R-1-B

# THORPE BROTHERS WELL COMPANY

2340 Sixth Avenue

DES MOINES, IOWA

*Drilled for* Town of Steamboat Rock *at* Steamboat Rock, Ia

*Drilling started* 10-16 *19* 39 *Completed* Dec. 20-39 *19*

*Well No.* 1 *Kind of Well* Drilled *Depth* 150 *Size hole started* 22" 16" *in.*

*Finish* 8" *G. P. M.* 17 *Static head* 53 *Drawdown* 67

*Water was first encountered at* *in* *Approximate Amount*

*Remarks* 8" pipe cemented inside of 12½" pipe
Total recovery in 20 minutes pumping 17GPM

| RECORD OF PERMANENT PIPE | | | | | TEMPORARY PIPE | |
|---|---|---|---|---|---|---|
| SIZE PIPE | AMOUNT OF PIPE | DEPTH TO BOTTOM OF PIPE | DEPTH TO TOP OF PIPE | MAKE OF PIPE | SIZE PIPE | AMOUNT |
| 12½" | 77' | 75' | 2' above surface | Std black | | |
| 8" | 91' | 88' | 3' above surface | Std. black | | |

*Driller* *From Surface to* *feet*

*Driller* *From* *feet to* *feet*

*Driller* *From* *feet to* *feet*

| AMOUNT IN FEET | KIND OF SOIL OR FORMATION | TOTAL DEPTH FEET |
|---|---|---|
| 2' | Top soil | 2' |
| 46' | Sand | 48 |
| 19 | Limestone broken | 65 |
| 25 | Limestone- solid | 90 |
| 55 | Limestone | 145 |
| 5 | Blue shale | 150 |

# STEAMBOAT ROCK

Sections 27 and 28; T. 88 N.; R. 19 W.; Clay Township; Hardin County

Steamboat Rock, situated on the Iowa River, contains terrain of variable elevation. The State Department of Health has approved locations for a town well at an approximate elevation of 1017 feet above sea level, and the following discussion is based on that elevation.

Anticipated generalized log:

| | Thick | From | To |
|---|---|---|---|
| Sand and gravel | 13' | 0 | 13' |
| Yellow and blue clay | 46' | 13' | 59' |
| Sand (water) | 10 | 59' | 69' |
| Limestone (water at variable depths probably from crevices) | 31'+ | 69' | 140'+ |

The limestone has not been drilled through in this area but undoubtedly continues below 140 feet.

There are numerous privately owned wells in town. Many of these are in the upper water-bearing zone and in at least one case an abandoned well of this type is being used as a cesspool. Undoubtedly a well into the upper horizon would be subject to contamination. Furthermore, there is no assurance that it will produce a sufficient supply for the town.

It is suggested, therefore, that the deeper source be utilized. If this is done it will be necessary to case into the solid portion of the limestone. The static water level will be about 60 feet.

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

N-1055

RECORD OF WELL

Location:

Town: Steamboat Rock ( N E / S W); County Hardin

SW-NE sec. 28 T. 88 N., R. 19 E. W. Clay Twp.

Well name and number Town Well #1

Owner _____ Address _____

Tenant _____ Address _____

Contractor Thorpe Bros. Well Co. Address Des Moines

Drillers P. West

Drilling dates 10/16/39 to 12/20/39

Well data:

Elevations: Drilling curb 1020 feet; Land surface _____ feet

Determined by _____

Topographic position Upland

Total depth: Reported 150 feet, Measured _____ feet

Drilling method Drilled

Hole and casing data 8" pipe cemented inside of 12½" pipe
(Give amount, size, kind, and depth of all casing; type and
72' of 12½" Std black pipe from +2 to -75. 91' of 8" Std pipe +3 to 88'
position of seals and packers; cementing; how finished--perforated pipe, screen,
gravel pack, open hole, etc.)

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

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

Sources of water: Principal Hampton; Others _____

Production data: Date _____

Static depth to water 53 Measuring point _____

Pumping level 67 at 17 g.p.m.

_____ _____

_____ _____

_____ _____

Specific capacity _____ g.p.m. per ft. drawdown; Temperature _____ °F.

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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 _____

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WATER ANALYSES (in parts per million)

| | | | | |
|---|---|---|---|---|
| Date sampled | July 19, 1940 | | | |
| Sampled by | E.G. Fiala | | | |
| Total solids | 250 | | | |
| Insoluble matter | 10.0 | | | |
| Alkalinity (Meo) | 328.0 | | | |
| Alkalinity (Phn) | 0.0 | | | |
| pH | 7.3 | | | |
| $Fe_2O_3 + Mn_2O_3 + Al_2O_3$ | 3.2 | | | |
| Alkali as sodium | 13.4 | | | |
| Calcium | 78.9 | | | |
| Magnesium | 30.5 | | | |
| Iron (unfiltered) | 0.5 | | | |
| Manganese | 0.20 | | | |
| Nitrate | 11.0 | | | |
| Fluoride | Tr. | | | |
| Chloride | 8.0 | | | |
| Sulfate | 22.2 | | | |
| Bicarbonate | 400.2 | | | |
| Hardness (ppm) | 324. | | | |
| Hardness (gpg) | 19.0 | | | |

Remarks _____

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Laboratory data: Sample storage location _____

Sample range 0-150 No. spls. 80 No. dupls. & cond. 29 Good

Spls. prepared by Summerfield Washed range _____ by _____

Driller's log and cond. _____

Insoluble residues: Prepared by _____ Studied by _____ Strip log _____

Microscopic study _____ strip log 6140 Conselman.

Gen. log _____ Correl. by _____