

I.L.A. IN VITRO CONVERSION: OBTAINING LIQUID HYDROCARBONS
2. APPARATUS

PATENTING UPDATE (1/79-8/79)

<u>Patent No.</u>	<u>Assignee & Title</u>
4,133,719	<u>Didier Engineering GmbH, Fed. Rep. Of Germany: Process And Apparatus For Charging Inclined Chamber Coke Oven</u>
4,133,720	<u>Wolfgang Franzer Bochum-Wattenscheid, and Hans J. Adamus, Essen Both of Fed. Rep. of Germany: Support Apparatus For A Battery Of Underjet Coke Ovens</u>
4,135,982	<u>Occidental Petroleum Corporation: Method For Preventing Plugging In The Pyrolysis Of Agglomerative Coals</u>
4,135,984	<u>John D. Kirschmann, 933 Anderson St., Bismarek, N. Dak.: Water Distiller</u>
4,135,986	<u>Koppers Company, Inc.: One-Spot Rotary Coke Quenching Car</u>
4,137,052	<u>Anthony A. DuPont, 12 Outrider Rd., Rolling Hills, CA 90274: Apparatus And System For Producing Coal Gas</u>
4,139,419	<u>Hutni Projekt Praha, Projekenia inzenyrska organizace: Arrangement For Dosing A Coal Charge To A Coking Battery</u>
4,140,478	<u>Kobe Steel, Ltd: Process And Apparatus For Heating Solid Materials Containing Volatile Matters</u>
4,141,694	<u>Technology Application Services Corporation: Apparatus For The Gasification Of Carbonaceous Matter By Plasma Arc Pyrolysis</u>
4,141,793	<u>Nissho-Iwai, Ltd.: Process For Preparation Of Coke And Carbonizer Therefor</u>
4,141,794	<u>Occidental Petroleum Corporation: Grid-Wall Pyrolysis Reactor</u>
4,141,795	<u>Nippon Kokan Kabushiki Kaisha, Japan: Dry Type Method For Quenching Coke</u>
4,141,796	<u>Bethlehem Steel Corporation: Coke Oven Emission Control Method And Apparatus</u>
4,141,797	<u>Dr. C. Otto & Co., GmbH, Fed. Rep. of Germany: Method Of Operating A Battery Of Coke Ovens</u>

- 4,142,867 Karl Kiener, 7081 Goldshofe, Ostalbkreis, Germany:
Apparatus For The Production OF Combustible Gas
- 4,142,942 Albert Calderon, 1065 Melrose Dr., Bowling Green, OH
43402: Method And Apparatus For Quenching Coke
- 4,145,195 Firma Carl Still: Adjustable Device For Removing
Pollutants From Gases And Vapors Evolved During Coke
Quenching Operations
- 4,145,256 Georgia Tech Research Inst.: Method And Apparatus For
Producing A Carbonaceous Residue Product
- 4,145,274 Occidental Petroleum Corporation: Pyrolysis With Staged
Recovery
- 4,146,359 Occidental Petroleum Corporation: Method For Reacting
Nongaseous Material With A Gaseous Reactant
- 4,146,460 Delbert D. Thomas, 152 Cameo Dr., Redlands, CA 92373:
Oil Shale Retort Apparatus And Process
- 4,147,593 Occidental Petroleum Corporation: Flash Pyrolysis Of
Organic Solid Waste Employing Ash Recycle
- 4,147,594 Koppers Company, Inc.: One-Spot Cylindrical Coke
Quenching Car And Quenching Method
- 4,148,710 Occidental Oil Shale, Inc: Fluidized Bed Process For
Retorting Oil Shale
- 4,149,845 Marathon Oil Company: Rabbles And Material Handling
Systems Utilizing The Same
- 4,149,939 Salem Corporation: Method And Apparatus For Feeding An
Oxidant Within A Furnace Enclosure
- 4,151,044 Occidental Research Corporation: Process For the
Pyrolysis Of Carbonaceous Materials In A Double Helix
Cyclone
- 4,151,045 Didier Engineering GmbH, Fed. Rep. Of Germany:
Apparatus For Charging Inclined Chamber Coke Oven
- 4,152,122 Syngas International, Ltd: Apparatus For The Production
Of Methane Containing Gas By Hydrogasification
- 4,159,306 Adolf H. Borst, Schloss Ramberg, 7322 Donzdorf, Fed.
Rep. of Germany: Apparatus For The Production Of
Activated Carbon

- 4,159,924 Firma Carl Still Recklinghausen, Fed. Rep. Of Germany:
Combined Control Device For The Operation Of Coke Oven Batteries To Effect Switching Of The Regenerative Heating System From One Group Of Flues To Another And For Converting From One Heating Gas To Another
- 4,160,720 University of Utah: Process And Apparatus To Produce Synthetic Crude Oil From Tar Sands
- 4,161,441 Jacque C. Morrell, 4501 Conn. Ave, N.W., Wash., D.C. 20008: Process For The Production Of Distillate Fuels From Oil Shales And By-Product Therefrom
- 4,162,943 Occidental Petroleum Corporation: Slot Pyrolysis Reactor And Method Of Pyrolysis
- 4,162,960 Union Oil Company of California: Shale Retorting Process And Apparatus
- 4,163,693 Occidental Petroleum Corporation: Fluidizing A Mixture Of Particulate Coal And Char
- 4,163,694 Alexandr N. Minasov, ulitsa Ivanova, 12116 KV 59; Evgeny P. Likhogub, ultisa Slinka 2 KV II; & Stanislav S. Sergeev ultisa Kosmonvtov 3 kvll4, all of Kharkov, U.S.S.R.: Heating Wall For Coke Ovens
- 4,165,216 Enerco, Inc.: Continuous Drying And/Or Heating Apparatus
- 4,165,971 Projektierung Chemische Verfahrenstechnik GmbH, Fed. Rep. of Germany: Apparatus For The Gasification Of Carbonaceous Material

II. B. IN VITRO CONVERSION: OBTAINING FUEL GAS

1. PROCESSES

This profile includes conversion of solid carbonaceous material to fuel gas, i.e., gaseous mixtures containing hydrocarbons which are used for heating and illuminating. As such processes are often accomplished in two steps, that is, solid-to-liquid followed by liquid-to-gas, also included in this area are processes whereby fuel gas is produced from liquid, such as oil, or from a mixture of a solid and a liquid. Such processes are normally thermal and carried out in a retort in the presence of a variety of reactants including hydrogen, carbon dioxide, water, air and steam.

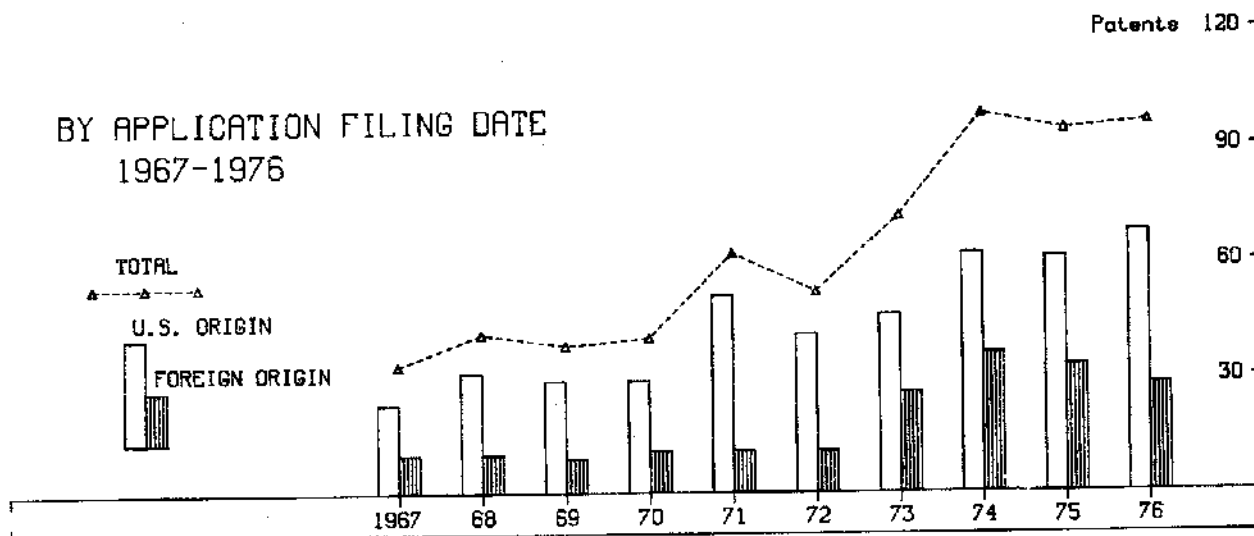
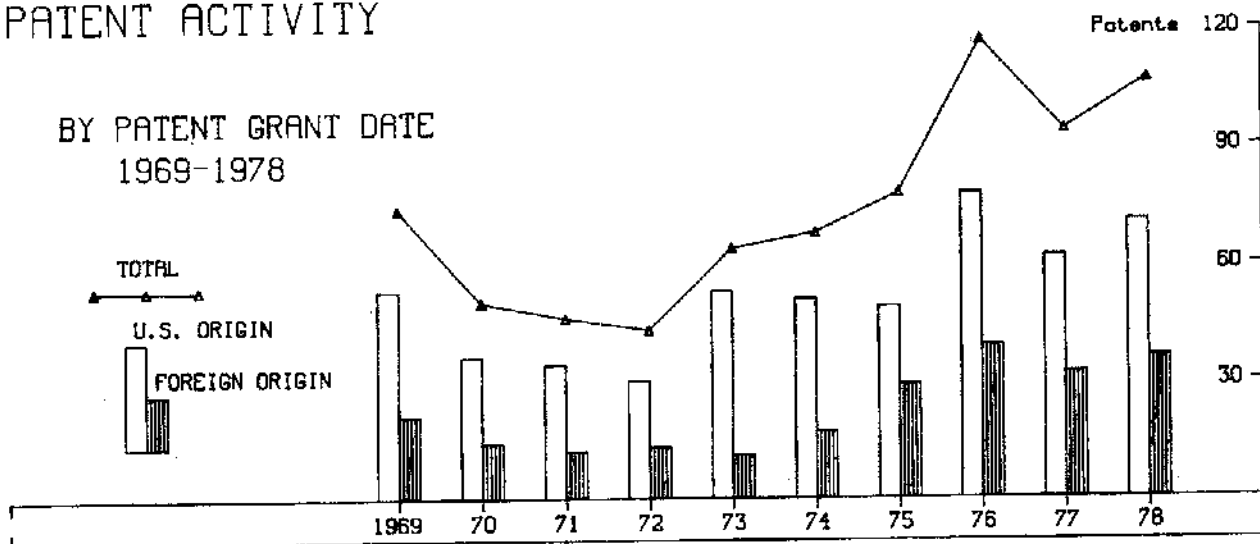
INCLUDED IN THIS PROFILE ARE ALL OF THE PATENTS FROM:

Class 48, Subclasses 197R and 200-215

ACTIVITY INDICES (1976-1978)

GROWTH	42.9%
FOREIGN SHARE	33.6%
CORPORATE OWNED	85.2%
GOVERNMENT OWNED	4.7%
U.S. OWNED OF FOREIGN	8.4%

PATENT ACTIVITY



SYNTHETIC FUELS

II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

PATENT ACTIVITY (1963-1978) BY DATE OF PATENT GRANT

PAGE A 2

		NUMBER OF PATENTS													TOTAL		
		63-64	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	TOTAL
TOTAL		43	31	29	23	35	74	50	46	43	64	68	78	117	94	107	902
U.S. ORIGIN		23	23	22	18	28	53	36	34	30	53	51	49	78	62	71	631
FOREIGN ORIGIN		20	8	7	5	7	21	14	12	13	11	17	29	39	32	36	271
GERMANY		7	2	2			3	4	3	4	6	1	8	14	18	13	85
UNITED KINGDOM		5	2	3	2	5	8	5	3	2		6	5	8	2	8	64
JAPAN		1	1	1	2	1	1	3	2	1	1	5	9	12	8	11	59
FRANCE		1	1		1	1	4	2	2	4	1	1	1			1	20
NETHERLANDS		3	1				1		1	1			3	2	2	1	15
DENMARK							3				2	3	1			7	15
CANADA										1		3	1	1		1	6
SWEDEN		3															6
ITALY			1				1		1			1		1			4
U.S.S.R.											1						4
AUSTRALIA												1					4
SWITZERLAND													1	1			2
RHODESIA																	2
SOUTH AFRICA																1	1
U.S. ORIGIN		23	23	22	18	28	53	36	34	30	53	51	49	78	62	71	631
U.S. CORP. OWNED		21	23	17	17	22	43	32	31	21	44	40	46	56	47	61	521
U.S. GOVT. OWNED				1			1	2	2	1	4	5	1	13	1	1	35
U.S. INDIV. OWNED		2		3	1	5	6	2	1	8	5	6	2	9	12	8	70
FOREIGN OWNED				1		1									2	1	5
FOREIGN DRIGIN		20	8	7	5	7	21	14	12	13	11	17	29	39	32	36	271
U.S. OWNED		2	2	2	1	1	2	1	2		1	5	6	5		4	33
FOREIGN OWNED		18	6	5	5	6	19	13	10	13	10	12	23	34	32	32	238
FOREIGN CORP.		17	5	3	5	6	16	12	9	11	8	11	20	33	31	31	218
FOREIGN GOVT.																	
FOREIGN INDIV.		1	1	2			3	1	1	2	2	1	3	1	1	1	20

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

PATENT ACTIVITY (PATENTS GRANTED 1/67-12/78) BY DATE OF PATENT APPLICATION

PAGE A 4

----- NUMBER OF PATENTED APPLICATIONS -----

	PRE 65	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	TOTAL
TOTAL	68	28	33	33	41	38	40	62	52	72	98	94	96	44		799
U.S. ORIGIN	49	20	25	23	31	29	29	51	41	46	62	61	68	28		563
FOREIGN ORIGIN	19	8	8	10	10	9	11	11	11	26	36	33	28	16		236
GERMANY	1	1	1	2	4	2	3	6	1	6	11	15	11	10		74
UNITED KINGDOM	10	2	5	3	1	3	1	1	4	5	7	3	7	2		54
JAPAN	4	1	1	1	3	2	2	2	2	10	14	9	6	4		56
FRANCE	1	3	1	4	1	2	2	2		3	1	2	1			18
NETHERLANDS	1	1				1	1	1		1	2	2	1			11
DENMARK	3					1	1	1	3	1		1				7
CANADA						1							1			6
SWEDEN																1
ITALY		1			1			1								3
U.S.S.R.							1		1			1				2
AUSTRALIA																2
SWITZERLAND																
RHODESIA											1					1
SOUTH AFRICA												1				1
U.S. ORIGIN	49	20	25	23	31	29	29	51	41	46	62	61	68	28		563
U.S. CORP. OWNED	44	16	21	19	26	25	26	39	30	41	50	41	58	24		460
U.S. GOVT. OWNED	1	1	1	2	3	2	2	2	5	1	5	8	2	4		34
U.S. INDIV. OWNED	5	2	3	2	2	2	1	10	6	4	7	10	7	4		65
FOREIGN OWNED	1											2	1			4
FOREIGN ORIGIN	19	8	8	10	10	9	11	11	11	26	36	33	28	16		236
U.S. OWNED	1	1	1	1	1	1	2	1	4	6	2	4	1	2		27
FOREIGN OWNED	18	7	7	9	10	8	9	10	7	20	34	29	27	14		209
FOREIGN CORP.	15	7	7	8	8	7	8	9	5	20	31	27	27	14		193
FOREIGN GOVT.																
FOREIGN INDIV.	3			1	2	1	1	1	2		3	2				16

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II.B. IN VITRO CONVERSION - OBTAINING FUEL GAS
I. PROCESSES

ASSIGNEES WITH 4 OR MORE PATENTS (1/69-12/78)

EXXON RESEARCH + ENGINEERING CO.	72
TEXACO INC.	56
METALLGESELLSCHAFT AKTIENGESELLSCHAFT	27
CHEVRON RESEARCH COMPANY	17
UNITED STATES OF AMERICA, INTERIOR	17
TEXACO DEVELOPMENT CORPORATION	17
PHILLIPS PETROLEUM COMPANY	16
INSTITUTE OF GAS TECHNOLOGY	14
BRITISH GAS CORPORATION	12
GAS COUNCIL	12
UNITED STATES OF AMERICA, DEPARTMENT OF ENERGY	12*
OCCIDENTAL PETROLEUM CORPORATION	11
MOBIL OIL CORPORATION	11
JAPAN GASOLINE CO., LTD.	10
UOP INC.	9
PULLMAN, INCORPORATED	9
UNITED TECHNOLOGIES CORPORATION	9
SHELL OIL COMPANY	8
UNION CARBIDE CORPORATION	8
IMPERIAL CHEMICAL INDUSTRIES LIMITED	8
CONSOLIDATION COAL COMPANY	7
HYDROCARBON RESEARCH INC.	7
MITSUI SHIPBUILDING AND ENGINEERING CO. LTD.	6
CHEMICAL CONSTRUCTION CORPORATION	6
TEXAS INSTRUMENTS, INCORPORATED	5
KAMYR INC.	5
GULF OIL CORPORATION	5
GENERAL ELECTRIC COMPANY	5
DR. C. OTTO COMP. G.M.B.H.	5
LEAS BROTHERS DEVELOPMENT CORPORATION	5
SIEMENS AKTIENGESELLSCHAFT	5
FOSTER WHEELER ENERGY CORPORATION	5
LUMMUS COMPANY	5
AIR PRODUCTS + CHEMICALS, INC.	4
LA SOCIETE CHIMIQUE DE LA GRANDE PAROISSE, AZOTE	4
ROCKWELL INTERNATIONAL CORPORATION	4
KRUPP KOPPERS GMBH	4
ATLANTIC RICHFIELD COMPANY	4
UNION OIL COMPANY OF CALIFORNIA	4
BATTELLE DEVELOPMENT CORPORATION	4
WESTINGHOUSE ELECTRIC CORP.	4
COGAS DEVELOPMENT COMPANY	4
E. I. DU PONT DE NEMOURS AND COMPANY	4
TOYOTA JIDOSHA KOGYO KABUSHIKI KAISHA	4
CITIES SERVICE COMPANY	4
SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ, B.V.	4*
COMBUSTION ENGINEERING INC.	4
RALPH M. PARSONS COMPANY	4*

*Composite total, see Appendix A.

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

AGENCE NATIONALE DE VALORISATION DE LA RECHERE (ANVAR)

3843339 - PROCESS FOR FLUIDIZED COMBUSTION OF PLASTICS

AIR PRODUCTS + CHEMICALS, INC.

3779725 - COAL GASIFICATION
 3871839 - METHOD OF FEEDING SOLID CARBONACEOUS MATERIAL TO A HIGH TEMPERATURE REACTION ZONE
 3886756 - SEPARATION OF GASES
 4025318 - GASIFICATION OF HYDROCARBON FEEDSTOCKS

ALLIED CHEMICAL CORPORATION

4071606 - SULFUR DIOXIDE WITH COAL
 4089805 - PROCESS FOR PREPARING A GASIFORM HYDROCARBON FUEL FROM HYDROCARBON FUEL OIL

ALLIS-CHALMERS CORPORATION

3990865 - PROCESS FOR COAL GASIFICATION UTILIZING A ROTARY KILN

AMERICAN GAS ASSOCIATION, INC.

3922215 - PROCESS FOR PRODUCTION OF HYDROCARBON LIQUIDS AND GASES FROM OIL SHALE
 3929615 - PRODUCTION OF HYDROCARBON GASES FROM OIL SHALE

ARTHUR D. LITTLE INC.

3712800 - METHOD FOR CONVERTING RESIDUAL OILS INTO FUEL GAS

ARTHUR G. MCKEE + COMPANY

4097361 - PRODUCTION OF LIQUID AND GASEOUS FUEL PRODUCTS FROM COAL OR THE LIKE

ATLANTIC RICHFIELD COMPANY

3503866 - PROCESS AND SYSTEM FOR PRODUCING SYNTHETIC CRUDE FROM COAL
 3503867 - PROCESS AND SYSTEM FOR PRODUCING SYNTHETIC CRUDE FROM COAL
 3620697 - APPARATUS AND METHOD FOR PRODUCING HYDROGEN
 3730694 - FUEL GAS UPGRADING

AZOTE ET PRODUITS CHIMIQUES S.A.

3695856 - MAGNESIA SUPPORTS FOR CATALYSTS IN HYDROCARBON REFORMING

BABCOCK + WILCOX CO.

3454383 - GASIFICATION METHOD AND APPARATUS
 3904387 - FUEL GAS MANUFACTURE

BAMAG VERFAHRENSTECHNIK GMBH

407272 - PROCESS FOR GASIFYING SOLID CARBONACEOUS FUEL

BASF AKTIENGESELLSCHAFT

3912775 - CATALYST AND ITS USE FOR THE MANUFACTURE OF METHANE FROM GASES CONTAINING CARBON MONOXIDE AND DIOXIDE AND HYDROGEN
 3990866 - CATALYST AND THE USE THEREOF FOR THE PRODUCTION OF GAS CONTAINING METHANE

BATTELLE DEVELOPMENT CORPORATION

3997582 - PROCESS AND CATALYST FOR SYNTHESIZING A GASEOUS HYDROCARBON MIXTURE HAVING A HIGH METHANE CONTENT FROM CARBON MONOXIDE AND HYDROGEN
 4039302 - PROCESS AND CATALYST FOR SYNTHESIZING LOW BOILING (C1 TO C3) ALIPHATIC HYDROCARBONS FROM CARBON MONOXIDE AND HYDROGEN
 4077995 - PROCESS FOR SYNTHESIZING LOW BOILING ALIPHATIC HYDROCARBONS FROM CARBON MONOXIDE AND HYDROGEN
 4092125 - TREATING SOLID FUEL

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES
ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION
4017274 - PROCESS FOR THE METHANATION OF GASES CONTAINING HIGH CONCENTRATION OF CARBON MONOXIDE

BLACK CLAWSON COMPANY
3714038 - PROCESS AND PRODUCT FOR CONVERTING ORGANIC MATERIALS BY PYROLYSIS OR HYDROGENATION

BLUE EMBER FLAME CORPORATION
3933618 - GAS GENERATION APPARATUSES AND PROCESSES

BORGREEN, GEORG
3771263 - METHOD FOR DISPOSAL OF REFUSE BY DEGASIFYING AND GASIFICATION THEREOF

BRITISH GAS CORPORATION
3830637 - FLUIDISED BED HYDROGENATION
3904554 - CATALYST OF RUTHENIUM AND ZINC OXIDE ON ALUMINA CARRIER FOR STEAM REFORMING HYDROCARBONS
3915670 - PRODUCTION OF GASES
3933446 - PROCESS FOR THE PRODUCTION OF A SUBSTITUTE NATURAL GAS
3942957 - PRODUCTION OF COMBUSTIBLE GASES
3942958 - COMPOSITION CONTROL OF GASES
4071329 - COAL GASIFICATION PLANT
4073627 - COAL GASIFICATION PLANT
4104201 - CATALYTIC STEAM REFORMING AND CATALYSTS THEREFOR
4105591 - METHOD OF PREPARING AND FILTERING COPRECIPITATED NICKEL-ALUMINA CATALYSTS
4127393 - METHOD AND APPARATUS FOR VAPORIZING HYDROCARBON BASED LIQUIDS
4129422 - COAL GASIFICATION PLANT

BROKEN HILL PROPRIETARY COMPANY LIMITED
4042344 - PROCESS FOR THE PRODUCTION OF GASEOUS MIXTURES

CALIFORNIA INSTITUTE OF TECHNOLOGY
3955941 - HYDROGEN RICH GAS GENERATOR

CAMERON ENGINEERS, INCORPORATED
3963426 - PROCESS FOR GASIFYING CARBONACEOUS MATTER

CATALYSTS AND CHEMICALS INC.
4024075 - CARBON AND EROSION-RESISTANT CATALYST

CHEMICAL CONSTRUCTION CORPORATION
3446747 - PROCESS AND APPARATUS FOR REFORMING HYDROCARBONS
3466159 - PROCESS AND CATALYST FOR PRODUCTION OF METHANE-RICH GAS
3531266 - PRODUCTION OF SYNTHETIC METHANOL
3573224 - PRODUCTION OF HYDROGEN-RICH SYNTHESIS GAS
3597465 - PRODUCTION OF SYNTHETIC METHANOL
3871172 - PROCESS WITH FLUIDIZED COMBUSTOR AND FLUIDIZED HEAT EXCHANGER FOR AIR

CHEM SYSTEMS INC.
3920716 - LIQUID PHASE METHANOL GASIFICATION

CHEVRON RESEARCH COMPANY
3531267 - PROCESS FOR MANUFACTURING FUEL GAS AND SYNTHESIS GAS
3537977 - REFINERY UTILIZING HYDROGEN PRODUCED FROM A PORTION OF THE FEED

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

CHEVRON RESEARCH COMPANY
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING (CONTINUED)

- 3605890 - HYDROGEN PRODUCTION FROM A KEROGEN-DEPLETED SHALE FORMATION
- 3615299 - HYDROGEN PRODUCTION BY REACTION OF CARBON WITH STEAM OR STEAM AND OXYGEN
- 3615300 - HYDROGEN PRODUCTION BY REACTION OF CARBON WITH STEAM AND OXYGEN
- 3698881 - SYNTHESIS GAS PRODUCTION
- 3759036 - POWER GENERATION
- 3759677 - CATALYTIC SYNTHESIS GAS MANUFACTURE
- 3765851 - GAS PRODUCTION
- 3775072 - GAS PRODUCTION
- 3801495 - INTEGRATED PROCESS COMBINING CATALYTIC CRACKING WITH HYDROTREATING
- 3817724 - GASIFICATION OF SOLID CARBONACEOUS WASTE MATERIAL
- 3817725 - GASIFICATION OF SOLID WASTE MATERIAL TO OBTAIN HIGH BTU PRODUCT GAS
- 3850588 - PRODUCTION OF SYNTHESIS GAS RICH IN CARBON MONOXIDE
- 3874116 - SYNTHESIS GAS MANUFACTURE
- 3907519 - GASIFICATION OF SOLID CARBONACEOUS MATERIALS TO OBTAIN HIGH BTU PRODUCT GAS
- 4002565 - WASTE-WATER PROCESS

CITIES SERVICE COMPANY

- 3628929 - METHOD FOR RECOVERY OF COAL ENERGY
- 3734184 - METHOD OF IN SITU COAL GASIFICATION
- 3775073 - IN SITU GASIFICATION OF COAL BY GAS FRACTURING
- 4040976 - PROCESS OF TREATING CARBONACEOUS MATERIAL WITH CARBON DIOXIDE

CITY OF KIRYU

- 3546812 - PROCESS FOR TREATING EXCREMENT BY MICROORGANISMS AND PRODUCTS OBTAINED THEREBY

COAL INDUSTRY (PATENTS) LIMITED

- 3970541 - GAS EXTRACTION OF COAL

COGAS DEVELOPMENT COMPANY

- 3850839 - MANUFACTURE OF SYNTHESIS GAS
- 3966633 - WASTE WATER PROCESSING
- 3966634 - GASIFICATION METHOD
- 3993583 - GASIFICATION OF ASH CONTAINING CARBONACEOUS SOLIDS

COMBUSTION ENGINEERING INC.

- 3818869 - METHOD OF OPERATING A COMBINED GASIFICATION-STEAM GENERATING PLANT
- 3864100 - METHOD AND APPARATUS FOR GASIFICATION OF PULVERIZED COAL
- 3920417 - METHOD OF GASIFYING CARBONACEOUS MATERIAL
- 4069024 - TWO-STAGE GASIFICATION SYSTEM

CON-GAS SERVICE CORPORATION

- 3421869 - METHOD FOR THE PRODUCTION OF A MIXTURE OF HYDROGEN AND STEAM

CONMCO METHANATION COMPANY

- 4127392 - METHANATION PROCESS START-UP

CONSOLIDATED NATURAL GAS SERVICE CO. INC.

- 3438759 - GAS REFORMER AND CONTROL MEANS
- 3820964 - REFUSE GASIFICATION PROCESS AND APPARATUS

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
CONSOLIDATION COAL COMPANY

3503724 - METHOD AND APPARATUS FOR PRODUCING MIXTURES OF METHANE, CARBON MONOXIDE, AND HYDROGEN
 3615298 - GASIFICATION
 3619142 - CONTINUOUS STEAM-IRON PROCESS
 3692505 - FIXED BED COAL GASIFICATION
 3700422 - CONTINUOUS STEAM-IRON PROCESS FOR MAKING FUEL GAS
 3920418 - PROCESS FOR MAKING LIQUID AND GASEOUS FUELS FROM CAKING COALS
 4008054 - PROCESS FOR MAKING LOW-SULFUR AND LOW-ASH FUELS

CONTINENTAL OIL COMPANY

3907920 - TWO-STAGE HYDROLYSIS-CRACKING PROCESS FOR PRODUCING ETHYLENE
 3977843 - PURIFICATION PROCESS FOR COAL GAS METHANATION
 4120881 - PREDOMINANTLY ALIPHATIC LOWER HYDROCARBON MATERIALS FROM CARBONACEOUS SOLIDS

COPELAND SYSTEMS INCORPORATED

3949684 - METHOD FOR OXIDATION OF SULFUR-CONTAINING SUBSTANCES

DAIKYO OIL COMPANY LTD.

3957620 - PROCESS FOR TREATING HEAVY OIL

DAVY POWERGAS LIMITED

3930812 - METHANE SYNTHESIS
 4021370 - FUEL GAS PRODUCTION

DESTRUGAS A/S

3744439 - METHOD OF SUPPLYING REFUSE TO A GAS PRODUCING CHAMBER FOR DISPOSAL OF THE REFUSE AND A REFUSE DISPOSAL PLANT COMPRISING A GASIFICATION CHAMBER

DEUTSCHE GOLD- UND SILBER-SCHNEIDANSTALT VORMALS ROESSLER

3741736 - PROCESS AND DEVICE FOR THE PRODUCTION OF ACETYLENE-ETHYLENE MIXTURES

DOW CHEMICAL COMPANY

3429942 - QUENCHING TECHNIQUE FOR HYDROALKYLATION OF ALKYL AROMATIC HYDROCARBON

DR. C. OTTO COMP. G.M.B.H.

4013427 - SLAG BATH GENERATOR
 4043766 - SLAG BATH GENERATOR
 4049570 - METHOD AND APPARATUS FOR REMOVING VAPORS AND AEROSOLS FROM GASES PRODUCED IN A GASIFICATION PLANT
 4066420 - PROCESS FOR THE GASIFICATION OF SOLID FUELS
 4102674 - METHOD FOR HARDENING IRON ORE PELLETS

DYNECOLOGY INCORPORATED

4052173 - SIMULTANEOUS GASIFICATION OF COAL AND PYROLYSIS OF ORGANIC SOLID WASTE MATERIALS

ECLAIRE INCORPORATED

4018588 - METHOD AND APPARATUS FOR HANDLING SLAG HANDLING

E. I. DU PONT DE NEMOURS AND COMPANY

3421194 - PROCESS FOR TREATING A FILAMENTARY STRAND
 3645915 - STABILIZED NICKEL OXIDE-NICKEL CHROMITE REFORMING CATALYST
 3759678 - REFORMER CATALYST
 3943236 - REFORMING PROCESS FOR CARBON MONOXIDE

SYNTHETIC FUELS II B 1 - IN VITRO - OBTAINING FUEL GAS - PROCESSES
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
 EISENWERK-GESELLSCHAFT MAXIMILIANSHUTTE MBH
 4062657 - METHOD AND APPARATUS FOR DESULPHURIZING IN THE GASIFICATION OF COAL
 ELECTRICITE DE FRANCE SERVICE NATIONAL
 4092129 - PROCESS FOR PRODUCING METHANE RICH GAS
 EL PASO NATURAL GAS COMPANY
 4005996 - METHANATION PROCESS FOR THE PRODUCTION OF AN ALTERNATE FUEL FOR NATURAL GAS
 ENGELHARD INDUSTRIES, INC.
 3481722 - PROCESS FOR PRODUCING HYDROGEN
 ENGELHARD MINERALS + CHEMICALS CORPORATION
 3595805 - STEAM REFORMING WITH PRELIMINARY HYDRODESULFURIZATION
 4073716 - PROCESS FOR PRODUCING SYNTHETIC NATURAL GAS AND HIGH OCTANE MOTOR FUEL COMPONENTS
 ESSO STANDARD SOCIETE ANONYME FRANCAISE
 3480419 - GASIFICATION OF HYDROCARBONS
 ETHYL CORPORATION
 3533765 - METHOD OF OPERATING AN ENGINE AND FUEL
 EXXON RESEARCH + ENGINEERING CO.
 3421870 - LOW-TEMPERATURE CATALYTIC HYDROGENOLYSIS OF HYDROCARBONS TO METHANE
 3423194 - ALUMINUM SIMULTANEOUSLY IMPREGNATED WITH SALTS OF NICKEL, ALUMINUM AND METAL PROMOTER
 3444099 - EQUILIBRATION AND STEAM-REFORMING CATALYSTS
 3449099 - PROCESS FOR REACTING HYDROCARBONS AND STEAM USING SPENT CATALYST FOR PRETREATING
 3450514 - CONTROLLED CONVERSION OF LIGHT NAPHTHA TO TOWN GAS
 3475126 - LOW-TEMPERATURE, LOW-PRESSURE VAPOR REFORMING
 3475160 - METHOD OF PRODUCING FLUIDIZED BED REDUCTION OF ORES
 3475319 - RETORTING OF OIL SHALE
 3508873 - HYDROGEN PRODUCED IN AQUEOUS HYDROCARBON EMULSION MULTIBED REACTOR
 3508889 - PROCESS FOR PRODUCING HIGH QUALITY TOWN GAS FOR DELIVERY
 3540868 - CONTROL OF CARBON DEPOSITION IN CATALYST BEDS
 3542532 - PROCESS FOR THE PRODUCTION OF HYDROGEN FROM PETROLEUM COKE
 3661543 - FLUID COKING PROCESS INCORPORATING GASIFICATION OF PRODUCT ORE
 3689240 - PRODUCTION OF METHANE RICH GASES
 3694346 - INTEGRATED FLUID COKING/STEAM GASIFICATION PROCESS
 3700583 - COAL LIQUEFACTION USING CARBON RADICAL SCAVENGERS
 3702516 - GASEOUS PRODUCTS OF GASIFIER USED TO CONVEY COKE TO HEATER
 3726791 - HYDROGEN PRODUCTION FROM AN INTEGRATED COKER GASIFIER SYSTEM
 3733186 - TWO STEP CONTROLLED FLOW GASIFICATION PROCESS
 3740193 - HYDROGEN PRODUCTION BY CATALYTIC STEAM GASIFICATION OF CARBONACEOUS MATERIALS
 3752658 - INTEGRATED FLUID COKING-GASIFICATION PROCESS
 3759676 - INTEGRATED FLUID COKING/GASIFICATION PROCESS
 3779900 - PROCESS FOR FLUID COKING GASIFICATION IN AN INTEGRATED SYSTEM
 3784676 - REMOVING SULPHUR FROM HYDROCARBONS
 3803023 - STEAM GASIFICATION OF COKE
 3807090 - PURIFICATIONS OF FUELS
 3816084 - COKELESS COKER WITH RECYCLE OF COKE FROM GASIFIER TO HEATER
 3816298 - HYDROCARBON CONVERSION PROCESS
 3838993 - TWO STAGE PROCESS FOR THE CONVERSION OF HEAVY HYDROCARBONS TO A METHANE RICH GAS STREAM

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
 EXXON RESEARCH + ENGINEERING CO. (CONTINUED)

- 3838994 - CONVERSION OF HEAVY HYDROCARBONS TO A METHANE RICH GAS PRODUCT
- 3847566 - FLUIDIZED BED GASIFICATION PROCESS WITH REDUCTION OF FINES ENTRAINMENT BY UTILIZING A SEPARATE TRANSFER LINE BURNER STAG
- E
- 3847567 - CATALYTIC COAL HYDROGASIFICATION PROCESS
- 3847797 - VISBREAKING A HEAVY HYDROCARBON FEEDSTOCK IN A REGENERABLE MOLTEN MEDIUM
- 3850742 - HYDROCARBON CRACKING IN A REGENERABLE MOLTEN MEDIA
- 3852188 - HYDROCARBON CRACKING IN A REGENERABLE MOLTEN MEDIA
- 3864083 - CARBON DETECTION
- 3870480 - PROCESS AND APPARATUS FOR THE PRODUCTION OF COMBUSTIBLE GASES
- 3874739 - METHOD AND APPARATUS FOR THE TRANSFER OF ENTRAINED SOLIDS
- 3876392 - TRANSFER LINE BURNER USING GAS OF LOW OXYGEN CONTENT
- 3876527 - HYDROCARBON CRACKING IN A REGENERABLE MOLTEN MEDIUM
- 3890111 - TRANSFER LINE BURNER SYSTEM USING LOW OXYGEN CONTENT GAS
- 3890112 - TWO-STAGE PROCESS FOR THE CONVERSION OF LIQUID HYDROCARBON TO A METHANE RICH GAS STREAM
- 3891402 - TRANSFER LINE BURNER SYSTEM
- 3901667 - MANUFACTURE OF METHANE-CONTAINING GASES USING AN INTEGRATED FLUID COKING AND GASIFICATION PROCESS
- 3904744 - PROCESS FOR THE PRODUCTION OF HYDROGEN-CONTAINING GASES
- 3927996 - COAL INJECTION SYSTEM
- 3929431 - CATALYTIC REFORMING PROCESS
- 3932146 - PROCESS FOR THE FLUID BED GASIFICATION OF AGGLOMERATING COALS
- 3933445 - PROCESS AND APPARATUS FOR PREVENTING DEPOSITS ON A GAS INLET NOZZLE
- 3948759 - VISBREAKING A HEAVY HYDROCARBON FEEDSTOCK IN A REGENERABLE MOLTEN MEDIUM IN THE PRESENCE OF HYDROGEN
- 3957459 - COAL GASIFICATION ASH REMOVAL SYSTEM
- 3958997 - METHANE PRODUCTION
- 3969089 - MANUFACTURE OF COMBUSTIBLE GASES
- 3975168 - PROCESS FOR GASIFYING CARBONACEOUS SOLIDS AND REMOVING TOXIC CONSTITUENTS FROM AQUEOUS EFFLUENTS
- 3985519 - HYDROGASIFICATION PROCESS
- 3993457 - CONCURRENT PRODUCTION OF METHANOL AND SYNTHETIC NATURAL GAS
- 3998607 - ALKALI METAL CATALYST RECOVERY PROCESS
- 4007092 - PROCESS FOR PRODUCING LOW SULFUR COKE
- 4039425 - METHOD FOR PREPARING A COAL SLURRY SUBSTANTIALLY DEPLETED IN MINERAL-RICH PARTICLES
- 4046523 - SYNTHESIS GAS PRODUCTION
- 4055484 - ELUTRIATION IN A FLUID COKING PROCESS
- 4057512 - ALKALI METAL CATALYST RECOVERY SYSTEM
- 4060478 - COAL LIQUEFACTION BOTTOMS CONVERSION BY COKING AND GASIFICATION
- 4062760 - DRY FINES RECYCLE IN A COKING PROCESS
- 4072475 - METHOD FOR IMPROVING GASIFICATION PROCESS RATES AND YIELDS BY MEANS OF ELECTROPHILIC AROMATIC SUBSTITUTION PRETREATMENT OF COAL
- 4075079 - PROCESS FOR THE PRODUCTION OF HYDROCARBONS FROM COAL
- 4077778 - PROCESS FOR THE CATALYTIC GASIFICATION OF COAL
- 4077869 - INTEGRATED COKING AND GASIFICATION PROCESS
- 4085707 - COMBUSTION OR PART-COMBUSTION IN FLUIDIZED BEDS
- 4094690 - INTEGRATED CATALYTIC GASIFICATION PROCESS
- 4119602 - INTEGRATED PROCESS FOR THE PRODUCTION OF HYDROCARBONS FROM COAL OR THE LIKE IN WHICH FINES FROM GASIFIER ARE COKED WITH HEAVY HYDROCARBON OIL
- 4118204 - PROCESS FOR THE PRODUCTION OF AN INTERMEDIATE BTU GAS

FIRMA CARL STILL RECKLINGHAUSEN
 4099929 - METHOD OF REMOVING ASH COMPONENTS FROM HIGH-ASH CONTENT COALS

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

FIRMA CARL STILL

4050990 - METHOD AND APPARATUS FOR PRODUCING FORM COKE

FLUOR CORPORATION

3533764 - REACTOR CONTROL SYSTEM
3743488 - SYNTHESIS GAS GENERATION PROCESS
3795485 - SYNTHESIS GAS GENERATION APPARATUS

FMC CORPORATION

3787193 - PRODUCTION OF WATER GAS

FORD, BACON + DAVIS INCORPORATED

3778239 - PRODUCTION OF GASEOUS AND LIQUID FUEL FROM CRUDE OIL

FOREST FUELS, INC.

4085958 - APPARATUS AND METHOD FOR PRODUCING COMBUSTIBLE GASES FROM BIOMASS MATERIAL

FOSTER WHEELER ENERGY CORPORATION

3979188 - PARTIAL OXIDATION CARBON REMOVAL PROCESS
3980451 - GASIFICATION PROCESS
3998608 - PRODUCTION OF HOT CLEAN INDUSTRIALLY USABLE GAS
4066738 - PROCESS FOR PRODUCING A FUEL GAS AND SULFUR FROM A HYDROCARBON FUEL
4082519 - PROCESS FOR THE GASIFICATION OF COAL

FUJIMI KENMAZAI KOGYO CO., LTD.

4101449 - CATALYST AND ITS METHOD OF PREPARATION

GAS COUNCIL

3420542 - PRODUCTION OF GASES CONTAINING METHANE FROM HYDROCARBONS
3433609 - PROCESS FOR THE PRODUCTION OF GASES CONTAINING METHANE FROM HYDROCARBONS
3441395 - PRODUCTION OF COMBUSTIBLE GASES
3459520 - PROCESS FOR THE PRODUCTION OF GASES CONTAINING METHANE FROM HYDROCARBONS
3469997 - PROCESS FOR THE PRODUCTION OF COMBUSTIBLE GASES
3484219 - PROCESS AND APPARATUS FOR PERFORMING CHEMICAL REACTIONS
3511824 - PROCESS FOR PREPARING METHANE-CONTAINING GASES
3515527 - CATALYTIC TREATMENT OF HYDROCARBONS
3591356 - PROCESS FOR THE PRODUCTION OF A GAS CONTAINING GASEOUS HYDROCARBONS
3607158 - PROCESS FOR THE HYDROGENATION OF COAL
3625665 - PROCESS FOR THE PRODUCTION OF METHANE CONTAINING GASES
3642460 - PROCESS FOR THE PRODUCTION OF A METHANE-CONTAINING GAS

GENERAL ECOLOGICAL SYSTEMS, INC.

3579920 - PROCESS FOR PRODUCING AND RECOVERING VALUABLE MATERIALS FROM MUNICIPAL WASTE

GENERAL ELECTRIC COMPANY

3541729 - COMPACT REACTOR-BOILER COMBINATION
3811849 - REFRACTORY BODIES AS FIXED BED COAL GASIFICATION DILUENTS
3812620 - APPARATUS AND PROCESS FOR SEGREGATING AND DECOMPOSING HETEROGENEOUS WASTE MATERIALS
4070161 - DOUBLE SEAL GATE VALVE STRUCTURE
4101294 - PRODUCTION OF HOT, SATURATED FUEL GAS

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

GILBERT ASSOCIATES, INC.
 3854896 - METHOD OF CONVERTING COAL TO PIPELINE QUALITY GAS
 4067700 - METHOD FOR GASIFYING COAL

GIRDLER CORPORATION
 3442632 - PROCESSES OF PRODUCING FUEL GASES BY REFORMING LIQUID HYDROCARBONS
 3477832 - PROCESS FOR THE CATALYTIC STEAM REFORMING OF NAPHTHA AND RELATED

GULF OIL CORPORATION
 3971635 - COAL GASIFIER HAVING AN ELUTRIATED FEED STREAM
 3971636 - CONDENSATE SCRUBBING OF COAL GASIFIER PRODUCT
 3971637 - COAL GASIFICATION PROCESS UTILIZING WASTE WATER FROM AN EXTERNAL PROCESS
 3971638 - COAL GASIFICATION PROCESS UTILIZING HIGH SULFUR CARBONACEOUS MATERIAL
 3971639 - FLUID BED COAL GASIFICATION

GULF RESEARCH + DEVELOPMENT COMPANY
 3732085 - THERMALLY EFFICIENT NONPOLLUTING SYSTEM FOR PRODUCTION OF SUBSTITUTE NATURAL GAS

HALDOR TOPSOE A/S
 3926583 - PROCESS FOR THE CATALYTIC STEAM REFORMING OF HYDROCARBONS
 4130575 - PROCESS FOR PREPARING METHANE RICH GASES

HEINRICH KOOPERS GMBH
 3873845 - METHOD OF PRODUCING ELECTRIC ENERGY INCLUDING COAL GASIFICATION

HERCULES INCORPORATED
 3736111 - PROCESS AND APPARATUS FOR THE COMPLETE RECLAMATION OF VALUABLE PRODUCTS FROM SOLID WASTE

HITACHI, LTD.
 4060498 - PROCESS FOR STEAM REFORMING OF HYDROCARBONS

HOLTER; HEINZ
 4123502 - PROCESS FOR THE PURIFICATION OF GAS GENERATED IN THE PRESSURE GASIFICATION OF COAL

HORIZONS INCORPORATED, A DIVISION OF HORIZONS RESEARCH INCOR
 4074980 - PROCESS FOR PRODUCTION OF CARBON MONOXIDE AND HYDROGEN

HUTTENWERK OBERHAUSEN AG., FIRMA
 3506590 - MANUFACTURE OF SYNTHESIS-, HYDROGENATING-, OR REDUCTION-GAS
 3536455 - PLANT FOR THE PRODUCTION OF METALLURGICAL REDUCING GAS

HYDROCARBON RESEARCH INC.
 3617465 - COAL HYDROGENATION
 3769198 - HYDROGENATION OF COAL USING UNREDUCED CATALYST
 3775071 - METHOD FOR FEEDING DRY COAL TO SUPERATMOSPHERIC PRESSURE
 3857685 - SYNTHETIC NATURAL GAS PRODUCTION USING A PLUG-FLOW REACTOR
 3953180 - PRODUCTION OF LOW BTU SULFUR-FREE GAS FROM RESIDUAL OIL
 3996335 - DESULFURIZATION OF FUEL GAS AT HIGH TEMPERATURE USING SUPPORTED MOLTEN METAL CARBONATE ABSORBENT
 4099933 - PROCESS FOR THE MULTIPLE ZONE GASIFICATION OF COAL

IDEMITSU KOSAN COMPANY LIMITED
 4089798 - PROCESS FOR PRODUCING REDUCING GAS

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES
ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

IMPERIAL CHEMICAL INDUSTRIES LIMITED
3421871 - STEAM REFORMING OF HYDROCARBONS
3432443 - CATALYST FOR STEAM REFORMING OF HYDROCARBONS
3507811 - CATALYST FOR THE REACTION OF HYDROCARBONS WITH STEAM
3650713 - STEAM REFORMING OF HYDROCARBONS
3926584 - CATALYST AND CATALYTIC PROCESS
3975169 - PROCESS FOR PRODUCING A NATURAL GAS SUBSTITUTE
4028067 - PROCESS FOR PRODUCING COMBUSTIBLE GASES
4072625 - STEAM-HYDROCARBON PROCESS

IN SITU TECHNOLOGY, INC.
4010800 - PRODUCING THIN SEAMS OF COAL IN SITU

INSTITUTE OF GAS TECHNOLOGY
3421868 - FREE FALL SHALE HYDROGASIFICATION
3433610 - STEAM-REFORMING OF HYDROCARBONS FOR PRODUCTION OF HIGH METHANE CONTENT GAS
3448060 - SUPPORTED SKELETAL NICKEL CATALYST
3488171 - REFORMING AND SELECTIVE METHANATION OF HYDROCARBONS TO GENERATE HYDROGEN
3703052 - PROCESS FOR PRODUCTION OF PIPELINE QUALITY GAS FROM OIL SHALE
3708269 - FOSSIL FUEL HYDROGASIFICATION PROCESS FOR PRODUCTION OF SYNTHETIC PIPELINE GAS
3861885 - CARBON BLACK FUEL PRODUCTION
3867110 - METHOD OF COAL PRETREATMENT
3884649 - COAL PRETREATER AND ASH AGGLOMERATING COAL GASIFIER
3891403 - OIL SHALE HYDROGASIFICATION PROCESS
3891404 - HEAVY OIL HYDROGASIFICATION PROCESS
3935825 - COAL ASH AGGLOMERATION DEVICE
4023280 - VALVE FOR ASH AGGLOMERATION DEVICE
4057402 - COAL PRETREATMENT AND GASIFICATION PROCESS

INTERCONT DEVELOPMENT CORPORATION PTY. LTD.
3996044 - ELECTRO-PYROLYTIC UPRIGHT SHAFT TYPE SOLID REFUSE DISPOSAL AND CONVERSION PROCESS

INTERNATIONAL MATERIALS
3992165 - FUEL REFORMATION SYSTEM

IWATANI AND COMPANY LIMITED
3513044 - METHOD FOR THE PRODUCTION OF A HIGH ENERGY FUEL EMPLOYING ELECTRIC SPARK DISCHARGE

JAPAN GASLINE CO., LTD
3429680 - STEAM REFORMING OF HYDROCARBONS
3551124 - PROCESS OF GASIFYING HYDROCARBON FRACTIONS CONTAINING SULFUR
3576899 - METHOD FOR MANUFACTURING HIGH PURITY METHANE
3882636 - TWO-STAGE STEAM REFORMING PROCESS OF HYDROCARBONS
3917467 - PROCESS FOR MANUFACTURING HIGH PURITY METHANE GAS
3928002 - LOW-TEMPERATURE STEAM REFORMING PROCESS FOR HYDROCARBONS
3932147 - METHOD OF REFORMING HYDROCARBONS
3992166 - LOW TEMPERATURE STEAM REFORMING PROCESS FOR HYDROCARBONS
4000987 - LOW-TEMPERATURE STEAM REFORMING PROCESS FOR HYDROCARBONS
4000988 - LOW-TEMPERATURE STEAM REFORMING PROCESS FOR HYDROCARBONS

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

JOHNSON MATTHEY + CO., LIMITED
 3839225 - ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
 - CATALYST COMPRISING AN INTERMEDIATE COATING OF AN OXIDE OF SCANDIUM, YTTRIUM OR THE LANTHANIDES AND A PLATINUM/RHODIUM T
 DP COATING
 3840471 - CATALYST COMPRISING PLATINUM, RHODIUM AND A BASE METAL

JOHN ZINK COMPANY
 3477824 - BURNER AND APPARATUS FOR REFORMING HYDROCARBONS

KABUSHIKI KAISHA TOYOTA CHUD KENKYUSHO
 4087259 - PROCESS FOR PARTIALLY OXIDIZING HYDROCARBONS

KAMYR INC.
 3950148 - CONTINUOUS PROCESS FOR ENERGY CONSERVING COOPERATIVE COAL FEEDING AND ASH REMOVAL OF CONTINUOUS, PRESSURIZED COAL GASIFI
 ERS AND THE LIKE, AND APPARATUS FOR CARRYING OUT THE SAME
 3950147 - PROCESS FOR FEEDING COAL TO A FLUIDIZED BED OR SUSPENDED PARTICLE PRESSURIZED PROCESSING CHAMBER AND APPARATUS FOR CARRY
 ING OUT THE SAME
 4017270 - COAL GASIFICATION PROCESS WITH IMPROVED PROCEDURES FOR CONTINUOUSLY FEEDING LUMP COAL UNDER PRESSURE
 4073629 - COAL GASIFICATION PROCESS WITH IMPROVED PROCEDURE FOR CONTINUOUSLY DISCHARGING ASH PARTICLES AND APPARATUS THEREFOR
 4125384 - METHOD AND APPARATUS FOR CONTINUOUSLY FEEDING SOLID PARTICLES INTO A PRESSURIZED CONTAINER

KELLER CORPORATION
 4097217 - METHOD FOR CONVERTING COMBUSTOR FROM HYDROCARBONACEOUS FUEL TO CARBONACEOUS FUEL

KERNFORSCHUNGSANLAGE JULICH GMBH
 3958047 - ENERGY CONVERSION METHOD

KINGSFORD COMPANY
 3852048 - PROCESS FOR PRODUCING INDUSTRIAL FUEL FROM WASTE WOODY MATERIALS

KOPPELMAN; EDWARD
 4069107 - CONTINUOUS THERMAL REACTOR SYSTEM AND METHOD
 4106999 - CONTINUOUS THERMAL REACTOR
 4126519 - APPARATUS AND METHOD FOR THERMAL TREATMENT OF ORGANIC CARBONACEOUS MATERIAL

KOPPERS COMPANY INC.
 3963457 - COAL GASIFICATION PROCESS
 4064222 - NITROGEN FIXATION AND MOLECULAR MAGNETO HYDRODYNAMIC GENERATION USING A COAL GASIFICATION GAS STREAM

KRUPP KOPPERS GMBH
 3954424 - PROCESS FOR PRODUCING A METHANE-CONTAINING GAS AND ARRANGEMENT THEREFOR
 3958956 - METHANE PRODUCTION PROCESS AND ARRANGEMENT THEREFOR
 3973923 - PROCESSES FOR THE PRODUCTION OF METHANE-CONTAINING GASES
 4017269 - METHOD AND ARRANGEMENT FOR GASIFYING FINELY DIVIDED FLUIDIZED SOLID COMBUSTIBLE MATERIAL

LACLEDE GAS COMPANY
 3477833 - PROCESS FOR THE PRODUCTION OF A NATURAL GAS SUBSTITUTE

LA SOCIETE CHIMIQUE DE LA GRANDE PAROISSE, AZOTE -
 3420643 - METHOD FOR REFORMING LIGHT PETROL FRACTIONS UNDER PRESSURE
 3457192 - NI ON SILICA-MAGNESIA-ZIRCONIA CATALYTIC COMPOSITIONS USED IN REFORMING WITH STEAM
 3533766 - PROCESS FOR REFORMING HYDROCARBONS UNDER HIGH PRESSURE
 3533963 - CATALYTIC COMPOSITIONS USED IN STEAM REFORMING AND METHODS FOR THEIR PRODUCTION

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

LA SOCIETE DITE SOCIETE CHIMIQUE DE LA GRANDE
 3644100 - APPARATUS FOR REFORMING HEAVY HYDROCARBONS

LEAS BROTHERS DEVELOPMENT CORPORATION
 3753671 - PRODUCTION OF SYNTHETIC NATURAL GAS AND HYDROGEN FROM THE GASIFICATION OF CARBONACEOUS MATERIALS
 3769197 - POLLUTION-FREE FUELS
 3779893 - PRODUCTION OF DESULFURIZED LIQUIDS AND GASES FROM COAL
 3801288 - GASIFICATION REACTOR
 4078989 - COAL CONVERSION PROCESS

LINDE AKTIENGESELLSCHAFT
 4019314 - HIGH PRESSURE GASIFICATION OF COAL USING NITROGEN DILUTION OF WASTE GAS FROM STEAM GENERATOR
 4091008 - PRODUCTION OF A GAS RICH IN METHANE

LUMMUS COMPANY
 3456032 - UTILIZATION OF PROPANE RECOVERED FROM LIQUEFIED NATURAL GAS
 3458298 - WATER GAS PROCESS
 3479298 - PRODUCTION OF HYDROGEN
 3524819 - STEAM REFORMING OF HYDROCARBONS
 3548024 - REGASIFICATION OF LIQUEFIED NATURAL GAS AT VARYING RATES WITH ETHYLENE RECOVERY

MARATHON OIL COMPANY
 3676517 - PROCESS FOR THE PRODUCTION OF SYNTHESIS GAS, CRACKED HYDROCARBON AND CALCINED COKE
 3655336 - PROCESS FOR THE PRODUCTION OF SYNTHESIS GAS, CRACKED HYDROCARBON AND CALCINED COAL

MARQUARDT COMPANY
 4013428 - COAL GASIFICATION PROCESS

MASCHINENFABRIK AUGSBURG-NURNBERG AKTIENGESELLSCHAFT
 3912464 - METHOD OF AND DEVICE FOR SEPARATING SOLID COMPONENTS FROM A HOT COMBUSTIBLE GAS GENERATED IN A REACTOR

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
 4113446 - GASIFICATION PROCESS

MCDOWELL-WELLMAN ENGINEERING COMPANY
 3787192 - PROCESS FOR COAL GASIFICATION
 3847562 - GAS PRODUCER HAVING ASH REMOVAL PLATES WITH INDIVIDUAL TEMPERATURE SENSING

METALLGESELLSCHAFT AKTIENGESELLSCHAFT
 3436198 - PROCESS FOR THE MANUFACTURE OF METHANE-RICH GASES
 3468641 - CONVERSION OF LIQUID HYDROCARBONS INTO FUEL GAS OR WATER GAS BY A THERMAL OR CATALYTIC SPLITTING
 3540867 - PRODUCTION OF CARBON MONOXIDE AND HYDROGEN
 3726654 - PROCESS FOR GASIFYING HEAVY HYDROCARBONS
 3854895 - PROCESS FOR PRODUCING A METHANE-RICH GAS USABLE IN PLACE OF NATURAL GAS
 3866353 - PROCESS FOR PRODUCING METHANE-RICH GASES FROM HYDROCARBONS
 3898057 - PROCESS FOR CONVERTING METHANOL TO A HIGH-METHANE GAS
 3937620 - PROCESS AND APPARATUS FOR GASIFYING COAL
 3963641 - PROCESS FOR INTERRUPTING NORMAL OPERATION OF A HYDROCARBON GASIFICATION REACTOR
 3963642 - PROCESS FOR PRODUCING A REDUCING GAS
 3979328 - AUTOMATIC CONTROL FOR PROCESS FOR THERMALLY GASIFYING HYDROCARBONS WITH OXYGEN AND WATER VAPOR
 3980452 - PROCESS FOR SUPPLYING HEAT TO CHEMICAL REACTIONS
 3990867 - PROCESS OF PRODUCING A HIGH-METHANE GAS INTERCHANGEABLE WITH NATURAL GAS

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

- ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
(CONTINUED)
- METALLGESELLSCHAFT AKTIENGESELLSCHAFT
- 4012404 - PROCESS FOR PRODUCING HIGH-METHANE GAS
 - 4016189 - PROCESS FOR PRODUCING A GAS WHICH CAN BE SUBSTITUTED FOR NATURAL GAS
 - 4031030 - PROCESS FOR TREATING RAW GAS PRODUCED BY THE PRESSURE GASIFICATION OF COAL
 - 4033730 - PROCESS AND APPARATUS FOR FEEDING PARTICULATE SOLIDS INTO A PRESSURE REACTOR
 - 4038045 - PROCESS FOR DEGASIFYING FINE-GRAINED FUELS
 - 4056483 - PROCESS FOR PRODUCING SYNTHESIS GASES
 - 4061475 - PROCESS FOR PRODUCING A GAS WHICH CAN BE SUBSTITUTED FOR NATURAL GAS
 - 4065273 - PROCESS FOR BREAKING EMULSIONS IN A TAR-CONTAINING AQUEOUS CONDENSATE
 - 4071332 - PROCESS OF GASIFYING SOLID FUELS, PARTICULARLY COAL
 - 4087258 - PROCESS FOR PURIFYING RAW GAS FROM THE GASIFICATION OF SOLID FUELS
 - 4088455 - PROCESS AND APPARATUS FOR A PRESSURE GASIFICATION OF FUELS MAINLY IN LUMP FORM
 - 4089659 - PROCESS FOR PRODUCING A LEAN GAS BY THE GASIFICATION OF A FUEL MAINLY IN LUMP FORM
 - 4108634 - PROCESS FOR THERMALLY TREATING FINE-GRAINED SOLIDS
 - 4115079 - REMOVING POLLUTANTS FROM AQUEOUS LIQUOR USED TO SCRUB FUEL GASIFICATION PRODUCT
- MIDLAND-ROSS CORPORATION
- 3617227 - APPARATUS FOR CATALYTIC REFORMING
 - 3970435 - APPARATUS AND METHOD FOR METHANATION
- NIFUJI IRON WORKS CO., LTD.
- 3973924 - PROCESS FOR CONTINUOUSLY CONVERTING COAL INTO A SATURATED HYDROCARBON GAS
 - 4049395 - METHOD FOR TREATING RAW MATERIAL WITH A TREATING GAS
 - 4060393 - APPARATUS FOR TREATING RAW MATERIAL WITH A TREATING GAS
- MITSUBISHI CHEMICAL INDUSTRIES LTD.
- 3849087 - PROCESS FOR PRODUCING GASES BY THE CONVERSION OF HYDROCARBONS
- MITSUBISHI HEAVY INDUSTRIES, LTD.
- 4052172 - PROCESS FOR GASIFYING COAL OR OTHER CARBON CONTAINING MATERIAL
- MITSUBISHI JUKOGYO KABUSHIKI KAISHA
- 4074979 - THERMAL DECOMPOSITION APPARATUS
- NETSU SHIPBUILDING AND ENGINEERING CO. LTD.
- 3729297 - APPARATUS FOR CONTINUOUSLY DECOMPOSING HYDROCARBON IN A HEATING MEDIUM BATH
 - 3832151 - PROCESS AND APPARATUS FOR DISPOSAL OF PLASTIC WASTES
 - 3907662 - PROCESS OF PREPARING DESULFURIZED LIGHT OIL AND FUEL GAS FROM HEAVY OIL
 - 3915844 - METHOD FOR TREATMENT OF HEAVY OILS
 - 3941681 - PROCESS FOR CONVERTING INFERIOR HEAVY OIL INTO LIGHT OIL AND GASIFYING THE SAME
 - 3964881 - PROCESS FOR GASIFICATION OF HEAVY HYDROCARBONS
- NETSU TOATSU CHEMICALS INC.
- 4115074 - GASIFICATION PROCESS
- MOBIL OIL CORPORATION
- 3523772 - STEAM REFORMING OF HYDROCARBONS
 - 3627512 - PREPARATION OF CRACKED GASES
 - 3813330 - PROCESS FOR AROMATIZING OLEFINS IN THE PRESENCE OF EASILY CRACKED PARAFFINS
 - 3827867 - PRODUCTION OF METHANE AND AROMATICS
 - 3983030 - COMBINATION PROCESS FOR RESIDUA DEMETALATION, DESULFURIZATION AND RESULTING COKE GASIFICATION
 - 4046522 - PRE-ENGINE CONVERTER FOR USE WITH FUELS CONTAINING OXYGENATED COMPOUNDS
 - 4070993 - PRE-ENGINE CONVERTER

SYNTHETIC FUELS YI B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
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MOBIL OIL CORPORATION

4093029 - UTILIZATION OF LOW BTU NATURAL GAS
4098339 - UTILIZATION OF LOW BTU NATURAL GAS
4118201 - PRODUCTION OF LOW SULFUR FUELS FROM COAL
4118281 - CONVERSION OF SOLID WASTES TO FUEL COKE AND GASOLINE/LIGHT OIL

MONTECATINI EDISON S.P.A.

3462250 - PROCESS AND APPARATUS FOR THE PARTIAL COMBUSTION OF LIQUID HYDROCARBONS TO GASEOUS MIXTURES CONTAINING HYDROGEN AND CARBON MONOXIDE

NIPPON CARBON COMPANY LIMITED

3927986 - APPARATUS FOR INCINERATING A PLASTIC WASTE

NIPPON KOKAN KABUSHIKI KAISHA

3912502 - METHOD OF PREPARING REDUCING GAS
3998606 - METHOD AND APPARATUS FOR MANUFACTURING REDUCING GAS
4005986 - DEVICE FOR MAKING HIGH TEMPERATURE REFORMED GAS

NIPPON SOKEN, INC.

4088608 - CATALYSTS FOR REFORMING HYDROCARBON FUELS

NISSAN MOTOR CO., LTD.

4088450 - HYDROGEN GENERATOR

NORTH AMERICAN UTILITY CONSTRUCTION CORPORATION

3481721 - PROCESS FOR MAKING FUEL GAS

OCCIDENTAL OIL SHALE, INC.

4126180 - METHOD OF ENHANCING YIELD FROM AN IN SITU OIL SHALE RETORT

OCCIDENTAL PETROLEUM CORPORATION

3698882 - CONTINUOUS PROCESS FOR THE CONVERSION OF CARBONACEOUS SOLIDS INTO PIPELINE GAS
3736233 - PROCESS OF PYROLYZING AND DESULFURIZING SULFUR BEARING AGGLOMERATIVE BITUMINOUS COAL
3846096 - GASIFICATION OF CARBONACEOUS SOLIDS
4070250 - PYROLYSIS OF CARBONACEOUS MATERIALS IN A DOUBLE HELIX CYCLONE
4077847 - SOLID WASTE DISPOSAL SYSTEM
4078973 - LOOP PYROLYSIS PROCESS FOR ORGANIC SOLID WASTES
4083751 - CONTINUOUS FEED PYROLYSIS CHAMBER FOR DECOMPOSING SOLID WASTE
4087130 - PROCESS FOR THE GASIFICATION OF COAL IN SITU
4101412 - PROCESS AND APPARATUS FOR RAPID PYROLYSIS OF CARBONACEOUS MATERIALS
4102773 - PYROLYSIS WITH CYCLONE BURNER
4103502 - SIMPLIFIED LIQUEFACTION PYROLYSIS PROCESS AND APPARATUS THEREFOR

OFFICE NATIONAL INDUSTRIAL DE L AZOTE

3467506 - CATALYTIC CONVERSION OF LIQUID PETROLEUM HYDROCARBONS

OSAKA GAS KABUSHIKI KAISHA

3954599 - PROCESS FOR PRODUCING CRACKED GAS AND CRACKED OIL FROM HEAVY HYDROCARBONS
4066421 - PROCESS FOR PRODUCING HIGH CALORIFIC VALUE FUEL GAS

OTTO CONSTRUCTION CORPORATION

3427253 - METHOD FOR PRODUCING CARBON MONOXIDE AND HYDROGEN FROM COAL DISTILLATION GAS

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES
ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

PARAHO CORPORATION
4092128 - DESULFURIZED GAS PRODUCTION FROM VERTICAL KILN PYROLYSIS
PARSONS, RALPH M., COMPANY
3938968 - PROCESS FOR THE PRODUCTION OF SUBSTITUTE NATURAL GAS

PETROCARBON DEVELOPMENTS LIMITED
3989478 - PRODUCING GASEOUS FUELS OF HIGH CALORIFIC VALUE

PHILLIPS PETROLEUM COMPANY
3484221 - HIGH ENERGY FUEL AND METHOD FOR RECOVERING SAME
3506417 - HYDROCARBON REFORMING
3506418 - HYDROCARBON STEAM REFORMING
3522024 - HYDROCARBON REFORMING
3586621 - HYDROCARBON STEAM REFORMING, CONVERSION AND REFINING
3600145 - PRODUCTION OF METHANE FROM CARBON MONOXIDE AND STEAM
3844734 - CONVERSION OF HYDROCARBON OIL TO A SYNTHETIC NATURAL GAS
3929430 - PROCESS FOR MAKING SYNTHETIC FUEL GAS FROM CRUDE OIL
3988334 - METHOD FOR METHANATION
4003343 - METHOD AND APPARATUS FOR MAINTAINING THE OPERATING TEMPERATURE IN A DEVICE FOR REDUCING ENGINE EXHAUST POLLUTANTS
4011058 - PRODUCTION OF SUBSTITUTE NATURAL GAS FROM GASIFICATION OF COAL CHAR
4070160 - GASIFICATION PROCESS WITH ZINC CONDENSATION ON THE CARBON SOURCE
4071331 - PROCESS FOR PRODUCING METHANE FROM CARBON MONOXIDE AND STEAM
4073630 - PRODUCTION OF CARBON MONOXIDE
4112058 - PRODUCTION OF CARBON MONOXIDE FROM CARBONACEOUS MATERIAL AND ZINC OXIDE
4115524 - PRODUCTION OF CARBON MONOXIDE

PRODUITS CHIMIQUES PECHINEY-SAINTE-GOBAIN-
3840356 - CATALYST AND PROCESS FOR STEAM REFORMING OF HYDROCARBONS

PULLMAN, INCORPORATED
3476536 - HYDROGEN PRODUCTION
3519396 - MEANS FOR INJECTING A GASEOUS REACTANT
3567411 - PROCESS FOR THE PRODUCTION OF GASEOUS PRODUCT CONTAINING HYDROGEN AND METHANE
3567412 - GASIFICATION OF CARBONACEOUS FUELS
3771261 - PROCESS FOR MAKING FUEL GAS
3828474 - PROCESS FOR PRODUCING HIGH STRENGTH REDUCING GAS
3862899 - PROCESS FOR THE PRODUCTION OF SYNTHESIS GAS AND CLEAN FUELS
4026823 - HYDROCARBON REFORMING CATALYST AND METHOD FOR PREPARING SAME
4079017 - PARALLEL STEAM REFORMERS TO PROVIDE LOW ENERGY PROCESS

RALPH M. PARSONS COMPANY
3999961 - SULFUR CONTROL OVER CARBON FORMATION IN HIGH TEMPERATURE REFORMING OPERATIONS
4050908 - PROCESS FOR THE PRODUCTION OF FUEL VALUES FROM COAL
4115075 - PROCESS FOR THE PRODUCTION OF FUEL VALUES FROM CARBONACEOUS MATERIALS

REINISCHE BRAUNKOHLENWERKE A.G.
3751214 - METHOD OF AND APPARATUS FOR CONVEYING GRANULAR MASSES IN TUBULAR TREATING CHAMBERS
3761233 - METHOD OF GASIFYING WATER CONTAINING COAL

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

RHEINISCHE BRAUNKOHLENWERKE AG
3647379 - METHOD OF GASIFYING WATER-CONTAINING COAL

RIO TINTO (RHODESIA) LIMITED
4076612 - PROCESS FOR OBTAINING LIQUID FUEL-OIL AND/OR GASEOUS HYDROCARBONS FROM SOLID CARBONACEOUS FEED STOCKS

ROCKWELL INTERNATIONAL CORPORATION
3708270 - PYROLYSIS METHOD
3745109 - HYDROCARBON CONVERSION PROCESS
3916617 - PROCESS FOR PRODUCTION OF LOW BTU GAS
4017271 - PROCESS FOR PRODUCTION OF SYNTHESIS GAS

RUHRCHEMIE AG
3578423 - PROCESS FOR CATALYTICALLY SPLITTING ISOBUTYRALDEHYDE TO PRODUCE CARBON MONOXIDE AND HYDROGEN

RUHRGAS AKTIENGESELLSCHAFT
4082520 - PROCESS OF PRODUCING GASES HAVING A HIGH CALORIFIC VALUE

SELAS CORPORATION OF AMERICA
3573012 - METHOD FOR STRAIGHT-THROUGH CRACKING OF HYDROCARBONS
3607153 - QUENCH ARRANGEMENT

SERVICE NATIONAL DIT GAZ DE FRANCE
3556750 - PROCESS FOR THE MANUFACTURE UNDER PRESSURE OF GASES WHICH MAY BE SUBSTITUTED FOR NATURAL GASES

SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.
4054424 - PROCESS FOR QUENCHING PRODUCT GAS OF SLAGGING COAL GASIFIER
4060397 - TWO STAGE PARTIAL COMBUSTION PROCESS FOR SOLID CARBONACEOUS FUELS

SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.
3994701 - METHOD AND APPARATUS FOR FEEDING COMMUNITED SOLID FUEL INTO PLENUM CHAMBERS
3994702 - METHOD OF DISCHARGING RESIDUES FROM A PRESSURIZED GASIFICATION CHAMBER

SHELL OIL COMPANY
3446609 - GASIFICATION WITH WATER-CONTAINING FEED
3868331 - PROCESS FOR THE PARTIAL COMBUSTION OF HYDROCARBONACEOUS FUELS TO PRODUCE SUBSTANTIALLY SOOT-FREE GASES
3904388 - PROCESS FOR THE PRODUCTION OF A HIGH METHANE CONTENT TOWN GAS
3917468 - SYNTHETIC NATURAL GAS PRODUCTION
3964882 - PARTIAL COMBUSTION PROCESS
3972690 - GASIFICATION PROCESS
3996256 - METHANATION CATALYST
4094813 - PROCESS AND APPARATUS FOR THE MANUFACTURE AND COOLING OF GASES CONTAINING HYDROGEN AND CARBON MONOXIDE

SIEMENS AKTIENGESELLSCHAFT GEISWEID
3658498 - METHOD AND APPARATUS FOR PRODUCING ETHYLENE AND SYNTHESIS GAS BY THERMAL CRACKING

SIEMENS AKTIENGESELLSCHAFT
3871838 - APPARATUS FOR REACTING VAPORIZED, GASIFIED OR ATOMIZED HYDROCARBON WITH A GAS SERVING AS AN OXYGEN CARRIER
3897225 - METHOD AND APPARATUS FOR GENERATING A GAS MIXTURE TO BE FORMED THROUGH CATALYTIC CONVERSION OF FUEL AND A GAS SERVING AS AN OXYGEN CARRIER
3926850 - CATALYST AND PROCESS FOR THE CONVERSION OF HIGHER HYDROCARBONS
3984210 - CATALYST FOR THE CONVERSION OF HYDROCARBONS AND A METHOD OF GENERATING A FUEL GAS USING THE CATALYST
3993459 - CATALYST FOR THE CONVERSION OF HIGHER HYDROCARBONS AND METHOD OF GENERATING A FUEL

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

SNAM PROGETTI S.P.A.

3818229 - PROCESS FOR THE PRODUCTION OF A REDUCING GAS FOR BLAST FURNACE

SOCIETE ANONYME ACTIVIT

3677727 - PROCESS OF ACTIVATION AND GASIFICATION OF FLUIDISED CARBONACEOUS MATERIALS

SOCIETE BELGE DE L AZOTE ET DES PRODUITS CHIMIQUES -

3624176 - CATALYTIC PROCESS FOR PRODUCING GAS MIXTURES HAVING HIGH ETHYLENE CONTENTS

3644557 - CATALYST COMPOSITIONS FOR PREPARING ETHYLENE

SOCIETE CHIMIQUE DE LA GRANDE PARDISSE,

3737291 - PROCESS FOR REFORMING HEAVY HYDROCARBONS

STAMICARBON N.V.

3687866 - PROCESS OF PREPARING SYNTHESIS GAS

STEAG AKTIENGESSELLSCHAFT

4036606 - METHOD OF CLEANING GASES AND APPARATUS THEREFOR

STORA KOPPARBERGS BERGSLAGS AB

40286679 - APPARATUS FOR AND PROCESS OF CONVERTING CARBONACEOUS MATERIALS CONTAINING SULPHUR TO AN ESSENTIALLY SULPHUR-FREE COMBUSTIBLE GAS

SUMITOMO CHEMICAL COMPANY LIMITED

4077530 - METHOD FOR CATALYST CHARGING TO TUBULAR REACTOR

SUMITOMO ELECTRIC INDUSTRIES, LTD.

3984288 - METHOD FOR TREATMENT OF RUBBER AND PLASTIC WASTES

SUN OIL COMPANY OF PENNSYLVANIA

3480416 - GAS PREPARATION PROCESS AND APPARATUS

3481720 - PROCESS AND APPARATUS FOR THE DISTILLATION OF SOLIDS

3691063 - RESIDUAL FUEL OIL HYDROCRACKING PROCESS

SUN RESEARCH AND DEVELOPMENT COMPANY

3770399 - COAL GASIFICATION PROCESS

SYNGAS RECYCLING CORPORATION

4005994 - PROCESS AND APPARATUS FOR CONVERTING SOLID WASTES TO PIPELINE GAS

TEXACO DEVELOPMENT CORPORATION

3551347 - OXIDATION PROCESS WITH IMPROVED WASTE HEAT BOILER

3565568 - GAS GENERATOR AND WASTE HEAT BOILER INTERCONNECTED SYSTEM

3620699 - REDUCING GAS GENERATION

3671209 - GARBAGE DISPOSAL PROCESS

3705108 - SYNTHESIS GAS GENERATION

3738940 - METHOD OF OPERATING A BURNER FOR THE PARTIAL OXIDATION OF HYDROCARBONS TO SYNTHESIS GAS

3743606 - SYNTHESIS GAS GENERATION

3816332 - SYNTHESIS GAS PRODUCTION

3847564 - APPARATUS AND PROCESS FOR BURNING LIQUID HYDROCARBONS IN A SYNTHESIS GAS GENERATOR

3922148 - PRODUCTION OF METHANE-RICH GAS

3945942 - FUEL BURNER AND PROCESS FOR GAS MANUFACTURE

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING (CONTINUED)

TEXACO DEVELOPMENT CORPORATION

- 3980590 - RECOVERY OF PARTICULATE CARBON FROM SYNTHESIS GAS
 - 3980591 - RECOVERY OF PARTICULATE CARBON FROM SYNTHESIS GAS
 - 3980592 - RECOVERY OF PARTICULATE CARBON FROM SYNTHESIS GAS
 - 4081253 - PRODUCTION OF PURIFIED SYNTHESIS GAS AND CARBON MONOXIDE
 - 4099932 - CONVERSION OF SOLID FUELS TO FLUID FUELS
 - 4113445 - PROCESS FOR THE PARTIAL OXIDATION OF LIQUID HYDROCARBONACEOUS FUELS
- TEXACO INC.
- 3473903 - RECOVERY OF CARBON FROM SYNTHESIS GAS
 - 3485882 - STEAM-HYDROCARBON PROCESS OVER IRON-CHROMIUM CATALYST FOR SYNTHESIS GAS PRODUCTION
 - 3528930 - PRODUCTION OF SYNTHESIS GAS
 - 3531265 - SYNTHESIS GAS PURIFICATION
 - 3544291 - COAL GASIFICATION PROCESS
 - 3545926 - PRODUCTION OF SYNTHESIS GAS AND HYDROGEN
 - 3556751 - PRODUCTION OF SYNTHESIS GAS
 - 3574578 - STEAM HYDROCARBON REFORMING PROCESS
 - 3607156 - HYDROGEN AND CARBON MONOXIDE FROM SLURRIES OF SOLID CARBONIFEROUS FUELS
 - 3607157 - SYNTHESIS GAS FROM PETROLEUM COKE
 - 3615297 - CARBON RECOVERY PROCESS
 - 3620698 - HYDROGEN AND CARBON MONOXIDE FROM SLURRIES OF SOLID CARBONIFEROUS FUELS
 - 3620700 - RECOVERY OF ENTRAINED CARBON IN SYNTHESIS GAS
 - 3639261 - PROCESS FOR THE GENERATION OF SYNTHESIS GAS FROM OIL
 - 3660046 - QUENCHING APPARATUS FOR A HIGH PRESSURE SYNTHESIS GAS PROCESS
 - 3666423 - HEAT EXCHANGE APPARATUS
 - 3694373 - PRODUCTION OF REDUCING GAS
 - 3709669 - METHANE PRODUCTION
 - 3715301 - MULTI-HYDROTORTING OF COAL
 - 3725270 - POLLUTION ABATEMENT PROCESS FOR REFINERY WASTE WATER
 - 3740204 - PROCESS FOR THE PRODUCTION OF METHANE FROM CARBONACEOUS FUELS
 - 3759679 - PRODUCTION OF METHANE-RICH FUEL GAS
 - 3764547 - SLURRIES OF SOLID CARBONIFEROUS FUELS
 - 3784364 - PRODUCTION OF FUEL GAS
 - 3796547 - HEAT EXCHANGE APPARATUS FOR CATALYTIC SYSTEM
 - 3840355 - PARTIAL OXIDATION OF HYDROCARBONS TO SYNTHESIS GAS
 - 3846095 - REDUCING GAS GENERATION
 - 3866411 - GAS TURBINE PROCESS UTILIZING PURIFIED FUEL AND RECIRCULATED FLUE GASES
 - 3868817 - GAS TURBINE PROCESS UTILIZING PURIFIED FUEL GAS
 - 3884648 - PROCESS FOR MAKING A REDUCING GAS
 - 3888043 - PRODUCTION OF METHANE
 - 3890113 - PRODUCTION OF METHANE
 - 3917569 - RECOVERY OF CARBON FROM SYNTHESIS GAS
 - 3927997 - METHANE-RICH GAS PROCESS
 - 3927998 - PRODUCTION OF METHANE-RICH GAS STREAM
 - 3927999 - METHANE-RICH GAS PROCESS
 - 3928000 - PRODUCTION OF A CLEAN METHANE-RICH FUEL GAS FROM HIGH-SULFUR CONTAINING HYDROCARBONACEOUS MATERIALS
 - 3928001 - PRODUCTION OF METHANE
 - 3929429 - FUEL GAS FROM SOLID CARBONACEOUS FUELS
 - 3951617 - PRODUCTION OF CLEAN FUEL GAS
 - 3957682 - PREPARATION OF METHANE, HYDROGEN AND CARBON MONOXIDE CONTAINING GASES
 - 3976442 - SYNTHESIS GAS FROM GASEOUS CO/2\ -SOLID CARBONACEOUS FUEL FEEDS
 - 3976443 - SYNTHESIS GAS FROM SOLID CARBONACEOUS FUEL
 - 3996026 - PROCESS FOR FEEDING A HIGH SOLIDS CONTENT SOLID FUEL-WATER SLURRY TO A GASIFIER

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
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TEXACO INC.

- 3998609 - SYNTHESIS GAS GENERATION
- 4006099 - MANUFACTURE OF GASEOUS MIXTURES COMPRISING HYDROGEN AND CARBON MONOXIDE
- 4006100 - MANUFACTURE OF GASEOUS MIXTURES COMPRISING HYDROGEN AND CARBON MONOXIDE
- 4007018 - PRODUCTION OF CLEAN SYNTHESIS OR FUEL GAS
- 4007019 - PRODUCTION OF CLEAN SYNTHESIS OR FUEL GAS
- 4046869 - STEAM REFORMING PROCESS
- 4065514 - PREPARATION OF METHANE
- 4074981 - PARTIAL OXIDATION PROCESS
- 4075831 - PROCESS FOR PRODUCTION OF PURIFIED AND HUMIDIFIED FUEL GAS
- 4099382 - BY-PRODUCT SUPERHEATED STEAM FROM THE PARTIAL OXIDATION PROCESS
- 4099383 - PARTIAL OXIDATION PROCESS
- 4121912 - PARTIAL OXIDATION PROCESS WITH PRODUCTION OF POWER

TEXAS INSTRUMENTS, INCORPORATED

- 3453146 - METHOD AND APPARATUS FOR REFORMING CARBONACEOUS FUELS AND OPERATING FUEL CELL
- 3505018 - REFORMING HYDROCARBON FUELS
- 3516807 - APPARATUS FOR PRODUCING HYDROGEN GAS BY THE PARTIAL OXIDATION OF A CARBONACEOUS FUEL CONTAINING HYDROGEN
- 3619144 - APPARATUS FOR REFORMING HYDROCARBON FUELS TO PRODUCE HYDROGEN
- 3685977 - PARTIAL OXIDATION OF HYDROCARBONS

THAGARD TECHNOLOGY COMPANY

- 4057396 - FLUID-WALL REACTOR FOR HIGH TEMPERATURE CHEMICAL REACTION PROCESSES
- 4059416 - CHEMICAL REACTION PROCESS UTILIZING FLUID-WALL REACTORS

TOHOKU UNIVERSITY

- 4005995 - PROCESS FOR PRODUCING A GASEOUS PRODUCT FROM CARBONACEOUS MATERIAL

TOKYO HEAT TREATING COMPANY

- 3682605 - METHOD AND APPARATUS FOR SOOT CONTROLLING IN A THERMAL DECOMPOSITION OF A HYDROCARBON GAS

TOPSDE, HALDOR FREDERIK AXEL

- 3436358 - REFORMING WITH A NICKEL AND NICKEL OXIDE CATALYST ON A MAGNESIUM ALUMINATE SPINEL CONTAINING SUPPORT

TORRAX SYSTEMS, INC.

- 3511194 - METHOD AND APPARATUS FOR HIGH TEMPERATURE WASTE DISPOSAL
- 3702039 - PRODUCTION OF USABLE PRODUCTS FROM WASTE MATERIAL

TOTAL ENERGY CORPORATION

- 3692506 - HIGH BTU GAS CONTENT FROM COAL

TOYO-KOGYO CO., LTD.

- 3582296 - GASIFYING PROCESS
- 3957681 - PROCESS FOR MANUFACTURING GASEOUS MIXTURES RICH IN HYDROGEN

TOYOTA JIDOSHA KOGYO KABUSHIKI KAISHA

- 3908606 - INTERNAL COMBUSTION ENGINE
- 3976034 - METHOD FOR PRODUCING A COMBUSTIBLE GAS BY PARTIAL OXIDATION FOR USE IN INTERNAL COMBUSTION ENGINES
- 4118061 - METHOD AND EQUIPMENT FOR CONTROL OF INTERNAL COMBUSTION ENGINE INCLUDING A FUEL-REFORMING DEVICE
- 4125091 - METHOD AND EQUIPMENT FOR CONTROL OF INTERNAL COMBUSTION ENGINE WITH FUEL-REFORMING DEVICE

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

TRANSCONTINENTAL GAS PIPELINE CORPORATION, MESNE
3728093 - PRODUCTION OF SYNTHETIC PIPELINE GAS

TRW INC.
4069304 - HYDRGEN PRODUCTION BY CATALYTIC COAL GASIFICATION

UBE INDUSTRIES LTD.
3848016 - PRODUCTION OF CRACKED GASES FROM LIQUID HYDROCARBON

UNDE. FRIEDRICH, G.M.B.H.
3688494 - PROCESS AND APPARATUS FOR HEATING HYDROCARBONS

UNION CARBIDE CORPORATION
3729298 - SOLID REFUSE DISPOSAL PROCESS AND APPARATUS
3985518 - OXYGEN REFUSE CONVERTER
3988236 - PROCESS FOR THE CONTINUOUS HYDROCARBONIZATION OF COAL
3988237 - INTEGRATED COAL HYDROCARBONIZATION AND GASIFICATION OF CHAR
4017273 - PYROLYSIS PROCESS FOR CONVERTING REFUSE TO FUEL GAS
4042345 - PROCESS FOR CONVERSION OF SOLID REFUSE TO FUEL GAS USING PELLETTIZED REFUSE FEED
4064156 - METHANATION OF DVERSHIFTED FEED
4124628 - SERIAL ADIABATIC METHANATION AND STEAM REFORMING

UNION OIL COMPANY OF CALIFORNIA
3458299 - HYDROCRACKING PROCESS
4010092 - OIL SHALE RETORTING-GASIFICATION PROCESS
4042532 - THERMALLY STABLE NICKEL-ALUMINA CATALYSTS USEFUL FOR METHANATION AND OTHER REACTIONS AND METHOD FOR THE MANUFACTURE OF S
4064152 - THERMALLY STABLE NICKEL-ALUMINA CATALYSTS USEFUL FOR METHANATION

UNION RHEINISCHE BRAUNKOHLEN KRAFTSTOFF AKTIENGESSELLSCHAFT
3690550 - PROCESS FOR TRANSPORTING THERMAL ENERGY

UNITED ENGINEERING + CONSTRUCTORS INC.
3420641 - MANUFACTURE OF COMBUSTIBLE GAS
3429677 - MANUFACTURE OF GAS RICH IN HYDROGEN AND IN OXIDES OF CARBON
3429678 - PROCESS AND APPARATUS FOR MANUFACTURING GAS RICH IN HYDROGEN AND IN OXIDES OF CARBON

UNITED STATES OF AMERICA, ARMY
3734790 - GASEOUS ILLUMINANT PYROTECHNIC SYSTEMS

UNITED STATES OF AMERICA, ATOMIC ENERGY COMMISSION
3794116 - SITU COAL BED GASIFICATION

UNITED STATES OF AMERICA, DEPARTMENT OF ENERGY
3933447 - UNDERGROUND GASIFICATION OF COAL
3945809 - METHOD AND APPARATUS FOR REMOVING COARSE UNENRAINED CHAR PARTICLES FROM THE SECOND STAGE OF A TWO-STAGE COAL GASIFIER
3957460 - OXIDATION OF COAL-WATER SLURRY FEED TO HYDROGASIFIER
3967936 - METHANATION PROCESS UTILIZING SPLIT COLD GAS RECYCLE
3970434 - PROCESS FOR REDUCING SULFUR IN COAL CHAR
3981690 - AGGLOMERATING COMBUSTOR-GASIFIER METHOD AND APPARATUS FOR COAL GASIFICATION
3988123 - GASIFICATION OF CARBONACEOUS SOLIDS
3989480 - DECOMPOSITION OF CARBOHYDRATE WASTES
3993458 - METHOD FOR PRODUCING SYNTHETIC FUELS FROM SOLID WASTE

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES

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ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
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UNITED STATES OF AMERICA, DEPARTMENT OF ENERGY
4018654 - PRETREATMENT OF COAL DURING TRANSPORT
4078904 - PROCESS FOR FORMING HYDROGEN AND OTHER FUELS UTILIZING MAGMA

UNITED STATES OF AMERICA, DEPARTMENT OF STATE
3989734 - SLURRY PHASE METHANATION PROCESS

UNITED STATES OF AMERICA, ENVIRONMENTAL PROTECTION AGENCY
3956431 - WASTE STONE OXIDATION AND RECARBONIZATION

UNITED STATES OF AMERICA, INTERIOR
3424556 - PRODUCTION OF CARBON BLACK FROM COAL
3429679 - PROCESS FOR IMPROVING THE HEATING VALUES OF FUEL GASES
3463623 - PROCESS FOR GASIFYING CAKING COALS
3477942 - HYDROCARBON FUELS FROM COAL OR ANY CARBONACEOUS MATERIAL
3516808 - PREPARATION OF CARBON DIOXIDE ACCEPTORS BY THE MELT PROCESS
3551123 - SYSTEM EMPLOYING COAL AS FUEL IN A STEAM REFORMER
3556978 - HYDROGASIFICATION OF CARBONACEOUS MATERIAL
3565593 - CONVERGING-DIVERGING TYPE GAS-SOLIDS FLUIDIZER AND METHOD OF USE
3640846 - PRODUCTION OF METHANE BY BACTERIAL ACTION
3733187 - PROCESS FOR CONVERTING SOLID WASTES TO PIPELINE GAS
3733255 - CONVERSION OF MUNICIPAL REFUSE, SEWAGE SLUDGE AND OTHER WASTES TO HEAVY OIL OR BITUMEN
3746522 - GASIFICATION OF CARBONACEOUS SOLIDS
3782913 - TWO-STAGE GASIFICATION OF COAL WITH FORCED REACTANT MIXING AND STEAM TREATMENT OF RECYCLED CHAR
3817723 - TWO-STAGE GASIFICATION OF PRETREATED COAL
3840354 - THREE-STAGE GASIFICATION OF COAL
3844733 - TWO-STAGE DOWNFLOW GASIFICATION OF COAL
3904386 - COMBINED SHIFT AND METHANATION REACTION PROCESS FOR THE GASIFICATION OF CARBONACEOUS MATERIALS

UNITED STATES OF AMERICA, NATIONAL AERONAUTICS AND SPACE ADM
3971847 - HYDROGEN-RICH GAS GENERATOR
3982910 - HYDROGEN-RICH GAS GENERATOR

UNITED TECHNOLOGIES CORPORATION
3446594 - METHOD FOR GENERATING HYDROGEN-CONTAINING FEEDSTOCKS
3476534 - HYDROGEN GENERATOR INCLUDING DESULFURIZATION WITH LOW PRESSURE HYDROGEN FEEDBACK
3478535 - HYDROGEN GENERATOR INCLUDING DESULFURIZATION WITH DIFFUSED HYDROGEN FEEDBACK
3480417 - HYDROGEN GENERATOR INCLUDING A DESULFURIZER EMPLOYING A FEEDBACK EJECTOR
3522019 - APPARATUS FOR GENERATING HYDROGEN FROM LIQUID HYDROGEN-CONTAINING FEEDSTOCKS
3531263 - INTEGRATED REFORMER UNIT
3635682 - FUEL CELL REACTOR-BURNER ASSEMBLY
3962411 - METHOD FOR CATALYTICALLY CRACKING A HYDROCARBON FUEL
4071330 - STEAM REFORMING PROCESS AND APPARATUS THEREFOR

UNIVERSITY OF CALIFORNIA, THE REGENTS OF
3639111 - METHOD AND APPARATUS FOR PREVENTING FORMATION OF ATMOSPHERIC POLLUTANTS IN THE COMBUSTION OF ORGANIC MATERIAL
3718446 - POLLUTANT-FREE PROCESS FOR PRODUCING A CLEAN BURNING FUEL GAS FROM ORGANIC-CONTAINING WASTE MATERIALS
3761568 - METHOD AND APPARATUS FOR THE DESTRUCTIVE DECOMPOSITION OF ORGANIC WASTES WITHOUT AIR POLLUTION AND WITH RECOVERY OF CHEMICAL BYPRODUCTS

UNIVERSITY OF ILLINOIS FOUNDATION
4004896 - PRODUCTION OF WATER GAS

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

UNIVERSITY OF WYOMING
 3505204 - DIRECT CONVERSION OF CARBONACEOUS MATERIAL TO HYDROCARBONS

UOP INC.
 3524820 - PREPARATION OF RARE EARTH METAL EXCHANGED CRYSTALLINE ALUMINO SILICATES
 3744981 - STEAM REFORMING OF HYDROCARBONS
 3825487 - METHOD FOR SIMULTANEOUSLY PRODUCING SYNTHETIC NATURAL GAS AND HIGH OCTANE REFORMATE
 3837822 - TWO-STAGE COUNTERCURRENT FLUID-SOLID CONTACTING PROCESS
 3882015 - COUNTERCURRENT CATALYTIC CONTACT OF A REACTANT STREAM IN A MULTI-STAGE PROCESS AND THE APPARATUS THEREFOR
 3918930 - COUNTERCURRENT CATALYTIC CONTACT OF A REACTANT STREAM IN A MULTIPLE-STAGE PROCESS AND THE APPARATUS THEREFOR
 3940190 - HYDROCARBON CONVERSION WITH AN ACIDIC MULTIMETALLIC CATALYTIC COMPOSITE
 3948762 - HYDROCARBON CONVERSION WITH AN ACIDIC MULTIMETALLIC CATALYTIC COMPOSITE
 4010008 - SUBSTITUTED NATURAL GAS VIA HYDROCARBON STEAM REFORMING

URBAN RESEARCH DEVELOPMENT CORPORATION
 3926582 - METHOD AND APPARATUS FOR PYROLYTIC TREATMENT OF SOLID WASTE MATERIALS

VOLKSWAGENWERK AKTIENGESELLSCHAFT
 4028248 - ARRANGEMENT FOR STABILIZATION OF FLOW IN A REACTION CARBURETOR

WALLACE-ATKINS OIL CORPORATION
 4038152 - PROCESS AND APPARATUS FOR THE DESTRUCTIVE DISTILLATION OF WASTE MATERIAL

WALLACE ENERGY CONVERSION, INC.
 4118282 - PROCESS AND APPARATUS FOR THE DESTRUCTIVE DISTILLATION OF HIGH MOLECULAR WEIGHT ORGANIC MATERIALS

WASHINGTON GAS LIGHT COMPANY
 3607154 - REFRACTORY BED FOR GAS MACHINE AND PROCESS FOR PRODUCING OIL GAS

WELLMAN INCANDESCENT FURNACE COMPANY LIMITED
 3527986 - PRODUCTION OF FUEL GAS

WESTINGHOUSE ELECTRIC CORP.
 3554715 - CROSS FLOW ARC HEATER APPARATUS AND PROCESS FOR THE SYNTHESIS OF CARBON, ACETYLENE AND OTHER GASES
 3804606 - APPARATUS AND METHOD FOR DESULFURIZING AND COMPLETELY GASIFYING COAL
 3847563 - MULTI-STAGE FLUIDIZED BED COAL GASIFICATION APPARATUS AND PROCESS
 4021298 - CONVERSION OF COAL INTO HYDROCARBONS

WESTVACO CORPORATION
 3843559 - PROCESS FOR MAKING ACTIVATED CARBON FROM AGGLOMERATIVE COAL WITH WATER INJECTION TEMPERATURE CONTROL IN A FLUIDIZED OXIDATION STAGE
 3951856 - PROCESS FOR MAKING ACTIVATED CARBON FROM AGGLOMERATIVE COAL

INVENTOR NAME	STREET	CITY	ST	ZIP/CNTRY
APPLEBY	VERNON L. TRASH DISPOSAL SYSTEM	PALO ALTO	CA	94303
BANOUY	DAVID L. PROCESS FOR THE PRODUCTION OF HIGH BTU METHANE-CONTAINING GAS	75006 PARIS	FR	94109
BRIMHALL	GEORGE H. ORGANIC WASTE TREATING AND CONVERSION SYSTEM	HALF MOON BAY	CA	94109
CAUGHEY	ROBERT A. APPARATUS FOR PRODUCING COMBUSTIBLE GASES FROM CARBONACEOUS MATERIALS	ANTRIM	NH	03440
CROUCH	WILLIAM B. PRODUCTION OF CLEAN SYNTHESIS OR FUEL GAS	MONTEBELLO	CA	90640
DONATH	ERNEST E. PROCESS FOR CONVERTING HIGH SULFUR COAL TO LOW SULFUR POWER PLANT FUEL	CHRISTIANSTED, ST. C	VI	00820
ESTABROOK	LAWRENCE E. PROCESS FOR PSEUDOHYDROSTATIC FEEDING OF SOLIDS INTO A REACTOR	MONTEBELLO	CA	90640
FLEMING	JOSEPH PRODUCTION OF CLEAN SYNTHESIS OR FUEL GAS	MONTEBELLO	CA	90640
GIFFORD	PHILLIP H. JR. ORGANIC CONVERSION SYSTEM	FOUNTAIN VALLEY	CA	92708
GOLD	LOUIS HYDROCRACKING PROCESS FOR THE PRODUCTION OF SYNTHETIC FUELS	CARBONDALE	CO	81623
GOLD	LOUIS GASIFICATION PROCESS AND APPARATUS	WASHINGTON	DC	20007
GRYAZNOV	VLADIMIR MIKHAILOV COAL REACTOR	WASHINGTON	DC	20007
HEGARTY	WILLIAM P. METHOD OF OPERATING A VERTICAL SHAFT FURNACE	MOSCOW	SU	18106
HREHA	FRANK METHOD OF DEHYDROGENATION, DEHYDROCYCLIZATION AND HYDRODEALKYLATION	WESCOVILLE	PA	18106
KIENER	KARL METHOD FOR PRODUCTION OF SYNTHETIC NATURAL GAS FROM CRUDE OIL	GROTON FALLS	NY	10518
KUNII	DAIZO WATER TO FUEL CONVERTER	OSTALBKREIS	DT	
	KARL PROCESS AND APPARATUS FOR THE PRODUCTION OF COMBUSTIBLE GAS	MEGURO, TOKYO	JA	
	DAIZO CONTINUOUS CARBONIZATION AND GASIFICATION OF PARTICULATE COAL WITH DOUBLE RECIRCULATION OF FLUIDIZED PARTICULATE HEAT CARRIER			

SYNTHETIC FUELS II B 1- IN VITRO - OBTAINING FUEL GAS - PROCESSES
UNASSIGNED PATENTS (1/75-12/78) INVENTORS (ALPHA LISTINGS)

INVENTOR NAME	DAIZO	STREET	CITY	ST	ZIP/CNTRY
KUNII	3889481 - CONTINUOUS CATALYTIC GASIFICATION OF HEAVY HYDROCARBON OILS WITH RECIRCULATED FLUIDIZED CATALYST	1-25-16	NAKAMACHI, MEGURO, T	JA	
KUNUGI	3912465 - CONTINUOUS CARBONIZATION AND GASIFICATION OF PARTICULATE COAL WITH DOUBLE RECIRCULATION OF FLUIDIZED PARTICULATE HEAT CARRIER	7-17-22-903 ROPPONGI	MINATO, TOKYO	JA	
KUNUGI	3889481 - CONTINUOUS CATALYTIC GASIFICATION OF HEAVY HYDROCARBON OILS WITH RECIRCULATED FLUIDIZED CATALYST	7-17-22-903	ROPPONGI, MINATO, TO	JA	
LEBEDEVA	3865891 - METHOD OF DEHYDROGENATION, DEHYDROCYCLIZATION AND HYDRODEALKYLATION	LENINSKY PROSPEKT, 48A, KV. 29	MOSCOW	SU	
MALEK	4057484 - PROCESS FOR HYDROLIQUEFYING COAL OR LIKE CARBONACEOUS SOLID MATERIALS	P.O. BOX 2870	PASADENA	CA	91106
MICHAELS-CHRISTOPHERVAN	4110082 - REFORMED HYDROCARBONS AND ALCOHOLS FROM FUEL ALLOYS AND REFORMING AGENTS	1817 1/2 N. LAS PALMAS AVE.	HOLLYWOOD	CA	90028
MISCHENKO	3865891 - METHOD OF DEHYDROGENATION, DEHYDROCYCLIZATION AND HYDRODEALKYLATION	KHERSONSKAYA ULITSA, 7, KORPUS	MOSCOW	SU	
POLYAKOVA	3865891 - METHOD OF DEHYDROGENATION, DEHYDROCYCLIZATION AND HYDRODEALKYLATION	ULITSA TROFIMOVA, 15, KV. 201	MOSCOW	SU	
RICHTER	4007017 - PRODUCTION OF CLEAN SYNTHESIS OR FUEL GAS	C/O TEXACO INC. P.O. BOX 400	MONTEBELLO	CA	90640
SAVITSKY	3865891 - METHOD OF DEHYDROGENATION, DEHYDROCYCLIZATION AND HYDRODEALKYLATION	ULITSA OM. ULYANOVA, DNR-3, KV	MOSCOW	SU	
SCHREIBER	3978821 - ENERGY PRODUCER USING DUAL FUELS	7400 LYNDALE AVE. SOUTH	MINNEAPOLIS	MN	55423
SCHROEDER	3944480 - PRODUCTION OF OIL AND HIGH BTU GAS FROM COAL	7316 RADCLIFFE DRIVE	COLLEGE PARK	MD	20740
SCHUHMAN	4085960 - APPARATUS AND METHOD FOR THE GASIFICATION OF SOLID CARBONACEOUS MATERIAL	1208 HAYES ST.	WEST LAFAYETTE	IN	47906
SINGH	4083392 - PROCESS AND APPARATUS FOR PRODUCING CHAR AND CO-PRODUCTS FROM COAL AND THE LIKE	P.O. BOX 1679	CHICAGO	IL	60690
SLATER	4007017 - PRODUCTION OF CLEAN SYNTHESIS OR FUEL GAS	C/O TEXACO INC. P.O. BOX 400	MONTEBELLO	CA	90640
SQUIRES	3957457 - GASIFYING COAL OR COKE AND DISCHARGING ASH AGGLOMERATES	245 W. 104 ST.	NEW YORK	NY	10025
VAN SLYKE	4082305 - TREATING CARBONACEOUS MATTER WITH HOT STEAM	2549 HARRIS AVE.	RICHLAND	WA	99352
VESTAL	3870611 - PROCESSING OF COAL TO PRODUCE LIQUID AND VAPOROUS HYDROCARBONS	RT. 4, BOX 238	DENTON	TX	76201

PATENTS (1/63-12/78) WITH NEITHER ASSIGNMENT NOR INVENTOR INFORMATION IN DATABASE

3424695	- IMPROVING REFORMER-FURNACE PERFORMANCE BY USING GAS-TURBINE EXHAUST										
3436314	- TECHNIQUE FOR CONVERTING BAGASSE AND OTHER MOIST PLANT SUBSTANCES INTO CHARCOAL										
3437661	- AGGLOMERATING COAL HYDROCARBONIZATION PROCESS										
3441393	- PULLMAN INCORPORATED PROCESS FOR THE PRODUCTION OF HYDROGEN-RICH GAS										
3441394	- MAKING STEAM FOR REFORMING COAL										
3451949	- CATALYST FOR REFORMING HYDROCARBONS										
3469944	- PROCESS AND APPARATUS FOR THE MANUFACTURE OF HYDROGEN										
3471275	- METHOD OF DISPOSAL OF REFUSE										
3481834	- PROCESS AND APPARATUS FOR DESULFURIZING FUELS										
3493344	- REVOLVING PEBBLE BED HEAT EXCHANGER										
3497335	- UNDERGROUND GASIFICATION OF COAL										
3519514	- PRODUCTION OF HYDROGEN CONTAINING GASES										
3556749	- GENERAL ELECTRIC COMPANY APPARATUS AND METHOD FOR THE HYDROGENATION OF COAL										
3597327	- PROCESS FOR PYROLYZING A SOLID OR LIQUID HYDROCARBONACEOUS FUEL IN A FLUIDIZED BED										
3625664	- PROCESS FOR THE PRODUCTION OF RICH FUEL TO REPLACE NATURAL GAS BY MEANS OF CATALYTIC HYDROGASIFICATION UNDER PRESSURE OF FLUID HYDROCARBONS										
3643230	- OIL VAPORIZER										
3668120	- TREATMENT OF ORGANIC WASTE PRODUCTS										
3684689	- PROCESS FOR PRODUCING LIGHT PRODUCTS FROM HEAVY HYDROCARBONS										
3687646	- SEWAGE DISPOSAL PROCESS										
3688438	- PRODUCTION OF A METHANE-RICH SYNTHESIS GAS										
3697256	- METHOD OF INCINERATING REFUSE										
3715195	- MULTI-HYDROTORTING OF COAL										
3734833	- LOW SULPHUR FUEL SYSTEM										
3746521	- GASIFICATION METHOD AND APPARATUS										
3748280	- NICKEL-CALCIUM ALUMINATE-BARIUM SALT CATALYST										
3751228	- APPARATUS FOR REFORMING HYDROCARBONS UNDER PRESSURE										
3761359	- METHOD AND APPARATUS FOR HEAT-TREATING MATERIALS										
3778240	- COKING PREVENTION SYSTEM										
3877726	- PROCESS FOR CRACKING OR STEAM REFORMING HYDROCARBONS USING AN ALKALI POLYALUMINATE CATALYST										
3820965	- METHOD OF REDUCING ENVIRONMENTAL POLLUTION BY UTILIZING STACK GASES, RESULTING FROM THE BURNING OF FOSSIL FUEL S, AND WATER, INCLUDING SEA WATER, TO MANUFACTURE HYDROCARBON ENERGY FUEL, POTABLE WATER AND OTHER COMMERCIAL PRODUCTS										
3836344	- PROCESS AND SYSTEM FOR THE PRODUCTION OF SUBSTITUTE PIPELINE GAS										
3840353	- PROCESS FOR GASIFYING GRANULATED CARBONACEOUS FUEL										
3841851	- PROCESS AND APPARATUS FOR THE GASIFICATION OF ORGANIC MATTER										
3853498	- PRODUCTION OF HIGH ENERGY FUEL GAS FROM MUNICIPAL WASTES										
3945944	- CATALYST FOR THE PRODUCTION OF HYDROGEN AND/OR METHANE										
3975913	- GAS GENERATOR AND ENHANCED ENERGY CONVERSION SYSTEMS										
4052138	- METHOD OF FIRING COAL BOILER TO PRODUCE SECONDARY FUEL GAS										
3072469	3073672	3079325	3086853	3087782	3088816	3090684	3097081	3097082	3097935	3103423	3104956
3104957	3106457	3106521	3107985	3110578	3111400	3115394	3117848	3118745	3119667	3120430	3122493
3124435	3124436	3124529	3124736	3128163	3128164	3130020	3131037	3140154	3141796	3143142	3144312
3145076	3147093	3148140	3148227	3156544	3156657	3159458	3168386	3171369	3173764	3175019	3175890
3178272	3179584	3180902	3186957	3188179	3192018	3192150	3194644	3195874	3195989	3197293	3198748
3201214	3201215	3202603	3203767	3203764	3206394	3210170	3216952	3222132	3222147	3224211	3224849
3226204	3226212	3232727	3232728	3236604	3236615	3244615	3247092	3247192	3248441	3250601	3252773
3252774	3253906	3254976	3257172	3258409	3262886	3264066	3264210	3270078	3271325	3271326	3278268
3278452	3278462	3283749	3285719	3291581	3291582	3297777	3311460	3312634	3317292	3320182	3349029
3322195	3322521	3328477	3329605	3334055	3334971	3337314	3340012	3345307	3346481	3347647	3349029
3350176	3351563	3351566	3352652	3353993	3359215	3362887	3363024	3368982	3371050	3371126	3374052
3375098	3375175	3375288	3377057	3379505	3383228	3384467	3388057	3388074	3390971	3392218	3393964
3394086	3395004	3395104	3396124	3396218	3397962	3398058	3404100	3407149	3407788	3408171	3410661
3414247	3415634	3416904	3417029	3418093	3838536						