

Begin Drilling of New Well

Workmen are shown above as they get things ready for drilling a new well in the Coleville ar Elkader to produce 300 to 400 gallons per minute. The well will be housed and have a large pr re tank as a reserve of water and 120 pounds of pressure at all times, automatically controlle ne new well, located behind the Stepp melon stand, will lessen the need for more water volun d pressure in north Elkader where much expansion has been made in the past few years. The ne ell should also provide adequate volume for better fire protection on the east side of Elkader.

GW Elkader No. 5 well folder
Clayton Co.

September 3, 1970

Mr. Ken Newvem
City Clerk
Elkader, Iowa

Dear Mr. Newvem:

Enclosed is our copy of the geologic log for Elkader city well No. 5 which you requested from Mr. Scheetz, a member of our staff.

The water sample has been sent to the State Hygienic Laboratory in Des Moines and a report should be back in about three weeks or so. A copy of the analysis will be sent to you as soon as we have the results.

We regret that you are having a contamination problem and it appears that surface water is entering the well from a highly fractured limestone through the casing perforations. Therefore it would seem best to deepen the well to and through the Jordan Sandstone to a depth of about 600 feet to insure a safe and satisfactory water supply.

Please let us know if we can be of further service.

Very truly yours,

Richard C. Northup
Chief of Subsurface Geology

RCN:cs

September 3, 1970

Mr. Don Watt
Varner Well and Pump Co.
121 East Fourth Street
Dubuque, Iowa

Dear Don:

Enclosed is your copy of the geologic log for Elkader city well No. 5 Bedrock is the lower part of the Galena Formation (Prosser Member) which is almost at the surface with just sixteen feet of overburden consisting of soil and sandy clay. The material from 26'-50' appears to be river sand coming from outside and occurs as crevice fill on possibly sinkhole material in the Galena Formation.

I believe that most of the water being produced is coming from this upper zone rather than from the St. Peter Sandstone, which normally would not yield as large a quantity of water as indicated from the pumping test. Moreover, the coliform bacteria problem suggests an outside source for most of the water which probably is entering the well through the casing perforations from 63'-82' from a highly fractured limestone section.

From all appearances it would seem best to forget about this upper zone if it continues to show contamination. In this case the well could be deepened to the Jordan and St. Lawrence after setting and cementing a string casing to present total depth. Using the old Elkader well drilled in 1927 as a guide, I would look for the Jordan at about 535' and the St. Lawrence at 575'. Hence if the well were deepened to about 600 feet, a satisfactory completion should be expected.

Please let us know if we can be of further service.

Very truly yours,

RCN:cs

Richard C. Northup
Chief of Subsurface Geology

Clayton Co

Geological Survey Building
16 West Jefferson Street
Iowa City, Iowa 52240
October 9, 1969

Mr. D. H. Walke
Water Superindendent
Elkader, Iowa 52043

Dear Mr. Walke:

Following the Alaskan earthquake of March 27, 1964, the U.S. Geological Survey conducted a study of the effect of this earthquake on the water levels in wells. At that time, Mr. Newhern reported a drastic change in several of the Elkader town wells. The water level in well No. 3, for instance, rose about 50 feet during the evening of the earthquake. Data from Mr. Newbern up until early 1965 indicated that the water level in the No. 3 well was still considerably higher than it had been before the quake.

The Geological Survey is conducting another study to determine if these effects have persisted throughout the last five years. I would appreciate it if you could send me any records you have on the water-level measurements of that well since early 1965. The information I need is the date the well was measured and the depth of the water level below the top of the well. I am especially interested in the water-level measurements made when the other nearby town wells had not been pumped for a few hours.

I have enclosed a copy of a paper I presented at the Iowa Academy of Science on the subject. The hydrograph for Elkader is on page 330.

I shall appreciate any assistance you can give us on this matter.

Very truly yours,

R. W. Coble, Hydrologist

Enclosure