

SHEMBEL', B.K.; OSTROUMOV, B.A., prof., red.; YANOVSKIY, B.M., prof.,
otv.red.; DVORAKOVSEAYA, A.A., tekhn.red.

[Studying the equivalent resistance of quartz resonators] Issle-
dovanie ekvivalentnogo soprotivleniya kvartseвого resonatora.
Leningrad, Izd. VNIIM, 1948. 56 p. (Leningrad, Vsesoyuznyi nauchno-
issledovatel'skii institut metrologii. Trudy, no.2) (MIRA 11:10)
(Oscillators, Crystal)

KRAMP, L.I.; KUZNETSOV, N.P.; OSTROUMOV, B.A.

Equipment for studies in the infrared regions of spectra. Trudy
(MIRA 11:6)
VNIIM no.16:23-41 '61.
(Spectrum, Infrared) (Optical instruments)

IOSEY, O. V., OSTROUMOV, B. (Prof.) SHLYAPINTSEV, I. (Engineer)

Losev, Oleg Vladimirovich, 1900-1942

Inventor of "crystodine." Radio no. 5, 1952.

9. Monthly List of Russian Abstracts. Library of Congress. August 1952. 2

Category : USSR/Electronics - Semiconductor devices and photoelectronics
APPROVED FOR RELEASE: 06/15/2000 **CIA-RDP86-00513R001238510007-4**

Abstr Jour : Ref Zhur - Fizika, No 1, 1952, No 1, 1954

Author : Ostroumov, B.A., Roginskij, V.Yu.
Title : Semiconductor Devices.

Orig Pub : 60 let radio. M., Svyaz'izdat, 1952, 210.

Abstract : Survey article on the theory and technology of manufacture of semiconductor and semiconductor devices. The latest types of semiconductor devices such as the insulated transistor with electric-field control and the semiconductor tetrode are briefly described and mention is made of a germanium diode with photoelectric control. The accomplishments of Soviet scientists in the development and application of photocells and photoresistors to radio engineering and automation are mentioned. The advantages of the use of semiconductors in certain circuits are briefly examined.

BONCH-BRUYEVICH, Mikhail Aleksandrovich, inzhener; PISTOL'KORS, A.A.;
VOLOGDIN, V.P. [deceased]; KUGUSHEV, A.M., professor; NIKITIN, N.A.,
professor; OSTROUMOV, B.A., professor; OSTBYAKOV, P.A., professor
[deceased]; BONCH-BRUYEVICH, A.M., dotsent; ZENDEL', P.Ye.,
tekhnicheskiy redaktor

[A collection of works] Sbranie trudov. Moskva, Izd-vo Akademii nauk
SSSR, 1956. 526 p. (MLRA 9:10)

1. Chlen-korrespondent AN SSSR (for Bonch-Bruyevich, M.A., Pistol'kors,
Vologdin)

(Radio)

(Bonch-Bruyevich, Mikhail Aleksandrovich, 1888-1940)

OSTROUMOV, B.A.

The V.I. Lenin Nizhni Novgorod Radio Laboratory as the cradle of
Soviet radio engineering. Radiotekhnika 13 no. 6: 26-30 My 1968.
(MIRA 11:6)

1. Deystvitel'nyy chlen Vsesoyuznogo nauchno-tekhnicheskogo obshchestva
radiotekhniki i elektrosvyazi im. A.S. Popova.
(Gorkiy--Radio)

OSTROUMOV, B. A.,

[Transactions of the] Conference on the Occasion of the 50th Anniversary of the Nizhniy-Novgorod Radio Laboratory (Izvestiya)

V. I. Lenin (22-24 May, at Gor'kiy) (Radiotekhnika, 13+8, 71-9, 1958)

K. M. Kosikov reported in short on two important discoveries of M. A. Borch-Bruevich in the field of the propagation of radio waves (1932-1933).-

A. A. Pistoikovs, B. A. Ostroumov, N. N. Izotov, and V. I. Ge spoke about the Tver' radio station as well as of the Nizhniy-Novgorod Radio Laboratory.

The participants in the conference visited the laboratory establishments of the NIRFI at Gor'kiy State University where they became acquainted with the observations made according to the program of the International Geophysical Year.

Aboard the motor ship "Ukraine" by which the participants in the conference sailed to Gor'kiy a readers' conference of the periodical "Radiotekhnika" was held. It was arranged by the Chief Editor M. R. Reznikov and the First Editor R.D. Mel'nikovskaya. M. R. Reznikov spoke about the activity of the editorial staff. Ya. M. Scrin (Moscow) stressed the fact that the periodical supplies only little information on the problems turning up in industry. I. M. Kogan (Moscow) was of opinion that more articles concerning applied theory should be dealt with. A. V. Boydanov (Leningrad) suggested to publish a special

Card ~~1/2~~

DOLINSKIY, Ye.F.; AGALETSKIY, P.N.; GAYEVSKIY, N.A.; LASSAN, V.L.; OSTROUMOV, B.A.;
SMOLICH, S.A.; STEPANOV, L.P.; YABOVSKIY, B.M.

Metrological activities in the field of mechanical measurements.
Trudy.VNIIM no.33:39-59 '58. (MIRA 11:11)

1. Rukovoditel' otдела mekhanicheskikh izmereniy Vsesoyuznogo nauchno-
issledovatel'skogo instituta metrologii imeni D.I. Mendeleeva (for
Dolinskiy)

(Measurement)

Micrometallurgy

S/025/60/000/08/02/003

size, excellent for metal ceramics. Ulitovskiy was assisted in his work by V.A. Shpirnov, S.D. Bogoslovskiy and staff of the Institut metallurgii imeni Baykova Akademii nauk SSSR (Institute of Metallurgy imeni Baykov at the Academy of Sciences of the USSR). Method II consisted in preparing the wire in a liquid state within a protective envelope of glass. Assisted by engineer Yu. V. Denisov, Ulitovskiy designed a micro-furnace using a high-frequency heater (30 kw/cm^3) capable of melting tungsten or molybdenum. A small piece of metal is placed in a glass tube and fitted in the heater. The metal melts and then melts the glass which can then be drawn out into a fine capillary containing molten metal. This is cooled by air or water into fine glass-insulated wire which is wound onto a spool. The thickness can be varied from 2 to 300 microns and more, with insulation 1 micron thick. With a diameter of 50-60 microns and less the wire and insulation is quite flexible, while above this diameter the brittleness of the glass coating can be offset by heating the wire to 400-600°C before use, when the glass becomes quite plastic. The wire can be made of manganese, copper, bronze or iron. N.M. Averin has been successful in developing the technology of wire-drawing from these metals, and several wire-drawing devices have been designed. Ulitovskiy's apparatus, designed at the Institute of Metallurgy at the Academy of Sciences of the USSR, can be seen facing page 16, while a

Card 2/3

S/025/60/000/08/02/15

Micrometallurgy

second device was exhibited at the 1959 Soviet Exhibition in New York. The super-fine wire has made possible the production of miniature transformers, relays and resistances, which can be sealed in glass under a high vacuum to improve their efficiency, reliability and independence from the external medium. Since the glass conducts heat away from the wire quite efficiently the wire can stand temperatures up to 600-800°C, making it useful in devices used in hot furnaces or in the chemical industry. Thanks to this, it can also withstand a 2-3-fold current overloading and is therefore useful in transformers for high-frequency equipment, giving a 4-5-fold saving in size and a 100-fold saving in weight. Using the wire, engineer D.V. Timashev has increased the sensitivity of mirror galvanometers to weak currents 1,000-fold, while Candidate of Technical Sciences B.K. Zavarikhin has designed a galvanometer with a damping period of 0.01 sec, leading to the development of simple and cheap electrocardiographs. The wire gives even, good-quality windings with little danger of a breakdown in insulation. If the winding or coil is heated steadily at 400-600°C, the glass insulation fuses into a homogeneous, well-insulated structure with no need for a form or carcass. There are 4 sets of diagrams.

Card 3/3

OSTROUMOV, B.A.

Radio engineering in Russia in the period after A.S. Popov (1859-
1912). Trudy Inst. ist. est. i tekhn. 44:233-256 '62. (MIRA 18:3)

OSTROUM V, B.A., prof.

The first application of radi in geodesic work beyond the polar
circle (1921-1924). Izv. vys. ucheb. zav.; radiotekh. 6 no.3:
320-322 My-Je '63. (MIRA 16:9)
(Polar regions--Radio in surveying)

OSTRUMOV, B.A.

Nizhny Novgorod Radiolaboratory

... covering ...
 ... personally ...
 ... later ...
 ... later joined ...
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 ... the following ...
 ... the first ...
 ... and some young students, among them ...
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Nizhniy Novgorod Radiolaboratory

1941-1942

... V. I. ... V. V. ... 1925 came to ...
... A. and ... G. ... V. A. ...
... N. G. ... G. ...
... - for the consolidation of the scientific-
... basis of industry the laboratory was ...
... of the ... **Council of the National Economy** ...
... the ... was ...
... of the ... part of **Electronics**

Library of Congress

1. Basic engineering--Development--USSR

PERFIL'YEV, Boris Vasil'yevich; GABE, Dina Ruffinovna; OSTROUMOV, B.A., prof.,
otv. red.; VIKHREV, S.D., red. izd-va; ZAMARAYEVA, E.A., tekhn.red.

[Capillary methods of studying micro-organisms] Kapillarnye metody
izucheniia mikroorganizmov. Moskva, Izd-vo Akad. nauk SSSR, 1961.
534 p. (MIRA 14:5)

(Soil micro-organisms)

OSTROUMOV, B.A., prof. (Leningrad)

Micrometallurgy. Nauka i zhizn' 27 no.8:10-16,37 48 '60.
(MIRA 13:9)

(Ulitskii, Aleksei Vasil'evich, 1893-1957)
(Metallurgy)
(Wire drawing)

ACC NR: AP7002973 (4) SOURCE CODE UR.0413/66/0007024/0559.1.1.1

INVENTOR: Kotrelev, V. N.; Ostroumov, B. D.; Opolovenkov, A. F.; Krasnov, V. A.

ORG: none

TITLE: Method of preparing a chemical composition from fluoroplast 40.
Class 39, No. 189571

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24,
1966, 69

TOPIC TAGS: plastic, teflon, polytetrafluoroethylene, fluorocarbon ~~plastic resin~~
~~fluoroplast~~

ABSTRACT: An Author Certificate has been issued for a method of preparing a composition based on ftoroplast-40 (an unidentified fluorocarbon plastic). The technological properties of the composition are improved by adding up to 10% of polytetrafluoroethylene to the ftoroplast-40 during processing. [Translation]

[NT]

SUB CODE: 11/SUBM DATE: 18Dec64/

Card 1/1

UDC: 678.743.41-139

MAKSIMOV, Vasilii Mikhailovich, dotsent, kand.geologo-miner.nauk; ASATUR, K.G., dotsent, kand.tekhn.nauk; DAVIDOVICH, V.I., dotsent, kand.tekhn.nauk; ALBUL, S.P., kand.geologo-miner.nauk; PAUKER, B.S., inzh.-gidrogeolog; OSTROUMOV, B.P., gidrotekhnik; ZAYTSEV, I.K., doktor geologo-miner.nauk; TOLSTIKHIN, N.I., prof., doktor geologo-mineral.nauk; REZNIKOV, A.A., kand.khim.nauk, starshiy nauchnyy sotrudnik; MERSHALOV, A.P., assistant; VOROTYNTSEV, V.T., dotsent, kand.tekhn.nauk; MARKOV, I.A., dotsent, kand.geologo-miner.nauk; KERKIS, Ye.Ye., dotsent, kand.geologo-miner.nauk; KHITROV, I.N., inzh.-geolog; BOROVITSKIY, V.P., kand.geologo-miner.nauk; RAVDONIKAS, O.V., kand.geologo-miner.nauk; ONIN, N.M., kand.geologo-miner.nauk; BASKOV, Ye.A., inzh.-gidrogeolog; NOVOZHILOV, V.N., dotsent, kand.geologo-miner.nauk; PEKEL'NIY, I.S., inzh.-gidrogeolog; NEVEL'SHTEYN, Yu.G., inzh.-gidrogeolog; BOSKIS, S.G., inzh.-gidrotekhnik; NIKIFOROV, Ye.M., inzh.-gidrogeolog; GATAL'SKIY, M.A., prof., doktor geologo-miner.nauk, nauchnyy red.; DOLMATOV, P.S., vedushchiy red.; GENAD'YEVA, I.M., tekhn.red.

[Hydrologist's handbook] Spravochnoe rukovodstvo gidrogeologa.
Leningrad, Gos.nauchno-tekh.izd-vo neft. i gorno-toplivnoi lit-ry,
Leningr.otd-nie, 1959. 336 p. (MIRA 12:4)

1. Vsesoyuznyy geologicheskii nauchno-issledovatel'skiy institut
(for Reznikov).

(Hydrology)

OSTROUMOV, B.P.

Electric level recorder for measuring the dynamic water level in
wells. Zap.Len.gor.inst.32 no.2:148-152 '56. (MLRA 10:2)
(Water, Underground) (Electric measurements)

ZHELTOV, P.I., dotsent; OSTROUMOV, B.P.

Instrument for determining the filtration factor in rocks under
pressure. Zap.Len.gor.inst.32 no.2:153-155 '56. (MLRA 10:2)
(Hydraulics)

OSTROUMOV, B.P.

Automatic recording instrument for observations on underground
water levels in bore holes. Zap. LGI 34 no.2:148-153 '58.

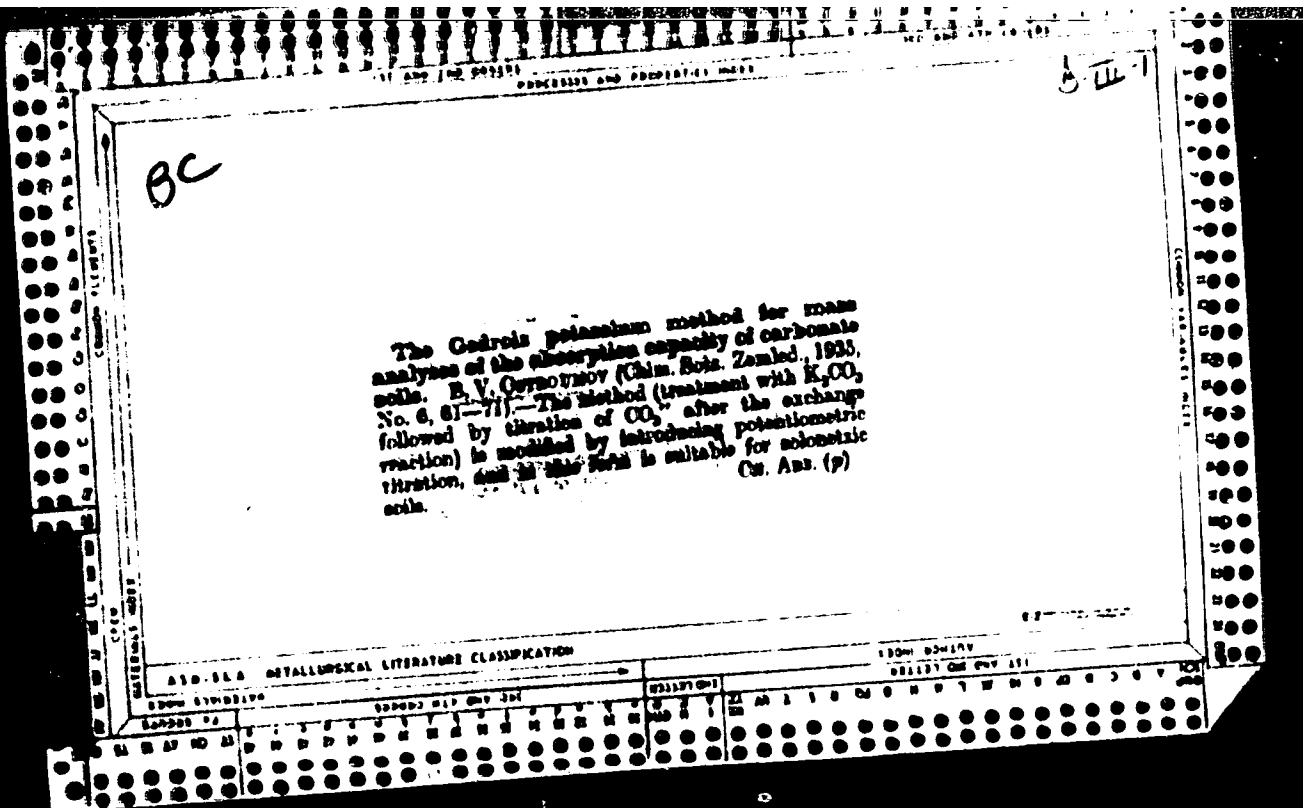
(MIRA 12:6)

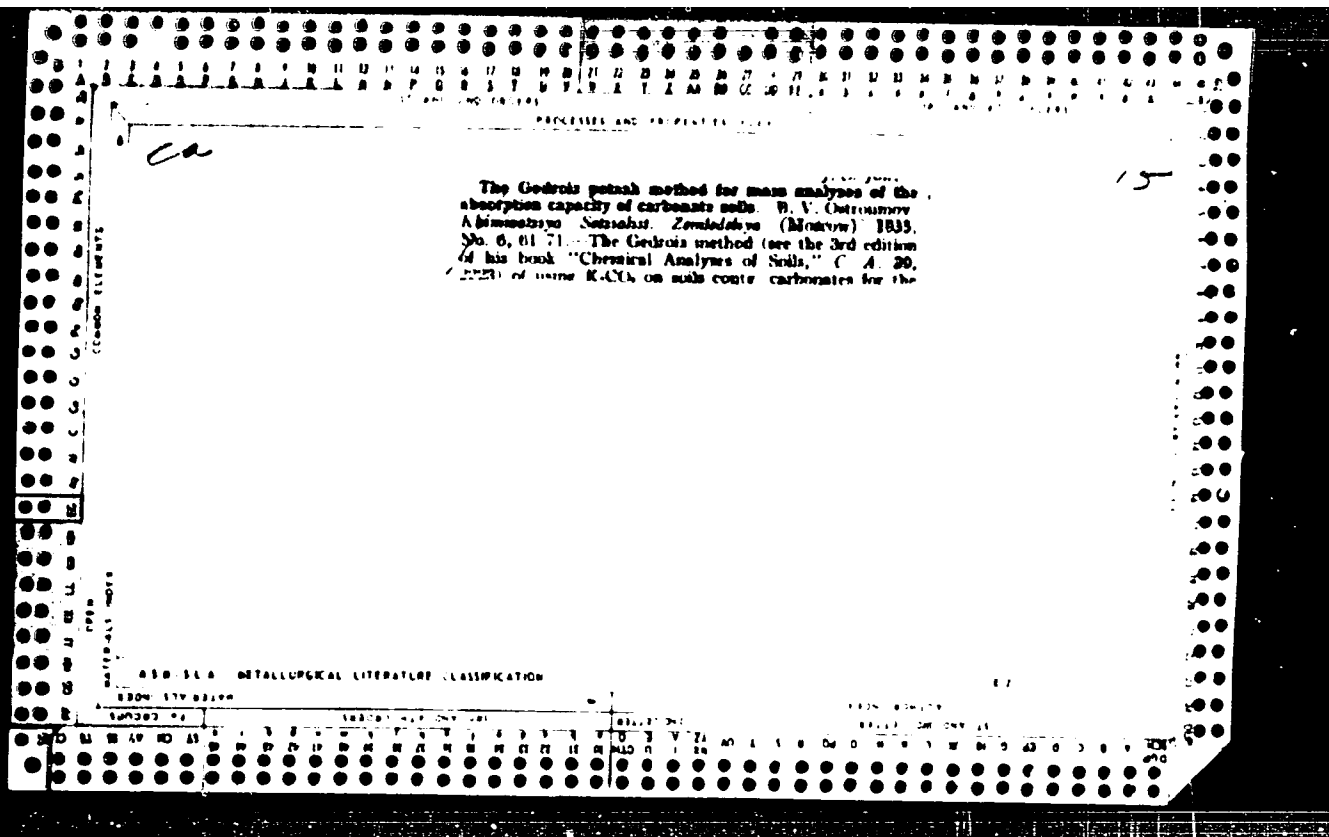
(Water, Underground) (Liquid level indicators)

GSTROUNOV, B.V. (deceased)

Characteristics of Chernozem meadow soils in the Mayma Valley (Gorno-
Altay Province) [with French summary in insert]. Pochvovedenie no.6:110-
124 Je '56. (MIRA 9:10)

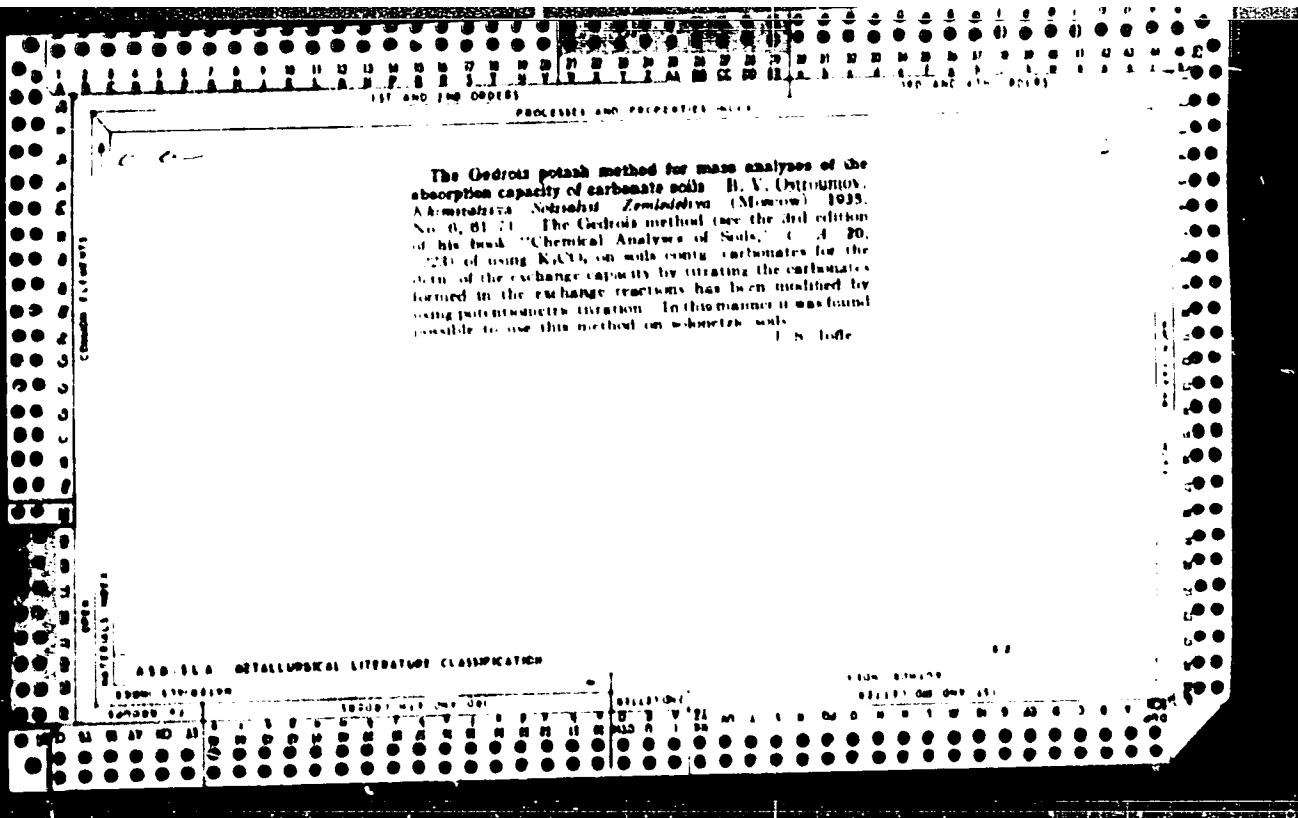
(Mayma Valley--Chernozem soils)

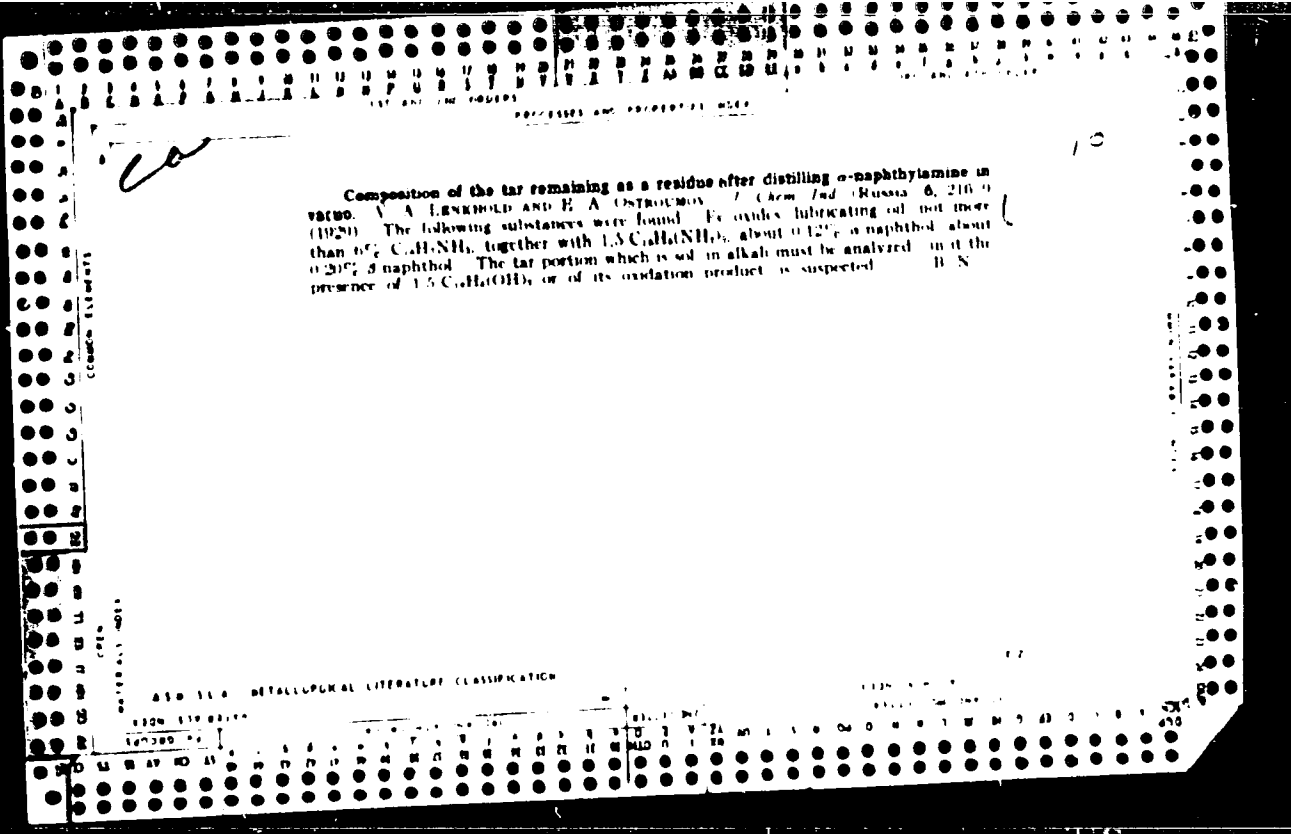


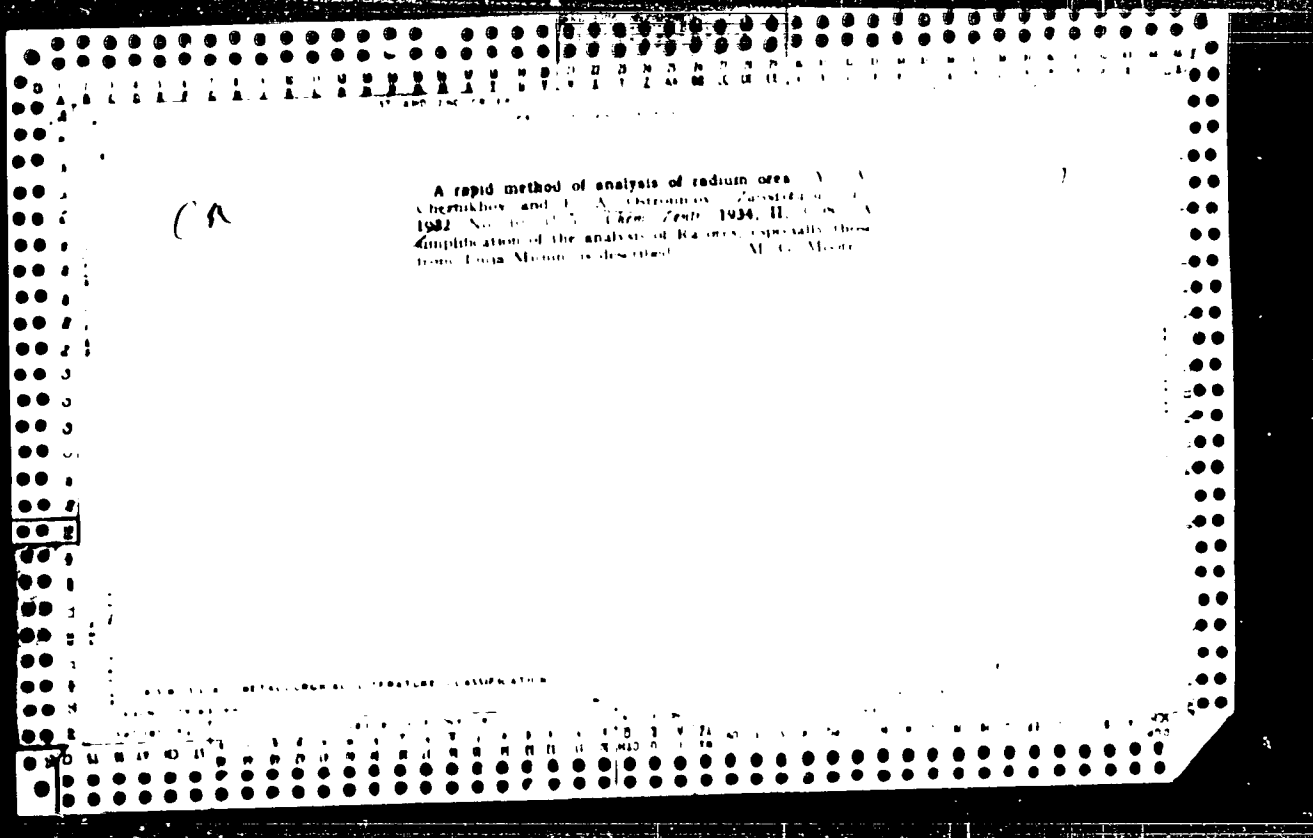


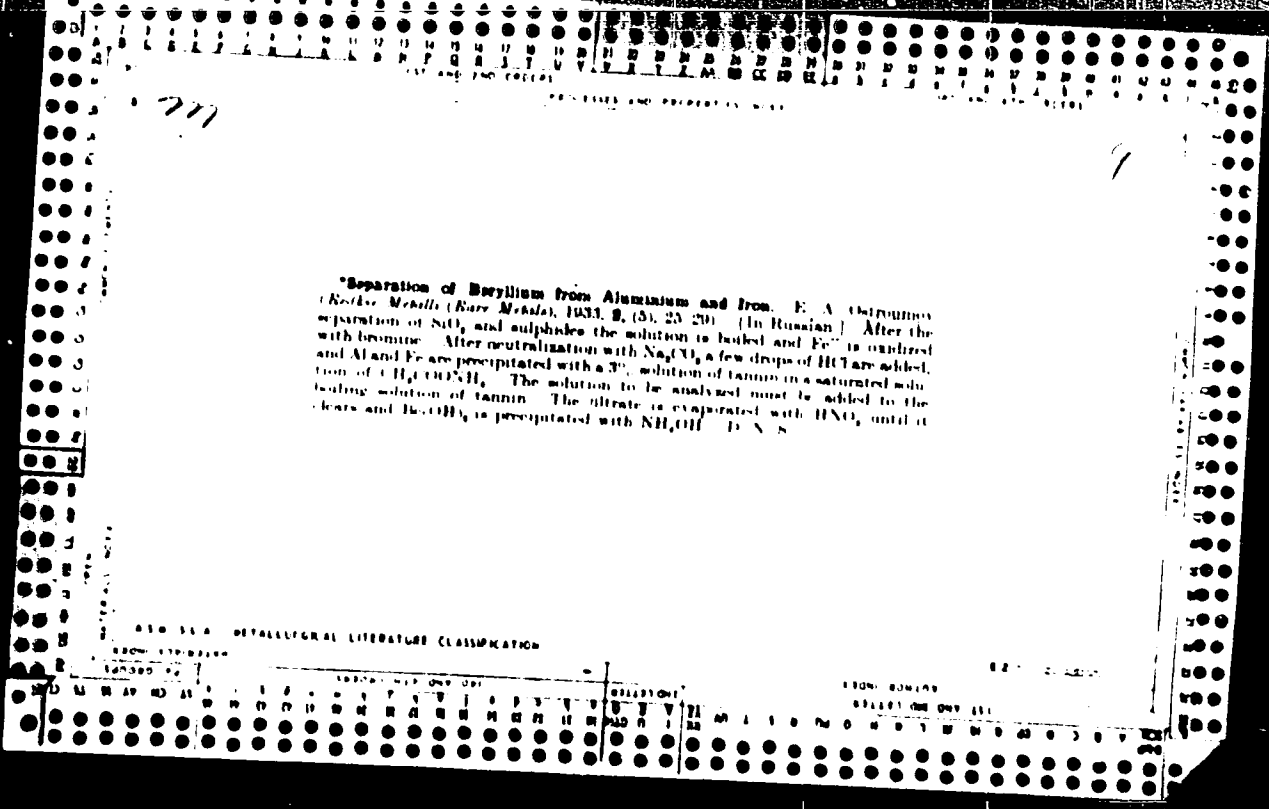
ОСТРОВУМОВ, В. В.

Characteristics of chernozem-meadow soil of the Irtysh
valley (mountainous Altai region). B. V. Ostrov-
umov. Pochvedenie 1936, No. 6, 110-24. This soil is rich
in org. matter, 14.8%, approaching in this respect the heavy
chernozem soils, and exceptionally rich in N and P, 0.83
and 0.3%, resp. Data are presented on the total analysis
of a 180-cm. profile of this soil variety, compn. of H₂O ext.,
exchange capacity, exchangeable Ca, Mg, and H, pH,
mobile P and K, as well as the mech. compn. I. S. J.



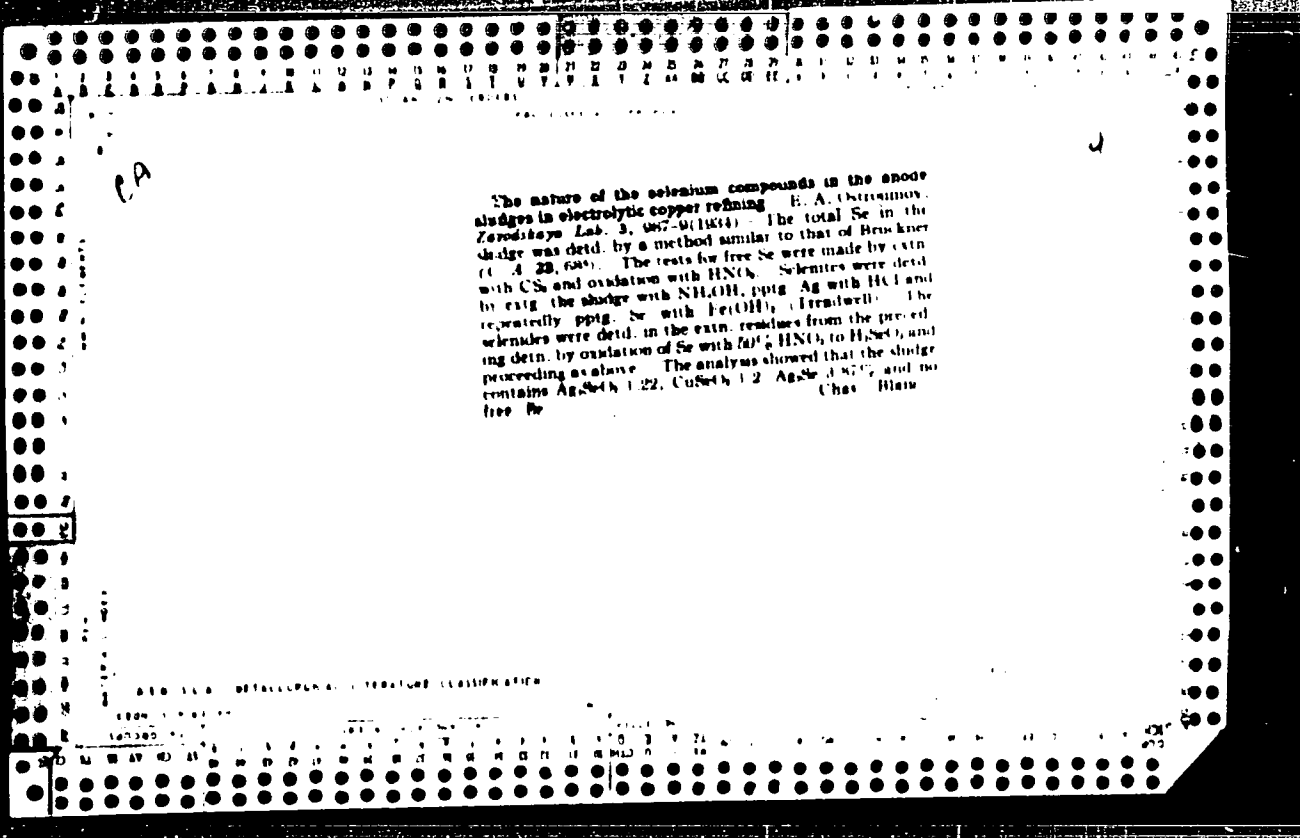


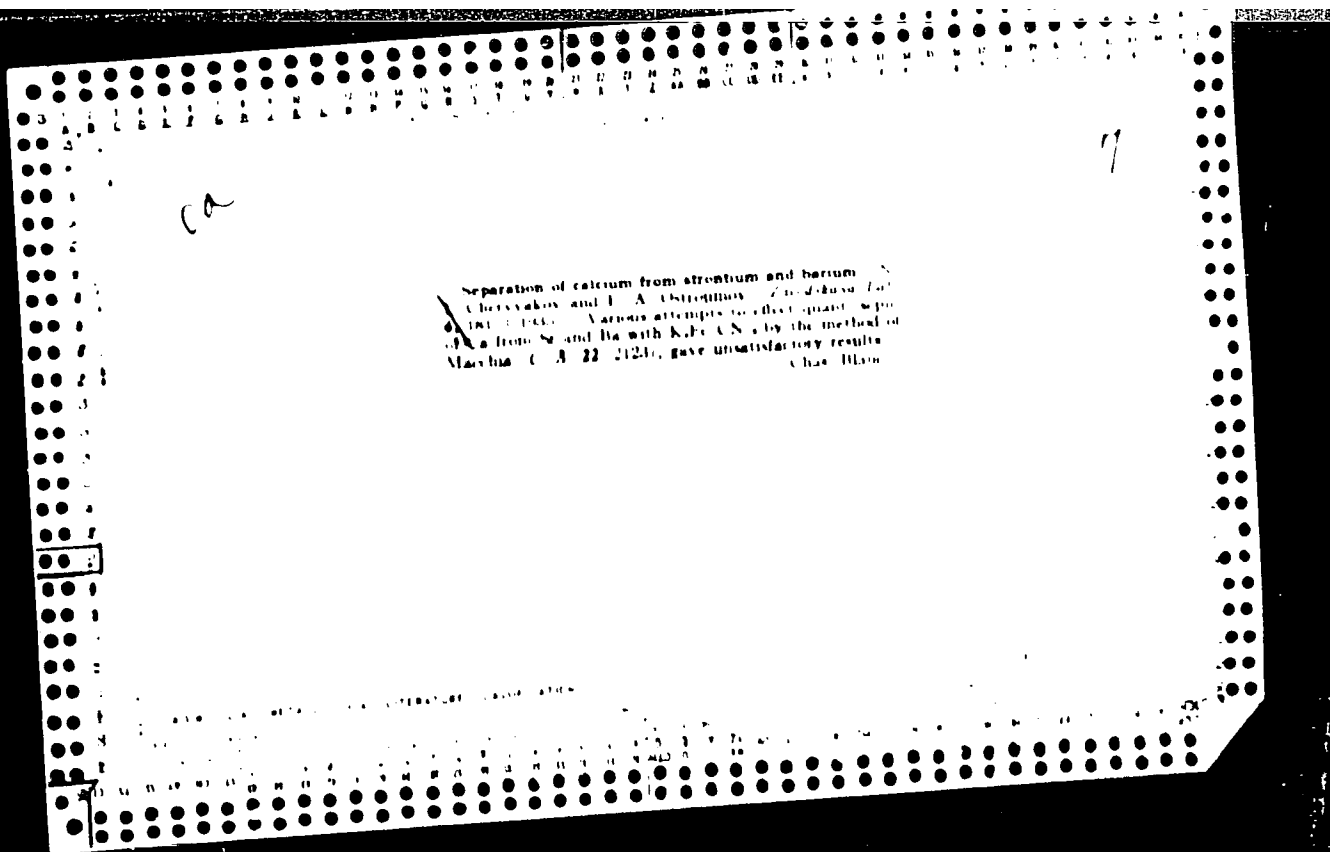




Determination of minute quantities of vanadium in uranium preparations. N. I. Chervakov and B. A. Ostranov. *Zhurnal Khim. Fiz.* 31, 541 (1958).

Colorimetric determination is based on the reaction of V with HCl or H₂SO₄ salt of p-H₂N₂(H₂N)CO₂ with the formation of Wurster's red. A similar color reaction is obtained with p-C₆H₄NH₂ (Katakouzos, *J. Chem. Soc.* 1927, 1011). The color, fugitive in H₂O, is stabilized with a large excess of alcohol. The salts give a similar color reaction and are converted into ineffective complex compounds with glycerol and H₂PO₄. V was determined in an artificial mixture of 0.1 g/l V, 0.1 g/l V₂O₅ and 0.0012 g/l FeCl₃ with an accuracy of 0.0001 g V₂O₅ or better. Dissolve 0.2 g of V₂O₅ or FeCl₃ in 10 cc H₂O, add 5-6 drops of 20% HCl, 0.5 cc H₂PO₄, 40 cc alcohol, 1.4 cc glycerol, mix, dissolve any turbidity with a min. of HCl, add 1 cc of 0.2% and compare with the standard solution prepared in the same way with p-C₆H₄NH₂ by adding a titrated solution of V₂O₅ until the 2 colors match. (Chas. Blatt)





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COMMON ELEMENTS
M A Z N O C U S
P S
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12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300

MATERIALS MORE

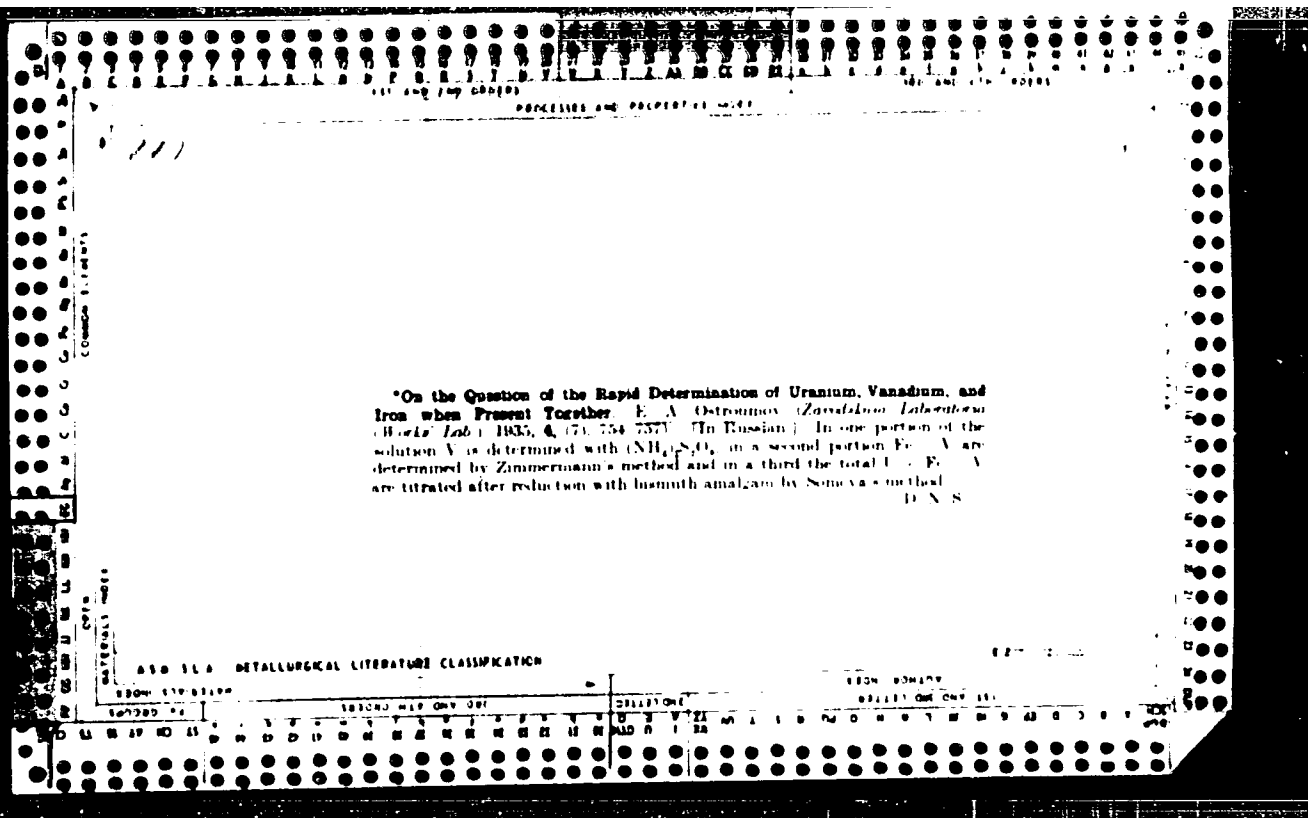
ASD-514 METALLURGICAL LITERATURE CLASSIFICATION

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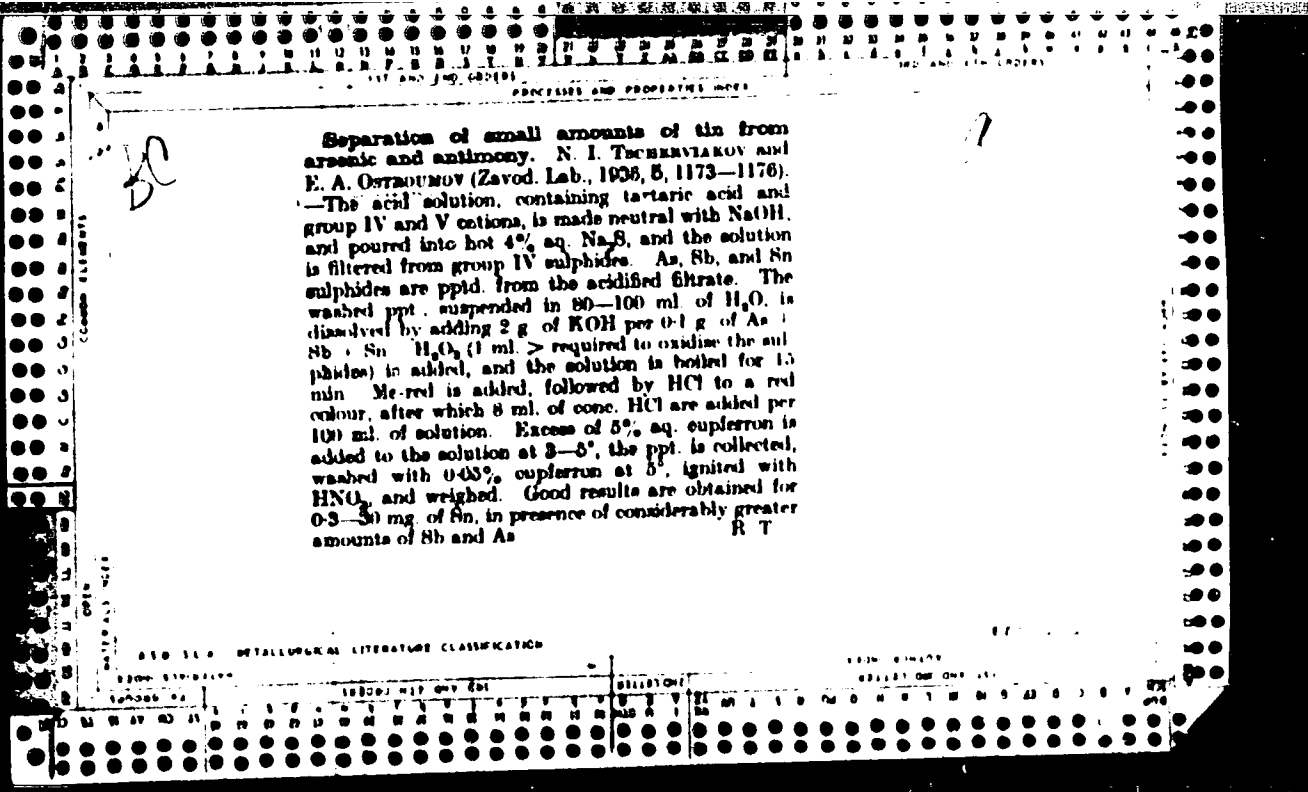
***On the Question of the Composition of Titanium Nitride. E. A. Ostrovnov**
(Zavodskaya Laboratoriya (Works' Lab), 1933, 8, (3), 506-508) [In Russian]
Analysis of specimens of titanium nitride gave values corresponding with, in one case, Ti₂N₃, and in another with Ti₃N₄. [Note by Abstractor: The results may be vitiated by the presence of more than one compound or of solid solutions in the specimens examined.] D. N. S.

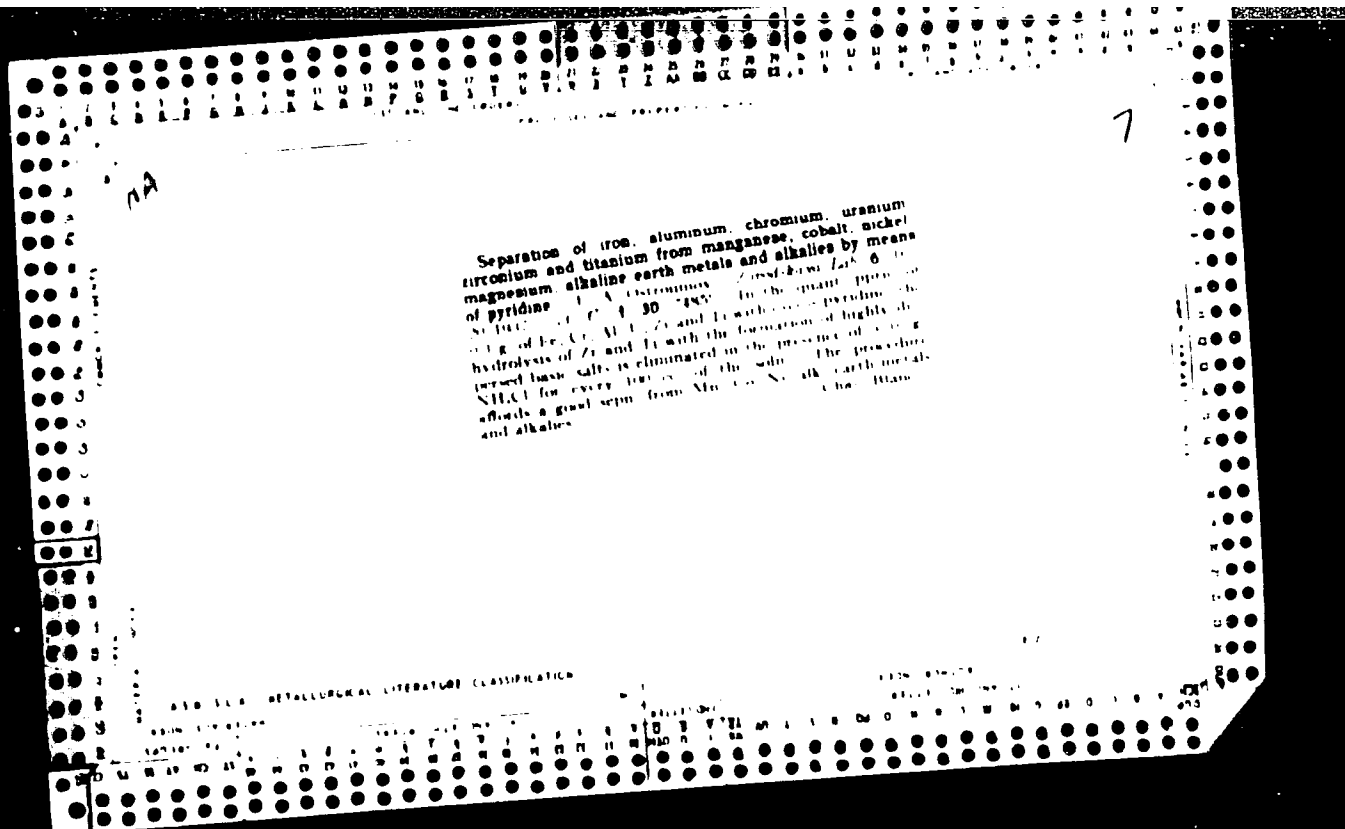


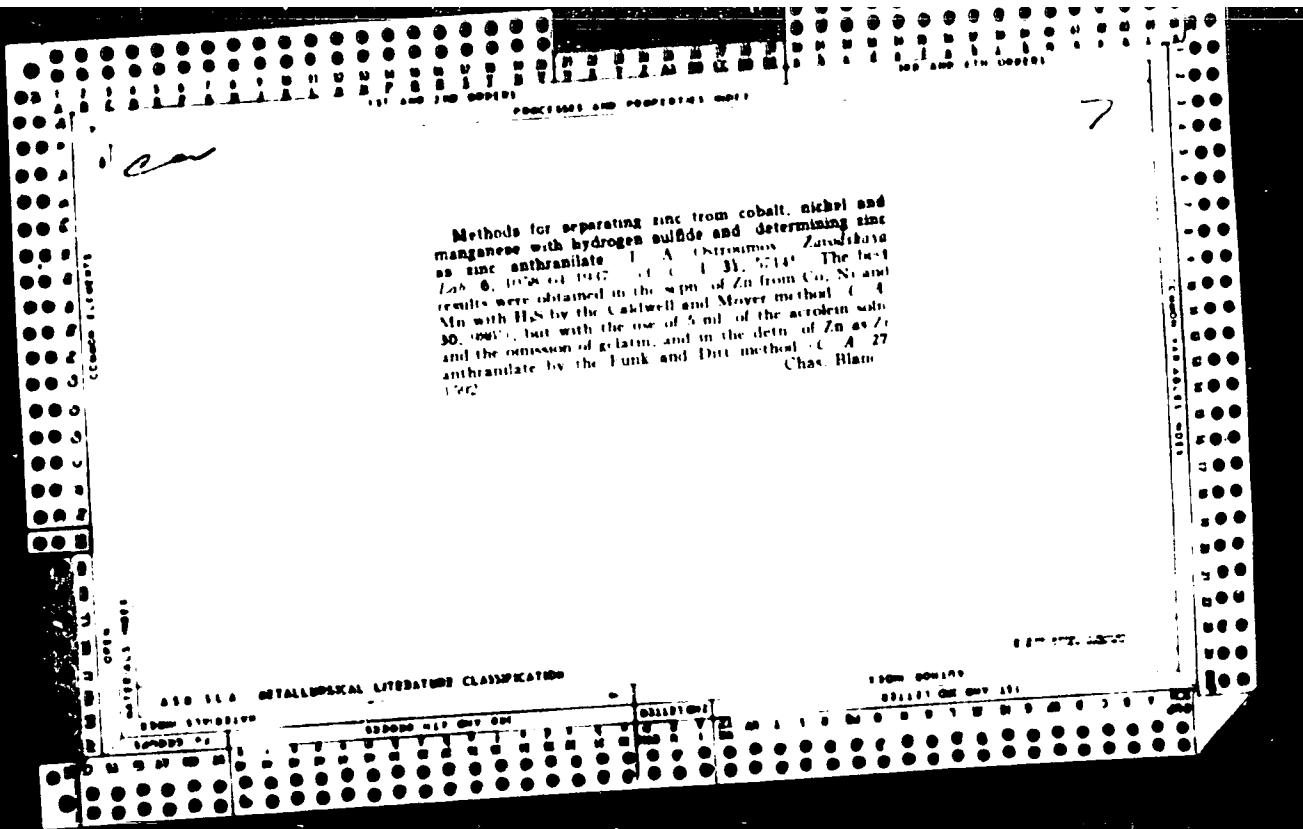
9

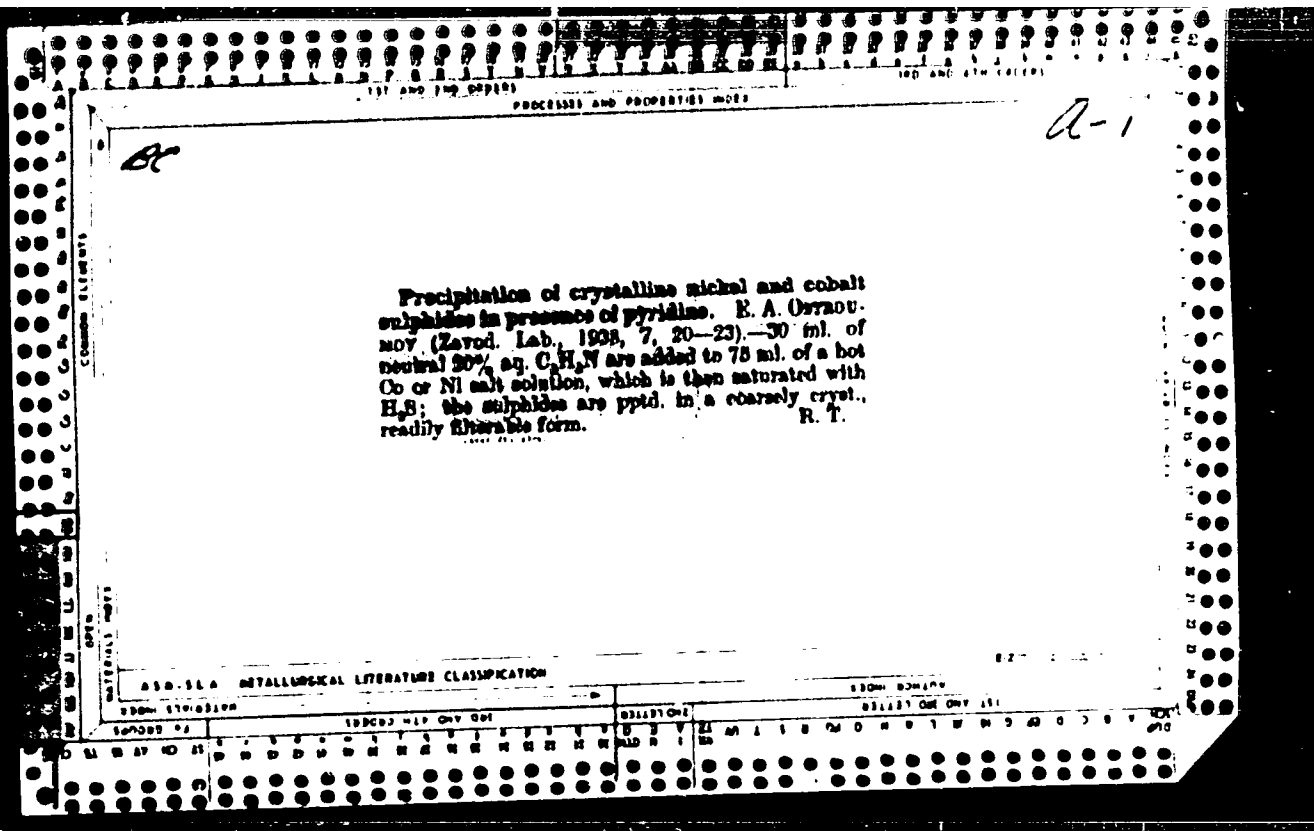
**On the Separation of Bismuth from Lead and Copper* E. A. Ostroumov
(Zavolzhskaya Laboratoriya (Works' Lab.), 1935, 6, (9), 1016-1020) (In Russian)
 The following methods for separating Bi from Pb were studied with synthetic mixtures: (1) hydrolysis of the Bi salt with (a) $KBrO_3$ and KBr , (b) $HClO_4/Na_2CO_3$, (c) precipitation with pyrazolol, (2) precipitation with cupferron. Method (1a) was the most reliable and method (1b) the least satisfactory. Method (1c) can also be used for separating Bi from Cu; good results are also obtained by converting the Cu into a cyanide complex and precipitating the Bi with alkali. The basic carbonate method is unsatisfactory. D. N. S.

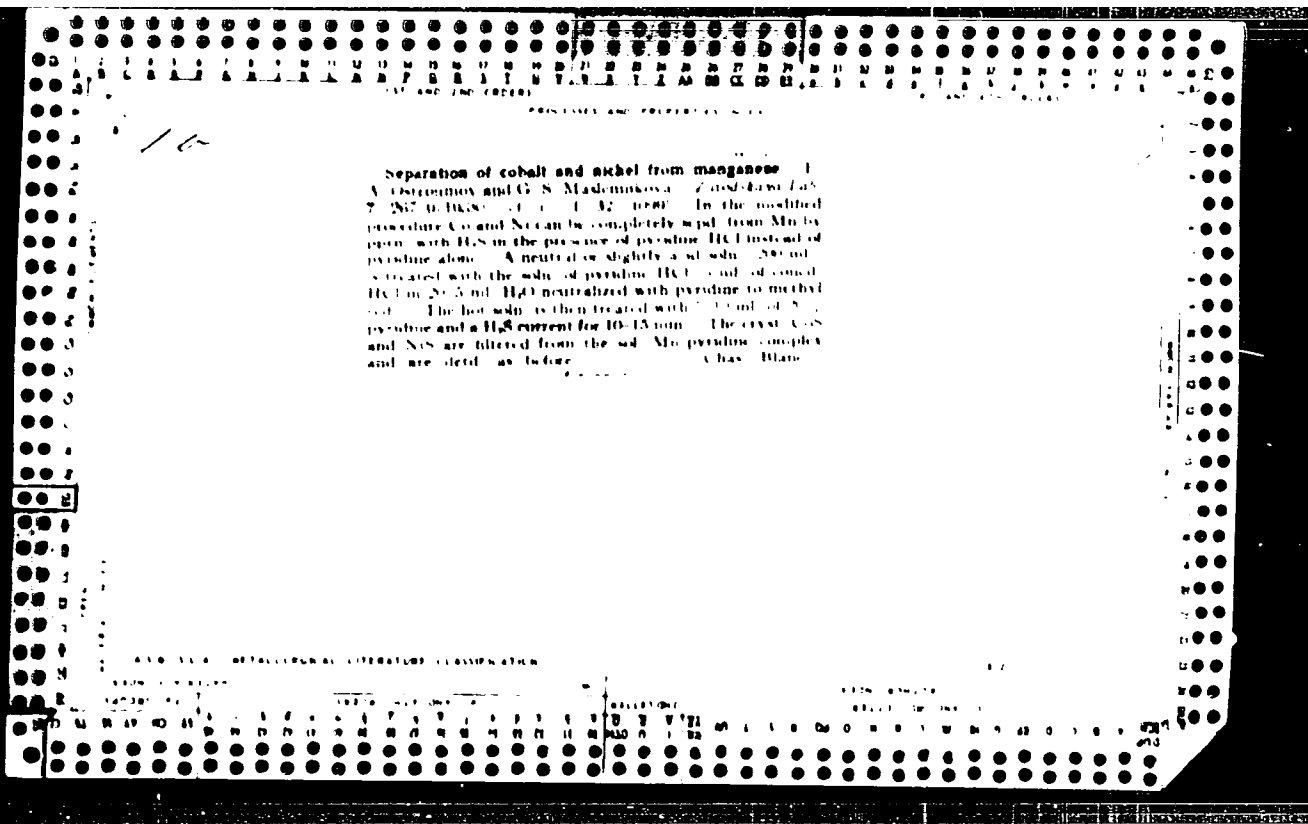
ADD SLA METALLURGICAL LITERATURE CLASSIFICATION











Precipitation of manganese in a crystalline state by hydrogen sulfide in the presence of hexamethylenetetra-
mine V. A. Ostroimov *Zavodskaya Lab.* 7, 1243 (1938) If a slightly acid soln is treated with 2 g hexa-
methylenamine (for max 0.5 g Mn) and then the soln at 0° is acid with H₂S, an orange-red ppt. of MnS is obtained which is easily filterable. The MnS can be calcined and analyzed by any known method. Alkalies and alk. earths are detd. in the filtrate from MnS. In the analysis of ores Co and Ni are pptd. as sulfides with pyridine and H₂S (C. I. 32, 8080) and the filtrate is used for detg. Mn after the pyridine is driven off. Chas. Blanc

ASAC 55A METALLURGICAL LITERATURE CLASSIFICATION

CA

Precipitation of uranium with hydrogen sulfide in the presence of utrotropine. I. A. Gaidamirov and R. I. Hanshtein. *Zh. radiofiz. i khim.* 8, 528 (1969). Heat 100 ml of nearly neutral UO_2Cl_2 soln in a 250-ml flask to 60°, add 2 g of $C_6H_5N_3$, and pass in H_2S for 15 min and then for 15-20 min more with the flask on the hot plate. Shake frequently, cool, allow the ppt to settle for 15 min, filter, wash with 0.5% NH_4NO_3 contg 2-3 drops of NH_3 , 2-3 ml, and ignite to U_2O_7 . For 0.1000 g of UO_2 in the sample the results showed 0.0491 g of the red ppt. H_2O is believed to be $UO_2 \cdot 2H_2O$. The reaction is $UO_2 + 2H_2S \rightarrow UO_2 \cdot 2H_2O + 2H_2$ and shows negligible adsorption. The reaction can be used to separate U , Mg and alkalies with satisfactory results. 307 K. (1969)

277

Separation of Bismuth from Lead, Copper, and Cadmium with the Aid of Pyridine. E. A. Ostrovskiy (*Zerod. Lab. (Works' Lab.), 1939, 2, 1226-1229, C. Abt., 1940, 34, 5779*).—(In Russian.) The separation is based on precipitation with a mixture of pyridine and its nitrate. Heat 100 ml. of the solution containing Bi, Cd, and Cu to about 60° C. and neutralize gradually with 10% NH_3 . Then add concentrated HNO_3 dropwise until the solution is clear, add 5-8 gm. NH_4NO_3 , heat to boiling, remove from burner, and while shaking add dropwise 20 ml. of the reagent, which is prepared by mixing 20 ml. of 6N HNO_3 or 15 ml. 8N HNO_3 with 34 ml. pyridine, and diluting to 100 ml. Heat to boiling, allow to settle for 20-40 minutes, and filter without cooling. Wash the precipitate with a hot solution of 3% NH_4NO_3 containing 1% by volume of the precipitant. Dissolve the precipitate in hot 6N HNO_3 diluted with an equal amount of water, collect in a 15 cc. cup and evaporate to dryness on a water bath. Moisten the residue with 1-2 ml. water, add 5-10 drops of 10% NH_3 , and evaporate to dryness. Repeat this process so that the pyridine is completely removed. Ignite gradually and weigh as Bi_2O_3 . If less than 0.1 gm. Pb is present it is not necessary to reprecipitate the Bi. The method gives good results.

ANALYTICAL CHEMISTRY LITERATURE CLASSIFICATION

ea

New method for separating ions of the third group from calcium, magnesium and alkali ions by means of bydrogen sulfide in the presence of hexamethylenetetramine
 F. A. Gerasimov and R. I. Boushteln, *Zhurnal Khim. Pril.* 9, 135 (1949) — The pptn. is based on the pptn. of gradually increasing pH. The sample should contain not over 0.5-1.0 g. of the third group elements called as oxides. Add 20-25 g. NH_4Cl , neutralize with NH_3 to cloudiness, dissolve the ppt. with a few drops of HCl , and dil. to 15-20 ml. Add macerated paper pulp, heat to 60° , add dropwise, while shaking, 6 ml. of pyridine hydrochloride, and introduce H_2S . After 10-15 min. add dropwise, while shaking, 35 ml. of a 20% $(\text{CH}_3)_6\text{N}_4$ soln., transfer to a hot plate and continue passing in H_2S for 45-60 min. without boiling. Remove from the hot plate and pass in H_2S until the soln. has cooled to room temp. Filter and wash with slightly ammoniacal 3% NH_4NO_3 . Acidify wash with slightly ammoniacal 3% NH_4NO_3 . Acidify with HNO_3 to methyl red and evap. to 20-25 ml. Destroy the org. matter with HNO_3 , dil. with water and det. the Ca and Mg in the usual manner. Det. the alkalis as sulfates by evapn. with H_2SO_4 , after the org. compds. have been destroyed. The method is useful for the analysis of Mn ores and similar products. B / K

150 11.6 DETAILERIAL LITERATURE CLASSIFICATION

7

New method of precipitating metal sulfides with aqueous hydrogen polysulfide. E. A. Ostrogonov and G. S. Maslennikova. *Zhurnal Khim. Fiz.* 20:1940. Add 5 ml of 10% HCl to 10 ml of chloride or sulfate soln of the metals, pour filter paper pulp, add 10 ml polysulfide, stopper and shake strongly. Remove the stopper, heat on an elec. plate with frequent shaking without bringing to boiling. Filter, wash with cold water and sep. the metals by the usual methods. The pptn. of quinquevalent As is very slow and it is preferably reduced to the trivalent state with SnCl₂. In the presence of Mo it is advisable to make the soln. more acid and to increase the length of heating to 1.5-2 hrs. After the sepn. of the sulfide of Mo the soln. should be dil'd to ppt. the other sulfides. The sulfides thus obtained can be washed with dist. water. (U.S.S.R.)

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

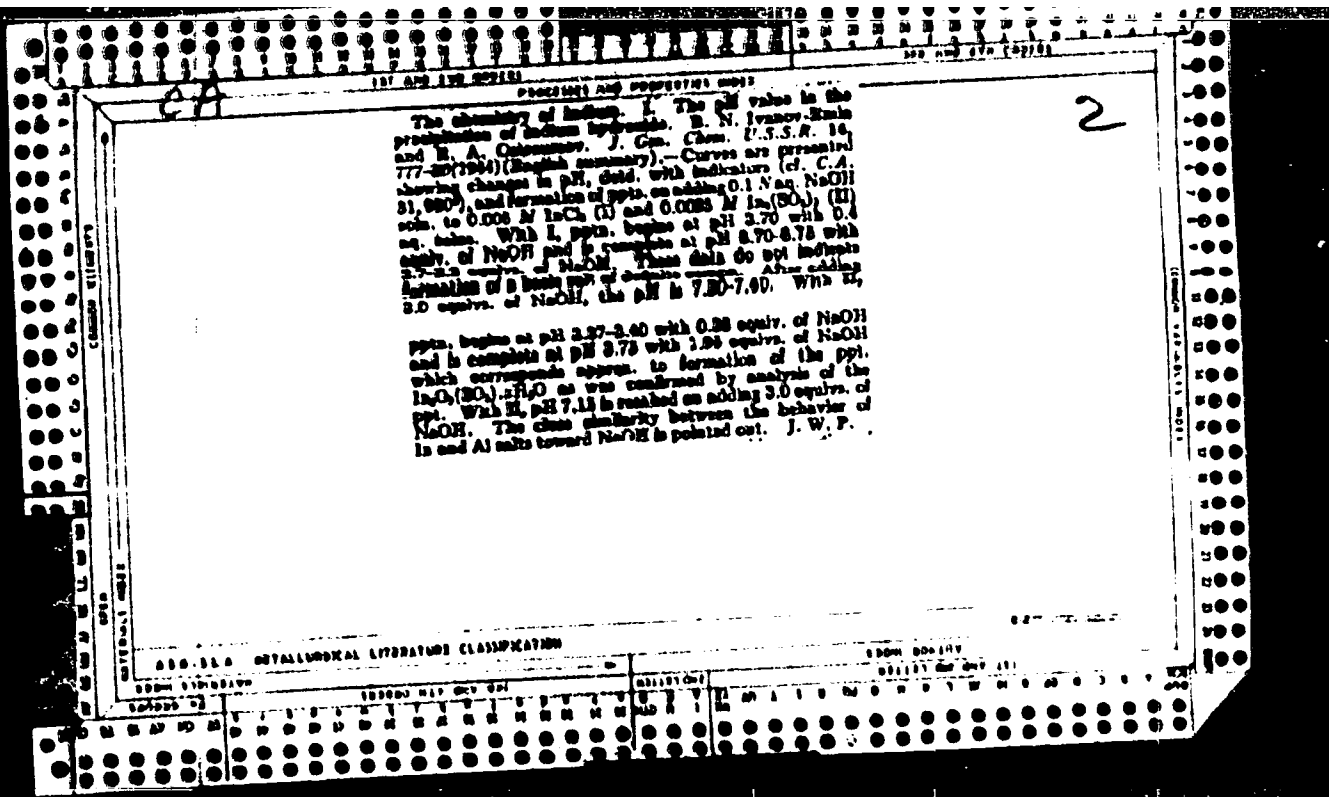
PROCESSING AND DOCUMENTATION UNIT

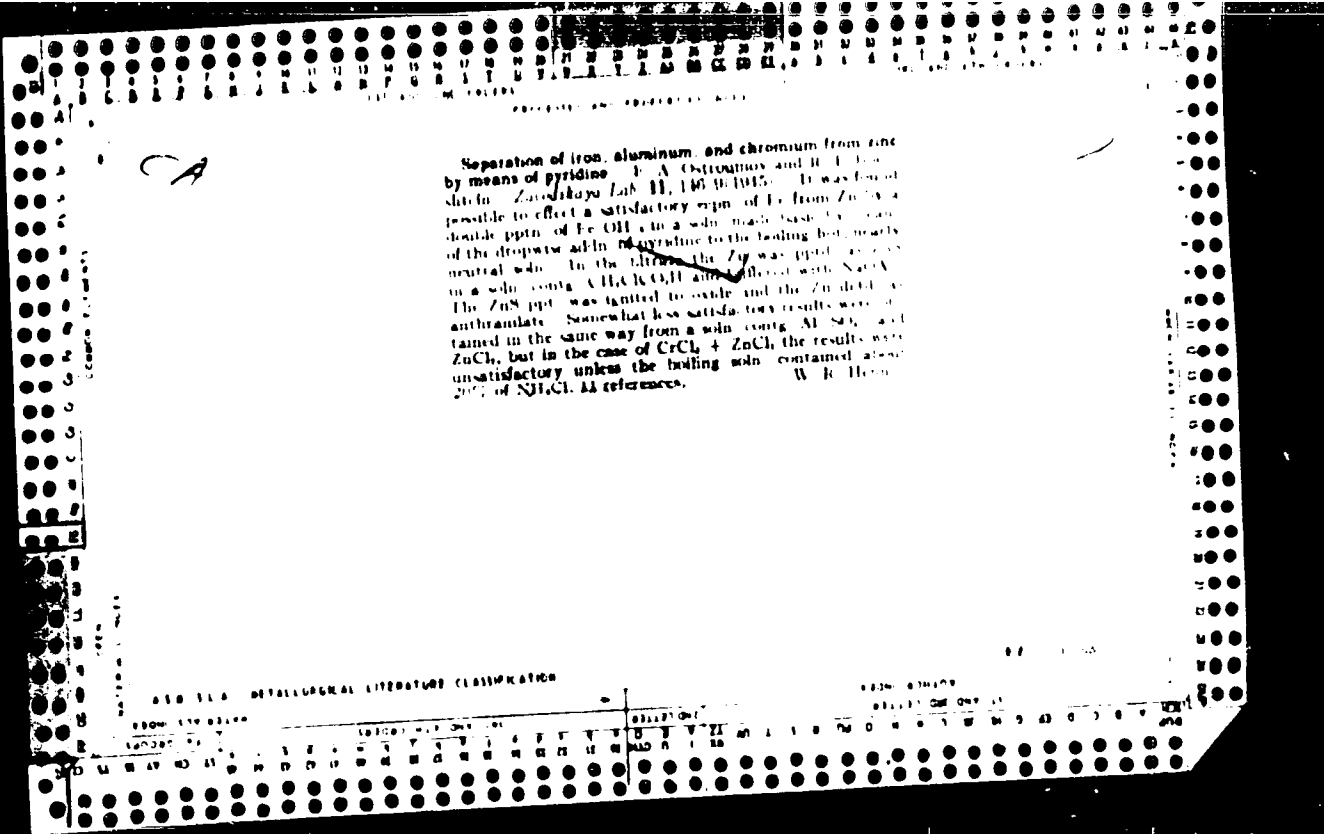
2

The pH values in the precipitation of cerium hydroxide
 R. W. Ferry-Buck and E. A. Coker. *J. Gen.
 Chem. U.S.S.R.* 14, 772-3(1944) (English summary).—
 Curves are presented showing changes in pH, Ce^{IV} , with
 the H electrode, and formation of ppt. on adding 0.1 N
 NaOH soln. to 2.000 M CeCl_3 (I) and 0.0025 M Ce^{IV}
 (II) (II) by soln. With I, ppt. begins at pH 5.45
 with 1.50 equiv. of NaOH and is complete at pH 5.45
 with 1.50 equiv. of NaOH, corresponding approx. to for-
 mation of $\text{Ce}(\text{OH})_2\text{Cl}\cdot\text{H}_2\text{O}$. With continued addn. of
 NaOH, the pH rises slowly to 7.0 and 7.58 with 2.5 and
 3.0 equiv. of NaOH, resp. With II, ppt. begins at pH
 6.50 with 0.75 equiv. of NaOH and is complete at pH 6.10
 with 1.50 equiv. of NaOH, corresponding to formation of
 $\text{Ce}(\text{OH})_2\text{SO}_4\cdot\text{H}_2\text{O}$. After 3 equiv. of NaOH are added,
 the pH is 7.50-7.65. Pure II was prepd. by dissolving
 CeO_2 in concd. HCl, adding the theoretical amt. of H_2SO_4 ,
 evap. to dryness, and gradually heating to 250°.
 J. W. Ferry

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

EDWIN BOWEN





CA

7

Analysis of anhydrous aluminum chloride K. A. Ostroumov and B. N. Ivanov-Koum *Zvezdichya Lab. II. 279 (1945)* To prep. a sample for analysis, take 12 g of $AlCl_3$ and hydrate carefully by adding 30 ml. of concd. HNO_3 + water to make one l. After 24 hrs. repeat this treatment and in 48 hrs. the sample should be all dissolved. Of the mixed soln., take 30 ml. and ppt. $Fe(OH)_3$ with the usual precautions by NH_4OH in the presence of NH_4Cl . Dissolve the $Fe(OH)_3$ ppt. in HCl and titrate the Fe by the Zimmermann-Reinhardt procedure. If less than 0.2% Fe is present, the colorimetric detn. with sulfosalicylic acid is preferred. To det. Ti , first remove any silicic acid, by the usual evapn. method, filter, wash with hot, dil. HCl and ppt. the Al , Fe , and Ti with NH_4OH as hydrated oxides. Fuse the ignited ppt. with K_2CO_3 and in the dil. H_2SO_4 ext. of the melt det. Ti with H_2O_2 . Calc. the Al content from the wt. of the Fe_2O_3 + Al_2O_3 + TiO_2 ppt. after deducting the Fe and Al contents. Det. Cl in the original soln. by the Volhard titration after adding excess $AgNO_3$ and filtering off the $AgCl$. A method for detg. the quantity of hydrated $AlCl_3$ and suitable app. are detailed. The procedure is based on the fact that the anhyd. $AlCl_3$ is completely volatilized by heating in a current of dry air at $285-300^\circ$ but the hydrated chloride forms a basic salt on being heated, and is not volatilized.

W. R. Henn

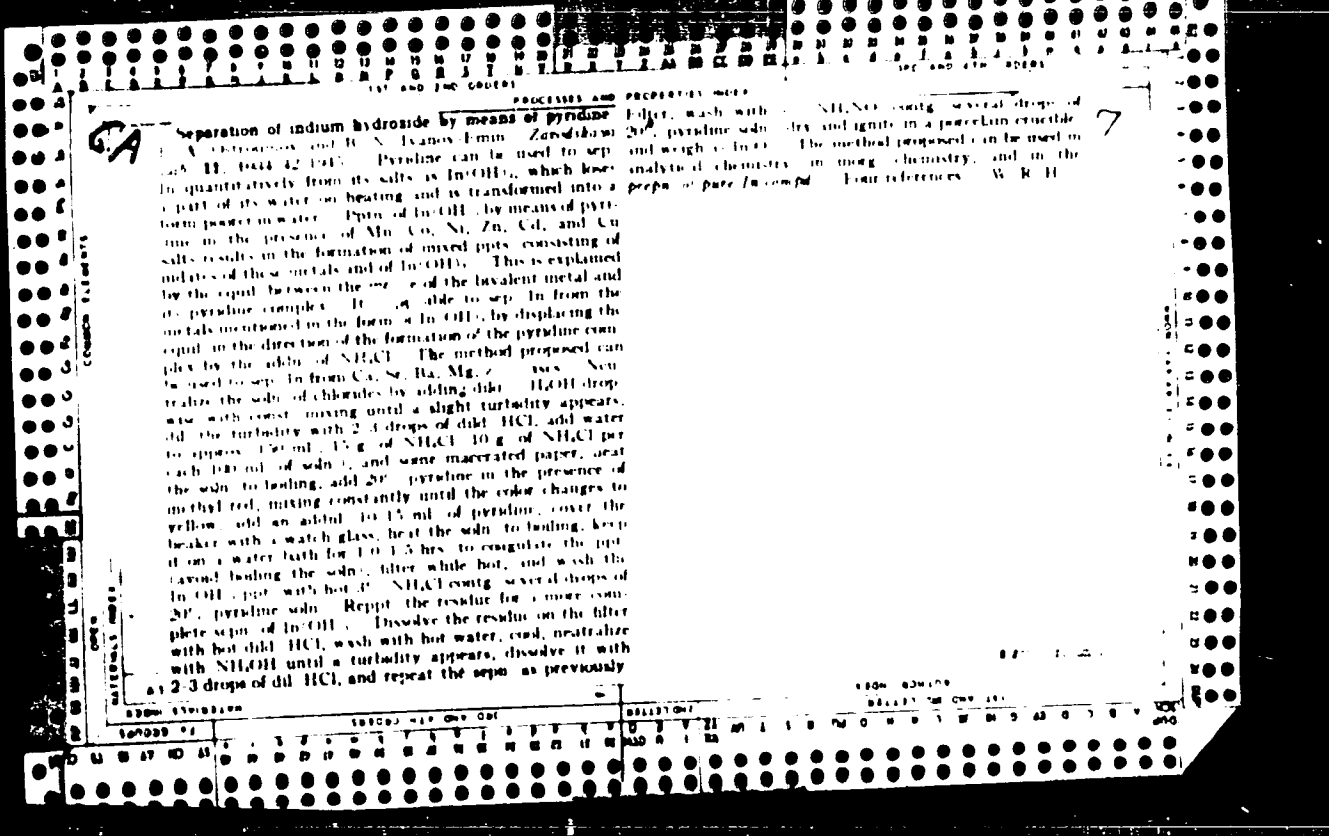
550 550 METALLURGICAL LITERATURE CLASSIFICATION

CA

precipitation of beryllium hydroxide by means of α -picoline. F. A. Ostromov, and B. N. Ivanov. *Mineralogicheskaya Provaliya na Vostochnom Iust. Mineralogicheskaya Provaliya na Vostochnom Iust. Zh.* 11, 180 (1947).

The pptn. of $Be(OH)_2$ by means of α -picoline can be used for the quant. sepn. of the Be from Mn, Co, Ni, and Zn (which form complexes with α -picoline), and from Ca, Sr, Ba, Mg, and bases. Neutralize 150-200 ml of the soln. with NH_4OH (adding it dropwise with const. stirring until a slight turbidity appears, which is removed by addn. of 2-3 drops of 10% HCl), add 8 g. of NH_4Cl (in the presence of Zn the quantity of NH_4Cl added should be approx. 0.15 g./ml.) and several drops of methyl red. Heat the soln. to boiling, add dropwise with stirring enough of 20% α -picoline soln. to change the color of the indicator to yellow, then 10-15 ml. more; cover the beaker with a watch glass, heat the soln. to boiling, then for the beaker to a water bath for approx. 20-30 min. to ppt. in the ppt. to settle and coagulate; filter the soln. which has washed the $Be(OH)_2$ ppt. with hot 10% NH_4NO_3 contg. several drops of 20% α -picoline soln. Be is sepd. by a single pptn. In the presence of very large quantities of Zn, Mn, Co, and Ni, for a complete sepn. dissolve the $Be(OH)_2$ ppt. in 10% HCl and repeat the pptn. as described. Dry the $Be(OH)_2$ ppt. in a Pt crucible at 1000-1100° C., cool, and weigh as BeO . The cations remaining in the filtrate can be sepd. by methods described previously. Three references. W. R. Thom.

430 11.4 METALLURGICAL LITERATURE CLASSIFICATION



CA

7

Separation of gallium hydroxide by pyridine B. S. Ivanov-Emin and E. A. Ostrover, *Leningrad Lab.* 12, 674 (1940) Pyridine pptns quantitatively Ga(OH)₃, which on heating loses part of its water, and is transformed into an almost insol form. A small excess of pyridine and considerable amts of NH₃ salts do not increase its sol to any considerable degree. In the presence of salts of Mn, Cu, Ni, Zn, Cd, and Co, pyridine pptn of Ga(OH)₃ contaminated by these metals, owing to a partial formation of gallates, especially with Co, Zn, and Cd. In the presence of large amts of NH₄Cl it is possible to sep. nearly pure Ga(OH)₃ in one pptn. The method can be used not only for analytical purposes, but also to prep. high-purity Ga compounds, and to sep. Ga from alk. earth metals, Mg, and alk. metals. To an acid soln of a Ga salt contg. Mn, Co, Ni, Zn, Cd, or Cu add with const. mixing dil. NH₄OH until a slight turbidity is formed, dissolve by adding several drops of dil. HCl, add approx. 15 g. of NH₄Cl, bring the vol. to 150 ml., add some macerated paper, blot to loading, add methyl red indicator and 20% pyridine soln (dropwise with mixing) until the color changes to yellow, heat liquid with the ppt. to boiling, let stand for 2 hrs. at a temp. close to boiling (owing to evapn. of pyridine the color of the soln changes to red and therefore, during the pptn., pyridine soln sufficient to change the color of the indicator should be added), filter, wash the ppt. with dil. HCl, and measure the color produced with a suitable reagent (Mn with (NH₄)₂Se color produced with a suitable reagent, Cu with pyridine thiocyanate). The pyridine chloride complexes of Zn and,

especially, of Cd (general formula [MPr₂Cl]₂) are slightly sol. in the cold, and therefore the liquid should be kept warm during the filtration and the ppt. washed with hot 2% NH₄NO₃. In the washed ppt. Zn and Cd are detd. spectroscopically. The sepn. of Ga from Zn and Cd is so nearly complete that no reprecip. is required. Addn. of NH₄NO₃ to the soln. also results in the formation of pyridine complexes of greater soly., and the sepn. of Ga from Zn and Cd is less nearly complete; complete sepn. requires reprecip. The alk. earth metals and Mg form no gallates under the conditions of Ga(OH)₃ formation by pyridine, and they can be sepnl. completely from Ga. Ga can be sepnl. also from K, Na, and Li. W. R. Henn

ADD. 11.6 CHEMICAL LITERATURE CLASSIFICATION

CA

PRINCIPLES AND PROCEDURES

Separation of thorium hydride by means of pyridine
 F. A. Ostrannoy and S. Beruch'yan, *Zashchita Lab.*
 12, 802 (1940). To the acidic soln. add NH₄Cl or NH₄
 NO₃, neutralize with NH₄OH until a slight permanent
 turbidity is produced, dissolve this with a little HCl, heat
 to boiling and add 2% pyridine soln. until added methyl
 red indicator soln. turns yellow. The presence of SO₄²⁻
 interferes owing to the formation of sol. double salts such
 as NH₄ThSO₄, but this error is in some cases overcome
 by adding considerable NH₄Cl. Pptn. of Th(OH)₄ by
 pyridine is often advantageous in sep. Th. from many
 fission products. W. R. Hunt

ADD SLA METALLURGICAL LITERATURE CLASSIFICATION

OSTROV, E. A. Dr. Tech. Sci.

Dissertation: "New Methods for Investigating the Composition of Mineral Raw Materials Using Organic Bases." All-Union Sci. Res. Inst. of Mineral Raw Materials, 2 Jul 47.

SO: Vechernyaya Moskva, Jul, 1947 (Project #17836)

OSTROMOV, B. A.

"New Methods for Investigating the Composition of Mineral Raw Materials
Using Organic Bases." Sub 2 Jul 47, All-Union Sci Res Inst of Mineral Raw
Materials

Dissertations presented for degrees in science and engineering in Moscow
in 1947

SC: Sum No. 457. 18 Apr 55

Separation of cerium from rare earths by the bromate
 pyridine method. F. A. (Magnimov, Zhur, and
 Abram, Zh. Khim. 17(1047). Ce can be separated quantitatively
 from other rare earths as a basic bromate in a soln buff-
 ered with pyridine and pyridine-HCl. Evap the soln
 contg the rare earths to dryness. Dissolve the residue
 in 2-3 ml of HCl, add approx 100 ml of hot H₂O, and 0.3
 g of NaBrO₃ (to oxidize Ce³⁺), stir, cover with a watch
 glass, and heat carefully on a hot plate, adding hot H₂O
 from time to time as it evaps. Boil for 30-45 min, until
 the color of Br₂ vanishes. Remove from the hot plate, add
 5 g of NaBrO₃, mix, and repeat the slow boiling for approx
 1 hr. Remove from the hot plate, and after 3-4 min, add
 dropwise with stirring, 10 ml of buffer soln (20 ml of 0
 N HCl + 20 ml water + 25 ml of pyridine + 35 ml of
 water. Let stand overnight, filter, and wash the ppt
 with cold H₂O. basic Ce bromate is pptd quantitatively
 Treat the ppt with 50 ml of a hot, 10% oxalic acid soln.
 add 0.5-1.0 g more of oxalic acid, and boil for 40-45 min
 to complete the conversion of bromate to oxalate. Dil
 the mixt to its original vol, and keep overnight. Filter,
 wash with dil oxalic acid soln, ignite, and weigh as Ce₂O₃.
 Excellent results were obtained. M. Hirsch

ASD 513 METALLURGICAL LITERATURE CLASSIFICATION

Determination of pyritic sulfur in the presence of sulfates J. A. Ostrowsky and H. S. Lyman *Anal. Chem.* 2, 314-22 (1947). The purpose of this investigation was to test and improve the Hartz procedure (C. A. 13, 1520). The formation of free S can be prevented by carrying out the reaction in the presence of metallic Sn. The formation of Hg droplets is prevented by increasing the length of the neck of the reaction flask. The harmful effect of sulfates is prevented by the addition of HgBr₂ soln. To det. FeS in gypsum, take 0.5 g. of sample and place it in a thimble of Sn foil. Moisten the solid in the thimble with HgBr₂ soln. and a little EtOH if necessary to wet the powder well. Place the thimble in the reaction flask and connect the flask to a condenser and to 2 receivers containing CuSO₄ soln. While introducing CO₂ into the app., add 50 ml. of HBr, through a dropping funnel to the neck of the flask, and 1-1.5 ml. of EtOH. Heat very slowly at first but continue heating below the bp. for 3-4 hrs. Eventually boil 10 min. and allow to cool while continuing the stream of CO₂. To the combined contents of the receivers add dropwise a 12% soln. of CuSO₄ in 7 N H₂SO₄. Cool, filter off the CuS ppt., wash the ppt. to remove all Cu²⁺ ions and ignite to Cu⁰ in a porcelain crucible. To det. FeS in the presence of other sulfides, first carry out the above procedure with HBr and no Sn. After the other sulfides have been removed, filter the soln. in the reaction flask and treat the residue as described.

M. Hirsch

AND SO METALLURGICAL LITERATURE CLASSIFICATION

7

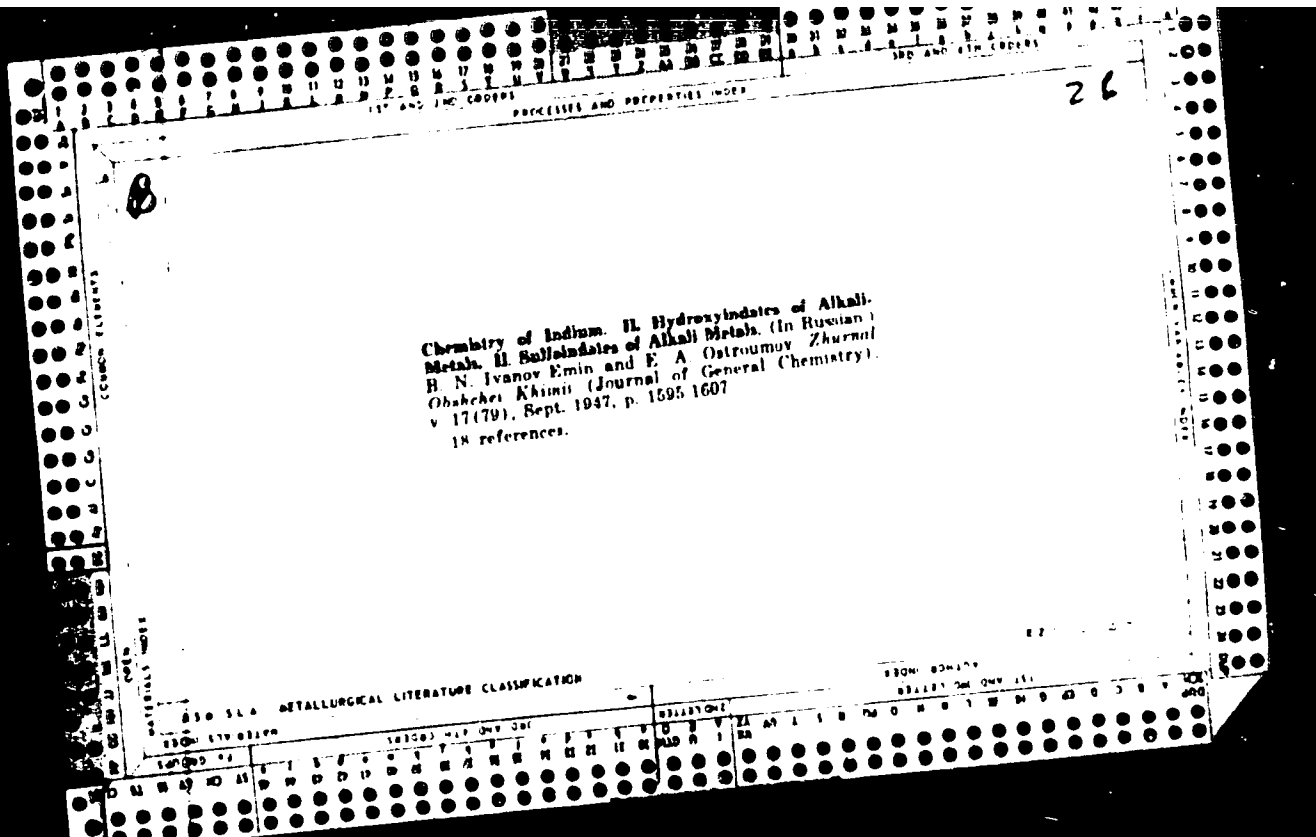
Handwritten initials: CA

fundamentals of new analytical methods with pyridine, α -picoline, and hexamethylenetetramine. F. A. Ostrow *Anal. Chem.*, **19**, 404-406 (1947). —The methods are based on the use of pyridine as a regulator of the pH of solutions during hydrolysis and formation of complexes. In adding pyridine to a weakly acid solution, a pH of about 6.8 results when some metals are pptd. as hydroxides while Mn, Ni, Co, Zn, Cu, and Cd form easily sol. complexes. Pyridine solutions containing pyridine nitrate will give a stable pH of 4.1-4.2, under these conditions it is possible to separate Bi from Pb (and also from Cu and Cd which form sol. complexes with pyridine) and some rare metals from trivalent Ce and rare earths. In reaction between α -picoline and Be solutions, Be is pptd. as the hydride, the resulting pH is 7.0. Thus, Bi(OH)₃ can be pptd. from Cu, Sr, Ba, Mg, and alkali. Two procedures are proposed: (1) Remove the cations of the 3rd group with H₂S in the presence of hexamethylenetetramine. Destroy org. material in the filtrate with HNO₃ and det. alk. earths, Mg, and alkali as usual. Ash the residue pptd. of the 3rd group, ignite carefully, and treat the ash with concd. HCl while heating. If an insol. residue remains, filter, fuse with soda, and add to the filtrate. Then, with the aid of pyridine, sep. Fe, Al, Cr, Ti, Zr, In, Ga, and some rare metals from Mn, Zn, Ni, and Co. From the filtrate, after the addition of pyridine hydrochloride, ppt. Co, Ni, and Zn with H₂S, thus sep. these from Mn. (2) Sep. Fe, Al, Cr, In, Ga, Ti, Zr, and some rare metals with pyridine.

From the filtrate, after the addition of pyridine hydrochloride, ppt. Ni, Co, and Zn with H₂S. From the filtrate, after the elimination of the pyridine ppt. Mn with H₂S in the presence of hexamethylenetetramine. In the filtrate, the destruction of the org. material with MnO₂, det. the alk. earths, Mg, and alkali as usual. This procedure is preferred when Ca, Mg, and alkali are detd. in products containing large amounts of Mn, Co, and Ni. This procedure can be used in all cases except when the product contains considerable phosphate and small quantities of Al, Ti, and Zr, because then some of the Ca may be pptd. as phosphate. But if the Al, Ti, and Zr are sufficient to combine with all Fe²⁺ in the solution, it is applicable. (2), with sufficient NaOH. Rare earths should be pptd. as oxalates and then Th should be pptd. from Cr and rare earths with the aid of pyridine and its nitric acid salt. If the product contains Be, it is necessary to use α -picoline for complete pptn. In the 4th group it is possible to sep. Bi from Pb, Cu, and Cd with pyridine in presence of its nitric acid salt.

H. Z. Kamich

ADDITIONAL METALLURGICAL LITERATURE CLASSIFICATION



Separation of scandium with the aid of pyridine. N. A. (Moscow) *Zhur. Anal. Khim.* 3, 153-51 (1948).

method for sep. Sc from other rare earths is based on the difference in pH at which their hydroxides ppt. Thus, Sc(OH)₃ ppts. at pH 4.9 (C. I. 39, 5159) whereas the hydroxides of other rare earths start pptg. at pH 6.3 (Yb and Lu) and higher. The desired pH is attained with buffer solns. of pyridine or its salts (C. I. 34, 5779). To prep. the pptg. soln., measure into a 200-ml flask enough concd. HNO₃, free of NO₂, and standardized, to correspond to 27.2 g. of 100% HNO₃. Add approx. 20 ml. of H₂O, mix, and add slowly 100 ml. of pure pyridine with const. shaking and cooling. When the soln. is at room temp., fill to the mark and mix thoroughly. To det. Sc, dissolve the sample, add approx. 5 g. of NH₄NO₃, carefully neutralize with dil. NH₄OH until a slight permanent turbidity appears, and then add 3 drops of concd. HNO₃ to dissolve it. Dil. to definite vol. (e.g. 100 ml.) and bring to a boil. Add a little macerated paper pulp and then from a dropping funnel add approx. 15 ml. of the pptg. soln. with const. stirring. Cover the beaker, bring to incipient boiling, and keep on a water bath for 40-50 min. to complete coagulation and pptn. of Sc(OH)₃. Filter, wash with hot 3% soln. of NH₄NO₃ contg. a small quantity of the pptg. soln. (5 ml. per 100 ml. of 3% NH₄NO₃), place the ppt. in a weighed porcelain crucible, dry, ash, ignite at 1000-1100°C., cool, and weigh. For 12 analyses in which Sc₂O₃ was 0.0005-0.0050 g., there was no difference between "taken" and "found" in 6 cases, and in the other 6 analyses the difference did not exceed 0.0001 g. The filtrates were evapd. to a small vol. and tested for Sc; none was found. It is thought that Sc(OH)₃NO₃ is first formed, which upon addn. of more pyridine soln. changes completely to Sc(OH)₃. Tests were run on sep. Sc by this method in the presence of other rare earths severally and combined. The contamination of the Sc ppt. was tested by x-rays. When taken severally, complete sepn. of Sc was obtained by double pptn.

except for Ga, Ho, and Yb, where for the greatest accuracy, triple pptn. was needed. Similar results were obtained when the rare earths were taken together with Sc (rare earths (La, Ce, Pr, Nd, Sm, Cd, Ho, Er, Yb, and Y) ratios of 1:1:1:1).

PONOMAREV, A.I.; OSTROUMOV, E.A., doktor khimicheskikh nauk, redaktor;
KISELEVA, A.A., tekhnicheskii redaktor.

[Method of chemical analysis for minerals and rocks] Metody khimicheskogo analiza mineralov i gornykh porod. Moskva, Izd-vo Akad. nauk SSSR, Vol 1 [Silicates and carbonates] Silikaty i karbonaty. (MLRA 8:8)
1951 334 p.

(Silicates) (Carbonates (Mineralogy)),
(Mineralogy, Determinative)

CA

Determination of zirconium with mandelic acid. A. A. Astasina and E. A. Ostroumov (Inst. of Mineral Raw Materials, Moscow, U.S.S.R.), *Zhur. Anal. Khim.* 6: 27-31 (1951). The purpose of this investigation was to check the Kuimins method (C 4: 41, 4796). The method was accurate and effective in sepn. of Zr from other metals including the rare earths and Mo. Equally good results were obtained by weighing Zr mandelate without igniting the ppt to ZrO_2 . The excess mandelic acid was removed by washing the ppt 2-3 times with EtOH. Zr in quantities below 0.0010 g. does not ppt. at once, particularly in the presence of other elements. In such cases the time allowed for pptn. should be extended to 1 or more days. M. Hosh

~~Оришумов, Е. А.: Новые методы химического анализа
с применением органических оснований (New Method of
Chemical Analysis with the Use of Organic Bases). Mos-
cow: Gosdarst. Izdatel'stvo Geol. Lit. 1952. 110 pp. 1.~~

OSTROUMOV, S. A.; SHINA, O. M.

Vanadium

Some laws of the distribution of vanadium in contemporary marine deposits.
Dokl. AN SSSR 86 No. 2, 1952.

o. Monthly List of Russian Accessions. Library of Congress. December 1952. 33.2 1952.

OSTROUMOV, E.A.

Forms of sulfur compounds in deposits of the Black Sea. Trudy
Inst. okean. 7:70-90 '53. (MLRA 7:3)
(Black Sea--Deep-sea deposits) (Deep-sea deposits--Black Sea)

Ostromov, E. A.

USSR

Rare earths in the deep water deposits of the Black Sea.
 A. Ostromov. Doklady Akad. Nauk S.S.S.R. 91, 1175-8 (1953). Sediments from deep water regions of the eastern part of the Black Sea and the heavy mineral fraction from the sand on the Caucasian coast at Gagra were analyzed for La_2O_3 , CeO_2 , Pr_2O_3 , Nd_2O_3 , Gd_2O_3 , and Dy_2O_3 by the method of Borzhenko-Starykevich, et al. (C.A.B. 3018). They were also detd. by an x-ray method. The predominant element was Ce. Most abundant in rare earths are the clayey sands. These sediments cont. all rare earths and carbonate veins contain less of these earths. The quantities of these earths in the various sediments are tabulated. V. A. Toffe

Inst. Oceanology, AS USSR

PONOMAREV, A.I.; OSTROUMOV, B.A., doktor khimicheskikh nauk, redaktor;
LOSKUTOV, I.P., redaktor; NEVRAYEVA, N.A., tekhnicheskiy redaktor.

[Methods of chemical analysis of minerals and rocks] Metody khimicheskogo analiza mineralov i gornykh porod. Moskva, Izd-vo Akademii nauk SSSR, Vol.2 [Iron ores, titanomagnetites and chromites] Zheleznyerudy, titanomagnetity i khromity, 1965. 143 p.
(Iron ores) (Chromites) (MLBA 8:11)
(Titanomagnetites)

OSTROUMOV, E. A.

Occurrence of manganese in bottom deposits of the Sea of Okhotsk.
Izv. AN SSSR. Ser. geol. 20 no. 5: 83-88 S-O '55. (MLRA 8:12
(Okhotsk, Sea of--Manganese ores)

OSTROUMOV, E.A.

2

^{Chb}
 Iron in the bottom sediments of the Okhotsk Sea. E. A. Ostroumov. Doklady Akad. Nauk S.S.S.R. 102, 129-32 (1968). Fe (ferrous and ferric oxides) was detd. in samples from more than 200 regions of the Okhotsk Sea sediments. The deposits are divided into 7 zones with Fe content from 1.0 to 7%. The zone with more than 7% of Fe occurs near the Kuril Islands and in the south extremity of the Kam-^{GP}chotka shore. Most of the Fe comes to the sea from terres-
 trial materials and volcanic breakdown products. Some col-
 loidal Fe in very fine suspension concentrates in the clay
 slime together with Fe bound with the phytoplankton res-
 due. In the south the concn. of Fe is assoc. with the
 clay-diatom slime. Another part of the Fe, bound with
 the volcanic activity products, concentrates in the sand and
 silt particles, located along the Kuril Islands and the east

shore of Kamchatka. In comparison with other Russian
 seas, sediments of the Okhotsk Sea have a high content of
 Fe, which in some places amounts to 11.11%. A map of
 distribution of Fe by zones is included. M. C.

RE

USSR/Cosmochemistry - Geochemistry. Hydrochemistry.

D.

Abs Jour : Ref Zhur - Khimiya. N 9, 1956, 30352

Author : Ostroumov, E.A.

Inst : Institute of Oceanology, Academy of Sciences USSR

Title : Distribution of Titanium in the Deposits of the Sea of Okhotsk

Orig Pub : Geokhimiya, 1956, N 1, 90-95.

Abst : The content of Ti was determined in dried samples of the upper level of sediments collected at 209 stations during a number of years of field work by the expedition of the Institute of Oceanology of the Academy of Sciences USSR. Ti was determined gravimetrically with H_2O_2 after decomposition of the samples with hydrofluoric and sulfuric acid and fusion with potassium pyrosulfate. A chart of Ti distribution in the bottom deposits has been prepared. The following zones were delineated (TiO₂ in %): less than 0.2; 0.2 - 0.3; 0.3 - 0.4 - 0.5 0.5 -

Card 1/2

USSR Cosmochemistry - Geochemistry. Hydrochemistry.

D.

Abs Jour : Ref Zhur - Khimiya, No 9, 1956, 30351

Author : Ostroyanov, E.A.

Inst : Academy of Sciences USSR

Title : Titanium in the Deposits of the Sea of Okhotsk

Orig Pub : Dokl. AN SSSR, 1956, 107, No 3, 444-447

Abst : See next abstract

Card 1 1

OSTROUMOV, E.Z.; SHILOV, V.M.

Occurrence of iron sulfide and hydrogen sulfide in deposits of deep
trenches in the northwestern Pacific Ocean. Geokhimiia no.7:25-
38 '56. (MIRA 10:1)

1. Institut okeanologii Akademii nauk SSSR,
(Pacific Ocean--Iron sulfides) (Pacific Ocean--Hydrogen sulfide)

OSTROUMOV, E.A.; ASTANINA, A.A.; SHOKHOR, T.G.

Method for determining rare earths in ocean deposits. Trudy
Inst.okean. 19:297-303 '56. (MLHA 10:2)

(Ocean bottom) (Earths, Rare)

USSR/Cosmochemistry - Geochemistry. Hydrochemistry.

Abst Journal: Referat Zhur - Khimiya, No 19, 1966, 5144

Author: Ostroumov, E. A., Shilov, V. M.

Institution: None

Title: Iron Sulfide and Hydrogen Sulfide in Fe-rich Deposits of North-western Part of Pacific Ocean

Original

Periodical: Dokl. AN SSSR, 1956, 106, No 3, 501-504

Abstract: Process of reduction (R) of SO_4^{2-} in sediments takes place at definite strata and begins after R of Fe^{3+} to Fe^{2+} at definite stage of decomposition of organic matter necessary for life processes of sulfate-reducing microorganisms. R of SO_4^{2-} is well developed in sediments of Kuriles-Kamohatka and Aleutian troughs where it begins in 10-15 cm strata; amounts of FeS reach 0.39% and free H_2S is present. Eastward the onset of trough R zone is located below layer of red clay and contains little FeS. In the sediment bed this zone is located in 100-200 cm layer

Card 1/2

Card 2/2

OSTROUMOV, B.A.

Titanium in deposits of the Okhotsk sea. Dokl.AN SSSR 107 no.3:444-447
Mr '56. (MIRA 9:7)

1. Institut okeanologii Akademii nauk SSSR. Predstavleno akademikom
N.M.Strakhevym.
(Okhotsk, Sea of--Titanium)

~~VOLKOV, I.I.; OSTROUMOV, B.A.~~
Forms of sulfur compounds in silt waters of sediments of the Black Sea.
Geokhimiia no.4:337-345 '57. (MIRA 12:3)

1. Laboratory of Marine Sediments of the Institute of Oceanology,
Academy of Sciences, U.S.S.R., Moscow.
(Thiosulfates) (Black Sea--Silt)

OSTROUNOV, B.A.; VOLKOV, I.I.

Interconnection of phosphorus, vanadium and organic matter in the
Black Sea sediments [with summary in English]. *Geokhimiya AN*
SSSR no.6:518-528 '57. (MIRA 11:2)

1. Institut okeanologii AN SSSR, Moskva.
(Phosphorus) (Vanadium)
(Black Sea--Sedimentation and deposition)

OSTROUMOV, B.A.

Sulfur compounds in the waters of the Sea of Okhotsk. Trudy
Inst. okean. 22:134-150 (1972). (MIRA 11:3)
(Okhotsk, Sea of--Sulfur)

BEZRUKOV, P.L.; OSTROUMOV, E.A.

Phosphorus distribution in the sediments of the Okhotsk Sea. Dokl.
AN SSSR 113 no.1:142-145 Mr-Apr '57. (MLRA 10:6)

1. Institut okeanologii Akademii nauk SSSR. Predstavleno akademikom
N.M. Strakhovym.

(Okhotsk, Sea of--Sedimentation and deposition)

AUTHORS:

Volkov, I. I., Ostroumov, E. A.

20-114-4-47/63

TITLE:

Determination of Thiosulphates in Silt Waters of the Black Sea Deposits (Opredeleniye tiosul'fatov v ilovykh vodakh osadkov Chernogo morya)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 4, pp. 853-855 (USSR)

ABSTRACT:

In order to get a better idea of the diagenesis processes it is necessary when studying the types of sulphur compounds in sea deposits, not only to investigate the solid phase, but to determine also the types of sulfur compounds of the water by which these deposits are drenched. In the Black Sea, in which an intensive reduction process of the sulphates takes place, there may also occur sulphites and thiosulphates, beside free hydrogen sulfide and sulphates. The authors investigated, from the expedition ship "Akademik S.Vavilov", at the below mentioned station, whether these soluble compounds occur in the silt waters of the deposits. A method for the determination of sulfites and thiosulfates in the presence of free hydrogen sulfide had been previously worked out by Kurtenacker. Its applicability to the Black Sea was to be checked. The shallow-water deposits here often do not contain any hydrogen sulfide. In

Card 1/3

Determination of Thiosulphates in Silt Waters of the Black Sea Deposits 20-114-4-47/63

the silt water of the deep-sea deposits it is often removed during filtration in vacuum. Tests indicated that the content values of the thiosulfates obtained on this occasion are unstable and vary considerably. This is due to the leaking through into the filtration of small amounts of colloidal sulphurous iron (hydrotoilite). For that reason treatment with zincarbonate suspension is indispensable. It removes the free hydrogen sulfide and the colloidal iron which is disturbing in the determination of the thiosulfates. The experiments showed that the silt waters in the Black Sea deposits contain virtually no sulfites, at the most very minute traces of them, whose amount lies within the limits of experimental errors. But steady figures for the thiosulfates are obtained in spite of their small amounts. They vary between from 0,0 to 10 mg/lit. The deep-sea deposits are richer in them than those of the shallow water. As is well-known one sulfur atom of the thiosulfates is very mobile and capable of reaction. Therefore the thiosulfates can function as a peculiar type of sulfur transmitters. In this respect the occurrence of thiosulfates may be of great interest in the study of diagenetical transformation of the Black Sea deposits. There are 1 table and

Card 2/3

Determination of Thiosulphates in Silt Waters of the
Black Sea Deposits

20-114-4-18/63

5 references, 4 of which are Soviet.

ASSOCIATION: Black Sea Experimental Scientific Research Station of the
Institute of Oceanography of the AS USSR (Chernomorskaya eks-
perimental'naya nauchno-issledovatel'skaya stantsiya Instituta
oceanologii Akademii nauk SSSR)

PRESENTED: December 18, 1956 by N. M. Strakhov, Member, Academy of
Sciences, USSR

SUBMITTED: December 12, 1956

Card 3/3

ОТРАЖЕНИЕ

32/51

AUTHORS: Volkov, I. I., and Astromov, B. A.,

TITLE: Concretions of Iron Sulfide in Black Sea Deposits
 sulfidn zneizn v otlozheniyakh Chernogo morya

PERIODICAL: Doklady Ak. SSSR, 1957, Vol. 116, No. 4, pp. 649-650 USSR

ABSTRACT: Already in the old sea of iron sulfide was found in the Black Sea deposits and the possibility of a formation of pyrites was contained in it in form of tiny pellets was assumed. Also at that time concretions of pyrites of a length of 1.5 mm and a breadth of 0.5 mm were found there for the first time. Besides 20,84% pyrites they consist of a small quantity of silicates which apparently are of the deposit itself. A further reference review shows the presence of mel'nikovit, hydrotrillite, and marcasite also in the old Black Sea deposits. Transitions between the latter minerals occur, too. The research of these transitions and of the process could throw a light on one of the questions of the autogenous mineral formation of the bottom of the sea. In summer 1955 a pillar of the ground of a length of 20 m was taken in a depth of 140 m by the expedition ship "Akademiya S. Vavilov" from one of the stations beside the cape K. I. P. (42°54'0 north latitude, 40°41'8 east longitude). It was placed mud, grey, coloring with bluish tinge and with single interstrat-

Card 1/2

Concretions of Iron Sulphide in Black Sea Deposits.

10-32/51

te layers and stains colored black by hydrite. The analysis carried out showed that the concretions consist of a mixture of iron sulphide. The latter contains considerable quantities of iron sulphide which can be decomposed by hydrite and apparently, mel'nicevit, and small quantities of pyrites, marcasite. Apparently, the accumulations of colloidal hydrite first change into amorphous semi-solid lumps. In the case of a further dehydration and consolidation begins, as it can be seen, the addition of the second sulphur atom under formation of the metastable form of iron sulphide-mel'nicevit which in the further course changes into marcasite and pyrites. Thus it can be assumed with a certain degree of conviction that the found concretions are a transition form in the transformation of hydrite into pyrites, marcasite. There are 1 figure, and 11 references, 1 of which are Slavic.

ASSOCIATION: Institute for Oceanology, AN SSSR, Institut Oceanologicheskii Akad. Nauk SSSR;
 PRESENTED: May 6, 1957, by N. M. Strakhov, Moscow, U.S.S.R.
 SUBMITTED: May 3, 1957
 AVAILABLE: Library of Congress
 Card 2/2

OSTROYMOV, E. A.

Ostroymov, E. A., Asterink, A. A.

"Determination of Thorium by the Weight and Colorimetric Method." p. 50.

In book Methods of Determining Radioactive Elements in Mineral Raw Materials,
1958, 68 pp.

AUTHOR: Ietelin, V. I. (Izvestiya, 1971, No. 11, p. 11)

TITLE: Some peculiarities in the distribution of iron in the waters of the Sea of Okhotsk. (Kakim-rybnym kontsentratsionno-deletiya analiza v oshchekakh krasnogo morskogo)

PERIODICAL: Byulleten' Moskovskogo gosudarstvennogo universiteta, 1971, No. 11, p. 11

ABSTRACT: The research work done during 1969-70 by the expedition of the ship "Vityaz" has proved that a special feature can be noted in the distribution of the iron in the waters of the central and outer seas. The author of this article based his research on the studies of V. I. Ietelin and V. I. Dmitriev. He established that the greatest concentrations of iron in the average waters can be observed in the waters and tents in regions adjoining the Kurile Islands and the Kamohke figures 1 and 2, the maximum percentage of iron in the sea has been found in the Kurile Kurile Strait. The data is quite varied by ecologists who have been studying in this field, such as A. N. Averitskiy, V. I. Ietelin, V. I. Iivertovskiy and V. V. Strakov, and arrives at the conclusion that the basic mass of iron gets into the waters from the sediments together with organic material, dissolved in the sea

Some peculiarities in the distribution of iron in the sediments of the sea of Okhotsk

band of erosion products of the dry land and of the other hand of products of recent volcanic activity. The concentration of the main iron-containing minerals in the sediment clastic material, and the distribution of these minerals according to the granulometric spectrum determines the character of the iron distribution in the sediments of the Okhotsk sea. Therefore, as far as the distribution is concerned, the Okhotsk sea can be regarded as a typical type of sea basin - a basin with rather little iron in the sediments of iron in the coastal zones. There are 4 maps, 1 table and 11 references. 4 in Russian, 1 Soviet and 1 German.

1. Sea of Okhotsk - Properties
2. Sedimentation
3. Iron Distribution
4. Iron Sources

Card 2/2

Separation of Thorium from Rare Earths by Means
of Pyridine and Its Nitrate

precisely regulated in the precipitation and kept on a value of 4,9-4,2 by means of this solution. In the precipitation of thorium hydroxide it is desirable to add ammonium nitrate in order to accelerate the formation of a denser precipitate and to accelerate the settling. By experiments it was proved that even in the case of a singular precipitation of thorium hydroxide by means of a mixture of pyridine and pyridine nitrate a practically complete separation of thorium from the rare earth salts can be obtained. Yttrium, lanthanum, trivalent cerium, neodymium, praseodymium, erbium, samarium and ytterbium remain in the solution. Thorium is precipitated in such pure form that a re-precipitation is not necessary. The experimental carrying out of the separation is described very precisely. There are 1 figure, 2 tables and 6 references, 3 of which are Soviet.

SUBMITTED: March 1, 1957

Card 5/3

1. Rare earths--precipitation
2. Thorium--determination
3. Pyridines--chemical reactions
4. Pyridine nitrate--chemical reactions

5(2)

AUTHORS:

Volkov, I. I., Ostromov, B. I.

S 7/71-13-1-12 51

TITLE:

Determination of Sulfates by Their Reduction to Hydrogen Sulfide (Opredeleniye sulfatov vosstanovleniyem ikh do serovodoroda)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1971, Vol. 14, No. 1, pp. 1-4 (USSR)

ABSTRACT:

Among the titrimetric methods for determining sulfates, those basing on a reduction of sulfate to hydrogen sulfide and a subsequent iodometric titration, are of particular interest (refs 1-11). In using stannous chloride and phosphoric acid for the sulfate reduction (ref. 7, 8), a disturbance is caused by copper and other elements of the same analytical group, which form sulfides difficult to solve. The authors of the present paper worked out a method for determining sulfates. The reduction to hydrogen sulfide takes place with reagent obtained from SnCl_2 and phosphoric acid. owing to the fact that the apparatus for the reduction described by Hill and collaborators (ref. 9) has a number of defects, it was modified by the authors. The new apparatus is illustrated and described. It is characterized by the fact that it can be suitably

Card 1/3

Determination of Sulfates by Their Reaction with
Hydrogen Sulphide

S 117-117-117

reactivated and that it was possible to determine the amount of the concentrated phosphoric acid. The reagent for the analysis was prepared in a series of steps. First, a solution of SnCl_2 with concentrated phosphoric acid until the solution became completely removed. In this respect, it was found, however, that a reagent having a constant activity was not obtainable. Investigations carried out have established the fact that small amounts of chlorine remaining in the reagent after boiling not only do not disturb the results of the test but even intensify the latter. A prolonged heating of the reagent for the purpose of removing hydrogen chloride results in a considerable decrease of the reactivity, which is apparently caused by the formation of a complex compound of SnCl_2 and phosphoric acid. A very accurate description of the method for the preparation of the SnCl_2 reagent used for the analysis, as well as of the concentrated phosphoric acid, and also of the optimum conditions for the preparation of the reagent. Temperature is not increased beyond 30°C . The reagent is stored in a bottle on KBr or CaCl_2 and stored. This method was tested on the analysis of pure salts. As became apparent, the presence of

Card 2 3

Determination of Sulfates by Their Reaction to
Hydrogen Sulfide

SOV 75-1126-11 21

Ca, Ba, Fe, Al, Cr, Mn, Co, Ni and Zn does not cause any disturbance. The reduction process is accelerated up to 10% by the presence of alkali metals. Neither do Bi, Pt and Ti disturb the reduction. Copper and mercury salts cause a disturbance. The same method was also adopted to analyze natural materials, as gypsum, Black Sea ooze and sea water. The results are on the same level with those obtained by the gravimetric determination of sulfate as BaSO₄. A number of practical indications for this method is also given. There are 2 figures, 2 tables, and 11 references.

ASSOCIATION: Institut Geologii AN SSSR, Moscow, Institut of Petrography of the Academy of Sciences, USSR, Moscow

SUBMITTED: October 1, 1957

Card 3, 3

OSTROUMOV, E.A.: SHILOV, V.M.

Distribution of ferrous sulfide and hydrogen sulfide in bottom
deposits of the northwestern part of the Pacific Ocean. Trudy
Inst. okean. 27:77-85 '58. (MIRA 11:4)
(Pacific Ocean--Iron sulfide) (Pacific Ocean--Hydrogen sulfide)

5(2)

5N/17-11-1-47

AUTHORS: Ivanov-Emin, D. N., Ostromov, E. A.

TITLE: On the Question of the Formation of Hydroxy-scandates of the Alkali Metals (K voprosu ob obrazovanii gidroksoskandiatov shechelochnykh metallov)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 71-72 (USSR)

ABSTRACT: The separation of hexahydroxo-sodium scandiate having the composition $\text{Na}_6(\text{OH})_6\text{Sc}_2\text{O}_7$ is described. For the synthesis of this compound scandium hydroxide produced by the method of N. A. Tananayev was dissolved by heating in 18 n sodium hydrate. The compound separated out was analyzed and the formula mentioned was confirmed. The coordination number of scandium in this compound is 6. The crystalline compound has a rhombic lattice. The crystals frequently form druses. At a temperature of 25 the crystal density is 2.012 g/cm³ as measured by the micropycnometer by V. V. Syromyatnikov (Ref 10). The compound sodium hexahydroxo-scandiate decomposes on the effect of

Card 1/1

SOV/78-4-1-14/48

In the question of the formation of hydroxy-substituted of the Alkali Metals

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which are present.

SUBMITTED

October 1978

Card 1/1

5(2,3)

INDEX : EARLY EXPLOITATION SOV/3061

Ostroumov, Esper Aleksandrovich

Primeneniye organicheskikh osnovaniy v analiticheskoy khimii (Using Organic Bases in Analytical Chemistry) Moscow, AN SSSR, 1959. 125 p. Errata slip inserted. 3,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut okeanologii.

Resp. Ed.: V.N. Nikitin, Professor, Ed. of Publishing House: D.N. Trifonov;
Tech. Ed.: S.G. Markovich.

PURPOSE: This book is intended for chemists, mineralogists and others interested in the compositional analysis of minerals, rocks and sea-bottom deposits. It may also be used by students and teachers in higher educational institutions to supplement textbook methods of chemical analysis.

COVERAGE: The book contains the accumulated materials on methods tested by the Chemical Analysis Laboratory of the All-Union Scientific Research Institute for Mineral Raw Materials (VIMS) which are used in the Chemical Analysis Section of the Marine Deposits Laboratory attached to the Oceanology Institute,

Card 1/5

Using Organic Bases (Cont.)

SOV/3061

AS USSR, and in other laboratories. Methods employing pyridine, α -picoline and hexamethylene tetramine for accurate and rapid isolation and identification of a number of elements are outlined. The book is dedicated to Vasily Ivanovich Lisitsyn (deceased), former head of the Laboratory and proponent of the stated analytical method. The author thanks T.S. Maslennikova, B.N. Ivanov-Emin and R.I. Romshcheyn (deceased) for laboratory assistance, and I.I. Volkov for technical and editorial assistance. There are 99 references: 22 Soviet, 60 German, 11 English, 3 French, 2 Italian and 1 Rumanian.

TABLE OF CONTENTS:

Foreword	3
Introduction	5
I. Precipitation of Metals With Pyridine	19
1. Separation of iron, aluminum and chromium from manganese, cobalt and nickel	19
2. Separation of iron, aluminum and chromium from zinc.	25
Card 2/5	

Using Organic Bases (Cont.)

SOV/3061

3. Precipitating uranium and separating from alkaline-earth metals 29
 4. Separation of uranium, zirconium and titanium from manganese, cobalt and nickel 32
 5. Separation of iron, aluminum, chromium, uranium, zirconium and titanium from manganese, cobalt, nickel, zinc, calcium, strontium, barium, magnesium and alkali metals 36
 6. Precipitating indium and separating it from manganese, zinc, cobalt, nickel, copper and cadmium 39
 7. Precipitating gallium and separating it from manganese, zinc, cobalt, nickel, copper and cadmium 46
 8. Precipitating thorium and separating it from manganese, nickel, zinc, copper, cadmium, alkaline-earth metals, magnesium and alkali metals 53
- II. Precipitation of Metals With Pyridine in the Presence of Its Salts 65
1. Separation of bismuth from lead, copper and cadmium 65
 2. Separation of thorium from rare earths 69
 3. Separation of scandium from cerium and rare earths 75
- III. Precipitation of Metals With Hydrogen Sulfide in the Presence of Pyridine 82
1. Precipitation of nickel and cobalt sulfides in crystalline form and

Card 3/5

Using Organic Bases (Cont.)	SOV/3061	
separating them from calcium, magnesium and alkali metals		82
2. Determination of alkali metals in nickel and cobalt salts		87
3. Separating cobalt and nickel from manganese		90
IV. Precipitation of Metals With the Aid of α -Picoline		94
1. Separation of beryllium from manganese, cobalt, nickel, zinc, alkaline-earth and alkali metals		94
V. Precipitation of Metals With Hydrogen Sulfide in the Presence of Hexamethylene Tetramine		102
1. Precipitation of manganese in the form of crystalline sulfide; its separation from calcium, magnesium and alkali metals		102
2. Determination of alkali metals in manganese salts		107
3. Precipitation of uranium in ammonium-uranium-hydroxy-disulfo-tetra-uranite water and separating it from calcium, magnesium and alkali metals		110
4. Separation of metals of the third analytical group from calcium, magnesium and alkali metals		114
VI. Methods of Separating Metals With Pyridine, α -Picoline and Hexamethylene Tetramine		120
Card 4/5		

Using Organic Bases (Cont.)

SOV/3061

Conclusion

132

Bibliography

135

AVAILABLE: Library of Congress (GD 75-208)

Card 5/5

TM 118
2-4-60

3 (5), 3 (8)
AUTHORS:

Ostroumov, E. A., Pomina, L. S.

SOV/20-126-2-44/64

TITLE:

Forms of Sulphur Compounds in the Bottom Deposits of the Marian Depression (O formakh soyedineniy sery v donnykh otlozheniyakh Marianskoy vpadiny)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 385-388 (USSR)

ABSTRACT:

Although reductive process investigations are essential for better understanding of the diagenesis processes in the ocean-bottom sediments, such studies on the Pacific are seldom. With the beginning of the reductive reactions the direction of the diagenesis process and with it the character of the migration and the entire picture of the elemental re-distribution is changed. The reductive processes in the said sediments are caused by the life activity of the micro-organisms in the decomposition of organic substance. The sediments of deep-sea depressions are especially interesting owing to the fact that it is here that the organic substance collects. The reductive processes concern the tetravalent manganese and the trivalent iron in its free form (of the hydroxide type). Only then does the sulphate

Card 1/3