

IOWA
STATE DEPARTMENT OF HEALTH
DIVISION OF PUBLIC HEALTH ENGINEERING
DES MOINES

Town Charter Oak, Iowa Date July 11, 1951
Report on Public Water Supply
By X. P. Boyles Approved


Director
Division of Public Health Engineering

PURPOSE: To determine the reason for unsafe sample of July 2, 1951 and to secure a mineral analysis from the new well.

INTERVIEWS: W. M. Nellor, mayor; John Kroll, plant operator.

GENERAL INFORMATION REGARDING DEVELOPMENT OF NEW WELL:

- (1) The Carol Rasmussen Well Drilling Co. of Ida Grove had been retained by the council to make test drillings and develop a well near the present active dug well. The first test hole was drilled January 26, 1950 at a point approximately 50 ft. east and south of the active well. Sands and gravels at a depth of 54 ft. did not seem favorable.
- (2) On December 28, 1950, the town officials desired to develop the new well on the present berm and at a point approximately midway between the active and old dug well. Since an acute water shortage existed, this site was approved as an emergency measure with the following stipulations:
 - (a) That the casing be grouted to the top of clay at approximately 30 ft.
 - (b) That continuous chlorination would be advisable and probably necessary to assure a satisfactory water at all times from this shallow depth.
 - (c) The iron removal unit would very likely be necessary as the iron content of shallow waters in this area is reasonably high.
- (3) On December 30, 1950, drilling was started at the site on the present berm about mid way between the two dug wells. On January 6, 1951, the well was completed to a depth of 56 ft. The log of this new well, as secured from Mr. Rasmussen, is as follows:

Original ground	(0) to 12	= clay loam
	12 to 19	= sand and gravel
	19 to 23	= shale
	23 to 30	= sand and gravel
	30 to 32	= clay
	32 to 34	= blue clay
	34 to 38	= sand
	38 to 48	= gravel

*Approx 4 3000
Total.*

(To the above figures must be added 8 ft. to give the relative measurement from the top of present dirt berm.)

The 12" casing was puddled with clay from top of berm to a point 15 ft. below and cement grouting placed around the casing from the 15 ft. level to a point 40 ft. below top of berm, the casing terminating at the 46 ft. depth with a 10 ft. Johnson Everdur screen attached to bottom of casing. A rebuilt vertical turbine pump was installed having an above ground setting and contained in an insulated frame pump-