Abstracts: Dalian, located at the southern tip of the Liaodong Peninsula, is a city relatively rich in mineral resources in Liaoning Province. Available reserves of superiority mineral resources such as limestone, diamond, quartzite, building stone are all listed first in the province. The exploitation of mineral resources has made a significant contribution to the economic and social development in Dalian. However, it has also caused serious land destruction and environment pollution at the same time. Problems such as ground collapse, groundwater funnel and geomorphologic landscape destruction caused by mining activities not only have seriously affected the people's life in mining area, but also put enormous pressure on the local ecological environment. Therefore, it is an urgent problem to be solved to get the present situation of mineral resources exploitation and the geological environment problems. In this paper, GF-1 and GF-2 satellite data were used to carry out the remote sensing monitoring of 2017-2018 annual mineral resources development status and mine geological environment in Dalian. According to the characteristics of remote sensing image, we established remote sensing image interpretation signs of mine and conducted field investigations on some patches. The annual change information is obtained and the results are as follows: (1) There are altogether 194 mining sites in the city, including 164 licensed mines, 1 suspected illegal mine and 29 closed or abandoned mines. The suspected illegal mine is unlicensed mining building stone. (2) 2017-2018 annual newly increasing damaged land by mining is 113.99 hectares. New restoration and treatment area is 29.53 hectares. (3) A total of 9 mines in the city were found to have hidden danger points of geological disasters, mainly in the form of collapse and landslide. The researches show that China high-resolution satellites imagery have good identification ability for mineral resources development, mine geological hazards and mine geological environment problems, and it could meet the requirement of mine environment remote sensing monitoring.

Key words: GF-1, GF-2, remote sensing monitoring, mine environment, Dalian

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