

WEEKLY SURVEY OF AXIS EUROPEOIL PRODUCTIONNo. 21 - 21st December, 1941.

NOTE: This survey summarizes the conclusions of the Working Committee (Oil Production) of the Combined Strategic Targets Committee upon the current status of Axis oil production. The assessments are based on ground intelligence and deduction from air cover; the process of future output takes into account the enemy's potential single performance, but makes no allowance for additional damage in further attacks. The present report includes the known results of all attacks up to and including December 17th.

I. ATTACKS.

The following attacks were made since our last report.

<u>Date</u>	<u>Location</u>	<u>Company</u>
11.12	MOOSBIRKENAU	Borana Chemie
	OSTERFELD	Outehoffnungsbetriebe (Benzol)
	BRUCKAUEN	Gelsenkirchener Bergwerke (Benzol)
	REIDELICH	" " "
12.12	REIDELICH	" " "
	LEUNA	I.G. Farben
16.12	INDWICKLITZ/OPPAU	I.G. Farben
	BRUCKAUEN	Gelsenkirchener Bergwerke (Benzol)
	REIDELICH	Sulstenlandische Erbstoffwerke A.G.
	LEUNA	Hormann Gossling (Benzol)
17.12	BLEICHHAMMER NORD	I.G. Farben
	BLEICHHAMMER SÜD	I.G. Farben
	OLBERAL	Schiffstich Feinlin

II. EFFECTS OF PRODUCTION.

Some reconnaissance work was secured during the past week on a few targets in Germany. New cover obtained of targets in Austria and Czechoslovakia has enabled the position in those two countries to be assessed more firmly. In estimating output no information is yet available of the effects of the recent attacks on BRUK, the two BLEICHHAMMERS and REIDELICH; the effectiveness of the latest attack on LEUNA is also not known.

Cover received during the week of the results of previous attacks has resulted in the writing down of the estimates of current production at REIDELICH, BORUNA, REIDELICH and one Austrian refinery. Should the latest attacks have achieved average success in putting the Sillesian plants, REIDELICH and LEUNA out of action, total output in December is unlikely to exceed the total output in November and if further successful attacks are carried out during the second half of the month the reversal of the previous upward trend in production would be very probable.

The revised estimates of total production in Table I (also summarized below) do not make any allowance for the effects of the

/most

most recent attacks or for the possible effects of future attacks. An estimate has been made of the maximum output in January 1945 in the event that recovery is not impeded by further attacks.

maxima tons per month

Pre-war normal output of finished products	1,544,000 tons (100%)
Estimated output in 1944	
September	511,000 (23%)
October	536,000 (29%)
November	543,000 (32%)
December (maximum)	562,000 (35%)
1945 January (maximum)	571,000 (45%)

Revised estimates of the output of the principal refined products in November and December are given below:-

	<u>% of pre-war normal output</u>	
	<u>November</u>	<u>December</u>
Gasoline	32%	39%
Kerosene	17%	14%
Gas/diesel oils	30%	45%
Fuel oils	28%	37%
Light oils	21%	21%
Total	32%	36%

III. CONDITION OF THE PRODUCING PLANTS.

(a) Synthetic Plants.

There has been no further cover of the eleven synthetic plants in Western Germany but there is no reason to believe that any of them may not have resumed production, although at least four are potential producers in the second half of December.

In Central and Eastern Germany, the situation has developed as follows:-

LEUNA was attacked again on December 12, making the seventh attack since the last full cover of the plant was obtained on November 14. The majority of the stacks have not, however, been very smoking and the plant was still seen to be active on strike photographs of November 30, since which date four further attacks have taken place.

BAUX is thought to have attained a high level of production at the time of the heavy attack by the U.S. 15th A.F. on December 16. The results of this attack are not yet known.

BERCHHAMMER SOUTH may barely have resumed operations following the damage inflicted in the attack of December 2, when it was attacked again on December 17 and 18. The results of these latest attacks are not yet known but there must obviously be a good chance that the plant has been put out of action for a further period.

/BERCHHAMMER NORTH

BLEICHHAMMER NORTH was also probably stopped by the attack of December 2 and may have been about to resume when attacked again on December 17 and 18. In this case also there is a good chance that the interruption of output has been further prolonged.

POBITZ is by now probably operating at 75% of capacity and is likely to be the major current source of supply of aviation gasoline for the O.A.F.

ZNITZ, covered during the course of the week, was seen to be operating at about 75% of capacity, which is less than had been expected. This limited operation does not appear to have been due to severe damage suffered in the attack of November 30 but may be of a minor character. It is now likely that the performance of this plant has been somewhat affected by the severity of the damage suffered in the past.

BOHLEN, also covered in the course of the week, was seen to be working at about 75% of capacity and is have received negligible fresh damage in the attack of November 30. This is the least severely damaged of the major Bergius plants and it may be capable of 100% operation by January.

LUTHERBORN and HACHHEIM may by now be working at 75% of capacity, though there is no cover whereby this can be confirmed. Neither plant is likely to improve on this performance for some time to come.

The position in regard to the Fischer Tropach plants in Central and Eastern Germany is as follows:-

RUHLAND is confirmed by shell cover to be active. It is unlikely to be working at less than 75% of capacity.

DECKOWITZ (ODERTAL) is likely to have been almost in full production when attacked on December 17 and 18. The results of these attacks are not yet known.

LUTZKINDORT is probably now working at 50% though this has not recently been checked by fresh cover.

/ (b) German Refineries.

(b) Germany: Refineries.

Fresh cover of MISBURG, shows that the plant is still inactive following the attack on November 29. This probably means that the damage to vital equipment was fairly severe and in these circumstances it is unlikely that operations can be resumed before the New Year.

Of the other crude refineries, only HEIDE-HEMMINGSTEDT is positively known to be active but the possibility must be reckoned with that Rhenania HARBURG is now back in operation. If damage in the attacks of mid-November was not severe (there is no post-raid cover) a sufficient interval has elapsed to allow repairs to be completed.

Partial cover of another plant, near DRESDEN, shows that repairs were seen to be in progress in October and it is not surprising that this plant should by now have returned to partial production.

On the other hand cover of the FREIAL Elektroil plant, near DRESDEN, obtained on the same day, showed that no attempt has been made to repair the damage inflicted in August and that the plant is derelict. Its abandonment is more easy to understand in the light of information from the managers of a similar plant in Belgium to the effect that the operation of this process has been impaired by difficulties in obtaining the necessary vegetable oil feedstocks.

The finishing plants now known to be active are therefore as follows:-

MONHEIM
ROSE
REICHOLZ
CELEBSHAUSEN
DOLLBERGEN

The status of DPAG and Rhenania: HAMBURG-WILHELMSBURG is in doubt until cover is obtained of the results of the attack of November 21.

(c) Austria: Refineries.

The status of the Austrian refining industry has now been clarified by fresh cover.

FLORIDSDORF, ZAGRAJ, KORNBERG, and VCSINDORF are all seen to be in a high state of activity and have not suffered significantly from recent attacks. In view of the activity of these plants Austrian production in December has recovered to about one-third of its original level.

SCHNECHAT, however, is seen to have received further damage in the attack of November 19 and was inactive in the first week of December. As some distillation equipment remains intact, resumption later in the month is possible.

LOBAU, although not covered since November 27 is not yet likely to resume operations but may be operational again in January.

MOOSBIERBAUM was attacked on December 11 with results which are as yet unknown.

(d) Czecho-Slovakia: Refineries.

The activity of the KOLIN refinery has now been confirmed.

Cover of the same day shows, as was expected, that the important PARDUBICE refinery is again in operation and that repairs are continuing.

With/

With KRALUPY and MORAVSKA OSTRAVA also probably active, and with DUBOVA as a possible producer, the throughput of the Czech refinery industry in December is likely to have recovered to about 45% of the pre-attack level.

The BRATISLAVA and NOVY KONKVIN plants, however, remain inactive.

(e) Hungarian Refineries.

The ALLASZKUTIC and SZONY refineries may still be in limited operation but they are now threatened directly by the latest development of the Russian offensive North of the Danube.

No further progress has been made in the Russian advance in the oilfields S.W. of Lake Balaton and it must be assumed that crude oil is still being shipped away by tank-car via Vienna. No shipments can now take place by pipe-line and with the partial encirclement of BUDAPEST it seems probable that the Hungarian refinery industry has been effectively neutralized apart from the two plants mentioned above.

(f) Polish Refineries.

In the absence of evidence to the contrary, it is thought probable that the GRESZKIA and SZACHOWICE (DELIATKA) refineries are in partial operation.

(g) Benzol Plants.

Further attacks were made during the week, against the BRUCKENBURG, WEIDENBURG, OBERWILD and LINZ benzol plants. The status of these plants together with HILSH, PROSPER, and KRENKIRCHEN is unknown. VOLKLINGEN is within artillery range of the Saar front.

Of the plants damaged in earlier attacks, ALAM, PLUTO, KAISERSTUHL and SCHOLVEN may now be partly active.

Of the remaining plants seven are active and five inactive.

ECONOMIC ADVISORY BRANCH

(P.O. & M.I.A.)

22nd December 1944.

TABLE I.

SECRET

ESTIMATED QUANTITIES OF LUBRICANTS REQUIRED
FOR THE OPERATION OF THE U.S. FLEET IN 1944
(All figures are estimates of requirements for 1944)

Journal	Article	Page	Volume	Issue
1950	1950	1950	1950	1950
1951	1951	1951	1951	1951
1952	1952	1952	1952	1952
1953	1953	1953	1953	1953
1954	1954	1954	1954	1954
1955	1955	1955	1955	1955
1956	1956	1956	1956	1956
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1961	1961	1961	1961	1961
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1963	1963	1963	1963	1963
1964	1964	1964	1964	1964
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1966	1966	1966	1966	1966
1967	1967	1967	1967	1967
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1971	1971	1971	1971	1971
1972	1972	1972	1972	1972
1973	1973	1973	1973	1973
1974	1974	1974	1974	1974
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1988	1988	1988	1988	1988
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2023	2023	2023	2023	2023
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2161	2161	2161	2161	2161
2162	2162	2162	2162	2162
2163	2163	2163	2163	2163
2164	2164	2164	2164	2164
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2166	2166	2166	2166	2166
2167	2167	2167	2167	2167
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2169	2169	2169	2169	2169
2170	2170	2170	2170	2170
2171	2171	2171	2171	2171
2172	2172	2172	2172	2172
2173	2173	2173	2173	2173
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2199	2199	2199	2199	2199
2200	2200	2200	2200	2200
2201	2201	2201	2201	2201

REFINERIES:

4.	Gasoline	78	45	32	66
5.	Fuel Oil	0	0	0	0
6.	Diesel Oil	0	0	0	0
7.	Lubricating Oil	0	0	0	0
8.	Crude Oil (C.I.)	(1)	20(1)	23(1)	25(1)
9.	Polymers	0	0	0	0
10.	Asphalt	52	17	21	42
11.	Lubricating Oil	0	0	0	0
12.	Fuel Oil	0	0	0	0
13.	Diesel Oil	0	0	0	0
14.	Lubricating Oil	0	0	0	0
15.	Fuel Oil	740	0	0	0
		1310	157.5	102	93
Percentage of total fleet		100%	12%	8%	20%

GRADE SOURCES:

(i) Synthetic Oils	478.5	137	170	239	280
(ii) Crude Oil	107.5	138	102	105	141
(iii) Other Sources (C)	186	175	150	155	190
TOTAL	772	445	372	494	611
Percentage of Total Fleet	100%	58%	48%	64%	79%

NOTE: (A) Figures are based on current estimates of available capacity.
(B) Crude oil refinery capacity based on 1944 production loss.
(C) Figures for other sources are based on current estimates of available capacity and are not indicated. Total figure is based on 1944 production loss.
(D) Other sources comprising kerosene, alcohol, tar oils, etc., and including lubricating oils and liquid fuels.

TABLE II

ESTIMATED OUTPUT OF PRINCIPAL FINISHED OIL PRODUCTS

(All figures in thousands of metric tons)

	<u>GASOLINE</u>	<u>KEROSENE</u>	<u>GAS/DIASEL OILS</u>	<u>FUEL OILS</u>	<u>LUBE OILS</u> ^{XX}	<u>TOTAL</u>
<u>Normal pre-raid</u> <u>Monthly Output</u>	532	100	284	280	148	1344
<u>Estimated Output in November</u>						
From: Bergius Plants	96	-	42	-	4	142
Fischer Tropsh	19	2	5	1	1	28
Refining of Mineral Oils	18	15	37	18	14	102
Other Sources	38	-	25	85	12	160
Total Resources	171	17	109	104	31	432
Percentage of Pre-raid Total	32%	17%	39%	38%	21%	32%
<u>Estimated Output in December</u>						
From: Bergius Plants	127	-	56	-	5	188
Fischer Tropsh	34	3	10	2	2	51
Refining of Mineral Oils	17	11	37	16	12	93
Other Sources	28	-	25	85	12	150
Total Resources	206	14	128	103	31	482
Percentage of Pre-raid Total	39%	14%	45%	37%	21%	36%

^{XX} NOTE: The figures shown for lubricating oil output are largely theoretical.

SECRET

TABLE III: CURRENT PRODUCTION STATUS OF PRINCIPAL OIL PLANTS.

19th DECEMBER, 1944.

Figures in parentheses are of partial production in thousands of metric tons.

PRODUCTION STATUS	20 SYNTHETIC PLANTS	22 CRACKING REFINERIES	23 OTHER REFINERIES	23 PETROL PLANTS
Category 1 IN FULL PRODUCTION				WILHELM-FORSTHUTUNG (0.6) ROBERT HUBER (0.6) GERICHTHOF (0.5) HENSTEN STEIN (0.5) SALZGITTER (0.8) FOLKLENGE (0.6) L. BERG-BAUW. TAR (1.0) MOLVSKA OSTRAVA, T.I. (0.6)
Category 2 IN PARTIAL PRODUCTION (Confirmed by air cover)	GELBE (12.5) GELBE (12.5) GELBE (12.5) GELBE (0.5)	LITKA-PRILAZNY (0.9) GELBE (0.1) GELBE (0.1) GELBE (0.1) GELBE (0.1) GELBE (0.1) GELBE (0.1)	WILHELM-FORSTHUTUNG (0.3) GELBE (0.2) GELBE (0.1) WILHELM-FORSTHUTUNG (0.1) GELBE (0.1) GELBE (0.1)	WILHELM-FORSTHUTUNG (0.5)
Category 3 PROBABLY IN PARTIAL PRODUCTION (Confirmation by air cover lacking).	GELBE (12.5) GELBE (12.5)	WILHELM-FORSTHUTUNG (0.9) GELBE (0.1) GELBE (0.1)	GELBE (0.1) GELBE (0.1) GELBE (0.1) GELBE (0.1) GELBE (0.1) GELBE (0.1)	GELBE (0.8) GELBE (0.7)
Category 4 PRODUCTION TEMPORARILY SUSPENDED (except for non-vital installations)	GELBE (12.5) GELBE (12.5) GELBE (12.5) GELBE (0.5)	WILHELM-FORSTHUTUNG (0.9) GELBE (0.1) GELBE (0.1)	GELBE (0.1) GELBE (0.1) GELBE (0.1) GELBE (0.1) GELBE (0.1)	GELBE (1.0) GELBE (1.0) GELBE (0.6) GELBE (0.5) GELBE (0.5)

/ Category 5.

PRODUCTION COUNTRY	21 SYNTHETIC PLANTS	22 CHEMICAL INDUSTRIES	23 OTHER REFINERIES	23 OTHER PLANTS
Category 5 PRODUCTION CAPACITY (including repair or vital installations)	CHEMISOP KAUZEL (4.5) LEBER (5.0) DORTMUND (4.0)	LINBURG (Hlong) (2.0)		
Category 6 PRODUCTION CAPACITY (including repair or vital installations)	WERKELING (6.5) ROSENTHAL (7.2) LEBER (7.2) CHEMISOP (2.5)	LAMBERG (Hlong) (15.0) CHEMISOP (9.7) CHEMISOP-WILHELMSBURG (S. Hlong) (11) LEBER (Hlong) (11) (S. Hlong & Schliemann) LEBER (Hlong) (11) (S. Hlong) (11) CHEMISOP (11) CHEMISOP (11) CHEMISOP (11)	LAMBERG (4.0) CHEMISOP (1.6) CHEMISOP-CHEMISOP (5.8) CHEMISOP (2.5) CHEMISOP (1.5) CHEMISOP (2.5) CHEMISOP (1.5)	
Category 7 PRODUCTION CAPACITY (including repair or vital installations)	CHEMISOP (25.0) LEBER (25.0) CHEMISOP (4.0)	WILHELMSBURG (S. Hlong & Rhodora) (11)	CHEMISOP (2)	CHEMISOP (1.0) CHEMISOP (1.0) CHEMISOP (0.9) CHEMISOP (0.9) CHEMISOP (0.8) CHEMISOP (0.9) CHEMISOP (0.5)

continued production of synthetic oil.