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CONTENTS

PREFACE	17
METALLOGENIC SPECIALIZATION OF KYZYLKUM-KURAMA VOLCANO-PLUTONIC BELT (WESTERN TIEN-SHAN) <i>R. Akhundjanov, U.D. Mamarozikov, S.S. Saidyganiev, G.M. Suyundikova, S.O. Zenkova</i>	19
AGE BOUNDARIES OF AN ONGONITE PROVINCE IN ASIA <i>V.I. Alekseev</i>	22
ON THE RELATIONS BETWEEN MAGMATISM AND THE NEZHDANINSKOYE GOLD DEPOSIT <i>V.V. Alpatov, A.G. Bakharev</i>	25
ESTIMATION OF MANTLE PLUME PARAMETERS (DURATION, SOURCES, VOLUME AND COMPOSITION OF PRIMARY MAGMAS): AN EXAMPLE FROM THE NORTH-EASTERN FENNOSCANDIAN SHIELD <i>A.A. Arzamastsev</i>	28
EVOLUTION OF MANTLE SEQUENCES BENEATH KIMBERLITE PIPES <i>I.V. Ashchepkov, N.P. Pokhilenko, N.V. Vladykin, A.M. Logvinova, V.P. Afanasiev, L.N. Pokhilenko, S.S. Kuligin, N.V. Alymova, L.V. Malygina, O.S. Khemelnikova, A.Ya. Rotman, Yu.B. Stegintsky</i>	32
IN CONNECTION WITH THE GEOLOGICAL STRUCTURE OF KAZAKHSTAN MANTLE PLUMES <i>A. Baibatsha</i>	35
GEOCHEMICAL COMPOSITION, SEQUENCE OF FORMATION AND ORIGIN PECULIARITIES OF PERMIAN VOLCANIC AND SUBVOLCANIC MAFIC-ULTRAMAFIC COMPLEXES OF JINPING-SHONG DA RIFT (SOUTH-WESTERN ASIA) <i>P.A. Balykin, G.V. Polyakov, A.E. Izokh, Tran Trong Hoa, Ngo Thi Phuong, Tran Quoc Hung, T.E. Petrova</i>	38
DYNAMIC MODEL OF KIMBERLITE FORMATION <i>A.S. Baryshev, K.N. Egorov</i>	41

PLUME MAGMATISM AND MANTLE XENOLITHS OF THE SOUTH TIEN SHAN <i>V. Yu., Batalev, V.V. Egorova, V.A. Simonov, Yu.D. Litasov, N. Bagdassarov</i>	43
CRATONIC TO CAMP SCALE CONTROLS ON WORLD CLASS NI-CU-PGE DEPOSITS IN LARGE IGNEOUS PROVINCES <i>S. Beresford</i>	45
MANTLE-CRUST INTERACTIO IN THE DEVELOPMENT OF THE SORA PORPHYRY CU-MO MAGMATIC CENTER, WITHIN A ZONE OF INFLUENCE OF THE ALTAI-SAYAN MANTLE PLUME <i>A.P. Berzina, A.N. Berzina, P.A. Serov, V.O. Gimon</i>	46
THE AGE OF THE LAMPROPHYRES OF CHUYA COMPLEX AND THEIR CORRELATION WITH GRANITOID MAGMATISM AND MINERALIZATION <i>A.S. Borisenko, G.G. Pavlova, V.A. Goverdovsky, N.I. Gusev, E.A. Vasyukova</i>	50
DISTRIBUTION OF THE PLATINUM GROUP ELEMENTS IN THE MESOZOIC ULTRAMAFIC-MAFIC MASSIFS OF THE DZHUGDZHUR-STANOVVOY SUPERTERRANE (SOUTHERN RIM OF THE SIBERIAN CRATON) <i>I.V. Buchko, A.A. Sorokin, S.V. Palessky</i>	54
GEOCHEMISTRY OF PERALUMINOUS GRANITOIDS OF THE SIKHOTE-ALIN DISTRICT (FAR EAST OF RUSSIA) <i>S.U. Buravleva, V.A. Pakhomova, B.L. Zalishchak, M.A. Ushkova, N.I. Ekimova, D.G. Fedoseev, V.A. Kamynin</i>	58
NUMERICAL MODELING OF THE DYNAMICS OF METASOMATISM AT THE CONTACT BETWEEN DOLERITES AND CARBONATE HALITE-BEARING SEDIMENTS IN THE SIBERIAN PLATFORM <i>V.G. Bykova, M.P. Mazurov</i>	61
EXPERIMENTAL DATA ON MELTING AND PHASE RELATIONS IN THE SYSTEMS FE-CO-S-C AND FE-NI-S-C AT HIGH P-T PARAMETERS <i>A.I. Chepurov, E.F. Sinyakova, E.I. Zhimulev, V.M. Sonin, A.A. Chepurov, N.P. Pokhilenko</i>	64

EXPLORATION MODEL FOR THE KUZNETSK GOLD ORE ZONE <i>A.I. Chernykh</i>	67
UPPER PALEOZOIC PLUME MAGMATISM AND GOLD MINERALIZATION OF THE WESTERN TIANSHAN <i>T.N. Dalimov, Kh.D. Ishbaev</i>	69
CONDITIONS FOR THE FORMATION OF A BIMODAL VOLCANO-PLUTONIC COMPLEX WITHIN THE SOUTHERN MARGIN OF THE EASTERN FLANK OF THE MONGOL-OKHOTSK OROGENIC BELT <i>I.M. Derbeko, D.L. Vyunov, S.K. Kozyrev, V.A. Ponomarchuk</i>	73
THE PROBLEM OF SOURCES OF ORE MATTER FOR CU-NI-PT DEPOSITS OF NORILSK ORE REGION <i>V.V. Distler, S.F. Sluzhenikin, K.N. Malitch, O.V. Petrov, B.G. Pokrovsky</i>	76
INTRAPLATE ALKALINE MAGMATIC ACTIVITIES AND MINERALIZATION IN KYRGYZ TIEN SHAN <i>R. Djenchuraeva</i>	79
PROBLEMS OF PGE-CU-NI MINERALIZATION OF TAIMYR- NORIL'SK AND KOLA-KARELIAN REGIONS <i>O.A. Dyuzhikov, E.V. Sharkov</i>	82
POTASSIC MAGMATISM WITHIN THE SOUTHERN SIBERIAN PLATFORM: MAGMATIC SOURCES, GEODYNAMICS AND DIAMOND POTENTIAL <i>K.N. Egorov, Yu.A. Minayeva, A.I. Kiselev, Yu.V. Men'shaguin</i>	84
A PROJECT TO RECONSTRUCT PRE-PANGAEA SUPERCONTINENTS USING THE LARGE IGNEOUS PROVINCE (LIP) RECORD <i>R.E. Ernst, W. Bleeker, M.A. Hamilton, U. Söderlund</i>	87
PROTEROZOIC LARGE IGNEOUS PROVINCE (LIP) RECORD OF SIBERIA <i>R.E. Ernst, D. Gladkochub, S. Pisarevsky, T. Donskaya, M. Wingate, U. Söderlund, A. Mazukabzov, E. Sklyarov, S. Sergeev, J.A. Hanes</i>	89
THE ROLE OF MANTLE-DERIVED VOLATILE DEGASSING IN THE PETROGENESIS OF PALAEOPROTEROZOIC FERROPICRITES, PECHENGA GREENSTONE BELT, NORTHWESTERN RUSSIA <i>M.L. Fiorentini, S.W. Beresford, E. Deloule, E. Hanski,</i>	

<i>W.E. Stone, N.J. Pearson</i>	90
FLUID REGIME AND METALLOGENY OF THE LATE PALEOZOIC NEAR-FAULT METASOMATITES – POSSIBLE CONNECTION WITH LARGE IGNEOUS PROVINCES	
<i>I. Fishman</i>	92
THE GREAT PLUME DEBATE	
<i>Gillian R. Foulger</i>	96
METALLOGENY OF THE BUMBAT ORE CLUSTER OF THE OZERNAYA ZONE (MONGOLIA) AND ITS RELATION TO MAGMATISM	
<i>I.V. Gas'kov, A.S. Borisenko, V.V. Babich</i>	99
STRUCTURAL CONTROL OF PLUME MAGMATISM WITHIN THE SIBERIAN PLATFORM, AS ILLUSTRATED BY KIMBERLITE FIELDS	
<i>A.S. Gladkov, D.A. Koshkarev</i>	102
THERMAL AND REDOX HETEROGENEITY OF THE UPPER MANTLE BENEATH THE BAIKAL-MONGOLIA REGION (BASED ON MANTLE XENOLITHS STUDIES)	
<i>A.G. Goncharov, L.P. Nikitina</i>	104
PLUMES SIGNATURES OF VARIOUS AGES IN THE UDOKAN–CHINEY AREA	
<i>B.I. Gongalskiy, M.Z. Glukhovskiy, N.A. Krivolutskaya, M.K. Sukhanov</i>	109
EXPERIMENTAL STUDY OF THE SYSTEM PERIDOTITE-BASALT-VOLATILE WITH IMPLICATION FOR MANTLE-CRUST INTERACTIONS AND MAGMA ORIGIN	
<i>N.S. Gorbachev, A.V. Kostyuk</i>	112
MANTLE SIGNATURES IN PETROGENESIS AND METALLOGENESIS OF GRANITOID PROVINCES IN NORTHEASTERN ASIA	
<i>N.A. Goryachev, M.L. Gelman, V.V. Akinin</i>	115
MORPHOGENESIS, MAGMATISM AND MINERAGY OF SIBERIAN RIFT SYSTEMS AS A RESULT OF PLUME-TECTONIC MANIFESTATIONS	

<i>O.M. Grinyov</i>	119
THE PETROLOGIC CRITERIA OF MANTLE-CRUST INTERACTION IN ORE-GENERATING MAGMATITES	
<i>A.I. Gusev, A.F. Korobeynikov</i>	123
PETROLOGY AND METALLOGENESIS OF PLUME-RELATED EARLY DEVONIAN HIGH-K VOLCANISM IN THE SOUTH-WESTERN ALTAI	
<i>N.I. Gusev, S.P. Shokalsky, A.P. Karpinsky</i>	126
THE NATURE OF "HIGH-SPEED" ANOMALIES IN THE TERRESTRIAL EARTH'S CRUST IN THE AREA-CONTINENTAL VOLCANO-PLUTONIC BELT OF KIZILKUM-KURAMIN	
<i>Kh. D. Ishbaev</i>	130
ULTRAFAST SUBDUCTION AT THE ORIGIN OF FLOOD BASALT PROVINCES: SIBERIAN TRAPS CASE STUDY	
<i>A.V. Ivanov, K.D. Litasov</i>	134
AGE OF ULTRAMAFIC-MAFIC MAGMATISM IN WESTERN MONGOLIA	
<i>A.E. Izokh, G.V. Polyakov, A.V. Vishnevsky, R.A. Shelepaev, T. Oyunchimeg</i>	137
THE UNIQUE DALNEGORSKY BOROSILICATE DEPOSIT (PRIMORSKY KRAY, RUSSIA): PETROLOGICAL AND GEOCHEMICAL ASPECTS OF FORMATION	
<i>O.A. Karas, V.A. Pakhomova, M.A. Ushkova</i>	140
MANTLE PLUME EPISODES OF THE ARCHIPELAGO FRANZ JOSEPH LAND	
<i>Yu.V. Kariakin, V.A. Simonov, E.V. Sklyarov, A.V. Travin, E.V. Shipilov, S.V. Kovyazin</i>	144
RARE-EARTH ELEMENTS IN THE LATE-MESOZOIC BASALTIC ROCKS OF THE TRANS-BAIKAL AREA, RUSSIA	
<i>M.E. Kazimirovsky, S.I. Dril</i>	147
TIME FRAME FOR THE FORMATION OF LARGE GOLD DISTRICTS OF SOUTH EAST RUSSIA AND THEIR DISTRIBUTION PATTERNS	

<i>V.G. Khomich, N.G. Boriskina</i>	150
DEVONIAN MAGMATISM IN THE EASTERN SIBERIAN CRATON: RELATIONSHIPS TO MANTLE-PLUME ACTIVITY	
<i>A.I. Kiselev, V.V. Yarmoluk, K.N. Egorov</i>	154
LARGE-SCALE AND UNUSUAL GOLD DEPOSITS OF UZBEKISTAN: MINERAL-GEOCHEMICAL STYLE AND DISTRIBUTION	
<i>R.I. Koneev</i>	157
PALEOMAGNETIC INVESTIGATION OF MIDDLE PALEOZOIC MAFIC INTRUSIONS OF THE VILUY PALEORIFT AND ADJACENT AREAS (SIBERIAN PLATFORM)	
<i>K.M. Konstantinov, M.Z. Khuzin, M.D. Tomchin, A.I. Kiselev, D.P. Gladkochub</i>	160
PLUME TECTONICS, MANTLE-CRUST METASOMATISM AND LARGE-SCALE NOBLE –METAL MINERALIZATION	
<i>A.F. Korobeinikov</i>	164
TECTONIC CONTROL AND MANTLE SOURCES OF KIMBERLITE VOLKANISM OF THE YAKUTIAN PROVINCE	
<i>S.I. Kostrovitsky, L.V. Solov'eva</i>	430
EFFECT OF PRESSURE ON THE SOLUBILITY OF SULFUR IN HYDROUS MAFIC MAGMAS (FOR EXPERIMENTAL DATA)	
<i>A.V. Kostyuk, N.S. Gorbachev, A.N. Nekrasov</i>	168
THE ROLE OF MANTLE-CRUST INTERACTION IN THE FORMATION OF THE EARLY PRECAMBRIAN SYNCOLLISIONAL COMPOSITE DIKES OF THE ALDAN-STANOVY SHIELD	
<i>A.A. Kravchenko, A.P. Smelov, V.I. Berezkin</i>	172
THE DARASUN ORE-MAGMATIC SYSTEM (EAST TRANSBAIKALIA) – STANDARD OF THE VOLCANOGENIC-PLUTONOGENIC HYDROTHERMAL GOLD-SULFIDE-QUARTZ FORMATION	
<i>N.N. Krivitskaja, E.M. Spiridonov, I.A. Bryzgalov, V.N. Golubev</i>	175
LARGE IGNEOUS PROVINCES AND MAFIC-ULTRAMAFIC DYKES IN PALAEOPROTEROZOIC (SUMIAN) ON THE SE FENNOSCANDIA	
<i>V.S. Kulikov, Ya. V. Bychkova, V.V. Kulikova</i>	179
CONVERGENT BOUNDARIES OF THE WEST PACIFIC TYPE AND THEIR SIGNIFICANCE FOR THE ORIGIN OF IGNEOUS ROCKS OF CENTRAL ASIAN FOLD BELTS	

<i>M.I. Kuzmin, V.V. Yarmolyuk, V.I. Kovalenko</i>	183
PREDICTION OF GOLD FORMS IN SULFIDES: EXPERIMENT AND MODELLING	
<i>Yu.V. Laptev, O.L. Gaskova, G.P. Shironosova, S.P. Novikova</i>	187
INTRUSIONS AS A CONSEQUENCE OF THEIR POLYGENIC MULTISTAGE FORMATION	
<i>F.P. Lesnov</i>	191
GOLD ME OF THE PRIKOLYMA UPLIFT	
<i>I.S. Litvinenko</i>	194
BASIC FEATURES OF THE LATE OROGENIC AND INTRA-PLATE GABBROIC MAGMATISM OF CHATKALO- KURAMIN REGION AND ITS ORE-BEARING POTENTIAL (WESTERN TIEN SHAN)	
<i>U.D. Mamarozikov</i>	197
MIDDLE PALEOZOIC BASALTS OF THE EASTERN PART OF SIBERIAN PLATFOM: PRELIMINARY DATA ON PGE CONTENT	
<i>V.L. Masaitis, S. Goderis, Ph. Claeys</i>	200
PHYSICAL AND CHEMICAL MODELING OF THE INFLUENCE OF VARIOUS METALS ON THE SOLUBILITY OF GOLD IN HYDROTHERMAL SOLUTIONS AT SUKHOI LOG DEPOSIT ON THE LENA RIVER	
<i>N.L. Matel</i>	204
PERMIAN–TRIASSIC VOLCANISM IN WESTERN SIBERIA	
<i>A. Ya. Medvedev, A.I. Al'mukhamedov</i>	207
PLUME MAGMATISM OF JUNGGAR AND NORTH TIEN SHAN	
<i>A.V. Mikolaichuk, V.A. Simonov, A.V. Travin</i>	211
EVOLUTION OF THE TANNU-OLA ISLAND ARC IN CENTRAL ASIA DURING THE LATEST NEOPROTEROZOIC – EARLY CAMBRIAN: EVIDENCE FROM TRACE ELEMENT AND ND ISOTOPE DATA	
<i>A.A. Mongush, V.I. Lebedev, V.P. Kovach, Ch.K. Oydup, N.Yu. Zagornaya</i>	214
AGE OF GOLD MINERALIZATION AT THE JUNCTION OF CALEDONIDES AND HERCYNIDES STRUCTURES IN WEST SIBERIA AND EASTERN KAZAKHSTAN	

<i>E.A. Naumov, K.R. Kovalev, A.S. Borisenko, G.S. Kalinin</i>	217
STAGES OF LATE PROTEROZOIC MAGMATISM AND AGES OF GOLD MINERALIZATION WITHIN THE YENISEY RIDGE	
<i>A.D. Nozhkin, A.S. Borisenko, P.A. Nevolko</i>	221
GEOCHEMISTRY OF EARLY PALEOZOIC VOLCANO- PLUTONIC ASSOCIATIONS OF SOUTH-WEST TUVA	
<i>Ch. K. Oidup, F.P. Lesnov</i>	224
THE SOURCE OF PLUME MAGMATISM IN CENTRAL ALDAN	
<i>A.V. Okrugin</i>	227
SAPPHIRE AND RUBY DEPOSITS OF THE SOUTHERN FAR EAST RUSSIA: PETROLOGIC-GEOCHEMICAL ASPECTS OF FORMATION AND PREDICTION CRITERIA	
<i>V.A. Pakhomova, B.L. Zalishchak, S.G. Buravleva, V.A. Solyanik, D.G. Fedoseev, M.A. Ushkova</i>	231
PRECIOUS OPAL OF THE RADUZHNOE DEPOSIT (RUSSIAN FAR EAST): MODELING OF THE FORMATION PROCESS	
<i>V.A. Pakhomova, V.B. Tishkina, B.L. Zalishchak, A.V. Ignatyev, L.N. Kurilenko, V.G. Kuryavy, M.A. Ushkov</i>	235
RELATIONSHIPS BETWEEN SN-W (MO) AND AG-SB-BASE METAL MINERALIZATION IN THE SN-AG ORE DISTRICTS OF EURASIA	
<i>G.G. Pavlova, A.S. Borisenko, Th. Seifert</i>	238
LARGE IGNEOUS PROVINCES OF THE MIDDLE AND NORTH URALS	
<i>G.A. Petrov, Ju. L. Ronkin, A.V. Maslov</i>	243
OROGEN-SCALE INTRACONTINENTAL STRIKE-SLIP FAULTS, INTRAPLATE MAGMATISM AND THE GENERATION OF MINERAL SYSTEMS IN NW CHINA AND ALTAI-SAYAN (SIBERIA)	
<i>F. Pirajno</i>	247
RARE-METAL ORE-MAGMATIC SYSTEMS: SIGNS OF PARTICIPATION BY MANTLE PROCESSES	
<i>A.A. Pospeluev</i>	249
VERTICAL MINERALOGICAL-GEOCHEMICAL ZONING OF MESOZOIC TRANSBAIKALIA FLUID-MAGMATIC GOLD SYSTEMS	

<i>V.Yu. Prokofiev, N.S. Bortnikov, V.A. Kovalenker, L.D. Zorina, I.A. Baksheev, D.V. Grichuk, A.N. Krasnov, S.L. Selector</i>	251
ANALYSIS OF CRYSTAL SIZE DISTRIBUTIONS, FLUID INCLUSIONS, AND GEOMATERIALS BY 2D AND 3D MICROIMAGING TECHNIQUES	
<i>A.A. Proussevitch, D.L. Sahagian, G.K. Mulukutla</i>	255
INVESTIGATIONS OF THE GEOCHEMISTRY, PETROLOGY AND PETROGENESIS OF VOLCANIC ROCKS OF THE NE-QAZVIN AREA, NORTHERN PART OF THE IRANIAN IGNEOUS PROVINCE: RECONSTRUCTION CENOZOIC VOLCANISM IN IRAN	
<i>G. Rahimi, A. Kananian, A. Asiabanha</i>	257
CENOZOIC PLUME-RELATED INTRAPLATE IGNEOUS ROCKS ASSOCIATED WITH QUATERNARY CARBONATITES IN WEST BALUCHISTAN, MIDDLE EAST	
<i>A. Romanko, A. Savichev, S. Stepanov, M. Tabatabaie</i>	259
LATE ARCHAEOAN/EARLY PROTEROZOIC PLUME (SUPERPLUME)-RELATED EVENTS IN THE FENNOSCANDIAN SHIELD	
<i>A. Romanko, S. Stepanov</i>	261
DO THE SIBERIAN SUPERPLUMES ORIGINATE FROM SEVERAL EPISODES OF MEGALITHS CASCADING TO D" LAYER IN THE LAST 1 GYR?	
<i>O.M. Rosen, A.V. Manakov, N.I. Gorev</i>	262
UNCERTAIN TEMPORAL AND SPATIAL CORRELATION BETWEEN CRETACEOUS GLOBAL-SCALE SEDIMENTATION BREAKS AND EMPLACEMENT OF LARGE IGNEOUS PROVINCES	
<i>D.A. Ruban, S.O. Zorina, O.S. Dzyuba, B.N. Shurygin</i>	265
MARKER HORIZONS IN LITHOSTRATIGRAPHIC SECTIONS OF CONTINENTAL FLOOD BASALTS OF THE SIBERIAN PLATFORM	
<i>V.V. Ryabov, A.Y. Medvedev, D.E. Napreev, A.A. Lapkovsky</i>	268
METALLOGENY OF CHATKAL-KURAMIN	

METALLOGENIC PROVINCE (CENTRAL TIAN-SHAN) <i>Yu. G. Safonov, A. B. Dzaynukov, T. M. Zlobina</i>	271
NEW GEOCHEMICAL AND GEOCHRONOLOGICAL DATA ON THE KUZBASS BASALTS: IMPLICATIONS FOR THEIR MANTLE PLUME ORIGIN AND POSITION OF THE PERMIAN-TRIASSIC BOUNDARY <i>I. Yu. Safonova, M. M. Buslov, M. Reichow, G. S. Fedoseev</i>	275
LARGE-VOLUME PYROCLASTICS ERUPTIONS IN LATE MESOZOIC, CENOZOIC AND RECENT TIMES: RELATIONSHIP TO CATASTROPHIC EVENTS <i>V. G. Sakhno, V. F. Polin, A. A. Alenicheva</i>	279
RECONSTRUCTION OF THE DYNAMICS OF LAVA FLOWS IN THE OKHOTSK-CHUKOTKA VOLCANIC BELT <i>B. M. Sedov</i>	283
PERMO-CARBONIFEROUS MINERALIZATIONS IN CENTRAL EUROPE AND IT'S RELATIONSHIPS TO PLUME MAGMATISM <i>Th. Seifert</i>	287
GOLD-COPPER GIANTS OF CENTRAL EURASIA: HOT SPOT TRACKS VS OROGENIC BELTS <i>R. Seltmann, A. Dolgoplova</i>	295
METALLOGENY OF USSURIISK PLUME STRUCTURE <i>V. V. Seredin</i>	298
DYNAMICS OF MANTLE-CRUST-ASTHENOSPHERE ORE-MAGMA SYSTEMS UNDER SIBERIAN PLATFORM AND CRATON <i>V. N. Sharapov, Yu. V. Perepechko, A. A. Tomilenko, M. P. Mazurov</i>	301
THE ROLE OF PRE-CAMBRIAN PLUME-TECTONICS OF THE EASTERN PART OF THE SIBERIAN PLATFORM IN FORMING OF THIS REGION STRUCTURE AND MANIFESTATIONS OF KIMBERLITE MAGMATISM <i>A. M. Sharova</i>	305
ANGARA-VITIM BATHOLITH FORMATION AS A RESULT OF VILUY RIFT OPENING? <i>A. V. Shatsillo, I. V. Fedyukin, S. Yu. Orlov</i>	309
PRINCIPAL TYPES OF THE EARTH'S LITHOSPHERE	

AND THEIR METALLOGENIC SPECIALIZATION <i>A.A. Sidorov, A.D. Chekhov</i>	314
PHYSICAL-CHEMICAL PARAMETERS OF PLUME-RELATED MAGMATISM OF THE WEST SIBERIA <i>V.A. Simonov, S.V. Kovyazin, S.I. Stupakov</i>	318
EVOLUTION OF PHASE RELATION DURING FORMATION OF MAGMATOGENE PT-CU-NI SULFIDE ORES (ON EXPERIMENTAL AND NATURAL DATA) <i>E.F. Sinyakova, V.I. Kosyakov, V.V. Distler, S.F. Sluzhenikin</i>	321
PURITY OF NATIVE GOLD AS ONE OF THE CRITERIA FOR DETERMINING THE RELATIONS BETWEEN MINERALIZATION AND GRANITOID MASSIFS IN THE LIGHT OF THE YANA-KOLYMA BELT <i>A.I. Skryabin</i>	325
SUPERLARGE UDOKAN CU DEPOSIT IN SIBERIA: POSSIBLE IRON OXIDE-COPPER-GOLD-URANIUM (IOCGU) SYSTEM RELATED TO PALEOPROTEROZOIC (2.0-1.8 GA) MANTLE SUPERPLUME <i>S.G. Soloviev</i>	328
PALEOPROTEROZOIC (2.0-1.8 GA) MANTLE SUPERPLUME AND MAJOR IRON OXIDE-COPPER-GOLD (IOCG) DEPOSITS: A NORTHERN ASIAN EXAMPLE <i>S.G. Soloviev</i>	332
PREKIMBERLITE METASOMATITES IN THE MANTLE LITHOSPHERE OF THE SIBERIAN CRATON AND THEIR RELATION WITH DEEP-SEATED PLUME <i>L.V. Solovjeva, K.N. Egorov, T.A. Yasnygina, S. Matveev, V.N. Korolyuk</i>	335
LATE MESOZOIC INTRAPLATE MAGMATISM AND METALLOGENY EXEMPLIFIED BY THE MONGOL-OKHOTSK BELT <i>A.M. Spiridonov, S.I. Dril., S.A. Tatarnikov, T.A. Vladimirova, N.N. Ilina</i>	339
ORE-MAGMATIC SYSTEMS AT NORIL'SK ORE FIELD	

<i>E.M. Spiridonov</i>	342
PYROMORPHISM AS A METHOD FOR THE ESTIMATION OF PRODUCTIVITY OF THE "CRUST-MANTLE" SYSTEM	
<i>V.I. Strelyaev, A.A. Zhuravleva</i>	346
SETTINGS OF KIMBERLITES IN THE SIBERIAN PLATE	
<i>V.I. Strelyaev, A.A. Zhuravleva</i>	348
ESTIMATION OF VOLCANIC AND SEISMIC DANGER IN THE EAST TUVA TERRITORY	
<i>A.M. Sugorakova, K.S. Kujuget, S.A. Chupikova</i>	350
DEVONIAN MAFIC MAGMATISM OF THE TUVINIAN TROUGH	
<i>A.M. Sugorakova, A.V. Nikiforov, A.V. Bolonin</i>	353
ICELAND PLUME AND ITS INFLUENCE ON MAGMATISM OF WEST SIBERIA AND WEST ARCTIC SHELF	
<i>N.I. Timonin</i>	356
EVIDENCE FOR DURATION OF THE FORMATION OF PERMO-TRIASSIC TRAPS IN THE YAKUTIAN DIAMOND-BEARING PROVINCE	
<i>M.D. Tomshin, K.M. Konstantinov, A.E. Vasil'eva, M.Z. Khuzin</i>	360
HIGH TI-CONTENT OF PLATFORMAL BASITES AS INDICATION OF THEIR RELATION TO KIMBERLITE FORMATION	
<i>M.D. Tomshin, A.V. Okrugin, A.G. Kopylova</i>	363
PERMIAN – TRIASSIC ALKALINE FELSIC VOLCANO-PLUTONIC ASSOCIATIONS IN THE TU LE BASIN AND PHAN SI PANG UPLIFT, NW VIETNAM AND THEIR RELATIONSHIP TO A MANTLE PLUME	
<i>Tran Trong Hoa, Tran Tuan Anh, Ngo Thi Phuong, Pham Thi Dung, A.E. Izokh, A.S. Borisenko</i>	366
AGE AND RELATIONSHIP TO MAGMATISM OF HYDROTHERMAL COBALT DEPOSITS OF THE ALTAY-SAYAN FOLD AREA	
<i>I.G. Tretiakova, A.S. Borisenko, E.A. Naumov, V.I. Lebedev</i>	369
COMAGMATIC ASSOCIATIONS OF VOLCANIC ROCKS OF THE MEIMECHA KOTUJ PROVINCE	

(NORTH SIBERIAN PLATFORM)	
<i>Y.R. Vasiliev, V.S. Sobolev</i>	374
PORPHYRY CU–MO DEPOSITS OF NORTHEAST RUSSIA	
<i>A.V. Volkov, A.A. Sidorov, N.E. Savva, E.E. Kolova</i>	377
NRE RATIO CHARACTERISTICS OF ORE-BEARING MAGMAS OF PRIAMURYE AND PLUME PROCESSES	
<i>T.V. Volodkova, Yu.A. Kosygin</i>	381
SUBDUCTION AND PLUME SOURCES IN THE DEVONIAN BASITES OF THE ALTAI-SAYAN INTRAPLATE REGION, AS DEDUCED FROM GEOCHEMICAL AND SR-ND ISOTOPE DATA	
<i>A.A. Vorontsov, V.V. Yarmolyuk, I.V. Sandimirov, A.V. Nikiforov</i>	384
⁴⁰ Ar/ ³⁹ Ar ISOTOPE DATING OF THE EDEL'VEIS CARBONATITE-BEARING COMPLEX, GORNYI ALTAI: A CASE OF ALKALINE MAGMATISM IN THE EARLY PALEOZOIC LARGE IGNEOUS PROVINCE OF THE CENTRAL ASIAN MOBILE BELT	
<i>V.V. Vrublevskii, I.F. Gertner, A.E. Izokh, D.S. Yudin, V.I. Krupchatnikov</i>	388
MINERALIZATION IN MAFIC INTRUSIVE COMPLEXES IN NORTH XINJIANG: ARE THEY RELATED TO A MANTLE PLUME?	
<i>Wang Yu-wang, Wang Jing-bin, Wang Li-juan, Long Ling-li</i>	392
LATE CARBONIFEROUS – EARLY PERMIAN LARGE IGNEOUS PROVINCES IN THE CENTRAL ASIAN FOLDBELT	
<i>V.V. Yarmolyuk, A.M. Kozlovsky</i>	395
MANTLE OPHIOLITE DIAPIR AND OIL-GAS DEPOSITE FORMATION	
<i>R.M. Yurkova, B.I. Voronin</i>	399
OUTLINE OF PHANEROZOIC MAGMATIC METALLOGENY OF THE EASTERN ALDAN, KHABAROVSKY KRAI, RUSSIA	
<i>B.L. Zalishchak, V.A. Pakhomova, V.B. Tishkina, M.A. Ushkova</i>	403
RARE-EARTH ALKALINE IGNEOUS PROVINCE OF THE SIKHOTE-ALIN, PRIMORSKY KRAI, RUSSIA	

<i>B.L. Zalishchak, V.A. Pakhomova, Y.A. Shabanova, M.A. Ushkova</i>	406
CRUST-MANTLE INTERACTION ON EXAMPLE OF KUKULBEY (J ₃) AND SHAKHTAMA (J ₂ -J ₃) MAGMATIC COMPLEXES OF EASTERN TRANSBAIKALIA <i>G.P. Zaraisky</i>	409
THE ALDAN-MAADYR GOLD-BEARING ZONE IN HG- LISTVENITES AND TOURMALINE ALTERED ROCKS, REPUBLIC OF TUVA: MINERALOGY, FORMING CONDITIONS AND RESOURCES <i>V.V. Zaykov, I.Yu. Melekestseva, N.N. Ankusheva, A.A. Mongush, R.V. Kuzhuget</i>	414
A PERMIAN LARGE IGNEOUS PROVINCE IN TARIM AND CENTRAL ASIAN OROGENIC BELT (CAOB), NW CHINA: A REVIEW <i>Chuan-Lin Zhang, Yong-Guan Dong, Ru-Fu Ding, Zheng-Xiang Li, Xian-Hua Li</i>	418
SEISMIC IMAGING OF MANTLE PLUMES AND SUBDUCTING SLABS <i>Dapeng Zhao</i>	419
EASTERN SAYAN PORPHYRY GOLD SYSTEMS <i>S.M. Zhmodik, A.G. Mironov, B.B. Daminov, A.V. Travin, A.S.Zhmodik, A.M. Borisenko</i>	422
THE CONNECTION OF THE EARTHQUAKES AND ERUPTIONS OF THE VOLCANOES WITH INTRODUCTION OF MANTLE PLUMES AND MAGMATIC ROCK BODIES IN THE EAST OF ASIA (KURIL-OKHOTSK REGION) <i>T.K. Zlobin</i>	426
INDEX OF AUTHORS.....	433

PREFACE

In the last few years, problems of genesis of large igneous provinces (LIP), comprising the occurrence of the continental flood basalts, layered mafic-ultramafic complexes, giant dyke swarms, sill complexes, oceanic plateau and volcanic and intrusive formations of passive continental margins, attracted considerable interest from many geoscientists specializing in magmatic geology, geodynamics, metallogeny of sedimentary and igneous rocks and paleoclimate. This is due to the fact that these large scale magmatic processes are responsible for the formation of large volumes of igneous rocks, with a wide range of compositions, and the formation of the world-class and/or unique Cu-Ni-PGE, porphyry Cu-Mo, Ni-Co-As, Au, Sb-Hg deposits, as well as emplacement of diamondiferous kimberlites and carbonatites. The scale of endogenic processes in large igneous provinces is related to the activity of mantle plumes, which are their main energy sources and a factor of heat-mass transfer from the deep Earth's levels to the lithosphere.

Eurasia provides a prime example of such phenomena, because processes related to the manifestation of large mantle plumes of various age are well represented by the Siberian (P₂-T₁), Emeishan (P₂-T₁), Tarim (P₂-T₁), and Central European (C₃-P₁) large igneous provinces (LIPs), which occurred during the Permian and Triassic. This time spans the period of crucial reconstruction in the evolution of the lithosphere accompanied by the manifestations of extensive trap magmatism (LIP) on the Siberian, European, Tarim, and southern Chinese platforms while, more or less at the same time, post-collisional and intraplate granitoids with elevated rare metal abundances were emplaced together with mafic-ultramafic magmatism in the surrounding orogenic belts.

These igneous provinces are, to a certain extent, standards for the analysis of magmatism and mantle plumes metallogeny due to their good preservation.

Recently, fragments of LIPs that were formed in the Middle and Early Paleozoic and Neoproterozoic and the Late Mesozoic and Cenozoic have also been found in Eurasia.

The specific character of the Asian metallogeny during the Permian and Triassic is supposed to be linked with the large scale geological processes reflecting the development of mantle plumes and their interaction with the lithosphere in intraplate riftstructures, transcrustal hot

shear zones and other geodynamic settings. These processes are responsible for the origin of the highly fertile mantle-plume magmas that generated large and unique Cu, Ni, Co, PGE, Au, Mo, Sb, and Hg mineral systems.

Despite significant amount of work on LIPs, mantle plumes and genesis of associated ore deposits, many issues remain unsolved. These problems will be discussed at the 2nd International Conference (Large Igneous Provinces of Asia” in Novosibirsk.

The issues of the Conference prove to be of great interest to many professionals in all spheres of the Earth sciences. More than 150 geoscientists from Russia, Australia, United States of America, Great Britain, Canada, China, Mongolia, Vietnam, Iran, Kazakhstan, Kyrgyzstan, Uzbekistan have submitted papers for both oral and poster sessions of this conference.

The abstracts are arranged in alphabetical order. Some of the abstracts were edited by Prof. Franco Pirajno and Mr Nathan Tetlaw (Geological Survey of Western Australia), but most of them are published from the author’s E-mail files and were not edited.

The Organizing Committee is honoured to welcome all participants of the conference and hopes that the abstracts presented in the volume, fruitful discussions and exchange of opinions will provide new insights into the nature of LIPs, problems of their origin, and relationship with mantle dynamics and associated metallogeny. We expect to have an outstanding conference. We trust that a friendly and professional atmosphere will accompany the activities of the conference.

*With our best wishes for a successful meeting,
Alexander Borisenko,
Franco Pirajno & Nikolai Dobretsov*

Novosibirsk, August, 2009