necessary to carry on the work of prospecting for, extracting, piping storing refining and removing such oil and natural gas, including also the right to obtain from wells or other sources on said land by means of pipe lines or otherwise, a sufficient supply of water to carry on said operations and including still further the right to use such oil and natural gas as fuel so far as it is necessary to the prosecution of said operations.

In consideration of which the party of the second part hereby agrees and binds himself, his heirs executors, administrators and assigns to pay or cause to be paid to the lessor as royalty the sum of ten per cent of the value on the leased premises of all crude oil extracted from the said land, and if the parties do not, before the tenth day of the month succeeding its extration agree upon the value of the crude oil on the leased premises, the value thereof shall finally be determined under the direction of the secretary of the Interior in such menner as he shall prescribe, and to so pay the royalty accruing for any month on or before the twenty fifth day of the month succeeding and where the value of the crude oil fluctuates the average valud during the month shall constitute the criterion in computing the royalty, and to pay in yearly payments st the end of each year, one hundred and firty dollars royalty on each gas producing well, the lessor to have free the use of gas for lighting and warming his residence on the premises. But failure on the part of the lessee to use a gas producing well where the same cannot be reasonably utilized at the rate so prescribed shall not work a forfeiture of this lease so far as the same relates to mining oil but if the lessee desires to retain gas producing privileges he shallpay a royalty of fifty dollars per annum on each gas producing well not utilized the first payment to become due and to be made within thirty days from the date of the discovery of gas, payments thereafter for such wells to be made in advance at the first of each succeeding year, dating from the first payment.

And the party of the second part further agrees and binds himself, his heirs executors, administrators and assigns, to pay or cause to be paid to the lessor as advanced annual royalty on this lesse the sums of money as follows to-wit: Fifteen cents per acre per annum in advance for the first and second years; Thirty cents per acre per annum in advance for the third and fourth years, and seventy five cents per acre per annum in advance for the fifth and each succeeding year thereafter of the term for which this lease is to run; it being understood and agreed that said sums of money so paid shall be a credit on the stipulated royalties should the same exceed such sums paid as advanced royalty and further that should the party of the second part neglect, or refuse to pay such advanced annual royalty for the period of sixty days after the same becomes due and payable then this lesse shall at the option of the lessor, be null and void, and all royalties paid in advance shall become the money and property of the lessor.

The party of the second part further covenants and agrees to exercise diligence in the sinking of wells for oil and natural gas on the lands covered by this lease and to drill at least one well thereon within twelve months from the date of the approval of the bond by the secretary of the Interior and should the party of the second part, fail, neglect or refuse to drill at least one well within the time stated this lease may, in the discretion of thesecretary, be declared null and void, with due notice to the lessee and proof of the default and said party of the second part agrees to opeste the same in a workmanlik manner to the fullest possible extent unavoidable causualties excepted; to commit no waste upon the said land and to suffer no waste to be committed upon the portion in his occupancy or use; to take good care of the same, and to promptly