95/02390 Development of smokeless fuel technology
Coal Distributors Ltd., Dublin, Ireland, Comm. Eur. Communities Report EUR.14869, 1994, 40 pp.
The report describes the study on coal-based fuel briquets for domestic open fires with characteristics conforming to environmental regulations.

95/02391 Distributed control system at National Steel's Great Lakes Div. Rehabilitated coke battery
Oliphant, M. A. and Gambert, G. *Iron Steel Eng.*, 1994, 71, (10), 23-25.

95/02392 Formulation of coal for coking
Tanaka, S. *et al., (Assigned to) Shinnippon Seitetsu KK, JAP. Pat. JP.06,212,164, Aug. 1994.*

95/02393 Fuel gas main replacement at Acme Steel's coke plant
Trevino, O. *Iron Steel Eng.*, 1994, 71, (9), 9-10.
Pushing temperatures were maintained during replacement of underfire fuel gas mains by converting 10-in diameter decarbonizing air mains into temporary fuel gas mains during the replacement period

95/02394 Implementation of automated workplaces in coke production in the Karaganda Metallurgical Plant
Korchagina, K. I. *et al., Koks Khim.*, 1994, (8), 29-30. (In Russian)
The paper describes the plants for bringing PC-based automation into office operations, e.g. planning, book-keeping, reporting at the coke production facility of the Karaganda Metallurtical Plant.

95/02395 Manufacture – of coke
Nasu, T. *et al., (Assigned to) Ishikawajima Harima Heavy Ind., JAP. Pat. JP.06,228,565, Aug. 1994.*
The process to manufacture the coke comprises carbonization of coal charge mixed with particulate plastics, which are granulated into an appropriate size, in a coke oven. The process is useful for plastic recycling.

95/02396 Manufacture of coke
Chikada, T. *et al., (Assigned to) Sumitomo Metal Ind., JAP. Pat. JP.06,228,564, Aug. 1994.*
The process comprises charging coal from lorry cars into coke ovens, carbonizing to 700-800° reheating the carbonized coke in inert gases heated at temperatures higher than the average temperature of the coke obtained, then dry cooling the coke.

95/02397 Manufacture of cokes
Arima, T. and Inada, M. *(Assigned to) Shinnippon Seitetsu KK, JAP. Pat. JP.06,264,069, Sep. 1994.*

95/02398 Manufacture of foundry coke from coal
(Assigned to) Veba Oel Technologie und Automatisierung GmbH, GER. Offen. DE.4,306,057, Sep. 1994.

95/02399 Microtextural study of cokes from hydropyrolysis of coals
Laurent, P. *et al., Fuel*, Feb. 1995, 74, (2), 201-207.
Two bituminous non-coking coals were selected to investigate the contribution of pressure and gas atmosphere (hydrogen and helium) on their textural and microtextural evolution during carbonization in a 100 g fixed bed semi batch unit. Microtextural analysis was carried out by transmission electron microscopy (TEM) with the help of 002 dark field images, whereas the texture was established by polarizing optical microscopy (OM). The results indicate a good coherence between OM and TEM and the complementary nature of these two techniques. If pressure is the predominant factor, the role of the nature of the gas atmosphere is nevertheless significant. These two parameters act on balance between formation and diffusion of the suspensive medium (the metaplast) responsible for the reorientation of the polyaromatic basic structural units.

95/02400 New process of producing formed coke from anthracite
Zhang, J. *Mei Huagong*, 1994, (2), 41-49. (In Chinese)
The production of the formed coke from anthracite mainly involves binding, briquetting, and coking. The process is realized continuously in a vertical coke oven.

95/02401 Preheating of coal. Effect of coal composition on the quality of coke and on the phenomenon of pressure
Incar-Ensidesa, *Comm. Eur. Communities, Report EUR.14667, 1994, 85 pp.*
Discusses a study of the carbonization of a wide range of coals, wet and after preheating. A 6-t coal capacity oven of a coking test plant and a 2 t/h preheating pilot plant were used. The effect of preheating on coal plastic properties was studied.

95/02402 Pyrolysis of coal tar pitch and its mixtures with a graphite-$FeCl_3$ intercalated compound. Influence of heating rate and GIC concentration
Begin, D. *et al., Fuel*, Feb. 1995, 74, (2), 139-146.
The influence of heating rate upon pyrolysis of coal tar pitch (CTP) and mixtures of coal tar pitch plus first-stage $FeCl_3$-graphite intercalated compounds (CTP-GIC) has been studied. In the two cases, the smaller the heating rate (from 20 to 0.5°C min^{-1}), the higher the green coke yield. The presence of $FeCl_3$ in GIC, present in the CTP, also provokes an increase of the green coke yield by a significant value: in analogy to literature results with other kinds of added species, GIC certainly favours hydrogen evolution at lower temperatures and provokes more polycondensation reactions. Different concentrations of first-stage GIC (2-8 wt%) has been used, and pyrolyses were carried out from 550 to 750°C. Green cokes were characterized by elemental analyses, X-ray diffraction and scanning electron microscopy.

95/02403 Recovery of waste fine coal by oil agglomeration
Shrauti, S. M. and Arnold, D. W. *Fuel*, Mar. 1995, 74, (3), 459-465.
Demineralization of Blue Creek coal by selective agglomeration using diesel oil involves high-shear mixing to disperse the diesel in a slurry of fine coal and separation of the resulting agglomerates from the tailings. A total of 54 agglomeration trials were made with thickener underflow from the Jim Walter Resources Inc. No. 4 mine preparation plant. Two additional particle size distributions of the thickener underflow were obtained by wet grinding and all three coals were stored under water. All experiments were performed at room temperature. The feed which has less than 1 wt% of total sulphur is suitable for recovery by oil agglomeration. Ash rejection and recovery of combustibles is approximately 80%. The effects of blending the agglomerates with a coal-water fuel are reported.

95/02404 Study of coking based on new methods
Mil'nichuk, A. Y. *et al., Koks Khim.*, 1994, (8), 13-15. (In Russian)
Discusses a laboratory retort study of coking of coal, which allows the measurement of charge shrinkage, fracturing, and coke mechanical strength in a single run. It can also be used for the establishment correlations among these characteristics.

95/02405 Using humic acid sodium as the binder for briquetting fine coke
Liang, Y. *Mei Huagong*, 1994, (3), 25-27. (In Chinese)
Reports that a binder obtained from a weathered coal is used for briqueting coke fines in a vertical oven. The formed coke exhibits high strength when the binder content is up to 7%.

02 LIQUID FUELS

Sources, Properties, Recovery

95/02406 Abandonment: The government viewpoint
Petroleum Review, Mar. 1995, 49, (578), 116, 118.
During IP Week, the Institute of Petroleum held a conference on one of the most crucial and politically-sensitive issues facing the oil industry today: the removal and disposal of redundant offshore installations and pipelines. DTI proposals have yet to be published, so all eyes were on Industry and Energy Minister Tim Eggar when he delivered the keynote address. It was a candid speed, in which Mr. Eggar gave what amounted to a sneak preview of the next consultation document.

95/02407 Adsorption of asphaltenes and resins on organic and inorganic substrates and their correlation with precipitation problems in production well tubing
Acevedo, S. *et al., Fuel*, Apr. 1995, 74, (4), 595-598.
The solute-solid adsorption isotherms (SSA) of asphaltenes and resins were measured using the inorganic fraction (97% SiO_2) of the deposit that plugged the tubing of a production well as an inorganic adsorbent. In other experiments, Ceuta asphaltenes and the product (HA) of heating them at 350°C for 11 h were used as organic adsorbents in heptane, toluene and heptane-toluene at 26°C. Ceuta and Furrial asphaltenes on the inorganic substrate resulted in multilayer formation (L-3 type adsorption) whereas a Cerro Negro sample gave simple Langmuir-type adsorption. A possible correlation between these results and the tendency of the asphaltenese to precipitate from the crude oils is suggested.

95/02408 An alternative view on Indo-Australian coals as a source of petroleum
Katz, B. J. *APEA J.*, 1994, 34, 256-267.
Numerous studies have argued that coals are the primary source for much of the petroleum in the Indo-Australian region. These studies have invoked this genetic relationship because of similarities in n-alkane distributions among coal extractions and oils and the apparent absence of conventional sources. Others have suggested that the ability of southern hemisphere coals to source oil is a result of differences in the nature of their precursors compared to their gas-prone northern hemisphere counterparts. Suggested genetic relationships are challenged through several independent approaches.