Comparative royalty rates

Mineral	Royalty required by law	Royalty currently imposed by Federal lease	Comments
Oil and gas:			
Onshore, not within known geological structure of producing oil and gas field.	12½ percent	12½ percent	
Onshore, within known geological structure of producing oil and gas field.	Not less than 12½ percent.	From 12½ to 25 percent.	Graduates according to daily average production.
Outer Continental Shelf lands.	do	16⅔ percent	
Coal:			
Mined by underground methods.	Not less than 5 cents per ton.	15 to 20 cents per ton.	Royalty varies from 2½ to 10 percent depending upon coal quality and location.
Mined by stripping	do	17½ to 22½ cents per ton.	Royalty varies from 3 to 9 percent depending upon coal quality and location.
Phosphate	Not less than 5 percent of gross value.	5 percent of gross value but not less than 25 cents per ton.	
Sodium	Not less than 2 percent of gross value.	5 percent of gross value.	
Potash	do	do	

Senator Moss. Our next witness will be Fred Hartley, president of the Union Oil Co. of California. Mr. Hartley, would you come forward, please.

We are pleased to have you, sir. If you have any associates accompanying you, they may come to the table also.

Would you introduce your associate. We are happy to have him.

STATEMENT OF FRED L. HARTLEY, PRESIDENT, UNION OIL CO. OF CALIFORNIA; ACCOMPANIED BY HAROLD H. STREAM, MANAGER, OIL SHALE ACTIVITIES

Mr. Hartley. I would like to introduce Harold Stream, who is manager of our oil shale department, and I am sure he works full time, along with his mining engineering associate in coordination with our research department and other technical arms of our company, with the responsibility to keep going forward in the area of oil shale development.

Senator Moss. Thank you. We are glad to have you, Mr. Stream.

Mr. Hartley. I am honored to have been invited to appear before you today and I appreciate your consideration in scheduling my appearance so that I may return to the west coast this afternoon.

Union Oil Co. of California first became interested in oil shale about 1915. In 1920, it established an oil shale department headed by Rod Burnham. Incidentally, I am happy to report that Mr. Burnham celebrated his 80th birthday last year by taking a boat camping trip down the Colorado River. It must have recalled memories to him because from that river you can see the outcroppings of the Piceance Basin oil shale field.

Mr. Burnham and his staff set up an office in Denver in 1920 and immediately commenced investigating the oil shale country. A mill-