ILLINOIS GEOLOGICAL SURVEY. ABSTRACT OF A REPORT ON ILLINOIS COALS: WITH DESCRIPTIONS AND ANALYSES, AND A GENERAL NOTICE OF THE COAL FIELDS

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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 by J. G. Norwood

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Trieste

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, M. D.,
STATE GEOLOGIST.

CHICAGO:
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1857.

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.

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	
		100·0

Carbon in the coal, 66·30

SALINE MINES—UPPER BED.

Thickness, four feet.

Loss in coking, 42·4
Total weight of coke, 57·6 = 100·0

Analysis.—Moisture,	2·6	
Volatile matters,	39·8	
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, 1·2225		
	Loss in coking,	40·8	
	Total weight of coke,	59.2 =	100·0
Analysis.—	Moisture,	8·0	
	Volatile matters,	32.8	
	Carbon in coke,	55·5	
	Ashes,	3·7	
			100·0
	Carbon in the coal, 83·10		

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, 1·2892		
	Loss in coking,	36·8	
	Total weight of coke,	63·2 =	100·0
Analysis.—	Moisture,	6·5	
	Volatile matters,	30·3	
	Carbon in coke,	55·2	
	Ashes,	8·0	
			100·0
	Carbon in the coal, 60·7		

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		
	Loss in coking,	39·8	
	Total weight of coke,	60·2 =	100·0
Analysis.—	Moisture,	2.0	
	Volatile matters,	37.8	
	Carbon in coke,	53·2	
	Ashes (white),	7·0	
			100·0
	Carbon in the coal		

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, 1·2953
Loss in coking, 35·8
Total weight of coke, 64·2 = 100·0

Analysis.—Moisture,	1·2	
Volatile matters,	34·6	
Carbon in coke,	52·2	
Ashes,	12·0	
		100·0

Carbon in the coal, 58·2

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	
		100·00

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

Analysis.—Moisture,	5·7	
Volatile matters,	32·0	
Carbon in coke,	59·8	
Ashes,	2·5	
		100·0

Carbon in the coal, 62·5

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	
		100·0

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	
		100·0

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.