KAZAK, S.A.

Cohesion of running wheels with rails in crane travelling mechanisms in case of braking. Trudy Ural.politekh.inst. no.104:15-22 '61. (MIRA 14:6)

(Cranes, derricks, etc.--Brakes)

KAZAK, S.A.

Elastic vibrating loads of crane mechanisms in case of operating with a consecutive "catching up." Trudy Ural.politekh.inst. no.104: 23-29 '61. (MIRA 14:6)

(Cranes, derricks, etc.)

KAZAK, S. A., kand. tekhn. nauk, dotsent

Modernization of metallurgical bridge-type cranes. Trudy Ural'. politekh. inst. no.119:78-83 '62. (MIRA 16:1)

(Cranes, derricks, etc.)
(Iron and steel plants—Equipment and supplies)

KAZAK, S.A., kand.tekhn.nauk; KIRPICHNIKOV, V.M., kand.tekhn.nauk; LEVISHKO, O.A., inzh.

Using mathematical models for the analysis of Knocking in mechanisms of excavators and cranes taking into account elasticity and free play. Izv.vys.ucheb.zav.:gor.zhur. 7 no. 1:162-173 '64. (MIRA 17:5)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova. Rekomendovana kafedroy elektroprivoda i avtomatizatsii promyshlennykh ustanovok.

KAZAK, S.A., kand. tekhn. nauk, dotsent

Relationship between the excavator and crane dynamics of hoisting ropes and the dynamics of a mine hoist. Vest. mashinostr. 44 no.9:46-47 S '64.

(MIRA 17:11)

KAZAK, T.I.; KRZHIVITSKAYA, V.P.; NAZAROVA, I.B.

Clinicoroentgenological and pathomorphological characteristics of cured caverns. Probl. tub. no.4:43-48 '64. (MIRA 18:11)

1. Sverdlovskiy nauchno-issledovatel'skiy institut tuberkuleza (direktor - prof. I.A. Shaklein).

KAZAK, T.I., Cand Med Sci -- (diss) "Pathohistological changes in the lungs in the chronic ~~xx~~ suppurant process with a ~~prominent lesion~~ predominant affection of one of the lobes." Sverdlovsk, 1958, 12 pp (Sverdlovsk State Med Inst) 200 copies (KL, 29-58, 136)

VINNER, M.G.; KAZAK, T.I.

Pulmonary leiomyoma; two cases. Vop. onk.10 no.2:118-121 '64.
(MIRA 17:7)

KUSHELEVSKIY, B.P.; KAZAK, T.I.

Spontaneous closure of ductus arteriosus and defect of the interventricular septum in a patient 69 years of age. Klin.med. 38 no.6:136-139 Je '60. (MIRA 13:12)
(HEART—ABNORMITIES AND DEFORMITIES)

KAZAK, T.S.; YERMOLENKO, N.F. [Armolenka, M.F.]

Kinetics of the consumption of the inhibitor in the oxidation of rubber by oxygen. Vestsi AN BSSR.Ser.fiz.-tekh. nav. no.4:42-46 '59. (MIRA 13:4)
(Rubber) (Oxidation)

YERMOLENKO, N.F.; KAZAK, T.S.

Kinetics of the oxidation of natural rubber in the presence of the inhibitor oxinone. Dokl.AN BSSR 3 no.11:442-444 N '59. (MIRA 13:4)

(Rubber) (Oxidation)

KAZAK, T.S.; YERMOLENKO, N.F.; NOVIKOVA, Ye.N.

Kinetics of the oxidation of natural rubber in the presence of inhibitors according to data on variation in the viscosity of solutions. Vestsi AN BSSR. Ser.fiz.-tekh.nav. no.2:130-133 '60. (MIRA 13:10)
(Rubber) (Oxidation)

KAZAK, T.S.; NOVIKOVA, Ya.M. [Novikava, IA.M.]

Protective action of phenols and their substitution products in the oxidation of styrene rubber by oxygen. Vestsi AN BSSR. Ser.fiz.-tekh. nav. no.3:45-50 '60. (MIRA 13:9)
(Phenol) (Rubber, Artificial)

YERMOLENKO, N.F.; KAZAK, T.S.

Kinetics of the oxidation of artificial rubber in the presence of amino phenols. Dokl.AN BSSR 4 no. 5:203-205 My '60. (MIRA 13:10)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
(Phenols) (Rubber, Artificial)

KAZAK, V.; GILDENBLAT, J.

Calculation of the size of valley reservoirs for industrial water supply with regard to the permanency of supply. p. 130

Vol. 4, no. 5, May 1954
VODNI HOSPODARSTVI
Praha, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

KAZAK, V.; GILDENBLAT, J.

Calculation of the valley reservoirs for industrial water supply with regard to the permanency of supply. p. 165.

Vol. 4, no. 5, May 1954
VODNI HOSPODARSTVI
Praha, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

KAZAKEVICH, N. L., SINCHENKO, A. I., KAZAK, V. K., ZHERVANOV, I. N. ENGS.

Machine Tools

Making cutters and stencils with straight tooth design on a cutting and grinding machine. vest. mash., 32, no. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

BELEVTSEV, Ya.N.; FOMENKO, V.Yu.; NOTAROV, V.D.; MOLYAVKO, G.I.; MEL'NIK, Yu.P.; SIROSHTAN, R.I.; DOVGAN', M.N.; CHERNOVSKIY, M.I.; SHCHERBAKOVA, K.F.; ZAGORUYKO, L.G.; GOROSHNIKOV, B.I.; AKIMENKO, N.M.; SEMERGEYEVA, Ye.A.; KUCHER, V.N.; TAKHTUYEV, G.V.; KALYAYEV, G.I.; ZARUBA, V.M.; NAZAROV, P.P.; MAKSIMOVICH, V.L.; STRUYEVA, G.M.; KARSHENBAUM, A.P.; SKARZHINSKAYA, T.A.; CHEREDNICHENKO, A.I.; GERSHOYG, Yu.G.; PITADE, A.A.; RADUTSKAYA, P.D.; ZHILKINSKIY, S.I.; KAZAK, V.M.; KACHAN, V.G.; POLOVKO, N.I., red.; LADIYEVA, V.D., red.; ZHUKOV, G.V., red.; YEPATKO, Yu.M., red.; SLENZAK, O.I., red. izd-va; KULICHENKO, V.G., red.; RAKHLINA, N.P., tekhn. red.; MATVEYCHUK, A.A., tekhn. red.

[Geology of the Krivoy Rog iron ore deposits] Geologiia Krivorozhskikh zhelezorudnykh mestorozhdenii. Kiev, Izd-vo Akad. nauk USSR. Vol.1.[General problems of the geology of the Krivoy Rog Basin. Geology and iron ores of the "Ingulets," Rakhmanovskiy, and Il'ich ore deposits] Obshchie voprosy geologii Krivbassa. Geologicheskoe stroenie i zheleznye rudy mestorozhdenii rudnikov "Ingulets," Rakhmanovskogo i im. Il'icha. 1962. 479 p. Vol.2.[Geology and iron ores of the Dzerzhinskiy, Kirov, Liebknecht, October Revolution, "Bol'shevik," Frunze, 22d Parts'ezd, Red Guard, and Lenin deposits]Geologicheskoe stroenie i zheleznye rudy mestorozhdenii im. Derzhinskogo, im.Kirova, im.K.Linkenkhta, im.XX parts"ezda, im. Krasnoi Gvardii i im.Lenina. 1962. 564 p. (MIRA 16:5)
(Krivoy Rog Basin--Iron ores)

KAZAK, V.M.

Estimation of the structure complexity of the central surface of ore fields in the Krivoy Rog Basin. Sov.geol. 6 no.12:118-123 D '63. (MIRA 16:12)

1. Nauchno-issledovatel'skiy gornorudnyy institut.

NATAROV, V.D.; KAZAK, V.M.

Method of determining interstitial water resources in the Krivoy Rog Basin. Sbor. nauch. trud. NIGRI no.2:62-79 '59. (MIRA 14:1)
(Krivoy Rog Basin—Water, Underground)

TOKHTUYEV, G.V. [Tokhtuiev, H.V.]; KAZAK, V.M.; ZHILKINSKIY, S.I. [Zhylkins'kyi, S.I.]

Principles of effective methods of detailed prospecting for iron ores in the Krivoy Rog deposits. Geol.zhur. 22 nb.1:14-29 '62. (MIRA 15:2)

1. Krivorozhskiy nauchno-issledovatel'skiy gornorudnyy institut. (Krivoy Rog--Prospecting)(Krivoy Rog--Iron ores)

TOKHTUYEV, G.V.; KAZAK, V.M.

Morphological study of ore deposits in the Krivoy Rog Basin. Geol.rud.mestorozh. no.3:80-88 My-Je '62. (MIRA 15:6)

1. Nauchno-issledovatel'skiy gornorudnyy institut, g. Krivoy Rog.

(Krivoy Rog Basin--Ore deposits)

S/169/63/000/001/041/062
D218/D307

AUTHORS: Tokhtuyev, G.V., Zhilkinskiy, S.I., Kazak, V.M., Radutskaya, P.D. and Dzhedzalov, A.T.

TITLE: A method of detailed prospecting for deposits in the Saksaganskiy region of Krivoy Rog

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1963, 10-11, abstract 1D57 (Sb. nauchn. tr. N.-i. gornorudn. in-t (USSR), 1962, no. 5, 201-217)

TEXT: Studies were carried out with the aim of developing a rationalized method for detailed prospecting for deposits in the Krivoy Rog. The method is based on the following geological, prospecting and analytical data: 1) ore-bearing capacity of rocks in the Krivoy Rog metamorphic series and geological factors which govern mineralization (structural, stratigraphic, lithological, metamorphogenic, hypergenic); 2) form, dimensions, and quality of the ore deposits and their change with depth; 3) complexity of the morphology of ore deposits and the exposure of ore-deposit profiles which

Card 1/5

are characterized by: the quantity variation coefficient, form complexity modulus and the continuity of mineralization coefficient; 4) degree of exploration of the basin and ore potential of existing mines; 5) density of existing prospecting network and its analysis by comparison of prospecting and mining data, artificial exhaustion and variational statistics. As a result of these studies, a new classification of ore deposits in the Saksagan belt, based on natural factors, was developed for prospecting purposes. An optimum prospecting-network density has been established for each group of deposits. This density is considerably lower than both the currently employed density and that recommended by the ГКЗ (GKZ), but ensures satisfactory accuracy of determination of reserves and reliable description of their quality (cf. table). An increase in the reserves of rich ores is to be expected mainly at large depths. Because of this, and also in view of the desirability of reconstruction of mines, it is necessary to solve the following main problems of detailed prospecting: 1) constant replacement in the process exhaustion of class B reserves in order to ensure a regular planned development of major deep-mining operations; 2) sufficient geological

A method of detailed ...

studies of 1000-1500 m horizons, ensuring rational distribution of capital investiment in reconstruction and sinking of new mines. At existing working depths, prospecting operations aimed at conversion of the reserves to class B, can best be carried out from wells sunk from newly prepared or exhausted mining horizons. The well depth will then be less than 250-300 m. It is possible that a proportion of the wells will best be sunk from the surface. In order to decide on the optimum conditions, special preliminary analysis of the economical, time and technological factors is necessary. The following data should be determined in deep-horizon studies (1000-1500 m): the presence of ore-deposits should be confirmed, a preliminary estimate should be made of the size and quality of the mineralization, the form and deposit elements of ores, and the details of the general geological structure. It is also desirable to have even preliminary estimates of hydrogeological and mining-technological working conditions. For Krivoy Rog deposits, this degree of exploration would correspond to class C_1 reserves. Deep horizon prospecting, using wells sunk from the surface, should in future be confined to

Card 3/5

A method of detailed ...

this category of reserves.
Table: 1) Group of deposits; 2) Subgroup; 3) Natural characteristics; 4) Distance between prospecting sections (in the plane of the deposit) m, as recommended by NIGRI; 5) Class B; 6) Class C_1; 7) Density of prospecting network; 8) Compared with the recommended by GKZ; 9) Compared with currently employed; 10) Class B; 11) Class C_1; 12) Class B; 13) Class C_1; 14) Major stratified deposits of constant thickness and topological structure, slightly discontinuous, more than 400 m; 15) Major stratified deposits of variable thickness and complex topological structure; discontinuous mineralization, more than 400 m; 16) Average in size deposits of various topological types, morphologically simple, 400-150 m; 17) Average in size deposits of various morphological types but morphologically complex, 400-150 m; 18) Minor deposits of various forms, 150 m; 19) Prospecting inexpedient; 20) 75-100 (or single intersections).
[Abstracter's note: Complete translation]

Card 4/5

A method of detailed ...

S/169/63/000/001/041/062
D218/D307

1 Группа залежей	2 Подгруппа	3 Характеристика залежей по природным факторам	4 Расстояния между разведочными пересечениями (в плоскости рудного тела) м, рекомендуемые НИГРИ		7 Степень разрежения разведочной сети			
					8 против рекомендованной ГКЗ		9 против фактически достигнутой	
			категория B	категория C_1	категория B	категория C_1	категория B	категория C_1
		14	5	6	10	11	12	13
I	1	Крупные залежи пластообразной формы, устойчивые по мощности, строению контуров, слабо прерывистые, более 400 м	200—250	300—400	3—5	3,5—4,0	1,3—2,0	1,8—2,8
	2 15	Крупные залежи пластообразной формы, изменчивые по мощности, сложные по строению контуров, прерывистые по оруденению, более 400 м	150—200	250—350	2,5—4,0	1,5—3,0	1,2—2,0	1,2—2,5
II	16	Средние по размерам залежи, различных морфологических типов, простые по морфологии, 400—150 м	100—150	150—250	2,5	1,0	1,0—1,2	1,0—1,5
	17	Средние по размерам залежи, различных морфологических типов, сложные по морфологии, 400—150 м	75—100	120—200	2,5	1,0	1,0	1,0
III	18	Мелкие залежи различной формы, 150 м	19 Разведку осуществлять нецелесообразно	20 75—100 (или единичные пересечения)	—	—	—	—

Card 5/5

S/169/63/000/001/042/062
D218/D307

AUTHORS: Tokhtuyev, G.V., Kazak, V.M. and Zhilkins'kiy, S.I.

TITLE: Scientific foundations of rationalized prospecting for iron deposits of Krivoy Rog

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1963, 11-12, abstract 1D58 (Geologichniy zh., 1962, v. 22, 14-29 (Ukr.: summary in Rus.))

TEXT: In order to ensure the correct development of geological prospecting operations in the Krivoy Rog basin, it is necessary to take into account lithological-stratigraphic, structural, metamorphic, hydrogeological, and geomorphological factors governing the mineralization. The development of a rationalized method for detailed prospecting for rich ore deposits in the Saksaganskiy and Ingulet-skiy ore fields is largely determined by the dimensions and the structural complexity of ore-bodies in the central Krivoy Rog deposits, e.g. variability in the occurrence of ferruginous quartzites, and the complexity of the geological and internal structure. In

Card 1/3

Scientific foundations ...

choosing the rationalized method of detailed prospecting, the author suggests the use of a new classification of deposits which was developed with allowance for the main factors which characterize the prospecting procedure. Currently used prospecting-network density is considerably lower than that recommended by ГКЗ (GKZ), but is overestimated by a factor of about 2 for the major ore rich deposits in the Saksaganskiy and Inguletskiy fields which belong to group I. Average-size deposits of this type, which belong to the second group, and also deposits in the central Krivoy Rog field, are at present being investigated with a network whose density is nearly optimal, and it is recommended that this density be retained. Ferruginous quartzite deposits belonging to the first subgroup (deposits with simple internal structure), which belong to all the prospecting groups, are being investigated with a network density which is nearly optimal. The second subgroup of all groups (deposits which have complex internal structure) are being investigated with insufficient well-network density. In order to determine the extent of the oxidation zone of these deposits with depth, the prospecting-network density should be higher by a factor of roughly 4. The prospecting-

Scientific foundations ...

network density should not be chosen for individual deposits but for the ore site as a whole. The density of prospecting wells should ensure normal exploration of most of the reserves. The degree of exploration of rich ores should be estimated not from the reserve categories but from prospecting data which ought to be obtained prior to the mining data. The degree of exploration of rich ores should be regarded as normal when most of the reserves at 280-320 m below the working horizon can be described as class B. At the maximum depth of mine reconstruction (1200-1500 m) most of the reserves should belong to class C_1. In order to reduce Class C_1 deposits to Class B, it is generally expedient to work through existing mine pits.

[Abstracter's note: Complete translation]

Card 3/3

BELEVTSEV, Ya.N.; FOMENKO, V.Yu.; NOTAROV, V.D.; MOLYAVKO, G.I.; MEL'NIK, Yu.P.; SIROSHTAN, R.I.; DOVGAN', M.N.; CHERNOVSKIY, M.I.; SHCHERBAKOVA, K.F.; ZAGORUYKO, L.G.; GOROSHNIKOV, B.I.; AKIMENKO, N.M.; SEMERGEYEVA, Ye.A.; KUCHER, V.N.; TAKHTUYEV, G.V.; KALYAYEV, G.I.; ZARUBA, V.M.; NAZAROV, P.P.; MAKSIMOVICH, V.L.; STRUYEVA, G.M.; KARSHENBAUM, A.P.; SKARZHINSKAYA, T.A.; CHEREDNICHENKO, A.I.; GERSHOYG, Yu.G.; PITADE, A.A.; RADUTSKAYA, P.D.; ZHILKINSKIY, S.I.; KAZAK, V.M.; KACHAN, V.G.; STRYGIN, A.I., red.; LADIYEVA, V.D., red.; ZHUKOV, G.V., red.; YEPATKO, Yu.M., red.; SHCHERBAKOV, B.D., red.; SLENZAK, O.I., red.izd-va; RAKHLINA, N.P., tekhn. red.

[Geology of Krivoy Rog iron-ore deposits]Geologiia Krivorozhskikh zhelezorudnykh mestorozhdenii. Kiev, Izd-vo Akad. nauk USSR. Vol.1.[General problems in the geology of the Krivoy Rog Basin. Geology and iron ores of the deposits of the "Ingulets," Rakhmanovo, and Il'ich Mines]Obshchie voprosy geologii Krivbassa. Geologicheskoe stroenie i zheleznye rudy mestorozhdenii rudnikov "Ingulets," Rakhmanovskogo i im. Il'icha. 1962. 479 p.
(Krivoy Rog Basin—Mining geology) (MIRA 16:3)
(Krivoy Rog Basin--Iron ores)

BELEVTSEV, Ya.N.; BEYGULENKO, I.L.; BETIN, D.I.; BORISENKO, V.G.; GUBKINA, N.N.; DZHEDZALOV, A.T.; ZHILKINSKIY, S.I., prof.; ZALATA, L.F.; KAZAK, V.M.; MALYUTIN, Ye.I.; MUROMTSEVA, Z.G.; NATAROV, V.D., doktor geol.-miner. nauk; PANASENKO, V.N.; PITADE, A.A.; RADUTSKAYA, P.D.; SLEKTOR, S.M.; SMIRNOV, D.I.; TOKHTUYEV, G.V., kand. geol.-min. nauk; FOMENKO, V.Yu.; SLENZAK, O.I., red.izd-va; MATVEYCHUK, A.A., tekhn. red.

[Methodological guide for the geological service for the prospecting and mining of Krivoy Rog type deposits] Metodicheskoe rukovodstvo dlia razvedochnoi i rudnichnoi geologicheskoi sluzhby mestorozhdenii krivorozhskogo tipa. Pod red. IA.N. Belevtseva. Kiev, Izd-vo AN USSR, 1963. 395 p.
(MIRA 16:12)

1. Krivoy Rog. Gornorudnyy institut. 2. Chlen-korrespondent AN Ukr.SSR (for Belevtsev).
(Krivoy Rog Basin--Engineering geology)

KAZAK, V.M.

Estimation of the form complexity of ore fields in the Krivoy Rog Basin. Sov. geol. 6 no.5:104-116 My '63. (MIRA 16:6)

1. Nauchno-issledovatel'skiy gornorudnyy institut.
(Krivoy Rog Basin--Ore deposits)

KAZAK, V.N.

POLYAK, Z.I., kandidat tekhnicheskikh nauk; KAZAK, V.N., inzhener; BARYSHEVA, M.I.

Some problems pertaining to rock displacement in the Moscow Basin. (MLRA 8:3)
Trudy VNIMI no.26:119-137 '52.
(Moscow Basin--Subsidences (Earth movements)

KAZAK, V.N.

Area contour and extent of total gasification of a coal seam.
Podzem. gaz. ugl. no. 2:12-15 '58. (MIRA 11:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.
(Coal gasification, Underground)

KAZAK, V.N.

Roof control during gasification in an inclined channel in a thin coal seam. Podzem. gaz. ugl. no.3:16-20 '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.
(Coal gasification, Underground)

RUSSO, Yu.V.; KAZAK, V.N.

Changes in the physicomechanical properties of rocks in coal seam roofs during the gasification process. Podzem. gaz. ugl. no.4:36-40 '58. (MIRA 11:12)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.
(Coal gasification, Underground) (Rocks)

AGROSKIN, A.A., doktor tekhn.nauk, prof.; KAZAK, V.N.

Participation of enclosing rocks in the process of underground coal gasification. Podzem. gaz. ugl. no.1:42-46 '59.
(MIRA 12:6)

1.VNIIPodzemgaz.
(Coal gasification, Underground)
(Gases in rocks)

AGROSKIN, A.A., prof., doktor tekhn.nauk; KAZAK, V.N.

Heating in depth of the coal seam and the enclosing rocks in the process of underground gasification. Podzem.gaz.ugl. no.2:10-15 '59. (MIRA 12:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut podzemnoy gazifikatsii ugley.
(Coal gasification, Underground) (Heat--Transmission)

KAZAK, V.N.; VASIL'YEV, Yu.I.

Studying the stability of uncovered roofs on a three-dimensional model. Podzem.gaz.ugl. no.3:14-18 '59.
(MIRA 12:12)

1. Vsesoyuznyy nauchno issledovatel'skiy i proyektnyy institut podzemnoy gazifikatsii ugley i Vsesoyuznyy nauchno-issledovatel'skiy marksheyderskiy institut.
(Coal gasification, Underground)
(Geological modeling)

KAZAK, V.N.; BABKIN, V.G.

Comparison of technological and surveying data with results of the investigation of burnt-out areas by core sampling. Podzem.gaz.ugl. no.3:25-30 '59. (MIRA 12:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut podzemnoy gasifikatsii ugley.
(Coal gasification, Underground)

TURCHANINOV, I.A.; KAZAK, V.N.

Direction and methods of rock pressure research. Ugol' 34 no.9:33-35 S '59. (MIRA 12:12)

1.Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut podzemnoy gazifikatsii ugley.
(Subsidences (Earth movements))

KUZNETSOV, G.N., doktor tekhn. nauk; KAZAK, V.N.; SHEYNIN, V.I.

Study of the stability of curvilinear shapes of roof supports on volumetric models. Nauch. trudy VNIIPodzemgaza no.9:48-73 '63. (MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut podzemnoy gazifikatsii ugley i Vsesoyuznyy nauchno-issledovatel'skiy marksheyderskiy institut.

KAZAK, V.N.; SHEYNIN, V.I.

Study of the physical, mechanical, and thermal properties of rocks for the purposes of underground gasification of coals. Nauch.trudy VNIIPodzemgaza no.10:54-76 '63. (MIRA 17:5)

1. Laboratoriya gornogeologicheskaya Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

KUZNETSOV, G.N., dr. tekhn. nauk.; KAZAK, V.N., inzh; SHEYNIN, V.I., inzh.

Determining vertical movements of the surface by means of three-dimensional models using the shadow method. [Trudy]VNIMI no.50: 11-19 '63. (MIRA 17:10)

KAZAK, V.N.

Mechanism of rock behavior during the underground gasification of thin slanting and inclined coal seams. Trudy VNIIPodzemgaza no.13:42-52 '65. (MIRA 18:8)

1. Laboratoriya gornogeologicheskaya Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

KAZAK, V.N.; MOLCHANOVA, K.P.

Effect of the angle of pitch of a seam on the size of the reaction surface of combustion in thin coal seams. Trudy VNIIPodzemgaza no.12:57-67 '64. (MIRA 18:9)

1. Laboratoriya gornogeologicheskaya Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

AGAFONOV, A.K., kand. ekon. nauk; KONONENKO, V.I.; VASILENKO, G.K.; KAZAK, V.Ye.; ZABELLA, V.I.; BORYAKIN, V.N., red.

[Price determination in the machinery industry] TSenoobrazovanie v mashinostroenii. Kiev, Naukova dumka, 1965. 259 p. (MIRA 18:11)

1. Akademiia nauk URSR, Kiev. Instytut ekonomiky.

GETOPANOV, V.N., inzh.; KAZAK, Yu.N., inzh.; SOLOD, V.I., kand.tekhn.nauk

Mechanism of rock crushing by mining machine cutters. Nauch. trudy MGI no.17:85-92 '56. (MIRA 10:11)
(Coal mining machinery)

KAZAK, Yu.N., inzh.

Investigating certain problems in the destruction process of Moscow Basin coals by coal mining machine cutters. Nauch. dokl. vys. shkoly; gor. delo no.1:237-254 '58. (MIRA 11:6)

1.Predstavlena kafedroy gornykh mashin i rudnichnogo transporta Karagandinskogo gornogo instituta.
(Coal mining machinery)

KAZAK, Yu. N., Cand Tech Sci--(diss) "Study of ~~the~~ processes of crushing ~~breaking up~~ of ~~the under-Moscow~~ coal ~~with~~ cutters of excavation mining machines with ~~a~~ chain ~~conveyor device~~ actuators." Mos, 1958. 14 pp (Min of Higher Education USSR. Mos Mining Inst im I.V. Stalin), 120 copies (KL,25-58, 113)

KAZAK, Yu.N., kand.tekhn.nauk

Investigating diagrams of stress on the operating parts of mining machines in the cutting of Karaganda coal. Izv. vys. ucheb. zav.; gor. zhur. no.12:83-90 '60. (MIRA 14:1)

1. Karagandinskiy politekhnicheskiy institut. Rekomendovana kafedroy gornykh mashin i rudnichnogo transporta.
(Coal mining machinery)
(Karaganda Basin--Coal)

LYUBOSHCHINSKIY, D.M.; KAZAK, Yu.N.

Trying out a test specimen of the K-14G stope cutter-loader in the Karaganda Basin. Ugol' 35 no.2:11-13 F '60.
(MIRA 13:5)
(Karaganda Basin--Coal mining machinery--Testing)

LYUBOSHCHINSKIY, Dmitriy Markovich; POZIN, Yevgeniy Zal'manovich; KAZAK, Yuriy Nikolayevich; ZIL'BERT, Izrail' Samoylovich; LOGUNTSOV, B.M., otv. red.; SHOROKHOVA, A.V., red. izd-va; IL'INSKAYA, G.M., tekhn. red.

[Breaking of coal by the cutting elements of mining machines] Razrushenie uglei ispolnitel'nymi organami vyemochnykh mashin. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 220 p. (MIRA 14:5)
(Coal mining machinery)

SAGINOV, Abylkas Saginovich; PESIN, Naum Yakovlevich; LEBEDEV, Alekseу Nikolayevich, KAZAK, Yuriy Nikolayevich; MIROSHNICHENKO, V.D., red. izd-va; SHKLYAR, S.Ya., tekhn. red.

[Calculating technological processes in coal mining] Raschety tekhnologicheskikh protsessov dobychi uglia. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 141 p. (MIRA 14:11)
(Coal mines and mining)

KICHIGIN, A.F., inzh.; KAZAK, Yu.N., inzh.; YANTSEN, I.A., inzh.; SALTANOV, A.D., inzh.

Mechanical hydraulic mining machine. Izv. vys. ucheb. zav.; ger. zhur. no.12:72-75 '61. (MIRA 16:7)

1. Karagandinskiy politekhnicheskiy institut. Rekomendovana kafedroy gornykh mashin i rudnichnego transporta.
(Mining machinery)

KICHIGIN, A.F., inzh.; KAZAK, Yu.N., inzh.; BERNARDOV, G.G., inzh.

Device for measuring deformations of a rock in breaking it with mining machines. Izv. vys. ucheb. zav.; gor. zhur. no.12: 76-78 '61. (MIRA 16:7)

1. Karagandinskiy politekhnicheskiy institut. Rekomendovana kafedroy gornykh mashin i rudnichnogo transporta.
(Mining machinery) (Rocks--Testing)

KICHIGIN, A.F.; KAZAK, Yu.N.; BERNARDOV, G.G.

Experimental two-tube surge hydraulic giant. Izv. v/s. uch. zav.; gor. zhur. 5 no.6:197-199 '62. (MIRA 15:9)

1. Karagandinskiy politekhnicheskiy institut. Rekomendovana kafedroy gornykh mashin i rudnichnogo transporta.
(Boring machinery--Hydraulic driving)

RUCHKO, Boris Fedorovich; GREBESHKOV, Yuriy Vasil'yevich;
LYUBOSHCHINSKIY, Dmitriy Markovich; KAZAK, Yuriy Nikolayevich;
BOGUTSKIY, N.V., otv. red.; SILINA, L.A., red. izd-va;
BOLDYREVA, Z.A., tekhn. red.

["Ukraina-1" coal cutter-loader] Ugol'nyi kombain
"Ukraina-1" Moskva, Gosgortekhizdat, 1963. 242 p. (MIRA 16:7)
(Coal-mining machinery)

KAZAK, Yu.N., kand.tekhn.nauk; LYUBOSHCHINSKIY, D.M., kand.tekhn.nauk

Calculation of the variable resistance of coal seams to rupture in the design of actuating mechan sms of mining machinery. Izv.vys.ucheb.zav.;gor. zhur. 6 no. 12:107-114 '63. (MIRA 17:5)

1. Karagandinskiy politekhnicheskiy institut (for Kazak). 2. Institut Giprouglegormash (for Lyuboshchinskiy).

KAZAK, Yu.N., kand. tekhn. nauk; LYUBOSHCHINSKIY, D.M., kand. tekhn. nauk

Concerning the book "Cutting coal." Ugol' Ukr. 7 no.7:55 Jl '63. (MIRA 16:8)

(Coal—Testing)

KAZAKBAYEV, A.

Soviet Kirghizia and artistic photography. Sov. foto 17 no.9: 2-3 S '57. (MLRA 10:9)

1. Ministr kul'tury Kirgizskoy SSR.
(Frunze--Photography, Artistic--Exhibitions)

KAZAKBAYEV, A.; MOLDOKULOV, S., red.; BEYSHENOV, A., tekhn. red.

[Fourtieth anniversary of Lenin's plan for the State Commission for the Electrification of Russia and electrification of Soviet Kirghizistan] Leninidik Goelro planynyn 40 zhyldygy zhana Sovettik Kyrgyzstandy elektrleshtiruu. Frunze, Kyrgyz mamlekettik basmasy, 1961. 38 p. (MIRA 15:3)
(Kirghizistan--Electrification)

KAZAKBAYEV, K.K.

Methods of work and their relation to the elements used for deep foundations of hydraulic structures. Trudy Inst.soor. AN Uz. SSR no.5:75-90 '54. (MLRA

(Foundations) (Hydraulic engineering)

KAZAKBAYEV, K.K.

Stress distribution along the underground contour of Π-shaped dam foundations. Izv.AN Uz.SSR Ser.tekh.nauk no.1:44-50 '61. (MIRA 14:2)

1. Sredneaziatskiy politekhnicheskiy institut.
(Dams)

KAZAKBAYEV, M.; TERMINASOV, Yu.S.

X-ray diffraction study of chromium deposits obtained in a self-regulating electrolytic cell. Trudy LIEI no.29:61-69 [i.e. 39] '62. (MIRA 16:6)
(X-ray diffraction examination) (Chromium plating)

KAZAKBAYEV, M.

X-ray diffraction study of the structural changes in chromium coatings due to wear. Trudy LIEI no.29:74-79 [i.e. 39] '62. (MIRA 16:6)

(X-ray diffraction examination) (Chromium plating)

KAZAKEVICH, A.

Over-all mechanization for the handling of short logs. Rech. transp. 22 no.6:16-17 Je '63. (MIRA 16:9)

1. Starshiy dispetcher tekhnologicheskoy gruppy Dneprope trovskogo porta.

(Lumber--Transportation) (Cargo handling--Equipment and supplies)

L 09155-67 EWT(m)
ACC NR: AP7002768 SOURCE CODE: UR/0089/66/021/002/0132/0134

AUTHOR: Kazakevich, A. T.; Surin, V. N. 22

ORG: none

TITLE: Application of autoradiography for control of irregularity of actinide element layers

SOURCE: Atomnaya energiya, v. 21, no. 2, 1966, 132-134

TOPIC TAGS: autoradiography, electrochemistry

ABSTRACT: Autoradiographic data on irregularities of α-active, 1×10^{3} to 4.1×10^{6} fission min cm^{3}, layers of ^{238}U, ^{238}Pu, ^{239}Pu, and ^{241}Am on plane metal backings prepared by electrochemical and drop methods are tabulated. It is shown that the electrochemical method produced a more uniformly distributed coating in comparison to the drop evaporation method. Orig. art. has: 5 figures and 1 table. [NA]

SUB CODE: 07 / SUBM DATE: 25Apr66 / ORIG REF: 001 / OTH REF: 004

Card 1/1 nst UDC: 539.172.12: 539.17.015
0925-1646

22(1) SOV/3-59-4-10/42

AUTHORS: Kazakevich, D.M., Candidate of Economic Sciences; Larina, M.N.; Chirkov, A.V., Candidate of Economic Sciences, Docent; Slobodyanik, I.Ya., Candidate of Technical Sciences

TITLE: Our Readers Suggest

PERIODICAL: Vestnik vysshey shkoly, 1959, Nr 4, pp 33-34 (USSR)

ABSTRACT: In order to raise the quality of exercises on economic subjects, D.M. Kazakevich and M.N. Larina of the Tomsk Electromechanical Institute of RR Engineers suggest that some of the seminar exercises be conducted with the participation of plant engineers and economists. Such seminars were organized last year by the Chair of Political Economy of the Tomskiy politekhnicheskiy institut (Tomsk Polytechnical Institute) at the plants "Sibelektromotor", "Manometr" and others. It is advisable for the vuz instructors and the workers of the scientific-research institutions to establish scientific collectives which will handle such problems. The economic chairs of the institutes of Novosibirsk, Tomsk and other Siberian vuz centers could participate in scientific researches on themes of the

Card 1/3

Our Readers Suggest

Institut ekonomiki i statistiki Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Economics and Statistics of the Siberian Branch of the AS USSR). Docent A.V. Chirkov of the Leningradskaya lesotekhnicheskaya akademiya imeni S.M. Kirova (Leningrad Forest Engineering Academy imeni S.M. Kirov) emphasizes the necessity of considerably reducing the time used in reviewing textbooks. It often takes 2 years to review and print a textbook. On some subjects, particularly on special technological and economic ones, it happens that similar textbooks appear at the same time and that the material and statistical data on the same subject disagree in various textbooks and sometimes even contradict each other. It is therefore suggested that economists or technologists be invited to participate in reviewing manuscripts. I.Ya. Slobodyanik of the Kiyevskiy inzhenerno-stroitel'nyy institut (Kiev Construction Engineering Institute) suggests that students be familiarized with the latest devices and equipment at exhibitions of advanced experience, large enterprises, etc. as it is practically impossible to have the vuz laboratories equipped with all the

Our Readers Suggest

latest technical devices. The author considers it desirable that the various exhibitions furnish the vuzes with copies of new posters and photographs of equipment, catalogues, models or motion pictures. Plants turning out new laboratory and productional equipment should be requested to supply the laboratories of the respective vuzes with specimens of such equipment.

Card 3/3

SKOROKHODOV, A.A.; KAZAKEVICH, E.I., red.; KOROVINA, N.A., tekhn. red.

[State plan is the law of production development] Gosudarstvennyi plan-zakon razvitiia proizvodstva. Moskva, Metallurgizdat, 1963. 21 p. (MIRA 17:3)

KAZAKEVICH, E.V.

Centralized flap control. Bezop.truda v prom. 4 no.8: 25-26 Ag '60. (MIRA 13:8)

1. Glavnyy inzhener Krivorozhskogo shakhtoprokhodcheskogo upravleniya No.[illegible]
(Mine hoisting—Safety measures)

KAZAKEVICH, E.V., inzh.; SAKHNOVSKIY, V.L., inzh.

Ventilation of deep mine shafts in the Krivoi Rog Basin. Bezop.truda v prom. 7 no.1:25-27 Ja '63. (MIRA 16:2)

1. Krivorozhskiy filial Ukrainskogo nauchno-issledovatel'skogo instituta ogranizatsii i mekhanizatsii shakhtnogo stroitel'stva.
(Krivoi Rog Basin—Mine ventilation)

ZASLAVSKIY, Yu.Z., kand. tekhn. nauk (Donetsk); KOCHETOV, V.V., kand. tekhn. nauk; BYDEROVSKIY, S.I., inzh.; PUL'MAN, V.M., inzh.; KAZAKEVICH, E.V., inzh.; MAKSIMCHUK, A.A., inzh.

Create a Soviet firm for vertical shaft sinking. Gor. zhur. no.9:5-8 S '64. (MIRA 17:12)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo i shakhtnogo stroitel'stva, Moskva (for Kochetov, Byderovskiy). 2. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva (for Pul'man, Kazakevich, Maksimchuk).

YES'KOV, Anatoliy Semenovich; MAKSIMCHUK, Aleksey Arsent'yevich; KAZAKEVICH, Eduard Veniaminovich; SOTSKIY, Ananiy Rodionovich; TREGUBOV, Vitaliy Anatol'yevich; SORIN, Mikhail Samoylovich; FEDOROV, S.A., prof., doktor tekhn. nauk, retsenzent

[Short handbook on shaft deepening] Kratkii spravochnik po uglubke stvolov shakht. Moskva, Nedra, 1965. 175 p. (MIRA 18:8)

KAZAKEVICH, E.V., inzh.

Investigating flow sheets for erecting concrete linings in vertical shafts with the aid of portable formwork. Trudy VNIIOMSHSa no.15:115-134 '64.

(MIRA 18:2)

KAZAKEVICH, E.V., inzh.; SAKHNOVSKIY, V.L., inzh.

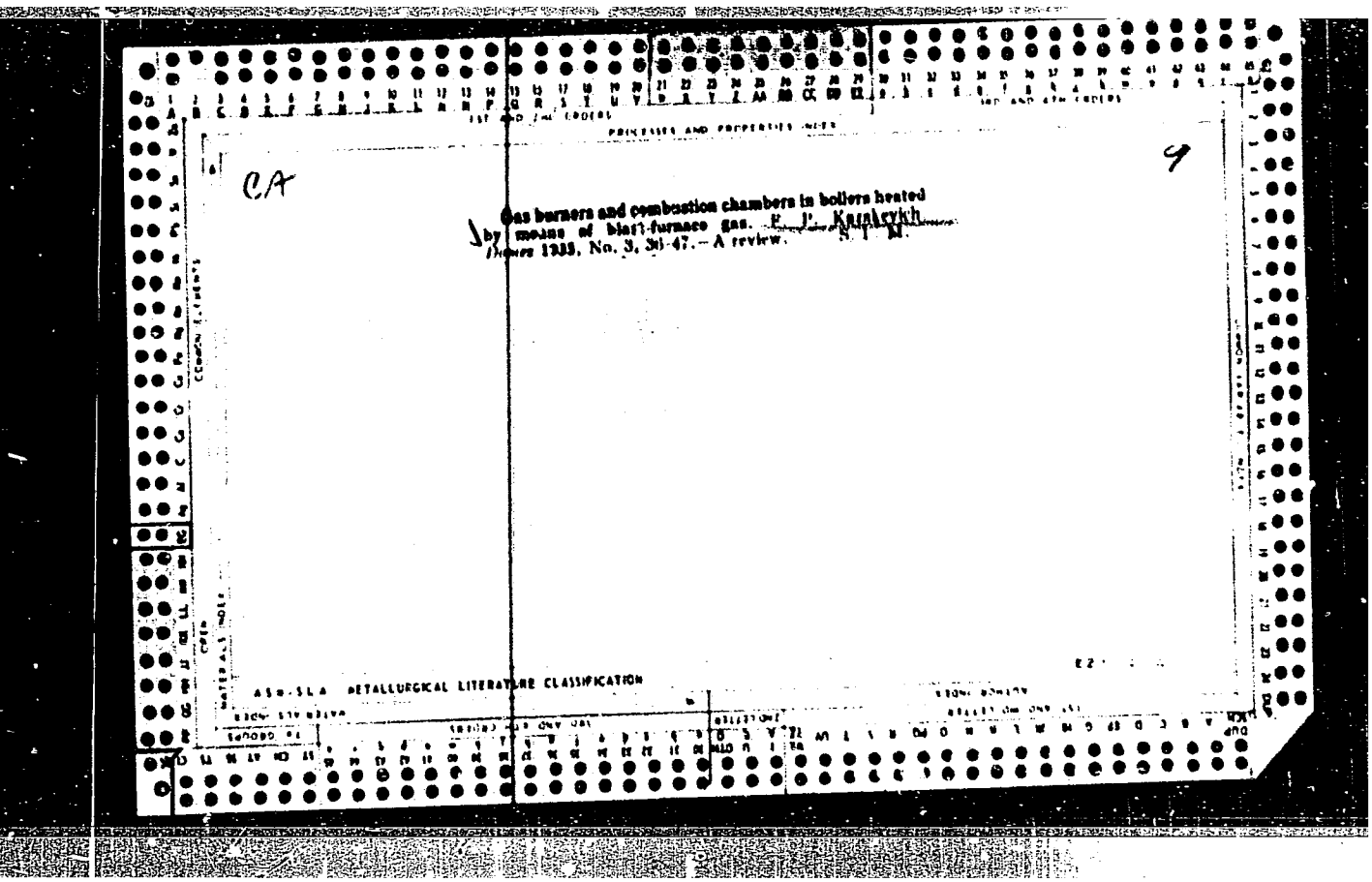
Timbering horizontal workings at the No.2 "Zapadnaia-Donbasskaia" Mine. Shakht. stroi. 7 no.12:26 D'63.
(MIRA 17:5)

1. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva.

KAZAK.VICH, E.V., inzh.; KOGAN, V.G., inzh.

Centralize the preparation of concrete mixtures. Shakht. stroi. 8 no.7:15-16 Jl '64. (MIRA 17:10)

1. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva.



AMR.

Compressible Flow; Summary, Vol. II

2000. Kazakevich, F. P., Investigation of the drag of a circular cylinder in an air flow (in Russian), *PA. 6rkA. Fiz.* 21, 9, 1111–1120, Sept. 1951.

Pressure distributions as function of yaw ($0 \leq \theta \leq 90°$), and (precritical) Reynolds number ($0.4 \leq R \leq 1.3 \times 10^5$, based on diameter and full free-stream velocity), were obtained through four orifices (diam 0.3 mm) on a rotatable circular tube (diam $d = 10$ mm) in a 250 × 250-mm wind tunnel. Differential readings increased accuracy of normal-pressure drag measurements. The similarity of shapes of the distributions lead to a formula for normal drag in terms of differential pressure ($p_0 - p_{90}$) and yaw θ. Spanwise variation of drag was eliminated by placing two thin disks on the cylinder; since the results were insensitive to variation of distance b between the disks, $5d \leq b \leq 22d$, they were identified with ideal two-dimensional behavior. The resultant higher drag for $\theta = 0°$ then checked with CAGI Rep. no. 98, 1931, by Kuznetsov, where ratio of tunnel breadth w to diameter was $w/d = 100$. Further check was furnished by tubes of different diameters. As yaw increased, the spanwise "wall effect" diminished. Pressure orifices were also drilled perpendicularly to the elliptic sections of the yawed tube; the resultant drag differed by 2 – 3%, presumably the index of accuracy.

The trends of author's results with yaw check with the more extensive experiments by Bursnall and Loftin (where the wall effect, however, was present, w/d being 18); see AMR 5, Rev 814. Surprisingly, no mention was made of yaw theory, nor of turbulence level in the tunnel. M. V. Morkovin, USA

PA 233T32

KAZAKEVICH, F. P.

USSR/Engineering - Boilers, Gas Flow Aug 52

"Influence of the Angle of Attack of a Gas Flow on the Aerodynamic Resistance of the Banks of Tubes," F.P. Kazakevich, Cand Tech Sci, Dnepropetrovsk Inst of Railroad Eng

"Iz V-S Teplotekh Inst" No 8, pp 7-12

Describes expts in wind tunnel for studying mechanism of aerodynamic resistance of tube banks when angle of attack of gas flow is less than 90°. Establishes that variation of the angle of attack substantially changes structure of gas flow in bundles with staggered or square distribution of tubes. Analyzes parameters of this flow.

233T32

KAZAKEVICH, F. P.

USSR/Physics - Heat emission

FD-913

Card 1/1 Pub 153-22/26

Author : Kazakevich, F. P.

Title : Effect of attack angle of gas flow on the heat emission of a round cylinder

Periodical : Zhur. tekh. fiz. 24, 1341-1349, Jul 1954

Abstract : Local and average values of coefficients of heat emission of the surface of a round cylinder subjected to air streams at various incident angles were studied. Experimental data facilitated estimation of heat emission from manifold pipes subjected to cross sectional and inclined gas streams. Seven references.

Institution : --

Submitted : February 25, 1954

KAZAKEVICH, F. P.

AID P - 2035

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 8/14

Author : Kazakevich, F. P., Kand. of Tech. Sci.

Title : Heat transfer of transversely - streamlined tube nests with low values of Reynolds number

Periodical : Teploenergetiak, 4, 41-44, Ap 1955

Abstract : The article describes in detail experiments made on heat transfer from various types of tubes, specifically with 6-row tube nests in a special installation. The author presents in tables some results of the experiment for regular and checkered tube arrangement and warns against the use of standard formulas for $R < 4,000$. Five diagrams. Four Russian references, 1943-1952, 1 English, 1916, 1 German, 1932.

Institution: Dnepopetrovsk Institute of Railroad Transportation Engineers

Submitted : No date

KAZAKEVICH, F. P.

AID P - 3887

Subject : USSR/Power Eng.

Card 1/1 Pub. 110-a - 8/17

Authors : Kazakevich, F. P., Kand. Tech. Sci., and A. V. Cherednichenko, Eng. Dnepropetrovsk Railroad Engineering Institute

Title : Heat transfer and aerodynamic resistance in criss-crossed tube nests

Periodical : Teploenergetika, 11, 35-37, N 1955

Abstract : Research done on heat transfer and aerodynamic resistance within Reynolds number limits of 3,000 to 22,000 in tubes of internal combustion motor boilers is described. A mathematical analysis for computing heat transfer and aerodynamic resistance is given. Three figures. Four Russian references, 1954-1955.

Institution : None

Submitted : No date

KAZAKEVICH, F.P., kand. tekhn. nauk; KRAPIVIN, A.M., kand. tekhn. nauk

Investigation of heat transfer and aerodynamic resistance of a bundle of tubes in a dust-laden stream of gas. Izv. vys. ucheb. zav.; energ. no. 1:101-107 Ja '58. (MIRA 11:7)

1. Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta.

(Heat--Transmission)
(Aerodynamics)

SOV/96-58-8-10/22

AUTHOR: Kazakevich, F.P. (Candidate of Technical Science)

TITLE: The Aero-dynamic Resistance of Self-cleaning Tube Bundles with Transverse Flow (Aerodinamicheskoye soprotivleniye poperechno obtekayemykh trubnykh puchkov, obladayushchikh svoystvom samoobduvki)

PERIODICAL: Teploenergetika, 1958, 5 Nr 8, pp 48-51 (USSR)

ABSTRACT: The efficiency of boilers is much affected by the formation of deposits on the heating surfaces. Investigations carried out at the All-Union Thermo-Technical Institute (Teploenergetika Nr 1, 1954) are so far the only ones that make a systematic study of the process of deposit formation: they show that contamination can be minimised by reducing the tube diameter to 25 - 30 mm and using honeycomb arrangements with short longitudinal tube pitch. Tubes in honeycomb arrangement are less subject to deposit formation than those in square formation and if the pitch values are suitably chosen they are self-cleaning. This arrangement is recommended for industrial use, particularly in boilers. However, little experimental data is available on the aerodynamic resistance of tube bundles in

Card 1/4

honeycomb arrangement and the present work was undertaken to fill the gap. The investigations were carried out on 6-row bundles of tubes, the geometrical characteristics of which are given in Table 1. The tests were made with isothermal flow of air in an open-type wind tunnel of section 250 x 250 mm at Reynolds numbers ranging from 2,500 - 20,000. The resistane of the tubes was determined from the static pressure-difference before and after the bundles. The experimental equipment and procedure are described in Teploenergetika Nr 4, 1955. The test results are plotted in logarithmic co-ordinates in Fig 1. The resistance of the bundles is given as a function of the longitudinal and transverse tube pitches. An equation relates the criteria of similarity for the bundles investigated, and values of the constants entering into the equation are given in Table 2. The results show how the
Card 2/4 resistance of the bundles depends on the pitches; as the transverse pitch is increased, the influence of the

longitudinal pitch becomes less. When the arrangement of the tubes is such that the rates of flow over them in the longitudinal and diagonal directions are equal, the aerodynamic resistance is particularly low. The advantages are specially marked when the transverse pitch is small, as will be seen from the graphs in Fig 2. A formula derived by the Central Boiler Turbine Institute gives the influence of the number of rows on the resistance of the tube bundles. This formula is used to compare results obtained at the All-Union Thermo-Technical Institute on tubes with 7 rows with those obtained on bundles of 6 rows in the present work.

The Aero-Dynamic Resistance of Self-cleaning Tube Bundles with Transverse Flow

The comparisons are made in Fig 3, and it is shown how the formula given can be extended to tube bundles with small longitudinal pitch.

There are 3 figures, 2 tables, and 5 literature references (Soviet)

ASSOCIATION: Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta (Dnepropetrovsk Institute of Railway Transport Engineers)

1. Boilers--Performance 2. Boilers--Maintenance 3. Boilers --Contamination 4. Boiler tubes--Test results

Card 4/4

SOV/124-58-11-12728

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 115 (USSR)

AUTHOR: Kazakevich, F. P.

TITLE: The Aerodynamic Drag of Tube Banks Exposed to an Oblique Gas Flow (Aerodinamicheskoye soprotivleniye puchkov trub pri kosom omyvanii ikh gazovym potokom)

PERIODICAL: Tr. Dnepropetr. in-ta inzh. zh.-d. transp., 1958, Nr 26, pp 114-122

ABSTRACT: Bibliographic entry

Card 1/1

SOV/96-59-10-6/22

AUTHORS: Kazakevich, F.P. (Cand.Tech.Sci.), Krapivin, A.M. (Cand.Tech.Sci.), Anofriyev, G.I. (Cand.Tech.Sci.) and Veselyy, I.G. (Engineer)

TITLE: An Investigation of Radiant Heat Exchange in the Furnace of a Boiler when Burning Natural Gas

PERIODICAL: Teploenergetika, 1959, Nr 10, pp 34-38 (USSR)

ABSTRACT: Heat exchange in boilers is mostly by radiation. The standard thermal design procedure for boilers developed by the Central Boiler Turbine Institute is an empirical method that gives satisfactory results within the limits of the experimental material on which it is based. However, the opinion has been expressed that the standard procedure does not give sufficiently accurate results in furnaces burning natural gas. Therefore, in making balancing tests on a small boiler burning natural gas the authors simultaneously investigated radiant heat exchange A diagrammatic cross-section of the boiler indicating the location of measuring instruments is given in Fig 1. The boiler had previously burned solid fuel. The boiler has a steam output of fourteen tons per hour, a furnace volume of 26 m^3, and a radiation surface of 20.5 m^2; the

Card 1/4

An Investigation of Radiant Heat Exchange in the Furnace of a Boiler when Burning Natural Gas

total surface of the furnace walls is 62.3 m^2 and the degree of screening 0.33. Two gas burners of the type sketched in Fig 2 were installed in the front of the furnace. The extent to which the most important conditions were maintained constant during the tests will be seen from Fig 3. Natural gas from the Shebelinskoye field was used; its analysis is given and its calorific value is 9050 kcal/m^3 at n.t.p. The measurement procedures used are described. Gas temperature curves at the outlet from the furnace when operating with an excess-air factor of 1.11 are plotted in Fig 4. The temperature is seen to be very high near the back wall of the furnace, mainly because the screening factor is so low. The flame temperature is evidently 1600-1650 °C, which can damage the furnace lining. With normal excess-air factors the flame is short and fairly transparent; with low excess-air factors it becomes violet. The results of radiant heat exchange calculations are tabulated, and it will be seen that the excess-air factor ranged from 0.91 to 1.61. The apparent thermal loading of the furnace volume ranged from 2.96 x 10^3 to 445 x 10^3 kcal/m^3hr. The tabulated data

An Investigation of Radiant Heat Exchange in the Furnace of a Boiler when Burning Natural gas

was used to calculate the direct heat output as a function of loading and as a function of the excess-air factor; the curves obtained are plotted in Figs 5 and 6 respectively. The dotted curves in Fig 6 relate to the detailed study of radiant heat exchange in a gas furnace of a boiler of 170 tons/hour. This furnace was fully screened. The study confirmed that contrary to assertions by other authors the proportion of direct heat transfer is quite low when burning natural gas. It is of interest to compare experimental data on heat transfer in the furnace in question with values calculated by the standard methods In Fig 7 the temperature at the outlet from the furnace is plotted in dimensionless coordinates as a function of the ratio of Boltzmann's criterion to the blackness factor of the furnace. It will be seen that the experimental results lie close to the theoretical curves. The relation ship between theoretical and calculated values of the gas temperature at the outlet from the furnace is plotted in Fig 8 and shows that in general the calculated values are about 40 °C too high. It is concluded that the standard

An Investigation of Radiant Heat Exchange in the Furnace of a Boiler when Burning Natural Gas

method of making thermal calculations gives satisfactory results when applied to small furnaces burning gas. It appears, however, that the emission properties of a natural gas flame have some special features that are not reflected in the standard formulae; this is why measured values of outlet temperature are lower than the calculated ones.

Card 4/4

There are 8 figures, 1 table and 6 references, of which 5 are Soviet and 1 English.

ASSOCIATION: Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta (Dnepropetrovsk Institute of Railway Transport Engineers)

ANOFRIYEV, G.I.; KAZAKEVICH, F.P.; KRAPIVIN, A.M.

Heat exchange in cast iron water-feed economizers of natural gas boilers. Gaz. prom. 5 no.34-36 My '60. (MIRA 14:11)
(Boilers) (Gas, Natural)

86471

S/096/61/000/001/008/014
E194/E184

11.9100

AUTHOR: Kazakevich, F.P., Candidate of Technical Sciences

TITLE: The Influence of Roughness on the Aerodynamic Resistance of Tube Bundles in a Transverse Flow of Gas

PERIODICAL: Teploenergetika, 1961, No. 1, pp. 56-58

TEXT: Heat exchange between a body and a flow of air depends, amongst other things, on the roughness of the surface. In addition to studying this point it was desired to obtain data with which to improve various design formulae. Tests were made on a 7-row square arrangement tube bundle made up with tubes ranging from 15.2 to 38.2 mm in diameter. Details are given about the tube arrangements and geometry. The tests were made in an open wind tunnel with a cross-section of 250 x 250 mm with isothermal air flow, the Reynolds number ranging from 7000 to 100 000. Further information is given about the test conditions. Minimum roughness was obtained with the tube surfaces polished and chromium plated to prevent corrosion. Such surfaces were defined as having zero roughness. Maximum roughness was created by knurling and intermediate values were obtained by turning on a lathe. The class of surface finish

Card 1/3

86471
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E194/E184

The Influence of Roughness on the Aerodynamic Resistance of Tube Bundles in a Transverse Flow of Gas

was determined with a binocular microscope. From the test results plotted in Fig. 1 it will be seen that the data relating to polished tubes and to those with rough machined surface lie on practically a single straight line. Accordingly, there is no appreciable turbulence of the boundary layer with roughness up to 0.001 and there is no effect of critical resistance such as occurs when the point of break away of the flow from the tube surface alters. Accordingly, the subsequent tests were made only with tubes of minimum and maximum roughness. The influence of relative roughness is clearly seen in Fig. 1; beyond the critical point the greater the roughness the greater the increase in resistance as the Reynolds number rises. The critical point depends upon the height of the asperities on the rough surface. Data are tabulated which show that roughness has no influence on the exponential to which the Reynolds number is raised when written as function of the Euler number. It is shown that existing design formulae may be used in the range of Reynolds numbers from 6000 to 15 000 for tube

Card 2/ 3

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S/096/61/000/001/008/014
E194/E184

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roughnesses (ratio of asperity height to diameter) of 0.006. The mechanism of resistance is briefly considered and it is concluded that breakaway of the fluid flow from the surface governs the frontal resistance of a cylindrical tube, and previous work has shown that the frontal resistance of a tube bundle is about 90% of the total resistance. Curves of pressure distribution around tube circumferences may be used to determine frontal resistance, and Fig.2 shows such curves for tubes of the 6th row of a bundle for three values of Reynolds number. When the surface is rough the flow breaks away from the tube area, creating a greater pressure depression behind the tube so that the frontal resistance increases. For low values of Reynolds number experimental points for different values of roughness lie on a single curve.
There are 2 figures, 1 table and 7 Soviet references.
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Card 3/3