

**Prepared in cooperation with the State of North Dakota  
and with other agencies**

# **Water Resources Data North Dakota Water Year 2003**

Volume 2. Ground Water

Water-Data Report ND-03-2

# CALENDAR FOR WATER YEAR 2003

## 2002

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5						1	2	1	2	3	4	5	7	7
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28	29	30	31			24	25	26	27	28	29	30	29	30	31				

## 2003

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4						1							1	
5	6	7	8	9	10	11	2	3	4	5	6	7	8	2	3	4	5	6	7	8
12	13	14	15	16	17	18	9	10	11	12	13	14	15	9	10	11	12	13	14	15
19	20	21	22	23	24	25	16	17	18	19	20	21	22	16	17	18	19	20	21	22
26	27	28	29	30	31		23	24	25	26	27	28		23	24	25	26	27	28	29
														30	31					

APRIL							MAY							JUNE							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
			1	2	3	4	5					1	2	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14	
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21	
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28	
27	28	29	30				25	26	27	28	29	30	31	29	30						

JULY							AUGUST							SEPTEMBER							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
			1	2	3	4	5						1	2		1	2	3	4	5	6
6	7	8	9	10	11	12	3	4	5	6	7	8	9	7	8	9	10	11	12	13	
13	14	15	16	17	18	19	10	11	12	13	14	15	16	14	15	16	17	18	19	20	
20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27	
27	28	29	30	31			24	25	26	27	28	29	30	28	29	30					

# **Water Resources Data North Dakota Water Year 2003**

## **Volume 2. Ground Water**

By S.M. Robinson and J.D. Wald

Water-Data Report ND-03-2

Prepared in cooperation with the State of North Dakota  
and with other agencies

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2004

## PREFACE

This edition of the annual hydrologic data report of North Dakota is one of a series of annual reports that document hydrologic data collected from the U.S. Geological Survey's collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by Federal, State, local agencies, and the private sector for developing and managing land and water resources in North Dakota. The records are contained in 2 volumes:

Volume 1. Surface-Water Data

Volume 2. Ground-Water Data

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had the primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to U.S. Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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## GROUND-WATER LEVELS, NETWORK SITES

ADAMS COUNTY

461614102515202	Local number, 132-097-07CAB2	Ludlow-Hell Creek aquifer .....	11
461614102515203	Local number, 132-097-07CAB3	Ludlow aquifer .....	12

BENSON COUNTY

475224098443202	Local number, 151-063-29AAC2	Warwick aquifer .....	13
475601099264701	Local number, 151-069-01BBB	Maddock aquifer .....	16
475515099292101	Local number, 151-069-03CCC	Maddock aquifer .....	18
480958099154801	Local number, 154-067-15BBB	Spiritwood aquifer .....	20
481041099442701	Local number, 154-071-11AAD1	Fox Hills aquifer .....	21
482212099475801	Local number, 156-071-04BBA	Pleasant Lake aquifer .....	23

BOTTINEAU COUNTY

483333101135402	Local number, 159-082-35BBB2	Glenburn aquifer .....	26
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BOWMAN COUNTY

461039103282801	Local number, 131-102-07DDD1	Hell Creek-Fox Hills aquifer .....	27
461039103282803	Local number, 131-102-07DDD3	Tongue River-Ludlow aquifer .....	28

BURKE COUNTY

485618102455401	Local number, 163-093-17DDD	Columbus aquifer .....	29
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BURLEIGH COUNTY

464540100222101	Local number, 138-077-22AAD	McKenzie aquifer .....	30
470556100142501	Local number, 142-075-19CCB	Wing Channel aquifer .....	33

CASS COUNTY

465312096543301	Local number, 139-049-06ADB	West Fargo aquifer .....	34
470818097294104	Local number, 142-054-03DDD4	Page aquifer .....	36
471326097332902	Local number, 143-054-08BBB2	Page aquifer .....	37

CAVALIER COUNTY

484534098254401	Local number, 161-060-21BBB	Pierre Shale aquifer .....	39
484444098504301	Local number, 161-063-29BBB	Munich aquifer .....	40

DICKEY COUNTY

460830098224701	Local number, 131-062-24DDD1	Nortonville aquifer .....	41
460830098224702	Local number, 131-062-24DDD2	Ellendale aquifer .....	42

DIVIDE COUNTY

484746104015901	Local number, 161-103-02CCB	Skjermo Lake aquifer .....	43
485432103151701	Local number, 163-097-34ABB	Crosby aquifer .....	44

DUNN COUNTY

471323102290101	Local number, 143-093-09BCB	Sentinel Butte aquifer .....	45
472144102453402	Local number, 145-095-22DAD2	Killdeer aquifer .....	46
472144102453403	Local number, 145-095-22DAD3	Killdeer aquifer .....	48
472537102144801	Local number, 146-091-35BBC	Goodman Creek aquifer .....	50

EDDY COUNTY

473934099032301	Local number, 148-066-03DDC	New Rockford aquifer .....	52
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EMMONS COUNTY

462539100061101	Local number, 134-075-15BBB	Fox Hills aquifer .....	54
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FOSTER COUNTY

473051099093601	Local number, 147-067-35AAA	Carrington aquifer .....	55
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GOLDEN VALLEY COUNTY

465421103590706	Local number, 140-105-30CCC6	Hell Creek-Fox Hills aquifer .....	57
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GRAND FORKS COUNTY

475646097372201	Local number, 152-054-31BBB	Elk Valley aquifer .....	58
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## GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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463000101575101	Local number, 135-090-23BBB1	Fox Hills aquifer .....	61
463000101575102	Local number, 135-090-23BBB2	Tongue River aquifer.....	62

GRIGGS COUNTY

472412098261201	Local number, 145-061-04DAD1	Spiritwood aquifer .....	63
472624098013101	Local number, 146-058-26BBDB	McVille aquifer .....	66
473425098232901	Local number, 147-061-01CCC	Spiritwood aquifer .....	67

HETTINGER COUNTY

463153102521001	Local number, 135-097-04DCA	Fox Hills aquifer .....	69
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KIDDER COUNTY

470638099324301	Local number, 142-070-16DDD	Long Lake aquifer.....	71
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LaMOURE COUNTY

461958098132901	Local number, 133-060-16DAA	LaMoure aquifer .....	73
462447098432602	Local number, 134-064-22BBB2	Edgeley aquifer .....	75

LOGAN COUNTY

463417099271002	Local number, 136-070-26BBB2	Streeter aquifer .....	77
463240099483801	Local number, 136-073-35DDD1	Napoleon aquifer.....	79
463240099483802	Local number, 136-073-35DDD2	Napoleon aquifer.....	80

McHENRY COUNTY

480913100372501	Local number, 154-077-18CCC	New Rockford aquifer.....	81
480725100373303	Local number, 154-078-36AAA3	Fox Hills aquifer .....	84
480725100373304	Local number, 154-078-36AAA4	Hell Creek aquifer.....	85
481948100305901	Local number, 156-077-13CCB1	Denbigh aquifer .....	86
481948100305902	Local number, 156-077-13CCB2	Denbigh aquifer .....	88

McINTOSH COUNTY

455807099450701	Local number, 129-072-30BBB	Zeeland aquifer .....	90
460411099200701	Local number, 130-069-21BBB1	Spring Creek aquifer.....	91
460411099200702	Local number, 130-069-21BBB2	Spring Creek aquifer.....	92
461446099312801	Local number, 132-071-14DDD1	Wishek aquifer .....	93
461446099312802	Local number, 132-071-14DDD2	Wishek aquifer .....	94

McKENZIE COUNTY

474814103104702	Local number, 150-098-23AAB2	Cherry Creek aquifer.....	95
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McLEAN COUNTY

474026100583201	Local number, 148-081-03AAB	Horseshoe Valley aquifer .....	96
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MERCER COUNTY

472641102105901	Local number, 146-090-20CCC	Fox Hills aquifer .....	98
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MORTON COUNTY

464734100543501	Local number, 138-081-09ABB1	Fox Hills aquifer .....	99
464734100543502	Local number, 138-081-09ABB2	Hell Creek aquifer.....	100
464734100543504	Local number, 138-081-09ABB4	Cannonball-Ludlow aquifer .....	101
464847101303801	Local number, 139-086-35BCC	Sims aquifer .....	102
464846101464502	Local number, 139-088-34BCC2	Hell Creek aquifer.....	103
464846101464503	Local number, 139-088-34BCC3	Tongue River aquifer.....	104

MOUNTRAIL COUNTY

480120101571901	Local number, 152-088-04BBBD1	Sentinel Butte aquifer .....	105
480120101571902	Local number, 152-088-04BBBD2	Sentinel Butte aquifer .....	106

NELSON COUNTY

474806098133401	Local number, 150-059-20AAA	McVille aquifer .....	107
480138098074101	Local number, 153-058-32DBB	Pierre Shale aquifer.....	109

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<u>OLIVER COUNTY</u>		
470642101162701	Local number, 142-084-24BBA	Fox Hills aquifer ..... 110
<u>PEMBINA COUNTY</u>		
485425097550502	Local number, 163-056-29CDD2	Pembina River aquifer ..... 111
<u>PIERCE COUNTY</u>		
475139099484801	Local number, 151-072-36AAA1	New Rockford aquifer..... 113
482033099594901	Local number, 156-073-12CCC	Fox Hills aquifer ..... 115
483054100071901	Local number, 158-073-17BBB	Lake Souris aquifer ..... 116
<u>RAMSEY COUNTY</u>		
480449099002402	Local number, 153-065-09DDD2	Spiritwood aquifer ..... 117
480817099013201	Local number, 154-065-21CCC	Spiritwood aquifer ..... 118
481929098392601	Local number, 156-062-20BBB	Pierre Shale aquifer..... 119
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461838097553402	Local number, 133-058-25BBA2	Englevale aquifer ..... 121
462400097552502	Local number, 134-058-24CDC2	Englevale aquifer ..... 123
<u>RENVILLE COUNTY</u>		
484500101294901	Local number, 161-084-24DDD	Fox Hills aquifer ..... 126
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460358096581401	Local number, 130-050-17DDD	Milnor Channel aquifer..... 127
462425096441202	Local number, 134-048-20ADD2	Colfax aquifer ..... 129
462633097163402	Local number, 134-052-06CCD2	Sheyenne Delta aquifer ..... 131
463422097115602	Local number, 136-052-22DDD2	Sheyenne Delta aquifer ..... 134
<u>ROLETTE COUNTY</u>		
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484310099572401	Local number, 161-072-35CDC	Shell Valley aquifer ..... 138
485707100053701	Local number, 163-073-11CCC1	Fox Hills aquifer ..... 139
485707100053702	Local number, 163-073-11CCC2	Hell Creek aquifer..... 140
<u>SARGENT COUNTY</u>		
460120097591803	Local number, 129-058-06AAA3	Oakes aquifer ..... 141
461003097191501	Local number, 131-053-10CCC	Milnor Channel aquifer..... 143
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474817100063801	Local number, 150-074-14CCC	Martin aquifer ..... 145
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460244101272701	Local number, 130-086-28CCC1	Fox Hills aquifer ..... 146
460244101272702	Local number, 130-086-28CCC2	Hell Creek aquifer..... 147
462239100375601	Local number, 134-079-32ADD	Strasburg aquifer ..... 148
<u>STARK COUNTY</u>		
465755102410701	Local number, 140-095-08AAA	Sentinel Butte aquifer ..... 149
<u>STEELE COUNTY</u>		
472024097315201	Local number, 145-054-27CDC	Dakota aquifer..... 151
<u>STUTSMAN COUNTY</u>		
463846098274101	Local number, 137-062-26DDD	Spiritwood aquifer ..... 152
465243098284801	Local number, 139-062-02CCC	Spiritwood aquifer ..... 153
465757098274401	Local number, 140-062-02DDD	Spiritwood aquifer ..... 156
<u>TOWNER COUNTY</u>		
482908099134601	Local number, 158-066-30BBB	Spiritwood aquifer ..... 158
484209099174101	Local number, 160-067-10BBB1	Spiritwood aquifer ..... 160
484209099174102	Local number, 160-067-10BBB2	Spiritwood aquifer ..... 161
485659099222801	Local number, 163-067-18AAA1	Spiritwood aquifer ..... 162
485659099222802	Local number, 163-067-18AAA2	Spiritwood aquifer ..... 163

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481234097234605	Local number, 155-053-25CDD5	Lacustrine deposits.....	165
481841097490301	Local number, 156-056-22DDD	Fordville aquifer.....	166
482408097443201	Local number, 157-055-21DBC	Dakota aquifer.....	169
482449098095801	Local number, 157-058-18DDD	Pierre Shale aquifer.....	170

WARD COUNTY

481058101120403	Local number, 154-082-03CDC3	Sundre Buried Channel aquifer.....	171
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WELLS COUNTY

472329099194401	Local number, 145-068-10BCC	Pipestem Creek aquifer.....	174
474419099371201	Local number, 149-070-09DAA1	New Rockford aquifer.....	176

WILLIAMS COUNTY

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483016103242801	Local number, 158-099-13DDD	Ray aquifer.....	180
483127103373102	Local number, 158-100-08DAA2	Little Muddy aquifer.....	181
483700103191501	Local number, 159-098-10AAD	West Wildrose aquifer.....	184

## GROUND-WATER LEVELS, SHEYENNE DELTA SITES

RANSOM COUNTY

462244097190101	Local number, 134-053-35BCAD	Sheyenne Delta aquifer.....	185
462245097191001	Local number, 134-053-35BCBD	Sheyenne Delta aquifer.....	185
462249097185001	Local number, 134-053-35BDAB	Sheyenne Delta aquifer.....	185
462248097185001	Local number, 134-053-35BDAB1	Sheyenne Delta aquifer.....	186
462247097184901	Local number, 134-053-35BDAB2	Sheyenne Delta aquifer.....	188
462248097185003	Local number, 134-053-35BDAB3	Sheyenne Delta aquifer.....	188
462248097185004	Local number, 134-053-35BDAB4	Sheyenne Delta aquifer.....	188
462248097185301	Local number, 134-053-35BDAB	Sheyenne Delta aquifer.....	189
462243097185201	Local number, 134-053-35BDBD	Sheyenne Delta aquifer.....	189
462653097243901	Local number, 134-054-01DABC	Sheyenne Delta aquifer.....	189
462651097243901	Local number, 134-054-01DACB	Sheyenne Delta aquifer.....	190
462653097244301	Local number, 134-054-01DBAD	Sheyenne Delta aquifer.....	190
462832097242101	Local number, 135-053-30CBCC	Sheyenne Delta aquifer.....	191
462826097241101	Local number, 135-053-30CCAC	Sheyenne Delta aquifer.....	193
462827097241801	Local number, 135-053-30CCBA1	Sheyenne Delta aquifer.....	193
462828097241401	Local number, 135-053-30CCBA2	Sheyenne Delta aquifer.....	193
462830097242001	Local number, 134-053-30CCBB1	Sheyenne Delta aquifer.....	194
462828097242301	Local number, 134-053-30CCBB2	Sheyenne Delta aquifer.....	194
462824097241801	Local number, 134-053-30CCBD	Sheyenne Delta aquifer.....	194

RICHLAND COUNTY

462303097124401	Local number, 134-052-27CDCC	Sheyenne Delta aquifer.....	195
462259097124001	Local number, 134-052-34BABA	Sheyenne Delta aquifer.....	195
462257097124501	Local number, 134-052-34BABC	Sheyenne Delta aquifer.....	195

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GROUND-WATER QUALITY, NETWORK SITES

BURKE COUNTY

485618102455401 Local number, 163-093-17DDD Columbus aquifer..... 196

BURLEIGH COUNTY

470556100142501 Local number, 142-075-19CCB Wing Channel aquifer ..... 196

DIVIDE COUNTY

484746104015901 Local number, 161-103-02CCB Skjermo Lake aquifer..... 196

485432103151701 Local number, 163-097-34ABB Crosby aquifer..... 196

DUNN COUNTY

471323102290101 Local number, 143-093-09BCB Sentinel Butte aquifer ..... 196

LaMOURE COUNTY

462447098432602 Local number, 134-064-22BBB2 Edgeley aquifer ..... 196

MOUNTRAIL COUNTY

480120101571901 Local number, 152-088-04BBBD1 Sentinel Butte aquifer ..... 196

480120101571902 Local number, 152-088-04BBBD2 Sentinel Butte aquifer ..... 196

RICHLAND COUNTY

460358096581401 Local number, 130-050-17DDD Milnor Channel aquifer..... 196

WILLIAMS COUNTY

481056103024201 Local number, 154-096-08AAA Hofflund aquifer ..... 196

GROUND-WATER QUALITY, SHEYENNE DELTA SITES

RANSOM COUNTY

461934097173001 Local number, 133-053-13DCC1 Sheyenne Delta aquifer ..... 197

462628097180701 Local number, 134-053-11AAA1 Sheyenne Delta aquifer ..... 197

462356097215001 Local number, 134-053-21CCC1 Sheyenne Delta aquifer ..... 197

462214097215101 Local number, 134-053-32DDD1 Sheyenne Delta aquifer ..... 197

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## INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with many other agencies, obtains a large amount of data pertaining to the water resources of North Dakota each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the U.S. Geological Survey, the data will be published annually in this report series entitled "Water Resources Data - North Dakota."

This report includes records on ground water in North Dakota. Specifically, it contains water-level records for 136 wells and water-quality records for 63 wells. Locations of the ground-water wells are shown in figure 1. This report also includes ground-water levels for wells that were monitored as part of a cooperative study with the U.S. Fish and Wildlife Service during water years 2002-2003. Additional ground-water information for North Dakota is contained in the files, data bases, and other published reports of the U.S. Geological Survey.

This series of annual reports for North Dakota began with the 1961 water year report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. For the 1975-95 water years, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels. Beginning with the 1996 water year, ground-water levels and ground-water quality data will be published in a separate volume for North Dakota.

Prior to introduction of this series and for several water years concurrent with it, water resources data for North Dakota were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 5 and 6." For the 1961-70 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941-70 water years were published annually under the title "Quality of Surface Waters of the United States," and ground-water levels for the 1935-74 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers are in libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Branch of Information Services, Box 25286, Denver, CO 80225-0286.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official U.S. Geological Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For

example, this volume is identified as "U.S. Geological Survey Water-Data Report ND-03-2." For archiving and general distribution, the reports for the 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or may be purchased on microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including the current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephoning (701) 250-7406.

## COOPERATION

Organizations that assisted in the collection of ground-water data in this report through joint funding agreements with the U.S. Geological Survey are:

North Dakota State Water Commission  
Spirit Lake Tribe  
U.S. Forest Service

## SUMMARY OF HYDROLOGIC CONDITIONS

The geography and geology of North Dakota are sufficiently complex that a summary of ground-water conditions over the entire State is difficult. Descriptions of conditions in specific aquifers apply only to that geographic area and cannot be considered to be the same for other geographic areas.

Ground-water levels fluctuate in response to a variety of stresses and changes in stress. Short- and long-term climatic conditions can lead to changes in natural recharge and discharge. Superimposed on the natural fluctuations in water levels are changes caused by increasing or decreasing ground-water withdrawals and, in some areas, changes caused by recharge from surface irrigation. A persistent climatologic pattern that has caused above-average precipitation generally has prevailed in North Dakota since the winter of 1992-93.

## EXPLANATION OF THE RECORDS

The ground-water records published in this report are for the 2003 water year that began October 1, 2002, and ended September 30, 2003. A calendar of the water year is provided on the inside of the front cover. The records contain ground-water level and ground-water quality data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

### Well Identification Numbers

Each well in this report is assigned a unique identification number. This number applies specifically to a given well and to no other. The number usually is assigned when a well is first established and is retained for that well indefinitely. The

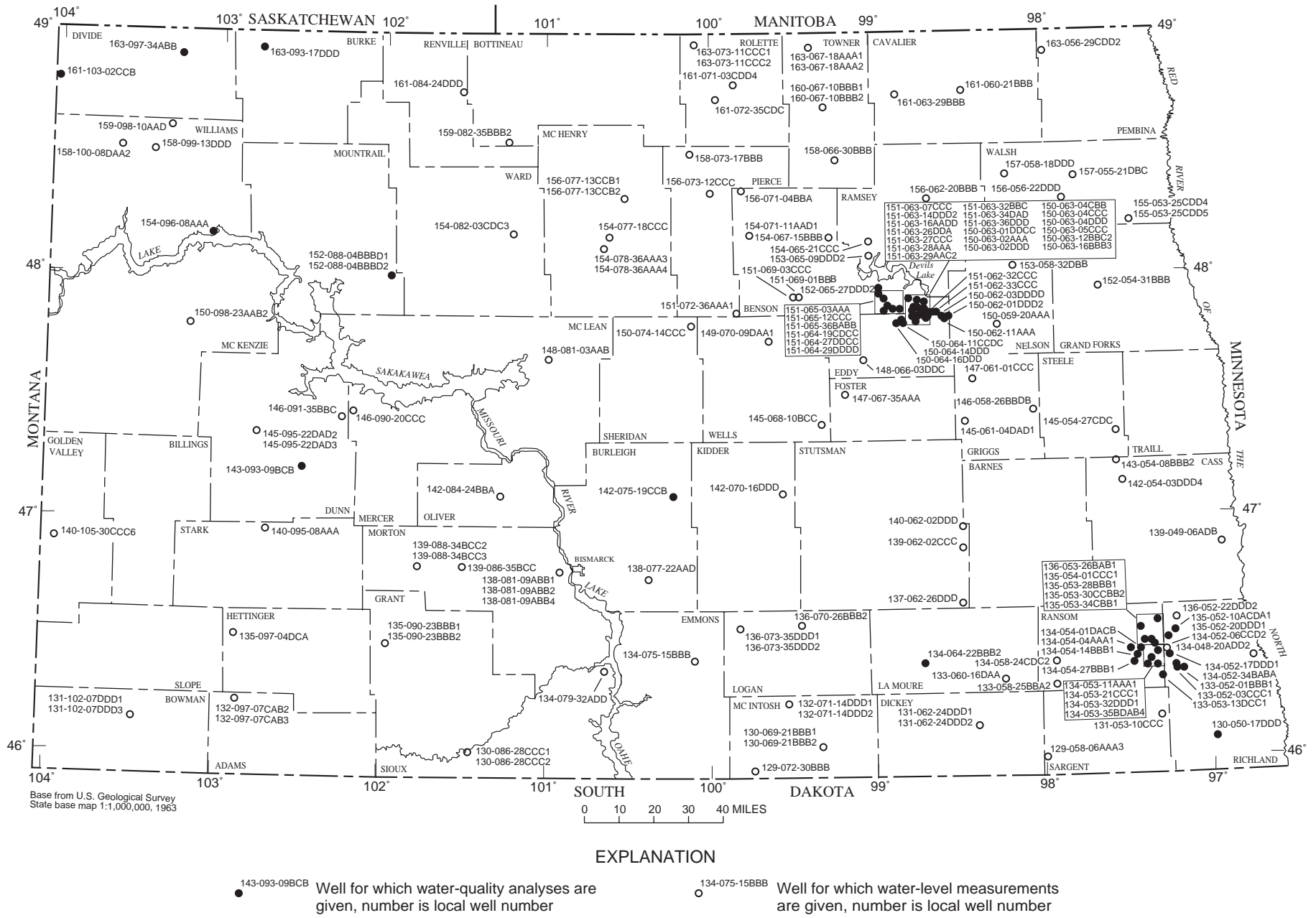


Figure 1. Location of ground-water observation wells.



system used by the U.S. Geological Survey to assign identification numbers for ground-water well sites is based on geographic location.

#### Latitude-Longitude System

The identification numbers for wells are assigned according to the grid system of latitude and longitude (fig. 2). The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number, and has no locational significance. In the rare instance where the initial determination of latitude and longitude are in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description.

#### Local Well Numbers

In order to compare data for wells in other publications in North Dakota, such as the county ground-water studies, the wells in this report also are numbered according to a system based on the location in the public-land classification of the U.S. Bureau of Land Management. The system is illustrated in figure 3. The first number denotes the township north of a base line, the second number denotes the range west of the fifth principal meridian, and the third numeral denotes the section in which the well is located. The letters A, B, C, and D designate, respectively, the northeast, northwest, southwest, and southeast quarter section, quarter-quarter section, and quarter-quarter-quarter section (10-acre tract). For example, well 139-049-15ADC is in the SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.15, T.139 N., R.049 W. Consecutive terminal numbers are added if more than one well is recorded within a 10-acre tract.

#### Records of Ground-Water Levels

Water-level data from a network of observation wells are given in this report. These data are intended to provide a representation of the sampling and historical record of water-level changes in some of the important aquifers. Locations of the observation wells in this network in North Dakota are shown in figure 1.

#### Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Water-level records are obtained from direct measurements with a steel or an electric tape or from the shaft encoder of a water-stage recorder. The water-level

measurements in this report are given in feet with reference to land-surface datum. Land-surface datum is a datum plane that is approximately at land surface at each well. The elevation of the land-surface datum is given in the well description. The height of the measuring point above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for the maximum water level for each day.

#### Data Presentation

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, measurements are reported to a hundredth of a foot.

Records of water-level data are published in the section "Ground-Water Levels". Data for ground-water levels are listed alphabetically by county in each section. The prime identification number for a given well is the 15-digit number derived from the latitude-longitude location. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well.

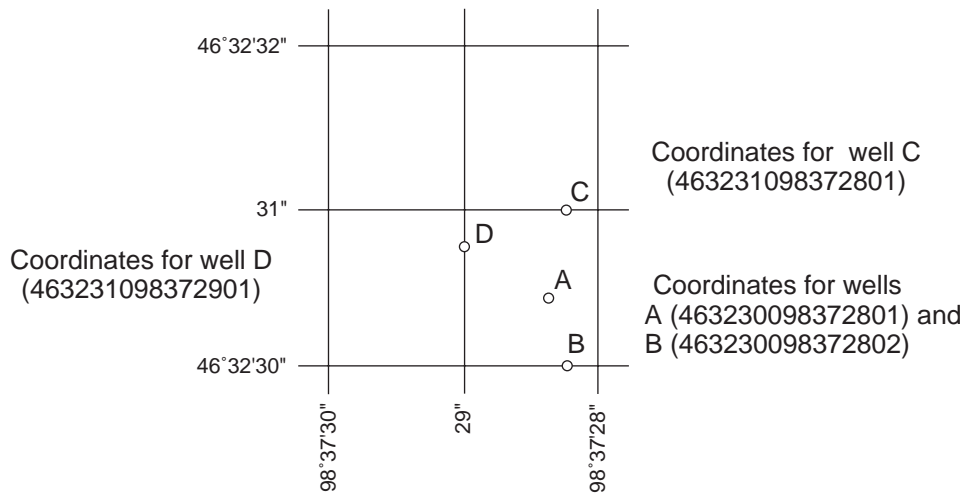
#### Availability of Data

All water-level measurements and recorder data are stored in computer files as well as office files and are available in a tabular listing similar to those published in this report. Data in this report are for the 12-month water year ending September 30. Information about reports and other data on ground-water levels in North Dakota may be obtained from the District office at the address given on the back of the title page.

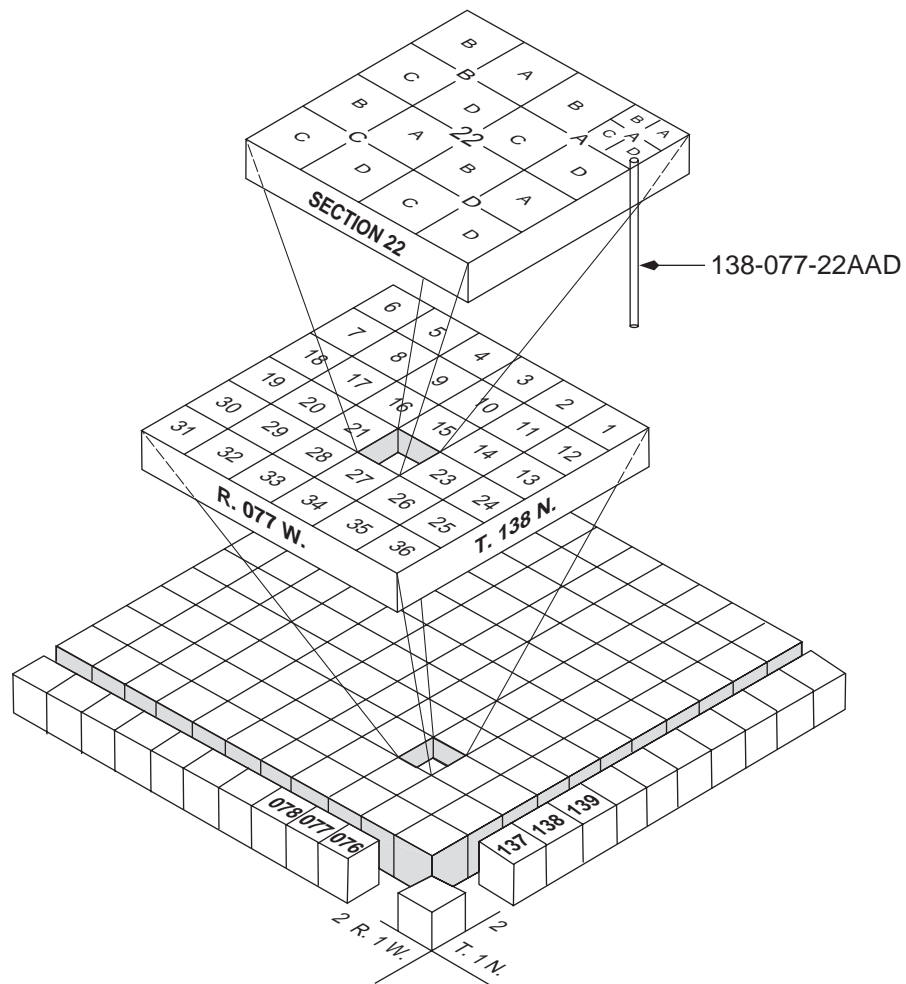
#### Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites, they consist of only one set of measurements for the water year. Changes in quality of ground water ordinarily occur slowly; therefore, for general purposes, one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

**WATER RESOURCES DATA - NORTH DAKOTA, 2003**



**Figure 2.** System for numbering wells (latitude and longitude).



**Figure 3.** System for numbering wells (township and range).

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, specific conductance, and pH need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are detailed in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These references are listed in the "Publications on Techniques of Water-Resources Investigations" section of this report. These methods are consistent with ASTM standards and generally follow ISO standards.

Chemical-quality data published in this report are considered to be the most representative values available for the wells listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

Data Collection and Computation

Ground-water quality data published in this report were obtained by analysis of samples collected when routine maintenance was performed on wells in specific areas. Routine well maintenance is scheduled for about one third of the well network each year and a smaller subset of wells is sampled. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. Ground-water quality data for special projects also may be included in this report. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey TWRI publications referred to in the "Onsite Measurements and Sample Collection" section in this data report. In addition, the TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. These

methods are consistent with ASTM standards and generally follow ISO standards. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casing.

Data Presentation

Records of ground-water quality are published in the section "Ground-Water Quality". Data for ground-water quality are listed alphabetically by county. The prime identification number for a given well is the 15-digit number derived from the latitude-longitude location. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well. No descriptive statements are given for ground-water-quality records; however, the well number, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water.

Availability of Data

All ground-water quality data are stored in computer files as well as office files and are available in a tabular listing similar to those published in this report. Data in this report are for the 12-month water year ending September 30. Information about reports and other data on ground-water quality in North Dakota may be obtained from the District office at the address given on the back of the title page.

Remark Codes

The following remark codes may appear with the water-quality data in this section:

PRINT OUTPUT	REMARK
E	Estimated value.
<	Actual value is known to be less than the value shown.
M	Presence verified, not quantified

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed at:

<http://water.usgs.gov>

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained

locally from each of the Water Resources Division District Offices (See address on the back of the title page.)

### DEFINITION OF TERMS

Terms related to water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

**Aquifer** is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

**Dissolved** refers to that material in a representative water sample which passes through a 0.45 micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determination of "dissolved" constituents are made on subsamples of the filtrate.

**Dissolved-solids concentration** of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.493 to reflect the change.

**Hardness** of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate ( $\text{CaCO}_3$ ).

**Land-surface datum** is a datum plane that is approximately at land surface at each ground-water observation well.

**Micrograms per liter** (UG/L,  $\mu\text{g/L}$ ) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

**Microsiemens per centimeter at 25 degrees Celsius** (US/CM,  $\mu\text{S/cm}$ ) is a unit for reporting specific electrical conductance.

**Milligrams per liter** (MG/L,  $\text{mg/L}$ ) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in  $\text{mg/L}$  and is based on the mass of dry sediment per liter of water-sediment mixture.

**National Geodetic Vertical Datum of 1929** (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

**Open or screened interval** is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

**Parameter Code** is a 5-digit number used in the U.S. Geological Survey's data system, National Water Information System (NWIS), to uniquely identify a specific constituent. The codes used in NWIS are the same as those used in the U.S. Environmental Protection Agency's data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

**pH** indicates the degree of acidity or alkalinity of water and is expressed in pH units. The pH value of a solution is the negative logarithm of the concentration of hydrogen ions, in moles per liter. A pH of 7.0 indicates that the water is neither acid nor alkaline. pH readings progressively less than 7.0 denote increasing acidity and those progressively greater than 7.0 denote increasingly alkalinity. The pH of most natural surface waters ranges between 6 and 8.

**Sea level** refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

**Sodium-adsorption-ratio** (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

**Solute** is any substance that is dissolved in water.

**Specific conductance** is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 degrees Celsius. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from well to well, and it may vary in the same source with changes in the composition of the water.

**Total** is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the

dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

**Water year** in Geological Survey reports dealing with surface- ground-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2003, is called "water year 2003."

**Water-table aquifer** is an unconfined aquifer within which is found the water table.

**Well** is an excavation (pit, hole, tunnel), generally cylindrical in form and often walled in, drilled, dug, driven, bored, or jetted into the ground to such a depth as to penetrate water-yielding geologic material and allow the water to flow or to be pumped to the surface.

## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The USGS publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be made in the form of a check or money order payable to the "U.S. Geological Survey." Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

### Book 1. Collection of Water Data by Direct Measurement

#### Section D. Water Quality

1-D1. *Water temperature—influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J.F. Ficke, and G. F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 pages.

### Book 2. Collection of Environmental Data

#### Section D. Surface Geophysical Methods

2-D1. *Application of surface geophysics to ground-water investigations*, by A.A. R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 pages.

2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 pages.

#### Section E. Subsurface Geophysical Methods

2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 pages.

2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 pages.

#### Section F. Drilling and Sampling Methods

2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 pages.

### Book 3. Applications of Hydraulics

#### Section A. Surface-Water Techniques

3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 pages.

3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 pages.

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI book 3, chap. A4. 1967. 44 pages.

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 pages.

3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 pages.

- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 pages.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 pages.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 pages.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 pages.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 pages.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 pages.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 pages.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 pages.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 pages.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 pages.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 pages.
- 3-B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 pages.

### **Section C. Sedimentation and Erosion Techniques**

- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 pages.

### **Book 4. Hydrologic Analysis and Interpretation**

#### **Section A. Statistical Analysis**

- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 pages.
- 4-A3. *Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS–TWRI book 4, chap. A3. 1991. Available only online at <http://water.usgs.gov/pubs/twri/twri4a3/>. (Accessed August 30, 2002.)

### **Section B. Ground-Water Techniques**

- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 pages.

**Section B. Surface Water**

- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 pages.

**Section D. Interrelated Phases of the Hydrologic Cycle**

- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 pages.

**Book 5. Laboratory Analysis****Section A. Water Analysis**

- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 pages.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 pages.

**Section C. Sediment Analysis**

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 pages.

**Book 6. Modeling Techniques****Section A. Ground Water**

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and

A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 pages.

- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS–TWRI book 6, chap. A5, 1993. 243 pages.
- 6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A5, 1996. 125 pages.
- 6-A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI book 6, chap. A7, 2002. 77 p.

**Book 7. Automated Data Processing and Computations****Section C. Computer Programs**

- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 pages.

**Book 8. Instrumentation****Section A. Instruments for Measurement of Water Level**

- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 pages.

**Section B. Instruments for Measurement of Discharge**

- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 pages.

**Book 9. Handbooks for Water-Resources Investigations****Section A. National Field Manual for the Collection of Water-Quality Data**

- 9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.
- 9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.
- 9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water*

*Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.

- 9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.
- 9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999. 149 p.
- 9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 pages.
- 9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 pages.



NETWORK SITES

ADAMS COUNTY

461614102515202. Local number, 132-097-07CAB2.

LOCATION.--Lat 46°16'14", long 102°51'52", Hydrologic Unit 10130205. Owner: North Dakota State Water Commission.

AQUIFER.--Ludlow-Hell Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 590 ft, cased with 578 ft of 2-in diameter steel pipe.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,665 ft. Measuring point: Top of casing 3.60 ft above land-surface datum.

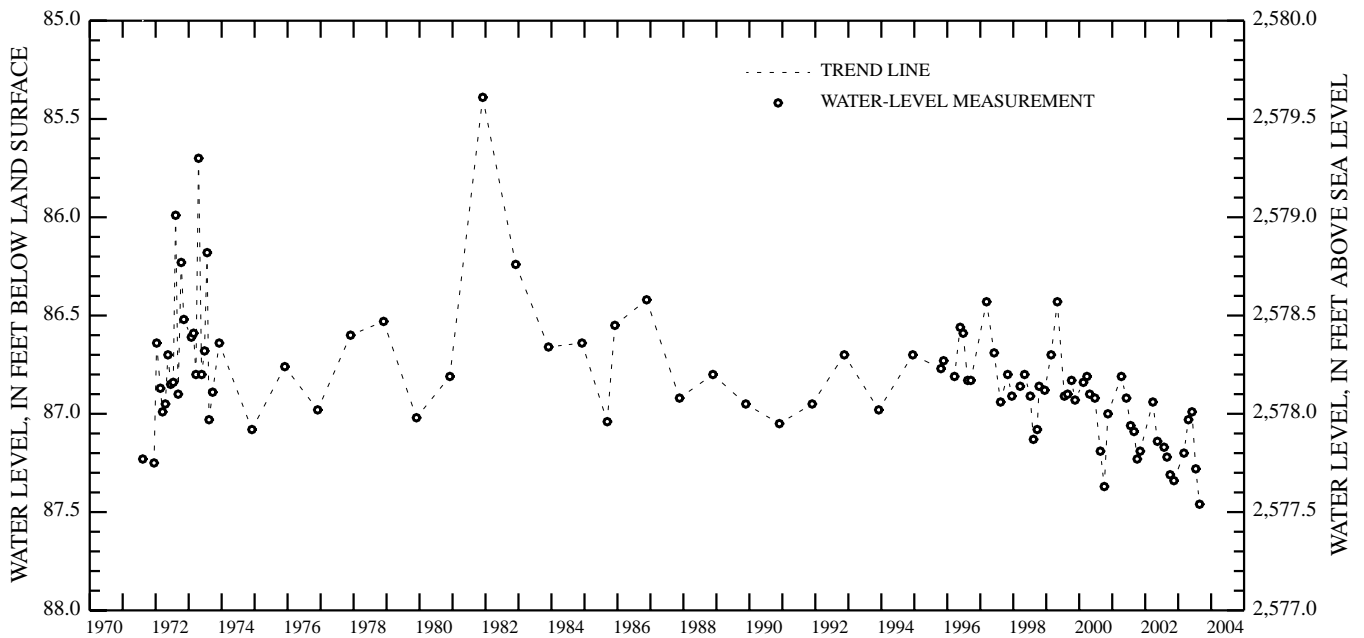
PERIOD OF RECORD.--August 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 85.39 ft below land-surface datum, December 1, 1981; lowest water level, 87.46 ft below land-surface datum, August 26, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	87.31	MAR 06	87.20	APR 24	87.03	JUN 03	86.99	JUL 15	87.28	AUG 26	87.46
NOV 15	87.34										
WATER YEAR 2003		HIGHEST	86.99	JUN 03, 2003		LOWEST	87.46	AUG 26, 2003			

132-097-07CAB2



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 ADAMS COUNTY--Continued

461614102515203. Local number, 132-097-07CAB3.

LOCATION.--Lat 46°16'14", long 102°51'52", Hydrologic Unit 10130205. Owner: North Dakota State Water Commission.

AQUIFER.--Ludlow.

WELL CHARACTERISTICS.--Drilled observation well, depth 229 ft, cased with 217 ft of 1.25-in diameter plastic pipe.

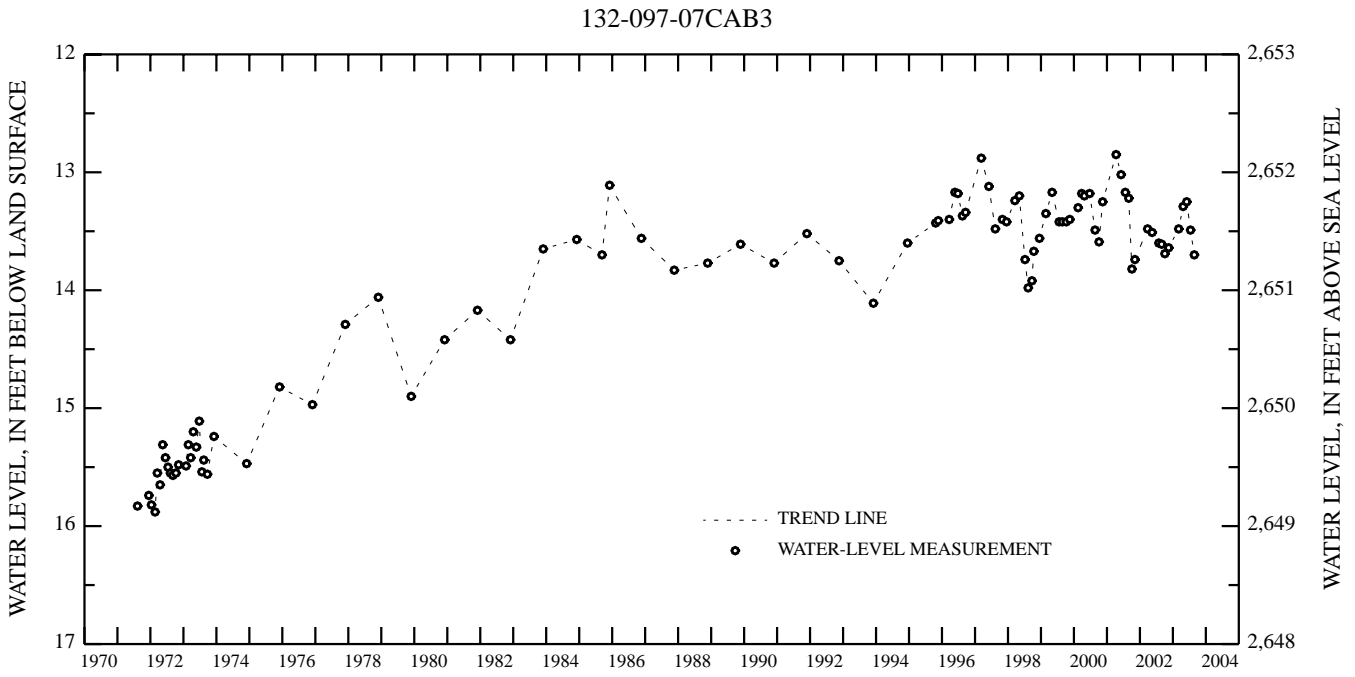
INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,665 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.85 ft below land-surface datum, April 12, 2001; lowest water level, 16.00 ft below land-surface datum, August 1, 1971.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	13.69	MAR 06	13.48	APR 24	13.29	JUN 03	13.25	JUL 15	13.49	AUG 26	13.70
NOV 15	13.64										
WATER YEAR 2003		HIGHEST	13.25	JUN 03, 2003	LOWEST	13.70	AUG 26, 2003				



## GROUND-WATER LEVELS

13

## NETWORK SITES--Continued

## BENSON COUNTY

475224098443202. Local number, 151-063-29AAC2.

LOCATION.--Lat 47°52'24", long 98°44'32", Hydrologic Unit 09020201. Owner: U.S. Geological Survey.

AQUIFER.--Warwick.

WELL CHARACTERISTICS.--Drilled observation well, depth 67 ft, cased with 67 ft of 6-in diameter steel pipe, slotted 57 to 67 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder August 1951 to current year. Only intermittent low and EOM water levels obtained from strip chart recorders are available from the District office for August 1951 to June 1974. From June 1974 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,479.6 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1951 to current year.

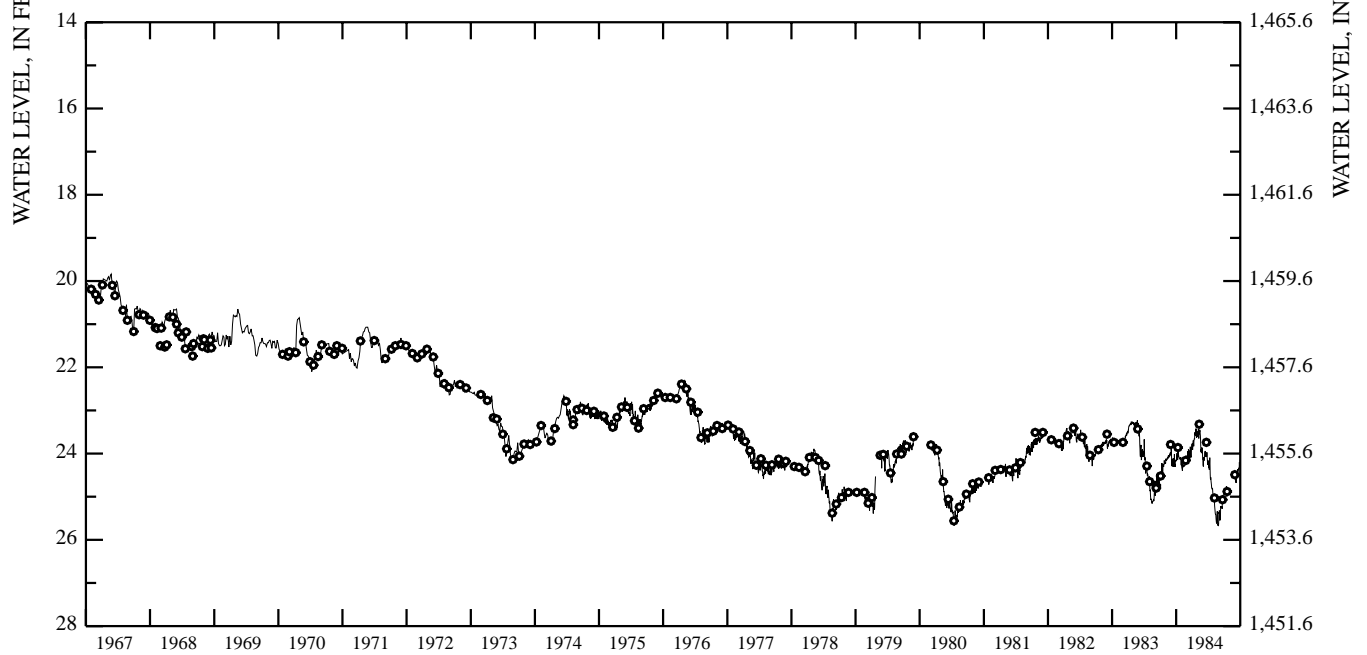
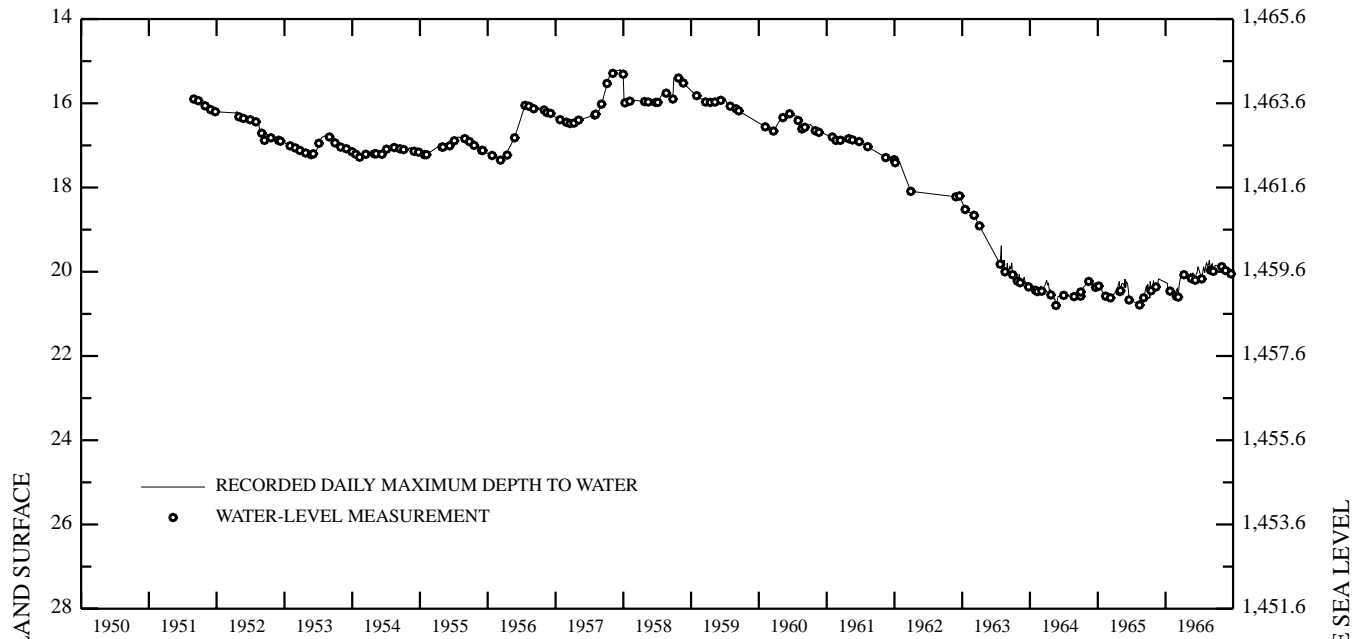
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.29 ft below land-surface datum, November 5, 1957; lowest water level, 27.03 ft below land-surface datum, November 11, 1991.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

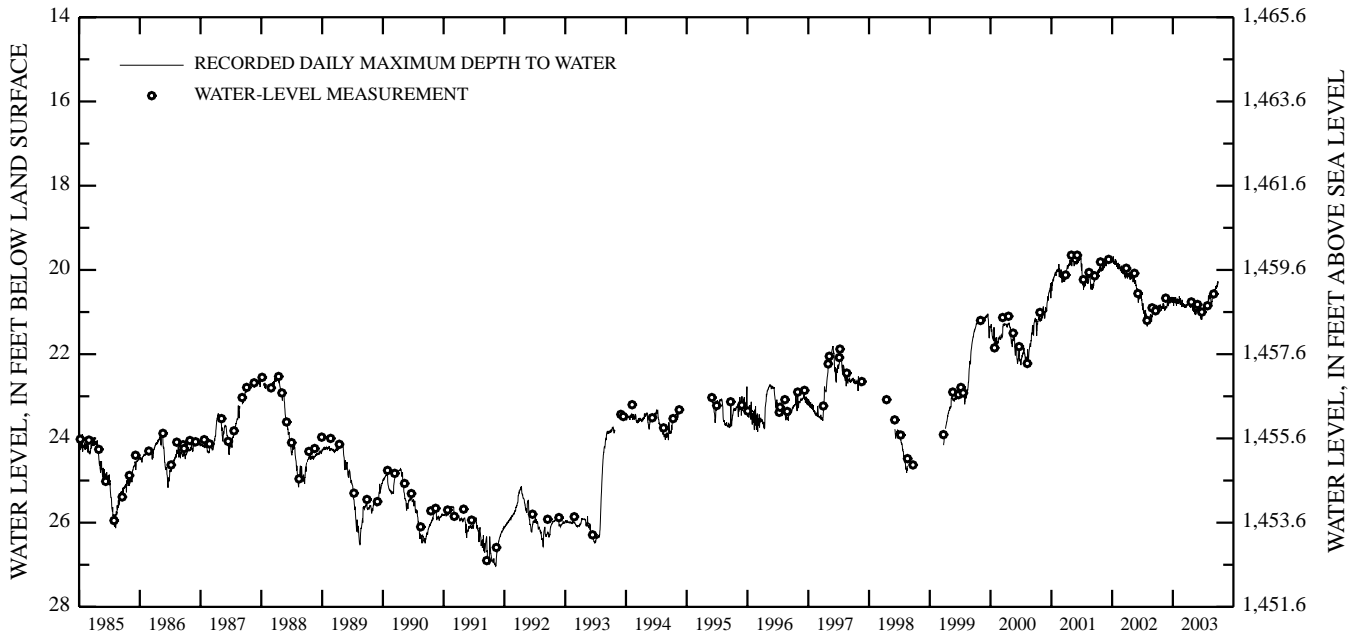
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.87	20.89	20.81	20.70	20.71	20.86	20.73	20.92	20.95	20.97	20.79	20.53
2	20.91	20.82	20.83	20.73	20.77	20.80	20.81	20.97	21.02	21.02	20.72	20.51
3	20.90	20.81	20.85	20.72	20.80	20.79	20.81	20.94	21.06	21.04	20.62	20.58
4	20.90	20.79	20.85	20.65	20.76	20.82	20.79	20.85	20.99	20.98	20.70	20.49
5	20.89	20.84	20.81	20.83	20.77	20.79	20.75	20.91	20.92	21.01	20.72	20.54
6	20.88	20.92	20.77	20.85	20.77	20.87	20.75	20.92	20.97	20.88	20.60	20.52
7	20.86	20.82	20.80	20.65	20.70	20.87	20.74	21.00	20.96	20.94	20.67	20.51
8	20.90	20.83	20.80	20.75	20.72	20.86	20.79	20.90	20.91	21.01	20.67	20.61
9	20.93	20.86	20.74	20.77	20.62	20.85	20.81	20.96	21.02	21.01	20.64	20.52
10	20.83	20.92	20.74	20.68	20.74	20.84	20.73	20.98	21.00	20.95	20.64	20.46
11	20.87	20.91	20.73	20.72	20.79	20.82	20.86	20.95	20.96	20.92	20.62	20.45
12	20.98	20.96	20.77	20.73	20.71	20.90	20.88	21.05	20.98	20.86	20.58	20.51
13	20.91	20.90	20.70	20.75	20.67	20.87	20.81	20.97	21.01	20.87	20.57	20.50
14	20.83	20.94	20.74	20.72	20.75	20.81	20.78	20.91	21.04	20.80	20.56	20.52
15	20.87	20.95	20.76	20.65	20.83	20.88	20.79	20.94	21.03	20.83	20.67	20.41
16	20.84	20.95	20.79	20.79	20.68	20.87	20.76	21.05	21.14	20.83	20.66	20.38
17	20.85	20.87	20.68	20.69	20.71	20.90	20.90	21.07	21.09	20.90	20.69	20.44
18	20.83	20.88	20.73	20.65	20.78	20.87	20.80	20.95	21.12	20.92	20.77	20.45
19	20.83	20.90	20.73	20.74	20.82	20.90	20.84	21.05	21.17	20.88	20.81	20.40
20	20.89	20.90	20.67	20.72	20.81	20.85	20.89	21.05	21.17	20.84	20.87	20.44
21	20.86	20.89	20.77	20.75	20.82	20.85	20.79	20.97	21.15	20.83	20.87	20.41
22	20.97	20.89	20.75	20.82	20.82	20.88	20.86	20.97	21.17	20.81	20.86	20.36
23	20.93	20.86	20.70	20.85	20.88	20.88	20.86	20.94	21.11	20.78	20.84	20.37
24	20.86	20.89	20.74	20.73	20.82	20.81	20.86	20.98	21.18	20.81	20.74	20.41
25	20.92	20.90	20.73	20.70	20.79	20.82	20.83	20.98	21.06	20.79	20.76	20.32
26	20.86	20.89	20.64	20.73	20.71	20.85	20.85	20.94	21.07	20.87	20.66	20.31
27	20.90	20.84	20.73	20.68	20.86	20.86	20.79	20.94	20.98	20.83	20.60	20.36
28	20.90	20.82	20.73	20.79	20.84	20.81	20.89	20.94	21.03	20.90	20.62	20.28
29	20.88	20.72	20.65	20.79	---	20.81	20.90	20.92	20.98	20.86	20.64	20.27
30	20.92	20.79	20.77	20.73	---	20.81	20.87	20.92	20.97	20.80	20.60	20.32
31	20.88	---	20.77	20.76	---	20.74	---	20.96	---	20.80	20.53	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
BENSON COUNTY--Continued

151-063-29AAC2



151-063-29AAC2--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 BENSON COUNTY--Continued

475601099264701. Local number, 151-069-01BBB.

LOCATION.--Lat 47°56'01", long 99°26'47", Hydrologic Unit 09020202. Owner: North Dakota State Water Commission.

AQUIFER.--Maddock.

WELL CHARACTERISTICS.--Drilled observation well, depth 180 ft, cased with 97 ft of 1.25-in diameter plastic pipe, screen set 97 to 103 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

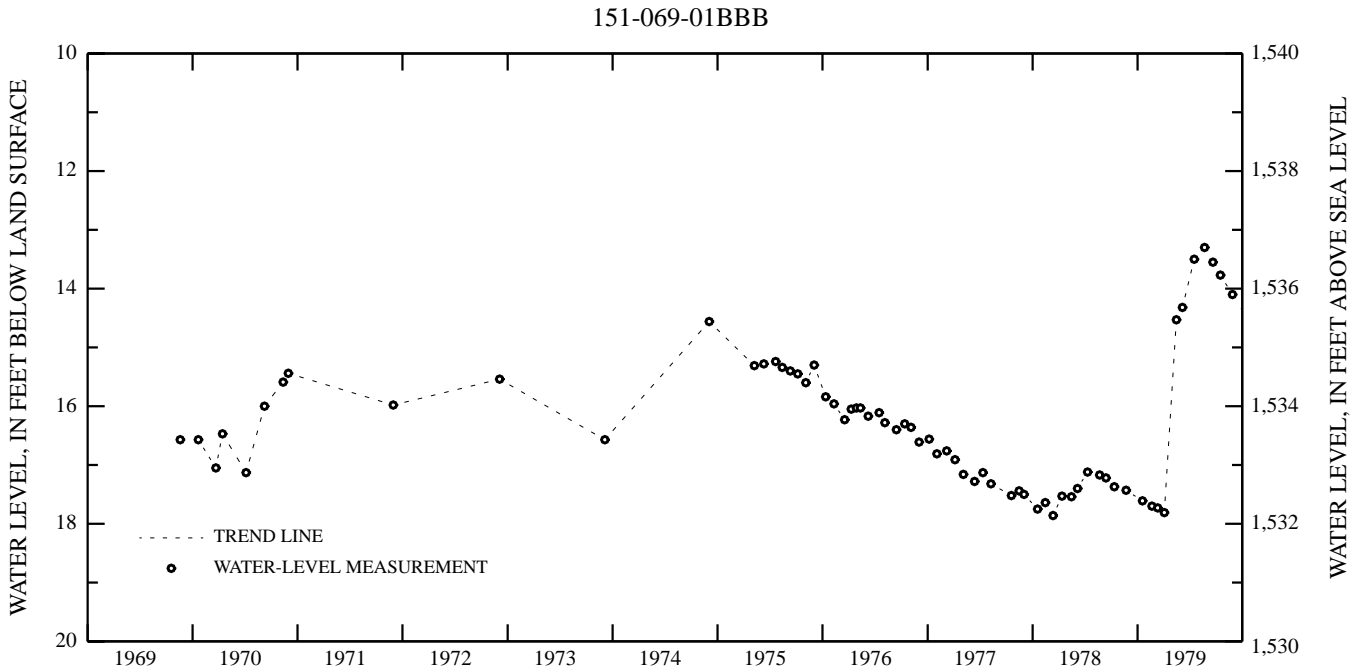
DATUM.--Altitude of land-surface datum is 1,550 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1969 to current year.

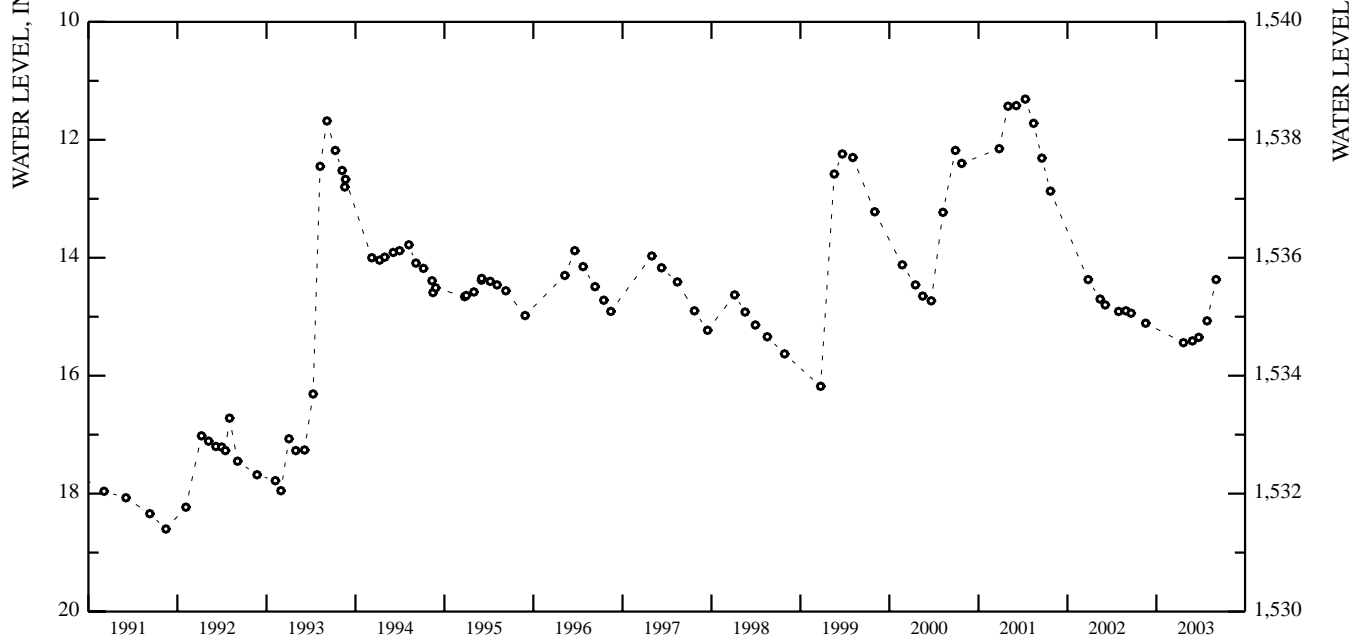
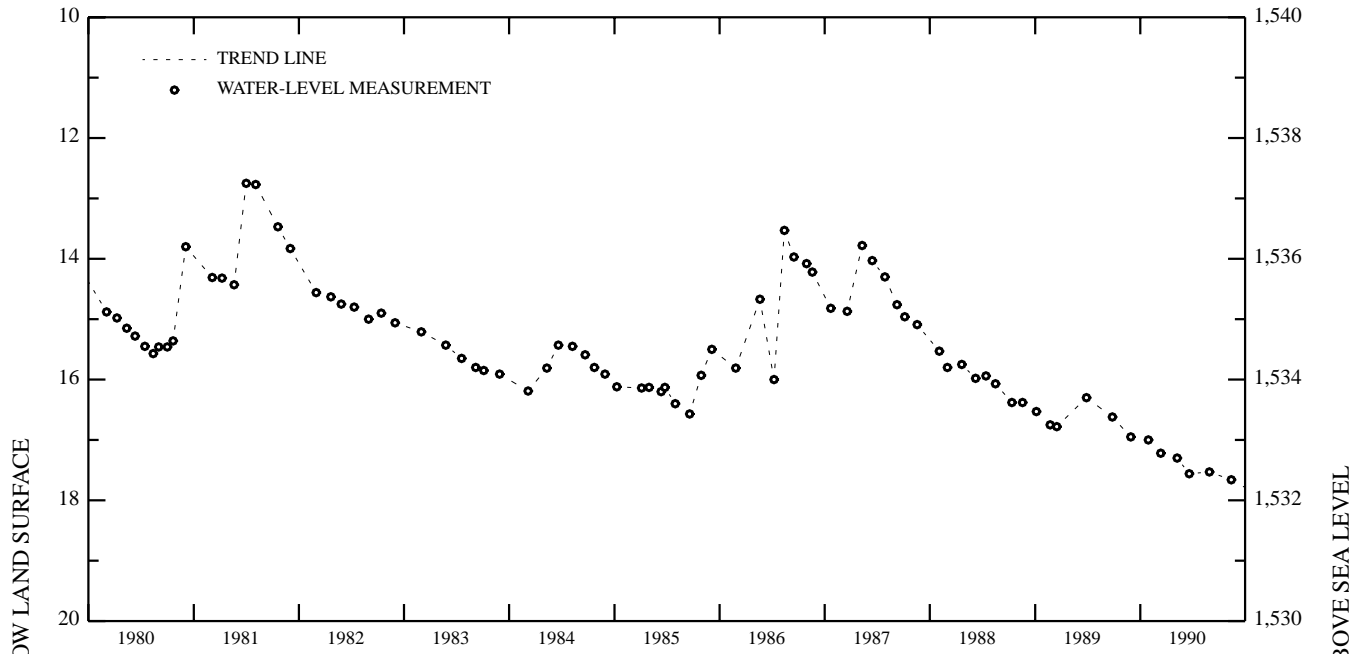
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.31 ft below land-surface datum, July 12, 2001; lowest water level, 18.60 ft below land-surface datum, November 15, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	15.11	APR 22	15.44	MAY 29	15.41	JUN 24	15.35	JUL 28	15.07	SEP 03	14.37
WATER YEAR 2003		HIGHEST	14.37	SEP 03, 2003		LOWEST	15.44	APR 22, 2003			



151-069-01BBB--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 BENSON COUNTY--Continued

475515099292101. Local number, 151-069-03CCC.

LOCATION.--Lat 47°55'15", long 99°29'21", Hydrologic Unit 09020202. Owner: North Dakota State Water Commission.

AQUIFER.--Maddock.

WELL CHARACTERISTICS.--Drilled observation well, depth 180 ft, cased with 137 ft of 1.25-in diameter plastic pipe, screen set 137 to 143 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

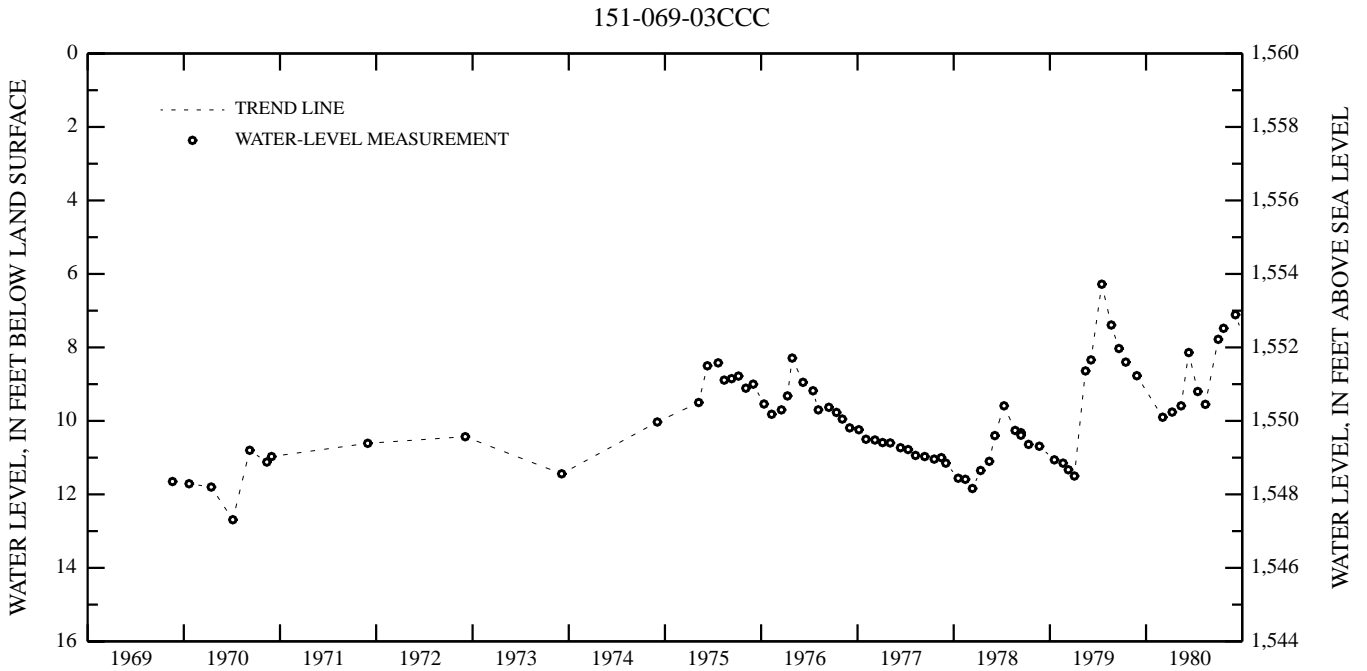
DATUM.--Altitude of land-surface datum is 1,560 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.52 ft below land-surface datum, May 2, 2001; lowest water level, 13.16 ft below land-surface datum, March 1, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	5.99	APR 22	5.89	MAY 29	4.62	JUN 24	4.67	JUL 28	5.60	SEP 03	7.76
WATER YEAR 2003		HIGHEST	4.62	MAY 29, 2003		LOWEST	7.76	SEP 3, 2003			

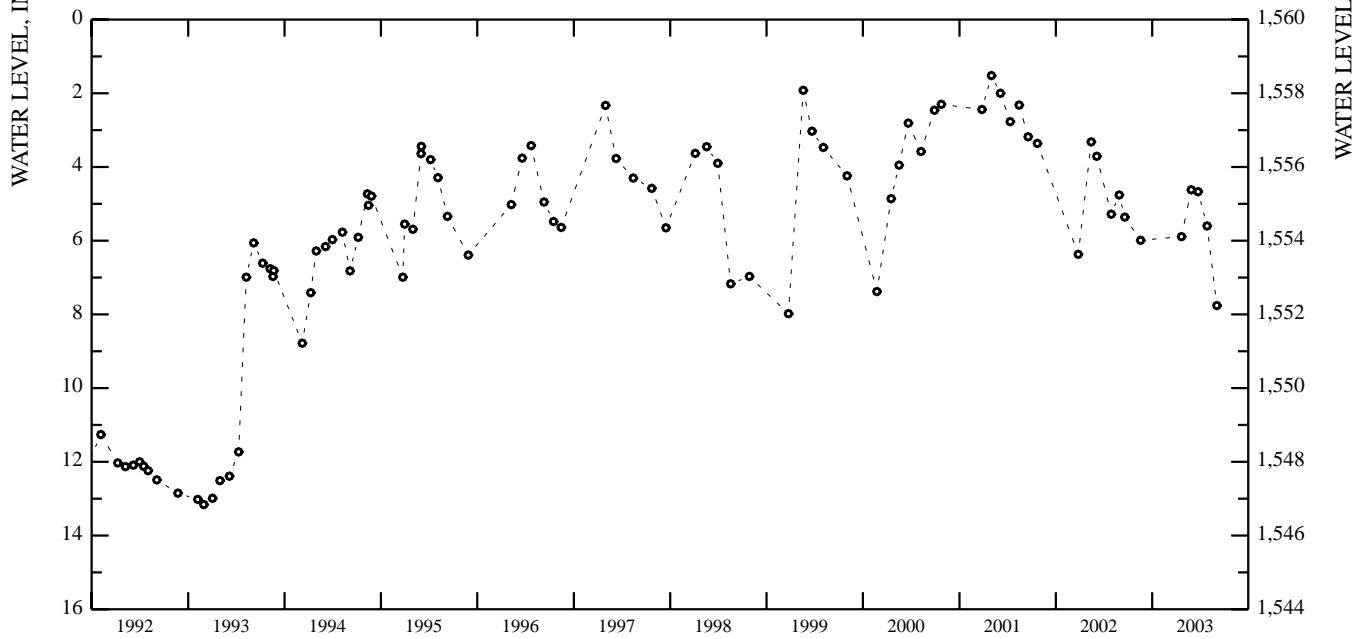
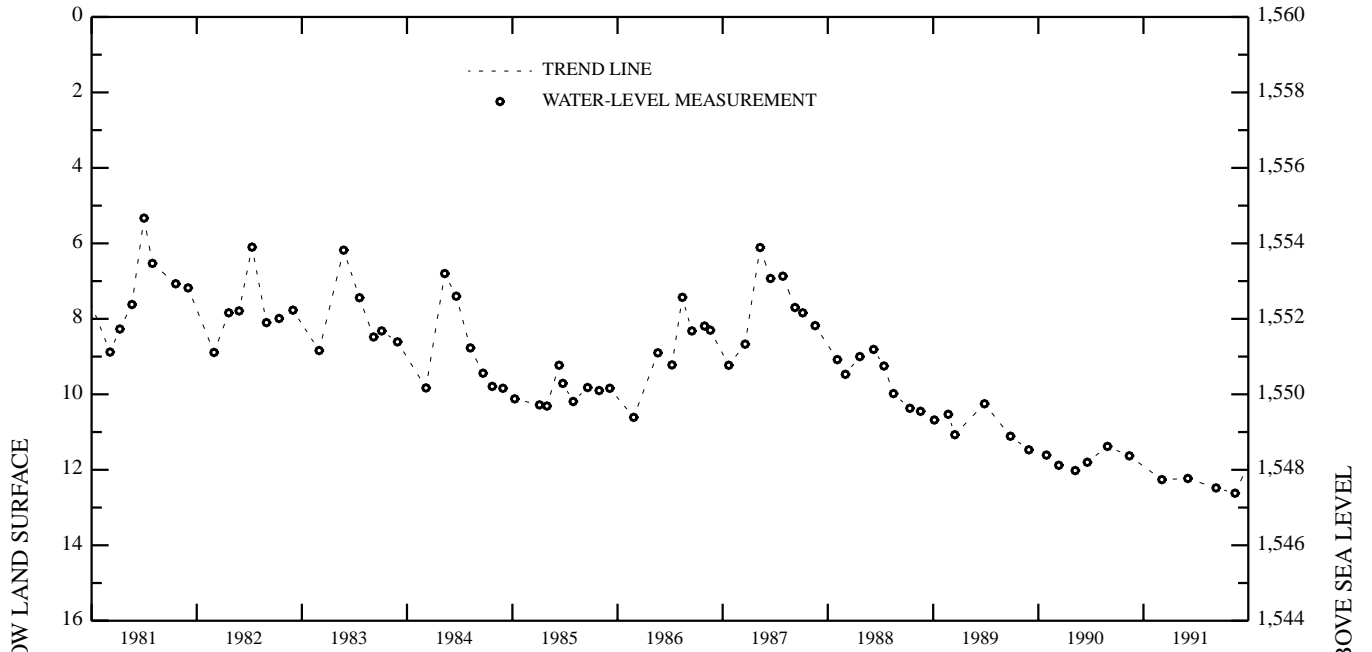




NETWORK SITES--Continued

BENSON COUNTY--Continued

151-069-03CCC--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 BENSON COUNTY--Continued

480958099154801. Local number, 154-067-15BBB.

LOCATION.--Lat 48°09'58", long 99°15'48", Hydrologic Unit 09020201. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 180 ft, cased with 147 ft of 1.25-in diameter plastic pipe, screen set 147 to 153 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

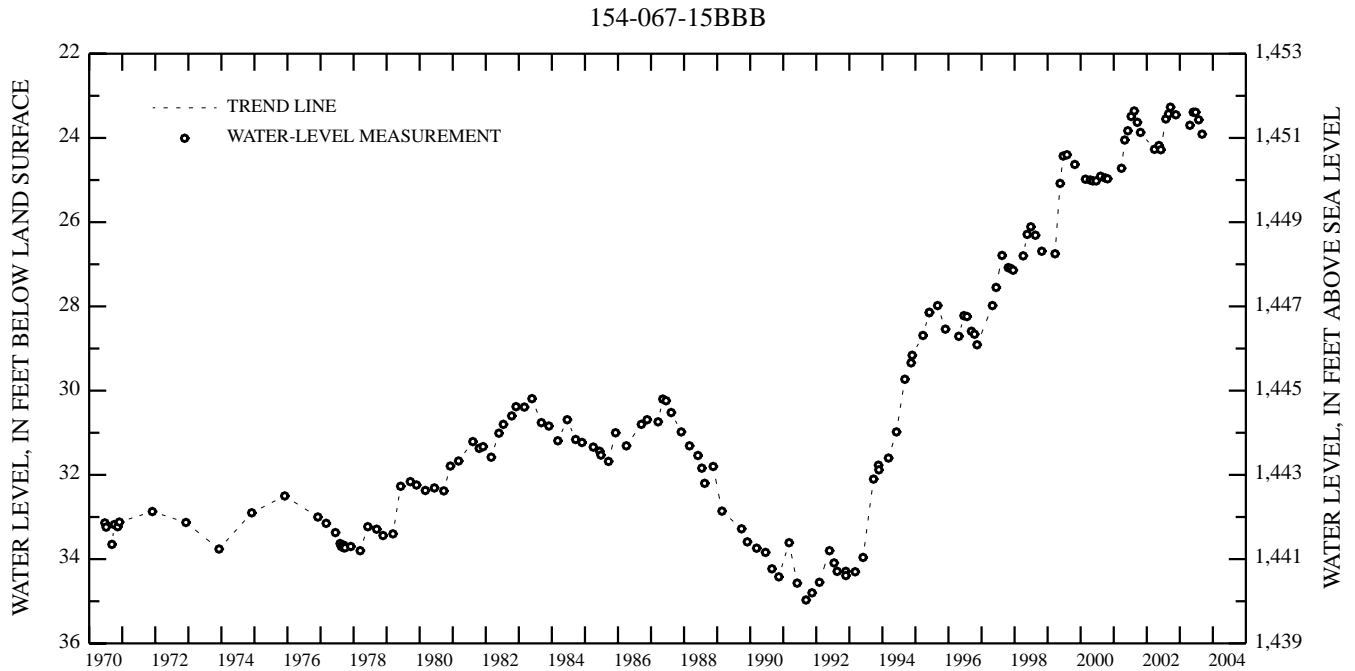
DATUM.--Altitude of land-surface datum is 1,475 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.27 ft below land-surface datum, September 19, 2002; lowest water level, 34.97 ft below land-surface datum, September 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	23.45	APR 22	23.70	MAY 29	23.39	JUN 24	23.39	JUL 28	23.57	SEP 04	23.91
WATER YEAR 2003		HIGHEST	23.39	MAY 29, 2003		JUN 24, 2003	LOWEST	23.91		SEP 04, 2003	



NETWORK SITES--Continued

BENSON COUNTY--Continued

481041099442701. Local number, 154-071-11AAD1.

LOCATION.--Lat 48°10'41", long 99°44'27", Hydrologic Unit 09020202. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 100 ft, cased with 42 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 42 to 45 ft below land-surface datum.

INSTRUMENTATION.--Measured quarterly using an electric tape.

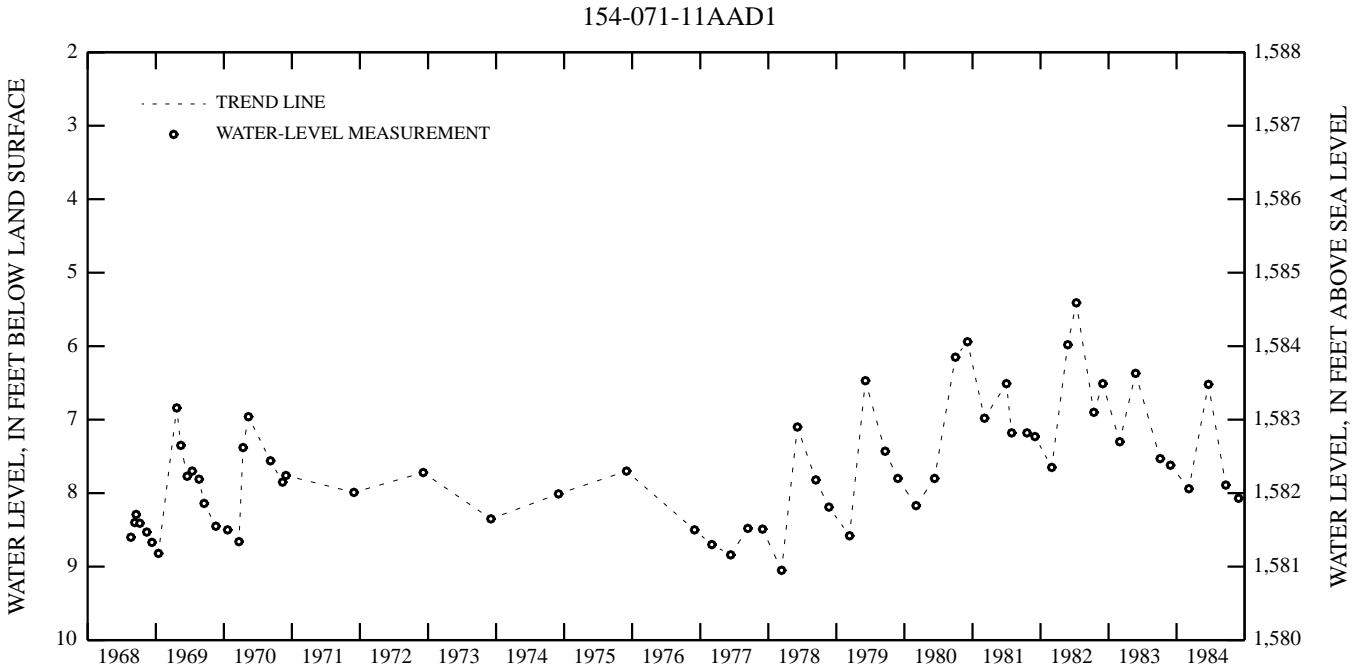
DATUM.--Altitude of land-surface datum is 1,590 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.25 ft below land-surface datum, May 20, 1999; lowest water level, 9.27 ft below land-surface datum, June 8, 1988.

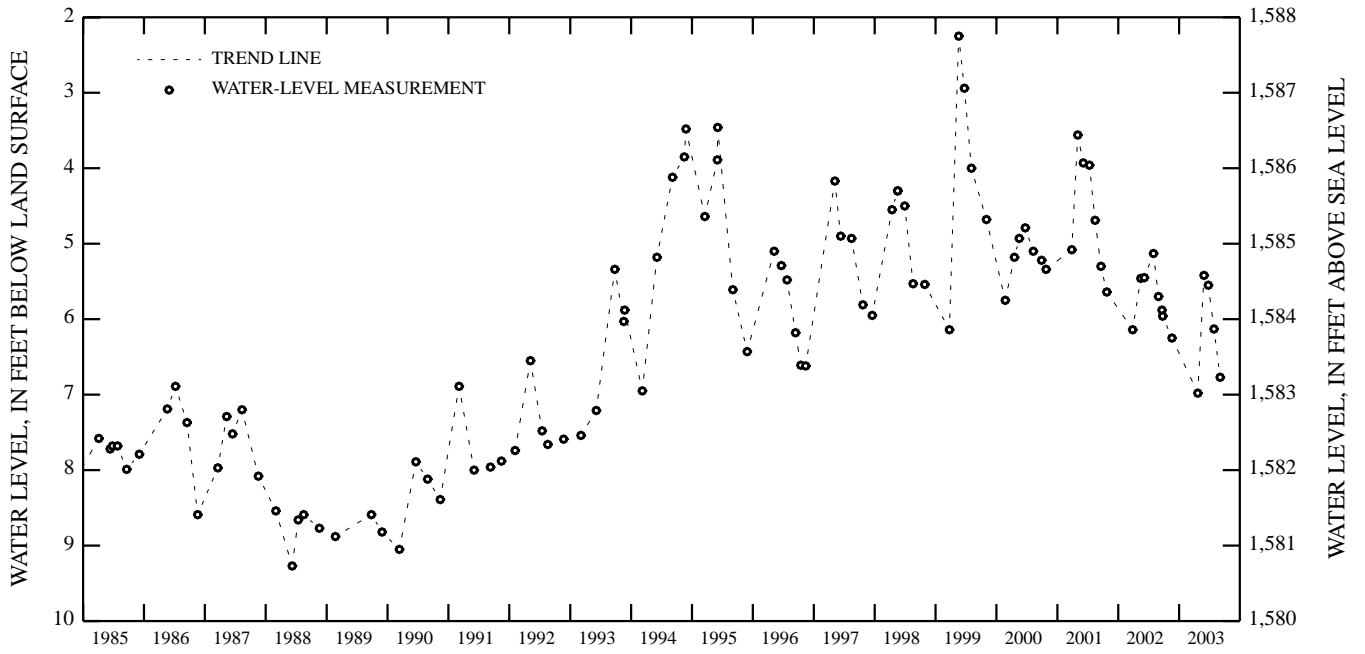
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	6.25	APR 23	6.98	MAY 30	5.42	JUN 25	5.55	JUL 29	6.13	SEP 04	6.77
WATER YEAR 2003		HIGHSEST	5.42	MAY 30, 2003		LOWEST	6.98	APR 23, 2003			



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
BENSON COUNTY--Continued

154-071-11AAD1--Continued



## GROUND-WATER LEVELS

23

## NETWORK SITES--Continued

## BENSON COUNTY--Continued

482212099475801. Local number, 156-071-04BBA.

LOCATION.--Lat 48°22'12", long 99°47'58", Hydrologic Unit 09010004. Owner: North Dakota State Water Commission.

AQUIFER.--Pleasant Lake.

WELL CHARACTERISTICS.--Drilled observation well, depth 140 ft, cased with 58 ft of 4-in diameter plastic pipe, slotted 18 to 58 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder September 1968 to current year. Only intermittent low and EOM water levels obtained from strip chart recorders are available from the District office for September 1968 to January 1975. From January 1975 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,604 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1968 to current year.

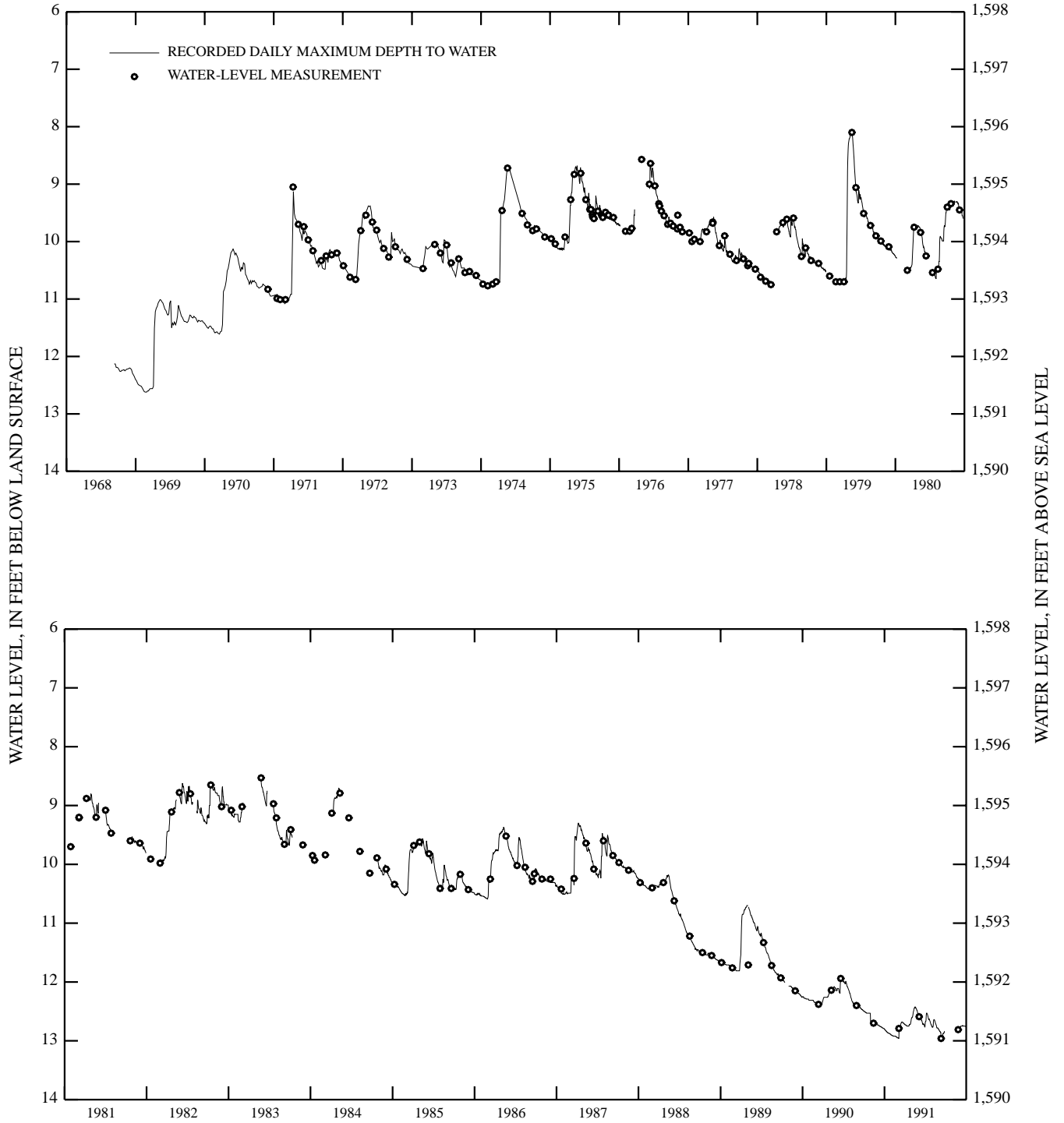
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.84 ft below land-surface datum, May 19, 1999; lowest water level, 13.39 ft below land-surface datum, March 9, 1993.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

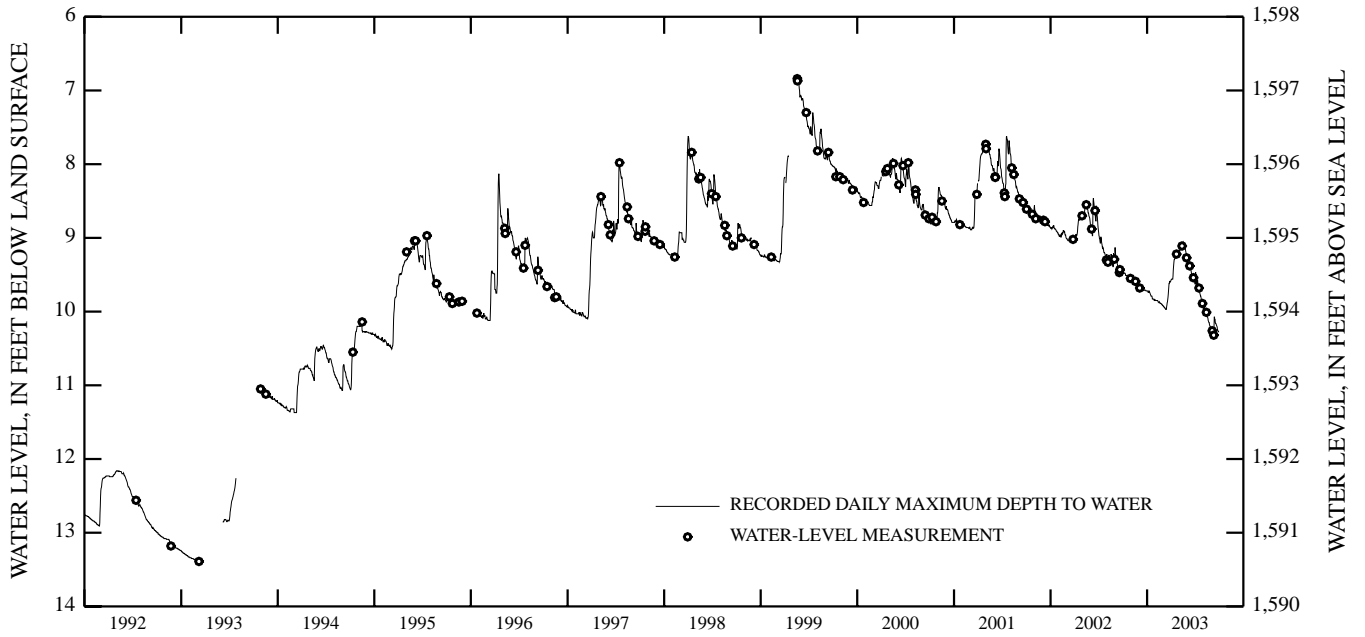
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.48	9.56	9.63	9.72	9.84	9.92	9.58	9.17	9.28	9.61	9.94	10.22
2	9.48	9.56	9.66	9.72	9.85	9.92	9.57	9.17	9.31	9.63	9.96	10.25
3	9.48	9.57	9.66	9.72	9.85	9.92	9.56	9.17	9.31	9.47	9.98	10.27
4	9.48	9.57	9.69	9.72	9.85	9.93	9.56	9.17	9.33	9.47	9.99	10.28
5	9.48	9.56	9.69	9.74	9.85	9.93	9.56	9.17	9.35	9.53	9.98	10.29
6	9.48	9.56	9.69	9.74	9.85	9.94	9.56	9.17	9.36	9.57	9.91	10.29
7	9.48	9.56	9.69	9.73	9.85	9.94	9.56	9.15	9.38	9.61	9.95	10.30
8	9.48	9.54	9.70	9.72	9.85	9.95	9.56	9.15	9.39	9.64	9.98	10.32
9	9.48	9.55	9.70	9.72	9.85	9.95	9.52	9.11	9.39	9.64	9.99	10.33
10	9.48	9.56	9.70	9.74	9.85	9.95	9.44	9.09	9.39	9.57	9.99	10.33
11	9.49	9.57	9.70	9.74	9.86	9.96	9.39	9.08	9.39	9.57	9.99	10.22
12	9.51	9.58	9.71	9.75	9.87	9.97	9.35	9.08	9.34	9.61	10.01	10.07
13	9.51	9.58	9.71	9.76	9.87	9.97	9.31	9.10	9.33	9.64	10.03	10.08
14	9.51	9.59	9.71	9.77	9.87	9.97	9.29	9.11	9.38	9.66	10.03	10.11
15	9.51	9.59	9.71	9.78	9.88	9.97	9.29	9.13	9.40	9.68	10.04	10.11
16	9.51	9.59	9.71	9.79	9.88	9.93	9.28	9.13	9.44	9.71	10.06	10.15
17	9.51	9.59	9.71	9.79	9.87	9.91	9.28	9.09	9.46	9.72	10.07	10.16
18	9.51	9.59	9.71	9.79	9.88	9.88	9.27	9.08	9.49	9.73	10.08	10.16
19	9.52	9.59	9.71	9.79	9.88	9.87	9.27	9.06	9.51	9.74	10.09	10.17
20	9.52	9.60	9.70	9.80	9.89	9.84	9.25	9.07	9.53	9.76	10.12	10.18
21	9.52	9.60	9.71	9.83	9.89	9.81	9.24	9.08	9.53	9.77	10.13	10.19
22	9.53	9.60	9.71	9.83	9.89	9.77	9.23	9.11	9.53	9.79	10.14	10.20
23	9.53	9.60	9.71	9.83	9.89	9.72	9.21	9.11	9.54	9.79	10.15	10.21
24	9.53	9.62	9.71	9.83	9.90	9.67	9.19	9.11	9.56	9.81	10.15	10.25
25	9.53	9.62	9.71	9.83	9.90	9.62	9.18	9.13	9.56	9.83	10.18	10.25
26	9.53	9.62	9.71	9.83	9.90	9.62	9.18	9.16	9.54	9.85	10.19	10.26
27	9.53	9.62	9.71	9.83	9.91	9.59	9.17	9.18	9.54	9.87	10.20	10.27
28	9.54	9.62	9.72	9.85	9.91	9.59	9.17	9.20	9.56	9.88	10.20	10.27
29	9.54	9.63	9.72	9.85	---	9.60	9.17	9.21	9.59	9.90	10.22	10.28
30	9.56	9.63	9.72	9.84	---	9.60	9.17	9.26	9.59	9.91	10.22	---
31	9.56	---	9.72	9.84	---	9.59	---	9.27	---	9.92	10.22	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
BENSON COUNTY--Continued

156-071-04BBA



156-071-04BBA--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 BOTTINEAU COUNTY

483333101135402. Local number, 159-082-35BBB2.

LOCATION.--Lat 48°33'33", long 101°13'54", Hydrologic Unit 09010005. Owner: North Dakota State Water Commission.

AQUIFER.--Glenburn.

WELL CHARACTERISTICS.--Drilled observation well, depth 181 ft, cased with 178 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 178 to 181 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,560 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

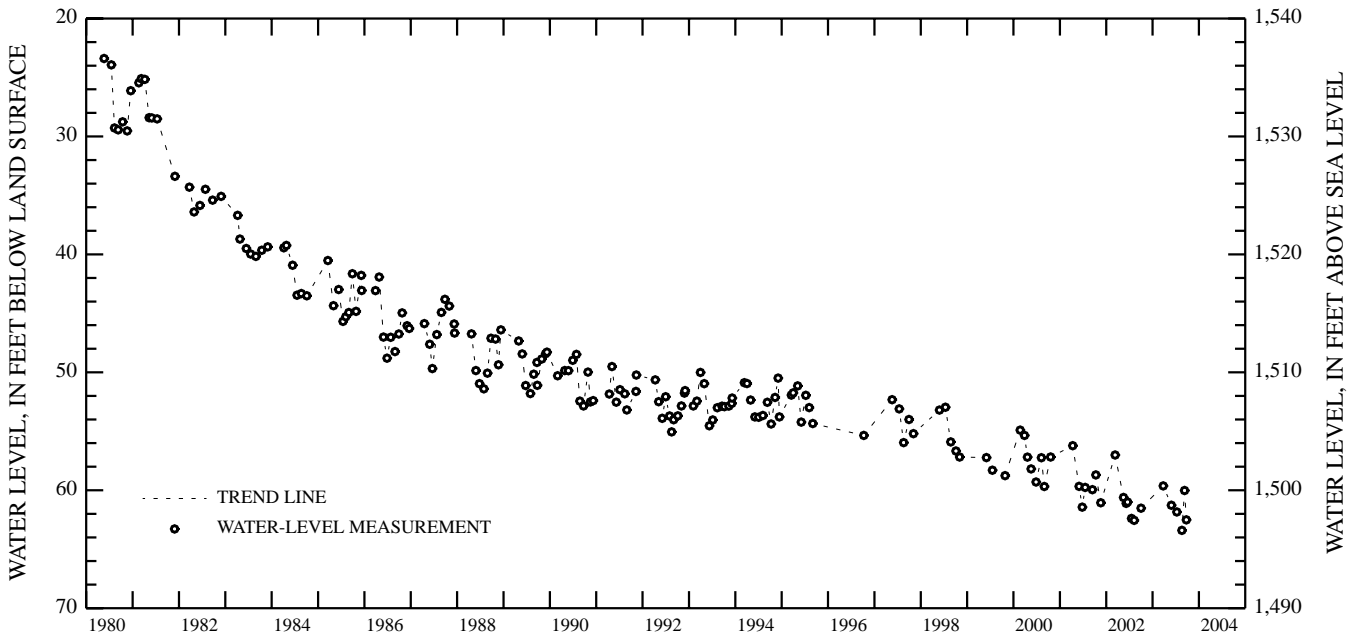
PERIOD OF RECORD.--May 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.39 ft below land-surface datum, May 21, 1980; lowest water level, 63.40 ft below land-surface datum, August 20, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	61.52	MAY 29	61.27	JUL 11	61.84	AUG 20	63.40	SEP 10	60.02	SEP 24	62.51
MAR 26	59.63										
WATER YEAR 2003		HIGHEST	59.63	MAR 26, 2003	LOWEST	63.40	AUG 20, 2003				

159-082-35BBB2





NETWORK SITES--Continued

BOWMAN COUNTY

461039103282801. Local number, 131-102-07DDD1.

LOCATION.--Lat 46°10'39", long 103°28'28", Hydrologic Unit 10130301. Owner: North Dakota State Water Commission.

AQUIFER.--Hell Creek-Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 963 ft, cased with 951 ft of 2-in diameter steel pipe.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,945 ft. Measuring point: Top of casing 3.20 ft above land-surface datum.

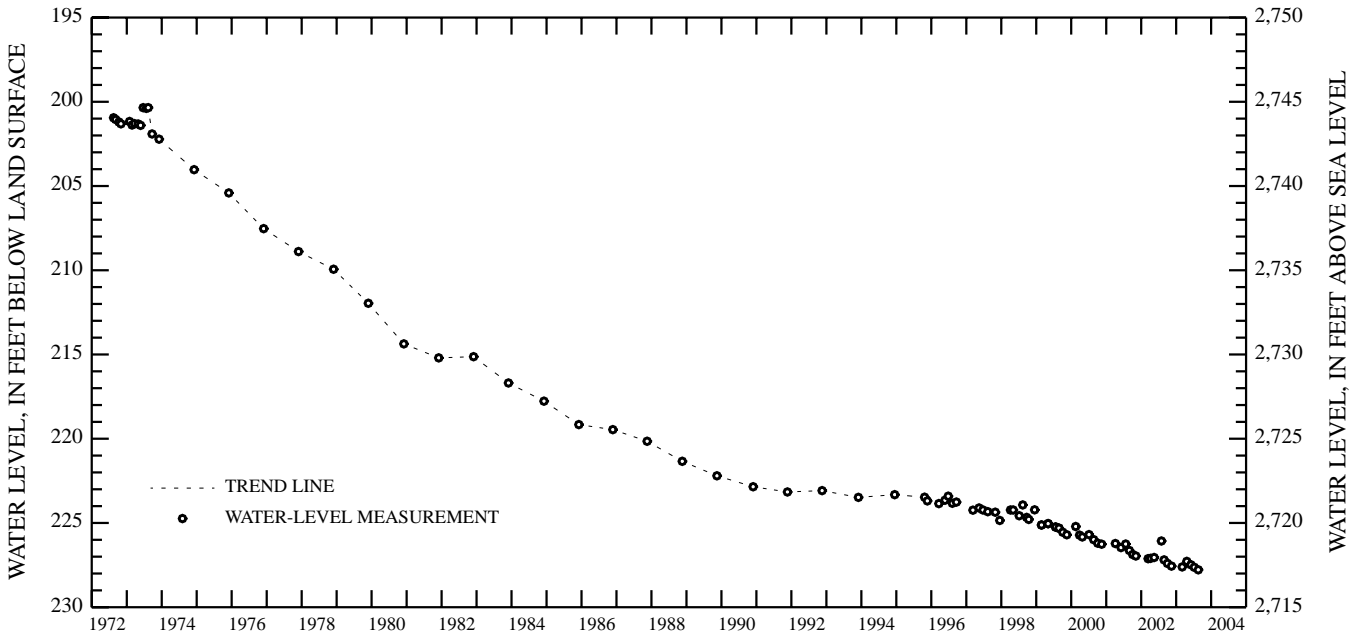
PERIOD OF RECORD.--August 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 200.35 ft below land-surface datum, June 21, 1973, and August 13, 1973; lowest water level, 227.78 ft below land-surface datum, August 20, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	227.40	MAR 05	227.61	APR 22	227.28	JUN 04	227.48	JUL 09	227.63	AUG 20	227.78
NOV 13	227.56										
WATER YEAR 2003		HIGHEST 227.28		APR 22, 2003		LOWEST 227.78		AUG 20, 2003			

131-102-07DDD1



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 BOWMAN COUNTY--Continued

461039103282803. Local number, 131-102-07DDD3.

LOCATION.--Lat 46°10'39", long 103°28'28", Hydrologic Unit 10130301. Owner: North Dakota State Water Commission.

AQUIFER.--Tongue River-Ludlow.

WELL CHARACTERISTICS.--Drilled observation well, depth 138 ft, cased with 132 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 132 to 138 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

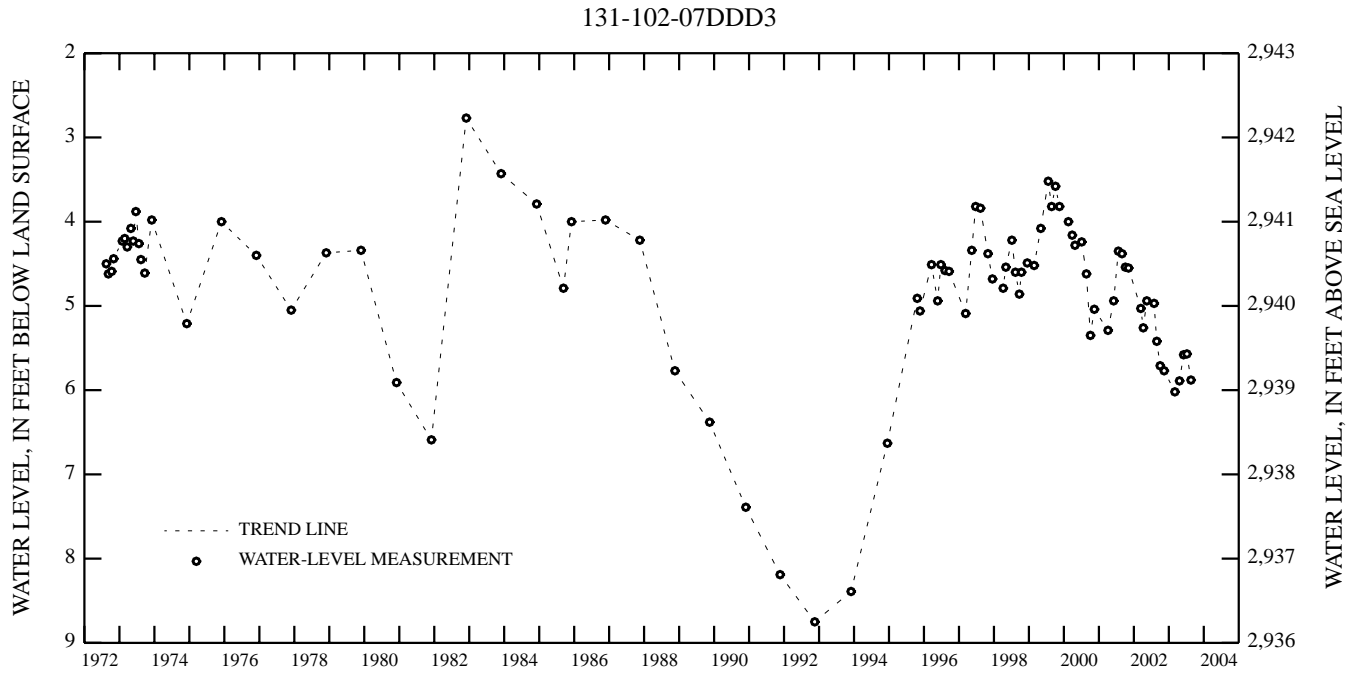
DATUM.--Altitude of land-surface datum is 2,945 ft. Measuring point: Top of casing 2.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.77 ft below land-surface datum, December 1, 1982; lowest water level, 8.75 ft below land-surface datum, November 17, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	5.71	MAR 05	6.02	APR 22	5.89	JUN 04	5.58	JUL 09	5.57	AUG 20	5.88
NOV 13	5.77										
WATER YEAR 2003		HIGHEST	5.57	JUL 09, 2003	LOWEST	6.02	MAR 05, 2003				



NETWORK SITES--Continued

BURKE COUNTY

485618102455401. Local number, 163-093-17DDD.

LOCATION.--Lat 48°56'18", long 102°45'54", Hydrologic Unit 09010001. Owner: North Dakota State Water Commission.

AQUIFER.--Columbus.

WELL CHARACTERISTICS.--Drilled observation well, depth 80 ft, cased with 76 ft of 1.25-in diameter plastic pipe, slotted 56 to 76 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

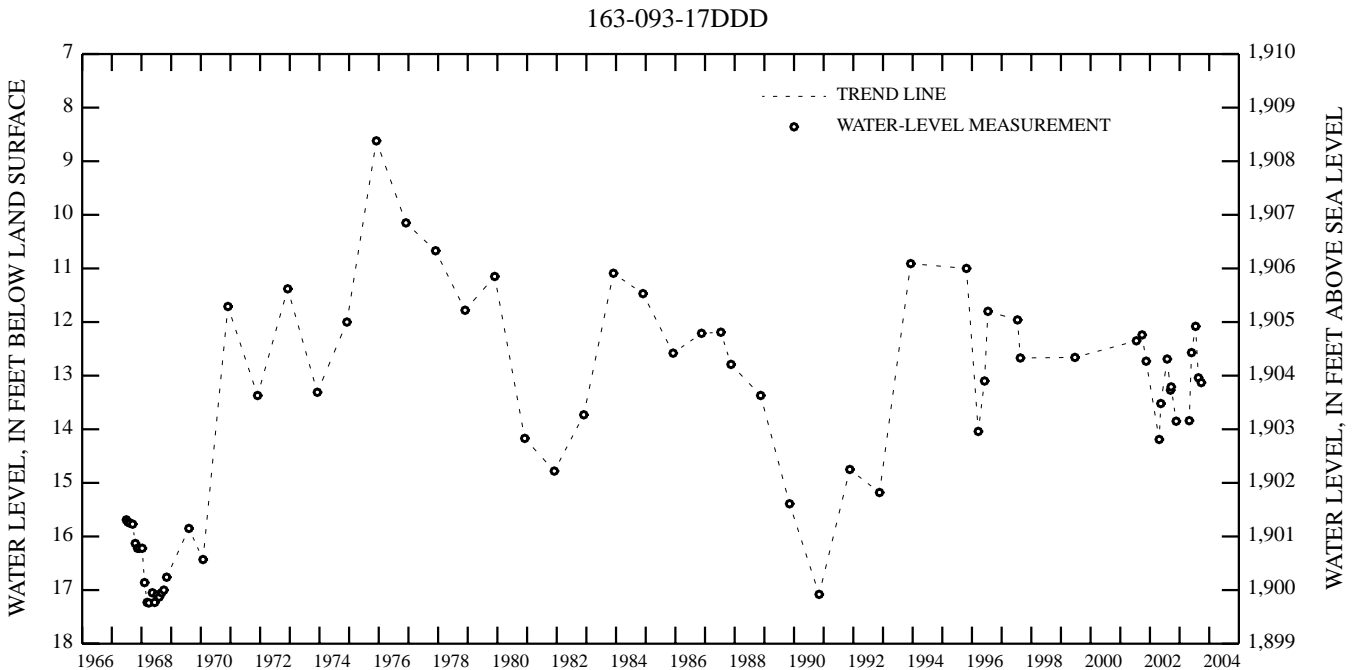
DATUM.--Altitude of land-surface datum is 1,917 ft. Measuring point: Top of casing 1.80 ft above land-surface datum.

PERIOD OF RECORD.--June 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.62 ft below land-surface datum, December 3, 1975; lowest water level, 17.24 ft below land-surface datum, April 1, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	13.85	APR 30	13.84	MAY 28	12.57	JUL 17	12.08	AUG 21	13.04	SEP 25	13.13
WATER YEAR 2003		HIGHEST	12.08	JUL 17, 2003		LOWEST	13.85	NOV 20, 2002			



## GROUND-WATER LEVELS

## NETWORK SITES--Continued

## BURLEIGH COUNTY

464540100222101. Local number, 138-077-22AAD.

LOCATION.--Lat 46°45'40", long 100°22'21", Hydrologic Unit 10130103. Owner: North Dakota State Water Commission.

AQUIFER.--McKenzie.

WELL CHARACTERISTICS.--Drilled observation well, depth 126 ft, cased with 116 ft of 4.5-in diameter steel pipe, slotted 86 to 116 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder September 1961 to current year. Only intermittent low and EOM water levels obtained from strip chart recorders are available from the District office for September 1961 to October 1973. From October 1973 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,720 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

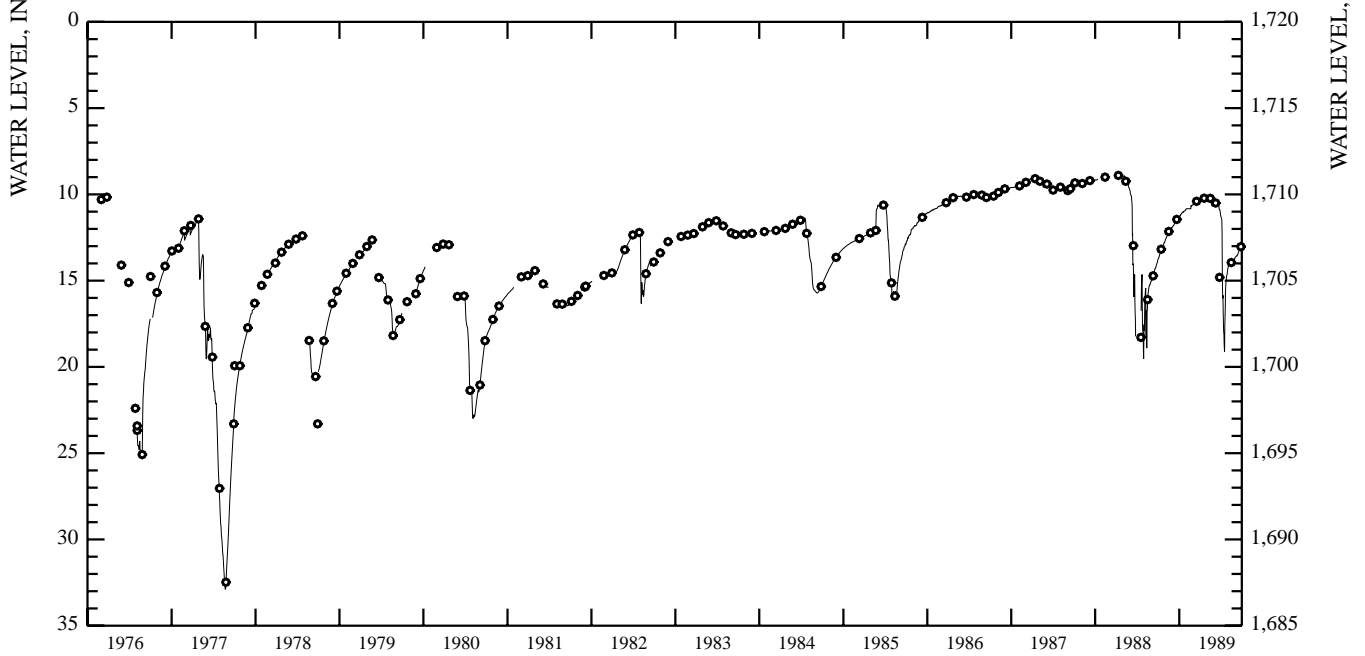
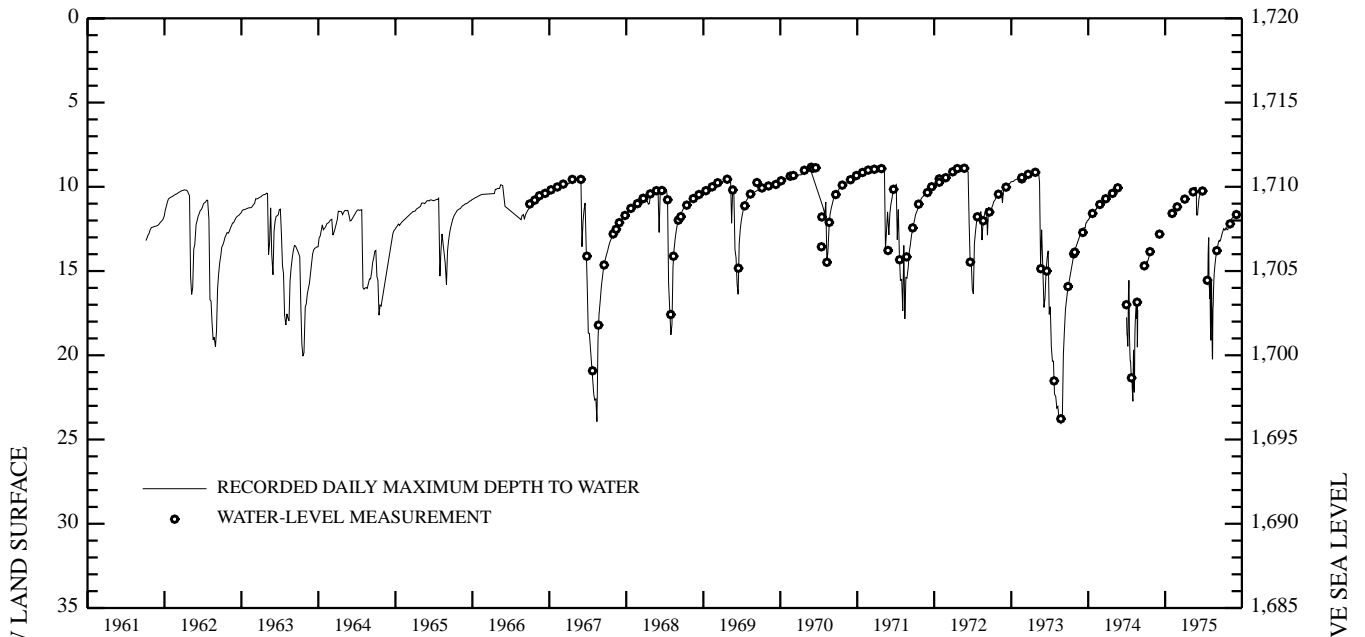
PERIOD OF RECORD.--October 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.87 ft below land-surface datum, June 15, 16, 18, and 19, 2001; lowest water level, 32.88 ft below land-surface datum, August 22-23, 1977.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

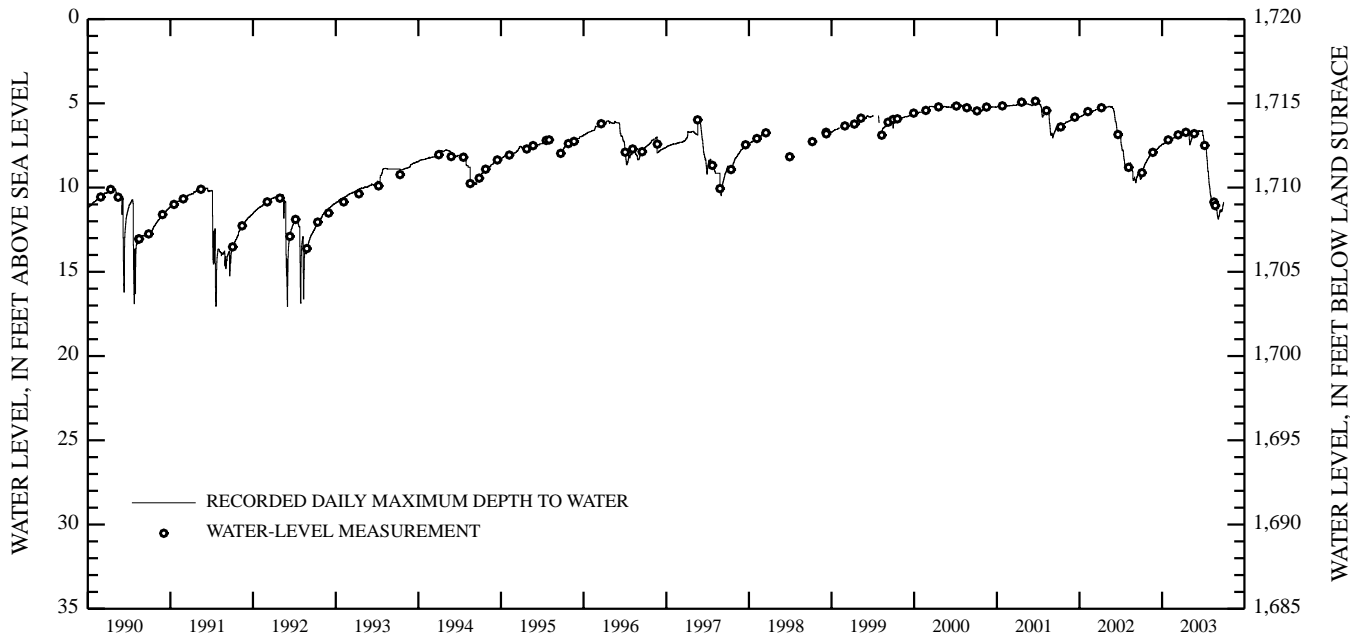
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.45	8.27	7.82	7.44	7.17	7.01	6.82	7.15	6.77	6.92	10.27	11.51
2	9.41	8.24	7.81	7.44	7.17	7.01	6.82	7.29	6.77	6.90	10.39	11.64
3	9.32	8.21	7.81	7.44	7.17	7.00	6.82	7.46	6.76	7.08	10.44	11.69
4	9.23	8.19	7.81	7.42	7.17	6.96	6.82	7.46	6.71	7.17	10.50	11.75
5	9.17	8.15	7.81	7.41	7.17	6.96	6.82	7.35	6.70	7.38	10.56	11.81
6	9.12	8.14	7.79	7.42	7.17	6.94	6.82	7.34	6.70	7.51	10.67	11.87
7	9.04	8.12	7.74	7.42	7.17	6.94	6.82	7.30	6.68	7.55	10.81	11.85
8	8.99	8.09	7.74	7.40	7.13	6.94	6.82	7.26	6.68	7.55	10.93	11.73
9	8.95	8.05	7.74	7.37	7.13	6.95	6.82	7.21	6.68	7.49	10.95	11.72
10	8.89	8.02	7.73	7.37	7.12	6.95	6.82	7.13	6.66	7.42	10.95	11.66
11	8.84	8.03	7.71	7.37	7.10	6.94	6.82	7.11	6.66	7.35	10.94	11.61
12	8.79	8.03	7.68	7.37	7.09	6.94	6.81	7.11	6.62	7.48	10.93	11.51
13	8.78	8.03	7.68	7.35	7.09	6.93	6.79	7.11	6.63	7.54	10.93	11.42
14	8.72	8.01	7.67	7.36	7.09	6.91	6.78	7.00	6.65	7.58	10.89	11.34
15	8.68	8.01	7.66	7.36	7.09	6.90	6.77	6.98	6.65	7.74	10.83	11.35
16	8.67	8.01	7.63	7.36	7.09	6.89	6.76	6.98	6.65	7.94	10.92	11.38
17	8.63	8.00	7.62	7.35	7.07	6.88	6.76	6.96	6.66	8.14	10.91	11.45
18	8.57	7.95	7.60	7.31	7.05	6.88	6.75	6.92	6.66	8.25	---	11.42
19	8.55	7.94	7.57	7.31	7.05	6.88	6.74	6.87	6.66	8.39	---	11.32
20	8.55	7.94	7.54	7.30	7.05	6.88	6.71	6.88	6.66	8.60	10.80	11.40
21	8.52	7.93	7.54	7.30	7.05	6.88	6.71	6.87	6.66	8.83	10.76	11.40
22	8.50	7.93	7.54	7.30	7.05	6.87	6.71	6.86	6.65	9.01	10.76	11.40
23	8.49	7.90	7.54	7.30	7.04	6.86	6.71	6.85	6.65	9.06	10.75	11.40
24	8.46	7.90	7.54	7.30	7.04	6.84	6.70	6.83	6.65	9.06	10.86	11.30
25	8.42	7.90	7.53	7.29	7.04	6.85	6.70	6.82	6.62	9.33	10.99	11.24
26	8.38	7.90	7.53	7.28	7.03	6.85	6.70	6.82	6.62	9.46	11.01	11.11
27	8.36	7.90	7.51	7.24	7.02	6.84	6.69	6.81	6.62	9.68	11.01	11.05
28	8.34	7.88	7.49	7.22	7.02	6.85	6.71	6.81	6.63	9.81	11.00	11.01
29	8.30	7.82	7.49	7.22	---	6.85	6.71	6.81	6.69	9.89	11.23	10.93
30	8.30	7.82	7.44	7.22	---	6.85	6.88	6.77	6.92	9.96	11.36	10.88
31	8.30	---	7.43	7.19	---	6.84	---	6.77	---	10.07	11.36	---

138-077-22AAD



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
BURLEIGH COUNTY--Continued

138-077-22AAD--Continued



NETWORK SITES--Continued

BURLEIGH COUNTY--Continued

470556100142501. Local number, 142-075-19CCB.

LOCATION.--Lat 47°05'56", long 100°14'25", Hydrologic Unit 10130103. Owner: North Dakota State Water Commission.

AQUIFER.--Wing Channel.

WELL CHARACTERISTICS.--Drilled observation well, depth 210 ft, cased with 197 ft of 1.25-in diameter plastic pipe, slotted 190 to 197 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,884.25 ft. Measuring point: Top of casing 2.40 ft above land-surface datum.

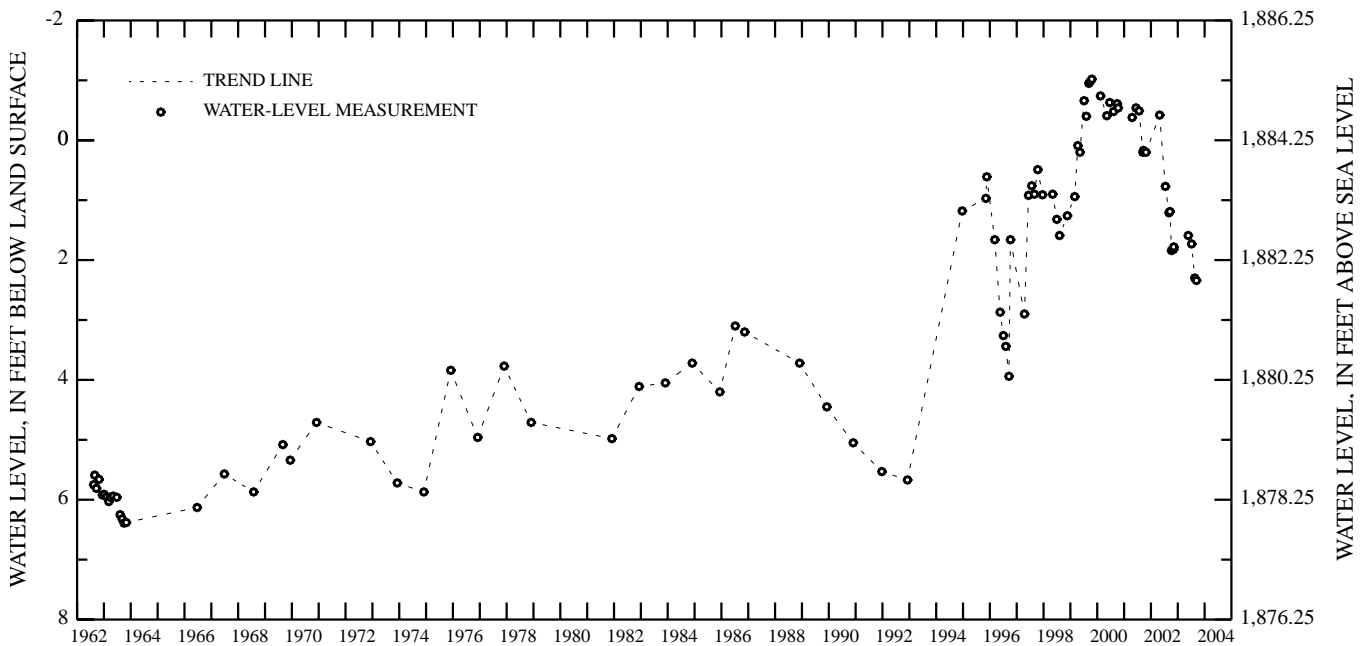
PERIOD OF RECORD.--August 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, -1.02 ft below land-surface datum, October 20, 1999; lowest water level, 6.39 ft below land-surface datum, October 2, 1963.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07	1.84	NOV 07	1.78	MAY 23	1.59	JUL 08	1.73	AUG 20	2.30	SEP 12	2.34
NOV 05	1.82										
WATER YEAR 2003		HIGHEST	1.59	MAY 23, 2003		LOWEST	2.34	SEP 12, 2003			

142-075-19CCB



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 CASS COUNTY

465312096543301. Local number, 139-049-06ADB.

LOCATION.--Lat 46°53'12", long 96°54'33", Hydrologic Unit 09020204. Owner: North Dakota State Water Commission.

AQUIFER.--West Fargo.

WELL CHARACTERISTICS.--Drilled observation well, depth 230 ft, cased with 220 ft of 8-in diameter steel pipe, screen set 220 to 230 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder January 1938 to April 2002. Measured using a steel tape April 2002 to present. Only intermittent low and EOM water levels obtained from strip chart recorders are available from the District office.

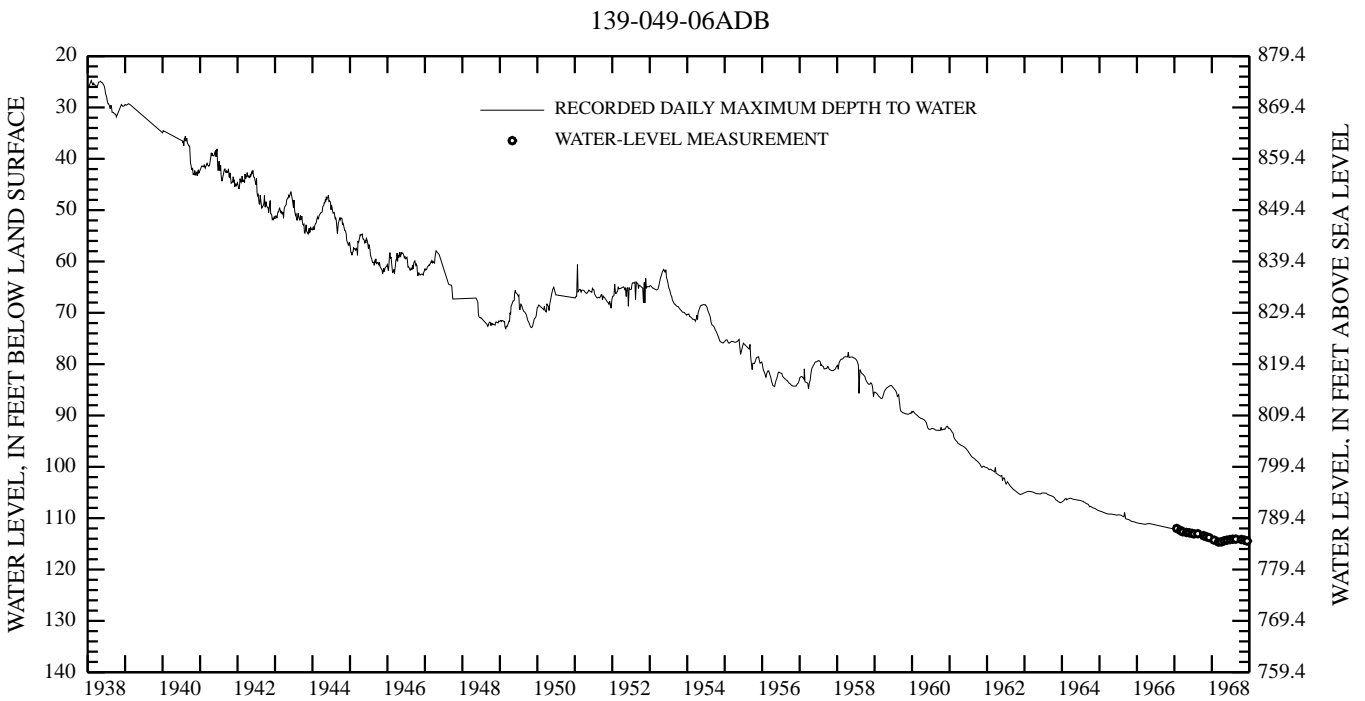
DATUM.--Altitude of land-surface datum is 899.4 ft. Measuring point: Top of casing 0.40 ft above land-surface datum.

PERIOD OF RECORD.--December 1937 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.77 ft below land-surface datum, February 5, 1938; lowest water level, 129.40 ft below land-surface datum, November 7-9, 1998.

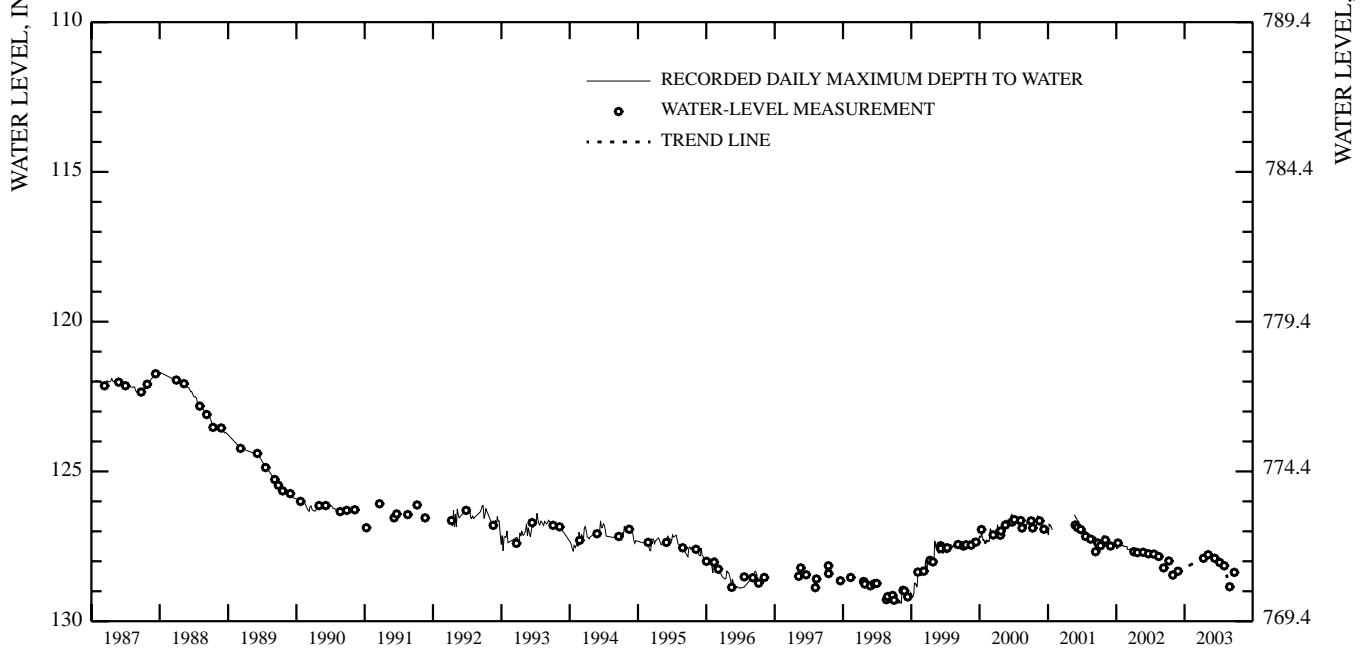
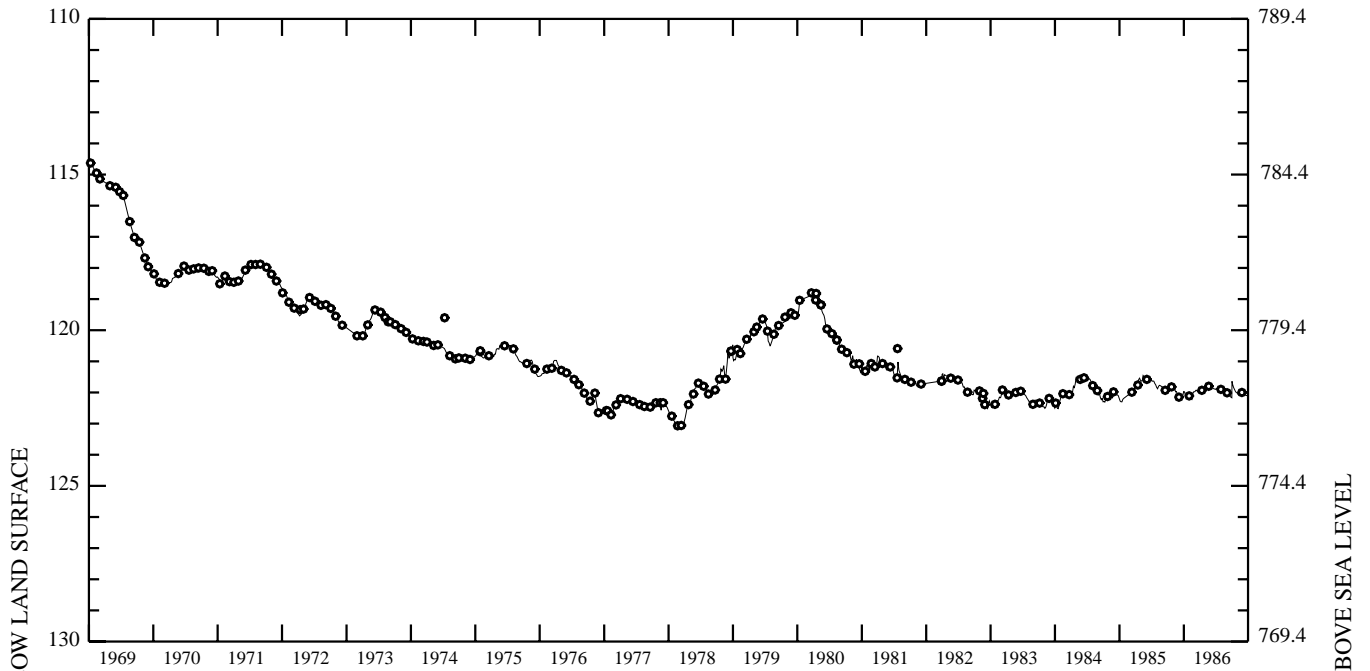
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	127.99	NOV 27	128.33	MAY 07	127.78	JUL 08	128.04	AUG 30	128.85	SEP 24	128.37
OCT 30	128.46	APR 12	127.90	JUN 11	127.90	AUG 01	128.15				
WATER YEAR 2003		HIGHEST 127.78		MAY 07, 2003		LOWEST 128.85		AUG 30, 2003			





139-049-06ADB--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 CASS COUNTY--Continued

470818097294104. Local number, 142-054-03DDD4.

LOCATION.--Lat 47°08'18", long 97°29'41", Hydrologic Unit 09020107. Owner: North Dakota State Water Commission.

AQUIFER.--Page.

WELL CHARACTERISTICS.--Drilled observation well, depth 182 ft, cased with 158 ft of 6-in diameter plastic pipe, No. 12 slot screen set 158 to 168 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder October 1982 to June 1986, daily maximum and minimum recorded water levels also are available. Measured using a steel tape August 1996 to current year.

DATUM.--Altitude of land-surface datum is 1,226.2 ft. Measuring point: Top of casing 1.20 ft above land-surface datum.

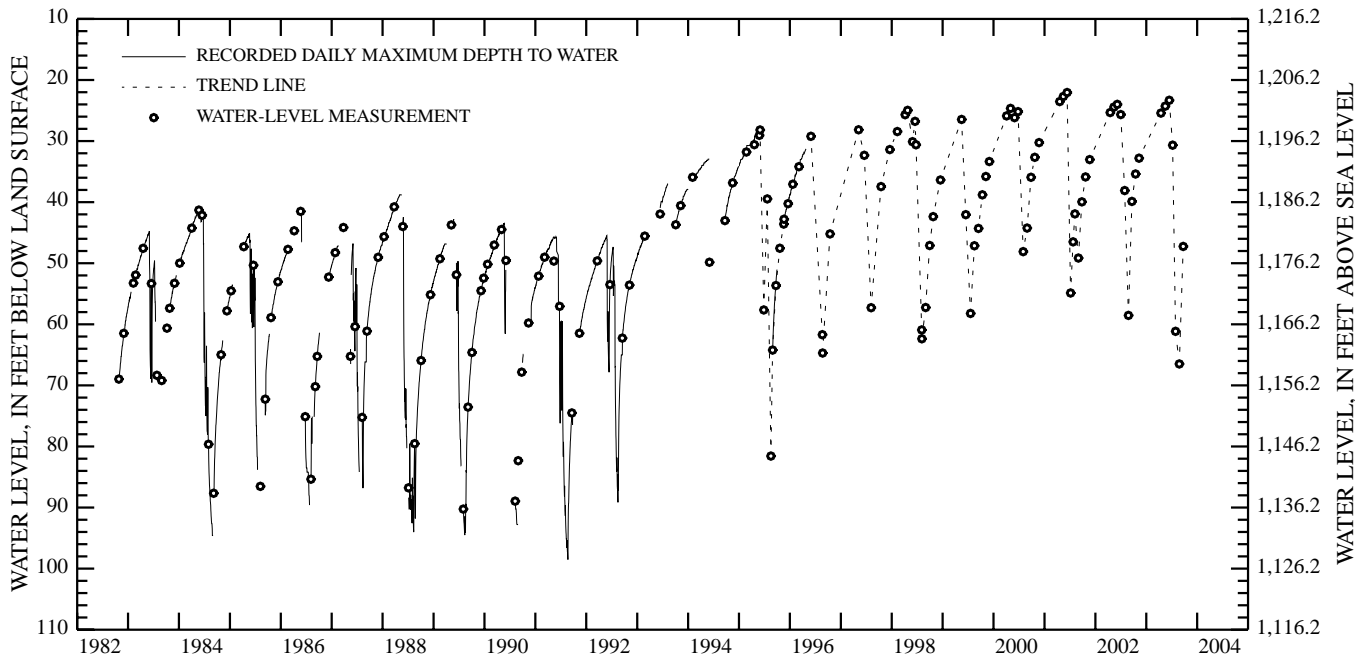
PERIOD OF RECORD.--October 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.05 ft below land-surface datum, June 12, 2001; lowest water level, 98.52 ft below land-surface datum, August 23, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	35.39	APR 16	25.42	JUN 15	23.32	JUL 30	61.15	AUG 26	66.49	SEP 23	47.25
NOV 10	32.80	MAY 17	24.28	JUL 09	30.67						
WATER YEAR 2003		HIGHEST	23.32	JUN 15, 2003		LOWEST	66.49	AUG 26, 2003			

142-054-03DDD4



## GROUND-WATER LEVELS

37

## NETWORK SITES--Continued

## CASS COUNTY--Continued

471326097332902. Local number, 143-054-08BBB2.

LOCATION.--Lat 47°13'26", long 97°33'29", Hydrologic Unit 09020107. Owner: North Dakota State Water Commission.

AQUIFER.--Page.

WELL CHARACTERISTICS.--Drilled observation well, depth 92 ft, cased with 81 ft of 5-in diameter plastic pipe, No. 15 slot screen set 81 to 86 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From September 1982 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,171.33 ft. Measuring point: Top of casing 1.95 ft above land-surface datum.

PERIOD OF RECORD.--September 1982 to current year.

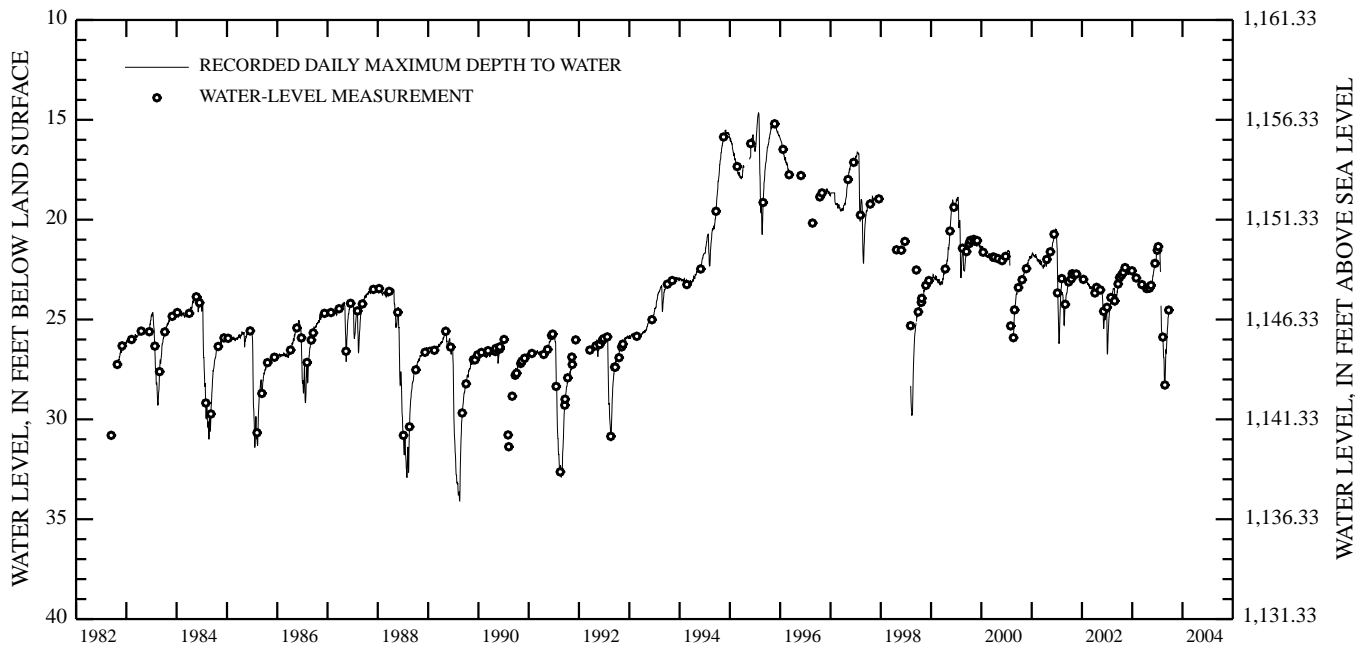
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.61 ft below land-surface datum, July 27-28, 1995; lowest water level, 34.08 ft below land-surface datum, August 18, 1989.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.92	22.69	22.60	22.71	22.93	23.24	23.43	23.60	22.81	21.67	25.42	26.91
2	22.97	22.66	22.67	22.72	22.94	23.27	23.45	23.62	22.81	21.61	25.56	26.62
3	22.97	22.62	22.74	22.72	22.97	23.27	23.45	23.62	22.74	21.52	25.59	26.49
4	22.92	22.59	22.75	22.71	22.97	23.22	23.49	23.60	22.69	21.50	25.69	26.67
5	22.85	22.59	22.75	22.79	22.98	23.25	23.51	23.45	22.63	21.48	25.77	26.68
6	22.85	22.54	22.70	22.81	22.98	23.23	23.55	23.43	22.58	21.47	25.90	26.61
7	22.83	22.54	22.64	22.81	22.98	23.27	23.57	23.46	22.53	21.43	25.94	26.42
8	22.83	22.47	22.71	22.79	22.98	23.34	23.63	23.48	22.49	21.44	25.94	26.25
9	22.84	22.44	22.71	---	22.98	23.36	23.63	23.47	22.46	21.44	25.94	26.11
10	22.83	22.43	22.66	---	22.98	23.36	23.55	23.38	22.38	21.34	25.85	25.96
11	22.78	22.51	22.60	---	22.98	23.36	23.55	23.41	22.33	21.32	25.92	25.76
12	22.79	22.56	22.57	---	23.02	23.35	23.57	23.45	22.27	21.31	26.02	25.69
13	22.82	22.57	22.59	---	23.05	23.37	23.57	23.46	22.26	21.31	26.18	25.54
14	22.82	22.58	22.58	---	23.10	23.37	23.50	23.44	22.28	21.24	26.32	25.43
15	22.77	22.63	22.60	---	23.18	23.34	23.49	23.41	22.28	21.21	26.49	25.39
16	22.77	22.63	22.62	---	23.18	23.30	23.51	23.41	22.26	21.21	26.79	25.29
17	22.76	22.63	22.60	---	23.16	23.32	23.51	23.39	22.24	21.23	26.90	25.16
18	22.66	22.57	22.55	---	23.06	23.37	23.53	23.34	22.22	21.23	26.91	24.91
19	22.66	22.55	22.50	---	23.06	23.40	23.53	23.29	22.22	21.23	26.91	24.89
20	22.68	22.57	22.50	---	23.07	23.40	23.53	23.33	22.21	21.20	27.01	24.88
21	22.73	22.62	22.53	---	23.12	23.40	23.55	23.33	22.21	21.44	27.36	24.80
22	22.82	22.62	22.59	---	23.16	23.40	23.57	23.29	22.20	21.87	27.83	24.72
23	22.84	22.60	22.66	---	23.21	23.40	23.57	23.25	22.20	22.07	28.09	24.66
24	22.84	22.67	22.67	---	23.25	23.36	23.55	23.19	22.19	22.43	28.32	24.56
25	22.80	22.69	22.67	---	23.25	23.42	23.55	23.15	21.76	22.62	28.43	24.54
26	22.71	22.73	22.67	---	23.25	23.44	23.55	23.12	21.76	---	28.43	24.49
27	22.70	22.73	22.67	---	23.21	23.44	23.52	23.09	21.75	---	28.33	24.40
28	22.68	22.68	22.67	---	23.21	23.49	23.56	23.02	21.69	---	28.07	24.42
29	22.67	22.55	22.65	---	---	23.53	23.60	22.98	21.67	24.31	27.70	24.42
30	22.69	22.60	22.59	22.92	---	23.53	23.60	22.83	21.67	24.62	27.46	24.42
31	22.69	---	22.67	22.93	---	23.53	---	22.81	---	24.95	27.19	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
CASS COUNTY--Continued

143-054-08BBB2



NETWORK SITES--Continued

CAVALIER COUNTY

484534098254401. Local number, 161-060-21BBB.

LOCATION.--Lat 48°45'34", long 98°25'44", Hydrologic Unit 09020313. Owner: North Dakota State Water Commission.

AQUIFER.--Pierre Shale.

WELL CHARACTERISTICS.--Drilled observation well, depth 40 ft, cased with 10 ft of 4-in diameter steel pipe, open ended.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,603 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

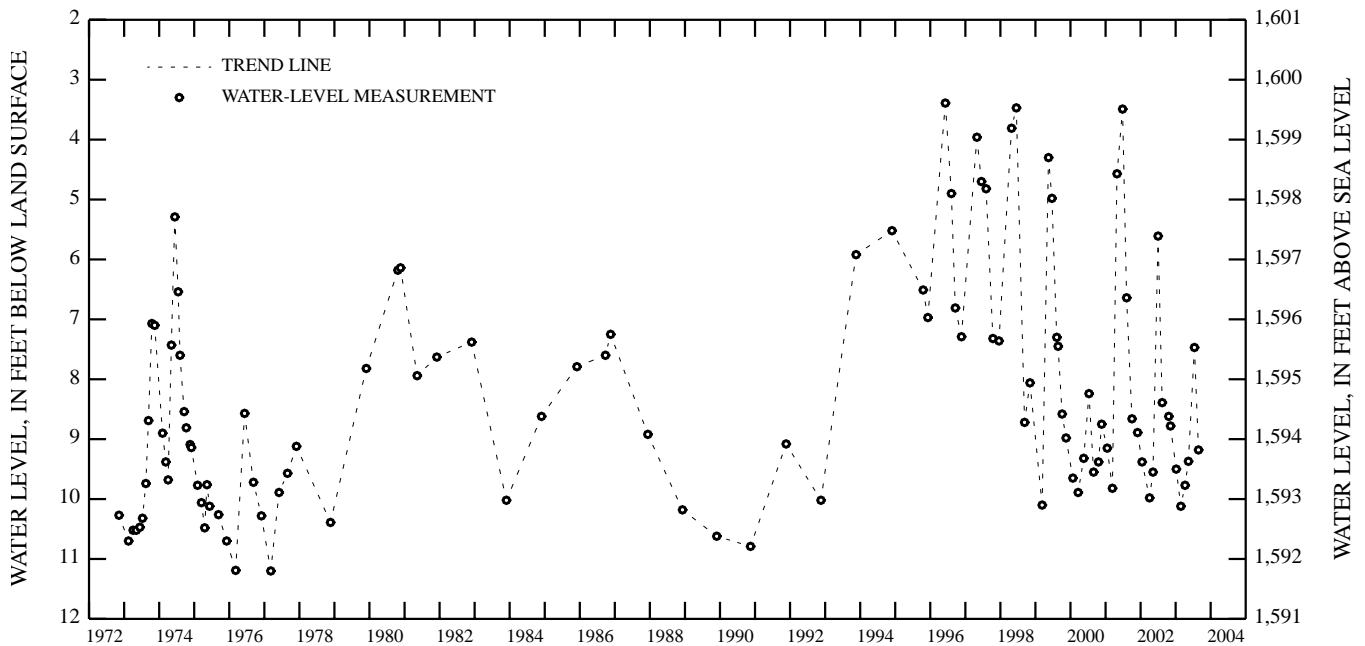
PERIOD OF RECORD.--November 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.39 ft below land-surface datum, June 6, 1996; lowest water level, 11.20 ft below land-surface datum, March 9, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	8.62	JAN 07	9.50	APR 09	9.77	MAY 14	9.37	JUL 16	7.47	AUG 27	9.18
NOV 08	8.78	FEB 24	10.12								
WATER YEAR 2003		HIGHEST	7.47	JUL 16, 2003	LOWEST	10.12	FEB 24, 2003				

161-060-21BBB



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 CAVALIER COUNTY--Continued

484444098504301. Local number, 161-063-29BBB.

LOCATION.--Lat 48°44'44", long 98°50'43", Hydrologic Unit 09020201. Owner: North Dakota State Water Commission.

AQUIFER.--Munich.

WELL CHARACTERISTICS.--Drilled observation well, depth 160 ft, cased with 133 ft of 1.25-in diameter plastic pipe, slotted 113 to 133 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

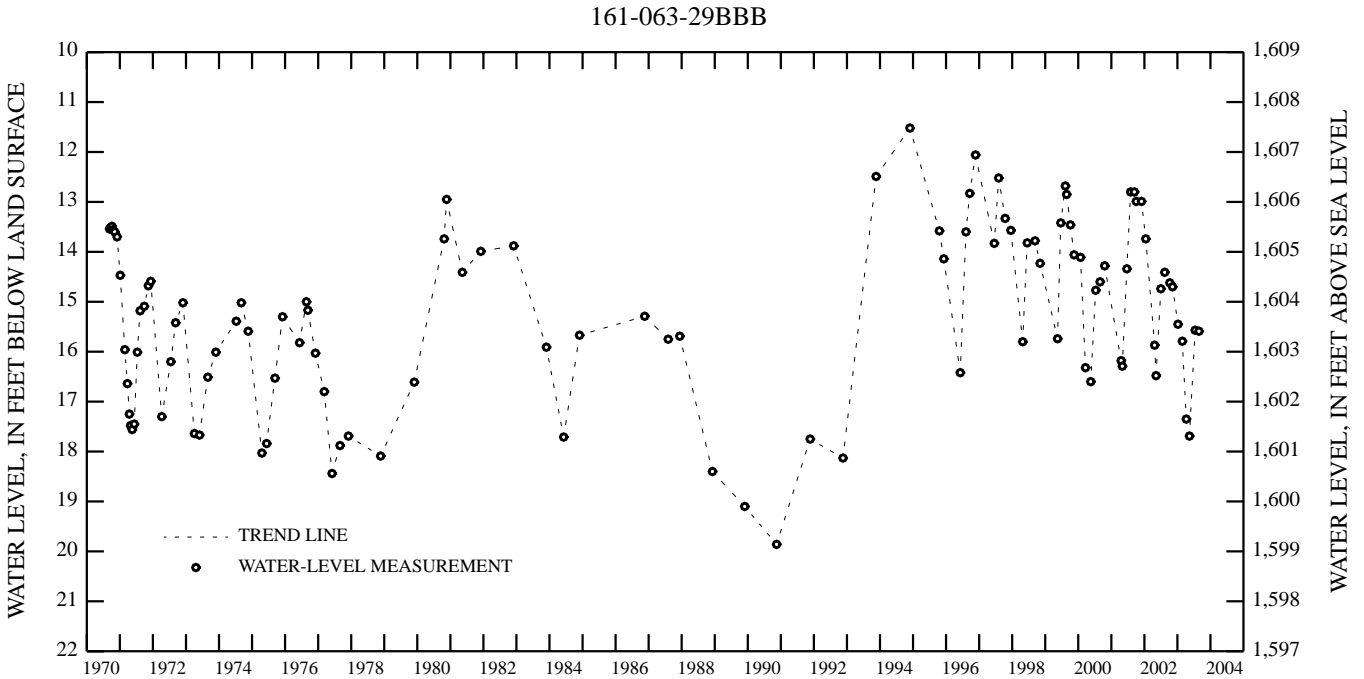
DATUM.--Altitude of land-surface datum is 1,619 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.52 ft below land-surface datum, November 28, 1994; lowest water level, 19.86 ft below land-surface datum, November 15, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	14.62	JAN 07	15.45	APR 09	17.35	MAY 14	17.69	JUL 16	15.57	AUG 27	15.59
NOV 08	14.70	FEB 24	15.79								
WATER YEAR 2003		HIGHEST	14.62	OCT 09, 2002		LOWEST	17.69	MAY 14, 2003			



NETWORK SITES--Continued

DICKEY COUNTY

460830098224701. Local number, 131-062-24DDD1.

LOCATION.--Lat 46°08'30", long 98°22'47", Hydrologic Unit 10160004. Owner: North Dakota State Water Commission.

AQUIFER.--Nortonville.

WELL CHARACTERISTICS.--Drilled observation well, depth 300 ft, cased with 190 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 190 to 196 ft below land-surface datum.

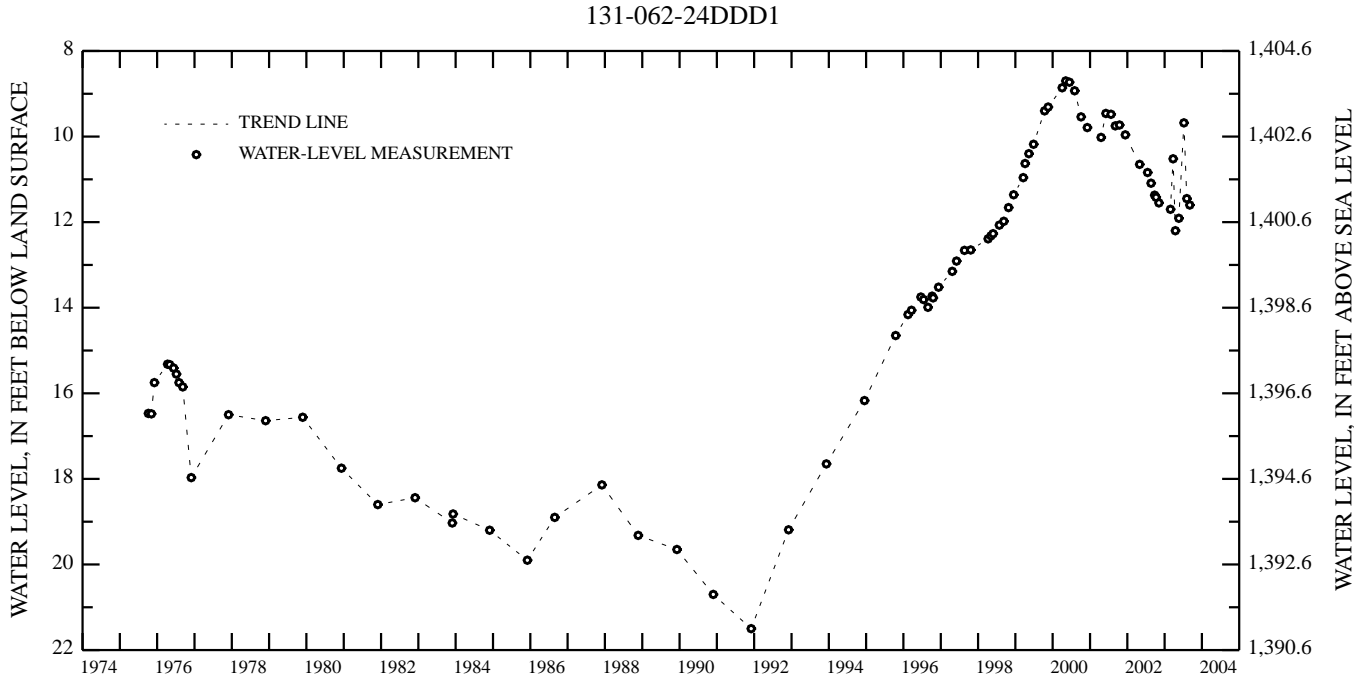
INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,412.6 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.70 ft below land-surface datum, May 8, 2000; lowest water level, 21.50 ft below land-surface datum, December 3, 1991.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	11.42	FEB 27	11.70	APR 16	12.20	JUL 09	9.68	AUG 06	11.45	SEP 04	11.60
NOV 06	11.55	MAR 25	10.52	MAY 20	11.91						
WATER YEAR 2003		HIGHEST	9.68	JUL 09, 2003	LOWEST	12.20	APR 16, 2003				



GROUND-WATER LEVELS

NETWORK SITES--Continued

DICKEY COUNTY--Continued

460830098224702. Local number, 131-062-24DDD2.

LOCATION.--Lat 46°08'30", long 98°22'47", Hydrologic Unit 10160004. Owner: North Dakota State Water Commission.

AQUIFER.--Ellendale.

WELL CHARACTERISTICS.--Drilled observation well, depth 100 ft, cased with 78 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 78 to 81 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,412.5 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

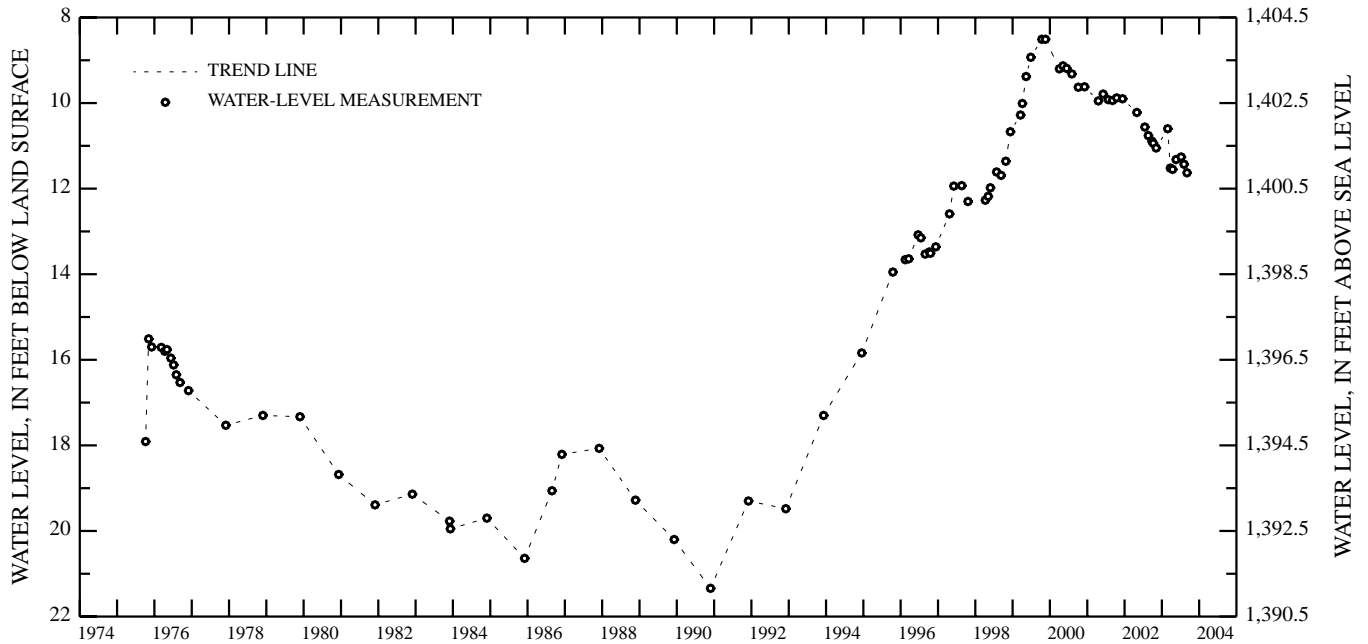
PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.51 ft below land-surface datum, October 14, 1999, and November 18, 1999; lowest water level, 21.34 ft below land-surface datum, November 27, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	10.94	FEB 27	10.60	APR 16	11.55	JUL 09	11.26	AUG 06	11.43	SEP 04	11.63
NOV 06	11.05	MAR 25	11.52	MAY 20	11.32						
WATER YEAR 2003		HIGHEST	10.60	FEB 27, 2003		LOWEST	11.63	SEP 04, 2003			

131-062-24DDD2





NETWORK SITES--Continued

DIVIDE COUNTY

484746104015901. Local number, 161-103-02CCB.

LOCATION.--Lat 48°47'46", long 104°01'59", Hydrologic Unit 10060007. Owner: North Dakota State Water Commission.

AQUIFER.--Skjermo Lake.

WELL CHARACTERISTICS.--Drilled observation well, depth 200 ft, cased with 91 ft of 5-in diameter steel pipe, No. 18 slot screen set 91 to 96 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder June 1982 to September 1997, daily maximum and minimum recorded water levels also are available. Measured using a steel tape October 1997 to current year.

DATUM.--Altitude of land-surface datum is 2,073.9 ft. Measuring point: Top of casing 2.33 ft above land-surface datum.

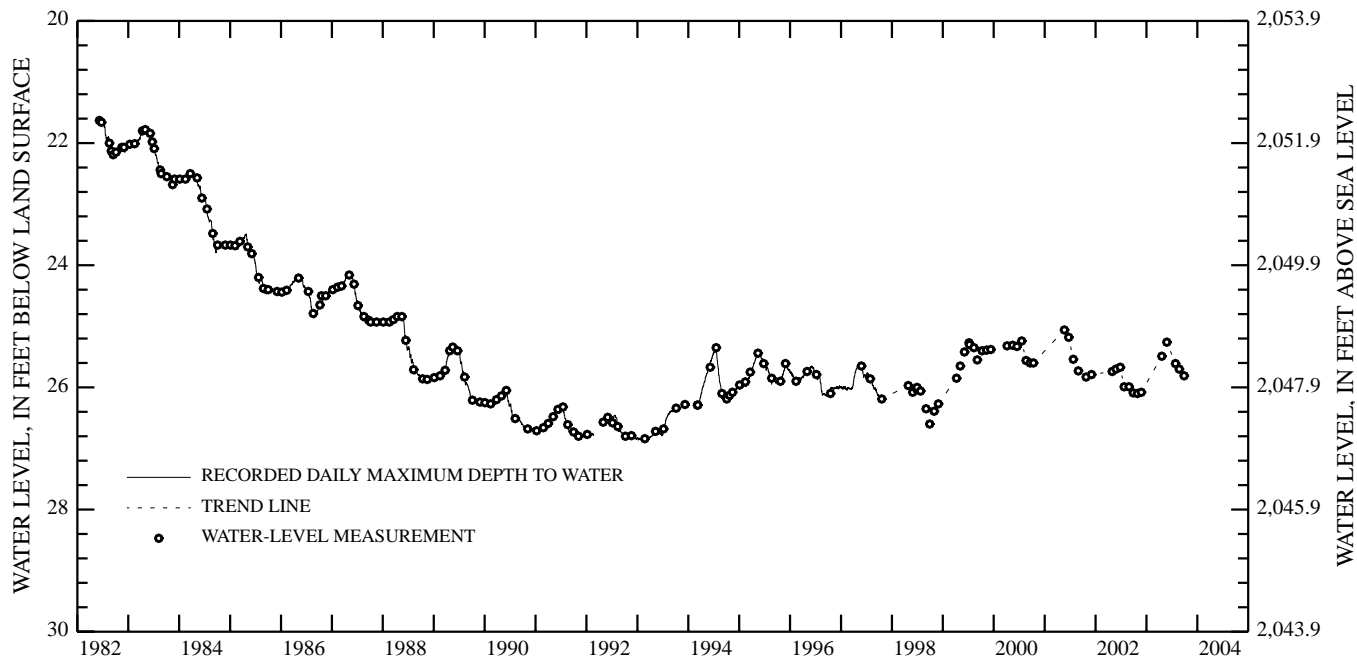
PERIOD OF RECORD.--June 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.61 ft below land-surface datum, July 2 and 5, 1982; lowest water level, 26.87 ft below land-surface datum, March 3-6, 9-12, and 16-17, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	26.10	APR 21	25.49	MAY 27	25.26	JUL 28	25.61	AUG 24	25.70	SEP 28	25.81
NOV 25	26.08										
WATER YEAR 2003		HIGHEST	25.26	MAY 27, 2003		LOWEST	26.10	OCT 28, 2002			

161-103-02CCB



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 DIVIDE COUNTY--Continued

485432103151701. Local number, 163-097-34ABB.

LOCATION.--Lat 48°54'32", long 103°15'17", Hydrologic Unit 09010001. Owner: North Dakota State Water Commission.

AQUIFER.--Crosby.

WELL CHARACTERISTICS.--Drilled observation well, depth 400 ft, cased with 366 ft of 2-in diameter steel pipe, No. 18 slot screen set 366 to 378 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,952 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

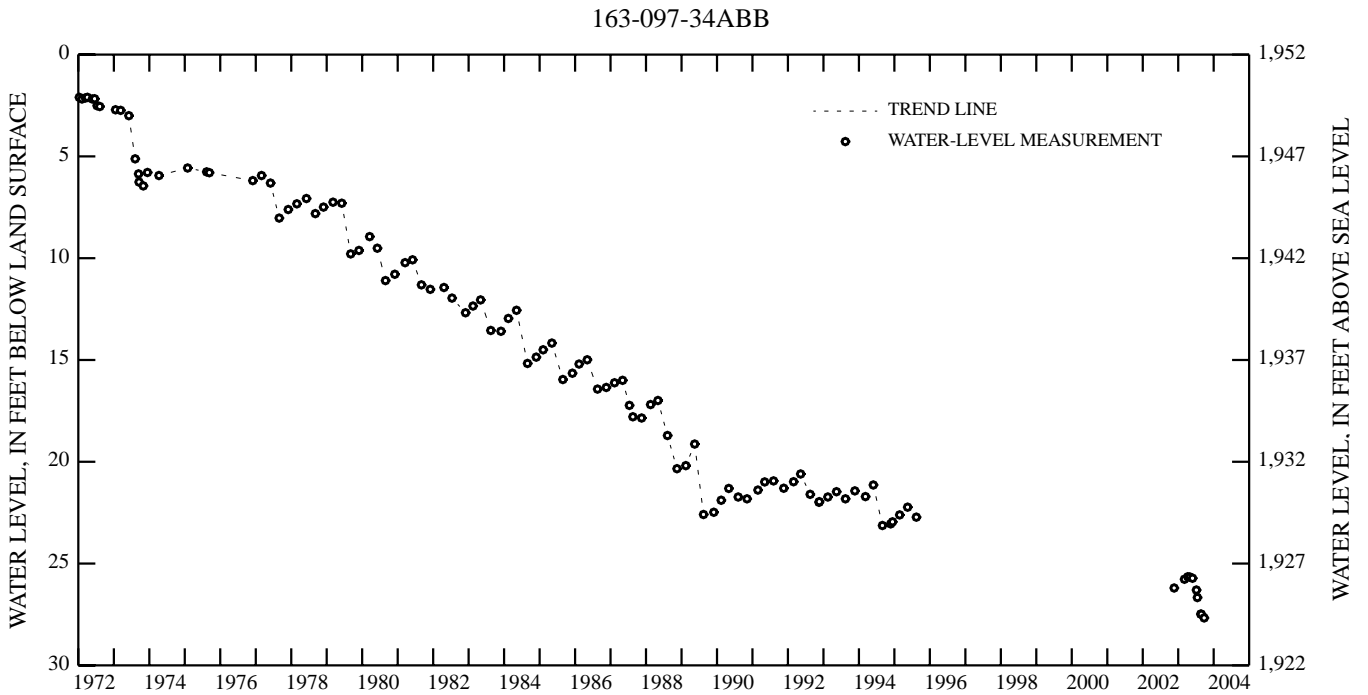
PERIOD OF RECORD.--January 1972 to August 1995 and November 2002 to current year.

REMARKS.--Replaces well 163-097-27CCC, which became plugged.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.10 ft below land-surface datum, January 11 and April 4, 1972; lowest water level, 27.67 ft below land-surface datum, September 25, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	26.20	APR 09	25.65	MAY 28	25.72	JUL 17	26.67	AUG 27	27.49	SEP 25	27.67
MAR 06	25.77	APR 30	25.66	JUL 07	26.30	AUG 21	27.48				
WATER YEAR 2003		HIGHEST	25.65	APR 09, 2003	LOWEST	27.67	SEP 25, 2003				



NETWORK SITES--Continued

DUNN COUNTY

471323102290101. Local number, 143-093-09BCB.

LOCATION.--Lat 47°13'23", long 102°29'01", Hydrologic Unit 10130201. Owner: North Dakota State Water Commission.

AQUIFER.--Sentinel Butte.

WELL CHARACTERISTICS.--Drilled observation well, depth 965 ft, cased with 378 ft of 2-in diameter steel pipe, No. 12 slot screen set 378 to 396 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

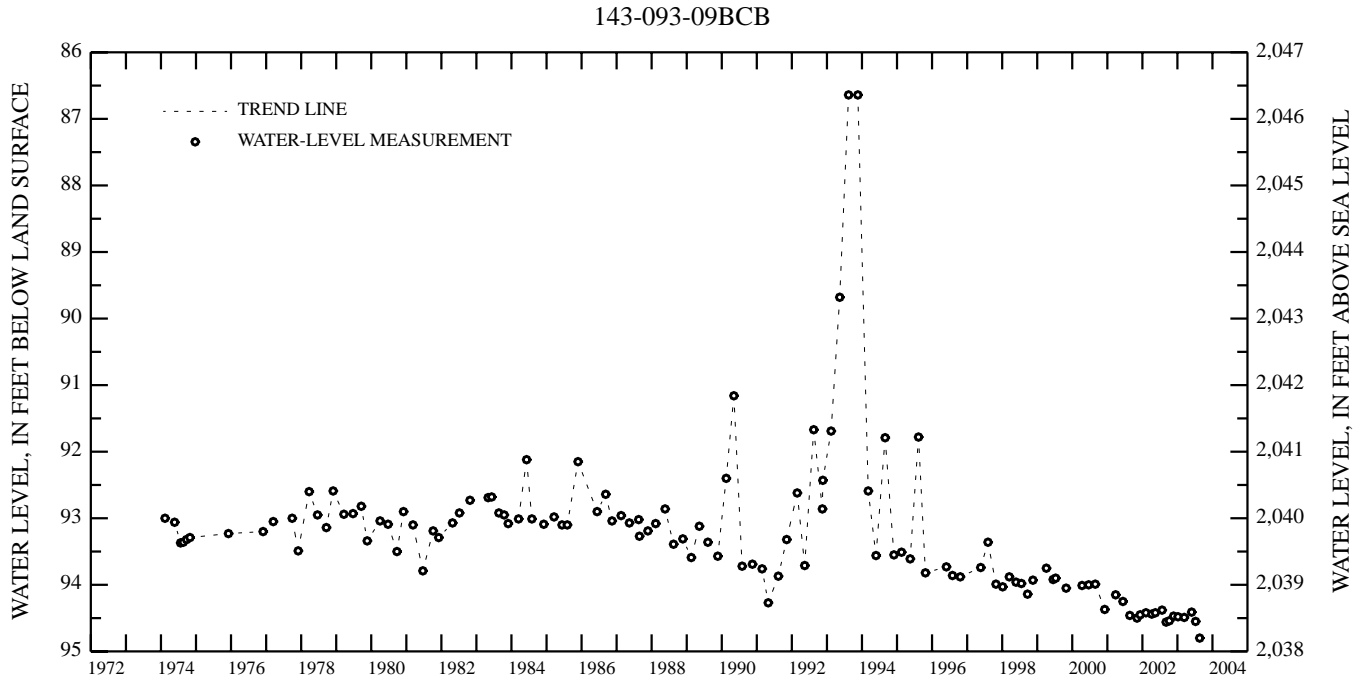
DATUM.--Altitude of land-surface datum is 2,133 ft. Measuring point: Top of casing 2.10 ft above land-surface datum.

PERIOD OF RECORD.--February 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 86.64 ft below land-surface datum, August 14, 1993, and November 19, 1993; lowest water level, 94.80 ft below land-surface datum, August 21, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	94.54	JAN 07	94.48	MAR 13	94.49	MAY 29	94.41	JUL 09	94.55	AUG 21	94.80
NOV 22	94.47										
WATER YEAR 2003		HIGHEST	94.41	MAY 29, 2003		LOWEST	94.80	AUG 21, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 DUNN COUNTY--Continued

472144102453402. Local number, 145-095-22DAD2.

LOCATION.--Lat 47°21'44", long 102°45'34", Hydrologic Unit 10130201. Owner: North Dakota State Water Commission.

AQUIFER.--Killdeer.

WELL CHARACTERISTICS.--Drilled observation well, depth 160 ft, cased with 157 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 157 to 160 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

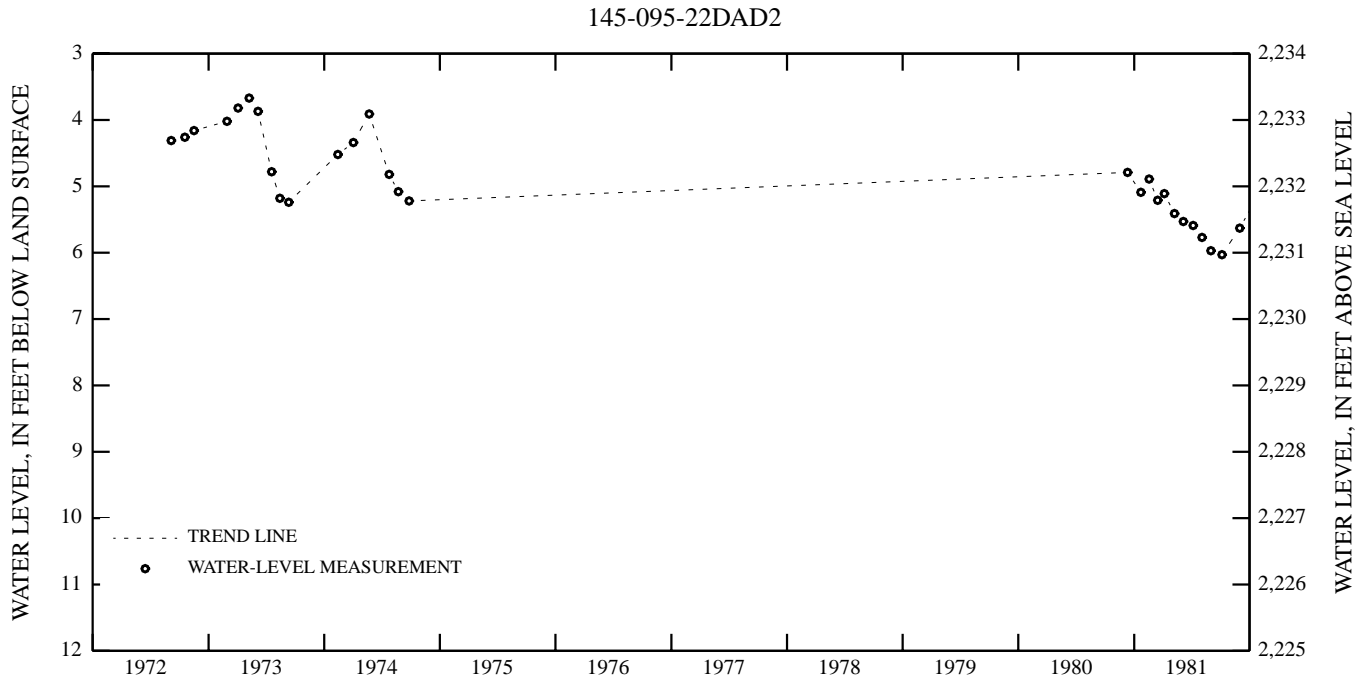
DATUM.--Altitude of land-surface datum is 2,237 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1972 to current year.

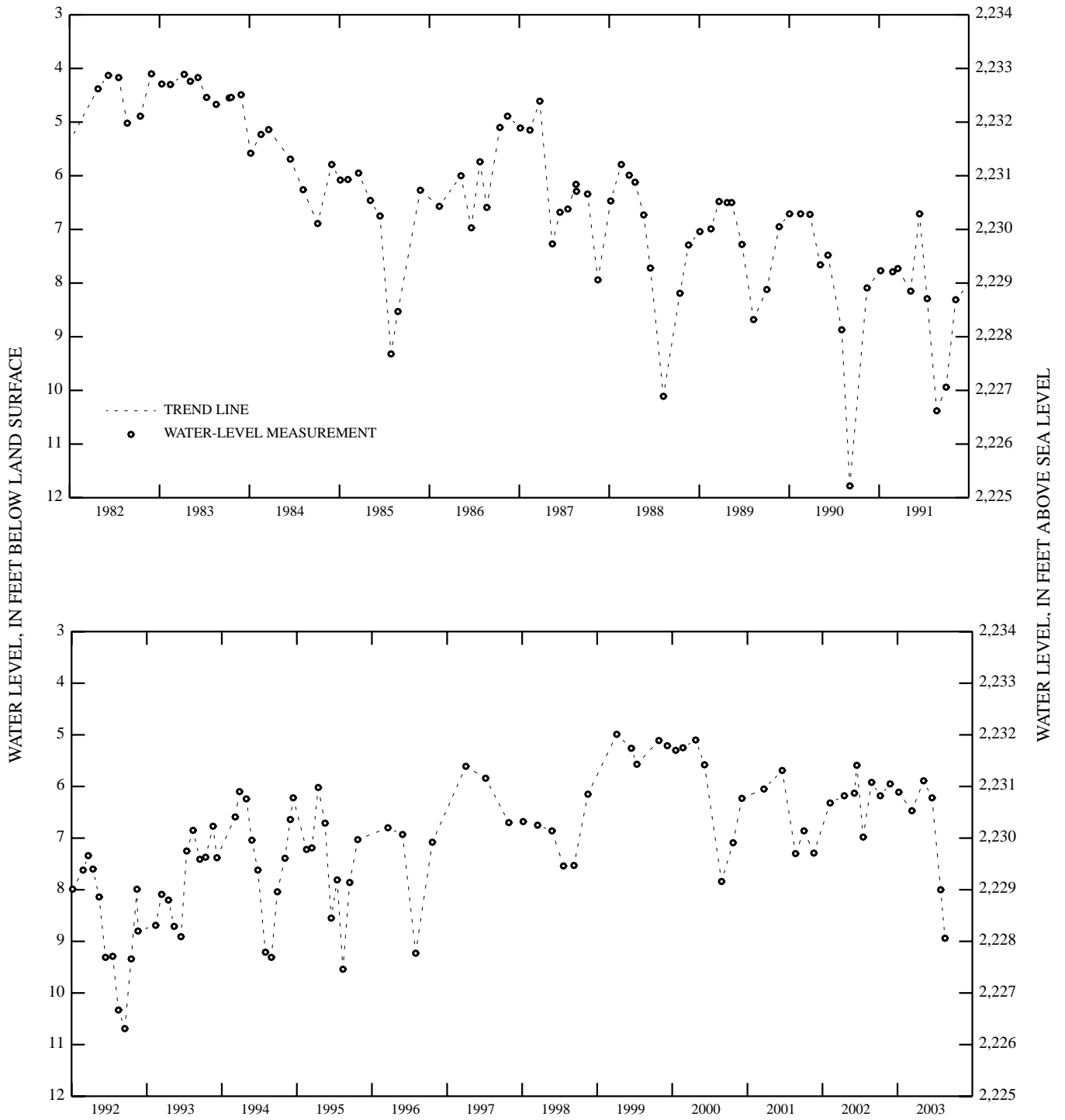
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.67 ft below land-surface datum, May 9, 1973; lowest water level, 11.78 ft below land-surface datum, September 4, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	6.18	JAN 07	6.11	MAY 08	5.89	JUN 18	6.22	JUL 30	8.00	AUG 20	8.94
NOV 26	5.95	MAR 12	6.47								
WATER YEAR 2003		HIGHEST	5.89	MAY 08, 2003		LOWEST	8.94	AUG 20, 2003			



145-095-22DAD2--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 DUNN COUNTY--Continued

472144102453403. Local number, 145-095-22DAD3.

LOCATION.--Lat 47°21'44", long 102°45'34", Hydrologic Unit 10130201. Owner: North Dakota State Water Commission.

AQUIFER.--Killdeer.

WELL CHARACTERISTICS.--Drilled observation well, depth 54 ft, cased with 49 ft of 4-in diameter plastic pipe, No. 18 slot screen set 49 to 54 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

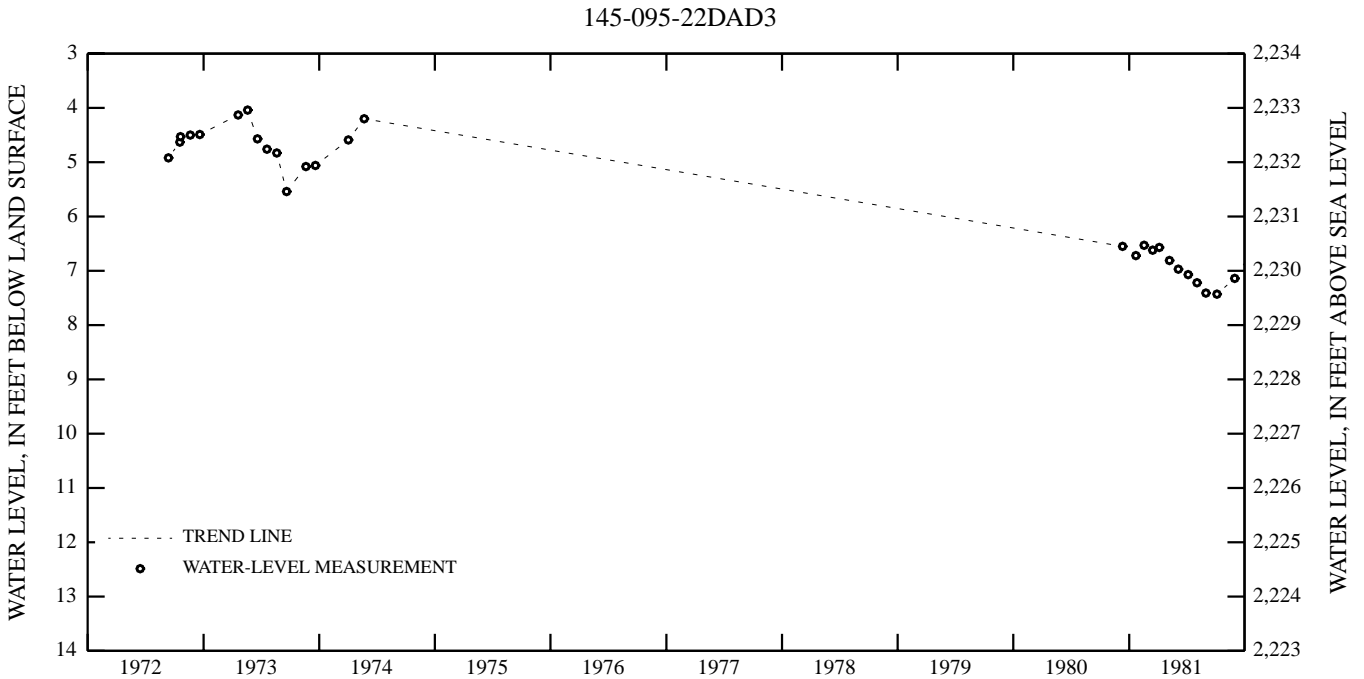
DATUM.--Altitude of land-surface datum is 2,237 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--September 1972 to current year.

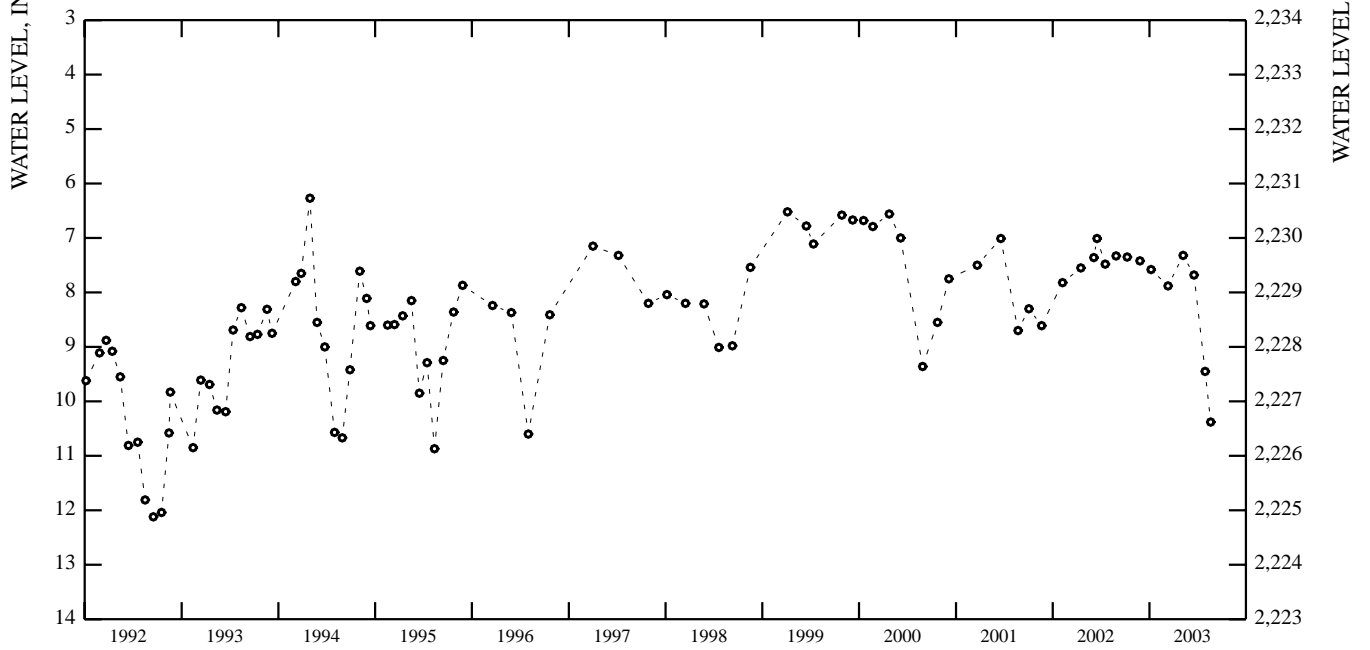
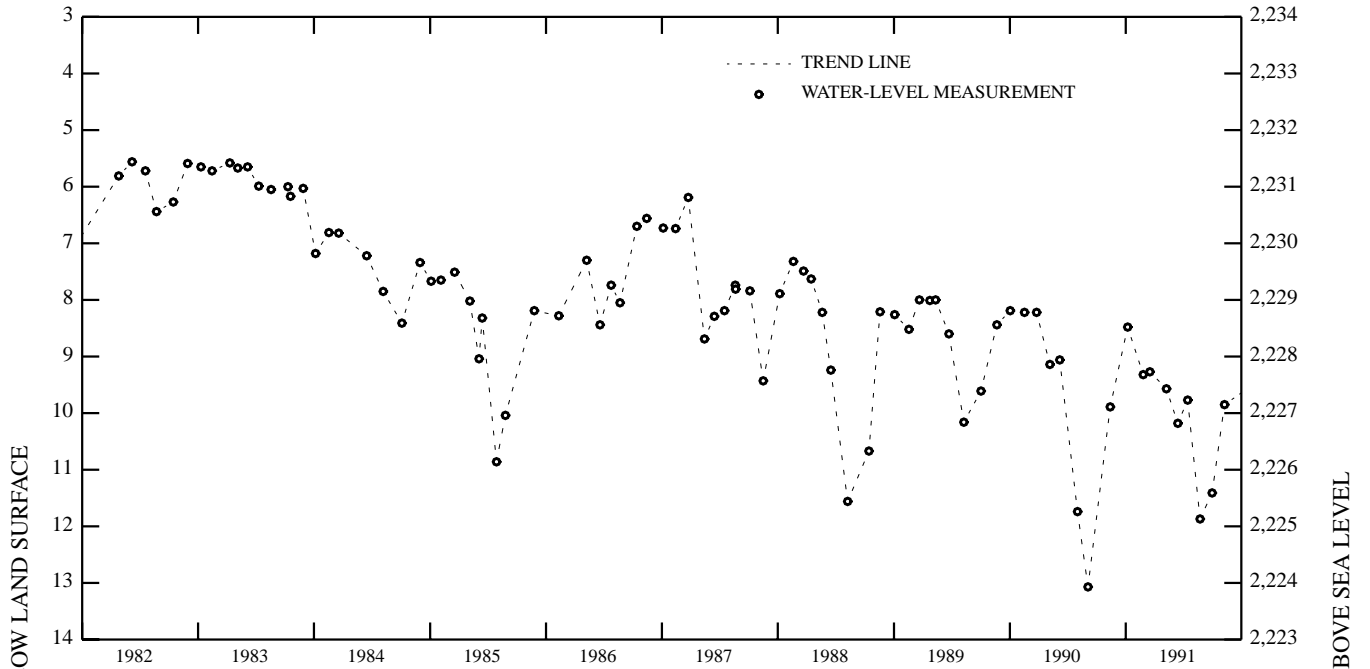
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.04 ft below land-surface datum, May 20, 1973; lowest water level, 13.07 ft below land-surface datum, September 4, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	7.35	JAN 07	7.58	MAY 08	7.32	JUN 18	7.68	JUL 30	9.45	AUG 20	10.38
NOV 26	7.42	MAR 12	7.88								
WATER YEAR 2003			HIGHEST	7.32	MAY 08, 2003	LOWEST	10.38	AUG 20, 2003			



145-095-22DAD3--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 DUNN COUNTY--Continued

472537102144801. Local number, 146-091-35BBC.

LOCATION.--Lat 47°25'37", long 102°14'48", Hydrologic Unit 10110205. Owner: North Dakota State Water Commission.

AQUIFER.--Goodman Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 320 ft, cased with 218 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 218 to 221 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,020 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

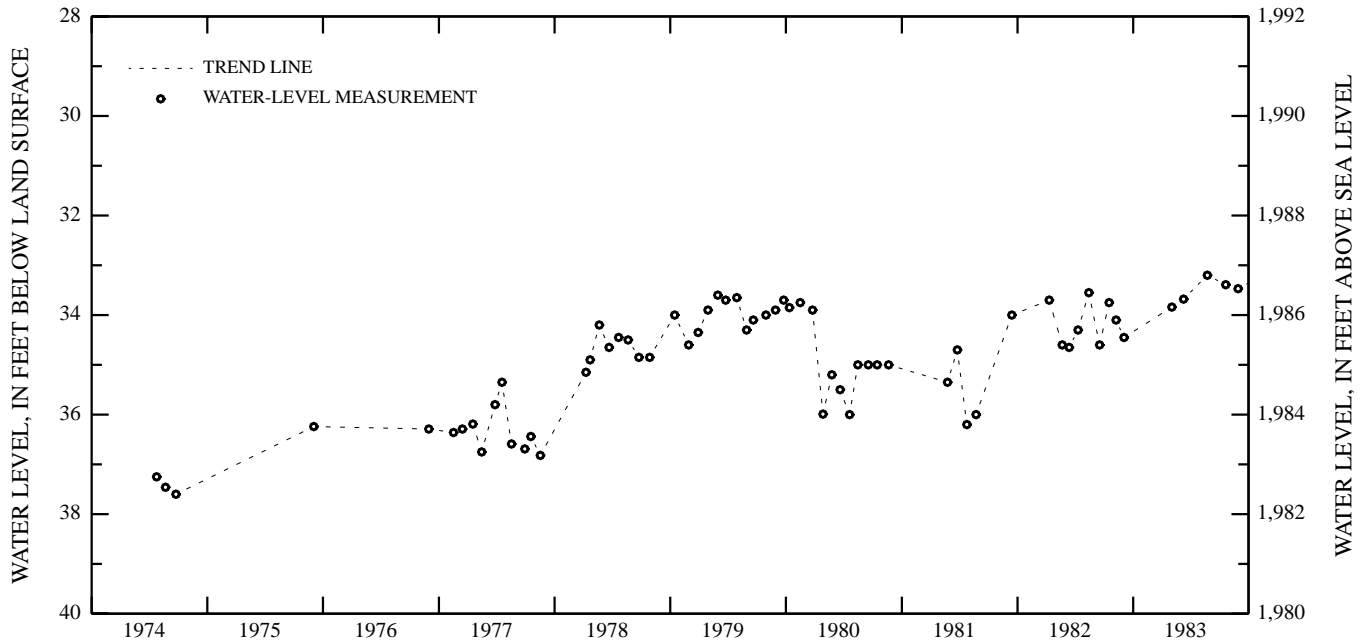
PERIOD OF RECORD.--July 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.97 ft below land-surface datum, May 14, 1987; lowest water level, 37.60 ft below land-surface datum, September 24, 1974.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

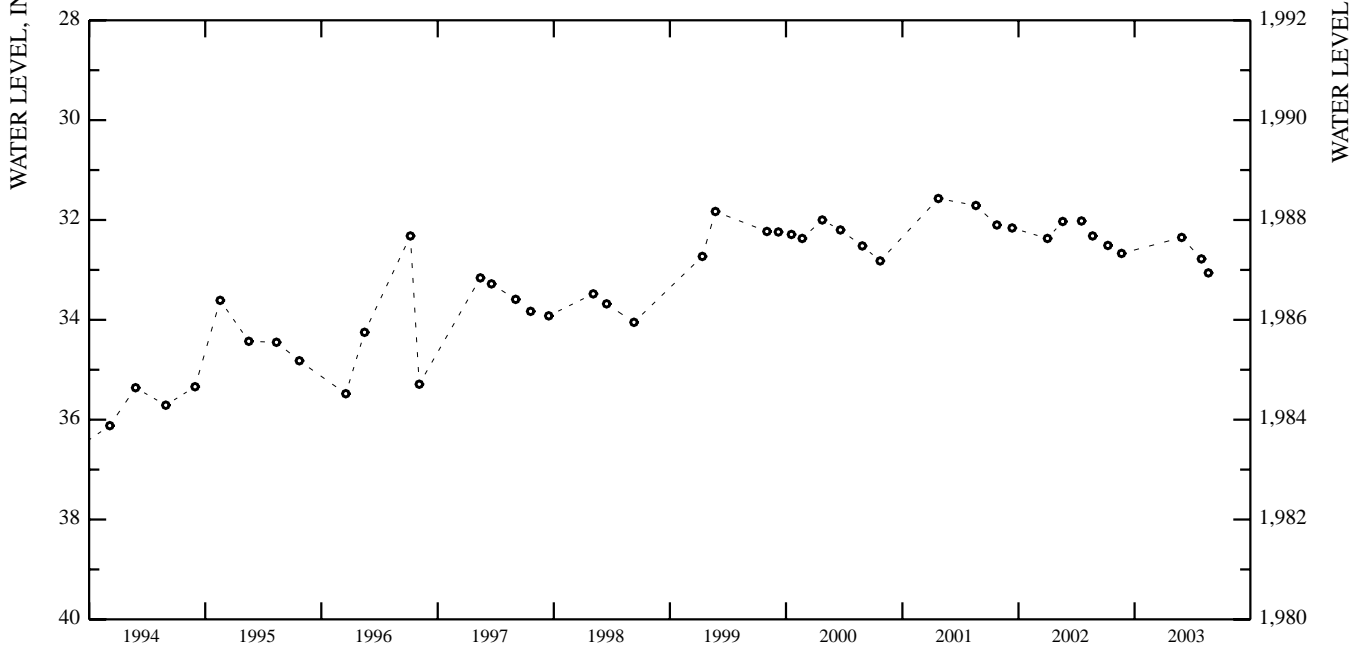
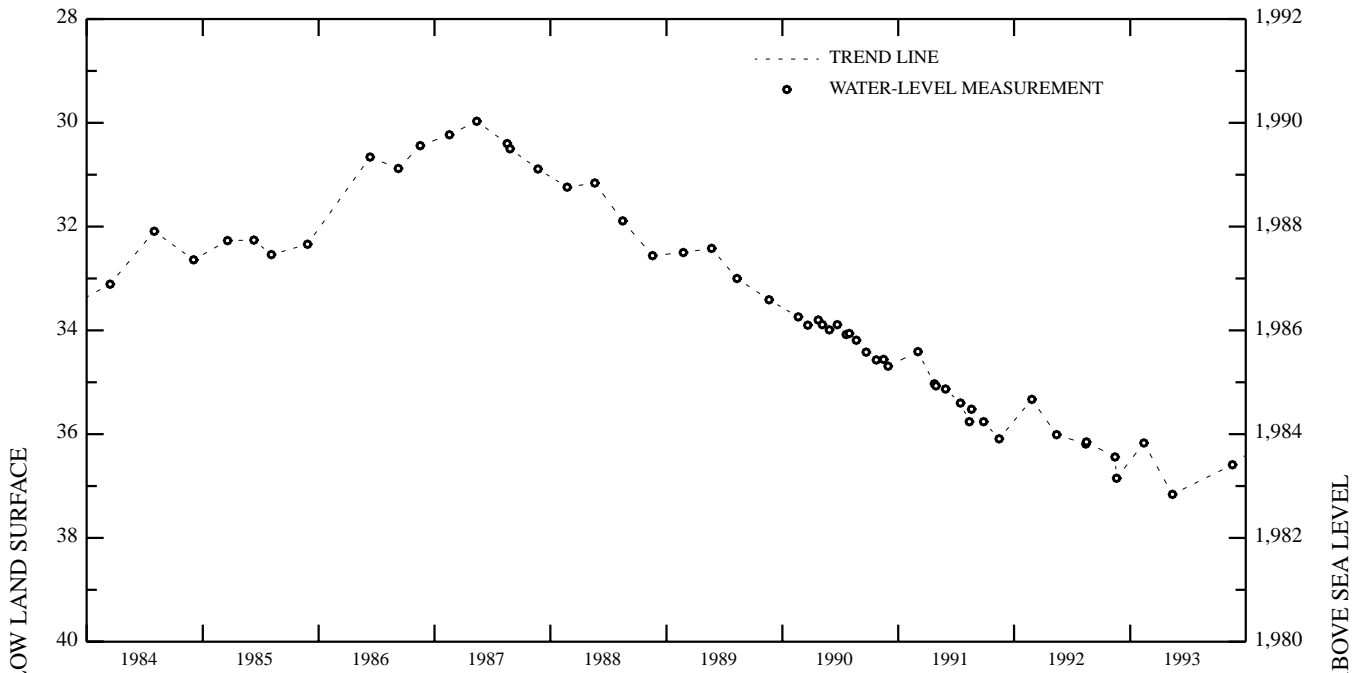
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	32.51	NOV 21	32.67	MAY 29	32.35	JUL 30	32.78	AUG 21	33.06
WATER YEAR 2002		HIGHEST	32.35	MAY 29, 2003		LOWEST	33.06	AUG 21, 2003	

146-091-35BBC





146-091-35BBC--Continued



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
EDDY COUNTY

473934099032301. Local number, 148-066-03DDC.

LOCATION.--Lat 47°39'34", long 99°03'23", Hydrologic Unit 10160001. Owner: North Dakota State Water Commission.

AQUIFER.--New Rockford.

WELL CHARACTERISTICS.--Drilled observation well, depth 252 ft, cased with 218 ft of 1.25-in diameter plastic pipe, slotted 210 to 218 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

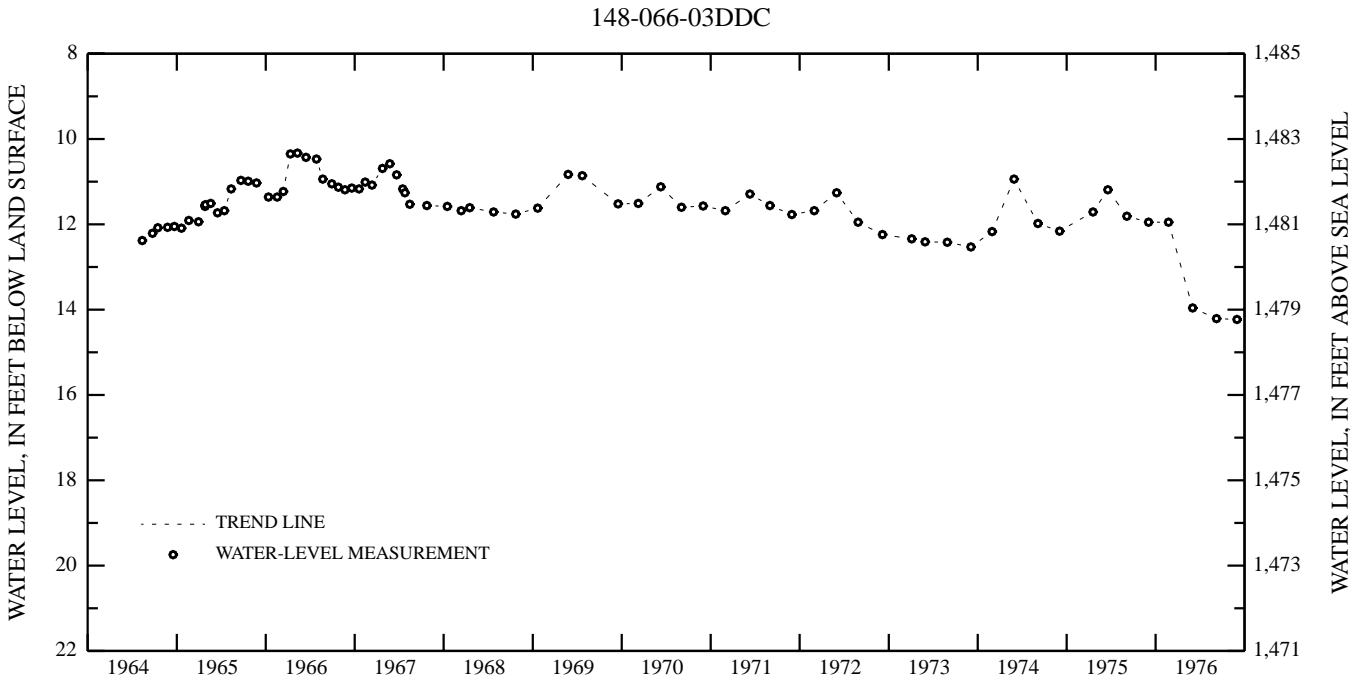
DATUM.--Altitude of land-surface datum is 1,493 ft. Measuring point: Top of casing 4.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1964 to current year.

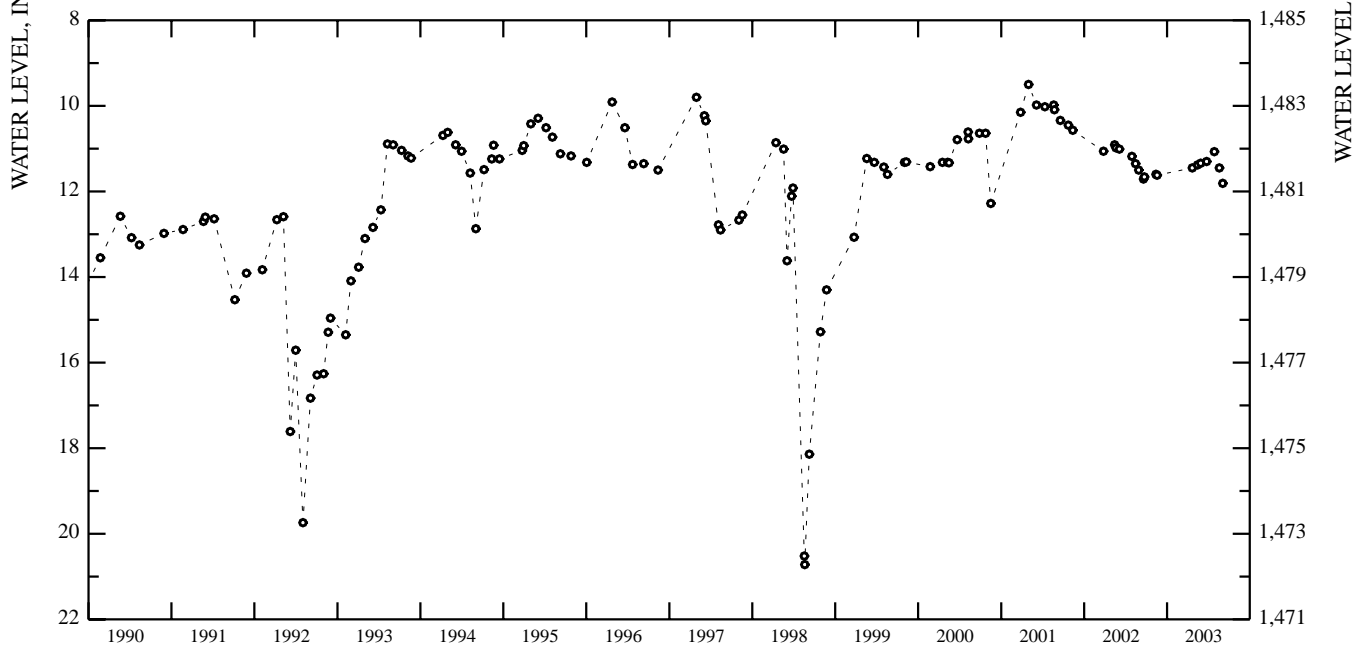
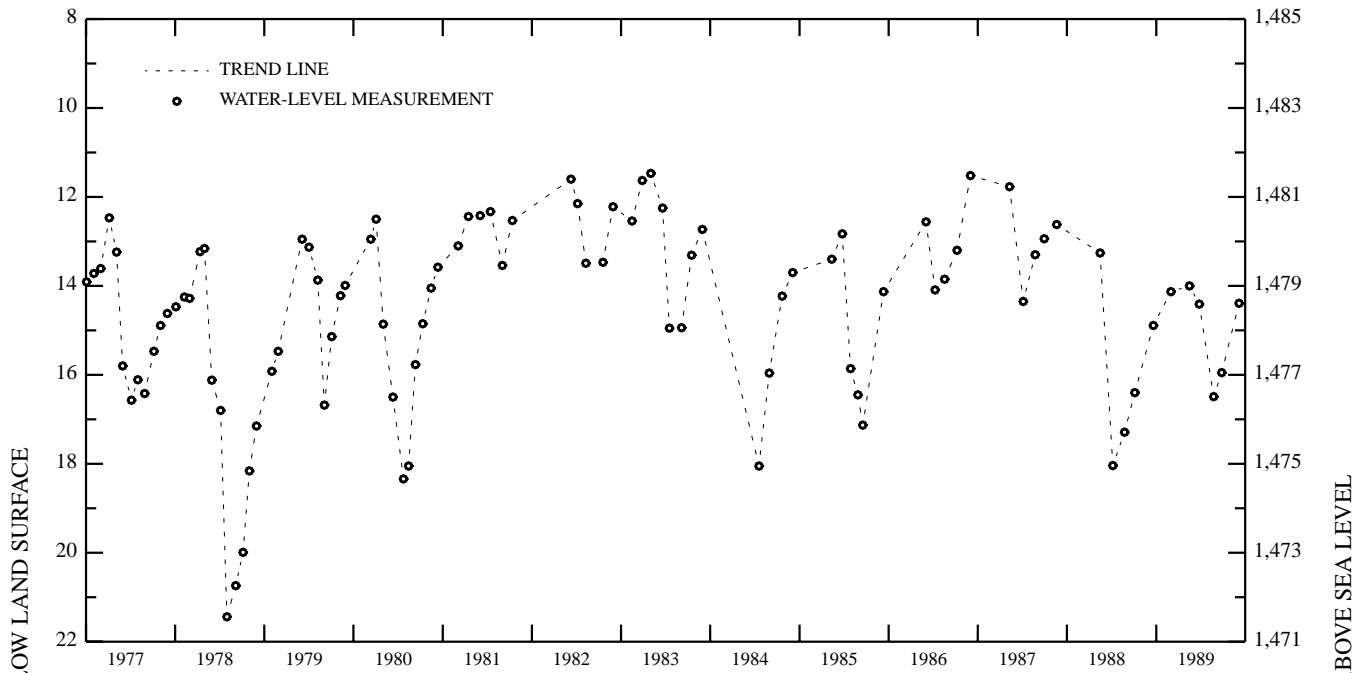
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.50 ft below land-surface datum, May 1, 2001; lowest water level, 21.44 ft below land-surface datum, August 1, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 13	11.60	APR 22	11.45	MAY 29	11.34	JUL 28	11.07	AUG 19	11.45	SEP 03	11.81
NOV 18	11.62	MAY 15	11.38	JUN 24	11.30						
WATER YEAR 2003		HIGHEST	11.07	JUL 28, 2003		LOWEST	11.81	SEP 03, 2003			



148-066-03DDC--Continued



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
EMMONS COUNTY

462539100061101. Local number, 134-075-15BBB.

LOCATION.--Lat 46°25'39", long 100°06'11", Hydrologic Unit 10130103. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 280 ft, cased with 97 ft of 1.25-in diameter plastic pipe, screen set 97 to 103 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

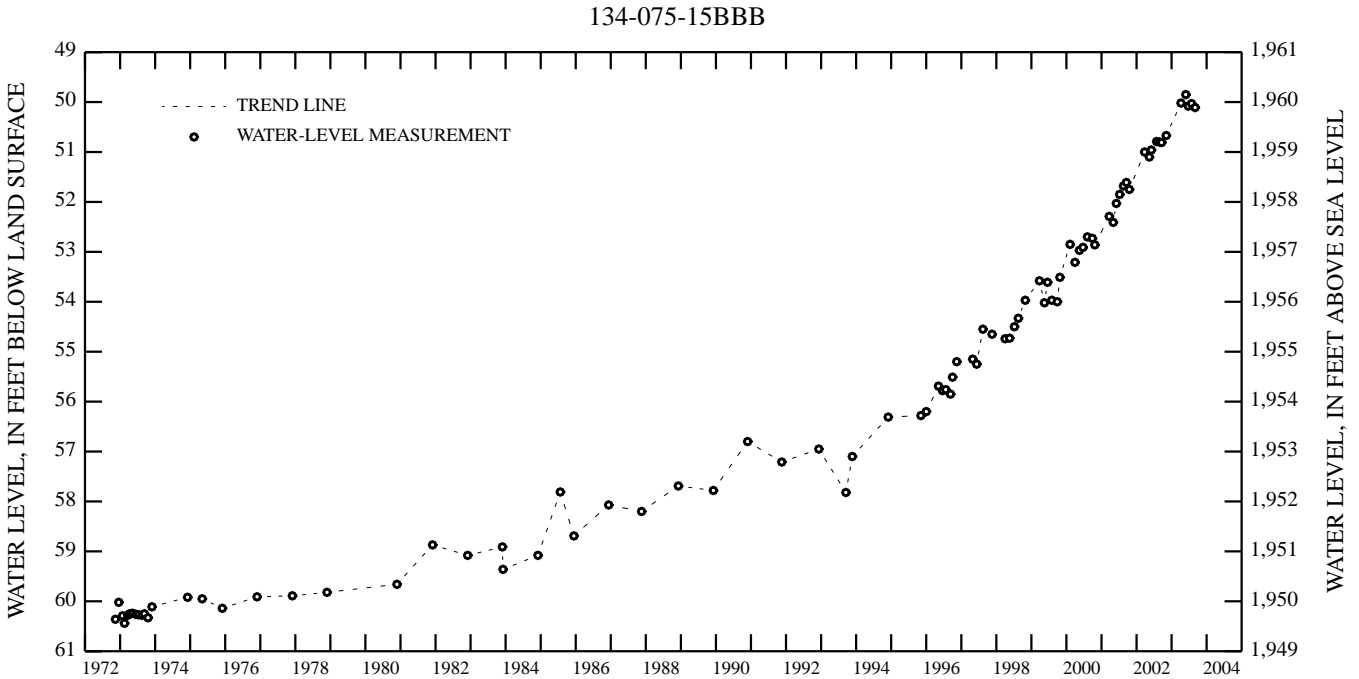
DATUM.--Altitude of land-surface datum is 2,010 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 49.85 ft below land-surface datum, May 29, 2003; lowest water level, 60.44 ft below land-surface datum, February 15, 1973.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06	50.67	APR 09	50.02	MAY 29	49.85	JUL 24	50.08	JUL 28	50.03	SEP 03	50.11
WATER YEAR 2003		HIGHEST	49.85	MAY 29, 2003		LOWEST	50.67	NOV 06, 2002			



## GROUND-WATER LEVELS

55

## NETWORK SITES--Continued

## FOSTER COUNTY

473051099093601. Local number, 147-067-35AAA.

LOCATION.--Lat 47°30'51", long 99°09'36", Hydrologic Unit 10160001. Owner: North Dakota State Water Commission.

AQUIFER.--Carrington.

WELL CHARACTERISTICS.--Drilled observation well, depth 100 ft, cased with 77.7 ft of 8-in diameter plastic pipe, No. 18 slot screen set 77.7 to 87.7 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From July 1991 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,567.03 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1991 to current year.

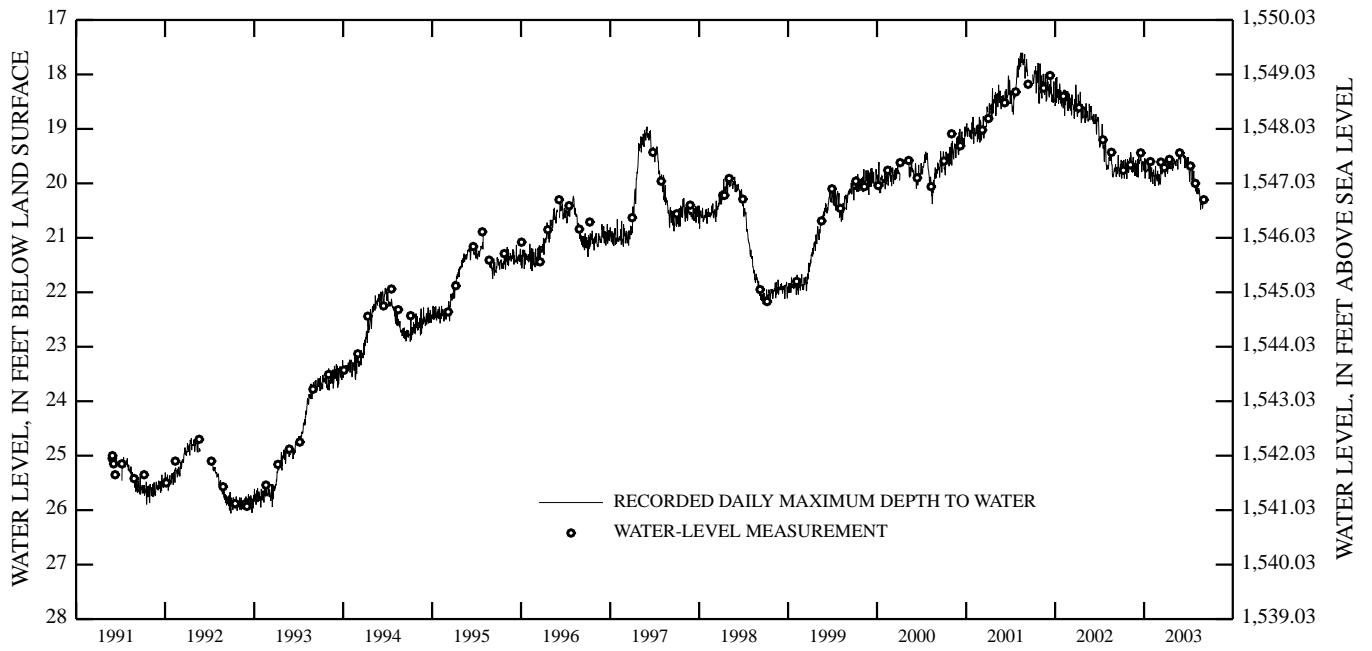
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.42 ft below land-surface datum, August 14, 2001; lowest water level, 26.06 ft below land-surface datum, September 27, 1992.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.91	19.67	19.64	19.76	19.71	20.03	19.68	19.72	19.51	19.52	20.14	20.22
2	19.89	19.54	19.88	19.74	19.83	20.03	19.74	19.70	19.46	19.59	20.07	20.26
3	19.59	19.63	19.87	19.54	19.86	19.83	19.72	19.61	19.46	19.68	20.06	---
4	19.67	19.62	19.84	19.68	19.89	19.87	19.76	19.56	19.47	19.74	20.15	---
5	19.71	19.52	19.60	19.91	19.93	19.86	19.75	19.59	19.48	19.78	20.17	---
6	19.82	19.73	19.56	19.89	20.01	19.93	19.77	19.61	19.44	19.86	20.19	---
7	19.60	19.43	19.79	19.55	19.79	19.98	19.82	19.65	19.45	19.97	20.13	---
8	---	19.47	19.89	19.56	19.83	20.02	19.81	19.61	19.45	19.95	20.06	---
9	19.76	19.51	19.53	19.75	19.75	19.97	19.55	19.60	19.42	19.80	20.05	---
10	19.57	19.72	19.51	19.76	19.82	19.94	19.73	19.61	19.49	19.77	20.15	---
11	19.79	19.78	19.57	19.79	19.87	19.75	19.72	19.66	19.45	19.74	20.20	---
12	19.91	19.79	19.64	19.79	19.87	19.83	19.67	19.68	19.44	19.75	20.15	---
13	19.81	19.70	19.62	19.78	19.85	19.82	19.50	19.59	19.51	19.63	20.11	---
14	19.73	19.72	19.58	19.77	20.03	19.60	19.66	19.57	19.54	19.67	20.09	---
15	19.78	19.80	19.58	19.75	20.05	19.65	19.63	19.59	19.48	19.73	20.14	---
16	19.68	19.70	19.58	19.77	19.83	19.71	19.73	19.56	19.49	19.80	20.13	---
17	19.56	19.52	19.49	19.75	19.68	19.77	19.70	19.61	19.70	19.94	20.18	---
18	19.78	19.60	19.47	19.61	19.83	19.81	19.62	19.60	19.72	19.89	20.27	---
19	19.78	19.66	19.53	19.61	19.84	19.80	19.65	19.74	19.64	19.73	20.27	---
20	19.76	19.74	19.58	19.75	19.84	19.71	19.69	19.74	19.50	19.87	20.35	---
21	19.81	19.79	19.64	19.81	19.91	19.69	19.74	19.57	19.56	19.90	20.48	---
22	19.92	19.67	19.78	19.92	19.91	19.67	19.67	19.54	19.62	19.91	20.40	---
23	19.89	19.80	19.79	19.88	19.93	19.59	19.57	19.54	19.62	19.83	20.31	---
24	19.70	19.86	19.73	19.60	19.96	19.77	19.63	19.53	19.67	19.77	20.39	---
25	19.56	19.85	19.62	19.81	19.80	19.79	19.65	19.54	19.63	19.87	20.33	---
26	19.68	19.86	19.62	19.81	19.77	19.71	19.55	19.51	19.57	19.98	20.36	---
27	19.68	19.60	19.59	19.69	19.89	19.80	19.75	19.49	19.52	20.02	20.33	---
28	19.68	19.58	19.62	19.96	19.89	19.84	19.77	19.54	19.59	20.01	20.34	---
29	19.80	19.79	19.61	19.97	---	19.88	19.73	19.42	19.66	20.03	20.46	---
30	19.80	19.79	19.75	19.76	---	19.73	19.63	19.63	19.63	20.03	20.41	---
31	19.72	---	19.75	19.81	---	19.54	---	19.64	---	20.14	20.27	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
FOSTER COUNTY--Continued

147-067-35AAA



NETWORK SITES--Continued

GOLDEN VALLEY COUNTY

465421103590706. Local number, 140-105-30CCC6.

LOCATION.--Lat 46°54'21", long 103°59'07", Hydrologic Unit 10110204. Owner: North Dakota State Water Commission.

AQUIFER.--Hell Creek-Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,140 ft, cased with 1,050 ft of 4-in diameter steel pipe, screen set 1,050 to 1,130 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

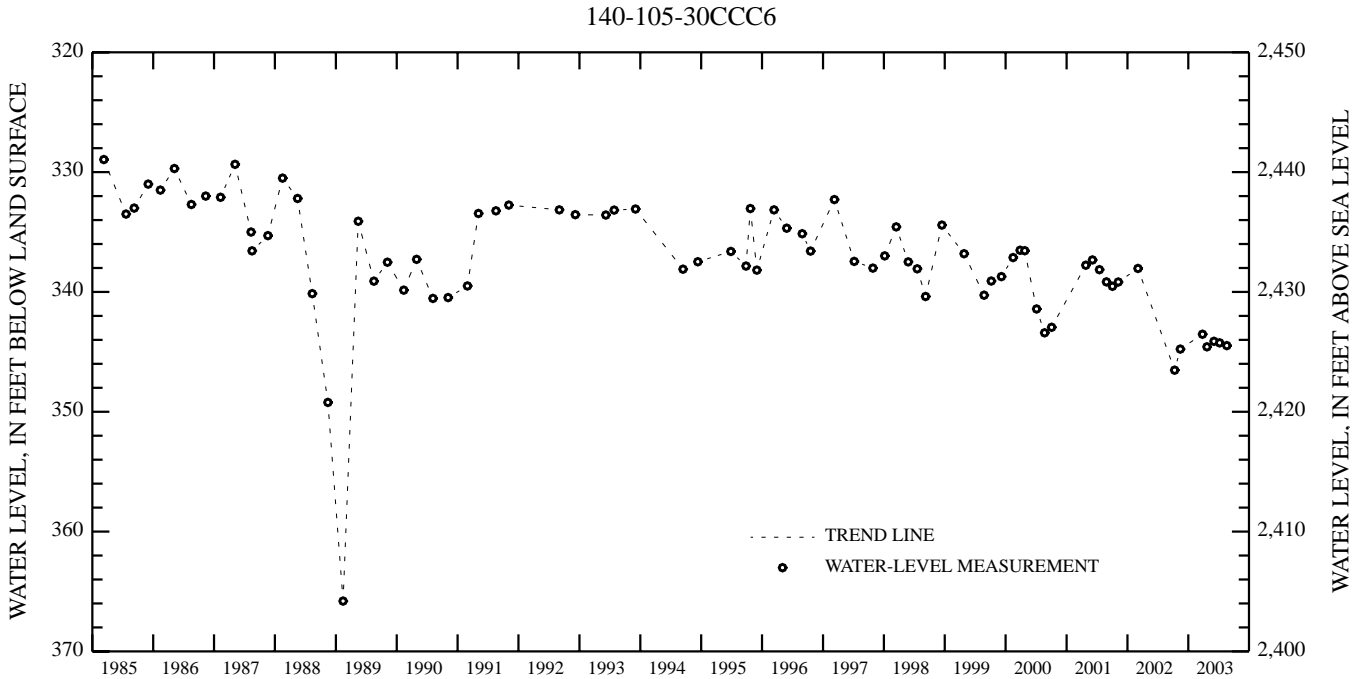
DATUM.--Altitude of land-surface datum is 2,770 ft. Measuring point: Top of casing 1.50 ft above land-surface datum.

PERIOD OF RECORD.--March 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 328.95 ft below land-surface datum, March 11, 1985; lowest water level, 365.80 ft below land-surface datum, February 13, 1989.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	346.53	MAR 27	343.53	APR 23	344.58	JUN 04	344.12	JUL 08	344.25	AUG 20	344.48
NOV 14	344.77										
WATER YEAR 2003		HIGHEST	343.53	MAR 27, 2003		LOWEST	346.53	OCT 11, 2002			



## GROUND-WATER LEVELS

## NETWORK SITES--Continued

## GRAND FORKS COUNTY

475646097372201. Local number, 152-054-31BBB.

LOCATION.--Lat 47°56'46", long 97°37'22", Hydrologic Unit 09020307. Owner: North Dakota State Water Commission.

AQUIFER.--Elk Valley.

WELL CHARACTERISTICS.--Drilled observation well, depth 84 ft, cased with 60 ft of 4-in diameter plastic pipe, slotted 50 to 60 ft below land-surface datum.

INSTRUMENTATION.--Water-level data September 1965 to current year. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for June 1968 to September 1973. From October 1973 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,122.6 ft. Measuring point: Top of casing 1.31 ft above land-surface datum. Prior to road construction completed on October 19, 1978, altitude of land-surface datum was 1,127 ft.

PERIOD OF RECORD.--September 1965 to current year.

REMARKS.--Real-time data available on the U.S. Geological Survey webpage at: <http://nd.water.usgs.gov>.

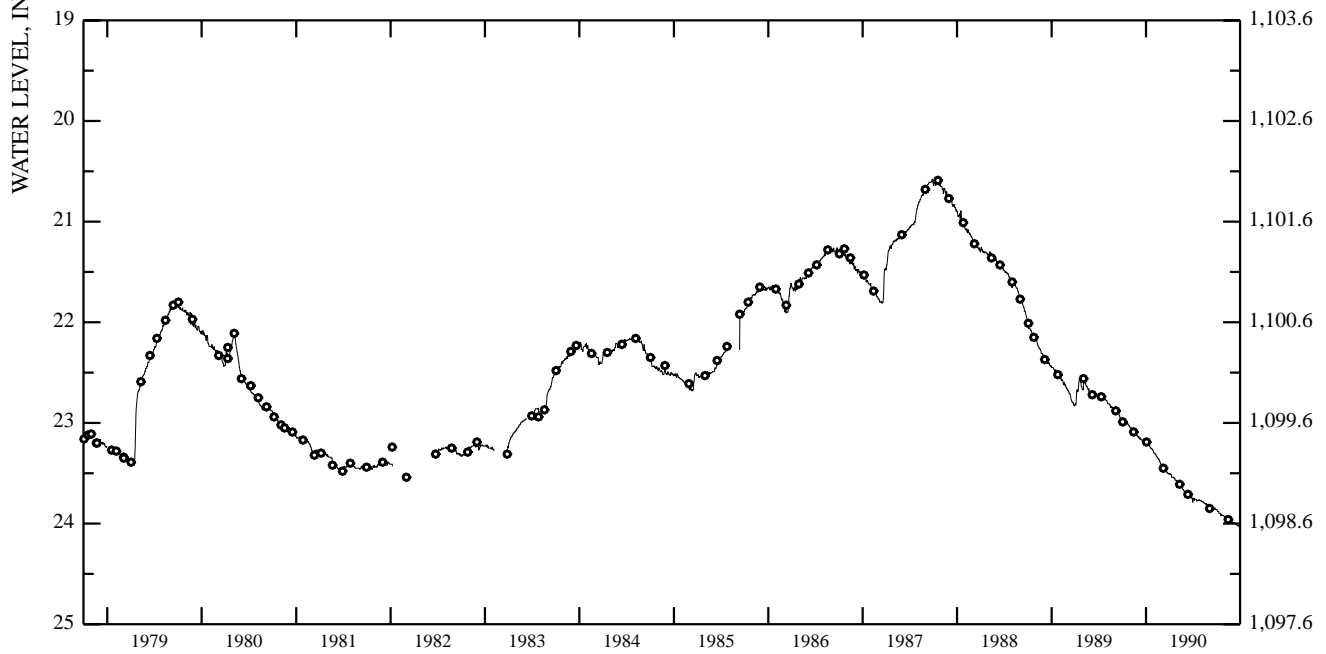
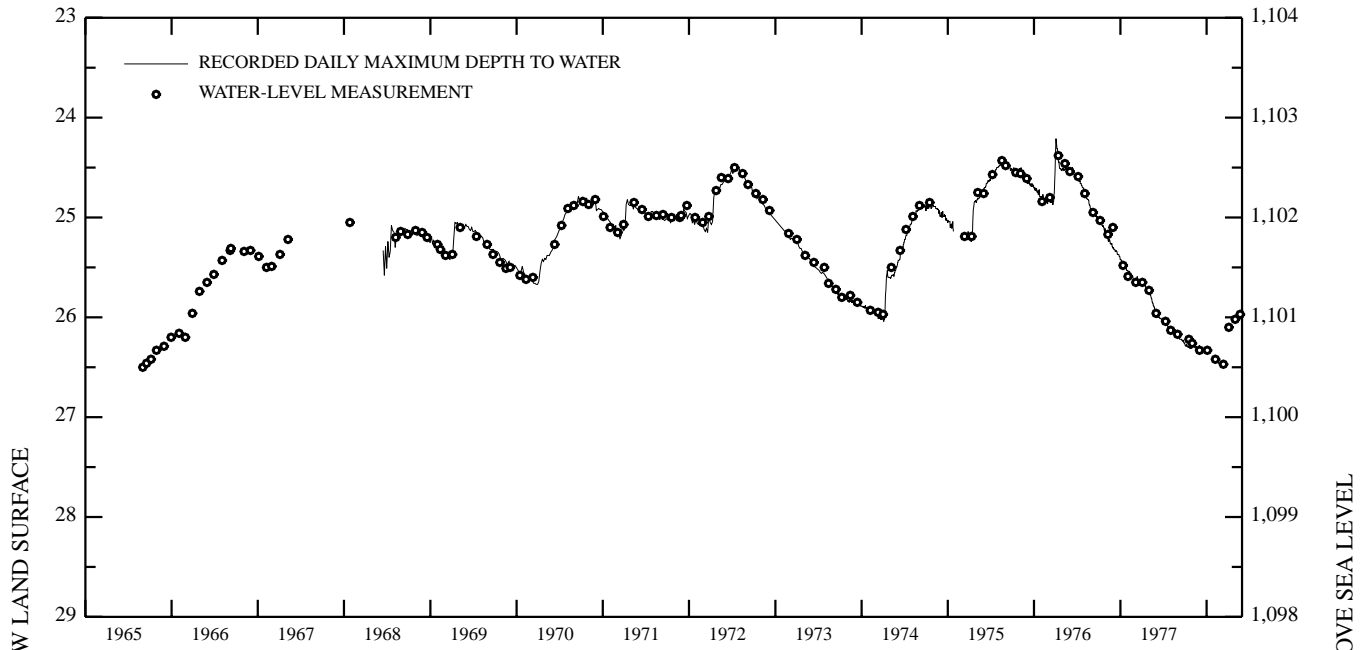
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.40 ft below land-surface datum, June 10-11, 2001; lowest water level 26.50 ft below land-surface datum, September 1, 1965.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.08	21.93	21.85	21.87	21.80	21.92	21.99	22.08	22.08	22.08	22.61	23.29
2	22.09	21.92	21.87	21.87	21.81	21.92	22.01	22.08	22.08	22.08	22.64	23.31
3	22.09	21.91	21.87	21.86	21.82	21.91	22.01	22.08	22.08	22.08	22.67	23.36
4	22.07	21.91	21.87	21.86	21.84	21.92	22.02	22.08	22.07	22.08	22.69	23.38
5	22.07	21.90	21.85	21.89	21.85	21.92	22.03	22.08	22.07	22.08	22.71	23.43
6	22.07	21.90	21.84	21.89	21.88	21.92	22.03	22.10	22.07	22.09	22.75	23.46
7	22.07	21.89	21.85	21.87	21.86	21.93	22.05	22.10	22.06	22.13	22.75	23.48
8	22.06	21.88	21.87	21.86	21.84	21.93	22.05	22.10	22.06	22.25	22.75	23.50
9	22.05	21.87	21.85	21.88	21.84	21.93	22.03	22.11	22.06	22.26	22.75	23.53
10	22.04	21.88	21.84	21.89	21.85	21.93	22.03	22.11	22.05	22.29	22.75	23.54
11	22.04	21.90	21.84	21.90	21.85	21.92	22.04	22.11	22.04	22.32	22.75	23.57
12	22.03	21.90	21.84	21.90	21.86	21.94	22.04	22.11	22.03	22.33	22.75	23.65
13	22.03	21.90	21.84	21.90	21.88	21.94	22.03	22.11	22.02	22.34	22.76	23.68
14	22.02	21.88	21.84	21.90	21.89	21.94	22.04	22.11	22.02	22.40	22.76	23.69
15	22.01	21.89	21.84	21.90	21.90	21.93	22.04	22.11	22.02	22.40	22.78	23.70
16	22.01	21.89	21.85	21.91	21.90	21.94	22.05	22.11	22.01	22.40	22.80	23.70
17	22.01	21.88	21.85	21.91	21.87	21.97	22.05	22.11	22.01	22.39	22.83	23.71
18	22.00	21.87	21.84	21.89	21.86	21.98	22.05	22.11	---	22.39	22.87	23.71
19	21.99	21.86	21.83	21.88	21.87	21.98	22.05	22.11	---	22.39	22.90	23.71
20	21.99	21.86	21.83	21.88	21.88	21.98	22.06	22.11	---	22.38	22.95	23.71
21	21.99	21.87	21.83	21.87	21.89	21.98	22.06	22.11	21.97	22.41	23.00	23.71
22	21.99	21.87	21.85	21.86	21.90	21.98	22.07	22.11	21.98	22.38	23.05	23.71
23	21.99	21.86	21.85	21.86	21.91	21.98	22.07	22.11	22.02	22.40	23.09	23.70
24	21.99	21.87	21.85	21.84	21.91	21.99	22.07	22.10	22.06	22.41	23.13	23.69
25	21.97	21.87	21.85	21.84	21.91	21.99	22.07	22.10	22.06	22.45	23.19	23.68
26	21.96	21.88	21.86	21.85	21.90	21.99	22.07	22.10	22.07	22.47	23.22	23.67
27	21.96	21.87	21.86	21.82	21.91	22.00	22.08	22.10	22.07	22.50	23.25	23.66
28	21.95	21.86	21.85	21.84	21.91	22.01	22.08	22.09	22.08	22.53	23.26	23.66
29	21.95	21.85	21.85	21.84	---	22.01	22.08	22.09	22.08	22.55	23.27	23.66
30	21.95	21.86	21.85	21.81	---	22.01	22.08	22.07	22.08	22.57	23.28	23.65
31	21.94	---	21.86	21.80	---	22.01	---	22.08	---	22.59	23.28	---

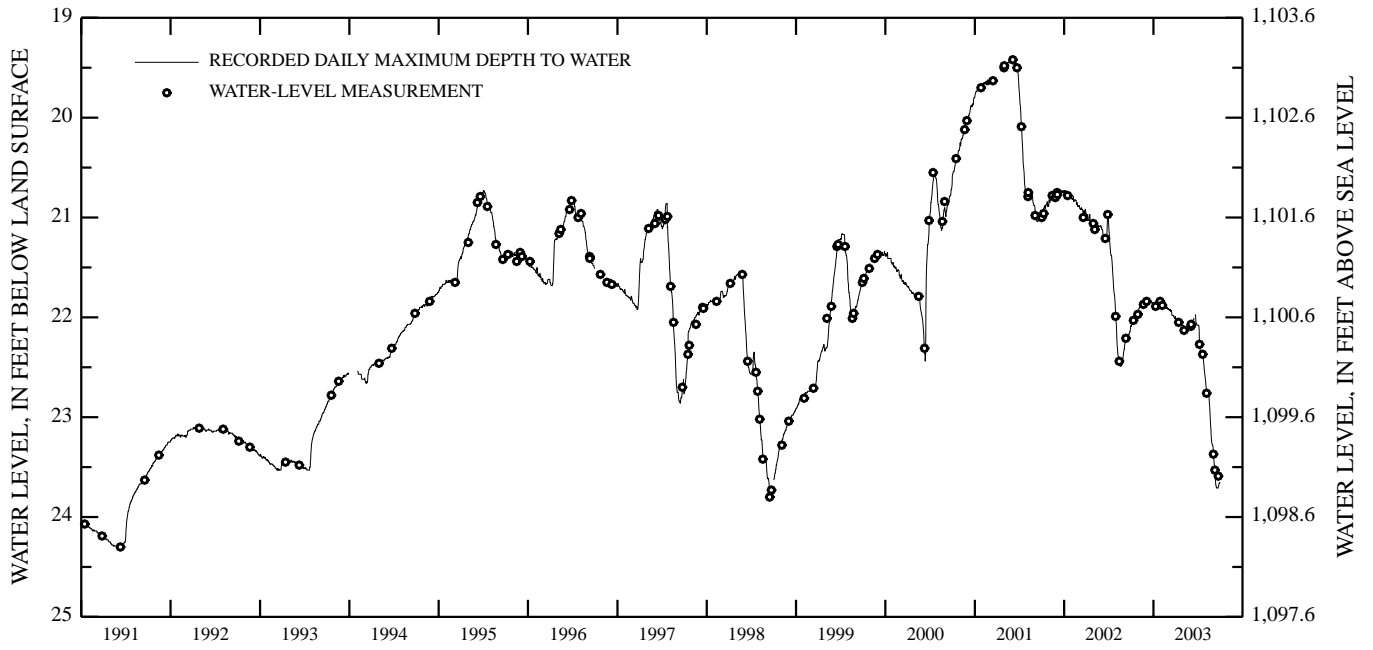


152-054-31BBB



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
GRAND FORKS COUNTY--Continued

152-054-31BBB--Continued



NETWORK SITES--Continued

GRANT COUNTY

463000101575101. Local number, 135-090-23BBB1.

LOCATION.--Lat 46°30'00", long 101°57'51", Hydrologic Unit 10130203. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,080 ft, cased with 1,029 ft of 2-in diameter steel pipe, No. 12 slot screen set 1,029 to 1,047 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

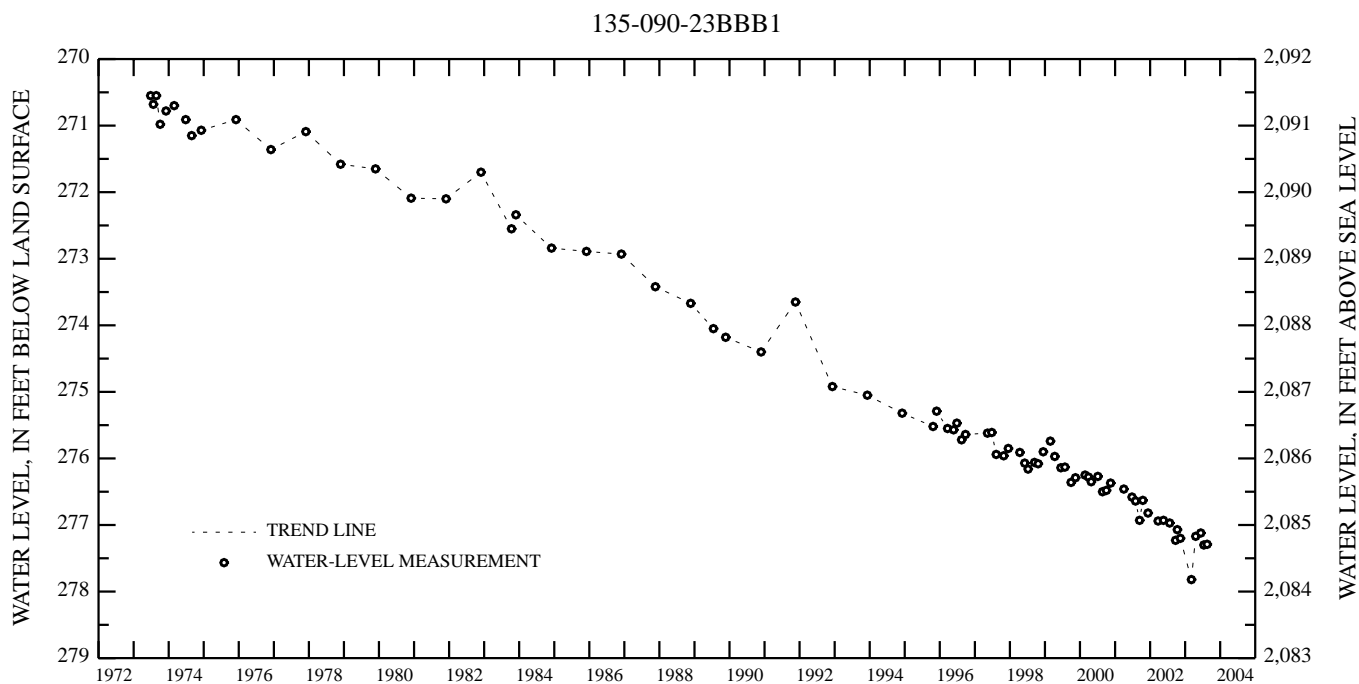
DATUM.--Altitude of land-surface datum is 2,362 ft. Measuring point: Top of casing 3.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 270.55 ft below land-surface datum, June 27, 1973, and August 24, 1973; lowest water level, 277.82 ft below land-surface datum, March 7, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	277.07	MAR 07	277.82	APR 21	277.17	JUL 13	277.12	JUL 15	277.30	AUG 18	277.29
NOV 12	277.20										
WATER YEAR 2003		HIGHEST	277.07	OCT 11, 2002		LOWEST	277.82	MAR 07, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 GRANT COUNTY--Continued

463000101575102. Local number, 135-090-23BBB2.

LOCATION.--Lat 46°30'00", long 101°57'51", Hydrologic Unit 10130203. Owner: North Dakota State Water Commission.

AQUIFER.--Tongue River.

WELL CHARACTERISTICS.--Drilled observation well, depth 300 ft, cased with 277 ft of 1.25-in diameter plastic pipe, screen set 277 to 283 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

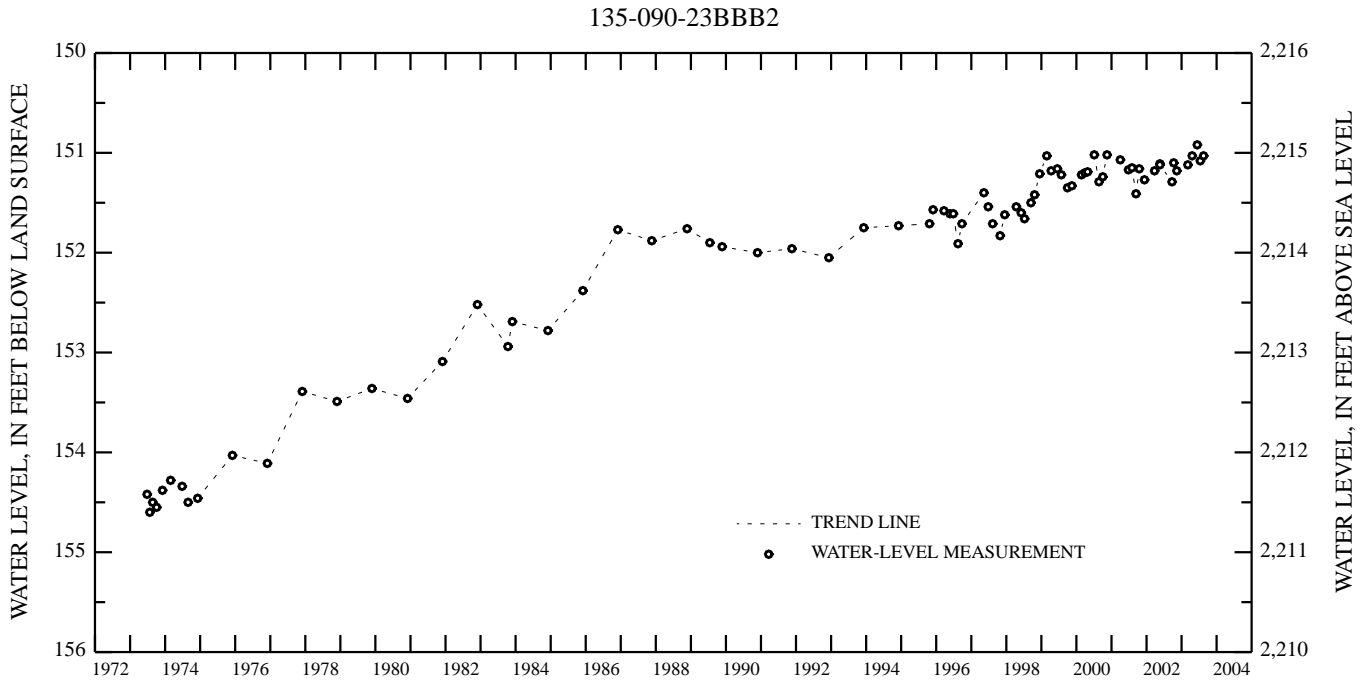
DATUM.--Altitude of land-surface datum is 2,366 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 150.92 ft below land-surface datum, June 13, 2003; lowest water level, 154.60 ft below land-surface datum, July 25, 1973.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	151.10	MAR 07	151.12	APR 21	151.03	JUN 13	150.92	JUL 15	151.08	AUG 18	151.03
NOV 12	151.18										
WATER YEAR 2003		HIGHEST	150.92	JUN 13, 2003		LOWEST	151.18	NOV 12, 2002			



## GROUND-WATER LEVELS

63

## NETWORK SITES--Continued

## GRIGGS COUNTY

472412098261201. Local number, 145-061-04DAD1.

LOCATION.--Lat 47°24'12", long 98°26'12", Hydrologic Unit 09020203. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 160 ft, cased with 102 ft of 6-in diameter plastic pipe, No. 30 slot screen set 102 to 107 ft below land-surface datum.

INSTRUMENTATION.--Water-level data December 1970 to current year. From March 1974 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,470 ft. Measuring point: Top of casing 1.60 ft above land-surface datum.

PERIOD OF RECORD.--December 1970 to current year.

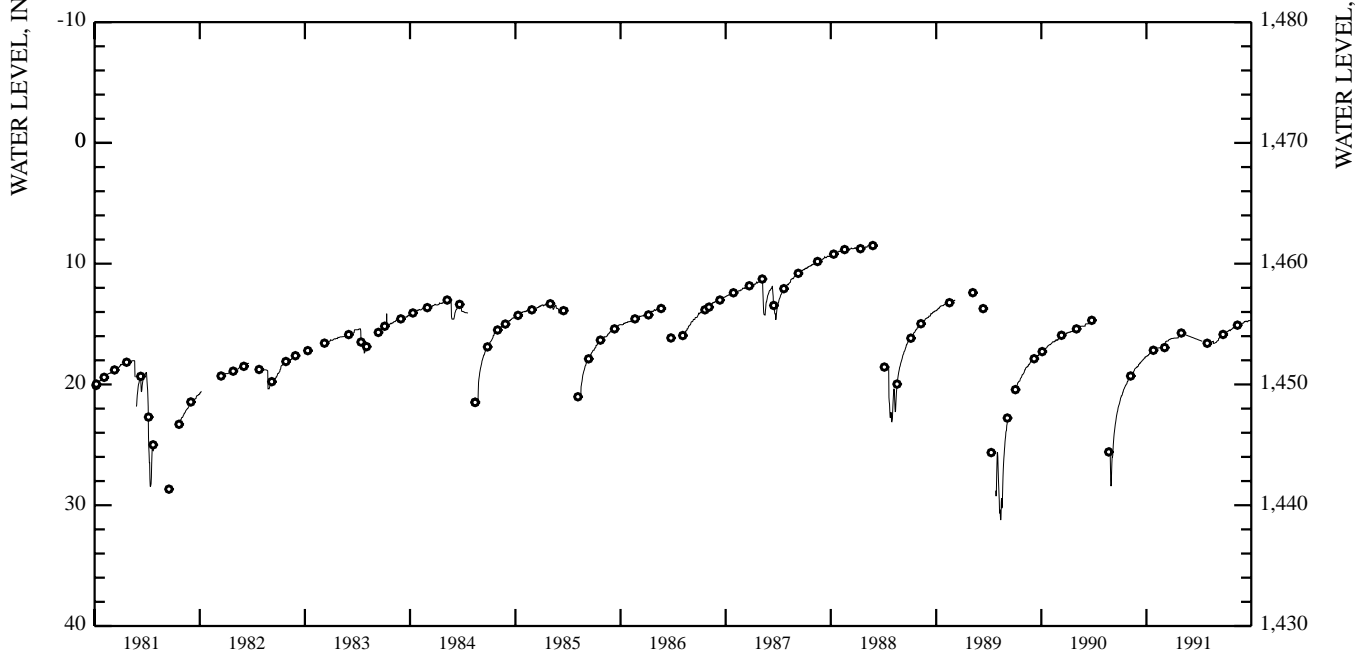
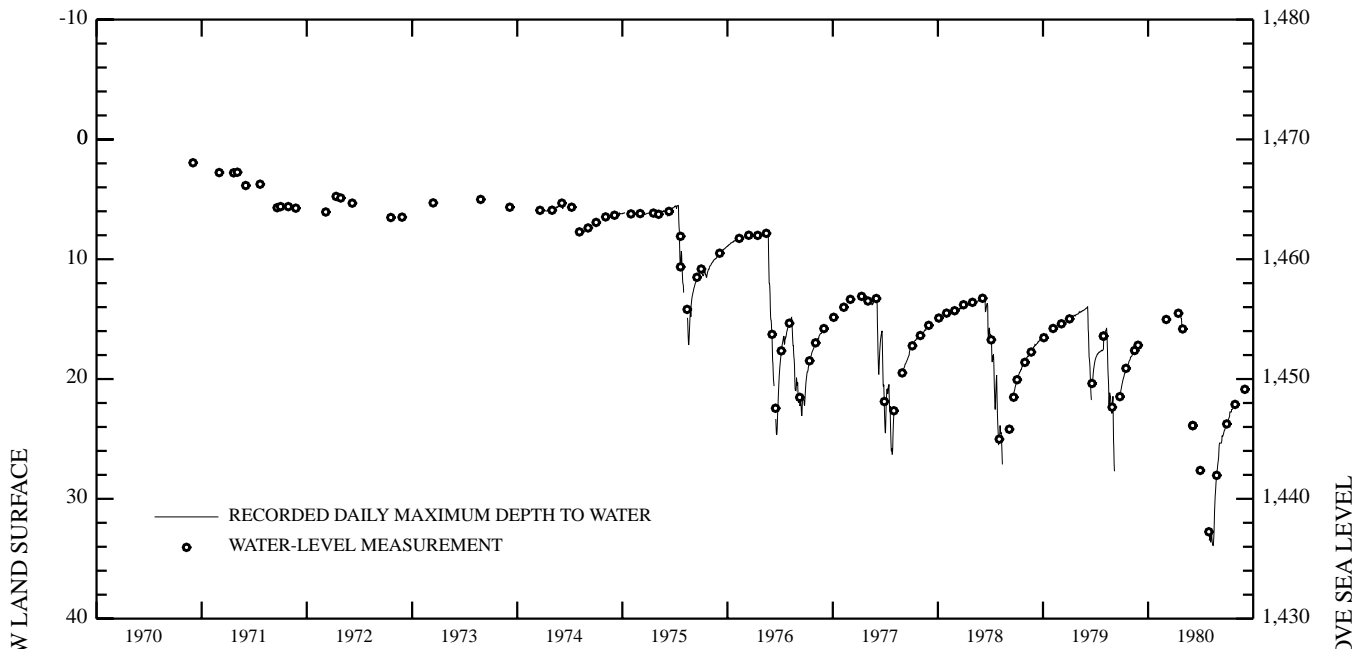
EXTREMES FOR PERIOD OF RECORD.--Highest water level, -1.17 ft below land-surface datum, September 1, 2, 7, and 8, 2001; lowest water level, 33.90 ft below land-surface datum, August 14, 1980.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

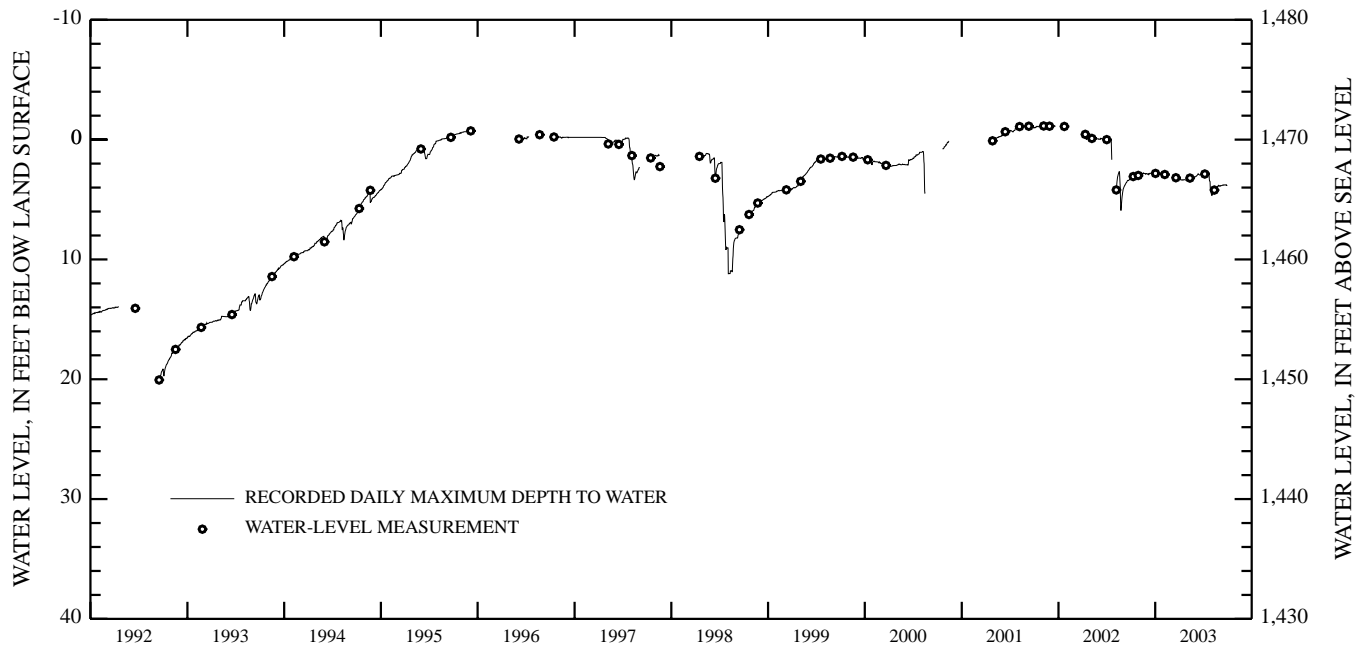
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.23	3.00	2.83	2.83	---	---	3.16	3.42	3.10	2.85	4.55	3.86
2	3.26	2.97	2.87	2.83	---	---	3.20	3.43	3.10	2.85	4.65	3.84
3	3.24	2.96	2.89	2.82	---	---	3.21	3.42	3.09	2.84	4.66	3.88
4	3.18	2.90	2.89	2.81	---	---	3.24	3.40	3.05	2.84	4.60	3.88
5	3.19	2.85	2.88	2.89	---	---	3.29	3.28	3.04	2.83	4.59	3.85
6	3.18	2.86	2.85	2.89	---	---	3.31	3.23	3.04	2.84	4.57	3.84
7	3.16	2.85	2.85	2.86	---	---	3.35	3.21	3.01	2.88	4.45	3.84
8	3.12	2.78	2.91	2.83	---	---	3.36	3.21	2.98	2.91	4.44	3.84
9	3.13	2.77	2.87	2.85	---	---	3.35	3.21	2.96	2.90	4.44	3.83
10	3.09	2.77	2.83	2.86	---	---	3.36	3.17	2.93	2.62	4.37	3.82
11	3.08	2.80	2.81	2.86	---	---	3.37	3.17	2.91	2.62	4.30	3.81
12	3.11	2.82	2.82	2.86	---	---	3.38	3.21	2.85	2.63	4.23	3.81
13	3.11	2.82	2.82	2.86	---	---	3.36	3.21	2.88	2.65	4.20	3.79
14	3.08	2.81	2.81	2.87	---	---	3.35	3.20	2.91	2.63	4.18	3.80
15	3.08	2.83	2.81	2.87	---	---	3.35	3.21	2.92	2.63	4.13	3.80
16	3.07	2.83	2.81	2.87	---	---	3.38	3.21	2.93	2.66	4.11	3.80
17	3.06	2.81	2.80	2.87	---	---	3.37	3.20	2.95	2.69	4.06	3.77
18	3.03	2.78	2.77	2.87	---	---	3.36	3.20	2.95	2.69	4.02	3.78
19	3.03	2.80	2.73	---	---	---	3.35	3.08	2.95	2.68	4.02	3.79
20	3.04	2.82	2.73	---	---	3.22	3.34	3.08	2.95	2.68	4.00	3.78
21	3.04	2.83	2.74	---	---	3.22	3.34	3.08	2.92	2.71	3.98	3.78
22	3.07	2.83	2.78	---	---	3.22	3.35	3.08	2.90	2.74	3.98	3.78
23	3.07	2.83	2.79	---	---	3.22	3.35	3.09	2.89	2.74	3.97	3.78
24	3.07	2.84	2.79	---	---	3.22	3.36	3.09	2.89	3.28	3.92	3.79
25	3.06	2.85	2.79	---	---	3.21	3.37	3.09	2.88	3.45	3.92	3.80
26	3.01	2.89	2.79	---	---	3.21	3.37	3.11	2.87	3.46	3.86	3.77
27	3.01	2.87	2.79	---	---	3.21	3.37	3.11	2.85	3.51	3.86	3.80
28	3.00	2.84	2.79	---	---	3.20	3.40	3.11	2.83	4.17	3.82	3.81
29	3.01	2.83	2.79	---	---	3.20	3.41	3.11	2.84	4.26	3.85	3.83
30	3.01	2.83	2.80	---	---	3.20	3.40	3.09	2.84	4.21	3.87	3.83
31	3.01	---	2.81	---	---	3.20	---	3.10	---	4.24	3.87	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
GRIGGS COUNTY--Continued

145-061-04DAD1



145-061-04DAD1--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 GRIGGS COUNTY--Continued

472624098013101. Local number, 146-058-26BBDB.

LOCATION.--Lat 47°26'24", long 98°01'31", Hydrologic Unit 09020203. Owner: Corps of Engineers.

AQUIFER.--McVille.

WELL CHARACTERISTICS.--Augered observation well, depth 27 ft, cased from -2.6 to 19.3 ft with 2-in diameter plastic pipe, screen set 19.3 to 24.3 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,305.24 ft. Measuring point: Top of casing 2.60 ft above land-surface datum.

PERIOD OF RECORD.--December 1999 to current year.

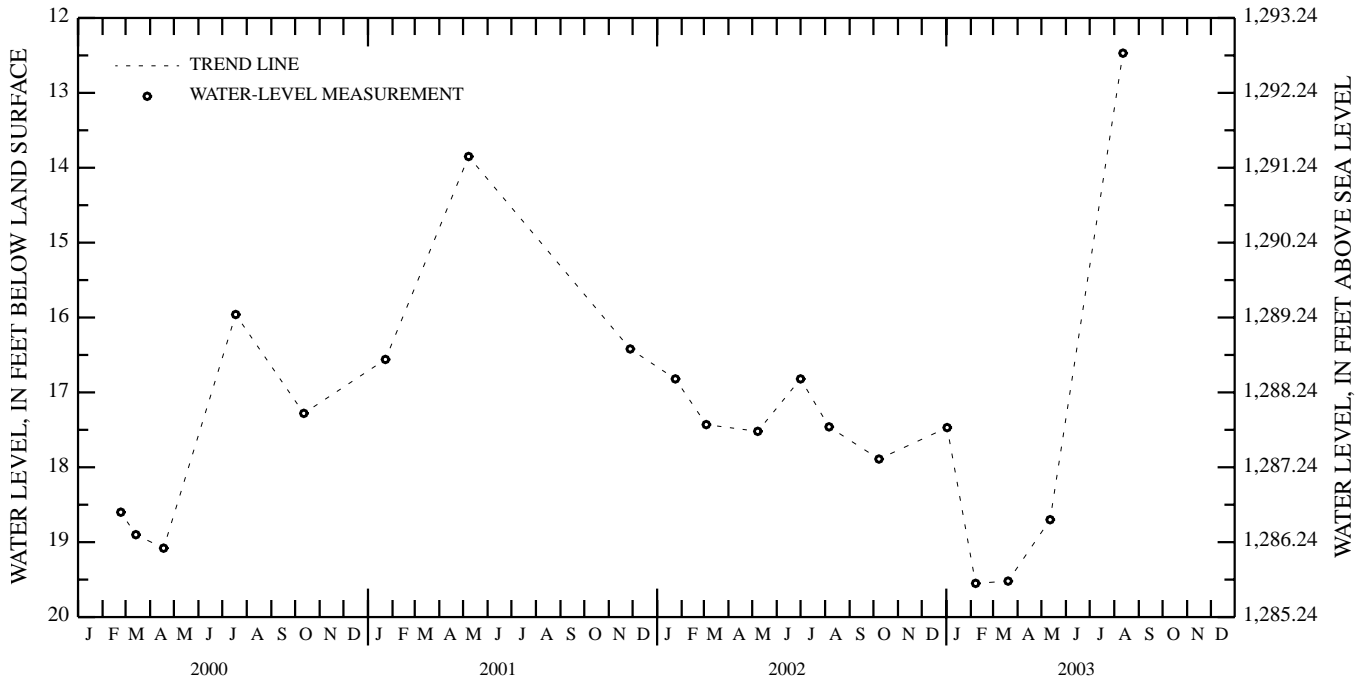
REMARKS.--Replaces well 146-058-26CBC.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.47 ft below land-surface datum, August 12, 2003; lowest water level, 19.55 ft below land-surface datum, February 7, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	17.89	JAN 02	17.47	FEB 07	19.55	MAR 20	19.52	MAY 12	18.70	AUG 12	12.47
WATER YEAR 2003		HIGHEST	12.47	AUG 12, 2003		LOWEST	19.55	FEB 07, 2003			

146-058-26BBDB





GROUND-WATER LEVELS

NETWORK SITES--Continued

GRIGGS COUNTY--Continued

473425098232901. Local number, 147-061-01CCC.

LOCATION.--Lat 47°34'25", long 98°23'29", Hydrologic Unit 09020203. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 340 ft, cased with 237 ft of 1.25-in diameter plastic pipe, No. 25 slot screen set 237 to 240 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,520.61 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

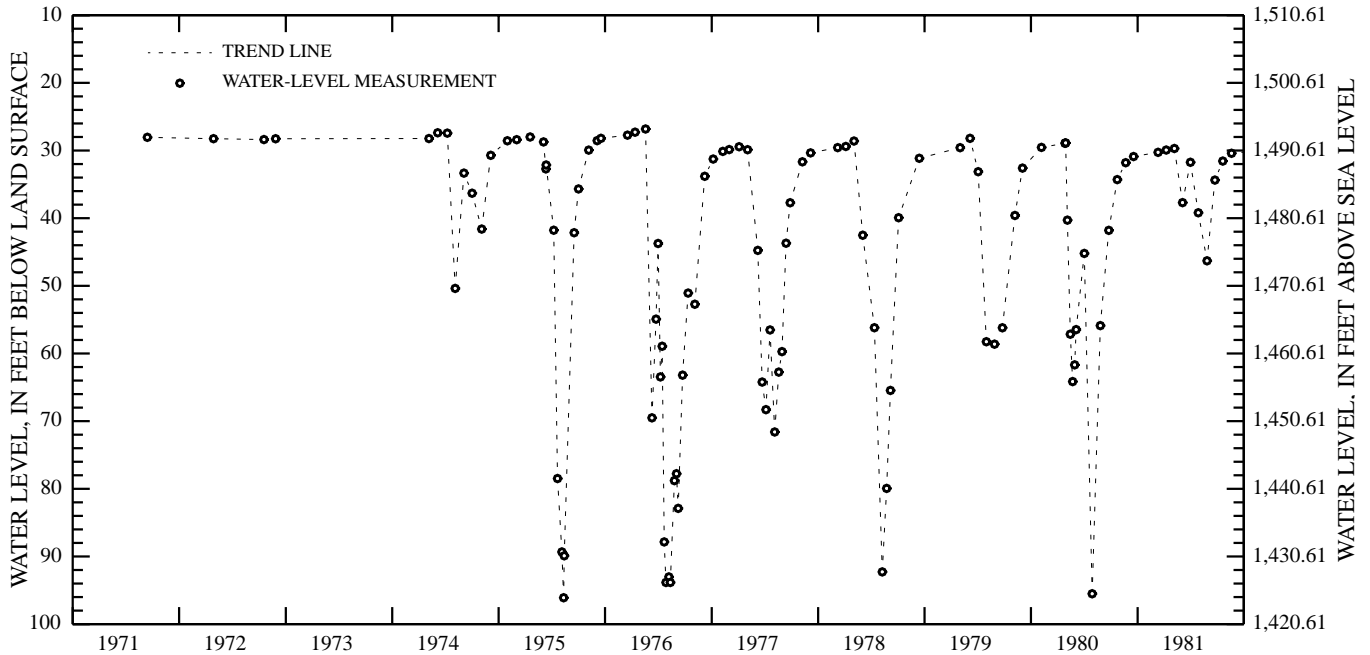
PERIOD OF RECORD.--September 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.39 ft below land-surface datum, July 19, 1999; lowest water level, 96.10 ft below land-surface datum, August 12, 1975.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

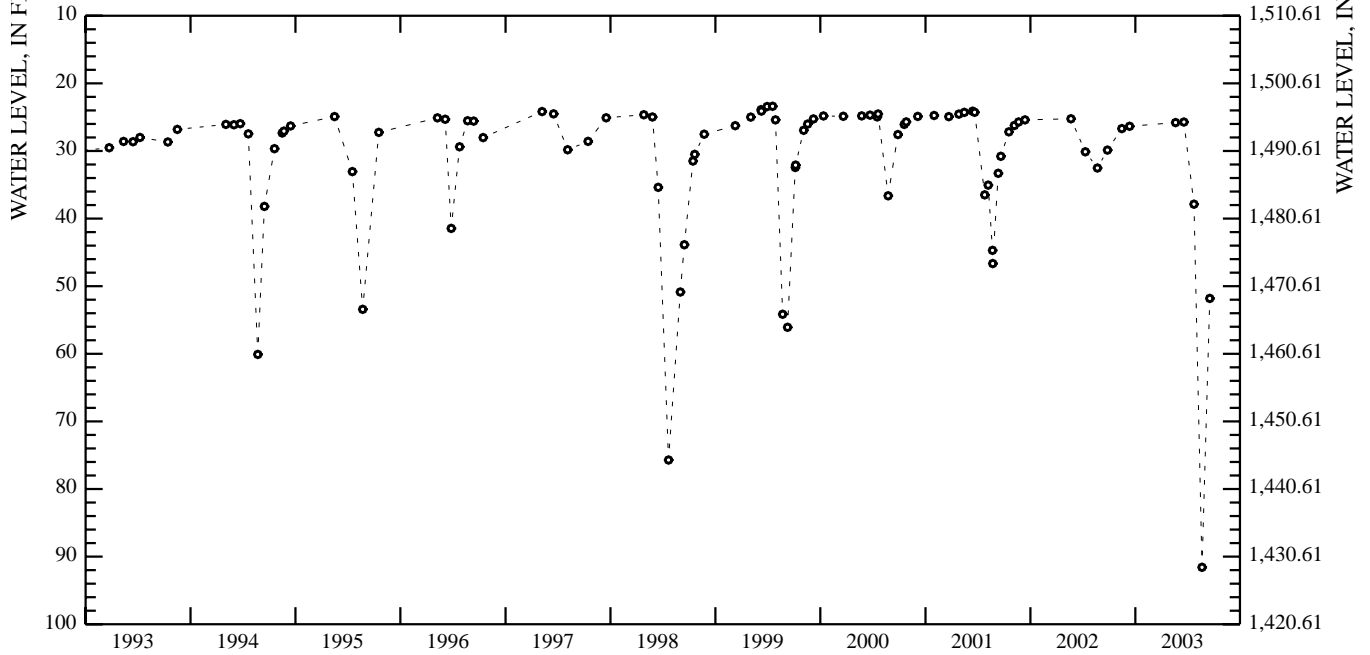
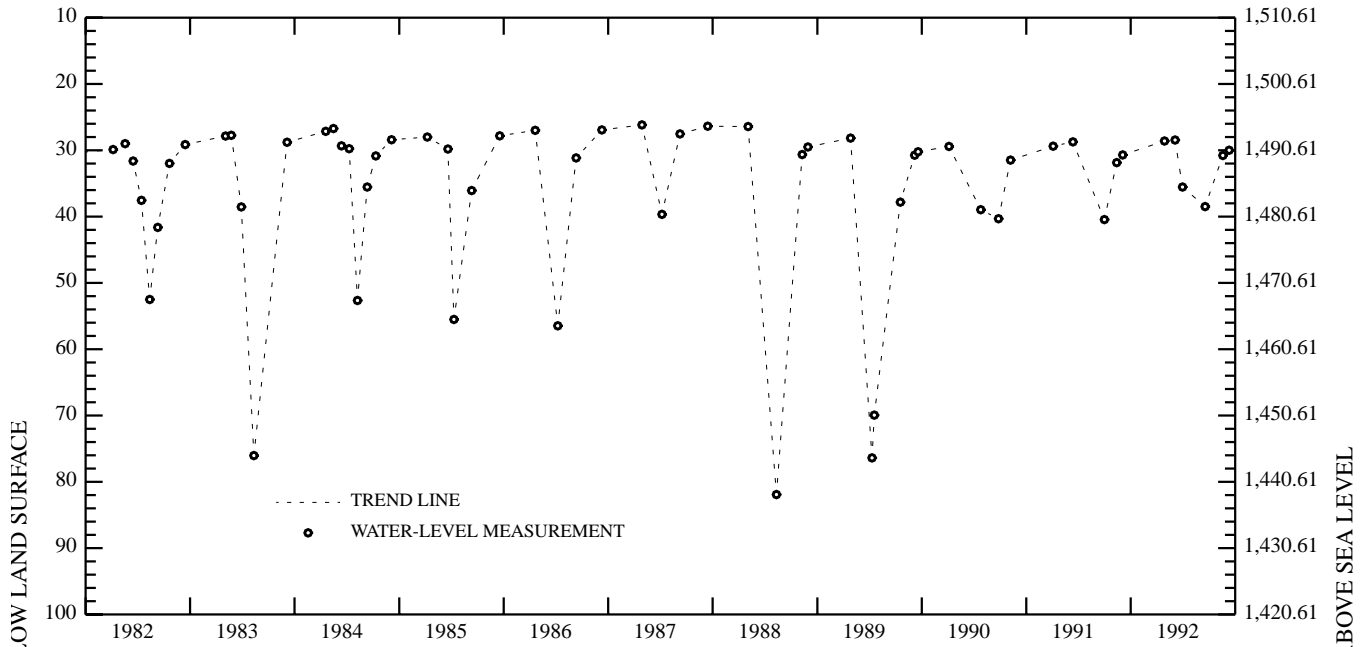
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 15	26.69	MAY 21	25.80	JUN 19	25.72	JUL 24	37.87	AUG 21	91.58	SEP 17	51.81
DEC 12	26.35										
WATER YEAR 2003		HIGHEST	25.72	JUN 19, 2003		LOWEST	91.58	AUG 21, 2003			

147-061-01CCC



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
GRIGGS COUNTY--Continued

147-061-01CCC--Continued



NETWORK SITES--Continued

HETTINGER COUNTY

463153102521001. Local number, 135-097-04DCA.

LOCATION.--Lat 46°31'53", long 102°52'10", Hydrologic Unit 10130204. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,360 ft, cased with 1,320 ft of 4-in diameter steel pipe, open ended.

INSTRUMENTATION.--Measured using a steel tape.

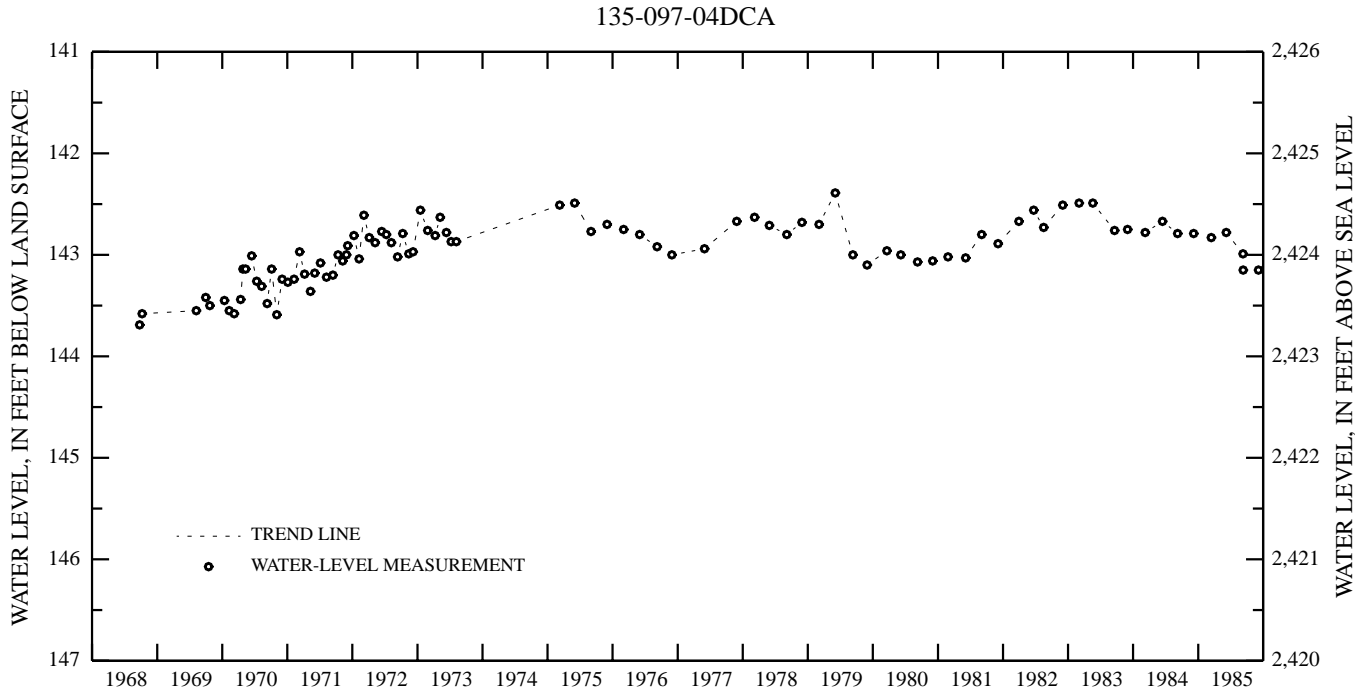
DATUM.--Altitude of land-surface datum is 2,567 ft. Measuring point: Top of casing 0.80 ft above land-surface datum.

PERIOD OF RECORD.--September 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 142.39 ft below land-surface datum, June 4, 1979; lowest water level, 146.25 ft below land-surface datum, August 26, 2003.

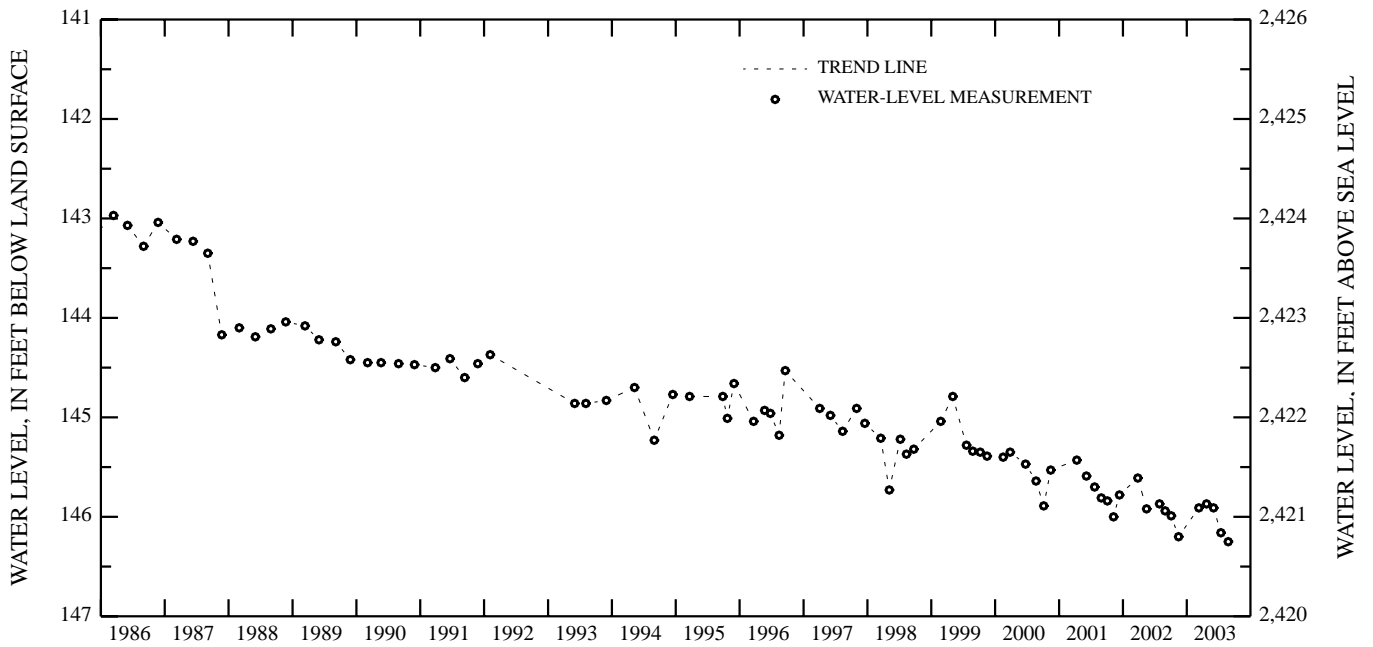
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	145.99	MAR 11	145.91	APR 24	145.87	JUN 03	145.91	JUL 15	146.16	AUG 26	146.25
NOV 15	146.20										
WATER YEAR 2003		HIGHEST	145.87	APR 24, 2003		LOWEST	146.25	AUG 26, 2003			



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
HETTINGER COUNTY--Continued

135-097-04DCA--Continued



NETWORK SITES--Continued

KIDDER COUNTY

470638099324301. Local number, 142-070-16DDD.

LOCATION.--Lat 47°06'38", long 99°32'43", Hydrologic Unit 10130103. Owner: North Dakota State Water Commission.

AQUIFER.--Long Lake.

WELL CHARACTERISTICS.--Drilled observation well, depth 84 ft, cased with 70 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 70 to 73 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

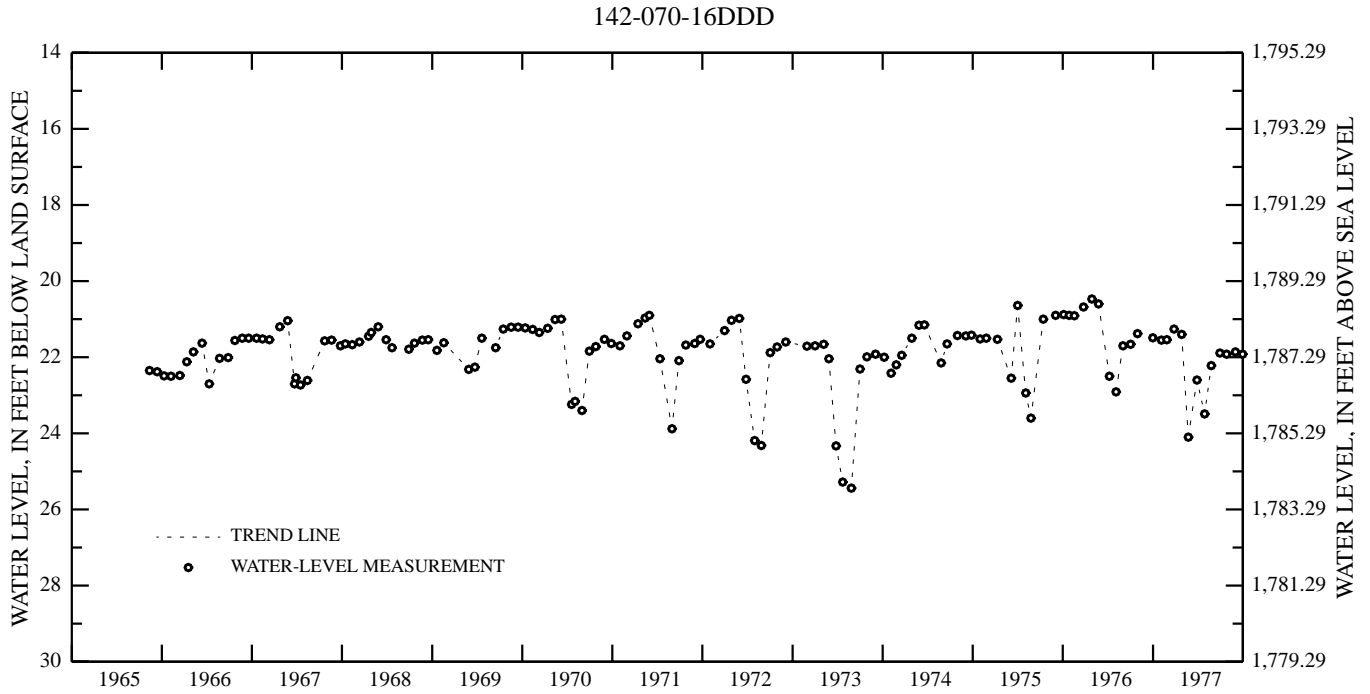
DATUM.--Altitude of land-surface datum is 1,809.29 ft. Measuring point: Top of casing 1.90 ft above land-surface datum.

PERIOD OF RECORD.--November 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.94 ft below land-surface datum, May 23, 1997; lowest water level, 26.18 ft below land-surface datum, August 5, 2002.

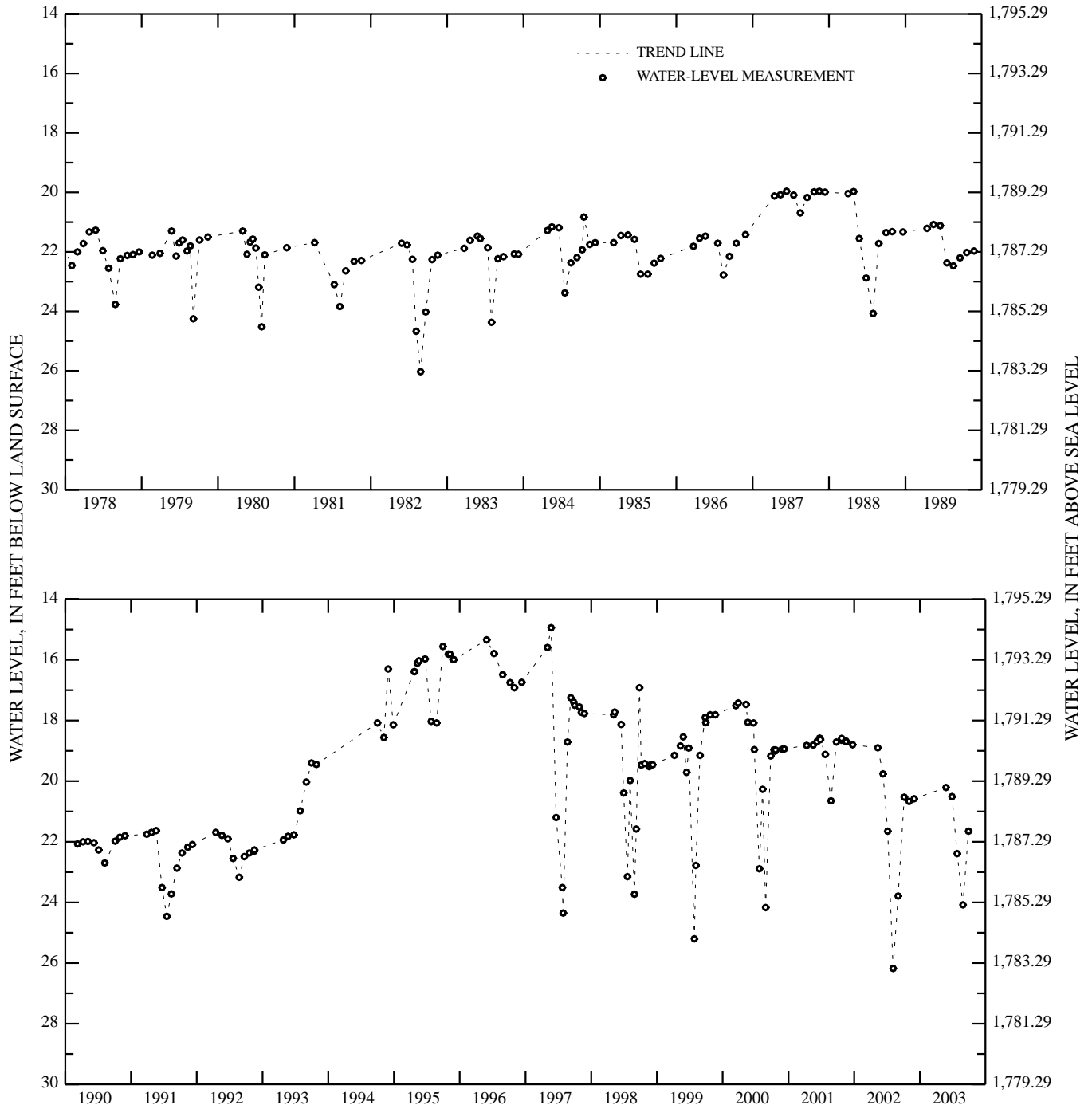
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06	20.53	NOV 30	20.58	JUN 28	20.51	JUN 27	22.39	AUG 28	24.08	SEP 28	21.65
NOV 02	20.67	MAY 26	20.21								
WATER YEAR 2003		HIGHEST	20.21	MAY 26, 2003		LOWEST	24.08	AUG 28, 2003			



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
KIDDER COUNTY--Continued

142-070-16DDD--Continued



NETWORK SITES--Continued

LaMOURE COUNTY

461958098132901. Local number, 133-060-16DAA.

LOCATION.--Lat 46°19'58", long 98°13'29", Hydrologic Unit 10160003. Owner: North Dakota State Water Commission.

AQUIFER.--LaMoire.

WELL CHARACTERISTICS.--Drilled observation well, depth 110 ft, cased with 58 ft of 6-in diameter plastic pipe, No. 25 slot screen set 58 to 63 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From November 1975 to October 29, 2000, daily maximum and minimum recorded water levels also are available. Measured using a steel tape October 29, 2000, to present.

DATUM.--Altitude of land-surface datum is 1,320 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

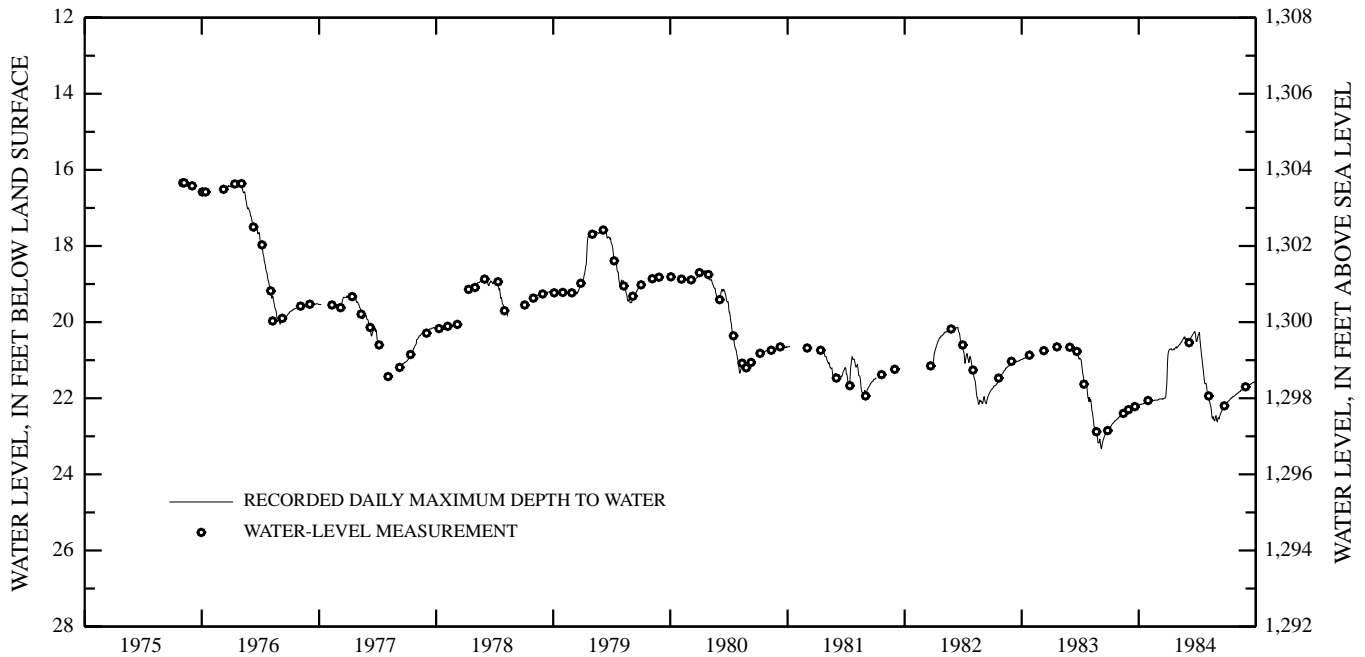
PERIOD OF RECORD.--November 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.63 ft below land-surface datum, May 19, 1999; lowest water level, 26.84 ft below land-surface datum, August 20, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

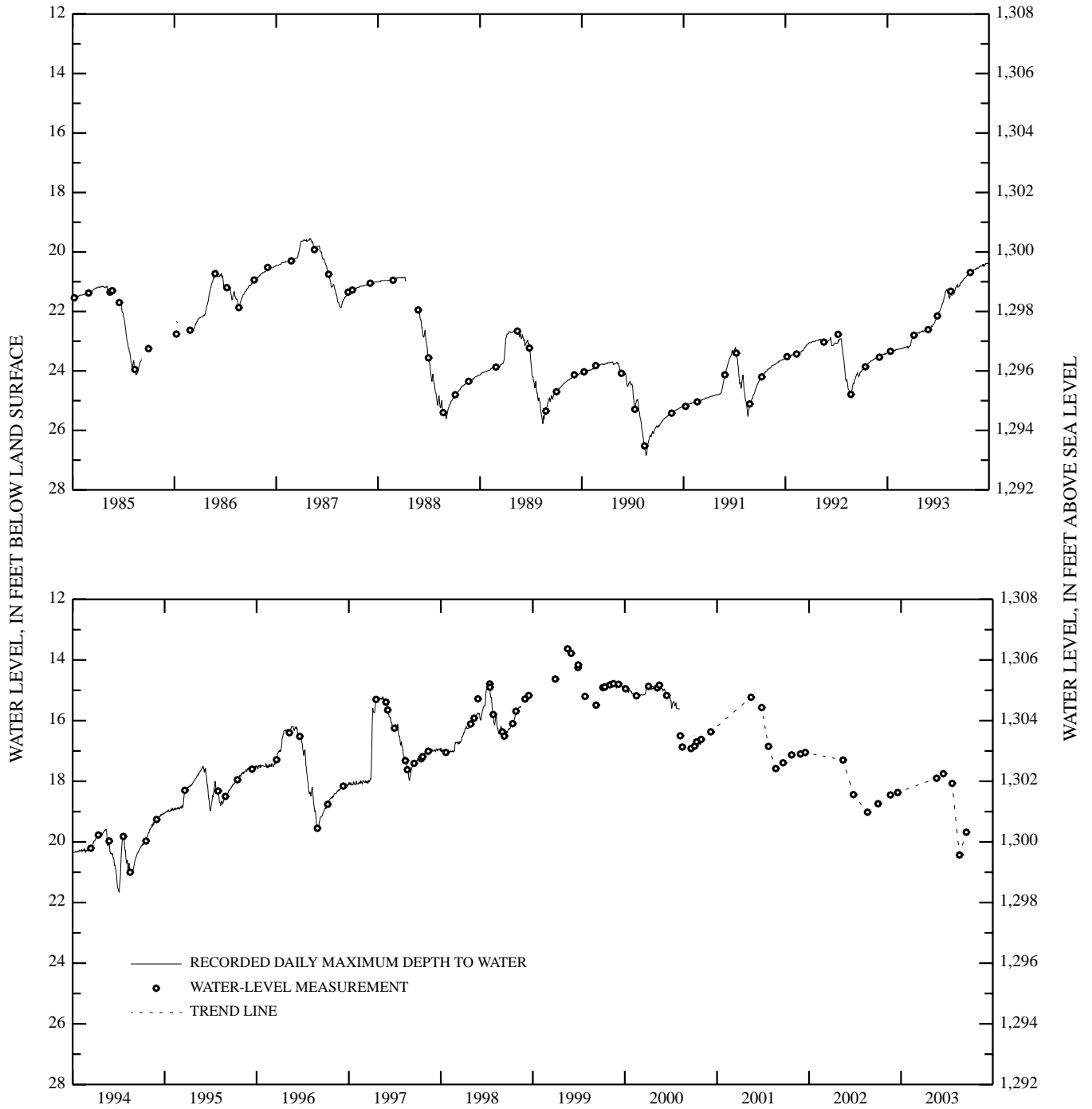
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	18.74	DEC 19	18.37	JUN 18	17.75	JUL 23	18.07	AUG 21	20.43	SEP 17	19.68
NOV 20	18.45	MAY 22	17.90								
WATER YEAR 2003		HIGHEST	17.75	JUN 18, 2003		LOWEST	20.43	AUG 21, 2003			

133-060-16DAA



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
LaMOURE COUNTY--Continued

133-060-16DAA--Continued





## NETWORK SITES--Continued

## LaMOURE COUNTY--Continued

462447098432602. Local number, 134-064-22BBB2.

LOCATION.--Lat 46°24'47", long 98°43'26", Hydrologic Unit 10160004. Owner: North Dakota State Water Commission.

AQUIFER.--Edgeley.

WELL CHARACTERISTICS.--Drilled observation well, depth 40 ft, cased with 27 ft of 4-in diameter plastic pipe, screen set 27 to 32 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder January 1975 to January 1998, daily maximum and minimum recorded water levels also are available. Measured using a steel tape January 1998 to present.

DATUM.--Altitude of land-surface datum is 1,550 ft. Measuring point: Top of casing 2.40 ft above land-surface datum.

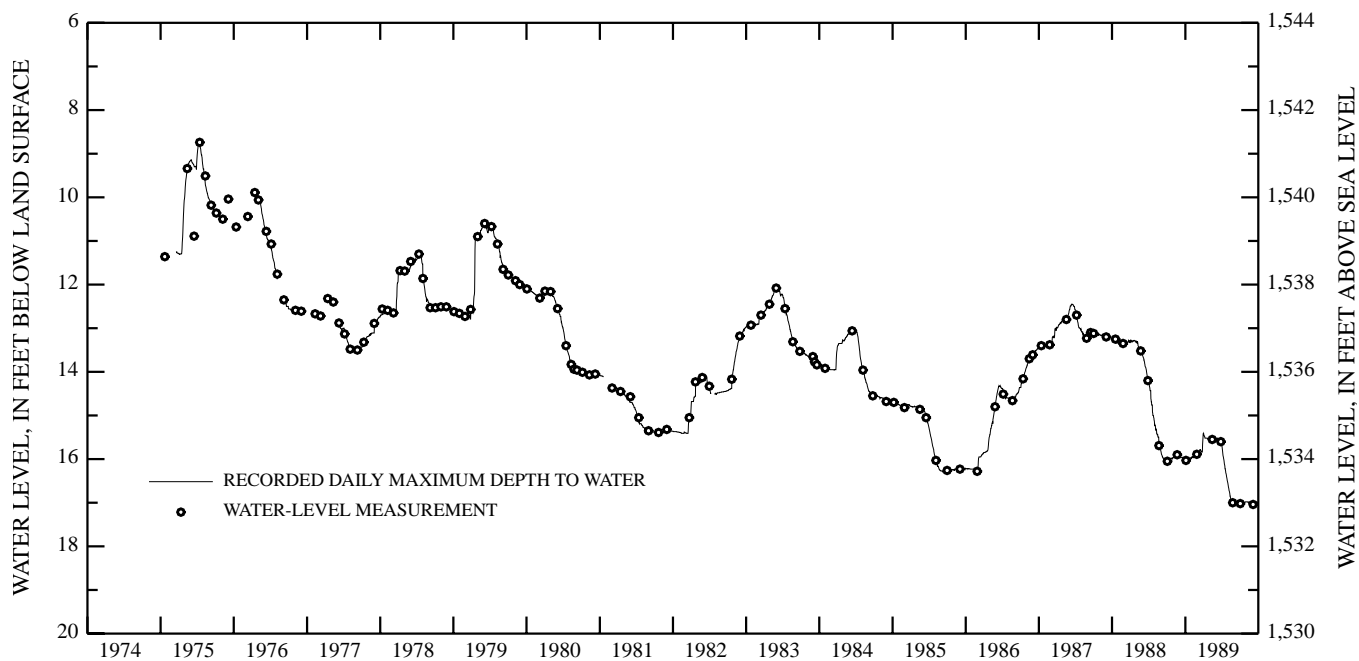
PERIOD OF RECORD.--January 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.86 ft below land-surface datum, June 2, 1999; lowest water level, 19.44 ft below land-surface datum, October 11, 1992.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

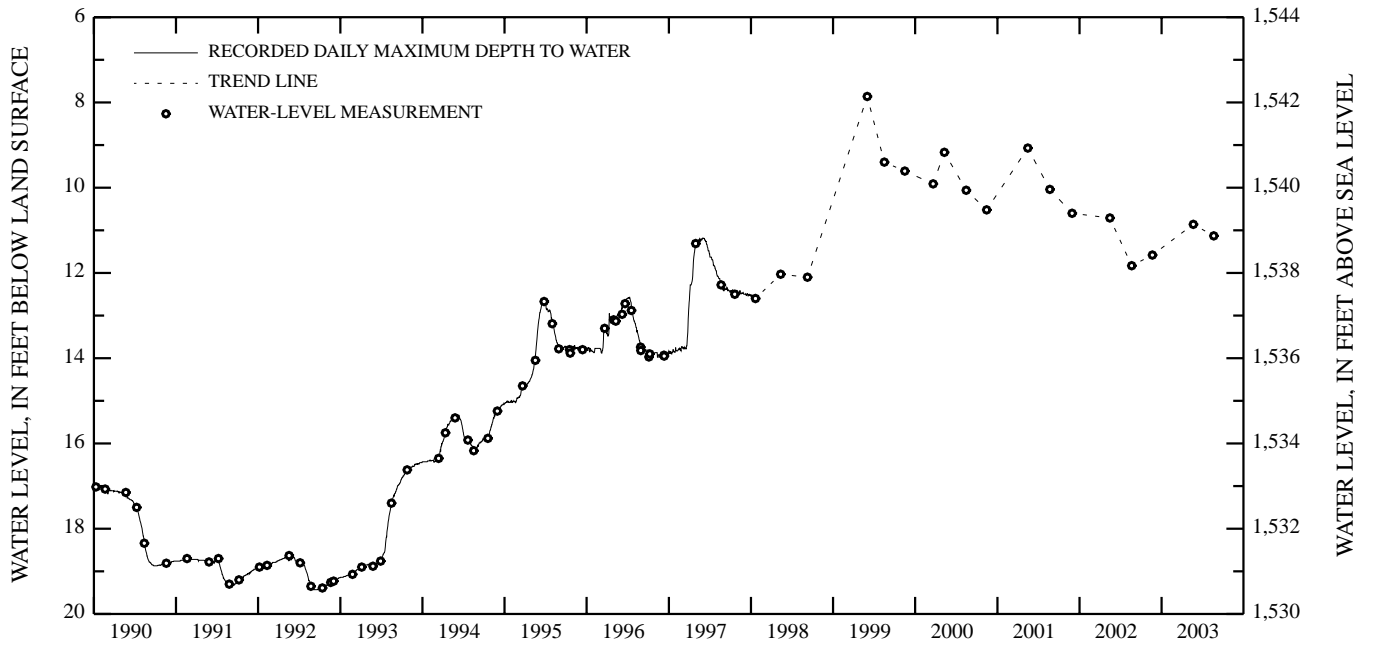
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	11.58	MAY 22	10.86	AUG 21	11.13
WATER YEAR 2003 HIGHEST 10.86		MAY 22, 2003		LOWEST 11.58 NOV 21, 2002	

## 134-064-22BBB2



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 LaMOURE COUNTY--Continued

134-064-22BBB2--Continued



## NETWORK SITES--Continued

## LOGAN COUNTY

463417099271002. Local number, 136-070-26BBB2.

LOCATION.--Lat 46°34'17", long 99°27'10", Hydrologic Unit 10130103. Owner: North Dakota State Water Commission.

AQUIFER.--Streeter.

WELL CHARACTERISTICS.--Drilled observation well, depth 62 ft, cased with 39 ft of 6-in diameter plastic pipe, No. 25 slot screen set 39 to 44 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From November 1978 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,909.8 ft. Measuring point: Top of casing 1.80 ft above land-surface datum.

PERIOD OF RECORD.--November 1978 to current year.

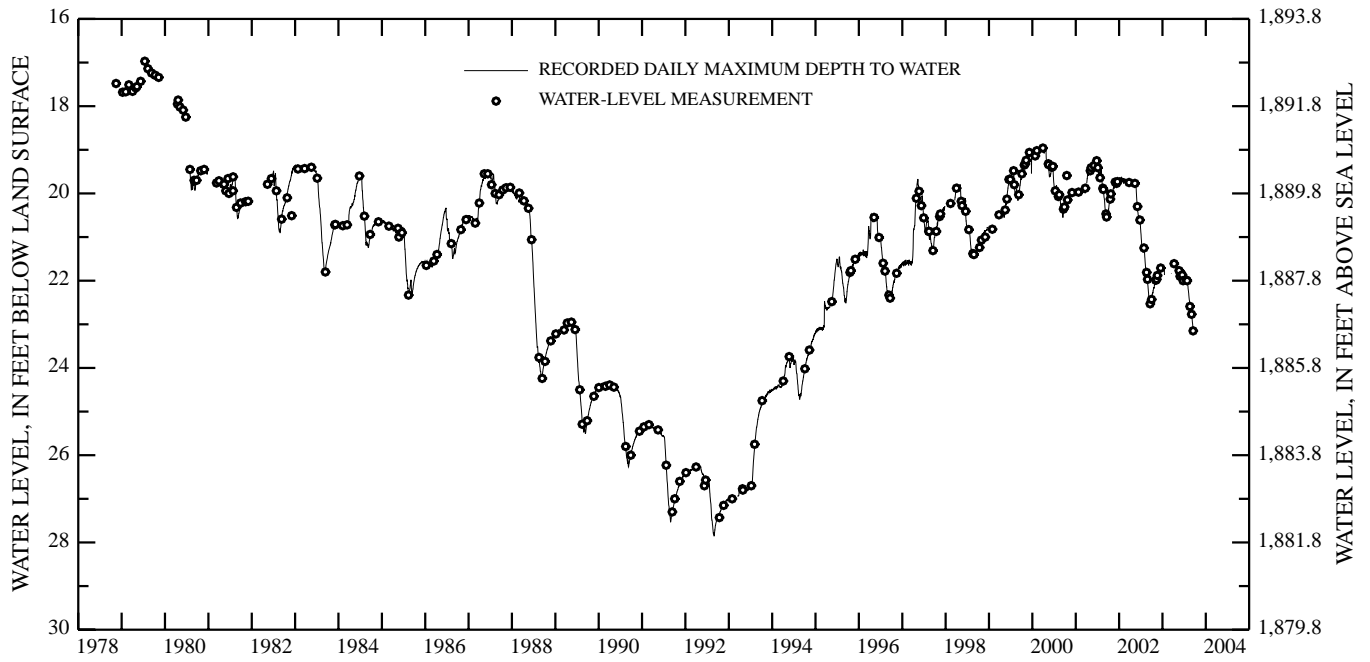
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.97 ft below land-surface datum, July 15, 1979; lowest water level, 27.85 ft below land-surface datum, August 29-31, 1992.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.42	22.05	21.82	---	---	---	---	21.64	21.97	21.80	22.05	22.68
2	22.42	22.03	21.87	---	---	---	---	21.68	21.97	21.76	22.09	22.72
3	22.38	22.02	21.87	---	---	---	---	21.70	21.97	21.84	22.12	22.74
4	22.34	22.02	21.87	---	---	---	---	21.74	21.97	21.87	22.13	22.76
5	22.34	21.99	21.83	---	---	---	---	21.76	21.96	21.87	22.18	22.79
6	22.35	22.00	21.80	---	---	---	---	21.79	21.94	21.86	22.20	22.81
7	22.33	21.96	21.82	---	---	---	---	21.79	21.92	21.86	22.22	22.85
8	22.30	21.94	21.85	21.70	---	---	---	21.79	21.91	21.86	22.24	22.88
9	22.30	21.93	21.80	21.72	---	---	---	21.77	21.89	21.88	22.27	22.91
10	22.27	21.96	21.78	21.73	---	---	21.60	21.78	21.88	21.90	22.29	22.95
11	22.27	21.97	21.77	21.74	---	---	21.60	21.80	21.87	21.91	22.33	22.97
12	22.29	21.97	21.78	21.73	---	---	21.60	21.80	21.84	21.91	22.36	22.99
13	22.28	21.95	21.77	21.74	---	---	21.57	21.78	21.85	21.88	22.39	23.03
14	22.23	21.94	21.76	21.74	---	---	21.58	21.76	21.86	21.91	22.41	23.05
15	22.23	21.94	21.75	21.73	---	---	21.58	21.77	21.85	21.95	22.44	23.07
16	22.21	21.93	21.75	21.73	---	---	21.60	21.76	21.83	21.98	22.45	23.12
17	22.19	21.90	21.73	21.75	---	21.84	21.60	21.76	21.82	22.01	22.48	23.15
18	22.18	21.90	21.72	21.87	---	21.83	21.59	21.76	21.83	22.01	22.52	23.17
19	22.18	21.89	---	---	---	---	21.59	21.80	21.86	22.00	22.54	23.17
20	22.16	21.90	---	---	---	---	21.60	21.80	21.86	21.99	22.58	23.17
21	22.15	21.90	---	---	---	---	21.61	21.76	21.95	21.99	22.60	23.18
22	22.17	21.88	---	---	---	---	21.60	21.74	21.97	21.99	22.60	23.19
23	22.17	21.90	---	---	---	---	21.58	21.74	21.98	21.98	22.62	23.18
24	22.14	21.90	---	---	---	---	21.58	21.72	21.98	21.94	22.64	23.18
25	22.11	21.89	---	---	---	---	21.59	21.74	21.96	21.92	22.64	23.18
26	22.09	21.90	---	---	---	---	21.58	21.79	21.94	21.95	22.64	23.12
27	22.09	21.85	---	---	---	---	21.61	21.84	21.88	21.98	22.64	23.13
28	22.08	21.84	---	---	---	---	21.61	21.88	21.86	21.99	22.63	23.13
29	22.08	21.86	---	---	---	---	21.61	21.89	21.85	21.97	22.64	23.11
30	22.08	21.86	---	---	---	---	21.60	21.95	21.85	22.01	22.65	23.10
31	22.08	---	---	---	---	---	---	21.97	---	22.03	22.64	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
LOGAN COUNTY--Continued

136-070-26BBB2



NETWORK SITES--Continued

LOGAN COUNTY--Continued

463240099483801. Local number, 136-073-35DDD1.

LOCATION.--Lat 46°32'40", long 99°48'38", Hydrologic Unit 10130103. Owner: North Dakota State Water Commission.

AQUIFER.--Napoleon.

WELL CHARACTERISTICS.--Drilled observation well, depth 282 ft, cased with 168 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 168 to 171 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,970 ft. Measuring point: Top of casing 1.80 ft above land-surface datum.

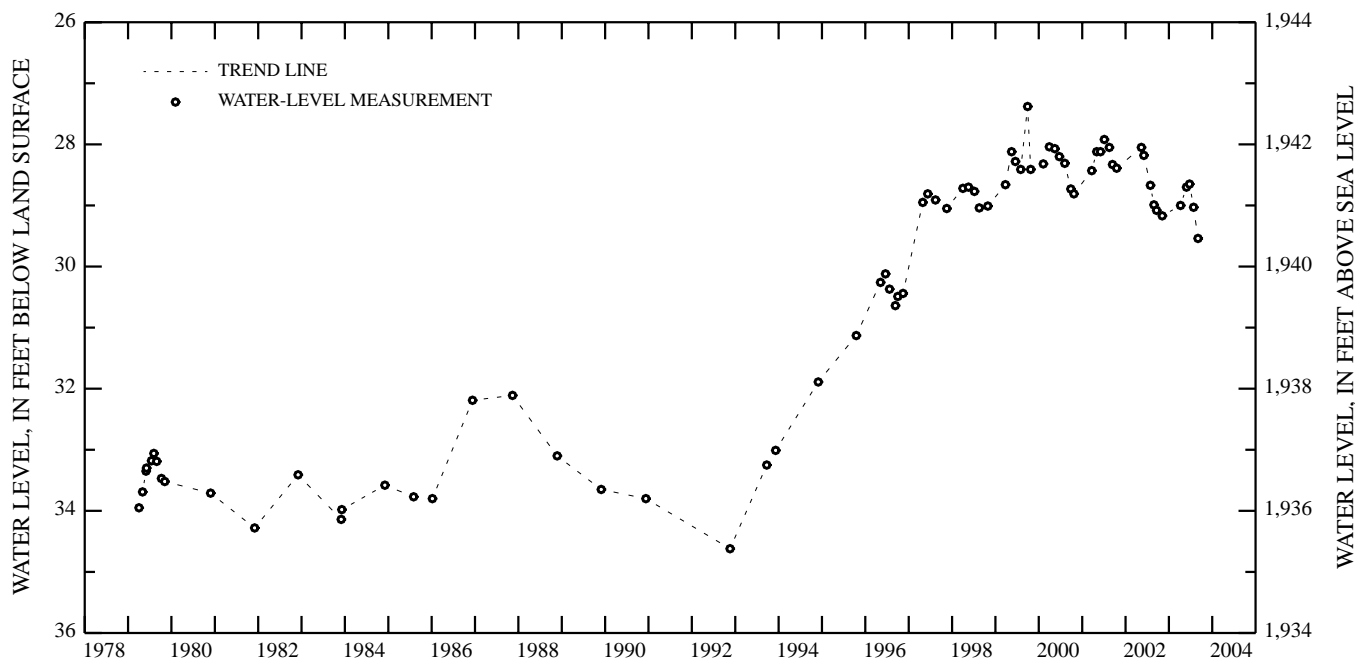
PERIOD OF RECORD.--April 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.38 ft below land-surface datum, September 29, 1999; lowest water level, 34.62 ft below land-surface datum, November 18, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06	29.17	APR 09	29.00	MAY 29	28.70	JUN 24	28.65	JUL 28	29.03	SEP 03	29.54
WATER YEAR 2003		HIGHEST	28.65	JUN 24, 2003		LOWEST	29.54	SEP 03, 2003			

136-073-35DDD1



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 LOGAN COUNTY--Continued

463240099483802. Local number, 136-073-35DDD2.

LOCATION.--Lat 46°32'40", long 99°48'38", Hydrologic Unit 10130103. Owner: North Dakota State Water Commission.

AQUIFER.--Napoleon.

WELL CHARACTERISTICS.--Drilled observation well, depth 131 ft, cased with 118 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 118 to 121 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

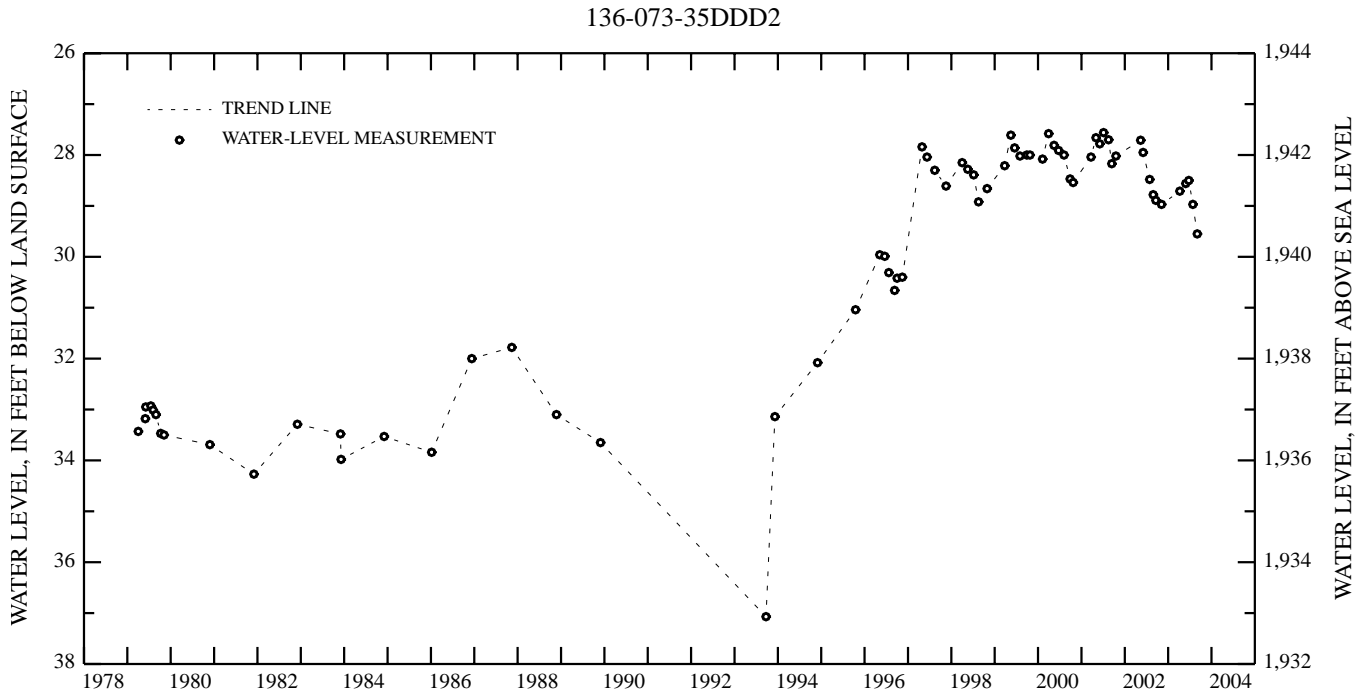
DATUM.--Altitude of land-surface datum is 1,970 ft. Measuring point: Top of casing 1.90 ft above land-surface datum.

PERIOD OF RECORD.--April 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.56 ft below land-surface datum, July 6, 2001; lowest water level, 37.07 ft below land-surface datum, September 23, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06	28.97	APR 09	28.71	MAY 29	28.56	JUN 24	28.50	JUL 28	28.97	SEP 03	29.55
WATER YEAR 2003		HIGHEST	28.50	JUN 24, 2003		LOWEST	29.55	SEP 03, 2003			



## GROUND-WATER LEVELS

81

## NETWORK SITES--Continued

## McHENRY COUNTY

480913100372501. Local number, 154-077-18CCC.

LOCATION.--Lat 48°09'13", long 100°37'25", Hydrologic Unit 09010003. Owner: North Dakota State Water Commission.

AQUIFER.--New Rockford.

WELL CHARACTERISTICS.--Drilled observation well, depth 260 ft, cased with 173 ft of 4-in diameter plastic pipe, No. 18 slot screen set 173 to 178 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From May 1976 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,576.07 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to current year.

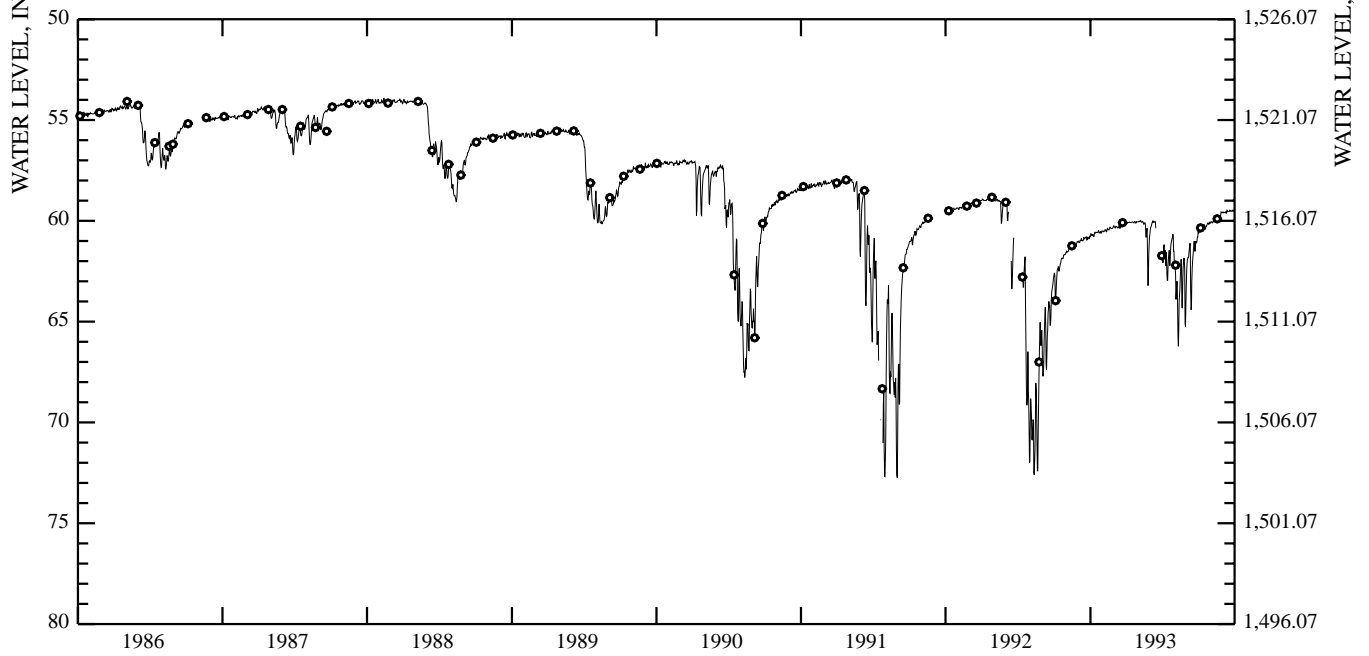
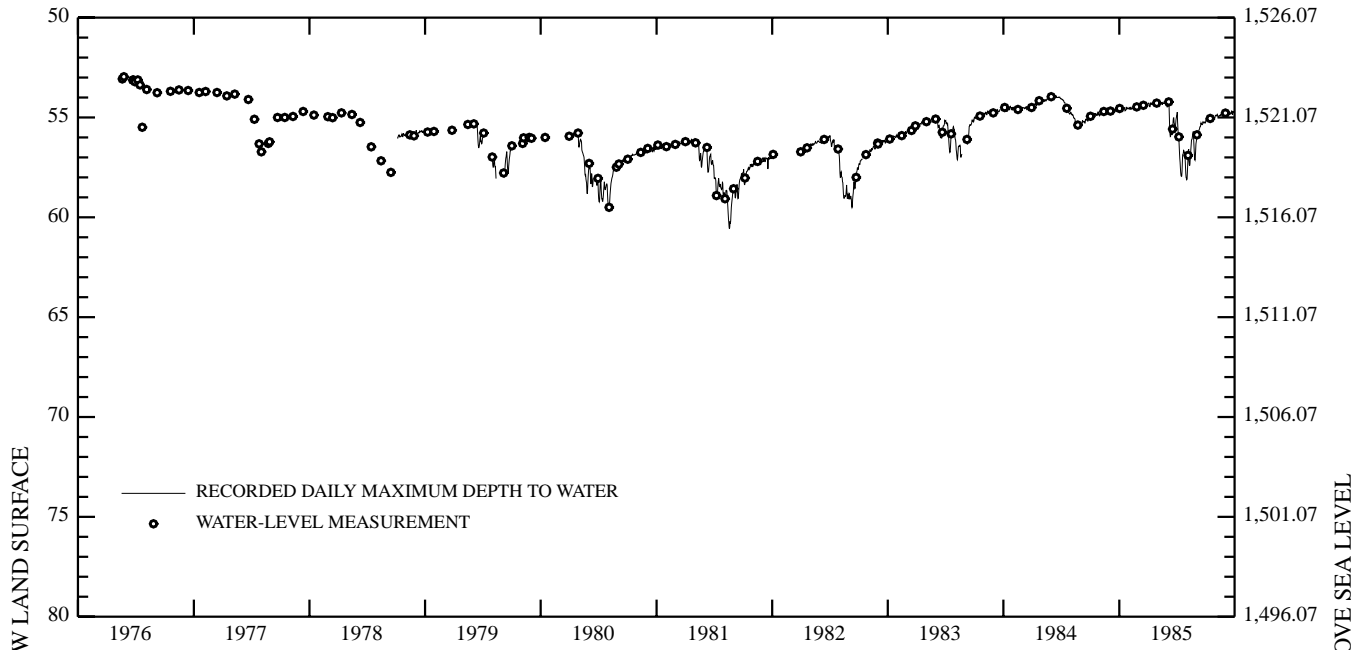
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 52.96 ft below land-surface datum, May 25, 1976; lowest water level, 75.43 ft below land-surface datum, August 1, 1994.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57.16	56.29	55.97	55.80	55.48	55.52	55.34	55.29	56.54	65.34	71.38	63.88
2	---	56.22	56.04	55.80	55.56	55.53	55.36	55.29	56.05	66.25	72.47	64.18
3	57.07	56.19	56.05	55.73	55.59	55.40	55.35	55.29	55.77	66.25	72.22	64.36
4	56.88	56.19	56.05	55.70	55.60	55.43	55.35	55.29	55.58	65.97	70.49	64.70
5	56.91	56.14	55.98	55.82	55.58	55.43	55.35	55.18	55.72	63.61	69.37	65.14
6	56.95	56.18	55.85	55.84	55.63	55.41	55.35	55.18	56.45	62.34	67.68	65.15
7	56.93	56.17	55.88	55.75	55.62	55.50	55.39	55.20	56.32	64.63	66.57	66.45
8	56.82	56.04	55.96	55.63	55.51	55.53	55.39	55.20	55.91	65.90	67.74	66.52
9	56.82	56.04	55.92	55.75	55.51	55.53	55.34	55.18	55.65	66.60	68.87	64.88
10	56.71	56.19	55.81	55.75	55.48	55.50	55.34	55.21	55.47	67.17	67.81	63.67
11	56.67	56.23	55.76	55.75	55.51	55.40	55.34	55.24	55.45	67.69	65.90	62.73
12	56.79	56.23	56.05	55.70	55.53	55.41	55.34	55.24	55.35	69.03	64.61	62.28
13	56.79	56.23	56.38	55.70	55.53	55.41	55.34	55.24	55.32	68.35	66.87	61.87
14	56.63	56.15	56.39	55.71	55.60	55.40	55.34	55.18	55.33	65.44	68.51	61.65
15	---	56.18	56.34	55.71	55.61	55.40	55.34	55.19	55.31	63.73	70.95	61.39
16	---	56.18	56.36	55.71	55.59	55.40	55.36	55.17	55.89	62.55	72.29	61.11
17	---	56.06	56.18	55.71	55.40	55.42	55.35	55.19	58.32	66.28	73.07	60.87
18	---	56.01	56.00	55.55	55.45	55.46	55.34	55.19	60.70	67.27	73.64	60.77
19	56.53	56.06	55.90	55.53	55.47	55.46	55.34	55.30	62.94	67.74	74.01	60.69
20	56.53	56.06	55.86	55.64	55.48	55.46	55.34	55.32	63.34	67.74	74.35	60.46
21	56.53	56.09	55.86	55.69	55.52	55.40	55.34	55.32	63.74	66.61	73.87	60.33
22	56.55	56.09	55.90	55.76	55.52	55.40	55.34	55.29	63.54	68.54	72.27	60.24
23	56.55	56.06	55.91	55.76	55.53	55.40	55.34	55.29	62.10	68.58	72.27	60.13
24	56.48	56.11	55.91	55.60	55.53	55.40	55.27	55.29	64.85	70.02	70.92	59.97
25	56.32	56.11	55.81	55.64	55.51	55.44	55.27	55.29	65.76	69.98	68.59	59.97
26	56.32	56.08	55.77	55.65	55.41	55.44	55.27	55.29	65.71	70.83	67.04	59.82
27	56.34	56.03	55.73	55.47	55.47	55.41	55.27	55.29	66.65	71.61	65.99	59.79
28	56.31	55.93	55.72	55.63	55.47	55.45	55.34	55.29	66.65	71.96	65.00	59.78
29	56.38	55.95	55.72	55.64	---	55.47	55.34	56.02	64.10	73.29	64.49	59.69
30	56.38	56.00	55.76	55.54	---	55.47	55.31	57.10	62.94	72.86	64.06	59.59
31	56.37	---	55.77	55.49	---	55.41	---	57.20	---	70.95	63.52	---

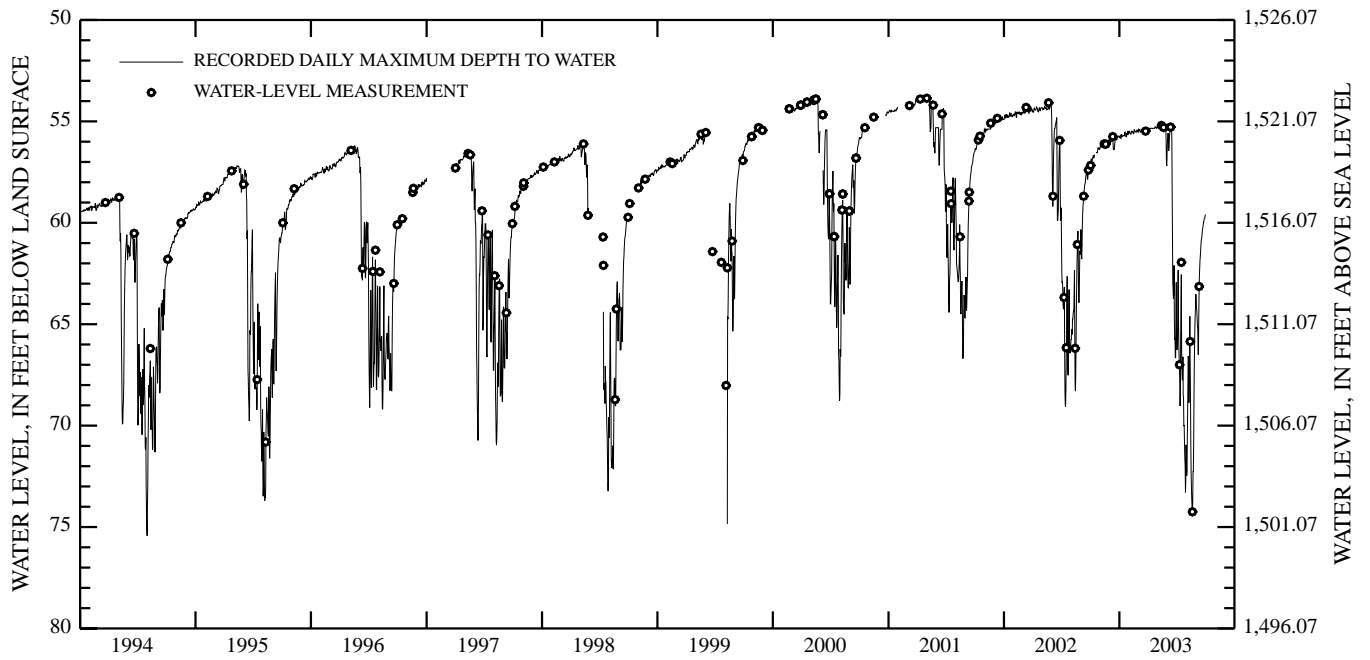
GROUND-WATER LEVELS  
NETWORK SITES--Continued  
McHENRY COUNTY--Continued

154-077-18CCC





154-077-18CCC--Continued



GROUND-WATER LEVELS

NETWORK SITES--Continued

McHENRY COUNTY--Continued

480725100373303. Local number, 154-078-36AAA3.

LOCATION.--Lat 48°07'25", long 100°37'33", Hydrologic Unit 09010003. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 400 ft, cased with 282 ft of 2-in plastic pipe, No. 18 slot screen set 282 to 292 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,546.96 ft. Measuring point: Top of casing 1.79 ft above land-surface datum.

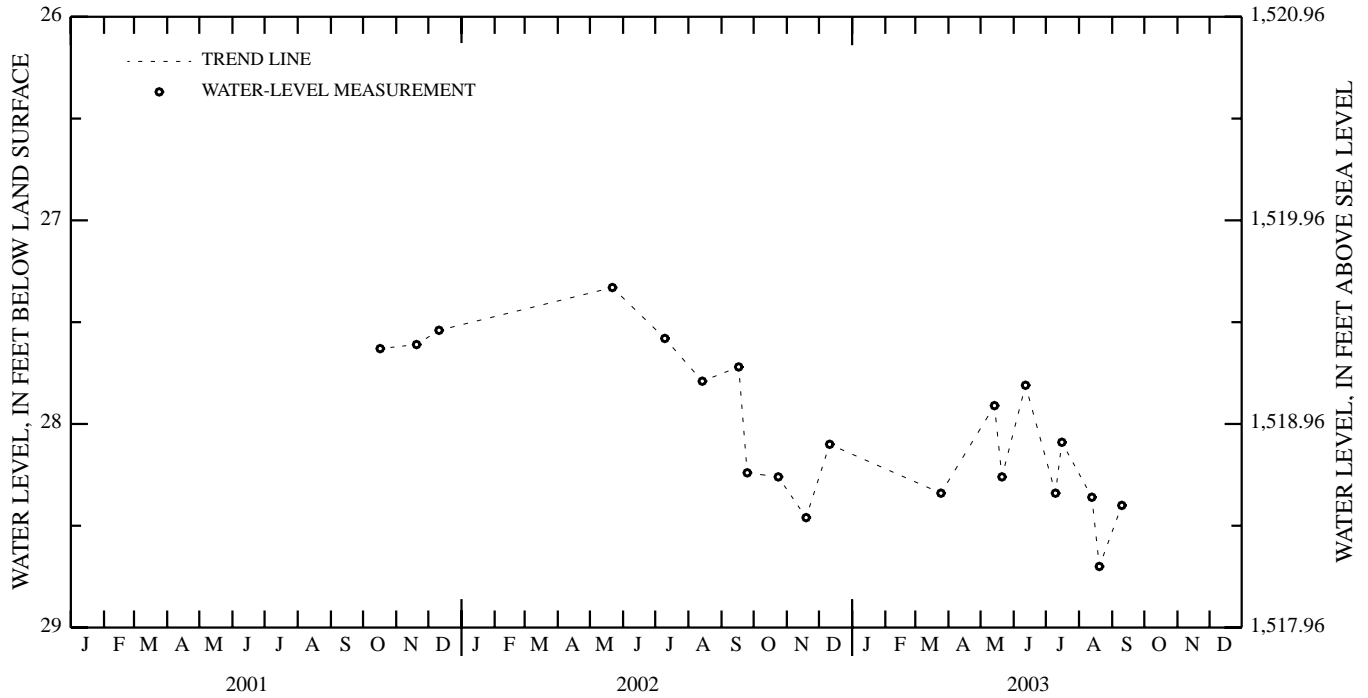
PERIOD OF RECORD.--October 2001 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.33 ft below land-surface datum, May 22,2002; lowest water level, 28.70 ft below land-surface datum, August 20, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	28.26	DEC 11	28.10	MAY 14	27.91	JUN 12	27.81	JUL 16	28.09	AUG 20	28.70
NOV 19	28.46	MAR 25	28.34	MAY 21	28.26	JUL 10	28.34	AUG 13	28.36	SEP 10	28.40
WATER YEAR 2003		HIGHEST	27.81	JUN 12, 2003		LOWEST	28.70	AUG 20, 2003			

154-078-36AAA3



NETWORK SITES--Continued

McHENRY COUNTY--Continued

480725100373304. Local number, 154-078-36AAA4.

LOCATION.--Lat 48°07'25", long 100°37'33", Hydrologic Unit 09010003. Owner: North Dakota State Water Commission.

AQUIFER.--Hell Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 230 ft, cased with 211 ft of 2-in plastic pipe, No. 18 slot screen set 211 to 221 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

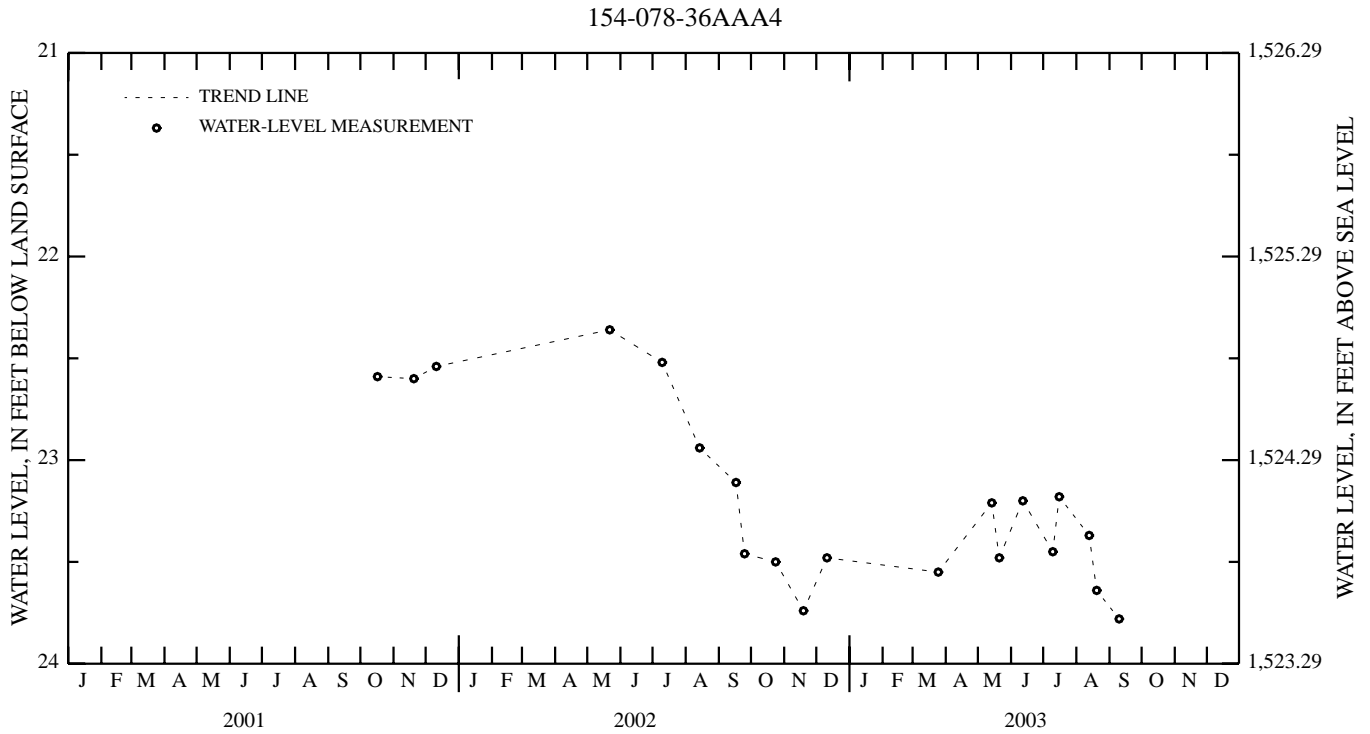
DATUM.--Altitude of land-surface datum is 1,547.29 ft. Measuring point: Top of casing 1.88 ft above land-surface datum.

PERIOD OF RECORD.--October 2001 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.36 ft below land-surface datum, May 22, 2002; lowest water level, 23.78 ft below land-surface datum, September 10, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	23.50	DEC 11	23.48	MAY 14	23.21	JUN 12	23.20	JUL 16	23.18	AUG 20	23.64
NOV 19	23.74	MAR 25	23.55	MAY 21	23.48	JUL 10	23.45	AUG 13	23.37	SEP 10	23.78
WATER YEAR 2003		HIGHEST	23.18	JUL 16, 2003		LOWEST	23.78	SEP 10, 2003			



GROUND-WATER LEVELS

NETWORK SITES--Continued

McHENRY COUNTY--Continued

481948100305901. Local number, 156-077-13CCB1.

LOCATION.--Lat 48°19'48", long 100°30'59", Hydrologic Unit 09010003. Owner: North Dakota State Water Commission.

AQUIFER.--Denbigh.

WELL CHARACTERISTICS.--Drilled observation well, depth 160 ft, cased with 123 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 123 to 126 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,475 ft. Measuring point: Top of casing 1.70 ft above land-surface datum.

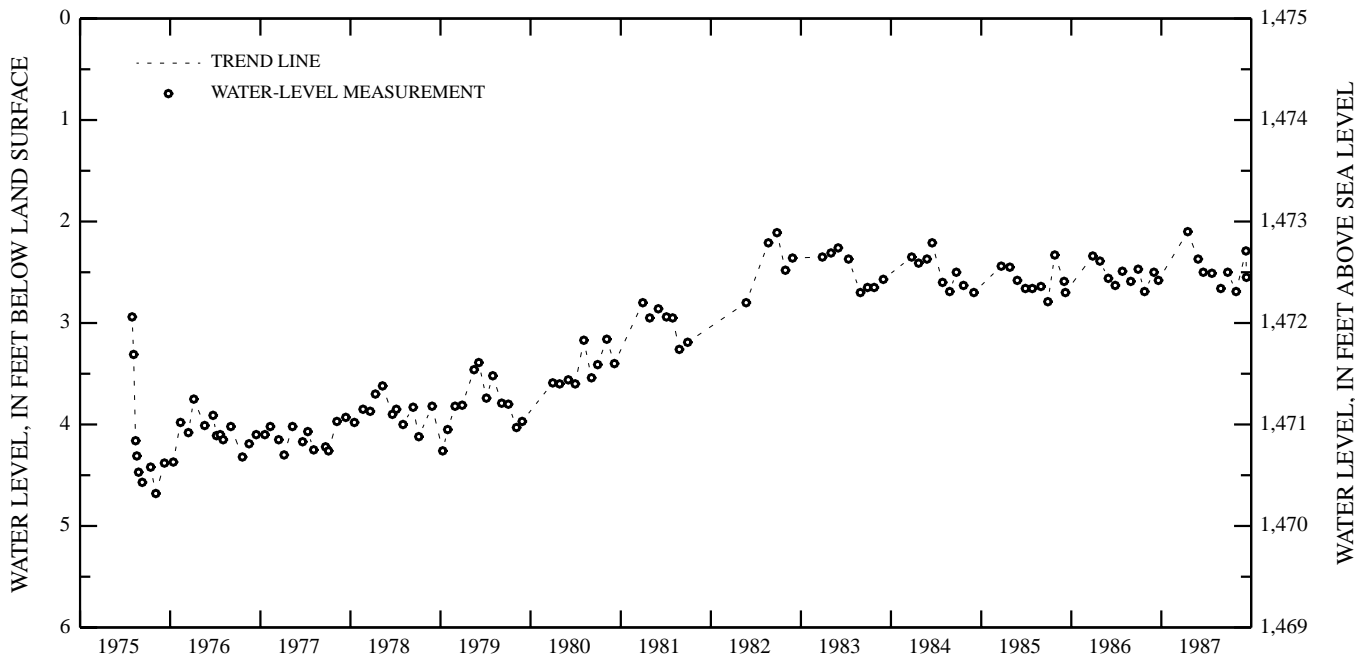
PERIOD OF RECORD.--July 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.32 ft below land-surface datum, April 11 and July 17, 2001; lowest water level, 4.68 ft below land-surface datum, November 4, 1975.

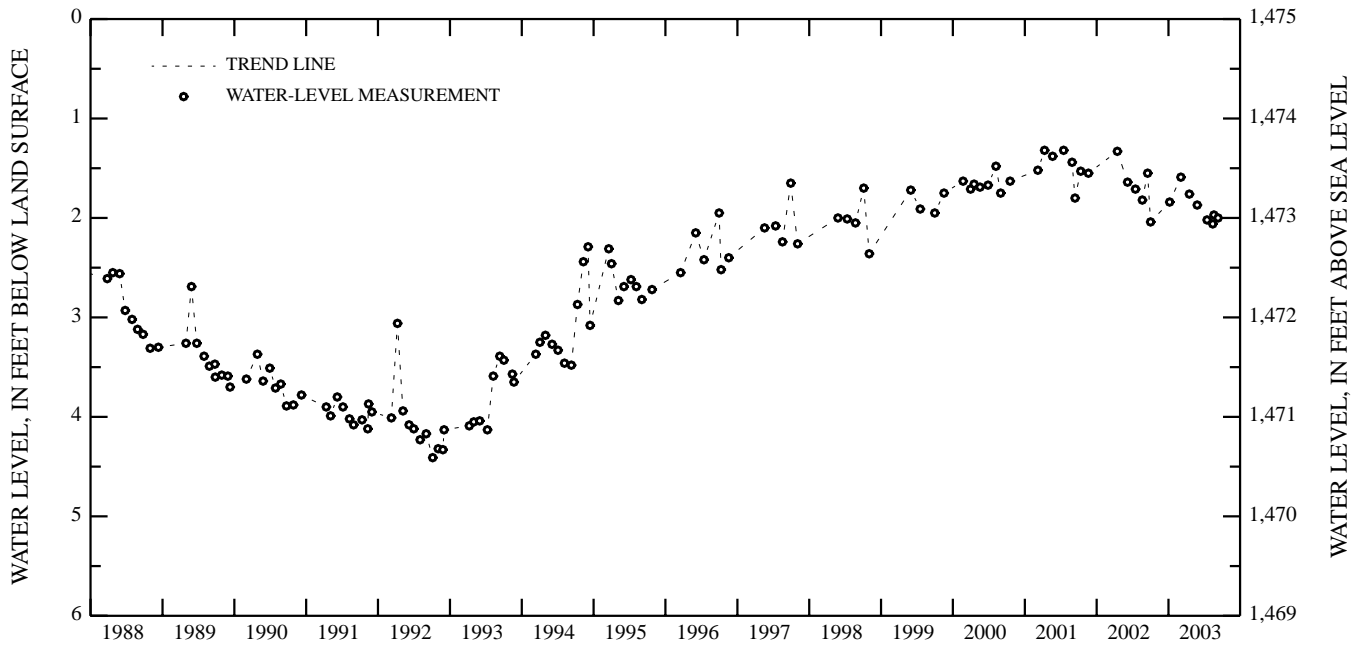
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	2.04	MAR 05	1.59	MAY 27	1.87	AUG 14	2.06	AUG 20	1.97	SEP 10	2.00
JAN 07	1.84	APR 17	1.76	JUL 16	2.02						
WATER YEAR 2003		HIGHEST	1.59	MAR 05, 2003		LOWEST	2.06	AUG 14, 2003			

156-077-13CCB1



156-077-13CCB1--Continued



GROUND-WATER LEVELS

NETWORK SITES--Continued

McHENRY COUNTY--Continued

481948100305902. Local number, 156-077-13CCB2.

LOCATION.--Lat 48°19'48", long 100°30'59", Hydrologic Unit 09010003. Owner: North Dakota State Water Commission.

AQUIFER.--Denbigh.

WELL CHARACTERISTICS.--Drilled observation well, depth 60 ft, cased with 53 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 53 to 56 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,475 ft. Measuring point: Top of casing 1.80 ft above land-surface datum.

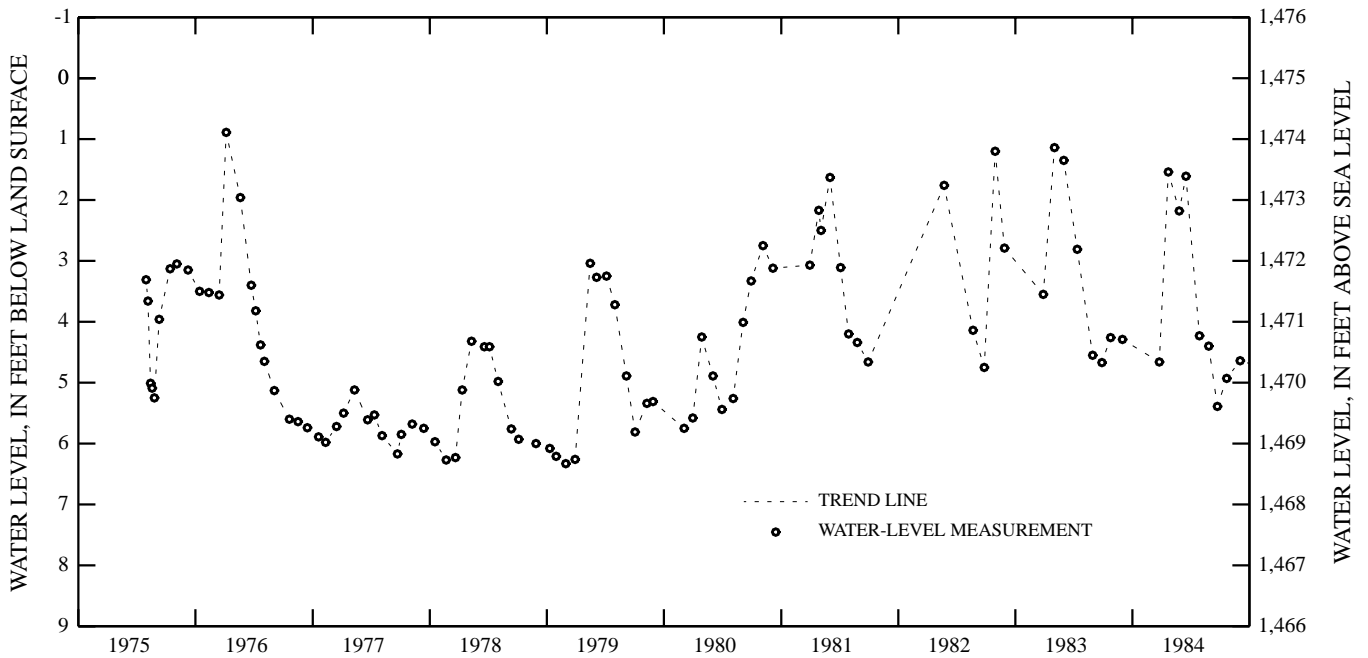
PERIOD OF RECORD.--July 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.05 ft below land-surface datum, June 1, 1999; lowest water level, 7.16 ft below land-surface datum, November 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

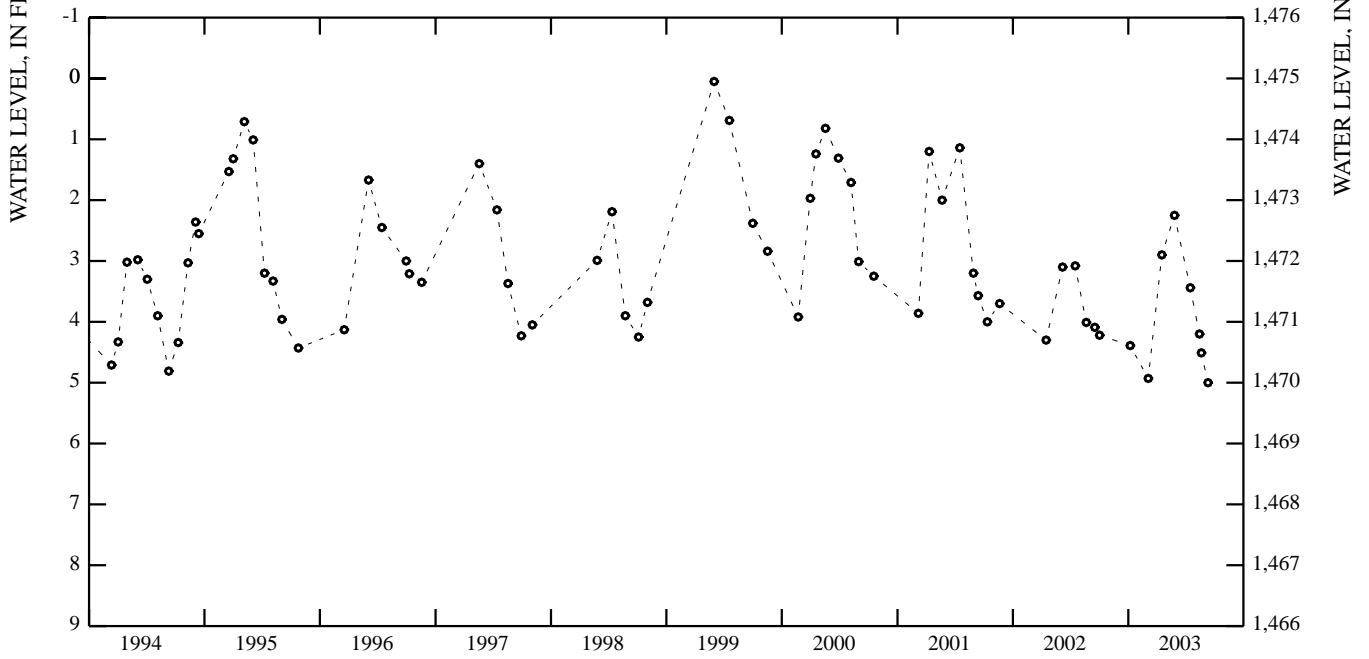
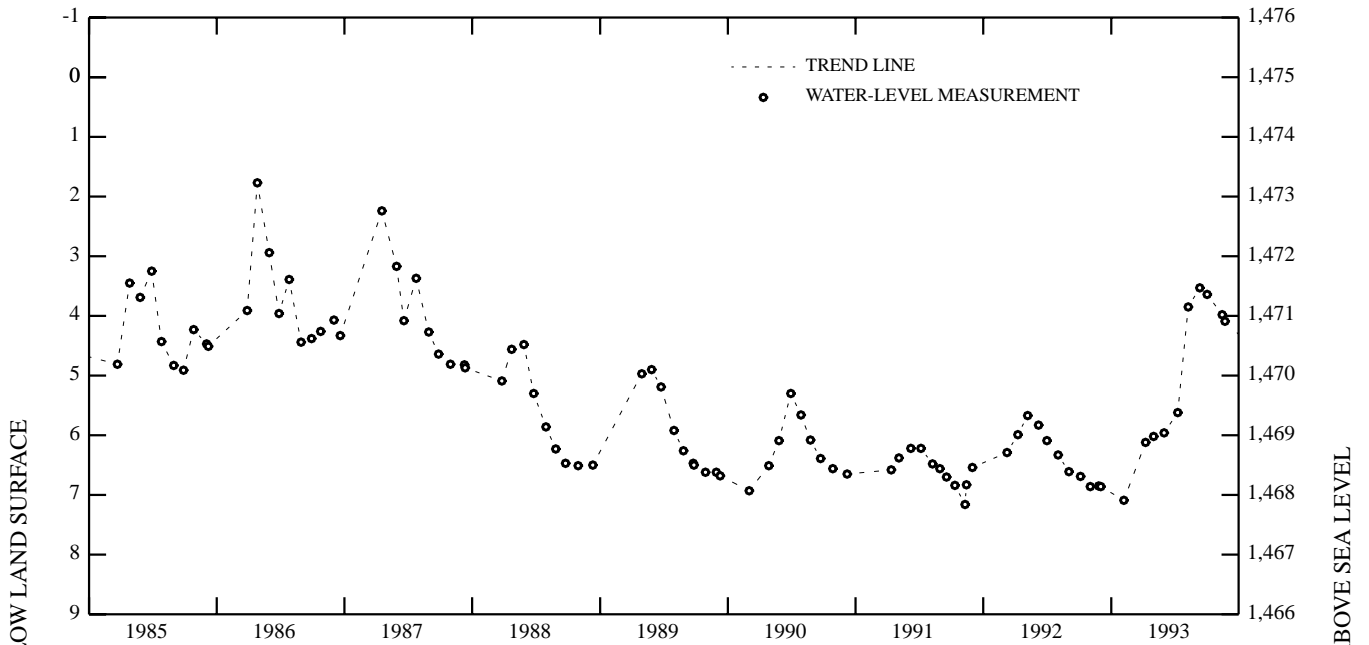
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	4.22	MAR 05	4.93	MAY 27	2.25	AUG 14	4.20	AUG 20	4.51	SEP 10	5.00
JAN 07	4.39	APR 17	2.90	JUL 16	3.44						
WATER YEAR 2003		HIGHEST	2.25	MAY 27, 2003		LOWEST	5.00	SEP 10, 2003			

156-077-13CCB2



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 McHENRY COUNTY--Continued

156-077-13CCB2--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 McINTOSH COUNTY

455807099450701. Local number, 129-072-30BBB.

LOCATION.--Lat 45°58'07", long 99°45'07", Hydrologic Unit 10130102. Owner: North Dakota State Water Commission.

AQUIFER.--Zeeland.

WELL CHARACTERISTICS.--Drilled observation well, depth 160 ft, cased with 123 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 123 to 126 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

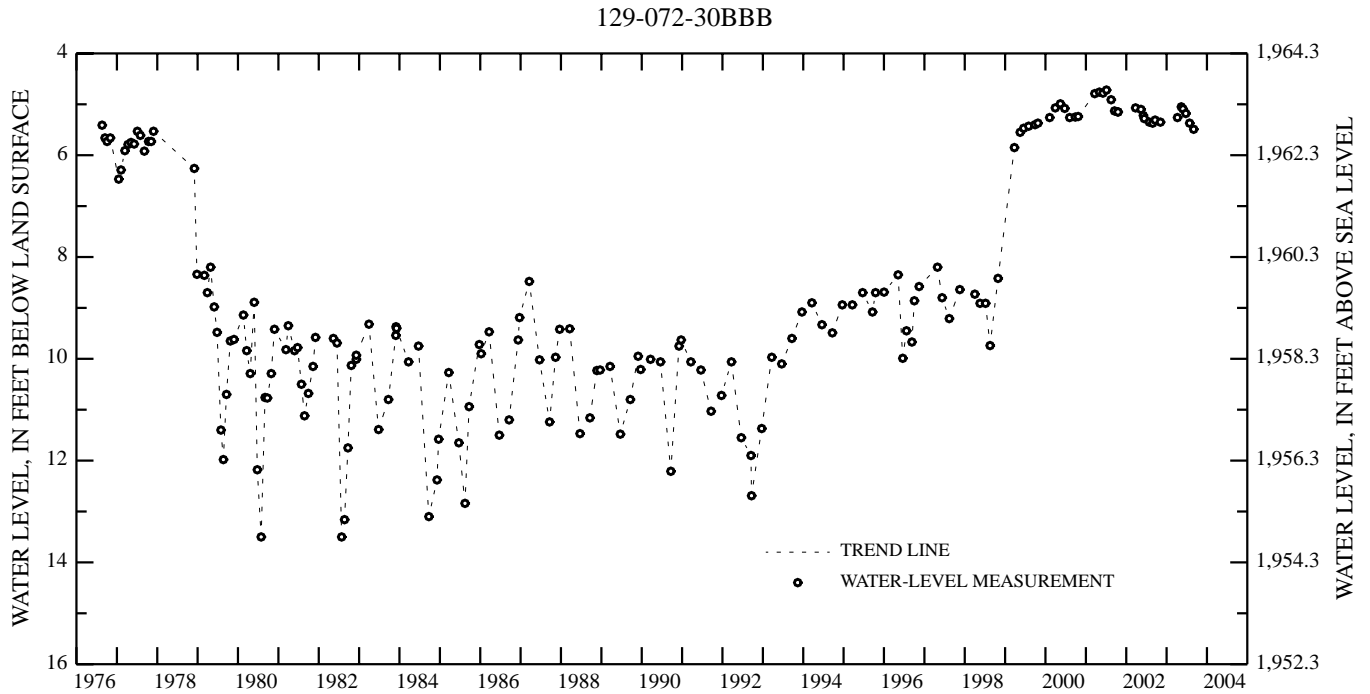
DATUM.--Altitude of land-surface datum is 1,968.3 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.72 ft below land-surface datum, July 6, 2001; lowest water level, 13.50 ft below land-surface datum, July 29, 1980, and July 27, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06	5.35	MAY 14	5.05	MAY 29	5.09	JUL 24	5.18	JUL 28	5.37	SEP 03	5.49
APR 09	5.26										
WATER YEAR 2003		HIGHEST	5.05	MAY 14, 2003		LOWEST	5.49	SEP 03, 2003			





NETWORK SITES--Continued

McINTOSH COUNTY--Continued

460411099200701. Local number, 130-069-21BBB1.

LOCATION.--Lat 46°04'11", long 99°20'07", Hydrologic Unit 10130106. Owner: North Dakota State Water Commission.

AQUIFER.--Spring Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 223 ft, cased with 177 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 177 to 180 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 2,033 ft. Measuring point: Top of casing 2.20 ft above land-surface datum.

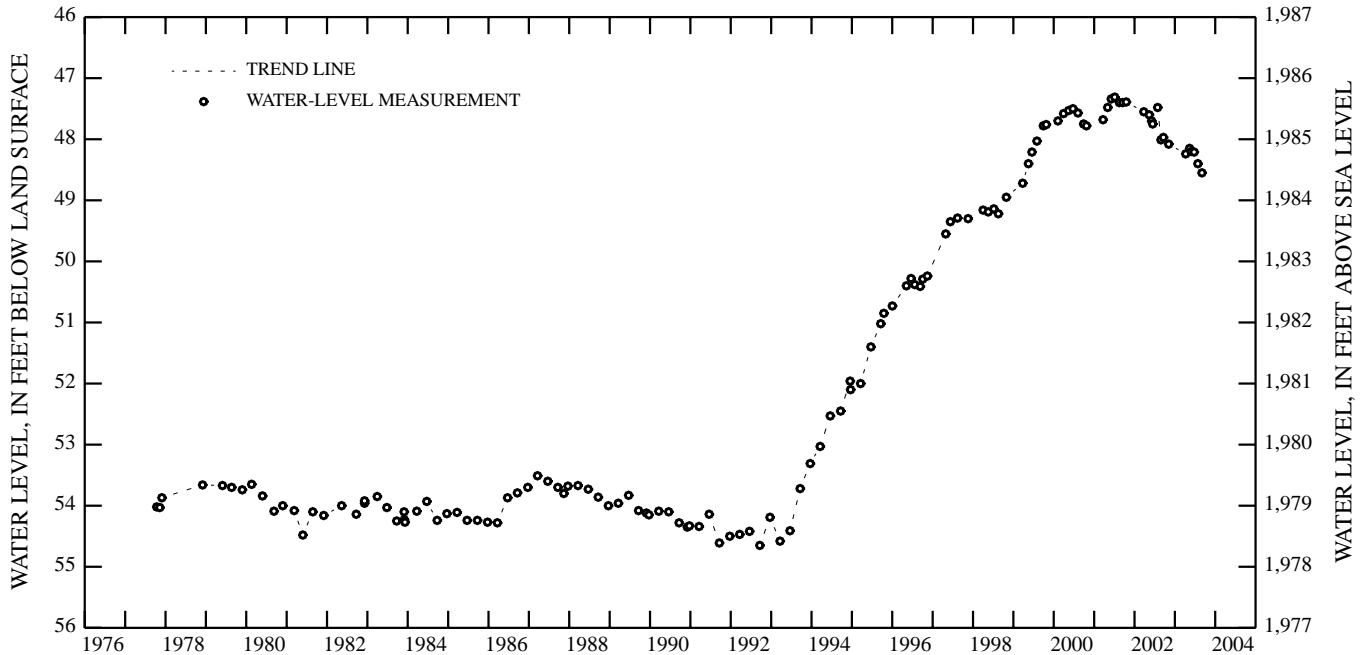
PERIOD OF RECORD.--October 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 47.31 ft below land-surface datum, July 6, 2001; lowest water level, 54.65 ft below land-surface datum, September 20, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06	48.08	MAY 14	48.15	MAY 29	48.20	JUN 24	48.21	JUL 28	48.40	SEP 03	48.55
APR 09	48.24										
WATER YEAR 2003		HIGHEST	48.08	NOV 06, 2002		LOWEST	48.55	SEP 03, 2003			

130-069-21BBB1



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 McINTOSH COUNTY--Continued

460411099200702. Local number, 130-069-21BBB2.

LOCATION.--Lat 46°04'11", long 99°20'07", Hydrologic Unit 10130106. Owner: North Dakota State Water Commission.

AQUIFER.--Spring Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 102 ft, cased with 97 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 97 to 100 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

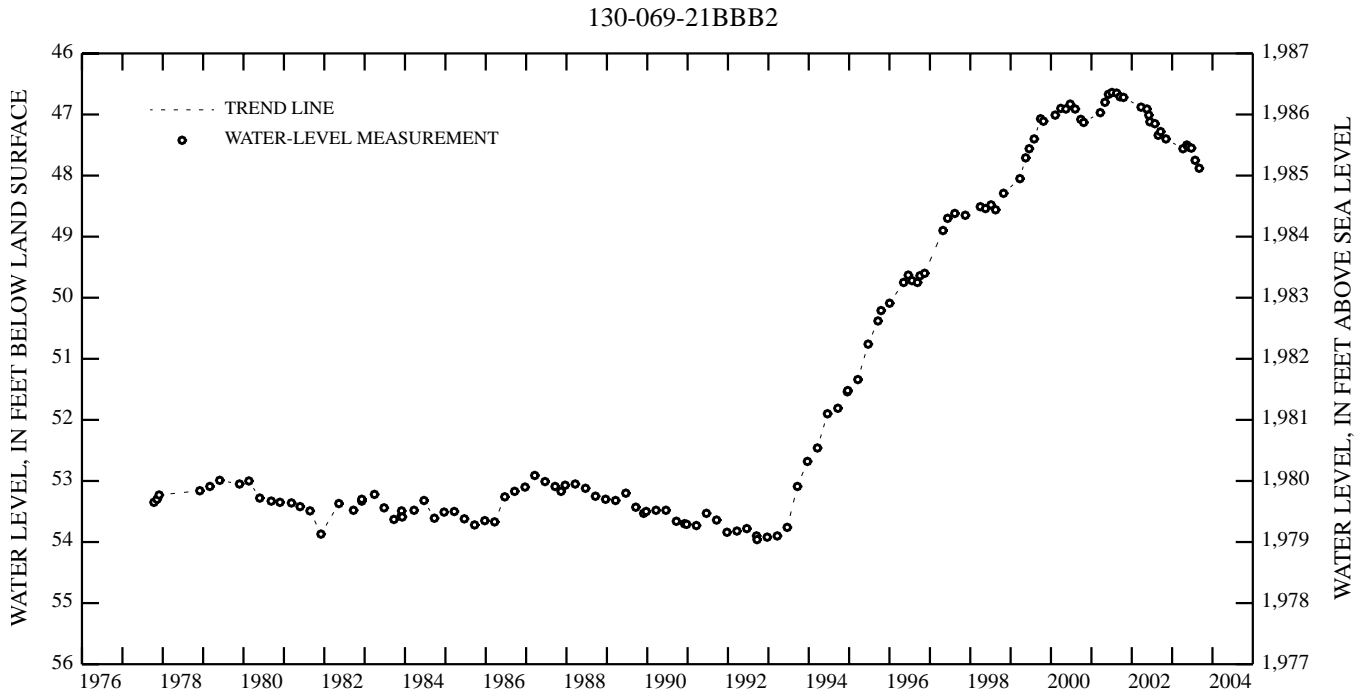
DATUM.--Altitude of land-surface datum is 2,033 ft. Measuring point: Top of casing 2.40 ft above land-surface datum.

PERIOD OF RECORD.--October 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 46.64 ft below land-surface datum, July 6, 2001; lowest water level, 53.96 ft below land-surface datum, September 20, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06	47.40	MAY 14	47.50	MAY 29	47.53	JUL 24	47.55	JUL 28	47.75	SEP 03	47.88
APR 09	47.56										
WATER YEAR 2003		HIGHEST	47.40	NOV 06, 2002		LOWEST	47.88	SEP 03, 2003			



NETWORK SITES--Continued

McINTOSH COUNTY--Continued

461446099312801. Local number, 132-071-14DDD1.

LOCATION.--Lat 46°14'46", long 99°31'28", Hydrologic Unit 10130104. Owner: North Dakota State Water Commission.

AQUIFER.--Wishek.

WELL CHARACTERISTICS.--Drilled observation well, depth 182 ft, cased with 118 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 118 to 121 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 2,028 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

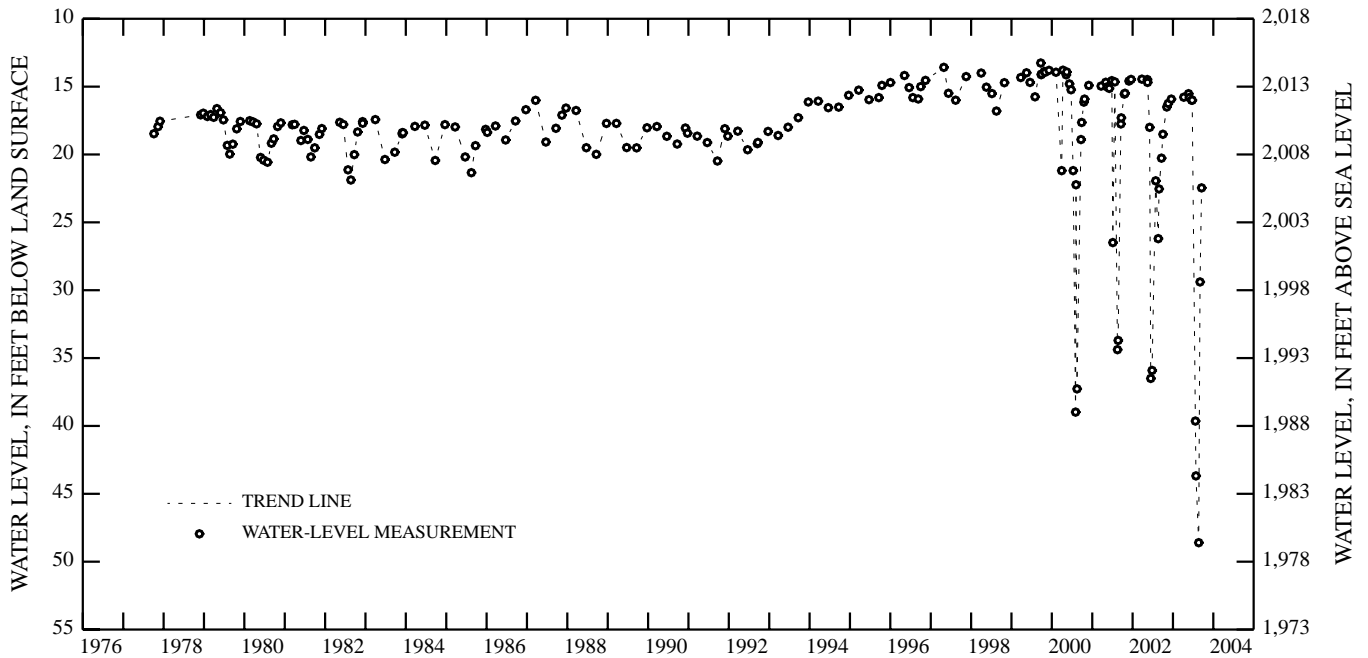
PERIOD OF RECORD.--October 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.26 ft below land-surface datum, September 23, 1999; lowest water level, 48.60 ft below land-surface datum, August 22, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	18.51	DEC 17	15.92	MAY 29	15.80	JUL 23	39.64	SEP 03	29.39	SEP 17	22.46
NOV 06	16.50	APR 09	15.78	JUN 19	16.00	JUL 28	43.68				
NOV 19	16.24	MAY 22	15.52	JUN 24	16.00	AUG 22	48.60				
WATER YEAR 2003		HIGHEST	15.52	MAY 22, 2003		LOWEST	48.60	AUG 22, 2003			

132-071-14DDD1



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 McINTOSH COUNTY--Continued

461446099312802. Local number, 132-071-14DDD2.

LOCATION.--Lat 46°14'46", long 99°31'28", Hydrologic Unit 10130104. Owner: North Dakota State Water Commission.

AQUIFER.--Wishek.

WELL CHARACTERISTICS.--Drilled observation well, depth 50 ft, cased with 38 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 38 to 41 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 2,028 ft. Measuring point: Top of casing 2.20 ft above land-surface datum.

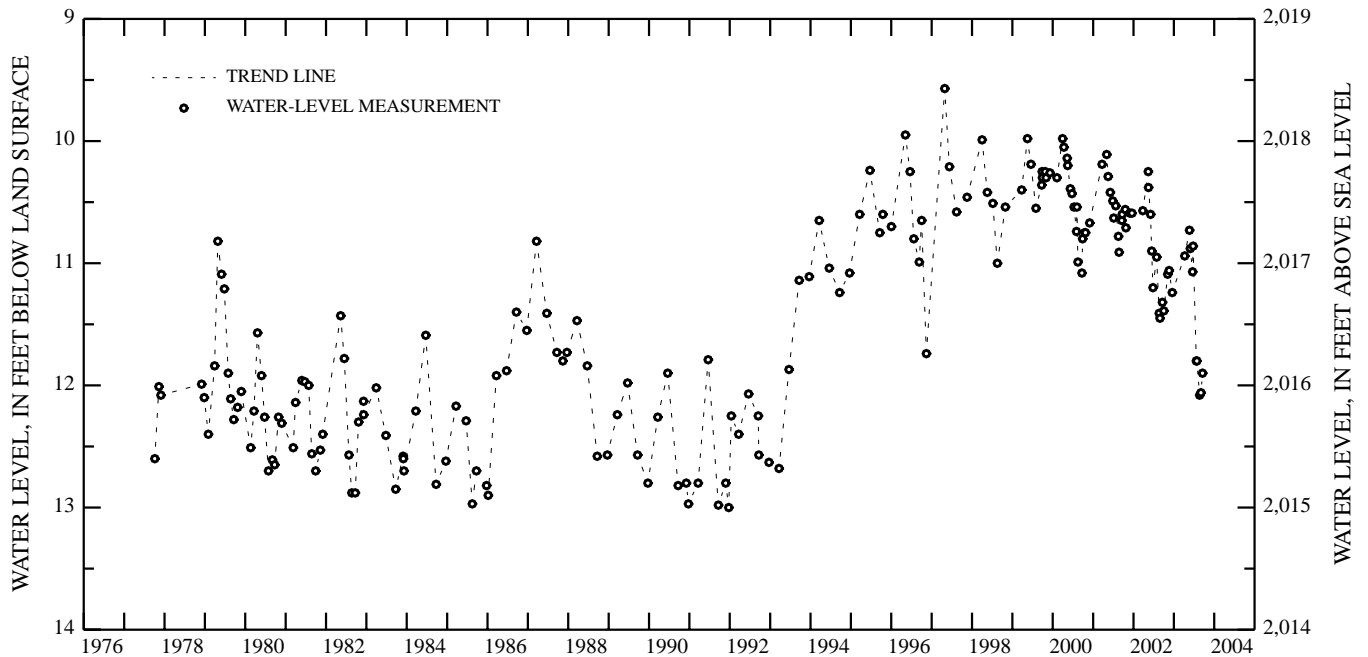
PERIOD OF RECORD.--October 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.57 ft below land-surface datum, April 29, 1997; lowest water level, 13.00 ft below land-surface datum, December 23, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	11.39	DEC 17	11.24	MAY 29	10.88	JUL 23	11.80	SEP 03	12.06	SEP 17	11.90
NOV 06	11.09	APR 09	10.94	JUN 19	11.07	JUL 28	11.80				
NOV 19	11.06	MAY 22	10.73	JUN 24	10.86	AUG 22	12.08				
WATER YEAR 2003		HIGHEST	10.73	MAY 22, 2003		LOWEST	12.08	AUG 22, 2003			

132-071-14DDD2



NETWORK SITES--Continued

McKENZIE COUNTY

474814103104702. Local number, 150-098-23AAB2.

LOCATION.--Lat 47°48'14", long 103°10'47", Hydrologic Unit 10110205. Owner: North Dakota State Water Commission.

AQUIFER.--Cherry Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 120 ft, cased with 98 ft of 2-in diameter plastic pipe, No. 18 slot screen set 98 to 103 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,001.8 ft. Measuring point: Top of casing 2.45 ft above land-surface datum.

PERIOD OF RECORD.--December 1979 to current year.

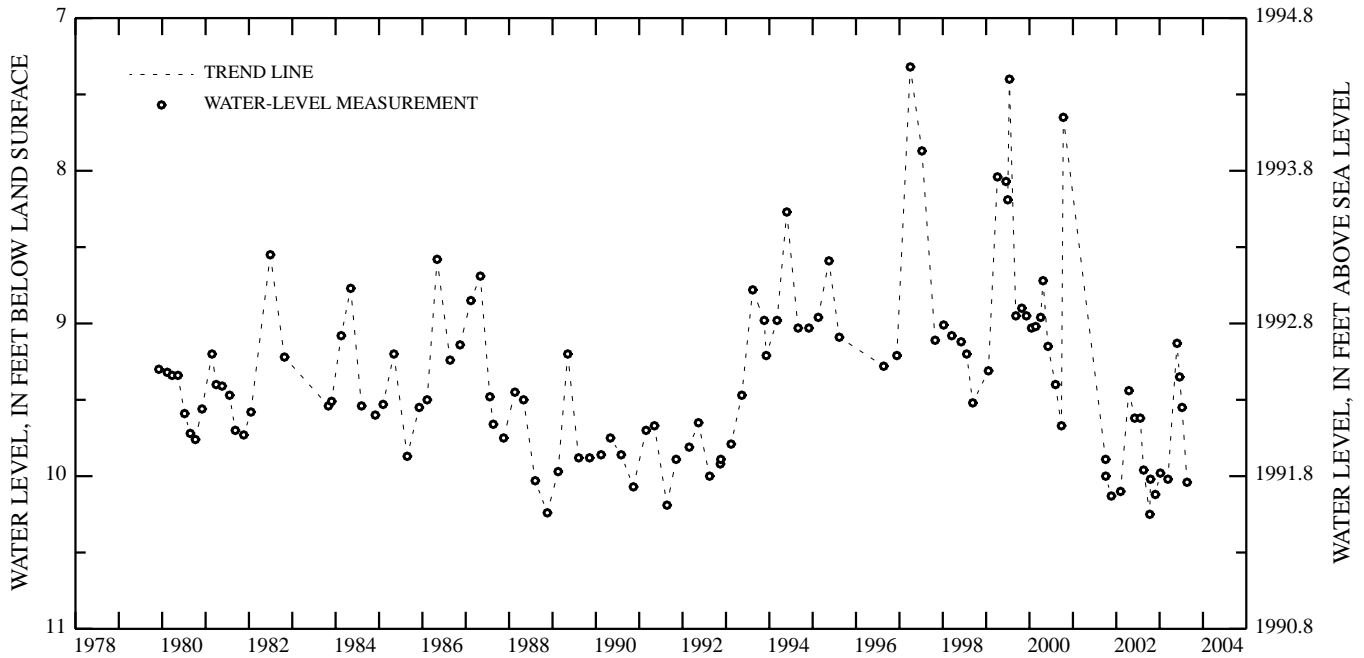
REMARKS.--Replacement well for well at 150-098-23AAB that was inadvertently destroyed. Water levels reflect the original well and the replacement well.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.32 ft below land-surface datum, April 2, 1997; lowest water level, 10.25 ft below land-surface datum, October 10, 2002. Extremes for period of record are a combination of the original well and the replacement well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	10.25	NOV 26	10.12	MAR 12	10.02	JUN 18	9.35	JUL 09	9.55	AUG 20	10.04
OCT 16	10.02	JAN 07	9.98	MAY 28	9.13						
WATER YEAR 2003		HIGHEST	9.13	MAY 28, 2003		LOWEST	10.25	OCT 10, 2002			

150-098-23AAB2



GROUND-WATER LEVELS

NETWORK SITES--Continued

McLEAN COUNTY

474026100583201. Local number, 148-081-03AAB.

LOCATION.--Lat 47°40'26", long 100°58'32", Hydrologic Unit 10130101. Owner: North Dakota State Water Commission.

AQUIFER.--Horseshoe Valley.

WELL CHARACTERISTICS.--Drilled observation well, depth 60 ft, cased with 40 ft of 4-in diameter plastic pipe, slotted 35 to 40 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder December 1967 to October 1997. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for December 1967 to January 1975. From January 1975 to October 1997, daily maximum and minimum recorded water levels also are available. Measured using a steel tape October 1997 to present.

DATUM.--Altitude of land-surface datum is 1,883.4 ft. Measuring point: Top of casing 1.40 ft above land-surface datum.

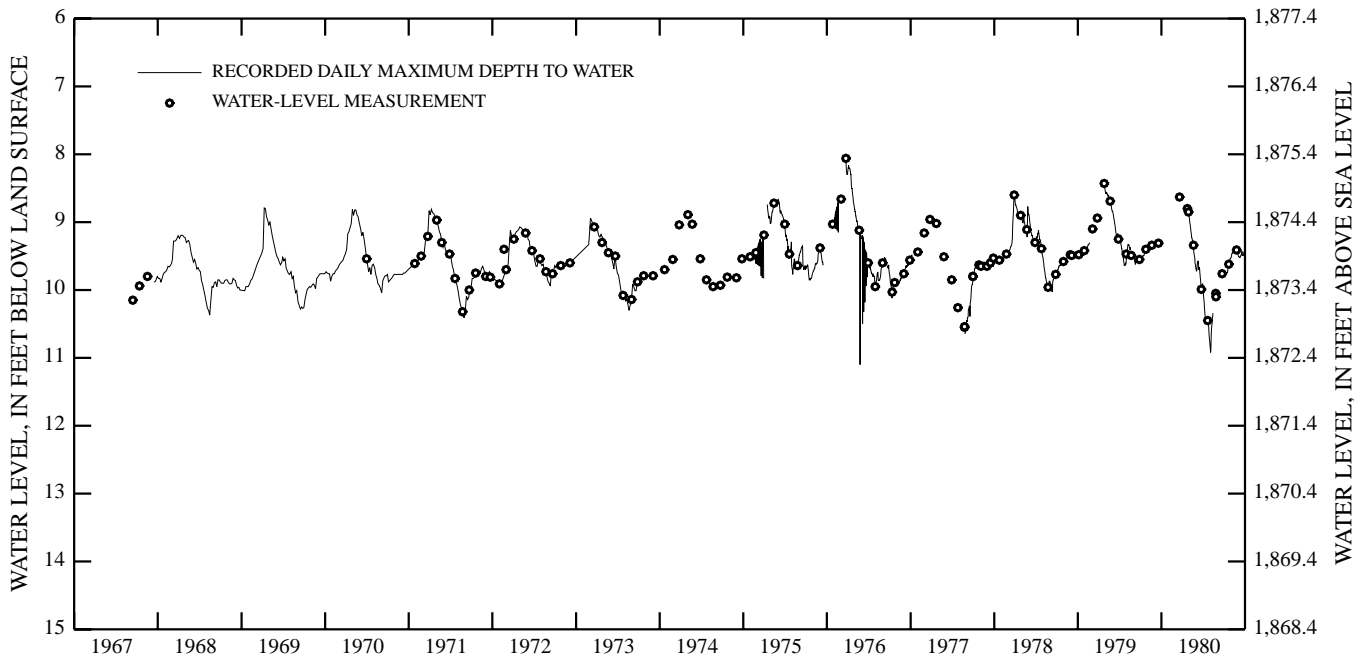
PERIOD OF RECORD.--September 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.04 ft below land-surface datum, April 11, 1996; lowest water level, 14.14 ft below land-surface datum, September 3, 1991.

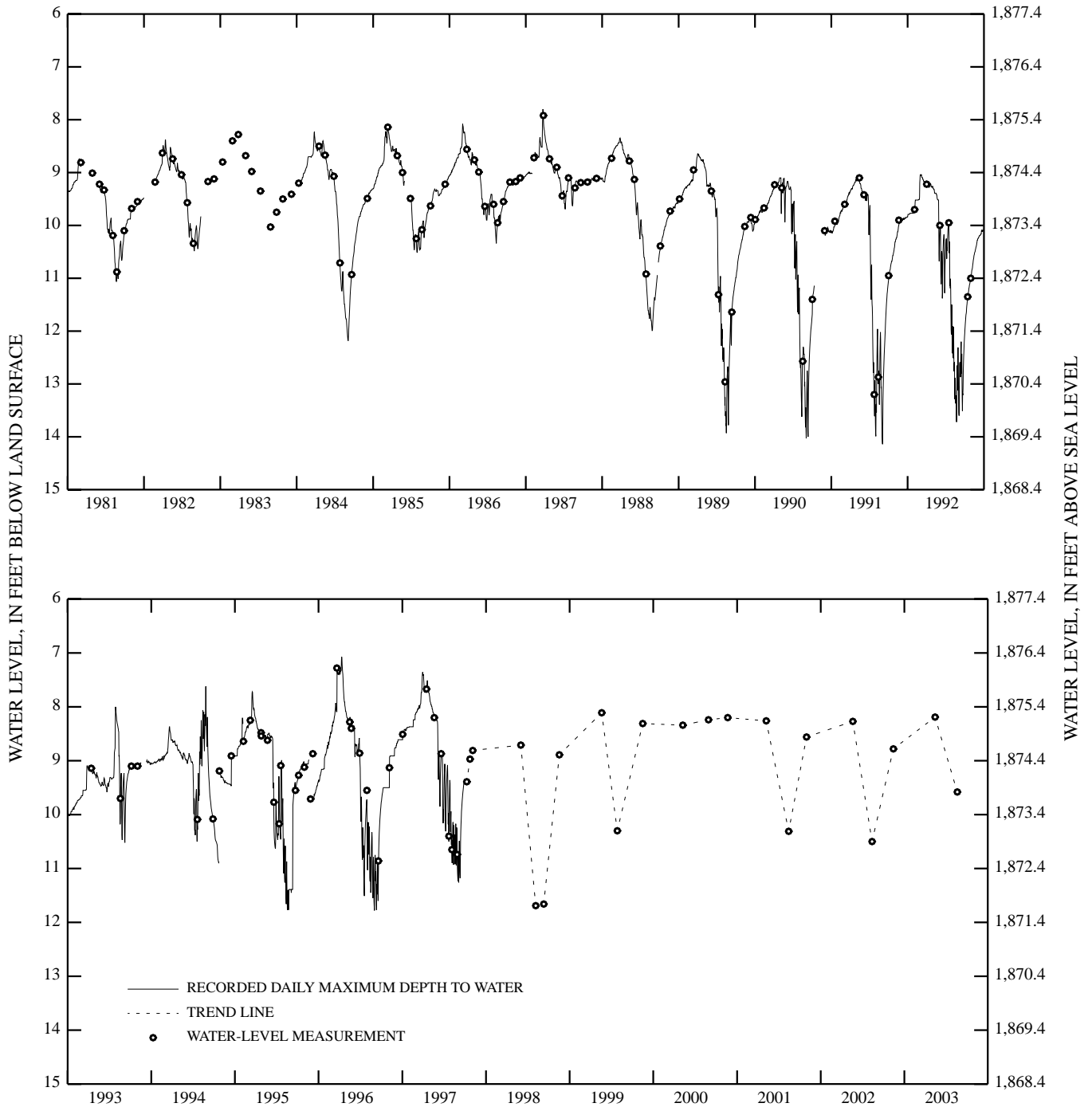
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
	NOV 14	8.78	MAY 15	8.19	AUG 20	9.58
WATER YEAR 2003	HIGHEST	8.19	MAY 15, 2003	LOWEST	9.58	AUG 20, 2003

148-081-03AAB



148-081-03AAB--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 MERCER COUNTY

472641102105901. Local number, 146-090-20CCC.

LOCATION.--Lat 47°26'41", long 102°10'59", Hydrologic Unit 10130201. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,860 ft, cased with 1,540 ft of 4-in diameter steel pipe, open ended.

INSTRUMENTATION.--Measured using a steel tape.

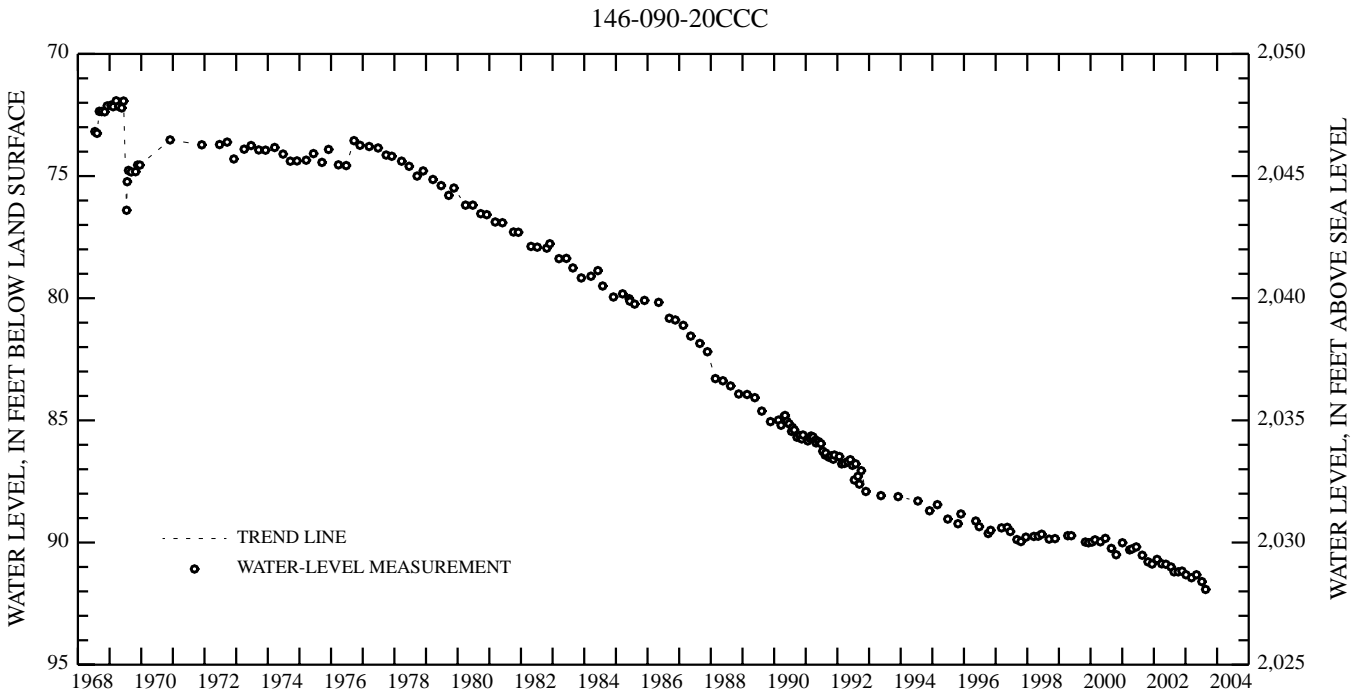
DATUM.--Altitude of land-surface datum is 2,120 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--July 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 71.92 ft below land-surface datum, March 18, 1969; lowest water level, 91.92 ft below land-surface datum, August 21, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	91.20	JAN 07	91.32	MAR 12	91.44	MAY 08	91.32	JUL 09	91.60	AUG 21	91.92
NOV 22	91.17										
WATER YEAR 2003		HIGHEST	91.17	NOV 22, 2002		LOWEST	91.92	AUG 21, 2003			





NETWORK SITES--Continued

MORTON COUNTY

464734100543501. Local number, 138-081-09ABB1.

LOCATION.--Lat 46°47'34", long 100°54'35", Hydrologic Unit 10130203. Owner: North Dakota State Water Commission. screen set 525 to 537 ft below land-surface datum.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 762 ft, cased with 525 ft of 2-in diameter steel pipe, No. 12 slot screen set 525 to 537 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

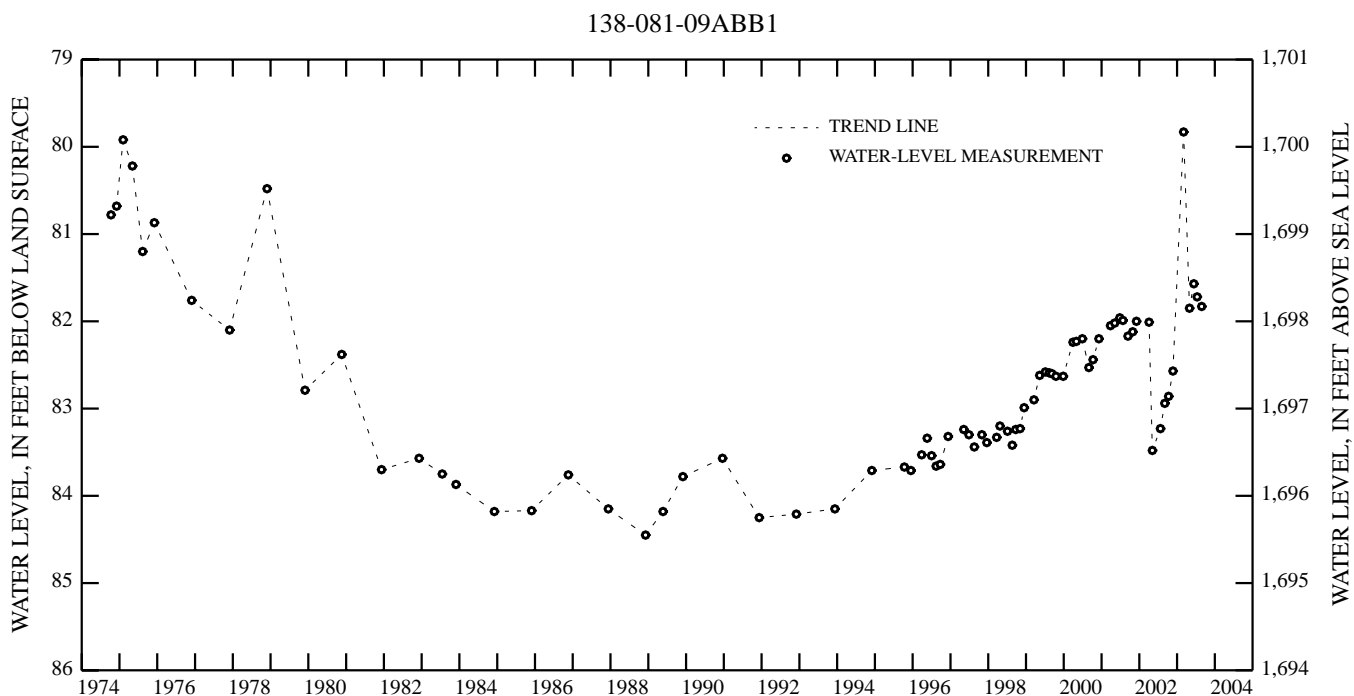
DATUM.--Altitude of land-surface datum is 1,780 ft. Measuring point: Top of casing 3.50 ft above land-surface datum.

PERIOD OF RECORD.--October 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 79.83 ft below land-surface datum, March 5, 2003; lowest water level, 84.45 ft below land-surface datum, December 5, 1988.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	82.86	MAR 05	79.83	MAY 01	81.85	JUN 12	81.57	JUL 14	81.72	AUG 27	81.83
NOV 22	82.57										
WATER YEAR 2003		HIGHEST	79.83	MAR 05, 2003		LOWEST	82.86	OCT 11, 2002			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 MORTON COUNTY--Continued

464734100543502. Local number, 138-081-09ABB2.

LOCATION.--Lat 46°47'34", long 100°54'35", Hydrologic Unit 10130203. Owner: North Dakota State Water Commission.

AQUIFER.--Hell Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 362 ft, cased with 336 ft of 2-in diameter steel pipe, No. 12 slot screen set 336 to 348 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,780 ft. Measuring point: Top of casing 3.50 ft above land-surface datum.

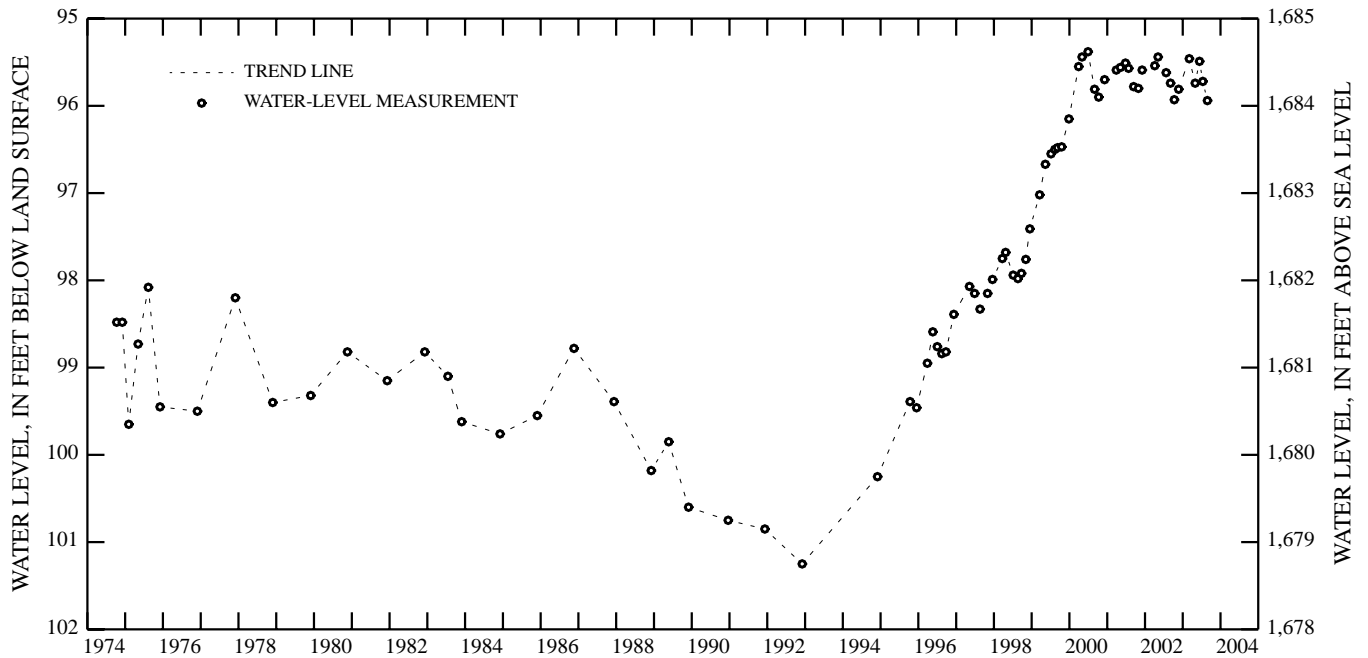
PERIOD OF RECORD.--October 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 95.38 ft below land-surface datum, June 29, 2000; lowest water level, 101.25 ft below land-surface datum, December 4, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	95.93	MAR 05	95.46	MAY 01	95.74	JUN 12	95.49	JUL 14	95.72	AUG 27	95.94
NOV 22	95.81										
WATER YEAR 2003		HIGHEST	95.46	MAR 05, 2003		LOWEST	95.94	AUG 27, 2003			

138-081-09ABB2



NETWORK SITES--Continued

MORTON COUNTY--Continued

464734100543504. Local number, 138-081-09ABB4.

LOCATION.--Lat 46°47'34", long 100°54'35", Hydrologic Unit 10130203. Owner: North Dakota State Water Commission.

AQUIFER.--Cannonball-Ludlow.

WELL CHARACTERISTICS.--Drilled observation well, depth 162 ft, cased with 153 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 153 to 159 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,780 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

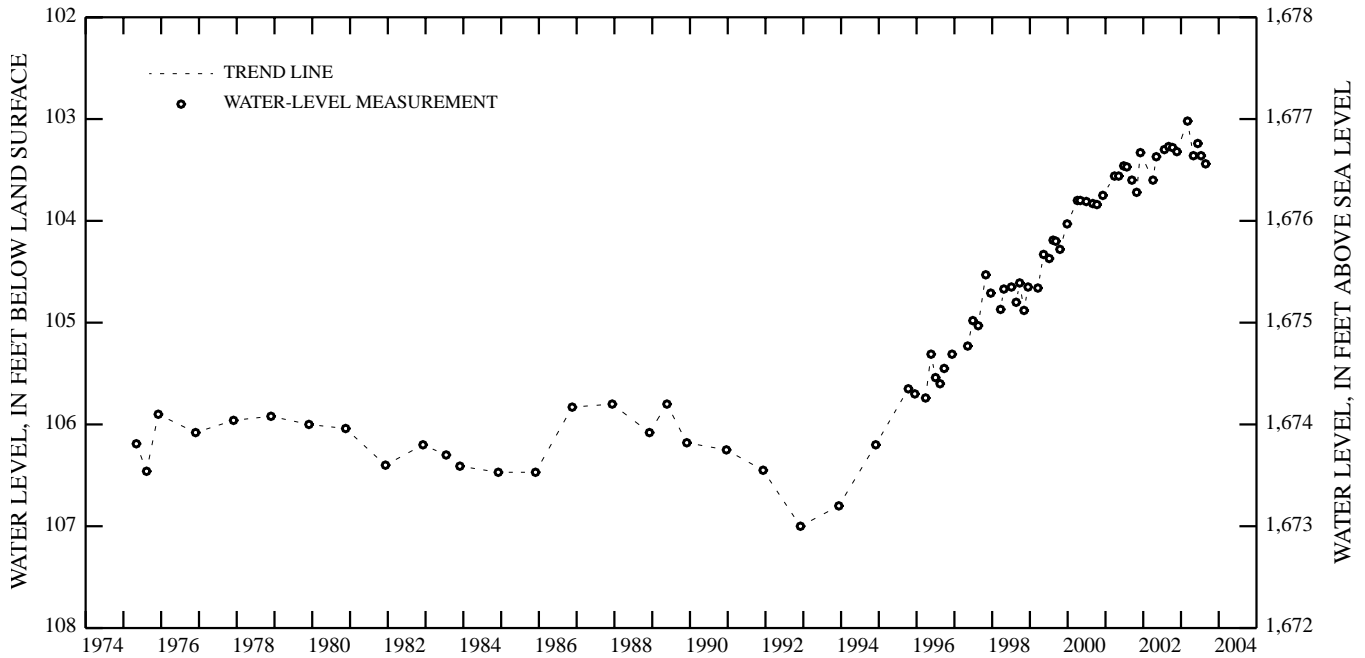
PERIOD OF RECORD.--May 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 103.02 ft below land-surface datum, March 5, 2003; lowest water level, 107.00 ft below land-surface datum, December 4, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	103.28	MAR 05	103.02	MAY 01	103.36	JUN 12	103.24	JUL 14	103.36	AUG 27	103.44
NOV 22	103.32										
WATER YEAR 2003		HIGHEST	103.02	MAR 05, 2003		LOWEST	103.44	AUG 27, 2003			

138-081-09ABB4



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 MORTON COUNTY--Continued

464847101303801. Local number, 139-086-35BCC.

LOCATION.--Lat 46°48'47", long 101°30'38", Hydrologic Unit 10130203. Owner: North Dakota State Water Commission.

AQUIFER.--Sims.

WELL CHARACTERISTICS.--Drilled observation well, depth 140 ft, cased with 57 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 57 to 63 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,010 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

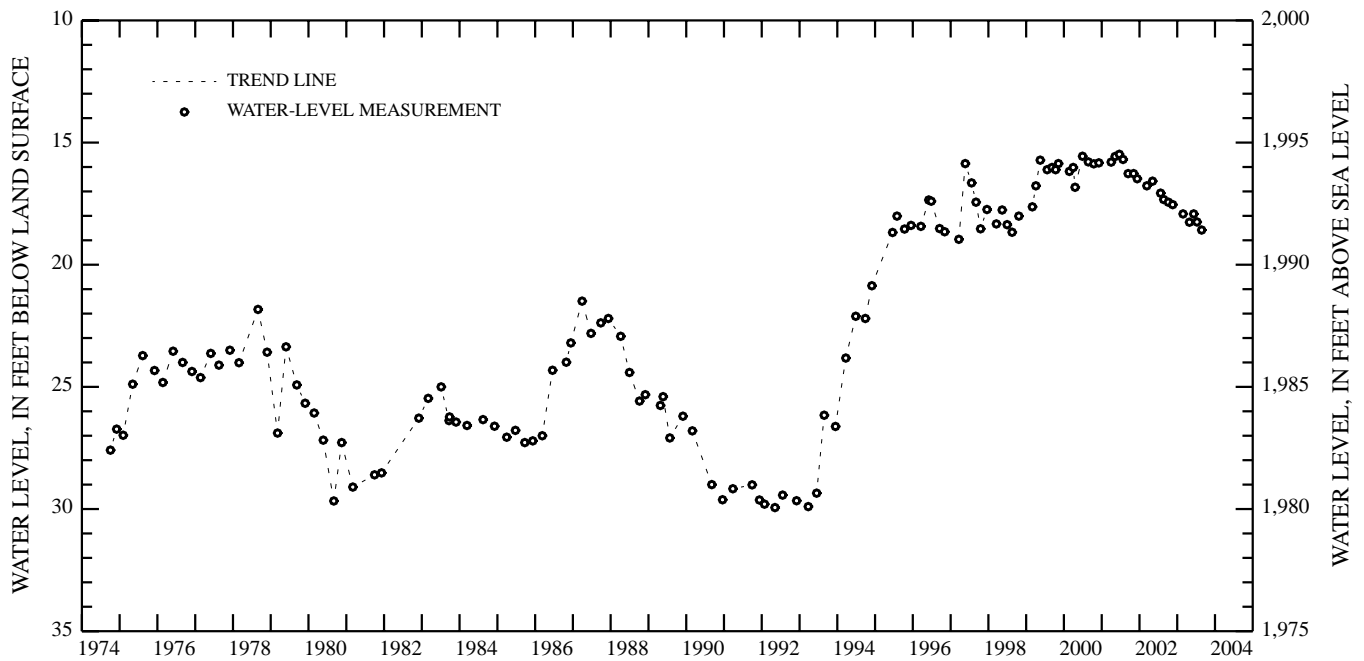
PERIOD OF RECORD.--October 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.48 ft below land-surface datum, June 20, 2001; lowest water level, 29.94 ft below land-surface datum, May 8, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07	17.44	FEB 26	17.92	APR 29	18.26	JUN 09	17.92	JUL 11	18.25	AUG 25	18.58
NOV 18	17.54										
WATER YEAR 2003		HIGHEST	17.44	OCT 07, 2002		LOWEST	18.58	AUG 25, 2003			

139-086-35BCC



NETWORK SITES--Continued

MORTON COUNTY--Continued

464846101464502. Local number, 139-088-34BCC2.

LOCATION.--Lat 46°48'46", long 101°46'45", Hydrologic Unit 10130203. Owner: North Dakota State Water Commission.

AQUIFER.--Hell Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 862 ft, cased with 842 ft of 2-in diameter steel pipe, No. 12 slot screen set 842 to 860 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,070 ft. Measuring point: Top of casing 4.00 ft above land-surface datum.

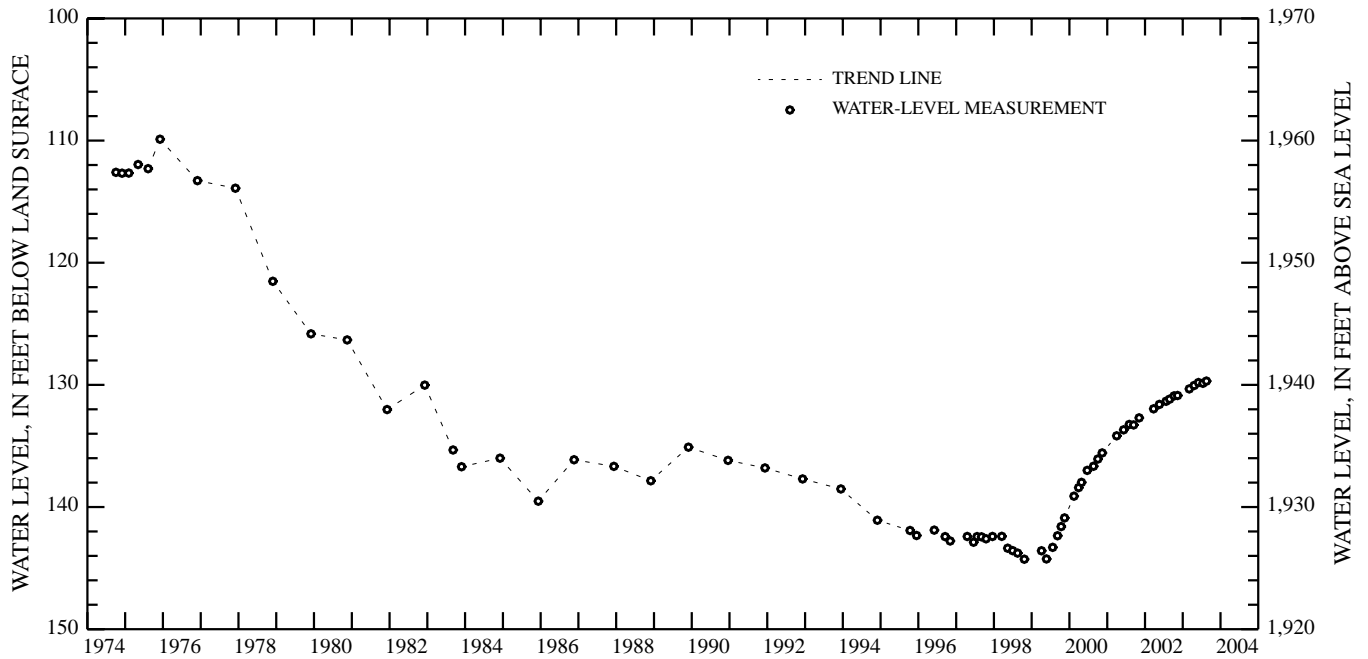
PERIOD OF RECORD.--October 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 109.89 ft below land-surface datum, December 4, 1975; lowest water level, 144.27 ft below land-surface datum, October 22, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	130.90	MAR 05	130.33	APR 21	130.05	JUN 02	129.81	JUL 15	129.87	AUG 18	129.69
NOV 12	130.87										
WATER YEAR 2003		HIGHEST	129.69	AUG 18, 2003		LOWEST	130.90	OCT 09, 2002			

139-088-34BCC2



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 MORTON COUNTY--Continued

464846101464503. Local number, 139-088-34BCC3.

LOCATION.--Lat 46°48'46", long 101°46'45", Hydrologic Unit 10130203. Owner: North Dakota State Water Commission.

AQUIFER.--Tongue River.

WELL CHARACTERISTICS.--Drilled observation well, depth 302 ft, cased with 288 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 288 to 294 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

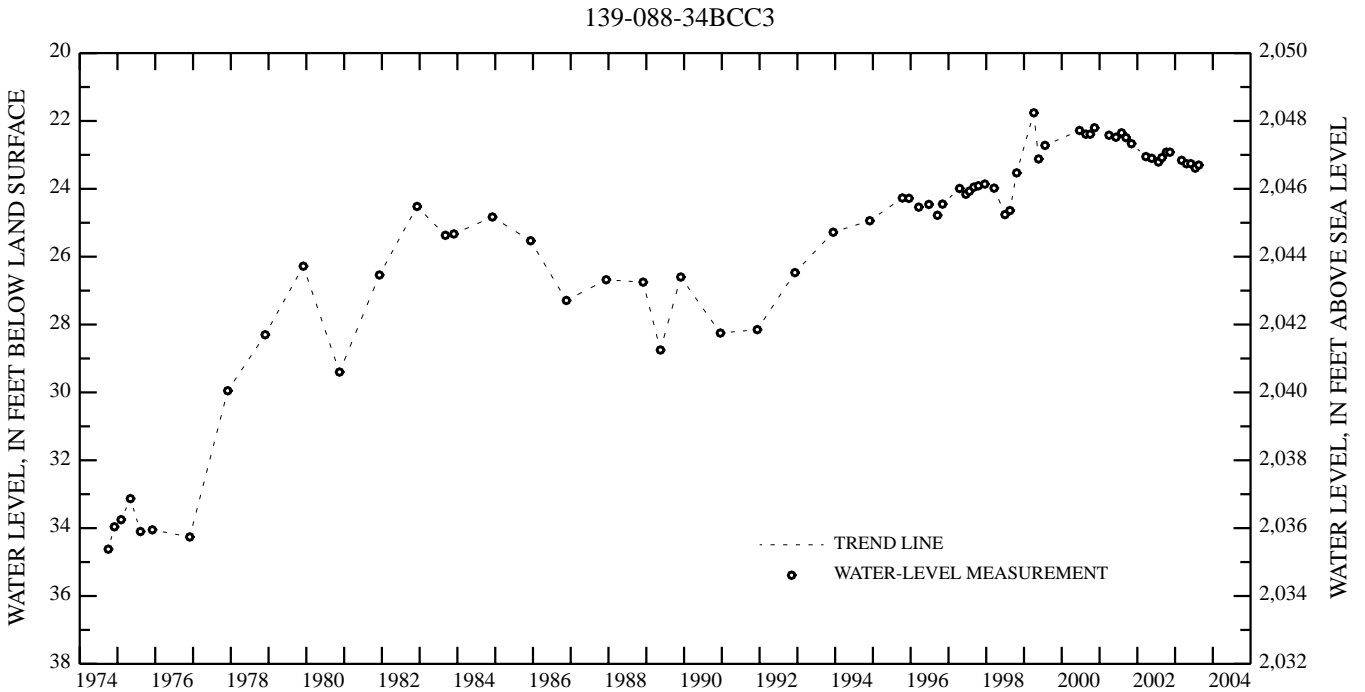
DATUM.--Altitude of land-surface datum is 2,070 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.76 ft below land-surface datum, April 6, 1999; lowest water level, 34.62 ft below land-surface datum, October 4, 1974.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	22.92	MAR 05	23.16	APR 21	23.26	JUN 02	23.26	JUL 15	23.39	AUG 18	23.30
NOV 12	22.92										
WATER YEAR 2003		HIGHEST	22.92	OCT 09, 2002		NOV 12, 2002	LOWEST	23.39	JUL 15, 2003		



NETWORK SITES--Continued

MOUNTRAIL COUNTY

480120101571901. Local number, 152-088-04BBBD1.

LOCATION.--Lat 48°01'20", long 101°57'19", Hydrologic Unit 10110101. Owner: North Dakota State Water Commission.

AQUIFER.--Sentinel Butte.

WELL CHARACTERISTICS.--Drilled observation well, depth 80 ft, cased with 66 ft of 1.25-in diameter plastic pipe, screen set 66 to 71 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

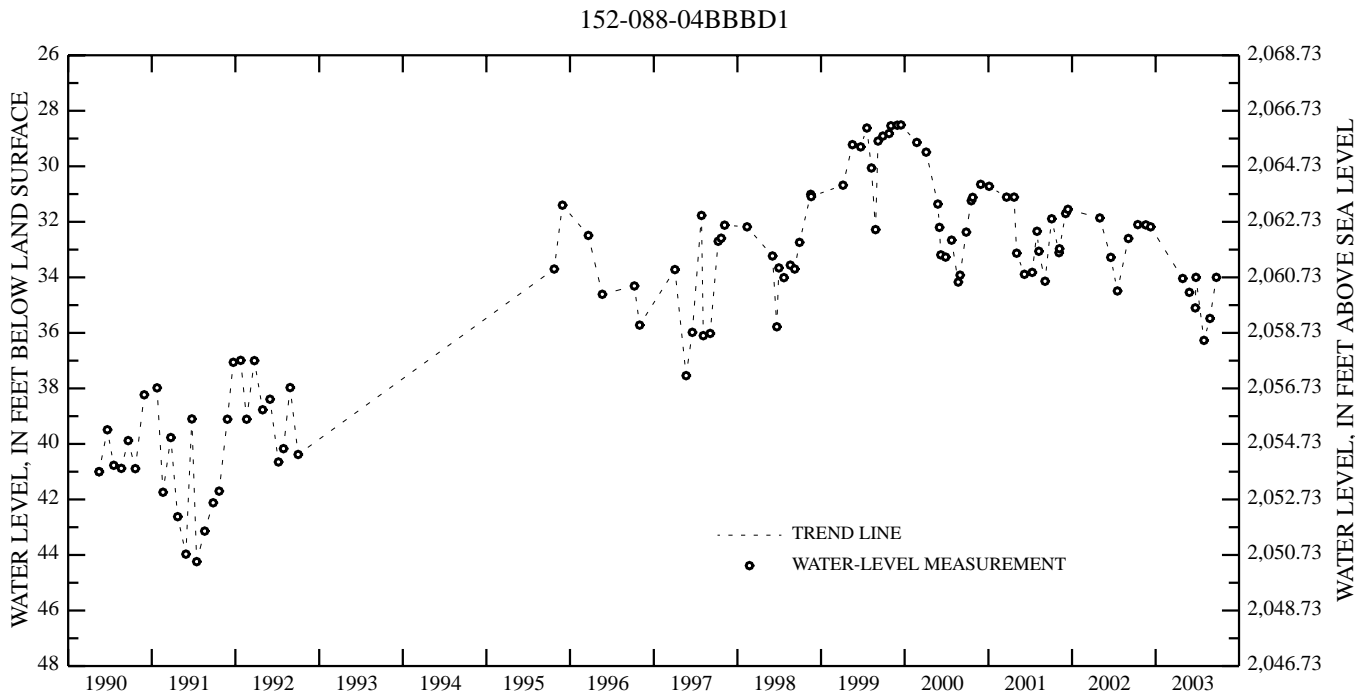
DATUM.--Altitude of land-surface datum is 2,094.73 ft. Measuring point: Top of casing 1.80 ft above land-surface datum.

PERIOD OF RECORD.--May 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.51 ft below land-surface datum, December 16, 1999; lowest water level, 44.24 ft below land-surface datum, July 16, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	32.10	DEC 10	32.18	MAY 28	34.54	JUN 26	34.00	AUG 26	35.48	SEP 23	34.00
NOV 19	32.11	APR 29	34.04	JUN 23	35.10	JUL 31	36.27				
WATER YEAR 2003		HIGHEST	32.10	OCT 15, 2002		LOWEST	36.27	JUL 31, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 MOUNTRAIL COUNTY--Continued

480120101571902. Local number, 152-088-04BBBD2.

LOCATION.--Lat 48°01'20", long 101°57'19", Hydrologic Unit 10110101. Owner: North Dakota State Water Commission.

AQUIFER.--Sentinel Butte.

WELL CHARACTERISTICS.--Drilled observation well, depth 89 ft, cased with 82 ft of 1.25-in diameter plastic pipe, screen set 82 to 87 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

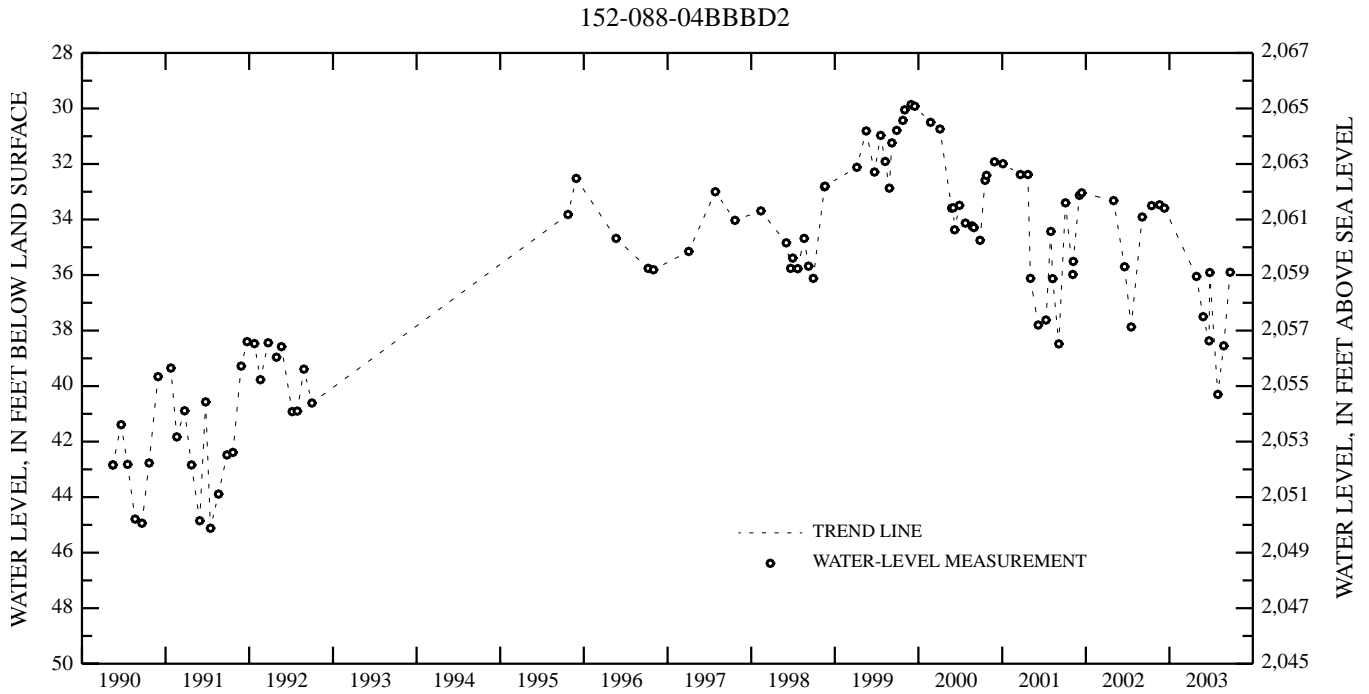
DATUM.--Altitude of land-surface datum is 2,095 ft. Measuring point: Top of casing 1.50 ft above land-surface datum.

PERIOD OF RECORD.--May 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.86 ft below land-surface datum, November 30, 1999; lowest water level, 45.12 ft below land-surface datum, July 16, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	33.50	DEC 10	33.59	MAY 28	37.50	JUN 26	35.91	AUG 26	38.55	SEP 23	35.90
NOV 19	33.47	APR 29	36.05	JUN 23	38.37	JUL 31	40.30				
WATER YEAR 2003		HIGHEST	33.47	NOV 19, 2002		LOWEST	40.30	JUL 31, 2003			





NETWORK SITES--Continued

NELSON COUNTY

474806098133401. Local number, 150-059-20AAA.

LOCATION.--Lat 47°48'06", long 98°13'34", Hydrologic Unit 09020203. Owner: North Dakota State Water Commission.

AQUIFER.--McVille.

WELL CHARACTERISTICS.--Drilled observation well, depth 340 ft, cased with 247 ft of 4-in diameter plastic pipe, No. 20 slot screen set 247 to 253 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder August 1968 to December 1997. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for August 1968 to September 1970. From October 1970 to December 1997, daily maximum and minimum recorded water levels also are available. Measured using a steel tape May 1998 to current year.

DATUM.--Altitude of land-surface datum is 1,474 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

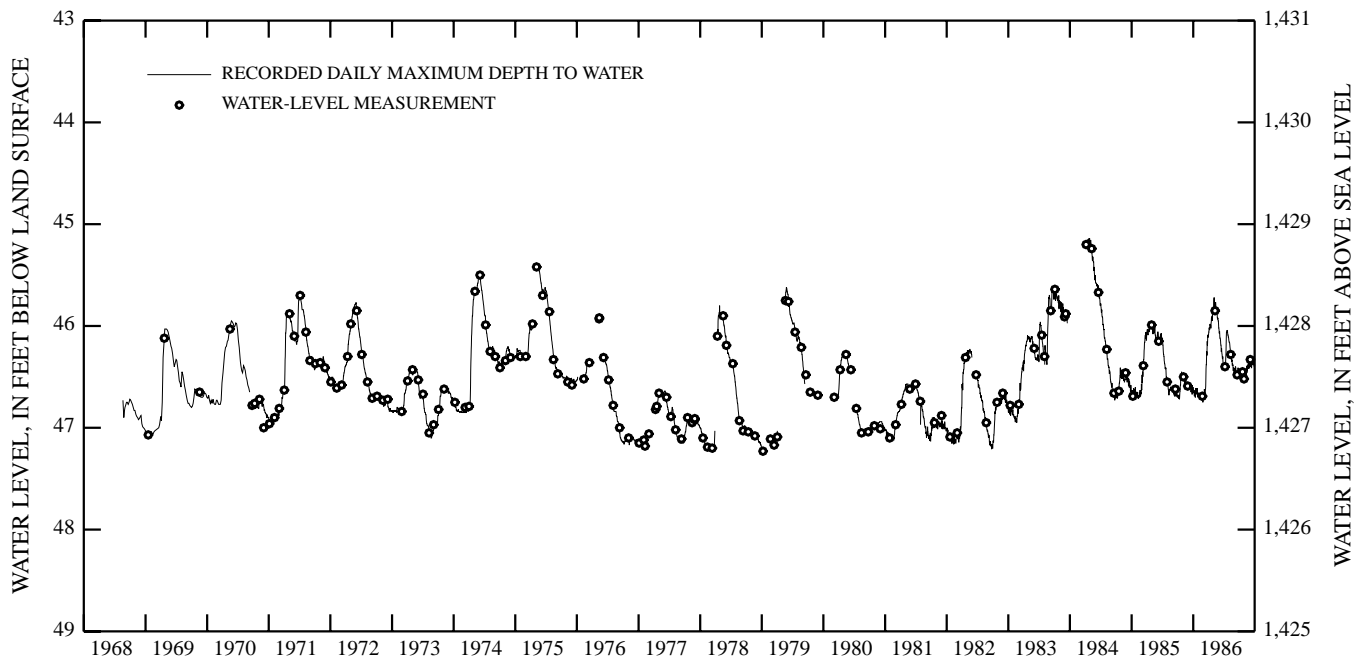
PERIOD OF RECORD.--August 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 43.19 ft below land-surface datum, April 25, 1996; lowest water level, 47.39 ft below land-surface datum, January 28, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

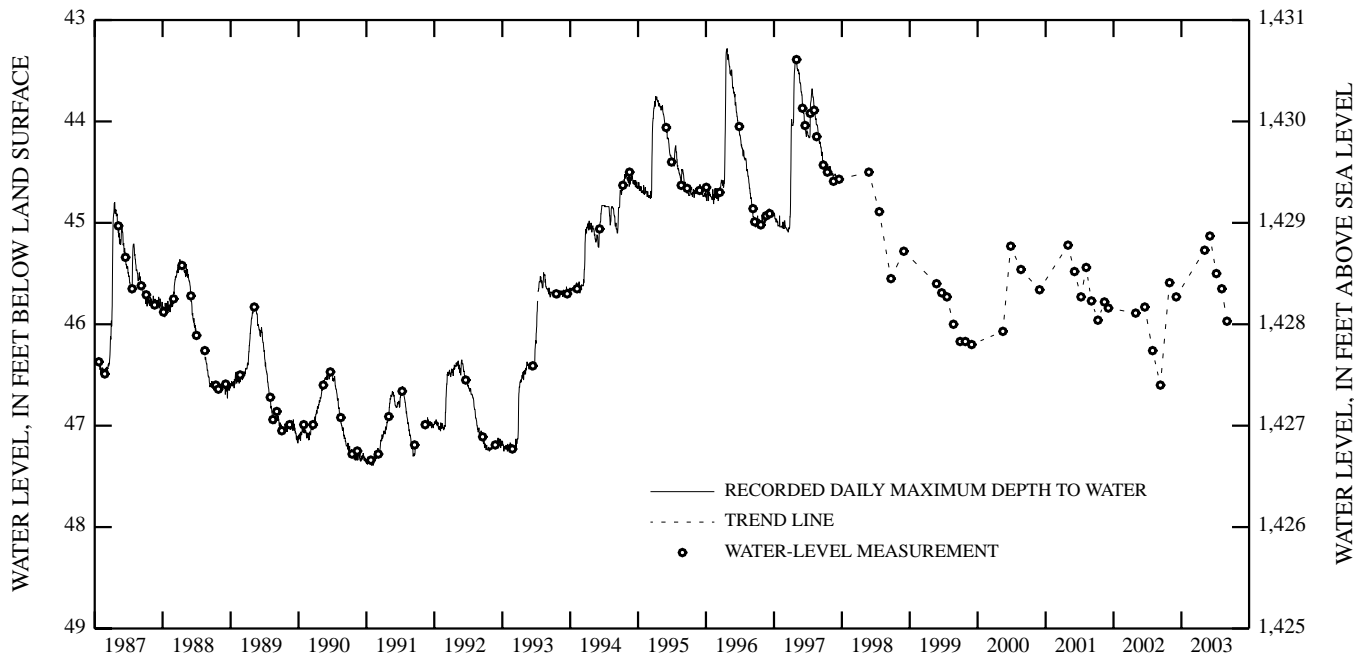
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	45.59	MAY 06	45.27	JUN 03	45.13	JUL 08	45.50	AUG 06	45.65	SEP 03	45.97
DEC 04	45.73										
WATER YEAR 2003		HIGHEST	45.13 JUN 03, 2003	LOWEST		45.97 SEP 03, 2003					

150-059-20AAA



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
NELSON COUNTY--Continued

150-059-20AAA--Continued



NETWORK SITES--Continued

NELSON COUNTY--Continued

480138098074101. Local number, 153-058-32DBB.

LOCATION.--Lat 48°01'38", long 98°07'41", Hydrologic Unit 09020307. Owner: North Dakota State Water Commission.

AQUIFER.--Pierre Shale.

WELL CHARACTERISTICS.--Drilled observation well, depth 120 ft, cased with 120 ft of 5-in diameter steel pipe, slotted 110 to 120 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

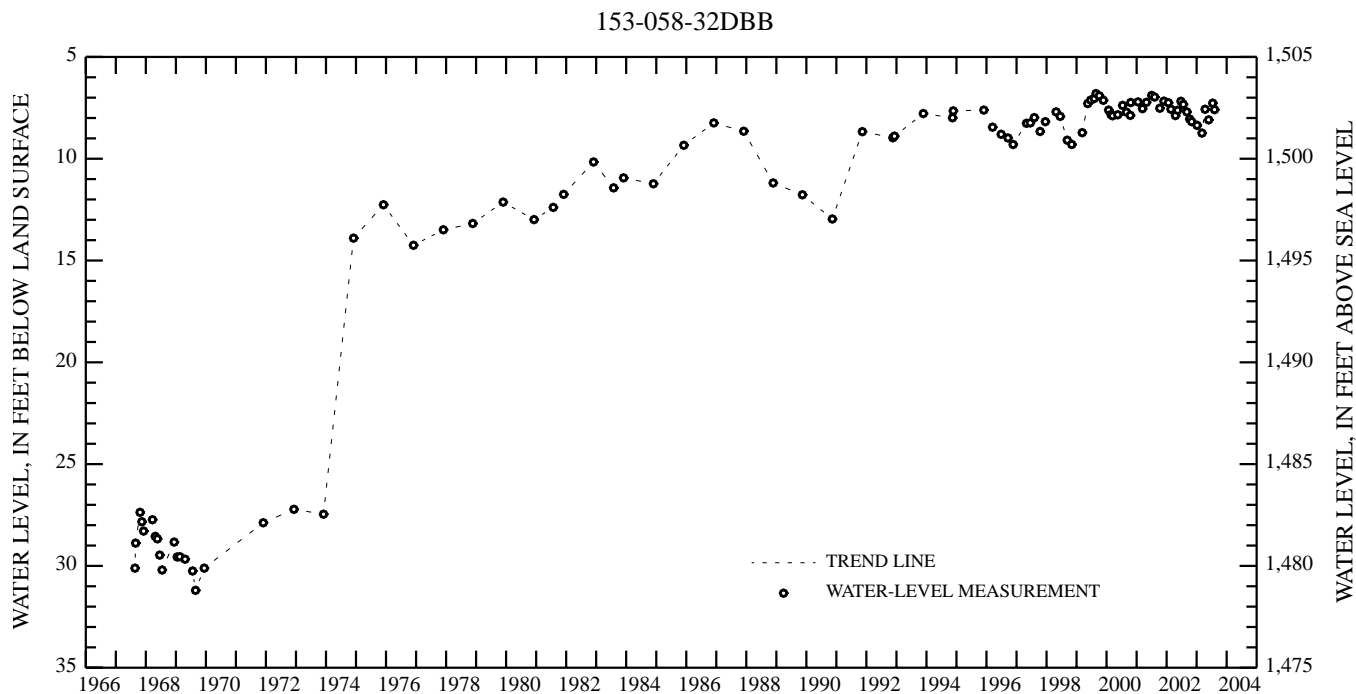
DATUM.--Altitude of land-surface datum is 1,510 ft. Measuring point: Top of casing 1.45 ft above land-surface datum.

PERIOD OF RECORD.--August 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.80 ft below land-surface datum, August 26, 1999; lowest water level, 31.20 ft below land-surface datum, August 28, 1969.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	8.05	JAN 06	8.36	APR 14	7.57	MAY 27	8.09	JUL 15	7.27	AUG 07	7.59
NOV 02	8.18	MAR 07	8.74								
WATER YEAR 2003		HIGHEST	7.27	JUL 15, 2003		LOWEST	8.74	MAR 07, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 OLIVER COUNTY

470642101162701. Local number, 142-084-24BBA.

LOCATION.--Lat 47°06'42", long 101°16'27", Hydrologic Unit 10130101. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,295 ft, cased with 966 ft of 4-in diameter steel pipe, open ended.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,006 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

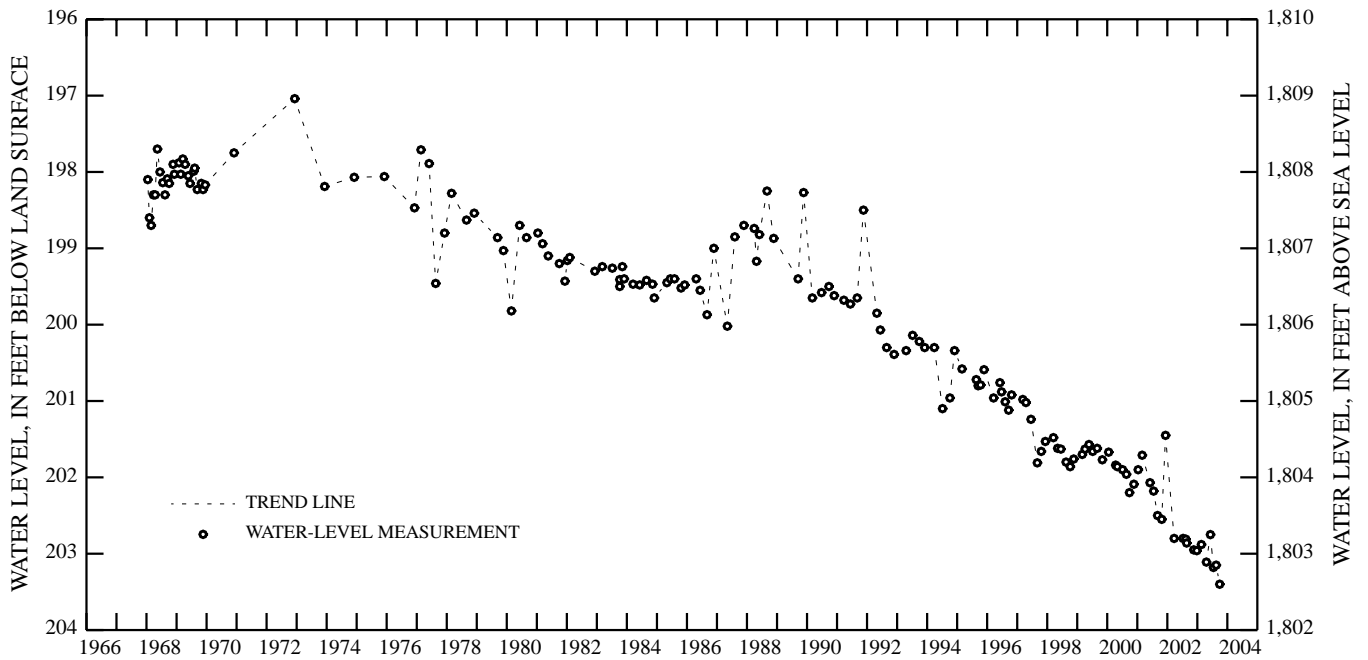
PERIOD OF RECORD.--January 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 197.04 ft below land-surface datum, December 8, 1972; lowest water level, 203.40 ft below land-surface datum, September 30, 2003.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	202.95	FEB 19	202.88	JUN 09	202.75	JUL 16	203.18	AUG 18	203.15	SEP 30	203.40
DEC 26	202.96	APR 21	203.11								
WATER YEAR 2003		HIGHEST	202.75	JUN 09, 2003		LOWEST	203.40	SEP 30, 2003			

142-084-24BBA



NETWORK SITES--Continued

PEMBINA COUNTY

485425097550502. Local number, 163-056-29CDD2.

LOCATION.--Lat 48°54'25", long 97°55'05", Hydrologic Unit 09020313. Owner: North Dakota State Water Commission.

AQUIFER.--Pembina River.

WELL CHARACTERISTICS.--Drilled observation well, depth 40 ft, cased with 20 ft of 4-in diameter steel pipe, No. 24 slot screen set 20 to 25 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

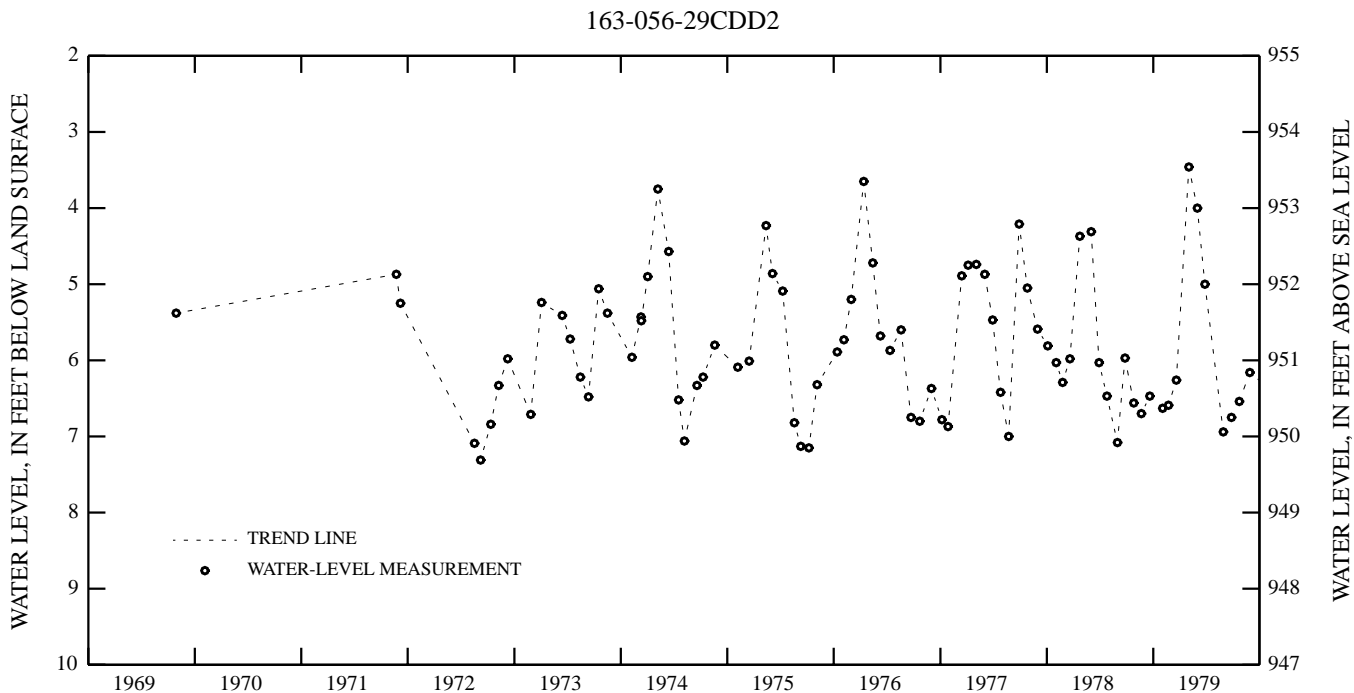
DATUM.--Altitude of land-surface datum is 957 ft. Measuring point: Top of casing 0.60 ft above land-surface datum.

PERIOD OF RECORD.--October 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.82 ft below land-surface datum, May 1, 1997; lowest water level, 7.31 ft below land-surface datum, September 7, 1972.

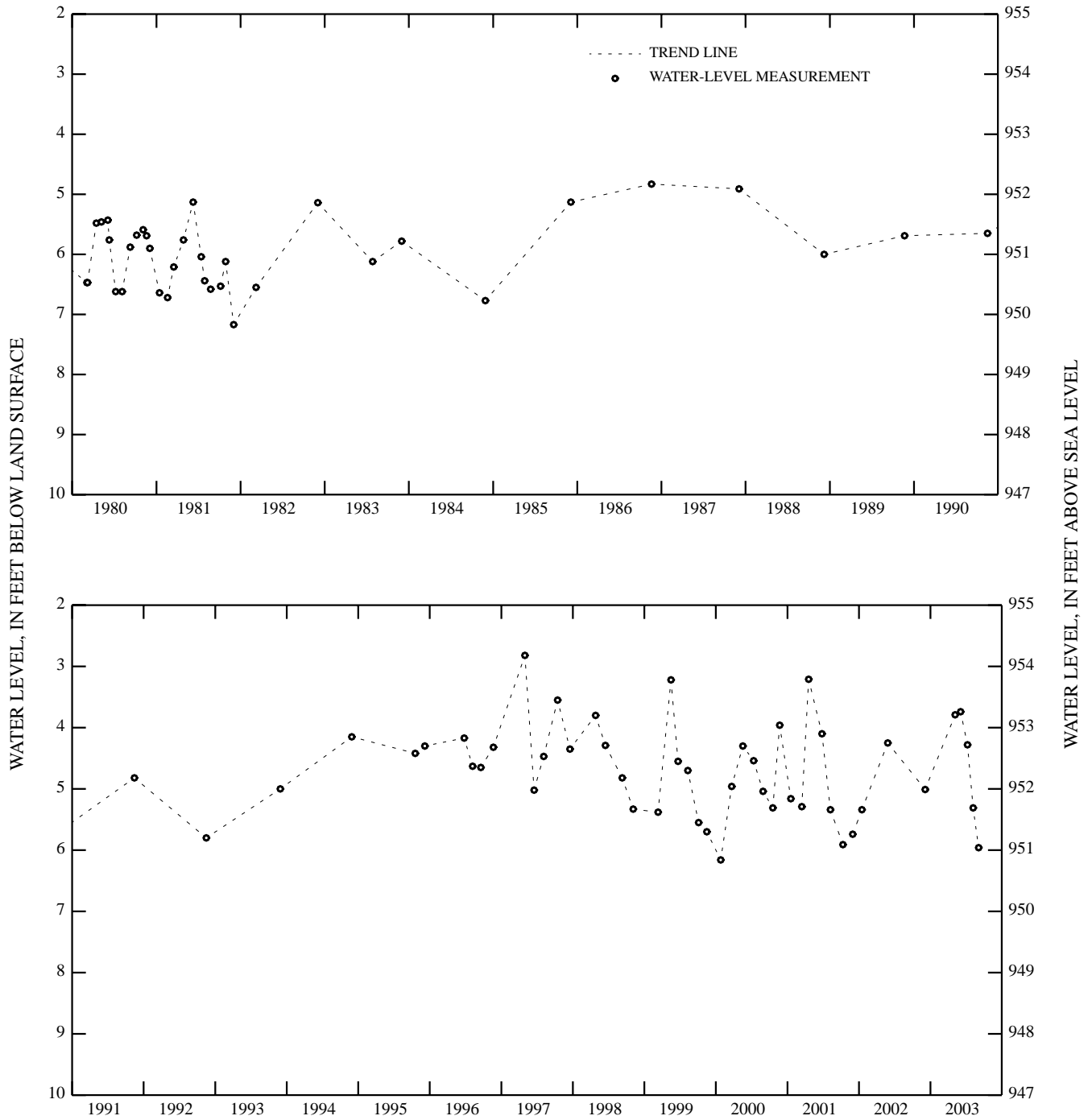
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 05	5.01	MAY 07	3.79	JUN 04	3.74	JUL 09	4.28	AUG 07	5.31	SEP 04	5.96
WATER YEAR 2003		HIGHEST	3.74	JUN 04, 2003		LOWEST	5.96	SEP 04, 2003			



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
PEMBINA COUNTY--Continued

163-056-29CDD2--Continued



## NETWORK SITES--Continued

PIERCE COUNTY

475139099484801. Local number, 151-072-36AAA1.

LOCATION.--Lat 47°51'39", long 99°48'48", Hydrologic Unit 09020202. Owner: North Dakota State Water Commission.

AQUIFER.--New Rockford.

WELL CHARACTERISTICS.--Drilled observation well, depth 320 ft, cased with 213 ft of 4-in diameter plastic pipe, screen set 213 to 238 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder November 1967 to November 14, 2000. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for November 1967 to July 1974. From August 1974 to November 14, 2000, daily maximum and minimum recorded water levels also are available, measured using a steel tape November 14, 2000, to present.

DATUM.--Altitude of land-surface datum is 1,602 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

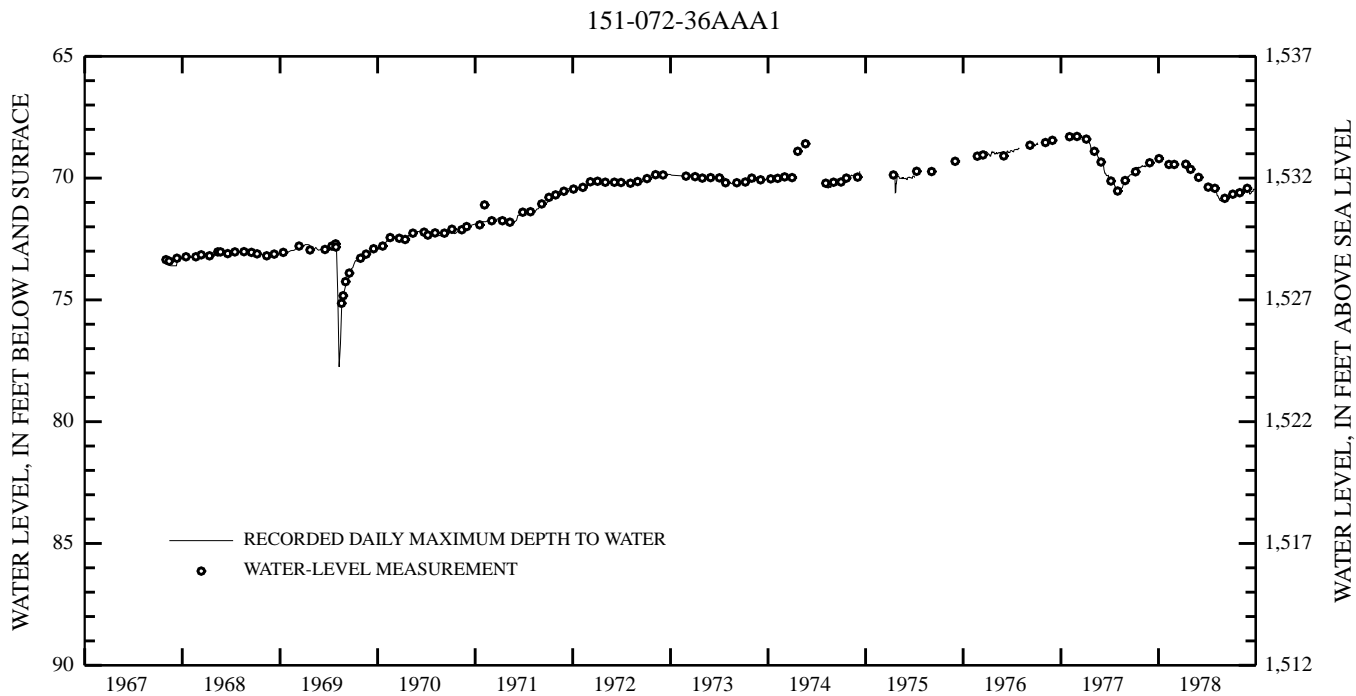
PERIOD OF RECORD.--November 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 68.26 ft below land-surface datum, March 10-11, 1977; lowest water level, 86.32 ft below land-surface datum, August 22-27, 1992.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

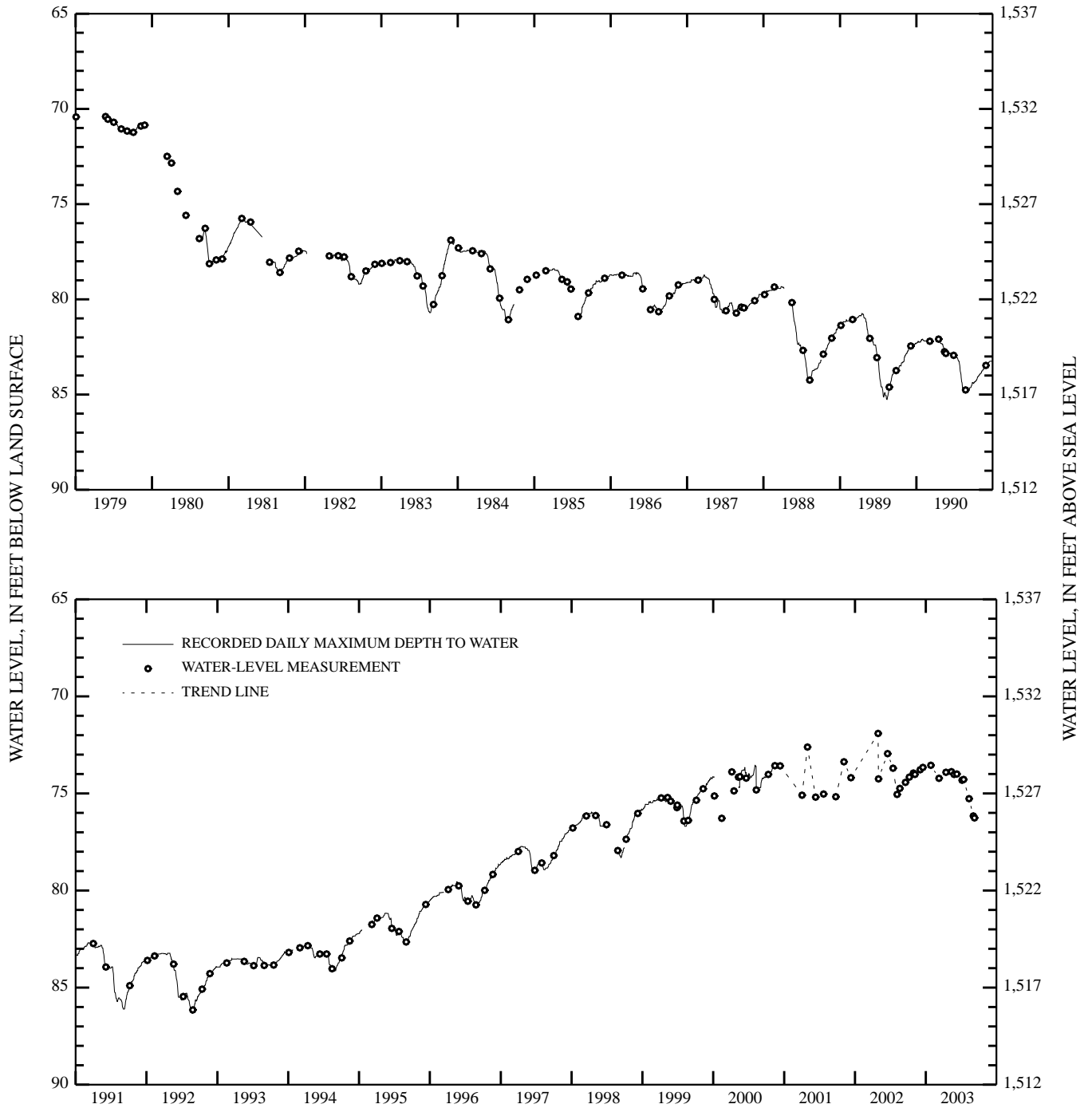
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	74.16	DEC 03	73.78	MAR 10	74.22	MAY 27	74.02	JUL 15	74.28	SEP 09	76.26
OCT 29	73.95	DEC 17	73.66	APR 15	73.91	JUN 10	74.00	AUG 12	75.27		
NOV 06	74.02	JAN 27	73.55	MAY 13	73.88	JUL 07	74.32	SEP 03	76.16		

WATER YEAR 2003      HIGHEST    73.55    JAN 27, 2003      LOWEST    76.26    SEP 09, 2003



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
PIERCE COUNTY--Continued

151-072-36AAA1--Continued





NETWORK SITES--Continued

PIERCE COUNTY--Continued

482033099594901. Local number, 156-073-12CCC.

LOCATION.--Lat 48°20'33", long 99°59'49", Hydrologic Unit 09010004. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 120 ft, cased with 72.5 ft of 4-in diameter plastic pipe, screen set 72.5 to 77.5 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

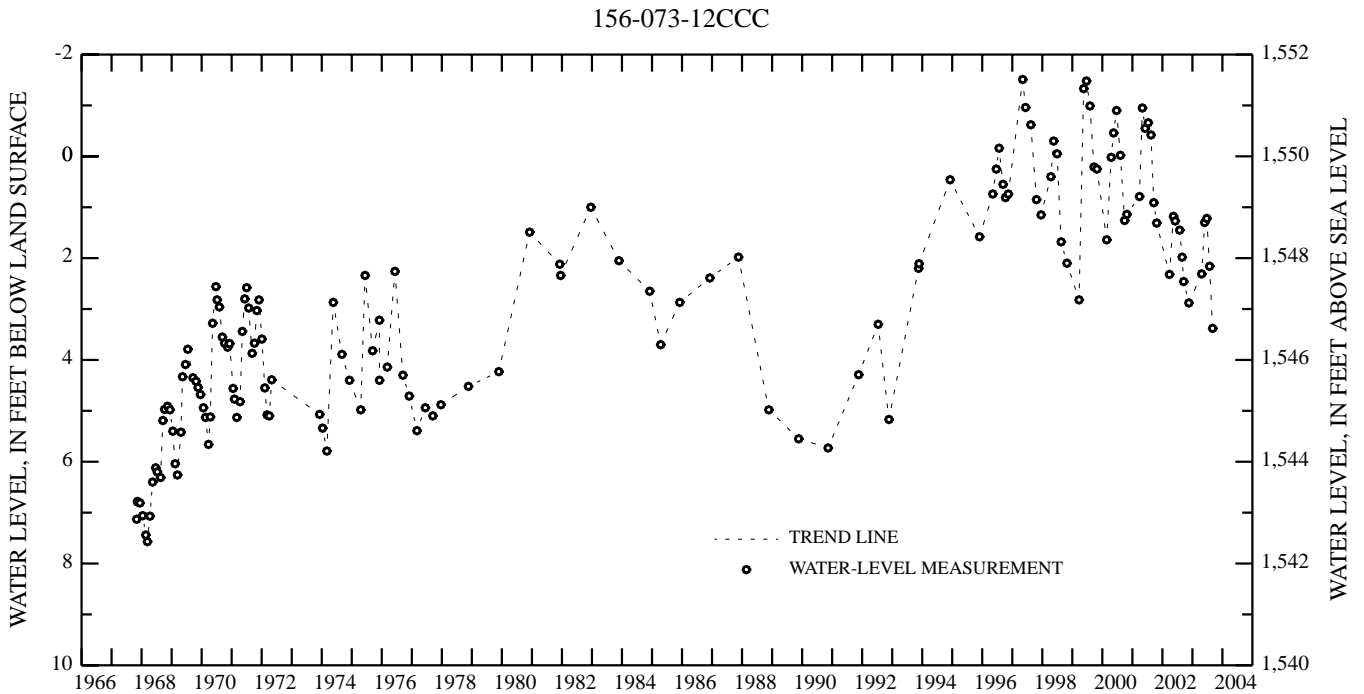
DATUM.--Altitude of land-surface datum is 1,550 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, -1.51 ft below land-surface datum, May 7, 1997; lowest water level, 7.57 ft below land-surface datum, March 12, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	2.88	APR 23	2.31	MAY 30	1.30	JUN 25	1.22	JUL 29	2.16	SEP 04	3.38
WATER YEAR 2003		HIGHEST	1.22	JUN 25, 2003		LOWEST	3.38	SEP 04, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 PIERCE COUNTY--Continued

483054100071901. Local number, 158-073-17BBB.

LOCATION.--Lat 48°30'54", long 100°07'19", Hydrologic Unit 09010004. Owner: North Dakota State Water Commission.

AQUIFER.--Lake Souris.

WELL CHARACTERISTICS.--Drilled observation well, depth 180 ft, cased with 56 ft of 1.25-in diameter plastic pipe, screen set 56 to 59 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,508 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

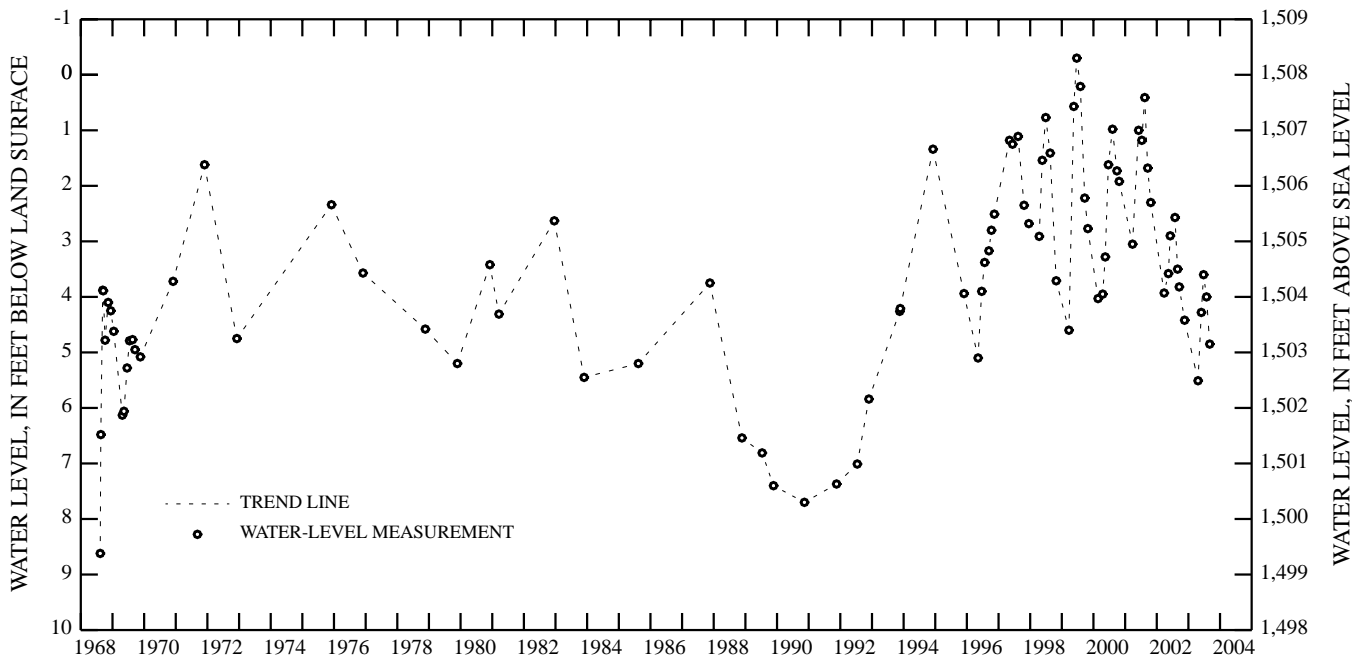
PERIOD OF RECORD.--August 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, -0.30 ft below land-surface datum, June 22, 1999; lowest water level, 8.62 ft below land-surface datum, August 12, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	4.42	APR 22	5.51	MAY 30	4.28	JUN 25	3.60	JUL 29	4.00	SEP 04	4.85
WATER YEAR 2003		HIGHEST	3.60	JUN 25, 2003		LOWEST	5.51	APR 22, 2003			

158-073-17BBB



NETWORK SITES--Continued

RAMSEY COUNTY

480449099002402. Local number, 153-065-09DDD2.

LOCATION.--Lat 48°04'49", long 99°00'24", Hydrologic Unit 09020201. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 140 ft, cased with 117 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 117 to 120 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,458 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

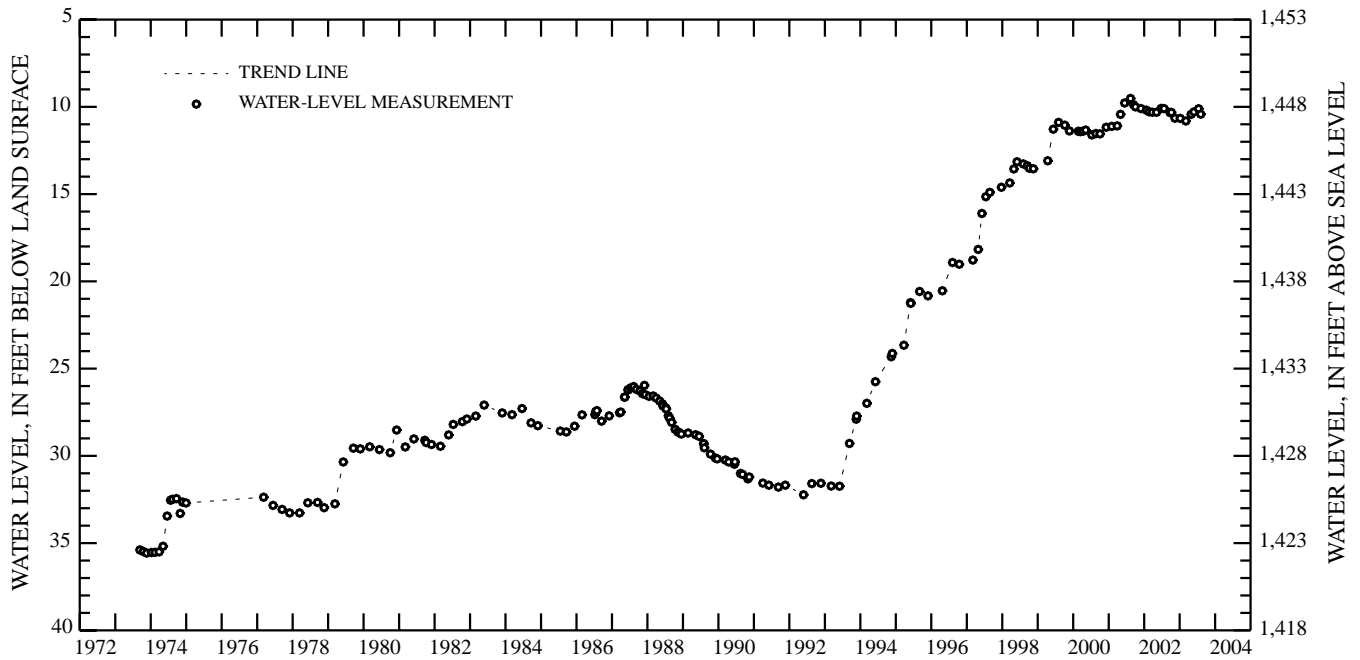
PERIOD OF RECORD.--September 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.52 ft below land-surface datum, August 13, 2001; lowest water level, 35.57 ft below land-surface datum, November 20, 1973.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	10.32	JAN 07	10.66	APR 29	10.43	MAY 28	10.29	JUL 15	10.11	AUG 06	10.42
NOV 13	10.65	MAR 06	10.81								
WATER YEAR 2003		HIGHEST	10.11	JUL 15, 2003		LOWEST	10.81	MAR 06, 2003			

153-065-09DDD2



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 RAMSEY COUNTY--Continued

480817099013201. Local number, 154-065-21CCC.

LOCATION.--Lat 48°08'17", long 99°01'32", Hydrologic Unit 09020201. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 160 ft, cased with 127 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 127 to 133 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

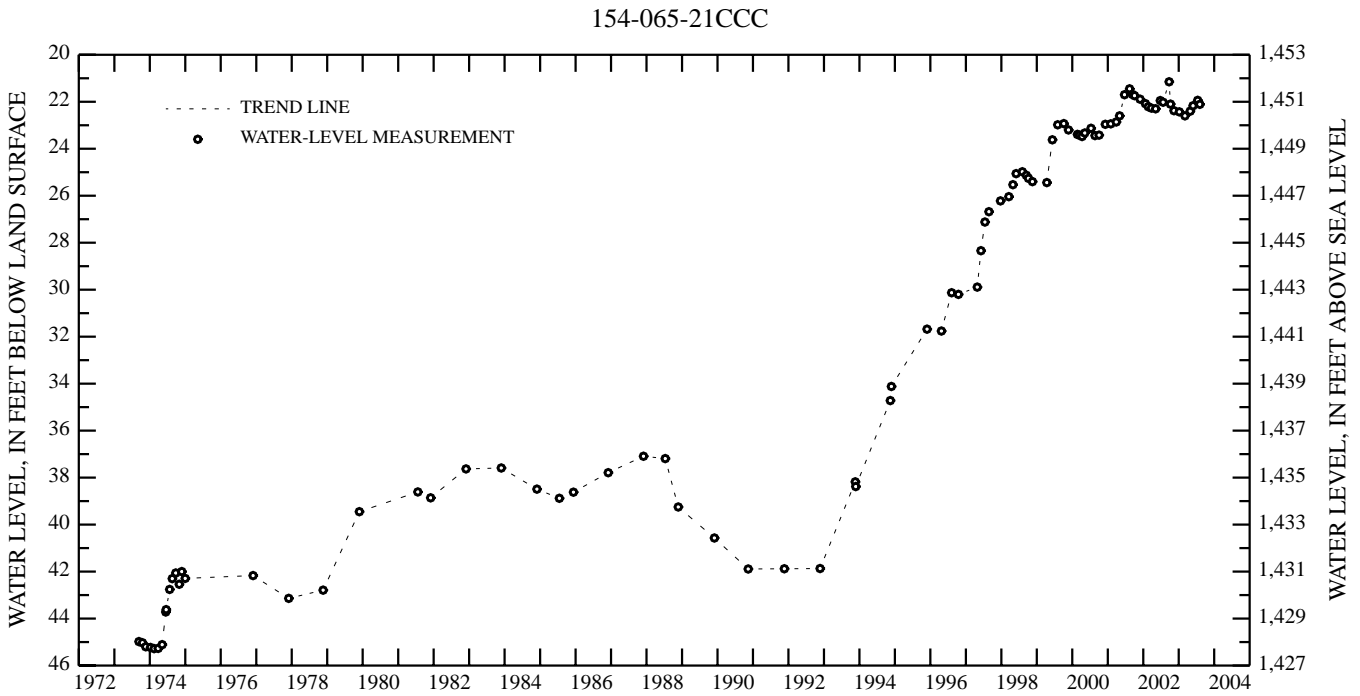
DATUM.--Altitude of land-surface datum is 1,473 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.15 ft below land-surface datum, September 24, 2002; lowest water level, 45.28 ft below land-surface datum, February 14, 1974.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	22.10	JAN 07	22.43	APR 29	22.40	MAY 28	22.17	JUL 15	21.94	AUG 06	22.11
NOV 13	22.38	MAR 06	22.60								
WATER YEAR 2003		HIGHEST	21.94	JUL 15, 2003		LOWEST	22.60	MAR 06, 2003			



NETWORK SITES--Continued

RAMSEY COUNTY--Continued

481929098392601. Local number, 156-062-20BBB.

LOCATION.--Lat 48°19'29", long 98°39'26", Hydrologic Unit 09020201. Owner: North Dakota State Water Commission.

AQUIFER.--Pierre Shale.

WELL CHARACTERISTICS.--Drilled observation well, depth 60 ft, cased with 60 ft of 4-in diameter plastic pipe, slotted 48 to 58 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

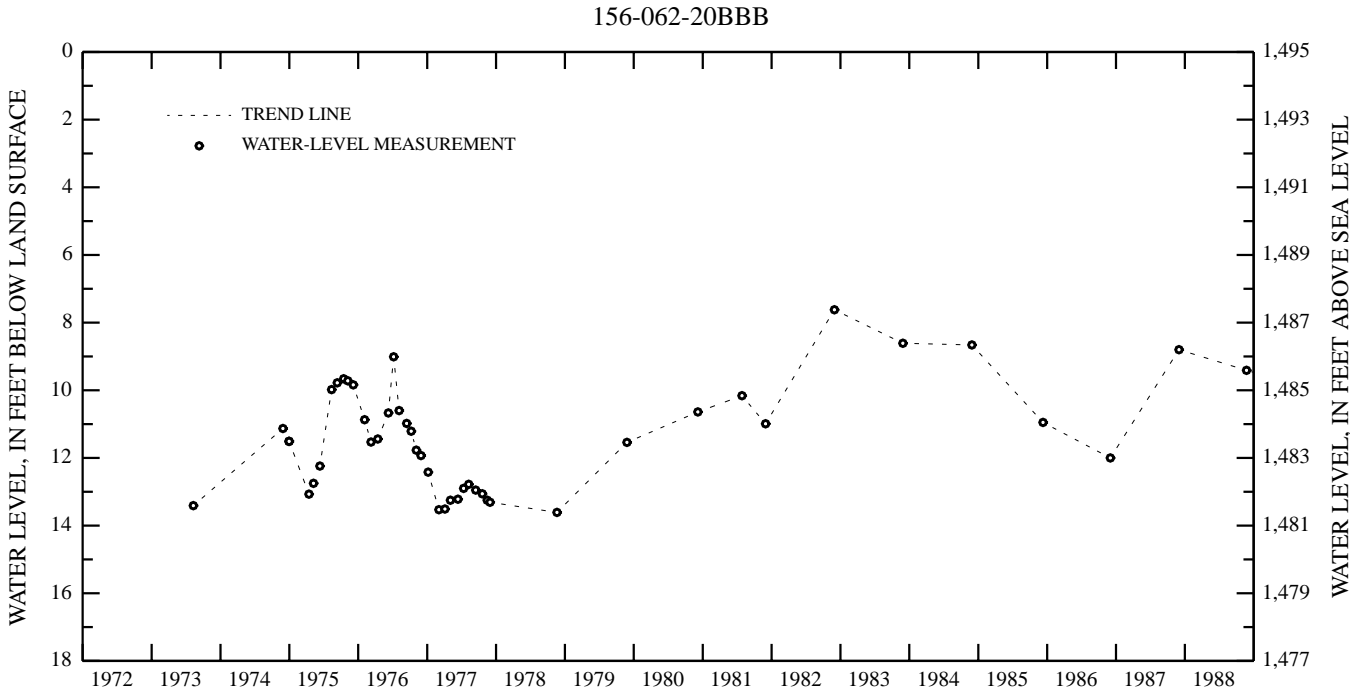
DATUM.--Altitude of land-surface datum is 1,495 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.56 ft below land-surface datum, November 24, 1993; lowest water level, 15.84 ft below land-surface datum, November 14, 1990.

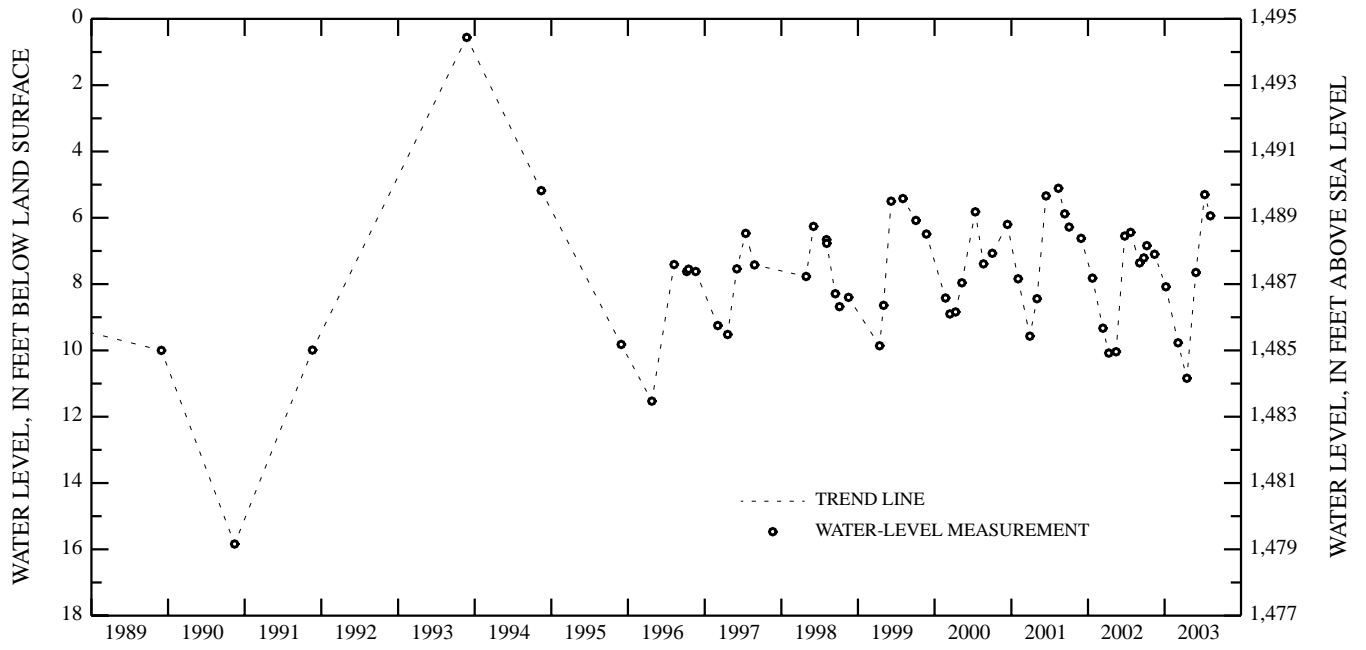
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	6.84	JAN 07	8.08	APR 17	10.84	MAY 30	7.65	JUL 11	5.30	AUG 07	5.94
NOV 14	7.10	MAR 06	9.77								
WATER YEAR 2003		HIGHEST	5.30	JUL 11, 2003		LOWEST	10.84	APR 17, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 RAMSEY COUNTY--Continued

156-062-20BBB--Continued



## NETWORK SITES--Continued

## RANSOM COUNTY

461838097553402. Local number, 133-058-25BBA2.

LOCATION.--Lat 46°18'38", long 97°55'34", Hydrologic Unit 09020105. Owner: North Dakota State Water Commission.

AQUIFER.--Englevale.

WELL CHARACTERISTICS.--Drilled observation well, depth 60 ft, cased with 34 ft of 5-in diameter plastic pipe, No. 15 slot screen set 34 to 38 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From June 1982 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,315.3 ft. Measuring point: Top of casing 1.50 ft above land-surface datum.

PERIOD OF RECORD.--June 1982 to current year.

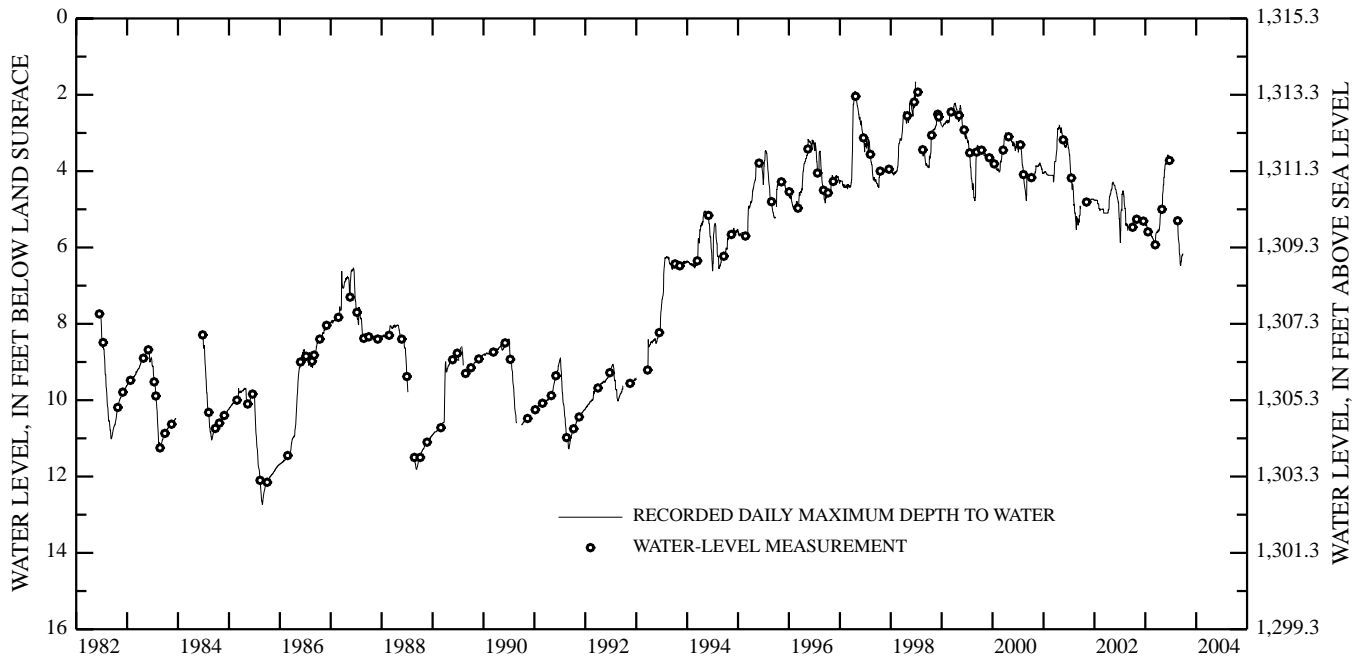
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.87 ft below land-surface datum, April 15, 1997; lowest water level, 12.73 ft below land-surface datum, August 28-29, 1985.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	5.27	5.24	5.41	5.59	5.82	5.57	4.98	3.82	---	---	5.91
2	5.47	5.27	5.29	5.42	5.59	5.82	5.55	4.98	3.81	---	---	6.10
3	5.47	5.27	5.32	5.42	5.61	5.82	5.54	4.98	3.80	---	---	6.17
4	5.44	5.26	5.34	5.40	5.62	5.83	5.55	4.95	3.80	---	---	6.19
5	5.38	5.25	5.34	5.43	5.63	5.83	5.55	4.63	3.79	---	---	6.19
6	5.38	5.24	5.34	5.43	5.64	5.85	5.56	4.58	3.79	---	---	6.20
7	5.20	5.23	5.35	5.42	5.64	5.86	5.56	4.56	3.77	---	---	6.28
8	5.22	5.18	5.38	5.39	5.64	5.87	5.57	4.55	3.73	---	---	6.41
9	5.22	5.18	5.38	5.39	5.64	5.88	5.56	4.49	3.73	---	---	6.44
10	5.22	5.20	5.37	5.39	5.67	5.88	5.55	4.37	3.69	---	---	6.47
11	5.24	5.22	5.36	5.41	5.67	5.88	5.54	4.36	3.66	---	---	6.47
12	5.26	5.22	5.36	5.44	5.68	5.89	5.53	4.36	3.57	---	---	6.47
13	5.26	5.22	5.35	5.47	5.68	5.95	5.48	4.36	3.59	---	---	6.45
14	5.26	5.22	5.35	5.47	5.71	5.94	5.45	4.17	3.61	---	---	6.37
15	5.26	5.24	5.35	5.48	5.72	5.84	5.42	4.17	3.63	---	---	6.37
16	5.26	5.24	5.35	5.51	5.72	5.74	5.37	4.16	3.67	---	---	6.37
17	5.26	5.24	5.35	5.51	5.71	5.68	5.24	4.16	3.67	---	---	6.35
18	5.24	5.23	5.33	5.50	5.71	5.65	5.21	4.01	3.68	---	---	6.30
19	5.23	5.21	5.34	5.51	5.72	5.64	5.15	3.97	3.71	---	---	6.24
20	5.24	5.21	5.34	5.53	5.72	5.63	5.11	3.97	3.77	---	---	6.24
21	5.25	5.21	5.34	5.57	5.73	5.61	5.11	3.96	3.78	---	5.32	6.23
22	5.25	5.21	5.36	5.57	5.74	5.61	5.10	3.86	3.76	---	5.37	6.22
23	5.25	5.21	5.37	5.59	5.76	5.61	5.10	3.85	3.75	---	5.47	6.19
24	5.25	5.23	5.37	5.59	5.77	5.59	5.09	3.83	3.71	---	5.59	6.21
25	5.25	5.25	5.37	5.60	5.77	5.59	5.06	3.80	---	---	5.70	6.21
26	5.23	5.27	5.37	5.61	5.77	5.59	5.05	3.80	---	---	5.75	6.19
27	5.23	5.26	5.37	5.60	5.78	5.59	5.02	3.80	---	---	5.79	6.17
28	5.23	5.26	5.38	5.63	5.79	5.60	5.02	3.79	---	---	5.81	6.17
29	5.23	5.25	5.38	5.63	---	5.61	5.02	3.79	---	---	5.83	6.17
30	5.25	5.25	5.38	5.61	---	5.61	5.02	3.81	---	---	5.87	6.17
31	5.27	---	5.39	5.59	---	5.60	---	3.82	---	---	5.90	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
RANSOM COUNTY--Continued

133-058-25BBA2





## NETWORK SITES--Continued

## RANSOM COUNTY--Continued

462400097552502. Local number, 134-058-24CDC2.

LOCATION.--Lat 46°24'00", long 97°55'25", Hydrologic Unit 09020105. Owner: North Dakota State Water Commission.

AQUIFER.--Englevale.

WELL CHARACTERISTICS.--Drilled observation well, depth 60 ft, cased with 54.5 ft of 4-in diameter plastic pipe, No. 20 slot screen set 54.5 to 59.5 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder April 1968 to current year. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for April 1968 to July 1968. From July 1968 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,343.2 ft. Measuring point: Top of casing 1.30 ft above land-surface datum.

PERIOD OF RECORD.--April 1968 to current year.

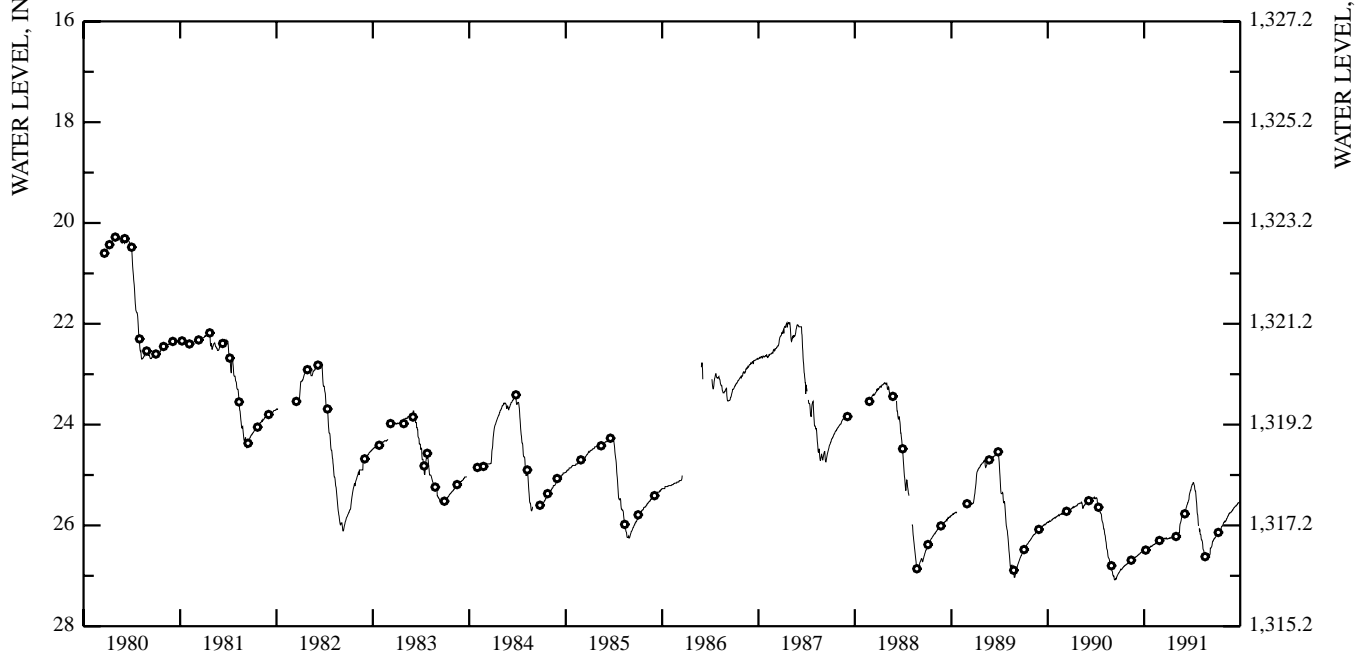
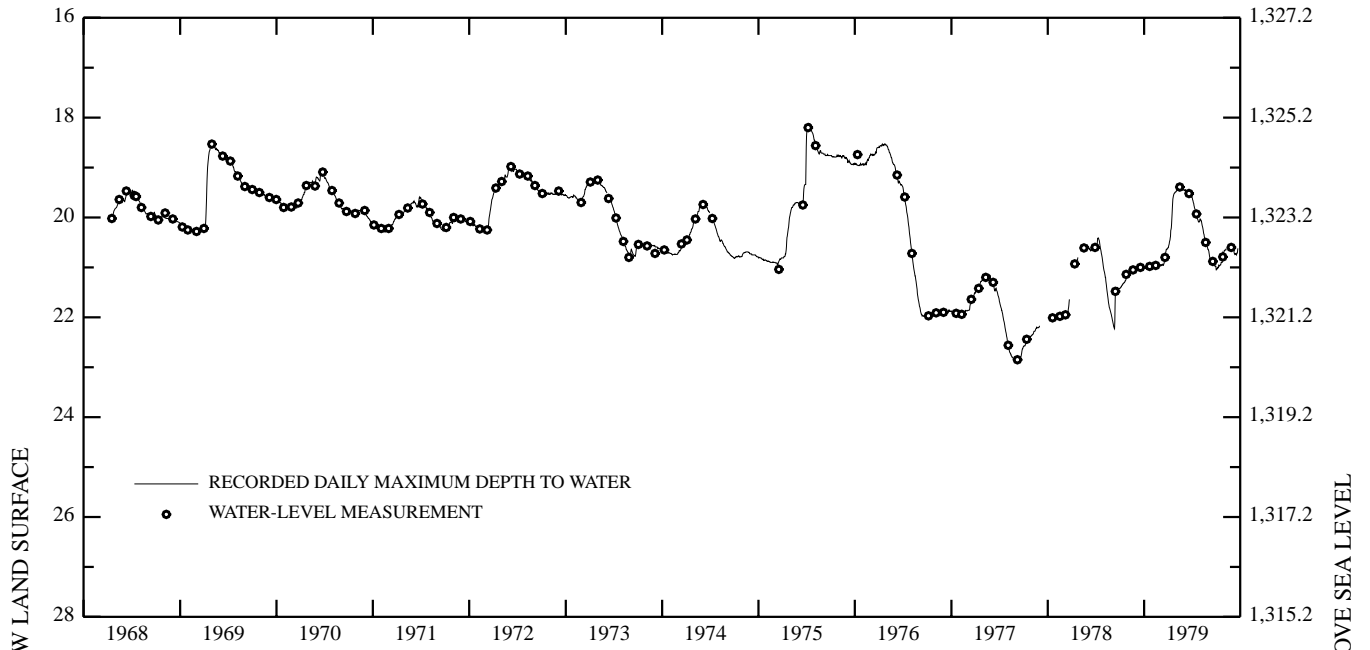
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.30 ft below land-surface datum, July 2 and 3, 1998; lowest water level, 27.08 ft below land-surface datum, September 11-13, 1990.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

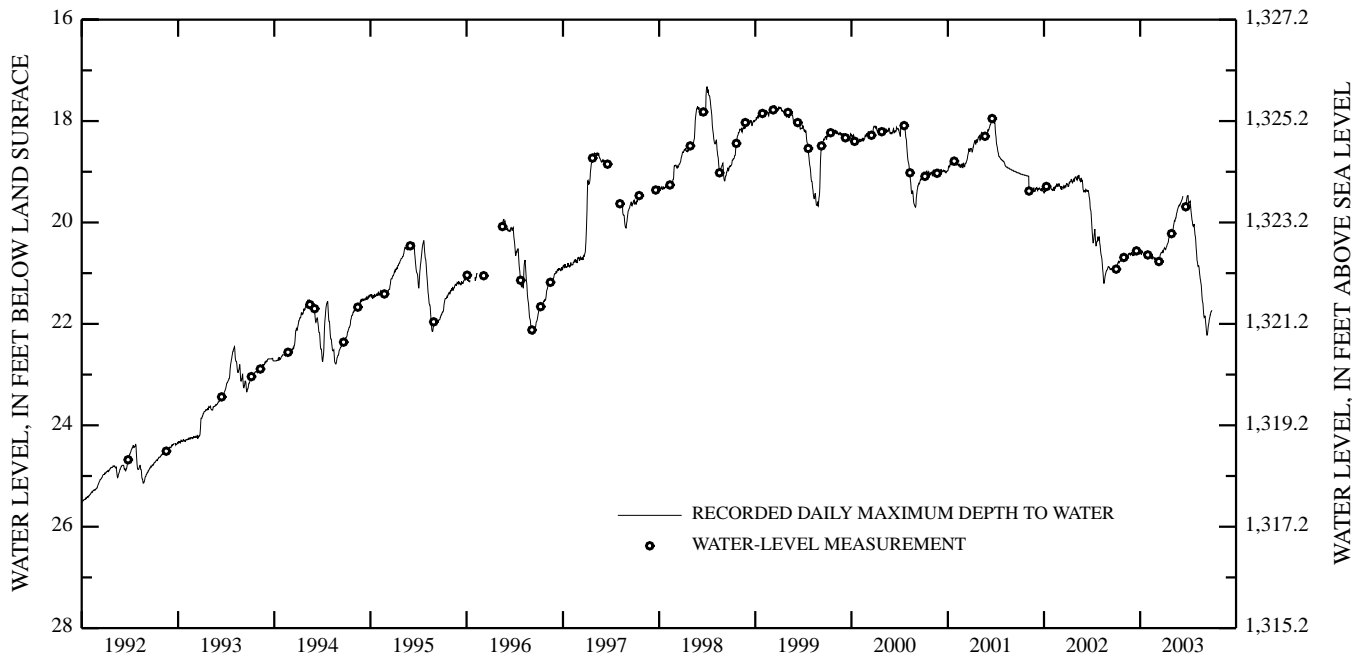
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.90	20.69	20.60	20.61	20.64	20.74	20.53	20.22	19.65	19.47	20.45	21.87
2	20.92	20.68	20.64	20.61	20.65	20.74	20.52	20.23	19.63	19.47	20.53	21.86
3	20.90	20.68	20.64	20.61	20.66	20.71	20.50	20.24	19.63	19.59	20.59	21.86
4	20.85	20.68	20.65	20.58	20.67	20.73	20.51	20.23	19.61	19.62	20.67	21.84
5	20.85	20.66	20.64	20.63	20.67	20.73	20.52	20.16	19.60	19.62	20.75	21.87
6	20.85	20.67	20.63	20.63	20.69	20.74	20.52	20.13	19.59	19.61	20.77	21.94
7	20.84	20.66	20.64	20.59	20.68	20.76	20.52	20.10	19.57	19.60	20.80	21.99
8	20.80	20.64	20.66	20.56	20.66	20.77	20.53	20.06	19.56	19.60	20.85	22.04
9	20.79	20.64	20.64	20.57	20.66	20.77	20.51	20.03	19.55	19.59	20.87	22.10
10	20.78	20.66	20.63	20.59	20.67	20.77	20.49	20.00	19.53	19.58	20.87	22.17
11	20.77	20.67	20.62	20.59	20.67	20.74	20.48	19.97	19.52	19.65	20.85	22.22
12	20.80	20.67	20.61	20.60	20.68	20.77	20.47	19.98	19.48	19.70	20.87	22.22
13	20.80	20.67	20.61	20.61	20.69	20.77	20.45	19.98	---	19.77	20.91	22.22
14	20.77	20.65	20.60	20.62	20.71	20.74	20.43	19.94	---	19.82	20.97	22.18
15	20.77	20.67	20.60	20.63	20.72	20.72	20.42	19.93	---	19.86	21.02	22.13
16	20.77	20.67	20.59	20.64	20.72	20.70	20.41	19.91	---	19.91	21.06	22.08
17	20.76	20.65	20.58	20.64	20.67	20.68	20.40	19.91	---	19.96	21.11	22.03
18	20.76	20.62	20.57	20.61	20.68	20.64	20.38	19.87	19.64	19.97	21.13	22.01
19	20.76	20.61	20.57	20.61	20.68	20.63	20.33	19.83	19.65	20.03	21.17	21.98
20	20.75	20.61	20.57	20.65	20.68	20.62	20.31	19.81	19.73	20.06	21.21	21.93
21	20.75	20.62	20.57	20.67	20.69	20.60	20.30	19.80	19.75	20.07	21.24	21.90
22	20.76	20.62	20.60	20.68	20.70	20.60	20.29	19.76	19.76	20.08	21.32	21.88
23	20.76	20.61	20.61	20.69	20.72	20.59	20.28	19.75	19.73	20.07	21.40	21.85
24	20.75	20.63	20.61	20.65	20.73	20.59	20.27	19.73	19.68	20.05	21.47	21.82
25	20.72	20.62	20.59	20.69	20.73	20.59	20.26	19.71	19.62	20.03	21.54	21.82
26	20.70	20.64	20.59	20.69	20.69	20.58	20.25	19.70	19.57	20.12	21.57	21.78
27	20.70	20.63	20.58	20.65	20.72	20.56	20.25	19.68	19.53	20.17	21.58	21.76
28	20.70	20.61	20.57	20.69	20.73	20.57	20.25	19.67	19.50	20.23	21.64	21.76
29	20.70	20.60	20.57	20.70	---	20.59	20.25	19.66	19.48	20.27	21.73	21.75
30	20.70	20.61	20.59	20.66	---	20.58	20.23	19.67	19.48	20.28	21.79	21.73
31	20.71	---	20.60	20.66	---	20.55	---	19.67	---	20.36	21.84	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
RANSOM COUNTY--Continued

134-058-24CDC2



134-058-24CDC2--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 RENVILLE COUNTY

484500101294901. Local number, 161-084-24DDD.

LOCATION.--Lat 48°45'00", long 101°29'49", Hydrologic Unit 09010005. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 662 ft, cased with 470 ft of 2-in diameter steel pipe, No. 12 slot screen set 470 to 488 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,619 ft. Measuring point: Top of casing 3.00 ft above land-surface datum.

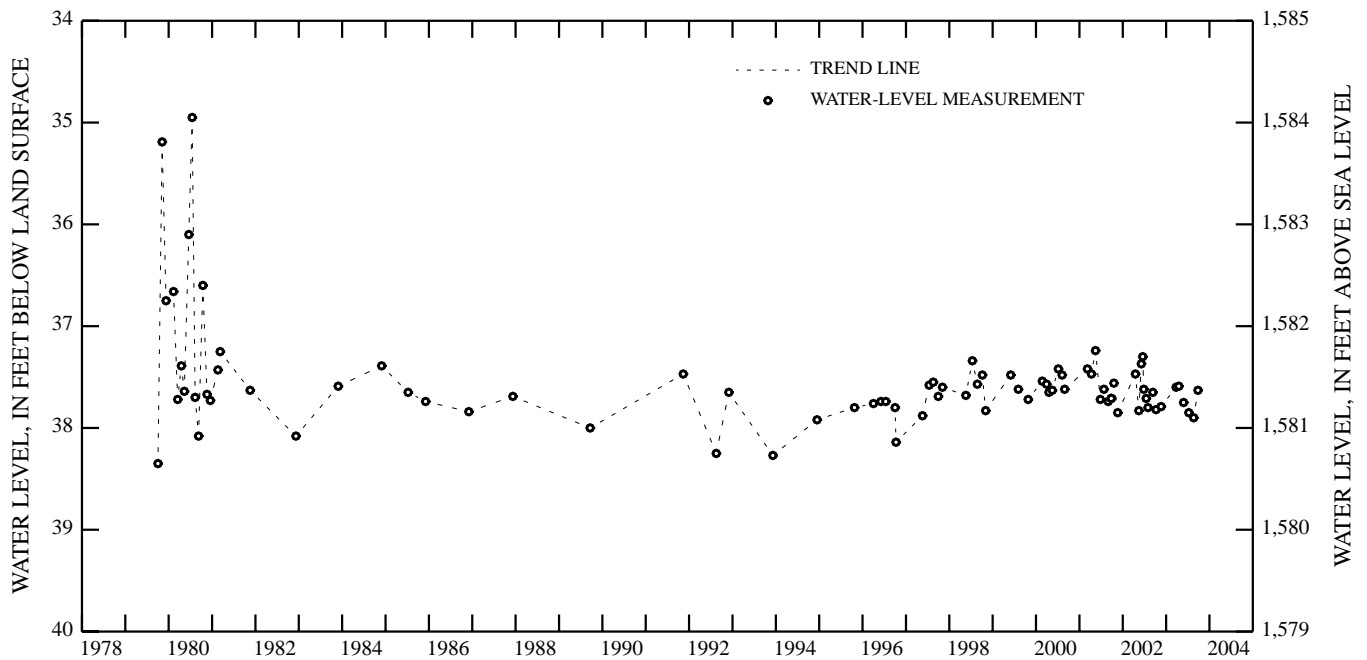
PERIOD OF RECORD.--October 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.95 ft below land-surface datum, July 17, 1980; lowest water level, 38.35 ft below land-surface datum, October 3, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	37.82	MAR 26	37.60	MAY 28	37.75	JUL 11	37.85	AUG 21	37.90	SEP 26	37.63
NOV 20	37.79	APR 18	37.59								
WATER YEAR 2003		HIGHEST	37.59	APR 18, 2003		LOWEST	37.90	AUG 21, 2003			

161-084-24DDD



NETWORK SITES--Continued

RICHLAND COUNTY

460358096581401. Local number, 130-050-17DDD.

LOCATION.--Lat 46°03'58", long 96°58'14", Hydrologic Unit 09020105. Owner: North Dakota State Water Commission.

AQUIFER.--Milnor Channel.

WELL CHARACTERISTICS.--Drilled observation well, depth 57.6 ft, cased with 57.6 ft of 1.25-in diameter plastic pipe, slotted 47 to 57.6 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

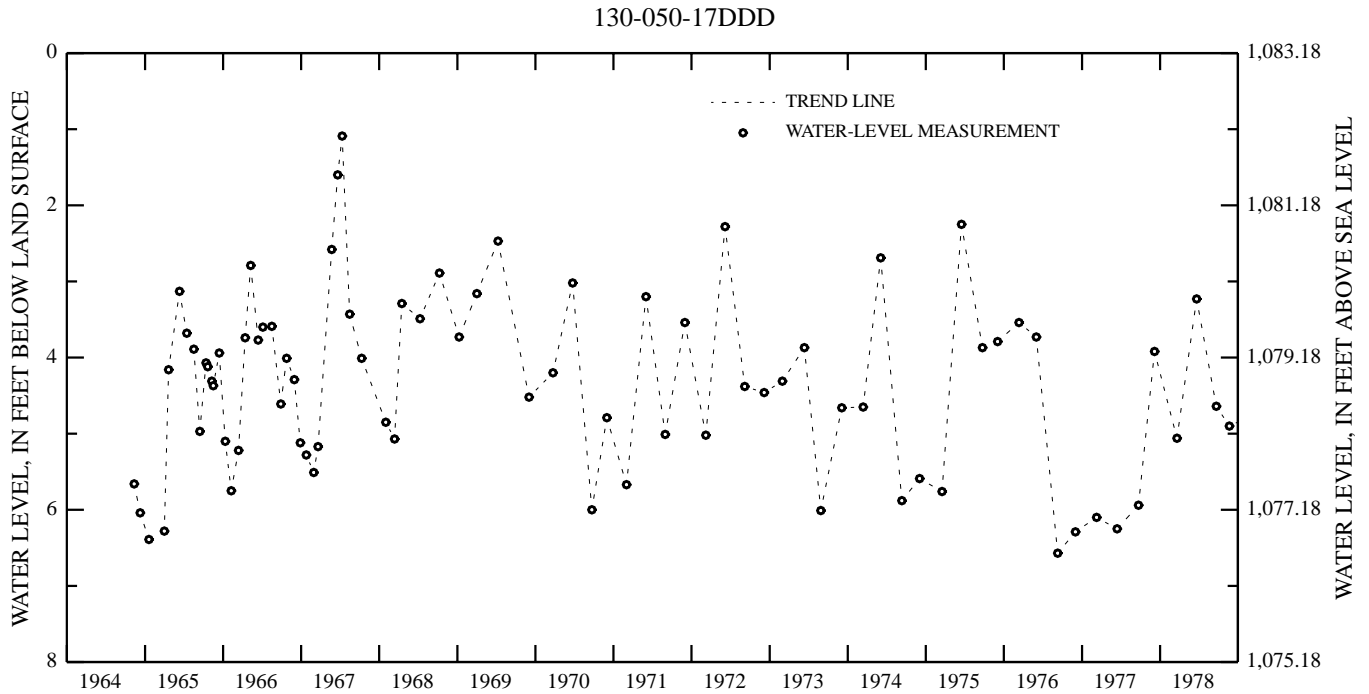
DATUM.--Altitude of land-surface datum is 1,083.18 ft. Measuring point: Top of casing 1.90 ft above land-surface datum.

PERIOD OF RECORD.--November 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.53 ft below land-surface datum, April 20, 1997; lowest water level, 6.57 ft below land-surface datum, September 9, 1976.

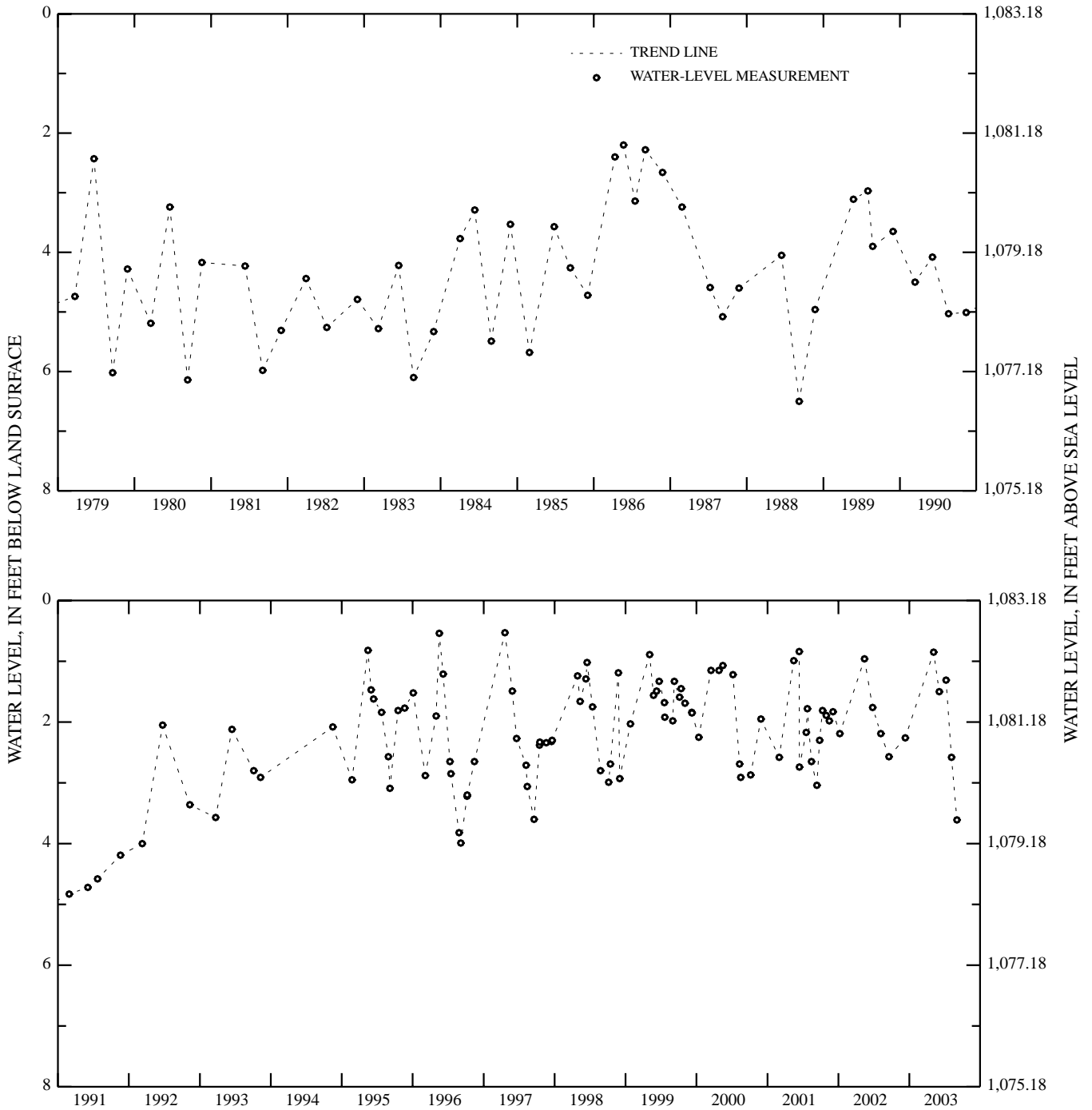
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 11	2.26	MAY 06	0.85	JUN 04	1.50	JUL 09	1.31	AUG 06	2.58	SEP 03	3.61
WATER YEAR 2003		HIGHEST	0.85	MAY 06, 2003		LOWEST	3.61	SEP 03, 2003			



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
RICHLAND COUNTY--Continued

130-050-17DDD--Continued



## NETWORK SITES--Continued

## RICHLAND COUNTY--Continued

462425096441202. Local number, 134-048-20ADD2.

LOCATION.--Lat 46°24'25", long 96°44'12", Hydrologic Unit 09020105. Owner: North Dakota State Water Commission.

AQUIFER.--Colfax.

WELL CHARACTERISTICS.--Drilled observation well, depth 260 ft, cased with 130 ft of 5-in diameter steel pipe, No. 15 slot screen set 130 to 135 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From June 1980 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 941.8 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1980 to current year.

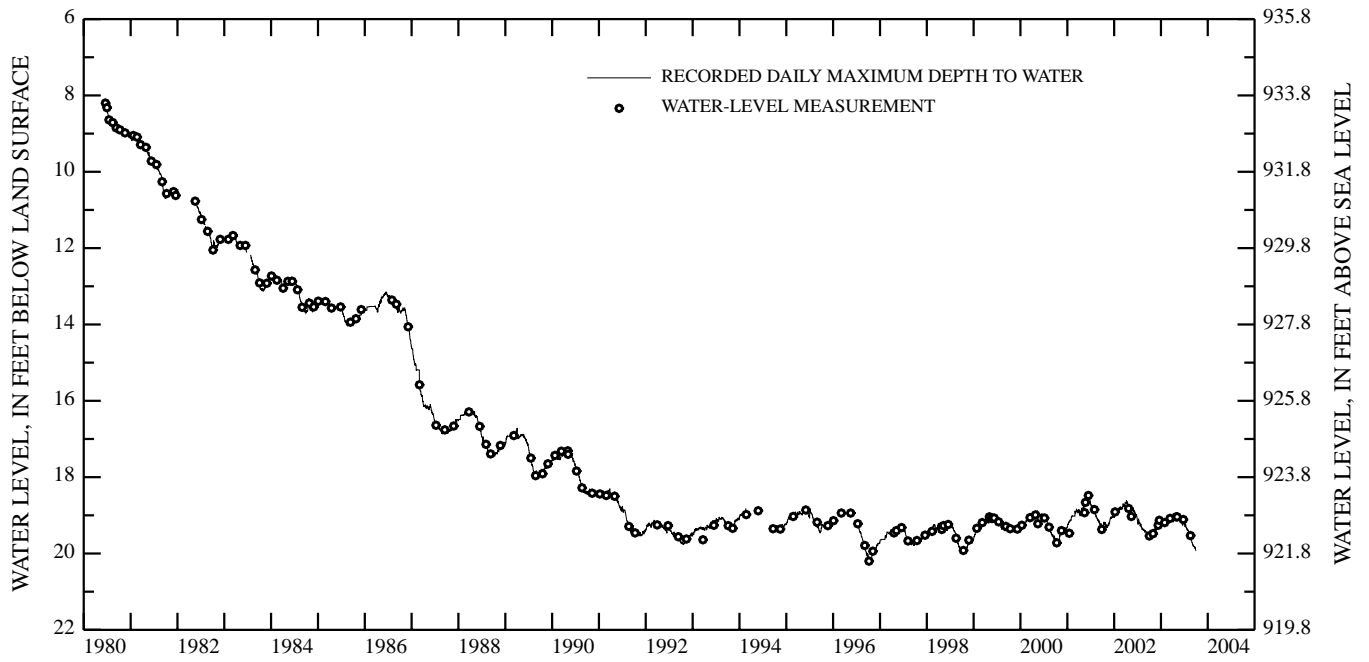
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.20 ft below land-surface datum, June 18, 1980; lowest water level, 20.24 ft below land-surface datum, October 9-10, 1996.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.52	19.49	19.31	19.17	19.20	19.16	19.09	19.08	19.16	19.20	19.39	19.71
2	19.54	19.47	19.36	19.17	19.19	19.16	19.10	19.10	19.16	19.19	19.39	19.71
3	19.54	19.47	19.36	19.17	19.20	19.11	19.11	19.09	19.17	19.22	19.41	19.74
4	19.48	19.47	19.36	19.13	19.23	19.11	19.13	19.07	19.17	19.23	19.41	19.76
5	19.50	19.44	19.34	19.18	19.22	19.11	19.15	19.03	19.17	19.24	19.42	19.76
6	19.50	19.44	19.31	19.19	19.24	19.08	19.15	19.01	19.17	19.25	19.43	19.76
7	19.46	19.44	19.30	19.14	19.23	19.10	19.17	19.03	19.17	19.29	19.45	19.78
8	19.47	19.37	19.34	19.10	19.20	19.12	19.17	19.04	19.17	19.30	19.47	19.79
9	19.48	19.35	19.31	19.14	19.19	19.12	19.16	19.02	19.19	19.30	19.47	19.78
10	19.47	19.37	19.26	19.15	19.18	19.12	19.14	18.97	19.16	19.22	19.46	19.78
11	19.46	19.39	19.24	19.16	19.17	19.07	19.14	19.01	19.16	19.22	19.47	19.79
12	19.51	19.40	19.24	19.16	19.18	19.09	19.14	19.03	19.16	19.25	19.49	19.79
13	19.52	19.39	19.24	19.16	19.18	19.09	19.13	19.03	19.19	19.25	19.51	19.81
14	19.50	19.38	19.22	19.16	19.20	19.07	19.09	18.98	19.22	19.25	19.52	19.81
15	19.51	19.40	19.22	19.16	19.22	19.05	19.09	19.00	19.23	19.29	19.52	19.82
16	19.51	19.40	19.22	19.17	19.21	19.04	19.04	19.03	19.23	19.30	19.52	19.82
17	19.49	19.37	19.21	19.17	19.15	19.06	19.01	19.03	19.23	19.32	19.52	19.82
18	19.46	19.35	19.16	19.12	19.13	19.07	19.01	19.02	19.24	19.33	19.52	19.81
19	19.48	19.35	19.13	19.11	19.14	19.08	18.97	19.07	19.26	19.33	19.54	19.83
20	19.47	19.36	19.13	19.13	19.12	19.07	18.97	19.11	19.26	19.32	19.54	19.84
21	19.48	19.37	19.13	19.15	19.14	19.07	19.00	19.11	19.25	19.34	19.57	19.84
22	19.51	19.37	19.14	19.18	19.14	19.07	19.01	19.10	19.21	19.36	19.59	19.83
23	19.51	19.36	19.17	19.19	19.16	19.05	19.01	19.11	19.19	19.37	19.59	19.83
24	19.51	19.38	19.17	19.16	19.18	19.07	19.01	19.11	19.19	19.36	19.59	19.87
25	19.48	19.38	19.17	19.16	19.17	19.09	19.02	19.12	19.11	19.35	19.60	19.87
26	19.47	19.39	19.16	19.17	19.13	19.09	19.02	19.14	19.13	19.37	19.63	19.85
27	19.48	19.37	19.15	---	19.14	19.09	19.03	19.14	19.13	19.39	19.64	19.89
28	19.46	19.35	19.15	19.28	19.14	19.11	19.06	19.14	19.14	19.39	19.64	19.90
29	19.47	19.32	19.15	19.28	---	19.14	19.07	19.13	19.18	19.38	19.69	19.91
30	19.49	19.35	19.15	19.24	---	19.14	19.13	19.15	19.20	19.38	19.71	19.93
31	19.49	---	19.15	19.22	---	19.11	---	19.16	---	19.39	19.71	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
RICHLAND COUNTY--Continued

134-048-20ADD2





## NETWORK SITES--Continued

## RICHLAND COUNTY--Continued

462633097163402. Local number, 134-052-06CCD2.

LOCATION.--Lat 46°26'33", long 97°16'34", Hydrologic Unit 09020204. Owner: North Dakota State Water Commission.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 283 ft, cased with 40 ft of 4-in diameter plastic pipe, slotted 30 to 40 ft below land-surface datum.

INSTRUMENTATION.--Water-level data September 1963 to current year. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for May 1965 to September 1966. From September 1966 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,067.03 ft. Measuring point: Top of casing 0.65 ft above land-surface datum.

PERIOD OF RECORD.--September 1963 to current year.

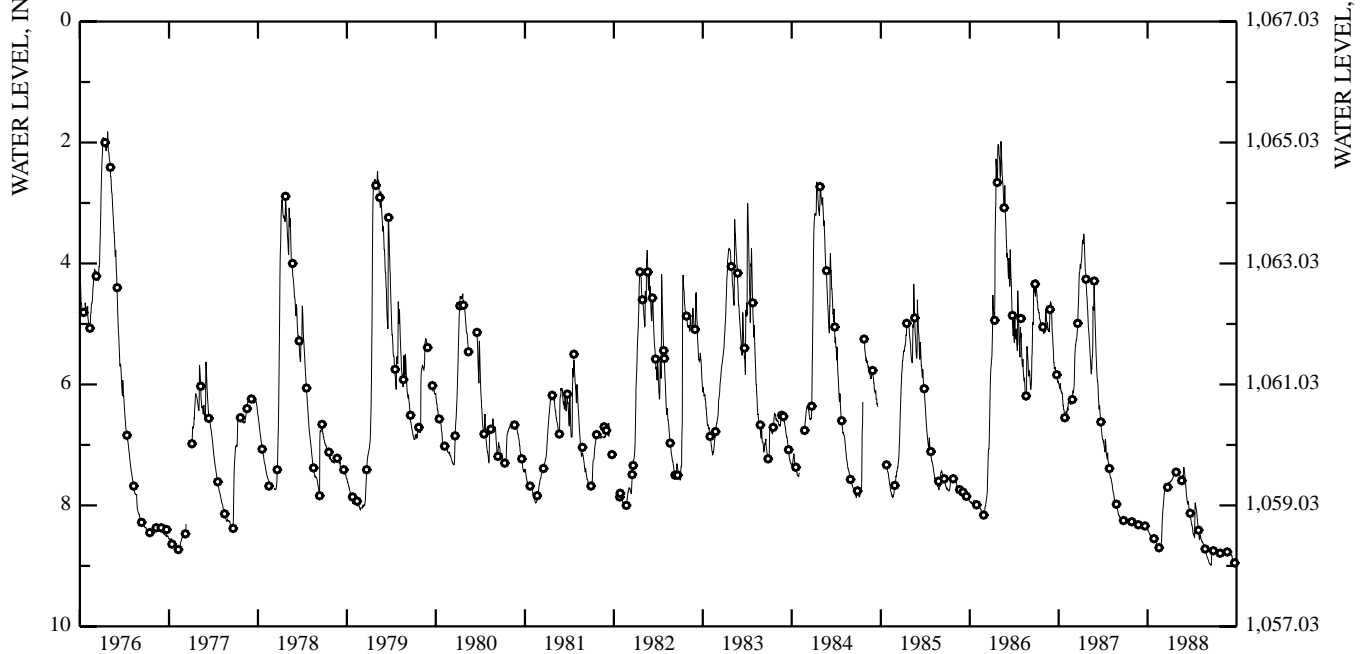
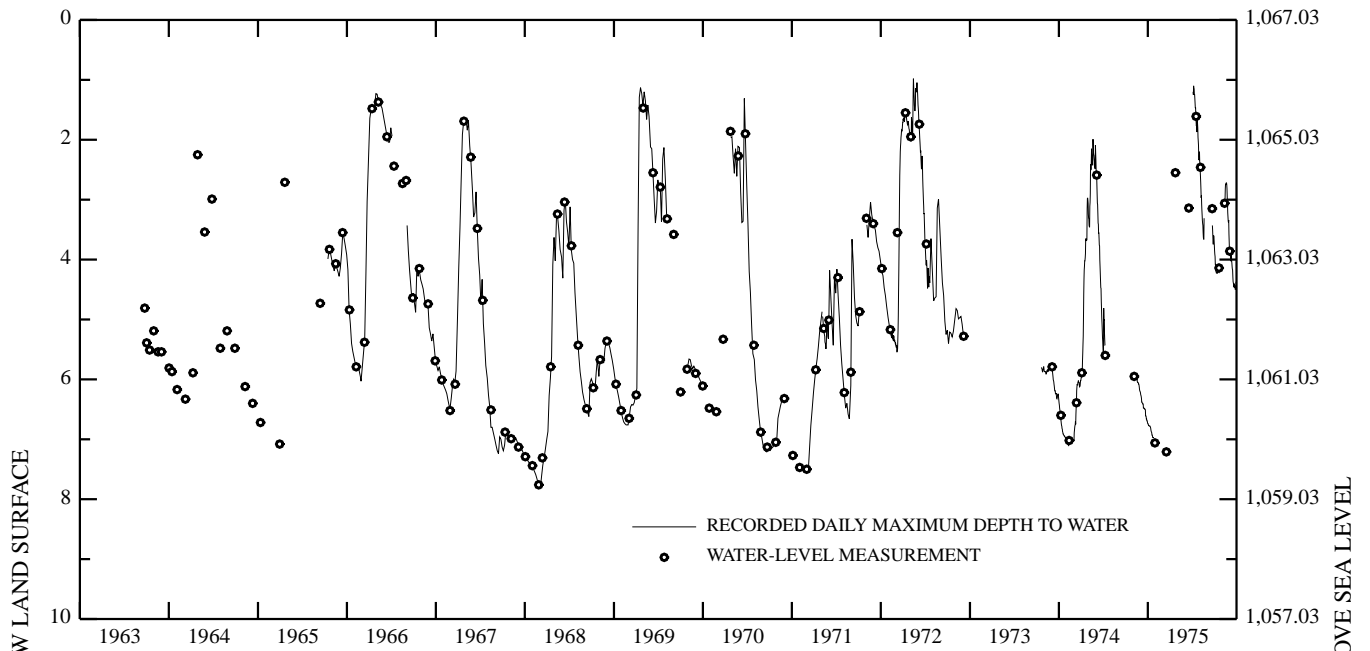
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.78 ft below land-surface datum, May 13, 1972; lowest water level, 9.07 ft below land-surface datum, February 22, 1989.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

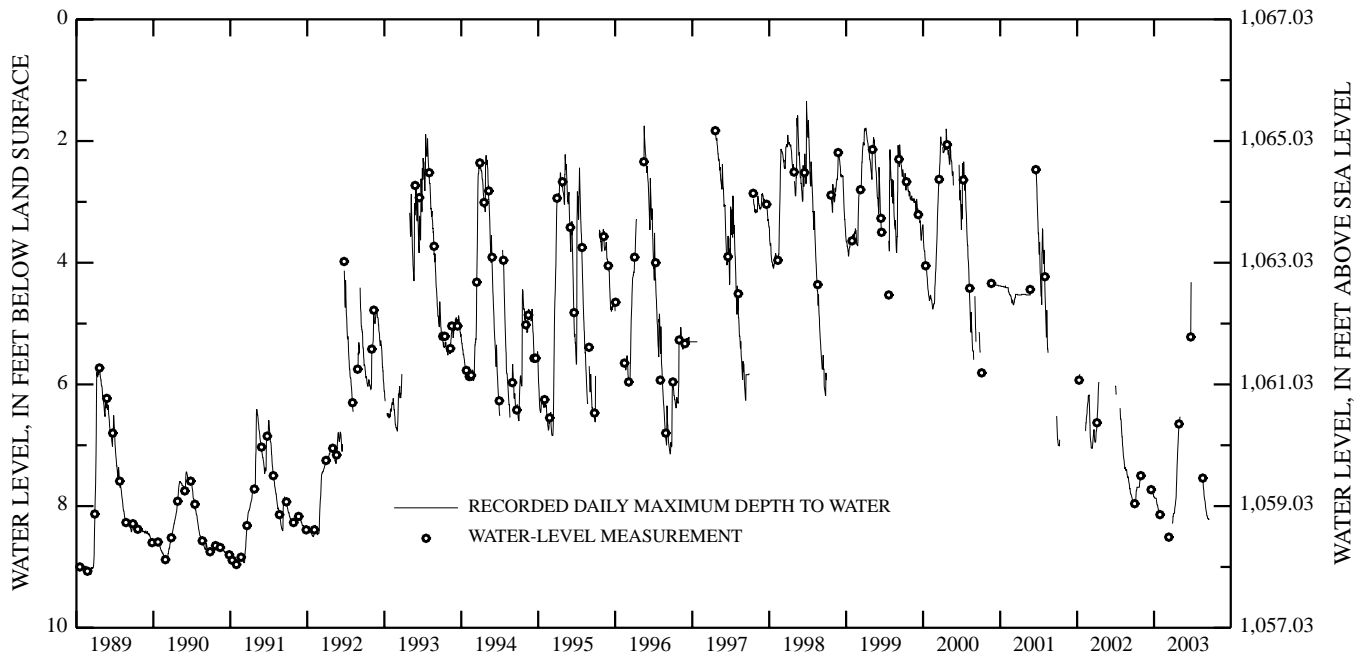
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.95	---	---	7.84	---	---	8.17	6.60	---	---	---	7.95
2	7.95	---	---	7.86	---	---	8.17	6.60	---	---	---	8.00
3	7.95	---	---	7.86	---	---	8.13	6.58	---	---	---	8.03
4	7.95	---	---	7.86	---	---	8.12	6.53	---	---	---	8.05
5	7.94	---	---	7.87	---	---	8.12	---	---	---	---	8.08
6	7.94	---	---	7.87	---	---	8.12	---	---	---	---	8.09
7	7.85	---	---	7.87	---	---	8.12	---	---	---	---	8.10
8	7.78	---	---	7.87	---	---	8.11	---	---	---	---	8.15
9	7.74	---	---	7.87	---	---	8.05	---	---	---	---	8.16
10	7.74	---	---	7.87	---	---	8.02	---	---	---	---	8.16
11	7.73	---	---	7.87	---	---	8.00	---	---	---	---	8.17
12	7.69	---	---	7.89	---	---	7.98	---	---	---	---	8.20
13	7.69	---	---	7.92	---	---	7.94	---	---	---	---	8.20
14	7.69	---	---	7.95	---	---	7.90	---	---	---	---	8.20
15	7.69	---	---	7.97	---	---	7.89	---	---	---	---	8.21
16	7.69	---	---	7.98	---	---	7.83	---	---	---	---	8.21
17	7.69	---	---	7.98	---	---	7.70	---	---	---	---	8.22
18	7.69	---	7.76	7.99	---	---	7.61	---	---	---	---	8.22
19	7.69	---	7.76	8.02	---	---	7.50	---	---	---	---	8.21
20	7.69	---	7.76	8.03	---	---	7.37	---	---	---	7.57	---
21	7.69	---	7.76	8.05	---	---	7.28	---	---	---	7.59	---
22	7.69	---	7.76	8.07	---	---	7.20	---	---	---	7.62	---
23	7.69	---	7.76	8.07	---	---	7.10	---	---	---	7.69	---
24	7.65	---	7.76	8.07	---	---	7.03	---	5.22	---	7.72	---
25	7.61	---	7.76	8.11	---	---	6.98	---	4.68	---	7.74	---
26	7.57	---	7.76	8.11	---	---	6.89	---	4.32	---	7.81	---
27	7.57	---	7.78	8.11	---	---	6.81	---	---	---	7.84	---
28	7.54	---	7.81	8.14	---	8.28	6.74	---	---	---	7.87	---
29	7.53	---	7.81	8.14	---	8.28	6.69	---	---	---	7.89	---
30	7.53	---	7.84	---	---	8.28	6.64	---	---	---	7.90	---
31	---	---	7.84	---	---	8.25	---	---	---	---	7.92	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
RICHLAND COUNTY--Continued

134-052-06CCD2



134-052-06CCD2--Continued



## GROUND-WATER LEVELS

## NETWORK SITES--Continued

## RICHLAND COUNTY--Continued

463422097115602. Local number, 136-052-22DDD2.

LOCATION.--Lat 46°34'22", long 97°11'56", Hydrologic Unit 09020204. Owner: North Dakota State Water Commission.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 26.9 ft, cased with 26.4 ft of 4-in diameter plastic pipe, slotted 17 to 26.4 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder October 1963 to current year. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for July 1965 to September 1966. From September 1966 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,050 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

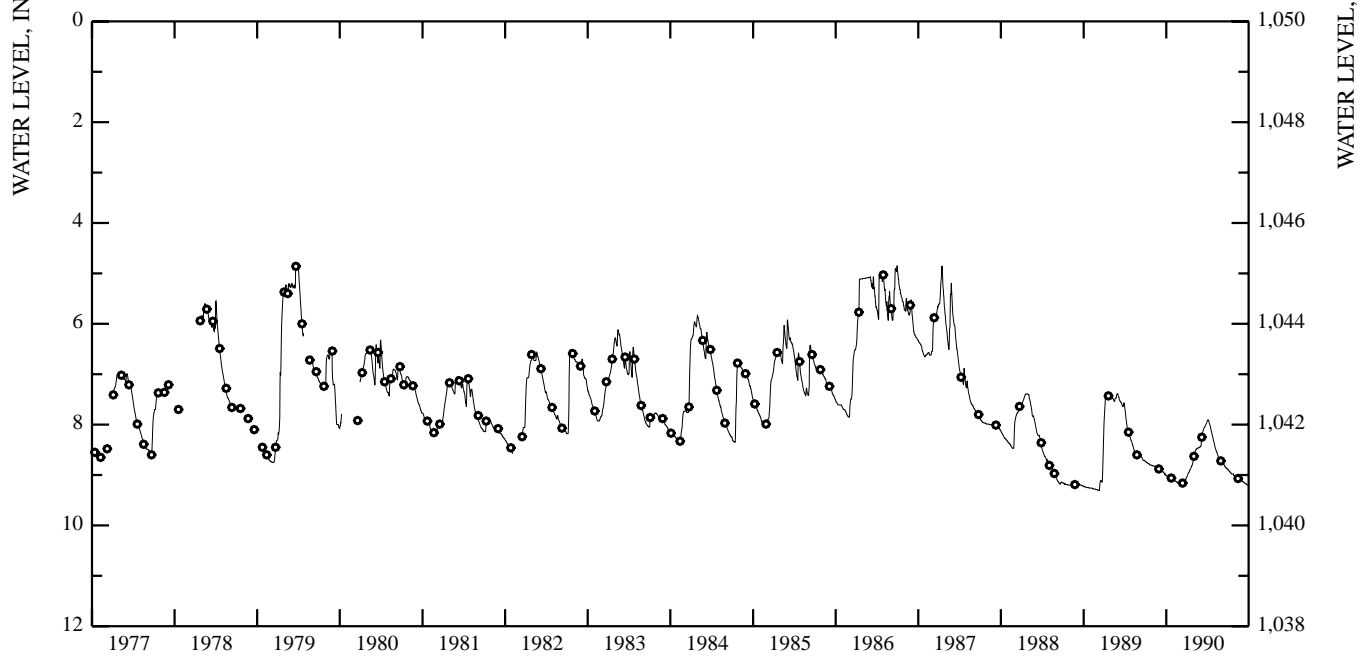
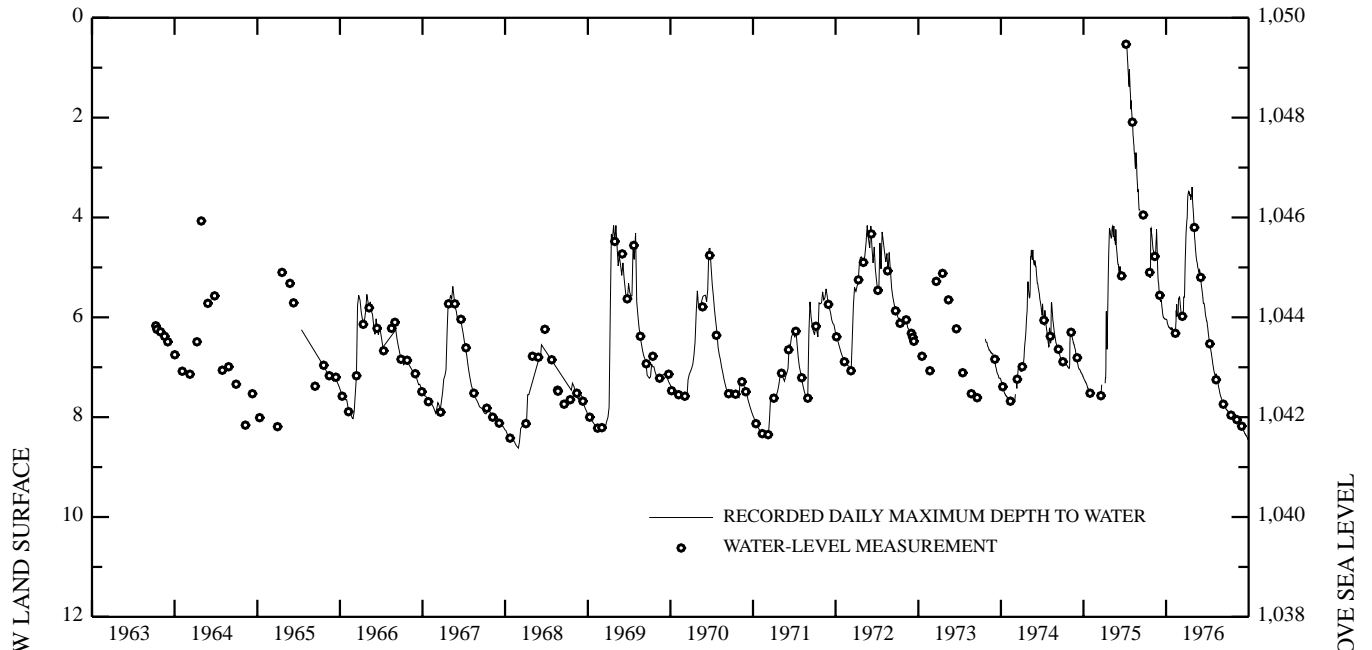
PERIOD OF RECORD.--October 1963 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.21 ft below land-surface datum, July 9, 1975; lowest water level, 9.35 ft below land-surface datum, March 1-10, 1991.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

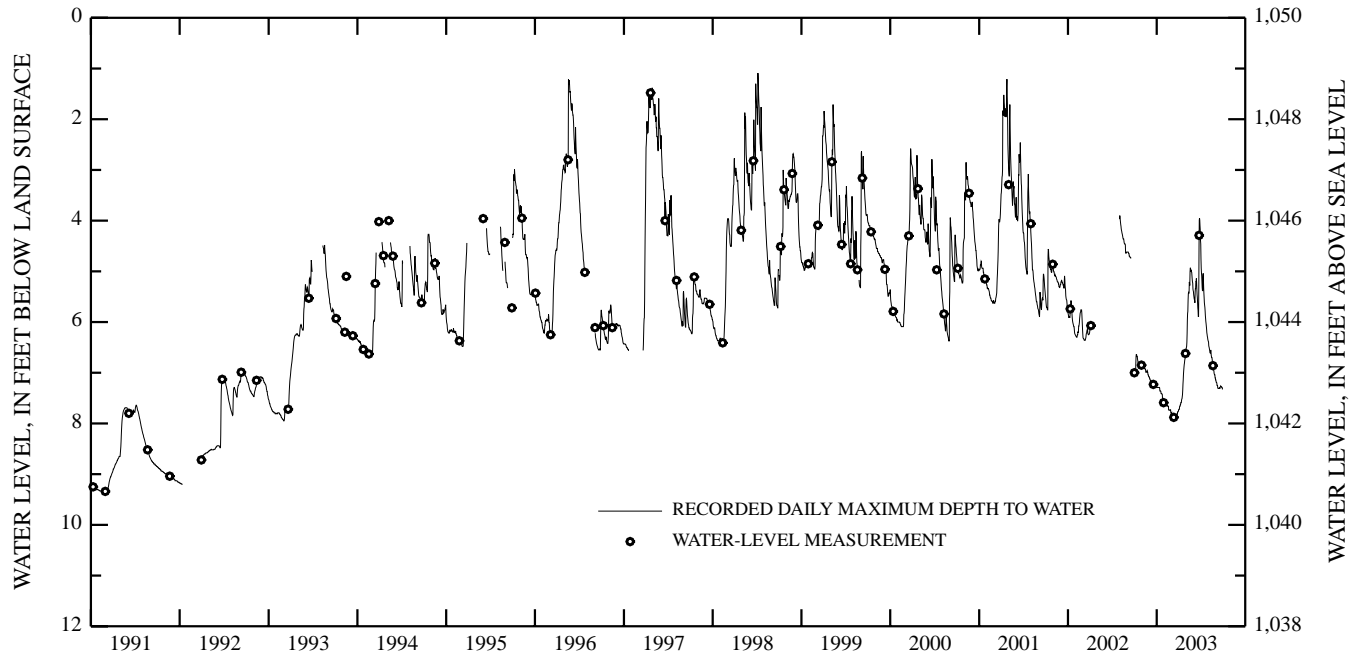
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.03	6.87	7.08	7.28	7.62	7.80	7.73	6.56	5.40	4.46	6.38	7.14
2	7.04	6.88	7.09	7.28	7.62	7.80	7.73	6.53	5.46	4.76	6.39	7.17
3	7.04	6.88	7.12	7.29	7.62	7.80	7.72	6.50	5.50	4.94	6.47	7.19
4	7.04	6.88	7.12	7.29	7.63	7.79	7.72	6.48	5.54	5.03	6.49	7.19
5	7.04	6.89	7.14	7.29	7.63	7.84	7.67	6.40	5.56	5.09	6.51	7.20
6	7.04	6.89	7.15	7.29	7.64	7.84	7.66	6.23	5.58	5.20	6.54	7.25
7	6.82	6.90	7.15	7.29	7.64	7.84	7.66	5.96	5.62	5.32	6.57	7.25
8	6.68	6.90	7.15	7.29	7.64	7.85	7.63	5.83	5.41	5.38	6.60	7.25
9	6.64	6.90	7.15	7.29	7.65	7.85	7.63	5.79	5.34	5.38	6.61	7.30
10	6.64	6.90	7.17	7.29	7.65	7.84	7.59	5.56	5.34	5.12	6.60	7.30
11	6.66	6.92	7.23	7.29	7.65	7.84	7.59	5.44	5.20	5.04	6.55	7.31
12	6.68	6.92	7.23	7.29	7.65	7.89	7.59	5.42	5.20	5.16	6.57	7.31
13	6.68	6.92	7.23	7.30	7.65	7.90	7.55	5.43	5.14	5.32	6.65	7.31
14	6.73	6.92	7.23	7.36	7.64	7.90	7.52	5.43	5.22	5.43	6.68	7.31
15	6.76	6.93	7.23	7.36	7.66	7.90	7.51	5.21	5.35	5.52	6.70	7.31
16	6.78	6.93	7.23	7.36	7.66	7.90	7.47	5.23	5.46	5.62	6.70	7.30
17	6.81	6.99	7.23	7.36	7.66	7.90	7.43	5.28	5.52	5.67	6.73	7.31
18	6.82	6.99	7.24	7.37	7.66	7.90	7.34	5.01	5.61	5.71	6.79	7.31
19	6.82	6.99	7.24	7.41	7.73	7.90	7.22	4.93	5.72	5.78	6.84	7.29
20	6.82	6.99	7.24	7.41	7.73	7.89	7.14	4.94	5.77	5.87	6.86	7.27
21	6.83	6.97	7.23	7.41	7.74	7.88	7.03	5.01	5.89	5.93	6.88	7.26
22	6.83	6.97	7.23	7.42	7.74	7.86	6.96	5.00	5.89	5.99	6.90	7.27
23	6.82	6.96	7.24	7.42	7.74	7.86	6.90	4.97	5.34	6.03	6.95	7.27
24	6.81	6.99	7.24	7.43	7.74	7.85	6.84	5.01	4.49	6.08	6.96	7.28
25	6.81	6.99	7.24	7.54	7.74	7.85	6.81	5.02	3.99	6.13	7.01	7.28
26	6.82	7.04	7.24	7.55	7.73	7.81	6.76	5.09	3.95	6.21	7.03	7.29
27	6.83	7.04	7.28	7.55	7.73	7.81	6.73	5.16	3.99	6.24	7.04	7.29
28	6.84	7.05	7.28	7.55	7.79	7.77	6.70	5.21	4.10	6.28	7.04	7.32
29	6.84	7.08	7.28	7.59	---	7.77	6.64	5.23	4.18	6.30	7.10	7.32
30	6.85	7.08	7.28	7.60	---	7.77	6.60	5.35	4.39	6.34	7.10	7.32
31	6.85	---	7.28	7.61	---	7.76	---	5.38	---	6.36	7.14	---

136-052-22DDD2



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
RICHLAND COUNTY--Continued

136-052-22DDD2--Continued



NETWORK SITES--Continued

ROLETTE COUNTY

484731099504104. Local number, 161-071-03CDD4.

LOCATION.--Lat 48°47'31", long 99°50'41", Hydrologic Unit 09010004. Owner: Public Health Service.

AQUIFER.--Shell Valley.

WELL CHARACTERISTICS.--Drilled observation well, depth 42 ft, cased with 28.3 ft of 8-in diameter steel pipe, No. 40 slot screen set 28.3 to 38.3 ft below land-surface datum.

INSTRUMENTATION.--Intermittent water levels November 1974 to August 1979. Water-level recorder August 1979 to February 2002. Daily maximum and minimum recorded water levels also are available. Measured using a steel tape February 2002 to current year.

DATUM.--Altitude of land-surface datum is 1,752 ft. Measuring point: Top of casing 1.80 ft above land-surface datum.

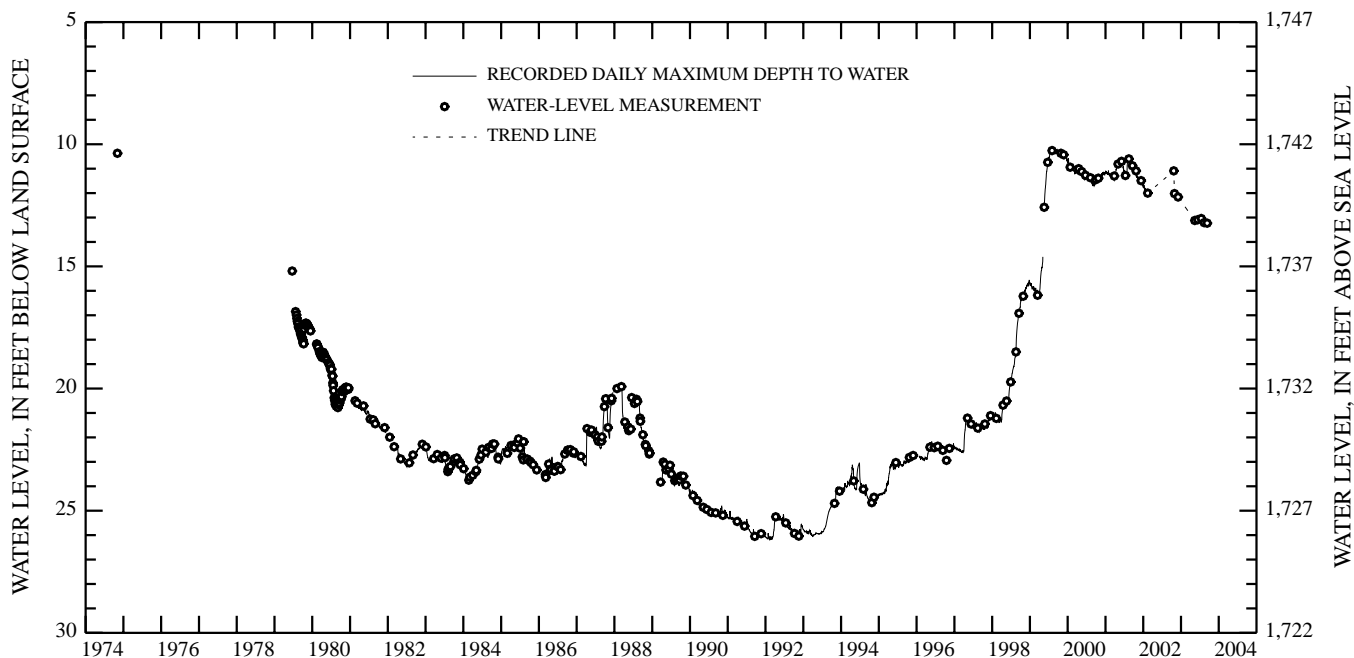
PERIOD OF RECORD.--November 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.05 ft below land-surface datum, August 15, 1999; lowest water level, 26.19 ft below land-surface datum, February 24, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	11.09	DEC 04	12.16	JUN 12	13.09	JUL 16	13.04	AUG 13	13.21	SEP 11	13.23
OCT 30	12.02	MAY 14	13.12								
WATER YEAR 2003		HIGHEST	11.09	OCT 23, 2003		LOWEST	13.23	SEP 11, 2003			

161-071-03CDD4



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 ROLETTE COUNTY--Continued

484310099572401. Local number, 161-072-35CDC.

LOCATION.--Lat 48°43'10", long 99°57'24", Hydrologic Unit 09010004. Owner: North Dakota State Water Commission.

AQUIFER.--Shell Valley.

WELL CHARACTERISTICS.--Drilled observation well, depth 77 ft, cased with 70 ft of 5-in diameter plastic pipe, No. 15 slot screen set 70 to 75 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From November 1982 to September 2001, daily maximum and minimum recorded water levels also are available. Measured using a steel tape February 2002 to current year.

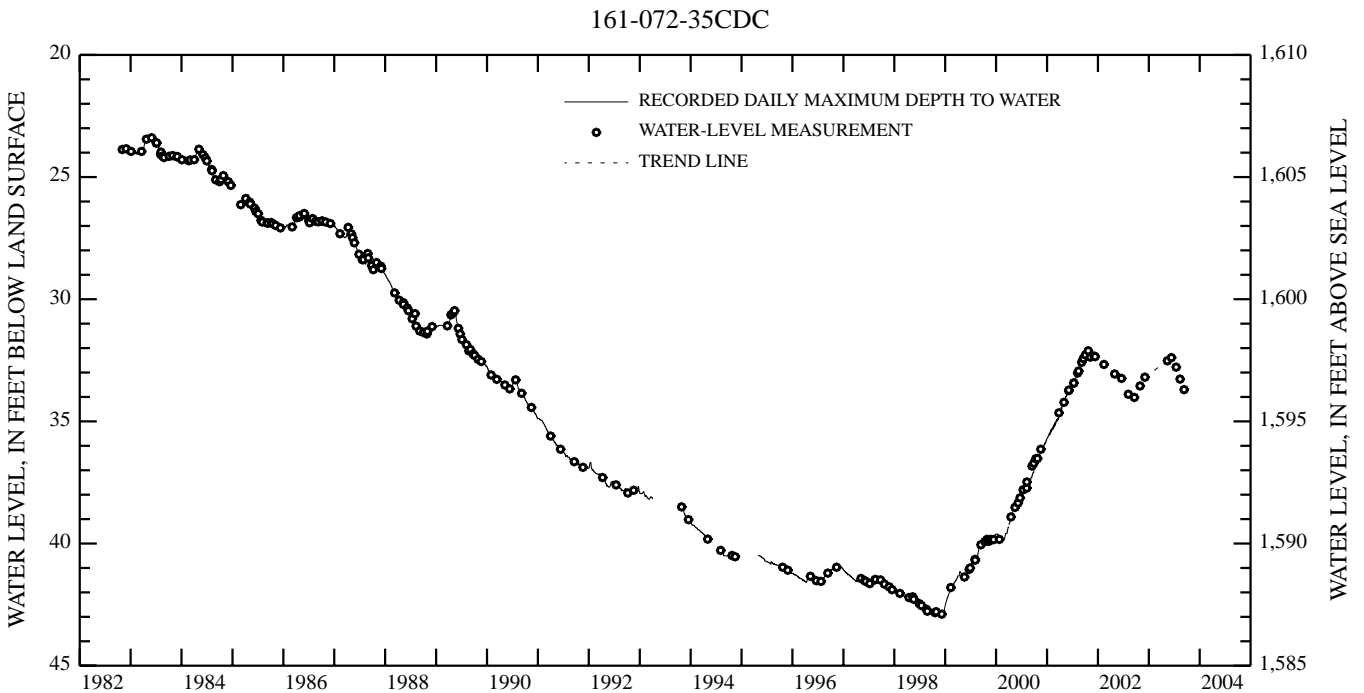
DATUM.--Altitude of land-surface datum is 1,630 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.33 ft below land-surface datum, May 21, 1983; lowest water level, 42.93 ft below land-surface datum, December 14-20, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	33.55	MAY 14	32.52	JUN 12	32.39	JUL 16	32.78	AUG 13	33.27	SEP 11	33.70
DEC 04	33.19										
WATER YEAR 2003		HIGHEST	32.39	JUN 12, 2003		LOWEST	33.70	SEP 11, 2003			





NETWORK SITES--Continued

ROLETTE COUNTY--Continued

485707100053701. Local number, 163-073-11CCC1.

LOCATION.--Lat 48°57'07", long 100°05'37", Hydrologic Unit 09010004. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 715 ft, cased with 406 ft of 2-in diameter steel pipe, No. 12 slot screen set 406 to 412 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 2,123 ft. Measuring point: Top of casing 3.37 ft above land-surface datum.

PERIOD OF RECORD.--September 1978 to November 2001.

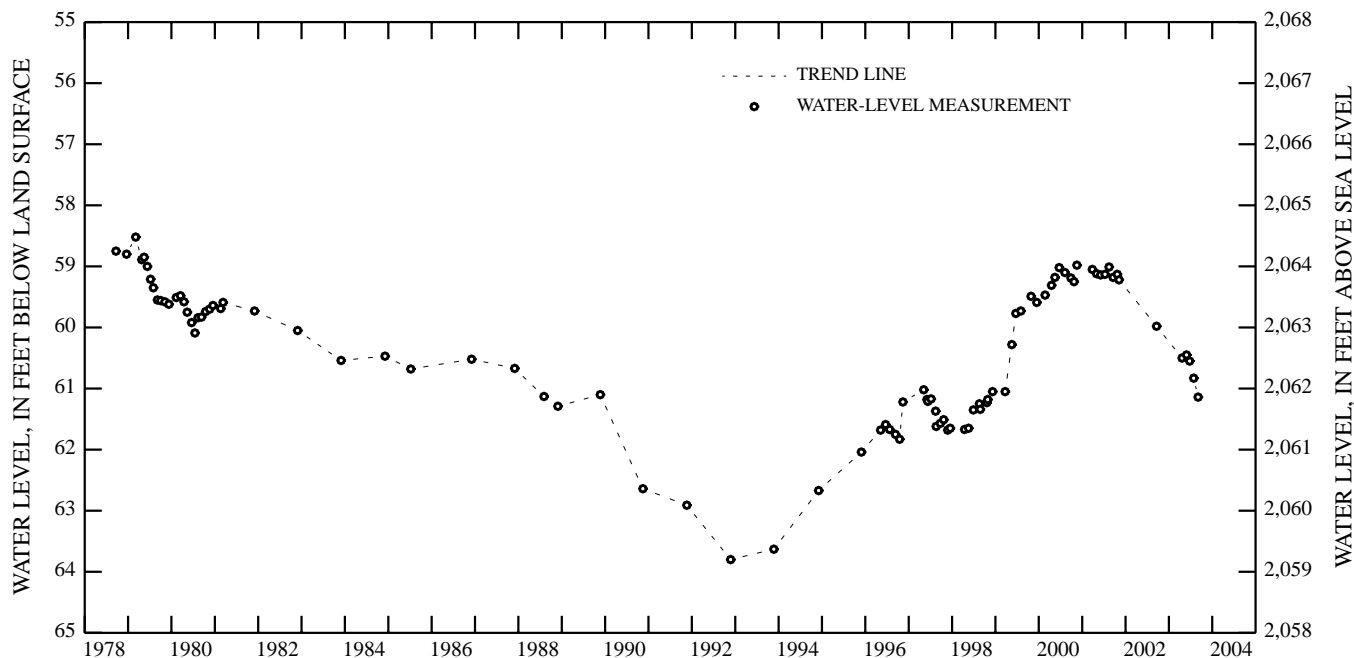
REMARKS.--Well casing appears to have failed causing erroneous water levels. Measurements were discontinued November 2001.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.52 ft below land-surface datum, March 6, 1979; lowest water level, 63.80 ft below land-surface datum, November 23, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 22	60.50	MAY 30	60.45	JUN 25	60.55	JUL 29	60.83	SEP 04	61.14
WATER YEAR 2002		HIGHEST	60.45	MAY 30, 2003		LOWEST	61.14	SEP 04, 2003	

163-073-11CCC1



GROUND-WATER LEVELS

NETWORK SITES--Continued

ROLETTE COUNTY--Continued

485707100053702. Local number, 163-073-11CCC2.

LOCATION.--Lat 48°57'07", long 100°05'37", Hydrologic Unit 09010004. Owner: North Dakota State Water Commission.

AQUIFER.--Hell Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 295 ft, cased with 269 ft of 2-in diameter steel pipe, No. 12 slot screen set 269 to 275 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 2,123 ft. Measuring point: Top of casing 3.40 ft above land-surface datum.

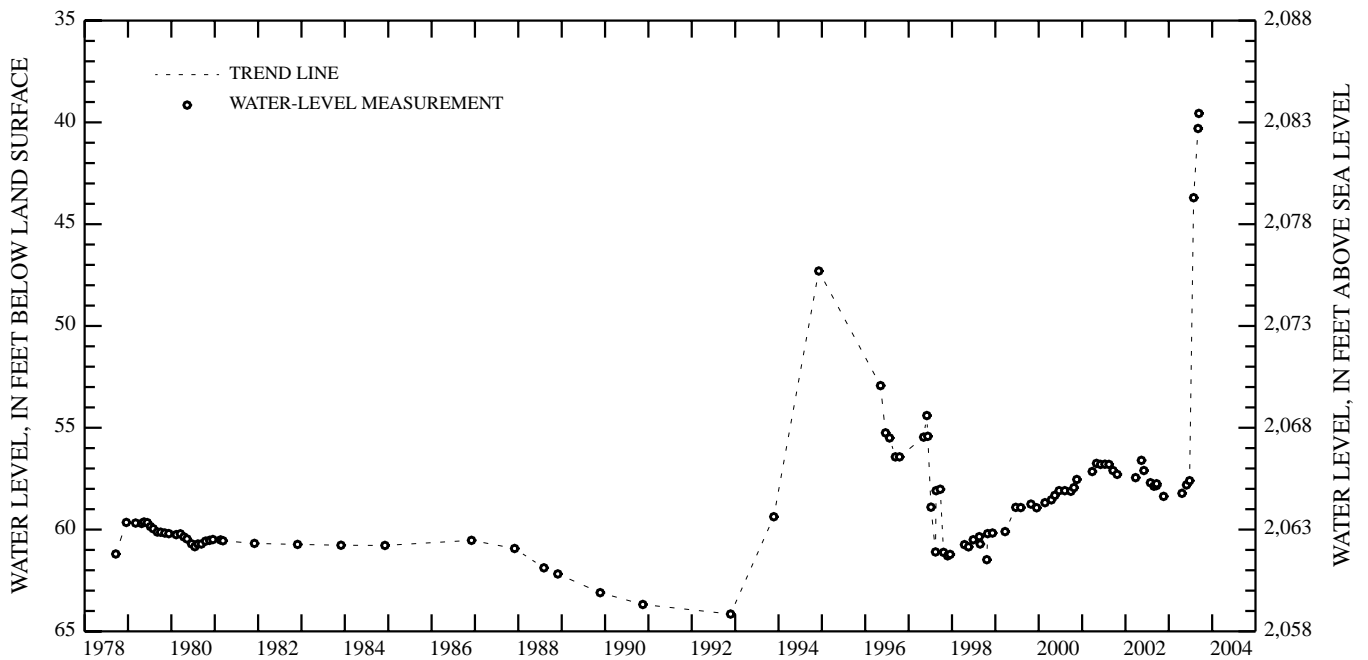
PERIOD OF RECORD.--September 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 47.30 ft below land-surface datum, December 6, 1994; lowest water level, 64.15 ft below land-surface datum, November 23, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	58.37	MAY 30	57.81	JUN 25	57.60	JUL 29	43.70	SEP 04	40.30	SEP 11	39.56
APR 22	58.22										
WATER YEAR 2003		HIGHEST	39.56	SEP 11, 2003		LOWEST	58.37	NOV 18, 2002			

163-073-11CCC2



## NETWORK SITES--Continued

## SARGENT COUNTY

460120097591803. Local number, 129-058-06AAA3.

LOCATION.--Lat 46°01'20", long 97°59'18", Hydrologic Unit 10160003. Owner: North Dakota State Water Commission.

AQUIFER.--Oakes.

WELL CHARACTERISTICS.--Drilled observation well, depth 65 ft, cased with 52 ft of 6-in diameter plastic pipe, 4 in No. 25 slot screen set 52 to 57 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From November 1993 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,313 ft. Measuring point: Top of casing 1.0 ft above land-surface datum.

PERIOD OF RECORD.--November 1993 to current year.

REMARKS.--This well replaces NDSWC 9619A drilled on July 1, 1976, which collapsed in September 1993. The new well was drilled on October 3, 1993, by the North Dakota State Water Commission and instrumented on November 3, 1993.

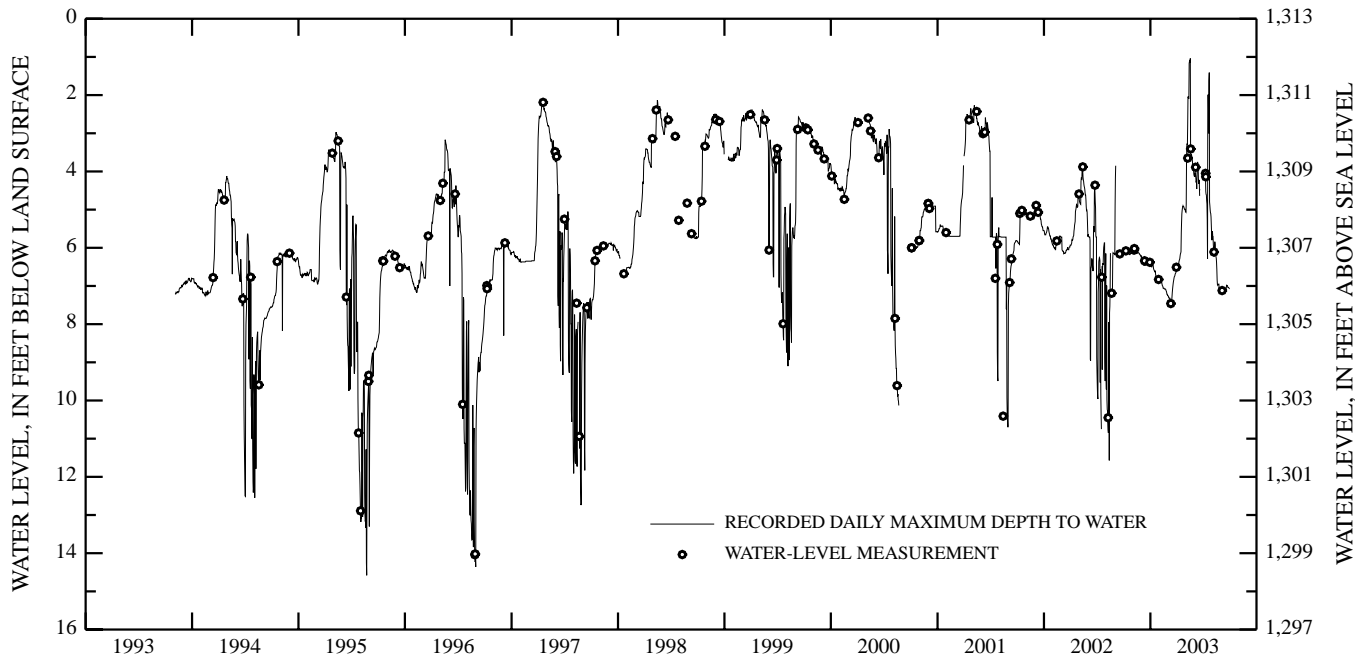
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.99 ft below land-surface datum, May 17, 2003; lowest water level, 14.58 ft below land-surface datum, August 23, 1995.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	6.15	6.22	6.49	6.83	7.25	6.54	5.04	4.13	---	5.65	7.16
2	---	6.14	6.30	6.49	6.83	7.25	6.52	5.06	4.13	---	5.57	7.16
3	---	6.15	6.32	6.48	6.83	7.26	6.49	5.07	4.03	---	5.71	7.16
4	---	6.15	6.33	6.46	6.83	7.29	6.48	4.86	4.03	---	5.71	7.16
5	---	6.12	6.35	6.50	6.82	7.29	6.46	3.77	4.09	---	5.93	7.16
6	---	6.15	6.37	6.50	6.86	7.32	6.44	3.34	4.17	---	6.03	7.16
7	---	6.11	6.42	6.44	6.88	7.32	6.42	3.27	4.29	---	6.22	7.17
8	---	6.07	6.46	6.42	6.90	7.32	6.42	3.30	4.24	---	6.22	7.19
9	---	6.07	6.43	6.44	6.92	7.32	6.37	2.77	4.46	4.11	6.18	7.20
10	6.08	6.12	6.43	6.46	6.95	7.39	6.33	2.04	4.07	4.52	5.84	7.19
11	6.12	6.15	6.44	6.49	6.99	7.39	6.31	2.06	3.85	4.60	5.92	7.19
12	6.14	6.15	6.46	6.55	7.00	7.47	6.28	2.09	3.75	4.61	6.18	7.19
13	6.14	6.15	6.46	6.57	7.02	7.47	6.21	2.09	3.84	4.76	6.21	7.19
14	6.14	6.13	6.46	6.59	7.06	7.46	6.16	1.17	3.97	4.85	6.23	7.11
15	6.15	6.15	6.46	6.61	7.06	7.40	6.14	1.12	4.28	5.27	6.28	7.09
16	6.14	6.15	6.45	6.63	7.06	7.30	6.10	1.14	4.32	6.29	6.38	7.08
17	6.13	6.11	6.43	6.63	7.06	7.18	5.59	1.14	4.22	2.00	6.57	7.08
18	6.15	6.11	6.38	6.60	7.08	7.09	5.34	1.04	4.35	2.00	6.84	7.08
19	6.15	6.12	6.38	6.70	7.08	7.02	5.11	3.53	4.64	2.00	6.96	7.00
20	6.15	6.13	6.36	6.73	7.08	6.95	5.02	3.56	---	3.00	6.98	6.98
21	6.17	6.13	6.36	6.76	7.08	6.89	4.96	3.61	4.48	1.62	6.96	6.99
22	6.18	6.13	6.37	6.78	7.08	6.85	4.93	3.56	4.48	1.41	6.96	6.99
23	6.18	6.14	6.38	6.80	7.10	6.80	4.90	3.60	---	4.80	6.95	7.01
24	6.17	6.16	6.38	6.81	7.13	6.76	4.92	3.62	---	4.89	6.95	7.04
25	6.14	6.16	6.41	6.81	7.14	6.75	4.92	3.71	---	5.00	7.14	7.04
26	6.15	6.18	6.43	6.81	7.18	6.73	4.93	3.81	---	5.08	7.15	7.04
27	6.15	6.19	6.45	6.87	7.22	6.69	4.97	3.82	---	5.10	7.15	7.05
28	6.13	6.19	6.46	6.87	7.22	6.67	4.99	3.92	---	5.19	7.16	7.06
29	6.13	6.21	6.46	6.87	---	6.66	4.99	3.94	---	5.41	7.15	7.07
30	6.14	6.23	6.47	6.81	---	6.63	4.99	4.07	---	5.64	7.15	7.07
31	6.14	---	6.47	6.85	---	6.58	---	4.11	---	5.80	7.15	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
SARGENT COUNTY--Continued

129-058-06AAA3



NETWORK SITES--Continued

SARGENT COUNTY--Continued

461003097191501. Local number, 131-053-10CCC.

LOCATION.--Lat 46°10'03", long 97°19'15", Hydrologic Unit 09020105. Owner: North Dakota State Water Commission.

AQUIFER.--Milnor Channel.

WELL CHARACTERISTICS.--Drilled observation well, depth 140 ft, cased with 50 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 50 to 56 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,092 ft. Measuring point: Top of casing 2.20 ft above land-surface datum.

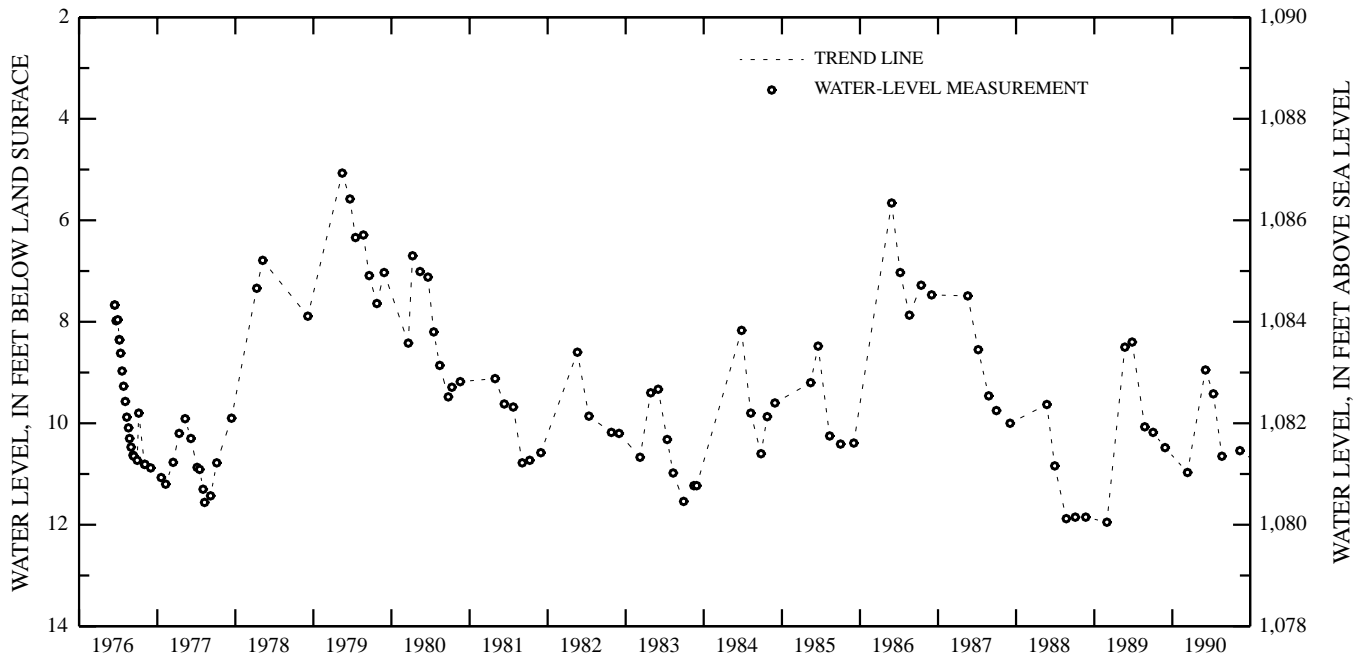
PERIOD OF RECORD.--June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.80 ft below land-surface datum, July 15, 1998; lowest water level, 11.95 ft below land-surface datum, March 1, 1989.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

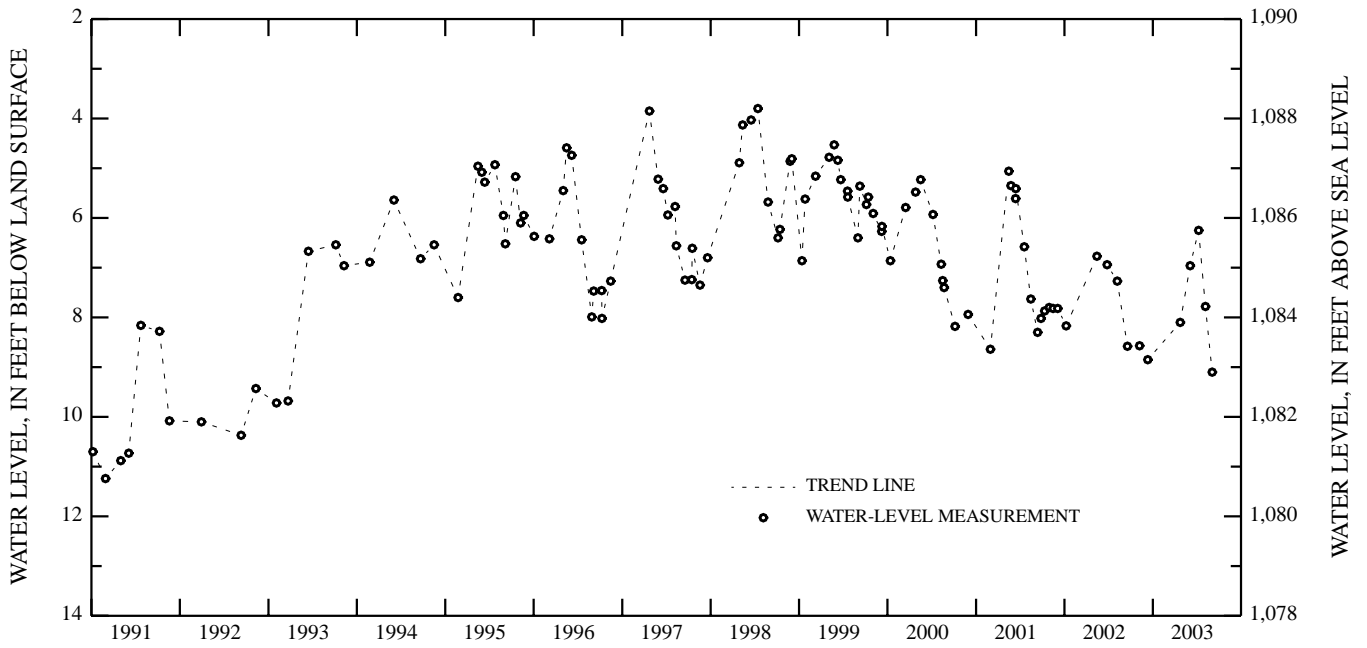
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07	8.57	APR 24	8.10	JUN 04	6.96	JUL 09	6.25	AUG 06	7.78	SEP 03	9.10
DEC 11	8.85										
WATER YEAR 2003		HIGHEST	6.25	JUL 09, 2003		LOWEST	9.10	SEP 03, 2003			

131-053-10CCC



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
SARGENT COUNTY--Continued

131-053-10CCC--Continued



NETWORK SITES--Continued

SHERIDAN COUNTY

474817100063801. Local number, 150-074-14CCC.

LOCATION.--Lat 47°48'17", long 100°06'38", Hydrologic Unit 09020202. Owner: North Dakota State Water Commission.

AQUIFER.--Martin.

WELL CHARACTERISTICS.--Drilled observation well, depth 235 ft, cased with 130 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 130 to 133 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

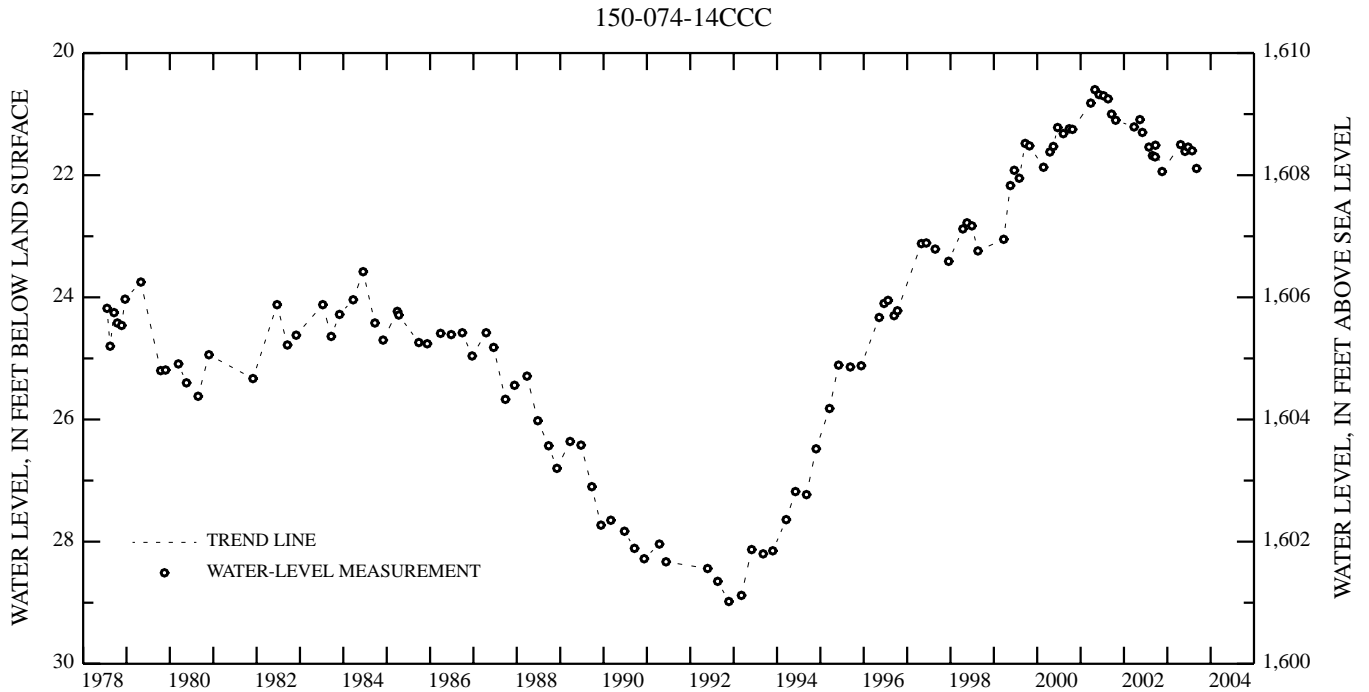
DATUM.--Altitude of land-surface datum is 1,630 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.60 ft below land-surface datum, May 1, 2001; lowest water level, 29.06 ft below land-surface datum, August 19, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	21.94	APR 23	21.50	MAY 30	21.61	JUN 25	21.54	JUL 29	21.60	SEP 04	21.89
WATER YEAR 2003		HIGHEST	21.50	APR 23, 2003		LOWEST	21.94	NOV. 18, 2002			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 SIOUX COUNTY

460244101272701. Local number, 130-086-28CCC1.

LOCATION.--Lat 46°02'44", long 101°27'27", Hydrologic Unit 10130205. Owner: North Dakota State Water Commission.

AQUIFER.--Fox Hills.

WELL CHARACTERISTICS.--Drilled observation well, depth 580 ft, cased with 406 ft of 2-in diameter steel pipe, No. 12 slot screen set 406 to 424 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,062 ft. Measuring point: Top of casing 3.00 ft above land-surface datum.

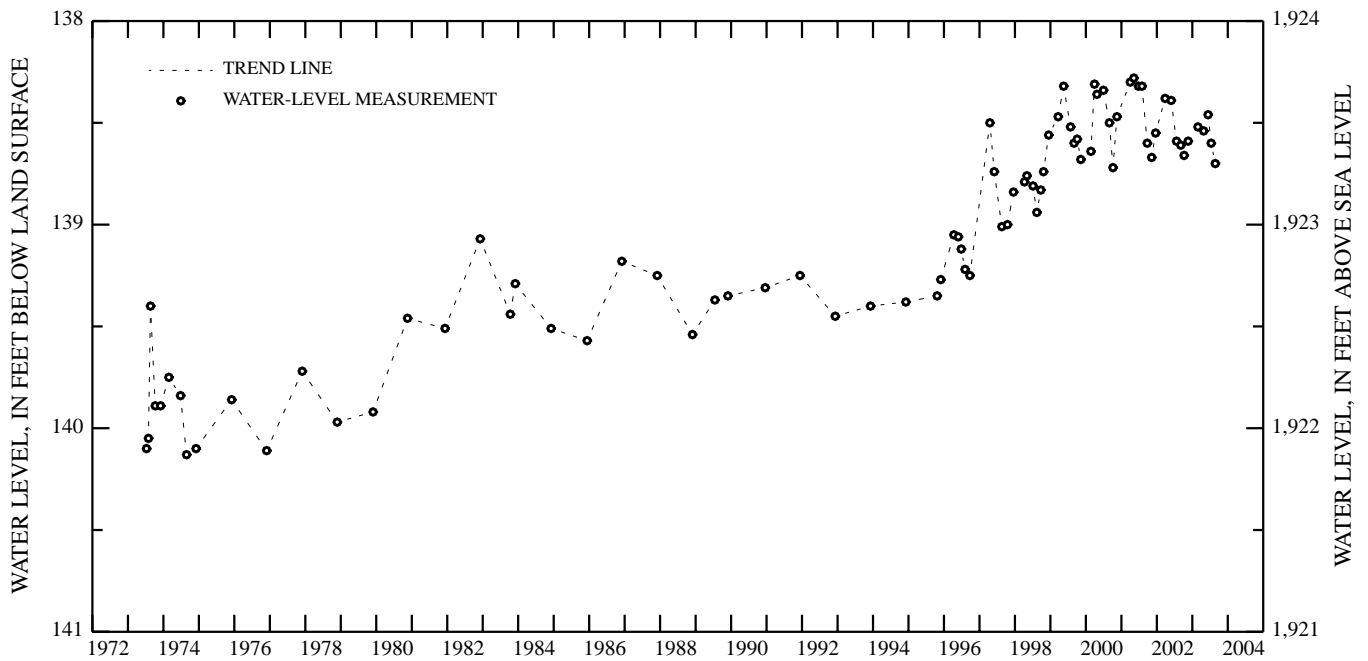
PERIOD OF RECORD.--July 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 138.28 ft below land-surface datum, May 9, 2001; lowest water level, 140.13 ft below land-surface datum, August 27, 1974.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	138.66	FEB 28	138.52	APR 28	138.54	JUN 12	138.46	JUL 14	138.60	AUG 25	138.70
NOV 19	138.59										
WATER YEAR 2003		HIGHEST	138.46	JUN 12, 2003		LOWEST	138.70	AUG 25, 2003			

130-086-28CCC1





NETWORK SITES--Continued

SIOUX COUNTY--Continued

460244101272702. Local number, 130-086-28CCC2.

LOCATION.--Lat 46°02'44", long 101°27'27", Hydrologic Unit 10130205. Owner: North Dakota State Water Commission.

AQUIFER.--Hell Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 210 ft, cased with 204 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 204 to 210 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

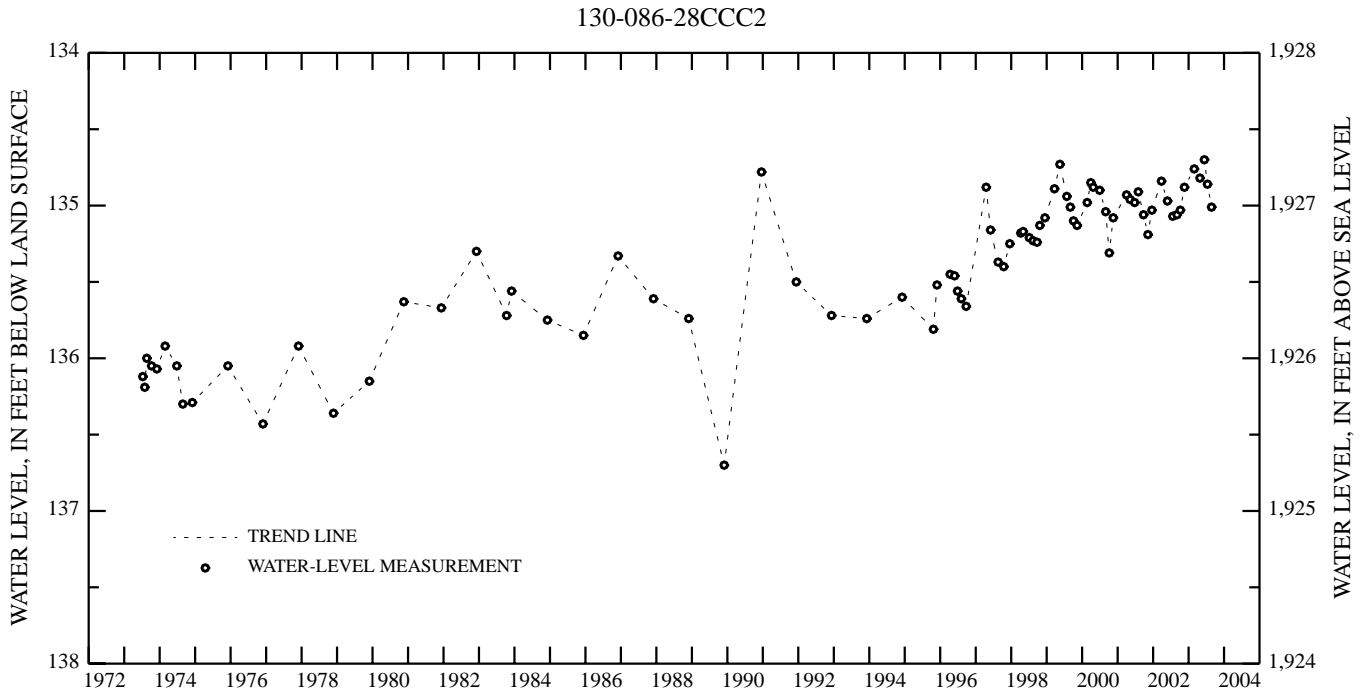
DATUM.--Altitude of land-surface datum is 2,062 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 134.70 ft below land-surface datum, June 12, 2003; lowest water level, 136.70 ft below land-surface datum, November 29, 1989.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	135.03	FEB 28	134.76	APR 28	134.82	JUN 12	134.70	JUL 14	134.86	AUG 25	135.01
NOV 19	134.88										
WATER YEAR 2003		HIGHEST	134.70	JUN 12, 2003		LOWEST	135.03	OCT 08, 2002			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 SIOUX COUNTY--Continued

462239100375601. Local number, 134-079-32ADD.

LOCATION.--Lat 46°22'39", long 100°37'56", Hydrologic Unit 10130102. Owner: North Dakota State Water Commission.

AQUIFER.--Strasburg.

WELL CHARACTERISTICS.--Drilled observation well, depth 340 ft, cased with 282 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 282 to 288 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,690 ft. Measuring point: Top of casing 1.50 ft above land-surface datum.

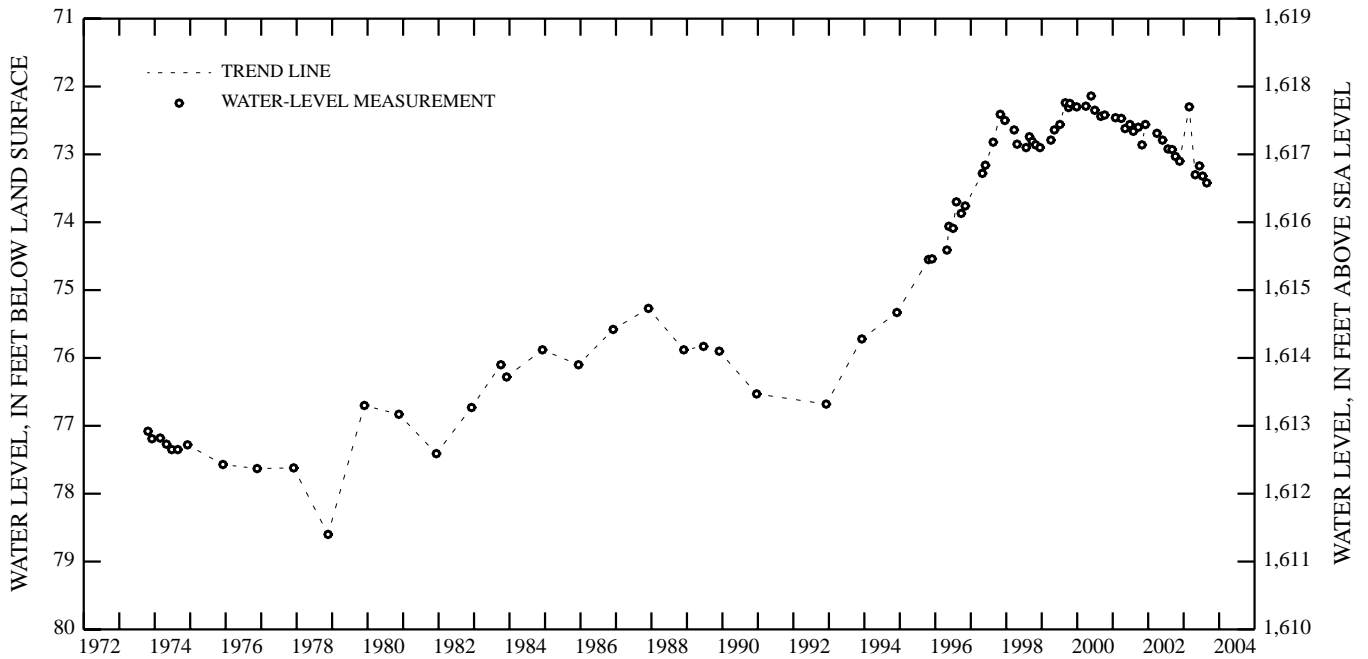
PERIOD OF RECORD.--October 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 72.14 ft below land-surface datum, May 23, 2000; lowest water level, 78.60 ft below land-surface datum, November 20, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	73.03	FEB 27	72.30	APR 30	73.30	JUN 12	73.17	JUL 15	73.32	AUG 27	73.42
NOV 20	73.10										
WATER YEAR 2003		HIGHEST	72.30	FEB 27, 2003		LOWEST	73.42	AUG 27, 2003			

134-079-32ADD



NETWORK SITES--Continued

STARK COUNTY

465755102410701. Local number, 140-095-08AAA.

LOCATION.--Lat 46°57'55", long 102°41'07", Hydrologic Unit 10130201. Owner: North Dakota State Water Commission.

AQUIFER.--Sentinel Butte.

WELL CHARACTERISTICS.--Drilled observation well, depth 160 ft, cased with 80 ft of 4-in diameter plastic pipe.

INSTRUMENTATION.--Measured using a steel tape.

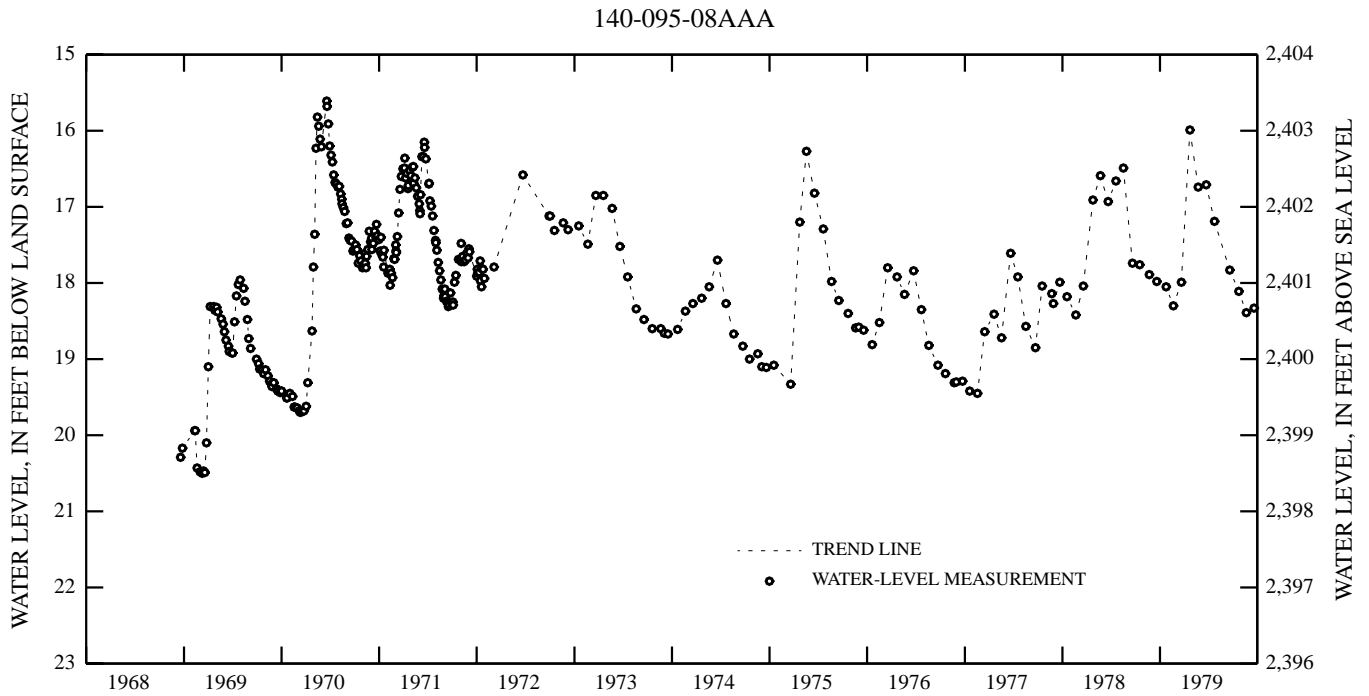
DATUM.--Altitude of land-surface datum is 2,419 ft. Measuring point: Top of casing 1.70 ft above land-surface datum.

PERIOD OF RECORD.--December 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.61 ft below land-surface datum, June 19, 1970; lowest water level, 22.64 ft below land-surface datum, February 25, 1993.

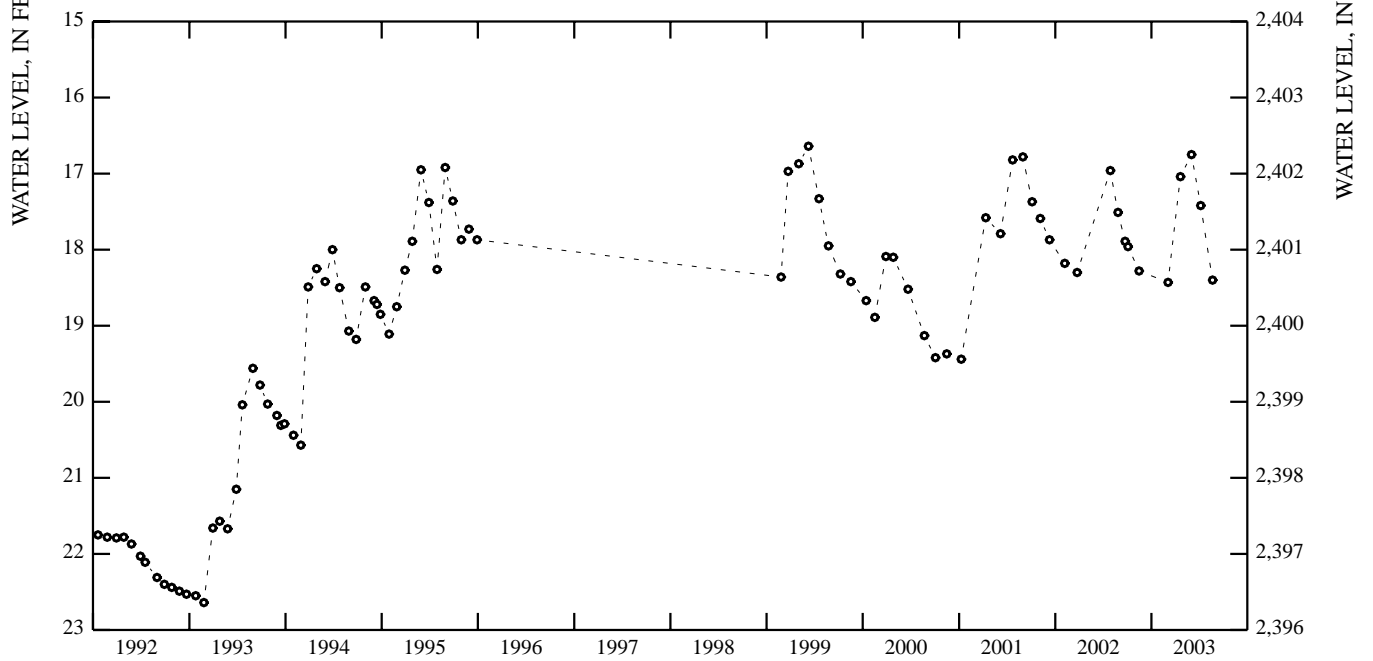
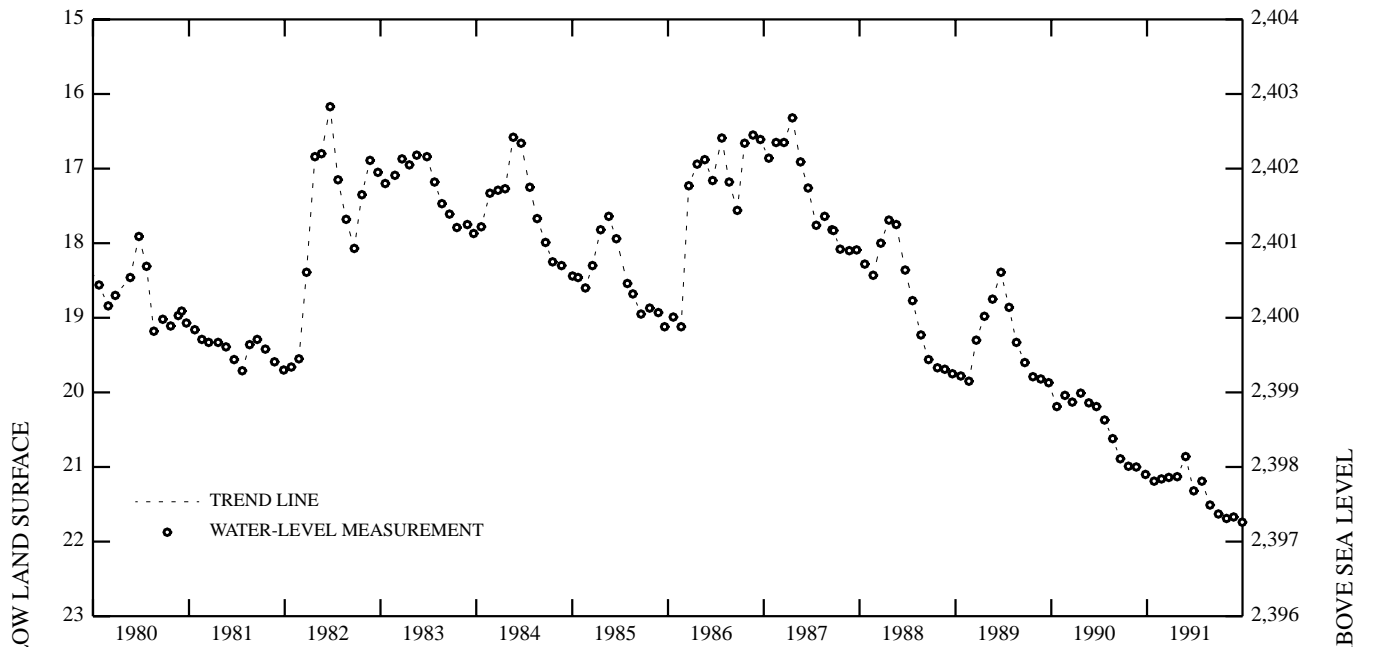
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	17.96	MAR 05	18.43	APR 21	17.04	JUN 02	16.75	JUL 07	17.42	AUG 21	18.40
NOV 15	18.28										
WATER YEAR 2003		HIGHEST	16.75	JUN 02, 2003		LOWEST	18.43	MAR 05, 2003			



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
STARK COUNTY--Continued

140-095-08AAA--Continued



NETWORK SITES--Continued

STEELE COUNTY

472024097315201. Local number, 145-054-27CDC.

LOCATION.--Lat 47°20'24", long 97°31'52", Hydrologic Unit 09020109. Owner: North Dakota State Water Commission.

AQUIFER.--Dakota.

WELL CHARACTERISTICS.--Drilled observation well, depth 820 ft, cased from 0 to 273 ft with 4-in diameter steel pipe and from 273 to 640 ft with 2 in diameter steel pipe, No. 12 slot screen set 640 to 660 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

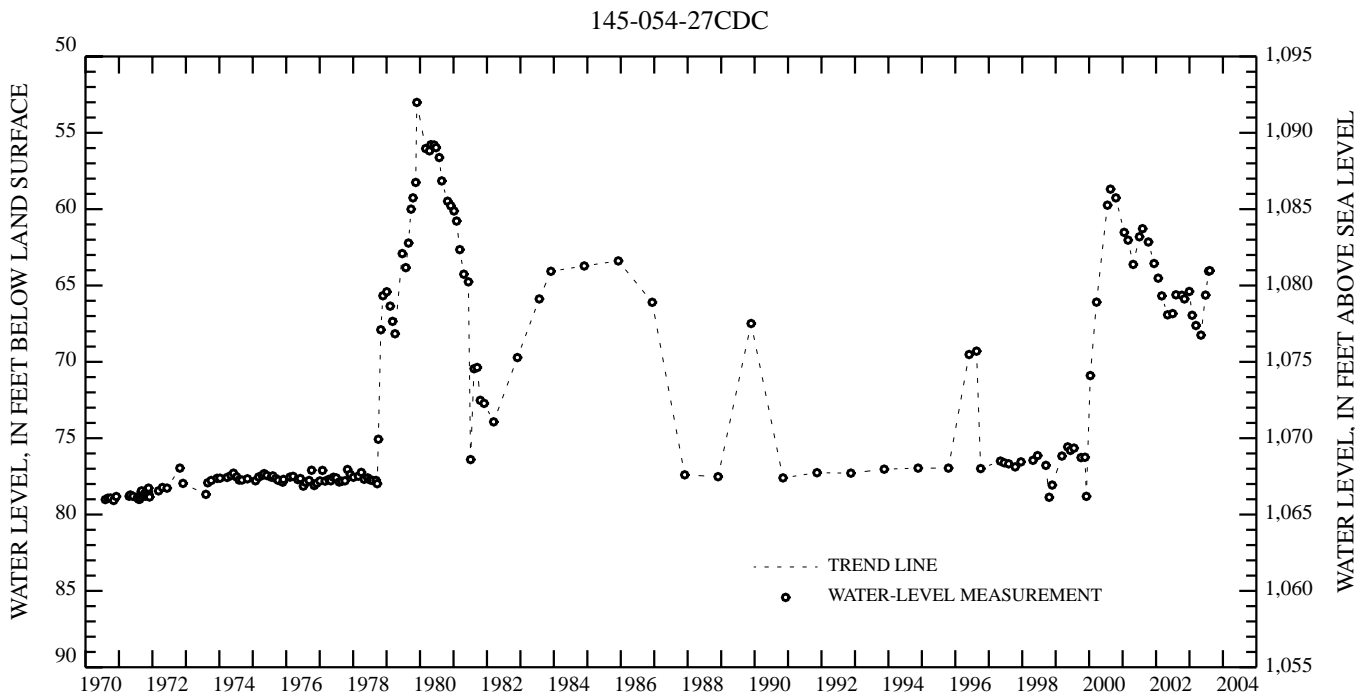
DATUM.--Altitude of land-surface datum is 1,145 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 53.01 ft below land-surface datum, November 27, 1979; lowest water level, 79.08 ft below land-surface datum, November 4, 1970.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	65.64	DEC 30	65.39	MAR 12	67.62	JUN 25	65.63	JUL 29	64.06	AUG 11	64.03
NOV 07	65.88	JAN 30	66.95	MAY 06	68.25						
WATER YEAR 2003		HIGHEST	64.03	AUG 11, 2003		LOWEST	68.25	MAY 06, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 STUTSMAN COUNTY

463846098274101. Local number, 137-062-26DDD.

LOCATION.--Lat 46°38'46", long 98°27'41", Hydrologic Unit 10160003. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 240 ft, cased with 157 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 157 to 163 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 1,441.8 ft. Measuring point: Top of casing 1.92 ft above land-surface datum.

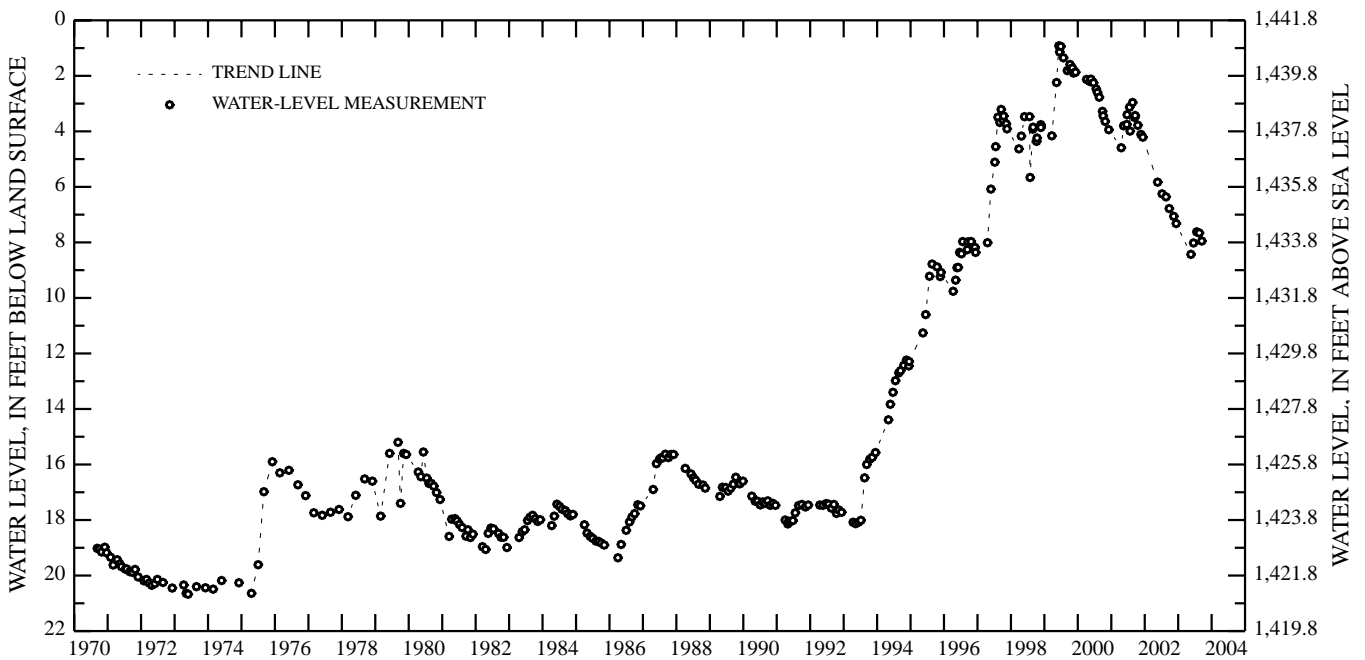
PERIOD OF RECORD.--September 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.92 ft below land-surface datum, June 8, 1999; lowest water level, 20.67 ft below land-surface datum, May 28, 1973.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 13	7.06	MAY 20	8.43	JUN 17	8.02	JUL 22	7.62	AUG 19	7.66	SEP 16	7.95
DEC 10	7.32										
WATER YEAR 2003		HIGHEST	7.06	NOV 13, 2002	LOWEST	8.43	MAY 20, 2003				

137-062-26DDD



## NETWORK SITES--Continued

## STUTSMAN COUNTY--Continued

465243098284801. Local number, 139-062-02CCC.

LOCATION.--Lat 46°52'43", long 98°28'48", Hydrologic Unit 10160003. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 240 ft, cased with 210 ft of 4-in diameter steel pipe, slotted 195 to 210 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder May 1967 to current year. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for May 1967 to August 1973. From August 1973 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,466.1 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1967 to current year.

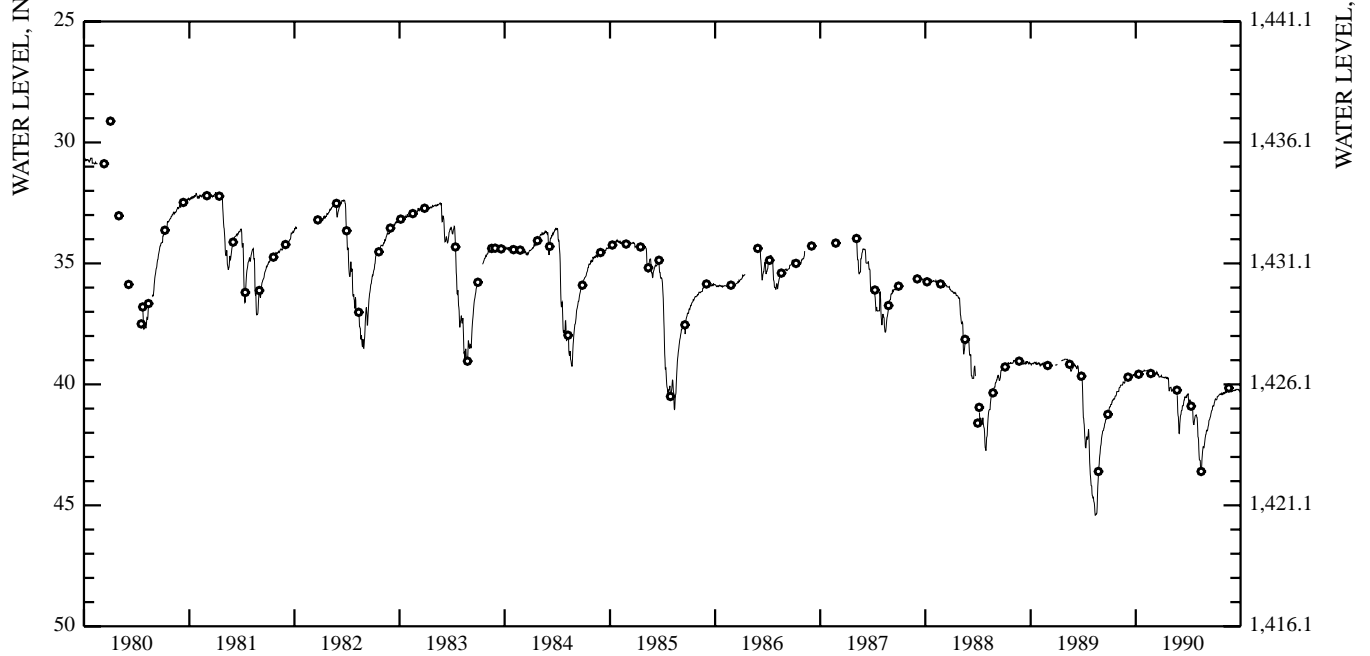
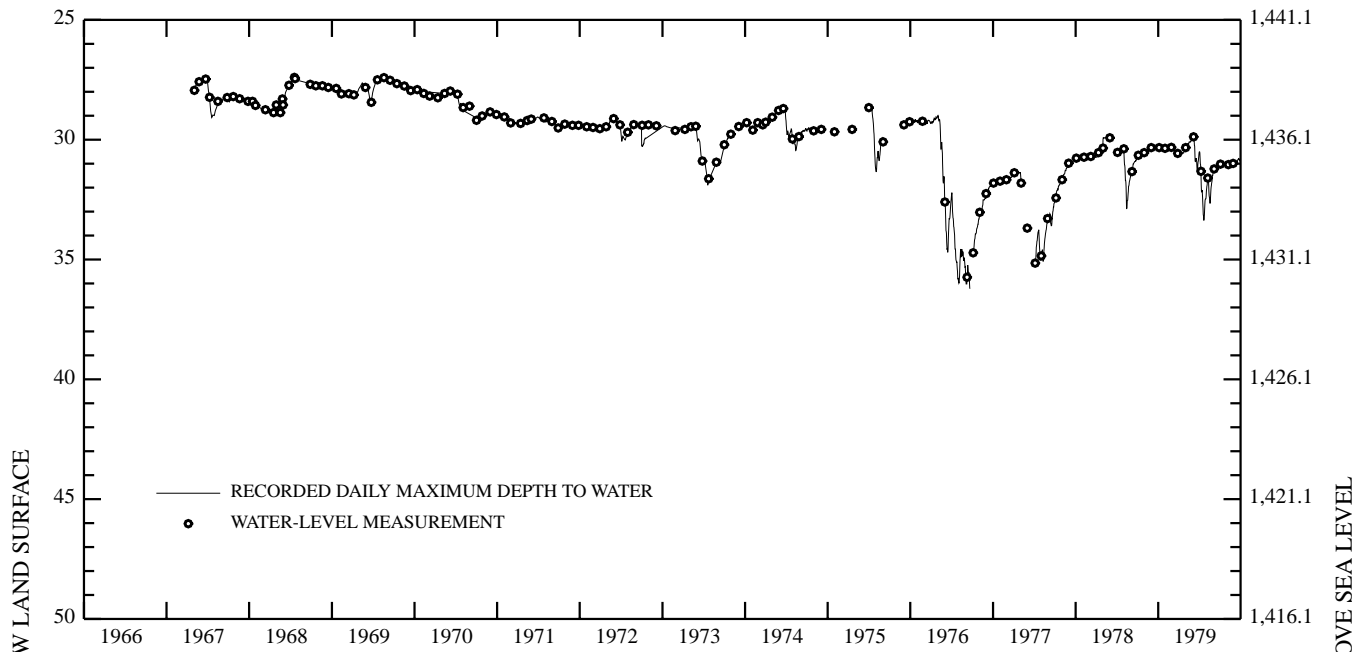
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.40 ft below land-surface datum, July 19, 1968; lowest water level, 45.85 ft below land-surface datum, August 17, 1991.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.22	36.36	36.55	36.40	36.47	36.66	---	---	37.11	36.70	36.67	36.75
2	36.22	36.36	36.59	36.40	36.48	36.66	---	---	37.12	36.68	36.71	36.77
3	36.22	36.37	36.62	36.40	36.48	36.66	---	---	37.11	36.69	36.72	36.75
4	36.22	36.37	36.62	36.37	36.51	36.65	---	---	37.05	36.69	36.72	36.76
5	36.22	36.37	36.62	36.43	36.51	36.65	---	---	36.98	36.65	36.72	36.75
6	36.22	36.37	36.60	36.43	36.52	36.65	---	---	36.98	36.67	36.67	36.76
7	36.22	36.37	36.59	36.43	36.52	36.66	---	---	36.97	36.71	36.67	36.77
8	36.22	36.33	36.62	36.38	36.52	36.68	---	---	36.91	36.73	36.69	36.78
9	36.23	36.33	36.62	36.36	36.52	36.69	---	---	36.90	36.71	36.69	36.79
10	36.23	36.36	36.61	36.41	36.51	36.69	---	---	36.90	36.61	36.66	36.78
11	36.22	36.41	36.57	36.41	36.52	36.69	---	---	36.88	36.55	36.62	36.72
12	36.24	36.41	36.57	36.44	36.52	36.67	---	---	36.80	36.57	36.62	36.70
13	36.24	36.40	36.57	36.44	36.52	36.67	---	---	36.81	36.57	36.62	36.70
14	36.24	36.38	36.57	36.45	36.58	36.67	---	---	36.87	36.58	36.66	36.65
15	36.23	36.44	36.62	36.45	36.59	---	---	---	36.87	36.60	36.68	36.66
16	36.23	36.44	36.62	36.45	36.59	---	37.01	---	36.87	36.62	36.71	36.64
17	36.23	36.44	36.61	36.45	36.56	---	37.05	---	36.93	36.69	36.70	36.59
18	36.22	36.41	36.57	36.39	36.53	---	37.13	---	36.99	36.67	36.74	36.54
19	36.24	36.44	36.35	36.39	36.54	---	37.17	---	37.02	36.63	36.76	36.54
20	36.27	36.44	36.35	36.37	36.54	---	37.26	---	37.02	36.63	36.73	36.54
21	36.28	36.46	36.37	36.39	36.56	---	37.38	36.99	36.96	36.59	36.76	36.54
22	36.34	36.46	36.38	36.41	36.58	---	37.46	36.94	36.87	36.62	36.79	36.50
23	36.35	36.51	36.38	36.41	36.64	---	---	36.95	36.77	36.59	36.81	36.48
24	36.35	36.55	36.40	36.41	36.64	---	---	36.96	36.73	36.60	36.78	36.46
25	36.35	36.56	36.40	36.40	36.64	---	---	36.95	36.66	36.60	36.81	36.47
26	36.35	36.56	36.40	36.40	36.63	---	---	36.99	36.61	36.63	36.83	36.44
27	36.35	36.56	36.40	36.40	36.63	---	---	37.01	36.56	36.65	36.80	36.47
28	36.35	36.55	36.40	36.53	36.63	---	---	37.03	36.58	36.66	36.74	36.51
29	36.36	36.55	36.40	36.53	---	---	---	37.03	36.61	36.68	36.73	36.52
30	36.36	36.55	36.37	36.53	---	---	---	37.03	36.67	36.65	36.76	36.54
31	36.36	---	36.40	36.47	---	---	---	37.06	---	36.68	36.78	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
STUTSMAN COUNTY--Continued

139-062-02CCC

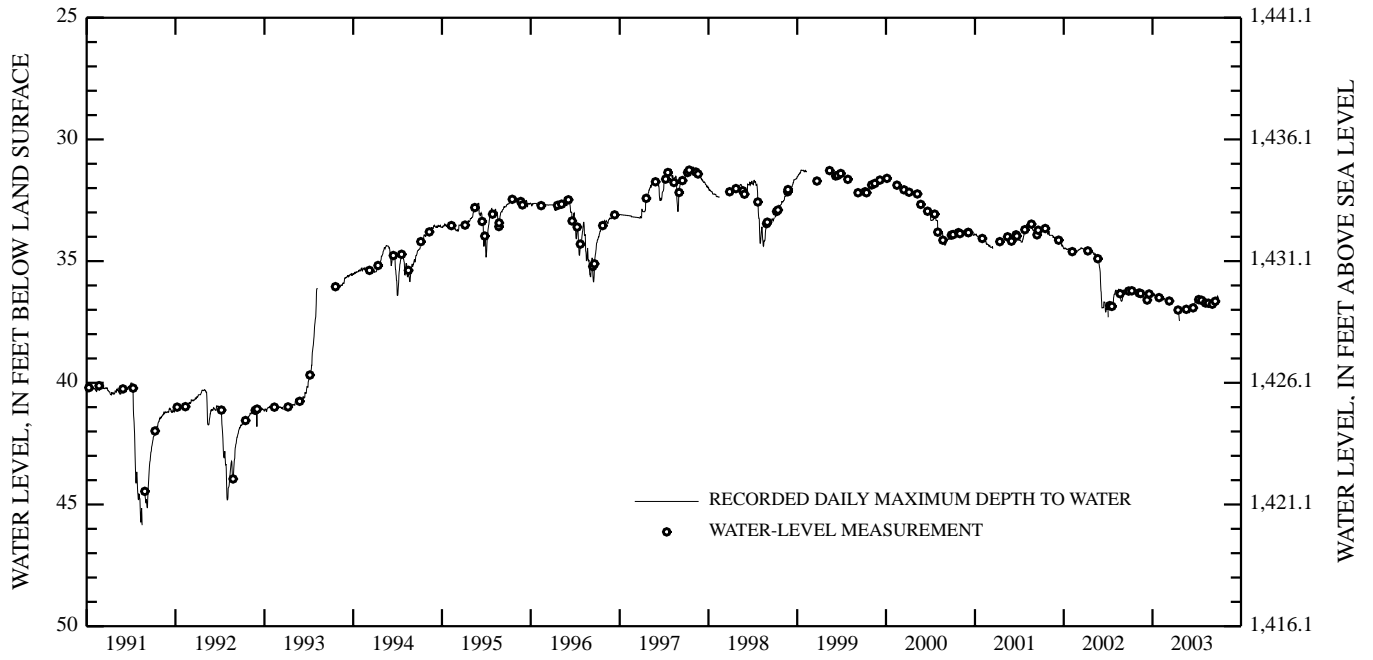




NETWORK SITES--Continued

STUTSMAN COUNTY--Continued

139-062-02CCC--Continued



## GROUND-WATER LEVELS

## NETWORK SITES--Continued

## STUTSMAN COUNTY--Continued

465757098274401. Local number, 140-062-02DDD.

LOCATION.--Lat 46°57'57", long 98°27'44", Hydrologic Unit 10160003. Owner: Ottertail Power Company.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 263 ft, cased with 207 ft of 12-in diameter steel pipe, No. 8 slot screen set 207 to 257 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From July 1984 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,480 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

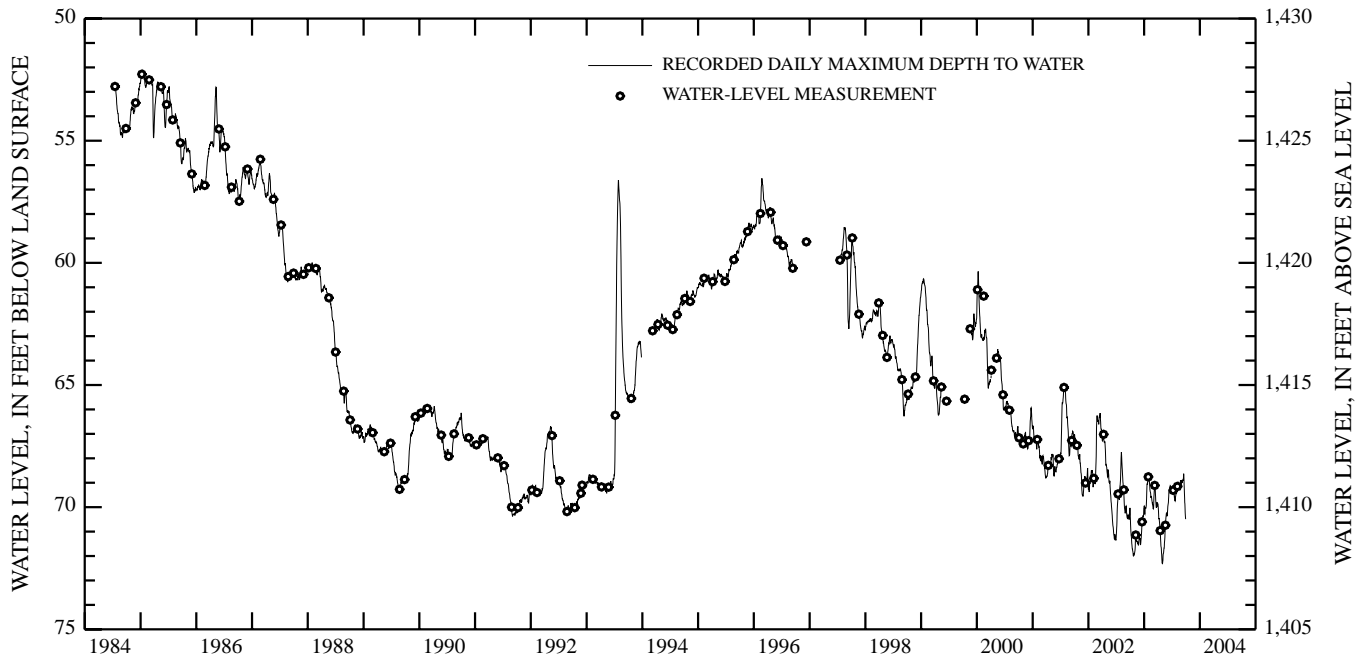
PERIOD OF RECORD.--July 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 52.04 ft below land-surface datum, January 13 and 17, 1985; lowest water level, 72.30 ft below land-surface datum, April 30, 2003.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70.22	71.82	71.18	69.96	68.61	70.06	69.88	72.27	70.34	69.31	69.43	69.08
2	70.35	71.78	71.31	69.95	68.70	70.07	69.93	72.28	70.26	69.26	69.42	68.92
3	70.47	71.70	71.32	69.97	68.80	70.03	69.97	72.22	70.20	69.25	69.37	68.89
4	70.69	71.56	71.32	70.18	68.89	70.02	70.06	72.18	70.12	69.18	69.34	68.92
5	70.85	71.32	71.28	70.28	69.00	69.86	70.17	72.00	69.98	69.14	69.26	68.94
6	70.99	71.19	71.31	70.29	69.10	69.58	70.30	71.91	69.93	69.12	69.20	68.98
7	71.05	71.18	71.45	70.14	69.16	69.49	70.46	71.90	69.89	69.17	69.16	69.01
8	71.16	71.19	71.55	70.01	69.30	69.36	70.49	71.88	69.85	69.25	69.14	68.98
9	71.20	71.20	71.52	70.01	69.32	69.27	70.45	71.83	69.80	69.25	69.11	68.94
10	71.26	71.31	71.46	70.04	69.37	69.20	70.50	71.75	69.67	69.25	69.06	68.93
11	71.37	71.36	71.38	70.04	69.38	69.05	70.58	71.68	69.57	69.22	69.04	68.90
12	71.49	71.38	71.30	70.04	69.40	69.04	70.64	71.68	69.38	69.22	69.01	68.88
13	71.54	71.37	71.24	70.04	69.46	69.06	70.71	71.64	69.30	69.20	68.99	68.89
14	71.61	71.37	71.13	69.98	69.59	69.10	70.84	71.46	69.30	69.21	69.00	68.89
15	71.68	71.41	71.06	69.94	69.62	69.26	70.90	71.39	69.29	69.28	69.05	68.87
16	71.72	71.41	70.93	69.83	69.60	69.45	70.98	71.33	69.27	69.38	69.09	68.72
17	71.72	71.42	70.77	69.67	69.54	69.58	71.02	71.23	69.22	69.50	69.09	68.63
18	71.79	71.46	70.64	69.41	69.58	69.72	71.18	71.00	69.19	69.58	69.09	68.70
19	71.81	71.45	70.56	69.21	69.62	69.81	71.34	70.80	69.17	69.57	69.09	68.88
20	71.85	71.41	70.50	69.06	69.68	69.91	71.46	70.75	69.15	69.59	69.11	69.06
21	71.91	71.49	70.50	69.04	69.73	70.00	71.58	70.66	69.12	69.70	69.23	69.24
22	71.99	71.50	70.50	69.06	69.76	70.02	71.63	70.57	69.13	69.74	69.28	69.44
23	72.00	71.53	70.48	69.08	69.82	69.99	71.65	70.50	69.23	69.75	69.29	69.60
24	71.99	71.55	70.38	68.99	69.86	69.92	71.73	70.41	69.31	69.69	69.25	69.81
25	71.94	71.54	70.34	68.92	69.85	69.90	71.88	70.36	69.28	69.62	69.18	69.86
26	71.93	71.52	70.38	68.90	69.90	69.85	71.94	70.28	69.25	69.56	69.01	70.04
27	71.94	71.44	70.38	68.74	69.96	69.80	72.09	70.25	69.20	69.54	68.90	70.22
28	71.88	71.35	70.32	68.70	69.98	69.87	72.19	70.25	69.31	69.45	68.98	70.34
29	71.90	71.22	70.25	68.70	---	69.94	72.29	70.24	69.37	69.38	69.13	70.43
30	71.90	71.22	70.04	68.66	---	69.93	72.30	70.33	69.36	69.39	69.17	70.49
31	71.85	---	70.03	68.62	---	69.85	---	70.37	---	69.39	69.15	---

140-062-02DDD



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
TOWNER COUNTY

482908099134601. Local number, 158-066-30BBB.

LOCATION.--Lat 48°29'08", long 99°13'46", Hydrologic Unit 09020201. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 322 ft, cased with 208 ft of 5-in diameter steel pipe, No. 40 slot screen set 208 to 213 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From April 1980 to November 1996 and October 1998 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,481 ft. Measuring point: Top of casing 1.40 ft above land-surface datum.

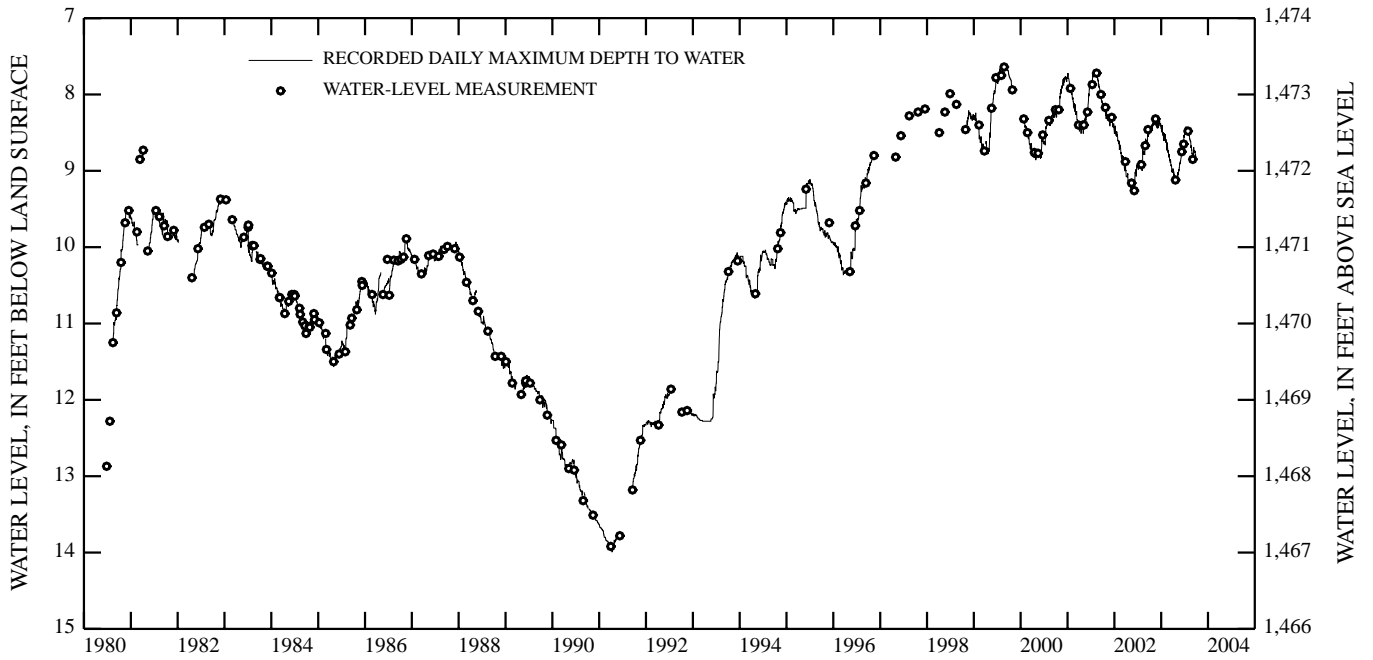
PERIOD OF RECORD.--June 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.60 ft below land-surface datum, August 15-16, 1999; lowest water level, 13.99 ft below land-surface datum, April 11-13, 1991.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.51	8.38	8.37	8.45	8.52	8.82	9.00	9.16	8.87	8.54	8.52	8.77
2	8.52	8.36	8.44	8.45	8.56	8.82	8.98	9.16	8.87	8.51	8.52	8.78
3	8.48	8.36	8.44	8.41	8.58	8.78	8.97	9.14	8.85	8.47	8.53	8.82
4	8.44	8.36	8.44	8.42	8.59	8.79	8.98	9.11	8.84	8.47	8.53	8.82
5	8.45	8.33	8.40	8.49	8.61	8.79	9.00	9.08	8.83	8.47	8.51	8.80
6	8.47	8.37	8.36	8.49	8.63	8.81	9.00	9.09	8.82	8.47	8.53	8.81
7	8.45	8.33	8.41	8.42	8.60	8.84	9.03	9.09	8.78	8.50	8.54	8.81
8	8.45	8.31	8.44	8.40	8.60	8.87	9.03	9.08	8.77	8.52	8.54	8.82
9	8.45	8.29	8.38	8.46	8.59	8.86	9.01	9.05	8.76	8.50	8.54	8.82
10	8.42	8.35	8.36	8.48	8.60	8.86	9.06	9.02	8.73	8.46	8.56	8.82
11	8.43	8.37	8.35	8.50	8.61	8.85	9.07	9.05	8.72	8.46	8.58	8.70
12	8.47	8.39	8.38	8.51	8.63	8.89	9.07	9.06	8.65	8.46	8.58	8.69
13	8.47	8.38	8.38	8.51	8.64	8.89	9.04	9.05	8.68	8.44	8.59	8.72
14	8.43	8.38	8.37	8.53	8.73	8.85	9.06	9.05	8.70	8.42	8.59	8.73
15	8.44	8.40	8.38	8.54	8.73	8.86	9.08	9.05	8.69	8.44	8.61	8.74
16	8.43	8.40	8.38	8.54	8.71	8.87	9.11	9.04	8.68	8.45	8.61	8.74
17	8.40	8.35	8.37	8.54	8.63	8.90	9.10	9.00	8.67	8.46	8.60	8.73
18	8.40	8.34	8.34	8.50	8.66	8.93	9.08	8.98	8.68	8.46	8.61	8.75
19	8.40	8.34	8.32	8.50	8.67	8.93	9.08	9.00	8.67	8.44	8.62	8.76
20	8.41	8.36	8.33	8.53	8.69	8.92	9.10	9.00	8.65	8.44	8.62	8.74
21	8.43	8.38	8.36	8.57	8.72	8.94	9.12	8.98	8.63	8.46	8.68	8.74
22	8.46	8.38	8.40	8.60	8.73	8.94	9.12	8.96	8.63	8.48	8.70	8.76
23	8.46	8.40	8.41	8.61	8.76	8.93	9.11	8.96	8.64	8.47	8.67	8.75
24	8.43	8.41	8.41	8.54	8.76	8.99	9.12	8.92	8.66	8.44	8.70	8.79
25	8.38	8.42	8.39	8.59	8.75	9.01	9.12	8.92	8.64	8.44	8.70	8.79
26	8.39	8.43	8.39	8.59	8.73	9.00	9.12	8.92	8.62	8.49	8.73	8.78
27	8.40	8.37	8.38	8.51	8.78	8.99	9.13	8.90	8.57	8.51	8.72	8.82
28	8.37	8.36	8.39	8.59	8.78	9.02	9.15	8.91	8.53	8.50	8.73	8.83
29	8.41	8.38	8.39	8.59	---	9.02	9.16	8.88	8.56	8.50	8.78	8.84
30	8.41	8.39	8.42	8.53	---	9.02	9.14	8.90	8.56	8.49	8.78	8.86
31	8.40	---	8.43	8.54	---	8.98	---	8.90	---	8.50	8.77	---

158-066-30BBB



GROUND-WATER LEVELS

NETWORK SITES--Continued

TOWNER COUNTY--Continued

484209099174101. Local number, 160-067-10BBB1.

LOCATION.--Lat 48°42'09", long 99°17'41", Hydrologic Unit 09020201. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 402 ft, cased with 356 ft of 2-in diameter steel pipe, No. 12 slot screen set 356 to 362 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,570 ft. Measuring point: Top of casing 4.00 ft above land-surface datum.

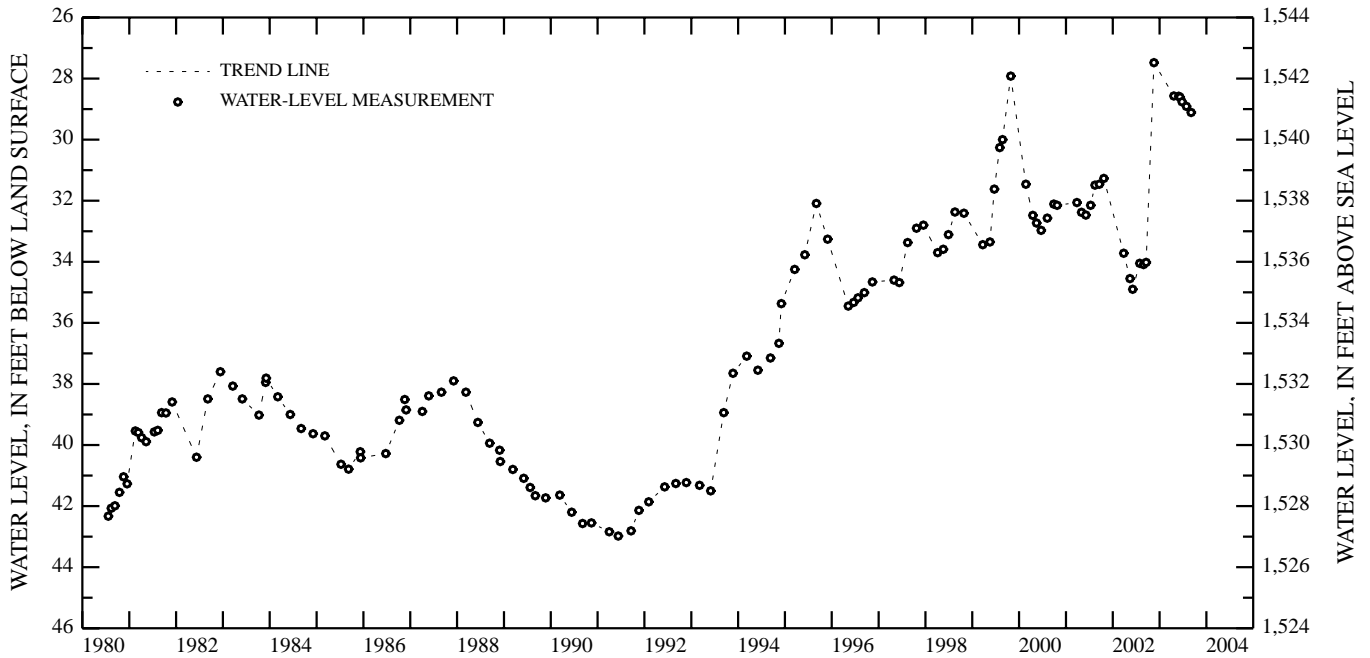
PERIOD OF RECORD.--July 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.48 ft below land-surface datum, November 18, 2002; lowest water level, 42.98 ft below land-surface datum, June 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	27.48	MAY 30	28.58	JUN 09	28.61	JUN 25	28.76	JUL 29	28.91	SEP 04	29.11
APR 22	28.57										
WATER YEAR 2003		HIGHEST	27.48	NOV 18, 2002		LOWEST	29.11	SEP 04, 2003			

160-067-10BBB1



NETWORK SITES--Continued

TOWNER COUNTY--Continued

484209099174102. Local number, 160-067-10BBB2.

LOCATION.--Lat 48°42'09", long 99°17'41", Hydrologic Unit 09020201. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 62 ft, cased with 57 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 57 to 60 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

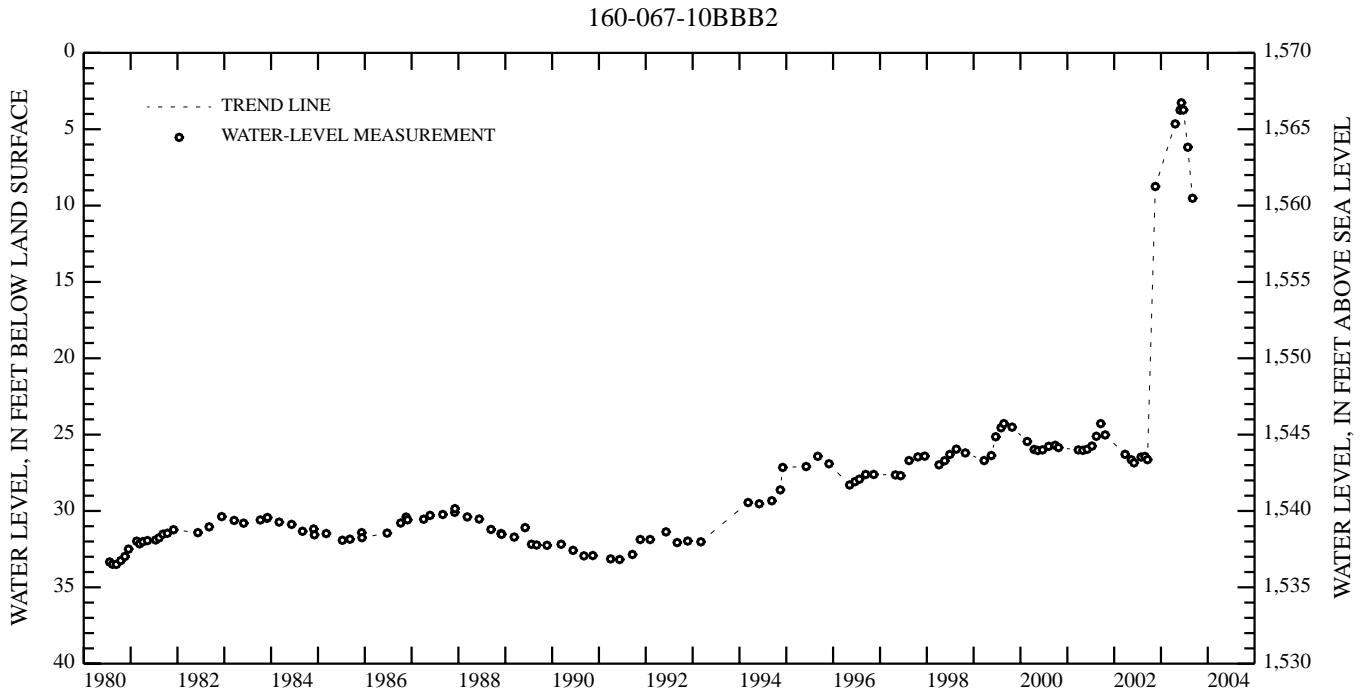
DATUM.--Altitude of land-surface datum is 1,570 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.27 ft below land-surface datum, June 9, 2003, and September 18, 2001; lowest water level, 33.50 ft below land-surface datum, September 11, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	8.75	MAY 30	3.75	JUN 09	3.27	JUN 25	3.74	JUL 29	6.18	SEP 04	9.52
APR 22	4.65										
WATER YEAR 2003		HIGHEST	3.27	JUN 09, 2003		LOWEST	9.52	SEP 04, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 TOWNER COUNTY--Continued

48565909922801. Local number, 163-067-18AAA1.

LOCATION.--Lat 48°56'59", long 99°22'28", Hydrologic Unit 09020313. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 282 ft, cased with 252 ft of 2-in diameter steel pipe, No. 18 slot screen set 252 to 258 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,582 ft. Measuring point: Top of casing 3.30 ft above land-surface datum.

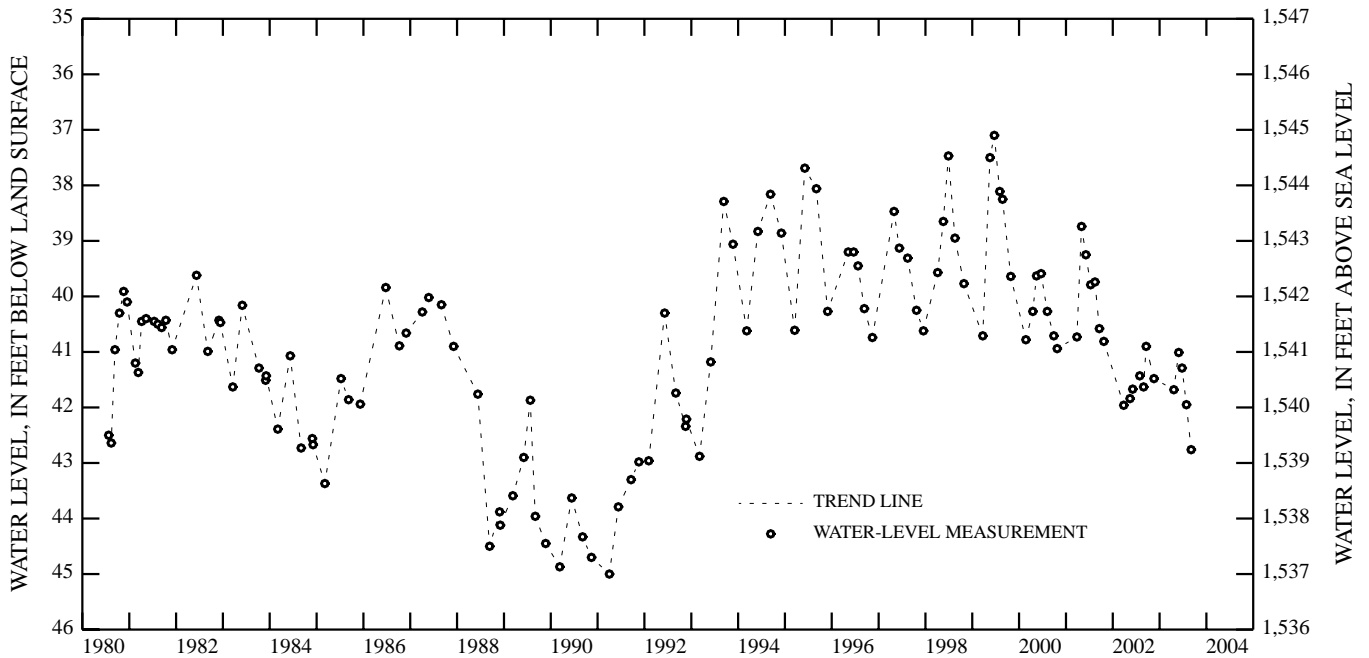
PERIOD OF RECORD.--July 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 37.10 ft below land-surface datum, June 22, 1999; lowest water level, 45.00 ft below land-surface datum, April 3, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	41.48	APR 22	41.68	MAY 30	41.01	JUN 25	41.29	JUL 29	41.95	SEP 04	42.76
WATER YEAR 2003		HIGHEST	41.01	MAY 30, 2003		LOWEST	42.76	SEP 04, 2003			

163-067-18AAA1





NETWORK SITES--Continued

TOWNER COUNTY--Continued

485659099222802. Local number, 163-067-18AAA2.

LOCATION.--Lat 48°56'59", long 99°22'28", Hydrologic Unit 09020313. Owner: North Dakota State Water Commission.

AQUIFER.--Spiritwood.

WELL CHARACTERISTICS.--Drilled observation well, depth 142 ft, cased with 118 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 118 to 121 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,582 ft. Measuring point: Top of casing 2.80 ft above land-surface datum.

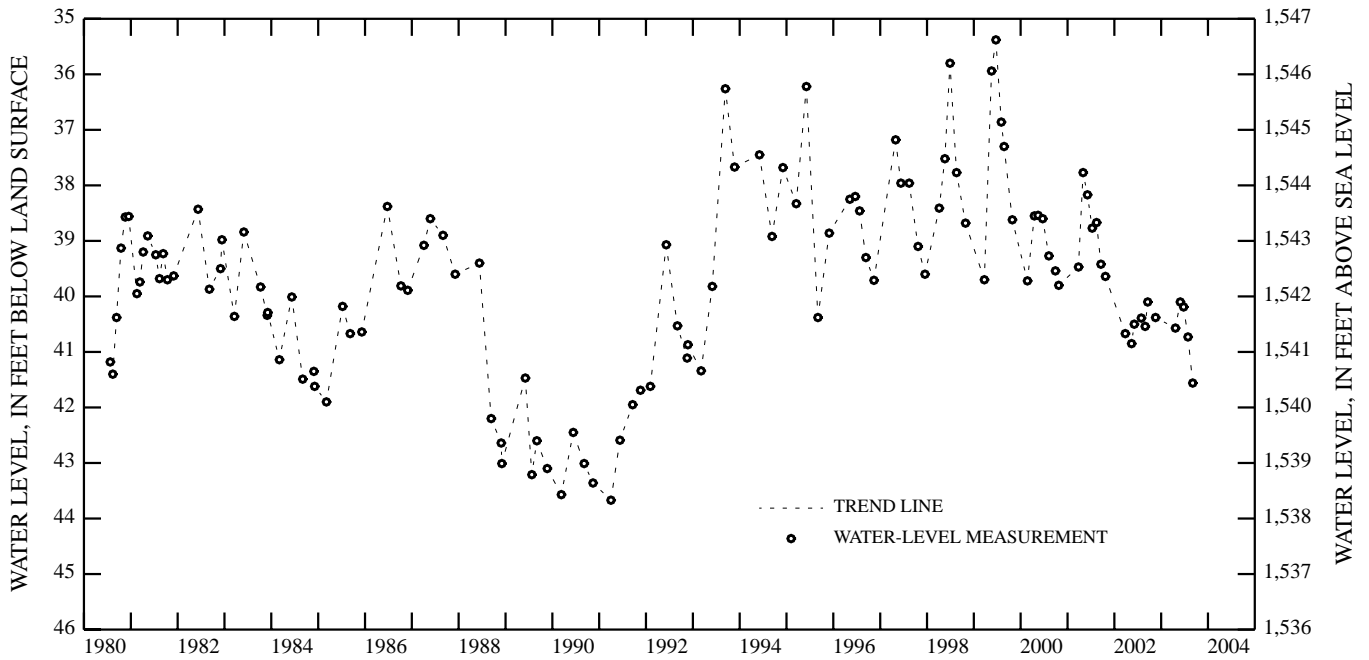
PERIOD OF RECORD.--July 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.38 ft below land-surface datum, June 22, 1999; lowest water level, 43.67 ft below land-surface datum, April 3, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	40.38	APR 22	40.57	MAY 30	40.10	JUN 25	40.19	JUL 29	40.73	SEP 04	41.56
WATER YEAR 2003		HIGHEST	40.10	MAY 30, 2003		LOWEST	41.56	SEP 04, 2003			

163-067-18AAA2



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 WALSH COUNTY

481234097234604. Local number, 155-053-25CDD4.

LOCATION.--Lat 48°12'35", long 97°23'44", Hydrologic Unit 09020308. Owner: U.S. Geological Survey.

AQUIFER.--Lacustrine Deposits.

WELL CHARACTERISTICS.--Drilled observation well, depth 85 ft, cased with 80 ft of 2-in diameter plastic pipe, screen set 80 to 85 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

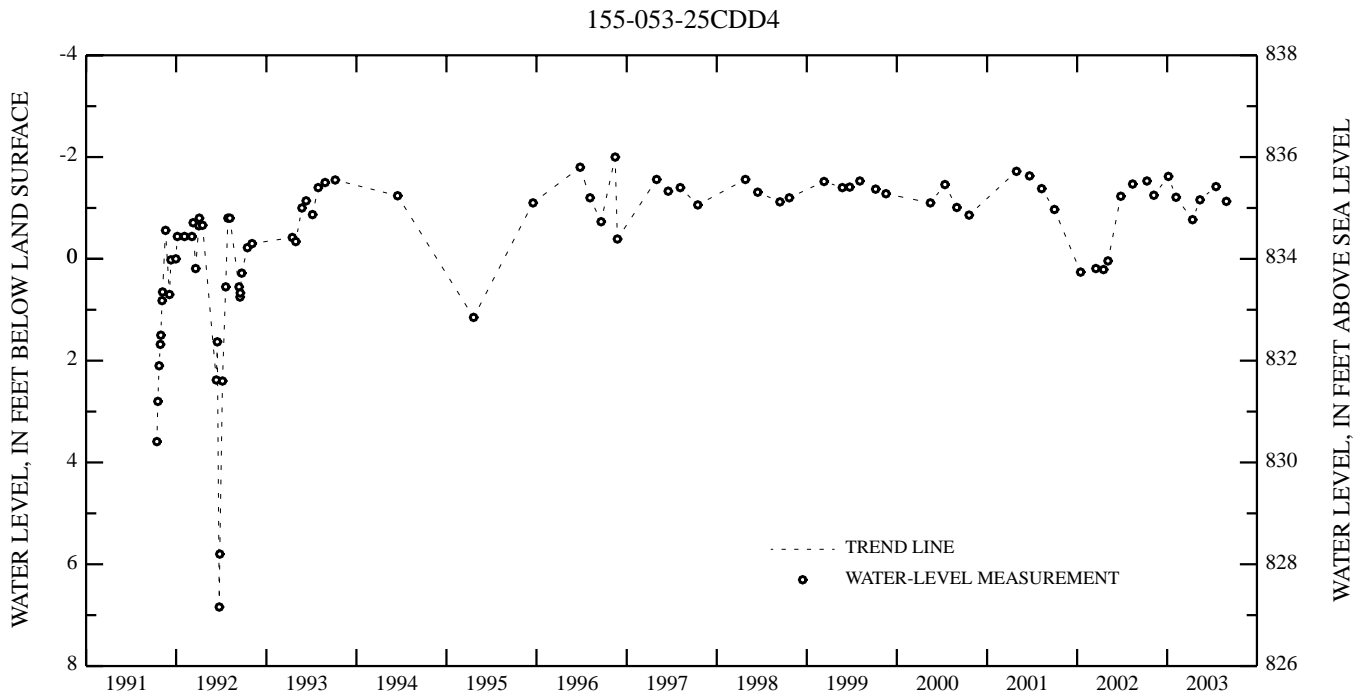
DATUM.--Altitude of land-surface datum is 834 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, -2.00 ft below land-surface datum, Nov. 15, 1996; lowest water level, 6.84 ft below land-surface datum, June 24, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
 (READINGS ABOVE LAND SURFACE INDICATED BY "-")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	-1.53	JAN 06	-1.62	APR 14	-0.77	MAY 14	-1.16	JUL 18	-1.42	AUG 29	-1.13
NOV 08	-1.25	FEB 06	-1.21								
WATER YEAR 2003		HIGHEST	-1.62	JAN 06, 2003		LOWEST	-0.77	APR 14, 2003			



NETWORK SITES--Continued

WALSH COUNTY--Continued

481234097234605. Local number, 155-053-25CDD5.

LOCATION.--Lat 48°12'35", long 97°23'44", Hydrologic Unit 09020308. Owner: U.S. Geological Survey.

AQUIFER.--Lacustrine Deposits.

WELL CHARACTERISTICS.--Drilled observation well, depth 25 ft, cased with 20 ft of 2-in diameter plastic pipe, screen set 20 to 25 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

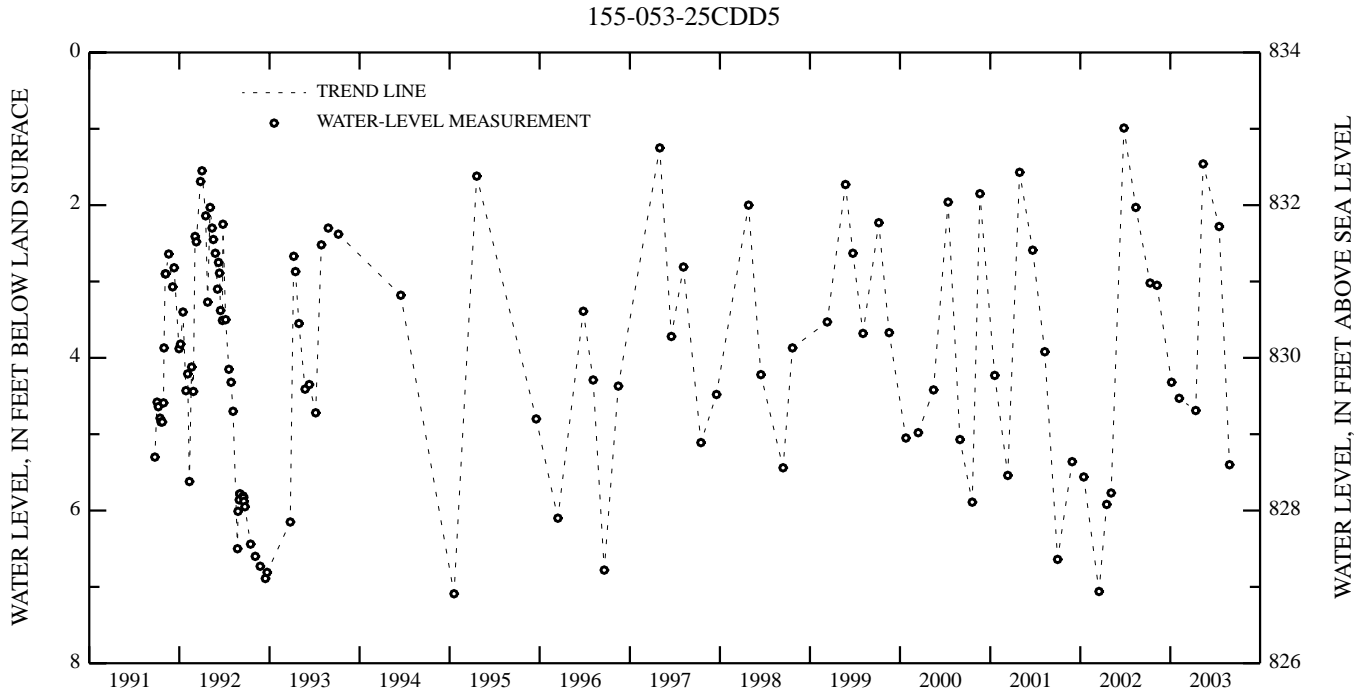
DATUM.--Altitude of land-surface datum is 834 ft. Measuring point: Top of casing 2.25 ft above land-surface datum.

PERIOD OF RECORD.--September 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.99 ft below land-surface datum, June 27, 2002; lowest water level, 7.09 ft below land-surface datum, January 19, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	3.02	JAN 06	4.32	APR 14	4.69	MAY 14	1.46	JUL 18	2.28	AUG 29	5.40
NOV 08	3.05	FEB 06	4.53								
WATER YEAR 2003		HIGHEST	1.46	MAY 14, 2003		LOWEST	5.40	AUG 29, 2003			



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 WALSH COUNTY--Continued

481841097490301. Local number, 156-056-22DDD.

LOCATION.--Lat 48°18'41", long 97°49'03", Hydrologic Unit 09020308. Owner: North Dakota State Water Commission.

AQUIFER.--Fordville.

WELL CHARACTERISTICS.--Drilled observation well, depth 280 ft, cased with 52 ft of 4-in diameter plastic pipe, screen set 52 to 57 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder August 1968 to current year. Only intermittent low water levels, obtained from strip chart recorders, are available from the District office for August 1968 to September 1970. From October 1970 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,170 ft. Measuring point: Top of casing 1.90 ft above land-surface datum.

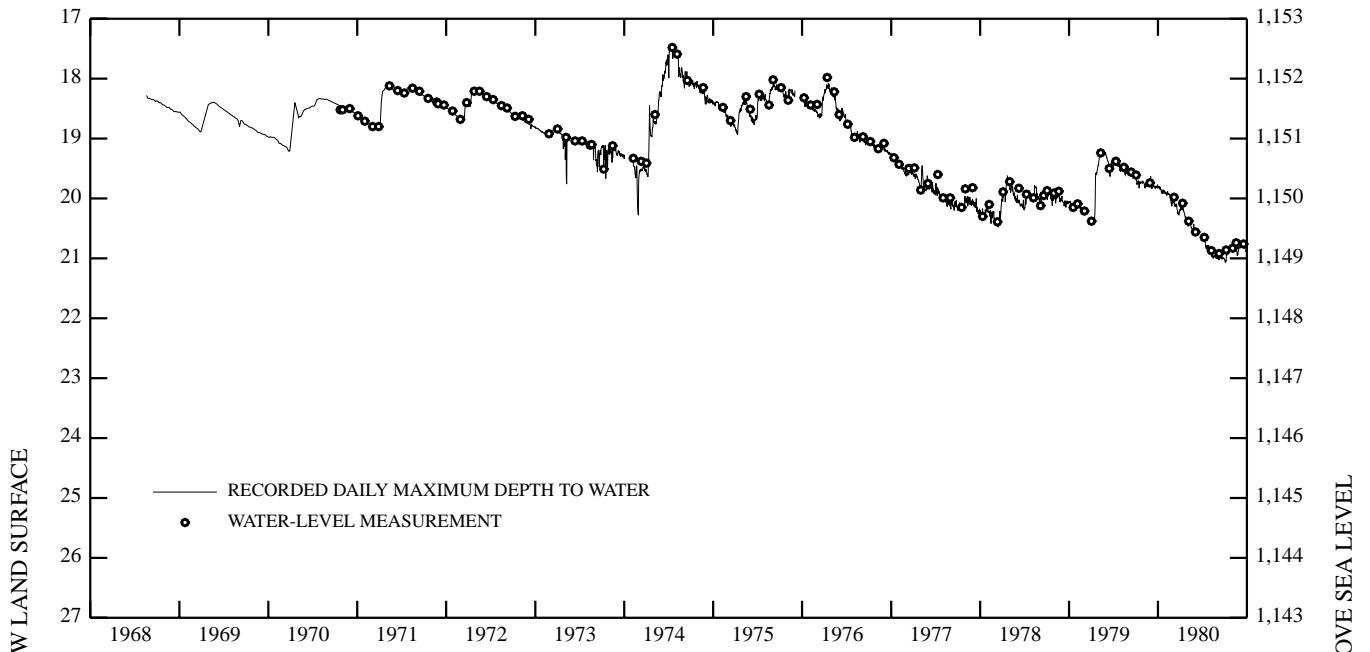
PERIOD OF RECORD.--August 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.35 ft below land-surface datum, July 22, 1974; lowest water level, 24.21 ft below land-surface datum, June 7, 1993.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
 DAILY MAXIMUM VALUES

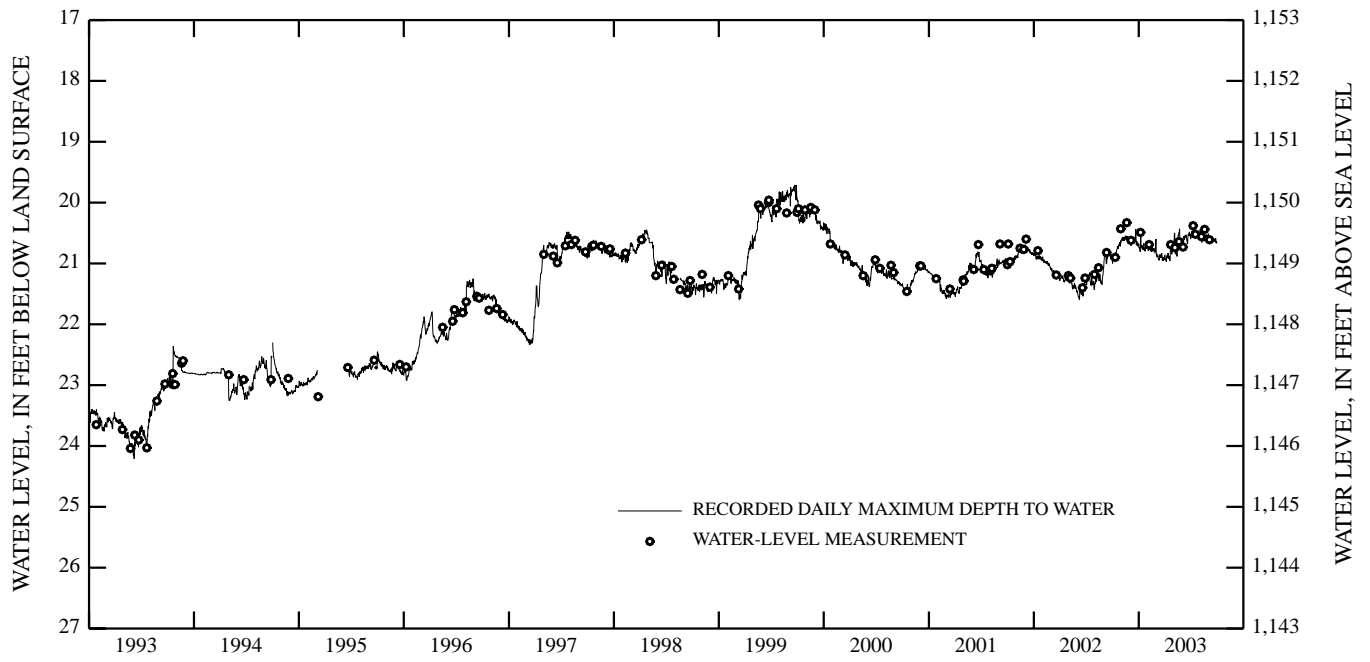
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.95	20.62	20.62	20.68	20.73	20.64	20.88	20.79	20.59	20.59	20.53	20.54
2	21.00	20.61	20.68	20.74	20.70	20.60	20.87	20.66	20.64	20.58	20.46	20.65
3	20.91	20.60	20.66	20.74	20.79	20.86	20.93	20.64	20.63	20.51	20.44	20.62
4	20.91	20.61	20.65	20.77	20.73	20.87	20.94	20.62	20.71	20.51	20.53	20.56
5	20.88	20.59	20.71	20.77	20.74	20.84	20.93	20.51	20.70	20.47	20.55	20.57
6	20.89	20.57	20.63	20.81	20.78	20.89	20.93	20.50	20.67	20.47	20.58	20.58
7	20.93	20.62	20.62	20.68	20.72	20.89	20.97	20.79	20.55	20.52	20.56	20.57
8	20.89	20.62	20.61	20.55	20.69	20.89	20.92	20.84	20.56	20.54	20.65	20.58
9	20.87	20.59	20.65	20.69	20.67	20.88	20.87	20.84	20.61	20.48	20.65	20.61
10	20.96	20.57	20.59	20.73	20.70	20.92	20.90	20.81	20.58	20.43	20.52	20.59
11	20.95	20.63	20.61	20.73	20.79	20.93	20.87	20.77	20.55	20.47	20.53	20.58
12	20.83	20.59	20.63	20.70	20.79	20.93	20.90	20.85	20.56	20.47	20.57	20.59
13	20.82	20.58	20.63	20.76	20.80	20.95	20.83	20.86	20.54	20.44	20.60	20.64
14	20.88	20.61	20.61	20.73	20.80	20.92	20.92	20.88	20.54	20.47	20.60	20.61
15	20.83	20.56	20.59	20.73	20.80	20.91	20.88	20.88	20.53	20.47	20.61	20.63
16	20.78	20.57	20.65	20.78	20.72	20.85	20.89	20.62	20.59	20.55	20.63	20.65
17	20.77	20.56	20.58	20.72	20.80	20.90	20.89	20.58	20.61	20.56	20.62	20.63
18	20.76	20.60	20.62	20.68	20.74	20.87	20.88	20.54	20.64	20.57	20.56	20.63
19	20.72	20.58	20.64	20.67	20.77	20.87	20.96	20.54	20.66	20.53	---	20.63
20	20.72	20.55	20.61	20.77	20.77	20.91	20.92	20.51	20.68	20.50	20.56	20.61
21	20.76	20.61	20.44	20.75	20.77	20.85	20.79	20.49	20.57	20.52	20.62	20.63
22	20.72	20.55	20.44	20.77	20.79	20.83	20.71	20.49	20.52	20.56	20.63	20.60
23	20.70	20.58	20.69	20.80	20.75	20.88	20.64	20.43	20.52	20.56	20.63	20.60
24	20.69	20.57	20.69	20.71	20.81	20.95	20.76	20.63	20.53	20.55	20.53	20.65
25	20.69	20.63	20.63	20.73	20.80	20.93	20.83	20.70	20.52	20.56	20.53	20.60
26	20.68	20.61	20.69	20.72	20.80	20.90	20.85	20.66	20.48	20.50	20.55	20.59
27	20.65	20.60	20.68	20.73	20.81	20.96	20.83	20.68	20.55	20.51	20.57	20.66
28	20.72	20.63	20.69	20.76	20.80	20.92	20.81	20.70	20.52	20.55	20.54	20.66
29	20.69	20.63	20.66	20.69	---	20.93	20.80	20.71	20.52	20.55	20.57	20.65
30	20.64	20.66	20.71	20.73	---	20.90	20.80	20.64	20.58	20.53	20.55	20.67
31	20.65	---	20.70	20.73	---	20.94	---	20.62	---	20.55	20.51	---

156-056-22DDD



GROUND-WATER LEVELS  
NETWORK SITES--Continued  
WALSH COUNTY--Continued

156-056-22DDD--Continued



NETWORK SITES--Continued

WALSH COUNTY--Continued

482408097443201. Local number, 157-055-21DBC.

LOCATION.--Lat 48°24'08", long 97°44'32", Hydrologic Unit 09020310. Owner: North Dakota State Water Commission.

AQUIFER.--Dakota.

WELL CHARACTERISTICS.--Drilled observation well, depth 496 ft, cased with 491 ft of 4-in diameter steel pipe, screen set 491 to 496 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 975 ft. Measuring point: Top of casing 0.00 ft above land-surface datum.

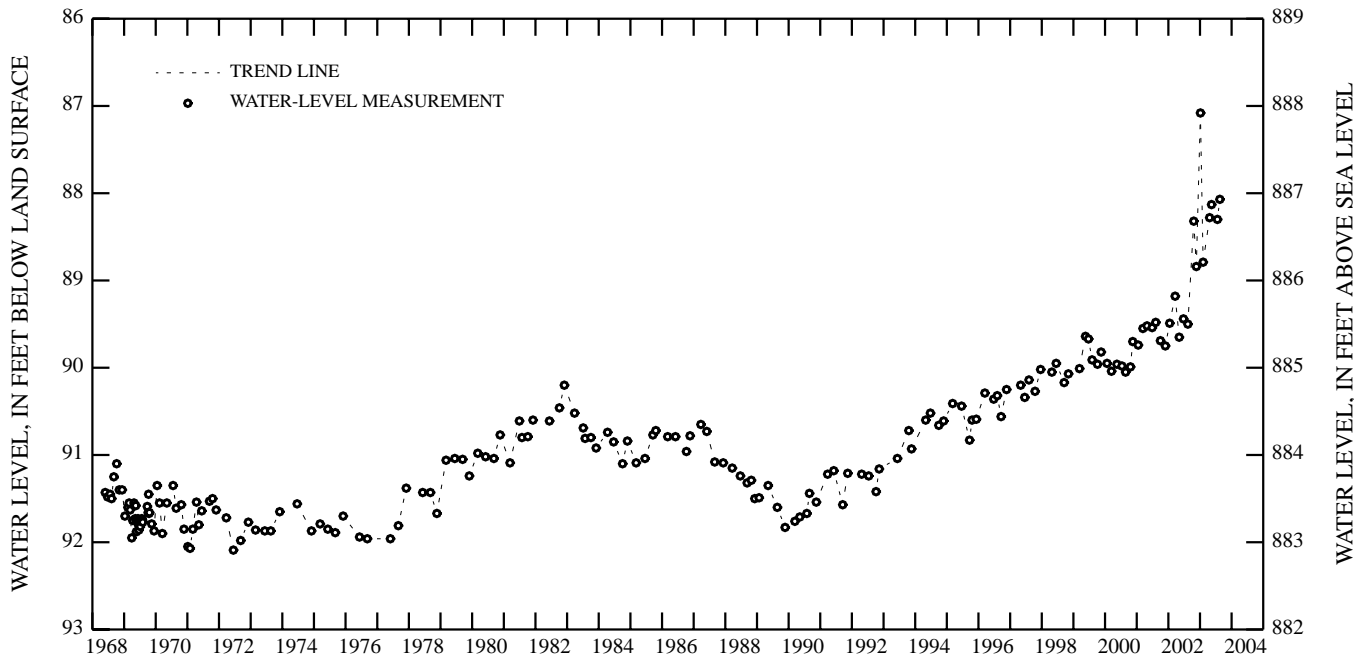
PERIOD OF RECORD.--May 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 87.08 ft below land-surface datum, January 6, 2003; lowest water level, 92.09 ft below land-surface datum, June 15, 1972.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	88.32	JAN 06	87.08	APR 22	88.28	MAY 14	88.13	JUL 21	88.30	AUG 18	88.07
NOV 20	88.84	FEB 06	88.79								
WATER YEAR 2003		HIGHEST	87.08	JAN 06, 2003		LOWEST	88.84	NOV 20, 2002			

157-055-21DBC



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 WALSH COUNTY--Continued

482449098095801. Local number, 157-058-18DDD.

LOCATION.--Lat 48°24'49", long 98°09'58", Hydrologic Unit 09020308. Owner: North Dakota State Water Commission.

AQUIFER.--Pierre Shale.

WELL CHARACTERISTICS.--Drilled observation well, depth 140 ft, cased with 80 ft of 4-in diameter plastic pipe, screen set 80 to 100 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

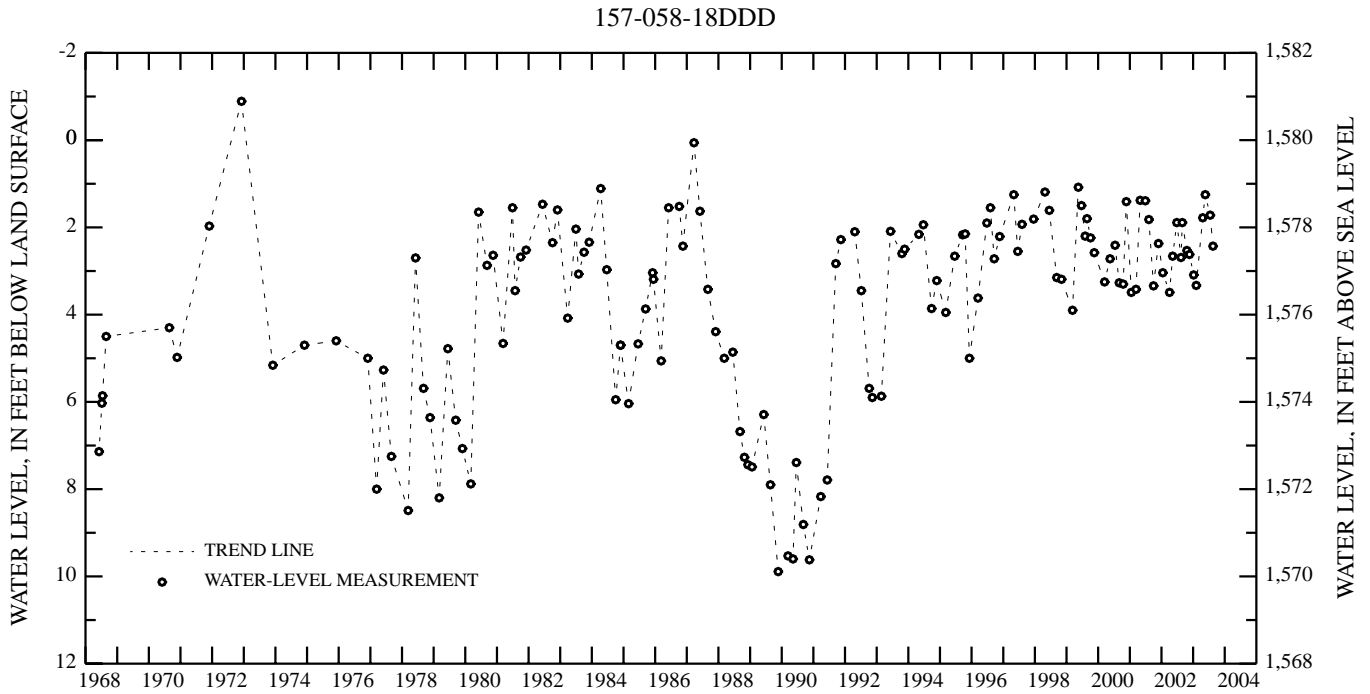
DATUM.--Altitude of land-surface datum is 1,580 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, -0.89 ft below land-surface datum, December 5, 1972; lowest water level, 9.89 ft below land-surface datum, November 21, 1989.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	2.53	JAN 07	3.09	APR 22	1.78	MAY 21	1.25	JUL 17	1.72	AUG 18	2.43
NOV 20	2.62	FEB 06	3.33								
WATER YEAR 2003		HIGHEST	1.25	MAY 21, 2003		LOWEST	3.33	FEB 06, 2003			





## NETWORK SITES--Continued

## WARD COUNTY

481058101120403. Local number, 154-082-03CDC3.

LOCATION.--Lat 48°10'58", long 101°12'04", Hydrologic Unit 09010001. Owner: North Dakota State Water Commission.

AQUIFER.--Sundre Buried Channel.

WELL CHARACTERISTICS.--Drilled observation well, depth 220 ft, cased with 170 ft of 12-in diameter steel pipe, screen set 170 to 220 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape December 1968 to June 1973. From November 1976 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,544 ft. Measuring point: Top of casing 1.45 ft above land-surface datum.

PERIOD OF RECORD.--December 1968 to current year.

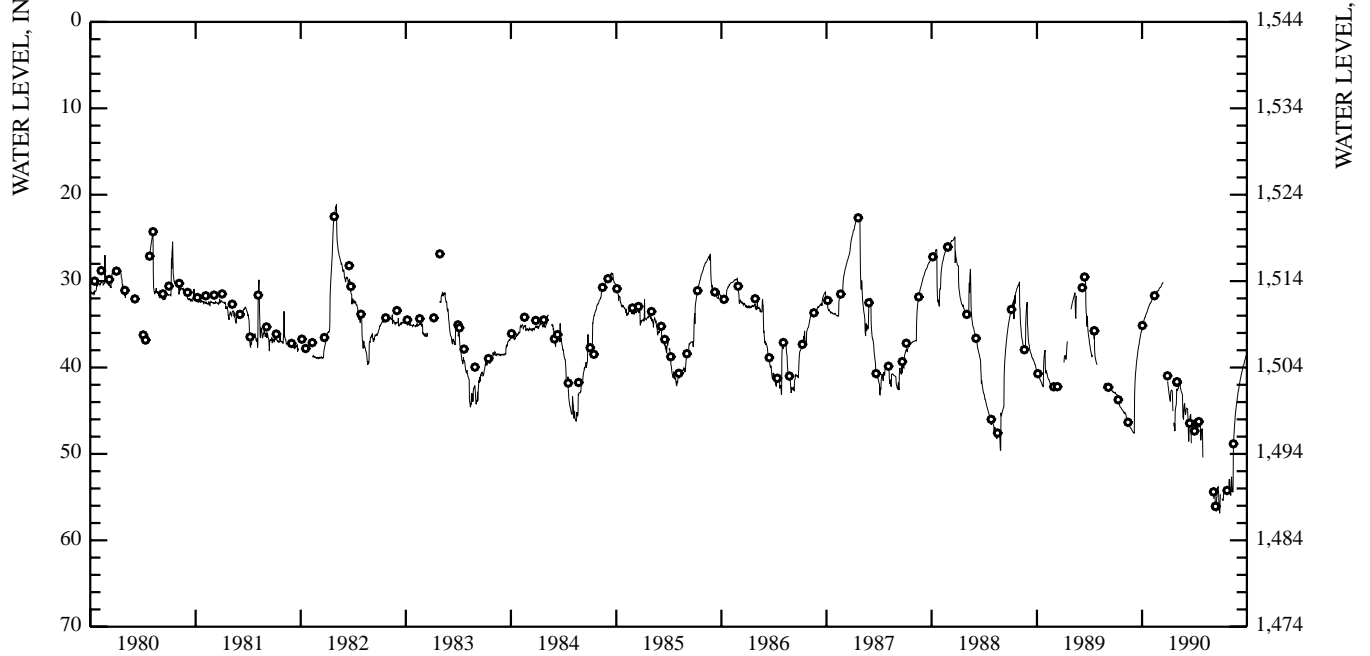
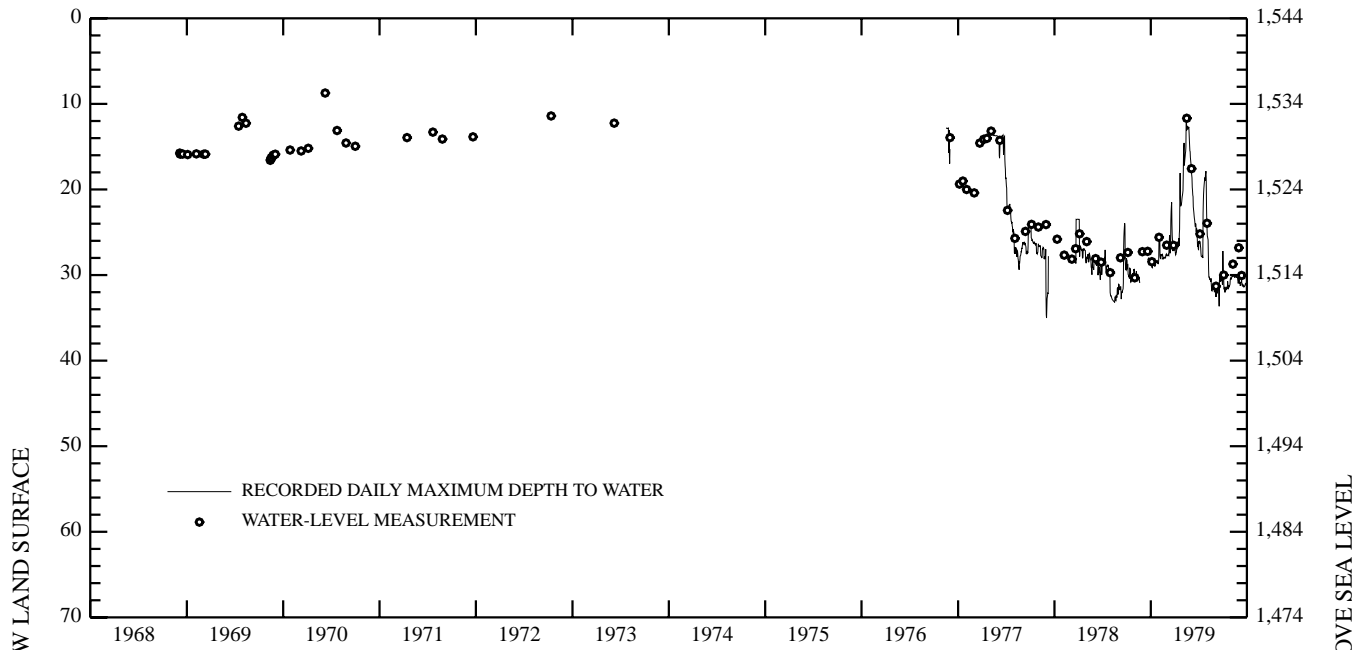
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.73 ft below land-surface datum, June 9, 1970; lowest water level, 64.79 ft below land-surface datum, August 28, 2002.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

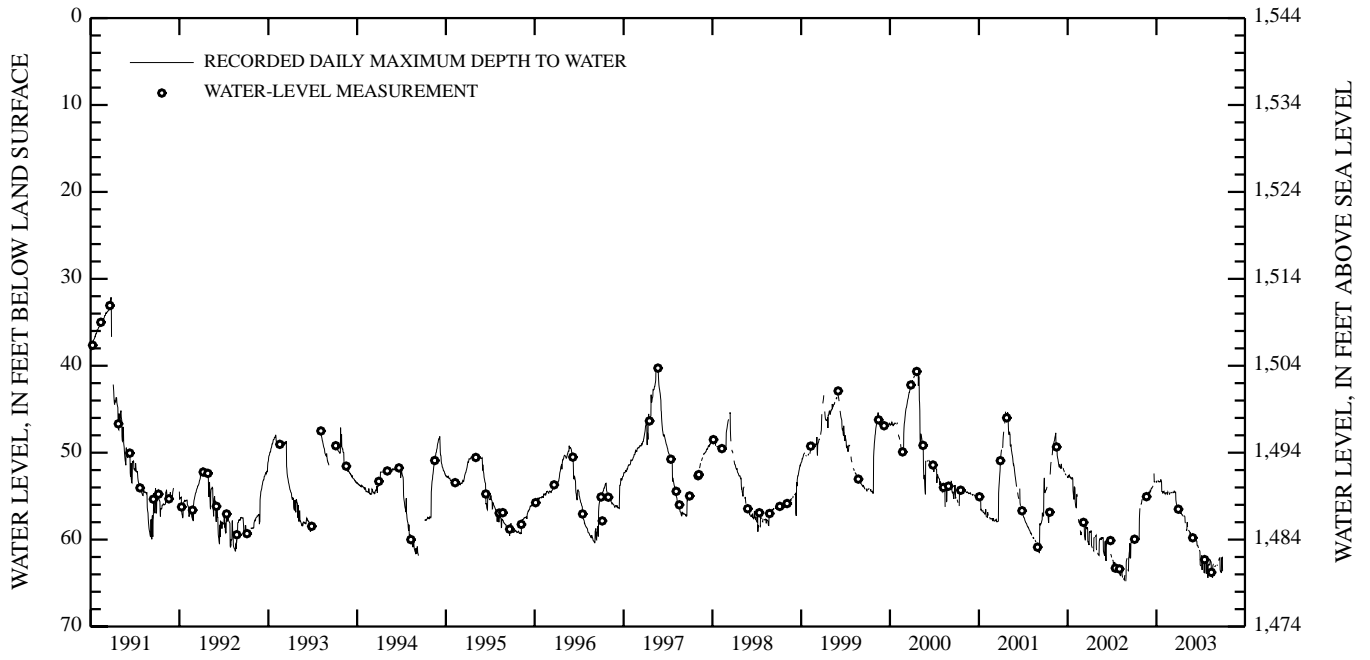
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60.09	55.73	54.50	53.40	54.45	---	56.48	---	60.08	62.96	64.39	63.01
2	60.09	55.54	54.62	53.39	54.57	---	56.55	---	60.13	63.05	63.07	63.03
3	60.01	55.36	54.66	53.26	54.62	54.58	56.63	---	60.20	---	62.86	---
4	59.93	---	54.66	53.23	54.64	54.60	56.73	58.86	60.18	---	62.82	---
5	59.93	---	54.51	---	54.70	54.60	56.77	59.00	59.88	---	62.87	---
6	59.97	---	54.37	---	54.76	54.57	56.84	58.83	59.88	61.77	62.92	62.97
7	59.90	55.40	54.41	---	54.67	54.66	56.95	58.07	59.92	63.23	62.93	62.96
8	59.92	55.28	54.46	53.18	54.63	---	56.95	57.98	59.92	63.49	62.90	62.93
9	59.90	55.18	54.31	53.30	54.59	---	56.86	58.53	59.92	62.56	62.68	62.94
10	59.81	55.27	54.20	53.32	54.59	---	56.98	---	59.97	62.03	62.31	62.93
11	59.86	55.30	54.10	53.35	54.60	54.56	57.00	---	59.97	---	62.45	---
12	59.94	55.32	54.12	53.32	54.63	54.60	57.00	---	60.01	---	62.52	---
13	59.93	55.25	54.10	53.34	54.63	54.60	56.95	58.89	60.08	---	62.54	---
14	59.85	55.21	54.02	53.35	54.76	54.46	57.04	58.96	60.11	62.13	62.56	62.42
15	59.87	55.24	53.99	53.34	54.79	54.41	57.08	58.98	60.16	62.15	64.16	62.29
16	59.84	55.18	53.95	53.36	54.71	54.43	57.15	59.05	60.20	63.79	64.19	62.20
17	59.78	55.02	53.88	53.33	54.51	54.52	57.15	59.08	60.59	63.81	63.99	62.12
18	---	54.95	53.81	53.20	54.58	54.58	57.16	59.16	60.70	62.36	64.23	62.13
19	---	54.95	---	53.08	---	54.59	57.22	59.31	60.70	61.90	64.29	62.11
20	---	54.96	---	53.18	---	54.56	57.27	59.32	60.68	62.11	64.36	63.46
21	59.91	54.99	---	53.24	---	54.50	57.29	59.27	60.77	62.28	63.00	63.62
22	59.96	54.91	52.39	53.34	54.71	55.45	57.27	59.61	60.86	62.33	62.93	63.65
23	57.59	54.91	53.39	54.53	54.77	55.64	---	59.69	60.96	62.33	62.83	63.65
24	56.89	54.94	53.33	---	54.78	55.86	---	59.82	---	63.63	62.83	63.79
25	56.40	55.09	53.35	54.64	54.68	55.97	---	59.83	---	63.91	---	63.79
26	---	54.91	53.35	54.64	54.60	56.04	57.23	59.52	---	62.60	---	62.09
27	---	54.75	53.31	54.42	54.65	56.20	57.33	59.49	61.19	62.57	---	62.08
28	---	54.67	---	54.63	---	56.36	57.37	59.84	61.30	62.56	63.04	62.08
29	55.88	54.63	---	54.63	---	56.43	57.95	59.84	61.39	62.56	63.09	62.05
30	55.92	54.64	---	54.48	---	56.40	58.11	59.98	62.90	64.11	63.09	63.64
31	55.86	---	53.33	54.49	---	56.32	---	60.05	---	64.28	63.06	---

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
WARD COUNTY--Continued

154-082-03CDC3



154-082-03CDC3--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 WELLS COUNTY

472329099194401. Local number, 145-068-10BCC.

LOCATION.--Lat 47°23'29", long 99°19'44", Hydrologic Unit 10160002. Owner: North Dakota State Water Commission.

AQUIFER.--Pipestem Creek.

WELL CHARACTERISTICS.--Drilled observation well, depth 52 ft, cased with 25 ft of 1.25-in diameter plastic pipe, No. 12 slot screen set 25 to 27 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,630 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

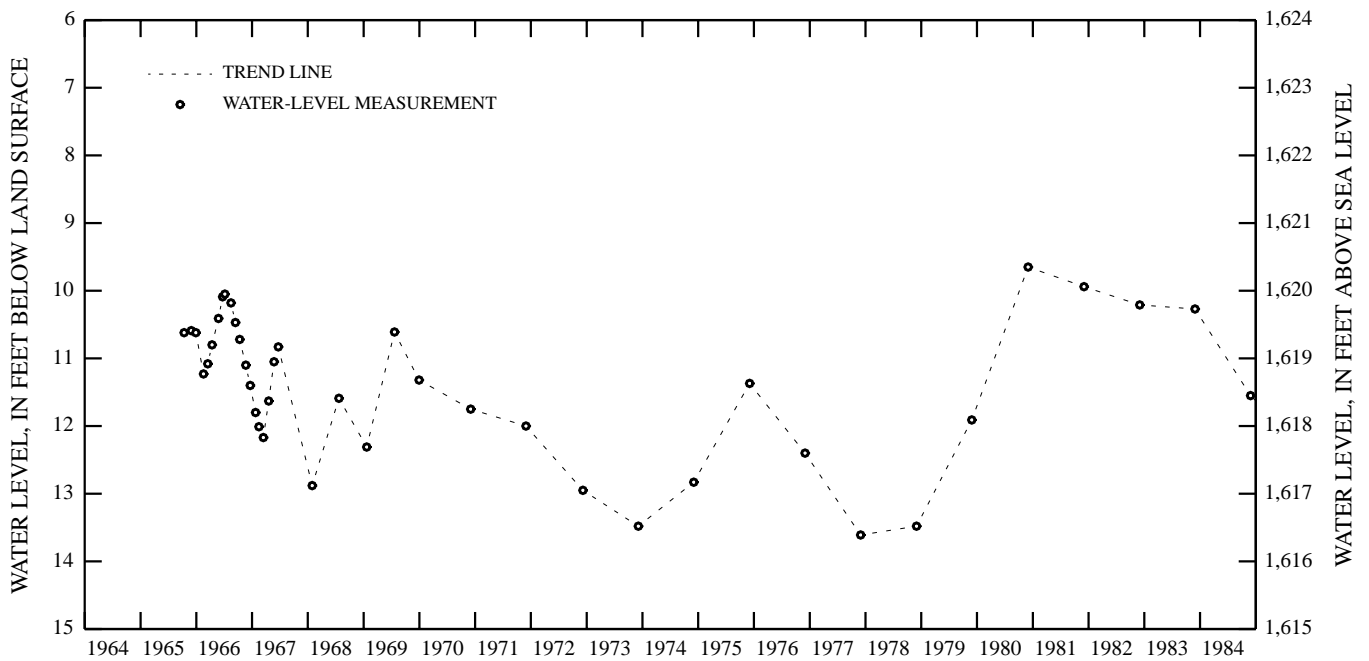
PERIOD OF RECORD.--October 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.94 ft below land-surface datum, May 2, 2001; lowest water level, 13.61 ft below land-surface datum, November 30, 1977.

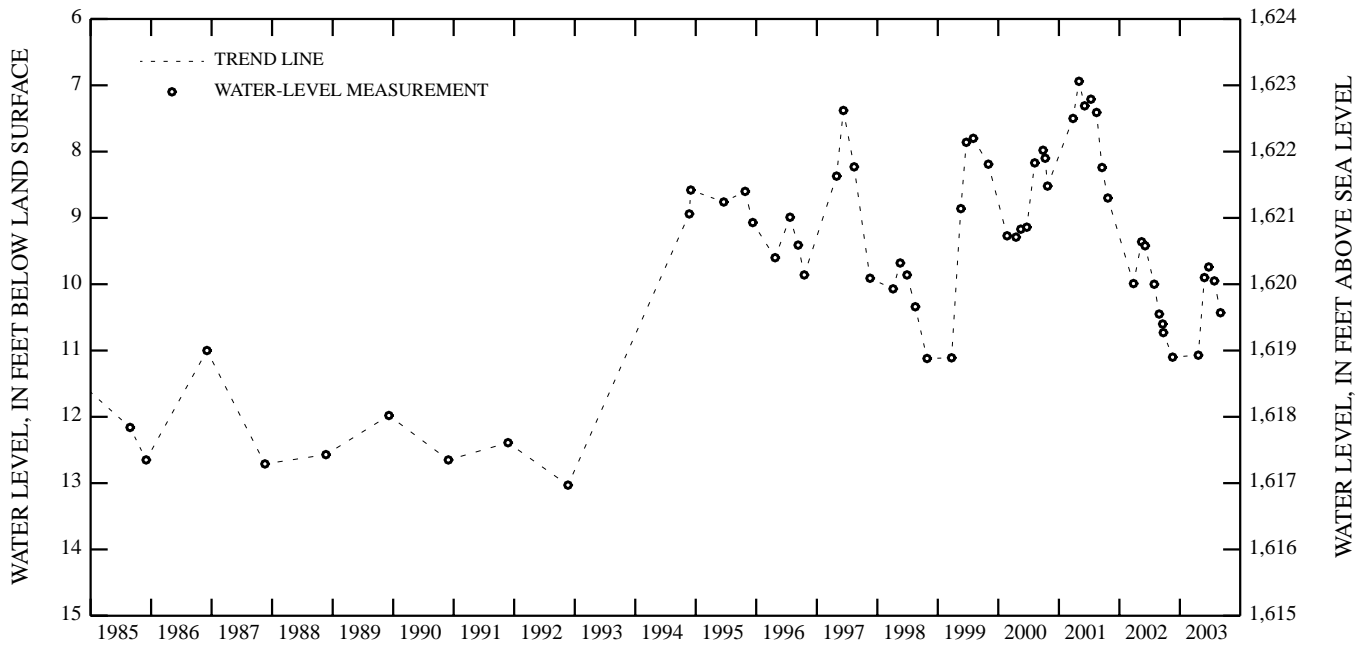
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	11.10	APR 22	11.07	MAY 29	9.90	JUN 24	9.74	JUL 28	9.95	SEP 03	10.43
WATER YEAR 2003		HIGHEST	9.74	JUN 24, 2003		LOWEST	11.10	NOV 18, 2002			

145-068-10BCC



145-068-10BCC--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 WELLS COUNTY--Continued

474419099371201. Local number, 149-070-09DAA1.

LOCATION.--Lat 47°44'19", long 99°37'12", Hydrologic Unit 10160001. Owner: North Dakota State Water Commission.

AQUIFER.--New Rockford.

WELL CHARACTERISTICS.--Drilled observation well, depth 283 ft, cased with 197 ft of 1.25-in diameter plastic pipe, slotted 177 to 197 ft below land-surface datum.

INSTRUMENTATION.--Measured using an electric tape.

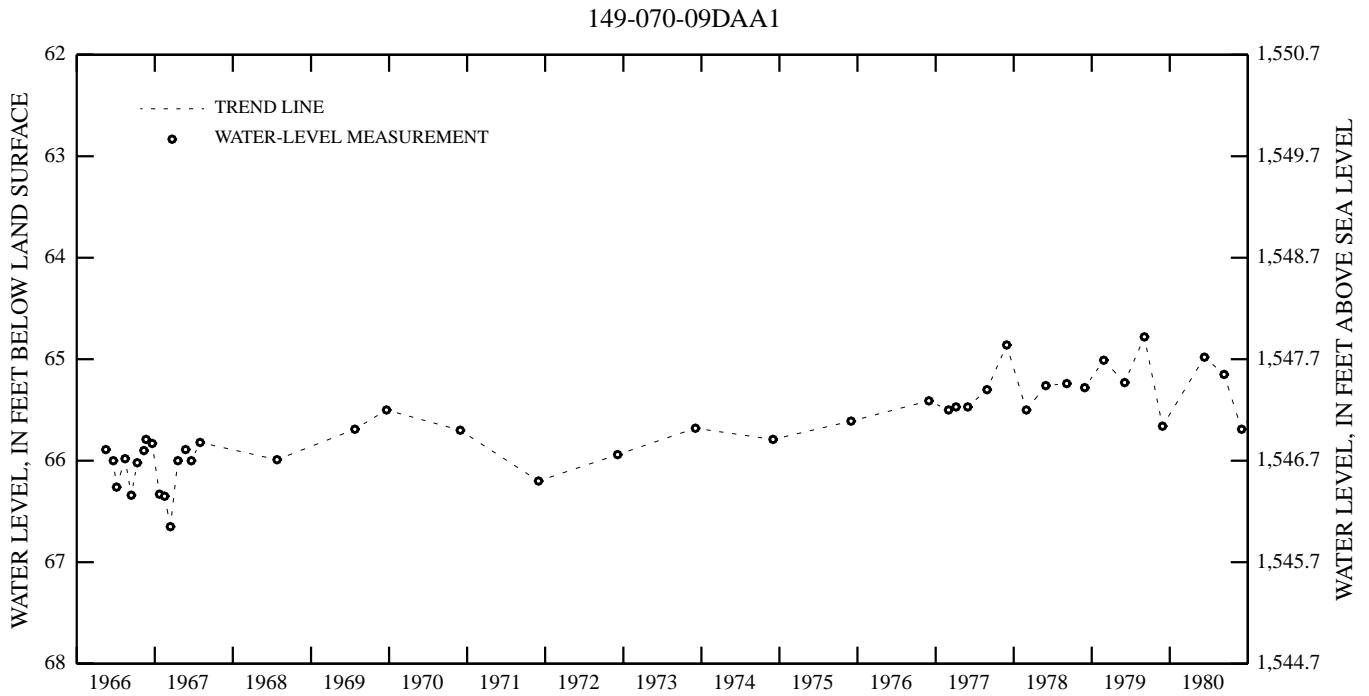
DATUM.--Altitude of land-surface datum is 1,612.7 ft. Measuring point: Top of casing 2.16 ft above land-surface datum.

PERIOD OF RECORD.--May 1966 to current year.

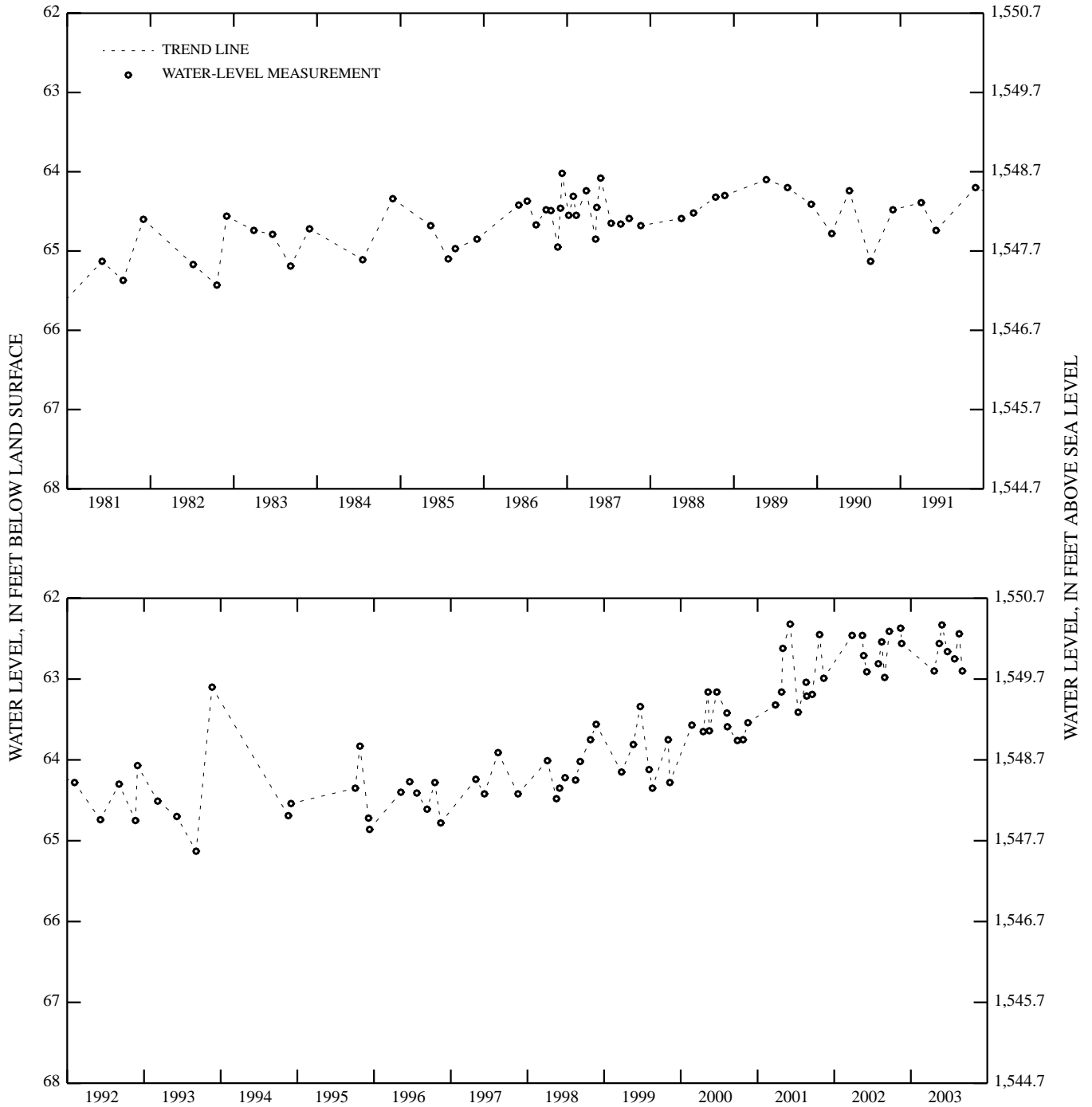
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.32 ft below land-surface datum, June 5, 2001; lowest water level, 66.65 ft below land-surface datum, March 15, 1967.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 13	62.37	APR 22	62.90	MAY 29	62.33	JUL 28	62.75	AUG 19	62.44	SEP 03	62.90
NOV 18	62.56	MAY 16	62.56	JUN 24	62.66						
WATER YEAR 2003		HIGHEST	62.33	MAY 29, 2003		LOWEST	62.90	APR 22, 2003		SEP 03, 2003	



149-070-09DAA1--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 WILLIAMS COUNTY

481056103024201. Local number, 154-096-08AAA.

LOCATION.--Lat 48°10'56", long 103°02'42", Hydrologic Unit 10110101. Owner: North Dakota State Water Commission.

AQUIFER.--Hofflund.

WELL CHARACTERISTICS.--Drilled observation well, depth 120 ft, cased with 77 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 77 to 83 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

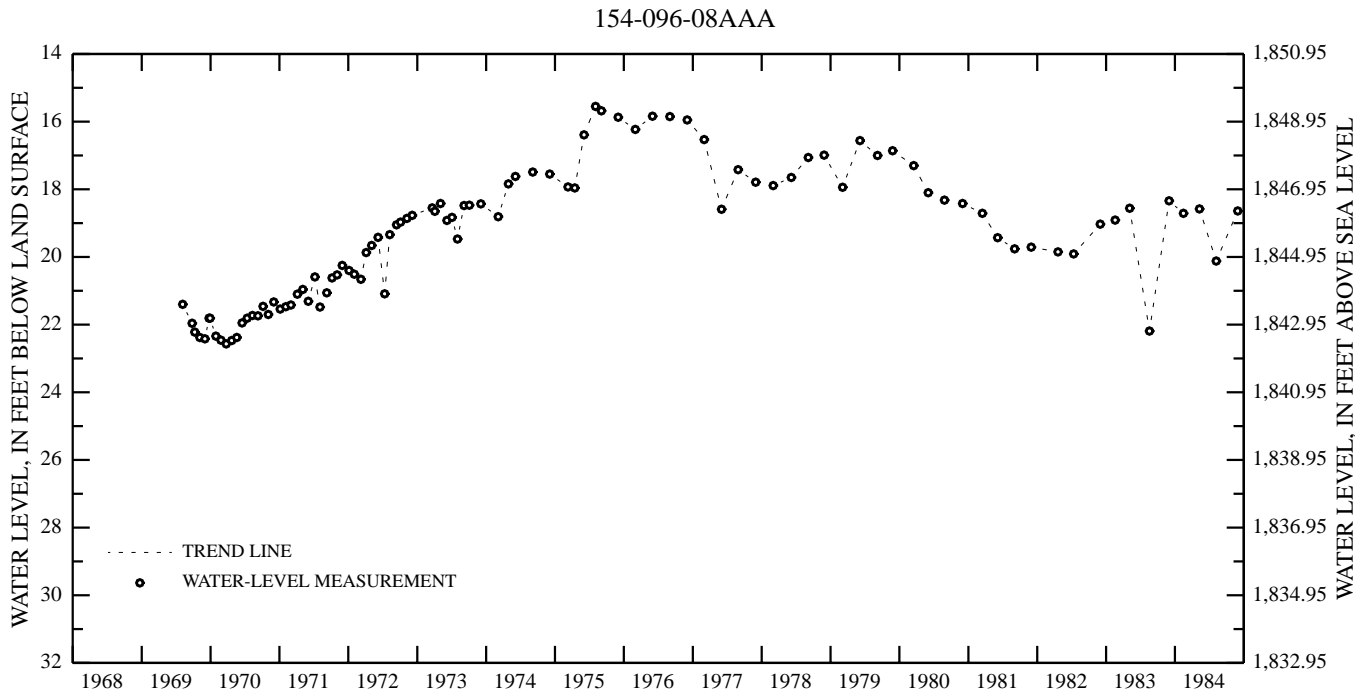
DATUM.--Altitude of land-surface datum is 1,864.95 ft. Measuring point: Top of casing 1.87 ft above land-surface datum.

PERIOD OF RECORD.--August 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.55 ft below land-surface datum, August 4, 1975; lowest water level, 31.22 ft below land-surface datum, August 26, 2003.

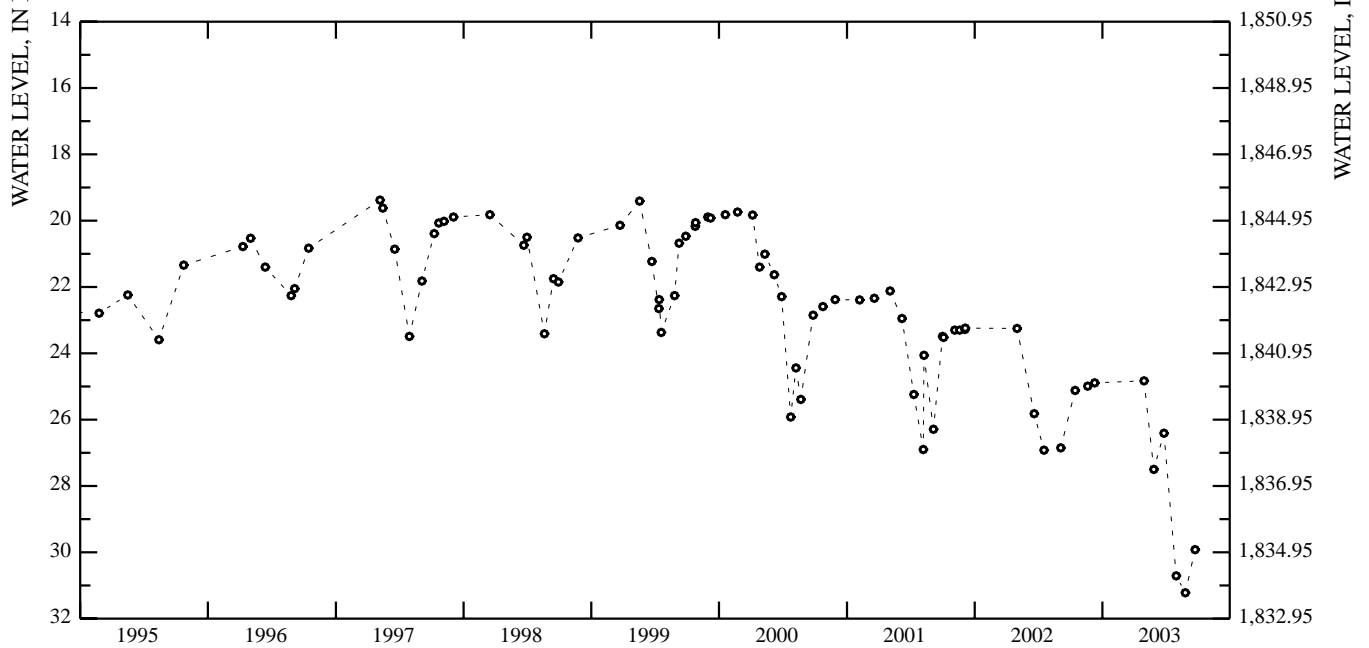
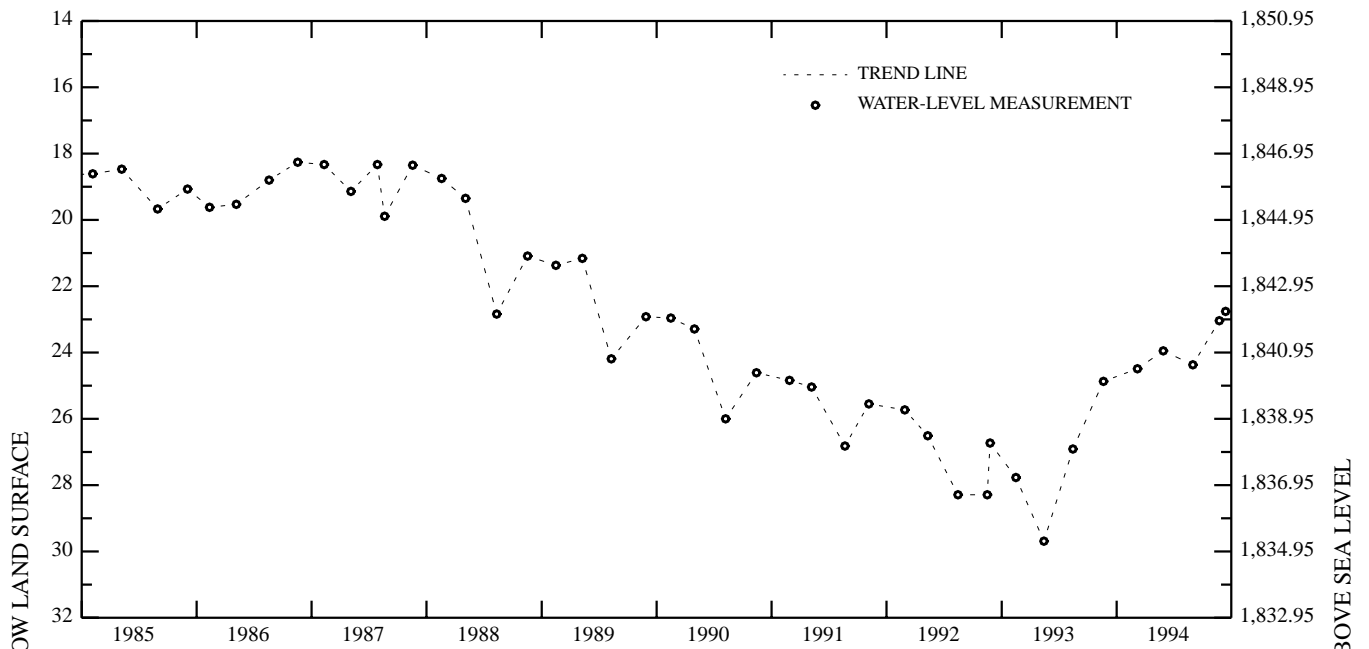
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	25.12	DEC 10	24.89	MAY 28	27.50	JUL 31	30.71	AUG 26	31.22	SEP 23	29.92
NOV 20	24.99	APR 30	24.83	JUN 26	26.41						
WATER YEAR 2003		HIGHEST	24.83	APR 30, 2003		LOWEST	31.22	AUG 26, 2003			





154-096-08AAA--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 WILLIAMS COUNTY--Continued

483016103242801. Local number, 158-099-13DDD.

LOCATION.--Lat 48°30'16", long 103°24'28", Hydrologic Unit 10110102. Owner: North Dakota State Water Commission.

AQUIFER.--Ray.

WELL CHARACTERISTICS.--Drilled observation well, depth 294 ft, cased with 255 ft of 1.25-in diameter plastic pipe, No. 18 slot screen set 255 to 257 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

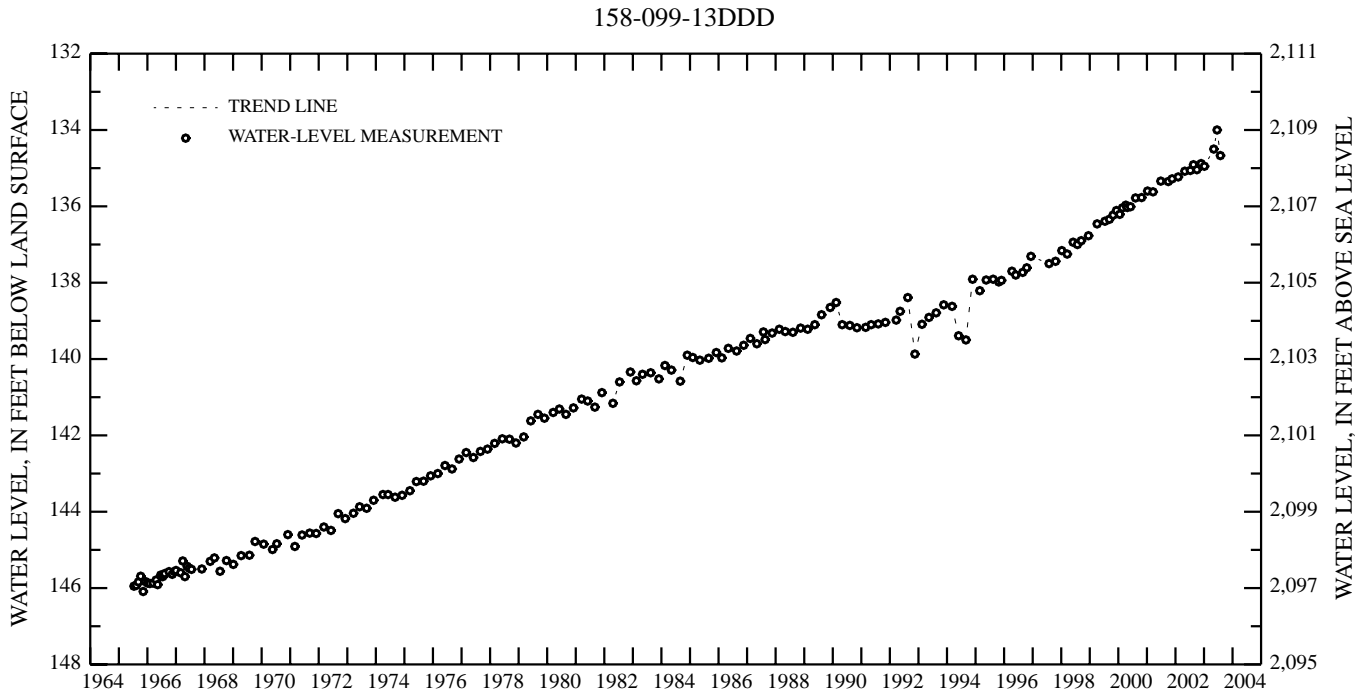
DATUM.--Altitude of land-surface datum is 2,243 ft. Measuring point: Top of casing 1.90 ft above land-surface datum.

PERIOD OF RECORD.--July 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 134.00 ft below land-surface datum, June 17, 2003; lowest water level, 146.09 ft below land-surface datum, November 8, 1965.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	135.04	NOV 25	134.88	JAN 06	134.95	MAY 06	134.50	JUN 17	134.00	JUL 29	134.67
WATER YEAR 2003		HIGHEST	134.00	JUN 17, 2003		LOWEST	135.04	OCT 02, 2002			



## GROUND-WATER LEVELS

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## NETWORK SITES--Continued

## WILLIAMS COUNTY--Continued

483127103373102. Local number, 158-100-08DAA2.

LOCATION.--Lat 48°31'27", long 103°37'31", Hydrologic Unit 10110102. Owner: North Dakota State Water Commission.

AQUIFER.--Little Muddy.

WELL CHARACTERISTICS.--Drilled observation well, depth 94 ft, cased with 78 ft of 4-in diameter plastic pipe, slotted 68 to 78 ft below land-surface datum.

INSTRUMENTATION.--Water-level recorder. From August 1966 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,997.8 ft. Measuring point: Top of casing 1.43 ft above land-surface datum.

PERIOD OF RECORD.--August 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.24 ft below land-surface datum, May 4, 1976; lowest water level, 31.70 ft below land-surface datum, August 27, 2003.

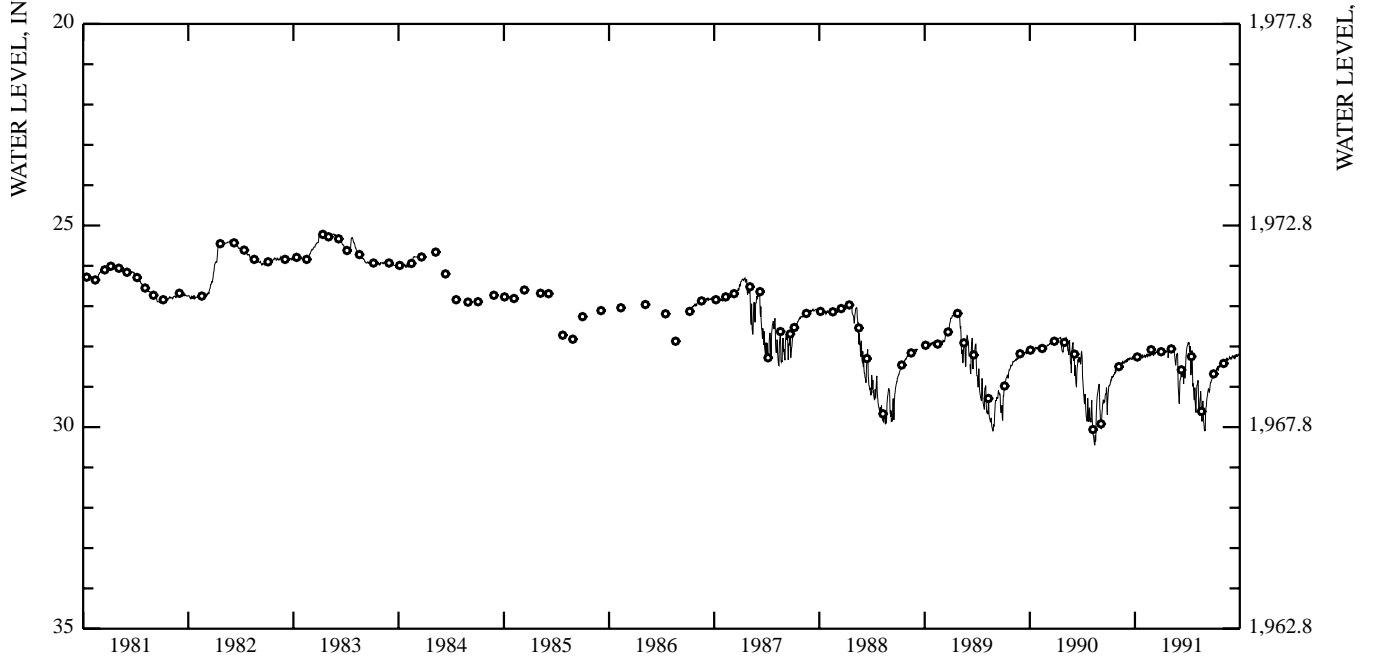
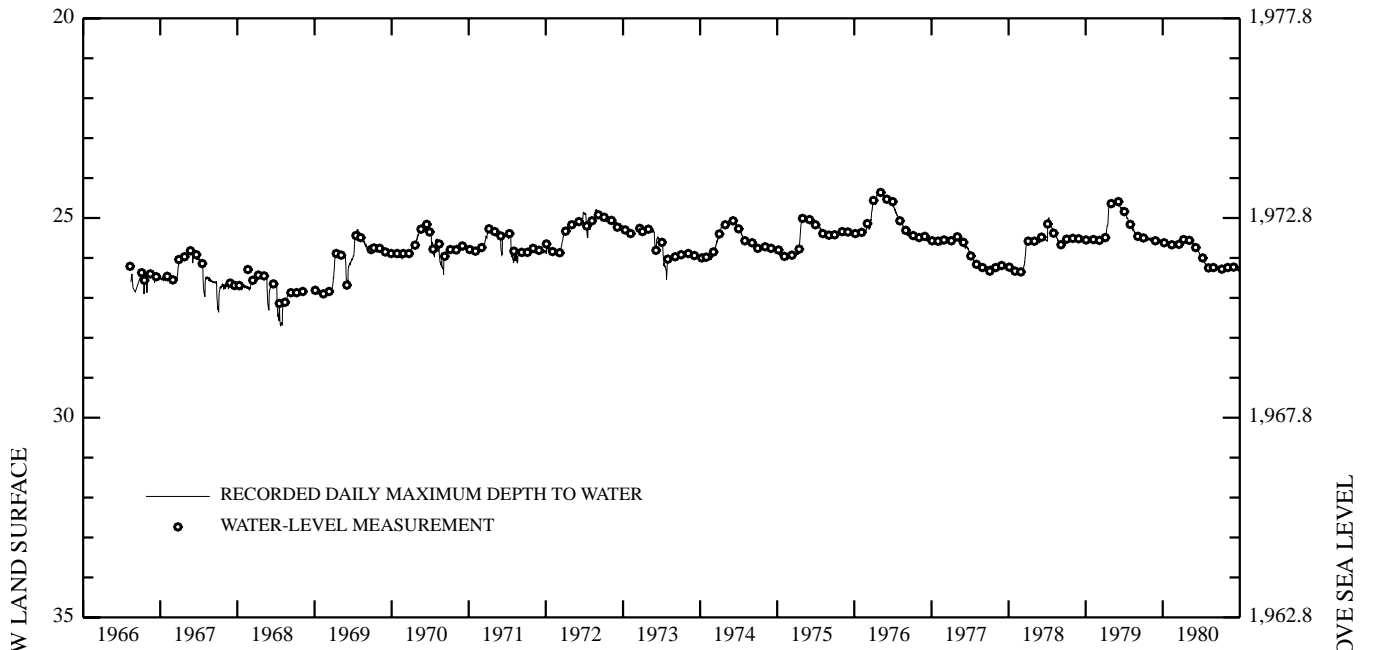
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.92	28.15	27.82	27.62	27.49	27.51	26.84	27.77	27.91	29.13	29.90	30.59
2	e28.89	28.11	27.85	27.61	27.53	27.49	26.85	26.89	27.86	29.34	30.55	30.45
3	28.85	28.12	27.86	27.56	27.53	27.46	26.81	26.99	27.76	29.36	30.45	30.19
4	28.82	28.10	27.85	27.61	27.50	27.45	26.82	27.43	27.63	29.49	29.48	30.09
5	28.78	28.08	27.77	27.62	27.48	27.43	26.80	27.34	27.59	28.47	29.24	30.96
6	28.76	28.08	27.78	27.61	27.51	27.48	26.79	26.94	27.49	28.63	29.94	31.41
7	28.67	28.03	27.80	27.55	27.49	27.49	26.81	26.84	27.43	28.67	30.15	31.45
8	28.68	28.02	27.82	27.57	27.50	27.49	26.77	26.80	27.36	29.12	30.37	31.51
9	28.62	28.06	27.74	27.60	27.47	27.48	26.70	26.74	27.29	29.26	29.70	31.49
10	28.57	28.06	27.72	27.58	27.47	27.47	26.75	26.73	27.27	28.40	29.64	30.34
11	28.59	28.05	27.72	27.56	27.52	27.45	26.70	26.70	27.21	28.23	29.82	30.11
12	28.59	28.04	27.73	27.59	27.49	27.44	26.67	26.67	27.15	29.25	30.16	29.94
13	28.53	28.00	27.68	27.59	27.48	27.44	26.67	26.62	27.13	29.72	30.38	29.86
14	28.50	28.00	27.70	27.59	27.52	27.40	26.68	26.61	27.10	29.77	30.86	29.75
15	28.48	27.99	27.67	27.56	27.51	27.41	26.65	26.58	27.13	29.64	31.02	29.61
16	28.44	27.97	27.67	27.58	27.45	27.40	26.66	26.59	27.37	29.94	31.07	29.56
17	28.39	27.95	27.64	27.54	27.46	27.36	26.62	26.57	28.13	30.03	30.22	29.51
18	28.39	27.95	27.66	27.55	27.47	27.32	26.61	26.91	28.89	29.21	30.08	29.49
19	28.39	27.93	27.67	27.53	27.47	27.28	26.61	27.56	28.96	29.20	30.18	29.38
20	28.34	27.94	27.66	27.56	27.47	27.20	26.60	27.68	28.23	29.43	30.99	29.29
21	28.35	27.94	27.65	27.58	27.48	27.13	26.58	27.91	28.07	30.27	31.31	29.28
22	28.36	27.93	27.67	27.59	27.47	27.07	26.55	28.25	27.75	30.55	31.38	29.24
23	28.32	27.93	27.67	27.57	27.48	27.00	26.55	28.75	27.90	30.63	31.47	29.16
24	28.26	27.93	27.64	27.53	27.48	27.00	26.57	28.75	28.02	30.84	31.52	29.66
25	28.23	27.93	27.61	27.57	27.42	26.98	26.56	28.72	28.07	30.85	31.64	29.99
26	28.24	27.93	27.61	27.57	27.45	26.93	26.67	28.73	28.07	30.69	31.60	29.98
27	28.23	27.84	27.61	27.52	27.46	26.94	26.72	28.78	27.74	29.97	31.70	29.21
28	28.22	27.82	27.61	27.56	27.45	26.95	26.67	29.06	28.02	29.55	31.69	29.12
29	28.23	27.88	27.60	27.56	---	26.93	27.32	29.09	28.83	29.63	30.60	29.05
30	28.21	27.87	27.63	27.53	---	26.86	27.80	28.19	28.95	29.60	30.45	29.69
31	28.17	---	27.63	27.53	---	26.82	---	28.08	---	29.52	30.59	---

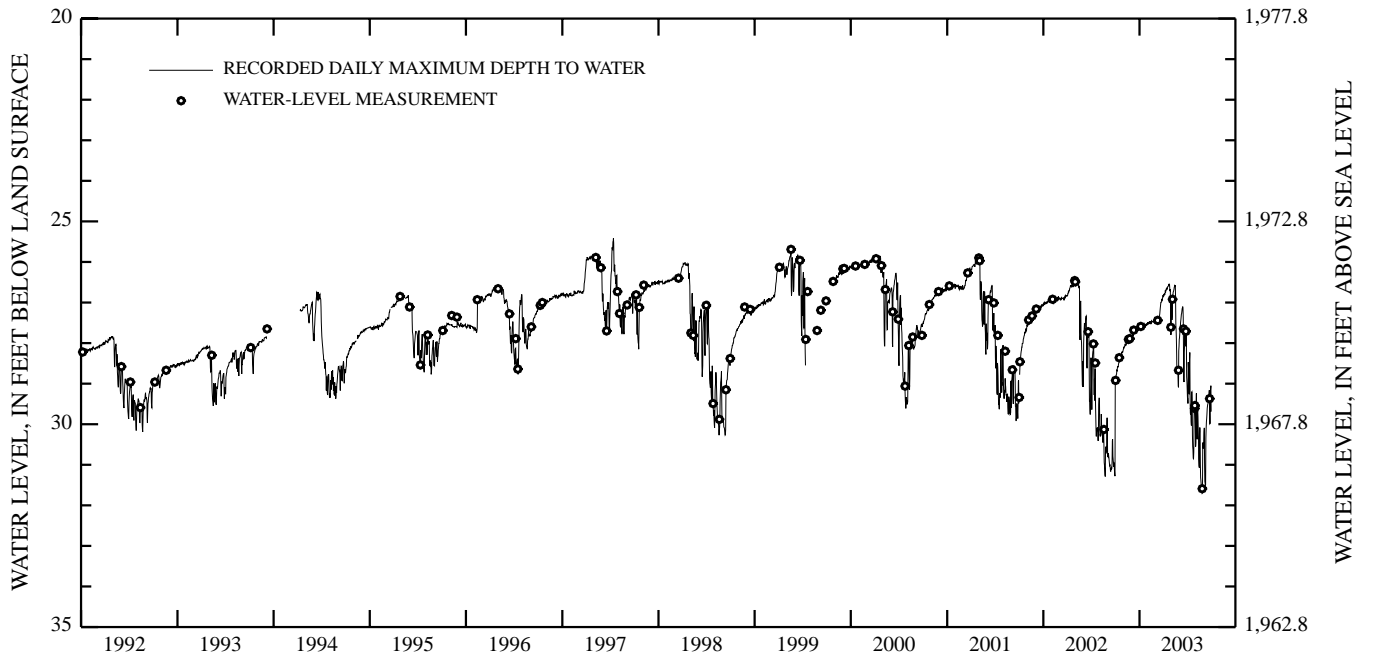
e Estimated

GROUND-WATER LEVELS  
NETWORK SITES--Continued  
WILLIAMS COUNTY--Continued

158-100-08DAA2



158-100-08DAA2--Continued



GROUND-WATER LEVELS  
 NETWORK SITES--Continued  
 WILLIAMS COUNTY--Continued

483700103191501. Local number, 159-098-10AAD.

LOCATION.--Lat 48°37'00", long 103°19'15", Hydrologic Unit 10110102. Owner: North Dakota State Water Commission.

AQUIFER.--West Wildrose.

WELL CHARACTERISTICS.--Drilled observation well, depth 260 ft, cased with 214 ft of 1.25-in diameter plastic pipe, slotted 200 to 214 ft below land-surface datum.

INSTRUMENTATION.--Measured using a steel tape.

DATUM.--Altitude of land-surface datum is 2,225 ft. Measuring point: Top of casing 3.30 ft below land-surface datum.

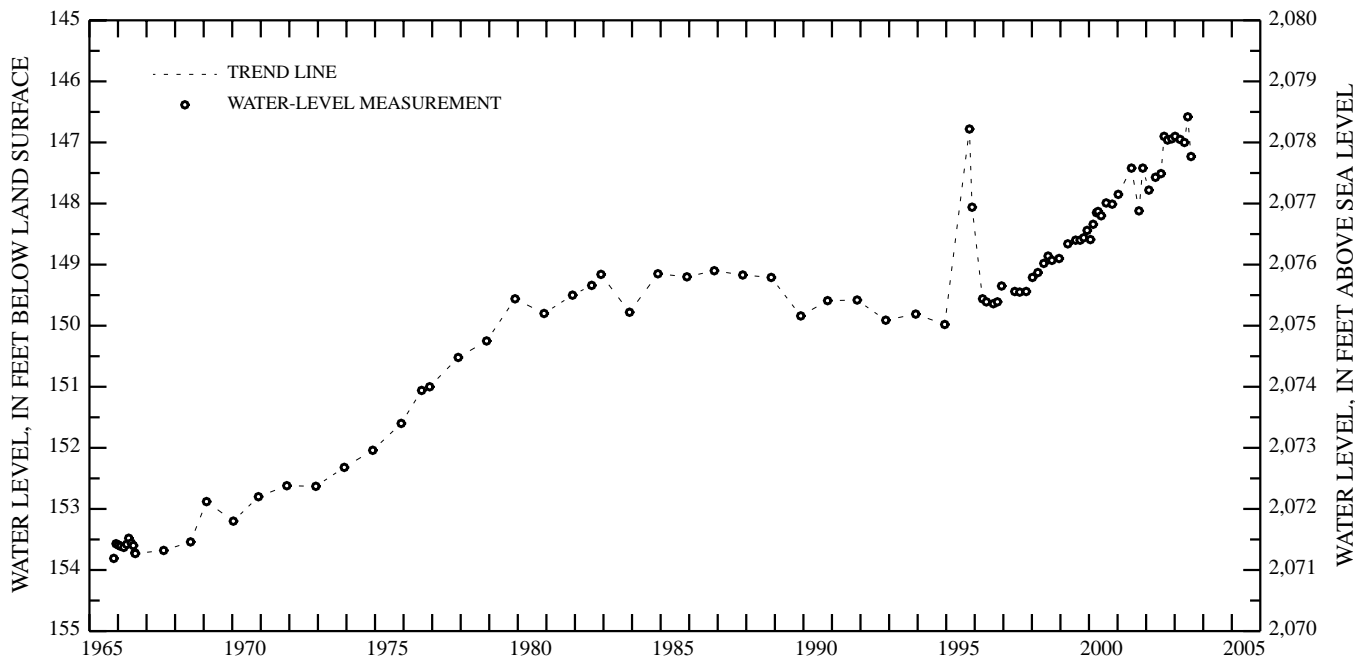
PERIOD OF RECORD.--November 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 146.58 ft below land-surface datum, June 17, 2003; lowest water level, 153.81 ft below land-surface datum, November 8, 1965.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	146.96	JAN 06	146.90	MAR 11	146.95	MAY 06	147.00	JUN 17	146.58	JUL 29	147.23
NOV 25	146.94										
WATER YEAR 2003		HIGHEST	146.58	JUN 17, 2003		LOWEST	147.23	JUL 29, 2003			

159-098-10AAD



## GROUND-WATER LEVELS

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## SHEYENNE DELTA SITES

## RANSOM COUNTY

462244097190101. Local number, 134-053-35BCAD.

LOCATION.--Lat 46°22'44", long 097°19'01", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.7 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.7 to 23.7 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,078.65 ft. Measuring point: Top of casing 0.96 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.99 ft below land-surface datum, April 29, 2002; lowest water level, 9.74 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 2002	6.99	OCT 01, 2002	9.74	APR 21, 2003	9.07	JUL 14, 2003	8.55	AUG 11, 2003	9.37
JUL 09, 2002	8.46	NOV 21, 2002	9.47	JUN 10, 2003	7.98				

462245097191001. Local number, 134-053-35BCBD.

LOCATION.--Lat 46°22'45", long 097°19'10", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.1 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.1 to 23.1 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,076.01 ft. Measuring point: Top of casing 1.46 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.81 ft below land-surface datum, April 29, 2002; lowest water level, 7.64 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 2002	4.81	OCT 01, 2002	7.64	APR 21, 2003	6.75	JUL 14, 2003	7.46	AUG 11, 2003	7.28
JUL 09, 2002	6.29	NOV 21, 2002	7.27	JUN 10, 2003	5.72				

462249097185001. Local number, 134-053-35BDAB.

LOCATION.--Lat 46°22'49", long 097°18'50", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.4 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.4 to 23.4 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,077.37 ft. Measuring point: Top of casing 2.42 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.81 ft below land-surface datum, April 29, 2002; lowest water level, 8.23 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 2002	5.81	OCT 01, 2002	8.23	APR 21, 2003	7.66	JUL 14, 2003	7.05	AUG 11, 2003	7.79
JUL 09, 2002	7.07	NOV 22, 2002	7.91	JUN 10, 2003	6.64				

## GROUND-WATER LEVELS

## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462248097185001. Local number, 134-053-35BDAB1.

LOCATION.--Lat 46°22'48", long 097°18'50", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 32 ft, cased with 25.6 ft of 3-in diameter plastic pipe, No. 10 slot screen set 25.6 to 30.6 ft below land surface.

INSTRUMENTATION.--Water-level recorder. From March 2002 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,074.3 ft. Measuring point: Top of casing 1.57 ft above land-surface datum.

PERIOD OF RECORD.--March 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.77 ft below land-surface datum, April 29, 2002; lowest water level, 5.29 ft below land-surface datum, October 1, 2002.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	4.31	2.81	2.68	4.04	4.47	4.78
2	---	---	---	---	---	---	4.28	2.86	2.69	4.07	4.49	4.83
3	---	---	---	---	---	---	4.28	2.90	2.69	4.14	4.49	4.85
4	---	---	---	---	---	---	4.28	2.92	2.69	4.15	4.52	4.90
5	---	---	---	---	---	---	4.28	2.94	2.69	4.25	4.56	4.91
6	---	---	---	---	---	---	4.28	2.95	2.69	4.28	4.56	4.93
7	---	---	---	---	---	---	---	2.97	2.69	4.28	4.60	4.98
8	---	---	---	---	---	---	4.11	2.58	3.45	3.99	4.63	5.00
9	---	---	---	---	---	---	4.03	2.31	3.47	4.09	4.63	5.00
10	---	---	---	---	---	---	3.97	2.37	3.49	3.69	4.63	5.00
11	---	---	---	---	---	---	3.89	2.38	3.57	3.77	4.68	5.02
12	---	---	---	---	---	---	3.83	2.14	3.61	3.87	4.69	5.04
13	---	---	---	---	---	---	3.78	2.19	3.61	3.99	4.71	5.05
14	---	---	---	---	---	4.33	3.68	2.22	3.51	4.10	4.72	5.06
15	---	---	---	---	---	4.32	3.60	2.33	3.63	4.24	4.74	5.07
16	---	---	---	---	---	4.32	3.52	2.39	3.70	4.31	4.74	5.09
17	---	---	---	---	---	4.32	3.43	2.42	3.74	4.33	4.50	5.12
18	---	---	---	---	---	4.29	3.35	2.48	3.79	4.09	4.59	5.14
19	---	---	---	---	---	4.29	3.12	2.52	3.75	4.13	4.72	5.17
20	---	---	---	---	---	4.29	3.09	2.55	3.61	4.25	4.73	5.19
21	---	---	---	---	---	4.29	3.08	2.59	3.61	4.25	4.70	5.20
22	---	---	---	---	---	4.29	2.98	2.61	3.69	4.32	4.73	5.21
23	---	---	---	---	---	4.29	2.97	2.62	3.68	4.32	4.58	5.22
24	---	---	---	---	---	4.29	2.96	2.62	3.42	4.33	4.70	5.23
25	---	---	---	---	---	4.29	2.94	2.62	3.53	4.36	4.75	5.23
26	---	---	---	---	---	4.29	2.96	2.63	3.62	4.41	4.77	5.24
27	---	---	---	---	---	4.30	2.95	2.63	3.74	4.34	4.80	5.25
28	---	---	---	---	---	4.32	2.70	2.63	3.83	4.35	4.81	5.25
29	---	---	---	---	---	4.32	2.78	2.63	3.91	4.26	4.81	5.25
30	---	---	---	---	---	4.32	2.80	2.68	3.98	4.40	4.81	5.26
31	---	---	---	---	---	4.32	---	2.68	---	4.45	4.75	---



## GROUND-WATER LEVELS

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## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462248097185001. Local number, 134-053-35BDAB1.--Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.28	5.04	5.24	5.39	5.61	5.79	5.59	4.63	3.92	3.79	4.85	5.60
2	---	5.04	5.27	5.39	5.61	5.79	5.59	4.63	3.92	3.81	4.88	5.63
3	5.28	5.06	5.29	5.39	5.62	5.81	5.57	4.62	3.92	3.86	4.90	5.67
4	5.26	5.06	5.29	5.40	5.62	5.81	5.57	4.61	3.93	3.86	4.94	5.67
5	5.21	5.06	5.30	5.40	5.63	5.82	5.57	4.44	3.96	3.79	4.94	5.69
6	5.21	5.06	5.31	5.40	5.63	5.84	5.55	4.32	3.86	4.03	4.99	5.71
7	4.98	5.06	5.31	5.40	5.65	5.85	5.52	4.29	3.87	4.11	5.02	5.74
8	5.02	5.06	5.33	5.40	5.66	5.85	5.52	4.29	3.88	4.15	5.06	5.78
9	5.03	5.06	5.33	5.40	5.66	5.86	5.47	4.24	3.95	4.15	5.06	5.78
10	5.03	5.08	5.33	5.40	5.67	5.86	5.45	4.10	3.84	3.97	4.99	5.78
11	5.05	5.08	5.34	5.41	5.69	5.87	5.44	4.09	3.83	4.08	5.07	5.80
12	5.07	5.08	5.34	5.43	5.69	5.88	5.43	4.05	3.83	4.14	5.10	5.81
13	5.09	5.08	5.35	5.44	5.70	5.88	5.40	4.05	3.84	4.23	5.15	5.80
14	5.10	5.08	5.35	5.45	5.71	5.89	5.37	3.78	3.97	4.36	5.18	5.73
15	5.10	5.09	5.36	5.46	5.71	5.89	5.36	3.79	4.05	4.40	5.20	5.77
16	5.10	5.10	5.36	5.47	5.71	5.89	5.33	3.82	4.10	4.46	5.24	5.78
17	5.11	5.10	5.37	5.49	5.71	5.89	5.17	3.82	3.80	4.49	5.28	5.80
18	5.10	5.10	5.36	5.49	5.71	5.88	5.08	3.55	3.96	4.54	5.30	5.80
19	5.07	5.10	5.36	5.50	5.73	5.85	5.00	3.58	4.07	4.57	5.33	5.66
20	5.08	5.10	5.36	5.51	5.74	5.81	4.91	3.58	4.17	4.57	5.36	5.72
21	5.08	5.14	5.36	5.53	5.74	5.78	4.87	3.59	4.25	4.38	5.41	5.72
22	5.06	5.14	5.36	5.54	5.75	5.77	4.80	3.58	3.94	4.49	5.41	5.76
23	5.05	5.13	5.36	5.54	5.75	5.76	4.78	3.59	3.94	4.58	5.45	5.78
24	5.04	5.15	5.36	5.55	5.75	5.71	4.73	3.59	3.94	4.63	5.45	5.81
25	5.01	5.17	5.36	5.56	5.76	5.66	4.71	3.58	3.49	4.64	5.46	5.81
26	4.97	5.19	5.37	5.57	5.76	5.66	4.70	3.67	3.47	4.68	5.50	5.82
27	4.97	5.22	5.37	5.58	5.78	5.65	4.67	3.68	3.49	4.71	5.54	5.83
28	4.97	5.22	5.38	5.60	5.78	5.65	4.65	3.75	3.50	4.76	5.54	5.84
29	4.99	5.22	5.38	5.60	---	5.64	4.65	3.78	3.63	4.78	5.56	5.84
30	5.00	5.23	5.39	5.61	---	5.64	4.64	3.83	3.71	4.84	5.57	5.84
31	5.02	---	5.39	5.61	---	5.63	---	3.87	---	4.82	5.59	---

## GROUND-WATER LEVELS

## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462247097184901. Local number, 134-053-35BDAB2.

LOCATION.--Lat 46°22'47", long 097°18'49", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 20 ft, cased with 14 ft of 2-in diameter plastic pipe, No. 10 slot screen set 14 to 19 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,077.93 ft. Measuring point: Top of casing 1.60 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.30 ft below land-surface datum, July 9, 2002; lowest water level, 8.80 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 2002	6.28	OCT 01, 2002	8.80	APR 21, 2003	8.32	JUL 14, 2003	7.76	AUG 11, 2003	8.52
JUL 09, 2002	5.30	NOV 21, 2002	8.65	JUN 10, 2003	7.31				

462248097185003. Local number, 134-053-35BDAB3.

LOCATION.--Lat 46°22'48", long 097°18'50", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 10 ft, cased with 3.91 ft of 2-in diameter plastic pipe, No. 10 slot screen set 3.91 to 8.91 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,074.88 ft. Measuring point: Top of casing 0.90 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to July 9, 2002.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.29 ft below land-surface datum, April 29, 2002; lowest water level, 4.64 ft below land-surface datum, July 9, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 2002	3.29	JUL 09, 2002	4.64

462248097185004. Local number, 134-053-35BDAB4.

LOCATION.--Lat 46°22'48", long 097°18'50", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 14 ft, cased with 8.5 ft of 2-in diameter plastic pipe, No. 10 slot screen set 8.5 to 13.5 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,074.97 ft. Measuring point: Top of casing 1.99 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.41 ft below land-surface datum, April 29, 2002; lowest water level, 5.87 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 2002	3.41	AUG 26, 2002	5.39	NOV 21, 2002	5.73	JUN 10, 2003	4.42	AUG 11, 2003	5.61
JUL 09, 2002	4.72	OCT 01, 2002	5.87	APR 21, 2003	5.52	JUL 14, 2003	4.86		

## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462248097185301. Local number, 134-053-35BDBA.

LOCATION.--Lat 46°22'48", long 097°18'53", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 17.6 ft of 2-in diameter plastic pipe, No. 10 slot screen set 17.6 to 22.6 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,073.05 ft. Measuring point: Top of casing 1.96 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.48 ft below land-surface datum, April 29, 2002; lowest water level, 3.99 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 2002	1.48	OCT 01, 2002	3.99	APR 21, 2003	3.52	JUL 14, 2003	3.01	AUG 11, 2003	3.77
JUL 09, 2002	2.86	NOV 21, 2002	3.83	JUN 10, 2003	2.51				

462243097185201. Local number, 134-053-35BDBD.

LOCATION.--Lat 46°22'43", long 097°18'52", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18 to 23 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,075.85 ft. Measuring point: Top of casing 1.59 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.13 ft below land-surface datum, April 29, 2002; lowest water level, 6.83 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 2002	4.13	OCT 01, 2002	6.83	APR 21, 2003	6.21	JUL 14, 2003	5.71	AUG 11, 2003	6.51
JUL 09, 2002	5.66	NOV 21, 2002	6.60	JUN 10, 2003	5.16				

462653097243901. Local number, 134-054-01DABC.

LOCATION.--Lat 46°26'53", long 097°24'39", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.1 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.1 to 23.1 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,073.54 ft. Measuring point: Top of casing 1.57 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.75 ft below land-surface datum, April 29, 2002; lowest water level, 8.23 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07, 2001	5.93	JUL 09, 2002	6.56	OCT 01, 2002	8.23	APR 21, 2003	8.00	JUL 14, 2003	6.35
APR 29, 2002	5.75	AUG 27, 2002	7.63	NOV 22, 2002	8.22	JUN 10, 2003	6.20	AUG 07, 2003	7.19

## GROUND-WATER LEVELS

## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462651097243901. Local number, 134-054-01DACB.

LOCATION.--Lat 46°26'51", long 097°24'39", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 16.8 ft of 2-in diameter plastic pipe, No. 10 slot screen set 16.8 to 21.8 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,071.98 ft. Measuring point: Top of casing 2.09 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.11 ft below land-surface datum, April 29, 2002; lowest water level, 6.65 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07, 2001	4.32	JUL 09, 2002	4.96	OCT 01, 2002	6.65	APR 21, 2003	6.37	JUL 14, 2003	4.77
APR 29, 2002	4.11	AUG 27, 2002	6.06	NOV 22, 2002	6.62	JUN 10, 2003	4.53	AUG 07, 2003	5.60

462653097244301. Local number, 134-054-01DEAD.

LOCATION.--Lat 46°26'53", long 097°24'43", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 17.8 ft of 2-in diameter plastic pipe, No. 10 slot screen set 17.8 to 22.8 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,071.9 ft. Measuring point: Top of casing 1.89 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.15 ft below land-surface datum, April 29, 2002; lowest water level, 6.73 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07, 2001	4.40	JUL 09, 2002	5.02	OCT 01, 2002	6.73	APR 21, 2003	6.41	JUL 14, 2003	4.82
APR 29, 2002	4.15	AUG 27, 2002	6.15	NOV 22, 2002	6.69	JUN 10, 2003	4.62	AUG 07, 2003	5.72

## GROUND-WATER LEVELS

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## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462832097242101. Local number, 135-053-30CBCC.

LOCATION.--Lat 46°28'32", long 097°24'21", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 32 ft, cased with 25.4 ft of 3-in diameter plastic pipe, No. 10 slot screen set 25.4 to 30.4 ft below land surface.

INSTRUMENTATION.--Water-level recorder. From May 2002 to current year, daily maximum and minimum recorded water levels also are available.

DATUM.--Altitude of land-surface datum is 1,068.38 ft. Measuring point: Top of casing 1.96 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.84 ft below land-surface datum, April 30, 2002; lowest water level, 8.10 ft below land-surface datum, November 21, 2002.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	5.85	6.01	---	7.01	7.54
2	---	---	---	---	---	---	---	5.85	6.03	---	7.04	7.54
3	---	---	---	---	---	---	---	5.87	6.05	---	7.06	7.55
4	---	---	---	---	---	---	---	5.87	---	---	7.10	7.58
5	---	---	---	---	---	---	---	5.87	---	---	7.12	7.59
6	---	---	---	---	---	---	---	5.89	---	---	7.13	7.60
7	---	---	---	---	---	---	---	5.89	---	---	7.17	7.63
8	---	---	---	---	---	---	---	5.79	---	---	7.19	7.66
9	---	---	---	---	---	---	---	5.67	---	---	7.22	7.69
10	---	---	---	---	---	---	---	5.65	---	---	7.22	7.69
11	---	---	---	---	---	---	---	5.64	---	---	7.26	7.71
12	---	---	---	---	---	---	---	5.54	---	---	7.30	7.72
13	---	---	---	---	---	---	---	5.53	---	---	7.30	7.74
14	---	---	---	---	---	---	---	5.51	---	---	7.30	7.74
15	---	---	---	---	---	---	---	5.49	---	---	7.32	7.76
16	---	---	---	---	---	---	---	5.50	---	---	7.32	7.76
17	---	---	---	---	---	---	---	5.51	---	6.69	7.27	7.79
18	---	---	---	---	---	---	---	5.53	---	6.59	7.31	7.81
19	---	---	---	---	---	---	---	5.56	---	6.60	7.36	7.81
20	---	---	---	---	---	---	---	5.59	---	6.67	7.41	7.81
21	---	---	---	---	---	---	---	5.61	---	6.67	7.41	7.81
22	---	---	---	---	---	---	---	5.63	---	6.74	7.41	7.81
23	---	---	---	---	---	---	---	5.68	---	6.76	7.39	7.81
24	---	---	---	---	---	---	---	5.70	---	6.78	7.39	7.81
25	---	---	---	---	---	---	---	5.72	---	6.82	7.42	7.81
26	---	---	---	---	---	---	---	5.76	---	6.86	7.44	7.82
27	---	---	---	---	---	---	---	5.79	---	6.85	7.52	7.82
28	---	---	---	---	---	---	---	5.83	---	6.86	7.52	7.82
29	---	---	---	---	---	---	---	5.87	---	6.90	7.52	7.82
30	---	---	---	---	---	---	---	5.93	---	6.97	7.52	7.81
31	---	---	---	---	---	---	---	5.96	---	7.01	7.54	---

## GROUND-WATER LEVELS

## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462832097242101. Local number, 135-053-30CBCC.--Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	8.07	8.10	8.22	8.25	8.25	8.49	7.89	6.37	6.35	7.13	8.02
2	8.10	8.07	8.10	8.22	8.25	8.25	8.49	7.88	6.36	6.35	7.18	8.06
3	8.10	8.10	8.10	8.23	8.25	8.25	8.49	7.86	6.36	---	7.21	8.08
4	8.10	8.10	8.10	8.23	8.25	8.25	8.49	7.83	6.36	---	7.24	8.10
5	8.08	8.10	8.13	8.23	8.25	8.25	8.49	7.73	6.36	---	7.25	8.12
6	8.08	8.10	8.13	8.23	8.25	8.25	8.48	7.63	6.36	---	7.28	8.14
7	7.89	8.10	8.13	8.25	8.25	8.25	8.48	7.55	6.36	---	7.33	8.17
8	7.93	8.12	8.14	8.25	8.25	8.25	8.48	7.49	6.36	---	7.36	8.20
9	7.95	8.12	8.14	8.25	8.25	8.25	8.46	7.42	6.37	---	7.38	8.21
10	7.97	8.12	8.14	8.25	8.25	8.25	8.45	7.30	6.37	---	7.34	8.21
11	7.99	8.12	8.16	8.25	8.25	8.25	8.45	7.22	6.37	---	7.38	8.19
12	8.03	8.12	8.17	8.25	8.25	8.25	8.44	7.17	6.35	---	7.41	8.22
13	8.04	8.12	8.17	8.25	8.25	8.25	8.43	7.14	6.35	---	7.45	8.21
14	8.04	8.12	8.17	8.25	8.25	8.43	8.41	6.81	6.35	---	7.49	8.17
15	8.07	8.14	8.19	8.25	8.25	8.44	8.39	6.81	6.35	6.56	7.53	8.20
16	8.07	8.14	8.20	8.25	8.25	8.54	8.35	6.81	6.35	6.64	7.56	8.22
17	8.08	8.14	8.20	8.25	8.25	8.54	8.33	6.37	6.35	6.66	7.60	8.23
18	8.08	8.14	8.20	8.25	8.25	8.54	8.29	6.37	6.35	6.70	7.63	8.23
19	8.07	8.15	8.20	8.25	8.25	8.54	8.24	6.37	6.35	6.74	7.67	8.19
20	8.09	8.15	8.20	8.25	8.25	8.54	8.19	6.37	6.35	6.74	7.70	8.22
21	8.09	8.16	8.20	8.25	8.25	8.54	8.12	6.37	6.35	6.78	7.74	8.23
22	8.09	8.10	8.20	8.25	8.25	8.54	8.04	6.37	6.35	6.83	7.77	8.24
23	8.09	8.10	8.21	8.25	8.25	8.54	8.04	6.37	6.35	6.87	7.80	8.26
24	8.09	8.10	8.21	8.25	8.25	8.54	8.00	6.37	6.35	6.93	7.83	8.27
25	8.08	8.10	8.21	8.25	8.25	8.53	7.99	6.37	6.35	6.95	7.86	8.27
26	8.04	8.10	8.21	8.25	8.25	8.53	7.96	6.37	6.35	7.01	7.90	8.29
27	8.04	8.10	8.21	8.25	8.25	8.53	7.94	6.37	6.35	7.03	7.92	8.29
28	8.04	8.10	8.22	8.25	8.25	8.53	7.91	6.37	6.35	7.08	7.94	8.30
29	8.04	8.10	8.22	8.25	---	8.52	7.91	6.37	6.35	7.12	7.97	8.31
30	8.06	8.10	8.22	8.25	---	8.52	7.91	6.37	6.35	7.16	7.99	8.32
31	8.06	---	8.22	8.25	---	8.52	---	6.37	---	7.08	8.00	---

## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462826097241101. Local number, 135-053-30CCAC.

LOCATION.--Lat 46°28'26", long 097°24'11", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.6 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.6 to 23.6 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,071.01 ft. Measuring point: Top of casing 1.20 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.11 ft below land-surface datum, April 30, 2002; lowest water level, 10.37 ft below land-surface datum, November 21, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 2001	8.31	JUL 09, 2002	8.74	OCT 02, 2002	10.26	APR 21, 2003	10.30	JUL 14, 2003	8.72
APR 30, 2002	8.11	AUG 27, 2002	9.72	NOV 21, 2002	10.37	JUN 11, 2003	8.67	AUG 11, 2003	9.55

462827097241801. Local number, 135-053-30CCBA1.

LOCATION.--Lat 46°28'27", long 097°24'18", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 17.8 ft of 2-in diameter plastic pipe, No. 10 slot screen set 17.8 to 22.8 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,070.78 ft. Measuring point: Top of casing 1.83 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.77 ft below land-surface datum, April 30, 2002; lowest water level, 10.05 ft below land-surface datum, November 21, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 2001	8.07	JUL 09, 2002	8.44	OCT 01, 2002	9.98	APR 21, 2003	9.95	JUL 14, 2003	8.47
APR 30, 2002	7.77	AUG 27, 2002	9.46	NOV 21, 2002	10.05	JUN 11, 2003	8.33	AUG 11, 2003	9.28

462828097241401. Local number, 135-053-30CCBA2.

LOCATION.--Lat 46°28'28", long 097°24'14", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.3 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.3 to 23.3 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,072.43 ft. Measuring point: Top of casing 1.45 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.61 ft below land-surface datum, April 30, 2002; lowest water level, 11.87 ft below land-surface datum, November 21, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 2001	9.88	JUL 09, 2002	10.24	OCT 01, 2002	11.77	APR 21, 2003	11.79	JUL 14, 2003	10.25
APR 30, 2002	9.61	AUG 27, 2002	11.25	NOV 21, 2002	11.87	JUN 11, 2003	10.17	AUG 11, 2003	11.07

## GROUND-WATER LEVELS

## SHEYENNE DELTA SITES--Continued

## RANSOM COUNTY--Continued

462830097242001. Local number, 134-053-30CCBB1.

LOCATION.--Lat 46°28'30", long 097°24'20", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.4 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.4 to 23.4 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,064.68 ft. Measuring point: Top of casing 1.56 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.96 ft below land-surface datum, April 30, 2002; lowest water level, 4.20 ft below land-surface datum, November 21, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 2001	2.26	JUL 09, 2002	2.62	OCT 01, 2002	4.14	APR 21, 2003	4.14	JUL 14, 2003	2.62
APR 30, 2002	1.96	AUG 27, 2002	4.01	NOV 21, 2002	4.20	JUN 11, 2003	2.51	AUG 11, 2003	3.44

462828097242301. Local number, 134-053-30CCBB2.

LOCATION.--Lat 46°28'28", long 097°24'23", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 17.9 ft of 2-in diameter plastic pipe, No. 10 slot screen set 17.9 to 22.9 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,068.06 ft. Measuring point: Top of casing 1.76 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.16 ft below land-surface datum, April 30, 2002; lowest water level, 7.44 ft below land-surface datum, November 21, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 2001	5.51	JUL 09, 2002	5.86	OCT 01, 2002	7.40	APR 21, 2003	7.34	JUL 14, 2003	5.89
APR 30, 2002	5.16	AUG 27, 2002	6.91	NOV 21, 2002	7.44	JUN 11, 2003	5.72	AUG 11, 2003	6.71

462824097241801. Local number, 134-053-30CCBD.

LOCATION.--Lat 46°28'24", long 097°24'18", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18 to 23 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,068.77 ft. Measuring point: Top of casing 1.81 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.54 ft below land-surface datum, April 30, 2002; lowest water level, 7.85 ft below land-surface datum, November 21, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 2001	5.84	JUL 09, 2002	6.24	OCT 01, 2002	7.80	APR 21, 2003	7.74	JUL 14, 2003	6.30
APR 30, 2002	5.54	AUG 27, 2002	7.27	NOV 21, 2002	7.85	JUN 11, 2003	6.15	AUG 11, 2003	7.11



## SHEYENNE DELTA SITES--Continued

## RICHLAND COUNTY

462303097124401. Local number, 134-052-27CDCC.

LOCATION.--Lat 46°23'03", long 097°12'44", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 14.6 ft of 2-in diameter plastic pipe, No. 10 slot screen set 14.6 to 19.6 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,075.26 ft. Measuring point: Top of casing 1.12 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.02 ft below land-surface datum, April 29, 2002; lowest water level, 8.14 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07, 2001	5.65	JUL 09, 2002	5.91	OCT 01, 2002	8.14	APR 21, 2003	7.83	JUL 14, 2003	6.19
APR 29, 2002	4.02	AUG 26, 2002	7.50	NOV 22, 2002	7.89	JUN 10, 2003	5.74	AUG 12, 2003	7.36

462259097124001. Local number, 134-052-34BABA.

LOCATION.--Lat 46°22'59", long 097°12'40", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.6 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.6 to 23.6 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,077.39 ft. Measuring point: Top of casing 0.56 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.51 ft below land-surface datum, April 29, 2002; lowest water level, 9.52 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07, 2001	7.09	JUL 09, 2002	7.24	OCT 01, 2002	9.52	APR 21, 2003	9.16	JUL 14, 2003	7.53
APR 29, 2002	5.51	AUG 26, 2002	8.85	NOV 22, 2002	9.31	JUN 10, 2003	7.13	AUG 12, 2003	8.70

462257097124501. Local number, 134-052-34BABC.

LOCATION.--Lat 46°22'57", long 097°12'45", Hydrologic Unit 09020204. Owner: U. S. Forest Service.

AQUIFER.--Sheyenne Delta.

WELL CHARACTERISTICS.--Drilled observation well, depth 24 ft, cased with 18.7 ft of 2-in diameter plastic pipe, No. 10 slot screen set 18.7 to 23.7 ft below land surface.

INSTRUMENTATION.--Measured using an electric tape.

DATUM.--Altitude of land-surface datum is 1,077.94 ft. Measuring point: Top of casing 0.98 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.77 ft below land-surface datum, April 29, 2002; lowest water level, 10.36 ft below land-surface datum, October 1, 2002.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEARS OCTOBER 2001 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07, 2001	7.99	JUL 09, 2002	8.20	OCT 01, 2002	10.36	APR 21, 2003	10.24	JUL 14, 2003	8.35
APR 29, 2002	6.77	AUG 26, 2002	9.67	NOV 22, 2002	10.23	JUN 10, 2003	8.18	AUG 12, 2003	9.54

GROUND-WATER QUALITY

NETWORK SITES

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

County	Station number	Local identifier	Geologic unit	Date	Time	Depth of well, feet below LSD (72008)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
BURKE	485618102455401	163-093-17DDD	112CLMB	09-16-03	1630	76	7.2	7.7
BURLEIGH	470556100142501	142-075-19CCB	112WGCL	07-21-03	1145	210	8.1	8.0
DIVIDE	484746104015901	161-103-02CCB	112SKJL	09-16-03	1300	96	7.3	7.8
DIVIDE	485432103151701	163-097-34ABB	112CRSL	09-16-03	1500	378	7.9	8.3
DUNN	471323102290101	143-093-09BCB	125SNLB	09-15-03	1200	396	10.2	10.1
LaMOURE	462447098432602	134-064-22BBB2	112EDGL	07-23-03	1530	32	7.4	7.4
MOUNTRAIL	480120101571901	152-088-04BBBD1	125SNLB	09-17-03	0930	71	7.3	7.8
MOUNTRAIL	480120101571902	152-088-04BBBD2	125SNLB	09-17-03	1000	87	8.0	8.1
RICHLAND	460358096581401	130-050-17DDD	112MLCL	07-23-03	1040	60	7.5	8.0
WILLIAMS	481056103024201	154-096-08AAA	112HFLD	09-16-03	0915	83	7.9	8.0

Local identifier	Specif. conductance, wat unfltrd lab, uS/cm (90095)	Specif. conductance, wat unfltrd lab, uS/cm (00095)	Temperature, deg C (00010)	Noncarb hardness, wat fltrd lab, mg/L as CaCO3 (00905)	Noncarb hardness, water, unfltrd lab, mg/L as CaCO3 (95902)	Calcium, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)
163-093-17DDD	3610	3640	8.5	2100	1700	495	214	16.1	2	220	18
142-075-19CCB	1710	1900	14.5	920	47	139	138	7.00	2	117	22
161-103-02CCB	992	997	9.5	260	<1	63.1	24.6	5.00	4	146	54
163-097-34ABB	1880	1870	8.5	180	<1	38.1	20.3	7.80	14	446	84
143-093-09BCB	2760	2700	13.3	9	<1	<2.00	<1.00	4.20	110	758	99
134-064-22BBB2	1380	1450	14.0	630	440	152	60.7	4.30	1	62.2	18
152-088-04BBBD1	2580	2590	7.5	910	270	155	127	14.5	4	301	41
152-088-04BBBD2	2160	2170	8.0	320	<1	51.4	47.3	10.7	11	452	74
130-050-17DDD	1870	1930	12.0	990	430	137	158	18.7	.9	62.6	12
154-096-08AAA	1990	1950	8.4	330	<1	68.3	39.6	9.90	9	394	71

Local identifier	ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (90410)	Bicarbonate, wat unfltrd end pt, lab, mg/L (95440)	Carbonate, wat unfltrd end pt, lab, mg/L (95445)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents, mg/L (70301)	Arsenic, water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
163-093-17DDD	390	476	<1	18.4	.19	29.6	1970	3170	12.5	3830	<1
142-075-19CCB	869	1060	<1	.7	.26	39.1	245	1170	7.9	100	<1
161-103-02CCB	411	501	<1	18.8	.36	29.3	113	619	12.2	3100	<1
163-097-34ABB	989	1200	2	65.6	1.12	21.7	1.2	1170	26.6	2080	<1
143-093-09BCB	1320	786	403	49.0	1.97	<2.00	48.6	1650	8.3	240	9
134-064-22BBB2	194	237	<1	64.6	.07	18.6	557	1020	3.3	5710	<1
152-088-04BBBD1	645	787	<1	170	.12	15.9	622	1780	2.3	1450	<1
152-088-04BBBD2	809	987	<1	12.6	.15	12.1	412	1470	1.8	140	<1
130-050-17DDD	568	693	<1	8.1	.29	31.0	650	1380	9.6	1070	<1
154-096-08AAA	526	642	<1	7.7	.46	25.1	555	1390	2.9	290	<1

Local identifier	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury, water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
163-093-17DDD	440	3700	<.20	1	8	2870
142-075-19CCB	140	1110	<.20	21	<1	930
161-103-02CCB	40	180	<.20	6	5	650
163-097-34ABB	30	60	<.20	26	13	640
143-093-09BCB	10	<10	<.20	66	7	<4
134-064-22BBB2	40	700	<.20	<1	5	370
152-088-04BBBD1	210	550	<.20	<1	7	3990
152-088-04BBBD2	170	110	<.20	<1	5	1810
130-050-17DDD	140	730	<.20	8	1	500
154-096-08AAA	80	380	<.20	4	6	760

< Less than

## GROUND-WATER QUALITY

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## SHEYENNE DELTA SITES

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Station number	Local identifier	Date	Time	Depth of well, feet below LSD (72008)	Depth to water level, feet below LSD (72019)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unfltrd lab, uS/cm 25 degC (90095)	Specif. conductance, wat unfltrd lab, uS/cm 25 degC (00095)
462211097103401	133-052-01BBB1	08-13-03	1245	15.97	8.47	7.8	7.9	277	290
462117097130401	133-052-03CCC1	08-12-03	0900	12.18	5.42	7.5	7.3	473	500
461934097173001	133-053-13DCC1	08-12-03	1230	11.31	7.20	7.3	7.3	1020	1080
462447097142101	134-052-17DDD1	08-12-03	1140	11.39	6.67	7.1	--	--	560
462259097124001	134-052-34BABA	08-12-03	1015	23.63	8.12	7.4	--	--	520
462628097180701	134-053-11AAA1	08-13-03	1050	16.05	7.48	7.3	--	--	410
462356097215001	134-053-21CCC1	08-13-03	1130	11.55	6.42	7.3	--	--	500
462214097215101	134-053-32DDD1	08-12-03	1330	11.19	6.84	7.3	7.5	455	480
462248097185004	134-053-35BDAB4	08-11-03	1400	13.53	5.61	7.8	--	--	440
462651097243901	134-054-01DACB	08-07-03	0745	21.76	5.60	7.7	--	--	460
462627097281001	134-054-04AAA1	08-06-03	1000	15.43	8.31	7.9	7.4	437	450
462540097265501	134-054-14BBB1	08-06-03	1230	12.08	6.34	7.5	7.3	610	640
462355097280701	134-054-27BBB1	08-06-03	1130	10.79	5.91	7.5	7.3	887	940
463124097121101	135-052-10ACDA1	08-11-03	1510	7.78	4.84	7.3	7.2	624	670
462907097142201	135-052-20DDD1	08-12-03	1440	11.88	7.36	7.3	--	--	640
462908097215101	135-053-28BBB1	08-13-03	0845	11.39	6.10	7.4	--	--	570
462828097242301	135-053-30CCBB2	08-11-03	1210	22.94	6.71	7.3	--	--	250
462748097203501	135-053-34CBB1	08-13-03	0920	11.98	8.36	7.6	--	--	250
463147097253701	135-054-01CCC1	08-06-03	1400	10.51	4.84	7.6	7.4	435	450
463419097185001	136-053-26BAB1	08-05-03	1330	10.66	6.16	7.2	7.6	420	440

Local identifier	Date	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)
133-052-01BBB1	08-13-03	14.5	37.3	13.2	.19	2.53	144	1.59	.2	23.9
133-052-03CCC1	08-12-03	12.5	65.4	22.9	1.93	13.0	255	1.80	.8	29.1
133-053-13DCC1	08-12-03	14.5	86.3	62.4	5.06	68.2	473	14.1	.5	27.8
134-052-17DDD1	08-12-03	12.5	--	--	--	--	--	--	--	--
134-052-34BABA	08-12-03	12.0	--	--	--	--	--	--	--	--
134-053-11AAA1	08-13-03	14.0	--	--	--	--	--	--	--	--
134-053-21CCC1	08-13-03	14.0	--	--	--	--	--	--	--	--
134-053-32DDD1	08-12-03	16.0	82.8	15.5	.32	3.73	257	1.45	.2	27.4
134-053-35BDAB4	08-11-03	15.5	--	--	--	--	--	--	--	--
134-054-01DACB	08-07-03	11.0	--	--	--	--	--	--	--	--
134-054-04AAA1	08-06-03	14.0	67.7	19.7	1.28	1.61	220	.80	<.2	23.7
134-054-14BBB1	08-06-03	15.0	79.0	25.4	7.61	8.73	315	5.44	.3	27.8
134-054-27BBB1	08-06-03	13.5	110	39.1	3.44	19.0	292	35.3	.2	29.0
135-052-10ACDA1	08-11-03	16.5	95.0	33.4	1.54	1.88	365	1.35	.3	33.5
135-052-20DDD1	08-12-03	15.0	--	--	--	--	--	--	--	--
135-053-28BBB1	08-13-03	13.5	--	--	--	--	--	--	--	--
135-053-30CCBB2	08-11-03	11.5	--	--	--	--	--	--	--	--
135-053-34CBB1	08-13-03	15.0	--	--	--	--	--	--	--	--
135-054-01CCC1	08-06-03	17.0	68.7	14.9	.38	2.56	233	1.65	.2	27.4
136-053-26BAB1	08-05-03	15.4	71.0	14.1	.18	1.35	236	1.22	.2	15.7

## GROUND-WATER QUALITY

## SHEYENNE DELTA SITES--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Sulfate water, fltrd, mg/L (00945)	Residue	Ammonia	Nitrite		Ortho-	Phos-	Iron,	
			on evap. at 180degC wat flt mg/L (70300)	+ org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	+ nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	phos- phate, water, fltrd, mg/L as P (00671)	phorus, water, unfltrd mg/L (00665)	water, fltrd, ug/L (01046)
133-052-01BBB1	08-13-03	3.5	178	E.07	<.04	1.15	.014	<.18	<.04	<8
133-052-03CCC1	08-12-03	16.5	289	.11	<.04	<.06	<.008	<.02	.05	712
133-053-13DCC1	08-12-03	120	673	.46	.05	<.06	<.008	<.02	<.04	425
134-052-17DDD1	08-12-03	--	--	--	--	--	--	--	--	--
134-052-34BABA	08-12-03	--	--	--	--	--	--	--	--	--
134-053-11AAA1	08-13-03	--	--	--	--	--	--	--	--	--
134-053-21CCC1	08-13-03	--	--	--	--	--	--	--	--	--
134-053-32DDD1	08-12-03	4.3	290	E.09	<.04	<.06	<.008	<.02	<.04	<8
134-053-35BDAB4	08-11-03	--	--	--	--	--	--	--	--	--
134-054-01DACB	08-07-03	--	--	--	--	--	--	--	--	--
134-054-04AAA1	08-06-03	16.3	273	E.07	<.04	1.87	<.008	<.02	<.04	E8
134-054-14BBB1	08-06-03	25.6	383	.28	<.04	<.06	<.008	<.02	<.04	1510
134-054-27BBB1	08-06-03	156	613	.27	.07	<.06	<.008	<.02	.06	1760
135-052-10ACDA1	08-11-03	1.8	417	.79	<.04	<.06	<.008	.02	E.03	17
135-052-20DDD1	08-12-03	--	--	--	--	--	--	--	--	--
135-053-28BBB1	08-13-03	--	--	--	--	--	--	--	--	--
135-053-30CCBB2	08-11-03	--	--	--	--	--	--	--	--	--
135-053-34CBB1	08-13-03	--	--	--	--	--	--	--	--	--
135-054-01CCC1	08-06-03	8.8	268	.10	<.04	E.06	<.008	.09	.11	55
136-053-26BAB1	08-05-03	6.4	260	.11	<.04	.08	<.008	<.02	<.04	E4

Local ident- ifier	Date	Mangan- ese, water, fltrd, ug/L (01056)	2,4,5-T	2,4-D water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	2,6-Di-	3-	3-Keto- carbo- furan, water, fltrd, ug/L (50295)	Aceto- chlor, water, fltrd, ug/L (49260)
			surrog, water, fltrd, percent recovry (99958)				ethyl- aniline water, fltrd 0.7u GF ug/L (82660)	Hydroxy carbo- furan, wat flt 0.7u GF ug/L (49308)		
133-052-01BBB1	08-13-03	34.4	91.2	<.009	<.02	<.02	<.006	<.006	<2	<.006
133-052-03CCC1	08-12-03	558	45.5	<.009	<.02	<.02	<.006	<.006	<2	<.006
133-053-13DCC1	08-12-03	572	39.9	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-052-17DDD1	08-12-03	--	46.5	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-052-34BABA	08-12-03	--	63.4	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-053-11AAA1	08-13-03	--	87.6	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-053-21CCC1	08-13-03	--	92.7	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-053-32DDD1	08-12-03	123	96.2	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-053-35BDAB4	08-11-03	--	80.8	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-054-01DACB	08-07-03	--	87.3	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-054-04AAA1	08-06-03	308	89.8	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-054-14BBB1	08-06-03	878	86.0	<.009	<.02	<.02	<.006	<.006	<2	<.006
134-054-27BBB1	08-06-03	662	87.3	<.009	<.02	<.02	<.006	<.006	<2	<.006
135-052-10ACDA1	08-11-03	477	90.6	<.009	<.02	<.02	<.006	<.006	<2	<.006
135-052-20DDD1	08-12-03	--	90.5	<.009	<.02	<.02	<.006	<.006	<2	<.006
135-053-28BBB1	08-13-03	--	94.2	<.009	<.02	<.02	<.006	<.006	<2	<.006
135-053-30CCBB2	08-11-03	--	78.8	<.009	<.02	<.02	<.006	<.006	<2	<.006
135-053-34CBB1	08-13-03	--	88.0	<.009	<.02	<.02	<.006	<.006	<2	<.006
135-054-01CCC1	08-06-03	190	93.6	<.009	<.02	<.02	<.006	<.006	<2	<.006
136-053-26BAB1	08-05-03	4.0	87.4	<.009	<.02	<.02	<.006	<.006	<2	<.006

## GROUND-WATER QUALITY

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## SHEYENNE DELTA SITES--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Aci- fluor- fen, water, fltrd	Ala- chlor, water, fltrd,	Aldi- carb sulfone water, fltrd	Aldi- carb sulf- oxide, wat flt	Aldi- carb, water, fltrd	alpha- HCH, water, fltrd,	Atra- zine, water, fltrd,	Barban, surrog, 2060/ 9060, wat flt	Bendio- carb, water, fltrd,
		0.7u GF ug/L (49315)	ug/L (46342)	ug/L (49313)	0.7u GF ug/L (49314)	0.7u GF ug/L (49312)	ug/L (34253)	ug/L (39632)	pct rcv (90640)	ug/L (50299)
133-052-01BBB1	08-13-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	124	<.03
133-052-03CCC1	08-12-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	35.4	<.03
133-053-13DCC1	08-12-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	19.0	<.03
134-052-17DDD1	08-12-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	36.3	<.03
134-052-34BABA	08-12-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	45.0	<.03
134-053-11AAA1	08-13-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	90.6	<.03
134-053-21CCC1	08-13-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	129	<.03
134-053-32DDD1	08-12-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	129	<.03
134-053-35BDAB4	08-11-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	108	<.03
134-054-01DACB	08-07-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	134	<.03
134-054-04AAA1	08-06-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	113	<.03
134-054-14BBB1	08-06-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	138	<.03
134-054-27BBB1	08-06-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	132	<.03
135-052-10ACDA1	08-11-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	118	<.03
135-052-20DDD1	08-12-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	122	<.03
135-053-28BBB1	08-13-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	120	<.03
135-053-30CCBB2	08-11-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	134	<.03
135-053-34CBB1	08-13-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	103	<.03
135-054-01CCC1	08-06-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	120	<.03
136-053-26BAB1	08-05-03	<.007	<.004	<.02	<.008	<.04	<.005	<.007	106	<.03
Local ident- ifier	Date	Ben- flur- alin, water, fltrd	Benomyl water, fltrd,	Bensul- furon- water, fltrd,	Ben- tazon, water, fltrd	Broma- cil, water, fltrd,	Brom- oxynil, water, fltrd	Butyl- ate, water, fltrd,	Caf- feine, water, fltrd,	Caf- feine- 13C, surrog, wat flt
		0.7u GF ug/L (82673)	ug/L (50300)	ug/L (61693)	0.7u GF ug/L (38711)	ug/L (04029)	0.7u GF ug/L (49311)	ug/L (04028)	ug/L (50305)	percent recovery (99959)
133-052-01BBB1	08-13-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	73.8
133-052-03CCC1	08-12-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	56.0
133-053-13DCC1	08-12-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	43.2
134-052-17DDD1	08-12-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	45.0
134-052-34BABA	08-12-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	54.2
134-053-11AAA1	08-13-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	61.3
134-053-21CCC1	08-13-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	66.4
134-053-32DDD1	08-12-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	72.8
134-053-35BDAB4	08-11-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	59.0
134-054-01DACB	08-07-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	67.5
134-054-04AAA1	08-06-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	73.0
134-054-14BBB1	08-06-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	69.3
134-054-27BBB1	08-06-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	66.2
135-052-10ACDA1	08-11-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	58.2
135-052-20DDD1	08-12-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	64.4
135-053-28BBB1	08-13-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	60.6
135-053-30CCBB2	08-11-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	52.2
135-053-34CBB1	08-13-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	46.9
135-054-01CCC1	08-06-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	73.1
136-053-26BAB1	08-05-03	<.010	<.004	<.02	<.01	<.03	<.02	<.002	<.010	66.6

GROUND-WATER QUALITY  
SHEYENNE DELTA SITES--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Car- baryl, water, fltrd	Car- baryl, water, fltrd	Carbo- furan, water, fltrd	Carbo- furan, water, fltrd	Chlor- amben methyl ester, water, fltrd,	Chlori- muron, water, fltrd,	Chloro- thalo- nil, water, fltrd	Chlor- pyrifos water, fltrd,	Clopyr- alid, water, fltrd
		0.7u GF ug/L (49310)	0.7u GF ug/L (82680)	0.7u GF ug/L (49309)	0.7u GF ug/L (82674)	ug/L (61188)	ug/L (50306)	0.7u GF ug/L (49306)	ug/L (38933)	0.7u GF ug/L (49305)
133-052-01BBB1	08-13-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
133-052-03CCC1	08-12-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
133-053-13DCC1	08-12-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-052-17DDD1	08-12-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-052-34BABA	08-12-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-053-11AAA1	08-13-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-053-21CCC1	08-13-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-053-32DDD1	08-12-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-053-35BDAB4	08-11-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-054-01DACB	08-07-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-054-04AAA1	08-06-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-054-14BBB1	08-06-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
134-054-27BBB1	08-06-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
135-052-10ACDA1	08-11-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
135-052-20DDD1	08-12-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
135-053-28BBB1	08-13-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
135-053-30CCBB2	08-11-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
135-053-34CBB1	08-13-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
135-054-01CCC1	08-06-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
136-053-26BAB1	08-05-03	<.03	<.041	<.006	<.020	<.02	<.010	<.04	<.005	<.01
Local ident- ifier	Date	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	Chloro- di- amino- s-tri- azine, wat flt ug/L (04039)	Cyana- zine, water, fltrd, ug/L (04041)	Cyclo- ate, water, fltrd, ug/L (04031)	Dacthal mono- acid, water, fltrd 0.7u GF ug/L (49304)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi- non- water, fltrd, ug/L (39572)	Diazi- non-d10 surrog. wat flt 0.7u GF percent recovry (91063)
133-052-01BBB1	08-13-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	90.7
133-052-03CCC1	08-12-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	94.3
133-053-13DCC1	08-12-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	100
134-052-17DDD1	08-12-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	107
134-052-34BABA	08-12-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	96.5
134-053-11AAA1	08-13-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	99.2
134-053-21CCC1	08-13-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	99.2
134-053-32DDD1	08-12-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	91.5
134-053-35BDAB4	08-11-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	108
134-054-01DACB	08-07-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	94.4
134-054-04AAA1	08-06-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	100
134-054-14BBB1	08-06-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	99.2
134-054-27BBB1	08-06-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	99.2
135-052-10ACDA1	08-11-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	108
135-052-20DDD1	08-12-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	92.2
135-053-28BBB1	08-13-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	103
135-053-30CCBB2	08-11-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	109
135-053-34CBB1	08-13-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	100
135-054-01CCC1	08-06-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	97.6
136-053-26BAB1	08-05-03	<.006	<.04	<.01	<.018	<.01	<.01	<.003	<.005	104

## GROUND-WATER QUALITY

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## SHEYENNE DELTA SITES--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Dicamba	Di- chlor- prop,	Diel- drin,	Dinoseb	Diphen- amid,	Disul- foton,	Diuron,	EPTC,	Ethal- flur- alin,
		water fltrd 0.7u GF ug/L (38442)	water, fltrd 0.7u GF ug/L (49302)	water, fltrd, ug/L (39381)	water, fltrd 0.7u GF ug/L (49301)	water, fltrd, ug/L (04033)	water, fltrd 0.7u GF ug/L (82677)	water, fltrd 0.7u GF ug/L (49300)	water, fltrd 0.7u GF ug/L (82668)	water, fltrd 0.7u GF ug/L (82663)
133-052-01BBB1	08-13-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
133-052-03CCC1	08-12-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
133-053-13DCC1	08-12-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-052-17DDD1	08-12-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-052-34BABA	08-12-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-053-11AAA1	08-13-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-053-21CCC1	08-13-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-053-32DDD1	08-12-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-053-35BDAB4	08-11-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-054-01DACB	08-07-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-054-04AAA1	08-06-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-054-14BBB1	08-06-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
134-054-27BBB1	08-06-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
135-052-10ACDA1	08-11-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
135-052-20DDD1	08-12-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
135-053-28BBB1	08-13-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
135-053-30CCBB2	08-11-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
135-053-34CBB1	08-13-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
135-054-01CCC1	08-06-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
136-053-26BAB1	08-05-03	<.01	<.01	<.005	<.01	<.03	<.02	<.01	<.002	<.009
Local ident- ifier	Date	OIET,	alpha- HCH-d6, surrog,	Etho- prop, water,	Fenuron	Flumet- sulam,	Fluo- meturon	Fonofos	Imaza- quin,	Imaze- thapyr,
		water, fltrd, ug/L (50355)	wat flt 0.7u GF percent recovry ug/L (91065)	0.7u GF fltrd ug/L (82672)	0.7u GF fltrd ug/L (49297)	water, fltrd, ug/L (61694)	water, fltrd 0.7u GF ug/L (38811)	water, fltrd, ug/L (04095)	water, fltrd, ug/L (50356)	water, fltrd, ug/L (50407)
133-052-01BBB1	08-13-03	<.008	79.7	<.005	<.03	<.01	<.03	<.003	<.02	<.02
133-052-03CCC1	08-12-03	<.008	89.3	<.005	<.03	<.01	<.03	<.003	<.02	<.02
133-053-13DCC1	08-12-03	<.008	94.1	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-052-17DDD1	08-12-03	<.008	100	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-052-34BABA	08-12-03	<.008	93.8	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-053-11AAA1	08-13-03	<.008	85.0	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-053-21CCC1	08-13-03	<.008	99.2	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-053-32DDD1	08-12-03	<.008	93.2	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-053-35BDAB4	08-11-03	<.008	93.8	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-054-01DACB	08-07-03	<.008	89.5	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-054-04AAA1	08-06-03	<.008	83.5	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-054-14BBB1	08-06-03	<.008	87.8	<.005	<.03	<.01	<.03	<.003	<.02	<.02
134-054-27BBB1	08-06-03	<.008	91.7	<.005	<.03	<.01	<.03	<.003	<.02	<.02
135-052-10ACDA1	08-11-03	<.008	98.3	<.005	<.03	<.01	<.03	<.003	<.02	<.02
135-052-20DDD1	08-12-03	<.008	92.2	<.005	<.03	<.01	<.03	<.003	<.02	<.02
135-053-28BBB1	08-13-03	<.008	107	<.005	<.03	<.01	<.03	<.003	<.02	<.02
135-053-30CCBB2	08-11-03	<.008	92.2	<.005	<.03	<.01	<.03	<.003	<.02	<.02
135-053-34CBB1	08-13-03	<.008	88.3	<.005	<.03	<.01	<.03	<.003	<.02	<.02
135-054-01CCC1	08-06-03	<.008	92.7	<.005	<.03	<.01	<.03	<.003	<.02	<.02
136-053-26BAB1	08-05-03	<.008	82.8	<.005	<.03	<.01	<.03	<.003	<.02	<.02

GROUND-WATER QUALITY  
SHEYENNE DELTA SITES--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Imida- clopid water, fltrd, ug/L (61695)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (38478)	Linuron water fltrd 0.7u GF ug/L (82666)	Mala- thion, water, fltrd, ug/L (39532)	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Meta- laxyl, water, fltrd, ug/L (50359)	Methio- carb, water, fltrd 0.7u GF ug/L (38501)
		133-052-01BBB1	08-13-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01
133-052-03CCC1	08-12-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
133-053-13DCC1	08-12-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-052-17DDD1	08-12-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-052-34BABA	08-12-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-053-11AAA1	08-13-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-053-21CCC1	08-13-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-053-32DDD1	08-12-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-053-35BDAB4	08-11-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-054-01DACB	08-07-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-054-04AAA1	08-06-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-054-14BBB1	08-06-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
134-054-27BBB1	08-06-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
135-052-10ACDA1	08-11-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
135-052-20DDD1	08-12-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
135-053-28BBB1	08-13-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
135-053-30CCBB2	08-11-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
135-053-34CBB1	08-13-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
135-054-01CCC1	08-06-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
136-053-26BAB1	08-05-03	<.007	<.004	<.01	<.035	<.027	<.02	<.01	<.02	<.008
Local ident- ifier	Date	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Meth- omyl, water, fltrd 0.7u GF ug/L (49296)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Metsul- furon, water, fltrd, ug/L (61697)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd 0.7u GF ug/L (82684)	Neburon water, fltrd 0.7u GF ug/L (49294)
133-052-01BBB1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
133-052-03CCC1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
133-053-13DCC1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-052-17DDD1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-052-34BABA	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-053-11AAA1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-053-21CCC1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-053-32DDD1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-053-35BDAB4	08-11-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-054-01DACB	08-07-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-054-04AAA1	08-06-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-054-14BBB1	08-06-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-054-27BBB1	08-06-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-052-10ACDA1	08-11-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-052-20DDD1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-053-28BBB1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-053-30CCBB2	08-11-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-053-34CBB1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-054-01CCC1	08-06-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
136-053-26BAB1	08-05-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01



## GROUND-WATER QUALITY

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## SHEYENNE DELTA SITES--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Azin- phos- methyl, water, fltrd	Meth- omy- l, water, fltrd	Methyl para- thion, water, fltrd	Metola- chlor, water, fltrd,	Metri- buzin, water, fltrd,	Metsul- furon, water, fltrd,	Moli- nate, water, fltrd	Naprop- amide, water, fltrd	Neburon water, fltrd
		0.7u GF ug/L (82686)	0.7u GF ug/L (49296)	0.7u GF ug/L (82667)	0.7u GF ug/L (39415)	0.7u GF ug/L (82630)	0.7u GF ug/L (61697)	0.7u GF ug/L (82671)	0.7u GF ug/L (82684)	0.7u GF ug/L (49294)
133-052-01BBB1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
133-052-03CCC1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
133-053-13DCC1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-052-17DDD1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-052-34BABA	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-053-11AAA1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-053-21CCC1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-053-32DDD1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-053-35BDAB4	08-11-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-054-01DACB	08-07-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-054-04AAA1	08-06-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-054-14BBB1	08-06-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
134-054-27BBB1	08-06-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-052-10ACDA1	08-11-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-052-20DDD1	08-12-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-053-28BBB1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-053-30CCBB2	08-11-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-053-34CBB1	08-13-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
135-054-01CCC1	08-06-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
136-053-26BAB1	08-05-03	<.050	<.004	<.006	<.013	<.006	<.03	<.002	<.007	<.01
Local ident- ifier	Date	cis- Per- methrin water, fltrd	Nico- sul- furon, water, fltrd,	Norflur azon, water, fltrd	Ory- zalin, water, fltrd	Oxamyl, water, fltrd	p,p'- DDE, water, fltrd,	Para- thion, water, fltrd,	Peb- ulate, water, fltrd	Pendi- meth- alin, water, fltrd
		0.7u GF ug/L (82687)	0.7u GF ug/L (50364)	0.7u GF ug/L (49293)	0.7u GF ug/L (49292)	0.7u GF ug/L (38866)	0.7u GF ug/L (34653)	0.7u GF ug/L (39542)	0.7u GF ug/L (82669)	0.7u GF ug/L (82683)
133-052-01BBB1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
133-052-03CCC1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
133-053-13DCC1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-052-17DDD1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-052-34BABA	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-053-11AAA1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-053-21CCC1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-053-32DDD1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-053-35BDAB4	08-11-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-054-01DACB	08-07-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-054-04AAA1	08-06-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-054-14BBB1	08-06-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-054-27BBB1	08-06-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-052-10ACDA1	08-11-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-052-20DDD1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-053-28BBB1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-053-30CCBB2	08-11-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-053-34CBB1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-054-01CCC1	08-06-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
136-053-26BAB1	08-05-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022

## GROUND-WATER QUALITY

## SHEYENNE DELTA SITES--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- i- fier	Date	cis- Per- methrin water, fltrd	Nico- sul- furon, water, fltrd	Norflur azon, water, fltrd	Ory- zalin, water, fltrd	Oxamyl, water, fltrd	p,p'- DDE, water, fltrd	Para- thion, water, fltrd	Peb- ulate, water, fltrd	Pendi- meth- alin, water, fltrd
		0.7u GF ug/L (82687)	0.7u GF ug/L (50364)	0.7u GF ug/L (49293)	0.7u GF ug/L (49292)	0.7u GF ug/L (38866)	0.7u GF ug/L (34653)	0.7u GF ug/L (39542)	0.7u GF ug/L (82669)	0.7u GF ug/L (82683)
133-052-01BBB1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
133-052-03CCC1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
133-053-13DCC1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-052-17DDD1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-052-34BABA	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-053-11AAA1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-053-21CCC1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-053-32DDD1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-053-35BDAB4	08-11-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-054-01DACB	08-07-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-054-04AAA1	08-06-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-054-14BBB1	08-06-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
134-054-27BBB1	08-06-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-052-10ACDA1	08-11-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-052-20DDD1	08-12-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-053-28BBB1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-053-30CCBB2	08-11-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-053-34CBB1	08-13-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
135-054-01CCC1	08-06-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
136-053-26BAB1	08-05-03	<.006	<.01	<.02	<.02	<.01	<.003	<.010	<.004	<.022
Local ident- i- fier	Date	Phorate water, fltrd	Pic- loram, water, fltrd	Prome- ton, water, fltrd	Pron- amide, water, fltrd	Propa- chlor, water, fltrd	Pro- panil, water, fltrd	Propar- gite, water, fltrd	Propham water, fltrd	Propi- cona- zole, water, fltrd
		0.7u GF ug/L (82664)	0.7u GF ug/L (49291)	0.7u GF ug/L (04037)	0.7u GF ug/L (82676)	0.7u GF ug/L (04024)	0.7u GF ug/L (82679)	0.7u GF ug/L (82685)	0.7u GF ug/L (49236)	0.7u GF ug/L (50471)
133-052-01BBB1	08-13-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
133-052-03CCC1	08-12-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
133-053-13DCC1	08-12-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-052-17DDD1	08-12-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-052-34BABA	08-12-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-053-11AAA1	08-13-03	<.011	E1.73	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-053-21CCC1	08-13-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-053-32DDD1	08-12-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-053-35BDAB4	08-11-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-054-01DACB	08-07-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-054-04AAA1	08-06-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-054-14BBB1	08-06-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
134-054-27BBB1	08-06-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
135-052-10ACDA1	08-11-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
135-052-20DDD1	08-12-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
135-053-28BBB1	08-13-03	<.011	.09	<.01	<.004	<.010	<.011	<.02	<.010	<.02
135-053-30CCBB2	08-11-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
135-053-34CBB1	08-13-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
135-054-01CCC1	08-06-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02
136-053-26BAB1	08-05-03	<.011	<.02	<.01	<.004	<.010	<.011	<.02	<.010	<.02

## GROUND-WATER QUALITY

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## SHEYENNE DELTA SITES--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Pro- poxur, water, fltrd	Siduron water, fltrd,	Sima- zine, water, fltrd,	Sulfo- met- ruron, water, fltrd,	Tebu- thiuron water, fltrd	Terba- cil, water, fltrd	Terba- cil, water, fltrd,	Terbu- fos, water, fltrd	Thio- bencarb water, fltrd
		0.7u GF ug/L (38538)	fltrd, ug/L (38548)	fltrd, ug/L (04035)	fltrd, ug/L (50337)	0.7u GF ug/L (82670)	0.7u GF ug/L (82665)	fltrd, ug/L (04032)	0.7u GF ug/L (82675)	0.7u GF ug/L (82681)
133-052-01BBB1	08-13-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
133-052-03CCC1	08-12-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
133-053-13DCC1	08-12-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-052-17DDD1	08-12-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-052-34BABA	08-12-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-053-11AAA1	08-13-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-053-21CCC1	08-13-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-053-32DDD1	08-12-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-053-35BDAB4	08-11-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-054-01DACB	08-07-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-054-04AAA1	08-06-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-054-14BBB1	08-06-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
134-054-27BBB1	08-06-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
135-052-10ACDA1	08-11-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
135-052-20DDD1	08-12-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
135-053-28BBB1	08-13-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
135-053-30CCBB2	08-11-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
135-053-34CBB1	08-13-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
135-054-01CCC1	08-06-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005
136-053-26BAB1	08-05-03	<.008	<.02	<.005	<.009	<.02	<.034	<.010	<.02	<.005

Local ident- ifier	Date	N-(4- Chloro- phenyl)- N'- methyl- urea, ug/L (61692)	Tri- allate, water, fltrd	Tri- clopyr, water, fltrd	Tri- flur- alin, water, fltrd
		0.7u GF ug/L (82678)	0.7u GF ug/L (49235)	0.7u GF ug/L (82661)	
133-052-01BBB1	08-13-03	<.02	<.002	<.02	<.009
133-052-03CCC1	08-12-03	<.02	<.002	<.02	<.009
133-053-13DCC1	08-12-03	<.02	<.002	<.02	<.009
134-052-17DDD1	08-12-03	<.02	<.002	<.02	<.009
134-052-34BABA	08-12-03	<.02	<.002	<.02	<.009
134-053-11AAA1	08-13-03	<.02	<.002	<.02	<.009
134-053-21CCC1	08-13-03	<.02	<.002	<.02	<.009
134-053-32DDD1	08-12-03	<.02	<.002	<.02	<.009
134-053-35BDAB4	08-11-03	<.02	<.002	<.02	<.009
134-054-01DACB	08-07-03	<.02	<.002	<.02	<.009
134-054-04AAA1	08-06-03	<.02	<.002	<.02	<.009
134-054-14BBB1	08-06-03	<.02	<.002	<.02	<.009
134-054-27BBB1	08-06-03	<.02	<.002	<.02	<.009
135-052-10ACDA1	08-11-03	<.02	<.002	<.02	<.009
135-052-20DDD1	08-12-03	<.02	<.002	<.02	<.009
135-053-28BBB1	08-13-03	<.02	<.002	<.02	<.009
135-053-30CCBB2	08-11-03	<.02	<.002	<.02	<.009
135-053-34CBB1	08-13-03	<.02	<.002	<.02	<.009
135-054-01CCC1	08-06-03	<.02	<.002	<.02	<.009
136-053-26BAB1	08-05-03	<.02	<.002	<.02	<.009

&lt; Less than

E Estimated value

GROUND-WATER QUALITY  
SPIRIT LAKE RESERVATION SITES

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Station number	Local ident- i- fier	Date	Time	Geo- logic unit	Depth of well, feet below LSD (72008)	pH, water, unfltrd lab, std units (00403)	Specif. conduc- tance, wat unf lab, uS/cm 25 degC (90095)
474954098313002	150-062-01DDD2	08-18-03	1030	112WRCK	11.6	7.1	659
474959098335502	150-062-03DDDD	08-18-03	1155	112WRCK	11.5	7.3	417
474957098323801	150-062-11AAA	08-18-03	1115	112WRCK	11.7	7.3	499
474959098393601	150-063-01DDCC	08-19-03	0935	112WRCK	15	7.2	554
475050098402101	150-063-02AAA	09-11-03	1500	112WRCK	11.3	8.1	446
474959098402302	150-063-02DDD	09-11-03	1540	112WRCK	15.7	7.6	491
475024098441401	150-063-04CBB	09-23-03	1045	112WRCK	20	7.6	401
474959098441301	150-063-04CCC	08-19-03	1235	112WRCK	12	7.5	410
474959098425801	150-063-04DDD	08-19-03	1140	112WRCK	18	7.4	746
474959098453201	150-063-05CCC	09-11-03	1630	112WRCK	15	7.6	789
474948098402102	150-063-12BBC2	08-19-03	1045	112WRCK	15.2	7.5	453
474906098441203	150-063-16BBB3	08-19-03	1210	112WRCK	19.2	7.5	467
474906098491301	150-064-11CCDC	08-11-03	1540	112TOKO	56	7.6	1300
474813098480601	150-064-14DDD	08-11-03	1515	112TOKO	55	7.5	514
474814098504101	150-064-16DDD	09-11-03	1030	112TOKO	62	7.5	887
475051098374501	151-062-32CCC	08-18-03	1255	112WRCK	16	7.5	304
475051098362701	151-062-33CCC	08-18-03	1230	112WRCK	15.8	7.4	436
475420098464801	151-063-07CCC	09-22-03	1220	112WRCK	50.5	7.5	407
475328098402302	151-063-14DDD2	09-11-03	1245	112WRCK	15.1	7.7	384
475406098425801	151-063-16AADD	09-22-03	1345	112WRCK	13.5	7.7	318
475156098402301	151-063-26DDA	09-11-03	1205	112WRCK	11.9	7.7	321
475143098425601	151-063-27CCC	09-11-03	1345	112WRCK	22.5	7.4	984
475235098425801	151-063-28AAA	09-11-03	1410	112WRCK	15.8	7.7	506
475130098453201	151-063-32BBC	09-23-03	1125	112WRCK	15.8	7.7	502
475107098414001	151-063-34DAD	09-11-03	1315	112WRCK	15.4	7.6	486
475051098390801	151-063-36DDD	08-19-03	1010	112WRCK	12	7.0	1150
475236098541301	151-064-19CDCC	08-11-03	1250	112TOKO	110	7.5	473
475143098494401	151-064-27DDCC	08-11-03	1440	112TOKO	80	7.5	489
475143098520201	151-064-29DDDD	08-11-03	1345	112TOKO	66	7.5	521
475603098570901	151-065-03AAA	08-12-03	1400	112TOKO	80	7.5	552
475419098554801	151-065-12CCC	08-11-03	1200	112TOKO	70	7.5	437
475140098552901	151-065-36BABB	08-12-03	1145	112TOKO	120	8.2	1300
475657098571002	152-065-27DDD2	08-12-03	1450	112TOKO	45	7.6	540

## SPIRIT LAKE RESERVATION SITES--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)
150-062-01DDDD2	08-18-03	74.5	45.3	8.95	11.7	330	2.08	<.2	26.3	69.5	467
150-062-03DDDD	08-18-03	60.1	24.3	2.65	5.17	234	.79	<.2	34.2	.3	305
150-062-11AAA	08-18-03	98.6	16.3	1.06	3.33	198	1.43	.2	28.0	10.5	322
150-063-01DDCC	08-19-03	63.1	40.9	2.58	12.9	315	3.37	.3	31.2	.9	392
150-063-02AAA	09-11-03	71.2	18.8	.25	4.31	186	4.91	<.2	27.8	11.0	297
150-063-02DDD	09-11-03	79.0	20.9	1.18	4.78	173	8.19	.2	32.4	71.5	330
150-063-04CBB	09-23-03	60.2	18.6	.78	5.05	211	.69	.2	29.0	6.7	266
150-063-04CCC	08-19-03	63.4	20.0	1.20	4.66	252	1.02	.2	27.0	22.7	285
150-063-04DDD	08-19-03	116	33.4	3.23	5.69	366	7.40	<.2	27.4	24.0	480
150-063-05CCC	09-11-03	96.4	45.9	3.19	31.5	253	8.69	.2	32.0	72.0	530
150-063-12BBC2	08-19-03	77.4	20.0	.98	1.75	210	1.29	<.2	28.8	5.5	318
150-063-16BBB3	08-19-03	70.8	21.0	1.70	12.3	204	2.32	.2	27.9	37.9	329
150-064-11CCDC	08-11-03	52.9	14.7	7.58	212	357	84.0	.2	30.3	194	823
150-064-14DDD	08-11-03	70.1	20.5	2.78	9.31	--	3.66	<.2	27.2	56.5	337
150-064-16DDD	09-11-03	72.8	22.9	5.37	101	271	18.9	.3	30.0	135	610
151-062-32CCC	08-18-03	48.8	12.5	1.10	6.53	175	.40	.3	26.7	7.9	218
151-062-33CCC	08-18-03	77.2	20.1	.64	3.70	254	.95	.2	25.8	16.9	307
151-063-07CCC	09-22-03	64.0	18.1	2.28	3.81	178	1.57	<.2	26.7	38.0	295
151-063-14DDD2	09-11-03	62.7	15.8	1.69	4.13	195	1.07	<.2	29.6	19.3	256
151-063-16AADD	09-22-03	47.8	11.3	.74	14.3	183	1.95	<.2	22.7	3.6	219
151-063-26DDA	09-11-03	53.0	12.2	.29	2.94	185	.59	<.2	25.8	1.4	202
151-063-27CCC	09-11-03	162	46.5	4.96	23.9	307	31.4	.2	30.7	109	684
151-063-28AAA	09-11-03	71.8	25.4	2.86	6.83	223	1.62	.3	30.0	25.4	339
151-063-32BBC	09-23-03	60.7	28.5	1.93	16.3	263	1.11	.3	31.4	10.6	322
151-063-34DAD	09-11-03	78.7	19.7	1.63	11.2	173	2.25	<.2	28.3	16.3	323
151-063-36DDD	08-19-03	165	76.2	1.77	13.8	476	1.80	.7	37.4	2.1	804
151-064-19CDCC	08-11-03	70.3	16.1	4.62	7.51	172	2.23	.2	27.1	44.1	309
151-064-27DDCC	08-11-03	56.9	13.9	3.56	28.5	--	2.52	.2	29.7	35.3	315
151-064-29DDDD	08-11-03	69.6	19.0	3.31	9.07	226	2.40	<.2	29.0	29.4	330
151-065-03AAA	08-12-03	64.5	16.6	4.21	33.8	--	2.30	.2	30.1	40.9	350
151-065-12CCC	08-11-03	55.5	13.4	6.23	15.7	--	1.81	.2	34.4	28.8	273
151-065-36BABB	08-12-03	9.27	3.08	5.52	281	--	59.6	.7	29.0	180	851
152-065-27DDD2	08-12-03	71.5	20.2	2.83	9.04	--	1.72	.2	26.8	37.6	359

## GROUND-WATER QUALITY

## SPIRIT LAKE RESERVATION SITES--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Local ident- ifier	Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)		Nitrite + nitrate water fltrd, mg/L as N (00631)		Nitrite water, fltrd, mg/L as N (00613)		Ortho- phos- phate, water, fltrd, mg/L as P (00671)		Phos- phorus, water, unfltrd mg/L (00665)		Arsenic water unfltrd ug/L (01002)		Iron, water, fltrd, ug/L (01046)		Mangan- ese, water, fltrd, ug/L (01056)	
150-062-01DDD2	08-18-03	.37	E.02	<.06	<.008	<.18	.04	E1	1830	790							
150-062-03DDDD	08-18-03	.53	<.04	<.06	<.008	<.18	<.04	<2	9	1980							
150-062-11AAA	08-18-03	.14	<.04	<.06	<.008	<.18	E.03	E2	79	660							
150-063-01DDCC	08-19-03	.44	<.04	<.06	<.008	<.18	.09	E2	2000	471							
150-063-02AAA	09-11-03	.28	<.04	7.81	.013	.03	.04	<2	<8	120							
150-063-02DDD	09-11-03	.14	<.04	E.06	<.008	.05	.06	E1	<8	1.0							
150-063-04CBB	09-23-03	.16	<.04	.51	<.008	E.01	E.03	3	<8	.5							
150-063-04CCC	08-19-03	.41	<.04	.13	<.008	<.18	.26	5	E7	47.2							
150-063-04DDD	08-19-03	.18	<.04	6.25	<.008	<.18	.07	2	<8	21.5							
150-063-05CCC	09-11-03	.35	<.04	<.06	<.008	<.02	.05	E2	68	218							
150-063-12BCC2	08-19-03	.14	<.04	4.26	<.008	<.18	<.04	2	<8	.6							
150-063-16BBB3	08-19-03	.12	<.04	.07	<.008	<.18	.04	3	18	18.1							
150-064-11CCDC	08-11-03	1.0	.80	<.06	<.008	.08	.10	22	59	351							
150-064-14DDD	08-11-03	.17	<.04	.33	<.008	.04	.06	6	<8	190							
150-064-16DDD	09-11-03	.51	.37	E.04	<.008	.06	.08	38	485	353							
151-062-32CCC	08-18-03	.26	<.04	<.06	<.008	E.12	.14	5	943	362							
151-062-33CCC	08-18-03	.12	<.04	.07	<.008	<.18	E.03	E1	20	225							
151-063-07CCC	09-22-03	.10	<.04	6.53	.026	.06	.07	3	<8	76.8							
151-063-14DDD2	09-11-03	.14	<.04	.90	<.008	.06	.07	5	<8	1.8							
151-063-16AADD	09-22-03	E.10	<.04	.16	<.008	<.02	.28	3	16	2.2							
151-063-26DDA	09-11-03	.12	<.04	<.06	<.008	.07	.09	5	55	401							
151-063-27CCC	09-11-03	.46	.10	<.06	<.008	.04	.48	11	260	692							
151-063-28AAA	09-11-03	.23	<.04	7.24	.057	.07	.08	3	<8	11.0							
151-063-32BBC	09-23-03	.14	<.04	.65	<.008	<.02	E.02	E1	<8	.6							
151-063-34DAD	09-11-03	.15	<.04	.26	<.008	<.02	<.04	E2	<8	14.1							
151-063-36DDD	08-19-03	.98	.12	<.06	<.008	<.18	.08	4	1900	1280							
151-064-19CDDC	08-11-03	.12	<.04	<.06	<.008	E.01	E.03	4	219	254							
151-064-27DDCC	08-11-03	.35	.20	<.06	<.008	.05	.07	22	23	493							
151-064-29DDDD	08-11-03	.20	.04	3.58	.087	E.01	E.03	5	12	187							
151-065-03AAA	08-12-03	.34	.18	<.06	<.008	.02	.09	15	320	487							
151-065-12CCC	08-11-03	.41	.30	<.06	<.008	.06	.12	12	20	46.1							
151-065-36BABB	08-12-03	1.0	.71	<.06	<.008	.43	.46	17	25	21.8							
152-065-27DDD2	08-12-03	.15	<.04	12.5	.027	.02	.04	3	<8	10.8							

< Less than  
E Estimated value

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# Conversion Factors

Multiply	By	To obtain
<b>Length</b>		
inch (in.)	$2.54 \times 10^1$	millimeter (mm)
	$2.54 \times 10^{-2}$	meter
foot (ft)	$3.048 \times 10^{-1}$	meter (m)
mile (mi)	$1.609 \times 10^0$	kilometer (km)
<b>Area</b>		
acre	$4.047 \times 10^3$	square meter (m <sup>2</sup> )
	$4.047 \times 10^{-1}$	square hectometer (hm <sup>2</sup> )
	$4.047 \times 10^{-3}$	square kilometer (km <sup>2</sup> )
square mile (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometer (km <sup>2</sup> )
<b>Volume</b>		
gallon (gal)	$3.785 \times 10^0$	liter (L)
	$3.785 \times 10^{-3}$	cubic meter (m <sup>3</sup> )
	$3.785 \times 10^0$	cubic decimeter (dm <sup>3</sup> )
million gallons (Mgal)	$3.785 \times 10^3$	cubic meter (m <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic hectometer (hm <sup>3</sup> )
cubic foot (ft <sup>3</sup> )	$2.832 \times 10^{-2}$	cubic meter (m <sup>3</sup> )
	$2.832 \times 10^1$	cubic decimeter (dm <sup>3</sup> )
cubic-foot-per-second-per-day [(ft <sup>3</sup> /s/d)]	$2.447 \times 10^3$	cubic meter (m <sup>3</sup> )
	$2.447 \times 10^{-3}$	cubic hectometer (hm <sup>3</sup> )
acre-foot (acre-ft)	$1.223 \times 10^3$	cubic meter (m <sup>3</sup> )
	$1.223 \times 10^{-3}$	cubic hectometer (hm <sup>3</sup> )
	$1.223 \times 10^{-6}$	cubic kilometer (km <sup>3</sup> )
<b>Flow rate</b>		
cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liter (L/s)
	$2.832 \times 10^{-2}$	cubic meter per second (m <sup>3</sup> /s)
	$2.832 \times 10^1$	cubic decimeter per second (dm <sup>3</sup> /s)
gallon per minute (gal/min)	$6.309 \times 10^{-2}$	liter per second (L/s)
	$6.309 \times 10^{-5}$	cubic meter per second (m <sup>3</sup> /s)
	$6.309 \times 10^{-2}$	cubic decimeter per second (dm <sup>3</sup> /s)
million gallons per day (Mgal/d)	$4.381 \times 10^{-2}$	cubic meter per second
	$4.381 \times 10^1$	cubic decimeter per second (dm <sup>3</sup> /s)
<b>Mass</b>		
ton, short (2,000 lb)	$9.072 \times 10^{-1}$	megagram (Mg) or metric ton

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

