WRD Exp. (GW)
April 1966

Well No. 083-11W-14 AAB

WELL SCHEDULE

U. S. DEPT. OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

MASTER CARD

Record by R. KARSTEN Source of data FILE Date 7/16/69 Map BENTON CO. NW4

State IOWA [16] County (or town) BENTON [06]

Latitude: 42 00 20 N (deg, min, sec) Longitude: 092 05 20 (degrees, min, sec) Sequential number: 1

Lat-long accuracy: 2 T. 83 S, R 11 W, Sec 14, NW ¼, NE ¼, NE ¼ 5 B & M

Local well number: 083 11 W 14 A A B Other number: W-0031

Local use: 00031 Owner or name: CHI, MIL, ST. PAUL RR.

Owner or name: CHI MIL ST P RR Address: VAN HORNE, IA.

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

Use of water: (A) Air cond, (B) Bottling, (C) Comm, (D) Dewater, (E) Power, (F) Fire, (H) Irr, (I) Med, (M) Ind, (N) P S, (P) Rec, (S) Stock, (T) Instit, (U) Unused, (V) Repressure, (W) Recharge, (X) Desal-P S, (Y) Desal-other, (Z) Other —

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

DATA AVAILABLE: Well data 0 Freq. W/L meas.: — Ø Field aquifer char. —

Hyd. lab. data: —

Qual. water data; type: — C

Freq. sampling: — I Pumpage inventory: yes / no, period: —

Aperture cards: yes —

Log data: GEOLOGIST G

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 2340 ft 2340 Meas. rept accuracy 3

Depth cased; (first perf.) 1243 ft 1243 Casing type: STEEL; Diam. 16 in 16

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

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: 3/16 9 1 6 Pump intake setting: — ft

Driller: S. B. GEIGER (name), CHICAGO, ILL. (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, gas, nat gas, gasoline, hand, LP gas, wind; H.P. — Trans. or meter no. —

Descrip. MP — ft above below LSD. Alt. MP 943

Alt. LSD: 943 943 Accuracy: (source) ACT 7

Water Level 190 ft above below MP; Ft above below LSD 190 Accuracy: — G

Date meas: — Yield: 200 gpm 200 Method determined 4

Drawdown: — ft Accuracy: — Pumping period 2 hrs 2

QUALITY OF WATER DATA: Iron 10 ppm 7 Sulfate 524.3 ppm 8 Chloride 110 ppm 3 Hard. 465 ppm 7

Sp. Conduct — K x 10^6 Temp. — °F Date sampled 3/11/49 3 4 9

Taste, color, etc. —

Well No. 083-11W-14 AAB

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Latitude-longitude 42 00 20 N 092 05 20
d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1–19)

Physiographic Province: CENTRAL LOWLANDS [12] (20–21) Section: DISSECTED TIL

PLAIN [E] (22) Drainage Basin: CEDAR [25] (23–25) Subbasin: _____ (26)

Topo of well site: (D) depression, (C) stream channel, (E) dunes, (F) flat, (H) hilltop, (K) sink, (L) swamp, (Ø) offshore, (P) pediment, (S) hillside, (T) terrace, (U) undulating, (V) valley flat _____ (27)

MAJOR AQUIFER: CAM system, ST. CROIX series [CB] (28–29) TREM. JORDAN aquifer, formation, group [SJ] (30–31)

Lithology: SANDSTONE [V] (32–33) Origin: MARINE [6] (34) Aquifer Thickness: 105 ft

[105] (35–37) Length of well open to: _____ ft (38–40) Depth to top of: _____ ft (41–43)

MINOR AQUIFER: ORD system, LOWER series [ØU] (44–45) FR. du CHIEN aquifer, formation, group [RP] (46–47)

Lithology: _____ (48–49) Origin: MARINE [6] (50) Aquifer Thickness: 497 ft

[497] (51–53) Length of well open to: _____ ft (54–56) Depth to top of: _____ ft (57–59)

Intervals Screened: NONE

Depth to consolidated rock: _____ ft (60–63) Source of data: _____ (64)

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

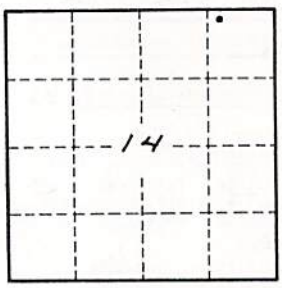
Surficial material: _____ (70–71) Infiltration characteristics: _____ (72)

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

Coefficient Perm: _____ gpd/ft^2; Spec cap: _____ gpm/ft; Number of geologic cards: _____ (79)

CASING:

245' - 16"
248' - 12"
329' - 10"
421' - 8"



WELL PROBABLY ABANDONED.

Well No. 083 - 11W - 14 - AAB

GPO 857-700

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

W-0031

RECORD OF WELL



Location:

Town: Van Horne (N E) (S W); County Benton

NE, NE, sec. 14 T. 83 N., R. 11 W. Union Twp.

Well name and number C. M. & St. P. Ry. W0031

Owner C. M. & St. P. Ry. Address

Tenant Address

Contractor S. B. Geiger Address Chicago, ILL.

Drillers

Drilling dates 5/25/15 - 3/6/16

Well data:

Elevations: Drilling curb 943' feet; Land surface feet

Determined by

Topographic position

Total depth: Reported 2340' feet, Measured feet

Drilling method

Hole and casing data 245' of 16", 248' of 12", 329' of 10", 421' of 8"
(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.)

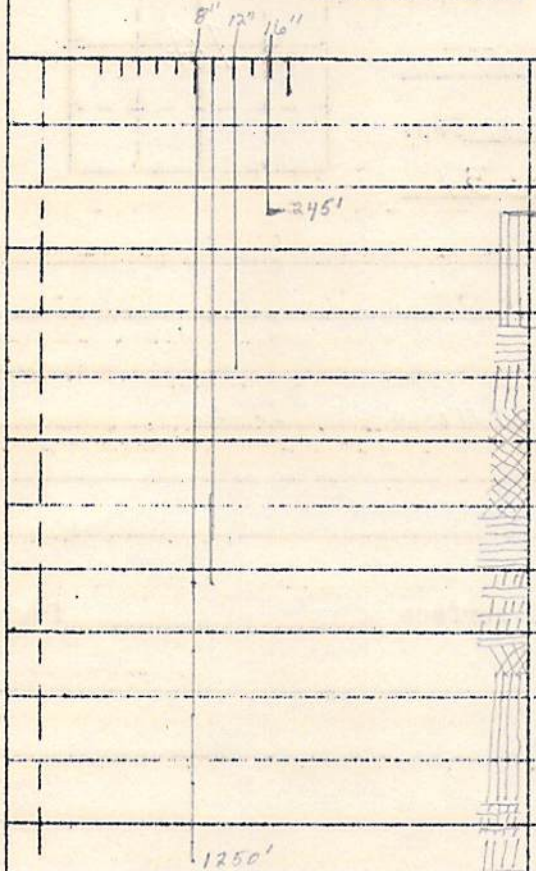
Original depth to water ft. above below Date

Original elevation of water level ft.; Source of data

Sources of water: Principal St. Peter; Others Devonian, Silurian, Galena, New Richmond (Root Valley), Prosser, Willow River, Oneota, Jordan

CASING DIAGRAM

Vertical scale 1 SPACE = 100'



LOG

253'

×253' Limestone

×419' Shale

×485' no samples "Lime rock"

×520 Limestone

×535

dolomite

×710' Shale

Shale & Lime

×906 dolomite with shale

×960

Limestone

×1177' Limestone & Thin strata of Shale.

×1205'

×1360' Limestone

×1385' shale

×1305' sandstone

×1310' no sples. shale

dolomite with quartz

×1485

sandstone, calcareous

×1535

dolomite, white with fine sand.

×1740' sandstone

×1755

×1765' no sple. sandstone

sandstone

×1930' dolomite

×1950'

no sples. "Lime"

×2050'

shale,

×2145' green shale, glauconite

×2184 sandstone

×2195

×2225 marl

×2250 marl

shale & sandstone

×2340

Production data: Date 3/4/43

Static depth to water 190' Measuring point Iron Pump Base, Level with Pump House Floor

Pumping level _____ at _____ 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 sampled	Eight Analyses Taken by C.M.St.P.Ry			
Sampled by	11/4/15 at Jordan 1855'			
Total solids	11/1/15 " Top Jordan 1770			
Insoluble matter	10/15/15 " New Richmond (Root Valley) 1540'			
Alkalinity (Meo)	9/11/15 " Willow River 1400'			
Alkalinity (Phn)	8/27/15 " Galena 1000'			
pH	8/23/15 " Galena 901'-960'			
Fe_2O_3+ Mn_2O_3+Al_2O_3	7/30/15 " Dev. & Sil. 485'-476'			
Alkali as sodium	6/25/15 " Cedar Valley 300'-415'			
Calcium	Analyses given in compounds (not ions)			
Magnesium	25 grains Per U.S. Gallon.			
Iron (unfiltered)				
Manganese				
Nitrate				
Fluoride				
Chloride				
Sulfate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location WH 7

Sample range 245'-2340' No. spls. 31 No. dupls. & cond. 30

Spls. prepared by _____ Washed range _____ by _____

Driller's log and cond. Copied Vol 33, 8/6/41 by Ellis

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

Microscopic study 245-2340 strip log 3-2-50

Gen. log _____ Correl. by R. Screven

MAP NO. W 0031

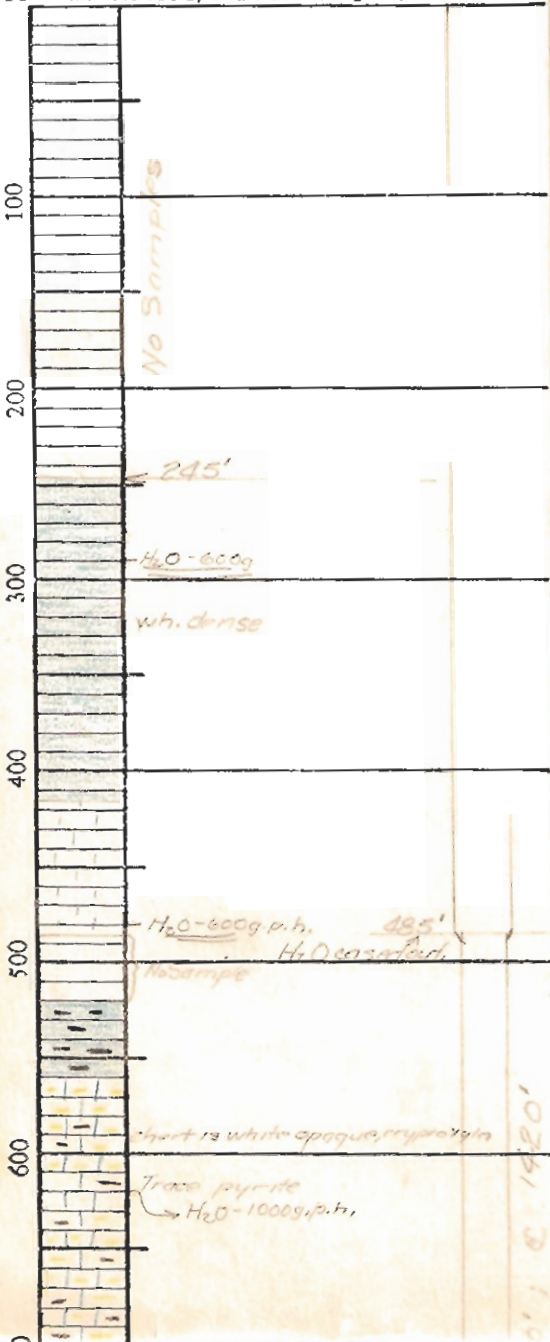
STATE Iowa	COMPANY Van Herne
COUNTY Benton	FARM C.M.St.P. WELL NO.
T. R.	CONTRACTOR S. B. Geiger
	COMMENCED
	COMPLETED 1915
	REMARKS Sample Range 295'-2390'
ALTITUDE C. 943'	
PRODUCTION	

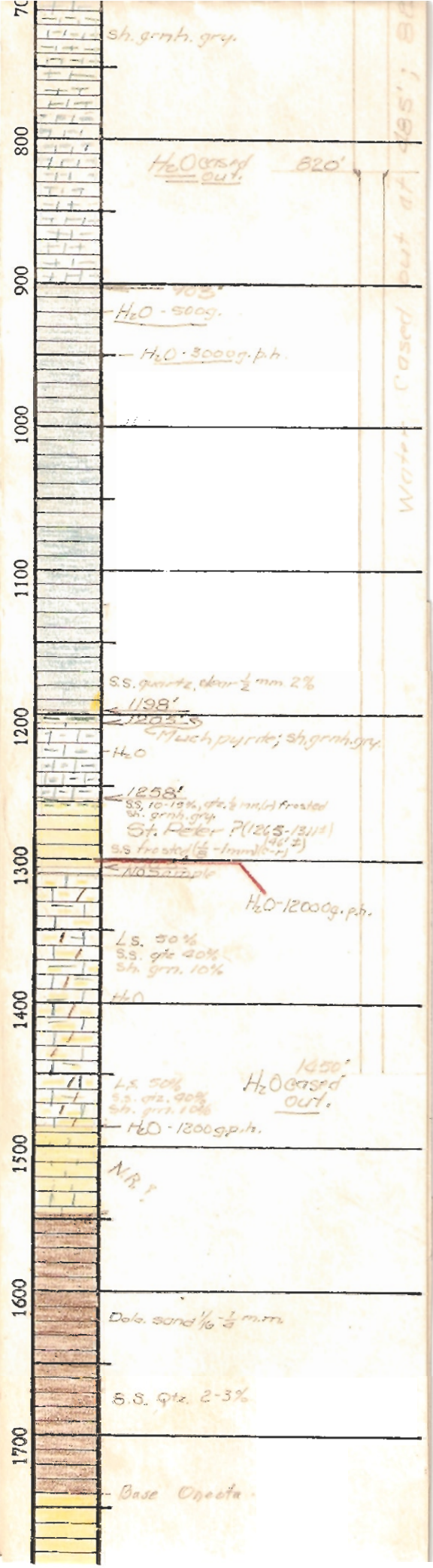
CASING RECORD

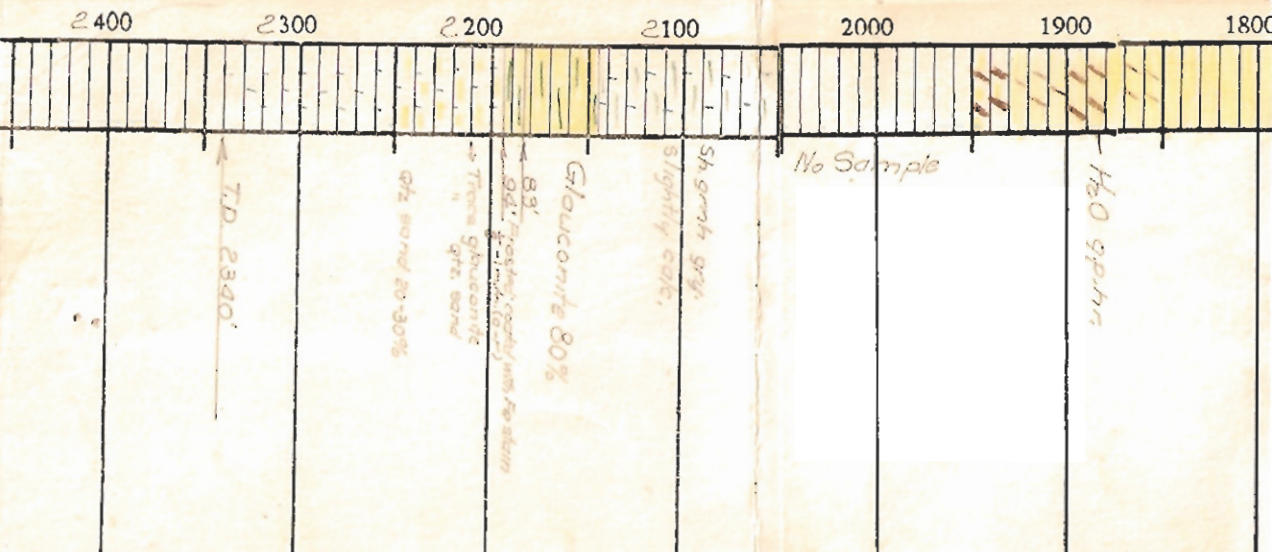
	10"
	8¼"
20"	6⅝"
15½"	5 3/16"
12½"	

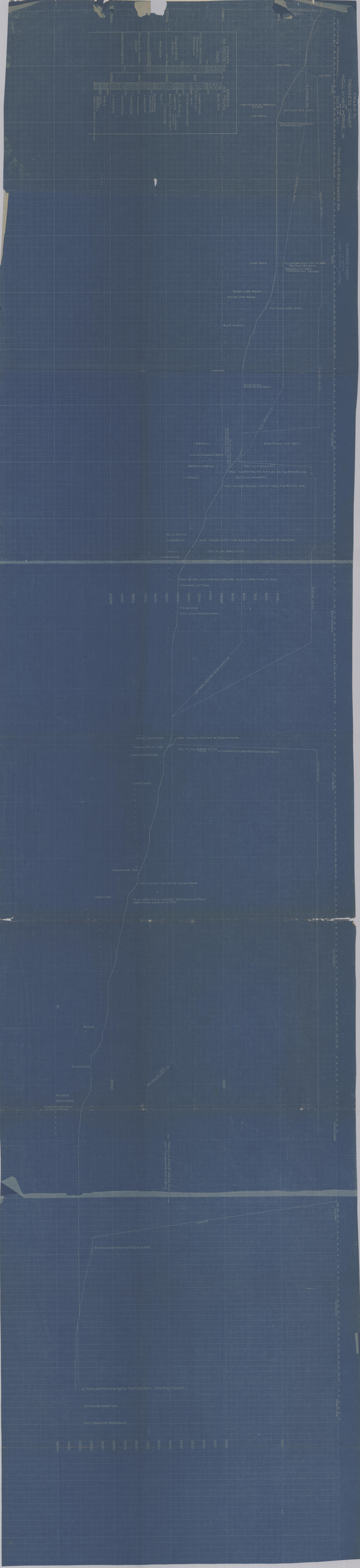
SHOT QUARTS BETWEEN


FORM 186—For Sale by Mid-West Printing Co., Tulsa




700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
sh. grnh. gry.
H2O cased out.
820'
905'
H2O - 500g.
H2O - 3000g.p.h.
Water cased off at 1045'
S.S. quartz, clear 1/2 mm. 2%
1198'
1205' S
Much pyrite; sh. grnh. gry.
H2O
1258'
S.S. 10-12%, qtz. 1/2 mm(a) frosted
sh. grnh. gry.
St. Peter P(1265-1311')
S.S. frosted (1/2 - 1mm) (Well rounded)
No Sample
H2O - 12000g.p.h.
L.S. 50%
S.S. qtz 40%
Sh. grn. 10%
H2O
1450'
H2O cased out.
L.S. 50%
S.S. qtz. 40%
Sh. grn. 10%
H2O - 1200g.p.h.
No Rec.
Dolo. sand 1/8 - 1/2 m.m.
S.S. Qtz. 2-3%
Base Oneota.


2400
2300
2200
2100
2000
1900
1800
TD 2340'
Glauconite 80%
Slightly calc.
Strong gas
No Sample
H2O sand




C.M. & St.P. Ry.
PROGRESS CHART
OF
WELL AT VAN HORNE, IA.
ON THE
C.&C.B. IA. DIV.
Asst. Ch. Engr. Office, Chicago, Ill.
From May 25 1915 to March 6 1916
WATER LEVEL
16" CASING 245'
STRATA AS PREDICTED
STRATA AS FOUND
DRIFT
264
White Limestone Silurian & Devonian
720
Maquoketa Shale
Appr. 990
Galena
Approx. 1290
St. Peter Sandstone
Prairie Du Chien Group
Jordan Sandstone
500
1000
1500
2000
Blue Mud
260
Limestone
Streaks of Mud
660 Sandy
White Limestone
690
Blue Shale
810
Limestone with streaks of shale.
Brown Siliceous Dolomite
Gray Limestone
Blue Shale
Limestone
1270
Sandstone
Limestone
1485
Sandstone
Limestone
1740
Sandstone
Limestone
2050
Shale
2185 Sand
2217 Red Mud
Brown Mud
Limestone & Shale in thin streaks