

9-10 EDWARD VII., A. 1910

consider the one most favourable for prospecting is the Dakota sandstone. The Geological Survey attempted some years ago to prove the existence of petroleum. They put a well down at Pelican Rapids on the Athabaska river. That is back some little distance from the exposed edge of the Dakota sandstone. The idea of course was to get back where you would have a sufficient cover to prevent the petroleum from escaping to the surface. At that distance back there was a covering of about 800 feet over the Dakota sandstone. They put a well down and got the top of the Dakota sandstone, but were unable to get down deeper on account of the flow of gas. They got a little oil there, but the escaping gas froze the oil on the tools and they were unable to proceed further. As a matter of fact they stopped work in the fall and allowed the gas to escape for a year, hoping to lower the pressure, when they resumed they were able to go twenty-five feet further and struck a strong flow which stopped them. They had light plant; at that time it was more difficult to take anything into that country than it is now. A hole was also drilled at Athabaska Landing. They went down 1,700 feet but were unable to get to the Dakota sandstone so that hole proved nothing. Another well was tried at Victoria east of Edmonton on the Saskatchewan river. It went down 1,800 feet but did not hit the top of the Dakota sandstone. Going eastward of course the covering becomes thinner and thinner. At several other points throughout Alberta, as on the Clearwater river, Peace river, Egg lake, you also find tar sands, the sands near the surface impregnated as if there had been a fracture, and the oil had worked up to the surface. There is still further evidence of oil in the southwestern portion of Alberta where they have the formations broken up and these lower rocks brought near the surface. There are some oil seepages, and several companies are trying to find oil in commercial quantities at these localities. There is a shale near Waterton lake which contains a good deal of oil and it might be possible by putting a great number of shallow holes and torpedoing them to make reservoirs that will drain the surrounding shales and get commercial oil from them. The uncertain feature there with regard to the commercial supply of oil is that you are in a disturbed and faulted country and it is possible such oil as may have been contained in the rocks has escaped. A little to the east on the plains as at Pincher there appears to be an anticline running northwest across the country and on the sides of that would be a favourable point to prospect for oil, except that there is a great thickness of those overlying Cretaceous formations and you would probably have to drill to a great depth and those rocks are very difficult to drill. The idea the survey had with regard to prospecting for oil in Alberta was to select a locality in the north such as Pelican where the cover was shallow and try to locate a pool, and having proved first of all that there are large oil pools, and learning something of their distribution, to work back to the southward where there is a thicker covering and where it costs so much more to prospect.

Q. Has any analyses been made of that tar sand?—A. Yes.

Q. In the department?—A. Yes.

Q. Mr. Von Hammerstein told us it was a secret and he would not produce it?—A. The tar sands were examined and reported on by the survey and samples were brought from there and analysed in 1882, and again in 1888. I do not remember offhand how complete the analysis were, but there is no secret about it. We have specimens and if we have not a complete analysis it is easy to make one. The occurrence of gas over such a great area there and the evidence of oil in the north and in the south of course make it appear quite probable that there are oil fields in Alberta. I consider that Alberta has good prospects in that respect. Most of the wells put down for gas in Alberta have not got down far enough to test the oil possibilities. I am not speaking of the wells in Southern Alberta, but in the rest of the province I do not know of a single well that has gone down far enough to prove whether there is oil. I might say there has been two wells drilled in Calgary to a depth of about 3,400 feet without getting down to the possible gas and oil horizon, showing the very