

The CHAIRMAN. That is on account of having less friction in the pipe?

Mr. PENNINGTON. Yes.

As to this movement I have been analyzing this traffic situation ever since December and bringing it down to date every week. It pointed to the only way which we are going to keep the steel mills and arms manufacturers making tanks and cannons going is with a bulk movement of oil comparable to the movement had before the war. That means 1,400,000 barrels a day.

We do not favor any method over another. We are going to need them all. We need them now because they have rationing on the east coast. And if we will ask the manufacturers on the east coast whether they need this oil they will tell out a lot about this.

Mr. HALL. I know about that.

Mr. PENNINGTON. There is only one other point I would like to bring out, and that is this: As you heard Colonel Thompson explain, we do not waste gas any more in producing oil. Formerly we opened wells indiscriminately and we wasted gas. We need the energy of the gas in the original reservoir to push the oil in the well to the top of the ground. I formulated that theory in 1912, and it took a great many years to have it realized that we were recovering prior to 1932, we will say, approximately one barrel of oil to each five or six we left in the ground. By use of this method of asserting directed control over the amount of gas produced with each barrel and not wasting any oil we are now producing five or six barrels for each one kept in the ground.

Mr. CULKIN. You mean by keeping the gas in the ground?

Mr. PENNINGTON. By not using any more than is necessary.

You see on the first well in 1912 we calculated we were getting 1 percent mechanical efficiency of that which we found in the sand originally.

You take in the Pennsylvania fields the way they operate is to open the wells wide open and blow it out. There are four barrels in those wells for each one taken out.

In Texas we have this law prohibiting underground waste. In order to comply with that we have to limit production. That was the main reason it became a statute, although when it was devised as a theory I did not dream it would ever become a penal statute. But it is for a fact.

We have to limit production to realize the best recoveries from our sand. If the demand for oil increases so much and we have to open our wells too wide we will begin wasting gas.

Mr. PITTENGER. You would favor an 8-inch pipe line without so much hot air connected with it?

Mr. PENNINGTON. Any way to get the oil up here. But that won't carry it.

Mr. CULKIN. What is your concrete recommendation? How are you suggesting to work this out?

Mr. PENNINGTON. Would you let me explain the danger in this first?

Mr. CULKIN. I am at your mercy. You are not at mine.

Mr. PENNINGTON. I was going to say if we furnish all we can and we have a shortage of oil and have to open up these reservoirs 20,250,000,000 barrels will disappear as unrecoverable oil. If we open our