-- CONCRETE BEAMS AND BRIQUETTES MADE WITH CRUSHER RUN STONE --

A mechanical analysis of the stone as received gave the following proportions:

Passed 1-1/2" hole; caught on 3/8" hole 62.5%
Passed 3/8" " " " #8 Sieve 20.8%
Passed #8 Sieve 16.7%

The 16.7% material passing #8 Sieve, analyzed as follows: --

Caught on	#10	20	30	40	60	80	100	150	200	Passed 200 Sieve
Percentage	9.	30.7	15.2	5.9	11.5	6.7	2.1	5.3	2.3	11.1

The beams were made 1 -- 2-1/2 -- 5.

The proportion in test "A" was 1 cubic foot cement, 1.65 cu. ft. Sand .85 cu. ft. of stone crushing, 5 cu. ft. Stone; each cubic foot of stone containing 16.7% of material passing #8 Sieve.

Test "B" all dust and fine material was removed and stone grades to meet requirements of specification, i. e. pass 1-1/2" hole, held on 3/8" hole.

Cement Beams
Test "A"
1 Cement, 1.65 Sand, 0.85 Stone Crushings
5 broken stone

	5 ft. Span	3 ft. Span
1.	420 lbs.	955 lbs.
2.	420 "	800 "
3.	395 "	980 "
4.	315 "	795 "
Average	388 lbs.	883 lbs.

Proportion 1 -- 2-1/2 -- 5.
Test "B"
1 Cement, 2-1/2 Sand, 5 broken stone

	5 ft. Span	3 ft. Span
1.	395 lbs.	750 lbs.
2.	365 "	730 "
3.	505 "	950 "
Average	422 lbs.	810 lbs.

These beams were made 6" x 6" x 6' and broken 28 days after making. An initial load of 200 lbs. was applied at centre and increased 400 lbs. per minute.

Briquettes.
Mortar 1 -- 2-1/2 (By volume)
1 Cement, 1.65 Sand, 0.85 Stone Crushings

7 days	28 days	3 months
243	412	
220	382	
227	417	
236	377	
230	365	
229	379	
234	366	
214	376	
209	386	
204	375	
885	384	

Gain 70.7%

Tensile strength compared.
Mortar 1 -- 2-1/2.
1 Cement, 2-1/2 Stone Crushings

7 days	28 days	3 months
184	370	
197	365	
204	330	
228	357	
216	351	
2056	357	
202	347	
226	331	
213	338	
211	340	
209	349	

Gain 67%