

Official Draft Public Notice Version **September 7, 2023**

The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

**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 McAfee, 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.

<u>Outfall</u>	<u>Description of Discharge Point</u>
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
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	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, NO ₃ *g	Quarterly	Composite	mg/L
Nitrite, NO ₂ *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: Month Day, Year
Ended: Month Day, Year

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

(Explain any comments received and response sent. Actual letters can be referenced, but not required to be included).

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ATTACHMENT 1

 *Wasteload Analysis*

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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 Analysis¹. 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. This result indicates that the inclusion of an effluent limit for lead is required at this time (Outcome C 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	C	

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 IC Classification.