

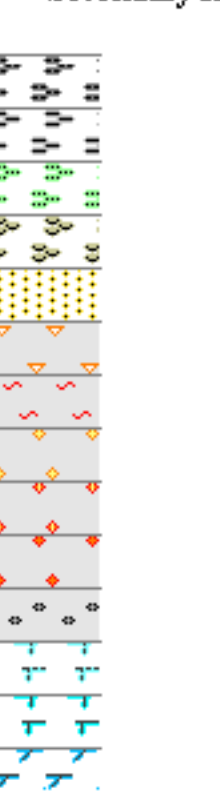
PITTSBURG-MIDWAY PM-17 (15-021-20187) T: 32S R: 21E S: 36

Latitude: 37.2137 Longitude: -95.0564 Elevation (GL): 830.0 Depth: 692.0

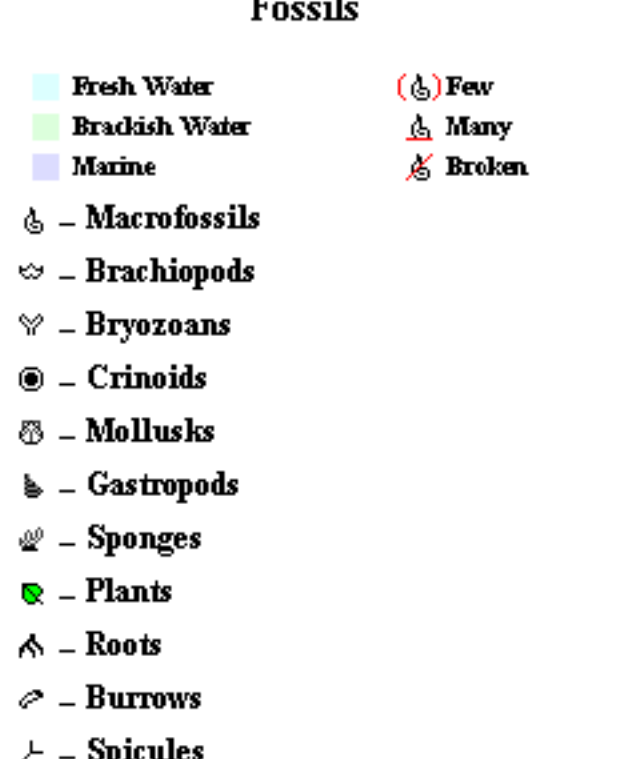
Depth	Stratigraphic Units					Core Box	Red: Color	Lithology	Secondary Structures	Fossils	Porosity	Type	Remarks
	Members	Formations	Subsystem	System	Stage								
45	Mineral coal												45.0 Mineral Coal 48.1 53.3 shale (mudshale) medium light gray (N6) moderate hard crumbly silty shale bedded core loss 53.3 58.3 shale (mudshale) 58.3 60.8 shale (mudshale) 60.8 74.7 core loss
65													74.7 77.7 shale (mudshale) medium dark gray (N4) moderate 77.7 78.0 limestone light gray 78.0 Scammon Coal
85	Scammon coal												
105	Tobo coal												107.1 Tobo Coal 109.0 123.2 siltstone very light gray (N6) quartz micaceous compact may contain some very fine sand flaser bedded some zones may be burrows mostly massive near top few small plant fragments authigenic siderite abundant convolute bedding near base gradational lower contact 123.2 125.2 claystone 125.2 129.8 sandstone very light gray (N6) fine grain at base to light gray (N5) quartz 129.5 133.1 siltstone medium light gray (N6) quartz 133.1 143.0 clay shale dark gray (N5) hard brittle blocky fractures thin horizontal laminar few zones of marine fossils (brachiopods crinoids) calcareous concretions near base sharp 143.0 Weir-Pittsburg Coal 146.0 149.0 siltstone medium light gray (N6) quartz 149.0 150.0 sandstone very 152.0 160.7 claystone (mudstone) medium gray (N5) at base to light gray (N4) hard hackly fractures silty quartz micaceous than horizontal laminar at base to angular bedding at top 7' thin silty lenses few small plant 160.7 164.0 shale (mudshale) mottled medium light gray (N6) mottled 70-30 164.0 168.0 shale (mudshale)
125													168.0 179.2 shale (mudshale) medium dark gray (N4) hard hackly fractures silty micaceous than horizontal laminar at base to angular bedding at top 7' thin silty lenses few small plant 179.2 Bluejacket A Coal 181.0 187.0 shale (mudshale) dark gray (N5) at base to medium gray (N6) at top hard hackly fractures silty 187.0 Bluejacket B Coal 189.2 193.6 siltstone medium light gray (N6) quartz micaceous compact massive to 143.6 Upper Bluejacket 196.8 197.8 siltstone light 202.1 202.4 sandstone very 205.2 207.4 sandstone very 207.4 209.2 shale (mudshale) 209.2 210.0 limestone light
145	Weir-Pittsburg coal												225.8 Bluejacket D Coal 228.0 229.0 sandstone very 232.0 249.7 shale (mudshale) medium dark gray (N4) hard sub parallel fractures silty quartz micaceous than horizontal laminar w/ lenses abundant plant fossils clay abundant authigenic siderite spread near top sharp lower contact 249.7 Drywood Coal 253.5 257.2 shale (mudshale) core loss 257.2 263.7 shale (mudshale) dark gray (N5) at base to medium light gray (N6) at top hard hackly fractures slightly 263.7 Row Coal
165													283.8 284.8 claystone 286.9 Upper Warner Sandstone 292.5 300.0 interbedded sandstone & shale medium brown gray (N7S) thin fine grain may be coarse silty abundant micaceous laminae 60 / 40 300.0 304.0 sandstone medium brown gray (SRS/L) very fine 304.0 305.7 shale (mudshale) 305.7 307.6 claystone 307.6 310.0 shale (mudshale) 310.0 313.0 shale (mudshale) medium dark gray (N4) hard 313.0 320.0 shale (mudshale) medium dark gray (N4) hard sub-parallel fractures thin horizontal laminar some 320.0 A Coal 321.9 328.7 shale (mudshale) medium dark gray (N4) hard brittle hackly fracture thin horizontal laminar w/ few thin 328.7 B Coal 332.0 346.1 clay shale dark gray (N5) hard brittle hackly fractures slightly silty in upper 2' thin horizontal laminar brown iron oxide stains clay ironstone nodules to 0.1" thick small amount of calcareous cement sharp lower contact 346.1 C Coal 350.0 366.2 shale (mudshale) dark gray (N5) at base to medium gray (N6) at top hard hackly fracture silty quartz micaceous than horizontal laminar w/ few thin silty lenses small amount of bioturbation in sandstone nodules to 0.25" thick sharp disconformable lower contact calcareous cement at base 366.2 D Coal 370.0 374.3 shale (mudshale) medium light gray (N6) hard 374.3 385.3 shale (mudshale) dark gray (N3) w/ very light silty laminar hard sub parallel fractures up to 40' silty quartz micaceous compact lenticular bedding w/ thick and thin lenses few 385.3 Riverston Coal 388.8 387.0 claystone 388.9 394.0 shale (mudshale) dark gray (N3) w/ light gray (N7) silty lenses hard hackly 394.5 395.0 claystone 400.0 402.0 shale (mudshale) 402.0 Mississippian
185	Bluejacket A Coal												443.0 447.0 light gray silty claystone (mudstone) with 447.0 455.8 light gray silty claystone (mudstone) with nodular blue-gray-white chert replacement few thin shale seams iron poor calcite fracture porosity 455.8 459.0 light gray silty claystone (mudstone) with 459.0 463.0 dark gray-black claystone (mudstone) with 463.0 465.0 dark gray-black claystone (mudstone) with wispy laminations and shale 469.6 471.5 dark gray-black 471.5 477.4 dark gray-black claystone (mudstone) with wispy laminations interrupted by chert concentration made 477.4 477.6 shale seam 480.6 480.8 shale seam 484.8 485.9 shale seam 488.0 488.2 shale seam 492.7 492.9 shale seam 500.2 500.4 shale seam 503.1 503.3 shale seam 505.0 513.6 light gray crinoidal limestone with coarse mineralization (micrite) 1-2 mm many crinoids few bryozoans gastropods spicules 513.6 516.5 mottled white-gray 516.5 516.8 chert interbedded 519.2 519.5 chert interbedded 522.0 524.9 autoclastically 524.9 527.0 dark gray crinoids 527.0 528.0 highly brecciated 529.0 534.7 white chert rubble 5-80 mm subangular clasts of massive chert ferroan dolomite 534.7 535.3 white chert rubble 537.0 541.0 massive white-gray mottled chert with 3-5 mm open 541.0 543.0 missigly core 543.0 545.0 white porous () 545.0 546.0 chalky white 549.6 551.6 white porous () 553.0 555.0 chalky white 555.0 556.0 stylonites wispy 561.3 567.8 mottled blue-white brecciated to massive fractures sometimes filled with 569.0 577.0 autoclastically brecciated white / gray chert 4-20 mm angular clasts with dark gray to fill large openings contain mm size chert 577.0 579.7 dark gray 579.7 580.1 mottled massive 581.4 582.0 dark gray 583.0 587.3 dark gray wackestone-packstone wispy 587.3 591.0 dark gray crinoidal packstone-wackestone stylonites 591.0 592.2 dark gray 594.4 614.2 dark gray crinoidal packstone with areas of complete silicification stylonites few wispy shale seams iron poor calcite abundant 2-10 mm crinoids bryozoans gastropods spicules 615.7 617.6 crackle brecciated 617.6 635.0 dark gray crinoidal wackestone stylonites wispy shale seams abundant silicification iron-poor calcite 636.4 640.4 dark gray crinoidal wackestone stylonites 640.4 643.6 dark gray mudstone with wispy shale seams / 643.6 644.6 dark gray mudstone 646.5 660.1 dark gray crinoidal wackestone stylonites wispy shale seams abundant crinoids partial to complete silicification iron poor calcite abundant 2-10 mm crinoids 660.1 663.0 dark gray crinoidal wackestone-packstone 663.0 671.8 dark gray crinoidal packstone-lime stylonites abundant crinoids partial to complete silicification iron poor calcite 671.8 672.1 50 mm shale bed 674.7 675.3 2-70 mm glauconite 685.0 705.0 dark gray crinoidal limestone seams stylonites abundant crinoids silicification iron poor calcite 705.0 710.0 dark gray wackestone-lime shale seams stylonites abundant crinoids 710.0 720.0 light gray wackestone-lime pyrite nodules shale seams iron poor calcite 720.0 725.5 light gray crinoids wackestone-lime pyrite nodules shale seams iron poor calcite 725.5 726.5 light gray 729.5 731.5 gray-green silty 731.5 733.5 gray-green silty 734.5 734.8 gray-green silty
205	Bluejacket C Coal												
225	Bluejacket D Coal												
245	Drywood Coal												
265	Row coal												
285	Upper Warner Sandstone												
305													
325	A Coal												
345	C Coal												
365	D Coal												
385	Riverston coal												
405													
425													
445													
465													
485													
505													
525													
545													
565													
585													
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625													
645													
665													
685													
705													
725													
745													



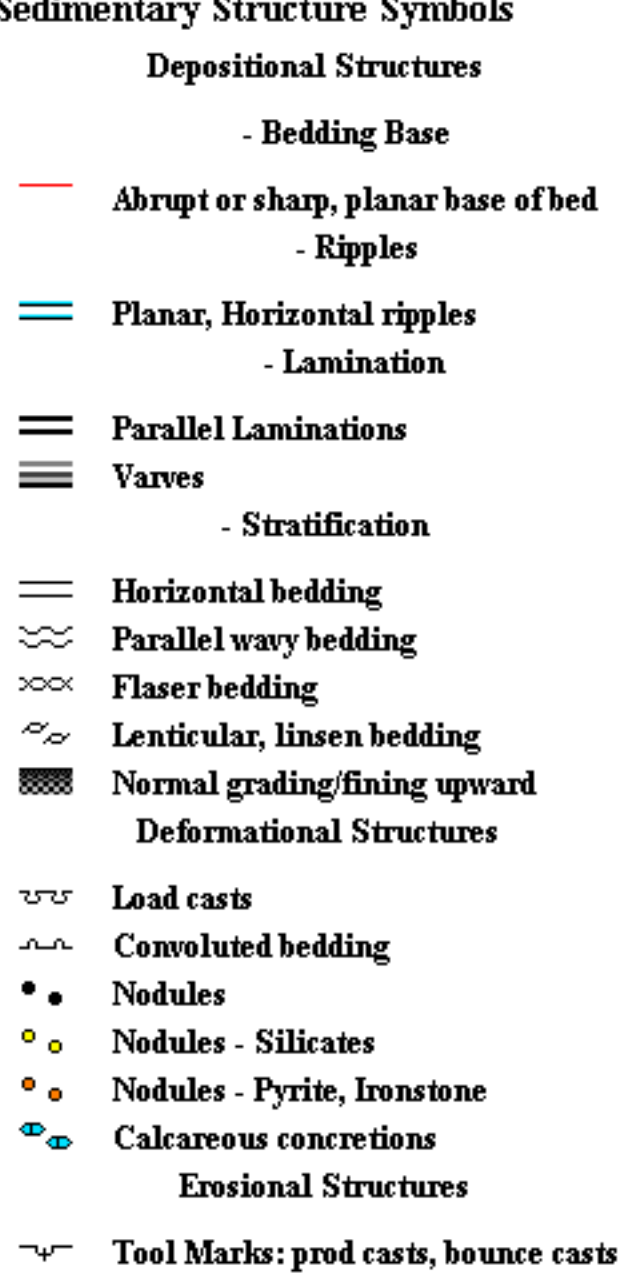
- Clay, Claystone
- Shale
- Silt, Siltstone
- Sand, Sandstone
- Chert
- Anthracite Coal
- Limestone
- Mudstone
- Wackestone
- Packstone
- Grainstone
- Limestone (massive)



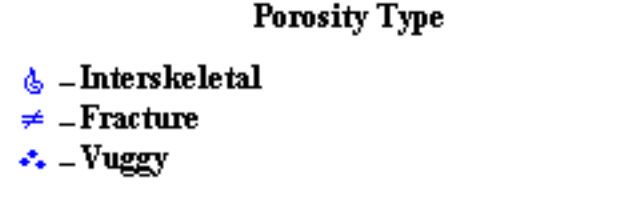
- Clayey, Argillaceous, clay
- Shaly, shale
- Silty, silt
- Micaceous
- Sandy, sand
- Cherty, chert
- Glauconitic, Glauconitic
- Pyritic, pyrite
- Sideritic, siderite
- Ironstone
- oolitic
- Chalky
- Calcareous
- Dolomitic



- Fresh Water
- Brackish Water
- Marine
- Macrofossils
- Brachiopods
- Bryozoans
- Crinoids
- Mollusks
- Gastropods
- Sponges
- Plants
- Roots
- Burrows
- Spicules



- Bedding Base
- Abrupt or sharp, planar base of bed
- Ripples
- Planar, Horizontal ripples
- Lamination
- Parallel Laminations
- Varves
- Stratification
- Horizontal bedding
- Parallel wavy bedding
- Flaser bedding
- Lenticular, linsen bedding
- Normal grading/fining upward
- Deformational Structures
- Load casts
- Convolute bedding
- Nodules
- Nodules - Silicates
- Nodules - Pyrite, Ironstone
- Calcareous concretions
- Erosional Structures
- Tool Marks: prod casts, bounce casts



- Interskeletal
- Fracture
- Vuggy