

W-27322

County Appanoose SE-1/4, SW-1/4, SE-1/4 Sec. 36 T. 70N. R. 19W.

Location - N. side of road in drainage ditch S. of pond.

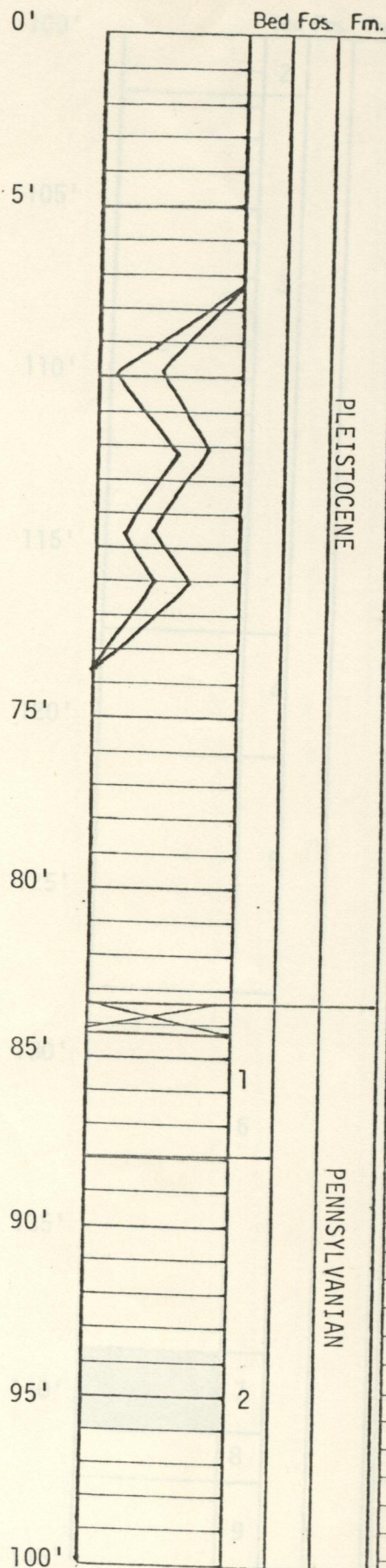
Altitude - 995' topo

Measured by - PVD/MJA/JWS

Date - 7/15-25/75

Remarks - 1" = 5'

0'-100'



Bed	Description	Thick
PLEISTOCENE		
0'-6'	Clay - brown, silty.	
6'-17.5'	Clay - light gray, silty, plastic.	
17.5'-22'	Clay - dark gray, silty, plastic with a small sand lens.	
22'-24.5'	Sand - brown, clayey and silty, soft.	
24.5'-25'	Boulder.	
25'-40'	Sand - brown, clayey and silty, dense.	
40'-45'	Sand - brown, fine to medium grained, silty.	
45'-51'	Sand - brown, clayey, well graded, dense.	
51'-58'	Sand - brown, fine to medium grained, silty.	
58'-61'	Clay - gray, silty, plastic.	
61'-69'	Sand - brown, fine to medium grained, clean, dense.	
69'-73'	Clay - gray, silty, plastic.	
73'-83.4'	Sand - gray, fine grained, silty, dense.	
PENNSYLVANIAN		
83'5"-84'3"	Reamed to set casing.	
1 83'5"-87'11"	Limestone - light gray and light green-gray, fine grained with coarsely recrystallized fossil debris, irregularly argillaceous with 3 clay partings, fossiliferous, brachiopods, crinoids, ostracods, fusulinids. The lower contact is gradational.	
2 87'11"-101'9"	Shale and Mudstone - unit begins as shale -light green-gray, slightly silty, calcareous, fissile with disrupted beds and nodules of limestone decreasing downward and disappearing unit grades to Mudstone - medium green-gray, mottled with maroon from 98'-100', silty, noncalcareous, slickensided, with brachiopods and pelecypods and very minor fine plant debris. The lower contact is sharp and irregular.	
3 101'9"-117'5"	Gradational interval; sandstone to shale - unit begins as sandstone - light gray, very fine to fine grained, and interbedded Siltstone - light green-gray, slightly argillaceous, increasing downward as unit grades by interlamination to shale - medium green-gray, silty, laminated. Interlaminated interval has flaser and lenticular bedding, cut and fill, cross-laminations, flame structures and sole marks, and irregular nodules and stringers of limestone mixed with siderite. 2' above base shale is mottled with maroon and in the basal few inches bears crinoid and brachiopod debris. The lower contact is gradational.	
4 117'5"-120'11"	Limestone - light gray to buff, fine grained, brecciated appearance results from highly irregular interbedding of argillaceous and less argillaceous portions, with brachiopods, crinoids, fusulinids, and Chaetetes, and very minor pyrite. The lower contact is possibly a coal smut lost in drilling.	

County Appanoose SE1/4, SW1/4, SE1/4

Sec. 36

T. 70N.

R. 19W.

145' Bed Fos. Fm.

Location - N. side of road in drainage ditch S. of pond.

Altitude - 995' topo

Measured by - PVD/MJA/JWS

Date - 7/15-25/75

Remarks - 1" = 5'

145'-190'

Bed

Description

Thickne

150'

10 146'10"-161'2" Gradational and interbedded interval; Siltstone to shale - unit begins as 1' Clay - light gray, slightly silty which rapidly grades to Siltstone - light gray, argillaceous, micaceous, with minor pyrite increasing downward. At about 153' unit has sole markings and grades over 4' by interbedding and interlamination to Shale - dark gray, slightly silty. In the basal 1' shale becomes calcareous and contains brachiopod debris. The lower contact is a rapid gradation.

155'

11 161'2"-165'8" Mixed Marine interval and Coal - unit begins as approx. 11" Limestone - light to medium gray, argillaceous and Siltstone - medium to medium dark gray, slightly argillaceous, calcareous which have been mixed by bioturbation. Fossiliferous - brachs, crinoids, ostracods and with minor disseminated pyrite which rapidly grades to approx. 1' Shale - dark gray, with fossil debris and chondrites-type burrows which grades to approx. 2' Shale - black, fissile with abundant phosphate nodules and lamellae and conodonts. Unit grades to 6" interbedded Limestone - medium gray, argillaceous and Shale - medium dark gray, silty with calcareous brachs and coalified plant fragments. There is a rapid gradation to the basal 1/2" boney coal.

160'

165'

12 165'8"-182' Siltstone, mudstone and nodular Limestone - unit begins as approx. 8" Mudstone - medium dark gray grading to light green-gray, silty, rooted, which grades rapidly to Siltstone - light green-gray, argillaceous grading to silty shale, calcareous with Limestone nodules - light gray to light buff gray, fine grained, small in upper and lower portions, up to 3" in the middle, some are dolomitic and may be disrupted Limestone beds. The lower contact is gradational. Cumulative core loss - 1.5'.

170'

175'

13 182'-185'2" Mixed marine interval; Mudstone and Limestone. Mudstone - medium green-gray, mottled light green-gray, silty, calcareous with 2 disrupted beds near the top of Limestone - light gray, fine grained. Unit is bioturbated and fossiliferous - brachiopods, ostracods, cephalopods. The lower contact is burrowed.

180'

14 185'2"-187'10" Mixed Marine interval - Shale - unit begins as approx 1' dark gray, with light to medium green-gray burrows and interbeds, slightly silty, which grades to black, very fine grained with abundant phosphate lenses and lamellae, calcareous, fossiliferous - conodonts, orbiculoids, and fish debris. The lower contact is a coal smut.

185'

15 187'10"-202'5" Mudstone, Sandstone, Limestone - Unit begins as rooted Mudstone which grades at 191' to 18" Sandstone - light green-gray, fine grained, argillaceous, calcareous. There is a general decrease in grain size downward by thin interbedding, and down to 198', unit contains limestone nodules - light gray to buff, fine grained. From 198'-200' Shale - mottled maroon and green-gray with minor limonite staining. The basal 2.5' is Mudstone -

190'

County Appanoose SE1/4, SW1/4, SE1/4

Sec. 36

T. 70N.

R. 19W.

Location -

N. side of road in drainage ditch S. of pond.

Altitude -

995' topo

Measured by -

PVD/MJA/JWS

Date - 7/15-25/75

Remarks -

1" = 5' 190'-235'

Bed

Description

Thick

190'
195'
200'
205'
210'
215'
220'
225'
230'
235'

Bed Fos. Fm.

15

16

light to medium dark gray, silty with several poorly defined smut streaks. The lower contact is gradational.

16 202'5"-235'6" Gradational and interbedded interval - Siltstone, sandstone and shale - Unit begins as approx. 3' rooted siltstone which grades to Sandstone - light gray, fine grained, irregularly calcareous, slightly micaceous. There is a general decrease in grain size downward by interbedding to Shale - medium dark gray, slightly silty. Interbedding structures include: small scale cross-bedding, flasers, cut and fill, with some slumping and bioturbation. Pyrite is common and increases downward and pyritized pelecypods occur in the lower 4'. Fine plant debris occurs in the middle and occasional large Neuropteris in the lower portion. The lower contact is sharp and regular.

17 235'6"-236'9" Coal - 7" lost at the base, part may be coal; 1/4" parting 1/2" from bottom of recovered core.

18 236'9"-255'1" Sandstone and Siltstone - Unit begins as Siltstone - light gray, very argillaceous, rooted which grades to Sandstone - mottled gray, fine grained, silty and argillaceous, heavily rooted which fines downward by interbedding of light sands and dark gray siltstones. Lower portion is irregularly calcareous with scattered fine plant debris and structures including small scale cross-bedding, flaser, cut and fill, and lenticular bedding. The lower contact is sharp and regular.

19 255'1"-256'6" Coal.

20 256'6"-275'3" Mudstone and Shale - Upper 1/3 is Mudstone - light to medium gray, silty, with moderate fine grained pyrite and sideritic Limestone stringers decreasing downward. Lower 2/3 mottled medium gray and maroon, medium gray in the basal 2', silty, with scattered pelecypods and brachiopods. The lower contact is gradational.

21 275'3"-276' Limestone - light, mottled medium gray, fine to medium grained, bioturbated, fossiliferous - brachiopods, ostracods, horn corals, trilobites. The lower contact is gradational with chondrites-type burrows.

22 276'-287' Mixed Marine interval, Shale and limestone -
A. 1'8" Shale - medium dark gray, silty, fossiliferous.
B. 1' mixed - 4" Limestone - light to medium gray, fine grained; brachiopods, ostracods, crinoid debris; 6" Shale - medium dark gray, calcareous, highly fossiliferous, brachiopods and pelecypods; 2" Limestone - as above.
C. 5'2" Shale - dark gray; sparsely fossiliferous.
D. 1'5" mixed - 9" Limestone - as above;

County Appanoose SE1/4, SW1/4, SE1/4 Sec. 36 T. 70 N. R. 19 W.

Location - N. side of road in drainage ditch S. of pond.

Altitude - 995' topo

Measured by - PVD/MJA/JWS

Date - 7/15-25/75

Remarks - 1" = 5'

235'-280'

235'	Bed	Fos.	Fm.
		16	
	core loss	17	
240'			
245'		18	
250'			
255'		19	
260'			
265'		20	
270'			
275'		21	
280'		22	

Bed	Description	Thickness
	2" shale - dark gray, bioturbated; 2" Limestone as above, 3" Shale - black; 1" Limestone - as above.	
	E. 1'3" Shale - black, slatey, phosphatic.	
	F. 4" Limestone - medium dark gray, fine grained, septarian.	
	G. 1" Shale - black. The lower contact is sharp and regular.	
23	287'-288' 11-1/2" Coal.	
24	288'-302' Siltstone, Shale and Sandstone - unit begins as Siltstone - light to medium gray, very argillaceous, grading to silty mudstone, heavily rooted which grades to Sandstone - light green-gray, fine grained, silty and argillaceous, calcareous and micaceous with sideritic root traces and small scale cross-bedding which fines downward by interbedding with medium green-gray, siltstone and shale. The lower contact is gradational.	
25	302'-302'9" Shale - maroon mottled with light gray, very fine grained with two 1/4" smut streaks, 1-1/2" below top and at the base.	
26	302'9"-314'9" Siltstone, Shale and Sandstone - Unit is the same as #24 except for thin bedded shale and siltstone near the top and in the lower 4', minute siderite spheres and minor limonite staining.	
27	314'9"-315'2" Shale - smutty, lower contact sharp and regular.	
28	315'2"-319' Gradational interval - Sandstone to Shale - unit begins as Sandstone - light gray, fine grained, grades to Shale - light to medium gray, silty, bioturbated near the base. The lower contact is gradational.	
29	319'-324'2" Shale - medium dark gray, very fine grained with scattered Lingula and common pyrite in cylindrical burrows and/or roots. The lower contact is sharp and regular.	
30	324'2"-325'11" Coal - sharp, lower contact.	
31	325'11"-333'7" Mixed Siltstone/Sandstone/Limestone - unit begins as Siltstone - medium dark gray, argillaceous and sandy, calcareous, heavily rooted with large limestone nodules - light to medium gray, fine grained, argillaceous with megaspores which grades into a mixed intergradational sequence. The lower contact is sharp and angular.	

County Appanoose SE1/4, SW1/4, SE1/4 Sec. 36 T. 70 N. R. 19W.

280'	Bed Fos. Fm.	Location - N. side of road in drainage ditch S. of pond.			
		Altitude - 995' topo			
		Measured by - PVD/MJA/JWS Date - 7/15-25/75			
		Remarks - 1" = 5' 280'-325'			
		<table> <tr> <th data-bbox="527 346 568 388">Bed</th><th data-bbox="958 346 1136 388">Description</th><th data-bbox="1526 346 1620 388">Thickness</th></tr> </table>	Bed	Description	Thickness
Bed	Description	Thickness			
285'	22	<table> <tr> <td data-bbox="527 388 568 409">32</td><td data-bbox="568 388 1526 661">333'7"-344'7" Shale and nodular Limestone - unit begins as 7' Shale - light green-gray, slightly silty, with Limestone nodules - buff to brown, fine grained, up to 2-1/2", some septarian, which grades to next 3' Shale - medium grading to dark gray, slightly silty, calcareous, with common pyrite and scattered brachiopods, ostracods and crinoid debris. Grades to the basal 1' Shale - black, very fine grained with a few phosphate lenses. The lower contact is sharp and slightly irregular.</td><td data-bbox="1526 388 1620 661"></td></tr> </table>	32	333'7"-344'7" Shale and nodular Limestone - unit begins as 7' Shale - light green-gray, slightly silty, with Limestone nodules - buff to brown, fine grained, up to 2-1/2", some septarian, which grades to next 3' Shale - medium grading to dark gray, slightly silty, calcareous, with common pyrite and scattered brachiopods, ostracods and crinoid debris. Grades to the basal 1' Shale - black, very fine grained with a few phosphate lenses. The lower contact is sharp and slightly irregular.	
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290'	23	<table> <tr> <td data-bbox="527 661 568 682">33</td><td data-bbox="568 661 1526 724">344'7"-346'2" Coal - lower contact gradational.</td><td data-bbox="1526 661 1620 724"></td></tr> </table>	33	344'7"-346'2" Coal - lower contact gradational.	
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295'	24	<table> <tr> <td data-bbox="527 724 568 745">34</td><td data-bbox="568 724 1526 1060">346'2"-349'1" Mudstone and nodular Limestone - unit begins as a few inches of a breccia of medium green clay clasts in a dark gray clay matrix, rooted and grades to Mudstone - mottled medium to medium dark gray and green, silty with Limestone nodules - buff to blue-gray, fine grained. The upper portion has common pyrite decreasing downward and the middle portion appears brecciated, slickensided. The basal 1-1/2' has brachiopods, ostracods and crinoid debris. The basal 1" is smutty clay. The lower contact is sharp and irregular.</td><td data-bbox="1526 724 1620 1060"></td></tr> </table>	34	346'2"-349'1" Mudstone and nodular Limestone - unit begins as a few inches of a breccia of medium green clay clasts in a dark gray clay matrix, rooted and grades to Mudstone - mottled medium to medium dark gray and green, silty with Limestone nodules - buff to blue-gray, fine grained. The upper portion has common pyrite decreasing downward and the middle portion appears brecciated, slickensided. The basal 1-1/2' has brachiopods, ostracods and crinoid debris. The basal 1" is smutty clay. The lower contact is sharp and irregular.	
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300'	25	<table> <tr> <td data-bbox="527 1060 568 1081">35</td><td data-bbox="568 1060 1526 1291">349'1"-352'9" Mudstone and nodular siderite/dolomite - Mudstone - medium dark-gray, grading to light green-gray, silty with siderite/dolomite nodules - weakly calcareous, highly irregular, up to 5". Pyrite is abundant in nodules and stringers and there are indications of rooting throughout. Unit is slickensided and approx. 1' core lost. The lower contact is mottled and smutty.</td><td data-bbox="1526 1060 1620 1291"></td></tr> </table>	35	349'1"-352'9" Mudstone and nodular siderite/dolomite - Mudstone - medium dark-gray, grading to light green-gray, silty with siderite/dolomite nodules - weakly calcareous, highly irregular, up to 5". Pyrite is abundant in nodules and stringers and there are indications of rooting throughout. Unit is slickensided and approx. 1' core lost. The lower contact is mottled and smutty.	
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305'	26	<table> <tr> <td data-bbox="527 1291 568 1312">36</td><td data-bbox="568 1291 1526 1396">352'9"-354'10" Mudstone - medium gray, silty, rooted, with common pyrite in euhedral grains and clusters. The lower contact is sharp and irregular.</td><td data-bbox="1526 1291 1620 1396"></td></tr> </table>	36	352'9"-354'10" Mudstone - medium gray, silty, rooted, with common pyrite in euhedral grains and clusters. The lower contact is sharp and irregular.	
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310'	27	<table> <tr> <td data-bbox="527 1396 568 1417">37</td><td data-bbox="568 1396 1526 1543">354'10"-360'5" Siltstone - light gray, sandy, slightly micaceous, rooted with siderite following root traces. Smutty clay streaks occur at 2' above base and at base. The lower contact is gradational.</td><td data-bbox="1526 1396 1620 1543"></td></tr> </table>	37	354'10"-360'5" Siltstone - light gray, sandy, slightly micaceous, rooted with siderite following root traces. Smutty clay streaks occur at 2' above base and at base. The lower contact is gradational.	
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315'	28	<table> <tr> <td data-bbox="527 1543 568 1564">38</td><td data-bbox="568 1543 1526 1690">360'5"-361'5" Mudstone and Siltstone - medium to medium dark gray, silty and argillaceous, rooted with pyrite along root traces. At the base is a smut and boney coal. The lower contact is sharp and regular.</td><td data-bbox="1526 1543 1620 1690"></td></tr> </table>	38	360'5"-361'5" Mudstone and Siltstone - medium to medium dark gray, silty and argillaceous, rooted with pyrite along root traces. At the base is a smut and boney coal. The lower contact is sharp and regular.	
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320'	29	<table> <tr> <td data-bbox="527 1690 568 1711">39</td><td data-bbox="568 1690 1526 1879">361'5"-364'3" Mudstone, Siltstone and Ironstone nodules - medium gray to black, argillaceous, silty and sandy. Ironstone has calcite and barite vein fillings. Siltstone is bioturbated 2' above base and this unit contains at least 2 smut zones. The lower contact is a sharp, high angle slickenside.</td><td data-bbox="1526 1690 1620 1879"></td></tr> </table>	39	361'5"-364'3" Mudstone, Siltstone and Ironstone nodules - medium gray to black, argillaceous, silty and sandy. Ironstone has calcite and barite vein fillings. Siltstone is bioturbated 2' above base and this unit contains at least 2 smut zones. The lower contact is a sharp, high angle slickenside.	
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325'	30	<table> <tr> <td data-bbox="527 1879 568 1900">40</td><td data-bbox="568 1879 1526 2064">364'3"-376'2" Siltstone and Shale - unit begins as Siltstone - light gray, slightly argillaceous and micaceous, massive, rooted, with minor disseminated siderite in spheres and stringers which fines downward to Shale - medium green-gray, silty, thin bedded, which in the lower portion grades to medium dark gray and is</td><td data-bbox="1526 1879 1620 2064"></td></tr> </table>	40	364'3"-376'2" Siltstone and Shale - unit begins as Siltstone - light gray, slightly argillaceous and micaceous, massive, rooted, with minor disseminated siderite in spheres and stringers which fines downward to Shale - medium green-gray, silty, thin bedded, which in the lower portion grades to medium dark gray and is	
40	364'3"-376'2" Siltstone and Shale - unit begins as Siltstone - light gray, slightly argillaceous and micaceous, massive, rooted, with minor disseminated siderite in spheres and stringers which fines downward to Shale - medium green-gray, silty, thin bedded, which in the lower portion grades to medium dark gray and is				

County Appanoose SE1/4, SW1/4, SE1/4 Sec. 36 T. 70 N. R. 19 W.

Location - N. side of road in drainage ditch S. of pond.

Altitude - 995' topo

Measured by - PVD/MJA/JWS

Date - 7/15-25/75

Remarks - 1" = 5'

325'-370'

Bed

Description

Thick

325'	Bed	Fos.	Fm.	
	30			
330'	31			bioturbated. There is a zone of small septarian nodules 1-1/2' to 2' above a sharp color change at the base.
				41 376'2"-383'10" Siltstone and Shale - unit is identical to #40 except the bioturbated interval is in the middle and there is a smutty clay at the base.
335'				
	32			42 383'10"-386'9" Sandy Siltstone - light gray, silt to fine sand with medium dark gray, argillaceous interbeds with minor cut and fill. The unit is rooted, especially the upper portion and calcareous in the middle and lower portion. Pyrite is common in small nodules. The lower contact is sharp and regular.
340'				
	33			43 386'9"-395'2" Shale with nodular ironstone and limestone. Shale begins as medium dark gray, silty with thin lenticular and laminar light gray, siltstone interbeds near the top and grades downward to dark gray. Ironstone nodules - buff, fine grained, with calcareous zones. May be root replacements near the top. Pyrite is common, increasing downward. The basal 1-1/2"-2" is Limestone - medium gray, highly argillaceous with fossil fragments up to 1/4" crinoid debris, brachiopods and ostracods. The lower contact is a sharp, high angle slickenside.
345'	34			
				44 395'2"-396'4" Coal - the upper 1/3 is impure and banding wraps around a marine coal ball. The lower contact is gradational.
350'	35			
	36			45 396'4"-409'7" Mudstone and Shale - unit begins as Mudstone - medium brown-gray, silty, rooted with large, calcite filled, pyritized Stigmara which grades to Shale - light gray, slightly silty, rooted, with large scale, low angle cross-bedding indicated by thin siltstone interbeds, and common to abundant siderite spheres. The lower portion grades back to Mudstone - medium dark gray, silty with small scale cross-bedding and cut and fill. The base contains minor interbedded smutty clay and is a rapid gradation.
355'	37			
	38			46 409'7"-412'1" Siltstone and Shale - unit begins as Siltstone - medium brown gray, sandy and micaceous, rooted with siderite along root traces, grades through medium green-gray to Shale - dark gray, silty. The basal portion has a brecciated appearance of dark clasts in a lighter matrix and may be equivalent to a smut zone.
360'	39			
	40			47 412'1"-419'10" Shale and Siltstone, with nodular Ironstone and boney Coal - unit begins as predominately Siltstone - medium gray, argillaceous, rooted and fine downward to Shale - dark gray, mottled, silty, irregularly calcareous with ironstone nodules - buff to limonite brown, calcareous. 6" above base is a 1" thick boney coal, calcareous and pyritic with a poorly preserved fossil hash zone. Pyrite increases downward and plant debris including leaves is common in the lower 1/3. The lower contact is sharp and regular.
365'				
370'				

County Appanoose SE1/4, SW1/4, SE1/4

Sec. 36

T. 70 N.

R. 19 W.

Location - N. side of road in drainage ditch S. of pond.

Altitude - 995' topo

Measured by - PVD/MJA/JWS

Date - 7/15-25/75

Remarks - 1" = 5' 370'415'

	Bed	Fos.	Fm.	Bed	Description	Thickness
370'				48	419'10"-422'3" Coal - with large blebs of pyrite.	
375'		40		49	422'3"-430'3" Sandstone and Siltstone - unit begins as Sandstone - light gray, very fine to fine grained, massive, which becomes interbedded with siltstone - medium grading downward to dark gray, argillaceous, light interbeds are calcareous and are lamellae and lenticular. Unit grades through dark gray, shaley bedded silts to the basal 6" which is bioturbated, with common Zoophycus. The lower contact is gradational.	
380'		41		50	430'3"-444'7" Gradational interval Sandstone to Shale - unit begins as Sandstone - light gray, very fine to fine grained, micaceous, strongly rooted which fines downward and becomes interbedded with darker siltstones. Interbedded interval shows laminar, lenticular, and flaser bedding with cut and fill, micro-faulting and soft sediment deformation features. Light interbeds are calcareous and show some bioturbation. There is a sharp break with the lower portion, Shale - dark gray, silty with large plant fragments, mostly Cordaites leaves and stems. Pyrite is common in irregular nodules and fine grained replacements. The lower contact is gradational.	
385'		42		51	444'7"-445'8" Shale and boney coal; Shale - medium dark to dark gray, contains abundant Cordaites leaves which grade to irregular stringers of boney coal. The lower contact is sharp and irregular.	
390'		43		52	445'8"-449'4" Gradational interval - Sandstone to Shale - light medium brown-gray, fine sand grades down to clay, rooted with common pyrite and siderite replacements. The lower contact is sharp and irregular, a smutty clay.	
395'		44		53	449'4"-458'4" Sandstone and Siltstone - unit begins as Siltstone - medium gray, which rapidly grades by thin, wavy interbeds to predominately Sandstone - light gray, fine grained, micaceous and well sorted. In the lower 1/3 grades by wavy interbedding back to Siltstone - medium gray, bioturbated. Pyrite is common in small granular blebs. The lower contact is sharp and highly irregular.	
400'		45		54	458'4"-459'2" Siltstone, Shale, and Sandstone; Silts and Shale - dark gray, Sandstone - light gray with large scale, high angle, cross-bedding which parallels the sharp, irregular, high angle, lower contact. The basal 3/4-1" is boney coal.	
405'		46		55	459'2"-470'11" Sandstone and Siltstone - light to medium dark gray, finer grain size=darker color, unit is highly irregularly bedded, silts in the upper 1' and massive in the upper portion, strongly rooted. The middle portion is interbedded, light sands, some calcareous, and darker silts, rooted with ironstone bands and pyrite increasing downward. The lower portion is predominately	
410'		47				
415'						

County Appanoose SE1/4, SW1/4, SE1/4 Sec. 36 T. 70 N. R. 19 W.

Location - N. side of road in drainage ditch S. of pond.

Altitude - 995' topo

Measured by - PVD/MJA/JWS

Date - 7/15-25/75

Remarks - 1" - 5' 415' - 505'

Bed

Description

Thick

415'	Bed	Fos.	Fm.
		47	
420'		48	
425'		49	
430'			
435'		50	
440'			
445'		51	
		52	
450'		53	
455'			
		54	
460'		55	

- shaley bedded siltstone with abundant plant debris. The lower contact is sharp and regular.
- 56 470'11"-488' Shale, Siltstone, and Limestone - medium dark gray to black, argillaceous and silty; Limestone - fine grained with occasional fossil fragments, crinoid debris and orbiculoids. Unit begins as predominately siltstone with mica and ironstone bands and irregular blebs, which at 474' grades to 3-1/2' Limestone with a 6" calcareous silt parting, which grades to bioturbated shale and siltstone. The lower 1' grades back to Limestone.
- 57 488'-490'4" Siltstone and Ironstone; Siltstone - medium dark gray, mottled lighter gray, argillaceous with Ironstone - fine grained, pyrite, sideritic and irregularly calcareous, probably along burrows. Part of siltstone contains highly irregular shale clasts, pyritized wood fragments and badly degraded shell fragments with rare orbiculoids and fish debris. Lower contact lost in drilling, probable loss 2-3" at base.
- 58 490'4"-499'8" Siltstone and Shale - light to medium dark gray, with zones of shale clasts, and common pyrite. Less than 4' core recovered and the lower contact uncertain because of drilling.
- 59 499'8"-502'6" Siltstone - medium dark gray, swirled with light gray, slightly argillaceous, irregularly calcareous, slightly micaceous, bioturbated - probably Zoophycus, rooted with fine grained pyrite replacements. The lower contact is sharp and irregular, base of bioturbation.
- 60 502'6"-503'5" Siltstone and Shale - unit grades from siltstone - medium dark gray, argillaceous, slightly micaceous to Shale - dark gray, silty. Unit is rooted with common fine grained pyrite replacements. The lower contact is sharp and irregular, perhaps equivalent to a smut zone.
- 61 503'5"-508'11" Sandstone, Siltstone and Shale - upper portion predominately Sandstone - light gray, very fine to fine grained, massive, rooted with common fine grained, pyrite replacements in the middle and lower portions grades by thin laminar interbedding to medium brown-gray, silty and shales. There is some lenticular bedding and bioturbation near the base. The lower contact is sharp and irregular with some reworking of the underlying unit in the basal 1".
- MISSISSIPPIAN
- 62 508'11"-519'5" Mudstone - light to medium green-gray, silty, with common pyrite in aggregates of euhedral grains, slickensided. The lower contact is gradational.

County Appanoose SE1/4, SW1/4, SE1/4 Sec. 36 T. 70 N. R. 19 W.

Location - N. side of road in drainage ditch S. of pond.

Altitude - 995' topo

Measured by - PVD/MJA/JWS

Date - 7/15-25/75

Remarks - 1" = 5' 505' - 526'1" Base of hole.

Bed

Description

Thick

63 519'5"-526'1" Limestone - light gray to light green-gray, fine grained, argillaceous with coarsely recrystallized fossil debris, brachiopods and crinoids. Pyrite is common, finely disseminated and in small blebs. The upper 2' may be dolomitic. The base of the unit was not penetrated.

GEOPHYSICAL LOGS RUN

- 1) Self pot.
- 2) Elect.

	Bed	Fos.	Fm.
460'			
465'	55		
470'			
475'			
480'	56		
485'			
490'	57		
495'	58		
500'	59		
505'	60		
	61		

core

loss

County Appanoose SE1/4, SW1/4, SE1/4 Sec. 36 T. 70 N. R. 19 W.

Location - N. side of road in drainage ditch S. of pond.

Altitude - 995' topo

Measured by - PVD/MJA/JWS

Date - 7/15-25/75

Remarks - 1" = 5'

505' Bed Fos. Fm.

61

PENN.

510'

62

MISSISSIPPIAN

515'

520'

63

525'

526'1"

Total depth

Bed

Description

Thickne