

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 11/24/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances In a Receiving Water  
Assumption: Complete Mixing

Conservative Substance:	Selenium	
Acute or Chronic Standard	Acute	Note: Changes River Flow if Acute.
Discharger:	JVWCD Intermediate Feed Water DW1 [Maintenance]	
Permit Number:	0025836	
Receiving Water:	Bingham Creek	
Beneficial Use: Class	Class 3	
For the Season / Year	All Seasons	

Receiving Water Information - Bingham Creek

Flow, cfs	11.300
Flow, cfs (Acute)	5.650
Selenium, mg/l	0.01222
Selenium Load, lbs/day	0.16

Stream Standard

Selenium, mg/l	0.0184
Allowable Loading Before Mix:	1.12 lbs/day
Acute / Chronic Standard [Toxic]	Acute

Combined Effluent/Receiving Water Information

Flow, cfs * w/ 50% of Receiving	7.154 cfs
<b>Selenium, mg/l</b>	<b>0.01840 mg/l</b>
Concentration Delta Increase, m	0.01570 mg/l [Deltz
Percent Increase:	5.81 %
Selenium Load, lbs/day:	0.71 lbs/day
Allowable Loading After Mix:	0.71 lbs/day
Additional Loading Allowed:	0.00 lbs/day

Effluent Information [Proposed] JVWCD Intermediate Feed Water MGD

Flow, gal./min.	675.0000	0.97200
Flow, MGD	0.97200	
Flow, cfs	1.504	
Selenium, mg/l	0.07225	
Selenium Load, lbs/day	0.63	
Selenium Load, lbs/year	228.95	
Selenium Load, tons/day	0.0003	
TDS Load, tons/year	0.1	
Percent of Receiving Stream = Disch:	0.21	
Dilution Ratio: (to 1.0)	7.51	
Percent of Stream Flow Used in Calc.	3.00	

Current Permit Information

Flow, MGD (per WLA)	0.0
Effluent Limitation (per WLA)	0.00000
Current Project Loading	0.0000

Permitted Effluent Concentration	0.067 mg/l	67.2 ug/l for : All Seasons
Permitted Effluent Loading:	0.62725 lbs/day	0.1 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	0.00270
Effluent Conc.	0.07739
Combined Conc:	0.01840
Standard:	0.01840
Percent Change	581.5%
Remaining Assimilative Capacity L	55.87%
Antidegradation Level II Review is NOT Required	

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water  
Assumption: Complete Mixing

Conservative Substance:	TDS
Acute or Chronic Standard	Acute Note: Changes River Flow if Acute.
Discharger:	JVWCD Intermediate Feed Water DW1 [Maintenance]
Permit Number:	0025836
Receiving Water:	Bingham Creek
Beneficial Use: Class	Class 3
For the Season / Year	All Seasons

Receiving Water Information - Bingham Creek	
Flow, cfs	11.300
Flow, cfs (Acute)	5.650
TDS, mg/l	400.00000
TDS Load, lbs/day	24362.80
Stream Standard	
TDS, mg/l	1200.0000
Allowable Loading Before Mix:	73088.40 lbs/day

Effluent Information [Proposed] JVWCD Intermediate Feed Water MGD	
Flow, gal./min.	675.0000 0.97200
Flow, MGD	0.97200
Flow, cfs	1.504
TDS, mg/l	7,211.90144
TDS Load, lbs/day	58451.43
TDS Load, lbs/year	21,334,771.26
TDS Load, tons/day	29.2257
TDS Load, tons/year	10,667.4
Percent of Receiving Stream = Disch:	0.12
Dilution Ratio: (to 1.0)	7.51
Percent of Stream Flow Used in Calc.	100%

Combined Effluent/Receiving Water Information	
Flow, cfs * w/ 50% of Receiving	12.804 cfs
<b>TDS, mg/l</b>	<b>1,200.00000 mg/l</b>
Concentration Delta Increase, m	800.00000 mg/l [Delta]
Percent Increase:	2.00 %
TDS Load, lbs/day:	82,814.23 lbs/day
Allowable Loading After Mix:	82,814.23 lbs/day
Additional Loading Allowed:	0.00 lbs/day

Current Permit Information	
Flow, MGD (per WLA)	0.0
Effluent Limitation (per WLA)	0.00000
Current Project Loading	0.0000

Permitted Effluent Concentration	7,211.901437 mg/l	7211901.4 ug/l for : All Seasons
Permitted Effluent Loading:	58,451.42811 lbs/day	10667.4 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	400.00000
Effluent Conc.	7,211.90144
Combined Conc:	1,200.00000
Standard:	1,200.00000
Percent Change	200.0%
Remaining Assimilative Capacity	100.00%
Antidegradation Level II Review Is	<del>NOT</del> Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 11/24/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water  
Assumption: Complete Mixing

Conservative Substance:	Selenium	
Acute or Chronic Standard	Acute	Note: Changes River Flow If Acute.
Discharger:	JVWCD Intermediate Feed Water DW2 (Maintenance)	
Permit Number:	0025836	
Receiving Water:	Trimble Creek [1324 West Polo Ln.]	
Beneficial Use: Class	Class 3	
For the Season / Year	All Seasons	

Receiving Water Information - Trimble Creek [1324 West Polo Ln.]		Effluent Information [Proposed] JVWCD Intermediate Feed Water MGD	
Flow, cfs	1.000	Flow, gal./min.	210.0000
Flow, cfs (Acute)	0.500	Flow, MGD	0.30240
Selenium, mg/l	0.00270	Flow, cfs	0.468
Selenium Load, lbs/day	0.01	Selenium, mg/l	0.03518
Stream Standard		Selenium Load, lbs/day	0.09
Selenium, mg/l	0.0184	Selenium Load, lbs/year	32.38
Allowable Loading Before Mix:	0.10 lbs/day	Selenium Load, tons/day	0.0000
Acute / Chronic Standard [Toxicity]	Acute	TDS Load, tons/year	0.0
Combined Effluent/Receiving Water Information		Percent of Receiving Stream = Discharge	0.48
Flow, cfs * w/ 50% of Receiving	0.968 cfs	Dilution Ratio: (to 1.0)	2.14
<b>Selenium, mg/l</b>	<b>0.01840 mg/l</b>	Percent of Stream Flow Used in Calc.	50%
Concentration Delta Increase, m	0.01570 mg/l [Delta]	Current Permit Information	
Percent Increase:	5.81 %	Flow, MGD (per WLA)	0.0
Selenium Load, lbs/day:	0.10 lbs/day	Effluent Limitation (per WLA)	0.00000
Allowable Loading After Mix:	0.10 lbs/day	Current Project Loading	0.0000
Additional Loading Allowed:	0.00 lbs/day		
Permitted Effluent Concentration	0.032 mg/l	32.3 ug/l for : All Seasons	
Permitted Effluent Loading:	0.08871 lbs/day	0 tons/year	

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	0.00270
Effluent Conc.	0.03518
Combined Conc:	0.01840
Standard:	0.01840
Percent Change	581.5%
Remaining Assimilative Capacity	65.94%

Antidegradation Level II Review is NOT Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water

Assumption: Complete Mixing

Conservative Substance:	TDS	
Acute or Chronic Standard	Acute	Note: Changes River Flow if Acute.
Discharger:	JWCD Intermediate Feed Water DW2 [Maintenance]	
Permit Number:	0025836	
Receiving Water:	Trimble Creek	
Beneficial Use: Class	Class 3	
For the Season / Year	All Seasons	

Receiving Water Information - Trimble Creek

Flow, cfs	1.000
Flow, cfs (Acute)	0.500
TDS, mg/l	400.00000
TDS Load, lbs/day	2156.00

Stream Standard

TDS, mg/l	1200.00000
Allowable Loading Before Mix:	6468.00 lbs/day

Combined Effluent/Receiving Water Information

Flow, cfs * w/ 50% of Receiving	1.468 cfs
<b>TDS, mg/l</b>	<b>1,200.00000 mg/l</b>
Concentration Delta Increase, m	800.00000 mg/l [Delta]
Percent Increase:	2.00 %
TDS Load, lbs/day:	9,493.81 lbs/day
Allowable Loading After Mix:	9,493.81 lbs/day
Additional Loading Allowed:	0.00 lbs/day

Effluent Information [Proposed] JWCD Intermediate Feed Water MGD

Flow, gal./min.	210.0000	0.30240
Flow, MGD	0.30240	
Flow, cfs	0.468	
TDS, mg/l	2,910.08574	
TDS Load, lbs/day	7337.81	
TDS Load, lbs/year	2,678,301.81	
TDS Load, tons/day	3.6689	
TDS Load, tons/year	1,339.2	
Percent of Receiving Stream = Dischi	0.32	
Dilution Ratio: (to 1.0)	2.14	
Percent of Stream Flow Used in Calc.	100%	

Current Permit Information

Flow, MGD (per WLA)	0.0
Effluent Limitation (per WLA)	0.00000
Current Project Loading	0.0000

Permitted Effluent Concentration	2,910.085744 mg/l	2910085.7 ug/l for : All Seasons
Permitted Effluent Loading:	7,337.81319 lbs/day	1339.2 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	400.00000
Effluent Conc.	2,910.08574
Combined Conc:	1,200.00000
Standard:	1,200.00000
Percent Change	200.0%
Remaining Assimilative Capacity	100.00%

Antidegradation Level II Review is ~~NOT~~ Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 11/24/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water  
Assumption: Complete Mixing

Conservative Substance: Selenium  
 Acute or Chronic Standard: Acute Note: Changes River Flow if Acute.  
 Discharger: JVVCD Intermediate Feed Water DW3 [Maintenance]  
 Permit Number: 0025836  
 Receiving Water: Jordan River  
 Beneficial Use: Class Cold Water Fishery: 3A  
 For the Season / Year All Seasons

Receiving Water Information - Jordan River

Flow, cfs 4.000  
 Flow, cfs (Acute) 35.000  
 Selenium, mg/l 0.00270  
 Selenium Load, lbs/day 1.02

Stream Standard

Selenium, mg/l 0.0184  
 Allowable Loading Before Mix: 6.94 lbs/day  
 Acute / Chronic Standard [Toxicity] Acute

Combined Effluent/Receiving Water Information

Flow, cfs \* w/ 50% of Receiving 35.390 cfs  
**Selenium, mg/l 0.01840 mg/l**  
 Concentration Delta Increase, m 0.01570 mg/l [Delta]  
 Percent Increase: 5.81 %  
 Selenium Load, lbs/day: 3.51 lbs/day  
 Allowable Loading After Mix: 3.51 lbs/day  
 Additional Loading Allowed: 0.00 lbs/day

Permitted Effluent Concentration 1.186 mg/l 1185.5 ug/l for : All Seasons  
 Permitted Effluent Loading: 3.00047 lbs/day 0.5 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc: 0.00270  
 Effluent Conc. 1.42794  
 Combined Conc: 0.01840  
 Standard: 0.01840  
 Percent Change 581.5%  
 Remaining Assimilative Capacity 50.28%  
 Antidegradation Level II Review is NOT Required

Effluent Information [Proposed] JVVCD Intermediate Feed Water MGD

Flow, gal./min. 175.0000 0.25200  
 Flow, MGD 0.25200  
 Flow, cfs 0.390  
 Selenium, mg/l 1.42794  
 Selenium Load, lbs/day 3.00  
 Selenium Load, lbs/year 1,095.17  
 Selenium Load, tons/day 0.0015  
 TDS Load, tons/year 0.5  
 Percent of Receiving Stream = Discharge 0.01  
 Dilution Ratio: (to 1.0) 179.56  
 Percent of Stream Flow Used in Calc. 50%

Current Permit Information

Flow, MGD (per WLA) 0.0  
 Effluent Limitation (per WLA) 0.00000  
 Current Project Loading 0.0000

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading

Conservative Substances in a Receiving Water

Assumption: Complete Mixing

Conservative Substance: TDS  
 Acute or Chronic Standard: Acute Note: Changes River Flow if Acute.  
 Discharger: JWCD Intermediate Feed Water DWS (Maintenance)  
 Permit Number: 0025836  
 Receiving Water: Jordan River  
 Beneficial Use: Class Class 3  
 For the Season / Year: All Seasons

Receiving Water Information - Jordan River  
 Flow, cfs: 70.000  
 Flow, cfs (Acute): 35.000  
 TDS, mg/l: 1,200.00000  
 TDS Load, lbs/day: 452760.00  
 Stream Standard  
 TDS, mg/l: 1,200.0000  
 Allowable Loading Before Mix: 452760.00 lbs/day

Effluent Information [Proposed] JWCD Intermediate Feed Water MGD  
 Flow, gal./min.: 175.0000 0.25200  
 Flow, MGD: 0.25200  
 Flow, cfs: 0.390  
 TDS, mg/l: 1,200.00000  
 TDS Load, lbs/day: 2521.51  
 TDS Load, lbs/year: 920,351.51  
 TDS Load, tons/day: 1.2608  
 TDS Load, tons/year: 460.2  
 Percent of Receiving Stream = Discharge: 0.01  
 Dilution Ratio: (to 1.0): 179.56  
 Percent of Stream Flow Used in Calc.: 100%

Combined Effluent/Receiving Water Information  
 Flow, cfs \* w/ 50% of Receiving: 70.390 cfs  
**TDS, mg/l: 1,200.00000 mg/l**  
 Concentration Delta Increase, m: 0.00000 mg/l [Delta]  
 Percent Increase: 0.00 %  
 TDS Load, lbs/day: 455,281.51 lbs/day  
 Allowable Loading After Mix: 455,281.51 lbs/day  
 Additional Loading Allowed: 0.00 lbs/day

Current Permit Information  
 Flow, MGD (per WLA): 0.0  
 Effluent Limitation (per WLA): 0.00000  
 Current Project Loading: 0.0000

Permitted Effluent Concentration: 1,200.000000 mg/l 1200000 ug/l for : All Seasons  
 Permitted Effluent Loading: 2,521.51099 lbs/day 460.2 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc: 1,200.00000  
 Effluent Conc: 1,200.00000  
 Combined Conc: 1,200.00000  
 Standard: 1,200.00000  
 Percent Change: 0.0%  
 Remaining Assimilative Capacity: #DIV/0!  
 Antidegradation Level II Review is **NOT** Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 11/24/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water

Assumption: Complete Mixing

Conservative Substance: Selenium  
 Acute or Chronic Standard: Acute Note: Changes River Flow if Acute.  
 Discharger: JWCD Intermediate Feed Water DW4 (Maintenance)  
 Permit Number: 0025836  
 Receiving Water: Butterfield/Midas Creek  
 Beneficial Use: Class Class 3  
 For the Season / Year: All Seasons

Receiving Water Information - Butterfield/Midas Creek		Effluent Information [Proposed] JWCD Intermediate Feed Water MGD	
Flow, cfs	1.000	Flow, gal./min.	555.0000 0.79920
Flow, cfs (Acute)	0.500	Flow, MGD	0.79920
Selenium, mg/l	0.00270	Flow, cfs	1.236
Selenium Load, lbs/day	0.01	Selenium, mg/l	0.02475
		Selenium Load, lbs/day	0.16
Stream Standard		Selenium Load, lbs/year	60.20
Selenium, mg/l	0.0184	Selenium Load, tons/day	0.0001
Allowable Loading Before Mix:	0.10 lbs/day	TDS Load, tons/year	0.0
Acute / Chronic Standard [Toxicity]	Acute	Percent of Receiving Stream = Discharge	0.71
		Dilution Ratio: (to 1.0)	0.81
Combined Effluent/Receiving Water Information		Percent of Stream Flow Used in Calc.	50%
Flow, cfs * w/ 50% of Receiving	1.736 cfs		
<b>Selenium, mg/l</b>	<b>0.01840 mg/l</b>	Current Permit Information	
Concentration Delta Increase, mg/l	0.01570 mg/l [Delta]	Flow, MGD (per WLA)	0.0
Percent Increase:	5.81 %	Effluent Limitation (per WLA)	0.00000
Selenium Load, lbs/day:	0.17 lbs/day	Current Project Loading	0.0000
Allowable Loading After Mix:	0.17 lbs/day		
Additional Loading Allowed:	0.00 lbs/day		
Permitted Effluent Concentration	0.024 mg/l	23.7 ug/l for : All Seasons	
Permitted Effluent Loading:	0.16493 lbs/day	0 tons/year	

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc: 0.00270  
 Effluent Conc. 0.02475  
 Combined Conc: 0.01840  
 Standard: 0.01840  
 Percent Change 581.5%  
 Remaining Assimilative Capacity 77.84%  
 Antidegradation Level II Review is NOT Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water  
Assumption: Complete Mixing

Conservative Substance:	TDS	
Acute or Chronic Standard	Acute	Note: Changes River Flow if Acute.
Discharger:	JVWCD Intermediate Feed Water DWA (Maintenance)	
Permit Number:	0025836	
Receiving Water:	Midas Creek	
Beneficial Use: Class	Class 3	
For the Season / Year	All Seasons	

Receiving Water Information - Midas Creek

Flow, cfs	1.000
Flow, cfs (Acute)	0.500
TDS, mg/l	400.00000
TDS Load, lbs/day	2156.00
Stream Standard	
TDS, mg/l	1200.0000
Allowable Loading Before Mix:	6468.00 lbs/day

Effluent Information [Proposed] JVWCD Intermediate Feed Water MGD

Flow, gal./min.	555.0000	0.79920
Flow, MGD	0.79920	
Flow, cfs	1.236	
TDS, mg/l	1,847.05947	
TDS Load, lbs/day	12308.79	
TDS Load, lbs/year	4,492,709.08	
TDS Load, tons/day	6.1544	
TDS Load, tons/year	2,246.4	
Percent of Receiving Stream = Disch:	0.55	
Dilution Ratio: (to 1.0)	0.81	
Percent of Stream Flow Used in Calc.	100%	

Combined Effluent/Receiving Water Information

Flow, cfs * w/ 50% of Receiving	2.236 cfs
<b>TDS, mg/l</b>	<b>1,200.00000 mg/l</b>
Concentration Delta Increase, m	800.00000 mg/l [Delta]
Percent Increase:	2.00 %
TDS Load, lbs/day:	14,464.79 lbs/day
Allowable Loading After Mix:	14,464.79 lbs/day
Additional Loading Allowed:	0.00 lbs/day

Current Permit Information

Flow, MGD (per WLA)	0.0
Effluent Limitation (per WLA)	0.00000
Current Project Loading	0.0000

Permitted Effluent Concentration	1,847.059471 mg/l	1847059.5 ug/l for : All Seasons
Permitted Effluent Loading:	12,308.79200 lbs/day	2246.4 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	400.00000
Effluent Conc.	1,847.05947
Combined Conc:	1,200.00000
Standard:	1,200.00000
Percent Change	200.0%
Remaining Assimilative Capacity	100.00%
Antidegradation Level II Review is <b>NOT</b> Required	

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 11/24/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water  
Assumption: Complete Mixing

Conservative Substance: Selenium  
Acute or Chronic Standard: Acute **Note: Changes River Flow if Acute.**  
Discharger: JWCD Intermediate Feed Water DW1 [Maintenance]  
Permit Number: 0025836  
Receiving Water: Bingham Creek  
Beneficial Use: Class 3  
For the Season / Year: All Seasons

**Receiving Water Information - Bingham Creek**

Flow, cfs: 7.154  
Flow, cfs (Acute): 5.650  
Selenium, mg/l: 0.00270  
Selenium Load, lbs/day: 0.16

**Stream Standard**

Selenium, mg/l: 0.0184  
Allowable Loading Before Mix: 1.12 lbs/day  
Acute / Chronic Standard [Toxic]: Acute

**Combined Effluent/Receiving Water Information**

Flow, cfs \* w/ 50% of Receiving: 7.154 cfs  
**Selenium, mg/l: 0.01840 mg/l**  
Concentration Delta Increase, m: 0.01570 mg/l [Delta]  
Percent Increase: 5.81 %  
Selenium Load, lbs/day: 0.71 lbs/day  
Allowable Loading After Mix: 0.71 lbs/day  
Additional Loading Allowed: 0.00 lbs/day

**Effluent Information [Proposed] JWCD Intermediate Feed Water MGD**

Flow, gal./min.: 675.0000 0.97200  
Flow, MGD: 0.97200  
Flow, cfs: 1.504  
Selenium, mg/l: 0.07739  
Selenium Load, lbs/day: 0.63  
Selenium Load, lbs/year: 228.95  
Selenium Load, tons/day: 0.0003  
TDS Load, tons/year: 0.1  
Percent of Receiving Stream = Discharge: 0.21  
Dilution Ratio: (to 1.0): 7.51  
Percent of Stream Flow Used in Calc.: 50%

**Current Permit Information**

Flow, MGD (per WLA): 0.0  
Effluent Limitation (per WLA): 0.00000  
Current Project Loading: 0.0000

Permitted Effluent Concentration: 0.067 mg/l 67.2 ug/l for : All Seasons  
Permitted Effluent Loading: 0.62725 lbs/day 0.1 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc: 0.00270  
Effluent Conc: 0.07739  
Combined Conc: 0.01840  
Standard: 0.01840  
Percent Change: 581.5%  
Remaining Assimilative Capacity: 55.87%  
Antidegradation Level II Review is NOT Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water  
Assumption: Complete Mixing

Conservative Substance: TDS  
Acute or Chronic Standard: Acute Note: Changes River Flow if Acute.  
Discharger: JWCD Intermediate Feed Water DWS [Maintenance]  
Permit Number: 0025836  
Receiving Water: Midas Creek  
Beneficial Use: Class Class 3  
For the Season / Year: All Seasons

Receiving Water Information - Midas Creek  
Flow, cfs: 1.000  
Flow, cfs (Acute): 0.500  
TDS, mg/l: 400.00000  
TDS Load, lbs/day: 2156.00  
  
Stream Standard  
TDS, mg/l: 1,200.0000  
Allowable Loading Before Mix: 6468.00 lbs/day

Effluent Information [Proposed] JWCD Intermediate Feed Water MGD  
Flow, gal./min.: 730.0000 1.05120  
Flow, MGD: 1.05120  
Flow, cfs: 1.626  
TDS, mg/l: 1,691.94247  
TDS Load, lbs/day: 14830.30  
TDS Load, lbs/year: 5,413,060.59  
TDS Load, tons/day: 7.4152  
TDS Load, tons/year: 2,706.5  
Percent of Receiving Stream = Disch: 0.62  
Dilution Ratio: (to 1.0): 0.61  
Percent of Stream Flow Used in Calc.: 100%

Combined Effluent/Receiving Water Information  
Flow, cfs \* w/ 50% of Receiving: 2.626 cfs  
**TDS, mg/l: 1,200.00000 mg/l**  
Concentration Delta Increase, m: 800.00000 mg/l [Delta]  
Percent Increase: 2.00 %  
TDS Load, lbs/day: 16,986.30 lbs/day  
Allowable Loading After Mix: 16,986.30 lbs/day  
Additional Loading Allowed: 0.00 lbs/day

Current Permit Information  
Flow, MGD (per WLA): 0.0  
Effluent Limitation (per WLA): 0.00000  
Current Project Loading: 0.0000

Permitted Effluent Concentration: 1,691.94247 mg/l 1691942.5 ug/l for : All Seasons  
Permitted Effluent Loading: 14,830.30300 lbs/day 2706.5 tons/year

Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.

Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.

Background Conc: 400.00000  
Effluent Conc: 1,691.94247  
Combined Conc: 1,200.00000  
Standard: 1,200.00000  
Percent Change: 200.0%  
Remaining Assimilative Capacity: 100.00%  
Antidegradation Level II Review is NOT Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 11/24/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water  
Assumption: Complete Mixing

Conservative Substance:	Selenium	
Acute or Chronic Standard	Acute	Note: Changes River Flow if Acute.
Discharger:	JVWCD Intermediate Feed Water DW5 (Maintenance)	
Permit Number:	0025836	
Receiving Water:	Butterfield/Midas Creek	
Beneficial Use: Class	Class 3	
For the Season / Year	All Seasons	

Receiving Water Information - Butterfield/Midas Creek

Flow, cfs	1.000
Flow, cfs (Acute)	0.500
Selenium, mg/l	0.00270
Selenium Load, lbs/day	0.01

Stream Standard

Selenium, mg/l	0.0184
Allowable Loading Before Mix:	0.10 lbs/day
Acute / Chronic Standard [Toxicity]	Acute

Combined Effluent/Receiving Water Information

Flow, cfs * w/ 50% of Receiving	1.478 cfs
<b>Selenium, mg/l</b>	<b>0.01840 mg/l</b>
Concentration Delta Increase, m	0.01570 mg/l [Delta]
Percent Increase:	5.81 %
Selenium Load, lbs/day:	0.15 lbs/day
Allowable Loading After Mix:	0.15 lbs/day
Required Loading Reduction:	0.00 lbs/day

Permitted Effluent Concentration	0.025 mg/l	25 ug/l for : All Seasons
Permitted Effluent Loading:	0.13930 lbs/day	0 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	0.00270
Effluent Conc.	0.02643
Combined Conc:	0.01840
Standard:	0.01840
Percent Change	581.5%
Remaining Assimilative Capacity	74.72%
Antidegradation Level II Review is NOT Required	

Effluent Information [Proposed] JVWCD Intermediate Feed Water MGD

Flow, gal./min.	439.0000	0.63216
Flow, MGD	0.63216	
Flow, cfs	0.978	
Selenium, mg/l	0.02643	
Selenium Load, lbs/day	0.14	
Selenium Load, lbs/year	50.84	
Selenium Load, tons/day	0.0001	
TDS Load, tons/year	0.0	
Percent of Receiving Stream = Discharge	0.66	
Dilution Ratio: (to 1.0)	1.02	
Percent of Stream Flow Used in Calc.	50%	

Current Permit Information

Flow, MGD (per WLA)	0.0
Effluent Limitation (per WLA)	0.00000
Current Project Loading	0.0000

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water

Assumption: Complete Mixing

Conservative Substance:	TDS	
Acute or Chronic Standard	Acute	Note: Changes River Flow If Acute.
Discharger:	JVWCD Intermediate Feed Water DW6 [Maintenance]	
Permit Number:	0025836	
Receiving Water:	Utah Salt Lake Canal	
Beneficial Use: Class	Class 4	
For the Season / Year	Fall Winter	

Receiving Water Information - Utah Salt Lake Canal	
Flow, cfs	0.000
Flow, cfs (Acute)	0.000
TDS, mg/l	0.00000
TDS Load, lbs/day	0.00
Stream Standard	
TDS, mg/l	1200.0000
Allowable Loading Before Mix:	0.01 lbs/day

Effluent Information [Proposed] JVWCD Intermediate Feed Water MGD	
Flow, gal./min.	780.0000 1.12320
Flow, MGD	1.12320
Flow, cfs	1.738
TDS, mg/l	1,200.00000
TDS Load, lbs/day	11238.73
TDS Load, lbs/year	4,102,138.17
TDS Load, tons/day	5.6194
TDS Load, tons/year	2,051.1
Percent of Receiving Stream = Discharge	1.00
Dilution Ratio: (to 1.0)	0.00
Percent of Stream Flow Used in Calc.	100%

Combined Effluent/Receiving Water Information	
Flow, cfs * w/ 50% of Receiving	1.738 cfs
<b>TDS, mg/l</b>	<b>1,199.99931 mg/l</b>
Concentration Delta Increase, m	1,199.99931 mg/l [Delta]
Percent Increase:	#DIV/0! %
TDS Load, lbs/day:	11,238.73 lbs/day
Allowable Loading After Mix:	11,238.74 lbs/day
Additional Loading Allowed:	0.01 lbs/day

Current Permit Information	
Flow, MGD (per WLA)	0.0
Effluent Limitation (per WLA)	0.00000
Current Project Loading	0.0000

Permitted Effluent Concentration	1,200.000691 mg/l	1200000.7 ug/l for : Fall Winter
Permitted Effluent Loading:	11,238.74118 lbs/day	2051.1 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	0.00000
Effluent Conc.	1,200.00000
Combined Conc:	1,199.99931
Standard:	1,200.00000
Percent Change	#DIV/0!
Remaining Assimilative Capacity	100.00%
Antidegradation Level II Review is	<b>NOT</b> Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water

Assumption: Complete Mixing

Conservative Substance:	TDS	
Acute or Chronic Standard	Acute	Note: Changes River Flow if Acute.
Discharger:	JVWCD Intermediate Feed Water DW6 (Maintenance)	
Permit Number:	0025836	
Receiving Water:	Utah Salt Lake Canal	
Beneficial Use: Class	Class 4	
For the Season / Year	Summer, Spring	

Receiving Water Information - Utah Salt Lake Canal

Flow, cfs	50.000
Flow, cfs (Acute)	25.000
TDS, mg/l	1,152.00000
TDS Load, lbs/day	310464.00
Stream Standard	
TDS, mg/l	1,200.00000
Allowable Loading Before Mix:	323400.00 lbs/day

Effluent Information [Proposed] JVWCD Intermediate Feed Water MGD

Flow, gal./min.	780.0000	1.12320
Flow, MGD	1.12320	
Flow, cfs	1.738	
TDS, mg/l	2,581.22310	
TDS Load, lbs/day	24174.73	
TDS Load, lbs/year	8,823,778.17	
TDS Load, tons/day	12.0874	
TDS Load, tons/year	4,411.9	
Percent of Receiving Stream = Discharge	0.03	
Dilution Ratio: (to 1.0)	28.78	
Percent of Stream Flow Used in Calc.	100%	

Combined Effluent/Receiving Water Information

Flow, cfs * w/ 50% of Receiving	51.738 cfs
<b>TDS, mg/l</b>	<b>1,200.00000 mg/l</b>
Concentration Delta Increase, m	48.00000 mg/l [Delta]
Percent Increase:	0.04 %
TDS Load, lbs/day:	334,638.73 lbs/day
Allowable Loading After Mix:	334,638.73 lbs/day
Additional Loading Allowed:	0.00 lbs/day

Current Permit Information

Flow, MGD (per WLA)	0.0
Effluent Limitation (per WLA)	0.00000
Current Project Loading	0.0000

Permitted Effluent Concentration	2,581.223101 mg/l	2581223.1 ug/l for : Summer, Spring
Permitted Effluent Loading:	24,174.73471 lbs/day	4411.9 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	1,152.00000
Effluent Conc.	2,581.22310
Combined Conc:	1,200.00000
Standard:	1,200.00000
Percent Change	4.2%
Remaining Assimilative Capacity	100.00%
Antidegradation Level II Review Is	<del>NOT</del> Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water  
Assumption: Complete Mixing

Conservative Substance: TDS  
Acute or Chronic Standard: Acute Note: Changes River Flow if Acute.  
Discharger: JWCD Intermediate Feed Water DW7 [Maintenance]  
Permit Number: 0025836  
Receiving Water: Utah Salt Lake Canal  
Beneficial Use: Class 4  
For the Season / Year: Fall Winter

Receiving Water Information - Utah Salt Lake Canal  
Flow, cfs: 0.000  
Flow, cfs (Acute): 0.000  
TDS, mg/l: 0.00000  
TDS Load, lbs/day: 0.00  
  
Stream Standard  
TDS, mg/l: 1200.00000  
Allowable Loading Before Mix: 0.01 lbs/day

Effluent Information [Proposed] JWCD Intermediate Feed Water MGD  
Flow, gal./min.: 1,500.0000 2.16000  
Flow, MGD: 2.16000  
Flow, cfs: 3.342  
TDS, mg/l: 1,200.00000  
TDS Load, lbs/day: 21612.95  
TDS Load, lbs/year: 7,888,727.25  
TDS Load, tons/day: 10.8065  
TDS Load, tons/year: 3,944.4  
Percent of Receiving Stream = Discharge: 1.00  
Dilution Ratio: (to 1.0): 0.00  
Percent of Stream Flow Used in Calc.: 100%

Combined Effluent/Receiving Water Information  
Flow, cfs \* w/ 50% of Receiving: 3.342 cfs  
**TDS, mg/l: 1,199.99964 mg/l**  
Concentration Delta Increase, mg/l: 1,199.99964 mg/l [Delta]  
Percent Increase: #DIV/0! %  
TDS Load, lbs/day: 21,612.95 lbs/day  
Allowable Loading After Mix: 21,612.96 lbs/day  
Additional Loading Allowed: 0.01 lbs/day

Current Permit Information  
Flow, MGD (per WLA): 0.0  
Effluent Limitation (per WLA): 0.00000  
Current Project Loading: 0.0000

Permitted Effluent Concentration: 1,200.000359 mg/l  
Permitted Effluent Loading: 21,612.95783 lbs/day  
1200000.4 ug/l for : Fall Winter  
3944.4 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc: 0.00000  
Effluent Conc: 1,200.00000  
Combined Conc: 1,199.99964  
Standard: 1,200.00000  
Percent Change: #DIV/0!  
Remaining Assimilative Capacity: 100.00%  
Antidegradation Level II Review is ~~NOT~~ Required

**Waste Load Analysis [TMDL] (Simple Mass Balance)  
for Conservative Substances**

**Date of Analysis: 12/2/2009**

This Calculates the Allowable Effluent Concentration/Loading  
Conservative Substances in a Receiving Water

Assumption: Complete Mixing

Conservative Substance:	TDS	
Acute or Chronic Standard	Acute	Note: Changes River Flow if Acute.
Discharger:	JVWCD Intermediate Feed Water DW7 (Maintenance)	
Permit Number:	0025836	
Receiving Water:	Jordan River	
Beneficial Use: Class	Class 4	
For the Season / Year	Spring, Summer	

Receiving Water Information - Jordan River

Flow, cfs	0.000
Flow, cfs (Acute)	0.000
TDS, mg/l	1,200.00000
TDS Load, lbs/day	0.00

Stream Standard	
TDS, mg/l	1,200.00000
Allowable Loading Before Mix:	0.00 lbs/day

Combined Effluent/Receiving Water Information

Flow, cfs * w/ 50% of Receiving	3.342 cfs
<b>TDS, mg/l</b>	<b>1,200.00000 mg/l</b>
Concentration Delta Increase, m	0.00000 mg/l [Delta]
Percent Increase:	0.00 %
TDS Load, lbs/day:	21,612.95 lbs/day
Allowable Loading After Mix:	21,612.95 lbs/day
Additional Loading Allowed:	0.00 lbs/day

Effluent Information [Proposed] JVWCD Intermediate Feed Water MGD

Flow, gal./min.	1,500.0000	2.16000
Flow, MGD	2.16000	
Flow, cfs	3.342	
TDS, mg/l	1,200.00000	
TDS Load, lbs/day	21612.95	
TDS Load, lbs/year	7,888,727.25	
TDS Load, tons/day	10.8065	
TDS Load, tons/year	3,944.4	
Percent of Receiving Stream = Disch:	1.00	
Dilution Ratio: (to 1.0)	0.00	
Percent of Stream Flow Used in Calc.	100%	

Current Permit Information

Flow, MGD (per WLA)	0.0
Effluent Limitation (per WLA)	0.00000
Current Project Loading	0.0000

Permitted Effluent Concentration	1,200.000000 mg/l	1200000 ug/l for : Spring, Summer
Permitted Effluent Loading:	21,612.95136 lbs/day	3944.4 tons/year

**Note: Whole Effluent Toxicity (WET) to be conducted on all toxic substances,.**

**Note: Waste Load Analysis may indicate unreasonably high allowed concentrations and loadings. Narrative standards, Source Performance Standards, and BAT also apply.**

Background Conc:	1,200.00000
Effluent Conc.	1,200.00000
Combined Conc:	1,200.00000
Standard:	1,200.00000
Percent Change	0.0%

Remaining Assimilative Capacity l #DIV/0!  
Antidegradation Level II Review is NOT Required