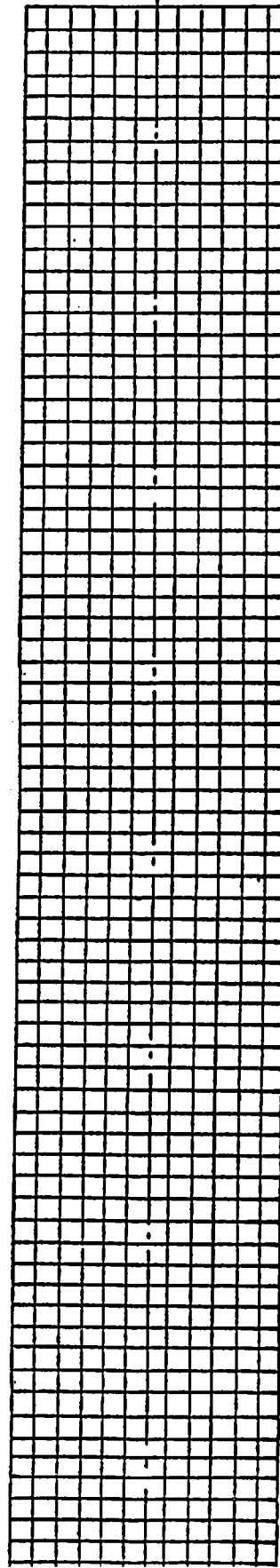


GROUND WATER

Town NEWELL County BUENA VISTA Date 9-22 1958  
WELL NO. 3 Active X Standby \_\_\_\_\_ Abandoned \_\_\_\_\_ Replaced by No. \_\_\_\_\_  
LOCATION: Street \_\_\_\_\_ Sec. 17 T. R 90 N.R. 35 East: West  
Lot 1 Block 7 Township Newell  
OWNERSHIP MUN Date Installed Nov 5 1951  
CONTRACTOR THORPE Address \_\_\_\_\_  
DATE RECONDITIONED Summer 1958 Contractor Thorpe Well Co. Address Des Moines  
CONSTRUCTION EMPLOYED: In the summer of 1958, an 8 in casing was placed inside the existing 10 in casing. A 3 1/2 in. new screen was also installed by Thorpe Well Co.  
CURB ELEVATION \_\_\_\_\_ REFERENCE \_\_\_\_\_  
TYPE OF CONSTRUCTION Gravel Pack Depth 299 ft. Diameter 10 in.  
CASING: Material \_\_\_\_\_ Condition \_\_\_\_\_  
SCREEN: Material metal Length 15 ft. Diameter 6 in. Slot Opening \_\_\_\_\_ in.  
WELL SEALED Yes How Concrete Approved \_\_\_\_\_  
WELL VENTED \_\_\_\_\_ How \_\_\_\_\_ Approved \_\_\_\_\_  
TYPE OF PUMP Beuhly Make Submersible Capacity 235 GPM Lubricated \_\_\_\_\_  
DEPTH TO CYLINDER \_\_\_\_\_ ft. Tail Pipe 35' ft.  
PUMP CONTROL: Manual X Automatic \_\_\_\_\_ Semi-Automatic \_\_\_\_\_  
STATIC LEVEL 78 ft. Pumping Level 89 ft. Drawdown 30 ft.  
OPTIMUM SPECIFIC YIELD 130 GPM Drawdown 30' ft. Time 3 hrs.  
RATE OF DRAWDOWN \_\_\_\_\_ Rate of Recovery \_\_\_\_\_  
TEMPERATURE OF WATER \_\_\_\_\_ °F Where Measured \_\_\_\_\_ Temp. of Atmosphere \_\_\_\_\_ °F  
DRAWDOWN GAUGE INSTALLED \_\_\_\_\_  
TOPOGRAPHICAL POSITION OF WELL \_\_\_\_\_  
WELL SITE INVESTIGATED \_\_\_\_\_ Approved \_\_\_\_\_ Why not \_\_\_\_\_  
WELL CONSTRUCTION REVIEWED \_\_\_\_\_ Approved \_\_\_\_\_ Why not \_\_\_\_\_  
PIT CONSTRUCTION: Purpose \_\_\_\_\_ Size and Description \_\_\_\_\_  
CONDITION: \_\_\_\_\_ Drainage Facilities \_\_\_\_\_  
PUMP INSTALLATION: Approved \_\_\_\_\_ Why Not \_\_\_\_\_  
CUTTINGS FROM WELL PRESERVED: \_\_\_\_\_ Where \_\_\_\_\_  
DEPTH TO BED ROCK \_\_\_\_\_ Depth to Water-bearing Stratum \_\_\_\_\_  
SOURCE OF WATER: Principal Formation \_\_\_\_\_ Other \_\_\_\_\_  
Total Hardness 746 ppm. Total Iron 3.6 ppm. Sulfates 12.2 ppm. Fluorine 0.6 ppm

| GEOLOGICAL DATA |                                           |        | CASING DATA                                              | WELL DATA                                    |                                                |
|-----------------|-------------------------------------------|--------|----------------------------------------------------------|----------------------------------------------|------------------------------------------------|
| Formation       | Material and distance from surface in ft. | Series | Position, kind and extent of casing, liners, shoes, etc. | Scale:<br>Horizontal _____<br>Vertical _____ | Position of seals, screens, static level, etc. |

|                   |     |
|-------------------|-----|
| Top soil          | 2   |
| Yellow Clay       | 5   |
| Gray Clay         | 10  |
| Yellow Clay shale | 14  |
| Blue Clay         | 20  |
| Gray Clay shale   | 106 |
| Gravel            | 168 |
| Yellow Clay       | 138 |
| Gray Clay         | 241 |
| Gravel            | 244 |
| Gray Clay         | 265 |
| Yellow Clay       | 270 |
| Gravel            | 275 |
| Gray Clay         | 287 |
| Gravel            | 299 |
| Blue Shale        |     |



STATE HYGIENIC LABORATORY, DES MOINES BRANCH  
WATER LABORATORY DIVISION  
MINERAL ANALYSIS

W# 5761  
LAB. NO. 4175  
MINERAL NO. 6614  
14 Jun 1968 bj

TOWN Newell COUNTY Buena Vista  
OWNER OF SUPPLY Municipal  
COLLECTOR'S NAME W S O'Dear  
DATE COLLECTED 11 Apr 68 DATE RECEIVED 12 Apr 68  
REPORT TO: NAME Environmental Engineering Service  
ADDRESS State Department of Health

FIELD DATA

SOURCE: WELL NAME, NUMBER, POINT OF COLLECTION, DEPTH, CONSTRUCTION DATE, ETC.,  
Well #3 (North Well) Sampling Tap 299 ft 1951

WELL PUMPED 1/2 HRS. AT 200 GPM. DATE OF PREVIOUS SAMPLE 18 Aug 60  
WAS SAMPLE FREE OF TURBIDITY WHEN COLLECTED Yes  
TEMPERATURE °C 11 ALKALINITY (ppm CaCO<sub>3</sub>) P None T 350 pH 6.6  
IS A POLYPHOSPHATE BEING USED? No

Collector's Remark: This well acidized recently, sample taken after acid pumped to waste.

LABORATORY ANALYSIS  
(PARTS PER MILLION)

SPECIFIC CONDUCTANCE K AT 25°C 190 x 10<sup>-5</sup> TURBIDITY 25  
DISSOLVED SOLIDS 1470 SOLUBLE IRON (Fe) 25  
TOTAL SOLIDS 1470 SILICA (SiO<sub>2</sub>) 26 TOTAL IRON (Fe) 25  
ALKALINITY (ppm CaCO<sub>3</sub>) P None T 314 pH 6.7 DATE 12 Apr 68

POSITIVE IONS

K<sup>+</sup> 9.2  
Na<sup>+</sup> 140  
Ca<sup>++</sup> 220  
Mg<sup>++</sup> 65.6  
Mn<sup>++</sup> 0.61  
Al<sup>+++</sup>           

NEGATIVE IONS

NO<sub>3</sub><sup>-</sup> 1.9  
F<sup>-</sup> 0.3  
Cl<sup>-</sup> 110  
SO<sub>4</sub><sup>--</sup> 630  
HCO<sub>3</sub><sup>-</sup> 383  
CO<sub>3</sub><sup>--</sup> None

HARDNESS AS CaCO<sub>3</sub> 820 ppm 47.8 gpg

Cloudy and yellow-brown in color, with black particles, on receipt in laboratory. Particles removed by decantation.

ANALYST Ryan, Peterson

DWE  
R. L. MORRIS  
PRINCIPAL CHEMIST

W 5761

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|  |  |  |  |

Town: Newell { NE }  
           { SW } : County Buena Vista  
sec. 17 T 90 N., R. 35 W. E.  
Twp.

| Owner | Address |
|-------|---------|
|-------|---------|

[illegible]

| Contractor   | Address |
|--------------|---------|
| <i>Thorp</i> |         |

Drillers

Drilling dates Sept 19 - Nov 5, 1951

Elevations: Drilling curb                feet; Land surface                feet

Determined by

Topographic position                                                                                    

Total depth: Reported 299 feet, Measured \_\_\_\_\_ feet

\* screened only to 290'

Drilling method

Hole and casing data *Travel pack*

10" from 0 - 254 1/2'; cemented 0-55; 15' of 6" Everdur  
screen (1 1/16 slot) 275 to 290; 35' 5" of 5" pipe attached  
to top of screen. (239' 7" to 275')

Original depth to water 78 <sup>above</sup> ft. below Date

Original elevation of water level \_\_\_\_\_ ft.; Source of data \_\_\_\_\_

Sources of water: Principal \_\_\_\_\_; Others \_\_\_\_\_

Production data:

Date \_\_\_\_\_

Static depth to water 78

Measuring point \_\_\_\_\_

Pumping level \_\_\_\_\_

at 290

g.p.m.

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

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 \_\_\_\_\_

## WATER ANALYSES (in parts per million)

Date samples \_\_\_\_\_

Sampled by \_\_\_\_\_

Total solids \_\_\_\_\_

Insoluble matter \_\_\_\_\_

Alkalinity (Meo) \_\_\_\_\_

Alkalinity (Phn) \_\_\_\_\_

pH \_\_\_\_\_

 $\text{Fe}_2\text{O}_3 + \text{Mn}_2\text{O}_3 + \text{Al}_2\text{O}_3$  \_\_\_\_\_

Alkali as sodium \_\_\_\_\_

Calcium \_\_\_\_\_

Magnesium \_\_\_\_\_

Iron (unfiltered) \_\_\_\_\_

Manganese \_\_\_\_\_

Nitrate \_\_\_\_\_

Fluoride \_\_\_\_\_

Chloride \_\_\_\_\_

Sulfate \_\_\_\_\_

Bicarbonate \_\_\_\_\_

Hardness (ppm) \_\_\_\_\_

Hardness (gpg) \_\_\_\_\_

Remarks \_\_\_\_\_

Laboratory data:

Sample storage location EA4-10Sample range 0-299No. spls. 63No. dupls. & Cond. 63 goodSpls. prepared by St. Rome

Washed range \_\_\_\_\_

by \_\_\_\_\_

Driller's log and cond. \_\_\_\_\_

Insoluble residues: Prepared by \_\_\_\_\_

Studied by \_\_\_\_\_

Strip log \_\_\_\_\_

Microscopic study Allisonstrip log Allison

Gen. log \_\_\_\_\_

Correl. by \_\_\_\_\_