CONFIDENTIAL

GERMAN PETROLEUM INDUSTRY
HAMBURG DISTRICT

REPORT No. 15

DESCRIPTION OF GERMAN UNDERGROUND PLANTS

Reported By

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on behalf of the

BRITISH MINISTRY OF FUEL & POWER

AND THE

U.S. TECHNICAL INDUSTRIAL INTELLIGENCE COMMITTEE

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C.I.O.S. Target No. 30

FUELS AND LUBRICANTS

COMBINED INTELLIGENCE OBJECTIVES SUB-COMMITTEE

G-2 Division, S.H.A.E.F. (Rear) APO. 413

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Introduction

The report given below combines the information obtained as a result of the interrogation, in Hamburg on 21st May, 1945 of :-

(a) Dr. Werner Bosch, in charge of the supply of constructional materials to underground plants.

Interrogated by:- Mr. D. Morten (Brit.)
Mr. V. Haensel (U.S.)
Mr. L.P. Evans (U.S.)

(b) Dr. Paul Schneider, assistant to Dr. Beyer of the Air Ministry, and in charge of production and raw material distribution for synthetic oil plants.

Interrogated by:- Mr. V. Haensel (U.S.)
Mr. L.P. Evans (U.S.)

Dr. Bosch had little idea of the type and purpose of plants, but did know the dates when some of these plants were to be finished. Dr. Schneider, on the other hand, could give some description of the plants.

The following list and description of underground plant is of purely preliminary nature. It is expected that many more underground plants, dealing with all types of products, were either planned or already under construction. So far, no one man, who was directly in charge of underground plants, has been found. No documents relating to this topic have been uncovered.

Description of Plants:

Dachs (Badger): The "Dachs" units are underground lubricating oil plants, using as raw materials reduced crudes from present above ground refineries as well as from a number of small new topping units. Dachs 2 and Dachs 3 were to include underground topping units, the lube oil units attached to these being of the latest design and utilizing newest dewaxing techniques.

Taube (Pigeon): The "taube" units are cracking units. The units were designed for a total throughput of 18,000 tons per month. Of the two units contemplated, one was ready in March, but did not go into operation, while the other was not finished. Of interest is Taube 2, which was to use the carburol cracking plant from Lützkendorf for vis-breaking. The residual gas was to be converted to higher alcohols using the synol process (Lach (salmon) plants).

Schwalbe (swallow): The "Schwalbe" units are underground hydro-plants. In view of lack of space these hydro plants were to operate not on coal but on tar, particularly browncoal tar. The five Schwalbe units were to have a total capacity of 50,000 tons of finished products per month. These were expected to be ready in October, 1945.

Kuckuck (cuckoo): The Kuckuck plant is an aviation gasoline plant. One such unit was to be built at Nordhausen, but very little of the construction had been completed. The plant was to include a catalytic cracking unit, a dehydrogenation unit, a DHD unit and an alkylation unit. The total capacity of the plant was to be 40,000 tons per month. It has been pointed out that considerable difficulties were expected to arise in connection with the catalytic cracking unit in view of the relatively small amount of experimental work on which the designs have been based.

Molch (Salamander): The Molch units are phenol-cresol removal plants using as charging stocks middle oils from browncoal tar units. By means of this treatment such middle oils, which otherwise would be utilized as fuel oils in hydro-plants, could be converted to diesel fuels. There was also the possibility of utilizing other middle oils which could not be processed in the hydro-plants. Out of the six units, one unit was to use extraction with sodium hydroxide, while the others would employ phenosolvan as the

extraction agent. The total projected capacity of these plants was 30,000 tons per month. It is believed that two or three units have actually gone into operation.

Karpfen (carp): A "Karpfen" unit is a small Fischer-Tropsch plant, utilizing gases fron near by gas producing plants. The production of such units was estimated to be between 300 and 500 tons per unit per month. Ten such units were to be constructed and these were supposed to have been ready by January, 1945. The actual completion date is unknown. The location and extent of completion of these units should be determined.

Jakob (Jacob): A "Jakob" unit is an additional cracking plant using the Hoffmann process. This is a new design of the old Hoffmann cracking plant, which has been under consideration in Germany. The new design had not been tested out on a full scale. Two such units were to be built with a total capacity of 12,000 tons per month. The construction of these plants had not gone beyond the initial stages.

Rabe (Raven): A "Rabe" unit is a tetraethyl lead plant. One such unit was to be constructed by October of 1945 at Brixligg, Tyrol. The projected capacity of this plant was 200-400 tons per month.

Iltis (Polecat): An "Iltis" is a superfractionation plant. The equipment was removed from Ruhrchemie and consisted of a number of columns having a height of 30 - 40 meters and 60 - 80 plates. It was proposed to subject straight run fractions, particularly Hungarian natural gasoline, to a superfractionation to remove high anti-knock fractions which could be blended with aviation base stock. This plant was supposed to be ready in March, and the projected capacity was 2,000 tons per month.

Biber (Beaver): A tot al of five "Biber" units were to be built. These are all small furfural extraction plants. A "Biber" unit is the same as a "Lignol" unit. Four plants were supposed to be ready in February, one in March.

Wüste (Desert): A "Wüste" unit is shale carbonization plant. The units were supposed to be the simplest carbonization plants for the treatment of Würtemberg shale. Originally eleven such units were planned,

however, in view of lack of materials, the number was decreased to four, the latter units were to have been completed in April - June, 1945, with a total capacity of 8,000 tons per month of finished products.

Krebs (Crab): Five units were planned - none started. No particulars known; other than that some product was supposed to be made there to the extent of 10,000 tons per month.

Lack (Lacquer) and Orion (?): Both "Lack" and "Orion" are nitrogen compounds plants. One "Orion" plant, with a projected capacity of 4,000 tons per month was supposed to be ready at Nordhausen.

Klein-Scholven (Little-Scholven): Three units, Klein-Scholven 1 - 3, were planned, and these were to utilize the hydrogenation equipment removed from Scholven. Klein-Scholven 1 was to be a gas phase unit, Klein Scholven 2 a sump phase unit. It was not decided whether Klein-Scholven 3 was to be a gas or a sump-phase unit, or possibly both. Each of the three units was to have a projected capacity of 3,000 - 4,000 tons pe per month. The units were to be constructed west of the Weser.

Little information is available on "Steinbock" and "Schill" plants. Two "Steinbock" plants were supposed to be ready in June, 1945, with a projected capacity of 2,000 tons per month. One of the two proposed "Schill" units was to be erected in the neighbourhood of Trauensee, south of Munich. There is some reason to believe that at least one of the "Steinbock" units was a hydrogen peroxide plant, but that report is not very reliable.

(Signed) V. HAENSEL.