

The shales from which the crude oil will come will also contain aromatic hydrocarbons and derivatives such as benzol, toluol, phenols, and pyridine compounds, sulphuric acid, sodium hydroxid and members of the carbonate family. (Sodiums) and ammonium sulphates.

You will find it to be a fact that under the Belser method of steam extraction, (in situ,) at intermediate temperatures, to be the best.

You will also find that under the Belser patent and method the asphalt content will be reduced considerably.

Example shale containing 2.5% to 3.5% will be reduced to approximately 1.4%, yielding a much superior crude energy.

The writer has spent many months of research as a chemical and geological engineer on the shales of Colorado, Wyoming and Utah and would like to come to my

Final Conclusion

1. *The present refining methods and refineries will have to be modified.*

1. A. *The automobile manufacturer will have to modify his carburation and fuel tanks.*

1. B. *Recent publications in the press have shown that both medical authorities and optometrists are concerned with the effect of "smog" on not only the health, but the eye-sight of the people of the United States due to the contamination of the atmospheric conditions created and caused by exhaust of automobiles, buses, trucks, etc., which is taxing the waiting rooms of doctors and clinics, etc. to over-flowing.*

2. *The method of retorting the shales must be of an in situ process, most likely the Belser method.*

3. *The refined products obtainable from shale crude will be primarily, gasoline, kerosine, light and heavy lubricating oils, paraffin wax, residual tars and potash. The gasoline and kerosine will be clarified. But in matters of use they will equal, if not surpass those from well petroleum. The lubricating oils will be superior to those from well oil. The wax will be of superior quality.*

As to the commercial possibilities of the shale oil industry there can be no reasonable doubt, but it must be kept in mind, (as I stated in paragraph number 2 of Conclusions on page 261) and that the happy go lucky methods of petroleum winning will spell ruin if followed in the shale oil industry. It is and will be an industry demanding technical skill (chemical engineering, geological engineering, drilling engineering, etc.). Considerable expenditures of capital will be necessary to success. It is anything but a gamblers enterprise, or a get rich-quick proposition. It is essentially a manufacturing industry, and is destined to be the largest in Colorado.

With the use of the Belser patent #2,725,939—in situ method of extracting the hydrocarbons from the shales, increasing the crude oil yield with superheated steam by nearly 20 gallons per ton or nearly 60% and the ammonium sulphate increase of 13.31 pounds per ton or almost 300%, I can come to no other conclusion that the extraction of oil from shale is essentially a process of destructive distillation necessary for the good of humanity for a thousand years and longer. (Energy).

Respectfully yours,

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RALF MYERS.