USSR/Microbiology - Microorganisms Pathogenic for Animals.

Abs Jour : Ref Zhur - Biol., No 12, 1958, 52829

Author : Zverev, P.I.

Inst : Dagestan Agricultural Institute.

Title : Effect of Asbestos Sterilizing Filters on the Activity of Biopreparations Foltered Through Them.

Orig Pub : Tr. Dagestansk. s.-kh. in-ta, 1956, 8, 144-146.

Abstract : Typhoid and paratyphoid agglutinating sera were filtered through a small asbestos filter; their titer was determined before the beginning of the experiment and every 10 minutes thereafter. In the first portions of the filtrate the titer fell 2 to 3 times and only on the 3rd-5th test was the initial titer obtained. Bacteriophage of S. abortus equi was filtered through a similar filter and its

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ZVEREV, P.M.; KHECHINASHVILI, G.G.; CHAYKOVSKAYA, A.L.

New method of pneumoelectric digital plethysmography with a calibration of impulses. Sbor.nauch.trud.Kaf.akush. i gin. 1 LMI no.2:347-353'61. (MIRA 16:7)
(PLETHYSMOGRAPHY)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

ZVEREV P. N.

FDB

May 49

USSR/Engineering
Coal, Pulverized
Armor Plate

"The Performance of Armor Plate Used in Ball-Tube Mills," P. N. Zverev, Engr, 2 pp

"Elek Stants" No 5

To increase service time of newly constructed armor plate, it was necessary to increase armor plate width by 10 - 15 mm and use more abrasive-resistant material. This armor plate is used on mills 287/510 and 287/470 (Soviet construction) which are employed in pulverizing Moscow coals.

44/49T41

FDB

May 49

USSR/Engineering (Contd)

Service time of the newly constructed armor plate is about 7,000 hours.

44/49T41

ZVEREV, P.N.

Increase in the efficiency of industrial electric power plants. Prom. energ. 15 no.8:5-6 Ag '60. (MIRA 15:1)
(Electric power plants)

ZVEREV, P.N., inzh.-polkovnik

War years of "Artilleriiskii zhurnal." Artill. zhur. no.5:16-20 My '58. (MIRA 11:6)

(Artillery--Periodicals)

ZVEREV, P.N., inzh.

Use of the heat of air compressed by compressors. Prom. energ. 19 no.8:13-14 Ag '64. (MIRA 17:11)

Accounting for the gas consumption of industrial plants. Prom. energ. 20 no.10:27-28 O '65. (MIRA 18:10)

AUTHOR: Zverev, S.

TITLE: Underground Fertilization (Podzemnoye udobreniye)

4-58-6-29/37

PERIODICAL: Znaniye - sila, 1958, Nr 6, p 44 (USSR)

ABSTRACT: The co-workers of the Kishinevskiy sel'skokhozyaystvennyy institut (Kishinev Agricultural Institute) have been investigating for several years the possibilities of underground irrigation, heating and fertilization of sugar-beets, vineyards and gardens by means of underground pipes.

1. Irrigation systems--Applications 2. Agriculture--USSR

Card 1/1

ZVEREV, S.

Mechanized loading and unloading at grain procurement stations in Krasnodar Territory. Muk.-elev.prom. 21 no.12:23-26 D '55.

(MLRA 9:4)

1.Krasnodarskaya kontora Zagotzerno.
(Krasnodar Territory--Grain-handling machinery)

STRELOV, S.

Second youth for gears. Znan.sila 34 no.2:26 F '59. (MIRA 12:3)
(Gearing)

VERET, S.I., inzhener

Device for separating shelled grains in moving ear corn. Muk.-elev. prom 22 no.9:29-30 S '56. (MLRA 10:8)

1.Krasnodarskaya krayevaya kontora Zagotzerno.
(Corn handling machinery)

ZVEREV, S.

Suggestions made by efficient workers of grain procurement points of Krasnodar Territory. Muk.-elev.prom.22 no.2:25-26 F '56.

1.Krasnodarskaya kontora Zagotzerno. (MLRA 9:6)
(Krasnodar territory--Granaries--Equipment and supplies)

Descendants of famous flower pots. Znan.sila 34 no.1:30 Ja '59. (MIRA 12:2)

(Reinforced concrete)

ZVEREV, S., inzhener.

Storages with slanting floors. Muk.-elev.prom.22 no.3:22 Mr '56.
(MLRA 9:7)

1.Krasnodarskaya kontora Zagotzerno.
(Granaries) (Floors)

ZVEREV, S., inzhener.

Efficiency promoters' suggestions which have been put into effect at grain receiving points of Krasnodar Territory. Muk.-elev. prom. 23 no.4:25-26 Ap '57. (MLRA 10:5)

1. Krasnodarskaya krayevaya kontora Rosglavzerno.
(Grain--Drying)

ZVEREV, S.

Suggestions of innovators put into effect in the mechanization of loading and unloading operations. Muk.-elev.prom. 21 no.10:26-27 O '55. (MLRA 9:1)

1.Krasnodarskaya krayevaya kontora Zagotzerno.
(Loading and unloading) (Grain--Transportation)

ZVEREV, S.

Movable bin for corn. Muk.-elev.prom. 22 no.4:28 Ap '56.
(MLRA 9:8)

1. Krasnodarskaya kontora Zagotzerno.
(Bins) (Corn (Maize)--Storage)

AL'TOV, G.; IZMAYLOV, Ya.A., kand.tekhn.nauk; NEMCHENKO, G.; ZVEREV, S.

Brief news report. Znan.sila 33 no.12:12-13 D '58. (MIRA 11:12)
(Technology)

AUTHOR: Zverev, S. SOV/4-59-1-18/42

TITLE: The Descendants of a Noted Barrel (Potomki znamenitoy bochki)

PERIODICAL: Znaniye - sila, 1959, Nr 1, p 30 (USSR)

ABSTRACT: Reinforced concrete has become today's principal building material. To many specialists it was a surprise, when at the Conference of Architects and Engineers which took place in the Leningradskiy filial Akademii Stroitel'stva i Arkhitektury SSSR (Leningrad Branch of the USSR Academy of Building and Architecture) it was stated that reinforced concrete is not the ideal combination of metal and concrete. "Armocement" (armotsement) - a thick steel netting poured over with concrete - was indicated as a far better material. The Kolkhoz Market Hall in Leningrad was covered with an arched roof of armocement, the span being 15 m and the thickness of the roof only 2 cm.

Card 1/1

ZVAREV, S.

New type of laboratory at the elevator. Muk.-elev.prom. 20 no.8: 22 Ag '54. (MLRA 7:9)
(Grain elevators)

ZVEREV, S.A., inzh.; YAROSHENKO, D.G., inzh.

Study of the functioning of keramzit-reinforced concrete roof beams. Bet. i zhel.-bet. no.9:422-425 S '61. (MIRA 14:10)
(Volga Hydroelectric Power Station (22nd Congress of the CPSU)--Beams and girders) (Lightweight concrete)

IVANOV-DYATLOV, Ivan Gavrilovich, doktor tekhn. nauk, prof.; AGEYEV, Dmitriy Nikolayevich; ZVEREV, Sergey Aleksandrovich; KONOVALOV, Stepan Vasil'yevich; KURASOVA, Galina Panteleymonovna; POCHTOVIK, Gennadiy Yakovlevich; RADKEVICH, Boris Leonardovich; SHCHEKANENKO, Rostislav Arkad'yevich; GORLOVA, N.B., red.; BODANOVA, A.P., tekhn. red.

[Using claydite concrete in road and bridge construction] Primenenie keramzitobetona v dorozhno-mostovom stroitel'stve. [By] I.G.Ivanov-Diatlov i dr. Moskva, Avtotransizdat, 1963. 271 p. (MIRA 16:12)

(Lightweight concrete) (Bridges, Concrete) (Pavements, Concrete)

IVANOV-DYATLOV, I.B., prof.; ZVEREV, S.A., inzh.; BYCHENKOV, Yu.D., inzh.; DELLOS, K.P., inzh.

Prestressed reinforced keramzit concrete bridge. Avt. dor. 24 no.3: 12-15 Mr '61. (MIRA 14:5)

(Bridge construction) (Lightweight concrete)

ZVEREV, Aleksandr Yevgen'yevich; KURGANOV, Viktor Dmitriyevich; ZVEREV, S.A., dots., red.

[Electron-tube and transistor pulse signal amplifiers; a textbook] Elektronnye i poluprovodnikovye usiliteli impul'snykh signalov; uchebnoe posobie. Moskva, Mosk. aviatsionnyi tekhnologicheskii in-t, 1965. 219 p. (MIRA 18:11)

ZVEREV, S.A.

Use of flasks in bottling standard sera. Probl. gemat. i perel. krovi 10 no.1:54-55 Ja '65. (MIRA 19:1)

1. 3-ya Leningradskaya gorodskaya stantsiya perelivaniya krovi.

GRISHIN, I.I., inzh.; ZVEREV, S.I., inzh.

Increasing the productivity of the D-159 bulldozer. Mekh. stroi. 21 no.1:7-9 Ja '64. (MIRA 17:4)

15-57-5-6815D

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 157 (USSR)

AUTHOR: Zverev, S. M.

TITLE: Improvement of Apparatus and Methods Used in Marine Seismic Explorations (Usovershenstvovaniye apparatury i metodiki morskoy seysmicheskoy razvedki)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Geological and Mineralogical Sciences, presented to (no institution given), Moscow, 1954.

ASSOCIATION: (no institution given)

Card 1/1

GALPERIN, E. I., & GORIACHEV, A. V. and ZVEREV, S. M.

ZVEREV, S. M.

"Crustal Structure Researches in the Transition Region from the Asiatic Continent to thePacific." (Sub-title- "The Pacific Geologo-Geophysical Expedition.")

USSR Academy of Sciences, 1957; XII Seismology, No. 1. 31 pp (Russian)
Special Committee for the International Geophysical Year,

GAL'PERIN, Ye.I., GORYACHEV, A.V., ZVEREV, S.M., PEDASKIY, Y.V., doktor. ., fiziko-matematicheskikh nauk, otv. red.; GILKIN, B.I., red., izd-va,; RYLINA, Yu.V., tekhn. red.

[Studies on the structure of the Earth's crust in the transition region from the Asiatic continent to the Pacific; work of the Pacific geological and geophysical expedition of the Academy of Sciences of the U.S.S.R.] Issledovanie zemnoi kory v oblasti perekhoda ot Aziatskogo kontinenta k Tikhomu okeanu; raboty Tikhookeanskoi kompleksnoi geologo-geofizicheskoi ekspeditsii AN SSSR v 1957 g. Moskva, Izd-vo Akad. nauk SSSR. No. 1.[Twelfth section of the International Geophysical Year program(seismology)] XII razdel programmy MGG (seismologiia) 1958. 25 p. (MIRA 11:10)
(International Geophysical Year, 1957-1958)
(Seismology--Observations)
(Soviet Far East--Geology)

ZVEREV, S.M.

14(5) PHASE I BOOK EXPLOITATION SOV/2818

Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki

Razvedochnaya i promyslovaya geofizika, vyp. 21. (Exploration and Industrial Geophysics, No. 21) Moscow, Gostoptekhizdat, 1958. 112 p. (Series: Obmen proizvodstvennym opytom) Errata slip inserted. 4,500 copies printed.

Ed.: A. I. Bogdanov; Exec. Ed.: N. P. Dobrynina; Tech. Ed.: I. G. Fedotova.

PURPOSE: This booklet is intended for geophysical engineering and technical personnel in the petroleum industry.

COVERAGE: Individual articles of this collection discuss improvements in methods of interpreting seismic and gravimetric data, testing of seismic receivers, and the refinement of seismic station amplifiers. A nomogram is described for the rapid computation of magnetic properties of rock samples, and a summary is provided of experience in marking oil contacts.

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Improved methods and equipment of radioactive methods of surveying boreholes are also discussed. References accompany individual articles.

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Exploration and Industrial (Cont.) SOV/2818

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1-7-59

PHASE I BOOK EXPLOITATION 1031

Prikladnaya geofizika; sbornik statey, vyp. 19 (Applied Geophysics; Collection of Articles, Nr. 19) Moscow, Gostoptekhizdat, 1958. 253 p. 3,000 copies printed.

Sponsoring Agency: Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki

Ed. Bogdanov, A.I.; Executive Ed.: Dobrynina, N.P.; Tech. Ed.: Polosina, A.S.

PURPOSE: This collection of articles is intended for professional geophysicists engaged in scientific research or working in industrial enterprises.

COVERAGE: The articles are devoted to a discussion of methods of interpreting various types of electrical logs, methods of determining the porosity, permeability, and specific surface characteristics

Card 1/4

of water bearing rocks, and methods of determining the physical properties of sediments and the characteristics of various physical parameters. A description of piezoelectric pressure recorders used in seismic exploration is also given. The articles are accompanied by graphs, tables, and bibliographic references.

TABLE OF CONTENTS:

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1-22-59

PAVLOV, G. N., BIZAR, P. S., GALPERIN, E. I., ZAYONCHKOVSKIY, M. A., KOSMINSKAYA, I. P., MICHOTA, G. G.

"Deep Seismic Sounding in the Zone of Transition Between the Asiatic Continent and the Pacific Ocean."

Paper Presented at CSAGI Meeting, 30 Jul - 9 Aug 58, Moscow
Available in Library

ZVEREV, S.M.

Seismic observations of West Siberian rivers. Razved. i prom. geofiz. no.21:16-23 '58. (MIRA 11:10)
(Siberia, Western--Prospecting--Geophysical methods)
(Seismic waves)

AUTHOR: Zverev, S. M.

TITLE: The Application of Sound Recordings for Determination of Distances in Seismic Soundings in the Sea (Ispol'zovaniye zapisey zvuka dlya opredeleniya rasstoyaniy pri rabotakh po glubinnomu seysmicheskomu zondirovaniyu na more)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 4, pp 560-569 and 2 plates (USSR)

ABSTRACT: Two methods of exact determination of distance from the recordings of sound waves are described. One of the methods is based on the first recording of the sound wave and on its velocity in water in relation to the depth and profile of the sea-bed. The accuracy obtained in using this method was 0.4%. The second method is based on the recordings of the first group of sound waves. The accuracy in this case was 0.7%. The results of experiments are illustrated in Figs 1 to 10 and in the table on p 568. Figs 1 and 2 show photographs of the seismograms. Fig 1a illustrates the succession of entrance waves at different impulses of sound at various points (shown in 1b) along a profile. Fig 2 illustrates successive seismograms obtained when the distance from the points of detonation was gradually increased. The first entering impulses are framed. The data obtained from the seismograms Figs 1 and 2

The Application of Sound Recordings for Determination of Distances in Seismic Soundings in the Sea

are tabulated in the table on p 568, where Column 1 gives the seismogram number, Column 2 - time of first entrance, Column 3 - time of group entrance, Column 4 - approximate distance for V = 1470 , Column 5 - velocity of first entry as in Fig 6, Column 6 - distance calculated from first entry, distance calculated from group recording. Fig 3 represents the sound velocity in relation to the depth of the Pacific near the Kuril Islands. Fig 4 shows the graph of sound velocity V in relation to the various distances found from the impulse of entry (1 - layers of uniform gradient, 2 - lowest layer); Fig 5 - trajectories of sound rays according to their entry: 1 - first arrived, 2 - second, 3 - third, 4 - touching the sea-bed. Fig 6 represents the velocities corresponding to the first entrance of sound waves along the profile 5.8 km deep. Fig 8 gives the time difference of entry of the separate impulses; Fig 9 - amplitude of the first entries from the

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The Application of Sound Recordings for Determination of Distances in Seismic Soundings in the Sea

seismogram in Fig 2 and the projectories of the corresponding rise. Fig 10 shows the relationship of the velocity V and the distance from the source of the rays x to the depth H. There are 10 figures, 1 table and 11 Soviet references.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: August 18, 1958.

S/169/61/000/012/001/089
D228/D305

AUTHOR: Veytsman, P. S., Gal'perin, Ye. I., Zverev, S. M., Kosminskaya, I. P., and Krakshina, R. M.

TITLE: Some data on the structure of the crust in the transitional zone from the Asiatic Continent to the Pacific Ocean

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1961, 5, abstract 12A34 (V sb. Geol. resultaty prikl. geokhimii i geofiz. Razdel 2. M., Gosgeol-tekhizdat, 1960, 37-42)

TEXT: Complex geophysical research was carried out on the structure of the crust in the transitional zone from the Asiatic Continent to the Pacific Ocean. The complex of methods included seismic surveying, aeromagnetic surveying, and gravimetry. Geologic investigations were also made in coastal districts. It was possible from the processing of preliminary data to expose

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Some data on...

S/169/61/000/012/001/089
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3 main types of crustal structure: continental, oceanic, and intermediate. A schematic zoning of the study region was made from the crustal types, and transitional areas from one type to another were distinguished. The transitional region from a continental- to an oceanic-type of crust in the vicinity of the Kuriles Depression, where both the thinning-out of the supra-basaltic stratum and the rise of the surface of the basalt layer and the Mohorovicic surface are observed, is especially noted. [Abstracter's note: Complete translation.]

Card 2/2

ZVEREV, S.M.

Seismograms of water waves near the shadow zone cast by the ocean bottom. Izv. AN SSSR. Ser. geofiz. no.8:1173-1186 Ag '60. (MIRA 13:8)

1. Akademiya nauk SSSR, Institut fiziki Zemli.
(Pacific Ocean--Seismometry)

ZVEREV, S.M.; KOVYLIN, V.M.; UDINTSEV, G.B.

Recent data on the tectonics of the northwestern submarine elevation of the Pacific Ocean. Dokl. AN SSSR 135 no.6:1461-1464 D '60.
(MIRA 13:12)

1. Institut okeanologii Akademii nauk SSSR i Institut fiziki Zemli Akademii nauk SSSR. Predstavleno akademikom N.S.Shatskim.
(Pacific Ocean--Submarine geology)

S/011/61/000/001/001/001
A054/A133

AUTHORS: Veytsman, P.S.; Gal'perin, Ye.I.; Zverev, S.M.; Kosminskaya, I. P.; Krakshina, R.M.; Mikhota, G.G. and Tulina, Yu.V.

TITLE: Some results of studying the Earth's crust in the area of the Kuril Island arc and the adjoining areas of the Pacific Ocean based on deep seismic sounding data

PERIODICAL: Izvestiya Akademii Nauk, SSSR. Seriya geologicheskaya, no.1, 1961, 81 - 86

TEXT: In 1957-58, Soviet geologists surveyed by deep seismic sounding the geology of the region between the Asiatic continent and the Pacific, the area of the Kuril Island arc and surrounding parts of the Pacific. These latter regions are particularly interesting, because in a rather narrow (300 - 400 km) zone the Earth's crust here shows great variations which can be classified in three main groups: 1) continental type crust, consisting of an upper sedimentary and two lower: a granite and a basalt layer. This zone is 20-30 km thick, the average velocity of longitudinal waves in this zone is not more than 6 km/sec. 2) The oceanic part of the crust consists of a thin sedimentary less than 1 km thick and

Some results of studying the Earth's crust ...

a 5 - 10 km thick basalt layer. The wave velocity in this zone (outside the sedimentary layer) is about 7 km/sec. 3) The intermediate zone has an intermediate character both as regards thickness and structure of its layers (in general the sedimentary-basalt structure prevails). The classification into these three groups was based on the time-distance curves of primary waves and the ratio of average speed v to depth h. The geological map of the surveyed area shows that the intricate alternation of these three types of crust-structure cannot be observed in the direction from the island to the ocean only but also along the entire area, from the Hokkaido Island to the Peninsula of Kamchatka. The most intricate crust-structure is found in the area between the island arc and the Kurile-Kamchatka deep trench. According to the crust-structure this area can also be divided into three parts: a) its northern part shows a continental, b) its southern part partly a continental, partly an intermediate character, while c) the central part also consists of two structures: one of an intermediate and one of an oceanic character and seems to be the continuation of the deep-water area of the Okhot Sea. In order to establish the changes in propagation velocity in the transition zone of one typical area of the crust into another, the average $\overline{V}$-values have been determined at a height of 7 km from the bottom. The comparison of the velocity curves with the relief of the bottom revealed a strict regularity in the relations: the oceanic

Some results of studying the Earth's crust ...

plateau corresponds to the highest average values of $\overline{V}$, which drop sharply in the direction from the oceanic plateau to the tabular zone, in northern and southern direction as well, in the area of the eastern slope of the deep trench. The lower values of $\overline{V}$ in the tabular zone are connected with thick sedimentary layers, (near Kamchatka). The areas close to the central and the southern part of the arc display high $\overline{V}$ values and the high $\overline{V}$-values for the oceanic plateau show a stable character (about 7 km/sec). Between the island arc and the deep trench however, there are also extensive low-water areas. When comparing the bathymetric data referring to this area and the structure of the crust it can be established that the low-water areas of the Pacific at the northern and southern regions of the arc correspond to the continental type of the crust, whereas the deep-water areas of the central part of the island arc correspond to the intermediate type of the Earth's crust. The same regularity is also observed for the western coast of the island arc. Gravimetric data show that in regions of the continental type crust structure the anomalies of the gravity force display low values as compared with those registered for the ocean, while in the zones of intermediate crust structure the anomalies also have medium values between oceanic and continental anomalies. The boundaries between the zones of various Δg values correspond roughly to the boundaries betwene the zones of various crust-

Some results of studying the Earth's crust ...

structures. The most intense volcanic activity for the past 200 years was recorded for the central part of the arc, with an intermediate crust-structure, while the highest seismic activity was observed in areas with a continental type structure of the core. In the Kuril arc remarkable and intensive recent movements have been observed, according to which the area can again be divided into three part: in the northern and southern parts a remarkable up-lift is established, whereas the central part - bordered by the Bussol' and Kruzenshtern straits has subsided. There are 4 figures and 9 Soviet-bloc references.

ASSOCIATION: Institut fiziki Zemli AN SSSR, Moskva (Institute of Geophysics, AN USSR, Moscow)

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Papers submitted for the 10th Pacific Science Congress, Honolulu, Hawaii 21 Aug-6 Sep 1961.

KOLESNIKOV, A. G., [illegible], A. A., and [illegible], E. S., Moscow State University, Physical Faculty, Chair of Marine Physics and Terrain Waters - "On the calculation of rate of radioactivity spreading in depths" (Section VII.B.6)

KOLTUN, V. M., Institute of Zoology - "The method of spicule analysis and possibilities of its use in paleogeographical studies of the Pacific Ocean" (Section III.C)

KORENEVA, Ye. V., Institute of Geology - "Distribution of spores and pollen of terrestrial plants in bottom sediments of the Pacific" (Section III.A)

KORT, V. G., Director, Institute of Oceanology - "The heat exchange between the Antarctic waters and the adjacent oceanic waters" (Section VII.D.1)

KOSHLYAKOV, M. N., Institute of Oceanology - "An example of the computation of the deep currents in the northeastern Pacific" (Section VII.B)

KOZLYANINOV, M. V., and KOBLENTS-MISHKE, Olga I., Institute of Oceanology - "The interrelation between turbidity, phytoplankton and primary production" (Section III.C.4)

KOZLYANINOV, M. V., Institute of Oceanology - "On the relation between water transparency and the character of currents in some areas of the Pacific Ocean" (Section VII.B)

KOSMINSKAYA, Irina P., KRAKSHINA, R. M., [illegible], P. S., [illegible], S. M., DAVYDOVA, N. I., and GAL'PERIN, B. I., Institute of Earth Physics imeni O. Yu. Schmidt - "Structure of the earth crust in the transition zone from the northwestern part of the Pacific to the Asiatic continent" (Section VII.C.2)

KOSMINSKAYA, Irina P., KRAKSHINA, R. M., and [illegible], S. M., Institute of Earth Physics imeni O. Yu. Schmidt - "Specific features of the sedimentary layer in the Okhotsk Sea and in the adjacent parts of the Pacific" (Section VII.C.2)

KOVYLIN, V. M., [illegible], E. M., UDINTSEV, G. B., [illegible], Yu. P., [illegible], N. N., and [illegible], G. N., Institute of Oceanology - "On the relation between sedimentation and bottom topography in the northwestern part of the Pacific Ocean" (Section VII.C.1)

KROPOTKIN, P. N., Institute of Geology - "The tectonic map of the Pacific Ocean and the circum Pacific mobile belt (scale 1:10,000,000)" (Section VII.C)

LAVRENT'YEV, M. A., and [illegible], Ye. I., The Siberian Department of the Academy of Sciences USSR - "On the results of investigations of tsunami in the USSR" (Section V.B.1)

LEONT'YEVA, V. V., Institute of Oceanology - "Hydrological data involved with oceanic troughs in the Pacific and some problems connected with prospect research" (Section VII.B)

LEVIN, M. G., Institute of Ethnology - "Once more on the Ainu problem" (Section IX.B)

LISITSYN, A. P., Institute of Oceanology - "The composition of organic suspended material in the Pacific in connection with the problems of sedimentation" (Section VII.C.1)

LISITSYN, A. P., Institute of Oceanology - "Bottom sediments in the Antarctic" (Section VII.D.1)

LUK'YANOV, V. V., Institute of Oceanology - "Cyclonic activity and climatologic fronts in the northern part of the Pacific Ocean" (Section VII.A)

LYUBIMOVA, T. G., All-Union Scientific Research Institute of Marine Fishing and Oceanography - "Some results of icthyological investigations in the gulf of Alaska" (Section III.C)

MAGNITSKIY, V. A., Moscow State University, Physical Faculty, Chair of Hard Crust - "Geophysical data and the problem of the origin of the Pacific Ocean" (Section VII.C.2)

MEDVEDEV, V. S., Institute of Oceanology - "The specific features of bench formation in tidal seas" (Section VII.C.1)

MOKIYEVSKIY, O. B., Institute of Oceanology - "Qualitative-quantitative distribution of the littoral fauna and flora in the northwestern part of the Pacific" (Section III.C)

MURDMAA, Ivan O., Institute of Oceanology - "The process of mari... sedimentation in the areas of the Kuril isle arc" (Section VII.C.1)

S/011/61/000/002/001/001
A051/A129

AUTHOR: Zverev, S. M.

TITLE: On the structure of the sedimentary mass in certain sections of the Pacific Ocean according to seismic reflected wave data

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya Geologicheskaya, no. 2, 1961, 80 - 86

TEXT: The Institut fiziki Zemli (Institute of the Physics of the Earth) of the USSR AS conducted a study in 1957 - 1958 on deep seismic sounding in the earth's crust of the north-western section of the Pacific Ocean and adjoining water areas. The main method of investigation was primarily based on observing seismic waves from the deep-lying interfaces of the earth's crust to the surface. Data were obtained on the structure of the upper thickness of oceanic sediments. Investigations were carried out simultaneously of the vertical reflections from the ocean bed' surface and interfaces in the sediments, using two major methods: Reflections were registered by one channel in the exploding of high charges mounted on a moving ship. The experiments showed that the reflections were registered favorably at frequencies of 50 - 70 cycles (Fig. 1). A multi-channel floating

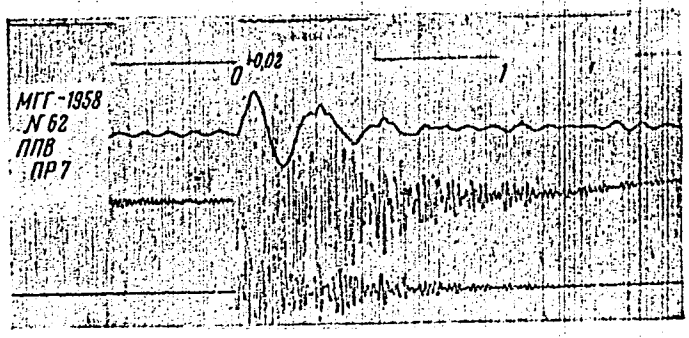
set-up was used during brief stops of the vessel, similar to that used in marine seismic explorations of petroleum. It was found that the multi-channel set-up was more effective and sensitive than the single-channel apparatus. The multi-channel set-up was used to register the reflections from the interfaces in sediments both in the region of the ocean floor as well as in the deep depression and various parts of the shelf. It is pointed out that the vertical reflection cuts obtained by observations may be distorted by phenomena of multiple reflection of waves in layers by interference of waves, the length of which is the same as the layer thickness. The observations of the vertical reflections were conducted at all depths of the deep seismic sounding carried out in 1958 and the obtained data for the Pacific Ocean near Kamchatka and Komandorskiy Islands are submitted. The present article deals with the layers of sedimentation thickness expressed in time of the vertical reflection rather than layer strength. Recordings of multiple reflections of waves in the water depth obtained on the seismograms were used to evaluate the rate values in the sedimentations as well as the reflection coefficients of various multiplicity. Favorable coincidence of experimental data with the corresponding theoretical values (Fig. 6) lead to the conclusion that the rate value 1.89 - 1.91 km/sec was the rate of the transverse waves, and in deeper layers of the sediments the rate value of the longitudinal waves was about 3.2 - 3.5 km/

/sec. The following average values of the reflection coefficients were obtained from the ratio of the amplitudes of the 1st and 2nd order vertical reflections: for the floor surface -0.17, for a sharper interface -0.58, for the deepest reflecting surface -0.34. Estimations of the vertical reflection coefficient using Raleigh's formulae showed that the following rates V and densities ρ in the sedimentation layers correspond favorably with the above-given data: a) ocean bed sediments (not compressed): V = 1.65 km/sec, ρ = 1.35g/cm3; b) deeper sediments (compressed): V = 3.5 km/sec, ρ = 2.5 g/cm^3, c) sole of the sediments (crystalline ores): V = 6.4 km/sec, ρ = 2.80 g/cm^3. It is further seen that in all three profiles investigated the nature of the sediments change abruptly when passing through the deep-lying depression. At the No. 9 profile, passing in the southeastern section from the southern edge of the Kamchatka Peninsula and on the western slope of the deep-water depression, there are three main reflecting horizons with intervals of time Δt between the first and last reflections = 0.2 - 0.4 sec (Fig. 3). The No. 7 profile layer is similar to that of 9 (Fig. 4). The author draws the following conclusions from the data obtained: 1) the deep-water depression separates the horizontal-laminar, comparatively slow-changing sedimentation layer of the ocean bed from the complex layer of the shelf sediments. The thickness of the sedimentation ores of the ocean bed changes slowly with an

increase in its distance from the deep-water depression; 2) the surface of the ores covering the sedimentation layer of the ocean within the borders of the regional embankment of the Kurilo-Kamchatka deep-water depression has a complex surface. With an increase in the distance from the depression the surface of the sole becomes more calm. At distances of 150 - 250 km from the axis of the depression, high fault throws are noted, cutting all the sedimentation layers and are expressed in the floor contour. These faults are considered to be the results of comparatively recent tectonic movements, occuring at the edge of the ocean bed in the Kurilo-Kamchatka deep-water depression. The thickness of the sedimentations within the limits of the regional embankment of the Pacific Ocean at the Aleutes deep-water depression is two to three times greater than the sedimentations of the ocean bed near the Kurilo-Kamchatka depression. This indicates that the conditions are quite adverse for sediment accumulation in the outer sections of these two regions. There are 6 figures and 3 Soviet references.

ASSOCIATION: Institut fiziki Zemli AN SSSR, Moskva (The Institute of the Physics of the Earth of the USSR AS, Moscow)

Figure 1: Records of waves reflected from the surface of the floor (Д) and the interfaces of the sediments (1,2,3) obtained on a moving vessel, 3 and 4- upper tracks signal recording at various amplifications



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On the structure of the sedimentary mass in certain ...

Figure 1 continued:

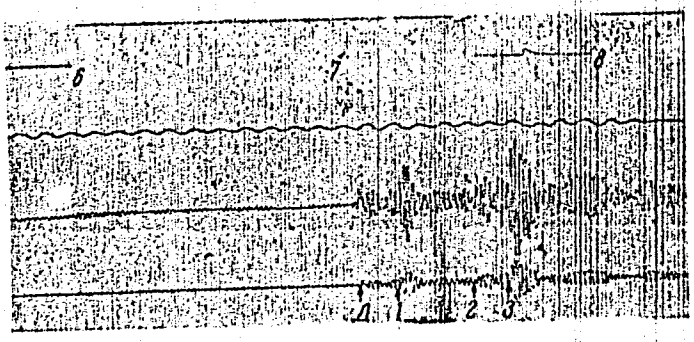

Figure 2: Recording of the reflections from the floor surface (Д) and the interfaces in sediments (1,2,3) obtained with the aid of a multi-channel set-up. Route 1-5 above- recording of various hydrophones of the multi-channel set-up. At 6 - 8 routes-recording of the 1st, 3d and 5th hydrophones with a lowered sensitivity.

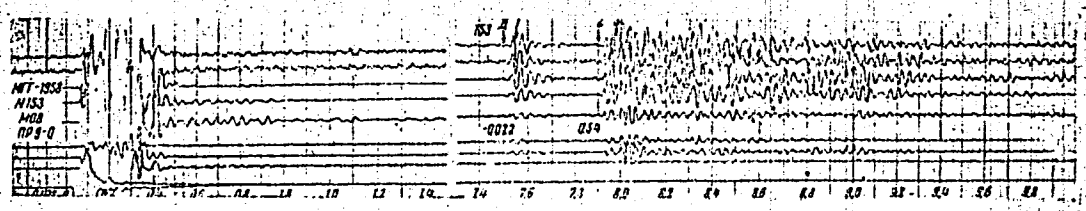

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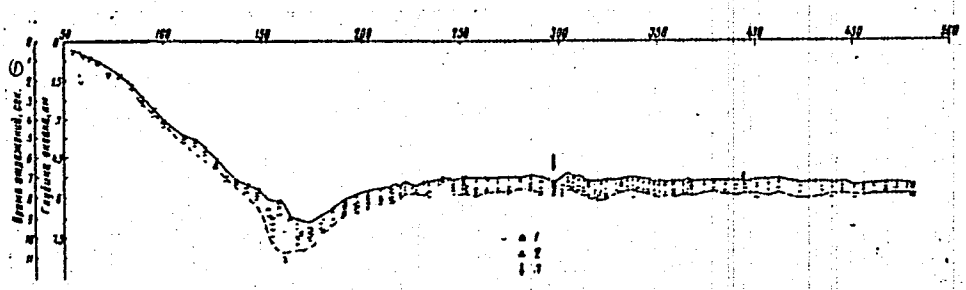
Figure 3: t-time of reflection, sec. Times of vertical reflection at profile 9, transgressing the Kurilo-Kamchatka Deep-Water Depression from the southern end of the Kamchatka peninsula. 1 - times obtained in observing the reflections on a moving ship, 2 by multi-channel set-up, 3 - places on the profile with sharp change of the time of reflection from the bottom and interfaces in the sediments



Фиг. 3. Времена прихода вертикальных отражений на профиле 9, пересекающем Курило-Камчатскую глубоководную впадину от южного окончания полуострова Камчатка.
1 — времена, полученные при наблюдениях отражений на движущемся корабле, 2 — многоканальной установкой, 3 — места на профиле с резким изменением времени прихода отражений от дна и границ в осадках

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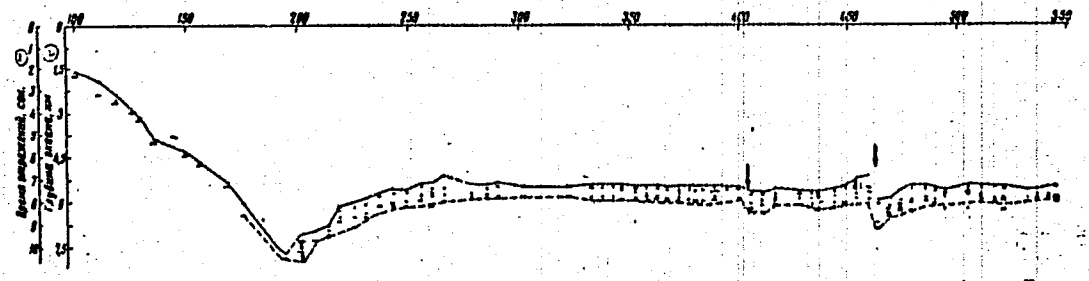
Figure 4: 1 - times of reflections, sec, 2 - ocean depth, km. Times of the vertical reflection on profile 7, transgressing the Kurilo-Kamchatka Deep-Water Depression from the region of Petropavlovsk on Kamchatka. Symbols of Figure 3



Фиг. 4. Времена прихода вертикальных отражений на профиле 7, пересекающем Курило-Камчатскую глубоководную впадину от района г. Петропавловск на Камчатке.
Обозначения см. фиг. 3

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Figure 5: 1 - ocean depth, km, 2 - time of reflection, sec. Times of the vertical reflections on profile 8, transgressing the Aleutes Deep-Water Depression from the Komandorskiy Islands.

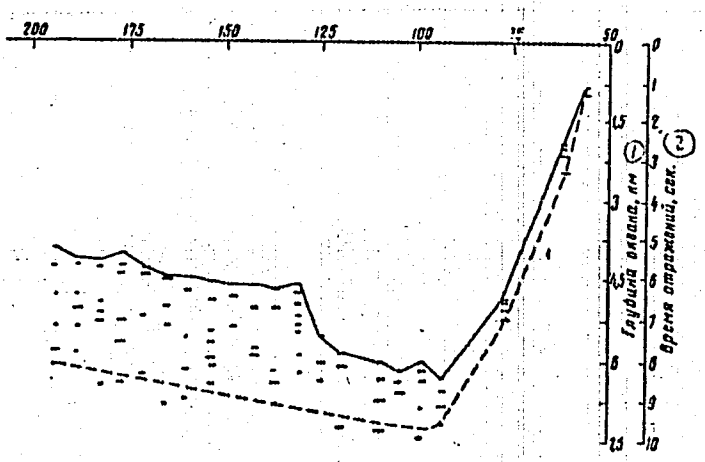

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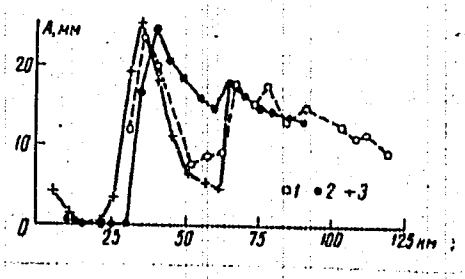
Figure 6: Comparison of experimental and calculated amplitude graphs for three-fold reflected water waves in the ocean for determining the rates in the sediments

1-experimental data, 2 - calculated data for the first critical angle, (second maximum of the graph corresponds to the value of the rate in the floor layer of about 1.65 km/sec, the first maximum-to the value of the rate of the longitudinal waves in a deeper layer of sediments of about 1.90 km/sec), 3 - calculated data for the second critical angle (first maximum corresponds to the rate of the transverse waves in a deep layer of sediments of about 1.90 km/sec).



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D242/D301

AUTHORS: Aver'yanov, A. G., Veytsman, P. S., Gal'perin, Ye. I., Zverev, S. M., Zayonchkovskiy, M. A., Kosminskaya, I. P., Krakshina, R. M., Mikhota, G. G., and Tulina, Yu. V.

TITLE: Deep seismic sounding in the transitional zone between the continent of Asia and the Pacific Ocean during the International Geophysical Year

PERIODICAL: Akademiya nauk SSSR. Seriya geofizicheskaya. Izvestiya, no 2, 1961, 169-184

TEXT: As part of the IGY program scientists of the Institut fiziki zemli AN SSSR (Institute of Physics of the Earth AS USSR), the Vsesoyuznyy nauchno-issledovatel'skiy institut geofiziki Ministerstva geologii i okhrany nedr SSSR (All-Union Scientific-Research of the Ministry of Geology and Mineral Resources of the USSR) and other organizations investigated the crustal structure of the Okhotsk Sea by means of deep seismic sounding. The area

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Deep seismic sounding...

was chosen since very little is known of the nature of the crust in such transitional zones between continents and oceans. It is separated from the Pacific by the Kurile Island Arc which is bordered by a deep ocean containing seismologically active zones with deep foci and large positive gravity anomalies. The main observations were undertaken along profiles with lengths of about 8000 km, orientated transversely to the supposed structures of the study area, as described by Ye. I. Gal'perin, A. V. Goryachev and S. M. Zverev (Ref. 1: Issledovaniye zemnoy kory v oblasti perekhoda ot Aziatskogo kontinenta k Tikhomu okeany (Investigation of the Crust in the Area of Transition between the Continent of Asia and the Pacific Ocean) Sb. XII razdel programmy MGG (seysmologiya), No. 1. Izd. AN SSSR, 1958) and by V. G. Vasil'yev et al (Ref. 2: Issledovaniye zemnoy kory v oblasti perekhoda ot Aziatskogo kontinenta k Tikhomu okeany (Investigation of the Crust in the Area of Transition between the Continent of Asia and the Pacific Ocean) Sb. "Seysmicheskiye issledovaniya v period MGG"

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Deep seismic sounding...

No. 4, Izd. An SSSR, 1960). The area near Iturup Island was also investigated on a special grid. The data was collected by the method of movable explosion points with single-point recording at fixed stations; the details are given by Ye. I. Gal'perin and I. P. Kosminskaya (Ref. 3: Osobennosti metodiki glubinnogo seysmicheskogo zondirovaniya na more (Features of the Method of Deep Seismic Sounding at Sea) Izv. AN SSSR, Ser. geofiz., No. 7, 1958). Use was also made of the results of experiments conducted by G. A. Gamburtsev (Ref. 6: O glubinnom seysmicheskom zondirovanii zemnoy kory i nekotorykh drugikh prilozheniyakh metodom vysokochuvstvitel'noy zapisi seysmicheskikh kolebaniy (The Deep Seismic Sounding of the Crust and some other Applications by the Method of Highly Sensitive Recording of Seismic Oscillations) Izbr. tr., Izd. Akad. Nauk SSSR, 1960) and P. S. Veytsman (Ref. 7: O resul'tatakh rabot po glubinnomu seysmicheskomu zondirovaniyu zemnoy kory v odnom iz gornykh rayonov Sredney Azii (Results of the Deep Seismic Sounding of the Crust in a Mountainous District of Central

X

Deep seismic sounding...

Asia) Stud, Geophys. et Geodaet., No. 2, 1958) in continental areas of the Soviet Union. In contrast to foreign practice, it was possible by employing several recording stations on the line of observation to obtain the types of time-travel curves shown in Fig. 2 during a single boat journey. Wave recordings were also made on the explosion vessel. The bottom reflections provided information on the depth of water and the structure of bottom sediments in accordance with the procedure mentioned by S. M. Zverev (Ref. 10: O stroyenii osadochnoy tolshchi nekotorykh uchastkov Tikhogo okeana po dannym seysmicheskikh otrazhennykh voln (Structure of the Sediment Layer of Certain Parts of the Pacific Ocean from the Data of Reflected Seismic Waves) Izv. AN SSSR, ser. geol., No. 2, 1960). The explosions of charges weighing about 100 kg were recorded on a low-frequency seismic device with a filtration range of 0.7 - 15 hertz at distances of up to 200 - 250 km on the sea and 100 - 150 km on the ocean. The receivers consisted of hydrophones with cascade intensification.

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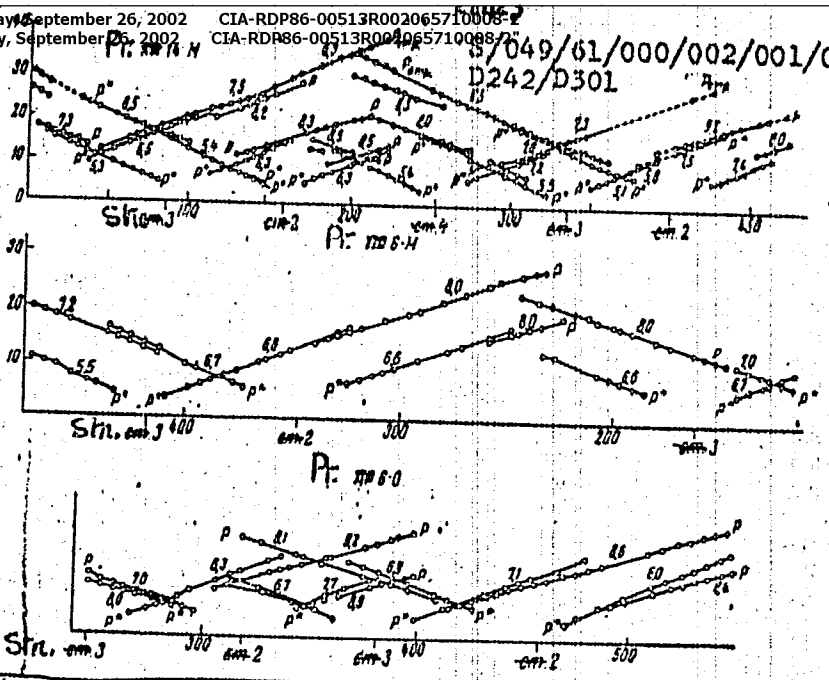
Deep seismic sounding...

Fig. 1. Examples of hodograph systems obtained in the Okhotsk Sea (14-M, 6-M) and Pacific Ocean (6-O)



Фиг. 2. Примеры систем годографов, полученных в Охотском море (14-М, 6-М) и Тихом океане (6-О)

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Deep seismic sounding...

The waves were separated and correlated by recording their intensity simultaneously with the construction of the hodographs which were set out in such a way that the coordinate origin corresponded to the position of the recording station, the time of wave-arrival being plotted over the positions of the explosion sites. Despite the complexity of the recordings, especially in island and littoral areas, several types of waves related to crustal discontinuities, bottom sediments and the water layer were distinguished on the seismograms, including refracted longitudinal waves associated with boundaries in the sediment layer (P_{sed}) and the actual crust (P^o and P^*) and with the Mohorovicic discontinuity at the base of the crust. Waves of the first type have speeds of 5 km/sec and were observed near the Kuriles and on most sea profiles. The velocities of the P^o and P^* waves mainly recorded in island areas and near Kamchatka are 6 and 6.5 - 7 km/sec respectively. The leading P waves refracted from the Mohorovicic discontinuity

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Deep seismic sounding...

travel at speeds of about 8.5 km/sec. Waves (P_R) reflected from the Mohorovicic and other discontinuities were also noted in addition to the refracted waves, although it was only possible to distinguish them with any clarity in certain regions - mainly the northern and central parts of the Okhotsk Sea, where their amplitude is greater than that of the other wave-types. Analysis of the hodographs discloses the existence of three main wave-types defined by differences in the arrival and transit time of the waves, by the areas where they were recorded and by the presence or absence of the P^o and P* groups (Fig. 9). By plotting the values for the relationship of the mean velocity v to the depth h, three types of velocity curves corresponding to continental-, intermediate- and oceanic-type hodographs were also obtained. Continental-type hodographs are characteristic of large areas in the northern and central parts of the Okhotsk Sea and in the northern Kuriles, where work by P. S. Veytsman et al. (Ref. 11: Nekotoryye rezul'taty izucheniya stroyeniya zemnoy kory v oblasti

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Deep seismic sounding...

Kuril'skoy ostrovnoy dugi i prilegayushchikh uchastkov Tikhogo okeana podannym glubinnogo seysmicheskogo zondirovaniya (Some Results of the Study of Crustal Structure in the Kurile Island Arc and Adjoining Parts of the Pacific Ocean from the Data of Deep Seismic Sounding) Izv. AN SSSR, ser. geol., No. 1, 1961) has already indicated that the crust is of the continental type; In the continental-type hodographs the arrival times of the P_0, P* and P waves are at a maximum, the transit time of the P waves being 18 - 19 sec. There are two forms of hodograph; one represents a three-layer crust (sediments - 'granite'-'basalt') for the region near Kamchatka and Sakhalin, while the other corresponds to a granite crust (with local basalt layers) in the north of the Okhotsk Sea. According to the velocity-depth curves the continental-type crust, whose thickness throughout the study area may vary from 20 to 30 km, includes thick or thin sedimentary layers. Oceanic-type hodographs cover areas approximately outlined by the 5 km isobath. The arrival time of the P* and P waves

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Deep seismic sounding...

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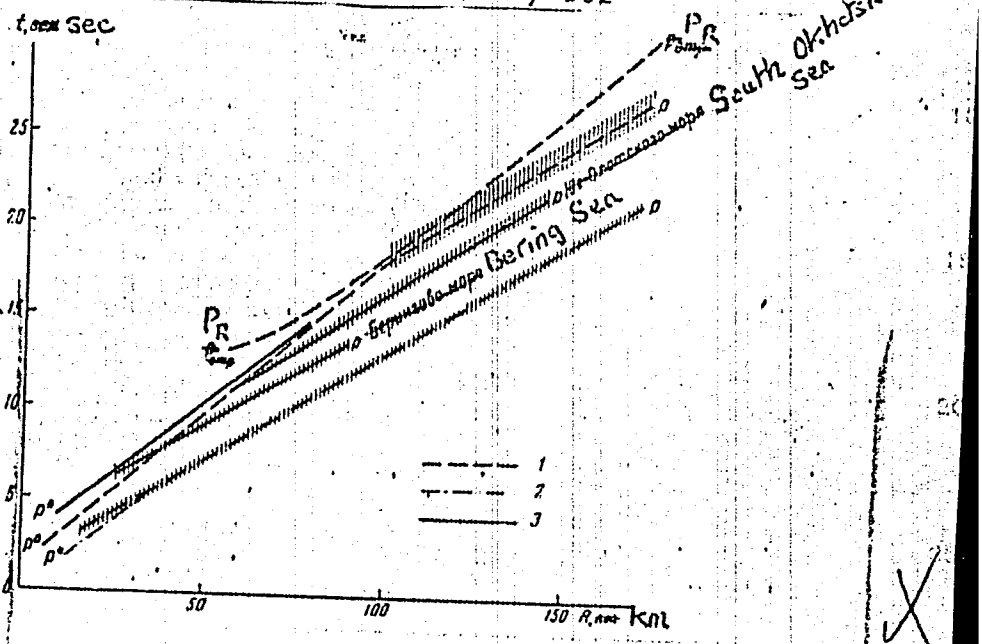

Fig. 9. Principal hodograph types. 1-continental 2-oceanic 3-intermediate striations denote areas where there are different types of hodograph waves; Type 3 characterizes hodographs for the Bering and Okhotsk Seas

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Deep seismic sounding...

is at a minimum and the transit time for the latter waves is $\leqslant$ 14 sec. The presence of a thin basalt crust with a thickness of about 5 - 12 km may be inferred from the observational data. The intermediate-type hodographs are representative of the southern part of the Okhotsk Sea and the neighborhood of the Komandorskiye Islands. They are distinguished by the existence of P* and P waves and by the large area in which waves of the first type were recorded; the transit time of the P waves is 15 - 17 sec. The velocity-depth curves resemble those for the continental-type crust in abyssal parts of the Okhotsk Sea, where the sediment thickness appears to be considerable, and those for the oceanic-type crust in the Bering Sea. The authors conclude by stating that a composite interpretation of the data of deep seismic sounding and of gravimetric, aeromagnetic and geologic observations in this region will be made subsequently which may possibly expose the patterns of development of crustal structure and also clarify the conditions and sequence of transition from one type

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Deep seismic sounding...

of crustal structure to another. In addition, they emphasize the desirability of comparing their data with those from other global zones. There are 13 figures and 12 references: 10 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: R. W. Reitt - Seismic-refraction studies of the Pacific Ocean Basin, p. 1. Crustal thickness of the central equatorial Pacific, Bull. Geol. Soc. Amer., 67, No.12, 1956; M. Talwani, G. H. Sutton and J. L. Worzel - A crustal section across the Puerto Rico Trench, J. Geophys. Res., 64, No. 10, 1959.

ASSOCIATION: Akademiya nauk SSSR, institut fiziki zemli (Institute of Physics of the Earth, AS USSR)

SUBMITTED: July 24, 1960

Card 11/11

ZVEREV, S.M., red.; MIKHOTA, G.G., red.; POMERANTSEVA, I.V., red.; MARGOT'YEVA, M.V., red.; Prinimali uchastiye: YEPINAT'YEVA, A.M., red.; BERSON, I.S., red.; PARKHOMENKO, I.S., red.; REYCHERT, L.A., ved. red.; YASHCHURZHINSKAYA, A.B., tekhn. red.

[Deep seismic sounding of the earth's crust in the U.S.S.R.; collection of reports]Glubinnoe seismicheskoe zondirovanie zemnoi kory v SSSR; sbornik dokladov. Leningrad, Gostoptekhizdat, 1962. 494 p. (MIRA 15:8)

1. Soveshchaniye po glubinnomu seysmicheskomu zondirovaniyu zemnoy kory. 1st, Moscow, 1960. 2. Institut fiziki Zemli Akademii nauk SSSR (for Yepinat'yeva, Berzon, Parkhomenko).
(Earth—Surface) (Seismology)

ZVEREV, S.M.

Frequency characteristics of explosions during deep seismic sounding in a deep sea. Izv. AN SSSR. Ser. geofiz. no.3:359-367 Mr '62. (MIRA 15:2)

1. AN SSSR, Institut fiziki Zemli.
(Seismic prospecting)

ZVEREV, Sergey Mitrofanovich; TATARINOVA, Ye.I., red.

[Seismic investigations in the sea] Seismicheskie issledovaniia na more. Moskva, Izd-vo Mosk. univ., 1964. 186 p. (MIRA 18:1)

GAYNANOV, A.G.; TULINA, Yu.V.; KOSMINSKAYA, I.P.; ZVEREV, S.M.; VEYTSMAN, P.S.; SOLOV'YEV, O.N.

Complex interpretation of the materials on geophysical observations in the Sea of Okhotsk and Kurilo-Kamchatka zone of the Pacific Ocean. Seism. issl. no.6:60-65 '65.
(MIRA 18:9)

L 13840-66 EWT(1)/EWA(h) GW

ACC NR: AR6000816 SOURCE CODE: UR/0169/65/000/009/G022/G023

SOURCE: Ref. zh. Geofizika, Abs. 9G188

AUTHOR: Zverev, S. M.; Mironova, V. I.

29
B

TITLE: Some results of deep seismic sounding recordings by regional seismic stations on the Black Sea

CITED SOURCE: Sb. Vopr. metodiki glubin. seysmich. zondirovaniya. M., Nauka, 1965, 84-96

TOPIC TAGS: seismic prospecting, seismic wave, seismology

TRANSLATION: The authors analyze data for explosions recorded on deep seismic sounding profiles of the Black Sea area by regional seismic stations at Yalta and Alushta. It is shown that equipment with an amplification of 30,000 comes close to deep seismic sounding equipment with respect to effective sensitivity and recording range, although the time service accuracy is rather low as is the scanning speed of the paper in seismologic stations. Three-component stations showed that waves generated by explosions during deep seismic sounding at sea have predominant vertical

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UDC: 550.340.17

L 13840-66

ACC NR: AR6000816

components only in the region of first arrivals. Constant amplification in the seismologic channels was useful for plotting the average dynamic wave characteristics. Intense waves were recorded which showed several features similar to surface waves. It is possible that these are "associated" waves generated in shelf deposits by acoustic waves when they approach the deep side of an underwater ravine. It is pointed out that there is a relationship between the increased attenuation of waves passing through the epicentral zone and an increased number of epicenters. It is shown that it would be advantageous to combine various modifications of seismic methods in studying the crustal structure.

SUB CODE: 08

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2

L 21466-66 EWT(1)/FCC/EWA(h)

ACC NR: AT6010298 SOURCE CODE: UR/3195/65/000/006/0060/0065

AUTHOR: Gaynanov, A. G.; Tulina, Yu. V.; Kosminskaya, I. P.; Zverev, S. M.; Veytsman, P. S.; Solov'yev, O. N.

ORG: none

TITLE: Comprehensive interpretation of data from geophysical observations in the Sea of Okhotsk and the Kurile-Kamchatka zone of the Pacific Ocean

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. Seysmicheskiye issledovaniya, no. 6, 1965, 60-65

TOPIC TAGS: seismology, gravimetry, geomagnetism, deep seismic sounding, geophysical anomaly, transition zone

ABSTRACT: Data on the earth's crust acquired during the IGY from geological and geophysical studies (by magnetic, gravimetric, and seismic methods) in the transitional zone between Asia and the Pacific Ocean were used to investigate two problems: 1) qualitative comparison of special features of anomalous gravitational and magnetic fields with structures of the earth's crust determined by seismic data (deep seismic sounding); and 2) some results from a quantitative comparison of gravitational and magnetic anomalies with deep seismic-sounding data. A map of magnetic anomalies shows moderate isometric anomalies in the Sea of Okhotsk and pronounced anomalies in narrow belts in the Sea of Okhotsk, along the Kurile-Kamchatka ridge and adjacent

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"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

ACC NR: AT6010298

parts of the Pacific, and near the Komandorskiye Islands. The sources of magnetic anomalies in the North Okhotsk and Sakhalin depressions seem to be confined to the uppermost or lowermost portions of the "granitic" layer and the upper part of the "basaltic" layer. In areas in the Pacific off the Kurile Islands, the anomalies are in the uppermost part of the mantle, and east of the deep offshore trench, they are in the upper mantle and the "basaltic" layer. It can be assumed that these magnetic anomalies are caused by processes associated with the formation of discontinuities and lava intrusions from the upper mantle onto the ocean floor. Comparisons of the anomalous gravitational field with deep seismic-sounding data showed that the principal features of the field coincide with the structures in the crust indicated by the sounding data thus making it possible to identify regions of anomalous density. Orig. art. has: 4 figures.

[EO]

SUB CODE: 08/ SUBM DATE: none/ ATD PRESS: 4221

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

ACC NR: AP6032417 (N) SOURCE CODE: UR/0387/66/000/009/0012/0022

AUTHOR: Zverev, S. M.; Galkin, I. N.

19
B

ORG: Institute of Physics of the Earth, Academy of Sciences, SSSR (Institut fiziki Zemli, Akademiya nauk SSSR)

TITLE: Methods of observation and possibilities of increasing the recording range in deep seismic sounding at sea

SOURCE: AN SSSR. Izvestiya, Fizika Zemli, no. 9, 1966, 12-22

TOPIC TAGS: deep seismic sounding, seismic measurement, marine seismic measurement, oceanographic seismic measurement, seismic noise background, MICROSEISM, SEISMOGRAPHY, UNDERWATER SOUND EQUIPMENT, OCEAN ACOUSTICS

ABSTRACT: The state-of-the-art of regional microseismic investigations on land and at sea in the USSR and in non-Soviet countries, primarily the USA, is outlined. On the basis of data obtained in 1963—1964 by the Pacific Ocean Deep Seismic Sounding Expedition of the Institute of Physics of the Earth of the Academy of Sciences USSR, the problem of improving the recording range, instrument parameters, and techniques of seismic measurements at sea is examined. Comparison of the absolute values of signals recorded during deep seismic sounding with the microseism background levels at sea shows that during observations at a specific water layer or with the hydrophone on the bottom, the level of regional background noise sets certain limits on the effective sensitivity of this method. The level of regional microseisms is found to

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ACC NR: AP6032417

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be lower on land than at sea. This is in agreement with the high effective sensitivity and recording range observed during coastal observations of marine detonations. The level and spectral composition of regional interference permit improved parameters of apparatus used in deep seismic-sounding operations at sea, especially in establishing the necessary sensitivity — minimal signal that can be reliably recorded (0.1 dyne/cm^2 in the 2—12 cps band)—and the necessary cut-off characteristics from the low frequency side, beginning at 2—3 cps. Orig. art. has: 4 figures. [DM]

SUB CODE: 08/ SUBM DATE: 14Jun65/ ORIG REF: 016/ OTH REF: 023/ ATD PRESS: 5093

Card 2/2

ACC NR: AT6028734 (N) SOURCE CODE: UR/3152/66/000/010/0041/0047

AUTHOR: Galkin, I. N.; Zverev, S. M.

ORG: none

TITLE: Hydrophones for deep-sea seismic sounding

SOURCE: Razvedochnaya geofizika, no. 10, 1966, 41-47

TOPIC TAGS: seismologic instrument, ocean acoustics, seismic wave

ABSTRACT: A novel light-weight piezoelectric hydrophone is described which will record elastic waves over a wide dynamic and frequency range. It was developed at the Institute of Physics of the Earth, AN SSSR (Institut fiziki Zemli AN SSSR). The device makes it possible to record simultaneously, without distortion, waves originating from deep-lying interfaces in the earth's crust and sound waves propagating in the water. The sensors are cylindrical radially polarized piezoceramics (either barium titanate or lead zirconate titanate), characterized by high mechanical strength, thermal stability, and resistance to moisture. A low-voltage version of a preamplifier, designed to increase the signal level at the point of reception and to match the high-resistance piezoelement with the recording circuits, is diagrammed

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and discussed. The hydrophone weighs 0.4 kg, and its parameters are: sensitivity, 35 — 50 μv/dyne/cm^2; transmission band from 1 cps to 1 kc; a minimum value of 0.2 dyne/cm^2 of signals detectable against a noise background; a maximum undistorted signal of ~200 x 10 dyne/cm^2; and a dynamic range of the order of 120 db. Orig. art. has: 1 table and 4 figures.

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 006

kh

ZVEREV, S.M., kand. geol.-miner. nauk, otv. red.; FREMD, V.M., red.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

[Problems of the methodology of deep seismic sounding] Voprosy metodiki glubinnogo seismicheskogo zondirovaniia. Moskva, Nauka, 1965. 173 p. (MIRA 18:3)

1. Akademiya nauk SSSR. Institut fiziki Zemli.

ZVEREV S.M.

L 31816-65 EWT(1)/EWA(h) Peb GW
AM4045250 BOOK EXPLOITATION S/

Akademiya nauk SSSR. Institut fiziki zemli im. O. Yu. Shmidta

Structure of the earth's crust in the zone of transition from the continent of Asia to the Pacific Ocean (Stroyeniye zemnoy kory v oblasti perekhoda ot Aziatskogo kontinenta k Tikhomu Okeanu) Moscow, Izd-vo "Nauka", 1964. 307 p. illus., biblio., foldin charts (in portfolio). Errata slip inserted. 1200 copies printed. Responsible editors: Ye. I. Gal'perin, I. P. Kosminskaya; Editor of the publishing house: S. I. Masarskiy; Technical editor: Ye V. Makuni, S. G. Tikhomirova

TOPIC TAGS: area seismic sounding, earth crust, geophysics, international geophysical year, ocean, seismic wave

PURPOSE AND COVERAGE: This monograph is devoted to studies by the method of deep seismic sounding (GSZ) in the zone of transition from the Asiatic continent to the Pacific Ocean (Kamchatka, the Kurile peninsula, Bering Sea, etc.) during the International Geophysical Year (MGG). The material is presented as a collection of individual chapters, although all are devoted to a single problem and are

Card 1/3

essentially parts of one book. The authors express their gratitude to Professor V. V. Fedynskiy, Chairman of the working subgroup of the Sovetskiy Natsional'nyy Komitet, initiator and organizer of complex geophysical research, and also to Corresponding Member of the Academy of Sciences of the USSR V. V. Belousov. The concluding chapter was prepared by A. G. Aver'yanov, P. S. Vaytsman, Ye. I. Gal'perin, S. M. Zverev, and I. P. Kosminskaya.

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NEPROCHNOV, Yu.P.; NEPROCHNOVA, A.F.; ZVEREV, S.M.; MIRONOVA, V.I.; BOKUN, R.A.; CHEKUNOV, A.V.

Recent data on the crustal structure of the Black Sea trough, south of the Crimea. Dokl. AN SSSR 156 no. 3:561-564 '64. (MIRA 17:5)

1. Predstavleno akademikom D.I.Shcherbakovym.

KOSMINSKAYA, I.P.; ZVEREV, S.M.; VEYTSMAN, P.S.; TULINA, Yu.V.; KRAMSHINA, R.M.

Basic features of the structure of the earth's crust under the Sea of Okhotsk and the Kurile-Kamchatka zone of the Pacific Ocean, based on deep seismic sounding data; results of the IGY. Izv. AN SSSR. Ser.geofiz. no.1:20-41 Ja '63. (MIRA 16:2)

1. Institut fiziki Zemli AN SSSR.
(Soviet Far East—Submarine geology) (Seismology)

DOROSHENKO, V. F.; ZVEREV, S. M.; VINOGRADOV, S. A., master

Adjustment of the transition relay of the TEM1 diesel locomotive. Elek. i tepl. tiaga 6 no.9:14-16 S '62.
(MIRA 15:10)

1. Starshiy proyemshchik Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey soobshcheniya depo Zima, Vostochno-Sibirskoy dorogi (for Doroshenko). 2. Teplovozoremontnyy tsekh depo Moskva-Sortirovochnaya-Ryazanskaya (for Vinogradov).

(Diesel locomotives—Testing)
(Electric relays)

SOKOLOVA, N.V.; KAMENEVA, T.G.; BORISOVA, G.V.; ZVEREV, S.M.; MALYSHEVA, N.M.

Neoplastic diseases according to autopsy data in Tomsk for the past 20 years (1938-1956). Vop.onk. 7 no.3:80-83 '61. (MIRA 14:5)

(TOMSK--TUMORS)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

L 15[illegible] EWT(1)/EWA(h) GW

AM5013196

BOOK EXPLOITATION

UR/

550.834 (26)

Zverev, Sergey Mitrofanovich

Marine seismic investigations (Seysmicheskiye issledovaniya na more) [Moscow] Izd-vo Mosk. univ., 1964. 186 p. illus., biblio. Errata slip inserted. 1,200 copies printed.

TOPIC TAGS: marine seismology, seismic sea wave, marine geophysical method, marine seismological instrument

PURPOSE AND COVERAGE: Experience has shown that the conditions of seismic-wave generation and propagation at sea have a number of specific characteristics, which make for considerably different conditions than those of seismic prospecting on land. Therefore, new multipurpose instrumentation and techniques had to be worked out specifically for marine seismic observations. The increase in the scope of marine seismic research required training additional specialists in this field, and, consequently, publication of new manuals in the field of marine geophysics, such as the present book. The book can be divided into five sections: 1) recording

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L 1591-66

AM5013196

of seismic waves at sea; 2) conditions of seismic-wave generation; 3) elastic waves in a water layer; 4) interference in seismic exploration at sea; 5) instruments, methods, and some results of marine seismic research. The book should be of interest not only to students, but also to specialists in geophysics and geologists involved in marine seismic research. There are 128 references, of which 83 are Soviet.

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APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

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L 1591-66

AM5013186

SUB CODE: ES SUBMITTED: 24Nov64

NR REF SOV: 076 OTHER: 052

Card 4/4

[illegible], G.N., doktor med.nauk, polkovnik meditsinskoy sluzhby; ZVEREV, S.P., mayor meditsinskoy sluzhby

Neurologic disorders in acute hypothermia. Voen.-med.zhur. no.1:30-34 '65. (MIRA 18:10)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

[illegible], S. Ye. (Leningrad).

Chases and hooks for holding type-setting forms. Poligr.proizv. no.7:16-17 Jl-Ag '53. (MLRA 6:9)

(Printing industry--Imposition, etc.)

ZVEREV, V.A.; BONDARENKO, Z.N.

Casting of blast furnace coolers. Lit. proizv. no.11,41-42 N '64. (MIRA 18:8)

USSR/Microbiology - Microorganisms Pathogenic for Animals.

Abs Jour : Ref Zhur - Biol., No 12, 1958, 52829

Author : Zverev, P.I.

Inst : Dagestan Agricultural Institute.

Title : Effect of Asbestos Sterilizing Filters on the Activity of Biopreparations Foltered Through Them.

Orig Pub : Tr. Dagestansk. s.-kh. in-ta, 1956, 8, 144-146.

Abstract : Typhoid and paratyphoid agglutinating sera were filtered through a small asbestos filter; their titer was determined before the beginning of the experiment and every 10 minutes thereafter. In the first portions of the filtrate the titer fell 2 to 3 times and only on the 3rd-5th test was the initial titer obtained. Bacteriophage of S. abortus equi was filtered through a similar filter and its

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ZVEREV, P.M.; KHECHINASHVILI, G.G.; CHAYKOVSKAYA, A.L.

New method of pneumoelectric digital plethysmography with a calibration of impulses. Sbor.nauch.trud.Kaf.akush. i gin. 1 LMI no.2:347-353'61. (MIRA 16:7)
(PLETHYSMOGRAPHY)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

ZVEREV P. N.

FDB

May 49

USSR/Engineering
Coal, Pulverized
Armor Plate

"The Performance of Armor Plate Used in Ball-Tube Mills," P. N. Zverev, Engr, 2 pp

"Elek Stants" No 5

To increase service time of newly constructed armor plate, it was necessary to increase armor plate width by 10 - 15 mm and use more abrasive-resistant material. This armor plate is used on mills 287/510 and 287/470 (Soviet construction) which are employed in pulverizing Moscow coals.

44/49T41

FDB

May 49

USSR/Engineering (Contd)

Service time of the newly constructed armor plate is about 7,000 hours.

44/49T41

ZVEREV, P.N.

Increase in the efficiency of industrial electric power plants. Prom. energ. 15 no.8:5-6 Ag '60. (MIRA 15:1)
(Electric power plants)

ZVEREV, P.N., inzh.-polkovnik

War years of "Artilleriiskii zhurnal." Artill. zhur. no.5:16-20 My '58. (MIRA 11:6)

(Artillery--Periodicals)

ZVEREV, P.N., inzh.

Use of the heat of air compressed by compressors. Prom. energ. 19 no.8:13-14 Ag '64. (MIRA 17:11)

Accounting for the gas consumption of industrial plants. Prom. energ. 20 no.10:27-28 O '65. (MIRA 18:10)

AUTHOR: Zverev, S.

TITLE: Underground Fertilization (Podzemnoye udobreniye)

4-58-6-29/37

PERIODICAL: Znaniye - sila, 1958, Nr 6, p 44 (USSR)

ABSTRACT: The co-workers of the Kishinevskiy sel'skokhozyaystvennyy institut (Kishinev Agricultural Institute) have been investigating for several years the possibilities of underground irrigation, heating and fertilization of sugar-beets, vineyards and gardens by means of underground pipes.

1. Irrigation systems--Applications 2. Agriculture--USSR

Card 1/1

ZVEREV, S.

Mechanized loading and unloading at grain procurement stations in Krasnodar Territory. Muk.-elev.prom. 21 no.12:23-26 D '55.

(MLRA 9:4)

1.Krasnodarskaya kontora Zagotzerno.
(Krasnodar Territory--Grain-handling machinery)

STRELOV, S.

Second youth for gears. Znan.sila 34 no.2:26 F '59. (MIRA 12:3)
(Gearing)

VERET, S.I., inzhener

Device for separating shelled grains in moving ear corn. Muk.-elev. prom 22 no.9:29-30 S '56. (MLRA 10:8)

1.Krasnodarskaya krayevaya kontora Zagotzerno.
(Corn handling machinery)

ZVEREV, S.

Suggestions made by efficient workers of grain procurement points of Krasnodar Territory. Muk.-elev.prom.22 no.2:25-26 F '56.

1.Krasnodarskaya kontora Zagotzerno. (MLRA 9:6)
(Krasnodar territory--Granaries--Equipment and supplies)

Descendants of famous flower pots. Znan.sila 34 no.1:30 Ja '59. (MIRA 12:2)

(Reinforced concrete)

ZVEREV, S., inzhener.

Storages with slanting floors. Muk.-elev.prom.22 no.3:22 Mr '56.
(MLRA 9:7)

1.Krasnodarskaya kontora Zagotzerno.
(Granaries) (Floors)

ZVEREV, S., inzhener.

Efficiency promoters' suggestions which have been put into effect at grain receiving points of Krasnodar Territory. Muk.-elev. prom. 23 no.4:25-26 Ap '57. (MLRA 10:5)

1. Krasnodarskaya krayevaya kontora Rosglavzerno.
(Grain--Drying)

ZVEREV, S.

Suggestions of innovators put into effect in the mechanization of loading and unloading operations. Muk.-elev.prom. 21 no.10:26-27 O '55. (MLRA 9:1)

1.Krasnodarskaya krayevaya kontora Zagotzerno.
(Loading and unloading) (Grain--Transportation)

ZVEREV, S.

Movable bin for corn. Muk.-elev.prom. 22 no.4:28 Ap '56.
(MLRA 9:8)

1. Krasnodarskaya kontora Zagotzerno.
(Bins) (Corn (Maize)--Storage)

AL'TOV, G.; IZMAYLOV, Ya.A., kand.tekhn.nauk; NEMCHENKO, G.; ZVEREV, S.

Brief news report. Znan.sila 33 no.12:12-13 D '58. (MIRA 11:12)
(Technology)

AUTHOR: Zverev, S. SOV/4-59-1-18/42

TITLE: The Descendants of a Noted Barrel (Potomki znamenitoy bochki)

PERIODICAL: Znaniye - sila, 1959, Nr 1, p 30 (USSR)

ABSTRACT: Reinforced concrete has become today's principal building material. To many specialists it was a surprise, when at the Conference of Architects and Engineers which took place in the Leningradskiy filial Akademii Stroitel'stva i Arkhitektury SSSR (Leningrad Branch of the USSR Academy of Building and Architecture) it was stated that reinforced concrete is not the ideal combination of metal and concrete. "Armocement" (armotsement) - a thick steel netting poured over with concrete - was indicated as a far better material. The Kolkhoz Market Hall in Leningrad was covered with an arched roof of armocement, the span being 15 m and the thickness of the roof only 2 cm.

Card 1/1

ZVAREV, S.

New type of laboratory at the elevator. Muk.-elev.prom. 20 no.8: 22 Ag '54. (MLRA 7:9)
(Grain elevators)

ZVEREV, S.A., inzh.; YAROSHENKO, D.G., inzh.

Study of the functioning of keramzit-reinforced concrete roof beams. Bet. i zhel.-bet. no.9:422-425 S '61. (MIRA 14:10)
(Volga Hydroelectric Power Station (22nd Congress of the CPSU)--Beams and girders) (Lightweight concrete)

IVANOV-DYATLOV, Ivan Gavrilovich, doktor tekhn. nauk, prof.; AGEYEV, Dmitriy Nikolayevich; ZVEREV, Sergey Aleksandrovich; KONOVALOV, Stepan Vasil'yevich; KURASOVA, Galina Panteleymonovna; POCHTOVIK, Gennadiy Yakovlevich; RADKEVICH, Boris Leonardovich; SHCHEKANENKO, Rostislav Arkad'yevich; GORLOVA, N.B., red.; BODANOVA, A.P., tekhn. red.

[Using claydite concrete in road and bridge construction] Primenenie keramzitobetona v dorozhno-mostovom stroitel'stve. [By] I.G.Ivanov-Diatlov i dr. Moskva, Avtotransizdat, 1963. 271 p. (MIRA 16:12)

(Lightweight concrete) (Bridges, Concrete) (Pavements, Concrete)

IVANOV-DYATLOV, I.B., prof.; ZVEREV, S.A., inzh.; BYCHENKOV, Yu.D., inzh.; DELLOS, K.P., inzh.

Prestressed reinforced keramzit concrete bridge. Avt. dor. 24 no.3: 12-15 Mr '61. (MIRA 14:5)

(Bridge construction) (Lightweight concrete)

ZVEREV, Aleksandr Yevgen'yevich; KURGANOV, Viktor Dmitriyevich; ZVEREV, S.A., dots., red.

[Electron-tube and transistor pulse signal amplifiers; a textbook] Elektronnye i poluprovodnikovye usiliteli impul'snykh signalov; uchebnoe posobie. Moskva, Mosk. aviatsionnyi tekhnologicheskii in-t, 1965. 219 p. (MIRA 18:11)

ZVEREV, S.A.

Use of flasks in bottling standard sera. Probl. gemat. i perel. krovi 10 no.1:54-55 Ja '65. (MIRA 19:1)

1. 3-ya Leningradskaya gorodskaya stantsiya perelivaniya krovi.

GRISHIN, I.I., inzh.; ZVEREV, S.I., inzh.

Increasing the productivity of the D-159 bulldozer. Mekh. stroi. 21 no.1:7-9 Ja '64. (MIRA 17:4)

15-57-5-6815D

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 157 (USSR)

AUTHOR: Zverev, S. M.

TITLE: Improvement of Apparatus and Methods Used in Marine Seismic Explorations (Usovershenstvovaniye apparatury i metodiki morskoy seysmicheskoy razvedki)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Geological and Mineralogical Sciences, presented to (no institution given), Moscow, 1954.

ASSOCIATION: (no institution given)

Card 1/1

GALPERIN, E. I., & GORIACHEV, A. V. and ZVEREV, S. M.

ZVEREV, S. M.

"Crustal Structure Researches in the Transition Region from the Asiatic Continent to thePacific." (Sub-title- "The Pacific Geologo-Geophysical Expedition.")

USSR Academy of Sciences, 1957; XII Seismology, No. 1. 31 pp (Russian)
Special Committee for the International Geophysical Year,

GAL'PERIN, Ye.I., GORYACHEV, A.V., ZVEREV, S.M., PEDASKIY, Y.V., doktor. ., fiziko-matematicheskikh nauk, otv. red.; GILKIN, B.I., red., izd-va,; RYLINA, Yu.V., tekhn. red.

[Studies on the structure of the Earth's crust in the transition region from the Asiatic continent to the Pacific; work of the Pacific geological and geophysical expedition of the Academy of Sciences of the U.S.S.R.] Issledovanie zemnoi kory v oblasti perekhoda ot Aziatskogo kontinenta k Tikhomu okeanu; raboty Tikhookeanskoi kompleksnoi geologo-geofizicheskoi ekspeditsii AN SSSR v 1957 g. Moskva, Izd-vo Akad. nauk SSSR. No. 1.[Twelfth section of the International Geophysical Year program(seismology)] XII razdel programmy MGG (seismologiia) 1958. 25 p. (MIRA 11:10)
(International Geophysical Year, 1957-1958)
(Seismology--Observations)
(Soviet Far East--Geology)

ZVEREV, S.M.

14(5) PHASE I BOOK EXPLOITATION SOV/2818

Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki

Razvedochnaya i promyslovaya geofizika, vyp. 21. (Exploration and Industrial Geophysics, No. 21) Moscow, Gostoptekhizdat, 1958. 112 p. (Series: Obmen proizvodstvennym opytom) Errata slip inserted. 4,500 copies printed.

Ed.: A. I. Bogdanov; Exec. Ed.: N. P. Dobrynina; Tech. Ed.: I. G. Fedotova.

PURPOSE: This booklet is intended for geophysical engineering and technical personnel in the petroleum industry.

COVERAGE: Individual articles of this collection discuss improvements in methods of interpreting seismic and gravimetric data, testing of seismic receivers, and the refinement of seismic station amplifiers. A nomogram is described for the rapid computation of magnetic properties of rock samples, and a summary is provided of experience in marking oil contacts.

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Improved methods and equipment of radioactive methods of surveying boreholes are also discussed. References accompany individual articles.

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Exploration and Industrial (Cont.) SOV/2818

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PHASE I BOOK EXPLOITATION 1031

Prikladnaya geofizika; sbornik statey, vyp. 19 (Applied Geophysics; Collection of Articles, Nr. 19) Moscow, Gostoptekhizdat, 1958. 253 p. 3,000 copies printed.

Sponsoring Agency: Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki

Ed. Bogdanov, A.I.; Executive Ed.: Dobrynina, N.P.; Tech. Ed.: Polosina, A.S.

PURPOSE: This collection of articles is intended for professional geophysicists engaged in scientific research or working in industrial enterprises.

COVERAGE: The articles are devoted to a discussion of methods of interpreting various types of electrical logs, methods of determining the porosity, permeability, and specific surface characteristics

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of water bearing rocks, and methods of determining the physical properties of sediments and the characteristics of various physical parameters. A description of piezoelectric pressure recorders used in seismic exploration is also given. The articles are accompanied by graphs, tables, and bibliographic references.

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PAVLOV, G. N., BIZAR, P. S., GALPERIN, E. I., ZAYONCHKOVSKIY, M. A., KOSMINSKAYA, I. P., MICHOTA, G. G.

"Deep Seismic Sounding in the Zone of Transition Between the Asiatic Continent and the Pacific Ocean."

Paper Presented at CSAGI Meeting, 30 Jul - 9 Aug 58, Moscow
Available in Library

ZVEREV, S.M.

Seismic observations of West Siberian rivers. Razved. i prom. geofiz. no.21:16-23 '58. (MIRA 11:10)
(Siberia, Western--Prospecting--Geophysical methods)
(Seismic waves)

AUTHOR: Zverev, S. M.

TITLE: The Application of Sound Recordings for Determination of Distances in Seismic Soundings in the Sea (Ispol'zovaniye zapisey zvuka dlya opredeleniya rasstoyaniy pri rabotakh po glubinnomu seysmicheskomu zondirovaniyu na more)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 4, pp 560-569 and 2 plates (USSR)

ABSTRACT: Two methods of exact determination of distance from the recordings of sound waves are described. One of the methods is based on the first recording of the sound wave and on its velocity in water in relation to the depth and profile of the sea-bed. The accuracy obtained in using this method was 0.4%. The second method is based on the recordings of the first group of sound waves. The accuracy in this case was 0.7%. The results of experiments are illustrated in Figs 1 to 10 and in the table on p 568. Figs 1 and 2 show photographs of the seismograms. Fig 1a illustrates the succession of entrance waves at different impulses of sound at various points (shown in 1b) along a profile. Fig 2 illustrates successive seismograms obtained when the distance from the points of detonation was gradually increased. The first entering impulses are framed. The data obtained from the seismograms Figs 1 and 2

The Application of Sound Recordings for Determination of Distances in Seismic Soundings in the Sea

are tabulated in the table on p 568, where Column 1 gives the seismogram number, Column 2 - time of first entrance, Column 3 - time of group entrance, Column 4 - approximate distance for V = 1470 , Column 5 - velocity of first entry as in Fig 6, Column 6 - distance calculated from first entry, distance calculated from group recording. Fig 3 represents the sound velocity in relation to the depth of the Pacific near the Kuril Islands. Fig 4 shows the graph of sound velocity V in relation to the various distances found from the impulse of entry (1 - layers of uniform gradient, 2 - lowest layer); Fig 5 - trajectories of sound rays according to their entry: 1 - first arrived, 2 - second, 3 - third, 4 - touching the sea-bed. Fig 6 represents the velocities corresponding to the first entrance of sound waves along the profile 5.8 km deep. Fig 8 gives the time difference of entry of the separate impulses; Fig 9 - amplitude of the first entries from the

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The Application of Sound Recordings for Determination of Distances in Seismic Soundings in the Sea

seismogram in Fig 2 and the projectories of the corresponding rise. Fig 10 shows the relationship of the velocity V and the distance from the source of the rays x to the depth H. There are 10 figures, 1 table and 11 Soviet references.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: August 18, 1958.

S/169/61/000/012/001/089
D228/D305

AUTHOR: Veytsman, P. S., Gal'perin, Ye. I., Zverev, S. M., Kosminskaya, I. P., and Krakshina, R. M.

TITLE: Some data on the structure of the crust in the transitional zone from the Asiatic Continent to the Pacific Ocean

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1961, 5, abstract 12A34 (V sb. Geol. resultaty prikl. geokhimii i geofiz. Razdel 2. M., Gosgeol-tekhizdat, 1960, 37-42)

TEXT: Complex geophysical research was carried out on the structure of the crust in the transitional zone from the Asiatic Continent to the Pacific Ocean. The complex of methods included seismic surveying, aeromagnetic surveying, and gravimetry. Geologic investigations were also made in coastal districts. It was possible from the processing of preliminary data to expose

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Some data on...

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3 main types of crustal structure: continental, oceanic, and intermediate. A schematic zoning of the study region was made from the crustal types, and transitional areas from one type to another were distinguished. The transitional region from a continental- to an oceanic-type of crust in the vicinity of the Kuriles Depression, where both the thinning-out of the supra-basaltic stratum and the rise of the surface of the basalt layer and the Mohorovicic surface are observed, is especially noted. [Abstracter's note: Complete translation.]

Card 2/2

ZVEREV, S.M.

Seismograms of water waves near the shadow zone cast by the ocean bottom. Izv. AN SSSR. Ser. geofiz. no.8:1173-1186 Ag '60. (MIRA 13:8)

1. Akademiya nauk SSSR, Institut fiziki Zemli.
(Pacific Ocean--Seismometry)

ZVEREV, S.M.; KOVYLIN, V.M.; UDINTSEV, G.B.

Recent data on the tectonics of the northwestern submarine elevation of the Pacific Ocean. Dokl. AN SSSR 135 no.6:1461-1464 D '60.
(MIRA 13:12)

1. Institut okeanologii Akademii nauk SSSR i Institut fiziki Zemli Akademii nauk SSSR. Predstavleno akademikom N.S.Shatskim.
(Pacific Ocean--Submarine geology)

S/011/61/000/001/001/001
A054/A133

AUTHORS: Veytsman, P.S.; Gal'perin, Ye.I.; Zverev, S.M.; Kosminskaya, I. P.; Krakshina, R.M.; Mikhota, G.G. and Tulina, Yu.V.

TITLE: Some results of studying the Earth's crust in the area of the Kuril Island arc and the adjoining areas of the Pacific Ocean based on deep seismic sounding data

PERIODICAL: Izvestiya Akademii Nauk, SSSR. Seriya geologicheskaya, no.1, 1961, 81 - 86

TEXT: In 1957-58, Soviet geologists surveyed by deep seismic sounding the geology of the region between the Asiatic continent and the Pacific, the area of the Kuril Island arc and surrounding parts of the Pacific. These latter regions are particularly interesting, because in a rather narrow (300 - 400 km) zone the Earth's crust here shows great variations which can be classified in three main groups: 1) continental type crust, consisting of an upper sedimentary and two lower: a granite and a basalt layer. This zone is 20-30 km thick, the average velocity of longitudinal waves in this zone is not more than 6 km/sec. 2) The oceanic part of the crust consists of a thin sedimentary less than 1 km thick and

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a 5 - 10 km thick basalt layer. The wave velocity in this zone (outside the sedimentary layer) is about 7 km/sec. 3) The intermediate zone has an intermediate character both as regards thickness and structure of its layers (in general the sedimentary-basalt structure prevails). The classification into these three groups was based on the time-distance curves of primary waves and the ratio of average speed v to depth h. The geological map of the surveyed area shows that the intricate alternation of these three types of crust-structure cannot be observed in the direction from the island to the ocean only but also along the entire area, from the Hokkaido Island to the Peninsula of Kamchatka. The most intricate crust-structure is found in the area between the island arc and the Kurile-Kamchatka deep trench. According to the crust-structure this area can also be divided into three parts: a) its northern part shows a continental, b) its southern part partly a continental, partly an intermediate character, while c) the central part also consists of two structures: one of an intermediate and one of an oceanic character and seems to be the continuation of the deep-water area of the Okhot Sea. In order to establish the changes in propagation velocity in the transition zone of one typical area of the crust into another, the average $\overline{V}$-values have been determined at a height of 7 km from the bottom. The comparison of the velocity curves with the relief of the bottom revealed a strict regularity in the relations: the oceanic

Some results of studying the Earth's crust ...

plateau corresponds to the highest average values of $\overline{V}$, which drop sharply in the direction from the oceanic plateau to the tabular zone, in northern and southern direction as well, in the area of the eastern slope of the deep trench. The lower values of $\overline{V}$ in the tabular zone are connected with thick sedimentary layers, (near Kamchatka). The areas close to the central and the southern part of the arc display high $\overline{V}$ values and the high $\overline{V}$-values for the oceanic plateau show a stable character (about 7 km/sec). Between the island arc and the deep trench however, there are also extensive low-water areas. When comparing the bathymetric data referring to this area and the structure of the crust it can be established that the low-water areas of the Pacific at the northern and southern regions of the arc correspond to the continental type of the crust, whereas the deep-water areas of the central part of the island arc correspond to the intermediate type of the Earth's crust. The same regularity is also observed for the western coast of the island arc. Gravimetric data show that in regions of the continental type crust structure the anomalies of the gravity force display low values as compared with those registered for the ocean, while in the zones of intermediate crust structure the anomalies also have medium values between oceanic and continental anomalies. The boundaries between the zones of various Δg values correspond roughly to the boundaries betwene the zones of various crust-

Some results of studying the Earth's crust ...

structures. The most intense volcanic activity for the past 200 years was recorded for the central part of the arc, with an intermediate crust-structure, while the highest seismic activity was observed in areas with a continental type structure of the core. In the Kuril arc remarkable and intensive recent movements have been observed, according to which the area can again be divided into three part: in the northern and southern parts a remarkable up-lift is established, whereas the central part - bordered by the Bussol' and Kruzenshtern straits has subsided. There are 4 figures and 9 Soviet-bloc references.

ASSOCIATION: Institut fiziki Zemli AN SSSR, Moskva (Institute of Geophysics, AN USSR, Moscow)

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Papers submitted for the 10th Pacfic Science Congress, Honolulu, Hawaii 21 Aug-6 Sep 1961.

KOLESNIKOV, A. G., [illegible], A. A., and [illegible], E. S., Moscow State University, Physical Faculty, Chair of Marine Physics and Terrain Waters - "On the calculation of rate of radioactivity spreading in depths" (Section VII.B.6)

KOLTUN, V. M., Institute of Zoology - "The method of spicule analysis and possibilities of its use in paleogeographical studies of the Pacific Ocean" (Section III.C)

KORENEVA, Ye. V., Institute of Geology - "Distribution of spores and pollen of terrestrial plants in bottom sediments of the Pacific" (Section III.A)

KORT, V. G., Director, Institute of Oceanology - "The heat exchange between the Antarctic waters and the adjacent oceanic waters" (Section VII.D.1)

KOSHLYAKOV, M. N., Institute of Oceanology - "An example of the computation of the deep currents in the northeastern Pacific" (Section VII.B)

[illegible], M. V., and KOBLENTS-MISHKE, Olga I., Institute of Oceanology - "The interrelation between turbidity, phytoplankton and primary production" (Section III.C.4)

KOZLYANINOV, M. V., Institute of Oceanology - "On the relation between water transparency and the character of currents in some areas of the Pacific Ocean" (Section VII.B)

KOSMINSKAYA, Irina P., KRAKSHINA, R. M., VEYTSMAN, P. S., [illegible], DAVYDOVA, N. I., and GAL'PERIN, B. I., Institute of Earth Physics imeni O. Yu. Schmidt - "Structure of the earth crust in the transition zone from the northwestern part of the Pacific to the Asiatic continent" (Section VII.C.2)

KOSMINSKAYA, Irina P., KRAKSHINA, R. M., and [illegible], Institute of Earth Physics imeni O. Yu. Schmidt - "Specific features of the sedimentary layer in the Okhotsk Sea and in the adjacent parts of the Pacific" (Section VII.C.2)

KOVYLIN, V. M., [illegible], UDINTSEV, G. B., [illegible], Yu. P., [illegible], N. N., and [illegible], G. N., Institute of Oceanology - "On the relation between sedimentation and bottom topography in the northwestern part of the Pacific Ocean" (Section VII.C.1)

KROPOTKIN, P. N., Institute of Geology - "The tectonic map of the Pacific Ocean and the circum Pacific mobile belt (scale 1:10,000,000)" (Section VII.C)

LAVRENT'YEV, M. A., and [illegible], Ye. V., The Siberian Department of the Academy of Sciences USSR - "On the results of investigations of tsunami in the USSR" (Section V.B.1)

LEONT'YEVA, V. V., Institute of Oceanology - "Hydrological data involved with oceanic troughs in the Pacific and some problems connected with prospect research" (Section VII.B)

LEVIN, M. G., Institute of Ethnology - "Once more on the Ainu problem" (Section IX.B)

LISITSYN, A. P., Institute of Oceanology - "The composition of organic suspended material in the Pacific in connection with the problems of sedimentation" (Section VII.C.1)

LISITSYN, A. P., Institute of Oceanology - "Bottom sediments in the Antarctic" (Section VII.D.1)

LUK'YANOV, V. V., Institute of Oceanology - "Cyclonic activity and climatologic fronts in the northern part of the Pacific Ocean" (Section VII.A)

LYUBIMOVA, T. G., All-Union Scientific Research Institute of Marine Fishing and Oceanography - "Some results of icthyological investigations in the gulf of Alaska" (Section III.C)

MAGNITSKIY, V. A., Moscow State University, Physical Faculty, Chair of Hard Crust - "Geophysical data and the problem of the origin of the Pacific Ocean" (Section VII.C.2)

MEDVEDEV, V. S., Institute of Oceanology - "The specific features of bench formation in tidal seas" (Section VII.C.1)

MOKIYEVSKIY, O. B., Institute of Oceanology - "Qualitative-quantitative distribution of the littoral fauna and flora in the northwestern part of the Pacific" (Section III.C)

MURDMAA, Ivan O., Institute of Oceanology - "The process of marine sedimentation in the areas of the Kuril isle arc" (Section VII.C.1)

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AUTHOR: Zverev, S. M.

TITLE: On the structure of the sedimentary mass in certain sections of the Pacific Ocean according to seismic reflected wave data

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya Geologicheskaya, no. 2, 1961, 80 - 86

TEXT: The Institut fiziki Zemli (Institute of the Physics of the Earth) of the USSR AS conducted a study in 1957 - 1958 on deep seismic sounding in the earth's crust of the north-western section of the Pacific Ocean and adjoining water areas. The main method of investigation was primarily based on observing seismic waves from the deep-lying interfaces of the earth's crust to the surface. Data were obtained on the structure of the upper thickness of oceanic sediments. Investigations were carried out simultaneously of the vertical reflections from the ocean bed' surface and interfaces in the sediments, using two major methods: Reflections were registered by one channel in the exploding of high charges mounted on a moving ship. The experiments showed that the reflections were registered favorably at frequencies of 50 - 70 cycles (Fig. 1). A multi-channel floating

set-up was used during brief stops of the vessel, similar to that used in marine seismic explorations of petroleum. It was found that the multi-channel set-up was more effective and sensitive than the single-channel apparatus. The multi-channel set-up was used to register the reflections from the interfaces in sediments both in the region of the ocean floor as well as in the deep depression and various parts of the shelf. It is pointed out that the vertical reflection cuts obtained by observations may be distorted by phenomena of multiple reflection of waves in layers by interference of waves, the length of which is the same as the layer thickness. The observations of the vertical reflections were conducted at all depths of the deep seismic sounding carried out in 1958 and the obtained data for the Pacific Ocean near Kamchatka and Komandorskiy Islands are submitted. The present article deals with the layers of sedimentation thickness expressed in time of the vertical reflection rather than layer strength. Recordings of multiple reflections of waves in the water depth obtained on the seismograms were used to evaluate the rate values in the sedimentations as well as the reflection coefficients of various multiplicity. Favorable coincidence of experimental data with the corresponding theoretical values (Fig. 6) lead to the conclusion that the rate value 1.89 - 1.91 km/sec was the rate of the transverse waves, and in deeper layers of the sediments the rate value of the longitudinal waves was about 3.2 - 3.5 km/

/sec. The following average values of the reflection coefficients were obtained from the ratio of the amplitudes of the 1st and 2nd order vertical reflections: for the floor surface -0.17, for a sharper interface -0.58, for the deepest reflecting surface -0.34. Estimations of the vertical reflection coefficient using Raleigh's formulae showed that the following rates V and densities ρ in the sedimentation layers correspond favorably with the above-given data: a) ocean bed sediments (not compressed): V = 1.65 km/sec, ρ = 1.35g/cm3; b) deeper sediments (compressed): V = 3.5 km/sec, ρ = 2.5 g/cm^3, c) sole of the sediments (crystalline ores): V = 6.4 km/sec, ρ = 2.80 g/cm^3. It is further seen that in all three profiles investigated the nature of the sediments change abruptly when passing through the deep-lying depression. At the No. 9 profile, passing in the southeastern section from the southern edge of the Kamchatka Peninsula and on the western slope of the deep-water depression, there are three main reflecting horizons with intervals of time Δt between the first and last reflections = 0.2 - 0.4 sec (Fig. 3). The No. 7 profile layer is similar to that of 9 (Fig. 4). The author draws the following conclusions from the data obtained: 1) the deep-water depression separates the horizontal-laminar, comparatively slow-changing sedimentation layer of the ocean bed from the complex layer of the shelf sediments. The thickness of the sedimentation ores of the ocean bed changes slowly with an

increase in its distance from the deep-water depression; 2) the surface of the ores covering the sedimentation layer of the ocean within the borders of the regional embankment of the Kurilo-Kamchatka deep-water depression has a complex surface. With an increase in the distance from the depression the surface of the sole becomes more calm. At distances of 150 - 250 km from the axis of the depression, high fault throws are noted, cutting all the sedimentation layers and are expressed in the floor contour. These faults are considered to be the results of comparatively recent tectonic movements, occuring at the edge of the ocean bed in the Kurilo-Kamchatka deep-water depression. The thickness of the sedimentations within the limits of the regional embankment of the Pacific Ocean at the Aleutes deep-water depression is two to three times greater than the sedimentations of the ocean bed near the Kurilo-Kamchatka depression. This indicates that the conditions are quite adverse for sediment accumulation in the outer sections of these two regions. There are 6 figures and 3 Soviet references.

ASSOCIATION: Institut fiziki Zemli AN SSSR, Moskva (The Institute of the Physics of the Earth of the USSR AS, Moscow)

Figure 1: Records of waves reflected from the surface of the floor (Д) and the interfaces of the sediments (1,2,3) obtained on a moving vessel, 3 and 4- upper tracks signal recording at various amplifications

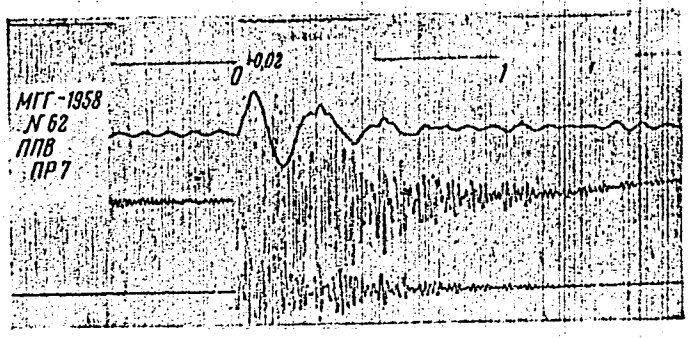

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Figure 1 continued:

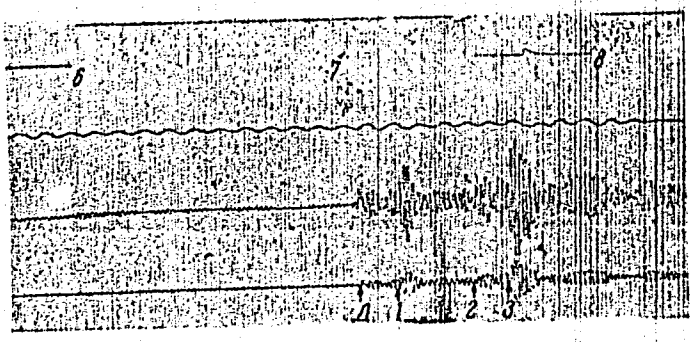

Figure 2: Recording of the reflections from the floor surface (Д) and the interfaces in sediments (1,2,3) obtained with the aid of a multi-channel set-up. Route 1-5 above- recording of various hydrophones of the multi-channel set-up. At 6 - 8 routes-recording of the 1st, 3d and 5th hydrophones with a lowered sensitivity.

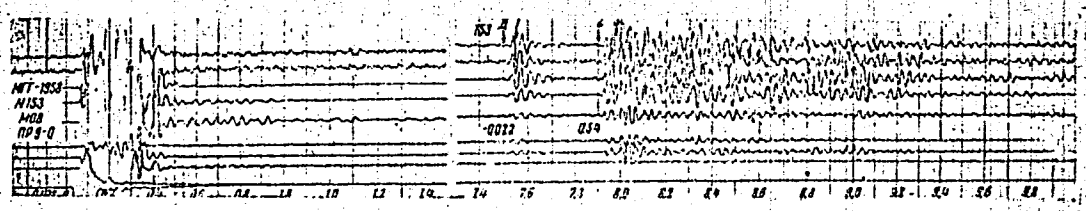

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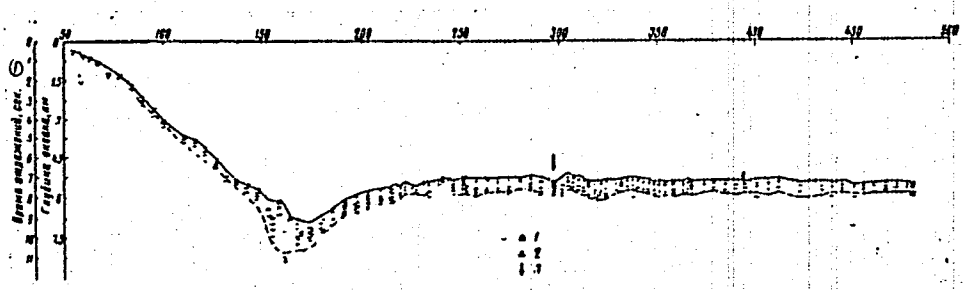
Figure 3: t-time of reflection, sec. Times of vertical reflection at profile 9, transgressing the Kurilo-Kamchatka Deep-Water Depression from the southern end of the Kamchatka peninsula. 1 - times obtained in observing the reflections on a moving ship, 2 by multi-channel set-up, 3 - places on the profile with sharp change of the time of reflection from the bottom and interfaces in the sediments



Фиг. 3. Времена прихода вертикальных отражений на профиле 9, пересекающем Курило-Камчатскую глубоководную впадину от южного окончания полуострова Камчатка.
1 — времена, полученные при наблюдениях отражений на движущемся корабле, 2 — многоканальной установкой, 3 — места на профиле с резким изменением времени прихода отражений от дна и границ в осадках

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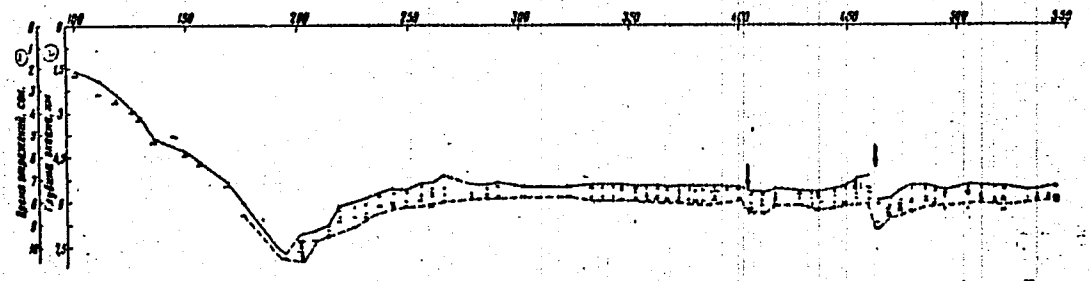
Figure 4: 1 - times of reflections, sec, 2 - ocean depth, km. Times of the vertical reflection on profile 7, transgressing the Kurilo-Kamchatka Deep-Water Depression from the region of Petropavlovsk on Kamchatka. Symbols of Figure 3



Фиг. 4. Времена прихода вертикальных отражений на профиле 7, пересекающем Курило-Камчатскую глубоководную впадину от района г. Петропавловск на Камчатке.
Обозначения см. фиг. 3

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Figure 5: 1 - ocean depth, km, 2 - time of reflection, sec. Times of the vertical reflections on profile 8, transgressing the Aleutes Deep-Water Depression from the Komandorskiy Islands.

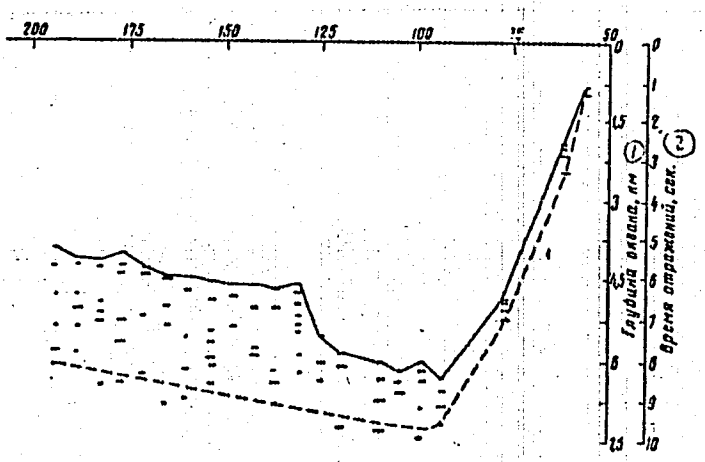

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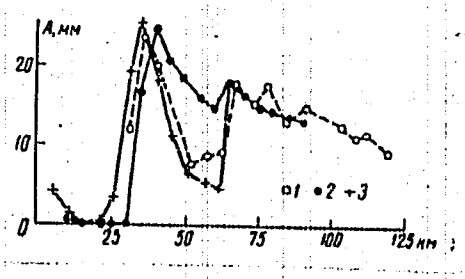
Figure 6: Comparison of experimental and calculated amplitude graphs for three-fold reflected water waves in the ocean for determining the rates in the sediments

1-experimental data, 2 - calculated data for the first critical angle, (second maximum of the graph corresponds to the value of the rate in the floor layer of about 1.65 km/sec, the first maximum-to the value of the rate of the longitudinal waves in a deeper layer of sediments of about 1.90 km/sec), 3 - calculated data for the second critical angle (first maximum corresponds to the rate of the transverse waves in a deep layer of sediments of about 1.90 km/sec).



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AUTHORS: Aver'yanov, A. G., Veytsman, P. S., Gal'perin, Ye. I., Zverev, S. M., Zayonchkovskiy, M. A., Kosminskaya, I. P., Krakshina, R. M., Mikhota, G. G., and Tulina, Yu. V.

TITLE: Deep seismic sounding in the transitional zone between the continent of Asia and the Pacific Ocean during the International Geophysical Year

PERIODICAL: Akademiya nauk SSSR. Seriya geofizicheskaya. Izvestiya, no 2, 1961, 169-184

TEXT: As part of the IGY program scientists of the Institut fiziki zemli AN SSSR (Institute of Physics of the Earth AS USSR), the Vsesoyuznyy nauchno-issledovatel'skiy institut geofiziki Ministerstva geologii i okhrany nedr SSSR (All-Union Scientific-Research of the Ministry of Geology and Mineral Resources of the USSR) and other organizations investigated the crustal structure of the Okhotsk Sea by means of deep seismic sounding. The area

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Deep seismic sounding...

was chosen since very little is known of the nature of the crust in such transitional zones between continents and oceans. It is separated from the Pacific by the Kurile Island Arc which is bordered by a deep ocean containing seismologically active zones with deep foci and large positive gravity anomalies. The main observations were undertaken along profiles with lengths of about 8000 km, orientated transversely to the supposed structures of the study area, as described by Ye. I. Gal'perin, A. V. Goryachev and S. M. Zverev (Ref. 1: Issledovaniye zemnoy kory v oblasti perekhoda ot Aziatskogo kontinenta k Tikhomu okeany (Investigation of the Crust in the Area of Transition between the Continent of Asia and the Pacific Ocean) Sb. XII razdel programmy MGG (seysmologiya), No. 1. Izd. AN SSSR, 1958) and by V. G. Vasil'yev et al (Ref. 2: Issledovaniye zemnoy kory v oblasti perekhoda ot Aziatskogo kontinenta k Tikhomu okeany (Investigation of the Crust in the Area of Transition between the Continent of Asia and the Pacific Ocean) Sb. "Seysmicheskiye issledovaniya v period MGG"

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Deep seismic sounding...

No. 4, Izd. An SSSR, 1960). The area near Iturup Island was also investigated on a special grid. The data was collected by the method of movable explosion points with single-point recording at fixed stations; the details are given by Ye. I. Gal'perin and I. P. Kosminskaya (Ref. 3: Osobennosti metodiki glubinnogo seysmicheskogo zondirovaniya na more (Features of the Method of Deep Seismic Sounding at Sea) Izv. AN SSSR, Ser. geofiz., No. 7, 1958). Use was also made of the results of experiments conducted by G. A. Gamburtsev (Ref. 6: O glubinnom seysmicheskom zondirovanii zemnoy kory i nekotorykh drugikh prilozheniyakh metodom vysokochuvstvitel'noy zapisi seysmicheskikh kolebaniy (The Deep Seismic Sounding of the Crust and some other Applications by the Method of Highly Sensitive Recording of Seismic Oscillations) Izbr. tr., Izd. Akad. Nauk SSSR, 1960) and P. S. Veytsman (Ref. 7: O resul'tatakh rabot po glubinnomu seysmicheskomu zondirovaniyu zemnoy kory v odnom iz gornykh rayonov Sredney Azii (Results of the Deep Seismic Sounding of the Crust in a Mountainous District of Central

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Deep seismic sounding...

Asia) Stud, Geophys. et Geodaet., No. 2, 1958) in continental areas of the Soviet Union. In contrast to foreign practice, it was possible by employing several recording stations on the line of observation to obtain the types of time-travel curves shown in Fig. 2 during a single boat journey. Wave recordings were also made on the explosion vessel. The bottom reflections provided information on the depth of water and the structure of bottom sediments in accordance with the procedure mentioned by S. M. Zverev (Ref. 10: O stroyenii osadochnoy tolshchi nekotorykh uchastkov Tikhogo okeana po dannym seysmicheskikh otrazhennykh voln (Structure of the Sediment Layer of Certain Parts of the Pacific Ocean from the Data of Reflected Seismic Waves) Izv. AN SSSR, ser. geol., No. 2, 1960). The explosions of charges weighing about 100 kg were recorded on a low-frequency seismic device with a filtration range of 0.7 - 15 hertz at distances of up to 200 - 250 km on the sea and 100 - 150 km on the ocean. The receivers consisted of hydrophones with cascade intensification.

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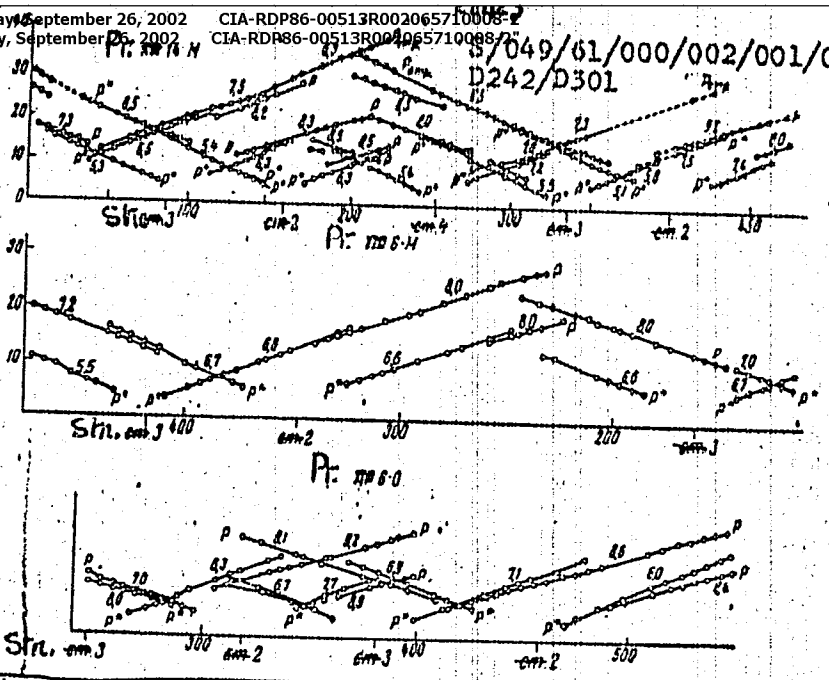
Deep seismic sounding...

Fig. 1. Examples of hodograph systems obtained in the Okhotsk Sea (14-M, 6-M) and Pacific Ocean (6-O)



Фиг. 2. Примеры систем годографов, полученных в Охотском море (14-М, 6-М) и Тихом океане (6-О)

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Deep seismic sounding...

The waves were separated and correlated by recording their intensity simultaneously with the construction of the hodographs which were set out in such a way that the coordinate origin corresponded to the position of the recording station, the time of wave-arrival being plotted over the positions of the explosion sites. Despite the complexity of the recordings, especially in island and littoral areas, several types of waves related to crustal discontinuities, bottom sediments and the water layer were distinguished on the seismograms, including refracted longitudinal waves associated with boundaries in the sediment layer (P_{sed}) and the actual crust (P^o and P^*) and with the Mohorovicic discontinuity at the base of the crust. Waves of the first type have speeds of 5 km/sec and were observed near the Kuriles and on most sea profiles. The velocities of the P^o and P^* waves mainly recorded in island areas and near Kamchatka are 6 and 6.5 - 7 km/sec respectively. The leading P waves refracted from the Mohorovicic discontinuity

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Deep seismic sounding...

travel at speeds of about 8.5 km/sec. Waves (P_R) reflected from the Mohorovicic and other discontinuities were also noted in addition to the refracted waves, although it was only possible to distinguish them with any clarity in certain regions - mainly the northern and central parts of the Okhotsk Sea, where their amplitude is greater than that of the other wave-types. Analysis of the hodographs discloses the existence of three main wave-types defined by differences in the arrival and transit time of the waves, by the areas where they were recorded and by the presence or absence of the P^o and P* groups (Fig. 9). By plotting the values for the relationship of the mean velocity v to the depth h, three types of velocity curves corresponding to continental-, intermediate- and oceanic-type hodographs were also obtained. Continental-type hodographs are characteristic of large areas in the northern and central parts of the Okhotsk Sea and in the northern Kuriles, where work by P. S. Veytsman et al. (Ref. 11: Nekotoryye rezul'taty izucheniya stroyeniya zemnoy kory v oblasti

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Deep seismic sounding...

Kuril'skoy ostrovnoy dugi i prilegayushchikh uchastkov Tikhogo okeana podannym glubinnogo seysmicheskogo zondirovaniya (Some Results of the Study of Crustal Structure in the Kurile Island Arc and Adjoining Parts of the Pacific Ocean from the Data of Deep Seismic Sounding) Izv. AN SSSR, ser. geol., No. 1, 1961) has already indicated that the crust is of the continental type; In the continental-type hodographs the arrival times of the P_0, P* and P waves are at a maximum, the transit time of the P waves being 18 - 19 sec. There are two forms of hodograph; one represents a three-layer crust (sediments - 'granite'-'basalt') for the region near Kamchatka and Sakhalin, while the other corresponds to a granite crust (with local basalt layers) in the north of the Okhotsk Sea. According to the velocity-depth curves the continental-type crust, whose thickness throughout the study area may vary from 20 to 30 km, includes thick or thin sedimentary layers. Oceanic-type hodographs cover areas approximately outlined by the 5 km isobath. The arrival time of the P* and P waves

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Deep seismic sounding...

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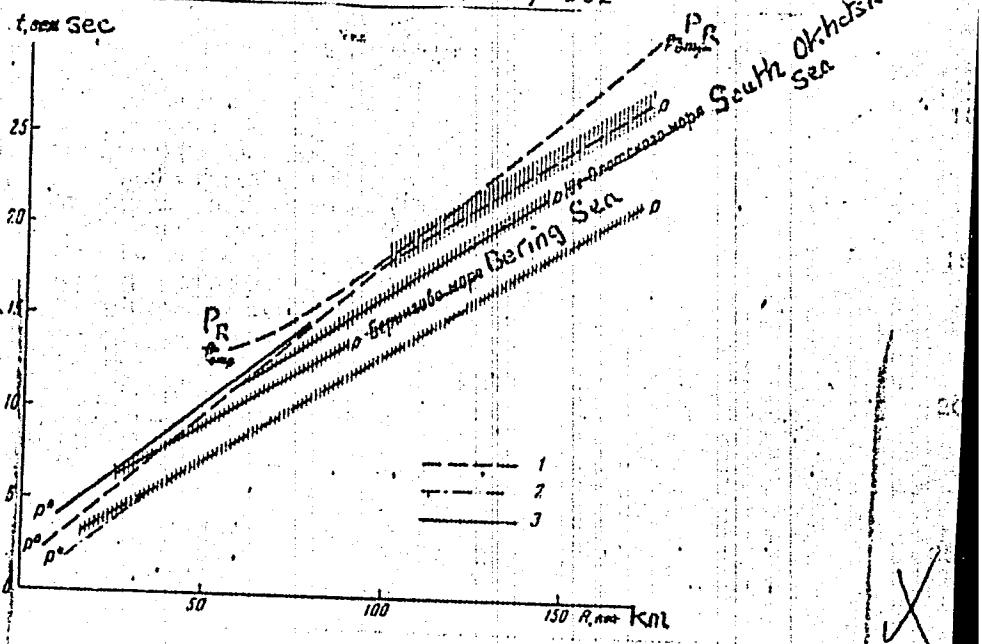

Fig. 9. Principal hodograph types. 1-continental 2-oceanic 3-intermediate striations denote areas where there are different types of hodograph waves; Type 3 characterizes hodographs for the Bering and Okhotsk Seas

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Deep seismic sounding...

is at a minimum and the transit time for the latter waves is $\leqslant$ 14 sec. The presence of a thin basalt crust with a thickness of about 5 - 12 km may be inferred from the observational data. The intermediate-type hodographs are representative of the southern part of the Okhotsk Sea and the neighborhood of the Komandorskiye Islands. They are distinguished by the existence of P* and P waves and by the large area in which waves of the first type were recorded; the transit time of the P waves is 15 - 17 sec. The velocity-depth curves resemble those for the continental-type crust in abyssal parts of the Okhotsk Sea, where the sediment thickness appears to be considerable, and those for the oceanic-type crust in the Bering Sea. The authors conclude by stating that a composite interpretation of the data of deep seismic sounding and of gravimetric, aeromagnetic and geologic observations in this region will be made subsequently which may possibly expose the patterns of development of crustal structure and also clarify the conditions and sequence of transition from one type

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Deep seismic sounding...

of crustal structure to another. In addition, they emphasize the desirability of comparing their data with those from other global zones. There are 13 figures and 12 references: 10 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: R. W. Reitt - Seismic-refraction studies of the Pacific Ocean Basin, p. 1. Crustal thickness of the central equatorial Pacific, Bull. Geol. Soc. Amer., 67, No.12, 1956; M. Talwani, G. H. Sutton and J. L. Worzel - A crustal section across the Puerto Rico Trench, J. Geophys. Res., 64, No. 10, 1959.

ASSOCIATION: Akademiya nauk SSSR, institut fiziki zemli (Institute of Physics of the Earth, AS USSR)

SUBMITTED: July 24, 1960

Card 11/11

ZVEREV, S.M., red.; MIKHOTA, G.G., red.; POMERANTSEVA, I.V., red.; MARGOT'YEVA, M.V., red.; Prinimali uchastiye: YEPINAT'YEVA, A.M., red.; BERSON, I.S., red.; PARKHOMENKO, I.S., red.; REYCHERT, L.A., ved. red.; YASHCHURZHINSKAYA, A.B., tekhn. red.

[Deep seismic sounding of the earth's crust in the U.S.S.R.; collection of reports]Glubinnoe seismicheskoe zondirovanie zemnoi kory v SSSR; sbornik dokladov. Leningrad, Gostoptekhizdat, 1962. 494 p. (MIRA 15:8)

1. Soveshchaniye po glubinnomu seysmicheskomu zondirovaniyu zemnoy kory. 1st, Moscow, 1960. 2. Institut fiziki Zemli Akademii nauk SSSR (for Yepinat'yeva, Berzon, Parkhomenko).
(Earth—Surface) (Seismology)

ZVEREV, S.M.

Frequency characteristics of explosions during deep seismic sounding in a deep sea. Izv. AN SSSR. Ser. geofiz. no.3:359-367 Mr '62. (MIRA 15:2)

1. AN SSSR, Institut fiziki Zemli.
(Seismic prospecting)

ZVEREV, Sergey Mitrofanovich; TATARINOVA, Ye.I., red.

[Seismic investigations in the sea] Seismicheskie issledovaniia na more. Moskva, Izd-vo Mosk. univ., 1964. 186 p. (MIRA 18:1)

GAYNANOV, A.G.; TULINA, Yu.V.; KOSMINSKAYA, I.P.; ZVEREV, S.M.; VEYTSMAN, P.S.; SOLOV'YEV, O.N.

Complex interpretation of the materials on geophysical observations in the Sea of Okhotsk and Kurilo-Kamchatka zone of the Pacific Ocean. Seism. issl. no.6:60-65 '65.
(MIRA 18:9)

L 13840-66 EWT(1)/EWA(h) GW

ACC NR: AR6000816 SOURCE CODE: UR/0169/65/000/009/G022/G023

SOURCE: Ref. zh. Geofizika, Abs. 9G188

AUTHOR: Zverev, S. M.; Mironova, V. I.

29
B

TITLE: Some results of deep seismic sounding recordings by regional seismic stations on the Black Sea

CITED SOURCE: Sb. Vopr. metodiki glubin. seysmich. zondirovaniya. M., Nauka, 1965, 84-96

TOPIC TAGS: seismic prospecting, seismic wave, seismology

TRANSLATION: The authors analyze data for explosions recorded on deep seismic sounding profiles of the Black Sea area by regional seismic stations at Yalta and Alushta. It is shown that equipment with an amplification of 30,000 comes close to deep seismic sounding equipment with respect to effective sensitivity and recording range, although the time service accuracy is rather low as is the scanning speed of the paper in seismologic stations. Three-component stations showed that waves generated by explosions during deep seismic sounding at sea have predominant vertical

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UDC: 550.340.17

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ACC NR: AR6000816

components only in the region of first arrivals. Constant amplification in the seismologic channels was useful for plotting the average dynamic wave characteristics. Intense waves were recorded which showed several features similar to surface waves. It is possible that these are "associated" waves generated in shelf deposits by acoustic waves when they approach the deep side of an underwater ravine. It is pointed out that there is a relationship between the increased attenuation of waves passing through the epicentral zone and an increased number of epicenters. It is shown that it would be advantageous to combine various modifications of seismic methods in studying the crustal structure.

SUB CODE: 08

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2

L 21466-66 EWT(1)/FCC/EWA(h)

ACC NR: AT6010298 SOURCE CODE: UR/3195/65/000/006/0060/0065

AUTHOR: Gaynanov, A. G.; Tulina, Yu. V.; Kosminskaya, I. P.; Zverev, S. M.; Veytsman, P. S.; Solov'yev, O. N.

ORG: none

TITLE: Comprehensive interpretation of data from geophysical observations in the Sea of Okhotsk and the Kurile-Kamchatka zone of the Pacific Ocean

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. Seysmicheskiye issledovaniya, no. 6, 1965, 60-65

TOPIC TAGS: seismology, gravimetry, geomagnetism, deep seismic sounding, geophysical anomaly, transition zone

ABSTRACT: Data on the earth's crust acquired during the IGY from geological and geophysical studies (by magnetic, gravimetric, and seismic methods) in the transitional zone between Asia and the Pacific Ocean were used to investigate two problems: 1) qualitative comparison of special features of anomalous gravitational and magnetic fields with structures of the earth's crust determined by seismic data (deep seismic sounding); and 2) some results from a quantitative comparison of gravitational and magnetic anomalies with deep seismic-sounding data. A map of magnetic anomalies shows moderate isometric anomalies in the Sea of Okhotsk and pronounced anomalies in narrow belts in the Sea of Okhotsk, along the Kurile-Kamchatka ridge and adjacent

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"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

ACC NR: AT6010298

parts of the Pacific, and near the Komandorskiye Islands. The sources of magnetic anomalies in the North Okhotsk and Sakhalin depressions seem to be confined to the uppermost or lowermost portions of the "granitic" layer and the upper part of the "basaltic" layer. In areas in the Pacific off the Kurile Islands, the anomalies are in the uppermost part of the mantle, and east of the deep offshore trench, they are in the upper mantle and the "basaltic" layer. It can be assumed that these magnetic anomalies are caused by processes associated with the formation of discontinuities and lava intrusions from the upper mantle onto the ocean floor. Comparisons of the anomalous gravitational field with deep seismic-sounding data showed that the principal features of the field coincide with the structures in the crust indicated by the sounding data thus making it possible to identify regions of anomalous density. Orig. art. has: 4 figures.

[EO]

SUB CODE: 08/ SUBM DATE: none/ ATD PRESS: 4221

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

ACC NR: AP6032417 (N) SOURCE CODE: UR/0387/66/000/009/0012/0022

AUTHOR: Zverev, S. M.; Galkin, I. N.

19
B

ORG: Institute of Physics of the Earth, Academy of Sciences, SSSR (Institut fiziki Zemli, Akademiya nauk SSSR)

TITLE: Methods of observation and possibilities of increasing the recording range in deep seismic sounding at sea

SOURCE: AN SSSR. Izvestiya, Fizika Zemli, no. 9, 1966, 12-22

TOPIC TAGS: deep seismic sounding, seismic measurement, marine seismic measurement, oceanographic seismic measurement, seismic noise background, MICROSEISM, SEISMOGRAPHY, UNDERWATER SOUND EQUIPMENT, OCEAN ACOUSTICS

ABSTRACT: The state-of-the-art of regional microseismic investigations on land and at sea in the USSR and in non-Soviet countries, primarily the USA, is outlined. On the basis of data obtained in 1963—1964 by the Pacific Ocean Deep Seismic Sounding Expedition of the Institute of Physics of the Earth of the Academy of Sciences USSR, the problem of improving the recording range, instrument parameters, and techniques of seismic measurements at sea is examined. Comparison of the absolute values of signals recorded during deep seismic sounding with the microseism background levels at sea shows that during observations at a specific water layer or with the hydrophone on the bottom, the level of regional background noise sets certain limits on the effective sensitivity of this method. The level of regional microseisms is found to

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ACC NR: AP6032417

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be lower on land than at sea. This is in agreement with the high effective sensitivity and recording range observed during coastal observations of marine detonations. The level and spectral composition of regional interference permit improved parameters of apparatus used in deep seismic-sounding operations at sea, especially in establishing the necessary sensitivity — minimal signal that can be reliably recorded (0.1 dyne/cm^2 in the 2—12 cps band)—and the necessary cut-off characteristics from the low frequency side, beginning at 2—3 cps. Orig. art. has: 4 figures. [DM]

SUB CODE: 08/ SUBM DATE: 14Jun65/ ORIG REF: 016/ OTH REF: 023/ ATD PRESS: 5093

Card 2/2

ACC NR: AT6028734 (N) SOURCE CODE: UR/3152/66/000/010/0041/0047

AUTHOR: Galkin, I. N.; Zverev, S. M.

ORG: none

TITLE: Hydrophones for deep-sea seismic sounding

SOURCE: Razvedochnaya geofizika, no. 10, 1966, 41-47

TOPIC TAGS: seismologic instrument, ocean acoustics, seismic wave

ABSTRACT: A novel light-weight piezoelectric hydrophone is described which will record elastic waves over a wide dynamic and frequency range. It was developed at the Institute of Physics of the Earth, AN SSSR (Institut fiziki Zemli AN SSSR). The device makes it possible to record simultaneously, without distortion, waves originating from deep-lying interfaces in the earth's crust and sound waves propagating in the water. The sensors are cylindrical radially polarized piezoceramics (either barium titanate or lead zirconate titanate), characterized by high mechanical strength, thermal stability, and resistance to moisture. A low-voltage version of a preamplifier, designed to increase the signal level at the point of reception and to match the high-resistance piezoelement with the recording circuits, is diagrammed

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and discussed. The hydrophone weighs 0.4 kg, and its parameters are: sensitivity, 35 — 50 μv/dyne/cm^2; transmission band from 1 cps to 1 kc; a minimum value of 0.2 dyne/cm^2 of signals detectable against a noise background; a maximum undistorted signal of ~200 x 10 dyne/cm^2; and a dynamic range of the order of 120 db. Orig. art. has: 1 table and 4 figures.

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 006

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APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

ZVEREV, S.M., kand. geol.-miner. nauk, otv. red.; FREMD, V.M., red.

[Problems of the methodology of deep seismic sounding] Voprosy metodiki glubinnogo seismicheskogo zondirovaniia. Moskva, Nauka, 1965. 173 p. (MIRA 18:3)

1. Akademiya nauk SSSR. Institut fiziki Zemli.

ZVEREV S.M.

L 31816-65 EWT(1)/EWA(h) Peb GW
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Akademiya nauk SSSR. Institut fiziki zemli im. O. Yu. Shmidta

Structure of the earth's crust in the zone of transition from the continent of Asia to the Pacific Ocean (Stroyeniye zemnoy kory v oblasti perekhoda ot Aziatskogo kontinenta k Tikhomu Okeanu) Moscow, Izd-vo "Nauka", 1964. 307 p. illus., biblio., foldin charts (in portfolio). Errata slip inserted. 1200 copies printed. Responsible editors: Ye. I. Gal'perin, I. P. Kosminskaya; Editor of the publishing house: S. I. Masarskiy; Technical editor: Ye V. Makuni, S. G. Tikhomirova

TOPIC TAGS: area seismic sounding, earth crust, geophysics, international geophysical year, ocean, seismic wave

PURPOSE AND COVERAGE: This monograph is devoted to studies by the method of deep seismic sounding (GSZ) in the zone of transition from the Asiatic continent to the Pacific Ocean (Kamchatka, the Kurile peninsula, Bering Sea, etc.) during the International Geophysical Year (MGG). The material is presented as a collection of individual chapters, although all are devoted to a single problem and are

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essentially parts of one book. The authors express their gratitude to Professor V. V. Fedynskiy, Chairman of the working subgroup of the Sovetskiy Natsional'nyy Komitet, initiator and organizer of complex geophysical research, and also to Corresponding Member of the Academy of Sciences of the USSR V. V. Belousov. The concluding chapter was prepared by A. G. Aver'yanov, P. S. Vaytsman, Ye. I. Gal'perin, S. M. Zverev, and I. P. Kosminskaya.

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NEPROCHNOV, Yu.P.; NEPROCHNOVA, A.F.; ZVEREV, S.M.; MIRONOVA, V.I.; BOKUN, R.A.; CHEKUNOV, A.V.

Recent data on the crustal structure of the Black Sea trough, south of the Crimea. Dokl. AN SSSR 156 no. 3:561-564 '64. (MIRA 17:5)

1. Predstavleno akademikom D.I.Shcherbakovym.

KOSMINSKAYA, I.P.; ZVEREV, S.M.; VEYTSMAN, P.S.; TULINA, Yu.V.; KRAMSHINA, R.M.

Basic features of the structure of the earth's crust under the Sea of Okhotsk and the Kurile-Kamchatka zone of the Pacific Ocean, based on deep seismic sounding data; results of the IGY. Izv. AN SSSR. Ser.geofiz. no.1:20-41 Ja '63. (MIRA 16:2)

1. Institut fiziki Zemli AN SSSR.
(Soviet Far East—Submarine geology) (Seismology)

DOROSHENKO, V. F.; ZVEREV, S. M.; VINOGRADOV, S. A., master

Adjustment of the transition relay of the TEM1 diesel locomotive. Elek. i tepl. tiaga 6 no.9:14-16 S '62.
(MIRA 15:10)

1. Starshiy proyemshchik Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey soobshcheniya depo Zima, Vostochno-Sibirskoy dorogi (for Doroshenko). 2. Teplovozoremontnyy tsekh depo Moskva-Sortirovochnaya-Ryazanskaya (for Vinogradov).

(Diesel locomotives—Testing)
(Electric relays)

SOKOLOVA, N.V.; KAMENEVA, T.G.; BORISOVA, G.V.; ZVEREV, S.M.; MALYSHEVA, N.M.

Neoplastic diseases according to autopsy data in Tomsk for the past 20 years (1938-1956). Vop.onk. 7 no.3:80-83 '61. (MIRA 14:5)

(TOMSK--TUMORS)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

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BOOK EXPLOITATION

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Zverev, Sergey Mitrofanovich

Marine seismic investigations (Seysmicheskiye issledovaniya na more) [Moscow] Izd-vo Mosk. univ., 1964. 186 p. illus., biblio. Errata slip inserted. 1,200 copies printed.

TOPIC TAGS: marine seismology, seismic sea wave, marine geophysical method, marine seismological instrument

PURPOSE AND COVERAGE: Experience has shown that the conditions of seismic-wave generation and propagation at sea have a number of specific characteristics, which make for considerably different conditions than those of seismic prospecting on land. Therefore, new multipurpose instrumentation and techniques had to be worked out specifically for marine seismic observations. The increase in the scope of marine seismic research required training additional specialists in this field, and, consequently, publication of new manuals in the field of marine geophysics, such as the present book. The book can be divided into five sections: 1) recording

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of seismic waves at sea; 2) conditions of seismic-wave generation; 3) elastic waves in a water layer; 4) interference in seismic exploration at sea; 5) instruments, methods, and some results of marine seismic research. The book should be of interest not only to students, but also to specialists in geophysics and geologists involved in marine seismic research. There are 128 references, of which 83 are Soviet.

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SUB CODE: ES SUBMITTED: 24Nov64

NR REF SOV: 076 OTHER: 052

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[illegible], G.N., doktor med.nauk, polkovnik meditsinskoy sluzhby; ZVEREV, S.P., mayor meditsinskoy sluzhby

Neurologic disorders in acute hypothermia. Voen.-med.zhur. no.1:30-34 '65. (MIRA 18:10)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065710008-2"

[illegible], S. Ye. (Leningrad).

Chases and hooks for holding type-setting forms. Poligr.proizv. no.7:16-17 Jl-Ag '53. (MLRA 6:9)

(Printing industry--Imposition, etc.)

ZVEREV, V.A.; BONDARENKO, Z.N.

Casting of blast furnace coolers. Lit. proizv. no.11,41-42 N '64. (MIRA 18:8)