

TABLE 1. RESULTS OF TESTS OF BENTONITE FROM YELLOWTAIL DISTRICT, MONTANA AND WYOMING, AND FROM BLACK HILLS DISTRICT, WYOMING AND SOUTH DAKOTA.

STATE	DISTRICT	COUNTY	Township and Range	Section	Number of point indicated on map by arrow	Bentonite bed	Thickness of bed Ft. In.	Number of material sampled at indicated point on map and described in text	Estimated % non-clay material	FOR USE AS SAND-BONDING CLAY												FOR USE IN DRILLING MUD																																										
										Green compression strength in pounds per square inch for different percentages of tempering water, using sand bonded with 4% clay by weight.												Swelling capacity of 2 grams of bentonite in millilitres	Percent grit	Yield, barrels per ton	Viscosity				Wall-building properties for suspensions containing 6% clay by weight			Gel strength, grams																																
										1.0%	1.2%	1.4%	1.6%	1.8%	2.0%	1.6%	1.8%	2.0%	2.2%	For slurries containing different percentages of clay	For slurries containing different percentages of clay				For slurries containing different percentages of clay	For slurries containing different percentages of clay	Filtrate in millilitres for 2, 15 and 30 minute periods	Thickness of cake 24s of an inch	Initial after 10 minutes	Different percent-ages of clay	Initial after 10 minutes																																	
																																% clay	Viscosity	% clay	Viscosity	2	15	30	Initial	Different percent-ages of clay	Initial																							
MONTANA	YELLOWTAIL	BIG HORN	1 S., 34 E.	13	1	U	2 9 2	45	45	4.7	4.5	5.5	4.6	4.2	3.9	50	62	75	7	1.4	80	9.0	6 1/2	12.0	7	17.0	8.8	22.6	30.6	3	25	33	7	45	73																													
										60	4.7	4.5	5.5	4.6	4.2	3.9	50	62	75	7																1.4	18.5	15.3	11.3	13.0	9.5	11.9	11.2	9.1	7.9	30	42	50	10	14.5	13.9	1.7	1.6	21	21	1.6	0.1							
										45	11.3	13.0	14.8	14.5	12.0	9.5	22	28	33	47																56	67	6.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
										30	9.5	9.0	8.0	6.5	6.0	47	56	67	6.0	10																10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
										33	2.0	13.7	12.0	10.0	8.9	30	33	42	42	48																56	67	6.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
										30	9.0	9.0	8.0	7.2	6.8	30	33	42	42	48																56	67	6.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
										25	12.2	12.8	11.0	9.6	9.2	30	33	42	42	48																56	67	6.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
										20	9.4	9.4	8.0	7.0	6.0	30	33	42	42	48																56	67	6.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
										13-14	7.7	5.2	5.0	4.4	4.0	50	62	75	8	10.8																9	5.7	17	1.8	62	5.0	8 1/2	12.0	9	17.0	7.3	16.2	24.8	2	7	10	9	35	49										
										1 S., 35 E.	8	2	V	4	4	45	4.8	4.7	4.1	3.9																3.6	3.3	50	58	68	9	5.7	17	1.8	62	5.0	8 1/2	12.0	9	17.0	7.3	16.2	24.8	2	7	10	9	35	49					
										16	4	X	6	5	2	25	10.8	10.8	10.0	7.8																6.0	42	59	65	17	1.8	62	5.0	8 1/2	12.0	9	17.0	7.3	16.2	24.8	2	7	10	9	35	49								
										30	6	X	6	10	2	18	10.0	10.0	9.6	8.0																7.0	49	69	72	20	1.3	62	5.0	8 1/2	12.0	9	17.0	7.3	16.2	24.8	2	7	10	9	35	49								
										2 S., 31 E.	18	8	P	4	1 1/2	60	7.0	9.8	9.0	7.7																6.7	6.0	40	52	60	68	13	1.1	73	7.0	7	12.0	7 1/2	19.0	5.0	12.5	17.5	2	6	14	7	22	47						
										6	10	W	5	1	3-6	22	9.2	8.3	7.0	5.6																4.2	16	50	79	27	2.5	73	7.0	7	12.0	7 1/2	19.0	5.0	12.5	17.5	2	6	14	7	22	47								
										8	11	W	21	6	2-4	30	7.3	7.0	5.8	5.2																5.0	46	55	65	15	3.0	77	8.0	7	14.0	8	23.0	6.5	17.0	25.2	3	14	22	8	50	68								
										20	12	W	7	4	2-7	22	8.2	9.3	9.1	6.8																6.0	61	69	83	21	3.0	77	8.0	7	14.0	8	23.0	6.5	17.0	25.2	3	14	22	8	50	68								
										3 S., 31 E.	8	13	S.Cr.	10	8	23	8.3	7.7	5.4	5.0																4.6	46	65	78	22	5.5	67	6.0	7	9.0	8	14.2	7.4	17.0	23.0	3	12	21	8	35	52								
										13	14	S.Cr.	12	5	1-3	25	9.5	8.5	9.0	8.4																7.5	49	58	65	17	4.2	53	4.0	8	6.0	10	13.5	11.0	28.0	34.0	4	12	14	10	37	42								
										15	15	L	5	6	2-3*	20	6.3	8.2	8.7	8.1																7.1	6.2	50	61	72	26	4.2	26	12.0	5 1/2	9.0	7	30.0	4.8	11.3	15.3	3	3	6	7	5	25							
										17	17	M	3	10	2	35	8.0	9.4	8.4	7.4																6.8	6.0	63	76	90	9	1.7	86	4.0	5 1/2	9.0	7	30.0	4.8	11.3	15.3	3	3	6	7	5	25							
										18	18	S.Cr.	13	7	2-5	15	8.8	8.9	7.7	6.6																5.8	5.6	52	59	65	10	3.1	18	8.0	7	14.0	8	23.0	6.5	17.0	25.2	3	14	22	8	50	68							
										19	19	S.Cr.	10	3	2	25	7.4	6.7	5.8	5.0																4.5	64	74	86	23	5.8	86	12.0	6 1/2	16.0			8.2	21.0	28.0	3	25	27	6 1/2	35	52								
										20	20	W	5	2	2-8	33	13.4	13.5	13.2	11.0																8.8	21	26	31	9	1.5							8.2	21.0	28.0	3	25	27	6 1/2	35	52								
										21	21	W	5	2	2	50																																																
										22	22	W	3	0	2	50																																																
										3 S., 35 E.	16	21	W	5	2	33	7.4	6.7	5.8	5.0																4.5	64	74	86	23	5.8	86	12.0	6 1/2	16.0			8.2	21.0	28.0	3	25	27	6 1/2	35	52								
										33	33	W	5	2	2	50																																																
										4 S., 31 E.	11	23	J	2	5	12	5.7	6.4	6.2	5.9																5.3	4.7	45	63	83	21	3.4	67	6.0	7	9.0	8	14.0	4.8	12.0	16.8	2	3	4	8	4	12							
										24	24	C.Sp.	2	11	2-3*	12																																																
										25	25	B	2	8		25																																																
										26	26	Cor D	2	0		25																																																
										27	27	I	5	9	3-6	25	7.2	7.7	7.2	6.2																5.8	6.2	55	69	79	32	3.0	91	15.0	5 1/2	10.0	6 1/2	20.5	5.0	11.8	16.0	3	16	28	7	55	88							
										28	28	C.Sp.	9	10	12	35	7.6	7.6	7.1	5.9																5.1	4.8	43	52	64	13	5.4	27	16.0	5 1/2	12.0	6 1/2	25.0	4.6	10.9	14.2	2	12	30	6 1/2	30	58							
										29	29	G	2	8	2-5	22	8.3	8.5	8.0	6.9																6.0	5.4	39	50	58	17	2.4	40	2.0	12	10.2	15	28.0	20.2	63.0	4	4	10	12	22	46								
										30	30	F	9	9	9-11*	20	7.0	8.8	10.1	9.0																6.8	5.3	40	47	55	17	1.2	16	9.0	10	11	20.0	7.0	18.0	3	5	7	8	10	45									
										31	31	E	4	8	31-32	25	6.0	7.5	8.0	7.0																6.0	5.5	43	53	63	12 1/2	3.8	72	4.5	7 1/2	14.0	8	23.0	7.0	18.0	3	5	7	8	10	45								
										32	32	D	3	8	36	30	7.9	7.8	7.8	6.8																6.0	5.0	39	50	61	19	1.7	24	5.0	7 1/2	9.0	8	16.0	4.5	11.9	16.4	2	5	7	8	10	45							
										33	33	C	1	7	39-40	15	8.2	8.5	8.0	7.2																6.0	5.0	40	68	61	24	2.4	68	10.5	6 1/2	14.0	7	20.0	4.2	11.8	15.8	3	5	28	7	14	16							
										34	34	B	4	2	42	20	6.0	10.0	11.3	10.0																8.2	7.0	35	49	65	13	1.0	83	10.0	6 1/2	14.0																		