

THEORETICAL COLUMNAR SECTION OF THE COAL MEASURES IN WESTERN PENNSYLVANIA, WEST VIRGINIA AND OHIO.

COMPILED FROM DIAMOND DRILL & GEOLOGIC RECORD.
PA. DEPT. OF HEALTH - SANITARY WATER BOARD - BUREAU OF ENGINEERING.

Distance From Pits. Coal.	Section	Name and thickness of Members.	Characteristics of Members.
366	MONONGAHELA SERIES	WAYNESBURG COAL 6' to 10"	Waynesburg Coal - Quite persistent, always multiple bed with two or more slate partings from 2" to 18" thick. These partings are often shale or fireclay. Divided into "Roof", "Upper and Lower" benches. Coal high in ash and moisture. Poor steam coal.
350		LITTLE WAYNESBURG COAL 0 to 10"	Little W. Coal - Underlying W. coal at interval of 10 to 20 ft. There is frequently a thin streak of coal 6" to 12" thick. Never workable.
		Gilboy Sandstone	Gilboy Sandstone - Quite persistent, especially along eastern outcrop where it often becomes very massive from point 5 to 10 ft. below W. Coal, cutting out the L.W. Coal and underlying Limestone. It is very hard, fine-grained, grayish white rock - seldom contains any pebbles. Sometimes immediately over the Uniontown Coal there appears a massive sandstone which has been called the Uniontown Sandstone. It is only local.
		Waynesburg Limestone	Waynesburg Limestone - The interval between the Gilboy S.S. and the Uniontown Coal is quite variable. Sometimes it is occupied by a massive Limestone and Shales - again by Sandy Shales, Flaggy S.S. or Gray Shales or Limy Shales. Limestone often of a yellowish color.
280		UNIONTOWN COAL 0' to 30"	Uniontown Coal - Rather persistent but varies in thickness from band of slate to 2 or 3 ft. Rather high in ash and other impurities - of little economic importance. From 80 to 125 ft. below W. Coal.
		Uniontown Limestone	Uniontown Limestone - Usually a great mass of limestone or limy shales or both and often layers of slate. Nearly always impure. They often attain a thickness of 150 ft. On passing from the northern part of W. Va. toward the south they change into red shales and sandy beds. Many of the layers make good road material and also a good quality of lime for building and fertilizing purposes. The portion of the Great Limestone immediately under the Uniontown Coal is generally termed the Uniontown Limestone.
		Great Limestone 10' 0" to 200' 0"	Great Limestone - Along the eastern crop of the Monongahela series, a thick, massive S.S., closely overlying the Sewickley Coal, often comes into the section and cuts out a large portion of the Great L. Occasionally the Sewickley S.S. makes good building stone.
		Sewickley Sandstone 0 to 60'	Sewickley Sandstone - Widely persistent. Usually of workable thickness along outcrop. Generally called Mapleton Seam. Good domestic coal, rather high in ash and sulphur. More open burning and less fusing than Pgh. Coal. Most too hard to coke well without crushing and washing. Usually split in centre by layer of slate 1 to 3 in. thick, into upper and lower bench. And again these contain thin layers of slate and bone.
		Sewickley Limestone 5' to 20'	Sewickley Limestone - Quite persistent. Appears at short interval below S. Coal. Fairly pure, gray in color. Makes excellent building and agricultural lime.
110		SEWICKLEY COAL 30' to 60"	Sewickley Coal - Quite persistent. Of workable thickness in some localities. Good quality of coal. A little high in sulphur for good coking. Very important coal in some parts of W. Va. Usually a slate or bone band from 1 to 7 in. thick occurs near the top of the seam.
45	REDSTONE COAL 30' to 60"	Redstone Coal - Quite persistent. Of workable thickness in some localities. Good quality of coal. A little high in sulphur for good coking. Very important coal in some parts of W. Va. Usually a slate or bone band from 1 to 7 in. thick occurs near the top of the seam.	
99	PITTSBURG COAL 50' to 90"	Pittsburg Coal - Most widely persistent and valuable coal bed of this series; usually uniform in thickness over wide areas but gets thinner from the eastern outcrop toward the west. Along eastern outcrop in Penna. and W. Va. it often attains a thickness of 8 or 10 ft., while along western outcrop in Ohio and along Ohio River it thins down to 4 or 5 ft. Two very persistent slate bands, usually at 3' and 5' from the bottom, occur almost over the entire area. These vary somewhat in different places. Coal usually soft and easily mined along eastern outcrop but becomes hard and compact and high in sulphur towards the west.	
44	LOWER PITTSBURG SANDSTONE	Lower Pgh. Sandstone - The interval immediately below the top of the Conemaugh, for about 100 ft. is the most variable portion of this series in its rock constitution. Sometimes there occurs shales, limestones, thin beds of coal, with some red beds, and again a very massive sandstone may appear only 3 to 10 ft. below the Pgh. Coal and extend to the top of the Conn. S.S. or shales. Pgh. Coal often rests on bed of sandy shales or thin bed of fireclay.	
60	LITTLE PITTSBURG COAL 0 to 3' 6"	Little Pgh. Coals - Two coal beds of little economic value are often seen at this variable interval at the top of the Conemaugh series - one immediately under the U.P. Limestone and the other immediately over the L.P. Limestone. The upper at a distance of 30 to 40 ft. below the Pgh. Coal. Both seams seldom appear together. Seldom of workable thickness but coal is usually of fair quality.	
176	LITTLE CLARKSBURG COAL 0 to 8' 0"	Little Clarksburg Coal - Widely persistent. Often double bedded with band of slate or shale 2 or 3 ft. thick. Filled with fossils of fish. Sometimes only a streak of slate. Of little economic value - often only 130 to 150 ft. under the Pgh. Coal.	
270	ELK LICK COAL Few inches to 5' 0"	Elk Lick Coal - Widely persistent. Appears directly under M.S.S. or separated by a few feet of shales. From 200 to 300 feet below Pgh. Coal. Mined locally. Coal contains much ash and bone.	
330	FRIENDSVILLE COAL 0 to 19'	Friendsville Coal - One of the most persistent S.S. of this series. Usually separated from Clarksburg limestone by a few feet of soft shales. It has a yellowish gray or bluish gray color and contains feldspar or lime. Splits readily into building blocks of any desired size, but makes poor quality as it decomposes when exposed to the elements as can be seen at several of the locks along the Monongahela River, where the lock walls are built of this material. Oil is sometimes found at this horizon.	
440	BAKERSTOWN COAL (BARTON) 20' to 40'	Bakerstown Coal - Widely persistent. Frequently only 180 ft. to 200 ft. above the U.F. Coal - often called "Three Foot Vein" and "Four Foot Vein". Immediately under the B Coal there occasionally occurs a bed of iron ore (silicious, limy) when present the coal is usually absent.	
540	MASON COAL 0 to 6' (Brush Creek Coal)	Mason Coal - Dark or black shales - fossiliferous. Usually quite hard. In some sections makes fine domestic coal - changes to canal coal in some localities as at Moatsville and Fellowsville.	
636	MAHONING COAL 0 to 5' 6"	Mahoning Coal - Very massive and persistent. Sometimes joins with the L.M.S.S. and forms one massive S.S. often over 100 ft. thick. Usually separated from L.M.S.S. by Mahoning Coal, slate, shale or fireclay. Good building stone but often becomes coarse-grained and pebbly and blends from a coarse S.S. to a conglomerate within a few feet. Called by Oil Drillers "Dunkard or Cow Run Sand". Often rich in petroleum.	
700	UPPER FREEPORT COAL 0 to 80'	Upper Freeport Coal - Often very massive and persistent. It appears only a few feet under the U.F. Coal and is very often replaced by the L.F. Coal. In many places is present as sandy shales, clays, or limestones.	
780	LOWER FREEPORT COAL 0 to 50'	Lower Freeport Coal - In the absence of the L.F. Coal, this sandstone sometimes unites with the U.F. S.S. making one massive sandstone from 150 to 200 ft. thick. One of most persistent sandstones of Allegheny Series. Very seldom missing. Rock quite hard, micaceous and often pebbly. Sometimes quarried. Named, Cassand, Big Duncard, Second Cow's Run Sand, etc.	
838	UPPER KITTANNING COAL 0 to 3' 6"	Upper Kittanning Coal - From 90 to 120 ft. below the U.F. Coal in Penna. and from 100 to 160 ft. in W. Va. Contains much slate and bone - of little commercial value in W. Va. Very often irregular or absent. Often replaced by L.F.S.S.	
861	MIDDLE KITTANNING COAL 0 to 3' 0"	Middle Kittanning Coal - When the L.F.S.S. is massive this seam is likely to be absent or very close to L.K. Coal Seam. Coal is usually very pure when present in W. Va. Sometimes canal coal in Penna. The horizon of this coal in Penna. is 20 to 70 ft. above the L. Kittanning Coal and from 15 to 45 ft. in W. Va. At Newburg Shaft, it is 13 ft. above the L.K. The interval between the U.K. Coal and the Mid.K. Coal is usually occupied by S.S. and sometimes becomes very massive horizon.	
894	LOWER KITTANNING COAL	Lower Kittanning Coal - The interval between the Mid.K. and L.K. Coal is sometimes occupied by a massive S.S. often coarse and pebbly - sometimes replaced by sandy slate, shales, limestone and flaggy L.K. Coal.	
956	CLARION COAL	Clarion Coal - Widely persistent in Penna. but very often absent in W. Va. Of workable thickness in some localities.	
985	Allegheny Series	Allegheny Series	
Av. 30'	Pottsville Series	Homewood Sandstone	Massive - Coarse grained - U. Conglomeritic - Irregular Thickness 20' to 60' average 30'
Av. 10'		Homewood Shale	
Av. 10'		Upper Mercer Limestone 1' to 3'	
Av. 14'		Lower Mercer Limestone 0 to 4'	
Av. 30'		Upper Connoquessing S.S.	Massive - Sometimes continuous with Homewood S.S. and sometimes with Lower Conn. S.S. - coarse grained and varies from conglomerate to sandy shale.
Av. 3'		Shale	
Av. 2'		Quakertown 0' to 2'	
Av. 22'		Fire Clay	
Av. 40'		Lower Connoquessing S.S.	Massive - coarse grained - white rock - thick bedded - can be conglomeritic or shaly - sometimes brown and ferruginous. 5' to 75' average 40'
Av. 8'		Shale	
	Sharon or Sewell 1' to 5' Aver. 4'		
	Sandy Shale	Blue grey - contains iron carbonate nodules.	

Allegheny Series

Massive - Coarse grained - U. Conglomeritic - Irregular Thickness 20' to 60' average 30'

Massive - Sometimes continuous with Homewood S.S. and sometimes with Lower Conn. S.S. - coarse grained and varies from conglomerate to sandy shale.

Massive - coarse grained - white rock - thick bedded - can be conglomeritic or shaly - sometimes brown and ferruginous. 5' to 75' average 40'

Blue grey - contains iron carbonate nodules.