W-2143
Webster

Moorland — Moorland Consolidated School — 10/19/4
NE-NW-NW Sec. 13 T. 88N R. 30W — El. 1148'

0 - 135	Pleistocene
135 - 240	Pennsylvanian
240 - 290-10	Warsaw
290 - 325	Gilmore City

Drift extends to 135' the lower 25 feet being sand and gravel.

Pennsylvanian bedrock is a mixed sample of light gray shale, siltstone, sandstone, and limestone. The rest of the Pennsylvanian is dark gray and black shales. The sample intervals are large and I have my doubts on their authenticity.

The top of the Mississippian is called at 240' despite the fact that the underlying samples are largely black shale. The

Warsaw is largely dolomite. The first sample contains a large amount of gray, conchoidal chert, but it is the only chert in the entire well. From 245-50 the sample is largely sandstone - outside of the black shale. The sample from 250 to 260 is largely black shale, but the washed sample shows a molasses brown, crystalline dolomite.

The Gilmore City top is at 290 feet. There is a 10' sample gap above this & the G.C. may possibly start in that interval. It is a subwhite, very fine, crystalline, largely disintegrated limestone with much glauconite and green shale. Quartz grains are present and there is one bryozoan. It is not oolitic, but may be pseudo-oolitic although the samples are too finely ground to be able to tell.

Well is cased thru-out.

J. Buoli - Jake Becker
Moorland school

171.'9" - 5 3/16" casing

235' at bottom = 4 1/4" - 61" in length

101'-11" - 3 1/2" casing to bottom of well - bottom length perforated

Depth - 325'

7 1/2 gallon - 185' of pump

145' to water

1'01" - 1280
1'02" - 1278
1'01" - 1278

Nashua - see about drilling deeper.

088-30W-13 BBA

WRD Exp. (GW)
Aug. 1964

Verified ERC

Punched FCH

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 12/15/65 Map COUNTY HWY. 1:63,360

State IOWA 16 County (or town) WEBSTER 94

Latitude: 42 26 19 N Longitude: 094 17 42 Sequential number: 2

Lat-long accuracy: 2 T 88 N S, R 30 E W Sec 13, NE ¼, NW ¼, NW ¼ 5

Local well number: 088 30W 13 BBA Other number: W-2143 B & M

Local use: 02143 Owner or name: MOORLAND CONSOL. SCH.

Owner or name: MOORLAND SCHOOL Address: MOORLAND, IA.

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

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

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 W

DATA AVAILABLE: Well data 2 Freq. W/L meas.: INVENTORY Ø Field aquifer char.

Hyd. lab. data:

Qual. water data; type: COMPLETE C

Freq. sampling: ORIGINAL Ø Pumpage inventory: yes no, period:

Aperture cards: yes

Log data: GEOLOGIST LOG G

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 325 ft 325 Meas. (Est) accuracy 6

Depth cased: (first perf.) ft Casing type: STEEL; Diam. 5 3/16 in 5

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

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 C

Date Drilled: OCT. 1945 945 Pump intake setting: ft

Driller: JOHN BUSH (J.J. BECKER) name, PLOVER, 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 Deep Shallow

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

Descrip. MP LSD ft above below lsd, Alt. MP 1143

Alt. LSD: 1143 1143 Accuracy: (source) ALTIMETER 7

Water Level 145 ft above (below) MP; Ft above (below) lsd 145 Accuracy: DRILLER'S LOG D

Date meas: OCT 1945 045 Yield: 7.5 gpm .8 Method determined

Drawdown: ft Accuracy: Pumping period hrs

QUALITY OF WATER DATA: Iron 10.0 ppm 7 Sulfate 476.5 ppm 7 Chloride 1.0 ppm 0 Hard. 773 ppm 8

Sp. Conduct K x 10^6 Temp. °F Date sampled MAY 19, 1949 549

Taste, color, etc.

Well Number 42 26 19 N 094 17 42 S
d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD Physiographic Province: CENTRAL LOWLAND 12 Section: WESTERN

LAKE B Drainage Basin: DES MOINES 258 Subbasin:

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

MAJOR AQUIFER: MISSISSIPPIAN system, LOWER series M1 KEOKUK-BURL. aquifer, formation, group ØK

Lithology: FINE LIMESTONE 2L Origin: MARINE 6 Aquifer Thickness: ft

Length of well open to: ft Depth to top of: 280 ft 280

MINOR AQUIFER: system, series aquifer, formation, group

Lithology: Origin: Aquifer Thickness: ft

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

Intervals Screened: NONE

Depth to consolidated rock: 135 ft 135 Source of data: WELL CUTTINGS C

Depth to basement: ft Source of data:

Surficial material: SANDY TILL BT Infiltration characteristics: POOR 4

Coefficient Trans: gpd/ft Coefficient Storage:

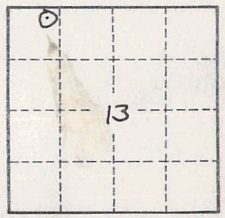
Coefficient Perm: gpd/ft²; Spec cap: gpm/ft; Number of geologic cards:

CASING:

171'9" OF 5 3/16" CASING 0-171'9"

61' OF 4'1/4" CASING 164-225'

101'11" OF 3½" CASING 223'-325' (BOTTOM LENGTH PERFORATED)

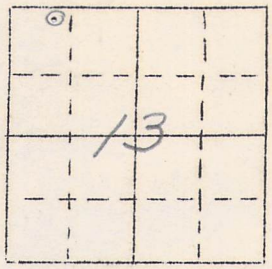


GPO 844-225

W-2143

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

RECORD OF WELL



Location:

Town: Moorland (N E / S W); County Webster

NE¼ NW¼ NW¼ sec. 13 T. 88 N., R. 30 E. W. Fulton Twp.

Well name and number Consolidated School Well No. 2

Owner Moorland Consolidated School Address Moorland

Tenant _____ Address _____

Contractor John Bush Address Plover

Drillers J. J. Becker

Drilling dates Started August, 1945 Finished October, 1945

Well data:

Elevations: Drilling curb 1143 feet; Land surface 1143 feet

Aneroid from Chi. Great Western Sta. with elevation of 1146.7 feet above sea level.

Determined by Aneroid by W. E. Hale

Topographic position Upland

Total depth: Reported 325 feet, Measured _____ feet

Drilling method Cable tool

Hole and casing data 171'9" of 5 3/16" casing from 0 to 171'9", 61' of 4¼" casing from 164 to 225 feet, 101'11" of 3½" casing from 223' to 325'
(Give amount, size, kind, and depth of all casing; type and position of seals and packers; cementing; how finished--perforated pipe, screen, gravel pack, open hole, etc.) Bottom length of 3½" casing is perforated.

Original depth to water 145 ft. ~~above~~ below Land surface Date Oct 4, 1945

Original elevation of water level 998 ft.; Source of data driller

Sources of water: Principal Keokuk - Burl. Mississippian at 315-325'; Others _____

Production data: Date Oct. 1945

Static depth to water 145 Measuring point Land surface

Pumping level Little drawdown at 7½ g.p.m.

with test pump set at 185'

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 sampled	5/19/49			
Sampled by	JBC			
Total solids	1126			
Insoluble matter	13.5			
Alkalinity (Meo)	370.			
Alkalinity (Phn)	None			
pH	6/7/49 7.1			
Fe_2O_3+ Mn_2O_3+Al_2O_3	25.			
Alkali as sodium	39.			
Calcium	213.			
Magnesium	54.			
Iron (unfiltered)	10.0			
Manganese	0.5			
Nitrate	2.2			
Fluoride	0.5			
Chloride	1.0			
Sulfate	476.5			
Bicarbonate	451.4			
Hardness (ppm)	773.			
Hardness (gpg)	45.2			

Remarks _____

Laboratory data: Sample storage location _____

Sample range 20-325 No. spls. 31 No. dupls. & cond. 26 PtoF

Spls. prepared by Schultz Washed range _____ by _____

Driller's log and cond. _____

Insoluble residues: Prepared by _____ Studied by _____ Strip log _____

Microscopic study 20-325 E.S strip log _____

Gen. log _____ Correl. by E. Schultz

Sheet No. 1 Name of Well. Moorland Consolidated school Survey No. 2143

Location Webster Date Drilled Sept-Oct. 1945 Analyst Schultz

00

bf

10

20 bff silty

dkb pbls

30

40 dkb much grav.

50 2.J. less grav

60 dkb /s pbls sdy silty

70 bff ox. pbls sdy

80 lc

90 yel bff sdy much pbls

00 drbish sdy grav. same

Sheet No. 2 Name of Well. Survey No. 2143

Location Date Drilled Analyst

00

10 drbish much grav. sd

sd med little grav. v.slty dirty

20

30 sd coarse lit grav. slty dirty

40 sh blk slty mat pyrite (some carc)

a.j.

50 a.j.

Sh lt gr sd slt ls

155 Sh. blk.

60

70

80 Sh drk gr. slty micas, slty calc

90 Sh. blk

X Sh blk uncl micas

00

Sheet No. 3 Name of Well ..... Survey No. - 2143

Location ..... Date Drilled ..... Analyst ... Schultz ...

00

10 — Sh blk unct thin lamin

20 — 22.

30

40 — Sh d-lk gr unct

XXXX Ls yel lith dense dola ch+ wh+ conch 1070

XXX Ls mk gr. dense hd pyrite. sd. crse blk sh. etc.

50

XX Sh blk unct sd.

60

N.S.

70

XXX Dola yel f. x l.o por. 270-80

N.S.

X Ls crm v.f.-lith subtransl. dull grn sh 290-300

X 297 300-310

90 glauc. Ls crm lith f. pieces 310-20 dirty

no glauc. 320-25 dirty

27

00