ACTA GEOLOGICA SINICA (English Edition)

Vol. 92 No. 6 2018

CONTENTS

Magnetochronology of Late Miocene Mammal Fauna in Xining Basin, NE Tibetan Plateau, China HAN Jian'en, SHAO Zhaogang, CHEN Qiguang, XU Biao, ZHANG Qianqian, YU Jia, MENG Qingwei, ZHANG Xuefeng, WANG Jin and ZHU Dagang Larger Foraminiferal Biostratigraphy and Facies Analysis of the Oligocene–Miocene Asmari Formation in the Western Fars Sub-basin, Zagros Mountains, Iran—Tahereh HABIBI and Telm BOVER-ARNAL Geodynamic Background of Intracontinental Cenozoic Alkaline Volcanic Rocks in Laojiezi, Western Yangtze Craton: Constraints from Sr-Nd-Hf-O Isotopes—YAN Qinggao, JIANG Xiaojun, LI Chao, ZHOU Limin, WANG Zhongqiang, Sultan Baig SHER, QU Wenjun and DU Andao A Thickness Gauge for the Lithosphere Based on Ce/Yb and Sm/Yb of Mantle-Derived Magmatic Rocks—WU Zhenhan, Patrick J. BAROSH, ZHANG Qichao, WU Jiwen and YANG Yan Geochemistry, Geochronology, and Hf isotopic Composition of the Late Paleoproterozoic Luijapuzi Formation, NE Yan-Liao Rift, Northern Liaoning—LU Jin, ZHANG Jian, LIU Zhenghong, YiN Changqing, ZHAO Chen, PENG Youbo, DOU Shiyong and YANG Zhongjie Geochronology and Genetic Model for Early Cretaceous Volcanic Rocks from the Southern Qiangtang Terrane, Northern Tibet, China: Constraints from U-Pb Zircon Dating, Whole-Rock Geochemical and Sr-Nd Isotopic Data—LIU Shen, FENG Caixia, M. Santosh, FENG Guangying, XU Mengjing, Ian M. COULSON, GUO Xiaolei, GUO Zhuang and FAN Yan Enigmatic Glass-Like Carbon from the Alpine Foreland, Southeast Germany: A Natural Carbonization Process—Tatyana G. SHUMILOVA, Sergey I. ISAENKO, Vasily V. ULYASHEV, Boris A. MAKEEV, Michael A. RAPPENGLÜCK, Aleksey A. VELIGZHANIN and Kord ERNSTSON Iron Speciation of Mud Breccia from the Dushanzi Mud Volcano in the Xinjiang Uygur Autonomous Region, NW China—XU Wang, ZHENG Guodong, MA Xiangxian, Danielle FORTIN, David R. HILTON, LIANG Shouyun, CHEN Zhi and HU Guoyi Using Portable Gamma-Ray Spectrometry for Testing Uranium Migration: A Case Study from the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt———————————————————————	ORIGINAL ARTICLES
Fars Sub-basin, Zagros Mountains, Iran	
Constraints from Sr-Nd-Hf-O Isotopes ——YAN Qinggao, JIANG Xiaojun, LI Chao, ZHOU Limin, WANG Zhongqiang, Sultan Baig SHER, QU Wenjun and DU Andao A Thickness Gauge for the Lithosphere Based on Ce/Vb and Sm/Yb of Mantle-Derived Magmatic Rocks ——WU Zhenhan, Patrick J. BAROSH, ZHANG Qichao, WU Jiwen and YANG Yan Geochemistry, Geochronology, and Hf isotopic Composition of the Late Paleoproterozoic Lujiapuzi Formation, NE Yan-Liao Rift, Northern Liaoning ——LIU Jin, ZHANG Jian, LIU Zhenghong, YIN Changqing, ZHAO Chen, PENG Youbo, DOU Shiyong and YANG Zhongjie Geochronology and Genetic Model for Early Cretaceous Volcanic Rocks from the Southern Qiangtang Terrane, Northern Tibet, China: Constraints from U-Pb Zircon Dating, Whole-Rock Geochemical and Sr-Nd Isotopic Data ——LIU Shen, FENG Caixia, M. Santosh, FENG Guangying, XU Mengjing, Ian M. COULSON, GUO Xiaolei, GUO Zhuang and FAN Yan Enigmatic Glass-Like Carbon from the Alpine Foreland, Southeast Germany: A Natural Carbonization Process ——Tatyana G SHUMILOVA, Sergey I. ISAENKO, Vasily V. ULYASHEV, Boris A. MAKEEV, Michael A. RAPPENGLÜCK, Aleksey A. VELIGZHANIN and Kord ERNSTSON Iron Speciation of Mud Breccia from the Dushanzi Mud Volcano in the Xinjiang Uygur Autonomous Region, NW China ——XU Wang, ZHENG Guodong, MA Xiangxian, Danielle FORTIN, David R. HILTON, LIANG Shouyun, CHEN Zhi and HU Guoyi Using Portable Gamma-Ray Spectrometry for Testing Uranium Migration: A Case Study from the Wadi EI Kareim Alkaline Volcanics, Central Eastern Desert, Egypt ——Osama K. DESSOUKY and Hani H. ALI Salt-Gathering and Potassium Formation of Potassium-Rich Brine during the Triassic in the Sichuan Basin, China ——ZHANG Bing, YANG Kai, WANG Xuben, XU Zhengqi, YANG Hongyu, ZHANG Saimin, CHEN Jinahao, ZHANG Mingmin and LIU Wei Microbial Gas in the Mohe Permafrost, Northeast China and its Significance to Gas Hydrate Accumulation in Permafrost across China ————————————————————————————————————	Larger Foraminiferal Biostratigraphy and Facies Analysis of the Oligocene–Miocene Asmari Formation in the Western Fars Sub-basin, Zagros Mountains, Iran
WU Zhenhan, Patrick J. BAROSH, ZHANG Qichao, WU Jiwen and YANG Yan Geochemistry, Geochronology, and Hf isotopic Composition of the Late Paleoproterozoic Lujiapuzi Formation, NE Yan-Liao Rift, Northern Liaoning	Constraints from Sr-Nd-Hf-O IsotopesYAN Qinggao, JIANG Xiaojun, LI Chao, ZHOU Limin, WANG Zhongqiang
Yan-Liao Říft, Northern Liaoning LIU Jin, ZHANG Jian, LIU Zhenghong, ÝIN Changqing, ZHAO Chen, PENG Youbo, DOU Shiyong and YANG Zhongjie Geochronology and Genetic Model for Early Cretaceous Volcanic Rocks from the Southern Qiangtang Terrane, Northern Tibet, China: Constraints from U-Pb Zircon Dating, Whole-Rock Geochemical and Sr-Nd Isotopic Data LIU Shen, FENG Caixia, M. Santosh, FENG Guangying, XU Mengjing, Ian M. COULSON, GUO Xiaolei, GUO Zhuang and FAN Yan Enigmatic Glass-Like Carbon from the Alpine Foreland, Southeast Germany: A Natural Carbonization Process Tatyana G. SHUMILOVA, Sergey I. ISAENKO, Vasily V. ULYASHEV, Boris A. MAKEEV, Michael A. RAPPENGLÜCK, Aleksey A. VELIGZHANIN and Kord ERNSTSON Iron Speciation of Mud Breccia from the Dushanzi Mud Volcano in the Xinjiang Uygur Autonomous Region, NW China XU Wang, ZHENG Guodong, MA Xiangxian, Danielle FORTIN, David R. HILTON, LIANG Shouyun, CHEN Zhi and HU Guoyi Using Portable Gamma-Ray Spectrometry for Testing Uranium Migration: A Case Study from the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study from the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study From the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study From the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study From the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study From the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study From the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study From the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study From the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Saltand Migration: A Case Study From the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt S	A Thickness Gauge for the Lithosphere Based on Ce/Yb and Sm/Yb of Mantle-Derived Magmatic Rocks
Tibet, China: Constraints from U-Pb Zircon Dating, Whole-Rock Geochemical and Sr-Nd Isotopic Data LIU Shen, FENG Caixia, M. Santosh, FENG Guangying, XU Mengjing, Ian M. COULSON, GUO Xiaolei, GUO Zhuang and FAN Yan Enigmatic Glass-Like Carbon from the Alpine Foreland, Southeast Germany: A Natural Carbonization Process Tatyana G. SHUMILOVA, Sergey I. ISAENKO, Vasily V. ULYASHEV, Boris A. MAKEEV, Michael A. RAPPENGLÜCK, Aleksey A. VELIGZHANIN and Kord ERNSTSON (Iron Speciation of Mud Breccia from the Dushanzi Mud Volcano in the Xinjiang Uygur Autonomous Region, NW China XU Wang, ZHENG Guodong, MA Xiangxian, Danielle FORTIN, David R. HILTON, LIANG Shouyun, CHEN Zhi and HU Guoyi Using Portable Gamma-Ray Spectrometry for Testing Uranium Migration: A Case Study from the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt Osama K. DESSOUKY and Hani H. ALI Salt-Gathering and Potassium Formation of Potassium-Rich Brine during the Triassic in the Sichuan Basin, China ZHANG Bing, YANG Kai, WANG Xuben, XU Zhengqi, YANG Hongyu, ZHANG Saimin, CHEN Jinchao, ZHANG Mingming and LIU Wei Microbial Gas in the Mohe Permafrost, Northeast China and its Significance to Gas Hydrate Accumulation in Permafrost across China ZHAO Xingmin, SUN Youhong, DENG Jian, RAO Zhu, LÜ Cheng, SONG Jian and Li Lixia Characterizing the Micropores in Lacustrine Shales of the Late Cretaceous Qingshankou Formation of Southern Songliao Basin, NE China GE Mingna, REN Shoumai, GUO Tianxu, ZHOU Zhi, WANG Shengjian and BAO Shujing Characteristics of the First Occurrence of Jurassic Petroleum in the Zagros Basin, Iran Sadouni JALIL and Rabbani AHMADREZA The Original Organism Assemblages and Kerogen Carbon Isotopic Compositions of the Early Paleozoic Source Rocks in the Tarim Basin, China HU Guang, MENG Qingqiang, WANG Jie, Tengger, XIE Xiaomin, LU Longfei, LUO Houyong and LIU Wenhui	Yan-Liao Rift, Northern LiaoningLIU Jin, ZHANG Jian, LIU Zhenghong, YIN Changqing, ZHAO Chen
Tatyana G. SHUMILOVA, Sergey I. ISAENKO, Vasily V. ULYASHEV, Boris A. MAKEEV, Michael A. RAPPENGLÜCK, Aleksey A. VELIGZHANIN and Kord ERNSTSON fron Speciation of Mud Breccia from the Dushanzi Mud Volcano in the Xinjiang Uygur Autonomous Region, NW China XU Wang, ZHENG Guodong, MA Xiangxian, Danielle FORTIN, David R. HILTON, LIANG Shouyun, CHEN Zhi and HU Guoyi Using Portable Gamma-Ray Spectrometry for Testing Uranium Migration: A Case Study from the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt ————————————————————————————————————	Tibet, China: Constraints from U-Pb Zircon Dating, Whole-Rock Geochemical and Sr-Nd Isotopic DataLIU Shen, FENG Caixia, M. Santosh, FENG Guangying, XU Mengjing
XU Wang, ZHENG Guodong, MA Xiangxian, Danielle FORTIN, David R. HILTON, LIANG Shouyun, CHEN Zhi and HU Guoyi Using Portable Gamma-Ray Spectrometry for Testing Uranium Migration: A Case Study from the Wadi El Kareim Alkaline Volcanics, Central Eastern Desert, Egypt ————————————————————————————————————	Tatyana G. SHUMILOVA, Sergey I. ISAENKO, Vasily V. ULYASHEV, Boris A. MAKEEV
Alkaline Volcanics, Central Eastern Desert, Egypt ————————————————————————————————————	XU Wang, ZHENG Guodong, MA Xiangxian, Danielle FORTIN, David R. HILTON
ZHANG Bing, YANG Kai, WANG Xuben, XU Zhengqi, YANG Hongyu, ZHANG Saimin, CHEN Jinchao, ZHANG Mingming and LIU Wei Microbial Gas in the Mohe Permafrost, Northeast China and its Significance to Gas Hydrate Accumulation in Permafrost across China ————————————————————————————————————	
across China ——ZHAO Xingmin, SUN Youhong, DENG Jian, RAO Zhu, LÜ Cheng, SONG Jian and Li Lixia Characterizing the Micropores in Lacustrine Shales of the Late Cretaceous Qingshankou Formation of Southern Songliao Basin, NE China ——GE Mingna, REN Shoumai, GUO Tianxu, ZHOU Zhi, WANG Shengjian and BAO Shujing Characteristics of the First Occurrence of Jurassic Petroleum in the Zagros Basin, Iran ————————————————————————————————————	ZHANG Bing, YANG Kai, WANG Xuben, XU Zhengqi, YANG Hongyu, ZHANG Saimir
Basin, NE ChinaGE Mingna, REN Shoumai, GUO Tianxu, ZHOU Zhi, WANG Shengjian and BAO Shujing Characteristics of the First Occurrence of Jurassic Petroleum in the Zagros Basin, Iran	, , , , , , , , , , , , , , , , , , ,
The Original Organism Assemblages and Kerogen Carbon Isotopic Compositions of the Early Paleozoic Source Rocks in the Tarim Basin, China	
the Tarim Basin, China	Characteristics of the First Occurrence of Jurassic Petroleum in the Zagros Basin, IranSadouni JALIL and Rabbani AHMADREZA
	the Tarim Basin, China
	Geological Controls on the CBM Productivity of No.15 Coal Seam of Carboniferous–Permian Taiyuan Formation in
Southern Qinshui Basin and Prediction for CBM High-yield Potential RegionsZHANG Zheng, QIN Yong, ZHUANG Xinguo, LI Guoqing and LIU Donghai	Southern Qinshui Basin and Prediction for CBM High-yield Potential Regions

Geochemistry, Petrology and Mineralogy of Coal Measure Shales in the Middle Jurassic Yanan Formation from Northeastern Ordos Basin, China: Implications for Shale Gas Accumulation	2333
Development Phases and Mechanisms of Tectonic Fractures in the Longmaxi Formation Shale of the Dingshan Area in Southeast Sichuan Basin, ChinaFAN Cunhui, HE Shun, ZHANG Yu, QIN Qirong and ZHONG Cheng	2351
Carbon Isotopic Evolution Characteristics and the Geological Significance of the Permian Carbonate Stratotype Section in the Northern Upper-Yangtze Region, Southern ChinaQU Hongjun, LI Peng, LUO Tengwen, GUAN Liqun, FAN Yuhai and WANG Li	2367
Application of Geochemistry and VNIR Spectroscopy in Mapping Heavy Metal Pollution of Stream Sediments in the Takab Mining Area, NW of Iran ————————————————————————————————————	2382
Flow Behavior of Clay-Silt to Sand-Silt Water-Rich Suspensions at Low to High Shear Rates: Implications for Slurries, Transitional Flows, and Submarine Debris-FlowsPierdomenico DEL GAUDIO and Guido VENTURA	2395
REVIEWS	
Assessing Lateral Continuity within the Yammama Reservoir in the Foroozan Oilfield, Offshore Iran: An Integrated Study	2405
Wave-Enhanced Sediment-Gravity Flows in Bohai Bay Lacustrine Basin, Eastern China BAI Chenyang, YU Bingsong, DONG Tianyang, HAN Shujun, GE Jia and ZHU Donglin	2416
NEWS AND HIGHLIGHTS	
China's Geological Work is Facing a Major Transformation	
LIU Lian, HAO Ziguo, LIU Zhiqiang, HUANG Min, FEI Hongcai, ZHOU Jian and ZHANG Yuxu	2432
RESEARCH ADVANCES	
Cretaceous Hitchhikers: a Possible Phoretic Association between a Pseudoscorpion and Bird in Burmese AmberXING Lida, Ryan C. MCKELLAR and GAO Zhizhong	2434
New Discovery of Post-Magmatic Pyrite in Natural Coke at Yangliu Coalmine, Northern China	2436
New Discovery on Methane Adsorption Change of Coal due to Sc-CO ₂ Extraction during CO ₂ -ECBM	2438
The First Discovery of the Early Palaeozoic Carbonatite in the Bayan Obo Deposit, Inner Mongolia, China: Evidence from Zircon U-Pb GeochronologyKE Changhui, LI Yike and WU Zhongjian	2440
Newly Discovered Ca. 163 Ma OIB-Type Diabase Dike from the Shiquanhe Ophiolites, Western TibetLI Chenwei, LI Zhijun, CAO Hui and ZENG Min	2443
The Latest In-Situ Uraninite U-Pb Age of the Guangshigou Uranium Deposit, Northern Qinling Orogen, China: Constraint on the Metallogenic Mechanism WU Yong, QIN Mingkuan, GUO Dongfa, FAN Guang, LIU Zhangyue and GUO Guolin	2445
Termination Time of the Emeishan Basalts in the Buotuo Region, SW China	
TAN Hongqi, NI Zhiyao, ZHU Zhimin, XU Gang and ZHANG Jiong	2448
New Zircon U-Pb Age of Devonian Granites in the Niukutou Lead-Zinc Deposit, Qinghai Province and its Significance for Prospecting Blind Orebodies	2451
Cassiterite U-Pb Date of the Yangbin Porphyry Tin Deposit in Zhejiang and its Geological SignificanceLI Qianzhen, YAO Junming and ZHANG Rongqing	2454
The Openness Degree Study of the Jiaoshiba Shale Gas, Sichuan Basin, China–Potential Factor Responsible for Reversed Isotope SeriesZHAO Heng, LIU Wenhui and WANG Xiaofeng	2457
The Discovery of the 2.35 Ga Crystalline Basement in the Southwest of the Yangtze Block and its Geological Significance ZHANG Heng, GAO Linzhi, ZHANG Chuanheng, DING Xiaozhong, LI Tingdong and LIU Yanxue	2460
New Discovery of Red Paleosols with Calcite and Zeolitic Rhizoliths in the Late Cretaceous Yaojia Formation, Southern Songliao Basin, NE ChinaZHANG Li, BAO Zhidong and DOU Luxing, WANG Hongjun and JI Yu	2462
New Discovery of Holocene Activity along the Weixi-Qiaohou Fault in Southeastern Margin of the Tibetan Plateau and its Neotectonic Significance	2464
The Dry-Cold Climate of the Qijia Archeological Civilization in Chankou of the Loess Plateau along the Silk Road Since the Neolithic Period ZHANG Huirong, DEMBELE Blaise, ZHANG Wanyi, ZHANG Jingya, MA Yuan and ZHANG Chengjun	2466
Application of High-Resolution Remote Sensing Technology in Quantitative Study on Coseismic Surface Rupture Zones: An Example of the 2008 M_w 7.2 Yutian EarthquakeSHAN Xinjian, HAN Nana, SONG Xiaogang, GONG Wenyu, QU Chunyan and ZHANG Yingfeng	2468
Contents of Acta Geologica Sinica (English Edition) Vol. 92, No. 1-6, 2018	2470
Acta Geologica Sinica (English Edition) Calls For Open-dated Submission of Paleontological Papers	2484
Open Access to Geological Research of China — "Geoscience Periodical Network of China"	2485