

Report  
on  
Prospects for Oil and Gas  
in  
Slater Dome  
Press #17987  
1924  
Moffat County  
by  
U. S. G. S.

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Report furnished by U. S. G. S.

DEPARTMENT OF THE INTERIOR  
MEMORANDUM FOR THE PRESS  
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PROSPECTS FOR OIL OR GAS IN THE SLATER DOME, IN NORTHWESTERN COLORADO.  
Government Geologist Maps Promising Area in Northeastern Moffat County.

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Drilling for oil or gas is now in progress in northwestern Colorado about 2½ miles east of Slater, in Moffat County, near the Wyoming line, on what is called the Slater or little Snake River dome. This dome lies chiefly in secs. 13 and 14 of T. 12 N., R. 89 W. Little Snake River flows westward across the dome just north of and in general parallel to its longer axis. Slater is 10 miles southeast of Dixon, Wyo., and 18 miles southeast of Baggs, Wyo., two towns on Little Snake River and on stage lines to Wamsutter, a station on the main line of the Union Pacific Railroad, 50 miles to the north. The dome was visited in August, 1924, by J. Brian Eby of the Geological Survey, Department of the Interior, who, assisted by Nels C. Beck, studied the formations and prepared a map showing the shape and character of the dome. The results of the drilling now under way, which is being done by the Ohio Oil Co. and which will test rocks in northwestern Colorado that have received little attention, are being awaited with interest.

CHARACTER OF THE COUNTRY

The maximum topographic relief near the dome is about 245 feet. The altitude above sea level at Slater post office is 6,710 feet, that of the floor of the Ohio Co.'s rig is about 6,750 feet, and that of the rock pile on the hill a quarter of a mile northwest of the derrick is 6,995 feet. There are no prominent topographic features near the dome itself, the broad river floodplain covering the crest and much of the north flank of the structure. The beds of sandstone that crop out around the dome are not prominent ledge makers and have largely been planed off by erosion, and a considerable quantity of gravel is scattered over the surface north and south of the river floodplain. Several small plugs of dark basaltic rock that stand from one to two miles north and south of the dome rise to heights over 7,000 feet. One of the most notable of these plugs is the peak a mile south of Slater, over 300 feet high, through which Slater Creek has cut a picturesque canyon-like gorge. It is doubtful whether these small plugs have had any appreciable effect on possible oil accumulation in the Slater structure.

ROCKS AT THE SURFACE AND BELOW THE DOME.

The surface rocks on the Slater dome belong to the upper part of the Mesaverde formation, and as the dip of the rocks away from the crest of the dome is gentle, only 500 to 600 feet of this formation is exposed. The Mesaverde, which is about 2,000 feet thick at Slater, is underlain by the Mancos shale, which, as shown by well borings on the Moffat (Hamilton) dome, is there from 5,000 to 5,100 feet thick. The equivalent strata in the Lost Soldier field north of Rawlins, according

to A. E. Fath, and at Baxter Basin, according to unpublished measurements made by J. D. Sears, both of the Geological Survey, range in thickness from 6,000 to 7,000 feet. The Dakota sandstone, which is producing oil on the Moffat dome, immediately underlies the Mancos shale. These figures justify the assumption that the Mancos shale under the Slater dome is probably at least 5,000 feet thick.

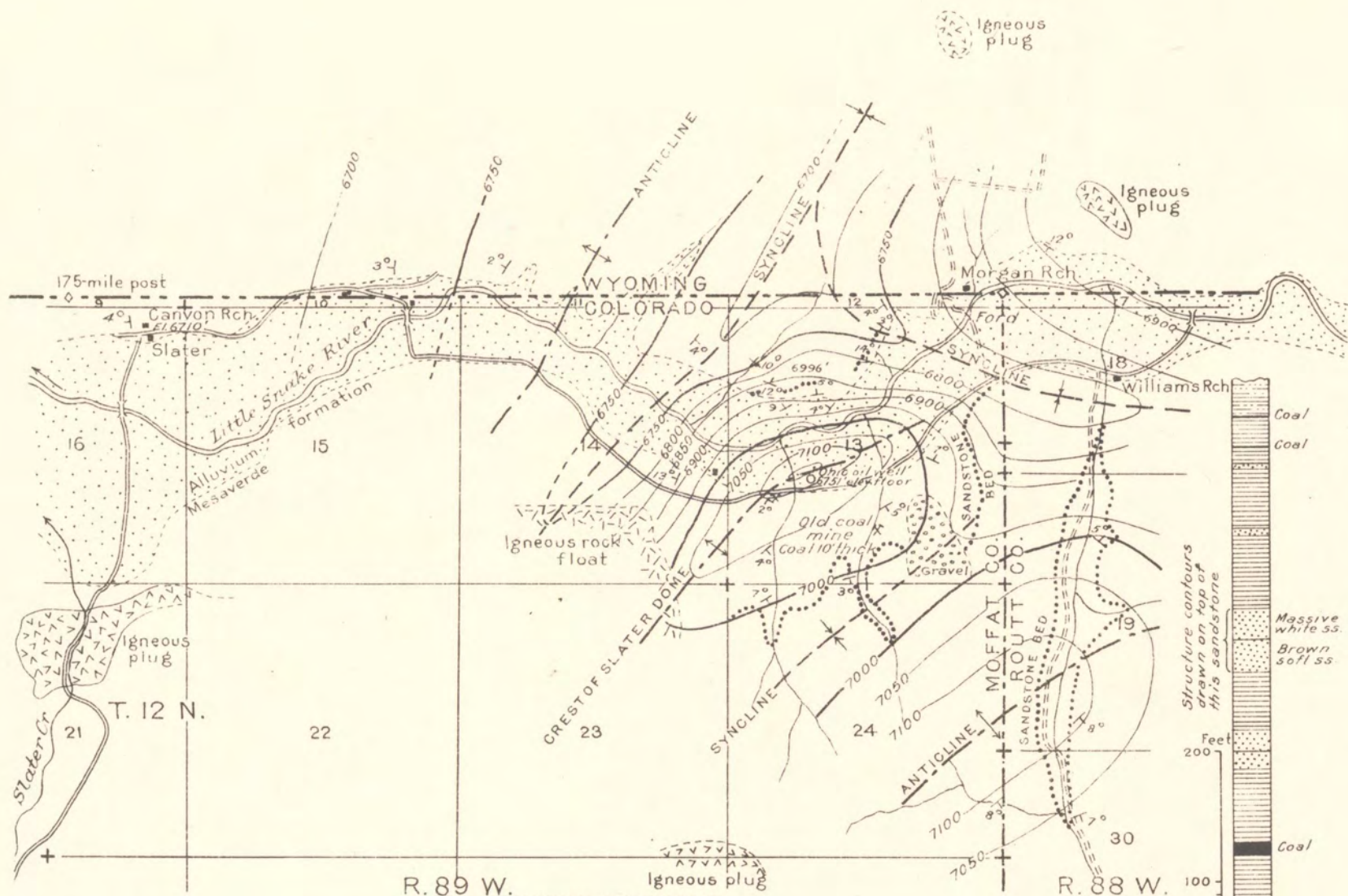
The Frontier formation, which at some localities in Wyoming produces oil and gas and is equivalent to a part of the Mancos shale, lies several hundred feet above the Dakota sandstone, but sandstones at this horizon have not yet produced oil in the wells drilled in Moffat County. The Morapos sandstone member of the Mancos shale, which at Hamilton is 800 feet below the Mesaverde, if present under the Slater dome, may be a reservoir bed and should be struck at a depth of about 2,200 feet in the well on the Slater dome.

#### NATURE OF THE DOME.

The Slater dome is roughly oval, with its longer axis trending northeastward. The dips on the north and northwest sides of the dome range from 4° to 13°; those on the south and southeast flanks range from 2° to 7°. The "closure," indicated by the number of "closed" contours on the map, is from 175 to 225 feet. The structure contours are drawn on the white sandstone that crops out around the Slater dome.

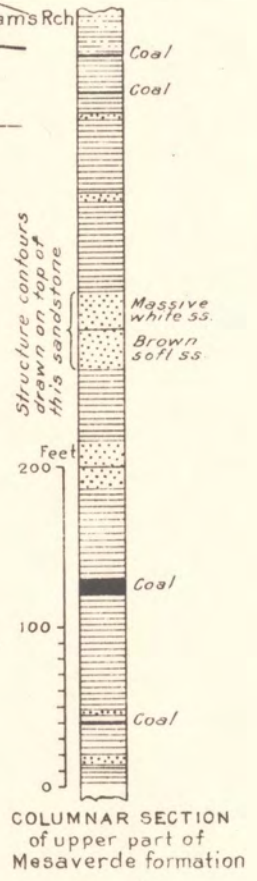
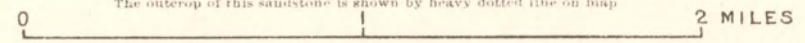
#### POSSIBILITIES OF OIL ACCUMULATION

Traces of oil and gas will probably be found in the part of the Mesaverde formation that underlies the Slater dome, and oil and gas may be found in sandstones in both the upper and lower parts of the Mancos shale, if such sandstones occur here. The Dakota sandstone, the productive formation of the Moffat and Wellington domes, may yield oil at the Slater dome, but its great depth, probably more than 6,000 feet, makes a test of it expensive. The Slater dome is small, but it is believed to merit a test. The well now being drilled near the apex of the dome should be considered an adequate test of the presence of oil and gas in the strata penetrated.



DEPARTMENT OF THE INTERIOR  
 U. S. GEOLOGICAL SURVEY  
**MAP OF SLATER DOME, MOFFAT COUNTY, COLORADO  
 SHOWING PROSPECTS FOR OIL AND GAS**

Structure contours are drawn on top of sandstone indicated in columnar section  
 The outcrop of this sandstone is shown by heavy dotted line on map



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