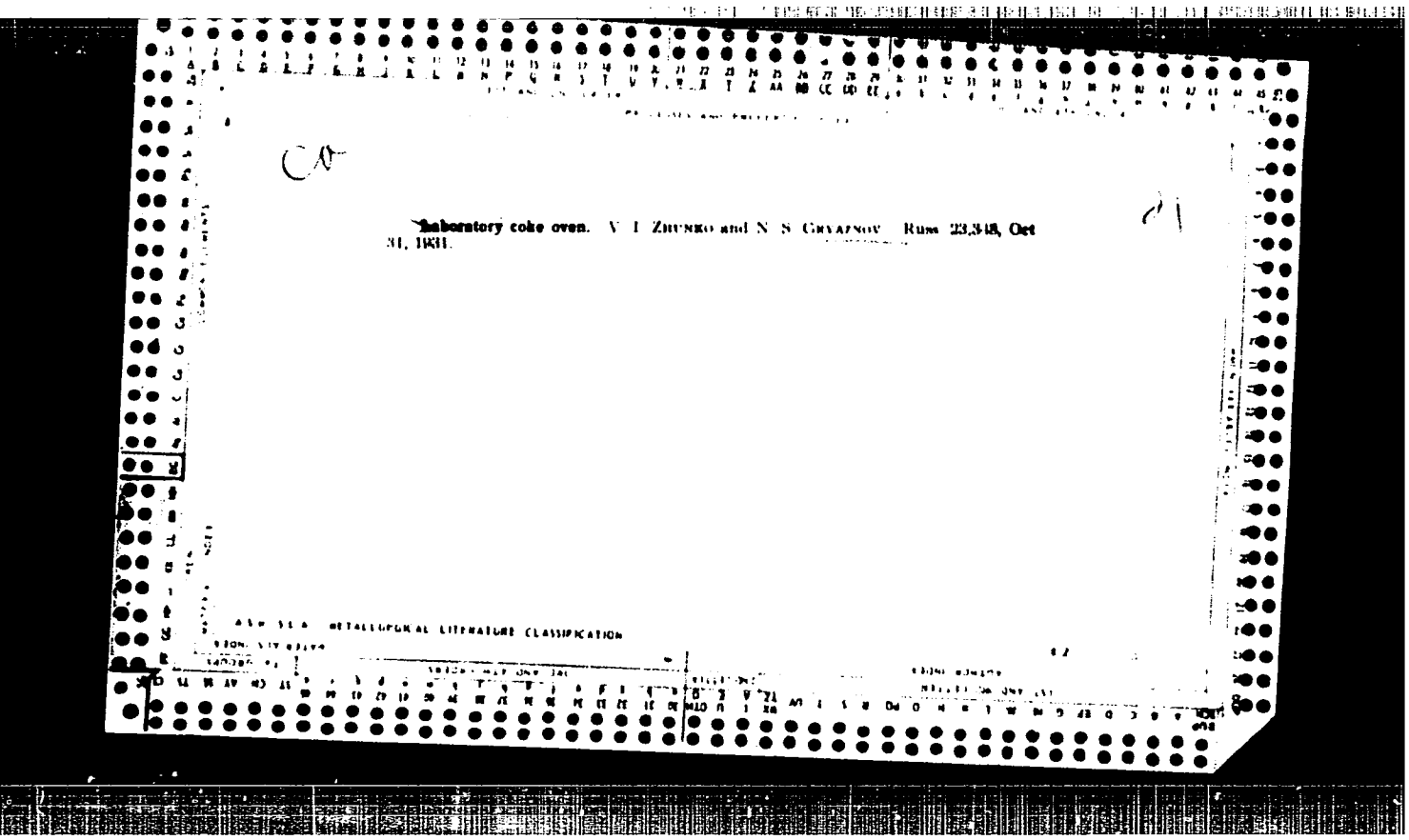
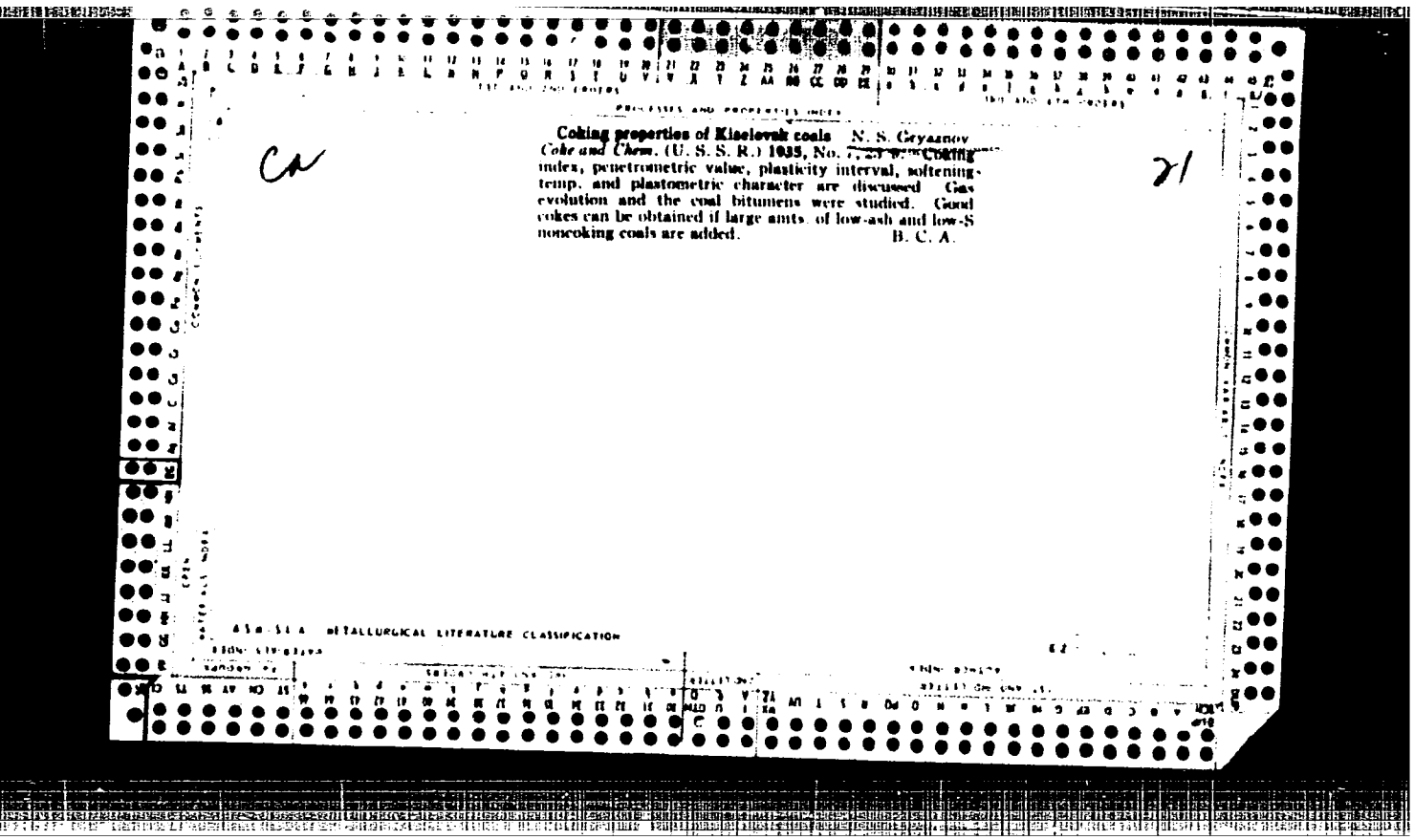
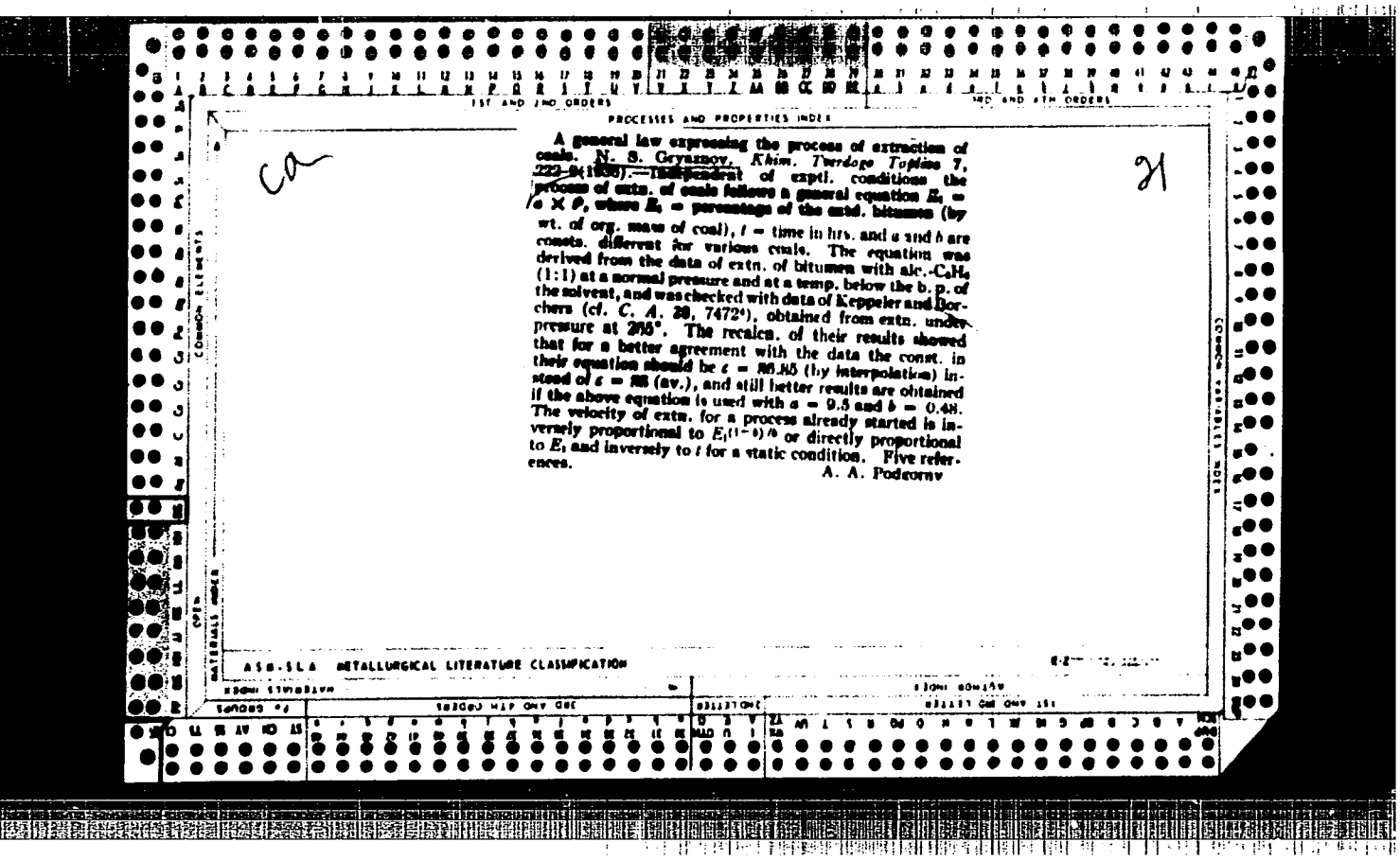


Laboratory coke oven. V. I. ZHUNKO and N. S. GRYAZNOV. Russ. 23,348, Oct. 31, 1931.

A.S.M. METALLURGICAL LITERATURE CLASSIFICATION



Coking properties of Kiselevsk coals N. S. Gryaznov *Coke and Chem.* (U. S. S. R.) **1935**, No. [illegible]. Coking index, penetrometric value, plasticity interval, softening-temp. and plastometric character are discussed. Gas evolution and the coal bitumens were studied. Good cokes can be obtained if large amts. of low-ash and low-S noncoking coals are added. B. C. A.

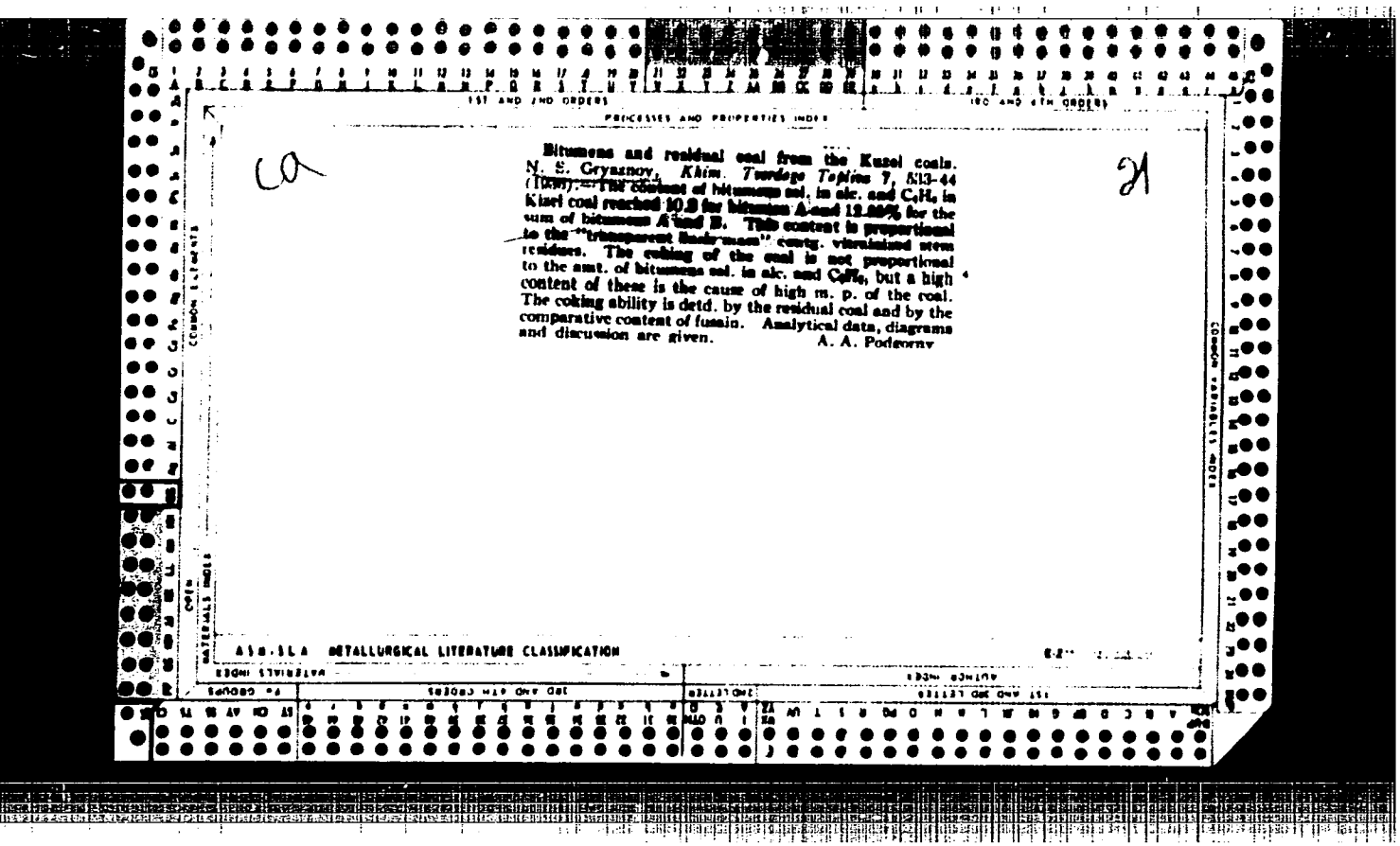


PROCESSES AND PROPERTIES INDEX

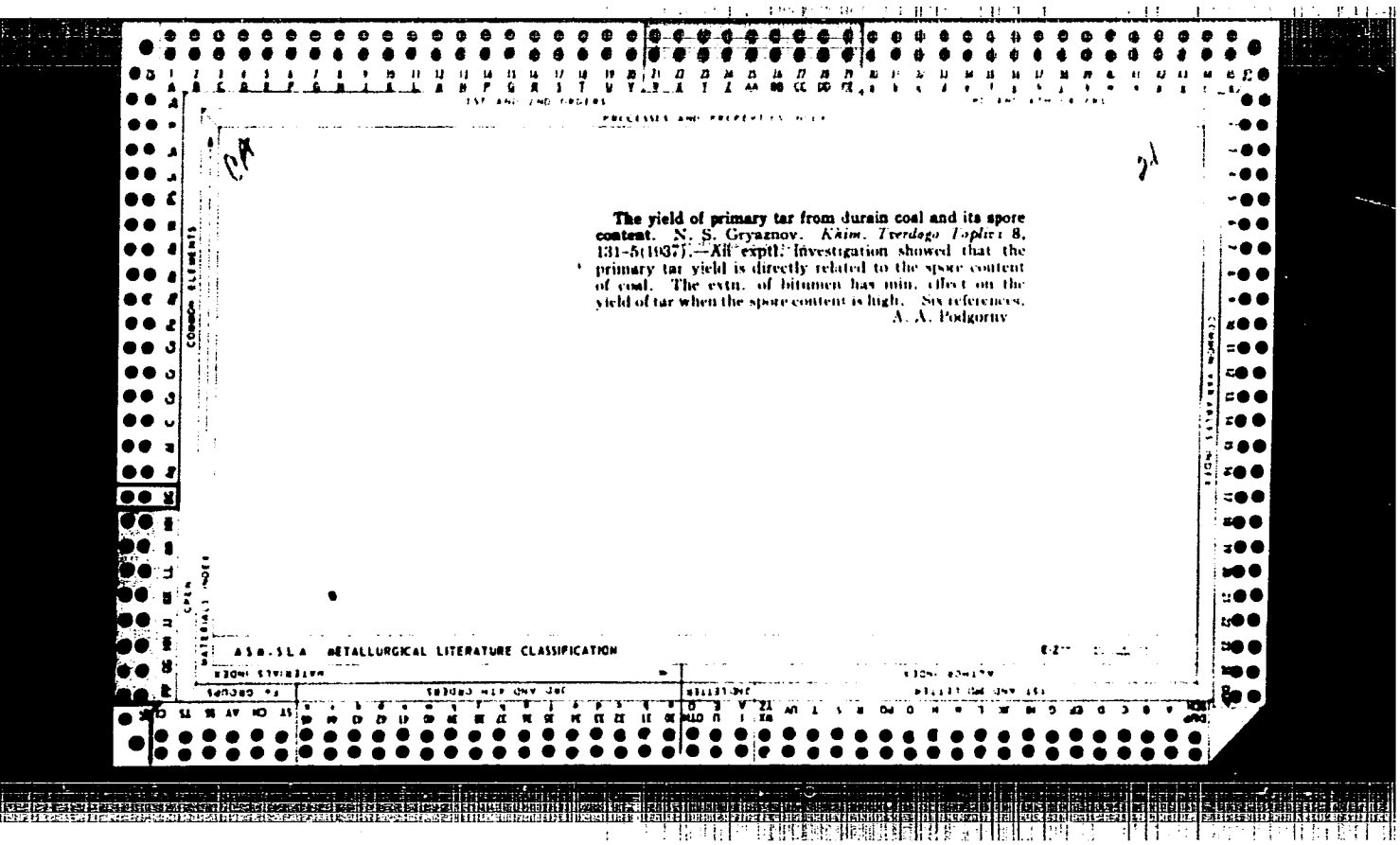
A general law expressing the process of extraction of coals. N. S. Gryaznov. *Khim. Tverdogo Topliva* 7, 222–6 (1936).—Independent of exptl. conditions the process of extn. of coals follows a general equation $E_t = a \times b$, where E_t = percentage of the extd. bitumen (by wt. of org. mass of coal), t = time in hrs. and a and b are consts. different for various coals. The equation was derived from the data of extn. of bitumen with alc.-C_6H_6 (1:1) at a normal pressure and at a temp. below the b. p. of the solvent, and was checked with data of Keppeler and Borchers (*cf. C. A.* 30, 7472⁶), obtained from extn. under pressure at 265°. The recalcn. of their results showed that for a better agreement with the data the const. in their equation should be $a = 88.85$ (by interpolation) instead of $a = 88$ (av.), and still better results are obtained if the above equation is used with $a = 9.5$ and $b = 0.48$. The velocity of extn. for a process already started is inversely proportional to $E_t^{(1-b)/b}$ or directly proportional to E_t and inversely to t for a static condition. Five references.

A. A. Podgorny

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

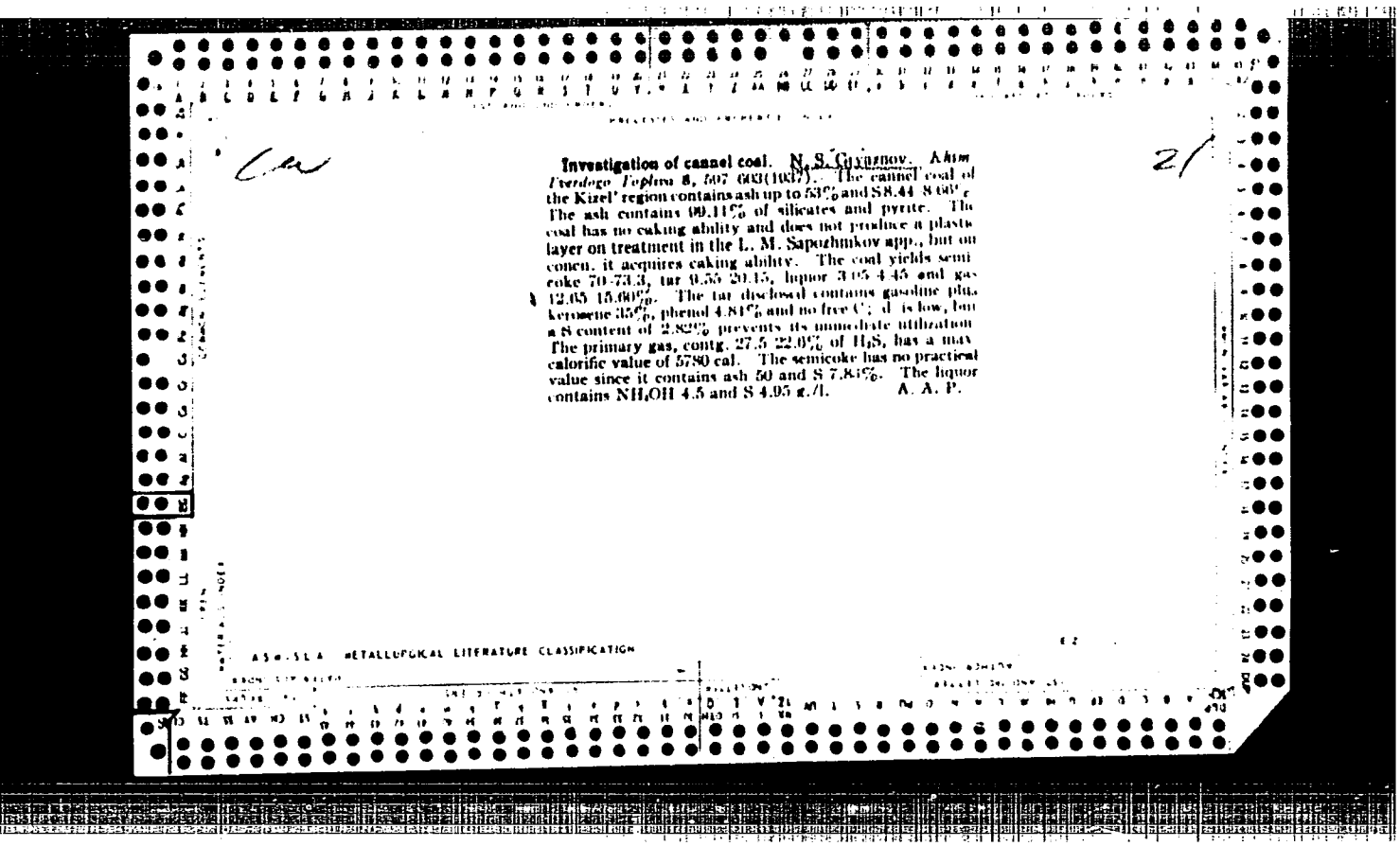


Bitumens and residual coal from the Kuzel coals. N. S. Gryaznov, *Khim. Tverdogo Topliva* 7, 513-44 (1936).—The content of bitumens sol. in alc. and C_6H_6 in Kuzel coal reached 10.8 for bitumen A and 19.88% for the sum of bitumens A and B. This content is proportional to the "transparent fusain" contg. vitrinized stem residues. The coking of the coal is not proportional to the amt. of bitumens sol. in alc. and C_6H_6, but a high content of these is the cause of high m. p. of the coal. The coking ability is detd. by the residual coal and by the comparative content of fusain. Analytical data, diagrams and discussion are given. A. A. Podgorny

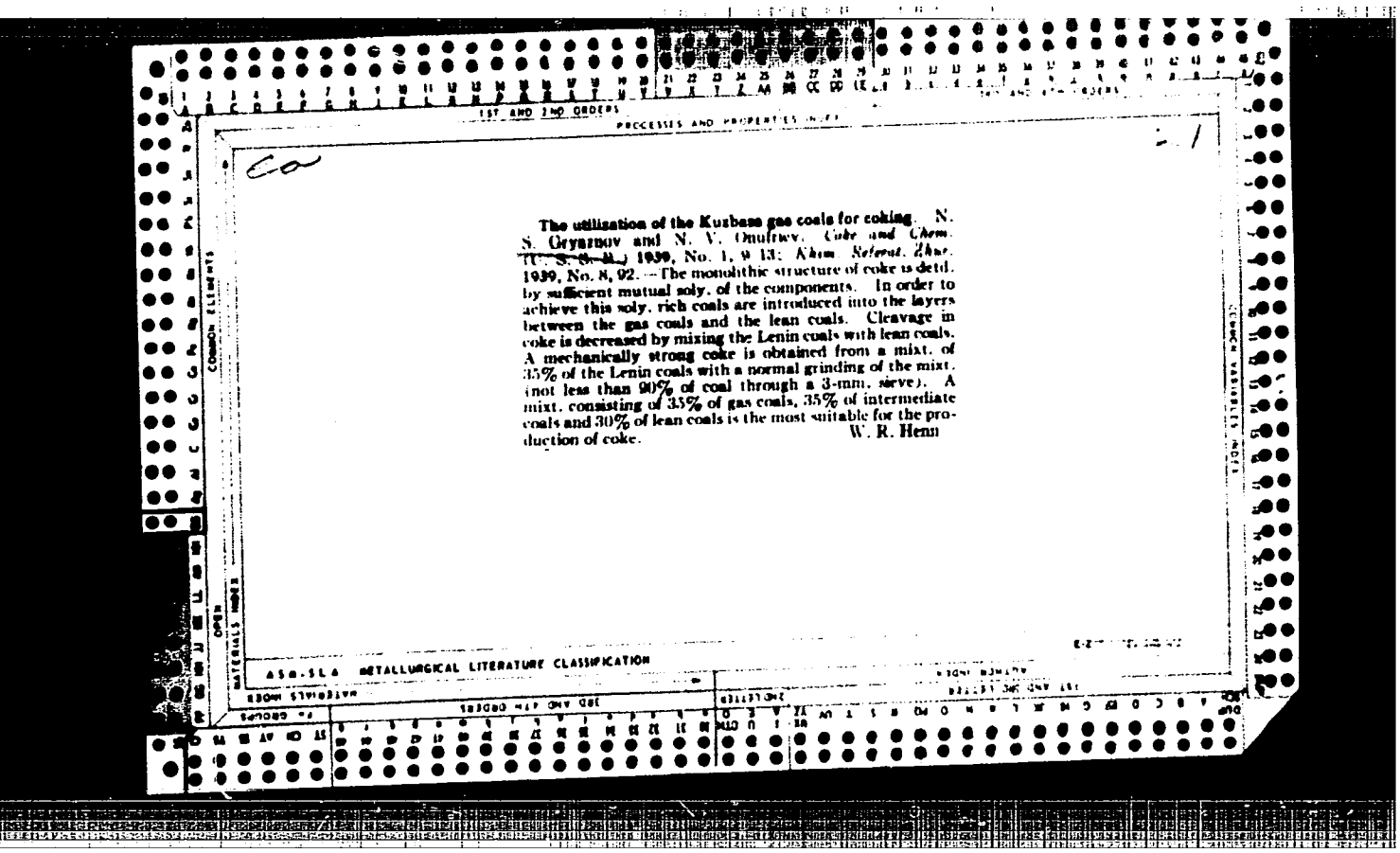


The yield of primary tar from durain coal and its spore content. N. S. Gryaznov. *Khim. Tverdogo Topliva* 8, 131–5(1937).—Aft exptl. investigation showed that the primary tar yield is directly related to the spore content of coal. The extn. of bitumen has min. effect on the yield of tar when the spore content is high. Six references.
A. A. Podgorny

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



Investigation of caunel coal. N. S. Cuvaunov. *Khim Tverdogo Topliva* **8**, 507 603(1937). The cannel coal of the Kizel' region contains ash up to 53% and S 8.44 8.60%. The ash contains 69.11% of silicates and pyrite. The coal has no caking ability and does not produce a plastic layer on treatment in the L. M. Sapozhnikov app., but on concn. it acquires caking ability. The coal yields semi coke 70-73.3, tar 0.55 20.15, liquor 3.05 4.45 and gas 12.05 15.60%. The tar disclosed contains gasoline plus kerosene 35%, phenol 4.84% and no free C; d is low, but a S content of 2.82% prevents its immediate utilization. The primary gas, contg. 27.5 22.0% of H_2S, has a max calorific value of 5780 cal. The semicoke has no practical value since it contains ash 50 and S 7.84%. The liquor contains NH_4OH 4.5 and S 4.05 g./l. A. A. P.

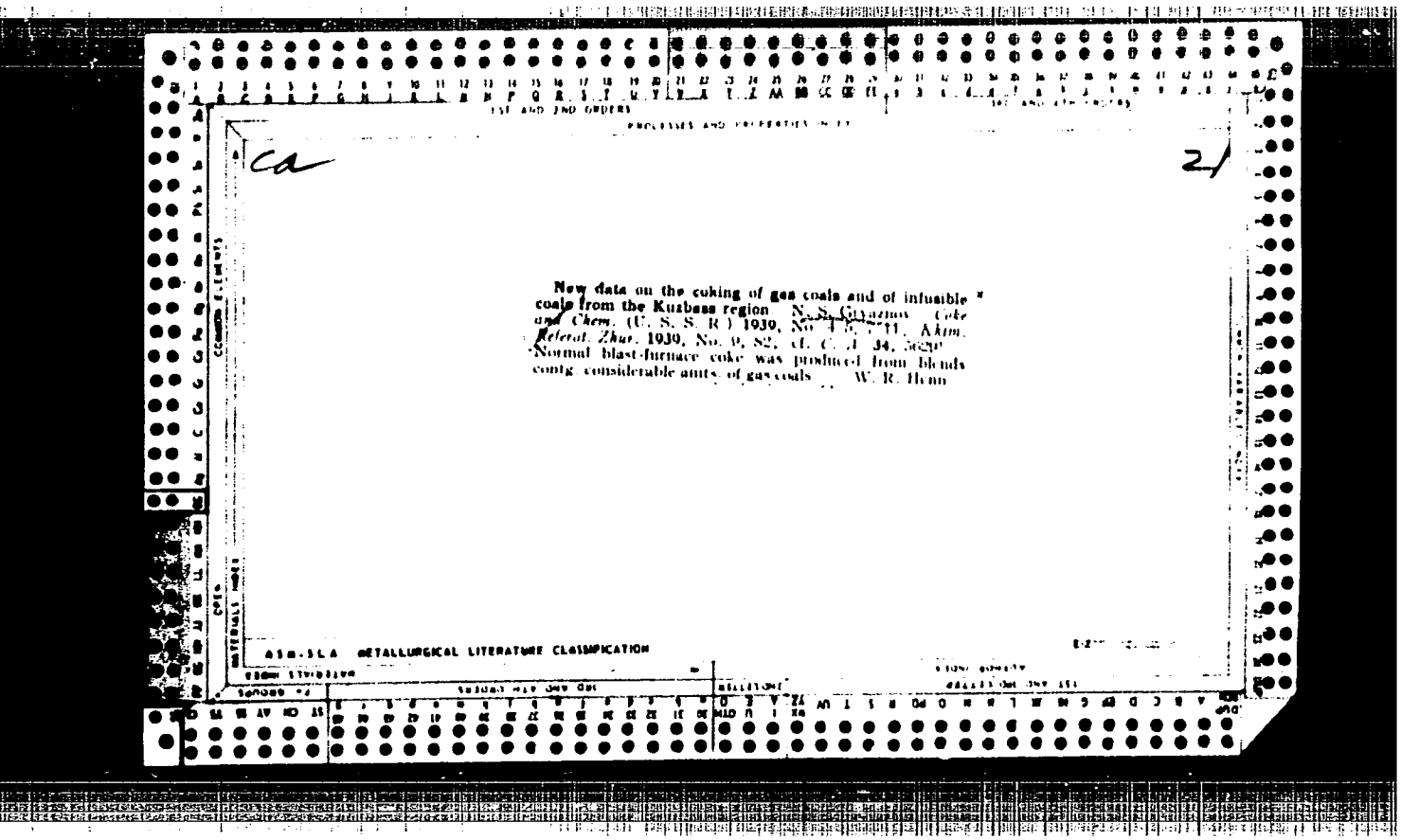


Co

The utilisation of the Kuzbass gas coals for coking. N. S. Gryaznov and N. V. Onufriev. *Coke and Chem. (U.S.S.R.)* **1939**, No. 1, 9–13; *Khim. Referat. Zhur.* **1939**, No. 8, 92.—The monolithic structure of coke is detd. by sufficient mutual soly. of the components. In order to achieve this soly. rich coals are introduced into the layers between the gas coals and the lean coals. Cleavage in coke is decreased by mixing the Lenin coals with lean coals. A mechanically strong coke is obtained from a mixt. of 35% of the Lenin coals with a normal grinding of the mixt. (not less than 90% of coal through a 3-mm. sieve). A mixt. consisting of 35% of gas coals, 35% of intermediate coals and 30% of lean coals is the most suitable for the production of coke.

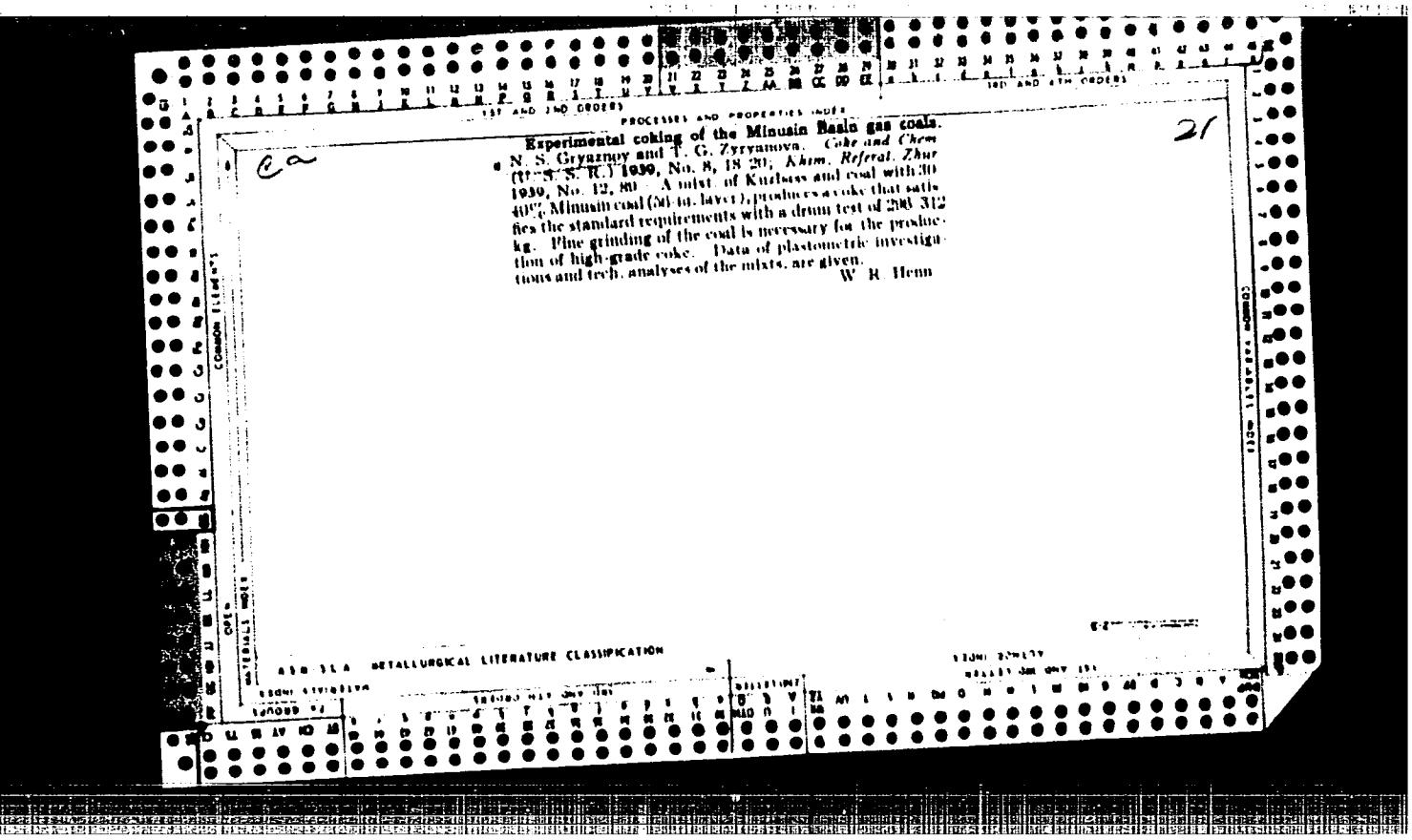
W. R. Henn

A5a-5L4 METALLURGICAL LITERATURE CLASSIFICATION



New data on the coking of gas coals and of infusible coals from the Kuzbass region. N. S. Gryaznov. *Coke and Chem.* (U. S. S. R.) 1930, No. [illegible]. *Abstr. Referat. Zhur.* 1930, No. 9, 82; cf. C. A. 24, 3630. Normal blast-furnace coke was produced from blends contg. considerable amts. of gas coals. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

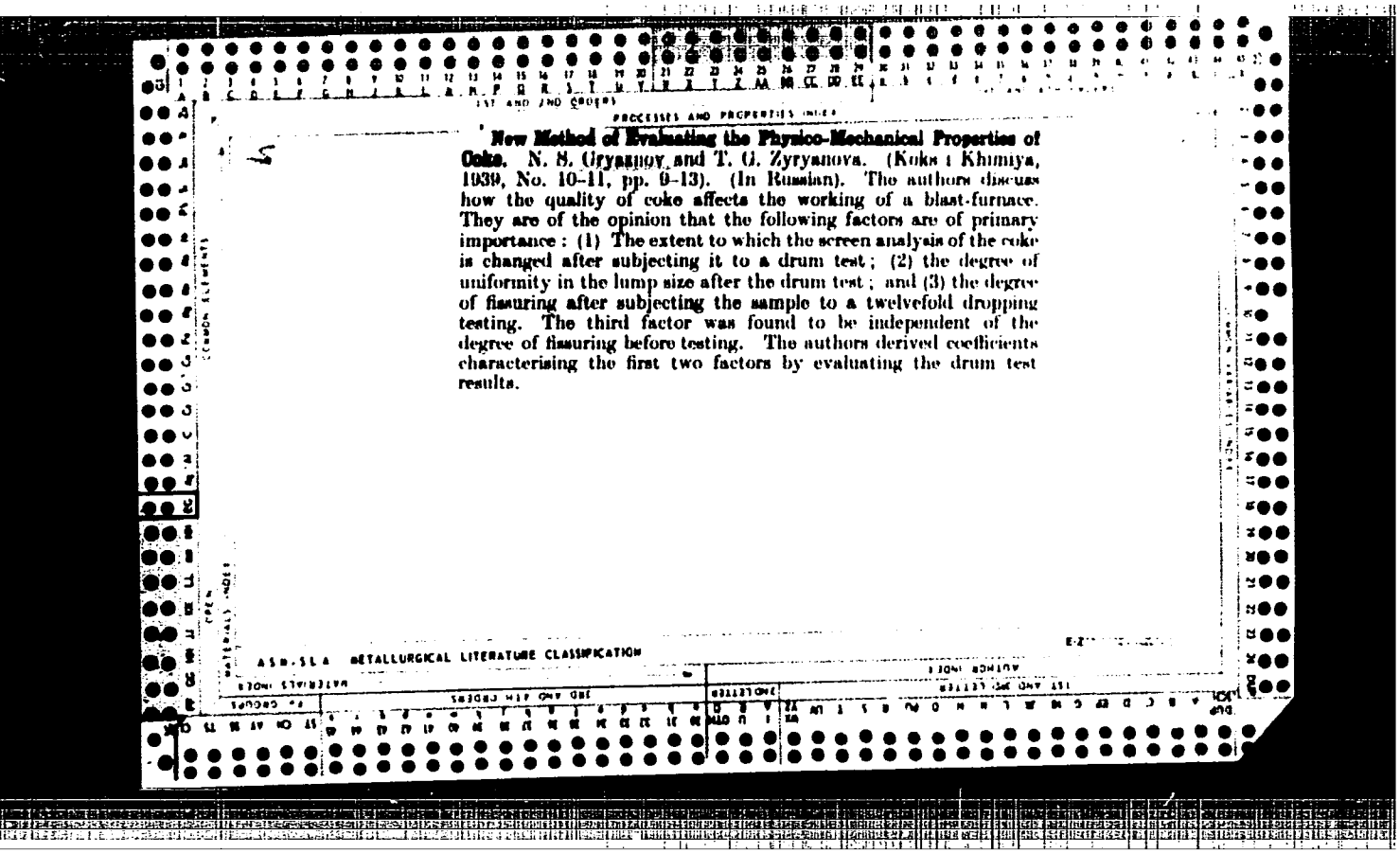
Ca

21

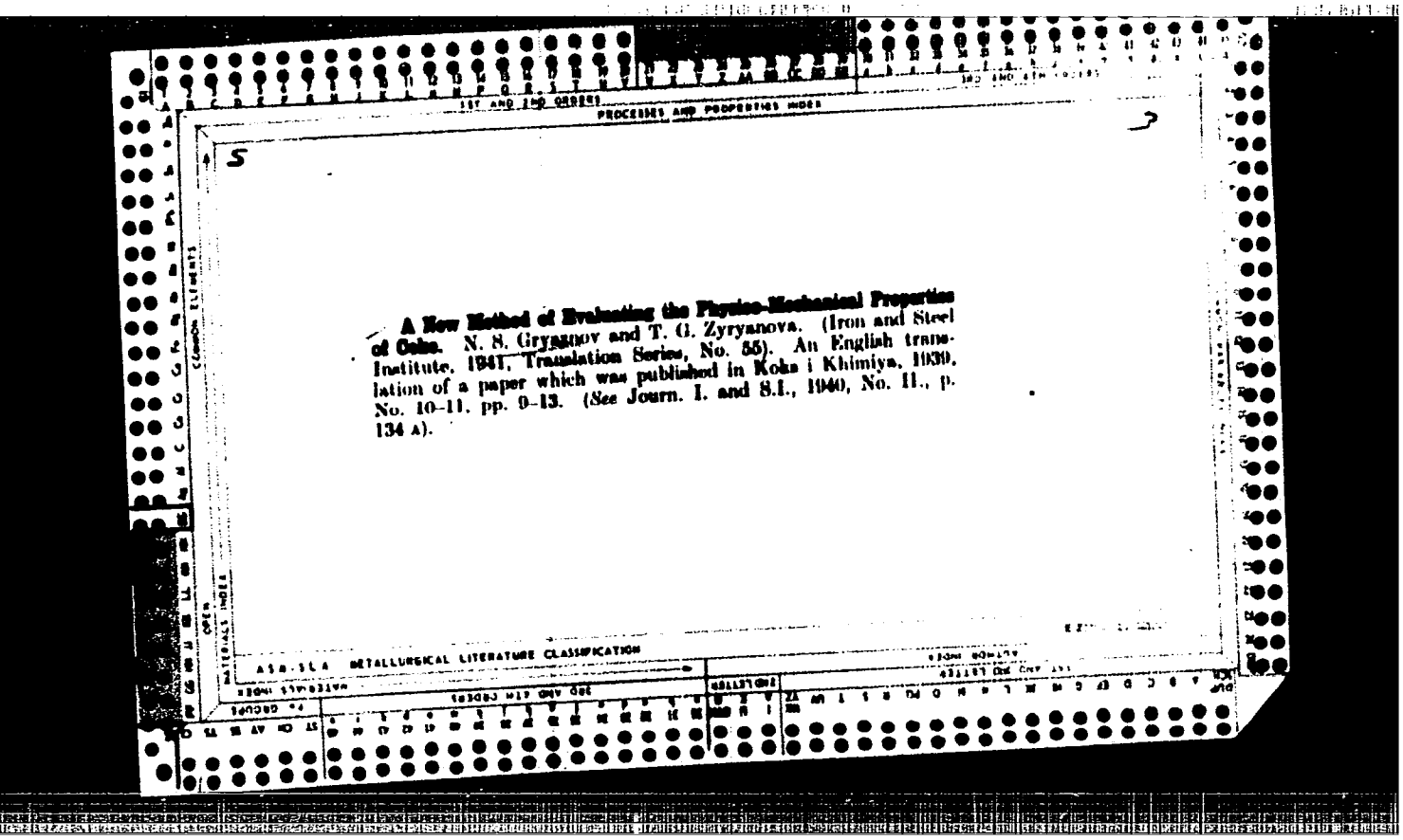
Experimental coking of the Minusin Basin gas coals. N. S. Gryaznov and T. G. Zyryanova. *Coke and Chem* (U.S.S.R.) **1939**, No. 8, 18-20; *Khim. Referat. Zhur* **1939**, No. 12, 80.—A mixt. of Kuzbass and coal with 30-40% Minusin coal (5th-in. layer), produces a coke that satisfies the standard requirements with a drum test of 200-312 kg. Fine grinding of the coal is necessary for the production of high-grade coke. Data of plastometric investigations and tech. analyses of the mixts. are given.

W. R. Henn

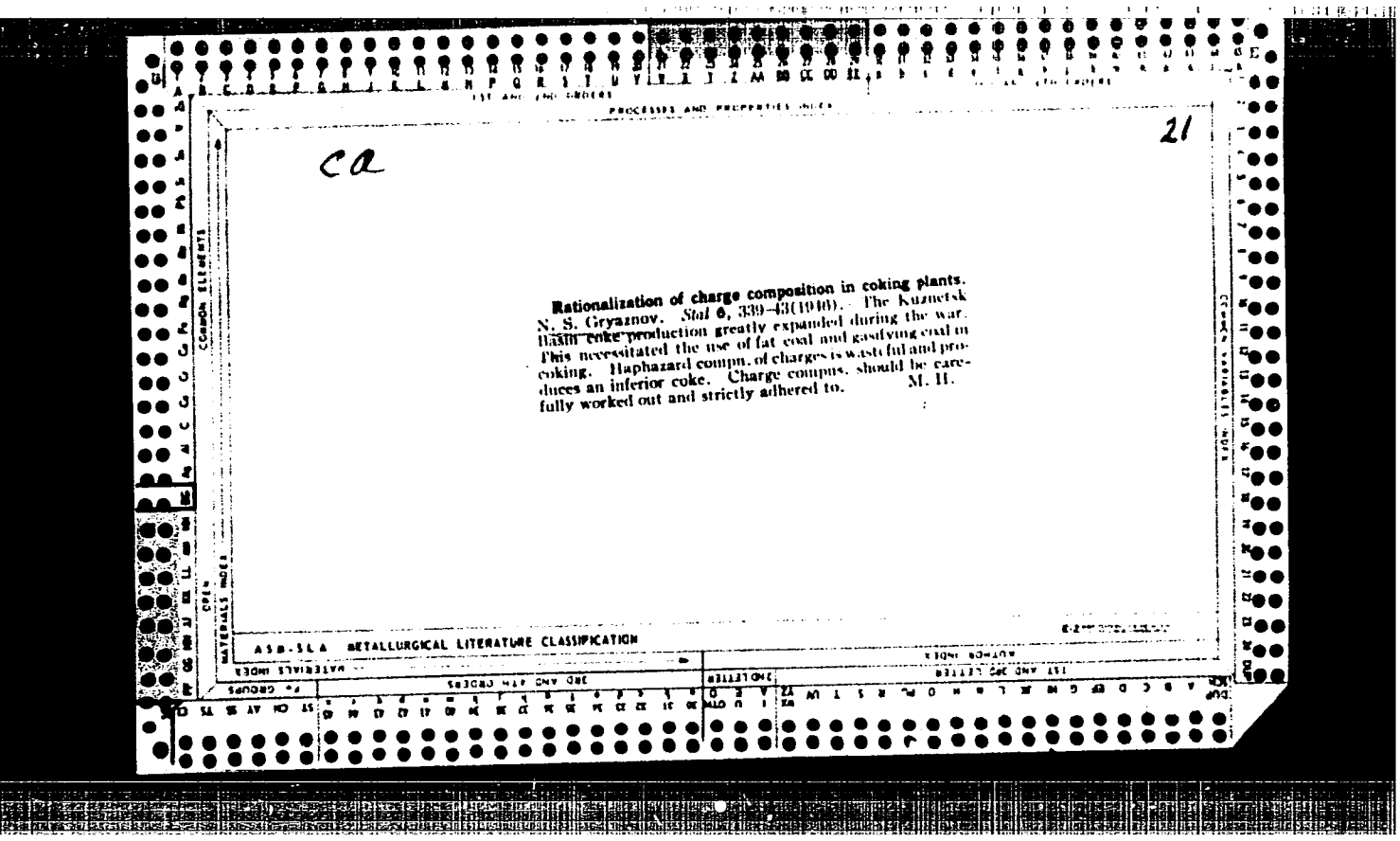
A 5 B 5 L A METALLURGICAL LITERATURE CLASSIFICATION



New Method of Evaluating the Physico-Mechanical Properties of Coke. N. S. Gryaznov and T. G. Zyryanova. (Koks i Khimiya, 1939, No. 10–11, pp. 9–13). (In Russian). The authors discuss how the quality of coke affects the working of a blast-furnace. They are of the opinion that the following factors are of primary importance: (1) The extent to which the screen analysis of the coke is changed after subjecting it to a drum test; (2) the degree of uniformity in the lump size after the drum test; and (3) the degree of fissuring after subjecting the sample to a twelvefold dropping testing. The third factor was found to be independent of the degree of fissuring before testing. The authors derived coefficients characterising the first two factors by evaluating the drum test results.



A New Method of Evaluating the Physico-Mechanical Properties of Coke. N. S. Gryaznov and T. G. Zyryanova. (Iron and Steel Institute, 1941, Translation Series, No. 55). An English translation of a paper which was published in Koks i Khimiya, 1939, No. 10–11, pp. 9–13. (*See* Journ. I. and S.I., 1940, No. 11., p. 134 A).

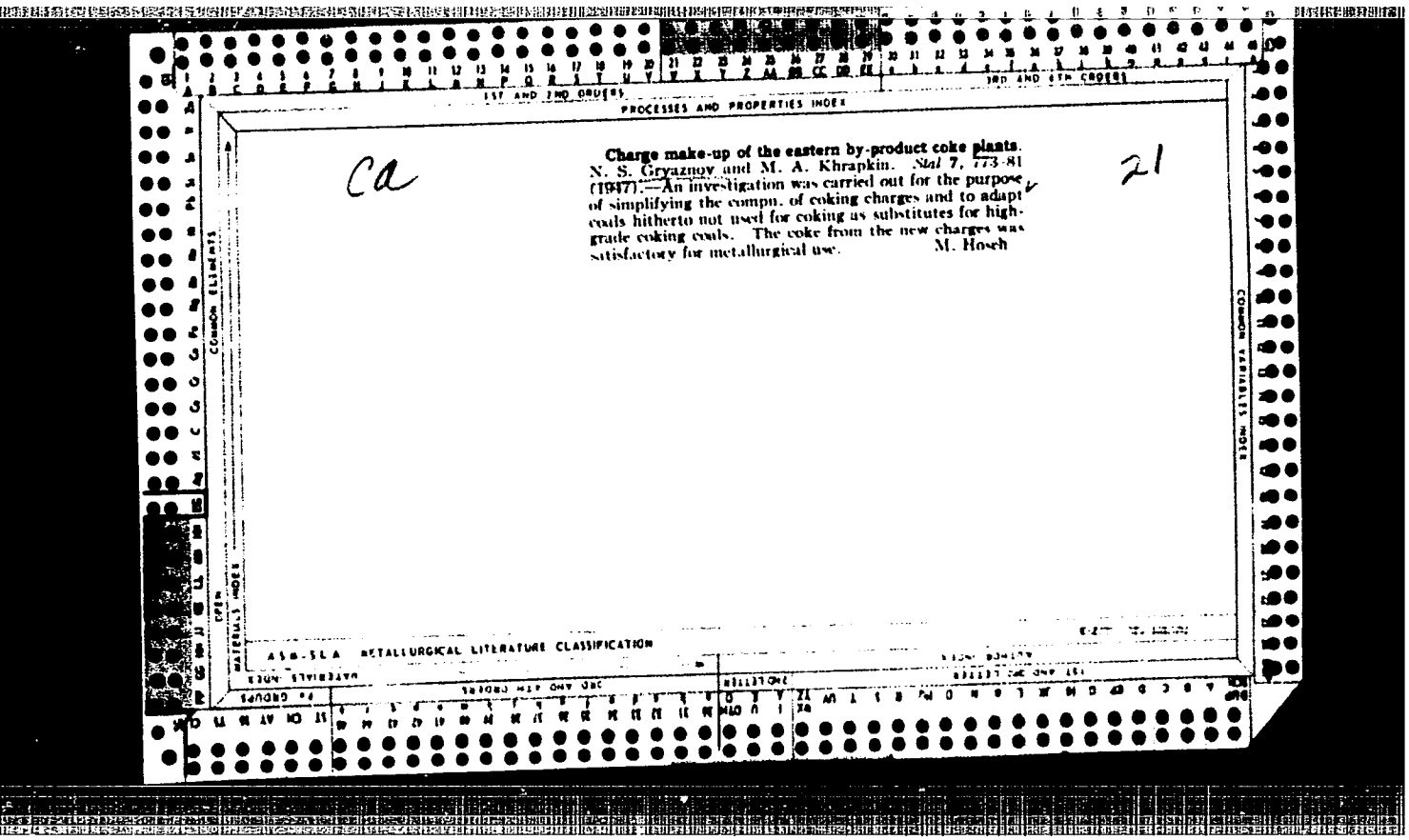


CA

21

Rationalization of charge composition in coking plants. N. S. Gryaznov. *Stal* **6**, 339–43(1946). The Kuznetsk Basin coke production greatly expanded during the war. This necessitated the use of fat coal and gasifying coal in coking. Haphazard compn. of charges is wasteful and produces an inferior coke. Charge compns. should be carefully worked out and strictly adhered to. M. H.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



USSR/Engineering
Coke Plants
Fuels, Solid

Sep 1947

"Construction of Mixing Sheds at Eastern By-product Coke Factories," N. S. Gryaznov, Candidate in Technical Sciences, M. A. Khrapkin, Engr, Eastern By-product Coke Institute, Main Coke Administration, 8½ p

"Stal'" No 9

In accordance with the agreements of the All-Union Technical Conference on Coke in 1946, there has been much work on the reconstruction of eastern by-product coke factories and plants. This has decreased the number of components in the mixing sheds, led to the use of several new types of coal for making coke and

24T33

increased the use of low-grade coke coal (particularly bituminous, gaseous, K Zh). The result was a standardization of mixing with a resultant standardization of the quality of coke. Well-illustrated with diagrams.

24T33

GRYAZNOV, N. S.

Fuel Abstracts
Vol. XV, No. 2
Feb. 19[illegible]
Carbonization

1124. COKING OF GAS COALS OF KUZNETSK BASIN (KOKSOVANIE GAZOVYSH UGLEI KUZBASSA). Gryaznov, N.S. (Sverdlovsk: Metallurgizdat, 1950, 229pp.).

GRYAZNOV N.S.

TSIPEROVICH, Moisey Veniaminovich; GRYAZNOV, N.S.; LUCHKO, Yu.V., redaktor; KOVALENKO, N.I., tekhnicheskiy redaktor

[Coke production batch controller; technical production training textbook for workers] Dozirovshchik koksovogo proizvodstva; uchebnoe posobie dlia proizvodstvenno-tekhnicheskogo obucheniia rabochikh. Sverdlovs, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 167 p. (MLRA 8:4)
(Coke industry)

GRYAZNOV, N.S.

2732. IMPROVING THE QUALITY OF METALLURGICAL COKE. Gryaznov, N.S. (Stal (Steel, Moscow), 1954, (2), 109-115; abstr. in Ref. Zh. Khim. (Ref. J. Chem., Moscow), 1956, (5), 13800). After considering the experience of Soviet research workers and producers, changes are recommended in existing processes of coal preparation, carbonisation and in the method of evaluating coke. These amount to improving the division of coke according to its technological properties, eliminating inconsistencies between the and use and the nomenclature of coals, improving preparation and the make up of charges, establishing optimum conditions for coking, arranging the supply of a single type of coal to coking works, evaluating coke by a combination of test figures, and additional classification of coke in blast furnace departments.

GRYAZNOV, N.S.; LATSKAYA, M.P.; KOMAROVSKAYA, G.M.

Pore formation in coke. Koks i khim. no.1:16-24 '56. (MLRA 9:5)

1. Vsesoyuznyy uglekhimicheskiy institut.
(Coke)

GRYAZNOV N.S.

AFONIN, K.B.; BURTSEV, K.I.; BYSTROV, S.N.; VINETS, G.B.; VODNEV, G.G.; VORONIN, A.S.; GEVLICH, A.S.; GRYAZNOV, N.S.; GUDIM, A.F.; GUSYATINSKIY, M.A.; DVORIN, S.S.; DIDENKO, V.Ye.; DMITRIYEV, M.M.; DONDE, M.M.; DOROGOBID, G.M.; ZHDANOV, G.I.; ZAGORUL'KO, A.I.; ZELENETSKIY, A.G.; IVASHCHENKO, Ya.N.; KAFTAN, S.I.; KVASHA, A.S.; KIREYEV, A.D.; KLISHEVSKIY, G.S.; KOZYREV, V.P.; KOLOBOV, V.N.; LGALOV, K.I.; LEYTES, V.A.; LERNER, B.Z.; LOBODA, N.S.; LUBINETS, I.A.; MANDRYKIN, I.I.; MUSTAFIN, F.A.; NEMIROVSKIY, N.Kh.; NEFEDOV, V.A.; OBUKHOVSKIY, Ya.M.; PERTSEV, M.A.; PETROV, I.D.; PODOROZHANSKIY, M.O.; POPOV, A.P.; RAK, A.I.; REVYAKIN, A.A.; ROZHKOV, A.P.; ROZENGAUZ, D.A.; SAZONOV, S.A.; SIGALOV, M.B.; STOMAKHIN, Ya.B.; TARASOV, S.A.; FILIPPOV, B.S.; FRIDMAN, N.K.; FRISHBERG, V.D.; KHAR'KOVSKIY, K.V.; KHOLOPTSEV, V.P.; TSAREV, M.N.; TSOGLIN, M.E.; CHERNYY, I.I. CHERTOK, V.T.; SHELKOV, A.K.

Samuil Borisovich Bamme. Koks i khim. no. 6:64 '56. (MLRA 9:10)
(Bamme, Samuil Borisovich, 1910-1956)

GRYAZNOV, N. S.

Fuel

New principles in coal-crushing techniques in preparation for coking. N. S. Gryaznov, I. M. Lazovskii, and N. G. Fel'dbrin. *Koks i Khim.* 1956, No. 9, 3–10.—The question of the rational limits of crushing and the methods of grinding coal in prepn. for coking is discussed under the following heads: (1) the modification of the structural strength of the coke with the grinding of the coal charge; (2) cracking or fissuring of the coke as a function of coal size; (3) variation in screen size of the coke with fineness of grinding; (4) basic principles of coal crushing. Summarized conclusions: (1) the finer the grinding of coal of any petrographic structure or degree of rank the lower the structural strength of the coke due (*a*) to the consequent deterioration in agglutinating power as indicated by rise in viscosity and decrease in thickness of the plastic layer and (*b*) to the lowering of its apparent sp. gr. (2) Formation of cracks is diminished because of weakening of inner tensions due to (*a*) rise of thermal cond. of the charge and (*b*) to the diminution of the caking capacity of the coal. (3) The basic principle for the rational prepn. of coal by crushing to improve improvement of the phys.-mech. properties of the coke and the utilization of weakly caking coals is that of lowering the upper limits of grain size by min. formation of fines. (4) Especially important is the preliminary sepn. of fines before charging the oven.

H. L. Olli

GRYAZNOV, N.S.

LAZOVSKIY, I.M.; FEL'DBRIN, M.G.; GRYAZNOV, N.S.

Coking of blended coal charges prepared by the selective crushing method. Koks i khim. no.4:8-12 '57. (MLRA 10:5)

1. Vostochnyy uglekhimicheskiy institut.
(Coal preparation) (Coal--Carbonization)

GRYAZNOV N S

68-7-5/16

AUTHOR: Gryaznov, N.S. (Cand.Tech.Sci.)

TITLE: Some Special Features of Thermal Decomposition of Coals. (Nekotoryye osobennosti termicheskogo razlozheniya ugley).

PERIODICAL: Koks i Khimiya, 1957, Nr 7, pp.16-24 (USSR)

ABSTRACT: The process of thermal decomposition of coal and the formation of coke was investigated using a rotary plastometer of the author's design. The description is given (Fig.4). The shear strength of coal on heating was measured. Coal X (0 to 1.5 mm) charged in a standard manner into the ring space (4 mm) was heated at a rate of 3°/min. The internal coal layer (1.5 mm) was moving (due to ribs on the rotor) in respect to the external stationary layer (2.5 mm) with a velocity of 1 rev/hr. In some cases coal was heated continuously up to the formation of semicoke, in others heating was stopped and the coal kept at a temperature below the temperature of its maximum fluidity, or, after heating and cooling of the plastic coal mass, it was again reheated in an atmosphere of carbon dioxide. Curves obtained (shear strength versus temperature or time) are given in Figs. 2 - 4. The reactivity of thermally treated coals was measured by the reaction with a 5% benzene solution of sulphur monochloride (the amount of sulphur combined with the

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68-7-5/16

Some Special Features of Thermal Decomposition of Coals.

coal) and the reaction with an alcoholic iodine solution. The results obtained are given in Figs.5, 6 and 7. The dispersion ability of thermally treated coals in an alcoholic benzene mixture and in anthracene oil, as well as rates of evolution of the decomposition products (Fig.8) and changes in the inherent water content of thermally treated coals (Fig.9) were also measured. On the basis of results obtained, it is concluded that thermal decomposition of coal during coking takes place in stages: the first stage - an irreversible decomposition into structural components of the organic coal mass leading to splitting off of low molecular products (H_2O, CO_2 etc.) and the formation of unsaturated bonds which increase the reactivity of the residual substance; the second stage - an irreversible combination of activated residues and their cyclisation, leading to the formation of new compounds (with a more complicated carbon structure), which on subsequent heating undergo further splitting and packing. These phenomenae, characteristic for both caking and non-caking coals, take place before the formation of rigid spatial structure of semicoke in a continuous manner and overlap with each other. Further packing of semicoke should be con-

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68-7-5/16

Some Special Features of Thermal Decomposition of Coals.

increase in the caking ability of coal: a rapid heating in the range of plastic state of coal, moderate heating up to about 300 C under gas pressure, moderate heating in hydrogen atmosphere under pressure and a moderate treatment with high frequency currents. There are 10 figures and 29 references, including 26 Slavic.

ASSOCIATION: VUKhIN.

AVAILABLE: Library of Congress

Card
4/4

68-58-3-1/22

AUTHORS: Fel'dbrin, M.G., Gryaznov, N.S. and Lazovskiy, I.M.

TITLE: Utilisation of Gas and Weakly-caking Coals in Blends of the Eastern Works (Ispol'zovaniye gazovykh i slabospekayushchikhsya ugley v shikhtakh vostochnykh zavodov)

PERIODICAL: Koks i Khimiya, 1958, Nr 3, pp 3 - 5 (USSR).

ABSTRACT: The possibility of increasing the proportion of gas and weakly-caking coals in blends used on the Eastern Coke Oven Works and the choice of correct blends which are able to accommodate 40-60% of the above coals were investigated. Blends containing gas coals were prepared by a preferential grinding on a pilot plant, VUKhIN. The composition of experimental blends is given in Tables 1 and 3, from which it can be seen that gas coals were replacing fat and well-caking coals. The method of preferential grinding is described in some detail. Coking was done on a semi-industrial plant; the results obtained are given in Tables 2 and 4. Conclusions: preferential grinding of blends containing 40-60% of gas coals considerably improves the strength of coke (by 12-28 kg) providing that the blends possess sufficient caking ability ($y \geq 15$ mm). However, despite a considerable increase in coke strength by preferential grinding, the latter cannot secure the production of coke similar in strength to

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Utilisation of Gas and Weakly-caking Coals in Blends of the Eastern Works

that of current production. Further increase in the coke strength can be obtained by applying preferential grinding and stamp charging. The results obtained should be confirmed by trials under industrial conditions. There are 4 tables.

ASSOCIATION: VUKhIN

SOV/24-58-6-31/35

AUTHORS: Gryaznov N.S., Lazovskiy I.M. and Fel'dbrin M.G. (Sverdlovsk)

TITLE: Contribution to the Theory of Coke Formation in Connection with the Selective Grinding of Coals (K teorii formirovaniya koksa v svyaze s izbiratel'nym izmel'cheniyem ugley)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye tekhnicheskikh Nauk, 1958, Nr 6, pp 144-148 (USSR)

ABSTRACT: Laboratory and semi-production coking test results with selective grinding of coal have shown that at Eastern coke plants more gas and weakly caking coals can be used and coke quality with normal coals improved. The authors deal first with the structural (crack-free) strength of coke, tabulating (Table 1) results which show that it is reduced by selective grinding. Other results (Table 2) indicate that the viscosity of the coal mix on softening rises, the effect being obtained (Table 3) when petrographically homogeneous coals are ground. The authors discuss the increase in internal friction of the plastic mass which occurs with all coals as the coal-grain surfaces are opened up. The decrease in charge bulk

Card 1/3

Contribution to the Theory of Coke Formation in Connection with the Selective Grinding of Coals

density produced by selective grinding leads to higher porosity and this, together with the poorer caking, accounts for the deleterious effect of such grinding on structural strength. The authors consider next the lump strength of coke, showing (Table 1) that this increases with selective grinding. They attribute this to the greater petrographic and size uniformity and consequent reduction of internal stresses. Finally the authors summarize the effects of selective grinding for various types of charge: coke stability is improved when a low-stability coke is otherwise obtained from strongly caking coals; with charges containing a high proportion of gas coals a strong coke is not obtained; a relatively small improvement in coke strength is obtained with charges

 which normally give a medium-shatter, structurally strong

Contribution to the Theory of Coke Formation in Connection with the Selective Grinding of Coals

coke; strong coke is not obtained with low-caking charges normally giving a highly abrading coke. For preventing reduction of structural strength due to selective grinding the authors recommend tamping of the charge and quote some test results.

There are 5 tables and 6 references (5 Soviet, 1 French)

SUBMITTED: July 16, 1957

Card 3/3

88-58-7-6/27

AUTHOR: Gryaznov, N. S., Candidate of Technical Science

TITLE: A Method of Analysis and Forecasting of the Structural Strength of Coke (Metod analiza i prognoza strukturnoy prochnosti koksa)

PERIODICAL: Koks i Khimiya, 1958, Nr 7, pp 16-22 (USSR)

ABSTRACT: By structural strength of coke, the strength of coke lumps free from fissures is understood. The author described the VUKhIN method of determining the structural strength of cokes, which is equally suitable for laboratory and industrial cokes. A laboratory cylindrical retort for the test carbonisation (500-600 g) is described (Fig.1). The method consists of placing a 50 cm^3 samples of coke 6-3 mm in size (this fraction should correspond to at least 50% of the total sample) into a cylinder of 25 mm internal diameter and 300 mm long together with 3 steel balls 15 mm in diameter and rotating the cylinder for 1000 revolutions of 25 r.p.m. (Fig.2). The structural strength can be determined in absolute units of specific work of crushing coke, but as the increase in surface during crushing is mainly

 determined by the increase of the yield of dust by

A Method of Analysis and Forecasting of the Structural Strength of Coke

weight (1-0 mm fraction) and, therefore, the index of strength can be expressed by the fraction retained on a 1 mm screen. The reproducibility of parallel determinations should not be lower than 1% and between two samples obtained in two parallel coking experiments - 2%. The bulk density of coke as used for the test can often be used as its additional characteristic. Using the above method the structural strength of coke made from blends used in the Eastern regions, of pitch coke as well as the influence of method of preparation of blends for coking on the structural strength of cokes produced were investigated. The experimental results are given in Tables 1 - 8 and Figs. 2-3. The experimental results indicated that changes in the index of structural strength follow changes in the impact strength and resistance to wear. With increasing coking temperature the structural strength of coke increases following its tensile strength.

Card 2/4 For the coals investigated the index of structural strength followed the strength of coke as determined by the drum test. The property of the index can be used for choice of coal blends on the basis of laboratory

A method of Analysis and Forecasting of the Structural Strength of Coke

experiments. To obtain a strong metallurgical coke the following indices should be obtained: 1) the index of structural strength of laboratory coke should be above 75% and 2) on transfer from semi-coke to coke, the shrinkage (the evolution of the residual volatiles) should not exceed 10%. The influence of the degree of fineness of the blend on the structural strength was also tested and it was found that with increasing fineness of the blend, the structural strength of coke decreases. The opposite effect is obtained by stamping. It is pointed out that the structural strength of coke is a function of three components: 1) caking ability, i.e. the strength of adhesion of coal grains to each other; 2) wall thickness of pores (i.e. porosity) and 3) the hardness of the wall material. It is concluded that using the above index it is possible to find causes or forecast the nature of changes of the strength of metallurgical coke with changes in the composition or preparation of coal blends.

Card 3/4

68-58-7-6/27

A method of Analysis and Forecasting of the Structural Strength of Coke

There are 8 tables, 4 figures and 14 references, 13 of which are Soviet, 1 English.

ASSOCIATION: VUKhIN

1. Coke--Mechanical properties 2. Coke--Structural analysis
3. Coke--Test methods

Card 4/4

ZASHKVARA, V.G., kand. tekhn. nauk; GRYAZNOV, N.S., kand. tekhn.nauk;
SHCHUKIN, P.A., kand. tekhn. nauk.

First metting of workers of the fuel industry of Czechoslovakia.
Koks i khim. no.12:50-52 '58. (MIRA 11:12)

1. Ukrainskiy Uglekhimicheskiy institut (for Zashkvara). 2. Vostochnyy Uglekhimicheskiy institut (for Gryaznov) 3. Institut goryuchikh iskopayemykh AN SSSR (for Shchukin)
(Czechoslovakia--Fuel)

GRYAZNOV, N.S.

К ТЕОРИИ СПЕКАНИЯ УГЛЕЙ

Н. С. Грязнов

VIII Mendeleyev Congress for General and Applied Chemistry
Section of Chemistry and Chemical Technology of Fuels,
publ. by Acad. Sci. USSR, Moscow 1959

abstracts of reports scheduled to be presented at above mentioned congress,
Moscow, 13 March 1959.

GRYAZNOV, N.S.

5(1) PHASE I BOOK EXPLOITATION SOV/2127

Koksokhimicheskoye proizvodstvo; sbornik statey (By-Product Coking Industry; Collection of Articles) Moscow, Metallurgizdat, 1959. 240 p. 2,500 copies printed.

Ed.: B. S. Filippov; Ed. of Publishing House: A. A. Revyakin; Tech. Ed.: P. G. Islent'yeva

PURPOSE: The book is intended for engineers and technicians in the by-product coking industry and in scientific research institutes. The book may also be used by students in secondary and higher technical schools.

COVERAGE: The articles in this collection on the by-product coking industry appeared originally either in the periodical Koks i khimiya (Coke and Chemistry) or in other publications during 1955-1958. The book discusses the development of raw-material reserves for coking, technology of the manufacture of coke, quality of coke and further enlargement of the number of chemical coking products obtained. Some articles are devoted to a new procedure for preparing and beneficiating coals, new methods for coking, and to the mechanization and automation of industrial processes. References accompany individual articles.

AVAILABLE: Library of Congress

Card 4/4

TM/mg
10-30-59

SOV/68-58-2-5/20

AUTHORS: Gryaznov, N.S., Fel'dbrin, M.G. and Kuzovkov, S.S.

TITLE: Coking of Preliminary Pre-heated Coal Blend (Koksovaniye predvaritel'no nagretoy ugol'noy shikhty)

PERIODICAL: Koks i Khimiya, 1959, Nr 2, pp 17 - 20 (USSR)

ABSTRACT: The influence of a preliminary pre-heating of the coal charge on the characteristic features of the coking process and the quality of coke produced was investigated. A blend from Kuznets coals, used on the Chelyabinsk Metallurgical Works, in which a part of the fat coal replaced by gas coal of the following composition was used for the investigation, %: KZh - 41, Zhl - 17, Gl - 11, K2 - 31. The blend was crushed in the usual manner to 93% of - 3 mm fraction. Pre-heating was done in a rotating drum placed in a ring furnace. The coking was done in an electrically heated oven, 400 mm wide of a capacity of 180 kg. The temperature of the surface of oven walls at the end of coking was 1 080 °C and at the tar line plane 950 °C. The hot blend was charged directly from the pre-heating drum. Changes in the bulk density and rate of flow (from a special bunker with an outlet 40 mm in diameter) of pre-heated blend were determined (Table 1) - both attained maximum value at a pre-heating temperature

Card1/3

Coking of Preliminary Pre-heated Coal Blend

of 200 °C. Pre-heating of the blend to a temperature above 200 °C is unprofitable as the bulk density and the rate of flow decrease due to the beginning of thermal decomposition. Changes in the volatile content, thickness of the plastic layer and apparent viscosity with pre-heating temperature are given in Table 2 and Figure 1. A decrease in the fluidity of the plastic mass begins after pre-heating to 204 °C. The temperature gradient during coking was measured with 4 thermocouples placed in one half of the oven. With increasing pre-heating temperature the mean coking velocity increases but the individual layers of the charge carbonise at a rate sharply different from the mean rate. Changes in the heating rate of ordinary and pre-heated charges during the plasticity period at various distances from the wall are given in Table 3 and changes in the thickness of the plastic layer during its movement towards the tar line plane in Figure 2. The quality of the coke produced from ordinary blend and pre-heated to various temperatures is compared in Table 4. On pre-heating of charge up to 200 °C, the

 quality of the coke improves, but with pre-heating to a

Coking of Preliminary Pre-heated Coal Blend

higher temperature the quality of the coke deteriorates. It is concluded that pre-heating of the coal charge improves the quality of metallurgical coke and increases the throughput of the coke ovens by approximately 35%. Pre-heating of the coal charge within a range up to 200 °C is advantageous. There are 2 figures, 4 tables and 7 Soviet references.

ASSOCIATION: VUKhIN

Card 3/3

SOV/68-59-6-2/25

AUTHORS: Lazovskiy, I.M., Gryaznov, N.S., Fel'dbrin, M.G. (VUKhIN), Pakhalok, I.F., Poputnikov, F.A., Yurenkov, N.I. and Lyamin, I.N. (VNIIUglebogashcheniye)

TITLE: Preparation of Coal Blend by Air Ellutriation with Crushing of Large and Heavy Particles (Podgotovka ugol'nykh shikht vozdushnoy separatsiyey s drobleniyem krupnykh i tyazhelykh chastits)

PERIODICAL: Koks i Khimiya, 1959, Nr 6, pp 5-8 (USSR)

ABSTRACT: The use of air ellutriation in the preparation of coal blends by preferential crushing is proposed. The method consists in that a coal or a coal blend of a size 25-0 mm is air ellutriated in a pipe, so that 3-0 mm size fraction is removed by the air stream and the 25-3 mm fraction is crushed and again air ellutriated. A pilot plant installation erected for this purpose (fig) and some experimental results obtained are described. Coal blends used on one of the Eastern coking works were used for experiments. Size distributions of coal blends and quality of coke obtained by the usual crushing and preferential crushing with and without air ellutriation are shown in Tables 1 and 2. It was found that the use of air ellutriation decreases the proportion of dust

Card 1/2

Preparation of Coal Blend by Air Ellutriation with Crushing of Large and Heavy Particles

(0.42 - 0 mm) by 5.8% and the distribution of ash between the individual size fraction is more uniform (ash content of larger particles is somewhat lower than that of fine fractions) and the coke obtained (on a pilot plant) was stronger than from blends prepared by preferential crushing without air ellutriation. The design and construction of a large scale experimental plant for preferential crushing with air ellutriation in a closed cycle is recommended.

Card 2/2 There are 1 figure, 2 tables and 5 Soviet references.

GRYAZNOV, N.S.; LAZOVSKIY, I.M.; FEL'DBRIN, M.G.

Increasing the use of gas coal in coking oven charges in eastern plants. Ugol' 34 no.4:60-62 Ap '59. (MIRA 12:7)

1. Vostochnyy uglekhimicheskiy institut.
(Ural Mountain region--Coke ovens)

GRYAZNOV, N.S., kand.tekhn.nauk; PETROV, V.K.

Coking of coals under gas pressure. Koks i khim. no.1:30-35 '60.
(MIRA 13:6)

1. Vostochnyy uglekhimicheskiy institut.
(Coal--Carbonization)

GRYAZNOV, N.S.

Coal pressure arising during coking. Koks i khim. no.6:16-20 '60.
(MIRA 13:7)

1. Vostochnyy uglekhimicheskiy institut.
(Coal--Carbonization)

BOLITER, Ye.P.; GRYAZNOV, N.S.; SHAHSMURIN, P.I.

X-ray examination of coal clinkering. Dokl. AN SSSR 134 no.6:1403-1405 O '60. (MIRA 13:10)

1. Vostochnyy nauchno-issledovatel'skiy uglekhimicheskiy institut, g.Sverdlovsk. Predstavleno akademikom V.A.Karginym.
(Coal, Pulverized)

GRYAZNOV, N.S., kand.tekhn.nauk

Viscosity, gas permeability, and swelling of a plastic mass of coals. Koks i khim. no.8:7-10 '60. (MIRA 13:8)

1. Vostochnyy uglekhimicheskiy institut.
(Coal--Carbonization)

S/020/60/134/006/028/031
B004/B054

AUTHORS: Boliter, Ye. P., Gryaznov, N. S., and Shashmurin, P. I.

TITLE: Radiography of Coal Caking

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 6, pp. 1403-1405

TEXT: The authors wanted to solve the problem as to whether merely an interaction of the surface of coal grains or a dispersion takes place in caking. They investigated the caking of Kuznetsk ГЖ (G6) gas coals from the mine imeni Kirov and the Polysayevskaya mine, types КЖ14 (KZh14), 1)Ж 26 (1Zh26), and К 2 (K2). Surfaces of coal samples were ground and marked with Ca^{45} (radiant energy 0.354 Mev, half-life 152 d). $Ca^{45}Cl_2$ or $Ca^{45}(NO_3)_2$ was applied to the ground sections, and the calcium was fixed as a sulfate or carbonate by means of K_2SO_4 or Na_2CO_3. The samples were coked at a pressure of 1 kg/cm^2, and their plastic deformation was determined (Table 1). Then, the coke samples were cut into small pieces, ground, and radiographed (exposure of the photographic plate 7-15 d).

Card 1/2

GRYAZNOV, N.S.; LAZOVSKIY, I.M.; FEL'DBRIN, M.G.; KORENSKIY, V.I.

Preparing coal for coking by the method of pneumatic and mechanical separation. Koks i khim. no.8:4-6 '61. (MIRA 15:1)

1. Vostochnyy uglekhimicheskiy institut.
(Coal) (Coke)

GRYAZNOV, Nikolay Sergeyevich; ARONOV, S.G., doktor tekhn. nauk, retsenzent; PANCHENKO, S.I., doktor tekhn. nauk, red.; KHYZHOVA, M.L., red. izd-va; MAL'KOVA, N.T., tekhn. red.

[Plasticity and the caking of coals]Plasticheskoe sostoianie i spekanie uglei. Sverdlovsk, Metallurgizdat, 1962. 191 p. (MIRA 15:9)
(Coal—Testing) (Coke)

GRYAZNOV, N.S., kand.tekhn.nauk; prinimala uchastiye KOMAROVSKAYA, G.M.

Characteristics of the changes in the plasticity of coal caused by increasing coking speed. Koks i khim. no.1:6-12 '62.(MIRA 15:2)

1. Vostochnyy uglekhimicheskiy institut.
(Coal—Analysis) (Coke industry)

GRYAZNOV, N.S.; LAZOVSKIY, I.M.; FEL'DBRIN, M.G.; KAUFMAN, A.A.; KOMAROVSKAYA, G.M.; LATSKAYA, M.P.; IVANOVA, L.V.

Peculiarities of the process of coking coal with oil additions. Koks i khim. no.1 6:17-22 '61. (MIRA 15:2)

1. Vostochnyy uglekhimicheskiy institut.
(Coke industry)

TSIPEROVICH, Moisey Veniaminovich, otv. red.; GRYAZNOV, N.S., red.; KOLESOV, A.P., red.; PANCHENKO, S.I., red.; FEL'DBRIN, M.G., red.; CHAPAYKINA, F.K., red.izd-va; KOROL', V.P., tekhn. red.

[Coal preparation and coking] Podgotovka i koksovanie uglei; sbornik statei. Sverdlovsk, Metallurgizdat. No.3. 1962. (MIRA 16:12)
415 p.
1. Sverdlovsk. Vostochnyy nauchno-issledovatel'skiy ugle-khimicheskiy institut.
(Coal preparation) (Coke)

GRYAZNOV, N.S.; LAZOVSKIY, I.M.; FEL'DBRIN, M.G.; IVANOVA, L.V.; KOMAROVSKAYA, G.M.

Standardization of methods of coal preparation for coking. Koks i khim. no.4:3-9 '62. (MIRA 16:8)

1. Vostochnyy uglekhimicheskiy institut.
(Coal preparation)

GRYAZNOV, N.S.; LAZOVSKIY, I.M.; FEL'DBRIN, M.G.

Coal preparation for coking by means of preliminary heating and efficient crushing. Koks i khim. no.11:10-12 '62. (MIRA 15:12)

1. Vostochnyy uglekhimicheskiy institut.
(Coal preparation)

KANAVETS, P.I.; MELENT'YEV, P.N.; YENIK, G.I.; IVLEVA, A.S.; LAZOVSKIY, I.M.; GRYAZNOV, N.S.; MOCHALOVA, G.V.; KORENSKIY, V.I.

Preliminary granulating of coal charges with rolling in mazut. Koks i khim. no.8:10-14 '63. (MIRA 16:9)

1. Institut goryuchikh iskopayemykh AN SSSR (for Kanavets, Melent'yev, Yenik, Ivleva). 2. Vostochnyy uglekhimicheskiy institut (for Lazovskiy, Gryaznov, Mochalova, Korenskiy).
(Coal preparation)

KUPERMAN, P.I.; GRYAZNOV, N.S.; MOCHALOV, V.V.; FROLOV, V.V.; MUSTAFIN, F.A.; PUSHKASH, I.I.; SLAVGORODSKIY, M.V.; LAZAREV, B.L.; BORISOV, V.I.; Prinimali uchastiye: CHERKASOV, N.Kh.; ZABRODSKIY, M.P.; RYTCHENKO, A.I.; RUTKOVSKAYA, Ye.N.; SAITBURGANOVA, N.I.; SHTAGER, A.A.; SHISHLOVA, T.I.; BUDOL', Z.P.; MEN'SHIKOVA, R.I.; GORELOV, L.A.; AGARKOVA, M.M.; KOUROV, V.Ya.; KOGAN, L.A.; BEZDVERNYY, G.N.; POKROVSKIY, B.I.

Effect of the lengthening of the coking time on the coke quality and testing of coke in the blast furnace process. Koks i khim. no.9: 23-28 '63. (MIRA 16:9)

1. Vostochnyy uglekhimicheskiy institut (for Kuperman, Gryaznov, Mochalov, Kogan, Bezdvernyy, Pokrovskiy). 2. Ural'skiy institut chernykh metallov (for Frolov). 3. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Mustafin, Pushkash, Slavgorodskiy, Lazarev, Cherkasov, Zabrodskiy, Rytchenko, Rutkovskaya, Saitburganova, Shtager, Shishlova, Budol', Men'shikova). 4. Koksokhimstantsiya (for Borisov, Gorelov, Agarkova, Kourov).
(Coke—Testing)

MIROSHNICHENKO, A.M., kand. tekhn. nauk; PANCHENKO, S.I., doktor tekhn. nauk; SHTROMBERG, B.I., kand. tekhn. nauk; FRISHBERG, V.D., kand. tekhn. nauk; BAYDALINOV, P.A., inzh.; GRYAZNOV, N.S., doktor tekhn. nauk; ZASHKVARA, V.G., doktor tekhn. nauk; LAZOVSKIY, I.M., kand. tekhn. nauk; MARINICHEV, B.T., inzh.; FEL'DBRIN, M.G., kand. tekhn. nauk; BAKUN, N.A., inzh.; BARATS, B.M., inzh.; VOZNYY, G.F., kand. tekhn. nauk; MIKHAL'CHUK, A.M., inzh.; TOPORKOV, V.Ya., kand. tekhn. nauk; FLORINSKIY, N.V., inzh.; KHAYET, A.N., inzh.; SHELKOV, A.K., inzh., red.; ARONOV, S.G., doktor tekhn.nauk, red.; PREOBRAZHENSKIY, P.I., inzh., red.

[Manual for coke chemists in six volumes] Spravochnik koksokhimika v shesti tomakh. Moskva, Izd-vo "Metallurgiia." Vol.1. [Source of raw materials and preparation of coal for coking] Syr'evaia baza i podgotovka uglei k koksovaniiu. 1964. 490 p. (MIRA 17:5)

GRYAZNOV, P., inzhener-podpolkovnik.

Motor with free moving pistons. Voen.-inzh. zhur. 101 no.5:27-28 My '57. (MLRA 10:6)

(Engines)

GRYAZNOV, P., inzhener-podpolkovnik

New cutter. Starsh.-serzh. no.8:22 Ag '61. (MIRA 14:10)
(Motorboats)

GRYAZNOV, S.G.

Gas and oil well cementing in permaflast. Gaz. prom. 10 no.7:6-9 '65. (MIRA 18:8)

DATSKEVICH, M.F.; POTEKHIN, S.S.; ZIMIN, F.F.; POPOV, I.Ye.; EUSIN, P.N.; ANOKHIN, S.D.; NESTEROV, V.F.; FROLOV, V.A.; GRYAZNOV, V.A., red.; USTIYANTS, V.A.; KAPRALOVA, A.A., tekhn.red.

[Modernizing punched card calculating machines] Opyt modernizatsii schetno-perforatsionnykh mashin. Moskva, Gos. stat. izd-vo, 1957. 75 p. (MIRA 11:4)

1. Russia (1923- U.S.S.R.) Upravleniye "Soyuzmashuchet."
(Punched card systems)
(Calculating machines)

GRYAZNOV, V.A.; SHLYAKHTIN, P.Ya.

Device for rail laying. Put' i put.khoz. 4 no.3:37-38
Mr '60. (MIRA 13:5)

1. Nachal'nik proyektno-izyskatel'skoy gruppy sluzhby puti, g.Kaluga (for Gryaznov). 2. Inzhener PDMS-4 Kalininskoy dorogi (for Shlyakhtin).
(Railroads--Tracklaying machinery)

AC: NR: AP6029896 SOURCE CODE: UR/0413/66/000/015/0057/0057

INVENTOR: Gryaznov, V. A.

ORG: none

TITLE: Device for voltage control. Class 21, No. 184343

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 57

TOPIC TAGS: voltage regulator, electric relay

ABSTRACT: This Author Certificate presents a device for controlling the voltage to trigger and release electromagnetic relays and switches, which contains a voltage source and a controlling-measuring device. To measure and control automatically and to increase the accuracy of measurement, the controlling-measuring device is in the form of a decimal code to stepped voltage converter connected to a counter unit, operating from a pulse generator, and provided with a reverser for changing the count direction and a switch for selecting the initial output voltage level (see Fig. 1). The investigated relay is connected between the power supply and the counter unit through an amplifier. The relay contacts are connected in the circuit of a semiconductor switch connected in turn to the counter unit for setting the decimal code whose digital value corresponds to the required voltage.

UDC: 621.318.56.015.087

Card 1/2

ACC NR: AP6029896

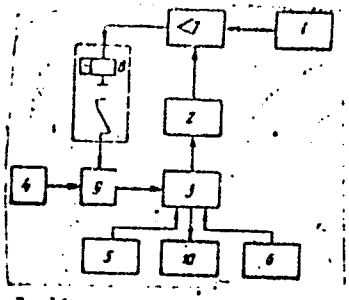

Fig. 1. 1 - voltage source; 2 - decimal code to stepped voltage converter; 3 - counter unit; 4 - pulse generator; 5 - reversing device; 6 - switch; 7 - amplifier; 8 - investigated relay; 9 - switch; 10 - required voltage indicator

Orig. art. has: 1 diagram.

SUB CODE: 09/ SUBM DATE: 22Mar65

Card 2/2

GRYAZNOV, V.I., kand.tekhn.nauk

Binocular photographic levelling instrument. Transp.stroi. 9 no.1:55-56 Ja '59. (MIRA 12:2)
(Surveying--Instruments)

C. A.

6

Manganite ores of the Nikopolsk manganese deposits. V. I. Gritzenov. *Izvest. Akad. Nauk U.S.S.R., Geol. Ser.* 1950, No. 2, 97-111. It was concluded that psilomelane-pyrolusite ores of these deposits arise from manganite ore as a result of its oxidation at the surface zone. Oxidation-reduction processes play a leading role in formation of ore minerals. Chem. analyses of manganite ore are provided, and are heating curves for a natural mixt. of manganite and pyrolusite.

Gladys S. Macy

KARLOV, N.N.; GRYAZNOV, V.I.

Age and genesis of non-separated strata of Tertiary sands in the region of Zaporozh'ye city. Dokl.AN SSSR 94 no.5:931-932 F '54. (MLRA 7:2)

1. Predstavleno akademikom D.V.Nalivkinym.
(Zaporozh'ye region--Geology, Stratigraphic)
(Geology, Stratigraphic--Zaporozh'ye region)

GRYAZNOV, V.I.

Indications of the sublittoral conditions in the formation of ore facies in the Nikopol manganese deposits. Dokl.AN SSSR 96 no.1:151-154 My '54. (MLRA 7:5)

1. Predstavleno akademikom A.G.Betekhtinym. (Nikopol--Manganese ores) (Manganese ores--Nikopol)

GRYAZNOV, V.I.

Nikopol' inesite - composite systems of isomorphic compounds (Mn,Ca) CO_3. Min.sbor.no.9:303-309 '55. (MLRA 9:9)

1.Dnepropetrovsk, Gosudarstvennyy universitet.
(Nikopol' (Ukraine)--Inesite)

GRYAZNOV, V.I.

Mineralogy of manganese ores of Nikopol' in connection with the role of diagenesis in ore formation. Vop.min.osad.obr. 3/4:212-226 '56. (MLRA 9:11)

1. Gosuniversitet. Nauchno-issledovatel'skiy institut geologii, Dnepropetrovsk.
(Nikopol'--Manganese ores)

GRYAZNOV, V.I.

Correlation between Coeloma vigil M.-Edw. fossil finds and Oligocene manganese ore facies. Dokl.AN SSSR 106:no.4:717-719 F '56. (MLRA 9:6)

1.Dnepropetrovskiy gosudarstvennyy universitet imeni 300-letiya Vossoyedineniya Ukrainy s Rossiyey. Predstavleno akademikom A.G.Betekhtinym.
(Nikopol region--Crustacea, Fossil)

GRYAZNOV, V. I.

20-1-1/54

AUTHOR KARLOV, N.N. and GRYAZNOV, V.I.

TITLE On the Neocomian Series in the Depression Near the Black Sea.
(O neokomskikh otlozheniyakh Prichernomorskoy vpadiny.- Russian)

PERIODICAL Doklady Akademii Nauk SSSR 1957 Vol 115, Nr 1, pp 152-154 (USSR)

ABSTRACT The occurrence of neocomian deposits here and in the Ukraine in general has never been determined with certainty. In 1940 Dyssa classified with it a 30 m mass of green cretaceoussandy clays without fauna. They occur near Bol'shoy Tokmak, 235 to 265 m deep. According to Muratov the basis of the western part of that branch of the depression near to the Carpathians and of the southern part of the Karkinitic or the Black Sea depression as such undoubtedly consist of Paleozoic fold rocks. This was allegedly confirmed by physical data by Zavistovskiy. For the solution of this problem the results of an investigation of carbonate rocks from the rotor bore-hole of Novoalekseyevka from a depth of 2555 - 2556 m are of interest. By a study of organic fossils of this limestone its age was determined as neocomian, more exactly between the Valengin limits. Based

CARD 1/3

On the Neocomian Series in the Depression Near the Black Sea.

on this interpretation of the cross section and in consideration of other data, the Cretaceous deposits of the Black Sea depression can be characterized as follows: Danish stage 57-105 m, Maastrinht 50-60 m, Campan-Cognac 78 m and more, Turon-Senoman 72 m and more, Alb 15-130 m, Apt 10 - 340, Barrem-Goteriv 90 m, Valengine 95 m and Tithon 18 m of thickness. Altogether 1627 m. It may be concluded that the hercynian fold basis is absent in the Black Sea deposit. The Donets Paleozoic has no direct connection with that of Crimea and the Caucasus. The formation of the Black Sea depression apparently began in the Cretaceous, in connection with tectonic movements of the Andean phase of the Pacific cycle in the Crimean-Caucasian province. The influence of the Austrian phase of the same cycle manifested itself here in the strong metamorphism of Lower Cretaceous deposits including those of Apt. They possess a high density (2,62) which clearly distinguishes them from those of the Russian plateau (2,2). It is pointed out that A.P. Karpinskiy indicated already 70 years ago that the Donets hill range represents a thick complex of deposits which was transformed by orogenesis and which was deposited in a comparatively narrow gulf of the Carboniferous sea. They are

On the Neocomian Series in the Depression Near the Black Sea.

no elevated section of an uninterrupted Paleozoic field of folds, as it was later erroneously assumed by an author. Karpinsky's statements are confirmed by those of the authors.

(1 Illustration, 14 Slavic references)

ASSOCIATION: Scientific geological research institute of the Dnyepropetrovsk State University.
(Nauchno-issledovatel'skiy geologicheskiy institut Dnepropetrovskogo gosudarstvennogo universiteta)

PRESENTED BY: S.I. Mironov, member of the Academy, Mar. 9, 1957
SUBMITTED: 6.3.57
AVAILABLE: Library of Congress.
CARD 3/3

SOV/20-121-1-45/55

AUTHOR: Gryaznov, V. I.

TITLE: A Rapid Method for the Mineralogical Diagnosis of Manganese Ores According to Their Electric Conductivity (Skorostnoy metod mineralogicheskoy diagnostiki margantsevykh rud po elektroprovodnosti)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 1, pp. 159 - 161 (USSR)

ABSTRACT: The useful manganese ores usually contain only few kinds of manganese minerals the determination of which is, however, difficult. The diagnosis is complicated by the colloidal origin of the ores, the fine-disperse state of the minerals, and by the occurrence of several closely related minerals. Also the successfully used methods are complicated and require experts and rather complicated apparatus. It is, however, very often necessary to carry out mineralogical mass determinations of ores. In the geological investigation of maritime-sedimentary manganese deposits it is often important to find the boundary between the pyrolusite and manganite zone. As is known, the most precious ores poor in phosphorus belong to the first

Card 1/4

A Rapid Method for the Mineralogical Diagnosis of Manganese Ores According to Their Electric Conductivity

zone (Ref 2). Together with G.Ya.Turovskiy the author employed the rapid method, described later, in the case of Nikopol' manganese deposit for the separation of the pyrolusite ores. Only few and contradicting data exist on the electric conductivity of manganese minerals (Ref 1). According to the geophysical publications the native manganese oxides and hydroxides have a specific resistance of up to 10^6 ohm cm and more. There are extremely great fluctuations in one and the same mineral (Table 1). These data are in absolute contradiction to the conductivity in polished microsection surfaces (Ref 3). In order to explain the reasons of this contradiction the author carried out measurements at Nikopol' samples which were subjected to a detailed mineralogical investigation. Ye.V.Sinyakov (Electrophysics Lab of the Physics and Mathematics Department, Dnepropetrovsk State University = laboratoriya elektrofiziki fiziko-matematicheskogo fakul'teta)assisted in this investigation. The results are shown in table 2. The samples may obviously be divided into 3 groups according to the amount of their specific resistance. These groups correspond to their mineralogical composition.

A Rapid Method for the Mineralogical Diagnosis of Manganese Ores According to Their Electric Conductivity

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The differences between pyrolusite and manganite are great enough to characterize these two minerals. A portable millivolt ammeter connected with a flashlight battery, may be used if an ohmmeter is lacking (Fig 1). There are 1 figure, 2 tables, and 6 references, 6 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut geologii Dnepropetrovskogo gosudarstvennogo universiteta im. 300-letiya vossoyedineniya Ukrainy s Rossiyey (Scientific Research Institute of Geology of Dnepropetrovsk State University imeni 300th Anniversary of the Reunification of the Ukraine and Russia)

PRESENTED: March 26, 1958, by A.G.Betekhtin, Member, Academy of Sciences, USSR

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A Rapid Method for the Mineralogical Diagnosis of Manganese Ores According to Their Electric Conductivity SOV/2o-121-1-45/55

1. Manganese ores--Analysis 2. Minerals--Determination 3. Manganese ores--Conductivity 4. Ohmmeters--Applications

Card 4/4

GRYAZNOV, V.I.; SELIN, Yu.I.

Principal geological characteristics of the Bol'she-Tokmak manganese deposit (the Ukrainian S.S.R.). Geol.rud.mestorozh. no.1:35-55 Ja-F '59. (MIRA 12:5)

1. Nauchno-issledovatel'skiy institut geologii Dnepropetrovskogo universiteta i Ukrainskoye geologicheskoye upravleniye.
(Dnieper Valley--Manganese ores)

14(6)

AUTHOR: Gryaznov, V.I., Candidate of Geological and Mineralogical Sciences, and Rudakov, V.K., Engineer

SOV/98-59-4-7/17

TITLE: The Rate of Washing-Away of Loess Banks of the Kakhovka Reservoir (Razmyvayemost' lessovykh beregov Kakhovskogo vodokhranilishcha)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 4, pp 32-33 (USSR)

ABSTRACT: The authors give a more precise definition of the formula of Ye.G. Kachugin to determine the washing-away grade of the above-mentioned banks. Proposed in 1955, this formula looks as follows: $Q=k_p Et^b$, whereby Q is the volume of the washing-away rock in cu m; k_p is the washability coefficient in cu m divided by ton-meters; E is the wave energy per year in ton-meters; t is the number of years; b is the power indicator, less than 1. For loess-like grounds Ye.G. Kachugin cites the following values: $k_p=25.10^{-5}$ $\div$ 47 x 10^{-5} m^3/ton-meters. The correction was rendered possible by way of new knowledge gained through recent

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The Rate of Washing-Away of Loess Banks of the Kakhovka Reservoir

observations on the washing-away phenomenon of the Kakhovka reservoir. This study was carried out by the Nauchno-issledovatel'skiy institut geologii Dnepropetrovskogo universiteta (Research Institute of Geology of the Dnepropetrovsk University) in cooperation with the Ukrainskoye otdeleniye instituta "Gidroenergoproyekt" (Ukrainian Section of "Gidroenergoproyekt" Institute) during the period 1955-1957. The formula of Ye.G. Kachugin was incorrect as it could only be used for calculation of low banks with sand bars. However, steep banks, as it was learned meanwhile, are subject to a much stronger washing-away effect. Therefore, the washing-away data on the banks of another reservoir, the Dnepropetrovskoye vodokhranilishche (Dnepropetrovsk Reservoir), were ascertained by the newly-amended formula. There is 1 graph and 1 table.

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