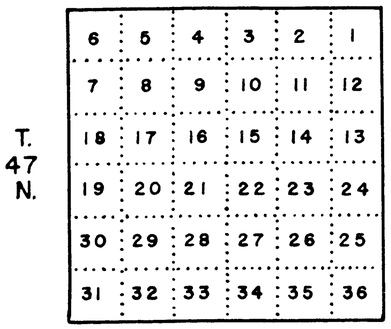
EXPLANATION

Observation well

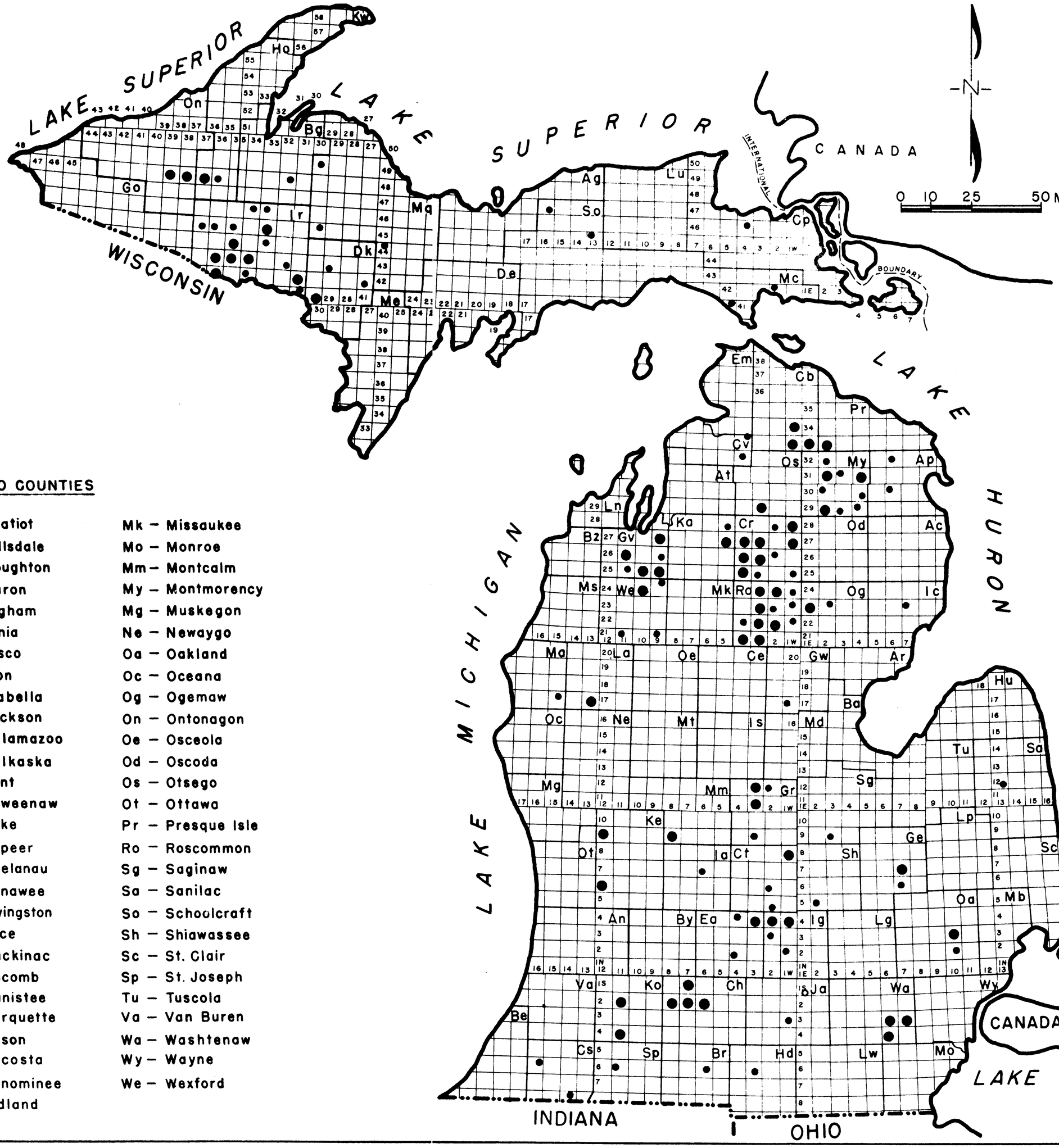
Two or more observation wells

Diagram of geographical township



INDEX TO COUNTIES

Ac – Alcona	Gr – Gratiot	Mk – Missaukee
Ag – Alger	Hd – Hillsdale	Mo – Monroe
An – Allegan	Ho – Houghton	Mm – Montcalm
Ap – Alpena	Hu – Huron	My – Montmorency
At – Antrim	Ig – Ingham	Mg – Muskegon
Ar – Arenac	Ia – Ionia	Ne – Newaygo
Bg – Baraga	Ic – Iosco	Oa – Oakland
By – Barry	Ir – Iron	Oc – Oceana
Ba – Bay	Is – Isabella	Og – Ogemaw
Bz – Benzie	Ja – Jackson	On – Ontonagon
Be – Berrien	Ko – Kalamazoo	Oe – Osceola
Br – Branch	Ka – Kalkaska	Od – Oscoda
Ch – Calhoun	Ke – Kent	Os – Otsego
Cs – Cass	Kw – Keweenaw	Ot – Ottawa
Cv – Charlevoix	La – Lake	Pr – Presque Isle
Cb – Cheboygan	Lp – Lapeer	Ro – Roscommon
Cp – Chippewa	Ln – Leelanau	Sg – Saginaw
Ce – Clare	Lw – Lenawee	Sa – Sanilac
Ct – Clinton	Lg – Livingston	So – Schoolcraft
Cr – Crawford	Lu – Luce	Sh – Shiawassee
De – Delta	Mc – Mackinac	Sc – St. Clair
Dk – Dickinson	Mb – Macomb	Sp – St. Joseph
Ea – Eaton	Ms – Manistee	Tu – Tuscola
Em – Emmet	Mq – Marquette	Va – Van Buren
Ge – Genesee	Ma – Mason	Wa – Washtenaw
Gw – Gladwin	Mt – Mecosta	Wy – Wayne
Go – Gogebic	Me – Menominee	We – Wexford
Gv – Grand Traverse	Md – Midland	



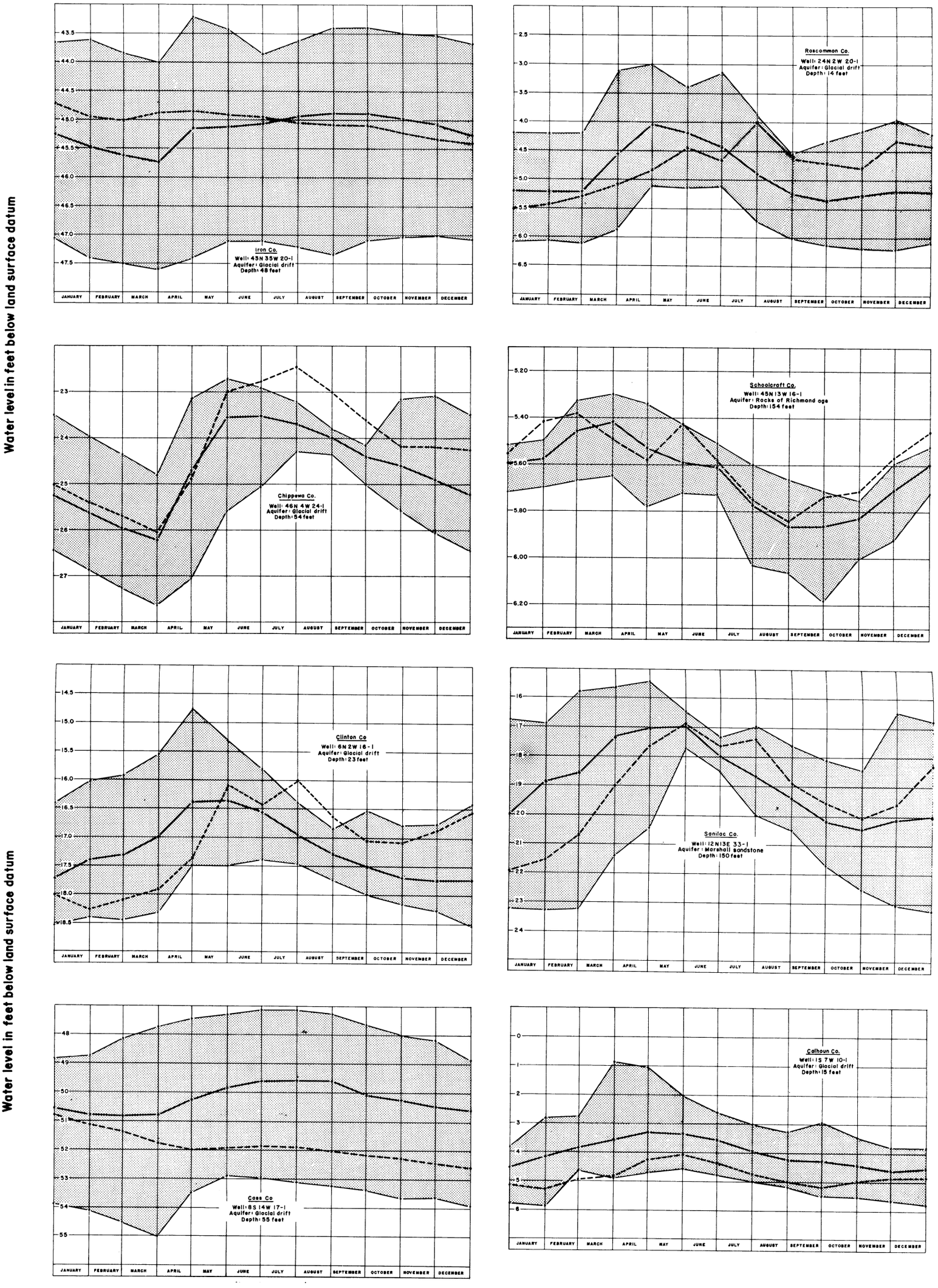


Figure 2. Month-end water levels in key observation wells.

EXPLANATION

Levels in 1957

Average for the period of record through 1956

Extremes for the period of record through 1956

Water level in feet below land-surface datum

4
6
8
10
12
14

Dickinson Co.
Well: 41N 30W 25-2
Aquifer: Glacial drift
Depth: 16 feet

Temperature in °F

60
40
32
20

Monthly mean temperatures at Iron Mountain

1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Water level in feet below land-surface datum

25
26
27
28
29

Marquette Co.
Well: 45N 30W 1-1
Aquifer: Glacial drift
Depth: 31 feet

Departure in inches

+10
+5
0
-5

Cumulative departure of precipitation at Ishpeming

1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Water level in feet below land-surface datum

71
72
73
74
75

Charlevoix Co.
Well: 33 N 4W 2-1
Aquifer: Glacial drift
Depth: 94 feet

Temperature in °F.

80
60
40
32
20

Monthly mean temperatures at East Jordan

1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

July 1957

15 Monday	16 Tuesday	17 Wednesday	18 Thursday	19 Friday	20 Saturday	21 Sunday	22 Monday

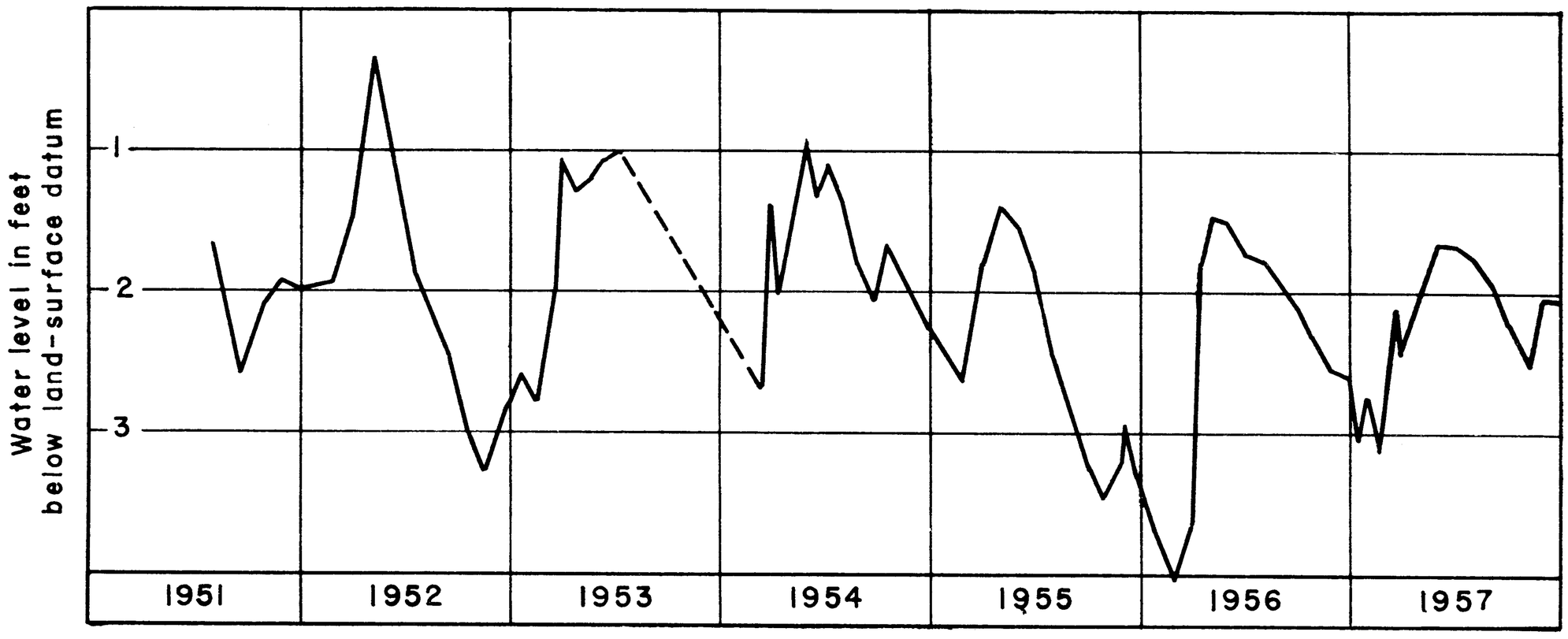
Ogemaw Co.

Well: 23N 2E 2-1
Aquifer: Glacial drift
Depth: 7 feet

Water level in feet below land-surface datum

1.6

1.7



Water level in feet below land-surface datum

(17N15W 3-1)

(21N11W 13-1)

15—47

16—48

17

18

19

49

50

Wexford Co.
Well: 21N 11W 13-1
Aquifer: Glacial drift
Depth: 62 feet

Mason Co.
Well: 17N 15W 3-1
Aquifer: Glacial drift
Depth: 32 feet

Departure in inches

+30

+20

+10

0

Cumulative departure of precipitation at Cadillac

1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Pumpage in millions of gallons

100

200

Monthly municipal pumpage at Verona Station, Battle Creek

5

10

15

20

Cumulative pumpage in billions of gallons

100

200

300

Water level in feet below land-surface datum

2

4

6

8

Calhoun Co.

Well: 1S 7W 32-1
Aquifer: Marshall sandstone
Depth: 127 feet

8

10

12

Departure in inches

+15

+10

+5

0

-5

Cumulative departure of precipitation

1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Pumpage in millions of gallons

20

40

Monthly municipal pumpage at Marshall

Water level in feet below land-surface datum

6

7

8

9

Calhoun Co.

Well: 2 S 6W 25-1
Aquifer: Marshall sandstone
Depth: 59 feet

Departure in inches

+10

0

-10

Cumulative departure of precipitation at Battle Creek

1950 1951 1952 1953 1954 1955 1956 1957

Monthly municipal pumpage at Dowagiac

Pumpage in millions of gallons

0
10
20

Water level in feet above (+) and below land-surface datum

+4
+3
+2
+1
0
-1

Cass Co.
Well: 6S 16W 1-1
Aquifer: Glacial drift
Depth: 159 feet

30
20
10
0
-1
-2

Precipitation in inches

6
4
2
0

Long term mean

Monthly totals of precipitation at Dowagiac

JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER

Pumpage in millions of gallons

0
100
200

No record prior to 1951

Annual municipal pumpage at Charlotte

No record

Water level in feet below land-surface datum

9
10
11
12
13
14
15

Eaton Co.
Well: 2N 4W 19-1
Aquifer: Glacial drift
Depth: 25 feet

Departure in inches

+15
+10
+5
0

Cumulative departure of precipitation at Lansing

1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Monthly municipal pumpage at Grand Ledge

Pumpage in millions of gallons

10

20

Water level in feet below land-surface datum

23

24

25

26

27

Eaton Co.

Well: 4N 4W 2-1
Aquifer: Saginaw formation
Depth: 376 feet

Long-term mean

Precipitation in inches

6

4

2

Monthly totals of precipitation at Grand Ledge

JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER

Monthly pumpage at Fisher Body Plant at Grand Blanc

Pumpage in millions of gallons

2
4
6

Genesse Co.

Well: 6N 7E 9-1
Aquifer: Saginaw formation
Depth: 375 feet

Water level in feet below land-surface datum

38
40
42
44
46
48
50

Cumulative departure of precipitation at Flint

Departure in inches

+5
0
-5
-10

1952 1953 1954 1955 1956 1957

Sunday
March 3, 1957 Time 3:50 P.M. By R.W.P.
Depth to Water: —
Alt. of M. P. (L.S.D.) =
Alt. of W. L. (L.S.D.) = 27.23

Well 7N 7E 17-1
CONSUMERS POWER CO.
WHAT CHEER MINE
Flint, Michigan
1:1

Sunday
March 10, 1957 Time 12:00 Noon By R.W.P.
Depth to Water: —
Alt. of M. P. (L.S.D.) =
Alt. of W. L. (L.S.D.) = 27.41

29.00

MARCH, 1957

3 4 5 6 7 8 9 10

27.10

Time of origin of earthquakes
9:22 A.M. E.S.T.
3:39 P.M.

Time correction diagram

27.20

Effect of passing railroad trains

27.30

Midnight | 6:00 a.m. | Noon | 6:00 p.m. | Midnight

Water level in feet below land-surface datum

27.40

Earth tide effects

Oscillations of water level caused by earthquakes in the Aleutian Islands

27.50

27.60

Pumpage in millions of gallons

20

15

Monthly municipal pumpage at Alma

Well no. 2

Well no. 4

20

40

Water level in feet below land- surface datum

20

25

30

35

Gratiot Co.

Well: 12 N 3W 34-1
Aquifer: Glacial drift
Depth: 55 feet

Departure in inches

+10

0

-10

Cumulative departure of precipitation at Alma

1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Pumpage in millions of gallons

50

100

30

Monthly pumpage

City of Lansing – Riverside well field

Michigan State University wells

5

7.5

10

12.5

Cumulative pumpage in billions of gallons

Water level in feet below land-surface datum

40

50

60

Ingham Co.

Well: 4N 2W 24-1
Aquifer: Saginaw formation
Depth: 453 feet

Departure in inches

+10

0

-10

Cumulative departure of precipitation at Lansing

1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Monthly pumpage
from Lansing Township wells 4 and 5

Pumpage in millions of gallons

10

20

30

Eaton Co.

Well: 4N 3W 12-1
Aquifer: Saginaw formation
Depth: 381 feet

Water level in feet below land-surface datum

68

70

72

74

76

78

1953

1954

1955

1956

1957

Monthly municipal pumpage at stations B, C, D, and Born Court, Kalamazoo

Pumpage in millions of gallons

50
100
150

Water level in feet below land-surface datum

14
16
18
20
22
24
26
28

Kalamazoo Co.

Well: 2S 11W 22-6
Aquifer: Glacial drift
Depth: 115 feet

Departure in inches

0
-10
-20

Cumulative departure of precipitation at Kalamazoo

1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Water level in feet below land-surface datum

50
60
70
80
90
100
110
120
130
140
150

1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Oakland Co.
Well: 3N. 10E. 32-1
Aquifer: Glacial drift
Depth: 160 feet

Water level in feet above (+) and below land-surface datum

+4
+2
0
-2
-4

St. Joseph Co.
Well: 6 S. 11 W. 18-1
Aquifer: Glacial drift
Depth 59 feet

1948 1949 1950 1951 1952 1953 1954 1955 1956 1957

Water level in feet below land-surface datum

73
74
75
76
77
78
79
80

Washtenaw Co.

Well: 4 S 6E 9-1
Aquifer: Glacial drift
Depth: 184 feet

JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER

Monthly pumpage by
Ypsilanti Township

Pumpage in millions of gallons

100

200

24-6

10

24-1

15

24-4

20

24-5

Water level in feet below land-surface datum

Washtenaw Co.

Well:	Depth (ft.):
3S 7E 24-1	87
24-4	53
24-5	77
24-6	75

Aquifer: Glacial drift

25

30

+10

Departure in inches

Cumulative departure of precipitation at Detroit

0

1950 1951 1952 1953 1954 1955 1956 1957

Table 1.--Records of Michigan observation wells in which water-level measurements were made during 1957.

Owner: Includes owner's designation or field number of well where applicable, (TW - test well);
MDC - Michigan Department of Conservation
WMP - Wisconsin-Michigan Power Company
MSHD - Michigan State Highway Dept.
USFS - United States Forest Service

Chief Aquifer:
Qgd - Glacial deift deposits of Pleistocene (Quaternary) age
IPs - Saginaw formation of Pennsylvanian age
IPp - Parma sandstone of Pennsylvanian age
Mb - Bayport limestone of Mississippian age
Mm - Marshall sandstone of Mississippian age
Dtb - Thunder Bay limestone of Devonian age
Ss - Salina formation of Late Silurian age
Sm - Manistique dolomite of Middle Silurian age
Or - Limestones of Richmond age (Late Ordovician)
OCh - Hermansville limestone of Cambrian and Ordovician age
pC - Rocks or Precambrian age
A - Water confined under artesian conditions
W - Water table conditions

Altitude: Land-surface datum in feet above mean-sea level.

Former USGS No.: See page 8 for explanation of well-numbering systems.

Note: Water-level measurements are made by the U. S. Geological Survey or the Michigan Department of Conservation unless otherwise stated under Remarks

Well number	Location in section ¼	¼	Owner	Depth (ft.)	Diameter (in.)	Chief aquifer	Altitude	Former USGS No.	Remarks
Alpena County									
32N 6E 16-1	NW	SW	Harlo Mellon	53	6	Dtb A		ApLr 1	
30N 6E 6-1	NW	NE	R. E. James	19	18	Qgd W		ApGn 1	
Baraga County									
48N 32W 12-1	SE	SE	MSHD (WMP 14)	10	1¼	Qgd W		BgCv 1	Measured by WMP.
Branch County									
6S 6W 22-1	NE	SW	City of Coldwater (3)	130	8-6	Qgd A		BrCW 3	Measured by owner.
Calhoun County									
1S 7W 10-1	NW	NW	K. N. Sabin	8	15	Qgd W	907.99	ChPf 102	
31-1	NE	SW	City of Battle Creek (TW 1)	140	2	Mm A	838.92	58	
32-1	NE	SE	Do. (Verona 22)	127	8	Mm A	830.79	1	Measured by owner.
32-2	NE	NW	Mrs. Harriet Rice	43	2	Mm A	842.88	105	
2S 8W 1-1	SW	SE	Sherman Mfg. Co.	22	2	Qgd W	825.19	ChBC 150	
1-2	SW	SE	Electronics Supply Co.	61	2	Mm A	819.08	170	
2-1	NW	SE	Post Products Co.	92	10	Mm A	819.99	160	Measured by City of Battle Creek.
3-1	SE	SE	Dominic Conto	12	2	Qgd W	862.02	ChBc 55	
3-2	SE	NE	Eaton Mfg. Co.	80	10	Mm A	833.39	60	
3-3	NE	SE	P. E. Slayton	64	4	Mm A	849.51	169	
14-1	NE	SE	City of Battle Creek (TW 3)	62	2	Qgd W	916.05	2	
14-2	SE	SE	Do. (TW 1)	89	26	Qgd W	914.97	137	
2S 7W 7-1	SW	NE	Oliver Farm Implement Co.	74	6	Mm A	834.30	ChBC 140	
10-1	NW	SW	C. W. Cronkhite	90	6	Mm A	884.94	ChEm 10	
17-1	NW	SW	City of Battle Creek	87	2	Mm A	841.78	64	
18-1	SW	SW	Do.	87	2	Mm A	832.49	60	
2S 6W 25-1	NE	NE	City of Marshall (Ferguson Well)	59	6	Mm A	904.85	ChMA 2	
25-2	SE	NW	Do. (Egeler Well)	67	6	Mm A	901.15	3	
25-3	SW	SE	Do. (Filkin Well)	82	4	Mm A	914.15	4	
Cass County									
6S 16W 1-1	SW	NE	City of Dowagiac	159	10	Qgd A	750.19	CsDW 1	Measured by owner.
8S 14W 17-1	NE	NW	Ted Little	55	28	Qgd W		CsMa 1	
Charlevoix County									
33N 4W 2-1	SW	NE	MDC	94	6	Qgd A		CvCh 1	
32N 4W 10-1	NE	SE	MDC	17	2	Qgd W		CvHu 33	
Cheboygan County									
34N 1W 1-1	NW	SW	MDC (7)	11	2	Qgd W		CbWk 11	
26-1	SE	NW	MDC (10)	17	2	Qgd W		33	
33N 1W 3-1	SW	SW	MDC (11)	15	2	Qgd W		CbNd 2	

Table 1.--Records of Michigan observation wells in which water-level measurements were made during 1957.--Continued

Well number	Location in section ¼ ¼	Owner	Depth (ft.)	Diameter (in.)	Chief Aquifer	Altitude	Former USGS No.	Remarks
Cheboygan County - Continued								
33N 1W 10-1	SE SE	MDC (12)	13	2	Qgd W		CbNd 4	
33N 1E 23-1	NE SE	MDC (17)	9	2	Qgd W		CbFr 17	
27-1	SE NE	MDC (16)	15	2	Qgd W		5	
28-1	NE NW	MDC (7)	14	2	Qgd W		7	
Chippewa County								
46N 4W 24-1	NE SE	USFS	54	6	Qgd A		CpSp 59	Measured by owner.
Clinton County								
8N 1W 13-1	SW NW	Village of Elsie	298	12	IPs A	699.68	CtES 1	
13-3	SW NW	Do. (3)	45	12	Qgd A	706.17	3	
6N 2W 16-1	SE SE	MSHD	23	14	Qgd W	803.32	CtOe 1	
5N 2W 32-1	SW SE	Mich. Dept. Health	135	6-4	IPs A	849.21	CtDw 159	
Crawford County								
28N 2W 30-1	NW SW	MDC (2)	10	2	Qgd W		CrLv 6	
28N 1W 8-1	NE NE	MDC (6)	13	2	Qgd W		4	
20-1	NE SW	MDC (18)	13	2	Qgd W		5	
27N 4W 2-1	NE NW	MDC (42)	13	2	Qgd W	1,194.18	CrFr 1	
19-1	SE SW	MDC (12)	19	2	Qgd W		5	
23-1	NE NE	MDC (51)	17	2	Qgd W		2	
27N 3W 15-1	NW NE	MDC	17	1¼	Qgd W		CrGr 13	
15-2	NE NW	MDC	13	1¼	Qgd W		14	
27N 1W 4-1	SW SW	MDC (8)	10	2	Qgd W		CrLv 3	
20-1	SW SW	MDC (22)	13	2	Qgd W		1	
22-1	NE NE	MDC (27)	12	2	Qgd W		2	
26N 4W 2-1	SW SW	MDC (15)	14	2	Qgd W		-	-
5-1	NW NW	MDC (9)	8	2	Qgd W	1,137.17	CrGr 4	
5-2	NE SE	MDC (12)	9	1¼	Qgd W	1,144.01	7	
10-1	NE SE	MDC (10)	12	2	Qgd W	1,146.11	5	
11-1	NW SW	MDC	12	15	Qgd W	1,147.59	6	
28-1	NE SW	Michigan National Guard Camp	31	3	Qgd W		11	
26N 3W 8-1	NW NW	MDC	8	1¼	Qgd W		CrGR 3	
12-1	SE SE	MDC (28)	16	1¼	Qgd W		CrGr 3	
26N 2W 11-1	SE SE	MDC (9)	7	2	Qgd W		1	
25N 4W 7-2	NW SE	H. H. Joseph (8)	137	2	Qgd W		CrBc 32	
8-1	SW SW	Do. (9)	88	2	Qgd W	1,248.8	31	
21-1	NE NE	MDC (G3)	53	2	Qgd W	1,229.9	20	
25N 3W 28-1	SW SW	MDC (8)	13	1¼	Qgd W	1,175.14	1	
25N 1W 15-1	SE SE	USFS	56	6	Qgd A		CrSb 1	
Dickinson County								
43N 29W 32-1	NW NE	Dickinson Co. Rd. Comm. (WMP 11)	12	1¼	Qgd W		DkFe 1	Measured by WMP.
42N 27W 33-1	NE NW	E. W. LaFreniere (WMP 10)	12	36	Qgd W		DkBe 1	Do.
41N 30W 25-1	NE SW	Dickinson Co. Rd. Comm. (WMP 1)	20	1¼	Qgd W		DkBg 1	Do.
25-2	NW SE	Wm. Carrolo (WMP 2)	16	36	Qgd W		2	Do.
25-3	SE NE	Oscar Martinson (WMP 3)	12	48x48	Qgd W		3	Do.
Eaton County								
4N 4W 2-1	SW SW	City of Grand Ledge	376	12	IPs A	846.59	EaGL 1	Measured by owner.
4N 3W 9-1	SW SW	B. B. Bosworth	18	48	Qgd W	851.71	EaDt 215	Well destroyed.
10-1	SE NE	John Schneeberger	121	3	IPs A	855.99	214	
12-1	SE SW	Mrs. Harold Worden	381	6	IPs A	861.91	30	
24-1	SE SE	J. R. McLaughlin	22	12	Qgd W	851.96	217	
2N 4W 19-1	NW SW	City of Charlotte	25	20 ft.	Qgd W	889.44	EaCH 1	
Genesee County								
7N 7E 9-1	SE SW	Consumers Power Co.	288	12	IPs A	761.83	GeFL 500	
17-1	SE NE	Do.	222	12	IPs A	757.83	491	
20-2	SW SW	City of Flint	169	2	Qgd A	749.48	354	
29-1	SE SW	C. F. Crain	14	1¼	Qgd W	776.63	GeBu 300	
29-2	SW SE	Clarence Chappell	8	18	Qgd W	779.86	303	
32-1	SW SW	A. W. Arndt	140	2	Qgd A	792.27	492	
6N 7E 9-1	SW SE	Grand Blanc Tank Plant (6)	375	6	IPs A	841.71	GeGb 25	Measured by owner.

Table 1.--Records of Michigan observation wells in which water-level measurements were made during 1957.--Continued

Well number	Location in section ¼	¼	Owner	Depth (ft.)	Diameter (in.)	Chief Aquifer	Altitude	Former USGS No.	Remarks
Gladwin County									
17N 1W 7-1	SW	NW	City of Beaverton	93	12	Qgd A	721.50	GwBV 1	Measured by owner.
Grand Traverse County									
27N 9W 4-1	NW	NE	MDC (18)	15	2	Qgd W	687.01	GvWw 18	
28-1	SE	NW	MDC (15)	17	2	Qgd W	893.26	15	
34-1	SE	NW	MDC (25)	18	2	Qgd W	900.25	25	
35-1	SE	NW	MDC (1)	17	2	Qgd W	906.11	1	
26N 11W 21-1	SW	SW	MDC (14)	13	2	Qgd W	899.26	GvBr 14	
27-1	NW	SW	MDC (2)	14	2	Qgd W	914.25	2	
26N 9W 13-1	SW	SW	MDC (2)	14	2	Qgd W	961.78	GvUn 2	
25N 11W 2-1	SE	NW	MDC (19)	11	2	Qgd W	1,058.81	GvMy 19	
25N 10W 2-1	SW	SW	MDC (25)	15	2	Qgd W	945.27	GvPr 25	
8-1	NW	NW	MDC (26)	13	2	Qgd W	949.58	26	
25N 9W 23-1	NW	SE	MDC (6)	17	2	Qgd W	1,017.85	GvFf 6	
26-1	NW	NW	MDC (24)	19	2	Qgd W	1,024.02	24	
34-1	NW	NW	MDC (27)	17	2	Qgd W	1,025.34	27	
Gratiot County									
12N 3W 33-1	NE	SE	E. E. Peterson	19	1¼	Qgd W	756.10	GrAL 252	
34-1	SW	SE	S. J. Brown	55	2	Qgd A	727.12	99	
34-2	SW	NE	Vane Mills	13	1¼	Qgd W	747.17	103	
34-3	SW	SE	M. J. Patterson	76	2	Qgd A	727.19	255	
34-4	SE	NE	Oris Martin	55	2	Qgd A	744.03	358	
34-5	NW	NE	City of Alma (5)	90	38-18	Qgd A		5	
35-1	SW	SW	A. F. Tennant	14	1¼	Qgd W	747.88	148	
35-2	NE	SW	C. H. Gould	14	1¼	Qgd W	739.71	254	
35-3	NW	SW	L. A. Halker	26	2	Qgd A	732.62	256	
35-4	NE	SW	Calvin Sherwood	28	3	Qgd W	736.1	331	
35-5	SW	NW	Reed Excavating Co.	20	36	Qgd W	738.78	360	
12N 2W 18-1	NE	NW	Michigan Chemical Co.	1350	5½	Mm A		- -	
11N 3W 2-2	NW	NE	Layne Water Co. (2)	130	8	Qgd A	744.15	54	
2-3	NE	NW	Bernard Engbloom	11	1¼	Qgd W	749.01	230	
2-4	NW	NW	C. D. Peet	15	1¼	Qgd W	750.24	240	
3-2	SW	NW	City of Alma (TW 1)	160	8	Qgd A	733.51	73	
3-4	NE	NW	Marshall Dallas	49	2	Qgd A	737.48	98	
3-5	NE	NE	Thomas Thompson	59	2	Qgd A	743.27	135	
3-6	NW	NW	E. H. Waber	49	2	Qgd A	733.20	258	
4-1	SW	NE	City of Alma (TW 6)	165	8	Qgd A	732.31	78	
4-2	SW	NE	Do. (TW 10)	167	8	Qgd A	734.43	82	
5-1	SE	NE	John Pfarr (Alma TW 12)	162	4	Qgd A	740.97	GrAr 33	
36-1	SE	SE	Village of Ithaca	785	10-8	Pms, Ppp, Mb A	804.50	GrIH 1	
9N 3W 8-1	NE	NE	Glenn Corson	31	30	Qgd W		GrPE 1	Well destroyed 1957.
Hillsdale County									
6S 3W 23-2	NW	NW	City of Hillsdale (TW 6)	26	6	Qgd W		- -	Measured by owner.
Ingham County									
4N 2W 4-1	NW	SW	C and O RR. (East 1)	38	12	Qgd A	842.19	IgLS 33	
7-1	SE	NW	Tank Bros.	107	3	Pms A	866.01	IgLs 35	
9-1	SE	NW	City of Lansing (Seymour 1)	401	14	Pms A	828.81	IgLS 7	
9-2	SW	NW	Consumers Power Co.	370	12	Pms A	820.69	60	
16-1	NE	SE	City of Lansing (Cedar)	417	12	Pms A	829.11	9	
17-1	NW	NE	Do. (Logan)	424	20	Pms A	858.72	6	
17-2	NW	NW	Olds Drop Forge (4)	417	12	Pms A	872.55	51	
19-1	SW	SW	Waverly Hills Association	87	2	Pms A	833.94	IgLs 805	
21-1	NE	NW	City of Lansing (Townsend)	410	14	Pms A	834.10	IgLS 8	
22-1	SW	NW	Do. (P-5)	338	12	Pms A	823.64	3	
22-2	SW	NW	Do. (P-9)	218	6	Pms A	830.76	4	
23-1	NE	NW	Do. (RS-7)	467	12	Pms A	824.86	5	Measured by owner.
24-1	NE	SW	Michigan State University	453	10	Pms A	853.45	IgLs 265	
25-1	NW	NE	Do. (Lamb Farm)	120	3	Pms A	866.67	266	
28-1	NE	NW	Atlas Drop Forge (2)	425	8	Pms A	849.20	IgLS 182	
31-1	SW	SW	C. A. Weber	204	3	Pms A	880.15	IgLs 271	
4N 1W 16-1	NW	NE	City of East Lansing (2)	440	12	Pms A	858.8	IgEL 421	Well destroyed 1957.
18-1	SE	NE	Marble School	175	3	Pms A	847.85	IgMr 405	

Table 1.--Records of Michigan observation wells in which water-level measurements were made during 1957.--Continued

Well number	Location in section ¼	¼	Owner	Depth (ft.)	Diameter (in.)	Chief Aquifer	Altitude	Former USGS No.	Remarks
Ingham County - Continued									
3N 2W 8-1	NW	NW	F. H. Kraus	72	3	IPs A	876.67	IgDh 12	
2N 1W 5-1	SE	SE	City of Mason (old 2)	150	6	IPs A		IgMS 30	Measured by Owner.
Ionia County									
7N 6W 19-1	NE	NE	City of Ionia (8)	143	12	Qgd A		- -	
6N 5W 33-1		NE	Barley-Earhart Co.	15	15 ft.	Qgd W		- -	
Iosco County									
23N 7E 7-1	NE	SE	USFS	341	6	Qgd A		IcWr 1	
Iron County									
46N 34W 14-1	NE	NW	Oliver Iron Mining Co. (WMP 18)	12	1¼	Qgd W		IrHm 5	Measured by WMP.
46N 33W 18-1	SW	NW	MSHD (WMP 17)	12	1¼	Qgd W		4	Do.
45N 37W 23-1	SW	NE	USFS (WMP 28)	8	1¼	Qgd W		IrSt 1	Do.
45N 36W 23-1	NE	NE	USFS (WMP 29)	22	48	Qgd W		IrIr 4	Do.
45N 35W 33-1	SE	NW	MSHD (WMP 34)	12	1¼	Qgd W		IrSt 5	Do.
45N 33W 8-1	SW	SW	Basilio Prandi (WMP 20)	33	36	Qgd W		IrHm 1	Do.
10-1	SE	NW	Bonifas Lumber Co. (WMP 19)	7	1¼	Qgd W		2	Do.
44N 35W 6-1	SW	SW	USFS (Paint River profile 1)	6	1¼	Qgd W	1,468.15	IrIr 5	Do.
6-2	SW	SW	USFS (Paint River profile 2)	13	1¼	Qgd W	1,475.14	6	Do.
6-3	NW	SW	USFS (Paint River profile 3)	12	1¼	Qgd W	1,476.35	7	Do.
7-1	NW	NW	USFS (Paint River profile 4)	4	1¼	Qgd W	1,469.28	8	Do.
7-2	NW	NW	USFS (Paint River profile 5)	13	1¼	Qgd W	1,471.25	9	Do.
7-3	NW	NW	USFS (Paint River profile 6)	17	1¼	Qgd W	1,475.83	10	Do.
44N 33W 10-1	SW	SW	Iron Co. Rd. Comm. (WMP 21)	8	1¼	Qgd W		IrHm 3	Do.
43N 36W 1-1	SW	NE	Do. (WMP 27)	9	1¼	Qgd W		IrIr 4	Do.
1-2	SW	SW	Mr. Williams (16)	50 (?)	?	Qgd W		- -	Mine-drainage study.
43N 35W 11-1	SE	NE	J. J. Javoroski (WMP 23)	47	36	Qgd W		IrIr 1	Measured by WMP.
13-1	SW	SE	F. V. Gendzwill (5)	65	36	pC ?		- -	Mine-drainage study.
13-2	SW	SE	Boyington (hole 4-44)	?	?	? ?		- -	Do.
20-1	SW	SE	Mrs. B. Henriksen (WMP 25)	48	1¼	Qgd W		IrIr 2	Federal Key Well, Measured by WMP.
22-1	SE	NE	Homer Mine No. 6 (2)	?	?	Qgd W		- -	Mine-drainage study.
24-1	SE	NE	Spies - Johnson No. 73 (7)	?	3	Qgd?W?		- -	Do.
26-1	SW	NE	City of Iron River	130	2	Qgd W		- -	Do.
43N 34W 19-1	NW	SW	Spies - Johnson No. 3004 (8)	?	3	Qgd?W?		- -	Do.
19-2	NE	SW	Do. 3c (9)	?	3	Qgd?W?		- -	Do.
29-1	SW	NE	Rogers Mine (11)	?	48	Qgd W		- -	Do.
43N 32W 26-2	NE	SW	Cayia Mine (17)	?	?	Qgd?W?		- -	Mine-drainage study.
42N 36W 15-1	NE	SW	MSHD (Brule River Profile 1)	6	1¼	Qgd W	1,543.92	IrSt 2	Measured by WMP.
15-2	NE	SW	MSHD (Brule River Profile 2)	7	1¼	Qgd W	1,545.60	3	Do.
15-3	NW	SW	W. Young Estate (Brule River Profile 3)	14	1¼	Qgd W	1,554.36	4	Do.
42N 34W 7-1	SW	NE	Zimmerman No. 1 (13)	171	20-12	Qgd W	1,165.32	- -	Mine-drainage study.
42N 31W 33-1	NW	SE	Iron Co. Rd. Comm. (WMP 7)	11	1¼	Qgd W		IrMt 1	
33-2	NW	SE	Joseph Giachino (WMP 8)	12	15	Qgd W		2	
41N 31W 10-1	SW	NE	Iron Co. Rd. Comm. (WMP 5)	17	1¼	Qgd W		3	
Jackson County									
1S 1E 36-9	SE	SE	MDC (9)	9	1¼	Qgd W		- -	
3S 1W 11-2	NE	NE	City of Jackson (4a)	360	6	IPs A		- -	
Kalamazoo County									
2S 11W 3-37	NE	NE	KVP Co. (TW 6)	25	2	Qgd A	766.93	KoPT 6	
3-60	NE	NE	Do. (61)	36	6	Qgd A	763.18	3-60	Measured by owner.
15-18	NE	SE	Consumers Power Co.	64	12	Qgd A	766.17	KoKO 211	
15-31	NW	SW	Wigginton Co.	68	6	Qgd A	781.37	228	
15-33	NE	SW	Columbia Hotel	65	5	Qgd A	769.46	311	
20-7	SW	SE	Western Michigan Univ.	78	8	Qgd A	868.68	KoKo 42	
22-6	NE	SW	City of Kalamazoo	115	6	Qgd A	777.45	KoKO 114	Do.
22-102	NE	SW	Kalamazoo Creamery	61	12	Qgd A	773.19	242	
26-3	NE	NE	Reed Land Co.	41	6	Qgd A	773.71	240	
27-52	NE	NE	Bryant Paper Co. (7)	113	12	Qgd A	802.59	284	Measured by city of Kalamazoo.
29-3	SW	SE	Oakwood, Inc.	47	2	Qgd A	880.72	KoKo 43	
4S 11W 13-1	NW	SE	Lee Paper Co. (6A)	144	12	Qgd A	839.08	KoVB 6	

Table 1.--Records of Michigan observation wells in which water-level measurements were made during 1957.--Continued

Well number	Location in section ¼	¼	Owner	Depth (ft.)	Diameter (in.)	Chief Aquifer	Altitude	Former USGS No.	Remarks
Kalamazoo County - Continued									
4S 11W 13-2	NE	SW	Lee Paper Co. (7A)	48	12	Qgd A	838.18	KoVB 7	
21-2	NW	SW	Willis Chamberlain	19	1¼	Qgd W		- -	
27-1	SE	NW	H. H. Chamberlain	19	1¼	Qgd W	854.64	KoSc 5	
Kalkaska County									
28N 5W 35-1	SE	SE	MDC (22)	14	2	Qgd W		KaBk 22	
27N 5W 27-1	NE	SW	MDC (13)	19	2	Qgd W		KaCw 13	
36-1	SE	NW	MDC (100)	16	1¼	Qgd W		100	
Kent County									
9N 12W 22-1	SE	NE	Village of Sparta (3)	90	12	Qgd A (?)		- -	
23-1	SE	NW	Carnation Co. (6)	280	10	Mb? A		- -	
6N 12W 17-1	SE	NE	Jervis Corp. (1)	30	12	Qgd W		KeGV 10	Measured by owner.
17-2	SE	NE	Do.	26	6	Qgd W	606.05	11	Do.
17-3	SE	NE	Do.	21	2	Qgd W	607.38	12	Do.
17-4	SE	NE	Do.	20	1¼	Qgd W	608.26	13	Do.
17-5	SE	NE	Do.	28	2	Qgd W	613.92	14	Do.
Lake County									
17N 13W 3-1	SW	NW	C and O RR. (East Well)	28	10	Qgd W?		- -	
4-1	SE	NE	Do. (West Well)	83	8	Qgd W?		- -	
Mackinac County									
42N 2W 7-1	NE	NE	USFS (Pontchartrain well)	102	6	Sm A		- -	
41N 5W 23-1	SW	NW	MDC (Round Lake Well)	47	6	Ss A		- -	
Marquette County									
49N 30W 22-1	SW	NE	Marquette Co. Rd. Comm. (WMP 13)	17	1¼	Qgd W		MqMc 1	Measured by WMP.
45N 30W 1-1	SW	NW	Arnold Janofski (WMP 4)	31	36	Qgd W		MqRe 1	Do.
44N 26W 28-1	NE	SE	MDC	31	6	Qgd W		MqFr 1	Measured by USFS.
Mason County									
17N 15W 3-1	SE	SW	USFS	32	6	Qgd W	737.37	MaLo 1	
Montcalm County									
9N 8W 10-1	SW	NW	City of Greenville (1)	29	12	Qgd W?		- -	
15-1	SW	NW	Do. (9)	65	12	Qgd A		MmGV 9	Measured by owner.
Montmorency County									
32N 2E 34-1	NW	NE	MDC	24	2	Qgd W		MyMy 1	
31N 2E 11-1	NW	NW	MDC (6)	12	2	Qgd W		MyBr 6	
14-1	SW	SW	MDC (16)	18	2	Qgd W		16	
31N 3E 9-1	NW	NE	MDC	14	2	Qgd W		MyBm 22	
31N 4E 8-1	NE	SW	MDC (1)	14	2	Qgd W		1	
34-1	NE	SW	MDC (23)	13	2	Qgd W		23	
30N 2E 6-1	SW	NW	MDC (1)	11	2	Qgd W		MyBr 8	
30N 4E 26-1	NW	NE	MDC (18)	10	2	Qgd W		MyRs 18	
29N 2E 22-1	SW	SE	MDC	64	6	Qgd A		MyAb 1	
27-1	NW	NW	MDC (32)	10	2	Qgd W		7	
29N 3E 21-1	NW	NE	MDC (32)	14	2	Qgd W		MyLd 6	
29N 4E 5-1	Ctr	SW	MDC	14	2	Qgd W		MyRs 4	
Oakland County									
3N 10E 31-1	NE	SW	City of Pontiac (Orchard Lake)	173	12	Qgd A		OaPT 48	Measured by owner.
32-1	SE	NW	Do. (6)	160	8	Qgd A	921.88	1	Do.
2N 10E 22-1	NE	NW	Cranbrook School (3)	65	6	Qgd A		OaBH 2	Do.
Ogemaw County									
23N 1E 4-1	SE	NE	MDC (15)	21	4	Qgd W		OgFr 15	

Table 1.--Records of Michigan observation wells in which water-level measurements were made during 1957.--Continued

Well number	Location in section ¼	¼	Owner	Depth (ft.)	Diameter (in.)	Chief Aquifer	Altitude	Former USGS No.	Remarks
Ogemaw County - Continued									
23N 1E 17-1	SE	NW	MDC (30)	19	4	Qgd W		OgFr 30	
23N 2E 2-1	NE	NW	Charles Hudson	7	36x48	Qgd W		OgKa 1	
Otsego County									
29N 3W 29-1	SW	SE	MDC (106)	15	2	Qgd W		OsOk 106	
32-1	SE	SW	MDC (105)	8	2	Qgd W		105	
Presque Isle County									
33N 2E 18-1	NE	NE	MDC (5)	14	2	Qgd W		PrAs 20	
29-1	SW	NE	MDC (20)	13	2	Qgd W		13	
30-1	NE	SE	MDC (19)	14	2	Qgd W		18	
30-2	SW	NW	MDC (18)	14	2	Qgd W		19	
Roscommon County									
24N 3W 3-1	NW	NW	MDC (17)	17	1¼	Qgd W	1,168.02	RoGr 17	
24-1	NW	NW	MDC (1)	15	2	Qgd W	1,162.42	1	
24N 2W 1-1	NE	NE	MDC (88)	14	1¼	Qgd W	1,164.39	RoHg 88	
7-1	NE	SE	MDC (107)	13	1¼	Qgd W	1,138.01	107	
19-1	NE	SW	MDC (150)	14	2	Qgd W	1,154.17	150	
20-1	NE	NW	MDC (1)	14	8	Qgd W	1,145.30	1	Federal Key Well.
21-1	NW	NW	MDC (1000)	15	2	Qgd W		1000	
24N 1W 34-1	NE	NE	MDC (30)	19	2	Qgd W	1,194.81	RoAs 30	
23N 3W 12-1	NE	SE	MDC (75)	14	2	Qgd W		RoMk 75	
25-1	NE	SE	MDC (5)	14	2	Qgd W	1,154.29	5	
23N 2W 31-1	NW	NW	MDC	13	2	Qgd W	1,153.63	RoHg 7	
23N 1W 3-1	SE	SE	MDC (50)	12	2	Qgd W	1,188.95	RoRf 50	
22N 4W 15-1	SE	SE	MDC (4)	11	2	Qgd W	1,155.72	RoRo 4	
22N 3W 22-1	SE	NE	MDC (7)	14	2	Qgd W	1,170.58	RoDt 7	
34-1	SE	SW	MDC (26)	11	2	Qgd W	1,177.82	26	
22N 2W 14-1	NE	NW	MDC (9)	12	2	Qgd W	1,201.55	RoBk 9	
17-1	NE	NW	MDC (15)	13	2	Qgd W	1,165.46	15	
22N 1W 11-1	NW	NW	MDC (5)	14	2	Qgd W		RoRf 5	
21N 4W 4-1	NW	SE	MDC (50)	14	2	Qgd W		RoRo 50	
13-1	NE	NE	MDC (8)	12	2	Qgd W	1,132.33	8	
21N 3W 2-1	NE	NW	MDC (3)	19	2	Qgd W	1,201.40	3	
5-1	NE	NW	MDC (15)	15	2	Qgd W	1,147.86	15	
Saginaw County									
9N 3E 16-1	NE	NW	August Bauer	72	2	IPs A		SgCH 9	
St. Joseph County									
6S 11W 18-1	SW	SE	City of Three Rivers (7)	59	6	Qgd A	790.92	SpTR 1	Measured by owner.
Sanilac County									
12N 13E 33-1	SE	SE	MSHD	150	3	Mm A		SaMr 1	
Schoolcraft County									
47N 16W 30-1	NW	NW	MDC (Cusino)	57	6	C€h			
45N 13W 16-1	SW	SW	U. S. Fish and Wildlife Service	154	4	Or A		SoGe 112	Measured by owner.
Shiawassee County									
5N 2E 16-1	NE	SE	A. B. Cobb	26	1½	Qgd W	896.00	ShPR 8	
Washtenaw County									
3S 6E 16-1	SW	NW	City of Ann Arbor	23	2	Qgd A	817.43	WaPf 1	Meas. by Owner.
16-2	SE	NW	Do.	23	16 ft.	Qgd A		2	Do.
3S 7E 24-1	NE	SW	Ford Motor Co. (104)	87	4	Qgd W	665.56	WaYp 8	Meas. by Ypsilanti Twp.
24-2	NE	SW	Do. (106)	53	4	Qgd W	664.51	9	Do.
24-4	NE	SW	Do. (107)	53	4	Qgd W	664.05	11	Do.
24-5	NW	SW	Do. (109)	77	4	Qgd W	665.56	12	Do.
24-6	SW	SW	Federal Works Agency (117) (FWA-13)	75	6	Qgd W	657.83	13	Do.

Table 1.--Records of Michigan observation wells in which water-level measurements were made during 1957.--Continued

Well number	Location in section ¼	¼	Owner	Depth (ft.)	Diameter (in.)	Chief Aquifer	Altitude	Former USGS No.	Remarks
			Washtenaw County - Continued						
3S 7E 24-7		SW	Ford Motor Co. (124)	90	24	Qgd W	686.5	WaYp 14	Meas. by Ypsilanti Twp.
4S 6E 9-1	NW	NW	Ypsilanti State Hospital (TW 20)	184	6	Qgd A		WaYk 20	Meas. by owner
10-1	SW	NW	Ypsilanti State Hospital (TW 22)	173	6	Qgd A		22	Do.
			Wexford County						
24N 10W 22-1	SW	NW	MDC (2)	13	2	Qgd W	974.11	WeGw 2	
26-1	SW	NW	MDC (4)	13	2	Qgd W	979.26	4	
28-1	SE	NE	MDC (3)	18	2	Qgd W	1,005.49	3	
36-1	NW	NW	MDC (42)	12	2	Qgd W	1,004.86	42	
24N 9W 19-1	SW	NW	MDC (38)	11	2	Qgd W	994.16	WeLb 38	
21N 11W 13-1	NW	NE	USFS	62	6	Qgd W		WeHn 1	
21N 9W 4-1	NW	NE	City of Cadillac	277	8-6	Qgd A		WeCD 1	

Table 2.--Extremes in ground-water levels in observation wells in Michigan
(in feet below or above (+) land surface)

F 57 - Frequency of measurement in 1957:

R - Well equipped with recording gage.
D - Daily measurements.
W - Weekly measurements.
M - Monthly measurements.
Q - Quarterly measurements.
SA - Semiannual measurements.
A - Annual measurements. (shown in parentheses)

Note: 1957 measurements that are underscored are new extremes for entire period of record.

Well number	Years of record	Observed water-level extremes								F 57	Remarks
		Through 1956				1957					
		Highest	Date	Lowest	Date	Highest	Date	Lowest	Date		
Alpena County											
32N 6E 16-1	1948-57	5.46	4-15-55	16.67	11-12-48	6.80	4-26	11.03	10-9	Q	
30N 6E 6-1	1948-57	0.90	4-13-52	9.52	12-11-49	3.07	4-26	7.04	10-9	Q	
Baraga County											
48N 32W 12-1	1948-57	4.19	5- 3-51	6.72	3-15-49	4.83	5-30	5.51	2-28	M	
Branch County											
6S 6W 22-1	1949-57	10.08	4- 8-50	16.67	1-15-54	13.58	12-20	16.64	2-8	W	Affected by pumping.
Calhoun County											
1S 7W 10-1	1946-57	0.89	3-28-50	5.90	1-27-54	4.02	5-22	5.33	10-23	W	
31-1	1945-57	+0.08	5-23-50	4.65	9-19-55	4.07	4-18	5.79	10-18	Q	
32-1	1939-57	0.7	4-26-50	12.75	8- 5-55	6.10	2-24	13.04	8-12	D	Do.
32-2	1946-57	8.98	4-25-50	16.00	9-19-55	14.59	4-18	17.11	10-18	Q	
2S 8W 1-1	1946-57	10.49	4-11-47	17.74	8-21-53	14.00	12-26	16.53	8-14	Q	
1-2	1945-57	3.26	4-11-47	11.16	7-27-49	8.88	4-18	11.08	8-14	Q	Do.
2-1	1946-57	4.75	4- 9-47	9.53	9- 4-53	7.48	5-1	9.60	10-15	R	Do.
3-1	1946-57	1.75	4-28-50	8.25	12-19-56	6.47	12-26	7.13	11-12	Q	
3-2	1946-57	13.43	4-25-50	22.78	12-19-56	19.75	12-26	22.68	10-17	Q	Do.
3-3	1945-57	0.26	4-25-50	9.39	8- 2-46	7.05	12-26	9.17	8-14	Q	Do.
14-1	1939-57	9.10	5-31-52	32.76	3-26-41	11.99	8-14	12.62	10-17	Q	Do.
14-2	1945-57	6.22	5-29-50	12.86	10-18-46	8.85	8-14	9.61	10-17	Q	Do.
2S 7W 7-1	1946-57	15.00	4-11-47	23.86	9-19-55	17.39	12-26	23.04	8-14	Q	Do.
10-1	1946-57	11.42	5-29-50	15.54	3- 7-47	15.08	8-15	15.67	4-18	Q	Do.
17-1	1945-57	6.57	4-25-50	11.23	11- 6-53	9.62	12-26	11.15	10-17	Q	Do.
18-1	1945-57	+0.50	4-25-50	3.24	9-21-49	1.05	12-26	2.52	8-14	Q	Do.
2S 6W 25-1	1950-57	5.46	5- 9-50	9.36	9-19-55	8.95	12-26	9.43	10-17	Q	Do.
25-2	1950-51, 56-57	6.50	9-14-50	8.69	10- 3-56	8.28	12-26	9.00	8-14	Q	Do.
25-3	1950-57	19.71	5- 3-50	26.32	12-19-56	24.02	12-26	24.64	8-14	Q	Do.
Cass County											
6S 16W 1-1	1949-57	+4.20	11-30-51	5.97	7-24-53	+3.95	5-17	2.80	6-21	W	Do.
8S 14W 17-1	1945-57	46.20	7-16-50	55.03	3-10-47	50.85	1-6	52.59	12-22	W	
Charlevoix County											
33N 4W 2-1	1948-57	70.85	7-19-52	75.85	4-16-56	73.09	10-8	75.02	4-25	Q	
32N 4W 10-1	1934-41, 48-57	1.19	3-30-38	5.85	10-24-56	4.59	4-25	6.11	10-8	Q	
Cheboygan County											
34N 1W 1-1	1938-41, 48-52, 55-57	2.75	3-28-38	5.55	10-13-55		(4.28, 10-8)			A	
26-1	1935-44, 48-57	3.90	3-28-38	7.45	10-13-55	5.53	7-16	6.99	1-9	Q	
33N 1W 3-1	1935-44, 48-57	3.99	8-12-42	7.63	10-24-56	5.88	12-27	7.84	1-9	Q	
10-1	1935-41, 48-52, 55-57	1.98	3-28-38	7.84	10-13-55		(5.00, 10-8)			A	
33N 1E 23-1	1935-41, 48-52, 55-57	1.89	3-28-38	9.42	10-18-49		(6.50, 10-9)			A	
27-1	1939-44, 48-57	1.72	4-28-54	5.21	10-18-49	1.34	7-16	2.98	1-8	Q	
28-1	1935-41, 48-52, 55-57	0.95	3-28-38	4.51	10-13-55		(3.16, 10-9)			A	
Chippewa County											
46N 4W 24-1	1952-57	22.67	5-21-53	27.77	4-12-56	e22.45	7-25	26.08	4-3	R	e - estimated.

Table 2.--Extremes in ground-water levels in observation wells in Michigan.--Continued
(in feet below or above (+) land surface)

Well number	Years of record	Observed water-level extremes: Through 1956 Highest	Date	Lowest	Date	1957 Highest	Date	Lowest	Date	F 57	Remarks
Clinton County											
8N 1W 13-1	1947-57	+3.78	6- 3-50	35.97	9-16-47	22.85	4-29	37.55	10-15	Q	Affected by pumping.
13-3	1947-57	8.3	4- 5-50	26.4	10-11-49	12.55	10-15	19.45	12-30	Q	Do.
6N 2W 16-1	1948-57	14.59	4-19-52	18.53	12-29-53	16.02	7-29	18.26	1-30	M	
5N 2W 32-1	1944-57	42.02	9-14-44	75.82	12-20-56	74.29	12-23	77.62	4-22	Q	
Crawford County											
28N 2W 30-1	1933, 35-37, 43-57	1.33	4-17-47	4.92	10-13-49		(4.91, 10-7)			A	
28N 1W 8-1	1934-57	4.16	4-18-52	8.78	3-10-36		(7.95, 10-7)			A	
20-1	1934-57	3.44	4-18-52	7.04	10-12-55		(5.35, 10-7)			A	
27N 4W 2-1	1934-57	3.84	4-17-47	7.08	3-14-51	6.28	7-17	7.06	10-7	Q	
19-1	1949-57	14.43	5-14-52	17.59	12-14-49		(16.61, 10-10)			A	
23-1	1939-57	10.91	7-11-43	14.49	10-24-56		(14.58, 10-7)			A	
27N 3W 15-1	1948-57	6.95	4-18-52	10.14	10-12-55		(10.25, 10-9)			A	
15-2	1948-57	1.32	4-18-52	4.20	10-12-55		(4.13, 10-9)			A	
27N 1W 4-1	1934-57	2.74	4-18-52	4.77	3-14-51		(4.33, 10-7)			A	
20-1	1934-57	1.55	7-11-43	5.92	10-12-55		(5.35, 10-7)			A	
22-1	1934-57	3.51	4-18-52	6.38	1-27-56	4.66	7-16	5.76	1-8	Q	
26N 4W 2-1	1955-57	7.55	4-18-56	11.08	10-11-55	7.79	7-17	9.10	10-11	Q	
5-1	1934-57	+0.35	6-17-43	4.63	9-25-35		(2.78, 10-11)			A	
5-2	1934-57	2.31	6-17-43	7.21	10-11-55		(5.42, 10-11)			A	
10-1	1934-57	2.04	6-17-43	8.42	10-11-55		(7.24, 10-11)			A	
11-1	1942-57	4.03	6- 1-43	9.83	10- 3-55	6.10	7-9	8.80	9-14	R	
28-1	1949-57	19.42	7- 1-54	22.39	7-23-49	21.43	7-17	22.30	12-28	Q	
26N 3W 8-1	1949-57	2.62	4-18-52	3.44	10-13-49	3.08	7-18	3.16	4-30	Q	
12-1	1935-57	4.04	3-21-38	9.39	2-15-51	8.45	7-16	9.01	12-24	Q	
26N 2W 11-1	1935-57	0.77	6-13-39	2.54	7-23-40		(1.51, 10-7)			A	
25N 4W 7-2	1952-57	62.58	11-10-53	64.66	11- 2-56		(65.52, 10-11)			A	
8-1	1952-57	55.36	11-12-52	57.48	11- 2-56		(58.36, 10-11)			A	
21-1	1953-57	36.72	9- 9-53	38.66	11- 2-56		(39.12, 10-11)			A	
25N 3W 28-1	1934-37, 39-57	8.70	6-15-43	10.85	11-11-49	10.08	7-15	10.85	1-7	Q	
25N 1W 15-1	1948-57	29.44	8- 4-53	35.97	4- 4-51	31.44	9-15	34.09	5-16	R	
Dickinson County											
43N 29W 32-1	1948-57	5.12	4-18-51	dry	10-12-48	7.50	5-1	10.69	9-30	M	
42N 27W 33-1	1945-46, 48-57	3.08	4-29-54	10.75	10- 3-55	4.78	5-1	9.44	8-30	M	
41N 30W 25-1	1948-57	3.51	10-30-51	dry	10- 3-55	4.43	5-1	dry	Jan.	M	
25-2	1945-46, 48-57	2.61	10-30-51	14.40	3-29-56	4.29	5-1	11.69	12-2	M	
25-3	1945-46, 48-57	1.73	7- 6-53	dry	11- -48	3.75	5-1	9.89	2-28	M	
Eaton County											
4N 4W 2-1	1948-57	21.34	5- 5-50	28.79	12- 3-49	23.38	7-29	27.78	3-18	W	Affected by pumping.
4N 3W 9-1	1944-57	5.55	4-26-52	dry	2-23-54		(12.72, 4-22)			A	Well destroyed.
10-1	1944-57	31.28	5-27-48	37.78	2-28-56	36.90	7-29	37.90	4-29	M	
12-1	1953-57	67.51	11-23-53	78.10	8-19-55	69.84	12-1	75.70	8-22	R	Affected by pumping.
24-1	1944-57	0.14	4-24-50	dry	12-12-55	5.84	12-23	dry	10-24	Q	
2N 4W 19-1	1947-57	8.04	4- 7-47	15.77	1- 2-48	14.18	12-26	15.72	10-17	Q	Do.
Genesee County											
7N 7E 9-1	1946-57	17.50	4-11-48	41.11	7- 6-56	23.42	4-25	45.48	7-20	Q	Affected by pumping.
17-1	1946-57	24.23	2-12-50	37.99	8-24-55	26.47	4-5	e31.79	8-22	R	Do. e - estimated.
20-2	1947-57	1.09	4-26-50	9.07	9-15-55	5.10	4-25	6.63	7-20	Q	
29-1	1946-57	1.69	12-22-49	7.62	9-15-55	6.18	4-25	9.90	10-17	Q	Storm sewers installed, water table lowered.
29-2	1946-57	+0.20	6-29-48	5.37	10-17-46	2.90	2-27	8.10	9-29	M	Do.
32-1	1946-57	18.51	6- 2-47	30.35	9-15-55	26.61	7-20	29.59	10-17	Q	
6N 7E 9-1	1952-57	37.79	11-24-52	52.9	8- 3-55	42.6	1-2	52.4	8-26	R	Affected by pumping.
Gladwin County											
17N 1W 7-1	1950-57	28.90	5-14-56	49.35	6-26-50	31.09	11-23	48.00	12-9	D	Affected by pumping.
Grand Traverse County											
27N 9W 4-1	1934-37, 41-44, 48-52, 55-57	0.91	9-20-44	2.54	7-26-35		(1.55, 10-25)			A	

Table 2.--Extremes in ground-water levels in observation wells in Michigan.--Continued
(in feet below or above (+) land surface)

Well number	Years of record	Observed water-level extremes: Through 1956 Highest	Date	Lowest	Date	1957 Highest	Date	Lowest	Date	F 57	Remarks
Grand Traverse County - Continued											
27N 9W 28-1	1934-37, 41-44, 48-52, 55-57	12.11	8- 6-43	dry	10-30-56		(dry, 10-25)			A	
34-1	1934-37, 41-44, 48-52, 55-57	13.78	8- 6-43	dry	1- -37		(dry, 10-25)			A	
35-1	1934-37, 41-44, 48-57	11.76	10- 7-53	15.62	9-10-37	14.59	4-30	14.78	12-30	Q	
26N 11W 21-1	1936-37, 41-44, 48-52, 55-57	1.02	10-30-51	3.31	7-31-41		(1.79, 10-25)			A	
27-1	1935-37, 41-44, 48-57	1.32	10-30-51	4.02	8-18-36	2.35	4-30	3.40	10-25	Q	
26N 9W 13-1	1934-37, 41-44, 48-57	4.83	4-14-55	7.87	10-11-49	4.72	7-17	6.77	1-10	Q	
25N 11W 2-1	1935-37, 43-44, 48-57	1.51	4-22-54	6.40	11-14-35	1.01	4-30	5.07	10-25	Q	
25N 10W 2-1	1936-37, 41-44, 48-57	0.29	9- 3-42	1.68	7- 1-37	1.10	4-30	1.54	1-10	Q	
8-1	1934-37, 41-44, 48-52, 55-57	0.22	10-30-51	2.43	8-27-37		(1.27, 10-25)			A	
25N 9W 23-1	1934-37, 41-44, 48-53, 55-57	3.23	5- 8-51	5.37	9-20-44		(3.82, 10-25)			A	
26-1	1934-37, 41-44, 48-53, 55-57	3.96	5- 9-52	7.63	1-24-49		(6.85, 10-25)			A	
34-1	1934-37, 41-44, 48-57	10.86	8- 6-43	14.38	2-22-49	13.78	10-25	14.81	4-30	Q	
Gratiot County											
12N 3W 33-1	1947-57	8.88	6-10-47	13.63	11-28-49	11.64	12-30	12.80	10-15	Q	
34-1	1947-57	6.08	4-26-48	40.87	6-28-50	18.11	10-15	23.08	8-13	Q	Affected by pumping.
34-2	1946-52, 54-56	4.47	3-23-48	9.39	8-23-46	-	-	-	-	-	Not measured in 1957.
34-3	1946-52, 54-57	5.17	4-26-48	31.05	6-28-50	16.78	4-17	21.97	8-13	Q	Affected by pumping.
34-4	1950-57	21.41	4-28-50	dry	2- -50	23.94	12-30	25.85	8-13	Q	Do.
34-5	1944, 47-50, 55-57	19.94	5- 6-50	42.73	9-15-48	23.17	12-30	25.03	8-13	Q	Do.
35-1	1947-52, 54-56	10.60	5-17-48	12.95	9-26-56	-	-	-	-	-	Not measured in 1957.
35-2	1947-52, 54-57	4.72	6-10-47	11.98	12-22-54		(12.10, 10-15)			A	
35-3	1947-57	10.07	5- 3-48	21.64	6-24-52	16.17	12-30	19.28	8-13	Q	Affected by pumping.
35-4	1950-52, 54-57	4.36	4-27-51	9.56	9-26-56		(9.54, 10-15)			A	
35-5	1950-57	13.74	4- 7-50	17.91	11-12-53	15.77	12-30	16.87	10-15	Q	
12N 2W 18-1	1957	-	-	-	-	260.4	12-31	267.7	8-30	R	Meas. started 8-30-57. Affected by recharging well. (?)
11N 3W 2-2	1947-57	25.0	4-29-48	72.5	8-26-50	57 48	12-30	63.76	8-13	Q	Affected by pumping.
2-3	1946-52, 54-57	5.00	3-23-48	9.16	11-28-49		(8.24, 10-15)			A	
2-4	1947-57	7.69	6-10-47	11.37	11-28-49	9.89	8-13	10.70	4-17	Q	
3-1	1946-56	20.45	11- 6-47	67.62	8-14-53	-	-	-	-	Q	Measurement discontinued
3-2	1955-57	32.26	6-14-55	73.55	12-17-56	18.70	12-30	58.42	10-15	Q	Affected by pumping.
3-4	1956-52, 54-57	16.76	4-12-48	33.22	7-26-51		(27.30, 10-15)			A	Do.
3-5	1947-57	24.35	4-26-48	45.79	9-14-55	38.10	12-30	40.89	8-13	Q	Do.
3-6	1946-57	7.64	2-27-51	32.98	12-16-55	18.11	12-30	29.07	10-15	Q	Do.
4-1	1955-57	12.06	6-14-55	18.58	9-26-56	14.27	12-30	21.38	10-15	Q	Do.
4-2	1955-57	9.24	6-14-55	48.48	9-26-56	43.37	10-15	53.49	8-13	Q	Do.
5-1	1955-57	11.01	7-10-56	13.46	9-26-56	12.50	12-30	16.45	8-13	Q	Do.
36-1	1947-57	78.25	1-22-52	83.96	9- 4-49	79.55	12-30	80.79	8-13	Q	
9N 3W 8-1	1947-57	1.82	1-17-52	21.23	12-16-49	7.70	4-17	12.57	8-13	Q	Well destroyed 10-57.
Hillsdale County											
6S 3W 23-2	1957	-	-	-	-	2.24	4-12	12.96	9-18	W	Affected by pumping. Meas. started 4-12-57.
Ingham County											
4N 2W 4-1	1953-57	25.98	3- 3-53	31.51	12-12-56	30.15	5-26	32.75	11-10	R	Affected by pumping.
7-1	1944-57	53.94	11- 2-44	78.31	11-30-56	78.52	1-30	80.15	9-26	M	Do.
9-1	1919, 1929-57	15.63	3-26-31	154.77	4-10-56	137.17	12-23	146.68	4-22	Q	Do.
9-2	1945-57	61.26	3-23-46	143.27	12-12-55	127.38	12-23	135.17	4-22	Q	Do.
16-1	1945-57	42.01	3-11-46	67.0	8-22-49	57.29	7-29	63.01	4-22	Q	Do.
17-1	1929, 31, 33-57	34.34	12- -29	149.64	4-11-56	137.99	12-23	143.12	4-22	Q	Do.
17-2	1946-57	104.86	12-10-46	148.47	4-10-56	138.54	12-23	145.96	4-22	Q	Do.
19-1	1947-57	0.00	3-29-50	4.68	12-20-56	3.12	10-24	5.08	4-22	Q	

Table 2.--Extremes in ground-water levels in observation wells in Michigan.--Continued
(in feet below or above (+) land surface)

Well number	Years of record	Observed water-level extremes								F 57	Remarks
		Through 1956				1957					
		Highest	Date	Lowest	Date	Highest	Date	Lowest	Date		
Ingham County - Continued											
4N 2W 21-1	1906, 19, 1929-57	2.0	5- 9-06	61.26	4-11-56	61.50	4-22	63.64	7-30	Q	Affected by pumping.
22-1	1930-57	7.1	7- -32	50.86	12-21-56	42.57	4-22	53.05	12-23	Q	Do.
22-2	1930-57	12.65	7- -32	60.73	9- 2-55		(52.76, 4-22)			A	Measurement discontinued
23-1	1930-32, 36-57	7.55	11-17-30	105.28	7-17-56	62.28	12-31	91.28	8-30	M	Affected by pumping.
24-1	1945-57	25.47	3-25-46	67.10	6-14-56	e51.1	12-25	71.7	8-16	R	Do.
											Meas. resumed 4-29-57
											e - estimated.
25-1	1944-50, 55-56	21.60	3-30-46	39.06	10-31-56	-	-	-	-	M	Measurement discontinued
28-1	1944-45, 48-57	30.28	4-23-48	54.40	8-19-48	46.39	10-24	47.82	4-22	Q	Affected by pumping.
31-1	1944-57	18.92	4-26-52	24.77	2- 2-54	22.77	5-29	24.73	1-30	M	
4N 1W 16-1	1953-57	50.20	12-15-53	58.07	12- 5-56		(56.18, 4-1)			A	Do.
											Well destroyed, 5-57
18-1	1952-57	20.09	4-27-53	28.56	12-21-56	25.15	10-24	29.64	4-24	Q	Affected by pumping.
3N 2W 8-1	1950-57	10.43	5- 1-50	15.22	11-24-53	13.48	7-30	14.55	4-22	Q	
2N 1W 5-1	1948-57	0.08	6-29-49	7.37	9-17-55	1.88	12-21	6.61	10-5	W	Do.
Ionia County											
7N 6W 19-1	1957	-	-	-	-	46.77	11-18	49.27	11-9	R	Affected by pumping.
											Meas. started 9-10-57.
6N 5W 33-1	1957	-	-	-	-	8.32	12-19	10.02	10-7	R	Meas. started 9-10-57.
Iosco County											
23N 7E 7-1	1948-57	25.13	8- 3-52	27.94	1- 3-50	26.17	1-7	27.02	10-10	Q	
Iron County											
46N 34W 14-1	1945-57	3.65	6- 2-54	8.60	3-15-49	5.81	5-1	7.73	8-30	M	
46N 33W 18-1	1948-57	2.80	4-18-49	dry	2-28-56	5.21	5-1	7.84	8-30	M	
45N 37W 23-1	1948-57	0.75	8-31-51	4.72	9-11-48	1.36	5-1	3.41	8-30	M	
45N 36W 23-1	1945-46, 48-57	5.71	5-31-56	23.21	5-16-49	6.15	3-28	17.30	1-4	M	Meas. discontinued 4/57
45N 35W 33-1	1948-57	1.93	7- 6-53	8.44	3-15-49	4.80	5-1	6.16	12-2	M	
45N 33W 8-1	1945-57	23.39	10-30-51	32.16	3-15-49	27.52	5-1	28.67	12-2	M	
10-1	1948-57	2.01	9-28-51	4.23	3-12-49	2.78	5-1	3.79	8-30	M	
44N 35W 6-1	1948-57	+0.10	5- 2-51	2.26	11-15-48	1.44	3-28	2.26	9-1	M	
6-2	1948-57	5.08	7- 6-53	8.92	11-15-48	7.42	5-1	8.83	9-1	M	
6-3	1948-57	4.03	7- 6-53	9.20	11-15-48	7.26	5-1	8.95	9-1	M	
7-1	1948-57	1.12	5- 2-51	3.51	9-14-49	2.50	3-28	3.73	8-1	M	
7-2	1948-57	2.50	7- 6-53	9.44	10-26-48	4.32	5-1	5.52	9-1	M	
7-3	1948-57	8.48	5- 2-51	13.40	10-26-48	11.56	5-1	13.07	9-1	M	
44N 33W 10-1	1948-57	1.95	4-29-54	7.94	1-12-51	3.31	3-28	7.44	8-30	M	
43N 36W 1-1	1948-57	6.67	4-29-54	9.02	6-30-52	7.97	5-1	8.49	2-28	M	
1-2	1945-57	42.17	4-11-52	48.68	11-23-48		(45.20, 9-18)			A	
43N 35W 11-1	1945-57	39.33	1-11-52	47.08	8-15-49	42.87	1-4	43.48	7-1	M	
13-1	1945-57	47.90	9-11-46	63.68	11-30-46	53.59	3-20	54.20	9-18	SA	
13-2	1945, 47 - 57	66.39	1-14-52	71.56	3-24-49	68.83	3-20	69.26	9-18	SA	
20-1	1945-57	41.66	6-20-53	48.29	8-15-49	44.83	1-4	45.33	12-2	M	
22-1	1945, 47-57	118.82	9-16-53	132.37	1-19-49		(130.03, 3-20)			A	Measurement discontinued
24-1	1945-57	70.42	11-20-56	86.05	1-19-49	70.66	9-18	70.76	3-20	SA	
26-1	1945-57	25.30	9-24-45	44.58	3-24-50	29.67	9-18	30.57	3-20	SA	
43N 34W 19-1	1945-57	63.37	12-20-56	89.5	10-20-45	68.56	9-18	68.70	3-20	SA	
19-2	1945-57	69.35	12-20-56	84.10	12-21-48	74.50	3-20	74.68	9-18	SA	
29-1	1947-53, 57	10.31	8-15-53	20.69	3-24-50	15.80	3-20	16.42	9-18	SA	
43N 32W 26-2	1952-57	1.04	5-12-55	86.03	3-18-53	10.58	9-18	11.20	3-20	SA	
42N 36W 15-1	1948-57	0.81	4-29-54	3.17	10-26-48	1.83	2-28	3.06	8-1	M	
15-2	1948-57	0.46	7- 6-53	3.10	10-26-48	1.37	5-1	2.72	8-1	M	
15-3	1948-57	3.67	4-29-54	8.29	10-26-48	5.87	5-1	7.64	9-1	M	
42N 34W 7-1	1945-57	132.24	8-23-56	153.27	4-21-50	133.77	3-20	134.47	9-18	SA	
42N 31W 33-1	1948-57	+0.03	7- 3-56	6.28	10-13-48	0.32	5-1	4.10	2-28	M	
33-2	1945-57	1.89	10-30-51	12.22	2-25-53	5.90	5-30	10.56	12-2	M	
41N 31W 10-1	1948-57	8.47	1- 3-52	dry	12-15-48	12.39	7-1	14.74	2-28	M	
Jackson County											
1S 1E 36-9	1956-57	0.42	5-10-56	5.75	11-16-56	0.95	4-5	4.10	8-31	W	Meas. started 2-29-56.
3S 1W 11-2	1957	-	-	-	-	21.1	7-7	71.5	8-14	D	Affected by pumping.
											Meas. started 6-13-57.
Kalamazoo County											
2S 11W 3-37	1946-57	9.49	4-18-50	14.90	10- 4-56	13.48	12-26	14.96	10-18	Q	Affected by pumping.
3-60	1956-57	10.48	7-17-56	12.04	10-15-56	10.21	5-27	12.05	10-14	W	Do.
15-18	1946-57	9.20	3-28-50	15.40	8-23-56	14.35	12-26	15.97	10-18	Q	Do.

Table 2.--Extremes in ground-water levels in observation wells in Michigan.--Continued
(in feet below or above (+) land surface)

Well number	Years of record	Observed water-level extremes: Through 1956 Highest	Date	Lowest	Date	1957 Highest	Date	Lowest	Date	F 57	Remarks
Kalamazoo County - Continued											
2S 11W 15-31	1946-57	18.55	5-22-50	25.85	2-24-54	25.55	12-27	26.05	10-18	Q	Affected by pumping.
15-33	1946-57	13.64	4-18-50	20.95	2-24-54	20.18	12-27	21.51	10-18	Q	Do.
20-7	1946-57	33.44	6-19-50	36.43	12- 5-46	36.31	4-18	36.90	10-18	Q	
22-6	1946-57	11.22	3-11-52	29.36	8- 9-46	21.09	1-25	28.24	8-24	R	Do.
22-102	1946-56	13.98	5- 3-50	27.42	12- 5-46	-	-	-	-	Q	Do. Meas. discontinued
26-3	1947-57	3.63	4-26-50	11.14	11- 6-53	8.20	12-26	9.36	8-15	Q	Affected by pumping.
27-52	1946-57	34.46	5- 5-50	64.37	9- 1-46	42.93	1-21	46.35	8-23	R	Do.
29-3	1946-57	26.12	8- 1-52	29.88	8- 6-53	29.35	4-19	29.77	10-18	Q	
4S 11W 13-1	1946-56	+2.08	4- 7-47	10.15	9- 9-46	-	-	-	-	W	Not measured in 1957.
13-2	1946-56	+0.55	7- 8-50	9.72	9-14-46	-	-	-	-	W	Do.
21-2	1957	-	-	-	-	14.07	12-28	14.62	11-14	W	Meas. started 11-7-57.
27-1	1953-57	12.94	7-12-56	15.22	1-20-54	13.72	5-2	14.99	10-10	W	
Kalkaska County											
28N 5W 35-1	1949-57	8.62	4-16-53	11.77	12-14-49	10.38	7-17	11.38	1-9	Q	
27N 5W 27-1	1942-57	12.50	7-11-43	17.22	1-23-50		(15.95, 10-11)			A	
36-1	1939-57	11.12	7-11-43	14.69	3-12-40	12.80	7-17	14.43	1-9	Q	
Kent County											
9N 12W 22-1	1957	-	-	-	-	35.60	9-6	44.3	10-29	W	Affected by pumping. Meas. started 9-6-57.
23-1	1957	-	-	-	-	0.13	12-28	7.9	10-6	R	Do.
6N 12W 17-1	1950-57	6.88	6- 8-56	16.45	2-12-54	10.43	12-27	14.05	2-1	W	Affected by pumping. Do.
17-2	1950-57	7.34	6- 1-56	16.32	2-12-54	10.36	12-27	13.91	1-18	W	Do.
17-3	1950-57	7.14	6- 1-56	15.87	2-12-54	10.14	7-26	13.54	1-18	W	Do.
17-4	1950-57	7.80	6- 1-56	16.81	2-12-54	10.89	7-26	14.40	2-1	W	Do.
17-5	1950-57	13.30	6- 1-56	22.22	2-12-54	16.27	6-5	19.79	2-1	W	Do.
Lake County											
17N 13W 3-1	1957	-	-	-	-	19.94	7-18	21.28	12-31	Q	Meas. started 7-18-57.
4-1	1957	-	-	-	-	19.34	7-18	20.34	11-4	Q	Do.
Mackinac County											
42N 2W 7-1	1956-57	16.56	7-15-56	28.0	10-25-56	15.15	7-5	29.35	11-5	R	
41N 5W 23-1	1956-57	13.93	12-14-56	15.51	11-15-56	5.80	4-13	17.09	11-8	R	
Marquette County											
49N 30W 22-1	1948-57	0.64	5- 3-51	13.32	9- 2-48	8.31	5-1	11.24	8-30	M	
45N 30W 1-1	1945-57	24.38	12-13-56	29.28	3-15-49	26.11	1-4	27.08	12-2	M	
44N 26W 28-1	1953-57	2.05	5-10-54	2.64	8-30-55	2.22	4-30	2.83	8-30	M	
Mason County											
17N 15W 3-1	1948-57	14.44	5-15-52	18.50	3- 1-51	18.01	7-18	19.30	12-31	Q	
Montcalm County											
9N 8W 10-1	1957	-	-	-	-	3.35	11-17	7.05	10-11	R	Affected by pumping. Meas. started 9-12-57.
15-1	1950-57	11.40	4- 1-50	17.36	8- 3-55	13.37	1-2	17.0	8-1	W	Affected by pumping.
Montmorency County											
32N 2E 34-1	1948-57	17.41	5-15-52	20.97	8-17-49	19.21	10-9	20.81	11-8	Q	
31N 2E 11-1	1934-57	7.40	3-29-38	dry	10-27-39	9.84	7-16	11.82	1-8	Q	
14-1	1948-57	11.79	5-15-52	14.81	10-31.56		(14.76, 10-24)			A	
31N 3E 9-1	1936-44, 48-57	2.85	4-21-52	7.76	12-15-49	5.46	7-16	7.82	1-8	Q	
31N 4E 8-1	1935-53, 55-57	0.06	6-19-51	4.84	9- 4-36		(2.06, 10-9)			A	
34-1	1935-37, 46-53, 55-57	0.02	4-15-36	1.05	7-17-50		(0.79, 10-9)			A	
30N 2E 6-1	1945-53, 55-57	+0.55	6-19-51	3.98	12-15-49		(0.85, 10-24)			A	
30N 4E 26-1	1935-37, 45-57	+0.78	7- 2-45	2.33	9-23-48	0.05	4-26	0.90	10-9	Q	

Table 2.--Extremes in ground-water levels in observation wells in Michigan.--Continued
(in feet below or above (+) land surface)

Well number	Years of record	Observed water-level extremes: Through 1956 Highest	Date	Lowest	Date	1957 Highest	Date	Lowest	Date	F 57	Remarks
Montmorency County - Continued											
29N 2E 22-1	1948-53, 57	+11.39	4-19-56	4.95	1-29-49	-	-	-	-	-	Meas. discontinued
27-1	1945-53, 55-57	+1.20	4-18-46	1.98	9-27-49		(1.17, 10-9)			A	
29N 3E 21-1	1945-57	2.63	5-15-52	5.91	1-27-56	3.15	7-16	5.44	1-8	Q	
29N 4E 5-1	1945-53, 55-57	2.75	3-18-53	dry	11- 1-46		(8.35, 10-9)			A	
Oakland County											
3N 10E 31-1	1952-57	109.2	1- 5-53	128.0	8- 6-55	109.3	12-1	117.4	8-10	R	Affected by pumping.
32-1	1939-57	59.55	4-22-40	129.5	8- 5-55	110.1	6-2	119.5	8-10	R	Do.
2N 10E 22-1	1950-57	11.00	4-30-56	17.60	9-26-55	11.01	12-31	16.00	10-7	W	Do.
Ogemaw County											
23N 1E 4-1	1934, 55-57	1.97	5-19-55	4.26	10-10-55	1.73	7-15	3.24	1-7	Q	
17-1	1934, 55-57	4.34	5-19-55	7.04	10-10-55		(6.58, 10-10)			A	
23N 2E 2-1	1951-57	0.37	5- 5-52	4.05	3- 1-56	1.67	7-15	2.86	1-7	R	
Otsego County											
29N 3W 29-1	1933-57	5.56	5-14-47	9.68	9-16-41	8.24	7-17	9.47	12-24	Q	
32-1	1935-57	0.67	4-17-47	4.59	8-26-41		(4.39, 10-7)			A	
Presque Isle County											
33N 2E 18-1	1933-44, 48-52, 55-57	2.05	3-29-38	5.74	10-18-49		(3.42, 10-9)			A	
29-1	1934-44, 48-52, 55-57	6.87	3-29-38	9.79	10-18-49		(8.69, 10-9)			A	
30-1	1934-44, 48-57	1.80	5-23-38	5.69	1-27-56	2.62	7-16	4.40	1-8	Q	
32-1	1934-44, 48-52, 55-57	5.86	3-29-38	10.58	10-18-49		(8.58, 10-9)			A	
Roscommon County											
24N 3W 3-1	1934-57	10.20	7- 7-54	13.26	12-14-49		(12.46, 10-10)			A	
24-1	1934-57	5.95	7- 9-43	11.62	12-13-49	8.44	7-15	10.62	1-7	Q	
24N 2W 1-1	1934-57	6.68	4-17-52	11.53	12-14-49	-	-	-	-	-	Not measured in 1957.
7-1	1934-57	5.18	7- 7-54	8.62	9-17-45		(7.41, 10-10)			A	
19-1	1934-57	1.15	6-15-43	6.05	11-11-49		(3.25, 10-24)			A	
20-1	1934-57	2.78	5- 3-51	6.23	12- 6-49	3.32	7-12	5.63	1-25	R	
21-1	1939-57	1.98	4-17-52	8.07	12-13-49		(3.94, 10-24)			A	
24N 1W 34-1	1934-57	14.40	6-15-43	dry	11- 6-39	15.60	7-15	16.99	1-7	Q	
23N 3W 12-1	1938-57	5.21	6-15-43	10.15	8-16-54		(8.74, 10-24)			A	
25-1	1934-57	3.44	4-17-52	6.76	8-14-36	3.45	7-15	5.57	1-7	Q	
23N 2W 31-1	1949-57	1.55	4-17-52	4.78	10-11-55		(2.58, 10-24)			A	
23N 1W 3-1	1939-57	1.62	6-15-43	7.31	12-14-49	2.83	7-15	5.43	1-7	Q	
22N 4W 15-1	1934-46, 48-57	1.29	11-16-45	5.29	9-20-54		(3.77, 10-11)			A	
22N 3W 22-1	1934-57	3.25	4-17-52	8.25	12-13-49	3.36	7-15	6.86	1-7	Q	
34-1	1934-37, 39-57	2.54	6-15-43	8.45	12-13-49		(4.52, 10-10)			A	
22N 2W 14-1	1934-56	2.93	10-14-41	7.35	10-14-48	-	-	-	-	A	Not measured in 1957.
17-1	1934-57	1.34	4- 1-38	5.38	11- 9-49	1.87	7-15	3.83	1-7	Q	
22N 1W 11-1	1934-57	1.10	6-15-43	6.22	11-11-49		(3.89, 10-10)			A	
21N 4W 4-1	1939-57	1.28	4-21-41	7.14	10-12-49		(5.16, 10-11)			A	
13-1	1935-57	1.54	6-16-45	5.95	10-14-48		(4.14, 10-11)			A	
21N 3W 2-1	1936-57	11.96	7- 9-43	15.98	4- 2-40		(13.75, 10-10)			A	
5-1	1934-57	9.61	6-15-43	11.81	11-11-49		(10.22, 7-15)			A	
Saginaw County											
9N 3E 16-1	1950-57	39.66	11-23-51	dry	summers	51.36	2-3	dry	5-12	W	Affected by pumping. Meas. stopped 6-30-57.
St. Joseph County											
6S 11W 18-1	1939-57	+2.90	5-22-53	5.70	9-27-47	+0.40	4-26	2.40	12-27	W	Affected by pumping.
Sanilac County											
12N 13E 33-1	1948-57	15.45	4-25-51	23.42	2- 1-56	16.40	5-20	21.95	1-2	W	

Table 2.--Extremes in ground-water levels in observation wells in Michigan.--Continued
(in feet below or above (+) land surface)

Well number	Years of record	Observed water-level extremes: Through 1956 Highest	Date	Lowest	Date	1957 Highest	Date	Lowest	Date	F 57	Remarks
Schoolcraft County											
47N 16W 30-1	1957	-	-	-	-	13.88	9-25	15.51	11-7	R	Started 7-25-57.
45N 13W 16-1	1952-57	5.09	4-12-54	6.28	9-26-55	5.24	3-15	5.95	8-13	R	
Shiawassee County											
5N 2E 16-1	1948-57	17.28	5- 3-50	21.10	10-30-53	18.25	7-20	19.92	10-17	Q	
Washtenaw County											
3S 6E 16-1	1920-57	e+2.5	2- -30	e10.0	11- -27	+0.12	4-28	7.47	9-25	W	Affected by pumping. e - estimated
16-2	1948-57	+2.00	6-30-51	15.31	8-30-53	0.20	4-28	15.50	8-21	W	Affected by pumping.
3S 7E 24-1	1943-45, 49-57	5.79	1- 5-50	16.43	10-16-56	13.12	11-7	15.59	2-28	M	Do.
24-2	1943-45, 49-57	11.81	7-13-43	30.46	10-16-56	22.15	11-7	31.57	5-10	M	Do.
24-4	1943-45, 49-57	11.55	1- 5-50	31.68	10-16-56	22.61	11-7	33.0	5-10	M	Do.
24-5	1943-45, 49-57	15.15	6- 6-45	34.12	12-17-56	31.97	12-4	37.76	5-22	M	Do.
24-6	1944-45, 49-57	5.69	2-15-50	25.87	8- 2-56	16.53	11-7	26.22	5-10	M	Do.
24-7	1955-57	23.47	12-29-55	36.05	10-16-56	34.31	11-7	35.77	5-10	M	Do.
4S 6E 9-1	1946-57	51.22	5-15-48	88.14	6-17-49	73.39	5-6	80.06	10-11	W	Do.
10-1	1946-57	61.48	6-12-53	88.27	7- 8-55	67.20	11-1	86.92	4-5	W	Do.
Wexford County											
24N 10W 22-1	1935-37, 41-44, 48-52, 55-57	1.40	8- 6-43	3.88	10-30-56		(4.15, 10-25)			A	
26-1	1935-37, 44, 48-52, 55-57	0.99	3-27-36	3.15	10-30-56		(2.77, 10-25)			A	
28-1	1935-37, 41-44, 48-57	5.20	8- 6-43	9.36	1-11-56	8.63	7-17	9.99	10-25	Q	
36-1	1935-37, 41-44, 48-52, 55-57	2.70	3-27-36	5.63	8-19-36		(4.64, 10-25)			A	
24N 9W 19-1	1935-37, 41-44, 49-57	0.94	4-10-51	3.74	8-19-36	1.17	4-30	2.13	10-25	Q	
27-1	1935-37, 41-44, 49-53, 55-57	0.00	3-21-50	dry	1-10-49		(13.03, 10-25)			A	
21N 11W 13-1	1948-57	46.28	6- 5-52	49.78	4-18-56	49.34	1-10	50.16	12-31	Q	
21N 9W 4-1	1949-57	19.99	7- 6-53	23.24	2-14-51	22.06	1-10	22.97	10-25	Q	Do.