

Table C-46: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - General Parameters

Station	Date	Sample Type	Acid(pH4.5)	Acid(pH8.3)	ALK	ALKPP	CaCO3	CaCO3-d	Cl-d	CO3	Colour	COND	DOC	HCO3	NH3	OH	pH	SO4-d	TDS	TOC	TSS	TURB	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	TCU	µmho/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU		
X14	1/11/2010	FIELD BLANK			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<1.0	<0.5	<0.5	<0.01	<0.5	5.70	<0.5	<10.0	<0.5	<1.0	<0.1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	1	1	1	1	1	1	0		1	1	1	2	1	0.25	1	1	1	0.25	1
		Comments																					
		Action																					
		Result																					
X2	2/22/2010	FIELD BLANK			0.90	<0.5	<0.5	<0.5	1	<0.5		<1.0	<0.5	1.00	0.02	<0.5	5.90	<0.5	<10.0	<0.5	<1.0	<0.1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	1.8	1	1	1	1.8	1	0		1	1	2	4	1	0.05	1	1	1	0.25	1
		Comments																					
		Action																					
		Result																					
SC2	4/14/2010	FIELD BLANK			1.20	<0.5	<0.5	<0.5	<0.5	<0.5		<1.0	<0.5	1.50	<0.01	<0.5	6.10	<0.5	<10.0	<0.5	<1.0	<0.1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	2.4	1	1	1	1	1	0		1	1	3	2	1	0.15	1	1	1	0.25	0
		Comments																					
		Action																					
		Result																					
X4	5/3/2010	FIELD BLANK			1.60	<0.5	<0.5	<0.5	<0.5	<0.5		2.0		1.90	<0.01	<0.5	6.20	<0.5	<10.0	<0.5	<1.0	<0.1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	3.2	1	1	1	1	1	0		2	0	3.8	2	1	0.25	1	1	0	0.25	0
		Comments																					
		Action																					
		Result																					
NF2	6/4/2010	FIELD BLANK			1.10	<0.5	<0.5	<0.5	<0.5	<0.5		<1	<0.5	1.30	<0.05	<0.5	5.50	<0.5	<10	<0.5	<1	<0.1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	2.2	1	1	1	0	1	0		1	1	2.6	10	1	0.45	1	1	1	0.25	0
		Comments														Blank value not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.							
		Action														Let Value Stand							
		Result																					
X5	22/06/2010 9:3	FIELD BLANK			<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5		<5	<1	<0.5	<0.05	<0.5	5.40	<0.5	<10	<0.5	<1	<0.1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	1	1	1	1	0.001	1	10		1	0	1	10	1	0.55	1	1	0	0.25	1
		Comments									Blank value not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.					Blank value not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.							
		Action									Let Value Stand					Let Value Stand							
		Result																					
A30	7/7/2010	FIELD BLANK	<0.5	<0.5	1.90	<0.5	<0.5	<0.5	<0.5	<0.5		2.0		2.30	<0.5	6.10	1.7		<1				
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	1	1	3.8	1	0	1	1	1	0		2	0	4.6	0	1	0.15	3.4	0	0	0.25	0
		Comments																					
		Action																					
		Result																					

Blank value < PQL

Blank value is a detection limit higher than that of DI water

Blank value > PQL and < retest limit

Blank value > retest limit (20X DI Water Detection Limit, or >1 pH unit difference from DI Water)

**Table C-46: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - General Parameters**

Station	Date	Sample Type	Acid(pH4.5)	Acid(pH8.3)	ALK	ALKPP	CaCO3	CaCO3-d	Cl-d	CO3	Colour	COND	DOC	HCO3	NH3	OH	pH	SO4-d	TDS	TOC	TSS	TURB
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	TCU	µmho/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	
X14	7/20/2010	FIELD BLANK			1.50	<0.5	<0.5	<0.5	<0.5	<0.5		<1	<0.5	1.80	<0.005	<0.5	5.74	<0.5	<10	<0.5	<1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0
		Times greater than DI water	0	0	3	1	1	1	1	1	0	1	1	3.6	1	1	0.21	1	1	1	0.25	0
		Comments																				
		Action																				
		Result																				
RCSG#4	8/3/2010	FIELD BLANK			2.20	<0.5	<0.5	<0.5	<0.5	<0.5		<1	<0.5	2.60	0.28	<0.5	6.15	<0.5	<10	<0.5	<1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0
		Times greater than DI water	0	0	4.4	1	1	1	1	1	0	1	1	5.2	56	1	0.20	1	1	1	0.25	0
		Comments													Blank concentration > PQL and correctly entered into emLine. Lab noted that "RDL raised due to sample matrix interference."							
		Action													Let Value Stand	Request Retest						
		Result													High blank value remains.	Retest not possible. Remainder of sample had been discarded.						
X5	8/10/2010	FIELD BLANK			1.30	<0.5	<0.5	<0.5	<0.5	<0.5		<5	3.0		1.60	0.27	<0.5	5.80	<0.5	<10		<4
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0
		Times greater than DI water	0	0	2.6	1	1	1	1	1	10	3	0	3.2	54	1	0.15	1	1	0	1	1
		Comments									Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.				Blank concentration > PQL and correctly entered into emLine. Lab noted that "RDL raised due to sample matrix interference."							
		Action									Let Value Stand					Request Retest						
		Result													Retest performed, see results below.							
X5 Retest	8/10/2010	FIELD BLANK													0.01	-						
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0
		Times greater than DI water	0	0	0	0	0	0	0	0	0	0	0	2.4	0 #VALUE!		0	0	0	0	0	0
		Comments													Retest for August 10 X5 blank. Blank concentration < PQL and correctly entered into emLine.							
		Action													Let Value Stand							
		Result													New blank value entered into emLine.							
X5	8/17/2010	FIELD BLANK			2.20	<0.5	<0.5	<0.5	<0.5	<0.5		<5	<1	2.60	0.16	<0.5	5.59	<0.5	<10		<1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0
		Times greater than DI water	0	0	4.4	1	1	1	1	1	10	1	0	5.2	32	1	0.36	1	1	0	0.25	1
		Comments									Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.				Blank concentration > PQL and correctly entered into emLine. Lab noted "RDL raised due to sample matrix interference". Therefore, comparison not valid in this case.							
		Action									Let Value Stand				Let Value Stand	Let Value Stand						
		Result													High blank value remains.	High blank value remains.						

Blank value < PQL

Blank value is a detection limit higher than that of DI water

Blank value > PQL and < retest limit

Blank value > retest limit (20X DI Water Detection Limit, or >1 pH unit difference from DI Water)

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Station	Date	Sample Type	Acid(pH4.5)	Acid(pH8.3)	ALK	ALKPP	CaCO3	CaCO3-d	Cl-d	CO3	Colour	COND	DOC	HCO3	NH3	OH	pH	SO4-d	TDS	TOC	TSS	TURB
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	TCU	µmho/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	
X5	9/7/2010	FIELD BLANK			0.60	<0.5			<0.5	<0.5	<5	2.0		0.70	0.25	<0.5	5.75	2.6	<10		<1	<0.1
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	1.2	1	0	0	1	1	10	2	0	1.4	50	1	0.20	5.2	1	0	0.25	1
		Comments									Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.				Blank concentration equal to PQL and correctly entered into emLine. Lab noted "RDL raised due to sample matrix interference."			Blank concentration > PQL and correctly entered into emLine.				
		Action									Let Value Stand				Request Retest			Let Value Stand				
		Result													Retest performed, see results below.			High blank value remains.				
X5 Retest	9/7/2010	FIELD BLANK													<0.005		-					
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	0	0	0	0	0	0	0	0	0	0	1	0	#VALUE!	0	0	0	0	0
		Comments													Retest for September 7 X5 blank.							
		Action													Let Value Stand							
		Result													New blank value entered into emLine.							
GDHSECK	10/6/2010	FIELD BLANK			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1		<0.5	0.04	<0.5	5.25	<0.5	<10		<1		
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	1	1	1	1	1	1	0	1	0	1	7.2	1	0.70	1	1	0	0.25	0
		Comments													Blank concentration > PQL and correctly entered into emLine.							
		Action													Let Value Stand							
		Result													High blank value remains.							
X4	10/20/2010	FIELD BLANK			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.0		<0.5	0.01	<0.5	5.23	<0.5	<10		<1		
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	1	1	1	1	1	1	0	7	0	1	2	1	0.72	1	1	0	0.25	0
		Comments													Blank concentration > PQL and correctly entered into emLine.							
		Action													Let Value Stand							
		Result													High blank value remains.							
X14	11/9/2010	FIELD BLANK			1.10	<0.5	<0.5	<0.5	<0.5	<0.5	<1	2.3	1.30	0.06	<0.5	5.86	<0.5	<10	<0.5	<4	<0.1	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	2.2	1	1	1	1	1	0	1	4.6	2.6	11.4	1	0.09	1	1	1	1	1
		Comments													Blank concentration > PQL and correctly entered into emLine.							
		Action													Let Value Stand							
		Result													High blank value remains.							
X5	11/18/2010	FIELD BLANK			1.40	<0.5			<0.5	<0.5	<5	2.0		1.70	<0.005	<0.5	5.81	<0.5	<10		<4	<0.1
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
		Times greater than DI water	0	0	2.8	1	0	0	1	1	10	2	0	3.4	1	1	0.14	1	1	0	1	1
		Comments													Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.							
		Action													Let Value Stand							
		Result																				

Blank value < PQL

Blank value is a detection limit higher than that of DI water

Blank value > PQL and < retest limit

Blank value > retest limit (20X DI Water Detection Limit, or >1 pH unit difference from DI Water)

**Table C-46: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - General Parameters**

Station	Date	Sample Type	Acid(pH4.5) mg/L	Acid(pH8.3) mg/L	ALK mg/L	ALKPP mg/L	CaCO3 mg/L	CaCO3-d mg/L	Cl-d mg/L	CO3 mg/L	Colour TCU	COND μmho/cm	DOC mg/L	HCO3 mg/L	NH3 mg/L	OH mg/L	pH	SO4-d mg/L	TDS mg/L	TOC mg/L	TSS mg/L	TURB NTU	
X14	11/25/2010	FIELD BLANK			1.40	<0.5	<0.5	<0.5	<0.5	<0.5		2.0	<0.5	1.70	0.04	<0.5	5.88	4.8	<10	<0.5	<4		
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	
		Times greater than DI water	0	0	2.8	1	1	1	1	1	0	2	1	3.4	7	1	0.07	9.6	1	1	1	0	
		Comments														Blank concentration > PQL and correctly entered into emLine.							
		Action														Let Value Stand							
		Result														High blank value remains.							
X2	12/1/2010	FIELD BLANK			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<1	<0.5	<0.5	<0.5	<0.05	<0.5	5.35	0.8	<10	<0.5	<4	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	
		Times greater than DI water	0	0	1	1	1	1	1	1	0	1	1	1	10	1	0.60		1.6	1	1	0	
		Comments														Blank concentration not > PQL (detection limit for field blank higher than that used for DI water, lab noted "RDL raised due to sample matrix interference). Therefore, comparison not valid in this case.							
		Action														Let Value Stand							
		Result																					
X14	12/2/2010	FIELD BLANK			0.60	<0.5	<0.5	<0.5	<0.5	<0.5		2.0	<0.5	0.70	<0.05	<0.5	5.49	<0.5	<10	<0.5	<1	0.00	
		Deionized Water	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	
		Times greater than DI water	0	0	1.2	1	1	1	1	1	0	2	1	1.4	10	1	0.46		1	1	1	0.25	0
		Comments														Blank concentration not > PQL (detection limit for field blank higher than that used for DI water, lab noted "RDL raised due to sample matrix interference). Therefore, comparison not valid in this case.							
		Action														Let Value Stand							
		Result																					

Blank value < PQL

Blank value is a detection limit higher than that of DI water

Blank value > PQL and < retest limit

Blank value > retest limit (20X DI Water Detection Limit, or >1 pH unit difference from DI Water)



Table C-47: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Dissolved Metals



Blank value < PQL

Blank value is a detection limit higher than that of DI water

Blank value > PQL and < retest limit

Blank value > retest limit (20X DI Water Detection Limit)



Table C-47: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Dissolved Metals



Station	Date	Sample Type	Ag-d	Al-d	As-d	Ba-d	B-d	Be-d	Bi-d	Ca-d	Cd-d	Co-d	Cr-d	Cu-d	Fe-d	K-d	Li-d	Mg-d
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L
X5	8/10/2010	FIELD BLANK	<0.005	1.90	<0.02	0.250	<50	<0.01	0.03	<0.05	<0.005	<0.005	<0.1	0.0900	3.00	<0.05	<0.0005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	9.5	1	12.5	1	1	5.4	1	1	1	1	1.8	3	1	0.001	1
		Comments			Blank value > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."				Blank value > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."									
		Action			Let Value Stand			Let Value Stand			Let Value Stand							
		Result			High blank value remains.			High blank value remains.			High blank value remains.							
X5	8/17/2010	FIELD BLANK	<0.005	0.70	<0.02	0.250	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	0.1900	<1	<0.05	<0.0005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	3.5	1	12.5	1	1	1	1	1	1	1	3.8	1	1	0.001	1
		Comments			Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."													
		Action			Let Value Stand													
		Result			High blank value remains.													
X5 Retest	8/17/2010	FIELD BLANK																
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Comments																
		Action																
		Result																
X5	9/7/2010	FIELD BLANK	<0.005	1.40	<0.02	0.110	<50	<0.01	<0.005	0.22	<0.005	0.0100	0.20	<0.05	<1	<0.05	<0.0005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	7	1	5.5	1	1	1	4.4	1	2	2	1	1	1	0.001	1
		Comments			Blank concentration > PQL and correctly entered into emLine.			Blank concentration > PQL and correctly entered into emLine.										
		Action			Let Value Stand			Let Value Stand										
		Result			High blank value remains.			High blank value remains.										
X5 Retest	9/7/2010	FIELD BLANK																
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Comments																
		Action																
		Result			High blank value remains.			High blank value remains.										
GDHSECK	10/6/2010	FIELD BLANK	<0.005	1.60	<0.02	0.490	<50	<0.01	<0.005	<0.05	0.01	0.0230	<0.1	0.1500	3.00	<0.05	<0.0005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	8	1	24.5	1	1	1	2.4	4.6	1	3	3	1	0.001	1	1
		Comments			Blank concentration > PQL and correctly entered into emLine.			Blank concentration > PQL and correctly entered into emLine.										
		Action			Let Value Stand			Let Value Stand										
		Result			High blank value remains.			High blank value remains. Retest not requested because lab already reanalyzed full suite because dissolved > total for some metals.										
X4	10/20/2010	FIELD BLANK	<0.005	3.60	<0.02	0.460	<50	<0.01	<0.005	0.07	<0.005	0.0380	<0.1	0.1100	25.00	<0.05	<0.0005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	48	1	23	1	1	1	1.4	1	7.6	1	2.2	25	1	0.001	1
		Comments			Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."			Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."					Blank concentration > PQL and correctly entered into emLine. Lab noted that "Duplicate RPD for Co exceeds acceptance criteria. 10% of analytes failure multielement scan is allowed."		Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."			
		Action			Let Value Stand			Let Value Stand										
		Result			High blank value remains.													
X4	10/20/2010	FIELD BLANK	<0.005	3.50	<0.02	0.460	<50	<0.01	<0.005	0.07	<0.005	0.0380	<0.1	0.1100	25.00	<0.05	<0.0005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	17.5	1	23	1	1	1	1.4	1	7	1	2.8	27	1	0.001	1
		Comments			Retest for October 20 X4 blank. Blank concentration > PQL and correctly entered into emLine.			Retest for October 20 X4 blank. Blank concentration > PQL and correctly entered into emLine.						Retest for October 20 X4 blank. Blank concentration > PQL and correctly entered into emLine.		Retest for October 20 X4 blank. Blank concentration > PQL and correctly entered into emLine.		
		Action			Let Value Stand			Let Value Stand			Let Value Stand					Let Value Stand		Let Value Stand
		Result			New blank value entered into emLine.			New blank value entered into emLine.			New blank value entered into emLine.					New blank value entered into emLine.		New blank value entered into emLine.

Blank value < PQL
Blank value is a detection limit higher than that of DI water
Blank value > PQL and < retest limit
Blank value > retest limit (20X DI Water Detection Limit)

**Table C-47: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Dissolved Metals**



Station	Date	Sample Type	Ag-d µg/L	Al-d µg/L	As-d µg/L	Ba-d µg/L	B-d µg/L	Be-d µg/L	Bi-d µg/L	Ca-d mg/L	Cd-d µg/L	Co-d µg/L	Cr-d µg/L	Cu-d µg/L	Fe-d µg/L	K-d mg/L	Li-d mg/L	Mg-d mg/L
X14	11/9/2010	FIELD BLANK	0.0060	0.70	<0.02	0.080	<50	<0.01	<0.005	<0.05	<0.005	0.0060	<0.1	0.1700	3.00	0.14	<0.005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1.2	3.5	1	4	1	1	1	1	1	1.2	1	3.4	3	2.8	0.001	1
		Comments																
		Action																
		Result																
X5	11/18/2010	FIELD BLANK	<0.005	1.20	<0.02	0.030	<50	<0.01	<0.005	<0.05	<0.005	0.0060	<0.1	0.0600	2.00	0.09	<0.005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	6	1	1.5	1	1	1	1	1	1.2	1	1.2	2	1.8	0.001	1
		Comments			Blank concentration > PQL and correctly entered into emLine.													
		Action			Let Value Stand													
		Result			High blank value remains.													
X14	11/25/2010	FIELD BLANK	<0.005	0.50	<0.02	0.070	<50	<0.01	<0.005	<0.05	0.01	<0.005	<0.1	0.0900	<1	<0.05	<0.005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	2.5	1	3.5	1	1	1	1	1.4	1	1	1.8	1	1	0.001	1
		Comments																
		Action																
		Result																
X2	12/1/2010	FIELD BLANK	<0.005	0.60	<0.02	0.050	<50	<0.01	0.01	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	3	1	2.5	1	1	1.6	1	1	1	1	1	1	1	0.001	1
		Comments																
		Action																
		Result																
X14	12/2/2010	FIELD BLANK	<0.005	0.30	<0.02	0.030	<50	<0.01	0.04	<0.05	<0.005	0.0070	<0.1	0.1500	2.00	<0.05	<0.005	<0.05
		Deionized Water	<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	1.5	1	1.5	1	1	7.4	1	1	1.4	1	3	2	1	0.001	1
		Comments																
		Action																
		Result																

Blank value < PQL
 Blank value is a detection limit higher than that of DI water
 Blank value > PQL and < retest limit
 Blank value > retest limit (20X DI Water Detection Limit)

**Table C-47: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Dissolved Metals**



Station	Date	Sample Type	Mn-d	Mo-d	Na-d	Ni-d	Pb-d	Sb-d	Se-d	Si-d	Sn-d	Sr-d	Tl-d	Tl-d	U-d	V-d	Zn-d	Zr-d
			µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
X14	1/1/2010	FIELD BLANK	0.220	<0.05	<0.05	0.200	0.2970	<0.02	<0.04	<100.0	<0.01	0.07	<0.5	<0.002	0.0030	<0.2	1.700	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	4.4	1	1	10	59.4	1	1	1	1	1.4	1	1	1.5	1	17	1
		Comments					Blank concentration > PQL and correctly entered into emLine.									Blank concentration > PQL and correctly entered into emLine.		
		Action					Let Value Stand									Let Value Stand		
		Result					High blank value remains. Investigation of Maxxam and lab blank water planned.									High blank value remains. Investigation of Maxxam and lab blank water planned.		
X2	2/22/2010	FIELD BLANK	<0.05	<0.05	<0.05	<0.02	0.0340	<0.02	<0.04	<100.0	<0.01	<0.05	<0.5	<0.002	0.0060	<0.2	0.200	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	1	1	1	1	6.8	1	1	1	1	1	1	1	1	1	2	1
		Comments					Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."									Blank concentration > PQL and correctly entered into emLine.		
		Action					Let Value Stand									Let Value Stand		
		Result					High blank value remains.									High blank value remains.		
SC2	4/14/2010	FIELD BLANK	<0.05	<0.05	<0.05	<0.02	0.0820	<0.02	<0.04	<100.0	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	0.500	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	1	1	1	1	16.4	1	1	1	1	1	1	1	1	1	5	1
		Comments					Blank concentration > PQL and correctly entered into emLine.									Blank concentration > PQL and correctly entered into emLine.		
		Action					Let Value Stand									Let Value Stand		
		Result					High blank value remains.									High blank value remains.		
X4	5/3/2010	FIELD BLANK	0.510	<0.05	<0.05	0.050	0.7010	<0.02	<0.04	<100.0	0.02	0.12	<0.5	<0.002	0.0050	<0.2	3.500	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	10.2	1	1	2.5	140.2	1	1	1	2	2.4	1	1	2.5	1	35	1
		Comments					Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved metals greater than total metals for some parameters; analysis from separate field prepared sample bottles."								Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved metals greater than total metals for some parameters; analysis from separate field prepared sample bottles."			
		Action					Let Value Stand									Let Value Stand		
		Result					High blank value remains.									High blank value remains.		
NF2	6/4/2010	FIELD BLANK	0.080	<0.05	<0.05	0.030	0.0670	<0.02	<0.04	<100	<0.01	0.06	<0.5	<0.002	<0.002	<0.2	0.700	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	1.6	1	1	1.5	13.4	1	1	1	1	1.2	1	1	1	1	7	1
		Comments					Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."								Blank concentration > PQL and correctly entered into emLine.			
		Action					Let Value Stand									Let Value Stand		
		Result					High blank value remains.									High blank value remains.		
X5	22/06/2010	FIELD BLANK	<0.05	<0.05	<0.05	<0.02	0.0940	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	0.700	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	1	1	1	1	18.8	1	1	1	1	1	1	1	1	1	7	1
		Comments					Blank concentration > PQL and correctly entered into emLine.									Blank concentration > PQL and correctly entered into emLine.		
		Action					Let Value Stand									Let Value Stand		
		Result					High blank value remains.									High blank value remains.		
A30	7/7/2010	FIELD BLANK	<1	<1	<0.05	<1	0.6000	<0.5	<0.1	<100	<5	<1	<5	<0.05	<0.1	<5	<5	<0.5
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	20	20	1	50	120	25	2.5	500	20	10	25	50	25	50	5	5
		Comments					Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.									Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore, comparison not valid in this case.		
		Action					Let Value Stand									Let Value Stand		
		Result					High blank value remains.									High blank value remains.		
X14	7/20/2010	FIELD BLANK	1.020	<0.05	<0.05	<0.02	0.7400	<0.02	<0.04	<100	<0.01	0.13	<0.5	<0.002	<0.002	<0.2	1.800	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	20.4	1	1	1	148	1	1	1	1	2.6	1	1	1	1	18	1
		Comments					Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."									Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."		
		Action					Let Value Stand									Let Value Stand		
		Result					High blank value remains.									High blank value remains.		
RCSG#4	8/3/2010	FIELD BLANK	0.330	<0.05	<0.05	<0.02	0.1450	<0.02	<0.04	<100	<0							

Table C-47: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Dissolved Metals



Station	Date	Sample Type	Mn-d	Mo-d	Na-d	Ni-d	Pb-d	Sb-d	Se-d	Si-d	Sn-d	Sr-d	Ti-d	Tl-d	U-d	V-d	Zn-d	Zr-d
			µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
X5	8/10/2010	FIELD BLANK	0.980	<0.05	<0.05	<0.05	0.7440	<0.02	<0.04	<100	<0.01	0.09	<0.5	<0.002	0.0050	<0.2	1.800	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water	19.6	1	1	1	148.8	1	1	1	1	1	1.8	1	1	2.5	1	18
		Comments	Blank value > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."				Blank value > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."								Blank concentration > PQL and correctly entered into emLine.			
		Action	Let Value Stand															
		Result	High blank value remains. Retest not requested because lab already reanalyzed.															
X5	8/17/2010	FIELD BLANK	0.200	<0.05	<0.05	0.030	0.2480	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	0.0030	<0.2	0.700	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water	4	1	1	1.5	49.6	1	1	1	1	1	1	1	1	1.5	1	7
		Comments	Blank concentration > PQL and correctly entered into emLine.												Blank concentration > PQL and correctly entered into emLine.			
		Action	Let Value Stand															
		Result	High blank value remains.												High blank value remains.			
X5 Retest	8/17/2010	FIELD BLANK					0.2720											
		Deionized Water	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water	0	0	0	0	0	64.4	0	0	0	0	0	0	0	0	0	0
		Comments	Blank concentration > PQL and correctly entered into emLine.												Blank concentration > PQL and correctly entered into emLine.			
		Action	Let Value Stand															
		Result	Retest performed, see results below.												High blank value remains.			
X5	9/7/2010	FIELD BLANK	6.910	<0.05	<0.05	<0.05	0.1340	<0.02	<0.04	<100	<0.01	0.76	<0.5	<0.002	0.0060	<0.2	0.600	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water	138.2	1	1	1	26.8	1	1	1	1	1	15.2	1	1	3	1	6
		Comments	Blank concentration > PQL and correctly entered into emLine.				Blank concentration > PQL and correctly entered into emLine.				Blank concentration > PQL and correctly entered into emLine.				Blank concentration > PQL and correctly entered into emLine.			
		Action	Request Retest												Let Value Stand			
		Result	Retest performed, see results below.				Retest performed, see results below.				High blank value remains.				High blank value remains.			
X5 Retest	9/7/2010	FIELD BLANK	7.600				0.1510											
		Deionized Water	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water	152	0	0	0	30.2	0	0	0	0	0	0	0	0	0	0	0
		Comments	Retest for September 7 X5 blank. Blank concentration > PQL and correctly entered into emLine.				Retest for September 7 X5 blank. Blank concentration > PQL and correctly entered into emLine.											
		Action	Let Value Stand												Let Value Stand			
		Result	New blank value entered into emLine.				New blank value entered into emLine.								High blank value remains.			
GDHSECK	10/6/2010	FIELD BLANK	0.740	<0.05	<0.05	0.250	0.2880	<0.02	<0.04	<100	<0.01	0.07	<0.5	<0.002	<0.002	<0.2	3.600	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water	14.8	1	1	12.5	57.6	1	1	1	1	1	1.4	1	1	1	1	36
		Comments	Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."				Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."				Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."				Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved greater than total. Reanalysis yields similar results."			
		Action	Let Value Stand												Let Value Stand			
		Result	High blank value remains.				High blank value remains. Retest not requested because lab already reanalyzed.								High blank value remains. Retest not requested because lab already reanalyzed.			
X4	10/20/2010	FIELD BLANK	4.930	<0.05	<0.05	0.100	0.5370	<0.02	<0.04	<100	<0.01	0.26	<0.5	<0.002	<0.002	<0.2	14.800	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<								

**Table C-47: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Dissolved Metals**



Station	Date	Sample Type	Mn-d ug/L	Mo-d ug/L	Na-d mg/L	Ni-d ug/L	Pb-d ug/L	Sb-d ug/L	Se-d ug/L	Si-d ug/L	Sn-d ug/L	Sr-d ug/L	Ti-d ug/L	Tl-d ug/L	U-d ug/L	V-d ug/L	Zn-d ug/L	Zr-d ug/L
X14	11/9/2010	FIELD BLANK	0.910	<0.05	<0.05	0.050	0.1090	<0.02	<0.04	<100	<0.01	0.18	<0.5	<0.002	<0.002	<0.2	2.900	<0.1
		Deionized Water		<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water		18.2	1	1	2.5	21.8	1	1	1	1	3.6	1	1	1	29	1
		Comments																
		Action																
		Result																
X5	11/18/2010	FIELD BLANK	1.040	<0.05	0.37	0.040	0.0870	<0.02	<0.04	<100	<0.01	0.07	<0.5	<0.002	0.0250	<0.2	2.500	<0.1
		Deionized Water		<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water		20.8	1	7.4	2	17.4	1	1	1	1	1.4	1	1	12.5	25	1
		Comments																
		Action																
		Result																
X14	11/25/2010	FIELD BLANK	1.910	<0.05	<0.05	<0.02	0.2850	<0.02	<0.04	<100	<0.01	0.10	<0.5	<0.002	<0.002	<0.2	0.700	<0.1
		Deionized Water		<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water		38.2	1	1	1	57	1	1	1	1	2	1	1	1	7	1
		Comments																
		Action																
		Result																
X2	12/1/2010	FIELD BLANK	0.080	<0.05	<0.05	0.050	0.0200	<0.02	<0.04	<100	<0.01	0.12	<0.5	<0.002	0.0100	<0.2	0.800	<0.1
		Deionized Water		<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water		1.6	1	1	2.5	4	1	1	1	1	2.4	1	1	5	8	1
		Comments																
		Action																
		Result																
X14	12/2/2010	FIELD BLANK	0.410	<0.05	<0.05	0.070	0.0420	<0.02	<0.04	<100	<0.01	0.15	<0.5	<0.002	0.0120	<0.2	0.300	<0.1
		Deionized Water		<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1
		Times greater than DI water		8.2	1	1	3.5	8.4	1	1	1	1	3	1	1	6	3	1
		Comments																
		Action																
		Result																

Blank value < PQL
 Blank value is a detection limit higher than that of DI water
 Blank value > PQL and < retest limit
 Blank value > retest limit (20X DI Water Detection Limit)

Table C-48: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Total Metals



Station	Date	Sample Type	Ag µg/L	Al µg/L	As µg/L	B µg/L	Ba µg/L	Be µg/L	Bi µg/L	Ca mg/L	Cd µg/L	Co µg/L	Cr µg/L	Cu µg/L	Fe µg/L	K mg/L	Li mg/L	Mg mg/L
X14	1/11/2010	FIELD BLANK	<0.005	1.20	<0.02	<50.0	0.110	<0.01	<0.005	<0.05	<0.0000	<0.1	0.1600	<1.0	<0.05	<0.0005	<0.05	
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05	
		Times greater than DI water	1	6	1	1	5.5	1	1	1	0.0012	1	3.2	1	1	0.001	1	
		Comments																
		Action																
		Result																
X2	2/22/2010	FIELD BLANK	<0.005	0.30	<0.02	<50.0	<0.02	<0.01	<0.005	<0.05	<0.005	<0.0	<0.1	<0.05	<1.0	<0.05	<0.0005	<0.05
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	1.5	1	1	1	1	1	1	0	1	1	1	1	0.001	1	
		Comments																
		Action																
		Result																
SC2	4/14/2010	FIELD BLANK	<0.005	0.90	<0.02	<50.0	0.030	<0.01	<0.005	<0.05	<0.005	<0.0	<0.1	<0.05	<1.0	<0.05	<0.0005	<0.05
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	4.5	1	1	1.5	1	1	1	0	1	1	1	1	0.001	1	
		Comments																
		Action																
		Result																
X4	5/3/2010	FIELD BLANK	<0.005	1.00	<0.02	<50.0	0.140	<0.01	<0.005	<0.05	<0.005	<0.0	<0.1	<0.05	2.00	<0.05	<0.0005	<0.05
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	5	1	1	7	1	1	1	0	1	1	2	1	0.001	1	
		Comments																
		Action																
		Result																
NF2	6/4/2010	FIELD BLANK	<0.005	0.90	<0.02	<50	0.030	<0.01	0.01	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.0005	<0.05
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	4.5	1	1	1.5	1	2.2	1	1	1	1	1	1	0.001	1	
		Comments																
		Action																
		Result																
X5	6/22/2010	FIELD BLANK	<0.005	4.70	<0.02	<50	0.260	<0.01	0.01	0.09	0.04	0.0410	<0.1	0.8200	5.00	<0.05	<0.0005	<0.05
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	23.5	1	1	13	1	1.8	1.8	7.4	8.2	1	16.4	5	1	0.001	1
		Comments																
		Action																
		Result																
X5	6/22/2010	FIELD BLANK	<0.005	2.10	<0.02	<50	0.120	<0.01	<0.005	<0.05	0.01	<0.005	<0.1	<0.05	1.00	<0.05	<0.0005	<0.05
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	10.5	1	1	6	1	1	1	1	1	1	1	1	0.001	1	
		Comments																
		Action																
		Result																
X5	7/20/2010	FIELD BLANK	<0.005	0.50	<0.02	<50	0.030	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.0005	<0.05
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	2.5	1	1	1.5	1	1	1	1	1	1	1	1	0.001	1	
		Comments																
		Action																
		Result																
RCSG#4	8/3/2010	FIELD BLANK	<0.005	0.40	<0.02	<50	0.030	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.0005	<0.05
		Dionized Water	<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
		Times greater than DI water	1	2	1	1	1.5	1	1	1	1	1	1	1	1	0.001	1	
		Comments																
		Action																
		Result																
X5	8/10/2010	FIELD BLANK	<0.005	1.50	<0.02	<50	0.110	<0.01	0.01	<0.05	<0.005	<0.005	<0.1	0.1500	2.00	<0.05	<0.0005	<0.05
		Dionized Water																



Blank value < PQL

Blank value is a detection limit higher than that of DI water

Blank value > PQL and < retest limit

Blank value > retest limit (20X DI Water Detection Limit)

**Table C-48: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Total Metals**



Station	Date	Sample Type	Ag µg/L	Al µg/L	As µg/L	B µg/L	Ba µg/L	Be µg/L	Bi µg/L	Ca mg/L	Cd µg/L	Co µg/L	Cr µg/L	Cu µg/L	Fe µg/L	K mg/L	Li mg/L	Mg mg/L
X14	12/2/2010	FIELD BLANK	<0.005	0.90	<0.02	<50	0.040	<0.01	0.04	<0.05	<0.005	<0.005	<0.1	0.0800	2.00	<0.05	<0.005	<0.05
Deionized Water			<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
Times greater than DI water			1	4.5	1	1	2	1	7.6	1	1	1	1	1.6	2	1	0.001	1
Comments										Blank concentration > PQL and correctly entered into emLine.								
Action										Let Value Stand								
Result										High blank value remains.								
X14 Retest	12/2/2010	FIELD BLANK																
Deionized Water			<0.005	<0.2	<0.02	<50	<0.02	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05
Times greater than DI water			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Comments																		
Action																		
Result																		

Blank value < PQL
 Blank value is a detection limit higher than that of DI water
 Blank value > PQL and < retest limit
 Blank value > retest limit (20X DI Water Detection Limit)

**Table C-48: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Total Metals**



Station	Date	Sample Type	Mn µg/L	Mo µg/L	Na mg/L	Ni µg/L	Pb µg/L	Sb µg/L	Se µg/L	Si µg/L	Sn µg/L	Sr µg/L	Tl µg/L	Tl µg/L	U µg/L	V µg/L	Zn µg/L	Zr µg/L
X14	1/11/2010	FIELD BLANK	0.390	<0.05	0.06	0.230	0.2620	<0.02	<0.04	<100.0	<0.01	0.13	<0.5	<0.002	<0.002	<0.2	2.500	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	7.8	1	1.2	11.5	52.4	1	1	1	1	2.6	1	1	1	1	25	1
		Comments	Blank concentration > PQL and correctly entered into emLine.		Blank concentration > PQL and correctly entered into emLine.	Blank concentration > PQL and correctly entered into emLine.										Blank concentration > PQL and correctly entered into emLine.		
		Action	Let Value Stand		Let Value Stand	Let Value Stand										Let Value Stand		
		Result	High blank value remains. Investigation of Maxxam and lab blank water planned.		High blank value remains. Investigation of Maxxam and lab blank water planned.	High blank value remains. Investigation of Maxxam and lab blank water planned.										High blank value remains. Investigation of Maxxam and lab blank water planned.		
X2	2/22/2010	FIELD BLANK	0.110	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100.0	<0.01	<0.05	<0.5	<0.002	0.0070	<0.2	<0.1	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	2.2	1	1	1	1	1	1	1	1	1	1	1	3.5	1	1	1
		Comments																
		Action	Let Value Stand		Let Value Stand	Let Value Stand										Let Value Stand		
		Result																
SC2	4/14/2010	FIELD BLANK	<0.05	<0.05	<0.05	0.030	0.0810	<0.02	<0.04	<100.0	<0.01	0.08	<0.5	<0.002	0.0030	<0.2	0.700	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	1	1	1	1.5	16.2	1	1	1	1	1.6	1	1	1.5	1	7	1
		Comments														Blank concentration > PQL and correctly entered into emLine.		
		Action	Let Value Stand		Let Value Stand	Let Value Stand										Let Value Stand		
		Result	High blank value remains.		High blank value remains.	High blank value remains.										High blank value remains.		
X4	5/3/2010	FIELD BLANK	0.150	<0.05	<0.05	0.030	0.1660	<0.02	<0.04	<100.0	<0.01	0.08	<0.5	<0.002	0.0040	<0.2	0.600	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	3	1	1	1.5	33.2	1	1	1	1	1.6	1	1	2	1	6	1
		Comments														Blank concentration > PQL and correctly entered into emLine. Lab noted that "Dissolved metals greater than total metals for some parameters; analysis from separate field prepared sample bottles."		
		Action	Let Value Stand		Let Value Stand	Let Value Stand										Let Value Stand		
		Result	High blank value remains.		High blank value remains.	High blank value remains.										High blank value remains.		
NF2	6/4/2010	FIELD BLANK	<0.05	<0.05	<0.05	<0.02	0.0250	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	0.200	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	1	1	1	1	5	1	1	1	1	1	1	1	1	1	2	1
		Comments																
		Action	Let Value Stand		Let Value Stand	Let Value Stand										Let Value Stand		
		Result	High blank value remains.		High blank value remains.	High blank value remains.										High blank value remains.		
X5	6/22/2010	FIELD BLANK	2.160	<0.05	0.08	0.490	0.3560	<0.02	<0.04	<100	0.03	0.16	<0.5	<0.002	<0.002	<0.2	10.200	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	43.2	1	1.6	24.6	71.2	1	1	1	3	3.2	1	1	1	1	102	1
		Comments	Blank concentration > PQL and correctly entered into emLine.		Blank concentration > PQL and correctly entered into emLine.	Blank concentration > PQL and correctly entered into emLine.										Blank concentration > PQL and correctly entered into emLine.		
		Action	Request Retest	Request Retest	Request Retest	Request Retest		Request Retest	Request Retest									
		Result	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.		Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.								
X5 Retest	6/22/2010	FIELD BLANK	0.120	<0.05	<0.05	0.020	0.1010	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.007	<0.2	0.800	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	2.4	1	1	1	20.2	1	1	1	1	1	1	1	3.5	1	8	1
		Comments	Retest for June 22 X5 blank.	Retest for June 22 X5 blank.	Retest for June 22 X5 blank.	Retest for June 22 X5 blank.		Retest for June 22 X5 blank.	Retest for June 22 X5 blank.									
		Action	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand		Let Value Stand	Let Value Stand									
		Result	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.		New blank value entered into emLine.	New blank value entered into emLine.									
X14	7/20/2010	FIELD BLANK	0.160	<0.05	<0.05	<0.02	0.0480	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	0.200	<0.1
		Deionized Water	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	3.2	1	1	9.6	1	1	1	1	1	1	1	1	1	1	2	1
		Comments																
		Action	Let Value Stand		Let Value Stand	Let Value Stand										Let Value Stand		
		Result	High blank value remains.		High blank value remains.	High blank value remains.										High blank value remains.		
RCSG#4	8/3/20																	

**Table C-48: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Total Metals**



Station	Date	Sample Type	Mn µg/L	Mo µg/L	Na mg/L	Ni µg/L	Pb µg/L	Sb µg/L	Se µg/L	Si µg/L	Sn µg/L	Sr µg/L	Tl µg/L	Tl µg/L	U µg/L	V µg/L	Zn µg/L	Zr µg/L
X5 Retest	8/17/2010	FIELD BLANK						0.2230										
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	
Times greater than DI water			0	0	0	0	0	44.6	0	0	0	0	0	0	0	0	0	
Comments																		
Action								Let Value Stand										
Result								New blank value entered into emLine.										
X5	9/7/2010	FIELD BLANK	16.400	<0.05	0.06	0.060	0.4610	0.62	<0.04	<100	0.02	1.14	<0.5	0.00	0.0080	<0.2	2.400	<0.1
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	
Times greater than DI water			328	1	1.2	3	92.2	31	1	1	2	22.8	1	1.5	4	1	24	1
Comments			Blank concentration > PQL and correctly entered into emLine.					Blank concentration > PQL and correctly entered into emLine.					Blank concentration > PQL and correctly entered into emLine.				Blank concentration > PQL and correctly entered into emLine.	
Action			Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	Request Retest	
Result			Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	Retest performed, see results below.	
X5 Retest	9/7/2010	FIELD BLANK	16.300	<0.05	<0.05	0.050	0.5580	0.74	<0.04	<100	<0.01	1.15	<0.5	<0.002	<0.002	<0.2	2.200	<0.1
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	
Times greater than DI water			326	1	1	2.5	111.6	37	1	1	1	23	1	1	1	1	22	1
Comments			Blank concentration > PQL and correctly entered into emLine.					Blank concentration > PQL and correctly entered into emLine.					Blank concentration > PQL and correctly entered into emLine.				Blank concentration > PQL and correctly entered into emLine.	
Action			Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	
Result			New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	New blank value entered into emLine.	
GDHSECK	10/6/2010	FIELD BLANK	0.510	<0.05	<0.05	0.030	0.1990	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	2.100	<0.1
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	
Times greater than DI water			10.2	1	1	1.5	39.8	1	1	1	1	1	1	1	1	1	21	1
Comments			Blank concentration > PQL and correctly entered into emLine.					Blank concentration > PQL and correctly entered into emLine.									Blank concentration > PQL and correctly entered into emLine.	
Action			Let Value Stand					Request Retest									Request Retest	
Result			High blank value remains.					Retest performed, see results below.									Retest performed, see results below.	
GDHSECK Retest	10/6/2010	FIELD BLANK						0.12										1.40
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	
Times greater than DI water			0	0	0	0	0	23	0	0	0	0	0	0	0	0	14	0
Comments								Retest for October 6 GDHSECK blank. Blank concentration > PQL and correctly entered into emLine.									Retest for October 6 GDHSECK blank. Blank concentration > PQL and correctly entered into emLine.	
Action			Let Value Stand														Let Value Stand	
Result			New blank value entered into emLine.														New blank value entered into emLine.	
X4	10/20/2010	FIELD BLANK	3.170	<0.05	<0.05	0.030	0.1030	<0.02	<0.04	<100	<0.01	0.17	<0.5	<0.002	0.0120	<0.2	8.200	<0.1
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	
Times greater than DI water			63.4	1	1	1.5	20.6	1	1	1	1	3.4	1	1	6	1	32	1
Comments			Blank concentration > PQL and correctly entered into emLine.					Blank concentration > PQL and correctly entered into emLine.									Blank concentration > PQL and correctly entered into emLine.	
Action			Request Retest					Request Retest									Request Retest	
Result			Retest performed, see results below.					Retest performed, see results below.									Retest performed, see results below.	
X4 Retest	10/20/2010	FIELD BLANK	2.860					0.1320										6.800
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	
Times greater than DI water			57.2	0	0	0	0	26.4	0	0	0	0	0	0	0	0	68	0
Comments			Retest for October 20 X4 blank. Blank concentration > PQL and correctly entered into emLine.					Retest for October 20 X4 blank. Blank concentration > PQL and correctly entered into emLine.									Retest for October 20 X4 blank. Blank concentration > PQL and correctly entered into emLine.	
Action			Let Value Stand					Let Value Stand									Let Value Stand	
Result			New blank value entered into emLine.					New blank value entered into emLine.									New blank value entered into emLine.	
X14	11/9/2010	FIELD BLANK	0.130	<0.05	<0.05	<0.02	0.1560	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	0.700	<0.1
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	
Times greater than DI water			2.6	1	1	1	31.2	1	1	1	1	1	1	1	1	1	7	1
Comments								Blank concentration > PQL and correctly entered into emLine.									Blank concentration > PQL and correctly entered into emLine.	
Action			Let Value Stand														Let Value Stand	
Result			High blank value remains. Retest not requested because lab already reanalyzed full suite because dissolved total for some metals.														High blank value remains.	
X5	11/18/2010	FIELD BLANK	0.610	<0.05	<0.05	0.070	0.0210	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	0.0250	<0.2	0.200	<0.1
Deionized Water			<0.05	<0.05	<0.05	<0.02	<0.005	<0.										

**Table C-48: Rose Creek Drainage Water Quality
2010 QA/QC Field Blanks - Total Metals**



Station	Date	Sample Type	Mn µg/L	Mo µg/L	Na mg/L	Ni µg/L	Pb µg/L	Sb µg/L	Se µg/L	Si µg/L	Sn µg/L	Sr µg/L	Tl µg/L	Tl µg/L	U µg/L	V µg/L	Zn µg/L	Zr µg/L	
X14	12/2/2010	FIELD BLANK		1.790	<0.05	<0.05	0.050	0.0680	<0.02	<0.04	<100	<0.01	0.09	<0.5	<0.002	0.0160	<0.2	1.100	<0.1
		Deionized Water	<0.05		<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	35.8	1	1	2.5	13.6		1	1	1	1	1.8	1	1	8	1	11	1
		Comments	Blank concentration > PQL and correctly entered into emLine.					Blank concentration > PQL and correctly entered into emLine.							Blank concentration > PQL and correctly entered into emLine.		Blank concentration > PQL and correctly entered into emLine.		
		Action	Request Retest				Let Value Stand								Let Value Stand		Let Value Stand		
		Result	Retest performed, see results below.				High blank value remains.								High blank value remains.		High blank value remains.		
X14 Retest	12/2/2010	FIELD BLANK		0.410															
		Deionized Water	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
		Times greater than DI water	8.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Comments	Retest for December 2 X14 blank. Blank concentration > PQL and correctly entered into emLine.																
		Action	Let Value Stand																
		Result	New blank value entered into emLine.																

Blank value < PQL
 Blank value is a detection limit higher than that of DI water
 Blank value > PQL and < retest limit
 Blank value > retest limit (20X DI Water Detection Limit)