WHAT IS CLAIMED IS:

1. A wafer producing method comprising:

a peeling layer forming step of positioning, within a workpiece, a condensing point of a laser beam of a wavelength passing through the workpiece, applying the laser beam while moving the workpiece and the condensing point relative to each other along an intersection line at which a plane parallel with a c-plane of the workpiece and a first surface of the workpiece intersect each other, and forming a peeling layer including a modified portion and a crack extending from the modified portion along the c-plane; and

a wafer peeling step of peeling a wafer from the workpiece by separating the workpiece at the peeling layer,

the peeling layer forming step applying the laser beam only in a state in which the condensing point is positioned in a central region of the workpiece other than a peripheral region extending inward from a peripheral edge of the workpiece by a predetermined distance,

wherein the wafer is produced from the workpiece that is a single crystal SiC ingot or a single crystal SiC wafer and, the workpiece having the first surface and

a second surface opposed to the first surface, the wafer having a thickness less than an interval between the first surface and the second surface; and

wherein, in the wafer peeling step, the workpiece is separated at the peeling layer by developing the crack to the peripheral region in the wafer peeling step, and the peripheral region is a region in which the crack is intended to be developed from a boundary between the peripheral region and the central region to an outer peripheral surface of the workpiece.

2. The wafer producing method according to claim 1, wherein

a minimum value of an interval between the condensing point of the laser beam all of which passes through an upper surface of the workpiece and the outer peripheral surface of the workpiece is represented by *r*;

a width of the peripheral region is set to be equal to or more than *r* in order for the laser beam not to pass through the outer peripheral surface of the workpiece; and

r can be expressed by an equation:

$$r = z \times \tan\left\{\sin^{-1}\left(\frac{NA}{n}\right)\right\},$$

wherein

z represents an interval between the upper

surface of the workpiece and a point of intersection of the imaginary line and an optical axis O within the workpiece,

NA represents a numerical aperture of a condensing lens for condensing the laser beam applied to the workpiece, and

n represents an index of refraction of an atmosphere.

3. The wafer producing method according to claim 2, wherein

the width of the peripheral region is set to be twice *r* or less.

4. The wafer producing method according to claim 2, wherein

the width of the peripheral region is set to be three times *r* or less.

5. The wafer producing method according to claim 2, wherein

the width of the peripheral region is set to be four times *r* or less.

6. The wafer producing method according to any one of claims 1 - 5, further comprising:

a peripheral edge detecting step of detecting the peripheral edge of the workpiece by imaging the first

surface side of the workpiece by an imaging unit before the peeling layer forming step.

7. The wafer producing method according to any one of claims 1 - 5, further comprising:

a grinding step of grinding a peeling surface of the wafer, the peeling surface being exposed by peeling the wafer from the workpiece, after the wafer peeling step.

8. The wafer producing method according to claim 6, further comprising:

a grinding step of grinding a peeling surface of the wafer, the peeling surface being exposed by peeling the wafer from the workpiece, after the wafer peeling step.

9. The wafer producing method according to any one of claims 1 - 5, further comprising:

a chamfering step of chamfering the peripheral edge of the wafer after the wafer peeling step.

10. The wafer producing method according to claim 6, further comprising:

a chamfering step of chamfering the peripheral edge of the wafer after the wafer peeling step.

11. The wafer producing method according to claim 7, further comprising:

a chamfering step of chamfering the peripheral edge of the wafer after the wafer peeling step.

12. The wafer producing method according to claim 8, further comprising:

a chamfering step of chamfering the peripheral edge of the wafer after the wafer peeling step.