BEST PRACTICE

LOCATION:		ARTICLE YEAR:	2008
ACTIVITY:	Production and Processing	COMPANY:	Hanson
SUB ACTIVITY:	Aggregate processing	COMPANY LOCATION:	Ripon Quarry, North Yorkshire
BEST PRACTICE No:	BP595	COMPANY TEL:	01765 635484

TITLE	🕑 On Video
Cradle for dipper arm changes	
ARTICLE	

Ripon Quarry contains alluvial and terraced gravels up to 20 metres below the surface. The quarry is dewatered to six metres below natural levels. Wet extraction was traditionally by dragline, with the upper dry benches worked by hydraulic excavator or front end loader.

As part of a project to upgrade production equipment at the site, the opportunity was taken to improve efficiency by replacing the dragline with a 360 degree excavator with interchangeable dipper arms to operate at long reach below the water and standard reach on the upper dry benches.

Changing the dipper arms clearly presented a potential risk, so a number of design improvements were incorporated into the machine to facilitate safe and efficient changeover. These ideas were developed during close consultation by the supplier and quarry team.

Three aligned concrete plinths have been cast to house two dipper arm cradles, with the other used to create a stable base for the machine and attachments. The operator can manoeuvre the boom in an arc between each cradle without tracking or moving position. The cradles allow safe access to the hydraulic pin extractor and dipper ram alignment jacks permanently fixed to the machine. The whole changeover process can be safely carried out in 45 minutes with no manual handling requirements.

In addition to these improvements, the excavator has been fully equipped to a high specification with particular attention paid to access and egress.

ARTICLE IMAGES

