

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

W-2491

RECORD OF WELL

Location:

Town: Dubuque (N E)
7 1/2 Dubuque North Quad. (S W): County Dubuque
SW NW NW NE sec. 35 T 90 N., R. 2 W. Peru Twp.

Well name and number John Deere Deep Well No. 1 (1946)

Owner John Deere Dubuque Tractor Co. Address _____

Tenant _____ Address _____

Contractor VARNER Well Drilling Co. Address Dubuque, Iowa

Drillers _____

Drilling dates Started Oct. 4, 1945 Finished Feb. 25, 1946

Well data:
Elevations: Drilling curb 634.8 feet; Land surface _____ feet

By engineering firm of Cullen & Bartels

Determined by Inst.

Topographic position _____

Total depth: Reported 1382'6" feet, Measured _____ feet

Drilling method Cable tool.

Hole and casing data 23" hole from 0 to 300'; 19" hole from 300 to 504'; 15" hole from 504' to 1382'6". 162' of 24" O.D. pipe from 0 to 162'; 320' of 16" O.D. 3/8" casing from 0 to 320' cement grouted with 420 bags of cement.

Original depth to water 2 ft. above curb below land surface Date _____

Original elevation of water level _____ ft.; Source of data _____

Sources of water: Principal _____; Others _____

Production data: _____ Date _____

Static depth to water 2 Measuring point Drilling curb
Pumping level 67 at 952 g.p.m.

see test data by Varner for detail

Specific capacity 14.6 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	_____	_____	_____	_____
Fe ₂ O ₃ + Mn ₂ O ₃ +Al ₂ 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 _____

Sample range 0-1380 No. spls. 245 No. dupls. & cond. 245 G to P

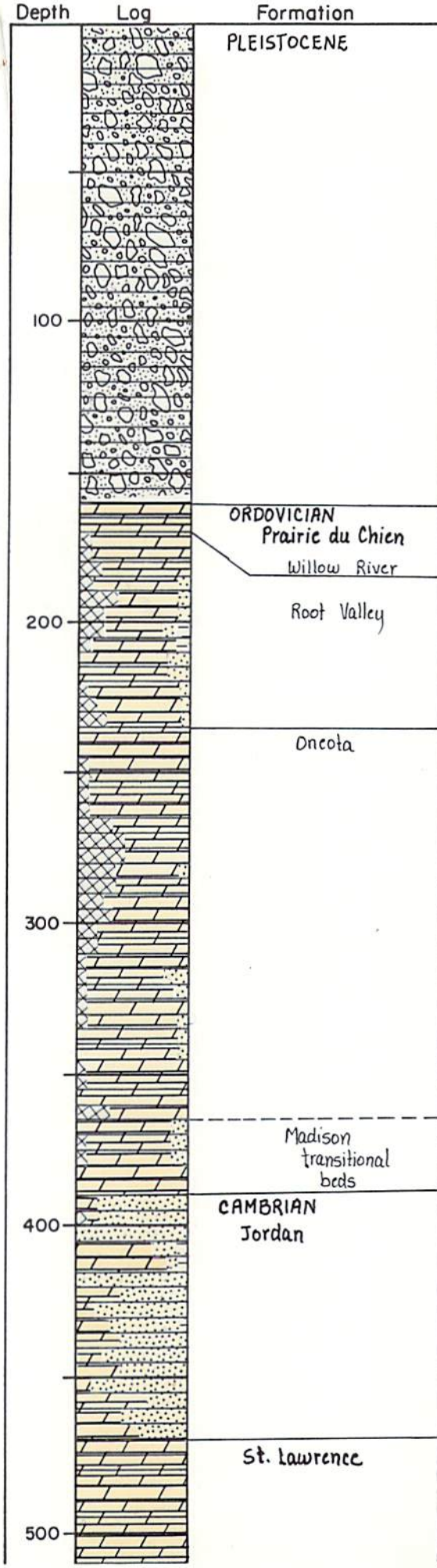
Spls. prepared by J.R. REG. Washed range 200-1380 by J.R. REG, DAM

Driller's log and cond. DAM.

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

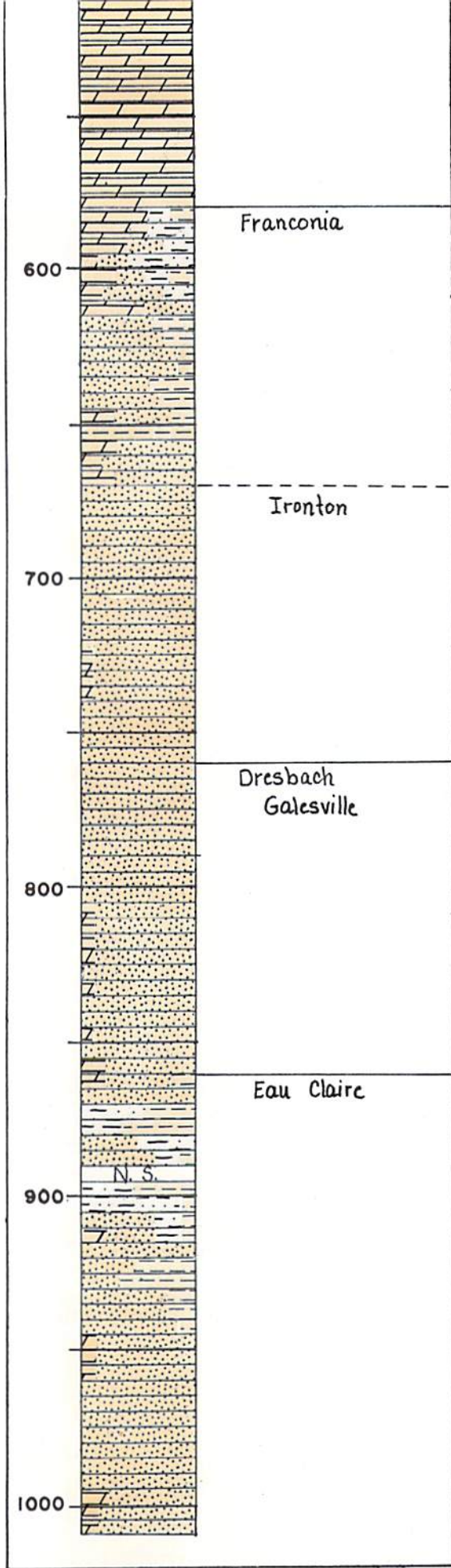
Microscopic study 0-1385 strip log cut 1946

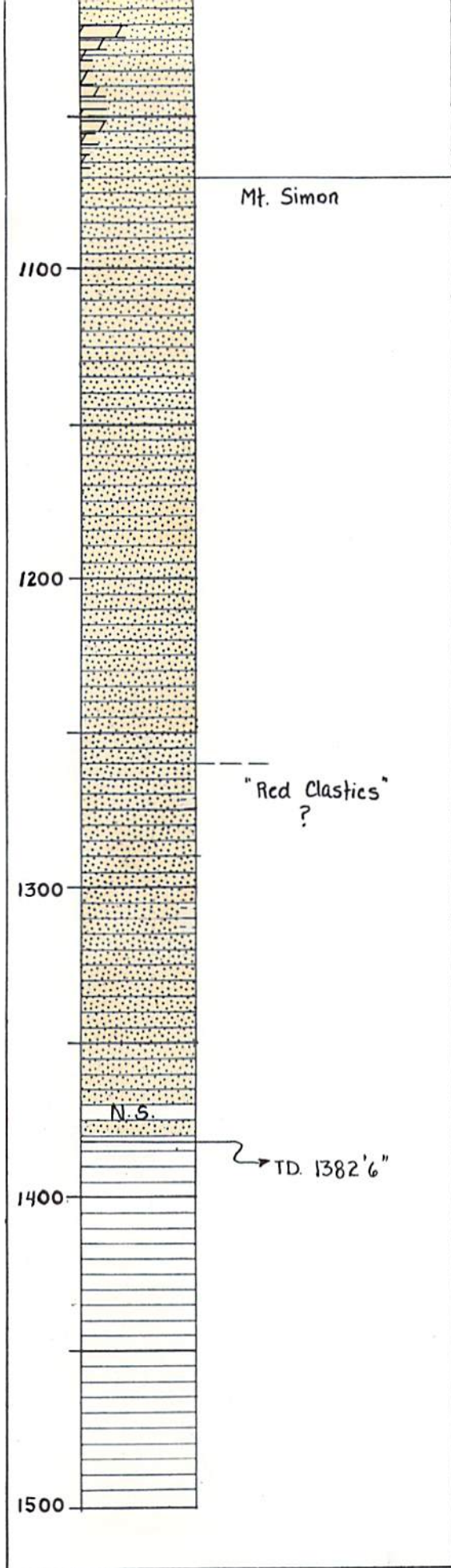
Gen. log _____ Correl. by Sm. Parker



IOWA GEOLOGICAL SURVEY In Cooperation with U. S. GEOLOGICAL SURVEY Iowa City, Iowa		
Name JOHN DEERE DEEP WELL #1		State IOWA
Town DUBUQUE	County DUBUQUE	Loc.
Contractor YARNER WELL CO.		Sec. 35
Drilling Dates OCT. 4, 1945 - FEB. 25, 1946		T. N., R. 90 N. 2 E.
Casing Record 162' of 24" pipe from 0-162', 320' of 14" csg. from 0-320'; Cement grouted with 420 bags cement.		
S.W.L. 2'	G.P.M. 952	D.D. 65'
Remarks		Elev. 634.8'
		T.D. 1382' 6"
Logged By M. PARKER OCT. 1946		I.G.S. No. W-2491

- Explanation of Colors**
- Soil
 - ~~Loess, Silt or Siltstone~~
 - Drift
 - Sand & Gravel
 - Shale
 - Sandstone
 - Limestone
 - Dolomite
 - Chert
 - Gypsum or Anhydrite
 -
 - No Samples





Varner Well Drilling Company

Telephone 3691

INCORPORATED

P. O. Box 237

Turbine Pumps

Turbine Pump Service

905 American Trust Bldg.

DUBUQUE, IOWA,

John Deere Domestic Water Supply Well

Date Started 10-1-45 Date Completed 2-25-46

Depth: 1382' 8"

Diameter: 23" hole from top to 300'; 19" hole from 300' to 504' - 204';

15" hole from 504' to 1382' 8" - 876'

Casings: 162' of 24" O.D. 3/8" drive pipe with shoe from surface; 320' of 16" O.D.

3/8" casing with shoe from top to 320' cement grouted with 420 bags of cement

Strata Record Depth:

From	to	thickness	Description of Beds
Top	162'	162'	River sand
162'	395'	233'	Limerock - some flint
395'	400'	5'	Sandrock
400'	425'	25'	Gray brown lime
425'	455'	30'	Gray sand
455'	485'	30'	Gray brown lime
485'	528'	43'	Red brown lime
528'	542'	14'	Gray lime
542'	571'	29'	Red brown lime
571'	580'	9'	Red marl & lime
580'	598'	18'	Brown shale and lime
598'	635'	37'	Green sandy shale
635'	660'	25'	Shale & sandrock
660'	760'	100'	Gray sandrock
760'	821'	61'	White sand
821'	834'	13'	Sandy lime and shale
834'	847'	13'	Dolomite
847'	868'	21'	Gray sandrock
868'	882'	14'	Gray sand shale
882'	905'	23'	Gray sandy shale, dolomite
905'	915'	10'	Red marl
915'	925'	10'	Gray shale
925'	950'	25'	Red marl
950'	1019'	69'	Gray sand
1019'	1093'	74'	Gray sand, black streaks
1093'	1100'	7'	Gray sandrock
1100'	1235'	135'	Gray sand, red streaks
1235'	1295'	60'	Brown & Red sand
1295'	1305'	10'	White sand
1305'	1380'	75'	Red & Brown sandrock
1380'	1382' 8"	2'	" " " Final measurement

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Static Water Levels:

Top	to		None
212'	to	212'	32'
288'	to	288'	30'
390'	to	390'	25'
435'	to	435'	22'
700'	to	700'	19'
740'	to	740'	17'
760'	to	760'	16'
775'	to	775'	12'
812'	to	812'	11'
855'	to	855'	10'
905'	to	905'	9'
940'	to	940'	8'
1010'	to	1010'	7'
1210'	to	1210'	4' 6"
1235'	to	1235'	6' 6"
1305'	to	1305'	5' 6"
1380'	to	1380'	4'
		1382' 8"	

Depth 1380 ft.Discharge 6"Orifice 6"

PUMP CAPACITY TEST

Test No. 1

JOB John Deere Dubuque Tractor LOCATION Dubuque, Iowa DATE February 25, 1946PUMP SETTING 112' 6" FT. APPROX 112 FT. STATIC HEAD 2 FT.

Time	Pressure PSI	P.P.M.	Airflow	Drawdown	Flowing Level	Temperature	Remarks
10.30AM	Static		110'				Start - 60" 1097 GPM
3.00PM	88	1450	50'	60'	62'		
3.30	84	1416	44'	66'	69'		
4.00	84	1416	40'	70'	72'		
5.00	82	1400	38'	72'	74'		
6.00	82	1392	35'	75'	77'		
7.00	81	1392	35'	75'	77'		
8.00	81	1392	30'	80'	82'		
9.00	81	1392	30'	80'	82'		
10.00	80	1383	30'	80'	82'		
11.00	80	1383	30'	80'	82'		
12.00AM	80	1383	30'	80'	82'		
1.00	79	1374	30'	80'	82'		
2.00	79	1374	25'	85'	87'		
3.00	79	1374	25'	85'	87'		Choke to 66" at 3.00 AM
4.00	66	1256	32'	78'	80'		
5.00	66	1256	30'	80'	82'		
6.00	66	1256	30'	80'	82'		
7.00	66	1256	30'	80'	82'		
8.00	66	1256	32'	78'	80'		
9.00	66	1256	32'	78'	80'		
10.00	66	1256	32'	78'	80'		
11.00	66	1256	32'	78'	80'		

RECORD - WELL CAPACITY TEST

JOB John Deere Dubuque Tractor LOCATION Dubuque, Iowa DATE February 25, 1946PUMP SETTING 112' 6" FT. AIRLIFT 112 FT. STATIC HEAD 2 FT.

Time	Water Feet	P.P.M.	Airflow	Drawdown	Pumping Time	Temperature	Remarks
12.00	66	1256	32'	78'	80'		
1.00 PM	66	1256	32'	78'	80'		Choke to 51" at 1.00 PM
2.00	51	1104	40'	70'	72'		
3.00	51	1104	40'	70'	72'		
4.00	51	1104	40'	70'	72'		
5.00	51	1104	40'	70'	72'		
6.00	51	1104	39'	71'	73'		
7.00	51	1104	39'	71'	73'		Choke to 46" at 7.00 PM
8.00	46	1019	40'	70'	72'		
9.00	46	1019	41'	69'	71'		
10.00	46	1019	41'	69'	71'		
11.00	46	1019	40'	70'	72'		
12.00	46	1019	40'	70'	72'		Choke to 42" at 1 AM
1.00 AM	42	1001	42'	68'	70'		
2.00	42	1001	42'	68'	70'		
3.00	42	1001	42'	68'	70'		
4.00	42	1001	43'	67'	69'		
5.00	42	1001	43'	67'	69'		
6.00	42	1001	42'	68'	70'		
7.00	42	1001	42'	68'	70'		
8.00	42	1001	42'	68'	70'		
9.00	42	1001	42'	68'	70'		
10.00	42	1001	42'	68'	70'		
11.00	42	1001	42'	68'	70'		Choke to 38" at 11.00 AM

