STRATIGRAPHICAL CHART

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Authorities — Referred To

Ohio — O. Geological Survey Vol. V. Chaps IXE
Penna: W. Va. — U.S. Geological Survey Bulletin #68 and Prof. I.C. white. W. Va. G.S. Vol. I
Md — Md. Geological Survey Vol. O.S.U. Bulletin Series #278 pp. 197, 198, 199.
E.Ky. — Ky. Geological Survey (c) Report of State Mine Inspector (1892)

OHIO

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Lower Carboniferous System — Middle Lower Marine Deposits — Shore Deposits with Incursions of the Sea

Upper Fresh Water Deposits

No. XVI. Permo-Carboniferous or Dunkard Creek Series

Upper Coal Measures — 200 ft. — No. XV.

Barren Measures — 500 ft. — No. XIV.

Lower Coal Measures — 600 ft. — No. XIII.

Conglomerate Measures — 300 ft. — Great Serai Conglomerate — No. XII.

Mauch Chunk Red Shale — Umbral to S. Greenbrier Lm — No. XI.

Pocono Sandstone — Vesperitine — Big Injun Oil Sand — No. X.

Position & Measures	Groups	Name of Coal and Intervening Strata	Width of Vein	Width of Strata	Distance Between Horizons	Mining on — Locality
		Coal Blossom (Uniform) Shale, Limestone, Nimrah Sandstone				
		Dolly Town Shales, Limestone, Sandstone	6-12		145 to 200	
		Washington (Split) Shales, Limestone, Sandstone (Waynesburg)	15 A		145 to 200	
0		Macksburg (Waynesburg) Coal Shales, Limestone				Noble Co.
1		Meigs Creek (Cumberland) Shales, Limestone	4			Barnesville, Cumberland
2		Pittsburgh Shales, Limestone	6			Bellaire, Dillonvale, Pomeroy, Maynard
3		Norwich (Muskingum Co.) Shales, Limestone (Cones & Cinn. Split) Shales (Black Slate)	2	35 to 50		Linton Co. Scalina Co. Muskingum Co.
4		Cedar or Strip Vein Fire Clay, Sandstone, Cambridge Limestone	3 to 8			Yellow Creek, Salineville
5		Masontown Shales	1 ft.			
6		Sandstone (U Mahoning) Upper Freeport		30		
7		Mahoning Lower Mahoning Sandstone, Shales	12			
8		Cambridge, Big Vein Fire Clay, Limestone (Barrenpod) (no fossils) Iron Ore	8 to 7	425 ft.		Happy Hollow, Wheeling, Ohio, Cadiz, Salineville, Sunnyside, Dell Roy, Cambridge.
9		Hatchet, Hamden, Rogers Fire Clay, L. Freeport & U. Cannel, Rockwood Freeport Sandstone	3 to 8	325 ft.		Hatchet, Hamden Furnace, Roger Steubenville, Wabash
10		Upper Kittanning Fire Clay, Limestone (Buff) Shales	12 to 16	170 to 195		Jefferson Coal
11		Middle Kittanning Fire Clay, Shales, Iron Ore (Coin) Sandstone	2 to 8	90 to 140		Hocking Valley, Georgetown, Carbon, Okey Run, Canesville, Dennison, Zanesville, New Lexington
12		Lower Kittanning Fire Clay, Limestone, Upper Coal, Sandstone & Shales, Lower Coal, Sandstone Underclay	2 to 8	250 to 300		New Castle, Indiana, Crawford Reef Gold Mineral Plant, Hamondsville
13		Upper Clarion Fire Clay, Sandstone (White)	1 to 6			Fairfield on Canal Coal, Coleman, Colombiana Co.
		Lower Clarion Shales, Sandstone	15 to 4			New Lexington, Vinton Co. Jackson Co.
		Brookville Sandstone, Homewood, Piedmont	2	30		Jackson, Vinton Co.
0		Tionesta Massive Limestone, (Silver) Shales, Fire Clay, Flint or Bore Limestone		20		Greentown, Industry, Bolivar, McCarthur, Vinton Furnace
0		Deuce Gouge Fire Clay, Shales & Sandstone, Iron Ore, Massive Limestone, Shales	1 to 2	50 to 80		Canfield, Twp. Lowerseed Co. Mahoning Co. Holmes Co.
0		Wilbur or Flint Ridge Fire Clay, Shales, Sandstone U Massilon	9	25 to 50		Millersburg, Wick, McDowell, Gustin Town, Flint Ridge, Locking Co.
1		Wellston Shales, Sandstone & Massilon	15 to 45	50 to 80		Wellston, Vinton
1		Bauer Bulger Block Shales, Sandstone & Shales, Conglomerate Sandstone	3 to 8	50 to 80 / 375 / 475 to 575		Youngstown, Massilon, Mineral Ridge, Jackson

Additional Notes on Ohio

1. Pool 1 = Patriot of Gallia Co.
2. 7 = Salineville Mfg.
3. 7 = Norris Peal
4. 8 = Steubenville, Shaft
5. 6 = Hammondsville, Mfg. = Sheridan
6. 8 Overlies Potters Clay at Smith's Ferry
7. Upper Clarion = Limestone Coal of Vinton Co.
8. Coal 8 = Straw bridge Cannel of Holmes Co.
9. Coal 0 = Homewell Cannel & Bedford Cannel of Coshocton Co.
10. The 8 oar limestone, is one of the best marked Geological Horizons in W. & M.
11. Sandstone overlying Cambridge is 0. = Oil Rock of Federal Creek Oil and equals 1st Oil Sand of Macksburg, Cadiz Bow Run of Washington Co.
12. U. Clarion Creek Vein of Hubert 2 of Lewellons = 4 in Mahoning Co.
13. Ferriferous b. 8: upper half is gray & lower half blue.

PENNA

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Monongahela Series — Dunkard Creek — 100 to 400 ft.

Barren Measures — 400 to 600 ft.

Allegheny River Series — 300 ft.

Sharon Conglomerate — 250 ft.

Position & Measures	Name of Coal and Intervening Strata	Width of Vein	Width of Strata	Distance Between Horizons	Mining on — Locality
	Nineveh Shales, Vitreal Limestone, Sandstone	1½			
	Glenwood Sandstone, Shales	1½			
	Washington Washington & Greensburg Limestone, Sandstone, Lower Washington Coal, Limestone, Shales	4			
	Waynesburg Sandstone & Shales, Little Waynesburg Coal, Waynesburg Limestone, Sandstone & Shales	2 to 3			
	Uniontown Limestone & Shales, Coal A, Limestone & Shales, Sandstone	1 to 8			
K	Sewickly Sandstone, Limestone (Fish Pot) Sandstone & Shales	1 to 8			
J	Redstone Limestone, Pittsburgh Sandstone, Shale	1 to 4			
I	Pittsburgh Pittsburgh Shales, Limestone (Pittsburgh) Sandstone	6 to 14			Connellsville, Homestead, Scottdale, Pittsburgh, Greensburg, Uniontown
H	Little Pittsburgh Little Pittsburgh Limestone, (Little Pittsburgh) Sandstone, Calcareous Shale	1 to 3			Blairsville, Dicksdale, Dunbar, Wilkensburg, Allegheny, Myersdale etc.
G	Little Clarksburg Limestone, Sandstone, Shales	1 to 2			
F	Elk Lick Limestone (Cromwell) Sandstone, Shales	1 to 4			
E	Brush Creek, Barton Shales, Sandstone & Shales, Massillon Shales	2 to 3			
D	Masontown Shales, U. Mahoning & S. of Buffalo & Shales	1 to 3			
C	Mahoning, Gallwetzen Shales, Limestone, Lower Mahoning Sandstone, Shales	1 to 2			Clearfield Co. Myersdale, New Bethlehem, Glasgow, Williamsburg, Hollidaysburg, Cresson, Gallitzin, Bridgeport, Queechburg, New Bethlehem, Reynoldsville, Clearfield Co. Spangler, Meshannon, Osceola Mills, Philipsburg, Ottowell, W. Hartley
B	Upper Freeport Fire Clay, Shales, U. Freeport Limestone, Lower Freeport Sandstone	2 to 10	425 to 475		
A	Lower Freeport Fire Clay, Limestone, Lower Freeport Sandstone	5	425 to 475		
9	Upper Kittanning Fire Clay, Darlington Limestone or Cement, Sandy Shales	2 to 8	425 to 475		
8	Middle Kittanning, Block Fire Clay, Shales, Sandstone, Iron Ore	1 to 8	425 to 475		Rock Beat, Hog Hollow, Wampum, Cannel Coal, Connell, Johnstown, Myersdale, Vintan, Munson, Hillsdale, Kettle Creek
7	Lower Kittanning Fire Clay, Kittanning Ss & Shale, Lower Kittanning Coal, Sandy Shales	3 to 8	425 to 475		
6	Scrub Grass, U. Clarion Sandy Shales, Sandstone	3 to 8			Glasgow, Blandburg, Heathdale, Summerville, Cresson, Portage
5	Clarion Fire Clay, Shales, Sandstone	1 to 4			
4	Brookville Limestone or Redstone, Sandstone, Sandy Shales, Iron Ore	3 to 6			Stineburg, Heathdale, Johnstown, Summerville, Osceola Mills, Portage
3	Tionesta My Savage, Fire Clay, U. Mercer Limestone, Iron Ore, Sandy Shales	0 to 5			
2	Upper Mercer Shales, Iron Ore, Limestone, U. Mercer, Lower Mercer Limestone, Shales	2 to 4			
1	Lower Mercer Shales, Sandstone (U Conoquenessing) Shales, Limestone	2 to 4			
	Quakertown Sandstone (U Conoquenessing) Shales, Fire Clay	2			
	Sharon Fire Clay, Shales, Chocolate Conglomerate	0 to 8			Sharon, Orangeville, Middlesex

Notes on Pennsylvania

1. Lower Freeport = Meshannon Coal
2. Darlington = Rock Point = U. Kittanning
3. Cannel coal occurs midway in Barren Measures.
4. Ferriferous b. 5: Upper half is Green, lower half is blue.

WEST VA

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Monongahela Series — Dunkard Creek — 100 to 400 ft.

Elk River or Conemaugh Series — 600 ft.

Allegheny or Kanawha Series — 250 to 1100 ft.

Pottsville Conglomerate — 250 ft.

Position & Measures	Name of Coal and Intervening Strata	Width of Vein	Width of Strata	Distance Between Horizons	Mining on — Locality
	Waynesburg Limestone & Fire Clay, Sandstone & Coal, Shales, Sandy Sandstone				
	Sewickly or Tyson Shale, Sandstone, Shale (Argillaceous) Limestone				
	Redstone Coal, Fire Clay, Slate, Shale, Sandstone				
	Elk Garden, Pittsburgh Black Shales, Sandstone				
	Little Pittsburgh Limestone, Sandstone				
	Franklin (Dirty 3 Foot) Shales, Sandstone				
	Elk Lick Coal Sandy Shales, Sandstone				
	Bakerstown or 4 Foot Fire Clay, Shales				
	Mason Coal U. Mahoning Sandstone				
	Mahoning U. Mahoning Sandstone, Shales				
	Upper Freeport Fire Clay, Shales, U. Freeport Sandstone, Lower Freeport, Shales, Sandstone				
	Upper Kittanning Shales				
	Middle Kittanning Shales, Sandstone, Shales				
	Lower Kittanning Shales, Sandstone				
	Split Six Foot Fire Clay, Sandstone, Dark Shales				
	Parker or Eagle Sandstone, Dark Shales				
	Pilibaugh Homewood Sandstone, Shales				
	Mt. Savage Mt. Savage Clay, Shales				
	Upper Mercer Sandstone				
	Westernport, Mercer Shales, U. Conoquenessing SS.				
	Quakertown Fire Clay, L. Conoquenessing SS.				
	Bloomington, Sharon Coal, Clay & Shales, Green Sandstone, Conglomerate, Red Shales, Marls & Shale				

Notes on W. Va.

1. Upper Freeport = Savage = Alaction = N. Coalburg
2. Middle Kittanning = Kanawha or Gas
3. Lower Kittanning = Thacker, Davis, P.S. Gas, Winifrede, Coal Vy.
4. U. Kittanning = Kanawha Mining = Winifrede
5. Sewickly = Tyson Coal
6. Lewis Elk is split from U. Freeport
7. Lower Freeport = Brooks = Big & Little Coal of Tug R.
8. Middle Kittanning = Orno or Trimble = Cedar Grove
9. Powellton = Brownstown & Dingess
10. Homewood 35 = Nuttall or Dodson
11. Beckley Coal occurs in Raleigh Co.
12. Pocahontas Coals — Refer to Prof. I.C. White Bull. #65 U.S.G.S.
13. Brookville = Armstrong

Note: Conemaugh Series are Shrafts & Irregular
1. Clarksburg Coal is filled with fossil fish.
2. Morgantown 35 is the Oil Rock in Noble, Monroe & Washington Co's. Ohio.
3. Lewis limestone is filled with Monotrocha fossils and Shales known as Clay Rock Coal by drillers.
4. Saltsburg 35 is Pool Cow Run Sand.
5. Is Freeport 700 is Big Dunkard or 2nd Cow Run above Blue Stone Formation occurs brackish water deposits.

MARYLAND

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Monongahela Series — 250 ft.

Conemaugh Series — 400 to 600 ft.

Allegheny River Series — 300 ft.

Pottsville Conglomerate — 300 to 700 ft.

Position & Measures	Name of Coal and Intervening Strata	Width of Vein	Width of Strata	Distance Between Horizons	Mining on — Locality
	Waynesburg Limestone & Fire Clay, Sandstone & Coal, Shales, Sandy Sandstone				
	Koontz or Uniontown Limestone & Fire Clay, Sandstone & Coal, Shales, Sandy Sandstone				
	Sewickly or Tyson Shale, Sandstone, Shale (Argillaceous) Limestone				
	Redstone Coal, Fire Clay, Slate, Shale, Sandstone				
	Elk Garden, Pittsburgh Black Shales, Sandstone				Allegheny Co. Black Sheridan, Frostburg, Ioanscoming
	Little Pittsburgh Limestone, Sandstone				
	Franklin (Dirty 3 Foot) Shales, Sandstone				
	Elk Lick Coals Sandy Shales, Sandstone				
	Bakerstown or 4 Foot Fire Clay, Shales				
	Mason Coal U. Mahoning Sandstone				
	Mahoning U. Mahoning Sandstone, Shales				Allegheny Co. Cumberland, Georges Creek Dist.
	Upper Freeport Fire Clay, Shales, U. Freeport Sandstone, Lower Freeport, Shales, Sandstone				
	Upper Kittanning Shales				
	Middle Kittanning Shales, Sandstone, Shales, Sandstone				
	Lower Kittanning Shales, Sandstone				Barrett Co.
	Split Six Foot Fire Clay, Sandstone, Dark Shales				
	Parker or Eagle Sandstone, Dark Shales				
	Pilibaugh Homewood Sandstone, Shales				
	Mt. Savage Mt. Savage Clay, Shales				
	Upper Mercer Sandstone				
	Westernport, Mercer Shales, U. Conoquenessing SS. Shale with Coal Streaks				
	Quakertown Fire Clay, L. Conoquenessing SS.				
	Bloomington, Sharon Coal, Shales, Green Sandstone, Conglomerate, Red Shales, Marls & Shale				Deep Ps & O.R.R.

Notes on Maryland

1. Franklin = L. Clarksburg
2. U. Freeport = Thomas
3. L. Mahoning = Davis

EASTERN KENTUCKY

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Conglomerate Series

Position & Measures	Name of Coal and Intervening Strata	Width of Vein	Width of Strata	Distance Between Horizons	Mining on — Locality
	Coal Clay, Shales, Sandstone, Limestone, (Fossiliferous) Shales		258		Paradise, Muhlenburg Co.
	Coal Shales		197		Hopkins Co.
	Grape Creek Sandstone		0 to 8		
	Upper Freeport Shales, Sandstone, Limestone, Fossiliferous Shales		0 to 8		
	Winifrede & Freeport Fire Clay, Sandy Shales, Sandstone, Sandy Shale (Blue)		245 ft.		
	Upper Kittanning Shales, Sandstone, Limestone & Splint, Yellow Underclay		140		
	Ashland, Coalton Coal, Sandstone & Shale, Limestone (Carniferous)		25		Oakland, Coalton, Willard, Riverton, Carter Co. White, Whiteley Co.
	Alma Coal Sandstone, Dark Shales		82		
	Dean Coal Fire Clay, Shales, Sandy Shales, Limestone (Carniferous)		278 ft.		De Koven Co. Knox Co. Coalport
	Eagle				
	Brookville U. Splint Homewood Sandstone, Coal (Thin)		245 ft.		De Koven, Union Co.
	Coal (Thin) Shales				
	Bunnewell, Cannel		245 ft.		Pine Knot, Whitley Co.
	Coal		194		Rockcastle Co. Pine Hill, Gray, Knox Co. Kenner, Whitley Co. Jellico
	Elk Horn, Dellwood		355 ft.		
	Daisy Coal		194		
	Deansfield Coal, Sandstone, Red Spring, Proctor or Main No. 1		178 ft.		Offutsville, Ohio Co. Mineville, Mud River, Empire, Aberdeen

Notes on Eastern Kentucky

1. Coal #3 = Turkey Pick = Peach Orchard = Pineville = Imboden
2. #4 = Caddel = China, Branch Cannel = Lower Splint
3. #7 = Standard or Mc Guire = M. Kittanning
4. #2 = Jackhouse = Coal of De Koven
5. #1 = Laurel Coal
6. #6 = L. Kittanning
7. #10 = Rogers Dark near De Koven