



China Geology

Journal homepage: <http://chinageology.cgs.cn>
<https://www.sciencedirect.com/journal/china-geology>



News and Highlights

2024 Annual Report of China Mineral Resources (copper, gold, coal, etc.)

Li-qiong Jia^a, Xi-jie Chen^a, Zi-guo Hao^a

^a Development and Research Center, China Geological Survey, Ministry of Natural Resources, Beijing 100037, China

In October 2024, the Ministry of Natural Resources of PRC released the 2024 China Mineral Resources Report, which focuses on new progress since 2023 in the geological and mineral survey and evaluation, mineral resource exploration and development, mine ecological restoration, green mine construction, new changes in mineral resource policies and regulations, new measures in mineral resource management, new situations in scientific and technological innovation, as well as the new achievements of the international geological and mineral cooperation.

Till the end of year 2023, a total of 173 kinds of minerals had been discovered in China, including 13 kinds of energy minerals, 59 kinds of metallic minerals, 95 kinds of nonmetallic minerals and 6 kinds of water and gases (Table 1–3). China's oil & gas and non-oil-gas mineral geological exploration investments had achieved positive growth for three consecutive years. In 2023, 124 mineral deposits were newly discovered. In terms of the oil and gas exploration, major breakthroughs had been made in the new bed series, new types and new zones in large oil and gas basins such as Tarim, Junggar and Bohai Bay. For the non-oil-gas mineral exploration, significant progress had been achieved in coal, copper, gold, lithium and phosphorite, etc.

Table 1. Reserves of Main Energy Minerals in China.

No.	Minerals	Unit	Reserves in 2022	Reserves in 2023
1	Coal	Billion tons	207.01	218.57
2	Oil	Billion tons	3.81	3.85
3	Natural gas	Billion m ³	6569.01	6742.45

Note: The reserves of oil and gas (oil and natural gas) are remaining proved technically recoverable reserves as per *Classifications for Petroleum Resources and Reserves* (GB/T 19492-2020) and those of other minerals are the total of proved reserves and probable reserves as per *Classifications for Mineral Resources and Mineral Reserves* (GB/T 17766-2020), the same as below.

First author: E-mail address: jialiqiong1225@163.com (Li-qiong Jia).

Literary editor: Li-qiong Jia
 doi:10.31035/cg2025001

2096-5192/© 2025 China Geology Editorial Office.

As of the end of 2023, China's coal reserves increased by 5.6% compared with the end of 2022, while the remaining proven technically recoverable reserves of oil and natural gas increased by 1.2% and 2.6%, respectively (Table 1).

As of the end of 2023, China's iron ore reserves increased by 4.1% compared with the end of 2022, vanadium increased by 40.2%, lead increased by 13.8%, zinc increased by 30.1%, bauxite increased by 4.7%, tin increased by 16.9%, molybdenum increased by 32.3%, antimony increased by 24.1%, and gold increased by 2.4%.

As of the end of 2023, China's magnesite reserves increased by 2.2% compared to the end of 2022, fluorite increased by 24.4%, potash increased by 15.3%, sodium salt increased by 8.7%, barite increased by 12.4%, kaolin increased by 4.0%, and crystalline graphite increased by 23.9%.

Table 2. Reserves of main metallic minerals in China.

No.	Minerals	Unit	Reserves in 2022	Reserves in 2023
1	Iron	Billion tons of ore	16.25	16.92
2	Manganese	Million tons of ore	275.61	261.30
3	Vanadium	Million tons of V ₂ O ₅	7.34	10.30
4	Copper	Million tons of metal	40.77	40.65
5	Lead	Million tons of metal	21.87	24.87
6	Zinc	Million tons of metal	46.08	59.93
7	Bauxite	Million tons of ore	675.53	707.52
8	Tungsten	Million tons of WO ₃	3.00	2.85
9	Tin	Million tons of metal	1.00	1.17
10	Molybdenum	Million tons of metal	5.90	7.81
11	Antimony	Million tons of metal	0.67	0.83
12	Gold	Tons of metal	3127.46	3203.77
13	Silver	Tons of metal	70344.21	66866.44

This article excerpts the second chapter “Mineral Resources”. If you are interested in this report, please visit the website of the Ministry of Natural Resources (https://www.mnr.gov.cn/sj/sjfw/kc_19263/zgkczybg/202410/t20241022_28712

[17.html](#)) to read.

(Compiled by Li-qiong Jia, Xi-jie Chen, Zi-guo Hao from China Geology Editorial Office).

Table 3. Reserves of main nonmetallic minerals in China.

No.	Minerals	Unit	Reserves in 2022	Reserves in 2023
1	Magnesite	Million tons of ore	680.12	695.21
2	Fluorspar	Million tons of minerals	85.92	106.90
4	Pyrite	Million tons of ore	1147.86	1046.66
5	Phosphorite	Billion tons of ore	3.69	3.44
6	Potash	Million tons of KCl	287.89	322.01
8	Sodium salt	Billion tons of NaCl	14.29	15.54
9	Mirabilite	Billion tons of Na ₂ SO ₄	1.23	0.92
10	Barite	Million tons of ore	107.36	120.69
14	Kaolin	Million tons of ore	693.45	721.47
20	Crystalline graphite	Million tons of minerals	81.01	100.40
22	Talc	Million tons of ore	60.46	48.44

Editorial Committee of *China Geology*

Director					
Yan Guang-Sheng	Geochemistry	China Geological Survey (CGS)		yguangsheng@mail.cgs.gov.cn	
Deputy Director (in alphabetical order by name)					
Cheng Qiu-Ming	Mathematical geosciences, mineral exploration	Sun Yat-sen University		chengqiuming@mail.sysu.edu.cn	
Hao Zi-Guo	Petrology, mineral deposit geology	Development and Research Center of China Geological Survey		haoziguo@126.com	
Hou Zeng-Qian	Continental metallogeny, metallogenic model, mineral exploration	Institute of Geology, Chinese Academy of Geological Sciences (CAGS)		houzengqian@126.com	
Ren Shou-Mai	Oil & gas exploration and strategic planning	China Geological Survey		realshaw@vip.sina.com	
Shi Jun-Fa	Geochemistry	Development and Research Center of China Geological Survey		sjunfa@mail.cgs.gov.cn	
Wang Cheng-Shan	Paleoenvironment, paleoclimatology, tectonic uplift and sedimentary responses, analysis of petroliferous basins	China University of Geosciences (Beijing)		chshwang@cugb.edu.cn	
Xiao Wen-Jiao	Accretionary tectonics of rock complexes, accretionary orogeny	Xinjiang Branch, Chinese Academy of Sciences		wj-xiao@mail.iggcas.ac.cn	
Yang Jing-Sui	Petrotectonics	Nanjing University		yangjsui@163.com	
Editor in Chief					
Hao Zi-Guo	Petrology, mineral deposit geology	Development and Research Center of China Geological Survey		haoziguo@126.com	
Deputy Editor in Chief (in alphabetical order by name)					
Chen Xi-Jie	Tectonics	Development and Research Center of China Geological Survey		xijiechen2020@163.com	
Fei Yu-Hong	Pollution investigation and assessment of groundwater and other water resources	Institute of Hydrogeology and Environmental Geology, CAGS		yuhong_fei@163.com	
Li San-Zhong	Marine geology, tectonics	Ocean University of China		sanzhong@ouc.edu.cn	
Qiu Nan-Sheng	Petroleum and gas geology	China University of Petroleum (Beijing)		qiunsh@cup.edu.cn	
Wang Deng-Hong	Rare earth, rare metal and rare-scattered element mineral resources	Institute of Mineral Resources, CAGS		wangdenghong@sina.com	
Wu Neng-You	Natural gas hydrate	Qingdao Institute of Marine Geology, CGS		wuny@ms.gicc.ac.cn	
Yin Yue-Ping	Geological hazard investigation and prevention	China Institute of Geological Environment Monitoring, CGS		yinyuepgs@hotmail.com	
Zhang Shuan-Hong	Tectonics	Institute of Geomechanics, CAGS		tozhangshuanhong@163.com	
Member of Editorial Committee (in alphabetical order by name)					
Amorosi, Alessandro	Sequence stratigraphy, sedimentology, quaternary geology	University of Bologna		alessandro.amorosi@unibo.it	

Cai Jian-Cao	Microscopic characteristics and transportation mechanism of oil & gas reservoir	China University of Petroleum (Beijing)	cajic@cup.edu.cn
Chen Xi-Jie	Tectonics	Development and Research Center of China Geological Survey	xijiechen2020@163.com
Chen Yan-Jing	Petrology	Peking University	yjchen@pku.edu.cn
Cheng Hang-Xin	Environmental geochemistry, exploration geochemistry	Institute of Geophysical and Geochemical Exploration, CAGS	chenghangxin@iggge.cn
Cheng He-Fa	Environmental geochemistry	Peking University	hefae@pku.edu.cn
Cheng Qiu-Ming	Mathematical geosciences, mineral exploration	Sun Yat-sen University	chengqiuming@mail.sysu.edu.cn
Cheng Xin	Exploration and prospecting of mineral resources	Development and Research Center of China Geological Survey	chengx2011@163.com
Chevalier, MarieLuce Therese G.	Tectonics	Institute of Geology, CAGS	mchevalier@hotmail.com
Dai Shi-Feng	Coal geology	China University of Mining and Technology (Beijing)	daishifeng@gmail.com
Davies, Theophilus Clavell	Medical geology, environmental geology, pure and applied geochemistry and paleontology	Mangosuthu University of Technology	davies.theophilus@mut.ac.za
Didenko, Aleksei	Tectonics, paleomagnetism	Institute of Tectonics and Geophysics, Far East Branch of the Russian Academy of Sciences, Khabarovsk, Russia	alxei_didenko@mail.ru
Donmez, Cahit	Mineral exploration	General Directorate of the Mineral Research & Exploration of Turkey	cahit.donmez@mta.gov.tr
Fan Hong-Rui	Mineral deposit geology, fluid inclusion	Institute of Geology and Geophysics, Chinese Academy of Sciences	fanhrr@mail.iggcas.ac.cn
Fei Yu-Hong	Pollution investigation and assessment of groundwater and other water resources	Institute of Hydrogeology and Environmental Geology, CAGS	yuhong_fei@163.com
Fu Xiu-Gen	Sedimentary and petroleum geology	Southwest Petroleum University	fxiugen@126.com
Groves, Christopher Gordon	Karst hydrogeology	Western Kentucky University	chris.groves@wku.edu
Guo Hua-Ming	Hydrogeology	China University of Geosciences (Beijing)	hmguo@cugb.edu.cn
Hao Zi-Guo	Petrology, mineral deposit geology	Development and Research Center of China Geological Survey	haoziguo@126.com
He Gao-Wen	Deep-sea mineral resource exploration and evaluation	Guangzhou Marine Geological Survey, CGS	hegaowen@163.com
Hou Zeng-Qian	Continental metallogeny, metallogenic model, mineral prospectivity assessment	Institute of Geology, CAGS	houzengqian@126.com
Ji Shu-An	Paleontology, stratigraphy	Institute of Geology, CAGS	jishu_an@sina.com
Jia Li-Qiong	Mineralogy, petrology, mineral deposit geology	Development and Research Center of China Geological Survey	jialiqiong1225@163.com
Jiang Xiao-Wei	Basin groundwater circulation	China University of Geosciences (Beijing)	jxw@cugb.edu.cn
Jiang Zhong-Cheng	Engineering geology, karst environmental geology	Institute of Karst Geology, CAGS	zh_jiang@yahoo.com

Jin Ruo-Shi	Mineral exploration	Tianjin Geological Survey Center, CGS	ruosj2003@allyun.com
Ju Yi-Wen	Basin geology, energy geology and nanogeology	University of Chinese Academy of Sciences	juyw03@163.com
Li Hai-Bing	Tectonics, fault activity	Institute of Geology, CAGS	lihaibing06@163.com
Li San-Zhong	Tectonics	Ocean University of China	sanzhong@ouc.edu.cn
Li Yan-Long	Natural gas hydrate	Qingdao Institute of Marine Geology, CGS	ylli@qplm.ac
Long Bao-Lin	Mineral resource exploration and evaluation	Development and Research Center of China Geological Survey	lbaolin@sina.com
Lu Hai-long	Natural gas hydrate	Peking University	hlu@pku.edu.cn
Mooney, Walter D.	Geophysics, seismology	U.S. Geological Survey	mooney@usgs.gov
Nyunt, Thet Tin	Geological survey, mineral exploration	Ministry of Natural Resources and Environmental Conservation, Myanmar	thetinyunt@gmail.com
Pu Jun-Bing	Carbon and sulfate circulation in karst areas and its environmental impact	Chongqing Normal University	junbingpu@163.com
Qiu Hai-Jun	Natural gas hydrate	China Geological Survey	gmgs_qiu@sina.com
Qiu Nan-Sheng	Petroleum and gas geology	China University of Petroleum (Beijing)	qjunsh@cup.edu.cn
Redfern, Simon	Mineralogy	Nanyang Technological University	simon.redfern@ntu.edu.sg
Ren Jun-Ping	Geological survey of southern Africa	Tianjin Geological Survey Center, CGS	rjp2333@126.com
Ren Shou-Mai	Oil & gas exploration and strategic planning	China Geological Survey	realshaw@vip.sina.com
Shakirov, Renat B.	Natural gas hydrate, methane flux	V.I. Il'ichev Pacific Oceanological Institute, Far East Branch of the Russian Academy of Sciences	ren@poi.dvo.ru
Shi Jun-Fa	Geochemistry	Development and Research Center of China Geological Survey	sjunfa@mail.cgs.gov.cn
Tang Ju-Xing	Regional metallogeny (copper and gold deposits)	Institute of Mineral Resources, CAGS	tangjuxing@126.com
Tong Jin-Nan	Neoproterozoic geology	China University of Geosciences (Wuhan)	jntong@cug.edu.cn
Wang Cheng-Shan	Paleoenvironment, paleoclimatology, tectonic uplift and sedimentary responses, analysis of petroliferous basin	China University of Geosciences (Beijing)	chshwang@cugb.edu.cn
Wang Deng-Hong	Rare earth, rare metal and rare-scattered element mineral resources	Institute of Mineral Resources, CAGS	wangdenghong@sina.com
Wang Gui-Ling	Groundwater resources, geothermal energy	Institute of Hydrogeology and Environmental Geology, CAGS	wangguling@mail.cgs.gov.cn
Wang Qing-Fei	Orogenic metallogenesis, mineral prospecting	China University of Geosciences (Beijing)	wqf@cugb.edu.cn
Wang Ru-Cheng	Rare earth, rare metal and rare-scattered element mineral resources	Nanjing University	rcwang@nju.edu.cn

Wang Rui	Magmatism and mineralization	China University of Geosciences (Beijing)	rw@cugb.edu.cn
Witkowski, Andrzej	Marine environment and biology	University of Szczecin	andrzej.witkowski@usz.edu.pl
Wu Neng-You	Natural gas hydrate	Qingdao Institute of Marine Geology, CGS	wuny@ms.giec.ac.cn
Xiao Wen-Jiao	Accretionary tectonics of rock complexes, accretionary orogeny	Xinjiang Branch, Chinese Academy of Sciences	wj-xiao@mail.iggcas.ac.cn
Xiong Sheng-Qing	Airborne geophysics	China Aero Geophysical Survey and Remote Sensing Center for Natural Resources, CGS	xsqags@126.com
Yan Guang-Sheng	Geochemistry	China Geological Survey	yguangsheng@mail.cgs.gov.cn
Yang Jing-Sui	Petrotectonics	Nanjing University	yangjsui@163.com
Yang Sheng-Xiong	Nodules, crusts and REE-rich sediment	Guangzhou Marine Geological Survey, CGS	yangsx@gmlab.ac.cn
Yang Zhong-Fang	Soil heavy metal, geochemistry	China University of Geosciences (Beijing)	yangzf@cugb.edu.cn
Ye Si-Yuan	Coastal and wetland ecosystems	Qingdao Institute of Marine Geology, CGS	siyuanyc@hotmail.com
Yin Ping	Coastal environmental change	Qingdao Institute of Marine Geology, CGS	pingyin@fo.o.g.cn
Yin Yue-Ping	Geological hazard investigation and prevention	China Institute of Geological Environment Monitoring, CGS	yinyup@cgem.cn
Zeng Ling-Sen	Crustal anatexis, deep process of orogenic belts	Institute of Geology, CAGS	lzeng1970@163.com
Zeng Zhi-Gang	Deep-sea hydrothermal system	Institute of Oceanology, Chinese Academy of Sciences	zgzeq@qdio.ac.cn
Zhang Er-Yong	Hot dry rock	Center for Hydrogeology and Environmental Geology Survey, CGS	zeryong@mail.cgs.gov.cn
Zhang Lian-Kai	Karst ecology	Kunming General Survey of Natural Resources Center, CGS	zhang_liankai@126.com
Zhang Shuan-Hong	Tectonics	Institute of Geomechanics, CAGS	tozhangshuanhong@163.com
Zhang Yong-Shuang	Engineering geology, geological hazard	China University of Geosciences (Beijing)	zhys100@hotmail.com
Zhang Zhao-Chong	Magmatism and mineralization	China University of Geosciences (Beijing)	zczhang@cugb.edu.cn
Zheng Xiong-Wei	Remote sensing geology	China Geological Survey	zheng_xiongwei@163.com
Zhu Di-Cheng	Petrology	China University of Geosciences (Beijing)	dczhu@cugb.edu.cn
Zhu Xiang-Kun	Isotope geochronology, isotope geochemistry	Institute of Geology, CAGS	xiangkun@cags.ac.cn