

INDEX TO

REEL 6

R E S T R I C T E D

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

U. S. GOVERNMENT TECHNICAL OIL MISSION
INDEX - MICROFILM - REEL-6
BAG 2747 TARGET No. 30/4.08 GELSENBERG
(Orig. Iden. Reel 6A)
(Undated Items All Before 1941)

| <u>ITEM NO. 1 ANALYTICAL METHODS</u> (Continued from Reel-5) | <u>No. of Pages</u> |
|--------------------------------------------------------------|-----------------------------|
| Chromium in Steel | $\frac{1}{2}$ |
| Silicon in Iron | $\frac{1}{2}$ |
| Rapid analysis of bronze, brass, etc. | 3 |
| Refractories | 3 |
| Slag | 1 |
| Calcium + Magnesium | $1\frac{1}{2}$ |
| Phosphorus and Phosphorus pentoxide | $\frac{1}{2}$ |
| Sulfur in Slag | $\frac{1}{2}$ |
| Iron and Ferric oxide in slag | $\frac{1}{2}$ |
| Ferrous oxide in slag | $\frac{1}{2}$ |
| Aluminum oxide in slag | $\frac{1}{2}$ |
| Calcium oxide in slag | 1 |
| Ash analysis | 8 |
| Segger cones | 2 |
| Spot plate and spot acid | 3 |
| Indirect analysis | 1 |
| Arsenic in sulfuric acid | 1 |
| Manganese in dolomite | $\frac{1}{2}$ |
| Sulfur (Eschke) | $\frac{1}{2}$ |
| Phosphorus | 1 |
| Iron in Slag | $\frac{1}{2}$ |
| Phosphorus in iron | $\frac{1}{2}$ |

R E S T R I C T E D

R E S T R I C T E D

Technical Oil Mission
Index - Reel 6

Page 2

| | <u>No.</u> <u>of</u> <u>Pages</u> |
|----------------------------------------------------------------------|-----------------------------------------|
| Phosphorus in iron ore, steel, etc. | 1 |
| Phosphorus and Silicon oxide in iron and steel | $\frac{1}{2}$ |
| Iron and manganese | $\frac{1}{2}$ |
| Si (10% + in iron | $\frac{1}{2}$ |
| Nitrogen | $\frac{1}{2}$ |
| Silicon in iron | 1 |
| Copper in Steel | $\frac{1}{2}$ |
| Phosphorus in Steel | $\frac{1}{2}$ |
| Arsenic in Steel | 1 |
| Nickel in Steel | 1 |
| Silicon in iron and steel | 1 |
| Arsenic in Iron | 1 |
| Sulfur in iron and steel | 1 |
| Sulfur | 1 |
| Phosphorus in Iron | 2 |
| Manganese in iron and steel | 1 |
| Phosphorus | 2 |
| Hardness of water | 1 |
| Ammonia in phenolic water | $\frac{1}{2}$ |
| Hydrogen sulfide in water | $\frac{1}{2}$ |
| Sodiumsulfite | 1 |
| Carbon in iron and steel | 2 |
| C ₂ , C ₃ , C ₄ in strippers (1941) | 5 |
| Caustic in phenol solutions | 4 |
| Specific gravity of coal | 2 |

R E S T R I C T E D

R E S T R I C T E D

Technical Oil Mission
Index - Reel 6

Page 3

| | <u>No.</u> <u>of</u> <u>Pages</u> |
|----------------------------------------------------------------------------------------|-----------------------------------------|
| Gas analysis (combustion, absorption) | 4 |
| Removal of Nitric oxide from coke gas (Brennstoffchemie No. 16 1939) | 8 |
| Detection of water in gaseous fuel | 3 |
| Sulfur dioxide in gases | 1 |
| Sulfur in oil (tetraoxy quinone indicator) | 1 |
| Analysis of "Alkazid" solutions | 2 |
| Ammonia | 2 |
| Carbon dioxide in Stripper water | 2 |
| Analysis of purge gas | 3 |
| Alkali in phenol solutions | 4 |
| Potash caustic solution | 2 |
| Ammonia in gas | 3 |
| Propane recovery | 2 |
| Removal of corrosive nitrogen oxide from flue gases | 1 (4 copies) |
| Iron in Alkazid Solution | |
| Hydrocyanic acid | 1 |
| Arsenic in Alkazid solution | |
| C ₃ & C ₄ in gasoline | 3 |
| C ₃ , C ₄ & C ₅ in gasoline | 4 |
| Coal Analysis (Brennstoffchemie 1939, No. 6) | 12 |
| Memo concerning tank car samples | 5 |
| Description of "Sarmiza" process for production of high octane fuel (non-catalytic) | 2 |
| Petrographic investigation of insoluble coal residue | 1 |
| Amino acids | 1 |

R E S T R I C T E D

R E S T R I C T E D

Technical Oil Mission
Index - Reel 6

Page 4

| | <u>No.</u> <u>of</u> <u>Pages</u> |
|------------------------------------------------------------------------------------------|-----------------------------------------|
| Liquid vapor equal at high pressure & temperature | 1 |
| Electrolytic reduction of aliphatic nitro groups | 1 |
| Thiocynate & cyanide analysis | 2 |
| Potentiometric titration of non-aqueous solutions | 1 |
| Sulfur dioxide in gases | 1 |
| Removal of ammonia from gases | 1 |
| Cracking of paraffins in the presence of aluminum chloride (Brennstoff - Chemie 1939 #8) | 2 |
| Treatment of cracked gasoline with heavy metal salts of naphthenic acid | 1 |
| General abstracts of refining methods (1938) | 1 |
| Laboratory precision fractionating columns (Foster Wheeler) | 2 |
| Oxidation of nitrogen oxide to dioxide | 1 |
| Ammonia determination in gases (H_2SO_4) | 1 |
| Preparation of pure steam | 1 |
| Viscosity of hydrocarbons | 1 |
| Phenol removal from oils | 1 |
| Oxygen in water | 1 |
| Oxygen in gas | 1 |
| Organic sulfur in gases | 4 |
| Preparation of non-foaming 50% potassium hydroxide | 1 |
| Hydrocyanic acid | 2 |
| Nessler reagent | 8 |
| Miscellaneous remarks | 3 |
| Nitrogen compounds from petroleum distillates | 1 |
| Preparation of special solutions | 3 |
| Carbonic acid in copper hydroxide | 1 |

R E S T R I C T E D

Technical Oil Mission
Index - Reel 6

Page 5

| | <u>No.</u> <u>of</u> <u>Pages</u> |
|-----------------------------------------------------------------------|-----------------------------------------|
| Electrolytic reduction of aliphatic nitro groups | 1 |
| Preparation of Strychnine - molybdic acid | 1 |
| Potentiometric titration of non aqueous solutions | 1 |
| Thiocyanates | 2 |
| Sulfur in oil with tetraoxyquinone indicator | 1 |
| Olefins and aromatics in oils | 1 |
| Removal of ammonia from gas | 1 |
| Sulfur dioxide from gas | 1 |
| Sensitivity of reactions with phenol | 2 |
| Methods for hydrogen manufacture process by steam cracking methane | 4 (3 times) |

ITEM NO. 2 ANALYTICAL METHODS

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Petrographic coal analysis | 12 |
| Microscopic iron pyrite analysis | 5 |
| Petrographic coal analysis (electric integration) | 7 |
| Electric conductivity of coko | 2 |
| Microscopic analysis of coko (porosity, etc.) | 8 |
| Ore profile analysis | 8 |
| Patent Application Separation of diphatic hydrocarbons and oxygen compounds with urea 1940 Dr. Friedrich Bengen | 8 |
| Patent Application: continuous measurement and re- cording of boiling point and gravity during distillation at constant heat input (pneumatic- hydraulic with photoelectric drive) | 14 |
| Unidentified sketches | 6 |
| Determination of acetylene and hydrocarbons in liquid Oxygen | 13 |

| | <u>No.</u> <u>of</u> <u>Pages</u> |
|--------------------------------------------------------------------------------|-----------------------------------------|
| Sulfur in C ₃ and C ₄ | 2 |
| <u>ITEM NO. 3 ANALYTICAL METHODS</u> | |
| Treatment of gasoline with sulfur dioxide and propane at -80°C. | 6 |
| Separation of Benzene, toluene and xylenes by Podbielniak distillation | 11 |
| Freezing point method for determining carboic acid in phenol - cresol mixtures | 3 |
| Asphalt in "Abschlamm" | 5 |
| Solutions | 2 |
| Organic sulfur in gases | 6 |
| Sulfur in oils | 3 |
| Chlorine in oils | 2 |
| Iodine number | 9 |
| Bromine number | 2 |
| Acid and saponification number | 2 |
| Hydroxyl number | 1 |
| Unsaponifiables | 1 |
| Alkalinity of coal | 3 |
| "Volatile" sulfur in coal | 2 |
| Mercaptans (Cupric chloride method) | 2 |
| Traces of Nitrogen in hydrocarbons and tar | 3 |
| Ammonia in stripper water | 1 |
| Hydrogen sulfide in stripper water | 1 |
| Water in coal | 3 |
| Sulfides, ammonium ions and total alkalinity- | 3 |

| | <u>No.</u> <u>of</u> <u>Pages</u> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| General gas analysis | 38 |
| Dissolved gases | 1 |
| Steam stripping of gasoline from coal | 7 |
| Iron carbonyl (qualitative) | 1 |
| Acetylene | 5 |
| Unsaturated hydrocarbons | 1 |
| Oxygen | 1 |
| Solubility of gases in water at 20°C | 1 |
| Orsat analysis | 6 |
| Boiling points of all light hydrocarbons methane to 2.2 dimethylpropane | 1 |
| Table for Iron - Konstantin thermocouples at 40°C. | 1 |
| Analysis of grinding oil and coal stripper products: | |
| Water | 1 |
| Solids | 1 |
| Ash | 1 |
| Specific gravity | 1 |
| Asphalt | 1 |
| Engler distillation | 1 |
| Solids in suspension | 1 |
| Softening point | 1 |
| Engler distillation | 1 |
| ASTM distillation | 1 |
| Aniline point | 1 |
| Treating loss of gasoline (H ₂ SO ₄) | 1 |
| Phenol | 1 |
| Copper dish gum | 1 |
| Glass dish gum | 1 |
| Copper strip test | 1 |
| Unsaturation in gasoline | 1 |
| Unsaturation in gas oil | 1 |
| Short analysis of stripper products | 4 |
| Long analysis of stripper products | 5 |
| Coal analysis. Includes sampling, moisture, ash, nitrogen, sulfur, heating value, volatiles, coking analysis, specific gravity, petrographic analysis screening, ash, flotation, suspension, swim and sink, sand re- moval, alkalinity, acid number, iodine number, saponi- fication number, ash analysis | 29 |

R E S T R I C T E D

Technical Oil Mission
Index - Reel 6

Page 8

| | <u>No. of Pages</u> |
|----------------------------------------------------------------------------------------|-----------------------------|
| Sample of long analysis of coal stripper products | 7 |
| Aniline point | 1 |
| Unsaturation | 1 |
| Phenol | 1 |
| Composition of gasoline | 2 |
| Notes on coal analysis (Dr. Lemme) | 13 |
| Notes on coal strippers (Dr. Schiffmann) | 18 |
| Cracking of oil at 410°C for 1½ hours in Engler flask | 2 |
| Unsaturation and aromatics | 2 |
| Air jet method for preformed gum | 3 |
| Phenol in gasoline | 2 |
| Doktor test | 1 |
| Coke tests | 1 |
| Paraffins | 1 |
| Special lubricating oil for high pressure screws | 1 |
| Manometer fluid | 1 |
| Unsaturation | 1 |
| Preparation of photostats | 2 |
| <u>ITEM NO. 4 ANALYTICAL METHODS (I.G.)</u> | |
| Determination of Nitrogen in coal, tar, oil and gasoline (I.G.) | 16 |
| Equipment for automatic organic micro analysis with aid of synchronous motors (I.G.) | 11 |
| Simple method for determining tetraethyllead in gasolines and lead in lubricating oils | 10 |
| Automatic micro nitrogen analysis after Dumas with aid of synchronous motors | 6 |

R E S T R I C T E D

R E S T R I C T E D

Technical Oil Mission
Index - Reel 6

Page 9

| | <u>No.</u> <u>of</u> <u>Pages</u> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Total and volatile sulfur in coal | 8 |
| Analysis of charge, intermediates, and final products in coal hydrogenation, includes: | 273 |
| Coal analysis, grinding oil analysis, coal stripper products, bottoms and gasoline, oils; special methods such as elementary analysis, bromine number, iodine number, saponification number, hydroxyl number, hydroxylamine number, alcohol, active hydrogen, methoxy and ethoxy groups, acetyl groups, halogen, water, heating value | |
| Water analysis: | |
| Preparation of drinking water | 2 |
| Alkalinity | 1 |
| Solids | 1 |
| Chlorine | 1 |
| Phosphate | 1 |
| Hardness | 1 |
| Oxygen | 2 |
| Carbon dioxide | 1 |
| Phosphate | 1 |
| Iron | 1 |
| Acids | 1 |
| Carbonates | 1 |
| Free carbonic acid | 1 |
| List of analyses applicable for raw water, drinking water, boiler water and sewer water plus bibliography | 6 |

August 13, 1945

R E S T R I C T E D