CONTENTS OF THE PUBLISHED VOLUMES OF RE-PORTS OF THE INDIANA GEOLOGICAL SURVEY; THE DEPARTMENT OF GEOLOGY AND NATURAL HISTORY, AND THE DE-PARTMENT OF GEOLOGY AND NATURAL RESOURCES.

BY T. C. HOPKINS.

Report of a Geological Reconnaissance of the State of Indiana. Made in the year 1837 by D. D. Owen, M. D., State Geologist, and reprinted in 1859.

Part I. Leading principles of geology; Plan of conducting the survey; Summer survey, south of the National Road; Fall survey, north of the National Road; Remarks on the mineral deposits, soil and growth peculiar to the different strata; Summary and practical inferences; Appendix, Suggestions as to mode of conducting future surveys.

Part II. A continuation made in 1838: Posey County, Vanderburgh County, Warrick County, Spencer County, Dubois County, Harrison County, Floyd County, Clark County, Jefferson, Scott, Jennings, Ripley, Decatur, Rush and Shelby counties; Switzerland, Dearborn, Franklin, Union and Fayette counties; Wayne County; Counties north of the National Road and east of the second principal meridian; Carroll County, Montgomery County, Fountain, Clark and Vermillion counties, Clay County; Greene, Martin, Perry, Vigo, Sullivan, Knox, Daviess, Pike and Gibson counties. Comparison between the Muriatiferous rocks of Virginia and Ohio and those at the base of the coal formation of Indiana. Comparison between the geological formations of Indiana and those of Ohio. Summary of the Geology of Indiana. Analyses of rocks and minerals of Indiana.

Geological Survey of the State of Indiana.

Letter from Dr. R. T. Brown, published in the Transactions of the Indiana State Agricultural Society, 1853, pp. 299-332.

Contents: The Silurian; The Cliff Rock; The Argillaceous or Chemung Sandstone; The Mountain Limestone; The Coal Field; Iron Ore.

Report of a Geological Reconnaissance of Indiana, 1859-1860. Under the direction of the late David Dale Owen, State Geologist, by Richard Owen, Principal Assistant and now State Geologist, Indianapolis, 1862.

Contents: Report of Richard Owen containing preliminary observations and details of counties; Physical Geography; Chemical analyses of Indiana soils by Dr. Peter; Report on the distribution of the geological strata in the Coal Measures, by Leo Lesquereux; Report of J. Lesley, topographical geologist.

First Annual Report of the Geological Survey of Indiana, 1869. E. T. Cox, State Geologist.

Contents: Geology; Clay County; Greene County; Parke, Fountain, Warren, Owen and Vermillion counties; Franklin County, by Dr. Rufus Haymond.

Second Report of the Geological Survey of Indiana, 1870, by E. T. Cox, State Geologist, Indianapolis, 1871.

Contents: Report on coal; Daviess County, Martin County, Putnam and Vigo counties, Spencer and Warrick counties; Western Coal Measures and Indiana Coal; Sullivan County; Manual of Botany of Jefferson County, by A. H. Young.

Third and Fourth Annual Reports of the Geological Survey of Indiana, 1871 and 1872, by E. T. Cox, State Geologist, 1872; included in the Fourteenth Annual Report of the Indiana State Board of Agriculture, 1872.

Contents: Description of coal fields, Perry County; Geological Notes of a trip from New Albany, in Floyd County, to Harrison and Crawford counties; Report on the Wyandotte Cave and its Fauna, by Prof. E. D. Cope; Geology of Dubois County, Indiana; Geology of Pike County, Indiana; Geological Reconnaissance of Jasper, White, Carroll, Cass, Miami, Wabash and Howard counties; Geological Survey of Parke County; Geology of Dearborn, Ohio and Switzerland counties. Meteorology of Vevay, Switzerland County, Indiana; Manufacture of spiegeleisen, specular or glittering iron, by Hugh Hartmann.

Fifth Annual Report of the Geological Survey of Indiana, 1873, by E. T. Cox, State Geologist, Indianapolis, 1874.

Contents: Report on the Vienna Exposition of 1873; The iron and steel industries of Rhenish Prussia and Westphalia, Germany, at the Vienna Exhibition of 1873, by H. Hartmann; Spiegeleisen manufacture, by Hugh Hartmann; Geological Report; Geological Survey of Clark and Floyd counties; Geology of Warren County; Geology of Lawrence County; Geology of Knox County; Geology of Gibson County; Tripoli; Report of observations made in the counties of Dekalb, Steuben, Lagrange, Elkhart, Noble, St. Joseph and Laporte.

Sixth Annual Report of the Geological Survey of Indiana, 1874, by E. T. Cox, State Geologist, Indianapolis, 1875.

Contents: Geological Report; Antiquities; Jackson County; Geology of Brown County; Scott County; Jefferson County; The Sisco of Lake Tippecanoe and its Relatives, by D. S. Jordan; Synopsis of the Genera of Fishes to be looked for in Indiana, by D. S. Jordan; A partial list of the Flora of Jefferson County, by John M. Coulter.

Seventh Annual Report of the Geological Survey of Indiana, 1875, by E. T. Cox, State Geologist, Indianapolis, 1876.

Contents: Geological Report; Analyses of coals; Vigo County, Huntington County; Species of fossil marine plants from the Carboniferous Measures by L. Lesquereux; Jennings County; Ripley County; Orange County; Geological Report on Vanderburgh, Owen and Montgomery counties; Geology of the southeastern part of Clay County; Geological reconnaissance of the Coal Measure Rocks of Putnam County; Observations on the depth and temperature of some of the lakes of Northern Indiana, by G. M. Levette; Catalogue of the Flora of the Wabash Valley below the Mouth of White River, by J. Schneck.

Eighth, Ninth and Tenth Annual Reports of the Geological Survey of Indiana, 1876-7-8, by E. T. Cox, State Geologist, Indianapolis, 1879.

Contents: Report; Catalogue of Fossils found in the Hudson River, Utica Slate and Trenton Groups, by S. A. Miller; Hydraulic Cement; Building Stone; Glacial Drift; Antiquities; Porcelain, tile and potter's clays; Bessemer iron; Wayne County; Table of Altitudes; Catalogue and Check List of the Trees and Woody Shrubs of America, north of Mexico, by John W. Byrkit; Harrison County; Crawford County.

First Annual Report of the Department of Statistics and Geology, 1879. John Collett, Chief of Bureau. Statistical, no geology.

Second Annual Report of the Department of Statistics and Geology, 1880. John Collett, Chief of Bureau of Statistics.

Contents: Geology in Indiana; Mammoth and Mastodon remains in Indiana and Illinois; A Vincennes Mound; The Worthington Mound; Geology of Putnam County; Geology of Monroe County; Synopsis of the Molluscous Fauna of Indiana, by Frederick Stein; Fossils of the Indiana Rocks, by C. A. White.

Eleventh Annual Report of the Department of Geology and Natural History, 1881. John Collett, State Geologist.

Contents: Geology of Indiana; Mines and Quarries; Experiments upon the transverse strength and elasticity of Building Stones, by Thos. H. Johnson; Table of Altitudes; Geology of Shelby County; Fountain County; Geology of Delaware County; Geology of Bartholomew County; Description of the species of Fossils found in the Niagara Group at Waldron, Indiana, and plates, by Prof. James Hall.

Twelfth Annual Report of the Department of Geology and Natural History, 1882. John Collett, State Geologist.

Contents: General Economic Geology; United States surveys and growth of timber; Indian names of water-courses in the State of Indiana; Outline Geology of Indiana; Geological Survey of Newton County; Geological Survey of Jasper County; Geological Survey of Decatur County; Geological Survey of Decatur County; Geological Survey of Randolph County; Catalogue of the Flora of Central-Eastern Indiana, by A. J. Phinney. Paleontology; VanCleve's Fossil Corals, by Prof. James Hall; The Spergen Hill Fossils, by Jas. Hall; Diatoms of the Waters of Indiana, by Rev. G. L. Curtiss.

Thirteenth Annual Report of the Department of Geology and Natural History: Part I, Geology and Natural History; Part II, Paleontology. John Collett, State Geologist, 1883.

Contents: Outline Geology of Indiana; Fuel Values of Coal Industry; Analyses of 390 Indiana coals and 56 other coals; Economic Geology of the State; Geology of Posey County; Geology of Morgan County; Geology of Rush County; Geology of Johnson County; Geology of Grant County; A Glossary of terms com-

monly used in Geological Reports, by W. T. S. Cornett. Pale-ontology; Principles of Paleozoic Botany and the Fauna of the Coal Measures, by Leo Lesquereux; The Fossils of the Indiana Rocks, No. 3, by Chas. A. White; A Geological Map of the State. Fourteenth Annual Report of the Department of Geology and Natural History: Part I, Geology and Natural History. Part II, Post-Pliocene Vertebrates of Indiana. John Collett, State Geologist, 1884.

Contents: Introduction; Work of the Department; Geological map; Outline Geology of Indiana; Geological and topographical survey of Hamilton and Madison counties, by R. T. Brown; Geological and topographical survey of Fayette County, by M. N. Elrod; Union County, by M. N. Elrod; University Cave, Greencastle, Indiana; Indiana oölitic limestone, table of tests; Fish Culture in Indiana; The Drift Deposits of Indiana, by J. S. Newberry; The Ohio River Floods; Table of altitudes of Chicago and Indianapolis Air Line R. R.; A glossary of terms commonly used in geological reports; An account of the Mammalian Fauna of the Post-Pliocene deposits in Indiana, by E. D. Cope and J. L. Wortman.

Fifteenth Annual Report of the Department of Geology and Natural History, 1886. Maurice Thompson, State Geologist.

Contents: Compendium of Geology and Mineralogy; Indiana Building Stone; The Clays of Indiana; Indiana Chalk Beds; Glacial Deposits of Indiana; A Terminal Moraine in Central Indiana; Geology of Tippecanoe, Henry and Portions of Randolph, Wayne and Delaware, Washington, Clinton, Boone, Marshall, Hancock, Benton and Starke counties; The Wabash Arch, by S. S. Gorby; Geographical Botany; The Origin of the Indiana Flora, by John M. Coulter and Harvey Thompson; Fossil Mammals of the Post-Pliocene in Indiana; The Prehistoric Race in Indiana, by S. S. Gorby; Natural Gas; Glossary.

Sixteenth Annual Report of the Department of Geology and Natural History. Maurice Thompson, State Geologist, edited by S. S. Gorby, 1888.

Contents: Drift Beds of Indiana; The Wabash Arch; Fossils and their Value; Outline Sketch of the Most Valuable Minerals of Indiana; Gold, Silver and Precious Stones; The formation of Soils and other Superficial Deposits; Geology of DeKalb

County; Geology of Allen County; Partial Report of the Survey of the Western Division, including sketches of White and Pulaski counties; Characteristic plants of the Kankakee Region; Geology of Miami County; Natural Gas and Petroleum; Structural Features of Indiana; Sections of Natural Gas Wells in Indiana; Table of Altitudes in Indiana; Economic Use of Natural Gas; Paleozoic Crinoids, by S. A. Miller; Echinodermata of Indiana, Missouri and Iowa, by S. A. Miller and W. F. E. Gurley; The Work; The Flora of Dearborn County, by S. H. Collins; List of Specimens in the State Museum.

Seventeenth Annual Report of the Department of Geology and Natural Resources. S. S. Gorby, State Geologist, 1891.

Contents: Report upon the various Stones used for Building and found in Indiana; Geology of Steuben County; Partial Catalogue of the Flora of Steuben County; Geology of Whitley County; Geology of Carroll County; Geology of Wabash County; Partial List of the Flora of Wabash and Cass counties; Report of Inspector of Mines; Report of State Supervisor of Oil Inspection; Petroleum in Indiana; Report of Supervisor of Natural Gas; A Catalogue of the Butterflies known to Occur in Indiana, by W. S. Blatchley; The Batrachians and Reptiles of Indiana, by O. P. Hay; Paleontology, by S. A. Miller.

Eighteenth Annual Report of the Department of Geology and Natural Resources. S. S. Gorby, State Geologist, 1893.

Contents: Geology of Noble County; Flora of Noble County; Geology of Lagrange County; The Drift of the Wabash-Erie Region; Report of Inspector of Mines; Report of State Supervisor of Oils; Report of Supervisor of Natural Gas; Indiana's Structural Features as Revealed by the Drill, by E. P. Cubberly; Paleontology, by S. A. Miller.

Nineteenth Annual Report of the Department of Geology and Natural Resources. S. S. Gorby, State Geologist, 1894.

Contents: Geology of Cass County; Report of the Inspector of Mines; Report of the Supervisor of Oils; Report of the Supervisor of Natural Gas; The Lampreys and Fishes of Indiana, by O. P. Hay.

Twentieth Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1895.

Contents: Natural Fuels; Resources other than Fuels; A Preliminary Report on the Clays and Clay Industries of the Coal Bearing counties of Indiana, by W. S. Blatchley; The Carboniferous Sandstones of Western Indiana, by T. C. Hopkins; The Whetstone and Grindstone Rocks of Indiana, by E. M. Kindle; Report of the State Natural Gas Supervisor; Report of the Inspector of Mines; Report of State Supervisor of Oil Inspection for 1894 and also for 1895; The Crawfishes of the State of Indiana, by W. P. Hay.

Twenty-first Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1896.

Contents: The Natural Resources of Indiana, by W. S. Blatchley; The Petroleum Industry in Indiana, by W. S. Blatchley; Composition of Indiana Coals, by W. A. Noyes; The Black Slate or Genesee Shale of New Albany, Indiana, by Hans Duden; Indiana Caves and their Fauna, by W. S. Blatchley; A Report on the Geology of the Middle and Upper Silurian Rocks of Clark, Jefferson, Ripley, Jennings and Southern Decatur counties, by August F. Foerste; The Bedford Oölitic Limestone of Indiana, by T. C. Hopkins and C. E. Siebenthal; Report of the State Natural Gas Supervisor; Report of the State Inspector of Mines; Report of the State Supervisor of Oils; Geology of Vigo County, by J. T. Scovell; Catalogue of the Ferns, Fern Allies and Flowering Plants of Vigo County, by W. S. Blatchley.

Twenty-second Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1897.

Contents: Geological Scale of Indiana, by W. S. Blatchley and Geo. H. Ashley; Geology of Lake and Porter counties, by W. S. Blatchley; The Clays and Clay Industries of Northwestern Indiana, by W. S. Blatchley; The Petroleum Industry in Indiana in 1897, by W. S. Blatchley; On the Advantages of Producing Beet Sugar in Northwestern Indiana, by E. L. Furness; A Report on the Niagara Limestone Quarries of Decatur, Franklin and Fayette counties, with Remarks on the Geology of the Middle and Upper Silurian Rocks of these and neighboring counties, by August F. Foerste; Reports of the State Natural Gas Supervisor, Inspector of Mines, and Supervisor of Oil Inspection; September Dragonflies of Round and Shriner Lakes, Indiana, by E. B. Wil-

liamson; A Catalogue of the Fossils of Indiana, by E. M. Kindle; The Birds of Indiana, by Λ . W. Butler.

Twenty-third Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1898.

Contents: Coal Deposits of Indiana, by Geo. H. Ashley, 1565 pp. and numerous map sheets; Reports of State Inspector of Mines, Natural Gas Supervisor, Supervisor of Oil Inspection.

Twenty-fourth Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1899.

Contents: Natural Resources of Indiana, by W. S. Blatchley; A General Discussion of the Middle Silurian Rocks of the Cincinnati Anticlinal Region, with their Synonymy, by August F. Foerste; A Report upon the Waldron Shale and its Horizon in Decatur, Bartholomew, Shelby and Rush counties, by J. A. Price; Reports of the State Inspector of Mines, Natural Gas Supervisor, Supervisor of Oil Inspection; The Dragonflies of Indiana, by E. B. Williamson; A Descriptive Catalogue of the Mollusca of Indiana, by R. E. Call; Notes on the Batrachians and Reptiles of Vigo County, by W. S. Blatchley; A Catalogue of the Flowering Plants and of the Ferns and their Allies Indigenous to Indiana, by Stanley Coulter.

Twenty-fifth Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1900.

Contents: Portland Cement, by W. S. Blatchley; The Lakes of Northern Indiana and their Associated Marl Deposits, by W. S. Blatchley and Geo. H. Ashley; Oölite and Oölitic Stone for Portland Cement Manufacture, by W. S. Blatchley; The Silver Creek Hydraulic Limestone of Southeastern Indiana, by C. E. Siebenthal; The Indiana Oölitic Limestone Industry in 1900, by C. E. Siebenthal; Reports of the State Natural Gas Supervisor, State Inspector of Mines, Supervisor of Oil Inspection; The Petroleum Industry in Indiana in 1900, by W. S. Blatchley; The Devonian Fossils and Stratigraphy of Indiana, by E. M. Kindle; On a Small Collection of Batrachians, with Descriptions of Two New Species, by W. S. Blatchley.

Twenty-sixth Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1901.* Contents: The Mineral Waters of Indiana, by W. S. Blatchley; The Medicinal Properties and Uses of Indiana Mineral Waters, by Robert Hessler; A Geologic and Topographic Section Across Southern Indiana, by J. F. Newsom; The Petroleum Industry in Indiana in 1901, by W. S. Blatchley; Reports of State Mine Inspector, State Natural Gas Supervisor and State Supervisor of Oil Inspection.

Twenty-seventh Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1902.*

Contents: Gold and Diamonds in Indiana, by W. S. Blatchley; Geology of the Lower Carboniferous Area of Southern Indiana, by Geo. H. Ashley; The Orthoptera of Indiana, by W. S. Blatchley; Reports of State Supervisor of Oil Inspection, State Natural Gas Supervisor and State Mine Inspector; The Petroleum Industry in Indiana in 1902, by W. S. Blatchley; On the Mollusca of Indiana, by W. S. Blatchley and L. E. Daniels; A Check-list of Indiana Mollusca, by L. E. Daniels.

Twenty-eighth Annual Report of the Department of Geology and Natural Resources. W. S. Blatchley, State Geologist, 1903.

Contents: The Geological Map of Indiana, by T. C. Hopkins; A Short Description of the Topography of Indiana and of the Rocks of the Different Geological Periods of the State, by T. C. Hopkins and A. F. Færste; The Petroleum Industry in Indiana in 1903, by W. S. Blatchley; The Lime Industry in Indiana in 1903, by W. S. Blatchley; Reports of the State Mine Inspector and State Gas Supervisor for 1903; A Physiographic and Ecological Study of the Winona Lake Region, by W. M. Mills; The Stratigraphy and Paleontology of the Niagara of Northern Indiana, by E. M. Kindle; Contents of and Index to Vols. I to XXVIII of the Reports of the Indiana Geological Survey, by T. C. Hopkins.

^{*}The 26th and 27th Reports were published in 1903 and are bound in one volume.

