

TABLE NO. X.

"FUEL BRIQUETTING INVESTIGATIONS"\*

CONCLUSIONS FROM LABORATORY TESTS.

Following are presented conclusions derived from the tests:

1. Different binders require different methods of heating to obtain the best results.

2. The various classes of fuels require different methods of treatment to produce the best briquettes.

3. Lignites, to produce the strongest briquettes, generally require drying before being mixed with binder, but for the best results some moisture must be allowed to remain in the fuel.

4. Six per cent. of water-gas pitch made satisfactory briquettes from Pittsburgh slack, Texas lignite, Philippine lignite, and Washington subbituminous coal; 7 per cent. was sufficient to satisfactorily briquet Utah subbituminous coal.

5. Three per cent. wheat flour made satisfactory briquettes from samples of Texas and North Dakota lignite; (a) 4 per cent. made satisfactory briquettes from undried Philippine lignite; and 5 per cent. was more than sufficient to make satisfactory briquettes from Washington subbituminous coal.

6. Cornstarch gave practically the same results as wheat flour, 3 to 5 per cent. being required to make a satisfactory briquet from the various fuels.

7. Four per cent. of hardwood-tar pitch made strong briquettes of Pittsburgh bituminous slack. The strong characteristic odor of this material may be an objection to its use.

8. Two per cent. of cell pitch made strong briquettes with Pittsburgh bituminous slack. As this material is soluble in water, it would not make briquettes suitable for storage in the open but if stored under cover the briquettes will stand up indefinitely. The effect of moisture on this binder being detrimental to its binding qualities, it is not surprising that 8 per cent. was required to briquet lignite from Texas and North Dakota, whereas 4 per cent. was sufficient to briquet a sample of Utah subbituminous coal. Six per cent. was required to briquet Philippine lignite and Washington subbituminous coal. The briquet having the greatest compressive strength was made of Pittsburgh slack and 6 per cent. of cell pitch.

\* C. L. Wright, loc. cit., p. 95.