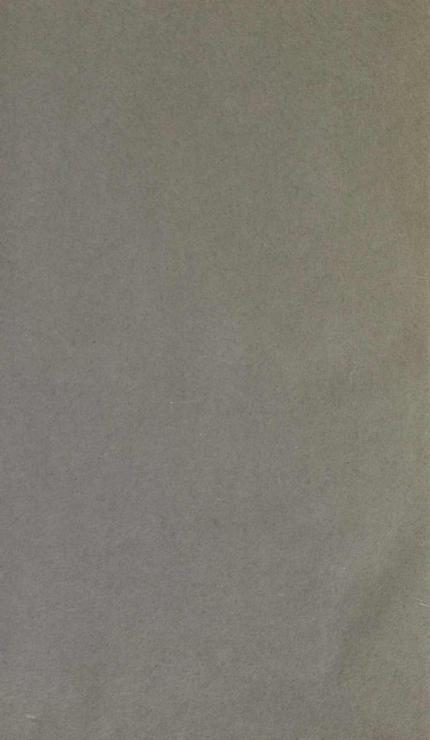
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ILLINOIS.GEOLOGICAL SURVEY.

ABSTRACT

OF A

REPORT ON ILLINOIS COALS;

WITH

DESCRIPTIONS AND ANALYSES,

AND A

GENERAL NOTICE OF THE COAL FIELDS.

[PUBLISHED BY ORDER OF THE GOVERNOR.]

BY J. G. NORWOOD,

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JUN 8 1935

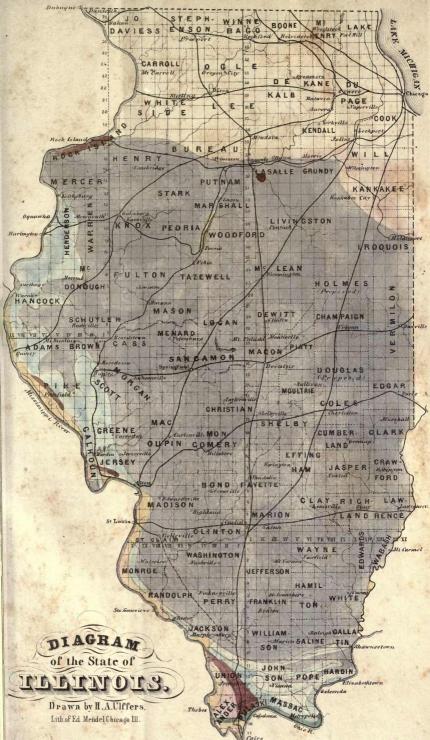
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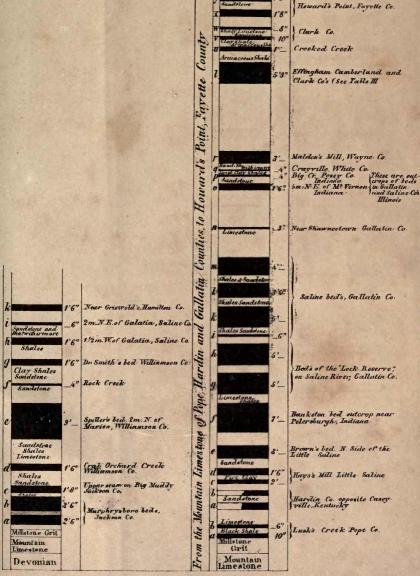
CHICAGO DAILY PRESS STEAM PRINTING HOUSE, 45 CLARK STREET.

1858

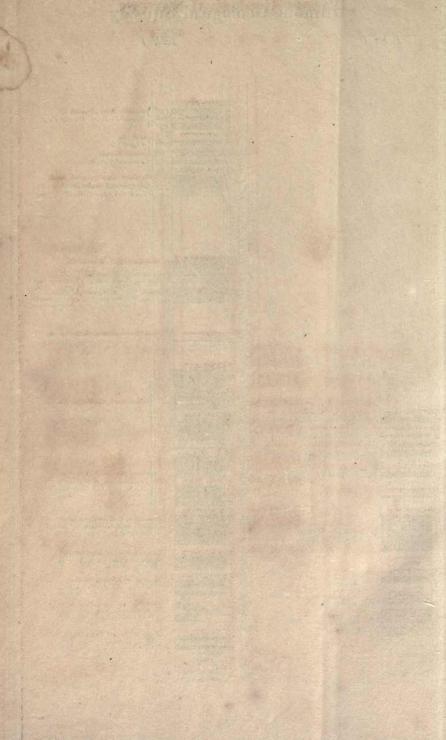
Gellew - Allewial, Pritt = Selunian. Indeku Red = Klevonekan. Blue = Carboniferous Simo Light Sepila - millstone Grit Dank " - Coal measures. Green = Sortian.

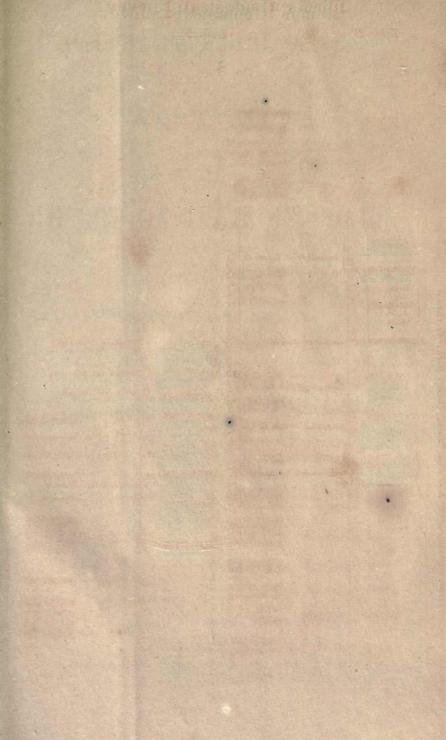


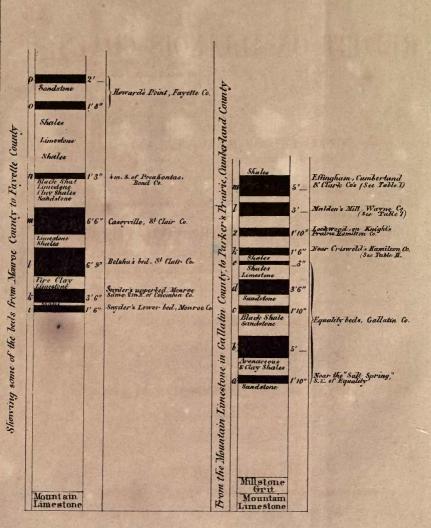




From the Devil's Backbone, Jackson County, to Humitton County







ILLINOIS GEOLOGICAL SURVEY.

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BY J. G. NORWOOD, M. D., STATE GEOLOGIST.

CHICAGO:

CHICAGO DAILY PRESS STEAM PRINTING HOUSE, 45 CLARK STREET.

SULOD BROWNING TO THE SER.

Springfield, Illinois, August 7th, 1857.

HIS EXCELLENCY, W. H. BISSELL,

GOVERNOR OF ILLINOIS:

SIR:

In compliance with your order to prepare and submit to you, for publication, an abstract of the observations made in the Illinois Coal fields during the progress of the State Geological Survey, I respectfully beg leave to report, that I have attended to that duty.

In the following pages you will find a succinct, but complete, description of every Coal that has been analyzed in the State Laboratory up to this date; together with numerous sections of the rocks with which the beds are associated in different parts of the State.

Hoping that it may prove satisfactory to you, I am, Sir,

With the highest respect,
Your Obedient Servant.

J. G. NORWOOD.

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ADEMINO TO 10.

ABSTRACT.

GALLATIN COUNTY.

SALINE MINES. UPPER BED. "LOCK RESERVE."

Bed four feet thick. Overlaid with six inches of black slate, which is capped with a bed of hard bluish-colored limestone, forming a good roof Coal dull to bright; hard; fracture hackly; layers thin; much sulphuret. of iron disseminated through it. Cleaves at angles of 50° and 130°.

	Specific Gravity, 1.30	
	Loss in coking, 39.2	
	Total weight of coke, $60.8 = 100.0$	
Analysis:-	-Moisture,	- 8.5
	Volatile matters,	30.7
	Carbon in coke,	- 57.8
	Ashes,	3.0
	THE RESIDENCE OF THE PARTY AND SHAPE AND APPROPRIES.	100.0
	Carbon in the coal, 66.30	
	THE WAS TO SELECT THE STATE OF	
	and the second s	
	SALINE MINES-UPPER BED.	
	Thickness, four feet.	
	Loss in coking, 42.4	
	Total weight of coke, 57.6 = 100.0	
Analysis	-Moisture,	- 2.6
a de despit	Volatile matters,	39.8
The state of	Carbon in coke,	- 56.1
	Ashes,	1.5
		100-0
	Carbon in the coal 58.85	,

SALINE MINES, FIVE FEET SEAM.

Bed five feet thick. Coal hard; compact; bright; occasionally slightly iridescent; fracture hackly; layers thin. Contains thin vertical seams

of sulphuret of iron.—Covered with a roof of dark-colored shale. The floor was not exposed when the examinations were made.

Specific gravity, 1.2925	Kin in			
Loss in coking, -	137	1-2-	100	40.8
Total weight of coke,-	4 10			59.2 = 100.0
Analysis.—Moisture,	ik i	Cont.		8.0
Volatile matters, -	1+ 1			32.8
Carbon in coke,	100	-19. 7. (*)		55.5
Ashes,				3.7
Carbon in the coal, 63	10	Addas		100.0

SALINE MINES, SECOND BED.

Bed three feet six inches thick. Coal bright; hard; rather brittle; layers thin, and separated with carbonaceous clod. Contains vertical seams of carbonate of lime. Cleavage cubical.

	Specific gravity, 1.28	392	DE COM	Escal)	100		
	Loss in coking,	36.8			Land Mar		
	Total weight of coke,	63.2 =	100.0	100	10		
Analysis	-Moisture,					6.5	
	Volatile matters,		Total			30.3	
	Carbon in coke,	1		189		55.2	× ih
	Ashes,			1200 (1)		8.0	
	Carbon in the coal, 6	30.7					100.0

BOWLES' MINE .- " MASON ENTRY."

Bed three feet six inches to four feet in thickness. Overlaid with a few inches of shale, which is covered with two feet six inches of limestone, forming a good roof. Underlaid with fire clay. Coal hard and compact; bright; in thin layers, with a very small amount of sulphuret of iron disseminated through the joints. Swells up and spatters in coking.

	Specific gravity, 1.303	3						P
	Loss in coking,	39:	8	Salah at			W	
	Total weight of coke,	60.	2 =	100.0				
Analysis	-Moisture,	-			-	4.	2.0	
	Volatile matters, -			1	- 11	AD.	37.8	
	Carbon in coke, -						53.2	
11 1 1 1 1 1	Ashes (white),			First.	20	- 連	7.0	SIPTA
es la idea	Carbon in the coal	in!					(F-581)	100.0

EQUALITY .- (LOWER BED.)

This bed is worked in the river bottom, at the old "Hicks Mill." The shaft is about fifty feet in depth. Thickness of the bed five feet. Coal bright; hard; compact; with numerous carbonized coal plants between the layers. Overlaid with black slate. Floor not ascertained, because of water in the shafts.

Specific gravity, $1\cdot2953$ Loss in coking, $35\cdot8$ Total weight of coke, $64\cdot2=100\cdot0$

AnalysisMoisture,	1	44.					1.2	
Volatile matters,				-			34.6	Charles I
Carbon in coke, -			2000	- 100		146	52.2	
Ashes,	-12						12.0	
Carbon in the coal,	58.2	*			99	XX	6.4	100.0

EQUALITY .- (TOP SEAM.-" MARTIN'S.")

Bed three feet six inches thick. Coal very bright; hard; compact; fracture even; layers thick, with partings of carbonaceous clod, and occasional vertical streaks of carbonate of lime. Cleavage rhomboidal. Overlaid with black slate, containing nodules and large masses of "bastard" limestone. Underlaid with clay and shales.

Specific gravity, 1.2758

Loss in coking, 41·38
Total weight of coke, 58·62 = 100·0

Analysis.—Moisture, - - - 2·80
Volatile matters, - - - 38·58
Carbon in coke, - - - 51·92
Ashes (drab), - - - 6·70
Carbon in the coal, 62·5

EQUALITY (SAME BED.)

Specific gravity, 1.3054
Loss in coking, 37.7
Total weight of coke, 62.3 = 100

AnalysisMoisture,					5.7
Volatile matters,	figure.				32.0
Carbon in coke,	1 10	THE SECOND	pir de	17. 16	59.8
Ashes,	S-1526-	distriction.	· vale	AND THE	2.5
Carbon in the coal,	62.5	No. of the		white	1000

EAGLE CREEK MINE.

Thickness of the bed four feet six inches. Overlaid with ten inches of black slate, which is capped with clay shale, overlaid with eight feet of thin-bedded sandstone. Coal, in general appearance, bright; hard; compact; fracture even; layers thick, alternately bright and dull, and occasionally separated with carbonaceous clod. Contains short thin vertical seams of carbonate of lime.

Specific gravity, 1·2364
Loss in coking, 37·0
Total weight of coke, 63·0 = 100·0

Analysis:—Moisture, - - - - 1·0
Volatile matters, - - - - 36·0
Carbon in coke, - - - - 57·2
Ashes (gray), - - - 5·8
Carbon in the coal, 67·01

SALINE COUNTY.

COAL BRANCH OF BANKSTON CREEK.

Bed seven feet thick. Overlaid with one foot of black slate, and that with seven feet of bluish limestone, forming a good roof. Floor not ascertained. Coal variable, from dull to bright; hard; compact; fracture uneven; layers thick, with thin seams of sulphuret of iron between them. The joints contain, occasionally, vertical streaks of carbonate of lime.

Specific gravity, 1 2873
Loss in coking, 39 8
Total weight of coke, 60 2 == 100 0

Analysis:—Moisture, - - - 5 3
Volatile matters, - - - 34 5
Carbon in coke, - - 50 6
Ashes, - - - 9 6
Carbon in the coal, 59 0

"HAYS' MILL,"-" LITTLE SALINE."

"At Hays' Mill, on the Little Saline," there is a coal seam in the bed of the creek, thickness unknown, as it has not been cut through. Its roof is a bed of fire clay, twenty-two inches thick. The roof of this bed is sandstone. Dip. 5°. N. W."—Henry Pratten's Notes, 1853.

Water of the	Specific gravity, 1.49.	55	1
1	Loss in coking,	32.40	期的
	Total weight of coke,	67.60 = 100.0	
Analysis:-	-Moisture,		•

Analysis: Moisture,		4.1
Volatile matters,	and the state of t	28.3
Carbon in coke, -		57.6
Ashes (dark red),		10.0
Carbon in the goal	K7 - A	100.0

WILLIAMSON COUNTY.

DR. SMITH'S MINE.

Thickness of bed one foot six inches. Coal dull; fracture hackly; layers thin, and separated with carbonaceous clod. The vertical joints contain plates of carbonate of lime. There is in this bed a seam of light-colored iron pyrites, which was mistaken for silver by those interested in the land. "Cokes badly."—H. P.

Carbon in the coal, 56.27

SPILLER'S MINE .- TWO MILES NORTH OF MARION.

Bed nine feet thick, with a band of iron pyrites three inches in thickness near the bottom of the seam. Overlaid with four feet of slate, which is capped with a bed of limestone. This magnificent coal seam has only been worked by stripping. Coal bright; iridescent; brittle to hard; layers thick, and separated with carbonaceous clod. Contains a few vertical seams of carbonate of lime, and a few vertical plates of sulphuret of iron.

Specific gravity, 1·2825 Loss in coking, 43·1 Total weight of coke, 56·9 = 100·0

Analysis:	-Moisture, -	6.2
PANOL TO A	Volatile matters,	36.9
A Contract	Carbon in coke,	54.9
	Ashes,	2.0
	Carbon in the coal, 57.5	100.0

JOHNSON COUNTY.

JOEL JOHNSON'S COAL BED.

Coal dull; soft; fracture uneven; layers thin and easily separable, with carbonaceous clod between them. Joints stained with oxide of iron. This bed of coal is exposed in the bottom of a creek in the N W ½ of Sec 13, T 12 S, R 3 E. Thickness not known. Where it outcrops, it could only be worked by "stripping" for an area of many acres. The coke is good.

Specific gravity, 1.4446
Loss in coking, 25.06
Total weight of coke, 74.94 = 100.00

Analysis:-Moisture,	P		SPACE	12 12	1.60
Volatile matters,					23.46
Carbon in coke, -	1	76			47.84
Ashes (white,)	1.7	- 1			27.10
Carbon in the coal	61.9				100.00

JACKSON COUNTY.

MURPHRYSBOROUGH BED .- "BIG MUDDY."

This bed varies in thickness from seven feet six inches to nine feet. It is divided by a seam of black shale, from one foot eight inches to two feet in thickness. The average depth of the coal is six feet. Coal bright; hard; fracture hackly; layers separated with carbonaceous clod. Contains a few short vertical seams of carbonate of lime. Cleavage rhomboidal. Overlaid with twenty-two feet six inches of shales, and underlaid with clay.

Specific gravity, 1.2933
Loss in coking, 37.7
Total weight of coke, 62.3 = 100.0

Analysis :-	-Moisture,	6.5
	Volatile matters,	31:2
	Carbon in coke,	60.8
	Ashes,	1:5
	Carbon in the coal,	100.0

HAMILTON COUNTY.

SHASTEEN'S MINE.

Thickness one foot six inches. Overlaid with black slate. Floor not ascertained. Coal rather dull, with a few bright spots; hard; compact; fracture even; layers alternately thick and thin. Contains a few vertical seams of carbonate of lime, and a very small amount of sulphuret of iron in the horizontal partings.

	Specific gravity, 1.3233	1
	Loss in coking, 38.94	
	Total weight of coke, 61.06 = 100.00	Large Service
Analysis :-	-Moisture,	5.30
	Volatile matters,	33.64
	Carbon in coke,	53.56
	Ashes (pale brown),	7.50
	A company of the second	100.00
	Carbon in the coal, 54.85	STANDARD CO.

PERRY COUNTY.

COL. ASHLEY'S DU QUOIN BED.

Thickness of coal six feet six inches. Overlaid with bituminous shale. Underlaid with fire clay. Coal, very bright; hard; compact; fracture even; layers thick, and separated with very thin streaks of carbonaceous clod. Contains a few vertical plates of carbonate of lime, which are, however, very short. Swells up and spatters in coking.

Specific gravity, 1·246 Loss in coking, 48·9 Total weight of coke, 51·1 = 100·0	As you	wit.
Analysis:Moisture		8.5
Volatile matters,		40.4
Carbon in coke,		48.1
Ashes (light gray),	1	3.0
Carbon in the coal 59.6		1975 10 116

MONROE COUNTY.

SNYDER'S MINES .- UPPER BED.

Thickness of coal three feet six inches. Overlaid with a bluish-colored micaceous sandstone. Rests on a bed of white clay. This bed underlies the beds worked at Belleville, St. Clair county. Coal bright and dull in alternating layers; hard and brittle; fracture even; layers alternately thick and thin, with carbonaceous clod between them. The vertical joints contain carbonate of lime, stained with oxide of iron. Cleavage vertical.

Specific gravity, 1.246Loss in colving, 42.9Total weight of coke, 57.1 = 100.0

Analysis:-	-Moisture, -	1000	107.0	15%	1		6.7	
	Volatile matters,	-1	-	-		104	36.2	
	Carbon in coke, -) -					52.6	
	Ashes (white),	-	- 40		-	Sales	4.5	
				*****			04	100.0
12 1 1 1 1	Carbon in the coal	58.7			A PARTY		1911	

SNYDER'S MINES .- LOWER BED.

Thickness one foot six inches. Overlaid with seventeen feet of blue shale, which is capped with five feet of blue micaceous sandstone. This is the lowest bed in Monroe county, and underlies the beds worked in St. Clair county.

Specific gravity, 1.2825
Loss in coking, 41.0
Total weight of coke, 59.0 = 100.0

Analysis:	Moisture,	9.0
	Volatile matters,	32.0
	Carbon in coke,	52.2
	Ashes,	6.8
Tall & Tall	John in the seal 1999	100.0

ST. CLAIR COUNTY.

CASEYVILLE MINES .- "ILLINOIS COAL COMPANY."

Thickness of coal, six feet. Overlaid with ten inches of slate, which is capped with over five feet of limestone. Underlaid with fire clay. Coal bright; hard; fracture even; layers alternately thick and thin, and separated with very thin seams of carbonaceous clod. The joints contain thick vertical seams of carbonate of lime. This bed is troubled with "horse-backs," and is occasionally interrupted with "clay slips." In some of the entries "creeps" occur. It is one of the best mines in the State, so far as locality and facility for working are concerned.

	Specific gravity, 1.304	AND THE RESERVE
BOY M	Loss in coking. 39.8	, k
P-501	Total weight of coke, $60.2 = 100.0$	THE STREET
Analysis :-	-Moisture,	6.0
	Volatile matters,	33.8
AN INCHES	Carbon in coke,	55.2
The state of the s	Ashes (pale red),	.5.0
		100.0
	Carbon in the coal, 55:3	01

ANDREAS PFEIFFER'S PLACE.

Thickness of coal, eight feet. Overlaid with one foot of bituminous slate, which is capped with six feet of limestone. Underlaid with fire clay. Coal dull on its vertical face; bright and iridescent in the horizontal seams; brittle; fracture uneven; layers thick. It contains a few short vertical plates of carbonate of lime.

	Specific gravity, 1.293	AD TO SERVICE
	Loss in coking, 44.3	
	Total weight of coke, 55.7 = 100.0	turb .
Analysis :-	-Moisture,	8.5
	Volatile matters,	35.8
	Carbon in coke,	51.2
	Ashes (red),	4:5
	Carbon in the coal 57:5	100.0

BELLEVILLE BED .- VARIOUS OPENINGS.

Thickness of coal varies from six to eight feet. Overlaid with a thin seam of shale, which is capped with four feet of limestone. Underlaid with fire clay. Coal very bright; hard; compact; layers thin, and not easily separable, with a small amount of carbonaceous clod between them. Contains thin vertical seams of carbonate of lime, which are very irregular in their distribution. Coke good.

L.Young	Specific gravity, 1.268	white the times is
	Loss in coking, 45.0	the Laboratory
	Total weight of coke, 55.0 = 100.0	and the same and
Analysis:-	-Moisture,	5.5
	Volatile matters,	39.5
	Carbon in coke,	49.6
A 12	Ashes (gray),	5.4
	Carbon in the coal, 54.6	100.0

BELSHA'S MIDDLE DRIFT.

Thickness of the coal, six feet nine inches. Overlaid with one foot nine inches of shales, which are capped with a bed of limestone. Underlaid with a few inches of fire clay, which rests on a bed of gray marl. Coal bright, with thin vertical seams of carbonate of lime.

	Specific gravity, 1.2966	
	Loss in coking, 43.66	
	Total weight of coke, 56.34 = 100.00	
Analysis:-	-Moisture,	8.10
	Volatile matters,	35.56
44 5 15 5	Carbon in coke,	47.74
	Ashes (gray),	8.60
	Carbon in the coal, 54.50	100.00

DILG & KEMPFF'S MINE.

Thickness of the bed, seven feet. Overlaid with three inches of coal shale, which is capped with fifteen feet of limestone. Underlaid with fire clay. Coal (top bed) bright; hard; compact; fracture conchoidal; layers thick. Contains thin seams of carbonate of lime in both the vertical joints and horizontal partings.

'(Top Coal.)

学 的时代	Loss in coking, 45.54		
	Total weight of coke, 54.46 = 1	.00.00	
Analysis:-	-Moisture,		5.10
100	Volatile matters,		40.44
	Carbon in coke,		47.66
ELT DE BUIL	Ashes (white),		6.80
THE RESERVE		THE RESERVE OF THE PARTY OF THE	100.00

Carbon in the coal, 59.09

Specific gravity, 1.2843

DILG & KEMPFF'S MINE.

(Middle Coal.)

	Specific gravity, 1.3847	
	Loss in coking, 42.38	
The work	Total weight of coke, 57.62 = 100.00	
Analysis :-	-Moisture,	4.20
	Volatile matters,	38.18
	Carbon in coke,	49.02
au-	Ashes (white),	8.60
	Carbon in the coal, 54 39	100.00

DILG & KEMPFF'S MINE.

(Bottom Coal.)

Coal rather dull; hard; compact; fracture even; layers thin and not easily separable, with occasional thin seams of carbonaceous clod between them. Contains thin vertical seams of carbonate of lime. Coke good.

	Specific gravity, 1:3531	
	Loss in coking, 39.63	Strell Land
	Total weight of coke, $60.37 = 100.00$	AMELICA SALES
Analysis :-	-Moisture,	4.00
	Volatile matters, - ,	35.63
	Carbon in coke,	- 36.77
	Ashes (gray),	23.60
150	Carbon in the coal 49:38	100.00

W. B. CHURCHILL'S MINE.

Thickness of the bed, six feet. Coal bright; hard; fracture even; layers thick, with partings of carbonaceous clod. Contains a few thin vertical seams of carbonate of lime, and thick horizontal ones of sulphuret of iron. Cleavage vertical. The undulation in this bed will not interfere, materially, with its being worked profitably. Overlaid with two inches of clay, capped with three feet of limestone. Underlaid with fire clay.

Con V	Specific gravity, 1.315	At a realist of the
	Loss in coking, 45.40	
B. Villand	Total weight of coke, 54.60 = 100.00	
Analys	sis:—Moisture,	- 6.00
	Volatile matters, - <	39.40
	Carbon in coke,	45.70
Rep. 19	Ashes (white),	8.90
	Carbon in the coal, 52.63	100.00

MADISON COUNTY.

JEFFREY'S MINE.

Thickness of the bed, two feet six inches. Coal bright; hard; compact; fracture tolerably even; layers thin, regular, and separated, occasionally, with very thin seams of carbonaceous clod. There is but little carbonate of lime in the joints. Overlaid with eleven inches of black slate, which is capped with shales. Underlaid with fire clay.

	Specific gravity, 1 2859 Loss in coking, 48.75 Total weight of coke, 51 25 = 100 00	
Analysis:-	-Moisture,	11.00
	Volatile matters,	37.75
	Carbon in coke,	47.35
	Ashes (gray),	3.90
	Carbon in the coal, 51:48	100.00

RICHARD CARTLIDGE'S MINE.

Thickness of the coal varies from four feet to six feet. Coal bright; brittle; layers thin, and alternately dull and bright, with occasional sepa-

rations of carbonaceous clod; easily separable in the horizontal partings. Fracture even to hackly. Contains thin vertical seams of sulphuret of iron. Overlaid with six inches of marly clay, which is capped with ten feet of limestone. Underlaid with fire clay.

Specific gravity, 1·3137

Loss in coking, 44·39

Total weight of coke, 55·61 == 100·00

Analysis:-Moisture, -						8.30
Volatile matters,	- 507-	IND	10	. Elvar	g- ollio	36.09
Carbon in coke, -	400	24-	1	nel.	66 e's	45.01
Ashes (gray), -	-	10 10	-		giant da	10.60
						100.00
Carbon in the coal,	50.38					

CHARLES GROSHANG'S MINE.

Thickness of the bed, from two feet six inches, to three feet. Coal alternately bright and dull; hard; fracture hackly; layers thick, wavy, and separated with thin layers of carbonaceous clod.

Specific gravity, 1·3221 Loss in coking, 37·55
Total weight of coke, 62·45 = 100·00

Analysis: - Moisture, -		-, 1	dend	onte		-150	07	7.50
Volatile matters,		195			-			30.05
Carbon in coke,	-					-		54.85
Ashes (brown),	1	Tion	100	S	4			7.60
Carbon in the coa	1, 56	.27						100.00

DUNFORD'S MINE - (NEAR ALTON.)

THE RESIDENCE OF THE PARTY OF T

Coal bright; hard; compact; fracture uneven; layers thick, with partings of carbonaceous clod. Contains thin vertical seams of carbonate of lime.

Specific gravity, 1.2587
Loss in coking, 47.26
Total weight of coke, 52.74 = 100-00

Analysis:-Moisture, -	and 40	1		160	- 10	-	5.80
Volatile matters,	-1.9	-101	in.	3.	215		41.46
Carbon in coke, -				Elas.		-	47.44
Ashes (gray), -				200			5.30
Carbon in the coal,	54.62						100.00

EMERSON & RYDER'S MINE.

Specific gravity, 1.3191 Loss in coking, 42.60 Total weight of coke, 57.40 = 100.00

Analysis: - Moisture,		-		-					10.30
Volatile matters, -	-				-		-		32.30
Carbon in coke,	·	-		-		-		-	53.90
Ashes (reddish brown),	-		-				-		3.50
									100.00
Carbon in the coal, 54.39)								

"WOOD RIVER COAL MINING COMPANY."

Thickness of the bed, six feet. Overlaid with a few inches of clay shale, capped with fourteen feet of limestone. Underlaid with fire clay. Troubled with "horse-backs;" not so much, however, as to prevent the mines from being worked profitably. It is one of the best mines in Madison county.

(Top Coal.)

Coal tolerably bright; brittle; layers thin, and separated with carbonized coal plants. Fracture even. Contains rather thick vertical seams of carbonate of lime, and a few streaks of sulphuret of iron between the horizontal layers.

Specific gravity, 1.2916 Loss in coking, Total weight of coke, 44.7 = 100.0 Analysis :- Moisture, Volatile matters. Carbon in coke, -Ashes (gray), -Carbon in the coal, 45.45

" WOOD RIVER COAL MINING COMPANY."

(Middle Coal.)

Coal bright; brittle; fracture even; layers thin, and not easily separated, with very little carbonaceous clod between them. Contains thick vertical plates of carbonate of lime, and a few thin ones of sulphuret of iron.

Specific gravity, 1.3158								
Loss in coking,	50.0							
Total weight of coke,	50.0 = 100.0							

Analysis:-Moisture, -	when well at 160	10.0
Volatile matters,	March and cook past ; fixetti	40.0
Carbon in coke,	tall to strong ton 14 more	42.7
Ashes (pink), -	deligner deal between an	7.3
	The state of the s	100.0

Carbon in the coal, 49.08

COOK'S MINE.

This is the same bed that is worked by the "Wood River Coal Mining Co.," and the appearance of the coal is the same. It differs slightly, however, in composition.

Specific gravity, 1.3017Loss in coking, 51.15Total weight of coke, 48.85 = 100.0

Analysis :-	-Moisture, -		. [-	8.00	
	Volatile matters,	5133	E		(No				48.15	
	Carbon in coke,	of the same		-			-		38.85	
town age and	Ashes (gray), -	ALL CONTRACTOR	1110			-		Mari M	10.09	
	Carbon in the coa	l. 47·1							1	100.00

EDWARDSVILLE MINE.

This bed has not been examined by any one connected with the survey. The specimens brought to the state laboratory are bright; brittle; fracture uneven; layers alternately thick and thin. Contains vertical seams of carbonate of lime.

Specific gravity, 1·346
Loss in coking, 46·85
Total weight of coke, 53·15 = 100·00

Analysis: - Moisture,	ate.	*J 8			10.00
Volatile matters,	1			. 6	36.85
Carbon in coke,	D.	1516			49.75
Ashes (purplish),					3.40
Carbon in the coal, 5	3.07	10 est 110eo			100.00

RANDOLPH COUNTY.

RITCHIE'S COAL BED.

Thickness four feet six inches. Overlaid with limestone. Underlaid with clay. Coal hard and compact; fracture slightly conchoidal. Contains very minute seams of carbonate of lime in the joints, and thin seams of sulphuret of iron, disposed both vertically and horizontally.

Specific gravity, 1·3021
Loss in coking, $46\cdot1$ Total weight of coke, $53\cdot9 = 100\cdot0$

Analysis:Moisture,		enta.	d'anc			-	8.0	
Volatile n	natters,	200		4	-		38.1	
Carbon in	coke,		- 101010	K- 1	401	10	50.9	
Ashes (ve	ry dark	gray),	JUQ BE		- //		3.0	
Carbon in	the co	al, 54·1	7			0010	A PARTY	100.0

CALHOUN COUNTY.

JOHNSON'S PLACE.

Thickness of the bed, two feet four inches. Overlaid with six inches of black slate, passing into gray shale. Floor not ascertained. Coal dull; brittle; fracture tolerably even; layers indistinct; slightly iridescent; joints much siained with oxide of iron, derived, probably, from the decomposition of a sulphuret of that metal. Coke tolerably good.

	TELL (1997) - 10 1/2 1/2 4/2 4/2 (1997) TELL (1997) TE
	Specific gravity, 1.2631
	Loss in coking, 45.7
	Total weight of coke, 54.3 = 100.0
Analysis:-	-Moisture, 4.8
	Volatile matters, 40.9
	Carbon in coke, 49·1
	Ashes (brown), 5.2
	Carbon in the coal, 53.06

MACOUPIN COUNTY,

HODGES' CREEK BED.

Thickness of the bed, five feet six inches. Overlaid with one foot of black slate, which is capped with two feet of bluish-colored limestone. Underlaid with shale. Coal bright; hard; compact; fracture uneven; layers thick, with partings of carbonaceous clod. Contains vertical seams of carbonate of lime. Coke good.

Specific gravity, 1.2797Loss in coking, 43.48Total weight of coke, 56.52 = 100.00

Analysis:-Moisture, -		-	-		-	-		-	6.50	
Volatile matters,			-	-			2		36.98	- 1
Carbon in coke,		305	141		• 0				48.72	
Ashes (brown),		-		-			-		7.80	
										100.00
Carbon in the coa	al,	53.8								

PIKE COUNTY.

HOUSEWORTH'S COAL BED.

Thickness one foot six inches. Overlaid with clay, containing masses of rounded limestone. Underlaid with a bed of bluish-colored clay. Coal rather dull; brittle; layers alternately thick and thin; fracture uneven. Contains a great quantity of sulphuret of iron mixed with coal dust, disposed horizontally.

Specific gravity, 1·2203 Loss in coking, 49·5 Total weight of coke, 50·5

Total weight of coke, 50.5	
Analysis:—Moisture,	5.0
Volatile matters,	44.5
Carbon in coke,	45-5
Ashes (white),	5.0
Carbon in the coal 52.0	1000

JACKSON'S MINE.

Thickness of bed one foot six inches, to one foot eight inches. Coal dull; brittle; fracture exceedingly irregular; layers thin, and separated

with carbonized coal plants. This bed is eight miles north of Pittsfield. The analysis was made of a portion of the bed that resembles, in appearance, carbonized wood. The bituminous portion is like Houseworth's coal.

10-11-00	Specific gravity, 1.7784	
	Loss in coking, 14·1	DATE THEORY OF THE
aveint an	Total weight of coke, 85.9 = 100.0	le mir bissult
Analysis:-	-Moisture,	2.0
	Volatile matters,	12.1
	Carbon in coke,	56.9
	Ashes (gray),	29.0
1 1 1 10 w	Carbon in the coal, 57.5	100.0

GREEN COUNTY.

DRAKE'S MINE.

Thickness of the bed, from two feet four inches, to two feet eight inches. Coal rather dull; brittle; fracture hackly; layers thin, and separated with carbonaceous clod. Contains vertical plates of carbonate of lime, which are confined principally to a thin bright band of the bed. There is a little sulphuret of iron disseminated through the mass of coal. Coal good, but dirty.

Specific grav	ity, 1.308	3		
Loss in cokin	g, 4	0.47		
Total weight	of coke, 5	9.53 = 10	00.00	
Analysis:-Moisture,		. ,	STORY.	6.00
Volatile matt	ers, -	6-19	Manager 1	34.47
Carbon in col	ke, -	-039	- MID-/*	48.93
Ashes (gray),		A19 44	p lo negov	10.60
Carbon in the	e coal, 59	79		100.00

SANGAMON COUNTY.

The beds of coal at present opened in this county vary from one foot eight inches, to two feet in thickness. All the coal is obtained by "stripping," or, to use another term, by quarrying. Fourteen or fifteen openings have been made. The coal taken from most of them is of the same quality.

SANDERS' COAL.

Coal rather dull; hard; somewhat brittle; fracture hackly; layers thick, with partings of carbonaceous clod. Contains vertical seams of both carbonate of lime and sulphuret of iron; also, a few thin horizontal layers of iron pyrites.

jois or mon	PJ 11000 PARTY PARTY PARTY TO THE PROPERTY THE	III lord	
daldw o	Specific gravity, 1·2463 Loss in coking, 48·14 Total weight of coke, 51·86 = 100·00		oD da le sjadeji
Analysis:-	-Moisture,	5:60	
	Volatile matters,	42-54	
	Carbon in coke,	42.86	
	Ashes,	9.00	
	Carbon in the coal, 50·11	7	100.00
	Char dest a sequence		
	MINE NEAR SPRINGFIELD—(Owner not known).		
	Specific gravity, 1.2839		
	Loss in coking, 53.9		
	Total weight of coke, 46.1 = 100.0		1
Analysis:-	-Moisture,	12.0	
ALL SERVICE	Volatile matters,	41.9	
	Carbon in coke,	42.8	
	Ashes (dark gray),	3.3	THE WHEN
	Carbon in the coal, 45.7	10	100.0
		, with	
•	dos I , quives sobre		
	puffenberger's mine (near springfield.)*		
	Specific gravity, 1.26		
0.75	Loss in coking, 50.68	Mi-GH	
	Total weight of coke, 49.32=100.0		
Analysis:	-Moisture	11.50	
7. Villandan	Volatile matters,	39.18	
	Carbon in coke,	43.62	
	Ashes (dark brown),	570	
	Contact to the seal 1000		100.00
	Carbon in the coal, 49.8		

^{*}Note.—This coal contains a great deal of sulphuret of iron.

SCHUYLER COUNTY.

PLEASANT VIEW.

Thickness of the coal 4 feet. Overlaid with sixteen feet of shale. Underlaid with fire clay. Coal bright; hard; fracture conchoidal; layers thin, some of them separated with extremely thin seams of carbonaceous clod. Contains a few vertical seams of carbonate of lime, which are slightly stained with oxide of iron. Coke good.

Specific gravity, 1·286
Loss in coking, 40·60
Total weight of coke, 59·40 = 100·00

Analysis: Moisture,						6.0
Volatile matters,	-	1	1			34.6
Carbon in coke, -	-	12.30	Dealt	1,10121	10	52.9
Ashes (deep red),			-	•		6.5
Carbon in the coal,	57.8					

MINE NEAR RUSHVILLE.

Thickness of coal, four feet. Overlaid with three feet of black slate, which is capped with one foot of limestone. Coal rather dull; hard; somewhat brittle; fracture hackly; layers thin, with partings of carbonaceous clod. Contains irregular seams of carbonate of lime, stained with oxide of iron.

Specific gravity, 1:303
Loss in coking, 41:6
Total weight of coke, 58:4 = 100:0

Analysis: - Moisture, -				Dirti.	divin	s after	4.5
Volatile matters,			· ·		Shrine		37.1
Carbon in coke,	N. S			2000	3 4	WAN O	46.1
Ashes (white),	-					distri	12.3
Carbon in the coal	. 51	.79					100.0

SCOTT COUNTY.

EXETER MINES.

Thickness of beds, two feet eight inches. Overlaid with slate. Underlaid with eight inches of clay, and that with thick beds of limestone.

Coal bright; brittle, fracture uneven; layers alternately thick and thin, with partings of carbonaceous clod. Contains thin vertical seams both of carbonate of lime and sulphuret of iron. Coke very good.

Specific gravity, 1·288
Loss in coking, 42·37
Total weight of coke, 57·63 == 100·00

Analysis	:Moisture, ·	100		a co	-		12.10
202	Volatile matters,			-	-		30.27
111 475	Carbon in coke, -	70					50.13
	Ashes (red), -	TO STORY OF	W. H.		8.03	a shap	7.50
	Carbon in the coal,	52.42				STEELS.	100.00

SCOTT COUNTY.

BARKER'S COAL.

Coal bright; hard; fracture uneven; layers thin, and separated with carbonized fossil ferns. Contains thin vertical seams of carbonate of lime and sulphuret of iron.

Specific gravity, 1.2396Loss in coking, 42.8Total weight of coke, 57.2 = 100.0

Analysis:-	-Moisture,		5.5
	Volatile matters,		37.3
	Carbon in coke,	Tonck today	52.2
	Ashes (light brown),	a taid an	5.0
CH INTERIO	Carbon in the coal, 54.8	ed rela	100.0

FROST'S COAL.

Coal bright; hard; compact; layers thin, and separated with a little carbonaceous clod. Contains thin vertical seams of carbonate of lime and sulphuret of iron.

Specific gravity, 1·2883 Loss in coking, 46.37Total weight of coke, 53.63 = 100.00

Analysis: - Moisture,		-		•					-	8.50	
Volatile matters,	•				July					37.87	
Carbon in coke, -				-			4			46.53	
Ashes (red), -	-		-		-	-		-		7.10	
											100.00

Carbon in the coal, 51 83

ADAMS COUNTY.

HIGBY'S COAL.

Thickness of the bed, two feet six inches. Overlaid with fifteen feet of gray shale. Underlaid with fire clay. Coal dull; hard, fracture even; layers thin, with very thin seams of carbonaceous clod between them. This bed is occasionally three feet in thickness, and has a capping of six inches of blue clay, with a bed of black slate overlaying it. (Further investigation is needed to ascertain whether there are not two beds of coal in the localities where the investigations were made by Mr. Worthen.)

Specific gravity, 1 3354
Loss in coking, 48.4
Total weight of coke, 51.6 = 100.0

Analysis: Moisture,		Hexa		10.0
Volatile matters,	-		-	38.4
Carbon in coke,		0.00	-	41.2
Ashes (yellow),	114			10.4
Carbon in the coal, 48	3.			100 0

BASSETT'S COAL.

Thickness of the bed, from one foot four inches, to one foot six inches. Overlaid with one foot six inches of black slate. Floor not ascertained. Coal bright; brittle; fracture uneven; layers thick, and separated with a little carbonaceous clod. Contains a few very thin layers of sulphuret of iron, and some thin vertical seams of carbonate of lime.

Specific gravity, 1·2684

Loss in coking, 42·52

Total weight of coke, 57·48 = 100·00

Analysis:—Moisture,	-			-	9.20
Volatile matters,		1000			33.32
Carbon in coke,				-	51.48
Ashes (pale red),			 -		6.00
Carbon in the coal	55.	91			100.00

JERSEY COUNTY.

LANGLEY'S MINE.

Thickness of the bed, five feet. Overlaid with two feet of black slate, which is capped with three feet of limestone. Underlaid with fire clay. (The death of the Geological Assistant in the Illinois State Survey, Mr. Henry Pratten, prevents me from giving at present more than this paragraph contains. Mr. Pratten analyzed the coal, but I have been unable to find the analysis in the notes returned to my office.) In quality it very nearly resembles the Madison county coal.

VERMILION COUNTY.

PAYNE'S MINE.

Thickness of the bed, six feet six inches. Overlaid with clay and drift. Underlaid with one foot four inches of clay. Below this there is another bed of coal one foot six inches thick, underlaid with four feet of fire-clay. Coal dull; brittle; fracture hackly; layers thick, and separated with a small amount of carbonaceous clod. Contains numerous thick vertical plates of carbonate of lime; also, thin seams of sulphuret of iron, disposed both horizontally and vertically. The following analysis is of coal taken from the main entry, sixty feet from the outcrop.

Specific gravity, 1·26
Loss in coking, 46·1
Total weight of coke, 53·9 =100·0

Analysis :-	-Moisture,	us telaphil	271			8.7	
	Volatile matters,	pinel 2-5)		475		37.4	
	Carbon in coke,		-		day la	43.9	
	Ashes (gray),	-		-		10.0	. 2005
	Carbon in the coal.	50 38					100.0

PAYNE'S COAL - (OUT CROP.)

Specific gravity, 1.2833Loss in coking, 47.0Total weight of coke, 53.0 = 100.0

Analysis :- Moisture, -	40	THE S			5.1
Volatile matters,	-			-	41.9
Carbon in coke, -	16 -	1.00	-		47.5
Ashes (gray), -	-				5.2
Carbon in the coal,	55.5		Ava i	1	1000

. HENSON'S MINE.

Thickness of the bed, seven feet. Overlaid with a soft fossiliferous sandstone. Underlaid with fire clay. Coal bright and dull, in the alternate layers; layers thick, and separated with carbonaceous clod; hard; fracture hackly. Contains vertical seams of carbonate of lime, very numerous and irregularly distributed.

Specific gravity, 1·311
Loss in coking, 43·5
Total weight of coke, 56·5 = 100·0

Analysis	:Moisture,					9.0
	Volatile matters,			Jack .		34.5
	Carbon in coke,	1000		4.0		50.0
TaA NAME	Ashes, -					6.5
THE REAL PROPERTY.	Carbon in the coa	1, 58.8	3			100.0

LAFFERTY'S MINE.

Thickness of bed, six feet. Overlaid with blue calcareous clay shale. Underlaid with fire clay. Coal bright on a fresh fracture, but weathers with a dull surface; fracture hackly; hard and compact; layers separated with carbonized coal plants. Contains a few vertical plates of carbonate of lime.

Specific gravity, 1.28
Loss in coking, 44.3
Total weight of coke, 55.7 = 100.0

Analy	sis:—Moisture,	4			-	8.5	
	Volatile matters		. 14	81		35.8	
	Carbon in coke,				-	48.7	
	Ashes (gray),		1			7.0	***
	Carbon in the coal	1, 51.7				120	100.0

CAROTHERS' MINE.

Thickness of the bed, six feet six inches. Overlaid with a hard, dark-colored fossiliferous clay shale, and underlaid with one foot three inches of blue clay. Below this there is one foot four inches of coal, which is underlaid with fire-clay. Coal rather hard and compact; lustre bright; fracture somewhat conchoidal; layers thin, but do not separate easily, with carbonized coal plants between them. Contains thick vertical plates of carbonate of lime; and, also, an abundance of bright yellow sulphuret of iron, disposed both horizontally and vertically.

Specific gravity, 1.213

Loss in coking, 50.8

Total weight of coke, 49.2 = 100.0

Analysis : Moisture,			-		1		8.5	
Volatile matters,				-		-	42.3	
Carbon in coke,	-		7.1		-		46-2	
Ashes (grayish wh	ite),		SARO	21.14		-	3.0	
							1	0.00
Carbon in the coal	, 51.	1					4	

GILBERT'S MINE.

Thickness of the bed, six feet six inches. Overlaid with clay shale; underlaid with fire-clay. Coal rather dull; brittle; fracture tolerably even; layers alternately thick and thin. Contains thick vertical seams of carbonate of lime, with occasional lumps of sulphuret of iron in them; also, a great number of thin seams of the last named mineral, causing a reticulated appearance on one of the horizontal faces of the coal.

Specific gravity, 1.213

Loss in coking, 51.4

Total weight of coke, 48.6 = 100.0

	Total weight of c	oke,	18.6 =	= 10	0.0				
Analysis:-	-Moisture,	-				A regiga		8.0	
	Volatile matters,		- 10			-25 el		43.4	
	Carbon in coke,	-				-		45.6	
	Ashes, -				-		-	3.0	
	Carbon in the coa	ıl, —	-					11.	100.0

BUTLER'S MINE.

Thickness of the bed, one foot two inches. Overlaid with one foot ten inches of black slate, which is capped with limestone, (one foot of clay

shale intervening). Underlaid with six feet of fire clay. Coal rather dull; hard; brittle; fracture hackly; layers thin, with partings of carbonaceous clod. Contains a few thin vertical streaks of carbonate of lime. Cleavage cubical. Coke good. The bed is too thin to be mined profitably.

Specific gravity, 1·3943
Loss in coking, $40\cdot1$ Total weight of coke, $59\cdot9 = 100\cdot0$

Analysis: - Moisture,			Buch			6.0	
Volatile matters,		-			-	34.1	
Carbon in coke,	200			-		47.9	
Ashes (white),		-				12.0	
Carbon in the coal,	55.	7			- 1	nidk Blo-	100.0

LEONARD'S MINE.

Thickness of the bed, six feet. Overlaid with three feet of very compact calcareous shale. Underlaid with five feet of fire clay. Coal bright; rather hard; the horizontal arrangement of the layers hardly perceptible; intersected in all directions by thin vertical seams of carbonate of lime and streaks of sulphuret of iron; breaks in any direction rather than horizontally. Contains thick irregular seams of sulphuret of iron, and also of carbonized coal plants.

Specific gravity, 1:3127
Loss in coking, 45:57
Total weight of coke, 54:43 = 100:00

Analysis : Moisture,	-			-	6.40
Volatile matter	s, ·		- 30		39.17
Carbon in coke,	0.004	180 and	in Local		48.93
Ashes (white),	The second		-		5.50
Carbon in the c	ool 59.0				100.00

WILLIAMS' MINE.

Thickness of the bed, six feet six inches. Overlaid with a heavy bed of hard clay shale. Underlaid with fire clay. Two parcels of coal were examined from this mine. Of the first, coal bright; hard; compact; fracture tolerably even; layers quite thin, but not easily separated, with a

little carbonaceous clod between them. Contains thin vertical seams of both carbonate of lime and sulphuret of iron. Cleavage rhomboidal. This coal has a brilliant horizontal fracture. Of the second, coal bright; hard; fracture somewhat conchoidal; layers thick, and not easily separated, with a small amount of carbonaceous clod between them. Contains thick vertical plates of carbonate of lime, and also many thin ones of iridescent sulphuret of iron.

Specific gravity, 1·2247

Loss in coking, 49·15

Total weight of coke, 50·85 = 100·00

Analysis:	-Moisture,	O. Oiling	Kert ina			2.80
	Volatile matters,					46.35
	Carbon in coke,	Toping.	Marray I	40		45.85
	Ashes, -	4(4)2:00	the the		-	5.00
a select	Carbon in the coal	, 50.58	id the sail			100.00

ALEXANDER'S MINE.

Thicknes of the coal, between six and seven feet. Overlaid with yellow clay and gravel. Underlaid with fire-clay. Coal hard; dull; compact; fracture even; layers alternately thick and thin. Contains carbonate of lime and sulphuret of iron in thin vertical seams.

Specific gravity, 1.2636Loss in coking, 43.5Total weight of coke, 56.5 = 100.00

Analysis :-	-Moisture,				11		3.4	
	Volatile matters,		-				40.1	
	Carbon in coke,	Ľ.					40.5	
	Ashes, -						16.0	
	Carbon in the coal	, 50.	98			-		100.0

RUSSELL'S MINE.

Thickness of the coal, six feet six inches. Overlaid with clay shale; underlaid with fire clay. Coal dull to bright; moderately hard; layers alternately thick and thin, and separated with carbonaceous clod. Contains many thin plates of carbonate of lime, and a few seams of sulphuret of iron, both disposed vertically. Spatters in coking.

Specific gravity, 1.2148
Loss in coking, 49.0
Total weight of coke, 51.0 = 100.0

Analysis: Moisture,		-	4.16	-450	5.6
Volatile matters,	authors.			-	43.4
Carbon in coke,		-			39.0
Ashes (gray),				-	12.0
Carbon in the coal	X9 0				100 0

"CHICAGO AND DANVILLE COAL COMPANY,"

This is the same as "Payne's mine," of which two analyses have already been given—one from the outcrop, and one from coal taken from the mines at a point sixty feet within the main entry. The following analysis is of coal taken from the mine 400 feet from the outcrop. Thickness of the bed between six and seven feet. Coal bright; hard; compact; fracture uneven; layers thin and separated with carbonaceous clod. Contains vertical seams of carbonate of lime, and both vertical and horizontal streaks of sulphuret of iron.

Specific gravity, 1·2377
Loss in coking, 49·04
Total weight of coke, 50·96 = 100·00

Analysis : Moisture,					0.0	8.60
Volatile matters,		.43		- 0		 40.44
Carbon in coke,	-		2		-	-48.96
Ashes (gray),				•		2.00
Carbon in the coal	. 49.	3				100.00

INNIS COOK'S MINE.

Thickness of the bed, three feet six inches. Overlaid with twelve feet of dark clay shale. Underlaid with clay. Coal dull; hard; fracture uneven; layers thick, and separated with carbonaceous clod. Contains thick vertical plates of carbonate of lime, and horizontal ones of sulphuret of iron. Coke good.

Specific gravity, 1.3376
Loss in coking, 47.3
Total weight of coke, 52.7 = 100.0

Analysis: Moisture,	9.8
Volatile matters,	37.5
Carbon in coke,	47.7
Ashes (reddish gray),	5.0
	100.0
Carbon in the coal, 51:44	

ELI THORNTON'S MINE.

The thickness of this bed varies from three to four feet. Overlaid with clay shale. Underlaid with fire clay. Coal rather slaty; not very hard; lustre dull; fracture uneven. Contains vertical plates of carbonate of lime, and horizontal layers of sulphuret of iron. The coal agglutinates in coking.

	Specific gravity, 1 4027	
	Loss in coking, 42.27	The Delivery
-1,3	Total weight of coke, 57.73 = 100.0	ale in America
Analysis:-	-Moisture,	15.00
W- 14 1	Volatile matters,	27.27
· · · · · · · · · · · · · · · · · · ·	Carbon in coke,	55.73
	Ashes (red),	2.00
	0.00	100.00
	Carbon in the coke, 56.52	

T. H. BLACKMORE'S MINE.

Thickness of the bed, four feet. Overlaid with clay shale. Underlaid with fire-clay. Coal bright and dull in the alternate layers; brittle; fracture uneven; layers alternately thick and thin, with thin separations of carbonaceous clod. Contains carbonate of lime and sulphuret of iron in thin vertical plates.

1	Specific gravity, 1.2901		
	Loss in coking, 44.5		
8 . 6	Total weight of coke, 55.5 = 100.)	
Analysis:-	-Moisture,		6.5
3 . 2	Volatile matters,		38.0
	Carbon in coke,	ALL TANK	47.1
S. A. Loda	Ashes (redish gray),		8:4
	Carbon in the coal, 53.6		1000

MACDONOUGH COUNTY.

COLCHESTER MINE.

Thickness of the bed, two feet. Overlaid with shale. Underlaid with shale and sandstone. Coal hard; compact; bright; layers tolerably even and wavy. A first rate coal.

Specific gravity, 1.290
Loss in coking, 41.2
Total weight of coke, 58.8 = 100.0

Analysis: - Moisture,		5.4
Volatile matters,		35.8
Carbon in coke,	E Alsonia	56.8
Ashes (light gray),		2.0
	1001-101	100.0
Carbon in the coal, 60:10	The sales	

TAZEWELL COUNTY.

NEARLY OPPOSITE PEORIA.

Thickness of the bed from three feet six inches to four feet. Overlaid with shale. Underlaid with clay. Coal rather bright; hard; compact; fracture even; layers thick and separated with carbonaceous clod. Contains a very few thick seams of carbonate of lime, and a little sulphuret of iron disposed horizontally.

Specific gravity, 1·263
Loss in coking, 43·4
Total weight of coke, 56·6 = 100·0

201111 (101821 01 0010) 00 0	
Analysis: Moisture,	5.4
Volatile matters, -	- 38.0
Carbon in coke,	48.6
Ashes (gray),	8.0
Carbon in the coal, 52.0	100.0

MENARD COUNTY.

SALEM HILL MINE.

Thickness of the bed, two feet. Coal bright; brittle; separated with thin layers of carbonaceous clod; fracture somewhat conchoidal. Contains a few thin vertical plates of carbonate of lime.

Specific gravity, 1:	26
Loss in coking,	46.0
Total weight of col	54.0 = 100.0

Analysis : Moisture,			9.5
Volatile matters,	10 1-12 M	on Albania	36.5
Carbon in coke,			51.2
Ashes (dark red),	The same	STEER'S COUNTY	2.8
Carbon in the coal	55.55		100.0

PEORIA COUNTY.

KICKAPOO MINES. (MOFFATT'S.)

Thickness of the bed, four feet to four feet six inches. Overlaid with shale. Underlaid with clay. Coal moderately bright; hard; compact; fracture uneven; layers tolerably thick, and separated with carbonaceous clod. Contains many thick seams of sulphuret of iron and of carbonate of lime. Coke very poor.

Specific gravity, 1 282
Loss in coking, 47.7
Total weight of coke, 52.3 = 100.0

Analysis:—Moisture, - 11.5
Volatile matters, - 36.2
Carbon in coke, - 46.3
Ashes (gray), - 6.0
Carbon in the coal, 53.2

No special examination has been made of the Kingston mines by any one connected with the State Survey. The specific gravity of the coal is 1.216. The thickness of the bed is from four feet to four feet ten inches, No analysis of that coal has been made in the State Laboratory. Before the next report is made, the beds at Kingston, as well as two other beds in Peoria county will be examined, and the analyses of the coals furnished to the proper department.

KNOX COUNTY.

MCMURTRY'S MINE.

Thickness of the bed, five feet. "Alluvial covering where it is worked. True roof not ascertained." Coal very brittle; bright on a fresh fracture.

but soon becoming dull when exposed to the weather, especially on its vertical face. Contains thick vertical seams of carbonate of lime, with sulphuret of iron disposed both horizontally and vertically.

"EIGHT INCH PART OF THE SEAM."

Coal tolerably hard; fracture uneven; splits easily into thin layers, in consequence of very minute seams of carbonized coal plants being interposed between them; lustre rather dull. Contains carbonate of lime in vertical plates, and sulphuret of iron in horizontal layers.

" MIDDLE PART OF THE BED."

Coal of a bright metallic lustre, somewhat resembling graphite; horizontal arrangement very irregular; presents nowhere a regular surface or face; brittle; layers rather thick. Hardly any foreign matters visible, except a few thin seams of carbonate of lime.

Specific gravity, 1.216
Loss in coking, 50.5Total weight of coke, 49.5 = 100.0

Analysis:	-Moisture,	- 7 - 1 - 1	11.0
	Volatile gases,		- 39.5
	Carbon in coke, -		45.5
	Ashes (nearly black),	7	4.0
	Carbon in the coal, 55.5		100.0

LOOMIS' MINE. (WATAGA.)

Thickness of the bed, from four feet to four feet six inches. This coal is overlaid with from three to eight inches of cannel coal, separated with an inch of pyritous shale. Roof of the mine, black slate; floor, fire-clay.

BITUMINOUS COAL.

Coal hard; bright; fracture hackly; layers thin, and separated with carbonized coal plants. Contains thin vertical plates of carbonate of lime, and a small amount of sulphuret of iron in the horizontal partings.

Specific gravity, 1.286
Loss in coking, 44.4
Total weight of coke, 55.6 = 100.0

Analysis:	-Moisture,	11.0
	Volatile matters,	33.4
	Carbon in coke,	51.1
	Ashes (pink),	4.5
Scale grant		100.0
	Carbon in the coal, 54·1	A STATE OF A

LOOMIS' CANNEL COAL.

Coal dull; hard; compact; fracture tolerably even. Contains a few thick vertical plates of carbonate of lime. Coke good.

Specific gravity, 1.33
Loss in coking, 42.4
Total weight of coke, 57.6 = 100.0

Analysis:—Moisture, - - 6.5
Volatile matters, - - 35.9
Carbon in coke, - - 33.6
Ashes (gray), - - 24.0
Carbon in the coal, 42.6

WARREN COUNTY.

SMITH'S MINE.

Thickness of the bed, three feet. Overlaid with two feet six inches of black slate. Underlaid with one foot of black slate, resting on sandstone. Coal rather bright; hard; fracture tolerably even; layers thin, slightly undulating, and separated with many carbonized coal plants. Contains vertical and horizontal seams of sulphuret of iron. Near the outcrop the sulphuret has been converted into oxide of iron. Coke good.

Specific gravity, 1·24
Loss in coking, 43·1
Total weight of coke, 56·9 = 100·0

Analysis :-	-Moisture,	ALES SHARE	THE PERSON	6:1
19	Volatile matters,			37.0
	Carbon in coke,			51.7
17 12 day	Ashes (red), -		·	5.2
	Carbon in the coa	1.54.55		100:0

TUCKER'S MINE.

Thickness of the bed, two feet two inches. Overlaid with five feet six inches of shale, which is capped with three feet of black slate. Underlaid with clay. Coal dull, with a few bright layers; hard; fracture hackly; layers thick and separated with carbonaceous clod. Contains a few thick vertical seams of carbonate of lime. Also, vertical and horizontal seams of sulphuret of iron.

. Specific gravity,	1.227	1		
Loss in coking,	44.8			
Total weight of co	ke, 55.2 =	100.0		and the best
Analysis:-Moisture,				8.0
Volatile matters,	21/25		1.44	36.8
Carbon in coke,	14.	Maria Cara	Con	, 51.0
Ashes (red),		1	1800	4.2
Carbon in the case	1 57.0			100.0

BUREAU COUNTY.

SHEFFIELD COMPANY'S MINE.

This bed varies from four to five feet in thickness. Underlaid with indurated clay containing nodules of limestone. Overlaid with a few inches of black slate, which is capped with indurated clay. Coal bright; hard; compact; fracture inclining to conchoidal; layers thin and separated with very minute seams of carbonaceous clod. Contains a few thin vertical seams of carbonate of lime. Slacks on exposure to the weather.

Specific gra	vity, 1.1986		CAR ALL THE
Loss in coki	ng, 47.5	A PART AND	1 1 1 1 1 1 1 1
Total weight	t of coke, $52.5 = 10$	0.0	and the first
Analysis:-Moisture,		To but him as	7.0
Volatile mat	ters,	Paralla spirate	40.5
Carbon in c	oke,		47.5
Ashes (white	e), -		5.0
Carbon in the	ne coal, 53-4	A NEW YORK	100.0

TISKILWA MINES.

" Coal Valley."

This bed is of the same age as the middle workable seam of La Salle county; and like that bed is frequently interrupted with clay "slips."

The portion of the bed examined is on L. D. Whiting's place. Coal very bright; hard; compact; layers generally thick, and separated with carbonaceous clod, sometimes nearly indistinct; fracture conchoidal. Contains a very few thin seams of carbonate of lime, with occasional thin scales of sulphuret of iron. Swells but little in coking.

Specific gravity, 1.363

Loss in coking, 43.0

Total weight of coke, 57.0 = 100.0

Analysis: - Moisture,		The Subscript Title	7.5
Volatile matters,			35.5
Carbon in coke,	- 0 00 m	CONTRACTOR I	48.9
Ashes (white),	12	2 - 2 - AV	8.1
Carbon in the coal,	57.0		100.0

ROCK ISLAND COUNTY.

CUTLER, EDWARDS & COMPANY'S "CANNEL COAL."

Thickness of the bed, six feet six inches, with six inches of black slate in the seam. Overlaid with indurated clay and drift. Underlaid with fire clay. This is rather a highly bituminous shale than a coal. It burns with a free, bright flame, and is so highly inflammable that, at the outcrop, which is covered with grass, it has, at some previous period, become ignited from the annual prairie burnings, the effects of which are to be seen for a distance of more than a rod from the opening. Shale dull; grayish; hard and tough; splits into thin lamine, in consequence of thin layers of coal plants intervening. In the tracing of this bed it is highly probable that it may be found to graduate into a bed of bituminous coal. This shale is suitable for the manufacture of all the oils and solid matters at present derived from real cannel coal. For other purposes it is, in my opinion, entirely useless.

Specific gravity, 1.441

Loss in coking, 31.3

Total weight of coke, 68.7 = 100.0

Analy	sis:Moisture,			4:5
	Volatile matters,	S. a.		26.8
	Carbon in coke,	-		46:7
	Ashes (light red),			22.0
	Claubon in the whole	40.0	新州	100.0

CARBON CLIFF MINE. (LOWRY, THOMAS & CO.)

Thickness of the bed, three feet eight inches, to five feet three inches. Overlaid with black shale, which is capped with sandstone. Underlaid with fire clay. Troubled occasionally with "horse-backs." Coal bright; hard; compact; fracture uneven; layers rather thick, with a little carbonaceous clod between them. Contains irregular vertical seams of carbonate of lime, and a few vertical streaks of sulphuret of iron. Coke good.

Specific gravity, 1.247
Loss in coking, 43.7
Total weight of coke, 56.3 = 100.0

Analysis: Moisture,			7.0
Volatile matter	s, -	100	36.7
Carbon in coke			52.8
Ashes (white),	1		3.5
Carbon in the	eoal 55.3		100:0

CORCORAN'S MINE.

At John H. Ely's opening, the bed of ccal is from three feet six inches to four feet in thickness. Overlaid with black slate. Underlaid with fire-clay. Coal bright; brittle; fracture uneven; layers thick, with partings of carbonaceous clod. Contains vertical seams of sulphuret of iron, with a little carbonate of lime in the same seams.

Specific gravity, 1.2656
Loss in coking, 47.2
Total weight of coke, 52.8 = 100.0

	Total weight of coke, 52.8	3 = 100.0		a level	
Analysis :-	-Moisture,			8.0	
114	Volatile matters, -		100	39.2	
	Carbon in coke, -	1 2 2 2 2 2	4. 00	50.3	
	Ashes (black), -	The second		2:5	14
	Carbon in the coal, 57.7			100	0

HENRY COUNTY.

ROBBINS, LAWSON & COMPANY'S MINE.

Bituminous Coal.

Thickness of the bed, four feet. Overlaid with black slate. Underlaid with fire-clay. Of two specimens examined, the coal of the first is brittle;

dull; layers tolerably thick; fracture very uneven. Contains vertical plates of carbonate of lime, accompanied with a small quantity of sulphuret of iron. Of the second, the coal is bright; hard; compact; layers thick, and separated with carbonized coal plants. Contains thick plates of carbonate of lime, some of which are vertical, and others inclined at an angle of about 50°. This is the same as Serrell's bed. Coke good.

Specific gravity, 1·224

Loss in coking, 49·7

Total weight of coke, 50·3 = 100·0

Analysi	s:-Moisture,	- 12.5
	Volatile matters,	- 37.2
C. Table	Carbon in coke,	47.1
	Ashes (blackish gray),	3.2
10.50	Carbon in the coal, 53:0	100.0

ALDRICH'S MINE.

Thickness of the bed, from three feet six inches, to four feet eight inches. Overlaid with a few inches of shale, which is capped with a hard, blue, shelly limestone. Underlaid with fire-clay. Coal bright; hard; fracture even; layers thin, with much carbonaceous clod between them. Contains vertical seams of carbonate of lime.

Specific gravity, 1 261

Loss in coking, 43.1

Total weight of coke, 56.9 = 100.0

Analysis:—Moisture, - 6.0

Volatile matters, - 37.1

Carbon in coke, - 49.9

Ashes (brown), - 7.0

100.0

SERRELL'S MINE. (KEWANEE.)

Carbon in the coal, 54.1

Thickness of the bituminous portion of the bed, four feet. Overlaid with cannel coal. Underlaid with fire-clay. Coal bright and dull in alternating layers; hard; compact; fracture tolerably even. Contains thick seams of carbonate of lime, which cross each other at nearly right angles, causing the coal to break into slightly irregular cubes. Has sulphuret of iron disposed both horizontically and vertically. The layers of coal are thick, and separated with carbonaceous clod. Coke very bright and good, but swells in coking.

Specific gravity, 1:232
Loss in coking, 42:2
Total weight of coke, 57:8 = 100:0

Analysis	.—Moisture,	9.0	. 1
4 8	Volatile matters,	- 33.2	
14 4	Carbon in coke, -	52.8	
	Ashes (gray),	5.0	-
	Carbon in the coal, 58.2	100	0

SERRELL'S CANNEL COAL.

Thickness of the bed, from eight inches to one foot. Overlaid with black slate. Underlaid with four feet of bituminous coal. No analysis of this coal has yet been made; but, judging from its texture and general appearance, it does not differ much from the Wataga cannel coal. The coal is dull; hard; compact; fracture slightly conchoidal; layers thick. Contains bright yellow vertical plates of sulphuret of iron.

ALLEN'S MINE. (GENESEO.)

Thickness of the bed at the outcrop, one foot six inches. Underlaid with fire-clay. The roof could not be ascertained. Coal bright; iridescent on its horizontal faces; hard; fracture even. Contains a few thin vertical seams of carbonate of lime. Cleavage rhombohedral.

Specific gravity, 1:321
Loss in coking, 41:24
Total weight of coke, 58:76 = 100:00

Analysis	:-Moisture,	1 1 25		6.20
2 6 7	Volatile matters,			34.74
	Carbon in coke,	1		52.76
	Ashes (brown),		and the said of	6.00
	Carbon in the coa	l, 55·3		100.00

MERCER COUNTY.

THORNTON & PARK'S MINE.

Thickness of the bed, four feet. Overlaid with "blue limestone." Floor not ascertained. Coal tolerably hard; bright; brittle; fracture nearly

even; layers thin, and separated with carbonized coal plants. Contains vertical plates of both carbonate of lime and sulphuret of iron.

D)	pecine gravity, 1.24	4		- Fire	
L	oss in coking,	45.8	Street word beauti		
T	otal weight of coke,	54.2 = 100	.0		
Analysis : M	oisture, -	3.4	1 1	7.7	10,000
V	olatile matters,	The second	- 10	38.1	THE S.
C	arbon in coke, -	Section 1	AND VIEW	49.7	0 -
A	shes (white),	A	***	4.5	

Carbon in the coal, 53.2

LA SALLE COUNTY.

OTTAWA BED.

Mr. N. Perley "strips" this bed of coal on Cushman's place, one mile above Ottawa. It is the same as the "lower bed" worked east of La Salle; and is, really, the lowest bed in the State of Illinois, or in any of the Western States in the same latitude. Overlaid with clay. Underlaid with clay resting on the older sandstone (Lower Silurian). Coal bright; brittle; fracture hackly; layers thick, and separated with carbonaceous clod; intersected with numerous vertical seams of carbonate of lime, with thin streaks of sulphuret of iron running in all directions. Coke good, but agglutinates in coking.

	Special gravity, 1-2012			
USE AND	Loss in coking, 43.7			-0
VARIA	Total weight of coke, 56.3 = 100.0		1	4 4 9
Analysis :-	-Moisture, -	4	7.8	
1.15 00	Volatile matters,		35.9	
The West	Carbon in coke,		52.3	
	Ashes (white),	7.	4.0	
	Carbon in the coal, 54.6		3.5	100.0

WARD'S MINE. (MARSEILLES.)

Thickness of the bed, from three feet six inches, to four feet. This seam is very unequal in quality. A portion of the bed will rank with the best coals in the State, while other benches will be among the lowest.

Coal dull; friable; fracture uneven; layers thick, with much cardonaceous clod between them. Contains thick vertical plates of carbonate of lime, as well as thick horizontal seams of sulphuret of iron.

Specific gravity, 1·3144
Loss in coking, 45·6
Total weight of coke, 54·4 = 100

Analysis :- Moisture,			5:0	
Volatile matters,		- 1	40.6	year III
Carbon in coke,	Yang Salah		33.4	
Ashes (white),			21.0	
Carbon in the coa	d, 47·0		1	100.0

J. R. HITT'S VERMILION MINE.

Thickness of the bed, three feet six inches. Overlaid with shales. Underlaid with clay resting on shaly sandstone. Coal dull; rather hard; compact; layers thick, and separated with carbonaceous clod. Contains a great many thin seams of carbonate of lime, with sulphuret of iron very sparingly disseminated.

Specific gravity, 1.2989

Loss in coking, 46.9

Total weight of coke, 53.1 = 100.0

		30000		6	200	
Analysis: - Moisture,				-	4.5	Wat by
Volatile matters,				-	42.4	
Carbon in coke,			d will	100	40.3	
Ashes (white),			· itr	1	12.8	
Carbon in the coal	47.5					-100.0

KIRKPATRICK'S MINE.

Thickness of the bed, eight feet. Coal bright; compact; hard; layers rather thin; fracture nearly even; a small quantity of carbonaceous clod between the layers. Contains a few vertical plates of carbonate of lime, and some sulphuret of iron.

Specific gravity, 1·202
Loss in coking, 48·2
Total weight of coke, 51·8 = 100·0

Analysis: Moisture,			7.0	
Volatile matters,		 	41.2	
Carbon in coke,	19号。60	3	49.3	
Ashes (gray),			2.5	
Carbon in the coal, 54	•6	-	100.	0

IRELAND'S MINE.

Thickness of the bed, from two feet eight inches, to three feet six inches. Overlaid with twelve feet of blue shale. Underlaid with clay resting on the lower sandstone. This was the first coal mined in La Salle county. Coal dull on the face; bright and iridescent in the horizontal layers, which are thin; fracture irregular. Contains thin vertical seams of carbonate of lime running in every direction, with a few very thin seams of sulphuret of iron.

100	Specific gravity, 1.237	
	Loss in coking, 46.7	P.A. Charles Assessed
1	Total weight of coke, 53.3 = 100.0	
Analysis :-	-Moisture,	6:8
T- V	Volatile matters,	- 39.9
12.	Carbon in coke, -	50.3
	Ashes (gray),	- 3.0
	Carbon in the coal, 551	100.0

SEELY'S MINE. (NEAR LOWELL.)

Average thickness of the bed, three feet six inches. It is undulating. Coal rather dull; hard; compact; fracture even; layers thin, and slightly waving. Contains thin vertical seams of carbonate of lime, and some of sulphuret of iron, with thick horizontal deposits of the last named mineral. The coke is good.

	Specific gravity, 1.2234	14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Loss in coking, 42.6	· 100 元 元
	Total weight of coke, 57.4 = 100.0	I be to be to
Analysis :-	-Moisture,	8.0
7400000	Volatile matters,	34.6.
	Carbon in coke,	414
	Ashes (brick red),	16.0
34 3	Carbon in the coal, 53.0	100.0

KIRKPARICK'S CANNEL COAL.

(Lower Bed.)

Thickness of the bed, from six to nine inches. This coal is exposed in the bed of the "Big Vermilion of the Illinois river," for the distance of two miles. Overlaid with five feet of sandy shale. Underlaid with argillaceous sandy shale. Coal dull; hard; compact; fracture even, inclining to conchoidal; layers rather thin for a cannel coal. This is the best cannel coal I have met with in Illinois. The bed is too thin to work profitably. It is the only cannel coal we have, that approaches, in external appearance, to the celebrated "Breckinridge coal" of Kentucky. In hand specimens no one could tell the difference. Coke good.

Specific gravity, 1.434
Loss in coking, 39.6
Total weight of coke, 60.4 = 100.0

Analysis :-	-Moisture,		Water Land	3. 3	3.0
	Volatile matters,				36.6
	Carbon in coke,				30.4
	Ashes (gray),	4			30.0
34.14				A View	100.0

In order that the difference between this coal and the Kentucky cannel coal may be seen at a glance, I subjoin an analysis of the "Breckenridge coal," made in the State Laboratory.

Specific gravity, 1:1766
Loss in coking, 64:6
Total weight of coke, 35:4 = 100:0

Analysis :- Moisture,			1.7	
Volatile m	atters,		62.9	1.10
Carbon in	coke, -		27.9	e To.
Ashes (gra	y),		7.5	1000
Carbon in	the coal, 35.0		N. Sand	100.0

As the use of caunel coal is attracting much attention at present, I give, below, an analysis of the Virginia cannel coal from the Kanawha, made, also, in the Illinois State Laboratory. Coke good.

Specific gravity, 1·2592
Loss in coking, 45·78
Total weight of coke, 54·22 = 100·00

Analysis :- Moisture,			70,
Volatile matters,			45.08
Carbon in coke,			47.92
Ashes (white),	A Submission	ANNELLE	6.30
Carbon in the co	al. 59·09	Aston	100.00

EAGLE CREEK MINE,

Thickness of the bed, five feet. This is one of the best coals for blacksmith purposes that I have met with in the State. All the coal taken from the bed at that locality, so far as I know, has been quarried from the bed of the creek. Coal hard; brittle; lustre from dull to bright; fracture hackly; layers rather thick, and separated with carbonized coal plants, among which is disseminated a few patches of sulphuret of iron. Contains a few short vertical plates of carbonate of lime, none of them exceeding an inch in length.

Specific gravity, 1·2265
Loss in coking 46·7
Total weight of coke, 53·3 = 100·0

Analysis :-	-Moisture,	7.5
	Volatile matters,	39.2
161	Carbon in coke, -	45.8
102000	Ashes (dark red),	- 7.5
San San Shek	Carbon in the coal, 57.7	100.0

"BUFFALO ROCK" MINE.

This bed of coal is worked by the three brothers Mitchell. It is "stripped," not mined. The coal rests directly on the lower sandstone. The bed varies in thickness from one foot six inches, to two feet ten inches. Overlaid with indurated clay. Underlaid with sandstone, with a very thin clay parting.

Specific gravity, 1.289
Loss in coking, 45.0
Total weight of coke, 55.0 = 100.0

Analysis :- Moisture,		6.2	
Volatile ma	atters,	38.8	
Carbon in c	oke,	- 50.5	
Ashes (pale	red),	- 4.5	12.63
Carbon in t	he coal, 54.8		100.0

BIG VERMILION. (REYNOLDS' MINE.)*

Thickness of the bed, four feet. This is the same bed as the one worked at "Hitt's Vermilion mine;" and the external characters of the coal about the same. Swells much in coking.

Specific gravity, 1.242
Loss in coking, 51.4
Total weight of coke, 48.6 = 100.0

10th weight of coac, 40.0 - 1000	
Analysis: Moisture,	12.0
Volatile matters,	- 39.4
Carbon in coke,	47:1
Ashes,	- 1.5
Carbon in the coal, 54.8	100.0

EGLESTON'S CANNEL COAL.

Thickness of the bed, from one foot to one foot three inches. Overlies the middle workable seam of La Salle county. Below the cannel coal, and separated with a very thin seam of shale and sulphuret of iron, is from five feet to five feet six inches of bituminous coal. Coal dull; hard; compact; fracture conchoidal; no lines of deposit visible. Contains a few vertical plates of sulphuret of iron. The coke is excellent; its shape is not at all altered in coking.

Specific gravity, 1.41
Loss in coking, 44.5
Total weight of coke, 55.5 = 100.0

^{*}Note. - This is one of the best coals in La Salle county, so far as the lower bed is concerned.

· Analysis :-	-Moisture,			6.0	
	Volatile matters, -			38.5	
wite and min	Carbon in coke,	ori .		41.5	
Little Ver	Ashes,		100	14.0	-1
	Carbon in the coal, 44.4	setda.	qui	100	0

FIELD & ROUNDS' MINE.

Thickness of the bed, from two feet three inches, to three feet eight inches. This is the lowest La Salle county bed. Coal very bright; hard; rather brittle; fracture even; layers thin, and separated with carbonaceous clod. Contains a few thin vertical streaks of carbonate of lime, and some minute specks of sulphuret of iron disposed horizontally. Cleavage rhomboidal.

Specific gravity, 1.222Loss in coking, 48.1Total weight of coke, 51.9 = 100.0

Analysis :-	-Moisture,					6.7	
	Volatile matters,	origine or		OF CHI	1,120	41.4	
	Carbon in coke,	110) ETE	15 Livy	bldw	-111	46.7	
	Ashes (red), -	History		-	in last	5.2	
	Carbon in the coal	, 53.4	ed to			misa ; I	100.0

KIRKPATRICK'S CANNEL COAL.

(Upper Bed.)

Thickness of the bed, from one foot six inches, to three feet four inches, Coal slaty; dull; hard; fracture rather even; layers thin, and separated with a little earthy matter stained with oxide of iron. Coke good; resembles Egleston's.

Specific gravity, 1.266Loss in coking, 45.2Total weight of coke, 54.8 = 100.0

	The state of the s	Charles and Charles and Company	
Analysis	:Moisture,	21日 日本日の日 第2日	6.0
	Volatile matters,	and from feet at	- 39.2
Latin	Carbon in coke, -	general la se	40.1
	Ashes (blackish gray), -	meR = all assessments	- 14.7
	Carbon in the coal, 48.0		100.0

EGLESTON'S MINE.

Thickness of the bed, two feet three inches. This is the lower La Salle county bed, and is worked near the outcrop, in the bluffs of "Little Vermilion" river. Coal rather dull; hard; compact; fracture even; layers thick. Contains thin vertical seams of carbonate of lime. Cleavage cubical.

Specific gravity, 1·21
Loss in coking. 48·25
Total weight of coke, 41·75 = 100·00

20000 110.620 02			
Analysis:-Moisture,	of the walks	all antests	. 5.50
Volatile matters,	Linux alife asa ret	2 15 43 0 10	42.75
Carbon in coke,	To minist a sales	SW Diday was	48.45
Ashes (gray),	seath med Me	Marchales	3.30
Carbon in the coa	1, 52-63		100:00

HARTSHORNE'S MINE.

Thickness of the bed, two feet seven inches. Overlaid with sixteen feet of indurated clay. Underlaid with five feet of fire-clay, which separates it from the lower sandstone. Coal bright and dull in the alternating layers; hard; somewhat brittle; fracture nearly even; layers thin, with partings of carbonaceous clod. Contains a few thin vertical seams of sulphuret of iron. Coke good.

Specific gravity, 1.2748
Loss in coking, 42.5
Total weight of coke, 57.5 = 100.0

Analysis : Moisture,			-		. (0,0	4.9	
Volatile matters,						37.6	
Carbon in coke,						49.7	
Ashes (brown),				A LUCK	1	7.8	301-3
Carbon in the coal	. 54	.16					100.0

"LA SALLE COAL MINING COMPANY'S" MINE.

Thickness of the bed, four feet six inches. Overlaid with black slate. Underlaid with six feet of fire-clay. The following analysis was made of coal taken from the outcrop, in "Swanson ravine." This bed is the upper one, considered workable, in La Salle county.

Specific gravity, 1·26
Loss in coking, 52·51
Total weight of coke, 47·49 == 100·00

Analysis: - Moisture,	. T. O		and the same	10.00
Volatile matters,	-	4.		42.51
Carbon in coke,				40.49
Ashes (brown),				7.00
Carbon in the coal	47.44			100.00

The analysis given below is from the coal in the shaft sunk by that company. It is under cover, and is about equal to the specimens of "upper bed" coal in the shaft near the railroad bridge at La Salle, and the shaft at Peru. Coal very bright; rather hard; brittle; layers thin, and separated with very thin seams of carbonaceous clod. Contains vertical plates of carbonate of lime, with a few specks of sulphuret of iron. Coke good.

Specific gravity, 1·2515

Loss in coking, 42·93

Total weight of coke, 57·07 = 100·00

Analysis :Moisture,	2		CHARLES.	6.20
Volatile matters,			14.	36.43
Carbon in coke,		-	- 1101	50.07
Ashes (purplish),			Will read the	7.00
Carbon in the coal,	54.39			100.00

HENRY D. GORBET'S MINE.

This is the same bed as the one worked at Ottawa, and as the lower bed worked at La Salle. Thickness of the bed, from one foot three inches to two feet four inches. It is worked by "stripping." Overlaid with hard blue shales. Underlaid with indurated clay, full of vegetable impressions. Coal dull; hard; compact; layers thick; fracture nearly even. Contains a few thin seams of carbonate of lime, with thin vertical partings of sulphuret of iron.

Specific gravity, 1·2517
Loss in coking, 45·18
Total weight of coke, 54·82 = 100·00

Analysis:-Moisture,		20-1-00	- A	5.60	
Volatile matters,	1 1200			39.58	
Carbon in coke,		* 4500	No.	47.12	
Ashes (red), -				7.70	
Carbon in the coa	al, 55·55			100 00	
AND THE REST			00 Z 00	deals	
			Minia) H	utsh.	

PERU

The following analysis has nothing to do with the workable coal beds underlaying that city. My attention was called to the coal noticed below by Dixwell Lathrop, Esq., the originator of all coal-mining operations in La Salle county. It is only noticeable on account of its occurring in thin lenticular sheets in the upper shales, and on account of its extraordinary crystalline form. Coal dull; soft; brittle; layers none; structure columnar, with thin partings of lime between the columns. This is the most curious disposition of carbonaceous matter I have ever met with. It is of no economical value.

Specific gravity, 1·539
Loss in coking, 28·68
Total weight of coke, 71·32 = 100·00

Analysis:—Moisture, - - 6·00
Volatile matters, - - 22·68
Carbon in coke, - - 40·32
Ashes (brown), - - 31·00

GRUNDY COUNTY.

WATSON'S MINE.

Thickness of the bed five feet, only four feet of which is worked, one foot of coal being left for a roof. Underlaid with clay. Coal bright; hard; compact; fracture conchoidal; layers thin, with impressions of coal plants between them. One bench of this bed makes good coke. Contains a few thin horizontal seams of sulphuret of iron.

Specific gravity, 1.259
Loss in coking, 45.5
Total weight of coke, 54.5 = 100.0

Carbon in the coal, 45.06

Analysis:-Moisture,	2,814153		9.0
Volatile matters,			36.5
Carbon in coke, 47.8	0.84 1/40 1	His sun book	47.8
Ashes (pink),	our service	1. 新利利	6.7
Carbon in the coal, 51.3	3	distribute	100.0

GEORGE TURNER'S MINE.

. Thickness of the bed, two feet five inches. Overlaid with clay. Underlaid with fire-clay. Worked by "stripping" from seven to fifteen feet of clay and soil. Coal dull to bright; hard; compact; fracture even, breaking into rhombohedrons; layers alternately thick and thin, and separated with a little carbonaceous clod. Contains vertical plates of carbonate of lime, and a few specks of sulphuret of iron. Coke good.

	Specific gravity, 1	.227		Libito	neil) zui		
	Loss in coking,	48.5	1-11		1	^.	
	Total weight of co	ke, 51 5	== 10	0.0		Mile.	
Analysis :-	-Moisture,					7.0	
	Volatile matters,	0.7		-		41.5	
	Carbon in coke,	Trans.	100			49.0	
	Ashes (white),	-				2.5	
		dall -	To Ami		Sent at	1000	100.0
	Carbon in the coa	1, 54.1			1.54		

COAL EIGHT MILES FROM WILMINGTON.

In the prairie between Wilmington, Will county, and "Goose Lake," Grundy county, there are various outcrops of coal. At every opening the coal is quarried, or "stripped." It is all of one quality. Coal tolerably bright; rather hard; fracture even; layers indistinct, and separated with carbonaceous clod. Contains vertical seams of carbonate of lime, with bright sulphuret of iron disposed both vertically and horizontally.

	Specific gravity, 1	216	5					
	Loss in coking,	4	17.95					
	Total weight of co	ke, t	52.05	= 1	00.00			
Analysis :-	-Moisture,	-					4.00	
	Volatile matters,		-				43.95	
	Carbon in coke,			141		-	49.15	
	Ashes, -						2.90	
		2.0	13 W				100	0.00
	Carbon in the coal	. 50	00					

TELFIR'S MINE.

This is the same bed as the one worked by Turner at the outcrop near the railroad, and by G. W. Oliver near the canal. Overlaid with indurated shale. Underlaid with fire-clay. Thickness of the bed from two feet six inches to two feet eight inches. The brothers Telfir work the bed by a shaft fifty-eight feet six inches deep. Coal somewhat hard; rather dull; fracture very uneven; layers thin, with carbonized coal plants between them. Contains vertical seams of carbonate of lime, and an abundance of sulphuret of iron. Coke good.

olif of dev twist place It has Jac	Specific gravity, 1 Loss in coking Total weight of co	grid		44·5 55·5 =	= 100.0	egali dilik en han sa oka agasa	hinted In to into a
Analysis :-	-Moisture,	- 0	jnsi	4 -	ob is	8.0	
confinied at	Volatile matters,	H 10	14 100	vite. 99	· alex	- 36.5	carriel ex
	Carbon in coke,				-	53.5	
	Ashes (purplish),			THE .	· Jarray	- 2.0	100.0
	Carbon in the coal	l, 57·	77	, alfab	No. 20 al	n least?	100.0

ROBERT DAVIDSON'S MINE.

Thickness of the bed, two feet six inches. Overlaid with fourteen feet of indurated clay. The bed is is worked by "stripping." Coal bright; hard; compact; fracture even; layers thick, with thin seams of carbonaceous clod between them. Contains vertical seams of carbonate of lime.

ob. I was	Specific gravity, 1.24	108			of things	
	Loss in coking,	49.2	5			The same
	Total weight of coke	, 50.78	5 == 10	0.0		3,100
Analys	is:—Moisture,	2 34	-	ALERT THE	12.00	
A Stanger	Volatile matters,	1000	el sittle	2 build	- 37.25	2 74 7
lift to w	Carbon in coke,	·Musy	ratio lik	of Parke	48.75	1000
.villahuse	Ashes (pink),	of le	es sub	mile by the	2.00	
	Carbon in the coal.	55.55				100.00

SOUTHERN ILLINOIS COAL, ### The Coals marked with an arcicle ## froe good Coking Coals. Sheether				9	-		_					_		-				_		=		30			_				-			-					34
COUNTY COUNTY Specific Moisture County County	ıls.	Color of Ash.	The second second	THE PERSON NAMED IN COLUMN	Adv.	Charles overely !!	Grav.	White.			Drab.		Dark Red.	Reddish Brown.	Christian doctor	White.		Pale Brown,	Gray.	White.	Spare to the Street St	Pale Red.	Red.	Gray.	Gray.	White.	White.	Gray.	White.	Gray.	Dailey.	Grav	Reddish Brown.	Pink.	Gray.	Gray.	Furpusn.
COUNTY	oking Coa	Carbon in Coal.	58.85	60.7	63.1	66.3	67.01		58.3	62.5	62.5	20.69	57.6	56.27	57.5	61.2	0.79	54.85	59.6	58.7	2.09	55.3	57.5	54.6	54.5	54.39	59.09	49.38	52.63	61.40 KO 90	x 97	54.62	54.39	49.08	45.45	47.1	99.00
COUNTY	re good C	Ash.	1.5	8.0	3.7	8.0	5.8	7.0	12.0	2.5	6.7	9.6	10.0	8.7	2.0	27.1	1.5	7.5	3.0	4.5	6.8	5.0	4.5	5.4	8.6	8.6	8.9	23.6	э э э	20.01	10.0	- 10	60	7.3	7.5	10.0	4.0
COUNTY. COUN		Carbon in Coke.	56.1	55.2	55.5	57.8	57.2	53.2	52.2	59.8	51.92	50.6	57.6	51.92	54.9	47.84	8.09	53.56	48.1	52.6	52.2	55.2	51.2	49.6	47.74	49.05	47.66	36.77	45.7	41.30	10.01	47.44	53.9	42.7	37.2	38.85	48.19
COUNTY. COUN	with an a	Volatile Gases.	39.8	30.3	32.8	30.7	36.0	87.8	34.6	32.0	38.58	34.5	28.3	36.08	36.9	23.46	81.2 *	83.64	40.4	36.2	32.0	83.8	35.8	39.5	35.56	38.18	40.44	35.63	39.4	61.10	90.09	41.46	60.00	40.0	44.3	43.15	20.00
COUNTY. COUN	als marked	Moisture.	2.6	6.5	8.0	8.5	1.0	2.0	1.2	5.7	2.8	5.3 8.3	4.1	89.	6.2	1.6	6.5	5.3	8.5	6.7	0.6	6.0	8.5	70.00	8.1	4.2	5.1	4.0	0.9	0.11	10.1	- 70 - 00	10.3	10.0	11.0	0.8	10.0
COUNTY. COUN		Specific Gravity.		1.2892	1.2925	1.3000	1.2364	1.303	1.2953	1.3054	1.2758	1.2873	1.4955	1.3197	1.2825	1.4446	1.2933	1.3233	1.285	1.246	1.2825	1.304	1.293	1.268	1.2966	1.3847	1.2843	1.3531	1.315	1.2809	1 5000	1.9521	1.3191	1.3158	1.2916	1.3017	1.346
	ILLINOIS COAL.		7	second beddodo.		upper bed, Lock Reserve do do	opdo	op	wer beddodo				Little Saline Riverdodo		do											iddle	top Coaldodo.	**		W	• • • • • • • • • • • • • • • • • • • •		Ryder's			do	le ao

MIDDLE ILLINOIS	COAL. IN	The Coals	The Coals marked with an asterisk * are good Coking Coals.	ith an ast	risk * are	good Col	cing Coals	
MINE.	COUNTY.	Specific Gravity.	Moisture.	Volatile Gases.	Carbon In Coke.	Ash.	Carbon in Coal.	Color of Ash.
Johnson's.	Calhoun	1.2631	4.8	40.9	49.1	5.2	53.06	Brown.
Near Carlinville *	Maeoupin	1.2797	6.5	36.98	48.72	7.8	53.8	Gray.
	Pike	1.2203	5.0	44.5	45.5	0.0	53.2	White.
Jackson's, eight miles north of Pittsfield	do	1.7784	2.0	12.1	56.9	29.0	57.5	Gray.
Drake's *	Green	1.3083	6.0	34.47	48.93	10.6	59.79	Gray.
Sanders', three miles north of Springfield	Sangamon	1.2463	5.6	42.54	42.86	9.0	50.11	The state of the s
Springfield	do	1.2839	12.0	41.9	42.8	69.69	45.7	Dark Gray.
Puffenberger's	do	1.26	11.5	39.18	43.62	7.0	49.8	Dark Brown.
Pleasant View *	Schuyler	1.286	6.0	- 34.6	52.9	6.5	57.8	Deep Red.
Rushville	do	1.303	4.5	37.1	.46.1	12.3	61.19	White.
Exeter*	Scott	1.288	12.1	30.27	50.13	70.	52.42	Red.
Barker's.	do	1.2396	5.5	37.3	52.2	2.0	54.8	Light Brown.
Frost's.	do	1.2883	8.5	37.87	46.53	7.1	51.83	Red.
Higby's	Adams	1.3354	10.0	38.4	41.2	10.4	48.0	Yellow.
Bassett's	do	1.2684	9.5	33.32	51.48	6.0	55.91	Pale Red.
no	Vermilion	1.2833	5.1	41.9	47.5	5.5	55.5	Gray.
do. in outcrop	do	1.26	8.7	37.4	43.9	10.0	50.38	Gray.
Henson's	do	1.311	0.6	34.5	0.09	6.5	58.8	A Property of
Lafferty's, six feet bed	do	1.28	8.5	35.8	48.7	7.0	51.7	Gray.
Carother's	do	1.218	8.5	42.3	46.2	3.0	51.1	Grayish White.
Gilbert's	do	1.213	8.0	43.4	45.6	3.0	1000	The state of the s
Butler's*	do	1.3943	6.0	34.1	6.74	12.0	55.7	Gray.
Leonard's	ф	1.3127	6.4	89.17	48.93	5.5	53.0	White.
Williams	do	1.2247	5.8	46.35	45.85	2.0	50.58	
Alexander's	do	1.2636	4.5	40.1	40.5	16.0	20.98	< ?
Kussell's	do	1.2148	5.6	43.4	39.0	12.0	52.0	Gray.
Chicago & Danville Coal Co	do	1.2377	8.6	40.44	48.96	2.0	49.8	Bluish Gray.
Cook's*	do	1.3376	8.6	37.5	47.7	5.0	51.44	Reddish Gray.
Eli Thornton's	do	1.4027	15.0	27.27	55.73	2.0	56.52	Red.
T. H. Blackmore's.	do	1.2901	6.5	38.0	47.10	4.8	53.6	Reddish Gray.
Colchester	McDonough	1.290	5.4	85.8	56.8	2.0	60.1	Light Gray.
Opposite Feoria	TażewcII	1.263	5.4	38.0	48.6	8.0	52.0	Gray.
Salem Hill.	Menard	1.26	9.5	36.5	51.2	2.8	55.55	Very Dark Red.

WINE WINE TOTAL PARTY OF THE PA	WOID COAL.	The Coals	marked v	vith an aste	risk * are goo	d Coking	Coals.	
1	T. T	opon diavity.	Moistaro.	volutile dases.	Carbon (II Coke.	Asn.	Carbon in Coal.	Color of Ash.
Kiekapoo	Peoria	1.282	-11.5	36.2	46.3	6.0	53.2	Grav.
McMurtry's	Knox	1.216	11.0	39.5	45.5	4.0	55.5	Nearly Black.
Loomis, Wataga.	op	1.286	11.0	33.4	51.1	4.5	54.1	Pink
Loomis' Cannel Coal *	do	1 33	20	35 9	988	940	49.6	Canon Canon
Smith's *	Warren	1.94	6.1	37.0	21.7	2.70	54.65	Rad
Tucker's *	do	1.927	80	36.8	51.0	6.4	57.0	Red
Sheffield	Bureau	1.1986	7.0	40.6	47.5	0.0	53.4	White
Tiskilwa*	do	1.363	7.5	100	48.9	0 00	57.0	White
Rock Island, Shale,	Rock Island	1.441	4.5	26.8	46.7	22.0	48.9	Light Red.
Carbon Cliff *	do	1.247	7.0	36.7	52.8	30.00	55.3	White.
- :	do	1.2656	8.0	39.2	50.3	2.5	57.7	Black.
Robbins' *	Henry	1.224	12.5	37.2	47.1	3.5	53.0	Blackish Gray.
Aldrich's	do	1.261	6.0	.87.1°	49.9	7.0	54.1	Brown.
Kewanee*	do	1.232	0.6	33.2	52.8	0.9	58.2	Gray.
Geneseo	do	1.321	6.5	34.74	52.76	6.0	55.3	Brown.
Thornton & Park's	Mercer	1.244	7.7	38.1	49.7	4.5	53.2	White.
Perley's, Ottawa*	La Lalle	1.2672	7.8	35.9	52.3	4.0	54.6	White.
Ward's, Marseilles	do	1.3144	5.0	40.6	33.4	21.0	47.0	White.
Hitt's Vermilion Mine	do	1.2989	4.5	42.4	40.3	12.8	47.5	White.
Kirkpatrick's, Big Vermilion.	do	1.202	7.0	41.2	49.3	2.5	54.6	Gray.
Ireland's	do	1.237	6.8	39.9	50.3	3.0	55.1	Grav.
Seeley's, Lowell *	do	1.2234	8.0	. 34.6	41.4	16.0	53.0	Bright brick Red.
Kirkpatrick's Cannel Coal *	do	1.434	3.0	36.6	\$00.4	30.0		Gray.
Eagle Creek	do	1.2265	7.5	39.5	45.8	7.5	57.7	Dark Red.
Buffalo Rock.	do	1.289	6.2	38.8	50.5	4.5	54.8	Pale Red.
Big Vermilion.	do	1.242	12.0	39.4	47.1	1.5	54.8	2
Egleston's Cannel Coal *	do	1.41	6.0	38.5	41.5	14.0	44.4	A I
Field and Rounds'	do	1.222	6.7	41.4	46.7	5.5	53.4	Red.
Kirkpatrick's Cannel Coal	do	1.266	0.9	39.2	40.1	14.7	48.0	Blackish Grey.
Egleston's.	do	1.21	6.5	42.75	48.45	60.00	52.63	Gray.
Hartshorne's *	do	1.2748	4.9	37.6	49.7	7.8	54.16	Brown.
Kentucky Coal Mining Co., upper bed	do	1.2515	10.0	42.51	40.49	7.0	47.44	Brown.
Gorbet's	do	1.2517	5.6	39.58	47.12	7.7	55.55	Red.
Kentucky Shaft, La Salle*	do	-1.26	6.5	36.43	50.07	7.0	54.39	Purplish.
Peru	do	1.539	0.9	22.68	40.32	31.0	45.06	Brown.
Watson's	Grundy	1.259	0.6	36.5	47.8	6.7	51.3	Pink.
Turner's, Morris*	do	1.227	7.0	41.5	49.0	2.2	54.1	White.
Eight miles southwest of Wilmington	do	1.2165	4.0	43.95	49.15	2.9	0.09	
	The second secon	Section of the sectio		-				The state of the s

ANALYSES OF AMERICAN COALS,

SOME OF WHICH ARE USED IN THE WEST.

STATE.	LOCALITY.	NAME OF BED.	Specific Gravity.	Volatile Matter.	Carbon.	Ashes.
Pennsylvania	Venango County	Sandy Ridge	1	43.20	49.80	7.00
do.			-	52.78	29.54	17.68
do.	Beaver County			36.00	30.12	33.88
do.	Crawford Connty	A Vanis of States	W 0 3	38.75	59.45	1.80
do.	Mercer County	The first has been as the	1.275	40.50	57.80	1.70
do.	Orangeville		See all 12 hard	43.75	53.45	2.80
do.	Blossburg	Coal Run	1.371	16.40	75.40	8.20
do.	Blossburg			32.80	62.80	5.20
Ohio.	Portland County			44.298	53.404	2.288
do.	Jackson County		1.283	47.327	49.882	2.221
do.	Jackson County		1.560	44.800	39.950	14.620
do.	Pomeroy			18.70	76.70	4.60
do.	Briar Hill		1.320	38.13	58.41	3.46
Indiana.	Parke County	Foundry	1.219	21.00	75.00	4.00
do.	Vermilion County	COURT STORY STORY	1.270	39.00	52.00	9.00
do.	Vigo County		1.240	27.50	70.00	2.50
do.	Sullivan County	Lick Fork	1.240	28.00	70.00	2.00
do.	Terre Haute		1.240		50.80	
Iowa.	Duck Creek	SUBSTITUTE OF SU	1.270	44.00	48.50	7.50
Missouri.	Calloway County	Mammoth Vein	1.250	34.20	50.78	15.02
do.	Cote-sans-dessein	Mastodon Vein	1.252	34.06	50.81	15.13

ANALYSES OF FOREIGN COALS,

USED IN THE MANUFACTURE OF IRON.

COUNTRY.	LOCALITY.	Name of Bed.	Volatile in Coking.	Carbon.	Ashes.	Color o
England.	Forest of Dean	Cinderford	36.00	62.0	2.0	Red.
do.	Parkend	Cinderford	39.00	58.5	2.5	Ochre.
do.	Coleford	High Delf	32.03	63.72	4.25	Red.
do.	Starkey	S I S I S I S I S I S	36.72	61.53	1.75	Red.
do.	S. Staffordshire	New Mine Top	45.100	52.775	2.125	Pink.
do.	S. Staffordshire	Fire Clay	46.35	51.40	2.25	Buff.
do.	Bentley	Ten Yard	34.18	63.57	2.25	White.
do. do.	Lane End(N. Staffordshire)	Bassey Mine	38.70	58.30	3.00	Pink.
do.	Lane End (best fur-)				1 3
do.	nace), N. Stafford-	}	32.30	65.20	2.50	White.
do.	shire	1 1 7 1 1 1 1 1	311 8 5			
do.	Golden Hill	Spendcroft	39.58	58.67	1.75	0.0
do.	Golden Hill	Little Row Bed	34.53	62.47	3.00	Gray.
do.	Shrophshire	Randle Coal	32.81	64.19	3.00	White.
do.	Shrophshire		41.38	57.87	0.75	Fawn.
North Wales	Daymho	Three Yard	35.70	62.70	1.6	Light.
North wates	S Brymbo		34.100	64.582	1.318	Gray.
England.	Churchway	9 - 4 - 9 1 - 1 - 1	35.67	60.33	4.0	Brown.
do.	Churchway		34.740	64.135	1.125	Fawn.
do.	S. Staffordshire	Corbyn's Hall (Tow	1 6 6			1 1 1 1
do.	1. 2	Coal)	40.6	51.9	7.5	Gray.
do.	S. Staffordshire	Do. do. (Heath-	- 17 7			
do.	A-1 2 7 2	ing Coal)	43.33	54.17	2.50	Buff.
do.	第一次 医重星性	Do. (Bottom Vein)	32.00	62.870	5.125	Pink.
do.	do. Bentley	(Five ft. Splint Coal)	45.83	49.42	4.75	Red.
do.	N. Staffordshire		39.11	58.89	2.0	Gray.
do. do.	Golden Hill		37.70	60.80	1.75	Gray.

SECTIONS.

The following tabular view of sections of Rocks in various parts of the State, is designed, more especially, to show their relative position with regard to the coal beds. They are details of the illustrations prepared for and intended to elucidate the Geological Report. As no appropriation has yet been made for engraving or lithographing maps or sections, it has been deemed best to furnish such information, in the present form, as may probably aid those interested in the economical matters now being published.

B War San Company	LEXAN	DER COUNTY.
SEC. 2, T. 14 S., R. 11 W. White quartzose limestone, Buff colored shale,	30 25 45 100	5½ MILES NORTH OF THEBES, NORTH SIDE OF SEXTON'S CREEK. 150 150 160
BIG CHAIN, 3 MILES ABOVE CAL- EDONIA. Hidden, Yellow clay,. Sandstone, White clay, Slaty sandstone,. Shale, with fossils, Hidden,		CI COUNTY.
list	POPE	COUNTY.
SLOAN'S HILL. Sandstone,	FEET IN 20 90 20 38	CARROLL'S PLACE. Archimedes limestone, 16 Hidden, 6 Shale and clay, 14

HARDIN COUNTY.

BLUFF AT ROSICLARE.	FEET	IN.	Don't ko ways	Substitut Son work	all
Sandstone,Limestone,		16	Spires (R)	designed, more	d paletta
Sandstone,	6	in	Ther years	The native str.	Prage
Limestone,	60	leon.	oketh ods -	religible of being	nai san
A. of and the st steel to	201	all.		no markenin to	tory but

GALLATIN COUNTY.

4 MILES WEST OF SHAWNEETOWN. Mountain limestone and millstone		IN.	NEW HAVEN.	FEET 4	IN.
Slope,	48	9	Black slate, with nodules of black limestone,	1	1
Sandstone,	21	8	Gray clay shale,	2	6
Rocks covered,	87	3	Alternation of sandy and clay		
Limestone,	3		shales,	12	
Covered,	35		file and the second second	100	11/2
Black limestone,	6		er construction	abev!	1,5
Covered,		7			
* Vil. Terror to award to mile of	201	8	T COMP		
3½ MILES N. E. OF SHAWNEETOWN. Dip 7° N. 15° W.	11		BE	Abura.	die
Conglomerate,		3	1 100		1
Limestone,	9	will	The state of the s		ARREST,
Black shale and black limestone	23	net	The same of the same		
Slope,	30	4			G.
Clay shale,	35	0.8			
Black slate,	1	6			
Iron with fossils (Grayville bed)		4	Total from the second service		-
Coal,		3½ 6	1234 3780		
Clay shale,	10		18		
Covered,	15		ac mestava anosi masa	11 204	1313
				= 19	15:
	40.00			744.1	11/2

SALINE COUNTY.

MEEK'S FARM.	FEET	IN.	SOUTH PART OF SALINE COUNTY. FEET	IN.
Millstone grit		10	Section showing the denuda-	
Hard Quartzite,	45	9	tion the mountian limestone	
Altered shale cont'g coal plants	19	3	and the millstone grit have	
Hard quartzite,	8		undergone, prior to the de-	
Coarse sandstone,	13	-4	position of the coal measures.	
Shale,	13		Hard quartzite,	8
Thin-bedded sandstone,	10	6	Coarse sandstone, 1	3
Covered,	28		Shale, 1	3
Shaly limestone with Archim-	E73		Thin-bedded sandstone, 1	0 6
edes,	6	27/4	Covered, 2	3
Light blue limestone,	4	4	Limestone with Archimedes, 1	0 10
Brown marl,	1	4	Brown marl,	1 4
Yellow veined limestone,	1	6	Limestone,	1 6
Covered,	15		Covered, 1	5
Sandstone,	10		Sandstone, 10)
			The second secon	-
	174	8	111	1 2

WILLIAMSON COUNTY.

		4.5		-	-
CRAB ORCHARD CREEK, BETWEEN F	EET	IN.	SALINE CREEK, ON MARION AND	EET -	IN.
MARION AND MURPHYSBORO.	-		GOLCONDA ROAD.	20	
Shale and clay,	27		Drift,	60	
Black slate and coal,	2		Sandstone,	16	60
Shale,	11		Shale,	10	1.
Sandstone,	15		Sandstone,	15	di.
Shale,	12			1	
TO TO TO THE PARTY OF THE PARTY		-		101	
State of the Samuel State	67	6	The state of the s		
	WHI	TE C	OUNTY.		
GRAYVILLE.	EET	IN.		1	4
Drift clay,			a to the second		aller.
Shale,	4	200	a de montantell ar		
Clay slate, with iron ore,	3			make -	
Shaly sandstone,	10		H H SI STORE SHOW	TE.	
Shary Sandstone,	10	.	in the second second	Sec. of	
Te unexploise of	17				
T	ACK	CON (COUNTY.	7.807	-
	FEET	IN.	HOLMAN & SMITH'S COAL BANK,	FEET	IN.
Gray limestone,	64	maall (MURPHYSBORO'.	-	
S. T. Marie Committee of the Committee o		100	Hidden,	50	In The
	64	100	Shale,	. 10	11535
BALD ROCK.	ninte:		Coal,	3	
Limestone,	107		Shale,	1	6
Chert,	100		Coal,	2	
and the state of the state of	-		B 1 - Dutchen		-
- Selection !	2001	5 111	The state of	661	6
F	RAN	KLIN	COUNTY.		
SEC. 5, T. 6, S. R., 2.E.	FEET	IN.	4 MILE SOUTH OF BENTON.	FEET	IN.
Sandstone,	.4	100	Shaly sandstone,	3	×.
Shale,	1		Iron conglomerate,	1	
Coal,	1	0.0	Coal,		8
		19 6	A College Commence of the		
The state of the s	6		Manufacture and the second	4	8
R	AND	OLPH	COUNTY.		170
3 MILES BELOW PRAIRIE DU			1 MILE BELOW CHESTER.	FEET	IN
ROCHER.	FEEL	IN.		110	. 110.
The second secon	10000	THE REAL PROPERTY.	Hidden,		
Hidden,	90		Limestone,	35	
Sandstone,	80	TA T	Sandstone,	22	
Limestone,	10		Limestone,	35	
			The state of the s	-	
- OU RESTRICTION TO A	90		OR THE PERSON NAMED IN	202	
CHESTER.		10.42	PRAIRIE DU ROCHER.	STORY.	7.1
Drift clay,	70	Dept.	Hidden,	120	TO B
Limestone,	70	Qu'il	Limestone,	90	- 0
Shale,	48	WY	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	-	NO LIGH
Limestone,	54	1000	145	210	20.12
			s. w. ½ sec. 2, t. 8, s. R. 6 W.		600
A model					
4.0	242			ento	rill.
fau	242		Massive sandstone,	54	riff In D
fac 1	242		Massive sandstone,	1	in D
	242		Massive sandstone,	27	in D
	242		Massive sandstone, Hidden, Limestone, Shale,	27 54	in D
	242		Massive sandstone,	27	in D
	242		Massive sandstone, Hidden, Limestone, Shale,	27 54	in D

ST. CLAIR COUNTY.

			(A)		1
	FEET	IN.	BIG CANTEEN CREEK.	FEET	IN.
Limestone,	4	600	Soil,	4	kij
Marly slate,	1	686	Alluvial clay,	9	
Coal slate,		9	Arenaceous marly slate,	3	6
Coal,	6	9	Sandstone,	12	6
Fire clay,	6	PAUL I	Slaty ferruginous clay,	1	6
Gray marl,			Arenaceous shaly limestone,	3	
			Gray hard limestone,	5	6
	18	6	Fire-clay,	15	1
FISCHER'S QUARRY.	2002	100	D 389 (\$10)		
Soil,	5	141	7. 318-518-01	54	4
Alluviol alov	21	6	QUARRY NEAR CASEYVILLE.	01	
Alluvial clay,	1	9	and the state of t	3	106
Shaly limestone,		170	Soil,		ed)
Arenaceous limestone,	1	6	Alluvial clay,	3	
Blue limestone with seams of		9	Argillaceous sandstone,	9	6
ferruginous clay,	8	6	Silicious sandstone,	2	6
a section of the sect	-		Argillaceous sandstone,	?	
and the same of the same	38	3			-
HARRISON'S QUARRY.	1	1	and the second of the second o	18	
Soil,	6	1.500	CHURCHILL'S COAL BANK.	- 4	10.0
Alluvial Clay,	32	6	Soil,	?	1967
Yellow clay,	1051	8	Limestone,	3	97
Marly clay,	2	9	Soapy Clay,		2
Blue limestone,	4		Coal,	6	_
Dide illiestone,	*		Fine Clay	9	
The state of the s	4.5	11	Fire-Clay,	COLUMN	81
the second second second second	45	11	4,	-	-
HAZEL CREEK QUARRY.	17 10 4	11000	The second secon	9	2
Micaceous sandstone,	1	8	ANDERSON'S SHAFT.		-
Ferruginous shale,		10	Soil and alluvial clay,	38	
Seam of iron ore,	- 10	13	Yellow clay,	15	
Micaceous sandstone,	5	TAO.	White limestone,	6	
Gray sandstone,	4	0	Marly slate,	2	
			Blue limestone,	5	-
The second secon	11	8	Dark calcareous rock,	7	0.00
			Coal,	7	6
Soil,	?		Fire-clay,	9	
Alluvial clay,	3		I'mo-ciaj,		2
	0	9		80	6
Slaty fire clay,	1 1	9	Land Market	00	0
Limestone,	4	0	0-11		1
Ferruginous marly slate,	-4	3	Soil,	3	6
Coal slate,	1	7	Alluvial clay,	3	
Coal,	?	35 .3	Limestone,	13	
Tore merry a same and		-	Fire-clay,	6	
110 To 100 To 10	. 8	7	The state of the s		-
WILSON'S SHAFT.	-		The state of the s	25	6
Soil and alluvial clay,	30		COAL BANK OF ILLINOIS COAL CO.		
Variegated clay,	10		Soil,	15	
Arenaceous clay,	15	0.900	Gray limestone,	3	-
Shaly limestone,	6	. 1	Coal slate,	1	3
Blue limestone,	6				
Hard blue rook	38		Coal,	?	
Hard blue rock,			Fire-clay,	1	
Coal,	6			0-	-
Fire clay,	111	6	The second secon	25	
Gray limestone,	?	HIL			
The value of the first of the f	-	-		1-7	
	111	6	97 .	28	
	(INITE)	md	The state of the s	-34	
				- 3 E	

ST. CLAIR COUNTY (Continued).

COAL BANK OF ILLINOIS COAL CO.	FERT	IN.	STONE CREEK.	1	1
Soil,			DIONA CITABLE	FEET	IN.
Alluvial clay,	1	1	Arenaceous limestone,	7	1000
Slaty marly limostone	i		Limestone,	4	-
Slaty marly limestone,	1	1	Marly slate,	4	6
Limestone,	5		Limestone,	2	4
Blue marly slate,		3	Specific Control of the Control of t	-	-
Coal slate,		7	The state of the s	17	10
Coal,	6	No.	PFEIFFER'S PLACE.	107.4	- 360
Fire-elay,	9	-	Soil and clay,	17	6
	-	-	Limestone,	6	
C 200	. 17	11	Coal slate	1	
42 12	-	-	Coal,	8	- 27
Soil,	9		Fire-clay,	?	3
Limestone,		e			MAN TO LE
Cool Clots	4		THE PROPERTY OF THE PARTY OF TH	32	6
Coal Slate,	1 2	5	BELLEVILLE.		
Coal,	5	25.012	Drift clay,	20	of the last
CARL N. W. SERVICE UNIX	-	-	Limestone		LU IN
1,700	. 9	11	Limestone,	8	ALTON B
The same of the same of	200	100	Marly clay,	7	
Soil,	?	(4)	Sandstone,	16	
Coal Slate,	1	6	Limestone,	1	000
Coal,	6	in the	Clay slate,	6	2
Fire-clay,	?	1	Limestone,	3	
2 220 0149 9		3.3	Coal,	7	
The state of the s	H	0	Company of the second s		-
The state of the state of the	7	6	The state of the s	68	THE REAL PROPERTY.
C III	200	March 1	BECHHOLZ'S COAL BANK.	- 50	
Soil,	1	6	Soil and alluvial clay,	10	
Gray limestone,	2	6	Marly slate,	9 5	13 50
Marly slate with limestone,	2	6	Blue limestone,	2	9
Gray limestone,	1	8	Fire clay	2	0
Limstone with marly slate,	1	6	Fire-clay,	1	6
Gray limestone,	1	3	Coal,	5	6
Coal slate,		5	Fire-clay,	. 9	
Coal	4		7 Mill Toronto Toronto Maria	-	
Coal,	*		The state of the s	24	3
	10	4	ROCK CREEK, SEC. 9, T. 9, S. R. 4 E.		
	15	4	Shale,	10	
A WELL 208 FEET N. E. OF THE			Black slate and coal,	1	
NORTH ENTRY NEAR CASEYVILLE	1		Fire-clay,	2	BOH.
Drift clay,	26	8	The state of the state of the state of		-
Limestone,	1	6	The state of the s	13	A CARL
Blue marly clay,	1	10	WILSON'S COAL BANK.	Des	
			Soil,	?	70
	30		Alluvial clay,	42	
1 MILE S. OF BOLL'S PLACE.	0.0		Marly slate,	· 1	
Soil and clay,	9		Marly slate,	7	
Shaly sandstone,	2	12	Black slate,	2	4
Marly slato			Rlue limestone	-	
Marly slate,	10	10	Blue limestone,	6	
Coal slate,	1	10	Coal slate,		6
Coal,	3	6	Coal,	6	
Fire-clay,	6		Fire-clay,	?	
Fig. 1	7	-			-
The same of the	23	4		64	6
MILE S. E. OF BOLLES PLACE.	11.50	100	DILG & KEMPFF'S SHAFT.	darle	
Soil,	1	1	Soil and alluvial clay,	29	140
Clay, sand and gravel,	2	2	Limestone,	15	
Sandstone	6	2	Coal slate,	3	
Sandstone,	0	4		7	
The state of the s		-	Coal,	9	
	9	0	Fire-clay,		
			No. of the last of	9.	2
	- 1/7		20 0	#54	-
	1.0			16	

MADISON COUNTY.

SHOAL CREEK.	FEET IN.	SILVER CREEK, EAST OF MARINE. Limestone,	3	IN.
stone,	3	Black slate, containing black limestone,,	titem	8
Sandy shale,		01/24	9	8
the country to the state of the	23 3	total transfer become	4	100

CALHOUN COUNTY.

The state of the s				nunni	TAT
CAP AU GRES.	FEET	IN.	HAMBURG.	FEET	IN.
Hidden,	. 50		Loess and drift,	80	
Fine-grained sandstone,	70		Crinoidal limestone,	60	-
Hidden,	10		Hidden,	125	
Sandstone,	4		Oolitic limestone,	6	1111
Hidden,	54	3	Compact bluish limestone,	10	
Sandstone,	26		Shelly limestone,	6	
The second secon	*		Compact gray limestone,	4	
To peragnocement set	214		The state of the property of		- 1
1 MILE BELOW GILEAD.	385	1	1 6 6 1	291	- 4
Sandstone,	2	100	MISSISSIPPI BLUFF, NORTH LINE	100	tes
Gray limestone,	12	SRIV	OF THE COUNTY.	1.30	
Magaesian limestone,	10	14	Blue clay,	14	
	10		Arenaceous bed,	3	
Blue clay, mostly hidden,	10.			12	
AFRICA DANCE N	0.4		Hidden,	12	
	24	2110	10	29	
HART'S PLACE, N. E. & SEC. 20,	480	100	1 07 - 10 0-		
T. 8, S. R., 3 W.	100	n	N. E. 4 SEC. 35, T. 12, S. R. 2 W.		
Fine grained, compact, fossil-		1-8	Dip 24° S. 20° E.	-	
iferous limestone,	20		Hidden,		1
Slate,	8		Crinoidal limestone,		1
Dark slate,	11	4"	Hidden,	30	
Gray shale,			The state of the s		1
	The last			115	
	53		1. 7. 50		
1 MILE ABOVE CAP AU GRES.	1	(41)	the property of the second	1	
Hidden,	54	1	a signed selection of the control of	1	1
Gray limestone with fossils,					12
Slaty limestone,					
Fine grained sandstone,	-			1.45-0	1
Fawn colored sandstone,					
Ash colored sandstone,		1	700		
Ash colored sandstone,	12	lulus.	the state of the s	1	12
	167				1
w same and the sam	167			1	

CUMBERLAND COUNTY.

EMBARRAS RIVER.	FEET	IN.		FEET	IN.
Sandstone and soil,	33		Bro't forward,	52	10
Coarse sandstone,		8	Hard sandstone,	74	10
Sandy shale,	2		Nodular sandy shale,	3	
Greenish clay shale and thin lay-			Thin sandy shale,	6	4
ers of black coaly matter,	13	1	Coarse sandstone,	2	7
Ferruginous limestone,	27.199	8	Sandy shale,	4	3
Clay with iron stone,	1	6	Covered,		13.
The second of th				-	-
The second second	52	10		82	

VERMILION COUNTY.

	.4			LECT TO	
PARIS'S MILL.	FEET	IN.	COOK'S MINE.	FEET	IN.
Yellow Sandstone,	15	100	Soil and drift,	20	
Micaceous sandy shale,	2	EP	Sandy shale,	18	THE PARTY OF
	3	-	Dark clay shale,		HICE.
Yellow sandstone,	100	. 3	Dark Clay Shale,	12	MOL -
Sandy shale,	2	-	Coal,	3	6
LANGE OF TUES OWN TANK	-	-	Hidden,	5	SU.
Ann Spieler	22	011			
DR. FITHIAN'S QUARRY.	THE NAME OF	of the	The state of the s	58	6
	11		JOSIAH SANDUSKY'S.	SA STEE	
Soil and drift,			Sandy Shale with thin seams of		23
Sandstone,	15		dendators	ACCUSATE RATE	et Don
Silicious clay shale,	10	119	sandstone,	65	D'EN
Clay shale,	4	175	Sandy shale,	11	19/5
Coal (Seam No. 6),	1	9	Silicious clay shale with nodu-	and the same	150
0000 (000000 2101 0))	1		lar iron ore	16	
TO PERSONAL PROPERTY OF THE PARTY OF THE PAR	41	433	Clay shale with nodular iron		
	41		THE PROPERTY AND ADDRESS OF THE PROPERTY OF TH		43
THORNTON'S MILL.	STEEL ST	0.48	ore,	11	18
Soil and drift,	44	di Y	Fossil bed,	100	3
Clay shale,	16	132	Coal,	6	6
Coal,	3	6	Fire-clay,	2	24
			Coal,	1	6
Blue fire-clay,	7			10 +	V
Indurated shale,	1	3	La company of the second secon	113	9
Sandy shale,	5		in and in the same and a service	110	9
Sandstone,	11	9. 1	ALEXANDER'S COAL MINE.	100	
THE RESERVE TO SHEET THE PARTY OF THE RESERVE TO SHEET THE PARTY T	-		Soil and drift clay,	9	123
	07	9	Fossiliferous clay shale,	1	
THE RESIDENCE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN	87	9	Fossil bed,	138	2
NORTH FORK, W. OF DANVILLE.	MAT OF	1	Coal (No. seam 4),	6	6
Soil and drift clay,	3	all o	Fine class	1	
Bluish gray limestone,	2		Fire-clay,		. 2
Clay shale,	4	33	Coal (seam No. 3),		1
Coal (Coam No 9)	2	ST.	Fire-clay,	5	257
Coal (Seam No. 2),			Silicious clay,	8	14
Fire-clay,	5	11/2	Limestone	2	HU
Sandy shale,	23	AL.			
A STATE OF THE PARTY OF THE PAR	-	-	Clay shale,	4	
	36		Coal (seam No. 2),	1	2
w w wn a 1 and 1 m 10 n 11	04		Fire-clay,	6	
N. W. FRAC. 1 SEC. 1, T. 18, R. 11.	00	12	Sandy shale and shaly sandstone	25	
Soil and drift clay,	34		terroller of the Methodale Date our	-	411
Dark calcareous slate,	3		100 (B) 100 (C) 100 (C) 100 (C) 100 (C)	70	1
Black bituminous slate,	. 3	1353	SEC. 26, T. 19, R. 13.		190
Clay shale,	1	8			1
Calcareous sandstone,		3	Soft sandstone,		100
		0	Sandy shale,	12	ECS.
Blue sandy shale,	2 7	100		-	-
Sandstone,		- 6	0 0	24	03
Hidden,	11		HANGING ROCK		
Tracta to green duck	-	-	Soil and drift clay,	9	
The state of the s	69	11	Heavy bedded sandstone,	32	1
ATTA LOG 1 B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		41	Don't clay chale with	02	
CHICAGO & DANVILLE COAL. CO.			Dark clay shale with nodular		
Clay shale,		8.3	iron ore,	12	
Dark clay shale,	8	1	Black slate,	3	8
Coal,			Black bituminous shale,		4
Coal and clay,			Coal,		
		1 -	Pine alar	1000	
Coal,			Fire-clay,	800	10
Fire-clay,			Coal,	1	1
Silicious clay,	6	1	Fire-clay,	3	1
Limestone,			Hidden,	. 8	
				-	1
Calcareous slate,	1			170	10
Coal,			OF - 10 - 16	10	10
Fire-clay,			SEC. 25, T. 19, R. 13.	The same	
Sandstone,	16		Brecciated limestone,	12	
17	-	-	- 0.00	-	-
u 1 6	101	8		13	
	1 101	10	II e	1 10	1

VERMILION COUNTY (Continued).

MOUTH OF STONY CREEK.	FEET 16		MAKERSON'S BRANCH.	FEET	1
Sandy shale,	4	1	Drift, Thick bedded yellow sandstone		
	2		Thick bedded yellow salidstone	4 04	1
Clay shale,	2	7.43.76		99	
Situminous slate,	4	6	WENGON'S COLL WINE CRUPE CR	32	
Coal (seam No. 5),		0	HENSON'S COAL MINE, GRAPE CR.	0	
A STATE OF THE STA	0.4	0	Thin bedded sandstone,	3	
According to the last of the l	24	6	Thick bedded sandstone,	11	
SNAKE DEN.	00	1	Sandy shale,	16	
Orift clay,	30		Soft white sandstone,	5	
Yellow sandstone,	10		Coal (Seam No. 1),	7	H
licaceous sandy shale,	12	139	Hidden,	3	
	-	-	A Marie Contract Cont	-	-
The second of the second secon	52	500	Alegania francisco de la companio	45	
LLIS'S BRANCH, NEAR GEORGE-		100	GRIFFITH'S COAL MINE.	1000	
TOWN.	12		Soil and drift,	20	
Prift,	5		Thin bedded sandstone,	8	
Clay shale,	18		Silicious clay shale,	39	N.
Coal,	3	6	Clay shale,	28	
ire-clay,	?	akad	Fossil bed,	o Sro	
Brown sandstone,	3		Coal (Seam No. 4),	6	10
alcareous sandstone,	12	1 8	Management of the second	-	gan
haly sandstone,	15	.8	All Marie Constitution of	101	1
LA Sergia gala son	-		LEONARD'S COAL MINE.		
		25	Soil and drift clay,	28	
LAFFERTY'S COAL MINE.		270	Blue limestone, fossiliferous,	1	1
oil and drift,	40	35.1	Black slate, containing nodules	Sec. 1	
Black clay shale,	6		of blue fossiliferous limestone,	3	
coal (Seam No. 2),	5	6	Coal (seam No. 2,)	6	
ire clay,	5		Fire clay,	5	
Iidden,	6	100	Sandy shale,	6	
ilducii,		1	Hard calcareous sandstone,	12	
The state of the s	62	6	Sandy shale,	3	
MAJOR VANCE'S MINE.		0	Dancy Bhate,	9	
	20	45	of seat, with a the	6.4	1
rift,and thin bedded	40	30.5	1 MILE ABOVE STATE-LINE.	64	+
	40		Coil and drift alor	0 =	
sandstone,	40	83	Soil and drift clay,	65	2
ilicious clay with nodular iron	00	-	Black slate,	4	1
ore,	22	V.	Bluish white clay shale,	1	
lay shale with nodular iron ore	28	100	Calcareous sandstone,	1	
ossil bed,	0	2	Sandy shale,	8	
oal,	. 6	6	the second second second	-	-
CHARL DANGE	77.0		The state of the state of the state of	79	1
The second of the second secon	116	8	1 MILE ABOVE MOUTH OF STONY		
E. 1 S. E. 1 SEC. 19, T. 19 R.	150		CREEK.		
12 w.	3 87	1	Soil and drift clay,	2	120
oil and drift,	28	Kin 1	Thin bedded sandstone,	14	1
andy shale, with brown calca-	0-100	ORT .	Light gray sandy shale with	10 10	1
reous sandstone,	22	11	nodular iron ore,	66	1
ilicious clay shale, with nod-	100	0	8 1 naugenous acceptable is	453	-
ules of iron ore,	50	路	Can and the control of the control of	82	
L. A	_4		BLACKAMORE'S MINE.	9	1
In the second	100	71	Hidden slope,	44	į,
18 Horney Courses	ay to fi	ft.	Black clay shale,	4	-
			Coal,	4	
				-	
			the second secon	-	-

VERMILION COUNTY (Continued).

Soil and drift clay, ? Sandy	ECKWITH'S COAL MINE. FEET	
Soil and drift clay, ? Sandy		IN.
	slope,	TO ST
Black slate, 4 Cray st	lale, 34	No. of
Red clay shale,	eam No. 4)	8
Micaceous sandstone 1 4 Fire-cla	V 1	2
Sandy shale, 1 8 Coal (s	eam No. 3),	10
Sandstone, 10 Fire-cla	у,	
Hidden, 22 Siliciou	is clay shale, 12	100
Blue li	mestone, 2	6
40 8 Dark c	lay shale, 4	
	eam No. 2), 3	1
Soil and drift,	Cant 110. 2),	188
	0.7	-
	91	2
Sandy shale, 15 CAROTH	ERS & BALL'S COAL MINE.	1027
Thin-bedded micaceous sand- Soil and	d drift, 25	H
	ale, fossiliferous, 8	
Sandy shale, 7 Fossil I	oed,	6
Coal (s	eam No. 4),	3
68 Fire-cla	ау,	4
BUTLER'S MILL. Coal (S	eam No. 3), 1	
Drift clay, ? Fire-cla	ay, 5	1
	is clay, 9	183
Clay shale with nodular iron Blue li	mestone, fossiliferous, 2	-
1 0 1 73 1	late with nodules of blue	S. Land
		BIT
	liferous limestone, 4	1
	eam No. 2),	1
Black slate, 1 10 Fire-cla	ay,	
Coal,	shale,	
Fire-clay, 6 Sandst	one, irregularly bedded, 14	111
Micaceous sandstone, ? Sandy	shale with nodular iron	36
ore,		735
28 6	and the latest and th	-
SALT FORK, ½ MILE ABOVE NORTH	102	3
	EONARD'S QUARRY.	
	d drift clay, 25	
Silicious clay shale, 20 Thin-be	edded sandstone, 3	
	sandstone, thick-bedded, 14	1
		1
	shale, 24	13.77
Fire-clay, 1 4		
Coal (seam No. 3), 1 2	66	
Fire-clay, 4	The state of the s	
Silicious clay shale, 10	CESTIFICATION OF THE PARTY OF T	
Blue limestone, 2 6	The second secon	
Black slate (fossiliferous), coal 4		
(seam No. 2),		
Fire-clay, 4	AND A THE RESERVE	-
	1888	177
Sandy shale		1
Sandy shale, 11		
Sandy shale,	A CONTRACTOR OF THE PARTY OF TH	

SCHUYLER COUNTY.

s. w. ½ sec. 36, t. 2 N., R. 1 W.	FET	IN.	1 MILE E. OF CAMDEN.	FEET	IN
Drift clay	?	183	Drift clay,	?	Do:
Limestone,	1	·	Shale,	3	13
Black slate,	3	182	Black slate,	VED !	6
Coal,	4		Shale,	-5	10
Fire-clay,	5	8012	Sandstone,	40	O.F.
Limestone,	1 40	6	distant the second of the second		-
Shaly sandstone,	40	TIS	10 THE COURT OF STREET	48	6
	54	6			
1 10 0 1	94	0			
N. W. 1 SEC. 12, T. 3 N., R. 1 W.	9		MCKEE'S MILL, SUGAR CREEK.	276	-
Drift clay,			S. W. 1 SEC. 17, T. 2 N., B. 1 E.	9	
Sandstone,	15 2 8	6	Drift clay,	33	-
Coal		0	Shale,	25	
Hidden,	12	-0.1	Sandstone,	7	0
Limestone,	14		Shale, with iron ore,	6	0
State of the state	37	6	Limestone,	0	
Ma. Indiana Karasa and American	91		The Market of the Control of the Con	73	6

CALHOUN COUNTY.

FEET		BATT'S PLACE, SEC. 14, T. 11		IP
.)		S., R. 2 W.	- 1,00	6
			9	8
	0073		9	do
	400		94	
	0.4			
1000			1000	ı
and the second	1075		1000	
			450	
		Zaradoli,	**	
256		THE RESONATION AND THE PARTY OF A	174	r
ZELL.		MILE ABOVE HARDIN.	Affo	
Diggs.	98	Upper beds mostly hidden	?	3
distant	- 127	Grav limestone	6	
Britan All	W.	Hidden.	21	d
WELVES	18		8	
21153		Crystalline limestone.	5	1
	-	Blue clay	9	3
1		Gray limestone with fossils		4
36.3	1	Will looping,		
1		8 8	relia o	
	60 10 5 65 60 41 20	60 10 7 65 60 41 20	Drift clay Crinoidal limestone, Ash colored, slaty limestone, Blue clay, Gray fossilsiferous limestone, Hidden, Hidden,	60

JERSEY COUNTY.

	OFIC	DIAL		NAME AND ADDRESS OF	
8 MILES BELOW GRAFTON, BATES' WOOD YARD. Loess and drift,	?	in.	LANGLEY'S COAL BANK, S. W. 1 SEC. 10, T. 7 N., R. 10 W. Drift,	9	IN.
Crinoidal limestone,	44		Limestone in fragments, Black slate,	3 2	
beds,	75	Tati	Coal	5	
Limestone,	20		Fire-clay,	?	BER
The second second second	139		1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10	理は
RIVER BLUFF, 3 MILES BELOW MACOUPIN CREEK.		100	ON PIASA, 1 MILE S. OF DELHI.	9	
Drift and loess,	?	-	Drift,	8	de:
Orinoidal limestone,	30	70.3	Chert,	5	
Ash-colored shaly bed, Hidden,	15.	Per i	Fine grained sandstone,	20	
	- 10			33	
	123		SEC. 9, T. 6 N., R. 13 W.	1.74	
SAVAGE'S COAL BANK, SEC. 17, T. 7 N., R. 10 W.			Drift clay,	?	
Drift,	9		Gray limestone, with fossils,	20	E CO
Black slate,	200		The State of the S		de
Coal,	2	6	I de la constitue de la consti	60	207
riio-ciay,				A PARTIES	
			TO THE PROPERTY OF THE PARTY OF		
			The Higher South Section 19 to		
District the second of the second		ajajn r	COUNTY.	1 perm	
N. W. ½ SEC. 28 T. 4 S., R. 5 W.		ajajn r	COUNTY. Bro't up.	FEET 13	
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale,	FEET	ajajn r	Bro't up.	FEET 13	
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale,	12 12	ajajn r	Bro't up.	FEET 13	IN.
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale,	FEET 12	ajajn r	Bro't up. Coal, Slate	FEET 13	IN.
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale,	12 1 1 13	IN.	Bro't up. Coal, Slate	FEET 13 1 1 1	IN.
N. W. ‡ SEC. 28 T. 4 S., R. 5 W. Shale,	FEET 12 1 13 BO	ND (Bro't up. Coal, Slate	FEET 13 1 1 1 15	IN. 6
N. W. ‡ SEC. 28 T. 4 S., R. 5 W. Shale,	BO FEET 3	ND C	Bro't up. Coal, Slate COUNTY. Bro't up.	FEET 13 1 15	1N. 6
N. W. ‡ SEC. 28 T. 4 S., R. 5 W. Shale,	FEET 12 1 13 BO	ND (Bro't up. Coal, Slate	FEET 13 1 15	1N. 6
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale,	BO FEET 3	ND C	Bro't up. Coal, Slate COUNTY. Bro't up. Clay shale,	FEET 13 1 15 15	1N. 6
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale,	BO FEET 3	ND C	Bro't up. Coal, Slate COUNTY. Bro't up. Clay shale,	FEET 13 1 1 15	1N. 6
N. W. ‡ SEC. 28 T. 4 S., R. 5 W. Shale,	BO BO 4	ND C	Bro't up. Coal, Slate COUNTY. Bro't up. Clay shale,	FEET 13 1 1 15	IN. 6
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale, Shate, MILES SOUTH OF POCAHONTAS. Limestone, Black slate, 12 MILES NORTH OF VÅNDALIA.	BO FEET 12 1 13 BO FEET 3 1 4 FAY:	ND (Bro't up. Coal, Slate COUNTY. Bro't up. Clay shale, Coal, County.	FEET 15 FEET 4 9 1 15	IN. 6
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale, Slate, 4 MILES SOUTH OF POCAHONTAS. Limestone, Black slate, 12 MILES NORTH OF VÂNDALIA. Clay	FEET 12 1 13 BO FEET 3 1 4 FAY FEET 10	ND (Bro't up. Coal, Slate COUNTY. Bro't up. Clay shale, Coal, COUNTY. Bro't up.	FEET 13 1 1 15	IN. 6
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale,	BO FEET 13 13 14	IN. 6 6 6 IN.	Bro't up. Coal, Slate COUNTY. Bro't up. Clay shale, Coal, County.	FEET 13 1 15 15 FEET 4 9 1 15	IN. 6
N. W. ½ SEC. 28 T. 4 S., R. 5 W. Shale, A MILES SOUTH OF POCAHONTAS. Limestone, Black slate, 12 MILES NORTH OF VÂNDALIA. Clay, Limstone (with spirifer La-	BO FEET 13 13 14	ND (Control of the control of the co	Coal,	FEET 13 1 15	IN 6

CLARK COUNTY.

CROOKED CREEK 11 MILES W. OF	FEET	IN.		11 MILES EAST OF AUBURN.	FEET	IN.
TERRE HAUTE.	OF ST	300		Soil,	4	ir
Rocks covered with sand, etc.	30	WIN.		Sandstone,	20	99
Alternations of clay and sandy	plant	015		Black slate and coal,	140069	8
shales,	15		1	Sandy clay shale,	8	1
Black clay and pyrites,	30.55	7		Dark clay shale,	4.00	6
Black slate,	3	9711		Sandy shale,	1	. 6
Coal,	1			Clay shale,	2	
Clay,	10	Tech	15	Sandstone,	4	
TERRISO ESTRE	19.41	-100		The State of the S	-	-
The state of the state of the	-59	7		Production of a production of	40	8
LIVINGSTON.	475-40	HOLE		1 MILE SOUTH OF AUBURN.	1715	117
Slope,	30	enty		Covered,	20	
Thin broken limestone,	9	1.00		Sandstone,	25	0.4
Thin bedded limestone,	10	1		Black limestone,	533	8
Blue clay,	5		10	Clay shale,	4	
Coal,		6	1	English Land Lord Land		
Clay,	?	POW		THE THE THE PARTY NAMED IN	49	8
Sandy shale,	7		10	The state of the s	PE A	
Ripple-marked sandstone,	2	433		TO THE PARTY OF TH	000000	Ĥ,
Clay shale,	8		1	The state of the s	SECTION.	300
Iron ore,		1		The second second second	200	
Clay shale,	3			THE PARTY NAMED AND THE PARTY OF	100	
Ferruginous limestone,	0.00	5		THE RESERVE OF THE PARTY OF THE		
Alternations of clay shale, with					nad)	
a layer of large blocks of		0		The state of the s		
nodular limestone,	60	130		METERIMANIA DAY EMPLEY		
reconstruct, only make as consum			-	a desired the second of the second	1	
94,3883	100	mal	1	LAKE TRANSPORTATION ASSESSMENT OF THE PARTY	5.50	1

RANDALL'S MILL, SEC. 2, T. 9 N.,	FEET	IN.	BLANCHARD'S COAL BANK.	FEET	IN.
R. 10 W.			Drift,	?	
Drift clay,	?		Sandstone,	8	
Shale,	4		Slate,		2
Sandstone,	9	7	Coal,	2	8
Shale,	12		Fire-clay,	9	Par.
B & ma Partie	5.5				
18	25	is it is		10	10
21 MILES N. E. OF WHITEHALL.		-	RIVER BLUFF, N. SIDE OF MA-		-
Drift,	9		COUPIN CREEK.	6.00	
Shale,	10		Drift,	9	
Black slate,	I	6	Crinoidal limestone,		
Coal,	2	4	Ash-colored shale,	10	
Hidden,	6	8070	Hidden,	45	
Limestone,	4		The symula is about the space to be		100
A 107 A 100			THE OWN PARTY OF THE PARTY OF T	123	
A STATE OF THE PARTY OF THE PAR	99	10	H. V. Post C. Petrolike Committee	1.20	The

ADAMS COUNTY.

			occitiz.	14	The same
NEAR MENDON.	FEET	IN.	S. E. 2 SEC. 36, T. 3 S., R. 8 W.	FEET	IN.
	2	100	Loess and drift,	40	34/2-3
Drift clay,	10	Mark.	Chart in fragments	V 70 - 445	
Sandstone,	1000000	77.8	Chert in fragments,	18	HILE.
Concretionary limestone,	,12	2023	Crinoidal limestone,	31	
Arenaceous bed,	16		Arenaceous bed,	6	
Magnesian bed,	6	1	Hidden,	41	
	6				
Hidden,	U	* A		136	7.5
	50	\$25b	g w 1 cmg 19 m 9 M p Q m	200	100
Land Constitution of the	50	-18	S. E. 2 SEC. 12, T. 2 N., R. 8 W.		
QUINCY CITY (LOWER PART).	A	10000	Drift,	?	100
Loess and drift,	62	CA	Gray shale,	15	Bleat
Limestone,	33	SC-1	Coal,	2	6
	28			. 9	685
Hidden,	40	200	Fire-clay,	1	MOT -
THE STATE OF THE PARTY OF	7200	7		7 10	-
The same of the sa	123		The second of the second second	17	6
	aoma		YYYYMYY	0.00	
· · · · · · · · · · · · · · · · · · ·	COTI	r CO	UNTY.	3 56	E
EXETER.	FEET	IN.	SEC. 31, T. 15, N. R. 16 W.	FEET	IN.
A SAN OF		7740		2	
Slate,	3		Drift and loess,	LL STANK	
Coal,	2	8	Slaty clay with geodes,	. 30	1000
Clay	6		The state of the s		-
Limestone,	22	1715	The state of the s	30	-
		112	WINCHESTER.	O'SEN	-
Hidden,	12	1.7	Limestone,	14	1.5
	4 -			16	
	45	8	Conglomerate,		
N. E. 4 SEC. 14, T. 13 N., R. 12 W.	13 1	1 8	Magnesian bed,	26	-
Sandstone,	6	0.57	BY STATE THE THE THE MEAN	-	100
	3	6		56	
Slate,				1.63	and the
Coal,	2	8	The lead of the state of the st	Service S	0.10
Fire-clay,	4	800	A. The second of the second	CHILL N	(21)
		1			4557.
Limestone	6			197522	
Limestone,	6		- 100 Terretarion comme	TOTAL	
Limestone,	22	2	5 105	AND T	
Limestone,	22		104	1000	
Limestone,	22		COUNTY.	W. F.	
Aprile Aprile April Apri	BRO	WN		W. F.	IN
MT. STERLING ROAD, 2 MILES S.	BRO		2 miles n. of mt. sterling.	FEET	IN.
Aprile Aprile April Apri	BRO FEET	WN	2 MILES N. OF MT. STERLING. Drift clay,	FEET 40	IN.
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL.	BRO	WN	2 miles n. of mt. sterling.	FEET	IN.
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,	BRO FEET	WN	2 MILES N. OF MT. STERLING. Drift clay,	FEET 40 10	611.
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone,	BRO FEET 20 2	WN	2 MILES N. OF MT. STERLING. Drift clay,	FEET 40	611.
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay,	22 BRO FEET 20 2 3	WN	2 MILES N. OF MT. STERLING. Drift clay,	FEET 40 10	611.
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone,	BRO FEET 20 2	WN	2 MILES N. OF MT. STERLING. Drift clay, Limestone,	FEET 40 10	611.
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay,	22 BRO FEET 20 2 3 56	WN	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay,	FEET 40 10 50 ?	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale,	22 BRO FEET 20 2 3	WN	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone,	FEET 40 10 500 ? 2	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay,	22 BRO FEET 20 2 3 56	WN	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay,	FEET 40 10 50 ? 2 5	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5,	22 BRO FEET 20 2 3 56	WN	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay,	FEET 40 10 500 ? 2	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W.	22 BRO FEET 20 2 3 56 81	WN	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone,	FEET 40 10 50 ? 2 5 25	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,	22 BRO FEET 20 2 3 56 81	WN	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay,	FEET 40 10 50 ? 2 5	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale,	22 BRO FEET 20 2 3 56 81	IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale,	FEET 40 10 50 ? 2 5 25	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,	22 BRO FEET 20 2 3 56 81	WN	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BLUFFS AT LAGRANGE.	FEET 40 10 50 2 5 25 32	and
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale, Slate,	22 BRO FEET 20 2 3 56 81	IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone,	FEET 40 10 50 2 5 25 32 105	and
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale, Slate, Coal,	22 BRO FEET 20 2 3 56 81	IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone,	FEET 40 10 50 2 5 25 32 105 15	and
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale, Slate,	22 BRO FEET 20 2 3 56 81	IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone,	FEET 40 10 50 2 5 25 32 105 15 1 1	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale, Slate, Coal,	22 BRO FEET 20 2 3 56 81 9 10 2 2	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BLUFFS AT LAGRANGE. Drift clay, Shale, Limestone,	FEET 40 10 50 2 5 25 32 105 15	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale, Slate, Coal, Iron clay,	22 BRO FEET 20 2 3 56 81	IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BLUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Shale,	FEET 40 10 50 2 5 32 105 1 3	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale, Slate, Coal, Little Missouri Creek.	22 BRO FEET 20 2 3 56 81 9 10 2 2 14	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay,. Gray shale, BEUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Coal,	FEET 40 10 500 2 5 25 32 105 15 1 1 3 2	
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale, Slate, Coal, Iron clay,	222 BRO FEET 20	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone,	FEET 40 10 500	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay, Limestone, Fire-clay, Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay, Shale, Slate, Coal, Little Missouri Creek.	22 BRO FEET 20 2 3 56 81 9 10 2 2 14	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay,. Gray shale, BEUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Coal,	FERT 40 10 500 2 5 25 15 1 3 2 7 6 6	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale,. CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,. Shale,. Slate,. Coal,. Iron clay,. LITTLE MISSOURI CREEK. Drift clay Shale,.	222 BRO FEET 200 2 3 566 811 9 100 2 2 2 144 9 12 12 12 12 12 12 12	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BLUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Coal, Fire-clay, Limestone, Limestone,	FEET 40 10 500	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,. Shale,. Slate,. Coal,. Iron clay,. LITTLE MISSOURI CREEK. Drift clay Shale,. Shale,. Little MISSOURI CREEK. Drift clay Shale,.	222 BRO FEET 200 22 33 566 81 9 100 22 14 9 12 5 56 66 67 67 67 67 67	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BLUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Coal, Fire-clay, Limestone, Shale, Limestone, Shale,	FERT 40 10 500 2 5 25 15 1 3 2 7 6 6	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale,. CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,. Shale,. Slate,. Coal,. Iron clay,. LITTLE MISSOURI CREEK. Drift clay Shale,.	222 BRO FEET 200 2 3 566 811 9 100 2 2 2 144 9 12 12 12 12 12 12 12	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BEUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Coal, Fire-clay, Limestone, Shale, Blue clay,	FEET 40 10 500 7 2 5 25 32 105 1 1 3 2 7 6 8 6 6 6 6 6 6 6 6	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,. Shale,. Slate,. Coal,. Iron clay,. LITTLE MISSOURI CREEK. Drift clay Shale,. Shale,. Little MISSOURI CREEK. Drift clay Shale,.	22 BRO FEET 20 2 3 566 81 10 2 2 2 14 2 12 5	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone,	FERT 40 10 50 50 50 50 50 50 5	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,. Shale,. Slate,. Coal,. Iron clay,. LITTLE MISSOURI CREEK. Drift clay Shale,. Shale,. Little MISSOURI CREEK. Drift clay Shale,.	222 BRO FEET 200 22 33 566 81 9 100 22 14 9 12 5 56 66 67 67 67 67 67	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BLUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Coal, Fire-clay, Limestone, Shale, Blue clay, Shale,	FEET 40 10 50	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,. Shale,. Slate,. Coal,. Iron clay,. LITTLE MISSOURI CREEK. Drift clay Shale,. Shale,. Little MISSOURI CREEK. Drift clay Shale,.	22 BRO FEET 20 2 3 566 81 10 2 2 2 14 2 12 5	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone,	FERT 40 10 50 50 50 50 50 50 5	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,. Shale,. Slate,. Coal,. Iron clay,. LITTLE MISSOURI CREEK. Drift clay Shale,. Shale,. Little MISSOURI CREEK. Drift clay Shale,.	22 BRO FEET 20 2 3 566 81 10 2 2 2 14 2 12 5	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BLUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Coal, Fire-clay, Limestone, Shale, Blue clay, Shale,	FERT 40 10 50 50 50 50 50 50 5	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
MT. STERLING ROAD, 2 MILES S. OF CAMPBELL'S COAL. Drift clay,. Limestone,. Fire-clay,. Gray shale, CAMPBELL'S COAL BANK, SEC. 5, T. 1 N., R. 3 W. Drift clay,. Shale,. Slate,. Coal,. Iron clay,. LITTLE MISSOURI CREEK. Drift clay Shale,. Shale,. Little MISSOURI CREEK. Drift clay Shale,.	22 BRO FEET 20 2 3 566 81 10 2 2 2 14 2 12 5	OWN IN.	2 MILES N. OF MT. STERLING. Drift clay, Limestone, 3 MILES N. OF MT. STERLING. Drift clay, Limestone, Clay, Gray shale, BLUFFS AT LAGRANGE. Drift clay, Shale, Limestone, Shale, Coal, Fire-clay, Limestone, Shale, Blue clay, Shale,	FEET 40 10 50	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)

PIKE COUNTY.

14 MILES FROM THE MOUTH OF	FEET	IN.	SEC. 9, T. 4 S., R. 7 W.	FEET	IN.
FISH-HOOK CREEK.	1201	10 the	Crinoidal limestone,	16	HU
Drift clay,	4	au City	Arenaceous bed,	23	Sold.
Blue marlites,	14	0.0	Hidden,	72	(Smg)
Magnesian bed,	6	STA B	50.00 1 00 1 00 1 00 1 00 1 00 1 00 1 00		Kee
Hidden,	24	Serie 1		111	AM.
Thursday	21		N. E. 1 S. 16, T. 5 S., R. 4 W.	1	
	48			9	
DOGEDORA	40	R-1	Drift,	6	
ROCKPORT.	9	200	Shale,	3	
Drift clay,	4 (2.187) (2.18)	200	Black slate,		10
Crinoidal limestone,	15	3	Coal,	1	Q
Hidden,	30				100
Shale,	3			10	6
Oolitic conglomerate,	4		1 MILE WEST OF BARRY.	100	
Slope,	80		Crinoidal limestone,	15	-
		124	Ash colored shale,	3	
THE WORLD WITH BUT THE STATE OF STATE O	132	29.1	Hidden,	24	225
KINDERHOOK		3.1			llon.
Loess and drift clay,	?		The same of the sa	42	200
Crinoidal limestone,,	13		MONTEZUMA.		2
Buff-colored arenaceous bed,	10			9	117
	23		Orift clay,	50	RG-I
with fossils,		3-1	Ormordal limestone, 50' to	90	DOM:
Concealed,	56			-	
The state of the s			8 10 10 10 10 10	50	
A STATE OF THE PARTY OF THE PAR	92	1035	N. W. 1 SEC. 18, T. 3 S., R. 4 W.		F 100
WELLS' PLACE, SEC. 17, T. 7 S.,			Gray shale,	12	19.54
R. 4 W.	1,38		Fossiliferous slate,	3	
Magnesian limestone,	10		Black slate,	4	
Gray limestone,	12		Coal,	val 1	6
Hidden,	30			-	-
				21	2
	52		11 MILES N. W. OF PERRY.	77	
1 MILES BELOW ATLAS.	-		Magnesian bed,	18	
Drift,	9		Geode bed,	45	
Crinoidal limestone,	12		Limestone,	4	West.
Arenaceous bed,	8	BOL	Interesting,	540	100
Hidden,	18			67	1
		1		01	100
Shale,	36			only-	1100
Slaty limestone with fossils,	2	13		160	e TV
Blue clay,	44	THE PARTY			7.55
Hidden,	27	Dist		-	
The second second	12.10		THE PARTY SERVICE THE PARTY OF	2300	97
The second second	147	1	CONTRACTOR OF THE REAL PROPERTY.	2 3	
M. M.	chon	TOTIG	H COUNTY.	Take A	173.6
				11111	
	FEET	IN.	N. W. 1 SEC. 33, T. 4 N., R. 3 W.		
Shaly sandstone,	5		Drift clay,30' to		1
Sandstone,	10		Shale,	2	137
Coal,	2000	1	Coal,	2	
Clay,	1				
O S Interest Contract		-	ARCHED MENORINE	44	
T CALLEST CONTRACTOR	16	1	CROOKED CREEK, CARTHAGE AND	July of	011
N. W. 4 SEC. 13, T. 5 N., R. 4 W.	19.16.14	taki	MACOMB ROAD,		1
STARKEY & DAVIS' COAL BANK.	1.40	1000	Drift clay, 40' to	60	1
Drift clay, 40' to	50	100	Sandstone,	6	1865
Shale,	20	- Cal	Shale	5	
Clay slate,	1	6	Shale, Concretionary limestone,	8	-
Coal,	3			53	1
Our,	9		Hidden,	05	
8 025 /	74	C		190	
	. 74	6 11		132	11110

McDONOU	GH	COU	NTY (CONTINUED).		
LOWRY'S COAL BANK. Shaly sandstone,	4 2 16 15 37	IN.	s. w. & SEC. 11, T. 5 N., R. 4 w. Drift,	FEET ? 3 2 44 1 9 6 15 80	in.
The second secon	VAR	REN	COUNTY.		4.
N. W. ‡ SEC. 16, T. 11 N., R. 11 W. F. Drift clay,	20 6 8 2 31 10 8 6 4 23 40 1 3 8 6 6 2	6 6	N. E. & SEC. 26, T. 9, N. R. 1 W. Sandstone and shale, Blue slaty limestone, Black slate, Coal, Slate, Sandstone, CEDAR CREEK, 3 MILES N. OF MONMOUTH. Drift clay, Black slate, Crinoidal limestone, SEC. 19, T. 9 N., R. 3 W. Shaly sandstone, Massive sandstone, Dark blue slate with iron ore,	3 8 2 3 1 2 	6
	55	8		34	
ON HENDERSON RIVER, 2½ MILES F S. E. OF OQUAWKA. Drift clay,		44	N COUNTY.	10 de	1 8 5 M

ROCK ISLAND COUNTY.

BLUFFS OF ROCK RIVER, OPPOSITE	FEET	IN.	1420		310					WHY.	1
CAMDEN.		PER.			PORT OF	1004		LI, WH	piza	ZAN	18
Drift clay,	- 75	6.19	A STATE OF	623	100	1.000	30				100
Shaly sandstone,	10			1	-		400 10		of the first	ONLY	108
Black slate,	4	No. In		M.		01.00	tob.	outs.	Militar	divis:	100
Coal	1	4						001		188	
Shaly limestone,	4	168		5年		V- 1943		A 78		1	1
Massive sandstone,	20	11021						1 3		1	
Devonian limestone,	10	160								81	
A STATE OF THE STA								1748			
STORY THE PROPERTY OF THE PROPERTY OF	124	4									

HANCOCK COUNTY.

1 MILE ABOVE THE STEAMBOAT	FEET	IN.	BLUFFS BACK OF APPANOOSE.	FEET IN
LANDING, NAUVOO.	COST	200	Drift,	miles of the
Drift clay,	20	a(8)	Concretionary limestone,	?
Sandstone,	12	10	Arenaceous bed,	42
Concretionary limestone,	5	E.6	Geode bed,	28
Arenaceous bed,	25	1000		30
Geode bed,	38	(C)	No. of the last of	
Limestone,	16		s. w. ½ sec. 24, T. 4 N., R. 6 W. Drift,	100
the state of the same	116		Sandstone,	9
CARTHAGE ROAD, 2 MILES S. E.	2,000		Concretionary limestone,	18
OF NAUVOO.	100 31	197	Arenaceous limestone and mar-	24
Concretionary limestone,	10	107	lites,	100
Magnesian limestone,	9	100	Mark Springer	20
Geode bed,	10	-01		
The state of the s			THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	62
	29		TO BE A DIE OF THE PARTY OF THE	

SCHUYLER COUNTY.

KING'S MILL, N. W. 2 SEC. 15,	FEET	IN.	BIRMINGHAM.	FEET!	IN-
T. 3 N., R. 4 W.			Drift,	20	-10
Sandstone,	12		Quartzose sandstone,	14	
Black slate,	3		Concretionary limestone	18	
Hidden	34		Arenaceous bed,	16	
Magnesian bed,	10		Magnesian bed,	10	
Geode bed,	24	13	Geode bed,	40	
			Limestone,	16	
The state of the s	83		The American St. Travia node		7:
S. E. & SEC. 17, T. 3, N. R. 4 W.	The second		AND SHAREST AND SH	134	
Drift clay,	?		N. E. 2 SEC. 18, T. 2 N., R. 1 W.	1800 A	
Black slate,	2		Shale,	6	
Coal and shale,		6	Limestone,	1	10.5
Sandstone,	6	1	Black slate,	3	
Concretionary limestone,	10	10.0	Coal,	4	
			AND THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.		
THE RESERVE OF THE PARTY OF THE	19	6	The second second	14	

HANCOCK COUNTY.

4 Line of the second se	-	-			-
MONTEBELLO COAL SEAM, S. W.	FEET	IN.		FEET	IN.
1 SEC. 5, T. 5 N., R. 8 W.	1.65%	1000	Drift clay,	5	10%
Drift clay,	? p	1280	Magnesian bed,	2	007
Shale,	25		Geode bed,	20	17
Slate,	5	WHI.	Limestone,	40	17.
Coal,	1	ball I	I STATE OF THE PARTY OF THE PAR		100
Sandstone,	25	-27		62	Shir
Sunda de la companya		-i.1	LITTLE'S COAL BANK, S. W. 1	02	VOICE
	56		SEC. 7, T. 5 N., R. 3 W.	100	LOS
BLUFFS, OLD FORT EDWARDS,	1			9	
	1217		Drift clay,	6	COX.
WARDAW.	20	1 4.70	Shale with fossils,	0	200
Drift clay,			Iron ore,		
Magnesian beds,	10		Septaria,	是一种	9
Geode beds,	45	Total S	Black slate,	All	6
Limestone,	16	DEST	Gray shale,	38	100
The state of the s	-	DIE.	Clay slate,	1	6
THE PROPERTY OF PERSONS	91	4	Coal,	3	
GRAVEYARD CREEK, WARSAW.	DACCE	11			-
Concretionary limestone,	5	and J		50	1
Arenaceous beds, with marlites,	25	10	WILLIAMS' CREEK, 1 MILE OF	05-0	199
Magnesian beds,	10		PULASKI.	5.55cm	(Fox
Geode bed,	45		Drift,	9	100
Limestone,	10	8	Sandstone,	14	4
	ab d	AJVI	Shale,	16	405
8 9 1	95	Cal	Coal,	12	6
3 MILES N. E. OF WARSAW.	00	610	Hidden,	8	
The Depth of the Control of the Cont	20	601		3	
Drift clay,		1111	Fire-clay,	0	
Limestone and marlites,	25	13.3	THE REAL PROPERTY AND ASSESSMENT OF THE PARTY OF THE PART	43	6
Cherty beds,	56	X.		43	0
Light gray limestone,	12	Leve	½ MILE BELOW HIBBARD'S, NAU-	1 20	Te.
N. Hardwine Death	-	EX.	V00.	14.	to de
THE PARTY OF THE P	113	P.L	Geode bed,	10	2.3
and Mandacon	DEED O	Refer.	Limestone and marlites,	30	
14	C. C. C.	Design	Cherty beds,	20	OTH
The state of the s			Name of the Park o	-	
	13 3		AND STREET IN STREET IN	60	
	1			7.00	

LA SALLE COUNTY.

ONE MILE EAST OF OTTAWA, FRET IN. PERLEY'S. Soil and alluvium. 4 Indurated clay 6 Coal. 1 6 Clay 6	LA SALLE, CORNER OF BEELEN AND LA SALLE STREETS. Gray crystalline limestone. Blue shale. Limestone, with earthy part- ings.	5	IN. 8
Sandstone. ? Limestone ? Indurated clay . 2 6 Sandstone, Silurian . ?	Black slate Coal Shale	6	3

VERMILION COUNTY.

ore 12 Hidden 10 4 Sandy shale 19 BELOW MOUTH OF GRAPE CREEK. 6 Coal 5 Below Mouth of GRAPE CREEK. 6 38 Light sandy shale with nodular iron ore 22 Sand and gravel 11 Clay shale 28 Black slate 1 Blue calcareous slate 3 Coal 1 Black bituminous slate 3 Clay shale 1 Blue sandy shale 8 8		111001	1110	N 0001111.		
Coal (Seam No. 4.)		FEET	IN.			IN.
Fire clay			5046			
Coal (Seam No. 3.)						120
Fire clay Silicious clay Blue limestone Blue limestone Black slate, with nodules of blue fossiliferous limestone Coal (Seam No. 2) Fire clay Sandy shale Hard calearcous sandstone Ore Hard calearcous sandstone Ore Hidden Ore Blue limestone Light silicious clay shale Light silicious clay shal	Fire clay					3
Fire clay	Coal (Seam No. 3.)		6	Black clay shale		SIE
Silicious clay. 9 Blue limestone 2 Black slate, with nodules of blue fossiliferous limestone 4 Coal (Seam No. 2) 4 Fire clay 5 Sandy shale. 9 Hard calearcous sandstone 14 Sandy shale with nodular iron ore 12 Hidden 10 BELOW MOUTH OF GRAPE CREEK. Soil and drift clay 4 BELOW MOUTH OF GRAPE CREEK. Soil and drift clay 4 BELOW MOUTH OF GRAPE CREEK. 6 Light silicious clay shale 17 Black bituminous shale 2 Sandy shale 5 Black bituminous shale 2 Coal 4 Fire-clay 4 Sandy shale 19 Arenaceous limestone 5 Coal . 9 EUGENE. 38 Black slate 11 Black slate 11 Black slate 11 Black slate 11 Black shale 22 VERMILION COUNTY, IND. The following sections in Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay 11 Black bituminous shale with nodular iron ore 12 Black slate 2 Black slate 3 Coal 2 Hidden 12 Hidden 12 Bright silicious clay shale 17 Black bituminous shale 17 Black bituminous shale 12 Black bituminous shale 11 Black bituminous shale 12 Black slate 2 Sand and gravel 11 Black shale 2 Sandy shale 2 WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 20 Yellow shaly sandstone 20 Yellow shaly sandstone 11 Sandy shale 3 Sandy shale 3 Sand and gravel 5 Blue sandy shale 15 WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 20 Yellow shaly sandstone 5 Sandy shale 3 Sandy shale 3 WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 3	Fire clay			Blue limestone	3	6
Blue limestone	Silicious clay		14.25	Dark clay shale	16	6
Black slate, with nodules of blue fossiliferous limestone	Blue limestone	2	PLI	Light silicious clay shale	17	
fossiliferous limestone	Black slate, with nodules of blue	11.00	100			
Coal (Seam No. 2)		4	NAME OF	Legs were week, in	43	3
Fire clay	Coal (Seam No. 2)	4	n.des	HORSE-SHOE BEND.	A 1915 L	
Sandy shale. Hard calcarcous sandstone. Sandy shale with nodular iron ore. Hidden 10 BELOW MOUTH OF GRAPE CREEK. Soil and drift clay 6 Light sandy shale with nodular iron ore. 22 Clay shale. 28 Blue calcarcous slate 3 Blue calcarcous slate 3 Black bituminous slate 3 Black bituminous slate 3 WERMILION COUNTY, IND. The following sections in Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay 11 Black bituminous shale with nodular iron ore 22 Black slate 3 Coal 24 WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 6 Blue and red limestone 16 Blue and red limestone 15 Sandy shale 5 WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 16 Blue and red limestone 15 Sandy shale 5 WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 5 Sandy shale 5 WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 5 Sandy shale 12 Hidden 12 Hidden 12 Black slate 3 Coal 2 Hidden 12 Hidden 13 Hidden 14 Hidden 15 Clay shale 19 Arenaceous limestone 5 Sand and gravel 11 Black slate 1 Black slate 1 Black slate 1 Sand and gravel 1 Hidden 12 Sand and gravel 1 Hidden 12 Black slate 1 Sand and gravel 1 Black slate 1 Sand and gravel 1 Hidden 12 Hidden 12 Hidden 15 Coal 4 WILLAMSPORT. Heavy bedded sandstone 2 Yellow shaly sandstone 1 Sandy shale . 3 WILLAMSPORT. Heavy bedded sandstone 2 Yellow shaly sandstone 1 Sandy shale . 1 Black slate 3 Sand and gravel 1 Black slate 1 B	Fire clay	5	1	Soil and drift clay	9	S-m
Hard caleareous sandstone. Sandy shale with nodular iron ore. Hidden	Sandy shale		10.50		2011/06/03	20
Sandy shale with nodular iron ore	Hard calegreous sandstone		337	Black hituminous shale	1	8
12 Hidden			MA.		4	6
Hidden 10		19			1	
BELOW MOUTH OF GRAPE CREEK. Soil and drift clay Light sandy shale with nodular iron ore Clay shale Blue calcareous slate Blue calcareous slate Black bituminous slate VERMILION COUNTY, IND. The following sections in Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay Black bituminous shale with nodular iron ore Black bituminous shale with nodular iron ore Black slate Coal Arenaceous limestone Sand and gravel 11 Black slate 12 Blue sandy shale WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 12 Blue and red limestone 13 Sandy shale WILLAMSPORT. Heavy bedded sandstone 20 Yellow shaly sandstone 32 Will amster 33 Will amster 34 Will amster 35 Will amster 36 Will amster 36 Will amster 36 Will amster 40 Will ams	Hiddan		0.34			
98 4 Coal	illuden	10		A representations		
BELOW MOUTH OF GRAPE CREEK. Soil and drift clay	The state of the s	00				and.
Soil and drift clay		90	. 4		Omo.	400
Light sandy shale with nodular fron ore		0	ADI.		00	77.0
Sand and gravel 11 11 12 12 13 14 15 14 15 15 15 15 15	Soil and drift clay	0			38	1 2
Clay shale			261		MI BA	000
Blue calcareous slate			and a	Sand and gravel	1	
Black bituminous slate	Clay shale		hd2		1 -	
VERMILION COUNTY, IND. The following sections in Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay 11 Black bituminous shale with nodular iron ore 12 Black slate 3 Coal 2 Hidden 12	Blue calcareous slate		ion	Coal		9
VERMILION COUNTY, IND. The following sections in Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay 11 Black bituminous shale with nodular iron ore 12 Black slate 3 Coal 22 Hidden 12	Black bituminous slate	3	N. TI	Clay shale	1	8
VERMILION COUNTY, IND. The following sections in Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay			151	Blue sandy shale	8	120
The following sections in Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUENE. Soil and drift clay 11 Black bituminous shale with nodular iron ore 12 Black slate 3 Coal 2 Hidden 12		62		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	
Heavy bedded sandstone. 20 Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay	VERMILION COUNTY, IND.			1 165	22	3
Indiana are given, because the coal beds which crop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay	mi cu d d	Sec 23	e 1	WILLAMSPORT.	120	ol.
Yellow shaly sandstone. 6 Blue and red limestone 1 Sandy shale. 5 Yellow shaly sandstone. 6 Blue and red limestone 1 Sandy shale. 5 Yellow shaly sandstone. 6 Sandy shale. 5 Zellow shaly sandstone. 6 Sandy shale. 1 Zellow shaly sandstone. 6 Sandy shale. 1 Zellow shaly sandstone. 1 Zellow shaly sandstone. 2 Zellow shaly sandstone. 3 Zellow shalp		12.00		Heavy bedded sandstone	20	
Coal Coal Mile Stop out at the places named extend into some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay			540			
Some of the counties of Illinois. ONE MILE ABOVE EUGENE. Soil and drift clay					1	
ONE MILE ABOVE EUGENE. Soil and drift clay			. 100		1 -	
Soil and drift clay 11 Black bituminous shale with nodular iron ore 12 Black slate 3 Coal 2 Hidden 12	some of the counties of Illinois.	250.56	MI	State of Sta		
Soil and drift clay 11 Black bituminous shale with nodular iron ore 12 Black slate 3 Coal 2 Hidden 12	ONE MILE ABOVE EUGENE		- 14	Carlotte Carlotte Springer	20	- 1
Black bituminous shale with nodular iron ore. 12 Black slate 3 Coal 2 Hidden 12		11		Stranger of the stranger of th	92	
nodular iron ore	Blook hituminana shale with	11		Citi sea al cic ferior.		
Black slate		10			. 10	
Hidden 2 12	Dieds elete		1	MANUFACTURE TO THE PARTY OF THE		
Hidden 12	Diack state			S. N. S.		Ju
Manual Theory of the Control of the			1	THE PERSON LETTERS OF THE PARTY.	1	Ou.
48 The second will suffer the second substitute the second substit	Hidden	12		PROCESS**		1
43	the same and and the	11/2	10	A Lawrence with the state of th	Great.	No.
		43			1	to
	The second of the state of	and the	14/1			

LA SALLE COUNTY.

PERU COAL MINING COMPANY.	FEET	IN.		FEET	IN.
Common clay	29	8	Brought forward	104	4
Blue sandstone			Sandstone		
Blue shale	39	1	Blue shale	2	
Red shale	3		Sandstone		
Brown shale	10	2	Blue shale		8
Black slate	11		Sandstone	16	
Coal		6	Brown shale	8	20
Fire-clay	6	4	Blue slaty shale	. 5	
					-
Carried forward	104	4	Carried forward	248	

LA SALLE COUNTY (Continued).

ent in the term of the last	FEET	IN.	ACTION LYMPHOLOGICAL CO.	FEET	IN.
Brought forward	248	ZAT.	Brought forward	72	6
Black slate	3	84.	Coal	T. Sal	102
Bluish slate	3		Indurated clay	19	6
Brown shale	6	PLY.	Sandstone	18	
Gray limestone	4		Shale	19	
Dark brown shale	1	6	Black slate	6	
Hard blue shale	1	6	Coal	5	
Black slaty shale,	. 2	200	Fire-clay	6	
Black slate	8	10	Sandstone	20	
Coal		6	Limestone	1	and the
Brown slaty shale	1	9	Shale.	16	7 20
Dark shale	1		Black slate	10	
Limestone	1000	8	Coal	6	
Bluish slaty shale	8	3	Fire-clay	2	6
Limestone	1	10	Limestone	6	
Gray slaty shale	8		Clay shale	2	
Brown shale	3	8	Limestone .	3	8 2
Dark Brown shale	7		Shale	50	6
Blackish slaty shale	11	1	Diano	00	0
Dark brown shale	1		The state of the s	263	
Black slate	8	4	popular by and 11 m 91 m	205	
The second secon	3	6	BORING IN SEC. 11, T. 31 N., R.	11000	29.7
Coal		0	S E., FOR A. CAMPBELL.	70	1821
Proceedings through	329	4	Soil and drift		23/8
	329	*	Indurated clay	20	116
ADAMS AND PULSIFER'S BORING,	E STORE	BAR CO	Limestone	6	THE PARTY
NORTH OF LA SALLE.	F0	27.4	Indurated clay	9	
Soil and drift	59 17	25	Black slate	3	
Limestone	4.5	6	Coal		4
Blue shale	2	0	Clay	9	CPS.
Red shale	8	100	Sandstone	12	THE P
Blue shale	10	4	Indurated clay	11	
Coal	TOSHIN	4	Black slate	1	6
Blue shale	6	0	Limestone	2	6
Limestone	3	6	Shale	. 2	
Blue shale	24		Black slate	8	
Red shale	3		Coal	7	1
Blue shale	4		water and the same	3333	1
Limestone	1	6	1 8t Same and Marie	161	10
Blue shale	12	W.	BORING AT MENDOTA.		120
Limestone	.6	48	Clay	5	
Shale	9	6	Quicksand	2	
Black shale	9	110	Clay	23	
Red shale	3	3	Gravel		
Limestone	3		Clay		
Shale	65	- 17	Sand	2	
Slate	7		Indurated clay	32	46500
Shale	3		Limestone	1 10	
Coal	4	4	Indurated clay		
2 1	-	-	Sandstone		
and the Contract of the Contra	261	2	Clay		
J. A. ROCKWELL'S BORING, NEAR	120	125	Sand	1	
THE CANAL BASIN, LA SALLE.	1	11	Limestone	38	J.P
Alluvium	58		A STATE OF THE CASE OF THE STATE OF THE STAT	-	-
Limestone	1	6	MARIE IN COMMEND OF THE PARTY O	180	
Indurated clay	18	3		13	10
The same of the sa	-	-	The state of the s	1100	1
Carried forward	1 79	1 0	The same of the sa	- 17 S S S S S	711 107

LA SALLE COUNTY (Continued).

PERU, HILL EAST OF "CHAMBER'S	FEET	IN.	MITCHELL'S PLACE, BUFFALO	FEET	IN.
HOUSE."	11200	E	ROCK.	Page 1	a.
Soil and slope			Soil and sand	2	6
Yellowish limestone	5	5-3	Clay and sand	5	1000
Reddish shale	5	303	Yellow indurated clay	3	oriel Bro
Blue shale	5	108	Blue indurated clay 4 to		-
Limestone	4	301	Coal	2	10
Black slate	1	8	Clay 1 to		6
Shales, with carbonaceous mat-	12/0	119	Sandstone, Silurian	133	6
ter	6	6			_
Coal	olais	5		153	4
Blue shale	11		12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	di (15)	2 3
Fragmentary limestone	10	36		Die 3	2.11
-			Designation of the last of the	circula S	.37
The state of the s	48	7	No. of the last of the last of the last of	Jan of	2.19

WHITE COUNTY.

NEAR GRAYVILLE.	FEET	IN.	FIGS OF THE PROPERTY OF THE PR	FEET	ITN
	3	1	Brought forward,		
Soil,	14				1
Shale,	17-70 PM	50	Sandstone,	· 2	1
Black slate,	6		Slate,	1	20
Fossil bed,	PENDE.	3	Slaty clay,	2	
Black slate,	1	8	Reddish gray shale,	1	
Shale,	4	E	Sandstone,	5	10
			Gray shale,	2	
	28	11	Sandstone,	2	10
- CONTRACTOR COLUMNIA	20			6	
RIVER BANK, NEAR GRAYVILLE.	0		Sandy slate,	- 1	
Soil,	2	Sec.	Coal,		1
Shale,	14	970	Clay,	1	10.
Black slate,	1	8	Gray shale,	10	100
mpure limestone,	3	383	Sandstone,	8	igi.
Joal	notest	8	Clay shale,	5	10
	3	18	Clay,	8	180
Shale,		Trate	Clay,		100
	24	4	The state of the s	72	N
ARTESIAN WELL, GRAYVILLE.	-	1	HIGHT'S SHOALS.	eg g	385
	18		The state of the s	30	1
oil and clay,			Gray sandstone,		
and and gravel,	4	97	Brown sandstone,	20	
Blue shale,	18		Shaly sandstone,	. 15	
andstone,	2	12	Sandstone,	30	12
lue shale,	3		Slate,	4	\$17
andstone,	4	E SANS	Coal,	1	100
hale	26	100	Sandstone,	20	1
	20	10	Danustone,	20	H
Black slate,	10	10		100	1
hale,	12		The Real Property and the second	120	
linty bed,	1	4	CHERRY'S FARM.	6.4.1090	
andstone,	7	-14	Clay, with iron ore,	7	100
A STATE OF THE PARTY OF THE PAR			Coal,	100	
and the second second second	96	2	Sandstone	3	
CARMI.	00	18	Shale,	3	
The same of the sa	8	61	Dark gray slate,	8	
hale,		1/1		2	10
lay slate,	5		Sandstone,		
Black slate,	1		Sandy clay,	2	1
Soal,	- 4	8	Clay, with iron ore,		
lay,	2		Slaty clay,	6	
0 . 10 . 1		-	THE TRANSPORT OF THE PARTY OF		
Carried forward,	16	8	U - Million State of the Control of	32	

GALLATIN COUNTY.

		-	The state of the s		- Ac
N. W. 1 SEC. 15, T. 10 S., R. 8 E.	FEET	IN.		FEET	IN.
Sandstone,	14	4.5	Soil,	6	
Thin bedded sandstone,	8		Clay	15	
Clay shale,	3	8	Sandy Clay,	4	
Black slate,		10	Clay,	2	6
Coal,	4	6	Shale (covered),	?	
Covered with sandstone debris	77	Tited	Coal,	3	6
	100		Sandstone,	44	
A. If the St. If the supercharges and the	108	136	Coal,	1	10
TALBOT ENTRY, E. OF SALINE	9571	11.	Covered slope,	17	
RIVER.		HIT-	Shaly sandstone,	3	
Sandstone,	3	6	Clay shale,	7	34
Clay shale,	5	6	Gray shaly sandstone,		-
Limestone,	3	0	Black sandstone,	l î	4
Coal,	3	9	Gray shaly sandstone,		-
Out,		8	Covered slope (includes black	*	and y
Strainer, Strainer	15	10	shale and beds of limestone,		
		9			
N. E. 4 s. W. 4 SEC. 33, T. 10 s.,			Coal,	4	0
R. 8 E.			THE RESERVE OF THE PARTY OF THE		
Conglomerate,	0	?			
Sandy shale,	8		NORTH FORK OF SALINE RIVER,		10
Arenaceous slate,	11		SEC. 18, T. 7 S., R. 8 E.		1
Limestone, with archimedes,	12		Covered slope,	34	
		-	Blue clay,	4	
	31	A.A.	Argillaceous iron ore,	1	
N. W. 1 S. E. 1 SEC. 34, T. 10 S.,	-	1	Clay shale,	5	
R. 8 E.	1		Coal,	244	3
Sandstone,	18	N.	Shale,	3	
Shaly sandstone,	33	10/12	Sandy limestone,	2	
Clay shale,	7	4		3	HE
Black slate,		10	The late of the la	-	-
Coal,	may 4	8	13 If . Savernovate office	53	9
Fire-clay,	1	19			-
Clay shale,	3	1	The state of the s		
Sandstone,	0	9		1 6	
	The same	1	The second second second second	1 1	1
The state of the s	-	1			1
	1,	1	The state of the s	1	
				and a	

EDWARDS COUNTY.

BRISSENDEN'S FARM, SECTION OF	FEET	IN.	BRANCH, EAST OF AND NEAR TO FEET	IN	
WELL.		Pto	ALBION.		
Soil and clay bed	16	0	Thick bedded sandstone	+	0
Yellow limestone		8	Sandy shale	3	0
Blue limestone		6	Hard sandstone, blue,	7.	0
Coal	B15 32	1	Blue limestone	2	3
eth and a second				2	0
	17	3	Sandy shale	V - 130	0
RAILROAD CUT, NEAR ALBION.	7 1 3	16	Sandstone flags	1	5
Soil	3	0			
Sandy shale	4	6	the state of the s	9	8
Sandstone flags		5	The two last beds are the ?	W	
Sandy shale		2	upper ones at the R.R. cut.	100	
Sandstone, thin plates		9	apper ones as the same of the	1	-
Sandstone		0	B 10 Carter Control	363	
	1	0	Charles and Charle	13	
Sandy shale	10	6	The state of the s	1	
	-			1	
	28	4	The state of the s		

EDWARDS COUNTY (Continued).

NORTHERN LIMIT OF ALBION.	FEET	IN.	BENNINGTON MILLS, N. W. 1 SEC.	FEET	IN.
Sandy shale		0	17, T. 1 N., R. 10 E.	To a confe	1
Sandstone	7	0	Soil and clay	20	0
Sandstone, blue		0	Sandstone	11	0
Sandstone flags	2	0	Coal	0	3
Sandstone	6	4	Fire-clay	0	4
Iron ore	0	2	Brown shale, with coal	1	7
Coal	0 2	3	Blue clay shale	1	4
Fire-clay	. 0	?	Sandstone, ferruginous,	1	4
the state of the s		-	Coal	0	5
"会"。这种"一种"的现在分词,是是一种	26	9	Blue clay shale	3	6
ORANGE'S FARM, N. W. 1 S.W.	11.00	HO.	Iron ore	0	. 3
1 SEC. 24, T. 2 S., R. 10 E.	refer to	937	Blue clay shale	6	6
Soil and clay	5	5	The same of the law to		-
Sandstone	9	0	A Committee of the Comm	46	6
Hard sandstone	6	0	The second secon	LE D	
Black slate	6	0	767		
Clay shale	5	0	W. A. Well, 201 of 10 of	2 4	31.
			77		
The same of the sa	31	5	The state of the s	a lar	
					-

WABASH COUNTY.

HARTMAN'S PLACE, S. ½ S. W. ½ SEC. 5, T. 1 S., R. 12 E.	FEET	IN.	D. BIEHL'S MILL.	IN.
Clay shale. Indurated brown clay Black slate Black limestone Coal	0 4 1	10 3 8 8 6	Brown sandstone. 1 Black slate. 2 Coal. 0 Clay shale 1 Gray sandstone. 1	9 0 10 8
	17	1	6	3

RICHLAND COUNTY.

CLAREMONT.	FEET	IN.	BRICKLEY'S FARM, S. E. & N. E. & FEET	IN.
Soil and clays			SEC. 32, T. 4 N., R. 14 W.	IN.
Indurated blue clay		0	Sandy sheles	1 0
Indurated bide ciay		0	Sandy shales	0
Sandstone	0	0	Thick bedded sandstone 2	6
Bastard limestone	4	0	Sandy shales 2	6
Sandstone	5 4 6 5	0	Soft yellow sandstone 3	0
Pebbly limestone	5	0	Blue clay	1.0
Blue slate, with thin coal		6	A STATE OF THE PARTY OF THE PAR	1
Gray fragmentary limestone		6	11	0
			BAKER'S PLACE, N. E. 1 S. W. 1	
The state of the s	70	0	SEC. 9, T. 4 N., R. 14 W.	
JOHN COLLINS' PLACE, N.W. 1 N.			Soil and clay 6	
	The state of		Condr limester - 1-1	0
E. ½ SEC. 30, T. 4 N., R. 14 W.	6		Sandy limestone, shaly?	10.5
Sandstone		180	Pebbly limestone 3	6
Black slate	3	0	Blue clay?	Gir.
Coal	0	8	HESPERIT AND ALL DRIVE STREET, PROPERTY OF THE	-
Fire-clay	9		The state of the s	100
			The state of the s	950
THE COLUMN THE PARTY OF THE PAR	200	171		1
		1	1.2 0.182	

LAWRENCE COUNTY.

EMBARRAS RIVER, LAWRENCE VILLE. Sandy shales, with iron ore Black clay shales Impure limestone Black slate, with thin coal	5 4 6	SEC. 13, T. 3 N., R. 12 W. Argillaceous shale. Yellow sandstone.	6 3 2	IN. 0 0 0
SEC. 9, T. 3 N., R. 10 W. Exact thickness of the beds no ascertained. Clay shales		S. H. CLUBB'S QUARRY, SEC. 5, T. 8 N., R. 11 W. Covered slope, Sandy shale, Yellow sandstone, Blue sandstone,	11 15	6 6 2
Clay shales. Black slate, Black limestone, Clay shale, Impure limestone, Black slate, Total thickness, BANK OF WABASH RIVER, SEC. 33, T. 4 N., R. 10 W. Indiana shore.	September 1	EMBARRAS-RIVER, PLANK ROAD BRIDGE. Sandstone,	17 4 6 5 19 1 3 3	6 10 8
Soil	40	Impure limestone,	1 29 74	6 6
N. E. ¼ s. W. ¼ sec. 13, T. 3 N. R. 11 W. Yellow clay shale, Blue clay shale, Coal, Fire-clay,	5 2			Com

POPE COUNTY.

ONE MILE AND A HALF BELOW I	FEET	IN.	LUSK'S CREEK, NEAR GOLCONDA. FEET
JAMES CARROLL'S PLACE.			Sandstone
Sandstone	10	100	Limestone 24
Limestone	8		Shale
Marly slate	4		Limestone
Limestone	6	79	Marlite 11
Shale	5		Limestone 11
Limestone	11		
Sandstone	10	6	104
The state of the s		-	And the second property is
	54	6	

POPE COUNTY. Continued).

1	1				Trans.
CAMPBELL'S FARM.	FEET	IN.	· MORGANTOWN.	FEET	IN.
Sandstone	45	1519	Sandstone	6	
Limestone	22		Limestone	10	10
Marly slate	OTH:	6	the second section of the second	10000	
Limestone	o and	9		16	10
Slope	5	3	D. FLANNERY'S PLACE.	J 3H13	
	- 40		Sandstone	5	5
Comment of the Contract of the	73	3	Limestone	7	30
JOINER'S FARM.	22.78		Shale	2	1
Sandstone	80		Clay slate	3	
Limestone	1	10	Part of the state		-
Covered slope	8		Million to a secretary that the plant	17	5
District of the state of the state of	1		WILLIAM ALLISTON'S, NEAR GOL-	VIEW !	
The same of the sa	89	10	CONDA.	nono()	
MICHAEL H. KAYLOR'S PLACE.	1500		Sandstone	55	
Conglomerate	30	7.14	Limestone	43	30
Sandstone	32		Covered	30	
Limestone	6		Clay slate	5	
Covered slope	13		Charles and the state of the state of	1	11/
The second second second second	4		Mary Liver Language and the William	133	
The the case of the later	81				
RIVER BANK, NEAR GOLCONDA.	2/10		THE CO. C. LEWIS CO. LANSING STREET	1250	20.1
Sandstone	25		THE RESERVE WELLS W. SO.	200	197
Covered slope			THE RESERVE OF THE PARTY OF THE		,
Limestone	1	6	The state waster waster.		
The same of the sa	-	-	****************	tlori	
THE CLASS OF THE STATE OF THE S	47	. 6	ATOM Terrorian in the activities	TAKE	18
		T 21.			

WILLIAMSON COUNTY.

DR. SMITH'S PLACE.	FEET	IN.	FOZARD'S PLACE, SEC. 20, T. 9 S., FEET	IN.
Soil and drift	20		R. 1 E.	
Sandstone	28	Hall	Shales 8	
Clay shale	8	7,	Coal 3	
Coal	1	6		
Alternations of clay shales, fire	2 4		11	
clay, sandstone and sandy			E. N. SPILLER'S PLACE, S. E. 1,	
shales	22	100	S. W. 1, SEC. 6, T. 9 S., R. 3. E.	
Shaly sandstone	12	101	Soil and clay?	
Limestone	3		Limestone ?	
	-	-	Bituminous slate 4	
guest remains dans primase	94	6	Coal 9	
ROCK CREEK, SEC. 9, T. 9 S., R.	Service 1			
4 E.			13	
Clay slate	8	10	The second secon	
Bituminous slate	1	6	19 Company Company	
Coal 4 to		6	a leave and the state of	
Fire clay	2	A.	and the second s	
	10	70	10 mars and a	
With the Control of t	1 12	1011	The second of the second secon	

MARION COUNTY.

BORING AT CENTRALIA.	FEET	I N.		FEET	IN.
Soil	3		Brought forward	237	
Blue clay and sandstone	20	6	Limestone	6	
Sandstone	1	10	Indurated clay	83	6
Blue clay (light colored)	10		Bituminous slate	2	9
Blue clay (dark)	55	8	Coal	2 3	
Bituminous slate	1	8	Limestone		
Blue clay, with gravel	3	6	Indurated clay	151	
Blue slate	25	6	Sandstone	25	
Indurated clays	91	4	Black slate	6	6
Limestone	7	43	Indurated clay		
Coal	6		Iron stone, with chert	3	6
Indurated clay	12	- 5	Indurated clay	9	
			The second secon	0.02	
Carried forward	237		100 de la company de la company	602	6

PERRY COUNTY.

ASHLEY'S MINE, DU QUOIN.	EEET	IN.		FFET	IN.
Yellow clay	18		Brought forward	47	6
Sand	2		Bluish impure limestone	2	
Blue clay	6		Bituminous shale	6	10
Shale	10		Light colored shale	10	
Drab limestone	3	9	Coal	6	
Fire clay	6		Fire clay		6
Light colored shale	1	6	To the state of th	V 2000	Ŋ,
of a law and a subsection			The state of the s	ho	10
Carried forward	47	6		12	10

MADISON COUNTY.

Long's Place, Clifton Quarry. F. Covered slope. Limestone. Shale Limestone. Sandstone.		Brought forwardShale SandstoneLimestoneShaly limestone	40 9 20	
Carried forward	261	BALY.	339	

ALEXANDER COUNTY.

THEBES.	FEET	IN.	SILURIAN ROCKS OF ALEXANDER FE	ET I
Clays	42	189	COUNTY.	8
Sandstone		10.2	Sandstone	22
overed slope	. 30	-	Cherty bed	8
	-	10	Buff colored shale	10
144	96	7.0		48
GILES WHITTAKER'S PLACE.	TO TO	3.30		20
Clay and shale	. 10	1,2		25
Cherty beds		10	Shales and slate	70
6 14.	Bank.	8	Sandstone	35
Daniel Company	180	10	Shale	10
ORCHARD CREEK.	dediction.	14	Limestone	70
Ferruginous conglomerate	. 37	10	Sandstone	18
Sandstone		56		_
Blue clay		in.	5	35
Sido ciaj :	-	la l	£	
	100	100	d leavest transport to the first	1

HARDIN COUNTY.

IN.

PARKINSON'S PLACE.

Limestone

FEET

23

60

4

22

FEET 20

59 6

30

2 57

LEAD HILL.

Sandstone

	168	6	A CONTRACTOR OF THE CONTRACTOR	109
ONE MILE BELOW "CAVE IN	1 17 3		The Paris of the P	
ROCK."	10.74 10.58	S. U		
Cavernous limestone	20	1		
Covered	10		THE REPORT AND ADDRESS OF THE PARTY AND	
Shelly limestone				
Limestone with corals			additional to the second first	100
	-			150
	54		Mark Control of the C	1
THE PROPERTY OF THE PARTY OF THE PARTY.	PULA	SKI	COUNTY.	lysia.
CALEDONIA.	FEET	IN.	ONE MILE NORTH-EAST OF CAL-	FEET
Yellow clay	20		EDONIA,	15165
Micaceous sandstone	3		Ferruginous conglomerate	9
White sandy clay	18		Black clay shale, with carbon	
Sandstone			aceous matter	
Gray clay	Children Company of the Company of t		Gray indurated clay	33
Conglomerate		1 19	Sandy shales	21
		- 1	Soft sandstone	16
			all the language of the Language of the land	
CEDAR POINT.				71
Yellow clay	16	1.	PLANCE	
Red clay				
Ferruginous sandy shale			DESCRIPTIONS TO NOT SEE AND A PERSON OF A	b est
Ferruginous sandstone		6	OIL	Prof to
White sandy clay		6	- 11	Mark I
Bluish clay shale		6		·A
Marin Control of the			100 I to the contract of the c	15 1
HALLES AND THE STATE OF THE STA	91	6	The frameworking and property	House.
483	MAS	SAC	COUNTY.	9
FLETCHER'S PLACE.	FEET	IN.	JAMES COPPER'S PLACE.	FEET
Alluvium		0	Conglomerate	
Clay		0	Covered slope	
Sandstone conglomerate		0	Limestone	8
Conglomerate		6	The state of the s	JA.
1. A market and a second and head	93 200		To the service of the	48
Who he was a walled from	38	6	08	
Letter to the second se	RAND	OLP	H COUNTY.	
HALF A MILE ABOVE CHESTE	R. FEET	IN.	MANSKER'S PLACE.	FEET
Limestone		0	Covered slope	1
Marlite		6	Sandstone	108
Limestone		0	Limestone	27
Marlite		6	Shale	54
Cherty beds		0	Limestone	52
Limestone	5	0	Eliticstolic	02
Marlite	2	6		272
Limestone		0	Car Control of Car S	212
Marlite	3	0	TA A STATE OF THE	
III.GIAIVO			Water State of the state of the state of	Con.
SHEET HE SHEET IN	57	0		4
		1		

RANDOLPH COUNTY (Continued),

DETAILS OF THE CHESTER BEDS.	FEET	IN.		FEET	IN.
Clay beds stratified	12	6	Brought forward	142	5
Limestone	. 7	2	Sandy shales	9	C
Alternations of limestone and	VI US		Shaly sandstone	10	. (
marlite	9	3	Sandstone	12	0
Marlite	2	6	Limestone		. 6
Limestone	4	0	Blue clay shale		. (
Covered	38	0	Shaly limestone	9	8
Blue shale, with thin bands of		9-1	Blue clay	0	114
limestone	48	0	Shaly limestone	21	1
Limestone, with cherty bands.	18	0	Limestone, in thick beds	17	6
Shaly limestone,	3	0			
	10.10		STILL STANDARD OF THE STANDARD	228	6
Carried forward	142	5			160

ROCK ISLAND COUNTY.

ALONZO BLOSSOM'S PLACE. FEI	ET	IN.	HALF A MILE EAST OF A. BLOS-	FEET	IN.
Soil and drift	10	L.	SOM'S PLACE.	71777	
Shaly sandstone			Soil and drift	-300	720
Bluish sandstone		6	Cherty limestone	5	
Blue shale		7	Shaly sandstone (calcareous), .	2	6
Coal	4	6	Bituminous slate, with bastard		
Black shale	0.0	4	limestone	1	380
Fire clay			Blue shale	1	
the state of the s		-	Coal	4	1120
and the plant of the party and			Clay	1	det.
				CHE LANGE	PATES
			E MAN TO THE PERSON OF THE PER	DES A	

HENRY COUNTY.

ALLEN'S PLACE, NEAR GENESEO. FEET IN.	Brought forward		IN.
Limestone, with arragonite Indurated clay Sandstone	Clay Coal	1	6
Carried forward	by the commencement	mile g	Sone

FRANKLIN COUNTY.

s. w. ½ s. w. ½ sec. 20, т. 7 s. R. 2 E. Shale Sandstone Clay slate Sandstone Gray shale	4 1 1 1 4	9 6	Brought forward. Coal. Fire-clay Micaceous shale Clay iron ore. Shale	4	IN. 3 8
Bituminous slate	13	3	101 1 Sand Sand		

(Gindlesco)

MADISON COUNTY.

er Speel	MAD.	ISUI	COUNTY.		
W. 1 S.E. 1 SEC. 6, T. 6 N., R. 10 W.	FEET	IN.	s. w. ½ sec. 8, T. 4 N., R. 5 W.	FEET	IN.
MUHLMANN'S PLACE.	1946	51	FERGUSON'S PLACE.		5.54
Soil and drift	I work	100	Bluish limestone	2	8
Shale	5	8	White clay	TOWN TO	8
Bituminous slate		6	Bituminous slate	3	4
Coal	2	6	Shale	10	S. TH
Fire clay	2	5	Coal	2	10
Cherty beds	3	5		100	1770
Onorg would retrieve	CHA	-93	SO ADMINI DELLA REAL	19	6
A State of Shirt of	14	6	4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	I GO I	Mary .
	1	-	I control of the second		and the same of th
The publication of the second	ANG	AMC	ON COUNTY.	40	Section
The state of the s	manal	TAT I	Designation of the second seco	l rararami	TAT
ILES' COAL BANK, SUGAR CREEK.	LELL	IN.		FEET 6	IN.
Soil and drift	h		Brought forward	2	1/7 5
Light colored clay shale	7	8	Blue calcareous clay	2	-
Hard blue limestone	0		Hard blue limestone	1	C
Black slate,	3	6	Clay shale	1	6
Black limestone	1		Black slate	ga li	0
Coal	2		Clay slate	27114	8
			Coal		3
10	14	2	Fire-clay	?	113
BALL'S MILL, SUGAR CREEK.	No. of the last	350	TO STATE OF THE RESIDENCE OF THE RESIDENCE	7.0	-
Soil and drift	LEWIN	200	THE RESIDENCE OF THE PARTY OF T	13	5
Limestone	7 2	etti	MENARDS MILL, SANGAMON	dante.	1275
Marly clay shale	1	2	RIVER.		1
Sandy and black clay shale	8	4	Soil and drift clay	A CAL	
Limestone	1	6	Shaly sandstone with calca-		
Sandy shale		10	reous nodules	14	
Calcareous sandstone	2		Blue sandy shale	6	
Yellow sandstone	2	8	Sandstone	2	
Sandy shale	4	6	M. Matrices W.	-	-
	-	-	O TRADE	. 22	
we have the same to the same t	23		YOCUM'S MILL, SANGAMON		
MAGRADY'S OLD MILL.		240	RIVER.	20 87	0/31
Soil and drift	pagag	111	Soil and drift clay	DI DI	o ffine
Limestone	4	3.51	Argillaceous limestone	1	6
Blue shale	16	6	Sandy shale	20	COTTON
Sandstone	4		The state of the second	-	
Sandy shale	1	6	The Name of the State of the St	21	6
			MUD LAKE.	Table 1	13
	26		Soil and drift		
BELL'S MILL, SUGAR CREEK.	W3520	1861	Sandy shale	4	8
Soil and drift	98.8		Thin bedded sandstone	3	
Sandy shale	11		Sandstone	10	400
Thin-bedded sandstone	4	32	Shaly sandstone	5	-VE IS
	102000	-	Black slate	1	20
	15	500	Coal	- 1	10
LANGFIELD'S COAL BANK.	100	3	Covered to lake level	15	BUILTING.
Soil and drift	200	OL P	and the state of t	d perio	TOP
Limestone	1	25	4 10	40	6
Blue shale	7	9	CARPENTER'S BRIDGE, SANGAMON	1	/ 100
Coal	1	10	RIVER.	19572/T.C.	all and
Covered to river level	. 11	8	Soil and drift		
The State of the S			Blue sandy shale	16	8
	22	3	Sandstone, irregularly bedded,	11	
BRANNER'S MILL SANGAMON			Sandstone in regular layers	14	
RIVER.	-		Sandstone, thin-bedded	3	-
Soil and drift		30	Sandstone	2	17
Limestone	6		Sandstone flags	8	4
			10 #		-
Carried forward	6	5	EL WALLEY 2/ EL 34	55	
			CA .		

SANGAMON COUNTY (Continued).

NEW BRIDGE, SANGAMON RIVER. Soil and drift	1974	IN.	MILLER'S PLACE, HORSE CREEK. Soil and drift	FEET	IN.
Sandy shale	4		Sandy shale	- 2	. E 2
Sandstone, thin-bedded	7	1	Arenaceous limestone	1	6
Sandy shale	16	6	Shaly sandstone	18	6
Covered to river level	27	6	Clay shale	il Maria	6:
The state of the s	2001		Coal	- Dest	4
6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	55	200	是,以完全是這是學術的內理的問題為		-
RAUCH'S QUARRY, SUGAR CREEK.	7		是一种可以图 5-10000 PROFESSION	- 22	10
Soil and drift	BULLE	Miles	STOVER'S COAL BANK, LICK	1	STIP I
Sandstone	9	4	CREEK.	田川田	0.53
Limestone	9	2	Soil and drift		24/47
Black slate	2	315	Black slate, with black lime-	TO FAIR	2.
Limestone	17	194	stone	3	LEG.
A Secretary Server of the Market		-	Coal	1	8
the state of the property of	37	2	Limestone	4	STATE
HILL'S QUARRY, SUGAR CREEK.		92	Blue shale	12	aut.
Soil and drift		35(5)	FOR A STATE OF THE		-
Micaceous sandstone	3	S PIV	and the state of the second court	20	8
Sandstone	3	6	GREENWOLD'S PLACE, BRUSH	- Auto-	11450
Sandy shale	1	6	CREEK.	Alsse	11100
Limestone	4	010-	Soil and drift	5 5	100
Dark clay shale	1	34.64	Limestone,	6	
Limestone	4	1.00	Marly shale	wal.	6
Park Permitted and the	2 101		Black slate,	1	deltai
The second secon	17		Clay shale	1	6
NEW BRIDGE, SUGAR CREEK.	gbstl	18-1	Limestone	6	15.60
Soil and drift	note)	SAN S	ted in the state of the state o	-	-
Limestone	2	6	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	15	plike:
Sandy shale	4	6	PEACOCK & CUMMINGS' SHAFT,	e Lette	Q:IS
Limestone,	1	ASSET.	SPRING CREEK.	1	
Sandy shale	3	1	Soil	5	1250
Sandstone	1	H394	Blue sandy shale	45	
Micaceous sandstone	15000	6	Dark clay shale	5	M.
The party of the second	1		Coal	195 P	2
to still have an extraording	12	6	Fire-clay	3	- Ame
LLOYD & EVAN'S COAL BANK.	elim	Dis	Argillaceous limestone and	a solg:	D 144
Soil and drift	A Kita	DO	clay	4	
Black slate	2	10	Red and green clay shale	8	
Coal	1	10		2	
Sandy shale	11		Purple clay shale,	5	0.00
Sandstone, hard	3	2	THE RESERVE OF THE PARTY OF THE	-	-
Shaly sandstone	4	4	THE PARTY CANAL	77	8
Soft sandstone	2	8	JONES' WELL, HORSE CREEK.	100	
Sandy shale	6	6	Soil and drift clay	19	
at the second the same		-	Sandy shale	. 12	1
	32	4	Clay shale		
· Constitution	1	1	Seattle of the property of the seattle of the seatt	-	-
- Parada en La compania	1000	2510	and the state of t	1 43	I and

MACOUPIN COUNTY.

N. E. 2 SEC. 29, T. 10 N., R. 9 W. F. Impure limestone	1 1 1 3	IN. 3	Brought forward	1	IN.
Carried forward	5	3	Access to the second se	13	9

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8	IRELAND'S RAVINE, SOUTH OF	FEET	IN.	SHAFT OF THE NORTHERN ILLI-	FEET !	IN.
	ILLINOIS RIVER, NEAR "LIT-	20-21-25	100	NOIS COAL AND IRON CO.		2.4
P	TLE ROCK,"LASALLE CO.	D.K.	121	Blue shale	6	1
	Soil	6		Coal	110000	5
	Sandstone	15		Brown shale	8	
	Indurated clays and shales	49	111	Lime rock	1	6
	The state of the s	2	335	Blue shele	12	
	Black slate		(O. O.)	Blue shale		0
	Indurated clay	5	de	Blue limestone	3	2
	Black "figure stone"	1	3	Black shale	1	1 6
	Fire-clay	6		Fire-clay	1	2
	Sandstone, upper part calca-	- 6	1	Black shale	160.5	5
	reous, lower part micaceous,	8	- 12	Brown shale	3	2
•	Dark indurated clay	12	OE N	Limestone	3	10
4	Black shale, with fossils	6	6	Brown shale	4	06
	Coal	1	6	Blue shale:	9	4
	Sandstone, with coal plants,	2		Grey limestone	2	4
	Grayish-blue shale, with septa-			Black Shale	1	5
		7	1		10	200
	ria		917		3	3
>	Blue shale	2		Limerock	4	3
	Black slate	3	32	Blue shale	10	70.71
	Blue shale	12	BAT	Black limestone	2	10
	Coal	3	6	Blue shale	6	alite.
	Mary Control of the C	-		Shale with nodules	4	6
	- Mars - Control Control	140	100	Blue shale	10	6
	The lower seventy-five or	of self-th	95%	Red shale	6	13
	eighty feet of the above sec-	ABART.		Blue shale	1	6
	tion represents, very nearly,	Francis	1	Red shale	14	4
	the shaft of the "Little Rock	1000	100	Blue shale	11	-
	Coal Mining Company," which	112000	234	Sandstone	6	1,25
	is situated a short distance west	1		Blue shale	12	1
	of Ireland's ravine.		1	Blue shale.	15	N. S. P.
	of Heland's lavine.	STATE OF THE PARTY.	1	Black slate	4	6
		D. Riber	1	Cool	5	- 0
	BORING AT DE SOTO, JACKSON	1555	- 4	Coal		MIN
	COUNTY.	- Julia	PERS	Fire-clay	6	0
	In the Artesian well sunk	1419	2919	Limestone	4	6
	at this point, several beds of	-	100	Blue shale	10	
	coal were penetrated at vari-	1193	757	Sandstone	10	18
	ous depths, as follows:	THE SH	100	Blue shale		55.0
	- Leavenner	1000	369	Black slate		NA.P
	1st coal at the depth of 68 ft.	3	2 60	Coal		
	2d " " " 93 "	2	English .	Fire-clay	1	8
	3d " " 135 "	9	10	Limestone	4	6
	4th " " 165 "	2		Shale, brown		Dank
	5th " and shale " 216 "	9	1	Black slate, mixed with coal		
		01		Limestone		1
	The state of the s	25	1	Blue shale		6
	Making a total thicknes of		100	Limestone		6
	coal of between 16 and 25 feet,		1		1 1 1 1 1 1 1	1000
			1/4	Shale		
1	the thickness of the shale asso-		1	Black slate		4
	ciated with the lower bed not			Blue shale		
	having been ascertained.			Sandstone		
	THE PARTY OF THE P		100	Blue shale		1
		1551	H	Black slate		
			1	Soapstone		
		13		Coal	4	3.8
	The state of the s	1944	1	The second of th	-	-
	100000000000000000000000000000000000000	30/3	PER	THE STATE AND REAL PROPERTY OF THE PARTY OF	389	11
				The state of the s	21950	7/1

GENERAL REMARKS.

The preceding pages contain only a portion of the sections made during the progress of the Geological survey. Many sections made in the counties named are not given; while a number of counties in which work has been done, are omitted entirely, in consequence of the impracticability of connecting their geology with the coal deposits, without the aid of horizontal sections, and these can only be represented by engravings. They will all be embodied in the final report, together with minute descriptions of the vertical sections now given.

Since the organization of the survey, I have been assisted in the field work by Messrs. A. Varner (deceased), A. H. Worthen, Henry Pratten (deceased), A. H. Ulffers, and J. H. McChesney; and from their notes and reports, most of the sections given were compiled. In the laboratory, Mr. H. Pratten has been the only assistant. The analyses of the Illinois coals were made by him, as well as those of our iron ores.

The colored diagram of the state is intended to represent, as nearly as so small a scale will allow, the different geological formations found in its borders, and will assist those who may desire to know the geological position of the rocks given in the printed vertical sections.

The portions colored *yellow*, on the Wabash, Ohio, Mississippi and Illinois rivers, represent the rich alluvial bottoms which border those streams.

The pink color, found in Alexander, Union, Jersey, Calhoun, Pike, Bureau, La Salle, Grundy, Will, Cook, Kankakee and Iroquois, represents rocks of the Silurian age.

The portions colored with *Indian red*, represent rocks of the *Devonian* epoch, and are to be found in Pulaski, Union, Jersey, Calhoun, Pike, Rock Island and La Salle.

The blue color, found in our southern and western borders, in the counties of Gallatin, Saline, Hardin, Pope, Johnson, Massac, Pulaski, Union, Jackson, Randolph, Monroe, St. Clair, Madison, Jersey, Greene, Scott, Calhoun, Pike, Brown, Schuyler, Adams, Hancock, McDonough, Henderson, Warren and Mercer, represents the great Carboniferous limestone series, or

"Mountain Limestone," as it is termed by many geologists. In England beds of coal are found in this series of rocks. In this country no coal has yet been discovered in them.

In portions of Gallatin, Hardin, Pope, Saline, Johnson, Massac, Williamson, Union, Jackson, Randolph and Monroe, the "Mountain limestone" series is overlaid with heavy beds of sandstone and sandstone-conglomerate, answering to the "Millstone grit" of some geologists. It is represented by a light shade of sepia skirting the Mountain limestone. This is the base of the coal measures in southern Illinois, no coals existing either in it or below it.

The dark tint of sepia, covering about two-thirds of the area of the state, and including either in whole or in part eighty-one counties, represents the true coal measures of Illinois. The coal measures consist of beds of sandstones, limestones, shales, states, clays and bands of iron ore, intercallated with beds of coal, from one inch to nine feet in thickness.

In the counties of Massac, Pulaski and Alexander, beginning on the Ohio river south of New Liberty, and following that stream to a point below Caledonia, and then crossing Alexander county in a westerly direction to the Mississippi, near the village of Santa Fe, is a portion of the map colored green. It represents a deposit belonging to the Tertiary period. At one place it contains a thin seam of carbonaceous matter, which was mistaken, by those residing in the vicinity, for coal of the carboniferous era. This, however, is a mistake. It is of no value.

The margin of the coal measures can be easily traced on the diagram in the northern and western counties. On our eastern border, from Iroquois to Gallatin county, they pass over into Indiana, and on the south into Kentucky. In the west, between Keithsburg in Mercer county, and Drury's Landing in Rock Island county, they cross the Mississippi into Iowa. Coal is also found cropping out on the banks of the Mississippi above Rock Island city. A thin seam of coal, associated with clays and shales, was observed at Sterling, in Whiteside county, on the banks of Rock river. What connection it has with the coals of Rock Island and Henry counties, has not been ascertained.

Beginning in Rock Island county and proceeding eastward, the northern limit of the coal (leaving out Whiteside, as just referred to) is found in the counties of Henry, Bureau, La Salle, Grundy and Will, and its northeastern boundary in Kankakee and Iroquois.

In proceeding northerly, in the Mississippi river counties, the "millstone grit," disappears in Munroe county, and the coal measures are separated from the "mountain limestone" by only a few feet (comparatively) of sandstones, shales and clays. Before reaching Rock Island county, the

"mountain limestone" disappears, and on Rock river the coal measures rest on rocks of the Devonian and Silurian epochs; while still further east, in the counties of La Salle, Grundy and Will, the coal beds rest directly on lower Silurian rocks, being separated from them, at some points, by only a few inches of clay.

Workable beds of coal, however, do not underlay the whole area marked as "coal measures." Illinois is not one "great coal field," as has been represented in maps and geological reports made previous to the commencement of the State Geological Survey. While it contains within its borders more coal than any other state in the union, with, perhaps, the exception of Pennsylvania, the coal does not rest in one great basin-So far as the state survey has thrown any light on the subject, it has been found that the rocks beneath the coal measures, instead of showing a nearly horizontal section from east to west, as was formerly believed by some of our geologists, have been in reality as much disturbed by internal convulsions as those of any volcanic district in the United States. The beds of the lower formations, including the mountain limestone and millstone grit, are found, at various localities, displaced and tilted up at every angle from a few degrees to the vertical. These displacements are not confined to any one section. They occur in every district, from the northern limits of the coal beds, to the southern border of the state. the irregular valleys and basins formed by these disturbances, our lower coal measures were formed. Subsequent to that period, the then existing coal beds were displaced, and eroded, forming new valleys and new basins, which have been filled with new deposits of coal, and so on up to the termination of the carboniferous epoch. An outline of these basins and valleys, so far as ascertained, will be given in the geological report. must, however, remain imperfect for years to come, as every reëxamination of a coal field develops new facts, which no reasoning from previous data could have brought to light.

The tables of coal beds, from I to IV, were prepared in 1854, and were designed to show the number and thickness of different coal beds found in southern Illinois, along certain lines south of a line drawn from Illinois Town, St. Clair county, to the state boundary in Clark county, west of Terre Haute.

Table I shows the existence of twenty-five beds of coal, varying in thickness from three inches to seven feet, on a direct line drawn from the Ohio river, in the counties named, to "Howard's Point" in Fayette county. Of these beds, nine may be considered as workable by mining, in the proper sense of the term. Of the remaining sixteen, ten are, or may be, worked by "stripping" near their outcrop, where they are cov-

ered by a few feet only of soil and other deposits. The beds capable of being mined, contain forty feet and nine inches of coal. If to this be added the beds capable of furnishing coal by "stripping," this section will show a thickness of available coal of over fifty-five feet.

Table II shows the number of beds found on a line drawn from a point on Big Muddy river, near Murphrysborough, Jackson county, to Griswold's, in Hamilton county. These beds vary from four inches to nine feet in thickness. Two of these beds, amounting to fifteen feet, can be mined profitably, while five of them, from one foot six inches to one foot eight inches in thickness, may be made available, at various places, by either mining or "stripping." The total thickness of coal in this section is twenty-three feet six inches.

Table III exhibits the coal beds found on a line from the "Old Salt Spring," south-east of Equality, Gallatin county, to Parker's Prairie, in Cumberland county. Of these beds, four are workable by mining, varying in thickness from three feet to five feet, and amounting in all to sixteen feet six inches. Four of the others, with a total thickness of seven feet, may be "stripped" in favorable situations. All the beds in this section, sum up a total of twenty-three feet nine inches.

Table IV contains some of the beds found in a section from a point north of Waterloo, Monroe county, to Howard's Point, in Fayette county. Of these, three are from three feet six inches, to six feet nine inches thick, and are mined profitably, the united thickness being sixteen feet nine inches. The other beds vary from one foot three inches to two feet in thickness. The total amount of coal in this section is twenty-three feet two inches.

Since these tables were prepared, other discoveries of coal have been made in several of the counties embraced in them. These cannot now be added, but will be noticed in the detailed geological report. As the tables now stand, however, they are sufficient to show the great number and importance of the coal beds of the district to which they relate.

No tabular view of the coals of middle and northern Illinois has yet been prepared, nor, in fact, has it been desirable to do so up to this time, as new discoveries are constantly being made in those districts, which are calculated to modify, somewhat, the opinions first formed in relation to them.

By reference to the pages of analyses, and the tables on pages 55, 56 and 57, as well as to the vertical sections of the counties in the districts referred to, it will be seen that their coal beds have not been neglected, but have, on the contrary, received their full share of attention in all respects.

In order to embrace as much matter in relation to more recent discov-

eries as possible, some of the oldest, best and most profitable mines in the state have been passed without notice in this abstract. In the final report they will receive their due share of attention.

In the printed sections, many localities of coal are given in addition to those noticed in the first half of this abstract, together with the thickness of the beds and the character of the rocks associated with them. These coals have not yet been analyzed.

The relative value of Illinois coals can be ascertained by comparing the analytical results given on the pages referred to; and their position with regard to some other American coals, as well as to a few British coals used in the manufacture of iron, can be seen at a glance by consulting the tables on page 58. These analyses show that we have a number of beds of coal in this state, which equal, in every respect, the very best coals of the Mississippi and Ohio valleys. In thickness and other requisites for cheap and profitable mining, they are not surpassed by those of any other portion of the west, and there is only needed enterprise, capital and energy, to develop a source of wealth in our state, at present scarcely thought of, and which is incalculable. The markets are already here, and the supply is so inadequate to the demand, that one Illinois city alone imports annually from other states coal to the amount of over 134,000 tons.

In Knox, Henry and La Salle counties, cannel coal occurs in connection with bituminous beds. Its value may be estimated by comparing the analyses of the different seams, with those given of the same variety of coal from Virginia and Kentucky.

So far as means for the transportation of coal to both home and distant markets are concerned, no state in the union is superior to Illinois. The Ohio, Mississippi and Illinois rivers, Lake Michigan, and all our railroads can be made tributary to this great interest.

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J. G. NORWOOD.

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