

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998

[ft³/s, cubic feet per second; ft, feet; μ S/cm, microsiemens per centimeter at 25 °C; °C, degrees Celsius; mg/L, milligrams per liter; %, percent; --, data not collected. Numbers in parentheses () are the U.S. Geological Survey Water Data Storage and Retrieval System parameter codes]

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μ S/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05420680, Wapsipinicon River near Tripoli, IA (site 1, fig. 1)									
10-09-96	1043	19	6.91	417	7.9	10.5	10.5	9.3	87
11-06-96	1118	49	7.38	434	8.0	5.5	10.5	--	--
12-04-96	1011	165	8.51	450	7.8	0	-3.0	14.1	99
01-08-97	1103	321	9.28	407	7.3	0	-6.0	11.2	79
02-05-97	1105	133	8.22	451	7.3	0	.5	10.0	70
03-17-97	1305	1,160	11.69	253	7.2	8.0	.5	10.6	93
04-09-97	0858	707	10.56	372	7.9	2.0	4.0	13.0	97
05-05-97	1044	1,240	11.86	380	7.6	10.0	19.0	10.2	95
06-04-97	0954	158	8.43	428	7.9	20.0	20.0	8.1	92
06-22-97	1130	309	9.23	418	7.4	22.5	31.0	7.3	87
07-09-97	0824	93	7.74	437	7.7	20.5	18.0	7.8	90
08-05-97	0819	104	7.79	467	8.1	22.0	14.0	7.8	92
08-28-97	1230	54	7.24	396	7.9	22.0	--	9.6	114
09-04-97	0944	156	8.38	429	8.0	18.0	--	9.3	100
10-09-97	1228	79	7.72	429	8.0	17.5	15.0	10.2	110
11-06-97	1249	123	8.37	448	8.2	4.5	8.0	11.9	94
12-03-97	1249	81	7.89	430	8.1	2.0	.5	13.2	99
01-07-98	1247	85	8.04	451	8.0	0	2.0	13.4	95
02-19-98	1351	717	10.83	278	7.6	0	6.0	11.1	79
03-13-98	1223	275	9.30	456	7.9	.5	4.0	13.8	99
04-02-98	1443	1,890	12.70	329	7.5	6.5	9.0	10.1	85
05-06-98	1249	207	8.86	437	8.0	17.0	23.0	9.7	104
05-19-98	0940	210	8.92	443	7.8	22.0	32.0	7.6	90
05-27-98	1335	601	10.31	457	7.6	18.0	28.0	9.0	98
06-03-98	1450	334	9.54	451	7.9	16.0	15.0	9.1	96

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05420680, Wapsipinicon River near Tripoli, IA (site 1, fig. 1)—Continued									
06-20-98	1030	1,240	11.95	275	7.3	19.0	25.0	6.8	76
07-08-98	1315	515	10.32	431	7.4	23.0	34.0	8.0	96
08-05-98	1231	80	7.85	406	7.9	21.5	22.0	8.6	101
09-02-98	1308	153	8.43	403	7.9	20.5	24.0	9.2	83
05420720, East Fork Wapsipinicon River near Tripoli, IA (site a, fig. 1)									
08-28-97	0915	20	--	579	7.8	19.5	--	7.9	89
05-19-98	1405	91	--	525	7.7	22.0	32.0	7.6	90
05420900, Little Wapsipinicon River at Littleton, IA (site b, fig. 1)									
08-20-97	1235	34	--	458	8.2	20.5	--	11.3	131
05-20-98	0947	119	--	514	7.8	19.0	23.0	8.0	89
05421700, Buffalo Creek near Stone City, IA (site c, fig. 1)									
08-14-97	1400	42	--	471	8.3	23.5	--	11.2	137
05-21-98	1523	163	--	533	8.2	20.5	25.0	9.2	106
05421870, Mud Creek near Donahue, IA (site d, fig. 1)									
08-14-97	0940	6.2	--	579	7.8	19.0	--	7.5	83
05-21-98	1023	87	--	616	7.9	20.5	23.0	8.1	92
05422000, Wapsipinicon River near DeWitt, IA (site 2, fig. 1)									
10-15-96	1120	259	4.29	364	8.5	15.0	20.5	10.7	109
11-13-96	0946	687	5.39	513	8.2	.5	2.0	14.8	103
12-09-96	0924	928	5.85	460	8.2	0	-4.0	13.7	95
01-13-97	1025	1,710	7.02	314	7.2	0	-8.0	11.0	74
02-11-97	1017	1,210	6.31	483	7.4	0	-4.0	9.1	63
03-20-97	0920	4,800	10.00	242	7.6	3.0	7.0	11.8	89
04-07-97	1335	2,450	7.89	428	8.2	7.5	6.0	11.6	99
05-06-97	0937	3,900	9.27	478	7.7	14.0	19.0	10.6	104
06-02-97	1304	1,650	6.97	415	8.7	19.5	27.0	13.5	151
06-17-97	0935	1,240	6.40	378	8.4	22.0	28.0	8.7	102
06-26-97	0933	5,060	10.21	390	7.5	24.0	30.0	6.6	80
07-07-97	1306	2,050	7.48	469	8.3	23.0	28.0	9.4	112

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05422000, Wapsipinicon River near DeWitt, IA (site 2, fig. 1)—Continued									
08-06-97	1540	782	5.62	297	9.1	26.0	26.0	20.0	250
09-03-97	1210	682	5.42	401	8.7	21.5	--	12.3	140
10-09-97	0907	458	4.95	365	8.3	20.0	16.0	8.1	91
11-06-97	0915	1,190	6.38	500	8.3	5.0	4.0	11.8	94
12-04-97	0900	1,110	6.26	500	8.4	2.5	0	12.2	92
01-08-98	0843	1,780	7.12	530	8.1	2.0	0	13.0	97
02-20-98	0842	1,520	6.78	509	8.1	5.0	6.0	11.8	94
03-12-98	0850	3,200	8.67	268	8.2	0	-5.0	13.0	90
04-02-98	0900	9,150	12.39	318	7.2	9.0	6.5	8.8	78
05-06-98	0925	2,760	8.22	489	8.2	17.0	--	9.7	104
06-03-98	0915	4,440	9.71	440	7.7	20.0	--	7.8	88
06-17-98	1300	6,470	11.37	429	7.8	20.5	26.0	7.4	84
07-09-98	0855	6,490	11.32	384	7.3	25.0	30.5	7.6	94
08-06-98	0900	762	5.42	372	8.0	24.5	28.0	6.6	81
09-02-98	0915	2,680	7.92	379	7.9	22.5	25.0	7.7	91
05449200, East Branch Iowa River at Belmond, IA (site e, fig. 1)									
08-26-97	0925	20	--	627	8.1	21.5	--	7.9	93
05-20-98	0856	83	--	680	8.0	19.5	17.0	7.7	87
05449500, Iowa River near Rowan, IA (site 3, fig. 1)									
10-08-96	1010	61	3.66	700	8.2	10.0	4.5	10.5	97
11-05-96	0935	129	4.30	745	8.3	6.0	7.0	10.5	87
12-03-96	0928	269	5.24	733	8.2	0	-11.0	12.0	86
01-09-97	0950	228	4.99	703	7.8	0	-3.0	8.8	64
02-04-97	1015	171	4.63	568	7.6	0	-2.5	7.5	54
03-11-97	0950	1,580	10.00	250	7.4	.5	5.0	7.9	57
03-18-97	0856	1,220	9.22	340	7.7	0	3.0	11.1	79
03-25-97	0908	1,500	9.85	390	7.7	1.5	5.0	11.5	85
04-03-97	0847	511	6.49	602	8.0	8.0	15.0	11.1	98

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05449500, Iowa River near Rowan, IA (site 3, fig. 1)—Continued									
04-09-97	0854	742	7.49	650	8.1	0.5	-7.0	13.7	97
04-15-97	0925	422	6.10	677	8.0	7.0	12.0	11.6	99
04-22-97	0944	336	5.68	689	8.0	11.0	7.0	10.2	96
04-29-97	0913	232	5.13	675	8.2	12.5	--	9.8	97
05-03-97	1046	1,050	8.65	661	7.7	7.0	11.0	11.0	94
05-13-97	0951	587	6.92	684	8.2	8.0	12.0	11.2	100
05-20-97	0853	458	6.35	675	8.1	12.0	--	9.8	93
05-28-97	0933	323	5.69	694	8.2	10.0	13.0	10.4	96
06-04-97	0921	228	5.16	691	8.1	18.0	21.0	8.1	89
06-10-97	0919	163	4.75	692	8.2	18.5	--	8.1	89
06-17-97	0858	122	4.46	690	8.1	20.0	18.0	7.5	86
06-23-97	1156	1,170	9.05	327	7.5	20.0	32.0	6.5	74
07-01-97	0905	919	7.85	673	7.7	20.0	34.0	7.8	90
07-15-97	0850	291	5.00	666	8.0	23.0	30.0	7.2	87
07-29-97	0900	333	5.17	683	7.7	21.0	19.0	7.1	82
08-11-97	1200	89	3.79	593	8.2	18.0	20.0	11.1	122
08-26-97	0837	60	3.63	633	8.0	20.5	30.0	7.4	86
09-11-97	1005	44	3.53	682	8.1	16.0	16.0	8.0	84
09-25-97	0852	60	3.67	693	8.1	14.0	--	8.7	89
10-08-97	0948	35	3.46	710	8.1	19.5	21.5	6.4	73
10-20-97	1134	52	3.62	687	8.2	8.5	6.0	11.9	105
11-05-97	0857	44	3.56	659	8.3	2.5	.5	13.5	102
11-17-97	1134	58	3.69	694	8.3	0	4.0	13.6	96
12-02-97	0908	45	3.59	638	8.2	1.5	1.5	12.8	95
01-06-98	0919	64	3.75	664	8.1	0	0	11.6	82
02-18-98	0924	892	7.82	316	7.8	0	4.0	11.3	82

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05449500, Iowa River near Rowan, IA (site 3, fig. 1)—Continued									
03-12-98	0926	135	4.33	747	7.9	0	-10.0	13.6	96
03-31-98	0922	906	7.91	665	8.0	7.0	9.0	10.1	88
05-05-98	0922	341	5.49	668	8.2	15.0	16.0	8.7	91
05-20-98	1223	226	4.89	681	7.9	19.0	24.0	9.2	103
06-02-98	0904	272	5.06	683	8.1	15.0	15.0	8.4	88
06-13-98	0928	599	6.58	688	8.0	16.5	26.0	8.2	88
06-23-98	0848	2,440	11.44	412	7.5	21.0	25.0	5.1	60
07-07-98	0900	613	6.66	669	7.6	20.5	32.0	6.8	79
08-04-98	0903	118	4.21	616	7.9	21.0	22.0	8.5	99
09-01-98	0944	88	3.95	708	8.1	18.5	17.5	7.3	81
05449600, Wheeler Creek near Rowan, IA (site f, fig. 1)									
09-10-98	1030	--	--	715	8.0	18.0	20.0	10.1	111
05451210, South Fork Iowa River northeast of New Providence, IA (site 4, fig. 1)									
10-07-96	1215	9.2	2.34	550	8.3	14.0	13.0	11.9	118
11-04-96	1210	61	3.12	705	8.4	4.5	5.0	12.2	92
12-02-96	1155	211	4.22	722	8.3	1.0	-2.0	13.3	97
01-06-97	1133	550	5.65	365	7.5	0	--	12.4	87
02-03-97	1108	317	4.74	372	7.9	0	.5	11.3	79
03-10-97	1155	609	5.70	403	7.8	1.0	12.0	13.0	96
04-10-97	0904	236	4.35	718	8.4	4.0	4.5	12.8	100
05-15-97	1157	232	4.19	750	8.2	8.5	13.0	11.9	105
05-22-97	0930	152	3.75	648	8.1	14.5	18.0	12.2	123
06-05-97	0818	138	3.71	682	7.8	17.5	21.5	9.6	105
06-21-97	1302	1,810	8.78	311	7.6	20.5	29.0	7.2	83
07-10-97	0824	321	4.82	703	8.2	18.0	21.0	8.9	97
08-04-97	1017	33	2.89	544	8.0	25.5	29.0	8.8	111
08-19-97	0920	20	2.63	528	7.9	19.5	--	7.9	89
09-10-97	0830	7.6	2.47	515	8.1	16.5	19.0	8.4	89

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05451210, South Fork Iowa River northeast of New Providence, IA (site 4, fig. 1)—Continued									
10-07-97	1054	2.8	2.28	562	8.2	21.0	25.0	11.2	130
11-04-97	1120	11	2.59	545	8.5	3.0	3.0	15.8	122
12-01-97	1128	18	2.71	575	8.6	2.5	3.0	12.6	95
01-05-98	1154	30	3.06	591	8.2	0	2.0	12.7	90
02-17-98	1058	500	5.54	374	8.1	.5	4.5	11.9	86
03-11-98	0936	50	3.75	691	7.9	0	-5.0	15.8	109
03-30-98	1113	312	4.29	661	8.4	11.5	21.0	11.1	105
04-01-98	1033	549	5.40	682	8.2	6.0	4.0	11.6	98
05-04-98	1120	166	4.08	679	8.4	14.5	19.0	11.0	113
05-22-98	0656	114	3.75	656	7.9	16.5	13.0	8.1	84
05-29-98	1246	872	6.81	507	7.8	17.5	32.0	8.6	93
06-01-98	1318	510	5.76	704	8.1	16.0	--	10.2	108
06-12-98	1155	1,140	7.63	615	7.8	16.0	26.0	8.8	93
07-06-98	1213	670	6.08	604	8.1	20.0	35.0	8.8	100
08-03-98	1046	34	2.73	622	8.2	20.5	22.0	9.8	112
08-31-98	1102	36	2.71	677	8.1	22.0	26.5	9.2	109
05452020, Salt Creek at Belle Plaine, IA (site g, fig. 1)									
08-21-97	1245	32	--	573	8.1	20.5	--	10.3	117
05-18-98	0925	147	--	590	7.8	19.0	27.0	8.2	91
05453100, Iowa River at Marengo, IA (site 5, fig. 1)									
10-16-96	0939	288	5.27	461	8.5	17.0	19.0	9.7	103
11-14-96	0925	838	6.63	667	8.5	0	2.5	14.3	98
12-10-96	0935	3,040	10.56	619	8.2	0	6.5	14.6	103
01-14-97	1200	1,700	8.35	534	6.1	0	-7.0	8.7	64
02-13-97	0949	1,350	7.68	572	7.6	0	-5.0	8.6	60
03-19-97	0955	3,430	11.03	449	7.8	3.0	8.5	12.2	92
04-10-97	1557	2,570	9.84	633	8.6	5.5	1.0	13.0	105

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05453100, Iowa River at Marengo, IA (site 5, fig. 1)—Continued									
05-06-97	0914	4,940	13.25	604	8.2	12.5	14.0	10.0	96
06-05-97	1402	1,910	8.86	578	8.2	21.5	26.0	10.6	124
06-24-97	1000	5,040	13.37	396	7.4	25.0	31.0	5.7	71
07-10-97	1343	2,910	10.32	621	8.1	22.0	23.0	7.9	92
08-05-97	1334	833	6.84	606	8.5	25.8	26.0	11.2	140
09-08-97	1043	374	5.98	495	8.3	21.5	24.0	7.6	88
10-08-97	0937	337	5.63	455	8.2	21.0	16.5	7.1	82
11-05-97	0936	825	6.85	585	8.5	4.0	--	12.0	93
12-03-97	0930	654	6.56	551	8.4	3.0	.5	11.5	88
01-07-98	0846	1,330	7.92	513	8.6	1.5	7.0	12.7	93
02-19-98	0916	2,240	9.25	442	8.1	3.5	11.0	11.8	91
03-11-98	0855	1,490	8.01	270	8.2	0	-5.0	12.8	87
04-02-98	1355	9,240	16.41	402	7.5	8.0	--	9.8	85
05-08-98	0843	3,500	11.14	544	8.0	15.0	17.0	9.3	95
06-05-98	0900	3,150	10.63	598	8.1	16.0	--	8.9	92
06-13-98	0946	6,280	14.57	389	7.7	18.5	25.5	6.6	72
06-26-98	0922	17,500	18.54	382	7.4	25.0	32.0	5.2	65
07-07-98	0920	14,700	17.92	500	7.3	24.5	31.0	3.3	41
08-07-98	0900	1,690	8.37	508	8.0	22.0	23.0	6.8	81
09-04-98	0850	975	6.95	629	8.1	22.5	25.0	7.8	93
05455100, Old Man's Creek near Iowa City, IA (site 6, fig. 1)									
10-07-96	0948	3.2	1.38	475	7.9	13.5	14.0	10.2	100
11-12-96	0956	9.9	1.55	551	7.8	0	-5.0	13.2	89
12-02-96	0945	21	1.77	658	7.7	0	-3.5	13.1	91
01-06-97	0938	30	1.90	587	6.9	0	-5.0	13.2	91
02-04-97	0919	313	4.50	287	7.4	0	2.5	12.0	84
03-10-97	1025	345	5.13	249	7.5	3.0	10.5	11.5	87

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05455100, Old Man's Creek near Iowa City, IA (site 6, fig. 1)—Continued									
04-08-97	1337	34	2.38	479	8.2	6.5	7.0	13.2	111
05-01-97	0914	235	4.31	429	8.1	8.0	11.0	9.5	83
05-08-97	0903	611	6.34	378	7.8	11.0	14.0	9.2	86
05-27-97	0947	660	6.62	384	7.1	9.5	14.5	8.8	81
06-03-97	1246	138	3.13	485	7.7	17.0	22.0	9.3	98
07-08-97	1210	38	2.13	522	7.8	22.5	31.0	8.8	104
08-07-97	1425	7.7	1.59	464	8.0	24.5	31.0	12.9	157
08-11-97	0908	5.9	1.63	498	7.6	19.0	--	8.1	89
09-02-97	1545	11	1.68	428	7.8	25.5	28.5	9.9	123
10-07-97	1350	3.2	1.51	549	7.9	22.0	31.0	11.1	130
11-04-97	1243	59	2.49	521	8.4	4.0	--	12.3	96
12-02-97	1223	28	2.09	528	8.5	4.5	--	12.8	101
01-06-98	1240	263	4.36	485	8.0	4.0	--	11.7	91
02-18-98	1235	150	3.45	498	8.3	5.0	8.0	12.8	104
03-10-98	1310	249	4.03	468	7.9	.5	-5.0	12.9	90
03-31-98	1245	1,610	10.74	269	7.0	12.0	--	7.0	68
05-05-98	1343	200	3.73	486	7.6	16.5	31.0	9.9	104
05-18-98	0825	142	3.49	792	7.8	17.5	32.0	8.1	87
06-02-98	1325	169	3.57	508	7.7	17.5	--	8.7	94
06-10-98	0826	219	3.86	494	7.6	14.5	17.0	8.7	88
06-30-98	1239	744	7.07	363	7.2	19.5	25.5	6.9	78
07-10-98	0745	156	3.60	519	7.3	21.5	28.5	8.3	97
08-05-98	0810	44	2.44	505	7.8	22.0	24.5	6.4	76
09-01-98	1300	104	3.96	503	7.7	21.0	28.0	8.0	92
05455500, English River near Kalona, IA (site h, fig. 1)									
08-11-97	1417	37	--	473	7.8	20.0	--	7.8	87
05-18-98	1430	469	--	436	7.8	22.0	33.0	7.7	91

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05455570, English River at Riverside, IA (site i, fig. 1)									
10-07-96	0825	14	2.77	--	7.7	14.5	10.5	8.3	--
11-04-96	0810	45	3.20	--	7.8	4.0	1.5	13.3	--
12-06-96	0900	--	--	480	8.0	0	--	14.2	--
01-02-97	0955	30	3.10	--	7.5	.5	10.0	14.1	--
02-06-97	0825	90	4.70	--	7.3	0	-1.5	8.4	--
03-20-97	1015	120	3.95	--	7.8	6.0	--	12.7	--
04-10-97	0850	100	7.72	--	7.9	6.0	1.5	12.9	--
05-06-97	1515	510	5.12	--	7.9	17.0	21.0	9.7	--
06-05-97	0855	260	4.54	--	7.7	18.0	21.0	10.5	--
07-14-97	0920	60	3.50	--	8.2	26.0	24.0	8.4	--
09-04-97	0845	19	2.70	--	8.0	17.5	13.0	9.0	--
10-07-97	0935	11	2.61	--	7.9	19.5	20.0	9.0	--
11-06-97	1410	190	--	--	8.3	5.5	7.0	16.1	--
12-01-97	0935	130	3.75	--	8.4	5.5	1.5	13.8	--
01-08-98	0915	600	5.96	--	8.5	3.0	-6.0	12.4	--
02-05-98	0910	220	4.77	--	8.0	.5	-2.0	14.1	--
03-03-98	0835	510	--	--	8.1	3.0	-2.0	12.8	--
04-07-98	0850	635	6.47	--	7.8	11.5	10.0	10.6	--
05-05-98	1415	--	--	--	7.9	--	24.0	9.7	--
06-02-98	0855	580	5.49	--	8.1	18.5	--	8.9	--
07-08-98	1000	650	5.70	--	7.6	24.0	25.0	7.1	--
08-04-98	0900	95	3.35	--	8.1	23.5	--	8.2	--
05456510, Turtle Creek at Austin, MN (site j, fig. 1)									
08-27-97	0840	74	--	683	7.5	20.5	--	8.1	93
05-19-98	0901	100	--	685	7.7	21.0	26.0	7.2	84

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05457750, Cedar River near Carville, IA (site k, fig. 1)									
10-17-96	1010	150	1.98	--	8.0	16.0	14.5	7.8	--
11-06-96	0915	--	--	--	8.1	5.5	10.0	11.5	--
12-19-96	1015	240	2.21	--	8.0	0	-18.0	14.0	--
01-21-97	1130	450	2.75	--	7.6	0	1.5	11.6	--
02-17-97	1120	350	2.50	--	7.7	0	1.5	11.9	--
03-05-97	0805	490	2.62	--	8.0	0	--	13.2	--
04-22-97	0950	880	3.21	--	8.3	11.5	10.0	12.5	--
05-01-97	0900	930	3.28	--	8.2	8.5	4.5	12.0	--
07-17-97	1115	1,190	3.65	--	8.1	24.5	26.5	8.2	--
09-16-97	0920	280	2.28	--	8.4	19.0	21.0	8.7	--
10-23-97	0840	380	2.45	--	8.4	7.0	4.5	12.0	--
11-13-97	1055	240	2.21	--	8.8	1.5	.5	18.7	--
12-11-97	1020	85	1.86	--	8.7	1.0	-4.0	13.3	--
01-28-98	1010	150	2.03	--	8.2	.5	2.0	12.4	--
02-17-98	1010	170	2.02	--	8.2	1.0	2.0	13.0	--
03-26-98	0730	940	3.29	--	8.4	7.0	16.0	12.5	--
04-09-98	0830	2,070	4.80	--	--	--	--	--	--
06-09-98	1020	600	2.78	--	8.5	15.0	13.0	9.5	--
07-09-98	1015	1,450	4.02	--	8.0	23.0	27.0	8.1	--
08-11-98	1035	390	2.46	--	8.6	23.5	24.0	9.6	--
09-14-98	1230	260	2.25	--	8.5	21.5	--	9.6	--
05457950, Little Cedar River near Floyd, IA (site l, fig. 1)									
08-27-97	1400	36	--	457	8.0	21.0	--	10.6	123
05-18-98	1346	134	--	547	8.0	21.0	30.5	8.2	96

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05458870, Maynes Creek near Kesley, IA (site m, fig. 1)									
08-25-97	1500	28	--	582	8.1	22.0	--	9.7	115
05-21-98	1221	73	--	624	8.0	18.0	25.0	9.2	100
09-09-98	0957	--	--	621	8.1	15.0	21.0	10.1	103
05458900, West Fork Cedar River near Finchford, IA (site n, fig. 1)									
10-17-96	0840	9.5	5.35	--	8.0	16.0	22.0	8.7	--
11-06-96	0815	300	6.35	--	8.1	6.0	10.0	12.0	--
12-19-96	0910	850	8.30	--	8.1	0	-18.0	14.6	--
01-21-97	0955	380	6.83	--	7.5	0	1.5	7.5	--
02-17-97	0930	300	7.02	--	7.5	0	25.0	8.7	--
03-05-97	1300	1,900	10.43	--	7.5	0	--	9.5	--
05-01-97	0755	1,050	8.40	--	7.9	7.5	4.5	13.3	--
07-17-97	0950	625	7.12	--	8.4	25.0	23.9	8.3	--
09-16-97	0805	240	--	--	8.4	19.0	18.0	8.7	--
10-22-97	1100	220	5.66	--	8.4	6.5	1.5	12.1	--
11-13-97	0920	190	5.50	--	8.6	2.0	.5	16.3	--
12-11-97	1120	250	5.74	--	8.7	1.5	-4.0	13.1	--
01-28-98	1125	285	5.92	--	8.2	.5	2.0	11.9	--
02-17-98	0900	520	6.90	--	8.1	1.5	3.0	13.4	--
03-26-98	1220	1,150	8.50	--	8.2	8.5	21.0	12.2	--
04-09-98	1045	1,520	9.26	--	8.3	8.0	3.0	10.7	--
06-09-98	0855	1,250	8.88	--	8.6	15.0	13.0	9.6	--
07-09-98	0900	1,350	8.75	--	8.0	23.5	27.0	8.0	--
08-11-98	0850	860	7.84	--	8.3	22.5	21.0	8.2	--
09-14-98	1050	230	5.74	--	8.4	20.5	--	8.8	--
05459300, Winnebago River near Fertile, IA (site o, fig. 1)									
08-26-97	1250	75	--	593	8.4	23.0	--	13.8	168
05-19-98	1308	234	--	698	8.0	22.0	32.0	8.9	106

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05461390, Flood Creek near Powersville, IA (site 7, fig. 1)									
10-23-96	1107	0.52	2.17	396	7.9	6.0	6.0	9.6	81
12-11-96	1150	17	2.69	448	8.3	.5	5.0	13.6	98
01-14-97	0950	36	2.96	505	7.5	0	-12.0	9.4	65
02-19-97	1050	237	4.94	403	7.2	0	-2.5	12.2	86
03-18-97	1018	293	5.30	209	7.8	0	-2.0	12.7	89
04-09-97	1446	146	4.17	536	8.1	5.0	6.0	11.6	93
05-03-97	1053	388	5.45	489	8.0	7.5	12.5	10.3	89
06-04-97	1310	47	3.09	503	8.0	16.5	29.0	10.3	108
07-09-97	1151	58	3.17	525	7.9	16.0	20.0	9.0	94
08-04-97	1613	62	3.24	533	7.8	21.0	30.0	8.3	96
08-25-97	1130	22	2.66	488	7.9	15.5	--	11.2	116
09-04-97	1248	15	2.54	492	8.1	15.0	25.0	11.5	117
10-09-97	0823	3.3	2.28	456	7.8	14.5	10.0	7.6	77
11-06-97	0855	4.7	2.34	491	8.3	4.5	4.0	11.5	91
12-03-97	0852	2.0	2.25	452	8.3	2.5	1.0	12.1	92
01-07-98	0902	.07	2.09	443	8.0	0	-.5	12.1	85
02-19-98	0948	60	3.14	320	8.0	0	6.5	12.9	92
03-13-98	0850	8.1	2.95	519	8.0	0	-4.0	12.4	88
04-02-98	0843	388	6.00	489	8.0	5.0	9.0	11.7	95
05-06-98	0838	74	3.34	532	8.0	11.5	21.0	9.8	94
05-18-98	1004	49	3.02	519	8.0	15.0	28.0	8.7	89
06-03-98	0906	116	3.73	551	7.9	11.5	5.5	9.5	91
07-08-98	0848	108	3.95	540	7.6	15.0	32.0	8.9	91
08-05-98	0837	44	2.95	468	7.8	15.5	21.5	9.3	96
09-02-98	0842	30	2.69	509	7.9	12.0	24.0	9.3	90

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05462770, Beaver Creek near Parkersburg, IA (site p, fig. 1)									
08-19-97	1235	41	--	611	8.1	18.5	--	9.6	106
05-21-98	0848	98	--	639	8.0	17.0	18.3	9.0	96
05463510, Black Hawk Creek at Waterloo, IA (site q, fig. 1)									
08-20-97	0910	42	--	537	8.0	--	18.5	9.1	105
05-20-98	1253	219	--	571	7.9	19.0	28.0	8.4	94
05464020, Cedar River at Gilbertville, IA (site 8, fig. 1)									
10-15-96	1120	924	5.45	528	8.5	15.0	19.0	12.6	128
11-12-96	1103	1,460	5.98	614	8.3	.5	5.8	14.9	105
12-12-96	1340	2,730	6.81	613	8.3	1.0	3.0	14.5	105
01-15-97	0855	--	7.69	654	7.7	0	-5.0	12.3	88
02-10-97	1015	--	7.12	582	7.9	0	-1.0	12.0	84
05464220, Wolf Creek near Dysart, IA (site 9, fig. 1)									
10-10-96	1047	25	2.20	580	8.2	9.5	7.0	13.9	124
11-07-96	1018	116	2.78	555	8.2	5.5	5.5	11.7	96
12-05-96	0959	123	2.74	588	8.0	0	0	12.9	92
01-13-97	1205	100	2.57	631	7.5	0	-10.0	9.3	65
02-06-97	0923	111	2.57	396	7.5	0	-1.5	9.4	65
03-12-97	1035	217	3.11	493	7.9	5.5	6.0	12.1	98
03-17-97	0945	160	2.90	514	8.1	1.5	10.0	12.6	93
03-24-97	1026	124	2.76	561	8.2	5.0	3.0	11.3	92
04-02-97	1026	124	2.77	552	8.4	10.5	18.0	11.7	108
04-08-97	1030	180	3.01	552	8.2	3.5	0	13.2	101
04-14-97	1235	195	3.08	538	8.2	13.0	10.0	12.8	124
04-21-97	1028	165	2.97	554	8.2	10.0	15.0	10.8	100
04-28-97	1026	129	2.83	558	8.2	12.0	17.0	12.5	120
05-05-97	1015	435	3.91	560	8.1	12.5	18.0	10.0	97
05-12-97	1022	305	3.48	565	8.2	10.5	11.0	10.4	97
05-19-97	1033	209	3.16	568	8.3	15.5	13.0	9.5	98

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05464220, Wolf Creek near Dysart, IA (site 9, fig. 1)—Continued									
05-27-97	0936	211	3.17	543	8.0	10.5	17.0	11.3	104
06-03-97	1116	180	3.05	580	8.1	19.5	25.0	8.8	99
06-09-97	0946	170	3.01	588	8.1	18.0	20.0	9.4	101
06-16-97	0943	209	3.16	497	7.9	21.0	21.0	7.8	91
06-24-97	0951	694	4.38	545	7.6	21.5	28.0	7.2	84
06-30-97	1022	397	3.64	555	8.0	21.5	30.0	8.2	96
07-14-97	0944	172	3.02	558	8.1	24.0	31.0	8.3	101
07-28-97	0928	80	2.61	603	8.1	24.0	26.0	8.1	99
08-12-97	0916	54	2.47	557	7.9	18.0	23.0	8.5	92
08-21-97	0840	33	2.36	587	7.9	17.5	--	9.4	101
08-25-97	1000	65	2.53	434	7.8	20.5	20.0	7.9	90
09-09-97	0945	65	2.53	519	8.1	19.0	19.5	8.9	99
09-24-97	0940	80	2.61	537	8.0	13.5	--	10.5	104
10-10-97	0938	152	2.91	517	8.1	13.5	7.0	9.3	91
10-21-97	0854	150	2.90	597	8.2	7.5	4.0	11.0	94
11-07-97	0919	103	2.75	592	8.3	6.0	5.0	12.3	100
11-18-97	0857	188	3.08	585	8.6	0	-5.0	13.3	93
12-04-97	0919	141	2.85	585	8.4	2.0	-4.0	13.5	101
01-08-98	0910	159	2.91	567	8.5	1.0	-1.0	12.1	89
02-20-98	0941	299	3.49	557	8.4	4.0	4.0	12.1	95
03-18-98	0918	261	3.31	523	8.0	1.0	--	12.0	87
04-01-98	0945	2,610	8.56	388	7.0	7.0	4.0	10.0	87
05-07-98	0919	349	3.64	549	8.1	13.0	17.0	9.8	97
05-18-98	1327	237	3.26	569	8.0	21.5	30.5	8.1	94
06-04-98	0933	372	3.66	566	8.1	13.0	15.0	9.8	96
06-10-98	1215	1,030	5.24	458	7.7	15.5	26.0	8.8	91

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05464220, Wolf Creek near Dysart, IA (site 9, fig. 1)—Continued									
06-12-98	1238	5,790	13.31	145	6.7	19.0	24.0	6.5	73
06-22-98	1415	3,440	9.84	284	7.4	21.0	32.0	6.4	74
07-09-98	0924	746	4.59	557	7.6	21.0	38.0	8.1	93
08-06-98	0855	334	3.46	427	7.9	20.0	20.0	8.9	101
09-03-98	0956	88	2.61	599	8.1	19.5	19.5	9.3	106
05464935, Cedar River at Nichols, IA¹ (site 10a, fig. 1)									
10-29-96	1030	2,080	5.66	533	8.1	11.5	--	10.8	104
11-13-96	1013	2,460	5.95	644	8.4	2.0	1.0	13.4	96
12-05-96	1030	3,640	6.78	530	8.3	0	2.0	13.4	95
01-22-97	0950	7,780	9.12	688	7.7	0	2.5	10.6	74
02-03-97	0938	7,000	8.73	679	7.8	0	--	10.1	70
03-13-97	0950	11,800	10.68	403	7.7	4.5	7.0	10.4	82
04-07-97	0921	9,460	9.83	521	8.3	7.5	-2.0	10.6	90
05-07-97	0933	9,270	9.74	545	7.9	14.5	14.0	10.2	102
06-02-97	0838	5,190	7.90	535	8.3	18.0	25.0	12.1	131
06-17-97	1418	4,590	7.58	462	8.6	25.5	28.0	10.9	137
07-07-97	0902	7,430	8.95	596	8.2	22.0	22.0	8.7	101
08-06-97	1110	4,030	7.24	573	8.4	24.5	23.0	10.0	121
09-03-97	0834	2,600	6.23	427	8.6	22.5	16.0	8.0	93
10-09-97	1232	1,700	5.50	523	8.9	20.5	18.0	14.8	168
11-06-97	1302	3,060	6.48	652	8.6	5.5	--	12.6	102
12-04-97	1230	2,680	6.21	633	8.9	3.0	--	14.5	111
01-08-98	1233	4,220	7.25	617	8.2	1.0	0	14.1	103
02-20-98	1156	5,400	8.11	601	8.2	5.5	9.0	11.7	95
03-12-98	1200	5,860	8.12	603	8.2	0	-5.0	13.9	96
04-03-98	0851	25,700	13.96	423	7.4	9.0	7.0	9.5	84

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05464935, Cedar River at Nichols, IA¹ (site 10a, fig. 1)—Continued									
05-07-98	0827	8,600	9.33	584	8.2	17.0	17.5	8.6	93
06-04-98	0900	8,530	9.29	594	7.5	18.5	--	8.4	92
07-06-98	0847	26,800	14.15	487	7.7	22.5	26.5	6.4	76
08-04-98	1300	3,440	6.76	463	8.5	25.5	28.5	9.0	112
09-03-98	0840	5,440	7.92	557	8.4	23.5	26.0	9.6	116
05465000, Cedar River near Conesville, IA (site 10b, fig. 1)									
10-10-96	1015	1,300	4.94	539	8.9	12.0	13.5	10.8	139
10-29-96	0855	1,910	5.51	543	8.4	12.0	11.5	10.1	96
05465310, Long Creek near Columbus Junction, IA (site r, fig. 1)									
08-12-97	1430	6.5	--	442	8.0	22.0	--	10.1	118
05-20-98	1442	92	--	550	8.0	20.5	18.0	7.9	89
05465500 Iowa River at Wapello, IA (site 11, fig. 1)									
10-08-96	1155	1,740	9.92	492	8.9	14.5	12.0	12.4	125
11-06-96	1038	3,630	11.11	591	8.4	7.5	19.5	12.9	110
12-03-96	1040	5,490	11.97	658	8.4	0	-2.0	13.5	94
01-07-97	1115	7,610	12.86	641	8.1	0	-10.0	13.4	92
02-05-97	1030	11,900	14.47	560	7.6	0	-1.0	11.4	78
03-11-97	1220	18,500	16.69	405	7.9	4.0	16.0	11.3	88
03-20-97	0918	28,700	19.23	332	8.2	3.5	7.0	12.4	95
03-27-97	0941	21,700	17.53	363	7.9	6.0	17.0	13.1	108
03-31-97	0936	24,400	18.30	402	7.8	8.0	12.0	10.6	90
04-10-97	0922	12,500	14.98	524	8.2	7.0	3.0	11.5	96
04-16-97	0931	13,100	15.14	559	8.2	7.5	2.0	10.8	92
04-23-97	0945	10,700	14.32	578	8.6	11.5	12.0	11.7	110
04-30-97	0956	8,110	13.35	469	8.6	16.0	15.0	10.5	110
05-07-97	0920	19,700	16.97	530	8.3	14.5	15.0	10.2	102
05-14-97	0955	17,800	16.46	560	8.2	14.5	12.0	10.3	104

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05465500 Iowa River at Wapello, IA (site 11, fig. 1)—Continued									
05-21-97	1028	12,200	14.76	514	7.9	16.5	20.0	8.2	85
05-29-97	1049	13,000	15.02	518	8.2	14.0	15.0	10.9	108
06-05-97	0940	9,820	13.89	492	8.5	20.0	22.0	12.0	135
06-12-97	0906	8,360	13.38	481	8.1	22.0	22.0	7.8	92
06-19-97	0908	7,740	13.08	481	8.0	25.0	29.5	7.0	87
06-25-97	0955	14,900	15.59	522	8.0	27.0	30.0	6.4	82
07-02-97	0912	19,400	16.89	482	7.8	26.5	31.0	7.1	91
07-16-97	0941	8,660	13.42	552	8.3	27.0	33.0	8.9	114
07-31-97	0927	6,470	12.46	545	8.3	25.0	28.0	9.7	120
08-13-97	0918	4,130	11.32	484	8.5	22.5	24.0	9.4	111
08-28-97	0919	3,650	10.99	476	8.4	24.0	26.0	8.1	98
09-05-97	0906	4,270	11.27	419	8.2	21.0	--	8.3	94
09-23-97	0936	3,420	10.73	468	8.4	17.5	16.0	8.7	92
10-06-97	1050	2,500	10.17	475	8.7	21.0	31.5	11.8	135
10-22-97	0951	5,310	11.82	581	8.5	9.0	3.0	11.9	104
11-03-97	0953	5,750	12.02	595	8.4	6.0	3.5	12.2	101
11-19-97	0935	3,860	10.93	612	8.5	1.5	1.0	12.5	90
12-01-97	0928	3,690	10.84	615	8.9	5.5	4.0	12.7	103
01-05-98	0938	6,500	12.35	651	8.3	3.0	4.0	11.6	88
02-17-98	0936	6,920	12.98	568	8.3	4.0	8.5	11.9	95
03-09-98	1000	15,800	16.34	537	8.3	2.5	3.0	12.2	91
03-30-98	0905	16,000	16.40	565	8.1	14.5	--	9.9	101
04-04-98	1020	43,100	22.05	422	7.8	8.5	14.0	9.0	78
05-04-98	0909	15,400	16.23	583	8.2	14.5	22.0	9.9	100
05-27-98	1148	13,400	16.19	500	8.4	20.0	29.0	11.6	131
06-01-98	0913	16,700	16.62	524	7.9	22.0	--	7.7	91

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05465500 Iowa River at Wapello, IA (site 11, fig. 1)—Continued									
06-19-98	1002	37,400	21.07	489	7.7	20.0	23.0	7.5	84
07-02-98	1049	48,400	22.87	467	7.4	25.0	30.5	5.3	65
08-03-98	0925	10,700	14.59	470	8.1	25.0	29.5	6.8	86
08-31-98	0940	12,300	15.19	515	7.8	25.0	26.0	7.1	88
05469980, South Skunk River near Story City, IA (site s, fig. 1)									
08-18-97	1430	15	--	645	8.3	21.0	--	12.7	147
05-21-98	0743	105	--	721	8.2	18.0	15.0	8.0	87
05471120, East Branch Indian Creek near Iowa Center, IA (site t, fig. 1)									
08-18-97	1057	3.9	--	533	7.9	20.5	--	9.4	107
05-21-98	1137	96	--	650	8.2	19.5	24.0	9.1	103
05473060, Crooked Creek at Coppock, IA (site u, fig. 1)									
08-12-97	1002	13	--	661	7.7	20.5	--	4.9	56
05-19-98	0946	160	--	556	7.9	21.5	31.0	7.6	89
05473400, Cedar Creek near Oakland Mills, IA (site v, fig. 1)									
10-07-96	1020	4.1	2.73	--	8.4	15.5	15.0	10.6	--
11-04-96	1100	125	3.09	--	7.5	5.0	4.5	11.4	--
12-06-96	1045	--	--	733	8.4	.5	23.0	14.6	--
01-02-97	1305	10	2.82	--	7.9	1.0	13.0	15.6	--
02-06-97	1115	220	5.35	--	7.4	0	-1.5	11.7	--
03-20-97	1220	75	3.55	--	8.0	8.5	--	12.5	--
04-10-97	1130	57	3.23	--	8.4	6.5	1.5	13.3	--
05-06-97	1345	270	4.53	--	8.0	16.5	24.0	9.8	--
06-05-97	1130	115	3.69	--	8.0	19.5	24.0	11.5	--
07-14-97	1230	35	3.22	--	8.9	29.0	29.0	10.7	--
08-11-97	1405	11	2.90	--	8.3	21.0	21.0	8.1	--
08-13-97	1355	7.9	2.80	569	8.3	25.5	--	11.2	139
09-04-97	1110	12	2.93	--	8.2	19.5	12.5	8.5	--
10-07-97	1155	.57	2.52	--	8.2	23.0	28.0	9.1	--
11-06-97	1125	115	3.71	--	8.3	6.0	4.5	12.6	--

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05473400, Cedar Creek near Oakland Mills, IA (site v, fig. 1)—Continued									
12-01-97	1145	35	4.17	--	8.1	6.5	1.5	13.6	--
01-15-98	1155	--	--	--	8.3	.5	-5.0	13.7	--
02-05-98	1140	260	4.86	--	8.1	.5	-1.0	14.3	--
03-03-98	1040	330	4.78	--	8.2	3.0	-1.0	13.1	--
04-07-98	1100	900	6.62	--	7.9	12.0	16.0	7.9	--
05-05-98	1300	470	5.33	--	8.0	16.5	24.0	9.9	--
05-19-98	1449	164	--	514	8.0	24.0	32.0	7.9	96
06-02-98	1140	270	4.53	--	8.1	21.0	--	8.6	--
07-08-98	1210	4,520	14.94	--	7.2	25.0	30.0	6.3	--
08-04-98	1205	15	3.25	--	8.8	26.0	--	11.6	--
05473550, Big Creek near Lowell, IA (site w, fig. 1)									
08-13-97	0945	7.1	--	1220	7.8	22.0	28.0	5.6	65
05-20-98	0838	59	--	611	8.0	22.0	15.0	6.8	79
05474000, Skunk River at Augusta, IA (site 12, fig. 1)									
10-09-96	0940	253	1.70	371	9.3	13.5	9.0	11.8	117
11-07-96	0909	784	2.39	622	8.2	7.5	7.0	11.4	97
12-04-96	0933	1,630	3.24	715	8.2	0	-2.0	13.8	95
01-08-97	0930	1,160	2.78	732	8.2	0	-4.0	15.2	104
02-06-97	0857	3,670	5.16	426	7.6	.0	-2.0	11.5	79
03-12-97	0930	470	5.95	484	8.0	6.5	15.0	11.9	98
04-08-97	0840	1,560	3.15	637	8.7	9.0	4.0	13.3	116
05-13-97	1110	4,710	5.82	552	7.9	14.5	19.0	9.3	94
05-28-97	1205	5,910	6.75	355	7.6	12.5	14.0	9.1	87
06-03-97	0814	2,960	4.34	581	7.9	18.0	25.0	9.7	105
06-26-97	1515	4,800	5.89	502	7.8	26.5	32.0	6.8	86
07-08-97	0804	2,040	3.59	601	8.0	23.5	24.0	7.8	94
08-07-97	0930	558	2.14	478	8.4	23.0	23.0	12.2	143
09-02-97	1050	631	2.25	490	8.0	26.0	30.0	8.0	100

Table 10. Physical properties determined onsite at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month-day- year)	Time (24-hour)	Discharge (ft ³ /s) (00061)	Gage height (ft) (00065)	Specific conductance (μS/cm) (00095)	pH (standard units) (00400)	Water temperature (°C) (00010)	Air temperature (°C) (00020)	Oxygen, dissolved (mg/L) (00300)	Dissolved oxygen saturation (%) (00301)
05474000, Skunk River at Augusta, IA (site 12, fig. 1)—Continued									
10-07-97	0903	194	1.63	481	8.0	21.5	25.0	5.6	64
11-04-97	0822	403	2.00	472	8.2	6.0	--	11.5	94
12-02-97	0835	1,490	3.05	536	8.6	6.0	7.0	11.7	95
01-06-98	0830	8,100	8.60	402	8.0	3.5	6.5	12.0	92
02-18-98	0835	2,930	4.47	508	8.2	4.5	8.0	11.8	94
03-10-98	0840	12,200	11.16	322	7.9	1.0	-5.0	12.0	85
03-31-98	0824	19,600	15.09	297	7.8	14.0	--	9.0	91
05-05-98	0830	5,180	6.30	505	7.8	14.5	22.0	9.6	--
05-26-98	1200	15,700	13.16	327	7.3	17.0	24.0	7.5	79
06-02-98	0820	5,720	6.85	498	7.8	21.0	--	7.6	88
06-18-98	1044	14,000	12.22	385	7.6	20.5	36.0	8.5	97
07-08-98	0930	15,400	13.01	375	7.3	25.0	28.5	6.4	79
08-04-98	0810	1,370	2.97	597	8.2	25.0	25.0	7.8	96
09-01-98	0815	3,960	5.21	250	7.5	23.0	25.5	7.0	83
424539093372001, Surface-water tile drain upstream from Iowa River near Rowan, IA (site x, fig. 1)									
01-09-97	1020	--	--	703	7.8	0	-3.0	8.8	64
04-22-97	1004	--	--	689	8.0	11.0	7.0	10.2	96
07-29-97	0830	--	--	--	--	--	19.0	--	--
05-05-98	0830	--	--	668	8.2	15.0	16.0	8.7	91

¹Gaging station located at Cedar River near Conesville, IA (site 10b, fig. 1).

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998

[mg/L, milligrams per liter; col/100 mL, number of colonies per 100 milliliters; µg/L, micrograms per liter; --, data not collected; K, nonideal colony count; >, greater than indicated value. Numbers in parentheses () are the U.S. Geological Survey Water Data Storage and Retrieval System parameter code]

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05420680, Wapsipinicon River near Tripoli, IA (site 1, fig. 1)										
10-09-96	1043	regular	145	177	0	240	510	--	--	--
11-06-96	1118	do.	142	173	0	1,400	500	--	--	--
12-04-96	1011	do.	132	161	0	K66	K150	--	--	--
01-08-97	1103	do.	117	143	0	K1,600	K26,000	--	--	--
02-05-97	1105	do.	145	177	0	K38	K80	--	--	--
03-17-97	1305	do.	81	99	0	K15	590	--	--	--
04-09-97	0858	do.	104	127	0	--	--	--	--	--
05-05-97	1044	do.	87	106	0	--	--	--	--	--
06-04-97	0954	do.	130	159	0	--	--	--	--	--
06-22-97	1130	do.	114	139	0	--	--	--	--	--
07-09-97	0824	do.	133	162	0	--	--	--	--	--
08-05-97	0819	do.	136	166	0	--	--	--	--	--
08-28-97	1230	do.	104	120	0	--	--	--	--	--
09-04-97	0944	do.	139	170	0	--	--	--	--	--
10-09-97	1228	do.	145	176	0	--	--	--	--	--
11-06-97	1249	do.	143	174	0	--	--	--	--	--
12-03-97	1249	do.	138	168	0	--	--	--	--	--
01-07-98	1247	do.	131	160	0	--	--	--	--	--
02-19-98	1351	do.	76	93	0	--	--	--	--	--
03-13-98	1223	do.	150	183	0	--	--	--	--	--
04-02-98	1443	do.	68	83	0	--	--	--	--	--
05-06-98	1249	do.	120	146	0	--	--	--	--	--
05-19-98	0940	do.	117	143	0	--	--	--	--	--
05-27-98	1335	do.	118	144	0	--	--	--	--	--
06-03-98	1450	do.	120	146	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05420680, Wapsipinicon River near Tripoli, IA (site 1, fig. 1)—Continued										
06-20-98	1030	regular	68	83	0	--	--	--	--	--
07-08-98	1315	do.	102	124	0	--	--	--	--	--
08-05-98	1231	do.	139	170	0	--	--	--	--	--
09-02-98	1308	do.	123	150	0	--	--	--	--	--
05420720, East Fork Wapsipinicon River near Tripoli, IA (site a, fig. 1)										
08-28-97	0915	regular	148	182	0	--	--	--	--	--
05-19-98	1405	do.	123	150	0	--	--	--	--	--
05420900, Little Wapsipinicon River at Littleton, IA (site b, fig. 1)										
08-20-97	1235	regular	140	162	4	--	--	--	--	--
05-20-98	0947	do.	132	161	0	--	--	--	--	--
05421700, Buffalo Creek near Stone City, IA (site c, fig. 1)										
08-14-97	1400	regular	172	200	5	--	--	--	--	--
05-21-98	1523	do.	177	214	1	--	--	--	--	--
05421870, Mud Creek near Donahue, IA (site d, fig. 1)										
08-14-97	0940	regular	248	305	0	--	--	--	--	--
05-21-98	1023	do.	184	225	0	--	--	--	--	--
05422000, Wapsipinicon River near DeWitt, IA (site 2, fig. 1)										
10-15-96	1120	regular	119	140	2	100	780	--	--	--
11-13-96	0946	do.	191	233	0	95	350	--	--	--
12-09-96	0924	do.	169	206	0	72	K110	--	--	--
01-13-97	1025	do.	211	257	0	870	2,800	--	--	--
02-11-97	1017	do.	171	209	0	130	190	--	--	--
03-20-97	0920	do.	51	62	0	92	220	--	--	--
04-07-97	1335	do.	138	168	0	--	--	--	--	--
05-06-97	0937	do.	122	149	0	--	--	--	--	--
06-02-97	1304	do.	126	137	8	--	--	--	--	--
06-17-97	0935	do.	112	124	6	--	--	--	--	--
06-26-97	0933	do.	120	146	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05422000, Wapsipinicon River near DeWitt, IA (site 2, fig. 1)—Continued										
07-07-97	1306	regular	132	161	0	--	--	--	--	--
08-06-97	1540	do.	82	61	19	--	--	--	--	--
09-03-97	1210	do.	131	148	6	--	--	--	--	--
10-09-97	0907	do.	157	50	70	--	--	--	--	--
11-06-97	0915	do.	182	195	13	--	--	--	--	--
12-04-97	0900	do.	173	211	0	--	--	--	--	--
01-08-98	0843	do.	178	217	0	--	--	--	--	--
02-20-98	0842	do.	186	227	0	--	--	--	--	--
03-12-98	0850	do.	157	172	10	--	--	--	--	--
04-02-98	0900	do.	105	128	0	--	--	--	--	--
05-06-98	0925	do.	166	173	14	--	--	--	--	--
06-03-98	0915	do.	116	142	0	--	--	--	--	--
06-17-98	1300	do.	104	127	0	--	--	--	--	--
07-09-98	0855	do.	126	154	0	--	--	--	--	--
08-06-98	0900	do.	127	155	0	--	--	--	--	--
09-02-98	0915	do.	136	166	0	--	--	--	--	--
05449200, East Branch Iowa River at Belmond, IA (site e, fig. 1)										
08-26-97	0925	regular	199	237	4	--	--	--	--	--
05-20-98	0856	do.	235	287	0	--	--	--	--	--
05449500, Iowa River near Rowan, IA (site 3, fig. 1)										
10-08-96	1010	regular	254	310	0	150	700	--	--	--
11-05-96	0935	do.	312	381	0	580	890	--	--	--
12-03-96	0928	do.	327	399	0	350	150	--	--	--
01-09-97	0950	do.	284	347	0	K990	2,800	--	--	--
02-04-97	1015	do.	221	270	0	1,200	2,000	--	--	--
03-11-97	0950	do.	101	190	0	K330	34,000	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05449500, Iowa River near Rowan, IA (site 3, fig. 1)—Continued										
03-18-97	0856	regular	136	166	0	K190	10,000	--	--	--
03-25-97	0908	do.	150	183	0	300	20,000	--	--	--
04-03-97	0847	do.	233	286	0	K60	K380	--	--	--
04-09-97	0854	do.	251	306	0	77	600	--	--	--
04-15-97	0925	do.	230	281	0	86	230	--	--	--
04-22-97	0944	do.	281	345	0	K390	K92	--	--	--
04-29-97	0913	do.	250	306	0	340	110	2,700	330	260
05-03-97	1046	do.	231	288	0	--	--	--	--	--
05-13-97	0951	do.	248	305	0	140	--	1,200	K84	--
05-20-97	0853	do.	239	292	0	--	--	5,400	210	--
05-28-97	0933	do.	256	312	0	--	--	K8,700	180	--
06-04-97	0921	do.	264	322	0	--	--	96	140	140
06-10-97	0919	do.	248	303	0	--	--	210	210	240
06-17-97	0858	do.	251	306	0	--	--	1,600	5,400	5,100
06-23-97	1156	do.	81	98	0	--	--	--	12,000	9,600
07-01-97	0905	do.	229	281	0	--	--	9,800	940	880
07-15-97	0850	do.	245	301	0	--	--	--	--	--
07-29-97	0900	do.	251	253	0	--	--	27,000	3,800	4,100
08-11-97	1200	do.	190	236	0	--	--	880	500	500
08-26-97	0837	do.	224	254	10	--	--	1,400	620	580
09-11-97	1005	do.	252	309	0	--	--	2,700	600	650
09-25-97	0852	do.	241	294	0	--	--	--	--	--
10-08-97	0948	do.	262	320	0	--	--	--	--	--
10-20-97	1134	do.	266	325	0	--	--	--	--	--
11-05-97	0857	do.	246	300	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05449500, Iowa River near Rowan, IA (site 3, fig. 1)—Continued										
11-17-97	1134	regular	261	318	0	--	--	--	--	--
12-02-97	0908	do.	241	294	0	--	--	--	--	--
01-06-98	0919	do.	241	294	0	--	--	--	--	--
02-18-98	0924	do.	107	131	0	--	--	--	--	--
03-12-98	0926	do.	266	325	0	--	--	--	--	--
03-31-98	0922	do.	200	244	0	--	--	--	--	--
05-05-98	0922	do.	167	204	0	--	--	--	--	--
05-20-98	1223	do.	241	294	0	--	--	--	--	--
06-02-98	0904	do.	256	312	0	--	--	--	--	--
06-13-98	0928	do.	257	289	12	--	--	--	--	--
06-23-98	0848	do.	138	168	0	--	--	--	--	--
07-07-98	0900	do.	249	304	0	--	--	--	--	--
08-04-98	0903	do.	221	270	0	--	--	--	--	--
09-01-98	0944	do.	260	317	0	--	--	--	--	--
05449600, Wheeler Creek near Rowan, IA (site f, fig. 1)										
09-10-98	1030	regular	278	339	0	--	--	--	--	--
05451210, South Fork Iowa River northeast of New Providence, IA (site 4, fig. 1)										
10-07-96	1215	regular	234	271	7	500	480	--	--	--
11-04-96	1210	do.	292	356	0	K14,000	8,400	--	--	--
12-02-96	1155	do.	301	353	7	--	960	--	--	--
01-06-97	1133	do.	134	164	0	K1,900	K36,000	--	--	--
02-03-97	1108	do.	155	189	0	630	5200	--	--	--
03-10-97	1155	replicate	151	184	0	K430,000	21,000	--	--	--
03-10-97	1200	do.	--	--	--	K430,000	21,000	--	--	--
04-10-97	0904	do.	282	344	0	--	--	--	--	--
05-15-97	1157	regular	295	276	42	--	--	K19	K23	K22
06-05-97	0818	do.	254	310	0	--	--	750	420	460

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05451210, South Fork Iowa River northeast of New Providence, IA (site 4, fig. 1)—Continued										
06-21-97	1302	regular	75	92	0	--	--	--	--	--
07-10-97	0824	do.	248	303	0	--	--	8,400	1,300	1,000
07-28-97	1138	do.	--	--	--	--	--	660	680	560
08-04-97	1017	do.	276	296	1	--	--	510	500	390
08-04-97	1022	replicate	--	--	--	--	--	490	340	450
08-04-97	1027	do.	--	--	--	--	--	730	450	--
08-04-97	1032	do.	--	--	--	--	--	510	330	--
08-19-97	0920	regular	142	166	0	--	--	--	--	--
09-10-97	0830	do.	208	256	0	--	--	2,600	2,300	1,000
10-07-97	1054	do.	238	284	5	--	--	--	--	--
11-04-97	1120	do.	228	278	0	--	--	--	--	--
12-01-97	1128	do.	239	292	0	--	--	--	--	--
01-05-98	1154	do.	226	276	0	--	--	--	--	--
02-17-98	1058	do.	138	168	0	--	--	--	--	--
03-11-98	0936	do.	257	314	0	--	--	--	--	--
03-30-98	1113	replicate	211	257	0	--	--	--	--	--
03-30-98	1118	do.	225	275	0	--	--	--	--	--
04-01-98	1033	regular	202	246	0	--	--	--	--	--
05-04-98	1120	do.	200	234	5	--	--	--	--	--
05-22-98	0656	do.	197	240	0	--	--	--	--	--
05-29-98	1246	do.	110	134	0	--	--	--	--	--
06-01-98	1318	do.	226	276	0	--	--	--	--	--
06-12-98	1155	do.	196	239	0	--	--	--	--	--
07-06-98	1213	do.	227	277	0	--	--	--	--	--
08-03-98	1046	do.	238	290	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05451210, South Fork Iowa River northeast of New Providence, IA (site 4, fig. 1)—Continued										
08-31-98	1102	regular	256	288	12	--	--	--	--	--
05452020, Salt Creek at Belle Plaine, IA (site g, fig. 1)										
08-21-97	1245	regular	202	246	0	--	--	--	--	--
05-18-98	0925	do.	194	237	0	--	--	--	--	--
05453100, Iowa River at Marengo, IA (site 5, fig. 1)										
10-16-96	0939	regular	149	177	2	52	900	--	--	--
11-14-96	0925	do.	272	332	0	75	170	--	--	--
12-10-96	0935	do.	270	329	0	K40	150	--	--	--
01-14-97	1200	do.	231	282	0	190	K62	--	--	--
02-13-97	0949	do.	208	254	0	K32	160	--	--	--
03-19-97	0955	do.	173	211	0	K37	K320	--	--	--
04-10-97	1557	do.	246	300	0	--	--	--	--	--
05-06-97	0914	do.	196	239	0	--	--	--	--	--
06-05-97	1402	do.	216	242	11	--	--	230	80	77
06-24-97	1000	do.	123	150	0	--	--	--	--	--
07-10-97	1343	do.	217	265	0	--	--	3,000	540	440
07-29-97	0954	replicate	--	--	--	--	--	40	100	82
07-29-97	0959	do.	--	--	--	--	--	240	94	92
08-05-97	1334	do.	208	251	1	--	--	K43	K50	K65
08-05-97	1339	do.	--	--	--	--	--	K52	K54	K42
08-05-97	1344	do.	--	--	--	--	--	K56	K39	--
08-05-97	1349	do.	--	--	--	--	--	K43	K38	--
09-08-97	1043	regular	172	210	0	--	--	1,500	970	940
10-08-97	0937	replicate	141	138	11	--	--	--	--	--
10-08-97	0942	do.	139	150	0	--	--	--	--	--
11-05-97	0936	regular	229	279	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05453100, Iowa River at Marengo, IA (site 5, fig. 1)—Continued										
12-03-97	0930	regular	217	265	0	--	--	--	--	--
01-07-98	0846	do.	186	227	0	--	--	--	--	--
02-19-98	0916	do.	180	220	0	--	--	--	--	--
03-11-98	0855	do.	211	245	6	--	--	--	--	--
04-02-98	1355	do.	137	167	0	--	--	--	--	--
05-08-98	0843	do.	208	254	0	--	--	--	--	--
06-05-98	0900	do.	213	260	0	--	--	--	--	--
06-13-98	0946	do.	119	145	0	--	--	--	--	--
06-26-98	0922	do.	140	171	0	--	--	--	--	--
07-07-98	0920	do.	190	232	0	--	--	--	--	--
08-07-98	0900	do.	189	231	0	--	--	--	--	--
09-04-98	0850	do.	250	303	1	--	--	--	--	--
05455100, Old Man's Creek near Iowa City, IA (site 6, fig. 1)										
10-07-96	0948	regular	176	215	0	260	1,300	--	--	--
11-12-96	0956	do.	189	231	0	180	360	--	--	--
12-02-96	0945	do.	203	248	0	500	7,800	--	--	--
01-06-97	0938	do.	174	212	0	210	1,100	--	--	--
02-04-97	0919	do.	81	99	0	1,200	20,000	--	--	--
03-10-97	1025	do.	60	73	0	3,000	210,000	--	--	--
04-08-97	1337	do.	169	205	0	--	--	--	--	--
05-01-97	0914	do.	120	146	0	--	--	--	--	--
05-08-97	0903	do.	104	127	0	--	--	--	--	--
05-27-97	0947	do.	134	164	0	--	--	--	--	--
06-03-97	1246	do.	142	173	0	--	--	--	--	--
07-08-97	1210	do.	152	185	0	--	--	--	--	--
08-07-97	1425	do.	148	171	5	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05455100, Old Man's Creek near Iowa City, IA (site 6, fig. 1)—Continued										
08-11-97	0908	regular	179	220	0	--	--	--	--	--
09-02-97	1545	do.	110	134	0	--	--	--	--	--
10-07-97	1350	do.	189	231	0	--	--	--	--	--
11-04-97	1243	replicate	148	181	0	--	--	--	--	--
11-04-97	1248	do.	150	183	0	--	--	--	--	--
12-02-97	1223	regular	189	231	0	--	--	--	--	--
01-06-98	1240	do.	153	187	0	--	--	--	--	--
02-18-98	1235	do.	212	259	0	--	--	--	--	--
03-10-98	1310	do.	147	179	0	--	--	--	--	--
03-31-98	1245	do.	79	96	0	--	--	--	--	--
05-05-98	1343	do.	145	177	0	--	--	--	--	--
05-18-98	0825	do.	128	156	0	--	--	--	--	--
06-02-98	1325	do.	161	196	0	--	--	--	--	--
06-10-98	0826	do.	123	150	0	--	--	--	--	--
06-30-98	1239	do.	113	138	0	--	--	--	--	--
07-10-98	0745	do.	168	205	0	--	--	--	--	--
08-05-98	0810	do.	176	215	0	--	--	--	--	--
09-01-98	1300	do.	191	233	0	--	--	--	--	--
05455500, English River near Kalona, IA (site h, fig. 1)										
08-11-97	1417	regular	123	142	0	--	--	--	--	--
05-18-98	1430	do.	126	154	0	--	--	--	--	--
05456510, Turtle Creek at Austin, MN (site j, fig. 1)										
08-27-97	0840	regular	255	312	0	--	--	--	--	--
05-19-98	0901	do.	249	299	0	--	--	--	--	--
05457950, Little Cedar River near Floyd, IA (site l, fig. 1)										
08-27-97	1400	regular	161	195	0	--	--	--	--	--
05-18-98	1346	do.	162	198	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05458870, Maynes Creek near Kesley, IA (site m, fig. 1)										
08-25-97	1500	regular	199	239	2	--	--	--	--	--
05-21-98	1221	do.	184	225	0	--	--	--	--	--
09-09-98	0957	do.	222	264	4	--	--	--	--	--
05459300, Winnebago River near Fertile, IA (site o, fig. 1)										
08-26-97	1250	regular	203	222	13	--	--	--	--	--
05-19-98	1308	do.	230	281	0	--	--	--	--	--
05461390, Flood Creek near Powersville, IA (site 7, fig. 1)										
10-23-96	1107	regular	161	196	0	K9,700	5,400	--	--	--
12-11-96	1150	do.	207	253	0	460	800	--	--	--
01-14-97	0950	do.	197	240	0	K44	320	--	--	--
02-19-97	1050	do.	171	209	0	220	3,600	--	--	--
03-18-97	1018	do.	73	89	0	380	210,000	--	--	--
04-09-97	1446	do.	174	214	0	--	--	--	--	--
05-03-97	1053	do.	156	190	0	--	--	--	--	--
06-04-97	1310	do.	182	222	0	--	--	--	--	--
07-09-97	1151	do.	178	217	0	--	--	--	--	--
08-04-97	1613	do.	168	205	0	--	--	--	--	--
08-25-97	1130	do.	127	148	0	--	--	--	--	--
09-04-97	1248	do.	204	249	0	--	--	--	--	--
10-09-97	0823	do.	169	205	0	--	--	--	--	--
11-06-97	0855	do.	183	223	0	--	--	--	--	--
12-03-97	0852	do.	159	194	0	--	--	--	--	--
01-07-98	0902	do.	166	203	0	--	--	--	--	--
02-19-98	0948	do.	105	128	0	--	--	--	--	--
03-13-98	0850	do.	187	228	0	--	--	--	--	--
04-02-98	0843	do.	113	138	0	--	--	--	--	--
05-06-98	0838	do.	157	192	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05461390, Flood Creek near Powersville, IA (site 7, fig. 1)—Continued										
05-18-98	1004	regular	172	210	0	--	--	--	--	--
06-03-98	0906	do.	168	205	0	--	--	--	--	--
07-08-98	0848	do.	152	185	0	--	--	--	--	--
08-05-98	0837	do.	170	207	0	--	--	--	--	--
09-02-98	0842	do.	181	221	0	--	--	--	--	--
05462770, Beaver Creek near Parkersburg, IA (site p, fig. 1)										
08-19-97	1235	regular	233	257	16	--	--	--	--	--
05-21-98	0848	do.	189	231	0	--	--	--	--	--
05463510, Black Hawk Creek at Waterloo, IA (site q, fig. 1)										
08-20-97	0910	regular	149	100	36	--	--	--	--	--
05-20-98	1253	do.	146	178	0	--	--	--	--	--
05464020, Cedar River at Gilbertville, IA (site 8, fig. 1)										
10-15-96	1120	regular	175	199	7	250	1,100	--	--	--
11-12-96	1103	do.	231	282	0	590	220	--	--	--
12-12-96	1340	do.	215	262	0	940	710	--	--	--
01-15-97	0855	do.	236	288	0	2,800	1,400	--	--	--
02-10-97	1015	do.	202	246	0	2,000	1,000	--	--	--
05464220, Wolf Creek near Dysart, IA (site 9, fig. 1)										
10-10-96	1047	regular	194	237	0	150	270	--	--	--
11-07-96	1018	do.	194	237	0	K17,000	K66,000	--	--	--
12-05-96	0959	do.	223	272	0	130	K97	--	--	--
01-13-97	1205	do.	223	272	0	140	320	--	--	--
02-06-97	0923	do.	144	176	0	310	2,800	--	--	--
03-12-97	1035	do.	156	190	0	K110	1,800	--	--	--
03-17-97	0945	do.	161	196	0	210	580	--	--	--
03-24-97	1026	do.	186	227	0	K66	340	--	--	--
04-02-97	1026	do.	189	233	0	K50	K17	--	--	--
04-08-97	1030	do.	182	222	0	260	1,500	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05464220, Wolf Creek near Dysart, IA (site 9, fig. 1)—Continued										
04-14-97	1235	regular	162	198	0	200	1,500	--	--	--
04-21-97	1028	do.	193	236	0	K130	K150	--	--	--
04-28-97	1026	do.	174	212	0	K6	K21	--	--	--
05-05-97	1015	do.	162	198	0	--	2,200	--	--	--
05-12-97	1022	do.	166	203	0	330	--	--	--	--
05-19-97	1033	do.	166	203	0	740	180	--	--	--
05-27-97	0936	do.	172	210	0	--	--	--	--	--
06-03-97	1116	do.	241	294	0	--	--	--	--	--
06-09-97	0946	do.	171	209	0	--	--	--	--	--
06-16-97	0943	do.	151	184	0	--	--	--	--	--
06-24-97	0951	do.	144	176	0	--	--	--	--	--
06-30-97	1022	do.	169	184	11	--	--	--	--	--
07-14-97	0944	do.	165	201	0	--	--	--	--	--
07-28-97	0928	replicate	204	251	0	--	--	--	--	--
07-28-97	0933	do.	195	239	0	--	--	--	--	--
08-12-97	0916	regular	179	215	0	--	--	--	--	--
08-21-97	0840	do.	173	212	0	--	--	--	--	--
08-25-97	1000	do.	134	164	0	--	--	--	--	--
09-09-97	0945	do.	167	204	0	--	--	--	--	--
09-24-97	0940	do.	170	207	0	--	--	--	--	--
10-10-97	0938	replicate	160	196	0	--	--	--	--	--
10-10-97	0943	do.	174	216	0	--	--	--	--	--
10-21-97	0854	regular	207	253	0	--	--	--	--	--
11-07-97	0919	do.	206	251	0	--	--	--	--	--
11-18-97	0857	do.	213	260	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05464220, Wolf Creek near Dysart, IA (site 9, fig. 1)—Continued										
12-04-97	0919	regular	197	240	0	--	--	--	--	--
01-08-98	0910	do.	192	234	0	--	--	--	--	--
02-20-98	0941	do.	160	195	0	--	--	--	--	--
03-18-98	0918	do.	179	218	0	--	--	--	--	--
04-01-98	0945	do.	107	131	0	--	--	--	--	--
05-07-98	0919	do.	172	210	0	--	--	--	--	--
05-18-98	1327	do.	186	227	0	--	--	--	--	--
06-04-98	0933	do.	187	228	0	--	--	--	--	--
06-10-98	1215	do.	139	170	0	--	--	--	--	--
06-12-98	1238	do.	44	54	0	--	--	--	--	--
06-22-98	1415	do.	88	107	0	--	--	--	--	--
07-09-98	0924	do.	127	216	0	--	--	--	--	--
08-06-98	0855	do.	146	178	0	--	--	--	--	--
09-03-98	0956	do.	207	253	0	--	--	--	--	--
05464935, Cedar River at Nichols, IA (site 10a, fig. 1)										
10-29-96	1030	regular	147	179	0	88	280	--	--	--
11-13-96	1013	do.	220	268	0	75	K47	--	--	--
12-05-96	1030	do.	217	265	0	280	310	--	--	--
01-22-97	0950	replicate	216	264	0	210	K10,000	--	--	--
01-22-97	0955	do.	232	283	0	--	--	--	--	--
02-03-97	0938	regular	196	239	0	1,400	2,800	--	--	--
03-13-97	0950	do.	173	211	0	K270	K140,000	--	--	--
04-07-97	0921	do.	185	225	0	--	--	--	--	--
05-07-97	0933	do.	175	214	0	--	--	--	--	--
06-02-97	0838	do.	171	199	5	--	--	--	--	--
06-17-97	1418	do.	126	150	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05464935, Cedar River at Nichols, IA (site 10a, fig. 1)—Continued										
07-07-97	0902	regular	186	227	0	--	--	--	--	--
08-06-97	1110	do.	160	164	16	--	--	--	--	--
09-03-97	0834	do.	109	123	5	--	--	--	--	--
10-09-97	1232	do.	116	93	24	--	--	--	--	--
11-06-97	1302	do.	212	259	0	--	--	--	--	--
12-04-97	1230	do.	214	212	24	--	--	--	--	--
01-08-98	1233	do.	195	238	0	--	--	--	--	--
02-20-98	1156	do.	212	259	0	--	--	--	--	--
03-12-98	1200	do.	192	234	0	--	--	--	--	--
04-03-98	0851	do.	129	157	0	--	--	--	--	--
05-07-98	0827	do.	238	166	61	--	--	--	--	--
06-04-98	0900	do.	219	267	0	--	--	--	--	--
07-06-98	0847	do.	162	198	0	--	--	--	--	--
08-04-98	1300	do.	124	139	6	--	--	--	--	--
09-03-98	0840	do.	196	215	12	--	--	--	--	--
05465000, Cedar River near Conesville, IA (site 10b, fig. 1)										
10-10-96	1015	regular	116	127	7	K65	1,400	--	--	--
10-29-96	0855	do.	151	184	0	620	200	--	--	--
05465310, Long Creek near Columbus Junction, IA (site r, fig. 1)										
08-12-97	1430	regular	134	165	0	--	--	--	--	--
05-20-98	1442	do.	166	203	0	--	--	--	--	--
05465500 Iowa River at Wapello, IA (site 11, fig. 1)										
10-08-96	1155	regular	87	104	1	K35	990	--	--	--
11-06-96	1038	do.	193	233	1	480	590	--	--	--
12-03-96	1040	do.	216	264	0	85	K100	--	--	--
01-07-97	1115	do.	236	288	0	52	450	--	--	--
02-05-97	1030	do.	178	217	0	400	15,000	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05465500 Iowa River at Wapello, IA (site 11, fig. 1)—Continued										
03-11-97	1220	regular	120	148	0	1,400	78,000	--	--	--
03-20-97	0918	do.	115	139	0	K0	580	--	--	--
03-27-97	0941	do.	120	148	0	180	1,300	--	--	--
03-31-97	0936	do.	141	172	0	K88	290	--	--	--
04-10-97	0922	do.	181	221	0	K35	270	--	--	--
04-16-97	0931	do.	192	234	0	K400	1,300	--	--	--
04-23-97	0945	do.	237	287	1	K1,600	530	--	--	--
04-30-97	0956	do.	142	171	1	K17	310	--	--	--
05-07-97	0920	do.	151	184	0	K73	--	--	--	--
05-14-97	0955	do.	194	237	0	86	300	--	--	--
05-21-97	1028	do.	152	185	0	K1,600	7,900	--	--	--
05-29-97	1049	do.	136	166	0	--	--	--	--	--
06-05-97	0940	do.	132	161	0	--	--	--	--	--
06-12-97	0906	do.	131	160	0	--	--	--	--	--
06-19-97	0908	do.	131	160	0	--	--	--	--	--
06-25-97	0955	do.	152	185	0	--	--	--	--	--
07-02-97	0912	do.	144	176	0	--	--	--	--	--
07-16-97	0941	do.	181	184	18	--	--	--	--	--
07-31-97	0927	do.	164	190	5	K53	--	--	--	--
08-13-97	0918	do.	116	142	0	--	--	--	--	--
08-28-97	0919	do.	117	140	1	--	--	--	--	--
09-05-97	0906	do.	114	139	1	--	--	--	--	--
09-23-97	0936	do.	127	145	5	--	--	--	--	--
10-06-97	1050	do.	100	95	13	--	--	--	--	--
10-22-97	0951	do.	180	205	7	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05465500 Iowa River at Wapello, IA (site 11, fig. 1)—Continued										
11-03-97	0953	regular	154	188	0	--	--	--	--	--
11-19-97	0935	do.	195	238	0	--	--	--	--	--
12-01-97	0928	do.	206	234	8	--	--	--	--	--
01-05-98	0938	do.	176	215	0	--	--	--	--	--
02-17-98	0936	do.	151	184	0	--	--	--	--	--
03-09-98	1000	do.	210	256	0	--	--	--	--	--
03-30-98	0905	do.	172	210	0	--	--	--	--	--
04-04-98	1020	do.	110	134	0	--	--	--	--	--
05-04-98	0909	do.	188	225	2	--	--	--	--	--
05-27-98	1148	do.	161	187	5	--	--	--	--	--
06-01-98	0913	do.	151	184	0	--	--	--	--	--
06-19-98	1002	do.	136	166	0	--	--	--	--	--
07-02-98	1049	do.	144	176	0	--	--	--	--	--
08-03-98	0925	do.	176	215	0	--	--	--	--	--
08-31-98	0940	do.	187	228	0	--	--	--	--	--
05469980, South Skunk River near Story City, IA (site s, fig. 1)										
08-18-97	1430	regular	261	271	24	--	--	--	--	--
05-21-98	0743	do.	245	299	0	--	--	--	--	--
05471120, East Branch Indian Creek near Iowa Center, IA (site t, fig. 1)										
08-18-97	1057	regular	216	266	0	--	--	--	--	--
05-21-98	1137	do.	213	255	2	--	--	--	--	--
05473060, Crooked Creek at Coppock, IA (site u, fig. 1)										
08-12-97	1002	regular	209	256	0	--	--	--	--	--
05-19-98	0946	do.	153	187	0	--	--	--	--	--
05473400, Cedar Creek near Oakland Mills, IA (site v, fig. 1)										
08-13-97	1355	regular	154	109	36	--	--	--	--	--
05-19-98	1449	do.	149	182	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05473550, Big Creek near Lowell, IA (site w, fig. 1)										
08-13-97	0945	regular	197	244	0	--	--	--	--	--
05-20-98	0838	do.	176	215	0	--	--	--	--	--
05474000, Skunk River at Augusta, IA (site 12, fig. 1)										
10-09-96	0940	regular	93	87	13	K35	3,000	--	--	--
11-07-96	0909	do.	221	270	0	K38	280	--	--	--
12-04-96	0933	do.	289	353	0	K50	330	--	--	--
01-08-97	0930	do.	280	342	0	K13	K140	--	--	--
02-06-97	0857	do.	132	161	0	860	15,000	--	--	--
03-12-97	0930	do.	187	228	0	360	260,000	--	--	--
04-08-97	0840	do.	247	301	0	--	--	--	--	--
05-13-97	1110	do.	180	220	0	--	--	--	--	--
05-28-97	1205	do.	96	117	0	--	--	--	--	--
06-03-97	0814	do.	192	234	0	--	--	--	--	--
06-26-97	1515	do.	132	161	0	--	--	--	--	--
07-08-97	0804	do.	200	244	0	--	--	--	--	--
08-07-97	0930	do.	156	161	14	--	--	--	--	--
09-02-97	1050	do.	140	171	0	--	--	--	--	--
10-07-97	0903	do.	161	196	0	--	--	--	--	--
11-04-97	0822	do.	119	145	0	--	--	--	--	--
12-02-97	0835	do.	175	214	0	--	--	--	--	--
01-06-98	0830	do.	125	153	0	--	--	--	--	--
02-18-98	0835	do.	198	242	0	--	--	--	--	--
03-10-98	0840	do.	94	115	0	--	--	--	--	--
03-31-98	0824	do.	100	122	0	--	--	--	--	--
05-05-98	0830	do.	198	242	0	--	--	--	--	--
05-26-98	1200	do.	92	112	0	--	--	--	--	--

Table 11. Miscellaneous onsite determinations at selected surface-water sampling sites, October 1996 through September 1998—Continued

Date (month- day-year)	Time (24-hour)	Type of sample	Alkalinity (mg/L) (39086)	Bicarbonate (mg/L) (00453)	Carbonate (mg/L) (00452)	Fecal coliform (col/100 mL) (31625)	Fecal streptococci (col/100 mL) (31673)	Total coliform on mENDO agar (col/100 mL) (31501)	E. coli on mTEC agar (col/100 mL) (31633)	E. coli on modified mTec agar (col/100 mL) (90902)
05474000, Skunk River at Augusta, IA (site 12, fig. 1)—Continued										
06-02-98	0820	regular	147	179	0	--	--	--	--	--
06-18-98	1044	do.	116	142	0	--	--	--	--	--
07-08-98	0930	do.	134	164	0	--	--	--	--	--
08-04-98	0810	do.	234	261	12	--	--	--	--	--
09-01-98	0815	do.	86	105	0	--	--	--	--	--