From: April Abate
To: eflemer@utah.gov
CC: OGMCOAL@utah.gov
Date: 1/20/2012 9:44 AM
Subject: Alton Utah Request for Surface Water Info (Near Coal Hollow Mine)
Attachments: DWG. 7-10.pdf; Coal Hollow data.xls; April Abate.vcf

Hello Emily,

I am responding to your request to provide data from surface water sample locations along Kanab Creek and Lower Robinson Creek to assist the Dept. of Water Quality in preparing its state water quality report.

Here is a data table from locations along Kanab and Lower Robinson Creek. These locations can also be seen on the attached map. Let me know if you have any additional questions or require more information.

Regards,

April

April A. Abate
Environmental Scientist III
Division of Oil, Gas and Mining
1594 W. North Temple, Suite 1210
Salt Lake City, Utah 84114-5801
T: 801.538.5214
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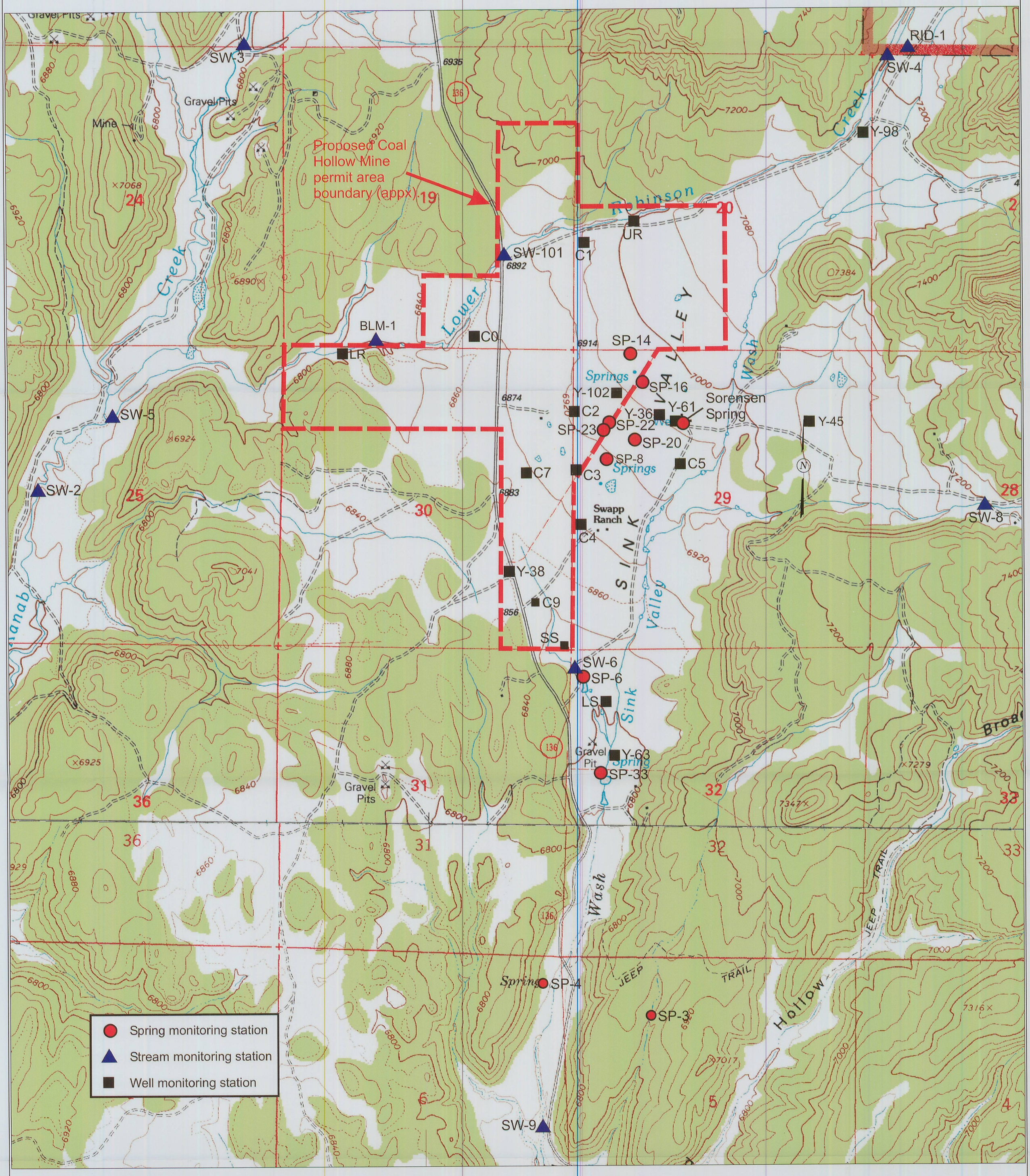
Starting Tuesday, September 6, 2011, our agency hours will be
8am-5pm, Monday-Friday.



LEGEND:	DRAWN BY:	CHECKED BY:	REVISIONS		WATER MONITORING LOCATIONS		
PERMIT BOUNDARY	E. PETERSEN	ECP/CRM	DATE:	BY:			Alton Coal Development Coal Hollow Project
	DRAWING: 7-10	DATE: 4/20/07	12/18/08	CRM	COAL HOLLOW PROJECT ALTON, UTAH	Registered Professional Geologist 5373615-2250 ERIK CARL PETERSEN 20 Dec 08 State of Utah	463 North 100 West, Suite 1 Cedar City, Utah 84720 Phone (435)867-5331 Fax (435)867-1192
		SCALE: 1" = 800'			DRAWING: 7-10		
	JOB NUMBER: 1400	SHEET					

RECEIVED
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DIV. OF OIL, GAS & MINING

TEST MINE	SITE TYPE	SITE NAME	SITE DESCRIP	DATE	TIME	PHDI ARE Region 4	Wat. Temp Deg. C	F-pH pH units
COAL HOL	Stream	BLM-1	LRC adjace	6/1/2011	1400	4.78	13.4	8.22
COAL HOL	Stream	BLM-1	LRC adjace	3/27/2011	1030	3.21	6	8.26
COAL HOL	Stream	BLM-1	LRC adjace	12/8/2010	930	3.4	0.9	8.49
COAL HOL	Stream	BLM-1	LRC adjace	9/28/2010	945	-0.98	14.4	8.44
COAL HOL	Stream	BLM-1	LRC adjace	11/17/2009	1100	-3.02	1.1	8.51
COAL HOL	Stream	BLM-1	LRC adjace	9/29/2009	1735	-2.78	16.8	8.47
COAL HOL	Stream	BLM-1	LRC adjace	5/25/2009	1430	-1.28	19.7	8.42
COAL HOL	Stream	BLM-1	LRC adjace	3/18/2009	1830	-1.13	11.1	8.21
COAL HOL	Stream	BLM-1	LRC adjace	12/30/2008	1200	-0.9	No Access	Snow cove
COAL HOL	Stream	BLM-1	LRC adjace	8/20/2008	1700	-0.84	23.3	8.47
COAL HOL	Stream	BLM-1	LRC adjace	7/17/2008	1845	0.81	19.3	8.5
COAL HOL	Stream	BLM-1	LRC adjace	3/22/2008	1200	1.51	No Access	
COAL HOL	Stream	BLM-1	LRC adjace	9/30/2007	1245	-2.73	16	8.38
COAL HOL	Stream	BLM-1	LRC adjace	6/22/2007	1430	-2.75	28.8	8.59
COAL HOL	Stream	BLM-1	LRC adjace	3/29/2007	1931	-1.32	1.4	8.57
COAL HOL	Stream	BLM-1	LRC adjace	3/29/2007	1930	-1.32	1.4	8.57
COAL HOL	Stream	RID-1	Robinson (	6/2/2011	1700	4.78	17.3	8.72
COAL HOL	Stream	RID-1	Robinson (	3/27/2011	1240	3.21	0.5	8.79
COAL HOL	Stream	RID-1	Robinson (	12/8/2010	1240	3.4	0.5	8.73
COAL HOL	Stream	RID-1	Robinson (	9/27/2010	1845	-0.98	17.9	8.53
COAL HOL	Stream	RID-1	Robinson (	5/13/2010	1932	1.39		
COAL HOL	Stream	RID-1	Robinson (	5/6/2010	1040	1.39	11.4	8.48
COAL HOL	Stream	RID-1	Robinson (	4/22/2010	1025	1.22		
COAL HOL	Stream	RID-1	Robinson (	11/17/2009	1215	-3.02		
COAL HOL	Stream	RID-1	Robinson (	9/29/2009	1830	-2.78	12.8	8.69
COAL HOL	Stream	RID-1	Robinson (	5/25/2009	1230	-1.28	22.8	8.83
COAL HOL	Stream	RID-1	Robinson (	3/19/2009	1430	-1.13	17.3	8.78
COAL HOL	Stream	RID-1	Robinson (	12/30/2008	1200	-0.9	No Access	Snow cove
COAL HOL	Stream	RID-1	Robinson (	9/25/2008	1125	-1.26		
COAL HOL	Stream	RID-1	Robinson (	8/20/2008	1840	-0.84	18.9	9.05
COAL HOL	Stream	RID-1	Robinson (	6/18/2008	1430	1.08	27.4	8.72
COAL HOL	Stream	RID-1	Robinson (	3/22/2008	1200	1.51	No Access	
COAL HOL	Stream	RID-1	Robinson (	11/29/2007	1300	-3.38		
COAL HOL	Stream	RID-1	Robinson (	9/29/2007	1410	-2.73	12.7	8.81
COAL HOL	Stream	RID-1	Robinson (	6/21/2007	2115	-2.75	14.2	8.97
COAL HOL	Stream	RID-1	Robinson (	3/28/2007	1900	-1.32	1.5	8.83
COAL HOL	Stream	RID-1	Robinson (	12/21/2006	1230	1.88	0.1	8.87
COAL HOL	Stream	RID-1	Robinson (	5/29/2006	2045	2.43	10.4	8.89
COAL HOL	Stream	RID-1	Robinson (	3/30/2006	1200	3.73	No Access	
COAL HOL	Stream	RID-1	Robinson (	1/8/2006	1200	3.71	18.3	8.37
COAL HOL	Stream	RID-1	Robinson (	11/4/2005	830	4.94	1	8.73
COAL HOL	Stream	SW-101	Robinson (	6/1/2011	1930	4.78	10.4	7.67
COAL HOL	Stream	SW-101	Robinson (	3/26/2011	1715	3.21	1.1	8.41
COAL HOL	Stream	SW-101	Robinson (	12/8/2010	1400	3.4		
COAL HOL	Stream	SW-101	Robinson (	10/5/2010	900	1.35	8.7	8.29
COAL HOL	Stream	SW-101	Robinson (	9/27/2010	1950	-0.98		
COAL HOL	Stream	SW-101	Robinson (	5/13/2010	1000	1.39		
COAL HOL	Stream	SW-101	Robinson (	5/12/2010	1730	1.39		
COAL HOL	Stream	SW-101	Robinson (	5/7/2010	1845	1.39		

COAL HOL	Stream	SW-101	Robinson (	5/6/2010	1505	1.39		
COAL HOL	Stream	SW-101	Robinson (	5/6/2010	950	1.39	3.2	7.61
COAL HOL	Stream	SW-101	Robinson (	5/6/2010	930	1.39	3.2	7.61
COAL HOL	Stream	SW-101	Robinson (	5/6/2010		1.39	3.2	7.61
COAL HOL	Stream	SW-101	Robinson (	4/23/2010	1910	1.22		
COAL HOL	Stream	SW-101	Robinson (	4/22/2010	1815	1.22		
COAL HOL	Stream	SW-101	Robinson (	4/22/2010	1420	1.22	10.3	8.43
COAL HOL	Stream	SW-101	Robinson (	3/31/2010	1300	-0.88	2.9	8.44
COAL HOL	Stream	SW-101	Robinson (	3/30/2010	1945	-0.88	3.5	8.4
COAL HOL	Stream	SW-101	Robinson (	11/17/2009	857	-3.02		
COAL HOL	Stream	SW-101	Robinson (	9/29/2009	1025	-2.78		
COAL HOL	Stream	SW-101	Robinson (	5/24/2009	945	-1.28		
COAL HOL	Stream	SW-101	Robinson (	3/20/2009	1050	-1.13		
COAL HOL	Stream	SW-101	Robinson (	3/18/2009	1920	-1.13	8.9	8.2
COAL HOL	Stream	SW-101	Robinson (	3/17/2009	1830	-1.13	8.6	8.02
COAL HOL	Stream	SW-101	Robinson (	12/30/2008	1750	-0.9		
COAL HOL	Stream	SW-101	Robinson (	12/10/2008	1600	-0.9		
COAL HOL	Stream	SW-101	Robinson (	8/20/2008	830	-0.84		
COAL HOL	Stream	SW-101	Robinson (	7/27/2008	817	0.81		
COAL HOL	Stream	SW-101	Robinson (	6/17/2008	845	1.08		
COAL HOL	Stream	SW-101	Robinson (	3/21/2008	1850	1.51	0.9	7.91
COAL HOL	Stream	SW-101	Robinson (	12/29/2007	1750	-1.96		
COAL HOL	Stream	SW-101	Robinson (	11/26/2007	900	-3.38		
COAL HOL	Stream	SW-101	Robinson (	9/29/2007	2020	-2.73		
COAL HOL	Stream	SW-101	Robinson (	6/20/2007	1730	-2.75		
COAL HOL	Stream	SW-101	Robinson (	12/30/2006	1700	1.88		
COAL HOL	Stream	SW-101	Robinson (	12/21/2006	1200	1.88		
COAL HOL	Stream	SW-101	Robinson (	5/3/2006	1445	2.43		
COAL HOL	Stream	SW-101	Robinson (	3/31/2006	1415	3.73	8.6	8.62
COAL HOL	Stream	SW-101	Robinson (	11/3/2005	800	4.94		
COAL HOL	Stream	SW-101	Robinson (	9/24/2005	1350	6.18		
COAL HOL	Stream	SW-101	Robinson (	5/27/2005	1200	6.21	17.7	8.41
COAL HOL	Stream	SW-2	Kanab Cre	6/1/2011	1045	4.78	11.2	8.46
COAL HOL	Stream	SW-2	Kanab Cre	3/26/2011	1230	3.21	1.1	8.67
COAL HOL	Stream	SW-2	Kanab Cre	12/7/2010	1130	3.4	0.9	8.59
COAL HOL	Stream	SW-2	Kanab Cre	9/27/2010	1645	-0.98	23.5	8.21
COAL HOL	Stream	SW-2	Kanab Cre	5/13/2010	1100	1.39	10.7	8.29
COAL HOL	Stream	SW-2	Kanab Cre	11/16/2009	1445	-3.02	3.5	8.07
COAL HOL	Stream	SW-2	Kanab Cre	9/29/2009	1445	-2.78	18.6	7.6
COAL HOL	Stream	SW-2	Kanab Cre	5/25/2009	1000	-1.28	14.2	8.07
COAL HOL	Stream	SW-2	Kanab Cre	3/19/2009	1100	-1.13	6.4	8.53
COAL HOL	Stream	SW-2	Kanab Cre	12/30/2008	1200	-0.9	No Access	Snow cove
COAL HOL	Stream	SW-2	Kanab Cre	8/21/2008	1000	-0.84	10.5	8.2
COAL HOL	Stream	SW-2	Kanab Cre	6/18/2008	920	1.08	14.8	8.13
COAL HOL	Stream	SW-2	Kanab Cre	3/22/2008	1200	1.51	No Access	
COAL HOL	Stream	SW-2	Kanab Cre	12/29/2007	1535	-1.96	No Access	Kanab Cre
COAL HOL	Stream	SW-2	Kanab Cre	9/29/2007	1025	-2.73	8.7	8.6
COAL HOL	Stream	SW-2	Kanab Cre	6/22/2007	730	-2.75	10.7	8.21
COAL HOL	Stream	SW-2	Kanab Cre	3/29/2007	1030	-1.32	1.3	8.35
COAL HOL	Stream	SW-2	Kanab Cre	12/20/2006	1200	1.88	No Access	
COAL HOL	Stream	SW-2	Kanab Cre	9/7/2006	950	1.21	14.7	8

COAL HOL	Stream	SW-2	Kanab Cre	5/30/2006	900	2.43	8.5	8.69
COAL HOL	Stream	SW-2	Kanab Cre	3/31/2006	1230	3.73	No Access	
COAL HOL	Stream	SW-2	Kanab Cre	11/3/2005	930	4.94	5.9	8.09
COAL HOL	Stream	SW-2	Kanab Cre	9/25/2005	901	6.18	6.1	8.22
COAL HOL	Stream	SW-2	Kanab Cre	9/25/2005	900	6.18	6.1	8.22
COAL HOL	Stream	SW-2	Kanab Cre	5/27/2005	1030	6.21	15.8	8.35
COAL HOL	Stream	SW-3	Kanab Cre	6/1/2011	1830	4.78	14.7	8.63
COAL HOL	Stream	SW-3	Kanab Cre	3/26/2011	1500	3.21	0.4	8.67
COAL HOL	Stream	SW-3	Kanab Cre	12/7/2010	1340	3.4	1.8	8.65
COAL HOL	Stream	SW-3	Kanab Cre	9/27/2010	1820	-0.98	22.5	8.31
COAL HOL	Stream	SW-3	Kanab Cre	5/13/2010	1230	1.39	14.4	8.47
COAL HOL	Stream	SW-3	Kanab Cre	11/16/2009	1710	-3.02	1.2	8.6
COAL HOL	Stream	SW-3	Kanab Cre	9/29/2009	1600	-2.78	20.4	
COAL HOL	Stream	SW-3	Kanab Cre	5/25/2009	1155	-1.28	19.5	8.18
COAL HOL	Stream	SW-3	Kanab Cre	3/19/2009	1215	-1.13	10.4	8.51
COAL HOL	Stream	SW-3	Kanab Cre	12/30/2008	1200	-0.9	No Access	Snow cove
COAL HOL	Stream	SW-3	Kanab Cre	8/21/2008	1130	-0.84	20	8.38
COAL HOL	Stream	SW-3	Kanab Cre	6/18/2008	1200	1.08	20.5	8.05
COAL HOL	Stream	SW-3	Kanab Cre	3/22/2008	1730	1.51	6.9	8.21
COAL HOL	Stream	SW-3	Kanab Cre	12/30/2007	1600	-1.96	0.5	8.21
COAL HOL	Stream	SW-3	Kanab Cre	9/29/2007	1230	-2.73	11.2	8.48
COAL HOL	Stream	SW-3	Kanab Cre	6/22/2007	845	-2.75	11.9	8.51
COAL HOL	Stream	SW-3	Kanab Cre	3/29/2007	1100	-1.32	0.5	8.63
COAL HOL	Stream	SW-3	Kanab Cre	12/21/2006	1020	1.88	0	8.72
COAL HOL	Stream	SW-3	Kanab Cre	9/7/2006	1115	1.21	13.7	8.37
COAL HOL	Stream	SW-3	Kanab Cre	5/30/2006	1000	2.43	12.4	8.64
COAL HOL	Stream	SW-3	Kanab Cre	3/31/2006	1300	3.73	9.5	8.94
COAL HOL	Stream	SW-3	Kanab Cre	11/3/2005	1130	4.94	9.6	8.33
COAL HOL	Stream	SW-3	Kanab Cre	9/25/2005	1031	6.18	9.8	8.12
COAL HOL	Stream	SW-3	Kanab Cre	9/25/2005	1030	6.18	9.8	8.12
COAL HOL	Stream	SW-3	Kanab Cre	5/27/2005	930	6.21	12.1	8.26
COAL HOL	Stream	SW-4	Robinson (	6/2/2011	1720	4.78		
COAL HOL	Stream	SW-4	Robinson (	3/27/2011	1250	3.21		
COAL HOL	Stream	SW-4	Robinson (	12/8/2010	1255	3.4		
COAL HOL	Stream	SW-4	Robinson (	9/27/2010	1915	-0.98		
COAL HOL	Stream	SW-4	Robinson (	5/13/2010	1930	1.39		
COAL HOL	Stream	SW-4	Robinson (	5/6/2010	1027	1.39		
COAL HOL	Stream	SW-4	Robinson (	4/22/2010	1030	1.22		
COAL HOL	Stream	SW-4	Robinson (	11/17/2009	1220	-3.02		
COAL HOL	Stream	SW-4	Robinson (	9/29/2009	1840	-2.78		
COAL HOL	Stream	SW-4	Robinson (	5/25/2009	1235	-1.28		
COAL HOL	Stream	SW-4	Robinson (	3/19/2009	1520	-1.13		
COAL HOL	Stream	SW-4	Robinson (	12/30/2008	1200	-0.9	No Access	Snow cove
COAL HOL	Stream	SW-4	Robinson (	8/20/2008	1850	-0.84		
COAL HOL	Stream	SW-4	Robinson (	6/18/2008	1325	1.08		
COAL HOL	Stream	SW-4	Robinson (	3/22/2008	1200	1.51	No Access	
COAL HOL	Stream	SW-4	Robinson (	11/29/2007	1250	-3.38		
COAL HOL	Stream	SW-4	Robinson (	9/27/2007	1420	-2.73		
COAL HOL	Stream	SW-4	Robinson (	6/21/2007	2135	-2.75		
COAL HOL	Stream	SW-4	Robinson (	3/28/2007	1910	-1.32		
COAL HOL	Stream	SW-4	Robinson (	12/21/2006	1240	1.88		

COAL HOL	Stream	SW-4	Robinson (	9/8/2006	1145	1.21		
COAL HOL	Stream	SW-4	Robinson (	5/16/2006	1700	2.43		
COAL HOL	Stream	SW-4	Robinson (	11/4/2005	815	4.94		
COAL HOL	Stream	SW-4	Robinson (	9/25/2005	1125	6.18		
COAL HOL	Stream	SW-4	Robinson (	5/27/2005	1245	6.21	19.1	8.4
COAL HOL	Stream	SW-5	Robinson (	6/1/2011	1200	4.78	13.2	8.51
COAL HOL	Stream	SW-5	Robinson (	6/1/2011	1130	4.78	15	8.53
COAL HOL	Stream	SW-5	Robinson (	3/26/2011	1130	3.21	0.9	8.62
COAL HOL	Stream	SW-5	Robinson (	12/7/2010	1200	3.4	0.5	8.53
COAL HOL	Stream	SW-5	Robinson (	9/27/2010	1710	-0.98	23.6	8.51
COAL HOL	Stream	SW-5	Robinson (	5/13/2010	1110	1.39	14.4	8.56
COAL HOL	Stream	SW-5	Robinson (	5/6/2010	1950	1.39	10.9	8.62
COAL HOL	Stream	SW-5	Robinson (	11/16/2009	1530	-3.02		
COAL HOL	Stream	SW-5	Robinson (	9/29/2009	1515	-2.78	18.5	
COAL HOL	Stream	SW-5	Robinson (	5/25/2009	1030	-1.28	17	8.49
COAL HOL	Stream	SW-5	Robinson (	3/19/2009	1130	-1.13	8.5	8.58
COAL HOL	Stream	SW-5	Robinson (	12/30/2008	1200	-0.9	No Access	Snow cove
COAL HOL	Stream	SW-5	Robinson (	8/21/2008	1045	-0.84	15	8.66
COAL HOL	Stream	SW-5	Robinson (	6/18/2008	1045	1.08	18.8	8.51
COAL HOL	Stream	SW-5	Robinson (	3/22/2008	1200	1.51	No Access	
COAL HOL	Stream	SW-5	Robinson (	12/29/2007	1530	-1.96		
COAL HOL	Stream	SW-5	Robinson (	9/29/2007	1100	-2.73	9.6	8.56
COAL HOL	Stream	SW-5	Robinson (	6/22/2007	810	-2.75		
COAL HOL	Stream	SW-5	Robinson (	3/29/2007	1010	-1.32		
COAL HOL	Stream	SW-5	Robinson (	12/30/2006	1500	1.88		
COAL HOL	Stream	SW-5	Robinson (	9/7/2006	1030	1.21	13.7	8.36
COAL HOL	Stream	SW-5	Robinson (	5/30/2006	945	2.43	11.4	8.88
COAL HOL	Stream	SW-5	Robinson (	3/31/2006	1200	3.73	No Access	
COAL HOL	Stream	SW-5	Robinson (	5/27/2005	1100	6.21	18	8.46
COAL HOL	Stream	SW-6	Sink Valley	6/2/2011	1010	4.78		
COAL HOL	Stream	SW-6	Sink Valley	3/28/2011	1130	3.21	12.3	8.67
COAL HOL	Stream	SW-6	Sink Valley	12/6/2010	1440	3.4		
COAL HOL	Stream	SW-6	Sink Valley	5/13/2010	1535	1.39		
COAL HOL	Stream	SW-6	Sink Valley	5/6/2010	935	1.39		
COAL HOL	Stream	SW-6	Sink Valley	4/23/2010	1150	1.22	8.5	8.61
COAL HOL	Stream	SW-6	Sink Valley	3/30/2010	1430	-0.88	0.5	8.34
COAL HOL	Stream	SW-6	Sink Valley	11/18/2009	1205	-3.02		
COAL HOL	Stream	SW-6	Sink Valley	9/30/2009	1550	-2.78		
COAL HOL	Stream	SW-6	Sink Valley	5/24/2009	1740	-1.28		
COAL HOL	Stream	SW-6	Sink Valley	3/19/2009	1300	-1.13	18.2	8.7
COAL HOL	Stream	SW-6	Sink Valley	3/18/2009	1450	-1.13	23.7	8.62
COAL HOL	Stream	SW-6	Sink Valley	12/30/2008	1715	-0.9		
COAL HOL	Stream	SW-6	Sink Valley	8/20/2008	1250	-0.84		
COAL HOL	Stream	SW-6	Sink Valley	6/17/2008	1610	1.08		
COAL HOL	Stream	SW-6	Sink Valley	3/22/2008	1050	1.51	0.4	8.4
COAL HOL	Stream	SW-6	Sink Valley	12/30/2007	915	-1.96		
COAL HOL	Stream	SW-6	Sink Valley	9/30/2007	1150	-2.73		
COAL HOL	Stream	SW-6	Sink Valley	6/20/2007	2045	-2.75		
COAL HOL	Stream	SW-6	Sink Valley	3/30/2007	1015	-1.32		
COAL HOL	Stream	SW-6	Sink Valley	12/30/2006	1630	1.88		
COAL HOL	Stream	SW-6	Sink Valley	9/7/2006	1825	1.21		

COAL HOL	Stream	SW-6	Sink Valley	5/29/2006	1700	2.43		
COAL HOL	Stream	SW-6	Sink Valley	5/16/2006	2000	2.43		
COAL HOL	Stream	SW-6	Sink Valley	3/30/2006	1715	3.73	13.8	8.91
COAL HOL	Stream	SW-6	Sink Valley	11/3/2005	1655	4.94		
COAL HOL	Stream	SW-6	Sink Valley	9/24/2005	1715	6.18		
COAL HOL	Stream	SW-8	Swapp Hol	6/3/2011	1100	4.78	9.5	8.7
COAL HOL	Stream	SW-8	Swapp Hol	3/27/2011	1420	3.21	1.6	8.7
COAL HOL	Stream	SW-8	Swapp Hol	12/8/2010	1450	3.4	0.9	8.64
COAL HOL	Stream	SW-8	Swapp Hol	9/30/2010	1620	-0.98	19.9	8.58
COAL HOL	Stream	SW-8	Swapp Hol	5/14/2010	915	1.39	7.3	8.6
COAL HOL	Stream	SW-8	Swapp Hol	11/18/2009	1530	-3.02	3	8.63
COAL HOL	Stream	SW-8	Swapp Hol	9/30/2009	1030	-2.78	10	8.52
COAL HOL	Stream	SW-8	Swapp Hol	5/25/2009	1530	-1.28	18.3	8.53
COAL HOL	Stream	SW-8	Swapp Hol	3/19/2009	1640	-1.13	12.4	8.64
COAL HOL	Stream	SW-8	Swapp Hol	12/30/2008	1200	-0.9	No Access	Snow cove
COAL HOL	Stream	SW-8	Swapp Hol	8/21/2008	1420	-0.84	25.2	8.63
COAL HOL	Stream	SW-8	Swapp Hol	6/18/2008	1730	1.08	24.7	8.37
COAL HOL	Stream	SW-8	Swapp Hol	3/22/2008	1200	1.51	No Access	
COAL HOL	Stream	SW-8	Swapp Hol	11/30/2007	730	-3.38	0.4	8.16
COAL HOL	Stream	SW-8	Swapp Hol	9/29/2007	1645	-2.73	13.6	8.7
COAL HOL	Stream	SW-8	Swapp Hol	6/22/2007	1100	-2.75	20.2	8.66
COAL HOL	Stream	SW-8	Swapp Hol	3/29/2007	1426	-1.32	2.2	8.68
COAL HOL	Stream	SW-8	Swapp Hol	12/20/2006	1345	1.88	10.1	8.84
COAL HOL	Stream	SW-8	Swapp Hol	9/7/2006	1330	1.21	12.5	8.01
COAL HOL	Stream	SW-8	Swapp Hol	5/30/2006	1420	2.43	23.2	8.89
COAL HOL	Stream	SW-8	Swapp Hol	3/30/2006	1200	3.73	No Access	
COAL HOL	Stream	SW-8	Swapp Hol	11/4/2005	1130	4.94	6.2	8.63
COAL HOL	Stream	SW-8	Swapp Hol	9/24/2005	1741	6.18	14	8.36
COAL HOL	Stream	SW-8	Swapp Hol	9/24/2005	1740	6.18	14	8.36
COAL HOL	Stream	SW-8	Swapp Hol	8/12/2005	1331	6.87	14	8.36
COAL HOL	Stream	SW-8	Swapp Hol	8/12/2005	1330	6.87	17.8	8.41
COAL HOL	Stream	SW-8	Swapp Hol	6/18/2005	1700	7.14	17.5	8.38
COAL HOL	Stream	SW-9	Lower Sink	5/31/2011	2000	4.42	11.6	8.5
COAL HOL	Stream	SW-9	Lower Sink	3/26/2011	1330	3.21	1.6	8.77
COAL HOL	Stream	SW-9	Lower Sink	12/7/2010	900	3.4		
COAL HOL	Stream	SW-9	Lower Sink	9/28/2010	1330	-0.98		
COAL HOL	Stream	SW-9	Lower Sink	5/13/2010	1400	1.39	16.5	8.78
COAL HOL	Stream	SW-9	Lower Sink	5/6/2010	900	1.39	6.7	8.79
COAL HOL	Stream	SW-9	Lower Sink	4/23/2010	1045	1.22	4.2	8.72
COAL HOL	Stream	SW-9	Lower Sink	3/30/2010	1150	-0.88	10.9	8.26
COAL HOL	Stream	SW-9	Lower Sink	11/18/2009	835	-3.02		
COAL HOL	Stream	SW-9	Lower Sink	9/29/2009	1100	-2.78		
COAL HOL	Stream	SW-9	Lower Sink	5/24/2009	1151	-1.28		
COAL HOL	Stream	SW-9	Lower Sink	3/18/2009	930	-1.13		
COAL HOL	Stream	SW-9	Lower Sink	12/30/2008	1510	-0.9		
COAL HOL	Stream	SW-9	Lower Sink	8/20/2008	1041	-0.84		
COAL HOL	Stream	SW-9	Lower Sink	7/27/2008	917	0.81		
COAL HOL	Stream	SW-9	Lower Sink	6/17/2008	1050	1.08		
COAL HOL	Stream	SW-9	Lower Sink	3/22/2008	15	1.51		
COAL HOL	Stream	SW-9	Lower Sink	3/21/2008	2020	1.51	3.8	8.12
COAL HOL	Stream	SW-9	Lower Sink	12/29/2007	1325	-1.96		

COAL HOL	Stream	SW-9	Lower Sink	9/30/2007	1040	-2.73		
COAL HOL	Stream	SW-9	Lower Sink	6/20/2007	1755	-2.75		
COAL HOL	Stream	SW-9	Lower Sink	3/29/2007	1405	-1.32		
COAL HOL	Stream	SW-9	Lower Sink	12/20/2006	1145	1.88		
COAL HOL	Stream	SW-9	Lower Sink	9/8/2006	815	1.21		
COAL HOL	Stream	SW-9	Lower Sink	6/18/2006	1100	1.81		
COAL HOL	Stream	SW-9	Lower Sink	5/29/2006	1550	2.43		
COAL HOL	Stream	SW-9	Lower Sink	5/3/2006	1430	2.43		
COAL HOL	Stream	SW-9	Lower Sink	3/30/2006	1515	3.73	12	8.74
COAL HOL	Stream	SW-9	Lower Sink	11/3/2005	1430	4.94		
COAL HOL	Stream	SW-9	Lower Sink	9/24/2005	1405	6.18		
COAL HOL	Stream	SW-9	Lower Sink	6/17/2005	2130	7.14		

F-D.O. mg/l	Cond(FLD) umhos/cm	Flow GPM	Depth feet	WL feet	TDS mg/l	T-Alk mg/l	T-Hardns mg/l	Acidity mg/l
8.09	2040	9.6						
9.55	2540	55.6						
9.61	1414	9.17						
7.96	1282	5.47			867	469	733	
8.62	1346	7.04						
7.27	1267	3.5						
6.95	1383	7.64						
8.35	1864	25.4						
r and winter conditions at site								
5.52	1302	2.75						
6.68	1481	4.05						
6.88	1464	3.61						
5.2	1386	1.49						
9.55	1534	5.24			1182	505	863	
9.55	1534	5.24						
7.68	377	126						
9.87	399	8.43						
9.83	504	8.74						
8.05	393	3.44			211	205	230	
		0						
7.55	353	0.096						
		0						
		0						
8.42	418	2.73						
6.31	374	14.8			209	185	224	
8.14	307	14.1			227	213	246	
r and winter conditions at site								
		60						
5.74	348	2.8			203	177	207	
5.65	394	18.9			186	168	203	
		0						
7.17	416	6.64			245	227	258	
7.2	359	3.45			224	189	215	
7.82	412	12.8			254	234	243	
11.8	470	6.2			273	253	283	
8.85	412	48.6			265	221	239	
7.28	440	31			222	231	253	
9.29	376	64.7			250	238	270	
7.8	3250	0.006						
9.93	2220	63.4						
		0						
9.12	817	8080			696	74	428	
		0						
		0						
		0						
		0						

		0				
7.1	3510	0.005		3429	358	1658
7.1	3510	< 1.		3429		
7.1	3510	< 1.				
		< .1				
		3.16				
9.95	2780	3.08		2398	172	1294
10.7	1345	81		1056	140	568
11.7	577	798		472	102	284
		0				
		0				
		0				
		2.96				
9.57	2530	16.1		2228	189	1141
9.32	2560	18.5				
		0				
		0				
		0				
		0				
		0				
9.23	531	777		644	174	269
		0				
		0				
		0				
		0				
		0				
		0				
		0				
7.77	3120	20.8		3012	820	1498
		0				
		0				
8.03	495	734		309	353	284 < 5.
7.67	1362	1075		992	414	
9.46	1246	4414		981	391	708
9.59	1640	2299		1341	351	964
6.82	2180	3.77		1712	419	1220
8.81	1851	293		1541	441	1087
8.78	2400	15.9		2058	428	
6.98	2230	0				
7.08	1952	104		1659	427	1237
10.25	1113	1751		804	343	650
r and winter conditions at site						
7.1	2030	8.17		1771	422	1239
7.03	1921	68		1672	433	1319
ek is frozen hard in area						
7.45	1622	36.2		1434	390	1041
6.1	1819	3.4		1522	424	1069
9.65	1847	21.3		1511	440	1057
7.99	1959	5.38		1725	426	1160

8.93	1855	51	1156	417	1048	
7.82	1814	430	1513	415	1071	
8.24	1926	32				
8.24	1926	32	1625	439	1153	
8.47	1120	934	853	360	696	< 5.
7.61	1002	1449	680	353		
9.53	871	4544	590	336	488	
9.57	724	3051	438	315	416	
8.19	1544	34.9	1201	260	934	
7.78	1096	587	799	373	667	
10.1	1252	201	974	347		
8.25	1618	28.8	1326	308	1083	
7.02	1556	195	1239	389	1024	
9.38	934	1267	612	349	568	
r and winter conditions at site						
7.21	1636	37.1	1358	357	1038	
7.42	1679	68.9	1312	364	1022	
9.75	592	4170	418	222	358	
8.46	572	1970	521	332	442	
7.53	1422	85	1206	366	942	
7	1662	36.7	1372	375	1054	
10.8	1503	191	1167	461	948	
12.1	819	409	570	355	518	
8.11	1465	109	1257	358	962	
8.09	1563	166	1255	403	892	
7.44	878	2692	554	348	503	
7.83	1519	320	1144	416	917	
8.36	1665	119				
836	1665	119	1281	392	962	
9.22	874	1850	644	337	591	< 5.
		0				
		0				
		0				
		0				
		0				
		0				
		0				
		0				
		0				
		0				
		0				
r and winter conditions at site						
		0				
		0				
		0				
		0				
		0				
		0				
		0				

		0				
		0				
		0				
		0				
7.25	453	539	283	244	267	< 5.
8.01	1750	26.8	1280	473		
8.3	1522	148				
9.59	1463	145	1201	333	718	
9.66	1424	0.21	1016	342	680	
6.25	1610	0.061	1091	426	796	
8.31	1382	30	1041			
8.28	1423	34.1	1046	391	766	
		0				
7.43	1483	1.05	1055	430	782	
6.25	1528	24.5	1101	418	916	
9.16	1547	16.9	1186	403	791	
r and winter conditions at site						
7.07	1484	4.52	1122	413	803	
6.61	1620	4.98	1255	406	895	
		0				
7.24	960	0.23	751	305	582	
		0				
		0				
		0				
7.89	1394	4.96	1081	405	739	
8.67	1543	5.37	1205	421	784	
7.23	721	410	469	338	407	< 5.
		0				
7.51	1386	378	1107	549	893	
		0				
		0				
		0				
8.96	2230		1821	793	1487	
9.78	196	118	127	82	85	
		0				
		0				
		0				
8.56	2430	2.29	2024	763	1570	
5.6	1477	9.4				
		0				
		0				
		0				
10.8	734	1370	575	285	502	
		0				
		0				
		0				
		0				
		0				
		0				

		0			
		0			
5.98	1352	57.7	1028	483	810
		0			
		0			
8.23	582	115	326	264	
9.25	786	36.1	542	291	407
9.95	554	7.33	324	272	301
7.33	465	6.05	261	234	262
8.83	589	26.3	377	267	323
10.1	500	20.2	308	257	
7.57	518	7.41			
7.69	501	16.1	287	231	289
9.84	394	41.9	304	237	286
r and winter conditions at site					
5.89	507	2.05	238	241	281
6.97	514	10.7	305	222	280
10.9	445	12.5	377	278	308
	561	10.4	353	274	322
6.2	566	13.8	356	269	306
8.53	524	33.6	324	264	299
10.8	553	32.1	337	275	322
7.76	576	50.7	331	239	293
6.71	586	35	350	225	274
7.99	555	71.1	321	265	310
6.71	536	69			
6.71	536	69	298	250	281
6.71	536	69			
7.35	493	130	274	243	284
6.78	566	290	366	278	329
7.96	3560	0.172	2780	818	
9.45	1495	492	1146	506	883
		0			
		0			
7.17	2390	2.91			
7.48	2380	< .25	1882	766	1317
9.96	1722	33.6	1314	570	1067
8.91		7.01	837	364	541
		0			
		0			
		0			
		0			
		0			
		0			
		0			
		0			
		0			
8.95	382	182	360	161	204
		0			

		0			
		0			
		0			
		0			
		0			
		0			
		0			
		0			
6.63	1715	10.6	1270	498	809
		0			
		0			
		0			

D-Al mg/l	D-As mg/l	Bcrb mg/l	CaCC	D-B mg/l	D-Cd mg/l	Carb mg/l	CaCC	D-Ca mg/l	Cl mg/l	D-Cu mg/l
			469	0.11		< 5.		64.16	18	
< .03	< .01		505	0.12	< .001	< 5.		79.9	34	< .01
			195	0.01			10	30.38	2	
< .03	< .01		155	0.01	< .001		30	30.92	2	< .01
< .03	< .01		197	0.01	< .001		16	43.85	2	< .01
< .03	< .01		145	0.02	< .001		32	23.67	2	< .01
< .03	< .01		135	0.02	< .001		33	26.01	2	< .01
< .03	< .01		211	0.01	< .001		16	41.4	2	< .01
< .03	< .01		179	0.02	< .001		10	24.9	2	< .01
< .03	< .01		223	< .01	< .001		12	43.7	2	< .01
< .03	< .01		242	< .01	< .001		11	54.32	2	< .01
< .03	< .01		219	0.01	< .001	< 5.		36.3	3	< .01
< .03	< .01			< .01	< .001			43.81	3	< .01
< .03	< .01		238	< .01	< .001	< 5.		47.5	2	< .01
			74	0.09		< 5.		121.85	2	

< .03		< .01	358	0.41	< .001	< 5.		360.12	66	0.01
	0.05	< .01	172	0.22	< .001	< 5.		296.58	50	0.02
< .03		< .01	140	0.09	< .001	< 5.		141.73	16	0.01
	0.06	< .01	102	0.06	< .001	< 5.		78.09	6	< .01
< .03		< .01	189	0.2	< .001	< 5.		256.02	35	0.01
< .03		< .01	174	0.07	< .001	< 5.		73.07	5	< .01
	0.19	< .01	820	0.19	< .001	< 5.		356	47	< .01
< .03		< .01	345	0.02	< .001		8	54.2	4	< .01
			504	0.11		< 1.		82.6	16	
			391	0.08		< 5.		106.08	11	
			351	0.17		< 5.		126.61	14	
			419	0.24		< 5.		112.75	32	
			441	0.19		< 5.		117.01	23	
			428	0.22		< 5.		121.9	37	
< .03		< .01	427	0.23	< .001	< 5.		119.42	29	0.01
< .03		< .01	327	0.08	< .001		16	82.81	32	0.01
< .03		< .01	422	0.22	< .001	< 5.		131.53	30	0.01
< .03		< .01	433	0.22	< .001	< 5.		127.61	29	0.01
< .03		< .01	390	0.18	< .001	< 5.		107	25	< .01
< .03		< .01	424	0.22	< .001	< 5.		113	23	< .01
< .03		< .01	440	0.2	< .001	< 5.		115	24	< .01
< .03		< .01	426	0.24	< .001	< 5.		123.05	28	< .01

< .03		< .01	417	0.2	< .001	< 5.		113	24	< .01
< .03		< .01	415	0.18	< .001	< 5.		127	16	< .01
< .03		< .01	439	0.22	< .001	< 5.		112	22	< .01
< .03		< .01	360	0.1	< .001	< 5.		87.5	12	< .01
			431	0.07		< 2.		82.8	8	
			336	0.03		< 5.		80.53	7	
			315	0.02		< 5.		69.92	5	
			260	0.1		< 5.		72.03	24	
			369	0.05		< 5.		91.09	11	
			326	0.06			22	87.64	18	
< .03		< .01	281	0.09	< .001		28	86.49	26	0.01
< .03		< .01	389	0.12	< .001	< 5.		103.85	22	0.01
< .03		< .01	336	0.04	< .001		13	80.16	8	< .01
< .03		< .01	357	0.05	< .001	< 5.		111.2	23	0.01
< .03		< .01	364	0.09	< .001	< 5.		110.89	22	0.01
< .03		< .01	210	0.04	< .001		12	71.47	5	< .01
< .03		< .01	332	0.03	< .001	< 5.		74.9	5	< .01
< .03		< .01	366	0.08	< .001	< 5.		110	19	< .01
< .03		< .01	375	0.09	< .001	< 5.		112	20	< .01
< .03		< .01	461	0.07	< .001	< 5.		124	19	< .01
< .03		< .01	355	0.03	< .001	< 5.		88	6	< .01
< .03		< .01	358	0.09	< .001	< 5.		103.24	21	< .01
< .03		< .01	403	0.1	< .001	< 5.		100	18	< .01
	0.05	< .01	348	0.04	< .001	< 5.		79.3	7	< .01
< .03		< .01	416	0.08	< .001	< 5.		125	14	< .01
< .03		< .01	392	0.02	< .001	< 5.		110	16	< .01
< .03		< .01	337	0.05	< .001	< 5.		84.1	7	< .01

< .03	< .01	244	0.01	< .001	< 5.		47.7	2	< .01
		577	0.15		< 1.		72.6	44	
		333	0.11		< 5.		107.75	32	
		342	0.09		< 5.		69.1	27	
		418	0.16			8	60	30	
< .03	< .01	355	0.14	< .001		37	77.24	22	0.01
< .03	< .01	395	0.16	< .001		35	57.69	28	0.01
< .03	< .01	382	0.16	< .001		36	77.88	26	0.01
< .03	< .01	399	0.12	< .001	< 5.		85.36	27	0.01
< .03	< .01	413	0.16	< .001	< 5.		68.64	30	0.01
< .03	< .01	382	0.17	< .001		25	76.49	31	0.01
< .03	< .01	305	0.09	< .001	< 5.		75.3	15	< .01
< .03	< .01	374	0.16	< .001	< 5.		59.04	27	< .01
< .03	< .01	421	0.16	< .001	< 5.		69.8	26	< .01
< .03	< .01	332	0.04	< .001		5	63	6	< .01
		494	0.12			55	58.35	20	
< .03	< .01	680	0.17	< .001		113	32.35	46	0.02
< .03	< .01	82	0.02	< .001	< 5.		19.55	2	< .01
< .03	< .01	656	0.25	< .001		107	32.34	51	0.02
< .03	< .01	285	0.05	< .001	< 5.		51.8	12	0.01

< .03	< .01	436	0.17	< .001		47	58.9	22	< .01
		321	< .05		< 2.		57.2	6	
		269	0.03			22	79.91	9	
		272	0.01		< 5.		61.38	5	
		216	0.02			18	43.54	5	
		267	0.02		< 5.		61.82	5	
		241	0.01			16	56.31	4	
< .03	< .01	220	0.02	< .001		11	46.75	5	< .01
< .03	< .01	232	0.02	< .001	< 5.		56.03	4	< .01
< .03	< .01	233	0.02	< .001		8	43.76	5	< .01
< .03	< .01	211	0.02	< .001		10	45	6	< .01
< .03	< .01	278	0.01	< .001	< 5.		62.19	5	< .01
< .03	< .01	274	0.03	< .001	< 5.		58.7	6	< .01
< .03	< .01	269	0.03	< .001	< 5.		55.1	8	< .01
< .03	< .01	264	0.01	< .001	< 5.		59.6	5	< .01
< .03	< .01	275	0.64	< .001	< 5.		64.07	5	< .01
< .03	< .01	236	0.02	< .001	< 5.		47.48	7	< .01
< .03	< .01	225	0.03	< .001	< 5.		44.7	7	< .01
< .03	< .01	265	0.01	< .001	< 5.		59.8	4	< .01
< .03	< .01	250	0.02	< .001	< 5.		48.4	4	< .01
< .03	< .01	243	0.02	< .001	< 5.		51.4	4	< .01
< .03	< .01	302	0.02	< .001	< 5.		59.2	5	< .01
		989	1.35			4	62.1	100	
		478	0.17			28	49.29	30	
	0.05	< .01	659	0.46	0.004	107	49.13	59	0.02
< .03		< .01	503	0.23	< .001	67	47.65	41	0.01
< .03		< .01	337	0.23	< .001	27	34.87	29	0.01
< .03	< .01	161	0.1	< .001	< 5.		25.63	8	< .01

< .03	< .01	448	0.3	< .001	50	53.7	41	< .01

T-Fe mg/l	D-Fe mg/l	D-Pb mg/l	D-Mg mg/l	T-Mn mg/l	D-Mn mg/l	D-Mo mg/l	NH3 mg/l	NO2+NO3 mg/l
0.15	< .03		139.1	0.019	0.012			
10.3	< .03	< .01	161	0.217	0.024	< .005	< .1	
0.07	< .03		37.43	< .002	< .002			
0.11	< .03	< .01	35.56	0.002	< .002	< .005	< .1	
0.95	< .03	< .01	33.23	0.025	< .002	< .005	< .1	< .05
2.01	< .03	< .01	35.93	0.027	< .002	< .005	< .1	< .05
0.7	< .03	< .01	33.56	0.014	< .002	< .005	< .1	< .05
0.42	< .03	< .01	37.5	0.004	< .002	< .005	< .1	4.19
1.26	< .03	< .01	37.1	0.022	< .002	< .005	< .1	
16.9	< .03	< .01	32.6	0.556	< .002	< .005	< .1	
3.29	< .03	< .01	35.81	0.049	< .002	< .005	< .1	
1.3	< .03	< .01	36.1	0.022	< .002	< .005	< .1	
0.94	< .03	< .01	34.92	0.017	< .002	< .005	< .001	
	< .03	< .01	36.8		< .002	< .005	< .1	
197.29	< .03		30	16.833	0.014			

0.06	< .03	< .01	184.35	0.016	0.016	< .005	< .1			1.32
20.03	< .03	< .01	134.45	0.305	0.014	< .005				0.86
4.07	< .03	< .01	52.11	0.05	0.004	< .005	< .1			
49.07	< .03	< .01	21.56	1.054	< .002	< .005	< .1			
259.87	< .03	< .01	121.82	3.899	< .002	< .005		0.6	< .05	
149.66	< .03	< .01	20.9	2.339	< .002	< .005	< .1			0.21
332	0.06	< .01	148	4.155	0.002	0.005	< .1			
52.7	< .03	< .01	36	0.882	< .002	< .005	< .1			
0.55	< .02		123	0.051	0.04					
0.58	< .03		107.51	0.072	0.046					
0.75	< .03		157.21	0.031	0.016					
0.48	< .03		227.9	0.038	0.014					
0.12	< .03		192.92	0.056	0.052					
0.45	< .03		262.25	0.097	0.056					
0.24	< .03	< .01	228.02	0.026	0.02	< .005	< .1			
0.86	< .03	< .01	107.7	0.03	< .002	< .005	< .1			1.39
0.77	< .03	< .01	221.11	0.101	0.083	< .005		0.3	< .05	
0.05	< .03	< .01	242.99	0.036	< .002	< .005	< .1		< .05	
0.57	< .03	< .01	188	0.028	0.009	< .005	< .1		< .05	
0.28	< .03	< .01	191	0.067	0.057	< .005	< .1			
< .05	< .03	< .01	187	0.059	0.059	< .005	< .1			
0.07	< .03	< .01	207.19	0.019	0.014	< .005	< .1			

	0.12	< .03	< .01	186	0.024	0.016	< .005	< .1			
		< .03	< .01	183		0.048	< .005	< .1			
< .05					< .002						
		< .03	< .01	212		0.049	< .005		0.2	< .02	
	16	< .03	< .01	116	0.28	0.018	< .005	< .1			
	4.72	< .02		96.8	0.082	0.013					
	1.58	< .03		69.77	0.127	0.017					
	1.03	< .03		58.59	0.034	0.006					
< .05		< .03		183.14	< .002	< .002					
	0.13	< .03		106.77	0.016	0.012					
	0.09	< .03		136.61	0.002	0.002					
< .05		< .03	< .01	210.63	0.004	< .002	< .005		0.1		
	0.15	< .03	< .01	185.75	0.002	< .002	< .005	< .1			
	0.23	< .03	< .01	89.25	0.019	0.004	< .005	< .1			1.36
	0.19	< .03	< .01	184.56	0.009	0.006	< .005	< .1		< .05	
	0.12	< .03	< .01	180.98	0.003	< .002	< .005	< .1		< .05	
	46.22	< .03	< .01	43.52	0.618	< .002	< .005	< .1			1.69
	0.64	< .03	< .01	61.95	0.019	0.006	< .005	< .1			2.41
	0.06	< .03	< .01	162	0.012	0.007	< .005	< .1			2.92
	0.13	0.04	< .01	188	0.004	0.004	< .005	< .1			
	0.23	< .03	< .01	155	0.051	0.044	< .005	< .1			
	0.46	< .03	< .01	72.31	0.021	0.011	< .005	< .1			
	0.2	< .03	< .01	170.99	< .002	< .002	< .005	< .1			
	0.24	< .03	< .01	156	0.011	0.002	< .005	< .1			
	2.43	< .03	< .01	74.1	0.049	0.01	< .005		0.1		
		< .03	< .01	147		0.008	< .005	< .1			
< .05					< .002						
		< .03	< .01	167		< .002	< .005		0.2	< .02	
	0.4	< .03	< .01	92.5	0.033	< .002	< .005	< .1			

	25.5	< .03	< .01	35.8	0.441	< .002	< .005	< .1			
	0.17	< .02		157	0.041	0.037					
	0.29	< .03		109.12	0.035	0.029					
	1.5	< .03		123.21	0.048	0.009					
	0.13	< .03		156.86	0.008	< .002					
											0.95
	0.31	< .03	< .01	139.07	0.008	0.004	< .005				
	0.29	< .03	< .01	154.93	0.01	< .002	< .005		0.3		
	0.06	< .03	< .01	175.23	0.013	0.009	< .005	< .1			
	3.99	< .03	< .01	140.25	0.055	0.002	< .005	< .1			1
	0.88	< .03	< .01	153.26	0.026	0.01	< .005	< .1		< .05	
	0.22	< .03	< .01	171.02	0.009	< .002	< .005	< .1		< .05	
	1.18	< .03	< .01	95.7	0.034	< .002	< .005	< .1			2.11
	0.37	< .03	< .01	143.68	0.014	0.006	< .005	< .1			
	0.21	< .03	< .01	148	0.044	0.007	< .005	< .1			
	45.6	< .03	< .01	60.6	0.825	< .002	< .005	< .1			
< .05		< .03		181.57	0.011	0.01					
< .05		< .03	< .01	341.59	0.007	< .002	< .005	< .1			0.35
	0.29	< .03	< .01	8.77	0.003	< .002	< .005	< .1			
	0.08	< .03	< .01	361.71	0.004	0.002	0.006	< .1			0.08
	0.12	< .03	< .01	92.5	< .002	< .002	< .005	< .1			2.45

< .05	< .03	< .01		161	0.002	< .002	< .005	< .1		
0.76	< .02			39.9	0.021	< .005				
0.25	< .03			50.47	0.027	0.009				
0.29	< .03			35.76	0.012	0.004				
0.1	< .03			37.11	0.007	< .002				
1.03	< .03			40.97	0.027	0.003				
1.4	< .03			35.53	0.025	< .002				
0.66	< .03	< .01		41.71	0.014	< .002	< .005	< .1		
3.9	< .03	< .01		35.45	0.071	< .002	< .005	< .1	< .05	
2.78	< .03	< .01		41.77	0.043	< .002	< .005	< .1	< .05	
0.49	< .03	< .01		40.64	0.009	< .002	< .005		0.2	< .05
0.43	< .03	< .01		37.17	0.017	0.004	< .005	< .1		3.84
0.56	< .03	< .01		42.6	0.077	< .002	< .005	< .1		
4.62	< .03	< .01		41	0.104	0.014	< .005	< .1		
1.39	< .03	< .01		36.4	0.026	0.006	< .005	< .1		
0.81	< .03	< .01		39.43	0.024	0.007	< .005	< .1	< .05	
13.76	< .03	< .01		39.92	0.286	< .002	< .005	< .1		
0.35	< .03	< .01		39.4	0.011	< .002	< .005	< .1		
	< .03	< .01		39		0.006	< .005	< .1		
0.06					0.002					
	< .03	< .01		38.9		< .002	< .005	< .1		0.03
0.66					0.016					
	< .03	< .01		37.7		< .002	< .005	< .1		
	< .03	< .01		44.1		0.002	< .005	< .1		
0.1	0.02			124	0.036	0.033				
0.1	< .03			184.48	0.026	0.022				
0.05	< .03		0.01	290.03	0.015	0.004	0.005	< .1		0.64
0.09	< .03	< .01		230.27	0.012	< .002	< .005	< .1		0.37
0.89	< .03	< .01		110.18	0.017	< .002	< .005		0.1	
10.71	< .03	< .01		33.9	0.155	< .002	< .005	< .1		1.7

0.36	< .03	< .01	164	0.034	0.01 < .005	< .1

O-PO4 mg/l	D-K mg/l	D-Se mg/l	D-Na mg/l	SO4 mg/l	D-Zn mg/l	T-Cats meq/l	T-Anis meq/l	Cat-Ani PC DIFF
		5.57	< .02	53.29	311		17.11	16.36	2.23
< .05		5.53	< .02	82	496	< .004	20.9	21.4	1.01
		1.97	< .02	2.02	20		4.73	4.57	1.71
< .05		0.75	< .02	1.88	19	< .004	4.6	4.1	4.9
< .05		1.01	< .02	1.83	16	< .004	5	4.6	4.1
< .05		1.94	< .02	2.5	19	< .004	4.3	4	3.8
< .05		0.76	< .02	2.32	21	< .004	4.2	4.5	-3.7
		1.12	< .02	1.83	19	< .004	5.3	5	2.6
< .05		1.21	< .02	2.28	18	< .004	4.4	4.2	2.5
< .05		0.64	< .02	1.69	17	< .004	5	5.1	1.6
< .05		0.9	< .02	1.85	19	< .004	5.8	5.5	2.2
< .05		0.88	< .02	1.9	17	< .004	4.9	4.8	0.7
< .05		0.9	< .02	1.64	17	< .004	5.2	4.9	
		0.87		1.76	16	< .004	5.5	5.1	3.3
		8.17	< .02	24.22	386		9.81	9.59	1.13

< .05	15.1	< .02	396.2	1852	0.02	50.76	47.57	3.24
								3.24
< .05	14.38	< .02	271.97	1481	< .004	38.06	35.69	3.22
< .05	8.07	< .02	118.68	611	< .004	16.73	15.98	2.29
< .05	6.13	< .02	42.39	250	0.006	7.67	7.42	1.68
< .05	14.03	< .02	245.34	1468	0.008	33.8	35.3	-2.1
< .05	6.31	< .02	41.1	235	< .004	7.3	8.4	6.7
< .05	16.4		282	1899	0.01	42.6	57.3	14.6
	1.02	< .02	4.67	45	< .004	5.9	8.1	15.4
	4.7	0.04	39.8	430		16.1	17.7	-4.8
	4.21	< .02	32.03	366		15.64	15.76	-0.39
	6.77	< .02	48.88	677		21.55	21.49	0.13
	7.96	< .02	111.27	894		29.42	27.88	2.69
	5.93	< .02	92.61	707		25.89	24.19	3.39
	8.35	< .02	134.79	1094		33.73	32.39	2.03
< .05	6.61	< .02	99.16	835	< .004	29.2	26.7	4.4
	3.96	< .02	29.84	296	< .004	14.4	13.9	1.7
< .05	6.63	< .02	102.19	907	< .004	29.4	28.2	2.1
< .05	6.6	< .02	104.5	843	0.005	31.1	27	7
	6.75	< .02	79.9	711	< .004	24.5	23.3	2.4
< .05	6.37	< .02	91.4	714	0.005	25.5	24	3
< .05	5.46	< .02	93.8	761	< .004	25.3	25.3	0
< .05	6.84	< .02	107.07	892	< .004	28	27.9	0.2

< .05	5.77	< .02		80.8	763	< .004	24.6	24.9	0.6
	7.04			58.6	821	< .004	24.1	25.8	3.4
									1
< .05	5.24	< .02		94.2	< 1.	0.053	27.3	26.6	1.2
	3.15	< .02		42	353	< .004	15.8	14.9	3
	4.5		0.06	13.1	226		13	12	4
	2.54	< .02		11.46	164		10.32	10.32	0
	2.35	< .02		8.07	94		8.72	8.4	1.89
	6.85	< .02		40.27	641		20.59	19.21	3.46
	3.18	< .02		19.23	283		14.25	13.65	2.14
	7.41	< .02		28.74	426		17.05	16.32	2.18
< .05	6.22	< .02		43.69	702	< .004	23.7	21.51	4.85
< .05	5.5	< .02		38.2	582	< .004	22.3	20.5	4.1
	3.18	< .02		13.06	187	< .004	12	11.1	3.9
< .05	5.46	< .02		40.17	673	< .004	22.6	21.8	1.8
< .05	6.09	< .02		39.84	659	< .004	22.3	21.6	1.6
< .05	3.59	< .02		15.27	146	< .004	7.9	7.6	1.8
	2.02	< .02		7.65	118	< .004	9.2	9.2	0.1
	4.68	< .02		31.7	557	0.01	20.3	19.5	2.2
< .05	5.05	< .02		37.2	638	0.028	22.8	21.3	3.3
< .05	4.12	< .02		33.3	525	< .004	20.5	20.7	0.5
< .05	2.12	< .02		9.39	146	< .004	10.8	10.3	2.4
< .05	5.28	< .02		37.73	594	< .004	21	20.1	2.1
< .05	4.42	< .02		33.4	554	0.006	19.4	20.1	1.8
< .05	2.63			9.94	170	0.008	10.6	10.7	0.7
	5.22			30.1	538	< .004	19.8	19.9	0.4
									1
< .05	0.86	< .02		35.7	< 1.	< .004	20.8	20.4	0.9
	2.47	< .02		12.4	210	< .004	12.4	11.3	4.6

		0.6	< .02		2.23	18	< .004		5.4	5.3	1.2
		6.3		0.04	104	570			21.2	22.7	-3.3
		5.7	< .02		105.45	549			19.09	18.98	0.28
		5.17	< .02		83.18	465			17.33	17.28	0.15
		6.7	< .02		94.53	481			20.18	19.39	2.01
< .05		5.87	< .02		73.72	447		0.007	18.65	17.76	2.44
< .05		7.91	< .02		82.11	450		0.01	19.4	18.76	1.66
< .05		6.02	< .02		75.92	532	< .004		21.8	20.2	3.8
		5.75	< .02		104.85	558	< .004		20.5	20.5	0.1
< .05		6.68	< .02		91.81	500		0.018	20.2	19.5	1.7
< .05		6.71	< .02		94.78	600	< .004		22.2	21.5	1.6
		6.57	< .02		38.3	300		0.006	13.5	12.8	2.7
< .05		6.02	< .02		83.11	474	< .004		18.5	18.1	1.2
< .05		5.67	< .02		85.2	503	< .004		19.5	19.6	0.3
		1.84	< .02		20.2	144	< .004		9.1	9.9	4.5
		7.04	< .02		43.4	377			19.92	19.37	1.4
< .05		10.47	< .02		89.53	735	< .004		33.88	32.46	2.14
	0.06	2.08	< .02		9.13	9	< .004		2.15	1.89	6.39
< .05		9.23	< .02		127.22	871		0.006	37.1	34.8	3.2
	0.09	7.39	< .02		15.98	210		0.007	11	10.4	2.6

< .05	12.5		31.3	361	0.008	17.9	17.8	0.2
	1.1	0.05	8.1	56		6.6	6.6	-0.4
	1.51	< .02	26.16	150		9.32	9.2	0.64
	1.35	< .02	8	33		6.39	6.26	0.98
	1.4	< .02	5.77	26		5.51	5.35	1.47
	1.08	< .02	11.62	58		6.99	6.69	2.15
	1.32	< .02	6.28	28		6.04	5.84	1.71
< .05	1.23	< .02	9.03	42	< .004	6.2	5.7	4.5
< .05	1.1	< .02	7.94	39	< .004	6.1	5.7	3.6
< .05	1.41	< .02	8.63	38	< .004	6	5.8	2.2
< .05	1.17	< .02	11.35	54	< .004	6.1	5.7	3.1
< .05	1.1	< .02	6.49	33	< .004	6.5	6.4	0.7
< .05	1.94	< .02	9.94	56	< .004	6.9	6.8	0.7
< .05	6.52	< .02	10.5	45	0.004	6.7	6.5	1.5
< .05	0.96	< .02	9.2	49	< .004	6.4	6.4	0.4
	0.91	< .02	8.45	46	< .004	6.8	6.6	1.7
< .05	1.75	< .02	17.75	89	< .004	6.5	6.8	2.3
< .05	1.22	< .02	11.7	69	< .004	6	6.1	0.9
	1.04		7.95	49	< .004	6.6	6.4	1
								1
< .05	0.99	< .02	6.09	33	< .004	5.9	5.8	0.9
								1
	1.03	< .02	6.63	38	< .004	6	5.8	1.9
< .05	1.03	< .02	6.75	34	< .004	6.9	6.9	0.1
	7.2	0.04	588	1230		39.3	44.8	-6.6
	6.13	< .02	66.64	442		20.69	20.18	1.24
< .05	9.49	< .02	158.41	731	0.01	33.45	32.19	1.91
< .05	6.4	< .02	87.28	511	< .004	25.28	23.19	4.33
< .05	5.56	< .02	106.35	319	< .004	15.57	14.72	2.82
0.06	3.9	< .02	28.3	96	< .004	5.4	5.4	0.4

< .05	9.88	122	520	< .004	21.7	21.9	0.5

M.P.N.Tot(Clf/100ml	M.P.N.Fec(Clf/100ml	Sulfide mg/l	Fec. Strep Clf/100ml	M.F.Tot C Clf/100ml	M.F. Fec C Clf/100ml	Plate Cnt org/ml	D-Ba mg/l	D-Cr mg/l
							0.037	< .001
							0.202	< .001
							0.244	< .001
							0.16	< .001
							0.204	< .001
							0.232	< .001
							0.184	< .001
							0.208	< .001
							0.246	< .001
							0.217	< .001
							0.223	< .001
							0.248	< .001

0.056	< .001
0.112	0.002
0.04	0.001
0.028	< .001
0.071	0.001
0.029	< .001
0.061	< .001
0.182	< .001
0.035	0.001
0.078	< .001
0.036	< .001
0.033	< .001
0.069	< .001
0.045	< .001
0.044	< .001
0.026	< .001

0.034	<	.001
0.054	<	.001
0.037	<	.001
0.155		0.001
0.032		0.001
0.07	<	.001
0.104	<	.001
0.057	<	.001
0.053	<	.001
0.054	<	.001
0.153	<	.001
0.085	<	.001
0.048	<	.001
0.091	<	.001
0.202	<	.001
0.028	<	.001
0.059	<	.001
0.143	<	.001
0.096	<	.001
0.01	<	.001
0.17	<	.001

0.261 < .001

0.052 < .001

0.039 < .001
0.04 < .001
0.05 < .001

0.036 < .001
0.047 < .001

0.079 < .001

0.035 < .001
0.042 < .001

0.18 < .001

0.075 0.003
0.017 < .001

0.091 0.001

0.053 < .001

0.089	< .001
0.195	< .001
0.176	< .001
0.182	< .001
0.191	< .001
0.194	< .001
0.184	< .001
0.171	< .001
0.192	< .001
0.205	< .001
0.167	< .001
0.181	< .001
0.206	< .001
0.195	< .001
0.219	< .001
0.221	0.001
0.101	0.004
0.056	0.002
0.078	0.001
0.045	< .001

0.097 < .001

CR HEX ug/l	L-Temp Deg. C	L-pH pH units	B.O.D. 5 mg/l	TSS mg/l	T.K.N. mg/l	O/G mg/l	T.O.C. mg/l
					13		
					778	< 2.	
				< 5.		< 5.	
					5	< 5.	
					61	< 5.	
					70	< 5.	
					39	< 5.	
					19	< 2.	
					124	< 2.	
					1775	< 2.	
					146	< 2.	
					64	< 2.	
					61	< 2.	
						< 2.	
				171968		< 5.	

	6	< 5.
	1656	< 5.
	330	< 5.
	9020	< 5.
	22752	< 5.
	13404	< 2.
		< 2.
		2
	33	< 6.
	112	< 5.
	42	< 5.
< 5.		< 5.
< 5.		< 5.
	6	< 5.
< 5.		< 5.
	44	< 5.
	40	< 5.
< 5.		< 5.
	20	< 2.
< 5.		< 2.
< 5.		< 2.
	6	< 2.

< 5.		< 2.
		< 2.
		< 2.
		< 2.
	341	< 5.
	379	< 5.
	56	< 5.
< 5.		< 5.
< 5.		< 5.
< 5.		< 5.
< 5.		< 5.
< 5.		< 5.
	11	< 5.
	6	< 5.
< 5.		< 5.
	3616	< 2.
	26	< 2.
< 5.		< 2.
< 5.		< 2.
< 5.		< 2.
	24	< 2.
	13	< 2.
< 5.		< 2.
		< 2.
		< 2.
		< 2.

		< 2.	
< 4.		< 6.	
	66	< 5.	
	211	< 5.	
	7	< 5.	
	13		
	50	< 5.	
	14	< 5.	
< 5.		< 5.	
	232	< 5.	
	54	< 5.	
	36	< 5.	
	35	< 2.	
	26	< 2.	
	32	< 2.	
			3
	13	< 5.	
< 5.		< 5.	
	12	< 5.	
< 5.		< 5.	
	6	< 2.	

		< 2.
	66	< 6.
	81	< 5.
	25	< 5.
	27	< 5.
	68	< 5.
	61	< 5.
	32	< 5.
	239	< 5.
	124	< 5.
	45	< 5.
	25	< 2.
	148	< 2.
	328	< 2.
	95	< 2.
	49	< 2.
	657	< 2.
	26	< 2.
		< 2.
		< 2.
		< 2.
	6	< 6.
	22	< 5.
< 5.		< 5.
	9	< 5.
	34	< 5.
	588	< 2.

< 2.

C.O.D. mg/l	Cyanide mg/l	Phenolics mg/l	D-Ni mg/l	D-Ag ug/l	Bicarb mg/l	Carb mg/l	F mg/l	Hydroxide mg/l
			0.001				0.74	
			< .001				0.15	
			< .001				0.14	
			< .001				0.18	
			< .001				0.16	
			< .001				0.15	
			< .001				0.13	
			< .001				0.12	
			< .001				0.13	
			< .001				0.14	
			< .001		222	< 5.	0.12	
			< .001				0.09	

	0.002	0.37
	0.004	0.65
	0.003	0.42
	0.003	0.29
	0.004	0.72
	0.002	0.27
	0.003	1.23
< .001		0.17
		< 1.
	0.001	0.4
	0.002	0.22
< .001		0.37
< .001		0.51
< .001		0.44
	0.003	0.43
< .001		0.65
< .001		0.49

	0.001	0.44
	0.001	0.17
< .001		0.18
	0.001	0.22
		< 2.
	0.002	0.15
	0.002	0.22
	0.001	0.35
< .001		0.16
< .001		0.19
	0.001	0.29
< .001		0.18
< .001		0.33
	0.001	0.22
	0.002	0.43
< .001		0.18
< .001		0.27
	0.002	0.3
	0.001	0.2
	0.001	0.07
< .001		0.21
	0.001	0.19

< .001			0.14
			< 1.
< .001			0.45
	0.002		0.51
	0.001		0.49
	0.001		0.05
< .001			1.06
< .001			0.71
< .001		< 5.	0.32
< .001			0.6
	0.001		0.62
< .001			0.19
< .001			0.26
	0.001		0.09
	0.001		0.3
	0.001		0.19

0.002	0.27	
		< 2.
< .001	0.2	
0.001	0.2	
< .001	0.25	
< .001	0.21	
< .001	0.18	
< .001	0.2	
0.001	0.2	
< .001	0.18	
< .001	0.19	
< .001	0.15	
0.001	0.22	
< .001	0.14	
< .001	0.2	
< .001	0.13	
< .001	0.06	
		< 3.
0.005	0.64	
0.001	0.46	
0.002	0.44	
< .001	0.26	

0.001 0.48

NO3 mg/l	NO2 mg/l	D-Silica mg/l	T-P mg/l	Surfactant mg/l	L-Turb. NTU	F-Turb. NTU	L-Sp. Conc umhos/cm	H+ ug/l	Al
						22.4			
						5.07			
						184			
						8760			
						16.1			
						117			
						8.2			
						0			
< .05	< .05		1.04			1500			
						1510			
						3.59			
						69.7			
						10.2			
< .05	< .05		< .05			6.35			
< .05	< .05		0.25			38.3			
< .05	< .05		0.14			83			
< .05	< .05		0.06			38.8			
			< .05			20.6			
< .05	< .05		0.09						
< .05	< .05		1.63			890			
< .05	< .05					161			
< .05	< .05		0.07			42.5			
< .05	< .05								
			< .05			13.1			
						68000			

			< .05	4.54	
				4.54	
			2.3	2960	
	0.45	< .05	0.49	328	
	0.66	< .05	1.93	5240	
< .05		< .05	0.83	24720	
				26200	
			< .05	7500	
	1.85	< .05		25500	3530
			2.94	1000	525
				4.31	
				2.9	
				9.39	
				15.2	
< .05		< .05	< .05	2.55	
			0.05	32.1	
< .05		< .05	< .05	8.42	
< .05		< .05	< .05		
			< .05	28.5	
< .05		< .05	< .05		
< .05		< .05	< .05	1.37	
< .05		< .05		3.26	

< .05	< .05		< .05		2.31	
			< .05		7.18	
					4.75	
< .05	< .05		< .05		4.75	
				0.88	1000	1260
					3.2	
					2.79	
< .05	< .05		< .05		2.01	
< .05	< .05		< .05		1.7	
				0.18	6.21	
< .05	< .05		< .05		6.95	
< .05	< .05		< .05			
				0.11	2410	
			< .05		24.9	
			< .05		3.5	
< .05	< .05		< .05			
< .05	< .05		< .05		7.07	
0.1	< .05				13.3	
< .05	< .05				6.73	
< .05	< .05		< .05		2.16	
0.06	< .05				144	943
			< .05		4.06	
					7.91	
< .05	< .05	<0.0	< .05		7.91	
				0.05	19.6	997

			1.29	1000	477
			0.07	12.7	
				22.2	
	0.06	< .05	0.06	9.08	
< .05		< .05	< .05	2.98	
			0.13	350	
< .05		< .05	0.07	28.1	
< .05		< .05	< .05	5.88	
			0.12	22.2	
< .05		< .05		13.4	
< .05		< .05	< .05	3.3	
			2.38	1000	776
			0.09	2.54	
	0.18	< .05	0.11	12.7	
	0.08	< .05	0.18	5.11	
				27.2	
			0.12	8.47	

< .05	< .05			3.13	1509
				11.9	
				48.7	
				43	
				49.8	
< .05	< .05	< .05		25.7	
< .05	< .05		0.19	220	
< .05	< .05		0.21	66.4	
< .05	< .05	< .05		17.4	
		< .05		10.3	
< .05	< .05		0.19		
0.08	< .05		0.46		
< .05	< .05	< .05		54	
			0.06	21.1	
0.06	< .05			608	
< .05	< .05	< .05		9.45	
		< .05		16.4	
				63	
< .05	< .05	< .05		63	
				63	
0.08	< .05	< .05		12.9	
			0.43	1000	
				3.24	
		< .05		4.15	
			0.06	5.86	
0.06	< .05		0.14	38.4	
			0.84	745	

< .05	< .05		12.7	1848

Fixed DS	H+Iron	H+Mn	S-34	C-13	C14	Oxygen 18	Deuterium	Tritium
mg/l	mg/l	ug/l			pmc	permil	permil	tu

Alpha gros	Beta gross	226 Radiur	Set Solids	T-Vol.Sol.	Crst Gg Mr	Crst Gg M›	T-Al	T-As
pc/l	pc/l	pc/l	ml/l	mg/l	GPM	GPM	mg/l	mg/l
				1				
			< .1					
				0.1				
			< .1					
			< .1					
			< .1					
			< .1					
				2.5				
			< .1					
				0.1				
			< .1					
			< .1					
				140				

< .1

7

< .1

19

80

23

82

< .1

0.1

< .1

< .1

< .1

< .1

< .1

< .1

< .1

< .1

< .1

< .1
< .1
< .1

< .1
< .1
7
0.1
< .1
< .1
< .1
< .1
< .1
< .1
0.2
< .1

< .1

< .1

< .1
< .1
0.5

< .1
< .1

< .1

< .1
0.1

< .1
< .1

< .1

< .1

< .1

< .1
< .1

0.1
0.1

0.1
0.1
0.4
< .1
< .1
0.9
0.1

< .1

< .1

< .1
< .1
< .1

< .1

T-Ba	T-Be	T-Cd	T-Cr	T-Co	T-Cu	T-Pb	T-Hg	T-Mo
mg/l	ug/l	mg/l	ug/l	ug/l	mg/l	mg/l	ug/l	mg/l

T-Ni ug/l	T-Se ug/l	T-Ag ug/l	T-Zn mg/l	T-Vanadiur ug/l	T-B mg/l	COMMENTS
	< 20.				0.11	
	< 20.				0.02	
						Flow is approximate
						DIS.METALS FILTERED @ LAB
						Slow drip from culvert, stream abo
						A few puddles from snowmelt, no f
	< 20.				0.4	
						Still some minor seepage/puddling

		some residual puddles, no flow
< 20.	0.41	
		minor seepage under culvert
< 20.	0.23	
< 20.	0.09	
< 20.	0.11	
40	0.15	
< 20.	0.08	
< 20.	0.18	
< 20.	0.24	
< 20.	0.19	
< 100.	0.22	

< 1.

60	0.08
< 20.	0.04
< 20.	0.03
< 20.	0.1
< 20.	0.05
< 100.	0.06

	50	0.17	Alt. location, sampled above irrigat Includes runoff from adjacent field
< 20.		0.11	
< 20.		0.09	
< 20.		0.17	
< 20.		0.14	
< 20.		0.12	
< 20.		0.18	
< 20.		0.02	

Water is deep yellow in color

	50	< .05
< 20.		0.03
< 20.		0.02
< 20.		0.03
< 20.		0.02
< 100.		0.01
	40	1.48
< 20.		0.17
< 20.		0.46
< 20.		0.23
< 20.		0.23

ve is all dry

flow

under culvert

ted fields