APPENDIX B

SOIL, MINE WASTE AND WATER QUALITY DATA FROM THE UBMC; WEST IMPOUNDMENT WELL LOGS

MIKE HORSE TAILINGS IMPOUNDMENT DATA

TABLE B-1. MIKE HORSE TAILINGS IMPOUNDMENT SOIL/SEDIMENT SAMPLES

1997 MBMG Tailings Impoundment Sediment Samples

Sample #	Total Aluminum	Total Arsenic	Total Cadmium	Total Copper	Total Lead	Total Manganese	Total Zinc
3OH		426.4	23.3	744.3	2839.8		4047.6
4OH		389.3	40.5	751.6	2652.6		6491.2

2000 Tailings Impoundment Sediment Samples

Site	Sample #	Conductivity	Moisture Content	Neutralization Potential	Acid Potential	Acid Base Potential	Lime as Ca CO3	Single Buffer SMP Lime Requirement	Sulfur, Hydro-chloric Acid Extraction	Sulfur, Nitric Acid Extraction	Sulfur, Water Extraction	Sulfur, Total	Sulfur, Residual	Sulfur, Non-Sulfate	pH	Total Aluminum	Total Arsenic	Total Cadmium	Total Copper	Total Iron	Total Lead	Total Manganese	Total Zinc
Mine Waste Adjacent to Pond																							
MHTI-1	MHTS-0009-100	10.4	11.8	56	152	-95	5.6	5.4	<0.01	3.06	1.18	6.03	1.79	4.85	4.8	5140	257	57	765	57800	15100	2750	7780
Beach Tailings																							
MHTI-2	MHTS-0009-101	3.33	30.3	185	297	-112	18.5	<0.1	<0.01	8.78	0.02	9.53	0.73	9.51	7.1	4630	263	30	815	74300	2490	10800	3320
MHTI-3	MHTS-0009-102	4.26	17.7	197	391	-193	19.7	<0.1	<0.01	11.4	<0.01	12.5	1.13	12.5	6.6	3850	299	23	622	83600	1610	8760	2760
MHTI-4	MHTS-0009-104	3.17	22.6	196	341	-145	19.6	<0.1	<0.01	9.90	0.40	11.3	1.00	10.9	7.0	4440	259	19	520	71800	1600	8220	2360

2005 Tailings Impoundment Sediment Samples

Site	Total Aluminum	Total Arsenic	Total Cadmium	Total Copper	Total Lead	Total Manganese	Total Zinc
UBTP-2005-1	6360	164	10	509	1040	6139	2802
UBTP-2005-3	12600	135	11	427	2195	6996	3132
UBTP-2005-5	13700	150	17	655	3347	7028	4823

1995 Tailings Dam Face Soil Samples

Sample Site	Depth Interval (inches)	ABDTPA Silver (ug/g)	ABDTPA Aluminum (ug/g)	ABDTPA Arsenic (ug/g)	ABDTPA Barium (ug/g)	ABDTPA Boron (ug/g)	ABDTPA Calcium (ug/g)	ABDTPA Cadmium (ug/g)	ABDTPA Chromium (ug/g)	ABDTPA Copper (ug/g)	ABDTPA Iron (ug/g)	ABDTPA Mercury (ug/g)	ABDTPA Magnesium (ug/g)	ABDTPA Manganese (ug/g)	ABDTPA Molybdenun (ug/g)	ABDTPA Nickel (ug/g)	ABDTPA Lead (ug/g)	ABDTPA Selenium (ug/g)	ABDTPA Zinc (ug/g)
GT-3	0 - 6	< 1	<1	0.1	< 1	< 1	104	2	< 1	16	296	< 0.1	89	117	< 1	1	40	0.01	240
GT-3	6 - 12	< 1	1	0.1	< 1	< 1	156	1	< 1	21	284	< 0.1	122	126	< 1	<1	126	0.01	159
GT-4	0 - 6	< 1	17	0.2	< 1	< 1	46	< 1	< 1	9	487	< 0.1	14	74	< 1	< 1	6	0.01	8
GT-4	6 - 12	< 1	8	0.3	< 1	< 1	141	< 1	< 1	9	474	< 0.1	18	47	< 1	< 1	4	0.01	9

Sample Site	Total Aluminum (ug/g)	Total Antimony (ug/g)	Total Arsenic (ug/g)	Total Barium (ug/g)	Total Beryllium (ug/g)	Total Cadmium (ug/g)	Total Chromium (ug/g)	Total Cobalt (ug/g)	Total Copper (ug/g)	Total Iron (ug/g)	Total Lead (ug/g)	Total Manganese (ug/g)	Total Mercury (ug/g)	Total Nickel (ug/g)	Total Selenium (ug/g)	Total Silver (ug/g)	Total Thallium (ug/g)	Total Vanadium (ug/g)	Total Zinc (ug/g)
GT-3	3310	<5	91	21	1	18	5	13	250	35700	620	2580	<1	19	< 5	<5	< 1	12	2630
GT-3	4490	<5	90	30	<1	2	<5	8	220	28800	900	930	<1	9	< 5	<5	< 1	15	520
GT-4	5980	<5	32	150	1	<1	6	7	82	23900	290	410	<1	9	< 5	<5	< 1	15	160
GT-4	5980	<5	36	150	<1	<1	7	7	61	19000	200	520	<1	8	< 5	<5	< 1	14	120

TABLE B-2. MIKE HORSE TAILINGS IMPOUNDMENT SURFACE WATER SAMPLES

SITE CODE	SAMP DATE	SAMP #	ACIDCACO		AG_DIS		AG_TOT		AIR_TEMP_C		ALKCACO3		ALKCO3		AL_DIS		AL_TOT		AL_TRC		AS_DIS		AS_TOT		AS_TRC		BA_DIS		BA_TOT		CADIS		CATOT		CD_DIS		CD_TOT		CD_TRC		CL
BRSW-1	8/12/1991	9108-010			0.008	U	0.008	U			102				0.2	U	0.2	U			0.02	U	0.02	U							24			0.008	U	0.008	U			1
BRSW-1	9/13/1991	9109-060			0.008	U	0.008	U			96				0.2	U	0.2	U			0.02	U	0.02	U							25			0.008	U	0.008	U			1.1
BRSW-1	11/13/1991	9111-112			0.008	U	0.008	U			92				0.2	U	0.2	U			0.02	U	0.02	U							24			0.008	U	0.008	U			1.2
BRSW-1	4/16/1992	AHD-9204-124			0.01	U	0.01	U			76				0.2	U	0.2	U			0.008	U	0.008	U			0.21		0.22		21			0.005	U	0.005	U			2
BRSW-1	5/5/1992	AHD-9205-129			0.01	U	0.01	U			76				0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	18			0.005	U	0.005	U			2
BRSW-1	5/19/1992	AHD-9205-231			0.01	U	0.01	U			93				0.2	U	0.2	U			0.008	U	0.008	U			0.254		0.252		21			0.005	U	0.005	U			2
BRSW-1	6/2/1992	AHD-9206-122			0.01	U	0.01	U			97				0.2	U	0.2	U			0.008	U	0.008	U			0.28		0.275		24			0.005	U	0.005	U			2
BRSW-1	10/26/1993	AHD-9310-900			0.0002	U	0.0002	U,J4			94				0.1	U	0.1	U,J4			0.003	U	0.003	U,J4			0.27		0.27				21	0.001	U	0.001	U			2
BRSW-1	5/27/1997	AHD-9705-157									78				0.05	U			0.05	U	0.002	U			0.002	U					17			0.001	U			0.001	U	
BRSW-1	10/21/1997	AHD-9710-107									101				0.09	UJ1			0.05	U	0.002	U			0.002	U					22			0.001	U			0.001	U	
BRSW-1	5/5/1998	AHD-9805-107									79				0.05	U			0.05	U	0.002	U			0.002	U					16			0.001	U			0.001	U	
BRSW-1	10/23/1998	AHD-9810-107									104				0.05	U			0.05	U	0.002	U			0.002	U					22			0.001	U			0.001	U	
BRSW-2	8/12/1991	9108-011			0.008	U	0.008	U			88				0.2	U	0.2	U			0.02	U	0.02	U							21			0.008	U	0.008	U			1
BRSW-2	9/13/1991	9109-061			0.008	U	0.008	U			2				0.2	U	0.2	U			0.02	U	0.02	U							18			0.008	U	0.008	U			1
BRSW-2	11/13/1991	9111-118			0.008	U	0.008	U	2		90				0.2	U	0.2	U			0.02	U	0.02	U							21			0.008	U	0.008	U			1.4
BRSW-2	4/17/1992	AHD-9204-111			0.01	U	0.01	U,J2			84				0.2	U	0.2	U			0.008	U	0.008	U			0.26		0.265		27			0.005	U	0.005	U			2
BRSW-2	5/5/1992	AHD-9205-126			0.01	U	0.01	U			80				0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.226		23			0.005	U	0.005	U			2
BRSW-2	5/19/1992	AHD-9205-218			0.01	U	0.01	U			83				0.2	U	0.2	U			0.008	U	0.008	U			0.224		0.241		21			0.005	U	0.005	U			2
BRSW-2	6/3/1992	AHD-9206-118			0.01	U	0.01	U			96				0.2	U	0.2	U			0.008	U	0.008	U			0.238		0.245		22			0.005	U	0.005	U			2
BRSW-2	6/3/1993	AHD-9306-906									76				0.246		0.287														17			0.001	U	0.001	U			
BRSW-2	10/26/1993	AHD-9310-915			0.0002	U	0.0002	U,J4			89				0.1	U	0.1	U,J4			0.003	U	0.003	U,J4			0.244		0.258				20	0.001	U,J4	0.001	U			2
BRSW-2	5/18/1994	AHD-9405-110	1	U							75				0.095				0.11												23			0.001	U			0.001	U,UJ2	
BRSW-2	10/26/1994	AHD-9410-110	5	U							93				0.05	U			0.05	U	0.002	U,UJ4D			0.004						24			0.001	U,UJ2			0.001	U,UJ2	
BRSW-2	5/1/1995	AHD-9505-111	5	U							75				0.05	U			0.05	U	0.002	U			0.002						20			0.001	U			0.001	U	
BRSW-2	10/23/1995	AHD-9510-106									84				0.05	U			0.08		0.004				0.005						19			0.001	U,UJ4S			0.001	U,UJ4S	
BRSW-2	5/20/1996	AHD-9605-111									56				0.05	U			0.092	J4S	0.002				0.003						15			0.001	U			0.001	U	
BRSW-2	10/22/1996	AHD-9610-111									90				0.05	U			0.05	U	0.004				0.005						17			0.001	U			0.001	U	
BRSW-3	8/12/1991	9108-012			0.008	U	0.008	U			92				0.2	U	0.2	U			0.02	U	0.02	U							31			0.008	U	0.008	U			1
BRSW-3	9/13/1991	9109-062			0.008	U	0.008	U			92				0.2	U	0.2	U			0.02	U	0.02	U							39			0.008	U	0.008	U			1
BRSW-3	11/14/1991	9111-119			0.008	U	0.008	U	1		93				0.2	U	0.2	U			0.02	U	0.02	U							36			0.008	U	0.008	U			1
BRSW-3	4/17/1992	AHD-9204-105			0.01	U	0.01	U,J2			90				0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	48			0.005	U	0.005	U			2
BRSW-3	5/5/1992	AHD-9205-133			0.01	U	0.01	U			89				0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	47			0.005	U	0.005	U			2
BRSW-3	5/19/1992	AHD-9205-203			0.01	U	0.01	U			88				0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	44			0.005	U	0.005	U			2
BRSW-3	6/3/1992	AHD-9206-120			0.01	U	0.01	U			95				0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	40			0.005	U	0.005	U			2
BRSW-3	6/15/1992	AHD-9206-137			0.01	U	0.01	U			91				0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	39			0.005	U	0.005	U			2
BRSW-3	6/3/1993	AHD-9306-910									63				0.2	U	0.232														33			0.0028		0.003				
BRSW-3	5/27/1997	AHD-9705-164									64				0.05	U			0.05	U	0.002	U			0.002	U					30			0.002				0.002		
BRSW-3	10/20/1997	AHD-9710-115									92				0.05	U			0.05	U	0.002	U			0.002	U					25			0.001	U			0.001	U	
BRSW-3	5/5/1998	AHD-9805-115									82				0.05	U			0.05	U	0.002	U			0.002	U					32			0.001	U			0.001	U	
BRSW-3	10/22/1998	AHD-9810-115									104				0.05	U			0.05	U	0.002	U			0.002	U					31			0.001	U			0.001	U	
BRSW-3	4/29/1999	AHD-9904-124	0								77				0.05	U			0.05	J4S	0.002	U			0.002	U					38			0.0022				0.0026		
BRSW-3	10/19/1999	AHD-9910-123									107				0.05	U			0.05	U	0.002	U			0.002	U					25			0.001	U			0.001	U	

TABLE B-2. MIKE HORSE TAILINGS IMPOUNDMENT SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	ACIDCACO		AG_DIS		AG_TOT		AIR_TEMP_C		ALKCACO3		ALKCO3		AL_DIS		AL_TOT		AL_TRC		AS_DIS		AS_TOT		AS_TRC		BA_DIS		BA_TOT		CADIS		CATOT		CD_DIS		CD_TOT		CD_TRC		CL
BRSW-3A	10/11/2000	AHD-0010-121									104				0.05	U			0.05	U	0.005	U			0.005	U					24				0.0002				0.0002		
BRSW-3A	4/25/2001	AHD-0104-116									63				0.11				1.6		0.005	U			0.005	U					52				0.023				0.023		
BRSW-3A	5/22/2001	AHD-0105-123									67				0.05	U			0.076		0.005	U			0.005	U					32				0.006				0.006		
BRSW-3A	6/26/2001	AHD-0106-119									93				0.05	U			0.058		0.005	U			0.005	U					29				0.0054				0.0053		
BRSW-3A	10/17/2001	AHD-0110-142									96		1	U	0.05	U			0.05	U	0.005	U			0.005	U					28				0.0003				0.0003		
BRSW-3A	5/6/2002	UBMC-0205-108									66				0.05	U	0.52				0.005	U	0.005	U							32				0.007		0.007				
BRSW-3A	5/29/2002	UBMC-0205-301									67				0.05	U			0.11		0.005	U			0.005	U					32				0.0059				0.0057		
BRSW-3A	7/10/2002	UBMC-0207-111									73				0.05	U			0.16		0.005	U			0.005	U					27				0.006				0.006		
BRSW-3A	10/3/2002	UBMC-0210-108									100				0.05	U	0.05	U			0.005	U	0.005	U							27				0.00017		0.00019				
BRSW-3A	4/28/2003	UBMC-0304-108									62				0.05	U			0.1		0.005	U			0.005	U					29				0.006				0.006		
BRSW-3A	5/19/2003	UBMC-0305-111									70				0.05	U			0.05		0.005	U			0.005	U					26				0.003				0.003		
BRSW-3A	6/25/2003	UBMC-062403-11									84				0.05	U			0.05	U	0.005	U			0.005	U					21				0.0002	UJ			0.0002		
BRSW-3A	10/21/2003	UBMC-0310-109									103				0.05	U,UJ			0.05	U	0.005	U			0.005	U					25				0.0001	U			0.0001	U	
BRSW-3A	4/28/2004	UBMC-0404-110									74	UJ			0.05	U			0.12		0.005	U			0.005	U					34				0.0067	J			0.007	J	
BRSW-3A	5/26/2004	AHD-0405-107									73				0.05	U,J			0.14	J	0.005	U,J			0.005	U,J					32	J			0.0087	J			0.0087	J	
BRSW-3A	6/14/2004	UBMC-0604-109									80	UJ			0.05	U			0.08		0.005	U			0.005	U					27				0.0063				0.0065		
BRSW-3A	10/12/2004	UBMC-1004-110									100	J			0.05	U			0.05	U	0.005	U			0.005	U					25	J			0.0002	J			0.0002	J	
BRSW-3B	10/11/2000	AHD-0010-122									102				0.05	U			0.05	U	0.005	U			0.005	U					25				0.0001	U			0.0001	U	
BRSW-3B	4/25/2001	AHD-0104-117	16								31				0.31				3.6		0.005	U			0.005	U					58				0.049				0.051		
BRSW-3B	5/22/2001	AHD-0105-124									67				0.05	U			0.11		0.005	U			0.005	U					26				0.006				0.007		
BRSW-3B	6/26/2001	AHD-0106-120									83				0.05	U			0.092		0.005	U			0.005	U					24				0.0052				0.0048		
BRSW-3B	10/17/2001	AHD-0110-143									97				0.05	U			0.05	U	0.005	U			0.005	U					26				0.0002	U			0.0002	U	
BRSW-3B	5/6/2002	UBMC-0205-107									46				0.05	U	2.2				0.005	U	0.005	U							44				0.036		0.031				
BRSW-3B	5/29/2002	UBMC-0205-302									60				0.05	U			0.45		0.005	U			0.005	U					34				0.016				0.016		
BRSW-3B	7/10/2002	UBMC-0207-110									78				0.05	U			0.059		0.005	U			0.005	U					29				0.003				0.003		
BRSW-3B	10/3/2002	UBMC-0210-109									100				0.05	U	0.057				0.005	U	0.005	U							32				0.00033		0.00038				
BRSW-3B	4/28/2003	UBMC-0304-109									50				0.05	U			3.4		0.005	U			0.005	U					60				0.07				0.08		
BRSW-3B	5/19/2003	UBMC-0305-112									68				0.05	U			0.09		0.005	U			0.005	U					25				0.005				0.005		
BRSW-3B	6/25/2003	UBMC-062403-10									81				0.05	U			0.05	U	0.005	U			0.005	U					19				0.0002	UJ			0.0002		
BRSW-3B	10/21/2003	UBMC-0310-108									104				0.05	U,UJ			0.05	U	0.005	U			0.005	U					28				0.0002				0.0003		
BRSW-3B	4/28/2004	UBMC-0404-111									64	UJ			0.05	U			0.42		0.005	U			0.005	U					34				0.0186				0.0211		
BRSW-3B	5/26/2004	AHD-0405-108									69				0.05	U,J			0.34	J	0.005	U,J			0.005	U,J					29	J			0.0119	J			0.0127	J	
BRSW-3B	6/14/2004	UBMC-0604-110									76	UJ			0.07				0.17	J	0.005	U			0.005	U					31				0.018				0.0095		
BRSW-3B	10/12/2004	UBMC-1004-111									100	J			0.05	U			0.05	U	0.005	U			0.005	U					24	J			0.0001	U,J			0.0001	U,J	

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-2. MIKE HORSE TAILINGS IMPOUNDMENT SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #		CO3CACO3		CO3CO3		CO_DIS		CO_TOT		CR_DIS		CR_TOT		CU_DIS		CU_TOT		CU_TRC		FE_DIS		FE_TOT		FE_TRC		FLOW_CFS	HCO3		HCO3CACO		HG_TOT		HRDCACO3		KDIS		KTOT		MGDIS
BRSW-1	8/12/1991	9108-010	U	1	U											0.008	U	0.008	U			0.02	U	0.042				0.46			102		0.0005	U	118						14
BRSW-1	9/13/1991	9109-060	UJ1	1	U											0.008	U	0.008	U			0.02	U	0.033				0.14			96		0.0005	U	120						14
BRSW-1	11/13/1991	9111-112		1	U											0.008	U	0.008	U			0.025		0.025				0.113			92		0.0005	U	116						14
BRSW-1	4/16/1992	AHD-9204-124	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.05	U	0.05	U			0.253			76		0.0005	U	100		2	U			12
BRSW-1	5/5/1992	AHD-9205-129	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.05	U	0.05	U			1.3			76		0.0005	U	86		2	U			10
BRSW-1	5/19/1992	AHD-9205-231	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.05	U	0.05	U			1.2639			93		0.0005	U	106		2	U			13
BRSW-1	6/2/1992	AHD-9206-122	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.05	U	0.05	U			0.7944			97		0.0005	U	115		2	U			14
BRSW-1	10/26/1993	AHD-9310-900	U	1	U			0.05	U,J4	0.05	U	0.01	U	0.01	U	0.01	U,J4	0.01	U,J4			0.1	U,J4	0.1	U			1.07			94		0.0002	U	102				5	U	
BRSW-1	5/27/1997	AHD-9705-157				1	U									0.005	U			0.005	U	0.03	U			0.03	U	7.49	95							3.4				9.7
BRSW-1	10/21/1997	AHD-9710-107				1	U									0.005	U			0.005	U	0.05	U			0.05	U	0.2691	101							2	U			13
BRSW-1	5/5/1998	AHD-9805-107				1	U									0.005	U			0.005	U	0.03	U			0.03	U	0.992	96							2	U			9.8
BRSW-1	10/23/1998	AHD-9810-107				1	U									0.005	U			0.005	U	0.05	U			0.05	U	0.203	127							5	U			13
BRSW-2	8/12/1991	9108-011	U	1	U											0.008	U	0.008				0.072		0.35				0			88		0.0005	U	106						13
BRSW-2	9/13/1991	9109-061	U	4												0.019		0.019	UJ1			0.057		0.21				0			76		0.0005	U	98						13
BRSW-2	11/13/1991	9111-118		1	U											0.008	U	0.008	U			0.11		0.36				0			90		0.0005	U	115						15
BRSW-2	4/17/1992	AHD-9204-111	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008		0.01				0.195		0.58				0			84		0.0005	U	118		2	U			12
BRSW-2	5/5/1992	AHD-9205-126	U	10				0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.05	U	0.11				0			70		0.0005	U	102		2	U			11
BRSW-2	5/19/1992	AHD-9205-218	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.012		0.008	U			0.159		0.166				0			83		0.0005	U	99		2	U			12
BRSW-2	6/3/1992	AHD-9206-118	U	14				0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.05	U	0.076				0			82		0.0005	U	108		2	U			13
BRSW-2	6/3/1993	AHD-9306-906														0.01	U	0.01	U			0.1	U	0.158																9.5
BRSW-2	10/26/1993	AHD-9310-915	U	4				0.05	U,J4	0.05	U	0.01	U	0.01	U	0.01	U,J4	0.01	U,J4			0.1	U	0.1	U,J4						85		0.0002	U	99				5	U	
BRSW-2	5/18/1994	AHD-9405-110		0.1	U											0.005	U			0.005		0.051	J4			0.055			75							2.5				13
BRSW-2	10/26/1994	AHD-9410-110														0.005	U,UJ2			0.005	U,UJ2	0.127	UJ1			0.485										2	U			13
BRSW-2	5/1/1995	AHD-9505-111				1	U									0.005	U			0.005	U	0.03	U,UJ4S			0.24		0	75							2	U			10
BRSW-2	10/23/1995	AHD-9510-106				1	U									0.005	U			0.006		0.1	J2			0.67	J2	0	84							2	U,UJ4D			14
BRSW-2	5/20/1996	AHD-9605-111				1	U									0.005	U			0.005	U,UJ4S	0.05	U			0.05	U	0	56							1.5	UJ1,J4S,J2			8.7
BRSW-2	10/22/1996	AHD-9610-111				1	U									0.005	U			0.005	U	0.06				0.52	J4S	0	90							2.5	J4S			13
BRSW-3	8/12/1991	9108-012	U	1	U											0.008	U	0.008	U			0.026		0.07				0.5			92		0.0005	U	143						16
BRSW-3	9/13/1991	9109-062	U	1	U											0.008	U	0.01	UJ1			0.12		0.21				0.2			92		0.0005	U	196						24
BRSW-3	11/14/1991	9111-119	U	1	U											0.008	U	0.008	U			0.08		0.22				0.123			93		0.0005	U	173						20
BRSW-3	4/17/1992	AHD-9204-105	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.062		0.159				0.1944			90		0.0005	U	233		2	U			27
BRSW-3	5/5/1992	AHD-9205-133	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.088		0.119				0.253			89		0.0005	U	228		2	U			27
BRSW-3	5/19/1992	AHD-9205-203	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.061		0.098				0.3991			88		0.0005	U	213		2	U			25
BRSW-3	6/3/1992	AHD-9206-120	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.066		0.1				0.4202			95		0.0005	U	194		2	U			23
BRSW-3	6/15/1992	AHD-9206-137	U	1	U			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.008	U			0.087		0.2				0.4202			91		0.0005	U	193		2	U			23
BRSW-3	6/3/1993	AHD-9306-910														0.01	U	0.01	U			0.1	U	0.131				0.169												16
BRSW-3	5/27/1997	AHD-9705-164				1	U									0.005	U			0.007		0.046				0.082		0.5	78							3.6				17
BRSW-3	10/20/1997	AHD-9710-115				1	U									0.005	U			0.005	U	0.05	U			0.089		0.0956	92							2	U			15
BRSW-3	5/5/1998	AHD-9805-115				1	U									0.005	U			0.005	U	0.066				0.1		0.1812	100							2	U			18
BRSW-3	10/22/1998	AHD-9810-115				1	U									0.005	U			0.005	U	0.09				0.2		0.077	127							5	U			22
BRSW-3	4/29/1999	AHD-9904-124														0.006				0.011		0.03				0.17	J4S	0.253								1	U			21
BRSW-3	10/19/1999	AHD-9910-123				1	U									0.005	U			0.005	U	0.05	U			0.12		0.103	107							5	U			14

TABLE B-2. MIKE HORSE TAILINGS IMPOUNDMENT SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #		CO3CACO3		CO3CO3		CO_DIS		CO_TOT		CR_DIS		CR_TOT		CU_DIS		CU_TOT		CU_TRC		FE_DIS		FE_TOT		FE_TRC		FLOW_CFS	HCO3		HCO3CACO		HG_TOT		HRDCACO3		KDIS		KTOT		MGDIS	
BRSW-3A	10/11/2000	AHD-0010-121				1	U									0.001				0.002		0.05	U			0.05	U	0.12	127							5	U			15	
BRSW-3A	4/25/2001	AHD-0104-116														0.062				0.23		0.05	U			1.9		0.16								2	U			30	
BRSW-3A	5/22/2001	AHD-0105-123														0.013				0.02		0.05	U			0.05	U	0.42								2	U			19	
BRSW-3A	6/26/2001	AHD-0106-119														0.01				0.013		0.05	U			0.05	U	0.56								2	U			17	
BRSW-3A	10/17/2001	AHD-0110-142														0.001	U			0.001	J4S	0.075				0.082		0.168	96							5	U			18	
BRSW-3A	5/6/2002	UBMC-0205-108				1	U									0.018		0.044				0.02	U	0.93				0.26	81							5	U			19	
BRSW-3A	5/29/2002	UBMC-0205-301				1	U									0.016				0.023		0.02	U			0.095		0.61	82							5	U			19	
BRSW-3A	7/10/2002	UBMC-0207-111				1	U									0.022				0.041		0.02	U			0.095		0.6	89							5	U			14	
BRSW-3A	10/3/2002	UBMC-0210-108				1	U									0.002		0.002				0.037		0.044				0.05	122							5	U			15	
BRSW-3A	4/28/2003	UBMC-0304-108				2	U									0.02				0.03		0.03	U			0.1		0.6	76							5	U			17	
BRSW-3A	5/19/2003	UBMC-0305-111				2	U									0.009				0.02		0.02	U			0.1		0.7	85							5	U			15	
BRSW-3A	6/25/2003	UBMC-062403-11				2	U									0.001	U			0.002	UJ	0.02	U			0.1		0.7	102							5	U			15	
BRSW-3A	10/21/2003	UBMC-0310-109				2	U									0.002	U			0.002	U,UJ	0.02	U			0.02	U,UJ		126							5	U			14	
BRSW-3A	4/28/2004	UBMC-0404-110														0.01	U			0.02		0.01	U,J			0.1	J	0.38								1	U			21	
BRSW-3A	5/26/2004	AHD-0405-107														0.021	J			0.033	J	0.01	U			0.15		0.65								1	U			20	
BRSW-3A	6/14/2004	UBMC-0604-109														0.02				0.02		0.01	U			0.04		0.34								1	U			17	
BRSW-3A	10/12/2004	UBMC-1004-110														0.01	U			0.01	U	0.01	U,J			0.02	J	0.11								1	U,J			14	J
BRSW-3B	10/11/2000	AHD-0010-122				1	U									0.001	U			0.001		0.05	U			0.05	U	0.057	124							5	U			14	
BRSW-3B	4/25/2001	AHD-0104-117														0.22				0.57		0.32				5.8		0.14								2	U			32	
BRSW-3B	5/22/2001	AHD-0105-124														0.024				0.033		0.05	U			0.057		0.42								2	U			15	
BRSW-3B	6/26/2001	AHD-0106-120														0.018				0.023		0.05	U			0.05	U	0.56								2	U			13	
BRSW-3B	10/17/2001	AHD-0110-143				1	U									0.001	U			0.001	U,UJ4S	0.02	U			0.02	U	0.168	118							5	U			15	
BRSW-3B	5/6/2002	UBMC-0205-107				1	U									0.074		0.28				0.02	U	1.4					56							5	U			27	
BRSW-3B	5/29/2002	UBMC-0205-302				1	U									0.038				0.088		0.02	U			0.6			73							5	U			19	
BRSW-3B	7/10/2002	UBMC-0207-110				1	U									0.008				0.011		0.02	U			0.046		0.11	95							5	U			17	
BRSW-3B	10/3/2002	UBMC-0210-109				1	U									0.002		0.003				0.053		0.1				0.003	122							5	U			17	
BRSW-3B	4/28/2003	UBMC-0304-109				2	U									0.2				0.6		0.03	U			2.4			61							5	U			38	
BRSW-3B	5/19/2003	UBMC-0305-112				2	U									0.02				0.03		0.02	U			0.05			83							5	U			14	
BRSW-3B	6/25/2003	UBMC-062403-10				2	U									0.001	U			0.002	UJ	0.02	U			0.02	U		99							5	U			12	
BRSW-3B	10/21/2003	UBMC-0310-108				2	U									0.002	U			0.002	U,UJ	0.08				0.3	J	0.08	127							5	U			16	
BRSW-3B	4/28/2004	UBMC-0404-111														0.04				0.09		0.01	U,J			0.25	J									1	U			20	
BRSW-3B	5/26/2004	AHD-0405-108														0.044	J			0.066	J	0.01	U			0.13										1	U			17	
BRSW-3B	6/14/2004	UBMC-0604-110														0.06				0.04		0.03				0.1	J									1	U			19	
BRSW-3B	10/12/2004	UBMC-1004-111														0.01	U			0.01	U	0.01	U,J			0.01	U,J	0.11								1	U,J			13	J

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-2. MIKE HORSE TAILINGS IMPOUNDMENT SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	MGTOT		MN_DIS		MN_TOT		MN_TRC		MO_DIS		MO_TOT		NADIS		NATOT		NI_DIS		NI_TOT		O		O_DIS		PB_DIS		PB_TOT		PB_TRC		PH		PH_FLD		SALINITY		SB_DIS		SB_TOT
BRSW-1	8/12/1991	9108-010			0.008	U	0.008	U			0.02	U	0.02	U	1.2												0.01	U	0.01	U			8		8.31						
BRSW-1	9/13/1991	9109-060			0.008	U	0.008	U			0.02	U	0.02	U	1.4	UJ1											0.01	U	0.01	U			8		7.78						
BRSW-1	11/13/1991	9111-112			0.008	U	0.008	U			0.02	U	0.02	U	1.7												0.01	U	0.01	U			7.8		7.66						
BRSW-1	4/16/1992	AHD-9204-124			0.008	U	0.008	U			0.05	U	0.05	U	2	U			0.02	U	0.02	U			11.7		0.005	U	0.005	U			7.8		7.43						
BRSW-1	5/5/1992	AHD-9205-129			0.008	U	0.008	U			0.05	U	0.05	U	2	U			0.02	U	0.02	U			10.79		0.005	U	0.005	U			7.6		7.93						
BRSW-1	5/19/1992	AHD-9205-231			0.008	U	0.008	U			0.05	U	0.05	U	2	U			0.02	U	0.02	U			11		0.005	U	0.005	U			8.1		7.87						
BRSW-1	6/2/1992	AHD-9206-122			0.008	U	0.008	U			0.05	U	0.05	U	2	U			0.02	U	0.02	U			11		0.005	U	0.005	U			8.2		8.28						
BRSW-1	10/26/1993	AHD-9310-900	12		0.015	U	0.015	U			0.05	U	0.05	U			5	U	0.04	U,J4	0.04	U			15.9		0.003	U,J4	0.003	U			8.3		8				0.06	U	0.06
BRSW-1	5/27/1997	AHD-9705-157			0.01	U			0.01	U					2	U									10.7		0.003	U			0.003	U	8		7.27						
BRSW-1	10/21/1997	AHD-9710-107			0.01	U			0.01	U					2.2										11.29		0.003	U			0.003	U	8.1		8.14						
BRSW-1	5/5/1998	AHD-9805-107			0.01	U			0.01	U					2	U									10.53		0.003	U			0.003	U	8		8.63						
BRSW-1	10/23/1998	AHD-9810-107			0.01	U			0.01	U					5	U									10.87		0.003	U			0.003	U	8		7.59						
BRSW-2	8/12/1991	9108-011			0.018		0.052				0.02	U	0.02	U	1												0.01	U	0.01	U			8.2		8.9						
BRSW-2	9/13/1991	9109-061			0.02		0.031				0.02	U	0.02	U	1.4	UJ1											0.01	U	0.01	U			8.5		9.01						
BRSW-2	11/13/1991	9111-118			0.068		0.073				0.02	U	0.02	U	2												0.01	U	0.012				8.1		8.99						
BRSW-2	4/17/1992	AHD-9204-111			0.028		0.096				0.05	U	0.05	U	2	U			0.02	U	0.02	U			9.9		0.005	U	0.033				8.1		8.24						
BRSW-2	5/5/1992	AHD-9205-126			0.008	U	0.025				0.05	U	0.05	U	2				0.02	U	0.02	U			12.2		0.005	U	0.0066				8.4		8.87						
BRSW-2	5/19/1992	AHD-9205-218			0.025		0.028				0.05	U	0.05	U	2	U			0.02	U	0.02	U			11.2		0.005	U	0.0094				8.2		8.23						
BRSW-2	6/3/1992	AHD-9206-118			0.008	U	0.021				0.05	U	0.05	U	2	U			0.02	U	0.02	U			9.6		0.005	U	0.005	U			8.5		8.74						
BRSW-2	6/3/1993	AHD-9306-906			0.015	U	0.044																		9.86		0.002	U	0.0092				7.7		7.26						
BRSW-2	10/26/1993	AHD-9310-915	12		0.015	U	0.015	U			0.05	U	0.05	U			5	U	0.04	U,J4	0.04	U			12.6		0.003	U,J4	0.003	U			8.4		7.55				0.06	U	0.06
BRSW-2	5/18/1994	AHD-9405-110			0.008	U,J4			0.008	U					1.4										9.3		0.002	U			0.002	U,J4	8.2		7.64						
BRSW-2	10/26/1994	AHD-9410-110			0.01	U,UJ4S,UJ2			0.04	J2					2	U									9.43		0.002	U			0.014		7.9		8.29						
BRSW-2	5/1/1995	AHD-9505-111			0.01	U			0.029						2	U									10.75		0.003	U			0.007	J2	8		7.88						
BRSW-2	10/23/1995	AHD-9510-106			0.01	U			0.076						2	U									11.28		0.004				0.025		8.5		8.19						
BRSW-2	5/20/1996	AHD-9605-111			0.01	U			0.012						1	U									10		0.003	U			0.004	J4S	7.5		7.96						
BRSW-2	10/22/1996	AHD-9610-111			0.01	U,UJ4S			0.011						2	U									11.27		0.003	U			0.007		8.2		8.04						
BRSW-3	8/12/1991	9108-012			0.16		0.21				0.02	U	0.02	U	1.1												0.01	U	0.01	U			7.5		7.44						
BRSW-3	9/13/1991	9109-062			1		1.2				0.02	U	0.02	U	1.7	UJ1											0.01	U	0.01	U			7.5		8.2						
BRSW-3	11/14/1991	9111-119			0.44		0.52				0.02	U	0.02	U	1.7												0.01	U	0.01	U			8		7.86						
BRSW-3	4/17/1992	AHD-9204-105			0.489		0.554				0.05	U	0.05	U	2	U			0.02	U	0.02	U			7.6		0.005	U	0.006				7.5		7.79						
BRSW-3	5/5/1992	AHD-9205-133			0.444		0.455				0.05	U	0.05	U	2	U			0.02	U	0.02	U			7.42		0.005	U	0.005	U			7.7		7.52						
BRSW-3	5/19/1992	AHD-9205-203			0.356		0.336				0.05	U	0.05	U	2	U			0.02	U	0.02	U			8.2		0.005	U	0.005	U			7.8		7.25						
BRSW-3	6/3/1992	AHD-9206-120			0.342		0.372				0.05	U	0.05	U	2	U			0.02	U	0.02	U			7.8		0.005	U	0.005	U			8.1		7.84						
BRSW-3	6/15/1992	AHD-9206-137			0.499		0.509				0.05	U	0.05	U	2	U			0.02	U	0.02	U			7.4		0.005	U	0.01				7.7		7.22						
BRSW-3	6/3/1993	AHD-9306-910			0.151		0.157																		9.22		0.002	U	0.002	U			7.3		7.05						
BRSW-3	5/27/1997	AHD-9705-164			0.3				0.32						2	U									8.02		0.003	U			0.003	U	7.6		6.76						
BRSW-3	10/20/1997	AHD-9710-115			0.17				0.18						2	U									6.33		0.003	U			0.003	U	8.1		7.72						
BRSW-3	5/5/1998	AHD-9805-115			0.16				0.19						2	U									7.09		0.003	U			0.003	U	7.7		7.93						
BRSW-3	10/22/1998	AHD-9810-115			1.3				1.3						5	U									6.69		0.003	U			0.003	U	7.4		7.16						
BRSW-3	4/29/1999	AHD-9904-124			0.288	J2			0.448	J2					1										8.36		0.003	U			0.003	U	7.5		7.35						
BRSW-3	10/19/1999	AHD-9910-123			0.12				0.19						5	U									5.86		0.003	U			0.003	U	7.8		8.05						

TABLE B-2. MIKE HORSE TAILINGS IMPOUNDMENT SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	MGTOT		MN_DIS		MN_TOT		MN_TRC		MO_DIS		MO_TOT		NADIS		NATOT		NI_DIS		NI_TOT		O		O_DIS		PB_DIS		PB_TOT		PB_TRC		PH		PH_FLD		SALINITY		SB_DIS		SB_TOT
BRSW-3A	10/11/2000	AHD-0010-121			0.32				0.38						5	U									5.4		0.003	U			0.006		7.9		7.37						
BRSW-3A	4/25/2001	AHD-0104-116			3.6				3.6						2	U									8.28		0.003	U,UJ4D			0.013		7.3		6.75						
BRSW-3A	5/22/2001	AHD-0105-123			0.6				0.6						2	U									7.42		0.003	U			0.051		7.7		7.33						
BRSW-3A	6/26/2001	AHD-0106-119			0.6				0.64						1.5										7.38		0.003	U			0.003	U	7.9		7.91						
BRSW-3A	10/17/2001	AHD-0110-142			0.59				0.59						5	U									7.11		0.003	U			0.004		7.7		7.86						
BRSW-3A	5/6/2002	UBMC-0205-108			0.93		1.6								5	U							6.52				0.003	U	0.006				6.6		6.68						
BRSW-3A	5/29/2002	UBMC-0205-301			0.64				0.68						5	U							4.95				0.002	U			0.003		6.5		7.48						
BRSW-3A	7/10/2002	UBMC-0207-111			0.73				0.91						5	U							4.54				0.006				0.018		7.3		7.56						
BRSW-3A	10/3/2002	UBMC-0210-108			0.083		0.097								5	U							3.65				0.003	U	0.003	U			7.3		7.65						
BRSW-3A	4/28/2003	UBMC-0304-108			0.8				0.9						5	U									11.5		0.003	U			0.003		6.6		6.7						
BRSW-3A	5/19/2003	UBMC-0305-111			0.3				0.4						5	U									7.8		0.003	U			0.005		7.3		6.5						
BRSW-3A	6/25/2003	UBMC-062403-11			0.01	U			0.01	U					5	U									7.4		0.003	U			0.003		8		6.4						
BRSW-3A	10/21/2003	UBMC-0310-109			0.01	U			0.01	U,UJ					5	U									9.7		0.003	U			0.003	U	7.9		7.3		0				
BRSW-3A	4/28/2004	UBMC-0404-110			0.95				1.05						1	UJ									8.47		0.003	U			0.003	U	7.3		6.83						
BRSW-3A	5/26/2004	AHD-0405-107			1.25	J			1.23	J					1										8.75		0.003	U,J			0.004	J	7.6		7.64						
BRSW-3A	6/14/2004	UBMC-0604-109			0.82				0.95						1	U									7.59		0.003	U			0.004		7.7		6.9						
BRSW-3A	10/12/2004	UBMC-1004-110			0.05				0.06						1	J									4.94		0.003	U			0.003	U	7.9		6.87						
BRSW-3B	10/11/2000	AHD-0010-122			0.026				0.036						5	U									4.08		0.003	U			0.004		7.9		7.33						
BRSW-3B	4/25/2001	AHD-0104-117			6.9				7.1						2	U									8.99		0.003	U,UJ4D			0.034		6.7		6.23						
BRSW-3B	5/22/2001	AHD-0105-124			0.55				0.63						2	U									7.73		0.003	U			0.042		7.8		7.27						
BRSW-3B	6/26/2001	AHD-0106-120			0.54				0.51						1										7.34		0.003	U			0.005		7.4		8.23						
BRSW-3B	10/17/2001	AHD-0110-143			0.022				0.04						5	U									4.97		0.003	U			0.003	U	7.6		8.06						
BRSW-3B	5/6/2002	UBMC-0205-107			5.8		5.3								5	U							7.6				0.003	U	0.026				6.5		6.64						
BRSW-3B	5/29/2002	UBMC-0205-302			1.7				1.8						5	U							5.85				0.003				0.016		6.4		7.1						
BRSW-3B	7/10/2002	UBMC-0207-110			0.4				0.4						5	U							3.94				0.003	U			0.003	U	7.4		7.27						
BRSW-3B	10/3/2002	UBMC-0210-109			0.21		0.23								5	U							4.08				0.003	U	0.003	U			7.5		7.72						
BRSW-3B	4/28/2003	UBMC-0304-109			11				11						5	U									10.4		0.003				0.08		6.4		6.6						
BRSW-3B	5/19/2003	UBMC-0305-112			0.6				0.6						5	U									8.1		0.005				0.009		7.2		6.3						
BRSW-3B	6/25/2003	UBMC-062403-10			0.03				0.03						5	U									9.9		0.003	U			0.003	U	8.1		7.5						
BRSW-3B	10/21/2003	UBMC-0310-108			0.5				0.5						5	U									10.2		0.003	U			0.003	U	7.9		7.4		0.1				
BRSW-3B	4/28/2004	UBMC-0404-111			2.2				2.49						1	UJ									8.65		0.003	U			0.012		7.2		6.83						
BRSW-3B	5/26/2004	AHD-0405-108			1.69	J			2.22						1										10.01		0.003	U,J			0.009	J	7.6		7.58						
BRSW-3B	6/14/2004	UBMC-0604-110			2.61				1.31						1	UJ									8.3		0.015				0.011		7.6		6.99						
BRSW-3B	10/12/2004	UBMC-1004-111			0.01	U			0.01	U					1	J									4.28		0.003	U			0.003	U	8		6.8						

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-2. MIKE HORSE TAILINGS IMPOUNDMENT SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #		SC		SC_FLD		SE_DIS		SE_TOT		SIO2_DIS		SO4		TDS		TSS		TURBIDITY		TURB_FLD		WATER_TEM		WATER_TEM_		ZN_DIS		ZN_TOT		ZN_TRC	
BRSW-1	8/12/1991	9108-010		205		133		0.02	U	0.02	U			3.4		133		1	U	0.1	U					11.5		0.01	UJ1	0.01	UJ1		
BRSW-1	9/13/1991	9109-060		215		128		0.02	U	0.02	U			2	U	98		1	U	0.1	U					7.2		0.008	U	0.008	U		
BRSW-1	11/13/1991	9111-112		216		144		0.02	U	0.02	U			9.4		113		1	U	0.23						3.2		0.015		0.015			
BRSW-1	4/16/1992	AHD-9204-124		180		172		0.005	U	0.005	U			7.8		112		1.1		0.66						2.9		0.013		0.015			
BRSW-1	5/5/1992	AHD-9205-129		165		182.5		0.005	U	0.005	U			6.4		105		1.6		0.39						4		0.02		0.018			
BRSW-1	5/19/1992	AHD-9205-231		190		165		0.005	U	0.005	U			2.3		106		1	U	0.36						6.5		0.008		0.008	U		
BRSW-1	6/2/1992	AHD-9206-122		200		201		0.005	U	0.005	U			5.6		117		1	U	0.5						6.9		0.0083		0.008	U		
BRSW-1	10/26/1993	AHD-9310-900	U	195		141		0.005	U	0.005	U	5.7		3.1	J4	106		1	U	0.2				3.2				0.02	U,J4	0.02	U,J4		
BRSW-1	5/27/1997	AHD-9705-157		160		132								2	U	98		1	U					4.8				0.01	U			0.01	
BRSW-1	10/21/1997	AHD-9710-107		208		185								6.6		123		1.6						4.2				0.026				0.022	
BRSW-1	5/5/1998	AHD-9805-107		164		140								5.5		77		11						7.2				0.01	U			0.01	U
BRSW-1	10/23/1998	AHD-9810-107		209		234								7.3		120		2.2						4.9				0.01	U			0.016	
BRSW-2	8/12/1991	9108-011		190		158		0.02	U	0.02	U			2.6		131		2.5		0.7						20.5		0.008	UJ1	0.01	UJ1		
BRSW-2	9/13/1991	9109-061		180		126		0.02	U	0.02	U			2	U	98		1	U	1.6						13.8		0.009		0.01			
BRSW-2	11/13/1991	9111-118		212		158		0.02	U	0.02	U			2	U	112		1.3		0.76						0.5		0.01		0.033			
BRSW-2	4/17/1992	AHD-9204-111		215		196.8		0.005	U	0.005	U			15		132		4.8		2.3						6.5		0.032		0.044			
BRSW-2	5/5/1992	AHD-9205-126		190		164		0.005	U	0.005	U			11		128		1.9		0.65						13.6		0.011		0.016			
BRSW-2	5/19/1992	AHD-9205-218		175		157		0.005	U	0.005	U			8.5		114		1.8		0.71						14.6		0.024		0.014			
BRSW-2	6/3/1992	AHD-9206-118		180		177		0.005	U	0.005	U			7.4		113		1	U	0.76						13.3		0.008	U	0.0092			
BRSW-2	6/3/1993	AHD-9306-906		150		116	J4							2	U	98	J4	6.1						9.4				0.05	U	0.05	U		
BRSW-2	10/26/1993	AHD-9310-915	U	189		130		0.005	U	0.005	U	4.6		7.8	J4	106		1	U	0.2				6				0.02	U,J4	0.02	U,J4		
BRSW-2	5/18/1994	AHD-9405-110		164		136								4.7		83		1	U					7.3				0.012	J4,J2			0.012	J4,J2
BRSW-2	10/26/1994	AHD-9410-110		213		200								16		133		4						4.4				0.01	UJ1			0.023	
BRSW-2	5/1/1995	AHD-9505-111		171		165								12		98		7.6	J4S,J2					8.6				0.015				0.17	
BRSW-2	10/23/1995	AHD-9510-106		180		196								9.1		137		3.8						2.7				0.013				0.031	
BRSW-2	5/20/1996	AHD-9605-111		144		151								7.2	J4S	85		3.2	J4S					6.4				0.01	U			0.012	
BRSW-2	10/22/1996	AHD-9610-111		188		192								8.8		116		1	U					0.4				0.01	U			0.01	U
BRSW-3	8/12/1991	9108-012		255		179		0.02	U	0.02	U			23		171		1	U	0.1	U					12.2		0.043		0.045			
BRSW-3	9/13/1991	9109-062		355		199		0.02	U	0.02	U			61		209		1	U	0.6						10.7		0.12		0.14			
BRSW-3	11/14/1991	9111-119		320		213		0.02	U	0.02	U			51		178		3.2		0.34						7		0.12		0.12			
BRSW-3	4/17/1992	AHD-9204-105		425		467		0.005	U	0.005	U			125		275		1.5		1.4						6.6		0.133		0.139			
BRSW-3	5/5/1992	AHD-9205-133		405		420		0.005	U	0.005	U			105		255		1.3		0.54						10.2		0.128		0.121			
BRSW-3	5/19/1992	AHD-9205-203		375		328		0.005	U	0.005	U			99		257		1	U	0.32						12.3		0.201		0.2			
BRSW-3	6/3/1992	AHD-9206-120		350		339		0.005	U	0.005	U			92		227		1	U	0.54						10.3		0.153		0.158			
BRSW-3	6/15/1992	AHD-9206-137		358		335		0.005	U	0.005	U			79		211		1	U	0.5						8.7		0.185		0.185			
BRSW-3	6/3/1993	AHD-9306-910		270	J4	215								80		205	J4	1	U					8.3				0.594		0.835			
BRSW-3	5/27/1997	AHD-9705-164		299		228								64		211		1	U					8.4				0.62				0.57	
BRSW-3	10/20/1997	AHD-9710-115		248		228								32		168		3.4						9.1				0.052				0.061	
BRSW-3	5/5/1998	AHD-9805-115		326		292								82		200		1	U					10.3				0.2				0.21	
BRSW-3	10/22/1998	AHD-9810-115		334		313								73		203		1	U					10				0.15				0.17	
BRSW-3	4/29/1999	AHD-9904-124		338		313								98		219		10	U					5				0.66				0.67	
BRSW-3	10/19/1999	AHD-9910-123		252		246								30		171		1.2						9.5				0.072				0.1	

TABLE B-2. MIKE HORSE TAILINGS IMPOUNDMENT SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	SC	SC_FLD	SE_DIS	SE_TOT	SIO2_DIS	SO4	TDS	TSS	TURBIDITY	TURB_FLD	WATER_TEM	WATER_TEM_	ZN_DIS	ZN_TOT	ZN_TRC
BRSW-3A	10/11/2000	AHD-0010-121		293				43	164	1 U			8.2		0.076		0.081
BRSW-3A	4/25/2001	AHD-0104-116		533				249	375	12			8.7		3.9		4.2
BRSW-3A	5/22/2001	AHD-0105-123		317				116	220	1 U			11.6		1.3		1.3
BRSW-3A	6/26/2001	AHD-0106-119		308				94	191	1 U			10.2		1.1		1.1
BRSW-3A	10/17/2001	AHD-0110-142		260				46	169	1.3			9.4		0.11		0.12
BRSW-3A	5/6/2002	UBMC-0205-108		305				95	239	5.5			8		1.5	1.6	
BRSW-3A	5/29/2002	UBMC-0205-301		318				92	206	1 U			12.6		1.1		1.1
BRSW-3A	7/10/2002	UBMC-0207-111		241				64	168	1 U			13.8		0.87		1
BRSW-3A	10/3/2002	UBMC-0210-108		219				30	154	1 U			9.4		0.08	0.082	
BRSW-3A	4/28/2003	UBMC-0304-108		252				114	212	1 U			5.4		1.3		1.4
BRSW-3A	5/19/2003	UBMC-0305-111		221				66	207	1 U			13.5		0.6		0.6
BRSW-3A	6/25/2003	UBMC-062403-11		200				35	140	1 U			8		0.06		0.06
BRSW-3A	10/21/2003	UBMC-0310-109		238				14	129	1 U,UJ		2	10		0.01 UJ		0.01 U
BRSW-3A	4/28/2004	UBMC-0404-110		347				110	237 UJ	10 U			5.1		1.85		2.03
BRSW-3A	5/26/2004	AHD-0405-107		349				109	232	10 U			8.2		1.69 J		1.72 J
BRSW-3A	6/14/2004	UBMC-0604-109		399				69	179 UJ	10 U			10.9		1.22		1.24
BRSW-3A	10/12/2004	UBMC-1004-110		328				27 J	127 J	10 U			10.3		0.08		0.1
BRSW-3B	10/11/2000	AHD-0010-122		265				23	234	1 U			9		0.024		0.029
BRSW-3B	4/25/2001	AHD-0104-117		543				296	433	34			5.9		8.2		8.7
BRSW-3B	5/22/2001	AHD-0105-124		268				72	140	1 U			10.2		1.1		1.2
BRSW-3B	6/26/2001	AHD-0106-120		254				53	172	1 U			9.3		0.8		0.79
BRSW-3B	10/17/2001	AHD-0110-143		229				23	136	1.5			9.7		0.02		0.02
BRSW-3B	5/6/2002	UBMC-0205-107		334				222	380	16			6.64		6.2	5.8	
BRSW-3B	5/29/2002	UBMC-0205-302		262				101	203	2.4			10.8		2.5		2.6
BRSW-3B	7/10/2002	UBMC-0207-110		251				70	180	1 U			13.4		0.64		0.62
BRSW-3B	10/3/2002	UBMC-0210-109		249				46	180	1 U			8.4		0.13	0.14	
BRSW-3B	4/28/2003	UBMC-0304-109		564				330	496	30			3.9		13		14
BRSW-3B	5/19/2003	UBMC-0305-112		207				51	193	1 U			11.4		0.9		0.9
BRSW-3B	6/25/2003	UBMC-062403-10		178				18	110	1 U			9.4		0.05 UJ		0.05 UJ
BRSW-3B	10/21/2003	UBMC-0310-108		271				34	142	1 U,UJ		4	10.6		0.1		0.1
BRSW-3B	4/28/2004	UBMC-0404-111		347				130	259 UJ	10 U			4.2		4.37		4.42
BRSW-3B	5/26/2004	AHD-0405-108		321				95	223	10 U			8.2		1.94 J		2.11 J
BRSW-3B	6/14/2004	UBMC-0604-110		358				81	193 UJ	10 U			11.4		2.79		1.42
BRSW-3B	10/12/2004	UBMC-1004-111		323				41 J	110 J	10 U			10.2		0.02		0.02

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-3. MIKE HORSE TAILINGS IMPOUNDMENT GROUNDWATER SAMPLE

Site	Date	Depth to Water Level (ft)	Alk as $CaCO_3$	Al (dis)	As (dis)	Ca (dis)	Cd (dis)	Cu (dis)	Fe (dis)	K (dis)	Mg (dis)	Mn (dis)	Na (dis)	Pb (dis)	pH (s.u.)	SC (µmhos/cm)	SO_4	TDS	TSS	Zn (dis)
TDMW-1	10/10/01	11.96	103	<0.05	<0.005	22	<0.0002	<0.001	<0.02	<5	14	<0.01	<5	<0.003	7.3	NA	21	136	48	0.04
TDMW-1	05/06/02		70	<0.05	<0.005	23	0.0011	0.003	<0.02	<5	13	0.018	<5	<0.003	6.7	NA	41	155	<1	0.097
TDMW-1	05/29/02		63	<0.05	<0.005	21	<0.0001	<0.001	<0.02	<5	12	<0.005	<5	<0.002	6.6	NA	36	109	1.3	0.017
TDMW-1	07/10/02		81	<0.05	<0.005	20	<0.0001	<0.001	<0.02	<5	12	<0.01	<5	<0.003	6.6	NA	18	128	<1	0.012
TDMW-1	10/10/02	10.64	102	<0.05	<0.005	25	<0.0001	0.0013	<0.02	<5	15	<0.01	<5	<0.003	7.5	NA	25	134	<1	<0.01
TDMW-1	05/29/03		76	<0.05	<0.005	20	<0.0001	<0.001	<0.01	<1	11	<0.01	1	<0.003	7.6	NA	24	124	<10	<0.01
TDMW-1*	05/29/03		75	<0.05	<0.005	19	<0.0001	<0.001	<0.02	<5	11	<0.01	<5	<0.003	6.8	154	20	136	2.5	0.01
TDMW-1	10/23/03	13	100	<0.05	<0.005	23	<0.0001	<0.001	<0.02	<5	14	0.03	<5	<0.003	8	215	21	189	1	0.02
TDMW-1	05/26/04		82	<0.05	<0.005	22	<0.0001	0.002	<0.01	<1	13	<0.01	1	<0.003	7.5	205	30	135	<10	0.01
TDMW-1*	05/26/04		82	<0.05	<0.005	22	<0.0001	<0.001	<0.01	<1	13	<0.01	1	<0.003	7.5	203	30	127	<10	0.01
	Average	**11.87**	**83**	**NA**	**NA**	**22**	**0.0002**	**0.0013**	**NA**	**NA**	**13**	**0.012**	**1**	**NA**	**7.2**	**194**	**27**	**137**	**8.6**	**0.024**
	Median	**11.96**	**82**	**NA**	**NA**	**22**	**<0.0001**	**<0.001**	**NA**	**NA**	**13**	**0.01**	**<5**	**NA**	**7.4**	**204**	**25**	**135**	**1.9**	**0.011**
	Minimum	**10.64**	**63**	**<0.05**	**<0.005**	**19**	**<0.0001**	**<0.001**	**<0.01**	**<1**	**11**	**<0.005**	**1**	**<0.002**	**6.6**	**154**	**18**	**109**	**1**	**<0.01**
	Maximum	**13.00**	**103**	**<0.05**	**<0.005**	**25**	**0.0011**	**0.003**	**<0.02**	**<5**	**15**	**0.03**	**5**	**<0.003**	**8**	**215**	**41**	**189**	**48**	**0.097**
TDMW-2D	10/10/01	10.55	104	0.11	<0.005	23	<0.0002	<0.001	0.045	<5	13	0.019	<5	<0.003	7.5	NA	12	123	256	0.039
TDMW-2D	05/06/02	3.77	90	<0.05	<0.005	23	<0.0001	<0.001	<0.02	<5	13	<0.01	<5	<0.003	7.1	NA	24	152	81	<0.01
TDMW-2D	05/29/02	3.27	92	<0.05	<0.005	25	<0.0001	<0.001	<0.02	<5	14	<0.01	<5	<0.002	6.5	NA	26	116	17	<0.01
TDMW-2D	07/10/02	4.21	93	<0.05	<0.005	24	<0.0001	<0.001	<0.02	<5	14	<0.01	<5	<0.003	6.5	NA	23	142	18	<0.01
TDMW-2D	10/10/02	9.68	102	<0.05	<0.005	23	<0.0001	0.0015	<0.02	<5	13	<0.01	<5	<0.003	7.5	NA	11	112	6.4	<0.01
TDMW-2D	05/29/03	3.4	92	<0.05	<0.005	23	<0.0001	<0.001	<0.02	<5	13	<0.01	<5	<0.003	7.3	193	28	150	48	<0.01
TDMW-2D	10/23/03	10.7	102	<0.05	<0.005	22	<0.0001	<0.001	<0.02	<5	12	<0.01	<5	<0.003	7.9	205	23	116	41	<0.01
TDMW-2D	05/26/04	3.1	96	<0.05	<0.005	24	<0.0001	<0.001	<0.01	<1	14	<0.01	1	<0.003	7.5	202	23	132	<10	<0.01
	Average	**6.09**	**96**	**0.0575**	**NA**	**23**	**NA**	**0.0011**	**0.022**	**NA**	**13.25**	**0.011**	**4.5**	**NA**	**7.225**	**200**	**21**	**130**	**60**	**0.014**
	Median	**3.99**	**95**	**0.05**	**NA**	**23**	**NA**	**<0.001**	**<0.02**	**NA**	**13**	**<0.01**	**<5**	**NA**	**7.4**	**202**	**23**	**128**	**30**	**<0.01**
	Minimum	**3.10**	**90**	**0.05**	**<0.005**	**22**	**<0.0001**	**<0.001**	**<0.01**	**<1**	**12**	**<0.01**	**1**	**<0.002**	**6.5**	**193**	**11**	**112**	**6**	**<0.01**
	Maximum	**10.70**	**104**	**0.11**	**<0.005**	**25**	**<0.0002**	**<0.0015**	**0.045**	**<5**	**14**	**0.019**	**<5**	**<0.003**	**7.9**	**205**	**28**	**152**	**256**	**<0.039**
TDMW-2S	10/10/01	10.56	110	<0.05	<0.005	24	0.00028	0.001	<0.02	<5	13	0.085	<5	<0.003	7.2	NA	22	135	<1	0.071
TDMW-2S	05/06/02	3.82	76	<0.05	<0.005	21	<0.0001	<0.001	<0.02	<5	11	<0.01	<5	<0.003	6.8	NA	28	119	26	0.011
TDMW-2S	05/29/02	3.16	82	<0.05	<0.005	27	<0.0001	0.001	<0.02	<5	15	<0.01	<5	<0.002	6.5	NA	37	117	16	0.018
TDMW-2S	07/10/02	4.34	85	<0.05	<0.005	24	<0.0001	<0.001	<0.02	<5	13	0.05	<5	<0.003	6.5	NA	29	154	50	0.029
TDMW-2S	10/10/02	9.94	100	<0.05	<0.005	26	<0.0001	0.0015	<0.02	<5	14	0.041	<5	<0.003	8.1	NA	19	136	32	0.028
TDMW-2S	05/29/03	3.5	80	<0.05	<0.005	23	<0.0001	0.003	<0.02	<5	12	0.01	<5	<0.003	7.3	184	32	159	4.8	0.02
TDMW-2S	10/23/03	10.8	103	<0.05	<0.005	25	0.0002	0.001	0.05	<5	14	0.2	<5	0.01	7.7	235	29	134	436	0.04
TDMW-2S	05/26/04	3.12	92	<0.05	<0.005	25	<0.0001	<0.001	<0.01	<1	13	0.05	1	<0.003	7.5	207	31	135	<10	0.01
	Average	**6.16**	**91**	**NA**	**NA**	**24**	**0.0001**	**0.001**	**0.02**	**NA**	**13**	**0.057**	**4.5**	**0.004**	**7.2**	**209**	**28**	**136**	**72**	**0.028**
	Median	**4.08**	**89**	**NA**	**NA**	**25**	**<0.0001**	**0.001**	**<0.02**	**NA**	**13**	**0.046**	**<5**	**<0.003**	**7**	**207**	**29**	**135**	**21**	**0.024**
	Minimum	**3.12**	**76**	**<0.05**	**<0.005**	**21**	**<0.0001**	**<0.001**	**<0.01**	**<1**	**11**	**<0.01**	**1**	**<0.002**	**6.5**	**184**	**19**	**117**	**<1**	**0.010**
	Maximum	**10.80**	**110**	**<0.05**	**<0.005**	**27**	**0.00028**	**0.003**	**0.05**	**<5**	**15**	**0.2**	**<5**	**0.01**	**8.1**	**235**	**37**	**159**	**436**	**0.071**

NOTES: * Duplicate Sample; NA-Not Analyzed; The detection limit was used in statistical analysis for values below the detection limit.
All results in mg/L except as indicated.

TABLE B-4. MIKE HORSE TAILINGS IMPOUNDMENT SEEPAGE SAMPLES

SITE CODE	SAMP DATE	SAMP #	ALKCACO3		AL_DIS		AL_TRC		AS_DIS		AS_TRC		CADIS	CD_DIS		CD_TRC		CO3CO3		CU_DIS		CU_TRC		FE_DIS		FE_TRC		FLOW_CFS	FLOW_GPM	HCO3	KDIS		MGDIS
Discolored (Stained) Seepage Area Samples																																
MHTDS-1	5/25/2001	AHD-0105-158	20		0.056		3.8		0.005	U	0.005	U	99	0.155		0.178				0.69		0.92		0.05	U	0.89		0.016741071	7.5		2.1		59
MHTDS-1	5/19/2003	UBMC-0305-117	14		0.09		2.8		0.005	U	0.005	U	80	0.1		0.1		2	U	0.7		0.9		0.2		1.4		0.009		17	5	U	54
MHTDS-1	4/28/2004	UBMC-0404-114	38	UJ	0.05		3.18		0.005	U	0.005	U	75	0.0965		0.0952				0.39		0.65		0.01	U,J	0.97	J	0.045 (E)			1		54
MHTDS-1	6/14/2004	UBMC-0604-113	16	UJ	0.09	J	3.66		0.005	U	0.005	U	82	0.141		0.148				0.74		0.81		0.15		1.01		0.108	0.044580357		2	UJ	59
MHTDS-5	5/25/2001	AHD-0105-160	9.2		0.56		5.3		0.005	U	0.005	U	101	0.166		0.174				0.3		0.33		0.05	U	1.9		0.001116071	0.5		3.5		191
MHTDS-5	5/19/2003	UBMC-0305-121	52		0.05	U	1.1		0.005	U	0.005	U	30	0.02		0.02		2	U	0.01	J	0.04		0.02	U	2.1		0.005		63	5	U	37
MHTDS-5	4/28/2004	UBMC-0404-117			1.44		1.91		0.005	U	0.011		114	0.1538		0.1864				0.28		0.3		0.12		16.67		0.002 (E)			5		260
MHTDS-5	6/14/2004	UBMC-0604-116	82	UJ	0.05	U	0.05	U	0.005	U	0.005	U	20	0.001		0.0009				0.01	U	0.01	U	0.01	U	0.01	U	0.089	0.031705357		1	U	12
MHTDS-6	5/25/2001	AHD-0105-161	67		0.05	U	0.11		0.005	U	0.005	U	30	0.0048		0.0054				0.001	U	0.008		0.05	U	1.5		0.018			2	U	23
MHTDS-6	5/19/2003	UBMC-0305-122	68		0.05	U	0.05	U	0.005	U	0.005	U	38	0.008		0.008		2	U	0.002	J	0.004	UJ	0.02	U	0.2		0.008		83	5	U	40
MHTDS-6	6/14/2004	UBMC-0604-117			1.28		1.44		0.005	U	0.005	U	65	0.069		0.07				0.27		0.31		1.01		1.07		0.007	0.011		2	UJ	128
MHTDS-7	5/25/2001	AHD-0105-162	1	U	0.45		0.64		0.005	U	0.006		27	0.0154		0.0151				0.17		0.17		0.065		2.5		0.0097			2.6		20
MHTDS-7	5/19/2003	UBMC-0305-123	12		0.1		0.3		0.005	U	0.005	U	30	0.01		0.01		2	U	0.07		0.08		0.04		1.3		0.004		15	5	U	24
MHTDS-3	5/25/2001	AHD-0105-157	27		0.05	U	0.14		0.005	U	0.005	U	159	0.197		0.197				0.021		0.027		0.05	U	0.05	U	0.006696429	3		3.3		112
MHTDS-3	5/19/2003	UBMC-0305-119	92		0.05	U	0.05	U	0.007		0.007		92	0.03		0.03		2	U	0.02	J	0.02		3.3		3.4		0.002		112	5	U	60
MHTDS-3	4/28/2004	UBMC-0404-115	82	UJ	0.05		0.14		0.005	U	0.005	U	32	0.0047	J	0.0014	J			0.01		0.01		0.02	J	0.53	J	0.005 (E)			1		28
MHTDS-3	6/14/2004	UBMC-0604-114	71	UJ	0.05	U	0.09	J	0.005	U	0.005	U	88	0.0424		0.0393				0.02		0.04		0.03		0.28	J	0.015	0.00789881		2	UJ	58
Clear Seepage Area Samples																																
MHTDS-2	5/25/2001	AHD-0105-156	64		0.05	U	0.05	U	0.005	U	0.005	U	20	0.0023		0.0023				0.005		0.006		0.05	U	0.05	U	0.144			2	U	11
MHTDS-2	5/19/2003	UBMC-0305-118	70		0.05	U	0.05	U	0.005	U	0.005	U	21	0.001		0.0009		2	U	0.01	J	0.004	UJ	0.02	U	0.03		0.2		85	5	U	11
MHTDS-2	4/28/2004	UBMC-0404-113	74	UJ	0.05	U	0.05	U	0.005	U	0.005	U	20	0.0006	J	0.0006	J			0.01	U	0.01	U	0.01	U,J	0.02	J	0.096			1	U	11
MHTDS-2	6/14/2004	UBMC-0604-112	86	UJ	0.05	U	0.05	U	0.005	U	0.005	U	21	0.0006		0.0004				0.01	U	0.01	U	0.01	U	0.01	U	0.108	0.137		1	U	11
MHTDS-4	5/25/2001	AHD-0105-159	63		0.05	U	0.08		0.005	U	0.005	U	21	0.0024		0.0024				0.008		0.008		0.05	U	0.05	U	0.269			2	U	15
MHTDS-4	5/19/2003	UBMC-0305-120	68		0.05	U	0.05	U	0.005	U	0.005	U	19	0.0007		0.0006		2	U	0.002	J	0.004	UJ	0.02	U	0.1		0.3		83	5	U	12
MHTDS-4	4/28/2004	UBMC-0404-116	76	UJ	0.05	U	0.09		0.005	U	0.005	U	25	0.0033	J	0.0034	J			0.01		0.02		0.02	J	0.24	J	0.193 (E)			1	U	17
MHTDS-4	6/14/2004	UBMC-0604-115	81	UJ	0.05	U	0.05	U	0.005	U	0.005	U	20	0.0004		0.0004				0.01	U	0.01	U	0.01	U	0.01	U	0.163	0.244		1	U	13

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split
E = Estimated

TABLE B-4. MIKE HORSE TAILINGS IMPOUNDMENT SEEPAGE SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	MN_DIS		MN_TRC		NADIS		O_DIS	PB_DIS		PB_TRC		PH	PH_FLD	SC_FLD	SO4	TDS		TSS		WATER_TEM	ZN_DIS		ZN_TRC	
Discolored (Stained) Seepage Area Samples																										
MHTDS-1	5/25/2001	AHD-0105-158	19		21		2	U	6.18	0.048		0.12		6.4	5.98	879	697	884		18		16.7	23		24	
MHTDS-1	5/19/2003	UBMC-0305-117	17		17		5	U	6.7	0.2		0.3		6.3	5.5	7500	469	750		30	J	18.7	20		19	
MHTDS-1	4/28/2004	UBMC-0404-114	15.7		14.26		1	UJ	7.7	0.01		0.063		6.8	6.56	705	580	680		15		2.9	20.76		21.93	
MHTDS-1	6/14/2004	UBMC-0604-113	19.88		21.77		1	UJ	6.55	0.155		0.243		6.4	6.19	980	560	767		22		17.6	21.46		22.9	
MHTDS-5	5/25/2001	AHD-0105-160	57		56		2	U	6.24	0.029		0.064		5.6	5.2	1551	1554	1785		18		9.8	31		31	
MHTDS-5	5/19/2003	UBMC-0305-121	6.7		6.5		5	U	7	0.009		0.2		6.8	5.7	4230	188	342		3.4	J	13.7	3		2.9	
MHTDS-5	4/28/2004	UBMC-0404-117	73.4		84.8		1	UJ	8.4	0.021		0.143		5.5	5.55	233	1700	2300		10	U	3.2	40.2		40.81	
MHTDS-5	6/14/2004	UBMC-0604-116	0.32		0.33		1	UJ	6.77	0.004		0.005		7.5	6.86	278	28	127	UJ	10	U	7.8	0.16		0.15	
MHTDS-6	5/25/2001	AHD-0105-161	0.46		0.58		2	U	7.49	0.003	U	0.1		7.3	6.47	406	108	246		3.4		6	1.3		1.4	
MHTDS-6	5/19/2003	UBMC-0305-122	0.7		0.7		5	U	6.5	0.005		0.03		6.7	5.5	4300	202	376		1	U,UJ	9.2	2.3		2.2	
MHTDS-6	6/14/2004	UBMC-0604-117	43.8		48.3		1	UJ	9.08	0.938		0.903		3.7	3.83	1470	760	1190		10	U	9.2	18.78		22.78	
MHTDS-7	5/25/2001	AHD-0105-162	1.5		1.5		2	U	7.03	1.8		1.8		4.8	5.15	358	154	251		1	U	10.7	3		2.6	
MHTDS-7	5/19/2003	UBMC-0305-123	2.2		2.2		5	U	7.7	0.4		0.5		5.9	5.1	3680	174	277		9.1	J	13.5	2.6		2.6	
MHTDS-3	5/25/2001	AHD-0105-157	6.2		6.3		2	U	5.84	0.003	U	0.003	U	7.1	6.26	1311	925	1346		1.4		23.1	37		37	
MHTDS-3	5/19/2003	UBMC-0305-119	11		12		5	U	3.6	0.01		0.02		7.3	5.7	7580	486	760		6.6	J	10.6	9.1		8.7	
MHTDS-3	4/28/2004	UBMC-0404-115	1.66		0.16		1	UJ	6.83	0.003	U	0.012		7.3	6.58	355	86	226	UJ	10		4.8	1.16		0.35	J
MHTDS-3	6/14/2004	UBMC-0604-114	8.81		9.04		2	UJ	6.93	0.003	U	0.006		7.1	6.64	920	390	669		10	U	17.5	9.36		9.63	
Clear Seepage Area Samples																										
MHTDS-2	5/25/2001	AHD-0105-156	0.071		0.068		2	U	9.64	0.003	U	0.004		7.7	6.65	218	36	124		1.1		9.8	0.44		0.5	
MHTDS-2	5/19/2003	UBMC-0305-118	0.09		0.05		5	U	8.3	0.003	U	0.003	U	7.3	6	2010	31	154		1	U,UJ	10	0.2		0.2	
MHTDS-2	4/28/2004	UBMC-0404-113	0.01	U	0.01	U	1	U	8.26	0.003	U	0.003	U	7.6	6.97	188	25	137	UJ	10	U	5.1	0.16	J	0.17	J
MHTDS-2	6/14/2004	UBMC-0604-112	0.02		0.01	U	1	UJ	8.95	0.003	U	0.003	U	8	7.22	278	19	121	UJ	10	U	11.5	0.13		0.08	UJ
MHTDS-4	5/25/2001	AHD-0105-159	0.31		0.29		2	U	8.97	0.003	U	0.011		7.8	7.18	264	51	151		1	U	11.7	0.4		0.41	
MHTDS-4	5/19/2003	UBMC-0305-120	0.2		0.2		5	U	7.3	0.003	U	0.007		7.2	5.9	1860	30	163		1	U,UJ	10	0.1		0.1	
MHTDS-4	4/28/2004	UBMC-0404-116	1.21		1.27		1	UJ	7.97	0.003	U	0.012		7.3	6.79	283	59	191	UJ	10	U	5.5	0.73	J	0.73	J
MHTDS-4	6/14/2004	UBMC-0604-115	0.04		0.04		1	UJ	8.91	0.003	U	0.003	U	7.6	7.16	296	28	133	UJ	10	U	12.2	0.09	UJ	0.08	UJ

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split
E = Estimated

LOWER MIKE HORSE CREEK DATA

TABLE B-5. 2000 LOWER MIKE HORSE SAMPLES (SURFACE SAMPLES)

Site	Sample #	Conductivity	Moisture Content	Neutralization Potential	Acid Potential	Acid Base Potential	Lime as Ca CO3	Single Buffer SMP Lime Requirement	Sulfur, Hydrochloric Acid Extraction	Sulfur, Nitric Acid Extraction	Sulfur, Water Extraction	Sulfur, Total	Sulfur, Residual	Sulfur, Non-Sulfate	pH	Total Aluminum	Total Arsenic	Total Cadmium	Total Copper	Total Iron	Total Lead	Total Manganese	Total Zinc
LMH-1	LMHS-0009-100	5.71	8.3	45	69	-24	4.5	1.1	0.04	1.50	1.39	3.61	0.68	2.22	5.6	8150	135	35	495	47700	7510	1850	4720
LMH-2	LMHS-0009-101	7.27	15.7	<1	101	-101	<0.1	15.0	0.41	1.83	0.85	4.09	1	3.24	3.1	7140	218	17	1210	55800	24600	784	2900
LMH-3	LMHS-0009-102	9.30	10.2	129	252	-124	12.9	1.1	<0.01	6.50	1.35	9.42	1.57	8.07	5.6	4050	249	54	1170	61500	8690	4690	6260
LMH-4	LMHS-0009-103	5.96	7.8	59	93	-35	5.9	1.8	<0.01	1.91	0.79	3.78	1.08	2.99	5.3	8190	157	25	626	50700	15000	2640	3340
LMH-5	LMHS-0009-104	10.5	9.3	58	92	-34	5.8	1.8	0.17	2.23	1.82	4.76	0.54	2.94	5.1	5060	224	20	535	48800	7670	3610	2820
LMH-6	LMHS-0009-106	19.3	14.0	<1	328	-328	<0.1	31.5	<0.01	9.42	1.40	11.9	1.08	10.5	2.2	5500	217	7	473	82900	2730	531	1040
LMH-7	LMHS-0009-107	14.8	14.6	<1	109	-109	<0.1	17.0	<0.01	3.04	0.93	4.43	0.46	3.50	3.0	7370	152	8	558	55200	7800	1170	1410
LMH-8	LMHS-0009-108	14.3	12.9	<1	77	-77	<0.1	19.9	0.02	2.13	0.88	3.34	0.31	2.46	2.3	7430	155	8	463	51500	6160	699	1180

2001 LOWER MIKE HORSE SAMPLES (DEEP SAMPLES)

		Total Metals Concentrations								Acid/Base Accounting										Texture	
Site	Sample Number	pH S.U.	As mg/Kg	Cd mg/Kg	Cu mg/Kg	Fe %	Pb mg/Kg	Mn mg/Kg	Zn mg/Kg	Acid Base Potential CaCO3/1000	Acid Potential CaCO3/1000	Neutralization Potential CaCO3/1000	Lime %	Lime Requirement CaCO3/1000	Total Sulfur %	Non-Sulfate Sulfur %	Residual Sulfur %	HCl Extract. Sulfur %	Nitric Acid Extract. Sulfur %	Hot Water Extract. Sulfur %	Clay/Silt/ Sand %	Texture
LMH1-TP-1	LMHS - 0108 -300	6.3	488	177	2673	5	26940	8324	32842	-42	253	211	21.1	<0.1	8.6	8.09	2.17	0.61	5.31	0.51	9/14/1977	SL
	LMHS - 0108 -301	5.7	92	84	533	5	1799	6923	8133													
LMH1-TP-2	LMHS - 0108 -302	6.4	592	283	2245	7	27367	6499	45507	-10	244	234	23.4	<0.1	8.82	7.8	3.4	<0.01	4.49	1.02	11/14/1975	SL
	LMHS - 0108 -304	6.1	79	89	617	6	1350	8750	6347													
LMH1-TP-3	LMHS - 0108 -305	6.6	488	146	1926	7	28783	6079	25434	-21	199.0	177.0	17.7	<0.1	6.42	6.36	2.26	0.87	3.23	0.06	11/20/1969	SL
	LMHS - 0108 -306	5.9	74	82	391	6	1362	3898	9142													
	LMHS - 0108 -310	7.4	177	90	769	8	12190	5615	15807													
LMH2-TP-1	LMHS - 0108 -307	2.9	312	41	500	10	10423	716	5732	-87	89.0	2.0	0.2	19.2	5.19	2.84	0.41	0.21	2.22	2.35	8/39/53	SL
	LMHS - 0108 -308	4.3	106	17	620	6	4055	5133	2829													
LMH3-TP-1	LMHS - 0108 -324	4.5	191	<10	209	10	8961	1060	859	-19	31.0	12.0	1.2	4.0	1.89	0.99	0.1	0.12	0.77	0.90	19/20/61	SL
	LMHS - 0108 -325	4.2	43	<10	169	4	692	1699	492													
LMH5-TP-1	LMHS - 0108 -311	5.6	218	56	1011	7	8347	4136	9976	-101	216	115	11.5	<0.1	8.18	6.91	1.39	0.06	5.46	1.27	22/21/57	SCL
	LMHS - 0108 -312	6.8	107	60	341	8	5160	7431	11501													
LMH5-TP-2	LMHS - 0108 -313	5.9	256	52	1003	6	5862	10305	9124	-32	161	130	13.0	<0.1	6.33	5.16	0.73	<0.01	4.5	1.17	19/19/62	SCL
	LMHS - 0108 -314	7.2	187	73	620	6	6086	10980	13205													
LMH6-TP-1	LMHS - 0108 -316	3.0	94	<10	249	7	474	1188	483	-16	16	<1.0	<0.1	15.6	0.85	0.51	0.04	0.09	0.38	0.34	14/21/65	SL
	LMHS - 0108 -315	4.3	52	<10	130	4	127	1657	492													
LMH6-TP-2	LMHS - 0108 -317	2.2	340	<10	559	11	2616	1507	1709	-142	142	<1.0	<0.1	22.1	7.02	4.54	0.42	0.5	3.62	2.48	7/30/1963	SL
	LMHS - 0108 -318	4.3	49	<10	241	7	82	2094	633													
LMH7-TP-1	LMHS - 0108 -319	6.2	207	21	593	9	1588	6253	3264	-177	316	138	13.8	<0.1	11.1	10.1	1.08	0.45	8.57	1.0	7/19/1974	SL
	LMHS - 0108 -321	4.2	82	<10	258	5	4272	1129	492	-16	19	3.0	0.3	1.1	0.98	0.62	0.15	0.12	0.35	0.36	12/29/1959	SL
LMH8-TP-1	LMHS - 0108 -322	6.8	178	20	564	7	1889	4754	3150	-74	97	23	2.3	<0.1	3.09	3.09	0.17	0.26	2.66	<0.01	13/24/63	SL
	LMHS - 0108 -323	6.8	102	14	190	5	1470	4823	3512													

1995 REVEGETATION STUDY SAMPLES

Sample Site	UBMC-9511 Sample	Depth Interval (inches)	pH	Lime Req. (T/1000T)	Lime as CaCO3 (%)	Neut. Potential (T/1000T)	Acid Potential (T/1000T)	Acid-Base Potential (T/1000T)	Total Sulfur (%)	Hot Water Extractable Sulfur (%)	HCl Extractable Sulfur (%)	HNO3 Extractable Sulfur (%)	Residual Sulfur (%)	Total Aluminum (ug/g)	Total Antimony (ug/g)	Total Arsenic (ug/g)	Total Barium (ug/g)	Total Beryllium (ug/g)	Total Cadmium (ug/g)	Total Chromium (ug/g)	Total Cobalt (ug/g)	Total Copper (ug/g)	Total Iron (ug/g)	Total Lead (ug/g)	Total Manganese (ug/g)	Total Mercury (ug/g)	Total Nickel (ug/g)	Total Selenium (ug/g)	Total Silver (ug/g)	Total Thallium (ug/g)	Total Vanadium (ug/g)	Total Zinc (ug/g)
GT-1	118	0 - 6	5.7	< 0.1	3.7	37	28	9	0.88	< 0.01	< 0.01	0.58	0.30	5540	2	31	56	1	31	< 5	10	310	19300	6830	2510	2	7	< 5	9	< 1	8	4920
GT-1	119	6 - 12	5.6	< 0.1	1.7	17	13	5	0.41	0.01	< 0.01	0.30	0.10	6560	<1	23	120	<1	13	< 5	8	220	16400	1660	1280	<1	6	< 5	<5	< 1	8	1890
GT-1.1	102	0 - 6	5.6	< 0.1	1.9	19	422	-23	1.51	0.17	0.14	1.00	0.20	8050	< 1	72	32	1	8	19	7	660	46500	3470	970	1	11	< 5	10	< 1	51	1690
GT-1.1	103	6 - 12	5.7	< 0.1	2.6	26	71	-45	2.70	0.42	0.14	1.76	0.38	5410	< 1	210	<5	<1	89	12	11	2170	65100	10100	1210	4	11	< 5	36	< 1	41	14300
GT-2	104	0 - 6	3.8	9.0	<0.1	<1	27	-27	1.51	0.64	0.14	0.63	0.10	3100	< 1	91	11	<1	12	<5	<5	510	38500	6200	310	2	<5	< 5	31	< 1	26	2100
GT-2	105	6 - 12	4.5	4.7	1.1	11	107	-96	3.83	0.42	0.19	2.83	0.39	6210	< 1	120	28	2	10	7	17	480	43000	2360	2190	<1	13	< 5	<5	< 1	21	2350
GT-2.1	106	0 - 6	6.6	<0.1	13.4	134	193	-59	6.19	0.01	< 0.01	5.20	0.98	3340	5	320	<5	<1	87	<5	<5	3300	53500	3290	1780	8	<5	< 5	98	< 1	23	16200
GT-2.1	107	6 - 12	6.9	<0.1	17.4	174	223	-49	7.15	<0.01	< 0.01	6.20	0.95	1580	<5	300	<5	<1	90	<5	17	2710	82300	13900	6710	2	22	< 5	43	< 1	<5	12000
GT-2.2	108	0 - 6	7.5	<0.1	19.0	190	231	-41	7.40	<0.01	< 0.01	6.20	1.20	750	5	190	<5	<1	60	<5	23	500	70500	6380	23700	<1	<5	< 5	14	< 1	<5	9320
GT-2.2	109	6 - 12	7.1	<0.1	13.1	131	156	-25	4.99	<0.01	< 0.01	4.41	0.58	1900	<5	140	<5	<1	39	<5	14	410	53000	3720	5320	<1	15	< 5	10	< 1	8	6130
GT-2.3	110	0 - 6	5.3	<0.1	0.2	2	1	1	0.04	0.02	< 0.01	0.02	<0.01	2620	<5	9	63	<1	<1	<5	8	13	10300	56	800	<1	8	< 5	<5	< 1	<5	110
GT-2.3	111	6 - 12	5.7	<0.1	0.1	1	1	0	0.02	<0.01	< 0.01	0.02	<0.01	2800	<5	8	59	<1	<1	<5	6	14	10000	55	470	<1	6	< 5	<5	< 1	<5	100
GT-5	116	0 - 6	4.1	6.8	<0.1	<1	14	-14	0.60	0.14	0.03	0.40	0.03	3920	<5	75	16	1	2	5	7	270	30100	2330	460	<1	7	< 5	<5	< 1	11	480
GT-5	117	6 - 12	4.5	5.4	0.8	8	64	-57	2.31	0.25	0.23	1.70	0.13	3970	<5	72	45	<1	2	6	<5	210	29500	2630	410	<1	8	< 5	7	< 1	12	470

TABLE B-6. LOWER MIKE HORSE SURFACE WATER SAMPLES

SITE CODE	SAMP DATE	SAMP #	ACIDCACO		AG_DIS		AG_TOT		AG_TRC		ALKCACO3		AL_DIS		AL_TOT		AL_TRC		AS_DIS		AS_TOT		AS_TRC		BA_DIS		BA_TOT		CADIS		CD_DIS		CD_TOT		CD_TRC		CL		CO3CACO3		CO3CO3		CO_DIS		CO_TOT		CR_DIS		CR_TOT	
BRSW-22	10/26/1993	AHD-9310-907			0.0003		0.0003	UJ1,J4			76		0.1	U	0.13	J4			0.003	U	0.005	J4			0.2	U	0.2	U	92		0.028	J4	0.03				2	U	1	U			0.05	U,J4	0.05	U	0.01	U	0.01	U
BRSW-22	5/18/1994	AHD-9405-107	1	U							50		0.1				0.56												68		0.029	J2			0.035	J2			0.1	U									
BRSW-22	10/26/1994	AHD-9410-107	10								24		0.05	U			2.421		0.002	U,UJ4D			0.013						181		0.086	J2			0.099	J2													
BRSW-22	5/2/1995	AHD-9505-107	40								24		0.05	U			1.1		0.002	U			0.002	U					81		0.12				0.11						1	U							
BRSW-22	10/23/1995	AHD-9510-108									59		0.05	U			0.07		0.002	U			0.002	U					76		0.035	J4S			0.033	J4S					1	U							
BRSW-22	5/22/1996	AHD-9605-107									58		0.05	U			0.36	J4S	0.002	U			0.002	U					54		0.029				0.025						1	U							
BRSW-22	10/21/1996	AHD-9610-107									52		0.05	U			0.05	U	0.002	U			0.002	U					300		0.16				0.15						1	U							
BRSW-22	2/26/1997	AHD-9702-114	0								73		0.1	U			0.1	U	0.005	U			0.005	U					111		0.038				0.037														
BRSW-22	5/27/1997	AHD-9705-159									58		0.05	U			0.3		0.002	U			0.002	U					21		0.013				0.012						1	U							
BRSW-22	10/22/1997	AHD-9710-109									81		0.087				0.05	U	0.002	U			0.002	U					98		0.088				0.087						1	U							
BRSW-22	5/5/1998	AHD-9805-109									58		0.05	U			0.076		0.002	U			0.002	U					29		0.02				0.018						1	U							
BRSW-22	10/22/1998	AHD-9810-109									79		0.05	U			0.05	U	0.002	U			0.002	U					50		0.02				0.019						1	U							
BRSW-22	4/29/1999	AHD-9904-129	0								16		0.05	U			3.78	J4S	0.002	U			0.002	U					60		0.125				0.128														
BRSW-22	5/21/1999	AHD-9905-101	0								29		0.05	U			2.33		0.002	U			0.002						28		0.0435				0.0406														
BRSW-22	10/19/1999	AHD-9910-108									83		0.05	U			0.05	U	0.002	U			0.002	U					48		0.014				0.014						1	U							
BRSW-22	10/12/2000	AHD-0010-125			0.025				0.034		89		0.05	U			0.05	U	0.005	U			0.005	U,UJ2					87	J4D,J4S	0.027				0.028						1	U							
BRSW-22	4/26/2001	AHD-0104-104									48		0.091	J4D			1.2		0.005	U			0.005	U					108		0.12				0.11														
BRSW-22	5/22/2001	AHD-0105-130									68		0.075				0.31		0.005	U			0.005	U					24		0.016				0.017														
BRSW-22	5/23/2001	AHD-0105-133									72		0.09	J4S			0.27	J4S	0.005	U			0.005	U					24		0.015				0.016														
BRSW-22	6/26/2001	AHD-0106-105									74		0.08				0.43		0.005	U			0.005	U					28		0.022				0.026														
BRSW-22	10/17/2001	AHD-0110-146									78		0.05	U			0.05	U	0.005	U			0.005	U					83		0.022				0.022						1	U							
BRSW-22	5/6/2002	UBMC-0205-110									26		0.05	U	1.7				0.005	U	0.005	U							74		0.12		0.11								1	U							
BRSW-22	5/29/2002	UBMC-0205-309									52		0.05	U			0.98		0.005	U			0.005	U					23		0.021				0.021						1	U							
BRSW-22	7/11/2002	UBMC-0207-119									75		0.06				0.47		0.005	U			0.005	U					39		0.022				0.021						1	U							
BRSW-22	10/3/2002	UBMC-0210-111									71		0.05	U	0.24				0.005	U	0.005	U							80		0.028		0.026								1	U							
BRSW-22	4/28/2003	UBMC-0304-111									40		0.05	U			2.2		0.005	U			0.005	U					31		0.05				0.05						2	U							
BRSW-22	5/19/2003	UBMC-0305-114									66		0.08				0.4		0.005	U			0.005	U					21		0.01				0.01						2	U							
BRSW-22	6/25/2003	UBMC-062403-13									78		0.1				0.2		0.005	U			0.005	U					29		0.01				0.01						2	U							
BRSW-22	10/21/2003	UBMC-0310-111									81		0.05	U,UJ			0.05	U	0.005	U			0.005	U					80		0.02				0.02						2	U							
BRSW-22	4/28/2004	UBMC-0404-118									46	UJ	0.05	U			1.59		0.005	U			0.005	U					31		0.0294				0.0306														
BRSW-22	5/26/2004	AHD-0405-110									62		0.08	J			0.41	J	0.005	U,J			0.005	U,J					32	J	0.0193	J			0.0197	J													
BRSW-22	6/14/2004	UBMC-0604-118									82	UJ	0.05	U			0.45		0.005	U			0.005	U					29		0.012				0.014														
BRSW-22	10/12/2004	UBMC-1004-113									80	J	0.05	U			0.05	U	0.005	U			0.005	U					59	J	0.0139				0.0136														
BRSW-35	10/22/1998	AHD-9810-141									71		0.05	U			0.055		0.002	U			0.002	U					49		0.021				0.02						1	U							
BRSW-35	4/29/1999	AHD-9904-128	0								8		0.08				3.93	J4S	0.002	U			0.002	U					74		0.12				0.119														
BRSW-35	5/21/1999	AHD-9905-100	0								35		0.05	U			1.23		0.002	U			0.022						26		0.0217				0.0208														
BRSW-35	10/19/1999	AHD-9910-118									73		0.05	U			0.05	U	0.002	U			0.002	U					49		0.015				0.015						1	U							
BRSW-35	10/12/2000	AHD-0010-124			0.018				0.029		72		0.05	U			0.05	U	0.005	U			0.005	U,UJ2					80	J4D,J4S	0.024				0.025						1	U							
BRSW-35	4/26/2001	AHD-0104-111	56								8.2		0.38	J4D			3.5		0.005	U			0.005	U					106		0.17				0.16														
BRSW-35	5/22/2001	AHD-0105-126									65		0.073				0.2		0.005	U			0.005	U					21		0.008				0.009														
BRSW-35	6/26/2001	AHD-0106-114									75		0.059				0.17		0.005	U			0.005	U					22		0.0082				0.0086														
BRSW-35	10/17/2001	AHD-0110-144									75		0.05	U			0.062		0.005	U			0.005	U					80		0.022				0.023						1	U							
BRSW-35	5/6/2002	UBMC-0205-109									11		0.05	U	2.4				0.005	U	0.005	U							81		0.12		0.1								1	U							
BRSW-35	5/29/2002	UBMC-0205-308									58		0.05	U			0.35		0.005	U			0.005	U					19		0.0078				0.0084						1	U							
BRSW-35	7/10/2002	UBMC-0207-115									73		0.05	U			0.19		0.005	U			0.005	U					30		0.012				0.011						1	U							
BRSW-35	10/3/2002	UBMC-0210-110									64		0.05	U	0.14				0.005	U	0.005	U							81		0.03		0.027								1	U							
BRSW-35	4/28/2003	UBMC-0304-110									52		0.07				0.9		0.005	U			0.005	U					23		0.02				0.02						2	U							
BRSW-35	5/28/2003	UBMC-0305-113									75		0.09				0.1		0.005	U			0.005	U					17		0.003				0.003						2	U							
BRSW-35	6/25/2003	UBMC-062403-12									77		0.05	U			0.1		0.005	U			0.005	U					24		0.007				0.007						2	U							
BRSW-35	10/21/2003	UBMC-0310-110									70		0.05	U,UJ			0.05	U	0.005	U			0.005	U					80		0.02				0.02						2	U							
BRSW-35	4/28/2004	UBMC-0404-112									36	UJ	0.38				3.5		0.005	U			0.005	U					41		0.0379				0.0414														
BRSW-35	5/26/2004	AHD-0405-109									76		0.08	J			0.28	J	0.005	U,J			0.005	U,J					23	J	0.0069	J			0.009	J													
BRSW-35	6/14/2004	UBMC-0604-111									86	UJ	0.05	U			0.2		0.005	U			0.005	U					23		0.0059				0.0061														
BRSW-35	10/12/2004	UBMC-1004-112									73	J	0.05	U			0.05	U	0.005	U			0.005	U					59	J	0.0151				0.015														

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-6. LOWER MIKE HORSE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	CU_DIS		CU_TOT		CU_TRC		FE_DIS		FE_TOT		FE_TRC		FLOW_CFS	HCO3		HCO3CACO		HG_DIS		HG_TOT		HRDCACO3		KDIS		MGDIS		MN_DIS		MN_TOT		MN_TRC		MO_DIS		MO_TOT		NADIS		NI_DIS		NI_TOT		O		ORG_CARB_T	
BRSW-22	10/26/1993	AHD-9310-907	0.01	U,J4	0.082	J4			0.717	J4	6.717				0.24			76				0.0002	U	477		5	U	60		8.645		8.17				0.05	U	0.05	U	5	U	0.041	J4	0.04	U				
BRSW-22	5/18/1994	AHD-9405-107	0.049				0.48		0.044	J4			2.2		1.31			50								2.3		43		3.6	J4			4						1.3									
BRSW-22	10/26/1994	AHD-9410-107	0.025	J2			0.393	J2	3.301				14.74		0.085											2.3		128		17.59	J4S,J2			17.66	J2					2	U								
BRSW-22	5/2/1995	AHD-9505-107	0.35				0.9		0.079	J4S			1.2		0.29	24										2	U	47		6.2				6.6						2	U								
BRSW-22	10/23/1995	AHD-9510-108	0.048				0.063		0.03	U			0.25	J2	0.02	59										2	U,UJ4D	38		0.84				0.83						2	U								
BRSW-22	5/22/1996	AHD-9605-107	0.11				0.19	J4S	0.05	U			0.47		1.94	58										2.9	UJ1,J4S,J2	37		6.9				6.7						1	U								
BRSW-22	10/21/1996	AHD-9610-107	0.1				0.17		0.1				0.84		0.113	52										2	U	196		43				40						2.5									
BRSW-22	2/26/1997	AHD-9702-114	0.03				0.05		0.03	U			0.37		0.004											2		50		0.69				0.64						2									
BRSW-22	5/27/1997	AHD-9705-159	0.11				0.19		0.03	U			0.066		2.55	71										3.2		9.2		0.33				0.34						2	U								
BRSW-22	10/22/1997	AHD-9710-109	0.078				0.088	J4S	0.05	U			0.05	U	0.0781	81										2.1		44		4.8				4.7						3.5									
BRSW-22	5/5/1998	AHD-9805-109	0.047				0.071		0.03	U			0.072		0.464	71										2	U	13		0.44				0.44						2	U								
BRSW-22	10/22/1998	AHD-9810-109	0.064				0.061		0.05	U			0.13		0.037	96										5	U	21		0.2				0.19						5									
BRSW-22	4/29/1999	AHD-9904-129	1.91				3.15		0.01	U			0.11	J4S	0.322											2		32		4.46	J2			4.74	J2					1									
BRSW-22	5/21/1999	AHD-9905-101	0.251				1.02		0.01	U			0.94		1.66											1	U	14		1.59				1.61						1	U								
BRSW-22	10/19/1999	AHD-9910-108	0.021				0.024		0.05	U			0.05	U	0.041	83										5	U	19		0.099				0.097						5	U								
BRSW-22	10/12/2000	AHD-0010-125	0.025				0.034		0.05	U			0.05	U,UJ2	0.034	109										5	U	31	J4D,J4S	0.22	J4D			0.27						5	U								
BRSW-22	4/26/2001	AHD-0104-104	0.12				0.24		0.05	U			0.95	J4D	0.26											4.2		42		3.2				3.1						2	U								
BRSW-22	5/22/2001	AHD-0105-130	0.14				0.23		0.05	U			0.05	U	0.67											2	U	12		0.51				0.53						2	U								
BRSW-22	5/23/2001	AHD-0105-133	0.14				0.22		0.05	U			0.05	U	0.8											2	U	11		0.48				0.5						2	U								
BRSW-22	6/26/2001	AHD-0106-105	0.14				0.28		0.05	U			0.05	U	0.47											2	U	14		0.73				0.75						1	U								
BRSW-22	10/17/2001	AHD-0110-146	0.021				0.024	J4S	0.02	U			0.02	U	0.029	95										5	U	31		0.11				0.12						5	U								
BRSW-22	5/6/2002	UBMC-0205-110	0.71		1.2				0.02	U	0.26				0.46	32										5	U	38		3.9		3.9								5	U					8.73			
BRSW-22	5/29/2002	UBMC-0205-309	0.16				0.55		0.02	U			0.086		2.49	63										5	U	11		0.89				0.9						5	U					6.43			
BRSW-22	7/11/2002	UBMC-0207-119	0.14				0.3		0.02	U			0.046		0.56	92										5	U	17		0.69				0.68						5	U					4.52			
BRSW-22	10/3/2002	UBMC-0210-111	0.072		0.21				0.02	U	0.038				0.08	87										5	U	30		0.33		0.34								5	U					6.23			
BRSW-22	4/28/2003	UBMC-0304-111	0.3				1.3		0.03	U			0.1		1.2	49										5	U	19		2.4				2.4						5	U								
BRSW-22	5/19/2003	UBMC-0305-114	0.2				0.3		0.02	U			0.1		2.5	81										5	U	9.7		0.5				0.5						5	U								
BRSW-22	6/25/2003	UBMC-062403-13	0.2				0.2		0.02	U			0.02	U	0.3	95										5	U	13		0.4				0.4						5	U								
BRSW-22	10/21/2003	UBMC-0310-111	0.03				0.03		0.02	U			0.03	J	0.03	99										5	U	29		0.01				0.02	UJ					5	U								
BRSW-22	4/28/2004	UBMC-0404-118	0.23				0.69		0.01	U,J			0.04	J	0.51											1	U	16		1.44				1.6						1	U								
BRSW-22	5/26/2004	AHD-0405-110	0.152	J			0.265	J	0.01	U			0.03	J	1.23											1	U	14		0.64	J			0.75	J					1	U								
BRSW-22	6/14/2004	UBMC-0604-118	0.14				0.32		0.01	U			0.01	U	0.39											1	U	14		0.51				0.57						1	UJ								
BRSW-22	10/12/2004	UBMC-1004-113	0.06				0.06		0.01	U,J			0.01	U,J	0.04											1	J	23	J	0.18				0.19						1	J								
BRSW-35	10/22/1998	AHD-9810-141	0.047				0.055		0.05	U			0.16		0.041	87										5	U	22		0.36				0.34						5	U								
BRSW-35	4/29/1999	AHD-9904-128	1.88				1.85		0.01	U			0.99	J4S	0.57											1		49		4.87	J2			5.42	J2					1									
BRSW-35	5/21/1999	AHD-9905-100	0.107				0.456		0.01	U			0.62		4.4											1	U	15		1.09				1.1						1									
BRSW-35	10/19/1999	AHD-9910-118	0.024				0.028		0.05	U			0.05	U	0.025	73										5	U	21		0.3				0.3						5	U								
BRSW-35	10/12/2000	AHD-0010-124	0.018				0.029		0.05	U			0.05	U,UJ2	0.005	88										5	U	31	J4D,J4S	0.39	J4D			0.41						5	U								
BRSW-35	4/26/2001	AHD-0104-111	0.6				0.84		0.22				2.1	J4D	0.57											3.2		54		6.4				6.2						2	U								
BRSW-35	5/22/2001	AHD-0105-126	0.061				0.093		0.05	U			0.084		2.2											2	U	12		0.42				0.41						2	U								
BRSW-35	6/26/2001	AHD-0106-114	0.046				0.082		0.05	U			0.05	U	2											2	U	12		0.33				0.34						1	U								
BRSW-35	10/17/2001	AHD-0110-144	0.019				0.043	J4S	0.02	U			0.25		0.038	92										5	U	32		0.25				0.32						5	U								
BRSW-35	5/6/2002	UBMC-0205-109	0.54		0.98				0.02	U	1.8				0.71	13										5	U	51		5.2		5.5								5	U					8.63			
BRSW-35	5/29/2002	UBMC-0205-308	0.057				0.18		0.02	U			0.17		10.37	71										5	U	10		0.41				0.45						5	U					6.61			
BRSW-35	7/10/2002	UBMC-0207-115	0.054				0.11		0.02	U			0.032		0.89	89										5	U	16		0.41				0.4						5	U					4.32			
BRSW-35	10/3/2002	UBMC-0210-110	0.043		0.084				0.02	U	0.13				0.15	78										5	U	31		0.45		0.48								5	U					6.4			
BRSW-35	4/28/2003	UBMC-0304-110	0.1				0.4		0.03	U			0.2		3.4	63										5	U	14		1.3				1.3						5	U								
BRSW-35	5/28/2003	UBMC-0305-113	0.05				0.05		0.1				0.2		14.3	92										5	U	10		0.1				0.1						5	U								
BRSW-35	6/25/2003	UBMC-062403-12	0.06				0.1		0.02	U			0.04		0.3	94										5	U	13		0.2				0.2						5	U								
BRSW-35	10/21/2003	UBMC-0310-110	0.02				0.02	J	0.02	U			0.02	U,UJ	0.02	85										5	U	31		0.2				0.2						5	U								
BRSW-35	4/28/2004	UBMC-0404-112	0.3				1.72	J	0.13				2.69		1.1											1	U	25		2.2				2.36						1	U								
BRSW-35	5/26/2004	AHD-0405-109	0.038	J			0.09	J	0.01	U			0.13		6.67											1	U	13		0.59	J			0.68	J					1									
BRSW-35	6/14/2004	UBMC-0604-111	0.06				0.1		0.01	U			0.03		1.85											1	U	13		0.29				0.32						1	U								
BRSW-35	10/12/2004	UBMC-1004-112	0.04				0.04		0.01	U,J			0.01	U,J	0.04											1	J	24	J	0.27				0.29						1	J								

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
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3 - Holding time not met. Indicates low bias.
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detected above the associated value.
Subscripts for the "UJ" qualifier:
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and/or false positive.
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deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-6. LOWER MIKE HORSE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	O_DIS	PB_DIS	PB_TOT	PB_TRC	PH	PH_FLD	SALINITY	SB_DIS	SB_TOT	SC	SC_FLD	SE_DIS	SE_TOT	SIO2	SIO2_DIS	SO4	TDS	TSS	TURBIDITY	TURB_FLD	WATER_TEM	ZN_DIS	ZN_TOT	ZN_TRC
BRSW-22	10/26/1993	AHD-9310-907	13.3	0.003 U,J4	0.049		7.4	6.43		0.06 U	0.06 U	929	623	0.005 U	0.005 U		7.2	920 J4	694	19	42		3.5	13.247 J4	14.142 J4	
BRSW-22	5/18/1994	AHD-9405-107	9	0.002 U		0.049 J4	7.6	6.96				528	622					212	373	10			5	8.5 J4,J2		11 J4,J2
BRSW-22	10/26/1994	AHD-9410-107	9.54	0.002 U		0.868	7	7.23				1679	1578					1046	1606	106			7.7	33.53		39.2
BRSW-22	5/2/1995	AHD-9505-107	10.83	0.01		0.16	7.2	7				804	517					403	610	13 J4S,J2			4.8	28		27
BRSW-22	10/23/1995	AHD-9510-108	9.1	0.063		0.079	7.9	7.51				608	716					258	472	1 U			2.9	11		11
BRSW-22	5/22/1996	AHD-9605-107	10.44	0.007		0.041 J4S	7.5	7.32				614	615					413 J4S	448	2.8 J4S			5.3	11		12
BRSW-22	10/21/1996	AHD-9610-107	10.3	0.003 U		0.055	7.2	6.8				2430	2480					1614	2484	5.5			2.8	73		67
BRSW-22	2/26/1997	AHD-9702-114	10.79	0.09		0.14	7.2	6.63				861	902					430	672	10 U			0.9	13.3		12
BRSW-22	5/27/1997	AHD-9705-159	10.18	0.018		0.043	7.7	7				194	160					32	106	2.1			6.6	2.1		2
BRSW-22	10/22/1997	AHD-9710-109	11.32	0.033		0.037	7.4	7.45				824	782					385	651	1.7			3.4	14		14
BRSW-22	5/5/1998	AHD-9805-109	9.56	0.023		0.036	7.6	7.85				283	247					80	180	1 U			8.3	3.3		3.3
BRSW-22	10/22/1998	AHD-9810-109	10.67	0.016		0.017	7.8	6.55				422	421					144	279	1 U			4.4	4		4
BRSW-22	4/29/1999	AHD-9904-129	10.86	0.048		0.123	6.4	6.67				596	552					288	461	19			3.1	19.6		19.8
BRSW-22	5/21/1999	AHD-9905-101	10.45	0.011		0.214	7.1	6.44				291	280					105	182	25				6.21		5.68
BRSW-22	10/19/1999	AHD-9910-108	10.49	0.012		0.015	7.2	8.31				420	418					114	279	1 U			5	3.6		3.6
BRSW-22	10/12/2000	AHD-0010-125	10.5	0.013		0.016 UJ1	7.8	6.94					745					373	732	1 U			2.1	5.8 J4D,J4S		6.3
BRSW-22	4/26/2001	AHD-0104-104	11.11	0.027		0.14	7.3	6.75					780					520	720	15			4.1	20		20
BRSW-22	5/22/2001	AHD-0105-130	9.51	0.012		0.026	7.7	7.3					231					56	131	1.2			10.1	2.2		2.3
BRSW-22	5/23/2001	AHD-0105-133	10.42	0.011		0.024 J4S	7.7	6.83					234					47	125	1 U			5.7	2.1 J4S		2.2
BRSW-22	6/26/2001	AHD-0106-105	8.52	0.015		0.036	7.3	8.04					282					78	191	4.8			10.7	2.8		3
BRSW-22	10/17/2001	AHD-0110-146	10.78	0.011		0.012	7.5	7.96					564					243	451	1.2			5	5.3		5.4
BRSW-22	5/6/2002	UBMC-0205-110		0.018	0.074		6.2	6.83					649					331	565	8.6			3.7	19	19	
BRSW-22	5/29/2002	UBMC-0205-309		0.008		0.043	6.4	7.3					230					55	117	6			8	2.8		3.2
BRSW-22	7/11/2002	UBMC-0207-119		0.016		0.045	7.1	7.15					275					89	228	6			16.8	2.6		2.8
BRSW-22	10/3/2002	UBMC-0210-111		0.016	0.029		7.2	7.86					524					241	451	3.3			4.9	5.1	5.6	
BRSW-22	4/28/2003	UBMC-0304-111	10.4	0.006		0.08	6.4	6.04					312					149	226	13			3.5	6.9		7.6
BRSW-22	5/19/2003	UBMC-0305-114	8.8	0.01		0.05	7.2	6.8					163					32	167	3.7			9.1	1.7		1.8
BRSW-22	6/25/2003	UBMC-062403-13	9.4	0.01		0.02	8	7.7					241					56	151	1 U			12.5	1.7		1.8
BRSW-22	10/21/2003	UBMC-0310-111	11.3	0.009		0.01	7.9	7.8	0.2				636					149	441	1.7 J		1	9.8	3.8		3.8
BRSW-22	4/28/2004	UBMC-0404-118	8.47	0.005		0.037	7	6.45					291					110	229 UJ	10 U			2.1	5.07		5.8
BRSW-22	5/26/2004	AHD-0405-110	10.57	0.018 J		0.036 J	7.7	7.62					309					87	202	10 U			7.1	2.95 J		3.6 J
BRSW-22	6/14/2004	UBMC-0604-118	8.65	0.009		0.018	7.4	6.66					362					52	182 UJ	10 U			11.3	1.81		2.02
BRSW-22	10/12/2004	UBMC-1004-113	5.49	0.011		0.011	7.9	7.01					676					81 J	316 J	10 U			6.9	2.88		3.2
BRSW-35	10/22/1998	AHD-9810-141	10.12	0.046		0.057	7.5	7.45				440	432					152	297	1 U			6.7	4.1		4
BRSW-35	4/29/1999	AHD-9904-128	10.87	0.075		0.192	6.3	6.11				756	692					401	626	15			2.9	19.7		20.8
BRSW-35	5/21/1999	AHD-9905-100	9.53	0.01		0.127	7.3	6.42				271	273					83	164	10			8.1	3.53		3.43
BRSW-35	10/19/1999	AHD-9910-118	10	0.048		0.056	7.2	8.09				435	429					156	302	1 U			5.9	3.8		3.8
BRSW-35	10/12/2000	AHD-0010-124	11.12	0.019		0.029	7.7	6.52					667					386	649	1 U			0.5	5.1 J4D,J4S		5.1
BRSW-35	4/26/2001	AHD-0104-111	11.29	0.12		0.42	6.5	6.1					891					620	853	25			3.1	29		29
BRSW-35	5/22/2001	AHD-0105-126	8.8	0.019		0.04	7.8	6.8					203					48	147	1 U			11	1.3		1.3
BRSW-35	6/26/2001	AHD-0106-114	8.67	0.018		0.034	7.4	8.1					228					43	151	1 U			11.7	1.2		1.3
BRSW-35	10/17/2001	AHD-0110-144	10.95	0.026		0.07	7.6	7.73					572					284	459	2.4			3.7	5.2		5.7
BRSW-35	5/6/2002	UBMC-0205-109		0.02	0.17		6	6.42					815					439	707	14			12.4	20	20	
BRSW-35	5/29/2002	UBMC-0205-308		0.008		0.043	6.6	6.75					183					28	94	4.7			9.3	1.2		1.4
BRSW-35	7/10/2002	UBMC-0207-115		0.036		0.055	6.6	7.67					236					74	178	2.8			18.1	1.4		1.5
BRSW-35	10/3/2002	UBMC-0210-110		0.029	0.046		7	7.68					536					264	470	2.8			5	5.2	5.5	
BRSW-35	4/28/2003	UBMC-0304-110	11	0.01		0.05	6.6	5.7					219					93	180	7.1			4.1	2.9		3.3
BRSW-35	5/28/2003	UBMC-0305-113	8.3	0.04		0.04	7.4	6.6					157					12	154	1 U			10.6	0.4		0.4
BRSW-35	6/25/2003	UBMC-062403-12	10	0.03		0.05	8	7.4					215					44	138	1 U			13.4	1.1		1.1
BRSW-35	10/21/2003	UBMC-0310-110	8.01	0.02		0.03	7.9	7.7	0.2				637					141	437	1 U,UJ		4	11.6	3.9		3.8
BRSW-35	4/28/2004	UBMC-0404-112	8.66	0.033		0.448	7.1	6.73					405					200	304	34			1.2	8.34		10.97
BRSW-35	5/26/2004	AHD-0405-109	10.89	0.01 J		0.035 J	7.7	7.83					244					44	157	10 U			7.3	1.31 J		1.86 J
BRSW-35	6/14/2004	UBMC-0604-111	8.51	0.025		0.038	7.9	7.26					277					34	131 UJ	10 U			10.6	0.99		1.07
BRSW-35	10/12/2004	UBMC-1004-112	6.03	0.021		0.024	7.7	7.17					697					168 J	338 J	10 U			9.9	3.15		3.46

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-7. LOWER MIKE HORSE GROUNDWATER SAMPLES

Site	Date	Depth to Water Level (ft)	Alk as $CaCO_3$	Al (dis)	As (dis)	Ca (dis)	Cd (dis)	Cu (dis)	Fe (dis)	K (dis)	Mg (dis)	Mn (dis)	Na (dis)	Pb (dis)	pH (s.u.)	SC (µmhos/cm)	SO_4	TDS	TSS	Zn (dis)
MHMW8	06/21/94	10.86	80	<0.05	NA	94	0.002	0.053	<0.03	6.6	29	0.22	5.8	<0.002	7.7	633	229	404	485	0.76
MHMW8	11/03/94	10.47	64	<0.05	<0.002	127	0.166	0.032	<0.03	2.2	47	1.18	8.8	<0.002	7.5	986	503	774	389	36.95
MHMW8	05/06/95	8.96	58	<0.05	<0.002	96	0.12	0.029	<0.03	2	35	0.22	5.9	<0.003	7.3	724	302	486	25	29
MHMW8	10/27/95	11.18	63	<0.05	<0.002	129	0.19	0.023	0.033	2.2	49	0.82	7	<0.003	6.7	970	489	844	2359	42
MHMW8	05/24/96	8.25	33	<0.05	<0.002	129	0.24	0.054	<0.03	3.1	55	1.4	7.3	<0.003	6.6	1224	651	1028	812	53
MHMW8	10/23/96	11.11	42	<0.05	<0.002	91	0.17	0.079	<0.03	2.9	39	0.76	6.5	<0.003	6.2	847	376	687	826	34
MHMW8	05/29/97	9.13	12	0.072	<0.002	91	0.2	0.14	<0.03	2.8	42	1.9	7.8	<0.003	6.3	806	419	703	4.8	50
MHMW8	10/24/97	11.12	12	0.13	<0.002	60	0.18	0.16	<0.05	<2	28	1.6	8.7	<0.003	5.8	654	337	532	<1	33
MHMW8	05/07/98	9.84	10	0.12	<0.002	86	0.23	0.23	<0.03	<5	39	1.6	20	<0.003	6	870	398	729	<1	41
MHMW8	10/19/98	11.14	11	0.11	<0.002	62	0.16	0.17	<0.03	<5	28	1.3	6	<0.003	5.5	635	313	505	<1	28
MHMW8	05/25/01	10.11	14	0.096	<0.005	124	0.22	0.16	<0.05	3.3	50	0.98	7.6	<0.003	5.7	NA	862	1198	28	46
MHMW8	10/11/01	11.22	13	0.13	<0.005	120	0.24	0.19	<0.02	<5	50	1	8.8	<0.003	5.8	NA	605	966	99	46
	Average	**10.28**	**34**	**0.08**	**NA**	**101**	**0.177**	**0.11**	**0.033**	**3.5**	**41**	**1.08**	**8.4**	**NA**	**6.4**	**835**	**457**	**738**	**419**	**36.64**
	Median	**10.67**	**24**	**0.06**	**NA**	**95**	**0.185**	**0.110**	**<0.03**	**3**	**40.5**	**1.09**	**7.5**	**NA**	**6.3**	**827**	**408.5**	**716**	**64**	**38.98**
	Minimum	**8.25**	**10**	**<0.05**	**<0.002**	**60**	**0.002**	**0.023**	**<0.02**	**<2**	**28**	**0.22**	**5.8**	**<0.002**	**5.5**	**633**	**229**	**404**	**1**	**0.76**
	Maximum	**11.22**	**80**	**0.13**	**<0.005**	**129**	**0.24**	**0.23**	**0.033**	**6.6**	**55**	**1.9**	**20**	**<0.003**	**7.7**	**1224**	**862**	**1198**	**2359**	**53**
MIGW-1*	05/25/01	8.71	70	0.13	<0.005	21	<0.0002	<0.001	0.13	<2	7.3	0.055	<2	<0.003	7.7	NA	18	128	441	0.024
MIGW-1*	10/11/01	10.96	83	<0.05	<0.005	24	<0.0002	<0.001	0.049	<5	8	1.9	<5	<0.003	7.7	NA	23	90	285	0.012

NOTES: All results in mg/L except as indicated.

TABLE B-8. LOWER MIKE HORSE AREA STREAM SEDIMENT SAMPLES

Sample Designation	Sampled By	Parameter (mg/kg)					
		As	Cd	Cu	Pb	Mn	Zn
BMHD50H	MBMG	161.7	51.5	3297	28855.2		10534.8
BRSD-23	Hydrometrics	48	63	2020	2340	29000	14000
T215.0	Menges	170	21	1520	9600	3840	6960
T215.0	Moore	180	310	11570	3095	8296	149448

BEARTRAP CREEK DATA

TABLE B-9. BEARTRAP CREEK DRAINAGE 2000 DISPERSED TAILINGS SAMPLES (SHALLOW)

Site	Sample #	Conductivity	Moisture Content	Neutraliza-tion Potential	Acid Potential	Acid Base Potential	Lime as Ca CO3	Single Buffer SMP Lime Requirement	Sulfur. Hydro-chloric Acid Extraction	Sulfur. Nitric Acid Extraction	Sulfur, Water Extraction	Sulfur. Total	Sulfur. Residual	Sulfur, Non-Sulfate	pH	Total Aluminum	Total Arsenic	Total Cadmium	Total Copper	Total Iron	Total Lead	Total Manganese	Total Zinc
BTC-1	BTCS-0009-100	7.54	9.0	97	290	-193	9.7	<0.1	0.71	7.95	0.06	9.35	0.63	9.29	5.9	5020	228	18	776	72000	1280	3850	2350
BTC-2	BTCS-0009-101	3.97	7.8	53	176	-123	5.3	<0.1	0.11	4.99	<0.01	5.63	0.53	5.63	6.2	6910	131	17	487	53200	1180	2270	2250
BTC-3	BTCS-0009-102	3.08	5.8	76	231	-154	7.6	<0.1	0.57	6.05	<0.01	7.38	0.76	7.38	6.7	6430	157	22	533	61000	1350	3410	2890
BTC-4	BTCS-0009-103	4.32	9.9	103	341	-238	10.3	<0.1	0.30	9.35	0.60	11.5	1.25	10.9	6.2	5600	228	23	793	74400	2370	3980	2870
BTC-5	BTCS-0009-105	4.38	15.3	96	269	-173	9.6	<0.1	0.52	7.31	0.12	8.72	0.77	8.60	6.2	6840	180	15	499	61300	956	3850	1900
BTC-6	BTCS-0009-106	3.04	11.9	116	344	-228	11.6	<0.1	1.09	9.27	<0.01	11.0	0.64	11.0	6.5	5570	242	24	713	73800	1810	4860	3070
FL-1	FLS-0009-100	1.72	8.1	121	34	+87	12.1	<0.1	<0.01	1.00	0.17	1.25	0.08	1.08	7.5	5920	63	3	134	35500	310	1710	447
FL-2	FLS-0009-101	2.64	10.5	<1	28	-28	<0.1	5.4	0.20	0.44	0.55	1.44	0.25	0.89	3.3	3160	173	4	142	37400	6510	519	945

BEARTRAP CREEK DRAINAGE 2001 CONCENTRATED TAILINGS SAMPLES

Site	Sample Number	Depth Interval	pH	As	Cd	Cu	Pb	Mn	Zn	Fe	Acid/Base Accounting											Texture	
											Acid Base Potential	Acid Potential	Neut. Potential	Lime	Lime Req.	Total	Non-Sulfate	Residual	HCl Extract.	NO3 Extract. Sulfur	Hot H2O Extract. Sulfur	Clay/Silt/ Sand	Texture
		(inches)	S.U.	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(%)	(TCaCO3/1000 T)			%	CaCO3/1000	%	%	%	%	%	%	%	
BTC - CT1	BTCS - 0108 - 200	0 - 8	2.0	325	<10	546	1,762	527	1,131	11	-211	211	<1	<0.1	31.5	9.01	6.76	0.58	<0.01	6.34	2.25	7/26/1967	SL
BTC - CT2	BTCS - 0108 - 201	0 - 12	2.3	411	10	951	1,979	999	3,125	14	-372	372	<1	<0.1	15	13.4	11.9	1.19	0.6	10.1	1.5	10/17/1973	SL
BTC - CT4	BTCS - 0108 - 202	0 - 16	2.3	369	10	697	1,746	1,584	1,798	12	-378	378	<1	<0.1	16.4	12.9	12.1	1.01	1.2	9.89	0.8	9/28/1963	SL
BTC - CT6	BTCS - 0108 - 203	NA	2.0	295	12	792	1,992	963	1,677	11	-263	263	<1	27.2	16.4	10.8	8.4	0.67	0.78	6.95	2.4	8/21/1971	SL

BEARTRAP CREEK DRAINAGE 2001 DISPERSED TAILINGS AND NATIVE SEDIMENT SAMPLES*

Site	Sample Number	Depth Interval	pH	As	Cd	Cu	Pb	Mn	Zn	Fe	Acid/Base Accounting											Texture	
											Acid Base Potential	Acid Potential	Neut. Potential	Lime	Lime Req.	Total	Non-Sulfate	Residual	HCl Extract.	NO3 Extract. Sulfur	Hot H2O Extract. Sulfur	Clay/Silt/ Sand	Texture
		(inches)	S.U.	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(%)	(TCaCO3/1000 T)			%	CaCO3/1000	%	%	%	%	%	%	%	
BTC-2001TP-1	BTCS - 0108 - 100	8 - 20	6.6	241	39	925	2,268	6,284	6,246	9	-115	188	73	7.3	<0.1	6.85	6	0.72	0.12	5.16	0.85	6/9/1985	LS
BTC-2001TP-2	BTCS - 0108 - 102	43 - 55	6.9	174	25	676	4,205	6,109	5,485	7	-35	76	42	4.2	<0.1	2.59	2.44	0.33	0.02	2.09	0.15	7/11/1982	LS
BTC-2001TP-2	BTCS - 0108 - 103	55 - 68	7.2	54	21	545	4,144	3,696	4,699	5													
BTC-2001TP-3	BTCS - 0108 - 104	18 - 30	6.6	181	20	1,153	7,589	5,144	6,336	6	-19	68	49	4.9	<0.1	2.46	2.17	0.18	0.04	1.95	0.29	6/14/1980	LS
BTC-2001TP-4	BTCS - 0108 - 106	48 - 60	6.9	242	29	911	5,670	5,933	7,403	7	-85	128	43	4.3	<0.1	4.1	4.1	0.44	0.26	3.4	<0.01	6/10/1984	LS
BTC-2001TP-4	BTCS - 0108 - 108	60 - 78	6.4	40	16	280	393	2,663	3,492	4													
BTC-2001TP-5	BTCS - 0108 - 109	24 - 36	6.2	49	<10	216	259	2,833	1,623	4	-4	10	6	0.6	<0.1	0.31	0.31	0.01	0.08	0.22	<0.01	9/15/1976	SL
BTC-2001TP-6	BTCS - 0108 - 110	24 - 36	7.1	214	24	792	1,111	7,860	3,822	9	-122	203	82	8.2	<0.1	6.51	6.51	0.49	0.88	5.14	<0.01	4/10/1986	LS
BTC-2001TP-7	BTCS - 0108 - 111	28 - 40	6	209	27	1,004	2,145	8,565	4,198	7	-81	123	42	4.2	<0.1	4.9	3.95	0.29	0.03	3.63	0.95	9/14/1977	SL
BTC-2001TP-8	BTCS - 0108 - 112	0 - 14	5.2	238	18	501	718	777	2,687	10	-35	38	3	0.3	<0.1	1.41	1.2	0.09	0.03	1.08	0.21	12/13/1975	SL
BTC-2001TP-9	BTCS - 0108 - 113	30 - 42	7.1	232	26	901	1,303	7,970	4,055	9	-141	212	70	7	<0.1	6.77	6.77	0.57	0.74	5.46	<0.01	6/10/1984	LS
BTC-2001TP-10	BTCS - 0108 - 114	18 - 30	4.2	38	<10	65	101	1,146	387	5													

NOTES: *Shaded entries under dispersed tailings deposits denote mine waste samples; other entries are underlying native material samples.

TABLE B-10. BEARTRAP CREEK DRAINAGE SURFACE WATER SAMPLES

SITE CODE	SAMP DATE	SAMP #	ACIDCACO		AG_DIS		AG_TOT		ALKCACO3		AL_DIS		AL_TOT		AL_TRC		AS_DIS		AS_TOT		AS_TRC		BA_DIS		BA_TOT		CADIS		CATOT		CD_DIS		CD_TOT		CD_TRC		CL		CO3CACO3		CO3CO3
BRSW-23	10/26/1993	AHD-9310-920			0.0002	U	0.0002	UJ1,J4	82		0.1	U	0.1	U,J4			0.003	U	0.003	U,J4			0.2	U	0.2	U			39		0.0049	J4	0.006				2	U	1	U	
BRSW-23	5/18/1994	AHD-9405-108	1	U					70		0.1				0.23												35				0.006	J2			0.007	J2			0.1	U	
BRSW-23	10/26/1994	AHD-9410-108	5	U					68		0.05	U			0.957		0.002	U,UJ4D			0.008						91				0.036	J2			0.042	J2					
BRSW-23	5/1/1995	AHD-9505-108	20						58		0.05	U			0.42		0.002	U			0.002	U					47				0.035				0.033						1
BRSW-23	10/23/1995	AHD-9510-107							90		0.05	U			0.05		0.002	U			0.002	U					39				0.005	J4S			0.005	J4S					1
BRSW-23	5/22/1996	AHD-9605-108							63		0.05	U			0.18	J4S	0.002	U			0.002	U					25				0.008				0.007						1
BRSW-23	10/21/1996	AHD-9610-108							84		0.05	U			0.05	U	0.002	U			0.002	U					94				0.041				0.037						1
BRSW-23	2/26/1997	AHD-9702-115	0						111		0.1	U			0.1	U	0.005	U			0.005	U					41				0.004				0.004						
BRSW-23	5/27/1997	AHD-9705-160							66		0.05	U			0.095		0.002	U			0.002	U					19				0.004				0.004						1
BRSW-23	10/20/1997	AHD-9710-110							94		0.05	U			0.05	U	0.002	U			0.002	U					39				0.013				0.013						1
BRSW-23	5/5/1998	AHD-9805-110							65		0.05	U			0.12		0.002	U			0.002	U					36				0.012				0.01						1
BRSW-23	10/22/1998	AHD-9810-110							97		0.05	U			0.05	U	0.002	U			0.002	U					33				0.003				0.003						1
BRSW-23	4/29/1999	AHD-9904-123	0						41		0.05	U			1.88	J4S	0.002	U			0.002	U					54				0.0497				0.0504						
BRSW-23	5/28/1999	AHD-9905-125							67		0.05	U			0.2		0.002	U			0.002	U					20				0.0045				0.0052						
BRSW-23	10/19/1999	AHD-9910-109							95		0.05	U			0.05	U	0.002	U			0.002	U					31				0.002				0.002						1
BRSW-23	10/11/2000	AHD-0010-120							97		0.05	U			0.05	U	0.005	U			0.005	U					41				0.004				0.004						1
BRSW-23	10/12/2000	AHD-0010-131							94		0.05	U			0.05	U	0.005	U			0.005	U,UJ2					42	J4D,J4S			0.004	UJ1			0.004						1
BRSW-23	4/25/2001	AHD-0104-105							56		0.075				2.1		0.005	U			0.005	U					69				0.067				0.067						
BRSW-23	5/22/2001	AHD-0105-122							60		0.053				0.17		0.005	U			0.005	U					23				0.007				0.007						
BRSW-23	6/26/2001	AHD-0106-106							78		0.05	U			0.12		0.005	U			0.005	U					23				0.006				0.0066						
BRSW-23	10/4/2001	AHD-0110-202																																							
BRSW-23	10/17/2001	AHD-0110-141							93		0.05	U			0.05	U	0.005	U			0.005	U					36				0.0032				0.0031						1
BRSW-23	5/6/2002	UBMC-0205-106							47		0.05	U	1				0.005	U	0.005	U							53				0.04		0.039								1
BRSW-23	5/29/2002	UBMC-0205-300							58		0.05	U			0.34		0.005	U			0.005	U					20				0.0079				0.0079						1
BRSW-23	7/10/2002	UBMC-0207-109							78		0.05	U			0.11		0.005	U			0.005	U					28				0.006				0.006						1
BRSW-23	10/3/2002	UBMC-0210-107							93		0.05	U	0.05	U			0.005	U	0.005	U							37				0.005		0.005								1
BRSW-23	4/28/2003	UBMC-0304-107							52		0.05	U			0.7		0.005	U			0.005	U					24				0.02				0.02						2
BRSW-23	5/19/2003	UBMC-0305-110							72		0.05	U			0.2		0.005	U			0.005	U					18				0.003				0.004						2
BRSW-23	6/25/2003	UBMC-062403-9							78		0.05	U			0.1		0.005	U			0.005	U					23				0.003				0.004						2
BRSW-23	10/21/2003	UBMC-0310-107							94		0.05	U,UJ			0.1		0.005	U			0.005	U					33				0.002				0.004						2
BRSW-23	4/28/2004	UBMC-0404-109							55	UJ	0.05	U			1.52		0.005	U			0.005	U					35				0.0192				0.0195						
BRSW-23	5/26/2004	AHD-0405-106							75		0.07	J			0.27	J	0.005	U,J			0.005	U,J					25	J			0.0069	J			0.0074	J					
BRSW-23	6/14/2004	UBMC-0604-108							84	UJ	0.05	U			0.16	J	0.005	U			0.005	U					23				0.0047				0.0044						
BRSW-23	10/12/2004	UBMC-1004-109							95	J	0.05	U			0.05	U	0.005	U			0.005	U					31	J			0.0018				0.0019	J					

TABLE B-10. BEARTRAP CREEK DRAINAGE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #		CO_DIS		CO_TOT		CR_DIS		CR_TOT		CU_DIS		CU_TOT		CU_TRC		FE_DIS		FE_TOT		FE_TRC		FLOW		FLOW_CFS	HCO3		HCO3CACO		HG_TOT		HRDCACO3		KDIS		KTOT		MGDIS		MGTOT	
BRSW-23	10/26/1993	AHD-9310-920		0.05	U,J4	0.05	U	0.01	U	0.01	U	0.01	U,J4	0.017	J4			0.1	U,J4	1.095						1.76			82		0.0002	U	209				5	U			27	
BRSW-23	5/18/1994	AHD-9405-108										0.017				0.088		0.063	J4			0.49				5.98			70						2.7				22			
BRSW-23	10/26/1994	AHD-9410-108										0.007	J2			0.209	J2	0.11	UJ1			8.434				0.36									2.2				62			
BRSW-23	5/1/1995	AHD-9505-108	U									0.067				0.21		0.03	U,UJ4S			0.53				1.49	58								2	U			30			
BRSW-23	10/23/1995	AHD-9510-107	U									0.005	U			0.013		0.03	U			0.31	J2			0.21	90								2	U,UJ4D			25			
BRSW-23	5/22/1996	AHD-9605-108	U									0.031				0.054	J4S	0.05	U			0.27				9.35	63								3	UJ1,J4S,J2			17			
BRSW-23	10/21/1996	AHD-9610-108	U									0.022				0.042		0.03	U			0.18				0.359	84								2	U			61			
BRSW-23	2/26/1997	AHD-9702-115										0.01	U			0.01	U	0.03	U			0.05				0.17									1				24			
BRSW-23	5/27/1997	AHD-9705-160	U									0.029				0.044		0.03	U			0.05				12.12	81								3				11			
BRSW-23	10/20/1997	AHD-9710-110	U									0.008				0.011		0.05	U			0.05	U			0.388	94								2	U			23			
BRSW-23	5/5/1998	AHD-9805-110	U									0.025				0.047		0.03	U			0.15				1.59	79								2	U			21			
BRSW-23	10/22/1998	AHD-9810-110	U									0.005				0.006		0.05	U			0.09				0.305	118								5	U			20			
BRSW-23	4/29/1999	AHD-9904-123										0.392				0.778		0.01	U			0.54	J4S			1.8									1				37			
BRSW-23	5/28/1999	AHD-9905-125										0.037				0.079		0.01	U			0.14				14.2									1	U			11			
BRSW-23	10/19/1999	AHD-9910-109	U									0.005	U			0.005	U	0.05	U			0.05	U			0.25	95								5	U			19			
BRSW-23	10/11/2000	AHD-0010-120	U									0.004				0.005		0.05	U			0.05	U			0.29	118								5	U			21			
BRSW-23	10/12/2000	AHD-0010-131	U									0.004	UJ1			0.007		0.05	U			0.05	U,UJ2			0.26	115								5	U			22	J4D,J4S		
BRSW-23	4/25/2001	AHD-0104-105										0.067				0.35		0.2				2				0.74									2	U			38			
BRSW-23	5/22/2001	AHD-0105-122										0.043				0.072		0.05	U			0.074				4.2									2	U			14			
BRSW-23	6/26/2001	AHD-0106-106										0.033				0.053		0.05	U			0.05	U			3.6									2	U			14			
BRSW-23	10/4/2001	AHD-0110-202																								0.29																
BRSW-23	10/17/2001	AHD-0110-141	U									0.003				0.004	J4S	0.02	U			0.045				0.23	113								5	U			21			
BRSW-23	5/6/2002	UBMC-0205-106	U									0.088		0.3				0.02	U	0.66						1.85	57								5	U			34			
BRSW-23	5/29/2002	UBMC-0205-300	U									0.06				0.15		0.02	U			0.16				10.02	71								5	U			12			
BRSW-23	7/10/2002	UBMC-0207-109	U									0.033				0.045		0.02	U			0.046				2.58	95								5	U			17			
BRSW-23	10/3/2002	UBMC-0210-107	U									0.008		0.015				0.02	U	0.084						0.25	113								5	U			20			
BRSW-23	4/28/2003	UBMC-0304-107	U									0.09				0.3		0.03	U			0.3				5.3	63								5	U			15			
BRSW-23	5/19/2003	UBMC-0305-110	U									0.03				0.09		0.02	U			0.6				16.6	88								5	U			10			
BRSW-23	6/25/2003	UBMC-062403-9	U									0.02				0.05		0.02	U			0.3				3	95								5	U			14			
BRSW-23	10/21/2003	UBMC-0310-107	U									0.003				0.08		0.02	U			1.5				0.3	115								5	U			19			
BRSW-23	4/28/2004	UBMC-0404-109										0.09				0.6		0.01	U,J			1.04	J			2.75									1	U			22			
BRSW-23	5/26/2004	AHD-0405-106										0.03	J			0.069	J	0.01				0.18				7.85									1	U			15			
BRSW-23	6/14/2004	UBMC-0604-108										0.03				0.05		0.01	U			0.21	J			3.72									1	U			14			
BRSW-23	10/12/2004	UBMC-1004-109										0.01	U			0.01	U	0.01	J			0.06	J			0.22									1	U,J			18	J		

TABLE B-10. BEARTRAP CREEK DRAINAGE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	MN_DIS		MN_TOT		MN_TRC		MO_DIS		MO_TOT		NADIS		NATOT		NI_DIS		NI_TOT		O		O_DIS		PB_DIS		PB_TOT		PB_TRC		PH	
BRSW-23	10/26/1993	AHD-9310-920	1.803		1.93				0.05	U	0.05	U			5	U	0.04	U,J4	0.04	U			10.4		0.003	U,J4	0.012				7.6	
BRSW-23	5/18/1994	AHD-9405-108	0.74	J4			0.84						1.3										8		0.002	U			0.016	J4	8	
BRSW-23	10/26/1994	AHD-9410-108	6.818	J4S,J2			6.745	J2					2	U									8.59		0.002	U			0.369		7.4	
BRSW-23	5/1/1995	AHD-9505-108	1.9				2						2	U									9.15		0.009				0.068		7.7	
BRSW-23	10/23/1995	AHD-9510-107	0.9				0.87						2	U									8.62		0.006				0.024		8	
BRSW-23	5/22/1996	AHD-9605-108	1.5				1.7						1	U									9.83		0.006				0.027	J4S	7.9	
BRSW-23	10/21/1996	AHD-9610-108	10				9.9						2	U									9.6		0.006				0.021		7.4	
BRSW-23	2/26/1997	AHD-9702-115	0.4				0.4						2										9.34		0.01				0.01		7.7	
BRSW-23	5/27/1997	AHD-9705-160	0.19				0.2						2	U									9.85		0.008				0.017		7.7	
BRSW-23	10/20/1997	AHD-9710-110	1.3				1.4						2	U									9.18		0.004				0.008		7.9	
BRSW-23	5/5/1998	AHD-9805-110	0.56				0.6						2	U									10.53		0.01				0.032		7.5	
BRSW-23	10/22/1998	AHD-9810-110	0.64				0.61						5	U									9.02		0.003	U			0.007		7.5	
BRSW-23	4/29/1999	AHD-9904-123	3.93	J2			3.91	J2					1										10.06		0.007				0.079		6.8	
BRSW-23	5/28/1999	AHD-9905-125	0.289				0.323						1	U									9.15		0.006				0.03		7.6	
BRSW-23	10/19/1999	AHD-9910-109	0.59				0.57						5	U									9.21		0.003	U			0.005		7.8	
BRSW-23	10/11/2000	AHD-0010-120	0.4				0.36						5	U									8.5		0.003	U			0.004		8.1	
BRSW-23	10/12/2000	AHD-0010-131	0.43	J4D			0.4						5	U									8.46		0.003	U			0.006	UJ1	8	
BRSW-23	4/25/2001	AHD-0104-105	3.9				3.9						2	U									9.47		0.006	J4D			0.16		7.5	
BRSW-23	5/22/2001	AHD-0105-122	0.6				0.62						2	U									8.75		0.014				0.028		7.8	
BRSW-23	6/26/2001	AHD-0106-106	0.45				0.46						1.3										8.71		0.011				0.022		7.3	
BRSW-23	10/4/2001	AHD-0110-202																					9.42									
BRSW-23	10/17/2001	AHD-0110-141	0.52				0.52						5	U									9.69		0.003	U			0.006		7.8	
BRSW-23	5/6/2002	UBMC-0205-106	2.9		3								5	U							8.14				0.003	U	0.058				6.6	
BRSW-23	5/29/2002	UBMC-0205-300	0.58				0.62						5	U							6.3				0.009				0.032		6.9	
BRSW-23	7/10/2002	UBMC-0207-109	0.64				0.63						5	U							4.94				0.011				0.021		7.6	
BRSW-23	10/3/2002	UBMC-0210-107	0.87		0.91								5	U							5.51				0.003	U	0.01				7.3	
BRSW-23	4/28/2003	UBMC-0304-107	1.4				1.4						5	U									12		0.005				0.04		6.5	
BRSW-23	5/19/2003	UBMC-0305-110	0.2				0.4						5	U									8.5		0.007				0.1		7.5	
BRSW-23	6/25/2003	UBMC-062403-9	0.4				0.7						5	U									9.9		0.009				0.02		8	
BRSW-23	10/21/2003	UBMC-0310-107	0.6				1.1						5	U									10.6		0.003	U			0.1		7.8	
BRSW-23	4/28/2004	UBMC-0404-109	1.56				1.59						1	U									8.85		0.006				0.146		7.1	
BRSW-23	5/26/2004	AHD-0405-106	0.73	J			0.7	J					1										10.08		0.007	J			0.026	J	7.7	
BRSW-23	6/14/2004	UBMC-0604-108	0.59				0.6						1	U									8.56		0.013				0.03		7.9	
BRSW-23	10/12/2004	UBMC-1004-109	0.45				0.52						1	J									6.51		0.003	U			0.004		8	

TABLE B-10. BEARTRAP CREEK DRAINAGE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	PH_FLD		SALINITY		SB_DIS		SB_TOT		SC		SC_FLD		SE_DIS		SE_TOT		SIO2_DIS		SO4		TDS		TSS		TURBIDITY		TURB_FLD		WATER_TEM		ZN_DIS		ZN_TOT		ZN_TRC	
BRSW-23	10/26/1993	AHD-9310-920	6.57				0.06	U	0.06	U	432		295		0.005	U	0.005	U	6		127	J4	270		2.6		9				7.3		1.898	J4	2.632	J4		
BRSW-23	5/18/1994	AHD-9405-108	7.12								272		306								61		170		1.6						6.4		1.6	J4,J2			2.1	J4,J2
BRSW-23	10/26/1994	AHD-9410-108	7.49								900		797								462		728		62						10.5		13.6				16.5	
BRSW-23	5/1/1995	AHD-9505-108	7.31								474		402								169		332		4.7	J4S,J2					7.6		7.7				7.7	
BRSW-23	10/23/1995	AHD-9510-107	7.62								353		376								91		236		1	U					6.7		1.4				1.3	
BRSW-23	5/22/1996	AHD-9605-108	7.85								304		299								103	J4S	199		2	U,UJ4S					7.3		2.7				3	
BRSW-23	10/21/1996	AHD-9610-108	6.8								918		915								435		723		1.2						6.2		17				17	
BRSW-23	2/26/1997	AHD-9702-115	5.44								375		377								97		235		10	U					5.6		1.29				1.33	
BRSW-23	5/27/1997	AHD-9705-160	7.2								187		148								22		134		1	U					7.5		0.69				0.66	
BRSW-23	10/20/1997	AHD-9710-110	7.94								396		356								118		278		1	U					9.4		2				2	
BRSW-23	5/5/1998	AHD-9805-110	8.63								380		381								123		237		1	U					7.2		2.1				2.2	
BRSW-23	10/22/1998	AHD-9810-110	7.24								329		320								71		198		1	U					10.3		0.57				0.59	
BRSW-23	4/29/1999	AHD-9904-123	6.9								557		547								249		406		10						3.2		9.07				8	
BRSW-23	5/28/1999	AHD-9905-125	7.83								189		176								29		112		10	U					8.3		0.77				0.85	
BRSW-23	10/19/1999	AHD-9910-109	8.24								314		299								57		201		1	U					9.6		0.58				0.56	
BRSW-23	10/11/2000	AHD-0010-120	7.46										417								110		238		1	U					7		1				1.1	
BRSW-23	10/12/2000	AHD-0010-131	7.46										360								105		340		1	U					5.8		1.1	J4D,J4S			0.92	
BRSW-23	4/25/2001	AHD-0104-105	6.79										685								357		514		19						6.6		11				12	
BRSW-23	5/22/2001	AHD-0105-122	7.63										247								64		162		1	U					10.1		1.2				1.2	
BRSW-23	6/26/2001	AHD-0106-106	8.03										244								53		161		1	U					10.9		0.94				0.99	
BRSW-23	10/4/2001	AHD-0110-202	6.81										420																		7.2							
BRSW-23	10/17/2001	AHD-0110-141	7.9										316								87		199		1.2						7.7		0.74				0.74	
BRSW-23	5/6/2002	UBMC-0205-106	6.4										540								240		418		5.6						6.1		7.5		7.4			
BRSW-23	5/29/2002	UBMC-0205-300	6.29										206								45		126		4.6						9.8		1.2				1.3	
BRSW-23	7/10/2002	UBMC-0207-109	7.12										242								68		177		1	U					14		0.91				0.92	
BRSW-23	10/3/2002	UBMC-0210-107	7.6										303								87		219		1	U					8.6		1		1			
BRSW-23	4/28/2003	UBMC-0304-107	6.7										240								85		178		4.7						3.8		2.4				2.7	
BRSW-23	5/19/2003	UBMC-0305-110	6.7										149								19		137		2						11.3		0.5				0.6	
BRSW-23	6/25/2003	UBMC-062403-9	7.6										248								46		128		43						11.9		0.6				0.8	
BRSW-23	10/21/2003	UBMC-0310-107	7.8		0.1								322								59		185		106				2		10.8		0.4				0.9	
BRSW-23	4/28/2004	UBMC-0404-109	6.87										387								140		260	UJ	18						2.6		3.9				4.1	
BRSW-23	5/26/2004	AHD-0405-106	7.8										272								57		163		10	U					7		1.25	J			1.34	J
BRSW-23	6/14/2004	UBMC-0604-108	7.13										324								47		150	UJ	10	U					9.8		0.86				0.76	
BRSW-23	10/12/2004	UBMC-1004-109	7.07										441								57	J	184	J	10	U					10.1		0.44				0.53	

TABLE B-10. BEARTRAP CREEK DRAINAGE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	ACIDCACO		AG_DIS		AG_TOT		ALKCACO3		AL_DIS		AL_TOT		AL_TRC		AS_DIS		AS_TOT		AS_TRC		BA_DIS		BA_TOT		CADIS		CATOT		CD_DIS		CD_TOT		CD_TRC		CL		CO3CACO3		CO3CO3
BRSW-38	4/28/1999	AHD-9904-118	0						36		0.05	U			1.82		0.002	U			0.002	U					57				0.0504				0.0508						
BRSW-38	5/28/1999	AHD-9905-124							65		0.05	U			0.24		0.002	U			0.002	U					20				0.0047				0.0055						
BRSW-38	10/19/1999	AHD-9910-121							96		0.05	U			0.05	U	0.002	U			0.002	U					31				0.003				0.003						1
BRSW-38	10/11/2000	AHD-0010-114							92		0.05	U			0.05	U	0.005	U			0.005	U					41				0.005				0.005						1
BRSW-38	4/25/2001	AHD-0104-114							46		0.098				1		0.005	U			0.005	U					72				0.045				0.045						
BRSW-38	4/25/2001	AHD-0104-133													2.7						0.007														0.065						
BRSW-38	5/22/2001	AHD-0105-116							62		0.05	U			0.15		0.005	U			0.005	U					25				0.008				0.009						
BRSW-38	6/26/2001	AHD-0106-117							74		0.05	U			0.11		0.005	U			0.005	U					25				0.0071				0.0076						
BRSW-38	6/26/2001	AHD-0106-136													0.13						0.005	U													0.0071						
BRSW-38	10/16/2001	AHD-0110-136							84		0.05	U			0.058	J4D	0.005	U			0.005	U					35				0.0046				0.0042						1
BRSW-38	10/17/2001	AHD-0110-137							89		0.05	U			0.05	U	0.005	U			0.005	U					35				0.0042				0.0053						1
BRSW-38	5/3/2002	UBMC-0205-105							39		0.05	U			0.88		0.005	U			0.005	U					60				0.0445				0.0444						1
BRSW-38	5/21/2002	UBMC-0205-207							43		0.05	U			1		0.005	U			0.005	U					27				0.02				0.022						1
BRSW-38	7/9/2002	UBMC-0207-108							74		0.05	U			0.077		0.005	U			0.005	U					28				0.006				0.006						1
BRSW-38	10/3/2002	UBMC-0210-106							88		0.057		0.05				0.005	U	0.005	U							35				0.0055		0.0054								1
BRSW-38	4/28/2003	UBMC-0304-106							50		0.05	U			0.6		0.005	U			0.005	U					26				0.02				0.02						2
BRSW-38	5/19/2003	UBMC-0305-108							70		0.05	U			0.07		0.005	U			0.005	U					18				0.003				0.003						2
BRSW-38	6/25/2003	UBMC-062403-8							76		0.05	U			0.05	U	0.005	U			0.005	U					23				0.004				0.004						2
BRSW-38	10/21/2003	UBMC-0310-106							90		0.05	U,UJ			0.05	U	0.005	U			0.005	U					32				0.004				0.004						2
BRSW-38	4/28/2004	UBMC-0404-108							54	UJ	0.06				0.53		0.005	U			0.005	U					28				0.0113				0.0113						
BRSW-38	5/26/2004	AHD-0405-105							71		0.07	J			0.27	J	0.005	U,J			0.005	U,J					27	J			0.0084	J			0.0089	J					
BRSW-38	6/14/2004	UBMC-0604-107							78	UJ	0.05	U			0.08		0.005	U			0.005	U					23				0.0044				0.0045						
BRSW-38	10/12/2004	UBMC-1004-108							87	J	0.05	U			0.05	U	0.005	U			0.005	U					31	J			0.0044				0.0046						

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TABLE B-10. BEARTRAP CREEK DRAINAGE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #		CO_DIS		CO_TOT		CR_DIS		CR_TOT		CU_DIS		CU_TOT		CU_TRC		FE_DIS		FE_TOT		FE_TRC		FLOW		FLOW_CFS	HCO3		HCO3CACO		HG_TOT		HRDCACO3		KDIS		KTOT		MGDIS		MGTOT	
BRSW-38	4/28/1999	AHD-9904-118										0.253				0.738		0.01	U			0.82				3.1									1	U			37			
BRSW-38	5/28/1999	AHD-9905-124										0.033				0.079		0.01	U			0.19		14.5											1	U			11			
BRSW-38	10/19/1999	AHD-9910-121	U									0.005	U			0.007		0.05	U			0.15				0.34	96								5	U			18			
BRSW-38	10/11/2000	AHD-0010-114	U									0.004				0.005		0.05	U			0.05	U			0.33	112								5	U			22			
BRSW-38	4/25/2001	AHD-0104-114										0.033				0.18		0.12				2.7				1.12									2	U			41			
BRSW-38	4/25/2001	AHD-0104-133														0.49						9.5				1.61															
BRSW-38	5/22/2001	AHD-0105-116										0.034				0.064		0.05	U			0.12				4									2	U			15			
BRSW-38	6/26/2001	AHD-0106-117										0.03				0.045		0.05	U			0.06				4.9									2	U			15			
BRSW-38	6/26/2001	AHD-0106-136														0.043						0.064				3.9															
BRSW-38	10/16/2001	AHD-0110-136	U									0.004				0.005		0.02	U			0.066				0.31	102								5	U			20			
BRSW-38	10/17/2001	AHD-0110-137	U									0.003				0.004	J4S	0.021				0.046				0.21	109								5	U			20			
BRSW-38	5/3/2002	UBMC-0205-105	U									0.034				0.23		0.01	U			1.3				2.7	48								5	U			36			
BRSW-38	5/21/2002	UBMC-0205-207	U									0.056				0.3		0.02	U,J			0.88				13.59	52								5	U			16			
BRSW-38	7/9/2002	UBMC-0207-108	U									0.023				0.037		0.02	U			0.098				2.73	90								5	U			17			
BRSW-38	10/3/2002	UBMC-0210-106	U									0.007		0.01				0.02	U	0.089						0.46	107								5	U			19			
BRSW-38	4/28/2003	UBMC-0304-106	U									0.07				0.3		0.03	U			0.3				5.9	61								5	U			16			
BRSW-38	5/19/2003	UBMC-0305-108	U									0.02				0.04		0.02	U			0.07				15.7	85								5	U			9.6			
BRSW-38	6/25/2003	UBMC-062403-8	U									0.02				0.02		0.02				0.07				3.6	93								5	U			13			
BRSW-38	10/21/2003	UBMC-0310-106	U									0.003				0.004	J	0.02	U			0.04	J			0.5	110								5	U			18			
BRSW-38	4/28/2004	UBMC-0404-108										0.05				0.2		0.03	J			0.43	J			7.06									1	U			16			
BRSW-38	5/26/2004	AHD-0405-105										0.023	J			0.064	J	0.01				0.29				10.07									1	U			16			
BRSW-38	6/14/2004	UBMC-0604-107										0.02				0.03		0.02				0.07				6.25									1	U			13			
BRSW-38	10/12/2004	UBMC-1004-108										0.01	U			0.01	U	0.01	U,J			0.1	J			0.69									1	U,J			18	J		

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deviation from known value. Possible bias.
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TABLE B-10. BEARTRAP CREEK DRAINAGE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	MN_DIS		MN_TOT		MN_TRC		MO_DIS		MO_TOT		NADIS		NATOT		NI_DIS		NI_TOT		O		O_DIS		PB_DIS		PB_TOT		PB_TRC		PH	
BRSW-38	4/28/1999	AHD-9904-118	3	J2			3.12	J2					1										10.5		0.003				0.076		6.9	
BRSW-38	5/28/1999	AHD-9905-124	0.313				0.374						1	U									9.09		0.006				0.035		7.6	
BRSW-38	10/19/1999	AHD-9910-121	0.42				0.42						5	U									9.74		0.003	U			0.012		7.8	
BRSW-38	10/11/2000	AHD-0010-114	0.64				0.62						5	U									10.1		0.003	U			0.003	U	7.9	
BRSW-38	4/25/2001	AHD-0104-114	3.9				3.9						2	U									10.33		0.005	J4D			0.089		7.4	
BRSW-38	4/25/2001	AHD-0104-133					7.3																9.98						0.33			
BRSW-38	5/22/2001	AHD-0105-116	0.87				0.9						2	U									10		0.008				0.027		7.6	
BRSW-38	6/26/2001	AHD-0106-117	0.65				0.67						1.1										9.37		0.009				0.02		7.1	
BRSW-38	6/26/2001	AHD-0106-136					0.64																8.47						0.02			
BRSW-38	10/16/2001	AHD-0110-136	0.55				0.54						5	U									8.93		0.003	U			0.004		7.7	
BRSW-38	10/17/2001	AHD-0110-137	0.63				0.67						5	U									10.85		0.003	U			0.005		7.7	
BRSW-38	5/3/2002	UBMC-0205-105	3.7				3.7						5	U							8.51				0.003	U			0.089		6.3	
BRSW-38	5/21/2002	UBMC-0205-207	1.4				1.8						5	U							10.45				0.004				0.081		6.6	
BRSW-38	7/9/2002	UBMC-0207-108	0.7				0.68						5	U							6.07				0.008				0.02		7.3	
BRSW-38	10/3/2002	UBMC-0210-106	0.96		1								5	U							4.99				0.003	U	0.004				7.4	
BRSW-38	4/28/2003	UBMC-0304-106	1.7				1.7						5	U									12		0.004				0.04		6.4	
BRSW-38	5/19/2003	UBMC-0305-108	0.2				0.2						5	U									7.8		0.006				0.02		7.2	
BRSW-38	6/25/2003	UBMC-062403-8	0.5				0.5						5	U									9.9		0.006				0.01		8	
BRSW-38	10/21/2003	UBMC-0310-106	0.5				0.5						5	U									8.5		0.003	U			0.003	U	8	
BRSW-38	4/28/2004	UBMC-0404-108	1.24				1.39						1	U									8.8		0.006				0.049		7.2	
BRSW-38	5/26/2004	AHD-0405-105	1.04	J			1.07	J					1										10.1		0.003	J			0.027	J	7.5	
BRSW-38	6/14/2004	UBMC-0604-107	0.64				0.6						1	UJ									8.33		0.007				0.014		7.8	
BRSW-38	10/12/2004	UBMC-1004-108	0.8				0.88						1	J									5.59		0.003	U			0.004		8	

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TABLE B-10. BEARTRAP CREEK DRAINAGE SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	PH_FLD		SALINITY		SB_DIS		SB_TOT		SC		SC_FLD		SE_DIS		SE_TOT		SIO2_DIS		SO4		TDS		TSS		TURBIDITY		TURB_FLD		WATER_TEM		ZN_DIS		ZN_TOT		ZN_TRC	
BRSW-38	4/28/1999	AHD-9904-118	7.07								604		569								276		441		13						3.7		9.18				9.28	
BRSW-38	5/28/1999	AHD-9905-124	7.76								192		185								32		112		10	U					10.1		0.86				0.98	
BRSW-38	10/19/1999	AHD-9910-121	8.36								316		309								70		220		1	U					4.4		0.95				1	
BRSW-38	10/11/2000	AHD-0010-114	6.31										388								109		258		1	U					3.9		1.3				1.5	
BRSW-38	4/25/2001	AHD-0104-114	6.56										651								375		534		14						4.2		8.7				9.3	
BRSW-38	4/25/2001	AHD-0104-133	6.16										698																		7.6						14	
BRSW-38	5/22/2001	AHD-0105-116	6.72										276								78		170		1.1						6.5		1.6				1.6	
BRSW-38	6/26/2001	AHD-0106-117	8.01										264								65		155		1	U					9.6		1.2				1.3	
BRSW-38	6/26/2001	AHD-0106-136	8.03										260																		13.3						1.2	
BRSW-38	10/16/2001	AHD-0110-136	8.07										343								80		202		1.2						8.6		0.98				0.99	
BRSW-38	10/17/2001	AHD-0110-137	7.15										326								90		217		1						3.8		1.3				1.3	
BRSW-38	5/3/2002	UBMC-0205-105	7.37										576								265		430		11						9		8.2				8.5	
BRSW-38	5/21/2002	UBMC-0205-207	7.22										346								93		177		11						6.4		3.2				3.6	
BRSW-38	7/9/2002	UBMC-0207-108	7.42										234								68		164		1	U					14.9		0.98				0.96	
BRSW-38	10/3/2002	UBMC-0210-106	7.73										307								90		231		1	U					7.5		1.1		1.1			
BRSW-38	4/28/2003	UBMC-0304-106	6.7										243								94		187		4.8						3.9		2.8				3	
BRSW-38	5/19/2003	UBMC-0305-108	6.4										147								17		147		1	U					9.7		0.5				0.5	
BRSW-38	6/25/2003	UBMC-062403-8	7.6										222								45		144		1	U					9.5		0.8				0.8	
BRSW-38	10/21/2003	UBMC-0310-106	7.8		0.1								319								66		183		1	U,UJ			2		9.7		0.8				0.8	
BRSW-38	4/28/2004	UBMC-0404-108	6.98										173								76		193	UJ	10	U					1.8		2.62				2.95	
BRSW-38	5/26/2004	AHD-0405-105	7.68										290								75		186		10	U					7.2		1.53	J			1.66	J
BRSW-38	6/14/2004	UBMC-0604-107	7.08										318								40		143	UJ	10	U					8.8		0.91				0.92	
BRSW-38	10/12/2004	UBMC-1004-108	6.98										430								64	J	191	J	10	U					8.6		1.03				1.19	

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TABLE B-11. BEARTRAP CREEK DRAINAGE GROUNDWATER SAMPLES

Site	Date	Depth to Water Level	Alk as $CaCO_3$	Al (dis)	As (dis)	Ca (dis)	Cd (dis)	Cu (dis)	Fe (dis)	K (dis)	Mg (dis)	Mn (dis)	Na (dis)	Pb (dis)	pH	SC (UMHOS/CM)	SO_4	TDS	TSS	Zn (dis)
BTC-TP7P	10/10/01	6.4	49	<0.05	<0.005	48	0.005	<0.001	6.3	<5	29	11	<5	<0.003	6.6	532	237	371	9.2	2.7
BTC-TP8P	10/10/01	5.5	77	<0.05	<0.005	29	0.001	<0.001	2	<5	16	0.14	<5	<0.003	6.9	319	78	186	5.7	0.37
BTC-TP9P	10/10/01	7.54	80	0.051	<0.005	49	0.03	0.02	<0.02	<5	27	12	<5	0.004	6.9	560	170	355	265	7.2
BTC-TP9P	05/29/02	6.11	36	0.078	<0.005	59	0.048	0.024	0.24	<5	35	21	<5	0.036	6.1	668	297	444	581	12
BCMW-10	11/03/94	7.05	49	<0.05	<0.002	106	0.076	<0.005	0.03	<2	61	0.061	<2	0.007	7.7	928	518	725	91	14.42
BCMW-10	05/04/95	6.6	45	<0.05	<0.002	53	0.031	<0.005	<0.03	<2	32	<0.01	<2	<0.003	7.3	525	207	316	<1	8.1
BCMW-10	10/26/95	7.47	67	<0.05	<0.002	55	0.024	<0.005	<0.03	<2	31	<0.01	<2	0.004	7.1	488	170	382	2.5	5
BCMW-10	05/24/96	6.36	42	<0.05	<0.002	46	0.034	<0.005	<0.03	<2	26	<0.01	1.2	0.003	6.9	456	192	315	<1	7.5
BCMW-10	10/25/96	7.48	62	<0.05	<0.002	80	0.039	<0.005	<0.03	1.8	49	0.025	1.5	0.005	6.5	765	313	567	378	7.6
BCMW-10	05/29/97	6.66	54	<0.05	<0.002	32	0.02	<0.005	<0.03	<2	18	<0.01	<2	0.003	7.1	298	90	196	<1	5.1
BCMW-10	10/24/97	7.44	70	<0.05	<0.002	59	0.027	<0.005	<0.05	2.5	33	<0.01	5.4	<0.003	7	590	263	423	<1	5.7
BCMW-10	05/08/98	6.77	52	<0.05	<0.002	45	0.023	<0.005	0.13	<5	25	<0.01	<5	<0.003	6.8	466	166	336	<1	5
BCMW-10	10/19/98	6.9	81	<0.05	<0.002	37	0.01	<0.005	<0.03	<5	22	<0.01	<5	<0.003	7.2	364	101	240	<1	1.8
	Average	**6.97**	**58**	**NA**	**NA**	**57**	**0.032**	**NA**	**0.04**	**2.7**	**33**	**0.017**	**2.9**	**0.004**	**7.1**	**542**	**224**	**389**	**53**	**6.7**
	Median	**6.90**	**54**	**NA**	**NA**	**53**	**0.027**	**NA**	**<0.03**	**<2**	**31**	**<0.01**	**<2**	**<0.003**	**7.1**	**488**	**192**	**336**	**<1**	**5.7**
	Minimum	**6.36**	**42**	**<0.05**	**<0.002**	**32**	**0.010**	**<0.005**	**<0.03**	**1.8**	**18**	**<0.01**	**1.2**	**<0.003**	**6.5**	**298**	**90**	**196**	**<1**	**1.8**
	Maximum	**7.48**	**81**	**<0.05**	**<0.002**	**106**	**0.076**	**<0.005**	**0.13**	**5**	**61**	**0.061**	**5.4**	**0.007**	**7.7**	**928**	**518**	**725**	**378**	**14.42**

NOTES: All results in mg/L except as indicated.

TABLE B-12. BEARTRAP CREEK STREAM SEDIMENT SAMPLES

Sample Designation	Sampled By	Parameter (mg/kg)					
		As	Cd	Cu	Pb	Mn	Zn
MH18	PTI	400	46	1736	8618	6495	8668
BMHS80H	MBMG	690.5	12.6	2953.4	9812.9		19662.7

UPPER BLACKFOOT RIVER DATA

TABLE B-13. UPPER BLACKFOOT RIVER CONCENTRATED TAILINGS AREA (SHAVE CREEK TAILINGS)

Site	Sample Horizon	Sample Number	Depth Interval (inches)	Sample Horizon	pH	Total Metals Concentrations							Acid/Base Accounting											Texture	
																		Sulfur Fractionation							
						As (mg/Kg)	Cd (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Mn (mg/Kg)	Zn (mg/Kg)	Fe (%)	Acid Base Potential (TCaCO3/1000 Tons)	Acid Potential	Neut. Potential	Lime (%)	Lime Req. (CaCO3/1000 T	Total (%)	Non-Sulfate (%)	Residual (%)	HCl Extract. (%)	HNO3 Extract. (%)	Hot Water Extract. (%)	Clay/Silt/ Sand (%)	Texture
BFR-2001TP-1	surficial tailings	BFRS - 0108 - 400	0 - 14	surface tailings	2.2	229	<10	376	2,739	600	510	9	-23	23	<1	<0.1	22.8	1.39	0.72	0.07	0.35	0.3	0.67	13/27/60	SL
	possible native material below tailings	BFRS - 0108 - 401	14 - 26	native sediment	3.1	23	<10	146	164	1,092	317	5													
BFR-2001TP-3	surficial tailings	BFRS - 0108 - 404	0 - 18	surface tailings	3.2	81	<10	133	1,273	549	439	5	-5	5	<1	<0.1	1.1	0.26	0.17	<0.01	0.07	0.1	0.09	9/9/1982	LS
	native sediment below tailings	BFRS - 0108 - 405	18 - 30	native sediment	4.3	32	12	533	1,221	2,325	1,070	4													
BFR-2001TP-6	surficial tailings	BFRS - 0108 - 406	0 - 12	surface tailings	3.6	313	<10	427	2,396	1,589	924	11	-21	27	7	0.7	8.3	1.23	0.87	0.09	0.19	0.59	0.36	14/18/68	SL
	native sediment below tailings	BFRS - 0108 - 407	12 - 24	native sediment	4.6	218	42	2,050	6,779	10,173	5,239	8													
BFR-2001TP-7	surficial tailings	BFRS - 0108 - 408	0 - 12	surface tailings	3.9	116	<10	395	1,614	2,783	1,550	6	-19	21	2	0.2	0.2	0.88	0.67	0.05	0.05	0.57	0.21	9/12/1979	SL
	native sediment below tailings	BFRS - 0108 - 409	12 - 24	native sediment	5.0	50	<10	301	1,575	4,176	859	4													
BFR-2001TP-8	surficial tailings	BFRS - 0108 - 410	0 - 12	surface tailings	2.2	249	<10	393	2,410	917	909	8	-62	62	<1	<0.1	13.5	2.62	1.99	0.15	0.22	1.62	0.63	13/15/72	SL
	native sediment below tailings	BFRS - 0108 - 411	12 - 24	native sediment	5.7	42	13	509	1,737	5,361	2,301	4													
BFR-2001TP-10	surficial tailings	BFRS - 0108 - 412	8 - 18	surface tailings	3.2	184	<10	406	1,549	1,519	1,232	7	-42	42	<1	<0.1	2.4	1.48	1.34	0.1	0.14	1.1	0.14	8/13/1979	LS
	native sediment below tailings	BFRS - 0108 - 413	18 - 48	native sediment	6.6	69	17	627	1,818	5,802	3,871	5													
BFR-2001TP-11	surficial tailings	BFRS - 0108 - 414	0 - 48	surface tailings	3.2	141	<10	543	1,516	3,530	1,927	7	-100	100	<1	<0.1	10.4	3.73	3.19	0.22	0.18	2.79	0.54	10/11/1979	SL
	native sediment below tailings	BFRS - 0108 - 415	48 - 60	native sediment	6.8	128	<10	1,004	1,240	6,454	2,912	5													
BFR-2001TP-12	surficial tailings	BFRS - 0108 - 417	0 - 20	surface tailings	2.6	207	<10	322	2,184	400	883	9	-11	11	<1	<0.1	9.7	0.48	0.34	0.02	0.16	0.16	0.14	12/22/1966	SL
	native sediment below tailings	BFRS - 0108 - 418	20 - 32	native sediment	3.0	48	<10	287	220	539	333	5													

UPPER BLACKFOOT RIVER DISPERSED TAILINGS SAMPLES

Site	Sample Horizon	Sample Number	Depth Interval (inches)	Sample Horizon	pH	Acid/Base Accounting												Texture		Total Metals Concentrations						
											Sulfur Fractionation															
						Acid Base Potential (TCaCO3/1000 Tons)	Acid Potential	Neut. Potential	Lime (%)	Lime Req. (CaCO3/1000 T	Total (%)	Non-Sulfate (%)	Residual (%)	HCl Extract. (%)	HNO3 Extract. (%)	Hot Water Extract. (%)	Clay/Silt/ Sand (%)	Texture	As (mg/Kg)	Cd (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Mn (mg/Kg)	Zn (mg/Kg)	Fe (%)
Downstream		UBDT - 0110 100	0 - 6	Dispersed tailings	2.2	-110	110	<1	<0.1	22	3.70	3.53	0.21	0.38	2.94	0.17	63/23/14	SL	276	<10	450	2972	658	871	9
Mid-drainage		UBDT - 0110 101	0 - 6	Dispersed tailings	2.3	-43	43	<1	<0.1	22.8	2.62	1.39	0.07	0.34	0.98	1.23	63/26/11	SL	289	<10	441	2951	1081	869	10
Upstream		UBDT - 0110 102	0 - 36	Dispersed tailings	5.7	-41	158	118	11.8	<0.1	5.63	5.06	1.29	0.22	3.55	0.57	73/17/10	SL	511	125	2936	18402	5786	22663	7

NOTES: Shaded entries denote tailings samples; other entries are underlying native material samples.

TABLE B-14. UPPER BLACKFOOT RIVER SURFACE WATER SAMPLES

SITE CODE	SAMP DATE	SAMP #	ACIDCACO		AG_DIS		AG_TOT		AIR_TEMP_C		ALKCACO3		AL_DIS		AL_TOT		AL_TRC		AS_DIS		AS_TOT		AS_TRC		BA_DIS		BA_TOT		CADIS		CATOT		CD_DIS		CD_TOT		CD_TRC		CL		CO3CACO3	
BRSW-12	8/12/1991	9108-021			0.008	U	0.008	U			57		0.2	U	0.2	U			0.02	U	0.02	U							33			0.008	U	0.008	U			1	U	1	U
BRSW-12	9/13/1991	9109-068			0.008	U	0.008	U			54		0.2	U	0.2	U			0.02	U	0.02	U							36			0.008	U	0.008	U			1	U	1	U
BRSW-12	4/16/1992	AHD-9204-130			0.01	U	0.01	U			44		0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	35			0.005		0.005				2	U	1	U
BRSW-12	5/5/1992	AHD-9205-114			0.01	U	0.01	U			48		0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	27			0.005	U	0.005	U			2	U	1	U
BRSW-12	5/19/1992	AHD-9205-212			0.01	U	0.01	U			56		0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	17			0.005	U	0.005	U			2	U	1	U
BRSW-12	6/2/1992	AHD-9206-106			0.01	U	0.01	U			59		0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	33			0.005	U	0.005	U			2	U	1	U
BRSW-12	6/2/1993	AHD-9306-900									52		0.317		0.392														19			0.0055		0.007							
BRSW-12	10/25/1993	AHD-9310-906			0.0002	U	0.002	U,J4			57		0.1	U	0.1	U,J4			0.003	U	0.003	U,J4			0.2	U	0.2	U			22	0.0023	J4	0.0024				2	U	1	U
BRSW-12	5/17/1994	AHD-9405-100	1	U							50		0.11	UJ1			0.16	UJ1											24			0.002	J2			0.002	J2			0.1	U
BRSW-12	10/26/1994	AHD-9410-100	5	U							55		0.05	U			0.134		0.002	U,UJ4D			0.002	U					29			0.005	J2			0.006	J2				
BRSW-12	5/2/1995	AHD-9505-100	5	U							45		0.05	U			0.3		0.002	U			0.002	U					23			0.006				0.006					
BRSW-12	10/23/1995	AHD-9510-100									51		0.05	U			0.05	U	0.002	U			0.002	U					28			0.004	J4S			0.003	J4S				
BRSW-12	5/20/1996	AHD-9605-100									42		0.05	U			0.12	J4S	0.002	U			0.002	U					16			0.003				0.003					
BRSW-12	10/21/1996	AHD-9610-100									54		0.05	U			0.05	U	0.002	U			0.002	U					32			0.007				0.006					
BRSW-12	5/27/1997	AHD-9705-152									44		0.05	U			0.11		0.002	U			0.002	U					13			0.002				0.002					
BRSW-12	10/20/1997	AHD-9710-102									66		0.05	U			0.05	U	0.002	U			0.002	U					30			0.004				0.004					
BRSW-12	5/5/1998	AHD-9805-102									42		0.05	U			0.075		0.002	U			0.002	U					18			0.003				0.003					
BRSW-12	10/21/1998	AHD-9810-102									34		0.05	U			0.05	U	0.002	U			0.002	U					35			0.009				0.008					
BRSW-12	4/27/1999	AHD-9904-105	0								38		0.05	U			0.3		0.002	U			0.002	U					24			0.0075				0.0075					
BRSW-12	5/28/1999	AHD-9905-120									46		0.05	U			0.05		0.002	U			0.002	U					16			0.0021				0.0023					
BRSW-12	10/18/1999	AHD-9910-103	8								50		0.05	U			0.05	U	0.002	U			0.002	U					36			0.005				0.005					
BRSW-12	10/10/2000	AHD-0010-102									58		0.05	U			0.05	U	0.005	U			0.005	U					37			0.003				0.003					
BRSW-12	4/24/2001	AHD-0104-101									45		0.05	U			0.18		0.005	U			0.005	U					37			0.0065				0.006					
BRSW-12	5/21/2001	AHD-0105-102									47		0.05	U			0.12		0.005	U			0.005	U					20			0.005				0.005					
BRSW-12	6/25/2001	AHD-0106-102									58		0.05	U			0.084		0.005	U			0.005	U					21			0.004				0.004					
BRSW-12	10/4/2001	AHD-0110-200																																								
BRSW-12	10/16/2001	AHD-0110-125									54		0.05	U			0.05	U,UJ4D	0.005	U			0.005	U					42			0.0042				0.004					
BRSW-12	5/2/2002	UBMC-0205-102									43		0.05	U			0.29		0.005	U			0.005	U					32			0.0094				0.0094					
BRSW-12	5/21/2002	UBMC-0205-203									33		0.05	U			0.69		0.005	U			0.005	U					18			0.009				0.01					
BRSW-12	7/9/2002	UBMC-0207-102									56		0.05	U			0.065		0.005	U			0.005	U					24			0.004				0.004					
BRSW-12	10/3/2002	UBMC-0210-103									54		0.06		0.05	U			0.005	U	0.005	U							37			0.005		0.0048							
BRSW-12	4/28/2003	UBMC-0304-103									39		0.07				0.2		0.005	U			0.005	U					17			0.006				0.006					
BRSW-12	5/19/2003	UBMC-0305-105									54		0.05	U			0.07		0.005	U			0.005	U					16			0.002				0.002					
BRSW-12	6/25/2003	UBMC-062403-5									61		0.05	U			0.05	U	0.005	U			0.005	U					21			0.003				0.003					
BRSW-12	10/21/2003	UBMC-0310-103									54		0.05	U,UJ			0.05	U	0.005	U			0.005	U					41			0.004				0.004					
BRSW-12	4/28/2004	UBMC-0404-105									44	UJ	0.05	U			0.26		0.005	U			0.005	U					18			0.0035	J			0.0035	J				
BRSW-12	5/26/2004	AHD-0405-102									48		0.13	J			0.16	J	0.005	U,J			0.005	U,J					17	J		0.0036	J			0.0043	J				
BRSW-12	6/14/2004	UBMC-0604-104									59	UJ	0.05	U			0.07		0.005	U			0.005	U					20			0.0034				0.0033					
BRSW-12	10/12/2004	UBMC-1004-105									62	J	0.05	U			0.05	U	0.005	U			0.005	U					35	J		0.0033				0.0033					

TABLE B-14. UPPER BLACKFOOT RIVER SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	CO3CO3		CO_DIS		CO_TOT		CR_DIS		CR_TOT		CU_DIS		CU_TOT		CU_TRC		FE_DIS		FE_TOT		FE_TRC		FLOW_CFS	HCO3		HCO3CACO		HG_TOT		HRDCACO3		KDIS		KTOT		MGDIS		MGTOT		MN_DIS
BRSW-12	8/12/1991	9108-021											0.009		0.016				0.02		0.34				4.23			57		0.0005	U	163						19				0.92
BRSW-12	9/13/1991	9109-068											0.012		0.016	UJ1			0.02	U	0.3				2.36			54		0.0005	U	172						20				0.87
BRSW-12	4/16/1992	AHD-9204-130			0.05	U	0.05	U	0.01	U	0.01	U	0.014		0.024				0.05	U	0.304				5.13			44		0.0005	U	161		2	U			18				0.353
BRSW-12	5/5/1992	AHD-9205-114			0.05	U	0.05	U	0.01	U	0.01	U	0.011		0.027				0.05	U	0.509				8.24			48		0.0005	U	125		2	U			14				0.229
BRSW-12	5/19/1992	AHD-9205-212			0.05	U	0.05	U	0.01	U	0.01	U	0.0085		0.014				0.05	U	0.207				6.53			56		0.0005	U	150		2	U			31				0.624
BRSW-12	6/2/1992	AHD-9206-106			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.0087				0.05	U	0.167				4.7128			59		0.0005	U	161		2	U			19				0.705
BRSW-12	6/2/1993	AHD-9306-900											0.02		0.042				0.1	U	0.366				49.52												9.3				0.276
BRSW-12	10/25/1993	AHD-9310-906			0.05	U,J4	0.05	U	0.01	U	0.01	U	0.01	U,J4	0.013	J4			0.1	U,J4	0.106				9.41			57		0.0002	U	104				5	U			12		0.317
BRSW-12	5/17/1994	AHD-9405-100											0.017				0.025		0.03	J4,UJ1			0.11	UJ1	23.45			50						2.1			12				0.19
BRSW-12	10/26/1994	AHD-9410-100											0.014	J2			0.026	J2	0.068	UJ1			0.144		2.939							2	U			16				0.37
BRSW-12	5/2/1995	AHD-9505-100	1	U									0.024				0.06		0.03	U,UJ4S			0.11		12.36	45						2	U			12				0.33
BRSW-12	10/23/1995	AHD-9510-100	1	U									0.007				0.008		0.03	U			0.1	J2	1.5	51						2	U,UJ4D			15				0.19
BRSW-12	5/20/1996	AHD-9605-100	1	U									0.014				0.017	J4S	0.05	U			0.05	U	44.61	42						1.4	UJ1,J4S,J2			8.7				0.28
BRSW-12	10/21/1996	AHD-9610-100	1	U									0.007				0.009		0.03	U			0.042		1.32	54						2.4				18				0.68
BRSW-12	5/27/1997	AHD-9705-152	1	U									0.01				0.02		0.03	U			0.17		68.3	54						3.3				6.6				0.1
BRSW-12	10/20/1997	AHD-9710-102	1	U									0.005	U			0.01		0.05	U			0.05	U	2.02	66						2	U			16				0.76
BRSW-12	5/5/1998	AHD-9805-102	1	U									0.009				0.012		0.03	U			0.055		19.8	51						2	U			9.5				0.17
BRSW-12	10/21/1998	AHD-9810-102	1	U									0.009				0.009		0.05	U			0.05	U	1.16	41						5	U			18				0.13
BRSW-12	4/27/1999	AHD-9904-105											0.033				0.066		0.02				0.32		25.7							1	U			13				0.422
BRSW-12	5/28/1999	AHD-9905-120											0.013				0.022		0.01				0.09		56.5							1	U			8				0.138
BRSW-12	10/18/1999	AHD-9910-103	1	U									0.008				0.009		0.05	U			0.082		1.37	50						5	U			19				0.1
BRSW-12	10/10/2000	AHD-0010-102	1	U									0.006				0.007		0.05	U			0.05	U	1.6	71						5	U			18				0.12
BRSW-12	4/24/2001	AHD-0104-101											0.013				0.022		0.078				0.33		5.88							2	U			17				0.42
BRSW-12	5/21/2001	AHD-0105-102											0.018				0.024		0.05	U			0.066		18.3							2	U			10				0.28
BRSW-12	6/25/2001	AHD-0106-102											0.012				0.017		0.05	U			0.05	U	16.1							2	U			11				0.23
BRSW-12	10/4/2001	AHD-0110-200																							1.45																
BRSW-12	10/16/2001	AHD-0110-125	1	U									0.007				0.008		0.02	U			0.041		0.77	66						5	U			20				0.14
BRSW-12	5/2/2002	UBMC-0205-102	1	U									0.018				0.045		0.015				0.33		13.07	52						5	U			16				0.75
BRSW-12	5/21/2002	UBMC-0205-203	1	U									0.032				0.11		0.02	U,J			0.86		91.17	40						5	U			9.6				0.57
BRSW-12	7/9/2002	UBMC-0207-102	1	U									0.012				0.015		0.02	U			0.051		9.62	68						5	U			12				0.24
BRSW-12	10/3/2002	UBMC-0210-103	1	U									0.009		0.01				0.02	U	0.032				3.21	66						5	U			18				0.72
BRSW-12	4/28/2003	UBMC-0304-103	2	U									0.04				0.07		0.03				0.1		27	48						5	U			9.1				0.5
BRSW-12	5/19/2003	UBMC-0305-105	2	U									0.02				0.03		0.02	U			0.1		48.5	66						5	U			7.9				0.2
BRSW-12	6/25/2003	UBMC-062403-5	2	U									0.01				0.01		0.02	U			0.04		10.5	74						5	U			11				0.2
BRSW-12	10/21/2003	UBMC-0310-103	2	U									0.007				0.007	J	0.02	U			0.02	U,UJ	1.9	66						5	U			20				0.1
BRSW-12	4/28/2004	UBMC-0404-105											0.02				0.08		0.01	J			0.22	J	24.69							1	U			9				0.29
BRSW-12	5/26/2004	AHD-0405-102											0.021	J			0.035	J	0.08				0.27		58.61							1	U			8				0.36
BRSW-12	6/14/2004	UBMC-0604-104											0.01				0.02		0.01	U			0.04		15.37							1	U			10				0.28
BRSW-12	10/12/2004	UBMC-1004-105											0.01	U			0.01	U	0.01	U,J			0.03	J	2.59							1	U,J			17	J			0.23

TABLE B-14. UPPER BLACKFOOT RIVER SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #		MN_TOT		MN_TRC		MO_DIS		MO_TOT		NADIS		NATOT		NI_DIS		NI_TOT		O		O_DIS		PB_DIS		PB_TOT		PB_TRC		PH		PH_FLD		SALINITY
BRSW-12	8/12/1991	9108-021		0.96				0.02	U	0.02	U	1.5												0.01	U	0.01	U			7.5		8.03		
BRSW-12	9/13/1991	9109-068		0.89				0.02	U	0.02	U	2	UJ1											0.01	U	0.01	U			7.5		8.18		
BRSW-12	4/16/1992	AHD-9204-130		0.332				0.05	U	0.05	U	2	U			0.02	U	0.02	U			11.4		0.005	U	0.011				7.2		7.33		
BRSW-12	5/5/1992	AHD-9205-114		0.264				0.05	U	0.05	U	2.1				0.02	U	0.02	U			9.22		0.005	U	0.015				7.5		7.31		
BRSW-12	5/19/1992	AHD-9205-212		0.637				0.05	U	0.05	U	2	U			0.02	U	0.02	U			9.9		0.005	U	0.0052				7.7		7.22		
BRSW-12	6/2/1992	AHD-9206-106		0.718				0.05	U	0.05	U	2	U			0.02	U	0.02	U			8.2		0.005	U	0.005	U			7.2		7.82		
BRSW-12	6/2/1993	AHD-9306-900		0.302																		9.71		0.0048		0.073				7.4		6.86		
BRSW-12	10/25/1993	AHD-9310-906		0.331				0.05	U	0.05	U			5	U	0.04	U,J4	0.04	U			12.8		0.003	U,J4	0.003				7.8		6.7		
BRSW-12	5/17/1994	AHD-9405-100	J4			0.2						1.6										8.2		0.002	U			0.005	J4	7.7		6.05		
BRSW-12	10/26/1994	AHD-9410-100	J4SJ2			0.378	J2					2	U									9.63		0.002	U			0.007		7.8		7.63		
BRSW-12	5/2/1995	AHD-9505-100				0.32						2	U									11.11		0.003	U			0.015		7.6		7.14		
BRSW-12	10/23/1995	AHD-9510-100				0.2						2	U									9.75		0.003	U			0.005		7.5		7.18		
BRSW-12	5/20/1996	AHD-9605-100				0.3						1.1										9.76		0.003	U			0.01	J4S	7.5		7.44		
BRSW-12	10/21/1996	AHD-9610-100				0.66						2	U									10.23		0.003	U			0.003	U	7.3		6.81		
BRSW-12	5/27/1997	AHD-9705-152				0.15						2	U									12.31		0.003	U			0.013		7.4		6.28		
BRSW-12	10/20/1997	AHD-9710-102				0.77						2.5										9.59		0.003	U			0.003	U	7.6		7.79		
BRSW-12	5/5/1998	AHD-9805-102				0.18						2	U									9.91		0.003	U			0.006		7.4		7.69		
BRSW-12	10/21/1998	AHD-9810-102				0.12						5.3										5.79		0.003	U			0.003	U	7		7.05		
BRSW-12	4/27/1999	AHD-9904-105	J2			0.537	J2					1										10.93		0.003	U			0.019		6.9		7.17		
BRSW-12	5/28/1999	AHD-9905-120				0.158						1	U									10.36		0.003	U			0.013		7		6.97		
BRSW-12	10/18/1999	AHD-9910-103				0.11						5	U									9.23		0.003	U			0.003	U	6.5		7.74		
BRSW-12	10/10/2000	AHD-0010-102				0.11						5	U									9.2		0.003	U			0.003	U	7.8		7.12		
BRSW-12	4/24/2001	AHD-0104-101				0.42						2	U									10.49		0.003	U			0.008		7.4		7.39		
BRSW-12	5/21/2001	AHD-0105-102				0.29						2	U									9.91		0.003				0.009		7.4		7.06		
BRSW-12	6/25/2001	AHD-0106-102				0.23						1.3										9.07		0.003	U			0.006		7		7.91		
BRSW-12	10/4/2001	AHD-0110-200																				9.59										6.69		
BRSW-12	10/16/2001	AHD-0110-125				0.14						5	U									10.12		0.003	U			0.003	U	7.5		7.41		
BRSW-12	5/2/2002	UBMC-0205-102				0.76						5	U							7.13				0.003	U			0.015		6.4		7.56		
BRSW-12	5/21/2002	UBMC-0205-203				0.9						5	U							10.95				0.003				0.05		6.4		6.6		
BRSW-12	7/9/2002	UBMC-0207-102				0.23						5	U							5.83				0.003	U			0.006		7.7		6.55		
BRSW-12	10/3/2002	UBMC-0210-103		0.75								5	U							5.03				0.003	U	0.003	U			7.8		7.32		
BRSW-12	4/28/2003	UBMC-0304-103				0.6						5	U									11.4		0.005				0.01		6.2		5.7		
BRSW-12	5/19/2003	UBMC-0305-105				0.2						5	U									8.5		0.004				0.01		6.7		5.7		
BRSW-12	6/25/2003	UBMC-062403-5				0.2						5	U									9.7		0.003				0.007		7.8		6.7		
BRSW-12	10/21/2003	UBMC-0310-103				0.1						5	U									10.4		0.003	U			0.003	U	7.8		7.4		0.1
BRSW-12	4/28/2004	UBMC-0404-105				0.3						1	U									8.34		0.003	U			0.016		7.1		6.8		
BRSW-12	5/26/2004	AHD-0405-102	J			0.49	J					1										10.55		0.005	J			0.018	J	7.3		7.93		
BRSW-12	6/14/2004	UBMC-0604-104				0.31						1	UJ									8.09		0.003				0.006		7.4		6.73		
BRSW-12	10/12/2004	UBMC-1004-105				0.26						2	J									5.09		0.003	U			0.003	U	7.3		6.72		

TABLE B-14. UPPER BLACKFOOT RIVER SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	SB_DIS		SB_TOT		SC		SC_FLD	SE_DIS		SE_TOT		SIO2_DIS	SO4	TDS	TSS		TURBIDITY		TURB_FLD		WATER_TEM		WATER_TEM	ZN_DIS		ZN_TOT		ZN_TRC	
BRSW-12	8/12/1991	9108-021					310		600	0.02	U	0.02	U		86	256	1	U	0.6						17	1.5		1.6			
BRSW-12	9/13/1991	9109-068					340		242	0.02	U	0.02	U		74	214	1	U	0.7						12.6	1.4		1.7			
BRSW-12	4/16/1992	AHD-9204-130					310		295	0.005	U	0.005	U		101	204	2.4		1.8						7.3	1.57		1.55			
BRSW-12	5/5/1992	AHD-9205-114					245		251	0.005	U	0.005	U		68	161	1.9		2.6						9.7	1.28		1.43			
BRSW-12	5/19/1992	AHD-9205-212					295		267	0.005	U	0.005	U		89	204	1	U	0.57						7.7	1.63		1.697			
BRSW-12	6/2/1992	AHD-9206-106					300		290	0.005	U	0.005	U		93	207	2.2		0.93						14	1.179		1.269			
BRSW-12	6/2/1993	AHD-9306-900					160	J4	1198						34	240	J4	5.5					7.2			0.88		1.126			
BRSW-12	10/25/1993	AHD-9310-906	0.06	U	0.06	U	220		151	0.005	U	0.005	U	7.1	49	132	1	U	0.2				3.9			0.748	J4	0.871	J4		
BRSW-12	5/17/1994	AHD-9405-100					177		179						31	112	1	U					5.8			0.62	J4,J2			0.72	J4,J2
BRSW-12	10/26/1994	AHD-9410-100					283		270						73	204	1	U					5.5			1.465				1.584	
BRSW-12	5/2/1995	AHD-9505-100					217		133						59	152	1.2	J4S,J2					3.6			1.5				1.5	
BRSW-12	10/23/1995	AHD-9510-100					235		452						69	165	1	U					5.1			1.1				1.2	
BRSW-12	5/20/1996	AHD-9605-100					163		174						34	104	2.3	J4S					6.2			0.86				0.86	
BRSW-12	10/21/1996	AHD-9610-100					319		318						89	214	1	U					3.3			2.3				2.2	
BRSW-12	5/27/1997	AHD-9705-152					133		115						17	83	1.4						5.8			0.39				0.47	
BRSW-12	10/20/1997	AHD-9710-102					302		257						80	218	1.1						5.1			1				0.98	
BRSW-12	5/5/1998	AHD-9805-102					192		172						47	124	1	U					6.3			0.76				0.76	
BRSW-12	10/21/1998	AHD-9810-102					354		356						137	245	1	U					8.6			2.6				2.4	
BRSW-12	4/27/1999	AHD-9904-105					229		248						68	148	10	U					4.1			1.65				1.68	
BRSW-12	5/28/1999	AHD-9905-120					149		132						24	92	10	U					7.7			0.51				0.48	
BRSW-12	10/18/1999	AHD-9910-103					364		352						128	244	1	U					6.9			1.6				1.7	
BRSW-12	10/10/2000	AHD-0010-102							334						126	226	1	U					6.9			0.79				0.81	
BRSW-12	4/24/2001	AHD-0104-101							356						136	242	1.7						4.8			1.4				1.5	
BRSW-12	5/21/2001	AHD-0105-102							136						51	140	1.6						5.6			1				1	
BRSW-12	6/25/2001	AHD-0106-102							217						46	142	1	U					8.2			0.8				0.83	
BRSW-12	10/4/2001	AHD-0110-200							395														5.7								
BRSW-12	10/16/2001	AHD-0110-125							381						124	241	2.4						5.3			1.3				1.3	
BRSW-12	5/2/2002	UBMC-0205-102							285						101	214	1.7						8.3			2				2	
BRSW-12	5/21/2002	UBMC-0205-203							217						54	130	8.8						4.6			1.6				1.8	
BRSW-12	7/9/2002	UBMC-0207-102							210						63	156	1	U					14.4			0.95				0.88	
BRSW-12	10/3/2002	UBMC-0210-103							315						111	243	1	U					7.2			1.5		1.4			
BRSW-12	4/28/2003	UBMC-0304-103							164						55	115	1	U					3			1.2				1.3	
BRSW-12	5/19/2003	UBMC-0305-105							124						19	127	1	U					8.8			0.4				0.5	
BRSW-12	6/25/2003	UBMC-062403-5							174						48	111	1	U					9.6			0.7				0.7	
BRSW-12	10/21/2003	UBMC-0310-103							356						116	247	1	U,UJ			1		9			1.3				1.2	
BRSW-12	4/28/2004	UBMC-0404-105							155						37	113	UJ	10	U				0.4			0.91				0.92	
BRSW-12	5/26/2004	AHD-0405-102							195						32	116		10	U				6.1			0.71	J			0.89	J
BRSW-12	6/14/2004	UBMC-0604-104							263						39	125	UJ	10	U				7.6			0.81				0.8	
BRSW-12	10/12/2004	UBMC-1004-105							453						84	J	230	J	10	U				7.4			1.37				1.59	

TABLE B-14. UPPER BLACKFOOT RIVER SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	ACIDCACO		AG_DIS		AG_TOT		AIR_TEMP_C		ALKCACO3		AL_DIS		AL_TOT		AL_TRC		AS_DIS		AS_TOT		AS_TRC		BA_DIS		BA_TOT		CADIS		CATOT		CD_DIS		CD_TOT		CD_TRC		CL		CO3CACO3	
BRSW-9	8/12/1991	9108-018			0.008	U	0.008	U			72		0.2	U	0.23				0.02	U	0.02	U							42			0.008	U	0.009				1	U	1	U
BRSW-9	8/12/1991	9108-028			0.008	U	0.008	U			72		0.2	U	0.22				0.02	U	0.02	U							42			0.008	U	0.008				1	U	1	U
BRSW-9	9/13/1991	9109-067			0.008	U	0.008	U			68		0.2	U	0.2				0.02	U	0.02	U							46			0.008	U	0.008	U			1	U	1	U
BRSW-9	11/13/1991	9111-109			0.008	U	0.008	U	6		44		0.2	U	0.37				0.02	U	0.02	U							53			0.012		0.012				2.8		1	U
BRSW-9	4/17/1992	AHD-9204-106			0.01	U	0.01	U,J2			57		0.2	U	0.54				0.008	U	0.008	U			0.2	U	0.2	U	41			0.006		0.012				2	U	1	U
BRSW-9	5/5/1992	AHD-9205-106			0.01	U	0.01	U			59		0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	30			0.0054		0.0058				2	U	1	U
BRSW-9	5/19/1992	AHD-9205-221			0.01	U	0.01	U			74		0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	38			0.005	U	0.005	U			2	U	1	U
BRSW-9	6/3/1992	AHD-9206-102			0.01	U	0.01	U			76		0.2	U	0.2	U			0.008	U	0.008	U			0.2	U	0.2	U	40			0.005	U	0.005	U			2	U	1	U
BRSW-9	6/3/1993	AHD-9306-914									62		0.209		0.407														22			0.0065		0.0067							
BRSW-9	10/25/1993	AHD-9310-903			0.0002	U	0.0002	U,J4			72		0.1	U	0.1	U,J4			0.003	U	0.003	U,J4			0.2	U	0.2	U			28	0.0023	J4	0.003				2	U	1	U
BRSW-9	5/17/1994	AHD-9405-115	1	U							61		0.14	UJ1			0.19	UJ1											30			0.003	J2			0.004	J2			0.1	U
BRSW-9	10/26/1994	AHD-9410-115	5	U							73		0.05				0.542		0.002	U,UJ4D			0.002	U					43			0.01	J2			0.011	J2				
BRSW-9	5/2/1995	AHD-9505-116	5	U							55		0.05	U			0.025		0.002	U			0.002	U					29			0.011				0.01		0.011			
BRSW-9	10/23/1995	AHD-9510-115									71		0.05				0.08		0.002	U			0.002	U					34			0.005	J4S			0.004	J4S				
BRSW-9	5/20/1996	AHD-9605-115									50		0.05	U			0.11	J4S	0.002	U			0.002	U					20			0.004				0.004					
BRSW-9	10/21/1996	AHD-9610-115									75		0.05	U			0.05	U	0.002	U			0.002	U					46			0.013				0.012					
BRSW-9	1/6/1997	AHD-9701-105											0.05	U			0.05		0.002	U			0.002	U								0.005				0.007					
BRSW-9	5/27/1997	AHD-9705-167									54		0.05	U			0.083		0.002	U			0.002	U					16			0.002				0.002					
BRSW-9	10/21/1997	AHD-9710-118									89		0.05	U			0.05	U	0.002	U			0.002	U					38			0.006				0.006					
BRSW-9	5/5/1998	AHD-9805-118									56		0.05	U			0.05	U	0.002	U			0.002	U					24			0.004				0.004					
BRSW-9	10/22/1998	AHD-9810-118									56		0.05	U			0.05	U	0.002	U			0.002	U					50			0.01				0.009					
BRSW-9	4/28/1999	AHD-9904-113	0								47		0.05	U			0.37		0.002	U			0.002	U					35			0.0159				0.0155					
BRSW-9	5/28/1999	AHD-9905-121									57		0.05	U			0.05		0.002	U			0.002	U					18			0.0024				0.0027					
BRSW-9	10/19/1999	AHD-9910-134									83		0.05	U			0.05	U	0.002	U			0.002	U					58			0.003				0.003					
BRSW-9	10/10/2000	AHD-0010-107									78		0.05				0.05	U	0.005	U			0.005	U					56			0.004				0.004					
BRSW-9	4/24/2001	AHD-0104-127									60		0.065				0.23		0.005	U			0.005	U					46			0.011				0.01					
BRSW-9	5/21/2001	AHD-0105-110									56		0.05	U			0.076		0.005	U			0.005	U					22			0.005				0.005					
BRSW-9	6/25/2001	AHD-0106-130									73		0.05	U			0.079		0.005	U			0.005	U					23			0.0041				0.0044					
BRSW-9	10/16/2001	AHD-0110-132									75		0.05	U			0.05	U,UJ4D	0.005	U			0.005	U					60			0.0041				0.004					
BRSW-9	5/3/2002	UBMC-0205-103									53		0.05	U			0.05	U	0.005	U			0.005	U					34			0.0113				0.0115					
BRSW-9	5/21/2002	UBMC-0205-204									37		0.05	U			0.65		0.005	U			0.005	U					17			0.008				0.009					
BRSW-9	7/9/2002	UBMC-0207-106									70		0.05	U			0.053		0.005	U			0.005	U					27			0.004				0.004					
BRSW-9	10/3/2002	UBMC-0210-104									78		0.054		0.05	U			0.005	U	0.005	U							55			0.0048		0.0046							
BRSW-9	4/28/2003	UBMC-0304-104									47		0.05	U			0.2		0.005	U			0.005	U					20			0.008				0.008					
BRSW-9	5/19/2003	UBMC-0305-106									68		0.05	U			0.08		0.005	U			0.005	U					18			0.003				0.003					
BRSW-9	6/25/2003	UBMC-062403-6									75		0.05	U			0.05	U	0.005	U			0.005	U					25			0.003				0.003					
BRSW-9	10/21/2003	UBMC-0310-104									76		0.05	U,UJ			0.05	U	0.005	U			0.005	U					57			0.004				0.004					
BRSW-9	4/28/2004	UBMC-0404-106									56	UJ	0.05	U			0.54		0.005	U			0.005	U					23			0.0054	J			0.0061	J				
BRSW-9	5/26/2004	AHD-0405-103									62		0.06	J			0.07	J	0.005	U,J			0.005	U,J					21	J		0.0036	J			0.0044	J				
BRSW-9	6/14/2004	UBMC-0604-105									77	UJ	0.05	U			0.05	U	0.005	U			0.005	U					23			0.003				0.0031					
BRSW-9	10/12/2004	UBMC-1004-106									77	J	0.05	U			0.05	U	0.005	U			0.005	U					46	J		0.0036				0.0037					

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-14. UPPER BLACKFOOT RIVER SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	CO3CO3		CO_DIS		CO_TOT		CR_DIS		CR_TOT		CU_DIS		CU_TOT		CU_TRC		FE_DIS		FE_TOT		FE_TRC		FLOW_CFS	HCO3		HCO3CACO		HG_TOT		HRDCACO3		KDIS		KTOT		MGDIS		MGTOT		MN_DIS
BRSW-9	8/12/1991	9108-018											0.009		0.053				0.042		1.6				2.89			72		0.0005	U	216						27				1.8
BRSW-9	8/12/1991	9108-028											0.009		0.049				0.39		1.5				2.89			72		0.0005	U	212						26				2
BRSW-9	9/13/1991	9109-067											0.008	U	0.038	UJ1			0.02	U	0.87				1.44			68		0.0005	U	230						28				2
BRSW-9	11/13/1991	9111-109											0.02		0.065				0.02	U	0.9				0.83			44		0.0005	U	263						32				1.2
BRSW-9	4/17/1992	AHD-9204-106			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.18				0.05	U	13.6				3.7			57		0.0005	U	197		2	U			23				0.712
BRSW-9	5/5/1992	AHD-9205-106			0.05	U	0.05	U	0.01	U	0.01	U	0.012		0.029				0.05	U	0.347				5.18			59		0.0005	U	141		2	U			16				0.383
BRSW-9	5/19/1992	AHD-9205-221			0.05	U	0.05	U	0.01	U	0.01	U	0.014		0.021				0.05	U	0.326				3.3265			74		0.0005	U	183		2	U			22				0.902
BRSW-9	6/3/1992	AHD-9206-102			0.05	U	0.05	U	0.01	U	0.01	U	0.008	U	0.014				0.05	U	0.64				3.35			76		0.0005	U	200		2	U			24				1.274
BRSW-9	6/3/1993	AHD-9306-914											0.022		0.056				0.1	U	0.291				26.84												12				0.384
BRSW-9	10/25/1993	AHD-9310-903			0.05	U,J4	0.05	U	0.01	U	0.01	U	0.012	UJ1,J4	0.019	J4			0.1	U,J4	0.175				4.75			72		0.0002	U	136				5	U			16		0.63
BRSW-9	5/17/1994	AHD-9405-115											0.014				0.037		0.065	J4,UJ1			0.18	UJ1	16.29			61						2				16				0.32
BRSW-9	10/26/1994	AHD-9410-115											0.029	J2			0.083	J2	0.03	U					0.48									2	U			23				0.863
BRSW-9	5/2/1995	AHD-9505-116	1	U									0.035				0.065		0.03	U,UJ4S			0.17		5.8	55								2	U			16				0.61
BRSW-9	10/23/1995	AHD-9510-115	1	U									0.016				0.019		0.03	U			0.15	J2	0.69	71								2	U,UJ4D			18				0.47
BRSW-9	5/20/1996	AHD-9605-115	1	U									0.019				0.026	J4S	0.05	U			0.06		27.19	50								1.5	UJ1,J4S,J2			11				0.48
BRSW-9	10/21/1996	AHD-9610-115	1	U									0.018				0.019		0.03	U			0.03	U	0.442	75								2.4				26				2.3
BRSW-9	1/6/1997	AHD-9701-105											0.009				0.018		0.03	U			0.11		0.6626																4.86
BRSW-9	5/27/1997	AHD-9705-167	1	U									0.012				0.022		0.03	U			0.079		36.5	66								2.9				8.2				0.14
BRSW-9	10/21/1997	AHD-9710-118	1	U									0.005	U			0.012		0.05	U			0.05	U	1.04	89								2	U			21				1.5
BRSW-9	5/5/1998	AHD-9805-118	1	U									0.009				0.013		0.03	U			0.041		8.76	68								2	U			13				0.33
BRSW-9	10/22/1998	AHD-9810-118	1	U									0.01				0.01		0.05	U			0.12		0.102	68								5	U			27				0.015
BRSW-9	4/28/1999	AHD-9904-113											0.074				0.169		0.01				0.26		12.5									1	U			19				1.08
BRSW-9	5/28/1999	AHD-9905-121											0.017				0.03		0.01	U			0.07		35.3									1	U			9				0.157
BRSW-9	10/19/1999	AHD-9910-134	1	U									0.005	U			0.007		0.05	U			0.05	U	0.6	83								5	U			27				0.16
BRSW-9	10/10/2000	AHD-0010-107	1	U									0.005				0.008		0.05	U			0.05	U	0.56	95								5	U			26				0.5
BRSW-9	4/24/2001	AHD-0104-127											0.016				0.052		0.05	U			0.57		3.04									2	U			22				0.8
BRSW-9	5/21/2001	AHD-0105-110											0.016				0.028		0.05	U			0.054		10.1									2	U			11				0.34
BRSW-9	6/25/2001	AHD-0106-130											0.014				0.018		0.05	U			0.05	U	8.9									2	U			12				0.25
BRSW-9	10/16/2001	AHD-0110-132	1	U									0.005				0.006		0.02	U			0.04		0.59	92								5	U			27				0.29
BRSW-9	5/3/2002	UBMC-0205-103	1	U									0.018				0.053		0.054				0.4		9.75	65								5	U			18				0.9
BRSW-9	5/21/2002	UBMC-0205-204	1	U									0.031				0.096		0.02	U,J			0.62		46.75	45								5	U			9				0.52
BRSW-9	7/9/2002	UBMC-0207-106	1	U									0.011				0.014		0.02	U			0.044		5.98	85								5	U			14				0.23
BRSW-9	10/3/2002	UBMC-0210-104	1	U									0.005		0.008				0.02	U	0.041				2.29	95								5	U			27				3.5
BRSW-9	4/28/2003	UBMC-0304-104	2	U									0.04				0.1		0.03	U			0.1		16.8	57								5	U			11				0.7
BRSW-9	5/19/2003	UBMC-0305-106	2	U									0.02				0.03		0.02	U			0.1		32.2	83								5	U			9.4				0.2
BRSW-9	6/25/2003	UBMC-062403-6	2	U									0.009				0.01		0.02				0.04		5.4	92								5	U			13				0.3
BRSW-9	10/21/2003	UBMC-0310-104	2	U									0.004				0.005	J	0.02	U			0.02	U,UJ	1.2	93								5	U			27				0.3
BRSW-9	4/28/2004	UBMC-0404-106											0.02				0.19		0.01	U,J			0.51	J	9.43									1	U			12				0.5
BRSW-9	5/26/2004	AHD-0405-103											0.014	J			0.031	J	0.03				0.16		28.92									1	U			10				0.37
BRSW-9	6/14/2004	UBMC-0604-105											0.01				0.02		0.01	U			0.04		9.13									1	U			12				0.35
BRSW-9	10/12/2004	UBMC-1004-106											0.01	U			0.01	U	0.01	U,J			0.05	J	1.08									1	U,J			22	J			0.4

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deviation from known value. Possible bias.
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UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
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deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-14. UPPER BLACKFOOT RIVER SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #		MN_TOT		MN_TRC		MO_DIS		MO_TOT		NADIS		NATOT		NI_DIS		NI_TOT		O		O_DIS		PB_DIS		PB_TOT		PB_TRC		PH		PH_FLD		SALINITY
BRSW-9	8/12/1991	9108-018		1.9				0.02	U	0.02	U	1.4												0.01	U	0.022				7.8		7.96		
BRSW-9	8/12/1991	9108-028		2				0.02	U	0.02	U	1.4												0.01	U	0.015				7.7		7.96		
BRSW-9	9/13/1991	9109-067		2				0.02	U	0.02	U	1.9	UJ1											0.01	U	0.012				7.6		8.33		
BRSW-9	11/13/1991	9111-109		1.4				0.02	U	0.02	U	2												0.01	U	0.031				7.9		6.9		
BRSW-9	4/17/1992	AHD-9204-106		0.939				0.05	U	0.05	U	2	U			0.02	U	0.02	U			11		0.005	U	0.115				6.9		6.96		
BRSW-9	5/5/1992	AHD-9205-106		0.392				0.05	U	0.05	U	2.1				0.02	U	0.02	U			10.2		0.005	U	0.015				7.7		7.71		
BRSW-9	5/19/1992	AHD-9205-221		0.935				0.05	U	0.05	U	2	U			0.02	U	0.02	U			9.9		0.005	U	0.011				8		7.92		
BRSW-9	6/3/1992	AHD-9206-102		1.266				0.05	U	0.05	U	2	U			0.02	U	0.02	U			9		0.005	U	0.008				7.7		8.31		
BRSW-9	6/3/1993	AHD-9306-914		0.4																		10.19		0.0063		0.035				7.4		5.79		
BRSW-9	10/25/1993	AHD-9310-903		0.655				0.05	U	0.05	U			5	U	0.04	U,J4	0.04	U			12.6		0.003	U,J4	0.007				8		7.43		
BRSW-9	5/17/1994	AHD-9405-115	J4			0.35						1.4										8.3		0.002				0.006	J4	7.9		7.54		
BRSW-9	10/26/1994	AHD-9410-115	J4SJ2			0.899	J2					2	U									9.35		0.002	U			0.033		7.9		8.03		
BRSW-9	5/2/1995	AHD-9505-116										2	U									10.88		0.004				0.021		7.7		7.27		
BRSW-9	10/23/1995	AHD-9510-115				0.46						2	U									9.91		0.006				0.02		8.1		7.31		
BRSW-9	5/20/1996	AHD-9605-115				0.52						1.1										9.66		0.005				0.014	J4S	7.5		7.67		
BRSW-9	10/21/1996	AHD-9610-115				2.1						2	U									10.12		0.003				0.005		7.6		6.72		
BRSW-9	1/6/1997	AHD-9701-105				4.52																11.46		0.003	U			0.006				6.8		
BRSW-9	5/27/1997	AHD-9705-167				0.15						2	U									10.41		0.005				0.013		7.6		6.31		
BRSW-9	10/21/1997	AHD-9710-118				1.6						3.3										9.47		0.003	U			0.004		8		7.86		
BRSW-9	5/5/1998	AHD-9805-118				0.33						2										9.92		0.004				0.012		7.7		8.04		
BRSW-9	10/22/1998	AHD-9810-118				0.019						12										9.41		0.003	U			0.005		7		6.45		
BRSW-9	4/28/1999	AHD-9904-113	J2			1.1	J2					1										11.04		0.003	U			0.024		7.1		7.3		
BRSW-9	5/28/1999	AHD-9905-121				0.19						1	U									10.35		0.004				0.015		7.2		7.35		
BRSW-9	10/19/1999	AHD-9910-134				0.16						5	U									11.37		0.003	U			0.003		8		8.33		
BRSW-9	10/10/2000	AHD-0010-107				0.46						5	U									8.7		0.003	U			0.003	U	8		7.02		
BRSW-9	4/24/2001	AHD-0104-127				0.82						2	U									10.2		0.003				0.034		7.9		7.06		
BRSW-9	5/21/2001	AHD-0105-110				0.34						2	U									9.29		0.004				0.013		7.5		6.5		
BRSW-9	6/25/2001	AHD-0106-130				0.27						1.1										8.58		0.006				0.01		7.4		8.2		
BRSW-9	10/16/2001	AHD-0110-132				0.3						5	U									9.09		0.003	U			0.003		7.8		7.85		
BRSW-9	5/3/2002	UBMC-0205-103				0.9						5	U							10.3				0.004				0.024		6.7		6.52		
BRSW-9	5/21/2002	UBMC-0205-204				0.76						5	U							10.92				0.003				0.044		6.4		6.6		
BRSW-9	7/9/2002	UBMC-0207-106				0.22						5	U							5.93				0.005				0.008		7.4		6.59		
BRSW-9	10/3/2002	UBMC-0210-104		3.8								5	U							5.57				0.003	U	0.003				7.3		7.66		
BRSW-9	4/28/2003	UBMC-0304-104				0.7						5	U									11.9		0.005				0.02		6.4		6.3		
BRSW-9	5/19/2003	UBMC-0305-106				0.2						5	U									8.1		0.006				0.02		7.1		6.5		
BRSW-9	6/25/2003	UBMC-062403-6				0.3						5	U									9.7		0.004				0.008		7.9		7.1		
BRSW-9	10/21/2003	UBMC-0310-104				0.3						5	U									8.6		0.003	U			0.003		8.1		8.03		0.2
BRSW-9	4/28/2004	UBMC-0404-106				0.63						1	UJ									5.89		0.003	U			0.043		7.2		6.88		
BRSW-9	5/26/2004	AHD-0405-103	J			0.51	J					1										10.33		0.004	J			0.017	J	7.5		7.76		
BRSW-9	6/14/2004	UBMC-0604-105				0.38						1	UJ									8.22		0.004				0.009		7.9		7.28		
BRSW-9	10/12/2004	UBMC-1004-106				0.44						2	J									6.22		0.003	U			0.003	U	7.8		7.36		

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TABLE B-14. UPPER BLACKFOOT RIVER SURFACE WATER SAMPLES (continued)

SITE CODE	SAMP DATE	SAMP #	SB_DIS		SB_TOT		SC		SC_FLD		SE_DIS		SE_TOT		SIO2_DIS		SO4		TDS		TSS		TURBIDITY		TURB_FLD		WATER_TEM		WATER_TEM_		ZN_DIS		ZN_TOT		ZN_TRC	
BRSW-9	8/12/1991	9108-018					390		332		0.02	U	0.02	U			73		294		3.4		11	J4					16.5		2.3		2.7			
BRSW-9	8/12/1991	9108-028					390		332		0.02	U	0.02	U			71		299		3.2		8.2						16.5		2.5		2.9			
BRSW-9	9/13/1991	9109-067					450		319		0.02	U	0.02	U			103		271		1.9		4.4						13.7		2.4		2.4			
BRSW-9	11/13/1991	9111-109					490		328		0.02	U	0.02	U			177		309		4.7		4.6						3.4		3.8		4.3			
BRSW-9	4/17/1992	AHD-9204-106					370		334		0.005	U	0.005	U			125		254		37		45						5.6		1.94		3.9			
BRSW-9	5/5/1992	AHD-9205-106					270		262		0.005	U	0.005	U			70		168		1	U	1.3						10.3		1.565		1.722			
BRSW-9	5/19/1992	AHD-9205-221					350		305		0.005	U	0.005	U			100		239		1.3		0.83						13		1.34		1.575			
BRSW-9	6/3/1992	AHD-9206-102					360		347		0.005	U	0.005	U			118		254		5.2		3.3						14.8		1.527		1.773			
BRSW-9	6/3/1993	AHD-9306-914					200	J4	159								41		142	J4	4.8						5.6				1.103		1.465			
BRSW-9	10/25/1993	AHD-9310-903	0.06	U	0.06	U	274		207		0.005	U	0.005	U	6.5		61		173		1	U	0.2				5.4				0.592	J4	0.987	J4		
BRSW-9	5/17/1994	AHD-9405-115					209		206								38		134		1	U					6.8				0.86	J4,J2			1	J4,J2
BRSW-9	10/26/1994	AHD-9410-115					397		377								135		273		7.9						7.3				2.501				3.009	
BRSW-9	5/2/1995	AHD-9505-116					278		175								75		181		1.2	J4S,J2					4.6				2.2				2.1	
BRSW-9	10/23/1995	AHD-9510-115					293		342								69		190		1						6				1.2				1.2	
BRSW-9	5/20/1996	AHD-9605-115					203		216								41	J4S	133		2.1	J4S					6.7				1.2				1.2	
BRSW-9	10/21/1996	AHD-9610-115					457		458								164		317		1	U					4.3				4.7				4.4	
BRSW-9	1/6/1997	AHD-9701-105							440								230										0.1				6.42				5.87	
BRSW-9	5/27/1997	AHD-9705-167					159		134								20		107		1	U					7				0.49				0.48	
BRSW-9	10/21/1997	AHD-9710-118					382		350								110		279		7.6						10.1				1.1				1.1	
BRSW-9	5/5/1998	AHD-9805-118					253		220								63		162		5.8						8				0.95				0.93	
BRSW-9	10/22/1998	AHD-9810-118					519		512								217		358		1	U					5.7				2.3				2.3	
BRSW-9	4/28/1999	AHD-9904-113					363		373								125		233		10	U					2.5				3.38				3.45	
BRSW-9	5/28/1999	AHD-9905-121					170		150								26		99		10	U					9.1				0.55				0.53	
BRSW-9	10/19/1999	AHD-9910-134					526		517								204		378		1	U					1.3				0.98				1	
BRSW-9	10/10/2000	AHD-0010-107							418								169		333		1	U					12				0.85				0.85	
BRSW-9	4/24/2001	AHD-0104-127							449								178		303		4.3						7.3				2.2				2.3	
BRSW-9	5/21/2001	AHD-0105-110							142								56		141		1	U					10.3				0.96				0.96	
BRSW-9	6/25/2001	AHD-0106-130							241								53		152		1	U					13.6				0.72				0.8	
BRSW-9	10/16/2001	AHD-0110-132							495								169		330		1.1						9.8				2.1				2.1	
BRSW-9	5/3/2002	UBMC-0205-103							325								97		227		1.6						4.38				2.6				2.6	
BRSW-9	5/21/2002	UBMC-0205-204							212								51		115		5.9						4.8				1.4				1.6	
BRSW-9	7/9/2002	UBMC-0207-106							212								58		170		1	U					16.8				0.68				0.69	
BRSW-9	10/3/2002	UBMC-0210-104							438								180		347		1	U					6.4				1.7		1.6			
BRSW-9	4/28/2003	UBMC-0304-104							181								72		137		1.6						3.2				1.5				1.6	
BRSW-9	5/19/2003	UBMC-0305-106							141								19		153		2.2						10.3				0.4				0.4	
BRSW-9	6/25/2003	UBMC-062403-6							223								49		134		1	U					10.1				0.6				0.6	
BRSW-9	10/21/2003	UBMC-0310-104							511								147		332		1	U,UJ				2	10				2				1.9	
BRSW-9	4/28/2004	UBMC-0404-106							209								53		156	UJ	10	U					0.1				1.36				1.55	
BRSW-9	5/26/2004	AHD-0405-103							223								37		137		10	U					6.3				0.74	J			1	J
BRSW-9	6/14/2004	UBMC-0604-105							304								42		140	UJ	10	U					7.6				0.74				0.76	
BRSW-9	10/12/2004	UBMC-1004-106							581								105	J	278	J	10	U					10.5				1.99				2.28	

U = Value Below Reporting Limit
J = Estimated quantity because quality control
criteria were not met. Subscripts for the "J" qualifier:
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
UJ = The material was analyzed for, but was not
detected above the associated value.
Subscripts for the "UJ" qualifier:
1 - Blank contamination. Indicates possible high bias
and/or false positive.
2 - Calibration range exceeded or significant
deviation from known value. Possible bias.
3 - Holding time not met. Indicates low bias.
4 - Other QC outside control limits.
D = Duplicate
S = Split

TABLE B-15. UPPER BLACKFOOT RIVER GROUNDWATER SAMPLE

Site	Date	Depth to Water Level (ft)	Alk as $CaCO_3$	Al (dis)	As (dis)	Ca (dis)	Cd (dis)	Cu (dis)	Fe (dis)	K (dis)	Mg (dis)	Mn (dis)	Na (dis)	Pb (dis)	pH (s.u.)	SC (µmhos/cm)	SO_4	TDS	TSS	Zn (dis)
ANMW-3	11/10/92	19	85	NA	NA	28	NA	NA	NA	<2	13	NA	2.9	NA	6.8	230	<2	170	NA	NA
ANMW-3	02/09/93	9.04	79	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30	123	NA	NA
ANMW-3	05/05/93	15	77	0.24	NA	NA	<0.005	<0.025	<0.1	NA	NA	<0.015	NA	<0.003	7.6	220	32	142	NA	<0.02
ANMW-3*	05/05/93	15	74	0.211	NA	NA	<0.005	<0.025	<0.1	NA	NA	<0.015	NA	<0.003	7.4	250	49	88	NA	<0.02
ANMW-3	06/21/94	6.64	68	<0.05	NA	28	<0.001	<0.005	0.036	1.4	13	<0.01	1.8	0.003	7.5	243	37	130	20	<0.01
ANMW-3	11/03/94	2.74	79	<0.05	<0.002	29	<0.001	<0.005	<0.03	<2	13	<0.01	<2	<0.002	7.7	245	46	142	33	0.016
ANMW-3	05/04/95	2.24	72	<0.05	<0.002	31	<0.001	<0.005	<0.03	<2	14	<0.01	<2	<0.003	7.7	267	56	168	9.8	<0.01
ANMW-3	10/25/96	10.6	81	<0.05	<0.002	28	<0.001	<0.005	<0.03	1.1	13	<0.01	1.7	<0.003	6.9	245	41	175	244	0.013
	Average	**10.03**	**77**	**0.11**	**NA**	**29**	**NA**	**NA**	**0.054**	**1.7**	**13**	**NA**	**2.1**	**0.003**	**7.4**	**243**	**37**	**142**	**77**	**0.015**
	Median	**9.82**	**78**	**<0.05**	**NA**	**28**	**NA**	**NA**	**0.033**	**<2**	**13**	**NA**	**<2**	**<0.003**	**7.5**	**245**	**39**	**142**	**27**	**0.015**
	Minimum	**2.24**	**68**	**<0.05**	**<0.002**	**28**	**<0.001**	**<0.005**	**<0.03**	**1.1**	**13**	**<0.01**	**1.7**	**<0.002**	**6.8**	**220**	**2**	**88**	**10**	**<0.01**
	Maximum	**19.00**	**85**	**0.24**	**<0.002**	**31**	**<0.005**	**<0.025**	**<0.1**	**2**	**14**	**<0.015**	**2.9**	**0.003**	**7.7**	**267**	**56**	**175**	**244**	**0.016**
ANMW-7	06/21/94	8.08	41	<0.05	NA	40	0.007	0.063	0.084	1	21	0.24	1.9	0.005	7.2	387	128	233	5	1.6
ANMW-7	11/03/94	8.12	48	0.099	<0.002	61	0.018	0.279	<0.03	<2	33	1.346	2.4	<0.002	7.1	561	253	400	<1	3.651
ANMW-7	05/05/95	7.4	34	0.11	<0.002	49	0.015	0.28	<0.03	<2	26	1.2	2.2	<0.003	6.9	457	179	282	<1	3
ANMW-7	10/25/95	7.69	31	0.15	<0.002	56	0.028	0.35	<0.03	2.7	25	1.6	2.2	<0.003	6.7	472	196	389	<1	6.3
ANMW-7	05/24/96	6	16	0.15	<0.002	32	0.023	0.4	<0.03	<2	15	2.4	1.7	<0.003	6.2	328	140	209	<1	4.3
ANMW-7	10/24/96	7.81	24	0.18	<0.002	44	0.038	0.51	<0.03	2.5	22	4.4	2	<0.003	5.8	447	199	322	2	4.6
ANMW-7	05/29/97	6.6	15	0.12	<0.002	34	0.023	0.38	<0.03	<2	15	3.7	<2	<0.003	6.5	305	125	240	<1	3.2
ANMW-7	10/24/97	7.79	23	0.31	<0.002	53	0.042	0.7	<0.05	<2	23	9.5	3.7	<0.003	6.5	522	250	412	<1	4.1
ANMW-7	05/08/98	7.35	14	0.12	<0.002	35	0.025	0.52	<0.03	<5	16	5.4	<5	<0.003	6.6	380	154	285	<1	2.7
ANMW-7	10/19/98	7.38	24	0.12	<0.002	30	0.011	0.27	<0.03	NA	15	2	<5	<0.003	6.1	300	106	211	<1	1.2
	Average	**7.42**	**27**	**0.14**	**NA**	**43**	**0.023**	**0.375**	**0.04**	**2**	**21**	**3.18**	**2.8**	**0.003**	**6.6**	**416**	**173**	**298**	**2**	**3.5**
	Median	**7.55**	**24**	**0.12**	**NA**	**42**	**0.023**	**0.365**	**<0.03**	**2**	**22**	**2.20**	**2.2**	**<0.003**	**6.6**	**417**	**167**	**284**	**<1**	**3.4**
	Minimum	**6.00**	**14**	**<0.05**	**<0.002**	**30**	**0.007**	**0.063**	**<0.03**	**1**	**15**	**0.24**	**1.7**	**<0.002**	**5.8**	**300**	**106**	**209**	**<1**	**1.2**
	Maximum	**8.12**	**48**	**0.31**	**<0.002**	**61**	**0.042**	**0.700**	**0.084**	**5**	**33**	**9.50**	**5.0**	**0.005**	**7.2**	**561**	**253**	**412**	**5**	**6.3**
ANMW-9	11/03/94	5.51	114	<0.05	<0.002	19	<0.001	<0.005	0.096	2.1	8.2	0.018	6.6	<0.002	7.5	208	10	120	NA	0.028
ANMW-9	05/04/95	5.31	68	<0.05	<0.002	17	<0.001	<0.005	<0.03	<2	8.3	<0.01	<2	<0.003	7.5	147	5.7	70	<1	<0.01
ANMW-9	10/26/95	6	81	<0.05	<0.002	23	<0.001	<0.005	<0.03	<2	10	<0.01	<2	<0.003	7.5	172	6	157	12	<0.01
	Average	**5.61**	**88**	**NA**	**NA**	**20**	**NA**	**NA**	**0.052**	**2.0**	**8.8**	**0.01**	**3.5**	**NA**	**7.5**	**176**	**7**	**116**	**7**	**0.016**
	Median	**5.51**	**81**	**NA**	**NA**	**19**	**NA**	**NA**	**<0.03**	**<2**	**8.3**	**<0.01**	**<2**	**NA**	**7.5**	**172**	**6**	**120**	**6.5**	**<0.01**
	Minimum	**5.31**	**68**	**<0.05**	**<0.002**	**17**	**<0.001**	**<0.005**	**<0.03**	**<2**	**8.2**	**<0.01**	**<2**	**<0.002**	**7.5**	**147**	**5.7**	**70**	**<1**	**<0.01**
	Maximum	**6.00**	**114**	**<0.05**	**<0.002**	**23**	**<0.001**	**<0.005**	**0.096**	**2.1**	**10**	**0.018**	**6.6**	**<0.003**	**7.5**	**208**	**10**	**157**	**12**	**0.028**

NOTES: All results in mg/L except as indicated.
* Duplicate Sample; NA-Not Analyzed; The detection limit was used in statistical analysis for values below the detection limit.

TABLE B-15. UPPER BLACKFOOT RIVER GROUNDWATER SAMPLES (continued)

Site	Date	Depth to Water Level (ft)	Alk as $CaCO_3$	Al (dis)	Al (tot)	As (dis)	Ca (dis)	Cd (dis)	Cd (tot)	Cu (dis)	Cu (tot)	Fe (dis)	Fe (tot)	K (dis)	Mg (dis)	Mn (dis)	Mn (tot)	Pb (dis)	Pb (tot)	pH	SC (UMHOS/ CM AT 25 C)	SO_4	TDS	Zn (dis)	Zn (tot)
MPP4	11/10/92	20	<1	NA	1.7	NA	NA	NA	0.011	NA	0.27	NA	NA	NA	NA	NA	2	NA	<5	4.4	520	27	338	NA	2.2
MPP4	02/09/93	14.96	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0001	NA	NA	NA	NA	NA	NA	5	460	242	348	NA	NA
MPP4	05/05/93	16	<1	3.377	3.501	NA	NA	0.014	0.014	0.342	0.371	0.126	0.0006	NA	NA	1.028	1.021	<0.003	<0.003	4.6	610	286	511	2.792	2.711
MPP4	08/09/93	16	7	0.2	0.327	NA	NA	<0.005	<0.005	<0.025	<0.025	<0.1	NA	NA	NA	0.03	0.029	<0.003	<0.003	6.9	410	181	154	0.191	0.178
	Average	**16.74**	**2.5**	**NA**	**1.843**	**NA**	**NA**	**0.010**	**0.01**	**0.184**	**0.222**	**0.113**	**0.0004**	**NA**	**NA**	**0.529**	**1.017**	**NA**	**1.669**	**5.2**	**500**	**184**	**338**	**NA**	**1.696**
	Median	**16.00**	**<1**	**NA**	**1.7**	**NA**	**NA**	**0.010**	**0.011**	**0.184**	**0.27**	**0.113**	**0.0004**	**NA**	**NA**	**0.529**	**1.021**	**NA**	**<0.003**	**4.8**	**490**	**212**	**343**	**NA**	**2.2**
	Minimum	**14.96**	**<1**	**NA**	**0.327**	**NA**	**NA**	**<0.005**	**<0.005**	**<0.025**	**<0.025**	**<0.1**	**0.0001**	**NA**	**NA**	**0.03**	**0.029**	**NA**	**<0.003**	**4.4**	**410**	**27**	**154**	**NA**	**0.178**
	Maximum	**20.00**	**7**	**NA**	**3.501**	**NA**	**NA**	**0.014**	**0.014**	**0.342**	**0.371**	**0.126**	**0.0006**	**NA**	**NA**	**1.028**	**2**	**NA**	**5**	**6.9**	**610**	**286**	**511**	**NA**	**2.711**
EDMW2	11/10/92	19	105	NA	<0.2	NA	NA	NA	<0.005	NA	0.008	NA	NA	NA	NA	NA	1.9	NA	6	6.9	278	91	171	NA	0.043
EDMW2	02/09/93	7.35	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.6	235	90	165	NA	NA
EDMW2	05/05/93	16	17	0.267	0.328	NA	NA	<0.005	<0.005	0.046	0.025	1.873	2.207	NA	NA	1.029	1.165	<0.003	<0.003	6.6	250	93	176	0.074	0.066
EDMW2	08/09/93	16	16	0.255	0.343	NA	NA	<0.005	<0.005	<0.025	<0.025	3.686	0.0029	NA	NA	1.659	1.587	<0.003	<0.003	6.8	310	133	117	0.065	0.058
	Average	**14.59**	**39**	**NA**	**0.290**	**NA**	**NA**	**NA**	**NA**	**0.036**	**0.019**	**2.780**	**1.105**	**NA**	**NA**	**NA**	**1.551**	**NA**	**2.002**	**6.7**	**268**	**102**	**157**	**NA**	**0.056**
	Median	**16.00**	**17.5**	**NA**	**0.328**	**NA**	**NA**	**NA**	**NA**	**0.036**	**0.025**	**2.780**	**1.105**	**NA**	**NA**	**NA**	**1.587**	**NA**	**<0.003**	**6.7**	**264**	**92**	**168**	**NA**	**0.058**
	Minimum	**7.35**	**16**	**NA**	**<0.2**	**NA**	**NA**	**<0.005**	**<0.005**	**<0.025**	**0.008**	**1.873**	**0.003**	**NA**	**NA**	**NA**	**1.165**	**NA**	**<0.003**	**6.6**	**235**	**90**	**117**	**NA**	**0.043**
	Maximum	**19.00**	**105**	**NA**	**0.343**	**NA**	**NA**	**<0.005**	**<0.005**	**0.046**	**0.025**	**3.686**	**2.207**	**NA**	**NA**	**NA**	**1.9**	**NA**	**6**	**6.9**	**310**	**133**	**176**	**NA**	**0.066**
EDP1	11/10/92	19	14	NA	<0.2	NA	NA	NA	<0.005	NA	0.036	NA	NA	NA	NA	NA	0.37	NA	6	6.2	278	93	184	NA	0.2
EDP1	02/09/93	9.77	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0023	NA	NA	NA	NA	NA	NA	6.5	230	93	169	NA	NA
EDP1	05/05/93	15	11	0.291	0.454	NA	NA	<0.005	<0.005	0.07	0.136	2.483	4.101	NA	NA	0.3	0.377	<0.003	<0.003	6.3	240	94	181	0.175	0.221
EDP1	08/09/93	15	4	0.351	0.448	NA	NA	<0.005	<0.005	0.105	0.114	5.036	0.0033	NA	NA	0.527	0.509	<0.003	<0.003	6.1	250	176	103	0.287	0.278
	Average	**14.69**	**11**	**NA**	**0.367**	**NA**	**NA**	**NA**	**NA**	**0.0875**	**0.095**	**NA**	**1.3689**	**NA**	**NA**	**0.414**	**0.419**	**NA**	**2.0**	**6.3**	**250**	**114**	**159**	**0.231**	**0.233**
	Median	**15.00**	**12.5**	**NA**	**0.448**	**NA**	**NA**	**NA**	**NA**	**0.0875**	**0.114**	**NA**	**0.0033**	**NA**	**NA**	**0.4135**	**0.377**	**NA**	**<0.003**	**6.3**	**245**	**94**	**175**	**0.231**	**0.221**
	Minimum	**9.77**	**4**	**NA**	**<0.2**	**NA**	**NA**	**<0.005**	**<0.005**	**0.07**	**0.036**	**NA**	**0.0023**	**NA**	**NA**	**0.3**	**0.37**	**NA**	**<0.003**	**6.1**	**230**	**93**	**103**	**0.175**	**0.2**
	Maximum	**19.00**	**15**	**NA**	**0.454**	**NA**	**NA**	**<0.005**	**<0.005**	**0.105**	**0.136**	**NA**	**4.101**	**NA**	**NA**	**0.527**	**0.509**	**NA**	**6**	**6.5**	**278**	**176**	**184**	**0.287**	**0.278**
EDP2	11/10/92	19	<1	NA	2.7	NA	NA	NA	<0.005	NA	0.1	NA	NA	NA	NA	NA	1.1	NA	6	3.3	520	25	269	NA	0.53
EDP2	02/09/93	7.01	<1	2.847	3.081	NA	NA	<0.005	<0.005	0.115	0.14	19.26	0.0018	NA	NA	1.079	1.112	0.003	0.01	4.3	348	165	284	0.512	0.561
EDP2	05/05/93	14	<1	3.206	3.146	NA	NA	<0.005	<0.005	0.118	0.127	20.28	0.0025	NA	NA	1.159	1.136	<0.003	<0.003	3.3	380	150	296	0.523	0.503
EDP2	08/09/93	14	<1	3.628	3.492	NA	NA	<0.005	<0.005	0.118	0.116	22.2	0.0033	NA	NA	1.32	1.23	<0.003	<0.003	3.2	550	140	163	0.578	0.549
	Average	**13.50**	**NA**	**3.2**	**3.105**	**NA**	**NA**	**NA**	**NA**	**0.117**	**0.121**	**20.58**	**0.0025**	**NA**	**NA**	**1.186**	**1.145**	**0.003**	**1.504**	**3.5**	**449.5**	**120**	**253**	**0.538**	**0.536**
	Median	**14.00**	**NA**	**3.2**	**3.114**	**NA**	**NA**	**NA**	**NA**	**0.118**	**0.122**	**20.28**	**0.0025**	**NA**	**NA**	**1.159**	**1.124**	**0.003**	**0.007**	**3.3**	**450**	**145**	**277**	**0.523**	**0.540**
	Minimum	**7.01**	**<1**	**2.8**	**2.7**	**NA**	**NA**	**<0.005**	**<0.005**	**0.115**	**0.1**	**19.26**	**0.0018**	**NA**	**NA**	**1.079**	**1.1**	**0.003**	**<0.003**	**3.2**	**348**	**25**	**163**	**0.512**	**0.503**
	Maximum	**19.00**	**<1**	**3.6**	**3.492**	**NA**	**NA**	**<0.005**	**<0.005**	**0.118**	**0.14**	**22.2**	**0.0033**	**NA**	**NA**	**1.32**	**1.23**	**0.003**	**6**	**4.3**	**550**	**165**	**296**	**0.578**	**0.561**
BFR-TP11	05/08/02	4.67	NA	35	NA	0.038	342	0.8	NA	11	NA	170	NA	<5	264	171	NA	<5	1	2.9	4500	2973	4686	114	NA
BFR-TP11	05/21/02	4.55	NA	14	NA	0.01	247	0.43	NA	5	NA	104	NA	<5	148	88	NA	<5	1.3	2.8	3600	1489	2693	60	NA
BFR-TP11	07/09/02	5.15	NA	2.5	NA	<0.005	98	0.1	NA	0.83	NA	47	NA	<5	49	26	NA	<5	2.1	3	972	537	833	16	NA
BFR-TP12	05/08/02	4	NA	34	NA	0.009	61	0.055	NA	1.8	NA	34	NA	<5	30	6.3	NA	<5	0.06	2.9	1532	589	944	9.2	NA
BFR-TP12	05/21/02	3.7	NA	15	NA	0.007	33	0.027	NA	1.1	NA	15	NA	<5	16	3.3	NA	<5	0.042	2.9	1271	333	536	4.6	NA
BFR-TP12	07/09/02	4.85	NA	5	NA	<0.005	21	0.014	NA	0.54	NA	13	NA	<5	11	2.1	NA	<5	0.027	3	688	214	374	2.6	NA
BFR-TP3	05/21/02	5.33	NA	1.9	NA	<0.005	77	0.13	NA	0.32	NA	<0.02	NA	<5	57	14	NA	<5	0.053	4.7	1149	489	752	22	NA
BFR-TP3	07/09/02	4	NA	0.46	NA	<0.005	24	0.037	NA	0.19	NA	0.034	NA	<5	14	4.8	NA	<5	0.028	4.4	353	135	234	4.4	NA

NOTES: All results in mg/L except as indicated.
NA-Not Analyzed; The detection limit was used in statistical analysis for values below the detection limit.

TABLE B-16. UPPER BLACKFOOT RIVER STREAM SEDIMENT SAMPLES

Sample Designation	Sampled By	Parameter (mg/kg)					
		As	Cd	Cu	Pb	Mn	Zn
UBMC-SE-05	MDHES	114	10.3	451	1500	422	2770
UBMC-SE-08	MDHES	43.8	14.6	395	930	3750	3520
UBMC-SE-13	MDHES	18.9	1.1	122	253	1430	361
MH19	PTI	181	22	552	1879	3030	4113
MH20	PTI	67	11	344	1238	2122	2540
BRSD-1	Hydrometrics	35	8	281	789	2254	2062
BRSD-22	Hydrometrics	48	34	975	4350	2600	6500
MHM	Nagorski	553.9	115	2192.5	8702	21318	17377
BF212.9	Menges	220	26	826	2400	5150	7810
BF212.9	Moore	84	119	5081	3699	10862	51950
BF211.8	Moore	257	115	4051	4301	22460	31793
BF211.6	Moore	400	71	3033	4890	12359	13470

WEST IMPOUNDMENT MONITORING
WELL COMPLETION LOGS

Hydrometrics, Inc.

Consulting Scientists and Engineers

Helena, Montana

TDMW-3S

Hole Name: TDMW-3S

Date Hole Started: 8/12/06 Date Hole Finished: 8/12/06

Client: ASARCO, LLC

Project: Upper Blackfoot Mining Complex

County: Lewis & Clark State: Montana

Property Owner: U.S. Forest Service

Legal Description: T15N, R6W, Sec. 27C

Location Description: West shore of Tailings Impoundment near spillway pipe inlet

Recorded By: Larry Johnson

Drilling Company: Boland Drilling

Driller: James

Drilling Method: Air Rotary

Drilling Fluids Used: None

Purpose of Hole: Monitoring Well

Target Aquifer: Unconsolidated Aquifer

Hole Diameter (in): 6"

Total Depth Drilled (ft): 30

WELL COMPLETION	Y/N	DESCRIPTION	INTERVAL
Well Installed?	Y	2-inch, flush threaded, Sch 40, PVC	+2.3' to 30'
Surface Casing Used?	Y	6" Steel	+2.5' to 2.0'
Screen/Perforations?	Y	0.020-inch slot, Sch 40 PVC	15' to 30'
Sand Pack?	Y	10/20 Colorado Sand	10' to 30'
Annular Seal?	Y	Bentonite - Hole Pellets	1' to 10'
Surface Seal?	Y	Cement	0' to 1'
DEVELOPMENT/SAMPLING			
Well Developed?	N		
Water Samples Taken?	N		
Boring Samples Taken?	Y	Cuttings	

Northing: 448542.88 Easting: 1288605.07

Static Water Level Below MP: Dry

Date: 8/12/06

MP Description: Top of PVC

MP Height Above or Below Ground (ft): +2.2

Surface Casing Height (ft): +2.5

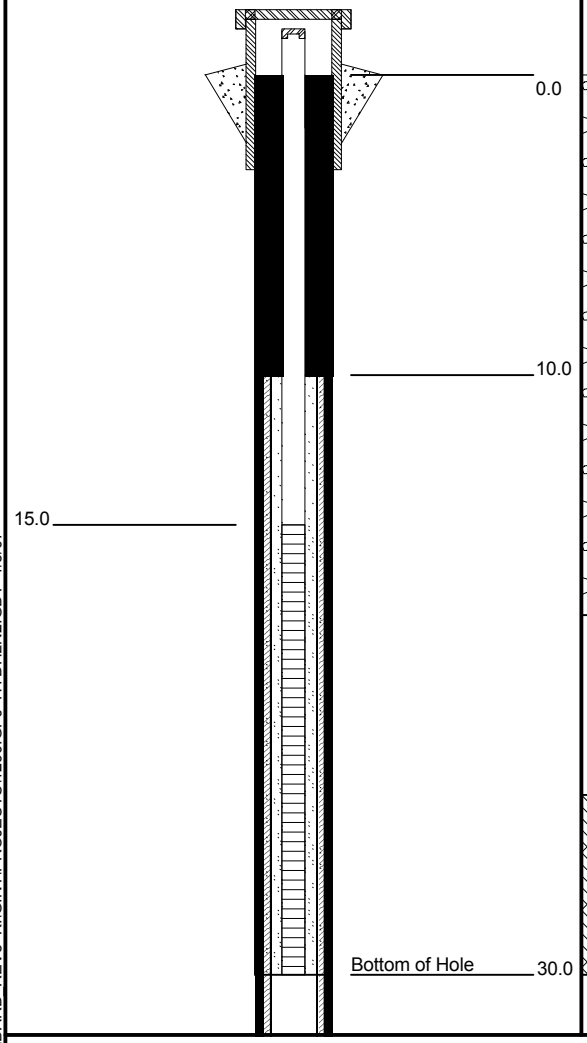
Riser Height (ft): +2.2

Ground Surface Elevation (ft): 5488.15

MP Elevation (ft): 5490.35

Remarks: Dry upon completion.

WELL CONSTRUCTION



GRAPHICS

GEOLOGICAL DESCRIPTION

0.0 - 18.0' **Colluvium**
Brown to tan sandy gravelly fill/colluvium with abundant coarse rock. Drill cuttings include tan and maroon argillite/siltite. Moist at 14 feet. Fill/colluvium contact not discernable.

18.0 - 24.0' **Broken Bedrock; Spokane Formation**
Highly fractured maroon and gray argillite with minor silty clay stringers; weathered spokane.

24.0 - 30.0'
Competant maroon and gray argillite; spokane formation, dry.

STANDARD_REV3 K:\GINT\PROJECTS\1290.GPJ HYDHLN2.GDT 1/5/07

Hydrometrics, Inc.

Consulting Scientists and Engineers

Helena, Montana

TDMW-4S

Hole Name: TDMW-4S

Date Hole Started: 8/11/06 Date Hole Finished: 8/11/06

Client: ASARCO, LLC

Project: Upper Blackfoot Mining Complex

County: Lewis & Clark State: Montana

Property Owner: U.S. Forest Service

Legal Description: T15N, R6W, Sec. 27C

Location Description: West shore of Tailings Impoundment

Recorded By: Larry Johnson

Drilling Company: Boland Drilling

Driller: James

Drilling Method: Air Rotary

Drilling Fluids Used: None

Purpose of Hole: Monitoring Well

Target Aquifer: Unconsolidated Aquifer

Hole Diameter (in): 6"

Total Depth Drilled (ft): 22

WELL COMPLETION	Y/N	DESCRIPTION	INTERVAL
Well Installed?	Y	2-inch, flush threaded, Sch 40, PVC	+2.6' to 22'
Surface Casing Used?	Y	6" Steel	+3.0' to 2.0'
Screen/Perforations?	Y	0.020-inch slot, Sch 40 PVC	7' to 22'
Sand Pack?	Y	10/20 Sand	5.5' to 22'
Annular Seal?	Y	Bentonite Chips	1.0' to 5.5'
Surface Seal?	Y	Cement	0' to 1.0'
DEVELOPMENT/SAMPLING			
Well Developed?	N		
Water Samples Taken?	N		
Boring Samples Taken?	Y	Cuttings	

Northing: 447996.03 Easting: 1288949.39

Static Water Level Below MP: Dry

Date: 8/11/06

MP Description: Top of PVC

MP Height Above or Below Ground (ft): +2.6

Surface Casing Height (ft): 2.9

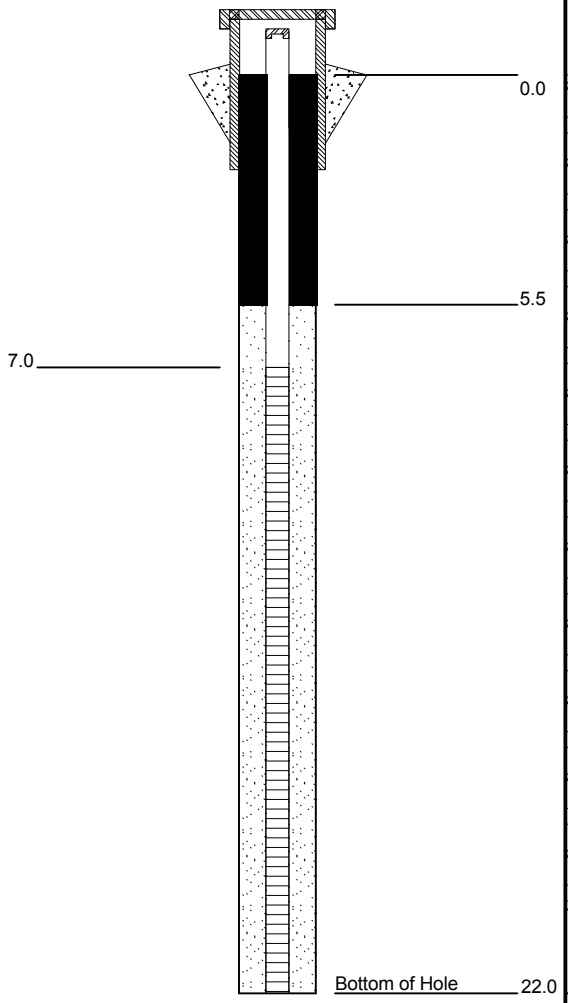
Riser Height (ft): 2.6'

Ground Surface Elevation (ft): 5486.89

MP Elevation (ft): 5489.51

Remarks: Dry upon completion.

WELL CONSTRUCTION



GRAPHICS

GEOLOGICAL DESCRIPTION

0.0 - 20.0' **Colluvium**
Brown to tan sandy fill/colluvium; chips of spokane formation float. Fill/colluvium contact not discernable. Damp at 17 feet.

20.0 - 22.0'
Maroon broken argillite and siltite. Moist.

STANDARD_REV3 K:\GINT\PROJECTS\1290.GPJ HYDHLN2.GDT 1/5/07

Hydrometrics, Inc.

Consulting Scientists and Engineers

Helena, Montana

Hole Name: TDMW-3D

Date Hole Started: 8/10/06 Date Hole Finished: 8/10/06

Client: ASARCO, LLC

Project: Upper Blackfoot Mining Complex

County: Lewis & Clark State: Montana

Property Owner: U.S. Forest Service

Legal Description: T15N, R6W, Sec. 27C

Location Description: West shore of Tailings Impoundment near spillway pipe inlet

Recorded By: Larry Johnson

Drilling Company: Boland Drilling

Driller: James

Drilling Method: Air Rotary

Drilling Fluids Used: None

Purpose of Hole: Monitoring Well

Target Aquifer: Bedrock Aquifer

Hole Diameter (in): 6"

Total Depth Drilled (ft): 70

WELL COMPLETION	Y/N	DESCRIPTION	INTERVAL
Well Installed?	Y	Open Hole	0' to 70'
Surface Casing Used?	Y	6" Steel	+2.25' to 32.5'
Screen/Perforations?	N		
Sand Pack?	N		
Annular Seal?	Y	Bent. poured around casing as driven	0' to 32.5'
Surface Seal?	Y	Cement	0' to 1'
DEVELOPMENT/SAMPLING			
Well Developed?	Y	Surge Block	
Water Samples Taken?	N		
Boring Samples Taken?	Y	Cuttings	

Northing: 448535 Easting: 1288608.73

Static Water Level Below MP: 45

Date: 8/12/06

MP Description: Top of Steel Casing

MP Height Above or Below Ground (ft): +2.25

Surface Casing Height (ft): 2.25'

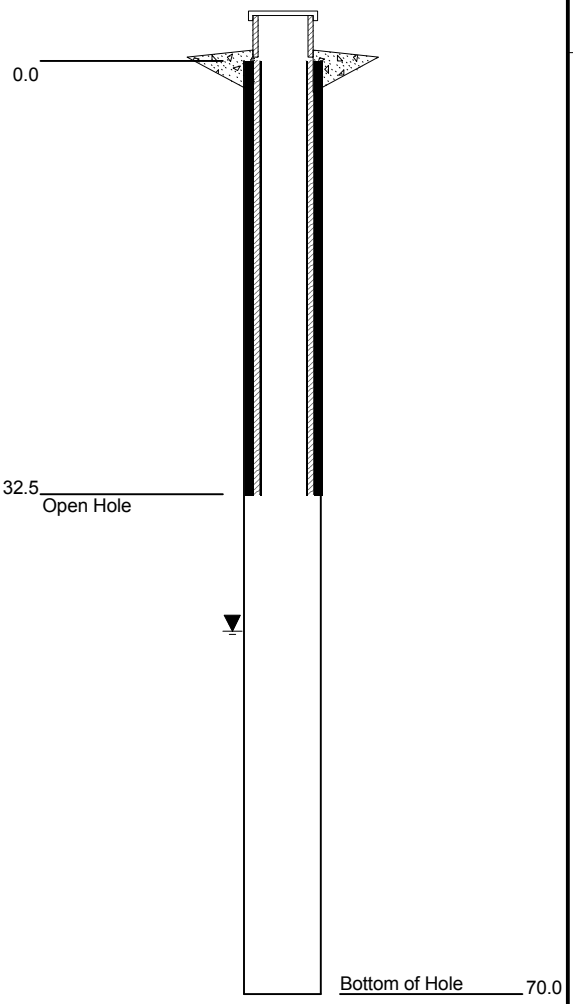
Riser Height (ft): N/A

Ground Surface Elevation (ft): 5488.43

MP Elevation (ft): 5490.67

Remarks: Drove steel casing into competent bedrock at 32.5 feet. Drilled open hole to 70 feet. Left open hole to allow for down hole testing. Static water level measurements: 45.1 ft on 8/12/06; 45.84 ft on 10/10/06; 45.82 ft. on 11/21/06.

WELL CONSTRUCTION



SAMPLE NOTES

GRAPHICS

GEOLOGICAL DESCRIPTION

0.0 - 18.0' **Colluvium**
Sandy gravelly fill/colluvium with abundant coarse rock. Drill cuttings include tan and maroon argillite/siltite. Moist at 14 feet. Fill/columium contact not discernable.

Moderate clay at 17 feet.

18.0 - 70.0' **Bedrock**
Maroon and gray argillite and silitite (spokane fm).

Highly fractured, incompetent bedrock to 24 feet; harder drilling below 24 feet.

First water at 34 feet; <1.0 gpm.

42.0 - 50.0' Increased fractured 42 to 45 feet and 49 to 53 feet, more seepage at 49 feet.
Makes 1 to 2 gpm upon completion.

DOMESTIC WELL1 K:\GINT\PROJECTS\1290.GPJ HYDHLN2.GDT 1/5/07

Hydrometrics, Inc.

Consulting Scientists and Engineers

Helena, Montana

TDMW-4D

Hole Name: TDMW-4D

Date Hole Started: 8/11/06 Date Hole Finished: 8/11/06

Client: ASARCO, LLC

Project: Upper Blackfoot Mining Complex

County: Lewis & Clark State: Montana

Property Owner: U.S. Forest Service

Legal Description: T15N, R6W, Sec. 27C

Location Description: West shore of Tailings Impoundment

Recorded By: Larry Johnson

Drilling Company: Boland Drilling

Driller: James

Drilling Method: Air Rotary

Drilling Fluids Used: None

Purpose of Hole: Monitoring Well

Target Aquifer: Bedrock

Hole Diameter (in): 6"

Total Depth Drilled (ft): 60

WELL COMPLETION	Y/N	DESCRIPTION	INTERVAL
Well Installed?	Y	2-inch, flush threaded, Sch 40, PVC	+2.6' to 58'
Surface Casing Used?	Y	6" Steel	+3.0' to 2.0'
Screen/Perforations?	Y	0.020-inch slot, Sch 40 PVC	33' to 58'
Sand Pack?	Y	10/20 Colorado Sand	28' to 58'
Annular Seal?	Y	Bentonite Chips	1' to 28'
Surface Seal?	Y	Cement	0 to 1'
DEVELOPMENT/SAMPLING			
Well Developed?	Y	Surge Block	
Water Samples Taken?	N		
Boring Samples Taken?	Y	Cuttings	

Northing: 448002.34 Easting: 1288946.53

Static Water Level Below MP: 30

Date: 8/12/06

MP Description: Top of PVC

MP Height Above or Below Ground (ft): 2.6

Surface Casing Height (ft): 2.8

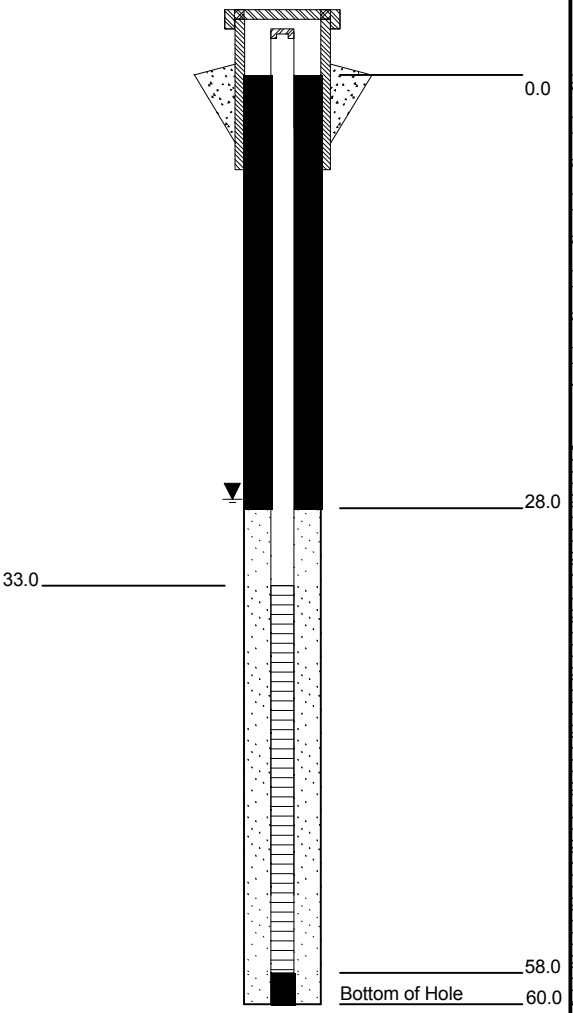
Riser Height (ft): 2.6

Ground Surface Elevation (ft): 5486.86

MP Elevation (ft): 5489.46

Remarks: Hole drilled to 60 feet but sluffed in to 58 feet prior to well completion. Produced 50+ gpm clear water. Static water level measurements = 30.5 feet on 8/12/06; 29.68 ft on 10/10/06; 31.04 ft on 11/21/06.

WELL CONSTRUCTION



GRAPHICS

GEOLOGICAL DESCRIPTION

0.0 - 20.0' **Colluvium**
Brown to tan sandy fill/colluvium, chips of Spokane Formation float, fill/colluvium contact not discernable, damp at 17 feet.

20.0 - 24.0' **Broken Bedrock**
Maroon and gray argillite bedrock, highly fractured and weathered, moist at 22 feet.

24.0 - 60.0' **Argillite Bedrock**
Alternating maroon to gray (and occasionally buff colored) spokane formation. Competant bedrock at 28 feet based on drilling. Drilling indicates increased fractures at 31 to 36 feet and 42 to 45 feet. Significant inflow at 43 feet; making about 50 gpm at 45 ft. Few fractures and little increase in flow below 45 feet.

STANDARD_REV3 K:\GINT\PROJECTS\1290.GPJ HYDHLN2.GDT 1/5/07

Hydrometrics, Inc.

Consulting Scientists and Engineers

Helena, Montana

Hole Name: TDMW-5

Date Hole Started: 8/12/06 Date Hole Finished: 8/12/06

Client: ASARCO, LLC

Project: Upper Blackfoot Mining Complex

County: Lewis & Clark State: Montana

Property Owner: U.S. Forest Service

Legal Description: T15N, R6W, Sec. 27C

Location Description: Along County Road west of Tailings Impoundment

Recorded By: Larry Johnson

Drilling Company: Boland Drilling

Driller: James

Drilling Method: Air Rotary

Drilling Fluids Used: None

Purpose of Hole: Monitoring Well

Target Aquifer: First Water

Hole Diameter (in): 6"

Total Depth Drilled (ft): 105

WELL COMPLETION	Y/N	DESCRIPTION	INTERVAL
Well Installed?	Y	Open Hole	0 to 105'
Surface Casing Used?	Y	6" Steel	+2.5' to 32'
Screen/Perforations?	N		
Sand Pack?	N		
Annular Seal?	Y	Bent. poured around casing as driven	0' to 32'
Surface Seal?	Y	Cement	0' to 1'
DEVELOPMENT/SAMPLING			
Well Developed?	Y	Surge Block	
Water Samples Taken?	N		
Boring Samples Taken?	Y	Cuttings	

Northing: 448242.76 Easting: 1288670.84

Static Water Level Below MP: 71

Date: 8/12/06

MP Description: Top of Steel Casing

MP Height Above or Below Ground (ft): +2.5

Surface Casing Height (ft): +2.5

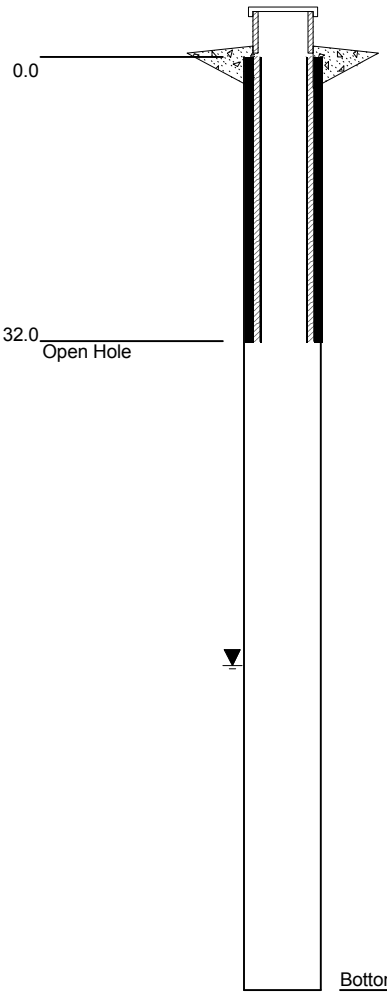
Riser Height (ft): N/A

Ground Surface Elevation (ft): 5530.92

MP Elevation (ft): 5533.38

Remarks: Trace water at 14 feet, 48 feet and 99 feet. Six-inch steel to 32 feet, open hole below 32 feet. Well was dry upon completion but static water level recovered to 99 feet 3 hours later. Other static water level measurements include: 71.01 ft on 10/10/06; 71.18 ft on 11/21/06.

WELL CONSTRUCTION



SAMPLE NOTES

GRAPHICS

GEOLOGICAL DESCRIPTION

0.0 - 10.0' **Colluvium**
Coarse, subangular argillite rock in sandy matrix, dry.

10.0 - 26.0' **Broken Bedrock**
Highly fractured maroon and gray argillite and siltite; spokane formation weathered bedrock, dry, making a lot of dust.

26.0 - 95.0' **Argillite/Siltite**
Maroon and gray argillite/siltite; competant spokane formation, very dusty drilling to 95 feet, no discernable fracture zones or moisture.

95.0 - 101.0' **Altered Bedrock**
Buff to white argillite, altered spokane formation, trace water at 99 feet.

101.0 - 105.0' **Diorite**
Fine to medium grained diorite bedrock, drills like competant bedrock, making <1.0 gpm upon completion.

DOMESTIC WELL1 K:\GINT\PROJECTS\1290.GPJ HYDHLN2.GDT 1/5/07