

ENCLOSURE (E)

LIST OF ENCLOSURES TO FUEL AND LUBRICANT
REPORTS SUBMITTED BY NAVTECHJAP

"Japanese Fuels and Lubricants; Article 2 - Naval Research on Aviation Gasoline", Index No. X-38(N)-2.

Enclosures

- (A) "Summary of Aviation Gasoline Research at the First Naval Fuel Depot, DFUNA", prepared (in English) by Engineering Lieutenant Commander H. HOSHIMIYA.
- (B) Detailed Japanese Research Reports (in English) on Aviation Gasoline Research at the First Naval Fuel Depot, prepared under the supervision of the Petroleum Section of the U.S. Naval Technical Mission to Japan.

SubjectAuthorSection I - Manufacturing Methods

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| (B)1 | Studies on the Dehydration of n-butane. | H. KUMAMOTO |
| (B)2 | Polymerization of Butanes in the Presence of Phosphoric Acid. | H. FUJIMOTO
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Y. KAKIUCHI |
| (B)3 | Research on the Production of Iso-Butane. | H. HOSHIMIYA
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| (B)4 | Synthesis of Isoparaffins. | S. NISHINO |
| | Part I. Studies on the Synthesis of Isomeric Hexanes. | |
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| (B)5 | Isomerization of n-Hexane. | H. HOSHIMIYA
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| (B)6 | Studies on the Isomerization of n-Butane. | H. HOSHIMIYA |
| (B)7 | Studies on Materials Resistant to Chlorine Compounds. | H. KAMOGAWA |
| (B)8 | Studies on the Alkylation of Iso-Butane. | H. HOSHIMIYA |
| (B)9 | Studies on the Desulphurization of Gasoline. | H. SAKOTA |
| (B)10 | Studies on the Synthesis of Iso-Octane from Acetylene. | T. YAMAMOTO
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| (B)11 | Synthesis of Butene from Acetylene. | T. YAMAMOTO |
| (B)12 | Synthesis of Acetone from Acetylene. | T. YAMAMOTO |
| (B)13 | Studies on the Synthesis of Acetaldehyde without the use of Mercury Catalyst. | T. YAMAMOTO |
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(B)16 Studies on Hydrocracking of Oils and Tars.	K. MITSU M. OWAKI A. MORITA U. SATO K. SONE
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Part VI. Hydrocracking Oha Gas Oil in the Semi-Commercial Hydrogenation Pilot Plant.	K. MITSU
(B)17 Studies on the Manufacture of Aviation Gasoline from Soya Bean Oil.	N. SAKOTA
(B)18 Studies on the Manufacture of Aviation Gasoline by High Pressure Hydrocracking of Soya Bean Oil.	T. IJIMA S. INABA
(B)19 Studies on Preparing Fuels from Rubber.	H. FUJIMOTO
(B)20 Preparation of n-Heptane and Iso Octane for Standard Fuel.	O. MIYATA
(B)21 Studies on Oil Proof Paints.	H. OKAZAKI
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(B)22 Engine Tests of Aromatic Hydrocarbons for Aviation Fuel.	T. NAKAYAMA
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(B)24 Studies on the Standarization of Aviation Gasoline in War Time	
Part I. Studies on Standarization of Aviation Gasoline Volatility in War Time.	H. HOSHIMIYA
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(B)25 Utility Tests of Aviation Gasoline Outside Specification.	T. KONDO S. SOMA

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(B)26 Utility Tests of Aviation Gasoline with Increased Tetra-ethyl Lead Content.	T. KONDO S. SOMA
(B)27 Research on Substitutes for Ethylene Dibromide,	H. HOSHIMIYA
(B)28 Studies on a Method of Testing the Stability of Ethyl Fluid.	T. YAMAMOTO G. ISHIDA
(B)29 Research on Antidetonants of the Aniline Series.	H. HOSHIMIYA
(B)30 Research on Antidetonants of the Selenium Series	H. HOSHIMIYA
(B)31 Research on Oxygen Compounds as Antidetonants.	H. HOSHIMIYA
(B)32 Studies on the Influence of Moisture on Octane Value.	M. UEHARA
(B)33 Engine Test Methods for Aviation Fuels at OFUNA.	T. NAKAYAMA
(B)34 Low Temperature and Low Pressure Experimental Laboratory.	T. NAKAYAMA T. NAKAMURA
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(B)35 Photographic Investigations of Flame Propagation and Detonation in Engine Cylinders.	K. NAKATA
(B)36 Engine Detonation Studies by Piezo-electric Indicator.	K. NAKATA
(B)37 Flame Propagation in Engine Cylinders Studied by the Ionization Method.	K. NAKATA
(B)38 Studies of Slow Oxidation of Hydrocarbons by Absorption Spectra.	K. NAKATA
(C) List of Japanese Documents Pertaining to Gasoline Research obtained from the First Naval Fuel Depot, OFUNA, and Kyushu Imperial University, FUKUOKA. (Forwarded through ATIS to the Washington Document Center.)	

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"Japanese Fuels and Lubricants, Article 3 - Naval Research and Alcohol Fuel,"
X-38(N)-3.

Enclosures

- (A) "Summary of the Alcohol Research Program at the First Naval Fuel Depot" prepared (in English) by Engineering Lieutenant Commander T. YAMAMOTO.
- (B) Detailed Japanese Research Reports (in English) on the Alcohol Fuel Program at the First Naval Fuel Depot, OFUNA, prepared under the supervision of the U. S. Naval Technical Mission to Japan.

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- (B)1 Studies on the Ethanol Fermentation
- T. ASAI
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- (B)2 Research on Alcohol Fermentation

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(B)3 The Absorption of Inorganic Nutrients in the Alcoholic Fermentation by Yeast.	M. KUNO
(B)4 Studies on the Hydrolysis of Pine Wood.	H. FUJIMOTO
(B)5 Studies on the Butanol Fermentation.	
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(B)7 Synthesis of Methanol.	S. SENDO
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(B)12 Studies on the Utilization of Alcohol for Aviation Fuel.	T. YAMAMOTO
(B)13 The Spectroscopic Investigation of the Mechanism of the Combustion of Alcohol.	Y. MOMOTARI Y. KAKIUCHI
(B)14 Studies on Corrosive Properties of Alcohol Fuels.	Y. MOMOTARI K. HIROMOTO

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(B)15 Studies on the Prevention of Corrosion of Magnesium and Magnesium Alloy by Methanol.	S. ENDO
(B)16 Studies on Alcohol-Proof Paint.	M. OKAZAKI
(B)17 Alcohol Fuel Utility Test (as Aero-Engine Fuel).	T. KONDO S. SOMA
(C) The Kyushu Regional Fuel Department Alcohol Plant, SHIMABARA, Kyushu - Report by NavTechJap.	
(D) List of Japanese Research Reports pertaining to Alcohols from the First Naval Fuel Depot, OFUNA. (Forwarded through ATIS to the Washington Document Center.)	

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"Japanese Fuels and Lubricants, Article 4, - Pine Root Oil Program," Index No. X-38(N)-4.

Enclosures

- (A) "Summary of the Pine Root Oil Research Program at the First Naval Fuel Depot, OFUNA", prepared (in English) by Chemical Engineering Commander H. FUJIMOTO and Dr. S. KOMATSU.
- (B) Detailed Japanese Research Reports (in English) on the Pine Root Oil Program at the First Naval Fuel Depot, OFUNA.

<u>Subject</u>	<u>Author</u>
(B)1 Design Studies of the Carbonization Apparatus for Pine Roots.	S. SANKA
(B)2 Studies on the Carbonization of Rosin.	M. KUMAMOTO
(B)3 Studies on the Catalytic Reforming of Pine Root Oil.	H. FUJIMOTO
(B)4 Design Studies on the Simplified Treating Process for Pine Root Oil.	S. SANKA
(B)5 Pilot Plant Catalytic Cracking Studies on Sumatra Kerosene and Pine Root Oil.	H. FUJIMOTO
(B)6 Design of Catalytic Cracking Plant for Pine Root Oil.	T. SHIBAZAKI I. KOIKE I. TAKESHITA
(B)7 Studies on the Manufacture of Aviation Gasoline by High Pressure Hydrocracking of Pine Root Oil.	S. INABA
(B)8 Studies on the Manufacture of Aviation Gasoline by High Pressure Hydrocracking of Pine Rosin.	T. IIJIMA S. INABA
(B)9 Studies on the Composition of Pyroligneous Liquor and its Uses.	N. SAKOTA

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(B)10 Engine Test of Aviation Gasoline Produced from Untreated Pine Root Oil.	T. NAKAYAMA
(B)11 Utility Test of Pine Root Oil	T. KONDO S. SOMA
(C) Translation of Pamphlet entitled "Pine Root Oils" and published by the First Naval Fuel Depot, 30 January 1945	
(D) The Mitsubishi Resin Oil Factory, SHIMABARA, Kyushu - Report by NavTech-Jap.	
(E) List of Japanese Documents pertaining to Pine Root Oil. (Forwarded through ATIS to the Washington Document Center.)	

"Japanese Fuels and Lubricants, Article 5 - Research on Rocket Fuels of the Hydrogen Peroxide - Hydrazine Type," Index No. X-38(N)-5.

Enclosures

- (A) "Summary of the Rocket Fuel Research Program at the First Naval Fuel Depot, OFUNA" prepared (in English) by Chemical Engineering Commander H. FUJIMOTO.
- (B) Detailed Japanese Research Reports (in English) on the Rocket Fuel Program at the First Naval Fuel Depot, OFUNA.

<u>Subject</u>	<u>Author</u>
(B)1 Studies on the Synthesis of $(\text{NH}_4)_2\text{S}_2\text{O}_8$ by PbO_2 Anode.	Y. MOMOTARI H. KADA
(B)2 Studies on Materials for Anti-Corrosive Tubes for producing Hydrogen Peroxide by Hydrolysis of Ammonium-Persulphate.	J. UEDA
(B)3 Studies on the Synthesis of Hydrogen Peroxide from Water Vapour by Electric Discharge Method.	H. FUJIMOTO T. KONOSU Y. MOMOTARI
(B)4 Studies on the Synthesis of Hydrogen Peroxide from a Hydrogen-Oxygen Mixture by Electric Arc Discharge.	H. FUJIMOTO T. KONOSU T. MOMOTARI
(B)5 Research on Organic Stabilizers for Hydrogen Peroxide.	S. ITANI
(B)6 Studies on Metallic Materials for the Manufacturing, Storing and Transporting of Hydrogen Peroxide Solutions.	M. OKAZAKI
(B)7 The Design and Operation of Hydrogen Peroxide concentration Plants at the First Naval Fuel Depot.	S. SHINODA

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(B)8 Synthesis of Hydrazine	Y. MOMOTARI S. ENDO T. YAMAMOTO
(B)9 Synthesis of Hydrazine from Urea.	T. YAMAMOTO H. NAKANO
(B)10 Studies on the Combustion of Hydrogen Peroxide and Hydrazine-Hydrate.	M. SHIMO

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"Japanese Fuels and Lubricants, Article 6 - Research on Diesel and Boiler Fuel at the First Naval Fuel Depot, OFUNA," Index No. X-38(N)-6.

Enclosures

- (A) "Summary of the Diesel and Boiler Fuel Research at the First Naval Fuel Depot, OFUNA", prepared (in English) by Naval Engineer Dr. I. ITAKURA.
- (B) Detailed Japanese Research Reports (in English) on the Diesel and Boiler Fuel Research at the First Naval Fuel Depot, OFUNA, prepared under the supervision of the U. S. Naval Technical Mission to Japan.

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(B)1 Studies on the Production of Diesel Fuel by Liquid SO ₂ Extraction.	T. ITAKURA
(B)2 Studies on the Synthesis of High Cetane Fuel by High Pressure Hydrogenation of Fatty Oil.	H. FUJIMOTO T. IWASE
(B)3 Studies on the Synthesis of Diesel Fuel and its Preparation from Crude Petroleum.	T. ITAKURA
(B)4 Studies on the Application of Fischer Oil.	I. ITAKURA
(B)5 Studies on the Properties of Diesel Fuel Oils.	H. FUJIMOTO
(B)6 Practical Tests of Substitute Diesel Fuels (Creosote Oil).	M. HIRASE
(B)7 Practical Tests of Copra Oils as Substitute Diesel Fuels.	T. NORITAKE
(B)8 Practical Engine Tests for Substitute Diesel Fuels.	K. HOSOI
(B)9 Engine Test Methods for Diesel Fuels at OFUNA.	I. NORITAKE
(B)10 Preparation of Pure α -Methyl Naphthalene.	O. MIYATA
(B)11 Investigations on the Treatment of Lignite Tar.	T. ITAKURA
(B)12 Studies on the Pour Point Depressant for Wax-Containing Fuel Oils.	I. KAGEHIRA A. WAKANA I. HARA

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(B)13 Studies on the Solidification of Bunker Fuel Containing Wax.	H. FUJIMOTO
(B)14 Practical Tests of Substitute Boiler Fuels (Copra and Copra Pressed Residue).	I. NORITAKE
(B)15 Studies on Briquetting.	M. KUMAMOTO
(C) List of Japanese Research Reports pertaining to Diesel and Boiler Fuels obtained from the First Naval Fuel Depot, OFUNA, and forwarded through ATIS to the Washington Document Center.	

"Japanese Fuels and Lubricants, Article 7 - Progress in the Synthesis of Liquid Fuels from Coal," Index No. X-38(N)-7.

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- (A) "Summary of Research on Conversion of Coal to Oil at the First Naval Fuel Depot, OFUNA", prepared (in English) by Naval Engineer Comdr. K. MITSUI.
- (B) Detailed Reports (in English) of Research on Conversion of Coal to Oil at the First Naval Fuel Depot, OFUNA, prepared under the supervision of the U. S. Naval Technical Mission to Japan.

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(B)1 The Thermal Cracking of Phenol under High Pressure Hydrogen.	T. OGAWA K. MITSUI
(B)2 On the Thermal Change of Aromatic Compounds in the Presence of High Pressure Hydrogen.	S. YAMAGUCHI
(B)3 Effect of Size of Coal on Coal Hydrogenation.	T. OGAWA
(B)4 Effect of Viscosity of Paste Oil on Coal Hydrogenation.	T. OGAWA I. TAKAHASHI
(B)5 Effect of Ferris Oxide on Coal Hydrogenation.	T. OGAWA I. TAKAHASHI
(B)6 Effect of Reaction Temperature on the Hydrogenation of Coal.	T. OGAWA I. TAKAHASHI
(B)7 Effect of Reaction Pressure on Hydrogenation of Coal.	T. OGAWA
(B)8 Effect of Reaction Time on the Hydrogenation of Coal.	T. OGAWA
(B)9 Studies on the Hydrogenation of Low Temperature Tar.	T. OGAWA
(B)10 On the Coal Hydrogenation Reaction.	K. MITSUI
(B)11 Experiments on Various Coals Produced In Japan.	T. SUZUKI I. TAKAHASHI
(B)12 Studies on Tar for Paste.	T. YOKOTA

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(B)13 On the Physical Properties of Paste.	T. SUZUKI R. YUMEN
(B)14 Studies on the Hydrogenation of Mixtures of Aromatic Compounds.	T. SUZUKI
(B)15 Studies on the Properties of Tar from Coal Hydrogenation.	S. KOMATSU K. MITSUI
(B)16 On the Mechanism of Coal Hydrogenation.	T. SUZUKI I. TAKAHASHI
(B)17 Coal Hydrogenation in a Semi-Commercial Pilot Plant.	T. SUZUKI K. MITSUI
(B)18 Studies on Catalysts for Coal Hydrogenation.	K. MITSUI T. OKADA
(B)19 Studies on the Fischer-Tropsch Synthesis.	
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(B)25 Studies on the Extraction of Coal.	M. KUMAMOTO
(C) List of reports (in Japanese), pertaining to research on conversion of coal to oil, obtained from the First Naval Fuel Depot, OFUNA, and forwarded through ATIS to the Washington Document Center.	
(D) Research on the Fischer-Tropsch Process at the Kyoto Imperial University - Report by NavTechJap.	
(E) Research Activities of the Imperial Fuel Research Institute at KAWAGUCHI - Report by NavTechJap.	
(F) The Coal Hydrogenation Plant at FUSHUN - Report by NavTechJap based on interview with Mr. T. MIYAMA, former Manager of the Fushun Plant.	
(G) Milke Synthetic Oil Company - Report by NavTechJap.	
(H) <u>Nissan Ekitai Nenryo K.K.</u> , Wakamatsu Plant - Report by NavTechJap.	
(I) History of the Synthetic Oil Industry in Japan - Report by Mr. N. SHONO, Asst. Chief Engineer of <u>Teikoku Nenryo K.K.</u>	
(J) <u>Teikoku Nenryo K.K.</u> , UBE Works - Report by NavTechJap.	

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"Japanese Fuels and Lubricants, Article 8 - Naval Research on Lubricants,"
Index No. X-38(N)-8.

Enclosures

- (A) "Summary of the Lubricants Research Program at the First Naval Fuel Depot, OFUNA", prepared (in English) by Chemical Engineering Captain Dr. I. KAGEHIRA.
- (B) Detailed Japanese Research Reports (in English) on the Lubricant Program at the First Naval Fuel Depot, OFUNA, prepared under the supervision of the U. S. Naval Technical Mission to Japan.

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(B)1 On the Synthesis of Lubricating Oils.	I. KAGEHIRA
(B)2 Studies on the Synthesis of Aero-Engine Oil by Condensation Method.	I. KAGEHIRA A. WAKANA
(B)3 Studies on the Preparation of Aero-Engine Oils from Shale Oil.	I. KAGEHIRA N. IIMURE
(B)4 Studies on the Manufacture of Aero-Engine Oils from Residual Oils by Solvent Extraction.	I. KAGEHIRA N. MATSUO N. IIMURE I. HARA
(B)5 Pilot Plant for Propane-Phenol Solvent Extraction. (Propane Deasphalting and Dewaxing.)	I. KAGEHIRA N. MATSUO I. HARA
(B)6 Pilot Plant for Propane-Phenol Extraction. (Phenol Extraction in Propane Solution.)	I. KAGEHIRA N. MATSUO I. HARA
(B)7 Pilot Plant for High Pressure Solvent Extraction in Propane Solution with High Pressure Methane and Hydrogen.	I. KAGEHIRA N. MATSUO I. HARA
(B)8 Pilot Plant for Acetone-Benzene Dewaxing.	I. KAGEHIRA N. MATSUO I. HARA
(B)9 Explanation of Pilot Plant for Continuous Vacuum Distillation.	N. MATSUO M. OE
(B)10 Studies on the Synthesis of Aero-Engine Oils from Paraffin Wax.	I. KAGEHIRA N. MATSUO E. KOSUGI K. ISHIKAWA M. SUNAZAKI H. NAKAO Y. IKEGAMI
(B)11 Studies on the Composition of Paraffin Wax in Crude Oil.	I. KAGEHIRA H. NAKAO
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(B)13 Studies of Preliminary Purification of Dry Distillate from Soda Soap.	I. KAGEHIRA N. MATSUI A. WAKANA M. DEHARA
(B)14 Studies on the Synthesis of Aero-Engine Oil by Catalytic Cracking and Polymerization from Fatty Oils.	I. KAGEHIRA N. MATSUI T. SAKURA
(B)15 Studies on the Synthesis of Aero-Engine Oils from Rubber.	I. KAGEHIRA N. MATSUI K. ISHIKAWA N. KOTAKE T. ISHIWATA M. TOYAMA
(B)16 Research on the Preparation of Lubricating Oils from Brown Coal Tar.	I. KAGEHIRA N. MATSUI M. TOYAMA
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(B)19 Studies on Lubricating Oils for Marine and Aero-Torpedo Engines.	I. KAGEHIRA N. MATSUI M. HIRATA M. MAEDA
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(B)23 Studies on Anti-Oxidants for Aero-Engine Oils.	I. KAGEHIRA A. WAKANA N. KOTAKE M. ASAI S. MIYAKE A. MORI
(B)24 Experimental Method for Manufacturing Additive Agents.	N. MATSUI M. HIRATA
(B)25 Engine Tests of Compounded Aircraft Engine Lubricating Oil, Relative to the Influence of Tricresylphosphite and Tricresylphosphate as Additive agents.	T. FUJIMOTO
(B)26 Engine Test with Proposed Lubricating Oil Addition Agents.	T. KONDO K. SHIMURA

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(B)27 Studies on the Oiliness Characteristics of Pure Hydrocarbons Based on Static Friction Determination for Steel on Steel.	I. KAGEHIRA M. HIRATA
(B)28 Studies on the Oiliness Characteristics of Stearic Acid, Benzene, and their Derivatives, Based on Static Friction Determinations for Steel on Steel.	I. KAGEHIRA M. HIRATA
(B)29 Studies on Soya Bean Phosphatides as Additives for Lubricating Oils.	I. KAGEHIRA M. HIRATA
(B)30 Studies on Methods of Testing the Oiliness of Lubricating Oil.	I. KAGEHIRA M. HIRATA
(B)31 To Test Lubricants under Extreme Pressure.	F. FUJIMOTO
(B)32 Studies on Additives For Submarine Diesel Engine Lubricants.	I. KAGEHIRA M. HIRATA
(B)33 Studies on a Viscosity Index Improver.	I. KAGEHIRA A. WAKANA I. FUJII
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(C) List of Japanese Documents Pertaining to Lubricating Oil Research obtained from the First Naval Fuel Depot, OFUNA, and forwarded through ATIS to the Washington Document Center.	
(D) The Japanese Motor Oil Company, <u>Nihon Hatsudokiu K.K.</u> UBE, Yamaguchi Prefecture - Report by NavTechJap.	

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"Japanese Fuels and Lubricants, Article 9 - Fundamental Hydrocarbon Research,"
Index No. X-38(N)-9.

Enclosures

- (A) "On the Physical Properties of Some Pure Hydrocarbons", prepared (in English) by Dr. S. KOMATSU of the First Naval Fuel Depot, OFUNA.
- (B) "Data on the Thermal Cracking of Pure Hydrocarbons", obtained from Professor A. IBUKI of Kyoto Imperial University.
- (C) List of Japanese Documents pertaining to Hydrocarbon Research obtained from the First Naval Fuel Depot, OFUNA, and forwarded through ATIS to the Washington Documents Center.

"Japanese Fuels and Lubricants, Article 10 - Miscellaneous Oil Technology and Refining Installations," Index X-38(N)-10.

Enclosures

- (A) List of Documents in Japanese Pertaining to Research on Miscellaneous Oil Technology at the First Naval Fuel Depot, OFUNA, forwarded through ATIS to the Washington Document Center.
- (B) Detailed Reports (in English) of Research on Miscellaneous Oil Technology at the First Naval Fuel Depot, OFUNA.

<u>Subject</u>	<u>Author</u>
(B)1 Studies on Acid Clay.	H. FUJIMOTO
(B)2 Entrainment and Plate Efficiency of Bubble-Cap Rectifying Columns.	T. YOKOYAMA
(C) "Development of Catalytic Cracking in Japan" by N. NAKAHARA, President of <u>Toa Nenryo K.K.</u>	
(D) "The Petroleum Industry in Japan" by J. AOKI and G. NARA of The Shun Nomura Office.	
(E) Nippon Oil Co., Kudamatsu Plant - Report by NavTechJap.	
(F) The Third Naval Fuel Depot, Tokuyama Refinery - Report by NavTechJap.	
(G) The <u>Nippon Seiro K.K.</u> , Tokuyama Plant - Report by NavTechJap.	