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PROVISIONAL INTELLIGENCE REPORT

PETROLEUM IN EAST GERMANY

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CIA/RR PR-121
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CENTRAL INTELLIGENCE AGENCY

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PROVISIONAL INTELLIGENCE REPORT

PETROLEUM IN EAST GERMANY

CIA/RR PR-121

(ORR Project 25.473)

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CIA/RR PR-121
(ORR Project 25.473)

~~S E C R E T~~

PETROLEUM IN EAST GERMANY*

Summary

East Germany is the third largest producer of petroleum products in the Soviet Bloc.** Because East Germany lacks substantial natural petroleum resources, production of crude oil, natural gas, and natural gas liquids is negligible, and the petroleum industry is based primarily on the costly synthetic production of petroleum products from indigenous coal. East Germany supplies only a small part of the total output of petroleum products in the Soviet Bloc, but its production of aviation gasoline and jet fuel is significant in the over-all petroleum economy of the Soviet Bloc.

The 28 plants in East Germany that manufacture petroleum products have a total annual output capacity estimated to be about 2.4 million metric tons.*** In 1954 these plants produced about 2.3 million tons of products comprising a relatively complete line of distillate and residual fuels, lubricating oils, and miscellaneous products such as solvents, greases, and waxes. Only the plant at Boehlen produced aviation gasoline, and only the plants at Boehlen and Schwarzheide produced jet fuel.

In 1954, about 640,000 tons of crude oil were imported -- largely from the Soviet Zone of Austria -- and processed, principally at the 3 refineries at Luetzkendorf, Herrenleite, and Leuna. The imported crude oil provided for the manufacture of certain products which cannot be economically produced by synthetic processes. The plants

* The estimates and conclusions contained in this report represent the best judgment of ORR as of 1 June 1955.

** The Soviet Bloc includes Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and the USSR. For the purposes of this report, the Soviet Zone of Austria is included as part of the Bloc because during the time period covered by this report the production of petroleum in the Soviet Zone of Austria was controlled entirely by the USSR.

*** Tonnages are given in metric tons throughout this report.

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at Boehlen, Leuna, Zeitz, and Schwarzheide produced about two-thirds of the total East German output of petroleum products in 1954.

The petroleum industry in East Germany appears capable of supplying enough petroleum products not only to satisfy the domestic demands of East Germany but also to provide substantial exports. During the 1950-53 period, East Germany was a consistent exporter of petroleum products to both Soviet Bloc and non-Bloc countries, and in 1954 total exports amounted to about 620,000 tons, 25 percent of the total plant output. In addition, the industry provided considerable quantities of aviation gasoline and jet fuel to the Soviet forces based in East Germany.

No significant increases in plant output of petroleum products from synthetic sources are anticipated in East Germany during the foreseeable future, but increases may accrue if additional quantities of crude oil become available.

The most important factor in maintaining current levels of production in the petroleum plants of East Germany is the condition of plant equipment. The present state of disrepair of the plants -- the result of neglect and local shortages of replacement equipment and spare parts -- is the industry's most significant weakness. The concentration of about 96 percent of the productive capacity in 12 plants and, more specifically, the concentration of about two-thirds of the total output capacity in only 4 plants represent a potential vulnerability.

Unusual activity in the rehabilitation or expansion of existing petroleum plants or in the modification of plant operations to permit increased production of aviation gasoline and jet fuel might reflect the military intentions of East Germany or the Soviet Bloc.

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I. Introduction.

East Germany has an area of about 109,000 square kilometers 1/* and an estimated population of about 17.9 million. It includes the territory of the five provinces of Brandenburg, Mecklenburg, Thuringia, Saxony-Anhalt, and Saxony, and the Soviet Sector of the city of Berlin. In 1952 these provinces were divided into 14 administrative districts (Bezirke) and 211 counties. 2/ The country has a well-developed transportation network of railroads and an extensive inland waterway system composed of the Elbe and Oder Rivers and their connecting canals. 3/

The production of crude oil in Germany as a whole has never reached significant proportions. This lack of native resources has made it necessary for Germany to import most of its petroleum requirements. When economic sanctions were applied to Germany before World War II, the loss of imports forced Germany to resort to the costly expedient of manufacturing petroleum products from local coal resources. This is analogous to the Japanese attempt to offset the denial of imports of petroleum by constructing the synthetic petroleum plants in Manchuria. Experience in the US has shown that the production of petroleum products from raw materials other than natural crude oil is too expensive to be commercially practicable, and it is probable that Germany developed the synthetic plants as a matter of military necessity.

There is insufficient evidence to indicate whether or not the industry in East Germany at present requires heavy government subsidies and is a liability to the East German economy. Continued search for natural crude oil resources suggests that an attempt is being made to provide a substitute for the costly synthetic processes.

The production of liquid fuels in East Germany is presently under the administration of the Ministry for Heavy Industry and is closely related to the chemical and coal industries. 4/ East Germany has the largest and most highly developed synthetic petroleum industry in the world and is the third largest producer of petroleum products in the Soviet Bloc. 5/ The industry is largely dependent on indigenous brown coal resources. It is estimated that in 1952 the industry consumed approximately 30 percent of the total brown coal briquettes available in East Germany. 6/

* For serially numbered source references, see Appendix E.

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II. Prospecting, Exploration, and Production.

Although there are scattered reports concerning petroleum prospecting, test drilling, and production in East Germany during recent years, the actual production of natural crude oil, natural gas, and natural gas liquids is estimated to be negligible.

Significant activity related to petroleum prospecting, exploration, and production in East Germany is limited to the following locations:

1. Waddekath (near Salzwedel, 52°51' N - 11°09' E).

Information covering the period from 1952 through 1954 describes indications of large petroleum deposits, the availability of new Soviet drilling tools, test drilling, and the daily yield of about 30 tons of light oil from 2 wells. 7/

2. Langensalza (51°06' N - 10°39' E).

Information covering the period from 1952 through 1954 describes continuation of gas borings which had been started before World War II, the supply of natural gas to Langensalza from three wells, and the use of Soviet equipment to conduct test drillings. Some production of crude oil is reported in this area. 8/

3. Fallstein (west of Magdeburg, 52°10' N - 11°40' E).

One report indicates production at a rate of about 350 tons per year by 1953. The oil is produced from an old well drilled in the 1930's and rehabilitated, probably in late 1952. Drilling operations in the area are continuing. 9/

4. Weimar (50°59' N - 11°19' E).

The discovery of gas traces in April 1954 and the reported daily production of 12 tons of crude oil from a single well constitute the only known activity in this location. 10/

There is available no information which would indicate that the production of natural petroleum in East Germany will reach commercial proportions in the foreseeable future.

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III. Refining.

A. General.

The total annual output capacity of the 28 plants in East Germany that manufacture petroleum products is estimated to have been approximately 2.4 million tons in 1954.* About 96 percent of this total capacity is concentrated in 12 plants. The remaining plants are engaged in the production of small quantities of such miscellaneous products as grease, wax, and special gasoline; in the production of lubricating oils; and in the reclamation of used lubricating oils.

Boehlen is the only plant in East Germany which manufactures aviation gasoline. Boehlen and Schwarzheide are the only installations which manufacture jet fuel.

Because there is no production of crude oil in commercial quantities in East Germany, brown coal is the principal raw material used in the manufacture of petroleum products. Crude oil is imported to supplement the raw material locally available and to provide for the manufacture of certain products that cannot be economically produced from synthetic sources. The Soviet Zone of Austria is the principal supplier of crude oil. Total imports of crude oil have increased from 120,000 tons in 1950 to an estimated 640,000 tons in 1954.

The refineries at Luetzkendorf, Herrenleite, and Leuna process most of the imported crude oil, and lesser quantities are processed at Boehlen and possibly at Espenhain.

The two principal processes for the production of liquid fuels in East Germany are the Bergius hydrogenation process and the Fischer-Tropsch hydrocarbon synthesis process. The four plants employing these processes produced approximately two-thirds of the total 1954 output.

The hydrogenation process was first developed by a German chemist, Professor Bergius, in 1913. The original process was developed and improved, and in 1926 the first commercial plant was built at Leuna by the I.G. Farben industries. 11/ Three of the plants now in operation in East Germany employ this process -- Leuna, Boehlen, and Zeitz.

* See Appendix A.

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The Fischer-Tropsch process was first developed in 1926 by the two men for whom it is named. The process produces liquid fuels from gaseous mixtures of carbon monoxide and hydrogen. 12/ The only plant employing this process in East Germany is the one at Schwarzheide.

In addition to these principal processes, there are several tar distillation plants in East Germany. These plants produce liquid fuel from tar produced by the carbonization of coal. 13/

B. Plans.

Production goals for liquid fuels during the First Five Year Plan (1951-55) are generally announced for only two broad categories of products, gasoline and diesel fuel. Aviation, motor, and special gasolines probably are included in the goal for gasoline; and kerosine, jet fuel, and diesel fuel may be included in the diesel fuel figure. The announced goals are revised so frequently that it is impossible to identify the final annual plan. Similarly, there is no official announcement on plan fulfillment.

In December 1954 the Ministry for Heavy Industry announced that the 1954 production of gasoline was approximately 750,000 tons, 101.6 percent of the 1954 goal, and production of diesel fuel was 725,000 tons, 94.4 percent of the goal.* 14/ By comparison with the estimated plant output, gasoline in this reference is interpreted as including all types of gasoline, but the diesel fuel production is interpreted as excluding kerosine and jet fuel. The same announcement indicated that the 1955 goals would be as follows**:

Gasoline	:	79 percent of the 1954 output (1955 estimate -- 600,000 tons).
Diesel fuel	:	94 percent of the 1954 output (1955 estimate -- 680,000 tons).
Jet fuel	:	139.4 percent of the 1954 output (1955 estimate -- 90,000 tons).

C. Production.

Estimated production of petroleum products in East Germany in 1950-54 is shown in Table 1.*** Because crude oil and other raw

* The quantities are at slight variance with estimates shown in Table 1, p. 7, below.
** See Table 1, p. 7, below.
*** Table 1 follows on p. 7.

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Table 1

Estimated Production of Petroleum Products
in East Germany a/
1950-54

Thousand Metric Tons

Product	1950	1951	1952	1953	1954
Aviation gasoline b/	107	113	151	84	88
Motor gasoline	399	466	513	631	702
Jet fuel	4	50	102	87	66
Kerosine	8	6	6	7	17
Diesel fuel	408	480	536	670	729
Lubricating oils c/	101	111	102	115	146
Residual fuel oils d/	84	102	145	172	146
Other e/	167	185	249	314	334
Solvents f/	38	N.A.	44	20	33
Total g/	1,320	1,510	1,850	2,100	2,260

a. See Appendix A, Tables 11 through 15, pp. 32-41, below. Estimated margin of error, plus or minus 10 percent.
b. Includes alkylate, a component of aviation gasoline.
c. Does not include the following quantities (in metric tons) of reclaimed lubricating oils: 1950, 3,000; 1951, 4,000; 1952, 5,000; 1953, 7,000; and 1954, 6,000.
d. Includes kogasin, which is a mixture of kerosine, diesel fuel, and wax and is used as fuel oil.
e. Includes miscellaneous products such as liquified petroleum gas, wax and slack wax, electrode coke, greases, and candles.
f. The semifinished product is further processed into motor gasoline, kerosine, and/or jet fuel.
g. Component data have been rounded to units of 1,000. Totals are rounded to 10,000.

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materials are processed concurrently in some plants, there is no practical means by which the product yield from imported natural crude oil can be identified.

D. Quality.

In an effort to meet local demands for petroleum products of suitable quality, as well as to render such products competitive in foreign markets, a meeting of representatives of East German gasoline and diesel fuel manufacturing plants was held at Leuna in 1953. 15/ The representatives established standards of manufacture and agreed to sacrifice profits, if necessary, to insure the maintenance of high-quality petroleum products. There is a report 16/ that Soviet standards for petroleum product specifications have been adopted for use in East Germany.

Except for small quantities of specialty lubricating oils that cannot be economically produced locally and are therefore imported, the petroleum product output of the manufacturing plants in East Germany now appears to satisfy the qualitative requirements of the local civil and military consumers. It should be noted, however, that the qualitative standards for most civil consumers of petroleum in Europe are generally lower than those in the US.

IV. Civil Consumption.

Civil consumption of petroleum liquid fuels and lubricants in East Germany increased from approximately 600,000 tons in 1950 to about 1,030,000 tons in 1954.

The Central and Land governments which control the allocation of petroleum products for public service operations as well as for private consumers represent the largest consuming sector. Industry, agriculture, and forestry account for about one-half of the civil consumption.

Estimated civil consumption of liquid fuels and lubricants, by major consuming sectors, in 1950-54 is shown in Table 2.* Available information does not permit a breakdown of the major sectors.

* Table 2 follows on p. 9.

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Table 2

Estimated Civil Consumption of Liquid Fuels and Lubricants in East Germany a/
by Major Consuming Sector
1950-54

Thousand Metric Tons

Consuming Sector b/	1950 c/	1951 c/	1952 c/	1953 c/	1954 d/
Rail transport	22	18	71	74	85
Water transport	17	5	22	21	24
Industry	167	252	261	281	322
Agriculture and forestry	81	140	140	169	194
Central and Land governments	316	325	321	355	406
Total e/	600	740	820	900	1,030

a. Figures do not include such miscellaneous products as liquified petroleum gas, wax and slack wax, electrode coke, greases, and candles or small quantities consumed by the civil components of the Soviet occupation authorities (Soviet Control Commission). Estimated margin of error, minus 20 percent to zero.

b. Available information does not identify "motor transport" as a consuming sector. Fuel for motor transport is included in sectors other than rail and water transport. Fuel for trucks engaged in hauling freight is estimated to be as follows:

	Thousand Metric Tons	
	1953 17/	1954 18/
Motor gasoline	164	220
Diesel fuel	112	125
Total	276	345

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Table 2

Estimated Civil Consumption of Liquid Fuels and Lubricants in East Germany a/
by Major Consuming Sector
1950-54
(Continued)

c. See Table 4, p. 12, below.
d. The 1954 figures are derived by applying the average annual increases of the totals (14.5 percent) for the years 1950-53 to the 1953 estimates.
e. Component data have been rounded to units of 1,000. Totals are rounded to 10,000.

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Estimated civil consumption of liquid fuels and lubricants in East Germany, by product, in 1950-54 is shown in Table 3.

Table 3

Estimated Civil Consumption of Liquid Fuels and Lubricants in East Germany, by Product a/
1950-54

Thousand Metric Tons

Product	1950 b/	1951 b/	1952 b/	1953 b/	1954 c/
Motor gasoline	286	286	306	354	405
Kerosine	9	18	14	18	21
Diesel fuel	220	268	275	343	393
Lubricating oils	42	82	160	135	155
Residual fuel oils	46	86	60	50	57
Total d/	600	740	820	900	1,030

a. See Table 2, footnote a, p. 9, above.
b. See Table 4, p. 12, below.
c. The 1954 figures are derived by applying the average annual increase of the totals (14.5 percent) for the years 1950-53 to the 1953 figures.
d. Component data have been rounded to units of 1,000. Totals are rounded to 10,000.

Estimated total civil consumption of liquid fuels and lubricants in East Germany in 1950-53 is shown in Table 4.*

V. Trade.

A. General.

Foreign trade in petroleum and petroleum products is administered in East Germany by the Intra-German and Foreign Trade Agency, Chemical Division, of the Ministry for Foreign and Intra-German Trade 19/ under the jurisdiction of the East German State Planning Commission. 20/

* Table 4 follows on p. 12.

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Table 4

Estimated Total Civil Consumption of Liquid Fuels and Lubricants
in East Germany
1950-53

Thousand Metric Tons

Year	Consuming Sector	Gasoline	Kerosine	Diesel Fuel	Lubricating Oils	Residual Fuel Oils	Total
1950 a/*	Rail transport	5	2	5	3	7	22
	Water transport	4	0	4	3	6	17
	Industry	93	2	41	13	18	167
	Agriculture and forestry	18	3	55	5	0	81
	Central and Land governments	166	2	115	18	15	316
	Total	286	9	220	42	46	603
1951 b/	Rail transport	2	1	3	9	3	18
	Water transport	1	Negligible	4	Negligible	0	5
	Industry	124	10	46	38	34	252
	Agriculture and forestry	16	5	112	7	0	140
	Central and Land governments	143	2	103	28	49	325
	Total	286	18	268	82	86	740

* Footnotes for Table 4 follow on p. 13.

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Table 4

Estimated Total Civil Consumption of Liquid Fuels and Lubricants
in East Germany
1950-53
(Continued)

Thousand Metric Tons

Year	Consuming Sector	Gasoline	Kerosine	Diesel Fuel	Lubricating Oils	Residual Fuel Oils	Total
1952 c/	Rail transport	16	2	16	28	9	71
	Water transport	3	1	4	5	9	22
	Industry	126	7	45	66	17	261
	Agriculture and forestry	16	3	109	12	0	140
	Central and Land governments	145	1	101	49	25	321
	Total	306	14	275	160	60	815
1953 d/	Rail transport	19	3	20	24	8	74
	Water transport	3	1	5	4	8	21
	Industry	146	9	56	56	14	281
	Agriculture and forestry	19	4	136	10	0	169
	Central and Land governments	167	1	126	41	20	355
	Total	354	18	343	135	50	900

a. Four reports 21/ are available which describe the distribution plans of East Germany for the calendar quarters of 1950 for approximately 30 identified consumers. These consumers have been grouped by sectors, as shown in the table.

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Table 4

Estimated Total Civil Consumption of Liquid Fuels and Lubricants
in East Germany
1950-53
(Continued)

b. Figures in the table are derived from a report 22/ giving the fulfillment of the distribution plan for 9 months for about 30 consumer categories. The consumer categories were grouped as shown and the results expanded to a 12-month basis.

c. The total consumption represents an expansion to 12 months of the planned and/or actual allocations available for 11 months of 1952. 23/ As the consumers described in the available reports were different from the consumers listed for earlier years, only rail transport and water transport were identifiable on a consistent basis. The estimated consumption for these two sectors was deducted from the total for each product, and the balance was apportioned among the other sectors on the same percentage basis as in 1951.

d. The total consumption represents an expansion to 12 months of the planned and/or actual allocations reported for 5 months of 1953. 24/ The total consumption was apportioned among the consuming sectors on the same percentage basis as in 1952.

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In the 1950-52 period, exports exceeded imports. In 1953 and 1954 the pattern changed, and imports exceeded exports. Although exports of petroleum to other Soviet Bloc countries have remained fairly constant, the imports in 1954 -- principally crude oil from the Soviet Zone of Austria -- were slightly less than six times those of 1950. Exports of petroleum products to non-Bloc countries -- consisting principally of diesel fuel and motor gasoline, in that order -- have increased significantly during 1950-54. Estimated total East German trade in petroleum and petroleum products in 1950-55 is shown in Table 5.

Table 5

Estimated Total East German Trade
in Petroleum and Petroleum Products a/
1950-55

Thousand Metric Tons

Trade	Product	1950	1951	1952	1953	1954	1955 b/
Exports c/	Aviation gasoline d/	81	119	147	94	95	
	Motor gasoline	112	98	109	137	234	
	Jet fuel	0	20	20	21	0	
	Diesel fuel	213	159	163	197	293	
	Lubricating oils	20	13	5	3	3	
	Total e/	430	410	440	450	620	640
Imports f/	Crude oil	120	260	275	474	640	
	Aviation gasoline	N.A.	N.A.	25	20	20	
	Lubricating oils	N.A.	N.A.	20	17	20	
	Residuals	N.A.	N.A.	N.A.	6	6	
	Total e/	120	260	320	520	690	

a. Estimated margin of error, plus or minus 10 percent.
b. Only total 1955 exports can be estimated.
c. See Tables 6 and 7, pp. 17 and 20, respectively, below.
d. Includes alkylate, a component of aviation gasoline.
e. Component data have been rounded to units of 1,000. Totals are rounded to 10,000.
f. See Table 8, p. 23, below.

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B. Non-Soviet Bloc Trade.

West Germany and, to a lesser extent, Sweden have been the most significant and consistent importers of East German fuels and lubricants. Switzerland and the Netherlands began trading in petroleum with East Germany in 1954.

There is no indication that foreign exchange is involved in this type of East-West trade. Trade with West Germany is conducted under the terms of the Inter-Zonal Agreement, and credits for the petroleum trade are established in "clearing units" which are subsequently debited against similar units generated from trade in other commodities and services. 25/ Trade with other non-Soviet Bloc countries is conducted on a barter basis. 26/ Estimated East German exports of petroleum products to non-Soviet Bloc countries in 1950-55 are shown in Table 6.*

C. Intra-Soviet Bloc Trade.

Before 1954 the USSR was the principal importer of East German petroleum products. In 1954, exports to Poland exceeded those to the USSR. Gasoline, including aviation grade, continues to be the principal product exported to other Bloc countries. Estimated East German exports of petroleum products to Soviet Bloc countries in 1950-55 are shown in Table 7.**

The Soviet Zone of Austria provides almost all of the natural crude oil imported by East Germany. In addition to the crude oil imported as a supplemental raw material for East German refineries, negligible quantities of pacura*** from Rumania and bitumen from Hungary were also imported in 1954 for the same purposes. 27/ Small quantities of miscellaneous special lubricating oils continue to be imported from the USSR and Hungary. Estimated East German imports of petroleum products from Soviet Bloc countries in 1950-54 are shown in Table 8.****

* Table 6 follows on p. 17.
** Table 7 follows on p. 20.
*** A topped crude oil similar to mazut, or residual fuel oil.
**** Table 8 follows on p. 23. Text continued on p. 25.

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Table 6

Estimated East German Exports of Petroleum Products
to Non-Soviet Bloc Countries a/*
1950-55

Thousand Metric Tons

Year	Product	West Germany	Sweden	Switzerland	Netherlands	Total
1950 b/	Motor gasoline	34	c/			34
	Diesel fuel	30	4			34
	Lubricating oils	8				8
	Total d/	71	4			75
1951 b/	Motor gasoline	6				6
	Diesel fuel	2				2
	Lubricating oils					
	Total	8				8
1952 b/	Motor gasoline	23				23
	Diesel fuel	3	12			15
	Lubricating oils					
	Total	26	12			38

* Footnotes for Table 6 follow on p. 18.

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Table 6

Estimated East German Exports of Petroleum Products
to Non-Soviet Bloc Countries
1950-55
(Continued)

Thousand Metric Tons

Year	Product	West Germany	Sweden	Switzerland	Netherlands	Total
1953 b/	Motor gasoline	45				45
	Diesel fuel	41	33			74
	Lubricating oils					
	Total	86	33			119
1954 e/	Motor gasoline	50		50	13	113
	Diesel fuel	90	9	38	15	152
	Lubricating oils					
	Total	140	9	88	28	265
1955	Total f/					300

a. Estimated margin of error, plus or minus 10 percent.
b. 28/
c. Absence of an entry in any column indicates no exports or negligible quantities.

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Table 6

Estimated East German Exports of Petroleum Products
to Non-Soviet Bloc Countries a/
1950-55
(Continued)

d. Totals are derived from unrounded figures and do not always agree with the sum of rounded data shown.
e. 29/
f. Only total exports in 1955 can be estimated. The estimate is based on preliminary trade negotiations.

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Table 7

Estimated East German Exports of Petroleum Products
to Soviet Bloc Countries a/*
1950-55

Thousand Metric Tons

Year	Product	USSR	Poland	Czechoslovakia	Hungary	Bulgaria	Total
1950 b/	Aviation gasoline c/	81	d/				81
	Motor gasoline	48	30				78
	Jet fuel						
	Diesel fuel	110	69				179
	Lubricating oils	12					12
	Total	251	99				350
1951 e/	Aviation gasoline	119					119
	Motor gasoline	44	48				92
	Jet fuel	20					20
	Diesel fuel	117	40				157
	Lubricating oils	13					13
	Total	313	88				401
1952 f/	Aviation gasoline	147					147
	Motor gasoline	31	45	10			86
	Jet fuel	20					20
	Diesel fuel	120	27	1			148
	Lubricating oils	5					5
	Total	323	72	11			406

* Footnotes for Table 7 follow on p. 22.

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Table 7

Estimated East German Exports of Petroleum Products
to Soviet Bloc Countries a/
1950-55
(Continued)

Thousand Metric Tons

Year	Product	USSR	Poland	Czechoslovakia	Hungary	Bulgaria	Total
1953 g/	Aviation gasoline	94					94
	Motor gasoline	31	51	10			92
	Jet fuel	20	1				21
	Diesel fuel	105	10	1	7		123
	Lubricating oils	2				1	3
	Total	252	62	11	7	1	333
1954 h/	Aviation gasoline	50	45				95
	Motor gasoline	14	72		35		121
	Jet fuel						
	Diesel fuel	54	80		7		141
	Lubricating oils	3					3
	Total	121	197		42		360
1955 i/	Gasoline						306
	Diesel fuel						26
	Lubricating oils						8
	Total						340

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Table 7

Estimated East German Exports of Petroleum Products
to Soviet Bloc Countries a/
1950-55
(Continued)

a. Estimated margin of error, plus or minus 10 percent.
b. 30/
c. Includes alkylate, a component of aviation gasoline.
d. Absence of an entry in any column indicates no exports or negligible quantities.
e. 31/
f. 32/
g. 33/
h. 34/
i. Only the total can be estimated. 35/

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Table 8

Estimated East German Imports of Petroleum and Petrolem Products
from Soviet Bloc Countries a/
1950-54

Thousand Metric Tons

Import	Country of Origin	1950	1951	1952	1953	1954
Crude oil	Soviet Zone of Austria	120 b/	260 c/	275 d/	440 e/	560 f/
	Hungary	0	0	0	13 e/	40 g/
	Rumania	0	0	0	21 e/	20 h/
	USSR	0	0	0	0	20 i/
Aviation gasoline	USSR	N.A.	N.A.	25 j/	20 k/	20 k/
Lubricating oils	USSR, Rumania, and Hungary	N.A.	N.A.	20 j/	17 k/	20 k/
Residuals	Rumania and Hungary	N.A.	N.A.	N.A.	6 k/	6 k/
Total 1/		120	260	320	520	690

a. Estimated margin of error, plus or minus 10 percent.
b. 36/
c. 37/
d. 38/
e. 39/

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Table 8

Estimated East German Imports of Petroleum and Petroleum Products
from Soviet Bloc Countries a/
1950-54
(Continued)

f. Summation of reported figures for 10 months 40/ prorated to 12 months.
g. Summation of reported figures. 41/
h. Summation of reported figures. 42/
i. Summation of reported figures. 43/
j. 44/
k. 45/
l. Component data have been rounded to units of 1,000. Totals are rounded to 10,000.

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VI. Supply-Demand Balance.

East Germany manufactured an exportable surplus of certain petroleum products in the years from 1950 through 1952. In 1953 and 1954 the total imports of crude oil and exports of petroleum products were almost in balance. The estimated petroleum supply-demand balance in East Germany in 1950-54 is shown in Table 9. The domestic demand includes aviation gasoline and jet fuel which are consumed by the Soviet forces stationed in East Germany. The total domestic demand in 1954 is estimated to be twice the demand in 1950, and the new supply of petroleum in 1954 represents an increase of approximately 75 percent over 1950.

Table 9

Estimated Petroleum Supply-Demand Balance in East Germany
1950-54

Thousand Metric Tons

	1950	1951	1952	1953	1954
New supply					
Domestic output a/ (includes yield from quantity of imported crude oil shown) b/	1,320	1,510	1,850	2,100	2,260
	(120)	(260)	(275)	(474)	(640)
Imports of products b/	N.A.	N.A.	45	43	46
Total c/	1,320	1,510	1,890	2,140	2,310
Demand					
Exports of products b/	430	410	440	450	620
Domestic d/	890	1,100	1,450	1,690	1,680
Total c/	1,320	1,510	1,890	2,140	2,310

a. See Table 1, p. 7, above.
b. See Table 5, p. 15, above.
c. Totals are derived from unrounded figures and do not always agree with the sum of rounded data shown.
d. Total new supply less exports.

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VII. Capabilities, Vulnerabilities, and Intentions.

A. Capabilities.

The petroleum industry in East Germany has been designed to function on locally available raw materials and appears to be relatively self-sufficient. With the exception of small quantities of specialty lubricants, the industry can supply, independent of imports, the quantitative and qualitative domestic demands. The industry's ability to manufacture high-quality aviation gasoline and allied components and significant quantities of jet fuel makes East Germany an important contributor to the petroleum economy of the Soviet Bloc.

The imported natural crude oil provides some of the specialty lubricants which could not otherwise be economically produced from synthetic sources and utilizes available refining capacity by supplementing indigenous raw materials. There is no evidence to indicate that commercial quantities of natural crude oil will be produced in East Germany in the foreseeable future.

It is conceivable that the specialty lubricants now imported directly or produced from imported crude oil could be manufactured by synthetic processes if necessary. It is unlikely that production of petroleum products from synthetic sources will increase significantly without extensive plant expansion and reconstruction. Refining facilities are capable of processing additional quantities of natural crude oil, however, and increased plant output could occur if additional quantities of crude oil were to become available.

Although imports and exports of petroleum and petroleum products are presently about in balance, the rate of increase of imports has been more rapid than the rate of increase of exports. A continuation of this trend to the point where imports significantly exceed exports and continue to do so would indicate an inability on the part of the East German government to maintain its current self-sufficient position with regard to petroleum.

B. Vulnerabilities.

In view of the fact that the East German petroleum industry was designed to function independently on locally available raw materials and facilities, its vulnerabilities are generally restricted to intrinsic shortcomings. The greatest immediate weakness of the industry

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lies in the results of lack of maintenance and repair of plant equipment. Efforts to accomplish production goals have forced continuous operation of equipment and thus have precluded proper maintenance and repair. Similarly, reported shortages of seamless steel pipe, boiler tubes, welding rods, and spare parts limit the extent of repair and rehabilitation which could be effected. It is anticipated that plant failures and shutdowns will continue as a result of these deficiencies. In addition to these inherent weaknesses, the loss of electric power and water, which are essential to the operation of the East German petroleum plants, represents a potential vulnerability.

About 65 percent of the total output capacity is concentrated in 4 plants, and the denial of any or all of these plants would seriously reduce the industry's ability to serve the East German economy.

C. Intentions.

Although there are few activities related to the petroleum industry in East Germany which would reveal exclusively military intentions, such intentions might be included in the results of any of the following pursuits:

1. Augmenting or intensifying the degree of security surrounding, or efforts to conserve, electric power and fresh water resources intended for use by the petroleum manufacturing plants.

2. Any precipitant effort to rehabilitate or expand existing petroleum manufacturing plants.

3. Any activities directed toward an unusually large increase in the output of aircraft fuels.

4. A significant decrease in the quantity of petroleum exports and any increase in the quantity of military end-item petroleum imports from non-Soviet Bloc countries.

5. Any persistent attempts to import petroleum or petroleum products from non-Soviet Bloc countries.

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APPENDIX A

PETROLEUM PLANTS IN EAST GERMANY

1. Description.

The location and estimated output capacity of the petroleum plants in East Germany in 1954 are shown in Table 10.* Except as otherwise indicated, the plants are subordinate to the Main Administration for Liquid Fuels in the Production Area for Chemistry of the East German Ministry for Heavy Industry. 46/

2. Petroleum Product Output.

The estimated output of petroleum products in East Germany in 1950-54 is shown in Tables 11, 12, 13, 14, and 15.** In a few cases the plant output exceeds the estimated plant capacity by small quantities. Such discrepancies are considered to be within the estimated margin of error of plus or minus 10 percent for plant output.

The category described as "Residuals and Others" includes such miscellaneous products as liquefied petroleum gas, wax and slack wax, electrode coke, greases, and candles.

3. Major Inputs.

There are scattered reports of the inputs of certain commodities into various East German plants which manufacture petroleum products. Although there have been few such reports in recent years, available reports covering 1950, 1951, and 1952 provide information on the inputs of electric power, water, labor, and investment for approximately 10 plants. Major inputs to these 10 petroleum plants in East Germany are shown in Table 16.*** These plants manufacture about 50 percent of the total output of petroleum products and are considered to include types of plants representative of all the plants in East Germany. Estimated total major inputs to petroleum plants in East Germany are shown in Table 17.****

* Table 10 follows on p. 30.
** Tables 11-15 follow on pp. 32-41.
*** Table 16 follows on p. 42.
**** Table 17 follows on p. 43.

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Table 10

Location and Estimated Annual Output Capacity of Petroleum Plants in East Germany 1954

Thousand Metric Tons

Name of Plant	Coordinates	General Process	Estimated Output Capacity a/*
Boehlen	51°11' N - 12°23' E	Bergius hydrogenation	400
Zeitz/Troeglitz	51°02' N - 12°12' E	Bergius hydrogenation	500
Schwarzheide	51°28' N - 13°52' E	Fischer-Tropsch	250
Luetzkendorf	51°18' N - 11°51' E	Natural crude oil	160
Rositz b/	51°01' N - 12°23' E	Tar processing	200
Goelzau	51°40' N - 12°05' E	Tar processing	75
Webau b/	51°11' N - 12°05' E	Tar processing	55
Koepsen b/	51°10' N - 12°04' E	Tar processing	90
Boesdorf b/	52°25' N - 11°04' E	Tar processing	20
Espenhain	51°11' N - 12°28' E	Low-temperature carbonization and tar processing	150
Herrenleite	50°58' N - 13°59' E	Natural crude oil	15
Klaffenbach	50°46' N - 12°40' E	Lubricating oil manufacture and reclamation	20
Mittlebach	50°47' N - 12°47' E	Lubricating oil manufacture and reclamation	3
Nordhausen	51°31' N - 10°48' E	Reclamation of used lubricating oils	3
Freital	51°01' N - 13°39' E	Reclamation of used lubricating oils	2
Taucha	51°23' N - 12°29' E	Gasoline manufacture	15
Erkner	52°25' N - 13°45' E	Chemical manufacture	0
Voelpke	52°08' N - 11°06' E	Wax manufacture	4
Dessau	51°50' N - 12°15' E	Wax manufacture	1
Edderitz c/	51°36' N - 12°20' E	Low-temperature carbonization	3
Leuna d/	51°19' N - 12°00' E	Bergius hydrogenation and natural crude oil	400
Schkopau d/	51°24' N - 11°59' E	Lubricating oil manufacture	25

* Footnotes for Table 10 follow on p. 31.

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Table 10

Location and Estimated Annual Output Capacity of Petroleum Plants
in East Germany
1954
(Continued)

Thousand Metric Tons

Name of Plant	Coordinates	General Process	Estimated Output Capacity a/
Brandenburg e/	52°25' N - 12°33' E	Lubricant manufacture	5
Burg e/	52°16' N - 11°51' E	Lubricant manufacture	1
Leipzig e/	51°18' N - 12°20' E	Wax and lubricant manufacture	3
Mieste e/	52°28' N - 11°13' E	Lubricant manufacture	1
Teltow e/	52°24' N - 13°16' E	Asphalt manufacture	0
Dresden e/	51°03' N - 13°45' E	Asphalt manufacture	0

a. Capacity figures are based on rounded estimates of maximum annual production during the 1950-54 period.
b. In order to achieve greater economy in production and reduce administrative cost, it was planned to consolidate the Koepsen and Webau plants as of 1 January 1955 to form the VEB (Volkseigener Betrieb -- People-Owned Enterprise) "Vorwaerts" Paraffin Works with main offices in Koepsen. 47/ The plants at Koepsen, Webau, Boesdorf, and Rositz were no longer to produce final products of tar distillation but were to ship their distillates for final processing to Zeitz, Boehlen, or Leuna. 48/
c. Subordinate to the Main Administration for Lignite. 49/
d. Subordinate to the Main Administration for Liquid Fuels in the Production Area for Chemistry of the East German Ministry for Heavy Industry. 50/
e. Formerly subordinate to the Main Administration for Liquid Fuels, now under the Kreis administration. 51/

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Table 11

Estimated Output of Petroleum Products in East Germany
1950

Thousand Metric Tons

Plant	Motor Gasoline	Diesel Fuel	Lubricating Oil	Residual Fuel Oil	Residuals and Others	Total
Zeitz/Troeglitz	95	205	25	0	48	373 a/
Boehlen	130	24	0	0	8	271 b/
Leuna	70	15	0	0	0	85 c/
Schwarzheide	25	12	0	15	21	113 d/
Luetskendorf	18	24	55	0	18	122 e/
Rositz	16	52	0	28	20	116 f/
Espenhain	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Koepsen	8	25	0	11	21	65 g/
Goelzau	10	27	0	5	13	55 h/
Webau	3	17	0	19	13	52 i/
Klaffenbach	21	0	0	0	1	22 j/
Boesdorf	0	2	0	6	3	11 k/
Schkopau	0	0	15	0	0	15 l/
Herrenleite	1	4	5	0	1	11 m/
Various small plants	2	1	1	0	0	4
Total	399	408	101	84	167	1,315 n/

a. 52/
b. Included in total: aviation gasoline, 107,000; jet fuel, 2,000. 53/
c. 54/
d. Included in total: jet fuel, 2,000; solvent (to be further processed to motor gasoline and/or jet fuel), 38,000. 55/
e. Included in total: kerosine, 7,000. 56/

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Table 11

Estimated Output of Petroleum Products in East Germany
1950
(Continued)

f. 57/
g. 58/
h. 59/
i. 60/
j. Includes 11,000 tons of gasoline from the plant at Taucha. 61/
k. 62/
l. Estimated on the basis of 25 percent of reported total lubricating oil 63/ being raw material for production of lubricating oil.
m. Included in total: kerosine, 900. 64/
n. Components have been rounded to units of 1,000. The sum of components and the total differ by the quantities shown in footnotes b, d, e, and m.

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Table 12

Estimated Output of Petroleum Products in East Germany
1951

Thousand Metric Tons

Plant	Motor Gasoline	Diesel Fuel	Lubricating Oil	Residual Fuel Oil	Residuals and Others	Total
Zeitz/Troeglitz	105	225	30	0	65	425 a/
Boehlen	144	28	0	0	10	325 b/
Leuna	90	40	0	0	0	130 c/
Schwarzheide	45	12	0	16	21	114 d/
Luetzkendorf	7	28	56	0	15	111 e/
Rositz	19	58	0	34	24	135 f/
Espenhain	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Koepsen	11	33	0	17	20	81 g/
Goelzau	11	30	0	6	15	62 h/
Webau	5	20	0	21	11	57 i/
Klaffenbach	26	0	0	0	1	27 j/
Boesdorf	0	2	0	8	2	12 k/
Schkopau	0	0	18	0	0	18 l/
Herrenleite	1	3	6	0	1	11 m/
Various small plants	2	1	1	0	0	4
Total	466	480	111	102	185	1,512 n/

a. 65/
b. Included in total: aviation gasoline, 113,000; jet fuel, 30,000. 66/
c. 67/
d. Included in total: jet fuel, 20,000. 68/

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Table 12

Estimated Output of Petroleum Products in East Germany
1951
(Continued)

e. Included in total: kerosine, 5,000. 69/
f. 70/
g. 71/
h. 72/
i. 73/
j. Includes 14,000 tons of gasoline from the plant at Taucha. 74/
k. 75/
l. 76/
m. Included in total: kerosine, 1,100. 77/
n. Components have been rounded to units of 1,000. The sum of components and the total differ by the quantities shown in footnotes b, d, e, and m.

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Table 13

Estimated Output of Petroleum Products in East Germany
1952

Thousand Metric Tons

Plant	Motor Gasoline	Diesel Fuel	Lubricating Oil	Residual Fuel Oil	Residuals and Others	Total
Zeitz/Troeglitz	135	234	29	0	61	459 a/
Boehlen	90	50	0	0	10	362 b/
Leuna	170	30	0	0	0	200 c/
Schwarzheide	33	19	0	18	22	177 d/
Luetzkendorf	4	32	55	0	15	111 e/
Rositz	25	79	0	44	32	180 f/
Espenhain	0	0	0	28	55	83 g/
Koepsen	9	34	0	23	22	88 h/
Goelzau	10	29	0	9	18	66 i/
Webau	4	22	0	15	10	51 j/
Klaffenbach	30	0	1	0	1	32 k/
Boesdorf	0	3	0	8	2	13 l/
Schkopau	0	0	10	0	0	10 m/
Herrenleite	1	4	6	0	1	13 n/
Various small plants	2	0	1	0	0	3
Total	513	536	102	145	249	1,848 o/

a. 78/
b. Included in total: aviation gasoline, 151,000; jet fuel, 61,000. 79/
c. 80/
d. Included in total; jet fuel, 41,000; solvent (to be further processed to motor gasoline and/or jet fuel), 44,000. 81/

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Table 13

Estimated Output of Petroleum Products in East Germany
1952
(Continued)

e. Included in total: kerosine, 5,000. 82/
f. 83/
g. 84/
h. 85/
i. 86/
j. 87/
k. Includes 15,000 tons of gasoline from the plant at Taucha. 88/
l. 89/
m. 90/
n. Included in total: kerosine, 1,100. 91/
o. Components have been rounded to units of 1,000. The sum of components and the total differ by the quantities shown in footnotes b, d, e, and n.

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Table 14

Estimated Output of Petroleum Products in East Germany
1953

Thousand Metric Tons

Plant	Motor Gasoline	Diesel Fuel	Lubricating Oil	Residual Fuel Oil	Residuals and Others	Total
Zeitz/Troeglitz	141	250	33	0	61	485 a/
Boehlen	100	133	0	0	8	365 b/
Leuna	220	30	2	0	0	252 c/
Schwarzheide	80	28	0	19	26	220 d/
Luetzkendorf	6	49	60	0	22	143 e/
Rositz	26	84	0	58	30	198 f/
Espenhain	0	0	0	42	102	144 g/
Koepsen	8	35	0	21	19	83 h/
Goelzau	12	32	0	10	17	71 i/
Webau	7	21	0	15	11	54 j/
Klaffenbach	28	0	1	0	1	30 k/
Boesdorf	0	4	0	7	3	14 l/
Schkopau	0	0	12	0	0	12 m/
Herrenleite	1	4	6	0	1	13 n/
Various small plants	2	0	1	0	13	16
Total	631	670	115	172	314	2,100 o/

a. 92/
b. Included in total: aviation gasoline, 84,000; jet fuel, 40,000. 93/
c. 94/
d. Included in total: jet fuel, 47,000; solvent (to be further processed to motor gasoline and/or jet fuel), 20,000. 95/

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Table 14

Estimated Output of Petroleum Products in East Germany
1953
(Continued)

e. Included in total: kerosine, 6,000. 96/
f. 97/
g. 98/
h. 99/
i. 100/
j. 101/
k. Includes 15,000 tons of gasoline from the plant at Taucha. 102/
l. 103/
m. 104/
n. Included in total: kerosine, 1,200. 105/
o. Components have been rounded to units of 1,000. The sum of components and the total differ by the quantities shown in footnotes b, d, e, and n.

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Table 15

Estimated Output of Petroleum Products in East Germany
1954

Thousand Metric Tons

Plant	Motor Gasoline	Diesel Fuel	Lubricating Oil	Residual Fuel Oil	Residuals and Others	Total
Zeitz/Troeglitz	161	254	33	0	65	513 a/
Boehlen	147	115	0	0	13	379 b/
Leuna	250	100	25	0	0	375 c/
Schwarzheide	65	40	0	20	27	235 d/
Luetzkendorf	10	46	61	0	33	166 e/
Rositz	14	79	0	28	33	154 f/
Espenhain	0	0	0	46	110	156 g/
Koepsen	9	34	0	18	18	79 h/
Goelzau	12	34	0	10	17	73 i/
Webau	3	19	0	16	11	49 j/
Klaffenbach	28	0	2	0	2	32 k/
Boesdorf	0	4	0	8	4	16 l/
Schkopau	0	0	17	0	0	17 m/
Herrenleite	1	4	7	0	1	14 n/
Various small plants	2	0	1	0	0	3
Total	702	729	146	146	334	2,261 o/

a. 106/
b. Included in total: aviation gasoline, 88,000; jet fuel, 16,000. 107/
c. 108/
d. Included in total: jet fuel, 50,000; solvent (to be further processed to motor gasoline and/or jet fuel), 33,000. 109/

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Table 15

Estimated Output of Petroleum Products in East Germany
1954
(Continued)

e. Included in total: kerosine, 16,000. 110/
f. 111/
g. 112/
h. 113/
i. 114/
j. 115/
k. Includes 14,000 tons of gasoline from the plant at Taucha. 116/
l. 117/
m. 118/
n. Included in total: kerosine, 1,300. 119/
o. Components have been rounded to units of 1,000. The sum of components and the total differ by the quantities shown in footnotes b, d, e, and n.

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Table 16

Major Inputs to Ten Petroleum Plants in East Germany
1950-52

Plant	Electric Power (Thousand Kilowatt-Hours)			Water (Thousand Cubic Meters)			Investment (Thousand Deutsche Mark)			Labor (Workers)		
	1950	1951	1952	1950	1951	1952	1950	1951	1952	1950	1951	1952
Boehlen a/	724,973	783,531	835,827	47,624	49,856	56,973	17,153	11,449	14,078	14,246	14,043	13,607
Rositz b/	16,376	18,447	20,804	2,104	1,900	1,935	1,226	1,495	606	1,553	1,545	1,567
Roelzau c/	25,407	25,889	26,711	3,783	3,689	3,789	N.A.	845	1,129	2,023	1,998	1,963
Debau d/	6,000	6,000	6,000	N.A.	N.A.	N.A.	725	390	269	1,099	1,015	1,002
Koepsen e/	6,198	7,406	7,337	1,840	1,840	1,752	605	844	410	829	857	873
Roesdorf f/	32	51	206	N.A.	N.A.	N.A.	121	47	135	76	84	95
Luetzkendorf g/	120,485	72,579	56,409	7,448	3,804	3,083	4,521	1,414	425	3,999	2,833	2,221
Merrenleite h/	2,316	2,345	2,460	512	732	753	52	67	168	165	163	166
Klaffenbach i/	139	147	150	302	302	324	39	91	227	133	141	138
Mittlebach j/	78	79	87	N.A.	N.A.	N.A.	70	8	37	48	62	64
Total	902,004	916,474	955,991	63,613	62,123	68,609	24,512	16,650	17,484	24,171	22,741	21,696

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Table 17

Estimated Total Major Inputs to Petroleum Plants
in East Germany a/*
1950-52

Input	Unit	1950	1951	1952
Electric power				
Total petroleum product output b/	Thousand metric tons	1,315	1,512	1,848
Petroleum product output by 10 selected plants c/	Thousand metric tons	727	823	918
Percent of total output		55.3	54.4	47
Electric power consumption by 10 selected plants d/	Million kilowatt-hours	902.0	916.5	950
Total power consumption	Million kilowatt-hours	1,630	1,680	1,920
Water				
Total petroleum product output b/	Thousand metric tons	1,315	1,512	1,848
Petroleum product output by 7 selected plants c/	Thousand metric tons	662	752	852
Percent of total output		50.3	49.7	46
Water consumption by 7 selected plants e/	Million cubic meters	63.6	62.1	68
Total water consumption	Million cubic meters	126	125	146

* Footnotes for Table 17 follow on p. 44.

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Table 17

Estimated Total Major Inputs to Petroleum Plants
in East Germany a/
1950-52
(Continued)

Input	Unit	1950	1951	1952
Investment				
Total petroleum product output b/	Thousand metric tons	1,315	1,512	1,848
Petroleum product output by selected plants c/	Thousand metric tons	672	823	918
Percent of total output		51.1	54.4	49.7
Investment in 10 selected plants f/	Million Deutsche Mark	24.5	16.6	17.2
Total investment g/	Million Deutsche Mark	47.9	30.5	35.2
Labor				
Total petroleum product output b/	Thousand metric tons	1,315	1,512	1,848
Petroleum product output by 10 selected plants c/	Thousand metric tons	727	823	918
Percent of total output		55.3	54.4	49.7
Labor in 10 selected plants h/	Thousand workers	24.2	22.7	21.1
Total labor	Thousand workers	43.8	41.7	43.2

a. Estimates of total inputs are based on the assumption that the observed relationship between product output of selected plants and total product output is applicable to input data.

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Table 17

Estimated Total Major Inputs to Petroleum Plants
in East Germany a/
1950-52
(Continued)

b. See Tables 11 through 13, pp. 32, 34, and 36, respectively, above.
c. Includes data for those plants for which input data are available.
d. See Table 16, p. 42, above.
e. See Table 16, p. 42, above. Data available for seven plants only.
f. See Table 16, p. 42, above. Data for 1950 available for nine plants only.
g. Investment is defined as the investments in the main installations (equipment), including overhead.
h. See Table 16, p. 42, above.

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APPENDIX B

DISTRIBUTION AND STORAGE OF PETROLEUM PRODUCTS IN EAST GERMANY

1. Organization.

The distribution and storage of liquid fuels and lubricants within East Germany is the function of two organizations: (a) the German Trade Center, Fuels and Mineral Oils (Deutsche Handelzentrale, Kraftstoff und Mineraloel -- DHZ KM) and (b) a nationalized (people-owned) agency for fuel distribution (VEB Kraftstoffvertrieb). 130/ The DHZ KM is one of a group of trade centers or wholesale enterprises each of which deals in a specific commodity. 131/ It has a central office in Berlin and five branch offices located at Erfurt, Halle, Dresden, Schwerin, and Potsdam. It is subordinate to the Marketing Department of the Central Administration for the Ministry for Heavy Industry. 132/ The VEB Kraftstoffvertrieb was formerly the independent Soviet-owned company Deutsche-Russische Naphta (Derunapht) AG and was nationalized on 1 January 1954. 133/ Derunapht operated independently of DHZ KM and was responsible for distributing about 55 percent of the available supply of petroleum products. 134/ It is believed that the nationalized agency operates in the same manner.

Recent information indicates that the two organizations are in the process of being merged. As of 1 January 1955 the DHZ KM and the VEB Kraftstoffvertrieb in Erfurt were combined under the name VEB Kraftstoffvertrieb. 135/ The same report stated that the Erfurt branch would be in charge of fuel distribution in Bezirke Erfurt, Gera, and Suhl. The merger was ordered by the Ministry for Heavy Industry, and similar mergers will be effected in the other branches.

2. Principal Storage Installations.*

It is estimated that there are approximately 550,000 tons of petroleum product bulk storage in East Germany, one-third of which is estimated to be in service for the military forces.

Identified petroleum product storage installations in East Germany are shown in Table 18.** The table lists the estimated bulk storage

* Information on storage facilities is based on data included in source 136/.

** Table 18 follows on p. 49.

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capacity for petroleum products at identified installations where such capacity exceeds 2,000 tons but does not include the capacity of tankage in crude oil or other raw material service at petroleum plants.

It is estimated that the total unidentified tankage and the tankage at installations where the total capacity is less than 2,000 tons may be on the order of 150,000 tons.

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Table 18

Identified Petroleum Product Storage Installations in East Germany

Thousand Metric Tons

Type of Storage and Location	Coordinates	Capacity	Remarks
Refinery product storage			
Boehlen	51°11' N - 12°23' E	21.0	
Luetzkendorf	51°18' N - 11°51' E	11.0	
Leuna	51°19' N - 12°00' E	20.0	
Schwarzheide	51°28' N - 13°52' E	20.0	
Zeitz/Troeglitz	51°02' N - 12°12' E	20.0	
Goelzau	51°40' N - 12°05' E	3.0	
Rositz	51°01' N - 12°23' E	6.0	
Koepsen	51°10' N - 12°04' E	2.0	
Webau	51°11' N - 12°05' E	1.5	
Total		104.5	
Major military product storage			
Radensleben	52°53' N - 12°55' E	2.5	Air Force
Velten	52°41' N - 13°12' E	20.0	Army and Air Force
Mixdorf	52°13' N - 14°24' E	2.0	Army
Aken	51°51' N - 12°03' E	15.0	Probably Air Force
Schleife	51°33' N - 14°03' E	20.0	Probably Air Force

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Table 18

Identified Petroleum Product Storage Installations in East Germany
(Continued)

Thousand Metric Tons

Type of Storage and Location	Coordinates	Capacity	Remarks
Major military product storage (Continued)			
Bernsdorf	51°46' N - 13°13' E	2.2	Military
Reisa	51°19' N - 13°16' E	20.0	Army
Muenchenbernsdorf	50°48' N - 11°54' E	11.0	Military
Berlin	52°29' N - 13°30' E	30.0	Rummelsburg -- Army
Berlin	52°30' N - 13°30' E	22.0	Aldershof -- Army
Juterbog	51°58' N - 13°05' E	7.0	Air Force
Radebuhl	51°05' N - 13°44' E	4.0	Army
Torgau	51°34' N - 13°00' E	12.0	Military
Airfield storage		13.0	
Total		180.7	
Major nonmilitary product storage			
Berlin	52°30' N - 13°13' E	50.0	Karl Shorst
Dresden	51°04' N - 13°45' E	30.0	Underground
Magdeburg	52°09' N - 11°44' E	13.0	Standard Oil
Magdeburg	52°10' N - 11°40' E	12.0	
Stassfurt	51°50' N - 11°37' E	7.0	Underground

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Table 18

Identified Petroleum Product Storage Installations in East Germany
(Continued)

Thousand Metric Tons

Type of Storage and Location	Coordinates	Capacity	Remarks
Major nonmilitary product storage (Continued)			
Brandenburg	52°24' N - 12°31' E	3.0	Shell Oil
Erfurt	51°00' N - 12°02' E	3.0	
Straslund	54°18' N - 13°06' E	3.0	
Warnemuende	54°20' N - 12°06' E	2.5	Shipyard
Ravensbrueck	53°12' N - 13°10' E	2.3	
Rostock	54°06' N - 12°06' E	2.0	
Total		127.8	
Unidentified and minor storage		150.0	
Grand total		563.0	

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APPENDIX C

METHODOLOGY

The estimates contained in this report are based on reported statistics on production and trade in East Germany. Where yearly reports are available, the estimates have been taken directly from them. Where information is available for only part of a year, the available information has been expanded to a yearly estimate by simple arithmetical procedures. In some instances the available information consisted of numerous individual reports of tank car shipments through border-crossing points. These reports were summed and, where necessary, expanded to a yearly basis. Where conflicting information was available, the selection was based on consideration of related information and the estimated reliability of the sources. The footnotes to the tables in the report generally explain the methodology used in the tables.

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APPENDIX D

GAPS IN INTELLIGENCE

The outstanding gap in intelligence disclosed by research on this report is related to the type and quantity of materiel and equipment required to repair and maintain the petroleum plants in East Germany. A similar gap exists in the matter of petroleum stockpiles and inventory changes. Although there is fairly reliable information on which to estimate total civil consumption of petroleum in East Germany, available information does not permit the development of realistic estimates of consumption by the various sectors of the economy.

Future research might partially close the existing gaps. The relative importance of the petroleum industry in the economy of the Soviet Bloc suggests, however, that continuing research would not be justified. One of the principal difficulties which arose in this report of East Germany lay not in the lack of information but in the selection of information from the many reports available. The reports are frequently in conflict and, in some cases, are internally inconsistent.

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APPENDIX E

SOURCE REFERENCES

The principal sources of information for this report were CIA documents and a few previously published intelligence reports.

Evaluations, following the classification entry and designated "Eval.," have the following significance:

Source of Information	Information
Doc. - Documentary	1 - Confirmed by other sources
A - Completely reliable	2 - Probably true
B - Usually reliable	3 - Possibly true
C - Fairly reliable	4 - Doubtful
D - Not usually reliable	5 - Probably false
E - Not reliable	6 - Cannot be judged
F - Cannot be judged	

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluation "Documentary."

Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this report. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

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