

AUG 1 1949

DRILLER'S NOTEBOOK

WELL RECORD

DRILLER N. HOLMER

ADDRESS AMES IOWA

OWNER TOWNSHIP OF REOSAUSSA

ADDRESS.....

**RETURN TO
IOWA GEOLOGICAL SURVEY
IOWA CITY, IOWA**

WELL RECORD

Well is located.....miles ^N S and.....miles ^N S from
^E W ^E W

..... in Van Buren,
(Nearest Town) (County)

in the..... $\frac{1}{4}$ $\frac{1}{4}$ Sec..... T..... R.....

Owner Loung Kosanuyus Well No. 2

Postoffice address

Contractor Layne Western Co

Address Omaha Iowa

Driller

Well begun 6-8-....., 1949;

completed....., 19.....

Rig used—X Cable, Rotary, Jet, or.....

Depth of well 485
(Feet)

Size of hole (note total amount of each size).....

Main water supply at.....
(Feet below surface)

Final water head 28
(Feet above or below surface)

Is well pumped? No

Yield

(Gallons per minute)

Water level when pumping.....

Position of well.....
(Upland, valley, side hill, etc.)

RECORD OF PERMANENT CASING

Size Pipe	Amount of Pipe	Depth to Bottom of Pipe	Depth to Top of Pipe	Type* and Weight of Pipe	DIAGRAM OF WELL
10 ⁱⁿ	30.	30.			
8 ⁱⁿ	105'	172'	75'		

*As cast, wrought iron, steel, concrete, etc.

Is screen used?..... Diameter.....
(Inches)

Length..... Depth to bottom.....
(Feet)

Depth to top..... Slot size.....

Are packers or seals used?.....

Kind

Where used

Kind of pump..... Dia.....
(Inches)

Capacity of pump.....
(g.p.m.)

Power used

(Kind and amount)

Depth to bottom of pump line.....feet,
including.....feet tailpiece.

Remarks on construction of well.....

.....

Sample No.	DEPTH		THICKNESS
	From	To	
	29		
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
	90		
	95		
	100		
	105		

DESCRIPTION OF BEDS
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
<i>Lime</i>
<i>Shale</i>
<i>Shale</i>
<i>Lime</i>
- -
- - -
<i>Shale</i>

Sample No.	DEPTH		THICKNESS
	From	To	
	105	125	
	125	138	
	138	140	
	140	145	
	145	160	
	160	180	
	180	265	
	265	270	
	270	275	
	275	285	
	285	300	
	300	375	
	375	380	
	380	400	
	400	405	

Shale
 Limestone
 Limestone
 Shale
 Limestone
 Shale
 Limestone
 Hard Blue Limestone
 Light Gray Limestone
 Streaks of Green Shale
 Light Gray Limestone
 Some
 Hard Gray Limestone
 No change in water level 45 feet
 Strips of Shale
 Limestone
 Shale

DESCRIPTION OF BEDS	
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
Shale	
Lime	
Shale	
Lime	
Shale	
Lime	Shale's water level 50 feet
Hard Blue Lime	
Light Gray Lime	
Streaks of Green Shale	
Light Gray Lime	
Some	
Hard Gray Lime	
No change in water level 45 feet	
Strips of Shale	
Lime	
Shale	

Sample No.	DEPTH		THICKNESS
	From	To	

DESCRIPTION OF BEDS	
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.	
-Casing Record at 1207' ->	
396'-6" of 8" std pipe 0' to 396'-6"	
669' of 6" std pipe on bottom of 8" (8" bottom tapered to 6" & welded to 6" coupling).	
Bottom of 6" driven 1' into formation at 1065'	
Open 6" hole to 1207'	
{ According to core man. hole was reduced to 6" at 1128'. But casing stopped at 1065'.	

A. Y. McDONALD MFG. CO.

PLUMBING • HEATING • WELL SUPPLIES • OIL EQUIPMENT
DISTRIBUTORS OF RHEEM MFG. COMPANY PRODUCTS

2830 MT. PLEASANT ST.
BURLINGTON, IOWA
Phone 6035-36-37

*2 1/2 in of 700 ft mark in
10 in hole*

- | | |
|---------------------|--------------------|
| 565 - G - Shale | 670 - G. Shale |
| 570 - G - Shale | 675 - G Shale |
| 575 - G - Shale | 680 - B Shale |
| 580 - G - Shale | 685 - BG Shale |
| 585 - G - Shale | 690 - B - G Shale |
| 590 - G - Shale | 695 - G Shale |
| 595 - G - Shale | 700 - Rock |
| 596 - G - Shale | 705 - Rock |
| 600 - B - Shale | 710 - Rock |
| 603 1/2 - G - Shale | 715 - Rock |
| 605 - G - Shale | 720 - Rock - Shale |
| 610 - G - Shale | 725 - Rock - Shale |
| 615 - B - Shale | 730 - " |
| 620 - B - Shale | 735 - " |
| 625 - G. Shale | 740 - " |
| 630 - G Shale | 745 - Shale |
| 635 - G Shale | 750 - Shale |
| 640 - G Shale | 755 - Shale |
| 645 - G Shale | 760 - Shale Rock |
| 650 - G Shale | 765 - Shale Rock |
| 655 - G Shale | 770 - " |
| 660 - G Shale | |
| 665 - G Shale | |

Rheem Softener

Rheem Heater



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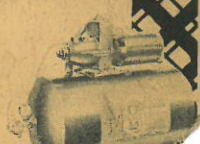
775 -	<u>870X</u>	960 -
<u>780 -</u>	875 -	965 -
<u>785 -</u>	880 -	970 - 914-S
790 -	885 -	975 -
795 -	890 -	980 -
X 800 -	895 -	985 -
805 -	900 -	990 -
810 -	905 -	995 -
815 -	910 -	1000 -
820 -	915 -	1005 -
825 -	920 - <i>916 1/2 lime</i>	1010 -
<u>830</u>	925 -	1015 -
835 -	930 -	1020 -
840 -	935 -	1025 -
845 -	940 -	1030 -
850 -	945 -	1035 -
<u>855 -</u>	950 -	1040 -
<u>860</u> X	955 -	1045 -
865 -		1050 -
		1055 -
		1060 -
		1065 -
		1070 -



Rheem
Softener



Rheem
Heater



A. Y. McDONALD MFG. CO.

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2830 MT. PLEASANT ST.

BURLINGTON, IOWA

Phone 6035-36-37

1075

1080

1085

1090

1095

1100 ← shale + B line

1105 -

1110 -

1115 -

1120 lime

1123 ←

1130

1135

1140

1145

1150

1155

1160

1165

1170

(1172 back in sand stone)

1175

1180

1185

1190

1195 shale

1200

1205

2' of LS at bottom

ST. PETERS SANDSTONE

1156
28
28
33

1156 shale

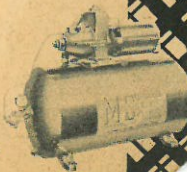
shale



Rheem Softener



Rheem Heater



"From the Friendly House of McDonald"

DRILLER'S NOTEBOOK

WELL RECORD

DRILLER..... *Lacey*

ADDRESS.....
.....

OWNER..... *City of Keosauqua*

ADDRESS.....
.....

RETURN TO
IOWA GEOLOGICAL SURVEY
IOWA CITY, IOWA

RECORD OF PERMANENT CASING

Size Pipe	Amount of Pipe	Depth to Bottom of Pipe	Depth to Top of Pipe	Type* and Weight of Pipe	DIAGRAM OF WELL
8	390'	390'			
6	807	1197	390		
	<i>connected and supplied</i>				
30'	<i>hole cemented.</i>				<i>310 bags</i>

*As cast, wrought iron, steel, concrete, etc.

Is screen used?..... Diameter.....
(Inches)

Length..... Depth to bottom.....
(Feet)

Depth to top..... Slot size.....

Are packers or seals used?.....

Kind

Where used.....

Kind of pump..... Dia.....
(Inches)

Capacity of pump.....
(g.p.m.)

Power used.....
(Kind and amount)

Depth to bottom of pump line.....feet,
includingfeet tailpiece.

Remarks on construction of well.....
.....

Sample No.	DEPTH		THICKNESS
	From	To	
	1202	1203	Sw. 62'
	1203	1210	
	1210	1215	
	1215	1220	
	1220	1225	
	1225	1230	
	1230	1235	
	1235	1240	
	1240	1245	
	1245	1250	
	1250	1255	
	1255	1260	
	1260	1265	
	1265	1270	
	1270	1275	
	1275	1280	
	1280	1285	

DESCRIPTION OF BEDS		
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.		
Lime	dark	Coarse Iron & lime
"	light	Coarse fine
"	.	"
"	light brown	Med
"	brown	settles
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	settles
"	"	"
"	"	"
"	"	Hard
"	"	"

Sample No.	DEPTH		THICKNESS
	From	To	
	1280	1290	
	1290	1295	
	1295	1300	
	1300	1305	
	1305	1310	
	1310	1315	
	1315	1320	
	1320	1325	
	1325	1330	
	1330	1335	
	1335	1340	Set 35'
	1340	1345	
	1345	1350	
	1350	1355	
	1355	1360	
	1360	1365	
	1365	1370	

DESCRIPTION OF BEDS		
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.		
Lime	brown	hard
"	"	"
"	"	Med
"	"	"
"	"	"
"	"	sharp
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	hard streaks
"	"	Med
"	"	"

Sample No.	DEPTH		THICKNESS
	From	To	
	1370	1375	
	1375	1380	
	1380	1385	SWL 26'
	1385	1390	
	1390	1395	
	1395	1400	
	1400	1405	
	1405	1410	
	1410	1415	
	1415	1420	
	1420	1425	
	1425	1430	
	1430	1435	
	1435	1440	
	1440	1445	
	1445	1450	
	1450	1455	

DESCRIPTION OF BEDS			
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.			
Lime	brown		Med
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	sandy	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	sand	"	"
"	"	"	"
"	"	sharp fine	"
"	"	"	"
"	"	"	"
"	"	sharp fine	"
sand	white	"	"
"	"	"	"
"	"	"	"

Sample No.	DEPTH		THICKNESS
	From	To	
	1540	1545	30 G.P.M. No. 20
	1545	1550	
	1550	1555	
	1555	1560	
	1560	1565	SWL 21
	1565	1570	
	1570	1575	
	1575	1580	
	1580	1585	
	1585	1590	
	1590	1595	
	1595	1600	
	1600	1605	
	1605	1610	
	1610	1615	
	1615	1620	SWL 22
	1620	1625	

DESCRIPTION OF BEDS			
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.			
<i>Sandy lime</i>	<i>brownish</i>	<i>Med</i>	
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	<i>white</i>	<i>white</i>	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"

Book 2

DRILLER'S NOTEBOOK

WELL RECORD

DRILLER Howard Lacey

ADDRESS.....
.....

W-3723

OWNER Keosauqua City Well #2

ADDRESS.....
.....

**RETURN TO
IOWA GEOLOGICAL SURVEY
IOWA CITY, IOWA**

IOWA GEOLOGICAL SURVEY
Iowa City, Iowa

W-3723

Well Log Record

Well name and number Town Well # 2 (1954) Town Keosauqua County Van Buren

Owner of well _____ Address _____

Tenant _____ Address _____

Location _____ sec. _____, T. _____ N., R. _____ E. _____ W. _____ Twp. _____

Curb elevation 635' Present ft. depth 1207'-7" final ft. depth _____ ft. depth _____ ft. Pumping

Static level: (Depth to water ^{above} / _{below} curb) _____ ft. level _____ ft. at _____ g.m.

Contractor Leland & T.W. Van Winkle Date drilled Oct. 9, 1953 - Feb. 2, 1954

Description*	F E E T			Description*	F E E T		
	Thick	From	To		Thick	From	To
Grey Shale		460	505	Rock - Shale		720	741
Brown Shale		505	520	Shale		741	745
Grey Shale		520	596	Shale		745	755
Brown Shale		596	603	Shale - Rock		755	1128
Grey Shale		603	611	Sandstone		1128	1156 1/2
Brown Shale		611	623	Shale		1156 1/2	1172
Gray Shale		623	680	Sandstone		1172	1195
Brown-Grey Sh.		680	690	Shale			?
Grey Shale		690	696	Sandstone		1195	1205
Limestone		696	720	Limestone		1205	1207'-7"

*Abbreviate descriptions: use one line for each formation

Remarks on water zones and casings 396'-6" of 8" std. pipe 0' to 396'-6":
669' of 6" std pipe from 396'-6" to 1065': Bottom of 8" pipe
tapered to 6" & welded to coupling. (over)

Temperature: Air _____ °F., Water _____ °F. at P.M. _____ A.M. _____ 19 _____

Record obtained from Leland Van Winkle Recorded by JAC

Driller thought he drilled 8" hole to 1128' (S.P.)
& then reduced to 6". Surprised when 6" pipe stopped
solid at 1065'. Faculty his meas. cleaned. Have checked
out at 1207' - 7" which matches fairly well with samples
& driller's log.

There is 2 possibilities:

- (1) Hole reduced to 6" at 1065'
- (2) Casing stopped in 8" hole on projection etc.
& there is unrecorded 8" hole 1065' to 1128'.

Well was pumped Jan 31, 1954 -
less than 20 gpm produced.

SWL 40'

p.l. at and below bottom of pump at 257'

Present plans are to re-negotiate contract and
deepen well to Jordan SS.

100 gpm + are needed by town.

3723

Name Keosauqua city well No. 2
 Loc. C/SE NW 36-69-10W, Van Buren Co.
 Drilling depth 610' base Grassy Creek
 Drilled Layne Western 0-485'; Van Winkle 485-1204'; Jennings 1204-1821'
 Log W-3723 Jeffords Northrup
 Casing

95% IF POP ON CITY SYS
 APPX 100,000 GPD

LLS
 6/25/62

ONLY DEEP WELL USED!

This WELL IN CITY HALL DISCONNECTED altho pump is still over well.
 25 JUN 62 - 1555 SWL 25.00 - 0.35 = 24.65 SWL
 MP = 5.0 ALSO

Water analysis: In 1934 the city had a public well 335' deep reported to be pumping from the Mississippian rocks. A water analysis No. 89844 11/8/24 is available. City well No. 1, 320' deep has water analyses No. 179-410 7/1/42; No. 2377(3422) 8/22/51

Remarks: Well completed in Top St. Law. Am. at T.D. 1831'

check if old Miss wells are used or kept for standby

Elev.	635			
Formation	Depth	Top	Base	Thick.
St. Louis	27	608	555	53
Warsaw	80	555	475	80
Keok.	160	475	387	88
Burl.	248	387	300	87
Wasson.	335	300	263	37
No. Hill	372	263	245	18
Pros. Hill	390	245	175	70
Louisiana	460	175	155	20
Maple Hill	480	155	?	
Grassy Crk.	?	?	25	
Dev.				
Lime Crk.	610	25		

$$\begin{array}{r} 480 \\ 27 \\ \hline 453 \end{array}$$

Keosauqua Town Well

Info. from Contractors Records.

Completed June 9, 1954

TD 1831'

SWL 20'

Well pumped 72 hours @
350 gpm @ 30' dd - 50' PL.

Pipe Set @ 1202'

386'-9" of 8" pipe } 6" to 8" Couplers.
806'-7" of 6" pipe }

Drilling was done in 6" pipe which was extended to surface. This pipe removed when well was completed. One joint left in hole so that actually there is 204' of additional 6" pipe lapped into 8"

IOWA GEOLOGICAL SURVEY
Water Analysis Comparison

Town _____ County: _____ Location _____ Sec. _____ T. _____ No., R. _____ E.
W.

Owner _____ Contractor: _____ Date started: _____

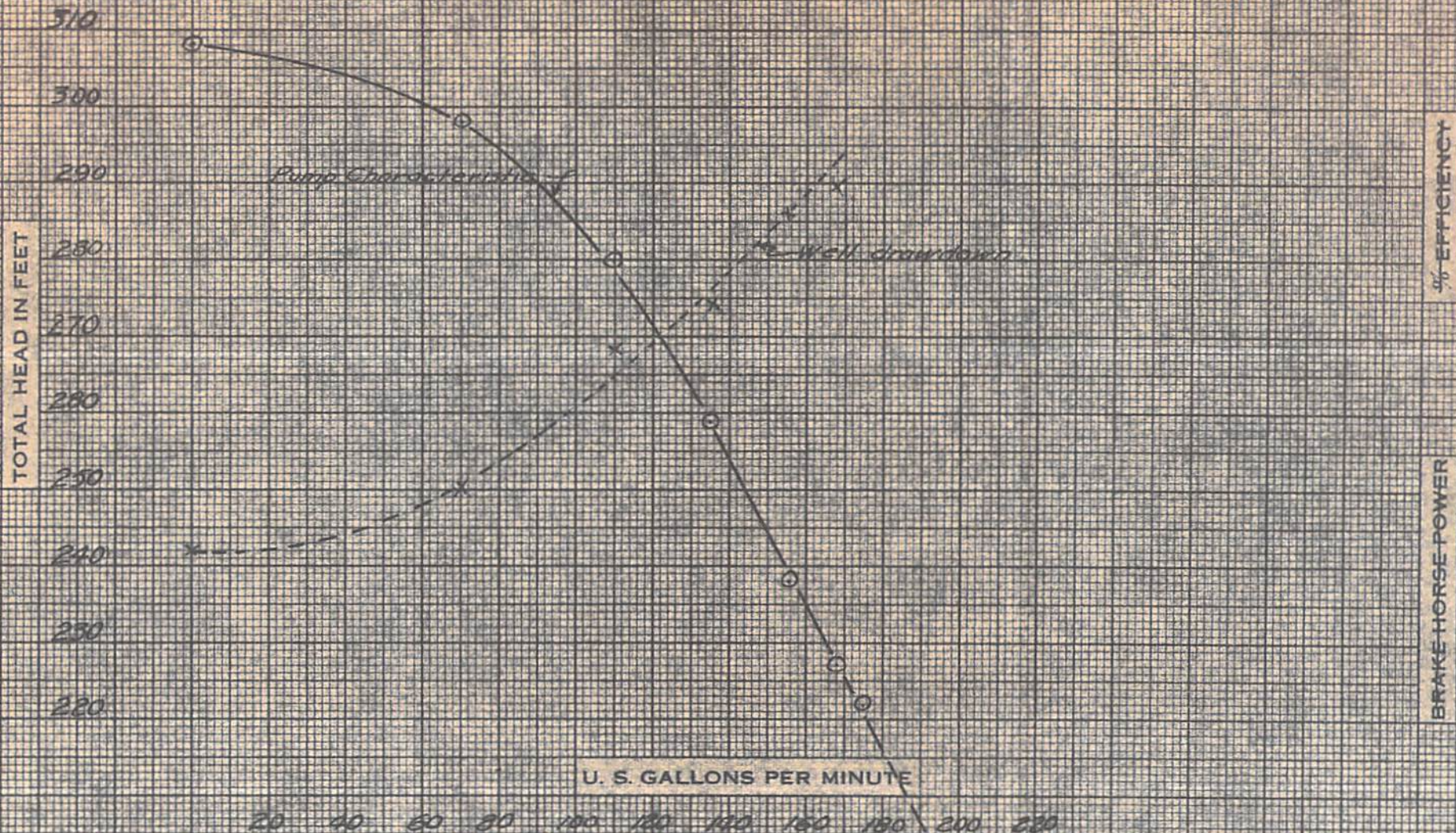
	1	2	3	4	5	6
Well Number or Location	Bonaparte	Mt. Pleasant	Donnellson	West Point	Danville	
Depth of Sample	School well	Willetts Farm	Town well	Town well	Town well	
Formation Source	Dev - St. Peter	St. Peter	Glenwood		Glenwood St. P	
Water Level Below Curb					Sawdust	
How Sampled						
Sampled by						
Date Sampled	8/23/40	4/25/40	2/22/40	2/21/49	6/29/42	
Total Solids	3770	1186	1774	2065	1787	
Dissolved Solids						
Insoluble Matter	9.0	22	11	19	85	
Alkalinity (MeO)						
Nitrite (NO ₂)						
Nitrate (NO ₃)	0	.1	0		0	
Sodium (Na) & Potassium (K)*	398	236	95	380	297	
Calcium (Ca)	459	88	305	181	163	
Magnesium (Mg)	146	34	92	55	59	
Iron (Fe)		12.5				
Iron (Unfiltered)**	0.7	12	1.7	2	0.3	
Manganese (Mn)	0	Trace	Trace	0	0	
Aluminum (Al)						
Fluorine (F)	2.5	1.5	Trace	3.2	2.8	
Chlorine (Cl)	145	95	7	204	148	
Sulphates (SO ₄)	2154	445	876	898	773	
Bicarbonates (HCO ₃)	256	337	481	276	339	
Phosphates (PO ₄)						
Borates (BO ₂)						
Calculated Hardness***	1749	381	1142	683	650	
Water Lab. Number						

*Na and K not separated, calculated as Sodium (Na): **Includes iron precipitated or flocculated after sample collected: ***Calculated as CaCO₃.

Completed Depth _____ ft.; Final Static Water Level _____ ft.; Production _____ GPM; Draw-down _____ ft., at _____ GPM; Gallons per foot draw-down _____ . Date Completed _____ 194__

Remarks: _____

CURVE NO. *KEOSAUQUA WELL*



*Pumping Level
ft. below pumping Discharge*

The pump is guaranteed for the set of conditions specified, other points on the curve are approximate. Capacity, head and efficiency guarantees are contingent on the pump being furnished with the specified amount of clear, fresh, non-aerated water at a temperature of not to exceed 85 degrees Fahrenheit.

FAIRBANKS MORSE & CO.
CHICAGO 5, ILLINOIS

PERFORMANCE

9 STAGE FIG.
PUMP OPERATED AT 1750 R. P. M.
BRANCH ORDER NO. _____
FACTORY ORDER NO. _____
DATE 8-25-59 DE7