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ENEMY OIL COMMITTEE

Western Axis Subcommittee

PRESENT POSITION OF REFINING INDUSTRY

IN

GERMAN-HELD EUROPE

November 22, 1943

PRESENT POSITION OF THE REFINING INDUSTRY IN GERMAN-HELD EUROPE

(1) Whereas German-held Europe had, at the time of our last report, (EOC 45-2) a comfortable and fairly well distributed excess of refining capacity, it is now clear that the excess has been reduced to the danger point. The loss of certain Italian refineries, the destruction of certain Italian, German and Rumanian refineries, added to the impotence of the French and Lowlands refineries, has completely changed the outlook. For the first time it is evident that an immediate effective blow at the European refining industry would cause crude oil to be shut back in the wells.

(2) The Allied capture of the Naples and Bari refineries represents a permanent loss to the German economy of 450,000 (a)* tons per year of crude handling capacity. The approach of Allied armies and the destruction of crude supply lines by guerrillas is understood now to have immobilized the remaining Italian capacity to the further extent of 1,600,000 (b) tons per year. The damage to Rumanian and German refineries represents a loss, at least for several months, estimated at 3,925,000 (c) tons and 540,000 (d) tons respectively. The destruction of tankage and dismantling of equipment in Northern France and the Lowlands is calculated to represent a loss of 5,030,000 (e) tons. The total actual loss therefore is estimated to have been 11,545,000 (f) tons. In addition it must be noted that, excepting the small plants for local oil, the remaining capacity in France and the Lowlands, 4,085,000 (g) tons, is unavailable due to its remoteness from the centers of production and consumption. Furthermore, of the so-called "capacity" in Germany, 720,000 (h) tons represents simply lube or gasoline finishing capacity which could not be adapted to handling crude. This leaves only 9,765,000 (i) tons, of the original 26,115,000 (j) tons of European refining capacity, now available to the Germans for crude handling.

(3) If subjected to no further molestation it is believed that a large part if not all of the damaged refinery equipment in Rumania and Germany could be replaced by the Spring of 1944. Equipment has been removed from French refineries which, with attendant facilities, would be capable of handling several million barrels per year of crude oil. Some of this equipment may be destined for the Lobau refinery, now under construction, or for the rumored new refineries to be built at Komarom and Smederevo. It is even possible that "unknown" plants have been erected with these transplanted facilities, although no intelligence whatsoever has been received to such effect. On the other hand, a large part of it may have been consumed in the construction of the new synthetic plants. In any case, this or newly fabricated equipment could be installed in the presently damaged refineries and a safe margin of excess capacity reestablished by next Spring. It is obvious that the recovery of such a margin, before further raids, would be a matter of first urgency for the Germans.

* These letters refer to items in the set of notes attached.

(4) Ignoring the possibility of "unknown" plants it is deemed most probable that for the treatment of the 8,810,000 (k) tons of crude petroleum currently in production, there is refinery capacity in German-held Europe, accessible and operable, totalling 9,765,000 (i) tons per year. This leaves a margin of only 955,000 (l) tons excess capacity which is hardly adequate since it is only 11% of the crude produced. This available excess capacity and the deficit capacity, in thousands of metric tons yearly, is distributed approximately as follows:

	Excess Crude Cap'y		Deficit Crude Cap'y
Germany	252	Austria	468
Czechoslovakia	668	Hungary	400
Italy	40	Total	868
Yugoslavia	130		
Rumania	288		
Poland	400		
France, Estonia	45		
Total Excess	1,823		
Total Deficit	868		
Net Excess	955		

(5) From the above considerations it appears that a successful new attack on the European refining industry would have an excellent chance of valorizing the Ploesti raid. It also appears that the sooner such an attack is made the greater would be the return.

NOTES ON REPORT OF REFINING INDUSTRY IN GERMAN-HELD EUROPE--Nov. 1943

(Figures, in thousands of metric tons per year, are those of Report EOC 45-2 except as regards present crude production, item K).

(a) Italian loss

Naples	200
Bari	250
	450

(b) Italian Immobilization

Aquila-Trieste	300
SIAP-Trieste	150
ROMSA-Fiume	150
AGIP-Venice	350
NAFTA-Spezia	400
ANIC-Leghorn	250
	1,600

(c) Rumanian loss

Astra (50%)	900
Colombia (100%)	535
Concordia (15%)	225
Credit Minier (100%)	535
Orion (30%)	230
Steaua (100%)	1,500
	3,925

(d) German loss (assumed)

Rhenania-Harburg (40%)	220
Ebano-Harburg (40%)	160
Eurotank-Pet'haven (40%)	160
	540

(e) French loss

Dunkerque	450
Courchelettes	300
Gonfreville	1,600
Port Jerome	1,250
Gravenchon	300
Petit Couronne	750
Consomm.-Donges	130
Pechel.-Donges	250
	5,030

(f) Total actual loss

Italian loss	450
Italian shutdown	1,600
Rumania damage	3,925
German damage	540
French demolition	5,030
	11,545

(g) French Immobilization

Pauillac	500
Bec d'Ambes	350
Frontignan	300
Martigues	650
Berre	550
L'Avera	400
Belg. Netherlands	
Denmark, Norway	1,335
	4,085

(h) German non-crude cap'y

Vacuum-Schulau	15
Albrecht-Grasbrook	30

(h) Cont'd

Schliemann-Grasbrook	65
Rhenania Ossag-Grasbrook	130
DPAG-Neuhof	65
Schindler-Neuhof	40
Duetsche Gasoline-Dollbergen	40
Vacuum-Bremen	80
Schindler-Peine	20
Niedersachen-Dollbergen	10
Deutsche Gasoline-Emmorich	60
Ersag-Wintershall-Salzbergen	30
Schmitz-Dortmund	20
Rhenania-Ossag-Monheim	115
	720

(i) Residual Capacity

Total	26,115
Lost (item f)	11,545
	14,570
Immobilized (item g)	4,085
	10,485
Immobilized (item h)	720
	9,765

(j) Original Cap'y Figures

Germany	2,505
Czechoslovakia	700
Austria	800
Hungary	400
Italy	2,100
Yugoslavia	180
Rumania	9,280
Poland	800
Estonia	100
France	7,915
Lowlands, etc.	1,335
	26,115

(k) Crude Production Rate, Dec. 1, 1943

Germany	993
Czechoslovakia	32
Austria	1,268
Hungary	800
Italy	10
Yugoslavia	50
Rumania	5,067
Poland	400
Estonia	95
France	95
	8,810

(l) Excess Refining Cap'y

Available (item i)	9,765
Crude	8,810
Excess	955

REFINERIES OF FRANCE, BELGIUM, NETHERLANDS AND SCANDINAVIA

			Crude Capacity in thousands of metric tons	Remarks
	France			
94	Dunkerque: R.P.N. (Purfina)		450	Destroyed
95	Courchelettes: SGHP (Anglo Iranian)		300	Incapacitated
96	Gonfreville (Le Havre): CFR (Gov't)		1600	Tanks burned. Some dismantling.
97	Port Jerome: Standard Francaise (SOCONJ)		1250	" " " "
98	Gravenchon: Vacuum Oil		300	" " " "
99	La Mailleraye: Standard Francaise (SOCONJ)		-	" " " "
100	Petit Couronne (Rouen): Jupiter (Shell)		750	" " " "
101	Donges (St. Nazaire): Consommateurs de Petrol		130	" " " "
102	Donges (St. Nazaire): Pechelbronn Ouest		250	" " " "
103	Pauillac (Bordeaux): Jupiter (Shell)		500	Tanks bombed.
104	Bec d'Ambes (Bordeaux): Gironde (Texas)		350	" "
105	Frontignan: CIP (Vacuum)		300	No damage
106	Martigues (Marseille): CFR (Gov't)		650	" "
107	Berre (Marseille): Berre		550	" "
108	L'Avera (Marseille): SGHP (Anglo Iranian)		400	" "
109	Autun: Schistes Bitumineux		15	" "
110	Pechelbronn: Pechelbronn (Merkwiller)		120	" "
		Total	7915	
	Belgium			
111	Kiel (Antwerp): Redventza		130	Assumed operable
112	Hoboken (Antwerp): Atlas (SOCONJ)		100	" "
113	Kiel (Antwerp): Radian		50	" "
114	Terdonck (Antwerp): Belge Petroleum		65	" "
115	Antwerp: Raffinerie Belge		130	" "
116	Wondelgem (Ghent): Belgian Shell		130	" "
117	Langerbrugge (Ghent): Belgian Cracking		20	" "
		Total	625	
	Netherlands			
118	Pernis (Rotterdam): Batavsche (Shell)		*1100	Severely damaged
119	Flushing: Vliessingsche Asphalt		40	Assumed operable
		Total	1140	
	Norway			
120	Vallo: Norsk Amerikansk (SOCONJ)		50	Operable
	Denmark			
121	Kalundborg: Oliorafinaderi (SOCONJ)		20	"

*This figure was formerly 660 but changed by Shell Co. letter of Oct. 11, 1943.

APPENDIX A

AVERAGE PERCENTAGE YIELDS OF PRODUCTS FROM EUROPEAN CRUDE OILS

	Gasoline		Kerosine & G.O.		Lubes		Fuel Oil	
	British	PAW	British	PAW	British	PAW	British	PAW
Laboratory inspection: no cracking								
German	8	10	32	30	32	31	22	21
Austrian & Czechoslovakian	5	5	38	32	42	31	8	23
* W. Polish	21		47		17		5	
E. Polish	18	20	52	40	13	15	9	15
Hungarian & Yugoslavian	32	24	32	45	14	4	16	18
* Rumanian	24	23	26	32	2	7	43	28
# Italian	65	65	30	30	–	–	–	–
French	5	5	40	40	20	25	27	22
Albanian	15	15	–	–	–	–	80	80
Estonian Shale Oil	10	11	10	40	–	–	70	44
French Shale Oil	10		10		–		70	
Refinery Yields								
*Czechowice Refinery	20		40		15		20	
* Astra Romana Refinery	27		27		2		35	
* Caprag Refinery	25		36		11		17	
* Romano Americana Refinery	34.9		26		1		28.4	
#Fornovo Taro Refinery	70		25		–		–	

1. Mineralol & Asphaltwerk — Ostermoor, Germany

Common Name of the Refinery: MWAG

Name of Company: Mineralol und Asphaltwerke A.G.

Address of Company: -

Affiliations of Company: -

Location of Refinery: Ostermoor, on right bank of Elbe river, 40 miles downstream from Hamburg near Brunshuttel. The refinery is on the Kaiser Wilhelm canal near the point where this joins the river.

Capacity in metric tons per year: 150,000, based on 140,000(a), 145,000(b), 150,000(i), 140,000(z), 140,000(..)
2500 B/D (ii)

Distillation Facilities: Pipe still and shell stills (y).

Cracking Facilities: None

Lube Facilities: None

Tankage Capacity in metric tons: 64,000(aa) and (ss)

Demand and Demolition: Slight damage (cc). No present damage.

Remarks: Asphalt facilities. Refinery probably inactive, Oct. '45.

The authorities quoted are indicated as follows:

(a) SOCONJ (Economics Dept.)
(b) Socony-Vacuum (Dept. of Economics)
(c) Shell June 28th (Hopwood of Asiatic)
(d) Texaco Development Co. (Gee)
(e) SOCONJ (Foreign Refining Dept.)
(f) Socony-Vacuum (H. L. Simpson)
(g) Shell (Pfister)
(h) Shell (Perquin, et al)
(i) Miscellaneous Oil Companies

(j) Foster Wheeler Co.
(k) Universal Oil Products Co. (Wilson)
(l) M. W. Kellogg & Co.
(m) A. G. McKee & Co.
(n) Lummus & Co.
(o) Winkler-Koch Co.
(p) Miscellaneous equipment companies (Badger, etc.)

(q) Feith of Malopolska
(r) Gottlieb of Petrolmina
(s) Sonfield of Redeventza
(t) Stevan of Brod
(u) Lambright of Romana Americana
(v) Bell of Italy
(w) Miscellaneous individuals (Schindler of Schindler, Dunston of Fanto, Stern of Shell, Schenk of Socony-Vacuum, R. Carroll of Survey of Foreign Experts, L. Wachtel, F. E. Seinfeld, Kuhnreuter, Z. Rudolf.

(x) British Trade Control Committee
(y) British and U.S. Intelligence reports
(z) M.E.W. Target Report July 1, 1942
(aa) M.E.W. Report of March 31, 1942
(bb) British aerial reconnaissance reports
(cc) British "Vulnerability of Oil Objectives" M.E.W. August 14, 1942
(dd) British Air Ministry (Kilbey's letter April 20, 1943)
(ee) Socony-Vacuum supplied to FOC
(ff) Shell letter Oct. 11, 1943
(gg) SOCONJ letter
(hh) Socony-Vacuum letter
(ii) Dept. of Justice, Anti-Trust Section, report
(jj) Charles Wachtel
(kk) Foreign Property Holders Protective Committee (Aug. 25, 1943)
(xx) Italian Petroleum Facilities reports
(xxx) Berthoud's report
(ll) Walter Levy's chart
(mm) Yugoslav Chief of Staff
(nn) FEA (NY) report March 1944 (Doc.Sec.#96349) on Polish Industry
(oo) Frank Hormann

5. Rhenania Ossag — Hamburg, Germany

Common Name of the Refinery: Rhenania-Harburg

Name of Company: Rhenania-Ossag Mineralolwerke, A.G.

Address of Company: Hamburg, Germany

Affiliations of Company: Shell Transport & Trading Co., Ltd. (and NV Koninklijke Nederlandsche Mij). St. Helen's Court, London E.C.3.

Location of Refinery: South bank of Süder Elbe, 1½ miles West of Harburg bridges.

Capacity in metric tons per year: 550,000, other figures 390,000 (a), 300,000 (b), 460,000 (c), 50,000 (w), 550,000 (z), 550,000 (aa), 550,000 (dd), 100,000 (addition to 460,000) being added in 1939 (c), 5,000 B/D (ii).

Distillation Facilities: Atmospheric and Vacuum pipe stills for crude and topped crude. Vacuum pipe still for asphalt. Lube stills.

Cracking Facilities: None, although wax cracking for synthetic lube production was projected in 1939.

Lube Facilities: Acid treating of lubes and redistillation. Also Edeleanu plant, dewaxing plant and synthetic lube plant projected in 1939. Edeleanu plant now reported installed - 40,000 T/yr capacity (z).

Tankage Capacity in metric tons: 272,000 assumed from (aa), 115,000 M^3 given by (c), 115,000 (ff), 373,000 (z).

Damage and Demolition: Tanks bombed (cc). No damage visible Oct. 1943.

Remarks: This plant works in conjunction with the Rhenania Grasbrook plant which is only a few miles away.

4. Ebano Asphaltwerke — Hamburg, Germany

Common Name of the Refinery: Ebano

Name of Company: Ebano Asphaltwerke A.G.

Address of Company: Hamburg, Germany

Affiliations of Company: Standard Oil Co. (NJ)

Location of Refinery: Alongside the Rhenania refinery. On the S bank of the Süder Elbe, 1½ miles W of the Harburg bridges. Harburg centers about 5 miles SSW of the Hamburg bridges.

Capacity in metric tons per year: 400,000. Figures reported: 400,000 (a), 420,000 (b), 400,000 (z), 8000 B/D (ii), 500 (aa).

Distillation Facilities: Two 2-stage crude pipe stills, three asphalt oxidizing stills.

Cracking Facilities: None (cracking unit under consideration in 1939)

Lube Facilities: None

Tankage Capacity in metric tons: 100,000 according to (c).

Damage and Demolition: Damage Aug. '43, to pipe still and pumphouse.

Remarks: Products include unfinished naphtha, gas oil and lube stocks as well as fuel oil and finished asphalt.

5 Rhenania Ossag — Hamburg, Germany

Common Name of the Refinery: Rhenania-Grasbrook

Name of Company: Rhenania-Ossag Mineralölwerke, A.G.

Address of Company: Hamburg, Germany

Affiliations of Company: Shell Trading & Transport Co.
(and Koninklijke Nederlandsche Mij).
St. Helen's Court, E.C.3.

Location of Refinery: On small canal from the S. bank of the Norder Elbe; in Kl. Grasbrook, just 2 miles W. of the Hamburg Bridge.

Capacity in metric tons per year: 130,000 generally accepted. Figures reported: 100,000(a), 130,000(b), 130,000(c), 100,000(w), 130,000(z), 130,000(dd), 3000 B/D (ii)

Distillation Facilities: None except in solvent extraction unit.

Cracking Facilities: None

Lube Facilities: Edeleanu plant and acid and clay treating facilities. Grease plant. Solvent dewaxing.

Tankage capacity in metric tons: 121,000 according to (aa), 46,000 M³ (ff), 121,000(z)

Damage and Demolition: Slight damage(ee), More damage Aug. '43 but in use Oct. '43.

Remarks: Operates in connection with Rhenania-Harburg. For lube manufacture.

6. Albrecht — Hamburg, Germany

Common Name of the Refinery: Albrecht-Hamburg

Name of Company:

Address of Company:

Affiliations of Company:

Location of Refinery: Alongside the Schliemann refinery and just SW of the Rhenania in Kleiner Grasbrook, 2 miles W of the Hamburg bridges. On a small canal from the S. bank of the Norder Elbe.

Capacity in metric tons per year: 30,000 based on 30,000(a), 35,000(b), 30,000(a), 35,000(m).

Distillation Facilities: None

Cracking Facilities: None

Lube Facilities: Acid and clay

Tankage Capacity in metric tons: 40,000(m)

Damage and Demolition: Damaged and not fully repaired by Oct, '45.

Remarks: A lube plant

7 Ernst Schliemann — Hamburg, Germany

Common Name of the Refinery: Schliemann

Name of Company: Ernst Schliemann Oelwerke, A.G.

Address of Company: Hamburg, Germany

Affiliations of Company:-

Location of Refinery: Alongside the Albrecht refinery and just W of the Rhenania in Kleiner Grasbrook, 2 miles W of the Hamburg bridges. On a small canal from the S. bank of the Norder Elbe.

Capacity in metric tons per year: 65,000 based on 50,000(a), 75,000(b), 65,000(c), 60,000(w).

Distillation Facilities: No distilling equipment

Cracking Facilities: None

Lube Facilities: Acid and clay for production of white oils as well as ordinary lubes.

Packing Capacity in metric tons: 40,000(w)

Damage and Demolition: Slightly damaged Oct. '43.

Remarks: A lube plant

8. Deutsche Petroleum — Hamburg, Germany

Common Name of the Refinery: Deutsche Petroleum - Wilhelmsburg

Name of Company: Deutsche Petroleum A.G.

Address of Company: Martin Luther Strasse, Berlin Schoenberg

Affiliations of Company: Anglo-Iranian Oil Co.
London

Location of Refinery: Wilhelmsburg, which is just S. of Hamburg across the Hamburg bridges. The refinery is 1½ miles due W of the Wilhelmsburg RR station and just ½ mile W of the highway from Hamburg to Harburg. On the N of the Reiherstieg canal.

Capacity in metric tons per year: 65,000 based on 70,000(x), 60,000(b), 65,000(q), 75,000(w), 70,000(z).

Distillation Facilities: Shell stills

Cracking Facilities: None

Lube Facilities:

Tankage Capacity in metric tons: 95,000(aa).

Damage and Demolition: Damage to tankage by bombing (cc). Further damage recently is possible.

Remarks:

9. Julius Schindler — Hamburg, Germany

Common Name of the Refinery: Schindler-Hamburg

Name of Company: Oelwerke Julius Schindler

Address of Company: Hohe Bleichen 28, Hamburg 36, Germany

Affiliations of Company:

Location of Refinery: In Neuhof which is to the extreme W of Wilhelmsburg, SW of the Hamburg bridges and NW of the Harburg bridges. The refinery is on the NE bank of the Rethe canal, which takes off SE from the Kohlbrand.

Capacity in metric tons per year: 40,000 based on 80,000(a), 35,000(b), 40,000(g), 50,000(w).

Distillation Facilities: Shell stills, atmospheric and vacuum

Cracking Facilities: None

Lube Facilities: Acid and Clay

Tankage Capacity in metric tons: 40,000(x)

Damage and Demolition: No damage apparent Oct. '45.

Remarks: A lube plant

10. Rhenania Ossag Hamburg, Germany

Common Name of the Refinery: Rhenania-Wilhelmsburg

Name of Company: Rhenania Ossag Mineralolwerke, A.G.

Address of Company: Hamburg, Germany

Affiliations of Company: Shell

Location of Refinery: In Wilhelmsburg, half way between the Rhenania Grasbrook and Rhenania Harburg refineries and alongside, just W of the Schliemann refinery. On the N bank of the Reiherstieg canal where it bifurcates halfway between the Norder and Süder Elb River branches.

Capacity in metric tons per year: 70,000 (ff)

Distillation Facilities: Shell stills
Gasoline specialty plant
Hot pipe still built between Sept. '41 and July '42

Cracking Facilities: None

Lube Facilities: None

Storage Capacity in metric tons: 19,000 m^3(ff), 96,000(z)

Damage and Demolition: Slight damage.

Remarks: This is simply a special gasoline plant.

11. Deutsche Vacuum

Common Name of the Refinery: Schulau

Name of the Company: Deutsche Vacuum Oel A.G.

Address of Company: Hamburg, Germany

Affiliations of Company: Socony-Vacuum Oil Co., New York, New York

Location of Refinery: On N. bank of Elbe river just E. of the lighthouse which is SE of Schulau which in turn is just S of Wedel. The refinery is 19 km downstream from the Hamburg RR bridge.

Capacity in metric tons per year: 18,000

Distillation Facilities: Six 800 bbl. shell stills for lube rerunning

Cracking Facilities: None

Lube Facilities: Acid and soda, wax pressing, lube rerunning and blending, grease compounding.

Tankage Capacity in metric tons: 197,517 (sh) 51,000 (z)

Damage and Demolition: Bombed several times in March 1943 and partially inactive October, 1943.

Remarks: This plant used for finishing of lube distillates from Bremen.
Total output (50 gallon barrels): 1936 - 128,000
37 - 171,000
38 - 145,000

12. Deurag-Nerag — Misburg (Hannover) Germany

Common Name of the Refinery: Deurag-Nerag

Name of Company: Deutsche Erdol Raffinerie A.G. and Gewerkschaft Neue Erdol Raffinerie A.G.

Address of Company: Misburg (Hannover), Germany

Affiliations of Company: Elwerath

Location of Refinery: At junction of Wester-Elbe and Zweig canals at Misburg which is 4 miles E. of Hannover.

Capacity in metric tons per year: 300,000 based on 200,000 (a), 250,000 (b) 300,000 (d), 420,000 (z), 450,000 (ccc)

Distillation Facilities: Two 2-stage pipe stills for crude. Rerun pipe still.

Cracking Facilities: Dubbs cracker.

Lube Facilities: Furfural solvent extraction, benzol-acetone dewaxing. Solvent ext. capacity 40,000 T/yr (z).

Tankage capacity in metric tons: 235,000 (aa) and (z)

Damage and Demolition: Severely bombed in 1941 and reported out of commission for six months. October 1945 reports show activity after slight damage in September.

Remarks: Polymerization plant probably completed in 1942. The 2500 B/D refinery, installed by McKee just before war, probably doubled. This refinery in two parts: Deurag, the old part, and Nerag, containing the new lube facilities.

13 Julius Schindler — Peine (Hannover) Germany

Common Name of the Refinery: Schindler-Peine

Name of Company: Oelwerke Julius Schindler, G.m.b.h.

Address of Company: Hohe Bleichen 28, Hamburg 36, Germany

Affiliations of Company: -

Location of Refinery: Peine, which is 20 miles E. by S. of Hannover.

Capacity in metric tons per year: 20,000 based on 30,000 (a), 20,000 (b), 18,000 (q), 15,000 (w)

Distillation Facilities: Shell stills

Cracking Facilities: None

Lube Facilities: None excent axle oil

Tankage Capacity in metric tons: 5,000 (w)

Damage and Demolition: No report

Remarks: Small gasoline and tractor fuel business. Mainly axle oil.
Slight activity October '43.

14 Deutsche Gasolin — Dollbergen (Hannover), Germany

Common Name of the Refinery: Deutsche Gasolin-Dollbergen

Name of Company: Deutsche Gasoloin A.G.

Address of Company: Berlin

Affiliations of Company: Shell(?) Socony(?) I.G. Farben(?).

Location of Refinery: Dollbergen, which is 20 miles E. of Hannover.

Capacity in metric tons per year: 40,000

Distillation Facilities: Shell stills, no pipe still

Cracking Facilities: None

Lube Facilities: Axle Oil only

Tank Car Capacity in metric tons:

Damage and Demolition: Slight bombing damage reported in 1942. Rebuilt recently.

Remarks: Small business in refining tractor fuel and axle oil. Reported doubled in size with new pipe still. Construction still active December '44.

15 Niedersächsisch-Norddeutsche — Dollbergen (Hannover) Germany

Common Name of the Refinery: Niedersachsen (Ex-Norddeutsche)

Name of Company: Norddeutsche Mineralöl A.G.

Address of Company: Dollbergen (Hannover), Germany

Affiliations of Company: -

Location of Refinery: Dollbergen, which is 20 miles E. of Hannover.

Capacity in metric tons per year: 10,000 based on 10,000(a), 10,000(b)

Distillation Facilities: Small stills

Cracking Facilities: None

Lube Facilities:

Tankage Capacity in metric tons: ?

Damage and Demolition: -

Remarks: -

16 Vacuum Oil Co. Oslebshausen, (Bremen), Germany

Common Name of the Refinery: Vacuum Oil

Name of Company: Deutsche Vacuum Oil A.G.

Address of Company: Hamburg, Germany

Affiliations of Company: Socony Vacuum Oil Co.
26 Broadway, New York, N.Y.

Location of Refinery: Oslebshausen, which is a suburb of Bremen.

Capacity in metric tons per year: 80,000 based on 100,000(a); 90,000(b), 150,000(z), 170,000(aa).

Distillation Facilities: Crude pipe still and all stills plus a rerun pip --

Cracking Facilities: None

Lube Facilities: New equipment, moved to Kolin, Czechoslovakia

Tankage Capacity in metric tons: 150,000(z)

Damage and Demolition: Slight damage by bombing (bc)
Refinery shows no damage Oct. '45.

Remarks: Primarily lube plant

17 Deutsche Gasolin — Emmerich, Germany

Common Name of the Refinery: Deutsche Gasolin - Emmerich

Name of Company: Deutsche Gasolin A.G.

Address of Company: Berlin

Affiliations of Company: Shell(?) SOCONY(?) I.G. Farben(?)

Location of Refinery: Emmerich, which is 40 miles N" of Duisburg, on the Rhine.

Capacity in metric tons per year: 60,000 based on 70,000(a), 60,000(b), 70,000(g), 50,000(z), 30,000(aa)

Distillation Facilities: Pipe still

Cracking Facilities: Small unit

Lube Facilities:

Tankage Capacity in metric tons: ?

Damage and Demolition: Badly damaged in June 1940 and in 1943 (cc). Repaired and OK in July '45.

Remarks:

Common Name of the Refinery: Ersag-Salzbergen

Name of Company: Erdol Raffinerie Salzbergen

Address of Company: Kassel

Affiliations of Company: SOCONY (?) KPHL (?) Wintershall

Location of Refinery: Salzbergen which is about 2 Km NW of Rheine, close to the Netherlands border.

Capacity in metric tons per year: 30,000 based on 50,000(c), 30,000(b), 20,000(a), 100,000(z), 100,000(aa).

Distillation Facilities: Shell stills
Pipe Still

Cracking Facilities: Small unit

Lube Facilities:

Tankage Capacity in metric tons: 36,000(aa).

Damage and Demolition: Unknown

Remarks: Underground storage tanks. Considerably extended in 1941 including new pipe still and tankage. Unit active.

19 Schmitz Westfalische Dortmund, Germany

Common Name of Refinery: Schmitz-Westfalische

Name of Company: Westfalisch. Mineralol und Asphaltwerke, "."H. Schmitz Kommandit Gesellschaft.

Address of Company: Dortmund

Affiliations of Company: -

Location of Refinery: Dortmund.

Capacity in metric tons per year: 20,000 based on 20,000(a), 25,000(q), 20,000(z).

Distillation Facilities: Shell stills

Cracking Facilities: None

Lube Facilities: ?

Tankage Capacity in metric tons: ?

Damage and Demolition: Unknown

Remarks: -

Common Name of the Refinery: Rhenania-Monheim

Name of Company: Rhenania-Ossag Mineralölwerke, A.G.

Address of Company: Hamburg, Germany

Affiliations of Company: Shell Transport & Trading Co., Ltd.
(and NV Koninklijke Nederlandsche Mij).
St. Helen's Court, London, E.C.3.

Location of Refinery: Monheim, which is on the right bank of the Rhine, a few miles S. of Dusseldorf

Capacity in metric tons per year: 115,000 based on 100,000(a), 100,000(b), 130,000(c), 75,000(w), 115,000(z), 115,000(dd).

Distillation Facilities: Shell stills, some under vacuum

Cracking Facilities: None

Lube Facilities: Acid and clay, small SO_2 extraction unit (8000 T/yr)

Tankage Capacity in metric tons: 35,000(c), 40,000 M³ (ff)

Damage and Demolition: Slight damage by bombing reported in 1943. May '45 report indicated severe damage, reducing capacity to 25%.

Remarks: This is not a crude oil refinery, although it had some asphalt business.

21. Rhenania Ossag _____ Reisholz (Dusseldorf) Germany

Common Name of the Refinery: Rhenania-Reisholz

Name of Company: Rhenania Ossag Mineralolwerke, A.G.

Address of Company: Hamburg, Germany

Affiliations of Company: Shell Company

Location of Refinery: Reisholz, which is 4 miles SE of Dusseldorf

Capacity in metric tons per year: 67,000 (f)

Distillation Facilities: Shell stills, Gasoline specialty plant.

Cracking Facilities: None

Lube Facilities: None

Tankage capacity in metric tons: 37,000 M^3 (f), 65,000 (z)

Damage and Demolition:

Remarks: This is simply a special gasoline plant.

22 (b) Rutgers - Strazske — Strazske, Slovakia

Common Name of the Refinery: Strazske

Name of Company: Julius Rutgers Kom-Spol-Rafinerie

Address of Company: Strazske

Affiliations of Company:

Location of Refinery: On RR line leading N from Michalovce, which is the RR station for the refinery.

Capacity in metric tons per year: 45,000 (oo)

Distillation Facilities:

Cracking Facilities:

Lube Facilities:

Tankage Capacity in metric tons: 600-700 (oo)

Damage and Demolition:

Remarks: Asphalt facilities.

22 (a) Vesta — Trstena, Slovakia

Common Name of the Refinery: Vesta

Name of Company: "Vesta" Slovensky Priemysel Mineralnich Oleju.

Address of Company: Trstena

Affiliations of Company:

Location of Refinery: About ½ mile ENE of Trstena RR station, S of a long curve in the RR line.

Capacity in metric tons per year: 20,000

Distillation Facilities:

Cracking Facilities: None

Lube Facilities: None

Tankage Capacity in metric tons: 10,000 (oc)

Damage and Demolition:

Remarks: Has asphalt plant.

22. Apollo - I.G. — Bratislava, Slovakia

Common Name of the Refinery: Apollo-Bratislava

Name of Company: Apollo Rafinerie Mineralnich Oleju

Address of Company: Culenova

Affiliations of Company: I.G. Farbenindustrie (ll). Formerly French owners.

Location of Refinery: About 2 miles out of Bratislava (Pressburg) in Danube harbor.

Capacity in metric tons per year: 150,000 based on 60,000 (a), 90,000 (h), 150,000 (q), 80,000 (z), 90,000 (jj), 1800 B/D (ii) and additiona (y).

Distillation Facilities: Brunn Konigsfeld pipe still recently made two stage (y). Also shell stills and McKee pipe still (y).

Cracking Facilities: Dubbs unit for 1100 B/D. 40,000 T/yr, (y).

Lube Facilities: Acid, clay, filter press dewaxing. Also phenol extraction and Barisol dewaxing (y).

Tankage capacity in metric tons: 30,000 (q), 200,000 (aa), 65,000 (jj), 60,000 (y).

Damage and Demolition: None

Remarks: Intelligence item from Istanbul says 40,000 capacity.

Common Name of the Refinery: Fanto-Pardubice

Name of Company: Fanto Werke A.G. (Zavody Fantovy AS)

Address of Company: Prague Smichov

Affiliations of Company: Swiss

Location of Refinery: 2 km SW of Pardubice and W of the highway leading S through Jesencany, approximately ½ mile SE of Pardubice RR station. Pardubice is 120 Km E and slightly S of Prague. Address of refinery usually given as Jesencany.

Capacity in metric tons per year: 200,000 based on 190,000 (a), 200,000 (b), 90,000 (c), 180,000 (z), 120,000 (jj), 4000 B/D (ii), 120-140,000 (oo).

Distillation Facilities: Vacuum pipe still and shell stills:

Cracking Facilities: New unit installed in 1937 (oo)

Lube Facilities: Acid and clay, filter presses, 20,000 T/yr (y)

Tankage Capacity in metric tons: 70,000 (jj)

Damage and Demolition:

Remarks: Imported some Rumanian crude.

34. Wintershall-Elwerath — Lobau (Vienna) Austria

Common Name of the Refinery: Lobau

Name of Company:

Address of Company:

Affiliations of Company: Wintershall-Elwerath

Location of Refinery: Lobau, on the left bank of the Danube just downstream from Vienna proper.

Capacity in metric tons per year: 200,000 (y)

Distillation Facilities: Pipe still

Cracking Facilities: None

Lube Facilities:

Tankage capacity in metric tons: 57,000 (-)

Damage and Demolition: None

Remarks: This refinery put into operation in 1943 and still under construction, April 1944, although part may be operable

27. Privozer Mineralol — Privoz (Moravska Ostrava), Moravia

Common Name of the Refinery: Privoz

Name of the Company: Privozer Mineralolwerke, A.G. (Privozske Zavody Mineralnich Oleju)

Address of Company: Moravska Ostrava

Affiliations of Company: Thorach of Vienna

Location of Refinery: Privoz (otherwise known as Oderfurt), a suburb NW of Moravska Ostrava in the NE corner of Moravia, on the RR from Bohumin to Prerov. Refinery lies directly SE of the Moravska Ostrava-Privoz RR station and adjacent to the S of the RR tracks. Just S of this refinery lies the Himmelbauer wax plant, usually considered a part.

Capacity in metric tons per year: 50,000 based on 50,000 (a), 55,000 (b), 40,000 (q), 55,000 (z) 55,000 (aa), 40,000 (jj), 30,000 (oo)

Distillation Facilities: Shell Stills

Cracking Facilities: None

Lube Facilities:

Tankage Capacity in metric tons: 20,000 (ll)

Damage and Demolition:

Remarks:

28. Government Refinery — Dubowa, Slovakia

Common Name of the Refinery: Dubowa

Name of Company: Statna Rafinerie Mineralnich Oleju Dubowa

Address of Company: Dubowa

Affiliations of Company: Government

Location of Refinery: At the Dubowa RR station which is NE of Vienna and SE of Moravska Ostrava. On the RR from Zvolen to Margocany, near Podbrezova.

Capacity in metric tons per year: 90,000 based on 90,000 (b), 70,000 (q), 60,000 (z), 60,000 (aa), 50,000 (jj), 60,000 (y).

Distillation Facilities:

Cracking Facilities:

Lube Facilities: Wax plant

Tankage Capacity in metric tons: 50,000 (jj)

Damage and Demolition:

Remarks: This refinery built by the Government in 1935-7 and the intelligence items relating to it have been scarce. Produced 32,000 T in '42 (y). 20,000 T/yr capacity according to intelligence from Istanbul. Has asphalt facilities.

Common Name of The Refinery: Floridsdorf

Name of Company: Shell-Floridsdorfer Mineralölfabrik, A.G.

Address of Company: Vienna

Affiliations of Company: Shell Transport & Trading Co., Ltd.
(and NV Koninklijke Nederlandsche Mij).
St. Helen's Court, London, E.C.3.

Location of Refinery: Floriasdorf, about 5 miles N. of Vienna's center bridge.

Capacity in metric tons per year: 100,000 based on 100,000(a), 100,000(b), 100,000(c), 80,000(i), 90,000(z), 90,000(dd), 2000 B/D (ii)

Distillation Facilities: Pipe still atmospheric and vacuum

Cracking Facilities: None

Lube Facilities: Acid and clay, and vac. still

Tankage Capacity in metric tons: 18,000, 31,700 M³(c)

Damage and Demolition:

Remarks: Intelligence items indicate a considerable increase in capacity recently.

Common Name of the Refinery: Korneuburg

Name of Company: Credit Minier Osterreichisch-Rumanische Pet. V-G.

Address of Company: Vienna

Affiliations of Company: --

Location of Refinery: Southern outskirts of Korneuburg, on the R. bank of the Danube about 6 miles upstream from the north RR bridge at Vienna.

Capacity in metric tons per year: 50,000 based on 50,000(a), 70,000(b), 20,000(.), 30,000(w), 45,000(z), 45,000(aa), 24000 B/D (ii)

Distillation Facilities: Pipe still without tower plus 4 shell stills.

Cracking Facilities: None

Lube Facilities: Acid and clay

Tankage Capacity in metric tons: 10,000(q), 15,000(r).

Damage and Demolition: None

Remarks:

31 Vacuum Oil Company [illegible], Austria

Common Name of the Refinery: Marcus

Name of Company: Benzin und Oel Industrie Marcus, A.G.
(Vacuum Oil Co. A.G.)

Address of Company: Vienna

Affiliations of Company: Socony-Vacuum, New York

Location of Refinery: Marcus, which is 5 miles NE from center of Vienna

Capacity in metric tons per year: 60,000 b[illegible] on 10,000(a), 60,000(b), 60,000(c), [illegible],000(a), 66,000(aa)

Distillation Facilities: Brunn Houldsworth atmospheric and vacuum pipe still. Also 2 shell stills.

Cracking Facilities: None

Lube Facilities: Continuous acid treating, with centrifuges, and clay contacting with 4 filter presses, 2 grease kettles

Tankage Capacity in metric tons: 30,000(b), [illegible],000 M³(bb)

Damaged and Demolition: None

Remarks: Full details of the refinery ownership and equipment in PAW Foreign Division N.Y. files.

32 Osterreichische Funto — Vosendorf (Vienna), Austria

Common Name of the Refinery: Funto-Vosendorf

Name of Company: Osterreichische "Funto", A.G.

Address of Company: Vienna

Affiliations of Company: ---

Location of Refinery: Vosendorf, which is 6 miles SSW of the center of Vienna.

Capacity in metric tons per year: 40,000 based on 30,000(a), 40,000(q), 40,000(z).

Distillation Facilities: Pipe still

Cracking Facilities: None

Lube Facilities: None

Tankage Capacity in metric tons: 10,000(a)

Damage and Demolition: None

Remarks:

33. Nova Oel und Brennstoff — Schwechat (Vienna), Austria

Common Name of the Refinery: Nova

Name of the Company: Nova Oel und Brennstoff A.G.

Address of Company: Vienna

Affiliations of Company

Location of Refinery: Schwechat, 4 miles downstream from E. RR bridge at Vienna

Capacity in metric tons per year: 50,000 based on 50,000 (a), 40,000 (q), 50,000 (z), 50,000 (aa).

Distillation Facilities: Pipe still

Cracking Facilities: None

Lube Facilities: Acid and clay

Tankage Capacity in metric tons: 28,000

Damage and Demolition: None

Remarks: Fairly modern

34. Wintershall-Elwerath — Lobau (Vienna) Austria

Common Name of the Refinery: Lobau

Name of Company:

Address of Company:

Affiliations of Company: Wintershall-Elwerath

Location of Refinery: Lobau, on the left bank of the Danube just downstream from Vienna proper.

Capacity in metric tons per year: 200,000 (y)

Distillation Facilities: Pipe still

Cracking Facilities: None

Lube Facilities:

Tankage capacity in metric tons: 57,000 (-)

Damage and Demolition: None

Remarks: This refinery put into operation in 1943 and still under construction, April 1944, although part may be operable

Common Name of the Refinery: Csepel

Name of Company: Shell Mineralol, A.G.

Address of Company: Budapest, Hungary

Affiliations of Company: Shell Transport & Trading Co., Ltd., (and NV Koninklijke Nederlandsche Mij). St. Helen's Court, London E.C.3.

Location of Refinery: Csepel, on the large island in the Danube just S. of Budapest, on the petroleum harbor in SW part of the island.

Capacity in metric tons per year: 175,000 based on 190,000 (a), 140,000 (b), 130,000 (c), 90,000 (d), 170,000 (aa), 150,000 (dd), 172,000 (x), 170,000 (z), 130,000 (ff), and reports of recent expansion.

Distillation Facilities: Pipe still for 400 T/D.

Cracking Facilities: None

Lube Facilities: Plant with Foster Wheeler vacuum pipe stills

Tankage Capacity in metric tons: 30,000 (a), 57,000 M^3 (c), 57,000 (x), 57,000 M^3 (ff).

Damage and Demolition:

Remarks: The Nazai refinery was dismantled to supply some equipment for Csepel, but is reported still handling residues from Csepel. Pipe still is F.W. type built by Lang Machinen.

36. Magyar Petroleum Ipar - Dr. Freund — Budapest, Hungary

Common Name of the Refinery: Magyar Petroleum; Dr. Freund

Name of Company: Magyar Petroleum Ipar, R.T.

Address of Company: Budapest, Hungary

Affiliations of Company:

Location of Refinery: Budapest

Capacity in metric tons per year: 60,000, based on 70,000 (a), 60,000 (b) 50,000 (c), 88,000 (z), 88,000 (aa).

Distillation Facilities: Shell stills

Cracking Facilities: None

Lube Facilities: Acid and dewaxing

Tankage Capacity in metric tons:

Damage and Demolition:

Remarks: Supposed to consume all its own residues.

37. Budapesti Asvanyolaj-Fanto Budapest, Hungary

Common Name of the Refinery: Fanto

Name of Company: Budapesti Asvanyolaj

Address of Company: Budapest, Hungary

Affiliations of Company:

Location of Refinery: Budapest

Capacity in metric tons per year: 60,000 based on 50,000 (a), 40,000 (q) 55,000 HU (x), 48,000 (z), 48,000 (aa). 80-100,000 (x).

Distillation Facilities: Shell stills

Cracking Facilities: None

Lube Facilities: Acid Treating

Tankage Capacity in metric tons:

Damage and Demolition:

Remarks: This is the "Egyesult" or "Borg" refinery. Fanto had also a small installation called "Novi" refinery in the north part of Budapest.

38. Vacuum Oil Co. Almasfuzito, Hungary

Common Name of the Refinery: Almasfuzito

Name of Company: Vacuum Oil Co., R.T.

Address of Company: Budapest, Hungary

Affiliations of Company: Socony-Vacuum Oil Co., New York

Location of Refinery: Almasfuzito, near Komarom, on the Danube river.

Capacity in metric tons per year: 125,000 based on 190,000 (a), 90,000 (b), 75,000 (c), 190,000 M^3 (x), 168,000 (z), 168,000 (aa), 125,000 (hh).

Distillation Facilities: Foster-Wheeler atmospheric pipe still for 1500 - B/D twelve rerun shell stills. Vacuum stage added to pipe still raising capacity to 125,000 T/yr (hh).

Cracking Facilities: None

Lube Facilities: Acid treating with centrifuges.

Tankage Capacity in metric tons: 73,000 (b), 99,000 refinery only (hh)

Damage and Demolition:

Remarks: F.W. unit built by Lang Machinon

37 Budapesti Kenoolaj- es Gyertyagyar Budapest, Hungary

Common Name of the Refinery: Fanto

Name of Company: Budapesti Kenoolaj Gyar

Address of Company: Budapest, Hungary

Affiliations of Company: -

Location of Refinery: Budapest

Capacity in metric tons per year: Crude Distillation 55,000(k), 48,000(x), 43,000 (z), 40,000 (aa).

Distillation Facilities: Shell stills

Cracking Facilities: None

Lube Facilities: Acid treating

Tankage capacity in barrels:

Barge or Tanker Facilities:

Remarks: This is the "Hungarian Standard" refinery. Owned and operated by small Hungarian capitalists. Located in the north part of Budapest.

38 Vacuum Oil Co. ..... Almasfuzito, Hungary

Common Name of the Refinery: Almasfuzito

Name of Company: Vacuum Oil Co., R.T.

Address of Company: Budapest, Hungary

Affiliations of Company: Socony-Vacuum Oil Co., Inc. New York

Location of Refinery: Almasfuzito, near Komarom, on the Danube river.

Capacity in metric tons per year: 125,000 barrels (a), 120,000 (a), 90,000(b), 75,000 ( ), 100,000 M³(x), 108,000 (z), 108,000(aa), 126,000(hh).

Distillation Facilities: Foster- Wheeler atmospheric pipe still for 1000 B/D twelve rerun shell stills. Increased to 2400 B/D new pipe still raising capacity to 126,000 T/yr (hh)

Cracking Facilities: None.

Lube Facilities: Acid treating, filtering.

Tankage Capacity in metric tons: 73,000( ), 87,000 refinery only (hh).

Date of Construction:

Remarks:

39. Nyirbogdanyi Petroleum — Nyirbogdany, Hungary

Common Name of the Refinery. Nyirbogdany

Name of Company. Nyirbogdanyi Petroleum KT

Address of Company. Nyirbogdany, Hungary.

Affiliations of Company. -

Location of Refinery. Nyirbogdany, near Nyiregyhaza.

Capacity in metric tons per year. 20,000, based on 20,000(a), 15,000(h), 15,000(q), 15,000 MP(x), 13,000(z), 13,000(aa).

Distillation Facilities. Shell stills

Cracking Facilities. None

Lube Facilities. -

Tankage Capacity in metric tons. -

Damage and Demolition.

Remarks.

40 Szoreni Petroleum ... Szores, Hungary

Common Name of the Refinery: Szoreg

Name of Company: Szoregi Petroleum R.T.

Address of Company: Szoreg, Hungary.

Affiliations of Company: -

Location of Refinery: Szoreg, just S. of Szeged, on the Tisza river.

Capacity in metric tons per year: 20,0[illegible], based on 40,000(a), 10,000(b), 3,000(c), 21,000.3(x), 13,000-(z).

Distillation Facilities: Facil stills

Cracking Facilities: None

Lube Facilities:

Tankage Capacity in metric tons:

Damage and Demolition:

Remarks:

41 Del Karpati Petroleum _____ unk..., Hungary.

Common Name of the Refinery: Del Karpati

Name of Company: Del Karpati Kocsaj Finomito e' Kereskedelmi R.T.

Address of Company: Munkacs (Mukacevo), Hungary.

Affiliations of Company: Galicya

Location of Refinery: Munkacs, or Mukacevo, in the NE corner of Hungary. Just n. of the former boundary of Czechoslovakia.
About 75 mi. of Kosice (21° 40' E, 48°43'N)

Capacity in metric tons per year: 22,000, based on 30,000(a), 50,000(b), 12,000(c), 14,000-(z).

Distillation Facilities: Topping still

Cracking Facilities: None

Lube Facilities:

Tankage Capacity in metric tons:

Damage and Demolition:

Remarks: Otherwise known as Munkacsi Kolaj Finomito Cleju

42 Hungarian Hydrobenzin — Potfurdo, Hungary

Common Name of the Refinery: Potfurdo

Name of Company: Magyar Hydrobenzin R.T.

Address of Company: -

Affiliations of Company: Government

Location of Refinery: Potfurdo, just N. of [illegible]

Capacity in metric tons per year: 100,000(y)

Distillation Facilities: -

Cracking Facilities: Small experimental cracker

Lube Facilities: Modern lube equipment reported installed

Tankage Capacity in metric tons: -

Damage and Demolition: -

Remarks: -

Common Name of Refinery: Schonberg-Csap

Name of Company: Mineralolraffinerie Israel Schonbergs Witwe

Address of Company: Csap (Cop)

Affiliations of Company:

Location of Refinery: E of RR line directly W of the Csap (Cop) RR station. Csap is 30 miles W of Munkacs.

Capacity in metric tons per year: 10,000 (a), 2,000 (oo)

Distillation Facilities:

Cracking Facilities:

Lube Facilities:

Tankage Capacity in metric tons: 150 (oo)

Damage and Demolition:

Remarks:

Common Name of the Refinery: Weinberger & Ortner

Name of Company: Weinberger & Ortner Kommanditgesellschaft

Address of Company: Legina-Michalany

Affiliations of Company:

Location of Refinery: At Legyna Mihalny near Satoroslya Ujhely 50 km SE of Kassa (21°40' E, 48°22' N). The refinery is located between the Legina Michalany RR station and the RR line leading NE out of the city; on the N side of the road to Valaty.

Capacity in metric tons per year: 10,000 (a), 4500 (co)

Distillation Facilities:

Cracking Facilities:

Lube Facilities:

Tankage Capacity in metric tons: 6-700 (oo)

Damage and Demolition:

Remarks:

45. ROMSA — Fiume, Italy

Common Name of the Refinery: ROMSA—Fiume

Name of Company: Raffinerie di Olii Minerali; S.A.

Address of Company: Fiume, Italy

Affiliations of Company: AGIP

Location of Refinery: Just behind petroleum harbor of Fiume. Between 2 railroad lines, just W of Freight Depot.

Capacity in metric tons per year: 150,000 based on 150,000 (a), 140,000 (b), 150,000 (q), 120,000 (z), 120,000 M^3 (x), 2500 B/D (v), 2300 B/D (kk)

Distillation Facilities: Brunn Konigsfeld pipe still with two towers 6' diameter and 52 tubes 20' long in furnace. Capacity 260-420 B/D depending on crude, the heater being the bottleneck. Shell stills.

Cracking Facilities: Small Holmes Manley unit

Lube Facilities: Benzol acetone dewaxing; Edeleanu solvent extraction. 3 old vacuum shell stills.

Tankage Capacity in metric tons: 50,000 (w), 50,000 (x), 50,000 (aa), 42,000 (xx)

Damage and Demolition: March 1944 Fiume slightly damaged in warehouses and tankage, but cracker and power house unaffected.

Remarks: Obsolete type pipe still. Lummus had designed modifications plus a vacuum rerunning still in 1940. Low stream pressure due to antique boiler house. Reported shutdown in Autumn '45.

46. Aquila

Common Name of the Refinery: Aquila

Name of Company: Aquila-S.A.I.I.

Address of Company: Trieste, Italy

Affiliations of Company:

Location of Refinery: Just W of Zaule which is 3 miles SE of Trieste on the SE shore of the Bay of Muggia.

Capacity in metric tons per year: 350,000 based on 740,000 (a), 300,000 (b) 150,000 (c); 350,000 (s), 350,000 (z), 350,000 M^3 (x), 6,000 B/D (v), 6,800 B/D (hh).

Distillation Facilities: Foster Wheeler pipe still, atmospheric and vacuum stages, good for 6000-8000 B/D (x)

Cracking Facilities: None. UOP cracker and polymerization plant projected in 1940.

Lubo Facilities: Benzol acetone dewaxing; Edeleanu solvent extraction.

Tankage Capacity in metric tons: 120,000 (w), 150,000 (s), 200,000 (x), 200,000 (z), 100,000 (xx), 85,500 M^3 (y)

Damage and Demolition:

Remarks: Modern. Synthetic oil residues received from Lutzkendorff in July 1943. Reported shutdown in Autumn 1943. Some Albanian crude handled. February 1944 appears active.

47. SIAP - SOCONJ — Trieste, Italy

Common Name of the Refinery: SIAP - Trieste

Name of Company: Societa Italo Americana pel Petrolio

Address of Company: Genoa, Italy

Affiliations of Company: Standard Oil Co. (NJ) New York, N.Y.

Location of Refinery: At San Sabba SE of Trieste on the E. shore of the E. end of the Bay of Muggia.

Capacity in metric tons per year: 150,000 based on 150,000 (c), 100,000 (b), 120,000 (z), 120,000 M3 (x), 2000 B/D (v) 3000 B/D (hk)

Distillation Facilities: Shell stills

Cracking Facilities: None

Lube Facilities: Acid and cold settling. Vacuum rerunning

Tankage Capacity in metric tons: 60,000 (a), 50,000-66,000 (x), 50,000 (aa) 50,400 (xx)

Damage and Demolition:

Remarks: Old fashioned. Reported shutdown in Autumn 1943, but in February, 1944 the refinery appears active.

48. AGIP — Porto Marghera (Venice) Italy

Common Name of the Refinery: AGIP - Marghera

Name of Company: Aziendo Generale Italiana Petroli

Address of Company: Rome, Italy

Affiliations of Company:

Location of Refinery: At Mestre section of Porto Marghera, near Venice

Capacity in metric tons per year: 450,000 based on 650,000 (a), 650,000 (b), 50,000 (c), 450,000 (z), 450,000 M^3(x), 12,000 B/D (v), 5800 B/D (hh).

Distillation Facilities: Foster Wheeler pipe still; Kelee heater and rerun unit.

Cracking Facilities: Dubbs cracker for 3100 B/D Lummus figures on Knowles coker and stabilizer for 1700 B/D PD also gas absorber 3,000,000 capacity.

Lube Facilities: None

Tankage Capacity in metric tons: 300,000 (w), 250,000 (v), 350,000 (aa), 168,000 (xx)

Damage and Demolition:

Remarks: Ran no crude since early in 1942 but did a little lube regeneration, and reported shutdown in Autumn 1943. Workers and part of equipment from Leghorn refinery were sent to Marghera after bombing of Leghorn.

Common Name of the Refinery: Permolic

Name of Company:

Address of Company: Rome

Affiliations of Company:

Location of Refinery: Rome and Milan

Capacity in metric tons per year: 30,000

Distillation Facilities: Shell stills

Cracking Facilities: None

Lube Facilities: None

Tankage Capacity in metric tons:

Damage and Demolition:

Remarks: Asphalt primarily

50 Lombardi — Milan, Italy

Common Name of Refinery: Lombardi

Name of Company: Lombardi Fornaci

Address of Company: -

Affiliations of Company: -

Location of Refinery: Milan

Capacity in metric tons per year: [illegible]

Distillation Facilities: -

Cracking Facilities: -

Lube Facilities: -

Bunker Capacity in metric tons:

Remarks and Description:

51 INPET-Shell ---------- La Spezia, Italy

Common Name of the Refinery: Spezia

Name of Company: Societa per L'Industria Italiana del Petrolio

Address of Company: La Spezia, Italy.

Affiliations of Company: Shell.

Location of Refinery: Spezia

Capacity in metric tons per year: 350,000 bbls/cd on 170,000(a), 300,000(b) 340,000(c), 310,000-400,000(d), 400,000(g), 310,000(z), 310,000 M^3(x), 12,000 B/D (v), 350,000(ff), 8500 B/D (kk)

Distillation Facilities: 2 Pipe stills good for 1100 B/D

Cracking Facilities: 2 Dubbs crackers for 300 B/D total - 110,000 T/yr (ff) plus two old Dubbs units for 2000 B/D total (v)

Lube Facilities: None

Tankage Capacity in metric tons: 90,000 (r), 12[illegible],000(r), 104,000(aa), 122,000 M^3(c), 78,000(xx), 124,000 M^3(ff).

Damage and Demolition:

Remarks: Asphalt plant started in 1940-50,000 T/yr.

Common Name of the Refinery: Leghorn

Name of Company: Azienda Nationale Idrogenazione e Derivati Oli

Address of Company: Milan, Italy

Affiliations of Company:

Location of Refinery: [illegible] miles NE of Leghorn and just [illegible] Canale Emilio.

Capacity in Metric tons per year: 250,000 [illegible] ca 150,000(a), 210,000(b), 185,000(c), [illegible] 000M³(x), 10,000 B/D (v) 3000 B/D (L)

Distillation Facilities: Pipe still good for 1000 B/D

Cracking Facilities: 2 Edeleanu Rotor Mark I units - 300 B/D total

Lube Facilities: Furfurol de Smith, [illegible] solvent extraction
2 Lummus vacuum units - one for hydro product (which contained a large [illegible] the other for cracked bottoms.

Tankage Capacity in metric tons: 150,000(b), 150,000 - 50,000(x), 150,000(aa) 120,000(xx).

Damage and Condition: Damaged in May '43 and later completely demolished. Personnel moved away.

Remarks: Modern. Hydro unit good for 150,000 T/yr.