

Due to the increase in demand for iron ore, particularly from China, a car dumper at the BHP Billiton Port Hedland Iron Ore loading wharf had to be upgraded.

A car dumper is the facility where a rail carriage loaded with iron ore is driven onto a platform where hydraulic arms hold the carriage in position and rotate the whole carriage through 160 degrees to “dump” the iron ore into a hopper. The carriage is then returned upright. At this facility two carriages were dumped at a time, the process taking about two minutes. Each carriage has the capacity to hold 100 tonne of ore.

In addition, the newly exposed reinforcing steel had to be cut back 50mm and painted with an anti-rusting agent before re-filling the hole, and the exposed cut concrete surfaces had to be coated with a moisture inhibitor.

Working conditions were difficult. The job was done during the summer months where the outside temperature regularly reached 45 degrees. This meant that it was considerably hotter inside the dumper.

Monitoring operators for signs of heat stroke was an important part of the Shift Supervisor’s duties, as well as the technicians keeping a watchful eye on each other. The main contractor provided a cool room adjacent to the work area with plenty of water, isotonic drinks and fruit. Monitoring fluid intake became a critical part of the working day.



As part of the upgrade 700 tonne of concrete had to be cut and removed from the dumper. As the removed concrete had to be transported by road, most of the concrete was cut into 20 tonne pieces.

Some of the cutting involved forming openings in floors for ventilation and was relatively straight forward, even though the concrete was up to 3m thick. Other parts of the project were more complex.

Recesses had to be formed in sloping walls to accommodate the stabilizers for the new dumper. These were “blind” so the bottom had to be formed first to allow the back and sides to be cut.

In total about 500 square metres of wire sawing was completed along with about 700m of drilling for wire and lifting holes.

