

II. A. IN VITRO CONVERSION: OBTAINING LIQUID HYDROCARBONS

I. PROCESSES

This profile includes thermolytic distillation and liquid extraction processes for the conversion of solid carbonaceous material, such as coal (208/8-10) or oil shale (208-IIR & LE), to liquids, e.g. mineral oils, such as natural petroleum, asphalt, tars, pitches and waxes which are predominately mixtures of hydrocarbons. Also included (Class 201) are processes for the thermolytic distillation of solid carbonaceous material to form a mixture of a solid carbonaceous residue material together with vaporized material which is usually condensed to a liquid.

INCLUDED IN THIS PROFILE ARE ALL OF THE PATENTS FROM:

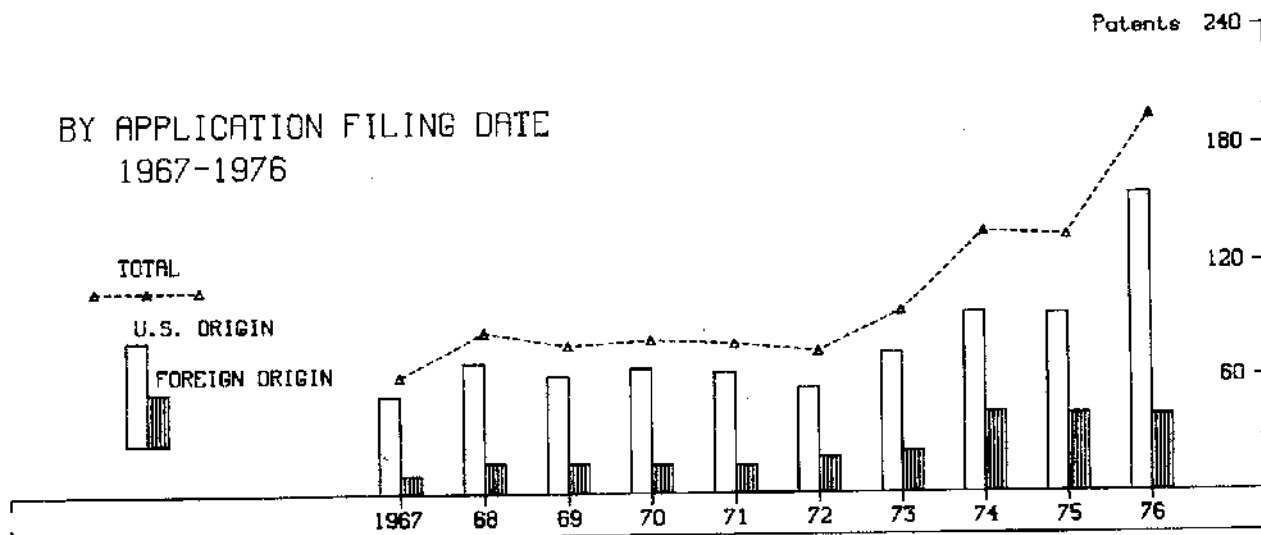
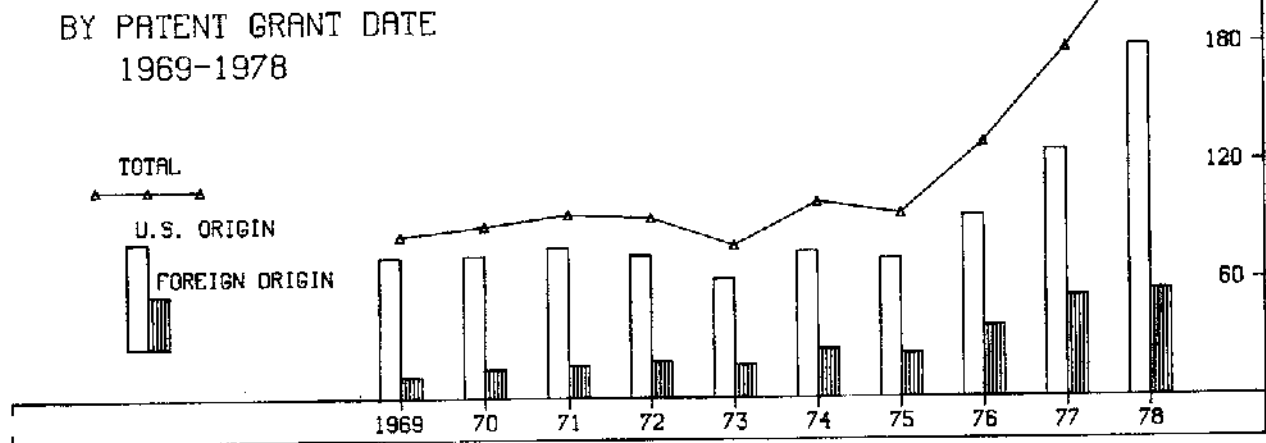
Class 201, All Subclasses

Class 208, Subclasses 8-IIR

ACTIVITY INDICES (1976-1978)

GROWTH	46.3%
FOREIGN SHARE	26.6%
CORPORATE OWNED	83.2%
GOVERNMENT OWNED	3.3%
U.S. OWNED OF FOREIGN	4.2%

PATENT ACTIVITY



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

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	63-64	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	TOTAL
TOTAL	81	38	39	25	36	83	88	94	92	78	100	94	130	178	234	1390
U.S. ORIGIN	66	33	34	22	31	72	73	77	73	61	75	71	93	126	179	1086
FOREIGN ORIGIN	15	5	5	3	5	11	15	17	19	17	25	23	37	52	55	304
GERMANY	5	1	3	2	2	5	3	5	10	8	10	7	12	14	16	102
CANADA	7	1	1	2	3	2	3	8	2	3	6	4	10	9	11	72
JAPAN							5	2	2	3	4	7	6	14	14	57
UNITED KINGDOM		2	1	1		1	1	1	1	1	2		5	3	8	25
FRANCE	1										1		1	2	2	9
U.S.S.R.		1				1	2		1		1	2	1	1	1	7
NETHERLANDS						1			1		1	2	1	1	1	6
SOUTH AFRICA														3	4	4
SWEDEN	1								1			1		2		4
ITALY												1		2		4
INDIA										2				2		4
DENMARK										1				2		3
BRAZIL	1									1				2		2
BELGIUM														2		2
AUSTRALIA						1	1					1		1		2
RHODESIA																2
PORTUGAL																2
CZECHOSLOVAKIA									1					1		2
PHILIPPINES											1					1
MEXICO						1										1
U.S. ORIGIN	66	33	34	22	31	72	73	77	73	61	75	71	93	126	179	1086
U.S. CORP. OWNED	59	28	29	17	26	52	58	64	52	52	62	52	62	98	159	870
U.S. GOVT. OWNED				3		4	2	4	2	2	4	6	7	4	1	39
U.S. INDIV. OWNED	6	5	4	2	4	15	7	6	18	5	9	9	20	22	17	150
FOREIGN OWNED	1		1		1	1	6	3		2		4	4	2	2	27
FOREIGN ORIGIN	15	5	5	3	5	11	15	17	19	17	25	23	37	52	55	304
U.S. OWNED	7	1	1	1	1	4	2	5	2	2	3	3	3	3	3	35
FOREIGN OWNED	8	4	5	2	4	7	13	12	17	17	22	20	34	52	52	269
FOREIGN CORP.	7	2	2	2	2	7	11	11	12	15	17	17	31	48	39	223
FOREIGN GOVT.	2	2	1							1	1	1	1	6	6	11
FOREIGN INDIV.	1		2		2		2	1	5	2	4	2	3	4	7	35

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

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

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	PRE 65	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	TOTAL
TOTAL	41	37	53	61	84	77	80	78	74	95	136	134	195	86	1	1232
U.S. ORIGIN	33	29	48	51	68	61	65	63	55	73	94	93	155	64	1	953
FOREIGN ORIGIN	8	8	5	10	16	16	15	15	19	22	42	41	40	22		279
GERMANY	3	2	1	3	3	11	7	4	9	7	14	7	15	7		93
CANADA	3	2	2	2	7	4	1	4	2	4	10	9	6	7		63
JAPAN		1	1	2	4		2	4	2	7	7	14	9	4		57
UNITED KINGDOM	1				1	1	1	1	2	1	6	3	4	3		22
FRANCE			1				1	1	1	1	1	2	1			8
U.S.S.R.				2		2	2		1	1	1	1	1			7
NETHERLANDS		1					1		1	2	1					5
SOUTH AFRICA				1						1		2	1			4
SWEDEN										1		1	1			3
ITALY												1	2			3
INDIA							1	2								2
DENMARK																1
BRAZIL									1			1				2
BELGIUM		1			1											2
AUSTRALIA											1					1
RHODESIA											1					1
PORTUGAL																1
CZECHOSLOVAKIA		1					1									1
PHILIPPINES																1
MEXICO	1															1
U.S. ORIGIN	33	29	48	51	68	61	65	63	55	73	94	93	155	64	1	953
U.S. CORP. OWNED	23	23	41	39	56	46	50	52	41	63	59	71	135	54	1	754
U.S. GOVT. OWNED	1	2	2	2	2	4	3	2	4	2	7	5	3			39
U.S. INDIV. OWNED	9	3	5	5	6	10	11	8	9	8	21	16	16	8		135
FOREIGN OWNED	1	1		5	4	1	1	1	1	1	7	1	1	2		25
FOREIGN ORIGIN	8	8	5	10	16	16	15	15	19	22	42	41	40	22		279
U.S. OWNED	1	2	2	2	6	1	1	1	3	1	5	1	1	2		27
FOREIGN OWNED	7	6	3	8	10	15	15	14	16	21	37	41	39	20		252
FOREIGN CORP.	5	6	2	5	10	13	11	11	14	18	34	35	34	14		212
FOREIGN GOVT.									1	1	1	1	1	4		8
FOREIGN INDIV.	2	1	1	3		2	4	3	1	3	2	5	4	2		32

II. A. IN VITRO CONVERSION - OBTAINING LIQUID HYDROCARBONS
1. PROCESSES

ASSIGNEES WITH 6 OR MORE PATENTS (1/69-12/78)

EXXON RESEARCH + ENGINEERING CO.	79
UOP INC.	36
SHELL OIL COMPANY	30
ATLANTIC RICHFIELD COMPANY	27
OCCIDENTAL PETROLEUM CORPORATION	27
GREAT CANADIAN OIL SANDS LIMITED	27
TEXACO INC.	27
HYDROCARBON RESEARCH INC.	24
MOBIL OIL CORPORATION	24
UNITED STATES OF AMERICA, INTERIOR	22
PHILLIPS PETROLEUM COMPANY	21
KOPPERS COMPANY INC.	20
BERGWERKSVERBAND GMBH	16
GULF RESEARCH + DEVELOPMENT COMPANY	15
SUN OIL COMPANY OF PENNSYLVANIA	14
STANDARD OIL COMPANY	14
LUMMUS COMPANY	14
MARATHON OIL COMPANY	13
METALLGESELLSCHAFT AKTIENGESELLSCHAFT	13
UNITED STATES OF AMERICA, DEPARTMENT OF ENERGY	12
COAL INDUSTRY (PATENTS) LIMITED	12
KERR-MCGEE CORPORATION	12
CANADA-CITIES SERVICE LTD.	12
UNION OIL COMPANY OF CALIFORNIA	11
UNITED STATES STEEL CORPORATION	11
OIL SHALE CORPORATION	10*
DR. C. OTTO COMP. G.M.B.H.	9
GREAT LAKES CARBON CORPORATION	9
AGENCE NATIONALE DE VALORISATION DE LA RECHERCHE (ANVAR)	8
INSTITUTE OF GAS TECHNOLOGY	8
CITIES SERVICE COMPANY	8
CONTINENTAL OIL COMPANY	8
ALLIED CHEMICAL CORPORATION	8
FIRMA CARL STILL	8*
PARAHO CORPORATION	7
PEABODY COAL COMPANY	7
CONSOLIDATION COAL COMPANY	7
HEINRICH KOPPERS GMBH	7*
SALEM CORPORATION	6
NIPPON KOKAN KABUSHIKI KAISHA	6
BATTELLE MEMORIAL INSTITUTE	6
MCDOWELL-WELLMAN ENGINEERING COMPANY	6
CHEVRON RESEARCH COMPANY	6

*Composite total, see Appendix A.

- SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
- AB NOTALA VERKSTAD
 3886873 - METHOD IN THE DESTRUCTION OF WASTE BY GASIFICATION AND COMBUSTION
- AGENCE NATIONALE DE VALDRISATION DE LA RECHERE (ANVAR)
 3557020 - HCL OR HER VAPOR CARBONIZATION OF VEGETABLE MATERIAL IN THE MANUFACTURE OF ACTIVATED CARBON
 3838988 - METHOD OF MANUFACTURING BRIQUETS AND COKE IN THE MOLDED FORM WITH ASPHALT AS THE BINDER
 3843339 - PROCESS FOR FLUIDIZED COMBUSTION OF PLASTICS
 3910849 - METHOD FOR MANUFACTURE OF ACTIVATED CARBON AND APPARATUS THEREFOR
 4029550 - PROCESS FOR THE DRY DISTALLATION OF RUBBER
 4038172 - METHOD FOR REMOVAL OF OXYGEN FROM DXYGEN-CONTAINING COMPOUNDS
 4040941 - PROCESS FOR LIQUEFYING COAL
 4082615 - THERMAL DECOMPOSITION PROCESS AND APPARATUS FOR ORGANIC SOLID MATERIALS
- AIRCO INC.
 3642962 - METHOD OF INHIBITING PUFFING IN THE MANUFACTURE OF GRAPHITE ARTICLES FROM SULFUR-CONTAINING PETROLEUM COKE
- AIR PRODUCTS + CHEMICALS, INC.
 4075082 - PROCESS FOR HYDRODESULFURIZATION AND LIQUEFACTION OF CARBONACEOUS STDCCKS USING SUSPENDED CATALYST
- AKTIEBOLAGET ELECTROLUX
 4038184 - METHOD OF PROCESSING WASTE ON SHIPS AND THE LIKE AND ARRANGEMENT FOR CARRYING OUT THE METHOD
- AKZO N.V.
 3886088 - PROCESS FOR THE PREPARATION OF A GRANULAR ACTIVATED CARBON, AND GRANULAR ACTIVATED CARBONS PRODUCED THEREBY
- ALCAN RESEARCH AND DEVELOPMENT, LIMITED
 3888621 - MONITORING AND CONTROLLING KILN OPERATION IN CALCINATION OF COKE
 3966560 - METHOD OF CALCINING COKE IN A ROTARY KILN
 4012202 - PYROSCRUBBER
 4022569 - CALCINATION OF CDKE
- ALKEM ALPHA-CHEMIE UND-METALLURGIE G.M.B.H.
 3776856 - PROCESS FOR THE WET CHEMICAL COMBUSTION OF ORGANIC MATERIAL
- ALLIED CHEMICAL CORPORATION
 3432398 - CHARGING COKE OVEN WITH HOT COARSELY COMMIMUTED COAL
 3438867 - DISENTRAINMENT OF COAL PARTICLES IN PNEUMATICALLY CHARGED COKE OVENS
 3454426 - GAS JET CLEANING OF COKE OVEN DOORS AND JAMBS
 3457141 - CHARGING OF PREHEATED COAL INTO THE COKING CHAMBERS OF A COKE OVEN BATTERY
 3523065 - CHARGING OF PREHEATED COAL INTO THE COKING CHAMBERS OF A CDKE OVEN BATTERY
 3738329 - HYDROCARBON EXTRACTION
 3761360 - RE-ENTRAINMENT CHARGING OF PREHEATED COAL INTO COKING CHAMBERS OF A COKE OVEN BATTERY
 3964976 - PROCESS FOR CLEANING COKE OVEN GAS OFFTAKES
- ALLIS-CHALMERS CORPORATION
 3560368 - TRAVELING GRATE METHOD FOR THE RECOVERY OF OIL FROM SHALE
 3560369 - RETORTING OIL SHALE INCLUDING AGGLOMERATED FINES
 3644193 - PROCESS AND APPARATUS FOR THE RECOVERY OF OIL FROM SHALE BY INDIRECT HEATING
- AMERICAN GAS ASSOCIATION, INC.
 3922215 - PROCESS FOR PRODUCTION OF HYDROCARBON LIQUIDS AND GASES FROM OIL SHALE
 3929615 - PRODUCTION OF HYDROCARBON GASES FROM OIL SHALE

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

AMERICAN MINECHEM CORPORATION

4082515 - COKE OVEN SYSTEM AND AGGLOMERATING CARRYOVER FINES THEREIN

AMERICAN WAAGNER-BIRO COMPANY, INC.

3697381 - METHOD AND APPARATUS FOR POLLUTION-FREE CHARGING OF COKE OVENS
 3728230 - INDIRECTLY HEAT EXCHANGING PLURAL GAS STREAMS FOR DRY QUENCHING HOT COKE AND DRYING COAL
 3843458 - COAL TREATING METHOD AND APPARATUS FOR COKE PLANTS
 3888742 - POLLUTION-FREE COAL-PREHEATING WITH WASTE HEAT FROM DRY COKE-QUENCHING

ARTHUR D. LITTLE INC.

4039424 - PROCESS FOR PRODUCING FLUID FUEL FROM COAL
 4039426 - PROCESS FOR PRODUCING FLUID FUEL FROM COAL

ARTHUR G. MCKEE + COMPANY

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

ASHLAND OIL INC.

3533938 - JET FUEL FROM BLENDED CONVERSION PRODUCTS
 3725246 - HYDROGEN PRODUCTION AND UTILIZATION

ATLANTIC RICHFIELD COMPANY

3454363 - METAL CONTAMINANT REMOVAL FROM SOLID CARBONACEOUS MATERIALS
 3503866 - PROCESS AND SYSTEM FOR PRODUCING SYNTHETIC CRUDE FROM COAL
 3503867 - PROCESS AND SYSTEM FOR PRODUCING SYNTHETIC CRUDE FROM COAL
 3617466 - GAS COMBUSTION RETORT PROCESS
 3617467 - PROCESSES FOR RETORTING OIL SHALE
 3617468 - PROCESS FOR REMOVING THE HYDROCARBON CONTENT OF CARBONACEOUS MATERIALS
 3635814 - CATALYTIC COAL CONVERSION PROCESS
 3654141 - CATALYTIC CRACKING OF SHALE OIL OVER ZEOLITE CATALYST
 3660054 - COAL UPGRADING
 3660267 - COAL PROCESSING
 3660269 - COAL PROCESSING
 3661774 - SEPARATION OF SOLIDS FROM A LIQUID
 3653420 - COAL PROCESSING

3738931 - METHOD FOR TREATING SYNTHETIC CRUDE OIL FOR POUR POINT REDUCTION
 3745108 - COAL PROCESSING
 3803021 - SEPARATING RETORTED SHALE FOR RECYCLED HEAT-CARRYING PELLETS
 3803022 - RETORTING SYSTEM
 3808120 - TAR SANDS BITUMEN FROTH TREATMENT

3841993 - RETORTING OF OIL SHALE WITH SPECIAL HEAT CARRIERS
 3841994 - RETORTING OIL SHALE WITH SPECIAL PELLETS AND SUPPLEMENTAL DEPOSITION
 3844929 - RETORTING OIL SHALE WITH SPECIAL PELLETS
 3844930 - RETORTING OIL SHALE WITH SPECIAL PELLETS AND STEAM STRIPPING
 3850739 - RETORTING OIL SHALE WITH SPECIAL PELLETS AND PRECOKING STAGE
 4051014 - PROCESS FOR TREATING SULFUR-CONTAINING HYDROCARBON FEEDSTOCKS TO PRODUCE HIGH YIELD COKE
 4097244 - PROCESS FOR REMOVING SULFUR FROM COAL
 4105416 - PROCESS FOR REMOVING SULFUR FROM COAL
 4118309 - SEPARATION AND RECOVERY OF HEAT CARRIERS IN AN OIL SHALE RETORTING PROCESS

BABCOCK + WILCOX CO.

3454383 - GASIFICATION METHOD AND APPARATUS

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

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

BAMAG VERFAHRENSTECHNIK GMBH

4017272 - PROCESS FOR GASIFYING SOLID CARBONACEOUS FUEL

BARNEBEY-CHENEY CO.

3525674 - SUBMERGED COMBUSTION CARBONIZATION

4038154 - PILE FURNACE

BASF AKTIENGESSELLSCHAFT

3458588 - REGENERATING NAPHTHALENE MIXTURES CONTAINING CARBON BLACK WITH SIMULTANEOUS RECOVERY OF GLOBULAR PETROLEUM COKE

BATTELLE DEVELOPMENT CORPORATION

4092125 - TREATING SOLID FUEL

4095955 - FUEL SEPARATION PROCESS

BATTELLE MEMORIAL INSTITUTE

4010089 - REACTING COAL

4012314 - TREATING COAL LIQUEFACTION PRODUCT OIL

4044904 - METHOD OF FEEDING PARTICLES FROM A FIRST REGION TO A SECOND REGION

4067795 - PROCESS FOR COAL LIQUEFACTION USING ELECTRODEPOSITED CATALYST

4090944 - PROCESS FOR CATALYTIC DEPOLYMERIZATION OF COAL TO LIQUID FUEL

4121910 - TREATING CARBONACEOUS MATERIAL

B. D. F. LTD.

4089658 - COAL EXTRACTION AND FUEL ADDITIVE MADE THEREFROM

BECHTEL INTERNATIONAL CORP.

3850738 - BITUMINOUS COAL LIQUEFACTION PROCESS

BENNETT ENGINEERING COMPANY

3576734 - PROCESS FOR PRODUCTION OF SYNTHETIC CRUDE OIL FROM LOW TEMPERATURE COAL TARS

BERGWERKSVERBAND GMBH

3444048 - CONTINUOUS COKING APPARATUS

3475278 - METHOD FOR PRODUCING COKE BRIQUETTES

3623999 - PROCESS OF MAKING A BALL-SHAPED ADSORPTION COKE

3661722 - APPARATUS FOR CARBONIZING CARBONACEOUS MATERIALS WITH DIRECT CONTACT HEAT EXCHANGE MATERIAL

3700563 - METHOD OF REACTIVATING SPENT ACTIVATED COAL

3728229 - PROCESS FOR THE MANUFACTURE OF ABRASION-RESISTANT SHAPED COKE

3800428 - PROCESS FOR COOLING HOT BRIQUETTES

3970523 - PROCESSES OF PRODUCING COKES OF LARGE LUMP SIZE AND IMPROVED STRENGTH FROM BITUMINOUS COALS

4024022 - METHOD OF INHIBITING DUST FORMATION WHEN FEEDING COAL INTO COKING CHAMBERS

4030983 - METHOD OF RESTRICTING DUST DEVELOPMENT WHEN FEEDING COAL INTO COKE OVENS

4055471 - METHOD OF RESTRICTING THE FORMATION OF DUST WHEN FEEDING COAL INTO COKE OVENS

4064017 - METHOD OF OPERATING COKE OVENS

4080181 - GAS GENERATOR

4086143 - COKING METHOD AND ARRANGEMENT

4086144 - PROCESS AND APPARATUS FOR THE SEPARATION OF FLOAT TARS IN THE TAR SEPARATOR OF A COKING INSTALLATION

4102751 - COKE OVEN BATTERY WITH CONTROL MEANS FOR CHANGING THE HEAT SUPPLY

BETHLEHEM STEEL CORPORATION

3431180 - IMMERSION QUENCHING APPARATUS

3756791 - METHOD FOR SIMULTANEOUSLY CALCINING AND DESULFURIZING AGGLOMERATES OF COAL AND/OR COAL DERIVATIVES

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

BETHLEHEM STEEL CORPORATION
3821088 - COKE OVEN PUSHER MACHINE LEVELER BAR SEAL
4039391 - COKE OVEN BATTERY AND METHOD FOR OPERATION ON A SLOW-DOWN BASIS

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

BLUE EMER FLAME CORPORATION
3933618 - GAS GENERATION APPARATUSES AND PROCESSES
BRICMONT + ASSOCIATES, INC.
3734834 - APPARATUS AND METHOD FOR APPLYING A FOAM COATING TO EJECTED HOT COKE

BRITISH STEEL CORPORATION
4097304 - CLEANING COKE OVEN DOORS
4105503 - METHOD AND APPARATUS FOR EMISSION CONTROL OF BY-PRODUCT COKE OVENS

BRITISH TITAN PRODUCTS COMPANY LIMITED
3522016 - SCRAPER APPARATUS FOR REACTION CHAMBER

BROKEN HILL PROPRIETARY COMPANY LIMITED
3921307 - FLUIDIZED BED APPARATUS AND METHODS

BUTTNER-SCHILDE-HAAS AG
4059364 - DRYING AND PREHEATING OF MOIST COAL AND QUENCHING OF THE FORMED COKE
BYRON JACKSON INC.
3440096 - METHOD OF REMOVING SOLID PROPELLANT

CALGON CORPORATION
3876505 - MANUFACTURE OF ACTIVATED CARBON FROM SIZED COAL
4014817 - MANUFACTURE OF ACTIVATED CARBON FROM SIZED COAL

CALIFORNIA INSTITUTE OF TECHNOLOGY
4081250 - COAL DESULFURIZATION PROCESS

CANADA-CITIES SERVICE LTD.
3619406 - CONTROL OF SOLIDS IN PROCESSING BITUMINOUS SAND
3623971 - USE
3656938 - TREATMENT OF BITUMINOUS SANDS FOR RECOVERY OF HEAVY METALS THEREFROM
3726786 - PROCESS FOR INTEGRATION OF EXTRACTION PROCESSING STREAMS
3738930 - SECONDARY FROTH WASH
3779902 - PREPARATION OF MINERAL FREE ASPHALTENES
3784464 - PROCESS FOR WASHING SECONDARY SEPARATOR FROTH TO RECOVER BITUMEN
3796652 - THERMAL DEHYDRATION OF BITUMEN FROTH
3847789 - TWO STAGE SEPARATION SYSTEM
3864251 - TREATMENT OF MIDDINGS STREAM FROM HOT WATER PROCESS FOR RECOVERING BITUMEN FROM TAR SAND
3869384 - TAILINGS DISPOSAL SYSTEM FOR TAR SANDS PLANT
3935076 - TWO STAGE SEPARATION SYSTEM

CANADA, HER MAJESTY THE QUEEN IN RIGHT OF, AS REPRESENTED BY
4105537 - SYSTEM FOR HANDLING THE UNDERFLOW FROM A PRIMARY SEPARATION VESSEL IN THE TAR SAND HOT WATER PROCESS
4107029 - DUAL CONTROL SYSTEM FOR TAILINGS OUTLET OF PRIMARY SEPARATION VESSEL IN THE HOT WATER PROCESS FOR BITUMINOUS SANDS

SYNTHETIC FUELS II A 1- IN VIRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
 CANADA, HER MAJESTY THE QUEEN IN RIGHT OF, AS REPRESENTED BY (CONTINUED)
 4111789 - RECOVERY OF HYDROCARBON FROM DILUTION CENTRIFUGING TAILINGS
 4116809 - DEAERATOR CIRCUIT FOR BITUMEN FROTH
 4131535 - TREATMENT OF TUMBLER REJECT

CANADIAN PATENTS + DEVELOPMENT LIMITED

3637464 - UPGRADING COKING COALS AND COKE PRODUCTION
 3984287 - APPARATUS FOR SEPARATING ORGANIC MATERIAL FROM PARTICULATE TAR SANDS AND COAL AND AGGLOMERATION OF THE PARTICULATE RESIDUE
 4029567 - SOLIDS RECOVERY FROM COAL LIQUEFACTION SLURRY
 4057486 - SEPARATING ORGANIC MATERIAL FROM TAR SANDS OR OIL SHALE

CATO RESEARCH CORPORATION

4118200 - PROCESS FOR DESULFURIZING COAL

CAW INDUSTRIES, INC.

3893943 - NOVEL CATALYST AND PROCESS FOR PREPARING THE SAME
 3951778 - METHOD OF SEPARATING BITUMIN FROM BITUMINOUS SANDS AND PREPARING ORGANIC ACIDS
 4084938 - PROCESS FOR TREATING SOLID CARBONACEOUS FOSSIL FUELS AND THE PRODUCTS THUS PREPARED

CENTRO SPERIMENTALE METALLURGICO S.P.A.

4022668 - PROCESS FOR THE PRODUCTION OF FORMED COKE
 4056443 - COKE PRODUCTION
 4108731 - COKE PRODUCTION

CESKOSLOVENSKA AKADEMIE VED

3660245 - APPARATUS FOR CONTINUOUS MANUFACTURE OF FERFURAL AND ACETIC ACID

CHEMICAL CLEANING AND EQUIPMENT SERVICE, INC.

3523825 - CLEANING COMPOSITION AND METHOD OF USING SAME

CHEMICAL CONSTRUCTION CORPORATION

3824084 - PRODUCTION OF LOW SULFUR COAL

CHEVRON RESEARCH COMPANY

3518182 - CONVERSION OF COAL TO LIQUID PRODUCTS
 3765851 - GAS PRODUCTION
 4056461 - RETORTING PROCESS UTILIZING A FLEXIBLE, HELICAL SHAPED CONVEYOR
 4069133 - APPARATUS AND PROCESS FOR REDUCING PARTICULATES IN A VAPOROUS STREAM CONTAINING CONDENSABLE HYDROCARBONS
 4087347 - SHALE RETORTING PROCESS
 4125453 - SPOUTED-BED SHALE RETORTING PROCESS

CITIES SERVICE COMPANY

3628929 - METHOD FOR RECOVERY OF COAL ENERGY
 3960700 - COAL HYDROGENATION TO PRODUCE LIQUIDS
 3997423 - SHORT RESIDENCE TIME LOW PRESSURE HYDROLYSIS OF CARBONACEOUS MATERIALS
 4003820 - SHORT RESIDENCE TIME HYDROLYSIS OF CARBONACEOUS MATERIAL
 4012311 - SHORT RESIDENCE TIME LOW PRESSURE HYDROLYSIS OF CARBONACEOUS MATERIALS
 4013543 - UPGRADING SOLID FUEL-DERIVED TARS PRODUCED BY LOW PRESSURE HYDROLYSIS
 4048053 - UPGRADING SOLID FUEL-DERIVED TARS PRODUCED BY SHORT RESIDENCE TIME LOW PRESSURE HYDROLYSIS
 4075081 - FLUIDIZED BED HYDRORETORTING OF OIL SHALE

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

CITIES SERVICE RESEARCH AND DEVELOPMENT COMPANY
 3784462 - PROCESS AND APPARATUS FOR OIL SHALE RETORTING
 3972801 - OIL SHALE RETORTING

CLEAN ENERGY CORPORATION

3966582 - SOLUBILIZATION AND REACTION OF COAL AND LIKE CARBONACEOUS FEEDSTOCKS TO HYDROCARBONS AND APPARATUS THEREFOR
 3966583 - COAL TREATMENT PROCESS AND APPARATUS
 4104056 - ORE REDUCTION USING MOLTEN SALTS

COAL INDUSTRY (PATENTS) LIMITED

358468 - METHOD OF EXTRACTING MATERIALS
 3966584 - IMPROVEMENTS IN AND RELATING TO THE PRODUCTION OF COKE
 3966585 - MANUFACTURE OF COKE FROM A COAL EXTRACT
 3970541 - GAS EXTRACTION OF COAL
 3997424 - HYDROGENATIVE TREATMENT OF COAL
 4019975 - HYDROGENATION OF COAL
 4028220 - GAS EXTRACTION OF COAL
 4036731 - HYDROGENATION OF COAL
 4101413 - EXTRACTION OF COAL
 4105419 - FLUIDIZED BED APPARATUS
 4108760 - EXTRACTION OF OIL SHALES AND TAR SANDS
 4119525 - MANUFACTURE OF COKE

COALMET CORPORATION

4127390 - HYDRODESULFURIZATION OF COAL AND THE LIKE

COALTEK ASSOCIATES

4060458 - SEPARATION OF GAS FROM SOLIDS

COMBUSTION ENGINEERING INC.

3887461 - MAKING ACTIVE CARBON FROM SEWAGE SLUDGE
 4069024 - TWO-STAGE GASIFICATION SYSTEM

COMBUSTION EQUIPMENT ASSOCIATES INC.

3876383 - APPARATUS UTILIZING COUNTER-CURRENT INTERACTION AND PARTICULATE FLOW REGULATION

COMPAGNIE INDUSTRIELLE DE PROCEDES + D APPLICATIONS S.A.

3840345 - SELF AGGLOMERATING FLUIDIZED BED REACTING APPARATUS

COMPAGNIE INDUSTRIELLE DE PROCEDES + D APPLICATIONS S.A.

4088745 - SELF-AGGLOMERATING FLUIDIZED BED REACTING PROCESS

CONSOLIDATED COAL COMPANY

3671401 - METHOD OF CALCINING AND DESULFURIZING CARBONACEOUS CONTIGUOUS BED OF AGGLOMERATES WITH PARTICULATE HEAT CARRIERS

CONSOLIDATION COAL COMPANY

3562783 - PROCESS FOR MAKING AGGLOMERATES FROM COAL USING COAL EXTRACT AS BINDER
 3692505 - FIXED BED COAL GASIFICATION
 3748254 - CONVERSION OF COAL BY SOLVENT EXTRACTION
 3791956 - CONVERSION OF COAL TO CLEAN FUEL
 3920418 - PROCESS FOR MAKING LIQUID AND GASEOUS FUELS FROM CAKING COALS
 4008054 - PROCESS FOR MAKING LOW-SULFUR AND LOW-ASH FUELS

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING (CONTINUED)
 CONSOLIDATION COAL COMPANY
 4030982 - PROCESS OF MAKING FORMCOKE FROM NON-CAKING OR WEAKLY CAKING COALS
 CONTINENTAL ENERGY CORPORATION, MESNE
 3855071 - CARBONIZATION APPARATUS HAVING LOUVERS ON INTERNAL DUCT
 CONTINENTAL OIL COMPANY
 3480082 - IN SITU RETORTING OF OIL SHALE USING CO/2\ CARRIER
 3565827 - PREPARATION OF ACTIVATED CARBON IN SERIALY DISPOSED FLUIDIZED ZONES
 3619405 - GAS COMBUSTION OIL SHALE RETORTING WITH EXTERNAL INDIRECT GAS HEAT EXCHANGE
 3723291 - PROCESS FOR DESULFURIZING COKE
 3832306 - PROCESS FOR THE PREPARATION OF ACTIVE CARBON FROM HALOHYDROCARBONS
 4075080 - COAL LIQUEFACTION PROCESS WITH REMOVAL OF AGGLOMERATED INSOLUBLES
 4081400 - REGENERATION OF ZINC HALIDE CATALYST USED IN THE HYDROCRACKING OF POLYNUCLEAR HYDROCARBONS
 4094766 - COAL LIQUEFACTION PRODUCT DEASHING PROCESS
 CONTINENTAL ORE CORPORATION
 3449214 - FLUORSPAR-FLUX ADDITIVE IN A COKING OPERATION
 COPELAND SYSTEMS INCORPORATED
 3862909 - FLUIDIZED BED AUTOGENOUS COMBUSTION AND PYROLYSIS OF AQUEOUS EFFLUENTS TO PREPARE ACTIVATED CARBON
 COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH
 3773904 - PROCESS FOR THE PRODUCTION OF CARBON BLACK FROM COAL
 3775286 - HYDROGENATION OF COAL
 GPC INTERNATIONAL INC.
 3816338 - PROCESS FOR THE REACTIVATION OF POWERED CARBON
 3852038 - APPARATUS FOR THE REACTIVATION OF POWDERED CARBON
 CREATIVE ENTERPRISES INTERNATIONAL
 3562115 - FLUIDIZED BED RETORT SURROUNDED BY A FLUIDIZED SAND HEAT EXCHANGER
 CRYO-MAID INC.
 4052293 - METHOD AND APPARATUS FOR EXTRACTING OIL FROM HYDROCARBONACEOUS SOLID MATERIAL
 DAIKYO OIL COMPANY LTD.
 3957620 - PROCESS FOR TREATING HEAVY OIL
 DECO INDUSTRIES, INC.
 4077868 - METHOD FOR OBTAINING HYDROCARBON PRODUCTS FROM COAL AND OTHER CARBONACEOUS MATERIALS
 DECO INDUSTRIES
 4030984 - SCRAP-TIRE FEEDING AND COKING PROCESS
 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
 DEVCO MANAGEMENT INC., MESNE
 3838015 - METHOD AND APPARATUS FOR PYROLYTIC DECOMPOSITION OF TRASH

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

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

DIDIER ENGINEERING GMBH

3975240 - PROCESS AND SYSTEM FOR DETERMINING THE END OF A COKING PROCESS
4018655 - PROCESS FOR FEEDING COAL INTO HORIZONTAL-CHAMBER COKE-OVENS AND CHARGING TRUCK THEREFOR
DIDIER-KELLOGG INDUSTRIEANLAGENBAU GMBH
3880720 - APPARATUS FOR CHARGING COKE-OVEN CHAMBERS

DONNER-HAMMA COKE CORPORATION

4113569 - COKE AIR POLLUTION CONTROL METHOD AND APPARATUS

DORR-OLIVER INCORPORATED

3904549 - FLUIDIZED BED REGENERATION OF POWDERED ACTIVATED CARBON
3926129 - EVAPORATIVE CONCENTRATION OF WASTE SLUDGES WITH INCINERATOR EXHAUST GASES

DOW CHEMICAL COMPANY

3685984 - REMOVING METAL CARBIDES FROM FURNACE SYSTEMS
4071328 - METHOD OF REMOVING SULFUR FROM COAL
4080943 - COAL HYDROGENATION CATALYST RECYCLE
4102775 - CONVERSION PROCESS FOR SOLID, HYDROCARBONACEOUS MATERIALS

DRAVO CORPORATION

3753683 - METHOD AND APPARATUS FOR CARBONIZING AND DESULFURIZING COAL-IRON COMPACTS
3886048 - DESULFURIZATION OF COAL
3955084 - PROCESS FOR COOLING OF COKE

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

3809619 - COMBINED WET AND DRY QUENCHING
3843460 - APPARATUS FOR TRANSPORTING AND QUENCHING COKE PUSHED FROM HORIZONTAL COKING CHAMBERS
3875016 - METHOD AND APPARATUS FOR CONTROLLING THE OPERATION OF REGENERATIVELY HEATED COKE OVENS
3876143 - PROCESS FOR QUENCHING HOT COKE FROM COKE OVENS
3950228 - LEVELING ARRANGEMENT FOR COKE OVENS
3951750 - APPARATUS FOR CHARGING PREHEATED COAL INTO COKE OVENS
4001092 - CHARGING CAR FOR COKE OVENS
4003803 - CONTROL SYSTEM FOR PREVENTING AN EXCESSIVE TEMPERATURE RISE IN A BATTERY OF COKE OVENS
4066420 - PROCESS FOR THE GASIFICATION OF SOLID FUELS

E. I. DU PONT DE NEMOURS AND COMPANY

3980439 - FLUIDIZING APPARATUS WITH FORAMINOUS MEMBER

ELECTRIC POWER RESEARCH INSTITUTE, INC.

4021328 - SOLIDIFYING SOLVENT REFINED COAL
4111863 - REACTOR FOR SOLVENT REFINED COAL
4127475 - PROCESS FOR THE ISOLATION OF CHEMICALS FROM PROCESSED COALS

ENERGY MODIFICATION, INC.

4120664 - PRODUCTION OF LOW-SULFUR COAL POWDER FROM THE DISINTEGRATION OF COAL

ENERGY RECOVERY RESEARCH GROUP, INC.

4123332 - PROCESS AND APPARATUS FOR CARBONIZING A COMMINUTED SOLID CARBONIZABLE MATERIAL

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
 ENGINEERING SPECIALTIES, INC.
 389391B - METHOD FOR SEPARATING MATERIAL LEAVING A WELL

EMTOLETER, INC.
 3566582 - MASS CONTACT BETWEEN MEDIA OF DIFFERENT DENSITIES

ESCHWEILER BERGWERKS VEREIN AKTIENGESSELLSCHAFT
 3869350 - PROCESS FOR A THERMAL PRETREATMENT OF COKING BITUMINOUS COAL
 3959083 - METHOD AND APPARATUS FOR QUENCHING OF HEATED BULK MATERIALS

ESSD STANDARD SOCIETE ANONYME FRANCAISE
 3480419 - GASIFICATION OF HYDROCARBONS

ETABLISSEMENT CAPITROP
 412651B - METHOD AND INCLINED CHAMBER FURNACE FOR CARBONIZING FLUENT CARBON-CONTAINING MATERIAL

EXXON RESEARCH + ENGINEERING CO.
 3422000 - PHOSPHATE ADDITIVES IN A TAR SAND WATER SEPARATION PROCESS
 3431197 - FLUID COKING USING EXTRANEIOUS SEED COKE
 3440162 - RETORTING OF OIL SHALE
 3443908 - APPARATUS FOR THE PRODUCTION OF PETROLEUM COKE HAVING AN IMPROVED PRECOMBUSTOR
 3475319 - RETORTING OF OIL SHALE
 3480540 - PROCESS FOR HYDROFINING BITUMEN DERIVED FROM TAR SANDS
 3484364 - FLUIDIZED RETORTING OF OIL SHALE
 3488279 - TWO-STAGE CONVERSION OF COAL TO LIQUID HYDROCARBONS
 3488280 - CATALYTIC HYDROGENATION OF COAL WITH WATER RECYCLE
 3489672 - RETORTING TOTAL RAW SHALE
 3514394 - CYCLIC PROCESS FOR CONVERTING COAL INTO LIQUID PRODUCTS BY USE OF FIXED CATALYTIC BEDS
 3520067 - COAL DRYING
 3520795 - RETORTING OF OIL SHALE
 3522170 - METHOD OF HEATING FLUIDIZED BEDS
 3563778 - PREPARATION OF IMPROVED ASPHALT COMPOSITION
 3573194 - RETORTING OF OIL SHALE
 3575847 - USE OF SPHERICAL CATALYST IN COAL EXTRACT HYDROGENATION
 3600130 - DESULFURIZATION OF FLUID PETROLEUM COKE
 3617513 - COKING OF
 3645885 - UPFLOW COAL LIQUEFACTION
 3652446 - COMBINATION PROCESS FOR LIQUEFACTION OF COAL AND CATALYTIC CRACKING OF SELECTED FRACTIONS THEREOF
 3661543 - FLUID COKING PROCESS INCORPORATING GASIFICATION OF PRODUCT ORE
 3687837 - COAL LIQUEFACTION SOLIDS REMOVAL
 3692662 - COAL LIQUEFACTION AT STAGED TEMPERATURES
 3694342 - CATALYTIC LIQUEFACTION OF COAL USING SYNTHESIS GAS
 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
 3702816 - LOW SULFUR COKE FROM VIRGIN RESIDUA
 3707462 - CONVERSION OF HEAVY PETROLEUM FEEDSTOCKS
 3726784 - INTEGRATED COAL LIQUEFACTION AND HYDROTREATING PROCESS
 3726785 - COAL LIQUEFACTION USING HIGH AND LOW BOILING SOLVENTS
 3733186 - TWO STEP CONTROLLED FLOW GASIFICATION PROCESS
 3743593 - CATALYTIC CRACKING PROCESS WITH MAXIMUM FEED VAPORIZATION
 3754876 - UPGRADING LOW RANK COALS AS FUEL
 3779900 - PROCESS FOR FLUID COKING GASIFICATION IN AN INTEGRATED SYSTEM

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
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EXXON RESEARCH + ENGINEERING CO.
 3790467 - COAL LIQUEFACTION SOLIDS REMOVAL
 3810972 - REDUCTION OF SULPHUR OXIDES
 3816084 - COKELESS COKER WITH RECYCLE OF COKE FROM GASIFIER TO HEATER
 3835033 - SULFUR REMOVAL FROM MOLTEN MEDIA
 3840476 - PROCESS FOR ACTIVATING CARBONACEOUS MATERIALS
 3841991 - COAL CONVERSION PROCESS
 3870621 - RESIDUUM PROCESSING
 3890111 - TRANSFER LINE BURNER SYSTEM USING LOW OXYGEN CONTENT GAS
 3891402 - TRANSFER LINE BURNER SYSTEM
 3893907 - METHOD AND APPARATUS FOR THE TREATMENT OF TAR SAND FROTH
 3933445 - PROCESS AND APPARATUS FOR PREVENTING DEPOSITS ON A GAS INLET NOZZLE
 3957459 - COAL GASIFICATION ASH REMOVAL SYSTEM
 3996063 - METHOD FOR REMOVING COKE FROM FLUID COKER OUTLETS
 4003823 - COMBINED DESULFURIZATION AND HYDROCONVERSION WITH ALKALI METAL HYDROXIDES
 4007092 - PROCESS FOR PRODUCING LOW SULFUR COKE
 4007093 - FURNACE FOR THERMAL PROCESSING OF LUMP SOLID FUEL
 4022680 - HYDROGEN DONOR SOLVENT COAL LIQUEFACTION PROCESS
 4036732 - TAR SANDS EXTRACTION PROCESS
 4039425 - METHOD FOR PREPARING A COAL SLURRY SUBSTANTIALLY DEPLETED IN MINERAL-RICH PARTICLES
 4045328 - PRODUCTION OF HYDROGENATED COAL LIQUIDS
 4048054 - LIQUEFACTION OF COAL
 4049536 - COAL LIQUEFACTION PROCESS
 4049537 - COAL LIQUEFACTION PROCESS
 4051012 - COAL LIQUEFACTION PROCESS
 4051016 - FLUID COKING WITH H₂ S ADDITION
 4057512 - ALKALI METAL CATALYST RECOVERY SYSTEM
 4060478 - COAL LIQUEFACTION BOTTOMS CONVERSION BY COKING AND GASIFICATION
 4062656 - FLUIDIZED BED APPARATUS
 4075079 - PROCESS FOR THE PRODUCTION OF HYDROCARBONS FROM COAL
 4077867 - HYDROCONVERSION OF COAL IN A HYDROGEN DONOR SOLVENT WITH AN OIL-SOLUBLE CATALYST
 4077869 - INTEGRATED COKING AND GASIFICATION PROCESS
 4085031 - COAL LIQUEFACTION WITH SUBSEQUENT BOTTOMS PYROLYSIS
 4085032 - HYDROGEN DONOR SOLVENT COAL LIQUEFACTION PROCESS
 4085033 - HYDROGEN DONOR SOLVENT COAL LIQUEFACTION PROCESS
 4085707 - COMBUSTION OR PART-COMBUSTION IN FLUIDIZED BEDS
 4089772 - ALKYLATION OR ACYLATION OF LIQUEFACTION PRODUCT BOTTOMS
 4092235 - TREATMENT OF COAL BY ALKYLATION OR ACYLATION TO INCREASE LIQUID PRODUCTS FROM COAL LIQUEFACTION
 4094765 - COAL LIQUEFACTION PROCESS
 4094768 - SEPARATION OF BITUMEN FROM TAR SANDS USING SULFUR AND WATER
 4111787 - STAGED HYDROCONVERSION OF AN OIL-COAL MIXTURE
 4113602 - INTEGRATED PROCESS FOR THE PRODUCTION OF HYDROCARBONS FROM COAL OR THE LIKE IN WHICH FINES FROM GASIFIER ARE COKED WITH HEAVY HYDROCARBON OIL
 4123347 - COAL LIQUEFACTION PROCESS
 4125452 - INTEGRATED COAL LIQUEFACTION PROCESS

FIRESTONE TIRE AND RUBBER COMPANY
 3582279 - OXIDATIVE DISTILLATION OF RUBBER VULCONIZATE
 3772242 - REINFORCED BY SCRAP RUBBER CHAR
 3823221 - PRODUCTION OF A CHAR REINFORCING AGENT FROM PYROLYZED SCRAP-RUBBER
 3823223 - RUBBER REINFORCING AGENT
 3823224 - PRODUCTION OF A CHAR REINFORCING AGENT FROM PYROLYZED SCRAP-RUBBER

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

FIRMA CARL STILL RECKLINGHAUSEN
 4123331 - METHOD OF KEEPING THE CIRCULATING SPRINKLING WATER FOR THE UPTAKES OF COKE OVENS CLEAN

FIRMA CARL STILL
 3623959 - METHOD AND APPARATUS COKING FURNACE UNIT
 3652403 - METHOD AND APPARATUS FOR THE EVACUATION OF COKE FROM A FURNACE CHAMBER
 3753866 - PROCESS AND APPARATUS FOR MAKING COKE OF EVEN SIZE
 4050990 - METHOD AND APPARATUS FOR PRODUCING FORM COKE
 4105504 - APPARATUS FOR PRODUCING FORM COKE
 4115202 - APPARATUS FOR PRODUCING NON-ABRASIVE COKE FORMS FROM BROWN-COAL BRIQUETS

FISCHER HOLDINGS LTD.
 3758385 - PROCESS FOR COKING LIGNITIC COAL

FMC CORPORATION
 3453202 - HYDROGENATION OF COAL TAR
 3574065 - FRACTIONAL CARBONIZATION OF COAL
 3721608 - FLUIDIZING DEVICES FOR FLUID BEDS, WITH IN-PROCESS CLEANING
 3801514 - PROCESS FOR REGENERATING SPENT ACTIVE CARBON IN A SUSPENSION DISPERSION TRANSPORT SYSTEM
 3996108 - BRIQUETTING OF REACTIVE COAL CALCINATE WITH HIGH-TEMPERATURE COKE OVEN PITCH

FOREST FUELS, INC.
 4095958 - APPARATUS AND METHOD FOR PRODUCING COMBUSTIBLE GASES FROM BIOMASS MATERIAL

FOSTER WHEELER CORPORATION
 3467587 - WASTE INCINERATOR STEAM GENERATOR-FLASH EVAPORATOR DESALINATION UNIT

FOSTER WHEELER ENERGY CORPORATION
 4095993 - MODULAR SYSTEM FOR REDUCING SULFUR DIOXIDE

FUJI KASUI ENGINEERING CO., LTD.
 3997407 - APPARATUS FOR DISPOSAL OF RUBBER WASTE

GARBALIZER CORPORATION OF AMERICA
 3725538 - PRODUCTION OF CARBON FROM WASTE MATERIALS

GENERAL ELECTRIC COMPANY
 3811849 - REFRACTORY BODIES AS FIXED BED COAL GASIFICATION DILUENTS

GILBERT ASSOCIATES, INC.
 4067700 - METHOD FOR GASIFYING COAL

GOSUDARSTVENNY VSESOUJZNY INSTITUT PO -
 3542650 - METHOD OF LOADING CHARGE MATERIALS INTO A HORIZONTAL COKE OVEN

GREAT CANADIAN OIL SANDS LIMITED
 3466240 - COKING A MIXTURE OF TAR SANDS AND FROTH PRODUCT
 3487003 - REMOVAL OF CLAY FROM THE WATER STREAMS OF THE HOT WATER PROCESS BY FLOCCULATION
 3486093 - UTILIZING ION EXCHANGE TO REDUCE FRESH WATER REQUIREMENT OF HOT WATER PROCESS
 3502665 - EFFLUENT DISCHARGE BITUMEN RECOVERY BY SETTLING
 3502566 - BACTERIAL TREATMENT OF HOT WATER PROCESS EFFLUENT DISCHARGE
 3509641 - TAR SANDS CONDITIONING VESSEL

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

- ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
(CONTINUED)
- GREAT CANADIAN OIL SANDS LIMITED
 - 3526585 - REMOVING SUSPENDED SOLIDS FROM A LIQUID
 - 3530041 - CONTINUOUS SETTLED DENSITY ANALYSES
 - 3530042 - APPARATUS AND CONTROL FOR -HOT WATER PROCESS
 - 3594306 - SEPARATION CELL AND SCAVENGER CELL FROTHS TREATMENT
 - 3607720 - HOT WATER PROCESS IMPROVEMENT
 - 3751358 - FREEZE-THAW SEPARATION OF SOLIDS FROM TAR SANDS EXTRACTION EFFLUENTS
 - 3864829 - METHODS AND COMPOSITIONS FOR REFINING BITUMINOUS FROTH RECOVERED FROM TAR SANDS
 - 3900389 - METHOD FOR UPGRADING BITUMINOUS FROTH
 - 3901791 - METHOD FOR UPGRADING BITUMEN FROTH
 - 3931006 - METHOD OF REDUCING SLUDGE ACCUMULATION FROM TAR SANDS HOT WATER PROCESS
 - 3936358 - METHOD OF CONTROLLING THE FEED RATE OF QUENCH WATER TO A COKING DRUM IN RESPONSE TO THE INTERNAL PRESSURE THEREIN
 - 3951779 - IMPROVED HYDROSEPARATION PROCESS FOR AQUEOUS EXTRACTION OF BITUMEN FROM TAR SANDS
 - 3953318 - METHOD OF REDUCING SLUDGE ACCUMULATION FROM TAR SANDS HOT WATER PROCESS
 - 3969220 - AERATING TAR SANDS-WATER MIXTURE PRIOR TO SETTLING IN A GRAVITY SETTLING ZONE
 - 3986592 - HOT WATER EXTRACTION CELL CONTAINING TWO OR MORE DEFLECTION BAFFLES
 - 3990885 - PROCESS FOR RECOVERING HYDROCARBONS AND HEAVY MINERALS FROM A TAR SAND HOT WATER PROCESS WASTE STREAM
 - 3998702 - APPARATUS FOR PROCESSING BITUMINOUS FROTH
 - 4008146 - METHOD OF SLUDGE DISPOSAL RELATED TO THE HOT WATER EXTRACTION OF TAR SANDS
 - 4018664 - METHOD FOR REDUCING MINERAL CONTENT OF SLUDGE
 - 4018665 - RECYCLING AERATED SCAVENGED MIDDINGS TO CONDITIONING STEP OF HOT WATER EXTRACTION PROCESS
 - 4033853 - PROCESS AND APPARATUS FOR HEATING AND DEAERATING RAW BITUMINOUS FROTH

GREAT LAKES CARBON CORPORATION

- 3506745 - METHOD OF ELIMINATING PUFFING IN THE MANUFACTURE OF ELECTRODES FROM PUFFING PETROLEUM COKE
- 3546076 - METHOD OF PRODUCING METALLURGICAL COKE
- 3619376 - METHOD OF MAKING METALLURGICAL COKE BRIQUETTES FROM COAL, RAW PETROLEUM COKE, INERT MATERIAL AND A BINDER
- 3822218 - PRODUCTION OF ACTIVATED CARBON FROM RUBBER AND A CARBONACEOUS BINDER
- 3836434 - PROCESS FOR DECOCKING A DELAYED COKER
- 3880359 - APPARATUS FOR DECOCKING A DELAYED COKER
- 3896556 - COOLING AND DE-DUSTING OF HOT PARTICULATE MATERIAL PARTICULARLY CALCINED PETROLEUM COKE
- 3953928 - COOLING OF HOT PARTICULATE MATERIAL PARTICULARLY CALCINED PETROLEUM COKE
- 4053365 - ROTARY CALCINER

GRIFFITH LABORATORIES, INCORPORATED

- 3873741 - AIR REGULATION IN THE PYROLYSIS OF WOOD TO PRODUCE LIQUID SMOKE FOR THE TREATMENT OF FOOD PRODUCTS

GUARDIAN CHEMICAL CORPORATION

- 4120777 - PROCESS FOR RECOVERY OF BITUMINOUS MATERIAL FROM TAR SANDS

GULF OIL CANADA LIMITED

- 3816305 - CLARIFICATION OF TAR SANDS MIDDINGS WATER

GULF OIL CORPORATION

- 3997422 - COMBINATION COAL DEASHING AND COKING PROCESS

GULF RESEARCH + DEVELOPMENT COMPANY

- 3640816 - MULTIPLE STAGE PROCESS FOR PRODUCING LIGHT LIQUIDS FROM COAL
- 3957619 - PROCESS FOR THE CONVERSION OF CARBONACEOUS MATERIALS
- 3997426 - PROCESS FOR THE CONVERSION OF CARBONACEOUS MATERIALS
- 4032429 - COAL LIQUEFACTION PROCESS USING AN ALUMINUM PHOSPHATE SUPPORTED CATALYST
- 4080282 - CATALYTIC REACTOR AND PROCESS FOR HYDROGENATING SOLID-CONTAINING CARBONACEOUS MATERIALS IN SAID REACTOR
- 4080285 - THERMAL CRACKING OF SHALE OIL

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
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- GULF RESEARCH + DEVELOPMENT COMPANY
 4081361 - PROCESS FOR THE CONVERSION OF CARBONACEOUS MATERIALS
 4083769 - CATALYTIC PROCESS FOR LIQUEFYING COAL
 4090942 - PROCESS FOR PRODUCING BENZENE
 4102774 - SEPARATION OF SOLIDS FROM COAL LIQUIDS USING AN ADDITIVE
 4104200 - HYDROGENATING CATALYST
 4110192 - PROCESS FOR LIQUEFYING COAL EMPLOYING A VENTED DISSOLVER
 4116808 - PROCESS FOR HYDROGENATING A SOLID CARBONACEOUS MATERIAL WITH NI/TI/MO ON A MANGESIUM-DEFICIENT MAGNESIUM ALUMINATE SPINE L-AS CATALYST
 4124485 - SEPARATION OF SOLIDS FROM COAL LIQUIDS WITH AN ADDITIVE BLEND
 4128471 - COAL LIQUEFACTION PROCESS EMPLOYING CARBON MONOXIDE
- HANOVER RESEARCH CORPORATION
 4013516 - APPARATUS AND PROCESS FOR THE PYROLYSIS OF WASTE SOLIDS CONCENTRATES
- HARTUNG, KUHN + CO. MASCHINENFABRIK GMBH
 3964977 - METHOD AND APPARATUS FOR OPERATING A LEVELING DEVICE FOR A COKING OVEN
- HAZEN RESEARCH, INC.
 4098584 - REMOVAL OF IMPURITIES FROM COAL
 4119410 - PROCESS FOR IMPROVING COAL
 4120665 - PROCESS FOR IMPROVING COAL
- HEINRICH KOOPERS GMBH
 3607660 - PROCESS FOR REGULATING THE TEMPERATURE OF A COKE OVEN CHAMBER
 3619375 - PROCESS FOR MAINTAINING TEMPERATURE DIFFERENTIAL IN COKING CHAMBER OF HORIZONTAL COKING OVEN
 3753867 - APPARATUS FOR CHARGING COKE OVENS
 3839156 - PROCESS AND APPARATUS FOR CONTROLLING THE HEATING OF A HORIZONTAL BY-PRODUCT COKE OVEN
 3841977 - APPARATUS FOR CLEANING THE ASCENSION PIPES OF COKE OVENS
 3988211 - APPARATUS FOR QUENCHING COKE PUSHED FROM COKE OVENS
- HERCULES INCORPORATED
 3736111 - PROCESS AND APPARATUS FOR THE COMPLETE RECLAMATION OF VALUABLE PRODUCTS FROM SOLID WASTE
 3998756 - PREPARATION OF ACTIVATED CARBONACEOUS MATERIAL FROM SEWAGE SLUDGE AND SULFURIC ACID
- HOOGOVENS IJMUIDEN B.V.
 3959082 - METHOD OF OPERATING A BATTERY OF COKE OVENS
 4021309 - AUTOMATIC COKE OVEN PLANT WITH MEANS TO INSURE SUFFICIENT COKING
- HOUILLERES DU BASSIN DE LORRAINE
 4038183 - COKE MANUFACTURING PROCESS
 4110168 - PROCESS FOR THE SEPARATION OF TARRY DUSTS FROM COKE OVEN GAS
- HUSKY INDUSTRIES INC.
 4100032 - PROCESS FOR CARBONIZING LIGNITE COAL
- HUTTENWERK OBERHAUSEN AG., FIRMA
 3506590 - MANUFACTURE OF SYNTHESIS-, HYDROGENATING-, OR REDUCTION-GAS
- HYDROCARBON RESEARCH INC.
 3483116 - PRODUCTION OF HYDROCARBONS FROM SHALE
 3519552 - SOLIDS DRYING PROCESS
 3519553 - COAL CONVERSION PROCESS

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

HYDROCARBON RESEARCH INC.

- 3519554 - RESIDUUM RECOVERY FROM COAL CONVERSION PROCESS
- 3519555 - EBULLATED BED COAL HYDROGENATION
- 3607719 - LOW PRESSURE HYDROGENATION OF COAL
- 3617465 - COAL HYDROGENATION
- 3617474 - LOW SULFUR FUEL OIL FROM COAL
- 3678573 - TWO STAGE COUNTER-CURRENT HYDROGENATION OF COAL
- 3700584 - HYDROGENATION OF LOW RANK COAL
- 3704108 - HYDROCONVERSION OF WASTE NATURAL AND SYNTHETIC RUBBERS
- 3725241 - SOLIDS REMOVAL FROM HYDROGENATED COAL LIQUIDS
- 3755137 - MULTI-STAGE EBULLATED BED COAL-OIL HYDROGENATION AND HYDROCRACKING PROCESS
- 3769198 - HYDROGENATION OF COAL USING UNREDUCED CATALYST
- 3775071 - METHOD FOR FEEDING DRY COAL TO SUPERATMOSPHERIC PRESSURE
- 3791957 - COAL HYDROGENATION USING PRETREATMENT REACTOR
- 3856658 - SLURRIED SOLIDS HANDLING FOR COAL HYDROGENATION
- 3862108 - HYDROGENATION OF RESIDUUM
- 3962070 - H-COAL PROCESS* SLURRY OIL RECYCLE SYSTEM
- 3976557 - PRETREATMENT OF COAL-DERIVED LIQUID TO IMPROVE MAGNETIC SEPARATION OF SOLIDS
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3436312 - CARBONIZATION OF BAGASSE

ROCKWELL INTERNATIONAL CORPORATION

3708270 - PYROLYSIS METHOD
 4092236 - MOLTEN SALT HYDROCONVERSION PROCESS

SARBERGWERKE AKTIENGESELLSCHAFT

4123348 - PROCESS FOR CATALYTIC HYDROGENATION OF COAL
 4123349 - SEPARATION OF SOLIDS CONTAINING RESIDUES FROM LIQUID FRACTIONS OF A COAL HYDROGENATION PROCESS USING AN EXPANSION ENGINE AND A PRESSURE RELEASE MEANS

SALEM CORPORATION

3470068 - METHODS AND APPARATUS FOR THE CONTINUOUS TREATMENT OF NON-COKING COAL AND OTHER DISCRETE MATERIALS
 3475286 - ROTARY HEAT TREATING OVEN
 3536592 - ROTARY COKE QUENCHING APPARATUS
 3770417 - SIMULTANEOUS PRODUCTION OF METALLIZED DRES AND COKE
 3859172 - MULTIPLE RABBLED ROTARY HEARTH

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
 SALEM CORPORATION
 3998703 - METHOD OF TREATING MATERIALS ON A ROTARY HEARTH (CONTINUED)
 SALEM FURNACE CO.
 4096038 - METHOD AND APPARATUS FOR OPERATING A CALCINER UNDER A PRESSURE DIFFERENTIAL
 SANYO KOKUSAKU PULP CO., LTD.
 3971705 - METHOD OF PRODUCING CHAR FROM PULP MANUFACTURING WASTE LIQUOR
 SAYLER; WILLIAM H.
 4011303 - PROCESS FOR DESULFURIZING SULFUR-BEARING COKE
 SCIENTIFIC RESEARCH INSTRUMENTS CORPORATION
 3801469 - METHOD FOR EFFECTING CHEMICAL REACTIONS BETWEEN CASCADING SOLIDS AND COUNTERFLOWING GASES OR FLUIDS
 SETECH INTERNATIONAL LIMITED
 4125578 - RECLAIMED VULCANIZED RUBBER
 SHELL CANADA LIMITED
 4035282 - PROCESS FOR RECOVERY OF BITUMEN FROM A BITUMINOUS FROTH
 SHELL OIL COMPANY
 3459653 - FILTRATION OF SOLVENT-WATER EXTRACTED TAR SAND
 3475318 - SELECTIVE SOLVENT EXTRACTION PLUS FILTRATION OF TAR SANDS
 3502564 - HYDROPROCESSING OF COAL
 3527691 - PROCESS FOR CONVERSION OF COAL
 3527692 - SIMULTANEOUS PIPELINE TRANSPORTATION AND RECOVERY OF OIL FROM OIL SHALE
 3532617 - HYDROCONVERSION OF COAL WITH COMBINATION OF CATALYSTS
 3542665 - PROCESS OF CONVERTING COAL TO LIQUID PRODUCTS
 3542666 - ADJUSTMENT OF PH IN THE FILTRATION OF TAR SAND SOLVENT-WATER SYSTEMS
 3547803 - RECOVERY OF OIL FROM BITUMINOUS SANDS
 3549512 - PROCESS FOR CONVERSION OF COAL
 3553098 - RECOVERY OF TAR FROM TAR SANDS
 3553099 - PROCESS FOR EXTRACTING TAR FROM TAR SAND
 3575842 - RECOVERING TAR FROM TAR SAND
 3634225 - PROCESS FOR RETORTING OIL-BEARING SHALE
 3640849 - SPENT SHALE RETORT WITH SONIC OSCILLATOR CLINKER CUTTER
 3657108 - REGENERATION OF METAL HALIDE CATALYST
 3663452 - HYDROGENATION CATALYST
 3668109 - PROCESS FOR HYDROCONVERSION OF ORGANIC MATERIALS
 3677932 - MOLTEN SALT HYDROCONVERSION PROCESS
 3679577 - MOLTEN SALT HYDROFINING PROCESS
 3695354 - HALOGENATING EXTRACTION OF OIL FROM OIL SHALE
 3725239 - HYDROGENATION CATALYST AND PROCESS
 3764515 - PROCESS FOR HYDROCRACKING HEAVY HYDROCARBONS
 3790469 - HYDROCRACKING OF COAL IN MOLTEN ZINC IODIDE
 3790469 - HYDROCRACKING COAL IN MOLTEN ZINC IODIDE
 3824178 - HYDROCRACKING PETROLEUM AND RELATED MATERIALS
 3824179 - HYDROCRACKING PETROLEUM AND RELATED MATERIALS BY HOMOGENEOUS CATALYSIS
 3844928 - HYDROCRACKING HEAVY HYDROCARBONACEOUS MATERIALS IN MOLTEN ZINC IODIDE
 3925189 - PIPELINE PROCESSING OF OIL-CONTAINING SOLIDS TO RECOVER HYDROCARBONS
 4110193 - PROCESS FOR PRODUCTION OF HYDROCARBONACEOUS FLUIDS FROM SOLIDS SUCH AS COAL AND OIL SHALE

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
 ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING

SHIRCO, LTD.
 4050900 - INCINERATION APPARATUS
 4130474 - LOW-TEMPERATURE OIL SHALE AND TAR SAND EXTRACTION PROCESS

SHOWA DENKO KABUSHIKI KAISHA
 3547804 - PROCESS FOR PRODUCING HIGH GRADE PETROLEUM COKE

SINCLAIR OIL CORPORATION
 3532618 - POUR POINT DEPRESSANT MADE BY HYDROVISBREAKING AND DEASPHALTING A SHALE OIL

SINCLAIR RESEARCH INC.
 3516787 - RECOVERY OF OIL AND ALUMINUM FOR OIL SHALE
 3524806 - PROCESS OF MAKING LARGE COKE PARTICLES

SIRMAC LTD.
 3960768 - PRODUCTION OF CARBON BY ELIMINATING HYDROGEN HALIDE FROM POLYMERIZED HALOHYDROCARBONS

SOCIETE ANONYME ACTIVIT
 3677727 - PROCESS OF ACTIVATION AND GASIFICATION OF FLUIDISED CARBONACEOUS MATERIALS

SOUTH AFRICAN COAL, OIL + GAS CORPORATION LIMITED
 4036730 - SOLVENT-REFINING OF COAL
 4045187 - CARBONACEOUS MATERIAL

STAMICARBON N.Y.
 3479251 - PROCESS FOR THE PRODUCTION OF MOLDED OBJECTS

STANDARD OIL COMPANY (INDIANA)
 4005005 - PROCESS FOR RECOVERING AND UPGRADING HYDROCARBONS FROM TAR SANDS
 4117886 - OIL SHALE RETORTING AND OFF-GAS PURIFICATION

STANDARD OIL COMPANY
 3565751 - METHOD FOR PYROLYSIS AND CATALYTIC HYDROGENATION
 3630959 - CARBONIZATION OF BITUMINOUS COALS
 3642657 - PRODUCTION OF ACTIVE CARBONS FROM AROMATIC CARBOXYLIC ACIDS, PETROLEUM COKE ACID OR FROM POROUS CARBONS
 3658654 - SCREW-CONVEYING RETORTING APPARATUS WITH HYDROGENATION MEANS
 3715303 - HYDROTREATMENT OF FOSSIL FUELS
 3726808 - PROCESS FOR THE PRODUCTION OF ACTIVE CARBONS
 3948754 - PROCESS FOR RECOVERING AND UPGRADING HYDROCARBONS FROM OIL SHALE AND TAR SANDS
 3948755 - PROCESS FOR RECOVERING AND UPGRADING HYDROCARBONS FROM OIL SHALE AND TAR SANDS
 3983027 - PROCESS FOR RECOVERING UPGRADED PRODUCTS FROM COAL
 3983028 - PROCESS FOR RECOVERING UPGRADED PRODUCTS FROM COAL
 3988238 - PROCESS FOR RECOVERING UPGRADED PRODUCTS FROM COAL
 3994829 - PROCESS FOR PRODUCTION OF ACTIVATED CARBON
 4055480 - MULTI-PHASE SEPARATION METHODS AND APPARATUS
 4067796 - TAR SANDS RECOVERY PROCESS

STEAG AG
 4111665 - APPARATUS FOR THE GASIFICATION UNDER PRESSURE OF BITUMINOUS COAL, ESPECIALLY OF FINE COAL IN A GENERATOR

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

- STORA KOPPARBERGS BERGSLAGS AB
 - 4026679 - APPARATUS FOR AND PROCESS OF CONVERTING CARBONACEOUS MATERIALS CONTAINING SULPHUR TO AN ESSENTIALLY SULPHUR-FREE COMBUSTIBLE GAS
- SUMIKIN COKE COMPANY LIMITED
 - 4100031 - PROCESS FOR PREPARING BLAST FURNACE COKES
- SUMITOMO ELECTRIC INDUSTRIES, LTD.
 - 3884288 - METHOD FOR TREATMENT OF RUBBER AND PLASTIC WASTES
- SUMITOMO METAL INDUSTRIES, LTD.
 - 3883399 - CHARGING COKE OVEN BLENDED COAL AND AN OVERLAY OF BRIQUETTES
 - 3907648 - METHOD OF MANUFACTURING FORMED COKE FOR BLAST FURNACES WITHOUT CAUSING THE FUSION OF THE COKE
- SUMITOMO SHIPBUILDING + MACHINERY CO., LTD.
 - 4008147 - METHOD FOR TREATMENT OF HEAVY FRACTION RECOVERED THROUGH THERMAL CRACKING OF HIGH MOLECULAR-WEIGHT HYDROCARBONACEOUS MATERIALS
- SUNOCO ENERGY DEVELOPMENT CO.
 - 4018682 - FREEZE-THAW METHOD FOR REDUCING MINERAL CONTENT OF A CLAY-WATER MIXTURE
- SUN OIL COMPANY OF PENNSYLVANIA
 - 3449211 - APPARATUS FOR PYROLYSIS OF SOLIDS
 - 3464892 - TUNNEL OVEN WITH A SERIES OF MOVING BARGES AND SEPARATE COMPARTMENTS
 - 3481720 - PROCESS AND APPARATUS FOR THE DISTILLATION OF SOLIDS
 - 3487002 - RETORTING OF BITUMINOUS SANDS
 - 3509037 - TAR SAND SEPARATION PROCESS USING SOLVENT, HOT WATER AND CORRELATED CONDITIONS
 - 3518181 - PYROLYTIC METHODS OF TREATING BITUMINOUS TAR SANDS AND PREHEATING OF THE SAME
 - 3594305 - PROCESS FOR HYDROGENATION OF COAL
 - 3623972 - TAR SAND RETORTING
 - 3642607 - COAL DISSOLUTION PROCESS
 - 3663421 - CONTINUOUS, FLUIDIZED PROCESS AND SYSTEM FOR THERMAL RECOVERY OF HYDROCARBONACEOUS
 - 3687838 - COAL DISSOLUTION PROCESS
 - 3729407 - HYDROGENATION PROCESS UTILIZING RECOVERED CATALYST
 - 3954415 - VESSEL FOR EXTRACTING BITUMEN FROM TAR SANDS
 - 3963599 - RECOVERY OF BITUMEN FROM AQUEOUS STREAMS VIA SUPERATMOSPHERIC PRESSURE AERATION
- SUN RESEARCH AND DEVELOPMENT COMPANY
 - 3819506 - COAL DISSOLVING PROCESS
 - 3920536 - COAL DISSOLVING PROCESS
- SUNTECH, INC.
 - 4021329 - PROCESS FOR DISSOLVING SUB-BITUMINOUS COAL
- SUPERIOR OIL COMPANY
 - 3821353 - SHALE OIL AND MINERAL RECOVERY PROCESS
 - 3962403 - PROCESS FOR SEPARATION OF NAHCOLITE FROM OIL SHALE
 - 4058905 - METHOD FOR REDUCING RESIDENCE TIME AND ELIMINATING GAS LEAKAGE BETWEEN ZONES IN A CROSS-FLOW DEVICE FOR HEATING AND COOLING SOLIDS
 - 4082645 - RECOVERY OF HYDROCARBON VALUES BY CONTROLLED REDUCTION AND OXIDATION OF OIL SHALE

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

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

SYNGAS RECYCLING CORPORATION

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

SYRACUSE UNIVERSITY RESEARCH CORPORATION

3850477 - CHEMICAL COMMUNITION AND MINING OF COAL

TAKEDA CHEMICAL INDUSTRIES LTD.

3541025 - PROCESS FOR PRODUCING ACTIVATED CARBON IN AN ASCENDING TURNING CURRENT OF ACTIVATING GAS
 3676365 - METHOD FOR MANUFACTURING ACTIVATED CARBON AND APPARATUS THEREFOR
 3852216 - PROCESS FOR PRODUCING COARSE PARTICLES OF ACTIVE CARBON IN A FLUIDIZED BED WITH ADDED INERT PARTICLES
 4007014 - ACTIVATED CARBON REVIVIFICATION EQUIPMENT

TAKUMA KIKAN MFG. CO.

3716339 - HYDROGEN CHLORIDE RECOVERY INCINERATOR FOR PLASTICS CONTAINING HYDROGEN AND CHLORINE

TECHNIKOIL, INC.

3442789 - SHALE OIL RECOVERY PROCESS

TEXACO DEVELOPMENT CORPORATION

4099932 - CONVERSION OF SOLID FUELS TO FLUID FUELS

TEXACO INC.

3554286 - RECOVERY OF HYDROCARBONS FROM SUBTERRANEAN HYDROCARBON-BEARING FORMATIONS
 3558426 - TREATMENT OF WASTE LIQUORS FROM PULP AND PAPER MILLS
 3565784 - HYDROTORTING OF SHALE TO PRODUCE SHALE OIL
 3581823 - RECOVERY OF HYDROCARBONS FROM SUBTERRANEAN HYDROCARBON-BEARING FORMATIONS
 3595965 - PURIFICATION OF PETROLEUM COKE
 3598528 - PURIFICATION OF PETROLEUM COKE
 3617469 - HYDROTORTING OF SHALE TO PRODUCE SHALE OIL
 3617470 - HYDROTORTING OF SHALE TO PRODUCE SHALE OIL
 3617471 - HYDROTORTING OF SHALE TO PRODUCE SHALE OIL
 3617472 - PRODUCTION OF SHALE OIL
 3671403 - PROCESS FOR COKING PUMPABLE ANIMAL AND DAIRY WASTES
 3705077 - WASTE DISPOSAL PROCESS FOR SPENT WOOD-PULPING LIQUORS
 3715301 - MULTI-HYDROTORTING OF COAL
 3846276 - PROCESS FOR SEPARATING BITUMEN FROM TAR SAND RECOVERED FROM DEPOSITS BY MINING
 3855069 - FORMATION REDUCTION IN PRESSURE COKING EQUIPMENT
 3864254 - SEWAGE TREATMENT UNIT
 3876538 - PROCESS FOR DISPOSING OF AQUEOUS SEWAGE AND PRODUCING FRESH WATER
 3899398 - PROCESS FOR TREATING CITRUS WASTES TO OBTAIN WATER INSOLUBLE ESSENTIAL OILS
 3962076 - PROCESS FOR CONVERTING AQUEOUS SEWAGE TO POTABLE WATER
 3993655 - METHOD OF SEPARATING BITUMEN FROM TAR SAND WITH COLD SOLVENT
 4014661 - FUEL MAKING PROCESS
 4030981 - PROCESS FOR MAKING OIL FROM AQUEOUS REACTIVE SLUDGES AND SLURRIES
 4047898 - UPGRADING OF SOLID FUELS
 4052169 - TREATMENT OF SOLID FUELS
 4067767 - LIQUID PHASE COKING OF SPENT KRAFT PULPING LIQUORS
 4083696 - PROCESS FOR DESULFURIZING PIPELINED COAL
 4102749 - PROCESS FOR MAKING OIL FROM AQUEOUS REACTIVE SLUDGES AND SLURRIES

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

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

THAGARD TECHNOLOGY COMPANY

4042334 - HIGH TEMPERATURE CHEMICAL REACTOR
4057396 - FLUID-WALL REACTOR FOR HIGH TEMPERATURE CHEMICAL REACTION PROCESSES

TIDEWATER OIL COMPANY

3472622 - DESULFURIZATION OF COKE
3472624 - DESULFURIZATION OF PARTICULATE COKE

TORRAX SYSTEMS, INC.

3702039 - PRODUCTION OF USABLE PRODUCTS FROM WASTE MATERIAL

TOTAL ENERGY CORPORATION

3839191 - HYDROCRACKING OF COAL LIQUIDS

TRW INC.

3768988 - REMOVAL OF PYRITIC SULFUR FROM COAL USING SOLUTIONS CONTAINING FERRIC IONS
3926575 - REMOVAL OF PYRITIC SULFUR FROM COAL

TWENTY FARMS, INC.

4088562 - METHOD AND APPARATUS FOR PROCESSING OIL SHALE

UNION CARBIDE CORPORATION

3985820 - CRACKING PROCESS
3988236 - PROCESS FOR THE CONTINUOUS HYDROCARBONIZATION OF COAL
3988237 - INTEGRATED COAL HYDROCARBONIZATION AND GASIFICATION OF CHAR
4002535 - PRECONDITIONING TREATMENT OF COAL TO MINIMIZE AGGLOMERATION
4061600 - GRAPHITE ELECTRODE AND METHOD OF MAKING

UNION OIL COMPANY OF CALIFORNIA

3677533 - METHOD OF USING A COKE PREHEATER
3759795 - CALCINER-PREHEATER
4003797 - SUPERATMOSPHERIC PRESSURE SHALE RETORTING PROCESS
4004982 - SUPERATMOSPHERIC PRESSURE SHALE RETORTING PROCESS
4010092 - OIL SHALE RETORTING-GASIFICATION PROCESS
4016239 - RECARBONATION OF SPENT OIL SHALE
4025416 - SHALE RETORTING PROCESS
4043897 - OIL SHALE RETORTING
4069132 - OIL SHALE RETORTING PROCESS WITH DESULFURIZATION OF FLUE GAS
4083770 - USE OF CONTROL SYSTEM FOR GAS-SOLIDS CONTACTING PROCESSES
4127469 - OIL SHALE RETORTING PROCESS

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND. -

3849332 - SEQUENTIAL CARBONIZATION AND ACTIVATION OF FIBROUS MATERIAL IN A CARBON DIOXIDE ATMOSPHERE

UNITED STATES OF AMERICA, DEPARTMENT OF ENERGY

3914392 - HIGH TEMPERATURE INSULATING CARBONACEOUS MATERIAL
3929585 - PRODUCTION OF CHARCOAL FROM SAWDUST IN A FLUIDIZED BED
3945809 - METHOD AND APPARATUS FOR REMOVING COARSE UNENTRAINED CHAR PARTICLES FROM THE SECOND STAGE OF A TWO-STAGE COAL GASIFIER
3957460 - OXIDATION OF COAL-WATER SLURRY FEED TO HYDROGASIFIER
3963598 - FLASH HYDROGENATION OF COAL
3970434 - PROCESS FOR REDUCING SULFUR IN COAL CHAR
3981690 - AGGLOMERATING COMBUSTOR-GASIFIER METHOD AND APPARATUS FOR COAL GASIFICATION
3993458 - METHOD FOR PRODUCING SYNTHETIC FUELS FROM SOLID WASTE

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

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

UNITED STATES OF AMERICA, DEPARTMENT OF ENERGY

4011153 - LIQUEFACTION AND DESULFURIZATION OF COAL USING SYNTHESIS GAS

4018654 - PRETREATMENT OF COAL DURING TRANSPORT

4018663 - COAL LIQUEFACTION PROCESS

4035152 - DISTRIBUTION PLATE FOR RECIRCULATING FLUIDIZED BED

UNITED STATES OF AMERICA HEALTH EDUCATION AND WELFARE, MESNE

3829558 - DISPOSAL OF WASTE PLASTIC AND RECOVERY OF VALUABLE PRODUCTS THEREFROM

UNITED STATES OF AMERICA, INTERIOR

3424556 - PRODUCTION OF CARBON BLACK FROM COAL

3455789 - PROCESS FOR CONTINUOUS CARBONIZATION OF COAL

3463623 - PROCESS FOR GASIFYING CAKING COALS

3477942 - HYDROCARBON FUELS FROM COAL OR ANY CARBONACEOUS MATERIAL

3523886 - PROCESS FOR MAKING LIQUID FUELS FROM COAL

3540995 - H-COAL PROCESS: SLURRY OIL SYSTEM

3556978 - HYDRGASIFICATION OF CARBONACEOUS MATERIAL

3565766 - COPYRDLYSIS OF COAL AND HEAVY CARBONACEOUS RESIDUE

3577337 - SOLVENT EXTRACTION OF COAL

3629159 - REGENERATION OF SPENT ZINC HALIDE CATALYST USING PRELIMINARY HIGH PRESSURE HYDROGEN SOLVENT EXTRACTION

3642433 - PROCESS FOR EXTRACTING ALUMINUM COMPOUNDS FROM DAWSONITE AND DAWSONITIC OIL SHALE

3668145 - PRODUCTION OF ACTIVATED CARBON IN DUAL PULSE JET ENGINE SYSTEM

3733255 - CONVERSION OF MUNICIPAL REFUSE, SEWAGE SLUDGE AND OTHER WASTES TO HEAVY OIL OR BITUMEN

3736250 - CATALYTIC HYDROGENATION USING A KCL-ZNCL/2\ MOLTEN SALT MIXTURE AS A CATALYST

3808119 - PROCESS FOR REFINING CARBONACEOUS FUELS

3817723 - TWO-STAGE GASIFICATION OF PRETREATED COAL

3840456 - PRODUCTION OF LOW-SULFUR FUEL FROM SULFUR-BEARING COALS AND OILS

3884794 - SOLVENT REFINED COAL PROCESS INCLUDING RECYCLE OF COAL MINERALS

3884795 - SOLVENT REFINED COAL PROCESS WITH ZONES OF INCREASING HYDROGEN PRESSURE

3884796 - SOLVENT REFINED COAL PROCESS WITH RETENTION OF COAL MINERALS

3892654 - DUAL TEMPERATURE COAL SOLVATION PROCESS

3983455 - REMOVAL OF MINERAL MATTER INCLUDING PYRITE FROM COAL

UNITED STATES OF AMERICA, NATIONAL AERONAUTICS AND SPACE ADM

4121995 - SURFACTANT-ASSISTED LIQUEFACTION OF PARTICULATE CARBONACEOUS SUBSTANCES

UNITED STATES OF AMERICA, TENNESSEE VALLEY AUTHORITY

3996022 - CONVERSION OF WASTE RUBBER TO FUEL AND OTHER USEFUL PRODUCTS

UNITED STATES STEEL CORPORATION

3432396 - METHOD OF CLEARING TAR ACCUMULATIONS FROM A COKE- DVEN COLLECTOR MAIN

3441497 - JET FUELS FROM HYDROGENATED COAL TAR DERIVATIVES AND PINANE-CONTAINING MATERIALS

3647053 - APPARATUS FOR AND METHOD OF COLLECTING SMOKE FROM COKE OVENS DURING CHARGING

3755136 - SYSTEM FOR REMOVING SOLIDS FROM COAL LIQUEFACTION REACTOR EFFLUENTS

3790448 - METHOD OF PURIFYING WASTE FLUID

3806425 - QUENCHING COKE WITH SOLID STREAMS AND AVOIDING FLOODING

3980525 - INCREASING ETHYLENE FEEDSTOCK GASES PRODUCED BY QUENCHING EFFLUENT ZONE ABOVE COKE BED WITH COOLING LIQUID

4025395 - METHOD FOR QUENCHING COKE

4077848 - METHOD AND APPARATUS FOR APPLYING PATCHING OR SEALING COMPOSITIONS TO COKE OVEN SIDE WALLS AND ROOF

4094746 - COAL-CONVERSION PROCESS

4104129 - LOW TEMPERATURE CARBONIZATION AND DESULFURIZATION OF COAL UNDER ELEVATED PRESSURES

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

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

UNIVERSITY OF CALIFORNIA, THE REGENTS OF
 3639111 - METHOD AND APPARATUS FOR PREVENTING FORMATION OF ATMOSPHERIC POLLUTANTS IN THE COMBUSTION OF ORGANIC MATERIAL
 3761568 - METHOD AND APPARATUS FOR THE DESTRUCTIVE DECOMPOSITION OF ORGANIC WASTES WITHOUT AIR POLLUTION AND WITH RECOVERY OF CHEMICAL BYPRODUCTS
 3962044 - HEAT TREATING EXCRETA AND PRODUCTS THEREOF

UNIVERSITY OF UTAH
 3754076 - PRODUCTION OF SILICON CARBIDE FROM RICE HULLS
 4120776 - SEPARATION OF BITUMEN FROM DRY TAR SANDS

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

UOP INC.
 3477941 - METHOD OF TREATING COAL
 3488278 - PROCESS FOR THE TREATING COAL
 3503863 - COAL LIQUEFACTION PROCESS
 3503864 - COAL LIQUEFACTION METHOD
 3503865 - COAL LIQUEFACTION PROCESS
 3508202 - SOLVENT EXTRACTION METHOD
 3505203 - SOLVENT EXTRACTION METHOD
 3520794 - SOLVENT EXTRACTION METHOD
 3524820 - PREPARATION OF RARE EARTH METAL EXCHANGED CRYSTALLINE ALUMINO SILICATES
 3535224 - COAL LIQUEFACTION PROCESS
 3536608 - COAL LIQUEFACTION PROCESS
 3583900 - COAL LIQUEFACTION PROCESS BY THREE-STAGE SOLVENT EXTRACTION
 3598717 - METHOD FOR LIQUEFYING COAL
 3598718 - SOLVENT EXTRACTION OF COAL
 3671418 - COAL LIQUEFACTION PROCESS USING ASH AS A CATALYST
 3705092 - SOLVENT EXTRACTION OF COAL BY A HEAVY OIL
 3707461 - HYDROCRACKING PROCESS USING A COAL-DERIVED ASH
 3796650 - COAL-LIQUEFACTION PROCESS
 3813329 - SOLVENT EXTRACTION OF COAL UTILIZING A PTEROPOLY ACID CATALYST
 3839186 - PROCESS FOR PRODUCING VOLATILE HYDROCARBON PRODUCTS FROM COAL AND HYDROGEN
 3846275 - COAL LIQUEFACTION PROCESS
 3849287 - COAL LIQUEFACTION PROCESS
 3864096 - PROCESS FOR CONVERTING CELLULOSE
 3864097 - PROCESS FOR CONVERTING CELLULOSE
 3867275 - COAL LIQUEFACTION PROCESS
 3909390 - COAL LIQUEFACTION PROCESS
 3910834 - MOVING BED REACTOR CONVERSION PROCESS FOR PARTICULATE CONTAINING HYDROCARBONS SUCH AS SHALE OIL AND TAR-SANDS OIL
 3925188 - PRODUCTION OF HYDROGEN FOR USE IN COAL LIQUEFACTION
 3937425 - PROCESS FOR THE LIQUEFACTION OF COAL
 4079004 - METHOD FOR SEPARATING UNDISSOLVED SOLIDS FROM A COAL LIQUEFACTION PRODUCT
 4079005 - METHOD FOR SEPARATING UNDISSOLVED SOLIDS FROM A COAL LIQUEFACTION PRODUCT
 4081358 - PROCESS FOR THE LIQUEFACTION OF COAL AND SEPARATION OF SOLIDS FROM THE LIQUID PRODUCT
 4081359 - PROCESS FOR THE LIQUEFACTION OF COAL AND SEPARATION OF SOLIDS FROM THE LIQUID PRODUCT
 4081360 - METHOD FOR SUPPRESSING ASPHALTENE FORMATION DURING COAL LIQUEFACTION AND SEPARATION OF SOLIDS FROM THE LIQUID PRODUCT
 4082643 - PROCESS FOR THE LIQUEFACTION OF COAL AND SEPARATION OF SOLIDS FROM THE PRODUCT STREAM
 4082644 - PROCESS FOR THE LIQUEFACTION OF COAL AND SEPARATION OF SOLIDS FROM THE PRODUCT STREAM

- SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
- ASSIGNED PATENTING(1/69 - 12/78) - - ALPHA LISTING
- URBAN RESEARCH DEVELOPMENT CORPORATION
 3926582 - METHOD AND APPARATUS FOR PYROLYTIC TREATMENT OF SOLID WASTE MATERIALS
 3956076 - PYROLYTIC TREATMENT OF SOLID WASTE MATERIALS TO FORM CERAMIC PRILLS
- VEB LEUNA-WERKE WALTER ULBRICHT
 3441628 - PROCESS FOR PRODUCING WAXLIKE LOW MOLECULAR ETHYLENE POLYMERS AND COPOLYMERS
- VERKAUFSGESELLSCHAFT FUR TEERERZEUGNISSE (VFT)
 4031189 - PROCESS FOR PREPARING COMPOSITION CONTAINING CARBON AND LOW SULFUR, NITROGEN AND ASH CONTENT
- 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
- WATERFRONT N.V.
 4122036 - METHOD OF PYROLYZING SEWAGE SLUDGE TO PRODUCE ACTIVATED CARBON
- WENZEL, WERNER
 3725038 - PROCESS FOR MAKING POLYGON COKE IN COKING CHAMBERS AND COKE SO PRODUCED
 4106986 - METHOD OF IMPROVING THE MECHANICAL RESISTANCE OF COKE
- WESTERN OIL SANDS LTD.
 4054505 - METHOD OF REMOVING BITUMEN FROM TAR SAND FOR SUBSEQUENT RECOVERY OF THE BITUMEN
 4054506 - METHOD OF REMOVING BITUMEN FROM TAR SAND UTILIZING ULTRASONIC ENERGY AND STIRRING
- WESTVACO CORPORATION
 3647716 - TRANSPORT REACTOR WITH A VENTURI/TUBE CONNECTION TO A COMBUSTION CHAMBER FOR PRODUCING ACTIVATED CARBON
 3843559 - PROCESS FOR MAKING ACTIVATED CARBON FROM AGGLOMERATIVE COAL WITH WATER INJECTION TEMPERATURE CONTROL IN A FLUIDIZED OXIDATION STAGE
 3886093 - ACTIVATED CARBON WITH ACTIVE METAL SITES AND PROCESS FOR PRODUCING SAME
 3951856 - PROCESS FOR MAKING ACTIVATED CARBON FROM AGGLOMERATIVE COAL
 4002533 - TWO-STEP PROCESS FOR CONDITIONING SIZED COAL AND RESULTING PRODUCT
- WILPUTTE CORPORATION
 3933595 - OVEN DOOR FUME COLLECTION SYSTEM
 3956073 - COKE OVEN GAS AND LIQUOR COLLECTING APPARATUS
 4010079 - COKE OVEN CHARGING GAS CLEANING AND COLLECTING APPARATUS AND PROCESS
 4104128 - APPARATUS AND METHOD FOR RECOVERY OF COAL FINES
- WISE COAL + COKE COMPANY
 3594286 - CARBONIZING MULTIPLE LAYERS OF MATERIAL BY MAINTAINING REDUCING ATMOSPHERE IN BED AND OXIDIZING ATMOSPHERE ABOVE BED
- WORMSER ENGINEERING, INC.
 4051791 - COAL BURNING ARRANGEMENT
- SOCIETE FRANCAISE D ETUDE D INSTALLATIONS SIDERURGIQUES
 4036603 - APPARATUS FOR REMOVING SOLID MATTER FROM COAL TAR
- STANDARD OIL COMPANY (OHIO)
 3704224 - PROCESS FOR MANUFACTURE OF IMPROVED NEEDLE COKE FROM PETROLEUM

INVENTOR NAME	STREET	CITY	ST	ZIP/CNTRY
BACON	CONRAD G. DISTILLATION SYSTEM	MORRISTOWN	PA	19403
BARCELLOS	EDUARDO DA			
BLAINE	PROCESS FOR OBTAINING OIL, GAS, SULFUR AND OTHER PRODUCTS FROM OIL SHALE	RIO DE JANEIRO	CA	BR
	GENEVA 26007 S. LUCILLE AVE.			90717
BLAINE	SOLVENT EXTRACTION OF OIL FROM TAR SANDS UTILIZING A TRICHLOROETHYLENE SOLVENT	LOMITA	CA	
	FRANKLIN 26007 S. LUCILLE AVE.			
BLAINE	SOLVENT EXTRACTION OF OIL FROM TAR SANDS UTILIZING A TRICHLOROETHYLENE SOLVENT	LOMITA	CA	
	FRANKLIN 26007 S. LUCILLE AVE.			
BLEILER	SOLVENT EXTRACTION OF OIL FROM TAR SANDS UTILIZING A CHLORINATED ETHANE SOLVENT	HATBORO	PA	19040
	W. KENNETH 223 CRESTVIEW ROAD			
BRIMHALL	PROCESS FOR COAL DESULFURIZATION			
	GARY C. 2915 BRANCH DRIVE	SALT LAKE CITY	UT	84117
BRIMHALL	PROCESS AND FLUID MEDIA FOR TREATMENT OF TAR SANDS TO RECOVER OIL			
	H. GEORGE 435 MIRADA ROAD	HALF MOON BAY	CA	94109
CALDERON	ORGANIC WASTE TREATING AND CONVERSION SYSTEM			
	ALBERT 1065 MELROSE DRIVE	BOWLING GREEN	OH	43402
3972780	POLLUTION CONTROL OF COKE OVENS			
3984310	APPARATUS AND METHOD FOR MINIMIZING ACCUMULATION OF DEPOSITS BETWEEN THE DOOR AND JAMB OF A COKE OVEN AND HEATING THE ENDS OF THE COKE OVEN			
CAUGHEY	ROBERT A. CLINTON ROAD	ANTRIM	NH	03440
4030895	APPARATUS FOR PRODUCING COMBUSTIBLE GASES FROM CARBONACEOUS MATERIALS			
	TUNG-YU 32-50, 70TH ST., APT. 5J	EAST ELMHURST	NY	11370
CHIA	METHOD OF DESULFURIZING COAL			
	ERNEST E. P. D. BOX 106B	CHRISTIANSTED, ST. C	VI	00820
DONATH	PROCESS FOR CONVERTING HIGH SULFUR COAL TO LOW SULFUR POWER PLANT FUEL			
3991557	PROCESS FOR PSEUDOHYDROSTATIC FEEDING OF SOLIDS INTO A REACTOR			
4094651	PROCESS FOR PSEUDOHYDROSTATIC FEEDING OF SOLIDS INTO A REACTOR			
FAIRBANKS	JOHN B. JR. 3927 S. 3030 EAST	SALT LAKE CITY	UT	84106
4017377	PROCESS AND FLUID MEDIA FOR TREATMENT OF TAR SANDS TO RECOVER OIL			
	F. HAROLD 68 ELM ST.	MURRAY HILL	NJ	07974
FUNK	TREATING WASTE MATERIALS TO PRODUCE USABLE GASES			
3970524	H. JR. MARBLE STAR ROUTE	CARBONDALE	CO	81623
GIFFORD	HYDROCRACKING PROCESS FOR THE PRODUCTION OF SYNTHETIC FUELS			
4001105	ALEXANDER FRANK 169 FIFTH ST.	TORONTO, ONTARIO	CA	
GRAY	PROCESS AND APPARATUS FOR RECOVERING BITUMEN FROM BITUMINOUS SANDS			

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
UNASSIGNED PATENTS (1/75-12/78) INVENTORS (ALPHA LISTING)

INVENTOR NAME	STREET	CITY	ST	ZIP/CNTRY
GRAY	JOHN ADAM 169 FIFTH ST.	TORONTO, ONTARIO	CA	
GRIFITH	3891550 - PROCESS AND APPARATUS FOR RECOVERING BITUMEN FROM BITUMINOUS SANDS JOSEPH W. 8705 SW. WHITE COURT	PORTLAND	OR	97225
HAGSTROM	4052266 - METHOD AND APPARATUS FOR PURIFYING PROCESS WASTE EMISSIONS ROBERT G. 2401 STERLING RD.	NASHVILLE	TN	37215
HAHN	3870652 - PRODUCTION OF ACTIVATED CHAR USING A MOVING GRATE STOKER FURNACE HANS HELMUT 38 MARAIS ST.	BAILEY'S MUCKLENEUK,	ZA	
HALL	4053569 - UPGRADING COAL FOR COKING PURPOSES ROBERT N. 3578 PERADA DRIVE	WALNUT CREEK	CA	94598
HANSON	3976558 - METHOD AND APPARATUS FOR PYROLYZING OIL SHALE LESTER 1903 PRINCETON AVE.	SALT LAKE CITY	UT	84108
HARENDZA-HARINXMA	4065361 - APPARATUS AND SYSTEM FOR PROCESSING OIL SHALE ALFRED J. 50 MERION PLACE	LAWRENCEVILLE	NJ	08648
HELLEUR	3961025 - METHOD OF CARBONIZING A SUBSTANCE COMPRISING CELLULOSE DONALD EDMUND 221 MORTLAKE AVENUE	ST. LAMBERT, QUEBEC	CA	
HOLTER	4079585 - METHOD AND APPARATUS FOR REMOVING VOLATILE FLUIDS HEINZ BEISENSTRASSE 39-41	GLADBECK	DE	
JABLIN	4100033 - EXTRACTION OF CHARGE GASES FROM COKE OVENS RICHARD 1438 MANOR LANE	BLUE BELL	PA	19422
JONES	4066513 - COKE QUENCHING STEAM GENERATOR JOHN B. JR. 300 ENTERPRISE BUILDING	GRAND JUNCTION	CO	81501
KAUTZ	4042485 - COMBUSTION METHOD OF OIL SHALE RETORTING WALTER C. JR. 21707 NW. 51ST AVE.	RIDGEFIELD	WA	98646
KEMP	4050991 - PYROLYTIC REDUCER AND CONDENSER APPARATUS KLAUS M. 2410 ANACAPA ST.	SANTA BARBARA	CA	93105
KIENER	3945890 - CONVERTER SYSTEM 4052265 - PROCESS FOR THE PYROLYTIC TREATMENT OF ORGANIC, PSEUDO-ORGANIC AND INORGANIC MATERIAL KARL 7081 GOLDSHOPE	GRAND JUNCTION	CO	81501
KILBURN	4028068 - PROCESS AND APPARATUS FOR THE PRODUCTION OF COMBUSTIBLE GAS JAMES S. 3060 B-1/2 RD.	ELKTON	MD	21921
KIRKBRIDE	4121662 - WATER PURIFICATION WITH FRAGMENTED OIL SHALE CHALMER G. 13 ELK FOREST, R.D. #2	ENCINO	CA	91316
KOPPELMAN	4123230 - SULFUR REMOVAL FROM COAL EDWARD 4424 BERGAMO DR.			
	4127391 - PROCESS FOR MAKING COKE FROM BITUMINOUS FINES AND FUELS PRODUCED THEREFROM			

SYNTHETIC FUELS II A 1 - IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
 UNASSIGNED PATENTS (1/75-12/78) INVENTORS (ALPHA LISTING)

KOPPELMAN	EDWARD	STREET	CITY	ST	ZIP/CNTRY
4129420	PROCESS FOR MAKING COKE FROM CELLULOSIC MATERIALS AND FUELS PRODUCED THEREFROM	4424 BERGAMO DR.	ENGINO	CA	91316
LEAS	ARNOLD MARCEL	P.O. BOX 429	COLUMBIA CITY	IN	46725
LEAS	ARNOLD MARCEL	115 S. LINE ST.	COLUMBIA CITY	IN	46725
LOHRMANN	HUGO	HOLZHAUERHALSTRASSE	NEUNKIRCHEN-HEINITZ	DT	
LONG	RAYMOND H.	POST HOUSE RD., MAIL RT. 18	MORRISTOWN	NJ	07960
MACDONALD	JAMES E.	A MIXTURE OF CARBON MONOXIDE AND CHLORINE	LATROBE	PA	15650
MALEK	JOHN M.	P.O. BOX 71	LOMITA	CA	90717
4056460	PROCESS FOR LIQUEFYING CARBONACEOUS MATERIALS OF HIGH MOLECULAR WEIGHT AND FOR SEPARATING LIQUEFACTION PRODUCT				
4085029	METHOD FOR SEPARATING LIQUID AND SOLID PRODUCTS OF LIQUEFACTION OF COAL OR LIKE CARBONACEOUS MATERIALS				
MALEK	JOHN MICHAEL	P.O. BOX 2870	PASADENA	CA	91108
MATOVICH	EDWIN		BREA	CA	
3933434	HIGH TEMPERATURE CHEMICAL REACTOR				
MERESZ	OTTO	8 WALLINGFORD RD.	DON MILLS, BOTH OF 0	CA	
4098648	ROTARY SEPARATING AND EXTRACTING DEVICES				
MORRELL	JACQUE C.	4501 CONNECTICUT AVE., NW, APA	WASHINGTON	DC	20008
MORRELL	JACQUE C.	4501 CONNECTICUT AVE., NW., AP	WASHINGTON	DC	20008
MYERS	ELMAN B.	550 BERDAN AVE.	WAYNE	NJ	
3953317	COMPOSITION AND METHOD FOR SEPARATING BITUMINOUS CONSTITUENTS FROM BITUMINUM-BEARING SANDS				
MYERS	MARIAN M.	550 BERDAN AVE.	WAYNE	NJ	07470
3953317	COMPOSITION AND METHOD FOR SEPARATING BITUMINOUS CONSTITUENTS FROM BITUMINUM-BEARING SANDS				
O'CONNOR	CHADWELL	2024 GALAXY DRIVE	NEWPORT BEACH	CA	92660
4066024	ROTATING FLUIDIZED BED COMBUSTOR				
DVSYANNIKOV	ANATOLY FILIPPOVI				
3990949	DEVICE FOR RETURNING REMAINDERS FROM THE PLATFORM TO THE INTERIOR OF A COKE OVEN				
PAINTER	OLIVER K.	101 N. CHURCH ST.	MOUNT PLEASANT	PA	15666
3912597	SMOKELESS NON-RECOVERY TYPE COKE OVEN				

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
UNASSIGNED PATENTS (1/75-12/78) INVENTORS (ALPHA LISTING)

INVENTOR NAME	STREET	CITY	ST	ZIP/CNTRY
PRULL	PHILLIP EARL 2100 LEWELLING BLVD. NO. 10	SAN LEANDRO	CA	94579
PUTMAN	4028222 - METHOD FOR EXTRACTING OIL FROM OIL SHALE MAURICE W. 8346 E. VALLEY VISTA	SCOTTSDALE	AZ	85253
REED	4075083 - METHOD FOR DESTRUCTIVE DISTILLATION OF HYDROCARBONACEOUS MATERIALS THOMAS G. JR. 818 HEATHER COURT	HOUSTON	TX	77024
REEVES	3939057 - PROCESS FOR TREATING OIL SHALE ADAM A. P.O. BOX 781	ANVIL POINTS, RIFLE	CO	81650
REIS	4042485 - COMBUSTION METHOD OF OIL SHALE RETORTING THOMAS 4 VILLA DE MADRID	92 NEUILLY	FR	
ROSENBLOOM	3954674 - PROCESS AND DEVICE FOR CALCINATING DESULFURIZATION OF GREEN COKES WITH HIGH SULFUR CONTENT BY THE PREPARATION OF HIGH QUALITY AND DENSITY DESULFURIZED COKES WILLIAM J. B PIONEER RD.	WESTPORT	CT	06880
SANGA	3875046 - RECOVERY OF OIL FROM TAR SAND BY AN IMPROVED EXTRACTION PROCESS YASUHIRO 19-26, 5-CHOME, SHAKUJIICHO	NERIMAKU, TOKYO	JA	
SCHROEDER	3875077 - METHOD OF AND APPARATUS FOR PRODUCING ACTIVATED CHARCOAL FROM WASTE TIRES WILBURN C. 7316 RADCLIFFE DR.	COLLEGE PARK	MD	20740
SCHROEDER	3909212 - REMOVAL OF SULFUR FROM CARBONACEOUS FUELS WILBURN C. 7316 RADCLIFFE DRIVE	COLLEGE PARK	MD	20740
SINGH	3926775 - HYDROGENATION OF COAL 3944480 - PRODUCTION OF OIL AND HIGH BTU GAS FROM COAL 3954596 - PRODUCTION OF LOW SULFUR HEAVY OIL FROM COAL 3960701 - HYDROGENATION OF COAL TO PRODUCE COKE, PITCH AND ELECTRODE CARBON 4013426 - REMOVAL OF SULFUR FROM CARBONACEOUS FUEL ALAMJIT D. P.O. BOX 1679	CHICAGO	IL	60690
SMITH	3909364 - WASTE DISPOSAL METHOD AND APPARATUS 4039392 - PROCESS AND APPARATUS FOR PRODUCING CHAR AND CO-PRODUCTS FROM COAL AND THE LIKE DAVID E. RT. 2	ROLLA	MO	65401
SPECKEN	3901766 - METHOD AND APPARATUS FOR PRODUCING CHARCOAL GERALD A. 10719 HARDISTY DRIVE	EDMONTON, ALBERTA	CA	
SQUIRES	4069152 - CLARIFICATION OF CLAY CONTAINING WATER ARTHUR M. 245 W. 104 ST.	NEW YORK	NY	10025
STORRS	4032305 - TREATING CARBONACEOUS MATTER WITH HOT STEAM L. KENDREO 881 SECOND AVE.	SALT LAKE CITY	UT	84103
STOUT	3985637 - PROCESS FOR SEPARATING AND RECOVERING LIQUID PRODUCTS FROM SOLID AND LIQUID SUBSTANCES VINCENT H. 1003 SIERRA DRIVE	RIVERTON	WY	82501
	3977960 - HYDROCARBON RECOVERY SYSTEM			

INVENTOR NAME	INVENTOR NAME	ST	ZIP/CNTRY	PAGE D	5
SWANSON	ROLLAN	CA	90403		
SIZE	MORGAN				
VESTAL	GEORGE W.	NJ	07043		
WHITTEN	CHARLES M.	TX	76201		
WITHORN	BENJAMIN	TN	38401		
YOUNG	SERENUS H.	VA	22401		
ZAVITSANDS	PETER D.	GA	30060		
		PA	19403		

SYNTHETIC FUELS
 II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES
 UNASSIGNED PATENTS (1/75-12/78) INVENTORS (ALPHA LISTING)

STREET
 220 CALIFORNIA AVE.
 CITY
 SANTA MONICA

18 SKYTOP TER.
 UPPER MONTCLAIR
 A MIXTURE OF CARBON MONOXIDE AND CHLORINE
 RT. 4, BOX 238
 DENTON
 RT. 7, GOLF COURSE LN.
 COLUMBIA
 AND VAPOROUS HYDROCARBONS
 A MOVING GRATE STOKER FURNACE
 601 FORBES ST.
 FALMOUTH
 APT. S-3, 1716 TERRELL MILL RD
 MARIETTA
 AND OTHER COAL DERIVATIVES
 3018 OAK DRIVE
 NORRISTOWN

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

3432397 - METHOD OF RETORTING SOLIDS
 3433713 - GRAVITY-FLOW CALCINER AND PROCESS FOR CALCINING CARBONACEOUS SOLIDS
 3436314 - TECHNIQUE FOR CONVERTING BAGASSE AND OTHER MOIST PLANT SUBSTANCES INTO CHARCOAL
 3437561 - AGGLOMERATING COAL HYDROCARBONIZATION PROCESS
 3437562 - PROCESS FOR PRODUCING COMBINED COAL CHAR AND OIL COKE AND COPRODUCTS THEREWITH
 3441394 - MAKING STEAM FOR GASIFYING COAL
 3444047 - METHOD FOR MAKING METALLURGICAL COKE
 3448794 - DEVICE FOR EXTRACTING FROM OIL BEARING SHALE
 3449213 - PYROLYSIS OF COAL WITH MICROWAVE ENERGY
 3462346 - SMOKELESS COKE OVENS
 3472553 - METHOD OF AND APPARATUS FOR EXTRACTING BITUMEN
 3475278 - RECOVERY PROCESS AND APPARATUS
 3475317 - METHOD AND APPARATUS FOR OF SOLID HYDROCARBONACEOUS MATERIALS INCLUDING REACTIONS BETWEEN GASES AND UNSIZED SOLIDS AND THE PHYSICAL SEPARATION THEREOF
 3481834 - PROCESS AND APPARATUS FOR DESULFURIZING FUELS
 3494833 - COKE OVEN BATTERY INCLUDING HIGH AND LOW RICH GAS BURNERS
 3503868 - METHOD OF EXTRACTING AND CONVERTING PETROLEUM FROM OIL SHALE
 3506542 - METHOD FOR CONTROLLING THE READINESS OF THE COKE MASS IN THE CHAMBER OF A HORIZONTAL COKE OVEN
 3509027 - OIL SHALE RETORTING APPARATUS HAVING FRUSTO- CONICAL PASSAGES
 3519540 - CARBONIZING OVEN HAVING PARALLEL HORIZONTAL FLUES AND U-SHAPED AIR DUCTS
 3522168 - CHELATING AGENTS IN BITUMINOUS SAND WATER PROCESS
 3523911 - METHOD OF SEPARATING COMPONENTS OF CELLULOSIC MATERIAL
 3525673 - CLOSED, CONTROLLED SYSTEM FOR CARBONIZING ORGANIC REFUSE
 3526586 - RETORTING OF OIL SHALE
 3553100 - UPGRADING OF OIL RECOVERED FROM BITUMINOUS SANDS
 3560347 - APPARATUS FOR CARBONIZING CARBONACEOUS MATERIALS USING MICROWAVE ENERGY
 3562179 - APPARATUS FOR DEWATERING A BITUMINOUS EMULSION

SYNTHETIC FUELS II A 1- IN VITRO - OBTAINING LIQUID HYDROCARBONS - PROCESSES

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

3565785 - TEMPERATURE CONTROL IN RECOVERY OF BITUMEN FROM BITUMINOUS SAND
 3567621 - RECOVERY OF BITUMEN FROM BITUMINOUS SAND
 3567622 - OIL RECOVERY PROCESS
 3573195 - ADDITION OF LIGHT HYDROCARBON GAS TO TAR SAND
 3573196 - USE OF LIGHT HYDROCARBONS IN TAR SAND PROCESSING
 3574086 - RESTORATION OF LIGHT HYDROCARBON GASES TO TAR SAND
 3577338 - PROCESS FOR RECOVERY OF OIL FROM OIL SHALE SIMULTANEOUSLY PRODUCING HYDROGEN
 3597327 - PROCESS FOR PYROLYZING A SOLID OR LIQUID HYDROCARBONACEOUS FUEL IN A FLUIDIZED BED
 3605975 - APPARATUS FOR PROCESSING BITUMINOUS SANDS
 3607721 - PROCESS FOR TREATING A BITUMINOUS FROTH
 3615599 - METHOD OR AND APPARATUS FOR PROCESSING GARLIC
 3625861 - REGENERATION OF ZINC HALIDE CATALYST USED IN THE HYDROCRACKING OF POLYNUCLEAR HYDROCARBONS
 3632479 - TREATMENT OF COAL TO PREVENT AGGLOMERATION
 3644192 - UPFLOW THREE-PHASE FLUIDIZED BED COAL LIQUEFACTION REACTOR SYSTEM
 3645854 - METHOD IN BY-PRODUCT COKE OVEN OPERATION AND APPARATUS FOR SAME
 3649292 - RECOVERY OF PRODUCTS FROM PLANTAIN WASTES IN GHANA
 3649498 - DETECTION IN CHROMATOGRAPHY
 3652447 - PROCESS FOR EXTRACTING OIL FROM OIL SHALE
 3653515 - TIE RACK
 3661719 - NON-POLLUTING BY-PRODUCT COAL CARBONIZATION PLANT
 3663186 - METHOD OF PRODUCING METALLURGICAL COKE
 3679080 - PROCESS FOR LAUNCHING AND RECOVERY OF TOP-OF-VEHICLE TRANSPORTED WATERCRAFT
 3689365 - REGENERATIVE COKE FURNACE AND METHOD OF HEATING IT
 3691019 - RETORTING APPARATUS WITH HOOD-SHAPED UNITARY COOLANT JACKET DISPOSED OVER SCREW CONVEYOR
 3697412 - METHOD OF PROCESSING OIL SHALE
 3706662 - NON-POLLUTING WASTE REDUCER AND METHOD
 3717570 - SIMULTANEOUS HYDROFINING OF COKER GAS OIL, VACUUM GAS OILS AND VIRGIN KEROSENE
 3733183 - LOW SULPHUR FUEL SYSTEM UTILIZING COAL CHAR, AND CO-PRODUCTS THEREOF
 3733271 - WASTE DISPOSAL APPARATUS AND METHOD
 3734833 - LOW SULPHUR FUEL SYSTEM
 3761369 - METHOD AND APPARATUS FOR HEAT-TREATING MATERIALS
 3770419 - PYROLYSIS PROCESS SYSTEM FOR RECYCLING OF REFUSE
 3779722 - PROCESS FOR DESULFURIZING FUEL
 3784034 - COKE OVEN PUSHING AND CHARGING MACHINE AND METHOD
 3807564 - COMPACT SEWAGE TREATMENT UNIT
 3823073 - CALCINING COKE IN VERTICAL KILN
 3823084 - HYDROGENATION OF COAL
 3830903 - CARBONIZATION OF EXPANDED NATURAL GRAINS
 3835064 - PROCESS FOR MANUFACTURING AN ACTIVATED CARBON
 3836435 - METHOD OF HEAT TREATMENT OF COAL
 3847752 - AIR DIFFUSION IN ROTARY HEARTH CALCINER
 3853498 - PRODUCTION OF HIGH ENERGY FUEL GAS FROM MUNICIPAL WASTES
 3855070 - HYDROLYSIS OF HYDROCARBONACEOUS FUEL AT SHORT REACTION TIMES
 3856474 - BITUMEN EXTRACTION APPARATUS INCLUDING ENDLESS PERFORATE CONVEYOR AND PLURAL SOLVENT-SPRAY MEANS
 3857758 - METHOD AND APPARATUS FOR EMISSION FREE OPERATION OF BY-PRODUCT COKE OVENS
 3951749 - TAR SAND PROCESSING APPARATUS
 4111800 - PROCESS FOR TREATING MUNICIPAL SOLID WASTE AND RAW SEWAGE SLUDGE
 3072187 3073751 3074877 3075889 3075912 3075913 3076694 3076751 3077439 3081027 3084118 3085582

