

1. INVESTIGATION PROCEDURE.

On 5 April 1945, Capt.C.C.Chaffee of CANT No.5, 12th Army Group Headquarters interrogated Messrs. Lumme, Oetkin, Hubmann, Herbert, Meyer, Danulat, and Kohrt of Metallgesellschaft and Lurgi in Frankfurt. In addition to obtaining considerable general information personally, Capt. Chaffee arranged for the preparation of flow diagrams and memoranda descriptive of Lurgi's war-time activities of interest to the oil industry.

On 1 May, Lt.Col. Oliver Thompson and Mr.H.V.Atwell interviewed H.G.Heine, head of the Metallgesellschaft patent department and arranged with him for a meeting with other officials on 3 May. With Mr.Heine an inspection of the patent files at Kronberg Castle and Kronberg Hof was also made on 1 May. On 3 May at Lurgi Haus, Gervinusstrasse 17, Frankfurt, Lt.Col. Thompson, Mr.I.H.Jones and Mr. H.V.Atwell interrogated Messrs.Oetkin, Danulat, Herbert, Hubmann, and Ruepping. On 9 May, Mr.Atwell again interrogated Dr.Herbert at Lurgi Haus.

On 5 and 6 May, Major J.G.King, H.Bardgett and E.Spivey interrogated Messrs. Oetkin, Danulat, Herbert, Ruepping, Heine and Siebert at Lurgi Haus. They also visited Dr.Herbert's research laboratories at Mouson Strasse and the evacuation premises at the Technische Hochschule at Friedburg where Dr.Siebert was conducting research on distillation problems and where Dr.Danulat's section had been working before being bombed out.

The information obtained at all of these Conferences is consolidated in this report.

For the meeting on 3 May, Mr.Oetkin had prepared at our request statements of the organization and activities of Metallgesellschaft and its Lurgi subsidiaries, copies of which are attached as Appendix A.

In the conference of 3rd May, Dr.Oetkin gave a general picture of their Fischer-Tropsch and coal gasification activities. Afterward Lt.Col. Thompson discussed Japanese relationships with Dr.Hubmann. Mr. Jones discussed carbonization and gasification with Danulat, and Mr.Atwell discussed Fischer-Tropsch activities with Herbert. It was stated that

other technical Commissions had visited the Lurgi officials as follows:

2 and 3 April, 1945

A party of about 12, headed by Commander Abbott.

7 April

A party of unidentified investigators who discussed synthetic fuels and carbonization in general.

13 and 14 April

A British Commission under Lt.Col. Hollings, who discussed synthetic fuels and town gas.

14 and 15 April

A party of 3 American Officers, all stated to be affiliated with Standard oil in Chicago, and 1 working in Oklahoma.

II. OWNERSHIP OF METALLGESELLSCHAFT-LURGI

The Lurgi Companies are entirely owned by the Metallgesellschaft A.G. of Frankfurt am Main, and the latter is a stock company with ownership of shares distributed about as follows:-

50% by private individuals.

15% by De Cussa of Frankfurt/Main and Henkel of Düsseldorf.

20% by Amalgamated Metal Co., of Great Britain.

6 to 7% by I.G.Farbenindustrie.

III. JAPANESE RELATIONSHIPS.

Dr.Otto Hubmann, the director in charge of fuel research, provided information upon business dealings with Japan. Dr.Hubmann stated that the documentary material in Frankfurt on these dealings had been handed over to previous CLOS investigators.*

Dr.Hubmann was in Japan from May to July, 1939. He stated that little information was obtained by him during this trip outside the projects on which he was engaged, the Japanese being extremely secretive about their plans. He had no information on developments after Pearl Harbor and their representative in Tokio, Dr.C.Krayer, had not been at all informative; he was of the opinion that Dr. Krayer was now in semi-confinement in Japan. Hubmann was not clear as to the present status of Nippon Lurgi Goshi K.K., which was the Lurgi office in Tokio.

* In this connection refer to Japanese Document Report No.CD/037 relating to SHARP G-2 (Japanese Section) Report Serial J/007 of 24th April 1945.

PATENT RIGHTS.

At the beginning of 1942 the Japanese acquired all the low temperature carbonization patents of Lurgi for Japan, Manchuria and North China. The agreement gave the Japanese the right to construct plants and an exclusive utilization of patents. A flat payment of approximately 800,000 RM, was received from the Japanese, this sum being cleared through the German government.

JAPANESE PLANTS.

Hubmann provided the following information upon plants in the Far East. His knowledge of the subject was fragmentary and better information should be obtainable from Bruggemann who was engaged in the erection of low temperature carbonization plants in Japan until 1942. Bruggemann was not in Frankfurt and he was believed to be somewhere in Central Germany, possibly in the vicinity of Böhlen.

Shale Plant at Fushun, Manchuria. Hubmann did not know what progress had been made with this plant since 1939. He believed that the Shale plant was probably capable at that time of producing about 200,000 tons of raw oil. He thought it probable that the Navy had a small trial hydrogenation plant at Fushun for the production of diesel oil and gasoline and with a capacity of not more than 10,000 tons per annum. He did not know of any aluminium plant in the Fushun area but he believed that the Japanese were intending to put up such a plant somewhere between Mukden and Tientsin on the Chinese side of the border.

Mitsui Kozan KK., Mike (Omuta). Hubmann believed that this plant got off to a satisfactory start in 1939. (See Note 1.) He knew that coke production and the manufacture of water gas was proceeding satisfactorily in the summer of 1939. The coke ovens were built by Koppers and possibly also the water gas producers. (See Note 2.). Lurgi had installed an activated carbon plant to operate with the Fischer-Tropsch plant, the latter having, he thought, a capacity of 30,000 tons. He saw no reason why the Japanese should encounter any particular difficulties in the production of Fischer-Tropsch fuels, especially as the plant had a good gas purification system. He considered it probable that the Mike plant had been extended since 1939. (See Note 3.)

Notes:

1. Reports generally agree that this plant was put into operation late 1939 or early 1940.
2. 5 Koppers Water Gas Generators are known to have been ordered in February, 1939. Capacity of these was 37,500 cbm/hr. synthesis gas, representing about 35,000 t.p.a. product.
3. Air cover reveals that no extensions have been made. The information in SHAEF G-2 (Japanese Section) Report Serial J/007 para 6 (b) giving production at 100,000 tons would, therefore, appear to be inaccurate.

Manshu Gosei Nenryo, Chinchow (Kinsu). This plant is also known as Fushin. Hubmann believed that this Fischer-Tropsch plant probably started producing in 1940. It was a standard size Ruhrchemie unit with a capacity of about 30,000 tons per annum. (See Note 4).

Rumoi, Hokkaido. Lurgi had been interested in a high pressure gasification prospect in the vicinity of Rumoi, the intended plant being a high pressure gasification unit employing oxygen. Some information on this subject would be in some files that had been taken by a previous CIOS investigator. Hubmann was doubtful whether there was an oil plant actually in Rumoi and he thought that it was more probable that if any synthetic oil was being produced in this area, the plant or plants would be located more inland and in the vicinity of Fukagawa, Takigawa, and Sunakawa at which three places coal deposits were in the course of being exploited. The Japanese were intending to produce gas for commercial purposes in this area and it was possible that they were also intending to develop steel production.

Chosen Sekitan K.K., Eian. In 1930 there was a small low temperature carbonization plant at Eian which was processing about 600 tons of coal per day. This plant yielded from 15,000 to 20,000 tons per annum of paraffinous brown coal tar. Hubmann thought it was probable that this tar was hydrogenated elsewhere, possibly at Kirin or Fushun, but he had no information on this subject.

Chosen Chisso Hiryo K.K., Agochi. Informant knew of no hydrogenation plant at Agochi.

South Sakhalin Mining and Railway Company, Naihoro. The plant here was originally a low temperature carbonization plant, having four ovens. It was probable that the Japanese intended to increase production from this area and Hubmann suspected it was for this purpose that the Japanese government took over the Lurgi license rights. The coal at the south end of the Karafuto Peninsula is an older brown coal with a high content of paraffinic tar (about 15%), the water content being only 15%. It is probable that the Japanese have been making plans for the hydrogenation of this tar.

Note:

4. Air cover shows no extension to the original plant, capacity of which is provisionally estimated at 35,000 tons. Serial J/967 para (6) (a) iii gives estimated production 100,000 tons.

Nissan Ekitai Nenryo K.K., Wakamatsu. Bruggemann was responsible for starting one LTC oven at Wakamatsu in 1954 at the site of a coal mine that had been started at this place. Hulmann did not believe that any representative of the company had been to Takamatsu since that date. The bituminous coal which yields a coke that is valuable for domestic purposes, has a content of 8-9% of low temperature tar. Nothing was known about a hydrogenation plant in this vicinity.

Ube Yuka Kogyo K.K. (No. 2), Ube. The Koppers company had been responsible for a low temperature carbonisation plant at Ube which operated in conjunction with a synthetic ammonia plant. Tar production was believed to be small and Hulmann, who knew of no synthetic oil plant at Ube, considered that tar production from this place was not likely to be important.

On the other hand Hulmann believed that the Japanese were planning to build a hydrogenation plant to treat the whole of the tar production of South Honshu and Kyushu. He considered that the most probable site for such a plant would be at Tokuyama or, failing which, at Ube. Hulmann doubted whether this project had been completed although he could not give any specific reasons for this doubt. (See Note 5).

Manshu Yuka Kogyo K.K., Ssuyinkai. Hulmann knew nothing about a plant in this vicinity. Likewise, he knew of no other plants.

Hulmann considered that it was probable that the Japanese would have taken steps to develop low temperature carbonisation plants in the Tientsin and Peking areas where there were deposits of bituminous coking coal. It was to be expected that the Japanese would at least attempt to develop the bituminous coal available at Kalgari, West of Peking.

Although Hulmann's information upon Japanese synthetic oil operations was scanty, he was strongly of the opinion that the extent of Japanese achievement was likely to be very much less than published figures had indicated. He stated that it was customary for the Japanese to talk very big about their oil developments but in most cases these statements could be discounted by at least 50%.

Note:

5. Serial J/007 6 (c) reports the existence of a hydrogenation plant with a capacity of 100,000 tons p.a. Air cover indicates a possible hydrogenation plant which, however, appears to be still in the course of construction.