

## Railway accident investigation report

Railway operator : Kyushu Railway Company

Accident type : Train derailment

Date and time : About 1:25, April 16, 2016

Location : In the premises of Akamizu station, Hohi Line, Aso City, Kumamoto Prefecture

### SUMMARY

On April 16, 2016, the outbound Diesel 443D train, composed of 2 vehicles, started from Kumamoto station bound for Miyaji station, Hohi Line of Kyushu Railway Company, departed Akamizu station at 1:24.

Just after the train passed through the turnout in the direction of Oita station in Akamizu station, the train driver felt violent tremor as if the train were having upward, and, at the same time, noticed the sound of the earthquake early warning information from the cellular phone, and applied an emergency brake to stop the train.

It was found that the all axles in the front bogie of the first vehicle derailed to right, and the all axles in the front bogie of the second vehicle derailed to left and the all axles in the rear bogie of the second vehicle derailed to right.

There was the driver onboard the train, but he was not injured. As the train was not in service operation, there was no passenger onboard.

Here, at about 1:25, of the same day, the earthquake, of which magnitude was 7.3 and epicenter was Kumamoto district in Kumamoto Prefecture, in the series of earthquake, named "Heisei 28th year, 2016, Kumamoto Earthquake", had occurred, and the maximum seismic intensity of 7 was observed in Mashiki town, Kumamoto Prefecture.

### PROBABLE CAUSES

It is highly probable that the accident had occurred as the all axles in the front bogie of the first vehicle and the right wheels of the all axles in the rear bogie of the second vehicle climbed up the right rail and derailed to right simultaneously due to the large earthquake ground motion of the earthquake occurred at 1:25, April 16, in the series of the "Heisei 28th year, 2016, Kumamoto Earthquake", while the train was running in the premises of Akamizu station. After that left wheels of the all axles in the front bogie of the second vehicle climbed up left rail and derailed to left.

It is somewhat likely that the all axles in front bogie of the second vehicle derailed, due to passing through the deformed rail by the large lateral force acted on the rail in left direction by the front bogie of the second vehicle, due to the trainset bucking caused by the impact, when the first axle in the front bogie of the first vehicle hit against the concrete block pavement in the level crossing after derailed.