SUBSURFACE LIMESTONE RESOURCES OF PEORIA COUNTY

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TABLES

FIGURES

SUBSURFACE LIMESTONE RESOURCES OF PEORIA COUNTY

Summary

Three areas of comparatively shallow Pennsylvanian limestone more than 10 feet thick but generally less than 25 feet thick occur in the county, namely, 3 miles northeast of Princeville where stone is being quarried, 3 miles west of Hanna City where stone has been quarried and 2 miles northwest of Princeville where one well suggests shallow limestone. Pennsylvanian limestones more than 20 feet thick and too deep to strip (arbitrarily more than 50 feet deep) is reported in 7 wells at depths of from 90 to 498 feet.

In the rocks below the Pennsylvanian beds, the Devonian may be of commercially usable character in T. 11 N., R. 7 and 8 E., where it is 35 to 40 feet thick and at a depth of about 750 feet. The rock is sub-lithographic but has a tan or buff color which could be a use handicap.

The Niagaran appears to be the shallowest and generally most promising source of potentially commercially usable stone. Thicknesses of between 73 and 288 feet of such Niagaran dolomite are suggested by well data at depths ranging from 750 to 900 feet in the uplands of Peoria County and 560 to 650 feet in the valley flat of Illinois River. The dolomite varies from fine to coarse grained and is commonly some shade of gray. Considerable thickness of it may be reef type dolomite.

The Galena Dolomite which occurs at depth of 972 to 1373 feet is about 150 to 200 feet thick. Because it may contain areas where the rock has a sandy texture, its economic potential is uncertain.

The overburden on the bedrock is glacial till, loess, and sand and gravel locally. It is known from wells to range up to 300 feet thick although 150 feet is more common maximum. Some of the sand and gravel is water bearing.

Very limited data suggest that the Devonian, Niagaran, and Galena may be water bearing in places but a number of wells in Peoria County seeking supplies of water for towns have been drilled to the St. Peter or Galena suggesting that the higher dolomites either do not supply potable water or do not supply water in quantity.

Introduction

The subsurface limestones of Peoria County shallower than 1000 feet include beds of Pennsylvanian age followed in descending order by Mississippian, Devonian, Silurian, and Ordovician strata. The stratigraphic units involved are shown below. Data regarding the thickness of the various limestones and dolomites in Peoria County wells are given in Tables 1 and 2 and are summarized below.

	Thickness range, feet	Average, feet
Pennsylvanian System*	1 - 32	6
Mississippian System		
Keokuk-Burlington	2 - 229	119
Devonian System		
Cedar Valley	33 - 70	42
Wapsipinicon	27 - 57	37
Total Devonian	8 - 105	62
Silurian System		
Niagaran	51 - 290	223
Kankakee	27 - 76	65
Edgewood	12 - 32	24
Total Silurian	104 - 360	276
Ordovician System		
Fort Atkinson (Maquoketa)	? - ?	?
Galena	194 - 212	204

*Only limestones more than 1 foot thick included.

The basis for the use of the terms Keokuk, Burlington, or Keokuk-Burlington in the well records is not clear. Often the terms Keokuk-Burlington and Burlington seems to be used synonmyously. However, the matter is not critical as the formation in question is generally cherty or chert and, therefore, of no present probable commercial importance.

Pennsylvanian Limestones

Data from well records regarding the Pennsylvanian limestones are given in Table 1. For the most part the limestones are less than 10 feet thick but in some records greater thicknesses are reported. An area where there is a hill in the bedrock that brings the Lonsdale Limestone near the surface has been worked by three quarries about 3 miles northeast of Princeville. About 2 miles northwest of the town there may be another area of shallow Lonsdale Limestone, see Figure 1. No quarries are known to have been worked in this latter area.

Another area of relatively shallow limestone occurs about 3 miles west of Hanna City where several quarries have been operated. Still a third area where quarrying has occurred lies about 3 miles west of the west limit of Peoria.

From the standpoint of subsurface mining, the following wells report 20 feet of more limestone believed to be of Pennsylvanian age at a depth of more than 50 feet. Data regarding limestones more than 10 feet thick and less than 100 feet deep are given in Table 2.

T. 8 N., R. 5 E., sec. 27, SE¼, SE¼, SW¼ - 32' limestone at 498'

T. 8 N., R. 7 E., sec. 11, NW¼, SE¼, SW¼ - 20' limestone at 95'

T. 8 N., R. 8 E., sec. 9, NE¼, NE¼ - 31' limestone at 226'

T. 9 N., R. 5 E., sec. 7, NW¼, NE¼, SW¼ - 20' limestone at 105'

T. 10 N., R. 7 E., sec. 15, SE¼, SE¼, NW¼ - 25' limestone at 165'

T. 11 N., R. 6 E., sec. 11, S½, SW¼, SW¼ - 20' limestone at 90'

T. 11 N., R. 6 E., sec. 13, SE corner - 25' limestone at 175'

It is not uncommon for some of the thicker Pennsylvanian limestone units to consist of two benches separated by shale. This condition obviously materially affects mining and quarrying. In some instance the presence of a shale bed is not recognized or reported by well drillers, especially if it is less than a foot thick. It is possible that this condition exists in Peoria County and the thickness figures of more than 20 feet usually should be considered as tentative insofar as a continuous thickness of limestone is concerned until proven accurate by core drilling.

Pre-Pennsylvanian Limestones

The pre-Pennsylvanian limestones in Peoria County range from Ordovician to Mississippian age. Data regarding them are given in Tables 2 and 4 and also comprise the Appendix.

Keokuk-Burlington. The Mississippian limestone is the Keokuk-Burlington but, as it is reported to be cherty limestone or chert, its commercial possibilities do not seem promising. The Quincy bed of high calcium limestone that occurs near the base of the formation in the vicinity of Quincy was not recognized in the wells records of Peoria County.

Devonian. Below the Keokuk-Burlington the next limestone unit is the Devonian. In some well records two Devonian formations are distinguished, namely the Cedar Valley and Wapsipinicon Formations, Figure 2. In most of the records the Devonian is silty, shaly or cherty but in T. 11 N., R. 7 and 8 E., none of these impurities are reported to occur in the Wapsipinicon Formation and it is described as tan or buff sublithographic limestone in two of the three wells in the area and as yellow-brown, fine grained dolomite in the third. The thickness of the Wapsipinicon varies from 35 to 42 feet. The depth to the Wapsipinicon ranges from 740 to 755 feet. What little is known about the Wapsipinicon in the three wells suggests that it may be of commercially usable character unless its color is a handicap.

Silurian. The Silurian strata consists of three units in descending order the Niagaran, Kankakee and Edgewood. Where distinguished, Figure 2, the Edgewood is silty or clayey and, therefore, not of present commercial promise. The Kankakee is commonly cherty and also, therefore, not of promise.

Niagaran. The Niagaran Dolomite, Figure 2, is generally not cherty and much of it is porous or vesicular suggesting that it is reef type dolomite and therefore probably of superior quality. The minimum thickness of Niagaran Dolomite free of chert, clay, silt or quartz in the wells in Figure 2 is 73 feet in well #1 and the maximum 288 feet in well #8. Well #9 has 180 feet of similar dolomite which is overlain by 80 feet of dolomite containing occasionally quartz grains. The color of the impurity free Niagaran is variously described as white, light gray, gray, dark gray, light yellow gray and light buff gray. Texturally the dolomite is described as very fine, fine, medium or coarse grained. So far as can be told from the well records, the purer parts of the Niagaran would appear to be of probably commercial quality.

The depth to the top of the Niagaran is shown in Figure 1 and ranges from 750 to 950 feet in the uplands and 560 to 650 feet in the valley bottoms of Illinois River. The later area is underlain by a filling of silt, sand and gravel that reaches more than 100 feet thick in places and is likely to be water bearing. This probably argues against shaft mining in the valley flat areas.

Galena. Cuttings of the Galena Dolomite are available in only three wells, (Appendix and Table 2) located respectively in sections 6 and 10, T. 8 N., R. 6 E. and section 7, T. 9 N., R. 5 E. The stone is generally described as grayish brown or buff and fine to medium grained. Some of it is porous. In the well in section 6 the upper 102 feet of the Galena is slightly silty. The thickness of the dolomite varies from 154 to 212 feet. No chert is mentioned although in outcrops in northwestern Illinois prominent cherty units are present. The depth to the Galena, Table 2, varies from 972 to 1350 feet. The dolomite

may h

may have potential for commercial use but judging from its character in outcrops parts of it may consist of dolomite grains that are loosely held together or are a sand, especially in those areas bordering the larger holes or pores in the stone.

Depth to bedrock

The depth to bedrock was not intensively studied but data are given in Table 2 that are indicative of the variations to be expected. A range is shown of from 1 to 300 feet but generally the depth is between 30 and 150 feet.

The surficial materials in Peoria County include till, gravel sand and silt judging from some of the well records and the sand and gravel is water-bearing in some places.

Water in the Bedrock

The well records do not give much information on water in the sub-Pennsylvanian limestones of Peoria County but as many of the wells apparently drilled for water go to the Galena or St. Peter it is inferred that either the amount of water available from the shallower limestones is not great or that the water is not potable. The well data are summarized below.

T. 8 N., R. 7 E., section 2, NE¼, NE¼. "Some water" at 710 feet (Devonian); flowing water at 780 feet (probably basal Devonian or upper Silurian).

T. 8 N., R. 7 E., section 26, SE corner. "Sulfur water and salt water struck at 920 feet below surface" (probably in the upper Kinderhook).

T. 8 N., R. 8 E., section 3, NW¼. Salt water at 420 feet deep in an 8 foot thick sandstone 22 feet below the top of the Burlington; salt water at 546 feet in the upper 4 feet of the Kinderhook; and sulfur water at 830 feet in a 45 foot thick sandstone in the Devonian-Silurian.

T. 8 N., R. 8 E., section 9, NE¼. Salt water rose within 4 feet of well curb from a 13 foot thick blue limestone at 352 feet deep (25 feet below top of Burlington); "honeycombed limestone" 1½ feet thick flowed saltwater at

368 feet deep (41 feet below the top of the Burlington); 250 gallons per minute of water from probable base of Burlington; sulfur water in probable Devonian.

T. 8 N., R. 8 E., section 18, NW¼, NE¼, SE¼. Large flow of water from a crevice at 1280 feet (Galena). Nearby well flowed 325 gallons per minute from the Galena.

T. 9 N., R. 8 E., section 34, SW¼. "At depth of 400 feet (Keokuk-Burlington) water rose to within 6 feet of curb. Sulfur water found at 824 feet (Niagaran?) and flowed with 7 pounds pressure, 200 gallons per minute." No longer flowing in 1936. No data on when well was drilled.

T. 10 N., R. 7 E., section 11, SW¼. Static level 225 feet below surface. Pumping level 256 feet after 4 hours at 286 gallons per minute. Length of test 6 hours. Water from St. Peter Sandstone.

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200 gallons per minute	=	288,000 gallons per day
250 gallons per minute	=	360,000 gallons per day
286 gallons per minute	=	411,800 gallons per day
325 gallons per minute	=	468,000 gallons per day

Appendix

Summary descriptions of well data based on sample studies *

Peoria Co.

Chas. Cramer #1, SE, SE, SW sec. 27, 8N, 5E.

Burlington F. - top at 470' deep

Dol, calcareous, cherty, wh - lt gr	38'	
Dol, calc, f - cs grd, sh parting locally, gr	17'	
Dol, as above but cherty	5'	
Dol, buff, f - cs, vesicular	5'	
Dol, calc, chty, buff	5'	
Dol, calc, f - cs, argil at base	10'	80'
Kinderhook shale - top @ 550'		- 34'
Devonian - top @ 784		
Dol, silty, brn	16'	
Ls, dolmic, silty	5'	
Ls, dolmic, gr, vy f - f, fossil, some pyrite	25'	
Ls, dolmic silty, f - med	13'	
Ls, dolmic, buff - lt gr, pyritic, sh partings	9'	
Ls, gr & pink, f - cs grd, brecciated, calc sh	5'	
		73'
Silurian - top @ 857		
Dol, lt - dk gr, f - med, vesicular; a little green sh near top	73'	
Dol, slig silty, lt gr - gn, f - vy f, pyritic, a few gn & dk sh p tops	30'	
Dol, wh, pink, gn, f - med, oolic, gn shy partings	38'	
Dol, silty, cong, sh & phosphatic pebbles	10'	
		151'

Formation identifications are those given on well records

Peoria Co. wells.

p. 2

Hanna City Radar Base #1, SW, SW, SE Sec 6, T8N, R6E

Burlington - top @ 509' deep

Dol, cherty & siliceous; lower 70' calc	146'

~~Devonian - top @~~

Kinderhook Shale - top @ 655'	≈30'

Devonian, top @ 885'

Dol, silty, gr & brn, f - vy fine, partly calc	≈0'
Ls dolmic & dol calc, silty	≈0'
Ls, dolmic, brn, vy f - f	5'
Ls, dolmic, slty & sdy	5'
Ls, lt buff, buff, gr, lith, partly slty dolmic	10'
	60'

Silurian - top @ 944'

Dol, wh - lt gr, vy f - f cs, slty porous	106'
Dol, slty silty, lt gr - gr, vy f - med	15'
Dol, silty gr & buff, f - med	50'
Dol, chty, silty	10'
	181'

Galena - top @ 1373'

Dol, slty silty, buff & gr brn	107'
Dol, buff, vy f - med, x blu	60'

Peoria Co. wells

p. 3

Hanna City #1, NE, SE, NE Sec. 10, 8N, 6E

Keokuk - Burlington, top @ 490' deep

Dol and lst, cherty	165'	
Kinderhook, top @ 655'	225'	
Cedar Valley, top @ 880'		
Dol, argil, gr, f - med	10'	
Ls, dolmic, f - cs, fossil	15'	
Ls, dolmic, argil	15	
		40'
Wapsipinicon - top @ 920'		
Dol ls & calc dol, argil	15'	
		15'
Silurian - top @ 935'		
Niagaran		
Dol, lt gr - gr, f + cs, a ll gtz	145'	
Dol, lt gr - gr, f - med, gr - yl gr	20	
		165'
Kankakee		
Dol, lt gr & lt brn, f - med	15'	
Dol, chty, lt brn, f - med	18	
		33'
Edgewood		
Sandstone	12'	12'
Galena - top @ 1346		
Dol, gr brn, f - cs, red specks	154'	
Decorah & Guttenberg, top @ 1520		
Dol, cherty	40'	

Peoria Co. wells.

p. 4

Kyle #1, ~~the~~ SW, NW Sec. 17, 8N, 6E.

Burlington, top @ 480' deep

Dol cherty	155'
~~Kaskaskia~~ Kaskaskia - top @ 635'.	
Devonian, top @ 887	
Dol, f- med, lt buff, a little gypsum at top	- 13'
Dol, as above, cherty	- 15'
Dol, f- vy f, gray buff	- 21'
Dol - gr buff, f, "fair amt gypsum"	- 2'
Dol - brn gr, f	- 10'
	61'

Silurian, top @ 948'

Shale, ldy, gn & dol	- 2'
Dol, wh, f- cs, slig pyritic	- 55'+

End of boring

Geonia Co. wells.

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Village of Elmwood #6., NW, NE, SW Sec 7, 9N, 7E.

Burlington, top @ 385' deep

Chert	20'
Ls, x dol, chty	40'

Kinderhook - top @ 445'

Devonian - top @ 675'

Ls, argil, yl gr, f	25'
Dol, argil, calc, ~~ss~~ yl gr - yl brn	35'

Silurian, top @ 750' (Niag. - Alex).

Dol, lt yl gr, f - cs, porous	40'
Dol, lt gr, f - cs, porous	80'
Dol, silty, f - med, yl gr - lt gr	30'
Dol, silty, slig chty & dolmic ss	108'
Dol, argil, (Edgewood).	12'
	270'

Galena, top @ 1115'

Dol, pale grayish brown, partly porous, f to cs	212'

Decorah (Guttenberg member)

Dol, x ss	3'

Platteville, top @ 1330'

Dol, yl gr & lt brn, f - med	90'
Dol, Sdy	10'

St Peter - Glenwood Sd. - top @ 1430'

Alta School District 303, NE, NE, NW Sec. 31, 10N, 8E

Burlington - top @ 760' depp

Dol, chty and chert 63'

Kinderhook - top @ 673'

Cedar Valley - top @ 854'

Dol and dolmic ls, chty 11'

Ls, buff dol; calc Sh at base 15'

26'

Wapsipinicon - top @ 880'

Ls, buff - brn, subLith & dol Sdy, calc, fr buff at base 20'

Niagaran - top @ 900

Dol, gr - wh, f - vy f, porous with dns zones 105'

Dol, gray, slig black speckled, vy f, Sdy 20'

125'

Kankakee - top @ 1125'

Dol, lt buff, vy f - f 10'

Dol, lt brn, a few brn Sh coatings 20'

Dol, chty, f, lt buff, slig glauconitic 10'

40'

Edgewood - top @ 1165' - Dickstone 15'

Galena - top @ 1373'

Dol, buff, f - med, dns, vesicular 42'

Dol, as above, a few brn Sh coatings; bentonite like Sh @ 1455-60' 45'

Dol, buff to lt buff, f - med, dns to vesicular 65'

Peoria Co. wells

p. 7

Princeville City #2. SE, SE, SE Sec. 13, 11N, 6E.

Burlington - top @ 362'

Ls, gr - brn, chty 78'

Kinderhook - top @ 440'

Cedar Valley - top @ 655'

Dol, silty, brn, f 15'

Ls, silty, dolmic, chty, sdy 30' 45'

Wapsipinicon - top @ 700'

Ls chty, gr, lithog - sub lithog 30'

Niagaran - top @ 730'

Dol, chty, wh, fossil, partly vesicular - 25'

Dol, wh, f, vesicular - 15'

Dol, slig chty, wh, f, vesic; fr at base - 170'

210'

Kankakee - top @ 940'

Dol, chty, wh + buff 50'

Edgewood - top @ 990'

Silstn, dolmic + fr 15'

Galena - top @ 1195'

Dol, mostly buff, f, partly vesicular 145'

Peoria Co. wells

p-8

3. W. Holmes #2, NE, NE, NE Sec 13, 11N, 7E.

Burlington, top @ 525' deep

Dol & chert & chty dol — 25'

Kinderhook - top @ 550'

Cedar Valley top @ 710'

Dol, calc, chty, silty, sdy, buff — 25'

Lt, dolmic, silty, sdy, buff-fr — 10'

Wapsipinicon - top @ 735'

Lt & buff - buff, sub-lith — 38'

Niagaran - top @ 793

Dol, wh-lt gr, f, partly vesicular - 17'

Dol, wh-lt buff gr, f, chty porous — 46'

Dol, wh, fine, a little buffish — 225' — 288'

Kankakee - top 1061'

Dol, lt buff, partly chty — 29'

Edgewood - top 1090'

Siltstone — 14'

Galena - top 1284

Dol, lt buff-brn, partly porous, f-cs — 202'

Decorah - top @ 1486

Dol, buff, brn, orange speckled, f-med — 10'

Platteville - top @ 1496'

Dol, gr to buff, f — 10'

Dol, chty — 10'

Dol, sdy-5' Dol, buff, f, chty at top — 3

Dol, grayish buff & buff, f-vg f — 6 — 5

St P - Glenwood - top @ 1613'

Connelly #1, SE, NE, SE sec. 3, 11 N, 8 E.

Burlington, top @ 473' deep

Cht, wh	~1'	
Kinderhook, top @ 475'		
Cedar Valley - top @ 670'		
Dol, chty, vpl brn	~10'	
Dol, brn	5'	
Dol, vy cht	5'	
Cht & Sh	10'	
Dol, vy chty, vpl brn	30'	
Wapsipinicon - top @ 740		70'
Dol, pale vpl brn, vy f		35'
Niagaran - top @ 775'		
Dol, lt gr, occasional quartz	80'	
Dol, wh - lt gy - mod. gr, f - vy f	180'	~260'
Kankakee - top @ 1035'		
Dol, lt gy, vy f	~15'	
Dol, " " , angular qtz	10'	
Dol, pale buff gy - pale vpl brn, f - vy f	~15	
No sample	~5'	
Dol, chty	5'	70'
Edgewood - top @ 1105'		
Siltstone with Shale at base		30'
Galena - top @ 1305		
Dol, pale vpl brn, f, slig pyritic		~15'

Peoria Co. wells, p. 10

Holmes #1, W½, W½, NW¼ Sec 4, 11N, 8E

Burlington, top @ 470' deep

Ls & dol, chty & cht	45'	

Kinderhook, top @ 515'

Cedar Valley, top @ 710'

Dol, silty, brn	5'	
Ls, vy silty, fr	12'	
Ls, dolmic, chty & dol, sdy, brn	16'	33'

Wapsipinicon - top @ 743'

Ls, fan, sub-lith	42'	

Niagaran - top @ 785'

Dol, wh - lt gr, partly chty porous	40'	
Dol, chty	25'	
Dol, lt buff, chty porous	15'	
Dol, wh, f	15'	23'

Kankakee - top @ 1042'

Dol, white, lt gr, lt buff, gtz, partly pyritic	43'	
Dol, chty	33'	76'

Edgewood - top @ 1118'

Sandstone	32'	

Maquoketa

Shale Gn dolmic SS & dol. (7')

Prentiss Bros, #1, NW, SE, NE Sec 4, 11 N, 8 E

Burlington - top @ 480'

Chert	10'	
Dol, slij chty, lt gr, vy f, vuggy	18	=28'

Kinderhook - top @ 506'

Cedar Valley - top @ 696'

Dol, calc, upper part slij chty	9'	
Ls, vy dolmic, buff gr, fossil	10'	
Ls, argil, sublith, fossil	10	=29'

Wapsipinicon - top @ 725'

Ls, buff, lithog	10'	
Ls, slij sdy, buff, vy f	7'	
Ls, wh - buff, lithog	3'	
Ls, slij sdy; a little dol, sdy	5'	
As	=1'	=27'

Niagaran - top 752'

Dol, lt gr, f - vy f	3'+	

Table 3
Peoria County

Pennsylvanian limestones more than
10 ft thick and less than 100 ft deep

T.	R.	Sec.	1/4	1/4	1/4	
8N	5E	12	NW	SW	NW	13' limestone at 30'
8N	6E	7	NE	SE	NE	11' limestone at 30'
"	"	17	W1/2	SW	NW	32' silty limestone at 32'
"	"	"	"	"	"	12' silty limestone and sandstone at 44'
8N	7E	3	NE	SW	SE	21' limestone at 30'
"	"	"	NW	-	-	15' limestone at 90'
"	"	"	SW	-	-	20' limestone at 31'
"	"	9	NW	Cor.	-	13' limestone at 60', 9' limestone at 85'
"	"	11	NW	SE	SW	91/2' limestone at 32 1/2', 20' limestone at 95'
9N	5E	7	NW	NE	SW	20' limestone at 105'
10N	6E	5	NE	SE	SW	12' limestone with shale partings at 13'
10N	6E	28	NE	NE	SW	13' limestone at 124'
"	"	30	NE	-	-	16' limestone at 39'
11N	5E	22	SW	SW	SW	15' soft, broken limestone at 39'
11N	6E	11	S1/2	SW	SW	20' limestone at 90'
"	"	11	S1/2	SW	SW	20' limestone at 23'
"	"	11	NW	SW	NW	10' limestone at 55'
"	"	13	SE	Cor.		12' limestone at 93'; 25' limestone at 175'
11N	7E	13	NE	NE	NE	18' limestone at 212'
"	"	22	NW	SW	SW	10' limestone at 45'

Table 4.

Thickness of stratigraphic units in feet

well letter *	Kerk. - Burl or Burl	Cedar Valley	Wapsip.	Total Dev.	Maq.	Kaukauna	Edgewood	Total Silurian
a								
b				43				180
c								
d	151							
e	115			45	51	27	26	104
f	175							
g	180							
h								
i	131							
j				8				
k	80			73				
l	146			59				
m	165			55	165	33	17	210
n	155			61				
o	170				190			
p					190			
q	209				205			
r	148							
s	208							
t	200							

* well letters correspond with those in Table 2.

Well letter	Kinderhook - Burlington or Burlington	Cedar Valley	Wapsipinicon	Total Devonian	Maquoketa	Kaukauna	Edgewood	Total Silurian
u	150							
v	60			75	258		12	270
w	—							
x	125			85?				
y	91							
z	63							
aa	140	45	30	75	210	50	15	275
bb	25	35	38	73	268	29	14	311
cc	2	70	35	105	285	45	30	360
dd	45	33	57	90	24?	76	3?	350
ee	28	29	27	56				
ff	90			33				359
gg	68			52				340
Range	2 - 229	33 - 70	27 - 57	8 - 105	51 - 290	27 - 76	12 - 32	104 - 360
Average	119	42	37	62	223	65	24	276

Galena dolomite, 3 ~~samples~~ wells, range 194 - 212, avg 204

PEORIA CO. TABLE 2. DEPTH TO VARIOUS UNITS BELOW THE PENNSYLVANIAN

Well letter	T	R	Sec.	1/4	1/4	1/4	El.	Depth to bedrock	Name of bedrock	DEPTH TO Burl. or K.B	Cedar Valley	Wapsipinicon	Devonian (L)	Silurian	Niagaran	Kankakee	Edgewood	Maquoketa	Ft. Atkinson	Galena	Platteville	Samples studied	Samples not studied	Misc.
a	6N	6E	5	Cent	N½		438	?	Pa.	346 (possibly Keokuk or higher Miss. at 188')												no samps		
b	〃	〃	5	NW	NW	NW	440	ND	ND				580	623				803		972			X	
c.	〃	〃	5	NE	NE	SW	440	ND	–	224 (Keokuk)			576	620									X	
d	〃	〃	6	NE	SW	SW	438	42	Pa.	204 (KB)			588	632										
e	7N	6E	11	SW	SW	NE		ND	–	401 K / 413 B	744				789	840	867	893	1132 (48' thick)	1190		Core		Keok.? @4
f	〃	〃	11	NE	NE	SW		120	Pa.	340 B												no Samps		
g	〃	〃	22	NW	NW	SW	614			470 KB			880	925						1350				
h	〃	〃	28	W½	SE	SW	510	114?	Pa.	288 B												X		
i	〃	〃	31	NW	NE	NW	600	74?	Pa.	375 KB			753?	795?								no Samps		
j	〃	〃	32	NW	SW	SE	437			233 B			551	558								〃	〃	
k	8N	5E	27	SE	SE	SW	640			470 KB			784	857						1186		X		
l	8N	6E	6	SW	SW	SE	739	20	Pa.	509 B			885	944				1125		1323	1530	X		#1
m	〃	〃	10	NE	SE	NE	720	30	Pa	490 KB	880 –	920			935	1100	1133	1145		1346	1540	X		
n	〃	〃	17	W½	SW	NW	700	30	Pa.	480 B			887	948	~~935~~	~~1100~~	~~1132~~	~~1145~~		~~1346~~	~~1540~~	no Samps		
o	8N	7E	2	NWc	NE	NE		1	Pa	334 KB			670	730				960				no Samps		

Pencil figs. Estd. from top Dev.

End of book 1.

Well letter	T	R	Sec.	1/4	1/4	1/4	El.	Depth to bedrock	Name of bedrock	Burl. or K.B	Cedar Valley	Wapsipinicon	Devonian (L)	Silurian	Niagaran	Kankakee	Edgewood	Maquoketa	Ft. Atkinson	Galena	Platteville	Samples studied	Samples not studied	Misc.
p	8N	7E	9	—	SW	NE	690	60	Pa	475 KB?			860	920				1150		1342		no Samps		
q	8N	7E	26	SE cor.			605	ND		422 KB?			885	945				1150		1350		no Samps		
r	8N	8E	3	NW	–	–	495	150	Pa	398 KB			765	825								no Samps		
s	〃	〃	9	NE	NE	–	485	153?	Pa.	327 KB, bottom 535												no Samps		
t	〃	〃	18	NW	NE	SE	535	210	Pa.	435 KB	〃	535	787	842				1072		1272		〃	〃	
u	〃	〃	18	N½	SE	–	535	206	Pa.	400 KB	〃	520	775	835				1075		1250		〃	〃	
v	9N	5E	7	NW	NE	SW	640	95	Pa	385 B	〃	445	675	750	750		1008	1020		1115		X		
w	〃	〃	10	—	—	–			Pa	390 B														

End of book 2.

Well letter	T	R	Sec.	1/4	1/4	1/4	El.	Depth to bedrock	Name of bedrock	Burl. or K.B	Cedar Valley	Wapsipinicon	Devonian (L)	Silurian	Niagaran	Kankakee	Edgewood	Maquoketa	Ft. Atkinson	Galena	Platteville	Samples studied	Samples not studied	Misc.
x	9N	8E	34	NE	NW	SE	534	150	Pa	400 KB, bottom 525			720	805?								no Samps		

End of book 3

Well letter	T	R	Sec.	1/4	1/4	1/4	El.	Depth to bedrock	Name of bedrock	Burl. or K.B	Cedar Valley	Wapsipinicon	Devonian (L)	Silurian	Niagaran	Kankakee	Edgewood	Maquoketa	Ft. Atkinson	Galena	Platteville	Samples studied	Samples not studied	Misc.
y	10N	7E	11	NE	SW	SW		50?	Pa	502 KB, bottom 593				820? or 768' (most likely 820)								X		
z	10N	8E	31	NEc	NE	NW	720	155	Pa	560 B, bottom 623 →	854	880		900	900	1125	1165	1180		1373		X		
aa	11N	6E	13	SE	SE	SE	745	32	Pa	362 B.	655	700		730		940	990	1005		1195		X		
bb	11N	7E	13	NE	NE	NE	740	110	Pa	525 B.	720	755			793	1061	1090	1104		1284	1496	X		
cc	11N	8E	3	SE	NE	SE	700			473 B	670	740			775	1060	1105	1135		1305		X		
dd	11N	8E	4	W½	W½	NW		194	Pa	470 B	710	743			800	1042	1118	1150						
ee	11N	8E	4	NW	SE	NE	732	300	Pa	480 B	696	725			752					1440?		~~No Samps~~		
ff	11N	8E	25	W½	SW	–	538	141	Pa	305 KB			590	623				982		1180		no Samps		
gg	11N	8E	36	NW	SE	NE	542	134	Pa	358 KB			598	650				990		986		〃	〃	

Table 1. Peoria Co. Data on Pennsylvanian limestones more than 1 ft thick

	T.	R.	Sec.	1/4	1/4	1/4	Ft.		
	7N	6E	22	NW	NW	SW	614	10' ls @ 225; 10 sh ls @ 370'	
	"	"	22	W½	SE	SW	510	3' argil ls @ 126'	
1	7N	7E	2	NE	NW	SW	614	2½' ls @ 77'; 1'3" ls @ 141'	
2	"	"	4	SW	cor.		?	½' ls @ 81½'; 5'11" ls @ 98'4"	
3	"	"	4	NW	Cor.	SW	?	1' ls @ 105½'	12 other records in Sec. 4 report no ls.
4									
5	7N	7E	5	NE	NE	NW	625	5' ls @ 76'	34 other records in Sec. 5 report no ls.
6	"	"	21	SW	SE	SW	449	6' ls @ 15' (Dig other wells in Sec. report no ls)	
7	"	"	29	SW	NE	NE	452	2' gr. ls @ 21' (Eleven " " " " " " " ")	
8	"	"	30	NE	NW	SW	449	1½' dk ls @ 89'	
9									
10	8N	7E	3	SE	SW	SE	740	9' ls @ 38'	
11	"	"	4	E½	SW	-	?	1' ls @ 81½'	
12	"	"	8	NW	SW	NW	769	4' ls gr ls @ 71'; 1' gr, md, argil ls @ 219'; 11" mod ls @ 232'; 1' mod, shy ls @ 243'	or core Sample log in park
13	"	"	8	NE	SW	NW	767	3' ls @ 105½'; 4.2 ft ls @ 144'; 1' gr argil ls @ 215'; 1.2' dns, argil ls @ 231'; 1' mod ls @ 237';	" " "
14								argil	" " "
15	"	"	8	NE	SW	NW	767	1'2" md, hard, mod.? @ 224'; 1'1" @ 308½';	" " "
16	"	"	8	SE	SW	NW	767	1' ls @ 52'; 4½' ls @ 143'; 1.7' dk gr, argil ls @ 248½';	" " "
17	"	"	8	E½	SW	NW	767	5' ls @ 64'; 1½' ls @ 113; 1' ls @ 127; 2½' fossil 315'; 1' fossil ls 326½'; Core 1'11" ls @ 229'	" " "
18	"							1'3" ls @ 315'	
19	"	"	13	NW	SW	NW	755	13' ls @ 30'	
20	"	"	27	SE	SE	SW	640	3' ls @ 498'; 3' ls @ 504' (drillers log) argil	
21	"	"	"	"	"	"	"	10' ls @ 200'; 10' ls @ 220'; 10' ls @ 250'; 10' ls @ 320; 10' argil ls @ 410; (Sample log)	
22									
23	8N	6E	6	SW	SW	SE	739	4' ls @ 53'; 5' ls @ 168; 2' silty ls @ 253;	Sample log
24	"	"	7	NE	SE	NE	735	11' ls @ 30'	
25	"	"	10	NE	SE	NE	720	5' gr ls @ 20'; 12' fine ls @ 197' (not rptd in sample log)	Sample log
26	"	"	17	W½	SW	NW	700	32' gr to buff, f gr, silty ls @ 37'; 12' ls as above & ls @ 44'; 20' gr ls & sh @ 150';	Sample log
27								10 ls as above & ls	
28	8N	7E	2	SW	NE	SW	?	4' ls @ 19'	
29	"	"	2	NW	NE	NE	?	10' sh ls @ 200' (fine.?)	
30								End of book 1.	
31	"	"	3	NE	SW	SE	?	21' ls @ 30'. Ft. not penetrated	
32	"	"	3	NW	-	-	?	15' ls @ 90'	5 other wells in Sec. 3 do not record ls.
33	"	"	3	SE	NW	SE	702	3' ls @ 30'	
34	"	"	3	SW	-	-	?	20' ls @ 31'. Water in ls.	
35	"	"	4	NE	-	-	?	9' ls @ 67'	
36	"	"	9	NW	cor.		703	13' ls @ 60'; 9' ls @ 85'; 12' ls @ 108'; 40' ls @ 135'; 2' ls @ 220'; 6' ls @ 235'; 7' ls @ 253'	
37	"	"	9	SW	NE		690	5' ls @ 195';	
38	"	"	11	NW	SE	SW	650	9½' ls @ 3½ ft; 20' ls @ 95'; 4' ls @ 133'	
39	"	"	15	NW	SW	-	636	1' ls @ 90'	
40	"	"	16	SW	SW	-	570	2½' ls @ 23'; 1' ls @ 209; 1'2" ls @ 311½';	3 other logs in Sec. 16 report no ls.
	"	"	16	S½	NW	NE	680	3' ls @ 108;	

4813 - Buff
7543 - Green

Table 1 (cont.) Peoria Co. p. 2 Penn. ls. more than 1 ft thick

T.	R.	Sec.	1/4	1/4	1/4	El.		
8N	7E	32	N line	NW	1/4	612	3' ls @ 52'	15 other records in Sec. 32 report no ls.
"	"	33	NW cor.			642	1'6" ls @ 75'6"; 3'6" ls @ 86'; 1'8" ls @ 103'; 1'10" ls @ 114' (10 other wells in 33, no ls.)	
"	"	36	E 1/2,	W 1/2		460	8' ls @ 97' 11 gr ls @ 179, 7' ls @ 212'; 8' black ls @ 250'; 6 ls @ 258', 7' gr ls @ 280'	
8N	8E	9	NE	NE		485	19' soft, lt colored ls @ 229, 3' ls @ 226' (Miss.?)	
"	"	16	SE	NW	NW	437	2'8" ls @ 32 1/2'	
"	"	16	SE	NW	NW	426	1'8" ls @ 19', 1' ls @ 46 1/2'	
9N	5E	7	NW	NE	SW	640	20' ls @ 105'	Sample study
"	"	8	Elmwood			?	2' ls @ 80', 7' septaria ls @ 100 1/2'; 8' ls nodular @ 131 1/2', 2' blue ls @ 167 1/2	
"	"	10	Elmwood			?	13' argil ls, sh & ss @ 270'. Cont. ls. not indicated	
"	"	17	SE	SW	NW	?	2' ls @ 97 1/2, 1' ls @ 202	
9N	6E	26	SW	NE		?	3' ls @ 49'	
9N	7E	4	SW	NW	SW	700	7' ls @ 110'. Ls not drilled thru. Pa.?	
"	"	10	N 1/2,	N 1/2		715	7' ls @ 17'	
"	"	13	NW	SW	SE	?	4' ls @ 52'	
"	"	25	NW cor,	NE	1/4	?	1'6" ls @ 335	
"	"	29	?	?	?	?	3'6" ls @ 35'8"	
							End of book 2	
9N	8E	30	NW	—	—	655	2' ls @ 128' (fossil, gr);	Sample study
~~10N~~	~~5E~~	~~13~~	~~NE~~			?	~~5" ls @ 45' 10" ls @ 46'~~ LS. not 1' thick	
10N	5E	22	SW	SW	SE	?	2' ls @ 33'	
"	"	24	Cent.	E 1/2		?	2'4" ls @ 27 1/2'	
"	"	24	W line	SW	NE	?	2'6" ls @ 33'	
"	6E	2	SE	SE	SE	675	1' hard, sdy lime @ 12'	4 other holes in Sec. 2 no limestone
"	"	2	SWc	SE	SE	705	1'6" ls @ 39'	
"	"	3	NE	NE	SE	618	3 1/2' "fossilized lime" @ 62 1/2'	
"	"	4	NW	SE	SW	710	2' ls @ 32'; 2' ls @ 69'	
"	"	5	NE	NE	SW	725	1' "fossilized ls" @ 80'	
"	"	5	NE	SE	SW	720	12' ls "ledges with sh partings" @ 13'; 2' ls @ 38'	
"	"	7	W line		SW	?	7' ls, sandy @ 73'	
"	"	7	SW	NW	SE	?	4' sdy ls @ 44'	
"	"	7	SE	NE	SE	?	2' sdy ls @ 30'	
"	"	7	N line	NW	SE	?	3' ls @ 62'	
"	"	7	NW	NE	SE		4' sdy ls @ 44'	
"	"	7	NE cor.		SE		3' sdy ls @ 50'; 1' ls @ 63'	
"	"	7	SW cor		SW		1'6" ls @ 21'; 3 1/2' ls @ 29 1/2'; 2'11" ls @ 47'	
"	"	7	SE cor.		SW		2' ls @ 29'	
"	"	8	SW 1/4				3' sdy ls @ 34'. 2' ls @ 55'	
"	"	8	Cent	S 1/2			3' sdy ls @ 28'; 2' ls @ 54'	
"	"	8	SE	NW	SE		3' ls @ 44'	
"	"	8	Cent	E 1/2			3' sdy ls 50'	

4813 - Buff
8813 - Green

Table 1 (cont.) Peoria Co. p. 3 Penn lss more than 1 ft thick.

	T	R	Sec.	1/4	1/4	1/4	El.	
	6N	6E	10	NE	NW	NE	-	1'8" ls @ 44'
	"	"	10	Cont.				2' ls @ 40'
1	"	"	10	NEc	SE	NE		1'4" ls @ 63'
2	"	"	10	NE			703	+1'7" ls @ 57'
3	"	"	10	SE	SW	NE	690	1'4" ls @ 18'
4	"	"	11	SWc	NE	-	685	1'2" ls @ 59½'
5	"	"	11	NE	SE	NW	690	+1'7" ls @ 54'
6	"	"	11	SEc	SW	-	685	+1'4" ls @ 31'
7	"	"	12	NE	SE	NW	630	+1'4" ls @ 38'
8								
9	"	"	14	SE	NW	NE	700	+1'4" ls @ 70', 11" footings ls @ 71½'
10	"	"	14	NE	SE	SE	675	1' Sdy ls @ 37'
11	"	"	14	NE	NW	SW	705	+1'8½" ls @ 71½'
12	"	"	17	Cent	W line			3' ls @ 71'
13	"	"	17	NW	SW	NW		3' ls @ 40'
14	"	"	18	NE	SE	NE		+1'4" ls @ 27'
15	"	"	18	SWc	NW	NW		6' Sdy ls @ 40'
16	"	"	18	Cent	NW			4'8" ls @ +0'7"; +1'6" ls @ +6'6"
17	"	"	18	NWc	NE	NW		6½' Sdy ls @ 45'; 1' blue ls @ 66½
18	"	"	28	NE	NE	SW		13' ls @ 124'
19	"	"	30	NE			650	16' ls @ 39'
20								End of Book 3
21	10N	7E	11	NE	SW	SW		8' brn ls @ 418'
22	"	"	15	SE	SE	NW		6' ls @ 149'; +5' ls @ 165'; 9' ls @ +03'
23	"	8E	20	SE	SW	-		6' "limestone" @ 319'
24	11N	5E	19	SW	NE	SE		1' ls @ 17½'
25	"	"	20	SEc	NE	-		3'3" ls @ 48';
26	"	"	20	NEc	NE	-		1' freshwater ls @ 39'4"
27	"	"	22	SW	SW	SW		15' ls, soft broken @ 39'; 1½' hard ls @ +88'; 6' ls @ 306'; 4' soft wx ls @ 330; 6' wy hard blue ls @ 334'
28	11N	6E	11	S½	SW	SW		+0' ls @ 90'; +' ls @ 16+'
29	"	"	11	S½	SW	SW		+0' ls @ +3'
30	"	"	11	NW	SW	NW		5' ls @ 30'; 10' ls @ +5'
31	"	"	13	SE cor.				1+' ls @ 93'; 5' ls @ 1+5'; 5' ls @ 140'; 13' ls @ 36+' (Drillers log) } Same well
32	"	"	"	"				+5' ls @ 175' (Sample log)
33								
34	11N	7E	4	NE	NW	SW		6½' ls @ 19'. Ty not drilled thru
35	"	"	13	NE	NE	NE		18' ls @ +1+'; 3' ls @ 407;
36	"	"	22	NW	SW	SW		10' ls @ 42'
37	11N	8E	4	W½	W½	NW		9' argil, siliceic, fossil, ls @ 247; 4' buff, wy siliceic ls @ 4+6'
38	"	"	7	SW	SW	SE	88+	3' ls @ +50'
39	"	"	19	W½	W½	NE	80+	5' ls @ 15+'; +' ls @ 196'
40	"	"	21					
								End of Peoria Co. - end of Book 4

4813 - Buff
8813 - Green

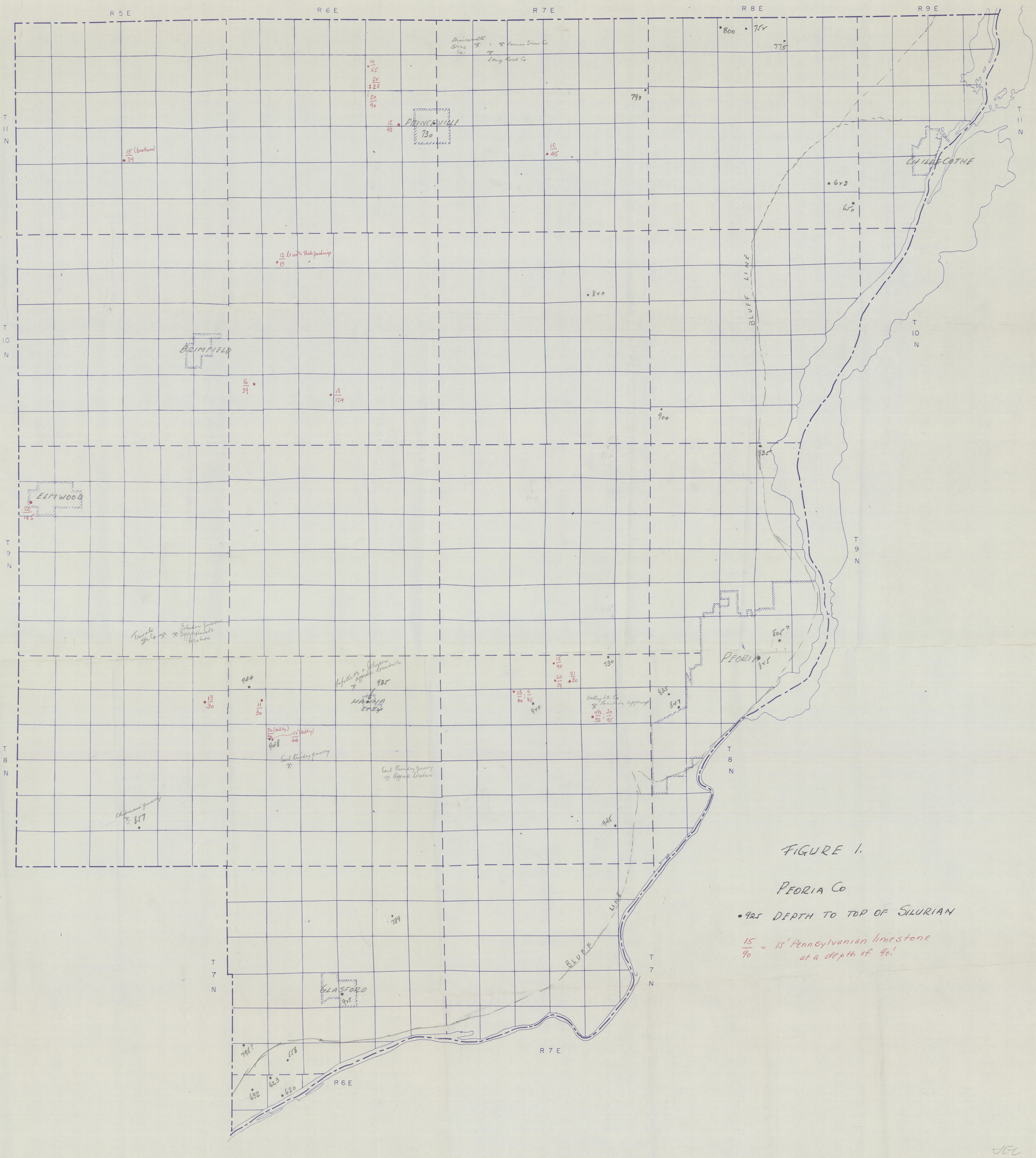

FIGURE 1.

PEORIA CO

• 925 DEPTH TO TOP OF SILURIAN

$\frac{15}{90}$ = 15' Pennsylvanian limestone at a depth of 90'.

PEORIA CO.

DEPTH BELOW TOP OF THE KINDERHOOK / HEIGHT ABOVE KINDERHOOK

100 / 50' / 0 / 150' / 200' / 300' / 400' / 500' / 600' / 700'

Top of the Kinderhook

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Burlington Calc.	Burlington	Burl.	Burlington	Burl.	Chert Chert Chert Burl.	Burlington	Burl.	Burl. Chert	Burlington
Kinderhook	Kind.	Kinderhook	Kind.	Kinderhook	Kind.	Kinderhook	Cedar Valley	Kind.	Kinderhook
Devonian	Calc. Devonian Lith	Cedar Valley Wapsipinicon	Gypsum Devonian Gypsum Shale	Devonian Calc.	Cedar Valley Wapsipinicon	Cedar Valley Lith. Wapsipinicon	Buff sub-lith Wapsipinicon	Brn Cedar Valley	Cedar Valley Wapsipinicon Tan, sub-lith
Brecc.	Slightly porous	A little quartz	Silurian	Yl. gr.	Niagaran	White	Wh-buff gr.	Yl-brn, f. Wapsipinicon	Wh-lt. gr
Silurian	Silurian	Niagaran	Ended in Silurian	Lt. gr		Niagaran White, slightly cherty	Niagaran Wh, a little buff gr	Gr Niagaran	Lt. buff Niagaran
Ended in Silurian	Maquoketa	Kankakee Edgewood Maquoketa		Niagaran Edgewood Maquoketa	Buff Kankakee Edgewood Maquoketa	Kankakee Edgewood Maquoketa	Kankakee Edgewood Maquoketa	Wh-lt gr F-vy f. Lt gr Buff + brn Kankakee No sample Edgewood Maquoketa	Wh. f. Some pyrite Kankakee Edgewood Maquoketa

5E 6E 7E 8E 9E

11N. 10N. 9N. 8N.

Peoria

Depth below ground surface to top of the Silurian (Niagaran)

857'	944	935	948	750	900	730	793	775	785

Depth below ground surface to top of the Galena Dolomite

—	1373	—	—	1115	1373	1195	1784	1385	—

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
SE, SE, SW 27, 8N, 5E	SW, SW, SE 6 8N, 6E	NE, SE, NE 10 8N, 6E	SW, NW 17 8N, 6E	NW, NE, SW 7 9N, 5E	NE, NE, NW 31 10N, 8E	SE, SE, SE 13 11N, 6E	NE, NE, NE 13 11N, 7E	SE, NE, SE 3 11N, 8E	W½, W½, NW 4 11N, 8E

Limestone
Dolomite
Siltstone
Shale
Cherty
Sandy
Silty
Argillaceous
Porous or vesicular

FIGURE 2

PEORIA CO. WELL RECORDS BASED ON SAMPLE STUDIES

JFL 2-1965

KEUFFEL & ESSER CO. MADE IN U.S.A. — STANDARD @ CROSS SECTION 10×10 TO THE INCH