GROUND-WATER LEVELS

353135080524203. County number, IR-132; DENR Langtree Research Station MW-2D (Bedrock well).

LOCATION.--Lat 35°31'35.62", long 80°52'42.29", North American Datum of 1983, Hydrologic Unit 03050101, 2.5 mi northwest of
    Davidson, .1 mi north of Langtree Road at Davidson College Lake Campus. Owner: DENR (North Carolina Department of Environment
    and Natural Resources), Division of Water Quality.

                                                WATER-LEVEL RECORDS

AQUIFER.--Quartz diorite bedrock.

WELL CHARACTERISTICS.--Drilled observation well, depth 400 ft, diameter 6 in., cased to 53 ft, open hole from 53 ft to 400 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals. Satellite telemetry at station.

DATUM.--Land-surface datum is 802.27 ft above NGVD of 1929 (levels by DENR). Measuring point: Top of instrument shelter floor,
    1.39 ft above land-surface datum.

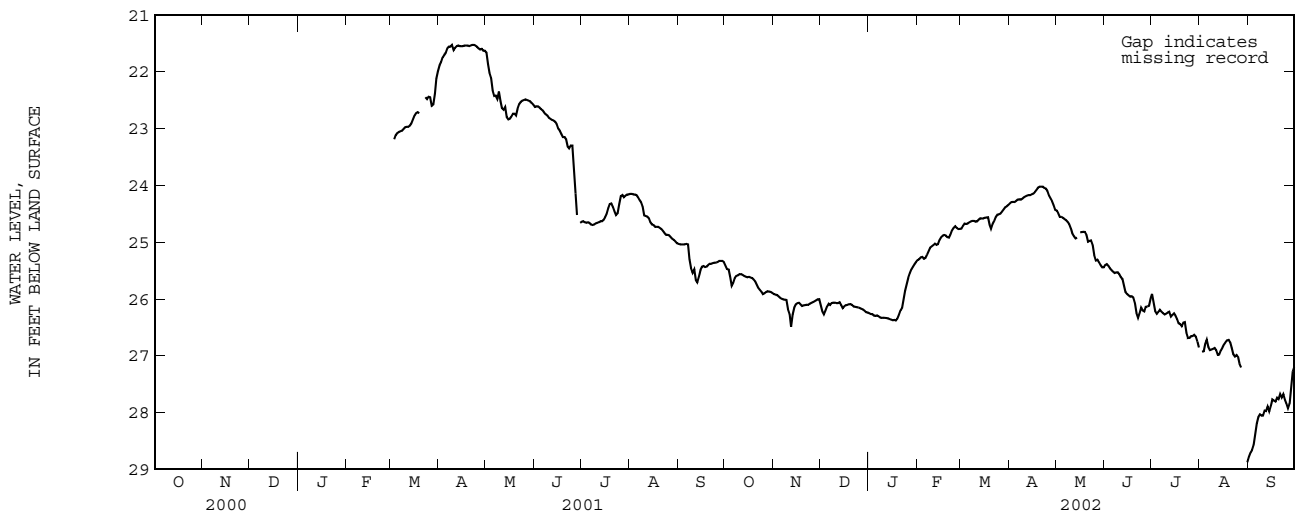REMARKS.--Well is part of Piedmont/Mountains ground-water project.

PERIOD OF RECORD.--March 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.51 ft below land-surface datum, Apr. 9, 2001; lowest water
    level recorded 29.23 ft below land-surface datum, Aug. 30, 2002.

                  DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
                                                DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.41	25.91	26.11	26.25	25.31	24.76	24.32	24.44	25.40	25.91	---	28.78
2	25.47	25.92	26.23	26.26	25.30	24.71	24.30	24.49	25.39	26.06	26.93	28.70
3	25.48	25.93	26.27	26.27	25.27	24.67	24.29	24.55	25.41	26.22	26.92	28.66
4	25.61	25.96	26.20	26.29	25.26	24.68	24.29	24.55	25.46	26.26	26.80	28.57
5	25.77	25.98	26.13	26.30	25.29	24.67	24.27	24.57	25.49	26.23	26.72	28.37
6	25.71	26.00	26.08	26.29	25.28	24.65	24.25	24.59	25.52	26.19	26.84	28.19
7	25.63	26.11	26.11	26.30	25.22	24.64	24.25	24.61	25.54	26.22	26.90	28.07
8	25.59	26.01	26.07	26.33	25.16	24.63	24.25	24.64	25.53	26.25	26.89	28.05
9	25.58	26.02	26.06	26.33	25.10	24.63	24.23	24.68	25.53	26.27	26.88	28.05
10	25.56	26.18	26.07	26.33	25.08	24.64	24.21	24.76	25.56	26.26	26.86	28.05
11	25.56	26.27	26.07	26.33	25.05	24.63	24.20	24.85	25.61	26.24	26.90	27.96
12	25.58	26.49	26.07	26.33	25.03	24.61	24.18	24.90	25.64	26.22	26.98	27.97
13	25.59	26.27	26.06	26.34	25.05	24.58	24.17	24.93	25.77	26.31	26.98	27.89
14	25.61	26.15	26.10	26.35	25.04	24.58	24.17	24.92	25.88	26.28	26.91	27.98
15	25.62	26.09	26.16	26.36	24.96	24.58	24.16	---	25.91	26.25	26.86	27.88
16	25.61	26.08	26.13	26.37	24.91	24.57	24.15	24.82	25.94	26.29	26.80	27.77
17	25.62	26.07	26.11	26.37	24.88	24.57	24.12	24.82	25.96	26.35	26.76	27.79
18	25.63	26.09	26.10	26.38	24.87	24.56	24.08	24.82	25.95	26.43	26.73	27.80
19	25.65	26.12	26.09	26.35	24.88	24.70	24.04	24.82	25.97	26.44	26.72	27.74
20	25.69	26.11	26.09	26.28	24.91	24.77	24.02	24.87	26.07	26.48	26.77	27.76
21	25.74	26.11	26.10	26.20	24.92	24.68	24.02	24.99	26.25	26.42	26.86	27.67
22	25.80	26.10	26.13	26.15	24.87	24.63	24.02	24.98	26.34	26.41	26.97	27.73
23	25.84	26.10	26.14	26.01	24.79	24.55	24.05	24.97	26.26	26.59	27.01	27.67
24	25.87	26.09	26.14	25.85	24.75	24.52	24.06	25.05	26.15	26.68	26.98	27.77
25	25.92	26.07	26.15	25.73	24.72	24.51	24.10	25.23	26.20	26.68	27.02	27.84
26	25.90	26.06	26.16	25.62	24.75	24.50	24.18	25.32	26.22	26.65	27.14	27.93
27	25.88	26.04	26.17	25.54	24.77	24.46	24.23	25.31	26.14	26.65	27.21	27.84
28	25.87	26.02	26.18	25.48	24.77	24.42	24.28	25.35	26.13	26.63	---	27.56
29	25.87	26.01	26.21	25.43	---	24.39	24.35	25.40	26.12	26.66	---	27.28
30	25.88	26.00	26.23	25.38	---	24.37	24.43	25.44	25.99	26.75	---	27.20
31	25.89	---	26.24	25.35	---	24.34	---	25.44	---	26.85	28.87	---

     WTR YR 2002   MEAN 25.81 HIGH 24.02 LOW 28.87

353135080524203 IR-132 DENR Langtree Research Station MW-2D (Bedrock well)--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August to September 2002.

PERIOD OF DAILY RECORD.--

    SPECIFIC CONDUCTANCE: August to September 2002.

    pH: August to September 2002.

    WATER TEMPERATURE: August to September 2002.

    DISSOLVED OXYGEN: August to September 2002.

    DISSOLVED OXYGEN, PERCENT SATURATION: August to September 2002.

INSTRUMENTATION.-- Water-quality monitor with satellite telemetry from August to September 2002.

REMARKS.--Station operated in cooperation with North Carolina Department of Environment and Natural Resources, Water Resources
    Division as part of the Piedmont/Mountains ground-water project. Dissolved oxygen, percent saturation, computed using
    barometric pressure of 740 mm Hg.

EXTREMES FOR CURRENT YEAR.--

CONSTITUENT	MAXIMUM RECORDED	MINIMUM RECORDED
SPECIFIC CONDUCTANCE, microsiemens	90, August 1-5	83, August 28-31, September 1-2
pH, standard units	7.2, August 31, September 1, 2, 9-11	6.9, August 1, 18-26, 28
WATER TEMPERATURE, ºC	16.1, August 1 - September 30	16.1, August 1 - September 30
DISSOLVED OXYGEN, mg/L	7.5, August 28	5.3, September 30
DISSOLVED OXYGEN, PERCENT SATURATION,%	78, August 28	55, September 30

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), FOR PERIOD AUGUST TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	83
2	---	---	---	---	---	---	---	---	---	---	90	84
3	---	---	---	---	---	---	---	---	---	---	90	84
4	---	---	---	---	---	---	---	---	---	---	90	85
5	---	---	---	---	---	---	---	---	---	---	90	85
6	---	---	---	---	---	---	---	---	---	---	89	85
7	---	---	---	---	---	---	---	---	---	---	89	85
8	---	---	---	---	---	---	---	---	---	---	88	85
9	---	---	---	---	---	---	---	---	---	---	88	86
10	---	---	---	---	---	---	---	---	---	---	88	86
11	---	---	---	---	---	---	---	---	---	---	88	86
12	---	---	---	---	---	---	---	---	---	---	87	86
13	---	---	---	---	---	---	---	---	---	---	87	86
14	---	---	---	---	---	---	---	---	---	---	87	87
15	---	---	---	---	---	---	---	---	---	---	87	87
16	---	---	---	---	---	---	---	---	---	---	86	86
17	---	---	---	---	---	---	---	---	---	---	86	86
18	---	---	---	---	---	---	---	---	---	---	86	87
19	---	---	---	---	---	---	---	---	---	---	86	87
20	---	---	---	---	---	---	---	---	---	---	85	87
21	---	---	---	---	---	---	---	---	---	---	85	87
22	---	---	---	---	---	---	---	---	---	---	85	87
23	---	---	---	---	---	---	---	---	---	---	85	88
24	---	---	---	---	---	---	---	---	---	---	84	88
25	---	---	---	---	---	---	---	---	---	---	84	88
26	---	---	---	---	---	---	---	---	---	---	---	88
27	---	---	---	---	---	---	---	---	---	---	---	88
28	---	---	---	---	---	---	---	---	---	---	---	89
29	---	---	---	---	---	---	---	---	---	---	83	89
30	---	---	---	---	---	---	---	---	---	---	83	89
31	---	---	---	---	---	---	---	---	---	---	83	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	86
MAX	---	---	---	---	---	---	---	---	---	---	---	89
MIN	---	---	---	---	---	---	---	---	---	---	---	83

IREDELL COUNTY--Continued

353135080524203 IR-132 DENR Langtree Research Station MW-2D (Bedrock well)--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, FOR PERIOD AUGUST TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	7.2
2	---	---	---	---	---	---	---	---	---	---	7.1	7.1
3	---	---	---	---	---	---	---	---	---	---	7.1	7.1
4	---	---	---	---	---	---	---	---	---	---	7.0	7.1
5	---	---	---	---	---	---	---	---	---	---	7.0	7.1
6	---	---	---	---	---	---	---	---	---	---	7.1	7.1
7	---	---	---	---	---	---	---	---	---	---	7.1	7.1
8	---	---	---	---	---	---	---	---	---	---	7.1	7.1
9	---	---	---	---	---	---	---	---	---	---	7.0	7.2
10	---	---	---	---	---	---	---	---	---	---	7.0	7.2
11	---	---	---	---	---	---	---	---	---	---	7.0	7.1
12	---	---	---	---	---	---	---	---	---	---	7.1	7.1
13	---	---	---	---	---	---	---	---	---	---	7.1	7.1
14	---	---	---	---	---	---	---	---	---	---	7.0	7.1
15	---	---	---	---	---	---	---	---	---	---	7.0	7.1
16	---	---	---	---	---	---	---	---	---	---	7.0	7.1
17	---	---	---	---	---	---	---	---	---	---	7.0	7.1
18	---	---	---	---	---	---	---	---	---	---	7.0	7.1
19	---	---	---	---	---	---	---	---	---	---	6.9	7.1
20	---	---	---	---	---	---	---	---	---	---	6.9	7.0
21	---	---	---	---	---	---	---	---	---	---	6.9	7.0
22	---	---	---	---	---	---	---	---	---	---	7.0	7.0
23	---	---	---	---	---	---	---	---	---	---	7.0	7.0
24	---	---	---	---	---	---	---	---	---	---	6.9	7.1
25	---	---	---	---	---	---	---	---	---	---	6.9	7.1
26	---	---	---	---	---	---	---	---	---	---	---	7.1
27	---	---	---	---	---	---	---	---	---	---	---	7.1
28	---	---	---	---	---	---	---	---	---	---	---	7.1
29	---	---	---	---	---	---	---	---	---	---	7.1	7.0
30	---	---	---	---	---	---	---	---	---	---	7.1	7.0
31	---	---	---	---	---	---	---	---	---	---	7.1	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	7.1
MAX	---	---	---	---	---	---	---	---	---	---	---	7.2
MIN	---	---	---	---	---	---	---	---	---	---	---	7.0

WATER TEMPERATURE, DEGREES CELSIUS, FOR PERIOD AUGUST TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	16.1
2	---	---	---	---	---	---	---	---	---	---	16.1	16.1
3	---	---	---	---	---	---	---	---	---	---	16.1	16.1
4	---	---	---	---	---	---	---	---	---	---	16.1	16.1
5	---	---	---	---	---	---	---	---	---	---	16.1	16.1
6	---	---	---	---	---	---	---	---	---	---	16.1	16.1
7	---	---	---	---	---	---	---	---	---	---	16.1	16.1
8	---	---	---	---	---	---	---	---	---	---	16.1	16.1
9	---	---	---	---	---	---	---	---	---	---	16.1	16.1
10	---	---	---	---	---	---	---	---	---	---	16.1	16.1
11	---	---	---	---	---	---	---	---	---	---	16.1	16.1
12	---	---	---	---	---	---	---	---	---	---	16.1	16.1
13	---	---	---	---	---	---	---	---	---	---	16.1	16.1
14	---	---	---	---	---	---	---	---	---	---	16.1	16.1
15	---	---	---	---	---	---	---	---	---	---	16.1	16.1
16	---	---	---	---	---	---	---	---	---	---	16.1	16.1
17	---	---	---	---	---	---	---	---	---	---	16.1	16.1
18	---	---	---	---	---	---	---	---	---	---	16.1	16.1
19	---	---	---	---	---	---	---	---	---	---	16.1	16.1
20	---	---	---	---	---	---	---	---	---	---	16.1	16.1
21	---	---	---	---	---	---	---	---	---	---	16.1	16.1
22	---	---	---	---	---	---	---	---	---	---	16.1	16.1
23	---	---	---	---	---	---	---	---	---	---	16.1	16.1
24	---	---	---	---	---	---	---	---	---	---	16.1	16.1
25	---	---	---	---	---	---	---	---	---	---	16.1	16.1
26	---	---	---	---	---	---	---	---	---	---	---	16.1
27	---	---	---	---	---	---	---	---	---	---	---	16.1
28	---	---	---	---	---	---	---	---	---	---	---	16.1
29	---	---	---	---	---	---	---	---	---	---	16.1	16.1
30	---	---	---	---	---	---	---	---	---	---	16.1	16.1
31	---	---	---	---	---	---	---	---	---	---	16.1	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	16.1
MAX	---	---	---	---	---	---	---	---	---	---	---	16.1
MIN	---	---	---	---	---	---	---	---	---	---	---	16.1

353135080524203 IR-132 DENR Langtree Research Station MW-2D (Bedrock well)--Continued

OXYGEN DISSOLVED (MG/L), FOR PERIOD AUGUST TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	6.6
2	---	---	---	---	---	---	---	---	---	---	5.6	6.4
3	---	---	---	---	---	---	---	---	---	---	5.6	6.3
4	---	---	---	---	---	---	---	---	---	---	5.6	6.3
5	---	---	---	---	---	---	---	---	---	---	5.7	6.2
6	---	---	---	---	---	---	---	---	---	---	5.8	6.1
7	---	---	---	---	---	---	---	---	---	---	5.9	6.1
8	---	---	---	---	---	---	---	---	---	---	6.0	6.0
9	---	---	---	---	---	---	---	---	---	---	6.0	5.9
10	---	---	---	---	---	---	---	---	---	---	6.1	5.9
11	---	---	---	---	---	---	---	---	---	---	6.2	5.8
12	---	---	---	---	---	---	---	---	---	---	6.2	5.8
13	---	---	---	---	---	---	---	---	---	---	6.3	5.8
14	---	---	---	---	---	---	---	---	---	---	6.4	5.8
15	---	---	---	---	---	---	---	---	---	---	6.5	5.8
16	---	---	---	---	---	---	---	---	---	---	6.6	5.7
17	---	---	---	---	---	---	---	---	---	---	6.7	5.7
18	---	---	---	---	---	---	---	---	---	---	6.8	5.6
19	---	---	---	---	---	---	---	---	---	---	6.8	5.6
20	---	---	---	---	---	---	---	---	---	---	6.9	5.6
21	---	---	---	---	---	---	---	---	---	---	7.0	5.6
22	---	---	---	---	---	---	---	---	---	---	7.1	5.6
23	---	---	---	---	---	---	---	---	---	---	7.2	5.5
24	---	---	---	---	---	---	---	---	---	---	7.3	5.4
25	---	---	---	---	---	---	---	---	---	---	7.3	5.4
26	---	---	---	---	---	---	---	---	---	---	---	5.4
27	---	---	---	---	---	---	---	---	---	---	---	5.4
28	---	---	---	---	---	---	---	---	---	---	---	5.4
29	---	---	---	---	---	---	---	---	---	---	7.1	5.4
30	---	---	---	---	---	---	---	---	---	---	7.0	5.3
31	---	---	---	---	---	---	---	---	---	---	6.8	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	5.8
MAX	---	---	---	---	---	---	---	---	---	---	---	6.6
MIN	---	---	---	---	---	---	---	---	---	---	---	5.3

OXYGEN DISSOLVED (% OF SATURATION), FOR PERIOD AUGUST TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	69
2	---	---	---	---	---	---	---	---	---	---	59	67
3	---	---	---	---	---	---	---	---	---	---	59	66
4	---	---	---	---	---	---	---	---	---	---	59	66
5	---	---	---	---	---	---	---	---	---	---	60	65
6	---	---	---	---	---	---	---	---	---	---	61	64
7	---	---	---	---	---	---	---	---	---	---	62	64
8	---	---	---	---	---	---	---	---	---	---	63	63
9	---	---	---	---	---	---	---	---	---	---	63	62
10	---	---	---	---	---	---	---	---	---	---	64	62
11	---	---	---	---	---	---	---	---	---	---	65	61
12	---	---	---	---	---	---	---	---	---	---	65	61
13	---	---	---	---	---	---	---	---	---	---	66	61
14	---	---	---	---	---	---	---	---	---	---	67	61
15	---	---	---	---	---	---	---	---	---	---	68	61
16	---	---	---	---	---	---	---	---	---	---	69	60
17	---	---	---	---	---	---	---	---	---	---	70	60
18	---	---	---	---	---	---	---	---	---	---	71	59
19	---	---	---	---	---	---	---	---	---	---	71	59
20	---	---	---	---	---	---	---	---	---	---	72	59
21	---	---	---	---	---	---	---	---	---	---	73	59
22	---	---	---	---	---	---	---	---	---	---	74	59
23	---	---	---	---	---	---	---	---	---	---	75	57
24	---	---	---	---	---	---	---	---	---	---	76	56
25	---	---	---	---	---	---	---	---	---	---	76	56
26	---	---	---	---	---	---	---	---	---	---	---	56
27	---	---	---	---	---	---	---	---	---	---	---	56
28	---	---	---	---	---	---	---	---	---	---	---	56
29	---	---	---	---	---	---	---	---	---	---	74	56
30	---	---	---	---	---	---	---	---	---	---	73	55
31	---	---	---	---	---	---	---	---	---	---	71	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	61
MAX	---	---	---	---	---	---	---	---	---	---	---	69
MIN	---	---	---	---	---	---	---	---	---	---	---	55

353135080524203 IR-132 DENR Langtree Research Station MW-2D (Bedrock well)--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 2002.

REMARKS.--Station operated in cooperation with North Carolina Department of Environment and Natural Resources, Water Resources
  Division as part of the Piedmont/Mountains ground-water project.

WATER-QUALITY DATA, AUGUST 2002

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	ANC BICAR-BONATE IT FIELD MG/L AS HCO3 (00450)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
AUG 28...	1050	7.0	98	17.0	36	10.1	2.69	1.90	4.64	43	52	E.02	1.14

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 28...	E.1	37.2	1.1	96	<.04	<.10	1.35	<.008	.04	<13	<10	<10	<2.0

Date	ALPHA RADIO. WATER DISS AS TH-230 (PCI/L) (04126)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	RADON 222 TOTAL (PCI/L) (82303)
AUG 28...	.3	2.2	500

Remark codes used in this table:
  < -- Less than
  E -- Estimated value