

Triple/S Dynamics
Lab Test Report

Customer: [REDACTED]

Contact: [REDACTED]

Sales Engineer: [REDACTED]

Objective: Separate silica (sand) from samples of bentonite and fuller's earth (clay) utilizing a Fluidized-Bed Separator.

Procedure: A Sieve Analysis was initially performed on the samples to determine the size distribution. Both samples were then sized at 35, 60, 80 and 100 mesh (Tyler Standard). Each size fraction was then run on a lab size V-135 Fluidized-Bed Separator. Results of testing are as follows:

Results and Discussion:

A) Sieve Analysis-Bentonite

<u>Sieve No.</u> <u>(Tyler Standard)</u>	<u>Percent</u> <u>by Weight</u>	<u>Accumulated</u> <u>Percent by Weight</u>
+8	0.4	0.4
+10	0.5	1.0
+14	4.2	5.1
+20	4.3	9.4
+28	5.0	14.4
+35	6.0	20.4
+48	15.0	35.4
+65	15.5	50.9
+100	31.3	82.2
-100	17.8	100.0

B) Sieve Analysis-Fuller's earth (clay)

<u>Sieve No.</u> <u>(Tyler Standard)</u>	<u>Percent</u> <u>by Weight</u>	<u>Accumulated</u> <u>Percent by Weight</u>
+8	1.1	1.1
+10	2.2	3.3
+14	4.3	7.6
+20	6.6	14.2
+28	7.2	21.4
+35	8.7	30.1
+48	16.5	46.6
+65	11.4	58.0
+100	22.1	80.1
-100	19.9	100.0

C) Sizing 1'X 3' Texas Shaker

<u>Bentonite</u>		<u>Fuller's Earth</u>
<u>Screen Size</u>	<u>Percent by Wt.</u>	<u>Percent by Wt.</u>
+35	33.4	39.7
-35+60	23.0	15.0
-60+80	9.3	5.9
-80+100	21.7	23.1
-100	12.5	16.3

D) Fluidized-Bed Separation, Bentonite

+35 mesh #201C Deck Feed Rate: 536 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1 (heavy)	21.2
2 (mid)	44.1
3 (light)	34.8

-35 +60 mesh #201C Deck Feed Rate: 283 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1	30.2
2	59.3
3	10.5

-60 +80 mesh #501C Deck Feed Rate: 158 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1	46.1
2	38.4
3	15.4

-80 +100 mesh #501C Deck Feed Rate: 204 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1	55.9
2	27.5
3	16.6

-100 mesh #501C Deck Feed Rate: 227 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1	51.9
2	34.7
3	13.7

E) Fluidized-Bed Separation, Fuller Earth (clay)

+35 mesh #201C Deck Feed Rate: 331 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1 (heavy)	40.9
2 (mid)	49.2
3 (light)	9.8

-35 +60 mesh #501C Deck Feed Rate: 216 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1	24.6
2	39.1
3	36.8

-60 +80 mesh #501C Deck Feed Rate: 167 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1	29.3
2	29.3
3	41.4

-80 +100 mesh #501C Deck Feed Rate: 137 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1	46.0
2	21.6
3	32.4

-100 mesh #501C Deck Feed Rate: 146 lb/hr

<u>Spout #</u>	<u>Percent by Weight</u>
1	48.1
2	30.2
3	21.7

In all cases, cutting fingers were set to give the best visual separation. Representative samples have been shipped to the customer for their analysis.