

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

W 7730

RECORD OF WELL

Location: So 14 St. Near 4th Ave North

(N E)

Town: ESTHERVILLE (S W) : County EMMET

E.

NW NW NW sec. 14 T. 99 N., R. 34 W. Twp.

Well name and number ESTHERVILLE City No. 7

Owner _____ Address _____

Tenant _____ Address _____

Contractor Thorpe Well Drilling Address _____

Drillers _____

Drilling dates July - Sept. 1955

Well data:

Altitudes: Drilling curb _____ feet; Land surface _____ feet

Determined by _____

Topographic position _____

Total depth: Reported 770 feet, Measured _____ feet

Drilling method _____

Hole and casing data _____

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

Source of data _____

Sources of water: Principal _____

Others _____

Production Data

Date _____
 Static water level _____
 Measuring point _____
 Pumping water level _____
 Yield (g. p. m.) _____
 Duration of pumping _____
 Specific capacity _____

Pump Data

Type pump _____ Column diameter and length _____
 Cylinder or bowls diameter and length _____
 Suction pipe _____ Airline _____
 Power _____ Production _____ g. p. m. for _____ hours per day
 Use of water _____

Dissolved constituents and properties (in parts per million except as indicated)

Date sampled _____
 Sampled by _____
 Silica (SiO₂) _____
 Iron (Fe) _____
 Manganese (Mn) _____
 Calcium (Ca) _____
 Magnesium (Mg) _____
 Potassium (K) _____
 Sodium (Na) _____
 Carbonate (CO₃) _____
 Bicarbonate (HCO₃) _____
 Sulfate (SO₄) _____
 Chloride (Cl) _____
 Fluoride (F) _____
 Nitrate (NO₃) _____
 Dissolved solids _____
 Hardness (as CaCO₃) _____
 Total _____
 Grains per gallon _____
 Noncarbonate _____
 Alkalinity (as CaCO₃) _____
 pH _____
 Specific conductance _____
 (micromhos at 25°C) _____
 Temperature (°F) _____
 Analysis No. _____

Laboratory Data

Well No. **W 7790** Sample range **0-770** No. of samples **154**
 No. of dupls. and cond. **154** **Good** Washed range **425-770**
 Samples prepared by **Thompson & Stone** Date **15 July 1956**
 Logged by **Northrup** Date **9/21/56**
 Correlations by _____ Date **9/21/56**

MEMORANDUM

May 2, 1955

To: H. G. Hershey
From: J. B. Cooper
Re: New well at Estherville

*This is city No 6
and IGS No. 7 (W-7730)*

Larry Madden, City Engineer, Estherville called this morning to report the city is opening bids this afternoon for the drilling of a new well through the Jordan sandstone -- the well will be located in SE part of town close by the present well 3 (Dakota sandstone).

Madden was concerned about the construction of this well. Specifications call for 30" surface pipe; 26" pipe to 240'+ (top Dakota sandstone); 25" hole with 20" casing cemented in to 470'+ (top of St. Peter sandstone); 19" open hole (casing where and if needed to 750'+ (top St. Lawrence)).

Madden had this morning received a letter from H. Sidwell Smith, Stanley Engineering Company proposing a change in construction. Smith proposed casing be set in top of Prairie du Chien (550'+) thereby casing out St. Peter sandstone and hole be grouted from top of St. Peter to surface, leaving ~~on~~^{un} cemented, but cased, hole against St. Peter. Casing to be perforated at later date if St. Peter water desired.

The reason for this suggestion is that Smith is not satisfied with quality of water samples obtained from Jordan sandstone in City well No. 6. He feels the hole was not cased properly through St. Peter at time of sampling Jordan and that St. Peter water was leaking into well. Analysis of St. Peter and Jordan water are quite similar.

Madden does not feel there is a significant difference between the quality of these waters and does not want to commit the city to the expense involved in following Smith's suggestion.

Madden asked our opinion on this. I agreed with Smith's proposal inasmuch as it would give the city definite knowledge of water quality in Jordan. However, as Madden opposed the idea I suggested that if original specifications were followed that after casing was cemented in top of St. Peter and well was drilled some distance into St. Peter a water sample to be collected, Also suggested a sample be collected when well was drilling near base of Prairie du Chien formation. After completion of well a water sample from a pump test of the Jordan to be collected. These analysis should indicate any noticeable change in quality of water from St. Peter to Jordan.

After comparison of analysis if it was felt that the St. Peter water was of poor quality it would be possible to set a liner opposite the St. Peter and exclude the poor quality water.

*Jim - Your suggestions on the above
sound very good to me JBC*

JBC

TESTING WATER VOLUME. No. 6 well, the city's latest, was "giving out" with 1200 gallons of water per minute when this picture was taken following Thursday's city council meeting. Shown during the demonstration are (left to right) city superintendent of

public works, Larry Madden; testing the volume, from the Thorpe Well Co., helper Bob Leininger; superintendent of the water treatment plant, Les Sidles; and Mayor G. K. Allen.

* * *

New Number 6 Well Is Good Producer

9/16/55

BY JOE FERRIS JR.

Number 6 of the city's wells, for which drilling began about three months ago, is producing well indeed! City councilmen in a special meeting at the city hall Thursday afternoon learned just how well; 1,200 gallons per minute.

The well, tested yesterday, will provide water for Estherville residents through a 19-inch hole, 775 feet in depth that is now cased to 450 feet and cemented to the top of the St. Peter sandstone strata. The water analysis showed the quality to be superior to one of the present new wells and inferior to one other.

* * *

In tests from midnight Wednesday until Thursday morning, Thorpe Well Co., men, the contractors, pumped 1,200 gallons of water per minute from No. 6. City superintendent of public works, Larry Madden told the council that 700 gallons a minute amounts to one million gallons per day.

A discussion of the plausibility of exploration beneath the Jordan sandstone strata now reached, be-

gan following Madden's statement "there might be plenty of water there." Councilmen Robinson and Lyman concurred on the idea, and Councilman Kautz said, "With Estherville's present three good water sources, the logical alternative for a future city council's action, is deeper exploration."

* * *

Madden recommended that the city purchase a pump identical to No. 4 well's Fairbanks - Morse "Pomona" submersible pump of 800-gallon per minute capacity.

Unanimous council approval to the recommendation followed, and the pump will be ordered as per well contract; the well to begin operation as soon after the pump's arrival as possible.

Well No. 3 is in need of repairs. Madden gave a detailed report of their extent to the council. "The city," said Councilman John Lyman, "must have a reserve well to draw from in emergencies." His fellow members agreed, voting unanimously to consider repair work bids at the council's Nov. 7 meeting.

*This is
IGS No. 7
W-7730*

SEP 3 1955

OFFICIAL PUBLICATION

NOTICE OF PUBLIC HEARING ON PROPOSED SPECIFICATIONS AND PROPOSED FORM OF CONTRACT FOR THE REPAIR AND PAINTING OF WATER TANKS FOR THE CITY OF ESTHERVILLE, IOWA, AND OF THE REPAIRING OF BIDS FOR SUCH IMPROVEMENTS. NOTICE IS HEREBY GIVEN:

That the City Council of the City of Estherville, Emmet County, Iowa, will meet in the Council Rooms in the City Hall, Estherville, Iowa, on the 26th day of September, 1955, at 7:30 o'clock P. M., at which time and place said Council proposes to adopt specifications and form of contract and to receive bids for the repair and painting of water tanks for said City and to enter into a contract or contracts for the repair and painting of said tanks. The work to be done is in general as follows:

Section 1—Sandblast inside of tank and rise on 300,000 gallon elevated tank and apply two coats of paint. Clean outside of tank and tower by use of wire brush and scrapers. Spot and apply two coats of paint.

Section 2—Remove and replace rivets in one section of roof standpipe.

Section 3—Sandblast inside and outside of existing 500,000 gallon standpipe. Apply two coats of paint on inside and three coats on outside.

All work is to be done in accordance with the specifications and proposed form of contract now on file in the office of the City Clerk of the City of Estherville, Iowa, by this reference made a part thereof as though fully set out and incorporated herein.

All proposals and bids in connection therewith shall be submitted to the City Clerk of said City on or before the time herein set for said hearings. All proposals shall be made on the official bidding blanks furnished by the City.

Each proposal shall be accompanied in a separate sealed envelope by a certified check in an amount equal to ten per cent of the total amount of the bid, drawn on and certified to by a bank in Iowa, and payable to the City of Estherville, Iowa, as security that if awarded the contract by resolution of the City Council, the bidder will enter into a contract at the prices bid and will furnish the required corporate surety bond. This certified check may be cashed and the proceeds retained by the City of Estherville, Iowa, as agreed liquidated damages if the bidder fails to execute a contract or file an acceptable bond for the faithful performance thereof within ten (10) days after the acceptance of his proposal by resolution of the City Council.

At said hearing the City Council will consider the specifications and proposed form of contract for the project, the same now being on file in the office of the City Clerk, reference to which is made for a more detailed and complete description of the proposed improvements, and at said time and place the Council will also receive and consider any objections to said improvements, specifications, and form of contract made by any interested party.

Payment for said improvements and extensions will be made in cash from funds on hand in the Water Department and/or proceeds from the sale of revenue obligations which said revenue obligations will be payable solely and only out of net earnings of said municipal waterworks.

Method and time of payment to contractor will be as provided in "Instructions to Bidders."

The successful Bidder shall furnish a performance bond in an amount equal to 100% of the contract price.

The work shall be started on or before October 10, 1955, and shall be completed on or before December 3, 1955.

The City reserves the right to reject any or all bids, to waive informalities and to enter into such contract as it shall seem to be for the best interest of the City.

These improvements are being undertaken pursuant to authority granted the municipality under the provisions of Chapter 397 of the Code of Iowa, 1950.

By virtue of statutory authority, preference will be given to products and provisions grown and coal produced within the State of Iowa, and preference will be given to Iowa domestic labor in the construction of said improvements.

Bidder may secure copies of the Specifications, Instructions to Bidders, Contract Documents, and Proposed Forms at the office of the City Clerk.

This notice is given by order of the Council of Estherville, Iowa.

Geo. K. Allen

By Geo. K. Allen

Mayor

Attest: Glenn L. Story

City Clerk