

IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

W-1681

RECORD OF WELL

Location:

Town. Lansing (N E)
NW NE SE 8 (S W) : County Albion
NE 1/4 sec. 29 T 99 N., R. 3 W. Lansing Twp.

	29	

Well name and number Lansing City Well #4

Owner City of Lansing Address _____

Tenant _____ Address _____

Contractor C. W. Varner Address Dubuque

Drillers _____

Drilling dates Oct - Dec. 1943.

Well data:

Elevations: Drilling curb 642.5' feet; Land surface _____ feet

Determined by _____

Topographic position _____

Total depth: Reported _____ feet; Measured 721 feet

Drilling method Cable

Hole and casing data 174' of 10" casing from +1.3 to 172.7' cemented
from land surface to 173'

Original depth to water _____ ft. above
below _____ Date _____

Original elevation of water level _____ ft.; Source of data _____

Sources of water: Principal Deshoek; Others _____

Production data:

Date _____

Static depth to water _____

10.5

Measuring point _____

Pumping level _____

at _____

g.p.m.

Specific capacity _____

g.p.m. per ft. drawdown; Temperature _____

52 1/2

°F.

Pump data: Type pump _____

Column Dia. _____

Length _____

Cylinder or bowls: Dia. _____

Length _____

Suction pipe _____

Power _____

Airline _____

Estimated rate of production: _____

g.p.m. for _____

hrs. a day

Use of water _____

WATER ANALYSES (in parts per million)

Date samples _____

Jan. 12, 1944

Sampled by _____

H. E. Hale

Total solids _____

382

Insoluble matter _____

13.5

Alkalinity (Meo) _____

224.0

Alkalinity (Phn) _____

0.0

pH _____

7.5

Fe₂O₃ + Mn₂O₃ + Al₂O₃ _____

2.5

Alkali as sodium _____

64.5

Calcium _____

38.2

Magnesium _____

26.8

Iron (unfiltered) _____

0.30

Manganese _____

0.00

Nitrate _____

0.53

Fluoride _____

0.2

Chloride _____

40.0

Sulfate _____

48.6

Bicarbonate _____

273.3

Hardness (ppm) _____

206.

Hardness (gpg) _____

12.0

Remarks _____

Laboratory data:

Sample storage location _____

Sample range _____

0-721

No. spls. _____

145

No. dupls. & cond. _____

145 fair

Spls. prepared by _____

Washed range _____

by _____

Driller's log and cond. _____

Insoluble residues: Prepared by _____

Studied by _____

Strip log _____

Microscopic study _____

strip log _____

Gen. log _____

Correl. by _____

Schultz

Gen
IN REPLYING
ADDRESS

Iowa

State Department of Health

DISTRICT HEALTH SERVICE

NO. One

Decorah, Iowa

WALTER L. BIERRING, M. D.
COMMISSIONER
DES MOINES, IOWA

R. B. McAllister

Public Health Engineer

December 7, 1943

3
Mr. H. G. Hershey
Assistant State Geologist
Iowa Geological Survey
State University of Iowa
Iowa City, Iowa

Dear Mr. Hershey:

I visited Lansing yesterday and found that drilling operations on their new well have been completed. The drill was lost in the hole on December 2nd and when the fishing tools finally got ahold of the drilling tools, the well started to flow, very slowly at first. However the flow increased rather rapidly and the well cleared up before evening. This happened on December 3rd.

The total depth of the well is 721 feet. The curb elevation is approximately 740 feet. This is more of a guess than anything else since I had no instrument of any kind to measure the elevation from any known elevation. 174 feet of 10 inch wrought iron casing was cemented in a 15 inch drill hole. I believe in my last letter to you I stated that there was 180 feet of casing, however, later measurements proved this figure to be wrong. The water temperature is 46 degrees. No actual flow measurement has been made, but as an estimate I would say that it is probably flowing at a rate of between 150 and 200 gallons per minute. The water is very clear. Out of curiosity I collected a sample of water and sent it to Iowa City for analysis.

If you intend to visit Lansing any time in the near future, please let me know and I will either meet you there or you can go over with me from Decorah.

Very truly yours,

R. B. McAllister

R. B. McAllister
Public Health Engineer

RBW:W

IOWA GEOLOGICAL SURVEY
Water Well Data Sheet

Survey
Number W-1681

Town LANSING County ALLAMAKEE T. 99 N., R. 3 W.

Name LANSING CITY WELL No. 4 Location NE 1/4 NE 1/4 SW 1/4, Sec. 29

Contractor C.W. VARNER Driller Use MUNICIPAL SUPPLY

Construction DRILLED Drilling Dates OCT.-DEC. 1943 Depth

Topog. VALLEY Curb Elev. 639± Ref. Total Depth 721

Final above

Static below Pumping Draw Time

Level Flow curb Level down gpm pumped Date

Depth to Calc. g/ft. Prin.

bot. pump ft. with ft. suction pipe. drawdown Prod.

Producing

Horizons

Water levels and pumping tests on various horizons during drilling:

Depth Range	Stat. Level	Pump Level	Draw down	gpm.	Temp.	Producing horizons	Producing formations	Formations cased out

Additional information Reported 300 gpm flow

Laboratory Data
Sample range 0-721 Number samples 145 Number Duplicates 145 Cond. fair

Log Yes Cond. Boxed Kringel Range 0-721 Date 1/10/44

Remarks This number originally assigned to 4 samples for the Gillman town well, which are now filed with the other samples from the same well under W-137A

Microscopic Strip Gen. Blue Samples
Study Range Log Log Print Washed none
Insol. Res. Strip Gen. Insol. Res. Well
Study Range Log Log Prepared Corel.



Allamakee County

Lansing, Iowa

Jan 12, 1944

Well No 4

Location NW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 29, T. 99N., R. 3W.

Elevation - Top of casing 642.5 feet

Contractor - VARNER Well Co.

Date completed - Dec. 3, 1943

Depth - 721 feet

Casing - 174 feet of 10-inch casing from +1 to 173 feet cemented top to bottom.

Water Levels

Jan 12 - after flow was stopped 35 min - water level 10.5 feet above casing

Jan 12 - flowing level - 2.00 feet below top of casing

Temp. 52 $\frac{1}{2}$ °F

Water flows into Reservoir where it is pumped by triplex pump at rate of about 200 g.p.m. The city uses about 144,000 gallons of water a day during summer. Excess water flows into Mississippi River.

No. 3 Well

Elevation of manhole over No. 3 Well - 637.5 feet

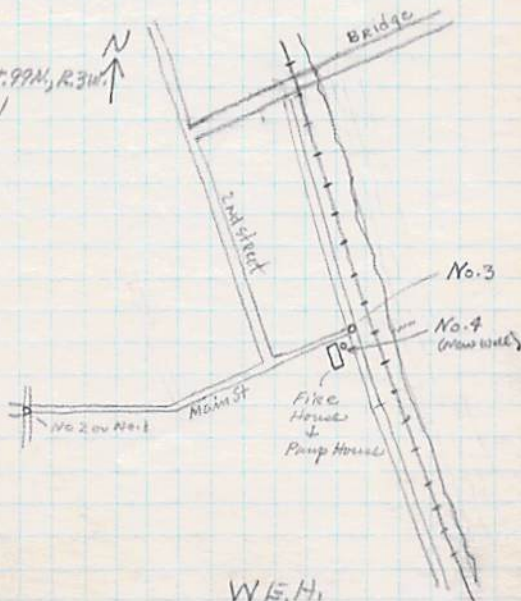
Location NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 29, T. 99N., R. 3W. about 70 feet North of No. 4 well.

Still flows and is wasted into Miss River

No. 2 well

Location NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 29, T. 99N., R. 3W.

Elevation - 664.3 above sea level



W.F.H.

NW-NE-SE 29-99-3

El. 642.5

0-5	Recent	
5-50	Hudson member	Tranconia
50-80	Goodenough member	Tranconia
80-95	Ironston	"
95-190	Galesville	"
190-365	Lau Claire	"
365-712	Mt. Simon	"
712-721	Pre-Cambrian	

The Hudson member of the Tranconia is bedrock. It is a fine-grained, cream to white, dolomite & argillaceous sandstone and is abundantly glauconitic. at 45'-50' there is a yellow, glauconitic, sandy dolomite.

The Goodenough member is a medium to fine-grained sandstone, glauconitic at the top. The Ironston consists of about 15' of coarse-grained, cream-colored, rounded, poorly sorted, unconsolidated sandstone.

Varner Well Drilling Company

INCORPORATED

905 Dubuque Bldg.

Telephone 3691

DUBUQUE, IOWA,

Re: City of Lansing
Lansing, Iowa
New Well

DATE STARTED 10-12-43

DATE COMPLETED 12-10-43

DIAMETER 17" to 176' - 10" to 722'

CASING 176' feet of 10" casing Cement grouted

Strata Record Depth

From	To	Thickness	Description of Beds
Top	24'	24'	Firm sandy shale formation
24'	38'	14'	Sticky sandy shale
38'	50'	12'	Sticky sandy shale - turning yellow
50'	76'	16'	Yellow sand - coarse
76'	120'	46'	Yellow sand
120'	142'	22'	Yellow sand - Put in some clay
142'	180'	38'	Hard Sand
180'	205'	25'	Sand
205'	209'	4'	Sand & shale
209'	298'	89'	Blue Shale - Sticky
298'	311'	13'	Gray Shale
311'	322'	11'	Brown Shale - Very Sticky
322'	337'	15'	Red shale & Sand
337'	490'	153'	Sand
490'	505'	15'	Sand & Shale
505'	665'	160'	Sand
665'	710'	45'	Brown Shale & Sand
710'	722'	12'	Very hard formation - Granite

Static Water Level:

Top to 390' - 21'
390' to 430' - 10'
430' to 445' - 6'
445' to 470' - 3'
470' to 505' - 4'
505' to 560' - 5'
560' to 589' - 6'
589' to 620' - 5'
620' to 630' - 4'
630' to 650' - 2'
650' to 710' - 3'
710' to 718' - 2'
718' to 721' - 1'
721' Flowing

Pumping:

12-4-43 - Pump ran 1 hrs. 15 min. lowered water 9'
12-7-43 - Water flowing too strong for pump had to
get a 3" pump from contractor at Lansing

Well connected to reservoir by 6" flow pipe
and cased in concrete and has 5' bury.

9-26-69
RP 11-22-70

STATE		COUNTY		LATITUDE							LONGITUDE							SEQ NO
				DEG	MIN	SEC	N or S	DEG.	MIN	SEC	SEQ							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	9	0	3	4	3	2	1	3	9	N	0	9	1	1	2	5	8	1

WELL SCHEDULE
US GEOLOGICAL SURVEY
IOWA DISTRICT WRD

WELL NO. 1681 CO. ALLAMAKEE
OWNER LANSING CITY WELL #4 ADDRESS LANSING
DRILLER VARNER WELL CO. DATE DRLD 12-3-43
MAP _____
SOURCE OF DATA FILE
DESCRIPTION M.P. LSD FEET (ABOVE)
BELOW LSD _____

CONTINUED FROM ABOVE	ACCURACY	LOCAL WELL NUMBER												LOCAL USE												OWNER OR NAME	OWNERSHIP	WATER USE	WELL USE	WELL DATA	FREQ W/L	FIELD CHAR	HYD LAB	QW-DATA	QW-FREQ	PUMPAGE	APERTURE	LOG DATA	CADD DESIG																							
		T		R	E _W	SEC	QUARTERS		W-NUMBER		OPTIONAL																																																			
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43															44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41																																							

[illegible][illegible]

174' of 10" csg from +1 to 173'
Cemented

CODED BY MACGOWAN 84 DATE 7-11-72

PUNCHED BY HEXUM DATE 7-12-72

VERIFIED BY _____ DATE _____

SKETCH ON REVERSE: YES _____ NO _____

29

WELL NO. 1421

1891

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

W-1681
09903W29 DAB
LANSING CITY WELL
#4

Water Quality
(ppm)

Card Q

State: IOWA 1.9 County: ALLAMAKEE 03 Town: LANSING

Latitude 432139N Longitude 0911258 Seq. No. 1 Date 021944

Well No. 432139N Sampling Depth 26 Type 30 Kx10⁶ 31 pH 7.5 Temp. °F 39

SiO₂ 42 Ca 45 38 Mg 50 27 Na 54 64 K 59 C

HCO₃ 62 273 CO₃ 66 67 SO₄ 68 49 Cl 73 40 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 26 0.2 NO₃ 29 0.1 PO₄ 33 35 B 36 38 Al 39 41 Fe 42 0.3 45

Mn 46 0 Cu 50 52 Pb 53 54 Zn 55 57

Determined 58 382 Solids 63 64 69 Ca, Mg 70 206 Hardness 74 77

Color 78 79 No. R 80

Card S

Duplicate Columns 1-25 from Card Q

Br 26 28 I 29 31 Alk. as CaCO₃ 32 224 Free CO₂ 36 38 SAR 39 41

RSC 42 44 ABS 45 47 48 50

Alpha (pc/l) 55 57 Beta (pc/l) 58 60 Ra (pc/l) 61 63 U (ug/l) 64 66

No. 5
80

Recorded by: MACGOWAN

Punched by: MACGOWAN Date: 7-12-72

Published: _____

1691

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

W-1681
09903W 29 DAB
LANSING CITY WELL #4

Water Quality
(ppm)

Card Q

State: IOWA 19 County: ALLAMAKEE 03 Town: LANSING

Well No. 432139N 0911258 Seq. No. 1 Date 070857

Sampling Depth Type Kx10⁶ 520 pH 7.8 Temp. °F

SiO₂ 84 Ca 37 Mg 25 Na 38 K 46

HCO₃ 249 CO₃ 0 SO₄ 42 Cl 32 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 01 NO₃ 04 PO₄ B Al Fe 040

Mn 005 Cu Pb Zn

Solids Hardness

Determined 314 Calc. Ca, Mg 195 Non-Carb. 0

Color No. R

Card S

Duplicate Columns 1-25 from Card Q

Br I Alk. as CaCO₃ 204 Free CO₂ SAR

RSC ABS

Alpha (pc/l) Beta (pc/l) Ra (pc/l) U (ug/l)

No. S
80

Recorded by: MACGOWAN

Punched by: MACGOWAN Date: 7-12-72

Published:

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

W-1681
09903W 29 DAB
LANSING CITY WELL
#4

Water Quality
(ppm)

Card Q

State: IOWA 19 County: ALLAMAKEE 03 Town: LANSING

Well No. 432139N 0911258 Seq. No. 1 Date 070857

Sampling Depth Type Kx10⁸ 520 pH 7.8 Temp. °F

SiO₂ 8.2 Ca 37 Mg 24 Na 38 K 4.6

HCO₃ 249 CO₃ 0 SO₄ 42 Cl 31 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 0.1 NO₃ 0.4 PO₄ B Al Fe 0.36

Mn 0.05 Cu Pb Zn

Solids Hardness

Determined 303 Calc. Ca, Mg 191 Non-Carb. 0

Color No. R

Card S

Duplicate Columns 1-25 from Card Q

Br I Alk. as CaCO₃ 204 Free CO₂ SAR

RSC ABS

Alpha (pc/l) Beta (pc/l) Ra (pc/l) U (ug/l)

No. 5
80

Recorded by: MAC GOWAN

Punched by: MAC GOWAN Date: 7-12-72
Published:

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

W-1681
09903W29 DAB
LANSING CITY WELL #4

Water Quality
(ppm)

Card Q

State: IOWA 1.9 County: ALLAMAKEE 03 Town: LANSING

Well No. 432139N 0911258 Seq. No. 1 Date 092958

Sampling Depth Type Kx10⁶ 479 pH 7.7 Temp. °F

SiO₂ 8.4 Ca 42 Mg 23 Na 41 K 4.7

HCO₃ 250 CO₃ 0 SO₄ 52 Cl 27 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 0.1 NO₃ 1.7 PO₄ B Al Fe 0.42

Mn 0.05 Cu Pb Zn

Solids Hardness 200 Non-Carb. 0

Determined 314 Calc. Ca, Mg 200

Color No. R

Card S

Duplicate Columns 1-25 from Card Q

Br I Alk. as CaCO₃ 205 Free CO₂ SAR

RSC ABS

Alpha (pc/l) Beta (pc/l) Ra (pc/l) U (ug/l)

No. S
80

Recorded by: MACGOWAN

Punched by: MACGOWAN Date: 7-12-72

Published:

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division

W-1681
09903W29DAB
LANSING CITY WELL
#4

Water Quality
(ppm)

Card Q

State: IOWA 19 County: ALLAMAKEE 03 Town: LANSING

Latitude 432139N Longitude 0911258 Seq. No. 1 Date 110961

Well No. 5 11 12 18 19 20 25

Sampling Depth 26 29 Type 30 Kx10⁶ 31 562 pH 7.7 Temp. °F 36 38 39 41

SiO₂ 42 9.0 Ca 45 39 Mg 50 24 Na 54 40 K 59 3.6

HCO₃ 62 256 CO₃ 66 0 SO₄ 68 38 Cl 73 29 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 26 0.2 NO₃ 29 6.6 PO₄ 33 35 B 36 38 Al 39 41 Fe 42 0.40

Mn 46 0.05 Cu 50 52 Pb 53 54 Zn 55 57

Solids 50 52 53 54 55 57

Determined 58 328 Calc. 64 69 Ca, Mg 70 196 Hardness 73 Non-Carb. 74 0

Color 78 79 No. 2 80

Card S

Duplicate Columns 1-25 from Card Q

Br 26 28 I 29 31 Alk. as CaCO₃ 32 210 Free CO₂ 36 38 SAR 39 41

RSC 42 44 ABS 45 47 48 50 55 57 Beta (pc/l) 58 60 Ra (pc/l) 61 63 U (ug/l) 64 66

No. 5
80

Recorded by: MACGOWAN

Punched by: MACGOWAN Date: 7-12-72

Published: _____