

CHAPTER 456

GEOLOGICAL SURVEY

Referred to in [§455A.4](#)

Chapter transferred from ch 460A in Code 2003 pursuant to Code editor directive; 2002 Acts, 2nd Ex, ch 1003, §260, 262

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456.1 Geological survey created — definitions.

1. A geological survey of the state is created within the department.
 2. As used in [this chapter](#), unless the context otherwise requires:
 - a. “Department” means the department of natural resources created under [section 455A.2](#).
 - b. “Director” means the director of the department.
- [C97, §2497; C24, 27, 31, 35, 39, [§4549](#); C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.1]
[86 Acts, ch 1245, §1881](#)
 C93, §460A.1
[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)
 C2003, §456.1
[2011 Acts, ch 25, §143](#)

456.2 State geologist — qualifications.

The director shall appoint the state geologist. The state geologist must have a degree in geology from an accredited college or university and must have at least five years of geological experience. The annual salary of the state geologist shall be determined by the director.

[R60, §180, 181; C97, §2498; C24, 27, 31, 35, 39, [§4550](#); C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.2]
[86 Acts, ch 1245, §1882](#)
 C93, §460A.2
[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)
 C2003, §456.2

456.3 Survey.

The state geologist shall be director of the survey and shall make a complete survey of the natural resources of the state in all their economic and scientific aspects, including the determination of the order, arrangement, dip, and comparative magnitude of the various formations; the discovery and examination of all useful deposits, including their richness in mineral contents and their fossils; and the investigation of the position, formation, and arrangement of the different ores, coals, clays, building stones, glass sands, marls, peats, mineral oils, natural gases, mineral and artesian waters, and such other minerals or other materials as may be useful, with particular regard to the value thereof for commercial purposes and their accessibility.

[R60, §182; C97, §2499; C24, 27, 31, 35, 39, [§4551](#); C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.3]
 C93, §460A.3
[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)
 C2003, §456.3

456.4 Investigations — collection — renting space.

The state geologist shall investigate the characters of the various soils and their capacities for agricultural purposes, the streams, and other scientific and natural resource matters that may be of practical importance and interest. For the purpose of preserving well drilling samples, rock cores, fossils, and other materials as may be necessary to carry on investigations, the state geologist shall have the authority to lease or rent sufficient space for storage of these materials with the approval of the director of the department of administrative services. A complete cabinet collection may be made to illustrate the natural products of the state, and the state geologist may also furnish suites of materials, rocks, and fossils for colleges and public museums within the state, if it can be done without impairing the general state collection.

[R60, §182, 185, 187; C97, §2499; C24, 27, 31, 35, 39, §4552; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.4]

C93, §460A.4

[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)

C2003, §456.4

[2003 Acts, ch 145, §286](#)

456.5 Authority to enter lands.

For the purpose of carrying on the aforesaid investigations the state geologist and the state geologist's assistants and employees shall have authority to enter and cross all lands within the state; provided that in so doing no damage is done to private property.

[C24, 27, 31, 35, 39, §4553; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.5]

C93, §460A.5

[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)

C2003, §456.5

456.6 Detailed reports.

The state geologist and the state geologist's assistants shall make detailed maps and reports of counties and districts as fast as the work is completed, which reports shall embrace such geological, mineralogical, topographical, and scientific details as are necessary to make complete records thereof, which may include the necessary illustrations, maps, charts, and diagrams.

[R60, §184; C97, §2500; S13, §2500; C24, 27, 31, 35, 39, §4554; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.6]

C93, §460A.6

[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)

C2003, §456.6

456.7 Annual report.

The state geologist shall, annually, at the time provided by law, make to the governor a full report of the work in the preceding year, which report shall be accompanied by such other reports and papers as may be considered desirable for publication.

[R60, §184; C97, §2498, 2500; S13, §2500; C24, 27, 31, 35, 39, §4555; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.7]

C93, §460A.7

[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)

C2003, §456.7

456.8 Cooperation.

The state geologist shall cooperate with the United States geological survey, with other federal and state organizations, and with adjoining state surveys in the making of topographic maps and the study of geologic problems of the state when, in the opinion of the state geologist, such cooperation will result in profit to the state.

[S13, §2500; C24, 27, 31, 35, 39, §4556; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.8]

C93, §460A.8

2002 Acts, 2nd Ex, ch 1003, §260, 262
C2003, §456.8

456.9 Publication of reports.

The state geologist may direct the preparation and publication of special reports and bulletins of educational and scientific value or containing information of immediate use to the people.

[C97, §2501; S13, §2501; C24, 27, 31, 35, 39, §4557; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.9]

C93, §460A.9

2002 Acts, 2nd Ex, ch 1003, §260, 262

C2003, §456.9

Reports, §7A.27

456.10 Distribution and sale of reports.

All publications of the geological survey shall be distributed by the state as are other published reports of state officers when no special provision is made. When such distribution has been made the state geologist shall retain a sufficient number of copies to supply probable future demands and any copies in excess of such number shall be sold to persons making application therefor at the cost price of publication, the money thus accruing to be turned into the treasury of the state.

[C97, §2501; S13, §2501; C24, 27, 31, 35, 39, §4558; C46, 50, 54, 58, 62, 66, 71, 73, 75, 77, 79, 81, §305.10]

C93, §460A.10

2002 Acts, 2nd Ex, ch 1003, §260, 262

C2003, §456.10

456.11 Maps — surveys.

The operator of any underground mine shall comply with the following provisions relative to maps and surveys:

1. *Scale.* Each mine map shall be drawn to a scale of not more than two hundred feet to the inch.

2. *General specifications.* Each map shall show the name of the state, county, and township in which the mine is located, the designation of the mine, the name of the company or operator, the certificate of the mining engineer or surveyor as to the accuracy and date of the survey, the north point, and the scale to which the map is drawn.

3. *Boundaries and surface lines.* Every map shall correctly show the surface boundary lines of the mineral rights pertaining to each mine and all section or quarter section lines or corners within the same, the lines of town lots and streets, the tracks and sidetracks of all railroads, the location of all wagon roads, rivers, streams, and ponds, and reservations made of the mineral.

4. *Underground conditions.* For the underground workings, the map shall show all shafts, slopes, tunnels, or other openings to the surface or to the workings of a contiguous mine; all excavations, entries, rooms, and crosscuts; the location of the escape ways, and of the fan or furnace or other means of ventilation and the direction of air currents, and the location of permanent pumps, hauling engines, engine planes, abandoned works, fire walls, and standing water.

5. *Separate maps.* A separate and similar map drawn to the same scale in all cases shall be made of each layer of minerals mined in any mine in this state. A separate map shall also be made of the surface whenever the surface buildings, lines, or objects are so numerous as to obscure the details of the mine workings if drawn upon the same sheet with them, and in such case the surface map shall be drawn upon transparent cloth or paper so that it can be laid upon the map of the underground workings and thus truly indicate the local relation of lines and objects on the surface to the excavations of the mine and any other principal workings of the mine.

6. *Rise and dip of minerals.* Each map of underground workings shall also show by

profile drawing and measurement, the last one hundred fifty feet approaching the boundary lines, showing the rise and dip of the minerals.

7. *Copies.* The original or true copies of the maps shall be kept at the office of the mine, and true copies thereof shall also be furnished the state geologist within thirty days after the completion of the same.

8. *Extensions.* An accurate extension of the last preceding survey of every mine in active operation shall be made once in every twelve months prior to July 1 of every year and the result of such survey, with the date thereof, shall be promptly and accurately entered upon the original map, and a true, correct, and accurate copy of the extended map shall be forwarded to the state geologist so as to show all changes in plan of new work in the mine, and all extensions of the old workings to the most advanced face or boundary of the workings which have been made since the last preceding survey, and the parts of the mine abandoned or worked out after the last preceding survey shall be clearly indicated and shown by colorings, which copy must be delivered to the state geologist within thirty days after the last survey is made.

9. *Abandoned mine.* When any underground mine is worked out or is about to be abandoned or indefinitely closed, the operator of the same shall make or cause to be made a completed and extended map of the mine and the result of the same shall be duly extended on all maps of the mine and copies thereof so as to show all excavations and the most advanced workings of the mine, and their exact relation to the boundary or section lines on the surface, and deliver to the state geologist a copy of the completed map.

10. *Copies furnished.* The state geologist shall provide the division of soil conservation and water quality created within the department of agriculture and land stewardship pursuant to [section 159.5](#) a copy of each map and map extension received by the geologist under [this section](#).

[C97, §2485; S13, §2485, 2496-m; C24, 27, 31, 35, 39, §1245, 1351 – 1355, 1357, 1358; C46, 50, 54, 58, 62, 66, 71, 73, §82.28, 83.14 – 83.18, 83.20, 83.21; C75, 77, 79, 81, §305.12]

C93, §460A.12

[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)

C2003, §456.11

[2015 Acts, ch 103, §44](#)

Referred to in [§456.13](#)

Subsection 10 amended

456.12 Failure to furnish map.

When the operator of any mine neglects or refuses for a period of ninety days to furnish to the state geologist the map or plan, or a copy thereof, of such mine or any extension thereof, as provided in [this chapter](#), the state geologist shall cause to be made an accurate map or plan of such mine or extension as the case may be, at the expense of the operator. The cost shall be paid by the state and recovered from such operator. It shall be the duty of the county attorney of the county in which such mine is located, at the request of the state geologist, to bring action in the name of the state for such recovery.

[S13, §2485-a, 2496-m; C24, 27, 31, 35, 39, §1246, 1359; C46, 50, 54, 58, 62, 66, 71, 73, §82.29, 83.22; C75, 77, 79, 81, §305.13]

C93, §460A.13

[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)

C2003, §456.12

Referred to in [§331.756\(55\)](#)

456.13 Maps property of state — custody — copies.

The maps so delivered to the state geologist shall be the property of the state and shall remain in the custody of the state geologist. They shall be kept at the office of the geological survey and be open to examination by all persons interested in the maps; but such examination shall only be made in the presence of the state geologist or a designee, and the state geologist shall not permit any copies of the maps to be made without the written

consent of the operator or the owner of the property, except as provided in [section 456.11](#) or if the mine has been abandoned for at least five years.

[C97, §2485; S13, §2485, 2496-m; C24, 27, 31, 35, 39, §1247, 1356; C46, 50, 54, 58, 62, 66, 71, 73, §82.30, 83.19; C75, 77, 79, 81, §305.14]

C93, §460A.14

[2002 Acts, 2nd Ex, ch 1003, §260, 262](#)

C2003, §456.13