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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 18341-2021

Replacing GB/T 18341-2001

**Specifications of survey for geological and mineral resources
exploration**

地质矿产勘查测量规范

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Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General	3
4.1 General provisions	3
4.2 Coordinate system and elevation datum	3
4.3 Basic requirements for topographic maps	3
5 Plane control measurement	4
5.1 General provisions	4
5.2 Wire measurement	5
5.3 Global Navigation Satellite System (GNSS) survey	15
6 Height control measurement	21
6.1 General regulations	21
6.2 Design, selection and burying of stones	22
6.3 Leveling	22
6.4 Electromagnetic wave distance measurement and elevation wire measurement	25
6.5 GNSS elevation control survey	26
6.6 Triangular elevation measurement	27
6.7 Height measurement across obstacles	28
6.8 Inspection and calculation of elevation results	29
7 Topographic survey	30
7.1 General provisions	30
7.2 Mapping measurement	30
7.3 Supplement to test site	33
7.4 Digital Mapping	34
7.5 Topographic map surveying and mapping content	34
7.6 Revision of Topographic Map	37
7.7 Mosaic and check of topographic maps	38
8 Aerial photogrammetry	38
8.1 General provisions	38
8.2 Aerial photography data requirements	38
8.3 Layout of photo control points	39

8.4 Photo control point measurement	40
8.5 Photo Editing	42
8.6 Aerial triangulation	43
8.7 Digital Elevation Model (DEM) Production	43
8.8 Digital Orthophoto Map (DOM) Production	45
8.9 Digital line drawing (DLG) production	45
8.10 Low-altitude photogrammetry	46
9 Geological Prospecting Engineering Survey	49
9.1 General rules	49
9.2 Topographic Surveying and Mapping	51
9.3 Surveying on the prospecting network	51
9.4 Survey line profile measurement	52
9.5 Surveying of exploration tunnels	54
9.6 Positioning measurement	58
9.7 Boundary survey of mining area	59
10 Map preparation	60
10.1 General provisions	60
10.2 Compilation of topographic maps	61
10.3 Compilation of Geographical Base Map	61
10.4 Compilation of Image Geographical Basemap	62
10.5 Thematic map compilation	62
11 Sorting out and acceptance of surveying and mapping data	62
11.1 Recording and collation of observation results	62
11.2 Inspection and Acceptance	63
11.3 Submitted data items	63
96 Appendix O (informative) Plan of tunnel survey (example)	98

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document replaces GB/T 18341-2001 "Specifications for Geological and Mineral Exploration and Surveying". Compared with GB/T 18341-2001, except for editorial The main technical changes outside the modification are as follows:

--- Added "Terms" and deleted "Map Copy" (see Chapter 3, Chapter 10 of the.2001 Edition);

---Modified the "General Provisions", "Plane Control Surveying", "Elevation Control Surveying", "Topographic Surveying", "Aerial Photographic Surveying", and "Geological Prospecting Engineering Surveying". "Quantity", "Map Compilation", "Surveying and Mapping Data Sorting and Acceptance" and other contents (see Chapter 4~Chapter 11, Chapter 3~ Chapter 9, Chapter 11);

--- "Plane control surveying" deleted the triangulation and edge and corner combined measurement technology method, the global positioning system (GPS) survey expansion For GNSS measurement, real-time dynamic measurement (RTK), continuous operation satellite positioning reference system (CORS), precision single Point positioning (PPP) control measurement method; GNSS elevation measurement is added to "Elevation Control Survey" (see 5.3, 6.5,.2001 edition 4.2.2, 4.2.4, 4.6, 4.7.4, 4.7.5, 5.6, 5.9.3);

---In "Topographic Survey", methods such as triangle lock, angle intersection, etc. are deleted for the root point measurement of the layout map, the flatbed surveying map is deleted, and the RTK plane and elevation measurement (see 7.1, 7.2, 7.3, 6.1, 6.2, 6.3, 6.4 of the.2001 edition);

---In "Aerial Photogrammetry", the surveying methods of precision three-dimensional surveying instrument, analytical surveying instrument and machine-assisted three-dimensional coordinate measuring instrument have been deleted and added Added low-altitude photogrammetry, added digital elevation model, digital line drawing and orthophoto map production, and modified the internal Content (see 8.7, 8.8, 8.9, 8.10, 7.1~7.11 of the.2001 edition);

---In the "Geological Exploration Engineering Survey", the requirements for the use of flat panel surveying and optical theodolite have been deleted, and the RTK terrain survey has been added Diagram operation methods and requirements (see 9.2, 8.2 of the.2001 edition);

---"Map Compilation" deletes the original map clearing and drawing and computer mapping content, retains the related content of "Map Compilation", and adds geographic background Map compilation, image geographic base map compilation, and thematic map compilation content (see 10.1~10.5, 9.1~

9.4 in the.2001 edition);

--- In "Survey and Mapping Data Sorting and Acceptance", corresponding changes have been made to the additions and deletions of standardized technical methods, and the "Data submission Requirements" (see 11.3, 11.4,

1 Scope

GB/T 18341-2021 is the Chinese national standard on specifications of survey for geological and mineral resources exploration, in the field of mining and minerals. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 21 May 2021 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 December 2021. Classification: ICS 73.020, CCS D10. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the horizontal control survey, elevation control survey, topographic survey, aerial photogrammetry, geological exploration engineering in geological and mineral exploration. The definitions and basic requirements of the terms for process surveying, map compilation, and surveying and mapping data collation and acceptance. This document is suitable for the major of geological and mineral exploration to conduct control surveys, topographic surveys on a scale of 1:1000 to 1:5000, and geological prospecting engineering. It can be used for mine design and production utilization.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations Only the version corresponding to the date is applicable to this document; the latest version (including all amendments) of the undated reference file is applicable to This document.

GB/T 7931 1:5000 1:1000 1:2000 Topographic Map Aerial Photogrammetry Field Specification

GB/T 12898 National third- and fourth-class leveling specifications

GB/T 13923 Classification and codes of basic geographic information elements

GB/T 13977 1:5000 1:10000 Topographic Map Aerial Photogrammetry Field Specification

GB/T 13989 National Basic Scale Topographic Map Framing and Numbering

GB/T 16818 Specification for medium and short range photoelectric ranging

GB/T 17798 Geospatial Data Exchange Format

GB/T 19710 Geographic Information Metadata

GB/T 20257.1 National Basic Scale Map Schema Part