

Official Draft Public Notice Version **September 21, 2016.**

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
SOUTH VALLEY WATER RECLAMATION FACILITY RENEWAL PERMIT: DISCHARGE,
BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0024384
UPDES BIOSOLIDS PERMIT NUMBER: UTL-024384
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR024384
MAJOR MUNICIPAL**

FACILITY CONTACTS

Person Name:	Lee Rawlings	Person Name:	Spencer Parkinson
Position:	General Manager	Position:	Pretreatment Coordinator
Person Name:	Taigon Worthen	Person Name:	Randy Wyness
Position:	Facility Engineer	Position:	Facility Operations Director

Facility Name:	South Valley Water Reclamation Facility (South Valley)
Mailing and Facility Address:	7495 South 1300 West Salt Lake City, Utah 84084
Telephone:	(801) 566-7711
Actual Address:	7495 South 1300 West

DESCRIPTION OF FACILITY

This plant was completed in 1985 under the authority of the South Valley Joint Administrative Board. The legal status of South Valley changed in 2003 and the present governing body is the Board of Directors. The Board represents the cities of Midvale, West Jordan, South Valley Sewer District, Midvalley Improvement District, and Sandy Suburban Improvement District. It serves the represented areas previously mentioned in addition to the towns of Bluffdale, Copperton, Draper, Herriman, South Jordan, Sandy, Riverton and other areas in unincorporated part of Salt Lake County.

The plant design flow capacity is 50 mgd with a peak flow of 82.5 mgd. The plant design influent peak monthly organic capacity is 95,860 lbs./day BOD₅ and 95,860 lbs./day TSS. The total current service population equivalent is 411,000 people. The present flow is approximately 20 mgd on average and 35 mgd at peak flow.

The facility consists of 3 step screens(6 mm), 2 aerated grit chambers, 5 plug flow bioreactors, 6 final clarifiers, UV disinfection, 3 chlorine contact basins (used as backup to UV and for disinfection of onsite water use), a cascade aerator, 1 DAFT thickener, four belt filter presses and 2 Thermal Drying trains rated at 8.0 dtpd each. The facility is located at 7495 South 1300 West in West Jordan, Utah with an outfall to the Jordan River at latitude 40°36'41" and longitude 111°55'34". Approximately 2/3 of bio-solids are thermally dried and hauled offsite to various agricultural users. The remaining 1/3 of bio-solids are shipped to a soils regeneration site or sent to a solid waste landfill.

In 2005, *E. coli* bacteriological criteria were added to Utah Water Quality Standards, with the concurrent removal of fecal coliform bacteria. This is a long-standing recommendation from EPA. The criteria of 126 organisms per 100 milliliters (org/100 ml) for *E. coli* is considered to be equivalent to that of 200-org/100 ml Fecal Coliforms.

South Valley requested a change from using CBOD as their effluent limit to using BOD₅ for the 2010 permit renewal. This value was calculated in a previous WLA (2010), and then a conversion factor was used to determine what the CBOD limit would be. This change will be continued from the previous permit in this renewal permit and the BOD₅ limit will be 15 mg/L for the monthly average and 21mg/L for the max weekly value.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

During the 2009 Permit cycle, the Jordan Basin Water Reclamation Facility commenced operation and the flows at South Valley have reduced.

Consistent with Division of Water Quality (DWQ) process and EPA policy, an effluent flow limit is now included in the permit. Flow is not considered a pollutant, but is included in the permit to help determine pollutant loadings.

A new model is used by DWQ to develop a waste load allocation (WLA) for dischargers to Waters of the State. In preparing for using this model for the Jordan River, DWQ determined that the receiving stream should have a synoptic study completed to improve the understanding of the waterway and improve the WLA. This study was conducted during the summer of 2014.

During a meeting to evaluate the Jordan River discharges and the impact of current limits on the river, the ammonia limits were modeled for all of the Major Dischargers to the Jordan River. Only minor adjustments were required.

The BOD₅ effluent limits for the Jordan River dischargers were not modeled this permit cycle as the Wasteload Analyst indicated that the previous permit limits are sufficiently protective. Also, BOD₅ is currently being evaluated under a TMDL for the Jordan River.

During the modeling of the Jordan River, it was determined that there were data gaps. As a result, the POTWs have agreed to continue supplemental monitoring along the river upstream of their outfalls and will continue to share the data with DWQ.

The monitoring frequencies for many parameters have changed to be more consistent with DWQ's "Monitoring, Recording, and Reporting Guidelines". The guideline indicates that for a facility with a daily flow at the level of South Valley, they should be monitoring daily for the majority of parameters. Due to the good compliance history of South Valley, the frequencies have only been increased from three to five times a week; except for *E. Coli.*, which is increased only to four times a week. Those changes are reflected in the Permit and FSSOB.

Reasonable Potential Analysis has resulted in an increase in the monitoring frequency for copper, cyanide and selenium from quarterly to monthly. The low level used to evaluate mercury for RP has required that South Valley use a lower level of detection for mercury.

The total residual chlorine limit (TRC) is based on the acute TRC water quality standard at end-of-pipe, and is retained from the previous permit. This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved TRC methods. The Division has determined the current acceptable ML to be 0.06 mg/L and the method detection limit (MDL) to be 0.02 mg/L when using the DPD colorimetric Method #4500 – CL G. Measured values greater than or equal to the ML of 0.06 mg/l will be considered violations of the permit, and values less than the ML of 0.06 mg/l will be considered to be in compliance with the permit. For purposes of calculating averages and reporting on the Discharge Monitoring Report form, the following will apply:

- 1) analytical values less than 0.02 mg/L shall be considered zero; and
- 2) analytical values less than 0.06 mg/L and equal to or greater than 0.02 mg/L will be recorded as measured.

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:

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

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.

DISCHARGE

DESCRIPTION OF DISCHARGE

South Valley has been reporting self-monitoring results on discharge monitoring reports on a monthly basis. A summary of 36 months of self-monitoring data is included at the end of this FSSOB. There were no significant violations during that time.

Outfall

001

Description of Discharge Point

A 60-inch pipe runs from the northeast side of the plant to the Jordan River, discharging at latitude 40°36'41" and longitude 111°55'34".

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge flows into the Jordan River, which is classified 2B, 3A, and 4 according to *Utah Administrative Code (UAC) R317-2-13*.

Class 2B Protected for secondary contact recreation such as boating, wading, or similar uses.

- Class 3A Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), *E. coli*, pH and percent removal for biochemical oxygen demand (BOD₅), and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The dissolved oxygen (DO), BOD₅, ammonia, total residual chlorine (TRC) and WET testing are based upon water quality standards obtained from the waste load analysis (WLA). 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).

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, copper and selenium 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 and require the inclusion of an effluent limit: none. Based the RP analysis process monitoring is required for copper, selenium, and cyanide on a monthly basis. A copy of the RP analysis is included at the end of this Fact Sheet.

The permit limitations are:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Flow, MGD *b	50	--	--	--	--
BOD ₅ , mg/L	15	21	--	--	--
BOD ₅ Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
Dissolved Oxygen, mg/L	--	--	--	5.0	--
Total Ammonia (as N), mg/L					
Summer (Jul-Sep)	4.0	--	--	--	10.8
Fall (Oct-Dec)	4.0	--	--	--	9.0
Winter (Jan-Mar)	4.0	--	--	--	9.4
Spring (Apr-Jun)	4.0	--	--	--	7.4
<i>E. coli</i> , No./100mL	126	157	--	--	--
TRC mg/L, *h, *i					
Summer (Jul-Sep)	--	--	--	--	0.030
Fall (Oct-Dec)	--	--	--	--	0.027
Winter (Jan-Mar)	--	--	--	--	0.028
Spring (Apr-Jun)	--	--	--	--	0.027
WET, Acute Biomonitoring	--	--	--	--	LC ₅₀ > 100% effluent
WET, Chronic Biomonitoring	--	--	--	--	IC ₂₅ > 53% effluent
Oil & Grease, mg/L	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9

-- -- Not Applicable.

SELF-MONITORING AND REPORTING REQUIREMENTS

The following are the self-monitoring requirements for the renewal permit. Monitoring for parameters associated with UCA R317-1-3.3(Technology-based Phosphorus Effluent Limits rule) have been added or modified. 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
BOD ₅ , Influent *d	5 x Weekly	Composite	mg/L
Effluent	5 x Weekly	Composite	mg/L
TSS, Influent *d	5 x Weekly	Composite	mg/L
Effluent	5 x Weekly	Composite	mg/L
<i>E. coli</i>	4 x Weekly	Grab	No./100mL
pH	5 x Weekly	Grab	SU
Ammonia	5 x Weekly	Grab	mg/L
DO	5 x Weekly	Grab	mg/L
TRC *h, *i	6 x Weekly	Grab	mg/L
WET - Biomonitoring			
Ceriodaphnia - Acute	1 st & 3 rd Quarter	Composite	Pass/Fail
Ceriodaphnia - Chronic	2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Acute	2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	1 st & 3 rd Quarter	Composite	Pass/Fail
Oil & Grease *f	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) *g Effluent	Monthly	Composite	mg/L
Phosphorus, Total *g Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Ammonia (as N) *g	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
Nitrite, NO ₂ *g	Monthly	Composite	mg/L
TDS *e	Monthly	Grab/Composite	mg/L
Temperature *e	Monthly	Grab	°C
Total Copper *n	Monthly	Composite	mg/L
Total Selenium *n	Monthly	Composite	mg/L
Total Cyanide *n	Monthly	Grab	mg/L
Metals, Influent	Quarterly	Composite	mg/L
Effluent	Quarterly	Composite	mg/L
Organic Toxics	Yearly	Composite/Grab	mg/L

*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 Total Dissolved Solids and Temperature are being sampled in support of the work being done for the TMDL currently underway for the Jordan River. The Pollutants of Concern will be monitored and reported monthly by the facility on Discharge Monitoring Report, but will not have a limit associated with them. If South Valley decides to sample more frequently for these POC's, the additional data will be welcome.
- *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 Limit 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 Total residual chlorine monitoring frequency is 6 times a week. The chlorine disinfection is a backup system to the ultra violet system and therefore should not be needed unless the ultra violet system has a failure and is by passed. The TRC limits are low enough to require analysis in the onsite lab which is open only 6 days a week. Frequency reduction will remove a requirement that the lab be opened for a 7th day. In case of a bypass on any day the lab is closed, South Valley will bring in lab personnel to open the lab for TRC analysis.
- *i Analytical results less than 0.06 mg/l will not be considered out of compliance with the permit. For purposes of calculating averages and reporting on the Discharge Monitoring Report form, the following will apply:
 - 1) analytical values less than 0.02 mg/L shall be considered zero; and
 - 2) analytical values less than 0.06 mg/L and equal to or greater than 0.02 mg/L will be recorded as measured.
- *n Increased frequency as a result of RP outcome, and only affects effluent monitoring. Monitoring Frequency may be reduced during the next renewal if RP is determined to be absent at that time.

BIOSOLIDS

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.

In Salt Lake County there has arisen a desire to better manage biosolids in a more cooperative manner. The concept is that one facility desires to utilize the excess solids handling capacity at the facility by

processing biosolids from other facilities in the area for final disposal. That facility would process the biosolids to meet Class A or B requirements and then distribute them to a farmer or the public. The facility would also be able to utilize the increased gas production to generate more power on site. The facility wishes to intercept any biosolids that may be heading to landfills and process them for distribution. South Valley may participate in this agreement. If this happens, the other facility will be completing the final treatment and disposal of the biosolids. 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, BENEFICIAL USE AND DISPOSAL

South Valley submitted their 2013 annual biosolids report on February 20, 2014. The report states the South Valley produced 4,722 DMT of biosolids.

The influent enters the plant passing through 6 mm screens and grit settling chambers. Washed screening and grit are removed at this location and disposed of as solid waste. The raw sewage is then lifted by centrifugal influent pumps to the activated sludge basins. In the activated sludge basins the raw wastewater is introduced to biological treatment with the flow being mixed with internal recycle and RAS to create mixed liquor. The activated sludge basins are supplied with fine bubble diffused air to supply the dissolved oxygen to complete the biological removal of BOD loading. When the mixed liquor has completed the circuit of the aeration basin it overflows a weir and flows to the secondary clarifiers for separation of the solid and liquid streams.

Solids collected from the bottom of the clarifiers are divided into Waste Activated Sludge (WAS) and Return Activated Sludge (RAS). WAS is pumped around the clock from the secondary clarifiers to the Dissolved Air Floatation (DAF) system. The DAF thickens the sludge to approximately 3% solids before sending the thickened sludge to an aerated sludge holding day tank. The solids from the day tank are pumped directly to one or more of four two-meter belt presses for dewatering as needed. The dewatered cake produced by the belt presses had an average daily total solids concentration of 14.3% for 2013.

The dewatered cake is either loaded into trailers to be hauled off for landfill disposal or sent to the facility's thermal drying process. The thermal drying process uses indirect contact with heated steam which dries the material to >92% solids meeting Class A requirements. In this process biosolids are usually heated between 270 and 300 degrees Fahrenheit for no less than 7 hours. Initial on site studies show that the minimal drying temperature to meet pathogen reduction and vector attraction requirements to be considered Class A biosolids is 260 degrees Fahrenheit. Studies have also shown the maximum drying temperature to be 330 degrees Fahrenheit. The thermally dried produced solids had an average daily percent solids concentration of 97.7% for 2013.

All dewatered cake slated for landfill disposal was loaded onto trucks owned and operated by South Valley WRF. Thermally dried biosolids were sold or landfilled. All landfilled biosolids were disposed of at E.T. Technologies, Inc. All thermally dried biosolids that were sold went to Simply Natural Compost.

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

In 2014, South Valley disposed of 5,444 DMT of biosolids. Therefore, if the biosolids are to be land applied, the biosolids shall be monitored at least six 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)). South Valley disposed of 4,135 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 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 will be 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 Table 1 and the heavy metals loading rates in Table 2; or

The maximum heavy metals in Table 1 and the monthly heavy metals concentrations in Table 3.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13)			
Heavy Metals	Table 1	Table 2	Table 3
All heavy metals concentrations shall be measured and reported	Daily Maximum mg/Kg *a, *b, *c	Cumulative Loading Rate Kg/Ha	Monthly Average Concentration mg/Kg *a, *b, *c,
Total Arsenic	75	41	41
Total Cadmium	85	39	39
Total Copper	4300	1500	1500
Total Lead	840	300	300
Total Mercury	57	17	17
Total Molybdenum	75	N/A	N/A
Total Nickel	420	420	420
Total Selenium	100	100	100
Total Zinc	7500	2800	2800

*a, The limitations represent the maximum allowable levels of heavy metals in any biosolids intended for land application.

*c, Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit.

*d, These limitations represent the maximum allowable levels of heavy metals based on an average of all samples taken during a 30-day period.

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 ¹ (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 Land Application

If biosolids are land applied to 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. South Valley choses to accomplish this in the following way:

1. Heat Drying- solids are dried by direct or indirect contact with hot gases to reduce the moisture content of the solids to 10 percent or lower. Either the temperature of the solids particles or exceeds 80° C (176° F) or the wet bulb temperature of the gas in contact with the solids as the solids leaves the dryer exceeds 80° C (176° F) (40 CFR 503.32(a)(8)(ii) Appendix B. B. 2.

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 South Valley will need find another method of disposal.

Class B Requirements Land Application

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).

Vector Attraction Reduction (VAR) Requirements

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

1. Heat Drying -solids are dried to > than 90% solids under (40 CFR 503.33(b)(8)).

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.

¹ MPN - Most Probable Number

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* are 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

South 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

Metals Monitoring Data

South Valley sampled the biosolids for heavy metals eleven times in 2014. The data below shows that South Valley met the requirements for exceptional quality biosolids, with respect to heavy metals, whether the biosolids were Class A, or Class B with respect to pathogen reduction. The monitoring data is below.

South Valley Metals Monitoring Data, 2014			
Parameter	Table 3, (Exceptional Quality) mg/kg	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	8.27	10.2
Cadmium	39.0	0.437	0.807
Copper	1,500.0	16.3	30.9
Lead	300.0	316	427
Mercury	17.0	2.65	1.07
Molybdenum	75.0	7.57	9.7
Nickel	400.0	10.8	19.4
Selenium	36.0	8.24	9.26
Zinc	2,800.0	9.73	26.3

Pathogen Monitoring Data

South Valley submitted their 2014 annual biosolids report on February 12, 2015. The report states South Valley produced 5,444 dry metric tons (DMT) of solids. Of the 5,444 DMT of solids produced, 4,135 DMT were hauled to E.T. Technologies to eventually be used as final landfill cover for reclamation, 1,309 DMT were hauled to the Simply Natural Compost for composting and distribution.

South Valley Pathogen Monitoring Data, 2014	
Salmonella, mpn/4g/total solids	<0.26 MPN/4g

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 for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000 (MSGP). 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.

South 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. 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 shall submit in the annual report, an evaluation of the need to revise or develop technically based local limits to implement the general and specific prohibitions of 40 CFR, Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present local limits are sufficiently protective, or that they must be revised. As part of this evaluation, the permit requires quarterly 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.

The monitoring requirements for pretreatment parameters are based on the guidance by Region VIII for approved pretreatment programs. The guidance bases the frequency of sampling on the design flow of the POTW. Based on the design flow of South Valley the monitoring for metals should be six times a year. The current flow is about half the design flow therefore the sampling will be reduced and kept at the current requirement of quarterly.

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 again be required as described in the permit with no significant changes from the existing permit provisions.

The permit will contain 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 will also contain 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.

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
Ken Hoffman, Reasonable Potential Analysis
Nick von Stackelberg, 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 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.

ATTACHMENT 1

Effluent Monitoring Data

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Effluent Monitoring Data.

Month	Flow, MGD		TRC, mg/L		<i>E. coli</i> , #/100mL		DO	pH		O&G
	Ave	Max	Ave	Max	Ave	Max	mg/L	Min	Max	mg/L
Limit			0.02	0.027	126	157	5	6.5	9	10
Apr-11	32	55	0.010	0.012	8	16	7.8	7.3	7.5	0
May-11	32	54	0.012	0.014	9	11	7.9	7.3	7.5	0
Jun-11	32	52	0.012	0.017	11	15	7.5	7.4	7.5	0
Jul-11	32	48	0.013	0.017	18	28	7.3	7.3	7.6	0
Aug-11	33	53	0.012	0.015	15	20	7.1	7.3	7.6	0
Sep-11	35	51	0.011	0.014	19	47	7.2	7.3	7.5	0
Oct-11	32	54	0.014	0.018	14	20	7.5	7.3	7.5	0
Nov-11	30	56	0.016	0.020	16	21	7.7	7.3	7.6	0
Dec-11	30	55	0.012	0.016	19	42	8.1	7.0	7.5	0
Jan-12	30	55	0.011	0.014	12	14	8.3	7.3	7.6	0
Feb-12	30	52	0.012	0.015	14	39	8.2	7.3	7.5	0
Mar-12	30	51	0.010	0.015	6	9	7.6	7.3	7.6	0
Apr-12	30	59	0.010	0.010	8	13	5.4	7.0	7.5	0
May-12	31	51	0.011	0.017	19	46	7.5	7.3	7.7	0
Jun-12	30	52	0.011	0.012	7	20	7.3	7.4	7.6	0
Jul-12	29	48	0.012	0.016	13	22	7.0	7.4	7.6	0
Aug-12	27	45	0.014	0.018	37	48	6.6	7.4	7.6	0
Sep-12	22	40	0.012	0.016	30	67	6.7	7.4	7.6	0
Oct-12	20	37	0.011	0.012	22	23	7.0	7.4	7.6	0
Nov-12	19	40	0.010	0.011	30	42	7.2	7.3	7.6	0
Dec-12	19	37	0.011	0.014	40	53	7.7	7.4	7.6	0
Jan-13	19	36	0.011	0.015	20	34	8.4	7.3	7.5	0
Feb-13	19	37	0.011	0.016	14	21	8.4	7.3	7.5	0
Mar-13	19	38	0.013	0.018	14	22	8.1	7.3	7.4	0
Apr-13	19	36	0.010	0.017	10	17	7.9	7.3	7.5	0
May-13	18	36	0.011	0.015	13	25	7.4	7.4	7.6	0
Jun-13	19	39	0.011	0.012	23	28	6.8	7.4	7.5	0
Jul-13	20	42	0.011	0.014	42	53	6.8	7.4	7.6	0
Aug-13	20	39	0.011	0.014	22	46	6.6	7.4	7.7	0
Sep-13	23	43	0.014	0.014	72	93	6.8	7.4	7.7	0
Oct-13	22	43	0.010	0.012	53	84	7.2	7.5	7.7	0
Nov-13	22	44	0.010	0.010	57	77	7.3	7.5	7.7	0
Dec-13	22	41	0.010	0.010	15	30	7.9	7.4	7.6	0
Jan-14	22	48	0.011	0.014	10	13	8.2	7.4	7.6	0
Feb-14	21	39	0.010	0.012	10	13	7.4	7.4	7.8	0
Mar-14	21	42	0.010	0.010	10	20	8.3	7.5	7.6	0

Effluent Monitoring Results

Month	BOD5, mg/L		TSS, mg/L		Ammonia, mg/L		Quarter	WET TEST	Result
	Ave	Max	Ave	Max	Ave	Max			
Limit	15	21	25	35	4	10.6			
Apr-11	8.1	8.8	6.6	6.8	0.14	0.35	2011 Qtr 2	Pass/Fail 96hr Acute pimp	Pass
May-11	7.2	7.8	7.0	8.1	0.14	0.65		Pass/Fail 7Day Chronic Cero	Pass
Jun-11	6.6	7.2	7.2	8.6	0.07	0.09			
Jul-11	6.5	7.9	7.9	11.0	0.08	0.12	2011 Qtr 3	Pass/Fail 48 hr Acute Cero	Pass
Aug-11	6.9	8.0	8.4	10.3	0.08	0.13		Pass/Fail 7 Day Chron pimp	Pass
Sep-11	5.4	6.4	7.7	9.0	0.06	0.09			
Oct-11	6.6	7.1	9.6	11.1	0.07	0.10	2011 Qtr 4	Pass/Fail 96hr Acute pimp	Pass
Nov-11	5.7	6.7	7.7	9.6	0.06	0.07		Pass/Fail 7Day Chronic Cero	Pass
Dec-11	8.1	9.7	12.3	23.9	0.06	0.08			
Jan-12	9.8	10.3	9.9	9.8	0.07	0.09	2012 Qtr 1	Pass/Fail 48 hr Acute Cero	Pass
Feb-12	8.5	12.9	7.8	12.6	0.10	0.18		Pass/Fail 7 Day Chron pimp	Pass
Mar-12	6.8	8.5	6.1	7.0	0.09	0.23			
Apr-12	5.1	5.6	6.0	6.9	0.08	0.13	2012 Qtr 2	Pass/Fail 96hr Acute pimp	Pass
May-12	6.2	7.9	7.5	8.8	0.20	0.55		Pass/Fail 7Day Chronic Cero	Pass
Jun-12	4.9	5.8	6.1	7.8	0.10	0.14			
Jul-12	6.3	6.6	7.2	7.9	0.08	0.10	2012 Qtr 3	Pass/Fail 48 hr Acute Cero	Pass
Aug-12	5.2	5.5	6.3	7.4	0.08	0.10		Pass/Fail 7 Day Chron pimp	Pass
Sep-12	5.7	6.4	7.0	7.8	0.09	0.13			
Oct-12	4.8	5.1	5.1	5.7	0.09	0.12	2012 Qtr 4	Pass/Fail 96hr Acute pimp	Pass
Nov-12	5.0	6.0	5.7	6.5	0.10	0.14		Pass/Fail 7Day Chronic Cero	Pass
Dec-12	7.4	9.7	12.3	17.2	0.07	0.11			
Jan-13	10.1	12.1	9.6	11.1	0.11	0.16	2013 Qtr 1	Pass/Fail 48 hr Acute Cero	Pass
Feb-13	13.2	14.3	11.4	13.0	0.10	0.15		Pass/Fail 7 Day Chron pimp	Pass
Mar-13	10.8	14.9	10.2	13.9	0.11	0.14			
Apr-13	7.8	10.9	6.6	8.4	0.13	0.38	2013 Qtr 2	Pass/Fail 96hr Acute pimp	Pass
May-13	5.9	6.6	5.7	6.2	0.14	0.32		Pass/Fail 7Day Chronic Cero	Fail
Jun-13	5.5	6.8	5.4	6.6	0.13	0.15			
Jul-13	6.2	6.5	4.3	5.0	0.09	0.12	2013 Qtr 3	Pass/Fail 48 hr Acute Cero	Pass
Aug-13	4.9	5.5	3.9	5.3	0.10	0.12		Pass/Fail 7 Day Chron pimp	Pass
Sep-13	5.9	6.6	6.4	7.5	0.14	0.40			
Oct-13	5.9	6.0	5.5	6.0	0.15	0.22	2013 Qtr 4	Pass/Fail 96hr Acute pimp	Pass
Nov-13	7.8	8.8	7.9	8.6	0.18	0.26		Pass/Fail 7Day Chronic Cero	Pass
Dec-13	9.5	11.1	11.6	12.3	0.22	0.51			
Jan-14	10.4	12.3	9.8	13.7	0.47	0.95	2014 Qtr 1	Pass/Fail 48 hr Acute Cero	Pass
Feb-14	7.5	9.1	5.7	6.2	0.17	0.35		Pass/Fail 7 Day Chron pimp	Pass
Mar-14	6.5	7.0	6.9	7.2	0.12	0.26			

ATTACHMENT 2

Wasteload Analysis

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ATTACHMENT 3

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at some of the metals is needed. A copy of the initial screening is included in the "Effluent Metals and RP Screening Results" table in this attachment. The initial screening check for metals showed that the full model needed to be run on cyanide, copper and selenium.

Cyanide

The RP model was run on cyanide using the most recent data back through 2011. This resulted in 20 data points and that there is a Reasonable Potential for an acute and chronic limit for cyanide. Reviewing the data showed that there could be one potential outlier in the data, more data was acquired, back through 2006 for a total of 40 data points, and the EPA ProUCL model was used to evaluate the potential outlier. ProUCL confirmed this outlier from the fall of 2012 (0.017 mg/L).

The value was excluded from the data set and RP was run at both the 95% and 99% confidence levels. The results of the test are that there is no RP at 95% confidence or at 99% confidence. This result does not result in the inclusion of an effluent limitation for cyanide at this time. However, monitoring frequency for cyanide will be increased since the RP analysis MEC was greater than 50% of the water quality criteria and an outlier was omitted from analysis. A larger data set during the next permit cycle will help confirm or rule out an RP for cyanide. Cyanide monitoring will be required the South Valley Plant on a monthly frequency.

Copper

The RP model was run on copper using the most recent data back through 2011. This resulted in 19 data points and that there is a Reasonable Potential for an acute limit for copper. Reviewing the data showed that there could be one outlier in the data, more data was provided, back through 2006 for a total of 40 data points, and the EPA ProUCL model was used to evaluate the potential outlier. ProUCL confirmed this outlier from the spring of 2011 (0.0982 mg/L).

The value was excluded from the data set and RP was run at both the 95% and 99% confidence levels. The results of the test are that there is no RP at 95% confidence, and there is RP at 99% confidence. This result does not result in the inclusion of an effluent limitation for copper at this time, but does call for more monitoring for the next renewal. A larger data set will help confirm or rule out an RP for copper. As a result, copper monitoring will be required the South Valley Plant on a monthly frequency. (Outcome B from RP Guide)

Selenium

The RP model was run on selenium using the most recent data back through 2011. This resulted in 19 data points and that there is a Reasonable Potential for an acute limit for selenium. Reviewing the data showed that there could be one potential outlier in the data, more data was provided, back through 2006 for a total of 40 data points, and the EPA ProUCL model was used to evaluate potential outlier. ProUCL confirmed this outlier from the summer of 2011 (0.007 mg/L).

The value was excluded from the data set and RP was run at both the 95% and 99% confidence levels. The results of the test are that there is no RP at 95% confidence or at 99% confidence. This result does not result in the inclusion of an effluent limitation for selenium at this time. However, monitoring frequency for selenium will be increased since the RP analysis MEC was greater than 50% of the water quality criteria and an outlier was omitted from analysis. A larger data set during the next permit cycle will help confirm or rule out an RP for selenium. Selenium monitoring will be required the South Valley Plant on a monthly frequency.

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

The Metals Initial Screening Table and RP Outputs Table are included in this attachment.

RP input/output summary

RP Procedure Output	Outfall Number:		1		Data Units		mg/L
Parameter	Cyanide (Total)		Copper		Selenium		
Distribution	Delta-Lognormal		Lognormal		Lognormal		
Reporting Limit	0.002		0.001		0.0005		
Significant Figures	3		3		3		
Maximum Reported Effluent Conc.	0.005		0.037		0.0044		
Coefficient of Variation (CV)	#NUM!		0.772		0.482		
Acute Criterion	0.0114		0.055		0.0253		
Chronic Criterion	0.035		0.0436		0.0076		
Confidence Interval	95	99	95	99	95	99	
Projected Maximum Effluent Conc. (MEC)	0.00552	0.0087	0.0424	0.0789	0.00482	0.0073	
RP Multiplier	1	1	1.15	2.13	1.1	1.66	
RP for Acute?	No	No	No	YES	No	No	
RP for Chronic?	No	No	No	YES	No	No	
Outcome	C		B		C		

Effluent Metals and RP Screening Results

Effluent														
	Cyanide, *b	Iron	Arsenic, *a	Cadmium	Chromium, *a	Copper	Lead	Nickel	Silver	Zinc	Aluminum	Molybdenum	Selenium	Mercury, *b
Chronic	0.0114	NA	0.268	0.0011	NA	0.0436	0.0245	0.25	NA	0.569	NA	NA	0.0076	0.026
Acute	0.035	1.395	0.139	0.0092	0.1391	0.055	0.47	1.685	0.0359	0.425	1.045	NA	0.0253	0.328
Month	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L
Mar-11	ND	0.03	0.0035	ND	ND	0.0135	ND	0.0051	0.0005	0.06	0.05	ND	0.0023	ND
Jun-11	ND	0.04	ND	ND	ND	0.0982	ND	0.0054	ND	0.01	ND	ND	0.0005	0.0002
Sep-11	ND	0.02	0.0042	ND	0.024	0.0335	0.001	0.0077	0.0008	0.05	ND	0.01	0.007	ND
Dec-11	ND	0.03	0.0033	ND	ND	0.0131	ND	0.0077	ND	0.05	ND	ND	0.0023	ND
Mar-12	ND	0.02	0.0037	ND	ND	0.0072	ND	0.007	ND	0.06	ND	ND	0.0042	ND
Jun-12	0.002	0.1	0.004	ND	ND	0.0093	0.0006	0.0056	ND	0.06	ND	ND	0.0027	ND
Sep-12	ND	0.02	0.0054	ND	ND	0.0081	ND	0.0112	ND	0.05	ND	ND	0.0044	ND
Dec-12	0.017	0.03	0.0037	ND	ND	0.0096	ND	0.0099	ND	0.05	ND	ND	0.0034	ND
Mar-13	0.002	0.03	0.0028	ND	ND	0.0078	ND	0.0052	ND	0.06	ND	ND	0.003	ND
Jun-13	ND	0.02	0.0027	ND	ND	0.006	ND	ND	ND	0.03	ND	ND	ND	ND
Sep-13	0.002	0.05	0.0048	ND	ND	0.0099	0.0006	0.0046	ND	0.05	0.06	ND	0.0024	n
Dec-13	ND	0.03	0.0036	ND	ND	0.0072	0.0005	0.0064	ND	0.06	0.08	ND	0.0024	ND
Mar-14	0.002	0.02	0.0025	ND	ND	0.0055	ND	0.0039	ND	0.05	ND	ND	0.0019	ND
Jun-14	ND	0.02	0.0028	ND	ND	0.0055	ND	0.0028	ND	0.05	0.06	ND	0.0018	ND
Sep-14	ND	0.02	0.0037	ND	ND	0.0084	0.0005	0.0053	ND	0.07	0.06	0.01	0.002	ND
Dec-14	ND	0.02	0.0033	ND	ND	0.0067	0.0005	0.0047	ND	0.06	0.06	ND	0.002	ND
Mar-15	0.002	0.02	0.0021	ND	ND	0.0052	ND	0.0038	ND	0.06	ND	ND	0.0018	0.0012
Jun-15	0.002	0.02	0.0028	ND	ND	0.0048	ND	0.0058	ND	0.09	ND	ND	0.0021	0.0011
Sep-15	ND	0.05	0.0039	ND	ND	0.0064	ND	0.0071	ND	0.07	ND	ND	0.0026	0.0028
Dec-15	0.003	0.02	0.0029	ND	ND	0.0076	ND	0.0024	ND	0.06	0.05	ND	0.0029	0.003
MDL/RDL	0.002	0.02	0.0005	0.0002	0.005	0.001	0.0005	0.0005	0.0005	0.01	0.05	0.01	0.0005	0.0004
Max	0.017	0.1	0.0054	0.0002	0.024	0.0982	0.001	0.0112	0.0008	0.09	0.08	0.01	0.007	0.003
Chronic RP	YES	No	No	No	No	YES	No	No	No	No	No	No	YES	No
Acute RP	No	No	No	No	No	YES	No	No	No	No	No	No	No	No

*a: Acute limit is to meet agricultural beneficial use

*b: Limits are from 2004 WLA; monitoring required to update.

Influent Metals Results

		Influent														
		Cyanide	Iron	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Silver	Zinc	Aluminum	Molybdenum	Selenium	Mercury	
Metals, ug/L	2010	Win	ND	0.32	0.0036	ND	0.0103	0.0556	ND	0.0085	0.0009	0.13	1.6	ND	0.0029	ND
		Spr	ND	0.4	0.0036	ND	0.0104	0.0615	0.0037	0.0107	0.001	0.13	1	ND	0.0031	ND
		Sum	ND	0.36	0.0049	ND	0.0151	0.0627	0.0022	0.0054	0.0007	0.12	0.8	ND	0.0026	0.0002
		Fall	ND	0.35	0.0044	ND	0.0099	0.0578	0.0024	0.008	0.0008	0.1	0.7	0.01	0.002	ND
	2011	Win	ND	0.33	0.0019	ND	0.0135	0.0296	0.0016	0.006	ND	0.11	0.8	ND	0.0016	ND
		Spr	ND	0.25	0.0039	ND	0.0982	0.0427	0.0013	0.0091	0.0005	0.08	0.4	ND	0.0034	ND
		Sum	ND	0.39	ND	ND	0.0335	0.0307	0.0024	0.0044	0.01	0.14	0.7	0.01	0.0674	ND
		Fall	ND	0.31	0.0044	ND	0.0131	0.0595	0.0034	0.0082	0.0005	0.11	0.9	ND	0.0029	ND
	2012	Win	0.002	0.29	0.0045	ND	0.0072	0.048	0.0019	0.0089	0.0006	0.1	0.5	ND	0.0048	ND
		Spr	ND	0.48	0.0047	ND	0.0093	0.0601	0.002	0.0063	ND	0.13	0.8	ND	0.0036	0.0002
		Sum	ND	0.36	0.0064	0.0002	0.0081	0.0554	0.0017	0.0144	ND	0.11	0.6	ND	0.0051	ND
		Fall	0.002	0.31	0.0045	0.0002	0.0096	0.0423	0.0014	0.0109	ND	0.09	0.6	0.01	0.0052	ND
	2013	Win	ND	0.33	0.0036	0.0002	0.0078	0.0491	0.0015	0.0068	ND	0.12	0.8	ND	0.004	ND
		Spr	ND	0.18	0.0032	ND	0.006	0.0378	ND	0.0022	0.0021	0.04	0.2	ND	0.0021	ND
		Sum	ND	0.67	0.0057	0.0002	0.0099	0.0602	0.0029	0.0066	ND	0.15	1	ND	0.0026	0.0002
		Fall	ND	0.46	0.0044	ND	0.0072	0.0547	0.0027	0.0083	ND	0.11	1.3	ND	0.0028	ND
14	Win	0.002	0.55	0.0037	0.0002	0.0055	0.0605	0.0026	0.0075	ND	0.13	0.8	ND	0.003	0.0002	

Cyanide RP Results

RP Procedure Output		Effluent Data	
		#	
Facility Name:	South Valley	1	0.003
Permit Number:	UT0024384	2	ND
Outfall Number:	_001	3	0.002
Parameter	Cyanide (Total)	4	0.002
Distribution	Delta-Lognormal	5	ND
Data Units	mg/L	6	ND
Reporting Limit	0.002	7	ND
Significant Figures	3	8	0.002
Confidence Interval	95	9	ND
		10	0.002
Maximum Reported Effluent Conc.	0.005	11	ND
Coefficient of Variation (CV)	0.531	12	0.002
RP Multiplier	1.1	13	0.002
Projected Maximum Effluent Conc. (MEC)	0.00552	14	ND
		15	0.002
Acute Criterion	0.035	16	ND
Chronic Criterion	0.0114	17	ND
Human Health Criterion	0	18	ND
		19	ND
RP for Acute?	NO	20	ND
RP for Chronic?	NO	21	ND
RP for Human Health?	N/A	22	ND
		23	ND
Confidence Interval	99	24	ND
		25	ND
Maximum Reported Effluent Conc.	0.005	26	ND
Coefficient of Variation (CV)	0.531	27	ND
RP Multiplier	1.74	28	ND
Projected Maximum Effluent Conc. (MEC)	0.00868	29	ND
		30	ND
Acute Criterion	0.035	31	ND
Chronic Criterion	0.014	32	ND
Human Health Criterion	0	33	ND
		34	ND
RP for Acute?	NO	35	ND
RP for Chronic?	NO	36	0.003
RP for Human Health?	N/A	37	0.005
		38	0.002
Pro UCL ran on data to find outlier	Outcome C	39	0.002
Outlier removed			
Fall 2012, 0.017 mg/L			

Copper RP Results

RP Procedure Output		Effluent Data	
Facility Name:	South Valley	#	
Permit Number:	UT0024384	1	0.0011
Outfall Number:	_001	2	0.0009
Parameter	Copper	3	0.013
Distribution	Lognormal	4	0.014
Data Units	mg/L	5	0.006
Reporting Limit	0.0001	6	0.037
Significant Figures	3	7	0.011
Confidence Interval	95	8	0.02
		9	0.012
Maximum Reported Effluent Conc.	0.037	10	0.009
Coefficient of Variation (CV)	0.772	11	0.011
RP Multiplier	1.15	12	0.01
Projected Maximum Effluent Conc. (MEC)	0.0424	13	0.017
		14	0.012
Acute Criterion	0.055	15	0.0111
Chronic Criterion	0.0436	16	0.0133
Human Health Criterion	0	17	0.0103
		18	0.0104
RP for Acute?	NO	19	0.0151
RP for Chronic?	NO	20	0.0099
RP for Human Health?	N/A	21	0.0135
		22	0.0335
Confidence Interval	99	23	0.0131
		24	0.0072
Maximum Reported Effluent Conc.	0.037	25	0.0093
Coefficient of Variation (CV)	0.772	26	0.0081
RP Multiplier	2.13	27	0.0096
Projected Maximum Effluent Conc. (MEC)	0.0789	28	0.0078
		29	0.006
Acute Criterion	0.055	30	0.0099
Chronic Criterion	0.0436	31	0.0072
Human Health Criterion	0	32	0.0055
		33	0.0055
RP for Acute?	YES	34	0.0084
RP for Chronic?	YES	35	0.0067
RP for Human Health?	N/A	36	0.0052
		37	0.0048
Pro UCL ran on data to find outlier	Outcome B	38	0.0064
Outlier removed		39	0.0076
Spring 2011, 0.0982 mg/L		40	0

Selenium RP Results.

RP Procedure Output		Effluent Data	
Facility Name:	South Valley	#	
Permit Number:	UT0024384	1	0.0024
Outfall Number:	_001	2	0.0019
Parameter	Selenium	3	0.002
Distribution	Lognormal	4	0.0011
Data Units	mg/L	5	0.0021
Reporting Limit	0.0005	6	0.0038
Significant Figures	3	7	0.0027
Confidence Interval	95	8	0.0022
		9	0.0034
Maximum Reported Effluent Conc.	0.0044	10	0.0019
Coefficient of Variation (CV)	0.482	11	0.0027
RP Multiplier	1.10	12	0.0015
Projected Maximum Effluent Conc. (MEC)	0.00482	13	0.0017
		14	0.0021
Acute Criterion	0.0253	15	0.0013
Chronic Criterion	0.0076	16	0.0015
Human Health Criterion	0	17	0.0017
		18	0.002
RP for Acute?	NO	19	0.0018
RP for Chronic?	NO	20	0.0011
RP for Human Health?	N/A	21	0.0023
		22	0.0005
Confidence Interval	99	23	0.0023
		24	0.0042
Maximum Reported Effluent Conc.	0.0044	25	0.0027
Coefficient of Variation (CV)	0.482	26	0.0044
RP Multiplier	1.66	27	0.0034
Projected Maximum Effluent Conc. (MEC)	0.0073	28	0.003
		29	0.0005
Acute Criterion	0.0253	30	0.0024
Chronic Criterion	0.0076	31	0.0024
Human Health Criterion	0	32	0.0019
		33	0.0018
RP for Acute?	NO	34	0.002
RP for Chronic?	NO	35	0.002
RP for Human Health?	N/A	36	0.0018
		37	0.0021
Pro UCL ran on data to find outlier	Outcome C	38	0.0026
Outlier removed		39	0.0029
Summer 2011, 0.007 mg/L		40	0

