19-2

Report # 3
Record Copy
State Geologist's Office

REPORT

ON

OIL AND GAS CHARACTER

OF

SEC. 8, T. 33 N., R. 75 W.

same embracing land purchased
by
Olson & Heller and George Walkinshaw
with oil and gas reservation to State

TO

State Board of Land Commissioners

and

A. Baker, Commissioner of Public Lands

-0-

G. B. Morgan
State Geologist.

September 19, 1919.

State Board of Land Commissioners,
Capitol Building,
Cheyenne, Wyoming.

Gentlemen:

Section 8, T. 35 N., R. 75 W. (Heller land), lies about one mile south of Glenrock, Wyoming, and two and a half miles east of the Big Muddy field. I have been over this ground several times while studying the formations of the Big Muddy oil field and I made a special examination of this land on September 9th and 10th with reference to its possible oil and gas character. The land is rolling prairie, or more particularly an undulating plain covered by terrace gravels. Deer Creek cuts into the southeast quarter of the section. It is fair grazing land, but not much value for farming on account of the gravel and boulders on the surface.

Stratigraphy and Structure.

Upper Cretaceous rocks are exposed in the immediate vicinity of the land, the surface of which shows no outcrops except immediately adjacent to Deer Creek where the Pierre shales are exposed. The Fox Hills formation, or Mesaverde, outcrops to the northwest and southeast of the section, dipping generally to the northeast, east, and southeast. With respect to the oil-producing horizon in the Cretaceous, the surface of

the land is about 3000 feet above the Shannon sand and about 5100 feet above the Wall Creek sand. From the latter sand about 90 per cent of the production in the Big Muddy field is obtained.

The structure of the area containing the land in question is that of an eastward dipping monocline which rapidly becomes a syncline to the east. This land lies southeast of the closure of the Big Muddy dome and northwest of the axis of the syncline which forms the structural basin between the dome and the mountain uplift. In other words, the land is entirely off the Big Muddy structure and is practically a synclinal trough, which condition is not favorable for the accumulation of oil or gas, even if the sands were at workable depths from the surface.

Oil Developments.

No oil has been found in the Big Muddy field nearer to this land than the W½ Section 2, T. 33 N., R. 76 W., or from two and a half to three miles west. A well in the SE¼ Section 2 struck water in the oil sand at a depth of 3600 feet. Two wells were drilled by the Ohio Oil Company in the SW¼ Section 1, T. 33 N., R. 76 W. (J. M. Douglas lease), and were abandoned as water was encountered in both sands. The first well was 1890 feet deep. The Shannon sand was found to be water-bearing. The second well went to a depth of 3623 feet and water was found in both the Shannon and Wall Creek sands. The lease was given up. A deep

well in the NW¼ Section 6, T. 33 N., R. 75 W., and another in the SE¼ Section 36, T. 34 N., R. 76 W., were abandoned for the same reason. The eastern limits of the oil producing area in this field have thus been pretty well defined and there is no possible hope that they might be extended as far as the land in question by future development.

Summary.

The above facts and conditions may be summarized briefly as follows:

First, the land in question lies two and one half miles east of the Big Muddy structure and underlying this land is a synclinal structure in which only water can be expected.

Second, the principal oil-bearing sand, or the Wall Creek, which is the only one of consequence, lies at too great a depth to be workable, even if oil were present in same.

Third, water has been encountered in both sands in a number of wells between the land and the Big Muddy field, which is confirmation of conclusion Number 1.

I am, therefore, of the opinion that the said land does not contain workable deposits of oil or gas and that it has no practical value therefor.

Very respectfully submitted,

E. E. Morgan
State Geologist.

Cheyenne, Wyoming.
September 19, 1919.