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Foreign Documents Branch C I A Periodical Abstracts

1 Jul 1948 SCIENTIFIC Number 51

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Abstracted in this issue:

Title	Issue		Date
Russian Periodicals			
"Agrobiologiya" (Agricultural Biology) Cards 61, 62		No 1	Jan/Feb 1948
"Doklady Akademii Nauk SSSR, Novaya Seriya" (Reports of the Academy of Sciences of the USSR, New Series)* Cards 2-5, 11, 12, 32-36, 38-45, 64-66, 95-100	Vol LIX	No 9	Mar 1948
"Gornyy Zhurnal" (Mining Journal) Cards 78-81		No 2	Feb 1948
"Gornyy Zhurnal" (Mining Journal) Cards 63, 67-77		No 3	Mar 1948
"Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva" (News of the All-Union Geographical Society)* Cards 19-30	Vol LXXX	No 1	Jan/Feb 1948
"Mekhanizatsiya Stroitel'stva" (Mechanization of Construction)* Cards 8-10		No 2	Feb 1948
"Neftyanoye Khozyaystvo" (Petroleum Industry) Cards 1, 31, 82-94		No 1	Jan 1948
"Radiotekhnika" (Radio Engineering)* Cards 6, 7, 37, 101-103	Vol III	No 2	Mar/Apr 1948
"Sovetskaya Meditsina" (Soviet Medicine)* Cards 46-60		No 3	Mar 1948
"Za Ekonomiyu Topliva" (Fuel Conservation) Cards 13-18		No 1	Jan 1948

NOTE

In indexing these abstracts the following guides are used: MEDICINE - "Quarterly Cumulative Index Medicus," American Medical Association; CHEMISTRY - "Chemical Abstracts Subject Index," American Chemical Society; GENERAL - "Subject Headings for Technical Libraries," US Department of Commerce, Office of Technical Services.

Distribution

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AEC	3
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USSR/Chemistry - Paraffins
Chemistry - Boiling Points
Jan 1948

"Boiling Temperatures of Bonds of the Paraffin Series (Alkane)," N. S. Kozlov, Molotov, 5 pp

"Neft Khozyay" No 1

Discusses boiling temperatures of hydrocarbons of the methane series; temperature of boiling and length of the carbon chain; boiling temperature relating to construction of the carbon chain; and influence of internal factors on boiling temperature. From observations that made possible certain conclusions: Boiling temperature of paraffin hydrocarbons determined by molecular weight of the molecules, by structure of the

LC 51T1

USSR/Chemistry - Paraffins (Contd) Jan 1948

hydrocarbon atom chains, by relation of various particles to one another, and interrelation of separate molecules to one another.

LC 51T1

USSR/Chemistry - Rubber
Rubber Plants
21 Mar 1948

"Latex from Basic Rubber Plants," A. A. Prokof'yev, G. P. Safronov, M. K. Mazilkina, Inst Plant Physiol imeni K. A. Timiryazev, Acad Sci USSR, Sci Res Inst Natural Rubber, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Latex obtained from basic rubber plants such as tau-saghyz, kok-saghyz, etc., has very high couchouc content. This depends much on condition of the plant, age, size, and environment. Gives data collected from studies on the size of the couchouc globules from some five different types of rubber

FDB 51T2

USSR/Chemistry - Rubber (Contd) 21 Mar 1948

plants. Submitted by Academician N. A. Maksimov, 24 Jan 1948.

FDB 51T2

USSR/Chemistry - Rubber
Rubber Plants
21 Mar 1948

"Transformations of Phosphorus-Containing Substances of Kok-Saghyz in Ontogenesis," N. N. Mikhaylov, All-Union Sci Res Inst Rubber Plants, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Studies of the form of phosphorus-containing substances in the ontogenesis of kok-saghyz conducted during 1940-1941 at experimental base of All-Union Scientific Research Institute of Rubber Plants (Mikhnevo Pos., Moscow Oblast). Some work done at the agrochemical laboratory of the Institute in Moscow. Describes studies and results obtained. Submitted by Academician N. A. Maksimov, 24 Jan 1948.

FDB 51T3

USSR/Electricity
Vacuum Tubes
Currents, Electric
21 Mar 1948

"Fluctuations of Electric Current in Electronic Tubes with Tungsten Cathode," Ye. Ya. Pumper, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Electron tube with tungsten cathode is clear example of physical system in which fluctuations contain, in addition to Gauss' process, an additional statistical process governed by essentially different law of determination of probabilities. Example under study permits study of the effect which, under

FDB 51T4

USSR/Electricity
Conductors
Capacitance
21 Mar 1948

"Capacitance of Curvilinear Conductors," L. A. Tseytlin, 3½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Determines the α_{KK} coefficients of curvilinear conductors. In regard to the α_{ki} coefficients, only shows that it is always possible to replace each curvilinear conductor with combination of several straight conductors in sufficiently close conformity with it, and then the problem is changed to the case for which the general solution is known. Submitted by Academician V. F. Mitkevich, 14 Oct 1946.

FDB 51T5

USSR/Electricity (Contd) 21 Mar 1948

certain conditions, this additional process may have on general presentation of fluctuations of the anode current in spite of the minute value of its energy. Submitted by Academician M. A. Leontovich, 19 Jan 1948.

FDB 51T4

USSR/Electricity Mar/Apr 1948
Systems, Electric
Circuits, Tuned

"Theory and Calculation of Range of Thermocompensation Circuits," S. S. Arshinov, Engr, 19 pp

"Radiotekh" Vol III, No 2

Conditions and final results of optimal thermocompensation in simple and complex tuned systems deduced by using the Chebyshev theorem on minimum deviations obtained through use of high stability parts with temperature coefficients independent of the frequency. Possibility of complete thermocompensation in the entire tuning range established and conditions of obtaining this deduced. Presents calculated example.

FDB 51T6

USSR/Electricity Mar/Apr 1948
Coaxial Lines
Waves, Electromagnetic

"Theory of Coaxial Spiral Lines," L. N. Loshakov, Candidate Phys Tech Sci; Ye. B. Ol'derogge, 10 pp

"Radiotekh" Vol III, No 2

Gives approximate theory of distribution of electromagnetic waves in spiral coaxial line, and establishes method to calculate dependence of phase velocity upon geometry of the line and the frequency.

FDB 51T7

USSR/Engineering Feb 1948
Road Scrapers

"Snowplows for Highways," I. P. Borodachev, Candidate Tech Sci; N. I. Yevdokimov, VNIIStroyDroMash, 4 pp

"Mekh Stroitel'" No 2

Describes in detail three basic type snowplows, with photographs of each.

FDB 51T8

USSR/Engineering Feb 1948
Construction Industry
Construction Equipment

"Report of Inspection on Rationalization and Development of Inventions in the Ministry for Manufacture of Construction and Road Machinery," A. V. Skuba, Engr, Tech Adm, MinStroyDorMash, 1 p

"Mekh Stroitel'" No 2

Survey made to mobilize creative initiative of workers, stakhanovites, and engineering and technical personnel of the enterprises for early completion of the yearly and Five-Year Plan. During period of survey, 3,138 suggestions received, of which 1,436

FDB 51T9

USSR/Engineering Feb 1948
Construction Equipment
Cranes, Floating

"Floating Crane with Lifting Capacity of 100 Tons," P. A. Zimin, Candidate Tech Sci, ½ p

"Mekh Stroitel'" No 2

Gives technical data on floating crane tested by Ministry of Construction of War and Naval Enterprises. In test on construction of hydrotechnical installations, certain basic deficiencies discovered in its construction: lack of anchor in stern of pontoon, insufficient power of screws and Diesel generator, and weak construction of deck.

FDB 51T10

USSR/Engineering (Contd) Feb 1948

put into effect with economy of 9,478 rubles. Prizes awarded for best suggestions.

FDB 51T9

USSR/Engineering 21 Mar 1948
Glass Industry
Glassmaking Materials

"Crystallization of Cordierite in Industrial Glass--One of Its New Defects," D. S. Belyankin, Acad; V. V. Lapin, 2½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

In studying defects in products of a glassworks, original crystallization discovered in piece of glass which on first impression taken for new formation of nepheline in the glass. Closer study revealed that it was not nepheline, but cordierite. Presents complete study of crystallization.

FDB 51T11

USSR/Geography 21 Mar 1948
Sedimentation

"Genesis of Modern Conglomerate Deposits in the Central Part of the Abkhazian Sea Coast," A. V. Zhivago, Inst Geog, Acad Sci USSR, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Shores of central part of Abkhaziya characterized for almost their entire length by broad beach of pebbles. During work of the Black Sea Expedition of the Institute of Geography, Academy of Sciences, material obtained which made it possible to consider these conglomerate deposits entirely terrigenous deposits of rivers flowing from the mountains of the

FDB 51T12

USSR/Engineering Jan 1948
Furnaces, Gas
Fuel - Conservation

"Increasing the Economy of Furnaces Operating on Gaseous Fuels," V. A. Speysher, Candidate Tech Sci, 6¼ pp

"Za Ekon Topliva" No 1

Discusses methods to increase economy factor in gas furnaces, advantages of premixing gas with preheated air, flameless combustion of gases having high methane content, and some questions on injection of high calory gas into the preheated air. States that advantages of this flameless combustion of gas are such

LC 51T13

USSR/Engineering (Contd) Jan 1948

that it would be to the advantage of the State to see that all industries dealing with thermal processing or smelting with gas furnaces, adopt this method.

LC 51T13

USSR/Engineering Jan 1948
Furnaces, Annealing
Fuel - Conservation

"Controlling the Economy of Burning of Fuel in Annealing Furnaces," F. G. Yegorov, Engr, 3 pp

"Za Ekon Topliva" No 1

Just as full analysis of furnace gases from preheating to determine the hot gases CO and CH_4 is connected with use of complex gas analysers and requirements for qualified analysts, it is possible to use simple formulas to determine composition of the gas, and completeness of consumption of fuel. Type "Ors" gas analysers must determine only the presence of RO_2 and

LC 51T15

USSR/Engineering (Contd) Jan 1948

O_2 in the burned gases. Then, using methods described by Yegorov, it is possible to determine the CO content and the coefficient of surplus air. This tends to increase the simplicity and decrease the cost of controlling combustion, and permits corrections to be made while unit in operation.

LC 51T15

USSR/Geography (Contd) 21 Mar 1948

Western Caucasus. Submitted by Academician A. A. Grigor'yev, 3 Jan 1948.

FDB 51T12

USSR/Engineering Jan 1948
Boilers
Heating, Industrial

"Installing Air Preheaters for Small Capacity Boilers," V. O. Fogel', Candidate Tech Sci, 8 pp

"Za Ekon Topliva" No 1

In recent survey by the Soviet State Institute of Fuel Conservation it was discovered that the majority of installations were equipped with small boiler units producing at the rate of 3 tons per hour. Of these boilers, 75% not equipped with any type of water collector or air preheaters and thus average 20-25% fuel waste. Basically, these boilers use

LC 51T14

USSR/Engineering (Contd) Jan 1948

low-grade coal, peat, and cordwood. This fuel contains high moisture content, and it would be wise to use preheated air. Describes installation of air preheaters for small-capacity boilers.

LC 51T14

USSR/Engineering Jan 1948
Machines, Grinding
Coal

"Gravitational Method of Grinding Coal," Ye. F. Ratnikov, Candidate Tech Sci, 3½ pp

"Za Ekon Topliva" No 1

Basic principle of gravitational method of grinding coal: Use of kinetic energy, produced as result of the falling of coal chunks from reasonable height (started on their way down with force). Author explains basic operation of this type coal mill. At 1946 All-Union Concourse, the design for gravitational-pneumatic mill received fourth prize.

LC 51T16

USSR/Engineering Jan 1948
Construction Industry
Fuel Consumption

"Some Facts on Fuel Consumption by the Industries of the Ministry of the Manufacture of Building Materials of the USSR for the First Nine Months in 1947" 3 pp

"Za Ekon Topliva" No 1

Compilation of data available to the GosTopNadzor and GlavSnabUgl of the Council of Ministers USSR. In 1946 the industries showed some measure of economy, but in the first 9 months of 1947 this economy wiped out and great amount of extra fuel consumed. Some 36,450 tons of fuel consumed. Of all industries, the

LC 51T17

USSR/Engineering (Contd) Jan 1948

glass industry was the heaviest user of fuel, consuming some 26,600 tons. Discusses various economy measures adopted at various plants throughout the Soviet Union.

LC 51T17

USSR/Engineering Jan 1948
Furnaces
Regenerators

"Monolithic Regenerators for Small Furnaces," A. U. Pugovkin, Engr, 2 pp

"Za Ekon Topliva" No 1

This monolithic regenerator was developed to take the place of tubular, screw-type, and other type regenerators and overcome shortcomings of the old regenerators, that did not last long, and were unreliable. Author gives some basic details of the monolithic-type regenerator, and briefly compares it to some of the old-type regenerators.

LC 51T18

USSR/Geography Jan/Feb 1948
Glaciers

"Shokal'skiy's Glacier in the Zailiyskiy Altau Range," N. N. Pal'gov, 14 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Describes characteristics of this glacier, one of many in the northern T'ien Shan, which feeds the Sredniy Talgar River. Describes its characteristics.

FDB 51T19

USSR/Geography Jan/Feb 1948
Potamology

"Method of Mapping River Terraces," G. A. Chernov, 10 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Chernov presents method to map river terraces he developed in his geological surveys. Designed for instances where geological surveys must be made and no maps available. Great advantage is that it is relatively simple and rapid, permitting 10-15 km of the river per day to be mapped.

FDB 51T20

YUGOSLAVIA/Geography Jan/Feb 1948

"Geographic Science among the Yugoslavs," B. Zh. Miloyevich, 2 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Study of modern geography in Yugoslavia first started by Petr Matkovich, professor, University of Zagreb. Presents historical account of people active in the study of geography in Yugoslavia since that time.

FDB 51T21

USSR/Geography Jan/Feb 1948

"Formation of Honeycomb on the Surface of Snow," N. S. Shishkin, 1½ pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Briefly discusses cause of the interesting phenomenon of formation of honeycomb pattern on the surface of snow in mountain areas during summer. Such formation caused by unstable condition due to the difference in temperature under the surface of the snow and the air over the surface of the snow.

FDB 51T22

USSR/Geography Jan/Feb 1948
Climate

"History of the Creation of A. I. Voyeykov's 'Climates of the World' and Their Importance in the Development of Climatology," G. T. Selyaninov, 16 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Gives historical account of the many aspects of Voyeykov's work in meteorology which formed the background for his famous book, "Climates of the World."

FDB 51T23

USSR/Geography Jan/Feb 1948
Soil Science

"Soil Morphology of the South Kuriles," A. N. Lashkov, 8 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Reports results of expedition by the Primorskiy Affiliate of the All-Union Geographic Society and the Far Eastern Base of the Academy of Sciences to collect new factual data to compile physicogeographic outline of the Kuriles. Evaluates various factors influencing in some degree the course of soil formation, and presents some quantitative material.

FDB 51T24

USSR/Geography Jan/Feb 1948
Forests

"Spread of Forest Denudation in the Western T'ien Shan and Alay," N. M. Sinitsyn, 12 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

General survey of basic ideas on the Mesozoic, Cenozoic and Paleozoic history of the relief of T'ien Shan and Alay.

FDB 51T25

USSR/Geography Jan/Feb 1948

"Certain Relief Lines of the Southeastern Caucasus," V. A. Grossgeym, 10 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Attempts to explain the role and place of elements of various origins in development of the contemporary relief of the area occupied by the Mesozoic deposits of the southeastern Caucasus.

FDB 51T26

POLAND/Geography Jan/Feb 1948

"Meeting of Geographers in Poland," Ye. Terebukh, ¼ p

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Convention of Polish Geographers held in Stettin in May 1947. Dedicated mainly to discussing geographic problems of the western territory of Poland, annexed after the war.

FDB 51T27

USSR/Geography Jan/Feb 1948
Climate

"Defining the Concept of Climate," L. S. Berg, ¼ p

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Berg comments on the fact that in his book, "The Bases of Climatology," and in book by E. Kh. Lents (1804-1865), "Physical Geography," the definitions for climate connect it with the organic world.

FDB 51T28

USSR/Geography Jan/Feb 1948
Climate

"Physicogeographical Regions," A. D. Gozhev, 12 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Discusses causes of the appearance of different types of vegetation in different geographic areas of the earth's surface having essentially the same climatic conditions.

FDB 51T29

USSR/Geology Jan/Feb 1948
Rock Formation

"Batomay Stone 'Pillars' on the Lena," A. O. Rozentsvit, 5 pp

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

On the right shore of the Lena River, opposite Batomay Village and some 200 km above Yakutsk are some exceptionally high and picturesque cliffs called "Batomay Pillars." Describes them at length, and discusses origin of this peculair formation.

FDB 51T30

USSR/Geological Prospecting Jan 1948
Oil

"Dnepr-Donets Oil and Coal Basin," S. K. Komotskiy, Kiev, 4½ pp

"Neft Khozyay" No 1

Briefly describes the geologic characteristics of the oil and coal of the Dnepr-Donets basin. Investigations of area still going on with particular interest being paid to the carboniferous and Devonian coal layers. Bibliography of articles on the geology of area.

LC 51T31

USSR/Geology 21 Mar 1948
Rock Formation

"Continental Neogen Deposits of Kara Kum and Kuzyl Kum," A. I. Smolko, 2½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Regression of the ancient seas was beginning of the Continental age in the eastern parts of Kara Kum and in Kyzyl Kum. Study of these regions will permit full understanding of geologic history of even central Asia. Briefly outlines some of the geologic studies made on this area in recent years. Submitted by Academician D. V. Nalivkin, 23 Jan 1948.

FDB 51T32

USSR/Geological Prospecting 21 Mar 1948
Ore Deposits
Copper

"Age of Copper Sandstones of Kamskoye in the Ural Area," Ye. M. Lyutkevich, All-Union Petroleum Sci Res Geol Prospecting Inst, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Determination of the age and stratigraphic position of the copper sandstones of the Ural area has caused arguments in geologic literature and transfer of them in the scheme of stratigraphy of the Permian period of the Ural area. However, they have never been compared with the enormous area of development

FDB 51T33

USSR/Geology 21 Mar 1948
Iron Ores

"Periods of Epeirogenic Oscillatory Movements, Their Stages, and Corresponding Genetic Types of Iron Ore Deposits," B. P. Krotov, Inst Geol Sci, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Author gives proof and details of opinion expressed in one of his earlier works on the influence of factors not considered earlier originating in separate stages of one period of epeirogenic oscillatory movements of various categories and classes of iron ore deposits. Shows that different stages of one period

FDB 51T34

USSR/Geological Prospecting (Contd) 21 Mar 1948

of variegated ores of the Upper Permian deposits of the Russian platform. Author makes such comparison. Submitted by Academician D. V. Nalivkin, 23 Jan 1948.

FDB 51T33

USSR/Geology (Contd) 21 Mar 1948

of epeirogenic oscillatory movement cause different physicogeographic conditions in various parts of the country, and together with this determines the characteristic distribution of deposits of different genetic categories. Submitted by Academician I. F. Grigor'yev, 14 Jan 1948.

FDB 51T34

USSR/Geology 21 Mar 1948
Oceanography

"Marine Terraces of the Eastern Caspian Littoral," P. V. Fedorov, Turkmen Geol Adm, Ministry of Geology USSR, Ashkhabad, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Briefly describes studies conducted during 1939-1940 at Mangyshlak, and during 1943-1947 in western Turkmen, Mangyshlak, and the Buzachi Peninsula. Work done cooperatively by the Academy of Sciences, USSR, and the Turkmen Geological Administration. Submitted by Academician L. S. Berg, 10 Jan 1948.

FDB 51T35

USSR/Mathematics - Calculators 21 Mar 1948

"Certain Tabulator Operation Cycles Connected with Representation of Numbers in Twofold System," I. Ya. Akushskiy, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Author determined operational cycles of tabulator of vertical-horizontal action, and examined some cycles important in practice in earlier work. He continues herein to examine cycles, mainly cycles leading to the performance on the tabulator of unique multiplication, which depend on introduction of one of the co-multipliers in dual system. Submitted by Academician N. G. Bruyevich, 23 Dec 1947.

FDB 51T36

USSR/Physics Mar/Apr 1948
Waves, Electromagnetic
Mathematics - Approximation

"Approximation of Recurrent Complex Wave Curves by Means of Monomial and Binomial Equations," A. M. Zayezdnyy, Engr, 10 pp

"Radiotekh" Vol III, No 2

Presents empirical equations to approximate recurrent complex curves. These equations represent well the actual character of constant curves. Gives formulas to calculate the coefficients of approximation of each equation conforming to conditions of the problem regarding exactness of approximation.

FDB 51T37

USSR/Medicine - Insects 21 Mar 1948
Medicine - Evolution

"Change of Living Conditions in the Evolution of the Main Groups of Chilopoda Polypodia," M. S. Gilyarov, Lab Invertebrates, Inst Evolutionary Morphol imeni A. N. Severtsov, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Soil can be considered to be the transfer medium from amphibious form of life to terrestrial form of life. Among terrestrial members, closest relation to the soil found in the polypodia. Studies permit discernment of the basic tendencies in the evolution of polypodia, also observed in the process of formation of

FDB 51T38

USSR/Medicine - Insects (Contd) 21 Mar 1948

the complex characteristics of insects. Briefly describes this phenomenon. Submitted by Academician I. I. Shmal'gauzen, 28 Jan 1948.

FDB 51T38

USSR/Medicine - Biology 21 Mar 1948
Medicine - Taxonomy

"Material on the Copepoda Harpacticoida Fauna of Baykal: Genus Bryocamptus Chappuis," Ye. V. Borutskiy, Zool Mus, Moscow State U imeni M. L. Lomonosov, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Tabulates characteristics of three new-type Baykal Bryocamptus: 1) Bryocamptus (Pentacamptus) tuberculatus sp. n., 2) Bryocamptus (Pentacamptus) chappuisi sp. n., and 3) Bryocamptus (Pentacamptus) cokeri sp. n., based on properties common to all Baykal Bryocamptus. Submitted by Academician I. I. Shmal'gauzen, 27 Jan 1948.

FDB 51T39

USSR/Medicine - Fish 21 Mar 1948
Medicine - Anatomy

"Microscopic Anatomy of the Spleen of Chondral Ganoids," A. K. Skvortsov, Inst Cytology, Histology, and Embryol, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Very little work published on histological structure of the spleen of chondral ganoids. Presents material collected as result of studies on the spleen of Acipenser guldenstadti and of Acipenser stellatus, caught in the Volga River delta in spring. Submitted by Academician L. A. Orbeli, 29 Jan 1948.

FDB 51T40

USSR/Medicine - Wheat 21 Mar 1948
Medicine - Carbohydrates

"Exchange of Carbohydrates in Summer Wheats in the Earing Phase under Conditions of Soil Drought (Problem of the Physiology of the Critical Period in Cereals)," K. G. Mirozhnichenko, Lab Plant Physiol, Leningrad Natural Sci Inst imeni Lesgraft, 3½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Presents data collected as result of studies of two types of summer wheat. Determines monosaccharide, saccharose, starch, and semicellulose in the roots, stems, leaves, and heads. Submitted by Academician N. A. Maksimov, 24 Jan 1948.

FDB 51T41

USSR/Medicine - Growth 21 Mar 1948
Medicine - Experimental Studies

"Some Improved Methods of Quantitative Determination of the Activity of Growth Substances," A. N. Boyarkin, Lab Growth and Water Regime, Inst Plant Physiol imeni K. A. Timiryazev, Acad Sci USSR, 2 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Authors discussed methods to study activity of growth substances in previous article. They describe further studies and results of research on patients. Explain methods used. Submitted by Academician N. A. Maksimov, 24 Jan 1948.

FDB 51T42

USSR/Medicine - Bacteria 21 Mar 1948
Medicine - Soil Studies

"Regularities of the Geographical Distribution of Left- and Right-Coiled Colonies of Bacillus Mycoides Fluegge in the Territory of the USSR," O. K. Nastyukova, Inst Zool, Moscow State U imeni M. V. Lomonosov, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Soil bacteria show effect of the ice age through their distribution. In Transcaucasus and mountains of Central Asia, scientists have found bacteria dating back to Tertiary period. Can be assumed that regions having former flora and fauna contain much more bacteria

FDB 51T43

USSR/Medicine - Microscopy 21 Mar 1948
Medicine - Stains and Staining

"Separation of Ribosonucleic Acid Compounds (Anabolites) during in Vivo Staining of Fibroblasts in Tissue Culture," B. V. Kedrovskiy, Inst Cytology, Histology, and Embryol, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Gives results of studies on anabolites in fibroblast cultures isolated from the heart of 8- to 10-day chicken embryo, by prenatal staining method. Includes photographs of microscopic studies. Submitted by Academician L. A. Orbeli, 29 Jan 1948.

FDB 51T44

USSR/Medicine - Bacteria (Contd) 21 Mar 1948

than those regions inhabited by flora and fauna after the ice age. Submitted by Academician I. I. Shmal'-gauzen, 24 Jan 1948.

FDB 51T43

USSR/Medicine - Spirochetosis Mar 1948
Medicine - Epidemiology

"Analysis of Outbreak of Nonicteric Leptospirosis," R. P. Kamenetskaya, Leptospirosis Lab, Moscow Oblast Sci Res Inst Infectious Diseases imeni Mechnikov, Sanitary Epidemiol Detail No 112 SKVO, 1½ pp

"Sovets Medits" No 3

Epidemiologic and bacteriologic study of specific outbreak proved that it was leptospirosis, called L. grippotyphosa. Author succeeded for the first time in isolating L. grippotyphosa from two urine specimens through urinalysis. Leptospira, morphologically similar to septospira found in the blood and urine of

FDB 51T46

USSR/Medicine - Spirochetosis (Contd) Mar 1948

patients, were found in the water in the area of outbreak. Analyzes these specimens from the blood and urine of patients and from the water in the area of outbreak.

FDB 51T46

USSR/Medicine - Chicken Pox Mar 1948
Medicine - Parotitis

"Experience with the Serum Prophylaxis of Chicken Pox and Contagious Parotitis," Prof N. R. Shastin, Clinic Children's Diseases, Stalingrad Med Inst, 2 pp

"Sovets Medits" No 3

In fight against intrahospital infections and to prevent epidemic of chicken pox and contagious parotitis among children in clinic, 60 cu cm of normal human serum injected intramuscularly into each child. Eighty exposed to chicken pox and 51 exposed to contagious parotitis inoculated. From this experiment, author recommends use of serum prophylaxis for chicken pox and contagious parotitis in children's hospitals and sanitariums. FDB 51T49

USSR/Medicine - Plants 21 Mar 1948
Medicine - Alanine

"Synthesis of Alanine in Vegetable Tissues," V. L. Kretovich, A. A. Bundel', Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Reports experimental research on the conditions of synthesis of alanine from pyruvate in ground and living tissues of plants. Experiments conducted with lupine and squash, chosen as characteristically representing two types of oxygen exchange in plants. Presents process of experiments and results. Submitted by Academician A. I. Oparin, 24 Jan 1948.

FDB 51T45

USSR/Medicine - Spirochetosis Mar 1948
Medicine - Epidemiology

"Grippotyphosa Leptospirosis," I. I. Nikolayev, Inst Epidemiol, Microbiol, and Infectious Diseases, Acad Med Sci USSR, 2 pp

"Sovets Medits" No 3

Discusses in considerable detail etiology, epidemiology, clinical treatment and prophylaxis of this disease.

FDB 51T47

USSR/Medicine - Medicine, Preventive Mar 1948
Medicine - Public Health

"Most Important Measure in Improving the Quality of Preventive Medical Care," A. N. Shabanov, Vice-minister of Public Health USSR, 3 pp

"Sovets Medits" No 3

Unification of hospitals and polyclinics operated by organizations of Ministry of Health in conformance with Ministry's Order No 431, 24 Oct 1947, considered most important measure in improving quality of treatment given the public. Discusses problems of improvement.

FDB 51T48

USSR/Medicine - Diphtheria Mar 1948
Medicine - Toxin - Antitoxin

"Course of Diphtheria in Inoculated Children," R. I. Zettel'-Kogan, A. G. Shneyerova, Clinic Children's Infectious Diseases, Sverdlovsk Med Inst, Sverdlovsk Inst for Protection of Motherhood and Childhood, 1 p

"Sovets Medits" No 3

Among diphtheria patients hospitalized in 1944, considerable number (44.7%) had been immunized. Study of the difference in the clinical course of diphtheria in patients that had been immunized against diphtheria and patients that had not been immunized. Among those immunized, there was not a single fatal case.

FDB 51T50

USSR/Medicine - Meningitis Mar 1948
Medicine - Sulfanilimide and Sulfanilamide Derivatives

"Prophylactic Application of Sulfidine in Epidemic Cerebrospinal Meningitis," V. I. Shkorbatov, T. T. Kharchenko, Epidemiol Sec, Far Eastern Inst Experimental Med, Khabarovsk, 1 p

"Sovets Medits" No 3

Presents collection of data on use of sulfidine against epidemic cerebrospinal meningitis to show that this preparation is very effective prophylactic substance.

FDB 51T51

USSR/Medicine - Infections Mar 1948
Medicine - Blood Transfusions

"Transfusion of Irradiated Blood in Clinical Treatment of Infectious Diseases," Prof N. I. Morozkin, N. N. Fayerman, Chair Infectious Diseases, Gor'kiy Med Inst, Evac Hosp No 2797, 1¼ pp

"Sovets Medits" No 3

Theoretical bases for transfusions of irradiated blood: bactericidal and antitoxic actions, increase in absorptivity, activation of sterol, and increase in general resistance against microorganisms. In addition, with autohemoirradiation, there is simultaneously developed an autovaccine that can assist

FDB 51T52

USSR/Medicine - Typhus Mar 1948
Medicine - Diagnosis

"Clinical Characteristics of Typhus in World War II," N. N. Ipatova, Infectious Clinic, Tbilisi Med Inst, 3 pp

"Sovets Medits" No 3

Characteristics in the course of typhus during the last war: a) indications of recurrent pyretic variations, amphibolic decrease and prolonged pyretic course; b) early indication of pathologic changes in the respiratory organs; c) early indication of dullness in the heart sounds smoothing out the pause in the cardiogram between the diastolic and systolic

FDB 51T53

USSR/Medicine - Infections (Contd) Mar 1948

in the activation of resistance against microorganisms. Transfusion of irradiated blood in anemia which had developed from chronic infections and in infectious diseases with acute intoxication symptoms was very successful in comparison with transfusions of citrated blood.

FDB 51T52

USSR/Medicine - Typhus (Contd) Mar 1948

sounds, frequent pain in the region of the heart, etc. Early clinical diagnosis of typhus is possible without great difficulty by complete study of the patient, taking full account of all pecularities in recent years, and on the basis of epidemiologic data.

FDB 51T53

USSR/Medicine - Blood, Serum Mar 1948
Medicine - Diagnosis

"Weil-Felix Reaction with Serum of Venous and of Capillary Blood," P. I. Sakharov, Clinic Infectious Diseases, Second Moscow Med Inst imeni Stalin, 1 p

"Sovets Medits" No 3

Serum of capillary blood shows positive Weil-Felix reaction faster than serum of venous blood. At the climax of the illness, the titer with serum of capillary blood is higher than that with serum of venous blood, and the phenomenon of agglutination is also stronger. With high concentration of antibodies during the period of recuperation, titer of serum of venous and of capillary blood becomes the same. FDB 51T54

USSR/Medicine - Brucellosis Mar 1948
Medicine - Therapy

"Problem of the Treatment of Brucellosis," Prof T. S. Mnatsakanov, Dir, Faculty Therapeutic Clinic, Samarkand Med Inst, 1¼ pp

"Sovets Medits" No 3

Comparison of data obtained as result of treatment of fresh and septic-metastatic forms shows that better effect obtained in treatment of fresh cases, since septic-metastatic forms had less expressed effect. Most effective preparation in the observations was sulfidine, which occupies major place in treatment of brucellosis.

FDB 51T55

USSR/Medicine - Brucellosis Mar 1948
Medicine - Therapy

"Experience with the Treatment of Brucellosis Cases with Ichthyol and Its Preparations," P. F. Telenkov, Clinical Dept, Chita Oblast Brucellosis Sta, 1 p

"Sovets Medits" No 3

Author reports on his use of ichthyol and its preparations, albichthol (sic), and ichthalbin. Describes clinical course of brucellosis under treatment with these substances.

FDB 51T56

USSR/Medicine - Brucellosis Mar 1948
Medicine - Therapy

"Combined Therapy for Brucellosis," D. V. Moiseyev, 1 p

"Sovets Medits" No 3

Combined therapy proved very effective, and complete cure of brucellosis in acute-septic and subacute stages by one course seems possible. Treatment must be conducted strictly according to the prescribed plan and in three phases. Local novocaine blockades used only in the presence of cellulitis; in its absence, treatment is carried out without blockades.

FDB 51T57

USSR/Medicine - Brucellosis Mar 1948
Medicine - Adrenalin

"Influence of the Introduction of Adrenalin in Isolating Brucella from the Blood," Ye. A. Shimanovskaya, A. T. Shukaylo, Chair Microbiol, Dagestan Med Inst, 1 p

"Sovets Medits" No 3

Adrenalin injection increases the percentage of hemoculture secretion in brucellosis patients and somewhat raises the titer in the Wright reaction. This method makes it possible to rely upon greater effectiveness in the extraction of asymptomatic, prostrated, and ambulatory brucellosis cases. First

FDB 51T58

USSR/Medicine - Brucellosis Mar 1948
Medicine - Pediatrics

"Professor Sokolova-Ponomareva's Book, 'Brucellosis in Children'," V. Shubert, 1 p

"Sovets Medits" No 3

Review of monograph written to acquaint pediatricians with the course in brucellosis in children. Two hundred eighty children from ages 1-15 furnished clinical material for the work.

FDB 51T59

USSR/Medicine - Brucellosis (Contd) Mar 1948

generation of brucella from the blood after stimulation by adrenalin was obtained in 10-24 days, while without adrenalin the first appearance was after 21-35 days

FDB 51T58

USSR/Medicine - Typhus Mar 1948
Medicine - Epidemiology

"Basic Principles of Rational Organization in the Struggle against Parasitic Typhus," Prof L. Ya. Kats-Chernokhvostova, Moscow, 3 pp

"Sovets Medits" No 3

Sets forth principles of combating epidemic of parasitic typhus. As for every infection, they are based on the epidemiologic characteristics and epidemic process of the infection. Crucial moments in this rational system of antiepidemic measures are the links of the epidemic chain--its source, ways of spreading, and the reaction of the susceptible organism. Discusses these with reference to the disease in question.

FDB 51T60

USSR/Medicine - Plant, Parasites Jan/Feb 1948
Medicine - Tobacco

"Substrata from Which the Tobacco Mosaic Virus Grows during Autoreproduction," K. S. Sukhov, Dr Biol Sci, Genetics Inst, Acad Sci USSR, 2 pp

"Agrobiologiya" No 1

New data permits better account of the reproductive system of the virus nucleoproteid which is the generator of tobacco mosaic. Explains dual character of the substrata. Data clarifies the fact that chemical composition of the virus is dependent on the functional condition of the plant-host.

LC 51T61

USSR/Medicine - Plants Jan/Feb 1948
Medicine - Hormones

"Phase Processes and the So-Called Flowering Hormones," A. A. Avakyan, Corr Mem, Acad Sci USSR, 31 pp

"Agrobiologiya" No 1

Describes in general the action and effects of hormones on the flowering and growth of plants. Describes experiments conducted in 1946 and 1947 to explain the nature of the hormone, which causes the flowering of plants.

LC 51T62

USSR/Metals Mar 1948
Ore Deposits
Iron

"Some Special Features of Iron Ore Deposits in Western Siberia," M. A. Shibakov, 1½ pp

"Gornyy Zhur" No 3

Describes subject deposits, and states that the industrial value of the complex use of magnetite ores from the contact-metasomatic deposits cannot be overestimated.

LC 51T63

USSR/Metals 21 Mar 1948
Polishing, Electrolytic

"Electrical Decrystallization of Metals," G. S. Vozdvizhenskiy, 2 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

During the last 10 years considerable experimental data accumulated on the process of electrical polishing of metals. At present, there are enormous prospects for the practical use of this process. Theoretical study is still in the early stages, however, and according to the author, proceeding in the wrong direction. Further development of rational theory of electrical polishing needed for creation of new di-

FDB 51T64

USSR/Metals (Contd) 21 Mar 1948

vision of theoretical electrochemistry, which author designates the electrical decrystallization of metals. Briefly states the main points. Submitted by Academician A. Ye. Arbuzov, 29 Oct 1947.

FDB 51T64

USSR/Minerals 21 Mar 1948
Titanium Dioxide

"Impurities in Brookite," N. Yu. Ikornikova, Inst Cryst, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Yellow coloring in brookite distributed evenly. Green, found only in the growth pyramids, caused by ions of oxidized iron. Hardness varies with color. On basis of data found in previous articles, it is possible to make a statement on those chemical unions that cause the physical peculiarities in various growth pyramids of this mineral. Submitted by Academician D. S. Belyankin, 26 Jan 1948.

FDB 51T65

USSR/Minerals 21 Mar 1948
Ore Deposits
Aluminum Phosphate

"Wavellite in South Timan," V. A. Kalyuzhnyy, 2½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Small deposit of wavellite located in pocket of argillite, 200 m below ground surface, and in vicinity of the headwaters of the Yaregi River, tributary of the Ukhta River. Describes the physical and chemical properties of this mineral, and the manner in which it probably formed. Submitted by Academician D. S. Belyankin, 31 Jan 1948.

FDB 51T66

USSR/Mines Mar 1948
Flooding - Mines
Shafts

"Occurrence and Results of Shaft Flooding in the Krivorozhsk Basin," V. D. Notarov, Candidate Geol Mineral Sci, 3 pp

"Gornyy Zhur" No 3

Describes conditions in the two main mines, "Bol'shevik" and "Komintern." Includes charts and diagrams of flooding in the mine imeni "Ordzhonikidze" and the "Bol'shevik" mine. Gives diagram of pumping-out operations in Krivorozhsk basin.

LC 51T67

USSR/Mines Mar 1948
Mining Machinery
Mining Methods

"Mining with Open Hoppers in the Temir-Tau Mine and the Bol'shaya Gora Open-Cut Mine," G. A. Gavelich, Ye. M. Il'inskiy, Mining Engineers, 2½ pp

"Gornyy Zhur" No 3

Describes in detail the accumulative extraction method of mining used in the Temir-Tau magnetite mine and the Bol'shaya Gora open-cut dolomite mine, and explain the open-hopper systems with aid of diagrams.

LC 51T68

USSR/Mines Mar 1948
Mining Methods
Mining Machinery

"Subdrift System in the Khapcheranginsk Mine," S. L. Shashurin, Mining Engr, 1½ pp

"Gornyy Zhur" No 3

Gives details of working methods in the Khapcheranginsk mine, includes diagrams showing the preparation of block for exploitation, and urges mechanical instead of hand mining in the pits.

LC 51T69

USSR/Mines Mar 1948
Mining Methods
Roofs

"Controlling Roofs in Cleaning Cuts of the Chiatursk Mines," G. N. Tsitsilashvili, Mining Engr, 2½ pp

"Gornyy Zhur" No 3

Describes various methods of roofing support and mining development used at Chiatursk. Illustrates the use of emergency supports (S.U.R.S.), and explains how use increases work productivity.

LC 51T70

USSR/Mines Mar 1948
Mining Methods
Mining Machinery

"Secondary Crushing by Falling Weight in the Kounradsk Mine," S. A. Brylov, Mining Engr, 2 pp

"Gornyy Zhur" No 3

Describes advantages of using "monkey" for crushing large lumps of ore, includes diagram of steel "monkey," and photographs of its use in the Kounradsk mine.

LC 51T71

USSR/Mines Mar 1948
Explosions, Underground
Mining Methods

"Large-Scale Blasting without Demolishing the Mine," V. K. Karchevskiy, N. Ya. Shvets, 1½ pp

"Gornyy Zhur" No 3

Describes experiments conducted in Magnitogorsk mine, showing that use of mass blasting is quite possible without destroying whole drift, and includes diagrams indicating methods employed.

LC 51T72

USSR/Mining Mar 1948
Ore Deposits
Mining Methods

"Reserve Stores of Ore in Krivorozh," A. I. Koval', Engr, Krivbassproyekt, 3½ pp

"Gornyy Zhur" No 3

Describes methods of establishing reserve piles of ore at the head of mines in Krivorozh including "Kommunar," imeni Kirov, "Bol'shevik," No 10, and Kapital'naya, and discusses advantages of cone-shaped mounds.

LC 51T73

USSR/Mines Mar 1948
Mining Methods
Illumination

"Electric Lighting in the Leninogorsk Mines," N. A. Stolyarevskiy, Engr, 1½ pp

"Gornyy Zhur" No 3

Object is to acquaint miners with work done on electric lighting in mines. Includes details on use of single and group junction boxes and other electric fittings.

LC 51T74

USSR/Mines Mar 1948
Mining Machinery
Mining Methods

"Drilling Crumbling Rock in the Magnitogorsk Mine," Prof P. A. Slesarev, Dr Tech Sci, ½ p

"Gornyy Zhur" No 3

Describes experiments made in Magnitogorsk mine during drilling of crumbling rock with profiled chisels having cutting edges 150-mm long. Tabulates results.

LC 51T75

USSR/Mines Mar 1948
Mining Machinery
Excavating Machinery

"The Rotary-Blade Excavator," A. P. Shabashov, Engr-Mech, ½ p

"Gornyy Zhur" No 3

Describes main characteristics of the rotary-blade excavator, and its advantages. Includes photograph of machine, and table of productivity under various conditions.

LC 51T76

USSR/Mines Mar 1948
Mining Machinery
Drilling Machinery

"Electrical Core Drill as Light Drilling Machine Tool," V. Popov, Chief Geol, Voroshilovgrad Ugol' Combine, ½ p

"Gornyy Zhur" No 3

States that until now, the lightest drill used for drilling in mines weighed 700 kg. Describes new electric core drill weighing only 250 kg, which was tested and found satisfactory.

LC 51T77

USSR/Mines and Mining Feb 1948
Mining Machinery
Winches

"Remote-Controlled Scraper Winch," A. F. Datyshev, 1½ pp

"Gornyy Zhur" No 2

Usually the operator of a scraper winch is right with his machine, or controls it from a short distance away. In underground workings, however, it is particularly difficult to control such equipment remotely. Author presents method permitting the control of a scraper winch from considerable distances and in underground tunnels. This method can be used with two- and three-drum winches.

LC 51T78

USSR/Mines and Mining Feb 1948
Mining Methods
Ore Deposits

"Stripping of Deposits for Open Pit Mining," Prof Ye. F. Sheshko, Moscow Mining Inst imeni I. V. Stalin, 13 pp

"Gornyy Zhur" No 2

Principle intent in stripping deposits is to facilitate transportation of the ore. Sheshko discusses some five basic methods used most frequently for the stripping operation on deposits: Internal trenching, method where no transport is used, underground workings, external trenches, and combined method. Tabulates factors that might cause one method to be chosen over another. LC 51T79

USSR/Mines and Mining Feb 1948
Fire Hazards
Fire Prevention

"Underground Fires and Their Control," P. A. Manukyan, 2 pp

"Gornyy Zhur" No 2

Discusses some of the basic causes of fires in coal mines and briefly presents some methods of prevention. Mentions most important danger signal, when the ore or coal mined begins to show signs of oxidation. However, there is no surer method of preventing mine fires than the extreme care of every miner.

LC 51T80

USSR/Mines and Mining Feb 1948
Mining Methods

"Some Particulars of Terrace Mining," N. I. Matveyev, Mining Engr, 3 pp

"Gornyy Zhur" No 2

Very frequently engineers are not well enough acquainted with methods of terrace mining and thus waste many of the veins in open-pit mining. Author presents several methods to achieve higher efficiency. Discusses trench method of working, and trench method with system of berms, method of vertical cutting, and method of working apophysis and proximate veins. Described methods for terrace mining are economical in

LC 51T81

USSR/Petroleum - Well Drilling Jan 1948
Drills, Oil Well

"Economy Limits for the Utilization of Gouges in Stemming," P. A. Golyakov, 4½ pp

"Neft Khozyay" No 1

At present, there is no definitely established method to determine the limits of economy for the use of gouges in stemming in the oil-drilling operation. Discusses certain factors that would establish limits of the economical use of gouges. This is very closely related to the factors contributing to decrease of the wear of gouges, and shortening the time required for renovation of the gouges.

LC 51T82

USSR/Mines and Mining (Contd) Feb 1948

case of rich veins. When planning terrace workings, particular attention must be paid to having minimum of cuts.

LC 51T81

USSR/Petroleum - Oil Wells Jan 1948
Drills, Oil Well

"Utilization of Various Models of Milling Gouges," V. S. Fedorov, F. D. Zenkov, Groznyy, 8 pp

"Neft Khozyay" No 1

In earlier article, "Use of Blade and Milling Gouges," Federov set up various conditions that would define the type of gouge to be used. Authors limit the field somewhat and discuss the conditions which would result in the selection of certain types of milling gouges for certain types of rock. Name some 15 different types of gouges. Also discuss some of the deficiencies of milling gouges.

LC 51T83

USSR/Petroleum Industry Jan 1948
Geological Prospecting

"Geological Surveys in Kazakhstan" ½ p

"Neft Khozyay" No 1

Records the fact that in 1942 the Leningrad All-Union Petroleum Geology Survey Institute sent expedition to Gur'yevsk and Aktyubinsk Oblasts to investigate south and north Embo deposits. Prof A. V. Ul'yanov, one of the members of the expedition, published information on how to make petroleum surveys on the data obtained by this expedition. This institute has now sent new expeditions into Kazakhstan, one to the south Emba region again, and one to conduct a survey of the

LC 51T84

USSR/Petroleum Industry Jan 1948
Petroleum - Refining

"The Petroleum Industry Is Growing" 4 pp

"Neft Khozyay" No 1

Petroleum industry is greeting the third year of the Five-Year Plan with considerable increase in size. Compared with 1946, the eastern oil regions in 1947 increased production by 36.5%. In this increase was 25.4% rise in production of crude oil, and 28.1% rise in production of refined petroleum. Oil industries of the Bashkir, Groznyy and Kuybyshev Oblasts have exceeded their planned norms. No definite information, other than the general infor-

LC 51T85

USSR/Petroleum Industry (Contd) Jan 1948

Transcaspian depression. It is hoped that the possible petroleum-bearing capacity of this region can be determined on the basis of the data to be collected by the two new expeditions. No further data is given.

LC 51T84

USSR/Petroleum Industry (Contd) Jan 1948

mation that the Soviet oil industries are patriotically doing their utmost to fill the Five-Year Plan.

LC 51T85

USSR/Petroleum - Well Drilling Jan 1948
Drills, Turbine

"Turbine Drilling at Syzran" ½ p

"Neft Khozyay" No 1

The Berezov NeftRazvedka (Syzran Neft) has started drilling well No 3 with turbine method of drilling. Drilling is under direction of S. Timoshkin, Drill Master First Class (prize wearer).

LC 51T86

USSR/Petroleum Industry Jan 1948
Petroleum - Well Drilling

"Gruzii Neft" ½ p

"Neft Khozyay" No 1

Briefly states that another well has been brought in at the oil fields of the Norio area (GruzNeft Trust). It is 900 m deep and has daily production of several tens of tons of crude oil. Pressure in the bore attains 45 atmospheres. Oil contains up to 40% benzine. This well is more proof for the statement that there are very rich resources in the vicinity of Tbilisi.

LC 51T87

USSR/Petroleum Industry Jan 1948
Petroleum - Well Drilling

"Some Results Obtained from the Use of Secondary Methods at the Malgobek Neft Fields in 1947" ½ p

"Neft Khozyay" No 1

Very satisfactory results obtained from use of secondary methods at this oil field in 1945-1946 set before the oil men of this region the task of furthering this method of operation during 1947. Several improvements made, and for the first half of 1947 very favorable results observed, e.g., at one of Bori-Su fields, petroleum production increased by 29%, and greater increase expected to follow monthly.

LC 51T88

USSR/Petroleum Industry Jan 1948
Lubricants - Properties

"Mechanical Properties of Lubricants," G. V. Vinogradov, V. P. Pavlov, K. I. Klimov, 6½ pp

"Neft Khozyay" No 1

Discusses limited shear stresses in lubricants, and the "tiksotropy" of lubricants, study of the changes occurring in the dispersed systems of lubricants when they are acted on by constant shear stresses while they are flowing. Also discusses equipment and methods to determine the viscosity of lubricants. Authors grateful for aid given by Senior Technicians L. F. Kalmykov, Yu. A. Naumov, A. V. Yarmakhov, and Laboratory Technician A. D. Gerasimova.

LC 51T89

USSR/Petroleum Industry Jan 1948
Petroleum - Prospecting

"Some Regularities in the Stratification of Industrial Petroleum Layers of the Samarskoy Luka Oil Fields," S. N. Shan'gin, 5½ pp

"Neft Khozyay" No 1

Discusses data collected by various survey expeditions to the Samarskoy Luka oil fields, and thereby explains some of the regularities noticed in the oil-bearing layers of this oil field. In 1946 Zadov, Lobov, and Shabanov published oil chart of this region on which they had recorded data compiled during last 10 years.

LC 51T90

USSR/Petroleum Industry Jan 1948
Hoists, Engine

"Selection of Proper Speeds for Hoisting Equipment at Petroleum Industries," A. M. Chegodayev, 6½ pp

"Neft Khozyay" No 1

Discusses present state of the problem; the degree of loading hoisting equipment operated by engine capable of being overloaded, and the proper methods to use in selecting a speed for the hoisting equipment. States, however, that data he presents is purely theoretical, and in need of experimental and practical confirmation. Should his theories be proved to be good, they should be adopted as soon as possible in the designing of new mining equipment.

LC 51T91

USSR/Petroleum Industry Jan 1948
Oil Wells
Pumps

"Automatic Operating Couplings," A. P. Krylov, G. V. Isakov, 7 pp

"Neft Khozyay" No 1

To avoid having falling plastic pressure affect the output of a well, it is necessary to decrease the face pressure correspondingly. Thus the depression remains more or less constant. This is brought about fairly easily in wells requiring deep pumping. Author explains the basic principles of new-type coupling for pumps which do not operate in deep wells. This new-

LC 51T92

USSR/Petroleum Industry (Contd) Jan 1948

type apparatus has given very satisfactory service even under conditions where foreign material was introduced into the bore.

LC 51T92

USSR/Petroleum Industry Jan 1948
Oil Wells
Pumps

"Selection of Centrifugal Pumps for Large Oil Pipes," I. G. Yes'man, S. A. Gross, Baku, 3 pp

"Neft Khozyay" No 1

Centrifugal pumps recently used to boost flow of oil in pipes which carried petroleum with kinetic viscosity of 1-1.3 sq cm/sec. Discusses basic operation of some of the centrifugal pumps produced by Gorlov, and Laptev Works, and known as the "Communist," the "DIP," and the "AYaP." Two plates show side views of one of the pumps.

LC 51T93

USSR/Physics Jan 1948
Hydraulics

"Analysis of the Similarity of Hydraulic Parameters," V. N. Shchelkachev, 5 pp

"Neft Khozyay" No 1

Similarity parameters make it possible to formulate hydraulic rules in very general form, and also permit clarification of criterions that are the basis of these rules. This method has several deficiencies, however, and author discusses some of these deficiencies. States that to clarify his points, and uphold his article he must draw considerable data from his article in "Doklady Akademii Nauk SSSR" Vol LIV, No 8, 1946.

LC 51T94

USSR/Physics 21 Mar 1948
Steam
Shock Waves

"Existence of Rarefaction Shock Waves," I. I. Novikov, Nav Acad Shipbuilding and Armament imeni A. N. Krylov, 2 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Novikov's research leads to conclusion that in current of water steam at near critical pressures it is thermodynamically possible to have formation of rarefaction shock waves. Analogous conclusion will hold also for other substances.

FDB 51T95

USSR/Physics 21 Mar 1948
Liquids - Flow
Refraction, Double

"Theory of Double Refraction in a Flow," N. A. Tolstoy, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 3½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Shows that regularities of double refraction and the angle of attenuation in liquid current on which electrical field is acting (the Kerr effect along with the Maxwell effect) makes it possible to choose between theories of the Raman-Krishnan and the Peterlin-Stuart type. Submitted by Academician S. I. Vavilov, 21 Jan 1948.

FDB 51T96

USSR/Physics 21 Mar 1948
Absorption
Waves, Ultrasonic

"Speed and Absorption of Supersonic Waves in Certain Solid, Vitreous Bodies," I. G. Mikhaylov, Phys Inst, Leningrad State U, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Author measured the absorption in polymer of methylmethacrylate which had been overpolymerized by the addition of plasticizers with the density of the specimen $\rho = 1{,}202$ g/cc. Found that in methylmethacrylate the coefficient of absorption, as in colophony with high viscosities, is proportional to the square root of the frequency. Submitted by Academician A. N. Terenin, 27 Jan 1948.

FDB 51T97

USSR/Physics 21 Mar 1948
Electron Theory
Luminescence

"Theory of the 'Luminescent' Electron," D. Ivanenko, A. Sokolov, Moscow State U imeni M. V. Lomonosov, Agr Acad imeni K. A. Timiryazev, 3½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Expression derived for the n-th harmonic is equally useful in all pertinent fields and can be applied to the theory of the "luminescent" electron to good advantage. Shows derivation and proof of this equation. Submitted by Academician S. I. Vavilov, 25 Feb 1948.

FDB 51T98

USSR/Physics 21 Mar 1948
Heat Exchange Liquids
Mathematics, Applied

"Experimental Research on the Heat Exchange Between Two Nonmixing Liquids," V. S. Yablonskiy, V. P. Yablonskaya, Moscow Petroleum Inst imeni I. M. Gubkin, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Author presents summary of research enabling him to construct working formula to determine complete coefficient of heat exchange from water to oil:

$$Ki = \frac{kD}{\lambda_2} = 1{,}25\,n\,(\overline{Gr_2} \cdot \overline{Pr_2})^{0.25}$$

where D is the diameter of the reservoir and

FDB 51T99

USSR/Physics (Contd) 21 Mar 1948

$$n = \frac{\varphi^{0.25}}{(\varphi^{0.2}+1)^{1.25}}.$$

Submitted by Academician M. V. Kirpichev, 24 Jan 1948.

FDB 51T99

USSR/Physics 21 Mar 1948
Gases
Stability, Static

"Problem of Spark-Over in Gases of Various Electric Stabilities," L. N. Dobretsov, Leningrad Physicotech Inst, Acad Sci USSR, 2½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Briefs further work, similar to that started by B. M. Gokhberg and E. Ya. Zandberg, on the spark-over that occurs in gases having various degrees of electric stability. Submitted by Academician P. I. Lukirskiy, 27 Jan 1948.

FDB 51T100

USSR/Radio Mar/Apr 1948
Radio Receivers - Sensitivity
Radio Receivers - Measurements

"Calculating and Measuring the Sensitivity of Radio Receivers in KT (Power) Units," Prof L. B. Slepyan, 8 pp

"Radiotekh" Vol III, No 2

Calculation of the sensitivity of radio receiver must be made on the basis of kt unit, i.e., in units of power. Minimum power necessary at the input of equivalent antenna of ideal receiver to develop signal without internal static is 4 kt. For actual receiver this power will be D times greater, D being

FDB 51T101

USSR/Radio Mar/Apr 1948
Radio Broadcasting
Radio Frequencies

"Influence of Changes in the Frequency Characteristics of Communication Channels on the Peak Level of a Program," N. F. Vollerner, Candidate Tech Sci, 7 pp

"Radiotekh" Vol III, No 2

Conducted study on the changes in the peak levels of musical and vocal programs due to increase in the frequency characteristics in the high audio frequency range and the extension of the band pass limits. Increase of 8 db (16 db for the majority of programs) in the 3- to 4-kc range practically does not change the power required by the receiver to reproduce musical programs. FDB 51T102

USSR/Radio (Contd) Mar/Apr 1948

the coefficient of insensitivity of the receiver, equal to

$$\frac{1}{s} = D = \frac{E_{An}^2}{4kT \cdot R_A \Delta f_s}$$

FDB 51T101

USSR/Radio Mar/Apr 1948
Vacuum Tubes, Magnetron
Oscillations

"Frequency Stability of Dynatron-Type Oscillations of Magnetrons," N. S. Zinchenko, Candidate Physicomath Sci, 14 pp

"Radiotekh" Vol III, No 2

Research on the frequency stability of dynatron oscillations of magnetron generators as function of the supply system made on long, short, and decimeter waves. Establishes circuit regularities and explains changes of the frequency of dynatron-type magnetron oscillations. Compares frequency stabilities of magnetron

FDB 51T103

USSR/Radio (Contd) Mar/Apr 1948

and tube oscillators in dynatron operation. Shows influence of circuit voltages on frequency stability of split magnetrons with a grid.

FDB 51T103