Table 4. Clay mineral ratio of Devonian shale samples from 4 drill holes in West Virginia

Stratigraphic Unit	Footage	Clay Mineral Ratio: Chlorite	Illite	Swelling Mixed-layer	Non-swelling Mixed-layer	Kaolinite	Color
	API No. 47-035-21369			Jackson Co., West Virginia			
Ohio Shale-Huron Member, Middle part	3410	20	55	25	tr	--	N4.1
" " " " " "	3420.6	15	60	25	--	--	N5.1
" " " " " "	3430	10	55	30	--	5	N5.0
" " " " " "	3439.1	15	50	25	5	5	N4.5
" " " " " "	3450.4	15	45	20	10	10	N5.0
" " " " " "	3470	15	55	25	tr	5	N4.3
" " " " " "	3480	10	55	25	--	10	N4.7
" " " " " "	3489.0	15	45	15	5	20	N7.0
" " " " " "	3497.8	15	45	15	10	15	N7.0
Ohio Shale- " " " " "	3622.0	20	55	20	5	--	N6.5
" " " " " "	3630	20	55	25	--	--	N5.0
" " " " " "	3640	10	50	20	5	15	N6.5
" " " " " "	3644	10	50	15	5	20	N7.0
" " " " " "	3654.3	20	60	20	--	--	N4.0
Ohio Shale-Huron Member, Lower part	3660.6	15	65	20	--	--	N4.0
" " " " " "	3680.5	20	60	20	--	--	N4.0
" " " " " "	3690	20	45	25	10	--	N4.0
" " " " " "	3700	20	65	15	tr	--	N3.8
" " " " " "	3720	20	55	25	--	--	N3.8
" " " " " "	3730	20	55	25	--	--	N6.7
" " " " " "	3740	20	70	10	--	--	N3.9
" " " " " "	3750	20	60	20	--	--	N3.9
" " " " " "	3758.4	15	55	30	--	--	N6.9
" " " " " "	3770	15	60	15	10	--	N6.5
" " " " " "	3780	20	60	15	5	--	N4.0
" " " " " "	3790	20	55	20	5	--	N6.5
	API No. 47-035-21371			Jackson Co., West Virginia			
Ohio Shale-Huron Member, Middle part	3220	15	50	30	5	--	N4.5
" " " " " "	3230	20	50	25	5	--	N6.0
" " " " " "	3240	15	60	15	10	--	N4.5
" " " " " "	3250	15	55	10	tr	20	N6.0
" " " " " "	3260	20	55	10	5	10	N4.5
" " " " " "	3270	25	55	20	--	--	N6.5
" " " " " "	3280	20	55	25	--	--	N4.8
" " " " " "	3290	15	55	20	--	10	N6.5
" " " " " "	3300	20	55	15	--	10	N4.3
" " " " " "	3310	20	50	20	--	10	N5.0
" " " " " "	3320	15	55	20	--	10	N6.5
" " " " " "	3330	15	55	20	--	10	N6.5
" " " " " "	3340	15	50	15	10	10	N5.5
" " " " " "	3350	15	50	20	5	10	N6.5
" " " " " "	3360	15	50	20	10	5	N5.5
" " " " " "	3380	25	45	20	10	--	N6.2
" " " " " "	3390	25	45	25	5	--	N6.5
" " " " " "	3400	25	50	15	10	--	N5.3
" " " " " "	3410	25	50	25	tr	--	N6.7
" " " " " "	3420	25	50	20	5	--	N6.7
" " " " " "	3440	25	50	25	tr	--	N6.7
" " " " " "	3450	25	50	25	--	--	10YR5/.3
Ohio Shale-Huron Member, Lower part	3460	20	55	25	--	--	10YR5/.3
" " " " " "	3470	20	50	30	--	--	10YR4/.3
" " " " " "	3480	25	45	30	--	--	N6.7
" " " " " "	3490	15	55	25	5	--	10YR4/.3
" " " " " "	3500	15	65	15	5	--	10YR4/.3
" " " " " "	3510	20	55	20	5	--	10YR4/.3
" " " " " "	3520	20	55	15	10	--	10YR4/.3
" " " " " "	3530	20	50	25	5	--	N6.6
" " " " " "	3540	20	55	15	10	--	10YR4/.3
" " " " " "	3550	15	55	15	15	--	10YR4/.3
" " " " " "	3560	15	50	20	15	--	10YR4/.3
" " " " " "	3570	20	55	10	15	--	10YR4/.3
" " " " " "	3580	20	55	10	15	--	10YR4/.3
" " " " " "	3590	15	50	15	20	--	10YR4/.3
" " " " " "	3600	15	55	25	5	--	10YR4/.3
" " " " " "	3610	20	50	15	15	--	N6.7
" " " " " "	3620	15	65	15	5	--	N5.6
" " " " " "	3640	15	55	15	15	--	10YR4/.3
Java Formation	3650	20	45	20	15	--	N4.3
" "	3660	25	50	20	5	--	N6.7
" "	3670	20	55	15	10	--	N6.7
" "	3680	30	40	25	5	--	N6.8
" "	3690	25	50	15	10	--	10YR4/.3
	4020	15	70	10	5	--	10YR4/.3
	4030	15	75	5	5	--	10YR4/.3
	API No. 47-043-21639			Lincoln Co., West Virginia			
Ohio Shale-Chagrin Member	2660	15	50	20	5	10	N5.7
" " " "	2670	15	50	15	10	10	N6.2
" " " "	2680	20	55	5	5	15	N6.7
" " " "	2690.9	25	45	10	5	15	N6.7
" " " "	2700.8	20	40	20	5	15	N6.2
" " " "	2709.9	20	50	10	5	15	N6.7
" " " "	2720	20	55	10	5	10	N5.7
" " " "	2730	20	50	15	tr	15	N6.8
" " " "	2740	25	45	15	tr	15	N6.8
" " " "	2750.6	20	45	20	--	15	N6.8
" " " "	2760	15	70	15	--	--	N3.0
" " " "	2770	15	60	15	tr	10	N5.7
Ohio Shale-Huron Member, Middle part	3000	15	45	20	5	15	N5.7
" " " " " "	3010	15	45	25	tr	15	10YR5/.2
" " " " " "	3020.8	15	50	15	5	15	N6.5
" " " " " "	3030	15	55	20	--	10	10YR5/.2
" " " " " "	3040.3	10	55	25	--	10	N5.3
" " " " " "	3050.5	10	55	25	tr	10	N5.3
" " " " " "	3059.7	15	50	25	--	10	N5.3
" " " " " "	3070	15	45	20	10	10	10YR5/.2
" " " " " "	3080	15	50	20	5	10	N5.3
" " " " " "	3090	15	60	10	5	10	N6.7
" " " " " "	3100	15	55	15	5	10	N6.7
" " " " " "	3110	10	50	25	5	10	N6.5
Ohio Shale-Huron Member, Lower part	3290.9	15	50	20	5	10	N6.5
" " " " " "	3300	15	50	20	5	10	10YR5/.2
" " " " " "	3320	15	50	25	--	10	N6.5
" " " " " "	3330	15	55	15	10	5	N5.7
" " " " " "	3340	15	60	15	tr	10	10YR5/.2
" " " " " "	3350	20	55	10	15	--	10YR4/.2
" " " " " "	3360	20	60	10	10	--	10YR4/.2
" " " " " "	3370	15	60	15	10	--	10YR4/.2
" " " " " "	3380	15	60	20	5	--	N5.7
" " " " " "	3390	20	55	15	10	--	10YR4/.3
" " " " " "	3399.0	15	55	20	10	--	N5.5
" " " " " "	3409	20	75	5	--	--	10YR4/.3
" " " " " "	3420.1	15	70	10	5	--	10YR4/.3
" " " " " "	3439.9	15	65	10	10	--	10YR4/.3
" " " " " "	3450.5	20	60	20	tr	--	10YR4/.3
" " " " " "	3460	10	80	10	--	--	10YR4/.3
" " " " " "	3470	15	70	10	5	--	N6.1
" " " " " "	3480	10	70	10	10	--	N5.7
" " " " " "	3489.4	10	70	10	10	--	10YR4/.3
" " " " " "	3499.6	15	55	20	10	--	10YR4/.3
" " " " " "	3509.8	10	70	15	5	--	10YR4/.3
" " " " " "	3520	10	65	10	15	--	10YR4/.3
" " " " " "	3530.6	15	70	5	10	--	10YR4/.3
" " " " " "	3550	15	60	5	20	--	N5.7
" " " " " "	3560.6	20	60	tr	30	--	10YR4/.3
" " " " " "	3569.8	15	60	15	10	--	10YR4/.3
" " " " " "	3579.7	15	75	5	5	--	10YR4/.3
West Falls Formation-Rhinestreet Shale Member	3889.8	20	60	10	10	--	10YR4/.3
" " " " "	3899.3	10	65	15	10	--	10YR4/.3
" " " " "	3909	10	70	15	5	--	10YR4/.3
" " " " "	3920	10	70	10	10	--	N5.3
" " " " "	3929.7	15	65	10	10	--	10YR4/.3
" " " " "	3940	15	55	20	10	--	10YR4/.3
" " " " "	3950	20	60	10	tr	10	N5.7
" " " " "	3960	20	80	--	--	--	10YR4/.3
	API No. 47-043-21637			Lincoln Co., West Virginia			
Ohio Shale-Huron Member, Middle part	2725	35	30	10	5	20	N6.8
" " " " " "	2750	15	55	15	5	10	N6.2
" " " " " "	2775.9	15	50	20	tr	15	N5.9
" " " " " "	2799	25	45	5	10	15	N6.8
" " " " " "	2824	25	50	10	--	15	N6.8
" " " " " "	2854.5	15	55	15	tr	15	N6.3
" " " " " "	2875	15	60	10	--	15	N6.2
" " " " " "	2900	15	50	25	5	5	N5.8
" " " " " "	2925	15	55	20	--	10	N5.5
" " " " " "	2950	10	55	25	--	10	N5.7
" " " " " "	2975	10	60	20	--	10	10YR4/.3
" " " " " "	3001	10	55	25	--	10	N5.5
" " " " " "	3024.9	10	50	30	tr	10	N5.7
" " " " " "	3050	10	55	25	--	10	N5.7
" " " " " "	3075	10	50	20	10	10	N6.0
" " " " " "	3100	15	50	30	--	5	N5.3
" " " " " "	3125.1	10	50	30	tr	10	N5.3
" " " " " "	3149	10	55	25	--	10	N5.3
" " " " " "	3174.9	15	45	30	--	10	N5.3
" " " " " "	3201.5	10	50	30	--	10	N6.0
" " " " " "	3225	15	45	30	tr	10	N5.3
" " " " " "	3249	15	45	30	--	10	N6.0
" " " " " "	3275	15	55	20	--	10	N6.0
" " " " " "	3300	15	55	20	--	10	N6.0
" " " " " "	3325	15	50	25	--	10	N5.5
" " " " " "	3351.5	15	50	30	--	5	N5.5
" " " " " "	3374.9	15	65	20	--	--	N5.3
" " " " " "	3400	20	55	25	--	--	N4.1
Ohio Shale-Huron Member, Lower part	3425	15	60	25	--	--	N6.0
" " " " " "	3450	15	60	25	--	--	N6.0
" " " " " "	3475	20	60	20	--	--	N6.0
" " " " " "	3505	15	55	30	--	--	10YR4/.3
" " " " " "	3525	15	60	15	10	--	10YR4/.5
" " " " " "	3550	15	60	20	5	--	10YR4/.5
" " " " " "	3575	15	60	20	5	--	10YR4/.5
" " " " " "	3600	15	55	30	--	--	10YR4/.5
" " " " " "	3625	15	65	20	--	--	10YR4/.5
" " " " " "	3652	20	50	30	--	--	N6.6
Java Formation	3675	15	55	30	--	--	N6.3
" "	3700.5	20	55	25	--	--	N6.9
" "	3725.6	25	50	25	--	--	N6.5
" "	3750	15	55	30	--	--	N6.5
" "	3774.5	15	65	20	--	--	N6.5
" "	3799.5	20	55	20	5	--	N6.5
" "	3825	25	55	20	tr	--	N5.6
" "	3850	20	60	15	5	--	N6.6
West Falls Formation-Rhinestreet Shale Member	3875.3	20	55	15	10	--	N6.3
" " " " "	3900	20	60	15	5	--	N6.3
" " " " "	3925	20	55	15	10	--	N5.9
" " " " "	3949	15	70	15	--	--	10YR4/.5
" " " " "	3974	10	70	20	--	--	10YR4/.5
" " " " "	4000	15	65	20	--	--	10YR4/.2
" " " " "	4025	15	70	15	--	--	10YR4/.5