

Table 4. Field description of synoptic-sampling sites, Daisy Creek and Stillwater River drainage, Montana, August 19-20, 1999

[Site number indicates distance downstream from tracer-injection site, in feet. pH and specific-conductance values measured on August 19-20, 1999, prior to start of tracer injection. Type: I, surface-inflow sampling site; M, mainstem sampling site; R, non-sampling site, included for remark. Symbol: <, less than; --, no data. Site names [in brackets] are names used for sampling sites in previous studies (URS Operating Services, Inc., 1998). The terms right bank and left bank refer to the side of Daisy Creek or the Stillwater River viewed while looking downstream. Abbreviations: ft³/s, cubic feet per second; ft, feet; gpm, gallons per minute; μS/cm, microsiemens per centimeter at 25 degrees Celsius; SC, specific conductance]

Site number (fig. 2)	Type	General site description transcribed from field notes	pH (standard units)	Specific conductance, field (μS/cm)	Station-identification number ¹
0	M	Tracer-injection site [DCT-6]; no sign of iron or other metals; SC is 249 μS/cm in right-bank tributary above site 0, 156 μS/cm in left-bank tributary, and 174 μS/cm in Daisy Creek above tributaries	8.1	204	450327109572901
74	I	Right-bank inflow [DCT-7]; about 0.1 ft ³ /s; this tributary flows past south side of moraine or landslide hill; aluminum staining; seep from hill has pH of 5.3 and SC of 370 μS/cm; inflow above hill has pH of 6.5 and SC of 262 μS/cm	7.7	254	450327109573001
104	M	Daisy Creek downstream of site 0; poor mixing; aluminum stain on bed; tracer-monitoring site T-1	--	240	450327109573002
114	I	Right-bank seep; about 5 gpm; comes from stream side prospect pit	4.7	540	450327109573003
129	I	Left-bank seep; looks metal free; about 2 gpm	--	130	450327109573101
161	I	Right-bank seep; small manganese bog in seep area; inflow causes aluminum stain on right bank of Daisy Creek	4.1	700	450327109573102
177	M	Daisy Creek; aluminum stain in middle of channel; iron precipitate on right side	6.8	273	450327109573103
--	R	Left-bank seep	--	130	--
--	R	Left-bank seep; iron stain in inflow	--	117	--
270	M	Daisy Creek; aluminum stain; bed is coarse sand to cobbles	7.1	271	450327109573201
292	I	Right-bank inflow; upper inflow from manganese bog; about 6 gpm	2.9	1,750	450327109573202
325	R	Left-bank inflow; <1 gpm; bed of Daisy Creek is solid ferricrete from 292 to 348 ft and beyond	--	--	--
348	I	Right-bank inflow; about 2 gpm; middle inflow from manganese bog	2.6	2,440	450327109573301
360	M	Daisy Creek, smooth, solid ferricrete bed; aluminum stained; sites 270 and 360 bracket upper two manganese bog inflows	4.4	--	450327109573302
401	I	Right-bank inflow; lower inflow from manganese bog; iron precipitate on right bank of Daisy Creek from this inflow; thick aluminum precipitate on rest of Daisy Creek bed	2.4	2,600	450327109573401
402	I	Left-bank inflow; ferricrete in channel; site 401 has about 55 percent of combined inflow from sites 401 and 402 based on visible estimate	7.6	145	450327109573402
411	R	Right-bank inflow; not sampled	--	² 1,820	--

Site number (fig. 2)	Type	General site description transcribed from field notes	pH (standard units)	Specific conductance, field ($\mu\text{S}/\text{cm}$)	Station-identification number ¹
425	M	Daisy Creek; ferricrete channel; iron precipitate on right half of channel; aluminum precipitate on left half	3.6	458	450327109573403
432	I	Left-bank inflow	8.3	180	450327109573404
460	M	Daisy Creek; site is 4 ft below a ferricrete waterfall	4.5	430	450327109573501
475	R	Left-bank inflow; seepage like site 432; <1 gpm	--	--	--
481	I	Right-bank inflow [DCT-8]; inflow splits into 3 forks near Daisy Creek; sample upstream at DCT-8 post where inflow is 1 channel; Daisy Creek below second fork has heavy iron precipitate; no aluminum precipitate	2.7	1,653	450327109573502
546	R	Left-bank inflow; seepage from left-bank wetland is continuous between sites 481 and 611; looks metal free; source of water is snow bank on flank of Crown Butte	7.0	212	450327109573601
611	M	Daisy Creek [DC-1]	3.2	--	450327109573701
686	I	Left-bank inflow; 1 ft wide channel; about 2 gpm	7.3	231	450327109573801
691	I	Right-bank inflow [DCT-9]; about 8 gpm; this drainage starts at McLaren Mine	2.2	645	450327109573802
761	I	Right-bank inflow; about 2 gpm	2.9	438	450327109573901
--	R	Daisy Creek bed is solid ferricrete, very few pebbles showing; completely iron stained; water is clear	--	--	--
804	I	Right-bank inflow; drainage starts within 75 ft of Daisy Creek	3.2	304	450327109573902
819	M	Daisy Creek; stream gradient is relatively flat from manganese bog to point downstream of here; some left-bank inflows between this site and site 691 but no sites flagged; no sign of metals in these left-bank inflows	3.0	814	450326109573901
824	I	Left-bank inflow, about 10 gpm; not flagged for sampling; three more left-bank inflows with SC of 260-300 $\mu\text{S}/\text{cm}$ between this site and site 928	--	240	450326109573902
928	I	Left-bank inflow, about 25 gpm; aluminum stain on left-bank margin of Daisy Creek, otherwise iron stain on bed of Daisy Creek	8.1	333	450326109574101
1,010	I	Left-bank inflow; no flag; about 5 gpm	--	224	--
1,082	M	Daisy Creek; water no longer clear in stream; cloudy with colloids	3.7	593	450327109574301
1,082	R	All visible inflows from 819 to 1,082 ft are left bank	--	--	--
1,189	I	Right-bank inflow; no visible inflow on either bank downstream from site 1,082 [DCT-17]	4.2	198	450327109574401
1,340	M	Daisy Creek [DCAB, DNRC-109]; this is downstream end of flat portion of Daisy Creek valley; creek enters bouldery, steep section below this site; tracer-monitoring site T-2	3.7	580	450328109574601
1,545	I	Left-bank inflow; about 1 gpm	6.5	175	450329109574902
1,549	R	Right-bank inflow; aluminum stain on seep channel; seep starts 50 ft upslope; about 1 gpm; not sampled on August 26 because site was dry	5.3	351	450329109574901
1,695	M	Daisy Creek; bouldery iron-stained bed	3.8	572	450330109575001
1,700	I	Right-bank inflow; [DCT-10 and DCT-14 located upstream in this tributary]; iron stained; cloudy and orange with colloids	3.6	372	450330109575002
1,865	I	Right-bank inflow; about 3 gpm; 100-ft long drainage ditch bulldozed parallel to stream; this inflow is from ditch	7.9	216	450330109575201
1,915	I	Right-bank inflow; about 12 gpm; no iron or aluminum stain	7.9	134	450330109575301

Site number (fig. 2)	Type	General site description transcribed from field notes	pH (standard units)	Specific conductance, field ($\mu\text{S}/\text{cm}$)	Station-identification number ¹
2,334	M	Daisy Creek; orange, bouldery bed, cloudy water; pH may be higher	3.7	549	450331109575801
2,360	I	Right-bank inflow; no iron or aluminum stain; about 3 gpm	6.3	89	450331109575802
2,658	M	Daisy Creek [DC-2]; sample 40 ft downstream where there is one channel; bouldery bed; big gravel bars	3.6	542	450332109580201
2,958	R	Well MW-3 up above on right bank somewhere	--	--	--
3,238	R	Right-bank inflow; about 2 gpm	--	61	--
3,523	M	Daisy Creek [SW-1]	4.0	538	450336109581001
3,673	R	100-ft reach on limestone bedrock in channel; wet fractures might indicate ground-water inflow	--	--	--
3,963	R	More limestone bedrock in channel	--	--	--
4,283	M	Daisy Creek; bedrock has changed to sandstone	--	--	450340109581801
4,403	R	Waterfall, about 8 ft high	--	--	--
4,533	R	End of visible bedrock on side slopes	--	--	--
5,038	R	Dry left-bank inflow; spring runoff channel	--	--	--
5,475	M	Daisy Creek; cobble/bouldery bed; iron staining; water is cloudy with colloids; about 0.5 ft ³ /s	4.4	523	450349109582801
5,519	I	Right-bank tributary; no metal staining	7.4	211	450349109582801
5,661	M	Daisy Creek; lots of aluminum precipitate below 5,519	5.3	421	450349109583001
5,671	I	Left-bank tributary; looks metal free; about 0.4 ft ³ /s	7.6	165	450349109583002
5,839	M	Daisy Creek; lots of aluminum precipitate; about 1 ft ³ /s	6.6	315	450350109583201
6,439	R	Bedrock channel	--	--	--
7,039	R	Sandy shale outcrop in channel	--	--	--
7,324	M	Daisy Creek; sandy shale outcrop on left bank; cloudy water	--	312	450353109584601
7,529	I	Right-bank tributary [DCT-5]; looks metal free	--	145	450355109585201
7,829	M	Daisy Creek; old staff plate in channel; probably washed down from previous sampling site	--	301	450355109585601
8,700	R	Bedrock cascade	--	--	--
9,688	I	Left-bank tributary; about 8 gpm; looks metal free	--	295	450357109592101
9,925	M	Daisy Creek [DC-5]; cloudy water; reach below here is out on valley flat and has relatively low gradient; tracer-monitoring site T-3	--	303	450359109592301
11,549	M	Daisy Creek at mouth	--	304	450403109593801
11,560	I	Stillwater River above Daisy Creek [STW-1]; sam- ple about 100 ft above Daisy Creek; clear water; aquatic slime on bed (unlike Daisy Creek)	--	140	450403109593802
11,644	I	Left-bank tributary; little less flow than at site 11,560	--	122	450403109593901
11,890	M	Stillwater River below Daisy Creek; river changes from small willow-lined channel to broad flood plain with large gravel bars below Daisy Creek; water cloudy below Daisy Creek confluence	--	173	450406109593901
12,410	M	Stillwater River at Lake Abundance road crossing [STW-2]; cloudy water; 4.62 ft ³ /s measured with current meter; tracer-monitoring site T-4	--	176	450424109594301

¹Fifteen-digit station-identification number is a unique identifier that represents the approximate latitude and longitude location of the site (first 13 digits), plus a sequence number (last two digits).

²Specific conductance measured on August 26, 1999.