CHUKHONTSEV, N.F., dotsent

Simplified calculation of the cross-section area and perimeter of anchored mine workings. Ugol' 36 no.6:24-25 Je '61.
(MIRA 14:7)

1. Novocherkasskiy politekhnicheskiy institut.
(Mining engineering)

L 3088-66 EWT(1)/EWA(h)

ACCESSION NR: AP5018216 UR/0119/65/000/007/0015/0016
621.317.77:681.142.6

AUTHOR: Stepanyan, A. A. (Candidate of technical sciences); Chukhontsev, V. M. (Engineer)

TITLE: Static functional device

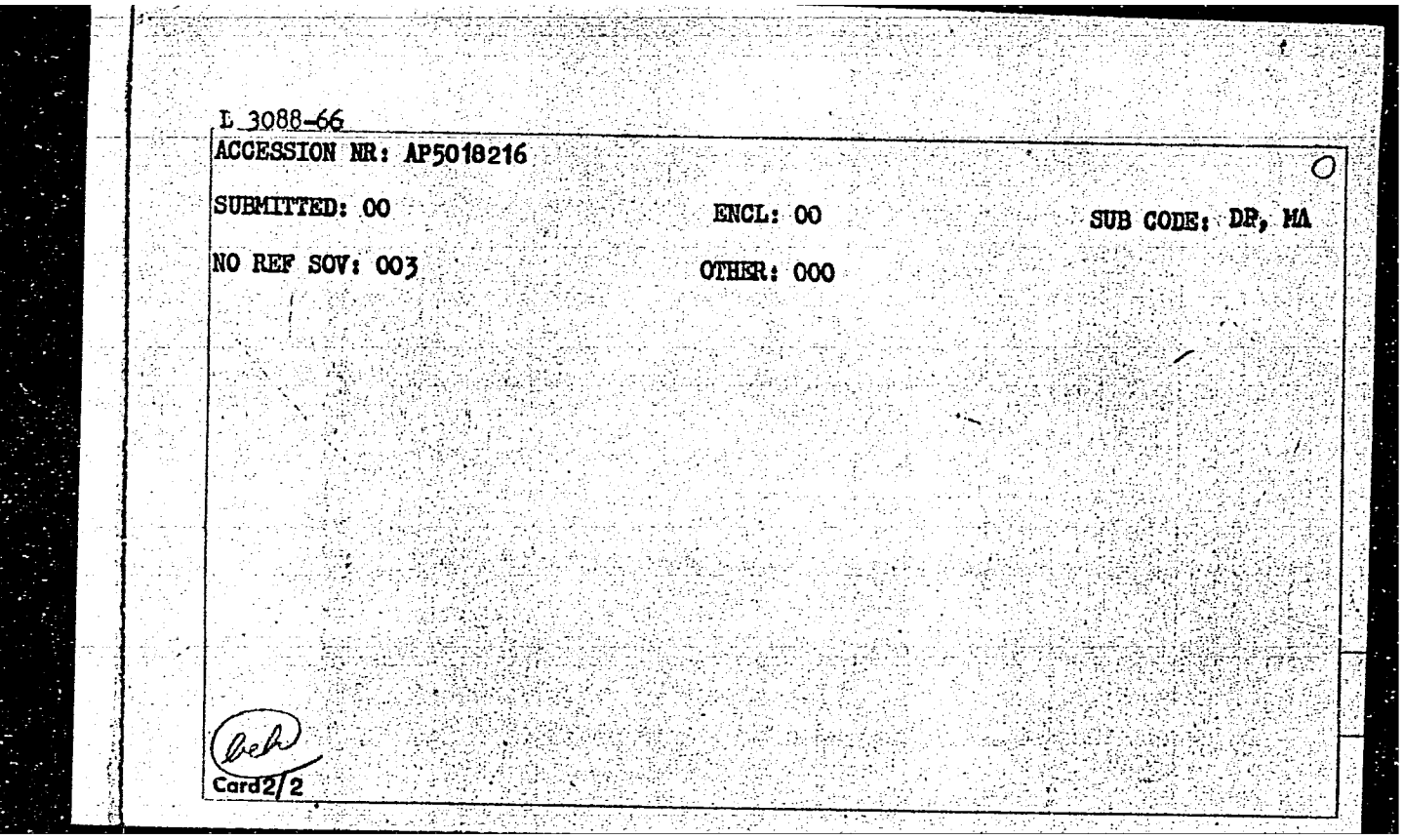
SOURCE: Priborostroyeniye, no. 7, 1965, 15-16

TOPIC TAGS: function generator

ABSTRACT: The principle of operation is explained of a new function generator which produces all trigonometric functions of a phase-shift angle between two voltage vectors of the same frequency. The function generator is based on three multipliers which develop: (1) a scalar product of two voltage vectors, (2) a vector product of two voltage vectors, and (3) a scalar modulus product of two voltage vectors. An experimental model of a new 50-cps phase meter (FV-162) uses the above principle. Orig. art. has: 1 figure, 11 formulas, and 1 table.

ASSOCIATION: none

Card 1/2



L 3088-66
ACCESSION NR: AP5018216

SUBMITTED: 00 ENCL: 00 SUB CODE: DP, MA

NO REF SOV: 003 OTHER: 000

Card 2/2

45499-66 EWT(1)
ACC NR: AP6015579 (N) SOURCE CODE: UR/0146/66/009/002/0083/0085

AUTHOR: Chukhontsev, V. M. 18 B

ORG: Kuybyshev Polytechnic Institute (Kuybyshevskiy politekhnicheskiy institut)

TITLE: Realization of exponential functions by means of nonlinear semiconductor resistors

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 2, 1966, 83-85

TOPIC TAGS: function generator, exponential function, varistor, resistor, semiconductor resistor

ABSTRACT: Formulas are deduced for designing varistor-type exponential-function generators that implement relations of this form: $I = MU^n$, where U is the input voltage, I is the output current, M is a factor of proportionality. The I-V characteristic of the varistor is corrected by connecting it in series with a suitable resistor. The new formulas permit determining the values of M and the series resistance. They were verified experimentally: a function generator designed with $n = 1.7$, 1.6, 1.5, and 1.4 exhibited an error of only $\pm 0.7\%$; a varistor manufactured by the Tallin Radiotechnical Plant im. Kh. Pegel'man was used. Orig. art. has: 1 figure and 11 formulas.

SUB CODE: 09 / SUBM DATE: 27Apr65 / ORIG REF: 005

Card 1/1 UDC: 62-502

ZHEVNOVATYY, A.I.; Prinimali uchastiye: KHAZANOVA, I.V.; KUZNECHENKOV, I.G.; CHUKHONTSEV, V.P.; SHENBERG, G.F.

Agitation flowsheet in the leaching of alumina-bearing calcine with the use of hydrocyclones as main apparatuses for separating the pulp. TSvet. met. 36 no.1:50-53 Ja '63. (MIRA 16:5)
(Leaching) (Alumina)

DUTKIN, G.S., inzh.; CHUKHOV, S.P., inzh.

Preventing corrosion of reinforcements of electric transmission lines in a tropical climate. Energ. stroi. no.2:87-89 '59 (MIRA 13:3)

1. Trest "Armsetʼ".
(Corrosion and anticorrosives) (Electric cables)

DUTKIN, G.S.; CHUKHOV, S.P.; GRIGOR'YEV, Yu.Ye., red.; IGLITSYN, I.L., red.; BORUNOV, N.I., tekhn.red.

[Equipment and regulations for the erection of 35 to 500 kv. electric power transmission lines] Montazhnye prisposobleniia i ukazaniia po montazhu provodov linii elektroperedachi 35 - 500 kv. Moskva, Gos.energ.izd-vo, 1960. 46 p.

(MIRA 14:1)

1. Armset', trust, Moscow.
(Electric lines)

DUTKIN, G.S.; ROSHCHIN, P.I.; CHUKHOV, S.P.; GRIGOR'YEV, Yu.S., red.; PRILEPSKAYA, V.D., tekhn. red.

[Electric insulators and accessories of 35 to 500 kv. electric power transmission lines] Izoliatory i armatura linii elektroperedachi 35-500 kv. Moskva, 1959. 92 p. (MIRA 14:9)

1. Moscow. Nauchno-issledovatel'skiy institut elektropromyshlennosti. TSentral'noye byuro tekhnicheskoy informatsii.
(Electric lines--Overhead)

CHUKHOV, S.P., inzh.; DUTKIN, G.S., inzh.

New supporting devices for electric transmission wires of 220 to 500 kv. Energ. stroi. no.20:150-153 '61. (MIRA 15:1)

1. Trest "Armset".

(Electric lines--Overhead)

CHUKHRAY, A., podpolkovnik

Tactical and special training in an aviation maintenance unit. Tyl i snab. Sov. Voor. Sil 21 no.9:21-23 S '61. (MIRA 14:12)

(Military education)

CHUKHRAY, I.A.; MURAV'YEV, A.I., red.

[Generation of the fearless] Pokolenie besstrashnykh. Moskva, Voenizdat, 1964. 317 p. (MIRA 18:7)

CHUKHRAY, V.

Universal power supply unit. Radio no.6:55-57 Je '64.
(MIRA 17:10)

CHUKRAYEVA, N. I.

Nikol'skiy, V. V., Zalesskaya, M. A., and Chukrayeva, N. I. "The dynamics of RN changes and the albumen content in discharges of gonorrhea patients under the influence of penicillin and sulfadin therapy", Sbornik nauch. trudov (Rost. obl. nauch.-issled. akushersko-ginekol. in-t), Issue 8, 1948, p. 88-94.

So: U-3261, 10 April 1953 (Letopis 'Zhurnal 'nykh Statey, No. 12, 1949(.

CHUKHRAYEVA, N. M.

Chukhrayeva, N. M. "An analysis of the causes of stillbirths in the delivery statinns of the cities of Rostov Oblast during 1947" (Author's summary of the paper),,Sbornik nauch. trudov (Rost. obl. nauch.-issled. akushersko-ginekol. in-t), Issue 8, 1948, p. 213-14.

SO: U-3261, 10 April 1953 (letopis 'Zhurnal 'nykh Statey, No. 12, 1949).

CHUKREYEV, V.K.

Phenological seasonality and winters in the northeastern U.S.S.R.
Probl. Sev. no.7:217-223 '63. (MIRA 17:2)

VOZNITSKIY, Igor' Vital'yevich; IVANOV, Lev Andrianovich. Prinimal uchastiye CHUKHRIN, L.A.; MEGRABOV, G.A., dots., retsenzent; MALAKHOV, N.D., mekhanik-nastavnik Dal'nevostochnogo parokhodstva, retsenzent; NELIDOVA, E.S., red.; LAVRENOVA, N.B., tekhn. red.

[Breakdown of internal combustion marine engines] Avarii sudovykh dvigatelei vnutrennego sgoraniia. Moskva, Izd-vo "Morskoi transport," 1961. 240 p. (MIRA 15:2)
(Marine engines--Maintenance and repair)

CHUKHRIN, L.A., inzh.; KUZ'MINA, T.M., inzh.

Brittle failure of marine boilers elements. Sudostroenie 27 no.9:60-61 S '61. (MIRA 14:11)
(Boilers, Marine—Corrosion)

CHUKHRIN, L.A., inzh.

Portable metallographic microscope. Energetik 10 no.3:16 Mr '62. (MIRA 15:2)

(Pipelines—Metallography)
(Microscope)

CHUKHRIY, M.

Construction brigade of Hryhorii Radchuk. Sil'.bud.no.6:22-23 S '55. (MIRA 9:7)

1.Starshiy zootekhnik Ternopil'skogo oblasnogo upravlinnya sil'skogo gospodarstva.
(Skala-Podol'skaya region--Construction industry)

CHUKHRIYENKO, D. P.

Method of application of prolonged interrupted conditioned reflex sleep therapy. Khirurgiia, Moskva no.4:12-18 Apr. 1952. (CLML 22:2)

1. Docent. 2. Kiev.

CHUKHRIYENKO, D.P.

Method of prophylactic regimen and conditioned reflex sleep therapy. Fel'dsher & akush., Moskva no. 5:39-44 May 1952.
(CLML 22:3)

1. Docent. 2. Kiev.

CHUKHRIYENKO, D.P.

Organization and present state of emergency of surgical service; in medical institutions of Ukraine. Sovet. zdravookhr. 11 no.2:17-23 Mar-Apr 1952. (CLML 22:1)

1. Docent, Deputy Minister of Public Health Ukrainian SSR.

CHUKHRIYENKO, D. P.

"Rectrograde Invagination with Prolapse of the Small Intestine into the Stomach," Sov. Med., 16, No.5, 1952

CHUKHRIYENKO, D.P.

Medico-prophylactic regimen, conditioned reflex sleep therapy and therapy with prolonged physiological sleep in the practice of therapeutic institutions of Ukraine. Klin. med., Moskva 30 no.7:3-9 July 1952. (CLML 22:4)

1. Docent, Deputy Minister of Public Health Ukraine SSR. 2. Kiev.

CHUKHRIYENKO, D.P.

Intestinal obstruction due to ascariasis. Med. parazit., Moskva no.3: 262-268 May-June 1953. (CIML 25:1)

1. Of the Department of Faculty Surgery (Head -- Prof. I. Ya. Deyneka), Vinnitsa Medical Institute.

CHUKHRIYENKO, D.P., dotsent.

Strangulation of intestines in openings of the mesentery, the epiploon, and the broad ligament; data from therapeutic institutions of the Ukraine. Khirurgiia no.7:47-54 Jl '53. (MLRA 6:9)

(Intestines--Obstructions)

CHUKHRIYENKO, D.P., dotsent

Ovarian cyst and intestinal obstruction. Akush. i gin. no.3:49-54 My-Je '54. (MLRA 7:8)

1. Iz kafedry fakul'tetskoy khirurgii (zav. prof. M.A.Kimbarovskiy) i kafedry akusherstva i ginekologii (zav. prof. Ya.V.Kukolev) Dnepropetrovskogo meditsinskogo instituta.

(INTESTINAL OBSTRUCTION, etiology and pathogenesis, *ovarian cyst)
(OVARIES, cysts, *compl., intestinal obstruct.)
(CYSTS, *ovaries, compl., intestinal obstruct.)

CHUKHRIYENKO, D.P., dotsent (Kiyev).

Vestiges of the vitelline duct as a cause of intestinal obstruction; according to data from Ukrainian hospitals and clinics. Vest.khir. 74 no.2:44-49 Mr '54. (MLRA 7:4)

(Intestines--Obstructions) (Umbilicus)

CHUKHRIYENKO, D. P.

CHUKHRIYENKO, D. P. - "Impermeability of the intestine" (Clinical and Experimental investigation). Dnepropetrovsk-Odessa, 1955. Chair of General Surgery, Odessa State Medical Inst imeni N. I. Pirogov; Chair of Pharmacology and Chair of Hospital Surgery, Dnepropetrovsk State Medical Inst. (Dissertation for the degree of Doctor of Medical Sciences).

SO. Knizhnaya Letopis' No. 46, 12 November 1955. Moscow

CHUKHRIYENKO, D.P.

Summaries of papers presented at the XXVI Congress of Surgeons of the USSR, Moscow, 20 - 27 January 1955, included:

Changes in the Electric Activity of the Cerebral Cortex in Cases of Intestinal Obstruction and a Substantiation of Methods of Anaesthesia for its Operative Treatment.

D. P. CHUKHRIENKO

SOURCE: [redacted]-46013 (Official Publication) Unclassified.

CHUKHRIYENKO, DMITRIY PAVLOVICH

CHUKHRIYENKO, Dmitriy Pavlovich (Dnepropetrovsk State Med Inst), Academic degree of Doctor of Medical Sciences, based on his defense, 31 October 1955, in the Council of the Odessa State Med Inst imeni Pirogov, of his dissertation entitled: " Intestinal Obstruction (a clinical and experimental investigation)."

For the Academic Degree of Doctor of Sciences.

Byulleten' Ministerstva Vysshego Obrazovaniya SSSR, List No.8, 14 April 1955
Decision of Higher Certification Commission Concerning Academic Degrees and Titles.

JPRS 512

CHUKHRIENKO, D. P.

From the Russian for Dr. John F. Potter

Vestnik Akad. Med. Nauk SSSR
11 (2): 35-45; 1956

Homoplastic Transplanting of Glands of Internal Secretion to Vascular Pedicel
by
T, E. Gnilorybov (Honorary Sci. Worker of the Ukrainian SSR, Dnepropetrovsk)

(From the Chair of Hospital Surgery (Head: Prof. T. E. Gnilorybov) of the Dnepropetrovsk Medical Institute (Dir.: D. P. Chukhrienko, docent).)

(Article entered editorial office 10-27-55.)

CHUKHRIYENKO, D.P., dotsent

Effectiveness of ether anesthesia in surgery of the gastrointestinal tract; experimental research. Khirurgiia 32 no.11:40-43 N '56. (MLRA 10:3)

1. Iz kafedry gospital'noy khirurgii (zav. - zasluzhennyy deyatel' nauki prof. T.Ye.Gnilorybov) i kafedry farmakologii (zav. - prof. G.Ye.Batrak) Dnepropetrovskogo meditsinskogo instituta.

(GASTROINTESTINAL SYSTEM, surg.
exper., ether anesth.)
(ETHER,ETHYL,anesthesia and analgesia
in exper. surg. of gastrointestinal tract)

CHUKHRIYENKO, D.P., dotsent (Dnepropetrovsk, ul. Dzerzhinskogo d.18-a kv.28)

Methods and effectiveness of local novocaine anesthesia in surgery of the gastrointestinal tract; experimental research [with summary in English. p.158] Vest.khir. 77 no.8:18-29 Ag '56. (MLRA 9:10)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. [illegible]e.Gnilorybov) i kafedry farmakologii (zav. - prof. G.Ye.Batrak) Dnepropetrovskogo meditsinskogo instituta.

(GASTROINTESTINAL SYSTEM, surg.
local anesth. in dogs)
(ANESTHESIA, LOCAL, exper.
in gastrointestinal tract surg. in dogs)

USSR/Human and Animal Morphology (Normal and Pathological). S-1
Digestive System. Digestive Tract and Glands.

Abs Jour: Ref Zhur - Biol., No 19, 1958, 88329

Author : Chukhriyenko, D. P.

Inst : Dnepropetrovsk Medical Institute

Title : Pathological Anatomy of Intestinal Obstruction.

Orig Pub: Sb. nauchn. tr. Dneprepetr. med. i-nt, 1957, 2, 311-315

Abstract: A survey. Changes in the digestive tract are described, particularly the destructive processes in the nervous apparatus of the intestinal wall, manifestations of venous stasis, etc. It is noted that the pathomorphological changes are less marked in obstruction than in strangulation.

Card 1/1

CHUKHRIYENKO, Dmitriy Pavlovich

[Obstruction of the intestines] Neprokhodimost' kishechnika. Kiyev, Gos.Med.izd-vo USSR, 1958. 428 p. (MIRA 12:2)
(INTESTINES--OBSTRUCTIONS)

GNILORYBOV, T.Ya.; KAMAYEV, M.F.; POZNYAKOV, K.I.; KHOROSHMANENKO, N.Ya.; CHUKHRIYENKO, D.R.

Dmitrii Averkievich Vasilenko. Nov. khir. arkh. no.2:138-139 Mr-Ap '59. (MIRA 12:7)
(VASILENKO, DMITRII AVERKIEVICH, 1883-)

CHUKHRIYENKO, D.P.; GRINEV, M.M.

Some data on the action of muscle relaxants (ditilin, diplacin). Khirurgiia 35 no.9:97-102 '59. (MIRA 13:12)
(MUSCLE RELAXANTS)

CHUKHRIYENKO, D.P., prof. (Dnepropetrovsk, ul. Kuybysheva, d.6, kv.2)

Operative treatment of recurrent and massive forms of rectal prolapse with the use of capron material. Vest.khir. 83 no.10:78-83 O '59. (MIRA 13:2)

1. Iz 2-y gospital'noy khirurgicheskoy kliniki (zaveduyushchiy - prof. D.P. Chukhriyenko) Dnepropetrovskogo meditsinskogo instituta.
(RECTUM diseases)
(NYLON)

AMINEV, A.M., prof.; BEREZOV, Ye.L., prof.; BISENKOV, N.P., kand. med. nauk; BRAYTSEV, V.R., prof.; DEYNEKA, I.Ya., prof.; DYSKIN, Ye.A., kand. med. nauk KAZANSKIY, V.I., prof.; KARAVANOV, G.G., prof.; LEVIN, M.M., prof.; MAKSIMENKOV, A.N., prof.; MAYAT, V.S., prof.; NAPALKOV, P.N., prof.; ROZANOV, B.S., prof.; RUSANOV, A.A., prof.; RUSANOV, G.A., kand. med. nauk; FILATOV, A.N., prof.; CHUKHRIYENKO, D.P., prof.; SHILOVTSEV, S.P., prof.; PETROVSKIY, B.V., prof., otv. red.; MEL'NIKOV, A.V., prof., red. toma; SUVOROVA. T.A., dots., red.; MIROTVORTSEVA, K.S., red.; RULEVA, M.S., tekhn. red.

[Multivolume manual on surgery] Mnogotomnoe rukovodstvo po khirurgii. Moskva, Medgiz. Vol.7. [Surgery of the abdominal wall and organs of the abdominal cavity, the stomach and intestines] Khirurgiia briushnoi stenki, organov briushnoi polosti-zheludka i kishechnika. 1960. 746 p. (MIRA 15:3)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Braytsev, Petrovskiy, Mel'nikov). 2. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Maksimenkov, Filatov).
(ABDOMEN--SURGERY)

CHUKHRIYENKO, D.P., prof. (Dnepropetrovsk)

Use of capron tissue in surgical treatment of uterine prolapse. Akush.i gin. 36 no.5:74-78 S-O '60. (MIRA 13:11)
(UTERUS—SURGERY) (NYLON)

CHUKHRIYENKO,D.P., professor

Nephropexy with the aid of capron. Vest.khir. no.6:110-111 '61. (MIRA 15:1)

1. Iz 2-y gospital'noy khirurgicheskoy kliniki (zav. - prof. D.P. Chukhriyenko) Dnepropetrovskogo meditsinskogo instituta.
(KIDNEYS--SURGERY) (NYLON)

CHUKHRIYENKO, D.P., prof. (Dnepropetrovsk, ul. Kuybysheva, d.6, kv.2)

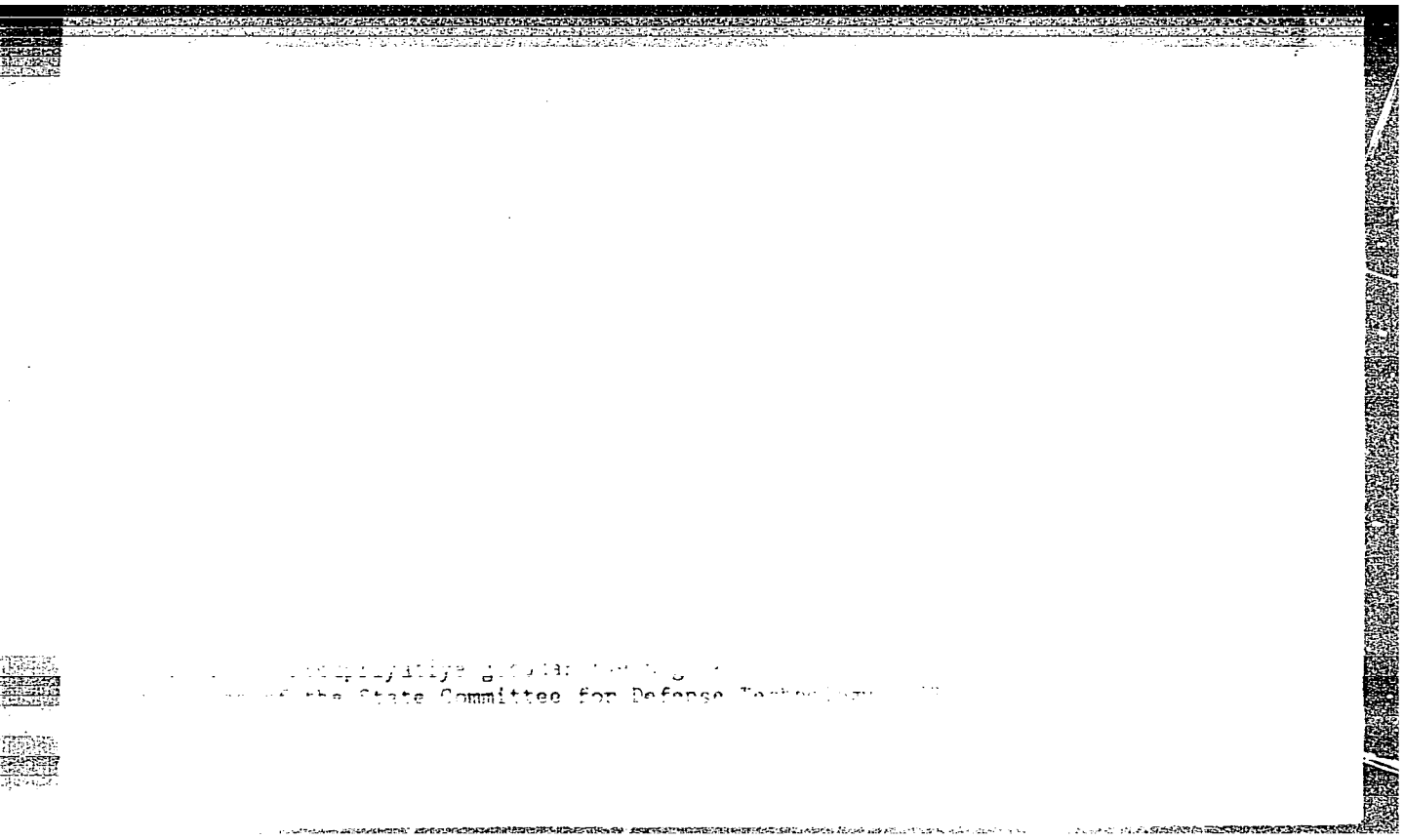
Characteristics of the properties of lavsan as alloplastic material. Vest. khir. 89 no.10:53-64 O '62. (MIRA 17:10)

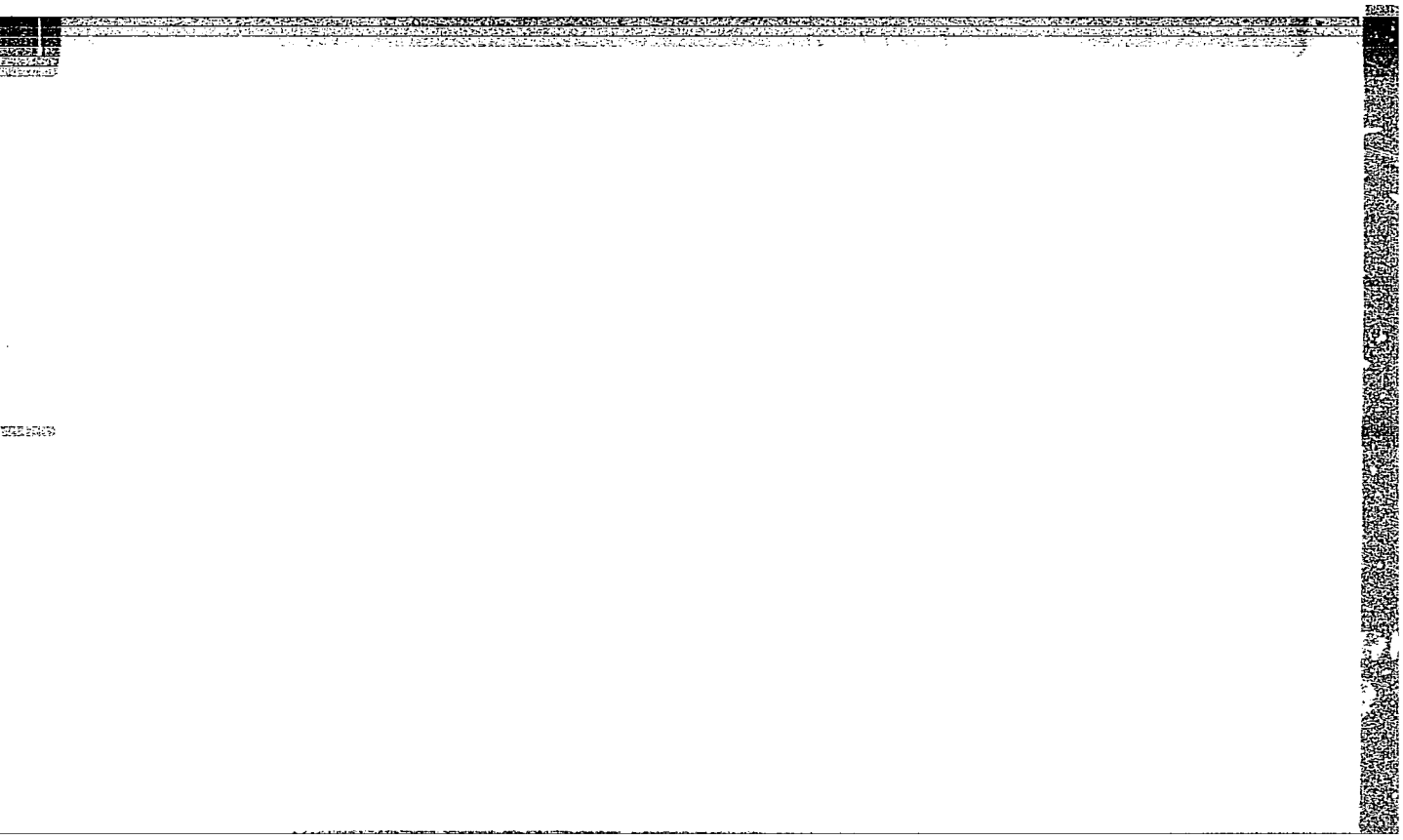
1. Iz 2-y gospital'noy khirurgicheskoy kliniki (zav. - prof. D.P. Chukhriyenko) Dnepropetrovskogo meditsinskogo instituta.

CHUKHRIYENKO, D.P. (Dnepropetrovsk, ul. Kuybysheva, d.6. kv.2.)

Complicated pulmonary cysts and their treatment. Grudn. khir. 5 no.3:49-53 My-Je '63 (MIRA 17:1)

1. Iz kafedry gospital'noy khirurgii No.2 (zav. - prof. D.P. Chukhriyanko) Dnepropetrovskogo meditsinskogo instituta.





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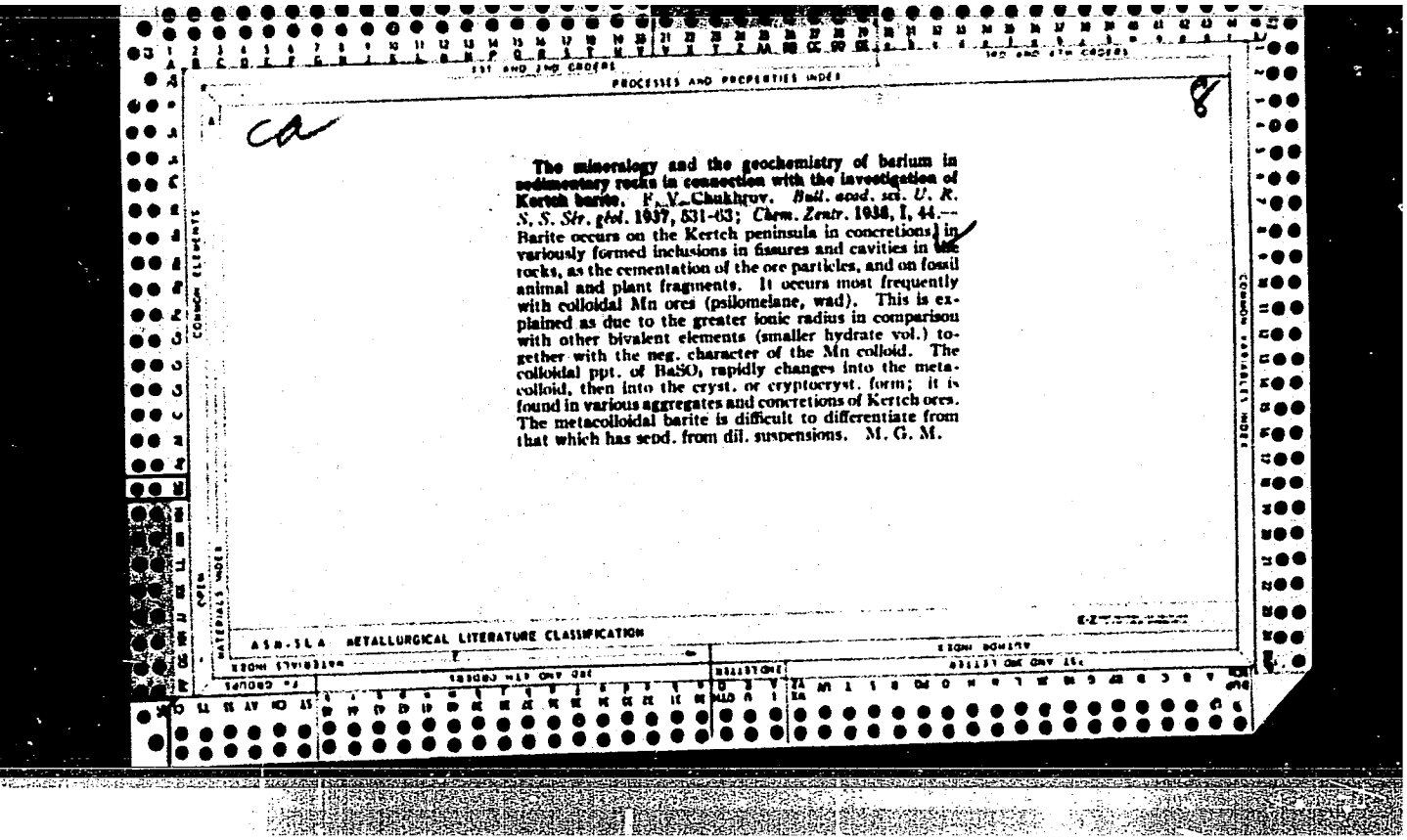
CHUKHROV, F.V.

Conference on Clay Research in Stockholm. Vest. AN SSSR 33 no.12:58-61 D '63. (MIRA 17:1)

1. Chlen-korrespondent AN SSSR.



PROCESSES AND PROPERTIES INDEX

The mineralogy and the geochemistry of barium in sedimentary rocks in connection with the investigation of Kerch barite. F. V. Chukhrov. *Bull. acad. sci. U. R. S. S. Sér. géol.* 1937, 831-63; *Chem. Zentr.* 1938, I, 44.—Barite occurs on the Kerch peninsula in concretions, in variously formed inclusions in fissures and cavities in the rocks, as the cementation of the ore particles, and on fossil animal and plant fragments. It occurs most frequently with colloidal Mn ores (psilomelane, wad). This is explained as due to the greater ionic radius in comparison with other bivalent elements (smaller hydrate vol.) together with the neg. character of the Mn colloid. The colloidal ppt. of $BaSO_4$ rapidly changes into the metacolloid, then into the cryst. or cryptocryst. form; it is found in various aggregates and concretions of Kerch ores. The metacolloidal barite is difficult to differentiate from that which has separated from dil. suspensions. M. G. M.

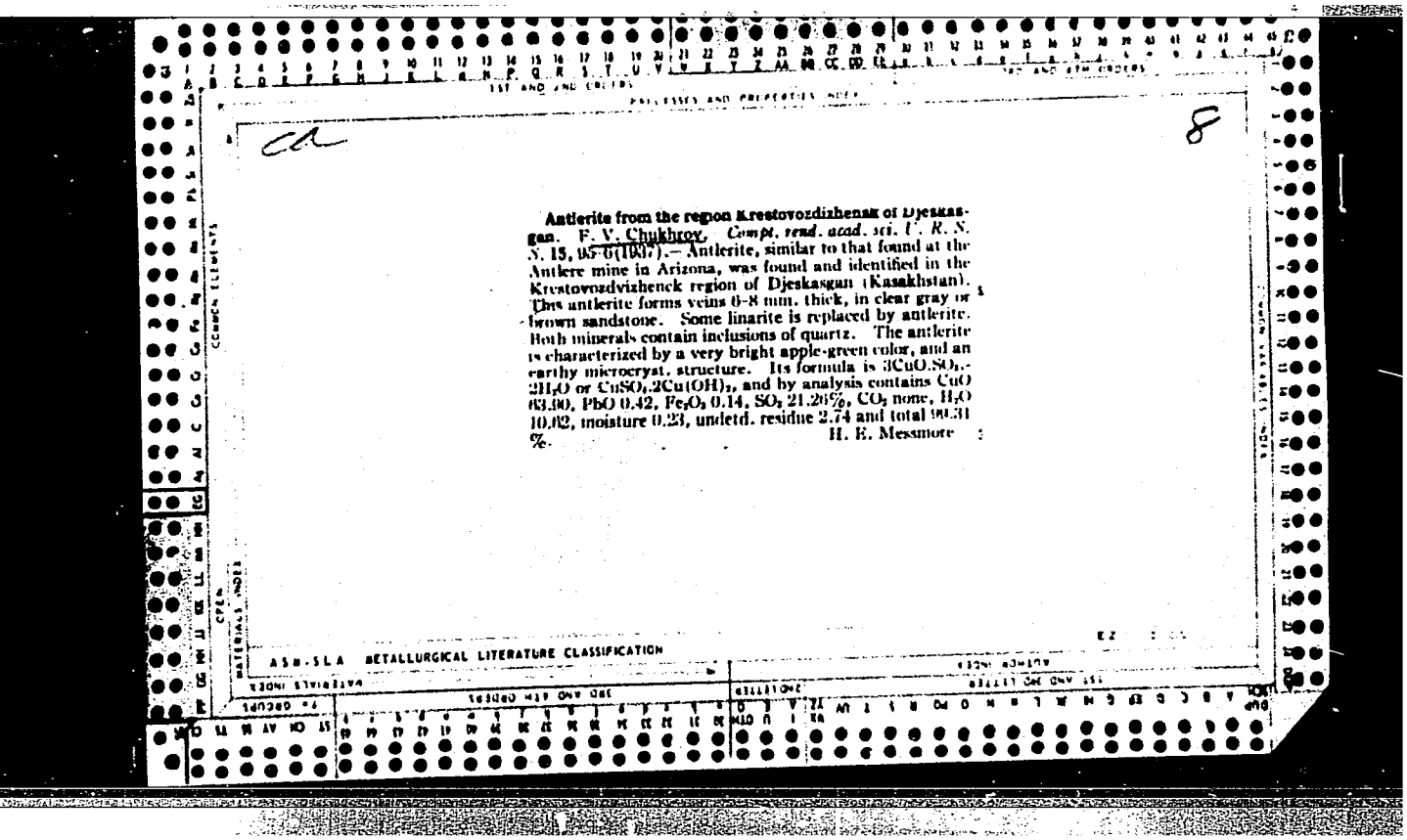
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

The composition and genesis of mitridatite. Chukhrov. *Trav. inst. Lomonosoff géochim., cryst. mineral. Bull.* No. 10, 139–48 (in English 148–50) (1937). This mineral is a Ca-Fe^{+++} phosphate with the approx. formula $3CaO.2Fe_2O_3.2P_2O_5.nH_2O$. It thus approaches the compn. of calcioferrite ($4CaO.3Fe_2O_3.4P_2O_5.19H_2O$). The presence of As in mitridatite is due to secondary reactions. A complete analyses is given in a table, with English titles. I. S. Joffe

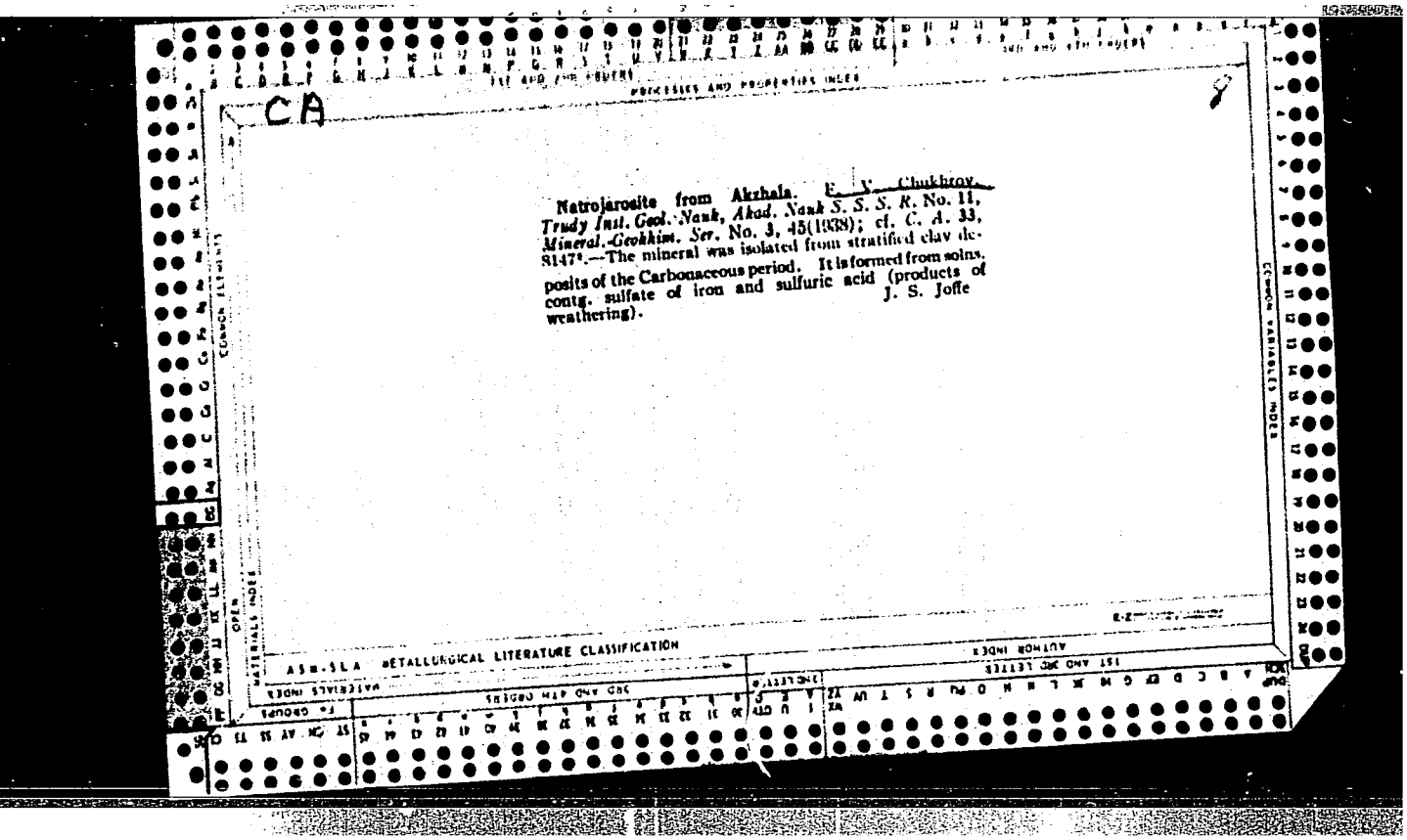
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Antlerite from the region Krestovozdizhenak of Djeskasgan. F. V. Chukhrov. *Compt. rend. acad. sci. U. R. S. S.* 15, 95-6(1937).— Antlerite, similar to that found at the Antlere mine in Arizona, was found and identified in the Krestovozdvizhenck region of Djeskasgan (Kasakhstan). This antlerite forms veins 6-8 mm. thick, in clear gray or brown sandstone. Some linarite is replaced by antlerite. Both minerals contain inclusions of quartz. The antlerite is characterized by a very bright apple-green color, and an earthy microcryst. structure. Its formula is $3CuO.SO_3.2H_2O$ or $CuSO_4.2Cu(OH)_2$, and by analysis contains CuO 63.40, PbO 0.42, Fe_2O_3 0.14, SO_3 21.26%, CO_2 none, H_2O 10.02, moisture 0.23, undetd. residue 2.74 and total 99.31 %.

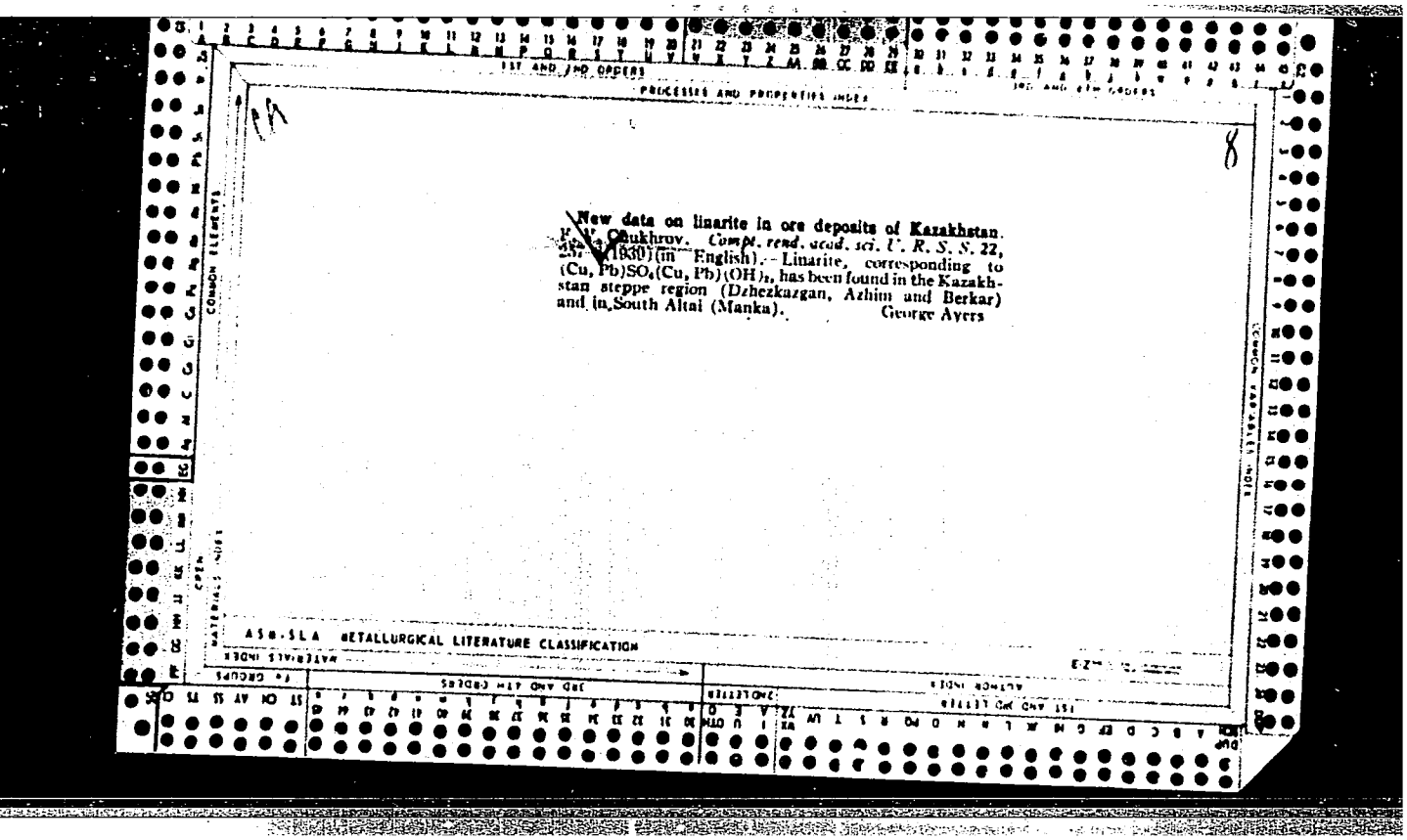
H. E. Messmore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

Natrojarosite from Akzhala. E. V. Chukhrov. *Trudy Inst. Geol. Nauk, Akad. Nauk S. S. S. R.* No. 11, *Mineral.-Geokhim. Ser.* No. 3, 45(1938); cf. *C. A.* 33, 8147⁹.—The mineral was isolated from stratified clay deposits of the Carbonaceous period. It is formed from soln. contg. sulfate of iron and sulfuric acid (products of weathering). J. S. Joffe



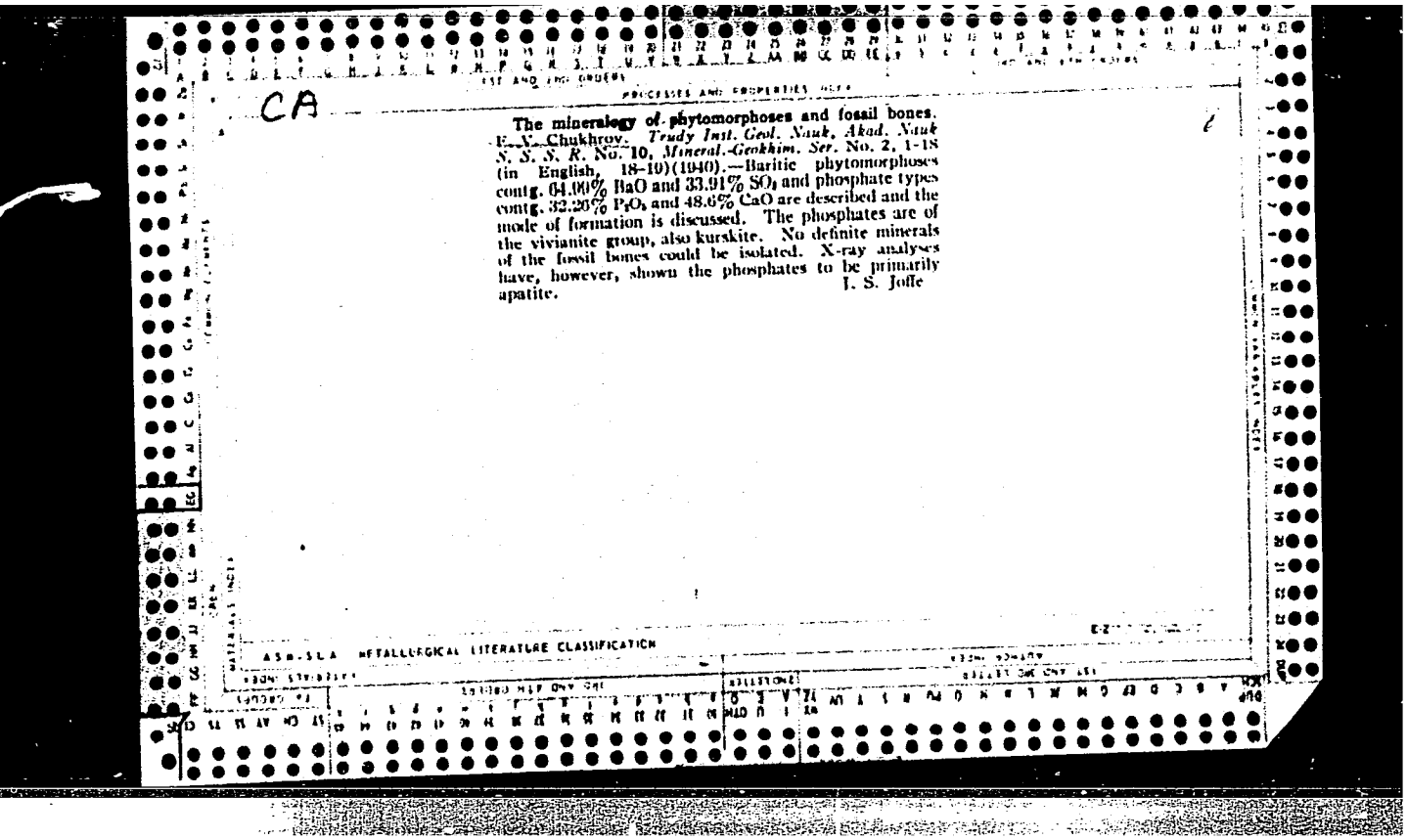
New data on linarite in ore deposits of Kazakhstan. F. V. Chukhrov. *Compt. rend. acad. sci. U. R. S. S.* 22, 483–4 (1939) (in English).—Linarite, corresponding to $(Cu, Pb)SO_4(Cu, Pb)(OH)_2$, has been found in the Kazakhstan steppe region (Dzhezkazgan, Azhim and Berkar) and in South Altai (Manka). George Ayers

CHUKHROV, F. V.

"Herrungrundite from the Uspenskiy Mine in Kazakhstan," Dokl. AN SSSR, 23, No.2, 1939

CHUKHROV, Fedor Vasil'yevich

Ore Deposits in the Dzhezkazgan-Ulutau Rayon in Kazakhstan, Moscow-Leningrad, 1940

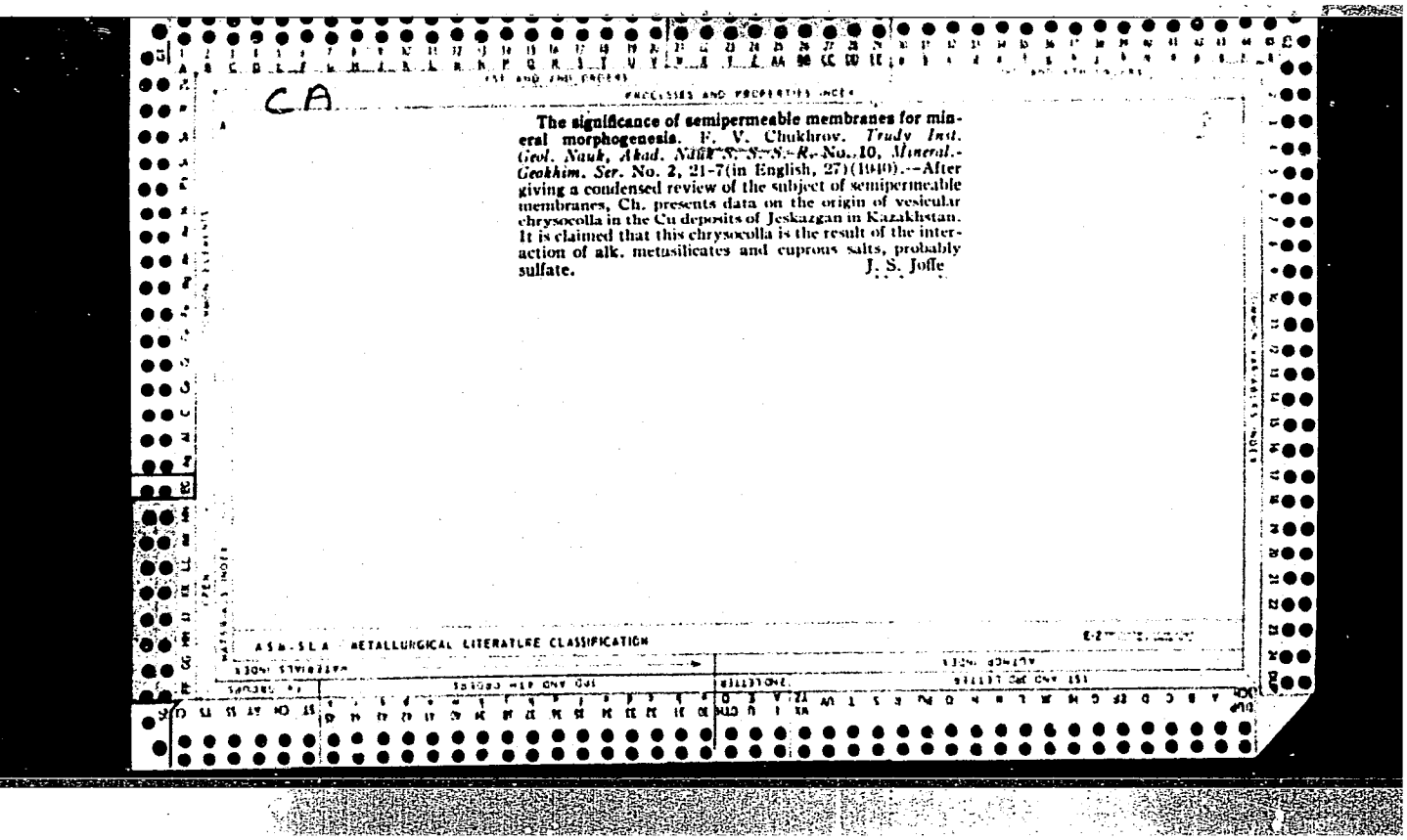


CA

The mineralogy of phytomorphoses and fossil bones. E. V. Chukhrov. *Trudy Inst. Geol. Nauk, Akad. Nauk S. S. S. R.* No. 10, *Mineral.-Geokhim. Ser.* No. 2, 1-18 (in English, 18-19)(1940).—Baritic phytomorphoses contg. 64.09% BaO and 33.91% SO_3 and phosphate types contg. 32.26% P_2O_5 and 48.6% CaO are described and the mode of formation is discussed. The phosphates are of the vivianite group, also kurskite. No definite minerals of the fossil bones could be isolated. X-ray analyses have, however, shown the phosphates to be primarily apatite.

I. S. Joffe

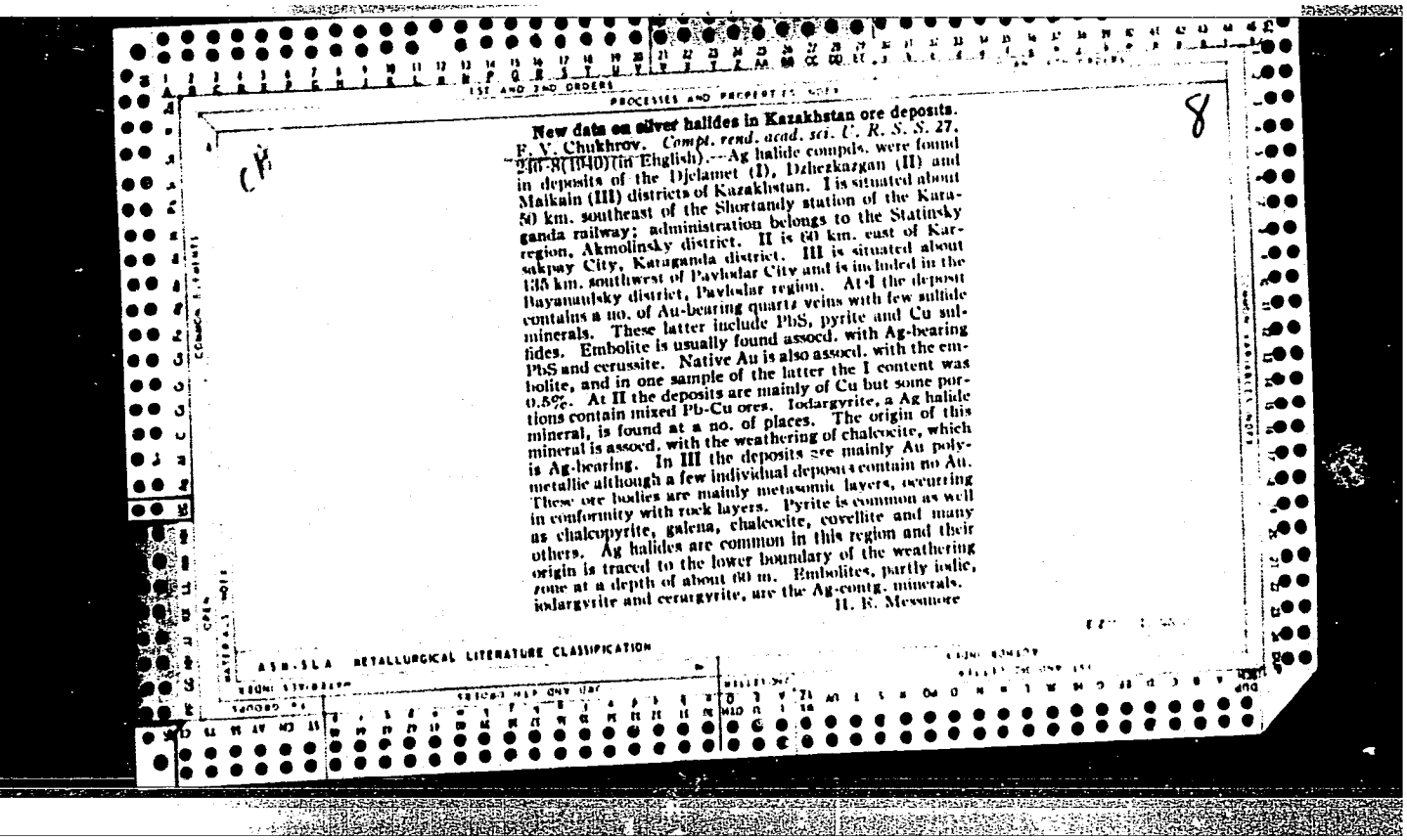
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



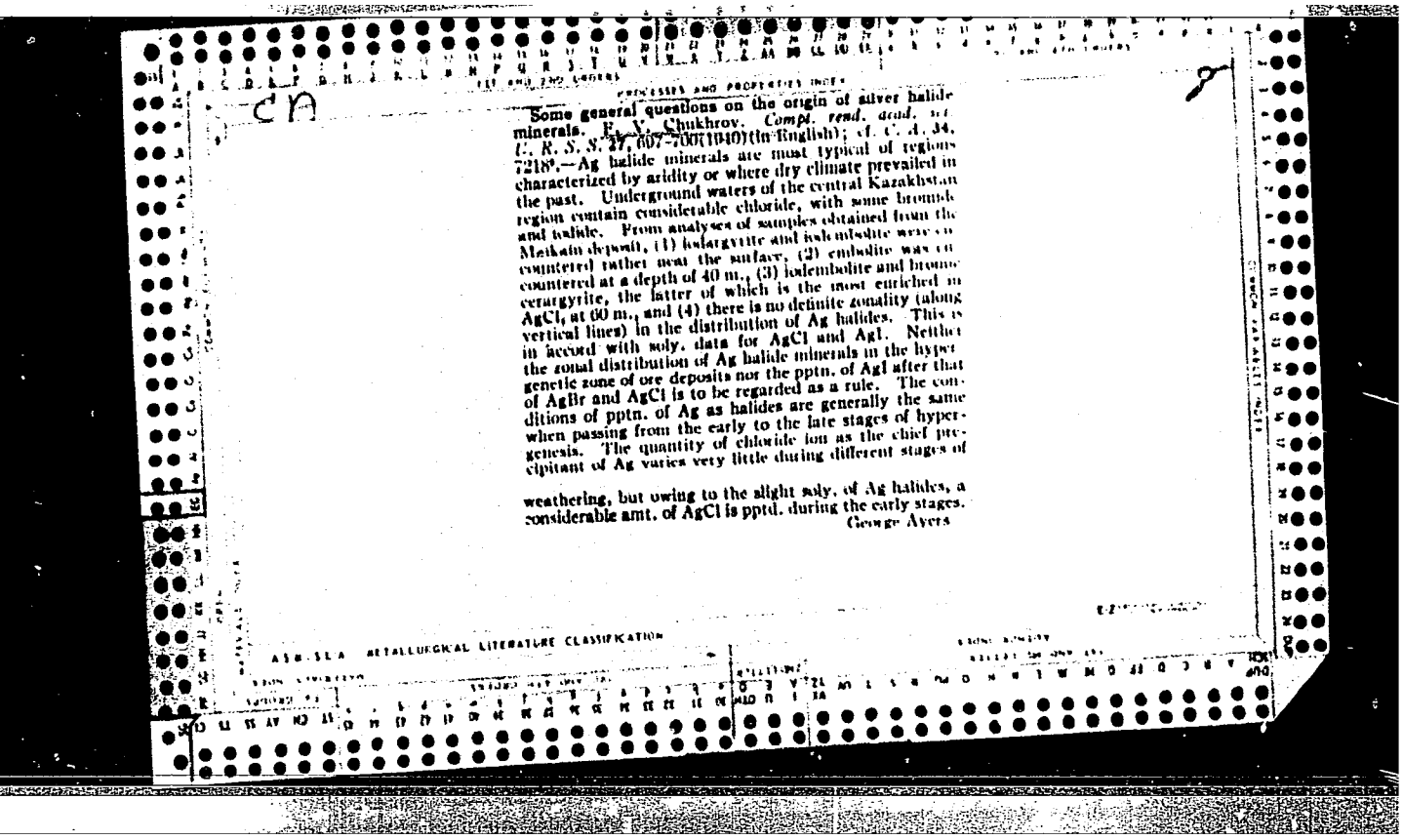
CA

The significance of semipermeable membranes for mineral morphogenesis. F. V. Chukhrov. *Trudy Inst. Geol. Nauk, Akad. Nauk S.S.S.R.* No. 10, *Mineral.-Geokhim. Ser.* No. 2, 21-7(in English, 27)(1940).--After giving a condensed review of the subject of semipermeable membranes, Ch. presents data on the origin of vesicular chrysocolla in the Cu deposits of Jeskazgan in Kazakhstan. It is claimed that this chrysocolla is the result of the interaction of alk. metasilicates and cuprous salts, probably sulfate.

J. S. Joffe

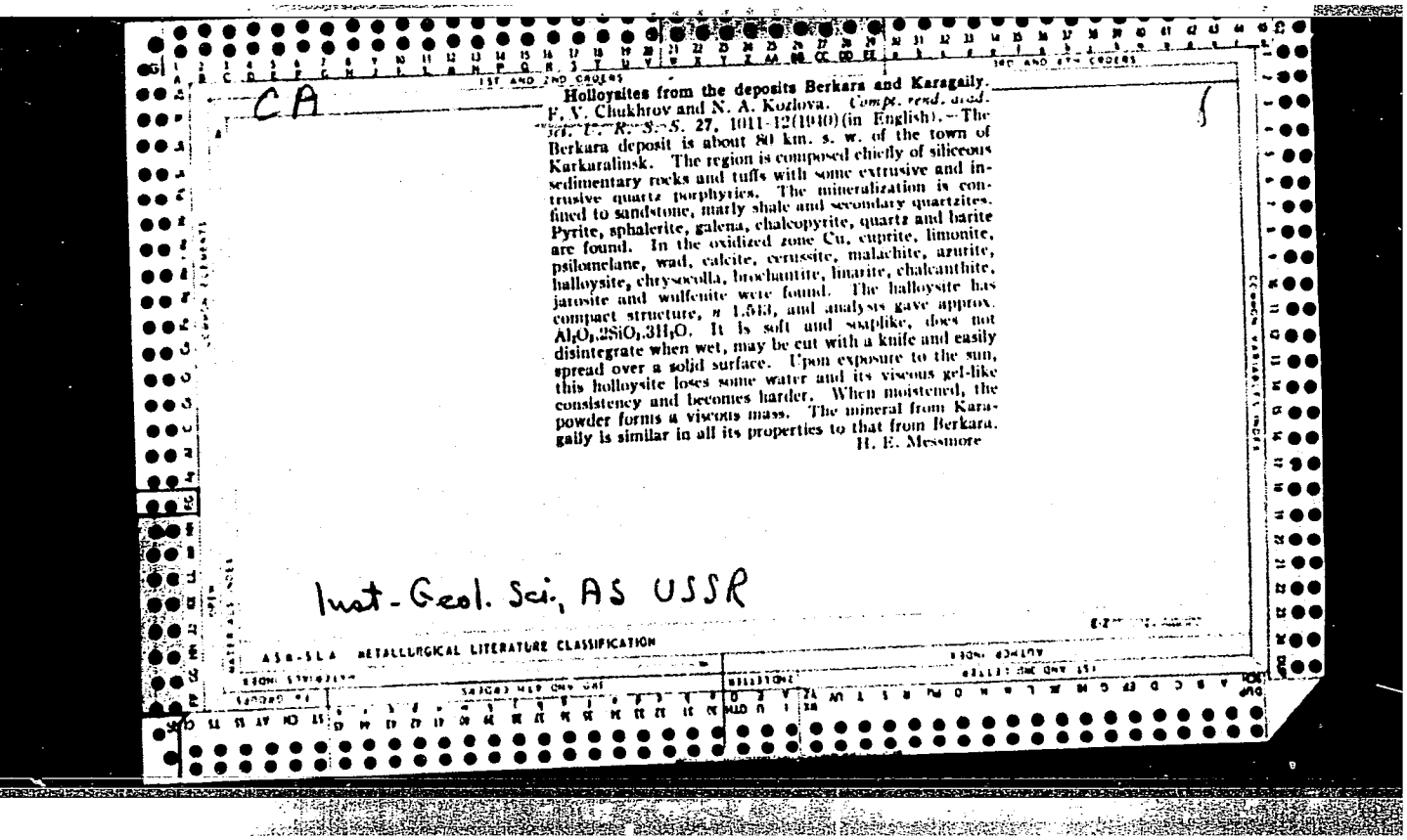


New data on silver halides in Kazakhstan ore deposits. F. V. Chukhrov. *Compt. rend. acad. sci. U. R. S. S.* 27, 2(II):8(1940)(in English).—Ag halide compds. were found in deposits of the Djelamet (I), Dzhezkazgan (II) and Maikain (III) districts of Kazakhstan. I is situated about 50 km. southeast of the Shortandy station of the Karaganda railway; administration belongs to the Statinsky region, Akmolinsky district. II is 60 km. east of Karsakpay City, Karaganda district. III is situated about 135 km. southwest of Pavlodar City and is included in the Bayanaulsky district, Pavlodar region. At I the deposit contains a no. of Au-bearing quartz veins with few sulfide minerals. These latter include PbS, pyrite and Cu sulfides. Embolite is usually found assocd. with Ag-bearing PbS and cerussite. Native Au is also assocd. with the embolite, and in one sample of the latter the I content was 0.5%. At II the deposits are mainly of Cu but some portions contain mixed Pb-Cu ores. Iodargyrite, a Ag halide mineral, is found at a no. of places. The origin of this mineral is assocd. with the weathering of chalcocite, which is Ag-bearing. In III the deposits are mainly Au polymetallic although a few individual deposits contain no Au. These ore bodies are mainly metasomic layers, occurring in conformity with rock layers. Pyrite is common as well as chalcopyrite, galena, chalcocite, covellite and many others. Ag halides are common in this region and their origin is traced to the lower boundary of the weathering zone at a depth of about 60 m. Embolites, partly iodic, iodargyrite and cerargyrite, are the Ag-contg. minerals.
H. E. Messmore



Some general questions on the origin of silver halide minerals. F. V. Chukhrov. *Compt. rend. acad. sci. U. R. S. S.* 27, 697–700 (1940) (In English); cf. *C. A.* 34, 7218⁹.—Ag halide minerals are most typical of regions characterized by aridity or where dry climate prevailed in the past. Underground waters of the central Kazakhstan region contain considerable chloride, with some bromide and iodide. From analyses of samples obtained from the Maikain deposit, (1) bolargyrite and iodargyrite were encountered rather near the surface, (2) embolite was encountered at a depth of 40 m., (3) iodembolite and bromocerargyrite, the latter of which is the most enriched in AgCl, at 60 m., and (4) there is no definite zonality (along vertical lines) in the distribution of Ag halides. This is in accord with soly. data for AgCl and AgI. Neither the zonal distribution of Ag halide minerals in the hypogenetic zone of ore deposits nor the pptn. of AgI after that of AgBr and AgCl is to be regarded as a rule. The conditions of pptn. of Ag as halides are generally the same when passing from the early to the late stages of hypergenesis. The quantity of chloride ion as the chief precipitant of Ag varies very little during different stages of weathering, but owing to the slight soly. of Ag halides, a considerable amt. of AgCl is pptd. during the early stages.

George Ayers

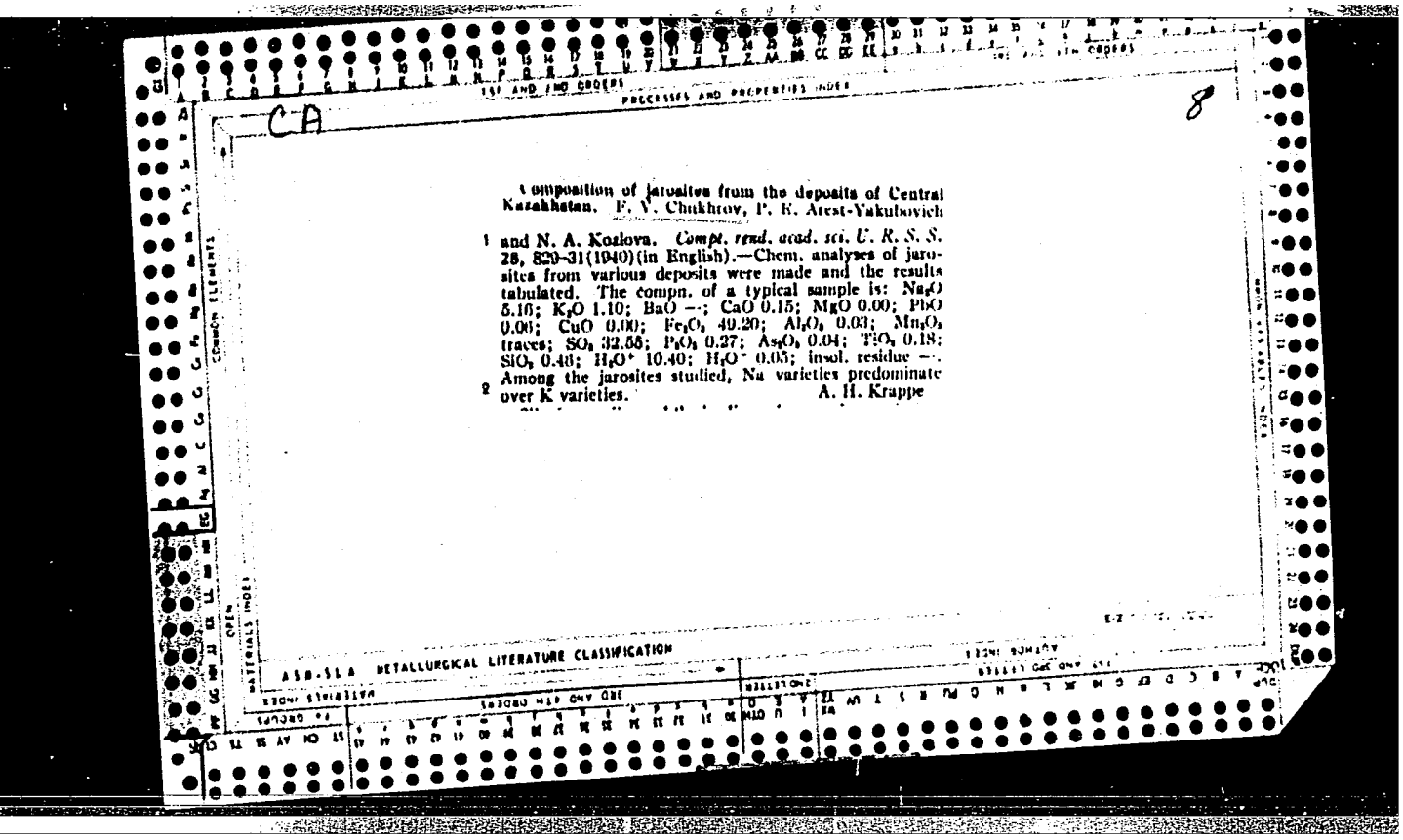


CA

Halloysites from the deposits Berkara and Karagaily. F. V. Chukhrov and N. A. Kozlova. *Compt. rend. acad. Sci. U. R. S. S.* 27, 1011-12(1940)(in English).—The Berkara deposit is about 80 km. s. w. of the town of Karkaralinsk. The region is composed chiefly of siliceous sedimentary rocks and tuffs with some extrusive and intrusive quartz porphyries. The mineralization is confined to sandstone, marly shale and secondary quartzites. Pyrite, sphalerite, galena, chalcopyrite, quartz and barite are found. In the oxidized zone Cu, cuprite, limonite, psilomelane, wad, calcite, cerussite, malachite, azurite, halloysite, chrysocolla, brochantite, linarite, chalcanthite, jarosite and wulfenite were found. The halloysite has compact structure, n 1.513, and analysis gave approx. $Al_2O_3.2SiO_2.3H_2O$. It is soft and soaplike, does not disintegrate when wet, may be cut with a knife and easily spread over a solid surface. Upon exposure to the sun, this halloysite loses some water and its viscous gel-like consistency and becomes harder. When moistened, the powder forms a viscous mass. The mineral from Karagaily is similar in all its properties to that from Berkara.
H. E. Messmore

Inst. Geol. Sci., AS USSR

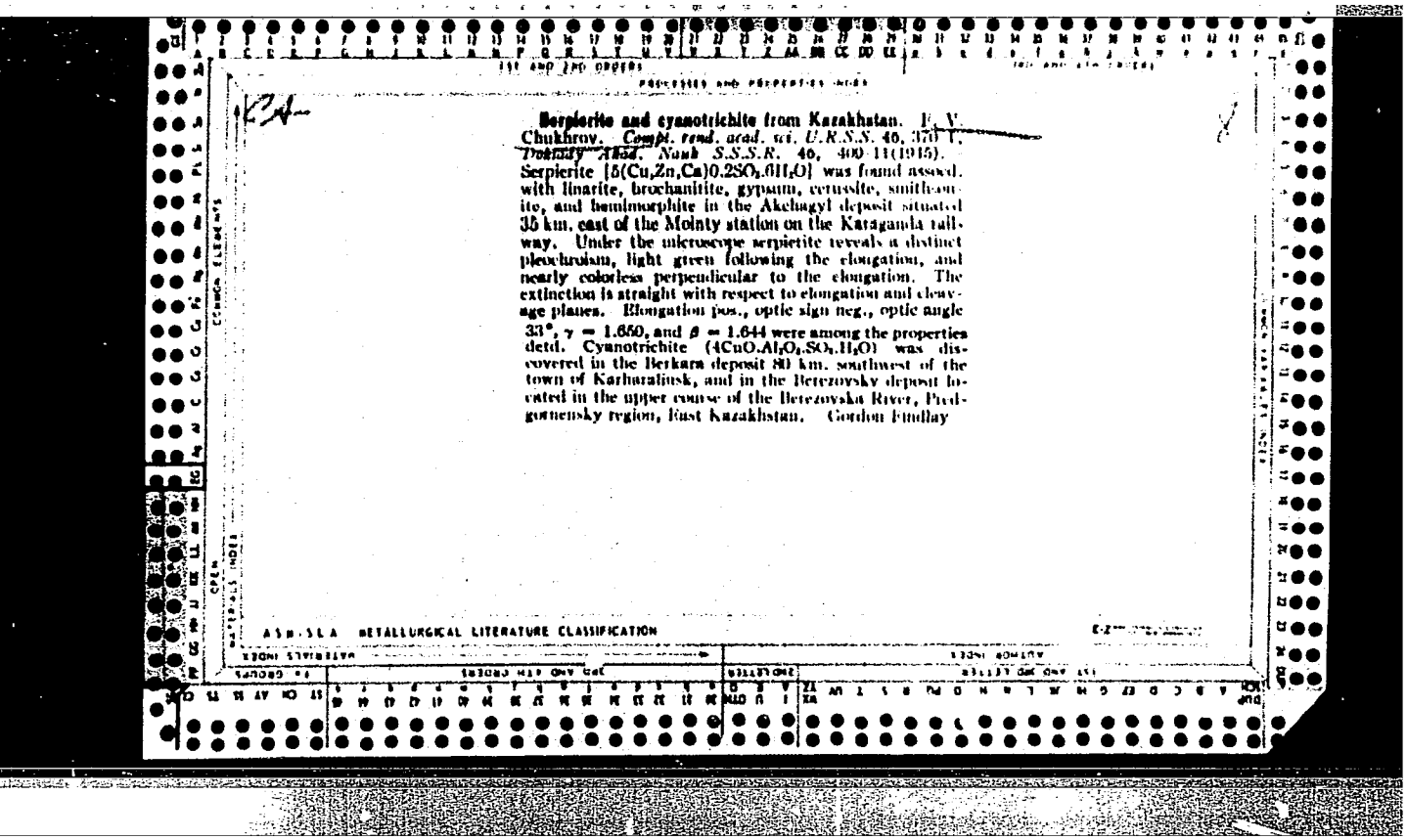
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

8

Composition of jarosites from the deposits of Central Kazakhstan. F. V. Chukhrov, P. E. Arest-Yakubovich and N. A. Kozlova. *Compt. rend. acad. sci. U. R. S. S.* 28, 829–31 (1940) (in English).—Chem. analyses of jarosites from various deposits were made and the results tabulated. The compn. of a typical sample is: Na_2O 5.16; K_2O 1.10; BaO —; CaO 0.15; MgO 0.00; PbO 0.00; CuO 0.00; Fe_2O_3 49.20; Al_2O_3 0.03; Mn_2O_3 traces; SO_3 32.55; P_2O_5 0.27; As_2O_5 0.04; TiO_2 0.18; SiO_2 0.48; H_2O^+ 10.40; H_2O^- 0.05; insol. residue —. Among the jarosites studied, Na varieties predominate over K varieties. A. H. Krappe

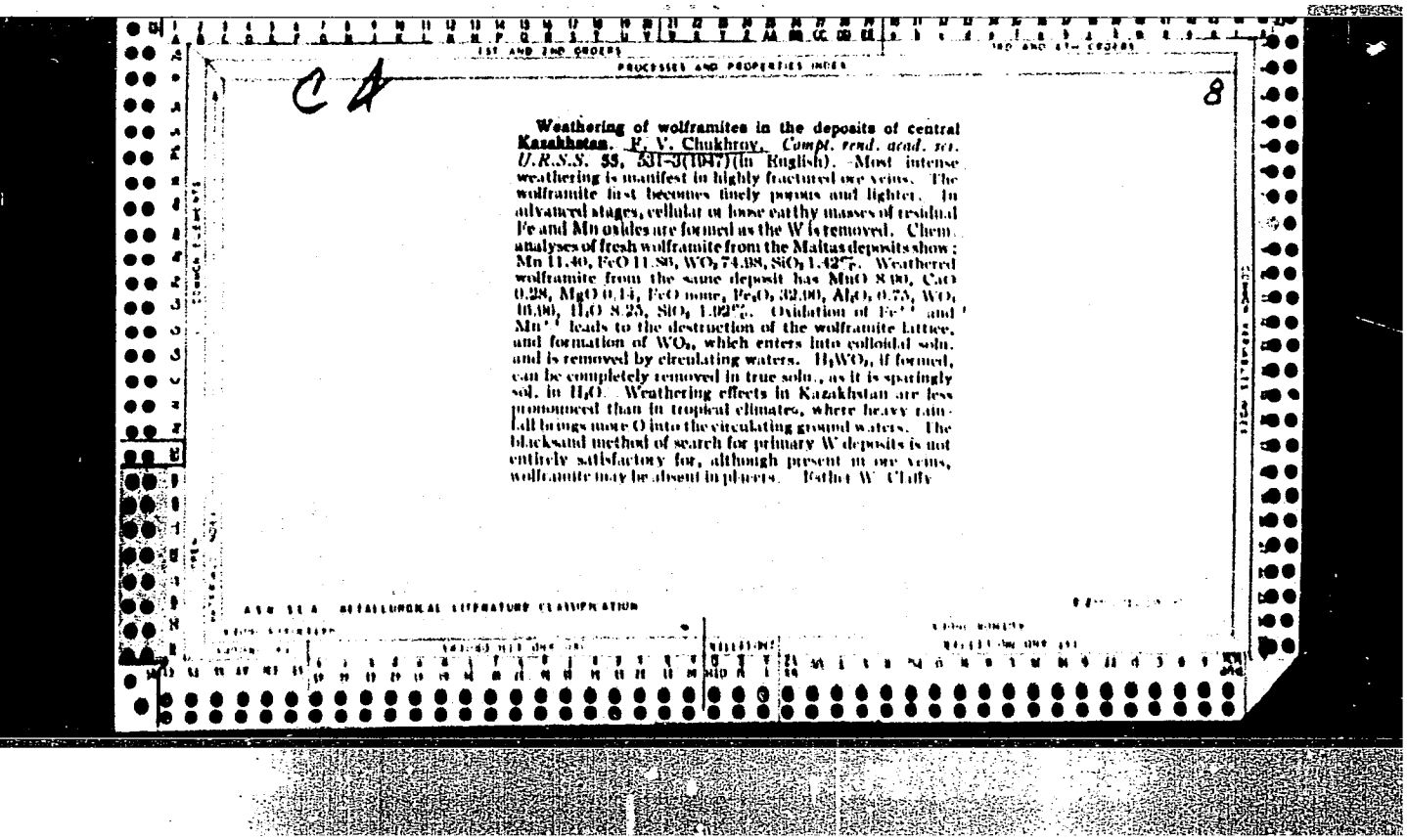


Serpierite and cyanotrichite from Kazakhstan. I. V. Chukhrov. *Compt. rend. acad. sci. U.R.S.S.* 46, 370 1; *Doklady Akad. Nauk S.S.S.R.* 46, 400-11(1945). Serpierite [$5(Cu,Zn,Ca)0.2SO_3.6H_2O$] was found assocd. with linarite, brochantite, gypsum, cerussite, smithsonite, and hemimorphite in the Akchagyl deposit situated 35 km. east of the Mointy station on the Karaganda railway. Under the microscope serpierite reveals a distinct pleochroism, light green following the elongation, and nearly colorless perpendicular to the elongation. The extinction is straight with respect to elongation and cleavage planes. Elongation pos., optic sign neg., optic angle 33°, $\gamma = 1.650$, and $\beta = 1.644$ were among the properties detd. Cyanotrichite ($4CuO.Al_2O_3.SO_3.H_2O$) was discovered in the Berkara deposit 80 km. southwest of the town of Karkaralinsk, and in the Berezovsky deposit located in the upper course of the Berezovka River, Predgornensky region, East Kazakhstan. Gordon Findlay

CA

8

Migration of gold in the oxidation zone. F. V. Chukhrov, *Izvest. Akad. Nauk S.S.S.R., Ser. Geol.* 1947, No. 4, 117-28). Pronounced supergene migration of Au can be observed only in sulfide type deposits. Soln. of Au in such deposits is influenced by free Br_2 and I_2. Most complete supergene migration takes place in the oxidation zone formed under conditions of a hot arid climate. Pptn. of Au is mostly due to ferrous sulfide and SO_2 liberated by oxidation of S. Ionic solns. of Au may be formed practically in the first stage of ore weathering. G. S. M.



PROCESSES AND PROPERTIES INDEX

C4

8

Weathering of wolframites in the deposits of central Kazakhstan. P. V. Chukhrov. *Compt. rend. acad. sci. U.R.S.S.* 55, 331–3(1947)(in English). Most intense weathering is manifest in highly fractured ore veins. The wolframite first becomes finely porous and lighter. In advanced stages, cellular or loose earthy masses of residual Fe and Mn oxides are formed as the W is removed. Chem. analyses of fresh wolframite from the Maltas deposits show: Mn 11.40, FeO 11.80, WO_3 74.98, SiO_2 1.42%. Weathered wolframite from the same deposit has MnO 8.00, CaO 0.28, MgO 0.14, FeO none, Fe_2O_3 32.00, Al_2O_3 0.75, WO_3 10.00, H_2O 8.25, SiO_2 1.02%. Oxidation of Fe^{++} and Mn^{++} leads to the destruction of the wolframite lattice, and formation of WO_3, which enters into colloidal soln. and is removed by circulating waters. H_2WO_4, if formed, can be completely removed in true soln., as it is sparingly sol. in H_2O. Weathering effects in Kazakhstan are less pronounced than in tropical climates, where heavy rainfall brings more O into the circulating ground waters. The blacksand method of search for primary W deposits is not entirely satisfactory for, although present in ore veins, wolframite may be absent in placers. Esther W. Cliffy

CHUKHROV, F. V. PA 52T69

USSR/Metals Oct 1947
Quartz
Bismuth

"Self-Forming Bismuth in Akchatau Ores," F. V. Chukhrov, 1 p

"Zapiski Vserossiy Mineralo Obshchest" Series 2, Part LXXVI, No 3

Discusses genesis of self-forming bismuth, one of the forms of bismuth found in the Akchatau deposits, located in Karagandinskiy Oblast, Kazakh SSR. Deposits are heavily interlaced with quartz veins. Bismuth located in only one part, the western section, in veins No 152 and 153 at a depth of 30 meters.

52T69

CHUKHROV, F. V. and ANOSOV, F. Ya.

"Vanadates in oxidation zone of deposits in Central Kazakhstan", Zapiski Vsesoyuznogo Mineralogicheskogo Obshchestva, Series 2, 1948.

SO:-W-30814, 4 Aug 1954.

CHUKHROV, F. V.

PA 29/49T88

1948

USSR/Minerals
Mineral Deposits

"Earthy Allophane From the Arkhon Deposit in Northern Caucasus," F. V. Chukhrov, Active Mem, Acad Sci USSR, V. P. Pankov, 1 p.

"Zapiski v-s Mineral Obshch" No 4

Locates latest deposits. Describes other minerals found with earthy allophane, and gives chemical analysis of the mineral. Considers discovery valuable as this substance is relatively rare in the USSR.

29/49T88

CHUKHROV, F.V.

USSR/Geology Nov/Dec 48
Geochemistry
Gold

"F. V. Chukhrov's Article, 'The Migration of Gold in the Oxidation Zone,'" V. Kreyter, 1 p

"Iz Ak Nauk SSSR, Ser Geol" No 6

Both Chukhrov and Kreyter disagree with the current hypothesis of the solution of gold by chlorine, obtained during the interaction of acid water containing chlorides, on manganese dioxide. Conclude that, in oxidation zones of some deposits, gold migrates in true, not colloid, solutions. Among

60/49T39

USSR/Geology (Contd) Nov/Dec 48

other criticisms, author believes that lixiviation zones in Central and North Urals are weak because of the absence of submicroscopic gold in the original ore.

60/49T39

CHUKHROV, F. V.

PA 69T49

USSR/Geological Prospecting 1948
Copper

"Question of the Leached Subzone in Kounradski," F. V. Chukhrov, 2 pp

"Sovet Geolog" No 29

Drilling in Kounradski copper deposits has shown that below layers of copper oxides there lies a layer of industrially useless ores. This subzone is briefly described.

69T49

CHUKHROV, Fedor Vasil'yevich

"The Eastern Kounradskiy Deposit as an Example of the Molybdenum Quartz Formation of Central Kazakhstan," Sovetskaya Geologiya, 1948, No. 31.

Vanadates in the oxidation zone of ore deposits of Central Kazakhstan. F. Ya. Anosov and F. V. Chukhrov. *Zapiski Vsesoyuz. Mineral. Obshchestva* (Mém. soc. russe minéral.) 77, 43-54(1948).—Descloizite and vanadinite were previously described from different localities in Kazakhstan. Details are given on the deposits of Kyzyl-Espe, Gul'shad, Kaskalgyr, and Perun; they are characterized by Silurian or Devonian carbonate rocks, assocd. with primary ores which are at most entirely changed to oxidation ores of a highly complex compn. The primary sphalerite and galena are changed to cerussite, hemimorphite, smithsonite, chalcedony, vanadinite, and descloizite. Analyses of the latter minerals are given; that of Gul'shad contains 2.22% As_2O_5 beside 17.75% V_2O_5. The mineral is characteristically formed on hemimorphite, wad, and limonite, sometimes in pseudomorphs after anglesite or pyromorphite, and is markedly younger than wulfenite, always originating from calcite rocks. The same is true of descloizite, which is, however, often younger than vanadinite, and forms pseudomorphs after it. The descloizite of Gul'shad contains 4.38% CuO. The authors therefore assume external V sources, and a fixation of V from circulating solns. by pptn. as insol. minerals (Smirnov, 1936). Similar V enrichments are known from Otavi (S.W. Africa): dolomites with 0.8% clay schists with 0.5% V_2O_5 (Schwellnus, *C.A.* 40, 7094[e]). An investigation on the V content of about 45 rocks from the Central Kazakhstan deposits showed that the eruptive rocks are very low in V, and also the av. V_2O_5 content of the carbonate rocks is only 0.0011%, in good agreement with W. F. Hillebrand's data (1898). Marbles and serpentinized limestones of Gul'shad surprisingly also only contain traces of V. Siliceous schists and clay sediments, Kyzyl-Espe, however, showed 0.073% V_2O_5. This remarkable result is in agreement with Yanishevskii's observation (cf. *C.A.* 30, 4123[e]) that the country rocks of the Pb-Zn ores of Suleimansai contain 0.007% V_2O_5; they are typical coal schists. The authors think that, in spite of the low abs. V content of the clayish sediments, a systematic enrichment by circulating waters may have been sufficient for accumulating V enough for forming the vanadates in the oxidation zone of primary sulfide ores, by a pptn. process.

W. Eitel

USSR/Minerals - Copper Jan/Feb/Mar 50
Metallography

"Medmontite -- A Copper-Bearing Mineral of the Montmorillonite Group," F. V. Chukhrov, Active Mem, Acad Sci USSR, F. Ya. Anosov, 5 pp

"Zapiski v-s Mineral Obshch" No 1

Describes cupriferous clay mineral from well-known Dzhezkazgan copper deposits in steppes of Kazakh SSR, found in upper part of oxidation zone of Zlatoust region. Heating curves, petrological analysis, chemical analysis, bonding of copper, calcium, and magnesium, and characteristic variation of weakly adsorbed water in dependence upon relative humidity 157T72

USSR/Minerals - Copper (Contd) Jan/Feb/Mar 50

all indicate that this cupriferous clay mineral belongs to the montmorillonite group. Very high copper content in this mineral permits separate classification as "medmontite" or "cupromontmorillonite."

157T72

177138

CHUKHROV, F. V.

USSR/Geophysics - Ore Formations Nov/Dec 50

"The Possible Role of Aerosols, Hydrosols, and Hydrogels in Magmatogenetic Ore Formations," F. V. Chukhrov

"Iz Ak Nauk SSSR, Ser Geol" No 6, pp 45-61

The role of colloids in formation of magmatogenetic deposits. Develops new concepts involving both colloidal and true soln in processes of magmatogenetic ore formation, without analyzing opposite concepts of many other investigators on ore formation.

177138

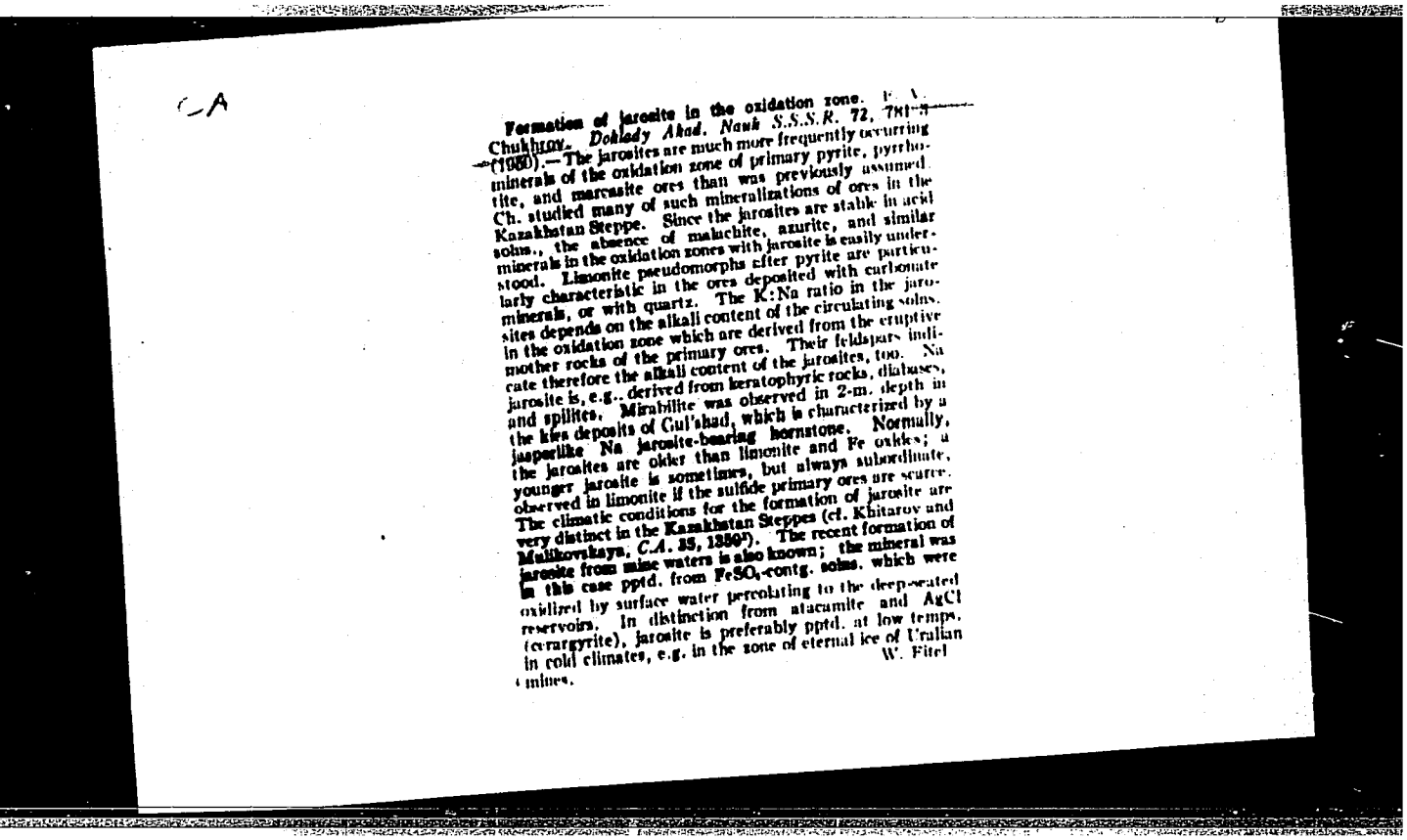
QA

B

Ehlite in the steppe parts of Kazakhstan. F. V. Chukhrov. *Doklady Akad. Nauk S.S.S.R.* 72, 873-6 (1950). A mineralogical and thermal-chem. analysis of new occurrences of the rare Cu mineral ehlite, $5CaO.P_2O_5.3H_2O$, which is assocd. with dihydrite, chrysocolla, azurite, malachite, sometimes with quartz in Cu ore deposits, especially those of Dzhezkazgan, Altyntyube, Uspenskoe, Koktasdzharias, and Samombet in the Kazakhstan steppe. The stalactitic aggregates show a distinctly radial and spheroidal habit, their color is green or greenish black. The optical properties are: $\gamma = 1.864$; $\beta = 1.857$; $\alpha = 1.805$; $2V = -45°$. Pleochroism γ = yellowish green; β = green; α = light-green. The x-ray diagrams of ehlite of Kazakhstan and dihydrite from Mednorudyansk (Ural) are practically identical, although ehlite contains 3. dihydrite 2 mols. H_2O. The colloidal nature of ehlite distinguishes this mineral from dihydrite. The P in both minerals is derived in the Kazakhstan occurrences from adjacent sediments (limestones or sandstones, with 0.08 to 0.12% P_2O_5), or from porphyries. Arsenic is identified in ehlite from Koktasdzhartas.

W. Eitel

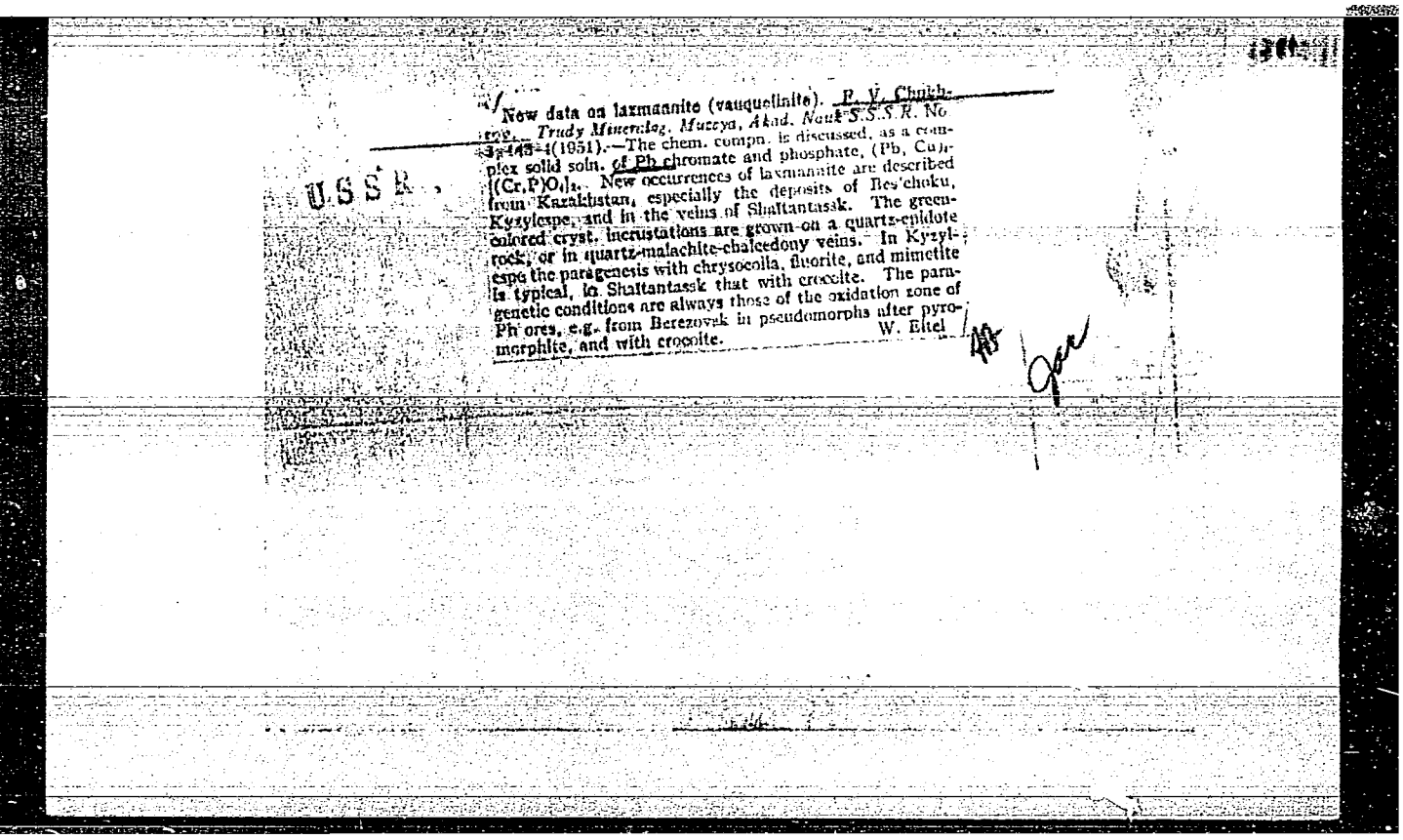
1951



CA

Formation of jarosite in the oxidation zone. F. V. Chukhrov. *Doklady Akad. Nauk S.S.S.R.* 72, 781–3 (1950).—The jarosites are much more frequently occurring minerals of the oxidation zone of primary pyrite, pyrrhotite, and marcasite ores than was previously assumed. Ch. studied many of such mineralizations of ores in the Kazakhstan Steppe. Since the jarosites are stable in acid solns., the absence of malachite, azurite, and similar minerals in the oxidation zones with jarosite is easily understood. Limonite pseudomorphs after pyrite are particularly characteristic in the ores deposited with carbonate minerals, or with quartz. The K:Na ratio in the jarosites depends on the alkali content of the circulating solns. in the oxidation zone which are derived from the eruptive mother rocks of the primary ores. Their feldspars indicate therefore the alkali content of the jarosites, too. Na jarosite is, e.g., derived from keratophyric rocks, diabases, and spilites. Mirabilite was observed in 2-m. depth in the kies deposits of Gul'shad, which is characterized by a jasperlike Na jarosite-bearing hornstone. Normally, the jarosites are older than limonite and Fe oxides; a younger jarosite is sometimes, but always subordinate, observed in limonite if the sulfide primary ores are scarce. The climatic conditions for the formation of jarosite are very distinct in the Kazakhstan Steppes (cf. Khitarov and Malikovskaya, *C.A.* 35, 1380[2]). The recent formation of jarosite from mine waters is also known; the mineral was in this case ppted. from $FeSO_4$-contg. solns. which were oxidized by surface water percolating to the deep-seated reservoirs. In distinction from atacamite and AgCl (cerargyrite), jarosite is preferably ppted. at low temps. in cold climates, e.g. in the zone of eternal ice of Uralian mines.

W. Fitel



U.S.S.R.

New data on laxmannite (vauquelinite). P. V. Chukhrov. *Trudy Mineralog. Muzeya, Akad. Nauk S.S.S.R.* No. 3:143–4(1951).—The chem. compn. is discussed, as a complex solid soln. of Pb chromate and phosphate, (Pb, Cu)$_2$(Cr,P)O$_4$. New occurrences of laxmannite are described from Kazakhstan, especially the deposits of Bes'choku, Kyzylespe, and in the veins of Shaltantasak. The green-colored cryst. incrustations are grown on a quartz-epidote rock, or in quartz-malachite-chalcedony veins. In Kyzylespe the paragenesis with chrysocolla, fluorite, and mimetite is typical, in Shaltantassk that with crocoite. The paragenetic conditions are always those of the oxidation zone of Pb ores, e.g. from Berezovsk in pseudomorphs after pyromorphite, and with crocoite. W. Eitel

Chukhrov, F.V.

USSR

Mimetite and scorodite from the Kazakhstan steppe. F. V. Chukhrov. *Trudy Mineralog. Muzeya, Akad. Nauk S.S.S.R.*, No. 3, 144–6(1951).—Mimetite from Kyzylespe and Gul'shad occurs in considerable amts. in dense aggregates of cerussite and phosgenite; the phosphate mineral is yellow or brownish yellow, in small cryst. aggregates, intergrown with quartz. The mineral contains Br 3.66 × 10⁻³%. The occurrence of Gul'shad shows a more greenish mimetite, assocd. with beudantite; sometimes well-developed crystals with {10$\bar{1}$0}, {11$\bar{2}$0}, {11$\bar{2}$1}. The genesis is typical for the oxidation zone of primary PbS and arsenopyrite ores. Scorodite is only observed in Gul'shad (from the District Makar'evsk-Semenovsk Mine). Rare crystals show the forms {10$\bar{1}$}, {120}, {111}. Hardness is 3.5; characteristic is the assocn. with beudantite in intimate intergrowths. The chem. analysis gives the formula $Fe_2O_3.As_2O_5.4H_2O$.

W. Bitel

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8

Conichalcite from Kazakhstan. F. V. Chukhrov. *Zapiski Vsesoyuz. Mineral. Obshchestva* (Mem. soc. Russe minéral) **80**, 152-3(1951).—The mineral was found in the Pb-Zn ore deposit of Kyzylespe (Jupiter Mine, Kazakhstan steppe), as reniform aggregates on veinlets in porphyry, assocd. with chalcedony and quartz. Color is yellowish green or dark green. From the deposits of Malya-Tass (Akmoslensk, W. Siberia), conichalcite is observed in paragenesis with atacamite, malachite, and chalcopyrite; the chem. analysis corresponds to the formula $2CaO.2CuO.As_2O_5.1^1/_2H_2O$.

W. Eitel

1951

CHUKHROV, F. V.

USSR/Geophysics - Oxidation Mar/Apr 52

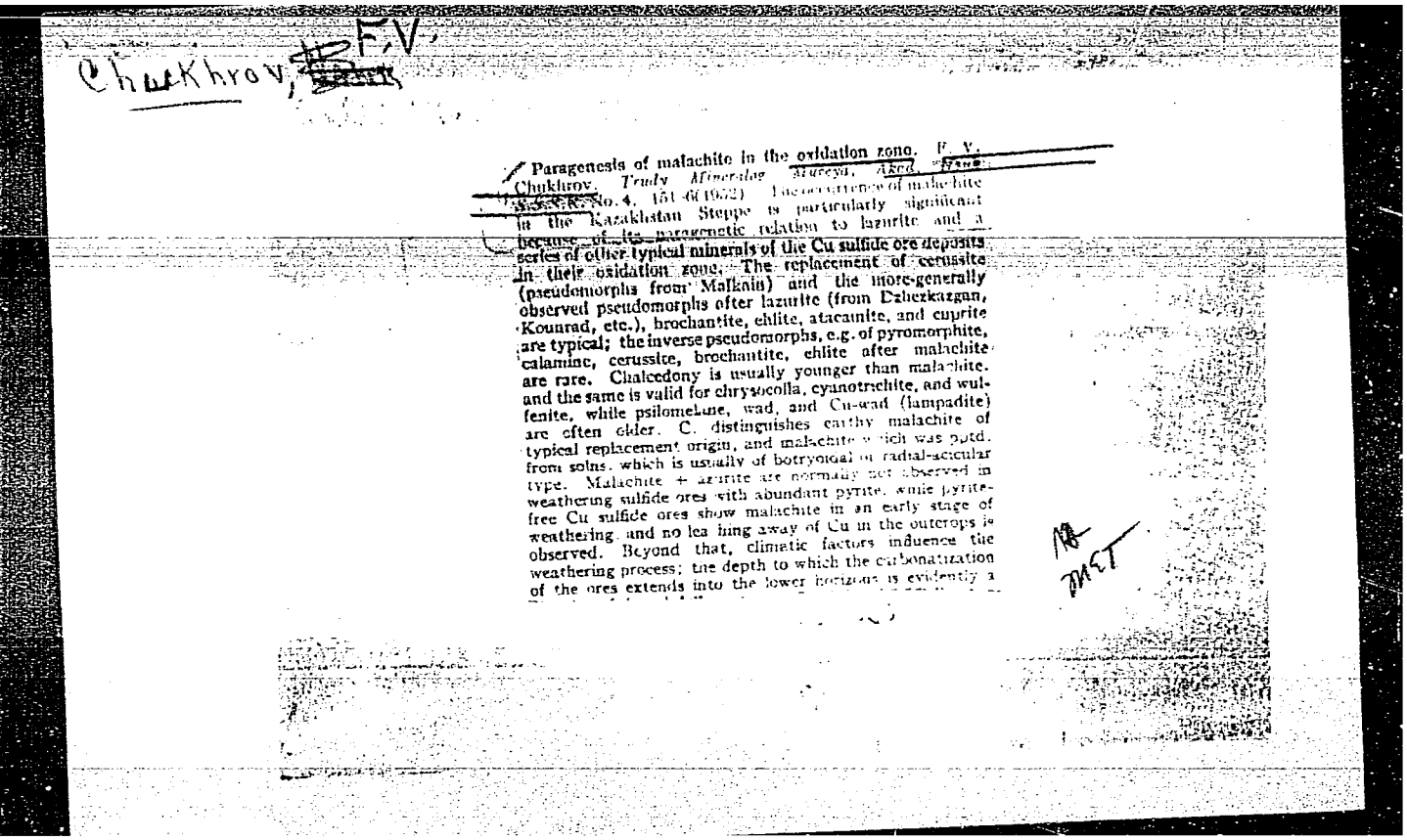
"Concerning the Ancient Age of the Oxidation Zone of Deposits in the Steppe Portion of Kazakhstan," F. V. Chukhrov

"Iz Ak Nauk SSSR, Ser Geol" No 2, pp 102-110

Considers subject problem and also comparative data on the deposits in other regions of the USSR and abroad. Concludes that ancient oxidation zones are widespread and are encountered in various parts of the globe; in a number of cases they were formed under conditions essentially different from present conditions.

213T80

(CA 47 no.14:6730 '53)



Chukhrov, F.V.

Paragenesis of malachite in the oxidation zone. F. V. Chukhrov. *Trudy Mineralog. Muzeya, Akad. Nauk S.S.S.R.* No. 4, 151-66 (1952). The occurrence of malachite in the Kazakhstan Steppe is particularly significant because of its paragenetic relation to lazurite and a series of other typical minerals of the Cu sulfide ore deposits in their oxidation zone. The replacement of cerussite (pseudomorphs from Malkain) and the more-generally observed pseudomorphs after lazurite (from Dzhezkazgan, Kounrad, etc.), brochantite, ehlite, atacamite, and cuprite are typical; the inverse pseudomorphs, e.g. of pyromorphite, calamine, cerussite, brochantite, ehlite after malachite are rare. Chalcedony is usually younger than malachite, and the same is valid for chrysocolla, cyanotrichite, and wulfenite, while psilomelane, wad, and Cu-wad (lampadite) are often older. C. distinguishes earthy malachite of typical replacement origin, and malachite which was ppted. from solns. which is usually of botryoidal or radial-acicular type. Malachite + azurite are normally not observed in weathering sulfide ores with abundant pyrite, while pyrite-free Cu sulfide ores show malachite in an early stage of weathering, and no leaching away of Cu in the outcrops is observed. Beyond that, climatic factors influence the weathering process; the depth to which the carbonatization of the ores extends into the lower horizons is evidently a

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F. V. CHUKHROV

function of the rainfall amounts. In typically arid climates, e.g. in northern Chile, the Cu carbonate minerals are rare, and sulfates (e.g., antlerite) prevail in the oxidation zones. Also the concn. in CO_3 in the circulating waters plays an important role in the mass-action relations for the formation of malachite and azurite. The replacement of early azurite by malachite is a typical hydrolysis reaction in the highly dil. weathering solns. Among the direct replacements of sulfides by malachite those after chalcopyrite, tennantite, etc. are particularly characteristic (from the Altai, and Ural); further those after smithsonite, Cu arsenate minerals, limonite, libethenite, jarosite, and atacamite (atlasite) are also characteristic.

W. Eitel

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CHUKHROV F. V.

Pyromorphite from the Kazakhstan Steppe. F. V. Chukhrov. *Trudy Mineralog. Muzeya, Akad. Nauk S.S.S.R.* No. 4, 156–9(1952).—Occurrences from Bes'-choku, Stepnyak, Malkain, Samombet, and Shaltantassk are typical oxidation-zone formations, assocd. with botryoidal polysphærite (pyromorphite with CaO 9.10; As_2O_5 0.61; Cl 2.2; H_2O 0.47%). Characteristic is the succession of polysphærite, a white and a green pyromorphite, followed by psilomelane, wad, stilpnosiderite, malachite, chalcedony, quartz. Pyromorphite also occurs on quartz-galena veins, but always at some distance from the latter sulfide, in dense aggregates; rare are crystals of short-prismatic habit, of 0.5 to 1 cm. length. The spectral analysis showed strong lines of V, weak lines of As; the Br content is 5.2 p.p.m.; the I content is 1 p.p.m. The replacement of crocoite by pyromorphite is described for Shaltantassk; pseudomorphs of pyromorphite after galena probably have been formed with cerussite as an intermediate oxidation product. The inverse pseudomorphs of galena after pyromorphite are rare. P in pyromorphite was derived from the country rocks, but As was absent; no mimetite or beudantite were observed in the Kazakhstan Steppe occurrences. W. Ritel

CHUKHROV, F. V.

USSR

Sequence of the formations in oxidation zones in ore deposits of the steppe of Kazakhstan. F. V. Chukhrov. *Voprosy Petrog. i Mineral., Akad. Nauk S.S.S.R.* 2, 93–9 (1953); cf. *C.A.* 47, 6730d.—The changes of the pyrite deposits of Malkain, Blyava, etc. by oxidation and reactions with near surface aqueous solns. are typically developed in the following zones. The primary sulfide ores are decomposed by ground waters to sulfate-oxide ores, from which a jarosite horizon is derived in the upper parts of the oxidation zone, intermixed with Fe hydroxides. On the surface they are even changed to pure limonites as the uppermost weathering layer. Under the conditions of the most arid climate of the Kazakhstan steppe, comparable to that of N. Chile, the effects of weathering are observed in the deposits of Al'kaparrosa; the mineral sequence above the sulfides is the following (from the bottom to the top): szomolnokite, halotrichite, roemerite, coquimbite, quenstedtite, ferrinatrite, metavoltine, coplapite, parabutlerite, and jarosite. For the four last-named minerals the change of the ratio $(OH):(SO_4)$ is from 1:3 to 3:1. In the lower horizons, pseudomorphs are frequent of malachite after azurite, brochantite, and cerussite; chrysocolla after malachite;

(over)

limonite after hydrohematite. In the humid climates of the southern Ural deposits the intermediate Fe(III) sulfates and even jarosite are absent and the sulfide ores are immediately covered by an iron cap of limonite. Particular conditions are observed in the deposits in the steppe lowlands in which no denudation occurs but the ground waters are stagnant, e.g. in Kounrad, Boshchekul, etc. Abundant chrysocolla is typical for the Dzhezkazgan and Saryadyp deposits, chlitr, opal, chalcedony for Altyn-tau, Kyzylespe and Samombet, vanadates for Kyzylespe and Gul'shad. All of these have a very smooth surface relief. The SiO_2 is especially mobilized along capillaries in the oxidation zones. Chlorides, e.g. atacamite, are totally absent. The change of sphalerite to smithsonite and hydrozincite is observed in Akdzhal. Zn hydrosilicates, however, are absent, as are Al-contg. sulfates, because Al^{+++} and Cu^{++} ores are scarce in the ground water zone.

W. Eitel

CHUKHROV, F.V.; SHUBNIKOV, O.M., doktor geologo-mineralogicheskikh nauk, redaktor; SHABLUN, T.N., redaktor; ZELENKOVA, Ye.V., tekhnicheskiy redaktor

[Colloids in the earth's crust] Kolloidy v zemnoi kore. Moskva, Izd-vo Akademii nauk SSSR, 1955. 670 p. (MLRA 8:11)
(Colloids)

CHUKHROV, F.V.

CHUKHROV,F.V.

Some aspects of colloidal mineralogy. Izv.AN SSSR. Ser.geol.20 no.4:3-10 Jl-Ag'55. (MLRA 8:10)
(Mineralogy)

DOLGOPOLOV, N.N.; SHCHERBAKOV, D.I., akademik, otvetstvennyy redaktor; BELOV, N.V., akademik, redaktor; VOROB'YEV, O.A., redaktor; CHUKHROV, F.V., redaktor; KUN, N.P., redaktor izdatel'stva; ASTAF'YEVA, G.A., tekhnicheskiy redaktor

[Problems in geochemistry and mineralogy] Voprosy geokhimii i mineralogii. Moskva, 1956. 174 p. (MLRA 9:7)

1. Chlen-korrespondent AN SSSR (for Chukhrov). 2. Akademiya nauk SSSR. Otdeleniye geologo-geograficheskikh nauk.
(Geochemistry) (Mineralogy)

15-57-4-4590

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4, p 84 (USSR)

AUTHORS: Chukhrov, F. V., Yermilova, L. P.

TITLE: New Data on the Kerchenites (Novyye dannyye o kercheni-takh)

PERIODICAL: V sb: Vopr. geokhimii i mineralogii. Moscow, 1956, pp 158-175.

ABSTRACT: A study has been made, using various methods of investigation, on the Kerch' and Taman' Fe phosphates in order to refine the existing concepts concerning their nature. From chemical, optical, X-ray, and thermal analyses of vivianite the authors conclude that oxidation, during the process of vivianite formation, leads to the accumulation of phosphates of ferric oxide derived from material which initially forms solid solutions of ferrous oxide in phosphates (gamma kerchenite, beta kerchenite, and alpha kerchenite), after which it becomes dominant or enters completely

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New Data on the Kerchenites (Cont.)

into the formation of minerals (oxykerchenite, bosphorite). The phosphate of ferric oxide, having formed by the complete oxidation of ferrous-oxide vivianite, shows no crystalline features even under the electron microscope. The lines on the debyeograms of different kerchenites belong to vivianite, the quantity of which is least in oxykerchenite. Egueiite should be considered similar to oxykerchenite in its formation. Tinticite is similar to bosphorite, but differs in having a lower content of weakly bound water. The formation of tinticite may be associated both with direct precipitation from solution and with crystallization of amorphous (to X-rays) bosphorite. Distinctive solid solutions form in the early stages of oxidation of vivianite. In these the solvent has a crystalline structure and the dissolved substance is amorphous. Hydrolysis during oxidation of vivianite does not lead to the formation of free iron oxides and is not accompanied by a marked removal of P. In subsequent stages there probably occurs a gradual hydrolytic splitting of the amorphous ferriphosphate with removal of part of the phosphoric acid from it. Picite may be considered an earlier product of this process, having been discovered in the Kerch' iron ores.

New Data on the Kerchenites (Cont.)

Further products of hydrolysis may be azovskite, which has been recognized in the iron ores of the Taman' peninsula. Limonite, with a variable P content, may possibly represent the final product of hydrolysis of ferriphosphates, obtained by complete or almost complete oxidation of the iron in vivianite.

Card 3/3

G. A. G.

CHUKHROV, F.V.

Zinciferous clays from the Akdzhal deposits in Kazakhstan. Kora vyvetr. no.2:107-123 '56. (MLRA 9:8)
(Kazakhstan--Clay) (Kazakhstan--Zinc ores)

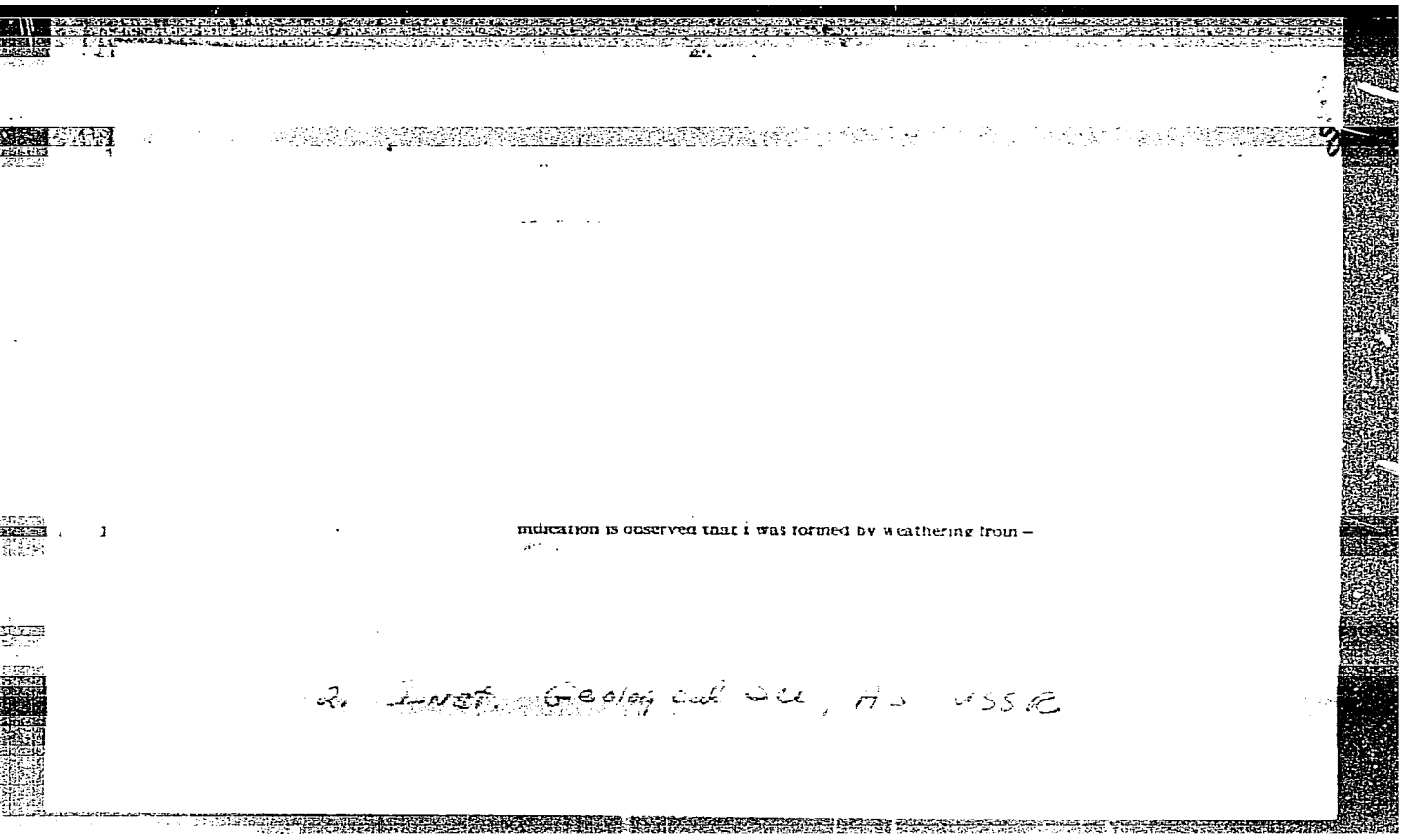
Chukhrov, F.V.

SHCHERBAKOV, D.I., akademik; SHATSKIY, N.S., akademik; MIRONOV, S.I., akademik; STRAKHOV, N.M., akademik; KORZHINSKIY, D.S., akademik; BETEKHTIN, A.G., akademik; NALIVKIN, D.V., akademik; POLKANOV, A.A., akademik; AFANAS'YEV, G.D.; VLASOV, K.A.; CHUKHROV, F.V.; LEVITSKIY, O.D.; PAVLOVSKIY, Ye.V., professor; BARSANOV, G.P., professor; YERSHOV, A.D.; IVANOV, B.V.; YABLOKOV, V.S.; ARDASHNIKOVA, S.D.

Academician Vladimir Afanas'evich Obruchev, hero of socialist labor; obituary. Izv. AN SSSR. Ser.geol. 21 no.6:5-10 Je'56. (MIRA 9:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Afanas'yev, Vlasov, Chukhrov, Levitskiy).

(Obruchev, Vladimir Afanas'yevich, 1863-1956)



indication is observed that i was formed by weathering from –

2. Inst. Geological Sci, AS USSR

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CHUKHROV, F.. V.

"Clay Minerals in the Hypergenesis Zone of Sulphide Deposits."

paper distributed at the International Clay Mineralogy Congress in Brussels, Belgium, 1 - 5 Jul 58.

Comment: B-3,116,859.

SOV-11-58-8-2/14

AUTHORS: Chukhrov, F.V., Moleva, V.A. and Yermilova, L.P.

TITLE: New Data on Mitridatite (Novyye Dannyye o Mitridatite)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya Geologicheskaya, 1958, Nr 8, pp 16-26 (USSR)

ABSTRACT: The name "mitridatite" was given by P.A. Dvoychenko to a light-green earthy substance discovered by S.P. Popov in 1911 among the iron ores of the Kerch' Peninsula. Much later similar substances were described by F.V Chukhrov and A.V. Sidorenko. This article is a detailed report on the results of laboratory studies of these substances with the application of most modern means of science. Following scientists took part in these studies: F.V. Chukhrov, V.I. Stepanov, A.V. Moleva, V.S. Amelina, M.T. Yanchenko, A.A. Voronova and A.I. Tsvetkov. C. Frondel (USA) also took part in discussion and propounded the theory that the results of the analysis of all these products could possibly concern different minerals. The results of all these researches could be summed up as follows. The mitridatite is a basic ferro-calcium phosphate in which some quantity of (PO_4) was presumable replaced by the groups of $(OH)_4$. Its formula

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is $CA_2FE_3 \cdot [(PO_4)_3(OH)_4] nH_2O$, where on the average "n" equals 2. Its syngony is mono- or threeclinic. Aggregates of the mineral are cryptocrystallic, earthy - loose or dense. It can be decomposed by acids. Index of refraction - 1.77. Some number of particles have colloid dimension and appear laminar under the microscope. The genesis of the mitridatite is connected with the alteration of oxykerschenite (addition of calcium) or of anapaite (loss of part of calcium). It can be considered as a metacolloid, containing colloid particles. There are 5 tables, 2 photos, 3 graphs and 9 references, 6 of which are Soviet and 3 non-Soviet.

SUBMITTED: July 18, 1957

ASSOCIATION: Institut Geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva (Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry of the AS USSR, Moscow)

1. Mitridatite--Chemical analysis

15(6), 15(2)

AUTHOR: Chukhrov, F. V., Corresponding Member, Academy of Sciences, USSR

SOV/30-58-12-14/46

TITLE: International Conference on Clays (Mezhdunarodnoye soveshchaniye po glinam)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 12, pp 59 - 60 (USSR)

ABSTRACT: This conference was held in Belgium from July 1 to 5 and was devoted to clay types and clayey minerals. Delegates from the following countries attended this conference: Australia, England, Belgium, Hungary, the Netherlands, Israel, Spain, Italy, the USSR, the USA, France, the German Federal Republic, Czechoslovakia, Switzerland and Sweden. The Soviet delegation submitted 20 reports on the geology, mineralogy and the exploitation of clay types. A compilation of these reports with a short English-language summary was distributed among the delegates. The majority of the reports mentioned came from Western delegates. I. Barna and B. Marsalko (Hungary) reported on the fluidity conditions of aqueous benthonite dispersions from Hungarian deposits. I. Kont (Czechoslovakia) reported on the porosity of clayey minerals and their liquid-absorbent properties. The participants in

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the conference expressed the intention to establish a subcommittee for clay at the International Geological Congress. Recommendations were made to the International Association of Mineralogical Societies to establish a group for clay nomenclature.

CHUKHROV, F.V., glavnyy red.; BONSHTEDT-KUPLETSKAYA, E.M., doktor geol.-mineral.nauk, zam.glavnogo red.; BARSANOV, G.P., prof., red.; BELOV, N.V., akademik, red.; SHUBNIKOVA, O.M., doktor geol.-mineral.nauk, red. [deceased]; SHADLUN, T.N., red.izd-va; ZELENKOVA, Ye.V., tekhn.red.

[Minerals; a handbook] Mineraly; spravochnik. Moskva. Vol.1. [Native elements. Intermetallic compounds. Carbides, nitrides, phosphides, arsenides, antimonides, bismuthides, sulfides, selenides, tellurides] Samorodnye elementy. Intermetallicheskie soedineniia. Karbidy, nitridy, fosfidy, arsenidy, antimonidy, vismutidy, sul'fidy, seleniidy, telluridy. 1960. 616 p. (MIRA 13:12)

1. Akademiya nauk SSSR. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii. 2. Chlen-korrespondent AN SSSR (for Chukhrov).
(Mineralogy--Handbooks, manuals, etc.)

CHUKHROV, F.V.; TUGARINOV, A.I.

Twenty-first session of the International Geological Congress in Copenhagen. Geokhimiia no.8:756-758 '60. (MIRA 14:1)
(Geochemistry--Congresses)

CHUKHROV, F.V.

Letter to the editor. Izv. vys. ucheb. zav.; geol. i razv. 3 no.6:119 Je '60. (MIRA 14:7)
(Geology)