

572,6501
1943-1945
HISTORICAL OFFICE

3415-37C

1259

DECLASSIFIED MR 22 SEP 72

SECRET

J.I.C. (43)465
(Also A.O. (43)70)

13TH NOVEMBER, 1943

COPY NO. 62

WAR CABINET

JOINT INTELLIGENCE SUB-COMMITTEE

REPORT ON VISIT TO SOUTHERN ITALY
BY MR. E.A. BERTHOUD - MINISTRY OF
FUEL AND POWER

Note by the Secretary

The attached report to the Ministry of Economic Warfare by Mr. E.A. Berthoud, Ministry of Fuel and Power, as a result of a visit to Southern Italy to collect data on the Italian oil position, is circulated for information.

(Signed) A.H. BISHOP.

Offices of the War Cabinet,
S.W.1.,

13TH NOVEMBER, 1943.

REPORT TO MINISTRY OF ECONOMIC WARFARESummary of Papers Submitted on Results of Mission to Italy

Before proceeding to Italy I explained the objects of my M.E.W. Mission to Lt. General Sir Humphrey Gale and obtained his support and also that of Brigadier Strong the D.M.I. at A.F.H.Q. Algiers. I also obtained the endorsement of Lt. General Sir F. Mason Macfarlane, the Head of the Allied Mission at Brindisi, whose consent is necessary before any visitors proceed to the Allied Mission.

The papers submitted are as follows:

ANNEX I. BRINDISI.

This annex covers three papers:

1. Interview with General Rossi, the Deputy Chief of the Italian General Staff. General Rossi had occupied this position for sometime previous to the Italian surrender. His comments in regard to the Italian and Axis oil situation are, therefore, of interest, although he was not able to provide any very precise information. In general his remarks confirmed the acute shortage of fuel oil suffered by the Italian Navy, the shortage of aviation fuel for the Italian Air Force, and generally the deficiency of oil in Axis Europe, particularly gas oil. On the other hand, the General felt that Axis shortages on the different fronts were more due to transport considerations than to actual deficiencies of production.

The interview with General Rossi was arranged by Brigadier General Taylor of the Allied Mission, for whose courtesy and help I should like to express my great appreciation. I considered the desirability of arranging interviews also with the King of Italy and Marshal Badoglio, in case they had any views as to the extent to which Axis strategy had been influenced by oil considerations. I was informed, however, by all concerned that neither of them could contribute any useful information.

2. Interview with Admiral Robertelli, also at Brindisi.

This was by far the most useful interview and was arranged with the enthusiastic help of Admiral Power R.N. at Taranto who introduced me in the first place to Admiral Decourten, the Italian Minister of Marine.

In view of the function he has fulfilled since the outbreak of the war as described in the Annex, Admiral Robertelli is probably the best placed person in Italy to provide enemy oil intelligence. My interview with him lasted 2½ hours and could not be repeated as my departure from Italy had already been fixed. I suggest that Admiral Robertelli could usefully be approached for further information on the lines of the M.E.W. questionnaire which was not in my hands during my stay in Italy.

Admiral Robertelli's information sheds a striking light on the extent to which Italy was handicapped during the progress of the war by shortages, particularly of naval fuel oil, and to a lesser extent of aviation fuel. Gas oil shortages also played their part as evidenced by the necessity to convert

armoured cars from diesel engines to petrol engines, as this step must have thrown some strain on equipment production.

Although less precise than his information on the purely Italian oil situation, the Admiral's firsthand comments on the preoccupations caused to Germany by oil shortages are also of particular interest. The statement that the German fleet in the North Sea has also suffered seriously from a shortage of fuel oil is worthy of particular note.

3. This third paper covers "General Comments". I have tried to let the facts submitted to me speak for themselves so that interested departments can draw their own conclusions. My own impression from the Brindisi talks is that our M.E.W. view that the Axis oil situation became tight and vulnerable in 1942 has received important confirmation. It seems clear, for example, that if it had been possible at that time to put out of action the Italian refineries at Bari and Leghorn, Italian opposition would have been further reduced to a material extent.

ANNEX II. BARI - Visit to the Refinery.

This paper gives a description of the Refinery and full details of its working in 1942 and the first nine months of 1943. It will be seen that over this period the Refinery was handling an average of about 14,000 tons per month of Albanian crude, and sending semi-finished products to Leghorn for conversion into aviation spirit. This figure is considerably in excess of what we estimated ourselves and it is interesting to note that aerial reconnaissance had led us to suppose that the Refinery was not working at all in Spring of this year. A point of special interest is that on at least one occasion the Germans sent base stock to Bari for conversion into lubricating oil and re-export to Germany. This matter is being investigated further by British Army technical experts on the spot and may shed a little light on the German lubricating oil position, although Italian information does not suggest that this has been unduly tight.

ANNEX III. BARI - Visit to A.G.I.P. distributing organisation.

Detailed figures were provided showing the curve of deliveries to civilian consumers in the Bari branch area since 1939. They will enable a check to be made on M.E.W. estimates as to the reduction of civilian petroleum consumption in Italy.

ANNEX IV. TARANTO - Visit to white products depot.

Figures were provided to show the products, particularly aviation spirit, supplied from this depot to the Italian forces only and are appended to the annex. Intelligence available at this depot has been reduced by the action of the manager in destroying all records bearing on supplies to the Germans 24 hours before the Allied arrival there.

Unfortunately, time did not permit of my interviewing the depot manager of the large Naval fuel installation at Taranto which was captured intact with its storage capacity of over 400,000 tons. I suggest that this omission should be repaired and information obtained of the throughput at this depot, since the beginning of the war. Confirmation of the

information given as to Italian shortage of fuel oil is provided by the fact that when we took this depot over it only contained 2-3000 tons of bad fuel oil residue.

It may be worth recording that I paid special attention to the operations of the Italian refineries in the North Adriatic, Fiume, Trieste and Venice. It was only possible to confirm that the Fiume Refinery of Romsa has been working steadily on 10,000 tons Rumanian crude oil to produce high grade lubricating oils for the Italian and German armed forces.

I should like to close this summary by recording again my great appreciation of the assistance rendered to me by General Sir Humphrey Gale, Admiral Power, Brigadier General Taylor and Brigadier Strong.

(Signed) E.A. BERTHOUD

ANNEX I

BRINDISI

(October 9/10th, 1943).

I. GENERAL ROSSI. Deputy Chief of Italian General Staff.

This interview was arranged by Brigadier General Taylor of the Allied Mission in Brindisi and was attended by him for part of the time, and also by General Aliderto, head of Ordnance, and the Italian Liaison Officer to the Allied Mission, Colonel Rossi.

General Rossi stated that Italy started the war with stocks sufficient for 6 to 8 months of full-scale military operations, but that the latter never developed to the anticipated extent. The Italian armed forces in general suffered from a continuing shortage of oil supplies. Thus, the Air Force required 20,000 tons per month of fuel (87 octane) whilst the Germans only supplied 9,000 tons and the Leghorn refinery not more than 5-6,000 tons. The shortage was still greater in the case of the Navy which for some months both in 1941 and 1942 was largely immobilised by lack of oil, the bigger units having to transfer oil from their tanks to cruisers and destroyers to enable the latter to carry out essential operations. Sufficient oil was also always made available for the requirements of the Merchant Navy.

The General estimated total Italian oil requirements at about 100,000 tons per month, but consumption, owing to shortage of supplies, had to be restricted to a lower figure. After the fall of Mussolini on 25th July imports of oil into Italy from areas under German control were almost completely suspended - (in the case of coal the monthly figure of 1,100,000 tons was cut down at the end of July by 300,000 tons).

The product in shortest supply in Axis Europe was, in the opinion of the General, undoubtedly gas oil. This deduction was apparently based on the fact that under German pressure the Italian Army had been forced to convert their armoured cars from diesel to petrol engines, as diesel fuel could not be made available. Fuel oil, as already stated, was also short, but the General did not think the same could be said of lubricating oils.

The General ascribed these shortages of oil in Italy mainly to transport difficulties rather than to any intrinsic deficit.

Talking more generally, the General did not feel that German strategy had been modified by shortages of oil. They withdrew their line in Russia in the autumn of 1942 not to reduce oil commitments but because they were punched back by the Russians. He had visited the 10 Italian Divisions on the Russian Front. They also had their petrol difficulties but they were, in his opinion, in this case also due to transport considerations. He had not seen or heard of any producer gas vehicles in use by the Germans on their lines of communication either in Russia or in Italy. He could not speak for Germany itself as he had not been there.

In answer to further questions, the General expressed himself as follows :-

- (a) He believed that the Fiume-Trieste-and Venice refineries were working and had been working continuously.
- (b) The first attack on the Leghorn refinery caused damage which it was estimated would take four months to repair. The second attack made the refinery a total loss.
- (c) The Ploesti raid on 1st August affected Roumanian production (sic) by 20 per cent. The General believed that if Ploesti could be really laid out the war would quickly come to an end.
- (d) He could not evaluate the damage to oil and other targets in the Ruhr. From his information the effect, both material and psychological, was so great that that we could assume a diminution of production even from undamaged plants.

Conclusion

The General's reputation with the Allied Mission is good. He apologised that his information could not be more precise, but pointed out that all the experts and records were still in Rome and would, in due course, be destroyed or removed by the Germans.

II. ADMIRAL ROBERTELLI.

This interview was between the Admiral and Mr. Berthoud only. It should be stated at the outset that Admiral Robertelli has acted on behalf of the Italian Navy in their negotiations for supplies since 1932 whilst, since the early stages of the war, his functions were extended to cover the other petroleum requirements of Italy for military, air force and civilian purposes.

He is therefore particularly well placed to supply information on the Italian and general Axis oil position, though also handicapped by the complete absence of paper records and his staff.

At the outset the Admiral stated that he had always felt that the Germans hid the truth as far as possible from the Italians, only telling them as much as was absolutely necessary. In spite of this he had been able to obtain a certain insight into the Axis oil position.

Dealing first with the specifically Italian side of the problem the Admiral provided the following information :-

(1) Naval fuel oil.

Total Italian stocks of naval fuel oil at the beginning of the war amounted to 1,200,000 tons. The average naval consumption in the early stages of the war worked out at 70 to 75,000 tons per month with a peak of 90,000 tons.

During the first 12 months of hostilities the Italian Navy drew mainly on its own stocks supplemented by the small production from Bari based, on Albanian crude but with no imports from Roumania or Germany. Bari production of naval fuel averaged about 7,000 tons per month from August 1941 till August 1943 inclusive.

In the second half of 1941, when Italian stocks were already beginning to run down, imports were started from Roumania and averaged 35,000 tons per month.

This was the maximum available from Roumania as is shown by the following general balance sheet. Figures are those given by the Admiral himself :-

Roumanian production	500,000 tons per month.		
Crude oil exported as such, of which 10,000 tons to Italy for the Romsa refinery at Fiume	50,000 tons	"	"
Balance of crude oil production	450,000 tons	"	"
Out of above, fuel oil production	140,000 tons	"	
Roumanian internal requirements of fuel oil	90,000 tons	"	
Balance	50,000 tons	"	
Fuel oil exported to small countries (Greece, Switzerland, Sweden, etc.)	15,000 tons	"	
Balance for Italy as above	35,000 tons	"	

As from the end of 1942 Italian stocks of naval fuel, even though supplemented by the above deliveries from Roumania and by the small Bari production, had become quite inadequate and it became vital for Germany to make a contribution. This they did by supplies of coal tar oils which continued at an average rate of about 15,000 tons per month with a peak of 20,000 tons and sometimes not more than 10,000 tons. The quality of these oils was never good and deteriorated as time went on. They were very asphaltic.

When Admiral Robertelli left Rome at the end of March 1943, the total Italian stocks did not exceed a maximum of 15 to 20,000 tons throughout Italy. This, coupled with current imports and production, was barely enough to keep small naval units and merchant vessels in commission. It was not possible to contemplate operational activity by battleships. The same had been true in the preceding period.

It may be added, as a parenthesis, that the above statement is borne out by the actual state of stocks at the big Italian naval base at Taranto which has a storage capacity of 500,000 tons. Not more than 3,000 tons of almost unusable fuel oil was found in this tackage by the Allies after their occupation of Taranto. Reference is also made to this in the general comments under III.

It should be added in conclusion that the liberation of German tar oils for the Italian Navy required strenuous efforts on the part of the Italian negotiators. Admiral Robertelli stated that Admiral Raeder had repeatedly written to the Chiefs of Staff in Rome to press them to reduce the operational activities of the Navy, as Germany could not make up the necessary quantities of fuel oil.

(2) Naval Diesel Fuel (Gas Oil)

The average monthly consumption of gas oil for submarines, small naval craft and the merchant fleet is estimated by Admiral Robertelli to be 5,000 tons of which 1,000 tons was for submarines.

It is evident that Italy started the war with considerable stocks of gas oil. Thus, the Admiral stated that at a meeting between Hitler and Mussolini at the end of 1941 it was agreed that Italian naval stocks of gas oil should not fall below a minimum of 50,000 tons. However, by March 1943 the reserve had dropped to 20,000 tons, and the forward situation had become so precarious that Admiral Robertelli entered into a special contract with the Prahova Company of Roumania (a subsidiary of A.G.I.P.) under which they were to recast their refining operations with a view to producing 4/5,000 tons a month of gas oil specifically allocated to the Italian Navy. Previously gas oil had not been supplied from Roumania to Italy.

In general conversation Admiral Robertelli stated that in his opinion gas oil was the petroleum product in shortest supply in Axis Europe.

(3) Requirements of Italian Land Forces

The following estimates were given as to requirements:

Motor spirit	15,000 tons per month.
Gas oil	20,000 tons per month.*

As regards motor spirit, about 17,000 tons per month in all (including civilian requirements) were received from Roumania and were admixed with 20 to 30% of alcohol. The provision of motor spirit to the armed forces never presented undue difficulties. The Italian Army did not use producer gas. The main difficulty in the introduction of this type of locomotion on a large scale for military or civil requirements was the problem of providing wood charcoal owing to the slender timber resources of the country. On the other hand, in certain regions widespread use was made of methane gas, but for civilian requirements only.

(4) Aviation Fuel.

Requirements were given as 18 to 20,000 tons per month.

In actual fact the Italian Air Force never disposed of much more than 15,000 tons per month, of which half was derived from the Leghorn refinery and half from Germany, the former working up inter alia a blend of kerosene and gas oil despatched from Bari. Although the Admiral did not claim that the front line operational activity of the Italian Air Force had been curtailed by a shortage of supplies, he said that the deficit had severely restricted air force training and communications. As a result the pilots went into action without adequate preparation.

(5) Lubricating Oil Requirements of the Armed Forces.

Navy	6/7,000 tons per month.
Army	4,000 tons per month.
Air force	2/3,000 tons per month.

* Seems much too high (E.A.B.)

A considerable proportion of the above military requirements of lubricating oils were derived from the Romsa refinery at Fiume which was working on 10,000 tons per month of Roumanian crude oil. In addition, base stock was sent from Germany to the Leghorn refinery and latterly to Naples for working up into lubricating oils.

It was stated that there was no difficulty in obtaining such base stocks from Germany and that, on the whole, lubricating oil supplies did not present a serious problem. The Germans supplied up to 1/1.5 thousand tons per month of lubricating oil base stock for working up at Leghorn (and Bari) on their own behalf (redespatched to Germany).

(6) Civilian Requirements

Motor spirit	8,000 tons per month
(This figure is variable as more or less motor spirit was used according to the percentage of alcohol added, which in turn varied in accordance with available supplies of the latter).	

Kerosene	8/8,000 tons per month
Fuel Oil	10,000 tons per month
Gas Oil	7,000 tons per month
Lubricating Oils	16,000 tons per month ⁺

Conclusions

The above figures for military requirements cover the Italian Forces in the homeland, in the Balkans and in North Africa, but not the 10 Divisions on the Russian Front. It is evident that the shortage was most severe in the case of naval fuel and also that difficulties were caused owing to lack of aviation fuel. Gas oil was hard to obtain and, though considered to be the shortest Axis product, did not actually restrict activities (however, see note 1 reporting the conversion of armoured cars from diesel to gasoline operation).

Lubricating oils were not in short supply and the same applies to motor spirit except on one occasion when the Admiral was informed in Berlin that motor spirit might be short for a time as, on the instructions of General Goering, the German synthetic plants had all been turned over to the manufacture of aviation spirit.

A comment is provided on the Italian petroleum picture by Admiral Robertelli's statement that they frequently in Rome expressed their preoccupation as to the consequences which would ensue for Italy if the Allies bombed and knocked out the Bari and Leghorn refineries. The Admiral stated that he could not understand why the Allies had not done this as the military consequences for Italy would have been disastrous.

⁺ seems much too high as pre-war consumption was only 9,000 tons per month. Informant may have said 6,000, which would be likely to be correct. (E.A.B.)

General Axis Oil Situation

Admiral Robertelli's constant efforts to obtain additional oil supplies for Italy inevitably brought him into contact with German military Commanders and in this way he obtained some information regarding the Axis and specifically the German oil situation as a whole, although the Germans never vouchsafed detailed particulars.

Thus the Admiral was informed by Admiral Raeder that the Germans also needed to reduce their operational commitments in the North Sea owing to shortage of fuel oil. The German Navy limited itself to the use of tar oils only, without importations from Roumania, and available supplies from the former sources were stated to be 45,000 tons per month. In June, 1942, an Envoy sent from Berlin to Rome in connection with petroleum negotiations, stated that the total German stocks of naval fuel at that time amounted to 300,000 tons. The Admiral regarded this as a relatively high figure but was informed that this was far from being the case as it covered stocks disseminated over the whole area from Norway to the Mediterranean. Indeed, the Germans were unable to maintain their capital ships in operation and limited their activities to escort vessels and the like.

The Admiral thinks, from his Berlin conversations, that the German oil situation became really difficult in the second half of 1942. A week before the Germans occupied Maikop, General Keitel told the Admiral that in 10 days they would be there and that if Maikop were not occupied the German petroleum situation would be "tragic". Maikop was, stated the General, the "key to the situation". This statement particularly stuck in the Admiral's mind as he verified that the Germans actually did occupy Maikop ten days after his conversation with General Keitel (the actual date was 8th August, 1942).

A further conversation of particular interest took place at the end of 192 between the Admiral and Dr. E.R. Fischer, the Controller of the whole German petroleum situation. Dr. Fischer was lunching beside the Admiral in Rome and made the following statement quoted in translation verbatim as follows:-

"If we don't win this b..... war it will be mainly due to the fact that our so-called Roumanian allies have consistently failed to supply us with the quantities of oil they could and should".

The only doubt in the Admiral's mind was whether Dr. Fischer said "If we lose the war" or "when we lose the war". He was so struck that he discussed the matter at once with his colleagues and was informed that he should not take the statement too seriously as Dr. Fischer was always so pessimistic.

M. Berthoud is well acquainted with Dr. Fischer when he was Director of I.G. Farben Industrie as being one of the most competent and virulent of the Nazi industrial supporters and does not share the view that he would express such an opinion to an Italian without good cause.

When asked whether he thought the primary objective for the German attacks in Russia was oil, the Admiral stated that the Caucasus campaign was certainly designed to this end, but, on the other hand, he was not prepared to subscribe to the view that the retreat from the Caucasus and elsewhere resulted from the necessity to shorten the line with a view to economising oil. (See also remarks of General Rossi in the same connection).

It should be explained that in his negotiations in Berlin Admiral Robertelli first approached the Reichswirtschaftsministerium, in the presence of its Director, Herr Rosenkrantz. As he always failed to achieve the desired results with this Ministry, he then approached, as was his right as a representative of the Italian Chiefs of Staff, General Keitel himself or his assistant, General Thomas, or Admiral Raeder on the naval side. His natural and constant contact with the German military leaders makes it likely that, even if they did not wish it, he should have been able to pick up some impression regarding their petroleum preoccupations.

III. GENERAL COMMENTS

Italian Naval Fuel Position

It is worth mentioning as further confirmation of the extremely low level to which Italian naval stocks had fallen before the close of their hostilities, that in the surrender negotiations in Rome, when the discussions regarding the surrender of the Italian Fleet were taking place, the representative from the Chiefs of Staff stated that he would have to enquire whether the stocks of fuel oil were sufficient to enable the Italian Fleet to reach Allied ports.

An effort was made during the discussion with Admiral Robertelli to discount his obvious tendency to ascribe Italian naval inferiority in the Mediterranean to shortage of oil. This factor did not apply in the first twelve months of the war when, on more than one occasion, superior Italian naval forces avoided action with considerably weaker British Naval forces. It would be not unreasonable to suppose that the Germans did not think that the sending of naval fuel to Italy would be a good investment, but the general picture presented shows that, not only the Italians but also the Germans were short of fuel oil so that they could probably not have sent supplies to Italy even if the Italian Fleet had been a more effective naval force. The Italian fuel oil position was also certainly critically weak at the time, in the spring of 1942, when their naval chances were at their best.

Italian Refineries

Some reference has been made under I and II to the operation of the Bari refinery. A separate report on this subject has been prepared.

The importance of Leghorn has also been dealt with as also that of the Rhomsa refinery at Fiume. Although the information obtained at Brindisi also supports our knowledge that the Aquila refinery at Trieste and the Naples refinery of

Socony Vacuum played their part in supplying Italian requirements and perhaps also those of Germany in Italy, it was not possible to obtain from any sources in Brindisi or elsewhere reliable information as to the extent to which the Aquila refinery at Trieste and the A.G.I.P. refinery at Venice were in operation and are now functioning in supplying the needs of the Axis in Italy.

A N N E X II

BARI

(October 5th/7th, 1943)

Record of a discussion between Mr. Berthoud and Mr. Valenti Engineer and Manager of the Bari Refinery. This interview was arranged through the Italian Prefect at Bari by Major Smith, the Liaison Officer from the Allied Mission at Brindisi. Mr. Valenti had therefore been instructed by the Italian authorities to answer any questions which might be asked.

The Bari Refinery is intact. Any slight damage caused by the R.A.F. raids in the early stages of the war has long since been made good.

THROUGHPUT

The distillation throughput of the Refinery is 20,000 tons per month and the normal run of products is obtained viz: motor spirit, kerosene, gas oil, fuel oil.

There is vacuum distillation for bitumen.

In addition to distillation there are two cracking units for fuel oil with a total capacity (for the two) of 500 tons per day. These units give a motor spirit of 65 octane.

It should be added that the Albanian crude on which the Bari Refinery has been working contains only 3 to 4% of motor spirit by straight distillation.

The Refinery also comprises a modified hydrogenation unit consisting of

3 vapour phase chambers and 1 liquid phase chamber. These, working on Albanian crude, produce 73 octane aviation spirit using the gas oil/kerosene fraction from the crude. The normal output of aviation spirit is 70/80 tons per day.

There is also equipment for the manufacture of low grade lubricating oil by vacuum distillation and acid and clay treatment e.g. transmission and saturated steam oils.

GENERAL

The normal complement of the Refinery is 150 employees and 1,200 workmen. As the Refinery ceased operations during September 1943, the number of workmen on hand at the time of my visit was only about 800 but could probably be raised again fairly easily to 1,200 unless there is an undue interval of time.

The past history of the working of the Refinery is as follows.

The Refinery was working at full pressure including distillation, cracking and hydrogenation from the entry of Italy into the war until November 1940. It was then closed during the Greek war until August 1941. After that date it was reopened for distillation and cracking as well as the production of low grade lubricating oils, but not for hydrogenation until September 1943, when supplies of Albanian crude ran out.

The operations of the Refinery are shown by the attached statements giving, for the period 1942 until end September 1943:

- (a) intake of raw materials into the Refinery
- (b) output of finished products. %

Similar information was requested for the period from end June 1940 until end 1941 and should be sent on to me via A. F. H. Q. Algiers in the near future.

It will be seen from the enclosures that the Refinery has, in fact, been working almost entirely on Albanian crude which has been coming in at the rate of about 14,000 tons per month (using two small tankers for shuttling from Valona)

PROTECTION

Some inadequate protective walls have been built around some of the vital plants, but the tankage is quite unprotected.

STORAGE CAPACITY

There are five crude oil tanks of 13,000 tons each	= 65,000
and, in addition, tanks for finished products making up	tons
a total capacity of	150,000
	tons

There are 6", 8" and 10" lines for finished products, fuel oil and crude oil respectively from the docks to the Refinery, the distance being 3,000 yards.

STORES AND EQUIPMENT

Mr. Valenti estimated that the Refinery could be started up with about two months' notice. There are still small stocks of chemicals (soda) and sulphuric acid which can be manufactured at a plant at the Refinery. Additional quantities of these chemicals, however, would be needed before long. The Refinery is also not rich in spare parts. Both the plant and current up-keep were covered almost exclusively by material of Italian manufacture. The manager confirmed that it was almost impossible to obtain spares from Germany during the war period.

In addition to the above, some of the Refining pipes will no doubt need to be renewed or adapted if a new type of crude is worked. Furthermore, if the hydrogenation units are started up again, fresh catalyst will before long be required. It is understood that the catalyst was formerly supplied from Italian sources in the North of Italy, which are not at present available.

As already stated, the Refinery has recently been working almost exclusively on Albanian crude, but the manager advised that in the past the following raw materials had also been processed:

- (a) East Texas crude
- (b) Mexican crude
- (c) Roumanian pacura

He stated categorically that there would be no difficulty in refining Iraq crude.

MISCELLANEOUS

The Bari Refinery was built in 1937/8 and started full

operations at the end of the latter year. All the products derived from the Refinery were marketed through A.G. I.P.

The Refinery belongs to the A.N.I.C. Company which in turn is owned as to 50% by Montecatini and as to 50% divided between A.G. I.P. AND THE Italian Ministry of Finance.

The present capital is lire 750 millions and dividends have recently been at the rate of about 8%.

It is stated that a certain Mr. Max Capper of Anglo-Iranian Oil Company spent 18 months at Bari during the construction of the Refinery.

The manager was unable to give any estimate of the amount of Albanian crude topped locally, but he said that the quantities were small and only for adjacent requirements. On the other hand, he confirmed that all available Albanian crude came to Bari and was not sent to any other Italian refinery.

OIL INTELLIGENCE

The following points bearing on the Axis oil situation and relevant matters were mentioned during the conversations:

(1) The Germans made no effort during the war to control the operations of the Bari Refinery. In fact, the manager stated that he had not seen or met a German in the Refinery since the beginning of the war. The operations were, on the other hand, under Italian official control. The Refinery was, according to the manager, specially called upon to turn out maximum quantities of fuel oil for the Navy and lubricating oils for railways, pumps, steam engines, as also bad quality motor oils.

The manager did not seem to be very well informed regarding the operations of the sister refinery of A.N.I.C. at Leghorn. He however confirmed that when hydrogenation was stopped at Bari during the Greek war, the middle oil used for this purpose was all sent to Leghorn for the maximum production there of aviation spirit.

AIR RAIDS ON LEGHORN

It was stated that the first raid on May 28th, 1943 completely destroyed the stabilising unit. This Refinery at the time was working partially on Rumanian crude oil (7-8,000 tons per month). The bombing, however, did little damage to the remainder of the plant beyond damaging two or three tanks, pipes etc. All damage to the Refinery could, it was stated, be repaired in 8 months.

The second raid however put the Leghorn Refinery completely out of action, and indeed, all the workmen and skilled staff were evacuated.

The Leghorn Refinery, in addition to manufacturing aviation spirit, was turning out lubricating oils by the Duosol process.

BARI REFINERY

Crude oil stocks at 1st June 1940

	Tons
Albanian	18,624.007
Mexican crudes from	
(1) El Plan	3,316.303
(2) Panuco	7,487.323
(3) Pozerica	28,779.965
Total	58,027.598

Stocks of products, 1st June, 1940

Fuel oil	3,647.000
Coke	254.000
Motor spirit (synthetic)	3,318.979
" " (normal)	12,512.879
Aviation spirit	1,175.794
Kerosene	3,049.000
Butane	36.900
	23,994.552

BARI REFINERY

Intake - June to December 1940

Month	Texas Crude	Albanian Crude	Venezuelan Crude	Mexican Crude	Kerosene from Aquila	Gas Oil from Aquila
June	9,290.519	6,995.791	-	-	-	-
July	-	14,436.981	3,380.740	1,246.174	543.473	315.523
August	-	-	-	-	-	895.537
September	-	18,079.258	-	-	-	505.189
October	-	15,629.862	-	-	-	-
November	-	2,666.765	-	-	-	-
December	-	14,827.425	-	-	-	-
	9,290.519	72,636.082	3,380.740	1,246.174	543.473	1,716.249

GRAND TOTAL 88,813.242 tons.

BARI REFINERY

Output 1940 - June to December

Month	Fuel Oil	Coke	Butane	Kerosene	Aviation Spirit	Motor Spirit	Gas Oil	Bitumen
June	10,406.138	35.675	42.100	1,392.000	2,777.071	2,865.846	214.005	4,446.000
July	9,220.239	56.000	171.467	273.000	2,750.432	3,554.456	1,398.728	755.000
August	10,581.960	61.000	176.874	207.000	3,102.005	3,752.015	2,274.642	484.000
September	8,654.054	59.300	216.766	449.224	2,756.875	3,445.734	1,311.827	1,303.000
October	9,899.329	66.000	151.455	468.266	2,469.309	3,770.353	2,343.260	1,169.000
November	8,295.944	58.000	91.568	64.756	1,093.593	2,403.224	1,512.582	1,233.000
December	12,261.600	45.000	-	2,313.484	-	1,688.265	1,375,041	2,662.800
Total	69,319.264	381.475	850.230	5,167.730	14,949.785	21,477.893	10,230.085	8,062.800

GRAND TOTAL 130,429.262 tons.

BARI REFINERY

Intake 1941.

Albanian Crude Oil.

	<u>Tons.</u>
January	-
February	-
March	-
April	-
May	-
June	-
July	-
August	32,604.720
September	3,445.857
October	14,112.393
November	2,961.949
December	26,899.151
Total	<u>80,023.570</u>

BARI REFINERY

Output 1941

Month	Fuel Oil	Coke	Bitumen	Gas Oil	Motor Spirit	Adle Oil	Kerosene for Lighthouse	Lubricating
January.	1,764.755	-	1,718.200	940.237	1,442.403	-	-	-
February	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-
August	6,214.001	35.420	-	-	1,432.211	-	2,498.887	-
September	7,877.522	37.200	1,107.367	-	2,839.004	140.000	3,631.661	-
October	8,125.000	30.211	1,589.992	-	2,357.509	205.944	2,265.000	216.000
November	6,672.000	68.590	1,646.008	2,004.900	1,323.587	-	771.000	-
December	15,180.905	25.322	588.000	1,770.000	4,166.327	-	3,172.996	7.550
TOTAL	45,834.183	196.743	6,649.567	4,714.237	13,561.141	345.944	12,338.744	223.550

GRAND TOTAL 83,864.109

BARI REFINERY

INTAKE 1942

Metric Tons.

M O N T H	Albanian Crude	Tar Oils. Sulcis.	Leghorn Residue	Asphaltic Crude Oil from Ravenna and Pescara	Agip Crude Oil	Permalic Distillate
January	6,149.390					
February	10,672.302					
March	13,270.123					
April	14,514.315					
May	14,241.153					
June	14,028.713					
July	13,938.793					
August	7,105.141	1,464.419	387.230			
September	14,086.162	0.050	481.320	369.215		
October	14,176.616		50.695	1,085.290		123.910
November	14,151.345		-	300.725	114.928	32.140
December	13,804.075		291.090	17.760	519.980	55.225
	150,138.738	1,464.469	1,190.985	1,772.990	634.908	211.275

BARI REFINERY OUTPUT 1942

Month	Motor Spirit	Fuel Oil	Asphalt	Coke	Axle Oil	Neutrals	Consigned to mixing tanks	Middle Oil ^x	Residual Fuel Oils	Neutral oil for Leghorn	Gas Oil	Bott- ons	Gas K
January	984,267	2,031,040	1,167,002	23,474	115,850			990		-	0.002		
February	1,006,416	3,206,641	991.-	19,710	23.-			1,286	1.-	-	-		
March	2,199,609	6,810.-	2,274.-	48.-	116.-			2,190	218	-	0.003	100	
April	1,819,851	5,962.-	1,313.-	30,700	-			1,804	300	-	0.002		
May	2,037,677	8,213.-	245.-	65.-	1,265			1,734	78,735	-	0.001	100	
June	2,254,260	6,341.-	1,692,9995	75,555	277.-			2,040	84,150	-			
July	1,706,060	6,340.-	1,166,0178	56,800	349.-			1,691	23.-	-			
August	1,527,103	5,836.-	779.-	54,235	443.-			19,262	156.-	551			
September	2,242,259	7,560,417	1,142.-	37,690	469.-			2,795.-	<u>176,110</u>	1,657			
October	1,751,157	5,113.-	919.-	89,825	134.-	150		901	501.-	778		<u>100</u>	
November	2,114,047	7,345.-	163.-	21,385	456.-			1,971	<u>496.-</u>	609			
December	2,956,561	13,040,136	636.-	46,702	1,399.-		1,458,214	3,057	<u>108.-</u>	<u>897,124</u>			
	22,720,275	30,607,034	11,518,0193	569,086	3,783,115	158	1,458,214	20,558,262	508,775	2,777,876	0.001	100	2,493,700

N.B. The figures underlined in black are minus adjustments to correct excess quantities entered against previous months.

^x The Middle Oil was consigned to Leghorn for hydrogenation to produce aviation spirit.

B A R I R E F I N E R Y

INTAKE 1945

(Metric tons)

DATE	Albanian Crude Oil	Asphaltic Crude Oil from Ragusa	Agip Crude Oil	Leghorn Residue	Hungarian Crude Oil	Leghorn Gas Oil	Rumanian Raw Material	Vacuum Distillate from Leghorn
January	3,329.581	83.435	254.495	-				
February	13,381.955	407.295	-	46.595				
March	14,342.329	35.475	441.540	726.460				
April	14,341.729	-	444.170	-		717.605		
May	14,361.603	-	390.780	49.120		120.175		
June	7,103.585				143.165		158.295	432.085
July	13,861.735				49.580		65.805	15,155
August	13,395.634		441.475					
	97,119.002	524.105	1,972.460	822,175	192.745	1,157.780	294.100	477.240

B A R I R E F I N E R Y

OUTPUT 1943.

Metric Tons.

MONTH	Motor Spirit	Fuel Oil	Asphalt	Coke	Gas K	Middle Oil for Leghorn	Resi- dual fuel Oil for Leghorn	Neutral oil for Leghorn	Semi- finished products	Axle Oil	Mixed lubri- cants.	Cylinder oils	Misc. Resi- dues.	Bottoms	Gas Oil	Neutrals (Lubri- cants)	Resi- dual fuel oil	Kerosene
Jan.	700.815	2,027.000	350.000	41.046	109.800	473,103	391	392	1,247.000									
Feb.	1,750.720	6,905.000	282.274	50.435	224.500	1,024,000	-	-	606,810	195.000	153.595	435.190						
Mar.	1,902.144	6,551.000	47.000	7.150	176.100	1,220,176	-	-	101,014	152,810	1,305.520	378.000						
Apr.	1,801,953	6,746.000	273.000	10,225	147.600	3,087,324	-	65	-	-	1,816.770	-	23.367	40				
May	1,892.931	7,470.000	520.000	31.030	175.200	1,559.000	-	20	-	-	1,398.000	264.000	-	-				
June	1,979.759	6,554.304	467.000	46,850	220.400	-	-	-	-	373.241	1,542.000	604.000	-	-	2,049,282			
July	1,736.083	5,779.000	535,000	26,705	122.100				2,012,496	107.000	1,695.367	453.000	12.071		542.607	64.140	510.000	
Aug.	1,320.513	7,172.000	223.000	21.750	224.500						1,114.524					379.659	283.070	
Sept.	805.071	1,920.913		73.100	59.000				1,764.081						(204.773	667.693	23,307	303
															(310,293			
Metric Tons	13,937.997	52,305.297	2,709.274	316.219	1,467.200	7,352.103	391.-	477.-	5,931.401	903.051	9,105.776	2,134.190	40.438	40.-	1,114,955	1,111.452	816,377	303

ANNEX III

BARI

October 7th. 1943

Mr. Berthoud visited the manager of the Bari local branch of A.G.I.P., Mr. Margherita, on the above date.

The manager, at Mr. Berthoud's request, provided statements showing

1. the staff employed throughout the Bari area;
2. quantities of all different products marketed for civilian requirements since 1939 until the first half of 1943 inclusive. It should be emphasised that the figures in question cover only sales by A.G.I.P., as opposed to quantities handled on behalf of Shell and Standard, whose organisations have been absorbed by A.G.I.P., but whose identity seems to some extent to have been preserved. In any event, the figures are strictly comparable over the period and therefore afford a useful guide as to the extent to which civilian consumption was cut down.

Azienda Generale Italiana Petroli.
(Bari Branch)

Personnel of the Bari Branch of A.G.I.P. and its sub-office in Fuscoa

	<u>Office staff.</u>	<u>Workmen</u>
Bari Branch	25	7
Bari Offices (Lubricating Oils)	26	1
A.G.I.P. Depots at Bari	9	35
Brindisi Depot	2	5
Foggia Depot	7	7
Taranto depot	4	10
Locce depot	4	13
Barletta depot	3	7
Monopoli depot	10	30
	<hr/>	
TOTAL	90	115
	<hr/>	

Statistics of sales of A.S.I.P. during the years 1939, 1940
1941, 1942, and first half of 1943

MOTOR SPIRIT

Metric tons

	1939	1940	1941	1942	1st 6 mths 1943	Total
Bari	1,098	1,240	380	340	859	3,308
Brindisi	556	537	188	130	72	1,087
Foggia	640	685	135	195	118	1,384
Lecco	788	530	170	131	69	1,391
Matara	456	557	101	110	75	888
Taranto	891	505	183	178	314	1,618
TOTAL	3,878	3,780	1,188	1,000	787	10,391

N.B. Figures do not include deliveries to military units

Statistics of sales of A.S.I.P. during the years 1939, 1940
1941, 1942, and first half of 1943

GAS OIL

Metric tons

	1939 (1)	1940 (1)	1941 (2)	1942 (2)	1st 6 mths 1943 (2)	Total
Bari	(72) 3,395	(101) 3,048	4,500	1,908	1,112	13,003
Brindisi	(53) 500	(57) 358	175	197	123	1,145
Foggia	(169) 600	(235) 731	473	313	209	2,133
Lecco	(81) 511	(40) 522	102	131	83	1,209
Matara	(113) 431	(123) 576	130	150	55	888
Taranto	(150) 1,017	(113) 1,018	419	333	306	3,733
TOTAL	9,347	8,307	5,700	5,598	3,210	27,503

Figures do not include deliveries to military units.

(1) The years 1939 and 1940 include gas oil for agriculture and fishing use. The amounts for agriculture are shown in brackets.

(2) As the invoicing of agricultural gas oil had passed to the Head Office in Rome, this product is not included.

SALES OF LUBRICATING OIL DURING THE FIRST SIX MONTHS OF 1943

Metric tons

Category	Indus-tries	Rail-ways	Marine			Motor Ser-vices	State Units	Private Trans-port	Agricul-ture
			Fishing Vessels	Motor Boats	State Services				
Motor oil	1.8	15.9	10.7	10.2	10.0	8.3	4.0	31.5	42
Gear oil and other uses	0.4	11.3	-	-	.8	1.5	.6	1.5	3.1
Industrial uses	64.7	55.5	-	-	12.1	-	-	-	-
Greases	6.6	2.0	-	-	-	-	-	-	15.0
TOTAL	73.5	85.2	10.7	10.2	22.9	9.8	4.6	33	59.1

N.B. The figures do not include deliveries to the Railways of transformer oils and vaseline so far as these were made directly by the Head Office at Rome.

STATISTICS OF SALES BY A.S.I.P. DURING THE YEARS 1939
1940, 1941, 1942, and first half of 1943

UNL OIL

Metric tons

	1939	1940	1941	1st 6 months 1942	1st 6 months 1943	Total
Bari	830	541	60	8	0	1,439
Brindisi	31	10	-	-	-	41
Foggia	-	-	33	11	-	44
Lecce	101	31	3	3	3	141
Matera	60	23	-	-	-	83
Taranto	51	60	3	-	-	114
TOTAL	1,085	665	96	22	3	1,871

N.B. The figures do not include deliveries to Military Units.

STATISTICS OF SALES EX A.G.I.P. DURING THE YEARS 1939,
1940, 1941, 1942 AND FIRST HALF OF 1943

KEROSENE

Metric tons

	1939 (1)	1940 (1)	1941 (2)	1942 (2)	1st 6 mths 1943 (2)	Total
Pari	(260) 740	(195) 501	157	129	64	1,671
Brindisi	(122) 527	(145) 380	102	70	37	806
Foggia	(1548) 1,593	(1308) 1,471	54	44	37	3,194
Lecco	(55) 323	(72) 251	73	90	35	700
Matera	(308) 383	(330) 414	38	40	10	891
Taranto	(116) 175	(127) 257	73	64	45	619
TOTAL	3,592	3,327	501	437	224	7,881

3.5. Figures do not include deliveries to Military Units

- (1) Figures for the years 1939 and 1940 include kerosene for agriculture as shown in brackets
- (2) As the invoicing of agricultural kerosene had passed to the Road Office in Rome, figures for this product are not included.

ITEM IV

TARANTO

October 10th/12th, 1943

The white products depot was visited on 11th October. It comprises 30-40,000 tons of underground storage and was the main base of the Italian Air Force in Southern Italy. There is a railway siding and filling facilities for small or large containers.

The store was taken over intact by the Allied Forces, but 24 hours before the Allied landing the depot manager, Lt.Col. Coronato, who had strong Fascist sympathies, took the following preventive action:-

- (a) 3 of 4 depot pumps were dismantled
- (b) 50 rail tank cars full of motor spirit were evacuated
- (c) all the records bearing on supplies to the Germans from the depot were destroyed

The pumps and rail tank cars were despatched to the depot at Ortone a Mare which is 68 kilometres north of Termoli and which is similar in capacity and type to the Taranto depot.

As a result it has been necessary to do a considerable amount of work to bring the Taranto depot back into action.

Mr. Berthoud interrogated an official of the depot who had been there throughout the war and who provided the attached information regarding supplies of fuels and lubricating oils to the Italian forces. The quantities are understood to comprise mainly aviation spirit and do not include deliveries to the Germans.

The depot was under full German control and 30 to 35 German soldiers were continually occupied there. Supplies were derived mainly by rail and only once or twice by tanker. All rail tank cars coming into the depot were of German origin. Aviation spirit was sometimes received from the Loughorn Refinery, but never from Venice, Trieste or Fiume.

It is understood that the supply area catered for from the Taranto depot covered the Aegean, Greece, Albania and North Africa (including Sicily). This without prejudice to quantities also supplied from depots such as Syracuse.

SUMMARY OF MONTHLY SUPPLIES OF FUELS AND
LUBRICATING OILS DELIVERED TO THE ITALIAN ARMED FORCES
FROM THE TARANTO WHITE PRODUCTS DEPT

Rs.

JUNE	1940	
JULY	"	
AUGUST	"	
SEPTEMBER	"	786.828
OCTOBER	"	1,985,553
NOVEMBER	"	1,441,848
DECEMBER	"	1,364.870

JANUARY	1941	1.081.149
FEBRUARY	"	1,887,637
MARCH	"	1,830,526
APRIL	"	3,578.013
MAY	"	796.729
JUNE	"	891.515
JULY	"	3,074.964
AUGUST	"	3,387.506
SEPTEMBER	"	1.644.198
OCTOBER	"	5,347,250
NOVEMBER	"	1,038.471
DECEMBER	"	1,410.989

JANUARY	1942	1,410.989
FEBRUARY	"	2,974.183
MARCH	"	2,165,563
APRIL	"	2,451.708
MAY	"	2,756.740
JUNE	"	3,345.814
JULY	"	2,713.435
AUGUST	"	3,426.019
SEPTEMBER	"	4,056.109
OCTOBER	"	2,286.472
NOVEMBER	"	1,413.703
DECEMBER	"	1,809.403

JANUARY	1943	1,841.548
FEBRUARY	"	1,980.089
MARCH	"	1,808.298
APRIL	"	3,349.771
MAY	"	1,337.023
JUNE	"	1,917.423
JULY	"	2,905.933
AUGUST	"	2,105.224
SEPTEMBER	"	326.605