

### 《矿床地质》2005 年总目次

#### 第 24 卷 第 1 期

西藏改则地区金成矿作用 ..... 李胜荣 肖 润 周 肃 莫宣学 申俊峰 闫柏琨 刘 波 1

基于 GIS 技术的西南三江北段矿产资源定量预测与评价 ..... 陈建平 王功文 侯昌波 唐菊兴 15

新疆阿尔泰山南缘乔夏哈拉式铁铜矿床稀土元素地球化学特征及其地质意义 ..... 闫升好 张招崇 王义天 陈柏林 周 刚 何立新 25

吐哈盆地西南缘砂岩型铀矿地质地球化学基本特征 ..... 吴伯林 权志高 魏观辉 彭新建 王金平 李占游 徐高中 刘池阳 张复新 34

云南墨江金厂镍-金矿床镍矿化地质特征及形成时间 ..... 应汉龙 王登红 刘和林 44

会泽铅锌矿床中自然锑的发现及伴生元素的分布特征 ..... 李朝阳 刘玉平 张 乾 皮道会 张文兰 陈 进 52

云南白秧坪地区东矿带矿床地质地球化学特征及成因分析 ..... 何龙清 陈开旭 魏君奇 余凤鸣 61

东川蓑衣坡硅质岩型铜矿床的地质地球化学特征及成因 ..... 李 毅 李赋屏 何国朝 71

海底金属矿产资源的开发——回顾与未来展望 ..... 刘玉山 吴必豪 81

#### 第 24 卷 第 2 期

柴北缘—东昆仑地区造山型金矿床的 Ar-Ar 测年及其地质意义 ..... 张德全 党兴彦 余宏全 李大新 丰成友 李进文 87

论华南地区中生代 3 次大规模成矿作用 ..... 华仁民 陈培荣 张文兰 陆建军 99

西藏冈底斯斑岩铜矿带埃达克质斑岩含矿性:源岩相变及深部过程约束 ..... 侯增谦 孟祥金 曲晓明 高永丰 108

四川汉源黑区-雪区层状铅锌矿床典型矿石组构与成因 ..... 林方成 122

内蒙古黑鹰山富铁矿床磷灰石钐-钕同位素年龄及其地质意义 ..... 聂凤军 江思宏 刘 妍 胡 朋 134

甘肃省阳山金矿床石英脉中锆石 SHRIMP U-Pb 年代学研究 ..... 齐金忠 李 莉 袁士松 刘志杰 刘敦一 王彦斌 李志宏 141

四川德昌大陆槽稀土矿床地质特征 ..... 李小渝 151

广西大厂锡多金属矿田找金条件分析 ..... 杨学善 秦德先 邓家凤 周鸿军 余阳先 甘 平 161

阿尔金北缘大平沟金矿床成因 ..... 陈柏林 杨 屹 王小凤 杨 风 王克卓 陈宣华 陈正乐 李学智 168

东昆仑地区地球物理特征与矿产资源分布 ..... 董英君 张德全 徐文艺 余宏全 李大新 丰成友 179

MORPAS 支持下的甘肃临潭—宕昌地区铅锌矿床多源信息预测 ..... 矫东风 郭 忠 吕新彪 胡光道 王艳霞 185

#### 第 24 卷 第 3 期

大陆动力学演化与成矿研究:历史与现状——兼论华南地区在地质历史演化期间大陆增生与成矿作用 ..... 毛景文 谢桂青 李晓峰 张作衡 王义天 王志良 赵财胜 杨富全 李厚民 193

新疆西南天山萨瓦亚尔顿金矿床地质特征及成矿作用 ..... 杨富全 毛景文 王义天 李蒙文 叶会寿 叶锦华 206

大厂锡多金属矿田铜坑-长坡矿床流体包裹体研究 ..... 蔡明海 毛景文 梁 婷 黄惠兰 228

新疆北部古生代浅成低温热液型金矿特征及其地球动力学背景 ..... 杨富全 毛景文 夏浩东 赵财胜 李蒙文 叶会寿 242

新疆哈密百灵山铁矿地质特征及其成矿时代 ..... 王龙生 李华芹 陈毓川 刘德权 264

小秦岭地区中深部含金石英脉的同位素地球化学特征及其意义 ..... 王义天 毛景文 叶安旺 叶会寿 李永峰 卢欣祥 李永革 270

新疆哈密维权银(铜)矿床地质特征和成矿时代 ..... 王龙生 李华芹 刘德权 陈毓川 280

滇黔交界地区峨眉山玄武岩铜矿的 PGE 及微量元素特征 ..... 李厚民 毛景文 王登红 陈毓川 张长青 许 虹 285

东秦岭钼矿类型、特征、成矿时代及其地球动力学背景 ..... 李永峰 毛景文 胡华斌 郭保健 白凤军 292

青海大场金矿床流体包裹体特征及其地质意义 ..... 赵财胜 孙丰月 毛景文 丁清峰 赵俊伟 李世金 305

云南会泽铅锌矿床粘土矿物 K-Ar 测年及其地质意义 ..... 张长青 毛景文 刘 峰 李厚民 317

岩浆型 Cu-Ni-PGE 硫化物矿床研究的几个问题探讨 ..... 柴凤梅 张招崇 毛景文 董连慧 张作衡 325  
川滇黔地区 MVT 铅锌矿床分布、特征及成因 ..... 张长青 毛景文 吴锁平 李厚民 刘峰 郭保健 高德荣 336

第 24 卷 第 4 期

新疆尾亚钒钛磁铁矿——一个岩浆分异-贯入-热液型复成因矿床 ..... 王玉往 王京彬 王莉娟 秦全新 彭晓明 惠卫东 349  
胶东中生代花岗岩及大型-超大型金矿床形成的地球动力学环境 ..... 李俊建 罗镇宽 刘晓阳 徐卫东 骆辉 361  
赤峰陈家杖子隐爆角砾岩型金矿床地质地球化学特征与成因 ..... 余宏全 张桂兰 张德全 李大新 丰成友 王忠 孟立军 王启 373  
南海天然气水合物稳定带的影响因素 ..... 金春爽 汪集勇 张光学 388  
西藏冈底斯三处斑岩铜矿床流体包裹体及成矿作用研究 ..... 孟祥金 侯增谦 李振清 398  
新疆 511 铀矿床微量元素富集特征研究 ..... 王正其 曹双林 潘家永 管太阳 张国玉 409  
甘肃省徽县头滩子金矿地质特征及远景预测 ..... 胡晓隆 杨礼敬 陈彦文 王强国 李江龙 许亚玲 416  
内蒙古中部绿岩型金矿地球化学及地球物理勘查——以新地沟和卯独庆地区为例 ..... 郑翻身 徐国权 冯贞 蔡红军 张振法 422  
山西省平陆县关西沟一带铜铅锌多金属矿利用  $\theta$  函数处理数据找矿研究 ..... 陈彩萍 437  
银和金的选择吸附实验研究及意义 ..... 朱笑青 黄艳 张乾 何玉良 445  
浙江洋滨斑岩锡矿成矿流体特征 ..... 郝艳丽 刘昌实 陈培荣 451  
滇西北兰坪金顶超大型矿床研究新进展:侵位角砾岩的发现及其地质意义 ..... 高兰 王安建 刘俊来 修群业 曹殿华 翟云峰 457  
煎茶岭与金川硫化镍矿床的铂族元素地球化学特征对比及其意义 ..... 王瑞廷 毛景文 任小华 王民良 赫英 462

第 24 卷 第 5 期

柴北缘地区的两类块状硫化物矿床——I. 锡铁山式 SEDEX 型铅锌矿床 ..... 张德全 王富春 李大新 丰成友 余宏全 李进文 471  
西藏冈底斯成矿带甲马和知不拉铜多金属矿床的 Re-Os 同位素年龄及其意义 ..... 李光明 芮宗瑶 王高明 林方成 刘波 余宏全 丰成友 屈文俊 481  
南秦岭志留系铅锌矿床中硅质岩岩石学及地球化学 ..... 刘淑文 薛春纪 曾荣 李强 朱经祥 王涛 赵国斌 490  
云南金顶矿床矿体三维模型的建立及其研究意义 ..... 修群业 王军 高兰 曹殿华 王安建 刘俊来 范世家 王高尚 501  
西藏冈底斯中东段砂卡岩铜-铅-锌多金属矿床特征及成矿远景分析 ..... 余宏全 丰成友 张德全 潘桂棠 李光明 508  
吉林红旗岭铜镍硫化物矿床的成矿时代讨论 ..... 郗爱华 顾连兴 李绪俊 叶松青 郑远川 521  
湖北铜绿山砂卡岩型铜铁矿床中隐爆角砾岩型金(铜)矿体的发现及其找矿前景 ..... 刘继顺 马光 舒广龙 527  
微裂隙内流体包裹体在油气运移及成藏研究中的应用——以高邮凹陷为例 ..... 谈彩萍 倪培 刘翠荣 537  
关于华北元古宙富钾、富稀土沉积岩是白云鄂博大型稀土矿床矿源层的讨论 ..... 宋天锐 万渝生 陈振宇 543  
全国固体矿产资源区划数据库建设 ..... 王勇毅 肖克炎 李小鹏 徐丛荣 陈郑辉 李厚民 553  
两阶段铅演化体系  $\mu$  值的计算 ..... 韩发 李振清 561  
浙西寒武系底部黑色岩系含矿性和有用组分的赋存状态 ..... 吕惠进 王建 567

第 24 卷 第 6 期

柴北缘地区的两类块状硫化物矿床——II. 青龙滩式 VHMS 型 Cu-S 矿床 ..... 张德全 党兴彦 李大新 丰成友 余宏全 李进文 575  
西藏冈底斯斑岩铜矿带厅宫铜矿床流体包裹体研究 ..... 杨志明 谢玉玲 李光明 徐九华 王葆华 584  
西藏冈底斯成矿带浅成低温热液型金锑矿床的发现及其意义——以西藏弄如日金锑矿床为例 ..... 李光明 曾庆贵 雍永源 高大发 王高明 刘波 595

内蒙古沙麦钨矿床地质及流体包裹体研究 ..... 胡 朋 聂凤军 赫 英 张 义 刘 妍 603

西成地区碳酸盐岩 REE 特征及厂坝矿床白云岩成因 ..... 祝新友 汪东波 卫治国 邱小平 王瑞廷 613

短波红外光谱矿物测量技术在普朗斑岩铜矿区热液蚀变矿物填图中的应用 ..... 连长云 章 革 元春华 621

内蒙古额勒根斑岩型钼(铜)矿化区辉钼矿铼-钨同位素年龄及地质意义 ..... 聂凤军 屈文俊 刘 妍 杜安道 江思宏 638

四川冕宁木落寨稀土矿床稳定同位素研究及其意义 ..... 田世洪 张桂兰 侯增谦 丁悌平 谢玉玲 袁忠信 白 鸽 邹天人 647

西秦岭北部蛇绿混杂岩带成矿作用与区域构造演化的关系 ..... 李锁成 陈永彬 赵彦庆 崔 峒 656

滇西腾冲大铜厂铜-铅-锌矿床的辉钼矿 Re-Os 同位素定年 ..... 董方洵 侯增谦 高永丰 曾普胜 蒋成兴 杜安道 663

甘肃黑石山埃达克岩金矿床成矿模式初析 ..... 付善明 周永章 郭原生 杨志军 付 伟 669

浅层地震与 MT 联合技术在隐伏金属矿床定位预测中的应用——以新疆哈密图拉尔根铜镍矿区为例 ..... 肖骑彬 蔡新平 徐兴旺 梁光河 张宝林 王 杰 秦克章 彭晓明 惠卫东 三金柱 康 峰 张 文 676

GIS 技术在成矿预测中的应用实例——以杨家杖子矿田为例 ..... 付海涛 王恩德 684

对土库曼斯坦钾盐资源及开发利用的考察 ..... 张永生 郑绵平 齐 文 李 浩 项仁杰 692

2005 年《矿床地质》总目次 ..... 697

2004 年地质类期刊影响因子和总被引频次排序 ..... 封三

## Comprehensive Table of Contents of Mineral Deposits in 2005

### Vol. 24 No. 1

Gold mineralization in Gaize area, Tibet ..... LI Sheng-rong, XIAO Run, ZHOU Su, MO Xuan-xue, SHEN Jun-feng, YAN Bai-kun and LIU Bo 14

Quantitative prediction and evaluation of mineral resources based on GIS in northern segment of Three River (Sanjiang) Region, Southwest China ..... CHEN Jian-ping, WANG Gong-wen, HOU Chang-bo and TANG Ju-xing 23

REE geochemistry of Qiaoxiahala type Fe-Cu deposits in southern margin of Altay Mountains, Xinjiang, and its geological implications ..... YAN Sheng-hao, ZHANG Zhao-chong, WANG Yi-tian, CHEN Bai-lin, ZHOU Gang and HE Li-xin 32

Basic geological and geochemical characteristics of sandstone type uranium deposits in southwestern margin of Turpan-Hami Basin ..... WU Bo-lin, QUAN Zhi-gao, WEI Guan-hui, PENG Xin-jian, WANG Jin-ping, LI Zhan-you, XU Gao-zhong, LIU Chi-yan and ZHANG Fu-xin 43

Geology and formation time of nickel mineralization in Jinchang nickel-gold deposit, Mojiang, Yunnan ..... YING Han-long, WANG Deng-hong and LIU He-lin 51

Discovery of antimony and distribution characteristics of associated elements in Huize Pb-Zn deposit ..... LI Chao-yan, LIU Yu-ping, ZHANG Qian, PI Dao-hui, ZHANG Wen-lan and CHEN Jin 60

Geological and geochemical characteristics and genesis of ore deposits in eastern ore belt of Baiyangping area, Yunnan Province ..... HE Long-qing, CHEN Kai-xu, WEI Jun-qi and YU Feng-ming 70

Geological-geochemical characteristics and genesis of Suoyipo silicalite type copper deposit ..... LI Yi, LI Fu-ping and HE Guo-chao 80

Exploitation of marine mineral resources: review and prospects ..... LIU Yu-shan and WU Bi-hao 84

### Vol. 24 No. 2

Ar-Ar dating of orogenic gold deposits in northern margin of Qaidam and East Kunlun Mountains and its geological significance ..... ZHANG De-quan, DANG Xing-yan, SHE Hong-quan, LI Da-xin, FENG Cheng-you and LI Jin-wen 98

Three major metallogenic events in Mesozoic in South China ..... HUA Ren-min, CHEN Pei-rong, ZHANG Wen-lan and LU Jian-jun 107

Copper ore potential of adakitic intrusives in Gangsese porphyry copper belt: Constrains from rock phase and deep melting process ..... HOU Zeng-qian, MENG Xiang-jin, QU Xiao-ming and GAO Yong-feng 121

Typical ore fabrics of Heiqu-Xuequ stratiform lead-zinc deposit in Hanyuan, Sichuan, and their genetic implications ..... LIN Fang-cheng 133

Sm-Nd isotopic dating of apatite separates from Heiyingshan high-grade iron deposit, Inner Mongolia ..... NIE Feng-jun, JIANG Si-hong, LIU Yan and HU Peng 140

A SHRIMP U-Pb chronological study of zircons from quartz veins of Yangshan gold deposit, Gansu Province ..... QI Jin-zhong, LI Li, YUAN Shi-song, LIU Zhi-jie, LIU Dun-yi, WANG Yan-bin and LI Zhi-hong 150

Geological characteristics of Dalucao REE deposit in Dechang county, Sichuan Province ..... LI Xiao-yu 160

Analysis of geological conditions for prospecting of gold deposits in Dachang tin-poly-metallic ore field, Guangxi Province ..... YANG Xue-shan, QIN De-xian, DENG Jia-feng, ZHOU Hong-jun, YU Yang-xian and GAN Ping 167

Origin of Dapinggou gold deposit in Northern Altun area, northwestern China ..... CHEN Bai-lin, YANG Yi, WANG Xiao-feng, YANG Feng, WANG Ke-zhuo, CHEN Xuan-hua 177,178

Geophysical features and distribution of ore resources in east Kunlun area ..... DONG Ying-jun, ZHANG De-quan, XU Wen-yi, SHE Hong-quan, LI Da-xin and FENG Cheng-you 184

MORPAS-based multi-information prognosis of lead-zinc deposits in Lintan-Dangchang area, Gansu Province ..... JIAO Dong-feng, GUO Zhong, LU Xin-biao, HU Guang-dao and WANG Yan-xia 192

Vol. 24 No. 3

Geodynamic process and metallogeny: History and present research trend, with a special discussion on continental accretion and related metallogeny throughout geological history in south China ..... MAO Jing-wen, XIE Gui-qing, LI Xiao-feng, ZHANG Zuo-heng, WANG Yi-tian, WANG Zhi-liang, ZHAO Cai-sheng, YANG Fu-quan and LI Hou-min 205

Geological characteristics and metallogenesis of Sawayaerdun gold deposit in southwest Tianshan Mountains, Xinjiang ..... YANG Fu-quan, MAO Jing-wen, WANG Yi-tian, LI Meng-wen, YE Hui-shou and YE Jin-hua 227

Fluid inclusion studies of Tongkeng-Changpo deposit in Dachang poly-metallic tin orefield ..... CAI Ming-hai, MAO Jing-wen, LIANG Ting and HUANG Hui-lan 240

Geological characteristics and tectonic settings of Paleozoic epithermal gold deposits in northern Xinjiang ..... YANG Fu-quan, MAO Jing-wen, XIA Hao-dong, ZHAO Cai-sheng, LI Meng-wen and YE Hui-shou 263

Geological feature and mineralization epoch of Bailingshan iron deposit, Hami, Xinjiang, China ..... WANG Long-sheng, LI Hua-qin, CHEN Yu-chuan and LIU De-quan 269

Isotope geochemical characteristics of auriferous quartz veins from medium and great depths of Xiaoqinling area, central China and their significance ..... WANG Yi-tian, MAO Jing-wen, YE An-wang, YE Hui-shou, LI Yong-feng, LU Xin-xiang and LI Yong-ge 279

Geological characteristics and mineralization epoch of Weiquan silver (copper) deposit, Hami, Xinjiang, China ..... WANG Long-sheng, LI Hua-qin, LIU De-quan and CHEN Yu-chuan 284

PGE and trace element characteristics of copper mineralization in Emeishan basalts of Yunnan-Guizhou border area ..... LI Hou-min, MAO Jing-wen, WANG Deng-hong, CHEN Yu-chuan, ZHANG Chang-qing and XU Hong 291

Geology, distribution, types and tectonic settings of Mesozoic molybdenum deposits in East Qinling area ..... LI Yong-feng, MAO Jing-wen, HU Hua-bin, GUO Bao-jian and BAI Feng-jun 304

Fluid inclusion characteristics of Dachang gold deposit, Qinghai Province and their geological significance ..... ZHAO Cai-sheng, SUN Feng-yue, MAO Jing-wen, DING Qing-feng, ZHAO Jun-wen and LI Shi-jin 316

K-Ar dating of altered clay minerals from Huize Pb-Zn deposit in Yunnan Province and its geological significance ..... ZHANG Chang-qing, MAO Jing-wen, LIU Feng and LI Hou-min 324

Discussion on some problems concerning magmatic copper-nickel-PGE sulfide deposits ..... CHAI Feng-mei, ZHANG Zhao-chong, MAO Jing-wen, DONG Lian-hui and ZHANG Zuo-heng 335

Distribution, characteristics and genesis of Mississippi Valley-Type lead-zinc deposits in Sichuan-Yunnan-Guizhou area ..... ZHANG Chang-qing, MAO Jing-wen, WU Suo-ping, LI Hou-min, LIU Feng, GUO Bao-jian and GAO De-rong 348

## Vol. 24 No. 4

- Weiya vanadium-bearing titanomagnetite deposit in Xinjiang: A polygenetic magmatic differentiation- magmatic injection- magmatic hydrothermal deposit ..... WANG Yu-wang, WANG Jing-bin, WANG Li-juan, QIN Quan-xin, PENG Xiao-ming and HUI Wei-dong 360
- Geodynamic setting for formation of large-superlarge gold deposits and Mesozoic granites in Jiaodong area ..... LI Jun-jian, LUO Zhen-kuan, LIU Xiao-yang, XU Wei-dong and LUO Hui 372
- Geological and geochemical characteristics and genesis of Chenjiazhangzi cryptoexplosive breccia pipe gold deposit, Chifeng, Inner Mongolia ..... SHE Hong-quan, ZHANG Gui-lan, ZHANG De-quan, LI Da-xin, FENG Cheng-you, WANG Zhong, MENG Li-jun and WANG Qi 387
- Factors affecting natural gas hydrate stability zone in the South China Sea ..... JIN Chun-shuang, WANG Ji-yang and ZHANG Guang-xue 397
- Fluid inclusions and ore-forming processes of three porphyry copper deposits in Gangdese belt, Tibet ..... MENG Xiang-jin, HOU Zeng-qian and LI Zhen-qing 408
- Trace element geochemistry of No. 511 uranium ore deposit in Xinjiang ..... WANG Zheng-qi, CAO Shuang-lin, PAN Jia-yong, GUAN Tai-yang and ZHANG Guo-yu 415
- Geological characteristics and gold resource prognosis of Toutanzi gold ore district in Huixian County, Gansu Province ..... HU Xiao-long, YANG Li-jiang, CHEN Yan-wen, WANG Qiang-guo, LI Jiang-long and XU Ya-ling 421
- Geochemical and geophysical prospecting for greenstone type gold deposits in central Inner Mongolia: A case study of Xindingou and Maoduqing areas ..... ZHENG Fan-shen, XU Guo-quan, FENG Zhen, CAI Hong-jun and ZHANG Zhen-fa 436
- Application of  $\theta$  function to data processing for ore prospecting in Guanxigou copper, lead, zinc polymetallic ore district, Pinglu County, Shanxi Province ..... CHEN Cai-ping 444
- Experimental study on selective adsorption behaviors of silver and gold, and its significance ..... ZHU Xiao-qing, HUANG Yan, ZHANG Qian and HE Yu-liang 450
- Characteristics of ore-forming fluids in Yangbin porphyry tin deposit, Zhejiang Province ..... HAO Yan-li, LIU Chang-shi and CHEN Pei-rong 456
- New progress in study of superlarge Jinding Pb-Zn deposit: Discovery of intrusive breccia and its geological implications ..... GAO Lan, WANG An-jian, LIU Jun-lai, XIU Qun-ye, CAO Dian-hua and ZHAI Yun-feng 461
- Comparison of platinum group elements (PGE) between Jianchaling and Jinchuan nickel sulfide deposits and its significance ..... WANG Rui-ting, MAO Jing-wen, REN Xiao-hua, WANG Min-liang and HE Ying 470

## Vol. 24 No. 5

- Two types of massive sulfide deposits on northern margin of Qaidam basin, Qinghai Province: I. Xitieshan style SEDEX lead-zinc deposits ..... ZHANG De-quan, WANG Fu-chun, LI Da-xin, FENG Cheng-you, SHE Hong-quan and LI Jin-wen 479
- Molybdenite Re-Os dating of Jiama and Zhibula polymetallic copper deposits in Gangdese metallogenic belt of Tibet and its significance ..... LI Guang-ming, RUI Zong-yao, WANG Gao-ming, LIN Fang-cheng, LIU Bo, SHE Hong-quan, FENG Cheng-you and QU Wen-jun 489
- Petrology and geochemistry of siliceous rocks in Silurian lead-zinc deposits of southern Qinling region ..... LIU Shu-wen, XUE Chun-ji, ZENG Rong, LI Qiang, ZHU Jing-xiang, WANG Tao and ZHAO Guo-bin 500
- Construction of a three-dimensional model for orebodies of Jinding deposit, Yunnan Province, and its significance in geological study ..... XIU Qun-ye, WANG Jun, GAO Lan, CAO Dian-hua, WANG An-jian, LIU Jun-lai, FAN Shi-jia and WANG Gao-shang 507
- Characteristics and metallogenic potential of skarn copper-lead-zinc polymetallic deposits in central eastern Gangdese ..... SHE Hong-quan, FENG Cheng-you, ZHANG De-quan, PAN Gui-tang and LI Guang-ming 520
- Discussion on metallogenic epoch of Hongqiling Cu-Ni sulfide deposit, Jilin Province ..... XI Ai-hua, GU Lian-xing, LI Xu-jun, YE Song-qing and ZHENG Yuan-chuan 526

Discovery of cryptoexplosive breccia type Cu (- Au) orebodies in Tonglushan skarn-type Cu-Fe deposit of Hubei Province and ore-searching vista ..... LIU Ji-shun, MA Guang and SHU Guang-long 536

Application of fluid inclusions in microfissures to study of hydrocarbon migration and accumulation: A case study of Gaoyou depression ..... TAN Cai-ping, NI Pei and LIU Cui-rong 542

Discussion on Proterozoic K- and REE-rich sedimentary rocks in North China as ore source of Bayan Obo rare earth deposits ..... SONG Tian-rui, WAN Yu-sheng and CHEN Zhen-yu 552

Database construction for national mineral resources assessment of China ..... WANG Yong-yi, XIAO Ke-yan, LI Xiao-peng, XU Cong-rong, CHEN Zhen-hui and LI Hou-min 560

Calculation of  $\mu$  value in two-stage system of lead evolution ..... HAN Fa and LI Zhen-qing 566

Ore potential and modes of occurrence of associated elements in lower Cambrian black shale of Western Zhejiang ..... LU Hui-jin and WANG Jian 574

Vol. 24 No. 6

Two types of massive sulfide deposits along northern margin of Qaidam basin, Qinghai Province: II. Qinglongtan-style VHMS Cu-S deposits ..... ZHANG De-quan, DANG Xing-yan, LI Da-xin, FENG Cheng-you, SHE Hong-quan and LI Jin-wen 583

Study of fluid inclusions from Tinggong porphyry copper deposit in Gangdese belt, Tibet ..... YANG Zhi-ming, XIE Yu-ling, LI Guang-ming, XU Jiu-hua and WANG Bao-hua 594

Discovery of epithermal Au-Sb deposits in Gangdese metallogenic belt of Tibet and its significance: Case study of Longruri Au-Sb deposit ..... LI Guang-ming, ZENG Qing-gui, YONG Yong-yuan, GAO Da-fa, WANG Gao-ming and LIU Bo 602

Geological features and fluid inclusions of Shama tungsten deposit, Inner Mongolia ..... HU Peng, NIE Feng-jun, HE Ying, ZHANG Yi and LIU Yan 612

REE characteristics of carbonate rocks in Xicheng Devonian basin and origin of dolomite in Changba giant lead-zinc deposit ..... ZHU Xin-you, WANG Dong-bo, WEI Zhi-guo, QIU Xiao-ping and WANG Rui-ting 620

Application of SWIR reflectance spectroscopy to Pulang porphyry copper ore district, Yunnan Province ..... LIAN Chang-yun, ZHANG Ge and YUAN Chun-hua 637

Re-Os isotopic age dating of molybdenite separates from Elegen porphyry Mo (Cu) mineralized area, northwestern Alxa, western Inner Mongolia ..... NIE Feng-jun, QU Wen-jun, LIU Yan, DU An-dao and JIANG Si-hong 646

Stable isotope data from Muluozhai REE deposit in Mianning County, Sichuan Province, and their geological implications ..... TIAN Shi-hong, ZHANG Gui-lan, HOU Zeng-qian, DING Ti-ping, XIE Yu-ling, YUAN Zhong-xin, BAI Ge and ZOU Tian-ren 655

Relationship between ore-forming process and regional tectonic evolution of ophiolitic mixtite belt in northern West Qinling region ..... LI Suo-cheng, CHEN Yong-bin, ZHAO Yan-qing and CUI Qiao 662

Re-Os isotopic dating of molybdenite from Datongchang copper-lead-zinc deposit in Tengchong area, western Yunnan ..... DONG Fang-liu, HOU Zeng-qian, GAO Yong-feng, ZENG Pu-sheng, JIANG Cheng-xing, DU An-dao 668

Metallogenic model of Heishishan adakite gold deposit in Gansu Province ..... FU Shan-ming, ZHOU Yong-zhang, GUO Yuan-sheng, YANG Zhi-jun and FU Wei 675

Application of shallow seismic technology and magnetotellurics to location prognosis of concealed metallic deposits: Case study of Tulargen Cu-Ni mining area, Hami, Xinjiang ..... XIAO Qi-bin, CAI Xin-ping, XU Xing-wang, LIANG Guang-he, ZHANG Bao-lin, WANG Jie, QIN Ke-zhang, PENG Xiao-ming, HUI Wei-dong, SAN Jin-zhu, KANG Feng and ZHANG Wen 683

Application of GIS to metallogenic prognosis: Case study of Yangjiazhangzi ore field ..... FU Hai-tao and WANG En-de 691

Investigation on potassium resource and its exploitation and utilization in Turkmenistan ..... ZHANG Yong-sheng, ZHENG Mian-ping, QI Wen, LI Hao and XIANG Ren-jie 696