

THIS PAGE IS UNCLASSIFIED

178-263-1

Jan - May 1945

AMERICAN
COUNCIL ON
AFRICAN AFFAIRS

DECLASSIFIED
ON 05/11/2010
BY 60321/UC/STP/STP

THIS PAGE IS UNCLASSIFIED

Enemy Oil Committee

4340-2122

DECLASSIFIED
EO 11652

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington, D.C.

In reply refer to:
AJ-959-151

MEMORANDUM

To: Members of the Army Oil Committee

From: Maj. Greve, Executive Secretary *B. H. G.*
Army Oil Committee

Subject: Foreign Press Abstracts

We are enclosing herewith a copy of the 30 April 1945
issue of Press Abstracts compiled by the Interdepartmental
Committee for the Acquisition of Foreign Publications

Enclosure

Maj. Luke

THE JOINT CHIEFS OF STAFF
WASHINGTON
JOINT INTELLIGENCE COMMITTEE

ENEMY OIL COMMITTEE

In reply refer to:
SU-959-BHG

C O N F I D E N T I A L

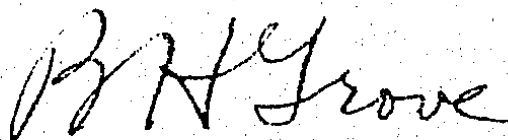
Lt. Col. James L. Luke
A.C.-A.S. Intelligence
3E-172 Pentagon Building
Washington 25, D. C.

Dear Col. Luke:

I wish to acknowledge your letter of 3 May, 1945, on the subject of material loaned to the Enemy Oil Committee from the files of AAF Intelligence for use in the German Facilities Report.

Following my telephone conversation with Major Stark on 2 May, I advised Mr. Ulrich of your need for the prompt return of this material, and believe you may expect this to take place in the immediate future. I shall make it a point to follow this up, as we have every reason to be grateful for the collaboration received from your Branch.

Sincerely yours,



B. H. Grove
Executive Secretary
Enemy Oil Committee

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

ENEMY OIL COMMITTEE

M E M O R A N D U M

In reply refer to:
SU-058-31A

S E C R E T

To: Members of the Enemy Oil Committee
Members of the Western Axis Subcommittee

From: S. H. Grove *B.H.G.*
Executive Secretary
Enemy Oil Committee

Subject: Transmittal of Minutes of British Enemy Oil Intelligence
Committee Meeting No. 45/14, and Copies of the Weekly
Survey of Axis Oil Production No. 38 and 39

Enclosed herewith please find a copy of the Minutes of the Ministry
of Economic Warfare's Enemy Oil Intelligence Committee Meeting held
in London on April 10, 1946. Also enclosed are copies of the Weekly
Survey of Axis Oil Production No. 38, dated April 5, 1946, and No. 39,
dated April 11, 1946.

For security purposes, you are charged out with and held responsible
for Copy No. 32.

Enclosures-3

Major James L. Luke

3 May 1945

Mr. Brandon H. Grove
Executive Secretary, Enemy Oil Committee
1409 Temporary "U" Building
12th and Constitution Ave, N.W.
Washington, D. C.

Dear Mr. Grove:

Since my letter to you under date of 17 March, some of the material loaned by this office to Mr. Ulrich has been returned, but a great part of it is still outstanding. /

Our original agreement with Mr. Ulrich contemplated the return of this material within a relatively short time, and this time was well past when I wrote to you in March.

It is important to us at this time to get our files in good shape and I do not think it is unreasonable to ask that Mr. Ulrich return the material promptly.

Very truly yours,

JAMES L. LUKE
Lieut Colonel, Air Corps
Actg Chief, European Branch

THE JOINT CHIEFS OF STAFF
WASHINGTON

JOINT INTELLIGENCE COMMITTEE

ENEMY OIL COMMITTEE

In reply refer to:
SU-959-BHG

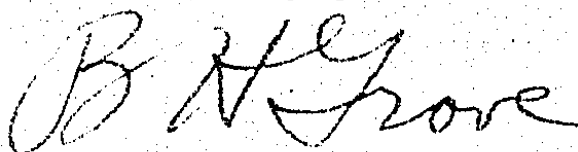
MAR 20 1945

Major James L. Luke
AC/AS, Intelligence
3E-172 Pentagon Building
Washington 25, D. C.

Dear Major Luke:

I wish to acknowledge your letter of 17 March, 1945, and to note that I will immediately get in touch with Mr. Ulrich with a view to having him return to the Air Forces all of their material which is not in current use, and to insure that the return of the remainder be expedited in every way.

Sincerely yours,



B. H. Grove
Executive Secretary
Enemy Oil Committee

17 March 1945

Mr. Brandon H. Grove
Executive Secretary, Enemy Oil Committee
1409 Temporary "U" Building
12th and Constitution Avenue, N. W.
Washington, D. C.

Dear Mr. Grove:

On 19 December 1944 Mr. M. L. Ulrich, Enemy Oil Committee, borrowed from this office a considerable amount of material on the German oil situation. Additional material was borrowed on subsequent dates.

Mr. Ulrich has retained this material much longer than he originally indicated would be necessary. We would appreciate your communicating with Mr. Ulrich and arranging for the prompt return of the documents.

Sincerely yours,

JAMES L. LUKE
Major, Air Corps
Actg Chief, European Branch

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D.C.

In reply refer to:
SU-959-MSI

ENEMY OIL COMMITTEE

RESTRICTED

M E M O R A N D U M

To: Members of the Enemy Oil Committee

From: B.H. Grove, Executive Secretary
Enemy Oil Committee

Subject: Transmittal of Press Abstracts.

We are enclosing herewith a copy of the 16 April 1945 issue of Press abstracts compiled by the Interdepartmental Committee for the Acquisition of Foreign Publication.

Enclosure

Major Luke ✓

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

ENEMY OIL COMMITTEE

MEMORANDUM

In reply refer to:
SU-959-MLA

SECRET

To: Members of the Enemy Oil Committee
Members of the Western Axis Subcommittee

From: B. H. Grove *B.H.G.*
Executive Secretary
Enemy Oil Committee

Subject: Transmittal of Minutes of British Enemy Oil Intelligence
Committee Meeting No. 45/13, and a Copy of the Weekly
Survey of Axis Oil Production No. 37.

Enclosed herewith please find a copy of the Minutes of the Ministry
of Economic Warfare's Enemy Oil Intelligence Committee Meeting held
in London on March 27, 1945. Also enclosed is a copy of the Weekly
Survey of Axis Europe Oil Production No. 37, dated March 30, 1945.

For security purposes, you are charged out with and held responsible
for Copy No. 33.

Enclosures-2

Major James L. Luke

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington, D.C.

In reply refer to:
SI-959-151

RESTRICTED

Enemy Oil Committee

MEMORANDUM

To: Members of the Enemy Oil Committee
From: R.H. Grove, Executive Secretary
Enemy Oil Committee

Subject: Foreign Press Abstracts

We are enclosing herewith a copy of the 2 April 1945 issue of
Press abstracts compiled by the Interdepartment Committee for the
Acquisition of Foreign Publications.

Enclosure

Maj. Luke

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

ENEMY OIL COMMITTEE

M E M O R A N D U M

In reply refer to:
SU-959-GB

S E C R E T

To: Members of the Enemy Oil Committee
Members of the Far Eastern Subcommittee
Members of the Western Axis Subcommittee

From: B. H. Grove *BHG*
Executive Secretary
Enemy Oil Committee

Subject: Transmittal of Minutes of British Enemy Oil Intelligence
Committee Meeting No. 45/10.

Enclosed herewith please find a copy of the Minutes of the Ministry
of Economic Warfare's Enemy Oil Intelligence Committee Meeting held
in London on March 6, 1945.

For security purposes, you are charged out with and held responsible
for Copy No. 28. *Maj Luke*

Enclosure

cc: Major James Luke, Pentagon Building

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

ENEMY OIL COMMITTEE

M E M O R A N D U M

In reply refer to:
SU-959-MLA

S E C R E T

To: Members of the Enemy Oil Committee
Members of the Western Axis Subcommittee

From: B. H. Grove *B.H.G.*
Executive Secretary
Enemy Oil Committee

Subject: Transmittal of Copies of the Weekly Survey of
Axis Oil Production

Enclosed herewith please find copies of the Weekly Survey
of Axis Europe Oil Production No. 35, dated March 7, and
March 15, 1945.

For security purposes, you are charged out with and held
responsible for Copy No. 31.

Enclosures-3

Major James L. Luke

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D.C.

In reply refer to:
SU-959-MEI

Enemy Oil Committee

MAR 26 1945

MEMORANDUM

To: Members of the Enemy Oil Committee

From: B.H. Grove
Executive Secretary
Enemy Oil Committee *B.H.G.*

Subject: Foreign Press Abstracts

We are enclosing herewith a copy of the 19 March 1945 issue of Press Abstracts compiled by the Interdepartmental Committee for the Acquisition of Foreign Publication.

Enclosure

Maj. Luke

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

In reply refer to:
33-959-181

M E M O R A N D U M

To: Members of the Energy Oil Committee

From: B. H. Grove, Executive Secretary
Energy Oil Committee

Subject: J.I.C. 147/2

B. H. Grove

The enclosed copy of J.I.C. 147/2, "The Status of the EOC",
is for your records.

Enclosure 1

cc: Major Luke

Copy No. 54

CONFIDENTIAL

J.I.C. 147/2

22 February 1945

JOINT INTELLIGENCE COMMITTEE

THE STATUS OF THE ENEMY OIL COMMITTEE

References: a. J.I.C. 76/7
 b. J.I.C. 147 Series

Report by the Enemy Oil Committee

THE PROBLEM

1. To review pertinent factors bearing on the present status of the Enemy Oil Committee, and to make recommendations as to the future status of that Committee.

FACTS BEARING ON THE PROBLEM

2. The Enemy Oil Committee was established in October 1942, by voluntary agreement by those agencies of government, in Washington, which had a priority interest in questions related to enemy oil, and with assistance from British government representatives, who wished the establishment of a U.S. committee corresponding in function to the British Hartley Committee. The Enemy Oil Committee became a Subcommittee of the Joint Intelligence Committee on 15 September, 1943, by informal action of that body.

3. The basic ends served by the Enemy Oil Committee have been:

a. To establish a clearing and coordinating center for the various U.S. agencies working on enemy oil, in order that all sources of information and facilities available in government be pooled, and to insure that only reports on enemy oil agreed to by all concerned would receive circulation; thus eliminating duplication and conflicts.

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U. S. C., 31 and 32, and its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

CONFIDENTIAL

b. To provide a U.S. body for evaluating reports of British origin dealing with enemy oil, and to coordinate British and American data and opinions.

c. To insure that the records, and the technical and personal experience available from the foreign operations of the oil industry be utilized in full for the assessment of the enemy oil position.

4. Present experience is demonstrating that the coordinated reports and statistics obtained by the pooling of facilities and personnel, as outlined in paragraph 3 above, are, with respect to the European Axis, of the greatest service in estimating the potential oil supplies which might be obtained from enemy countries by our occupying troops for the furtherance of the war effort; and such data are indispensable to the planning of any disarmament controls with respect to oil. It is essential that adequate data for these purposes continue to be accumulated in regard to the Far Eastern Axis oil economy, and that they be available to all agencies of government charged with their use.

DISCUSSION

5. During the more than two years in which the Enemy Oil Committee has been in existence, the basic ends enumerated in paragraph 3 have been in large measure fulfilled. The data and experience of industry have been nearly exhausted during the course of reappraisals of the enemy oil position and these data become less applicable as the war progresses in time. The oil position of the Western Axis has become a matter primarily of operational concern.

6. With respect to the Far Eastern Axis, future evaluations of the oil position will depend almost entirely upon information obtained through the facilities of the Air, Naval and Ground Forces. Therefore, this activity has properly become the responsibility of the military intelligence agencies.

CONFIDENTIAL

7. There will continue to be need for interpreting the data available through military intelligence in the light of the operational experience of the petroleum industry and of first-hand knowledge of oil and other conditions in the Far East.

RECOMMENDATIONS*

8. That the Enemy Oil Committee make no further effort toward assessing the strategic oil position of the German and the Japanese Axis.

9. That, with the completion of those of its other projects currently in progress, but in any event not later than 30 June, 1945, the Enemy Oil Committee be disbanded.

10. That responsibility for future assessments of the Japanese oil position be given to a group comprising the military intelligence agencies, with such aid from the civilian agencies as this group may find necessary or desirable. It is recommended that this working group be formalized under the sponsorship of one of the military agencies, in order that there be no duplication of effort, or conflict in interpretation, as between the respective military agencies.

11. That liaison with the interested British military agencies be maintained through appropriate channels.

* In making the above recommendations, we understand that the military group will make available to the other properly interested agencies of government, copies of their periodic reports assessing the oil position of either Germany or Japan. We further understand that the military agencies will make available to the interested civilian agencies such data regarding the Japanese oil economy as may be required for the adequate information of the civilian agencies in connection with problems of the transition and post-war periods for which they have responsibility.

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

ENEMY OIL COMMITTEE

M E M O R A N D U M

In reply refer to:
SU-959-MLA

FEB 23 1945

S E C R E T

To: Members of the Enemy Oil Committee
Members of the Far Eastern Subcommittee
Members of the Western Axis Subcommittee

From: B. H. Grove *B.H.G.*
Executive Secretary
Enemy Oil Committee

Subject: Transmittal of Minutes of British Enemy Oil Intelligence
Committee Meeting No. 45/6, and a Copy of the Weekly
Survey of Axis Oil Production No. 31

Enclosed herewith please find a copy of the Minutes of the Ministry of Economic Warfare's Enemy Oil Intelligence Committee meeting held in London on February 6, 1945. Also enclosed is a copy of the Weekly Survey of Axis Europe Production No. 31, dated February 8, 1945.

For security purposes, you are charged out with and held responsible for Copy No. 26.

Enclosures-2

Major James L. Luke ✓

TOP SECRET This document should be kept under lock and key. Most of the information which it contains comes from secret sources.

AO 250/14

Copy No. 26

EMERGENCY INVESTIGATION COMMITTEE

MEMORANDUM ADVISORY BOARD (F.O. and M.E.W.)

FEBRUARY 6TH, 1945

NO. 45/6

Present:	Mr. G.F. Thompson	F.O. & M.E.W.
	Mr. E. Herbert	" " "
	Miss C. Martin	" " "
	Mr. A.B. Moore	" " "
	Capt. G.H. Fellock	War Office
	Capt. A.L. Sisson	" "
	Mr. A.F.S. Smith	F.O. & M.E.W.

1. GERMANY: Pöhlitz (11/2)

(a) The air attack on Pöhlitz just before Christmas 1944 resulted in very considerable damage to the plant and production was reduced to a quarter of full capacity.

At one time the plant was producing about 2 million litres a day.

(b) Air cover two days after the raid just before Christmas showed that the plant was then inactive. Cover obtained the day before it was again attacked on January 14th showed that it was still inactive.

Source's estimate of full production capacity agrees well with our estimate of 600,000 t.p.a.

2. GERMANY: Redleben (4/1)

(a) 1. The Deutsche Hydrierwerke about 1 kilometre south of Redleben produces "Dehalin" and "Detalin" fuel for submarines, "adipinsäure" alcohol made from fats and methanol. The synthetic production of methanol was started very recently and the output is supposed to be 500 tons a month. Methanol is said to be used as a rocket propelling charge. The plant had not been bombed up to July 1944.

2. The factory at Redleben is 7 kilometres N.W. of Dessau. The plant produced tetralin, a solvent used in the manufacture of synthetic oil. Its annual capacity was 400,000 tons. In August 1944 the factory was in good condition and had suffered no bomb damage.

(b) The Deutsche Hydrierwerke of Redleben, as their name implies, originally started as experts in hydrogenation processes. In the early period of 1930/35 they specialised in the manufacture of sulpho-nated higher alcohols, e.g. laurylsulphonate, which were used as securing agents and detergents for machinery, steel etc., as wetting agents in the textile industry and finally as agents in metal separation.

It is quite natural that they should make both Tetralin and Dehalin (or Redalin) which are both hydrogenation products of naphthalene. Dehalin and Tetralin both have similar uses. Tetralin is recommended as a scrubbing agent for casing-head gas and for the washing of coke oven gas for the extraction of benzol, toluol etc.

Dehalin /

Dekalin is used as a torpedo fuel and could also be used as a motor fuel.

The capacity figure of 400,000 tons is obviously incorrect as the naphthalene would not be available to make this quantity.

Rodleben was also believed to be engaged in the manufacture of synthetic soaps of the MERSOL variety and probably because of that it was absorbed by Henckel & Co., somewhere about 1937 or 1938.

3. GERMANY: Salzbergen (P/W)

(a) The important synthetic oil plant "Hydrierwerke Salzbergen" is located between the Rhine-Lingen and Rheine-Bontheim railways. In April 1944 the plant seemed to be working at full capacity. The synthetic oil plant was attacked unsuccessfully in April 1944 and remained undamaged.

(b) The Wintershall refinery at Salzbergen so far as is known is a straight crude oil refinery with a small cracking plant. The plant was last attacked in August and cover of January this year shows that it is apparently working to its full capacity of some 60,000 t.p.a.

The plant was extended in 1941-42, the additions being carefully camouflaged, and for a considerable period in the Autumn of 1944 the refinery was idle although no damage could be detected in air cover which might have caused such a long stoppage of work.

4. GERMANY: Underground Plant (Civ. Int.)

(a) The construction of a large underground plant for synthetic oil manufactured from brown coal was started in May 1944 outside Bergheim; work was still going on in early September. A new coal mine has been opened to supply this plant which is to replace Wesseling.

(b) The dismantling of Wesseling continues and there has not yet been any firm evidence of the destination of the dismantled equipment. Bergheim lies in the valley of the Moselle roughly half way between Cologne and Jülich.

5. GERMANY: Reported Underground Oil Plant (Xc)

(a) There is an underground factory believed to be producing synthetic gasoline at Innenstaad, 10 km. west of Friedrichshafen. The plant has been bombed once.

(b) While there may be an underground factory at Innenstaad it is very improbable that it is for the production of synthetic oil. No raw materials are available locally and there has not been one previous report that there is any oil production in this area. It is probable that this report refers to a liquid oxygen plant.

6. GERMANY: Reported Plants.

(a) 1. The original V1 research plant at Peenemünde was destroyed and moved to caves near Niedersachswerfen. These caves were built in 1937 as underground oil storage and are about 4 miles N.N.W. of Nordhausen and about 1½ miles S.W. of Niedersachswerfen. The caves also contain equipment for producing fuel for the jet fighter. In July 1944 a very large cave was being carved out of the Himmelsburg, 3 miles W. of Niedersachswerfen, for the purpose of installing an underground synthetic oil plant. The size of the proposed cave was 800,000 cubic metres. (P/W).

6. A gasoline plant partly underground is located 2 1/2 kilometres from Hecklinhausen on the right of the road from Ilberten to Hecklinhausen. It produces 30 tank cars per day. (Xo).

7. There is a synthetic oil plant called "Lanta" on the railway-line between Hoyerswerda and Ruhland. This plant is said to be quite separate from the well-known Ruhland plant (Xo).

(b) 1. The WFO organization has been reported at Niedersachswerfen and the report that the excavations were originally for oil storage purposes would explain this association, and parts of the complex may still be used for this purpose. On the other hand it is believed that there was a plant at Peckauf for the production of rocket fuels and it is possible that this plant may have been moved to Niedersachswerfen, which might give rise to reports of synthetic oil production. The reference to separate excavations in the Hirschsburg is intriguing and add weight to the possibility of some form of synthetic oil production in the area. Such an enterprise might well have started last July.

7. GERMANY: Rohöl Kraftstoff I. (Captured Document).

A special fuel, designated "R.K. I." (Rohöl Kraftstoff I, i.e. crude oil fuel, hazard class I), was to be supplied to all Diesel-oil stations for the use of Lanz-Bulldog tractors, for which only it is suitable.

Any mixing with ordinary D.K. (Diesel Kraftstoff, i.e. Diesel Oil) was to be avoided in all circumstances. "R.K. I" was to be transported in special tank-wagons (marked with a white cross) and drums, never in tank-trailers.

The following depots were chosen by the Zentral Büro für Mineral Öl (Mineral Oil Center) for storing and distributing R.K.I.:-

Place	Firm	Number of Tanks	Capacity (in thousand litres)
Bassbach	S. Fritschheit	1	15
Birkfeld	DAFC	2 and 1	30
Darstadt	DAFC	2 and 3	18 and 31.3
Heidelberg	DAFC	2 and 3	30 and 31.3
Mutterfeldhofen	Rhona	Drum storage	
Richtershausen	Rhona	4	50
Woblenz	GLM	3 or 6	25
Krogersbach	GLM	1	30
Landau	Rhona	Drum storage	
Linsburg	DAFC	1 B	20
Mainz	E.V.	1	70
Marbach	DAFC	32	30
Mosfeld	DAFC	11	32
Schuldenstein	Rhona	2	13
Firnshausen	DAFC	1	30
Saarnbrücken	DAFC	3	31
Trier	DAFC	4	30
Wiesbaden	DAFC	3	30
Wiesbaden	GLM	4	34,7
Zweibrücken	Rhona	Drum storage	

Diesel Oil Centres:-

Hunsrück	Joh. Schaefer	ix drums
Neckar	Karl Supper	ix drums
Werra	Franz Richter	ix drums

(From a circular dated 7 July 1944).

8. GERMANY: Conversion of Tanks to Producer Gas (X3)

(a) It is reported that the greater part of 500 tanks, including 300 new Tiger and 200 reconditioned Russian T.34 models, located at the Schlosspark, Neudorf, Vienna were converted to use producer gas between November 15th and December 15th, 1944.

(b) Conversion of small numbers of tanks to operate on producer gas has previously taken place, but these have been used for instructional purposes only. The number converted according to this present report, if confirmed, is too great to be for this purpose and the reference is that these vehicles are to be used for fighting purposes. The park referred to is known to have been engaged in the repair of both tanks and self-propelled guns and it is possible that the latter are referred to.

Conversion of either tanks or S.P. guns for operational use is not an impossibility, however. A dual fuel system could be used, producer gas being employed only in the course of moving into action. The producer gas unit could be armoured to give protection against small arms' fire, the gas generator being particularly vulnerable to small air leaks.

In view of the present serious state of the enemy's oil supply position, it is possible that every effort will be made to ensure reliability of such vital weapons as tanks or self-propelled guns.

9. GERMANY: Eberhausen (Air Dec.)

Ground sources have reported two dummy installations in the neighbourhood of the Eberhausen G.A.F. fuel depot. Neither of these decoys can be traced and they appear to have been mis-reported. Good cover however, shows that a depot 14 miles W. of Orlenbach in a small wood is a dummy and an almost perfect replica of Eberhausen. Both decoys appear to have 15 tanks but the dummy railway siding at the decoy can be seen not to be connected with the main railway line.

10. GERMANY: Shortages

First Army interrogation reports for the last few days of 1944 contained many accounts of engine trouble and other mechanical defects among tanks as well as motor transport generally. Yet examination to date of captured specimens reveals no inferiority in the quality of material used for their manufacture. There are too many of these reports for them to be attributed to the ordinary ills to which badly maintained vehicles are constant heirs. Moreover, since some of the offending vehicles were perfectly new, it may plausibly be suggested that inadequate running in all the vehicles before they were operationally employed was the reason for these defects.

A PW has been four weeks in a tank driving company at Paderborn. No tank driving was practised and all training was done with stationary tanks owing to the lack of fuel. Later a secondary training was given in which a certain amount of driving was permitted. For these purposes the tanks were adapted to use propane gas but only one flask could be used per tank per day or enough for about 1 km. of driving. (P/W).

11. GERMANY: Plant Demolition and Evacuation

Attached to these minutes as an Annex is a report on German plans and practice with regard to the demolition or evacuation of industrial plants in threatened areas.

12. AUSTRIA: Shortages (No)

(a) The area commandant at Vienna and the ancillary services have had no fuel since November 15th. All motor vehicles except those which have been converted to producer gas are idle owing to the destruction of the town fuel reservoir and the breakdown of methane at Eistersdorf since November.

Three U.S. military commands near Vienna, St. Pölten and Linz had no fuel issued to them in the period Dec. 1-14th. As a result of this they had to use their diesel fuel reserve and there have been no sorties since December 10th.

(b) The reason for the breakdown of the supply of natural gas from Eistersdorf is not known. It is unlikely that there would be any sudden change in demand and a mechanical failure in distribution should have been subject of repair.

13. YUGOSLAVIA: Refinery (No)

(a) German M.T. continually collects fuel from Astra petrol refinery between Zagreb and Vrapce.

(b) It is believed that this is the small refinery which has previously been referred to as Sveta Klava.

FAMILY OIL INTELLIGENCE COMMITTEE

NO. 145/6

NO. 145/6

J.1 JAPAN: Oil Supplies

Included in Koiso's proposals to meet Japan's "gravest situation since the outbreak of the Greater East Asia War" is an increase in the production of liquid fuel both at home and on the Continent. This and other war industries is to be developed as far as possible on a local self-sufficiency basis.

J.2 JAPAN: Lubricating Oil Stocks (P/W)

(a) Pre-war lubricating oil stocks are practically depleted and from the last estimate we heard that there was not more than one year's supply left. Civilians and small boats have to use fish oil. Also, much castor oil is being used, but lubricants made from Soya beans are unsatisfactory. In order to increase their stocks of lubricating oil, imported fuel oil stocks are re-processed to extract the lubricating oil they might contain. Also used lubricating oils are always reclaimed and re-processed.

(b) Japanese lubricating oil stock position is believed to be tight and it seems reasonable to suppose that mineral lubricants are available only to essential war industries. There is good evidence that the Japanese are endeavouring to increase the collection of used mineral and vegetable oils for regeneration.

J.3 JAPAN: Oil Supplies (Broadcast 28.1.45. in Japanese)

During today's budget session of the Diet Yoshida, Minister of Munitions said that for the supply of liquid fuel we cannot depend upon the southern regions only as difficulties may arise. Therefore we are going to depend in future upon Japan, Manchuria and China.

In addition we shall attach more importance to the alcohol extracts from potatoes and develop good oilfields already working.

J.4 MANCHURIA: Castor Oil Production (Press)

The production of castor oil in Manchuria was 47 tons in 1943. 1,600 tons are to be produced in 1944.

J.5 SUMATRA: Belawan Oil Tanks (Air Rec.)

An attack on harbour warehouses, railway yards and oil installations at Belawan towards the end of December.

Clouds obscured the target area but one petrol tank and an oil tank are known to have been set on fire.

J.6 EAST BORNEO: Tandjoeng Oilfield (Interrogation Report)

(a) Informant had heard that Babirik was a big oil storage area, the wells being in Koeroengpoedak, north of Amoentai. The oil was transported from the wells to Babirik by prahoe, thence by boat to the refinery at Balikpapan.

(b) This report (Sept. 1944) presumably refers to the Tandjoeng oilfield where it is known test wells existed, but the production was never exploited and the test tanks were emptied before the outbreak of

hostilities. /

hostilities. The Japanese claim to have been working the Tandjoeng oilfields but it would appear improbable from the above report that much headway has been made.

5.7 BORNEO: Refineries and Tank Installations (Air Rec.)

Status of Borneo Oil Targets. November saw the photographic coverage of all the major oil installations in northern Borneo with the exception of the Seria field and its tank farm. Up to mid-December all the photographed targets were attacked with the main effort concentrated on Tarakan. Minor strikes were made against Lutong, but Balikpapan was unmolested.

Balikpapan. The only attacks here during the period under review (2 November to 20 December) were on the Dendang Bridge pipeline between Sanga Sanga and Langgar. This was claimed hit and would temporarily cut off crude from the fields to the refineries at Balikpapan.

Some bombs were dropped by single airplanes in the refinery area at Balikpapan. However, the situation is as was described in 44/47 J.5 after the heavy strikes in October. Actually since October much repair work will have been done and it is possible that the vital Paraffin and Lubricating Oil Refinery, only mildly damaged in October, may be repaired and operating.

Tarakan. The oil installations on Tarakan Island have been attacked on numerous occasions and much is now damaged. The first major strike was on 16th November. Two more major attacks followed on 9 December and 10 December. Other attacks by two or three airplanes occurred on 11 and 14 December. Latest photographs are those of 10 December.

Present Status of Tarakan Oil Industry. The supply of crude from Lingkas and Pemoesian must be regarded as seriously curtailed. Three-quarters of the storage tanks are destroyed or damaged together with most of the machine shops area at Tarakan. It is probable that the Japanese can still export some oil direct from the fields to the few remaining tanks at Lingkas, but it will be hard work for little return. Details follow:

Originally there were 16 tanks in the Lingkas Tank Farm. It is probable that ten of these are destroyed and others possibly damaged. Moderate damage has been done to both loading piers and many buildings are destroyed along the waterfront.

Main damage at the Pemoesian Tank Farm and Tarakan Machine Shops was done on 16 November when the "Industrial" area NE of the tank farm was largely destroyed. This area included the RR yard, workshops, main power and Pumping stations and much storage space.

In the tank farm eight of fifteen tanks are destroyed and two damaged. Bomb craters throughout this area indicate probable damage to pipelines, etc.

Miri-Lutong Refinery. This area was fully described from photographs dated 26 October appearing in 44/49 J.5. Up to the date of this report there have been no major attacks on the target. Small airplane formations dropped a few bombs on 10 and 12 December and hits were claimed on the refinery and buildings adjacent to it.

Only photographs (12 December) so far of this damage show a bomb burst in the refinery tank farm but no tanks were destroyed. The roof of the boiler house S of Trambel Unit No. 3 appears damaged and one smoke stack has gone. The boiler house of the refinery and buildings adjacent to it are damaged.

The Lutong refinery appears only superficially damaged and if refining was stopped it would only have been temporary.

Seria Tank Farm. No photographs have been received of this tank farm and jetty at Seria (30 miles NE of Miri) so that no assessment can be given.

ANNEX.

No. 45/6

Evacuation and Destruction of German War

Captured enemy documents and the interrogation of a prisoner of war have given a clearer picture of the enemy plans for "scorched earth" when retreating within Germany. This evidence confirms that the German Government are determined to carry out a policy of evacuation of industrial machinery and key personnel, with the alternative of immobilisation of plants in cases where evacuation is impossible. The failure of the enemy so far to carry out this policy as ruthlessly as the Government would like may have been caused partly by the passive resistance of the German industrialists, partly by difficulties in transporting evacuated materials, and partly by faulty organisation in the threatened areas.

It is possible that one fundamental reason is that there are a variety of authorities with responsibilities for supervising the work. The threatened areas have been divided into civil and military zones, with a similar division of authority.

In the military zone, the Army commander is the responsible authority, with the exception that special naval and air installations are dealt with by the Naval and Air Force High Commands. So far as can be gathered from the available evidence, it seems that in practice, orders are issued by the Q.M. General of the Army Group and are carried out by the FELEWERTSCHAPTKOMMANDO.

In the civil zones the Gauleiters and Reich Defence Commissions have the responsibility for controlling all evacuation and destruction. These authorities have delegated responsibility to the RUSTUNGSKOMMANDOS of the REICHSMINISTER FÜR RUSTUNGS UND ERNÄHRUNGSVERSORGUNG, who in turn have issued orders to factory managers holding them personally responsible for seeing that all measures are carried out. According to a prisoner of war, the civil zones are all areas beyond a radius of 20 km. of the battle front.

A secret order dated 7th September from the President of the RUSTUNGSKOMMANDO VI (B) of the REICHSMINISTER FÜR RUSTUNGS UND KRIEGSPRODUKTION to a factory manager in Aachen outlines the procedure to be followed by industrial plant in threatened areas. When the order to prepare plans for evacuation is received, the factory manager is required to make a report to the RUSTUNGSKOMMANDO within twenty-four hours upon the methods that he intends to adopt.

If he follows the instructions of the RUSTUNGSKOMMANDO implicitly, the factory manager selects certain members of his staff to act as his assistants, pledging them to secrecy, and makes arrangements for the transfer of plant to other factories in Germany when the emergency arises. He is advised to evacuate to a branch of his own firm if this is possible.

All machinery is marked with paint so that it can be moved at short notice. The figure "I" indicates all big machinery and installations essential for the final stages of production; "II" indicates all other machines and installations which are important for war and armament; "III" is used for the remaining machines and installations. Presumably these figures indicate the order of priority for evacuation. Particular attention is paid to tools and machine tools and factories are ordered to evacuate at once any that are not being used.

The plants continue to operate at maximum capacity, but all stocks of raw material and half-finished products are reduced to cover 14 days'

/ requirements

requirements and incoming stock is reduced to cover an eight-day period. Finished products are shipped as quickly as possible, and the RUSTUNGS-KOMMANDO has ordered that in no case are more than three days' production to be retained at the factory.

Special attention is paid to the disposal of valuable documents. All plans, drawings, and blueprints which are not needed for current production are to be evacuated at once; those needed and remaining are to be taken away in case of evacuation, or destroyed if this is impossible.

The plans for immobilisation are of particular interest. "By removal of vital parts," says the RUSTUNGSKOMMANDO circular "the enemy is to be prevented from making use of the plant in the near future. The plan for immobilisation should specify exactly which parts are to be removed from machines and installations. Preparations for shipment should be made, and dismantled parts should be marked and tagged to facilitate a rapid reinstallation. In identical machines, remove identical parts. Remove dismantled parts also from spare part stocks. Establish hiding places where parts can be hidden if evacuation is not possible, e.g., exchange such parts with a neighbouring plant which is adopting the same procedure. Previous experience has shown that hiding by burial is useless".

The signal for evacuation and immobilisation is given only by the President of the RUSTUNGSKOMMANDO or on his instructions. This order is sent personally to the factory manager or to his nominated deputy. According to another captured document, the RUSTUNGSKOMMANDO can call upon the Army to provide engineers, transport, explosives, etc.

So far as can be gathered, all such measures are taken while an area is still a civil zone. The policy to be followed when it becomes a military zone is laid down in a German High Command order dated 6th September, 1944.

The order leaves it to the Commander to decide whether installations should be evacuated, immobilised or demolished, but lays down certain general principles. Objectives which serve the immediate prosecution of the battle are to be demolished. In the case of other objectives, the advantages and disadvantages of demolition in areas which probably will soon be recaptured are to be taken into account. Within the territory of the Reich, normally the authorities should refrain from demolition measures. In cases of doubt, a decision should be obtained from O.K.W. (West/Qu.).

In the oil industry, the Führer has specially decreed that installations may be removed or neutralised, but the confirmation of the I.K.W. (West/Qu - Operations Staff) should be secured before any steps are taken by the Army to demolish such installations.

When an area becomes a military zone and the Army is responsible for all further measures, it is intended apparently that the FELDWIRTSCHAFT-KOMMANDOS should carry out such immobilisations and evacuations as have not been completed during the civil period. The channels through which they receive their commands are not known.

According to the interrogated prisoner of war, there were seven FWKS operating on the Western Front in November. The dispositions were as follows: FWK 9 had the section from Belfort North to approximately Remiremont; FWK 13 had the section from Remiremont about half-way north to Trier; FWK 12 operated from the end of FWK 13's section to Trier; from Trier to the end of the German line in Holland, there were four other units which were to be responsible for the areas behind the remainder of the front, including the Ruhr.

FWK 12 consisted of about 125 men, of whom 7 were administrative officers and 12 were specialist officers. It had 10 passenger cars and light 2½- and 3-ton trucks. For operational purposes it was divided into a headquarters staff and two working groups.

WEEKLY SURVEY OF AXIS EUROPE OIL PRODUCTIONNo. 31 - 31st February, 1945.

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 deductions from air cover; the forecast of future output takes into account the enemy's potential repair 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 February 4th.

I. ATTACKS.

The following attacks have been made since our last report:-

<u>Date</u>	<u>Location</u>	<u>Company</u>
31.1	MOOSBIERBAUM	Donsu Chemie
"	DORTMUND	Gelsenkirchener Bergwerks (MANSA Benzol Plant)
"	DUISBURG-HAMBORN	Gelsenkirchener Bergwerks (BRUCKHAUSEN Benzol Plant)
1.2	MOOSEBIERBAUM	Donsu Chemie A.G.
"	DUISBURG-HAMBORN	Gelsenkirchener Bergwerks (BRUCKHAUSEN Benzol Plant)
2.2	WANNE BICKEL	Krupp Treibstoff
3.2	MAGDEBURG	Brabag
"	BOTTROP	Rheinische Stahlwerke (PROSPER Benzol Plant)
"	DORTMUND	Gelsenkirchener Bergwerks (MANSA Benzol Plant)
4.2	OBERHAUSEN	Güschhoffnungshütte (OSTERFELD Benzol Plant)
"	GELSENKIRCHENER	Gelsenkirchener Bergwerks (NORDSTERN Benzol Plant)

II. EFFECTS ON PRODUCTION.

Revised estimates of monthly production are given in Table I and are summarized below. Production in January is estimated at 365,000 tons (27% of pre-raid normal). In the absence of further

attacks,

attacks, and assuming minimum results from recent raids on which full information is not yet available, the maximum production to be expected in February would be about 460,000 tons; if, however, the recent attacks should have been successful in keeping the attacked plants out of action throughout February, production would not exceed about 319,000 tons of oil products.

		Monthly Total for Month	
		Oil Products	Aviation Fuels
Pre-raid normal output		1,300,000 (100%)	550,000 (100%)
Estimated Production in 1944	September	311,000 (24%)	101,000 (18%)
	October	307,000 (24%)	100,000 (18%)
	November	450,000 (35%)	170,000 (31%)
	December	419,000 (32%)	140,000 (25%)
	1945	January	355,000 (27%)
	February	310,000/460,000 (23%/34%)	60,000/130,000 (11%/24%)

Revised estimates of the output of the principal refined products are given in Table II and are summarized below:-

	% of pre-raid normal output	
	January	February
Gasoline	19%	24%
Kerosene	12%	17%
Gas/Diesel Oils	35%	53%
Fuel Oils	42%	46%
Lube Oils	10%	23%
TOTAL	27%	34%

III. CONDITION OF PRODUCING PLANTS.

(a) Synthetic Plants: (1) Terminus Hydrogenation Plants.

The Western plants continue to be out of action and no repairs have been observed except at SCHOLVEN where the work makes very slow progress.

There is as yet no definite news of the capture of the BLECHHAMMER plants by the Russians but it is thought that production will have ceased.

There is still no good post-raid cover of POLITEZ, LEUKA and ZNITZ and in its absence it must be expected that at least the first of these plants will be in a position to resume production soon, if it has not already done so. The Russian advance in POMERANIA however has penetrated to points less than 50 miles from the ODER estuary.

Further examination of the latest cover of BRUX shows that the plant has suffered the worst damage of its career and that there is little prospect of resuming production for at least two months. As the refinery section has been severely damaged there is also the likelihood that this section can be used for crude refining.

The attack of February 3 on MACDLENBURG inflicted only moderate damage, but the plant was seen to have been stopped by the attack and may remain inactive for a few days before resuming production.

/Although

Although there has been no further cover, it may safely be assumed that EMMICH and LUXTHELDORF are in production at 75% or more of their normal capacity.

(b) Synthetic Plants (and) Major French Plants.

WAMBS ERNST suffered considerable damage in the attack of February 5 but is now believed to have been much delayed. The good cover for this plant is such that the rate of production will be reduced to the extent possible by the effects of past damage. Repairs are now being made that repairs had progressed at EMMICH, LUXTHELDORF and EMMICH which may resume limited production later in the month. Repairs in the order stream. Cover for February 5 shows that repairs have now begun at MOCHERG but it is likely to take several weeks to render this plant operable.

With DESCHOWITZ now probably in Russian hands (though its capture has not been confirmed), the only active Fischer plants are RUTLAND and LUXTHELDORF both of which are now thought to be working at 75% or more of capacity.

(c) German Refineries.

No cover is yet available to establish the status of the HARBURG (Rhensia) and MIEBURG refineries. Unless and until it can be established that the last attacks on these plants inflicted critical damage to vital units, it must be assumed that a sufficient period has now elapsed for the completion of normal repairs, and both plants are regarded as probably active.

A small, new refinery at LORENZBURG/HARPERMARE is now in at least partial production.

The smaller plants which are known to be active are:-

MANNHEIM
ROSTOCK
OSLAWAUSEN
REICHOLZ
SALZBERGEN

In addition it is possible that some of the smaller HAMBURG refineries have now resumed production.

(d) Austria: Refineries.

All the VIENNA refineries are believed to be active, though SCHWECHAT may have been temporarily stopped at the end of January. The refinery at MOOSBIERBAUM, though apparently complete when covered on January 16, had not then commenced production. It suffered a heavy blind attack on January 31 and a lighter visual attack on February 1; the results are not yet known.

(e) Czechoslovakia: Refineries.

KRALUPY, MORAVSKA OSEKAVA and KOLIN were all in production when last covered. DEBONA is also possibly active and some production may now have been resumed at FREIBICH. BRATISLAVA and NOVY BOHUMIN remain inactive.

(f) Hungary: Refineries.

ALMADAR, SEONY and PERFURDO remain in German hands and there is reason to believe that at least the first two of these are in partial production.

(g) General Plants.

Attacks have been made in the course of the week on the NORDSTADT, HAUSA, PROBLE and OSNABRÜCK plants with results which are as yet unknown. The results of the earlier attacks on the KAISERSHUTTEL, EWALD-FORTGEBUNG and SALZGITTER plants are also still unknown.

The heavy attack of January 22 on BRUCKHAUSEN is seen to have inflicted severe damage and the plant will probably be inoperable for several weeks. Strike cover shows good hits on the GNEISEN plant in the attack of January 26 and production is likely to have ceased. The CONSOLIDATION I/VI plant was hit in an area attack on January 25 and is now inactive.

Of the plants damaged in earlier attacks, VICTOR and NEUNKIRCHEN are probably still inactive and CAROLINENGLUCK was still out of production when last covered, though apparently ready to resume. The two plants at WEIDEN (i.e. both the coke oven bench plant and the tar distillery) were seen, by the latest photographs, to be in partial operation. The CASTROP RAUXEL Tar Distillery, which received fairly heavy damage in the attack of January 6, was still inactive when last covered but may now have resumed at 50% of its former rate of production.

The following plants are all at least in partial production:-

SCHLEIBEN
ROBERT MÜBBER
ALMA PLUTO
MINSELER SMELT
VOLKLINGEN
LINZ
MORAVSKA OSTRAVA

ECONOMIC ADVISORY BRANCH
(E.O. and M.E.W.)
2nd February, 1945.

TABLE I

ESTIMATED OUTPUT OF AXIS OIL PLANTS FROM EXPERIMENTATION
AVAILABLE UP TO 31st FEBRUARY, 1945.
(All figures in thousands of metric tons per month).

	Normal Finished Products Output	Estimated output of Finished Products			
		Nov.	Dec.	Jan.	Feb.
<u>SYNTHETIC PLANTS</u>					
1. Bergius Hydrogenation	368	142	125	75	91
2. Fischer Tropach	112.5	18	36	22	44
Total from Synthetic Plants	480.5	170	159	104	135
Percentage of Pre-raid Total	100%	35%	32%	21%	28%
<u>REFINERIES: Normal</u>					
<u>Capacity</u>					
<u>Finished</u>					
<u>Products</u>					
<u>Output (B)</u>					
4. Germany	149 (From	48	41	23	60
5. France	260 avail-	0	0	0	0
6. Belgium	42 able	0	0	0	0
7. Holland	52 crude	0	0	0	0
8. Czechoslovakia	43 Note (C).)	20(A)	23(A)	11(A)	24(A)
9. Poland	78	8(A)	20(A)	18(A)	0(A)
10. Austria	54	17	22	51	91
11. Hungary	69	11	6	9	9
12. Italy	80	0	0	0	0
13. Yugoslavia	21	0	0	0	0
14. Albania	12	0	0	0	0
15. Roumania	740	0	0	0	0
	1580	697.5	104	111	113
Percentage of pre-raid total	100%	44%	16%	19%	25%
<u>GRAND TOTALS:</u>					
(i) Synthetic Plants	480.5	170	159	104	135
(ii) Crude Oil	697.5	104	112	113	184
(iii) Other Sources (D)	166	170	150	150	170
<u>TOTAL</u>	1344	434	421	367	459
Percentage of pre-raid total	100%	32%	31%	27%	34%

NOTE: (A) Assumed imports of crude to extent of available capacity.

(B) Crude oil refinery capacity less 10% for refining loss.

(C) Figures for normal finished products output from available crude by individual countries not indicated. Total figure is used for comparative purposes.

(D) From sources comprising benzol, alcohol, tar oils, etc., and including unrefined oils used as liquid fuels.

TABLE VI

ESTIMATED OUTPUT OF PRINCIPAL FRACTIONATED OIL PRODUCTS.

(All figures in thousands of metric tons)

	<u>PRE-RAID</u>	<u>RUSSIAN</u>	<u>COAL/DIESEL OILS</u>	<u>FUEL OILS</u>	<u>LUBR. OILS</u> ^{XX}	<u>TOTAL</u>
<u>Normal Pre-raid</u> <u>Monthly Output</u>	532	100	284	280	118	1344
<u>Estimated Output in January</u>						
From: <u>Soviet Plants</u>	46	-	28	-	1	75
<u>Piscine Trotsch</u>	14	2	11	-	2	29
<u>Refining of Mineral Oils</u>	13	10	44	34	12	113
<u>Other Sources</u>	28	-	25	65	12	150
<u>Total Resources</u>	101	12	108	119	27	367
<u>Percentage of Pre-raid Total</u>	19%	12%	36%	42%	18%	27%
<u>Estimated Output in February</u>						
From: <u>Soviet Plants</u>	55	-	33	-	5	91
<u>Piscine Trotsch</u>	22	2	18	-	2	44
<u>Refining of Mineral Oils</u>	26	15	76	48	19	184
<u>Other Sources</u>	25	-	22	67	11	110
<u>Total Resources</u>	128	17	149	130	35	459
<u>Percentage of Pre-raid Total</u>	24%	17%	53%	45%	23%	34%

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

SECRET.

TABLE III. CURRENT PRODUCTION STATUS OF PRINCIPAL OIL PLANTS.

5th February, 1945.

(Figures in brackets refer to normal monthly output of motor and aviation fuels in thousands of metric tons)

PRODUCTION STATUS	21 SYNTHETIC PLANTS	24 GERMAN REFINERIES	17 OTHER REFINERIES	25 BENZOL PLANTS
Category 1. IN FULL PRODUCTION		NIEFBACHEN (2.0) DORMMID/ HARPERWEG (2.0)		ROBERT MUGER (0.6) MILSETER STEIN (0.5) VOLKLINGEN (0.6) MOR. VSKL. OSTRAVA TAR (0.6)
Category 2. IN PARTIAL PRODUCTION (Continued by air cover)	DOLLER (12.5) DUNKENDORF (13.0) KUNLAND (14.0)	KONHEIM (Nil) ROSTEN (Nil) OSLUBSPAWLEN (Nil) REISCHLE (Nil) SALZBURGEN (Nil) DORMMID (Schmitz) (Nil)	VIENNA-LOBNU (0.9) VIENNA- FLORIEDORF (0.3) VIENNA-KIGM (0.2) KORNBURG (0.1) VIENNA-VOLEDORE (0.1) KRALUPY (0.1) MOR. VSKL. OSTRAVA (1.2)	HEIDENRICH BENZOL (0.9) SCHNEIDER BENZOL (0.7) ALM. ELITE (0.5) LITZ (0.6) HEIDENRICH TAR (1.0)
Category 3. PRACTICALLY IN PARTIAL PRODUCTION (Continued by air cover during)		HARBURG (Rhenania) (7.0) MISBURG (10.0) HAMBURG-GRASSBROOK (Rhenania) (Nil) HAMBURG-WILHELMSBURG (Schliemann) (Nil) HAMBURG-WILHELMSBURG (DEAG & Rhenania) (Nil) PRINE (Nil)	VIENNA-SCHNECHAU (0.5) BRANDUBICE (0.5) KOLIN (0.5) DUBOVA (0.5) ALM. SPUZITO (4.5) SZONY (2.5)	CAROLINENGLUCK (1.0) CASTROP-RAUXEL TAR (1.0)
Category 4. PRODUCTION TEMPORARILY SUSPENDED (damage to non-vital installations)	POLITZ (45.0) LEUNA (25.0) ZEITZ (12.5) MAGDEBURG (10.5)	HAMBURG-GRASSBROOK (Nil) (Albrecht & Schliemann) DOLLBERGEN (Nil)		CONSOLIDATION I/VI (0.5) GHEISENAU (0.5) NEUNKIRCHEN (0.6)

PRODUCTION STATUS	21 SYNTHETIC PLANTS	24 OTHER PLANTITIES	17 OTHER PLANTITIES	23 BENZOL PLANTS
<u>Category 5.</u> PRODUCTION SUSPENDED (Pending repair of vital installations)	BRUX (29.0) SCHOLVEN (30.0) NOMBURG (9.5) STASKRADE MOLTEN (5.0) CASSEPOP RAUHEL (4.5) ZAMBE (6.5) WITTE NICKEL (6.5) DORFBERG (4.0)	FLIPPBURG (Ebano) (2.0) HEIDE-HENNINGSFELDT (0.8) SCHULAU (Nil)		BRUCKHAUSEN (1.0) VICTOR (0.8)
<u>Category 6.</u> PRODUCTION SUSPENDED INDEFINITELY (Inoperable: no repairs)	NORDSTERN (30.0) MELCHLITZER SOUTH (31.5) WEISSLING (5.5) MELCHLITZER NORTH (9.0) DORTHOPE MELNIM (7.2) LINDVIGSLENN (7.2)	HAMBURG (Europa) (13.0) OSTERSMOOR (0.7) HAMBURG-NEUNOF (Schindler) (Nil) LEMMERICH (Nil) FRIITAL (Nil)	BRUNNEN (4.0) NOVY BOHEMIE (1.5) PAVLICE (2.5)	
<u>Category 7.</u> PRODUCTION STATUS UNKNOWN. (Post-paid cover awaited)			MOOSBILDBAUM (4.0)	NORDSTERN BENZOL (1.0) HANS. (1.0) PROSER (0.9) OSTERFELD (0.8) KAISERSTUHL (0.8) EWALD-FORTSLEUNG (0.6) SALZGITTER (0.8)

* In fighting zone; have probably been rendered ineffective.

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

In reply refer to:
SU-959-MUN

FEB 26 1945

Enemy Oil Committee

M E M O R A N D U M

To: Members of the Western Axis Subcommittee
From: B. H. Grove, Executive Secretary
Enemy Oil Committee
Subject: Transmittal of Press Abstracts.

B. H. G.

We are enclosing herewith a copy of the 19 February 1945
issue of Press Abstracts compiled by the Interdepartmental
Committee for the Acquisition of Foreign Publications.

Enclosure 1

cc: Major Irving E. Stark

FOREIGN ECONOMIC ADMINISTRATION

In reply refer to:
65-959-103

ARMY OIL COMMITTEE

SECRET

To: Members of the Army Oil Committee
From: E. H. Grove, Executive Secretary
Subject: Status of the Army Oil Committee.

B. H. C.

10/1/50

This is to confirm that there will be a meeting of the Committee on Friday morning, 16 February, at 10:30, in the office of the Chairman, Room 141 Department of State, to consider and discuss the above subject (see attachment).

Enclosure-1 (4 pp.)

cc: Maj. Luke ✓

February 12, 1946

S E C R E T

THE STATUS OF THE ENEMY OIL COMMITTEE

Report by the Enemy Oil Committee

THE PROBLEM

1. To review pertinent factors bearing on the present status of the Enemy Oil Committee, and to make recommendations as to the future status of that Committee.

FACTS BEARING ON THE PROBLEM

2. The Enemy Oil Committee was established in October 1943, by voluntary agreement by those agencies of government, in Washington, which had a priority interest in questions related to ^{ENEMY} foreign oil, and with assistance from British government representatives, who wished the establishment of a U. S. committee corresponding in function to the British Hartley Committee. The Enemy Oil Committee became a Subcommittee of the Joint Intelligence Committee on 15 September, 1943, by informal action of that body.

3. The basic ends served by the Enemy Oil Committee have been:

(2) To provide a U. S. body for ~~checking and~~ evaluating reports of British origin dealing with enemy oil, and to coordinate British and American data and opinions. (3) To insure that the records, and the technical and personal experience available from the foreign operations of the oil industry be utilized in full for the assessment of the enemy oil position.

4. Present experience is demonstrating that the coordinated reports and statistics obtained by the pooling of facilities and personnel, as outlined in paragraph 3 above, are, with respect to the European Axis, of the greatest service in estimating the potential oil supplies which might be obtained from enemy countries by our occupying troops for the furtherance of the war effort; and such data are indispensable to the planning of any disarmament controls with respect to oil.

DISCUSSION

5. During the more than two years in which the Enemy Oil Committee has been in existence, the above ends have been in large measure fulfilled. The data and experience of industry have been nearly exhausted during the course of reappraisals of the enemy oil position and these data become less applicable as the war progresses in time. The oil position of the Eastern Axis has become a matter primarily of operational concern.

6. With respect to the Far East, future evaluation of the oil position will depend almost entirely upon information obtained through military sources. Therefore, this activity has properly become the responsibility of military intelligence.

7. There will continue to be need for interpreting the data available through military intelligence in the light of the operational experience of the petroleum industry and of first-hand knowledge of oil and other conditions in the Far East.

RECOMMENDATIONS

8. That the Army Oil Committee make no further effort toward assessing the strategic oil position of Japan.

9. That, with the completion of those of its other projects currently in progress, but in any event not later than 30 June, 1946, the Army Oil Committee be disbanded.

10. That responsibility for future assessments of the Japanese oil position be given to a group comprising the military intelligence agencies, with such aid from the civilian agencies as this group may find necessary or desirable. It is recommended that this working group be formalized under the sponsorship of one of the military agencies, in order that there be no duplication of effort, or conflict in interpretation, as between the respective military agencies.

11. It is recommended that liaison with the interested British military agencies be maintained through the channels of the ^{APPROPRIATE} ~~Joint Intelligence Committee~~.

12. It is recommended further that the military group make available to the interested civilian agencies, upon their request, such data as to the nature, type and location of Japanese oil installations and other aspects of the Japanese oil economy, as may be required for the adequate background information of the civilian agencies in connection with problems of the transition and post-war periods.

ENEMY OIL COMMITTEE

M E M O R A N D U M

In reply refer to:
SU-959-BHG

R E S T R I C T E D

To: Lt. Col. B. F. Hake
Lt. Comdr. Paul L. Hopper
Captain W. L. Klein
Major James L. Luke
Major Robert R. Munoz

From: B. H. Grove *BHG*
Executive Secretary
Enemy Oil Committee

Subject: Preliminary Briefing of Teams for Investigation
of European Oil Technology

For the above purpose there will be informal meetings of
members already nominated on January 9-10, in Room 6071
New Interior Building, starting at 9:30 A.M.

Insofar as your respective branches of the Armed Forces may
be planning on nominating members to the team, cordial
invitation to participate in these discussions is extended
to such of these nominees as are now available.

MEMORANDUM SUBMITTED
TO THE
TECHNICAL INDUSTRIAL INTELLIGENCE COMMITTEE

Restricted:

Mr. C. S. Snodgrass
Col. H. W. Howe
Lt. Col. S. P. Hake
Comdr. F. S. Pettyjohn
Dr. A. C. Fieldner
Mr. B. E. Grove
Mr. F. Levy
Mr. L. D. Stinebower

Mr. P. J. Hynes
Major J. L. Luke
Major A. R. Minoz
Lt. Comd. P. L. Hopper

Attached for your consideration is a preliminary draft of a Basic Directive for the Petroleum Subcommittee of the Technical Industrial Intelligence Committee. It is planned to hold a meeting of this Subcommittee within a few days to reach final agreement as to the form of this Basic Directive, as well as for the consideration of other matters.

Robert M. Cornforth JR
Robert M. Cornforth
Major, CG
Executive Secretary

CONFIDENTIAL

DETAILED SUMMARY OF MEETINGS OF OIL MISSION
HELD IN NEW INTERIOR BUILDING, JANUARY 9 & 10, 1945.

The following members of the Mission were present at the sessions indicated:

Asbury, W. C.
Atwell, H. V.
Carlsmith, L. E.
Haensel, V.
Hirst, L. L.
Jones, I. E.
Kuhne, P. K.
Odell, W. W.
Peck, E. B. (Tues. morning session only)
Powell, A. R.
Reichl, E. H. (Wed. afternoon session only)
Schroeder, W. C.
Spaght, M. E. (not present Tues. morning)
Von Elbe, G. (not present Wed. afternoon session)
Voss, E. F.
Weir, H. M.

Crowell, J. H. - Alternate
Newman, L. L. - Alternate

In addition, the following persons were present at several or all of the sessions:

Major R. E. Munos
Commander E. S. Pettijohn
Lt. Colonel R. H. Harris
Don Frazer
Delbridge, Thomas
Miller, A. E.
Field, H. W.
Harrington, P. J.
Levin, Harry
Snodgrass, C. S.
Opal, E. J.

January 9th - Morning Session

Members of the Mission were greeted by W. C. Schroeder, vice-chairman of the Mission. Mr. Opal explained that he had investigated the O. S. R. D. policy with Lloyds and it would be possible to have a blanket policy issued to P. A. W. to cover the members of the Mission. The O. S. R. D. rate is \$100 per \$10,000 for a period of one year. Ten thousand dollars represents the value of one unit of insurance and a person make take up to and including five units. While travelling in foreign countries, the insured pays \$12.50 per month additional premium. Benefits under the policy are as follows: Death, 100%; loss of both eyes, 100%; one eye, 50%; two limbs, 100%; one limb, 50%; one eye and one limb, 100%. Hospital benefits amounted to \$5.00 per day for hospital care plus liberal allowances for surgeons' fees and other hospital charges. If such a policy is obtained for the Mission members, the rate will probably be somewhat higher, since fewer people will be involved than are involved in the O. S. R. D. contract. To date, 5 of about 75 persons insured in the O. S. R. D. group have received benefits, and these benefits have all been for trivial injuries.

After some discussion at both morning and afternoon sessions on Tuesday, it was decided to make Schroeder and Weir a committee to get further proposals and to make recommendations to the group.

Dr. E. B. Peck then spoke to the group on his European experiences since the war began, regarding products, test methods of the German oil industry and armed forces, and description of the hydrogenation and Fischer-Tropsch products. He stated that he has followed the specifications of fuels and lubricants from captured enemy vehicles and that there is a great mass of such information available. There are also available captured German specification books. He said that in his opinion the Wehrmacht have been fighting a whale of a war on 300,000 barrels of oil products a day. They have very elaborate blending stations set up not far from the fronts where nine different fuels are blended. The German army is also given to carrying a large number of winter and summer grades of fuels and lubricants. They use considerably smaller amounts of lead tetraethyl than is our practice. The maximum lead content runs from .5 to 2.7 cc. of lead tetraethyl per gallon for fuels used in ground equipment. This limitation is probably made because they fear damage to valves, etc. of their internal combustion engines, (probably because of shortage of alloy materials for use in engines). Three grades each of summer and winter Diesel fuels are used. The specifications on their fuels are broader than on ours and their test methods are quite different. Their summer grades of red fuel for ground vehicles have 72 octane number (presume this is A. S. T. M.), carries .2 atmosphere or 6 pound Reid vapor pressure and a specification of not over 25 percent distilled at 167° F. The winter grade of yellow fuel has a similar octane number and a vapor pressure of .6 atmosphere or 8 pounds with 40 percent distilling to 167° F. There is a third grade known as the "violet special", 74 octane number. On all these fuels, the percent off at 392 is 92 percent. The cloud point specification for summer grade fuel is -20 and for the winter grade fuel is -40. Their sulfur limit is twice as high as ours.

One of these fuels is a benzol mixture and one is a cracked gasoline. Panzers use the 35 percent benzol with no lead. This is a recent development, as lead was used earlier in the war. He estimated that 18 million tons per year of liquid fuels were used by the Germans, of which 5 million tons was gasoline, and he estimated their benzol production at one million tons per year and thought that 5 hundred thousand tons was blended to make gasoline. Residue (because of injection features of engines) is not important to them. Their fuels run up to 10 milligrams of residue per 100 gallons of gasoline. This makes no trouble if the residue is soluble in benzene. Aviation fuels do not have oxygen stability to equal ours. Peroxide content frequently runs as high as .2 percent.

The army uses Diesel fuels, one having a cetane number of 45; the second a cetane number of 40. Diesel fuels for ship use have cetane numbers in the range of 35 to 40. The Diesel fuel is a mixture of brown coal tar with Fischer-Tropsch oil. The lower heating value in kilogram calories per gram is about 9,900. The density ranges from .81 to .8165. The flash point must be $+55^{\circ}$ C. Water specification is .5 percent maximum; ash .05 percent maximum. Viscosity is 20 to 2.0 Engler. Pour points are -10° C for summer grade; -40 for winter grade. Zinc corrosion is .4 milligram. Neutralization number .4. Conradson carbon is rather low at 0.05. Sulfur may be as high as 1 percent. On distillation, 80 percent point is at 360° C. Vapor pressure .4 atmosphere or 6 pounds. Recently the Germans have been using two-thirds gasoline, one-third Diesel fuel, as a Diesel fuel, on account of the Diesel fuel shortage. Diesel fuel has been their bottleneck for about a year but they keep one grade of Diesel fuel not blended with gasoline. The United States Army has made tests of similar fuel and concludes that a blend of gasoline and Diesel fuel is quite satisfactory as a fuel for Diesel engines. The German army has set up a fixed ratio of lubricants to fuels about as follows: Motor oil, 1-1/2 percent by weight of the fuel; gear oil, 1 percent by weight of the fuel; grease 1 percent by weight of the fuel; but recently, due to wear on equipment, motor oil has been raised to 2.5 percent.

Two Diesel fuel inspection methods were described as follows: Filter test--as the temperature to which 200 cc. of Diesel oil filter in one minute through an apparatus in which one millimeter copper screen is wrapped to give a total thickness of 6 centimeters. In the summer this flow temperature must be not higher than -5° C. In winter this flow temperature must not be higher than -35° C. The Germans apply the Hagemann Henmerick test for coking.

Dr. Peck then discussed German lubricating oils. He began with the statement that the army lubricating oils are of a pretty fair grade--summer grades having viscosities at -15° C of 1800 Engler, at 100° C. of .9 to 2.1 Engler. The latter viscosity is equivalent to 60 seconds Saybolt Universal at 210° F. The winter grade has a viscosity of 2,000 Engler at -15° C. Corresponding to our S. A. E. equivalents, they use 20-30-40-50 grades. Not many samples are found of the S. A. E. 20 grade. It has a viscosity index of about 30. The S. A. E. 30, 40 and 50 grades have viscosity indexes of 30-60, 90, and 97 respectively. The Germans have

consistently had wax trouble. They don't know how to dewax, and have, therefore, used Romanian crudes low in wax content and poor in V. I. qualities as lubricating oil sources. They make a synthetic lubricating oil. There are two possible procedures, one is by cracking wax and polymerizing it and the other possibility is to chlorinate in the presence of an aromatic compound. The 150-250° Fischer-Tropsch cut is polymerized with good yield to give a super bright stock. This synthetic super bright stock is blended with equal volume of Romanian non-paraffinic oil. So far as Dr. Peck knew, they use no extreme pressure additives. Their specifications call for not over 3 percent of vegetable or animal oil. No phosphorus compounds, no fluorine compounds, no sulfur additives seem to be used. Their extreme pressure test is of the 4-ball type, operating at a pressure of 200 atmospheres with the requirement that operation must continue one minute without seizing. According to our standards, this specification would not conform with our ideas of extreme pressure lubricants. They apply a volatility test to all oils and require a minimum of 7 percent by weight and a maximum of 14 percent for summer grades, except that one grade has a maximum of 20 percent allowed. The test consists of heating the oil at 250° C. for one hour at 20 millimeters of water vacuum--then measuring the weight loss. Asphalt number or "ver dampfen heitz und asphalt" number is determined by adding 70 grams of oil to 100 cc. of benzol with one to two grams of active clay. This mixture is stirred, then allowed to stand for one to two hours, then filtered and washed with 50 cc. additional benzene and the preparation dried. The weight of material absorbed on the clay determines the asphalt content of the oil. The weight of recovered oil must be in the range of 95.5 to 100 percent. They use a dimethyl-sulfate number as a measure of the aromatic content. Ten cc. of dimethyl-sulfate and 15 cc. of gasoline are mixed. The percent of benzol is taken as equal to 1.136 times the weight of dimethyl-sulfate reacted. The Germans have had dewaxing difficulties in spite of complete knowledge of United States methods. On the Russian front, they have used their synthetic bright stock extensively. For aviation use, the Germans use a mixture of synthetic bright stock plus an inferior neutral oil and have a viscosity of 110-116.

At this point, W. C. Asbury stated that he thought it unwise to underrate the German equipment and technique for dewaxing. He believes their difficulty lies in having insufficient capacity. Dr. Peck agreed that the Germans may be very reluctant to put in new equipment outside of Germany--that for a year they had been building a 60,000-ton per year polymerization plant in Romania. It was found to be incomplete at the time our forces got into Romania, in spite of Germany's dire need for iso-octanes. Mr. Weir asked if full consideration had been given to their dewaxing difficulties and thought some native German lubricating oil stocks very tricky to dewax. Returning to aviation gasolines, Dr. Peck stated that they use a special starting gasoline both in the ground and aviation forces. This gasoline has a research octane number of 72, Reid vapor pressure of .9 to 1.2 atmosphere and 120° C. end point--a distillation loss of 5 percent and 20 milligrams of residue per 100 cc. is permissible. In the air forces, a lead-free gasoline is used for flushing aircraft motors at the end of the flight. The main source of aviation fuel is as follows: Octanes and alkylates blending materials late in 1943 were added in the amount of about

10 percent at which time it was raised to about 20 percent. The base stock is a high aromatic fuel from the hydrogenation having an octane number of 97 on a C-1 method and better than 130 by the C-3 method. It may run as high as 150 by this time. Specifications call for 25 percent off at 100° C. and 50-55 percent of aromatics in the gasoline. The light ends are a blend of fractions from Romanian crude and from the hydrogen plants. Twenty to 25 percent of synthetic octanes may be added. Alkylate is not present according to analysis made by use of infrared methods. There was some discussion at this point. Mr. Field felt that the absence of certain of the iso-octanes and dimethyl hexones indicated that their co-polymerization was made by a very selective process such as cold acid. Dr. Peck said it was possible to get very selective polymerization using a phosphoric acid catalyst on an iso-butane and that such a reaction would give the ratio of octanes that the Germans have. He did not think they made their iso-octane by use of the cold acid process.

The Germans use some very high grade Diesel fuel for some of their aircraft. Only one captured sample has been obtained and the quantity of material was too small for a cetane number determination. He believed this fuel to be 50-55 percent brown coal tar with the balance Fischer-Tropsch Diesel oil. Dr. Schroeder said that he thought members of the Mission should wait until the end of the morning session before viewing the aerial photographs which Dr. Peck had prepared to show. Dr. Delbridge, chairman of T. A. C., then was given the floor and reported as follows:

His committee had made six supplemental nominations: Mr. Miller, secretary of the committee had mailed to Dr. Schroeder for distribution, several T. A. C. reports, which were thought to be helpful to the Mission, and had brought several additional ones down to the meeting. Mr. Field, chairman of sub-committee on aviation synthetic constituents, had provided 3 copies each of "High Carbon Makeup of Aviation Fuels", and 3 copies of a report on cocimer. It was also suggested that Gulf Refining Company, through the efforts of Mr. Ayres, had abstracted and indexed all of the T. A. C. reports and it was believed that members of the Mission would benefit greatly from inspection of this abstract. One copy of this abstract was given to Dr. Schroeder. Dr. Schroeder then said that he believed the group was greatly indebted to Dr. Delbridge, Dr. Miller, Mr. Field, Mr. Harrington and Mr. Levin for the information they had supplied the Mission and he said that the team leaders had been sent copies of certain reports sent in by the T. A. C. committee and also copies of other information which had been made available to him, including patents furnished by the Alien Property Custodian. Mr. Field suggested that in view of the difference of opinion regarding the method of manufacturing polymer, he believed that it would be wise for the members of the Mission to become familiar with the guides to operators of aviation gasoline plants put out by the P. A. W. committee. Methods on which the committee issued guides for operators are as follows: U. O. P. phosphoric acid type, polyco copper-pyro phosphate type, cold sulfuric acid type. Members of the Mission considered this a fine suggestion and Mr. Field will supply copies of these guides.

Dr. Delbridge suggested that there should be careful determination of tests to be made on any samples sent back by the Mission, that if such were not done many useless tests might use up the sample and really important tests not carried out. He also believes that care should be given to selecting laboratories to do the work and that there should be a competent group to assist in interpretation of these results. He recommends that selection of laboratories and personnel for making the tests be left to Dr. Levin. Dr. Peck thought that there was a great deal of information already available on analyses of captured samples and stated that Colonel Jeffries, in Ordnance, has the information on these captured samples. Dr. Schroeder then stated that the Mission would request the T. A. C. committee to take care of samples that might be returned, with Dr. Levin to serve as adviser. He stated that the British have a team to analyze samples and return results to the field for use by members of the Mission in the field. He also suggested that the British have a considerably larger team than we have and that apparently more time and information is being given to the members of the British Mission. They are spending a week or in some cases two weeks in organization and briefing.

Dr. Peck wished to discuss Dr. Delbridge's point further. He said that the Ordnance Department of the army worked with C. R. C. (Cooperative Research Committee) to route samples for analysis of captured fuels and lubricants. This group has also studied in detail the British and United States analyses of such fuels and lubricants. The chairman of the group is Paul Kyser. Members are Paul Pfister, who was formerly with Shell Oil Company in the Far East and in Europe, Mr. Knowles, Socony-Vacuum in this country, and E. B. Peck, who represents the Enemy Oil Committee. Dr. Peck said it would be a good idea to work out arrangements for someone to attend future meetings of the group in his place and suggested that Mr. Levin do this. He thought cooperation with this group should be worked out and advantage taken of the contacts of the C. R. C. At present, Diesel fuels are being analyzed by Phillips laboratories, gasoline by the Shell laboratories at Wood River, Illinois, lubricants by Socony-Vacuum, and Japanese fuels by west coal laboratories.

Mr. Levin was then appointed to follow up Dr. Peck's suggestion and to work out a plan for testing fuel and lubricant samples sent back by the Mission.

Dr. Delbridge then stated that Mr. Field would speak on processes applied to manufacture of aviation gasoline components. Mr. Field referred to an earlier suggestion by Mr. Weir that some experts prepare a guide book on salient points of aviation gasoline component manufacturing to assist in making members of the Mission semi-experts and thought that this suggestion was a very good one. Mr. Field offered to prepare a trial handbook and he then read excerpts of a memo. he had prepared on polymerization. This memo. was considered by the members of the group to be very

helpful and in response to the query of Dr. Delbridge, all voted that the group should have copies and would be willing to make comments on the make-up of the memo. Dr. Schroeder said he would speak for the group and say that this memo. was excellent. He thought that several subjects could be treated in a similar manner. Mr. Miller indicated that he believed it important to pay particular attention to processes not available in the United States. It was agreed that quantities, temperatures, etc. be expressed in both United States and metric units. Dr. Peck threw in a suggestion that Ground Intelligence had indicated the possibility that triptane might be manufactured in Germany by a new process and suggested the possibility that some catalyst such as cadmium phosphate, which is used at Abadan for polymerization, might be used. He thought the group should be particularly alert to learn of it.

Dr. Schroeder then suggested that Mr. Field prepare a handbook, including flow sheet and questionnaire on polymerization, alkylation, isomerization. Mr. Asbury requested that information be given in this handbook on catalysts other than those mentioned by Field (cold acid, phosphoric acid, hydrofluoric acid). Dr. Schroeder thought that the group should take the information in the handbooks supplied and revise and improve it to final form. Mr. Field mentioned T. A. C. reports C. M. L. 1 and 2, which he thought would make us semi-experts in their field.

Dr. Schroeder then made the suggestion that each team leader be assigned to prepare a subject briefing folder on his topic.

Dr. Delbridge again stated that he thought each of these handbooks should be gotten up to include metric units and flow sheets. After some discussion, Mr. Harrington spoke and stated that after projects had been arranged, if the group didn't have a ranking expert available, his committee would be glad to make one available. He thought it well for the committee to meet with such an industry expert in addition to receiving a handbook and that he thought such might not be necessary for hydrogenation but might be desirable for some features of the Mission. Dr. Schroeder suggested that the group leader be assigned to write up the draft and then get together with the expert. Dr. Delbridge said that T. A. C. would furnish an expert as instructor at any point designated by the chairman of the Mission. Dr. Peck made the practical suggestion that the reports ought to be on a standard paper that could be bound into a notebook and that the paper should be thin so that members of the Mission would not have too much weight to carry with them. Mr. Snodgrass then stated that all departments of the government which are interested in oil are interested in the Mission. He thought it followed that if the T. A. C. experts were used to help brief the Mission that their field would be covered best and the best interests of the government would be served. Dr. Miller reported that following the last meeting of the members of the Mission he had talked with the advisory group on A. P. I. Project 6, particularly to Dr. Rossini, who told him that he would like to have the members of the Mission pay particular attention to physical constants of hydrocarbons and

bring back best values of constants, such as freezing point, refractive index, density, boiling point, latent heat of vaporization, B.t.u. or calorific value, specific heat.

Dr. Delbridge then summarized the presentation of his advisory committee as follows: 1. They had presented nominations of seven additional members. 2. They had submitted reports on topics of interest to the Mission. 3. They had discussed samples and would appoint a man to C.R.C. 4. That Field had been assigned to the preparation of a paper on process details as applied to manufacture of aviation gasoline components, and, finally, that this committee is advisory and will look to Dr. Schroeder for requests for help.

Mr. Kuhne, and his group next reported test methods. Mr. Kuhne stated that he had leaned heavily on the members of his group, that he had asked Dr. Peck to provide background for the discussion to follow and that he thought adequate background had now been presented. He then asked Dr. Atwell to speak. Dr. Atwell remarked that he didn't have much to add to Dr. Peck's general remarks. He thought German methods were different than ours; that many of their problems on test methods were different by reason of the use of considerably different motors, which necessitated different service tests. German products are also somewhat different in character than our petroleum products, due to different process of manufacture. Their aviation gasoline is highly aromatic and he suspected that there might be difficulty with pre-ignition and that the Germans probably had devised test techniques to determine whether a gasoline would pre-ignite. He thought the different type of hydrocarbon compounds in their fuel might have a bearing on deposits in engines. The tendency has been to blame lubricating oils for such difficulties, but Dr. Atwell wondered whether fuels did not contribute to deposits. He suggested that we look particularly for tests designed to appraise the part played by the fuel in such deposits. The German aviation gasoline testing technique is peculiar. There seems to be no correlation between practical performance and their small test engine. As to Diesel fuels, they have done more with additives than we. We should look for specifications on dopes and for tests to determine ignition characteristics of such fuels. Test of Diesel fuels for high-speed engines should be watched. Germany has high-speed Diesel engines that operate at 3,000 r.p.m. Greases are now very important. Stable grease structures at extremes of temperature are difficult to achieve. We should look for the German methods of measuring stability at high and very low temperatures.

Dr. Atwell made the point that physical stability as well as chemical stability is necessary. He was also concerned about oxidation resistance and said that study of the most recent German patents and patent applications available to us did not help very much on this point. The analyses of captured samples indicates that the Germans run ahead of us in the use of additives. He thought we should look for the use of

synthetic oils or bases and also look for new soaps and new oils made necessary by lack of natural materials. He particularly commented on the desirability of finding information on heavy-duty cutting oils for the machine tool industry. Also, he thought information on industrial lubricating oils might be found which would be of value.

Dr. Delbridge said he wanted to endorse Dr. Atwell's remarks on the importance of heavy-duty cutting oils in production of materials for war in this country.

Mr. Kuhne remarked that grease-making in this country has developed very rapidly and that he believed we were way ahead of German technique here. He conceded that perhaps in plug-valve lubricants Germany might be ahead of us. This particularly is true in the handling of aluminum chloride and phosphoric acid slurries. He believed it important to look for such lubricants.

Dr. Peck said that so much was known here now about German products and specifications that the likelihood of learning new things was low but he conceded that perhaps some types of lubricants or fuels might not yet have been captured. He held up a Luftwaffe handbook, entitled "Technische Anweisung", captured in Italy, and stated that the directions therein had been changed very little from the published information available in 1939. Dr. Peck thought we didn't need to make a major problem of the study of test methods. The important job to be accomplished in the briefing is to learn what is known now of German test methods. He expressed the opinion that additives were a blind spot in German chemistry. The Germans have copied rubber additives and not contributed a one. We have found no additives in lubricating oils. He believed we should not waste much time looking for them.

Dr. Schroeder said he was concerned by the apparent confusion between German tests and United States tests and asked if United States tests could be listed by name or described, and alongside, comparable German tests described with comments as to points of similarity and difference. He asked if this was possible. Mr. Kuhne replied that he agreed it is possible, but is involved.

Dr. Peck suggested that the reverse be done, that the German test methods be described and their comparable United States test cited. He stated that description of German test methods would be available in the office of Captain Klein, Pentagon Building.

Dr. Delbridge said he thought it was a fallacy in our thinking if we believed that we knew everything.

Dr. Peck said he thought we had 90 percent of the information on German tests and that the Mission members should know what is available before going to Germany.

Dr. Delbridge suggested that we leave the problem in Mr. Kuhne's hands and Dr. Schroeder agreed. He raised the question regarding the nature of the German products and said that he would like a type analysis of German products insofar as these are available, together with the date of the sample.

Mr. Snodgrass said that this problem of making available information on the analyses of German fuels and lubricants would be taken up with Colonel Jeffries.

Dr. Weir remarked that intelligent discernment would have to be employed in the gathering of products in German plants to be sent home as samples for analysis. The meeting then adjourned to another room where Dr. Peck had laid out a 3 x 8 foot aerial photographic enlargement of the Leuna plant. He pointed out the essential features of such a hydrogenation plant; beginning at one side he pointed out as he moved across the picture, the raw coal handling equipment, power generation, gas manufacture, gas compression, converter stalls, control houses, circulation houses, and paste preparation, with refinery generator moved to one end of the oil refinery plant. He then showed us photographs of Fischer-Tropsch plants and indicated the coal handling, gas preparation, gas purification, catalyst houses, and catalyst preparation plant, with oil refinery at one side. He suggested that there are available maps showing each synthetic plant together with itemized lists of the major equipment in the plants, and thought that the members of the hydrogenation and Fischer-Tropsch groups should study the available information and become familiar with it before going abroad.

- 12 -

January 9th -- Afternoon Session

The session began with additional remarks by Mr. Kuhne's group. Dr. Haensel spoke on refractometric and spectrometric methods at the present time. The review of these methods, attached hereto, was written by Dr. Haensel. He generalized the methods of analysis as follows: Distillation, followed by extraction of aromatics with sulfur dioxide or sulfuric acid or silica gel. If silica gel is used, the aromatics can be removed from the gel and separated by distillation from the solvent used to remove them. Refractometric intercepts can be measured. Dispersions can be determined. A bromine number can be used to get olefin content. Raman, infrared, ultraviolet, and mass spectrometers can be employed to determine compounds in closely cut fractions. Anything new on the use of these instruments will be of value. The ultraviolet spectrometer has particular utility for determination of aromatics and conjugated diolefins. Infrared spectrometer is particularly good for estimation of paraffins and naphthenes, but it is necessary to have a pure sample of the hydrocarbons as a standard. In infrared spectrometric equipment we should particularly look for higher response thermophiles. In Raman equipment, we should look for photomultiplier tubes or their equivalent and also for new designs of detecting equipment. We should also look for better illuminating devices. In the mass spectrometers we should scrutinize anything available.

Mr. Kuhne then remarked that it would be desirable to touch on the analytical background and perhaps organize a separate group on analytical chemistry. Dr. Delbridge suggested von Elbe, Haensel, Baldeschweiler, and Spaght. Dr. Schroeder said this group was satisfactory to him and that the material submitted by Haensel would be made available to the team.

Mr. Kuhne then called on Dr. Carlsmith for comment. Dr. Carlsmith was of the opinion that we didn't know too well what was available in Germany; that the Germans must have new tricks as applied to aviation gasoline, motor gasoline, lubricating oils and Diesel fuels. They are operating improved planes and tanks and better submarines, and they have developed "buzz" bombs and rocket projectiles. He was of the opinion that we should look to plant laboratories and pilot plants to find the most recent developments. He believed that they must have many important developments not yet in use in production. He was curious to learn how benzene is prevented from freezing out of the gasoline. He wondered if they had available lubricant additives for pour point depressants or as V.I. improvers. He thought we might find interesting developments in detergents, oiliness carriers, anti-oxidants, and anti-foaming agents.

Dr. von Elbe then spoke on knock-testing aviation gasoline. He compared United States with German testing methods. In this country 1-C and 3-C tests are used, the 3-C method employing supercharged small engine and constant speed, intake air, temperature, spark advance; and back pressure is raised until the knock occurs. In the German method, the principle is similar but they change the fuel-air ratio and temperature and boost

the pressure. Dr. von Elbe thought it necessary to relate the test methods to the uses made of fuels. Dr. Delbridge commented that the 1-C and 3-C methods are practical acceptance tests for fuels. He thought N.A.C.A. must already have much information which Dr. von Elbe mentioned desirable to search for in Germany.

Dr. Spaght spoke on additives. The general subject of additives is of great interest today. It is perhaps the last remaining thing in petroleum art to succumb to science. We are ignorant about German additives. He suggested that the first step was to obtain from Dr. Peck as much information as possible on the additives employed in German fuels and lubricants. He thought it was very difficult to know what the enemy is doing. Today additives are used in one case to put into products to make them retain their properties, such as polymerization and oxidation inhibitors. In the other case, inhibitors are put into products to give them a new set of properties. Additions of lead tetraethyl, alkylized fuels, lubricating oil antioxidants are examples of this type. It may be known from the behavior of the product that it must have inhibitors in it, yet it may be very difficult to find the inhibitors. An additional example of changing the properties of material would be the use of cetane number enhancers such as peroxide. A Hydrocarbon may be oxidized and returned to the fuel itself, and it is impossible to tell what or how much has been added. Then there are V.I. enhancers, such as isobutylene polymers, and residues; extreme pressure properties may be obtained by use of sulfur or phosphorous in unreactive forms. Dr. Spaght was of the opinion that we should not write off the possibility of finding new things in additives in Germany. Mr. Kuhne thanked Dr. Spaght for this excellent talk.

Dr. Schroeder commented that we shouldn't close our eyes to possible developments. He suggested: 1. That this group develop a report for test methods exclusive of analytical methods; 2. Develop the picture of test procedures for both gasoline and Diesel fuels. Mr. Snodgrass agreed to make information on analysis of captured fuels and lubricants available to the group.

Mr. Snodgrass talked about the size and composition of the team. He has nominations of additional men. He reviewed the British teams and named the members. In the Fischer-Tropsch group, 10 men comprised the team; Lubricating Oil, 4 men; Utilization and Performance, 5 men; Carbonization and Gasification, 9 men; Hydrogenation, 11 men. There is little overlapping in team composition. Dr. Delbridge considered integration much better than coordination and he urged that we continue on the path on which we had started. Dr. Weir said he understood the British team was briefing now and asked if we couldn't go over and attend their briefing. Mr. Snodgrass replied that this possibility was now being considered.

THE SPECTROMETRIC AND REFRACTOMETRIC METHODS OF HYDROCARBON ANALYSIS

(Material submitted by group under leadership
of V. Haensel)

The following report is a brief discussion of the newer methods for analyzing hydrocarbon mixtures. These may be divided into two topics. The first one includes the distillation, freezing point, silica gel adsorption, and refractometric means of analysis, while the second involves the spectrometric procedure and includes Raman, infrared, ultraviolet, and the mass spectrometer method.

The first topic is the older of the two. Until a few years ago a complex mixture was usually analyzed by distillation and density as well as refractive index measurement. In some cases this was followed by removal of the aromatic constituents by sulphuric acid treatment or by extraction by liquid sulfur dioxide. Considerable difficulties have been encountered in using the sulphuric acid treatment of the mixture containing both aromatics and olefins because of different reactions taking place during this treatment. Somewhat later a measurement of specific dispersion to determine aromatics was introduced. In this method the olefin determination was made simultaneously and corrections, based on the bromine number of the sample, were introduced to correct for the olefin content.

More recently, the silica gel adsorption has come into more general use. This method has advantages that the material removed by silica gel can be recovered and analyzed.

A fair method of analysis lies, therefore, in fractionating the hydrocarbon mixture into narrow cuts, removing the olefins and aromatics, redistilling and determining the refractive indices of the products. The paraffin-naphthene distribution can be determined by the refractivity intercept method, while the aromatic hydrocarbons can, if necessary, be analyzed by means of freezing point determinations.

As mentioned before, the spectroscopic methods of analysis involve the use of Raman, infrared, ultraviolet, and mass spectrometers. The infrared and the ultraviolet methods of analysis are based on the fact that various components, due to the difference in their vibrational energies, will absorb light to different extents. The masses of the atoms, the forces between these atoms, and the skeleton structures of the molecules control the particular energy levels of a molecule. The absorptions in the infrared and ultraviolet ranges are thus caused by changes in the vibrational energy of the molecules. It can be readily seen that any differences in the masses of the atoms, forces between the atoms, and the arrangement of the atoms among themselves will cause a difference in the absorption, and these differences can then be used for spectroscopic analysis.

The ultraviolet analysis is particularly applicable to aromatic and conjugated diolefin hydrocarbons. The other hydrocarbons such as olefins, unconjugated diolefins, paraffins, and naphthenes do not exhibit strong absorption in the ultraviolet region and act primarily as solvents. The infrared analysis, which is carried out in the region from 2 M to 30 M, is particularly applicable to the determination of paraffins, naphthenes, and olefins. At the present time, it is finding important application in the analysis of alkylate streams, etc. In all cases, and this applies to both ultraviolet and infrared analysis, the spectral absorption curve of the pure hydrocarbon is required for quantitative work. This is, perhaps, one of the major drawbacks of these methods. As the hydrocarbon mixtures become more and more complex, the number of pure hydrocarbons required for the analysis becomes increasingly greater. Furthermore, as the structures become more complex, the problems of synthesizing these hydrocarbons involve more time and ingenuity. The problem can be overcome in two ways. The first is by determining and increasing the supply of individual pure hydrocarbons which is now being done, and second, is to expand the information referring to the individual hydrocarbons so as to be able to assign definite absorption characteristics to individual groups within the molecule, and thus determine the structure of the unknown hydrocarbon without preparing the pure material. Some progress on this has been made.

The Raman method of analysis is based on the process of light scattering. When light goes through a transparent medium some light will be emitted in all directions. When a photon, or a particle of radiant energy, enters a medium, two things can happen. The first one is that the majority of the molecules will not absorb it, and the photon is deflected but remains unchanged. The second one is that the photon either gives or accepts some energy to a small number of molecules, thus changing the wave length of the photon. The amount of energy transferred depends on the vibrational energy levels of the molecule and a recording of the changed photons gives a record of the vibrational spectrum of the scattering molecule.

The time of exposure required for Raman analysis varies from 15 seconds to two hours for aromatics, and about three hours or more for paraffins. Highly branched paraffins require a shorter time of exposure than less-branched ones. The sample must be free of fluorescent material. Among the improvements desired in Raman spectroscopy are mercury arcs with a constant light output and a non-photographic recording.

The mass spectrometer operates as follows: The sample to be analyzed is subjected to an electron bombardment in an ionization chamber. The neutral molecules of the sample are converted into positive ions. Thus, an actual cracking takes place. These positive ions are then sorted according to their mass and charge, by electric and magnetic fields, and their relative abundances are recorded.

In the case of the mass spectrometer the same thing applies as for ultraviolet and infrared analysis, that is, pure hydrocarbons have to be available for standardization before any other samples can be analyzed.

The following items are believed to be of importance in improving our analytical procedures by spectroscopic methods. In the case of the infrared apparatus, it is desirable to obtain information on rapid response thermopiles. At the present time, this appears to be a bottleneck in infrared analysis (since it requires relatively low speed recording of the absorption spectrum). In the case of the Raman analysis, it is very desirable to obtain information on photomultiplier tubes of their equivalent to measure low intensity radiation, such as Raman spectral lines. It would also be very desirable to have new designs of Raman apparatuses. At the present time, the Steinheil apparatus is the best of the known German makes, but there is need for something better. Furthermore, information on better illuminating devices for Raman or arc setups would be welcome. For the ultraviolet analysis, again better detection devices such as photocells or photomultiplier tubes are needed. In the case of the mass spectrometer, which is a relatively new tool, any new information would be of great interest.

January 9th - Afternoon Session

Dr. Schroeder asked Mr. W. C. Asbury and his group to discuss Hydrogenation of Coal, Tar and Oil.

Mr. Asbury discussed a flow diagram of a hydrogenation plant operating on French coal which he had drawn on the blackboard. He also drew flow sheets of certain units of a hydrogenation plant illustrating details which are important to the members of the Mission.

Then he passed around pictures obtained from the literature on hydrogenation plants. These included the following:

- Oil activated pumps for handling paste
- New type stalls used in the Leghorn plant in Italy
- Louma stalls with gas preheaters
- Reaction vessels in the Leghorn plant
- Crane arrangement in the Leghorn plant
- Distillation units in the Leghorn plant
- Laboratory high pressure units.

Mr. Asbury distributed notes on his 1937 visit to the Scholven coal hydrogenation plant. Further sketches were used to illustrate the gas handling methods. Control of the gas phase operations is important in obtaining a high-octane rating. This should be above 76 clear with a lead susceptibility high enough to bring it up to a 98 octane rating.

He then suggested a study of catalysts in gas phase operation and particularly the effect of sulfur in them. The hydrocarbons from the hydrogenation plant must be freed of H_2S and organic sulfur before transmission to the methane-steam plant in which nickel catalysts are used for conversion.

With reference to the lubricating oil production at Seitz, Mr. Asbury stated that lignite tar was the raw material which was put through with hydrogen in reaction chambers using catalyst 3510 at low temperature (probably at $800^{\circ}F$. and 300 atmospheres, the catalyst being molybdenum zinc oxide). This operation cleans up the tar. The distillation yields gas oil, light spindle oil, light lubes, and wax. The gas oil goes to gas phase hydrogenation. Asphalt operations are conducted without splitting. Bituminous coal tar hydrogenation plants are handled practically the same way as coal plants. Much of the hydrogenation work is done on tar from high- and low- temperature carbonization.

Mr. Asbury, then touched on coal extraction operations. Oil from such extractions was being hydrogenated, and added that naphthalene was being dehydrogenated.

Mr. Asbury concluded with the statement that the quality of aviation gasoline from hydrogenated tar is superior to that of hydrogenated oils because of the aromatic content of the tar.

Dr. Schroeder stated that it would be desirable to spend some time at Billingham, and suggested that the method of manufacture of catalyst be thoroughly examined.

Dr. Schroeder then called on Dr. J. H. Crowell and his group to discuss Hydrogenation, Synthesis of Oil from Water Gas (Fischer-Tropsch).

In the discussion that followed, Mr. Asbury talked about the Ruhrchemie plant at Oberhausen and described two flow sheets--the first, showing the method of producing crude, and the second, the method of working it up. Changes were being made in the catalyst at the time of his visit, but he did not know the extent of the new applications. The converters were of the fin type, each having 44,000 square feet of heating surface and a capacity of 350 cubic feet of catalyst.

Dr. Schroeder suggested that a basic flow sheet be drawn for the Fischer-Tropsch process, and that a good check list be prepared of the items the committee was to look for, particularly kinds of catalysts and their preparation methods, removal of heat from the converters, recovery of liquid products, etc.

Mr. I. H. Jones of the Koppers Company was then appointed to take charge of briefing and preparation of the subject briefing folder for the Fischer-Tropsch group.

Mr. L. W. Atwell discussed the life of the catalysts in operations under different pressures.

A general discussion followed on the production of lubricating oils from the Fischer-Tropsch crude by light cracking and polymerization of the product.

Dr. A. R. Powell mentioned his 1938 visit to the Oberhausen-Holtent plant to secure cost figures on the Ruhrchemie's operations. He was furnished these figures but no details on the technical phases of the operation. Dr. Powell also visited Dr. Schmalfeldt at Halle regarding the Schmalfeldt process and Dr. Linde regarding cheap oxygen. He closed his discussion by remarking that the Lurgi high pressure gasification process at Frankfort was probably the most important development in connection with the production of synthesis gas for the Fischer-Tropsch process.

Mr. V. Haensel referred to Dr. Fischer's 1943 lecture, reported in Brennstoffchemie, in which he stated that 90% of the C₄ cut is isobutane.

Dr. Crowell mentioned one interesting patent on controlling the reactions to obtain different products by the proper mixing of the methane, carbon monoxide and hydrogen.

The meeting was then adjourned for the day.

January 10, 1945 - Morning Session

The entire group met in the Interior Building and proceeded to the Pentagon Building to secure yellow fever inoculations and A.G.O. cards, returning to the Interior Building at 10:45 a.m.

Dr. Schroeder opened the meeting. Dr. A. R. Powell discussed Gasification and Carbonization of Solid Fuels, which was postponed from the day before.

Dr. Powell distributed a summary of his discussion and pointed out that "steinkohle" is a general term for German coals and covered the entire range from anthracite, with a content of volatile matter of 6-12 percent to gas-flammkohle, with a content of volatile matter of 36-44 percent. It did not include brown coal which in some respects corresponds to American lignites. A series of slides were shown.

The first presented the characteristics of the range of German steinkohle; the second, the characteristics of brown coals, which are very high in moisture, and on a dry basis very high in volatile matter.

The remaining slides dealt with gasification and carbonization as follows:

- a. Coke oven plant design.
- b. Blue water gas plants.
- c. Flow diagram of a Fischer-Tropsch plant.
- d. Synthesis gas from coke oven gas, balancing coke plant and water gas operations, using the coke oven gas as well as the water gas. In this operation one metric ton of coking coal yields 1123 cubic meters of synthesis gas.
- e. Synthesis gas from coke oven gas from producer gas fired ovens, balancing the coke plant and water gas operations, using the coke oven gas as well as the water gas. In this operation one metric ton of coking coal yields 1410 cubic meters of synthesis gas.
- f. Synthesis gas from water gas using coke plus outside coke oven gas. In this operation one metric ton of coking coal yields 1850 cubic meters of synthesis gas.
- g. The Linde-Karwat process at Oberhausen-Holtien in which methane and oxygen react in a coke filled U-shaped chamber to form synthesis gas. The methane is admitted alternately at the top of each leg of the U-shaped chamber, while the oxygen is continuously admitted at the base. Slag is tapped at the base at appropriate intervals.
- h. Lurgi high pressure generator.
- i. Lurgi flow sheet for city gas production.
- j. Winkler generator.
- k. Winkler plant flow diagram.

- l. Didier-Bubiag Process - Dr. Powell remarked that the Koppers Company did not look on this process with much favor, because of the low capacity per chamber.
- m. Koppers sweep gas process.
- n. Pintsch-Hillebrand process.
- o. Pintsch-Hillebrand process flow diagram.
- p. Schmalfeldt-Wintershall flow diagram.
- q. Freiburger Process.

There were no slides to illustrate the various low temperature carbonization processes. Most of the slides presented were made from illustrations in Hurst Bruckner's Handbuch der Gasindustrie, Volume II, published in 1940 in Munich and Berlin, Verlag von R. Oldenbourg.

Dr. Powell discussed the cost of manufacturing oxygen on a large scale and urged the committee to make a thorough inquiry.

In regard to gas treatment, he mentioned the pressure process for removing carbon dioxide by means of water. He referred to the statement on page 13 of the summary regarding the addition of air to the gas for obtaining continuous regeneration of the oxide "in situ", whereas presumably the presence of excess oxygen in synthesis gas must be avoided. He added that the oxygen is later removed in the organic sulfur purifier.

The alkazid process is good for H_2S and CO_2 removal. The Thyloz process was developed by the Koppers Company and is used in Germany. If the Germans made any improvements to the latter process, it would be of some interest to the group. The removal of organic sulfur should be carefully studied by the Mission.

Dr. Powell's briefing was discussed as he went along, topic by topic instead of at the end of the presentation. It was brought out in the discussion that the Lurgi plant designed, but not built, for Valdarno, Italy, was to operate at 20 atmospheres pressure using oxygen supplied from a Messer oxygen plant.

Mr. Newman then distributed to all those present an abstract of Enemy Oil Committee Reports EOC-45-3 and EOC-68-3, showing 1943 Fischer-Tropsch hydrogenation and oil refinery production statistics in the Western Axis Countries.

Mr. H. M. Weir next discussed fractionation, Distillation and Other Recovery Methods for Gases and Liquids.

Mr. Weir stressed the importance of studying the mechanical features of the equipment and the instrumentation.

There was a considerable discussion of Mr. Weir's topic, including requests for investigating other recovery methods such as liquid-liquid extraction and charcoal methods, also processes using higher alcohols as in the Hanover Oil dewaxing operations.

Mr. Spaght suggested that methods of separation be also abstracted by Mr. Weir. These methods should include azeotropic, extractive, variable pH solvent extraction, rectified absorption, centrifuging, electrical precipitation, etc.

Mr. Haensel suggested that the name of Topic 10 be changed to "Recovery and Separation Methods for Gases, Liquids and Solids." This was adopted.

Mr. Harrington urged the investigation of high capacity columns (say, operating at 100 lb. and doing more than thirty to forty thousand barrels per day). The technique of absorption was also to be given full attention, the team to look for fluidized or semi-fluidized methods of absorption with activated charcoal or silica or alumina gels. Combinations of relatively new methods should be sought, also distribution of packing in medium and large columns.

Dr. Schroeder asked Mr. Carlschmidt if he wished a table of capacities of columns to which the reply was in the affirmative. Mr. Weir stated that the job would be quite involved to prepare such a table -- too many factors enter into the determination of capacities. Mr. Field suggested a brief tabulation showing over-all capacity ranges within three different mileposts, to which Mr. Weir agreed.

Mr. Haensel stated that basic conversion units were needed. Mr. Voss agreed to look into the matter, particularly the conversion tables in the Hutte engineering handbook and prepare the necessary tables.

Mr. Weir agreed to prepare briefs on newer methods applicable to the work of his group. Mr. Spaght will forward to Mr. Weir the data on some of these. Mr. Kuhne urged that methods of wax extraction from Fischer-Tropsch synthetic crude be studied. The consensus of opinion was that ordinary methods would not be suited to the Fischer-Tropsch process.

Mr. Weir suggested that close typing with narrow margins be used to reduce the weight of the subject briefing folders.

The group adjourned for lunch at 12:30.

January 10th - Afternoon Session

The briefing session was resumed at 2:00 p.m.

Dr. Schroeder turned the meeting over to Major Munos who introduced Lieutenant Colonel Harris for a discussion of matters of security. Col. Harris stated that he understood that the members of the Mission would be in military uniform with military credentials and would be required to conduct themselves in accordance with the articles of war and theatre regulations.

The object of military security is to keep the enemy in ignorance.

All mail going and coming would be censored.

He requested the members not to talk to anybody, not to write home except on personal matters, not to indicate the nature of the Mission or to wear the uniform until just prior to departure.

All information is classified secret, confidential, or restricted. Confidential and secret matter must be mailed registered in a double envelope with a receipt placed in the outer envelope.

Restricted matter may be mailed in a single envelope.

All copies of material should be numbered and a record should be kept of the disposition of each copy. Every member of the team should assume that no German can be trusted in any degree.

Telephone and telegraph messages are easily intercepted and should never be used for confidential or secret matter.

No papers may be carried in the pockets beyond identification cards and passports and money. Secret and confidential papers should be carried in a brief case, preferably with a handle - not in a leather envelope. The loss of any documents must be reported at once.

In case of capture by the enemy, no information need be given beyond the name, the rank, and the serial number.

The group will be under the command of an army officer at all times.

Before departing, members of the Mission are urged to prepare their will and testament, and a power-of-attorney to someone staying behind who can look after their interests.

After Col. Harris spoke on matters of security, the meeting was turned over to Mr. Weir, who called all members of the distillation team to contribute. Mr. Carlsmith emphasized the change of title, and requested that particular attention be paid to the design and operation of cyclone separators for the separation of solids, also electrical precipitators, porous plant filters. He cautioned the group to be on the lookout for unusual operations in general and in evaporation and extractive methods in particular.

Mr. Odell followed with a brief discussion of Oil Shale Processing. He pointed out the reasons for the lack of American developments in this field. These are mainly economic. In foreign countries development was frequently warranted, and as a result successful operation has been conducted in France and in other countries. Details of the methods of processing were not discussed during the meeting.

Dr. Powell stated that the processing of oil shale was important in connection with Manchurian operations.

Mr. Weir confirmed Dr. Powell's statement. He added that ten years ago the Japanese tried to get oil shale data from United States firms, but failing to do so, they went to German firms where the data was obtained. He thought that the committee should examine the German files for such data. He stated that a pilot plant for the extraction of shale oil has long been in operation at the Kaiser Wilhelm Institute.

Dr. Schroeder agreed that the committee should look for the data in German files and should look over and report on the French plant. He also mentioned underground extraction in Sweden.

Commander Pettyjohn asked what the answer is to the Navy's problem of obtaining fuel oil. The hydrogenation and Fischer-Tropsch processes will supply gasolines, and Diesel oil, but what about fuel oil? The Navy now uses vast quantities of fuel oil of 11 degrees A.P.I., low in ash and sulfur. Enemy oil samples are blends of oil from shale with from 30 to 70 percent Fischer-Tropsch oil. If shale oil would be a strategic source in the future, what retorting and refinery techniques would be required? The Germans and Japanese use shale oils extensively. The German procedure cannot be ignored when there are 92 billion tons of potential oil from shale in this country.

A discussion by Mr. Voss followed on Materials of Construction, including Metallurgy. He resolved the problem into three parts:

1. What materials do we have now?
2. What do we think the Germans have?
3. What do we need?

We can tell from our own files what we now have. The September 1944 issue of Chemical and Metallurgical Engineering has a comprehensive list of materials of construction of interest to the chemical industry.

As for what the Germans may have he stated that it might be a good idea to list the materials known to have been used in Germany.

The materials needed are principally for resisting simultaneously high temperatures and pressures, also for 70% sulfuric acid. Valve materials, particularly for HF alkylation purposes would be very valuable. It was understood that the Germans had a new phosphorous glass useful in HF alkylation.

Mr. Atwell stated that the Texas Company had serious corrosion trouble in handling aluminum chloride and hydrochloric acid.

Mr. Voss indicated the need for erosion resisting metals in catalytic cracking. He also discussed the need for additional information on low temperature materials. A list was distributed giving analysis of alloys which the Germans are known to possess. Metals resisting H_2 and H_2S at high temperature were discussed, and a reference was made to the common steels used by I.G. Farben in a list supplied by Mr. Asbury. These steels are commonly referred to by a number and a letter.

Mr. Odell suggested that a parallel listing be made of American and German materials so that, by referring to a German designation, one could quickly find the American equivalent.

At this point, Dr. Schroeder asked what was the plan of organization of the metallurgical unit and what kind of subject briefing folder the group planned to prepare. Mr. Voss replied that he wished all the members of the Mission to list the information they required before beginning the compilation of the handbook. Dr. Schroeder suggested that the Mission members should list their difficulties with materials and attempted solutions and forward this information to Mr. Voss. Mr. Voss suggested that studies should be made of acid proof brick, certain plastics, also design methods for high pressure closures, lining of large diameter vessels — including methods of placing fire brick lining and insulation in towers. He wished to know how gases were prevented from by-passing between linings and walls. An important objective of the group is to study the methods for taking care of differences of expansion between interior and exterior metals.

Mr. Weir emphasized the need for using discrimination. He pointed out that the Germans did not necessarily use metals differing from ours because they were better, but because other materials were not available to them. The German economy has plenty of iron and coal, but is short on chromium and nickel. Accordingly, priorities were set up on the use of chromium and nickel and all sorts of makeshifts were provided to eliminate their use. Mr. Weir said that it is very difficult to impress American engineers with the extent of the detailed consideration that was given to each use of chromium and nickel. The substitutes were often not as good. Mica sheet was often used in high pressure gauge glasses and he never was quite at ease when a sheet of mica was all there was between him and liquids under several thousand pounds of pressure.

Dr. Crowell stated that not only were ersatz materials used in construction but also in the preparation of catalysts. Often the ersatz catalysts turned out to be better, but that was purely incidental.

Mr. Haensel wished the team to observe methods of pretreating of vessels to prevent undesirable catalytic effects. Mr. Reichl asked for everyone to be on the lookout for details of turbo-compressors for use in large-scale oxygen production.

Mr. Voss closed his presentation by requesting everyone to mail all suggestions regarding the handbook on materials of construction to him.

Mr. Haensel discussed By-Products from Hydrocarbons Produced in Synthetic Oil Processes. He stated that considerable amounts of higher alcohols were made by the Fischer-Tropsch process or modifications of it. He referred particularly to the work of Matta, an Italian inventor. The Fischer-Tropsch process also is used for the production of acids and synthetic lubricating oils. There are many patents on the aluminum chloride treatment of cracked residues.

Mr. Kuhne distributed a statement on synthetic lubricating oils produced by three processes known to be used at the moment. These are,

1. Voltol Process
2. Hydrogenation
3. Fischer-Tropsch (Modified)

He stated that many samples taken from captured enemy equipment were excellent, and that it was important to secure for future use enemy data on synthetic lubricating oil production.

Mr. Spaght asked how it could be definitely known that the samples from captured equipment were made by the Fischer-Tropsch process. Mr. Kuhne was not sure that the sources were definitely known. No attempt was made to determine if the samples included high oxygen products resulting from polymerization. Mr. Spaght said that synthetic lubricating oil was new and revolutionary; that polymerization of oxygen compounds can be used to produce lubricating oils.

Mr. Reichl discussed acids. He stated that he had little to say on the Fischer-Tropsch process since only 35/100 of 1% of fatty acids in the Oberhausen-Holtien plant were made by this process. Attempts were made to synthesize acids - specifically formic acid - according to a paper published by Dr. Fischer in 1943. Acetic acid was also mentioned, together with the synthesis of methanol by adding carbon monoxide to the acetic acid.

In the general discussion that followed mention was made of the production of fatty acids by the oxydation of waxes for food purposes and detergents. It was brought out that the high pressure extraction of coal yields acid which remain in the solvent. Mr. Haensel referred to the work of Dr. Fuchs on the synthesis of higher alcohols from the lower alcohols. Dr. Atwell stated that the polymerization of butylenes was widely practiced, but not under perfect control, and wished to know what has been done by the Germans along these lines, including the copolymerization of butylenes and amylenes, which when hydrogenated will yield aviation gasoline, the dimenzation of propylene and the copolymerization of butylene and propylene to make triptane. Saturated products were wanted generally and therefore the hydrogenation of polymerized products were of general interest.

The concentration and purification of olefinic charge stocks, the isomerization of olefins to naphthenes were also of interest. Mr. Atwell urged that new catalysts should be watched for. He added that as a probable result of war urgency the Germans may not have been able to put many of their discoveries and developments into practice, and therefore considered it most important to check on the discoveries made in the laboratories and the pilot plants.

Dr. Spaght discussed synthetic fats and special waxes and stated that there has been no yield of esters in most operations and only a small yield of fatty acids. He mentioned the production of synthetic glycerine and ethylene glycol. He stated that the properties of waxes are not well known. The laboratories of the Shell Company have made a study of the waxes from the Dutch East Indies and have found that it is possible to mix high and low melting point waxes to obtain a eutectic of a lower melting point. He stated that he would supply the data on this study.

It was evident that a fair amount was known regarding German by-products from hydrocarbons produced in synthetic oil processes, and that the processes provided sufficient raw materials for the purpose. Not much seemed to be known regarding the German technology on triptane.

In further general discussion Mr. Carlsmith urged that attention be focused on insulating material, including that for low temperature work, particularly with respect to heat transfer coefficients at temperatures of minus 150 degrees Fahrenheit.

Mr. Reichl stated that the Germans make use of large amounts of aluminum foil.

Dr. Schroeder requested that the material for the subject briefing folders be submitted in draft form, if at all possible, in about two weeks by each team leader. These would be submitted to each team member for criticism, after which the final draft form would be drawn up and submitted to Dr. Schroeder. No further meeting was planned at Washington for the time being.

The A.G.O. cards and passports will be held until departure.

Mr. Snodgrass expressed the appreciation of the Petroleum Administration for War for the work of the group.

The meeting was adjourned at 5:00 p.m.

ROUTING SLIP

TO → OFFICE & INDIVIDUAL IN TURN		DATE FORWARDED
1.	COLONEL H. W. HOWZE	8 Feb 1945
2.	AC/AS, M and S Room 4247, Munitions Bldg.	
3.		
4.		
5.		
FOR → FOLLOWING ACTION(S) AS CHECKED		
<input type="checkbox"/>	COORDINATION	<input type="checkbox"/>
<input type="checkbox"/>	NECESSARY ACTION	<input type="checkbox"/>
<input type="checkbox"/>	SEE UR PHONE ME	<input type="checkbox"/>
<input type="checkbox"/>	NOTE AND RETURN	<input type="checkbox"/>
<input type="checkbox"/>	RECOMMENDATION	<input type="checkbox"/>
<input type="checkbox"/>	APPROVAL	<input type="checkbox"/>
<input type="checkbox"/>	INFORMATION	<input type="checkbox"/>
<input type="checkbox"/>	FILE	<input type="checkbox"/>
<input type="checkbox"/>	SIGNATURE	<input type="checkbox"/>
COMMENT		
<p>1. Attached are one copy of the minutes of the oil briefing meetings of the European technological mission held on 9 and 10 Jan., 1945, for your information and file.</p> <p>2. Plans for the investigation of oil technology and a specific plan for the investigation of the synthetic oil industry in Europe. These papers are forwarded with the request of the Enemy Oil Committee for written approval or criticism. Since these matters are purely technical it appears that M & S has the primary interest. I will be glad to coordinate your reply and forward it to the Enemy Oil Committee. It would seem to me entirely proper for you to reply direct, and if you choose to do so would appreciate your notifying me that you have done so.</p>		
FROM →	OFFICE & INDIVIDUAL JAMES L. LUKE, Major, AC Actg Chief, European Br.	PHONE 6554

3 February 1945

1:00 hours.

Major Luke:

If you are active on the Fuels and
Lubricants sub-committee of T.I.I.C.,
suggest that you keep in touch with
Lt. Col. Gasser of M & S extension 3350

Col. Dees

SECRET

SECRET
10 Feb 45
10 Feb 45
10 Feb 45

10 February 1945

Plan for Examination of Oil Industry of Axis Europe

Mr. E. H. Grove, Executive Secretary, Enemy Oil Committee
Room 1408 Temporary U Building
Washington 25, D. C.

1. Reference is made to memorandum to members of Enemy Oil Committee (SU-959-ENG), dated 2 February 1945, which forwarded reports EOC-85 and EOC-85A, Plan for Examination of Oil Industry of Axis Europe.

2. This office approves the general plan as outlined in the above-mentioned reports.

FOR THE COMMANDING GENERAL:

HARRY W. HONZE
Colonel, Air Corps
Chief, Aviation Petroleum Branch
Office of Ass't Chief of Air Staff
Material and Services

Coordinated by:

JAMES L. LUME
Major, Air Corps
A-2 Representative,
Enemy Oil Committee

COPIES DESTROYED 11 JAN 1973



THE JOINT CHIEFS OF STAFF
JOINT INTELLIGENCE COMMITTEE
WASHINGTON 25, D. C.

ENEMY OIL COMMITTEE

In reply refer to:
SU-959-MSI

CONFIDENTIAL

FEB 1 1945

Maj. James L. Luke
War Department, AFIAD-EB
3E-172 Pentagon Building
Arlington, Va.

Dear Major Luke:

We are enclosing herewith for the information of A-2 and the Army Air Forces Materials and Services Division two (2) copies of the minutes of the oil briefing meetings of the European technological mission held on January 9 and 10, 1945.

Very truly yours,

B. H. Grove

B. H. Grove
Executive Secretary
Enemy Oil Committee

Enclosures-2

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

ENEMY OIL COMMITTEE

1406 Temporary "J" Building
12th & Constitution Avenue, N. W.

In reply refer to:
SU-959-NSI

MEMORANDUM

FEB 2 1945

CONFIDENTIAL

To: Members of the Enemy Oil Committee

From: B. H. Grove
Executive Secretary
Enemy Oil Committee

Subject: Membership Changes on the Enemy Oil Committee

We are enclosing herewith Memorandum for Information
Number 117 denoting certain changes on the Enemy Oil
Committee.

Enclosure

Major James L. Luke

31 January 1945JOINT INTELLIGENCE COMMITTEEMEMORANDUM FOR INFORMATION NUMBER 117
MEMBERSHIP OF THE ENEMY OIL COMMITTEENote by the Secretary

Lt. Commander P. L. Hopper is announced as the representative of the Director of Naval Intelligence on the Enemy Oil Committee Vice Commander A. E. Hindmarsh, relieved.

Commander Hopper will also serve as the Navy Member of the Far Eastern Subcommittee of the Enemy Oil Committee, while Lieutenant R. W. Collins will represent the Division of Naval Intelligence on the European Axis Subcommittee.

JAMES S. LAY, JR.
Secretary.

CONFIDENTIAL

AFIAN-EU
IES:mm:72100
6 Dec. '44

MEMORANDUM FOR

Subject: Organisation by Enemy Oil Committee of a Mission to Investigate the Axis European Oil Industry

1. Study has been made of the attached report by the Enemy Oil Committee, dated 27 November 1944, covering preliminary steps taken for the organization of the subject mission.
2. The study to be made, especially in its strictly technical aspects, are of vital interest to the Army Air Forces. While comprehensive information on production and bomb damage to the oil industry will probably result from investigations by other missions, the present mission will be best equipped for a technological study.
3. It is therefore recommended that:
 - a. The attached report on the purpose and organization of the mission be submitted to AC/AS - M & S for comment on the objectives set forth and for suggestions as to any additions of special interest to the AAF.
 - b. That AAF representatives on the mission be named as soon as possible so that they may take part in the early discussions and help shape the nature of the investigations.
4. It is believed that the objectives stated in paragraph 7 of the attached report and especially that in sub-paragraph c. will be adequately covered by existing investigating missions and are therefore an unnecessary duplication of effort.

1 Incl
E.O.C. Rept

RESTRICTED

INTERDEPARTMENTAL COMMITTEE
FOR THE
ACQUISITION OF FOREIGN PUBLICATIONS

ABSTRACTS
RELATING TO
FUELS AND LUBRICANTS

RESTRICTED

NOTE

This publication contains complete information as found in the European and Far Eastern press on all aspects of the fuel problem. The arrangement is by country. Articles of economic or political interest are abstracted completely. *Technical articles* are indexed only and are cited by author, title and brief annotation. Abstracts or photo-copies of the technical articles are available upon request.

Photo-copies

The IDC Analysis and Abstract Section will prepare and deliver upon request a full-size photo-copy of any original article analyzed in this *Index*; Photo-copies are made only on request and must be prepared when the request is made. To order a photo-copy telephone OSS, EXecutive 6100, Extension 631. If it is not possible to use the language of the original article an abstract in English may be requested instead of a photo-copy. The following information should be given when ordering a photo-copy or abstract: Country; heading and subheading; and source.

Form of Reference:

Newspaper items are referred to in this order:

<u>Key to Title</u>	<u>Date</u>	<u>Page-Column</u>	<u>Microfilm Roll (if one)</u>
NT	7 O 44	3-3	

Periodical references are referred to in this order:

<u>Title</u>	<u>Volume: Page</u>	<u>Date</u>	<u>Microfilm Roll (if one)</u>
MMW	91:80-90	25F44	R4363

KEY TO TITLES: SEE: "Key to Abbreviations of Titles of Periodicals and Newspapers referred to in the 'Subject Index to Foreign Publications'", Revised Edition, issued on 1 January 1945. Information concerning abbreviations not included in this list can be obtained by telephoning Extension 631-632.

RESTRICTED

AMERICAN PETROLEUM

AMERICAN PETROLEUM

CONFIDENTIAL

It has been reported in Germany that Argentina has
negotiated a contract with the American Petroleum
Company, a subsidiary of the American Petroleum
Company, to purchase a contract with an American company
in Argentina. Argentina is to receive 200,000 tons of crude
oil of which she will use 150,000 tons for the production
of lubricants. The price was set at 150 pesos U.S.D.
which is about 17 or 18 dollars per ton
and an oil company has set up for Argentina along
with the American Petroleum Company. Argentina has just received 2,000 tons of
crude oil from the U.S. The importance of these deliveries
cannot be overestimated. It is remembered that Argentina pro-
duced 2,000,000 barrels of oil in 1941.
and the U.S. Government is in a position to

The U.S. Government has announced that
it will no longer receive 200,000 tons of
oil from Argentina. This will result in a
shortage of oil in the U.S. and Korea. 39:34

The U.S. Government will contribute the amount of
\$1,000,000 for the cost of installing a
refinery in Argentina. This amount has been in-
cluded in the U.S. budget for 1949. Col and Korea

All suggestions for the simplification of
the production and distribution of oil should be
submitted to the U.S. Government for the simplification of
the production of operating costs in the production

of benzene from washing oil; regeneration of washing oil for the precipitation of highly viscous thickening agents and of naphthalene. Diagrams, Tables, Full details. *Oil und Kohle* 39:20-28 1 Jan 43.

Nitschke, Walter. Die Untersuchung des Karwandelschieferöls auf Thiophen und seine Homologen. Dresden, Dittart und Co. 1940. 68 p.

Review: This work is concerned with the isolation of thiophene from the oil shale of Karwandol. Heretofore only thiophene and its homologues, such as propyl-, methyl-, trimethyl thiophene and similar compounds have been isolated. But benzene, toluol, xylol, olefines, and paraffines have been found also.

The author starts with the crude oil and separates the volatile from the nonvolatile parts by the use of water vapor. In order to identify the individual compounds he makes use of analysis and of the fusing point of well known synthetic thiophene bodies. It has not been possible to determine the higher boiling constituents of the volatile part as well as of the nonvolatile remainder. The analysis and separation of the individual fractions was carried out mainly by the use of sublimate and mercuric acetate solutions. Stannic tetrachloride has been found an excellent medium for the separation of thiophene from aromatic substances. *Oil und Kohle* 39:26 1 Jan 43.

TRADE AGREEMENTS The third German-Italian trade agreement has been signed in Agrom. It concerns the delivery of chemicals, textiles, coal, coke, and machinery as well as liquid fuel. *Oil und Kohle* 39:34 1 Jan 43.

ITALY

COMPANIES By decree of the Italian Minister of Commerce on 9 October 1942, the synthetic methane gas produced at the factories of the Soc. Sottint. Idrocarburi has been pronounced a suitable fuel under the regulations governing domestic fuels. *Oil und Kohle* 39:35 1 Jan 43.

CONTAMINATION By decree of the Italian Minister of Finance on 6 November 1941, petrols which are suitable for the operation of agricultural motors must be made distinguishable from others by adding to them 5 grams of blue cobalt 5 or of petroleum alcohol or of white zinc green per each 100 kg. of

fuel. These oils are not subject to the factory tax or the import tax. Oil and Kola 39-35 1 Jan 43.

MANCHURIA

-COMPANIES

During the first five-year plan in Manchuria beginning in 1937, a number of important industries were decentralized to some extent with a view toward strengthening the national defense economy. An example is the liquid fuel manufacturing industry of the Fushun coal mine of the South Manchuria Railway Company. Instead of expanding the industry right on the spot, the company established new plants at Saiping-kai, Kirin, and Chinkiao, taking into consideration the availability of raw material, coal fuel, transportation, and labor. Nippon Times Weekly 25 Feb 43 8-1f R3870.

-PRODUCTION

Since the adoption of the first five-year plan in 1937 demanding an increased production of liquid fuel and iron as a part of the plan of national defense, the coal mining industry at Fushun and the iron works at Benhsiku have had an unprecedented development. Nippon Times Weekly 25 Feb 43 7-3f R3870.

NORWAY

-CONSUMPTION

The communication management of the acquisition department in Norway has ordered that all owners of containers for gasoline, fuel oil, illuminating oil, and lubricants have to register their supply of such containers as of 5 November 1942 or 5 December 1942 at the local police. Oil and Kola 39-35 1 Jan 43.

PORTUGAL

-STOCKS

Portugal is using fish and whale oil for industrial purposes and as fuel. The Minister of Economics has issued a decree demanding that all stocks of such oil be registered immediately. Quantities exceeding local demand will be bought up by the Fuel Institute. Oil and Kola 39-35 1 Jan 43.

RUMANIA

IMPORTS AND EXPORTS

A duty of 900 lei per ton of crude oil containing paraffins and of 1,350 lei per ton of asphalt petroleum has been levied on exports of these materials in Rumania. This law is retroactive to 17 July 1942, when the new petroleum regulations went into effect prohibiting the export of crude oil during war time except with a special ministerial permit.

Oil and Kshile

3737

1 Nov 43

RSSR

CONCLUSION

Within the confines of Ryazano-Uralskaya RR, are located 2 great oil shale deposits, estimated at billions of tons, one in Osino and another in Chernozatonak. The heat capacity of the Osino shales fluctuates from 1,000 to 2,500 calories, that of Chernozatonak shale from 3,000 to 5,000 calories. Mining of shale is cheap.

Ryazano-Uralskaya railroad could use oil shale instead of coal to the use of local shale, in order to save coal, good results have been obtained in using a mixture of coal and shale. In 1943 it was proposed to use 79.5 thousand tons of shale for locomotives, but actually only 7 thousand tons were used. This year the figures are lower still. Chiefs of locomotive service show little initiative in properly organizing the use of oil shale.

Quack

24 Nov 44

3-4

85629

TRANSFORMATION

A large gas pipeline from the Puyvustan-Ekhnivstnevskii deposits to Kirov raion started to function in 1943. As a result, enterprises in the raion obtained cheap fuel. At present they are saving daily 1,000 tons of exported coal.

Work has now begun on a pipeline from Kirov raion to Izibyshev which will furnish gas to the city enterprises, first of all to the electric power station. It will take one month to complete the pipeline.

Izibyshev

30 Nov 44

858

HEADQUARTERS AAF

ROUTING SLIP

TO	OFFICE & INDIVIDUAL IN TURN	DATE FORWARDED
1.	AFIAN	15 Jun 45
2.	3E172	
3.	Attn: May Duke	
4.		
5.		

FOR FOLLOWING ACTION(S) AS CHECKED

<input type="checkbox"/> COORDINATION	<input type="checkbox"/> NOTE AND RETURN	<input checked="" type="checkbox"/> INFORMATION
<input type="checkbox"/> NECESSARY ACTION	<input type="checkbox"/> RECOMMENDATION	<input type="checkbox"/> FILE
<input type="checkbox"/> SEE DR. PHONE ME	<input type="checkbox"/> APPROVAL	<input type="checkbox"/> SIGNATURE

COMMENT

FROM	OFFICE & INDIVIDUAL	PHONE
	<i>Hobson</i>	<i>6008</i>

Liquid Fuels and Lubricants Subcommittee, TIIC

AC/AS, M&S (Attention: Col H. W. Howze, 4247 Munitions Building
Washington, D. C.)

13 Jan 45

AC/AS Intelligence, Collection Division

JMMcG/flh/6458¹

The following officers have been designated as the Army Air Forces representatives on the re-organized Liquid Fuels Subcommittee of TIIC:

Colonel H. W. Howze
Major James L. Luke

AC/AS, M&S
AC/AS, Intelligence

JOHN W. MADDIE
Colonel, Air Corps
Chief, Collection Division
Staff Officer, Chief of Air Staff
Intelligence

HEADQUARTERS AAF

ROUTING SLIP

TO → OFFICE & INDIVIDUAL IN TURN		DATE FORWARDED
1.	A-41-ED	17 Jan
2.		
3.		
4.		
5.		

FOR → FOLLOWING ACTION(S) AS CHECKED

<input type="checkbox"/> COORDINATION	<input type="checkbox"/> NOTE AND RETURN	<input type="checkbox"/> INFORMATION
<input type="checkbox"/> NECESSARY ACTION	<input type="checkbox"/> RECOMMENDATION	<input type="checkbox"/> FILE
<input type="checkbox"/> SEE UR PHONE ME	<input type="checkbox"/> APPROVAL	<input type="checkbox"/> SIGNATURE

COMMENT

FROM → OFFICE & INDIVIDUAL: 3-D-153

PHONE:

to - Mr. Luke

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D. C.

AFMA - AU

In reply refer to:
SI-100-108

10/1/50

ARMY AIR COMMITTEE

MEMORANDUM

MEMORANDUM

To: Members of the Army Air Committee
From: B. H. Grove, Executive Secretary
Army Air Committee
Subject: Foreign Press Abstracts

B. H. Grove

We are enclosing herewith a copy of the 6 January 1950 issue of Press Abstracts compiled by the Interdepartmental Committee for the Acquisition of Foreign Publications.

Enclosure - 1

17 Jan

cc: Lt. Col. Scholten

Jan, Will you please advise EAC to send this stuff to you direct - Thanks

ARMY AIR COMMITTEE

[Handwritten signature]

R E S T R I C T E D

INTERDEPARTMENTAL COMMITTEE

FOR THE

ACQUISITION OF FOREIGN PUBLICATIONS

Subject Index to Foreign Publications

Supplement

Abstracts on Enemy Oil

8 January 1945

R E S T R I C T E D

P E T R O L E U M

AUSTRIA

-COMPANIES

According to the Vienna Commercial Register Section 134 (Wiener Handelsregister Abteilung 134) the "Creditul Minor", "Osterreichisch-Rumanische Petroleum Vertriebsgesellschaft m.b.H. (Austrian-Rumanian Petroleum Sales Company with limited liabilities) has been changed into "Cremn" Deutsch-Rumanische (German-Rumanian) Petroleum Vertriebsgesellschaft, Vienna III, Strohgasse 16. Deutscher Reichsanzeiger und Preussischer Staatsanzeiger 2 Apr 1944 (PM) 4-2 2416.

BULGARIA

-SUBSTITUTES

The Bulgarian Ministry for Agriculture has asked Experiment Stations and State Farms to exchange previously used types of sunflower seeds for a new type of seed from which plants are raised with greater resistance against dry-spells and with smaller stems, extracting less food value from the ground. A complete change in plants raised shall be accomplished within two years. Nachrichten fur Aussenhandel 17 Apr 44 3-3.

Since tobacco, corn, cotton and other cultivated plants have already been utilized for oil production, wild growing plants are being examined for their oil content. The teasel, growing in large quantities on the banks of the River Danube, appears to be especially promising from this point of view. The kernel of the fruit contains 22-21% of oil, which may be used for food purposes, or for the production of soap and lubricants. Nachrichten fur Aussenhandel 17 Apr 44 3-3f.

DENMARK

-SUBSTITUTES

4 million tons of peat have been cut in 1944, according to preliminary estimates. 5 million tons were cut in 1943 and 4 million in 1942. Folket 28 Apr 44 1-5ff 605d.

18,000 million tons of peat have been cut in Danish bogs during the past four years, which is double the amount cut in the years 1920-40. 10,000 hectares of bog areas have been used and in some cases the soil has been reclaimed. Planting fir trees on huge sand mounds heaped from the brown coal excavations and the reclamation of used bogs represent new employment possibilities.

Bjersen 4 Ag 44 6-5 15055.

GERMANY

CONSCRIPTION In order to save unnecessary trips, the Reichs Minister of Traffic decreed that rides for the purpose of displaying automobiles in Germany are to be avoided, if the purpose of the display can be reached by other means.

Hamburger Abendblatt 27 D 44 2-3.

IMPORTS AND EXPORTS Decree concerning the confiscation of liquid fuel imported into Greater Germany after 6 September 1944 has been published in Deutscher Reichsanzeiger No. 229 of 12 October 1944, p. 1.

Deutsche Volkswirtschaft 19:303 1 Novemberheft 1944.

SUBSTITUTES Platchek, H. "Corrosion in Buttner-Rotary Dryers. Discussion of a new type dryer in the lignite briquetting industry. Diagrams, tables, photographs. Full details.

Braunkohle 43:289-297 19 Ag 44 15337.

Feith, Fritz. "Xylene and the determination of the water content in crude lignite and in lignite briquettes."

Discusses the quantitative determination of water content by distilling lignite with Xylene. Table and graph given full details.

Braunkohle 43:297-299 19 Ag 44 15337.

HUNGARY

COMPANIES In compliance with Decree No. 1549 of 21 April 1944, the Kobanyaer Celindustria A.G. acknowledged the resignation of engineer Eugen Balazs, co-founder and principal stockholder of the firm as member of the Board of Directors.

Nachrichten für Aussehenhandel 17 Ag 44 2-2.

In compliance with Decree No. 1549 of 21 April 1944, the Győzőgáspár Petroleum Factory relieved of their duties Dr. David Schmidt, legal advisor, and Indisler Karta, managing director.

Nachrichten für Aussehenhandel 17 Ag 44 2-2.

JAPAN

SUBSTITUTES - In article by Arvid Balk, German correspondent in Tokyo, it is revealed that the requirements of liquid fuel by the Japanese armed forces are increasingly covered by the process of liquifaction of coal and by oil shale pressing in Manchuria in order to be independent from the liquid fuel in the South which will be reserved to the Navy and the Airforce. Deutsche Volkswirtschaft 13:675-76 2 August 1944.

NORWAY

-SHORTAGE - In all probability, Nationaltheatret in Oslo will be guaranteed sufficient fuel for the winter, but in order to save on it, the theatre may have to suspend activities for a short time. There is also hope that Det Norske Teatret may continue. Both theatres are dependent on foreign fuel. Ditt Folk 10 N 44 2-5.

ROMANIA

-COINAGES - N. Ottescu resigns his position on the administrative council of the Societatea Romana (petroleum company). Finante si Industrie 23 N 44 1-1.

Bucharest stock market reports a great deal of activity for petroleum shares on 20 November 1944, Astra Romana rising 700 points and Prahova rising 150 points. Adeventa also registers a 50-point gain but Steaua Romana shares drop from 3,400 points to 3,200 points. Other losses registered are Creditul Minier by 150 points and Concordia by 50 points. Finante si Industrie 23 N 44 2-1.

Societatea de Petrol, Steaua Romana, reinstates the first lot of former employees dropped in 1940 by restoring 58 to the payrolls. Finante si Industrie 27 N 44 4-3.

On the stock market of Bucharest, shares of the petroleum company Societatea Astra Romana register a surprising rise from 15,000 points to 17,200 points; a similar surprising rise is noted for shares of Petrolului Romanesca, from 4,200 points to 5,200 points. Stocks of Creditul Minier, however, drop 325 points; after a great deal of fluctuation, the final quotation standing at 4,975 points. Other companies.

such as Letea, Ica, Nitrogen and Societatea de Gaz Istan,
show decided falls on the exchange. Timpu

1 D 44 5-3.

-PRODUCTION Under the present system, work in the exploitation of petroleum products and bituminous coal cannot be started until the certificates, issued by the undersecretary for commerce, industry and mines, Rumanian Ministry of National Economy, are validated by the Ministry of Justice and countersigned by the military authorities of the particular zone in which the concession is located. This procedure involves a three-month delay in production which, in turn, is causing severe shortages throughout the country. Methods and measures are being studied to speed up such permissions; one suggestion has been made, that during the period of war, at least, such clearances be made directly by the military authorities, without the loss of any administrative jurisdiction by the Ministry of National Economy.
Finante si Industrie 5 D 44 4-2.

-SHORTAGE A shortage of kerosene which has been prevailing for several days is affecting Bucharest homes, especially as firewood is also lacking. Although the population of Bucharest was promised to be supplied with one million liters of petroleum every day, this article has become a rarity.
Timpu 30 N 44 5-2.

Unions of workers in the various petrol depots of Bucharest are agitating for improved working conditions, as well as some type of relief measures to alleviate the petrol shortage, at the meeting in Bucharest. Alexandru-Cdora Popescu, the president of the Syndicate of such workers, presides at the meeting.
Universul 13 D 44 4-2.

-STOCKS To supplement firewood, of which there is a shortage due to transportation conditions throughout Rumania, the Office of Supply for the Coast-Caiete Ierale Romana notifies its employees of the availability of petrol at the Distributie in Ploesti. Approximately 75 railway tanks, 10 tons each, is the minimum supply necessary. The price is fixed at 250,000 lei for each 5-ton tank, and, in addition to the central office, other conveniently located supply depots will be opened to purchasers. Distribution companies, in order to eliminate the danger of future shortages, will be required to keep their reservoirs filled at all times. Universul
11 D 44 5-7.

SWEDEN

-SUBSTITUTES

In comprehensive article on the utilization of gas generators in Sweden it is stated that prices for one liter of liquid fuel (benzine) in Sweden are only 2.8 times as much as those for 1 kg. of charcoal (generator coal). The relation of prices for the same quantities is 4.4: 1 in France; 4.1: 1 in Germany; 6.4: 1 in Austria; and 11.4: 1 in Italy.

Deutsche Volkswirtschaft
17: 383-85 1 Novemberheft 1944.

YUGOSLAVIA

-SUBSTITUTES

A large quantity of plum and grape pits are to be found in Croatia. They could be profitably processed into technical oil, the residue for feeding cattle and the shells for fuel or for distillation in the production of active coal. Several hundred tons of plum pits could be collected in Croatia. From 100 tons of plum pits, 7 tons of technical oil and 9 tons of coarsely ground pits containing some oil (Schrott) could be produced. The remainder of 84 tons of shells could be used as mentioned above, for fuel. The Ministry of Peasant Economy and Maintenance, chief management for peasant economy, has made initial steps to interested persons for the processing of plum pits. The Agriculture Technology Institute made the preliminary analysis. The factory "Union" made the experiments for breaking pits and separating shells from nut meat. These experiments showed that plum pits can be technically processed into oil without great difficulty. It is the problem of the oil concerns to collect this raw material which has always been wasted or, at best, used for fuel. The processing of grape pits cannot now be effected due to the lack of machinery. The plum pits can best be gathered in plum bearing areas, after the production of jams and the distillation of plum whiskey. Croatia industries which produce jams and jellies waste great quantities of pits or use them as fuel in their ovens. The village children could be taught to collect pits and bring them to designated places for a certain remuneration. The collection of the pits is expected to commence shortly. The oil producers could, in return, give certain protective measures to the fruit trees, especially to plum trees.

Gospodarstvo

27 JI 44

5-2f

5043.

19 January 1945

Mr. B. H. Grove
Executive Secretary, Enemy Oil Committee
1408 Temporary "U" Building
12th and Constitution Avenue, N.W.
Washington, D.C.

Dear Mr. Grove:

Lieut. Colonel Scholten has advised me that he is not able to use the Enemy Oil Committee information which you are currently forwarding to him, and has requested that this material no longer be sent to him.

I assume that I am receiving all of the pertinent Enemy Oil Committee Reports.

Sincerely yours,

JAMES L. LUKE
Major, Air Corps

HEADQUARTERS AAF

ROUTING SLIP

TO → OFFICE & INDIVIDUAL IN TURN		DATE FORWARDED
1.	AC/AS, M and S	15 Jan 1945
2.	Att: Lt Col H. C. Dees	
3.		
4.		
5.		
FOR → FOLLOWING ACTION(S) AS CHECKED		
<input type="checkbox"/>	COORDINATION	<input type="checkbox"/>
<input type="checkbox"/>	NECESSARY ACTION	<input type="checkbox"/>
<input type="checkbox"/>	SEE OR PHONE ME	<input type="checkbox"/>
<input type="checkbox"/>	NOTE AND RETURN	<input type="checkbox"/>
<input type="checkbox"/>	RECOMMENDATION	<input type="checkbox"/>
<input type="checkbox"/>	APPROVAL	<input type="checkbox"/>
<input type="checkbox"/>	INFORMATION	<input type="checkbox"/>
<input type="checkbox"/>	FILE	<input type="checkbox"/>
<input type="checkbox"/>	SIGNATURE	<input type="checkbox"/>
COMMENT		
<p>There are attached two copies of each of two letters received from the Enemy Oil Committee which you will note we are requested to forward to the Office of the AC/AS, M and S.</p> <p>In accordance with our conversation we will consider that delivery of these letters to you relieves us of any responsibility of notification of other offices in M and S.</p>		
FROM →	OFFICE & INDIVIDUAL JAMES L. LUKE, Major, AC AFLAN-EU	PHONE 6554



THE JOINT CHIEFS OF STAFF

JOINT INTELLIGENCE COMMITTEE

WASHINGTON 25, D. C.

ENEMY OIL COMMITTEE

In reply refer to:
SU-959-BEG

C O N F I D E N T I A L

Major James L. Luke
AC/AS, Intelligence
3E-172 Pentagon Building
Washington 25, D. C.

Dear Major Luke:

Your letter of 2 January, 1945 (AFIAN-EU), transmitted comments on the Enemy Oil Committee's draft of a "Plan for the Acquisition of Technological Information on the Oil Industry of Axis Europe," which comments were prepared by AC/AS Materiel and Services (Lt. Col. H. C. Dees and Lt. Col. R. W. Johnson). We consider the pertinent part of the AC/AS, Materiel and Services commentary to be as follows:

"In the subject plan, the emphasis is considered misplaced, both in respect to the statements on objectives and in balance of Mission personnel. The opinion is held that the objective should be those phases of fuel and lubricant manufacture which are most applicable to use in the U.S. for the production of aviation gasoline and other special-interest products of the Services, regardless of the industrial sources; i.e., whether the information comes from synthetic processes or from petroleum refining processes, and that the Mission personnel should be composed mainly of technologists who are now or who have recently been active in the production programs of aviation gasoline and other special-interest products."

May we ask your kindness to bring the following discussion to the attention of the interested people in AC/AS, Materiel and Services:

The Enemy Oil Committee, with the aid of competent government and industrial experts, and in cooperation with the British Technical

Subcommittee on Enemy Oil of the War Cabinet, have carried on a close study of the development of the German oil position from the beginning of the war. In doing this we have acquired detailed information on the enemy's standards for fuels and lubricants, his methods of testing, and, from detailed analyses of captured products, the extent to which he has maintained standards or improved them; this includes information on the performance of these materials.

The enemy's supply position is basically different from ours and the differences in his product qualities arise primarily from this. The supply pattern of the enemy, and the processes by which his products are produced have been studied by the most competent British and American technical experts, and it is the considered opinion of these men that the most likely sources of useful information are those set forth in the Enemy Oil Committee's draft plan now under consideration. Technicians in charge of our own oil production have been consulted on these targets and their suggestions incorporated in our proposal.

The personnel for the investigating team have been selected primarily with a view to their ability to get the desired information, and the basis of selection involved an adequate knowledge of our own production methods as well as the more directly pertinent knowledge of the enemy's processes and products.

Our position in regard to the significant aspects of the German oil economy can be documented in great detail, but the following summary may suffice:

All the known oil refineries and the synthetic oil plants have been frequently photographed by the Air Forces and these photographs studied in detail by competent technicians who conclude from this and other information as follows:

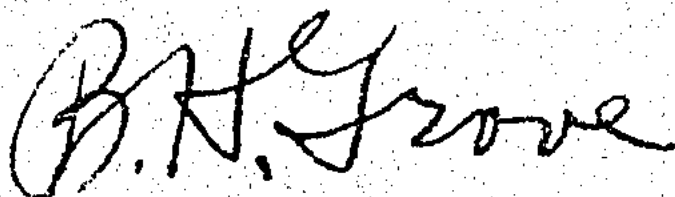
- a. The sources of highest quality aviation fuels, lubricants and other essential oil products are synthetic oil plants.
- b. There is no evidence for new developments or processes in normal oil refining beyond those objectives listed for investigation by our team. In general, oil refining techniques in Germany are not as modern nor as successfully developed as our own; indeed, the Germans have had to resort to synthetic lubricating oils, etc., in lieu of refining techniques which have been developed in this country and which could produce the required products from crude oils available to the Germans.

- c. The technical headquarters for important modern processes and research in Germany are at certain synthetic oil plants. The processes included are those for hydrodimer, alkylate, aromatics, aromatic amines, lube oil additives and synthetic lubricating oils. Most, if not all, important pilot plants for new processes are at synthetic plants, and include research on catalytic cracking, isomization, hydroforming and solvent extraction.
- d. The important testing laboratories and proving grounds are listed among the objectives in our proposed plan.

Finally, we believe that the targets set forth in our proposal have been considered with due regard for the classes of information desired and the places where this may be found, while pruning out those objectives already largely exploited or unlikely to yield information of immediate significance.

We are making provision for the study of refineries and normal refining processes along with numerous other objectives, of low apparent priority, to be handled on a more leisurely basis after the targets of high apparent value have been exploited.

Sincerely yours,



B. H. Grove
Executive Secretary
Enemy Oil Committee



THE JOINT CHIEFS OF STAFF

JOINT INTELLIGENCE COMMITTEE

WASHINGTON 25, D. C.

ENEMY OIL COMMITTEE -

In reply refer to:
SU-959-BHG

C O N F I D E N T I A L

Major James L. Luke
AC/AS, Intelligence
3E-172 Pentagon Building
Washington 25, D. C.

Dear Major Luke:

May I ask your kindness to advise the interested people in AC/AS, Materiel and Services, that the Enemy Oil Committee would much appreciate receiving, at the earliest feasible date, any nominations which they may propose of technical personnel for inclusion on the Mission now being organized for the investigation of German oil technology. Such nominations are particularly desired in order that AC/AS, Materiel and Services, may feel assured that the final team is a balanced one in the sense of their memorandum transmitted under cover of your letter of 2 January, 1945.

We shall also welcome suggestions from AC/AS, Materiel and Services, as to target objectives which they feel merit a high priority and which are not yet included in the target list prepared by the Enemy Oil Committee.

Sincerely yours,

A handwritten signature in cursive script that reads "B. H. Grove".

B. H. Grove
Executive Secretary
Enemy Oil Committee

CONFIDENTIAL

COPY NO. 4

T.I.I.C. 1/8

9 January 1945

TECHNICAL INDUSTRIAL INTELLIGENCE COMMITTEE

ESTABLISHMENT OF A LIQUID FUELS
AND LUBRICANTS SUBCOMMITTEE OF T.I.I.C.

Reference: T.I.I.C. 1/5

Note by the Secretary

The enclosure, containing an interim response by the Enemy Oil Committee to the memorandum of the Technical Industrial Intelligence Committee in the reference, and received on 8 January, is circulated for information.

J. K. TIBBY,

Executive Secretary.

E N C L O S U R E

THE JOINT CHIEFS OF STAFF
Joint Intelligence Committee
Washington 25, D.C.

ENEMY OIL COMMITTEE

January 1, 1943

To: The Secretary
Technical Industrial Intelligence Committee

From: B. H. Grove, Executive Secretary
Enemy Oil Committee

Subject: Interim Reply to the Memorandum Dated 28 December
from the Secretary TIIC to the Secretary EOC

1. As part of its Plan for the investigation of the German oil economy, the Enemy Oil Committee will in due course make to TIIC recommendations for personnel to comprise a permanent TIIC subcommittee on oil, as requested in TIIC's memorandum of 28 December.

2. The Enemy Oil Committee notes that at the 6th and 7th meetings of the Technical Industrial Intelligence Committee, the conclusion was reached that the "five man group provisionally named" by the Enemy Oil Committee to initiate work on a plan for the investigation of German oil technology did not, in its membership, have an appropriate distribution of technical skills to insure that an adequate plan would be formulated.

3. The Enemy Oil Committee regrets that TIIC drew its conclusion without requesting any statement from the Enemy Oil Committee as to its viewpoint or the methods it was following.

4. For clarification of the record, the Enemy Oil Committee brings the following points to TIIC's attention:

a. Despite the contrary inference which can be fairly drawn from Report JIC 222/3 and from the minutes of some of its meetings, the Enemy Oil Committee has not confined work on its Plan to a "five man group," but has sought, and largely received, the fullest advice and participation from all the interested agencies of government and from the appropriate technical committees in industry.

b. Irrespective of a above, the plan now under consideration by the Enemy Oil Committee has received tentative approval from three of the four interested branches of the Navy Department, and from PA, C-2, A-2, OSS, FEA, State Department, Fuels & Lubricants Division of OCMG, ANPB, Fuels & Lubricants Branch of the Ordnance Department and the Bureau of Mines.

c. At the present time, written comment on the Plan is being expected from the Navy Department, Bureau of Ships and from the Air Forces S & M Branch. These are the only governmental agencies with priority of interest which have

not indicated their assent. The fact that approval of the Plan is subject to the comments of those agencies being compatible with it, evinces that all interested technical groups are expected to aid in its formulation.

d. Paragraph c above indicates that, barring defects which we have currently no reason to expect, the work of formulating a plan for the investigation of high priority oil targets in Europe (chiefly the synthetic oil industry) is largely completed. There appears, therefore, if judged on this basis alone, no sufficient reason to set up a working group for this Plan. If the current Plan should ultimately be found inadequate, the skills required for the formulation of a new plan are, in our opinion, only to a minor degree those of "practical refining experience," as indicated in paragraph 4 of TIIC's memorandum of 28 December. We believe the needed skills to be those connected with the hydrogenation of coal, petroleum and gas, and their ancillaries. In the formulation of the present plan we have used the advice of some of the best American technicians available in this field.

e. There remains before us the work of drafting a plan for the investigation of targets of lower priority, such, for example, as crude oil production and reserves, normal refining processes, use of substitute fuels, consumption of oil products and certain Intelligence objectives. A working group of technicians with the skills indicated in the TIIC memorandum of 28 December, 1944, would be largely unbalanced for this purpose. Again, however, we intend to use the efforts of all who can contribute to the formulation of a successful plan.

5. In the work of organizing an oil mission, certain member agencies of the Enemy Oil Committee have undertaken commitments and accepted responsibilities vis a vis third parties. These have been justified by the JIC's directive to the EOC (JIC 222/2/D). If for no other reason than this, the EOC cannot delegate its directive to other agencies, either existing or to be formed, so far as responsibility for preparing a Plan is concerned.

6. The EOC reserves its right, in common with other responsible agencies, to establish its own methods of internal procedure. Any plan prepared by EOC must be submitted to TIIC for approval, at which time TIIC is empowered to direct any needed revisions.

7. The Enemy Oil Committee agrees with the basic points in TIIC's memorandum of 28 December 1944. That is, that there be established a permanent subcommittee of TIIC for the continuing handling of relations between CIOS and TIIC on oil, for the coordination and use of reports reaching Washington from teams in the field, and for the issuing of necessary supplementary instructions or requests to those field teams. We are nominating such a subcommittee as part of our Plan, which will be submitted to TIIC in the near future. We point out, however, that the composition of this subcommittee should change, in the future, to be adapted to changes in the primary field objectives.

8. The Enemy Oil Committee considers its task under directive JIC 222/2/D to be accomplished when a Plan has been accepted by TIIC for transmittal to CIOS. This Plan will be completed when organization for the lower priority objectives, noted previously in this memorandum, has been satisfactorily achieved.

FOREIGN ECONOMIC ADMINISTRATION

In reply refer to:
OU-939-MSI

ENEMY OIL COMMITTEE

~~CONFIDENTIAL~~

To: Members of the Enemy Oil Committee
From: H. H. Grove, Executive Secretary *B. H. G.*
Subject: Transmittal of Minutes and MEM Report.

Herewith enclosed for your information and files is a copy of the minutes of the meeting held on 27 December 1944.

We are taking this opportunity likewise to pass along a copy of an MEM report dated October 1944 on "The German Oil Industry".

Enclosures-2
MEM Report Copy No. 048

cc: Maj. Luke ✓

ENEMY OIL COMMITTEE

CONFIDENTIAL

The sixteenth meeting of the Enemy Oil Committee was held on Thursday, 27 December 1944, at 10:00 A.M., in the office of the Chairman, Room 141 Department of State. The following members were present:

Mr. Charles B. Rayner, Chairman	- State
Mr. W. D. Crampton, Vice Chairman	- PAW
Brig. Gen. H. L. Peckham	- OQMG
Maj. V. A. Gates (for Rear Adm. Carter)	- ANPB
Lt. Comdr. P. L. Hopper	- Navy
Maj. J. L. Luke	- A-2
Maj. R. R. Munoz	- G-2
Mr. S. Kilbey (for Lt. Col. Bebb)	- MEW
Mr. W. Levy (for Mr. Mason)	- OSS
Mr. B. H. Grove, Executive Secretary	- FEA

Also present were:

Mr. Chas. Darlington	- State
Mr. Erwin Hannum	- Budget
Mr. C. S. Snodgrass	- PAW

Mr. Rayner announced that this meeting had been called for the purpose of discussing plans for a technical mission to go to Germany, and in order to pass upon a report to be submitted to the TIIC. He requested Mr. Grove, as secretary of the Committee, to review briefly the progress which had been made in this direction.

Mr. Grove began by explaining that the directive under which they were working had been the outcome of numerous requests which had been made to the Joint Chiefs of Staff for the organization of some type of technical investigative committee for studying the technological development of the German petroleum industry. The matter had finally been precipitated by a request from Secretary Ickes that the Petroleum Administration for War organize such a technological investigation. Thereupon the Joint Intelligence Committee had recommended that the EOC be the coordinating body for the formulation of such a plan and had requested that a progress report be submitted to them by 15 December.

In accordance with the JIC's request, the Enemy Oil Committee had appointed a working group to go ahead with such a plan and one of the first steps they took was to draw up a list of objectives of things to be sought out. Of all the objectives, the synthetic oil industry offered the most promise and was therefore felt to have the highest priority. The next step had been to review the industry nominations of qualified technical men to compose the team to be sent over. A list of these technicians was attached to the subject plan. Mr. Grove made it clear that nominations were not closed and that additions could still be made. He went on to say that the progress report had been submitted and approved and subsequently forwarded to the Joint Chiefs of Staff. The remaining step now was to draw up a plan for the investigation of the technical aspects of the German oil industry and submit that plan to the Technical Industrial Intelligence Committee for coordination. Eventually, the TIIC would forward it to the Combined Intelligence Objectives Subcommittee in London.

At the request of Gen. Peckham, Mr. Grove interpolated a few explanatory remarks about the CIOS, saying that it was a joint British-American committee with equal rep-

resentation from both sides and under the sponsorship of the Combined Joint Intelligence Committee. The function of this committee is to screen proposals or plans for missions, eliminate any unnecessary steps, assign priorities as to whether a mission should get into the field immediately or whether it can wait, and finally, to coordinate plans with the theatre command.

Mr. Grove said in conclusion that the paper to be considered this morning was the working group's draft of a plan to be submitted to the TIIC for criticism, coordination, and forwarding to the CIOS.

At this point, Major Luke informed the committee that he had just learned that morning that the TIIC at a meeting the day before had agreed to request that certain changes in the composition of the EOC's working group be made. He wondered, in the light of this, whether the EOC should pass upon the report under consideration. Mr. Grove advised that he was aware of this decision and affirmed that the EOC would be within the limits of their directive in acting upon this report. Mr. Rayner corroborated this, saying that the present report could be submitted now and changes made to it later.

At Gen. Peckham's request, Mr. Grove named the members of the original working group as follows: Mr. Levy, Mr. Snodgrass (Mr. Crampton), Lt. Comdr. Hopper, Maj. Munoz, and himself. It was made clear that the plan superseded and did not duplicate the plan originating with Secretary Ickes. Likewise, it coordinated all of the various interests, in addition to PAW.

Due to the fact that lagging holiday mails had held up delivery of the plan under consideration, Mr. Rayner proceeded to read it aloud to the assemblage and requested that criticism or comment be made on it as each paragraph was read. Gen. Peckham questioned the definition of "Axis Europe" in Paragraph One and suggested that it be made unmistakably clear precisely what was meant. Mr. Grove replied that it meant the German-controlled oil industry, including Germany proper and all German-occupied countries. He agreed that it needed clarification and said he would endeavor to devise a better expression. It was likewise agreed to improve upon the structure of the penultimate sentence in Paragraph Two.

In Paragraph Three, it was agreed to delete the phrase, "that are concerned with oil", inasmuch as all the branches of the service are so concerned. Gen. Peckham suggested that a phrase be added somewhat as follows to the first sentence under Paragraph Three "b": "for direct use primarily in the further prosecution of the war".

Mr. Snodgrass elaborated on the selection of personnel listed under Appendix A, explaining that they had tried to divide the technical categories into the various types that entered into hydrogenation and Fischer-Tropsch. With these categories in mind, they selected a total of 16 men out of a possible 35. They had made an effort to have a team that would be completely coordinated as a whole, but which could be divided up for specific assignments. As noted under Appendix D, each technical category, for the sake of overall unity, had representatives from other categories. He mentioned that each man had been carefully selected, even as to his language ability. As a matter of interest, he remarked that they were in the process of assembling all of the analyses and test data which the Technical Advisory Committee had developed during the war and would have it available for the study of the team on 9 January. For this purpose, each man had been enrolled as a technical consultant to PAW. Mr. Rayner said that it was planned to send two or three men over immediately

to work with the CIOS in London and to hold the rest in reserve until such time as the targets were available.

Mr. Grove informed the committee that the list of technicians had been submitted to a number of authorities and there had been no adverse criticism of it. It was recognizedly the best selection of talent available as each man was an outstanding expert in his particular field.

In Paragraph Four "a", it was agreed to delete the phrase, "the agencies of the Technical Advisory Committee of", inasmuch as these were included under the PAW. A few minor changes in sentence structure were also agreed upon.

The question of post-war information was raised and Mr. Grove stated that much of the knowledge the team would acquire would be of post-war value, but that at the present time, that would be purely incidental to their main purpose. Mr. Rayner declared that there were three main objectives of the team: (1) to get information to be used as a yardstick in developing intelligence against the Japanese, (2) to determine whether they have developed technical methods or formulae which could be used in our own industry to further the war effort (especially in the production of Diesel oil and aviation gasoline), and (3) to aid us in determining to what extent we can supply European requirement after the war in the west is over, in order to relieve tankers for use in the Pacific. Gen. Peckham added that if Occupied Europe should gradually contract, it might be possible to use this newly acquired knowledge and equipment against Germany itself, and Mr. Kilbey added that, apart from winning the war, we might have to win the peace.

In connection with Appendix C, Mr. Levy thought that further nominations would have to be made, and in Paragraph Four "b", Mr. Kilbey suggested leaving out the word "informal".

Mr. Grove advised that a copy of this draft had been sent to the TIIC for any informal comment they might care to make in advance. They had suggested that Paragraph Five be reworded to recommend that the TIIC develop the subject of the proper auspices for the team in the field, throwing the burden of field arrangements on the TIIC to develop with the CIOS. Because of the difficulties involved in selecting a proper military agency, Mr. Grove suggested that this be done.

Considerable discussion revolved about the wording of Paragraph Five and the form in which the recommendations should be made, Mr. Rayner suggesting that possibly this paragraph should be an abstract statement and the recommendations placed in Paragraph Eight. Both he and Mr. Crampton thought Paragraph Five could recommend that the TIIC make the appropriate arrangements with the CIOS for the handling of the mission upon its arrival. Gen. Peckham questioned whether this would not be putting the EOC in a subordinate position to the TIIC. It was finally agreed that Paragraph Five be changed to indicate that although it was understood that provision had been made for handling the matter in Europe, it was recommended that the TIIC be charged with it. It was likewise agreed that there be a section in the plan headed "Recommendations".

Gen. Peckham raised the question as to whether or not the EOC was concerned with post-war problems, expressing the opinion that they would be settled on a higher level. Mr. Grove explained that although at present they were coordinating all interests in connection with reducing Germany's potential oil strength, part of the job was also to make recommendations to reduce her future war-making potential. It meant an investigation of the oil industry from all points of view, but with varying priorities.

Mr. Rayner and Mr. Crampton both stressed that it was to be a fact-finding and fact-gathering mission. Mr. Grove explained that the investigation of the oil industry of Europe in an abstract sense would be on a high priority level as regarded present problems, and on a comparatively low priority level as regarded those phases of the industry which were post-war problems. He recommended that in due course, those phases which were of lower priority be developed and ultimately a team be provided for that purpose.

Mr. Rayner proceeded to read the rest of the plan and asked Mr. Grove to expound the last paragraph. Mr. Grove commenced by declaring that although there had been no opposition to the plan on paper, there had been considerable background murmuring against it. He called attention to the fact that intelligence and not operational agencies were represented on the EOC and that therefore some of the latter felt that they were playing a role of secondary importance. He cited Army Air Forces Supply, Navy Bureau of Ships, the Ordnance Department and the Bureau of Mines as examples. The question was raised regarding the dissemination of field facts and the point was made that the JIC were reported as intending to set up a reproduction and dissemination unit which would be responsible for this phase of the work. This would satisfy all agencies, whether on the EOC or not. It would also eliminate the need for setting up a subcommittee for the evaluation of the work.

Mr. Grove added that a further point should be made clear. The directive called for the EOC's organizing the mission, but once having done so, its work along those lines should cease. Their job was to set up the team and then sever their connection, so to speak, from it as a committee, although individually they could continue their interest in its findings. Therefore he doubted that it would be either necessary or desirable to set up any kind of a permanent agency.

It was made clear that the various agencies not represented on the EOC had been consulted in the matter of the plan, and further, would continue to be given adequate opportunity for posing questions they might wish to have answered by the team.

The point was made that it was important to establish some sort of medium whereby the information gathered in the field would be sent back as quickly as possible. It was suggested that a recommendation be made that the EOC be called upon to submit a list of the agencies to whom field reports should be distributed.

Lt. Comdr. Hopper expressed the thought that there should be a focal point from which instructions to the field would emanate and Mr. Grove assured him that the CIOS would be that medium. The question of screening the information was raised and it was decided that the TIIC would have to make such arrangements, not only for the subject committee, but for some dozen other committees working concurrently on chemicals, rubber, et cetera.

The question was raised whether all of the agencies not represented on the EOC were satisfied with the plan as drawn up and Mr. Grove replied that there had not been time to find out. Considerable discussion ensued as to the advisability of approving the draft without the unanimous approval of all interested parties. It was finally agreed, due to the pressure of time, to approve the report subject to its acceptance by the other agencies. Should there be any material dissent, the plan could be reconsidered in the light of it. Mr. Levy felt that in view of the strong feeling expressed by certain groups, it might be psychologically unwise to approve the plan without giving everyone an opportunity to express his approval or disapproval. Maj.

CONFIDENTIAL

- 5 -

Luke concurred in this opinion. Mr. Crampton expressed the belief that due to the urgency of the matter, the committee should formulate the plan in line with the directive it was working under. Since they had been asked to coordinate all interests, he felt they should expedite the matter in every way possible. When questioned who it was that seemed displeased with the present arrangements, Mr. Grove named the Air Forces Supply and Navy Bureau of Ships. He said that the WPS and the OSRD were not in any wise in disagreement with arrangements, the former concurring, but with the right to criticize the plan when it reached the TIIC, and the latter being more or less disinterested. It was generally agreed that any dissenting opinions should be expressed in writing and that the plan be approved on behalf of those present subject to reconvening and reconsidering any change in substance.

Mr. Grove summed up by saying that if any changes were forthcoming by the other agencies which were compatible to the report as it now stood, they would be incorporated and circulated among the members of the EOC individually for approval or rejection. If they should be incompatible, another meeting would be called to consider them.

In closing, Mr. Grove mentioned the U.S. Strategic Bombing Survey who, because of their extremely high priority, have a right to go in anywhere at any time. He suggested that the EOC cooperate to the fullest extent with the Survey people and thought that in due course they might even suggest putting one or two of their men on the technological team. He pointed out the wisdom of pooling efforts in order to get the best results and to avoid any duplication. He said that he had intimated to the Survey people that the EOC would be only too glad to cooperate.

With no more business remaining to be discussed, the meeting adjourned at 12 noon.

AFIAN-EU
2 January 1945

Mr. E. H. Grove
Executive Secretary, Enemy Oil Committee
1408 Temporary "U" Building
12th and Constitution Avenue, N.W.
Washington, D.C.

Dear Mr. Grove:

In accordance with your request for written comment on the plan dated 21 December 1944, "Plan for the Acquisition of Technical Information on the Oil Industry of Axis Europe", there follows a quotation from a paper addressed to AC/AS, Intelligence, by the office of AC/AS, Materiel and Services:

"Although the paper under date of 21 December 1944, subject as above, appears to represent an improvement over the Progress Report presented in case 1091/1 in that it recognizes the need for arrangements for disseminating the acquired information, it is not believed that it should be considered acceptable to the Technical Industrial Intelligence Committee.

"In the subject plan, the emphasis is considered misplaced, both in respect to the statements on objectives and in the balance of Mission personnel. The opinion is held that the objective should be those phases of fuel and lubricant manufacture which are most applicable to use in the U.S. for the production of aviation gasoline and other special-interest products of the Services, regardless of the industrial sources; i.e., whether the information comes from synthetic processes or from petroleum refining processes, and that the Mission personnel should be composed mainly of technologists who are now or who have recently been active in the production programs of aviation gasoline and other special-interest products."

This quotation is forwarded to you as representing the comment of AC/AS, Materiel and Services at the request of Lt. Colonel H. Claire Dees, Aviation Petroleum Branch, with the coordination of Lt. Colonel Robert W. Johnson, Materiel Division.

CONFIDENTIAL

The office of the AC/AS, Intelligence has no written comment to make since it is felt that the office of the AC/AS, Material and Services is primarily interested in this mission, the objectives of which are entirely technical.

Very truly yours,

JAMES L. LUKE
Major, Air Corps
AC/AS, Intelligence Representative,
Enemy Oil Committee

COORDINATED BY:

JOHN F. TURNER
Colonel, Air Corps
Operations Division
Office of the Chief of Air Staff
Intelligence

HEADQUARTERS ARMY AIR FORCES

~~CONFIDENTIAL~~

TO: AC/AS, M&S, Materiel Division DATE 1 Jan 45

OFFICE SYMBOL AC/AS, Intelligence	BUILDING Pentagon
ATTENTION: Lt. Col. R. W. Johnson	ROOM 5 D 882

FOR:

1	COORDINATION	INVESTIGATION	NEC. ACTION
2	INFORMATION	RECOMMENDATION	SIGNATURE
	FILE	CONFERENCE	

REMARKS:

Transmitting R&R to AC/AS, Intelligence (Atten: ~~Col.~~ Col. J. W. McGuire) for coordination by Col. Johnson and transmittal to Col. McGuire, on the "Plan for Acquisition of Technical Information from Petroleum Industry of Axis Europe".

ROUTE TO:

- 1 - AFDMA-1 for coordination 5 D 882
- 2 - AFABI - for information 3 E 152

FROM: Avn Pet Branch *HCD*

NAME H. C. DEES, Lt. Col, AC	OFFICE OR SYMBOL DBS-5C
PHONE 79748	BUILDING Munitions
	ROOM 4250

3-218, AF

~~CONFIDENTIAL~~

ROUTING AND RECORD SHEET

CONFIDENTIAL

TALLY NO.	
FILE NO.	

SUBJECT: Plan for Acquisition of Technical Information from Petroleum Industry of Axis Europe

TO: AC/AS, Intelligence (Atten: Col. J. W. McGuire)

DATE 1 Jan 1945

FROM: AC/AS, M&S (Aviation Petroleum Branch)

COMMENT NO. 1

AFDBS-5C/HCD/ft/79748

1. Reference is made to a report by the Enemy Oil Committee, dated 21 December 1944, subject as above, supplied to Aviation Petroleum Branch by Major James L. Luke. Reference is also made to R&R from Aviation Petroleum Branch to AC/AS, Intelligence (Atten: Col. J. W. McGuire), dated 11 Dec 1944, subject, similar to above, and to JCS Cases 1091 and 1091/1.

2. Although the paper under date of 21 December 1944, subject, as above, appears to represent an improvement over the Progress Report presented in case 1091/1 in that it recognizes the need for arrangements for disseminating the acquired information, it is not believed that it should be considered acceptable to the Technical Industrial Intelligence Committee.

3. In the subject plan, the emphasis is considered misplaced, both in respect to the statements on objectives and in the balance of Mission personnel. The opinion is held that the objective should be those phases of fuel and lubricant manufacture which are most applicable to use in the US for the production of aviation gasoline and other special-interest products of the Services, regardless of the industrial sources; i.e., whether the information comes from synthetic processes or from petroleum refining processes, and that the Mission personnel should be composed mainly of technologists who are now or who have recently been active in the production programs on aviation gasoline and other special-interest products.

4. Objectives pertaining to post-war "oil economy" are mentioned in the subject plan, although less specifically than in the above-mentioned JCS cases. It is believed that the question as to whether or not the JCS is to assume responsibility for matters pertaining to post-war "oil economy" should be brought forth clearly and in such a form as to facilitate a considered decision by the proper authorities.

5. It is indicated that provisions are being made to operate through an appropriate military agency in Europe, but, as one of the most difficult practical problems in the program is the actual establishment of technical personnel in the occupied countries under satisfactory operating conditions, it would seem highly desirable that the arrangements be specifically indicated in the proposed plan as forwarded from the Technical Industrial Intelligence Committee to the Joint Intelligence Committee.

COORDINATED BY:

Robert Johnson
AC/AS, M&S, Materiel Division

H.W.H.
HARRY W. HOWZE

Colonel, Air Corps
Chief, Aviation Petroleum Branch

H.C.B.

CONFIDENTIAL

ENEMY OIL COMMITTEE

CONFIDENTIAL

January 1, 1945

CONFIDENTIAL

To: The Secretary
Technical Industrial Intelligence Committee

From: H. H. Grove, Executive Secretary
Enemy Oil Committee

Subject: Interim Reply to the Memorandum Dated 28 December from the
Secretary TIIIC to the Secretary EOC

1. As part of its Plan for the investigation of the German oil economy, the Enemy Oil Committee will in due course take to TIIIC recommendations for personnel to comprise a permanent TIIIC subcommittee on oil, as requested in TIIIC's memorandum of 28 December.
2. The Enemy Oil Committee notes that at the 6th and 7th meetings of the Technical Industrial Intelligence Committee, the conclusion was reached that the "five man group provisionally named" by the Enemy Oil Committee to initiate work on a plan for the investigation of German oil technology did not, in its membership, have an appropriate distribution of technical skills to insure that an adequate plan would be formulated.
3. The Enemy Oil Committee regrets that TIIIC drew its conclusion without requesting any statement from the Enemy Oil Committee as to its viewpoint or the methods it was following.
4. For clarification of the record, the Enemy Oil Committee brings the following points to TIIIC's attention:
 - a. Despite the contrary inference which can be fairly drawn from Report JIC 222/3 and from the minutes of some of its meetings, the Enemy Oil Committee has not confined work on its Plan to a

"five man group," but has sought, and largely received, the fullest advice and participation from all the interested agencies of government and from the appropriate technical committees in industry.

- b. Irrespective of (a) above, the plan now under consideration by the Energy Oil Committee has received tentative approval from three of the four interested branches of the Navy Department, and from PAB, S-2, A-2, OCS, FSA, State Department, Fuels & Lubricants Division of OCS, AFPL, Fuels & Lubricants Branch of the Ordnance Department and the Bureau of Mines.
- c. At the present time, written comment on the Plan is being expected from the Navy Department, Bureau of Ships and from the Air Forces S & M Branch. These are the only governmental agencies with priority of interest which have not indicated their assent. The fact that approval of the Plan is subject to the comments of these agencies being compatible with it, evinces that all interested technical groups are expected to aid in its formulation.
- d. Paragraph (c) above indicates that, barring defects which we have currently no reason to expect, the work of formulating a plan for the investigation of high priority oil targets in Europe (chiefly the synthetic oil industry) is largely completed. There appears, therefore, if judged on this basis alone, no sufficient reason to set up a working group for this Plan. If the current plan should ultimately be found inadequate, the skills required for the formulation of a new plan are, in our opinion, only to a minor degree those of "practical refining experience," as indicated in paragraph 4 of FIC's memorandum of 28 December. We believe the needed skills to be those connected with the hydrogenation of coal, petroleum and gas, and their auxiliaries. In the formulation of the present plan we have used the advice of some of the best American technicians available in this field.
- e. There remains before us the work of drafting a plan for the investigation of targets of lower priority, such, for example, as crude oil production and reserves, normal refining processes, use of substitute fuels, consumption of oil products and certain intelligence objectives. A working group of technicians with the skills indicated in the FIC memorandum of 28 December, 1946, would be largely unbalanced for this purpose. Again, however, we intend to use the efforts of all who can contribute to the formulation of a successful plan.

5. In the work of organizing an oil mission, certain member agencies of the Energy Oil Committee have undertaken commitments and accepted responsibilities via a via third parties. These have been justified by the JIC's directive to the AOC (JIC 222/2/D). If for no other reason than this, the AOC cannot delegate its directive to other agencies, either existing or to be formed, so far as responsibility for preparing a Plan is concerned.
6. The AOC reserves its right, in common with other responsible agencies, to establish its own methods of internal procedure. Any plan prepared by AOC must be submitted to TIIIC for approval, at which time TIIIC is empowered to direct any needed revisions.
7. The Energy Oil Committee agrees with the basic point in TIIIC's memorandum of 28 December, 1944. That is, that there be established a permanent subcommittee of TIIIC for the continuing handling of relations between CIGS and TIIIC on oil, for the coordination and use of reports reaching Washington from teams in the field, and for the issuing of necessary supplementary instructions or requests to those field teams. We are nominating such a subcommittee as part of our Plan, which will be submitted to TIIIC in the near future. We point out, however, that the composition of this subcommittee should change, in the future, to be adapted to changes in the primary field objectives.
8. The Energy Oil Committee considers its task under directive JIC 222/2/D to be accomplished when a Plan has been accepted by TIIIC for transmittal to CIGS. This Plan will be completed when organization for the lower priority objectives, noted previously in this memorandum, has been satisfactorily achieved.

cc: Major James L. Luke

ENEMY OIL COMMITTEE

M E M O R A N D U M

In reply refer to:
SU-869-5183

C O N F I D E N T I A L

DEC 26 1944

To: Members of the Enemy Oil Committee

From: D. H. Grove, Executive Secretary
Enemy Oil Committee *DHG*

Subject: Plan for the Acquisition of Technological Information from
the Petroleum Industry of Axis Europe

The attached draft of a plan for the investigation of certain technological aspects of the petroleum industry of Axis Europe has been prepared by the working group appointed at the last meeting of the Enemy Oil Committee.

This plan will be considered at a meeting of the Enemy Oil Committee to be held at 10:00 A.M. on Thursday, December 28, 1944, in Room 141, State Department.

It is requested that you bring this draft plan to the attention of all interested people in your agency, and that your suggestions for modification of it be submitted in writing at the meeting noted above.

Please note that Appendix C, which is a series of C.I.O.S. Target Sheets specifying particulars of plant, personnel, etc., to be studied in the field, is in process of photostatic reproduction, and will be forwarded immediately upon completion. It is believed that discussion can take place without any detailed consideration of Appendix C, which will be subject to any needed revisions in due course.

Attachment

Major James L. Luke ✓

HEADQUARTERS AAF

ROUTING SLIP

TO → OFFICE & INDIVIDUAL IN TURN		DATE FORWARDED
1.		
2.		
3.		
4.		
5.		

FOR → FOLLOWING ACTION(S) AS CHECKED		
<input type="checkbox"/> COORDINATION	<input type="checkbox"/> NOTE AND RETURN	<input type="checkbox"/> INFORMATION
<input type="checkbox"/> NECESSARY ACTION	<input type="checkbox"/> RECOMMENDATION	<input type="checkbox"/> FILE
<input type="checkbox"/> SEE OR PHONE ME	<input type="checkbox"/> APPROVAL	<input type="checkbox"/> SIGNATURE

COMMENT

M+S

a. Point up objections to emphasize An. go. lean out general status of hypothesis in report

b. in app. B. 1
in app. II 2

Brownell

FROM → OFFICE & INDIVIDUAL		PHONE

ROUTING SLIP

	TO → OFFICE & INDIVIDUAL IN TURN	DATE FORWARDED
1.	Col. Mc Quire	
2.		
3.		
4.		
5.		

FOR → FOLLOWING ACTION(S) AS CHECKED			
<input type="checkbox"/> COORDINATION	<input type="checkbox"/> NOTE AND RETURN	<input type="checkbox"/> INFORMATION	
<input type="checkbox"/> NECESSARY ACTION	<input type="checkbox"/> RECOMMENDATION	<input type="checkbox"/> FILE	
<input type="checkbox"/> SEE OR PHONE ME	<input type="checkbox"/> APPROVAL	<input type="checkbox"/> SIGNATURE	

COMMENT

Forwarded for your info.
-and Col. Turner's, if you think it important.

Request advise as to action I should take at Enemy Oil Committee meeting, 28 Dec. Does this conflict with action taken by TICC.

Lt. Col. Dees has copy.

	OFFICE & INDIVIDUAL	PHONE
FROM →	J. L. Luke, Maj. AC	

December 21, 1944

PLAN FOR THE
ACQUISITION OF TECHNOLOGICAL INFORMATION
ON THE OIL INDUSTRY OF AXIS EUROPE

Report by the Enemy Oil Committee

GENERAL STATEMENT

1. The plan described below is submitted by the Enemy Oil Committee under the directive resulting from J.I.C. 222/1 (Revised), to prepare a plan for the examination of the oil industry of Axis Europe, taking into account the interests and the available investigatory facilities of all agencies participating in the Enemy Oil Committee, and also of the War Production Board and the Office of Scientific Research and Development.

2. Careful consideration of the technological aspects of the oil industry in Axis Europe has led to the conclusion that it is the hydrogenation and Fischer-Tropsch plants, and their related installations, laboratories and research centers, which merit highest priority in investigation, because most promising of data immediately applicable in the war effort. The plan here proposed refers only to the investigation of these industries.

THE PLAN

3. a. A technological team (Appendix A) has been formed and its objectives are set forth in detail in Appendix B. This has been done

MEMORANDUM OF

BOARD OF ECONOMIC WARFARE

In cooperation with the branches of the Armed Services that are concerned with oil - State Department, NSAF, NSA, SS and WH.

b. The object of this team is to collect military, technical and industrial intelligence in occupied Axis Europe in the field of oil and allied subjects (Appendix C). The most important phases of this subject are synthetic oil production, directly or indirectly from solid fuels (coal, lignite, oil shale), the outstanding products produced (aviation gasoline, Diesel oil and synthetic lubricants) and the by-products produced ancillary to the production of synthetic oil.

The intelligence of immediate military importance is expected to be (1) knowledge of the Japanese oil position and consequences of Germany's technical aid to Japan. (2) New products, catalysts, processes, test methods and other improvements that have been developed in Germany that may be immediately useful in our own war production program.

4. a. The members of the team have been selected for their special qualifications in dealing with certain phases of the problem, primarily through the agencies of the Technical Advisory Committee of the Petroleum Administration for War, other interested government agencies and the military services dealing with oil. The group is believed to be a balanced team that is capable of handling any phase of the subject. The majority of the members speak German and have an intimate knowledge of the synthetic oil industry as it was prior to

the war. Provision is made so that additional qualified technicians or military intelligence officers may be attached to it by Army, Navy, O.S.S., O.N.I. or other agency of government, either here in Washington or overseas. The processing of the team has advanced to the stage that it can leave on short notice. Some members of the team are already sufficiently briefed to enable their immediate departure overseas for first-hand experience and the handling of targets of opportunity.

b. In order that the program may be fully carried out with the maximum efficiency and a minimum of duplication, it has been developed in anticipation of full collaboration with the corresponding British oil team and with informal knowledge of the British planning.

c. The subject matter to be investigated by this team has been received into technical subdivisions (Appendix B) and referred to members of the team for detailed study to the end that the team is well informed before going on to the target. These several studies involve a variety of sources of which the following are illustrative: (1) The Army Oil Committee studies of the German oil position; aerial photographs of plants with a description of the functions of each part of the plants as far as can be ascertained; estimation of production, quality of the products produced as revealed by detailed analyses of enemy oil products; captured documents and other ground intelligence bearing on the problem. (2) Technical and scientific publications bearing on the subject. (3) Patents and patent applications.

(4) Detailed information on our own progress and developments that are pertinent. (5) Information on Japanese progress in obtaining self-sufficiency in petroleum through development of synthetic shale oil industries.

d. The known targets have been listed according to the procedure laid down by S.I.O.M., listing the location, important personnel, information expected and the suggested priority of each target (Appendix C).

e. Provisions are being made for the team to operate through an appropriate military agency in Europe in accordance with the procedure for missions operating under the S.I.O.M.

5. It is concluded that the following objectives are of fundamental importance, but of lower priority than the study of the synthetic oil industry and its satellite industries:

a. The assessment of the oil production potential of continental Europe, including crude oil production and refining, with a view to determining how far this production may meet the needs of the United Nations for our further war effort and for supplying the needs of liberated and occupied countries.

b. The assessment of the German oil industry's progress, difficulties, achievements, etc., as a basis for analyzing this industry's potential for future war and any measures needed to neutralize this.

c. A separate report will be submitted in due course on the investigation of the lower priority targets noted above in a and b.

7. To enable the continuous assessment of data arriving from the field, and the advising of the field team in regard to new problems which may arise, and to insure that such data as is susceptible to immediate application in the war effort be promptly available to the operating agencies, we recommend as follows:

8. That the Enemy Oil Committee, acting in its function as the permanent subcommittee of F.I.L.C. on petroleum, designate a working group for the receipt, evaluation and proper transmittal of information received from the field. This group would be comprised of members of the Enemy Oil Committee representing agencies having an active interest in the problems under investigation, and in addition would include alternates, appointed through the pertinent agencies of the Enemy Oil Committee, to represent the interested agencies not now represented on the Enemy Oil Committee.

C O N F I D E N T I A L

APPENDIX A

PERSONNEL OF U.S. GOVERNMENT TECHNICAL OIL MISSION

Nominations by Bureau of Mines and Industry

Asbury, W. C. - alternate E. H. Roetheli

Atwell, H. V.

Carlsmith, L. E.

Denig, F. - alternate I. H. Jones

Haensel, V.

Kirst, L. L.

Kuhne, P. K.

Odell, W. W. - alternate L. L. Newman

Peck, E. E.

Powell, A. R.

Reichl, E. H.

Schroeder, W. C.

Spaght, H. E.

Von Elbe, G. - alternate J. H. Crowell

Voss, E.

Weir, H. M.

And such other nominations that may be added.

Other Governmental nominations to be made.

December 13, 1944

APPENDIX B

FIELDS OF INVESTIGATION

1. Products and Test Methods (Specifications & Testing Technique)
 - a. Aviation Gasolins
 - b. Motor Gasoline
 - c. Diesel Fuels
 - d. Lubricants
 - (1) Oils
 - (2) Greases
 - e. Engine Performance
 - f. Petroleum fuels for rockets, torpedoes, and other military implements
 - g. Additives for quality improvement
 - (1) Germ inhibition
 - (2) Oxidation inhibition
 - (3) Viscosity inhibition
 - (4) Tackiness inhibition
 - (5) Extreme pressure agents
 - (6) Anti-corrosion additives

2. Synthetic oil manufacture (or Kohleveredelung), that is, the conversion of solid fuels to primary oil products and their by-products.
 - a. Gasification and carbonization of solid fuels
 - b. Hydrogenation of coal, tar and oil (Bergius - I.G., Uhde and any other processes)
 - c. Hydrocarbon synthesis of oil from water gas (Fischer-Tropsch and any other processes)
 - d. Fractionation, distillation and other recovery methods for gases and liquids
 - e. Oil shale processing
 - f. Materials of construction, including metallurgy

3. By-products from hydrocarbons produced in synthetic oil processes
 - a. Synthetic lube oils
 - b. Alcohol fuels (either alcohol and butanol alone or in mixtures)
 - c. Acids
 - d. Hydrocarbon polymers
 - e. Synthetic fats
 - f. Special waxes
 - g. Other products

APPENDIX A

U.S. GOVERNMENT TECHNICAL OIL MISSION
FOR INVESTIGATION OF GERMAN OIL INDUSTRY

Division of Responsibility for Briefing
As Suggested at the Meeting in Washington on
December 13, 1944

Products & Test Methods

L. E. Carlsmith P. K. Kuhne E. E. Peck H. E. Spaght
V. Haensel G. von Elbe H. V. Atwell

Gasification & Carbonization of Solid Fuels

F. Denig A. R. Powell E. E. Peck W. C. Asbury
W. H. Odell W. C. Schroeder H. K. Weir

Hydrogenation of Coal, Tar and Oil

W. C. Asbury L. E. Carlsmith L. L. Hirst E. E. Peck
A. R. Powell W. C. Schroeder H. E. Spaght E. Voss
H. K. Weir

Hydrogenation Synthesis of Oil from Water Gas (Fischer-Tropsch)

H. V. Atwell L. E. Carlsmith L. L. Hirst P. K. Kuhne
W. H. Odell A. R. Powell E. H. Reichl G. von Elbe
W. C. Asbury V. Haensel E. Voss

Fractionation, Distillation and Other Recovery Methods for Gases & Liquids

L. E. Carlsmith V. Haensel P. K. Kuhne E. H. Reichl
H. E. Spaght E. Voss H. K. Weir F. Denig

Materials of Construction, Including Metallurgy

F. Denig E. H. Reichl H. K. Weir E. Voss
L. L. Hirst

By-Products from Hydrocarbons Produced in Synthetic Oil Processes

P. K. Kuhne H. V. Atwell W. C. Asbury H. E. Spaght
E. H. Reichl E. E. Peck V. Haensel G. von Elbe
A. R. Powell

Oil Shale Processing

W. H. Odell W. C. Schroeder

22 December 1944

Mr. B. H. Grove
Executive Secretary, Enemy Oil Committee
1408 Temporary "U" Building
12th and Constitution Avenue, N.W.
Washington, D. C.

Dear Brandon:

Your letter of December 15 to Lt. Colonel Scholten requested written confirmation of the replacement by Major Russell S. Terr of the position formerly held by Major Philip G. Bower as A-2 representative of the Far Eastern Sub-Committee of the Enemy Oil Committee.

This change has been officially approved and this letter will constitute written confirmation.

Sincerely yours,

JAMES L. LUKE
Major, Air Corps

ROUTING SLIP

TO →	OFFICE & INDIVIDUAL IN TURN	DATE FORWARDED
1.	<i>M. J. ...</i>	<i>20 Dec</i>
2.		
3.		
4.		
5.		

FOR → FOLLOWING ACTION(S) AS CHECKED

<input type="checkbox"/>	COORDINATION	<input type="checkbox"/>	NOTE AND RETURN	<input type="checkbox"/>	INFORMATION
<input type="checkbox"/>	NECESSARY ACTION	<input type="checkbox"/>	RECOMMENDATION	<input type="checkbox"/>	FILE
<input type="checkbox"/>	SEE OR PHONE ME	<input type="checkbox"/>	APPROVAL	<input type="checkbox"/>	SIGNATURE

COMMENT

*This was brought in by
 Col Scholten who has
 had it OK'd. A letter
 should be written notify-
 ing the Committee of
 approval and appointment*

FROM →	OFFICE & INDIVIDUAL	PHONE
	<i>[Signature]</i>	



THE JOINT CHIEFS OF STAFF
JOINT INTELLIGENCE COMMITTEE
WASHINGTON 25, D. C.

ENEMY OIL COMMITTEE

In reply refer to:
SU-959-MSI

ML

RESTRICTED

Lt. Col. Dudley J. Scholten
AC/AS Intelligence
3D-153 Pentagon Building
Arlington, Va.

APR 15 1944

Dear Colonel Scholten:

We understand that Major Russell S. Tarr is to replace Major Philip G. Bower as A-2 representative on the Far Eastern Subcommittee of the Enemy Oil Committee.

May we have written confirmation from you that this change in membership is official.

Sincerely yours,

B. H. Grove

B. H. Grove
Executive Secretary
Enemy Oil Committee

AFIJI
2 Dec 1944
PEB/ren/3228

9 DEC 1944

MEMORANDUM FOR SECRETARY, JOINT INTELLIGENCE COMMITTEE

Subject: Membership - Enemy Oil Committee

Major James L. Luke, of the Army Air Forces, is announced as the A-2 member of the Enemy Oil Committee, vice Lt. Colonel B. J. Scholten, relieved.

W. J. PAUL
Colonel, Air Corps
Executive
Office of Asst Chief of Air Staff,
Intelligence

CC: Mr. Brandon H. Grove,
Foreign Economic Administration
Washington 25, D. C.

Lt. Col. B. J. Scholten
Office of ACAS, Intelligence

Major James L. Luke
Office of ACAS, Intelligence

ROUTING RECORD

REPORT NO. JIC Memo/Inf # 110 DATED 16 Dec 44

ROUTED TO Lt. Colonel Fogle
Colonel Sage
Major Luke _____
Signature

ROUTED BY Major Bloom DATE 16 Dec 44

ACTION: INFORMATION AND FILE

TO BE RETURNED TO MAJOR JAMES T. LOVELL (ROOM 3-4-139) NOT LATER THAN

THIS PAGE IS UNCLASSIFIED

Handwritten notes:
L. S. Eagle - 9/57
Major Luke for file

Handwritten: After

RESTRICTED

16 December 1944

JOINT INTELLIGENCE COMMITTEE

MEMORANDUM FOR INFORMATION NUMBER 110

MEMBERSHIP OF THE ENEMY OIL COMMITTEE

Note by the Secretary

Major James L. Luke, of the Army Air Forces, is announced as the A-2 member of the Enemy Oil Committee, vice Lt. Colonel D. J. Scholten, relieved.

JAMES S. LAY, JR.,

Secretary.