

Official Draft Public Notice Version January 6, 2017

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**FACT SHEET AND STATEMENT OF BASIS
CENTRAL VALLEY WATER RECLAMATION FACILITY RENEWAL PERMIT
DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT024392
UPDES BIOSOLIDS PERMIT NUMBER: UTL-024392
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR024392
MAJOR MUNICIPAL**

FACILITY CONTACTS

Person Name:	Tom Holstrom, P.E
Position:	General Manager
Person Name:	Phillip Heck Ph.D., P.E.
Position:	Process Engineer, Assistant General Manager
Person Name:	Ron Roberts, P.E.
Position:	Plant Engineer
Person Name:	Anthony Daw
Position:	Laboratory Director
Person Name:	Gary Faulkner
Position:	Biosolids Coordinator
Facility Name:	Central Valley Water Reclamation Facility (Central Valley)
Mailing Address:	800 West Central Valley Road Salt Lake City, Utah 84119-3379
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Actual Address:	800 West Central Valley Road

DESCRIPTION OF FACILITY

Central Valley Water Reclamation Facility (Central Valley) was completed and in total operation in 1989. The current design capacity is 75 MGD (average daily flow) for a population equivalent of 493,000. The organic design capacity is 112,500 pounds of BOD and 112,500 pounds of TSS. The plant consists of four mechanical bar screens, five headworks pump, four aerated grit chambers followed by ten primary clarifiers, six trickling filters, six solids contact basins, ten secondary clarifiers, seven anaerobic digesters, and six sludge belt presses. An ultra violet disinfection system was installed in 2009 to replace the chlorination / de-chlorination system from service which resulted in removal of the total residual chlorine limit from the permit.

Central Valley operates a sand filter to produce Type I reuse water during the spring and summer months. Reuse water fills a pond west of the facility which is then used to irrigate its golf course. The facility processes approximately 0.75-1.0 MGD of Type I water, or 1.3% of the total flow while in operation. During these months other ponds at the golf course are filled with post disinfected effluent that flows to the old "Vitro Ditch" back into Mill Creek. The ditch joins Mill Creek less than 100 feet downstream of

the plant outfall. The Division of Water Quality (DWQ) has determined this flow does not constitute a new outfall, and does not require monitoring, limits or a permit.

During the renewal process in 1999, Central Valley requested a reduction in monitoring frequency for all parameters except for WET. This request was granted and the frequencies were reduced to four (4) times a week from seven (7) times a week. This was done based on the *Division of Water Quality's 1996 Performance Based Reduction of UPDES Monitoring Frequencies* document.

Central Valley is located at 800 West Central Valley Road (about 3190 South) in South Salt Lake, Salt Lake County, Utah, with its Outfall 001 at latitude 40°42'31" and longitude 111°54'57".

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

1. Instead of an effluent flow limit in the renewal permit, Central Valley has requested that mass limits be included for water quality based effluent limits. The renewal permit contains the following new effluent limits outlined below.

Parameter	Effluent Limitations, mg/L				Effluent Limitations, (mass, lbs)
	Average Monthly	Average Weekly	Minimum Daily	Maximum Daily	Average Monthly
CBOD ₅ , mg/L					
Summer (Jul-Sep)	16.0	27.0	-	-	300,240
Fall (Oct-Dec)	20.0	28.0	-	-	375,300
Winter (Jan-Mar)	20.0	28.0	-	-	375,300
Spring (Apr-Jun)	20.0	28.0	-	-	375,300
Ammonia (as N), mg/L					
Summer (Jul-Sep)	3.7	-	-	13.1, *e	69,431
Oct.	4.5	-	-	15.9	84,443
Nov. – Dec.	5.9	-	-	15.9	110,714
Winter (Jan - Mar)	5.8, *e	-	-	12.3	108,837
Spring (Apr-Jun)	5.3	-	-	15.9	99,455
Total Copper, mg/L	0.0233	-	-	-	437.2

2. DWQ uses a new model for specific waters to develop waste load allocations (WLA) for discharges to Waters of the State. DWQ completed a water quality synoptic study on the Jordan River in 2014 to improve understanding of the waterway and the WLA. Subsequently, ammonia limits were modeled for all of the Major Dischargers to the Jordan River which required minor adjustments.
3. The BOD effluent limits for the Jordan River dischargers were not modeled this permit cycle as the waste load analyst indicated that the previous limits are sufficiently protective. Also, BOD is currently being evaluated under a TMDL for the Jordan River.
4. Monitoring guidance for Pretreatment Facilities suggests that a facility that has a design flow greater than 50 MGD should monitor influent and effluent metals at least six (6) times a year on a schedule of once every two (2) months. Central Valley has a design flow of 75 MGD and is

currently averaging around 50 MGD. As a result of the guidance, minimum metals sampling have increased accordingly.

5. DWQ determined that, historically, the receiving water was incorrectly assigned to the Jordan River and effluent was actually being discharged to Mill Creek. Thus, the WLA for this renewal permit was developed accordingly and is included in Attachment 2. As a result of this change, effluent limits for many parameters have become more restrictive. Among the limits that have changed are the Chronic WET Biomonitoring Concentrations.

The WLA indicated a seasonal receiving water concentration (RWC) IC₂₅ % WET Limits are appropriate. These are indicated in the table below.

Seasonal Chronic WET Limits Taken From Table 2 in the WLA	
Season	Chronic WET IC ₂₅ % Eff.(RWC)
Summer	>92
Fall	>95
Winter	>94
Spring	>89

6. DWQ adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. The TBPEL rule as it relates to "non-lagoon" wastewater treatment plants establishes new regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020.

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring of the following beginning July 1, 2015:

- a. R317-1-3.3, D, 1 Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;
- b. R317-1-3.3, D, 2. Effluent for total phosphorus and orthophosphate (as P), ammonia, nitrate-nitrite and total Kjeldahl nitrogen (an N);

Discharge Monitoring Reports including the above mentioned parameters were generated for Central Valley by DWQ and sent to them prior to the July 2015 monitoring period.

In R317-1-3.3, D, 3 the rule states that all monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart.

7. A Reasonable Potential analysis was completed. The results indicate that an effluent limit for copper is necessary to protect the receiving water, therefore the renewal permit contains effluent

limits for these parameters. Monitoring of selenium and mercury will be increased to monthly in the renewal permit as a result of the RP analysis.

DISCHARGE

DESCRIPTION OF DISCHARGE

Central Valley has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. A summary of the last 3 years of data is summarized in Attachment 1 and there were no significant violations.

Outfall

Description of Discharge Point

001

Outfall 001 is a large concrete channel which discharges directly to Mill Creek, and is located immediately on the northwest side of the treatment plant at about latitude 40°42'31" and longitude 111°54'57", approximately 800 West and 3400 South in South Salt Lake City, Salt Lake County, Utah.

Outfall

Description of Reuse Water Discharge Point

001R

Reuse Outfall 001R is approximately located at latitude 40°42'31" and longitude 111°54'57". The discharge is through a pipe to the west pond on the Central Valley Golf Course. The water is then used to irrigate the golf course.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge flows into Mill Creek, hence to the Jordan River and finally into Farmington Bay. According to Utah Administrative Code (UAC) R317-2-14.2 and R317-2-14.5 Mill Creek is listed as a Class 2B, 3C and 4 water.

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| Class 2B | -Protected for secondary contact recreation such as boating, wading, or similar uses. |
| Class 3C | -Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain. |
| Class 4 | -Protected for agricultural uses including irrigation of crops and stock watering. |

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), *E. coli*, pH and percent removal for carbonaceous biochemical oxygen demand (CBOD₅) are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The dissolved oxygen (DO), CBOD₅, and WET testing are based upon water quality standards and are obtained from the waste load analysis (WLA). The chronic ammonia criterion is dependent on the presence or absence of fish early life stages (ELS) in Mill Creek. The chronic ammonia limit for November, December, January, and February are based on the absence of ELS. The chronic ammonia limit for October and the acute ammonia limit for the summer are from the Jordan River POTW WLA and are based on protection of downstream uses. The WLA indicates that these limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The oil and grease limitation is based on best professional judgment (BPJ). The mass limits are calculated using the design flow of 75 MGD and the chronic effluent concentrations for ammonia, copper, and CBOD₅ identified in the WLA.

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 cyanide, cadmium, chromium, copper, silver, selenium, and mercury 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: copper. Additionally, the RP analysis for selenium and mercury indicates increased monitoring is required. Selenium and mercury will now be required to be monitored monthly. A copy of the RP analysis is included in Attachment 3 of this Fact Sheet.

The permit limitations are:

Parameter	Effluent Limitations				Effluent Limitations (mass, Lbs.)
	Average Monthly	Average Weekly	Minimum Daily	Maximum Daily	Average Monthly
CBOD ₅ , mg/L					
Summer (Jul-Sep)	16	27	-	-	300,240
Fall (Oct-Dec)	20	28	-	-	375,300
Winter (Jan-Mar)	20	28	-	-	375,300
Spring (Apr-Jun)	20	28	-	-	375,300
BOD ₅ Min. % Removal	85	-	-	-	-
TSS, mg/L	25	35	-	-	-
TSS Min. % Removal	85	-	-	-	-
<i>E. coli</i> , No/100mL	126	157	-	-	-
pH, Standard Units	-	-	6.5	9	-
Ammonia (as N), mg/L					
Summer (Jul-Sep)	3.7	-	-	13.1, *e	69,431
October	4.5	-	-	15.9	84,443
November -December	5.9	-	-	15.9	110,714
Winter (Jan - Mar)	5.8, *e	-	-	12.3	108,837
Spring (Apr-Jun)	5.3	-	-	15.9	99,455
DO, mg/L	-	-	5	-	-
WET *q Acute Biomonitoring	-	-	-	LC ₅₀ > 100% Effluent	-
WET, *p, *q Chronic Biomonitoring	-	-	-	IC ₂₅ >RWC	-
Summer (Jul-Sep)	-	-	-	92% Eff.	-
Fall (Oct-Dec)	-	-	-	95% Eff.	-
Winter (Jan-Mar)	-	-	-	94% Eff.	-
Spring (Apr-Jun)	-	-	-	89% Eff.	-
Oil & Grease, mg/L (when sheen observed)	-	-	-	10	-

Total Copper, mg/L	0.0233	-	-	-	437.2
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The permit limitations for Outfall 001R (Reuse) are:

Parameter	Outfall 001R Effluent Limitations *a, *l, *m				
	Max Monthly Average	Max Weekly Median	Max Daily Average	Minimum	Maximum
Turbidity, NTU *l	-	-	2	-	5
TRC, mg/L *e, *m	-	-	-	1	-
BOD ₅ , mg/L	10	-	-	-	-
<i>E. coli</i> , No/100mL	-	0	-	-	9
pH, Standard Units	-	-	-	6.0	9.0

SELF-MONITORING AND REPORTING REQUIREMENTS

The following are the self-monitoring requirements for the renewal permit. The permit will require reports to be submitted monthly and annually, as applicable, on Net DMR or Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. 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			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
CBOD ₅ , Influent *d	4 x Weekly	Composite	mg/L, lbs.
Effluent	4 x Weekly	Composite	mg/L, lbs.
TSS, Influent *d	4 x Weekly	Composite	mg/L
Effluent	4x Weekly	Composite	mg/L
<i>E. coli</i>	4x Weekly	Grab	No./100mL
pH	Daily	Grab	SU
Ammonia	4 x Weekly	Grab	mg/L, lbs.
DO	Daily	Grab	mg/L
WET – Biomonitoring, *q			
Ceriodaphnia - Acute	1 st & 3 rd Quarter	Composite	Pass/Fail
Ceriodaphnia - Chronic	Quarterly	Composite	Pass/Fail
Fathead Minnows - Acute	2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	Quarterly	Composite	Pass/Fail
Oil & Grease *f	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) *g			
Effluent	Monthly	Composite	mg/L
Total Ammonia (as N) *g	Monthly	Composite	mg/L
Phosphorus, Total *g			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) *g			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO ₃ *g	Monthly	Composite	mg/L

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Nitrite, NO ₂ *g	Monthly	Composite	mg/L
Cyanide *h, Influent *d	6 X Yearly	Composite	mg/L
Effluent	Monthly *n	Composite	mg/L
Copper	Monthly *n	Composite	mg/L, lbs.
Selenium	Monthly *n	Composite	mg/L
Mercury	Monthly *n	Composite	mg/L
Metals *h, Influent *d	6 X Yearly	Composite	mg/L
Effluent	6 X Yearly	Composite	mg/L
Organic Toxics	2 X Yearly *o	Grab	mg/L

The following is a summary of the Type I reuse self-monitoring and reporting requirements.

Reuse Outfall 001R Self-Monitoring and Reporting Requirements *a *j			
Parameter	Frequency	Sample Type	Units
Total Flow, *b, *c	Continuous	Recorder	MGD
Turbidity	Continuous	Recorder	mg/L
TRC *i *m	Daily	Recorder	mg/L
BOD ₅	Weekly	Composite	mg/L
<i>E. coli</i> *k	Daily	Grab	No./100mL
pH	Daily	Grab	SU

- *a See Definitions, *Part VIII*, for definition of terms.
- *b Flow is not a pollutant; it is in the permit to help determine loading levels. 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 In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- *e The chronic ammonia limit for October, and the acute ammonia limit for the Summer are from the Jordan River POTW WLA and are based on protection of downstream uses.
- *f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *g These reflect changes and additions required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule. The rule requires that all monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart. This collection method is only for the monthly samples being collected in compliance with the rule.
- *h Pretreatment requirements for metals monitoring have changed. As a result the minimum frequency is now six (6) times per year, or at least once every two (2) months. The

metals sampling for pretreatment must be done in January - February, March - April, May - June, July - August, September - October, and November - December each year.

- *i Residual is recommended but no longer required. Sampling not required if chlorination is not being used. The total residual chlorine shall be measured continuously and shall at no time be less than 1.0 mg/l after 30 minutes contact time at peak flow. A 1 mg/l total chlorine residual is recommended after disinfection and before the treated effluent goes into the distribution system.
- *j Reuse monitoring results obtained during the previous month for reuse discharges shall be summarized for each month and reported on a Monthly Operational Report, submitted no later than the 28th day of the month following the completed reporting period.
- *k The weekly median *E. coli* concentration shall be non-detect.
- *l An alternative disposal option or diversion to storage must be automatically activated if turbidity exceeds the maximum instantaneous limit for more than 5 minutes, or chlorine residual drops below the instantaneous required value for more than 5 minutes, where chlorine disinfection is used.
- *m The facility is required to disinfect to destroy, inactivate or remove pathogenic microorganisms by chemical, physical or biological means. Disinfection may be accomplished by chlorination, ozonation, or other chemical disinfectants, UV radiation. Or other approved processes.
- *n An RP Analysis was run on metals using data as described above. This resulted in the need for increased monitoring, or improved reporting levels for mercury, selenium and cyanide, along with new limits for copper. These reflect the changes.
- *o The organic toxics must be sampled during the months of January - June and July - December each year. The toxic pollutants are listed in *40 CFR 122 Appendix D Table II (Organic Toxic Pollutants)*.
- *p Receiving Water Concentration (RWC) refers to the target receiving water concentration for the chronic WET test.
- *q Failure of an individual WET test does not constitute a violation of the permit, so long as an investigation is initiated in accordance with the permit. If an alternate species is approved for WET testing, the permit will be modified accordingly without a public comment period.

BIOSOLIDS

SUBSTANTIAL BIOSOLIDS TREATMENT CHANGES

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

During the previous permitting cycle Central Valley relocated their composting operations to the facility property. They have also switched from land application in Ensign Valley to farmland in Box Elder County near Corrine Utah.

In Salt Lake County there has arisen a desire to better manage biosolids in a more cooperative manner. The concept is that Central Valley will use the excess solids handling capacity at its facility by processing biosolids from other facilities in the area for final disposal. Central Valley would process the biosolids to meet Class A or B requirements and then distribute them to farmer or the public. They would also be able to use the increased gas production to generate more power on site. Central Valley wishes to intercept any biosolids that may be heading to landfills and process them for distribution. Other facilities may participate in this agreement. If this happens, they will receive the biosolids from the facilities and complete processing before final disposal. As far as the permit is considered, it is just another solids stream to be monitored and reported. This activity is allowed under the biosolids rules and is considered a transfer of the biosolids to another facility. If this does happen there will be no requirement to modify the permit.

DESCRIPTION OF TREATMENT AND DISPOSAL

Central Valley submitted their 2013 annual biosolids report on February 18, 2014. The report states that they produced 5,667 dry metric tons (DMT) of biosolids in 2013. Of the 5,667 DMT produced, 4,459 DMT were land applied as a Class B product on farm land located in Box Elder County near Corrine for crops ultimately used as cattle feed. An additional 1,108 DMT were sold as a Class A compost product to the public for home lawn and garden use. The biosolids are stabilized in anaerobic digesters with a solids retention time of at least 45 days. After stabilization, the Class B biosolids are either used for agriculture, or composted using the aerated static pile method or the windrow method to meet Class A compost standards.

The last inspection conducted at the land application site was March 26, 2014. The inspection showed that Central Valley was in compliance with all aspects of the biosolids management program.

SELF-MONITORING REQUIREMENTS

Under 40 CFR 503.16(a)(1), the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26, and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

Accordingly Central Valley will sample the belt press cake at least six times a year for land application and the compost four times per year.

Landfill Monitoring

Under 40 CFR 258, the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (40 CFR 258.28(c)(1)). Central Valley disposed of 0 DMT of biosolids at E.T. Technologies solids generation site at the Salt Lake County Landfill.

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use

The intent of the heavy metals regulations of Table 3, 40 CFR 503.13 is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see Part III. C. of the permit) to be made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements With Regards to Heavy Metals

If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 1 and the monthly average pollutant concentrations in Table 3 (see Table 1 and Table 3 below). If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites

The intent of the heavy metals regulations of Tables 1, 2 and 3, of 40 CFR 503.13 is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee is required to produce an information sheet (see Part III. C. of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of 40 CFR 503.13, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals

If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

The maximum heavy metals listed in 40 CFR Part 503.13(b) Table 1 and the heavy metals loading rates in 40 CFR Part 503.13(b) Table 2; or

The maximum heavy metals in 40 CFR Part 503.13(b) Table 1 and the monthly heavy metals concentrations in 40 CFR Part 503.13(b) Table 3.

Tables 1, 2, and 3 of Heavy Metal Limitations. See Part VII. of the permit for definition of terms.

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg) ¹	CPLR ² , (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR ³ , (mg/ha-yr)

¹ Dry Weight Basis

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit. If the biosolids do not meet these requirements they cannot be land applied.

Pathogens

The Pathogen Control class listed in the table below must be met;

Pathogen Control Class	
Class A (40 CFR Part 503.32 (a), (3-8))	Class B (40 CFR Part 503.32 (b), (2))
Salmonella species -less than three (3) per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units (CFU) per gram total solids
Enteric viruses -less than one (1) MPN ⁴ (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova -less than one (1) MPN per four (4) grams total solids	

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids. Central Valley Choses to accomplish this in the following way:

1. Anaerobic Digestion- The PSRP may be accomplished through anaerobic digesters that have a minimum retention time of 15 days at 95° F (35° C) or 60 days at 68° F (20°C), *Appendix B to Part 503, A, 3 and,*
2. Windrow Method- Using the windrow method of composting, the temperature needs to be maintained at 55 °C (131 °F) or higher for fifteen days, with a minimum of five turnings during those fifteen days, *or*

² CPLR -- Cumulative Pollutant Loading Rate

³ APLR – Annual Pollutant Loading Rate

⁴ MPN –Most Probable Number

3. Static Aerated Pile Method - Using the static aerated pile method of composting, the temperature of the biosolids is maintained at 55° C (131°F) or higher for at least 3 days),

Both of these composting methods are found under *Appendix B to Part 40 CFR 503, B, 1*

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away for agriculture purposes or to the public, and the Central Valley will need find another method of beneficial use or disposal.

Class B Requirements for Agriculture and Land Reclamation Use

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP) found under *40 CFR 503.32 (b):*

Central Valley has chosen to achieve Class B biosolids in one of two different ways with regards to pathogens:

1. The PSRP may be accomplished through anaerobic digesters that have a minimum retention time of 15 days at 95° F (35° C) or 60 days at 68° F (20°C). *Appendix B to Part 503, A, 3,*
2. Under *40 CFR 503.32 (b)(2)*, Central Valley may test the biosolids and must meet a microbiological limit of less than 2,000,000 MPN of fecal coliform per gram for the biosolids to be considered Class B biosolids with respect to pathogens.

Vector Attraction Reduction (VAR) Requirements

If the biosolids are land applied, Central Valley will be required to meet a method of vector attraction reduction under *40 CFR 503.33*. Central Valley intends to accomplish the VAR through the method below:

1. Anaerobic Digestion - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent through anaerobic digestion. The solids need to be treated for at least 15 days at a temperature of a least 95°F (35°C) with a 38% reduction of volatile solids (*40 CFR 503.33(b)(1)*).

If the permittee intends to use another one of the listed alternatives, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice.

Landfill Monitoring

Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (*40 CFR 258.28(c)(1)*).

Record Keeping

The record keeping requirements from *40 CFR 503.17* is included under *Part III.G.* of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR*

503.13, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must be retained for a minimum of five years.

Reporting

Central Valley must report annually as required in 40 CFR 503.18. This report is to include the results of all monitoring performed in accordance with Part II.C of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

MONITORING DATA

HEAVY METALS MONITORING

Central Valley sampled the composted biosolids for heavy metals 45 times in 2014. The data below shows that Central Valley met the requirements for exceptional quality (EQ) biosolids, with respect to heavy metals, whether the biosolids were Class A, or Class B.

Central Valley Metals Monitoring Data, 2014 (Compost)			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	11.1	17.9
Cadmium	39.0	2.2	3.0
Copper	1,500.0	469.8	865
Lead	300.0	18.1	39.2
Mercury	17.0	1.0	1.5
Molybdenum	75.0	9.6	14.6
Nickel	400.0	14.0	17.7
Selenium	36.0	7.9	11.0
Zinc	2,800.0	852.1	1500

Central Valley sampled the biosolids dry belt press cake for heavy metals 48 times in 2014. The data below shows that Central Valley met the requirements for EQ biosolids, with respect to heavy metals, whether the biosolids were Class A, or Class B.

Central Valley Metals Monitoring Data, 2014 (Land Application)			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	14.7	20.0
Cadmium	39.0	3.0	5.8
Copper	1,500.0	692	1,110
Lead	300.0	24.7	144
Mercury	17.0	1.5	4.3
Molybdenum	75.0	17.1	38.1
Nickel	400.0	23.8	87.5
Selenium	36.0	12.6	17.6
Zinc	2,800.0	1,164	1,990

PATHOGEN MONITORING DATA

Central Valley was required to monitor the biosolids dry belt press cake for pathogens at least six times in 2014. They sampled 93 times. All biosolids land applied in 2014 met *Table 3 of 40 CFR 503.13*, therefore the Central Valley biosolids qualify as EQ with regards to pathogens. The monitoring data is below.

Central Valley Fecal Coliform Monitoring Data 2014 (Centrifuge Cake)

Geometric Mean of 93 Samples, Most Probable Number Per Gram	Maximum of 93 Samples, Most Probable Number Per Gram
7,863	139,818

Central Valley was required to monitor the composted biosolids for pathogens at least six times in 2014, with each sampling episode consisting of seven samples. The Central Valley monitored 41 times in 2014, for a total of 288 samples. All compost land applied in 2014 met the Class A pathogen standards. The monitoring data is below.

Central Valley Fecal Coliform Monitoring Data 2014 (Compost)

Geometric Mean of 288 Samples, Most Probable Number Per Gram	Maximum of 288 Samples, Most Probable Number Per Gram
3.8	10

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

Central Valley discharges wastewater into the Jordan River, which has been identified as impaired for Dissolved Oxygen (DO) and Total Dissolved Solids (TDS) based on the 2004, 303(d) assessment process as defined in the Clean Water Act. As required under federal regulation a total maximum daily load (TMDL) will be developed for all impaired waters. The TMDL will focus on developing limitations for those parameters of concern (POC) that were identified during the 305(b) and 303(d) assessment process. POC's are parameters that are in violation of water quality standards or that contribute to impairment of a beneficial use (a major component of the water quality standards).

Currently, a TMDL evaluation is underway for the Jordan River. If the results of the TMDL process establish effluent limits for any of the POC's, then it would be required by (40 CFR Part 130) to include these effluent limits in the UPDES permits. Therefore, it is strongly recommended that the facility staff participate in the TMDL development process. DWQ staff is responsible for scheduling and notifying appropriate facility personnel regarding TMDL meetings. You can also contact your UPDES permit writer for information on scheduled TMDL meetings.

STORM WATER

STORMWATER REQUIREMENTS

Storm water provisions are included in this combined UPDES permit.

The storm water requirements are based on the UPDES Multi-Sector General Permit (MSGP) for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000. All sections of the MSGP that pertain to discharges from wastewater treatment plants have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include:

1. The development of a pollution prevention team;
2. Development of drainage maps and materials stockpiles;
3. An inventory of exposed materials;
4. Spill reporting and response procedures;
5. A preventative maintenance program;
6. Employee training;
7. Certification that storm water discharges are not mixed with non-storm water discharges;
8. Compliance site evaluations and potential pollutant source identification, and;
9. Visual examinations of storm water discharges.

Central Valley is currently covered under the UPDES Multi Sector General Permit for Industrial Activities.

PRETREATMENT REQUIREMENTS

The pretreatment requirements remain the same as in the current permit with the permittee administering an approved pretreatment program. Any changes to the program must be submitted for approval to the Division of Water Quality. Authority to require a pretreatment program is provided for in 19-5-108 UCA, 1953 ann. and UAC R317-8-8.

The permittee will be required to develop technically based local limits within 12 months of the effective date of the permit. The development of technically based local limits is to implement the general and specific prohibitions of *40 CFR, Part 403.5(a)* and *Part 403.5(b)*.

The permit requires influent and effluent monitoring for metals and organic toxics listed in *R317-8-7.5* and sludge monitoring for potential pollutants listed in *40 CFR 503*.

BIOMONITORING REQUIREMENTS

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

Since the permittee is a major municipal discharger, the renewal permit will again require whole effluent toxicity (WET) testing. Acute and Chronic quarterly biomonitoring will be again be required as described in the permit. As a result of the change in designation of receiving waters the Chronic Biomonitoring IC₂₅ concentrations will change greatly. The previous WLA included an IC₂₅ > 37%. The new concentrations are listed in the table below and were discussed in the changes section above. The IC₂₅ is the inhibition 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.

The permit contains the standard requirements for accelerated testing upon failure of a WET test and a PTI (Preliminary Toxicity Investigation) and TRE (Toxicity Reduction Evaluation) as necessary. The

permit also contains a toxicity limitation re-opener provision. This provision allows for modification of the permit at any time to include WET limitations and/or increased WET monitoring, should additional information indicate the presence of toxicity in the discharge.

Seasonal Chronic WET Limits as Taken From Table 2 in The WLA	
Season	Chronic WET IC25 % Eff.
Summer	>92
Fall	>95
Winter	>94
Spring	>89

PERMIT DURATION

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

Drafted by
 Daniel Griffin, Discharge, Biosolids
 Jennifer Robinson, Pretreatment
 Michael George, Storm Water
 Michael Herkimer, Whole Effluent Toxicity
 Ken Hoffman, Reasonable Potential Analysis
 Nick von Stackelberg, Wasteload Analysis
 Utah Division of Water Quality (801) 536-4300

PUBLIC NOTICE

Began:
 Ended:

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 in the The Salt Lake Tribune and Deseret Morning News.

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.

PVNDraft

ATTACHMENT 1

Effluent Monitoring Data

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Month	Flow, MGD		<i>E. coli</i> , #/100mL		DO	pH		O&G	BOD5, mg/L		TSS, mg/L	
	Ave	Max	Ave	Max	mg/L	Min	Max	mg/L	Ave	Max	Ave	Max
Limit			126	157	5	6.5	9	10	15	21	25	35
Apr-11	67	72	17	22	5.5	7.0	7.6	0	4.9	6.8	6.6	7.9
May-11	69	72	23	36	5.6	7.1	7.5	0	3.3	4.0	5.7	8.0
Jun-11	71	84	7	14	5.4	7.4	7.7	0	2.6	3.4	3.9	3.9
Jul-11	61	68	13	23	5.3	7.2	7.6	0	2.6	3.1	4.2	4.9
Aug-11	57	60	15	22	5.5	7.2	7.5	0	3.4	3.7	6.6	8.3
Sep-11	53	57	24	31	5.3	7.1	7.5	0	3.3	4.4	8.6	12.2
Oct-11	54	57	16	27	5.8	7.0	7.4	0	2.7	3.7	7.4	10.7
Nov-11	54	55	11	13	5.3	7.1	7.6	0	4.0	4.3	8.4	9.8
Dec-11	52	53	15	22	5.9	7.0	7.4	0	4.4	5.4	8.6	9.3
Jan-12	53	55	13	15	6.5	7.1	7.4	0	4.3	4.3	10.1	11.5
Feb-12	54	55	13	13	5.6	7.0	7.6	0	3.8	5.2	6.4	7.5
Mar-12	53	55	29	67	5.0	7.0	7.8	0	3.7	4.6	5.6	6.3
Apr-12	54	56	41	47	5.2	7.0	7.8	0	3.4	3.7	5.1	6.2
May-12	55	57	36	45	5.3	7.0	7.4	0	3.2	3.4	4.1	4.4
Jun-12	53	54	74	116	5.2	7.2	7.5	0	2.6	3.7	5.9	6.4
Jul-12	52	53	26	71	5.4	7.3	7.5	0	3.1	3.0	6.3	6.3
Aug-12	50	51	13	18	5.3	7.3	7.5	0	3.4	4.7	7.3	13.2
Sep-12	49	50	19	23	5.9	7.3	7.5	0	3.1	3.4	5.9	7.3
Oct-12	48	49	13	15	5.3	7.3	7.4	0	3.2	3.2	8.3	7.0
Nov-12	50	53	19	30	5.8	7.2	7.4	0	4.2	5.4	9.6	16.4
Dec-12	50	52	16	18	5.2	7.2	8.2	0	3.8	4.8	9.0	12.3
Jan-13	50	51	21	25	5.0	6.9	7.4	0	4.2	5.4	7.0	7.7
Feb-13	53	53	19	23	5.2	7.1	7.4	0	4.2	4.5	6.8	7.3
Mar-13	53	58	36	44	5.2	7.0	7.4	0	4.0	4.3	5.4	6.9
Apr-13	54	57	23	31	5.1	7.0	7.6	0	3.5	4.7	4.8	5.1
May-13	52	53	19	26	5.3	7.2	7.4	0	2.6	3.2	4.9	5.2
Jun-13	52	54	26	36	5.2	7.2	7.5	0	2.2	2.5	5.3	6.2
Jul-13	52	53	20	25	5.3	7.2	7.7	0	2.2	2.8	6.9	9.0
Aug-13	48	50	39	56	5.6	7.0	7.7	0	3.0	3.7	11.6	10.3
Sep-13	49	51	36	57	5.6	7.2	7.7	0	3.5	3.6	7.6	8.7
Oct-13	47	48	25	30	5.1	7.1	7.3	0	4.0	4.1	9.5	11.6
Nov-13	44	45	22	30	6.2	7.0	7.4	19.2	4.7	5.5	11.2	13.9
Dec-13	46	47	8	15	6.2	7.0	7.4	0	3.7	5.6	7.7	9.8
Jan-14	47	48	6	8	6.5	6.9	7.3	0	3.5	4.3	5.5	5.8
Feb-14	49	51	5	7	6.3	7.0	7.3	0	3.2	3.6	6.3	6.8
Mar-14	49	51	9	13	6.2	6.9	7.7	0	4.4	4.4	7.6	11.1

Month	Ammonia, mg/L				Phosphorus	Quarter	WET TEST	Result
	Ave	Max	Nitrite	Nitrate				
Limit	4	10.6	4	10.6	Limit			
Apr-11	0.4	0.6	0.9	11.7	2.5	2011 Qtr 2	Pass/Fail 7Day Chronic Cero	Pass
May-11	0.3	1.2	0.7	11.4	2.4		Pass/Fail 96hr Acute pimp	Pass
Jun-11	0.1	0.5	0.4	13.5	2.4		Pass/Fail 7 Day Chron pimp	Pass
Jul-11	0.1	0.3	0.4	16.0	2.7	2011 Qtr 3	Pass/Fail 7Day Chronic Cero	Pass
Aug-11	0.3	1.1	0.7	14.5	3.2		Pass/Fail 48 hr Acute Cero	Pass
Sep-11	1.0	1.6	0.6	16.0	3.4		Pass/Fail 7 Day Chron pimp	Pass
Oct-11	0.8	1.7	0.9	14.2	3.2	2011 Qtr 4	Pass/Fail 7Day Chronic Cero	Pass
Nov-11	0.5	0.8	0.8	13.9	2.9		Pass/Fail 96hr Acute pimp	Pass
Dec-11	1.2	2.5	1.1	14.6	3.6		Pass/Fail 7 Day Chron pimp	Pass
Jan-12	1.0	2.2	1.0	14.7	3.5	2012 Qtr 1	Pass/Fail 7Day Chronic Cero	Pass
Feb-12	1.0	1.9	0.9	13.7	3.0		Pass/Fail 96hr Acute pimp	Pass
Mar-12	1.9	3.0	0.9	12.0	3.3		Pass/Fail 7 Day Chron pimp	Pass
Apr-12	1.0	1.7	0.8	13.7	3.1	2012 Qtr 2	Pass/Fail 7Day Chronic Cero	Pass
May-12	0.3	0.5	0.8	15.7	3.2		Pass/Fail 96hr Acute pimp	Pass
Jun-12	0.2	0.4	2.1	17.0	3.2		Pass/Fail 7 Day Chron pimp	Pass
Jul-12	0.5	2.7	0.4	16.7	4.2	2012 Qtr 3	Pass/Fail 7Day Chronic Cero	Pass
Aug-12	0.9	1.9	0.5	16.5	3.8		Pass/Fail 48 hr Acute Cero	Pass
Sep-12	1.4	2.0	0.3	15.0	3.8		Pass/Fail 7 Day Chron pimp	Pass
Oct-12	0.8	3.3	0.4	16.1	3.8	2012 Qtr 4	Pass/Fail 7Day Chronic Cero	Pass
Nov-12	0.2	0.4	0.4	18.9	3.7		Pass/Fail 96hr Acute pimp	Pass
Dec-12	0.4	1.2	0.8	20.6	3.3		Pass/Fail 7 Day Chron pimp	Pass
Jan-13	1.2	2.3	1.1	16.9	3.1	2013 Qtr 1	Pass/Fail 7Day Chronic Cero	Pass
Feb-13	1.6	2.3	0.9	15.7	6.7		Pass/Fail 48 hr Acute Cero	Pass
Mar-13	3.2	4.1	0.9	14.0	4.3		Pass/Fail 7 Day Chron pimp	Pass
Apr-13	0.9	6.3	0.7	17.3	3.0	2013 Qtr 2	Pass/Fail 7Day Chronic Cero	Pass
May-13	0.3	0.9	0.7	17.1	3.3		Pass/Fail 96hr Acute pimp	Pass
Jun-13	0.2	0.9	0.5	16.9	3.3		Pass/Fail 7 Day Chron pimp	Pass
Jul-13	0.1	0.7	0.4	19.9	3.3	2013 Qtr 3	Pass/Fail 7Day Chronic Cero	Pass
Aug-13	1.6	3.7	0.4	19.7	3.2		Pass/Fail 48 hr Acute Cero	Pass
Sep-13	2.7	3.6	0.2	21.2	3.5		Pass/Fail 7 Day Chron pimp	Pass
Oct-13	1.4	3.6	0.3	21.5	3.3	2013 Qtr 4	Pass/Fail 7Day Chronic Cero	Pass
Nov-13	0.6	1.0	0.6	21.8	3.4		Pass/Fail 96hr Acute pimp	Pass
Dec-13	0.8	1.7	0.7	19.9	3.4		Pass/Fail 7 Day Chron pimp	Pass
Jan-14	2.0	2.7	0.8	16.9	3.2	2014 Qtr 1	Pass/Fail 7Day Chronic Cero	Pass
Feb-14	1.3	1.7	0.7	16.9	3.5		Pass/Fail 48 hr Acute Cero	Pass
Mar-14	1.0	1.5	0.7	16.3	3.4		Pass/Fail 7 Day Chron pimp	Pass

Metals, Effluent													
		Jun-11	Sep-11	Dec-11	Mar-12	Jun-12	Sep-12	Dec-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14
Cyanide	Max	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Ave	0.02	0.02	0.02	0.02	0.02	0.02	0.011	0.02	0.02	0.02	0.02	0.02
Arsenic	Max	0.016	0.017	0.014	0.024	0.049	0.037	0.01	0.005	0.007	0.005	0.005	0.005
	Ave	0.012	0.011	0.011	0.015	0.015	0.014	0.0055	0.0042	0.005	0.0047	0.004	0.004
Cadmium	Max	0.001	0.001	0.003	0.001	0.008	0.001	0.01	0.001	0.01	0.005	0.001	0.004
	Ave	0.001	0.001	0.001	0.001	0.002	0.001	0.0026	0.001	0.002	0.0013	0.001	0.001
Chromium	Max	0.01	0.01	0.01	0.042	0.036	0.01	0.01	0.018	0.005	0.005	0.002	0.006
	Ave	0.01	0.01	0.01	0.013	0.013	0.008	0.0026	0.0024	0.001	0.0013	0.001	0.001
Copper	Max	0.03	0.029	0.019	0.025	1.23	0.034	0.04	0.049	0.059	0.045	0.036	0.024
	Ave	0.013	0.013	0.012	0.015	0.085	0.017	0.0199	0.018	0.017	0.016	0.018	0.015
Lead	Max	0.005	0.032	0.01	0.009	0.077	0.009	0.011	0.005	0.001	0.005	0.002	0.003
	Ave	0.004	0.006	0.005	0.006	0.015	0.006	0.0036	0.0014	0.001	0.0013	0.001	0.001
Molybdenum	Max	0.014	0.012	0.022	0.023	0.023	0.011	0.01	0.01	0.013	0.009	0.008	0.009
	Ave	0.011	0.008	0.011	0.008	0.008	0.007	0.0074	0.0076	0.009	0.0078	0.0068	0.007
Nickel	Max	0.008	0.008	0.008	0.021	0.041	0.008	0.01	0.006	0.003	0.005	0.004	0.004
	Ave	0.008	0.008	0.008	0.009	0.011	0.007	0.0027	0.0015	0.001	0.0013	0.0012	0.002
Silver	Max	0.004	0.004	0.004	0.004	0.018	0.004	0.01	0.001	0.01	0.005	0.002	0.001
	Ave	0.004	0.004	0.004	0.004	0.005	0.004	0.0026	0.001	0.002	0.0013	0.001	0.001
Zinc	Max	0.083	0.06	0.095	0.059	1.32	0.122	0.088	0.099	0.057	0.07	0.07	0.067
	Ave	0.041	0.036	0.033	0.039	0.115	0.05	0.044	0.059	0.041	0.043	0.045	0.039
Selenium	Max	0.002	0.001	0.001	0.001	0.001	0.025	0.01	0.002	0.005	0.005	0.003	0.024
	Ave	0.002	0.001	0.001	0.001	0.001	0.013	0.003	0.0017	0.002	0.0017	0.0016	0.003
Mercury	Max	0.0002	0.0001	0.0004	0.0004	0.0007	0.0002	0.001	0.0001	0.0001	0.0005	0.0001	0.0001
	Ave	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0003	0.0001	0.0001	0.00013	0.0001	0.0001

Metals, Influent													
		Jun-11	Sep-11	Dec-11	Mar-12	Jun-12	Sep-12	Dec-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14
Cyanide	Max	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Ave	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Arsenic	Max	0.01	0.01	0.013	0.021	0.012	0.014	0.006	0.005	0.006	0.006	0.006	0.004
	Ave	0.01	0.01	0.013	0.021	0.012	0.014	0.006	0.005	0.006	0.006	0.006	0.004
Cadmium	Max	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	Ave	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Chromium	Max	0.01	0.01	0.01	0.01	0.018	0.01	0.003	0.002	0.002	0.003	0.003	0.002
	Ave	0.01	0.01	0.01	0.01	0.018	0.01	0.0025	0.002	0.002	0.003	0.003	0.002
Copper	Max	0.038	0.069	0.028	0.068	0.044	0.077	0.07	0.057	0.053	0.057	0.079	0.054
	Ave	0.038	0.069	0.028	0.068	0.044	0.077	0.073	0.057	0.053	0.057	0.079	0.054
Lead	Max	0.004	0.007	0.004	0.007	0.018	0.013	0.003	0.002	0.003	0.002	0.002	0.003
	Ave	0.004	0.007	0.004	0.007	0.018	0.013	0.003	0.002	0.003	0.002	0.002	0.003
Molybdenum	Max	0.013	0.01	0.012	0.01	0.005	0.012	0.007	0.009	0.01	0.01	0.009	0.007
	Ave	0.013	0.01	0.012	0.01	0.005	0.012	0.007	0.009	0.01	0.01	0.009	0.007
Nickel	Max	0.008	0.008	0.008	0.008	0.013	0.008	0.003	0.001	0.001	0.001	0.002	0.004
	Ave	0.008	0.008	0.008	0.008	0.013	0.008	0.002	0.001	0.001	0.001	0.002	0.004
Silver	Max	0.004	0.004	0.004	0.004	0.004	0.004	0.002	0.001	0.001	0.001	0.001	0.001
	Ave	0.004	0.004	0.004	0.004	0.004	0.004	0.002	0.001	0.001	0.001	0.001	0.001
Zinc	Max	0.094	0.156	0.128	0.119	0.136	0.135	0.146	0.125	0.134	0.12	0.152	0.107
	Ave	0.094	0.156	0.128	0.119	0.136	0.135	0.134	0.125	0.134	0.12	0.152	0.107
Selenium	Max	0.003	0.002	0.002	0.002	0.002	0.025	0.003	0.002	0.003	0.004	0.003	0.002
	Ave	0.003	0.002	0.002	0.002	0.002	0.025	0.0025	0.002	0.003	0.004	0.003	0.002
Mercury	Max	0.0001	0.0001	0.0002	0.0002	0.0001	0.0002	0.0004	0.0001	0.0001	0.0001	0.0001	0.0001
	Ave	0.0001	0.0001	0.0002	0.0002	0.0001	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001

ATTACHMENT 2

Mill Creek and Jordan River Wasteload Analysis

PND Draft

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ATTACHMENT 3

Reasonable Potential Analysis

PND Draft

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REASONABLE POTENTIAL ANALYSIS

After working with Central Valley on the metals it was shown that the issues with some of the metals were related to either the lack of sample data and/or the detection level for the metal was not sensitive enough. Central Valley has worked to address the detection level issue and increase sampling on some of the metals. Central Valley also supplied the results for metals sampling from as far back as April 2009 through December 2015. The data was organized into a single table in a spreadsheet for review. A screening of the data showed that a more detailed RP review for Cyanide, Cadmium, Chromium, Copper, Silver, Selenium, and Mercury was required. As a result the RP model will be run on the most recent data when the detection limit has been reduced.

The RP model was run on Cadmium using the most recent data back through September 2014 when the detection level for Cadmium was improved. The model reported that there was no a Reasonable Potential for Cadmium. As a result, no changes to sampling or additional limits will be included for Cadmium. (Outcome C from RP Guide)

The RP model was run on Chromium using data back through 2014. Improvements at the lab did not focus on improving the detection limit for Chromium. The RP for Chromium is being run using the acute and chronic values for Chrome IV. During discussion regarding the merits of sampling and reporting for Chrome III, Chrome VI and Chromium it was determined that since Chrome III and VI are subsets of total Chromium, Chrome III is calculated not directly measured, Chrome VI has a more conservative limit that this would be the most conservative approach and not require additional sampling and analysis. The model reported that there was no a Reasonable Potential for Chromium. As a result, no changes to sampling or additional limits will be included for Chromium. (Outcome C from RP Guide)

The RP model was run on Copper using the most recent data back through 2014. Improvements at the lab did not focus on improving the detection limit for Copper. The Data was then evaluated using EPA ProUCL model, and an outlier was identified. This was the data for December 15, 014 (0.106899224 mg/L). This point was excluded from the set and the RP model was run. The model reported that there is a Reasonable Potential for chronic water quality criteria for Copper. As a result, an average monthly effluent limit for Copper will be included. (Outcome A from RP Guide)

The RP model was run on Silver using the most recent data back through 2014. Upon Review of the data by Central Valley they discovered they had inadvertently included data for another parameter as data for silver. Further evaluation with corrected data indicated there were no outliers and no acute or chronic RP for silver. As a result, no changes to sampling or additional limits will be included for Silver. (Outcome C from RP Guide)

The RP model was run on Selenium using the most recent data back through 2014. Improvements at the lab did not focus on improving the detection limit for Selenium. The Data was then evaluated using EPA ProUCL model, and an outlier was identified. This was the data for March 18, 014 (0.02410962 mg/L). This point was excluded from the set and the RP model was run. The model reported that there is not a Reasonable Potential for Selenium at a 95% confidence interval, but that there is a Reasonable Potential for chronic water quality criteria for Selenium at a 99% confidence interval. As a result, additional monitoring for Selenium will be included. (Outcome B from RP Guide)

The RP model was run on Mercury using the most recent data back through 2014. Improvements at the lab did not focus on improving the detection limit for Mercury. The model reported that there is not a Reasonable

Potential for the acute limit for Mercury, but that there is Reasonable Potential for the chronic limit. Further review of the data shows that the majority of the results were at the method detection limit (MDI) for the lab at Central Valley. The Central Valley lab uses EPA Method 200.8 with an MDL of 0.0001 mg/l (0.14 µg/l), the chronic limit is 0.000012 mg/l (0.012 µg/l). As a result, the Mercury data cannot reliably indicate a low enough value for us to determine if Central Valley does or does not have a chronic RP for Mercury.

Other analytical methods have an MDL lower than the current method used by the lab. As a result the minimum monitoring frequency and reporting for Mercury will be increased from quarterly to monthly, and a requirement that a lower MDL be achieved. (Outcome B from RP Guide)

The RP model was run on Cyanide using the data back through 2009. Cyanide has only been analyzed on a Quarterly basis resulting in much fewer data points than the other metals; 27 samples for Cyanide versus 91 samples for Cadmium and 120 samples for the rest. Improvements at the lab resulted in the improvement of the MDL for Cyanide, but it is still too close to the chronic and acute WQBEL⁵ with too few data points at the improved MDL for the model to consider them and balance out the previous MDL⁶. For this reason all the samples were used. (Outcome C from RP Guide)

The model reported that there is a Reasonable Potential for the both acute and chronic limits for Cyanide. With the limitations on the improved MDL data set, the Cyanide data cannot reliably indicate a low enough value for us to determine if Central Valley does or does not have a RP for Cyanide. As a result these issues related to the data, the minimum monitoring frequency and reporting for Cyanide will be increased from quarterly to monthly. (Outcome C from RP Guide)

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

⁵ Acute WQBEL 0.0225 mg/l, Chronic WQBEL 0.0053 mg/l

⁶ 22 samples at 0.0199 mg/l MDL compared with 5 samples at 0.005 mg/l MDL

Initial Metals Reasonable Potential Screening

		Effluent													
		Metal	Cyanide	Iron	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Silver	Zinc	Aluminum	Molybdenum	Selenium
ARP Val		0.0225	1.025	0.350	0.006	0.016	0.038	0.207	1.186	0.021	0.296	0.771		0.019	0.0025
CRP Val		0.0053		0.157	0.001	0	0.023	0.008	0.135		0.305	0		0.005	1.2E-05
2010	Fall	ND		0.012	ND	0.028	0.035	ND	0.08	ND	0.104		ND	0.012	0.0002
	Win	ND		0.011	ND	0.01	0.031	ND	0.016	ND	0.058		0.004	0.013	0.0006
	Spr	ND		0.013	ND	0.01	0.011	ND	ND	ND	0.044		ND	0.01	ND
	Sum	ND		0.015	ND	0.01	0.011	ND	ND	ND	0.073		ND	0.01	0.0002
2011	Fall	ND		0.015	ND	0.013	0.048	ND	0.07	ND	0.07		ND	0.012	0.0032
	Win	ND		0.013	ND	0.01	0.02	ND	ND	ND	0.101		ND	0.014	ND
	Spr	ND		0.016	ND	0.01	0.03	0.005	ND	ND	0.083		0.002	0.014	0.0002
	Sum	ND		0.017	ND	0.01	0.029	0.032	ND	ND	0.06		ND	0.012	ND
2012	Fall	ND		0.014	0.003	0.01	0.019	0.01	ND	ND	0.095		ND	0.022	0.0004
	Win	ND		0.024	ND	0.042	0.025	0.009	0.021	ND	0.059		ND	0.023	0.0004
	Spr	ND		0.049	0.008	0.036	1.23	0.077	0.041	0.018	0.132		ND	0.023	0.0007
	Sum	ND		0.037	ND	0.01	0.034	0.009	0.008	ND	0.122		ND	0.011	0.0002
2013	Fall	ND		0.01	0.01	0.01	0.04	0.011	0.01	0.01	0.088		0.01	0.01	0.001
	Win	ND		ND	ND	0.018	0.049	0.005	0.006	ND	0.099		0.002	0.01	ND
	Spr	ND		0.007	0.01	0.005	0.059	0.001	0.003	0.01	0.057		0.005	0.013	ND
	Sum	ND		ND	0.005	0.005	0.045	0.005	0.005	0.005	0.07		0.005	0.009	0.0005
14	Fall	ND		ND	ND	0.002	0.036	0.002	0.004	0.002	0.07		0.003	0.008	ND
	Win	ND		ND	0.004	0.006	0.024	0.003	0.004	ND	0.067		0.024	0.009	ND
	Spr	ND		ND	ND	0.001	0.023	ND	0.023	ND	0.082		0.002	0.011	ND
ND Value		0.0045	0	0.005	0.0003	0.001	0	0.001	0.001	0.001	0.02	0	0.001	0.001	0.0001
Max		0.0045	0	0.049	0.01	0.042	1.23	0.077	0.08	0.018	0.132	0	0.024	0.023	0.0032
A RP?		YES	No	No	YES	No	YES	No	No	YES	No	No	No	YES	No
C RP?		YES	No	No	YES	YES	YES	No	No	No	No	No	No	YES	YES

Metals, mg/L

RP Procedure Output	Outfall Number:		001		Data Units		mg/L	
Parameter	Cadmium		Chromium (Total)		Mercury		Cyanide (Total)	
Distribution	Delta-Lognormal		Delta-Lognormal		Delta-Lognormal		Modified Delta-Lognormal	
Reporting Limit	0.0003		0.001		0.0001		0.005	
Significant Figures	3		3		3		3	
Maximum Reported Effluent Conc.	0.0003		0.0059		0.0002		0.0200	
Coefficient of Variation (CV)	#NUM!		0.215		0.563		0.383	
Projected Maximum Effluent Conc. (MEC)	0.0003		0.0066		0.0002		0.0212	
Acute Criterion	0.0058		0.01640		0.0025		0.0225	
Chronic Criterion	0.0005		0.01150		0.000012		0.0053	
Confidence Interval	95	99	95	99	95	99	95	99
RP Multiplier	1	1	1.12	0.934	0.845	1.33	1.06	1.48
RP for Acute?	NO	NO	NO	NO	NO	NO	NO	YES
RP for Chronic?	NO	NO	NO	NO	YES	YES	YES	YES
Outcome	C		C		B		B	

RP Procedure Output	Outfall Number:		001		Data Units		mg/L	
Parameter	Copper		Silver		Selenium			
Distribution	Lognormal		Delta-Lognormal		Delta-Lognormal			
Reporting Limit	0.001		0.001		0.001			
Significant Figures	3		3		3			
Maximum Reported Effluent Conc.	0.02694		0.001		0.00397			
Coefficient of Variation (CV)	0.533		#NUM		0.379			
Projected Maximum Effluent Conc. (MEC)	0.02694		0.001		0.00397			
Acute Criterion	0.0376		0.0206		0.0189			
Chronic Criterion	0.0233		N/A		0.0048			
Confidence Interval	95	99	95	99	95	99		
RP Multiplier	1	1.32	1	1	1	1.22		
RP for Acute?	NO	NO	NO	NO	NO	NO		
RP for Chronic?	YES	YES	N/A	N/A	NO	YES		
Outcome	A		C		B			

Cyanide RP Results

RP Procedure Output	Mill Creek						
			Effluent Data				
Facility Name:	Central Valley		#		#		#
Permit Number:	UT 0024392		1	0.019992	41	0	81
Outfall Number:	001		2	0.019992	42	0	82
Parameter	Cyanide (Total)		3	0.019992	43	0	83
Distribution	Modified Delta-Lognormal		4	0.019992	44	0	84
Data Units	mg/L		5	0.019992	45	0	85
Reporting Limit	0.005		6	0.019992	46	0	86
Significant Figures	3		7	0.019992	47	0	87
Confidence Interval	95		8	0.019992	48	0	88
			9	0.019992	49	0	89
Maximum Reported Effluent Conc.	0.0199917	mg/L	10	0.019992	50	0	90
Coefficient of Variation (CV)	0.383		11	0.019992	51	0	91
RP Multiplier	1.06		12	0.019992	52	0	92
Projected Maximum Effluent Conc. (MEC)	0.0212	mg/L	13	0.019992	53	0	93
			14	0.019992	54	0	94
Acute Criterion	0.0225	0	15	0.019992	55	0	95
Chronic Criterion	0.0053	0	16	0.019992	56	0	96
Human Health Criterion	0	0	17	0.019992	57	0	97
			18	0.019992	58	0	98
RP for Acute?	YES		19	0.019992	59	0	99
RP for Chronic?	YES		20	0.019992	60	0	100
RP for Human Health?	N/A		21	0.019992	61	0	101
			22	0.019992	62	0	102
			23	0.005000	63	0	103
			24	0.019992	64	0	104
			25	0.005007	65	0	105
			26	0.005007	66	0	106
			27	0.005000	67	0	107
			28	0	68	0	108
			29	0	69	0	109
			30	0	70	0	110
			31	0	71	0	111
			32	0	72	0	112
			33	0	73	0	113
			34	0	74	0	114
			35	0	75	0	115
			36	0	76	0	116
			37	0	77	0	117
			38	0	78	0	118
			39	0	79	0	119
			40	0	80	0	120

Cadmium RP Results

RP Procedure Output	Mill Creek							
			Effluent Data					
Facility Name:	Central Valley		#		#		#	
Permit Number:	UT 0024392		1	0.0003	41	0.0003	81	0.0003
Outfall Number:	001		2	0.0003	42	0.0003	82	0.0003
Parameter	Cadmium		3	0.0003	43	0.0003	83	0.0003
Distribution	Delta-Lognormal		4	0.0003	44	0.0003	84	0.0003
Data Units	mg/L		5	0.0003	45	0.0003	85	0.0003
Reporting Limit	0.0003		6	0.0003	46	0.0003	86	0.0003
Significant Figures	3		7	0.0003	47	0.0003	87	0.0003
Confidence Interval	99		8	0.0003	48	0.0003	88	0.0003
			9	0.0003	49	0.0003	89	0.0003
Maximum Reported Effluent Conc.	0.0003	mg/L	10	0.0003	50	0.0003	90	0.0003
Coefficient of Variation (CV)	#NUM!		11	0.0003	51	0.0003	91	0.0003
RP Multiplier	1.00		12	0.0003	52	0.0003	92	0
Projected Maximum Effluent Conc. (MEC)	0.0003	mg/L	13	0.0003	53	0.0003	93	0
			14	0.0003	54	0.0003	94	0
Acute Criterion	0.0058	0	15	0.0003	55	0.0003	95	0
Chronic Criterion	0.0005	0	16	0.0003	56	0.0003	96	0
Human Health Criterion	0	0	17	0.0003	57	0.0003	97	0
			18	0.0003	58	0.0003	98	0
RP for Acute?	NO		19	0.0003	59	0.0003	99	0
RP for Chronic?	NO		20	0.0003	60	0.0003	100	0
RP for Human Health?	N/A		21	0.0003	61	0.0003	101	0
			22	0.0003	62	0.0003	102	0
			23	0.0003	63	0.0003	103	0
			24	0.0003	64	0.0003	104	0
			25	0.0003	65	0.0003	105	0
			26	0.0003	66	0.0003	106	0
			27	0.0003	67	0.0003	107	0
			28	0.0003	68	0.0003	108	0
			29	0.0003	69	0.0003	109	0
			30	0.0003	70	0.0003	110	0
			31	0.0003	71	0.0003	111	0
			32	0.0003	72	0.0003	112	0
			33	0.0003	73	0.0003	113	0
			34	0.0003	74	0.0003	114	0
			35	0.0003	75	0.0003	115	0
			36	0.0003	76	0.0003	116	0
			37	0.0003	77	0.0003	117	0
			38	0.0003	78	0.0003	118	0
			39	0.0003	79	0.0003	119	0
			40	0.0003	80	0.0003	120	0

Chromium RP Results

RP Procedure Output	Mill Creek							
			Effluent Data					
Facility Name:	Central Valley		1	0.001	41	0.001	81	0.001
Permit Number:	UT0024392		2	0.001	42	0.001	82	0.001
Outfall Number:	001		3	0.001	43	0.001	83	0.001
Parameter	Chromium (Total)		4	0.001	44	0.001	84	0.001
Distribution	Delta-Lognormal		5	0.001	45	0.001	85	0.001
Data Units	mg/L		6	0.001	46	0.001	86	0.001
Reporting Limit	0.001		7	0.001	47	0.001	87	0.001
Significant Figures	3		8	0.001	48	0.001	88	0.001
Confidence Interval	99		9	0.001	49	0.001	89	0.001
			10	0.001	50	0.001	90	0.001
Maximum Reported Effluent Conc.	0.005882962	mg/L	11	0.001	51	0.001	91	0.001
Coefficient of Variation (CV)	0.215		12	0.001	52	0.001	92	0.001
RP Multiplier	1.12		13	0.005882962	53	0.001	93	0.001
Projected Maximum Effluent Conc. (MEC)	0.00661	mg/L	14	0.001	54	0.001	94	0.001
			15	0.001	55	0.001	95	0.001
Acute Criterion	0.0164	0	16	0.001	56	0.001	96	0.001
Chronic Criterion	0.0115	0	17	0.001	57	0.001	97	0.001
Human Health Criterion	0	0	18	0.001	58	0.001	98	0.001
			19	0.001	59	0.001	99	0.001
RP for Acute?	NO		20	0.001	60	0.001	100	0.001
RP for Chronic?	NO		21	0.001	61	0.001	101	0.001
RP for Human Health?	N/A		22	0.001	62	0.001	102	0.001
			23	0.001	63	0.001	103	0.001
			24	0.001	64	0.001	104	0.001
			25	0.001	65	0.001	105	0.001
			26	0.001	66	0.001	106	0.001
			27	0.001	67	0.001	107	0.001
			28	0.001	68	0.001	108	0.001
			29	0.001	69	0.001	109	0.001
			30	0.001	70	0.004051851	110	0.001
			31	0.001	71	0.001	111	0.001
			32	0.001	72	0.001	112	0.001
			33	0.001	73	0.001	113	0.001
			34	0.001	74	0.001	114	0.001
			35	0.001	75	0.001915555	115	0.001
			36	0.001	76	0.001	116	0.001
			37	0.001	77	0.001	117	0.001
			38	0.001	78	0.001	118	0.001
			39	0.001	79	0.001	119	0.001
			40	0.001	80	0.001	120	0.001

Copper RP Results

RP Procedure Output	Mill Creek							
			Effluent Data					
Facility Name:	Central Valley	#		#		#		
Permit Number:	UT 0024392	1	0.01901	41	0.01199	81	0.01595	
Outfall Number:	001	2	0.02389	42	0.01504	82	0.00985	
Parameter	Copper	3	0.00893	43	0.00893	83	0.01901	
Distribution	Lognormal	4	0.00802	44	0.00710	84	0.00802	
Data Units	mg/L	5	0.01595	45	0.01504	85	0.01504	
Reporting Limit	0.001	6	0.00893	46	0.01992	86	0.01290	
Significant Figures	3	7	0.01595	47	0.01595	87	0.01504	
Confidence Interval	95	8	0.00893	48	0.01595	88	0.01290	
		9	0.01412	49	0.01199	89	0.01412	
Maximum Reported Effluent Conc.	0.026940733	mg/L	10	0.01290	50	0.01199	90	0.01290
Coefficient of Variation (CV)	0.533		11	0.01504	51	0.01504	91	0.01107
RP Multiplier	1		12	0.01412	52	0.00893	92	0.01290
Projected Maximum Effluent Conc. (MEC)	0.02694	mg/L	13	0.01992	53	0.01290	93	0.01504
			14	0.01992	54	0.01100	94	0.01107
Acute Criterion	0.0376		15	0.01290	55	0.01290	95	0.01504
Chronic Criterion	0.0233		16	0.01199	56	0.00893	96	0.01901
Human Health Criterion	0		17	0.01290	57	0.00985	97	0.01290
			18	0.01412	58	0.01199	98	0.01504
RP for Acute?	NO		19	0.01199	59	0.01412	99	0.00710
RP for Chronic?	YES		20	0.02297	60	0.01290	100	0.00710
RP for Human Health?	N/A		21	0.01412	61	0.01107	101	0.00710
			22	0.00985	62	0.01412	102	0.00710
Confidence Interval	99		23	0.01809	63	0.01412	103	0.00802
			24	0.01199	64	0.10690	104	0.01199
Maximum Reported Effluent Conc.	0.026940733	mg/L	25	0.01504	65	0.01412	105	0.01901
Coefficient of Variation (CV)	0.533		26	0.00985	66	0.00802	106	0.01687
RP Multiplier	1.32		27	0.01504	67	0.01992	107	0.01504
Projected Maximum Effluent Conc. (MEC)	0.0354	mg/L	28	0.01504	68	0.01687	108	0.01199
			29	0.01412	69	0.01412	109	0.00985
Acute Criterion	0.0376		30	0.00985	70	0.02389	110	0.01809
Chronic Criterion	0.0233		31	0.01901	71	0.01595	111	0.01687
Human Health Criterion	0		32	0.01199	72	0.01290	112	0.01107
			33	0.01504	73	0.01290	113	0.01809
RP for Acute?	NO		34	0.01412	74	0.00100	114	0.02694
RP for Chronic?	YES		35	0.01595	75	0.00100	115	0.01901
RP for Human Health?	N/A		36	0.01199	76	0.01504	116	0.00985
			37	0.00893	77	0.01290	117	0.02114
ProUCL was run on the data set			38	0.01290	78	0.01199	118	0.01412
Outliers removed:			39	0.01107	79	0.02114	119	0.01901
15-Dec-14	0.106899224		40	0.00802	80	0.01290	120	0.01595

Silver RP Results

Facility Name:	Mill Creek							
	Central Valley		Effluent Data					
Permit Number:	UT 0024392		#		#		#	
Outfall Number:	001		1	0.0010	41	0.0010	81	0.0010
Parameter	Silver		2	0.0010	42	0.0010	82	0.0010
Distribution	Delta-Lognormal		3	3	0.0010	43	0.0010	83
Data Units	mg/L		4	0.0010	44	0.0010	84	0.0010
Reporting Limit	0.001		5	0.0010	45	0.0010	85	0.0010
Significant Figures	3		6	0.0010	46	0.0010	86	0.0010
Confidence Interval	95		7	0.0010	47	0.0010	87	0.0010
			8	0.0010	48	0.0010	88	0.0010
Maximum Reported Effluent Conc.	0.001	mg/L	9	0.0010	49	0.0010	89	0.0010
Coefficient of Variation (CV)	#NUM!		10	0.0010	50	0.0010	90	0.0010
RP Multiplier	1.00		11	0.0010	51	0.0010	91	0.0010
Projected Maximum Eff. Conc. (MEC)	0.001	mg/L	12	0.0010	52	0.0010	92	0.0010
			13	0.0010	53	0.0010	93	0.0010
Acute Criterion	0.0206	0	14	0.0010	54	0.0010	94	0.0010
Chronic Criterion	0.0206	0	15	0.0010	55	0.0010	95	0.0010
Human Health Criterion	0	0	16	0.0010	56	0.0010	96	0.0010
			17	0.0010	57	0.0010	97	0.0010
RP for Acute?	NO		18	0.0010	58	0.0010	98	0.0010
RP for Chronic?	N/A		19	0.0010	59	0.0010	99	0.0010
RP for Human Health?	N/A		20	0.0010	60	0.0010	100	0.0010
			21	0.0010	61	0.0010	101	0.0010
Confidence Interval	99		22	0.0010	62	0.0010	102	0.0010
			23	0.0010	63	0.0010	103	0.0010
Maximum Reported Effluent Conc.	0.001		24	0.0010	64	0.0010	104	0.0010
Coefficient of Variation (CV)	#NUM!		25	0.0010	65	0.0010	105	0.0010
RP Multiplier	1.00		26	0.0010	66	0.0010	106	0.0010
Projected Maximum Eff. Conc. (MEC)	0.001		27	0.0010	67	0.0010	107	0.0010
			28	0.0010	68	0.0010	108	0.0010
Acute Criterion	0.0206		29	0.0010	69	0.0010	109	0.0010
Chronic Criterion	0.0206		30	0.0010	70	0.0010	110	0.0010
Human Health Criterion	0		31	0.0010	71	0.0010	111	0.0010
			32	0.0010	72	0.0010	112	0.0010
RP for Acute?	NO		33	0.0010	73	0.0010	113	0.0010
RP for Chronic?	N/A		34	0.0010	74	0.0010	114	0.0010
RP for Human Health?	N/A		35	0.0010	75	0.0010	115	0.0010
			36	0.0010	76	0.0010	116	0.0010
			37	0.0010	77	0.0010	117	0.0010
			38	0.0010	78	0.0010	118	0.0010
			39	0.0010	79	0.0010	119	0.0010
			40	0.0010	80	0.0010	120	0.0010

Selenium RP Results

	Mill Creek							
Facility Name:	Central Valley		Effluent Data					
Permit Number:	UT 0024392		#		#		#	
Outfall Number:	001		1	0.00100	41	0.00214	81	0.00092
Parameter	Selenium		2	0.00092	42	0.00092	82	0.00092
Distribution	Delta-Lognormal		3	0.00092	43	0.00214	83	0.00092
Data Units	mg/L		4	0.00092	44	0.00092	84	0.00214
Reporting Limit	0.001		5	0.00092	45	0.00092	85	0.00092
Significant Figures	3		6	0.00092	46	0.00092	86	0.00092
Confidence Interval	95		7	0.00214	47	0.00092	87	0.00092
			8	0.00092	48	0.00092	88	0.00092
Maximum Reported Effluent Conc.	0.0039674	mg/L	9	0.00092	49	0.00305	89	0.00092
Coefficient of Variation (CV)	0.379		10	0.00092	50	0.00397	90	0.00214
RP Multiplier	1		11	0.00214	51	0.00092	91	0.00214
Projected Maximum Effluent Conc. (MEC)	0.00396	mg/L	12	0.00092	52	0.00092	92	0.00214
			13	0.00092	53	0.00092	93	0.00092
Acute Criterion	0.0189	0	14	0.00092	54	0.00092	94	0.00214
Chronic Criterion	0.0048	0	15	0.00092	55	0.00092	95	0.00092
Human Health Criterion	0	0	16	0.00092	56	0.00092	96	0.00214
			17	0.00092	57	0.00092	97	0.00214
RP for Acute?	NO		18	0.00092	58	0.00092	98	0.00092
RP for Chronic?	NO		19	0.00214	59	0.00092	99	0.00092
RP for Human Health?	N/A		20	0.00214	60	0.00092	100	0.00092
			21	0.00214	61	0.00092	101	0.00092
Confidence Interval	99		22	0.00092	62	0.00092	102	0.00092
Maximum Reported Effluent Conc.	0.0039674	mg/L	23	0.00092	63	0.00214	103	0.00092
Coefficient of Variation (CV)	0.379		24	0.00092	64	0.00092	104	0.00092
RP Multiplier	1.22		25	0.00092	65	0.00092	105	0.00092
Projected Maximum Effluent Conc. (MEC)	0.00485	mg/L	26	0.00092	66	0.00092	106	0.00214
			27	0.00092	67	0.00092	107	0.00214
Acute Criterion	0.0189	0	28	0.00092	68	0.00092	108	0.00092
Chronic Criterion	0.0048	0	29	0.00092	69	0.00092	109	0.00092
Human Health Criterion	0	0	30	0.00092	70	0.00092	110	0.00092
			31	0.00092	71	0.00092	111	0.00214
RP for Acute?	NO		32	0.00214	72	0.00092	112	0.00092
RP for Chronic?	YES		33	0.00214	73	0.00092	113	0.00092
RP for Human Health?	N/A		34	0.00092	74	0.00092	114	0.00092
			35	0.00092	75	0.00092	115	0.00092
ProUCL was run on the data set			36	0.00092	76	0.00100	116	0.00214
			37	0.00092	77	0.00092	117	0.00214
Outliers removed:			38	0.00092	78	0.00092	118	0.00092
3/18/2014	0.0241096		39	0.00092	79	0.00092	119	0.00092
			40	0.00092	80	0.00092	120	0.00214

Mercury RP Results

RP Procedure Output	Mill Creek							
			Effluent Data					
Facility Name:	Central Valley		#		#		#	
Permit Number:	UT 0024392		1	0.00010	41	0.00010	81	0.00010
Outfall Number:	001		2	0.00010	42	0.00010	82	0.00010
Parameter	Mercury		3	0.00010	43	0.00010	83	0.00010
Distribution	Delta-Lognormal		4	0.00010	44	0.00010	84	0.00010
Data Units	mg/L		5	0.00020	45	0.00010	85	0.00010
Reporting Limit	0.0001		6	0.00010	46	0.00010	86	0.00010
Significant Figures	3		7	0.00010	47	0.00010	87	0.00010
Confidence Interval	95		8	0.00010	48	0.00010	88	0.00010
			9	0.00010	49	0.00010	89	0.00010
Maximum Reported Effluent Conc.	0.000200711	mg/L	10	0.00010	50	0.00010	90	0.00010
Coefficient of Variation (CV)	0.563		11	0.00010	51	0.00010	91	0.00010
RP Multiplier	0.845		12	0.00010	52	0.00010	92	0.00010
Projected Maximum Effluent Conc. (MEC)	0.00017	mg/L	13	0.00010	53	0.00010	93	0.00010
			14	0.00010	54	0.00010	94	0.00010
Acute Criterion	0.0025	0	15	0.00010	55	0.00010	95	0.00010
Chronic Criterion	0.000012	0	16	0.00010	56	0.00010	96	0.00010
Human Health Criterion	0	0	17	0.00010	57	0.00010	97	0.00010
			18	0.00010	58	0.00010	98	0.00010
RP for Acute?	NO		19	0.00010	59	0.00010	99	0.00000
RP for Chronic?	YES		20	0.00010	60	0.00010	100	0.00010
RP for Human Health?	N/A		21	0.00010	61	0.00010	101	0.00010
			22	0.00010	62	0.00010	102	0.00010
			23	0.00010	63	0.00010	103	0.00010
			24	0.00010	64	0.00010	104	0.00010
			25	0.00010	65	0.00010	105	0.00010
			26	0.00010	66	0.00010	106	0.00010
			27	0.00010	67	0.00010	107	0.00010
			28	0.00010	68	0.00010	108	0.00010
			29	0.00010	69	0.00010	109	0.00010
			30	0.00010	70	0.00010	110	0.00010
			31	0.00010	71	0.00010	111	0.00010
			32	0.00010	72	0.00010	112	0.00010
			33	0.00010	73	0.00010	113	0.00010
			34	0.00010	74	0.00010	114	0.00010
			35	0.00000	75	0.00010	115	0.00010
			36	0.00010	76	0.00010	116	0.00010
			37	0.00010	77	0.00010	117	0.00010
			38	0.00010	78	0.00000	118	0.00010
			39	0.00010	79	0.00010	119	0.00010
			40	0.00010	80	0.00010	120	0.00010

