L 37712-65 EWT(1) GW

ACCESSION NR: AT5005404 S/2634/64/000/082/0033/0063

22
21
B+1

AUTHOR: Lazarenko, N. N.

TITLE: Bunching of the planned base during vertical aerial surveying in oceanographic investigations

SOURCE: Moscow. Gosudarstvennyy okeanograficheskiy institut. Trudy, no. 82, 1964, 33-63

TOPIC TAGS: aerial photography, photogrammetry, geodesy, aerial surveying, oceanography, pact ice, ice drift

ABSTRACT: In an extensive article, the author derives formulas characterizing the accuracy of photographic surveying methods for bunching the planned base during aerial surveying in oceanographic investigations, when the movement of its point is neglected. This analysis shows that ignoring this movement in regions with tides can lead to considerable inaccuracies in the determined rate and direction of drift. A method of bunching is then described which takes into account the movement of the points of the planned base. The accuracy of this method fulfulls the requirements of oceanography, while the time required is only slightly greater than that required for bunching an immobile base. Methods are

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ACCESSION NR: AT5005404

also proposed which enable the drift of ice for seas without tides to be calculated, under specific conditions, from the data of a single aerial mapping survey. In addition, the average drift speed of ice during the time between repeated aerial surveys or between the exposure of overlapping pairs of photos on a single aerial photography strip can be determined on seas with tides. Since the lack of uniformity in the movement of the points on free-floating ice complicates these calculations, various criteria for selecting ice floes are suggested which tend to reduce this nonuniformity. Orig. art. has: 71 formulas, 5 tables, and 5 figures.

ASSOCIATION: Gosudarstvennyy okeanograficheskiy institut, Moscow (State oceanographic institute)

SUBMITTED: 00	ENCL: 00	SUB CODE: ES
NO REF SOV: 009	OTHER: 000	

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Card 2/2

LAZARENKO, N.N.

Horizontal control extension in aerial photographic surveys in oceanographic research. Trudy GOIN no.82:33-63 '64
(MIRA 18:2)

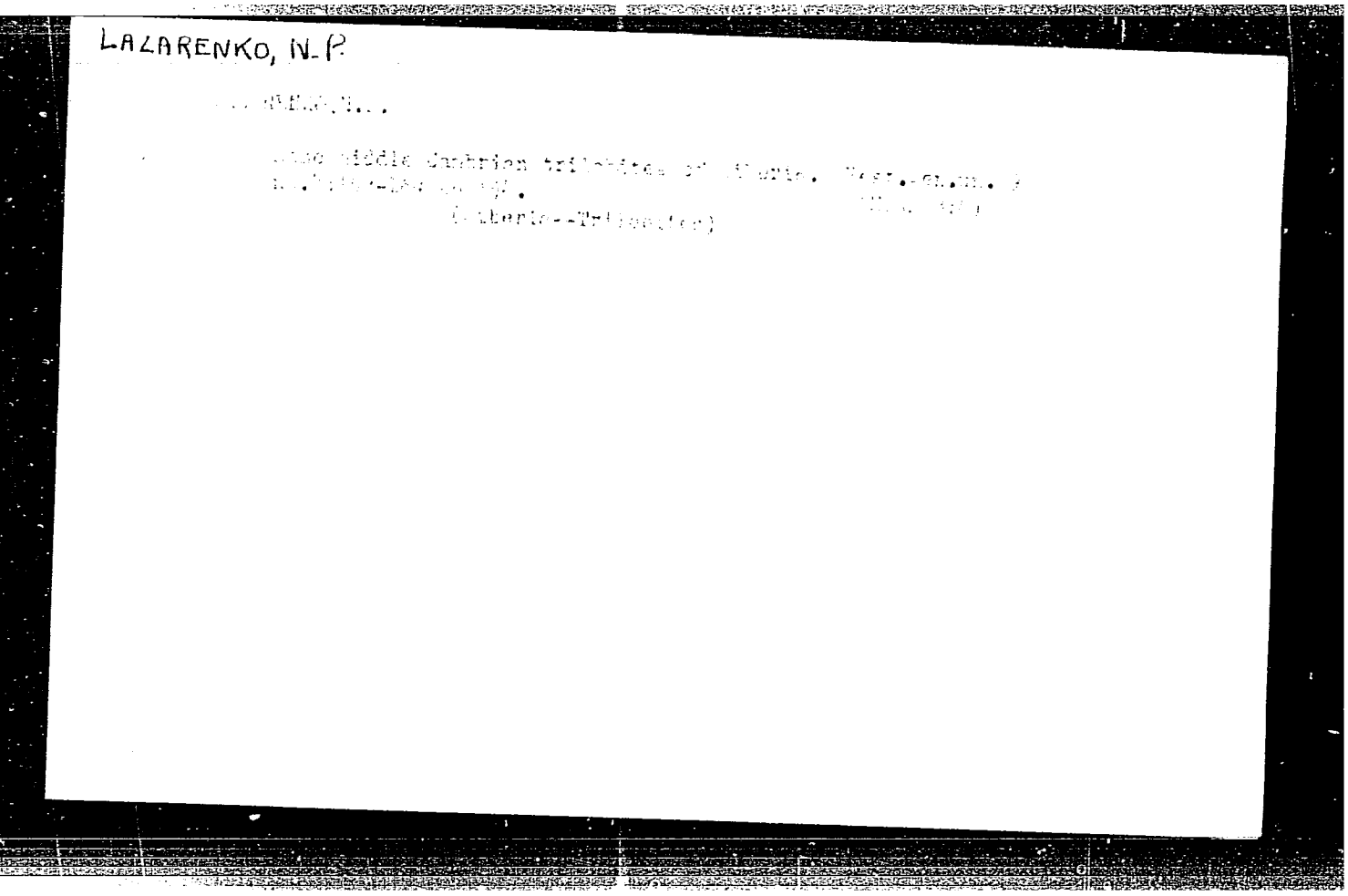
GRUSHEVSKIY, M.S.; LAZARENKO, N.N.

Studying Leningrad floods and their forecasting. Trudy GOIN no.41: 142-157 '57. (MIRA 11:9)
(Leningrad--Floods)

LAZARENKO, N.P., inzh.

Thoughts on the principal problem. Zdorov'e 5 no.2:3-4 F '59. (MIRA 12:2)

1. Direktor Nikitovskogo dolomitnogo kombinata.
(Nikitovka--Industrial hygiene)



LAZARENKO, N.P.

Middle Cambrian Pagetides (trilobites) from the northern part of the Siberian Platform. Sbor. st. po paleont. i biostrat. no.14: 5-16 '59. (MIRA 13:3)
(Olenek Valley--Trilobites)
(Kuonamka Valley--Trilobites)

DEMOKIDOV, K.K.; LAZARENKO, N.P.

Recent data on the stratigraphy of Cambrian deposits on the western slope of the northern Kharaulakskiy Range. Sbor.st.po paleont.i biostrat. no.16:11-22 '59.
(MIRA 13:3)
(Kharaulakskiy Range--Geology, Stratigraphic)

DATSENKO, V.A.; LAZARENKO, N.P.

New data on the Cambrian stratigraphy of the northwestern Siberian Platform (Khantayka-Kulyumbe interfluve). Trudy NIIGA 114:55-61 '60. (MIRA 13:11)

(Siberian Platform--Geology, Stratigraphic)

LAZARENKO, N.P.

New Lower Cambrian trilobites in the Soviet Arctic. Sbor. st. po paleont. i biostrat. no.29:29-78 '62.

(MIRA 17:2)

BORSHCHEVA, N.A.; LAZARENKO, N.P.

Stratigraphy of the sediments of the Kuonamka horizon in the northern part of the Siberian Platform (Cambrian of the Sukhana Depression and the Kuoyka Upland). Inform. sbor. NIIGA no.32: 8-20 '62. (MIRA 16:12)

DEMOKIDOV, K.N.; LAZARENKO, N.P.; LIKACHENKO, P.V., kand. geol.-mineral.nauk, red.

[Stratigraphy of the Upper Pre-Cambrian and Cambrian and the Lower Cambrian trilobites in the northern part of central Siberia and the islands of the Soviet Arctic.] Stratigrafiia verkhnego dokembriia i kembriia i nizhnekembriiskie trilobity severnoi chasti Srednei Sibiri i ostrovov Sovetskoi Arktiki. Moskva, Nedra, 1964. 286 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, no.137) (MIRA 18:5)

LAZARENKO, O.

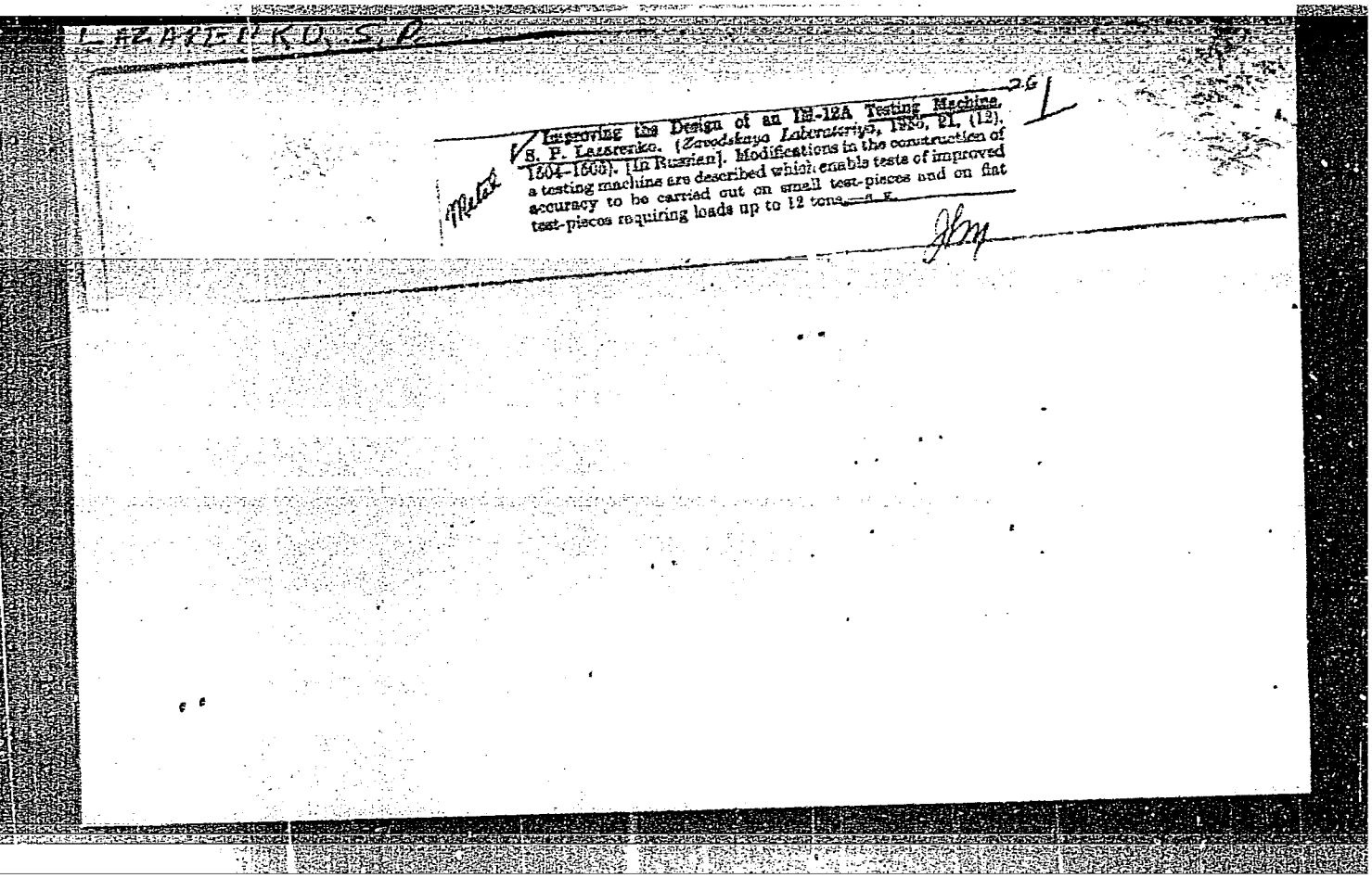
The "Ordzhonikidze" Collective Farm is being built. Sil' bud. 9 no.8:19 Ag '59. (MIRA 12:12)

1.Starshiy inzhener upravleniya stroitel'stva Sumskogo oblastnogo upravleniya sel'skogo khozyaystva.
(Sumy Province--Farm buildings)

LAZARENKO, P.P.; USEVICH, M.P.

Intestinal obstruction as revealed by data from the Semashko Orsha City Hospital. Zdrav.Belor. 4 no.3:33-34 Mr '58. (MIRA 13:7)

1. Khirurgicheskoye otdeleniye Orshanskoy gorodskoy bol'nitsy im. Semashko (glavnyy vrach M.P. Usevich).
(ORSHA--INTESTINES--OBSTRUCTIONS)



Improving the Design of an IM-12A Testing Machine. S. P. Lazarenko. (*Zavodskaya Laboratoriya*, 1950, 21, (12), 1504-1506). [In Russian]. Modifications in the construction of a testing machine are described which enable tests of improved accuracy to be carried out on small test-pieces and on flat test-pieces requiring loads up to 12 tons.—A. E.

LAZARENKO, S.P.

BUTOMO, D.G.; LAZARENKO, S.P.; VOL, A.Ye.; ROMU, V.G.

High-strength corrosion-resistant malleable alloy. TSvet.met.29 no.11:70-76 N '56. (MLRA 10:1)
(Copper-aluminum-nickel alloys--Testing)

LAZARENKO, S. P.

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Clad metals. S. P. Lazarenko and V. G. Romm. *Tsvet-nye Metal.* 30, No. 4, 60-[illegible] (1956).—Steel plates were clad with brass by hot rolling and by casting brass around a steel core followed by rolling, and the adherence of the coating to the base was detd. J. D. Gat

1-4E2c

AUTHOR: Lazarenko, S.P. and Romu, V.G. 136-4-12/23

TITLE: Clad Metals. (O Plakirovannykh Metallakh).

PERIODICAL: "Tsvetnye Metally" (Non-ferrous Metals) 1957, No.4, pp. 56 - 60 (U.S.S.R.)

ABSTRACT: After a brief account of the uses of bimetallic sheets and strip the authors describe two methods of producing clad steel. One method is for welding copper billets to steel billets followed by hot rolling; in the other earth moulds with a steel core are filled with brass, this being also followed by hot rolling. The first, after testing by backwards and forwards bending to fracture and bending to 180° round a bar two sheet-thicknesses in diameter, and tensile testing were found to give good results indicating good adhesion between the copper and steel. Strips produced by the second method showed no separation between brass and steel when tested by bending through 180° with the brass both inwards and outwards; no cracks were observed and special tests showed that a stress of 10-20 kg/mm^2 was required to cause separation. It was shown that to avoid the clad layer creeping off during rolling small reductions should be used in the first passes. Some recommendations are given on selecting the method of cladding for different sizes of strip or sheet and thickness of the cladding.

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Clad Metals. (Cont.) 136-4-12/23

There are 12 references, of which 5 are Slavic. 3 figures.

AVAILABLE:

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LAZARENKO, S. P.

136-7-13/22

AUTHORS: Butomo, D.G., Lazarenko, S.P. and Romu, V.G.

TITLE: Production of copper with a low oxygen content. (Poluchen-iye medi s nizkim soderzhaniyem kisloroda).

PERIODICAL: "Tsvetnyye Metally", 1957, No.7, pp.70-75 (USSR).

ABSTRACT: The present article is based on material obtained by the Central Research Institute of the Ministry of Shipbuilding of the USSR together with the "Krasnyy Vyborzhets" works on the production of copper with an oxygen content $\leqslant$0.01%. Copper with such low oxygen contents is not affected adversely by annealing in a reducing atmosphere and can be welded satisfactorily. It was found that contamination of copper with oxygen during the pouring of ingots (the principal contamination-stage) could be avoided with type M3C copper by using vertical, flat, cast-iron ingot moulds without water cooling. Comparative tests were made with this type of mould and also water-cooled moulds with internal dimensions 123 x 670 x 850 mm and 206 x 735 x 1000 mm. In addition to the investigation of the structures and properties of the ingots, their rolling into sheets and the welding of these latter with various electrodes were studied for types M3C and M3 of copper. Welded joints in M3C copper were superior to those in M3.

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136-7-13/22

2/2 Production of copper with a low oxygen content. (Cont.)
There are 3 figures and 2 tables.

AVAILABLE: Library of Congress

LAZARENKO, T.

Improve the relations with railroaders. Mor. flot 25 no.11:11 N '65. (MIRA 18:11)

1. Nachal'nik Krasnovodskogo porta.

RUDOY, Yevgeniy Fedorovich; LAZARENKO, Timofey Illarionovich; MAKSIMOV, I.S., red.; PONOMAREVA, A.A., tekhn.red.

[Expansion of transportation and communications in the U.S.S.R. during the period from 1959 to 1965] Razvitie transporta i sviazi v SSSR, 1959-1965. Moskva, Gosplanizdat, 1960. 115 p. (MIRA 13:5)

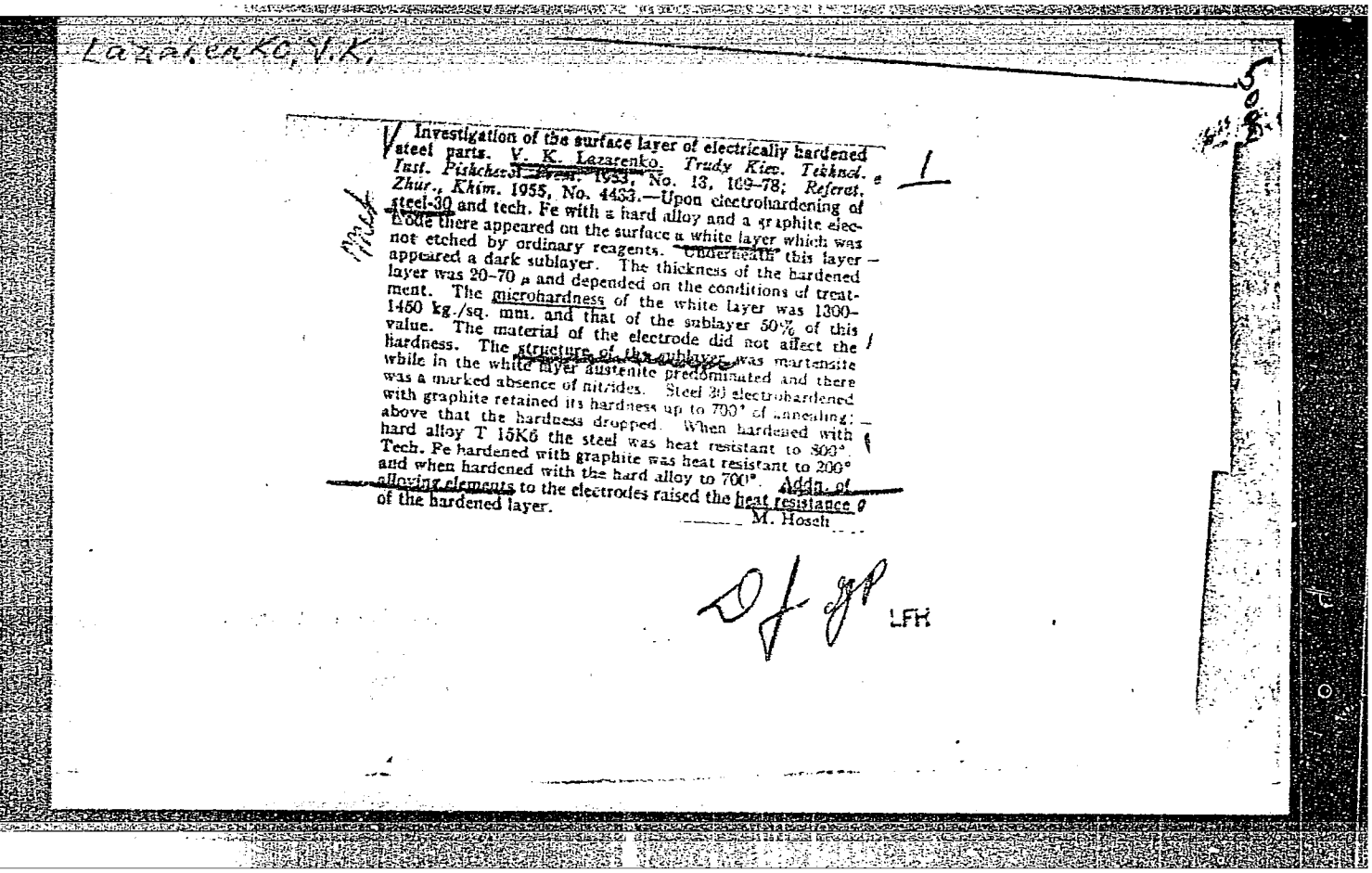
(Communication and traffic)

ABYZOV, A., inzh.; LAZARENKO, V., arkhitektor

Supply better standard plans to the construction industry of the Republic. Stroi.i arkhit. 8 no.6:10-11 Je '60.
(MIRA 13:6)
(Ukraine—Architecture—Designs and plans)

KASPIN, L.A.; LAZARENKO, V.I.; KHARITONOV, G.A.; TUROVSKIY, B., redaktor; GARSHANOV, A., redaktor.

[Technical and economic characteristics of few-storied dwellings] Tekhniko-ekonomicheskie kharakteristiki maloetazhnykh zhilykh domov. Kiev, Izd-vo Akademii arkhitektury Ukr. SSR, 1952. 142 p. (MLRA 7:1)
(Dwellings)



Lazarenko, V. K.

Investigation of the surface layer of electrically hardened steel parts. V. K. Lazarenko. *Trudy Kiev. Tekhnol. Inst. Pishchevoĭ Prom.* 1953, No. 13, 169–78; *Referat. Zhur., Khim.* 1955, No. 4453.—Upon electrohardening of steel-30 and tech. Fe with a hard alloy and a graphite electrode there appeared on the surface a white layer which was not etched by ordinary reagents. Underneath this layer appeared a dark sublayer. The thickness of the hardened layer was 20–70 μ and depended on the conditions of treatment. The microhardness of the white layer was 1300–1450 kg./sq. mm. and that of the sublayer 50% of this value. The material of the electrode did not affect the hardness. The structure of the sublayer was martensite while in the white layer austenite predominated and there was a marked absence of nitrides. Steel 30 electrohardened with graphite retained its hardness up to 700° of annealing; above that the hardness dropped. When hardened with hard alloy T 15K6 the steel was heat resistant to 800° Tech. Fe hardened with graphite was heat resistant to 200° and when hardened with the hard alloy to 700°. Addn. of alloying elements to the electrodes raised the heat resistance of the hardened layer.

M. Hosch

LFH

SOV/137-58-10-21608

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 164 (USSR)

AUTHOR: Lazarenko, V.K.

TITLE: An Investigation of Wear Resistance of Steels Subjected to Abrasive Wear (Issledovaniye iznosostoykosti staley pri abrazivnom iznashivanii)

PERIODICAL: Tr. Kiyevsk. tekhnol. in-ta pishch. prom-sti, 1957, Nr 7, pp 187-192

ABSTRACT: The author examines the results of an investigation on abrasive wear (W) in various types of tool and structural steels. The tests were carried out on a machine of the KE-3 type. After heat treatment, specimens 11.3x30 mm in diameter were carefully ground and honed in so as to ensure a stable microgeometry of the initial surface. A cone-shaped tip with an apex angle of 120° and a tip radius of 0.2 mm, taken from a VK6 unit, served as the abrasion tool. The experiments were carried out at a constant sliding velocity of 0.2 m/min with tool pressures P of 1.5 and 2 kg. The depth of microgrooves left on the friction surface served as the criterion of W. It was established that the wear resistance (WR) of various steels

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SOV/137-58-10-21608

An Investigation of Wear Resistance of Steels Subjected to Abrasive Wear

subjected to abrasive W is a function of their hardness. Best WR properties are exhibited by high-alloyed tool steels and carburized structural steels. The WR of heat-treated carbon tool steels is somewhat lower. Lowest WR is observed in structural steels which have been heat-treated to reduce their hardness. It was established that the relative WR of steel 45 subjected to abrasive wear is almost directly proportional to its hardness. It is assumed that an analogous relationship exists for other types of carbon steels as well. It was also established that the increase in the degree of W in various steels is directly proportional to the increase in the load imposed upon the friction couple.

I.G.

1. Steel--Mechanical properties 2. Steel--Test methods 3. Friction --Physical effects 4. Abrasion--Analysis

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SOV/137-58-10-21609

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 165 (USSR)

AUTHOR: Lazarenko, V.K.

TITLE: An Investigation of Wear-resistance of Steels at Various Sliding Velocities (Issledovaniye iznosostoykosti staley pri razlichnykh skorostyakh skol'zheniya)

PERIODICAL: Tr. Kiyevsk. tekhnol. in-ta pishch. prom-sti, 1957, Nr 17, pp 193-201

ABSTRACT: Comparative wear-resistance (WR) tests involving various sliding velocities were carried out on heat-treated 5x35 mm specimens of tool and structural steels (21 different types) under frictional conditions producing wear (W) due to type-1 seizing, thermal W, and W oxidation. A friction machine was employed by means of which W was induced in the specimens by pressing their faces against a rotating standardized disk made of steel ShKh15 with a hardness of 63-64 R_C. Wear diagrams which have been plotted indicate that wear oxidation is the primary cause of W in ultra-hard steels, whereas seizing of type 1 is of secondary importance. In the case of structural steels which have been heat-treated to reduce their hardness, type-1

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SOV/137-58-10-21609

An Investigation of Wear-resistance of Steels at Various Sliding Velocities

seizing becomes the leading cause of W. As the sliding velocity is increased up to 1.5 m/sec, only W oxidation takes place. At a velocity of 5 m/sec, thermal W occurs in most types of steel. The WR is at a maximum during oxidation W: It is 3 to 5 times greater than the WR during W due to type-1 seizing, and 50 to 100 times greater than the WR in the presence of thermal W. The greatest WR is observed in high-speed steels, whereas high-alloyed tool steels and carburized structural steels possess somewhat lower WR properties. Steels possessing high thermal stability and good heat-resistant properties exhibit maximum WR under thermal W, the effect of initial mechanical properties of the steel having no significant effect. By improving heat-treatment procedures and chemical composition of the steel it is possible to prevent undesirable forms of W and effect a transition to W oxidation which ensures a maximum degree of WR of the steel.

I.G.

1. Steel--Mechanical properties 2. Steel--Test methods 3. Friction--Physical effects 4. Abrasion--Analysis

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SOV/137-58-10-21607

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 164(USSR)

AUTHOR: Lazarenko, V.K.

TITLE: An Investigation of Wear Resistance of Various Types of Steel Subjected to Pockmark Pitting (Issledovaniye iznosostoykosti staley pri ospovidnom iznashivanii)

PERIODICAL: Tr. Kiyevsk. tekhnol. in-ta pishch. prom-sti, 1957, Nr 17, pp 203-210

ABSTRACT: In order to obtain comparative data on resistance to pockmark pitting wear (PW) of various types of steel, tests were conducted on specimens of ten different types of structural steel employed in the manufacture of gear transmissions and rolling-contact bearings. After heat treatment, specimens with dimensions of 10/8x12x25 mm were tested in a friction machine in which PW was effected by rolling small balls with a constant velocity of 2 m/sec over the surface of specimens being tested for a period of one hour (100,000 cycles). The value of the reciprocal of the dimension of a groove thus produced is a criterion of the PW resistance of the steel. It was

Card 1/2 established that maximum wear resistance is exhibited by

An Investigation of Wear-resistance of Various Types of Steel (cont.)

carburized structural alloy steels; the wear resistance is lower in the case of steels which have been heat-treated in order to reduce their hardness, and is minimal in normalized carbon steels. The rate of PW increases with increasing load.

I.G.

1. Steel--Mechanical properties 2. Steel--Test methods

LAZARENKO, V. K.: Master Tech Sci (diss) -- "Investigation of the wear-resistance of steels". Kiev, 1959. 16 pp (Kiev Inst of the Civil Air Fleet), 200 copies (KL, No 18, 1959, 125)

PHASE I BOOK EXPLOITATION SOV/4197

Lazarenko, Vitaliy Kirillovich, and Georgiy Aleksandrovich Preys

Iznosostoykost' metallov (Wear Resistance of Metals) Moscow, Mashgiz, 1960. 217 p. Errata slip inserted. 4,000 copies printed.

Reviewer: D.A. Draygor, Doctor of Technical Sciences; Ed.: P.Ya. Furer; Chief Ed. (Southern Division, Mashgiz): V.K. Serdyuk, Engineer.

PURPOSE: This book is intended for technical personnel and scientific workers.

COVERAGE: The book deals with basic principles of wear of machine materials and methods of thermal and mechanical wear-prevention processing of steel. Data obtained by comparative experiments on wear of machine materials are discussed. Attention is given to the phenomenon of friction without lubrication, in which properties connected with the wear resistance of materials can be detected and in which processes occurring in the surface layer of steel are intensified. The following persons assisted the authors: V.N. Nelidov, I.V. Lavruk, B.M. Zinko, P.F. Pavlik, and R.V. Iskrovskaya. Chapters I to IX were written by G.A. Preys and V.K. Lazarenko, and Chapters X to XIII by G.A. Preys.

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There are 138 references: 121 Soviet, 13 English, 3 German, and 1 Swedish.

TABLE OF CONTENTS:

Wear Resistance of Metals SOV/4197

AVAILABLE: Library of Congress

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AC/pw/mas
9-2-60

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S/123/61/000/020/001/035
A004/A101

18.8100

AUTHOR: Lazarenko, V. K.

TITLE: Investigating the galling process of metals during their contact

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 20, 1961, 9-10, abstract 20A60 ("Tr. Kiyevsk. tekhnol. in-ta pishch. prom-sti", 1960, no. 22, 141-146)

TEXT: Comparative investigations have been carried out on the galling of 96 different friction couples of various steel grades being in contact with steel, cast iron, bronze and babbitt. The specimens were tested after different heat treatment on the KE-1 (KYe-1) friction machine at a constant sliding speed V = 0.6 m/min and varying specific pressures P = 10 - 1,075 kg/cm^2. Based on 10,000 tests curves were plotted of the dependency of friction coefficient μ on the P value for 96 metal couples. At dry friction of various steel grades on steel μ = 0.12 - 0.74; during friction on cast iron μ = 0.15 - 0.56. The following peculiarities of the galling process were made apparent: The galling of metals during friction is taking place as a result of a joint plastic deformation of clean surfaces being in contact, the origination of metallic bonds in the contact

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Investigating the galling process ...

spots and the formation of cold welding seats. The tendency to galling grows with reduced σ_b, σ_s, and HB values and increased δ and A_H. Soft structural carbon steels show the maximum ability to galling, while high-strength tool and alloy-steels have a minimum tendency to galling. The tendency to galling of structural and tool steels in pairs with nonferrous metals practically does not depend on the mechanical properties of the steels. Value μ of steels on different metal alloys is a variable depending on P, while μ of steels on ferrous metal alloys grows under conditions of joint plastic deformation with increasing HB, σ_b and σ_s and decreasing A_H and δ. Value μ of the same steels on nonferrous metals practically does not depend on the mechanical properties.

L. Rapoport

[Abstracter's note: Complete translation]

Card 2/2

L 24782-66 EWT(1)/EWA(h)

ACC NR: AP6007836 SOURCE CODE: UR/0120/66/000/001/0192/0193

AUTHOR: Bryukhanov, A. S.; Grib, V. N.; Lazarenko, V. N.

ORG: Electron Microscope and Electronic Automation Plant, Sumy (Zavod elektronnykh mikroskopov i elektroavtomatiki)

TITLE: A high-voltage square pulse generator with 75 kv output isolation

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 192-193

TOPIC TAGS: pulse generator, pulse shaper, thyratron, cathode follower

ABSTRACT: The authors recommend changes in the circuit of the high voltage pulse generator described in previous articles (V. A. Zamkov, PTE, 1957, No 3, 73; G. A. Martynov, PTE, 1959, No 5, 139; K. G. Finogenov, PTE, 1963, No 4, 184) to increase the output pulse with 75 kv output isolation. The generator is based on TGI1-90/8 thyratrons. The parasitic induction level may be reduced by shunting the grid circuits with a large capacitor and using a low-impedance cathode-follower output based on four 6Zh11P tubes. The proposed modifications give an output pulse amplitude of up to 15 kv. The operation of the generator is described. Output isolation is achieved by using pulse transformers to separate the input circuits and power transformers on the supply side. The high voltage sections of the transformers are separated by at least 10 mm of insulation. The pulse amplitudes may be controlled from 2 to 15 kv with

Card 1/2 UDC: 621.373

L 24782-66

ACC NR: AP6007836

pulse durations from 200 μsec to 100 msec. The flat section of the pulses show no more than a 0.5% drop with a load of 400 MΩ. The prf is 5 cps and the average power of the high-voltage supply is less than 7 w. Series connection of several thyratrons or the use of higher voltage thyratrons would be required for a further increase in the pulse amplitude. Orig. art. has: 3 figures.

SUB CODE: 09/ SUBM DATE: 07Jan65/ ORIG REF: 004/ OTH REF: 000

Card 2/2 MJS

MARTYNOV, L.S., prof. doktor. tekhn. nauk; RATNER, G.S.; LAZARENKO, V.M., kand. tekhn. nauk, dotsent; LINSKIY, V.V.; DALIDOVICH, A.S., prof., doktor tekhn. nauk

Problems in the analysis of the process of loop formation. Tekst. prom. 25 no.4:72-81 Ap '65. (MIRA 18:5)

1. Leningradskiy institut tekstil'noy i legkoy promyshlennosti imeni S.M. Kirova (for Martynov). 2. Glavnyy inzh. trikotazhnoy fabriki "Krasnoye znamya" Soveta narodnogo khozyaystva Leningradskogo ekonomicheskogo rayona (for Ratner). 3. Leningradskiy institut tekstil'noy i legkoy promyshlennosti imeni S.M. Kirova (for Lazarenko). 4. Vedushchiy konstruktor Spetsial'nogo konstruktorskogo byuro trikotazhnykh mashin (for Linskiy). 5. Moskovskiy tekstil'nyy institut (for Dalidovich).

LAZARENKO, V.M., kand.tekhn.nauk

Selecting the size of yarn packages for knitting machines. Izv.vys. ucheb.zav.; tekh.leg.prom. no.3:132-139 '61. (MIRA 14:7)

1. Leningradskiy tekstil'nyy institut imeni S.M.Kirova. Rekomendovana kafedroy tekhnologii trikotazhnogo proizvodstva.
(Knitting machines)

LAZARENKO, V. R.

3601
SEARCH FOR DOUBLE β DECAY IN Ca^{48}. F. I. Dobrokhotov, V. R. Lazarenko, and S. Yu. Luk'yanov. Doklady Akad. Nauk S.S.S.R. 110, 966-9(1956) Oct. 21. (In Russian)

Two sets of disks prepared by compression of the CaF_2 dust into disks 33 mm in diameter were used. One pair of specimens was enriched with Ca^{48} (up to 76.2%) containing 423 and 259 mg of Ca^{48}, respectively; the controlling pair was enriched with Ca^{48}(94.7%) and Ca^{40}(99.9%). The measurements were taken by method of coincidences on the specimens placed between two scintillation counters surrounded by a liquid scintillator. Two installations, one 13 m underground and the other on the surface surrounded by a layer of lead (15 cm) and steel (3 cm) were used for the experiment. The scheme of the installations and the table of resolving number of impulse of coincidences per 100 hr in the interval of 3.2 Mev are shown. (R.V.J.)

L 9396-66 EWT(m)/EWP(t)/EWP(b) DIAAP LJP(c) JD

ACC NR: AP5024693 SOURCE CODE: UR/0056/65/049/003/0751/0754

AUTHOR: Lazarenko, V. R.; Luk'yanov, S. Yu.

ORG: none

TITLE: Attempts to detect double Beta decay in Ca^{48}

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 3, 1965, 751-754

TOPIC TAGS: Beta decay, calcium, photoelectron, neutrino

ABSTRACT: The described experimental search for double β decay in Ca^{48} supersedes an experiment peformed seven years ago (ZhETF v. 36, 76, 1959). The experimental setup and the scintillation technique were essentially the same, but the sample used is much larger, containing 3.8 grams of pure Ca^{48}, and provision had to be made to ensure uniformity in the collection of the photoelectrons from the larger sample. The apparatus and the procedure are described briefly. The results show that the lifetime of the process exceeds 5×10^{19} years if the β decay is neutrinoless and 3×10^{18} years for two-neutrino decay. Authors thank L. A. Artsimovich and S. N. Vernov for making the experiment possible, I. S. Shapiro for constant interest, and Ye. I. Lazarev and L. G. Tokareva for directly participating in the preparation and performance of the experiment. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 17Apr65/ ORIG REF: 001/ OTH REF: 004

Card 1/1

21(8)
AUTHORS: Dobrokhotov, Ye. I., Lazarenko, V. R., SOV/56-36-1-12/62
Luk'yanov, S. Yu.

TITLE: The Search for the Double β-Decay in Ca^{48} (Poiski dvoynogo β-raspada v Ca^{48})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 1, pp 76-87 (USSR)

ABSTRACT: In the introduction, the results obtained by publications by other authors, which concerned this subject, (Refs 1-6) are discussed. For their investigations the authors used a sample enriched up to 72.2 % with Ca^{48}, which contained 423 mg Ca^{48}; the control sample was enriched with Ca^{44} up to 94.7 %. Both samples consisted of calcium fluoride powder pressed into thin discs (diameter: 37 mm); the discs were covered by aluminum foils (30μ) and were set in aluminum rings. The impurities in the samples amounted to less than 0.02 %. The measuring arrangement and the electronic device are described in detail by a schematical drawing and a block scheme, and so are the gauging of the scintillation counters, between which the samples were alternatingly located (Fig 1). Energy-gauging was carried out by means of the conversion lines of Ba^{137} (0.625 MeV).

Card 1/3

Furthermore, the control tests and, finally, measurements themselves were discussed. The latter were carried out in two series from December 1956 to January 1957, and from July to August 1957. The energy interval within which the search for double β-decays was carried out depends on the decay energy and on the electron energy losses in the sample. The decay energy for Ca^{48} is known from mass-spectroscopic measurements (Ref 14) as amounting to (4.3 ± 0.1) MeV. The errors occurring in investigations are estimated as amounting to 1) ±5.6 % as a result of amplitude scattering (straggling, spread) by each scintillation counter, 2) ±3 % as a result of errors in counter energy calibration, 3) ±1.5 % because of instability of intensification, 4) ±1.5 % as a result of errors committed when measuring the film. The spectra of total electron energy was analyzed in the domain 3.0-4.4 MeV. In the course of 730 hours 11 cases of coincidence were recorded in this interval if the sample enriched with Ca^{48} was between the counters, 12 cases of coincidence at Ca^{44}. The difference "Ca^{48} - Ca^{44}" is therefore $(-1\pm4.8)/730$ imp/h, i.e. $(-0.14\pm0.66)/100$ imp/h ($= \Delta n$). The half-life is determined from the formula

$\tau = \ln 2 \frac{N_o}{A} \frac{km\eta}{\Delta n}$, where m denotes the materialing of which the samples are made, A - the mass number, N_o - Avogadro's Number, k and η - coefficients. $\tau = (0.9/\Delta n).10^{19}$a, i.e. one obtains $\tau_{Ca^{48}} \geq 0.7.10^{19}$a.
The following results were obtained by previous investigations carried out with scintillation counters:
McCarthy (Mak-Karti) (Ref 16): $1.1.10^{17}$a (1955)
The authors in a previous paper (Ref 13): $> 1.10^{18}$a (1956)
Awshalom(Avshalom)(Ref 17): $\geq 2.10^{18}$a (1956)
The authors finally thank I. S. Shapiro for discussions, I. V. Galkin for establishing the electronic plant, and K. S. Mikhaylov for preparing the scintillators.There are 11 figures, 2 tables, and 17 references, 10 of which are Soviet.

SUBMITTED: September 6, 1958

LAZARENKO, V. V.

AID P - 1782

Subject : USSR/Engineering

Card 1/1 Pub. 78 - 20/26

Author : Lazarenko, V. V.

Title : Method of calculation of pipe-lines for pumping viscous oils with preheating

Periodical : Neft. khoz., v.33, no.3, 80-84, Mr 1955

Abstract : A graphical method is suggested for the calculation of the amount of preheating necessary for pumping oils of different viscosities for different distances. Charts

Institution: None

Submitted : No date

26882
S/081/61/000/013/022/028
B117/B203

15.9300

AUTHORS: Degteva, T. G., Nosov, Yu. A., Lazarenko, Ya. F., Fedorova, V. G., Kuz'minskiy, A. S.

TITLE: Aging of rubber packings in oil

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 13, 1961, 653, abstract 13П331 (Tr. N.-i. in-ta rezin. prom-sti, sb. 6, 1960, 69-83)

TEXT: The authors developed a quick method of estimating the service life of СКН-18 (SKN-18) packing rings in oil at ~20°C. Tests were made in special imitators simulating the packings of machines. Rubber rings originally compressed to 10-30% aged between 60 and 80°C. Deformation and radial compression were periodically measured. A contact pressure of 2.5 kg/cm^2 is sufficient to make the packing completely tight at 20°C. In this connection, ~100% of the permanent elongation (ε) is accumulated, and the stress nearly vanishes. After finding the kinetic curves for the accumulation of ε, the authors determined the apparent activation energy

Card 1/2

26882
S/081/61/000/013/022/028
B117/B203

Aging of rubber packings in oil

of aging and the service life of packings in joints at 25°C, the latter being about 10 years (considering the correction factor). The service life was practically calculated for ε80%. For packings operating at -60°C, the critical value of the contact pressure required for a perfect seal rose from 7.5 up to 13 kg/cm^2. Leakiness is related with the loss in elastic properties of the rubber. [Abstracter's note: Complete translation.]

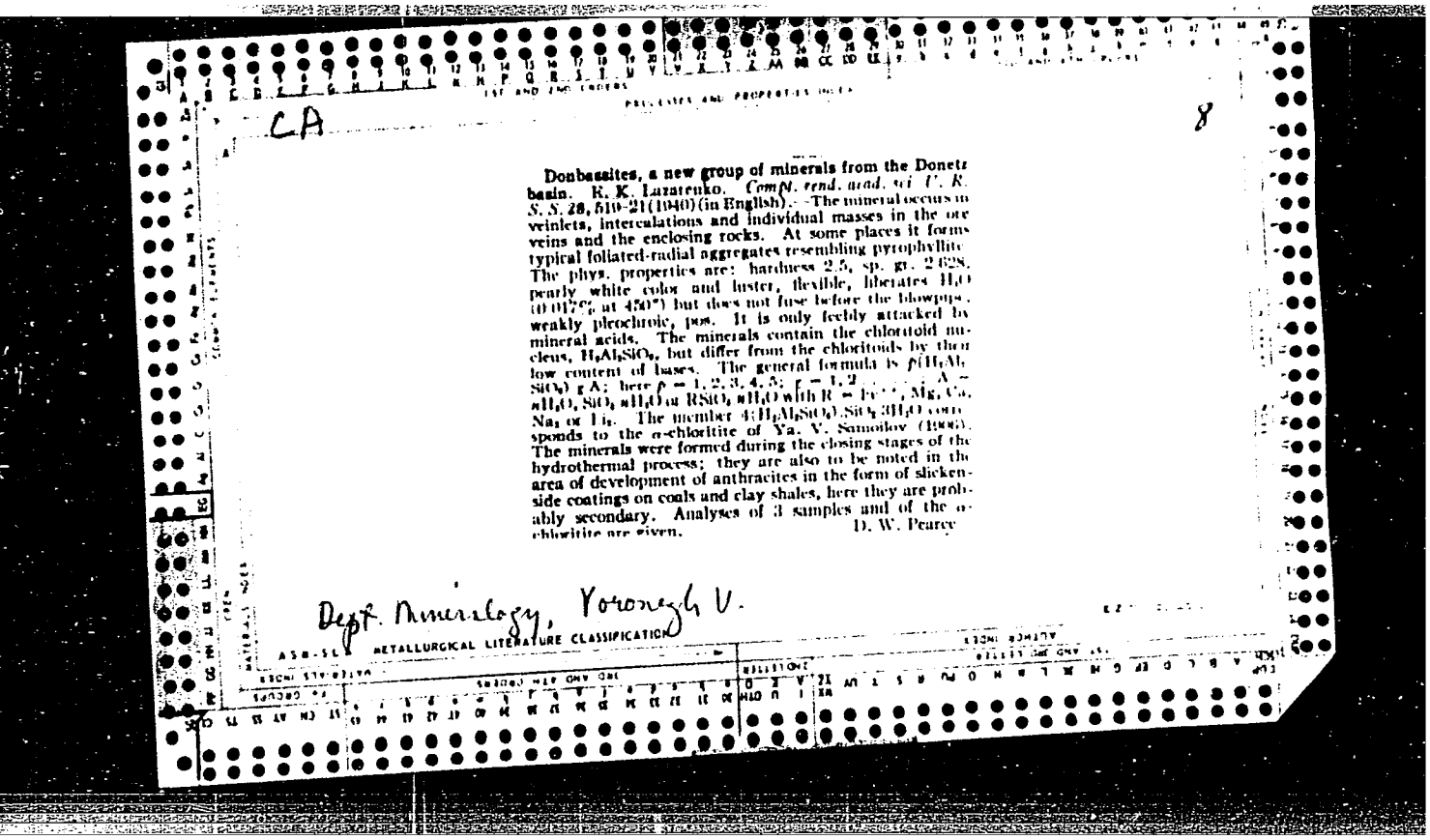
Card 2/2

SOKOLOVA, Ye.I.[deceased]; BRAYNZAROVA, G.T.; BOCHANOVA, N.S.; ZHIKHAREVA, V.I.; ZAKUMBAYEV, A.K.; ISAYEVA, M.G.; IMAMBAYEVA, U.A.; KRIVOSHEYEV, Yu.O.; KUDAYBERGENOV, Zh.D.; RAKHMETCHIN, S.; TYUTYUKOV, F.M.; SHIM, P.S.; LAZARENKO, Ye.I.; GARANKINA, A.I.; D'YACHENKO, R.; PETUKHOV, R.M., kand. tekhn. nauk, nauchn. red.; SHUPLOVA, M.A., red.; LEVIN, M.L., red.; ROROKINA, Z.P., tekhn. red.

[Food industry of Kazakhstan] Pishchevaia promyshlennost' Kazakhstana. Alma-Ata, Izd-vo AN KazSSR, 1963. 172 p.

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

(Kazakhstan--Food industry)



CA

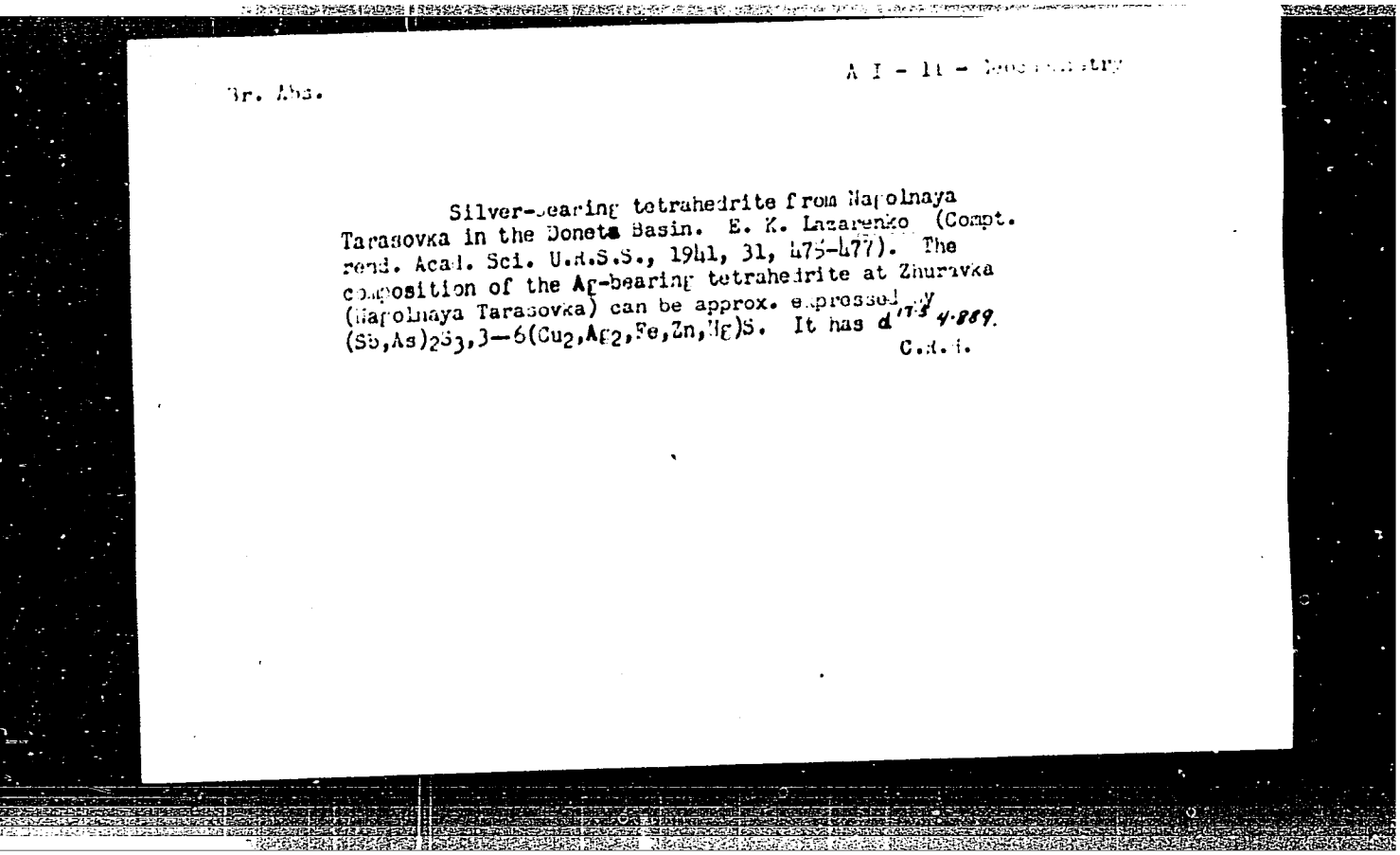
8

Donbassites, a new group of minerals from the Donetz basin. K. K. Lazarenko. *Compt. rend. acad. sci U. R. S. S.* 28, 619–21 (1940) (in English). The mineral occurs in veinlets, intercalations and individual masses in the ore veins and the enclosing rocks. At some places it forms typical foliated-radial aggregates resembling pyrophyllite. The phys. properties are: hardness 2.5, sp. gr. 2.628, pearly white color and luster, flexible, liberates H_2O (0.017% at 450°) but does not fuse before the blowpipe, weakly pleochroic, pos. It is only feebly attacked by mineral acids. The minerals contain the chloritoid nucleus, $H_2Al_2SiO_6$, but differ from the chloritoids by their low content of bases. The general formula is $p(H_2Al_2SiO_6)\,qA$; here $p = 1, 2, 3, 4, 5$; $q = 1, 2$ . . . A = nH_2O, SiO_2, nH_2O or $RSiO_3$, nH_2O with R = Fe″, Mg, Ca, Na_2 or Li_2. The member $4(H_2Al_2SiO_6).SiO_2.3H_2O$ corresponds to the α-chloritite of Ya. V. Samoilov (1906). The minerals were formed during the closing stages of the hydrothermal process; they are also to be noted in the area of development of anthracites in the form of slickenside coatings on coals and clay shales, here they are probably secondary. Analyses of 3 samples and of the α-chloritite are given.

D. W. Pearce

Dept. Mineralogy, Voronezh U.

METALLURGICAL LITERATURE CLASSIFICATION



Br. Abs.

A I - 11 - Mineralogy

Silver-bearing tetrahedrite from Napolnaya Tarasovka in the Donets Basin. E. K. Lazarenko (Compt. rend. Acad. Sci. U.R.S.S., 1941, 31, 475-477). The composition of the Ag-bearing tetrahedrite at Zhuravka (Napolnaya Tarasovka) can be approx. expressed by $(Sb,As)_2S_{3,3}-6(Cu_2,Ag_2,Fe,Zn,Hg)S$. It has $d^{17.5}$ 4·869.

C.A. 1.

LAZARENKO, Ye. K.

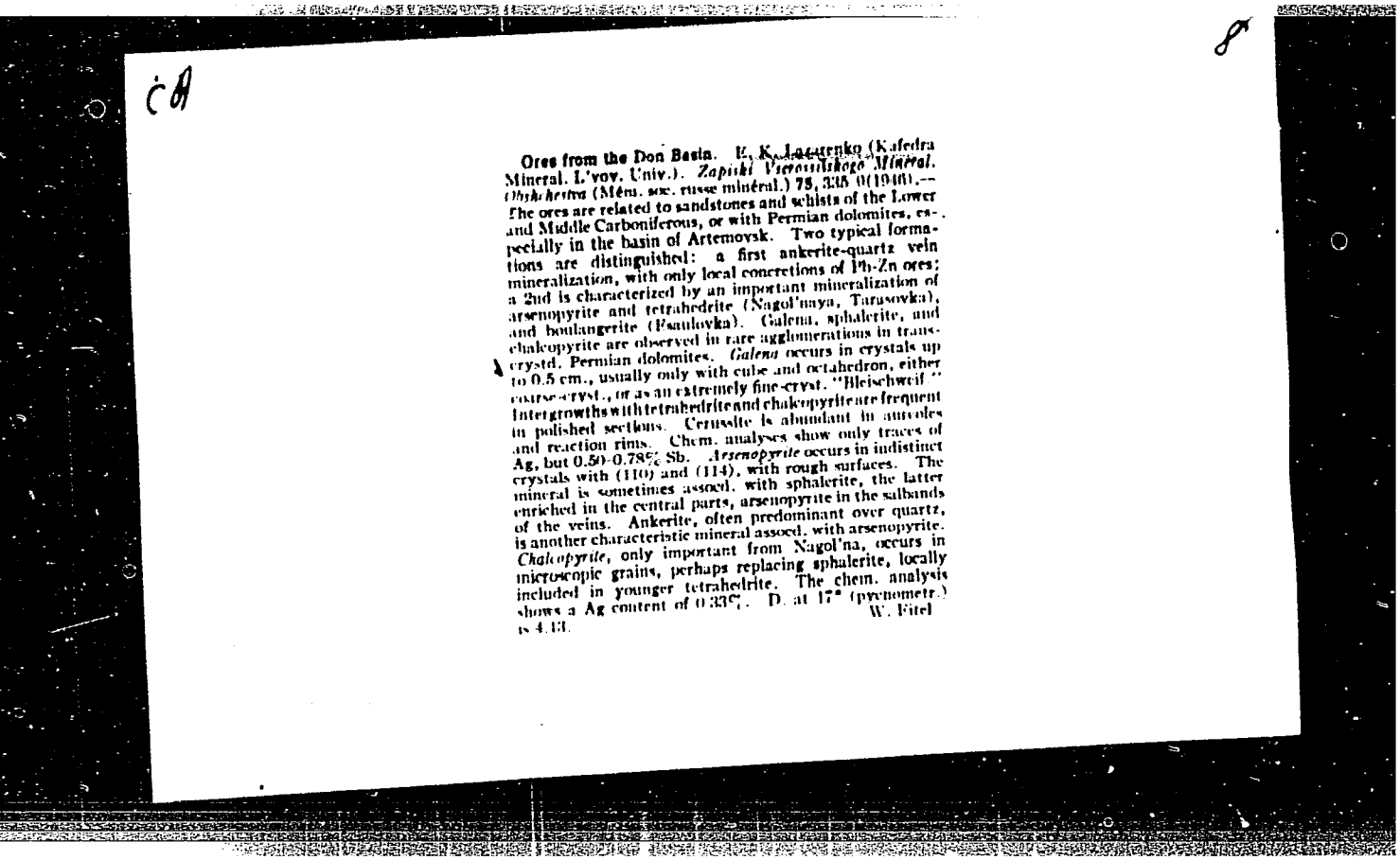
"On the Hydrothermal Formations of the Korobkov Area of the Kursk Magnetic Anomaly," Dokl. AN SSSR, 42, No.6, 1943

Dept. Mineralogy, Voronezh Univ.

Zw. Abs

H I-XI . Geochemistry

Hydrothermal formations of the Korobkov area of the Kursk magnetic anomaly. E. K. Lazarenko (*Compt. rend. Acad. Sci. U.R.S.S.*, 1944, **42**, 271—273).—The main formations of the area are described. The mineralogical composition of the hydrothermal rocks is tabulated in order of quant. predominance. The main types present are quartz, pyrite, micaceous hæmatite, carbonate, and felspar. Chemical and spectrographic analysis showed the presence of H, Na, K, Cu, Ag, Au, Be, Zn, Mg, Ca, Sr, Ba, Al, Ga, Ti, C, Si, Ge, Sn, Pb, As, V, O, S, Cr, Mn, Fe, Co, and Ni. Stages in the formation of the deposits are briefly discussed. J. O'M-B.



Ores from the Don Basin. E. K. Lazarenko (Kafedra Mineral. L'vov. Univ.). *Zapiski Vsesoyuznogo Mineral. Obshchestva* (Mém. soc. russe minéral.) 75, 335-0(1946).—The ores are related to sandstones and schists of the Lower and Middle Carboniferous, or with Permian dolomites, especially in the basin of Artemovsk. Two typical formations are distinguished: a first ankerite-quartz vein mineralization, with only local concretions of Pb-Zn ores; a 2nd is characterized by an important mineralization of arsenopyrite and tetrahedrite (Nagol'naya, Tarasovka), and boulangerite (Paulovka). Galena, sphalerite, and chalcopyrite are observed in rare agglomerations in transcrystd. Permian dolomites. *Galena* occurs in crystals up to 0.5 cm., usually only with cube and octahedron, either coarse-cryst., or as an extremely fine-cryst. "Bleischweif" intergrowths with tetrahedrite and chalcopyrite are frequent in polished sections. Cerussite is abundant in aureoles and reaction rims. Chem. analyses show only traces of Ag, but 0.50-0.78% Sb. *Arsenopyrite* occurs in indistinct crystals with (110) and (114), with rough surfaces. The mineral is sometimes assocd. with sphalerite, the latter enriched in the central parts, arsenopyrite in the salbands of the veins. Ankerite, often predominant over quartz, is another characteristic mineral assocd. with arsenopyrite. *Chalcopyrite*, only important from Nagol'na, occurs in microscopic grains, perhaps replacing sphalerite, locally included in younger tetrahedrite. The chem. analysis shows a Ag content of 0.33%. D. at 17° (pycnometr.) is 4.13. W. Fitel

SOBOLEV, Vladimir; VYALOV, O.S., professor, doktor; LAZARENKO, Ye.K., dotsent; PORFIR'YEV, V.B., professor, doktor; SOBOLEV, V.S., professor, doktor.

[Petrology of the eastern region of the complex Korosten plutonic rocks] Petrologiia vostochnoi chasti slozhnogo Korosten'skogo plutona. [L'vov], Izdanie L'vovskogo gos. univ., 1947. 139 p. (MLRA 9:5)
(Lvov. Universytet. Naukovi zapysky no.5).
(Korosten--Rocks, Igneous)

PA 15T97

LAZARENKO, YE. K.

USSR/Mineral Deposits Apr 1947
Galena

"The Mineralogy of the Donets Basin," Ye. K. Lazarenko, 5 pp

"Zap Vse Min Ob" Vol LXXV, No 4

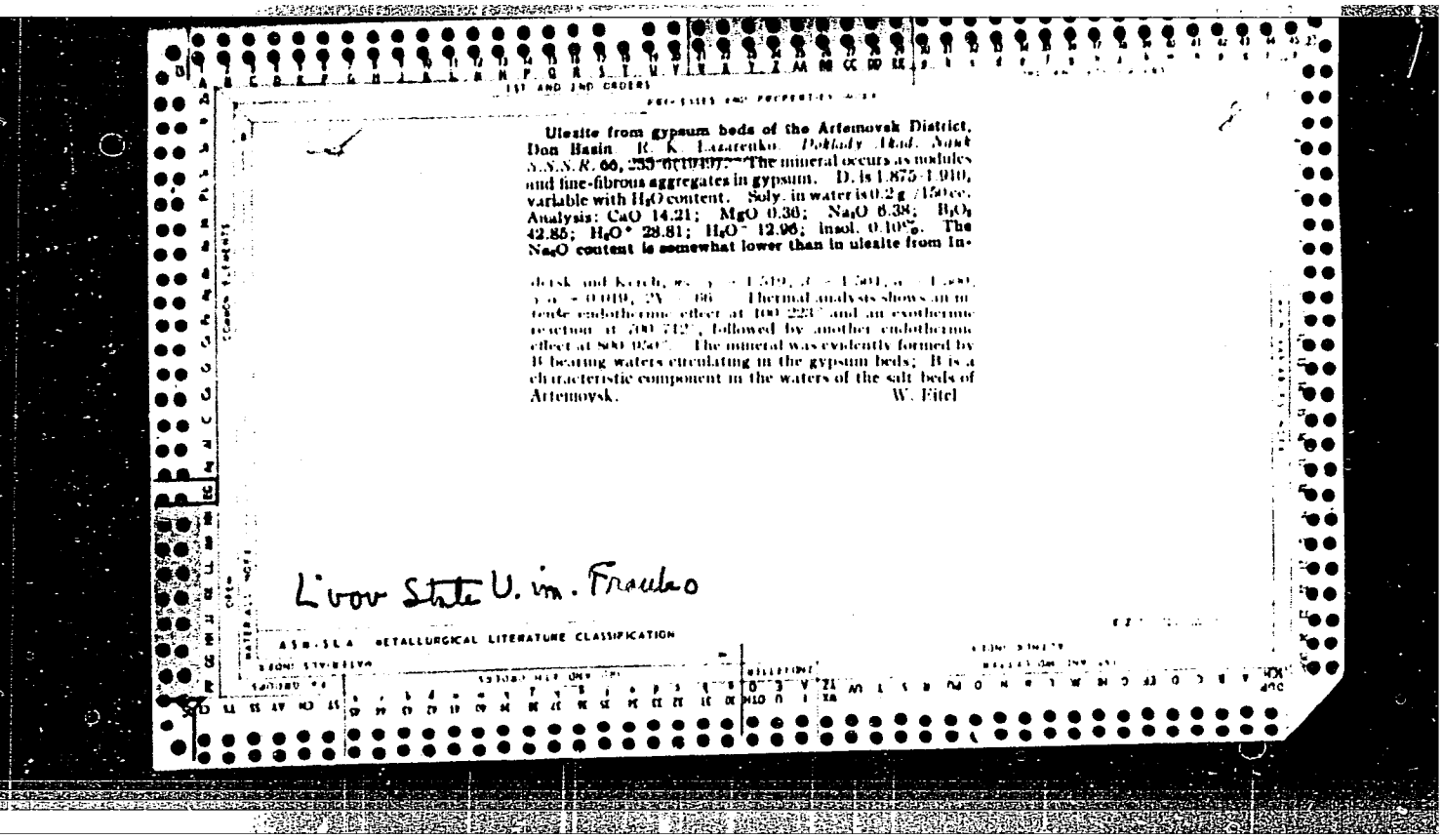
Deposits of galenite, arsenopyrite and chalcopyrite.

15T97

LAZARENKO, Ye. K.

Lazarenko, Ye. K. "The development of mineralogy in the Ukraine SSR after 30 years of Soviet rule," Mineral. sbornik, No. 2, 1948, p. 5-14 - Bibliog: 104 items

SO: U-3850, 16 June 53, (Letopis 'Zhurnal'nykh Statey, No. 5, 1949).



Ulexite from gypsum beds of the Artemovsk District, Don Basin. R. K. Lazarenko. *Doklady Akad. Nauk S.S.S.R.* 66, 255-6(1949).—The mineral occurs as nodules and fine-fibrous aggregates in gypsum. D. is 1.875–1.910, variable with H_2O content. Soly. in water is 0.2 g./150 cc. Analysis: CaO 14.21; MgO 0.30; Na_2O 6.38; B_2O_3 42.85; H_2O^+ 28.81; H_2O^- 12.96; insol. 0.10%. The Na_2O content is somewhat lower than in ulexite from In-

dersk and Kerch, ws. y = 1.519, β = 1.501, α = 1.490, γ − α = 0.029, 2V = 86°. Thermal analysis shows an incipient endothermic effect at 100–223° and an exothermic reaction at 700–712°, followed by another endothermic effect at 880–950°. The mineral was evidently formed by B bearing waters circulating in the gypsum beds; B is a characteristic component in the waters of the salt beds of Artemovsk. W. Eitel

L'vov State U. im. Franko

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

LAVARENKO, YE. K.

USSR/Minerals
Gaylussite
Deposits

May 49

"Borcatrocalcite (Gaylussite) From the Gypsiferous Strata of the Artemovsk Region of the Donets Basin," Ye. K. Lazarenko, Lvov State U imeni Ivan Franko, 2½ pp

"Dok Ak Nauk SSSR" Vol LXVI, No 2

Borocatrocalcite was discovered by students of L'vov U in a gypsum quarry on outskirts of Artemovsk. This find is of interest, since only other deposits known are those at Inderka and the Kerch Peninsula.

52/49793

USSR/Minerals (Contd)

May 49

Describes Artemovsk deposit and includes table giving results of chemical analysis. Submitted by Acad D. S. Belyankin, 14 Mar 49.

52/49793

LAZARENKO, YE. K.

Silicates from quartz-carbonate veins of Nagolno-Tarakovka region. E. K. Lazarenko (Lvov Univ.). *Mineralog. Sbornik, L'vov.* [illegible] 4, 90-114(1950).—Descriptions, with chem. analyses, of chlorite, donbassite, dickite, and phengite from veins composed of quartz and carbonates (ankerite and magnesite) in middle Carboniferous formations.

Marie Siegrist

Y

CA

Mineralogical characteristics of donbassite. E. K.
Lazarenko (Ivan Frank State Univ., Lvov, Ukraine).
Doklady Akad. Nauk S.S.S.R. **72,** 771-4(1950); cf.
C.A. **35,** 2821[6]. - Donbassite is a group of clay minerals,
similar to kaolinite and chlorite, occurring on the salbands
of quartz-carbonate horizons in the Nagol'nyi Chains.
In the diagram $Al_4(OH)_8(Si_4O_{10})$-$Mg_6(OH)_8(Si_4O_{10})$-Mg_4Al-
$(OH)_8(SiAlO_{10})$-$Al_{4-x}(OH)_8(AlSiO_{10})$ the donbassites are
plotted between kaolinite and Al chlorite. They are char-
acterized by an alkali-alk. earth content up to 1.62%,
with Li_2O up to 0.78%. The tetrahedral coordination of a
part of the Al is characteristic; therefore, the Al_2O_3 con-
tent is higher than in kaolinite, the SiO_2 content lower.
The intermediate type of donbassite between kaolinite
and chlorite is also very distinct in the endothermic ef-
fect; at about 600° on the differential curves a second endo-
thermic effect is observed at 830 to 880°, followed by a
strong exothermic reaction at 885-900°, and a weak exo-
thermic peak at 1100 to 1150°. The water loss up to 450°
is only 0.02%. The optical properties are nearer those of
the chlorite type than by kaolinite, especially in the orienta-
tion of the index ellipsoid, and the much higher birefring-
ence, but 2*V* is much larger than in Al chlorites. In the
x-ray diagram some lines of the donbassites are near those
of dickite, corundophyllite, and amesite, but not identical
with them. W. Eitel

LAZARENKO, Ye.K.

Current tasks facing Soviet mineralogy. Min.sbor. no.5:3-12 '51. (MLRA 9:12)

1. Gosuniversitet imeni Ivana Franko, L'vov.
(Mineralogy)

LAZARENKO, Ye.K.

Apatite from pegmatite veins of western Volhynia. Min.sbor. no.5:344-346 '51. (MLRA 9:12)

1. Gosuniversitet imeni Ivana Franko, L'vov.
(Volhynia--Apatite

LAZARENKO, Ye.K.; LAZ'KO, Ye.M.

"Research in mineral forming solutions; temperatures and aggregate state" by N.P.Ermakov. Reviewed by E.K.Lazarenko, E.M. Laz'ko. Min.sbor. no.5:359-368 '51. (MLRA 9:12)

1. Gosuniversitet imeni Ivana Franko, L'vov.
(Mineralogical chemistry) (Ermakov, N.P.)

LAZARENKO, Ye.K.

Literature on the mineralogy of the Ukraine for 1950. Min.sbor. no.5:369-374 '51. (MLRA 9:12)

1. Gosuniversitet imeni Ivana Franko, L'vov.
(Bibliography--Ukraine--Mineralogy)
(Ukraine--Mineralogy--Bibliography)

LAZARENKO, Ye.K.

Donbassite from Berezovsk in the Ural. Doklady Akad. Nauk S.S.S.R. 84, 781-4 '52. (MLRA 5:7)
(CA 47 no.17:8597 '53)

1. Ivan Franko State Univ., Lvov.

CHIRVINSKIY, P.N., professor; LAZARENKO, Ye.K., redaktor; LIZUNOV, G.Ya., tekhnicheskiy redaktor.

[Average chemical composition of the principal minerals in volcanic, metamorphic and sedimentary rocks] Srednii khimicheskiy sostav glavnykh mineralov izverzhennykh, metamorficheskikh i osadochnykh porod. [Lvov] Izd-vo Khar'kovskogo gos. univ.im.M.Gor'kogo, 1953. 94 p. (MLRA 8:5)

1. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for Lazarenko) (Mineralogy) (Rocks--Analysis)

LAZARENKO, Ye. K.

"News About the Mineralogy of the Salt-Bearing Deposits in the Neighborhood of Truskavets"
Mineralog. sb. L'vovsk. geol. o-va, No 7, 1953, 85-96

The cryptocrystalline variety of zinc blende and brunkite from the neighborhood of Truskavets in the nearer Carpathians (RZhGeol, 1954, 377) is contained in sandry bituminous clays. The light fraction of these rocks consists of quartz, calcite, gypsum, sericite, and clayey minerals; the heavy fraction is mainly brunkite, galenite, pyrite, and marcasite. In addition, barite, celestine, and anhydrite also have been established. (RZhGeol, No 6, 1955)

SO; Sum-No 787, 12 Jan 56

LAZARENKO, Ye K.

LAZARENKO, YE. K.; LAZ'KO, YE. M.; REZVOY, D. P.; VIKTOR ARSEN'YEVICH NIKOLAYEV; YERMAKOV, N. P.; KOZERENKO, V. N.

"On the Occasion of His 60th Birthday and 35th Year of Scientific Activity," Minerlog. sb. L'vovsk. geol. o-va, No 7, 330-332, 1953

V. A.Nikolayev, a corresponding member of the Academy of Sciences USSR, is one of the greatest specialists in the field of stratigraphy, vulcanism, and tectonics of Central Asia. He established the sharp tectonic boundary between the northern and southern zones of the T'ien-Shan Mountains, the so-called "most important structural line of the T'ien-Shan," or "line of Nikolayev." In recent years, Nikolayev has been occupied with working out the general problems of physicochemical petrology and the problems of the application of thermodynamics to the processes of magmatic crystallization and metamorphism. Especially important are his theoretical investigations into the field of systems with volatile components of the rock-forming silicate-water type. Study of the ternary systems gives an understanding of the processes governing the formation of hydrothermal and pneumatolite solutions.

RZhGeol, No 1, 1955

LAZARENKO, Ye.K.

Origin of copper and zinc deposits in the Central Urals. Nauk.zap. L'bib.un. 23; 5-28 '53. (MLRA 10:3)
(Ural Mountains--Copper ores)
(Ural Mountains--Zinc ores)

LAZARENKO, E.K.

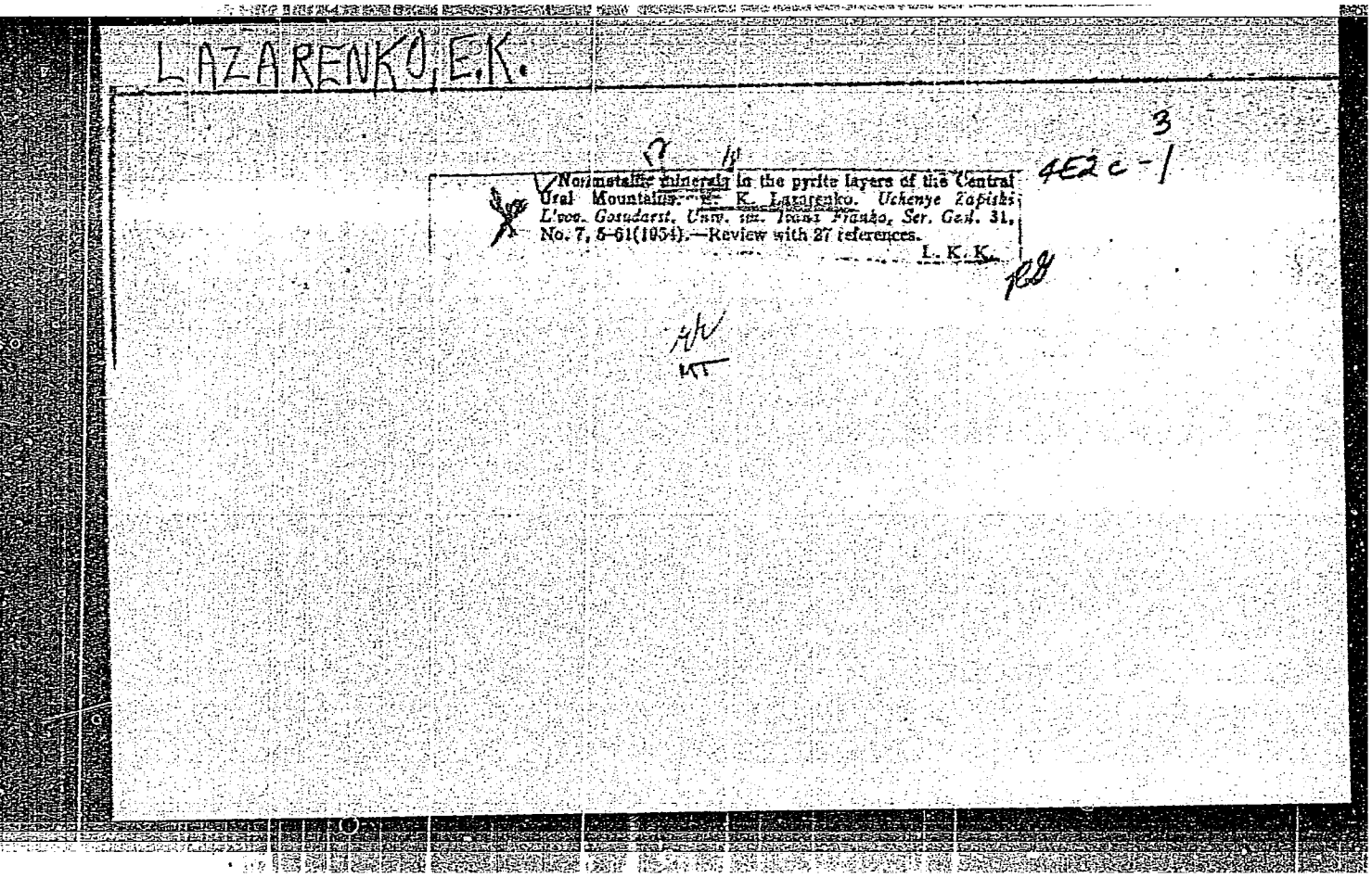
Cryptocrystalline sphalerite from Truskavets, Ciscarpathia. E. K. Lazarenko (Iv. Franko State Univ., Lvov). *Doklady Akad. Nauk S.S.S.R.* 90, 875-8(1953); cf. Lebedev, *C.A.* 48, 13553d.—In bituminous, gypsum-contg. salt deposits cryptocryst. Zn ores are observed, especially "galmei"-smithsonite and sphalerite, in white, earthy aggregates ("brunckite" from Cerapuquio, Peru, cf. Herzenberg, *C.A.* 33, 2072⁴). Chem. analysis showed: Zn 60.10; Fe 0.53; Cd 0.70; Mn 0.07; S 30.82; Pb 3.63; CaO 0.90; SO_3 1.11; H_2O 0.82; insol 0.69%. Evidently, gypsum and galena are contaminations. The x-ray powder diagram is identical with that of sphalerite. Characteristic is the oölitic structure of the aggregates, with gypsum or clay particles in the centers. The ore is a typical "brunckite" with a high degree of porosity (d. only 2.78 to 3.06; cryst. sphalerite has 4.10) and a relatively low mech. strength. The microscopic examn. shows the "collomorphic" zonal structure of brunckite, with rhythmic banding in secondary formations of galena and smithsonite. Calcite and dolomite are assocd. in the upper horizons of the deposits; they replace gypsum which prevails in the deeper layers.

W. Eitel

LAZARENKO, Ye.K.

Mineralogy of sedimentary formations. Vop. min. osad. obr. 1:3-15 '54. (MIRA 11:4)

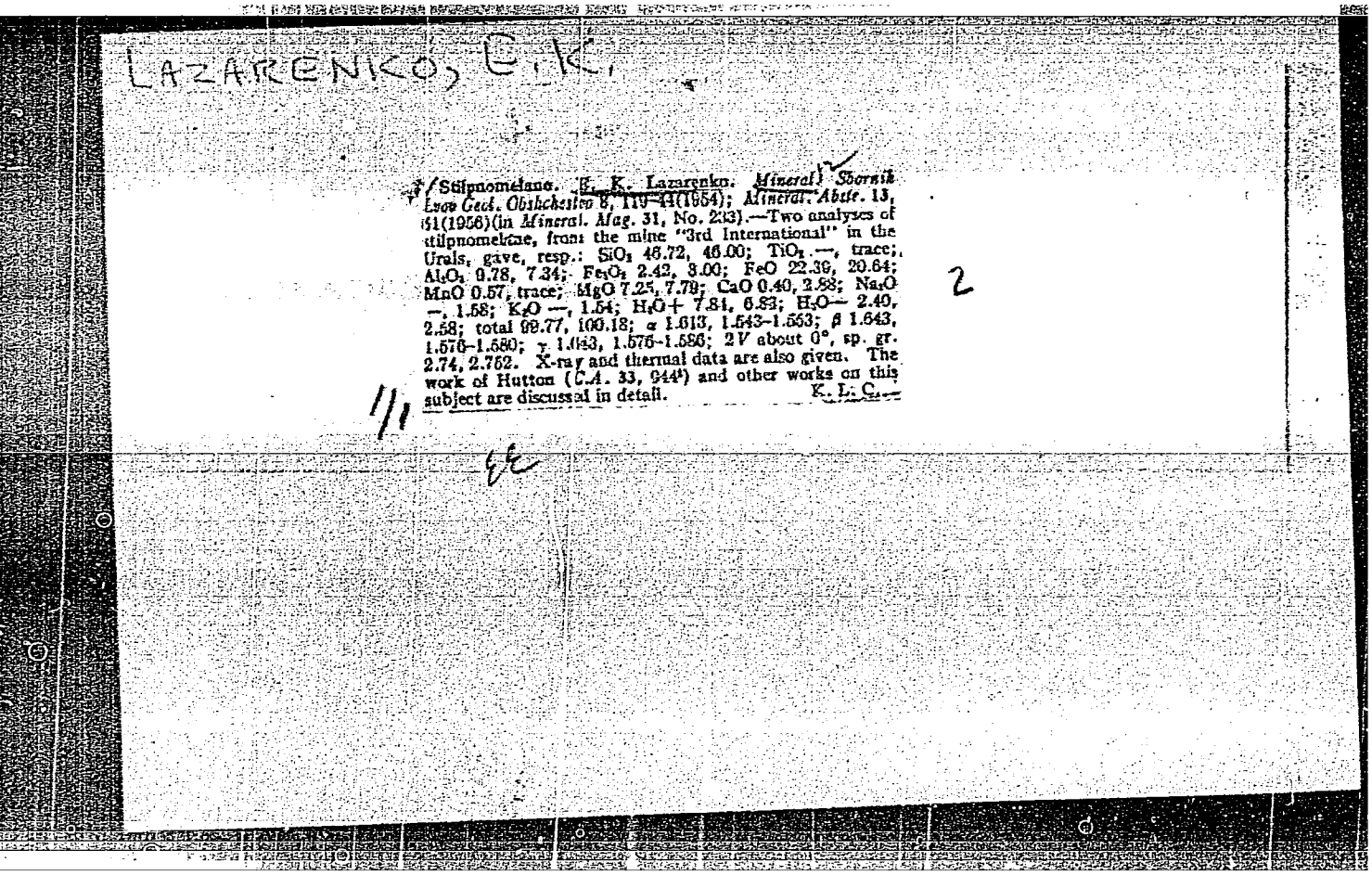
(Rocks, Sedimentary)



LAZARENKO, E.K.

Nonmetallic minerals in the pyrite layers of the Central Ural Mountains. E. K. Lazarenko. *Uchenye Zapiski L'vov. Gosudarst. Univ. im. Ivana Franko, Ser. Geol.* 31, No. 7, 5-61(1954).—Review with 27 references.

I. K. K.



LAZARENKO, E. K.

Stilpnomelane. E. K. Lazarenko. *Mineral. Sbornik Lvov Geol. Obshchestvo* 8, 119–41(1954); *Mineral. Abstr.* 13, 61(1956)(in *Mineral. Mag.* 31, No. 233).—Two analyses of stilpnomelane, from the mine "3rd International" in the Urals, gave, resp.: SiO_2 46.72, 46.00; TiO_2 —, trace; Al_2O_3 9.78, 7.34; Fe_2O_3 2.42, 3.00; FeO 22.39, 20.64; MnO 0.57, trace; MgO 7.25, 7.79; CaO 0.40, 2.58; Na_2O —, 1.58; K_2O —, 1.54; H_2O+ 7.84, 6.83; H_2O- 2.40, 2.58; total 99.77, 100.18; α 1.613, 1.543–1.553; β 1.643, 1.570–1.580; γ 1.643, 1.575–1.586; $2V$ about 0°, sp. gr. 2.74, 2.762. X-ray and thermal data are also given. The work of Hutton (*C.A.* 33, 944⁴) and other works on this subject are discussed in detail.

K. L. C.

2

1/1

E. K. Lazarenko

Chromium-containing micas. B. K. Lazarenko. *Issledovanie Mineral. Syr'ya* (Moscow: Gosudarst. Nauch.-Tekh. Izdatel.) *Sbornik* 1955, 112-23; *Referat. Zhur., Khim.* 1955, Abstr. No. 51038.—The amt. of Cr in Cr-contg. micas varies between 0.18 and 4.18% Cr_2O_3 or from 0.04 to 1.13 Cr a toms/unit cell. Also, all analyzed samples of these micas show the presence of MgO (0.3 to 4.8%). The curves of heating and dehydration are similar to the curves of muscovite. The optical properties (α 1.584–1.560; β 1.584–1.601; γ 1.593–1.69; $\gamma - \alpha$ 0.037–0.042; $2V$ 0–44°) correspond to those of muscovite with some deviations toward phlogopite. X-ray investigations establish the identity of fuchsite with muscovite. From the absorption spectra, it is concluded that the color in all cases is caused by trivalent Cr ion with a coördination 6. The previous views on the origin of Cr-contg. micas by changing the basic species under the influence of hydrothermal carbonate solns. leaching Cr from the surrounding rocks is supported. The use of a common name—Cr-contg. muscovite—is suggested instead of the names fuchsite, mariposite, and chromium ocher.

N. Vasiliev

LAZARENKO, [illegible]

Discovery of barite in quartz-carbonate veins of the Nagol'nyy ridge of the Donets Basin. Min.sbor.no.9:314-315 '55. (MLRA 9:9)

1.L'vov. Gosudarstvennyy universitet imeni Ivana Franko.
(Donets Basin--Barite)

LAZARENKO, Ye.K.

Petr Nikolaevich Chirvinskii. Min.sbor.no.9:401-403 '55.
(MLRA 9:9)

1.L'vov. Gosudarstvennyy universitet imeni Ivana Franko.
(Chirvinskii, Petr Nikolaevich, 1880-1955)

LAZARENKO, Ye.K.

Nonmetallic minerals in pyrite deposits of the Central Urals. Nauk. zap.L'viv un. 31 s-61 '54 [i.e. '55] (MLRA 10:3)
(Ural Mountains--Mineralogy) (Ural Mountains--Pyrites)

LAZARENKO, E. K.

Sphalerites from the pyrite deposits of the Central Ural. E. K. Lazarenko. *Uchenye Zapiski L'vov. Gosudarst. Univ. im. Ivana Franka, Ser. Geol.* 35, No. 8, 72-119(1955).—The sphalerites studied contained, typically (%): Zn 45.5–66.7, S 27.8–34.0, Fe 0.7–5.1, Mn 0.0–1.6, Cd 0.0–0.6, Cu 0.0–6.3, Pb 0.0–1.5, MgO 0.0–0.2, CaO 0.2–0.8, Al_2O_3 0.3–11.1, insol. residue 0.1–20.5. Spectrographic analysis showed the presence of Ge 0.001–0.05, In 0.001–0.005, Sn up to 0.005, As 0.01–0.05, some Ti, and traces of many other elements. The chem. compn. is studied in the light of probable isomorphic substitution of elements of similar at. and ionic radii in the crystal lattices of ZnS and CdS. The *absorption spectra* for *CdO*, *CdS*, $CdCl_2$, $Zn(OH)_2$, *ZnS*, ZnF_2, and $ZnSO_4$ are given for the approx. range 450–1200 mμ and these are compared with the spectra of the ores. The ores are compared with respect to sp. gr., *n*, and thermal characteristics. Typically the high-Fe ores have a higher sp. gr. and lower *n*. Up to 420–60° there is no observed thermal effect. Above this temp. the dominant thermal effect is the exothermic conversion of ZnS to ZnO, but smaller endothermal effects are also detectable. The Zn minerals are geologically younger than the nonmetallic minerals which are found in the same deposits (e.g., quartz, sericite, barite, tourmaline, and feldspar). The Cu minerals (chalcopyrite, chalcocite, and bornite) are more recent, and the pyrites (including arsenopyrite) are older than the sphalerites.

C. H. Fuchsman

POBFIR'YEV, Vladimir Borisovich; GRINBERG, Iona Vol'kovich; LADYZHENSKIY, Nikolay Romanovich; GALABUTSKAYA, Yekaterina Antonovna; LUNETSKIY, Viktor Filippovich, SVARICHEVSKIY, Lyudomir Vladimirovich; LAZARENKO, Ye.K., otvetstvennyy redaktor; LISENBART, D.K., redaktor izdatel'stva; RAKHLINA, N.P., tekhnicheskiy redaktor

[Menilite shale, a source for industrial building materials] Menilitovye slantsy - syr'e dlia promyshlennosti stroitel'nykh materialov. Kiev, Izd-vo Akademii nauk USSR, 1956. 37 p. (MIRA 9:7)

1. Chlen-korrespondent AN USSR (for Lazarenko)
(Shale)

VEDENEYEVA, N.Ye. [deceased]; VIKULOVA, M.F.; LAZARENKO, Ye.K., prof., otv.red.; GAZER, S.L., red.; SARANYUK, T.V., tekhred.

[Using the method of staining in investigating clay minerals; spectrophotometric analysis] Metod issledovaniia glinistykh mineralov s pomoshch'iu krasitelei; spektrofotometricheskii analiz. L'vov, Izd-vo L'vovskogo gos.univ., 1956. 91 p. (MIRA 13:3)

1. Chlen-korrespondent AN USSR (for Lazarenko).
(Spectrophotometry) (Clay--Analysis)

LAZARENKO, Ye.K., redaktor; LISENBART, D.K., redaktor; KRYLOVSKAYA, N.S., tekhnicheskiy redaktor.

[Problems in the theory of the origin and migration of petroleum] Voprosy teorii proiskhozhdeniia i migratsii nefti. Kiev, 1956. 95 p.

1.Akademiya nauk URSR, Kiyev. Institut geologii korysnykh kopalyn.
2.Chlen-korrespondent AN USSR (for Lazarenko).
(Petroleum geology)

PORFIR'YEV, V.B., otvetstvennyy redaktor; LADYZHENSKIY, N.R., kandidat geologo-mineralogicheskikh nauk, redaktor; LAZARENKO, Ye.K., redaktor; GURZHIY, D.V., kandidat geologo-mineralogicheskikh nauk, redaktor; ZAVIRYUKHINA, V.N., redaktor; ZHUKOVSKIY, A.D., tekhnicheskiy redaktor

[Papers on the problem of the origin and migration of petroleum] Materialy diskussii po probleme proiskhozhdeniia i migratsii nefti. Kiev, 1956. 366 p. (MLRA 10:3)

1. Akademiya nauk URSR, Kiyev. L'vivskyi filial. Instytut geologii korysnykh kopalyn. 2. Chlen-korrespondent Akademii nauk USSR (for Profir'yev, Lazarenko)
(Petroleum geology)

LAZARENKO, Ye.K., otv.red.; BOBROVNIK, D.P., prof., doktor geologo-mineral.nauk, zamestitel' otv.red.; VARTANOVA, N.S., kand. geologo-mineral.nauk, red.; YASINSKAYA, A.A., dotsent, kand. geologo-mineral.nauk, red.; GAZER, S.L., red.; SARANYUK, T.V., tekhred.

[Mineralogy of sedimentary formations] Voprosy mineralogii osadochnykh obrazovanii. Otvet.red.E.K.Lazarenko. L'vov. Books 3 and 4. 1956. 673 p. (MIRA 13:7)

1.L'vov. Universitet. 2. Chlen-korrespondent AN USSR (for Lazarenko). (Mineralogy, Determinative) (Rocks, Sedimentary)

15-57-2-1709

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 2, p 81 (USSR)

AUTHOR: Lazarenko, Ye. K.

TITLE: The Nomenclature and Classification of Glauconite (Voprosy nomenklatury i klassifikatsii glaukonita)

PERIODICAL: Vopr. mineralogii osadoch. obrazovaniy. Books 3-4. L'vov, L'vovsk. un-t, 1956, pp 345-379

ABSTRACT: The term glauconite is used for the most widespread minerals of sedimentary rocks having the most variable petrographic composition. In these rocks glauconite occurs as a sedimentary mineral, a product of diagenesis, and a result of weathering. This mineral is of considerable interest to mineralogists, geologists, chemists, and technologists, because Fe and Mn ore deposits are associated with it in a number of places. The association of glauconitic rocks and

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The Nomenclature and Classification of Glauconite (Cont.)

phosphoritic deposits should be especially emphasized. Such deposits according to N. S. Shatskiy (cf. RzhGeo, 1956, 4186), supply no less than a third of the world's total reserves of P. In light of new observations, there should be a re-examination of the view of geologists that glauconite is a "mineral that is not only purely sedimentary, but forms at present and has formed in the past only in the sea and only in certain definite marine environments." The author cites chemical, thermal, and optical studies on celadonite from the oxykeratophyres of Karadag and the Crimea and from the basalts of Berestovets and Yanovaya Dolina in Volyn' (analytical data are supplied in the paper) and compares the results of these investigations with those of skolite and glauconite (analytical data are furnished for the latter mineral). These results show that the chemical composition may be expressed by the general formula $R'x(R''',R'')y(OH)_2\ (AlSi)_4O_{10}\cdot nH_2O$, where R' is K, Na, Rb, Cs, Ca, Ba, Sr, and H_3O; x ranges from 1.00 to 0.56; R''' is Al, Fe, Cr, and, in part, Ti^{4+}; R'' is Fe, Mg, and, in part, Li^{+}; and y is 3 or 2.

Card 2/4

The Nomenclature and Classification of Glauconite (Cont.)

Glauconite should be considered a group of minerals, the extreme members of which are celadonite and skolite. Skolite, the aluminous member of the group, has the formula $R'x(Al,Fe''', Mg, Fe'')_2(OH)_2 AlSi_3O_{10}$. Celadonite, the iron-bearing member, corresponds to $R'x(Fe''',Al)(Mg,Fe'')(OH)_2 Si_4O_{10}$. The average statistical formula of glauconite may be represented by $(K_{0.67}Na_{0.08}Ca_{0.04})(Fe'''_{1.05} Mg_{0.41}Al_{0.40}Fe_{0.17})(OH)_2Si_{3.66}Al_{0.34}O_{10}\cdot nH_2O$. Glauconite, skolite, and celadonite represent different stages of solidification and different degrees of recrystallization of a gel. They are in the nature of hydromicas. The opinion, expressed by some investigators, that celadonite is the hydrothermal correlative of glauconite is not supported by the example of Berestovets and Yanovaya Dolina. In these localities the celadonite is formed also by weathering of basalt. The different types of glauconitic rocks, and also the composition, properties, and form of weathering of glauconite in individual deposits, are determined by the conditions of their

The Nomenclature and Classification of Glauconite (Cont.) 15-57-2-1709

formation. In this matter the oxidation-reduction boundary in relation to precipitation is of utmost importance.

Card 4/4

L. N. B.

LAZARENKO, Ye.K.; KUDRIN, L.N.

Occurrence of glauconite in the western region of the Ukraine. Vop.min.osad.obr. 3/4:380-392 '56. (MLRA 9:11)

1. Gosuniversitet imeni Ivana Franko, L'vov.
(Ukraine--Glauconite)

LAZARENKO, Ye.K.

Tetrahedrites. Min.sbor. no.10:171-211 '56. (MLRA 9:12)

1. Gosuniversitet imeni Ivana Franko, L'vov.
(Tetrahedrite)

LAZARENKO, YE. K.

USSR/Cosmochemistry - Geochemistry. Hydrochemistry. D.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30369

Author : Lazarenko, Ye.K.
Inst : Lvov Geological Society at the University
Title : Celadonite in Volynian Basalts.

Orig Pub : Mineralog. sb. L'vovsk. geol. o-va pri un-te, 1956, No 10, 352-356

Abst : In continuing the study of celadonite in Berestovets basalts (Komienski M., Bazalty wolynskie. Kosmos, 1929, 3-4; see also RZhGeol, 1957, 1709), the author presents microphotographs of polished sections, electron microphotographs, a thermogram and roentgenogram of this mineral. From Komienski analyses data has been calculated the crystallochemical formula:

$$(K_{0.30}Na_{0.01}Ca_{0.07})_{0.38}(Mg_{0.65}Fe^{2+}_{0.22}Fe^{3+}_{1.06}Al_{0.29})-$$
$$-2.22\cdot(OH)_2[Al_{0.27}Ti_{0.01}Si_{3.72}O_{10}]\cdot 0.64\ H_2O.$$

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Lazarenko, Ye. K.

15-57-5-5713

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 4 (USSR)

AUTHORS: Grigor'yev, D. P., Lazarenko, Ye. K.

TITLE: Scientific Works of Professor I. I. Shafranovskiy (On His Fiftieth Birthday and the Twenty-Fifth Anniversary of His Scientific and Pedagogical Activity) /Nauchnyye trudy professora I. I. Shafranovskogo (V svyazi s 50-letiyem so dnya rozhdeniya i 25-letiyem nauchnoy i pedagogicheskoy deyatel'nosti)/

PERIODICAL: Mineralog. sb. L'vovsk. geol. o-vo pri un-te, 1956, Nr 10, pp 369-372.

ABSTRACT: Scientific works of I. I. Shafranovskiy center mainly in the field of the morphology of crystals and minerals, and particularly in the problem of the correlations of the crystals with the conditions of their formation. Studying the allied questions of the morphology of crystals and of structural crystallography, he inferred the existence of 1403 structural crystallographic

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Scientific Works of Professor I. I. Shafranovskiy (Cont.)

varieties of simple forms. I. I. Shafranovskiy worked extensively on the problems of crystalline morphology of zircon, quartz and diamond and uncovered a number of new laws in this field. On the basis of this research he came to the conclusion that the "law of zones" (i.e., the law of great circles in crystallography, which plays a fundamental role in the geometry of polyhedrons of crystal growth) must be supplemented by the law of coniform surfaces (i.e., the law of small circles which appear mainly in the geometry of diffusion forms). A series of I. I. Shafranovskiy's published works is devoted to the history of crystallography and mineralogy, and especially to the evaluation of the scientific legacy of Ye. S. Federov. At present I. I. Shafranovskiy holds the Chair of Crystallography at the Leningrad Mining Institute.

Card 2/2

D. I. G.

LAZARENKO, Ye. K.

Outline of the general mineralogy of Transcarpathia. Min.sbor. no.11:102-121 '57. (MIRA 13:2)

1. Institut geologii poleznykh iskopayemykh AN USSR, L'vov.
(Transcarpathia--Mineralogy)

KARYAKIN, L.I.; LAZARENKO, Ye.K.; SHKABARA, M.N.

Konstantin Nikolaevich Savich-Zablotskii; on his 80th birthday. Min.sbor. no.11:361-364 '57. (MIRA 13:2)

1. Vsesoyuznyy institut ogneuporov, Khar'kov (for Karyakin). 2. Gosuniversitet, L'vov (for Lazarenko.1 3. Vsesoyuznyy institut L'vov (for Lazarenko). 3. Vsesoyuznyy institut shakhtnogo stroitel'stva, Khar'kov (for Shkabara).
(Savich-Zablotskii, Konstantin Nikolaevich, 1877-)

LAZARENKO, Ye.K.; SLIVKO, M.M.

E.Burkat's monograph "Moravian minerals and the literature about them" [in Czech and German]. Min.sbor. no.11:379-381 '57.
(MIRA 13:2)

1. Gosuniversitet imeni Ivana Franko, L'vov.
(Moravia--Mineralogy) (Burkat', E.)

LAZARENKO, Ye.K.

Academician Frantisek Slavik; obituary. Min.sbor. no.11: 402-403 '57. (MIRA 13:2)
(Slavik, Frantisek, 1876-1957)

LAZARENKO, Ye.K. [Lazarenko, IE.K.], prof.; SLIVKO, M.M., dotsent, otv.red.; FURMAN, K.P., red.izd-va; MALYAVKO, A.V., tekhred.

[A course in mineralogy] Kurs mineralogii. Vyd-vo L'vivs'koho univ. Pt.1 [General mineralogy] Zahal'na mineralogiia. 1958. 283 p. (MIRA 12:4)

1. L'vovskiy gosudarstvennyy universitet im. Ivana Franko. (Mineralogy)