

Job Report Wheel Loader

L 586

Xpower®

Wheel Loader in operation
at a Hanson Aggregates quarry
in North Wales, Great Britain



LIEBHERR



The innovative Liebherr-XPower driveline increases working efficiency at the quarry.

Situation

Hanson Aggregates is one of the UK's largest producers of construction materials and from over 300 locations across the UK supplies aggregates for a variety of construction uses including asphalt production, ready mixed concrete production and cement. The Padeswood cement works in North Wales and many of the concrete batching plants in the area are supplied with material extracted from the company's Cefn Mawr quarry, which is just outside Mold in Flintshire and has been operational for over 100 years.

Task

Wheel loaders work on the aggregate production side of the quarry and have to rehandle the crushed stone and the finished products and load up to 65 tonne capacity dump trucks. For the requirements of this particular type of operation, wheel loaders need increased load over height and have to be robust and durable to perform reliably. The company had worked with demonstration Liebherr XPower® wheel loaders and was impressed by the increase in performance and marked reduction in fuel consumption.

Solution

In 2017, Hanson Aggregates has made significant investment in the aggregate production side of its business. This investment includes three Liebherr L 586 XPower® wheel loaders and the company has put two of them to work on aggregate production at its Cefn Mawr quarry. The wheel loaders are making a positive impression thanks to their fuel efficiency, increased load over height and operator comfort. The XPower® concept combines a power-split driveline that is both mechanical and hydrostatic. The hydrostatic drive is most efficient in short loading cycles



The L 586 XPower® wheel loaders have been specified with longer lift arms for loading the quarry trucks.

whilst the mechanical drive is used for long distance driving or climbing gradients. The power-split transmission automatically manages the interaction between the two types of drive. During operation, the ratio between the hydrostatic and mechanical drives is variably adjusted to the specific situation without interrupting tractive force. The combination of the power-split driveline and Liebherr-Power-Efficiency (LPE) system delivers potential fuel savings of up to 30 per cent when compared to wheel loaders of the same size. Even under the tough conditions at the quarry, each of the two L 586 XPower® wheel loaders is using an average of 16.3 litres per hour. Loading from a compacted stockpile of blasted material, the hydrostatic drive unit on the L 586 XPower® came into play by distributing power equally to all four wheels, which have Michelin XLD tyres. With no wheel spin or bellowing engine sound, the loader eased into the pile and reversed out with a full bucket every time. The XPower® driveline can also reduce tyre wear on the wheel loaders by up to 25 per cent.

The L 586 XPower® wheel loaders have been specified with longer lift arms and give approximately 300 mm more reach and lift height over the standard versions. The higher lift arrangement has been chosen as the machines will occasionally need to load one of the site's fleet of 65 tonne capacity dump trucks. The general foreman, who manages aggregate production at the quarry, explained that the previous machines struggled to do this. The Liebherr's ability to load the 65 tonne capacity quarry truck in six passes before turning its attention to loading a 44 tonne gross artic showed the versatility of the long arm configuration. The operators are also particularly enthusiastic about the L 586 XPower® wheel loaders because the machines are much more comfortable than any other machines they have driven.

Technical Data

Operating weight	32,600 kg
Tipping load, articulated	19,700 kg
Engine output (ISO 14396)	260 kW / 354 HP

Bucket capacity	5.5 m ³
Fuel consumption	16.3 litres / hour
Tyres	Michelin XLD D2A L5 29.5R25EM