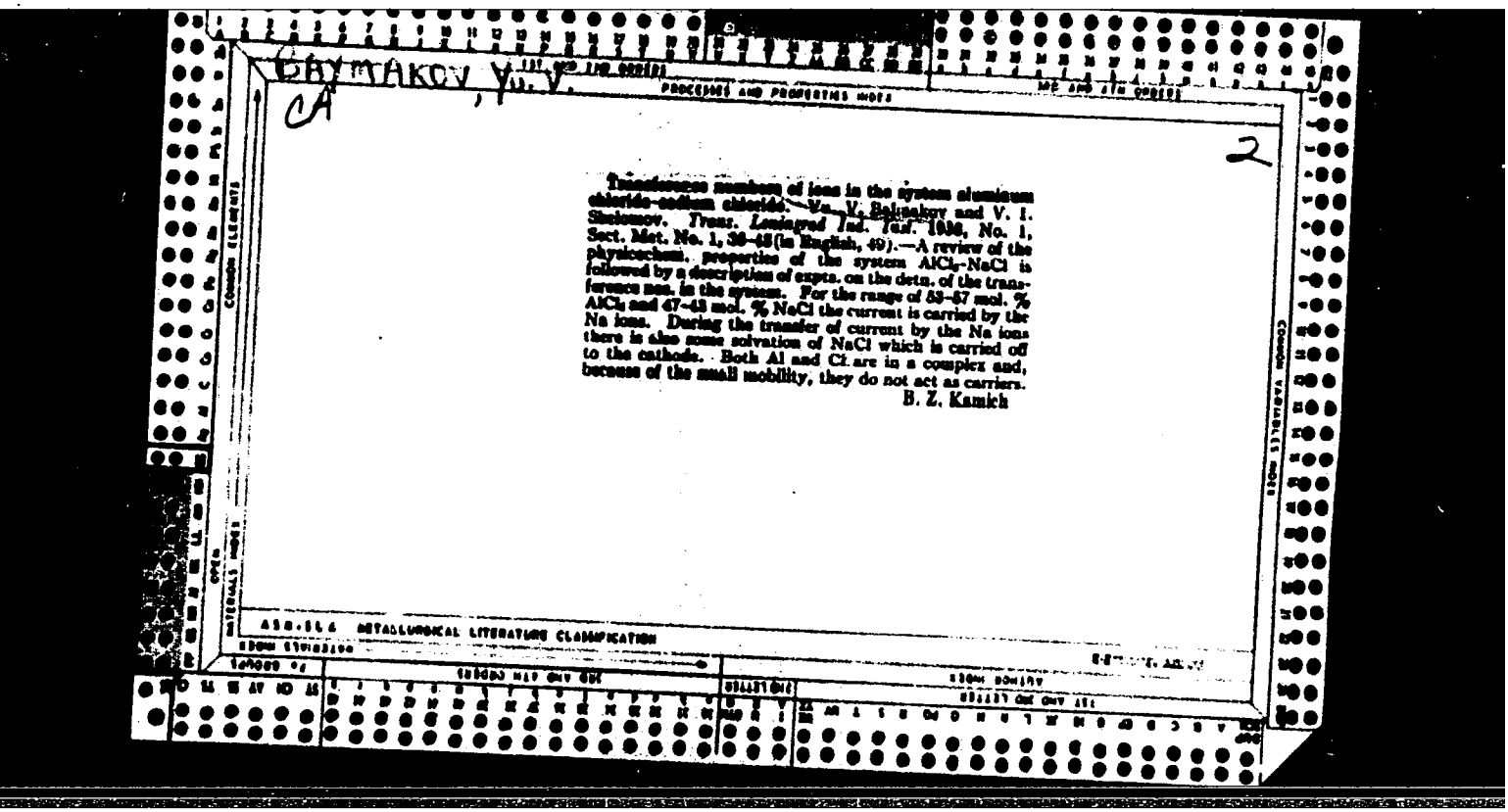


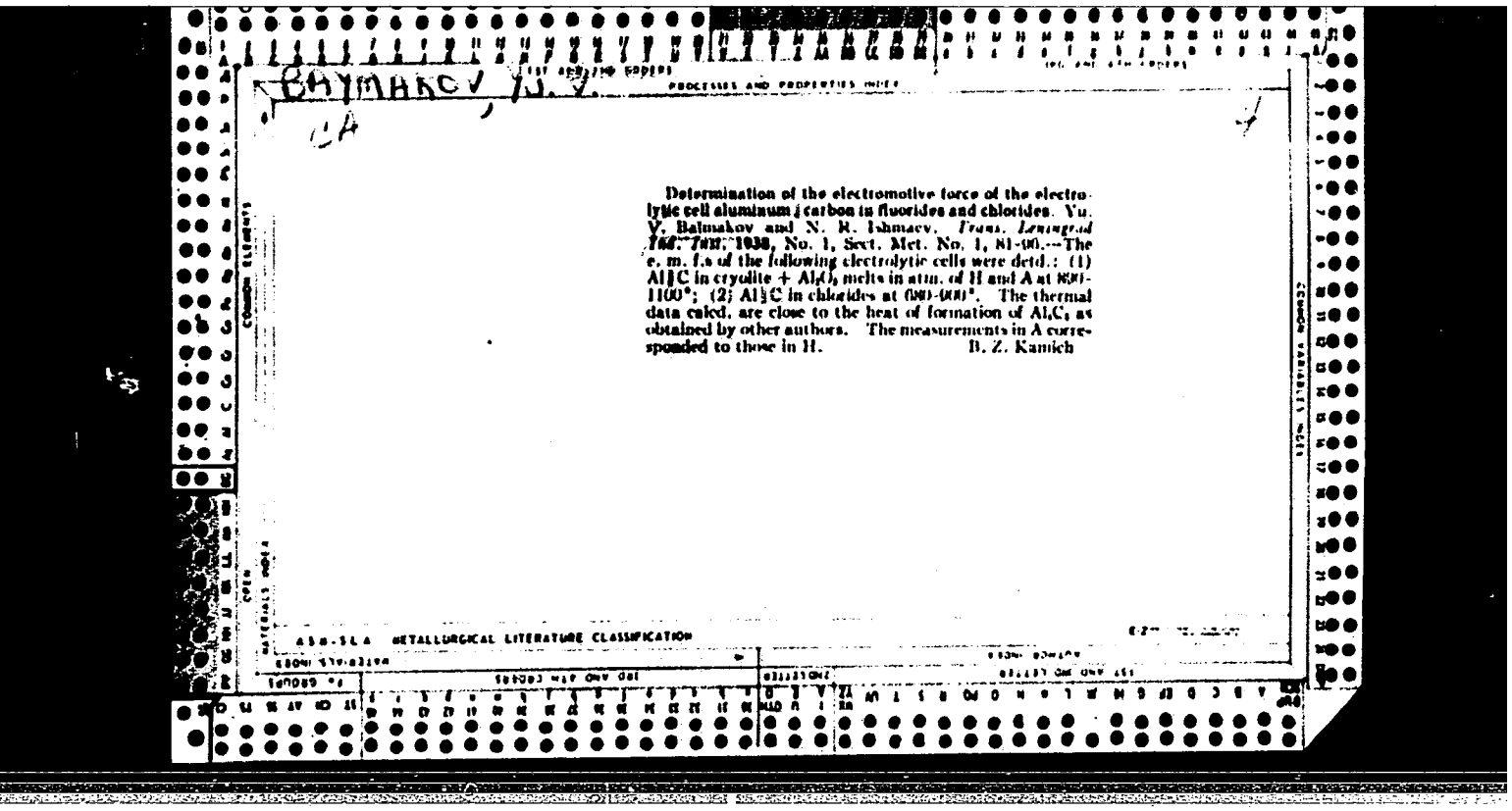
CHYMAKOV, Yu. V.

CA

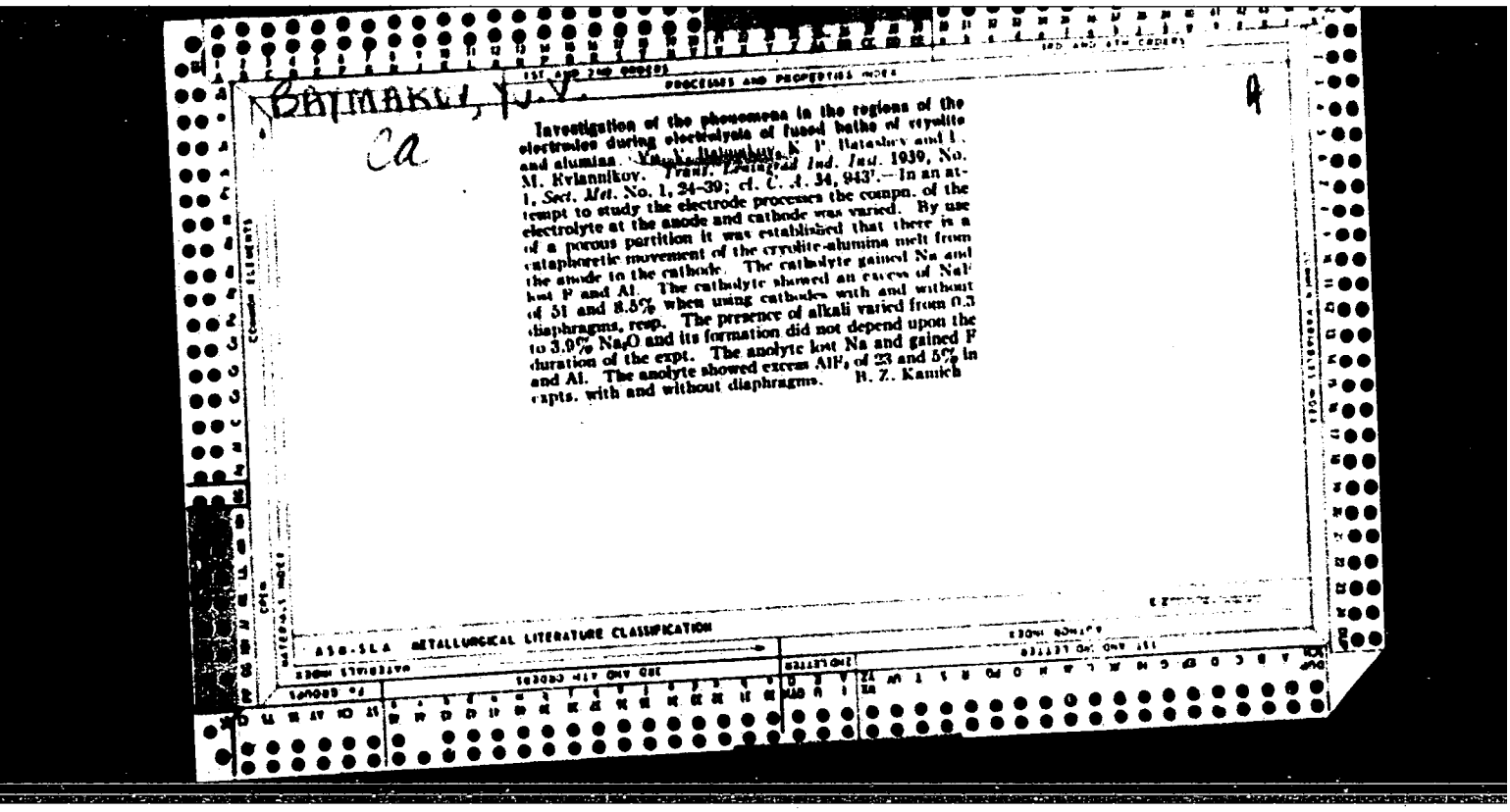
2

Transference numbers of ions in the system aluminum chloride–sodium chloride. Yu. V. Baimakov and V. I. Shelomov. *Trans. Leningrad Ind. Inst.* 1936, No. 1, Sect. Met. No. 1, 39–48 (in English, 49).—A review of the physicochem. properties of the system $AlCl_3$-NaCl is followed by a description of expts. on the detn. of the transference nos. in the system. For the range of 53–57 mol. % $AlCl_3$ and 47–43 mol. % NaCl the current is carried by the Na ions. During the transfer of current by the Na ions there is also some solvation of NaCl which is carried off to the cathode. Both Al and Cl are in a complex and, because of the small mobility, they do not act as carriers.

B. Z. Kamich



Determination of the electromotive force of the electrolytic cell aluminum | carbon in fluorides and chlorides. Yu. V. Baimakov and N. R. Ishmaev. *Trans. Leningrad Ind. Inst.* 7(II): 1938, No. 1, Sect. Met. No. 1, 81-90.—The e. m. f.s of the following electrolytic cells were detd.: (1) Al|C in cryolite + Al_2O_3 melts in atm. of H and A at 800-1100°; (2) Al|C in chlorides at 600-800°. The thermal data calcd. are close to the heat of formation of Al_4C_3 as obtained by other authors. The measurements in A corresponded to those in H. B. Z. Kamich



BAIMAKOV, Yu. V.

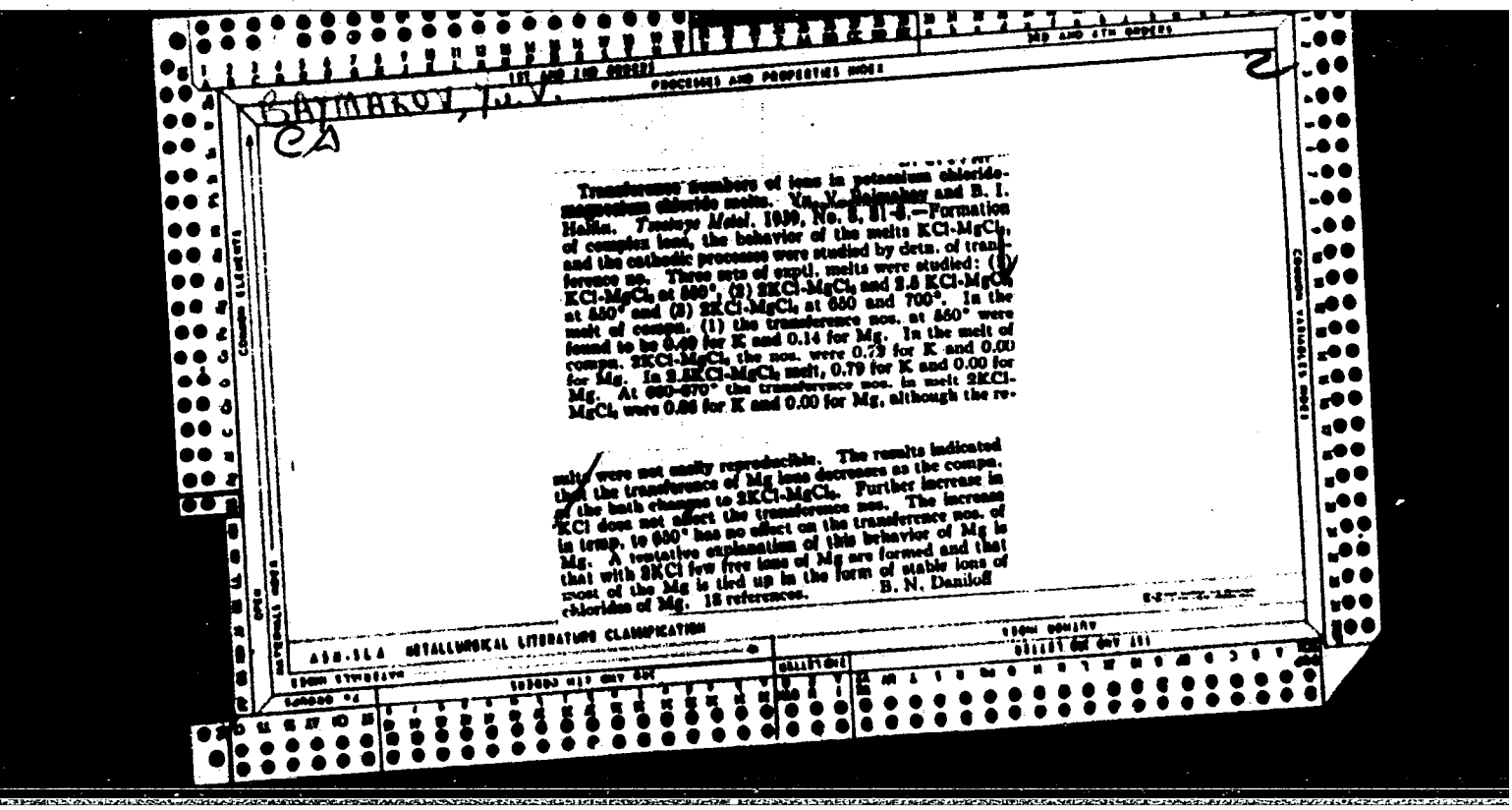
Ca

PROCESSES AND PROPERTIES INDEX

4

Investigation of the phenomena in the regions of the electrodes during electrolysis of fused baths of cryolite and alumina. Yu. V. Baimakov, K. P. Bataiev and I. M. Kvlannikov. *Trans. Leningrad Ind. Inst.* 1939, No. 1, *Sect. Met.* No. 1, 24–39; cf. *C. A.* 34, 943⁷.—In an attempt to study the electrode processes the compn. of the electrolyte at the anode and cathode was varied. By use of a porous partition it was established that there is a cataphoretic movement of the cryolite-alumina melt from the anode to the cathode. The cathodyte gained Na and lost F and Al. The cathodyte showed an excess of NaF of 51 and 8.5% when using cathodes with and without diaphragms, resp. The presence of alkali varied from 0.3 to 3.0% Na_2O and its formation did not depend upon the duration of the expt. The anolyte lost Na and gained F and Al. The anolyte showed excess AlF_3 of 23 and 5% in expts. with and without diaphragms. B. Z. Kamich

A56-SLA METALLURGICAL LITERATURE CLASSIFICATION



Transference Numbers of Ions in Potassium Chloride-Magnesium Chloride Melts. Ya. V. Baimakov and B. I. Hallin. *Tsvetnye Metal.* 1939, No. 8, 81-8.—Formation of complex ions, the behavior of the melts KCl-$MgCl_2$, and the cathodic processes were studied by detn. of transference nos. Three sets of expti. melts were studied: (1) KCl-$MgCl_2$ at 680°, (2) 2KCl-$MgCl_2$ and 3.8 KCl-$MgCl_2$ at 650° and (3) 2KCl-$MgCl_2$ at 650 and 700°. In the melt of compn. (1) the transference nos. at 650° were found to be 0.49 for K and 0.14 for Mg. In the melt of compn. 2KCl-$MgCl_2$ the nos. were 0.79 for K and 0.00 for Mg. In 3.8KCl-$MgCl_2$ melt, 0.79 for K and 0.00 for Mg. At 680-670° the transference nos. in melt 2KCl-$MgCl_2$ were 0.66 for K and 0.00 for Mg, although the results were not easily reproducible. The results indicated that the transference of Mg ions decreases as the compn. of the bath changes to 2KCl-$MgCl_2$. Further increase in KCl does not affect the transference nos. The increase in temp. to 680° has no effect on the transference nos. of Mg. A tentative explanation of this behavior of Mg is that with 2KCl few free ions of Mg are formed and that most of the Mg is tied up in the form of stable ions of chlorides of Mg. 18 references.

B. N. Daniloff

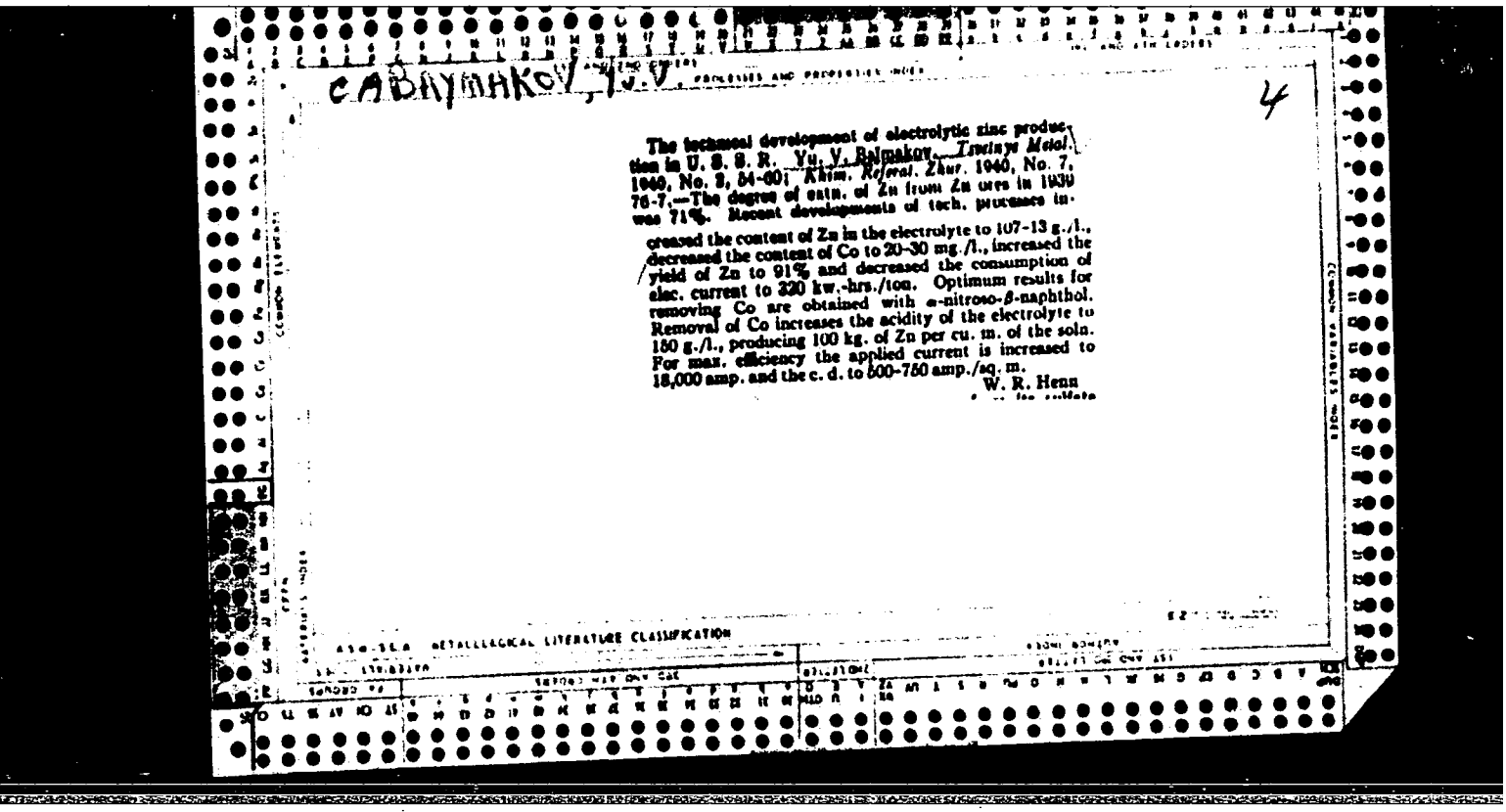
BAYMAKOV, Yu. V.

Professor. "Ways of developing Electrolytic Refining of Copper in the Third Five-Year Plan." Tsvet. Met. 14, no. 6, 1939.

BAYMAKOV, YU. V.

4

Electrochemical reactions of formation of sodium carbide. Yu. V. Baimakov. *Tsvetnye Metal.* 14, No. 7, 84-8 (1939). Electrochem. reactions of formation of Na_2C_2 were investigated by means of measurements of dissocn. potentials on C and metal cathodes. The e. m. f. of carbide formation was detd. as the difference between potentials with the use of C and metal cathodes in the electrolyte of molten Na halides. The electrolytes used were: (1) eutectic mixt. of NaI and NaCl for the temp. interval of 570 to 750°; (2) NaBr for 750 to 800°; and (3) NaCl for 800 to 850°. For the metallic cathode a Mo wire 0.5 mm. in diam. was used. The C cathodes were previously permeated with the electrolyte salts by soaking in molten electrolyte and repeated cleaning with H_2 and He. Electrolytes melted in corundum crucibles were brought to required temp., and C anode and Mo cathode which were enclosed in porcelain tubes with small openings on the sides, were introduced. The e. m. f. measurements were made at const. temp., on heating and on cooling. The metallic cathode was then withdrawn and replaced by a C cathode satd. with the electrolyte as described above. The e. m. f. was taken again. The *I-E* curves were obtained indicating dissocn. potentials at C and Mo cathodes. The magnitude of depolarization was detd. by comparison of dissocn. potentials on Mo and C cathodes. The temp. coeffs. of depolarization were calcd. from the data obtained; values for temp. ranges and dE/dT (in volts/degree) are: 570-600°, 0.00017; 600-650°, 0.00080; 650-700°, 0.00025; 700-800°, 0.00030. By substituting these values in the Gibbs-Helmholtz equation the heat of formation of Na carbide was calcd. to be 170,000 cals. at 570° and 98,000 cals. at 700°. The decrease in polarization with increasing temp. corresponded to dissocn. potential, which led to the conclusion that the observed polarization corresponded to the e. m. f. of formation of Na carbide. The heat effects obtained were considerably greater than those obtained by Guerney and Sherman (*C. A.* 20, 69) for the reaction $2Na + 2C \rightarrow [Na_2C_2]$, +16,100 cal. It is considered possible that the difference in the thermal-effect [illegible] is due to absorption or adsorption of Na_2C_2 by the C, and that the thermal effects found are the sum of those of formation of Na_2C_2 and of other carbides of indefinite compn.; during the formation thereof the ions of Na are adsorbed by the lattice of the C anode. B. N. Daniloff



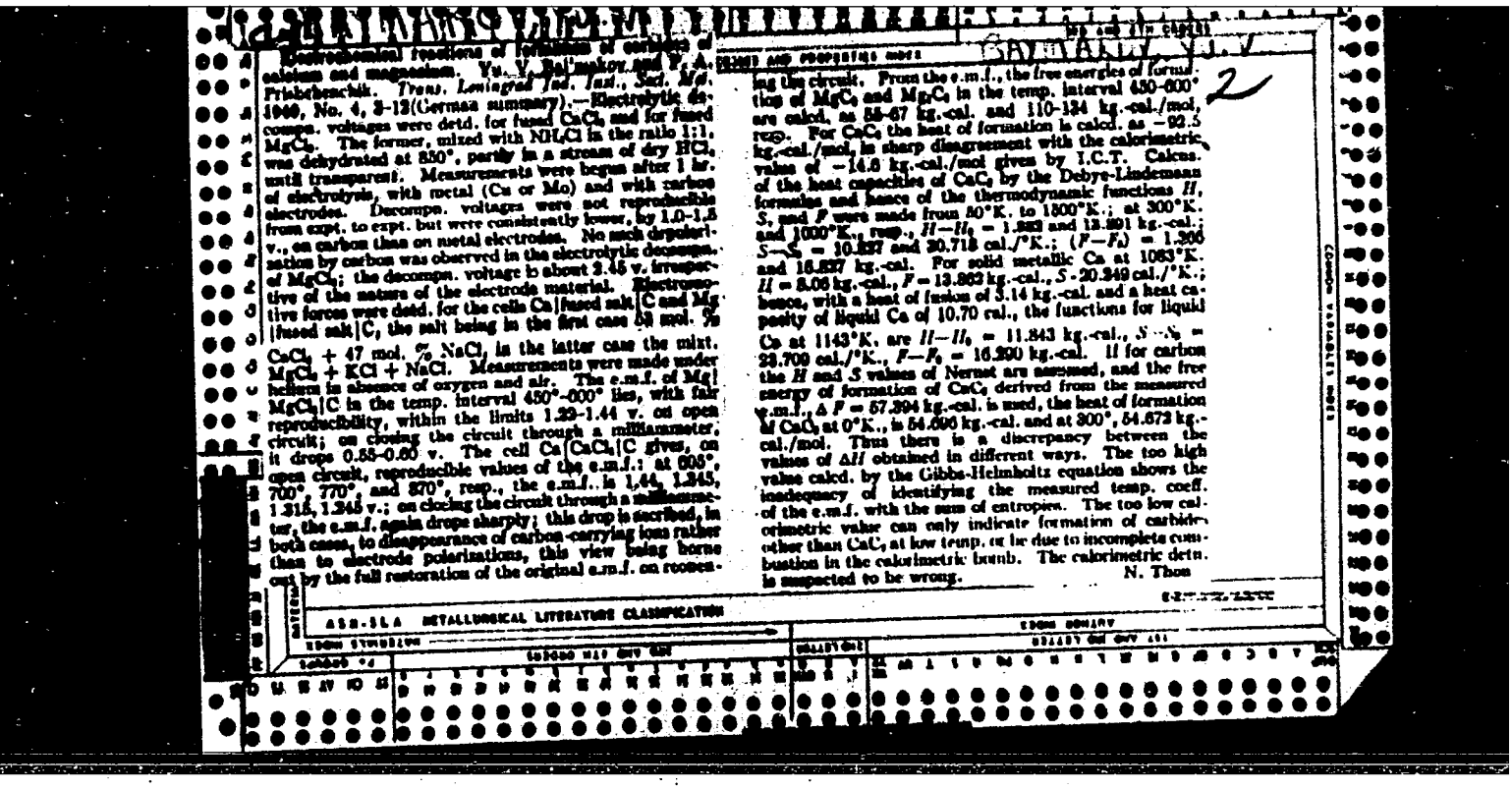
CABYMAKOV, Yu.V.

4

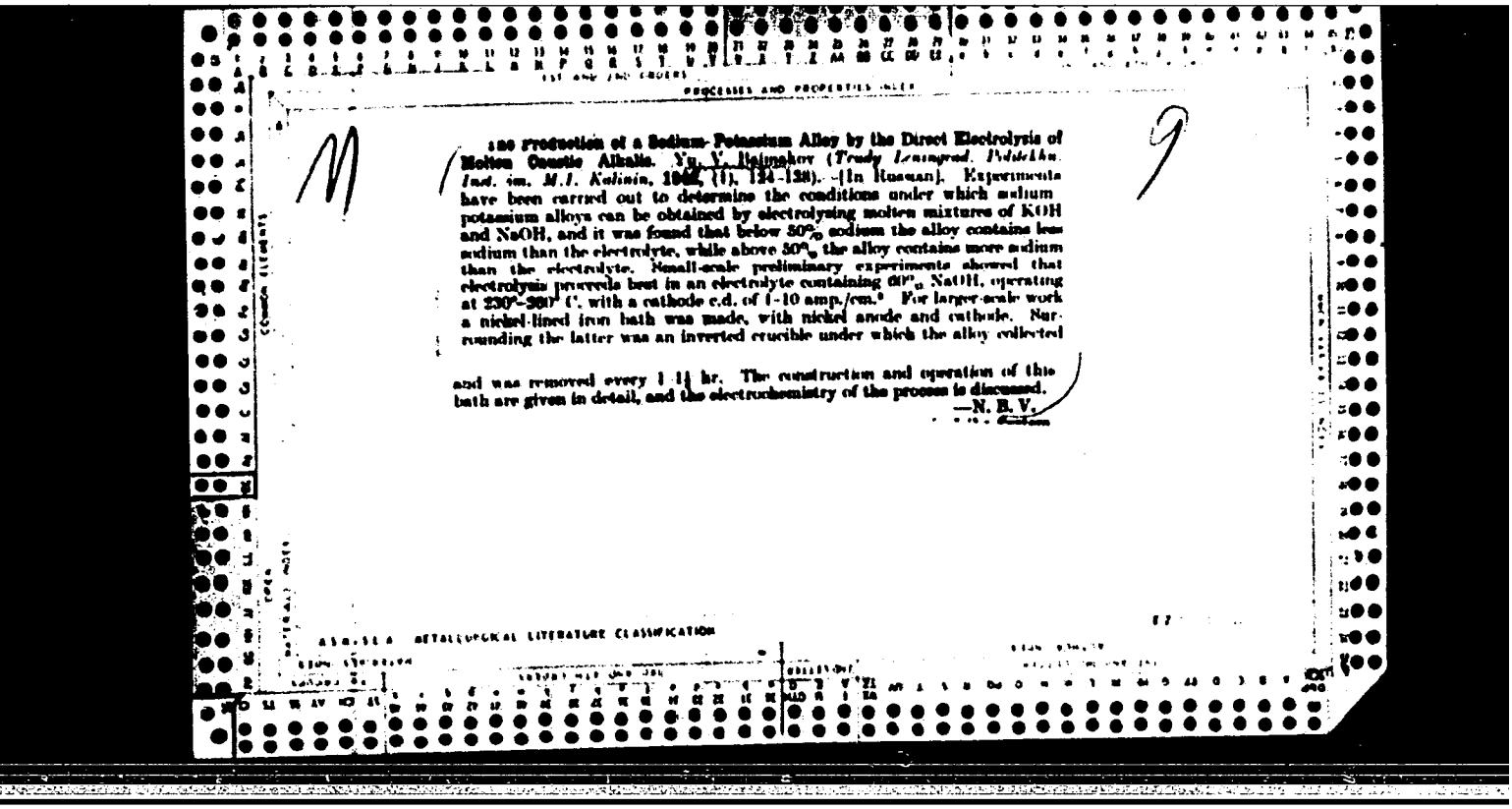
The technical development of electrolytic zinc production in U. S. S. R. Yu. V. Balmakov. *Tsvetnye Metal.* 1940, No. 3, 64-80; *Khim. Referat. Zhur.* 1940, No. 7, 76-7.—The degree of extn. of Zn from Zn ores in 1930 was 71%. Recent developments of tech. processes increased the content of Zn in the electrolyte to 107-13 g./l., decreased the content of Co to 20-30 mg./l., increased the yield of Zn to 91% and decreased the consumption of elec. current to 320 kw.-hrs./ton. Optimum results for removing Co are obtained with α-nitroso-β-naphthol. Removal of Co increases the acidity of the electrolyte to 180 g./l., producing 100 kg. of Zn per cu. m. of the soln. For max. efficiency the applied current is increased to 18,000 amp. and the c. d. to 500-750 amp./sq. m.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

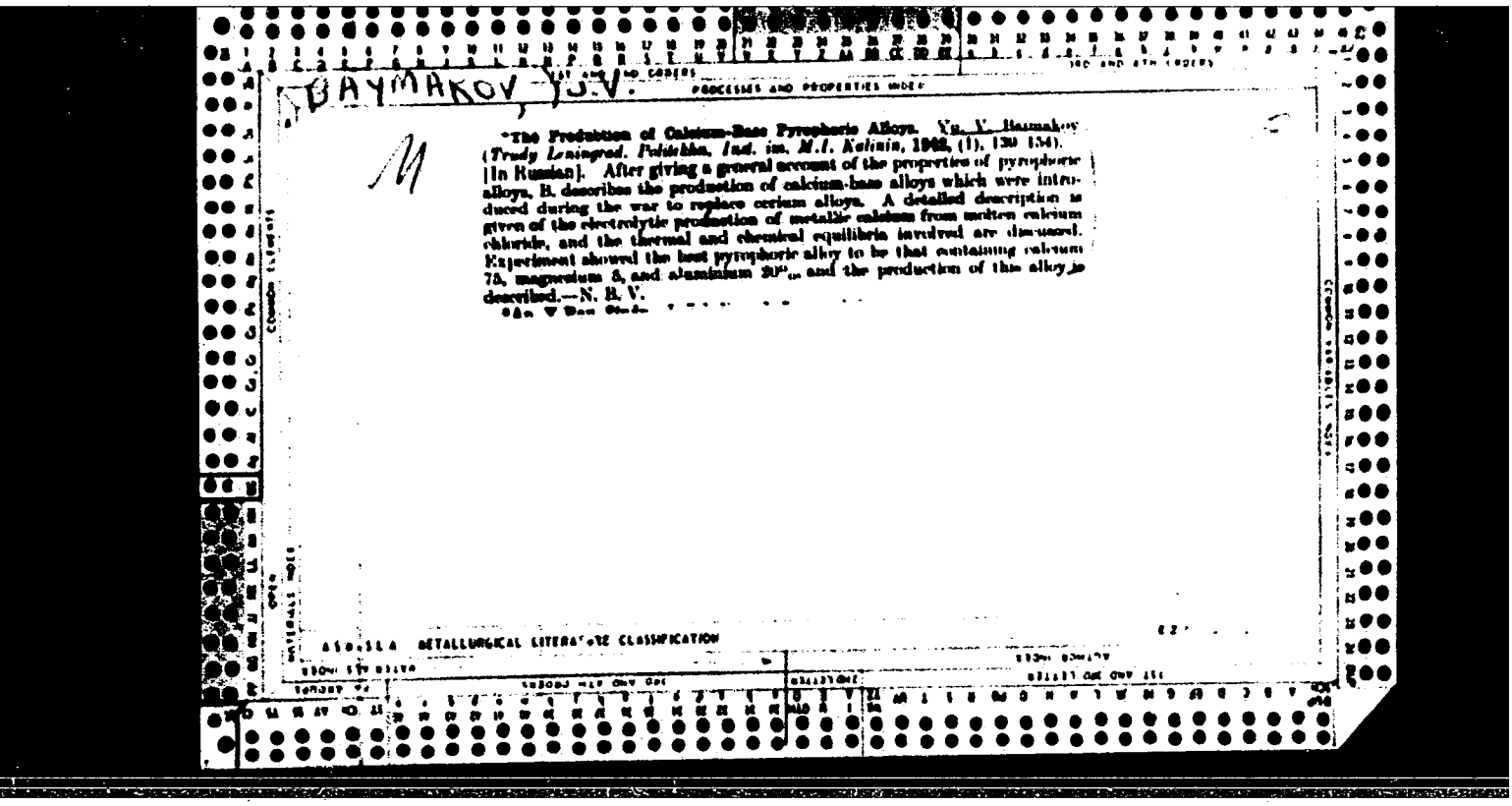


Electrochemical reactions of calcium and magnesium. Yu. V. Baĭmakov and V. A. Fridzhanchik. *Trans. Leningrad Ind. Inst., Sect. Met.* 1960, No. 4, 3-13(German summary).—Electrolytic decompn. voltages were detd. for fused $CaCl_2$ and for fused $MgCl_2$. The former, mixed with NH_4Cl in the ratio 1:1, was dehydrated at 550°, partly in a stream of dry HCl, until transparent. Measurements were begun after 1 hr. of electrolysis, with metal (Cu or Mo) and with carbon electrodes. Decompn. voltages were not reproducible from expt. to expt. but were consistently lower, by 1.0-1.5 v., on carbon than on metal electrodes. No such depolarization by carbon was observed in the electrolytic decompn. of $MgCl_2$; the decompn. voltage is about 2.45 v. irrespective of the nature of the electrode material. Electromotive forces were detd. for the cells Ca|fused salt|C and Mg|fused salt|C, the salt being in the first case 53 mol. % $CaCl_2$ + 47 mol. % NaCl, in the latter case the mixt. $MgCl_2$ + KCl + NaCl. Measurements were made under helium in absence of oxygen and air. The e.m.f. of Mg|$MgCl_2$|C in the temp. interval 450°-000° lies, with fair reproducibility, within the limits 1.29-1.44 v. on open circuit; on closing the circuit through a milliammeter, it drops 0.55-0.60 v. The cell Ca|$CaCl_2$|C gives, on open circuit, reproducible values of the e.m.f.: at 600°, 700°, 770°, and 870°, resp., the e.m.f. is 1.64, 1.345, 1.315, 1.245 v.; on closing the circuit through a milliammeter, the e.m.f. again drops sharply; this drop is ascribed, in both cases, to disappearance of carbon-carrying ions rather than to electrode polarizations, this view being borne out by the full restoration of the original e.m.f. on reopening the circuit. From the e.m.f., the free energies of formation of MgC_2 and Mg_2C_3 in the temp. interval 450-000° are calcd., as 58-67 kg.-cal. and 110-134 kg.-cal./mol, resp. For CaC_2 the heat of formation is calcd. as −92.5 kg.-cal./mol, in sharp disagreement with the calorimetric value of −14.6 kg.-cal./mol given by I.C.T. Calcns. of the heat capacities of CaC_2 by the Debye-Lindemann formulas and hence of the thermodynamic functions *H*, *S*, and *F* were made from 50°K. to 1500°K.; at 300°K. and 1000°K., resp., $H-H_0$ = 1.883 and 13.891 kg.-cal.; $S-S_0$ = 10.827 and 30.718 cal./°K.; $(F-F_0)$ = 1.366 and 16.827 kg.-cal. For solid metallic Ca at 1083°K. H = 8.06 kg.-cal., F = 13.862 kg.-cal., S = 20.949 cal./°K.; hence, with a heat of fusion of 5.14 kg.-cal. and a heat capacity of liquid Ca of 10.70 cal., the functions for liquid Ca at 1143°K. are $H-H_0$ = 11.843 kg.-cal., $S-S_0$ = 28.709 cal./°K., $F-F_0$ = 16.890 kg.-cal. *H* for carbon the *H* and *S* values of Nernst are assumed, and the free energy of formation of CaC_2 derived from the measured e.m.f., ΔF = 57.394 kg.-cal. is used, the heat of formation of CaC_2 at 0°K., is 54.690 kg.-cal. and at 300°, 54.673 kg.-cal./mol. Thus there is a discrepancy between the values of ΔH obtained in different ways. The too high value calcd. by the Gibbs-Helmholtz equation shows the inadequacy of identifying the measured temp. coeff. of the e.m.f. with the sum of entropies. The too low calorimetric value can only indicate formation of carbides other than CaC_2 at low temp. or be due to incomplete combustion in the calorimetric bomb. The calorimetric detn. is suspected to be wrong. N. Thon



The production of a Sodium-Potassium Alloy by the Direct Electrolysis of Molten Caustic Alkalis. Yu. V. Baimakov (*Trudy Leningrad. Politekhn. Inst. im. M.I. Kalinin*, 1952, (1), 124–128). [In Russian]. Experiments have been carried out to determine the conditions under which sodium-potassium alloys can be obtained by electrolysing molten mixtures of KOH and NaOH, and it was found that below 50% sodium the alloy contains less sodium than the electrolyte, while above 50% the alloy contains more sodium than the electrolyte. Small-scale preliminary experiments showed that electrolysis proceeds best in an electrolyte containing 60% NaOH, operating at 230°–260° C. with a cathode c.d. of 1–10 amp./cm.^{2} For larger-scale work a nickel-lined iron bath was made, with nickel anode and cathode. Surrounding the latter was an inverted crucible under which the alloy collected and was removed every 1–1½ hr. The construction and operation of this bath are given in detail, and the electrochemistry of the process is discussed.

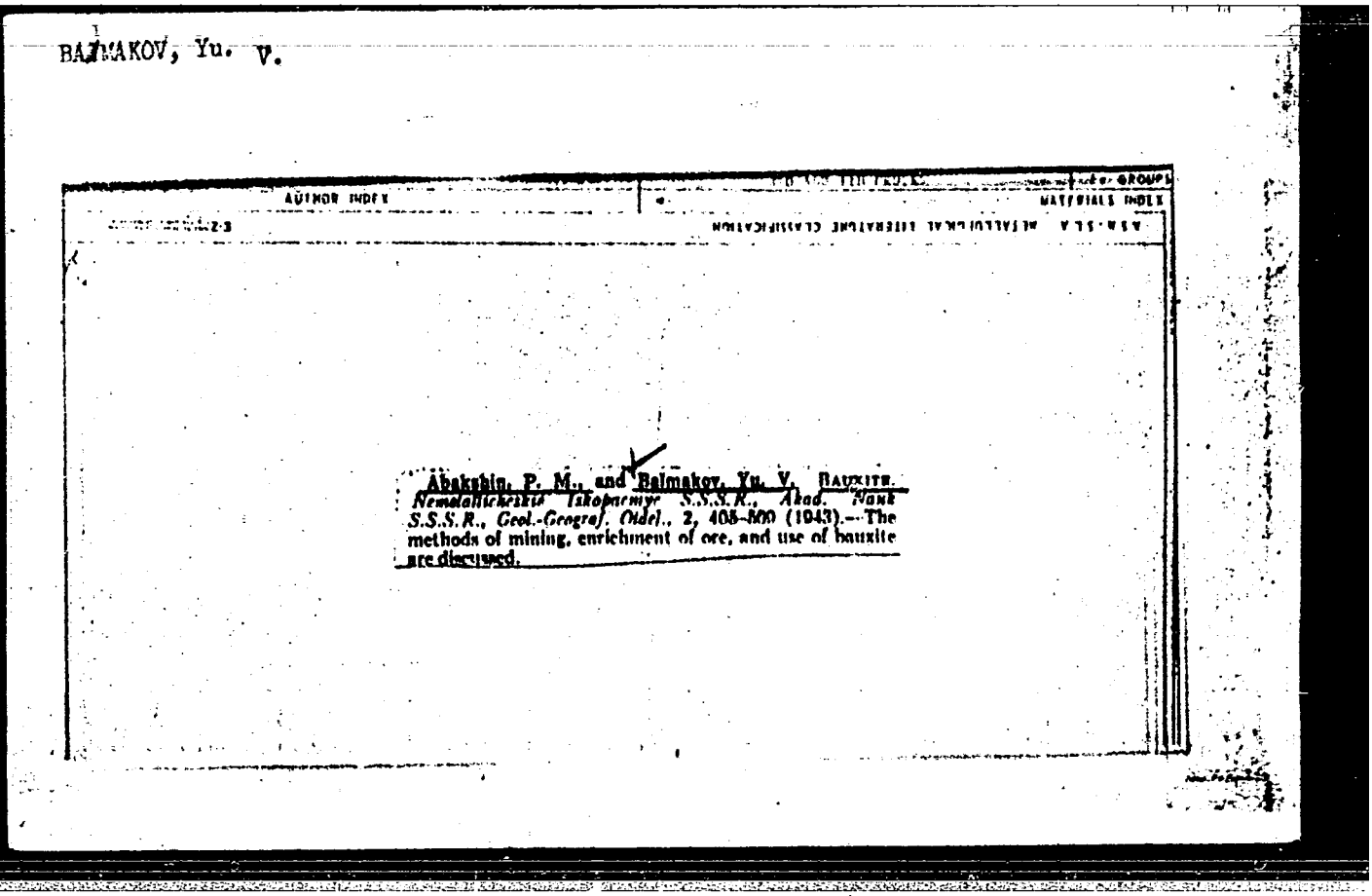
—N. B. V.



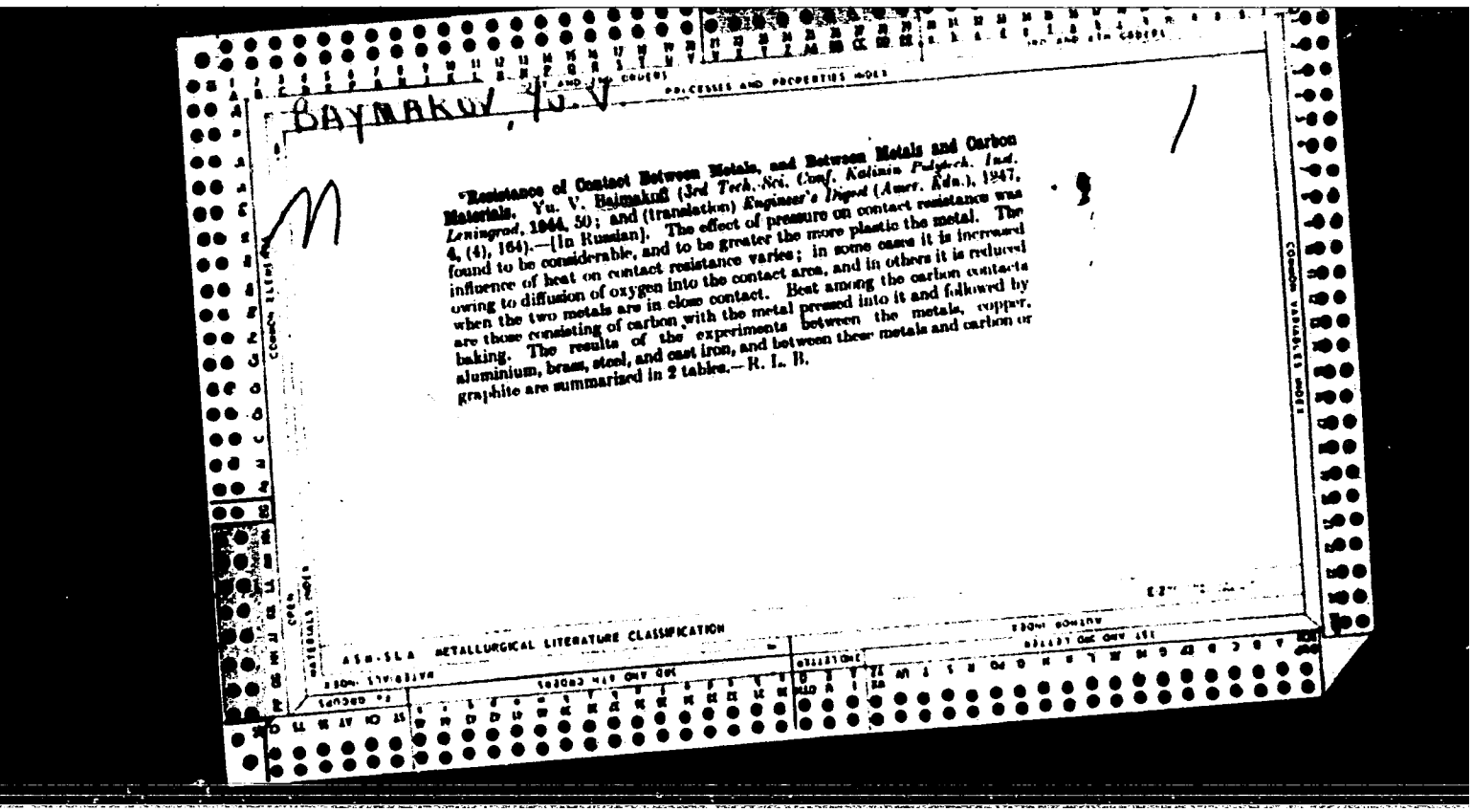
BAYMAKOV, YU.V.

"The Production of Calcium-Base Pyrophoric Alloys. Yu. V. Baumakov (*Trudy Leningrad. Politekhn. Inst. im. M.I. Kalinin*, 1948, (1), 130-134). [In Russian]. After giving a general account of the properties of pyrophoric alloys, B. describes the production of calcium-base alloys which were introduced during the war to replace cerium alloys. A detailed description is given of the electrolytic production of metallic calcium from molten calcium chloride, and the thermal and chemical equilibria involved are discussed. Experiment showed the best pyrophoric alloy to be that containing calcium 75, magnesium 5, and aluminium 20%, and the production of this alloy is described.—N. R. V.

BAZMAKOV, Yu. V.



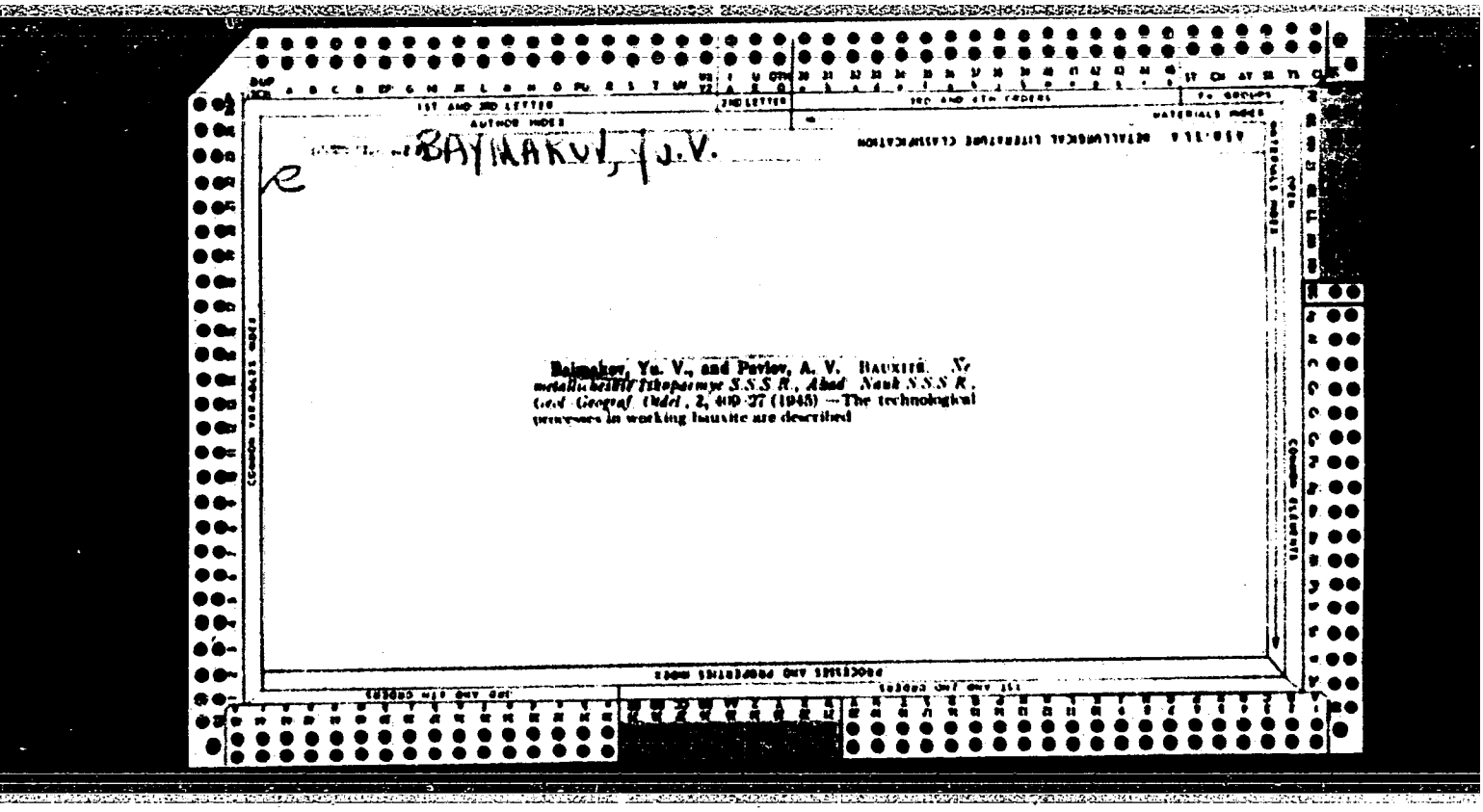
Abakshin, P. M., and Bazmakov, Yu. V. BAUXITE. *Nemetallicheskie Iskopaemye S.S.S.R., Akad. Nauk S.S.S.R., Geol.-Geograf. Otdel.*, 2, 405-500 (1943).—The methods of mining, enrichment of ore, and use of bauxite are discussed.



BAYMAKOV, Yu. V.

"Resistance of Contact Between Metals, and Between Metals and Carbon Materials. Yu. V. Baimakuf (3rd *Tech.-Sci. Conf. Kalinin Polytech. Inst. Leningrad*, 1944, 50; and (translation) *Engineer's Digest* (*Amer. Edn.*), 1947, 4, (4), 164).—[In Russian]. The effect of pressure on contact resistance was found to be considerable, and to be greater the more plastic the metal. The influence of heat on contact resistance varies; in some cases it is increased owing to diffusion of oxygen into the contact area, and in others it is reduced when the two metals are in close contact. Best among the carbon contacts are those consisting of carbon with the metal pressed into it and followed by baking. The results of the experiments between the metals, copper, aluminium, brass, steel, and cast iron, and between these metals and carbon or graphite are summarized in 2 tables.—R. I. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



BAYMAKOV, YU. V.

USSR/Metals
Apr 1947

Aluminum Industry
Electrolysis

"Development of the Technique of Aluminum Electrolysis," Prof Dr Yu. V. Baymakov, Leningrad Polytechnic Institute, 10 pp

"Tsvetnye Metally" No 2

The efficiency of aluminum electrolysis is limited by two very important factors - specific expenditure of energy, and the productivity of the bath. The article treats these two limiting factors and the means of overcoming them. Tables show results from using various electrodes and chemical baths.

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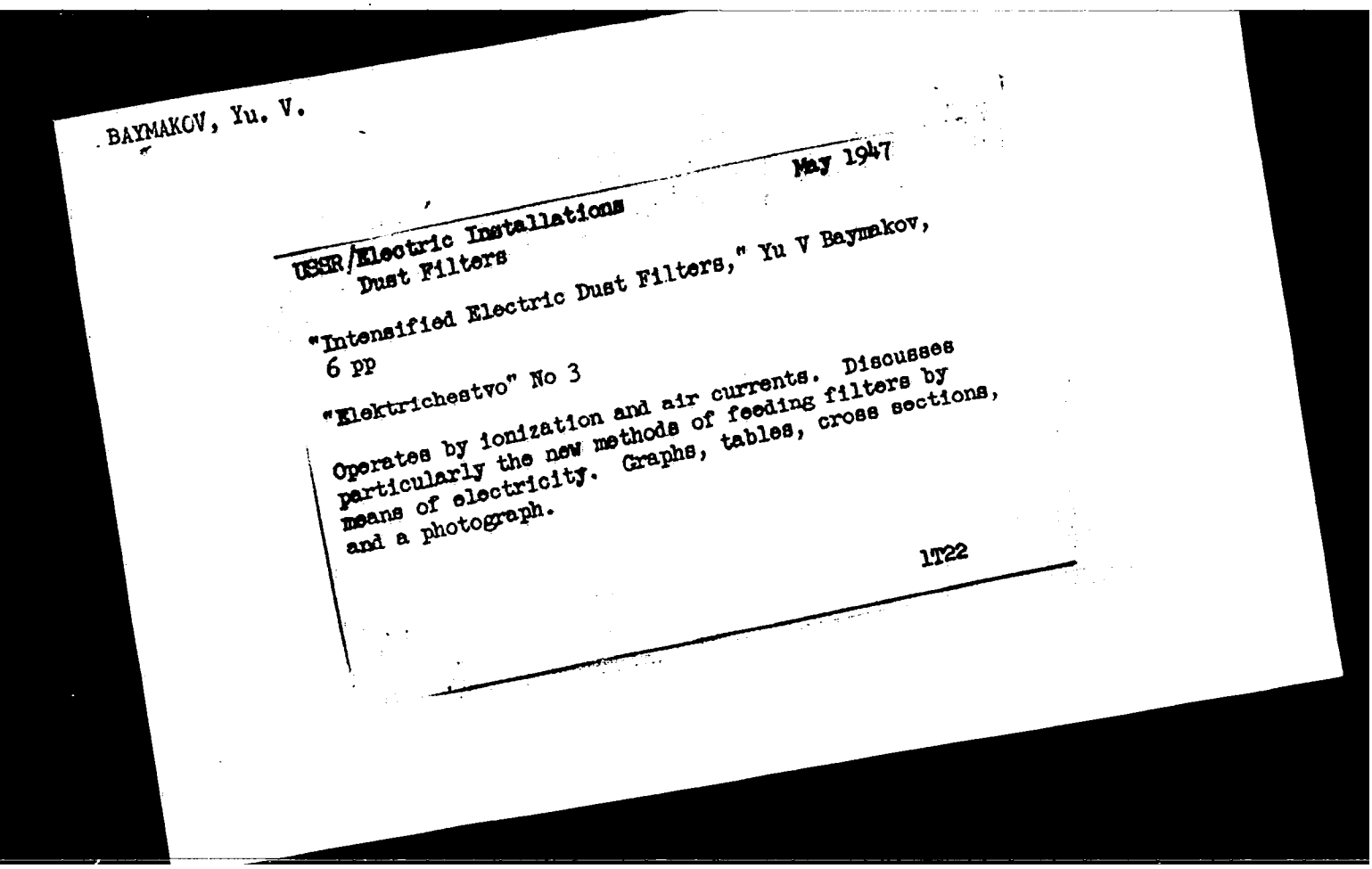


BAYMAKOV, Yu. V.

May 1947

USSR/Electric Installations
Dust Filters

"Intensified Electric Dust Filters," Yu V Baymakov,
6 pp

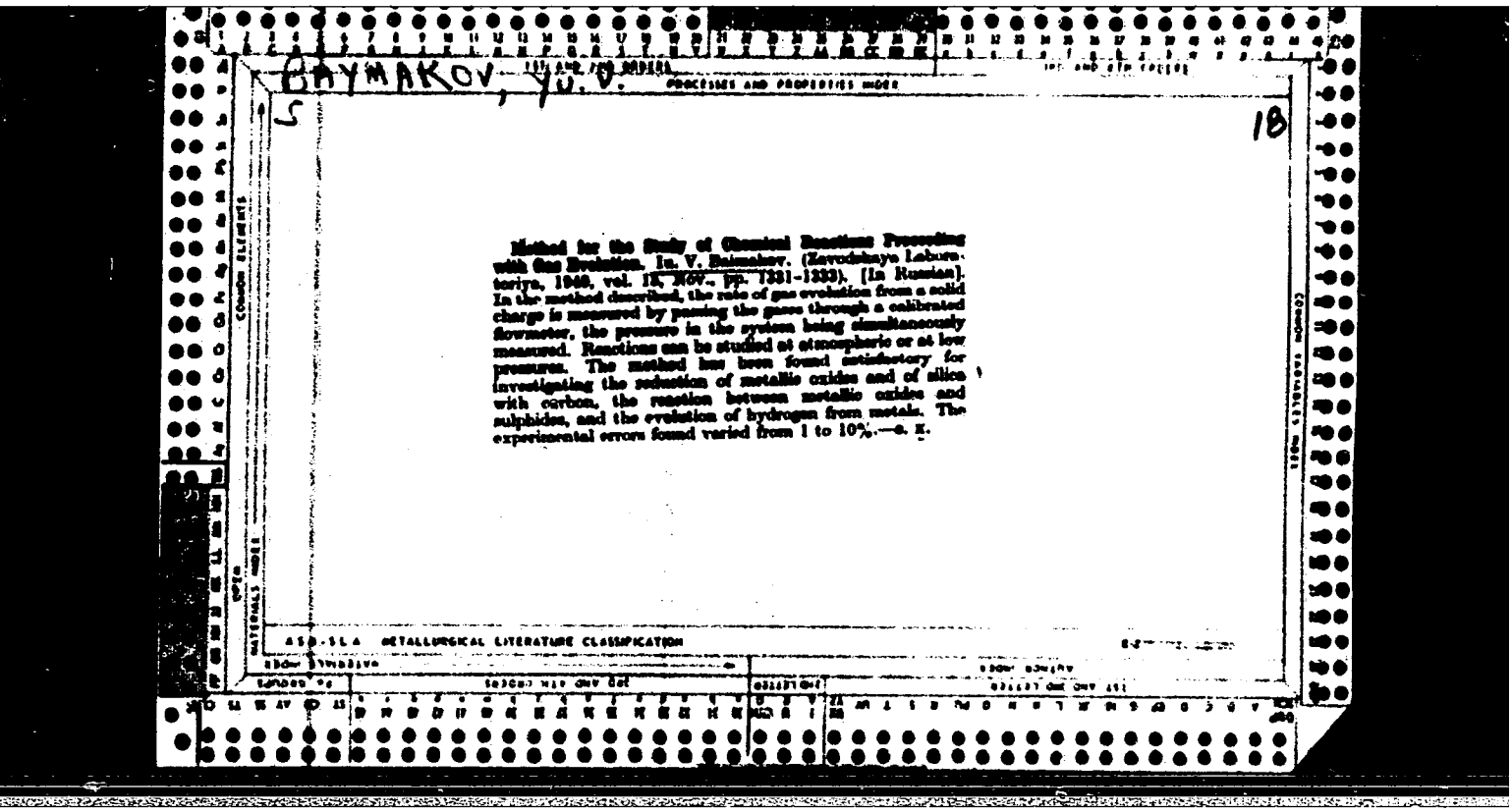
"Elektrichestvo" No 3

Operates by ionization and air currents. Discusses particularly the new methods of feeding filters by means of electricity. Graphs, tables, cross sections, and a photograph.

1T22

BAYKOV, Yu. V.

"Faculty of electrometallurgy of non-ferrous metals."
Trudy Len. politekh. inst., no. 1, 1949.



BAYMAKOV, Yu. V.

18

Method for the Study of Chemical Reactions Proceeding with Gas Evolution. Iu. V. Baimakov. (Zavodskaya Laboratoriya, 1940, vol. IX, No9., pp. 1331-1333). [In Russian]. In the method described, the rate of gas evolution from a solid charge is measured by passing the gases through a calibrated flowmeter, the pressure in the system being simultaneously measured. Reactions can be studied at atmospheric or at low pressures. The method has been found satisfactory for investigating the reduction of metallic oxides and of silica with carbon, the reaction between metallic oxides and sulphides, and the evolution of hydrogen from metals. The experimental errors found varied from 1 to 10%.—e. r.

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

BAYMAKOV, Yu.V.

USSR

The solution of electrolytically evolved hydrogen in iron. Yu. V. Baimakov and M. I. Zamotorin (M. I. Kalinin Polytech. Inst., Leningrad). *Trudy Soveshchaniya Elektrokhim., Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1950, 125-37(1953).—The nature of dissolved H and the mechanism of its soln. were studied in electrodeposited Fe (I) and steel (C 0.09–0.15, Mn 0.35–0.50%) (II). I was produced at 20, 50, 100, and 110° from a soln. contg. 50 or 100 g. Fe per l. as $FeCl_2$, freed from sulfate by means of BaCl. H was detd. by heating under vacuum and collecting the evolved gas. In I, the H varied from 10 to 13 at. %; it occurred partly as adsorbed H, but chiefly in solid soln. The presence of H in I was indicated by a lowering of the exchange current, a more noble electrode potential, and greater ease of passivation. Electrolytically produced H dissolved to a much smaller extent in II, but elastic properties were still affected. The amt. of H dissolving in II decreased with pH to essentially 0 at pH 14. At pH 0.1, the quantity of H adsorbed and in solid soln. approached 0.5 at. %, while mol. H, found in voids between crystals, was approx. 0.1 at. %. Essentially all the H in II escaped within 5 days at room temp. or 4 hrs. at 100–120°.

R. D. Misch

180.32

USSR/Chemistry - Nickel Apr 51

"Problem of the Electrochemical Properties of Nickel," Yu. V. Baymakov, L. M. Yevlampikov, Leningrad Polytech Inst imeni M. I. Kalinin

"Zhur Fiz Khim" Vol XXV, No 4, pp 483-494

Anal of electrolytic (I) and smelted (II) Ni shows H contained in I is partly driven off at 400-500°C, partly at 700-1,000°; H in II only 400-500°. X-ray photographs of I show solid soln of varying compn; those of II show similarity to pure Ni. Electrode

180T36

LC

USSR/Chemistry - Nickel (Contd) Apr 51

potentials show I to have high passivity, II to be more active. Proposes: H in solid penetration soln in I is in form of protons, increasing passivity. H in soln in II is atomic, not affecting electrochem properties.

180T32

BAYMAKOV, Yu. V.

LC

BAYMAKOV, Yu. V.

137-58-5-9223

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 66 (USSR)

AUTHORS: Baymakov, Yu. V., Vasil'yev, Z. V., Khodyko, A. D.

TITLE: The Role of Leningrad in the Creation and Development of the Light-metals Industry (Rol' Leningrada v sozdanii i razvitii promyshlennosti legkikh metallov)

PERIODICAL: V sb.: Metallurgiya. Moscow-Leningrad, AN SSSR, 1957, pp 133-145

ABSTRACT: A brief survey of the development of light-metals industry in the USSR; it is pointed out that the first scientific investigations dealing with electrometallurgy of melts, physical chemistry, and chemical technology of raw Al and Mg sources were conducted in Leningrad and served as the scientific and theoretical wayshowers in the growth of the industry. The scientific research and design organizations of Leningrad developed the engineering processes and designed the first plants of the aluminum and magnesium industry. The following topics are further discussed: the role of Russian scientists in the development of a scientific-theoretical basis for the production of light metals, the work of the scientific-research institute NIISalyuminiy-VAMI,

Card 1/2

137-58-5-9223

The Role of Leningrad in the (cont.)

the organization of the design planning for the light-metals industry, the work of Giproalyuminiy, the creative fellowship between scientists and production workers, and the work of Leningrad Institutes in the years of the Great Patriotic War; future trends in the operations of light-metals industry are indicated.

N.P.

1. Metallurgy--USSR 2. Metals--Production 3. Metals--Processing

Card 2/2

BAYMAKOV, Yu. V.

137-58-5-9220

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 66 (USSR)

AUTHOR: Baymakov, Yu. V.

TITLE: Fifty Years of Work of the Chair for Electrometallurgy of the Nonferrous Metals (50 let raboty kafedry "Elektrometallurgiya tsvetnykh metallov")

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1957, Nr 188, pp 5-9

ABSTRACT: Bibliographic entry

1. Metallurgy--USSR

Card 1/1

BAYMAKOV, Yu.V.; MAZEL', Ye.V.

Experiments in the reduction of silica and alumina by carbon. (MIRA 11:9)
Trudy LPI no.188:10-23 '57.
(Silica) (Alumina) (Reduction, Electrolytic)

BAYMAKOV, Yu.V.; BRUSAKOV, Yu.I.

Reduction smelting of aluminosilicates. Trudy LPI no.188:24-39 '57. (MIRA 11:9)

(Aluminosilicates) (Reduction, Electrolytic)

137-58-6-11868

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 98 (USSR)

AUTHOR: Baymakov, Yu.V.

TITLE: A Contribution to the Theory of Joint Discharge of Cations at the Cathode and Methods of the Study of the Joint Discharge (K teorii sovmestnogo razryada kationov na katode i metody izucheniya ikh sovmestnogo razryada)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1957, Nr 188, pp 162-172

ABSTRACT: A systematization is made of theoretical considerations dealing with the phenomena of joint discharge of cations at the cathode based on current views on the kinetics of electrochemical processes. A method of analysis and calculation for study of joint cation discharge is developed. It is distinguished by high accuracy and makes it possible to plot realistic polarization curves for the discharge of more highly electro-negative ions when discharged jointly with more electropositive ions. Radioactive isotopes are used for sensitive analytical determination of very small amounts of metal that have gone into the cathode precipitate. A polarographic method has been developed, in conjunction with the use of radioactive isotopes,

Card 1/2

A Contribution to the Theory (cont.)

for a study of the kinetics of the discharge of the metal ions. These methods of analytical calculation and polarography are used to obtain data providing an idea of the kinetics of the transfer of more highly electronegative impurities into the cathode metal.

N.P.

1. Ions--Theory 2. Cathodes--Performance 3. Electrochemistry--Applications
4. Radioisotopes--Applications 5. Polarographic analysis--Applications

137-58-6-11945

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 108 (USSR)

AUTHORS: Baymakov, Yu.V., Mazel', Ye.V.

TITLE: Experiments in the Carbon Reduction of Alumina and Silica (Opyty vosstanovleniya kremnezema i glinozema uglerodom)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1957, Nr 189, pp 10-23

ABSTRACT: The reduction (R) of SiO_2 and Al_2O_3 by C is investigated on a laboratory-scale vacuum furnace with a coal heater. The course of the process is monitored by the amount and speed of gas liberation. In the R of briquets precalcined at 1100°C, and composed of a mixture of pure quartz sand, charcoal, and sugar (as binder) with 13% excess C, the onset of R was found to occur at 1300-1350° (reaction: $SiO_2 + 3C = SiC + 2CO$). As the temperature rises, the reaction $SiO_2 + C = Si + 2CO$ begins; maximum speed is obtained on fusion of the SiO_2. The reaction $SiO_2 + 2SiC = Si + 2CO$ proceeds at the same time, attaining its maximum speed at the b. p. of SiO_2. Parallel with this (starting at 1350°) there proceeds a side reaction $SiO_2 + Si = 2SiO$, with sublimation of the suboxide formed and partial R thereof in accordance with the reaction $SiO + 2C = SiC + CO$. At

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137-58-6-11945

Experiments in the Carbon Reduction of Alumina and Silica

temperature >1700°, the SiO_2 R attains 95% completion. In experiments in R of Al_2O_3 from a mixture of the following % composition: 61.2% Al_2O_3, 22.5% charcoal, 16.8% sugar, (and 5% excess C), the R reaction was found to start at 1400° with a linear increase in rate to 1900° and production of Al_4C_3. From 1950° to 2070-2100°, the reaction rate increases considerably. At these temperatures the reaction $Al_2O_3+3C=2Al+3CO$ occurs, but the excess Al_2O_3 converts the Al to Al_2O, which is completely sublimated. Metal was obtained in the R products only at 2070° in a mixture with Al_4C_3 and Al_2O_3 (Al yield up to 42%) under conditions of fast heating and short holding.

Ye.Z.

1. Aluminum oxides--Chemical reactions 2. Silica--Chemical reactions
3. Carbon--Chemical reactions

Card 2/2

SOV/163-58-1-12/53

AUTHORS: Baymakov, Yu. V., Shkol'nikov, S. N., Syrovegin, A. G., Marshikova, A.

TITLE: The Transition of Iridium in the Cathode Metal in the Electrolytic Refining of Copper and Nickel (Perekhod iridiya v katodnyy metall pri elektroliticheskom rafinirovanii medi i nikelya)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 1, pp 55-61 (USSR)

ABSTRACT: By using radioactive isotopes the refining process of electrolytic copper and nickel was investigated. In electrolytic copper and nickel always gold, silver, and platinum elements occur, viz. gold and silver in quantities of 0,001 % and platinum in a quantity of 0,00001 %.
The behavior of iridium in the electrolytic refining of copper and nickel was investigated. The radioactive iridium isotope Ir^{192} was used as indicator. In the electrolysis of copper and nickel the concentration of iridium in copper approaches $(6 \div 20) \cdot 10^{-5}$ %. Usually in the electrolytic refining of copper from sulfate solutions with a density of

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The Transition of Iridium in the Cathode Metal in the Electrolytic Refining of Copper and Nickel

100-200 A/m^2 the iridium content in the cathode amounts to $(1 \div 9).10^{-7}$ %. In the electrolytic refining of nickel from pure sulfate solutions at a temperature of 50°C and a current density of 100-300 A/m^2 the iridium content in the cathode amounts to $(5 \div 9).10^{-7}$ %.
In sulfate solutions containing chloride ions and in pure chloride solutions the iridium content in the cathode amounts to $(1 \div 3).10^{-4}$ %. The other platinum metals react similarly to iridium.
In the electrolysis of copper, iridium ion is formed by the following reaction:

$$Ir + 2\ Cu + \rightleftarrows Ir^{2+} + 2\ Cu^{+2}.$$

To produce metals of highest purity and with a minimum content of iridium the authors recommend using anode diaphragms in the analysis and carrying out the electrolysis of nickel at higher temperatures and that of copper at lower temperatures.
There are 11 tables and 1 reference, 1 of which is Soviet.

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SOV/163-58-1-12/53

The Transition of Iridium in the Cathode Metal in the Electrolytic Refining of Copper and Nickel

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnical Institute)

SUBMITTED: October 1, 1957

Card 3/3

BAYMAKOV, Yu.V., prof.; BATASHEV, K.P., kand.tekhn.nauk

Progress of electrolytic polishing. Khim. nauka i prom. 3 no.4:464-470 '58. (MIRA 11:10)

(Electrolytic polishing)

BAYMAKOV, Yu. V.

Holly, J. N.

PHASE I BOOK EXPLOITATION SOV/2216

5(4)

Soveshchaniye po elektrokhimii. 4th, Moscow, 1956.

Trudy...: [sbornik] (Transactions of the Fourth Conference on Electrochemistry: Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 868 p. Errata slip inserted. 2,500 copies printed.
Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk.

Editorial Board: A.N. Frumkin (Resp. Ed.) Academician, O.A. Yesin, Professor, S.I. Zhdanov (Resp. Secretary), B.N. Kabanov, Professor, Professor, S.I. Zhdanov (Resp. Secretary) B.N. Kabanov, Professor, Professor, S.I. Zhdanov (Resp. Secretary) [Sciences]; V.V. Losev, P.D. Ya. M. Kolotyrkin, Doctor of Chemical Sciences; V.V. Stender, Professor; Lukovtsev, Professor; Z.A. Solov'yeva; V.V. Stender, Professor; and O.M. Florianovich; Ed. of Publishing House: N.G. Yegorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodeposition and industrial electrolysis. Abridged discussions are given at the end of each division. The majority of reports not included here have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

Card 14/ 34

S/081/60/000/006/002/008
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 6, p. 103, # 21632

AUTHOR: Baymakov, Yu.V.

TITLE: Kinetics of Joint Ion Discharge in Electrolytic Deposition of Metals

PERIODICAL: Tr. 4-go Soveshchaniya po elektrokhimii, 1956, Moscow, AN SSSR, 1959, pp. 427-434

TEXT: The author studied kinetics of joint discharge of Hg and Cu ions, Cu and Co, Co and As, Cu and Sb, Cu and Ni, Ni and Zn ions. It was found that the rate of discharge of electropositive and electronegative metal ions obeyed, in joint discharge, the basic regularities of the theory of delayed discharge. In joint discharge, the discharge of easy reducing ions prevails over that of difficult reducing ions, independent of the metal position in the electrochemical series of potentials. The correlation of rates of the joint discharge of M_1^{n+} and M_2^{n+} ions is expressed by a semi-logarithmic dependence between the discharge current intensity i and the potential. It is noted that the main effect on the ratio of discharge rates $\lg i_1/\lg i_2$ is exerted by the concentration of

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S/081/60/000/006/002/008
A006/A001

Kinetics of Joint Ion Discharge in Electrolytic Deposition of Metals

JB

M_1^{n+} and M_2^{n+} ions in the layer near the cathode; it depends, in particular, on the sizes of the ion radius and its hydrated shell. Therefore an excess of ions with large radii which are less hydrated is formed in a double layer.

Z.S.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

BAYMAKOV, Yu.V.; KAMENETSKIY, M.V.; CHERNY, F.

Equilibrium between titanium chlorides and titanium metal in molten potassium and sodium chlorides. Izv.vys.ucheb.zav.; tsvet. met. 3 no.2:102-107 '60. (MIRA 15:4)

1. Leningradskiy politekhnicheskiy institut, kafedra elektropirometallurgii.
(Titanium—Electrometallurgy)

BAYMAKOV, Yu.V.

V. A. Pazukhin's and N. V. Kcrovin's suggestions on the classification of metals. Izv. vys. ucheb. zav.; tsvet. met. 3 no.3:49-50 '60. (MIRA 14:3)

1. Leningradskiy politekhnicheskiy institut.
(Metals)

80833

S/149/60/000/03/03/009

18.3100

AUTHORS: Baymakov, Yu.V., Kamenetskiy, M.V., Smirnov, V.V.

TITLE: Investigation Into Processes Occurring on Electrodes in Electrolytic Titanium Refinement

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1960, No 3, pp 81 - 89

TEXT: Studies on the crystallization of metal on the cathode in electrolytic refinement of titanium are still at a stage of preliminary research. Crystallization of titanium on the cathode is complicated by the $2TiCl_3 + Ti \rightleftarrows 3TiCl_2$ reaction developing on the surface of forming crystals. The authors investigated the preparation of melts containing $TiCl_3$ and carried out analyses. The method described in Refs 5 and 6 was employed. The experiments were performed in a medium of purified argon on an installation shown in Figure 1. Results of the experiments are given in a table. The dependence of the current efficiency and the composition of the final electrolyte on the volume current density at 800°C is represented by a set of graphs. It appears that highest current efficiency is obtained if the melt contains 5 to 12%

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Investigation Into Processes Occurring on Electrodes in Electrolytic Titanium Refinement

$TiCl_3$ (in g.equ). Higher temperatures cause increased current efficiency which attains its maximum within the range of 800° - 875°C. Further raise of the temperature causes decreased current efficiency. Reactions on the electrodes and the balance of electrode processes were investigated. Values of the decomposition potentials for reactions of reduction and formation of titanium chloride at 800°C, calculated by M.V. Kamenetskiy (Ref 12) are given. If the equilibrium electrode potential of Cl is considered as a constant value, the most electronegative potential corresponds to the reaction of Ti^{2+} reduction. This leads to the conclusion on the consecutive course of anode and cathode reactions. To obtain a satisfactory course of the cathode process, a higher cathode current density is required as well as a relatively high Ti^{+} concentration in the melt ensuring the feed of the zone adjacent to the cathode. The reactions on the cathode and anode are illustrated by Figure 5. The effect of the volume current density was studied in a series of experiments. It was revealed that the amount of $TiCl_3$ and $TiCl_2$ contained in the volume of the electrolyte acted as a regulator to maintain a constant composition. As a consequence the part of the current density was revealed, whose optimum value

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Investigation Into Processes Occurring on Electrodes in Electrolytic Titanium Refinement

was 25 - 30 amp/l. It was established that highest current efficiency was observed if there was a noticeable $TiCl_2$ concentration in the melt. To ensure a sufficient rate of $TiCl_2$ formation melts with high activity of $TiCl_3$ are recommended. Best current efficiency is obtained if the cathode current density is 0.8 - 2.5 amp/cm^2 and the anode current density is 0.05 - 0.1 amp/cm^2 at 800° - 850°C. The authors studied the effect of the electrolysis process of KCl - $TiCl_3$ melts on the structure of cathode deposits, which was most satisfactory at a concentration of 4 - 10% $TiCl_3$ in the initial melt, a volume current density of 25 - 50 amp/l, a cathode current density of 1 - 2.5 amp/cm^2 and a temperature of 800° - 850°C. There are 1 diagram, 1 table, 4 sets of graphs, 4 photographs and 14 references: 10 Soviet, 1 English and 3 German.

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnical Institute), Kafedra elektropirometallurgii (The Chair of Electropyrometallurgy)

SUBMITTED: July 21, 1959

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5.1310
1.1800

S/080/61/034/008/015/018
D204/D305

AUTHORS: Baymakov, Yu.V. and Batashev, K.P.

TITLE: Platinum-plating of titanium and titanium alloys

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 8, 1961, 1879-1880

TEXT: Problems involved in the use of titanium for insoluble anodes instead of Pt, Rh, Au and Pb and graphite have recently been studied in the Soviet Union and abroad. To date, however, attempts at employing insoluble titanium anodes have not been successful owing to the formation of an oxide film with a large electrical resistance, so the authors decided to investigate further the question of the platinum-plating of titanium and its alloys. Experiments performed at the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute) in 1959 indicated that the low electroconductivity is due to the porous or partial coating of platinum or lead on the working surface of the titanium anode. Past failures in preparing insoluble electrodes with a titanium base may

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Platinum-plating...

have been caused by the absence of a method for removing the oxide film, inhibiting stable cohesion between the metal coatings and titanium. Recent work by K.P. Batashev (Ref. 3: Naneseniye gal'vanicheskikh pokrytiy na titan iyego splavy (Application of Galvanic Coatings to Titanium and its Alloys), Izd. Doma nauchno-tekhn. propagandy, Leningrad, 1959), however, disclosed a new technique for overcoming this difficulty. Before platinum-plating, the surface of the titanium specimens is first processed with emergy paper and washed in carbon tetrachloride. It is then pickled in hot sulphuric acid: the authors recommend a 50% solution of acid at a temperature of 60 - 65° for a 10 minute period of pickling. when metal is removed at a rate of not more than 3 a minute. Two platinum-plating methods - electrosparking and electrochemical - may be used. In the former process the titanium sample is connected to a negative source of direct current and the platinum wire to the positive terminal. Platinum-plating is carried out in an atmosphere of oxygen or argon, and a very fine layer of platinum is formed on the titanium surface. Electrolytic platinization is effected in a solution with the following composition: 5 - 8 g/l of Pt as the chloride; 30 - 45 g/l of

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$(NH_4)_2HPO_4 \cdot 12H_2O$; 200 - 240 g/l of $Na_2HPO_4 \cdot 12H_2O$. Electrolysis takes place on heating to 60^o at a current density of 0.1 - 1 A/dm^2. The anode is first platinum and then the platinized titanium; the thickness of the platinum deposit is 0.10 - 0.15 μ, when the platinum expenditure amounts to 2 - 3 g/m^2 of the titanium surface. The platinum-plated specimens of titanium were subsequently tried out as insoluble anodes in the electrolysis of sodium chloride and in the electrolysis of water in a solution of sulphuric acid. The tests were continued for 5 - 6 days, and the results showed the absence of any loss in the anodic weight, which indicates good cohesion between the platinum and titanium and the high stability of titanium in such electrolytes. Thus, the authors conclude that their data confirm the expediency of the industrial use of titanium instead of graphite, platinum and lead in insoluble anodes, especially in view of the almost negligible consumption of platinum (2 - 3 g/m^2) in the process of preparing them. There are 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: Electroplating and Metal Finishing, 6, 1959; Fishlock, D.J. Metal Ind., 95, 9, 1959.

Card 3/4

BAYMAKOV, Yuriy Vladimirovich; ZHURIN, Aleksandr Ivanovich; LEVIN, A.I., prof., doktor tekhn. nauk, retsenzent; SMIRNOV, V.I., prof., retsenzent; STENDER, V.V., prof., retsenzent; GORBUNOVA, K.M., prof., doktor khim. nauk, red.; PAKHOMOVA, G.N., kand. tekhn. nauk, red.; MARENKOV, Ye.A., red.; MISHARINA, K.D., red.izd-va; MIKHAYLOVA, V.V., tekhn. red.

[Electrolysis in hydrometallurgy]Elektroliz v gidrometallurgii. Moskva, Metallurgizdat, 1963. 616 p. (MIRA 16:2)

1. Kafedra tekhnologii elektrokhimicheskikh proizvodstv Ural'skogo politekhnicheskogo instituta (for Levin). 2. Kafedra metallurgii tsvetnykh metallov Ural'skogo politekhnicheskogo instituta, Deystvitel'nyy chlen Akademii nauk Kazakhskoy SSR (for Smirnov). 3. Chlen-korrespondent Akademii nauk Kazakhskoy SSR (for Stender).
(Hydrometallurgy) (Electrometallurgy)

BAYMAKOV, Yu.V.

The interaction of a metal with its fused salt. Trudy LPI no.223: 7-24 '63. (MIRA 17:11)

BAYMAKOV, Yu.V.; LEBEDEV, O.A.

Titanium and hydrogen. Trudy LPI no.223:25-34 '63.
(MIRA 17:11)

ACCESSION NR: AT4026276 S/2563/63/000/223/0025/0034

AUTHOR: Baymakov, Yu. V.; Lebedev, O. A.

TITLE: Titanium and hydrogen

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 223, 1963. Metallurgiya tsvetny*kh metallov (Metallurgy of nonferrous metals), 25-34

TOPIC TAGS: titanium, hydrogen, titanium hydrogen reaction

ABSTRACT: The interaction between titanium and hydrogen was studied in the Laboratoriya elektrometallurgii tsvetny*kh metallov Leningradskogo politekhnicheskogo instituta (Nonferrous Electrometallurgical Laboratory of the Leningrad Polytechnical Institute). The absorption of hydrogen by titanium was studied in a small nickel cylinder placed in a tubular oven filled with hydrogen. Saturation of the titanium cathode by hydrogen during electrolysis of sulfuric acid with a lead anode was also tested. In addition, the decomposition of titanium hydride was investigated, and the tests of T. Gibb on titanium hydride dissociation tension were repeated. Results showed that the maximum content of hydrogen in titanium is 42.96 liters/100 g of the powder and 38.14 liters/100 g of the compact form. The temperature of the initial reaction with hydrogen is 330C, and the maximum saturation of titanium by hydrogen takes place in the interval 300-500C; the

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ACCESSION NR: AT4026276

saturation rate is limited by diffusion. The hydride begins to dissociate at 350-380C, with a maximum rate at 570-650C. Studies of the titanium hydride dissociation tension at 300-700C showed that desorption of hydrogen begins at 300C and hydride dissociation at 500C. At 25C, the free energy of formation and dissociation of titanium hydride is +10,100 cal/mol, the entropy is 22 cal/deg, and the thermal effect is 16,700 cal/mol. Orig. art. has: 7 figures and 4 tables.

ASSOCIATION: POLITEKHNICHESKIY INSTITUT, LENINGRAD (Leningrad Polytechnical Institute)

SUBMITTED: 00 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 005 OTHER: 008

Card 2/2

L 23836-65 EWT(m)/EPF(n)-2/EPR/T/EWP(t)/EWP(b) Pa-4/Pu-4 IJP(c) JD/JG
ACCESSION NR: AT4045608 S/2563/64/000/239/0193/0207

AUTHOR: Baymakov, Yu. V.; Polyakov, P. V.

TITLE: Crystallization of metals on a cathode during the electrolysis of molten salts

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 239, 1964. Elektrometallurgiya tsvetny*kh metallov (Electrometallurgy of nonferrous metals), 193-207

TOPIC TAGS: refractory metal, electrolytic coating, molten salt, platinum cathode, crystallization nuclei, surface activity

ABSTRACT: The development of a method of protective electrolytic coating without aqueous solution and the electrolytic production of Ti, Zn, Be and of other refractory metals, initialed the investigation of the primary stage of crystallization which is marked by the formation of nuclei. All tests were conducted in nitrate and chloride melts. A 99.99% Ag wire served as an anode. The platinum cathode was pickled in concentrated HNO_3, washed and dried. The kinetics of the nuclei formation on the cathode were determined from the concentration of the

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L 23836-65
ACCESSION NR: AT4045608

reducible cations, the temperature of the fusion, the surface conditions of the cathode and the current density. The decisive factor in the formation of crystallization nuclei is the effect of the surface-active ions in the fused salts. In highly concentrated fusions the rate of nuclei formation is controlled by the kinetics of a new phase that forms on the cathode surface, the atoms migrating on the cathode surface. In the case of low concentrations, the nuclei formation is conditioned by the kinetics of diffusion both in the fusion and on the cathode surface. During the electrolysis of fusions the characteristic constants of the fusing change their value regardless of the degree of concentration. These patterns change when adsorption occurs on the cathodeas in chloride fusions, in which nuclei with a submicroscopic structure were observed. The formation of crystals from nuclei is selective and takes place on those nuclei on which the currents concentrated either as a result of small surface curvature radii or, lower surface energy or under conditions of polarization that cause the desorption of surface-active ions. Orig. art. has: 14 figures and 2 tables

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NR REF SOV: 024 OTHER: 027

Card 2/2

BAYMAKOV, Yu.V.

Pavel Pavlovich Fedot'ev, 1864-1934. Trudy IPI no.239:5-15 '64.

Theory of the electrolytic refining of molten metals with liquid electrodes. Ibid.:70-81

(MIRA 17:10)

BARMAKOV, Yu.V.; [illegible], B.I.

Electrolytic deposition of chromium. Trudy LPI no.239:153-174 '64. (MIRA 17:10)

ACC NR: AP7005632 SOURCE CODE: UR/0413/67/000/002/0088/0088

INVENTOR: Baymakov, Yu. V.; Lebedev, O. A.; Tatakin, A. N.; Nechayev, V. M.; Khristyuk, G. P.

ORG: None

TITLE: A method for complex reprocessing of magnesium alloy scrap and waste. Class 40, No. 190573 [announced by the Solikamsk Magnesium Plant (Solikamskiy magniyevyy zavod)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 88

TOPIC TAGS: magnesium alloy, electrolytic refining

ABSTRACT: This Author's Certificate introduces: 1. A method for complex reprocessing of magnesium alloy scrap and waste. The procedure involves sorting, remelting to standard alloys, remelting in salt baths, electrolytic refining and vacuum sublimation. The quality of the resultant magnesium alloys is improved by using a part of the secondary metal obtained from the salt baths for the charge in smelting standard magnesium alloys and subjecting a part of this secondary metal to electrolytic refining by the three-layer method with subsequent extraction. The anode metal is subjected to vacuum sublimation. 2. A modification of this method in which the vacuum sublimation residue is used as an aluminum-copper base for making aluminum alloys while the condensate (magnesium-zinc) is used for making an anode alloy.

SUB CODE: 11/ SUBM DATE: 03Jul64

Card 1/1 UDC: 669.721.472-982:621.74.02

MITTEL'SHTEDT, A.A.; BAYMAN, L.K.; KARPINSKAYA, V.M.; KNYAZEVA, G.R.

Lipoproteins in the blood serum in different types of disorders of the cerebral circulation. Zhur. nerv. i psikh. 62 no.1:59-65 '62. (MIRA 15:4)

(LIPORROTEINS) (CEREBROVASCULAR DISEASES)

BAYMANOVA, Kh.M. (Karaganda)

Effect of novocaine on the development of chloramine-induced pulmonary edema. Pat.fiziol. i eksp.terap. 3 no.4:73 Jl-Ag '59. (MIRA 12:12)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. Ya.A. Lazaris) Karagandinskogo meditsinskogo instituta.
(PULMONARY EDEMA experimental)
(PROCAINE pharmacology)
(NITROGEN MUSTARDS pharmacology)

ABISHEV, Khasen; BAYMBETOV, M., red.; KUZEMBAYEV, A.I., tekhn. red.

[Popular astronomy] Khalyk astronomiiasy. Almaty, Kazak memleket baspasy, 1959. 319 p. (MIRA 15:3)
(Astronomy)

MUKHAMEDZHANOV, M., student; TURULINA, T., studentka; PAVLOVA, N., studentka; PARSHAKOVA, V., studentka; SUTBAYEV, S., student; SIDOROV, V., student; ANDRUSEVICH, V., student; BAYMENOV, A., student; ABRAMOVICH, B., student; MALINOVSKAYA, Ye., studentka; GUDOCHKINA, L.M., assistent

Mineralogical characterisitcs of loess of Alma-Ata Province. Sbor. nauch. trud. Kaz GMI no.19:159-163 '60. (MIRA 15:3)
(Alma-Ata Province--loess)

BAYMIKHAMBETOV, K.

Development of the lungs in lambs born at various times.
Trudy Inst. eksp. biol. AN Kazakh. SSR. 14:230-238 '64. (MIRA 18:4)

BAYMOV, N.I., insh.

Selecting an efficient electric drive and optimum reducing gear ratio for intermittent-duty mechanisms. Trudy Ural.politekh.inst. no.78:138-148 '60. (MIRA 14:5)
(Electric driving)
(Gearing)

BAYMOV, N.I., inzh.

Experimental investigation of the performance of a screwdown gear of the 1150 blooming mill. Trudy Ural.politekh.inst. no.78:111-137 '60. (MIRA 14:5)

(Rolling mills—Testing)

BAYMOV, N.I., inzh.

Optimum gear ratio and speed graph for the mechanism under intermittent-duty operating conditions with a specified electric motor. Trudy Ural.politekh.inst. no.101:124-143 '60. (MIRA 14:3)
(Rolling mills)

BAYMOV, U.A.

Some results of acclimitazation in fish culture in the Aral Sea.
Uzb. biol. zhur. no.4:62-66 '61. (MIRA 14:10)

1. Laboratoriya ikhtiologii Karakalpakskogo filiala AN UzSSR.
(ARAL SEA—FISHES) (ANIMAL INTRODUCTION)

BAYMOV, U.A.

Testes of the bullhead Bubyr caucasicus Berg. during the spawning period. Uzb. biol. zhur. 6 no.2:42-46 '62. (MIRA 15:4)

1. Karakalpakskiy gilial AN UzSSR.
(GOBIES)

BAYMOV, U.A.

Analysis of the ovaries of the "bubyr'" goby from the Aral Sea.
Uzb.biol.zhur. 6 no.4:63-68'62. (MIRA (16:7)

1. Karakalpakskiy filial AN UzSSR.
(ARAL SEA—GOBIES) (OVARIES)

BAYMOV, U.A.

Feeding habits of predatory fishes of the Aral Sea as related to the introduction of Caspian gobies. Vop. ikht. 3 no.2:304-310 '63. (MIRA 16:7)

1. Kara-Kalpakskiy filial AN UzSSR, Nukus.
(Aral Sea--Fishes--Food) (Aral Sea--Gobies)
(Aral Sea--Fish introduction)

BAYMOV, U.A.

Feeding habits of the Aral pike perch (Lucioperca lucioperca L.).
Zool. zhur. 43 no.8:1243-1246 '64. (MIRA 17:11)

1. Laboratoriya rybovodstva i melioratsii Karakalpakskogo filiala AN UzSSR, Nukus.

BAYMOV, U.A.

Characteristics of the distribution and replenishment of the "bubyr" goby stock during its acclimatization in the Aral Sea. Uzb. biol. zhur. 9 no.2:66-68 '65. (MIRA 18:5)

1. Karakalpakskiy filial AN UzSSR.

USSR/Farm Animals - Small Horned Cattle. Q-3

Abs Jour : Ref Zhur - Biol., No 18, 1958, 83396

Author : Baymukhambetov, K.

Inst : Alma-Ata Institute of Zoology and Veterinary Medicine.

Title : Embryogenesis of the Small Intestinal Section in Sheep.

Orig Pub : Tr. Alma-Atinsk. zoovet, in-ta, 1957, 10, 479-484

Abstract : The small intestine of 38 embryos and 6 lambs of Kazakh fine-fleeced and hybrid sheep was histologically examined. Structural changes determined by age are described. The author assumes that during the second half of embryogenesis ferments are liberated by scaling of degenerated epithelium tubules of the setules. These ferments realize the degestion of nutritional substances of amniotic fluids which have been swallowed by the fetus.

Card 1/1

BAYMUKHAMBETOV, K. Cand Biol Sci -- (diss) "Development of the gastrointestinal tract of sheep in embryogenesis." Alma-Ata, 1958. 19 pp (Min of Agr USSR. Alma-Ata Zoovet Inst), 150 copies (KL, 52-58, 100)

BAYBUKHAMEDOV, Kh.N.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Mineralogical and Geological Chemistry

Hydrothermal metamorphism of the Kochkarli limestone. Kh. N. Baimukhamedov. *Doklady Akad. Nauk Uzbek. S.S.R.* No. 12, 19-21(1949).—A report on some of the problems of mineralization in the hydrothermally metamorphosed limestones and lamprophyres of the Kochkarli region. Strata represented in the sedimentary rock, from bottom to top, are: (1) series of lamellar limestones, (2) dark greenish sandstone, talcous-chlorite, (3) slaty black lamellar limestone, and (4) light gray and white marbleized limestone. The occurrence of cassiteritic mineralization is closely connected with different types of altered rock and adapted to the zone of hydrothermal mineralization. It develops in the form of fine disseminations and fillings in shattered fissures of altered rocks. The carbonate-cassiteritic type of mineralisation seems to be very rare, and for Central Asia it is new.

Gladys S. Macy

BAYMUKHAMEDOV, Kh. M.

"Geological Prerequisites for Searching for Carbonate-Cassiterite Deposits in Central Asia," Razvedka i Okhrana Nedr, No. 9, pp 5-9, 1954

SO: W-31429, 2 Sep 55

BAYMUKHAMEDOV, Kh.M.

Age of lamprophyres of the Zirabulak Hills in western Uzbekistan. Zap.Uz.otd.Vses.min.ob-va no.6:33-40 '54. (MLRA 9:12)

1. Kafedra poleznykh iskopayemykh Sredneaziatskogo politekhnicheskogo instituta.

(Zirabulak Hills--Lamprophyres)

15-57-5-6181

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 70 (USSR)

AUTHOR: Baymukhamedov, Kh. N.

TITLE: Genetic Types of Dolomitized Rocks in the Zirabulak-Ziaetdinskiye Gory (Mountains) (Western Uzbekistan) /Geneticheskiye tipy dolomitizirovannykh porod Zirabulak-Ziaetdinskikh gor (Zapadnyy Uzbekistan)/

PERIODICAL: Tr. Sredneaz. politekhn, in-ta, Tashkent, Gosizdat, UzSSR, 1955, pp 54-57.

ABSTRACT: The Zirabulak-Ziaetdinskiye Mountains are composed of Upper Silurian shales, sandstones, and limestones, and also of igneous rocks belonging to the Variscan phase of magmatism. Certain horizons of the sedimentary beds consist of tabular dolomites and associated dolomitized limestones. Veins, larger masses, and irregular lenses of dolomitized limestones, containing ankerite, occur in fractures, faults, and other disturbed zones within carbonate layers in the region where intrusive rocks are

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Genetic Types of Dolomitized Rocks in the Eirabulak- (Cont.)

found. Various types of metasomatic rocks and ore mineralization (cassiterite and galena) are associated with these dolomitized zones. The dolomitic limestones are of sedimentary origin, whereas the dolomitized limestones are of post-magmatic hydrothermal origin.

O. I. Z.

BAYMUKHAMEDOV, Kh.N.; MATSOKINA, T.M.; SALOV, P.I.; URAZAYEV, B.M.; KHAMRABAYEV, I.Kh.; CHEKUNOV, V.S.

Letter to the editor. Izv. AN SSSR Ser.geol.21 no.3:111-114 Mr '56. (Ore deposits) (MLRA 9:7)

BATALOV, A.B.; BAYMUKHAMEDOV, Kh.N.; GAR'KOVETS, V.G.; ISAMUKHAMEDOV, I.M.; KUCHUKOVA, M.S.; MALAKHOV, A.A.; MATSOKINA, T.M.; MIRKHODZHAYEV, I.M.; MUSIN, R.A.; PETROV, N.P.; TULYAGANOV, Kh.T.; KHAMRABAYEV, I.Kh.

Winner of the Lenin Prize. Uzb.geol.zhur. no.2:94-96 '59.
(MIRA 12:8)
(Abdullaev, Khabib Mukhamedovich)

BAYMUKHAMEDOV, Kh.N.

Role of the Zirabulak-Ziaetdin mountains in the metallogenetic history of western Uzbekistan. Uzb.geol.zhur. no.1:3-8 '60.
(MIRA 13:6)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut geologii i mineral'nogo syr'ya.
(Uzbekistan--Ore deposits)

BAYMUKHAMEDOV, Kh.N.

Subvolcanic dikes in the Zirabulak-Ziaetdin mountains and their association with the formation of gold ore deposits. Uzb. geol. zhur. no.2:58-63 '60. (MIRA 13:10)

1. Sredneaziatskiy politekhnicheskiy institut.
(Uzbekistan--Dikes (Geology))
(Uzbekistan--Gold ores)

BAYMUKHAMEDOV, Kh.N.; VOL'FSON, F.I.; ZAKIROV, T.Z.; KOROLEV, V.A.; KREYTER, V.M.; KUSHNAREV, I.P.; LUKIN, L.I.; NEVSKIY, V.A.; NIKIFOROV, N.A.; PEK, A.K.; RUSANOVA, O.D.; SONYUSHKIN, Ye.P.; CHERNYSHEV, V.F.; SHEKHTMAN, P.A.

Aleksei Vasil'evich Korolev; obituary. Geol. rud. mestorozh. no.4:134-135 Jl-Ag '60. (MIRA 13:8)
(Korolev, Aleksei Vasil'evich, 1897-1960)

KOROLEV, A.V.; KHAMRABAYEV, I.Kh., doktor geol.-min. nauk, glav. red.; BATALOV, A.B., kand.geol.-min. nauk, zam. glav. red. [deceased]; BAYMUKHAMEDOV, Kh.N., doktor geol.-min. nauk, red.; BYKOV, L.A., red.; GAR'KOVETS, V.G., red.; KHLOBUSTOV, A.A., kand. geol.-min. nauk, red.; TERNOVSKAYA, R.M., red.; GOR'KOVAYA, Z.P., tekhn. red.

[Select works] Izbrannye trudy. Tashkent, Izd-vo AN UzSSR. Vol.1. 1963. 499 p. (MIRA 16:12)
(Ore deposits)

BAYMUKHAMEDOV, Kh.N.

Genetic formations of tin deposits in the Zirabulak-Ziaetdin Mountains. Uzb.geol.zhur. 7 no.1:5-14 '63. (MIRA 16:4)

1. Tashkentskiy politekhnicheskiy institut.
(Uzbekistan—Tin ores)

BAYMUKHAMEDOV, Kh.N.; ZAKIROV, T.Z.; ARIFDZHANOV, T.Kh.; KURBANOV, A.S.

Geology and conditions governing the distribution of mineralization of some gold-ore deposits in Uzbekistan. Uzb. geol. zhur. 7 no.3:11-18 '63. (MIRA 16:11)

1. Tashkentskiy politekhnicheskiy institut.

ABDULLAYEV, Kh.M.; MUSIN, R.A., kand. geol.-min. nauk, otv. red.; MAVLYANOV, G.A., akademik, glav. red.; BAYMUKHAMEDOV, Kh.M., doktor geol.-min. nauk, red.; KHAMRABAYEV, I.Kh., doktor geol.-min. nauk, red.; BORISOV, O.M., kand. geol.-min. nauk, red.; GOR'KOVOY, O.P., kand. geol.-min. nauk, red.; KUCHUKOVA, M.S., kand. geol.-min. nauk, red.; MATSOKINA, T.M., kand. geol.-min. nauk, red.; SPEKTOR, L.Ye., red.

[Collected works] Sobranie sochinenii. Tashkent, Nauka, Uzbekskoi SSR. Vol.3. 1964. 448 p. (MIRA 18:2)

1. Akademiya nauk Uzbekskoy SSR (for Mavlyanov).

ABDULLAYEV, Khabib Mukhamedovich, laureat Leninskoy premii, akademik (1912-); MAVLYANOV, G.A., akademik, glav. red.; BAYMUKHAMEDOV, Kh.N., doktor geol.-miner. nauk, prof., otv. red. toma; KHMRABAYEV, I.Kh., doktor geol.-miner. nauk, red.; BORISOV, O.M., kand. geol.-miner. nauk, red.; GOR'KOVOY, O.P., kand. geol.-miner. nauk, red.; KUCHUKOVA, M.S., kand. geol.-miner. nauk, red.; MATSOKINA, T.M., kand. geol.-miner. nauk, red.; MUSIN, R.A., kand. geol.-miner. nauk, red.; PETROV, N.P., kand. geol.-miner. nauk, red.; LYUBETSKAYA, R.Kh., red.; NURATDINOVA, M.R., red.

[Collected works] Sobranie sochinenii. Tashkent, Izd-vo "Nauka" UzSSR. Vol.1. 1964. 493 p. (MIRA 17:6)

1. AN Uzbekskoy SSR i chlen-korespondent AN SSSR (for Abdullayev). 2. AN Uzbekskoy SSR (for Mavlyanov).

BAYMUKHAMEDOV, Kh.N.; ZAKIROV, T.Z.; SADYKOVA, A.S.

Characteristics of the concentration of molybdenum in postmagmatic deposits in some ore regions of Uzbekistan. Uzb. geol. zhur. 8 no.1: 7-12 '64. (MIRA 18:5)

1. Tashkentskiy politekhnicheskiy institut.

BAYMUKHAMETOV, I.

More on foreman's role in construction. Sots. trud 6 no. 1:135 Ja '61. (MIRA 14:1)

1. Nachal'nik otdela kadrov, truda i zarabotnoy platy Stroytresta No. 146.
(Bashkiria--Construction industry)

BAYMUKHAMETOV, K.S.; KINZIKEYEV, A.R.

Features of the development of a coal-bearing series in the Aleksandrov Area. Nefteprom. delo no.6:5-8 '64.
(MYRA 17:9)

1. Neftepromyslovoye upravleniye "Tuymazaneft'" i Tatarskiy neftyanoy nauchno-issledovatel'skiy institut.

NUGAYEV, R.Ya.; BAYMUKHAMETOV, K.S.

Simultaneous-separate exploitation of two strata in one well in the Tuymazy oil field. Neft. khoz. 42 no.7:64-66 Jl '64. (MIRA 17:8)

SALIMZHANOV, E.S.; BELOV, A.M.; PELEVIN, L.A.; ROSTE, Z.A.; GAZIZOV, Z.S.; BAYMUKHAMETOV, K.S.; VALEYEV, F.V.; RUSSKIKH, V.N.

Maximum overall petroleum yield of a flooded well. Izv.vys.ucheb. zav.; neft' i gaz 5 no.12:39-44 '62. (MIRA 17:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika Gubkina.

BAYMUKHAMETOV, K.S.; RUSSKIKH, V.N.

Determination of the total yield of oil field fluids. Neft. khoz. 40 no.7:40-43 Jl '62. (MIRA 17:3)

BAYMUKHAMETOV, K.S.; NUGAYEV, R.Ya.

Certain features in the completion of the Tournesian producing object in the Aleksandrovka Area of the Tuymazi oil field. Neftepром. delo no.7:10-12 '64. (MIRA 17:8)

1. Neftepromyslovoye upravleniye "Tuymazaneft'".

BAYMUKHAMETOV, K.S.; KISLYAKOV, Yu.P.; NUGAYEV, R.Ya.

Developing a pool of high-viscosity petroleum in a coal-bearing horizon in the Aleksandrovskiy region of the Tuymazy oil field. Nefteprom. delo no.10:19-23 '64.

(MIRA 17:12)

1. Neftepromyslovoye upravleniye "Tuymazaneft'".

BAYMUKHAMETOV, K.S.; NUGAYEV, R.Ya.; KISLYAKOV, Yu.P.; DEMIN, N.V.; RUSSKIKH, V.N. [deceased]

Determining the distribution of liquid from specific weight in beam wells. Neftepром. delo no.10:25-27 '64.
(MIRA 17:12)

1. Neftepromyslovoye upravleniye "Tuymazaneft'".

NUGAYEV, R.Ya.; BAYMUKHAMETOV, K.S.

Investigation of wells simultaneously separately exploiting two horizons. Neftepром. delo no.6:9-11 '65.

(MIRA 18:10)

1. Neftepromyslovoye upravleniye "Tuymazaneft'".

28667
S/020/61/140/002/012/023
B104/B102

24.5200

AUTHORS: Kim, Ye. I., and Baymukhanov, B. B.

TITLE: Temperature distribution in a piecewise homogeneous semi-infinite plate

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 2, 1961, 333-336

TEXT: The authors obtain a function $u(x,y,t)$ continuous in the region $D(x \geq 0;\ -\infty < y < +\infty;\ 0 \leq t \leq t_0)$ and satisfying the equation $\partial u/\partial t = a^2(y)(\partial^2 u/\partial x^2 + \partial^2 u/\partial y^2)$ $(x > 0,\ y \neq 0,\ 0 < t < t_0)$. Here, $a^2(y) = a_1^2$ for $y < 0$, and $a^2(y) = a_2^2$ for $y > 0$. The initial condition reads: $u(x,y,t)|_{t=0} = f(x,y)$; the boundary condition: $u(x,y,t)|_{x=0} = \psi(y,t)$. Furthermore, $u(x,-0,t) = u(x,+0,t)$: $k_1 \partial u(x,-0,t)/\partial y = k_2 \partial u(x,-0,t)/\partial y$, where k_1 and k_2 are positive constants. The solution is found in a class of functions which satisfy the inequality $\max_{0 \leq t \leq t_0} |u(x,y,t)| < M_0 e^{\delta^2 r^2}$,

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Temperature distribution in ...

where M_0 and δ are constants; $r = \sqrt{x^2 + y^2}$, and t_0 is a constant satisfying the inequality $0 < t_0 < 1/4a_0^2\delta^2$, $a_0 = \max(a_1, a_2)$. The solution of the problem is obtained in the form

$$y < 0: \quad u(x, y, t) = \int_0^t d\tau \int_{-\infty}^{+\infty} \frac{x\varphi(\eta, \tau)}{4\pi a_1^2 (t-\tau)^2} \exp\left[-\frac{x^2 + (y-\eta)^2}{4a_1^2 (t-\tau)}\right] d\eta + \tag{13}$$

$$+ \int_0^t d\tau \int_{-\infty}^{+\infty} \frac{\psi_1(\xi, \tau)}{2\pi (t-\tau)} \exp\left[-\frac{(x-\xi)^2 + y^2}{4a_1^2 (t-\tau)}\right] d\xi +$$

$$+ \int_{-\infty}^{+\infty} d\xi \int_{-\infty}^{+\infty} \frac{f_0(\xi, \eta)}{4\pi a_1^2 t} \exp\left[-\frac{(x-\xi)^2 + (y-\eta)^2}{4a_1^2 t}\right] d\eta;$$

for $y < 0$, and

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Temperature distribution in ...

$$y>0:\quad u(x,y,t)=\int_0^t d\tau\int_{-\infty}^{+\infty}\frac{x\varphi(\eta,\tau)}{4\pi a_2^2(t-\tau)^2}\exp\left[-\frac{x^2+(y-\eta)^2}{4a_2^2(t-\tau)}\right]d\eta+$$
$$+\int_0^t d\tau\int_{-\infty}^{+\infty}\frac{y\psi_2(\xi,\tau)}{4\pi a_2^2(t-\tau)^2}\exp\left[-\frac{(x-\xi)^2+y^2}{4a_2^2(t-\tau)}\right]d\xi+ \qquad (14)$$
$$+\int_{-\infty}^{+\infty}d\xi\int_{-\infty}^{+\infty}\frac{f_0(\xi,\eta)}{4\pi a_2^2 t}\exp\left[-\frac{(x-\xi)^2+(y-\eta)^2}{4a_2^2 t}\right]d\eta,$$

for $y>0$. There are 2 Soviet references.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute imeni V. I. Lenin)
Kazakhskiy pedagogicheskiy institut im. Abaya (Kazakh Pedagogical Institute imeni Abay)

PRESENTED: May 4, 1961, by I. M. Vinogradov, Academician

SUBMITTED: May 4, 1961

Card 3/3

S/136/63/000/004/003/004
E193/E383

AUTHORS: Zelenskaya, L.I. and Baymukanova, R.A.

TITLE: Treatment of converter dusts with recovery of rhenium

PERIODICAL: Tsvetnyye metally, no. 4, 1963, 83 - 84

TEXT: The paper reports the results of tests on experimental plant designed for efficient purification of converter gases and recovery of rhenium. The plant consisted of two cyclons working in parallel, first and second dry electrofilters, and a wet electrofilter. The plant ensured catchment of 96.75% of the converter dusts and recovery of 95.75% of the rhenium content of the converter charge. An analysis of the dusts and slimes obtained is given in the table. The optimum treatment of these products comprised: 1) soda leaching of the cyclon dusts with 83.2% Re recovered in the solution; 2) acid leaching of the dusts from the dry electrofilters, ensuring recovery of 91% Re, up to 97% Zn, 84% Cd and approximately 80% Cu in the solution; 3) leaching out the valuable components from the wet electro-filter slimes by a process combining leaching and wet dust-catching;
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S/136/63/000/004/003/004
E193/E383

Treatment of ....

4) recovery of Re from the leaching solutions by the adsorption method. There is 1 table.

Key to table: 1 - component; 2 - dust from the cyclons; 3 - dust from dry electrofilters; 4 - composition, %; 5 - dust from wet electrofilters.

(1) Компонент	(2) Пыль циклонов	Пыли сухих электрофильтров (3)		Шламы мокрого электрофильтра
		I	II	
		(4) содержание, %		
Zn	1,59	6,66	6,55	0,43
Cu	40,5	0,64	0,69	0,28
Pb	14,7	53,36	55,33	63,23
Cd	0,055	0,25	0,27	0,14
Re	0,008	0,03	0,023	0,006
As	0,06	0,25	0,27	0,15
Sb	0,0015	0,003	0,003	0,004

Card 2/2

BAYMURADOV, K.; ROGAYEVSKIY, Ya.; TSVETKOVA, S.V., tekhn.red.

[Turkmen S.S.R.; a concise account of its economy and culture] Turkmenskaia SSR; kratkii ocherk ekonomiki i kul'tury. Moskva, Izd-vo vostochnoi lit-ry, 1958. 22 p. (MIRA 12:4)
(Turkmenistan--Economic conditions)