

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

W 8500

RECORD OF WELL

2A	
2B	2C

Location: IN TOWN - WEST SIDE PUMP HOUSE  
( N E )  
Town: CALUMET ( S W ) : County O'BRIEN  
SW NE SW sec. 22 T. 94 N., R. 40 W. Twp.

Well name and number \_\_\_\_\_

Owner TOWN OF CALUMET Address \_\_\_\_\_

Tenant \_\_\_\_\_ Address \_\_\_\_\_

Contractor M.F. MENKLEY Address SCHALLER

Drillers \_\_\_\_\_

Drilling dates Nov. 28 - Dec. 8, 1956

Well data:  
Altitudes: Drilling curb \_\_\_\_\_ feet; Land surface 144 feet

Determined by altimetric (Robt + Toland)

Topographic position \_\_\_\_\_

Total depth: Reported 528' feet, Measured \_\_\_\_\_ feet

Drilling method ROTARY

Hole and casing data 472' OF 6" PIPE  
5 7/8" OPEN HOLE 472' - 528'

Original depth to water 250 ft. above \_\_\_\_\_ Date \_\_\_\_\_

Source of data \_\_\_\_\_

Sources of water: Principal 520' - 528'

Others \_\_\_\_\_

Production Data

Date \_\_\_\_\_  
 Static water level 250  
 Measuring point \_\_\_\_\_  
 Pumping water level 283  
 Yield (g. p. m.) 80  
 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<sub>2</sub>) \_\_\_\_\_  
 Iron (Fe) \_\_\_\_\_  
 Manganese (Mn) \_\_\_\_\_  
 Calcium (Ca) \_\_\_\_\_  
 Magnesium (Mg) \_\_\_\_\_  
 Potassium (K) \_\_\_\_\_  
 Sodium (Na) \_\_\_\_\_  
 Carbonate (CO<sub>3</sub>) \_\_\_\_\_  
 Bicarbonate (HCO<sub>3</sub>) \_\_\_\_\_  
 Sulfate (SO<sub>4</sub>) \_\_\_\_\_  
 Chloride (Cl) \_\_\_\_\_  
 Fluoride (F) \_\_\_\_\_  
 Nitrate (NO<sub>3</sub>) \_\_\_\_\_  
 Dissolved solids \_\_\_\_\_  
 Hardness (as CaCO<sub>3</sub>) \_\_\_\_\_  
     Total \_\_\_\_\_  
     Grains per gallon \_\_\_\_\_  
     Noncarbonate \_\_\_\_\_  
 Alkalinity (as CaCO<sub>3</sub>) \_\_\_\_\_  
 pH \_\_\_\_\_  
 Specific conductance \_\_\_\_\_  
     (micromhos at 25°C) \_\_\_\_\_  
 Temperature (°F) \_\_\_\_\_  
 Analysis No. \_\_\_\_\_

Laboratory Data

Well No. **W 8500** Sample range 40-528 No. of samples 70  
 No. of dupls. and cond. 0 Washed range \_\_\_\_\_  
 Samples prepared by V. Dow Date 7/10/57  
 Logged by NORTHUP Date 2/21/58  
 Correlations by \_\_\_\_\_ Date 2/21/58

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey  
Water Resources Division

Local Well No. 094-40W-22CAC  
Aquifer Code(s) KIDI  
Owner's Name CALUMET TOWN (1956)  
W Number 8500

Water Quality  
(ppm)

Card Q

State: IOWA 1 9 County: O'BRIEN 7 1 Town: CALUMET, IOWA

Well No. 4 2 5 6 3 2 N 0 9 5 3 3 4 0 Seq. No. 1 Date 1 2 0 9 6 8

Sampling Depth 5 2 8 Type 1 Kx10<sup>6</sup> 2 1 0 0 pH 6 9 Temp. °F 5 2

SiO<sub>2</sub> 2 2 Ca 2 9 6 Mg 8 8 Na 1 2 0 K 1 1

HCO<sub>3</sub> 4 2 9 CO<sub>3</sub> 0 SO<sub>4</sub> 9 5 0 Cl 1 3 Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 5 NO<sub>3</sub> 4 PO<sub>4</sub>     B     Al     Fe 4 0

Mn 4 9 Cu       Pb     Zn    

Determined 1 8 5 0 Solids Calc.         Ca, Mg 1 1 0 0 Hardness Non-Carb. 7 4 8

Color     No. R

Card S

Duplicate Columns 1-25 from Card Q

Br       I       Alk. as CaCO<sub>3</sub> 3 5 2 Free CO<sub>2</sub>       SAR      

RSC       ABS            

Alpha (pc/l)       Beta (pc/l)       Ra (pc/l)       U (ug/l)      

No. S  
80

Recorded by: D. AARONSON

Punched by: T Date: \_\_\_\_\_

Published: \_\_\_\_\_

UNITED STATES DEPARTMENT OF THE INTERIOR  
 Geological Survey  
 Water Resources Division

094-40w-22CAC  
 RDD

Calumet town 1956  
 W-8500

Water Quality  
 (ppm)

Card Q

State: Iowa 16 County: O'Brien 71 Town: Calumet

Well No. Latitude 425632N Longitude 0953340 Seq. No. 1 Date M 12 D 11 Y 62

Sampling Depth 528 Type 1 Kx10<sup>6</sup> 20 pH 75 Temp. °F 45

SiO<sub>2</sub> 15 Ca 284 Mg 80 Na 109 K 98

HCO<sub>3</sub> 345 CO<sub>3</sub> 0 SO<sub>4</sub> 953 Cl 3 Source No. 39

Card R

Duplicate Columns 1-25 from Card Q

F 06 NO<sub>3</sub> 04 PO<sub>4</sub> 15 B 15 Al 15 Fe 15

Mn 042 Cu 12 Pb 12 Zn 12

Solids 1830 Ca<sub>l</sub> 1830 Ca, Mg 1040 Hardness Non-Carb. 857

Color 12 No. R

Card S

Duplicate Columns 1-25 from Card Q

Br 12 I 12 Alk. as CaCO<sub>3</sub> 183 Free CO<sub>2</sub> 12 SAR 12

RSC 12 ABS 12 12 12

Alpha (pc/l) 12 Beta (pc/l) 12 Ra (pc/l) 12 U (ug/l) 12

No. 5  
 80

Recorded by: P.J. Horick

Punched by: Punched FCH Date: \_\_\_\_\_

Published: Verified ERC

UNITED STATES DEPARTMENT OF THE INTERIOR  
 Geological Survey  
 Water Resources Division

094-40W-22 CAC  
 KDD

Calumet town (1956)  
 W-8500

Water Quality  
 (ppm)

Card Q

State: Iowa 1 | 6 County: O'Brien 7 | 1 Town: Calumet

Well No. 4 | 2 | 5 | 6 | 3 | 2 | N 0 | 9 | 5 | 3 | 3 | 4 | 0 Seq. No. 1 Date 0 | 9 | 2 | 5 | 5 | 8

Latitude Longitude

Sampling Depth 5 | 2 | 8 Type 1 Kx10<sup>6</sup> 2 | 1 | 0 | 0 pH 7 | 2 Temp. °F      

SiO<sub>2</sub> 1 | 7 | . Ca 2 | 9 | 6 | . Mg 8 | 1 | . Na 1 | 0 | 9 | . K 9 | 4

HCO<sub>3</sub> 3 | 7 | 6 CO<sub>3</sub> 0 SO<sub>4</sub> 9 | 5 | 8 | . Cl     1 | 2 | . Source No. 3 Q

Card R

Duplicate Columns 1-25 from Card Q

F 0 | 7 NO<sub>3</sub> 2 | 7 PO<sub>4</sub>     B     Al     Fe 3 | 4

Mn 0 | 3 | 4 Cu     Pb     Zn    

Determined 1 | 7 | 9 | 0 Solids                 Ca, Mg 1 | 0 | 8 | 0 Hardness Non-Carb. 7 | 6 | 8

Color     No. R

Card S

Duplicate Columns 1-25 from Card Q

Br       I       Alk. as CaCO<sub>3</sub> 3 | 0 | 8 Free CO<sub>2</sub>       SAR      

RSC         ABS                

Alpha (pc/l)       Beta (pc/l)       Ra (pc/l)       U (ug/l)      

No. 5  
 80

Recorded by: P. J. Horick

Punched by: Punched FCH Date:           

Published: Verified ERC

U. S. DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Water Resources Division Well Schedule Form

MASTER CARD

Record by P.J. Horick Source of data Files Date 6/4/65 Map H & T

State Iowa County (or town) O'Brien 71

Latitude: 42° 56' 32" N Longitude: 095° 33' 40" Sequential number: 1

Local well number: 09440W22C9C Other number: W-8500

Local use: 08500 56CITY Owner or name: CALUMET TOWN WELL

Owner or name: CALUMET IOWA Address: Calumet, Iowa

Ownership: County, Fed Gov't, City, Corp or Co, Private, State Agency, Water Dist. M

Use of water: Air cond, Comm, Dewatering, Fire, Dom, Irr, Ind, Stock, Infit, Unused P

Use of well: Anode, Drain, Seismic, Obs, Oil-gas, Recharge, Spring, Test, Unused, Withdraw, Waste, Destroyed W

DATA AVAILABLE: Well data 1 Freq. W/L meas.: INVENTORY Field aquifer char.

Hyd. lab. data:

Qual. water data: type: COMPLETE

Freq. sampling: INTERMITTENT Pumpage inventory: yes I no, period:

Aperture cards:  yes

Log data: GEOLOGIST LOG

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 528 ft Meas. accuracy 528 6

Depth cased: 472 ft Casing type: STEEL Diam. 6 in

Finish: porous gravel w. concrete, (perf.), (screen), (gall. end), (horiz. open perf.), (shored pipe), (other) X

Method: (A) air bored, (B) cable, (C) dug, (D) hyd jetted, (E) rot., (F) air reverse, (G) percussive, (H) driven, (I) wash, (J) other

Date Drilled: DEC. 1956 Pump intake setting: 956 ft

Driller: Merkley Well Co. Schaller, Iowa

Lift (type): (A) air, (B) bucket, (C) cent. jet, (D) multiple, (E) multiple, (F) none, (G) piston, (H) rot., (I) submerg, (J) turb., (K) other D

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

Descrip. MP LSD ft above/below lsd, Alt. MP 1441

Alt. LSD: 1441 Accuracy: 1441 ALTIMETER 7

Water Level 250 ft above/below MP, Ft. below 250 Accuracy: DRILLER'S LOG D 3

Date DEC. 1956 Yield: 80 gpm 80 Method determined

Drawdown: 33 ft Accuracy: 33 Pumping period 3 hrs

QUALITY OF WATER DATA: Iron 3.4 ppm Sulfate 958 ppm Chloride 12 ppm Hard. 1076 ppm

Sp. Conduct 2100 K x 10<sup>6</sup> Temp. \*F 6 Date sampled SEPT 1958 9:58

Taste, color, etc.

Well Number 42, 56, 32, 095, 33, 40.1

## HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD  
 Physiographic Province: **CENTRAL LOWLAND** Section: **WESTERN**

LAKE **B** Drainage Basin: **LITTLE SIOUX** Subbasin: **316 C**

Topo of well site: local depression, flat surface, hilltop, hillside, terrace, valley flat, \_\_\_\_\_

MAJOR AQUIFER: **Cretaceous** LOWER **K.T. Dakota Sandstone** **D.I.**

Lithology: **FINE SANDSTONE** Origin: **MARINE** **G** Aquifer Thickness: \_\_\_\_\_

Length of well open to: **51** ft Depth to top of: **450** ft **450**

MAJOR AQUIFER: \_\_\_\_\_

Lithology: \_\_\_\_\_ Origin: \_\_\_\_\_ Aquifer Thickness: \_\_\_\_\_

Length of well open to: \_\_\_\_\_ ft Depth to top of: \_\_\_\_\_ ft

Intervals Screened: \_\_\_\_\_

Depth to consolidated rock: **335** ft **335** Source of data: **WELL CUTTINGS** **C**

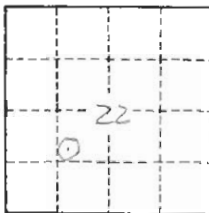
Depth to basement: \_\_\_\_\_ ft Source of data: \_\_\_\_\_

Surficial material: **SANDY TILL** **R.T.** Infiltration characteristics: **POUR** **L**

Coefficient Trans: \_\_\_\_\_ spd/ft Coefficient Storage: \_\_\_\_\_

Coefficient Perm: \_\_\_\_\_ spd/ft<sup>2</sup> Spec cap: **2.4** spd/ft; Number of geologic cards: \_\_\_\_\_

Casing: 4 1/2" of 6" csg.



## WELL RECORD

Well is located \_\_\_\_\_ miles S and \_\_\_\_\_ miles S from \_\_\_\_\_

N E  
E E  
W W

**CALUMET** in **OBRIAN**  
 (Nearest Town) (County)

in the \_\_\_\_\_ 1/4 Sec. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_

Owner **TOWN OF CALUMET** Well No. **2**

Postoffice address \_\_\_\_\_

Contractor **M F MEAKLEY**

Address **SCHALLER IA**

Driller **BOB WINKLER**

Well begun **NOV 28**, 19 **56**

completed **DEC 8**, 19 **56**

Rig used—Cable, **Rotary**, Jet, or \_\_\_\_\_

Depth of well **528'**  
 (Feet)

Size of hole (note total amount of each size) **6"**

Main water supply at **520-528**  
 (Feet below surface)

Final water head **250'**  
 (Feet above or below surface)

Is well pumped? **YES**

Yield **80**  
 (Gallons per minute)

Water level when pumping **283'**

Position of well **WEST SIDE OF PUMP HOUSE**  
 (Upland, valley, side hill, etc.)

## RECORD OF PERMANENT CASING

Size Pipe	Amount of Pipe	Depth to Bottom of Pipe	Depth to Top of Pipe	Type* and Weight of Pipe	DIAGRAM OF WELL
					<p style="font-size: 2em; margin: 0;">472'</p> <p style="font-size: 2em; margin: 0;">56'</p> <p style="font-size: 1.5em; margin: 0;">6" Pipe</p> <p style="font-size: 1.5em; margin: 0;">5/8" HOLE</p>

\*As cast, wrought iron, steel, concrete, etc.

Is screen used? NO Diameter.....  
(Inches)

Length..... Depth to bottom.....  
(Feet)

Depth to top..... Slot size.....

Are packers or seals used?.....

Kind .....

Where used.....

Kind of pump RED JACKET Dia. 5 1/2"  
(Inches)

Capacity of pump..... 80  
(g.p.m.)

Power used 7 1/2 HP. SUBMERS.  
(Kind and amount)

Depth to bottom of pump line 300 feet,  
including ..... feet tailpiece.

Remarks on construction of well OPEN BOTTOM  
HOLE FILLED BACK TO 475' WITH  
3/4" GRAVEL.



Sample No.	DEPTH		THICKNESS
	From	To	
	0	3	3
	3	18	15
	18	40	22
	40	110	70
	110	130	20
	130	145	15
	145	200	55
	200	205	5
	205	210	5
	210	234	24
	234	235	1
	235	240	5
	240	245	5
	245	295	50
	295	310	15
	310	335	25
	335	345	10

DESCRIPTION OF BEDS
KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
TOP SOIL
YELLOW CLAY
BROWN CLAY
BLUE CLAY
SANDY BLUE CLAY
BLUE CLAY
GRAY CLAY
BLACK CLAY
GRAY CLAY
YELLOW CLAY
SAND
YELLOW CLAY
WHITE SHALE
PINK SHALE
GREEN SHALE
SANDY SHALE
BLUE SHALE

