CLAIMS

[1] Cerium oxide abrasive grains for use in an abrasive,

wherein an amount of water production in a temperature range of 300°C or less measured using temperature-programmed reaction is 8 mmol/m^2 or more per unit surface area of the cerium oxide abrasive grains,

wherein an average primary particle size of the cerium oxide abrasive grains is not less than 20 nm and not more than 150 nm,

wherein a crystallite diameter of the cerium oxide abrasive grains is not less than 15 nm and not more than 50 nm, and

wherein the shape of the cerium oxide abrasive grains is a hexahedron surrounded by squares.

[2] The cerium oxide abrasive grains according to claim 1,

wherein a BET specific surface area of the cerium oxide abrasive grains is 9.8 m^2/g or more and 30 m^2/g or less.

[3] The cerium oxide abrasive grains according to claim 1 or 2,

wherein an average primary particle size of the cerium oxide abrasive grains is not less than 20 nm and not more than 100 nm.

[4] The cerium oxide abrasive grains according to any one of claims 1 to 3,

wherein a crystallite diameter of the cerium oxide abrasive grains is not less than 15 nm and not more than 40 nm.

[5] The cerium oxide abrasive grains according to any one of claims 1 to 4,

wherein the cerium oxide abrasive grains do not substantially contain silicon.

[6] The cerium oxide abrasive grains according to any one of claims 1 to 5,

wherein the cerium oxide abrasive grains are composite oxide particles with some cerium atoms in the cerium oxide abrasive grains being substituted with zirconium atoms.

[7] Use of the cerium oxide abrasive grains according to any one of claims 1 to 6 as polishing particles.

[8] Use of the cerium oxide abrasive grains according to any one of claims 1 to 6 for polishing.

[9] A polishing liquid composition comprising:
the cerium oxide abrasive grains according to any one of claims 1 to 6; and
an aqueous medium.

[10] The polishing liquid composition according to claim 9,
wherein a content of the cerium oxide abrasive grains is not less than 0.05 mass% and not more than 10 mass%.

[11] The polishing liquid composition according to claim 9 or 10,
wherein the polishing liquid composition is used for polishing a silicon oxide film.

[12] A method for producing a semiconductor substrate, the method comprising the step of:
polishing a substrate to be polished using the polishing liquid composition according to any one of claims 9 to 11.

[13] A method for polishing a substrate, the method comprising the step of:
polishing a substrate to be polished using the polishing liquid composition according to any one of claims 9 to 11.

[14] A method for producing a semiconductor device, the method comprising the step of:
polishing a substrate to be polished using the polishing liquid composition according to any one of claims 9 to 11.