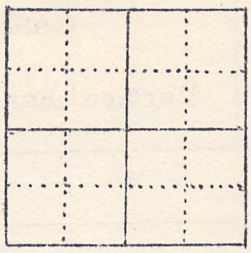
W 7307

IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey
RECORD OF WELL



Location:

Town: Harcourt (N E) (S W) :County Webster

~~E.~~

_____ sec. 13 T. 86 N., R. 29 W. _____ Twp.

Well name and number _____

Owner Harcourt Town Well #2 (1955) Address Harcourt, Iowa

Tenant _____ Address _____

Contractor Layne-Western Co. Address Ames, Iowa

Drillers _____

Drilling dates June-Sept 1955

Well data:

Altitudes: Drilling curb _____ feet; Land surface _____ feet

Determined by _____

Topographic position _____

Total depth: Reported 1245 feet, Measured _____ feet

Drilling method _____

Hole and casing data _____

Original depth to water 17'6" ft. above below Curb Date 1955

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 (SiO_2)				
Iron (Fe)				
Manganese (Mn)				
Calcium (Ca)				
Magnesium (Mg)				
Potassium (K)				
Sodium (Na)				
Carbonate (CO_3)				
Bicarbonate (HCO_3)				
Sulfate (SO_4)				
Chloride (Cl)				
Fluoride (F)				
Nitrate (NO_3)				
Dissolved solids				
Hardness (as $CaCO_3$)				
Total				
Grains per gallon				
Noncarbonate				
Alkalinity (as $CaCO_3$)				
pH				
Specific conductance (micromhos at 25°C)				
Temperature (°F)				
Analysis No.				

W 7307

Laboratory Data 1060-1240 575-1060 EH4-9,10

Well No. _____ Sample range 0-575 No. of samples 115-98-37

No. of dupls. and cond. 115 Good 94 (37) Washed range 195-575-1060-1245

Samples prepared by Cahill Date 9/21/55 10/19/55

Logged by NORTHUP Date 12/1-5/55

Correlations by NORTHUP Date 12/1-5/55

Paul

IOWA GEOLOGICAL SURVEY
AUG 22 1960



AFFILIATED WITH
LAYNE & BOWLER, INC.
MEMPHIS, TENNESSEE

Layne-Western Company

WATER WELL DRILLING
EXPLORATION BORINGS AND TEST SURVEYS
LAYNE TURBINE PUMPS

OFFICES
KANSAS CITY, MISSOURI
WICHITA, KANSAS
OMAHA, NEBRASKA
AMES, IOWA
AURORA, ILLINOIS
ST. LOUIS, MISSOURI
DENVER, COLORADO

SOUTH DUFF AVENUE
AMES, IOWA

TELEPHONE CEDAR 2-3563

August 19, 1960

Dr. H. G. Hershey
Iowa Geological Survey
Iowa City, Iowa

Dear Sir:

This is to acknowledge receipt of and to thank you for the additional information on Otho, Iowa. We will plan the construction of the well as you suggest.

For your files we wish to report that the well at Harcourt, which we completed in 1955, had an additional static water level of 130' and the pumping level in the well at the capacity of 170 GPM was 197'.

Very truly yours,

LAYNE WESTERN COMPANY

Frank H. Flores

Frank H. Flores

FHF/sb

Webster

December 7, 1955

Water Department
Harcourt, Iowa

Gentlemen:

We have completed the examination of well cuttings from Town Well No. 2 which was drilled for you by Layne-Western Company.

A copy of our geologic log is being mailed separately for your files.

Very truly yours,

H. G. Hershey
by E. H. Walker

HGH:L

August 23, 1955

Mr. X. P. Boyles
Regional Engineer
State Department of Health
Fort Dodge, Iowa

Dear Mr. Boyles:

Thank you very much for your letter of August 22 in regard to the deep well development at Harcourt. The information will be useful to us and I appreciate your cooperation in furnishing it.

The next time one of our staff is in the vicinity of Harcourt he will call at the well to check on progress.

With best personal regards,

Sincerely yours,

H. G. Hershey

HGH:t

Iowa
State Department of Health
REGIONAL HEALTH SERVICE
NO. 2
Fort Dodge, Iowa

EDMUND G. ZIMMERER, M. D.
COMMISSIONER
DES MOINES, IOWA

IN REPLYING
ADDRESS
X. P. Boyles
Regional Engineer

AUG 22 1955

August 22, 1955

H. G. Hershey,
State Geologist
Geology Annex
University of Iowa
Iowa City, Iowa

Dear Dr. Hershey:

Thank you for the recent forecast on possibilities of deep well development at Harcourt.

The contract for this deep well was awarded Aug. 9 to the Layne-Western Co. The well rig has been set up and it is anticipated that actual drilling will start today. Mr. Flories has been acting as engineer for the town in this development and it is understood that samples will be secured at the prescribed intervals and submitted to the Geology Survey. The Layne-Western Co. proposes under the contract to operate a 24 hour shift.

Very truly yours,

X. P. Boyles
Regional Engineer

XPB:DES

WRD Exp. (GW)
Aug. 1964

Verified ERC Punched FCH

086-29W-13

U. S. DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Water Resources Division Well Schedule Form

MASTER CARD

Record by D. AARONSON Source of data FILE Date 12/1/65 Map LEHIGH, QUAD. 1:62,500

State IOWA (16) County (or town) WEBSTER (94)

Latitude: 42 15 52 N (1-11) Longitude: 094 10 37 (12-18) Sequential number: 2 (19)

Lat-long accuracy: 2 (20) T 86 N S, R 29 W E Sec 13, SW ¼, SWNE ¼, NW ¼ 5

Local well number: 086 29 W 13 B A C C (21-34) Other number: W-7307 B & M

Local use: 07307 CITY 2 (35-51) Owner or name: HARCOURT TOWN #2

Owner or name: HARCOURT (52-66) Address: HARCOURT, IA

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist (67) M

Use of water: (A) Air cond, (C) Comm, (D) Dewatering, (F) Fire, (H) Dom, (I) Irr, (N) Ind, (P) PS, (S) Stock, (T) Instit, (U) Unused (68) P

Use of well: (A) Anode, (D) Drain, (G) Seismic, (O) Obs, (P) Oil-gas, (R) Recharge, (S) Spring, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed (69) W

DATA AVAILABLE: Well data 3 (70) Freq. W/L meas.: IRREGULAR I (71) Field aquifer char. (72)

Hyd. lab. data: (73)

Qual. water data; type: COMPLETE (74) C

Freq. sampling: INTERMITTENT (10-25-55) I (75) Pumpage inventory: yes / no, period: (76)

Aperture cards: yes (77)

Log data: GEOLOGIST LOG (78-79) G

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD (19) Depth well: 1245 ft (20-23) Meas. ep accuracy (24) 6

Depth cased (first perf.): ft (25-28) Casing type: ; Diam. in (29-30)

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallery, (O) open end, (P) perf., screen, sd. pt., (S) (T) (W) shored, (X) open hole, (Z) other (31)

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) reverse rotary, (T) trenching, (V) driven, (W) drive wash, (Z) other (32)

Date Drilled: SEPT. 1955 (33-35) Pump intake setting: ft (36-38)

Driller: LAYNE WESTERN (KEN SMITH) (name) AMES, IA. (address)

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple (cent.), (M) multiple (turb.), (N) none, (P) piston, (R) rot, (S) submerg, (T) turb, (Z) other (39) Deep / Shallow D (40)

Power (type): diesel, elec, gas, nat, gasoline, hand, LPG gas, wind; H.P. (41) Trans. or meter no.

Descrip. MP LSD ft above below lsd, Alt. MP 1169

Alt. LSD: 1169 (42-45) Accuracy (source): ALTIMETER (47) 7

Water Level 130 ft above below MP; Ft above below lsd (48-51) Accuracy: DRILLER'S LOG (52) D

Date meas: 8/19/60 (53-55) Yield: 170 gpm (56-60) Method determined (61)

Drawdown: 67 ft (62-64) Accuracy: 3 (65) Pumping period hrs (66-68)

QUALITY OF WATER DATA: Iron 7.3 ppm (69) Sulfate 346 ppm (70) Chloride 11 ppm (71) Hard. 578 ppm (72) 8

Sp. Conduct 1230 K x 10^6 (73) 5 Temp. 55 °F (74-76) Date sampled JAN 7, 1960 (77-79) 160

Taste, color, etc.

Well Number N S d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1-19) Physiographic Province: CENTRAL LOWLAND (20-21) 12 Section: WESTERN

LAKE (22) B Drainage Basin: RACCOON (23-25) 25A Subbasin: (26)

Topo of well site: (D) local depression, (F) flat surface, (H) hilltop, (S) hillside, (T) terrace, (V) valley flat, (27)

MAJOR AQUIFER: DEVONIAN system, MIDDLE series (28-29) D2 CEDAR VALLEY FM aquifer, formation, group (30-31) MC

Lithology: FINE DOLOMITE (32-33) 2D Origin: MARINE (34) 6 Aquifer Thickness: 300? ft

300 (35-37) Length of well open to: ft (38-40) Depth to top of: 925 ft (41-43) 925

MINOR AQUIFER: system, series (44-45) aquifer, formation, group (46-47)

Lithology: (48-49) Origin: (50) Aquifer Thickness: ft

(51-53) Length of well open to: ft (54-56) Depth to top of: ft (57-59)

Intervals Screened:

Depth to consolidated rock: 175 ft (60-63) 175 Source of data: WELL CUTTINGS (64) C

Depth to basement: ft (65-68) Source of data: (69)

Surficial material: SANDY TILL (70-71) 8T Infiltration characteristics: POOR (72) 4

Coefficient Trans: gpd/ft (73-75) Coefficient Storage: (76-78)

Coefficient Perm: gpd/ft²; Spec cap: 2.5 gpm/ft; Number of geologic cards: (79)

CASING:

13

GPO 844-225

JUL 11 1955

OFFICIAL PUBLICATION.

NOTICE OF HEARING AND LETTING

Notice of hearing on proposed plans and specifications and proposed form of contract for the proposed improvements consisting of the construction of a new deep well, including all necessary labor, tools, equipment and appurtenances in connection with the waterworks system in the Town of Harcourt, Iowa, and of receiving bids in connection therewith.

Notice is hereby given that the Town Council of the Town of Harcourt, Iowa, will meet in the Town Clerk's office on the 9th day of August, 1955, at 02:00 o'clock P. M. at Harcourt, Iowa, at which time and place the Council will consider and propose to adopt plans and speifications and proposed form of contract now on file in the office of the Town Clerk, and will consider bids and propositions received for the construction of the extensions and improvements to the Municipal Waterworks of said Town in accordance with said proposed plans and specifications. Said extensions and improvements consist in general of the following: The construction of a new deep water well, including all necessary labor, tools, equipment and appurtenances.

All proposals and bids in connection therewith shall be submitted to the Clerk of said Town before the time set for said hearing.

Proposals shall be made on forms furnished by the Town or similar thereto and shall be accompanied by a check certified by an Iowa Bank in the amount equal to not less than 10 per cent of base bid of bidder and made payable to the Town Treasurer of the Town of Harcourt, Iowa, and filed in an envelope separate from the one containing the proposal. Said check may be cashed by the Town as liquidated damages in the event the successful bidder fails to enter into contract within ten (10) days after the award and post a bond guaranteeing performance of said construction contract and the maintenance of said project for a period of one year, said bond to be in an amount equal to 100 per cent of the full contract price, and satisfactory to the Town Council. The contractor shall furnish such bond in said amount as security for the performance of said contract.

For further particulars see the proposed plans, specifications and form of contract now on file at the office of the Clerk of said Town, copies of which may be seen at said office.

At said hearing the Council will consider the said plans and specifications now on file in the office of said Town Clerk, reference to which is made for detailed and complete description of the proposed extensions and improvements and will also consider the proposed form of contract in connection therewith, also offers, bids and propositions submitted in connection therewith for the construction of said extensions and improvement. At said hearing, the Council will also consider any objections thereto by any interested parties.

Any contract to be awarded for the construction of said extensions and improvements or any part thereof shall not constitute a general obligation of said Town or be payable in any manner by taxation, but payments for said extensions and improvements will be made to the contractor from proceeds of the sale of Waterworks Revenue Bonds of said Town payable solely and only out of the future net earnings of said Municipal Waterworks as provided by Section 397.9 and 397.19 both inclusive, of the Code of Iowa of 1954. Payments will be made to the contractor as the work progresses upon monthly estimates as described in the specifications.

Upon completion of the contract the Town shall retain not less than 5 per cent of the contract price for a period of thirty days after final acceptance of the project before final payment is made unless within said period contractor has furnished Town satisfactory evidence of payments in full of all claims for labor and material for said project.

Work shall be commenced within 10 days after execution of the contract and carried on continuously twenty-four (24) hours per day including Sundays and holidays until completed in every respect to the satisfaction and approval of Town.

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.

The Council reserves the right to award the work at the time of said meeting or at such later time as may then be fixed, to reject any and all bids, offers or proposals, and to enter into such contract or contracts as it shall deem to be for the best interest of said Town.

Published by authority of the Town Council of the Town of Harcourt, Iowa.

Fred Anders
Mayor

ATTEST:
Lloyd Nelson, Clerk

After 4 Months, City Water Again in 2 Weeks

Harcourt Heaves Sigh of Relief---Desert Days Are Over



TOUCHY QUESTION—After 43 days of having visitors ask, "How deep are you?" well diggers at Harcourt have a dislike for the question. They constructed this mock grave with the sign, "May he rest in peace, he asked how deep are you," as a warning to curious spectators. The digging operations were to end Wednesday.



WATER FROM GOWRIE—School officials temporarily licked the water problem at Harcourt but they are still looking forward to city water, which will become available in about two weeks. During the shortage water has been trucked to the school from Gowrie. Dick Hade, janitor at the school, puts a hose from the truck to an outside water tank which in turn feeds an underground pressure tank.



—MESSENGER Photos

DRILLING OPERATIONS—Well diggers are shown checking their equipment at Harcourt where drilling operations were to end Wednesday afternoon after 43 days. A new deep well for the community means city water again for residents after a lack of it since last May.