"Investigation of the Kinetics of Successive First-
Order Reactions." Thesis for degree of Cand. Chemical
Sci. Sub 21 Jun 49, Military Academy of Chemical
Defense imeni K. Ye. Voroshilov.

Summary 42, 18 Dec 52, Dissertations Presented for
Degrees in Science and Engineering in Moscow in 1949.
From Vechernyaya Moskva, Jan-Dec 1949.

Also SuM 71

C. A.

Kinetics of acid hydrolysis of symmetrically disubstituted compounds. I. Determination of the rate constants for the first and second stages of the reaction from the over-all curve having an inflection point. S. I. Sklyarenko and I. A. Kalinin. Zhur. Fiz. Khim. 24, 1459–63(1950).—In the case of 2 consecutive first-order reactions $A \xrightarrow{k_1} B, \xrightarrow{k_2} C, \infty$, information is usually possessed only on the over-all effect of the first and second stages, e.g. Σm, the sum of a product of both stages, is determined analytically. The over-all curve: $\Sigma m = 2 - [(2 - a)/(1 - a)] \exp(-k_1 t) + [a/(1 - a)] \exp(-k_2 t)$ presents an inflection point only when $a = (k_2/k_1) < 1$. At the inflection point (subscript i): $t_i = -\ln[(2 - a)a]/k_2(1 - a) (1)$, $(\Sigma m)_i = 2 - [(2 - a)_m]^{1/1-a} [(1 + a)/a] (2)$, and $(d \Sigma m/dt)_i = k_1 [(2 - a)_m]^{1/1-a} (3)$. Thus the detn. of k_1 involves solving the transcendental equation: $ax + b = \ln x$, where $a = t_i, x = k_1$, and $b = \ln (d \Sigma m/dt)_i$, the coefficients a and b being taken from the exptl. over-all curve. Then k_1 is obtained from the equation resulting from the division of (2) by (3). The method has been verified for 27 fictitious curves with various values of a, and the agreement between given and calcd. values of k_1 and k_2 is good ($\pm 1\%$). II. **Determination of the rate constants for the first and second stages of the reaction for arbitrary values of the ratio of these constants.** Ibid. 1464–7(1950).—Usually, no inflection point is observed in the over-all curve corresponding to the consecutive reactions of part I. Then a general algebraic procedure, valid for any a, can be used for obtaining k_1 and k_2. With $b = k_2/(k_1 - k_2)$, the equation of the over-all curve is: $\Sigma m = 2 - 2 \exp(-k_1 t) - b \exp(-k_1 t) + b \exp(-k_2 t)$. For 1 mole of reactant, $\Sigma m = 2$ for $t = \infty$. Thus $\Sigma m.100/2$ is the quantity of m at time t in % of the max. value of m. If $\exp(-k_1) = x$, $\exp(-k_2) = z$, $Q = (\Sigma m.100/2) - 100$, and $b' = b.100/2$, the general equation becomes: $Q + 100 x^2 = b'(z^2 - x^2)$. For 4 different values of t such that $t_2:t_3:t_4 = n:2n:3n:4n$ (e.g. $t = 10, 20, 30, 40$), there is a system of 4 equations which leads to the second-degree equation: $x^4 - Y(Q)_n + 100 Q_m)/(Q_n Q_m + 100 Q_m) - (Q_n Q_m - Q_w Q_n)/(Q_n Q_m + 100 Q_m) = 0$, where $Y = X^{10}$ and Q_m is the value of Q for $t = 10$. Solving for Y gives $Y_1 = \exp(-10 k_1)$ and $Y_2 = \exp(-10 k_2)$ and in general $k_1 = -(2.3 \log Y_1)/n$ and $k_2 = (-2.3 \log Y_2)/n$. The method has been checked for fictitious curves, and the agreement between given and calcd. values of k_1 and k_2 is good ($\pm 1\%$). An approx. method for which a similar precision is claimed is based on the possibility of neglecting one of the exponentials in the general equation when $k_1 \neq k_2$. Thus if $k_1 > k_2$, near the end of the reaction, one may write: $\Sigma m = 2 + [\exp(-k_2 t)](a/(1 - a)$ or $\ln[100/(100 - x)] = \ln[2(a - 1)/a] + k_2 t$, with $x = \Sigma m.100/2$. Then, $k_2 = [1/(t_1 - t_2)]\ln[(100 - x_1)/(100 - x_2)]$, where $x = x_1, x_2$ for $t = t_1, t_2$. It is preferable, however, to det. k_2 by a graphic method: $\ln[100/(100 - x)]$ is plotted against t; the slope of the straight line thus obtained gives k_2. Finally, a can be estd. in the following way: if t_1, t_2, t_3 are the values required for accumulating, resp., 75, 50, 25% of the substance m, the ratios t_1/t_2 and t_1/t_3 depend on the value of a. The curves $t_1/t_2 = f_1(a)$ and $t_1/t_3 = f_2(a)$ give a means of detg. a with a fair precision. Michel Boudart

AUTHORS: Kupin, N. V.; Kalinin, N. I.; Shustrov, I. I.

MJW/JD/HM   IJP(c)   SOURCE CODE: UR/0229/65/000/010/0055/0055

ORG: none

TITLE: Spot welding of aluminum alloys with low-power machines

SOURCE: Sudostroyeniye, no. 10, 1965, 55

TOPIC TAGS: spot welding, aluminum alloy, welding electrode/ STE 34 electric transformer, MTP 150 welder, AMtsM aluminum alloy, AMg6M aluminum alloy, D16AT aluminum alloy, D16AM aluminum alloy

ABSTRACT: Experience has shown that the low-power MTP-150 spot-welding machine can be redesigned for aluminum-alloy spot-welding installations. The power of the machine is increased by connecting an STE-34 welding transformer as a booster in its primary circuit. It is suggested that the Al_2O_3 film be left on aluminum alloy parts to be spot-welded with low-power machines, since its presence facilitates heat removal. It is advisable, however, to remove the film from the electrode side of the part, since this reduces the contact resistance. The use of a special electrode (see Fig. 1) makes it possible to produce 25 to 30 spot-welds without cleaning the electrode. Electrodes with diameters of 7.5, 8.0, 8.5, and 9.5 mm should be used for welding metals 1.0, 1.2, 1.5, and 2.0 mm thick, respectively. Redesigning of the MTP-150 made

Card 1/2

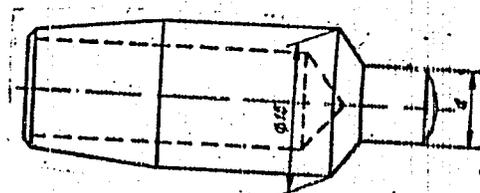UDC: 621.791.763.1 :669.715

L 9286-66

ACC NR: AP5028412

Fig. 1. Shape and size of electrode.

it possible to weld AMtsAM, AMg6M, D16AT, D16AM, and other aluminum alloys with thicknesses to 2--2.5 mm. Orig. art. has: 2 diagrams.

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 003

Card 2/2

KALININ, N.N., starshiy elektromekhanik

Stand equipped with low-power rectifiers. Avtom., telem. i sviaz' 2
no.10:23 O '58.
(MIRA 11:10)

1.Moskovskaya distantsya signalizatsii i svyazi Moskovsko-Kiyevskoy
dorogi.
(Railroads--Electric equipment)

KALININ, N.N.

Repeater useable for conversations over long-distance lines.
Avtom., telem. i sviaz' 3 no.4:35 Ap '59.   (MIRA 12:5)

1.Starshiy elektromekhanik Moskovskoy distantsii signalizatsii i
svyazi Moskovsko-Kiyevskoy dorogi.
                (Transistor amplifiers)

KALININ, N.N.

Utilizing the RP relay in communications between stations. Avtom. telem. i sviaz' 3 no.5:41 My '59.   (MIRA 12:8)

1.Starshiy elektromekhanik Moskovskoy distantsii signalizatsii i svyazi Moskovsko-Kurskoy dorogi.
                    (Electric relays)

BENENSON, Nata Moiseyevna; BOTSMAN, Mikhail Porfir'yevich; KALININ,
Nikolay Pavlovich; POPOVA, Zinaida Ivanovaa; PODGORSKIY,
Vsevolod Vital'yevich; BORZOV, V.P., kand. fiz.-mat. nauk,
red.; SHILLING, V.A., red.izd-va; GVIRTS, V.L., tekhn.red.

[Work practices of the spectrum analysis laboratory at the
"Radist" Plant]Opyt raboty spektral'noi laboratorii zavoda
"Radist." Leningrad, 1962. 10 p. (Leningradskii dom
nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom.
Seriia: Kontrol' kachestva produktsii, no.8) (MIRA 16:3)
(Spectrum analysis)

KALININ, N.V.; LITOVINSKIY, A.K.

Investigating the rigidity of the gear-rolling head for rolling
low-module gear wheels on automatic multispindle lathes.
Priborostroenie no.1:18 Ja '65.   (MIRA 18:3)

S/0119/64/000/003/0014/0018

ACCESSION NR: AP4022906

AUTHOR: Kalinin, N. V. (Engineer); Litovinskiy, A. K. (Engineer)

TITLE: Technological peculiarities of the process of cold shaping of small gears

SOURCE: Priborostroyeniye, no. 3, 1964, 14-18

TOPIC TAGS: gear shaping, gear rolling, small pitch gear, multispindle lathe, cold gear rolling

ABSTRACT: A discussion of cold rolling of small pitch gears from bar stock on an automatic multiple spindle machine (1240-6). Small steel gears with straight teeth may be made on this machine to the eighth class of accuracy (GOST 9178-58). The gear shaping head may be adjusted for various gear pitches and numbers of teeth. Further testing should be done on this machine for broadening the sizes and configurations of rolled gears and obtaining a higher degree of accuracy. Orig. art. has: 6 figures.

ASSOCIATION: none

Card 1/0

ACCESSION NR: AP4012341   S/0096/64/000/002/0070/0074

AUTHORS: Sokolov, Ye. Ya. (Doctor of technical sciences); Kalinin, N. V. (Engineer)

TITLE: Verification of accuracy of approximate equation for heat transfer equipment characteristics

SOURCE: Teploenergetika, no. 2, 1964, 70-74

TOPIC TAGS: heat transfer formula, coolant motion, coolant surface, heated surface, counter flow, direct flow, cross flow

ABSTRACT: An analysis was conducted to determine the accuracy of an approximate heat transfer formula derived by the senior author in 1957 and given by

$$q = \frac{1}{\frac{a}{W_6} + \frac{b}{W_u} + \frac{1}{kf}} < q_{\bullet}$$

kcal/kg degree where "a" and "b" are constant coefficients determined by the coolant motion configuration, q_u - specific heat transfer rate from an equivalent infinite coolant surface, W_M, W_b - lower and higher water equivalents of coolant, kf - heated surface. The above equation was nondimensionalized with respect to W_M

Card 1/2

ACCESSION NR: AP4012341

and its accuracy checked against more accurate exponential forms for three types
of coolant flows: counterflow heat transfer system, direct flow system, and
a cross flow system. In the first system a = 0.35, b = 0.65 and the maximum error
occurs at W_M/W_b = 0, i.e., 6.05%. In the second a = b = 0.65 with maximum error
of 6.2%. In the third system a = 0.425, b = 0.65, the maximum error is 6.38%. It
was found that in the range $0 < W_M/W_b < 1$ and $0 < kf/W_M < \infty$ the approximate
equation is accurate enough for practical engineering estimates. Orig. art. has:
16 formulas, 4 tables, and 2 figures.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Institute of Heat Power)

SUBMITTED: 00   ENCL: 00

SUB CODE: ME   NO REF SOV: 006   OTHER: 000

Card 2/2

KALININ, N.V.

Use of i, o-diagrams for thermodynamic calculations. Khol. tekh.
42 no.4:69-70 Jl-Ag '65.   (MIRA 18:9)

1. Moskovskiy energeticheskiy institut.

L 35843-66   EWT(1)/T   IJP(c)   AT/JAJ

ACC NR: AP6014987   SOURCE CODE: UR/0170/66/010/005/0596/0599

39

AUTHOR: Brodyanskiy, V. M.; Kalinin, N. V.

B

ORG: Moscow Power Institute (Energeticheskiy institut)

TITLE: Exergy of the flow of a substance with a change in the parameters of the surrounding medium

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 5, 1966, 596-599

TOPIC TAGS: fluid dynamics, flow analysis, gas flow

ABSTRACT: From the overall differential equation for the exergy

$$de = di - T_0 ds, \qquad (1)$$

substituting the quantity ds from the equation for an ideal gas, we get

$$de = di - T_0 \left(c_p \frac{dT}{T} - R \frac{dp}{p} \right). \qquad (2)$$

Integrating Equation (2) over the interval of the change in state from the state at any point to the parameters of the surrounding medium we write

$$e = c_p (T - T_0) - T_0 \left(c_p \ln \frac{T}{T_0} - R \ln \frac{p}{p_0} \right). \qquad (3)$$

Card 1/2   UDC: 536.75

L 35843-66

ACC NR: AP6014987

Dividing the left and right-hand sides of Equation (3) by the quantity T_0, we get an equation in dimensionless variables

$$e/T_0 = c_p(T/T_0 - 1) - c_p \ln(T/T_0) + R \ln(p/p_0). \qquad (4)$$

For convenience in calculation and in construction of a diagram in dimensionless variables, Equation (4) is written in the form

$$\ln \bar{p} = \bar{e} - \frac{c_p}{R}(\bar{T} - 1) + \frac{c_p}{R} \ln \bar{T}, \qquad (5)$$

where $\bar{T} = T/T_0$, $\bar{p} = p/p_0$, and $\bar{e} = e/RT$ are respectively the dimensionless temperature, pressure, and exergy of the substance. Based on this equation, the article gives a diagram for determination of the values of the exergy for any values of the parameters T_0 and p_0. To determine the necessary corrections at different pressures of the surrounding medium, a secondary diagram is presented by which the value of the correction Δe_p is found by the formula

$$\Delta e_p = RT_0' \ln(p_0'/p_0). \qquad (6)$$

Orig. art. has: 7 formulas and 2 figures.

SUB CODE: 20/ SUBM DATE: 22Dec65/ ORIG REF: 007/ OTH REF: 006

Card 2/2

KALININ, O.I.

       Tectonics of the Repetek zone of uplifts. Geol. nefti i
gaza 5 no.7:42-45 Jl '61.   (MIRA 14:9)

1. Vostochnaya geofizicheskaya ekspeditsiya No.3.
              (Kara Kum--Geology, Structural)

24(6), 24(3)

AUTHOR: Kalinin, O. M.

TITLE: On the Spectrum of Fluctuations in Complicated Physical
             Systems

ABSTRACT: The present paper theoretically investigates the
             fluctuations of physical quantities for the special case of
             an observed fluctuation $y(t)$ being brought about by a series
             of fluctuation processes $x_1(t)$, $x_2(t)$,...$x_N(t)$. For an
             example, this case is given when wanting to investigate the
             fluctuation of the carrier number in a semiconductor with

             complicated energy spectrum. In this case, $y(t) = \sum_{k=1}^{N} x_k(t)$

             holds, where $x_k(t)$ denotes the deviation of the occupation
             number in the k-th energy level from the mean value. For such
             and similar systems the problem of the spectra of intensity
             fluctuations is solved in the present paper. The author
             thanks M. I. Kornfel'd for having placed the problem and

Card 1/2

On the Spectrum of Fluctuations in Complicated Physical SOV/181-1-9-16/31
Systems

              D. N. Mirlin for his discussions. There are 7 references,
              4 of which are Soviet.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of
              Semiconductors of the AS USSR, Leningrad)

SUBMITTED: April 6, 1959

Card 2/2

KALININ, O.M.

Mathematical theory of marking. Prim. mat. metod. v biol.
no.2:161-169 '63. (MIRA 16:11)

KALININ, O.M. (Leningrad)

"THE MATHEMATICAL THEORY OF MARKING"

Report presented at the 3rd Conference on the use of Mathematics in Biology,
Leningrad University, 23-28 Jan. 1961.
    (Primeneniye matematicheskikh Metodov v Biologii. II, Leningrad, 1963 pp 5-11)

ZANINA, Ye.N.; KALININ, O.M.; FALEVA, T.A.

Theoretical information coefficient of correlations and
its use in the statistical analysis of anthropometric data.
Prim. mat. metod. v biol. no.2:107-109 '63.

(MIRA 16:11)

KOZLOV, Konstantin Yakovlevich; KALININ, O.V., red.; FREGER, D.P., red.
izd-va; BELOGUROVA, I.A., tekhn. red.

[Efficient equipment for assembling the frames of industrial build-
ings of precast reinforced concrete] Ratsional'naia osnastka i pri-
sposobleniia dlia montazha karkasa promyshlennykh zdanii iz sbornogo
zhelezobetona; iz opyta stroek Lensovnarkhoza. Leningrad, 1961.
24 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen pe-
redovym opytom. Seriia: Stroitel'naia promyshlennost', no.13)
                                                    (MIRA 14:9)

1. Instruktor peredovykh metodov truda tresta Orgtekhstroy Upravle-
niya stroitel'stva Lensovnarkhoza (for Kozlov).
    (Industrial buildings)   (Precast concrete construction)

KORNILOV, Aleksandr Ivanovich; MININ, V.F.[deceased]; ZINOV'YEV,
Anatoliy Yakovlevich; ZAGRYADSKIY, Vasiliy Ivanovich;
KALININ, O.V., red.; FREGER, D.P., red. izd-va; BELOGUROVA,
I.A., tekhn. red.

[Mesh-reinforced concrete roofs for industrial buildings;
experience of the "Orgtekhstroi" Trust and Trust No.44 of the
Administration of Construction of the Leningrad National
Economic Council]Armotsementnye pokrytiia dlia promyshlennykh
zdanii; iz opyta raboty tresta "Orgtekhstroi" i tresta No.44
Upravleniia stroitel'stva Lensovnarkhoza. Leningrad, 1962.
16 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Ob-
men peredovym opytom. Seriia: "Stroitel'naia promyshlennost',"
no.5)   (MIRA 15:8)
        (Roofing, Concrete)   (Industrial buildings)

KALININ, O.V.; KRINCHIK, Ye.P.

Multichannel programming device for an automatic supply of
stimuli. Vop.psikhol. no.6:124-127 N-D '62.   (MIRA 16:2)

1. Moskovskiy inzhenerono-fizicheskiy institut i otdeleniye
psikhologii Moskovskogo universiteta.
                  (Psychological apparatus)

KALININ,P.A.

Means of increasing the capacity of wineries. Vin.SSSR 15
no.3:39-40 '55.   (MIRA 8:8)

1. Sverdlovskiy vinzavod Glavnogo upravleniya vinodel'cheskoy
promyshlennosti (RSFSR)
                (Wine and wine making)

KALININ. P.D.

KREMS, A.Ya., doktor geologo-mineralogicheskikh nauk, zasluzhennyy deyatel'
      nauki i tekhniki RSFSR i Komi ASSR; KALININ, P.D., red.; KODAREV,
      P.A., tekhn.red.

      [Prospects for the development of the petroleum an d gas industries
      in the Komi A.S.S.R.; based on new data from geological prospecting]
      Perspektivy neftianoi i gazovoi promyshlennosti Komi ASSR; v svete
      novykh dannykh geologorazvedochnykh rabot. Syktyvkar, Komi knizhnoe
      izd-vo, 1957. 31 p.   (MIRA 11:2)
              (Komi A.S.S.R.--Petroleum industry)
              (Komi A.S.S.R.--Gas, Natural)

SOV-120-58-1-36/43

AUTHORS: Kalinin, P. D. and Kuznetsov, A. K.

TITLE: Programmed Temperature Control (Programmnoye regulirovaniye temperatury)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 1, pp 136-137 (USSR)

ABSTRACT: A description is given of a relatively simple attachment to an electronic potentiometer which will give temperature control according to any preset law. The law is given by the shape of a thin metal foil or the profile of a thin wire as shown in Fig.1. A special contact is made to follow the outline of the specially prepared foil or wire. This motion is then transformed into an electric signal which is used to control the temperature of a furnace in the required manner. The electrical circuit is shown in Fig.2. There are 3 diagrams and 2 English, 4 Soviet references.

ASSOCIATION: Institut khimii silikatov AN SSSR (Institute of the Chemistry of Silicates, Academy of Sciences of the USSR)

SUBMITTED: June 24, 1957.

1. Temperature--Control   2. Potentiometers--Applications
3. Furnaces--Control systems

Card 1/1

AUTHORS: Kalinin, P. D., Kuznetsov, A. K.   SOI/76-32-7-30/45

TITLE: An Automatic Recording Balance (Avtomaticheskiye registriruy-
               ushchiye vesy)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 7,
               pp 1658 - 1660 (USSR)

ABSTRACT: In the introduction some designs of balances for measurements
               according to Chevenard (Ref 9) and large thermal balances with
               a Kurnakov pyrometer are described. The authors describe an
               apparatus which automatically records the weight loss and the
               furnace temperature, and which consists of an analytical scale,
               a selenium photoelement FSS-3U , an electronic amplifier UA-109
               a reversing motor RD-109, a potentiometer PP , an electronic
               double-point potentiometer EPP -09 and a furnace. From the
               schematic representation and the description may be seen that
               the photoelement is divided into two halves, by which means
               the balancing on a reduction of weight or on an increase of
               weight may be obtained. A platinum wire serves for the com-
               pensation of the weight changes; it is calibrated with ana-
               lytical weights. Hence, the potentiometer is also calibrated in weight
Card 1/2   units. The measuring accuracy of the weight loss is given to be

An Automatic Recording Balance   SOV/76-32-7-30/45

0.1g and less, the analytical scales having a sensitivity of
0.001 g. A diagram of the dehydration of boric acid is given as
example, from which may be seen that the separation of water
takes place in two stages: the first at 120 - 250° and the
second at 250 - 340°, which corresponds with data in publica-
tions. There are 3 figures and 11 references, 6 of which are
Soviet.

ASSOCIATION: Institut khimii silikatov, AN SSSR, Leningrad (Leningrad, Institute
            of Silicate Chemistry, AS USSR)

SUBMITTED: December 9, 1957

            1. Balances--Design   2. Balances--Performance   3. Recording
            devices--Applications   4. Dehydrators--Control systems
            5. Control systems--Calibration

Card 2/2

KALININ, P.D.

Technological evaluation of the Shark winter wheat grown
under different soil and climatic conditions in the Azer-
baijan S.S.R. Izv. AN Azerb. SSR.S$_e$r.bio. i med. nauk no.8:
33-38'61.   (MIRA 16:8)
(AZERBAIJAN—WHEAT—VARIETIES)

KALININ, P. F.

SOROKIN, G.V.; KALININ, P.F.

Experience of A.A. Zakharov's boring brigade. Gor. shur. no.4:
18-19 Ap '57.   (MLRA 10:5)

1. Leninogorskiy polimetallicheskiy kombinat.
            (Boring) (Zakharov, A.A.)

KALININ, P.F.

Reagent feeding device. TSvet. met. 33 no.6:86-87 Je '60.
(MIRA 14:4)

1. Leninogorskiy polimetallicheskiy kombinat.
(Metallurgical laboratories--Equipment and supplies)

KALININ, F. G.

DAL', I.Z.; KALININ, P.G.; TRUBACHEV, T.Ye.

Over-all mechanization of the production of spare parts.
Zel.dor.transp. 39 no.4:42-48 Ap '57.   (MLRA 10:5)

1.Nachal'nik proyektno-konstruktorskogo otdela Lyublinskogo
liteyno-mekhanicheskogo zavoda. (for Dal') 2.Nachal'nik planovogo
otdela lyublinskogo liteynomekhanicheskogo zavoda (for Kalinin)
3. Nachal'nik otdela promyshlennykh predpriyaniy TsPEU Ministerstva
putey soobshcheniya .
                    (Lyublino--Steel works)

DAL', Ivan Zinov'yevich; KALININ, Petr Georgiyevich; TAYTS, Zakhar
Semenovich; GUROV, S., red.; YEGOROVA, I., tekhn.red.

[Over-all mechanization and business accounting; work practice
at the Lublin Foundry Machinery Plant] Kompleksnaia mekhani-
zatsiia i khozraschet; iz opyta raboty Liublinskogo liteino-
mekhanicheskogo zavoda. Moskva, Mosk.rabochii, 1959. 94 p.
(MIRA 12:10)

(Lublin--Railroads--Rolling stock) (Machine accounting)

29388

S/177/61/000/005/002/003
D264/D305

27.22100

AUTHOR: Kalinin, P.I., Lieutenant-Colonel, Medical Corps

TITLE: A comparative estimate of certain methods of
determining the ear's barofunction

PERIODICAL: Voyenno-meditsinskiy zhurnal, no. 5, 1961, 76-77

TEXT: Due to the lack of any such comparison in specialist
literature, the author made a comparative appraisal of two
means of determining the ear's barofunction: a) by using an
MO -1 (MO-1) otomanometer, and b) by otoscopy according to the
"sail" phenomenon, in both cases with barometric pressure drops
in a pressure chamber. The pressure drops simulated loss of
height at a rate of 25-50 meters/sec. The degree of the ear's
barofunction was determined after the test in the pressure cham-
ber by examining the tympanic membrane and from the subject's
complaints. In 11 out of 124 cases the ear's barofunction was

Card 1/2

29388
S/177/61/000/005/002/003
D264/D305

A comparative estimate ...

not accurately determined by otomanometry. The error comprised 9%. The otoscopy method showed only 4% error but in 26.6% of the cases the barofunction could not be determined by this method. Barofunction disturbances were noted in 23.5% of the persons in this group. Consequently, determination of the barofunction by using an MO-1 otomanometer reflects the true situation in most cases. The use of the otoscopy method is restricted by the individual anatomical features of the tympanic membranes. In all uncertain cases the barofunction should be checked by otomanometry.

SUBMITTED: August 1960

Card 2/2

KALININ, P.I.; SOKOLOVA, A.A.

Study of the electrical activity of the reticular formation of the mesencephalon in the rabbit during extinction of the "activation reaction" in response to indifferent stimuli. Fiziol.zhur. 47 no.5:535-541 My '61.   (MIRA 14:5)

1. From the N.N.Burdenko Institute of Neurosurgery, U.S.S.R. Academy of Medical Sciences, and the Institute of Higher Nervous Activity, U.S.S.R. Academy of Sciences, Moscow.
       (BRAIN)   (CEREBRAL CORTEX)

KALININ, P.I.;. SOKOLOVA, A.A.

Electrical activity of the reticular formation of the midbrain of a rabbit during the formation of a dominant focus in the cerebral cortex. Zhur. vys. nerv. deiat. 11 no.6:1112-1119 N-D '61.
(MIRA 15:3)

1. Burdenko Institute of Neurosurgery, U.S.S.R. Academy of Medical Sciences, and Institute of the Higher Nervous Activity and Neurophysiology, U.S.S.R. Academy of Sciences, Moscow.
(ELECTROENCEPHALOGRAPHY)
(BRAIN)

KALININ, P.I.; LYU KHAN'-SHEN' [Liu Han-shên]

Role of the reticular formation of the midbrain and the thalamus in the formation of motor diminance. Trudy Inst.vys.nerv.deiat. Ser.fiziol. 7:57-68 '62. (MIRA 16:2)
(BRAIN) (ELECTROPHYSIOLOGY)

KALININ, P.I.

Effect of polarization of the lateral and median geniculate body
on the motor dominant in rabbits. Fiziol. zhur. 50 no.3:252-258
Mr '64.   (MIRA 18:1)

1. Institut vysshey nervnoy deyatel'nosti i neyrofiziologii AN
SSSR i Institut neyrokhirurgii imeni akademika N.N. Burdenko
AMN SSSR, Moskva.

Glue   P. V. Kanno   *Russ.* ....., ... and.
Animal waste is treated with naphthenesulfonic acid,
let stand for 15–25 hrs., washed and finally heated to the
m. p.

15

Adhesive preparations. P. V. Kanno. U.S.S... 104.–

KALININ, P.V.

White phlogopite from Slyudanka marbles. P. V. Kalinin. *Mem. Soc. Russe Mineral.* 74, No. 1... (in Russian). Analyses approximate the ratio $K:OH:Mg:(AlSi) = 1:2:3:4$ within 1.5% corresponding to (OH), $KMg_3(AlSi_3O_{10})$; sp. gr. 2.744-2.78. Colorless crystals, without distinct pleochroism, optically neg. as for 2 samples, γ 1.575, 1.582; α 1.548, 1.545; 2r 0.5°1', 6°30'. The mineral appears sometimes to be mistaken for muscovite.

N. Thon

KALININ, P.V.

Hyalophane from the Slyudyanka River. P. V. Kalinin. *Compt. rend. acad. sci. U. R. S. S.* **23**, 163–4(1939)(in English).—Two hyalophanes analyzed: SiO_2, 59.85, 59.54; TiO_2, trace, —; Al_2O_3, 20.64, 20.12; Fe_2O_3, —, 0.17; FeO, —, 0.29; MnO, —, —; MgO, 0.21, 0.04; CaO, 0.80, 0.20; BaO, 6.92, 6.75; K_2O, 11.07, 10.93; Na_2O, 0.83, 2.80; SO_3, not detd., 0.28; loss on ignition, 0.12, 0.10; H_2O, 0.12, —; total, 100.82, 100.30%. Spectroscopic detn. gave SrO about 0.5%. These analyses correspond to 13.25 and 12.98% celsian, resp.   D. W. P.

ASM SLA   METALLURGICAL LITERATURE CLASSIFICATION

C A
KALININ, P.V.

8

Main types of phlogopite deposits in the Slyudyanka region. P. V. Kalinin. *Trans. All-Union Sci. Research*

Inst. Econ. Mineral. (U. S. S. R.) No. 150, 115-75(English summary, 348-50)(1939). Deposits of dark phlogopites, commercially most important, are connected with pyroxene-amphibole gneisses. Unikan phlogopites are confined to green diopside rocks; those of amber and cherry-red color are found in biotite gneisses and aplite-like gneisses; the light-colored grades ("silver" and "bronze" phlogopites), in marbles and green diopside rocks; finally, the black phlogopites, in highly ferruginous varieties of pyroxene-amphibole gneisses. The phlogopite veins are usually situated across the strike of the enclosing rocks, mostly in the form of elongated lenses 50-100 m. long and a thickness seldom exceeding 1 m., but also as pockets or shells. A typical vein comprises a core of coarse-cryst. calcite with apatite, followed by zones of phlogopite, and of scapolite and diopside which merge into the surrounding rock. In the vertical direction, diopside and scapolite are zoned, nearer to the bottom and calcite at the top of the vein.   B. C. Metzner

Minerals of the Slyudyanka region P. V. Kalinin. *Trans. All-Union Sci. Research Inst. Econ. Mineral.* (U. S. S. R.) No. 150, 170-244(English summary, 349-50)(1939). A total of 91 minerals has been recorded in the region. As far as available, a description of each mineral is given including mode of occurrence, frequency, distribution, phys. and chem. properties, paragenesis and modifications. The chief minerals occurring in phlogopite veins (phlogopite, calcite, diopside, apatite, scapolite and hornblende) and in pegmatite veins are treated in considerable detail.   B. C. Metzner

KALININ, P.V.

Garnets from pegmatite veins of Southern Transbaikalia. P. V. Kalinin. *Trudy Moskov. Geol.-Razvedochnogo Inst. im. S. Ordzhonikidze* 28, 39-46(1955).—The garnets belong to the subgroups of almandite, andradite, and spessartite. Almandite (with 30% pyrope mol.) dominates, especially in rocks high in Al_2O_3 and FeO, and excess SiO_2, but low in alkalies, CaO and MgO. The andradite (assocd. often with albite) is typical for microcline pegmatites cutting dolomite and diopside rocks, high in CaO, and with abundant pyroxenes, sphene, and calcite. This occurrence of andradite is remarkable since many authors have denied its existence in pegmatitic rocks. Mn garnets are restricted to tourmaline-muscovite pegmatites of the Proterozoic and Archean granites of Sayan-Stan and Slyudyansk. The wide variability of the chem. compn. of the garnets is illustrated by selected analyses, in comparison with the compn. of the mother rocks. The spectral-analytical examn. shows the presence of Ga, Ge, V, Ti, Na, Zr, Sc, Cu, Cr, Ba, Pb, Zn, Ni, and rare earth elements in almandite; that of Sn, Ge, Zr, Ga, V, Sr, and rare earth elements in andradite; that of Be, Sn, Ga,

Ge, V, Cu. Zn, Ni, and rare earth elements in spessartite. Specific is the occurrence of Sc, Ba, Pb, Cr in almandite; of Sn and Sr in andradite; of Be, Sn in spessartite. Jaffe (*C.A.* 47, 6828a) is in error if he concludes that in andradite the elements of the rare earths are absent, but are specific for spessartite. He examd. only andradites from skarns, not those in pegmatites. Andradite and almandite in the pegmatites of Transbaikalia doubtless were formed by the assimilation of country rocks in the pegmatite melts, especially if biotite-garnet gneisses and carbonate rocks are concerned. The theory of Makharin (*Izvest. Vostoch.-Sibir. L'vov. Geol. Obschchestva* 1949, No. 1) that the garnets of pegmatites in the Trans-Dnieper region have been formed by metasomatic reactions of plagioclase in pegmatite and gneisses by hydrothermal soln. is not suitable for the explanation of the genesis of the garnets in the Transbaikalian pegmatites.   W. Eitel

KALININ, P.V.

Paragenesis of spinels in the southern Baikal region. Trudy MGRI
29:16-37 '56.   (MIRA 10:4)
        (Baikal region--Spinel group)

KALININ, P.V.; ROMENSON, B.M.

Geological-structural characteristics and genesis of Slyudyanka phlogopite deposits. Sov. geol. no.58:56-73 '57.   (MIRA 11:2)

1.Moskovskiy geologo-razvedochnyy institut imeni S. Ordzhonikidze.
(Baikal region--Phlogopite ores)

KALININ, P.V.; STANKEYEV, Ye.A.

    Nikolai Alekseevich Smol'ianinov; obituary. Min.sbor.
    no.11:406-409 '57.   (MIRA 13:2)
        (Smol'ianinov, Nikolai Alekseevich, 1885-1957)

AUTHORS: Kalinin, P.V., Stankeyev, Ye.A.   SOV-5-58-2-10/43

TITLE: Nikolay Alekseyevich Smol'yaninov

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody -
             Otdel geologicheskiy, 1958, Nr 2, pp 117-120 (USSR)

ABSTRACT: This is an obituary on Nikolay A. Smol'yaninov, Member of
             the Moskovskoye obshchestvo ispytateley prirody (Moscow
             Society of Naturalists), honored scientist and engineer of
             RSFSR, Doctor of Geological-Mineralogical Sciences, Director
             of the chair for mineralogy and crystallography of the Moscow
             Institute of Geological Prospecting imeni S. Ordzhonikidze,
             and Professor at the Moscow University imeni M.V. Lomonosov.
             There is 1 photograph and 36 Soviet references.

             1. Scientific personnel—USSR

Card 1/1

KALININ, P. V.: Doc Geolog-Mineralog Sci (diss) -- "The mineralogy and genesis

of pegmatites and related mineral formations in Slydudyannkiy Rayon (southern

Baykalia)". Moscow, 1959. 34 pp (Min Higher Educ USSR, Moscow Geological Pros-

pecting Inst im S. Ordzhonikidze, Chair of Mineralogy), 150 copies (KL, No 9,

1959, 113)

KALININ, P.V,

Bicentennial of the Mineralogical Museum of the Moscow
Geological Prospecting Institute. Izv. vys. ucheb. zav.;
geol. i razv. 3 no.6:3-17 Je '60.   (MIRA 14:7)

1. Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze.
         (Moscow—Mineralogical museums)

KALININ, P.V.

Orthite of pegmatite veins in Eastern Siberia.   Trudy MGRI   37:82-89
'61.   (MIRA 15:1)

(Siberia, Eastern--Allanite)

KALININ, P.V.

Lomonosov's traditions in Russian mineralogy; on the 250th
anniversary of his birth. Izv.vys.ucheb.zav.; geol. i razv.
4 no.12:3-15 D '61.   (MIRA 15:2)

1. Moskovskiy geologorazvedochnyy institut imeni S.Ordzhonikidze.
       (Lomonosov,Mikhail Vasil'evich,1711-1765)(Mineralogy)

KALININ, P.V.

V.I.Vernadskii, an outstanding mineralogist and geochemist.
Izv.vys.ucheb.zav.; geol.i razv. 6 no.3:3-12 Mr '63. (MIRA 16:5)

1. Moskovskiy geologorazvedochnyy institut imeni S.Ordzhonikidze.
                    Vernadskii, Vladimir Ivanovich, 1863-1945)

KALININ, P.V.

Systematizing the pegmatites of the Vishnevyye Mountains. Izv. vys. ucheb. zav.; geol i razv. 7 no.10:43-60 O '64.   (MIRA 18:7)

1. Moskovskiy geologorazvedochnyy institut im. S.Ordzhonikidze.

KALININ, Petr Yefrevich; GANSHTAK, V.I., kand. ekon.nauk, retsenzent;
VARNACHEV, A.N., inzh., red.; DUGINA, N.A., tekhn. red.

[Economics and the organization of production in heat-
treatment workshops]Ekonomika i organizatsiia proizvodstva
v termicheskikh tsekhakh. Moskva, Mashgiz, 1962. 111 p.
(MIRA 15:9)

(Machinery industry)   (Metals--Heat treatment)

KALININ, Petr Yegorovich; GANSHTAK, V.I., kand.ekon. nauk, retsenzent;
VARNACHEV, A.N., inzh., red.; DUGINA, N.A., tekhn. red.

[Economics and production organization in heat-treatment work-
shops]Ekonomika i organizatsiia proizvodstva v termicheskikh
tsekhakh. Moskva, Mashgiz, 1962. 111 p.   (MIRA 16:1)
                (Machinery industry--Management)
                    (Metals--Heat treatment)

BUCHNEV, V.K., prof., doktor tekhn. nauk; KALININ, R.A., dotsent; KORABLEV,
A.A., kand. tekhn. nauk; MONIN, G.I., inzh.; BELYAYEV, V.S., kand.
tekhn. nauk; MERKULOV, V.Ye., inzh.; ALEKSEYENKO, V.D., inzh.;
IL'SHTEYN, A.M., kand. tekhn.nauk; GELESKUL, M.N., kand. tekhn.nauk;
KOBISHCHANOV, M.A, kand. tekhn.nauk; DOBROVOL'SKIY, V.V., kand.
tekhn. nauk; MALYSHEV, A.G., inzh.; VOROPAYEV, A.F., prof., doktor
tekhn. nauk; LIDIN, G.D., prof., doktor tekhn.nauk; TOPCHIYEV, A.V.,
prof.; VEDERNIKOV, V.I., kand. tekhn.nauk; KUZ'MICH, I.A., kand.
tekhn. nauk; LEYTES, Z.M., inzh.; SYSOYEVA, V.A., kand. tekhn. nauk;
MELAMED, Z.M., kand. tekhn.nauk; CHERNAVKIN, N.N., inzh.;
KARPILOVICH, M.Sh., inzh.; MEL'KUMOV, L.G., inzh.; BOGOPOL'SKIY,
B.Kh., inzh.; FROLOV, A.G., doktor tekhn.nauk; KHVOSTOV, F.K.,
inzh.; BAGASHEV, M.K., kand. tekhn. nauk; KAMINSKIY, I.N., inzh.;
PETROVICH, T.I., inzh.; ZHUKOV, V.V., red. izd-va; LOMILINA, L.N.,
tekhn. red.; PROZOROVSKAYA, V.L., tekhn. red.

[Mining engineers' handbook]Spravochnik gornogo inzhenera.
Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1960.
(MIRA 14:1)
(Mining engineering—Handbooks, manuals, etc.)

AGACHEV, Pavel Yegorovich; KALININ, R.A., retsenzent; TOPAZOV, N.G.,
retsenzent; KORMAN, A.G., kand. tekhn. nauk, nauchnyy red.;
PADVO, A.B., nauchnyy red.; KLIORINA, T.A., red.; FRUMKIN, P.S.,
tekhn. red.

[Course in higher mathematics for students of technical cor-
respondence schools and for self-teaching] Kurs vysshei mate-
matiki dlia uchashchikhsia zaochnykh tekhnikumov i samoobrazo-
vaniia. Leningrad, Gos. soiuznoe izd-vo sudostroit. promyshl.
1961. 671 p.   (MIRA 14:10)
                         (Mathematics)

KALININ, Robert Avgustovich; GUTER, R.S., retsenzent; GRUDNIKOV,
V.I., retsenzent; SHIROKOVA, S.A., red.

[Algebra and elementary functions] Algebra i elementarnye
funktsii. Moskva, Nauka, 1964. 477 p.   (MIRA 18:4)

KOLESOV, I.;KALININ, S.

Milk receiving stations on collective farms. Moloch. prom. 18 no.4:
29 '57.   (MIRA 10:4)

1. Leningradskiy trest.
     (Milk)

KALININ, S., general-leytenant v otstavke

To Lenin for the truth. Voen. vest. 41 no.4:7-9 Ap '62.
(MIRA 15:4)

(Russia--Revolution, 1917-1921)
(Lenin, Vladimir Il'ich, 1870-1924)

KALININ, S.

Results of the competition on protection of the atmosphere and
reservoirs against industrial wastes from coal industry enter-
prises. Ugol' 39 no.11:75,1 N '64.   (MIRA 18:2)

KALININ, S.A., inzh; KORENEVSKIY, M.V., inzh.

Operation of electric locomotives on long haul distances. Zhel. dor. transp. 44 no.3:55-61 Mr '61. (MIRA 15:3)

1. Zamestitel' nachal'nika Moskovskoy dorogi (for Kalinin).
(Electric locomotives)

TROSTIN, Ye.A., inzh.; KALININ, S.A., inzh.; KORENEVSKIY, M.V.,
        inzh.; NOVIKOV, V.N., inzh.; DROBINSKIY, V.A., inzh., red.
        YUDZON, D.M., tekhn. red.

        [Illustrated handbook for the locomotive engineer] Illiustri-
        rovannoe posobie parovoznomu mashinistu. Moskva, Transzhel-
        dorizdat, 1963. 280 p.   (MIRA 16:7)
                (Locomotives--Handbooks, manuals, etc.)

KALININ, S.A., inzh.

Catamarans with sails. Sudostroenie 29 no.11:78 N '63.
(MIRA 16:12)

YUNAKOV, A.A.; BOBROVSKIY, S.I.; ALIYEV, R.A.; BELOVASHINA, N.M.; KALININ, S.D.; YEFEYKIN, A.K.

In the Botanical Society of the U.S.S.R. Bot.zhur. 50 no.10:1505-1506 O '65. (MIRA 18:12)

1. Vsesoyuznoye botanicheskoye obshchestvo, Leningrad (for Yefeykin).

KALININ, S. D.

Kalinin, S. D. - "The adaptation of the plants to settlement in various locations,"
Yestestvoznaniye v shkole, 1949, No. 1, p. 60-63

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

VIL'CHINSKII,V.L.; KALININ,S.G.

Stamping attachment for making woodscrews. Rats. i izobr. predl. v
stroi. no.103:11 '54.   (MIRA 8:11)
                    (Screw—Cutting machines)

KALININ, S. G., Cand of Tech Sci -- (diss) "Study of the Dynamics of

Drilling Assemblies during Drilling Operations," L'vov, 1959, 17 pp

(L'vov Polytechnical Institute) (KL 4-60, 119)

KALININ, S.G.

Necessity of the use of an elastic compensator in a drilling shaft. Izv.vys.uchet.zav.; neft' i gaz 6 no. 12:23-28 '63.

(MIRA 17:5)

1. L'vovskiy politekhnicheskiy institut.

KALININ, B.C.

Concerning the loads on a drilling string when it is lifted taking into consideration the resistance forces in the well.
Neft. khoz. 42 no.12:14-16 D '64   (MIRA 18:2)

KALININ, S.G.

Effect of resistance forces in a well on the dynamic loads in the drilling string when it is hoisted. Burenie no.9:21-22 '64.

(MIRA 18:5)

1. L'vovskiy politekhnicheskiy institut.

KALININ, S.G.

Dynamics of the hoisting of a drilling string in the presence of con-
centrated resistance in the well. Izv. vys. ucheb. zav.; neft' i gaz
8 no.6:29-33 '65.   (MIRA 18:7)

1. L'vovskiy politekhnicheskiy institut.

KALININ, S.G.

Determining the vertical load on a derrick. Izv. vys.
ucheb. zav.; neft' i gaz 7 no.11:93-97 '64.

(MIRA 18:11)

1. L'vovskiy politekhnicheskiy institut.

KALININ, S.I.

Unique natural catalyst. Trudy SGPK no.1:241-254 '60.

(MIRA 13:10)

(Catalysts)

KALININ, S.I.

Prospecting for oil and gas in Africa in 1962. Geol. nefti i
gaza 7 no.12:48-50 D '63.   (MIRA 17:8)

KALININ, S.I.

Present status of the oil and gas industry of the basic oil
producing countries of southeastern Asia. Trudy VNIGNI no.42,
133-139 '64.

Geotectonic regionalization of India, Pakistan, and Afghanistan
in connection with their oil and gas potential. Ibid.:140-149

(MIRA 18:3)

KALININ, S.I., inzh.-mekhanik

From the diary of a mechanic. Put' i put. khoz. 9 no.12:35-36 '65.
(MIRA 19:1)

1. Stantsiya Rostov-Yaroslavskiy, Severnoy dorogi.

KALININ, S.K.

Physicochemical data for the vacuum evaporation of solutions of magnesium chloride. V. K. Permikin AND S. K. Kalinin. J. Chem. Ind. (Moscow) 1932, No. 12, 16-17 —The b. ps. of solns. of MgCl₂ at concns. of 100-855 g. per kg. H₂O are given at pressures of 100-760 mm. The vapor-pressure curves are also given. The tendency toward hydrolysis of MgCl₂ at the b. p. of its solns. decreases with the pressure.   H. M. Leicester

A S M S L A   METALLURGICAL LITERATURE CLASSIFICATION

Preparation of dehydrated magnesium chloride by means of ammoniate. V. K. Pershke and S. K. Kalinin.—Kohl 1933, No. 0, 17-21.—Lab. expts. were made to verify Brit. pat. 330,650 (C. A. 24, 5048) for the prepn. of dehydrated $MgCl_2$. NH_3 gas was passed through a soln. of $MgCl_2$ contg. NH_4Cl to form the ammoniate ($MgCl_2.6NH_3$; $MgCl_2.2NH_3$; $MgCl_2.NH_3$). The best results were obtained with a soln. of 17.5% $MgCl_2$ and 6% NH_4Cl at 20° when practically all of the $MgCl_2.6NH_3$ is pptd. out. $MgCl_2$ of 98-99% dehydration was obtained.

James Sorrel

CH

PROCESSES AND PROPERTIES

8

The chemical composition of some antimony minerals.

I. P. Novokhatskii and S. K. Kalinin. *Mineral. Syr'e*
1937, No. 9, 29-31; *Khim.* *Referat. Zhur.* 1, No. 2,
46(1938).—A spectrochem. method of analysis for Sb is
given. The Turgaiskii and Uspenskii deposits in the
Kazakhstan are described. Besides Sb and the usual
elements found with it (Si, Al, Fe, Ca and in some de-
posits Mg) were found Pb, Cu, As and Mo, as well as
Ag and Hg in the oxides of Sb. Of most geochem. interest
is the presence in all samples of Mo in com. quantity.

No Sn or Ge is mentioned. The authors do not attempt
to explain the geochem. role of Mo in the crystal lattices
of Sb minerals, but it may be explained by the rule of
polar isomorphism of A. E. Fersman (cf. *C. A. 30*,
4377¹).   W. R. Henn

A16-1LA   METALLURGICAL LITERATURE CLASSIFICATION

Mineral borate deposits of Inder, central Asia. S. K. Kulinin and V. I. Nikolaev. *Mineral. Syr'e* 12, No. 3, 17-29(1937).--The borates identified were *inyoite*, *ascharite*, *hydroboracite*, *colemanite* and *inyoite*. The chem. compn., ds., crystallography and phys. properties of the natural and synthetically prepd. borates agreed closely with the data in the literature.   Chas. Illane

Spectroscopical analysis of the products of lead and zinc plants. S. A. Borovik and S. K. Kalinin. *Compt. rend. acad. sci. U. R. S. S.* 19, 257 &(1938)(in English). Various metallurgical products at lead plants were examined spectroscopically with a Hilger quartz spectrograph to determine the rare elements present. Many of the samples examined were found to have a complex chemical composition and contained as many as 25 different elements; Ge, In, Ga, Co, Ni, Mo, V, Cd, As, Sb, Bi and Sn were found indicating the advisability of submitting products to a spectroscopic analysis prior to chem. analysis.
M. McMahon

ASM-SLA   METALLURGICAL LITERATURE CLASSIFICATION

Strontium as a chemical indicator. V. I. Nikolaev and S. K. Kalinin. *Compt. rend. acad. sci. U. R. S. S.* 20, 105-6(1938)(in English).—The percentage of Sr in the solid residues from natural waters or salt deposits can be used to det. their origin. Concns. of Sr ions of over 0.02% are characteristic of salt deposits of Permian origin, and concns. not over 0.01 to 0.02% are characteristic of Caspian deposits and natural waters.   L. E. Steiner

Molybdenum in ores of Kazakhstan (Russia). I. P.
Novokhatskii and A. K. Lichin. *Vestnik Metal.* 1949,
No. 1-5, 40-9. Mo occurs widely distributed as admixt.
in various ores of Kazakhstan, particularly in assocn with
Pb ores. The presence of Mo in some of the Cu ore de-
posits points to its origin from granodiorite-monzonite
magmas. In some localities the contents of wulfenite are
of comm. interest.　　　　　　　　　　B. N. D
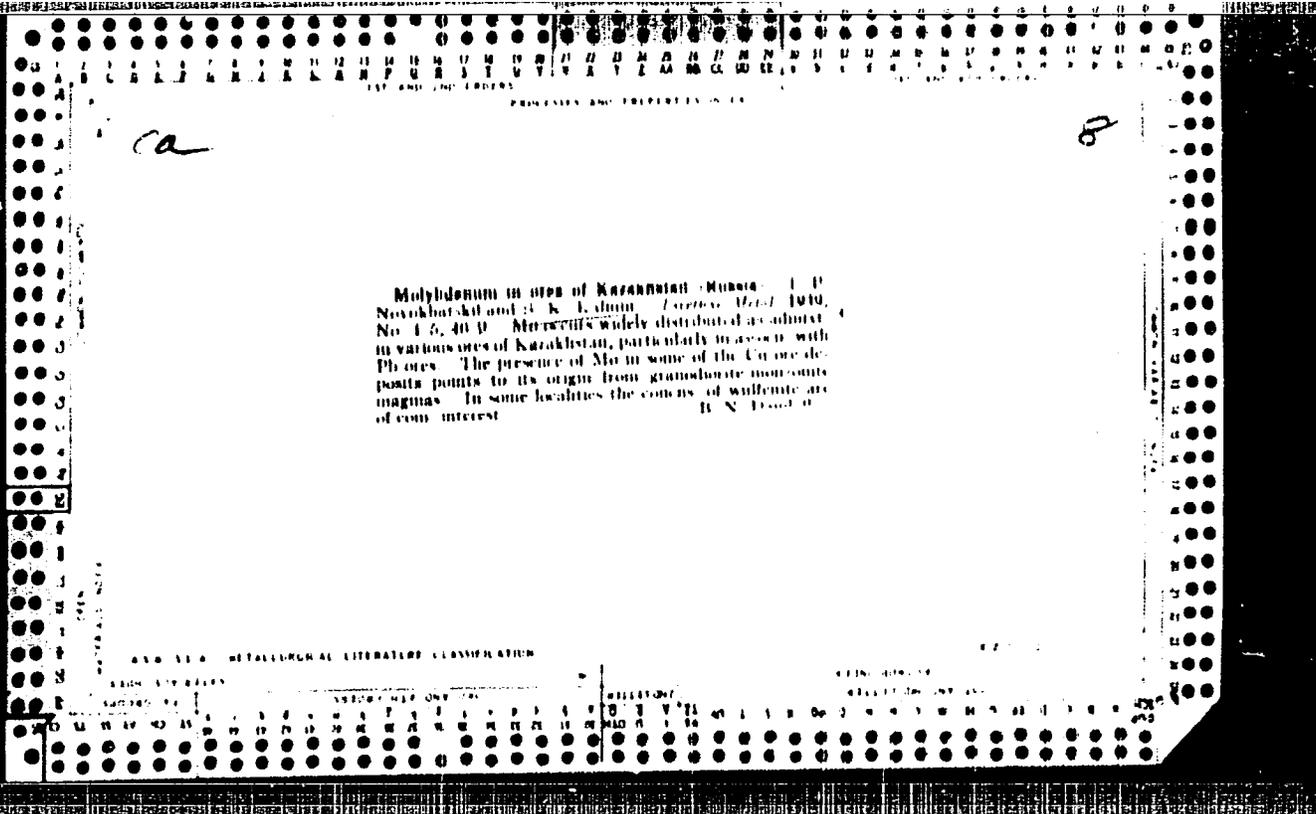
Ca

8

Chemical composition of Mal Kain ores (Russia)
D. A. Tunderyskii and S. K. Kalman. *Izvest. Uzbek.*
1939, No. 12, 8-11. The Mal-Kain ore deposits situated
near the city of Pavlodar, Russia, can be divided into 2
types: Au-Ag bearing ores and polymetallic Cu-Pb-Zn
ores. The results of mineralogical and chemical studies are
summarized as follows: The Au-Ag ores are being exploited
for Au and Ag and contain sufficient Cu and S for com.
exploitation. The polymetallic deposits contain Au, Ag,
Cu, Zn and Pb in sulfide ores in sufficient quantities for
com. exploitation. Of the rare metals, Se and In are found
in com. quantities in sulfide ores. Other metals found in
small quantities are, Mo, Sn, As, Sb, Ga, Ni, Co and V.
H. N. Daniloff

Spectroscopic character of the thermae of the Transilian Alatau (Tyan-Shan). I. P. Novokhatskii and S. K. Kalinin, Compt. rend. acad. sci. U. R. S. S. 22, 333 4 (1939)(in English). The radioactive warm and hot springs of Tyan-Shan contain (0.27 to 1.8 g./l. of dry residue) Na₂SO₄, some H₂S and N₂. Analysis (g. per l.) of water from Alma-arasan spring No. 1 was: KCl 0.0002, NaCl 0.0151, Na₂SO₄ 0.0712, Na₂CO₃ 0.0684, Ca bicarbonate 0.0005, CaSO₄ 0.0073, MgSO₄ 0.0021, NaHS 0.0073 and H₂SiO₃ 0.0732. Spectroscopic analysis of the dry residues from 10 water samples shows the presence of traces of Al, Fe, Mo, Cu, Zn, Pb, Ni, Li, Sr, B, Ag, Sn, Ge and Mn variously distributed in the residues.

George Ayers

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Indium in the waste of the Chimkent lead works. I. P. Novokhatskil and S. K. Kalnin. *Compt. rend. acad. sci. U. R. S. S.* **22**, 425-6 (1939) (in English)—The presence of 0.001% In in Kara-Mazare lead-bearing zinc ores is the source of this element in the waste from the Chimkent lead works, whereas ores from Karatau are In-free. In the near future In-rich ores (0.1%) from Ack-Tiuse and Bu-Tdu (northern Kirghizia) will be treated at the Chimkent plant. Authors recommend that In-rich and In-poor ores be smelted separately. Indium is not sepd. from Zn in the sintering process (700 to 750°), but rather is sepd. in the smelting process (1100-1200°); it is concd. both in the Cottrell dust app. and in lead. From the latter it becomes sepd. and enriched in the slickers. The dust from small blast furnaces smelting these slickers contains 0.1% In.   L. W. Strock

ASM-SLA METALLUPGICAL LITERATURE CLASSIFICATION

BC

a - 2

Molybdenum in mineral, mine, and surface waters. I. P. NOVOORATZKI and S. K. KALININ (Compt. rend. Acad. Sci. U.R.S.S., 1930, 26, 278-279).—Mo is widespread in waters in Russia, the highest Mo content (0·06% of dried residue) being found in thermal springs connected with granites and diorites. Lower Mo content is found in waters connected with Cu or polymetallic deposits containing Mo. The low content of surface waters is attributed to adsorption of Mo by freshly pptd. Fe and Mn hydroxides.   C. R. H.
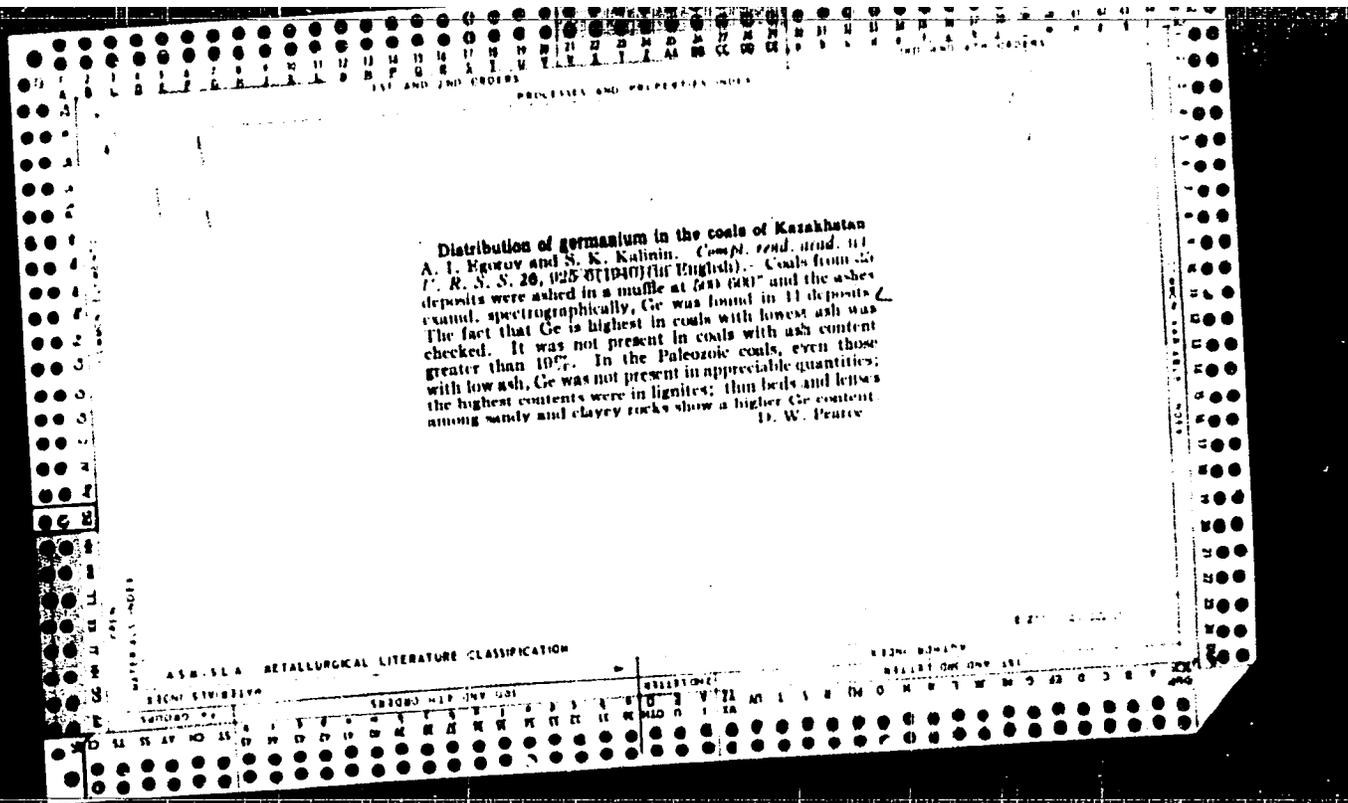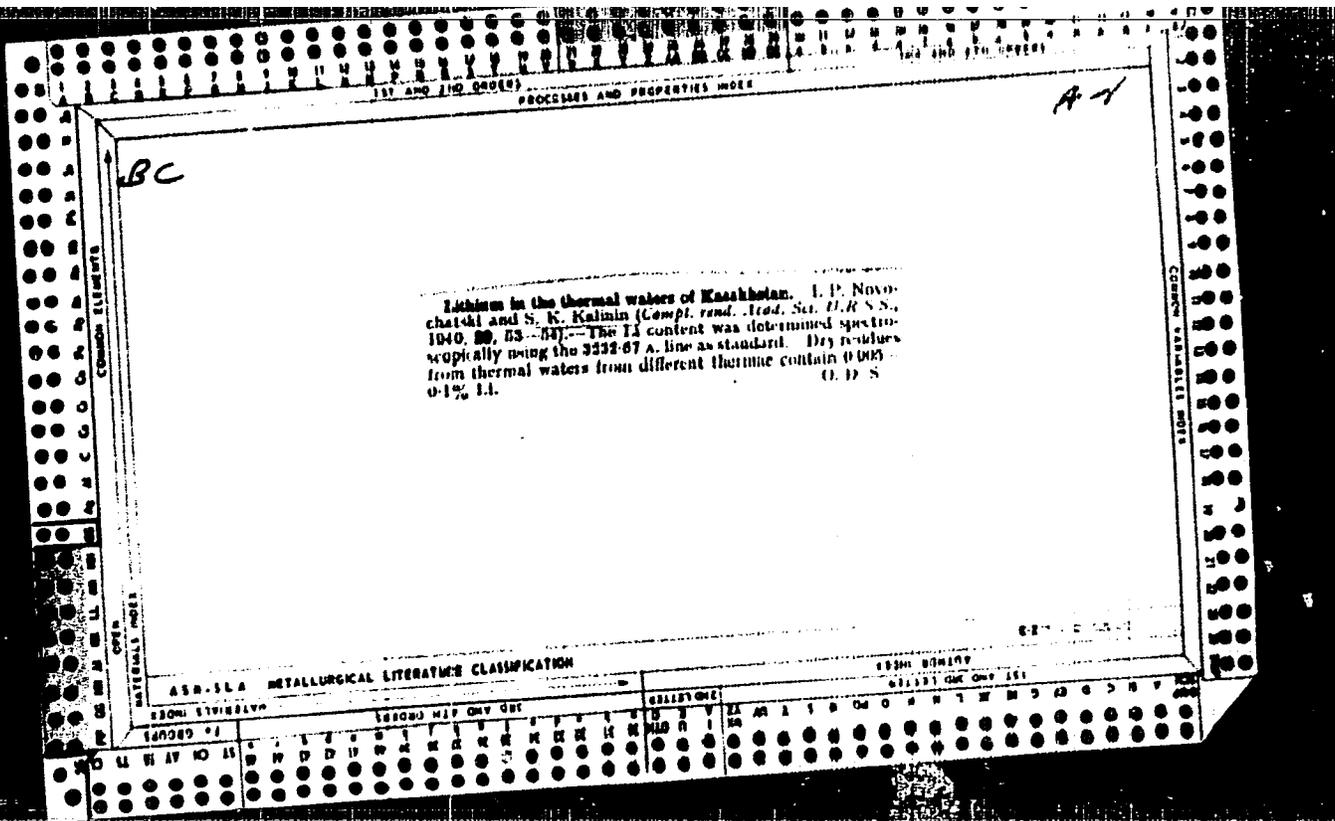
Manganese content in mine waters   I. P. Novokhat-
skii and S. K. Kalinin. *Compt. rend. acad. sci. U. R. S. S.*
26, 652-4(1940)(in English).   Spectroscopic and chem.
analyses of mine waters from Kazakhstan and Middle
Asia showed the presence of Mn in virtually all cases (the
ures tabulated)   The greatest Mn content was found in
the waters of the Ak-tyuss polymetallic deposit, being
2.20%, and in the Adrasman Bi deposit, where it was .1 10%
(in the dry residue)   6 references.   A. H. Krappe

Chemism of mine waters according to the data of spec-
troscopic analysis.   I. P. Novokhatskii and S. K. Kalinin.
Compt. rend. acad. sci. U. R. S. S. 26, 655-8(1940)(in
English).—A spectroscopic and chem. analysis of mine
waters from Kazakhstan and Middle Asia showed the
presence of Cu, Pb, Zn, Mo, Mn, Ag, Ni and Sr in the dry
residue of these waters, the pH ranging from 4.0 to 7.7.
Other elements (As, Bi) are found much more rarely.
                                    A. H. Krappe

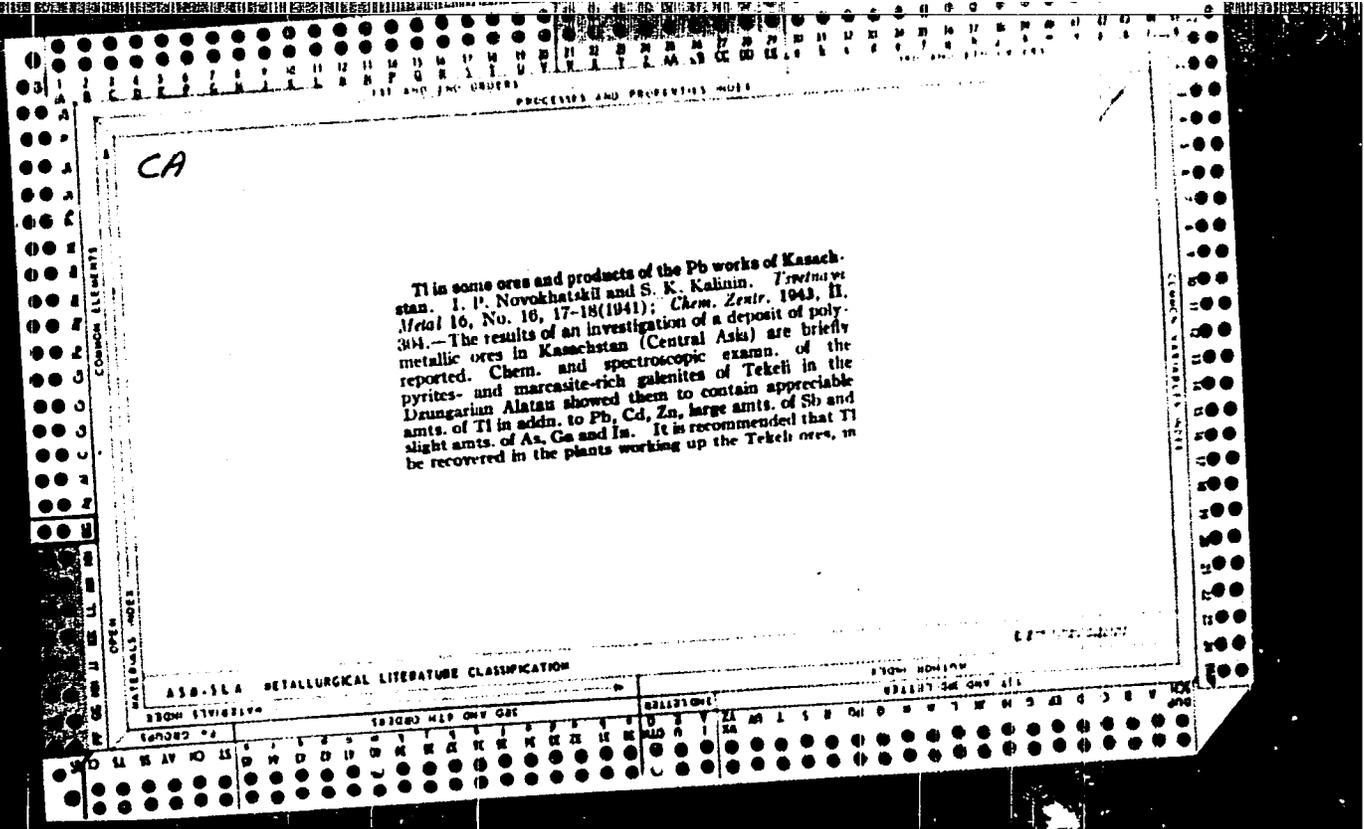ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Distribution of germanium in the coals of Kazakhstan
A. I. Egorov and S. K. Kalinin. *Compt. rend. acad. sci.
U. R. S. S. 26*, 925 (1940)(in English).—Coals from 43
deposits were ashed in a muffle at 500-600° and the ashes
examd. spectrographically. Ge was found in 11 deposits.
The fact that Ge is highest in coals with lowest ash was
checked. It was not present in coals with ash content
greater than 10%. In the Paleozoic coals, even those
with low ash, Ge was not present in appreciable quantities;
the highest contents were in lignites; thin beds and lenses
among sandy and clayey rocks show a higher Ge content.
                                        D. W. Pearce

Lithium in the thermal waters of Kazakhstan. I. P. Novo-chatski and S. K. Kalinin (*Compt. rend. acad. Sci. U.R.S.S.*, 1940, **29**, 53--55).--The Li content was determined spectroscopically using the 3232·67 A. line as standard. Dry residues from thermal waters from different thermae contain 0·005--0·1% Li.

(I. D. S.)

iov ih

Spectroscopic study of the mineral deposits of Kazakhstan with regard to the content of rare and scattered elements. S. K. Kalinin. (*Bull. Acad. Sci. U.R.S.S., Sér. phys.*, 1941, **5**, 253—255).—A short review of work on the minerals of Kazakhstan to determine the distribution of rare and scattered elements. Deposits enriched in Ga, In, Tl, Ge, and other elements have been discovered.
R. C. P.

CA

Tl in some ores and products of the Pb works of Kasach·
stan. I. P. Novokhatskii and S. K. Kalinin. *Tsvetnuye*
Metal 16, No. 16, 17–18(1941); *Chem. Zentr.* 1943, II.
304.—The results of an investigation of a deposit of poly-
metallic ores in Kasachstan (Central Asia) are briefly
reported. Chem. and spectroscopic examn. of the
pyrites- and marcasite-rich galenites of Tekeli in the
Dzungarian Alatau showed them to contain appreciable
amts. of Tl in addn. to Pb, Cd, Zn, large amts. of Sb and
slight amts. of As, Ga and In. It is recommended that Tl
be recovered in the plants working up the Tekeli ores, in

METALLURGICAL LITERATURE CLASSIFICATION

Cobalt in mine waters. I. P. Novochatski and S. K. Kallnin.—(*Compt. rend. Acad. Sci. U.R.S.S.*, 1941, **31**, 591—593).—Co is present in mine waters of a no. of deposits, particularly Cu and polymetallic deposits rich in Cu, thus indicating paragenesis of Co with Cu mineralisation. Mine waters serve as a concn. of Co. Owing to the presence of Mn compounds, Co is pptd. from solution at a lower pH than is normally required to ppt. it as hydroxide.

A. J. M.

PROCESSES AND PROPERTIES INDEX

Spectroscopic characteristics of thermal and cold springs and mountain rivers in eastern Kazakhstan. E. V. Posokhov and S. K. Kalinin. *Bull. acad. sci. U. R. S. S., ser. géol.*, No. 6, 98-103 (in English, 103) (1943).—Using a quartz spectrograph, the authors made analyses of waters of spring and mountain rivers. In the hot springs the authors found considerable quantities of Li, B, Mo and traces of some of the following: Ag, Cu, Pb, Ga, Ce, W and Ni. In the waters of the cold springs and rivers there is no Li, Ce, Ga, W or Ni and the quantities of B and Mo are much lower than in the hot springs. As much as 0.005 to 0.1% of Li was found in hot springs, the higher quantities in the springs of higher temp. In the hot springs the B content is high, 0.05 to 0.1% and even more. In the cold springs and rivers the B content is 0.001 to 0.01%. All waters contained Sr. Chlorides and sulfates predominate in all waters and they are rich in SiO₂.

SiO_2.

—J. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

//F

Chemical composition of milk from spectral analytical data. S. A. Borovik and S. K. Kalinin. *Trav. lab. Biochim. acad. sci. U.R.S.S.* 7, 114-18(1944).— Spectral analyses were made for elements in 14 samples of the ash of human milk at the beginning of the lactation period. The elements found are divided into 3 groups: (1) Main elements, i.e., Na, K, Ca, Mg, and P gave the strongest lines; (2) elements giving weaker lines are Si, Fe, Cu, Mn, Pb, Zn, Al, Hg, Mo, Li. The concns. are: Si, Cu, and Mn 0.05 0.01; Pb and Zn 0.1 0.001; the remainder 0.005 0.001%; (3) elements Si, Ba, Br, Ti, Cr, B, Sn are present in concns. of 0.001%. Mn, Cu, and sometimes Zn remain const. in all samples tested, whereas Hg, Si, Pb, and Ni vary decidedly.   N. S. Y.

CA

The occurrence of thallium in silicates of the earth's crust. I. P. Novochatskii and S. K. Kalinin. *Doklady Akad. Nauk S.S.S.R.* **56**, 831-3(1947). *Zentr.* (Russian Zone Ed.) 1948, II, 282-3.— No method is available for the detn. of Tl which is sufficiently sensitive. The best results were obtained with the spectrographic method using the Volta arc between Cu electrodes. The lines 3775.7, 3520.43, and 3510.24 A. were used for the detn. The first of these lines is most sensitive and permits the detn. of 0.001% Tl. Tl was found only in K-Na feldspars, in mica, and rarely in some other silicates, in which K can be replaced by Tl since the at. radius of K is 1.33 and that of Tl 1.49 A. The Tl content was usually 0.001-0.003%. The max. of 0.02% was found in damourite. A list of 20 minerals is given in which no Tl was found by the above method.   M. G. Moore