APPENDIX B – IRON WATER QUALITY DATA

LIST OF TABLES

This appendix contains four data tables. **Table B-1** contains all the flow, iron, and SSC (and TSS) data used to make Figures 5-1 through 5-8. **Table B-2** contains synoptic iron data collected from Otter Creek used in Figures 5-9 and 5-10. **Tables B-3** and **B-4** contain iron data collected from surface waters, springs, and wells used in Figure 5-11. These tables are included to aid readers in finding data more easily. Note that where no value is given, no data were collected. No adjustments were made to table values when used in figures; for example, <0.01 and 4500J are shown as 0.01 and 4500, respectively, in figures.

The following codes appear in some of the tables:

- * = value is TSS (µg/L)
- "<" symbols indicate non-detect samples where the detection limit is populated as the value
- J = Estimated – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample
- U = Not Detected – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantification Limit for the sample and method

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	5/19/1978	23	15000	60	356000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	4/11/1979	0.21	980	60	8000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	9/4/1979	0.02	460		33000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	5/20/1980	0.07	1700	40	81000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	9/9/1980	0.03	670	50	45000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	3/5/1981	0.11	450	60	64000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	5/19/1982	0.07	390	100	74000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	9/20/1982	0.02	2300	50	161000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	USGS	6/8/1983	0.07	820	50	89000
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	10/26/2011		130	100	9000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	10/26/2011		180	110	13000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	3/14/2012		400	220	10000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	5/3/2012		180	80	12000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	8/29/2012		270	240	28000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	12/6/2012		390	0.1551	28000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	3/7/2013		980	710	40000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	6/13/2013		570	170	24000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	7/30/2013		860	220	108000*
Home Creek near	45.54314	-106.19404	STREAM	OCC	3/20/2014		470	140	16000*

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Ashland, MT									
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	5/21/2014		300	100	24000*
Home Creek near Ashland, MT	45.54314	-106.19404	STREAM	OCC	8/13/2014		350	220	9000*
Otter Creek above Tenmile Creek near Ashland, MT	45.43277	-106.14807	STREAM	USGS	6/19/1978	17	310	40	42000
Otter Creek above Tenmile Creek near Ashland, MT	45.43277	-106.14807	STREAM	USGS	3/28/1979	22	770	20	124000
Otter Creek above Tenmile Creek near Ashland, MT	45.43277	-106.14807	STREAM	USGS	9/5/1979	2.1	170	30	24000
Otter Creek above Tenmile Creek near Ashland, MT	45.43277	-106.14807	STREAM	USGS	5/22/1980	3.4	160	20	5000
Otter Creek above Tenmile Creek near Ashland, MT	45.43277	-106.14807	STREAM	USGS	9/11/1980	1.5	150	20	4000
Otter Creek above Tenmile Creek near Ashland, MT	45.43277	-106.14807	STREAM	USGS	3/6/1981	4.1	170	20	19000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	10/2/1974	0.22	720	50	42000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	12/19/1974	3	620	30	57000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	1/10/1975	2.6	1100		52000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	1/22/1975	100	2900	260	49000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/1/1975	18	1500	40	30000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/4/1975	12	1200	70	60000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	10/23/1975	4.3	280	20	19000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	11/12/1975	4.5	300		28000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	1/20/1976	6.8	310	20	32000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/21/1976	7.6	1000	60	57000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	7/20/1976	1.2	1300	20	68000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	11/9/1976	1.7	350	30	21000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/12/1979	19	350	20	19000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	9/4/1979	2.8	450	20	84000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/19/1980	5	1300	20	159000

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	9/9/1980	0.63	540	30	85000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/7/1981	1.1	470	20	91000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/17/1982	4.5	1100	90	123000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	9/20/1982	1.8	540	30	53000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/8/1983	2.7	1200	20	124000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	3/20/1984	2.8	700	50	86000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/8/1985	4.5	850	14	66000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/30/1989	0.6	2100	20	161000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/10/1990	1.8	865.4651163	20	93000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/31/1991	1.1	1600	10	184000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/4/1992	0.5	550	20	155000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/13/1993	2.1	410		117000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/17/1994	2.8	1200	30	191000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/14/1995	5.6	2300	10	142000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	2/3/2004		394		53000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	3/10/2004		306	50.5	19000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/14/2004	4.7	892		158000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/26/2004		1360		131000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/12/2004		486		103000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/24/2004	1.8	1030		73000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/8/2004		470		113000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/23/2004		540		92000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	7/13/2004		618		26000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	8/18/2004		1600		112000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	10/12/2004		594		35000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	12/8/2004	1.7	220	30.2	46000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	2/9/2005	1.6	236	27.9	45000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/5/2005	1.7	1120		112000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/16/2005	9.3	2030	27	110000

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	8/2/2005	1	2220		148000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	10/4/2005	1	802		77000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	12/5/2005	1	361		128000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	3/6/2006	1.8	240	36.1	26000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/3/2006	3.3	788	19.4	40000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/16/2006	1.6	1080		162000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	8/8/2006	0.19	1100	42.9	107000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	10/3/2006	0.7	832		90000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	2/14/2007		226	21.3	41000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/10/2007	4.1	808	31.8	137000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/23/2007	6.2	1080		127000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	8/7/2007	1.3	1290		137000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/22/2008	1.8	549	26.1	145000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	7/22/2008	1.3	562		66000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/8/2009	10	528	73.5	79000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/23/2009	2.6	190	27.4	78000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/3/2010	5.2	626	12.3	90000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	7/13/2010	5	1450	15.9	164000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/10/2011	13	533	19.1	82000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	7/12/2011	13	1090	25	122000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/7/2012	9.7	734	18.3	84000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	7/17/2012	2.8	1640	21.9	92000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	3/19/2013	9.7	304		71000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/9/2013	8.4	393		64000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	5/14/2013	5.8	1990		151000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	6/4/2013	28	4150	51.3	184000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	7/24/2013	2.5	2400	12.9	210000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	8/14/2013	2.7	2380	12.5	164000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	9/9/2013	3.3	1560		121000

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	4/10/2014	18	603		129000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	7/9/2014	4.7	1750		139000
Otter Creek at Ashland, MT	45.58839	-106.25506	STREAM	USGS	9/23/2014	4.7	891	59	108000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	5/21/1982	2.9	550	80	74000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	9/22/1982	1.7	400	60	151000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	6/8/1983	1.5	320	80	8000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	3/20/1984	1.1	520	50	57000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	4/10/1985	2.9	510	40	62000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	3/19/2013	4	568		64000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	4/9/2013	6.2	840		25000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	5/14/2013	2.6	456		19000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	6/4/2013	8.4	216	48.5	46000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	7/24/2013	0.3	37.1		10000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	8/14/2013	0.5	62.8		2000
Otter Creek below Fifteenmile Creek near Otter, MT	45.40300	-106.14246	STREAM	USGS	9/9/2013	1	26.6		3000
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	4/12/1979	1.2	410	40	26000
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	9/5/1979	0.03	250	50	154000
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	5/22/1980	0.16	560	50	67000

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	9/10/1980	0.02	140	50	6000
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	4/9/1981	0.13	340	80	73000
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	5/19/1982	0.08	240	90	6000
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	9/21/1982	0.02	230	50	231000
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	6/8/1983	0.05	420	60	323000
Otter Creek near Otter, MT	45.13749	-106.12335	STREAM	USGS	3/20/1984	0.02	400	80	117000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/21/1980	308	490	10	32000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/18/1980	1190	2100	20	167000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	9/10/1980	366	430	10	20000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	4/8/1981	84	120		21000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/3/1981	2380	3800	70	189000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/20/1982	330	730	10	61000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	9/21/1982	370	320	10	11000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/9/1983	1330	1200	40	127000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/23/1984	2690	7200	50	374000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/25/1985	374	330	10	31000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	2/5/2004		41	11.4	10000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	3/10/2004		122	23	11000

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	4/13/2004	165	77.4	12.4	17000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	4/26/2004	165	69.1	19.3	7000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/12/2004	236	199	11.9	34000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/25/2004	218	310	8.9	39000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/8/2004	174	308	20.5	21000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/23/2004	215	210	11.8	12000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	7/26/2004	288	288	8.3	32000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	8/23/2004	241	4300		205000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	10/13/2004	96	60.3	11.4	7000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	12/8/2004		48.9	10.6	22000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	2/8/2005		70	23.4	25000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	4/5/2005	75	136	25.7	22000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/16/2005	1320	1300		113000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	8/24/2005	366	312	15.3	20000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	10/18/2005	212	86.7	15.4	3000

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	12/6/2005		96.5	11.2	31000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	3/8/2006	109	73.2	15.6	25000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	4/4/2006	91	112	22.9	20000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/16/2006	116	342	28.4	25000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	8/8/2006	186	137	13.8	10000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	10/3/2006	65	71.5	15.8	2000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	2/15/2007		38.8	12.2	14000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	4/11/2007	540	448	14.5	42000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/23/2007	2490	1140	19.3	72000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	8/6/2007	370	287	9	14000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	4/22/2008	312	78.2	11.9	36000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/4/2008	3230	1960	21.6	132000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	7/8/2008	1620	588	33.3	38000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	4/10/2009	623	325	11.8	28000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/24/2009	1580	580	13.6	40000

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	7/7/2009	878	433	12.1	29000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/5/2010	239	370	7.2	50000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/10/2010	3150	1410	29.1	98000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	7/14/2010	947	426	22.7	21000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/10/2011	491	563	7.5	37000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/7/2011	3150	1320	42.6	86000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	7/14/2011	2530	1130	66.2	59000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	5/7/2012	358	276	13.5	25000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/5/2012	1230	1910	9.9	144000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	7/17/2012	437	1060	12.8	59000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	6/4/2013		1430	9.4	106000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	7/23/2013	354	366	10.5	22000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	8/15/2013	313	335	8.9	24000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	7/8/2014	1050	613	26	34000
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	8/4/2014	377	497	14.4	29000

Table B-1. Long-term data used in Figures 5-1 through 5-8

Site	Latitude	Longitude	Type	Source[1]	Date	Flow (cfs)	Tot. Rec. Iron (µg/L)	Diss. Iron (µg/L)	SSC (µg/L)
Tongue River at Birney Day School Bridge near Birney, MT	45.41161	-106.45735	STREAM	USGS	9/23/2014	460	270	4.9	18000

[1] USGS = U.S. Geological Survey, OCC = Otter Creek Coal

Table B-2. Synoptic data used in Figures 5-9 and 5-10

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	6/15/2011	240
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	6/15/2011	170
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	6/15/2011	220
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	10/26/2011	270
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	10/26/2011	110
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	10/26/2011	320
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	3/14/2012	1110
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	3/15/2012	830
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	3/15/2012	750
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	3/15/2012	740
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	5/3/2012	480
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	5/3/2012	600
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	5/3/2012	1740
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	9/6/2012	1340
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	9/6/2012	430
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	9/6/2012	1490
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	12/6/2012	620
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	12/6/2012	250
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	12/6/2012	610
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	12/6/2012	580

Table B-2. Synoptic data used in Figures 5-9 and 5-10

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	3/7/2013	340
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	3/7/2013	350
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	3/7/2013	280
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	6/13/2013	2190
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	6/13/2013	2230
Otter Creek downstream Threemile Creek	45.51362	-106.18073	STREAM	OCC	6/13/2013	1240
Otter Creek downstream Threemile Creek	45.51362	-106.18073	STREAM	OCC	6/13/2013	1310
Otter Creek downstream East Fork Otter Creek	45.55649	-106.21693	STREAM	OCC	6/13/2013	2610
Otter Creek near headwaters, upstream Long Creek	45.07573	-106.09800	STREAM	OCC	6/14/2013	20
Otter Creek downstream Bear Creek	45.22526	-106.16900	STREAM	OCC	6/14/2013	460
Otter Creek downstream Indian Creek	45.26026	-106.15200	STREAM	OCC	6/14/2013	140
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	6/14/2013	100
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	6/14/2013	120
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	6/14/2013	370
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	6/14/2013	390
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	7/30/2013	2130
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	8/1/2013	70
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	8/1/2013	150
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	8/1/2013	180
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	8/1/2013	190
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	8/1/2013	190
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	8/1/2013	1180
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	8/1/2013	1170
Otter Creek downstream Threemile Creek	45.51362	-106.18073	STREAM	OCC	8/1/2013	770
Otter Creek downstream Threemile Creek	45.51362	-106.18073	STREAM	OCC	8/1/2013	1630
Otter Creek downstream East Fork Otter Creek	45.55649	-106.21693	STREAM	OCC	8/1/2013	2430
Otter Creek downstream Bear Creek	45.22526	-106.16900	STREAM	OCC	8/2/2013	570
Otter Creek downstream Bear	45.22526	-106.16900	STREAM	OCC	8/2/2013	20

Table B-2. Synoptic data used in Figures 5-9 and 5-10

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Creek						
Otter Creek downstream Indian Creek	45.26026	-106.15200	STREAM	OCC	8/2/2013	780
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	1/9/2014	210
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	1/9/2014	250
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	1/9/2014	250
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	1/9/2014	900
Otter Creek downstream Threemile Creek	45.51362	-106.18073	STREAM	OCC	1/9/2014	550
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	3/20/2014	1350
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	3/20/2014	1080
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	3/20/2014	1090
Otter Creek downstream Threemile Creek	45.51362	-106.18073	STREAM	OCC	3/20/2014	930
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	5/21/2014	360
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	5/21/2014	680
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	5/21/2014	950
Otter Creek downstream Threemile Creek	45.51362	-106.18073	STREAM	OCC	5/21/2014	1010
Otter Creek upstream Tenmile Creek	45.43011	-106.14436	STREAM	OCC	8/13/2014	40
Otter Creek between Threemile Creek and Tenmile Creek	45.48363	-106.16655	STREAM	OCC	8/13/2014	470
Otter Creek upstream Threemile Creek	45.50476	-106.17456	STREAM	OCC	8/13/2014	930
Otter Creek downstream Threemile Creek	45.51362	-106.18073	STREAM	OCC	8/13/2014	730

[1] OCC = Otter Creek Coal

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	9/6/2012	60
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	1/8/2014	110
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	5/3/2012	160
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	7/30/2013	180
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	3/7/2013	590

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	5/22/2014	780
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	5/15/2013	1020
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	2/7/2012	1190
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	10/27/2010	1740
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	12/6/2012	3720
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	6/24/2011	< .6
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	10/20/2011	170 J
Upgradient pond quality, Shorty Creek	45.49373	-106.10419	Other-Surface Water	OCC	8/13/2014	60 J
Upgradient pond quality, Shorty Creekas	45.49373	-106.10419	Other-Surface Water	OCC	3/24/2014	310
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	6/14/2011	200
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	2/7/2013	250
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	4/25/2013	840
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	10/21/2011	1750
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	3/14/2012	3100
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	8/28/2012	10500
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	6/14/2011	20300
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	12/8/2011	83700
Downstream of Pond P1, mine area, west facing drainage	45.49966	-106.16061	River/Stream	OCC	6/20/2013	53200 J
Downstream of pond P4	45.55078	-106.12073	River/Stream	OCC	5/15/2014	50
Downstream of pond P4	45.55078	-106.12073	River/Stream	OCC	4/19/2012	260
Downstream of pond P4	45.55078	-106.12073	River/Stream	OCC	3/14/2012	270
Downstream of pond P4	45.55078	-106.12073	River/Stream	OCC	7/30/2013	480
Downstream of pond P4	45.55078	-106.12073	River/Stream	OCC	3/21/2014	920
Downstream of pond P4	45.55078	-106.12073	River/Stream	OCC	10/20/2011	< .6 J
Downstream of pond P4	45.55078	-106.12073	River/Stream	OCC	8/25/2011	< 6 J
Downstream of pond P4	45.55078	-106.12073	River/Stream	OCC	6/20/2013	190 J
Downstream of proposed mine area, SW13 similar characteristics	45.46525	-106.15200	River/Stream	OCC	3/22/2012	350

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Downstream of proposed mine area, SW13 similar characteristics	45.47902	-106.15363	River/Stream	OCC	6/13/2013	630
Downstream of proposed mine area, SW13 similar characteristics	45.47902	-106.15363	River/Stream	OCC	10/25/2011	880
Downstream of proposed mine area, SW13 similar characteristics	45.48945	-106.16373	River/Stream	OCC	4/26/2013	2120
Downstream of proposed mine area, SW13 similar characteristics	45.48945	-106.16373	River/Stream	OCC	10/25/2011	2330
Downstream of proposed mine area, SW13 similar characteristics	45.48945	-106.16373	River/Stream	OCC	3/22/2012	2800
Downstream of proposed mine area, SW13 similar characteristics	45.48945	-106.16373	River/Stream	OCC	8/27/2012	3220
Downstream of proposed mine area, SW13 similar characteristics	45.46525	-106.15200	River/Stream	OCC	4/26/2013	3250
Downstream of proposed mine area, SW13 similar characteristics	45.47902	-106.15363	River/Stream	OCC	3/15/2012	6320
Downstream of proposed mine area, SW13 similar characteristics	45.48945	-106.16373	River/Stream	OCC	6/14/2011	7420
Downstream of proposed mine area, SW13 similar characteristics	45.47902	-106.15363	River/Stream	OCC	6/14/2011	9320
Downstream of proposed mine area, SW13 similar characteristics	45.46525	-106.15200	River/Stream	OCC	2/7/2013	10700
Downstream of proposed mine area, SW13 similar characteristics	45.46525	-106.15200	River/Stream	OCC	6/15/2011	5120 J
Downstream of proposed mine area, SW13 similar characteristics	45.46525	-106.15200	River/Stream	OCC	6/20/2013	73000 J
Taylor Creek downstream North and South Forks	45.26978	-106.10699	River/Stream	OCC	8/1/2013	80
Taylor Creek downstream North and South Forks	45.26978	-106.10699	River/Stream	OCC	6/14/2013	8040
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	3/20/2014	160
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	6/14/2013	210
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	6/14/2013	220
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	6/14/2013	250
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	6/15/2011	270
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	3/15/2012	310
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	4/19/2012	420
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	5/21/2014	1260
Tenmile Creek at 10 Mile	45.43405	-106.13382	River/Stream	OCC	5/21/2014	1360

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Road crossing						
Tenmile Creek at 10 Mile Road crossing	45.43405	-106.13382	River/Stream	OCC	6/15/2011	370 J
Threemile Creek about 0.5 mile upstream mouth	45.50879	-106.16684	River/Stream	OCC	3/24/2014	1880
Threemile Creek about 0.5 mile upstream mouth	45.50879	-106.16684	River/Stream	OCC	3/14/2012	1910
Threemile Creek about 0.5 mile upstream mouth	45.50879	-106.16684	River/Stream	OCC	4/25/2013	34900
Threemile Creek about 0.5 mile upstream mouth	45.50879	-106.16684	River/Stream	OCC	8/28/2012	41700
Threemile Creek about 0.5 mile upstream mouth	45.50879	-106.16684	River/Stream	OCC	6/13/2013	61000
Trib. To Three Mile Creek	45.51071	-106.14844	River/Stream	OCC	3/22/2012	610
Trib. To Three Mile Creek	45.51071	-106.14844	River/Stream	OCC	4/25/2013	890
Trib. To Three Mile Creek	45.51071	-106.14844	River/Stream	OCC	10/21/2011	1100
Trib. To Three Mile Creek	45.51071	-106.14844	River/Stream	OCC	6/14/2011	13700
Trib. To Three Mile Creek	45.51071	-106.14844	River/Stream	OCC	8/28/2012	30200
Trib. To Three Mile Creek	45.51071	-106.14844	River/Stream	OCC	12/8/2011	38000
Trib. To Three Mile Creek	45.51071	-106.14844	River/Stream	OCC	5/22/2014	59900
Trib. To Three Mile Creek	45.51071	-106.14844	River/Stream	OCC	6/14/2013	87600
Trib. To Three Mile, flow regime considered similar to SW5	45.50655	-106.13509	River/Stream	OCC	4/25/2013	340
Trib. To Three Mile, flow regime considered similar to SW5	45.50726	-106.13441	River/Stream	OCC	4/25/2013	540
Trib. To Three Mile, flow regime considered similar to SW5	45.50726	-106.13441	River/Stream	OCC	3/14/2012	1020
Trib. To Three Mile, flow regime considered similar to SW5	45.50726	-106.13441	River/Stream	OCC	6/14/2011	1190
Trib. To Three Mile, flow regime considered similar to SW5	45.50655	-106.13509	River/Stream	OCC	3/14/2012	1310
Trib. To Three Mile, flow regime considered similar to SW5	45.50655	-106.13509	River/Stream	OCC	10/21/2011	1720
Trib. To Three Mile, flow regime considered similar to SW5	45.50655	-106.13509	River/Stream	OCC	6/14/2011	4300
Trib. To Three Mile, flow regime considered similar to SW5	45.50655	-106.13509	River/Stream	OCC	8/28/2012	7820
Trib. To Three Mile, flow regime considered similar to SW5	45.50655	-106.13509	River/Stream	OCC	6/14/2013	21400
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	6/14/2013	120
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	3/14/2012	270
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	12/2/2011	290
Trib. To Three Mile, north	45.50173	-106.12158	River/Stream	OCC	3/24/2014	340

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
slope						
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	5/22/2014	360
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	6/7/2012	620
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	5/24/2012	1110
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	8/28/2012	1510
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	8/25/2011	2080
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	4/25/2013	2520
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	4/19/2012	6210
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	8/25/2011	1330 J
Trib. To Three Mile, north slope	45.50173	-106.12158	River/Stream	OCC	10/20/2011	950 J
Unnamed Tributary to Three Mile Creek, north slope	45.50110	-106.11885	River/Stream	OCC	5/24/2012	130
Unnamed Tributary to Three Mile Creek, north slope	45.50110	-106.11885	River/Stream	OCC	6/7/2012	240
Unnamed Tributary to Three Mile Creek, north slope	45.50110	-106.11885	River/Stream	OCC	12/2/2011	680
Unnamed Tributary to Three Mile Creek, north slope	45.50110	-106.11885	River/Stream	OCC	4/25/2013	1180
Unnamed Tributary to Three Mile Creek, north slope	45.50110	-106.11885	River/Stream	OCC	8/28/2012	2650
Unnamed Tributary to Three Mile Creek, north slope	45.50110	-106.11885	River/Stream	OCC	3/14/2012	4500
Unnamed Tributary to Three Mile Creek, north slope	45.50110	-106.11885	River/Stream	OCC	6/14/2013	7650
Upgradient in undisturbed drainage	45.45373	-106.15019	River/Stream	OCC	10/25/2011	880
Upgradient in undisturbed drainage	45.45373	-106.15019	River/Stream	OCC	4/26/2013	33600
Upgradient in undisturbed drainage	45.45373	-106.15019	River/Stream	OCC	6/15/2011	< .6 J
Upgradient in undisturbed drainage	45.45373	-106.15019	River/Stream	OCC	6/20/2013	148000 J
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	7/30/2013	190
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	3/21/2014	390
Upgradient tributary to Three Mile Creek	45.50815	-106.11203	River/Stream	OCC	3/22/2012	410
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	6/14/2013	450
Upgradient tributary to Three Mile Creek	45.50815	-106.11203	River/Stream	OCC	3/21/2014	450
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	3/14/2012	470

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	6/7/2012	470
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	4/25/2013	510
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	5/24/2012	580
Upgradient tributary to Three Mile Creek	45.50815	-106.11203	River/Stream	OCC	4/19/2012	620
Upgradient tributary to Three Mile Creek	45.50815	-106.11203	River/Stream	OCC	4/25/2013	760
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	5/15/2014	880
Upgradient tributary to Three Mile Creek	45.50815	-106.11203	River/Stream	OCC	6/20/2013	960
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	4/19/2012	1130
Upgradient tributary to Three Mile Creek	45.50815	-106.11203	River/Stream	OCC	8/28/2012	2140
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	8/28/2012	9270
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	8/25/2011	1060 J
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	8/13/2014	200 J
Upgradient tributary to Three Mile Creek	45.50815	-106.11203	River/Stream	OCC	10/20/2011	210 J
Upgradient tributary to Three Mile Creek	45.50815	-106.11203	River/Stream	OCC	6/20/2013	480 J
Upgradient tributary to Three Mile Creek	45.50827	-106.11206	River/Stream	OCC	10/20/2011	80 J
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	10/25/2011	< .6
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	12/6/2012	< 1
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	3/25/2014	< 2
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	8/13/2014	< 2 J
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	2/7/2012	< 3
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	5/3/2012	< 3
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	5/21/2014	< 3
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	8/29/2012	< 4
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	3/5/2013	< 4
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	10/27/2010	< 50
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	5/16/2013	< 9
Downgradient Spring near Otter Creek	45.47460	-106.12003	Spring	OCC	8/6/2013	< 9
Downgradient Spring near Otter Creek in Section 33, T3S, R45E	45.53377	-106.12423	Spring	OCC	10/26/2011	< .6
Downgradient Spring near Otter Creek in Section 33, T3S, R45E	45.53377	-106.12423	Spring	OCC	5/3/2012	< .6

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Upgradient Spring issues from overburden	45.45495	-106.09259	Spring	OCC	7/29/2013	260
Private well	45.51266	-106.09534	Well	OCC	8/30/2011	< 6
Lower Knobloch: East of Otter Creek paired with K-6	45.46376	-106.14791	Well	OCC	6/22/2011	50 J
Three Mile Creek Alluvium: AVF6 on Grawohl property on Three Mile Creek	45.50961	-106.16664	Well	OCC	8/24/2011	60
Lower Knobloch: B8 battery	45.47269	-106.20363	Well	OCC	8/23/2011	60
Otter Creek Alluvium: Stevens crossing near SW-2	45.50513	-106.17484	Well	OCC	8/23/2011	70
Knobloch Underburden: B8 battery	45.47270	-106.20358	Well	OCC	8/24/2011	70
Lower Knobloch: B8 battery	45.47269	-106.20363	Well	OCC	8/23/2011	90
Knobloch Coal: 15' East of B4-U	45.53869	-106.14146	Well	OCC	8/24/2011	150
Knobloch: B2 Battery	45.52960	-106.23681	Well	OCC	6/29/2011	190
Alluvium: 50' NW of stock well at homestead	45.55171	-106.14514	Well	OCC	6/23/2011	220
Knobloch Coal: East of Otter Creek 1/2 mile	45.48189	-106.15711	Well	OCC	6/22/2011	240 J
Knobloch Coal: north edge State Section 16	45.49458	-106.18747	Well	OCC	8/23/2011	260
Knobloch Underburden: B5 battery near weather station	45.50225	-106.15069	Well	OCC	6/23/2011	290
Base of Clinker: Clinker knob near Highway 484	45.50622	-106.18275	Well	OCC	6/29/2011	320
Knobloch Coal: 15' North of B1-U, just west of Stevens corrals	45.54984	-106.16321	Well	OCC	3/18/2014	340
Underburden: near existing PVC well in Section 36	45.52960	-106.23677	Well	OCC	6/29/2011	340
Lower Knobloch: B7 battery on State land	45.45003	-106.12002	Well	OCC	6/21/2011	340
Underburden: at fence near border with Section 35	45.53869	-106.14152	Well	OCC	8/25/2011	360 J
Knobloch Coal: 115 yards East of well C-4 on hill	45.48802	-106.15748	Well	OCC	6/22/2011	360 J
Overburden: B8 battery	45.47272	-106.20348	Well	OCC	8/23/2011	400
Overburden: B7 battery on State land	45.45010	-106.12000	Well	OCC	6/21/2011	410
Underburden: B7 batter on State land	45.44999	-106.12004	Well	OCC	6/21/2011	460
Underburden: B10 battery in Denson meadow	45.42866	-106.17300	Well	OCC	6/22/2011	460 J
Private well	45.51155	-106.10612	Well	OCC	8/30/2011	470
Knobloch Underburden: B11 Battery	45.48265	-106.14129	Well	OCC	6/24/2011	480
Tarter meadow on Three	45.50862	-106.11345	Well	OCC	8/25/2011	510 J

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Mile Creek						
Underburden: B10 battery in Denson meadow	45.42866	-106.17300	Well	OCC	3/10/2011	540
Knobloch Coal: B3 Battery on Ark Land property	45.53001	-106.16931	Well	OCC	8/24/2011	590
Knobloch Coal: B6 battery on Tarter property, Shorty Creek Drainage	45.49931	-106.12011	Well	OCC	8/25/2011	710 J
Alluvium: Near Otter Creek Crossing	45.48350	-106.16654	Well	OCC	6/22/2011	860 J
Upper Knobloch: B8 Battery	45.47272	-106.20353	Well	OCC	8/23/2011	1070
Upper Knobloch: 12' South of K-2, paired with K-2	45.46372	-106.14792	Well	OCC	6/22/2011	1120 J
Upper Knobloch:	45.42860	-106.17301	Well	OCC	6/22/2011	1330 J
Underburden: West of Stevens' corrals	45.54982	-106.16320	Well	OCC	6/23/2011	1520
Knobloch Clinker: west of K-5 near edge of floodplain	45.48825	-106.15866	Well	OCC	6/22/2011	1520 J
Ten Mile Creek Alluvium: Denson meadow	45.43719	-106.11580	Well	OCC	6/22/2011	1580
Otter Creek Alluvium: AVF1 on Trusler meadow south of house	45.55303	-106.21498	Well	OCC	6/23/2011	1960
Ten Mile Creek Alluvium: Denson meadow	45.43719	-106.11580	Well	OCC	6/22/2011	2020 J
Lower Knobloch: paired with K-3	45.45932	-106.15032	Well	OCC	6/22/2011	2040 J
Underburden for coal: north edge State Section 16	45.49455	-106.18745	Well	OCC	8/24/2011	2200
Alluvium: 55 yards East of Otter Creek; 10' East of well AVF3-1	45.48916	-106.16460	Well	OCC	6/22/2011	2240 J
USFS, Battery near Coal Creek	45.44404	-106.09498	Well	OCC	6/17/2014	2940
Alluvium: Next to fence-Denson Otter Creek crossing	45.43309	-106.14882	Well	OCC	8/24/2011	2970
Knobloch Coal Underburden: B6 battery on Tarter property, Shorty Creek Drainage	45.49928	-106.12011	Well	OCC	8/25/2011	3140 J
Upper Knobloch: paired with K-4	45.45929	-106.15030	Well	OCC	6/22/2011	3560 J
Knobloch Coal: B5 battery near weather station	45.50225	-106.15064	Well	OCC	6/23/2011	3640
Home Creek Alluvium: Home Creek on Trusler property	45.54469	-106.17615	Well	OCC	6/23/2011	3810
1/4 mile east of Otter Creek bridge on south side Hwy 212	45.58706	-106.25111	Well	OCC	7/8/2014	4110

Table B-3. Surface water, spring, and well data used in Figure 5-11

Site	Latitude	Longitude	Type	Source[1]	Date	Tot. Rec. Iron (µg/L)
Upper Knobloch:	45.42860	-106.17301	Well	OCC	3/10/2011	4600
Alluvium: Just West of Otter Creek	45.45932	-106.15782	Well	OCC	8/24/2011	5280
Otter Creek Alluvium: AVF2 south fence line of Trusler meadow south of cemetary	45.53164	-106.19852	Well	OCC	6/23/2011	5440
A8 Groundwater	45.51275	-106.18068	Well	OCC	6/18/2014	5460
Knobloch Coal: B11 battery East Center Proposed Mine Area	45.48261	-106.14131	Well	OCC	6/22/2011	6030 J
USFS, Battery near Coal Creek	45.44407	-106.09499	Well	OCC	6/16/2014	6140
Knobloch Coal: B3 Battery on Ark Land property	45.53004	-106.16931	Well	OCC	8/24/2011	6490
Clinker: Clinker well west of weather station	45.50175	-106.16321	Well	OCC	6/22/2011	7770 J
Alluvium: Immediately West of Otter Creek	45.46505	-106.15875	Well	OCC	8/25/2011	8020 J
Upper Knobloch: B7 battery on State land	45.45006	-106.12001	Well	OCC	6/21/2011	9660
USFS, Battery near Coal Creek	45.44415	-106.09500	Well	OCC	6/17/2014	10900
Overburden Above Knobloch: 15' East of B4-K	45.53870	-106.14140	Well	OCC	8/24/2011	30200
Lower Knobloch: B10 battery, Lower Knobloch well	45.42857	-106.17301	Well	OCC	6/22/2011	31400 J
USFS, Battery near Coal Creek	45.44419	-106.09501	Well	OCC	6/17/2014	32300
Private well	45.51327	-106.09457	Well	OCC	8/30/2011	37700
USFS, Battery near Coal Creek	45.44411	-106.09499	Well	OCC	6/18/2014	37800
Overburden above Knobloch coal: B10 battery overburden in Denson meadow	45.42863	-106.17301	Well	OCC	6/22/2011	39200 J
USFS, Battery near Coal Creek	45.44411	-106.09499	Well	OCC	6/18/2014	44700
Overburden: B6 battery on Tarter property, Shorty Creek Drainage	45.49924	-106.12009	Well	OCC	8/25/2011	56300 J
Overburden: B5 battery near weather station	45.50225	-106.15073	Well	OCC	6/23/2011	206000
Overburden: B11 Battery	45.48258	-106.14132	Well	OCC	6/23/2011	347000
Clinker: Near Stevens/Trusler property boundary and Sections 33/34 border	45.53264	-106.17163	Well	OCC	8/24/2011	664000

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
8144	45.17674	-106.29716	WELL	USGS	10/4/1980	0.002
8158	45.15088	-106.32894	WELL	USGS	6/23/1982	<.002
8163	45.15410	-106.26720	WELL	USGS	6/24/1982	<.002
8162	45.15250	-106.27020	WELL	USGS	7/20/1983	<.002
8160	45.15520	-106.26910	SPRING	USGS	6/22/1982	<.002
8156	45.15160	-106.32910	WELL	USGS	6/24/1982	<.002
8834	45.06140	-106.13080	WELL	USGS	8/6/1983	<.002
8830	45.08080	-106.12080	WELL	USGS	6/30/1984	<.002
8016	45.18300	-106.24770	WELL	USGS	10/12/1988	0.003
8146	45.17110	-106.29550	WELL	USGS	10/4/1980	0.004
8011	45.18080	-106.30800	WELL	USGS	7/20/1983	0.004
8147	45.17546	-106.29716	WELL	USGS	10/4/1980	0.005
7403	45.52940	-106.18860	WELL	USGS	10/28/1980	0.005
7780	45.39473	-106.15033	WELL	USGS	10/22/1980	0.006
7777	45.39220	-106.13943	WELL	USGS	10/23/1980	0.006
8219	45.11800	-106.13000	WELL	USGS	6/8/1984	0.008
8214	45.13300	-106.12200	STREAM	USGS	10/21/1983	0.008
8146	45.17110	-106.29550	WELL	USGS	10/14/1988	0.009
197607	45.39137	-105.93838	SPRING	MBMG	8/18/2006	0.009
7909	45.30790	-106.25010	SPRING	MBMG	10/21/2003	0.009
8150	45.17160	-106.30604	WELL	USGS	10/3/1980	0.01
8179	45.10710	-106.27060	SPRING	USGS	2/27/1974	<.01
8161	45.15470	-106.27000	SPRING	USGS	2/27/1974	<.01
8787	45.08250	-106.26380	WELL	USGS	2/28/1974	<.01
8178	45.11780	-106.31140	WELL	USGS	6/19/1975	<.01
7250	45.62050	-106.07410	SPRING	USGS	8/8/1974	<.01
7251	45.61300	-106.06190	SPRING	USGS	8/8/1974	<.01
8189	45.14080	-106.15720	SPRING	USGS	2/2/1974	0.01
7598	45.45780	-106.21720	SPRING	USGS	1/14/1974	<.01
7791	45.42880	-106.05520	WELL	USGS	6/27/1975	<.01
7391	45.55550	-106.21690	WELL	USGS	12/18/1973	<.01
7249	45.64310	-106.03130	SPRING	USGS	10/23/1974	<.01
7413	45.56860	-106.02080	WELL	USGS	1/17/1974	<.01
7384	45.58860	-106.12250	SPRING	USGS	8/7/1974	<.01
7786	45.37440	-106.16690	WELL	USGS	6/26/1975	0.01
7375	45.60660	-106.16050	WELL	USGS	5/27/1975	0.01
7611	45.44630	-106.03800	SPRING	USGS	1/16/1974	<.01
7390	45.55580	-106.21750	WELL	USGS	8/13/1975	<.01
7608	45.43500	-106.11220	WELL	USGS	1/16/1974	<.01

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
7797	45.38330	-106.08330	WELL	USGS	1/14/1974	<.01
7758	45.41750	-106.20550	SPRING	USGS	1/13/1974	<.01
149839	45.50930	-106.02820	WELL	USGS	8/22/1974	<.01
7418	45.57400	-106.09590	SPRING	USGS	1/18/1974	<.01
7420	45.56440	-106.10550	WELL	USGS	1/14/1974	<.01
8831	45.08270	-106.12080	WELL	USGS	2/1/1974	0.01
7794	45.43250	-106.08690	WELL	USGS	6/27/1975	0.01
8188	45.15160	-106.22860	SPRING	USGS	2/2/1974	0.01
7781	45.39469	-106.15035	WELL	MBMG	2/16/2011	0.01
7242	45.62860	-106.11190	SPRING	USGS	8/7/1974	0.01
7591	45.47750	-106.15770	WELL	USGS	1/29/1974	0.01
8848	45.06550	-106.05410	WELL	USGS	2/3/1974	0.01
7244	45.61910	-106.11860	SPRING	USGS	8/7/1974	0.01
7610	45.43500	-106.07880	WELL	USGS	6/27/1975	0.01
7382	45.58940	-106.12410	WELL	USGS	2/26/1976	0.01
7399	45.52580	-106.21970	WELL	USGS	8/13/1975	0.01
7595	45.46160	-106.17660	WELL	USGS	6/26/1975	0.01
7600	45.51610	-106.09270	WELL	USGS	8/20/1974	0.01
7419	45.56020	-106.09220	WELL	USGS	8/12/1975	0.01
8183	45.17360	-106.19380	SPRING	USGS	2/27/1974	0.01
7364	45.59330	-106.27130	WELL	USFS	4/29/1975	0.01
7364	45.59330	-106.27130	WELL	USGS	5/20/1975	0.01
7370	45.59130	-106.24360	SPRING	USGS	6/19/1980	0.01
7781	45.39469	-106.15035	WELL	USGS	10/25/1980	0.011
8844	45.07030	-106.05380	WELL	USGS	5/17/1984	0.011
8232	45.09800	-106.11420	WELL	USGS	6/7/1984	0.012
8845	45.07010	-106.05420	WELL	USGS	5/20/1984	0.012
8008	45.19580	-106.27940	SPRING	USGS	6/30/1984	0.012
197607	45.39137	-105.93838	SPRING	MBMG	1/26/2006	0.013
8152	45.17032	-106.30604	WELL	USGS	10/2/1980	0.014
8216	45.13330	-106.12360	WELL	USGS	6/6/1984	0.014
7781	45.39469	-106.15035	WELL	MBMG	10/16/2013	<0.015 U
7769	45.40450	-106.22600	SPRING	USGS	10/28/1980	0.015
7779	45.39130	-106.14770	STREAM	USGS	10/21/1980	0.015
8151	45.17160	-106.30604	WELL	USGS	10/3/1980	0.016
8229	45.11010	-106.08580	WELL	USGS	5/17/1984	0.016
8164	45.15453	-106.26634	BOREHOLE	USGS	6/22/1982	0.017
8220	45.11800	-106.13000	WELL	USGS	5/18/1984	0.017
7765	45.40250	-106.17440	WELL	USGS	10/8/1988	0.017

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
7388	45.56770	-106.17270	WELL	USGS	6/8/1983	0.017
8015	45.18380	-106.24940	WELL	USGS	10/11/1988	0.017
7765	45.40250	-106.17440	WELL	USGS	6/10/1983	0.017
205011	45.27140	-105.95539	SPRING	MBMG	5/4/2011	0.017
8217	45.13300	-106.12220	WELL	USGS	6/8/1984	0.017
100472	45.59350	-106.16477	WELL	USGS	6/19/1980	0.017
7584	45.48470	-106.14690	WELL	USGS	6/9/1983	0.018
259296	45.22520	-106.16798	STREAM	MBMG	12/1/2010	0.019
8228	45.10440	-106.07220	WELL	USGS	7/25/1983	0.019
259306	45.58788	-106.25500	STREAM	MBMG	12/1/2010	0.019
7386	45.56940	-106.14770	WELL	USFS	4/20/1976	0.02
8224	45.11910	-106.05580	SPRING	USGS	2/4/1974	0.02
8809	45.06702	-106.17750	WELL	USGS	6/3/1975	0.02
7577	45.51470	-106.22130	WELL	USGS	8/14/1980	0.02
7385	45.56880	-106.12000	WELL	USGS	1/14/1974	0.02
8838	45.06580	-106.08380	WELL	USGS	8/5/1983	0.02
8212	45.13300	-106.11520	WELL	USGS	2/4/1974	0.02
7790	45.36500	-106.14630	WELL	USGS	5/22/1975	0.02
8852	45.04770	-106.07610	WELL	USGS	2/5/1974	0.02
7575	45.51470	-106.18110	WELL	USGS	1/12/1974	0.02
8194	45.12580	-106.23520	WELL	USGS	2/2/1974	0.02
7767	45.40660	-106.21770	SPRING	USGS	1/12/1973	0.02
8818	45.08270	-106.12080	WELL	USGS	1/30/1974	0.02
8811	45.05690	-106.20330	WELL	USGS	1/31/1974	0.02
8185	45.17380	-106.20940	WELL	USGS	2/27/1974	0.02
8822	45.07880	-106.10440	WELL	USGS	1/29/1974	0.02
8823	45.07580	-106.10110	WELL	USGS	1/29/1974	0.02
8156	45.15160	-106.32910	WELL	USGS	10/5/1980	0.021
7766	45.40660	-106.21860	SPRING	USGS	10/28/1980	0.022
8211	45.13470	-106.11940	WELL	USGS	5/19/1984	0.022
8808	45.06702	-106.16347	WELL	USGS	5/21/1984	0.023
8215	45.13300	-106.12270	WELL	USGS	5/21/1984	0.023
8227	45.10440	-106.07220	WELL	USGS	7/24/1983	0.026
8813	45.08720	-106.06470	WELL	USGS	6/29/1984	0.026
100472	45.59350	-106.16477	WELL	MBMG	7/20/2004	0.027
259304	45.52127	-106.18516	STREAM	MBMG	12/1/2010	0.027
8843	45.06520	-106.08770	WELL	USGS	6/6/1984	0.028
259302	45.43024	-106.14431	STREAM	MBMG	12/1/2010	0.028
8143	45.17160	-106.29720	WELL	USGS	10/4/1980	0.029

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
8142	45.17080	-106.28550	WELL	USGS	11/16/1973	0.03
7606	45.45580	-106.05490	SPRING	USGS	1/16/1974	0.03
8198	45.11130	-106.19580	WELL	USGS	1/31/1974	0.03
8225	45.11759	-106.03640	WELL	USGS	2/1/1974	0.03
105007	45.21529	-106.27028	WELL	MBMG	7/19/2004	0.03
8812	45.08680	-106.06610	WELL	USGS	1/31/1974	0.03
8186	45.16770	-106.21020	SPRING	USGS	2/27/1974	0.03
8184	45.16580	-106.18270	SPRING	USGS	2/27/1974	0.03
8205	45.17270	-106.04440	SPRING	USGS	2/6/1974	0.03
8203	45.09306	-106.19422	WELL	USGS	1/30/1974	0.03
8231	45.10060	-106.10960	WELL	USGS	1/30/1974	0.03
7762	45.40770	-106.13360	WELL	USGS	1/29/1974	0.03
8193	45.13190	-106.20750	WELL	USGS	2/2/1974	0.03
8817	45.07410	-106.08220	SPRING	USGS	2/7/1974	0.03
8859	45.02610	-106.10910	WELL	USGS	1/29/1974	0.03
8236	45.15190	-106.00080	SPRING	USGS	2/6/1974	0.03
7585	45.49250	-106.17110	STREAM	USGS	3/29/1983	0.03
7910	45.29220	-106.14720	STREAM	MBMG	12/1/2010	0.03
8226	45.10940	-106.04690	WELL	USGS	2/4/1974	0.03
7767	45.40660	-106.21770	SPRING	USGS	10/28/1980	0.032
8213	45.13300	-106.11520	WELL	USGS	6/28/1984	0.032
259300	45.39138	-106.14404	STREAM	MBMG	12/1/2010	0.032
8153	45.17032	-106.30604	WELL	USGS	10/2/1980	0.033
7776	45.39220	-106.13860	WELL	USGS	10/23/1980	0.033
7366	45.59020	-106.25500	WELL	USGS	6/10/1983	0.033
8233	45.09000	-106.10270	WELL	USGS	5/20/1984	0.034
7755	45.43520	-106.18390	WELL	USGS	10/27/1980	0.034
7596	45.46050	-106.18550	WELL	USGS	10/7/1988	0.035
8851	45.06520	-106.02220	WELL	USGS	6/30/1984	0.036
203709	45.13520	-106.21210	WELL	MBMG	4/15/2005	0.036
8154	45.16300	-106.32110	WELL	USGS	10/13/1988	0.037
7781	45.39469	-106.15035	WELL	MBMG	10/7/2014	<0.038 U
8218	45.13300	-106.12220	STREAM	USGS	5/21/1984	0.038
8159	45.15520	-106.26910	SPRING	USGS	6/29/1980	0.039
7576	45.51470	-106.18000	WELL	USGS	1/12/1974	0.04
7402	45.53300	-106.18880	WELL	USGS	10/28/1980	0.04
8810	45.06247	-106.16092	WELL	USGS	1/30/1974	0.04
8223	45.12360	-106.04910	SPRING	USGS	2/6/1974	0.04
8199	45.11130	-106.19580	WELL	USGS	2/1/1974	0.04

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
7911	45.33160	-105.85500	WELL	USGS	7/20/1976	0.04
8206	45.16630	-106.08500	WELL	USGS	2/7/1974	0.04
7787	45.38020	-106.19270	WELL	USGS	6/25/1974	0.04
7574	45.51580	-106.18610	WELL	USGS	8/18/1980	0.04
7400	45.52690	-106.19550	WELL	USGS	2/26/1976	0.04
8832	45.08220	-106.13880	WELL	USGS	1/30/1974	0.04
7757	45.42940	-106.21810	SPRING	USGS	1/13/1974	0.04
8013	45.18520	-106.26580	SPRING	USGS	6/29/1980	0.041
8204	45.09770	-106.14440	WELL	USGS	6/26/1984	0.047
8208	45.13470	-106.12020	STREAM	USGS	5/19/1984	0.049
7421	45.54220	-106.10660	WELL	USGS	5/28/1975	0.05
8805	45.07875	-106.17759	WELL	USGS	5/19/1984	0.05
7761	45.41000	-106.14660	WELL	USGS	6/25/1975	0.05
8222	45.12300	-106.09610	SPRING	USGS	2/4/1974	0.05
8200	45.10030	-106.21465	WELL	USGS	2/1/1974	0.05
8012	45.22300	-106.16630	WELL	USGS	8/3/1976	0.05
7910	45.29220	-106.14720	STREAM	USGS	10/20/1976	0.05
8148	45.17190	-106.29940	SPRING	USGS	6/26/1980	0.052
7579	45.50130	-106.18380	WELL	USGS	10/28/1980	0.052
8858	45.02300	-106.05610	SPRING	USGS	6/27/1984	0.055
8014	45.18380	-106.24940	WELL	USGS	10/12/1988	0.056
8833	45.07067	-106.12177	WELL	USGS	6/27/1984	0.058
7596	45.46050	-106.18550	WELL	USGS	10/28/1980	0.059
7396	45.56110	-106.11660	WELL	USGS	5/28/1975	0.06
8850	45.06520	-106.02190	WELL	USGS	2/2/1974	0.06
7793	45.42690	-106.05380	WELL	USGS	11/23/1976	0.06
8201	45.09940	-106.21410	WELL	USGS	1/30/1974	0.06
197452	45.19138	-106.15067	SPRING	MBMG	10/3/2007	0.06
8149	45.17418	-106.29586	WELL	USGS	10/6/1980	0.064
8155	45.16500	-106.32190	WELL	USGS	10/13/1988	0.066
8826	45.07580	-106.10160	WELL	USGS	6/27/1984	0.066
8836	45.07130	-106.09020	WELL	USGS	5/15/1984	0.066
197452	45.19138	-106.15067	SPRING	MBMG	5/1/2007	0.066
7910	45.29220	-106.14720	STREAM	MBMG	3/11/2010	0.068
8007	45.19520	-106.28020	WELL	USGS	6/30/1984	0.069
7753	45.43470	-106.16160	WELL	USGS	11/24/1976	0.07
8195	45.12020	-106.15190	SPRING	USGS	2/3/1974	0.07
7604	45.49790	-106.03520	WELL	USGS	11/22/1976	0.07
7364	45.59330	-106.27130	WELL	USFS	4/20/1976	0.07

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
8849	45.06300	-106.05300	WELL	USGS	6/24/1984	0.072
259302	45.43024	-106.14431	STREAM	MBMG	3/11/2010	0.072
7578	45.50410	-106.22690	WELL	USGS	8/17/1980	0.082
198766	45.54543	-105.92625	SPRING	MBMG	10/21/2003	0.088
7754	45.43410	-106.16330	WELL	USGS	12/18/1973	0.09
8856	45.04020	-106.04830	SPRING	USGS	2/3/1974	0.09
197452	45.19138	-106.15067	SPRING	MBMG	5/21/2008	0.092
8838	45.06580	-106.08380	WELL	USGS	10/9/1988	0.1
8221	45.11820	-106.12030	WELL	USGS	1/30/1974	0.1
8191	45.13547	-106.21208	WELL	USGS	10/11/1988	0.1
8860	45.01860	-106.11220	WELL	USGS	2/5/1974	0.1
7365	45.59160	-106.26630	WELL	USGS	7/24/1923	0.1
7796	45.39270	-106.08090	SPRING	USGS	1/18/1974	0.11
7406	45.60740	-106.06720	WELL	USGS	10/23/1974	0.12
8821	45.08190	-106.11970	WELL	USGS	6/28/1984	0.12
8167	45.13912	-106.32263	WELL	USGS	6/4/1975	0.13
7368	45.58830	-106.25610	STREAM	USGS	1/31/1974	0.14
7606	45.45580	-106.05490	SPRING	MBMG	10/21/2003	0.142
198766	45.54543	-105.92625	SPRING	MBMG	9/30/2014	0.147
8166	45.13880	-106.32220	WELL	USGS	6/26/1980	0.15
7398	45.54300	-106.19360	STREAM	USGS	10/21/1976	0.15
259296	45.22520	-106.16798	STREAM	MBMG	11/6/2013	<0.150 U
7602	45.49670	-106.09280	WELL	USGS	6/6/1975	0.16
8237	45.15050	-105.98470	WELL	YTAP	7/28/1976	0.16
8853	45.04770	-106.07610	WELL	USGS	6/27/1984	0.17
7778	45.39220	-106.13948	WELL	USGS	10/24/1980	0.17
7586	45.49220	-106.16860	WELL	USGS	3/29/1983	0.19
8234	45.09000	-106.10220	WELL	USGS	5/22/1984	0.19
8210	45.13440	-106.11940	WELL	USGS	10/10/1988	0.19
7566	45.51190	-106.14500	WELL	USGS	11/23/1976	0.21
7406	45.60740	-106.06720	WELL	USGS	8/8/1974	0.28
8854	45.05690	-106.10000	WELL	USGS	5/16/1984	0.28
8210	45.13440	-106.11940	WELL	USGS	5/23/1984	0.32
8820	45.08120	-106.12030	WELL	USGS	3/17/1976	0.32
8825	45.07580	-106.10130	WELL	USGS	6/27/1984	0.33
8828	45.08270	-106.12080	WELL	USGS	6/28/1984	0.35
8824	45.07580	-106.10130	WELL	USGS	6/27/1984	0.36
8814	45.07380	-106.06020	WELL	USGS	6/29/1984	0.42
7792	45.42880	-106.05520	WELL	USGS	11/23/1976	0.44

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
205041	45.19440	-106.00810	SPRING	MBMG	9/30/2014	0.458
8829	45.08270	-106.12080	WELL	USGS	6/28/1984	0.46
7603	45.50360	-106.07050	WELL	USGS	11/22/1976	0.48
8857	45.04110	-106.05360	SPRING	USGS	6/30/1984	0.5
7418	45.57400	-106.09590	SPRING	MBMG	10/21/2003	0.631
7569	45.51860	-106.18500	WELL	USGS	10/7/1988	0.68
205041	45.19440	-106.00810	SPRING	MBMG	10/21/2003	0.699
7573	45.51860	-106.18550	WELL	MBMG	8/18/2006	0.702
8841	45.06520	-106.08750	WELL	USGS	5/22/1984	0.76
7569	45.51860	-106.18500	WELL	USGS	8/18/1980	0.78
7767	45.40660	-106.21770	SPRING	MBMG	10/20/2003	0.8
8806	45.08046	-106.18629	WELL	USGS	1/30/1974	0.87
7782	45.39461	-106.15035	WELL	USGS	10/21/1980	0.91
7581	45.49800	-106.17910	WELL	USGS	8/19/1980	1.03
7567	45.52080	-106.18440	WELL	USGS	2/15/1983	1.16
8827	45.08270	-106.12080	WELL	USGS	1/30/1974	1.18
8165	45.15410	-106.26630	WELL	USGS	6/23/1982	1.2
7583	45.49720	-106.17270	WELL	USGS	8/21/1980	1.54
7573	45.51860	-106.18550	WELL	USGS	8/3/1980	1.78
7567	45.52080	-106.18440	WELL	USGS	8/14/1980	1.79
7416	45.57300	-106.04690	WELL	USGS	2/26/1976	1.92
8855	45.04020	-106.11690	WELL	USGS	8/6/1983	2.04
7367	45.58940	-106.25630	WELL	USGS	6/10/1983	2.2
7573	45.51860	-106.18550	WELL	USGS	2/16/1983	2.43
8816	45.08190	-106.09720	SPRING	USGS	1/29/1974	2.77
7770	45.39220	-106.14110	WELL	USGS	10/24/1980	2.81
7593	45.45940	-106.16110	WELL	USGS	11/23/1976	2.85
8196	45.12020	-106.15190	SPRING	USGS	6/28/1984	2.88
183565	45.42749	-105.91766	WELL	MBMG	4/26/2005	3.24
7569	45.51860	-106.18500	WELL	USGS	8/19/1980	3.35
7770	45.39220	-106.14110	WELL	USGS	2/15/1983	3.49
7772	45.39250	-106.14190	WELL	USGS	10/25/1980	3.82
7369	45.58800	-106.25770	WELL	USGS	6/9/1983	3.85
7783	45.39410	-106.14860	WELL	USGS	10/21/1980	3.87
7784	45.39410	-106.14860	WELL	USGS	3/29/1983	3.95
7397	45.54220	-106.16080	WELL	USGS	5/28/1975	4.01
7775	45.39264	-106.14404	WELL	USGS	2/15/1983	4.62
8235	45.09160	-106.06910	SPRING	USGS	6/29/1984	5.04
7775	45.39264	-106.14404	WELL	USGS	10/8/1988	5.04

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
7775	45.39264	-106.14404	WELL	USGS	10/21/1980	5.23
7775	45.39264	-106.14404	WELL	MBMG	10/2/2014	5.338
7782	45.39461	-106.15035	WELL	MBMG	10/6/2014	5.619
7775	45.39264	-106.14404	WELL	MBMG	8/18/2006	5.67
7414	45.57130	-106.01020	SPRING	USGS	8/29/1974	7.58
8842	45.06520	-106.08690	WELL	USGS	5/16/1984	9.2
8819	45.08270	-106.12080	WELL	USGS	6/28/1984	10.4
8192	45.13547	-106.21208	WELL	USGS	10/10/1988	22.6
191135	45.18122	-106.29553	SPRING	USGS	7/23/1982	27
8840	45.06520	-106.08380	WELL	USGS	8/5/1983	<.002
8230	45.10300	-106.14050	SPRING	USGS	8/2/1984	<.002
8835	45.06990	-106.11530	WELL	USGS	7/22/1983	<.002
8847	45.07200	-106.05780	WELL	USGS	7/24/1983	<.002
8187	45.16850	-106.26030	WELL	USGS	6/22/1982	<.002
8837	45.06550	-106.08380	WELL	USGS	6/5/1984	<.002
8846	45.07200	-106.05780	WELL	USGS	7/23/1983	<.002
7388	45.56770	-106.17270	WELL	USGS	10/7/1988	<.002
8197	45.10600	-106.14540	WELL	USGS	7/25/1983	<.002
7609	45.43660	-106.09750	WELL	USGS	6/27/1975	<.01
7579	45.50130	-106.18380	WELL	USGS	5/27/1975	<.01
8202	45.09830	-106.21830	WELL	USGS	2/2/1974	<.01
7788	45.37290	-106.19650	SPRING	USGS	1/16/1974	<.01
7801	45.38000	-106.07940	STREAM	USGS	1/15/1974	<.01
7588	45.49000	-106.16330	WELL	USGS	5/29/1975	<.01
7404	45.52940	-106.18860	WELL	USGS	12/21/1973	<.01
7415	45.57130	-106.03270	WELL	USGS	1/17/1974	<.01
7590	45.47226	-106.20918	WELL	USGS	12/19/1973	<.01
7395	45.55770	-106.13130	WELL	USGS	12/21/1973	<.01
7756	45.43520	-106.18970	WELL	USGS	1/13/1974	<.01
7785	45.38000	-106.14720	WELL	USGS	12/19/1973	<.01
7393	45.56770	-106.16330	WELL	USGS	1/12/1974	<.01
7408	45.59610	-106.10300	WELL	USGS	8/8/1974	<.01
7409	45.59000	-106.08880	WELL	USGS	1/18/1974	<.01
7601	45.51292	-106.07933	WELL	USGS	8/22/1974	<.01
7422	45.52160	-106.02500	SPRING	USGS	8/22/1974	<.01
100472	45.59350	-106.16477	WELL	USGS	10/8/1974	<.01
7589	45.47266	-106.21484	WELL	USGS	6/26/1975	<.01
7789	45.36550	-106.14690	WELL	USGS	5/22/1975	<.01
7582	45.49830	-106.17690	WELL	USGS	5/29/1975	<.01

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
7607	45.45500	-106.09190	SPRING	USGS	1/16/1974	<.01
7798	45.38300	-106.05190	WELL	USGS	1/18/1974	<.01
7594	45.45940	-106.16220	WELL	USGS	12/17/1973	<.01
7394	45.56720	-106.17000	WELL	USGS	12/20/1973	<.01
7374	45.60770	-106.11500	SPRING	USGS	8/7/1974	<.01
7799	45.38880	-106.01020	WELL	USGS	1/18/1974	<.01
8815	45.08250	-106.09100	WELL	USGS	1/31/1974	<.01
7392	45.56770	-106.16330	WELL	USGS	1/12/1974	<.01
7383	45.58910	-106.12380	WELL	USGS	3/7/1974	<.01
7405	45.59720	-106.05810	SPRING	USGS	8/8/1974	<.01
7412	45.58690	-105.98270	SPRING	USGS	12/19/1973	<.01
7587	45.48470	-106.17050	WELL	USGS	12/19/1973	<.01
7387	45.56880	-106.15190	WELL	USGS	12/17/1973	<.01
8207	45.16380	-106.10130	WELL	USGS	2/7/1974	<.01
7795	45.41310	-106.05170	SPRING	USGS	1/16/1974	<.01
7599	45.44220	-106.20750	WELL	USGS	1/14/1974	<.01
7417	45.56830	-106.07050	WELL	USGS	1/17/1974	<.01
7763	45.40220	-106.15380	WELL	USGS	12/18/1973	<.01
7592	45.47160	-106.15190	WELL	USGS	1/14/1974	<.01
7760	45.42300	-106.15110	WELL	USGS	6/26/1975	<.01
7401	45.53470	-106.19300	WELL	USGS	12/18/1973	<.01
7800	45.37990	-106.04250	SPRING	USGS	1/16/1974	<.01
7759	45.41190	-106.17440	WELL	USGS	6/25/1975	<.01
7371	45.57476	-106.24201	WELL	USGS	12/19/1973	<.01
7909	45.30790	-106.25010	SPRING	USFS	4/21/1976	<.01
179229	45.31130	-106.24640	POND	MBMG	4/25/2000	<.025
8190	45.13750	-106.19160	SPRING	USGS	2/2/1974	<.13
7780	45.39473	-106.15033	WELL	MBMG	10/6/2014	<0.015 U
197452	45.19138	-106.15067	SPRING	MBMG	10/30/2008	<0.018
7777	45.39220	-106.13943	WELL	MBMG	10/6/2014	<0.038 U
7589	45.47266	-106.21484	WELL	MBMG	10/6/2014	<0.038 U
197607	45.39137	-105.93838	SPRING	MBMG	10/2/2014	<0.038 U
100472	45.59350	-106.16477	WELL	MBMG	10/1/2012	<0.038 U
7910	45.29220	-106.14720	STREAM		11/6/2013	<0.075 U
259300	45.39138	-106.14404	STREAM	MBMG	11/6/2013	<0.075 U
259302	45.43024	-106.14431	STREAM	MBMG	11/6/2013	<0.075 U
205082	45.38820	-105.95453	WELL	MBMG	10/2/2014	<0.075 U
259306	45.58788	-106.25500	STREAM	MBMG	11/6/2013	<0.075 U
199568	45.28217	-106.07167	SPRING	MBMG	4/19/2013	<0.150 U

Table B-4. GWIC data used in Figure 5-11

GWIC ID[1]	Latitude	Longitude	Type	Source[1]	Date	Diss. Iron (mg/L)
199568	45.28217	-106.07167	SPRING	MBMG	11/20/2013	<0.150 U
199568	45.28217	-106.07167	SPRING	MBMG	10/1/2014	<0.150 U
7778	45.39220	-106.13948	WELL	MBMG	10/6/2014	<0.150 U
259304	45.52127	-106.18516	STREAM	MBMG	11/6/2013	<0.150 U
205011	45.27140	-105.95539	SPRING	MBMG	9/30/2014	0.033 J
197452	45.19138	-106.15067	SPRING	MBMG	10/1/2014	0.124 J
276654	45.43998	-106.09463	WELL	MBMG	10/16/2013	0.421 J

[1] GWIC = Groundwater Information Center, USGS = U.S. Geological Survey, MBMG = Montana Bureau of Mines and Geology