



☉ * • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

	Star hidden PM	Star uncovered PM
Washington.....	8:26 EST	9:29 EST
West. Mass.....	8:20 EST	9:25 EST
South. Ill.....	7:20 CST	8:13 CST

For other parts of the country, it will be interesting to see Regulus very close to the moon on the evening of the tenth. And there is the consolation that there will be another occultation of Regulus on Oct. 25, which they may be able to see, in the early morning hours. This will also be visible from Washington, but there it will end after sunrise, so it will not be as good for residents of that city as the one in June.

Occultations have considerable scientific value. They permit a very accurate check of the movements of the moon which are difficult to predict with great precision. This is because of the "perturbations" produced by the gravitational pull of many other bodies in the solar system. The positions of the stars are known very ac-

curately, so a close timing of an occultation permits us to tell just where the moon was at that moment at least.

Celestial Time Table for June

June	EST	
4	11:40 a. m.	New moon
5	8:00 p. m.	Moon farthest, distance 252,-600 miles
8	12:58 p. m.	Moon passes Venus
10	evening	Regulus occulted by moon, visible in middle and eastern parts of U. S.
12	1:52 p. m.	Moon in first quarter
14	morning	Earliest sunrise
19	7:36 a. m.	Full moon
	9:00 a. m.	Moon nearest, distance 221,-800 miles
22	12:25 a. m.	Sun farthest north, summer commences in northern hemisphere
25	12:00 noon	Venus farthest east of sun
26	1:21 a. m.	Moon in last quarter
	7:34 p. m.	Moon passes Jupiter
27	evening	Latest sunset

Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, May 26, 1951

ENGINEERING

Better Fuels From Shale

➤ BETTER GASOLINE from crude shale oil, and more valuable other liquid fuels, are expected from experimental work in purifying crude at the Brucetown, Pa., laboratories of the U. S. Bureau of Mines, the American Institute of Chemical Engineers meeting in Kansas City, Mo., was told.

The crude shale oil as obtained by thermal retorting of oil shale is a high gravity oil, only partially distillable, somewhat asphaltic in nature, high in nitrogen and sulfur content, and meets the specifications of residual fuel only, the engineers were told in a joint paper by three chemical engineers of the Brucetown staff. They are Dr. M. G. Pelipetz, M. L. Wolfson and E. L. Clark.

Crude shale oil from the Bureau's pilot plant at Rifle, Colo., was used in the study. The purpose, they stated, was to investi-

gate the conversion of crude shale oil by high pressure hydrogenation over a solid catalyst to more valuable liquid fuels or to a material more suitable for further processing by petroleum refining methods. The Brucetown laboratory was selected for the work because it has equipment in use in the hydrogenation of coal.

This conversion requires a sufficient reduction in nitrogen content to permit the use of commercial cracking catalysts. A reduction in molecular weight of the crude shale oil is also necessary to decrease the amount of residual fuel oil which would otherwise be produced by further processing. The production of more valuable liquid fuels from crude shale oil requires that the products of hydrogenation contain sufficient quantities of separable materials to

meet the specifications of diesel fuel or gasoline.

The results of the work seem to be successful. The preparation of a suitable raw material, or synthetic crude, for subsequent processing by conventional petroleum refining methods seemed quite feasible, they stated.

Science News Letter, May 26, 1951

RADIO

Saturday, June 2, 1951, 3:15-3:30 p.m. EDT
 "Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Karl Lark-Horovitz, head of the department of physics and director of the Physical Laboratory, Purdue University, Lafayette, Ind., will discuss "New Advances in Electronics."

BORDERLANDS OF SCIENCE

By ALFRED STILL

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