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REPORT ON KYUSHU REGIONAL
FUEL DEPARTMENT ALCOHOL PLANT
SHIMABARA, KYUSHU

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I. INTRODUCTION

KYUSHU-CHIHO-SOKANFU-KOJO is a government-owned alcohol plant manufacturing alcohol from sweet potatoes and is located in SHIMABARA, Kyushu. The plant is under the jurisdiction of the Regional Fuel Department for Kyushu. It was visited by the Petroleum Team of NavTachJap, on 18 October, 1945. In the absence of the Factory Manager, the Chief Engineer, Mr. B. YOSHII, was interviewed and assisted in gathering the information presented herewith.

II. HISTORY AND ORGANIZATION

The Shimabara Alcohol Plant was built in 1938 and production of ethanol from sweet potatoes started in 1939. The plant has not been in operation since 18 August, 1945, but production is being resumed in the immediate future. Originally the alcohol was used in the manufacture of medicinals and beverages but recently most of the production has been sent to Sasebo Naval Station for use as fuel.

The names of the Department Heads are listed below:

<u>Position</u>	<u>Name</u>
Head of Factory	N. SAGARA
Chief Engineer	B. YOSHII
Head of Dept. Of General Affairs	S. NODA
Chief of Operations	M. ODE
Head of Dept. of Raw Materials	T. HAGIHARA
Head of Machinery Dept.	G. YABE
Head of Distillation Dept.	J. OGATA
Head of Testing Dept.	Y. TSUKAHARA

III. DESCRIPTION OF PROCESS

The sweet potatoes used as a raw material are obtained in two different forms: (1) whole or (2) sliced and dried. The whole potatoes are first washed and then sliced before the raw material is introduced by a bucket conveyor into two 45 kl kettles for cooking. The potatoes are steamed at atmospheric pressure and then the mash is transferred to the fermentation vats. There are twenty fermentation vats each of 90 kl capacity. Evolved carbon dioxide is not recovered.

There are two rectifying columns for the final distillation process. The columns are approximately three feet in diameter and each has eight plates with 12 bubble caps each. Although some of the caps were made of copper, most of them were of wood and were held in place by copper wire.

IV. PRODUCTION CAPACITY

There is tabulated below a summary of the annual alcohol production since the plant started operation in 1939:

<u>Year</u>	<u>Alcohol Produced</u> (Kiloliters)
1939	1,378
1940	3,056
1941	3,325
1942	2,884
1943	2,817
1944	3,840
1945 (to Sept. 1st)	952

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V. CONCLUSION

The Shimabara Alcohol Factory is typical of many similar units which have been set up by the Japanese Government for the production of alcohol from sweet potatoes. As such it is of interest, since it indicates the acute need for any material which could be utilized as fuel.