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State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

Investigation of the well was drilled into the Columbia Plateau of the

Western Area. At least ten stages of descending water

June, 1946

ROBERT STAYSA GAS-WATER WELL TILLAMOOK COUNTY

Investigation has been reported by Tolson (1946). Perhaps none of the

Location: Mr. Robert Stayse, owner of a store and tourist cabins within
the town of Pacific City, center $\frac{1}{2}$ sec. 30, T. 4 S.,

R. 10 W., had a well drilled for water about 75 feet east of his store.

logs and weight, etc. Mr. Stayse said none of the following industries

History: Mr. Stayse's well developed gas which was accidentally found

to be inflammable. This well was called to the attention of

the Department through Mr. John Aschim, Secretary-Manager of the Tilla-

mook Chamber of Commerce. J. E. Allen and E. M. Baldwin visited it

May 10 and obtained a sample.

The well, whose top is about 20 feet above sea level was drilled
to a depth of 174 feet or approximately 154 feet below sea level. The

water has a slight salty taste, a slight cloudiness, and bubbles emit-

ting gas. Mr. Stayse had installed a modern electric pump and pressure

tank. A valve on the tank was opened and the gas was ignited, burning

with a colorless flame. Although the pressure may not be accurately

judged because of artificial pressure exerted by the pump, the volume

is known to be of good quantity because Mr. Stayse stated that he had

done considerable pumping to overcome the cloudiness of the water and

the apparent amount of gas had not lessened. A pail of water was drawn

and bubbles of gas arose. A match held over this burned brightly for

some time.

Geology: The well was drilled into the estuarine filling of the Big Nestucca River. At least two stages of downcutting below sea level by Oregon coastal streams and subsequent filling during submergence has been reported by Baldwin (1945). Perhaps some of the older fill (the Coquille) was penetrated but it is more likely that the well is within the more recent fill. Both estuarine fills contain abundant plant material derived from buried salt marshes and included logs and twigs, etc. Mr. Staysa said most of the sediment encountered was fine sand. However, some gravel and peaty lenses appeared. Such estuarine deposits should yield an abundant quantity of methane gas but the length of time that this gas maintains its flow is questionable. If some of the porous peat beds or gravel beds have considerable areal extent, this well may have tapped a relatively large volume which, if withdrawn through a sealed system, should support several cooking units for some time.

Conclusions: The gas is probably marsh gas (methane) derived from decaying plant material in an estuarine fill of the Nestucca River. A relatively large quantity of gas may be obtained which, if controlled, should extend over a period of years.

An analysis of the gas by the Portland Gas and Coke Company revealed the following:

Signature
for
date

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ANALYSIS OF GAS IN THE WELL OF ROBERT STAYSA

PACIFIC CITY, OREGON

Laboratory shows that the sample is predominantly methane and on the basis of analysis about half air.

Co ₂	1.4
Oxygen	10.1
Hydrogen	.8
CO	0
Methane	36.5
Nitrogen	51.2
Specific gravity	.84
BTU per cubic foot-	363

Although the sample was taken in very good style, it evidently ~~set~~ around quite a while before being analysed and was somewhat contaminated. Some air might be coming up with the gas.

Signed:

John Eliot Allen
Ewart M. Baldwin