

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

W-3214

RECORD OF WELL

Location:

Town: TIPTON (NE)
(SW): County Cedar
NW/4 sec. 6 T 80 N., R. 2 W. Twp.

Well name and number TIPTON City Well No. 4

Owner City of Tipton

Address

Tenant

Address

Contractor D. E. EDWARDS, INC

Address West Branch

Drillers Joe Kintz

Drilling dates February - March 1948

Well data:

Elevations: Drilling curb 815± feet; Land surface _____ feet

Determined by _____

Topographic position Upland

Total depth: Reported 472 feet, Measured _____ feet

Drilling method Cable Tool

Hole and casing date 124'-8" of 10" casing from +2' to 122'-8"

30' of 8" liner from 292' to 322' containing

about 350 holes of 3/4" diameter spaced in bottom 22'

of liner. Top 8' of liner blank. Seals at top & bottom

of blank section. — (10' open hole from 122'-8" to 292') 8' open

Original depth to water 57 ft. ^{above} below Land Surface Date 3-3-48

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

Sources of water: Principal _____; Others _____

Silurian Dolomite

Production data:

Date 3-3-48Static depth to water 57Measuring point Land SurfacePumping level -185at 250

g.p.m.

Specific capacity

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

°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

Sampled by

Total solids

Insoluble matter

Alkalinity (Meq)

Alkalinity (Phm)

pH

 Fe_2O_3 - Mn_2O_3 - Al_2O_3

Alkali as sodium

Calcium

Magnesium

Iron (unfiltered)

Manganese

Nitrate

Fluoride

Chloride

Sulfate

Bicarbonate

Hardness (ppm)

Hardness (gpg)

Remarks

Laboratory data:

Sample storage location

Sample range 55-455No. spls. 79No. dupls. & cond. 286000Spls. prepared by TEORREWashed range 115-455by PA

Driller's log and cond.

Insoluble residues: Prepared by

Studied by

Strip log

Microscopic study 55-455strip log 5-13-48

Gen. log

Correl. by R. Welner

Cedar Co.

RESULTS OF PRODUCTION TEST MADE ON TIPTON CITY WELL NO. 4

Tipton, Iowa

March 3, 1948

NAME: Tipton City Well No. 4.

LOCATION: NW/c Sec. 6, T. 80 N., R. 2 W. Cedar County

ELEVATION: Land-surface 815' above sea level.

OWNER: City of Tipton.

CONTRACTOR: D. E. Edwards, Inc.

DRILLER: Joe Kints.

DATE DRILLED: February - March, 1948.

TOTAL DEPTH: 472 feet.

CASING AND HOLE DATA:

124' 8" of 10" casing from 2' above surface to 122' 8". 30' of 8" liner from 292 to 322' containing about 350 holes of 3/4" diameter spaced in bottom 22' of liner. Top 8' of liner blank. Seals are placed at top and bottom of blank section. 10" open hole from 122' 8" to 292'. 8" open hole from 322 to 472' T.D.

CHIEF AQUIFER: Silurian dolomite.

TEST PUMP: Turbine, setting 180 feet with 5 feet of bowls and 10 feet suction pipe.

WATER LEVEL MEASUREMENTS: An air line with bottom at 185 feet was used to obtain water level measurements.

DISCHARGE MEASUREMENTS: A 3-inch orifice on 4-inch discharge pipe was installed and used to obtain production figures.

NOTE:

City Well No. 3, located about 55' N.E. of Well No. 4 was used as an observation well during the pumping period of Well No. 4. Water level measurements were obtained in Well No. 3 by use of an air line. Well No. 3 was pumped from 1:01 P.M. to 1:13 P.M. to observe the effect upon Well No. 4.

OBSERVERS: J. B. Cooper, Iowa Geological Survey and M. V. Stephenson, Public Health Engineer.

CITY OF TIPTON WELL NO. 4 - MARCH 3, 1948

MEASUREMENTS OBSERVED DURING PRODUCTION TEST

Time	Depth to Water	Prod. G.P.M.	Temp. °F.	Remarks
Mar. 3				Air line 185'
9:30 am	57	313		
9:35				Pump on.
9:37		313		
9:38	129	293		H ₂ O dirty, brownish.
9:40	153	283		Some odor.
9:42	161	278		
9:45	168	274		
9:50	175	271	53	Water fairly clear.
9:55	181	269		
9:58	184	268		
9:59	185	267		
10:03	-185	266+		
10:10		266		
10:20		265		
10:30		265		
10:35		264	53	
10:45		264		
11:00		263		
11:20				Started breaking suction.
11:22				Closed valve slightly.
11:27		262		
11:30				Opened valve.
11:33		265		
11:35				Breaking suction, closed valve.
11:37		252		Water milky.
11:40		252		
11:50		252		
11:54		253		
12:00 pm		255		
12:15		255		
12:30		256		
12:45		253		
1:01 to				
1:13				No. 3 well pumping.
1:06				Broke suction, closed valve slightly.
1:07		242		Broke suction.
1:08				Shut off pump.
1:14				Pump on.
1:15		285		Water milky.
1:17		267		
1:19				Broke suction, closed valve.
1:21		249		
1:22		252		Reduced valve.
1:24		246		
1:30		246		
1:38		247		Water fairly clear.

Time	Depth to Water	Prod. G.P.H.	Temp. °F.	Remarks
Mar. 3				
1:45 pm		247	53	
2:00		248		Water sample taken for analysis. Slightly cloudy, some silt or fine sand.
2:15		248	53	
2:23				Recovery.
2:23+	175			
2:23½	165			
2:24	161			
2:24½	152			
2:25	137			
2:25½	129			
2:26	117			
2:26½	113			
2:27	105			
2:27½	102			
2:28	97			
2:28½	95			
2:29	92			
2:29½	89			
2:30	87			
2:31½	85			
2:33	83			
2:35	79			
2:40	74			
2:45	70			
2:50	69			
2:55	67			
3:00	67			
3:02				Started pump on No. 3 well.
3:04	69			
3:05	72			
3:10	81			
3:15	85			
3:20	87			
4:10	105			

Water Level Measurements Observed on Tipton City Well No. 3 March 3, 1948

Time	Air-line Reading	Depth to Water	Remarks
Mar. 3			
9:30am	102	78	Pump sets 180°. Line to top of bowls 10' suction. Gage reads only to 100'.
9:40	95	85	
9:50	103	77	
10:12	96	94	Changed gages. Installed larger gage.
10:30	92	98	
10:50	90	90	
11:05	87	93	
11:50	85	95	
1:00pm	84	96	
1:01			Started pump.
1:02	60	120	Water very dirty.
1:10	15	165	Pump off.
1:12	10	170	
1:13			