting in approximately 2023, Rockport Reservoir water. 3Kings WTP will treat 100% of Judge Tunnel water.

The 3Kings WTP has included required overflow locations to allow discharge in emergency overflow situations to prevent flooding and/or severe property damage. In emergency situations, multiple 3Kings WTP overflows will be collected into a discrete pipe that discharges into Golf Course Pond 14 (upstream of Pond 18). PCMC will not be required to have coverage under the General Drinking Water Treatment Plant UPDES Permit UTG640000, but instead, this activity will be covered under this permit. If overflow discharge occurs, it shall be reported to DWQ by telephone by the next workday. PCMC must sample Outfall 001 for the parameters identified in the SELF-MONITORING AND REPORTING REQUIREMENTS and report to DWQ within 5 days of receiving results. Additional sampling may be required if cause for concern is illustrated in the initial sampling event.

Outfall 002, the North Ditch, will remain. Outfall 002 will capture Spiro Tunnel and Rockport Reservoir water.

FUTURE LIMITS AND MONITORING

There have been various changes to effluent limitations, as well as monitoring requirements. This is a result of combined flow and data inputs from Spiro and Judge Tunnels. In accordance with the ASCO all parameters will be monitoring only through June 30, 2033. Future effluent values are included but are subject to change with additional data and/or regulatory actions.

Through various paths, Spiro and Judge Tunnel discharge enters McLeod Creek, and through diversion structures, East Canyon Creek and/or Silver Creek drainages. A total dissolved solids (TDS) limit of 1,200 mg/L will be applied in this permit as the discharge may flow into East Canyon Creek, which does not have a site-specific standard of 1,900 mg/L.

DISCHARGE

DESCRIPTION OF DISCHARGE

Spiro and Judge Tunnel Discharges enter directly into either the North Ditch or the Three Kings WTP, which flows through a series of ponds on PCMC's golf course. Thereafter, flows enter McLeod Creek and through diversion structures into East Canyon Creek and/or Silver Creek drainages.

Outfall	Description of Discharge Point
001	Outfall 001 is located at the golf course pond 18 outlet on the golf course East Ditch, which captures 3Kings WTP bypass and discharge, Thiriot Springs water, and Rockport Reservoir water. This outfall is at latitude 40° 39' 39.46" N and longitude of 111° 30' 43.58" W.
002	Outfall 002 is located at a weir adjacent to Three Kings Dr. on the golf course North Ditch, and will capture Spiro Tunnel and Rockport Reservoir water. This outfall is at latitude 40° 39' 35.21" N and longitude of 111° 31' 01.20" W.

RECEIVING WATERS AND STREAM CLASSIFICATION

Discharge enters directly into the North Ditch or the Three Kings WTP, which flows through a series of ponds on PCMC's golf course. Thereafter, flows enter McCleod Creek and through diversion structures into East Canyon Creek and/or Silver Creek drainages.

Per *UAC R317-2-13.4*, the designated beneficial uses Weber River and tributaries, from Stoddard diversion to headwaters, except as listed below are: 1C, 2B, 3A, 4. Silver Creek and tributaries, from the confluence with Tollgate Creek to headwaters, hold these same beneficial use designations, with the addition of a site-specific standard for TDS.

Class 1C -- Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water

Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

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.

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

According to the Utah's Final 2022 Integrated Report on Water Quality dated December 9, 2022, the receiving water for the discharge, "Weber River and tributaries, from Stoddard diversion to headwaters (Assessment Unit UT16020102-027_00, Kimball Creek)" was listed as "Not Supporting" for Arsenic.

DWQ has not completed a TMDL for Arsenic in this area and has set the development priority as "Low". Silver Creek and tributaries, from the confluence with Weber River to below the confluence with Tollgate Creek (Assessment Unit UT16020101-020_01, Silver Creek-1) have the following impairments: E. coli, Nitrate, Nitrate/Nitrite as N, Total Dissolved Solids, Benthic Macroinvertebrates Bioassessment, Arsenic, Cadmium, Zinc.

A TMDL for this segment of Silver Creek addressing the Zinc and Cadmium impairments was approved August 4th, 2004. No load allocation was given to the Spiro or Judge Tunnel discharges at that time because it was determined to be a small source compared to much larger Zinc and Cadmium loadings downstream. End-of-pipe water quality standards apply.

East Canyon Creek and tributaries from East Canyon Reservoir to headwaters, except Murnin Creek and Toll Canyon (UT16020102-026_01, East Canyon Creek-2) was listed as "Not Supporting but has Approved TMDL for some parameters". The parameters listed as not meeting criteria are Temperature, TDS, and Total Phosphorus (TP). A TMDL addressing the TP impairment was completed and approved for East Canyon Creek and Reservoir on September 14th, 2010 (UDWQ 2010).

An investigation of the TDS impairment in East Canyon Creek was conducted by DWQ from 2015-2017 (UDWQ 2018). Multiple sites were sampled and assessed throughout the watershed for the study. These data demonstrate that the water quality standard for TDS is being met in the headwater tributaries and on the main stem of East Canyon Creek sites all the way to East Canyon Reservoir, however the listing has not been changed. The study found two previously unassessed tributaries (Murnin Creek and Toll Canyon Creek) that exceed the standard.

BASIS FOR EFFLUENT LIMITATIONS

Metals, TDS, and dissolved oxygen (DO) are based on *Utah Administrative Code (UAC) R317-2-14: Numeric Criteria for Aquatic Wildlife, Numeric Criteria for Human Health Standards, and Numeric Criteria for Domestic, Recreation, and Agricultural Uses (specifically Class 1C).* Limitations on *E. coli* and pH are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. See attached Wasteload Analysis (WLA) for more details.

In accordance with the ASCO, all parameters will be monitoring only through June 30, 2033. Future effluent values are included but are subject to change with additional data and/or regulatory actions.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required

A quantitative RP analysis was performed on antimony, arsenic, cadmium, copper, iron, zinc, lead, selenium, mercury, thallium, total suspended solids (TSS), and nitrates (as N) to determine if there was reasonable potential for the discharge to exceed the applicable water quality standards. Based on the RP analysis, the following parameters exceeded the most stringent chronic water quality standard or were determined to have a reasonable potential to exceed the standard: antimony, arsenic, cadmium, iron, zinc, and thallium. A copy of the RP analysis is included at the end of this Fact Sheet.

The future permit limitations are:

Parameter	Future Effluent Limitations			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
Total Recoverable Antimony, ug/L	5.6	--	--	--
Total Recoverable Arsenic, ug/L	10	--	--	10
Total Recoverable Cadmium, ug/L	2.4	--	--	7.4
Total Recoverable Iron, ug/L	--	--	--	1000
Total Recoverable Thallium, ug/L	0.24	--	--	--
Total Recoverable Zinc, ug/L	387.9	--	--	387.9
Dissolved Oxygen, mg/L	--	--	8.0	--
WET, Chronic Biomonitoring	--	--	--	IC_{25} > 100% effluent Pass/Fail
pH, Standard Units	--	--	6.5	9
TDS, mg/L	--	--	--	1,200

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are not the same as in the previous permit due to the combination of tunnels as well as other inputs. The permit will require reports to be submitted quarterly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a *k			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
Total Recoverable Antimony *d	Quarterly	Composite	ug/L
Total Recoverable Arsenic *f	Quarterly	Composite	ug/L
Total Recoverable Cadmium *e	Quarterly	Composite	ug/L
Total Recoverable Iron *e	Quarterly	Composite	ug/L
Total Recoverable Thallium *d	Quarterly	Composite	ug/L
Total Recoverable Zinc *e	Quarterly	Composite	ug/L

pH	Quarterly	Grab	Standard Units
DO	Quarterly	Grab	mg/L
WET – Biomonitoring Ceriodaphnia - Chronic Fathead Minnows – Chronic *i	Twice during permit term Twice during permit term	Composite	Pass/Fail
Orthophosphate, (as P) *g	Quarterly	Composite	mg/L
Phosphorus, Total *g	Quarterly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) *g	Quarterly	Composite	mg/L
Nitrate, NO3 *g	Quarterly	Composite	mg/L
Nitrite, NO2 *g	Quarterly	Composite	mg/L
TSS	Quarterly	Composite	mg/L
TDS	Quarterly	Grab	mg/L
Metals, mg/L *h	Yearly	Composite	mg/L

*a See Definitions, *Part VIII*, for definition of terms.

*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

*d Limitations are based on Based Human Health Criteria for consumption (R317-2-14.6).

*e Limitations are based on Class 3A, Numeric Criteria for Aquatic Wildlife. See WLA.

*f Limitations are based on Class 1C, Numeric Criteria for Domestic, Recreation, and Agricultural Uses. See WLA.

*g These reflect changes required with the 2014 adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.

*h This includes metals not sampled quarterly, including lead, copper, silver, selenium, mercury, nickel, chromium, barium, and manganese

*i According to the UPDES Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (February 2018), WET tests are required at least quarterly for major industrial facilities. However, seeing as this facility is under the ASCO, testing for this permit cycle will only be twice during permit term.

In emergency situations, multiple 3Kings WTP overflows will be collected into a discrete pipe that discharges into Golf Course Pond 14 (upstream of Outfall 001). If overflow discharge occurs, it shall be reported to DWQ by telephone by the next workday, and PCMC must sample Outfall 001 for the following and report to DWQ within 5 days of receiving results. Additional sampling may be required if cause for concern is illustrated in the initial sampling event.

Outfall 001 Overflow Self-Monitoring and Reporting Requirements		
Parameter	Sample Type	Units
Total Residual Chlorine	Grab	mg/L
Total Recoverable Antimony	Grab	ug/L
Total Recoverable Arsenic	Grab	ug/L
Total Recoverable Cadmium	Grab	ug/L
Total Recoverable Iron	Grab	ug/L
Total Recoverable Thallium	Grab	ug/L
Total Recoverable Zinc	Grab	ug/L
TSS	Grab	mg/L
TDS	Grab	mg/L

BIOSOLIDS

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, considering the facility, there is not any regular sludge production. Therefore 40 CFR 503 does not apply at this time. All byproduct removal associated with 3Kings WTP will be covered/ managed under the Utah Division of Drinking Water Permit.

STORM WATER

Separate storm water permits may be required based on the types of activities occurring on site.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturbs an acre or more, or is part of a common plan of development or sale. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at http://stormwater.utah.gov

PRETREATMENT REQUIREMENTS

Any process wastewater that the permittee discharges to a POTW, either as a direct discharge or as a hauled waste, is subject to federal, state, and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, the permittee shall comply with all applicable federal general pretreatment regulations promulgated, found in 40 CFR 403, the pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the POTW accepting the waste.

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).

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. 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. According to the UPDES Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (February 2018), WET tests are required at least quarterly for major industrial facilities. However, seeing as this facility is under the ASCO, testing for this permit cycle will only be twice during permit term.

PERMIT DURATION

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

Drafted and Reviewed by
Danielle Lenz, Discharge Permit Writer
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Carl Adams, Storm Water
Christine Osborne, TMDL/Watershed
Danielle Lenz, Reasonable Potential Analysis
Christopher Shope, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: September 7, 2023
Ended: October 9, 2023

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published on the DWQ webpage.

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

Responsiveness Summary

There were no comments received during the Public Notice comment period.

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ATTACHMENT 1

Waste Load Analysis

Utah Division of Water Quality
Statement of Basis
ADDENDUM
Wasteload Analysis and Antidegradation Level I Review

Date: **April 11, 2023**

Prepared by: **Christopher L. Shope**
Standards and Technical Services

Facility: **Park City Corporation Spiro and Judge Tunnels**
UPDES Permit No. UT0025461

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
Outfall 001: Golf Course Pond 18 monitoring location which includes blended flows from Three Kings water treatment plant (WTP) into Pond 14, raw Spiro Tunnel discharge, Thiriot Springs and raw Rockport discharge: 3,000 GPM (4.32 MGD).

Outfall 002: North Ditch monitoring location which includes raw Spiro Tunnel discharge and raw Rockport discharge:1,500 GPM (2.16 MGD)

Receiving Water
These waters discharge directly into either the North Ditch or the Three Kings WTP which flows through a series of ponds on Park City Municipal Corporation's golf course. Thereafter, flows enter McCleod Creek and through diversion structures into East Canyon Creek and/or Silver Creek drainages.

Per UAC R317-2-13.4, the designated beneficial uses *Weber River and tributaries, from Stoddard diversion to headwaters, except as listed below* are: *1C,2B,3A,4*. Silver Creek and tributaries, from confluence with Tollgate Creek to headwaters, hold these same beneficial use designations, with the addition of a site-specific standard for TDS.

- *Class 1C – Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.*

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a*

low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

- *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.*

Flow

Typically, the critical flow for the receiving water in a wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Because the Spiro Tunnel and Judge Tunnel discharge forms the headwaters of McCleod Creek and is an intermittent stream, the annual critical low flow was determined to be zero. As a result, water quality based effluent limits revert to end-of-pipe water quality standards.

Dissolved Oxygen 3A (cold water aquatic life) Early Life Stages

The Division of Water Quality staff has determined that ELS are present throughout the year in East Canyon Creek (Summit County, Utah). Per Utah R317-2-14, the Dissolved Oxygen 3A ELS criteria are as follows: Minimum instantaneous DO: 8.0 mg/L, 7-day Average DO: 9.5 mg/L.

When 110% of these criteria cannot be met at 100% saturation due to elevation and water temperature, the applicable criterion is DO concentration at 90% saturation. (USEPA 1986). The seasonal mixed background and effluent water temperatures were used in the WLA model.

Total Maximum Daily Load (TMDL)

According to the Utah's Final 2022 Integrated Report on Water Quality dated December 9, 2022, the receiving water for the discharge, "Weber River and tributaries, from Stoddard diversion to headwaters (Assessment Unit UT16020102-027_00)" was listed as "Not Supporting" for Arsenic. DWQ has not completed a TMDL for Arsenic in this area and has set the development priority as "Low".

Silver Creek and tributaries, from the confluence with Weber River to below the confluence with Tollgate Creek (Assessment Unit UT16020101-020_01) have the following impairments: E. coli, Nitrate, Nitrate/Nitrite as N, Total Dissolved Solids, Benthic Macroinvertebrates Bioassessment, Arsenic, Cadmium, Zinc.

A Total Maximum Daily Load for this segment of Silver Creek addressing the Zinc and Cadmium impairments was approved August 4th, 2004. No load allocation was given to the Spiro Tunnel discharge at that time because it was determined to be a small source compared to much larger Zinc and Cadmium loadings downstream. End-of-pipe water quality standards apply.

East Canyon Creek and tributaries from East Canyon Reservoir to headwaters, except Murnin Creek and Toll Canyon (UT16020102-026_01) was listed as "Not Supporting but has Approved TMDL for some parameters". The parameters not meeting criteria are Temperature, Total Dissolved Solids, and Total Phosphorus. A TMDL addressing the Total Phosphorus impairment

was completed and approved for East Canyon Creek and Reservoir on September 14th, 2010 (UDWQ 2010). The TMDL identified an annual load limit of 895 kg applied to ECWRF for TP.

An investigation of the TDS impairment in East Canyon Creek was conducted by DWQ from 2015-2017 (UDWQ 2018). Multiple sites were sampled and assessed throughout the watershed for the study. These data demonstrate that the water quality standard for TDS is being met in the headwater tributaries and on the main stem of East Canyon Creek sites all the way to East Canyon Reservoir. The study found two previously unassessed tributaries (Murnin Creek and Toll Canyon Creek) that exceed the standard.

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, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

Because the critical low flow for the receiving water is zero, no mixing zone was considered in this wasteload analysis. In addition, individual mixing zones may be disallowed in consideration of site-specific factors. For this location, biologically important areas such as fish spawning/nursery areas or segments with occurrences of federally listed threatened or endangered species may be present (R317-2-5.1.b.). In addition, early life species (ELS) are present in this reach of McLeod Creek.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were determined in consultation with the UPDES Permit Writer, the Utah Water Quality Assessment Reports, and the industry SIC codes from https://www.osha.gov/data/sic-search. The potential parameters of concern for this facility include: Antimony, Arsenic, Cadmium, Zinc, Benthic Macroinvertebrates Bioassessment, E. coli, Dissolved Oxygen, Lead, Mercury, Nitrate/Nitrite as N, pH, and Total Dissolved Solids.

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 LC_{50} (lethal concentration, 50%) percent effluent for acute toxicity and the IC_{25} (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 LC_{50} is typically 100% effluent and does not need to be determined by the WLA.

Because the critical low flow of the receiving water was determined to be zero, WET limits for Outfall 001 and Outfall 002 for IC25 should be based on 100% effluent.

Wasteload Allocation Methods

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ 2021). The mass balance analysis is summarized in the Wasteload Addendum.

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. However, temperature, pH, and ammonia concentration of the effluent were not explicitly provided. Background temperature and pH values were used in the analysis. The analysis is summarized in the Wasteload Addendum.

Models and supporting documentation are available for review upon request.

Effluent Limits

The water quality standards for some metals are dependent on hardness (total as CaCO3). Spiro Tunnel effluent data provided by Park City from 2014-2022 showed an average hardness of 411 mg/l for the 001 Bulkhead discharge and 516 mg/l for the 002 Portal discharge. Judge Tunnel effluent data provided by Park City from 2014-2022 showed an average hardness of 188 mg/l. The data indicated that the North Ditch average hardness was 474 mg/l. The Rockport Reservoir water supplement showed an average hardness of 199 mg/l.

Because the four water sources (raw Judge Tunnel discharge, raw Spiro Tunnel discharge, Thiriot Springs, and raw Rockport discharge) will be managed and blended at Three Kings water treatment plant (WTP) and discharged into Pond 14 or the North Ditch, the combined average hardness was used in the calculations. While the Judge Tunnel discharge and the Rockport discharge indicated a hardness less than 200 mg/l, the blended management of the water and the lack of these sources providing full flow justify using the blended hardness. For Outfall 001, the average hardness of 516 mg/l from Spiro 002 Portal discharge data supplied by Park City was used. For Outfall 002, the combination of North Ditch data supplied by Park City was used for an average hardness of 474 mg/l.

As per R317-2-14.2(7), a hardness value of 400 mg/l will be used for calculating metals standards for waters having hardness greater than 400 mg/l. This value was used for determining total recoverable metals effluent limits.

Because of the impairment status of the receiving water, in addition to the hardness-based calculated metals limits, the effluent limits in Table 1 also apply:

Table 1.

Dissolved oxygen	8 mg/l
Nitrates as N	10 mg/l
pH	6.5 -9.0
TDS	1,200 mg/l[a]

[a] Silver Creek and tributaries, from confluence with Tollgate Creek to headwaters has a TDS site specific standard of 1,900 mg/L. However discharge waters may also be diverted to the East Canyon Creek drainage which does not currently hold a site specific standard for TDS.

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 for this facility. 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*: 230405-Spiro_Judge_ELS_EOP_WLA_2023.docx*
Wasteload Analysis and Addendums: *230405-Spiro_Judge_ELS_EOP_WLA_2023.xlsm*

References:
Lewis, B., J. Saunders, and M. Murphy. 2002. Ammonia Toxicity Model (AMMTOX, Version2): A Tool for Determining Effluent Ammonia Limits. University of Colorado, Center for Limnology.

Utah Division of Water Quality. 2010. East Canyon Creek and Reservoir TMDL. SWCA Environmental Consultants.

Utah Division of Water Quality. 2022. *Final 2022 Integrated Report on Water Quality.* *https://documents.deq.utah.gov/water-quality/monitoring-reporting/integrated-report/DWQ-2022-002386.pdf*

Utah Division of Water Quality. 2021. Utah Wasteload Analysis Procedures Version 2.0. https://documents.deq.utah.gov/water-quality/standards-technical-services/DWQ-2021-000684.pdf

USEPA, 1986. Quality Criteria for Water ("Gold Book"): Office of Water Regulations and Standards, EPA-440/5-86-001, USEPA, Washington DC. https://www.epa.gov/sites/default/files/2018-10/documents/quality-criteria-water-1986.pdf

WASTELOAD ANALYSIS [WLA] Date: 4/27/2023

Appendix D: Mass Balance Mixing Analysis for Conservative Constituents

Discharging Facility:	Park City Municipal Spiro Tunnel			
UPDES No:	UT-0025461			
	Outfall 002			
Permit Flow [MGD]:	2.16000	Annual	Max. Daily	Spiro Outfall 001 North Ditch (4
	2.16000	Annual	Max. Monthly	Spiro Outfall 002 North Ditch (4
				Spiro Outfall 002 Northt Ditch (
Receiving Water:	Dry Creek into Silver Creek			ND-1 North Ditch Outfall 002 (4
Stream Classification:	1C,2B,3A,4			
Stream Flows [cfs]:	0.0	All Seasons	Critical Low Flow	SPIRO TUNNEL
	2.08	All Seasons	Critical Low Flow (20th %)	4925560 SPIRO TUNNEL CK /
Fully Mixed:	YES			
Acute River Width:	100%			
Chronic River Width:	100%			

Modeling Information

A mass balance mixing analysis was used to determine the effluent limits.

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

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 reflect the environmental conditions expected at low stream flows.

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 2.16 MGD. If the discharger is allowed to have a flow greater than 2.16 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 limititation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitations for Protection of Drinking Water (Class 1C Waters) (R317-2-14.1)

Physical Parameter	Concentration Minimum	Maximum
pH	6.5	9.0

Bacteriological

E. coli (30 Day Geometric Mean)	206	(#/100 mL)
E. coli (Maximum)	668	(#/100 mL)

Metals-Dissolved Maximum

Parameter	Standard[1]	Maximum Background	Limit
Arsenic (µg/L)	10.0		10.0
Barium (µg/L)	1000.0		1000.3
Beryllium (µg/L)	4.0		4.0
Cadmium (µg/L)	10.0		10.0
Chromium (µg/L)	50.0		50.0
Lead (µg/L)	15.0		15.0
Mercury (µg/L)[2]	2.000		2.001
Selenium (µg/L)	50.0		50.0
Silver (µg/L)	50.0		50.0

Inorganics-Maximum

Parameter	Standard[1]	Maximum Background	Limit
Bromate (mg/L)	0.01		0.01
Chlorite (mg/L)	1.0		1.0
Fluoride (mg/L)	4.0		4.0
Nitrates as N (mg/L)	10.0		10.0
Total Dissolved Solids (mg/L)	1900.0		1900.6

Radiological	Maximum Concentration
Parameter	Standard
Gross Alpha (pCi/L)	15

Effluent Limitations for Protection of Recreation (Class 2A Waters) (R317-2-14.1)

Physical	Concentration	
Parameter	Minimum	Maximum
pH	6.5	9.0
Turbidity Increase (NTU)		10.0

Bacteriological		
E. coli (30 Day Geometric Mean)	126	(#/100 mL)
E. coli (Maximum)	409	(#/100 mL)

Effluent Limitations for Protection of Recreation (Class 2B Waters) (R317-2-14.1)

Physical	Concentration	
Parameter	Minimum	Maximum
pH	6.5	9.0
Turbidity Increase (NTU)		10.0

Bacteriological (R317-2-14.1)		
E. coli (30 Day Geometric Mean)	206	(#/100 mL)
E. coli (Maximum)	668	(#/100 mL)

Effluent Limitations for Protection of Aquatic Wildlife (Class 3A Waters) (R317-2-14.2)

Physical	Concentration	
Parameter	Minimum	Maximum
pH	6.5	9.0
Turbidity Increase (NTU)		10.0
Temperature (deg C)		27
Temperature Change (deg C)		2

Dissolved Oxygen (mg/L)	Minimum Concentration	
	ELS Present	Others Present
Instantaneous	8.0	4.0
30-day Average	6.5	6.5
7-day Average	9.5	5

Inorganics	Chronic (30-day ave)	Acute (1-hour ave)
Parameter		Standard
Phenol (mg/L)		0.010
Hydrogen Sulfide (Undissociated-mg/L)		0.002
Total Residual Chlorine (mg/L)	0.011	0.019

Ammonia-Total (mg/L)

	Chronic (30-day ave) ELS Present			Acute (1-hour ave)		
Season	Standard	Background	Limit	Standard	Background	Limit

Summer	4.5	4.5	13.9	13.9	
Fall	3.5	3.5	9.3	9.3	
Winter	3.3	3.3	8.6	8.6	
Spring	4.4	4.4	13.4	13.4	

	ELS Absent					
Season	**Standard**	**Background**	**Limit**	**Standard**	**Background**	**Limit**
Summer	5.6		5.6	13.9		13.9
Fall	5.3		5.3	9.3		9.3
Winter	5.2		5.3	8.6		8.6
Spring	5.8		5.8	13.4		13.4

Metals-Total Recoverable

	Chronic (4-day ave)			Acute (1-hour ave)		
Parameter	**Standard[1]**	**Background**	**Limit**	**Standard[1]**	**Background**	**Limit**
Aluminum (µg/L)	87.0		87.0	750.0		750.2
Arsenic (µg/L)	150.0		150.0	340.0		340.1
Cadmium (µg/L)	2.4		2.4	7.4		7.4
Chromium VI (µg/L)	11.0		11.0	16.0		16.0
Chromium III (µg/L)	268.2		268.3	5611.7		5,613
Copper (µg/L)	30.5		30.5	51.7		51.7
Cyanide (µg/L)[2]	5.2		5.2	22.0		22.0
Iron (µg/L)				1000.0		1,000
Lead (µg/L)	18.6		18.6	476.8		477.0
Mercury (µg/L)[2]	2.400		2.401	2.400		2.4
Nickel (µg/L)	168.5		168.6	1515.9		1,516
Selenium (µg/L)	4.6		4.6	18.4		18.4
Silver (µg/L)				41.1		41.1
Tributylin (µg/L)[2]	0.072		0.072	0.460		0.46
Zinc (µg/L)	387.8		387.9	387.8		387.9
Antimony (µg/L)[3]	5.6		5.6	5.6		5.6
Thallium (µg/L)[3]	0.24		0.24	0.24		0.24

1: Based upon a Hardness of 0 mg/l as CaCO3

2: Background concentration assumed 67% of chronic standard

3: Based on List of Human Health Criteria for consumption (R317-2-14.6)

Organics [Pesticides]

	Chronic (4-day ave)		Acute (1-hour ave)	
Parameter	**Standard**	**Limit**	**Standard**	**Limit**
Aldrin (µg/L)			1.5	1.5
Chlordane (µg/L)	0.0043	0.0043	1.2	1.2
DDT, DDE (µg/L)	0.001	0.001	0.55	0.55
Diazinon (µg/L)	0.17	0.17	0.17	0.17
Dieldrin (µg/L)	0.0056	0.0056	0.24	0.24
Endosulfan, a & b (µg/L)	0.056	0.056	0.11	0.11
Endrin (µg/L)	0.036	0.036	0.086	0.086
Heptachlor & H. epoxide (µg/L)	0.0038	0.0038	0.26	0.26
Lindane (µg/L)	0.08	0.08	1.0	1.0
Methoxychlor (µg/L)			0.03	0.03
Mirex (µg/L)			0.001	0.001
Nonylphenol (µg/L)	6.6	6.6	28.0	28.0
Parathion (µg/L)	0.0130	0.0130	0.066	0.066
PCB's (µg/L)	0.014	0.014		
Pentachlorophenol (µg/L)	15.0	15.0	19.0	19.0
Toxephene (µg/L)	0.0002	0.0002	0.73	0.73

Radiological

	Maximum Concentration
Parameter	**Standard**
Gross Alpha (pCi/L)	15

Effluent Limitations for Protection of Aquatic Wildlife (Class 3B Waters) (R317-2-14.2)

Physical Parameter	Concentration Minimum	Maximum
pH	6.5	9.0
Turbidity Increase (NTU)		10.0
Temperature (deg C)		27
Temperature Change (deg C)		4

Dissolved Oxygen (mg/L)	Minimum Concentration ELS Present	Others Present
Instantaneous	5.0	3.0
30-day Average	5.5	5.5
7-day Average	6.0	4

Inorganics	Chronic (30-day ave)	Acute (1-hour ave)
Parameter		Standard
Phenol (mg/L)		0.010
Hydrogen Sulfide (Undissociated-mg/L)		0.002
Total Residual Chlorine (mg/L)	0.011	0.019

Ammonia-Total (mg/L)

	Chronic (30-day ave)			Acute (1-hour ave)		
ELS Present						
Season	Standard	Background	Limit	Standard	Background	Limit
Summer	4.5		4.5	13.9		13.9
Fall	3.5		3.5	9.3		9.3
Winter	3.3		3.3	8.6		8.6
Spring	4.4		4.4	13.4		13.4
ELS Absent						
Season	Standard	Background	Limit	Standard	Background	Limit
Summer	5.6		5.6	13.9		13.9
Fall	5.3		5.3	9.3		9.3
Winter	5.2		5.3	8.6		8.6
Spring	5.8		5.8	13.4		13.4

Metals-Total Recoverable

	Chronic (4-day ave)			Acute (1-hour ave)		
Parameter	Standard[1]	Background	Limit	Standard[1]	Background	Limit
Aluminum (µg/L)	87.0		87.0	750.0		750.2
Arsenic (µg/L)	150.0		150.0	340.0		340.1
Cadmium (µg/L)	2.4		2.4	7.4		7.4
Chromium VI (µg/L)	11.0		11.0	16.0		16.0
Chromium III (µg/L)	268.2		268.3	5,612		5,613
Copper (µg/L)	30.5		30.5	51.7		51.7
Cyanide (µg/L)[2]	5.2		5.2	22.0		22.0
Iron (µg/L)				1,000		1,000
Lead (µg/L)	18.6		18.6	476.8		477.0
Mercury (µg/L)[2]	0.012		0.012	2.4		2.4
Nickel (µg/L)	168.5		168.6	1,516		1,516
Selenium (µg/L)	4.6		4.6	18.4		18.4
Silver (µg/L)				41.1		41.1
Tributylin (µg/L)[2]	0.072		0.072	0.46		0.46
Zinc (µg/L)	387.8		387.9	387.8		387.9

1: Based upon a Hardness of 400 mg/l as CaCO3

2: Background concentration assumed 67% of chronic standard

Organics [Pesticides]

	Chronic (4-day ave)		Acute (1-hour ave)	
Parameter	Standard	Limit	Standard	Limit
Aldrin (µg/L)			1.5	1.5

Chlordane (µg/L)	0.0043	0.0043	1.2	1.2
DDT, DDE (µg/L)	0.001	0.001	0.55	0.55
Diazinon (µg/L)	0.17	0.17	0.17	0.17
Dieldrin (µg/L)	0.0056	0.0056	0.24	0.24
Endosulfan, a & b (µg/L)	0.056	0.056	0.11	0.11
Endrin (µg/L)	0.036	0.036	0.086	0.086
Heptachlor & H. epoxide (µg/L)	0.0038	0.0038	0.26	0.26
Lindane (µg/L)	0.08	0.08	1.0	1.0
Methoxychlor (µg/L)			0.03	0.03
Mirex (µg/L)			0.001	0.001
Nonylphenol (µg/L)	6.6	6.6	28.0	28.0
Parathion (µg/L)	0.0130	0.0130	0.066	0.066
PCB's (µg/L)	0.014	0.014		
Pentachlorophenol (µg/L)	15.0	15.0	19.0	19.0
Toxephene (µg/L)	0.0002	0.0002	0.73	0.73

Radiological	**Maximum Concentration**
Parameter	**Standard**
Gross Alpha (pCi/L)	15

Effluent Limitations for Protection of Aquatic Wildlife (Class 3D Waters) (R317-2-14.2)

Physical Parameter	Concentration Minimum	Maximum
pH	6.5	9.0
Turbidity Increase (NTU)		15.0
Temperature (deg C)		
Temperature Change (deg C)		

Dissolved Oxygen (mg/L)	Minimum Concentration ELS Present	Others Present
Instantaneous		3.0
30-day Average		5
7-day Average		

Inorganics Parameter		Acute Standard (1 Hour Average) Standard
Phenol (mg/L)		0.010
Hydrogen Sulfide (Undissociated) [mg/L]		0.002
Total Residual Chlorine (mg/L)	0.011	0.019

Ammonia-Total (mg/L)

	Chronic (30-day ave) ELS Present			Acute (1-hour ave)		
Season	Standard	Background	Limit	Standard	Background	Limit
Summer	4.7		4.7	14.9		15.0
Fall	4.6		4.6	14.7		14.7
Winter	3.6		3.6	9.7		9.7
Spring	4.7		4.7	15.2		15.2

	ELS Absent					
Season	Standard	Background	Limit	Standard	Background	Limit
Summer	6.3		6.3	14.9		15.0
Fall	7.0		7.0	14.7		14.7
Winter	5.1		5.1	9.7		9.7
Spring	6.3		6.3	15.2		15.2

Metals-Total Recoverable

	Chronic (4-day ave)			Acute (1-hour ave)		
Parameter	Standard[1]	Background	Limit	Standard[1]	Background	Limit
Aluminum (µg/L)	87.0		87.0	750.0		750.2
Arsenic (µg/L)	150.0		150.0	340.0		340.1
Cadmium (µg/L)	2.0		2.0	6.5		6.5
Chromium VI (µg/L)	11.0		11.0	16.0		16.0
Chromium III (µg/L)	230.7		230.7	1,773		1,774
Copper (µg/L)	29.3		29.3	49.6		49.6
Cyanide (µg/L)[2]				22.0		22.0
Iron (µg/L)				1,000		1,000
Lead (µg/L)	10.9		10.9	280.8		280.9
Mercury (µg/L)[2]	0.012		0.012	2.4		2.4
Nickel (µg/L)	168.0		168.1	1,513		1,513
Selenium (µg/L)	4.6		4.6	18.4		18.4
Silver (µg/L)				34.9		34.9
Tributylin (µg/L)[2]	0.072		0.072	0.46		0.46
Zinc (µg/L)	382.4		382.5	379.3		379.4

1: Based upon a Hardness of 400 mg/l as CaCO3

2: Background concentration assumed 67% of chronic standard

Organics [Pesticides]

	Chronic (4-day ave)		Acute (1-hour ave)	
Parameter	Standard	Limit	Standard	Limit

Aldrin (µg/L)			1.5	1.5
Chlordane (µg/L)	0.0043	0.0043	1.2	1.2
DDT, DDE (µg/L)	0.001	0.001	0.55	0.55
Diazinon (µg/L)	0.17	0.17	0.17	0.17

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ATTACHMENT 2

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our RP for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available on the Water Quality website. There are four outcomes for the RP Analysis[1]. They are;

Outcome A:	A new effluent limitation will be placed in the permit.
Outcome B:	No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
Outcome C:	No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
Outcome D:	No limitation or routine monitoring requirements are in the permit.

Initial screening of metals values submitted through the discharge monitoring reports showed that a closer look at some of the metals is needed. The initial screening check for metals showed that the full model needed to be run on antimony, arsenic, cadmium, copper, iron, zinc, lead, selenium, mercury, and thallium. The results discussed below will incorporate and combine data from both Spiro and Judge.

The RP model was run on antimony, arsenic, cadmium, copper, iron, zinc, lead, selenium, mercury, and thallium using data from the past three years. This resulted in anywhere from twelve to thirty-nine data points for each constitute. The results for each are listed below:

Antimony: The results of the model are that there is chronic RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for antimony is required at this time (Outcome C from Reasonable Potential Guide).

Arsenic: The results of the model are that there is acute and chronic RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for arsenic is required at this time (Outcome C from Reasonable Potential Guide).

Cadmium: The results of the model are that there is acute and chronic RP at 99% confidence and chronic RP at 95% confidence. This result indicates that the inclusion of an effluent limit for cadmium is required at this time (Outcome C from Reasonable Potential Guide).

Zinc: The results of the model are that there is acute and chronic RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for zinc is required at this time (Outcome C from Reasonable Potential Guide).

Copper: The results of the model are that there is no acute and chronic RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for copper is not required at this time (Outcome D from Reasonable Potential Guide).

Iron: The results of the model are that there is acute RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for iron is required at this time (Outcome C from Reasonable Potential Guide).

Lead: The results of the model are that there is acute and chronic RP at 99% confidence, but not at 95% confidence. This result indicates that increased monitoring for lead is required at this time (Outcome B from Reasonable Potential Guide).

[1] See Reasonable Potential Analysis Guidance for definitions of terms

Selenium: The results of the model are that there is no acute and chronic RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for selenium is not required at this time (Outcome D from Reasonable Potential Guide).

Mercury: The results of the model are that there is no acute and chronic RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for mercury is not required at this time (Outcome D from Reasonable Potential Guide).

Thallium: The results of the model are that there is chronic RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for thallium is required at this time (Outcome C from Reasonable Potential Guide).

RP was also run on total suspended solids (TSS). The results of the model are that there is no acute and chronic RP at 95% and 99% confidence. This result indicates that the inclusion of an effluent limit for TSS is not required at this time (Outcome C from Reasonable Potential Guide).

A Summary of the RP Model inputs and outputs are included in the tables below.

RP Input/Output Summary Tables: Spiro and Judge Tunnel Data was combined, unless otherwise noted.

RP Procedure Output	Data Units: mg/L	
Parameter	Antimony	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	0.0095	
Coefficient of Variation (CV)	0.16	
Acute Criterion	NA	
Chronic Criterion	0.0056	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	0.0098	0.0110
RP Multiplier	1.0	1.2
RP for Acute?	NA	NA
RP for Chronic?	YES	YES
RP for Human Health?	YES	YES
Outcome	C	

RP Procedure Output	Data Units: mg/L
Parameter	Arsenic
Distribution	Lognormal
Reporting Limit	0.0010
Significant Figures	2
Maximum Reported Effluent Conc.	0.114
Coefficient of Variation (CV)	1.1
Acute Criterion	0.010
Chronic Criterion	0.010

Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	0.15	0.33
RP Multiplier	1.3	2.9
RP for Acute?	YES	YES
RP for Chronic?	YES	YES
RP for Human Health?	YES	YES
Outcome	C	

RP Procedure Output	Data Units: mg/L	
Parameter	Cadmium	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	0.003	
Coefficient of Variation (CV)	2.1	
Acute Criterion	0.0074	
Chronic Criterion	0.0024	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	0.0042	0.0140
RP Multiplier	1.4	4.5
RP for Acute?	NO	YES
RP for Chronic?	YES	YES
Outcome	C	

RP Procedure Output	Data Units: mg/L	
Parameter	Zinc	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	0.83	
Coefficient of Variation (CV)	1.1	
Acute Criterion	0.3879	
Chronic Criterion	0.3879	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	1.0	2.4
RP Multiplier	1.3	2.8
RP for Acute?	YES	YES
RP for Chronic?	YES	YES
RP for Human Health?	NO	NO
Outcome	C	

RP Procedure Output	Data Units: mg/L
Parameter	Selenium
Distribution	Lognormal

Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	0.0031	
Coefficient of Variation (CV)	0.075	
Acute Criterion	0.0184	
Chronic Criterion	0.0046	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	0.0032	0.0035
RP Multiplier	1.0	1.1
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
RP for Human Health?	NO	NO
Outcome	D	

RP Procedure Output	Data Units: mg/L	
Parameter	Thallium	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	0.0045	
Coefficient of Variation (CV)	0.16	
Acute Criterion	NA	
Chronic Criterion	0.00024	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	0.0045	0.0056
RP Multiplier	1.1	1.2
RP for Acute?	NA	NA
RP for Chronic?	YES	YES
RP for Human Health?	NA	NA
Outcome	C	

RP Procedure Output	Data Units: mg/L	
Parameter	Lead	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	0.0089	
Coefficient of Variation (CV)	0.39	
Acute Criterion	0.015	
Chronic Criterion	0.015	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	0.0130	0.0180
RP Multiplier	1.4	2.1
RP for Acute?	NO	YES

RP for Chronic?	NO	YES
Outcome	B	

RP Procedure Output	Data Units: mg/L	
Parameter	Mercury	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	0.000003	
Coefficient of Variation (CV)	0.56	
Acute Criterion	0.00024	
Chronic Criterion	0.000012	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	<Acute	< Acute
RP Multiplier	1.6	2.7
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
RP for Human Health?	NO	NO
Outcome	D	

RP Procedure Output	Data Units: mg/L	
Parameter	Copper	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	0.0076	
Coefficient of Variation (CV)	0.57	
Acute Criterion	0.0517	
Chronic Criterion	0.0305	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	0.0096	0.0150
RP Multiplier	1.3	2.0
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
RP for Human Health?	NO	NO
Outcome	D	

RP Procedure Output	Data Units: mg/L
Parameter	Iron
Distribution	Lognormal
Reporting Limit	0.0010
Significant Figures	2
Maximum Reported Effluent Conc.	2.41

Coefficient of Variation (CV)	0.57	
Acute Criterion	1.0	
Chronic Criterion	NA	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	3.1	5.2
RP Multiplier	1.3	2.1
RP for Acute?	YES	YES
RP for Chronic?	NA	NA
RP for Human Health?	NA	NA
Outcome	C	

RP Procedure Output	Data Units: mg/L	
Parameter	TSS	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	17	
Coefficient of Variation (CV)	0.30	
Weekly Max. * (acute)	25	
Monthly Max. * (chronic)	35	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	18	24
RP Multiplier	1.1	1.4
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
Outcome	C	

* From the previous permit.

RP Procedure Output	Data Units: mg/L	
Parameter	Nitrates (as N)	
Distribution	Lognormal	
Reporting Limit	0.0010	
Significant Figures	2	
Maximum Reported Effluent Conc.	1.0	
Coefficient of Variation (CV)	0.89	
Weekly Max. * (acute)	10	
Monthly Max. * (chronic)	10	
Confidence Interval	95	99
Projected Maximum Effluent Conc. (MEC)	1.2	2.5
RP Multiplier	1.2	2.5
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
Outcome	C	

* From WLA .

Spiro and Judge Tunnel Data Combined										
Metal	Antimony *c (mg/L)	Arsenic *d (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Selenium *a (mg/L)	Thallium *a, *c (mg/L)	Lead *b, *d (mg/L)	Mercury *b (mg/L)	Copper *a (mg/L)	Iron *a (mg/L)
ARP Val	n/a	0.01	0.0074	0.3879	0.02	n/a	0.015	0.0024	0.0517	1
CRP Val	0.0056	0.01	0.0024	0.3879	0.0046	0.00024	0.015	1.2e-5	0.0305	n/a
Metals	0.0056	0.0057	0.0024	0.78	0.0025	0.0033	0.0045	1.7E-06	0.0031	0.27
	0.008	0.0069	0.003	0.83	0.0025	0.0033	0.0067	2.6E-06	0.0019	0.37
	0.006	0.008	0.0024	0.7	0.0026	0.0035	0.0048	1.8E-06	0.0015	0.333
	0.0058	0.0089	0.0021	0.62	0.0029	0.0035	0.004	6E-07	0.0018	0.23
	0.0057	0.008	0.0026	0.72	0.0027	0.0044	0.0033	9E-07	0.0024	0.53
	0.006	0.0081	0.0029	0.71	0.0025	0.0045	0.0033	9E-07	0.0018	0.5
	0.0059	0.0084	0.0025	0.68	0.0025	0.0029	0.0031	1.2E-06	0.0015	0.5
	0.0055	0.0073	0.0025	0.71	0.0027	0.0033	0.0039	2.1E-06	0.0021	0.68
	0.0054	0.0071	0.0023	0.67	0.0026	0.0032	0.0089	0.000003	0.0073	2.41
	0.0075	0.0088	0.0027	0.75	0.0025	0.0033	0.0037	2.5E-06	0.0018	0.45
	0.0058	0.0102	0.0025	0.7	0.0025	0.0036	0.0084	2.2E-06	0.0021	0.42
	0.0062	0.0423	0.0026	0.74	0.0025	0.0031			0.0038	0.51
	0.0061	0.0491	0.0024	0.83	0.0024	0.0033			0.0027	0.55
	0.0083	0.0609	0.0002	0.1	0.0027	0.0026			0.0028	0.81
	0.0075	0.0505	0.0002	0.11	0.0031	0.0024			0.0033	0.64
	0.0076	0.0358	0.0002	0.05	0.0025	0.0025			0.0016	0.29
	0.008	0.0452	0.0002	0.06	0.0026	0.0026			0.0017	0.5
	0.0084	0.0475	0.0003	0.16	0.0021	0.0027			0.0013	0.39
	0.0085	0.0486	0.0002	0.13	0.0026	0.0031			0.0025	0.67
	0.008	0.114	0.0002	0.13	0.0026	0.004			0.0076	1.48
	0.0083	0.0423	0.0002	0.15	0.0024	0.0033			0.0021	0.4
	0.0081	0.0451	0.0006	0.23	0.0024	0.0027			0.0031	0.41
	0.008	0.0342	0.0002	0.14		0.0031				
	0.0095	0.0378	0.0003	0.14		0.0039				
	0.0074	0.0412	0.0003	0.17		0.0028				
	0.0082	0.0355	0.0002	0.16		0.003				
	0.0074	0.0519	0.0003	0.16						
	0.0068	0.0459	0.0004	0.18						
	0.0073	0.0377	0.00002	0.08						
	0.0077	0.0456	0.0002	0.13						
	0.0085	0.084	0.0002	0.11						
	0.0084	0.0385	0.0002	0.15						
	0.008	0.0423	0.0005	0.21						
	0.0082		0.0002	0.12						
	0.0067		0.0002	0.13						
	0.0075									
	0.0093									
	0.007									
	0.0074									
Max	0.0095	0.114	0.003	0.83	0.0032	0.0045	0.0089	3e-6	0.0076	2.41
A RP?	NA	YES	YES	YES	NO	NA	YES	NO	NO	YES
C RP?	YES	YES	YES	YES	NO	YES	YES	NO	NO	YES

*a Data was only collected at Spiro Tunnel for last permit cycle.
*b Data was only collected at Judge Tunnel for last permit cycle.
*c Values taken from Human Health Criteria Utah Admin. Code 317-2-14. All other from Aquatic Life Criteria.
*d Values taken from 1C Classification.