No.1. Mine Sheet No.XI. DIAMOND DRILL BORE HOLE No.1. AT OAK HILL MINES FROM SURFACE TO CONGLOMERATE. *Hillside Coal & Iron Co.*

No.2. Mine Sheet No.XIII. GREENWOOD COLLIERY. BORE HOLE NEAR No.6 DRIFT FROM SURFACE TO No.6 BED. *R. G. Brooks.*

No.3. Mine Sheet No.XIII. GREENWOOD COLLIERY SHAFT FROM SURFACE TO DUNMORE No.2 BED. *R.G. Brooks.*

No.4. Mine Sheet No.XIII. DIAMOND DRILL BORE HOLE No.2. S.31°W. 2092 FEET FROM NATIONAL BREAKER FROM SURFACE THROUGH No.6 BED. *William Connell & Co.*

No.5. Mine Sheet No.XIII. DIAMOND DRILL BORE HOLE No.1. S.35°W. 1000 FEET FROM NATIONAL BREAKER FROM SURFACE TO CONGLOMERATE. *William Connell & Co.*

No.6. Mine Sheet No.XIV. ROPE DRILL BORE HOLE. NEAR COR. SANDERS and STONE STS., SCRANTON FROM SURFACE THROUGH RED SHALE. *William Connell & Co.*

No.7. Mine Sheet No.XIV. HAND DRILL BORE HOLE. S.59°E. 2503 FEET FROM NATIONAL BREAKER FROM SURFACE TO DUNMORE No.2 BED. *William Connell & Co.*

No.8. Mine Sheet No.XIII. NATIONAL COLLIERY SHAFT FROM SURFACE TO No.5 BED. *William Connell & Co.*

No.9. Mine Sheet No.XIII. BORE HOLE. NEAR COR. PITTSTON AVE. and PALM ST. SCRANTON FROM SURFACE TO No.6 OR DUNMORE No.3 BED. *William Connell & Co.*

No.10. Mine Sheet No.XIII. BORE HOLE. NEAR INTERSECTION OF WASHINGTON AVE. AND ROARING BROOK FROM SURFACE TO DUNMORE No.1 BED. *L. I. & S. Co.*

No.11. Mine Sheet No.XIII. MEADOW BROOK COLLIERY SHAFT FROM SURFACE TO No.5 OR DUNMORE No.2 BED. *William Connell & Co.*

No.12. Mine Sheet No.XIII. BORE HOLE ON THE FLATS NORTH OF MEADOW BROOK BREAKER FROM SURFACE TO No.5 OR DUNMORE No.2 BED. *William Connell & Co.*

No.13. Mine Sheet No.XIV. BORE HOLE AT GARDNERS DRIFT ON STAFFORD MEADOW BROOK FROM SURFACE TO CONGLOMERATE. *William Connell & Co.*

No.14. Mine Sheet No.XIV. DIAMOND DRILL BORE HOLE No.1. ON LOT No.38. FROM SURFACE TO CONGLOMERATE. *Charles Du Pont Breck.*

No.15. Mine Sheet No.XIV. DIAMOND DRILL BORE HOLE No.2. ON LOT No.38. FROM SURFACE TO CONGLOMERATE. *Charles Du Pont Breck.*

No.16. Mine Sheet No.XIII. ROLLING MILL SLOPE. BORE HOLE FROM DUNMORE No.2 BED TO DUNMORE No.3 BED. *L. I. & S. Co.*

No.17. Mine Sheets Nos.XIV & XV. ROLLING MILL TUNNEL. BORE HOLE FROM DUNMORE No.2 BED TO DUNMORE No.3 BED. *L. I. & S. Co.*

No.18. Mine Sheets Nos.XIV & XV. BORE HOLE NEAR CORNER PRESCOTT AND MULBERRY ST. SCRANTON. FROM SURFACE THROUGH RED SHALE. *L. I. & S. Co.*

No.18. Continued

No.18. Continued

SKELETON MAP OF PART OF MINE SHEETS Nos. XI, XII, XIII AND XIV SHOWING THE POSITION OF COLUMNAR SECTIONS ON SHEET IX. Scale, 1 mile to 1 Inch.

COLUMNAR SECTIONS OF THE COAL MEASURES IN THE VICINITY OF MINOOKA, SCRANTON AND DUNMORE, LACKAWANNA COUNTY. CONSTRUCTED FROM MEASUREMENTS OBTAINED FROM THE COMPANIES NAMED IN THE INDIVIDUAL TITLES, AND FROM THOSE MADE BY THE GEOLOGICAL SURVEY.

Scale 40 feet to 1 inch.

NOTES.

1. The strata composing some of these sections have been named locally and consequently a similarity of name does not necessarily indicate a similarity in the character of the strata and vice versa.
2. Sections Nos. 8 and 11 were measured by the Geological Survey, and to them Note No.1 does not apply.
3. Section No.1 was constructed from the records of the Hillside Coal and Iron Company, Sections Nos. 2 and 3 from those of Mr. R. G. Brooks, Sections Nos. 4, 5, 6, 7, 9, 12 and 13 from those of William Connell & Company, Sections Nos. 10, 16, 17 and 18 from those of the Lackawanna Iron and Steel Company and Sections Nos. 14 and 15 from those of Mr. Charles Du Pont Breck.
4. The thicknesses assigned to the individual strata are their true thicknesses perpendicular to the bedding. The thicknesses of the coal beds are shown as cut in the bore hole, shaft or tunnel which the section represents and do not necessarily show the thickness of the bed where worked at other points.
5. The thickness of the coal beds shown in these sections does not represent the thickness of the coal alone but includes the refuse material of the bed.
6. Section No.1 was published in Northern Coal Field Atlas part II (see Section No.26, Columnar Section Sheet No.VIII) but is reproduced here to show the geological connection between the Sections on Sheets Nos. VIII and IX.

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WILLIAM GRIFFITH, ASSISTANT GEOLOGIST. ROBERT A. QUIN, GEORGE W. MILNES, WILBUR F. SMITH, } ASSISTANTS.

E.K. Meyers, State Printer.

Scale of Coal Measure Sections. 40 Feet to 1 Inch. FEET 40 30 20 10 0 40 80 120 160 200 10 5 0 10 20 30 40 50 METERS. 400 of Nature.

REFERENCE SURVEY MAPS AND SECTIONS NORTHERN COAL FIELD | MINE SHEETS Nos. XI, XIII AND XIV. CROSS SECTION SHEETS.

AUGUST 1888.