KURMAKIN, D.I.; ASINOVSKIY, M.A.

Making prestressed MA and MB panels with six cavities. Suggested by D.I.Kurmakin, M.A.Asinovskii. Rats.i izobr. predl.v stroi. no.8:13-16 '58. (MIRA 13:3)

1. Po materialam tresta No.5 Ministerstva stroitel'stva BSSR.
(Prestressed concrete)

KURMAKOV, E.

A new system of connections for utilizing pentodes in low-frequency last stages. p. 46.
(RADIO I TELEVIZIIA, Vol. 6, no. 6, 1957, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

KURMAKOV, E.

"Crystal Diodes as Detectors."

p. 56 (Radio I Televizlin, Vol. 7, No. 6, 1958, Sofiia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 11, Nov. 1958

KURMAKOV, E.

Cryotron elements in electronic calculating machines. Fiz mat spisanie BAN 4 no.4:308-309 '61.

KURMAKOV, E.; DIMITROV, E.

The 2d International Colloquy on Current Problems in Computing Technics. Fiz mat spisanie BAN 5 no.2:154-155 '62.

KURMAN, A., byvshiy chlen arteli invalidov im. 1 Maya (Orel)

Machine for working on heels. Prom. koop. 12 no.6:13 Je '58.
(MIRA 11:6)

(Shoe machinery)

ABRAMOV, F.A., prof., doktor tekhn.nauk; TORGOVNIKOV, B.M., nauchnyy sotrudnik; VIKHROV, V.I., nauchnyy sotrudnik; KAGANER, V.M., nauchnyy sotrudnik; KURMAN, A.V., nauchnyy sotrudnik

Calculating the forced distribution of air in a mine ventilation system using an electronic computer. Ugol' 39 no.12:54-59 D '64. (MIRA 18:2)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy institut imeni Artema (for Abramov). 2. Nauchno-issledovatel'skiy gornorudnyy institut, Krivoy Rog (for Torgovnikov, Vikhrov, Kaganer, Kurman).

L 10685-66

ACC NR: AP5025312 SOURCE CODE: UR/0193/65/000/009/0027/0028

AUTHOR: Yeremenko, I. F.; Kurman, A. V.

35
B

ORG: None

TITLE: A modification of the group operation of reference to the accumulator on punched tape in the "Ural-2" computer

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 9, 1965, 27-28

TOPIC TAGS: punched paper tape, computer programming, computer technology, COMPUTER CIRCUIT

ABSTRACT: A system has been developed in the computing department of the Scientific Research Institute of Mining, Krivoy Rog (Nauchno-issledovatel'skiy gornorudnyy institut) for executing group operation Lp on the "Ural-2" computer, together with an algorithm in which group operation Lp is terminated by a symbol indicating the end of the block of numbers in the zone. This symbol is punched into the tape simultaneously with the input data. The number of symbols in a zone is automatically counted on a cyclic counter during data input. A diagram of the circuit for carrying out the altered system for group operation is given (Fig. 1). Use of the former algorithm for executing group operation Lp is not prevented by the alterations

Card 1/3

UDC:681.177.5.004.1

L 10685-66

ACC NR: AP5025312

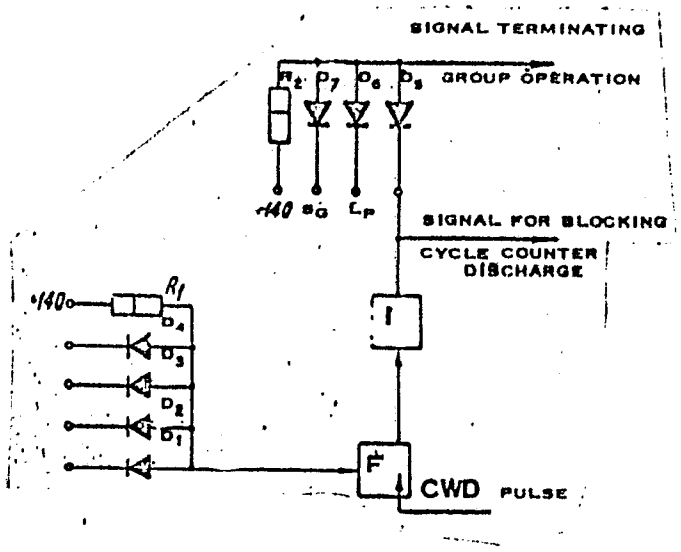


Fig. 1. Diagram of circuit for carrying out altered system for group operation.

Card 2/3

L 10085-66

ACC NR: AP5025312

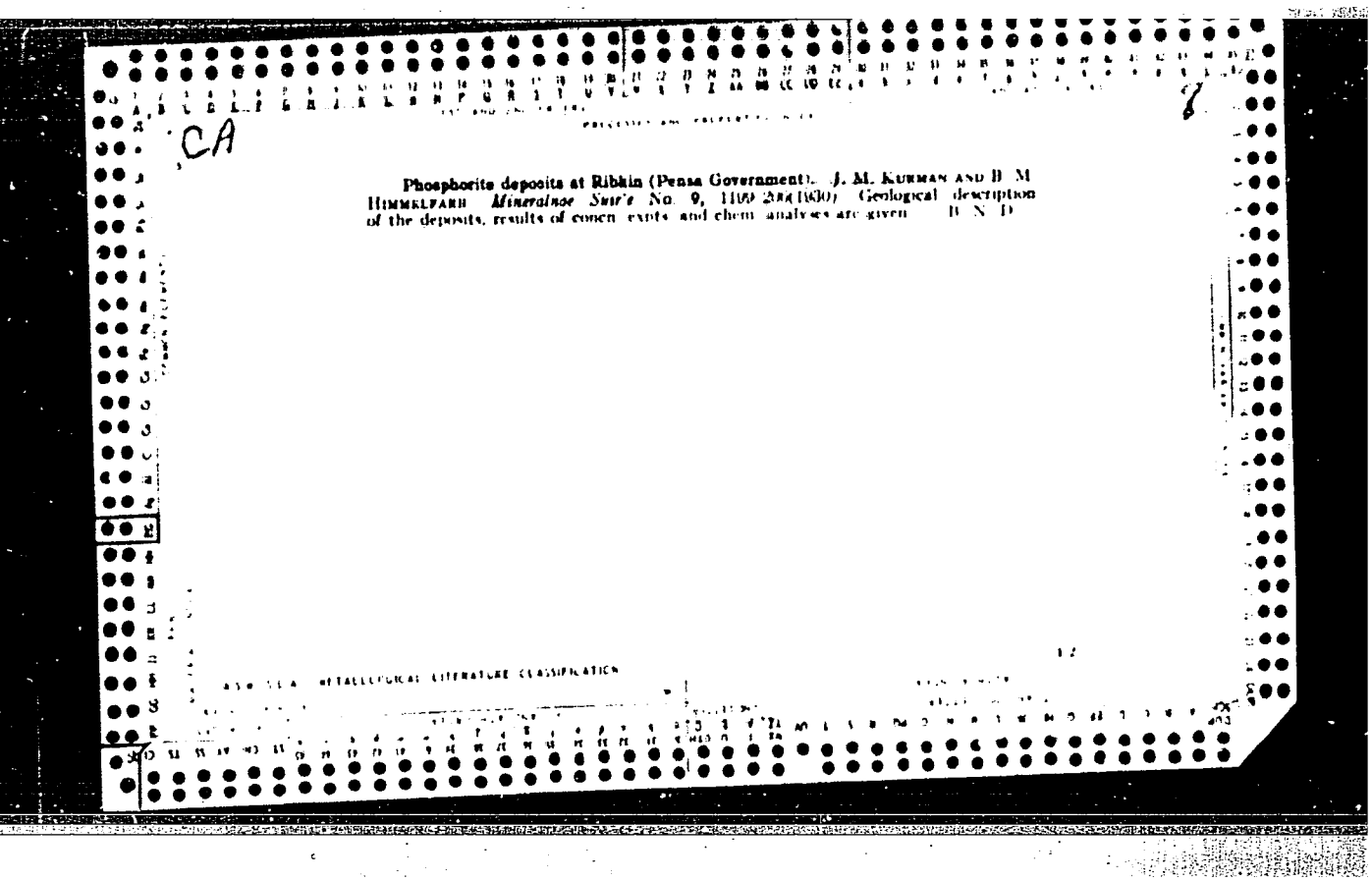
made in the computer circuit. A year's experience shows the system to be stable and effective in raising the productivity of both the computer and the programmers. Orig. art. has: 2 figures.

SUB CODE: 09/ SUBM DATE: None

HW

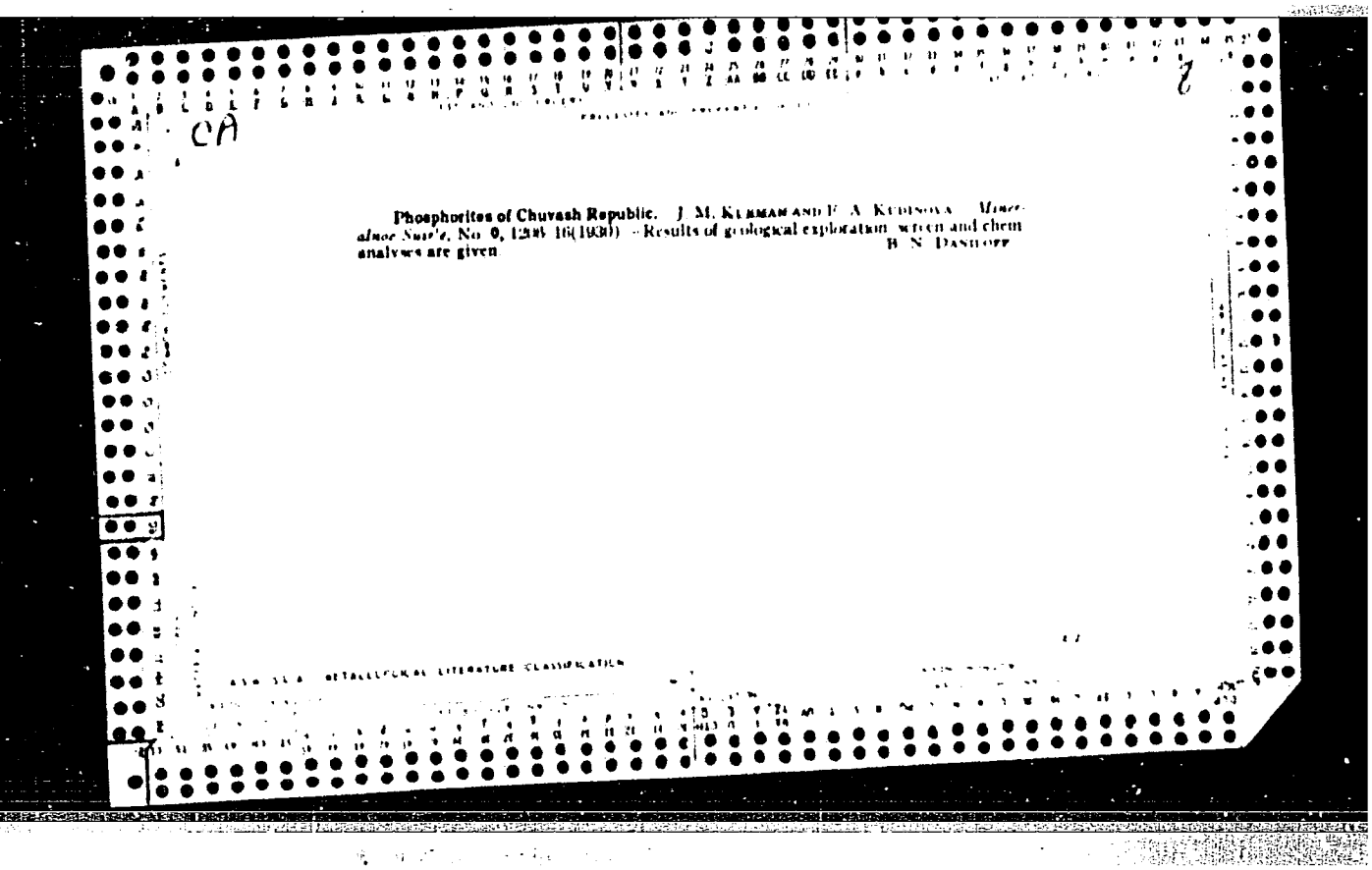
Card 3/3

KURMAN, F. A., Cand Agr Sci, "High fertility in hog breeding and its relation to the subsequent growth and fattening qualities of hogs." Novocherkassk, 1961. (Min of Agr RSFSR. Novocherkassk Zoovet Inst imeni Pervaya Konnaya Armiya). (KL-DV, 11-61, 225).



CA

Phosphorite deposits at Ribkin (Pensa Government). J. M. Kuhman and B. M. Himmelfarb. *Mineralnoe Syrie* No. 9, 1169-288(1930). Geological description of the deposits, results of concn. expts. and chem. analyses are given. B. N. D.

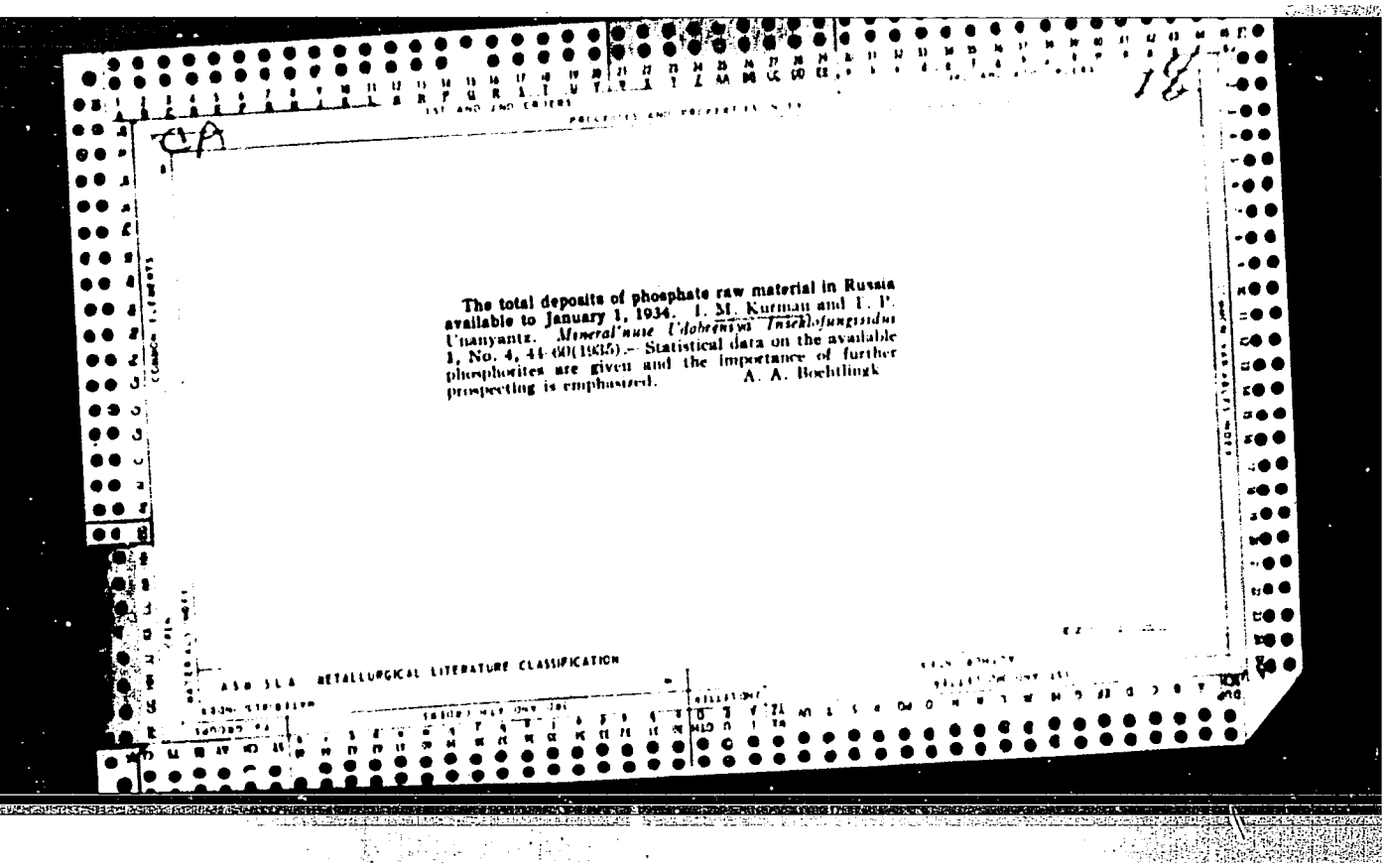


CA

Phosphorites of Chuvash Republic. J. M. Kuzman and E. A. Kudinova. *Mineral. Sbornik, No. 9, 128–136 (1955).* — Results of geological exploration, petrographic and chemical analyses are given. B. N. Dashkov

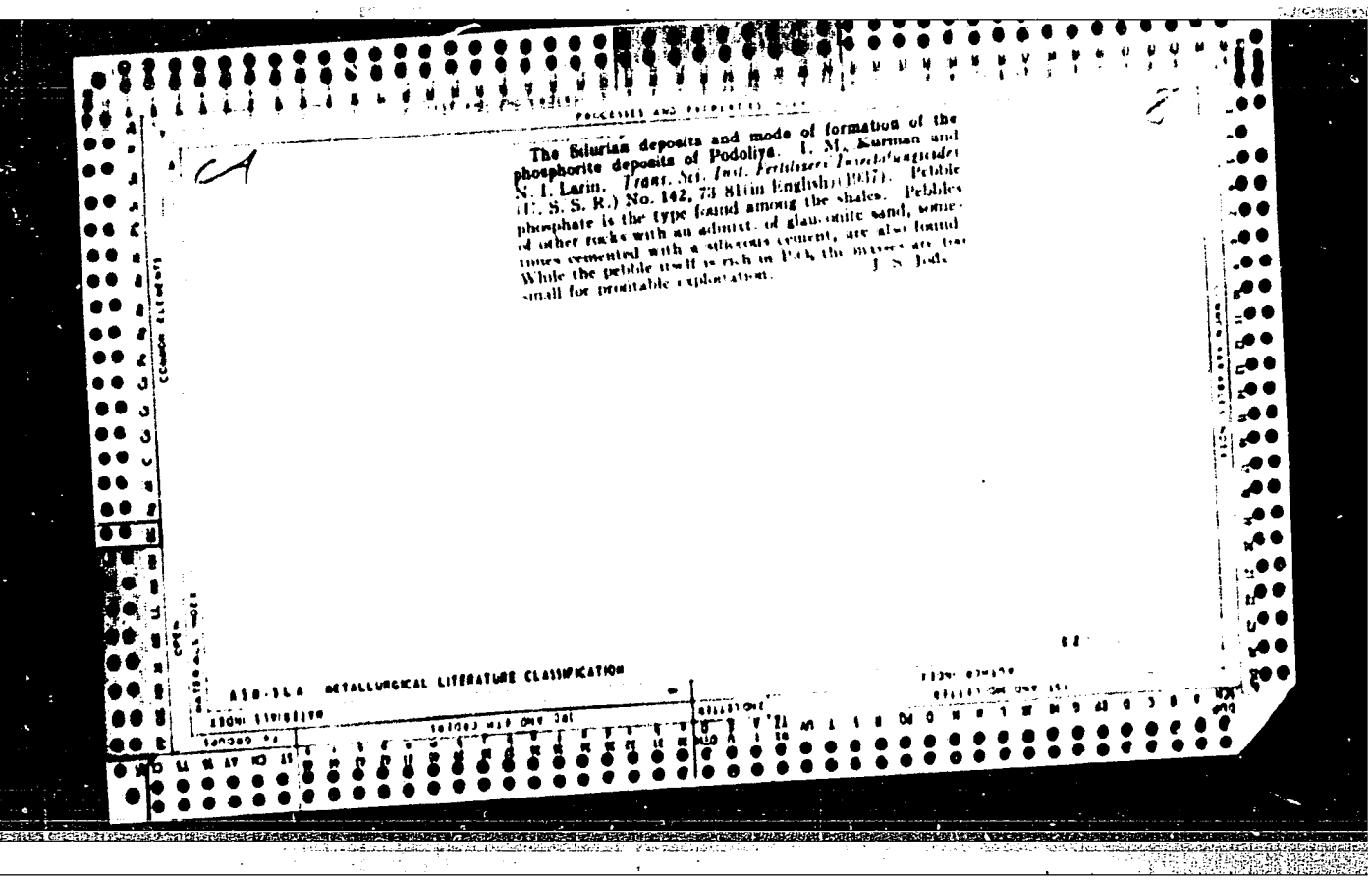
1 **The boron-bearing rocks of the mountains Bulk and Zoloti Kurgan.** I. M. Kurman, E. M. Vorozheva and Z. M. Umbeva. *Trans. Sci. Inst. Fertilizers* (U. S. S. R.) No. 117, 5-68(1934).—A report on the geology and compn. of boron bearing rocks and minerals in Northern Caucasia. J. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



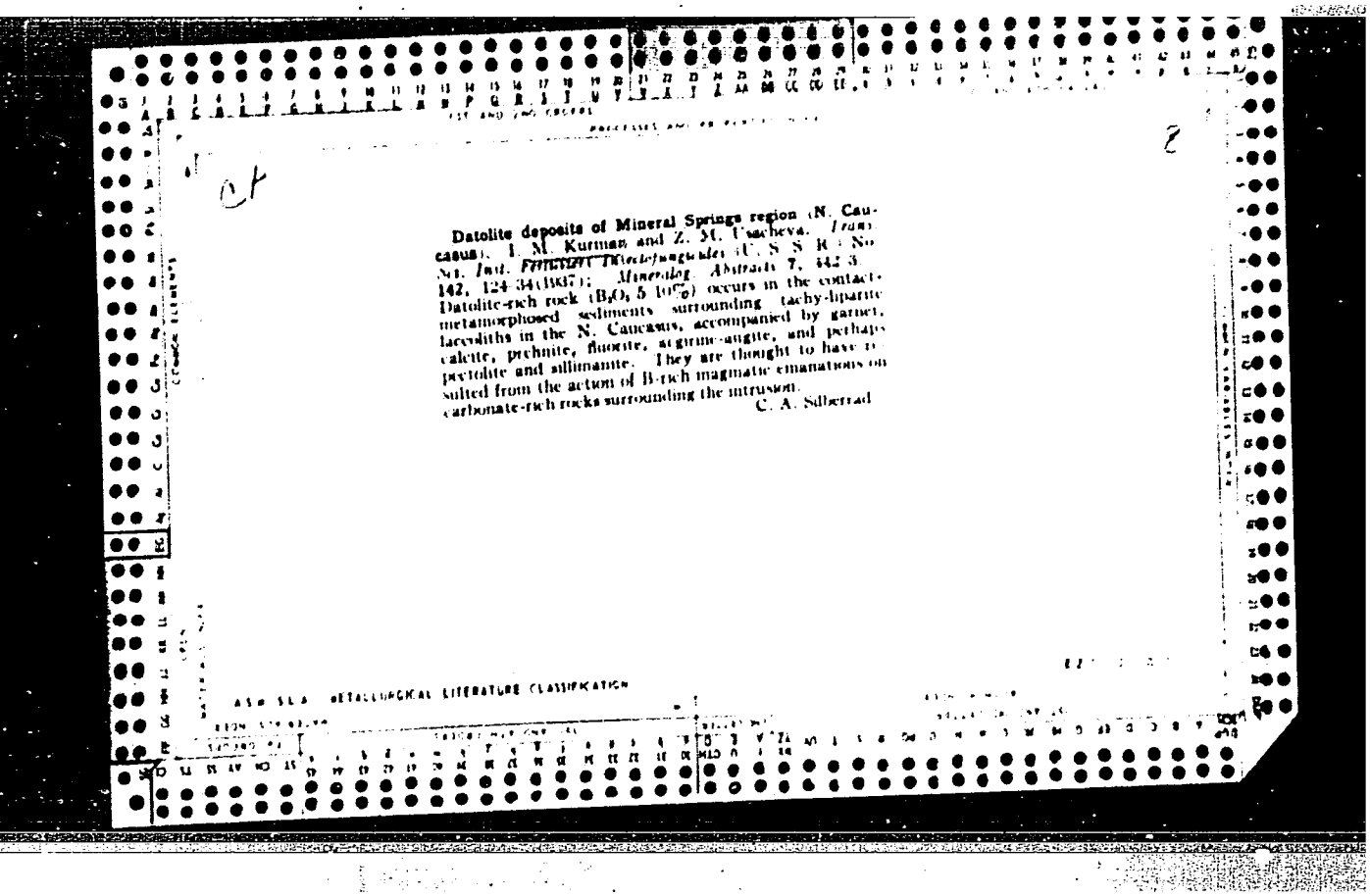
The total deposits of phosphate raw material in Russia available to January 1, 1934. I. M. Kurman and I. P. Umanyantz. *Mineral'noie Udobrenia Inskh.-fungicidui* 1, No. 4, 44-60(1935).—Statistical data on the available phosphorites are given and the importance of further prospecting is emphasized. A. A. Boehtlingk

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION



The Silurian deposits and mode of formation of the phosphorite deposits of Podoliya. I. M. Kurman and S. I. Larin. *Trans. Sci. Inst. Fertilizers Insecticides* (U. S. S. R.) No. 142, 73 81(in English)(1937). Pebble phosphate is the type found among the shales. Pebbles of other rocks with an admixt. of glauconite sand, sometimes cemented with a siliceous cement, are also found. While the pebble itself is rich in P2O5 the masses are too small for profitable exploitation. J. S. Joffe

ASB-91A METALLURGICAL LITERATURE CLASSIFICATION

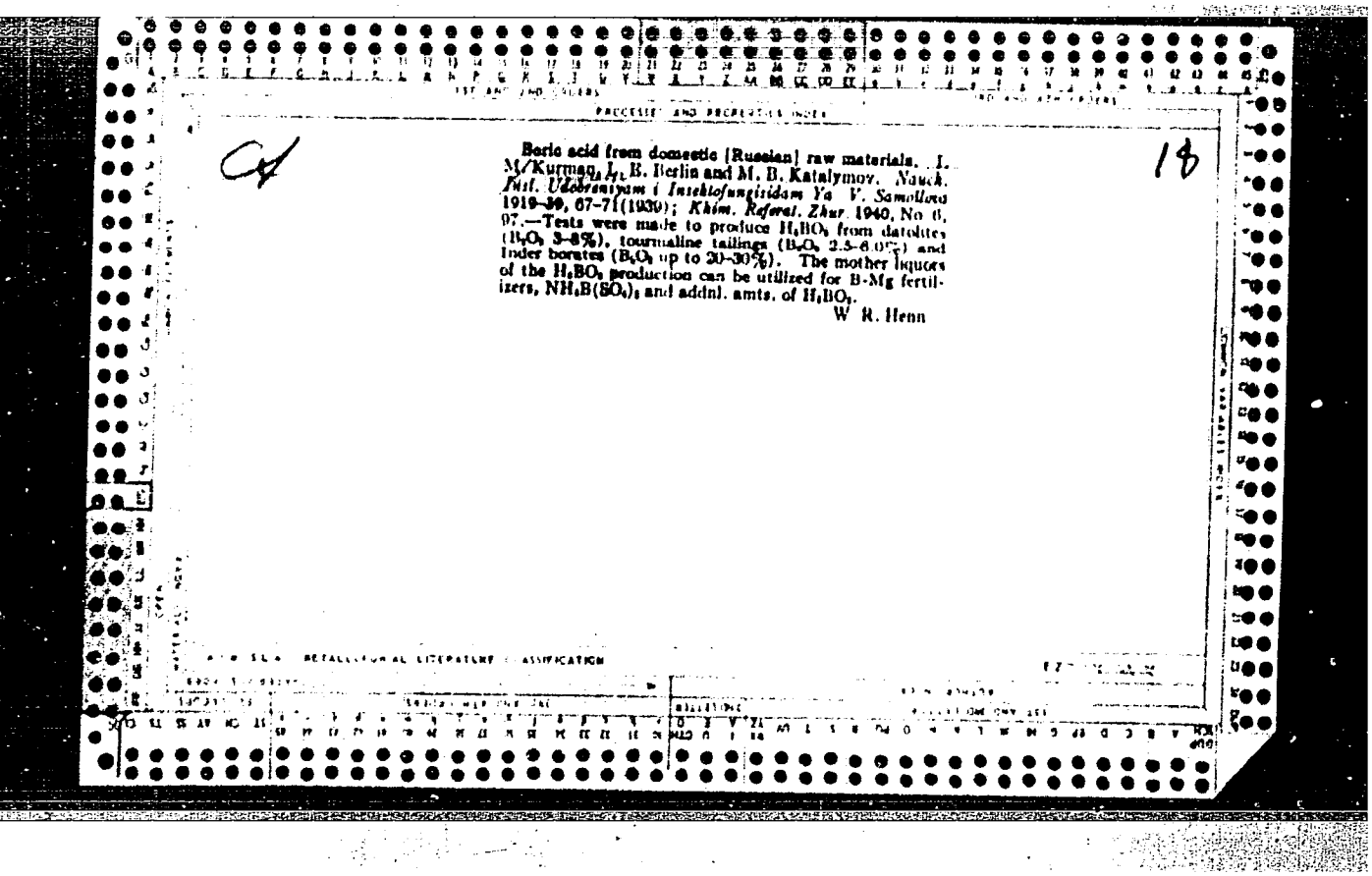


Datolite deposits of Mineral Springs region (N. Caucasus). I. M. Kurman and Z. M. Useheva. *Trans. Nat. Inst. Petrogr. Mineralog. Geochem. Rare Elements* (U. S. S. R.) No. 142, 124–34 (1937); *Mineralog. Abstracts* 7, 442–3.

Datolite-rich rock (B_2O_3 5 to 6%) occurs in the contact-metamorphosed sediments surrounding tachy-liparite laccoliths in the N. Caucasus, accompanied by garnet, calcite, prehnite, fluorite, aegirine-augite, and perhaps pectolite and sillimanite. They are thought to have resulted from the action of B-rich magmatic emanations on carbonate-rich rocks surrounding the intrusion.

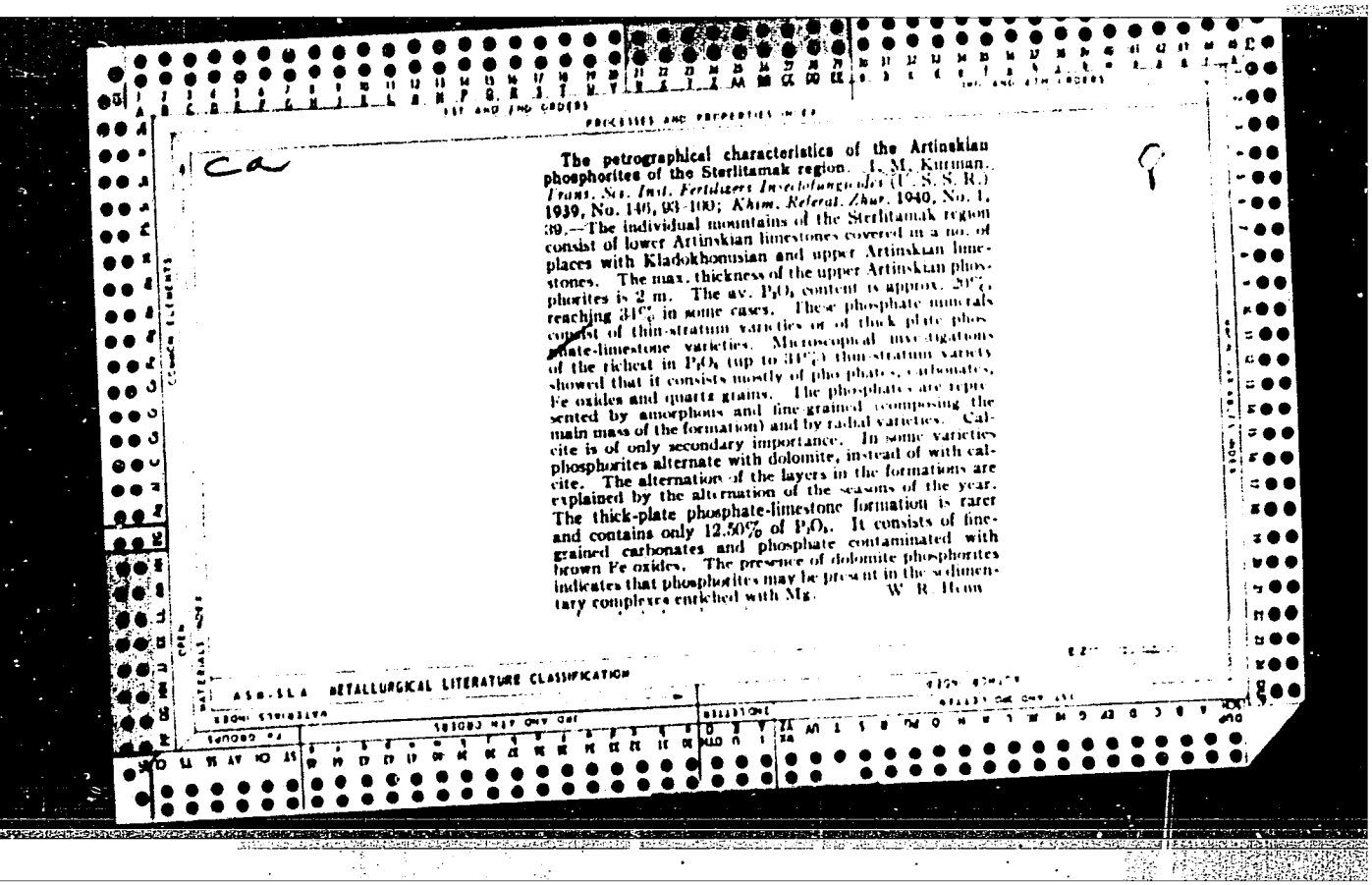
C. A. Silberrad

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION



Boric acid from domestic [Russian] raw materials. I. M. Kurman, L. B. Berlin and M. B. Katalymov. *Nauch. Inst. Udobreniyam i Insektofungisidam Ya. V. Samoilova* 1919-39, 67-71 (1939); *Khim. Referat. Zhur.* 1940, No. 6, 97.—Tests were made to produce H_3BO_3 from datolites (B_2O_3 3-8%), tourmaline tailings (B_2O_3 2.5-6.0%) and Inder borates (B_2O_3 up to 20-30%). The mother liquors of the H_3BO_3 production can be utilized for B-Mg fertilizers, $NH_4B(SO_4)_2$ and addnl. amts. of H_3BO_3.

W. R. Henn



Ca

The petrographical characteristics of the Artinskian phosphorites of the Sterlitamak region. L. M. Kurman. *Trans. Sci. Inst. Fertilizers Insecto-fungicides* (U. S. S. R.) 1939, No. 146, 93–100; *Khim. Referat. Zhur.* 1940, No. 1, 39.—The individual mountains of the Sterlitamak region consist of lower Artinskian limestones covered in a no. of places with Kladokhonusian and upper Artinskian limestones. The max. thickness of the upper Artinskian phosphorites is 2 m. The av. P_2O_5 content is approx. 20%, reaching 34% in some cases. These phosphate minerals consist of thin-stratum varieties or of thick plate phosphate-limestone varieties. Microscopical investigations of the richest in P_2O_5 (up to 34%) thin-stratum variety showed that it consists mostly of phosphates, carbonates, Fe oxides and quartz grains. The phosphates are represented by amorphous and fine-grained (composing the main mass of the formation) and by radial varieties. Calcite is of only secondary importance. In some varieties phosphorites alternate with dolomite, instead of with calcite. The alternation of the layers in the formations are explained by the alternation of the seasons of the year. The thick-plate phosphate-limestone formation is rarer and contains only 12.50% of P_2O_5. It consists of fine-grained carbonates and phosphate contaminated with brown Fe oxides. The presence of dolomite phosphorites indicates that phosphorites may be present in the sedimentary complexes enriched with Mg. W. R. Horn

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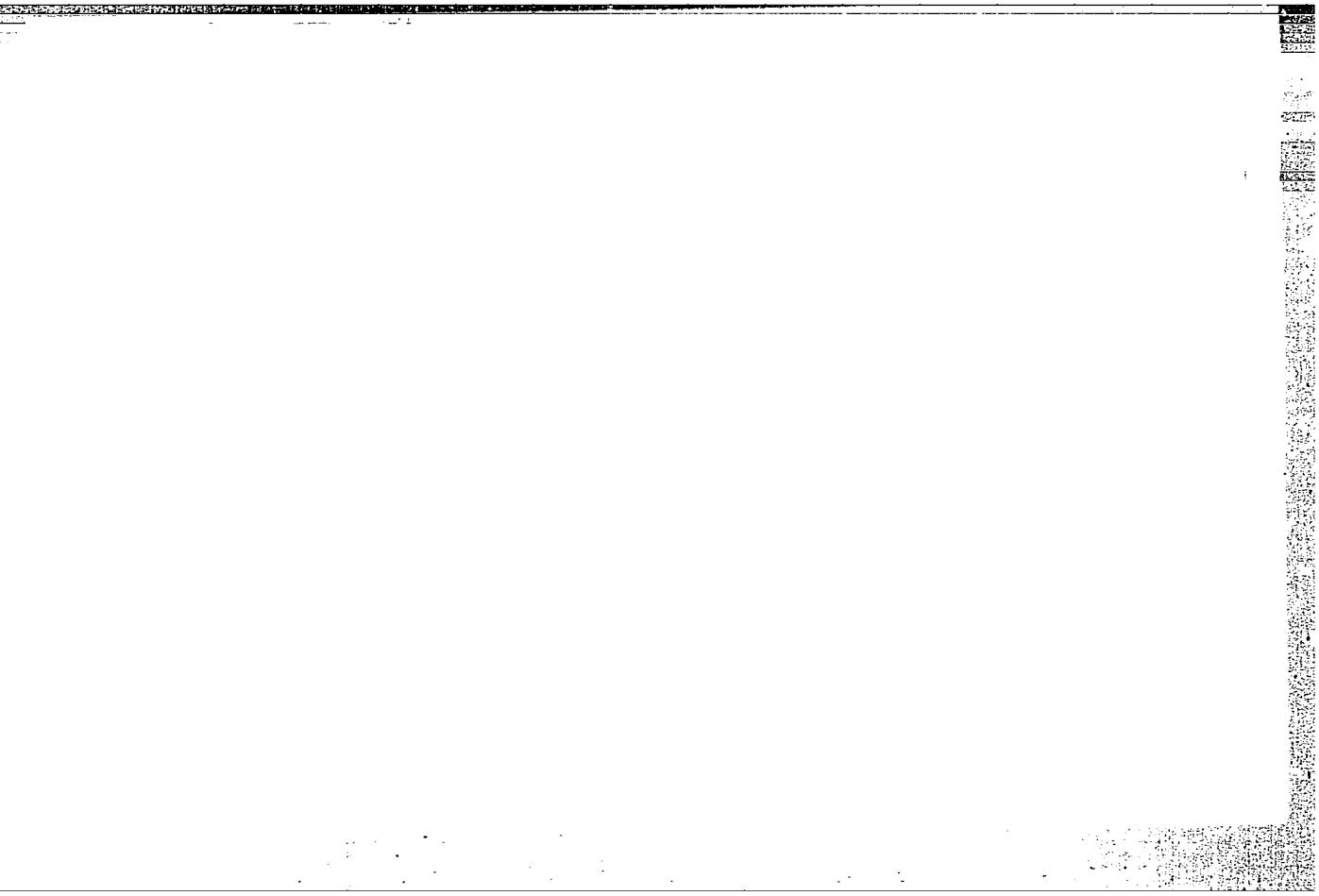

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000927720012-1"

PUSTOVALOV, L.V.; SERDYUCHENKO, D.P.; GIMMEL'FARB, B.M.; KURMAN, I.M.

Aleksandr Vasil'evich Kazakov; biographical sketch. Trudy Inst. geol. nauk no.152:3-7 '57. (MLRA 10:9)
(Kazakov, Aleksandr Vasil'evich, 1888-1950)

5(2) PHASE I BOOK EXPLOITATION SOV/1916

Vsesoyuznoye soveshchaniye po khimii bora, 1955

Bor; trudy Konferentsii po khimii bora 1 yego soyedineniy (Boron; Chemistry of Boron and Its Compounds) Moscow, Goskhimizdat, 1958. 189 p. Errata slip inserted. 2,500 copies printed.

Ed.: G.P. Luchinskiy; Tech. Ed.: N.S. Lar'ye.

PURPOSE: This book is intended for chemists, as well as for industrial personnel working with boron and its compounds.

COVERAGE: This collection contains 24 studies on the chemistry, physicochemical properties, and crystalline structure, of the compounds. Twenty-two of the technology of boron and its studies were presented at the All-Union Conference on Boron Chemistry, held at the Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Physicochemical Institute im. L. Ya. Karpov) in

~~Boron Compounds, The Conference (Cont.) SOV/1916~~

December 1955. Two of these articles deal with the thermochemistry of boron. The two studies on "borundum" production are being published for the first time. The studies are well illustrated and accompanied by bibliographies.

TABLE OF CONTENTS:

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3(5) PHASE I BOOK EXPLOITATION SOV/1923

Akademiya nauk SSSR. Otdeleniye geologo-geograficheskikh nauk. Komissiya po probleme "Zakonomernosti razmeshcheniya poleznykh iskopayemykh."

Zakonomernosti razmeshcheniya poleznykh iskopayemykh (Regularities in the Distribution of Mineral Deposits Vol 1. Moscow, Izd-vo AN SSSR, 1958. 532 p. Errata slip inserted. 2,500 copies printed.

Resp. Ed.: N.S. Shatskiy, Academician; Editorial Board: N.S. Shatskiy, Academician, D.I. Shcherbakov, Academician, N.A. Belyayevskiy, N.N. Dolgopolov, O.D. Levitskiy, Yu.M. Pushcharovskiy, G.A. Sokolov; Ed. of Publishing House: G.I. Nosov; Tech. Ed.: I.N. Guseva

PURPOSE: This book is intended for geologists and petrographers, particularly those interested in the worldwide distribution of minerals and the reasons underlying their occurrence.

COVERAGE: On the basis of particular regional studies this book attempts to establish the rules governing the distribution of metallic and non-metallic ore deposits. The work includes articles on the metallogeny of individual minerals, on broad methodological problems, and on the possibility of predicting the occurrence of a mineral in the USSR on the basis of its occurrence throughout the world. Six maps depicting the distribution of a particular mineral throughout the world are included with the work. References accompany each article.

TABLE OF CONTENTS

KURMAN, I.M.

Pacific and Mediterranean boron belts. Zakonom. razm. polezn. iskop. 1:470-486 '58. (MIRA 12:3)

1.Gosudarstvennyy nauchno-issledovatel'skiy institut gorno-khimicheskogo syr'ya pri gosudarstvennom Komitete Soveta Ministrov SSSR po khimii.
(Boron)

PHASE I BOOK EXPLOITATION SOV/5624

Daragan, V. Kh., I. M. Kurman, and A. A. Shugin, eds.

Poiski i razvedka bornogo syr'ya (Prospecting and Exploration of Boron Raw Material Deposits) Moscow, Gosgeoltekhizdat, 1960. 102 p. 5,000 copies printed.

Sponsoring Agency: Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya Ministerstva geologii i okhrany nedr SSSR. Gosudarstvennyy nauchno-issledovatel'skiy institut gornokhimicheskogo syr'ya Gosudarstvennogo komiteta Soveta Ministrov SSSR po khimii.

Compilers: I. M. Kurman, V. V. Mel'nitskiy, L. S. Zaytsev, Ye. F. Mel'nitskaya, and Ye. V. Orlova; Ed. of Publishing House: Yu. N. Afanas'yeva; Tech. Ed.: Ye. S. Iyerusalimskaya.

PURPOSE : This book is intended for boron researchers, prospectors, and surveyors.

Card 1/6

COVERAGE: The book presents generalized data on prospecting and surveying of boron deposits. According to the introduction the information is frequently unsubstantiated by factual material and merely reflects the personal conclusions and generalizations of the authors who wrote the individual chapters. The prospecting and surveying of boron-containing lakes and of mineral sources is not covered since this subject will be dealt with in another book. Ch. I was written by I. M. Kurman, Ch. II by V. V. Mel'nitskiy, Ch. III by L. S. Zaytsev, Ch. IV by Ye F. Mel'nitskiy of GIGKhS - Gosudarstvennyy nauchno-issledovatel'skiy institut gornokhimicheskogo syr'ya (State Scientific Research Institute of Chemical Raw Materials Obtained by Mining), Ch. V by Ye. V. Orlova of VIMS - Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (All-Union Scientific Research Institute of Mineral Raw Materials), Ch. VI by V. A. Oknina of the State Scientific Research Institute of Chemical Raw Materials Obtained by Mining, and the hydrogeological studies of boron raw material deposits in Ch. III were written by

G. Ya. Koryakov, also of the above Institute. No personalities are mentioned. There are 85 references: 79 Soviet and 6 English.

TABLE OF CONTENTS:

KURMAN, I.M.

Nature of some endogenous solutions. Dokl. AN SSSR 140 no.4:928-930 O '61. (MIRA 14:9)

1. Predstavleno akademikom N.M.Strakhovym.
(Skarns) (Geochemistry)

KURMAN, K.

The energy plane, a modification of the phase plane. Archiw automat 4 no.3/4:335-345 '59.

1. Politechnika Warszawaska, Katedra Automatyki i Telemechaniki.
(Servomechanisms) (Transients (Electricity))

82190
P/031/60/005/01/05/007

13.4000

AUTHOR: Kurman, Konstanty

TITLE: Choice of Transmission Ratio for a Toothed Gear in the Optimum Servomechanism

PERIODICAL: Archiwum Automatyki i Telemechaniki, 1960, Vol. 5, No. 1, pp. 77-84

TEXT: The author presents a method to calculate the optimum toothed gear transmission ratio in an optimum servomechanism in Feldbaum's sense. For the sake of simplification, a 100 per cent efficiency of the gear is presumed. On the further presumption that the servomotor is a known magnitude, such choice of the transmission ratio is made as to reduce the transition duration to a minimum. A diagram (Fig. 1) of transients in the energy plane is used in the calculation. The equations elucidated in the analysis and determining the optimum transmission ratio and minimum transition duration are:

$$i_{opt} = \frac{\tau\omega_m}{\Theta_{kr\ opt}^{\frac{1}{3}}} = 1{,}04\tau\omega_m$$

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82190

P/031/60/005/01/05/007

Choice of Transmission Ratio for a Toothed Gear in the Optimum Servomechanism

$T_{śr\ min} = 2.52\tau$

The transition durations for $\Theta_o = \Theta_{kr}$ and $\Theta_o = \pi$ at $i = i_{opt}$ are respectively

$T_{\Theta kr} = 1.86\tau$

$T_{\pi} = 4.2\ \tau$

The pitch of phase angle error, for which $T = T_{sr}$ (at $i = i_{opt}$) is

$\Theta_J = 1.53$ Radians $= 87.5^o$

The symbols are:

i_{opt} = optimum transmission ratio of the tooth gear
ω_m = maximum angular velocity of the motor
Θ_o = magnitude of the phase angle error at the starting moment
Θ_{kr} = critical phase angle error
T = transition duration
śr = medium
min = minimum

and $\tau = \sqrt[3]{\frac{J}{M\ \Theta_m}}$ = duration required by the system to attain full

Card 2/3

82190
P/031/60/005/01/05/007

Choice of Transmission Ratio for a Toothed Gear in the Optimum Servomechanism

speed when $\Theta_o = \Theta_{kr} = 1$ Radian where

$M = iM_m$ - maximum torque of the output shaft
Θ_m - maximum angular velocity of the output shaft
J - inertia momentum of the load.

There are 3 diagrams and 1 Polish reference.

ASSOCIATION: Politechnika Warszawska (Warsaw Polytechnic), Katedra Automatyki i Telemechaniki (Chair of Automation and Telemechanics)

SUBMITTED: February 4, 1959

Card 3/3

22757

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16.9500 (1137, 1121, 1344)

P/031/61/006/001/002/002
D209/D304

AUTHOR: Kurman, Konstanty

TITLE: A Method for analyzing dynamic processes in digital systems of automatic control

PERIODICAL: Archiwum automatyki i telemechaniki, v. 6, no. 1, 1961, 23 - 32

TEXT: The method consists of the division of the open loop of the system, controlled by an on-line digital computer into elementary channels. Output signals of these channels can be represented as coordinates of a certain phase space. Formulae of a recurring type can be used for programming digital computers in controlling the process. The system under consideration is shown in Fig. 1a. The type of signal from the analogue to digital converter is shown in Fig. 1b. In Fig. 1a, Bloc S denotes a differentiating circuit /Abstractor's note: all the other symbols on these block diagrams are internationally accepted/. Transfer function for the linear part of the system is given by eq. (1). This can also be repre-

Card 1/7

A Method for...

$$KG(s) = \frac{W_m(s)}{(s-s_1)(s-s_2)\dots(s-s_j)\dots(s-s_n)}; \; m < n. \qquad (1)$$

sented by n parallel channels as shown in Fig. 2 and a transfer function for a particular channel (in this case j) is given by

$$\frac{v'}{\varepsilon} = \frac{k'}{s-s_j}, \qquad (2)$$

$$k' = \frac{W_m(s_j)}{\prod_{k=1}^{j-1}(s_j-s_k)\cdot\prod_{k=j+1}^{n}(s_j-s_k)}.$$

In order to determine the state of the system at i + 1, instant of sampling, based on knowledge of the state of the system at i instant, it is sufficient to calculate n times for V_i^j + 1, knowing V_i^j and ε_i and finding ε_i + 1. [Abstractor's note:

A Method for...

j does not denote power of V $\mathcal{J}$ An algorithm of $v_i^j + 1$ is given by

$$v_{i+1}^j = q^j v_i^j + p^j (1-q^j)\varepsilon_i. \tag{4}$$

for the case of S_j being single, real and not equal to zero root. Graphical representation of this case is shown. For $S_j = 0$, the algorithm is represented by

$$v_{i+1}^j = v_i^j + k^j \Delta t \cdot \varepsilon_i. \tag{5}$$

Equations

$$v_{i+1} = v_i q^0 (1 - s_0 \Delta t) + \frac{\dot{v}_i}{s_0} q^0 s_0 \Delta t + \varepsilon_i (p^j + p^{j+1})(1 - q^0 + q^0 s_0 \Delta t), \tag{6}$$

and

$$\frac{\dot{v}_{i+1}}{s_0} = -v_i q^0 s_0 \Delta t + \frac{\dot{v}_i}{s_0} q^0 (1 + s_0 \Delta t) + \varepsilon_i [(p^j + p^{j+1}) q^0 s_0 \Delta t + p^{j+1}] - \varepsilon_{i+1} p^{j+1}. \tag{7}$$

represent algorithms for the case of Sj being a multiple root. The algorithm for $\mathcal{E}$ i + 1 is calculated in the following steps:

Card 3/7

P/031/61/006/001/002/002
D209/D304

A Method for...

1) Calculating $X_i + 1 = \sum_{j=1}^{n} v_i^j + 1$ and determining $F(X_i + 1)$ (bringing the value of x to the nearest round figure); 2) Eventual calculation

$$\dot{x}_{i+1} = \sum_{j=1}^{n} \dot{v}_i^j, \quad \ddot{x}_{i+1} = \sum_{j=1}^{n} \ddot{v}_i^j, \ldots, \tag{8}$$

and determining $F(\dot{x}_i + 1)$, $F(\ddot{x}_i + 1)$; 3) Calculating $\varepsilon_i + 1$ on the basis of the above values and $x_{we}i + 1$ in accordance with the given algorithm of the controlled system.
The author realizes several shortcomings of his method, i.e. since the method involves the recurring type formulae, the errors will be magnified. However, the errors of this type will probably be smaller than those incurred due to inaccuracy in estimating parameters of the process. Besides, a closed loop system should help in cancelling the errors. Although the method does not contribute to the general picture of digital control of dynamic processes,

Card 4/7

A Method for...

nevertheless the method helps to solve particular cases not only of linear processes, but with certain modifications, it should be useful in solving certain cases involving non-linear systems, extrapolation of higher orders and non-rhythmic signals from digital computers to the process. There are 7 figures and 2 Soviet-bloc references.

ASSOCIATION: Polytechnika Warszawska, katedra automatyki i telemechaniki (Warsaw Polytechnic, Department for Automation and Telemechanics)

SUBMITTED: July 8, 1960

Card 5/7

P/031/62/007/001/009/021
D265/D308

16,4000

AUTHOR: Kurman, Konstanty

TITLE: Conditions for appearance of stable oscillations in the digital automatic control systems

PERIODICAL: Archiwum automatyki i telemechaniki, v. 7, no. 1-2, 1962, 107 - 118

TEXT: With reference to the author's paper (Ref. 1: Archiwum Automatyki i Telemechaniki, v. 6, no. 1, 1961) and on the basis of the ballistic space method, a set of functions ξ is determined which represent possible kinds of oscillations. The output of linear part excited by means of a signal from ξ is considered. The necessary condition for the appearance of oscillations of a given kind (a particular condition) is formulated and the method of its effective verification is presented. The general condition of oscillation appearance is also determined giving an approximate verification. Based on the above considerations and by means of a heuristic argumentation the author gives hypothetically the sufficient condition of digital system stability which reduces to the condition of a deter-

Card 1/2

Conditions for appearance of ...

mined stability margin of a linear, continuous (non quantized) system. There are 2 figures.

ASSOCIATION: Katedra automatyki i telemechaniki politechniki Warszawskiej (Department of Automation and Remote Control Engineering of the Warsaw Polytechnic Institute)

Card 2/2

KURMAN, Konstanty

Analysis of quantum pulse systems by the phase plane method.
Archiw automat 9 no. 2:149-165 '64.

1. Department of Automation and Telemechanics, Technical University, Warsaw.

L 01276-67 EWP(v)/EWP(k)/EWP(h)/EWP(l) BC
ACC NR: AP6031533 SOURCE CODE: PO/0031/66/011/003/0301/0314

AUTHOR: Kurman, Konstanty

43
B

ORG: Department of Automation and Telemechanics, Warsaw Polytechnic Institute (Katedra Automatyki i Telemechaniki, Politechnika Warszawska)

TITLE: Concept of optimal-process chain models

SOURCE: Archiwum automatyki i telemechaniki, v. 11, no. 3, 1966, 301-314

TOPIC TAGS: computer programming, digital computer, optimal control

14

ABSTRACT: The concept of a new method for solving optimal-control problems was discussed. The proposed method makes it possible in many cases to find an optimal process or an optimal-control function without delay. The concept is based on the reduction of a dynamic problem to a static problem, simulating time by a space coordinate, e.g., the distance from the origin of undistorted delay line (called a chain) characterized by self-optimization with respect to a given criterion. This analog-type approach results in a new method of digital-computer programming for solving dynamic problems, and in certain hybrid solutions. Orig. art. has: 7 figures and 22 formulas. [Based on author's abstract] [DR]

SUB CODE: 09/ SUBM DATE: 07Jan66/ ORIG REF: 002/ SOV REF: 001/

Card 1/1 mjs

KURMANALIYEV, K.

Mineralogy and certain concepts about the origin of the Kurgan complex metal deposit. Trudy Inst. geol. AN Kir. SSR no.10:93-108 '58. (MIRA 12:9)

(Talas Ala-Tau--Mineralogy)

KURMANALIYEV, K.

Distribution of ores in the Kurgan deposit. Zap. Kir. otd. Vses. min. ob-va no.1:67-70 '69. (MIRA 14:1)
(Talas Ala-Tau—Ore deposits)

KURMANALIYEV, K.K.

Connection of the Kurgan complex ore deposit with igneous activity. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 2 no.8:93-96 '60. (MIRA 13:12)

(Kurgan region--Nonferrous metals)
(Rocks, Igneous)

KURMANALIYEV, K. K.

Cand Geol-Min Sci - (diss) "Geological characteristics and genesis of the polymetallic deposit of Kurgan (Northern T'ien-Shan)." Tashkent, 1961. 21 pp; (Academy of Sciences Kirgiz SSR, Inst of Geology of the Academy of Sciences Uzbek SSR, Inst of Geology); 175 copies; price not given; (KL, 7-61 sup, 225)

KURMANALIYEV, K.K.

Conditions governing the formation of the Kurgan complex metal deposit. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 4 no.3:27-36 '62. (MIRA 15:11)

(Uzun-Akhmat Valley--Ore deposits)

KURMANALIYEV, T.I.; BARANOV, Yo.G., otv. red.; SEMIKINA, T.F., red. izd-va; ANOKHINA, M.G., tekhn. red.

[Flotation of lead in Aktyuz] Svintsovaia flotatsiia na Aktiuze. Frunze, Izd-vo AN Kirgizskoi SSR, 1960. 41 p. (MIRA 15:9)

(Aktyuz region--Flotation) (Lead)

S/137/61/000/012/029/149
A006/A101

AUTHOR: Kurmanaliyev, T. I.

TITLE: Results of assimilating and operating the flotation of molybdenite at the Aktyuz Concentration Plant

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 11, abstract 12073 ("Izv. AN KirgSSR, Ser. yestestv. i tekhn. n." 1960, v. 2, no. 2, 99 - 108, Kirgiz. summary)

TEXT: Information is given on results of laboratory and semi-industrial tests and the assimilation of molybdenum refining at the Aktyuz Plant, and on the operation of the molybdenum department during 1959. It was established that the basic mass of Mo (up to 70%) is extracted into the Pb concentrate as a by-product. Their separation is possible in Na_2S solution. Considerable Mo amounts were lost with the tails. Laboratory tests were made to reveal the possibility of reducing Mo losses by flotation of production tails. The tests show that Mo losses with the tails can be reduced by introducing finer grinding and by additionally charging such reagents as water glass, soda and kerosene. To obtain high-quality Mo-concentrate, fine crushing is necessary ($\geq$ 83% - 0.074 mm). It

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S/137/61/000/012/029/149
A006/A101

Results of assimilating and...

is recommended to increase the density of pulp for the case of employing Na_2S. Molybdenite flotates easily with pine oil and neutral oils (kerosene). The addition of cyan flux ("tsianplav") reduces the Fe content in the concentrate. The use of Na silicate protects the dead rock particles against molybdenite films, by eliminating and dispersing the slimes. At the present, 40 - 45% Mo content in the Mo-product has been attained at a 3% content of Pb.

A. Shmeleva

[Abstracter's note: Complete translation]

Card 2/2

KURMANALIYEV, T.I.

Crude ore from the Aktyuz deposit as supply for the operating Aktyuz Ore-Dressing Plant. Izv.AN Kir SSR.Ser.est.i tekh.nauk 2 no.2:109-120 '60. (MIRA 14:10)
(Aktyuz region--Ore deposits)

KURMANALIYEV, T.I.

Characteristics of hand-classified waste rock from the Aktyuz deposit. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 2 no.8:77-84 '60.
(MIRA 13:12)

(Aktyuz region--Rocks)

KURMANALIYEV, T.I.

Mineragraphy of lead flotation in Ak.Tyuz. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 3 no.3:115-134 '61. (MIRA 15:3)
(Ak Tyuz region--Lead ores--Analysis)
(Flotation)

KURMANALIYEV, T.I.

Analysis of the flotation of molybdenite at the Aktyuz ore dressing plant. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 5 no.1:85-96 '63. (MIRA 16:11)

GALEYEV, A.F.; KURMANAYEVSKIY, V.V.; GAVZHAK, Z. (Kazan')

Determining the velocity of the material moving through the cone drum of a centrifuge. Trudy KKHTI no.21:195-208 '56. (MIRA 12:11)
(Centrifugation)

USSR/Cultivated Plants - Grains. M-2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29680

Author : Kurmangalin, N.A.

Inst : Leningrad Agricultural Institute.

Title : The Effect of Frosts in the Watering Period of Spring Wheat on the Quality and Germination of the Grain.

Orig Pub : Zap. Leningr. s.-kh. in-ta, 1956, vyp. 11, 260-266.

Abstract : In vegetational tests Lyutestsens 62 and Gordeiforme 10 wheat plants were periodically subjected to the action of temperatures of -3, -5, -7 and -11° in cold chambers beginning with the green ripeness stage. Both varieties showed equal reactions at low temperatures. The largest damage was noted at the gree ripeness stage: at a temperature of -7° the grain was completely detained from germinating, in full ripeness with a reduction in temperature as low as

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USSR/Cultivated Plants - Grains. M-2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29680

-11° 94-98% germination was maintained. During frosts of -5° in the first stages of ripeness the chlorophyll was destroyed, the inflow of nutrient substances to the spikes was checked; this sharply reduced the grain's absolute weight and its germinating capacity. When low temperatures were applied in the waxy stage, a -11° temperature had no substantial effect on grain quality. In the second experiment a study was made of the effects of various soil moistures (40, 60 and 80% of moisture-holding capacity) and different NPK supplies on plant development and hardiness at -7° temperature. Without fertilizer the different soil moistures had no effect on plant development, with increased NPK rates, a soil moisture of 80% retarded spiking. The application of P speeded up ripening, which was retarded by the application of N. The greatest reduction in the absolute weight of the grain during freezing was observed when nitrate fertilizers were used.

Card 2/2

SOKOLOV, S.I.; ASSING, I.A.; KURMANGALIYEV, A.B.; SERPIKOV, S.K.; BEZSONOV, A.I., glav. red.; BOROVSKIY, V.M., red.; SOKOLOV, A.A., red.; STOROZHENKO, D.M., red.; USPANOV, U.U., red.; SHEVCHUK, T.I., red.; ROROKINA, Z.P., tekhn. red.

[Soils of the Kazakh S.S.R. in 16 volumes] Pochvy Kazakhskoi SSR v 16 v puskakh. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR. Vol.4. [Alma-Ata Province] Pochvy Alma-Atinskoi oblasti. 1962. 422 p. (MIRA 15:4)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Institut pochvovedeniya.

(Alma-Ata Province--Soils)

FAIZOV, K.Sh.; KURMANGALIYEV, A.B.

Soil cover in the piedmont plain of the Ketmen' Range and the adjacent left bank of the Ili River. Trudy Inst. pochv. AN Kazakh. SSR. 15:44-65 '63. (MIRA 16:12)

KURMANGALIYEV, A.B.

Vegetative and humic organic matter resources in some soils of the piedmont plain of the Kazakhstan part of the western Tien Shan. Izv. A N Kazakh. SSR. Ser. biol. nauk 3 no.5:7-14 S-O '65. (MIRA 18:11)

GENUSOV, A.Z.; GORBUNOV, B.V.; KURMANGALIYEV, A.B.; [illegible]

Interrepublic expedition of the soil scientists of Central Asia and Kazakhstan for coordinating the problems of soil classification and nomenclature. Pochvovedenie no.8:123-124 Ag '65. (MIRA 18:9)

KURMANGALIYEV, M.K., Cand Tech Sci -- (diss) "On lamination in the system lead - antimony - zinc." Alma- Ata, 1959, 14 pp with graphs (Min of Higher Education USSR. Kazakh Mining Metallurgical Inst) 200 copies (KL, 34-59, 114)

PONOMAREV, V.D.; KURMANGALIYEV, M.K.

Separation into distinct layers in the lead - antimony - zinc system. Izv.vys.ucheb.zav.; tsvet.met. 2 no.1:50-55 '59.
(MIRA 12:5)

1. Kazakhskiy gornometallurgicheskiy institut. Kafedra metallurgii legkikh i redkikh metallov.
(Lead-antimony-zinc alloys--Metallography)
(Melting points)

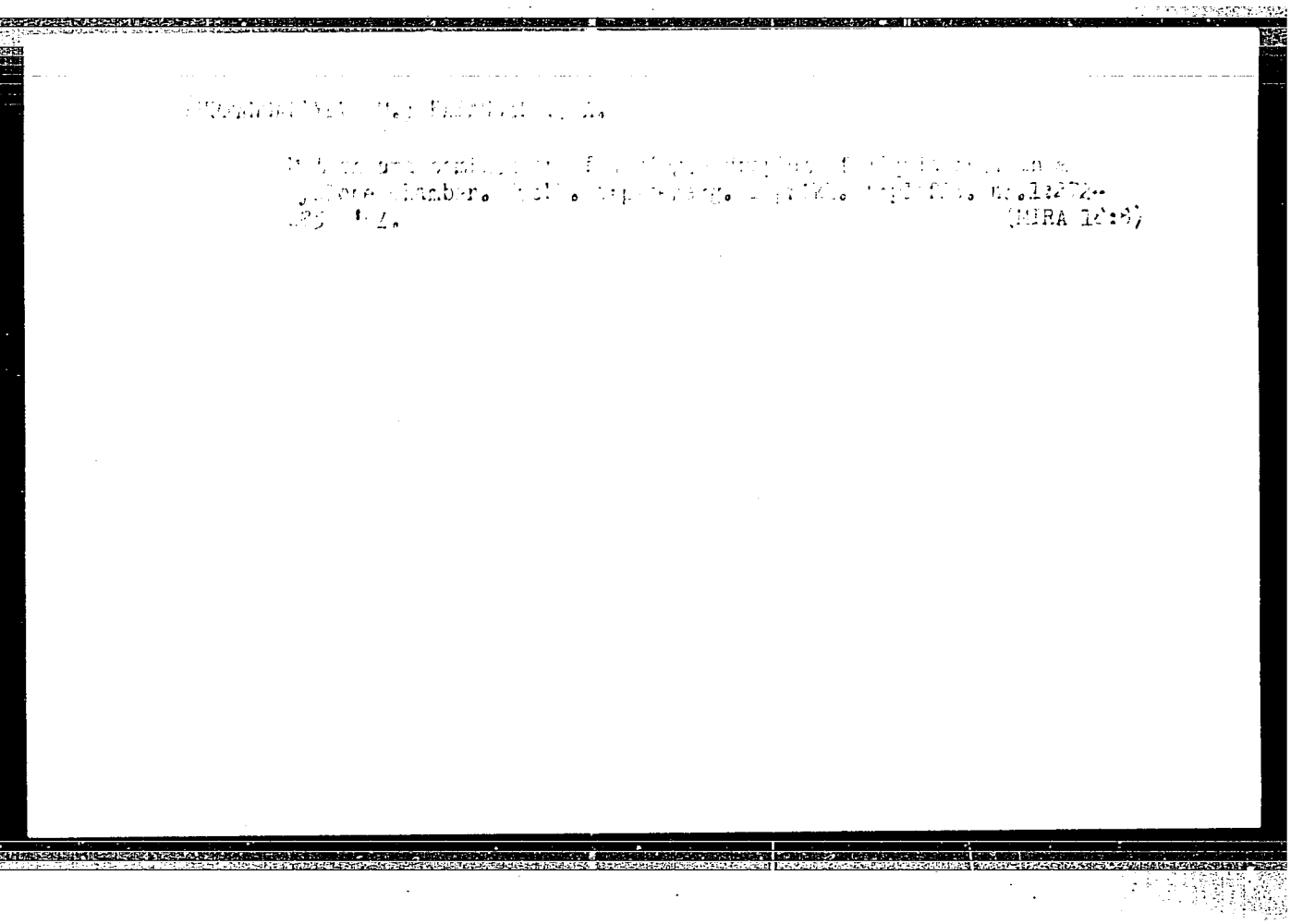
PONOMAREV, V.D.; KURMANGALIYEV, M.K.

Partial vapor pressure of components in antimony - zinc, lead-antimony-zinc systems. Izv. vys. ucheb. zav.; tsvet. met. 2 no.2:35-38 '59. (MIRA 12:7)

1.Kazakhskiy gornometallurgicheskiy institut, Kafedra legkikh i redikh metallov.
(Antimony-zinc alloys--Metallurgy)
(Lead-antimony-zinc alloys--Metallurgy)
(Activity coefficients)

PONOMAREV, V.; KURMANGALIYEV, M.

To the editors of the journal "Izvestiia vysshikh uchebnykh zavedenii; tsvetnaia metallurgiia"; authors' response. Izv.vys.ucheb.zav.; tsvet.met. 3 no.2:177-178 '60. (MIRA 15:4)
(Zinc-antimony alloys--Thermal properties)



SOV/137-58-8-16665

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 61 (USSR)

AUTHORS: Tonkonogiy, A.V., Basina, I.P., Kurmangaliyev, M.R.

TITLE: Experimental Installation for Cyclone Smelting (Opytnaya ustanovka dlya tsiklonnoy plavki)

PERIODICAL: Izv. AN KazSSR. Ser. energ., 1957, Nr 1 (12), pp 85-98

ABSTRACT: This is a description of an experimental plant for cyclone smelting of comminuted ores and concentrates at the Power Institute, Academy of Sciences, Kazakh Soviet Socialist Republic. The major component of the installation is a cylindrical cyclone chamber (CC) 430 mm in diameter and 780 mm high, capable of handling up to 10 t charge per day, lined with chemically-bonded magnesite chrome to a thickness equal to one-half the length of a brick and cooled by an external water jacket. Under the CC and separated therefrom by a partition (of closely fitted 25-mm diameter tubes smeared with magnesite chrome) with a hole 170 mm in diameter, there is a settling chamber (SC) 1830 mm long and 1130 wide, lined with magnesite chrome. Air from a heater is delivered tangentially into the upper portion of the CC. An aperture for charging by

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Experimental Installation for Cyclone Smelting

a worm feed is provided in the cover of the CC, along with a tangential jet for the burning of pulverized coal and another for liquid fuel used to heat the CC (to a wall temperature of 600-800°C in 45-60 min). A heavy-oil jet is used to preheat the SC to 1300-1350° for 8-10 hours. In smelting Cu concentrates, the temperature of the walls of the CC rises to 1000-1200°, and that of its interior to 1600° and more. The temperature of the SC is held at 1250-1350°. Charging is continuous, except for the slag-tapping period. Gases from the SC pass through an air heater and proceed to the smokestack via a fan. A portion of the hot air is directed to the pulverized-coal nozzle. When used to smelt Cu concentrates, this equipment functioned steadily at a rate of 350-450 kg charge per hour but when Cu-Zn and polymetallic concentrates were smelted, the air heater became clogged with dust (chiefly ZnO and PbO).

Ye.Z.

1. Ores--Processing 2. Industrial plants--Design 3. Industrial plants--Equipment
4. Industrial plants--Performance

TONKONOGIY, A.V.; BASINA, I.P.; VDOVENKO, M.I.; KURMANGALIYEV, M.R.

New method of metal extraction from sublimates. Izv. AN Kazakh. SSR. Ser.energ. no.1:110-114 '59. (MIRA 12:11)
(Nonferrous metals--Metallurgy)

BASINA, I.P.; VDOVENKO, N.I.; KURMANGALIYEV, M.R.; REZNYAKOV, A.B.; TONKONOGIY, A.V.

Iron ore treatment flow sheet with the use of the cyclone method. Izv. Akad. Kazakh. SSR. Ser.energ. no.2:97-101 '59. (MIRA 12:7)

(Iron ores) (Separators (Machines))

BASINA, I.P.; VDOVENKO, M.I.; KURMANGALIYEV, M.R.

Principal results of the studies of cyclone processes of smelting and sublimation. Trudy Inst. energ. AN Kazakh. SSR 2:261-273 '60.
(MIRA 15:1)

(Smelting) (Furnaces) (Copper)

S/196/62/000/014/033/046
E194/E155

AUTHOR: Kurmangaliyev, M.R.

TITLE: The influence of the location of fuel introduction on the temperature and concentration distribution in a cyclone chamber

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.14, 1962, 10, abstract 14 G 58. (KazSSR Gylym Akad. khabarlary, Izv. AN KazSSR, Ser. energ., no.2(20), 1961, 37-45).

TEXT: Results are given of the determination of the distributions of temperature and gas concentration on a rig in a vertical cyclone chamber with a flat constriction with tangential introduction of liquid fuel and secondary air. The investigations were carried out with excess-air factors of 1.0; 1.19; and 1.38, with variation in the height of secondary air nozzles. It was found that there was oxidising medium at the periphery of the chamber, the thickness of which is greater the greater the excess-air factor. The central part of the chamber is occupied

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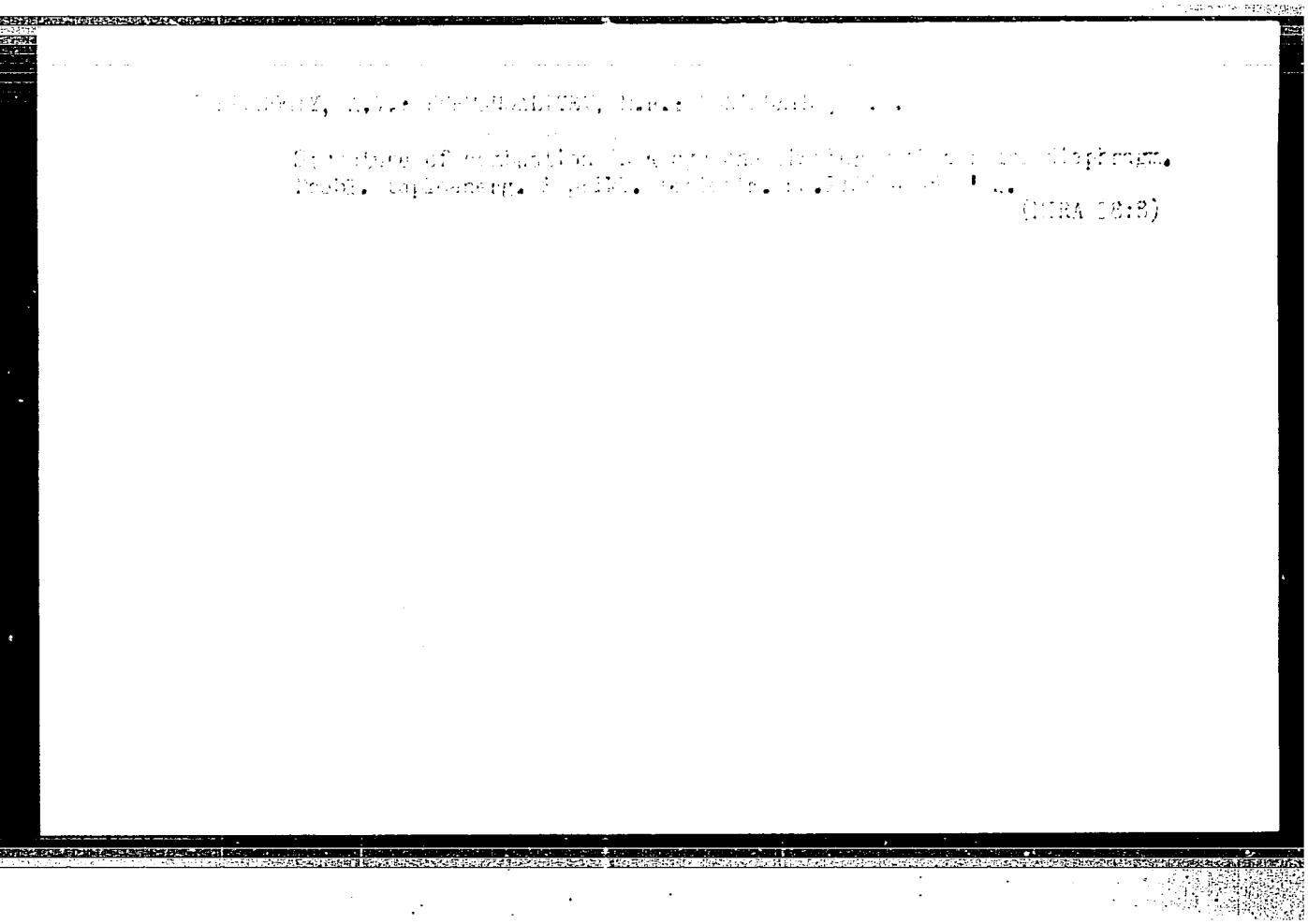
by the gasification products and contains no oxygen. Before the constriction the composition of the gases results in considerable chemical under-combustion. As the gases pass through the constricted aperture into the rear end of the chamber, mass transfer of gas is intensified, so that chemical under-combustion is reduced to zero.

[Abstractor's note: Complete translation.]

Card 2/2

KURMANGALIYEV, M.R.; KONYRBAYEV, A.A.

Structure of the combustion process of a cyclone chamber with flat diaphragm. Izv. AN Kazakh. SSR. Ser.tekh. i khim.nauk no.3:103-110 '64. (MIRA 17:2)



REZNYAKOV, A.B.; BASINA, I.P., kand. tekhn. nauk; KURMANGALIYEV, M.R., kand. tekhn. nauk

Combustion of a mixture of Ekibastuz coal with other coal types in a cyclone combustion chamber with liquid cinder removal. Vest. AN Kazakh SSR 22 no.8:58-62 Ag '65. (MIRA 18:9)

1. Chlen-korrespondent AN Kazakhskoy SSR (for Reznyakov).

SERGEYEVA, V.F.; KURMANGALIYEVA, R.G.

Effect of some sodium and lithium salts on the solubility of benzoic acid in a water methanol mixture. Zhur. ob. khim. 34 no.8:2486-2489 Ag '64. (MIRA 17:9)

1. Kazakhskiy gosudarstvennyy universitet imeni Kirova.

GRUDTSINA, A.I.; KURMANKAYEVA, Z.M.

Radioactive mineral springs of Krasnousol'sk (Bashkir A.S.S.R.). Vop.kur.fizioter. i lech.fiz.kul't. 23 no.1:79 '58. (MIRA 11:3)

1. Iz kafedry fiziki (zav. - starshiy prepodavatel' kandidat meditsinskikh nauk A.I.Grudtsina) Bashkirskogo meditsinskogo instituta (dir - dotsent M.F.Vorob'yev)

(KRASNOUSOL'SK--MINERAL WATERS)
(HEALTH RESORTS, WATERING PLACES, ETC.)

GRUDTSINA, A.I.; KURMANKAYEVA, Z.N.

Radioactivity of the vapors and gases of Yangan-Tau Health Resort (Bashkir A.S.S.R.). Vop.kur., fizioter. i lech. fiz. kul't 30 no.5:463-464 S-O '65.

(MIRA 18:12)

1. Bashkirskiy meditsinskiy institut, Ufa.

KURMANKULOV, S.

[Our experience in raising fine-wool sheep] Nash opyt razvedeniia tonkorunnykh ovets. Alma-Ata, Kazakhskoe gos. izd-vo, 1954. 59 p.
(Dzhambul Province--Sheep) (MIRA 10:2)

FEDOTOV, P.I.; KURMANKULOV, Ye.M.; BRICHKIN, A.V., prof.

Vibrating automatic feed. Sbor. nauch. trud. Kaz GMI no.19:167-170 '60. (MIRA 15:3)

(Boring machinery)

KURMANOV, A.; TRUBNIKOV, B.

[We saw Soviet Uzbekistan] My videli Sovetskii Uzbekistan. Tashkent, Gos. izd-vo Uzbekskoi SSR, 1957. 137 p. (MIRA 11:2)
(Uzbekistan--Discription and travel)

KURMANOV, I. A. Moscow Veterinary Acad

Cattle - Diseases

Catarrh of the intestines of cattle. Veterinariia 29 No. 10, 1952. p. 53

9. Monthly List of Russian Accessions, Library of Congress, December 1953 2 Uncl.

[illegible], I. A.

"Certain Problems in the Diagnosis and Therapy of [illegible] in Cattle." Cand Vet Sci, Moscow Veterinary Acad, Min Higher Education, Moscow, 1955. (KL, No 15, Apr [illegible])

SO: Sum.No. [illegible], [illegible] Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16)

KURMANOV, I.A., kandidat veterinarnykh nauk.

Etiology of the atony of the forestomachs in cattle and a new method for treating it. Veterinariia 32 no.12:46-49 D '55. (MLRA 9:4)

1.Moskovskaya veterinarnaya akademiya.
(CATTLE--DISEASES) (STOMACH--DISEASES)

KURMANOV, I.A., kand. veter. nauk

Fusarium toxicosis in hens. Veterinariia 37 no.6:62-64 Je '60.
(MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii.
(Fusarium—Toxicology)

KURMANOV, I.A., kand.veterinarnykh nauk

Feeding defective wheat to animals. Veterinariia 37 no.12: 71-73 D '60. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii.

(Wheat as feed)

KURMANOV, I. A., (Candidate of Veterinary Sciences, All-Union Scientific-Research Institute of Veterinary Sanitation)

Stachybotrys toxicosis in cattle

Veterinariya vol. 38, no. 10, October 1961, pp 41

KUR-MANOV, I. A. (Candidate of Veterinary Sciences, VNIIVS (All-Union Scientific Research Institute of Humid Subtropics.))

"Fusariotoxicosis of Sheep in the Stavropol Territory"
Veterinariya vol. 38, no. 11, November 1961, p. 39

KURMANOV, I.A., kand.veterinarnykh nauk

Stachybotryotoxicosis in cattle. Veterinariia 38 no.10:41-44 O '61. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii.
(Cattle—Diseases and pests) (Fungi, Pathogenic)

KURMANOV, I.A. (Candidate of Veterinary Sciences, All-Union Scientific Research Institute of Veterinary Sanitation).

"Detoxication of forage grain contaminated by toxic fungi..."
Veterinariya, vol. 39, no. 3, March 1962 pp. 82

KURMANOV, I.A., kand. veterin. nauk

Fusariotoxicosis of farm animals. Veterinariia 40 no.10: 55-58 O'63. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii.

KURMANOV, I.A., kand. veterin. nauk

Fusariotoxicosis of sheep in Stavropol Territory. Veterinariia 38 no.11:30-31 N '61 (MIRA 18:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii.

KURMANOV, I.V., tokar'; KOSTYUKOV, Ya.Kh., doktor tekhnicheskikh nauk, professor, redaktor; ZOLOTUSHKIN, V., redaktor; KUCHERSKIY, I., tekhnicheskiy redaktor.

[My experience in rapid machining] Moi opyt skorostnoi obrabotki. Pod red. IA.Kh.Kostiukova. [Kharkov] Khar'kovskoe knizhno-gazetnoe izd-vo, 1951. 47 p. (MLRA 8:2)
(Metal cutting)

M-4

USSR/Cultivated Plants - Fodders.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29829

Author : Kurmanov, K.K., Matveyev, V.I., Atamanchenko, M.V.

Inst : The Scientific Research Institute for Fodder and Pasturage

Title : On Utilizing the Fodder Potential in Rayons where Virgin and Long-Fallow Lands are Being Reclained.

Orig Pub : Tr. N.-i. in-ta kormov i pastbishch., 1957, 1, 200-211

Abstract : It has been determined as a result of the experiments in the Experimental Network of the Institute with 42 corn varieties and hybrids made in 1954-1955 that in the non-irrigated conditions of West Kazakhstan the best varieties were the Alma-Atinskaya 236, the Zakarpatskaya Zheltaya Zubovidnaya, Hybrid 5 and the Krasnodarskaya 1/49; in Kustanayskaya Oblast' it was the Alma-Atinskaya 236; in North Kazakhstanskaya Oblast" the Zherebkovskaya and

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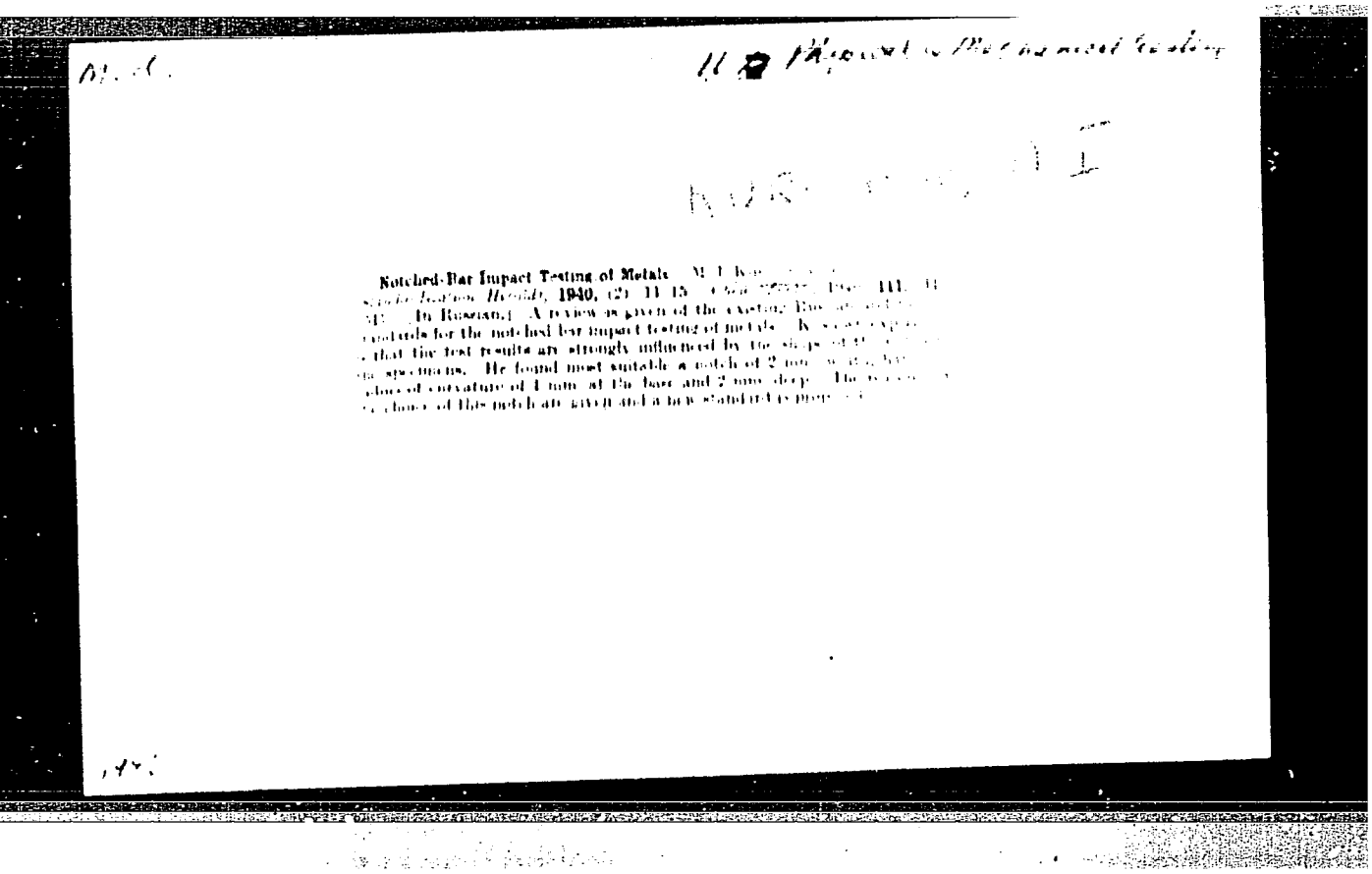
USSR/Cultivated Plants - Fodders. M-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29829

Slavgorodskaya; under the desert conditions of Karagandinskaya Oblast' where irrigation is used, it was the North Dakotan and Grushevskaya, as well as (for green feed and ensilage) the Sterling, Odesskaya 10 and Krasnodarskaya 49. Of great significance for rayons where the land is highly plowed is green conveyor method where corn, sudan grass, winter rye, oats, Hungarian grass, foxtail millet, alfalfa, sainfoin, wheat grass and others are raised. The planting of fodder grasses under the arid steppe conditions of Kazakhstan should be performed under a semicover of annual herbs. The perennial grasses should be planted in addition in meadow sod on a disk plot, the annual fodder crops on degenerate meadows with the subsequent recreation of pasturage and expansion of the meadow acreage with estuary irrigation.

Card 2/2



Notched-Bar Impact Testing of Metals [illegible] *Zavodskaya Laboratoriya* [*Factory Laboratory*], **1940**, (2) 11-15 [illegible] (In Russian.) A review is given of the existing Russian and foreign methods for the notched-bar impact testing of metals. It is pointed out that the test results are strongly influenced by the shape of the specimens. He found most suitable a notch of 2 mm width, with a reduced curvature of 1 mm at the base and 2 mm deep. The [illegible] choice of this notch are given and a new standard is proposed.

Aug 50

USSR/Metals - Testing

"Effect of the Notch on Strength of Steel at Elevated Temperatures," M. I. Kurmanov, R. S. Kaplan, Kharkov Turbogenerator Plant imeni S. M. Kirov

"Zavod Lab" Vol XVI, No 8, pp 975-979

Describes experiments for studying behavior of 2 steels, 40 KhN and EI 10, under continuous load at 500 and 550° and effect of the notch on their strength. Composition of steels is: 40 KhN - 0.41% C, 0.10% Si, 0.80% Mn, 0.65% Ni, 1.33% Cr; EI 10 - 0.31% C, 0.23% Si, 0.40% Mn, 1.17% Ni, 0.35% Mo, 0.15% V.

169T38

KUDRYAVTSEV, M. I.

PROCESSES AND PROPERTIES INDEX

S

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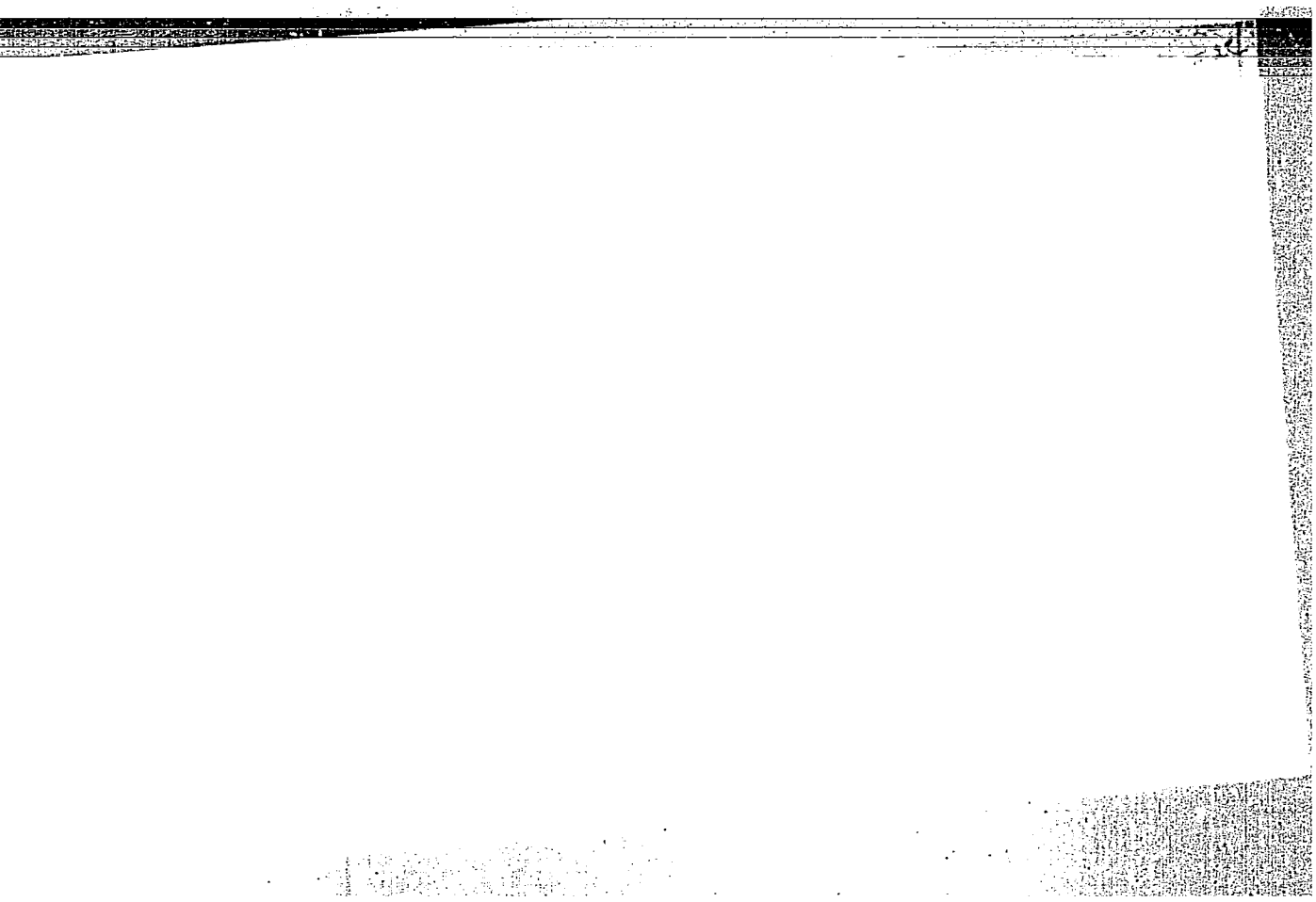
Influence of a Notch on the Strength of Steel at High Temperatures. M. I. Kurmanov and R. S. Kaplan. (Zavod-
skaya Laboratoriya : Hutnické Listy, 1951, vol. 6, Mar., pp.
148–149). [In Czech]. The authors investigated the influence
of notches on the strength of steels stressed at 500° and 550° C.
for long periods. Two low-alloy steels were used (40 Kh N
with C 0·41%, Ni 0·65%, Cr 0·02%, and EI-10 with
C 0·31%, Ni 1·17%, Mo 0·35%, V 0·15%). The results
do not confirm the view held by some authors that additions
of nickel increase the tendency of steel to hot shortness and
its sensitivity to notches. Notch sensitivity appears to be
influenced not only by the tendency to hot shortness, but also
by the ratio of the strengths of the steel within the grains
and at the grain boundaries. The grain substance of the
EI-10 steel has a higher strength than the boundary substance
(owing to the presence of molybdenum and vanadium car-
bides) and plastic deformation consists therefore of inter-
granular creep. At 550° C. the notch sensitivity increases
rapidly owing to increased exhaustion of the plasticity of
the grain boundaries, which is also indicated by lower con-
traction values. Carbide-forming elements are absent in the
40 Kh N steel, thus deformation occurs inside the grains.
This steel has therefore a lower notch sensitivity. R. U.

METALLURGICAL LITERATURE CLASSIFICATION



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000927720012-1"

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Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 138 (USSR)

AUTHOR: Kurmanov, M.I., Govor, U.S., Dobruskina, Sh.R., Sandler, N.I., Solov'yeva, G.G., Filippova, T.F.

TITLE: The Effect of Arsenic on the Properties of the High-strength Steels 12KhNZA, ZOKhNZA, and 18KhNVA (Vliyaniye mysh'yaka na svoystva vysokoprochnykh staley 12KhNZA, ZOKhNZA i 18KhNVA)

PERIODICAL: Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t metallov, 1957, Nr 3, pp 59-75

ABSTRACT: The authors conclude that arsenic has a harmful effect on the properties of the high-strength steels 12KhNZA, ZOKhNZA (more likely: 30KhNZA; Transl. Ed. Note), and 18KhNVA, for which reason they assert that its presence in these steels is admissible only as an accidental ingredient (the percentage content whereof should not exceed a few hundredths of one percent).

From the résumé

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KURMANOV, M.I.

25(1) PHASE I BOOK EXPLOITATION SOV/2132

Kiyev. Ukrainskiy Nauchno-issledovatel'skiy institut metallov

Tekhnologiya proizvodstva i svoystva chernykh metallov; sbornik (The Manufacture and Characteristics of Ferrous Metals; a collection of articles) Kharkov, Kharkovskiy gos.univ. im. A.M. Gor'kogo, 1958. 271 p. (Series: Its: Trudy, vyp. 4) Errata slip inserted. 1,000 copies printed.

Editorial Staff of this book: P.A. Aleksandrov, D.S. Kazarnovskiy, M.I. Kurmanov, M.F. Lave, V.P. Onopriyenko, V.A. Tikhovskiy, and Ya. A. Shneyerov; Ed.: S.S. Liberman; Tech. Ed.: K.O. Gurin

PURPOSE: The book is intended for the scientific personnel of institutes and for engineers and technicians of metallurgical enterprises and other branches of the industry.

COVERAGE: The collection of articles reviews the work carried on at the Institute of Metals on the technology of blast furnaces, open-hearth furnaces, and rolled stock production. It also deals with problems in metallography, heat treatment of ferrous metals and methods for their study. Particular attention is devoted to the preparation of charges and blast furnace practice with increased gas pressure, open-hearth production with oxygen blast and rolling of light profiles. No personalities are mentioned. References accompany each article.

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