

Putting Queensland coal mines back on solid ground

Draining floodwaters from the Bowen basin coal mines

Issue

When the worst flooding in years hit the world's largest coal-producing region, Campbell Mining Services, a Queensland mining contractor company, quickly acted to ensure that its clients had fast access to disaster recovery equipment. The company contacted Xylem about the rental and purchase of large centrifugal pumps capable of handling flow rates between 9,500 and 15,850 gpm (2,160-3,600 m³/hr) with a total dynamic head between 65 and 100 ft (20-30 m).

"We understood the urgent need to accelerate pit dewatering activities and help return coal mine operations to full production."

Solution

Within 24 hours, Xylem presented Campbell Mining Services with Flygt rental and purchase options for Flygt submersible pumps, which included two that provide flow rates of 7,925 gpm (1,800 m³/hr) when pumping in parallel. Eight Flygt pump floatation modules were also used.

With major highways and roads underwater, delivery proved challenging. The trucks were rerouted to avoid flooded areas, extending normal delivery time due to extreme circumstances. "Despite the obstacles, we delivered equipment within seven working days," said Cameron Gilchrist, Xylem's Townsville branch manager.

After collecting the equipment in Townsville, Campbell Mining Services made up floatation frames in its workshop based on pontoon arrangement drawings supplied by Xylem and put the dewatering pumps to work in an open basin pit.

Two weeks later, Campbell Mining Services confirmed a five-month rental agreement for the Flygt pumps and accessories to assist with pit recovery at a BMA mine site in the Bowen basin. Within four



CUSTOMER: Campbell Mining Services

XYLEM'S ROLE: Quick disaster recovery drainage of floodwaters

XYLEM'S SCOPE:

- One Flygt C3400/835 pump
- Two Flygt NS3312/705 pumps
- Eight Flygt PFM1150 pump floatation modules
- One Godwin Dri-Prime HL125M pump
- Two Godwin Dri-Prime HL200M pumps
- Two Godwin Dri-Prime HL250M pumps
- Two Godwin Dri-Prime HL260M pumps
- Godwin accessories

days, Xylem staff gathered equipment from five Australia branch offices, fitted new cables to all three pumps and dispatched the shipment.

Extra resources

With virtually every pump in Australia working non-stop to drain floodwaters, mine operators and service contractors looked abroad for additional resources for cleanup and recovery operations.

One of Australia's leading coal producers contacted Xylem in late December to discuss pit dewatering solutions. Over the New Year's Day holidays, Xylem staff inspected the damaged pits and contacted the Godwin pump specialists in the UK to develop a total pumping solution for the mine.

To ensure timely delivery of a comprehensive dewatering solution, Godwin's UK factory handled orders with record speed. The factory built and dispatched seven Godwin high-head pumps by air to Australia within seven days of order receipt, much faster than the normal six- to eight-week turnaround time.

The order included five complete Godwin Dri-Prime HL Series pumps with diesel engines – two HL260M, two HL200M and one HL125M – and two HL250M bare shaft pumps. Capable of handling flow rates of 19,500 gpm (4,425 m³/hr) with head capabilities in excess of 500 feet (150 m), this solution dewatered the open pits just south of the Bowen basin.

"Securing essential equipment, such as dewatering pumps, to deal with natural catastrophes should be part of every strategy."

Result

While it is important for mines to have appropriate disaster recovery plans in place, it is equally important for the mines to establish solid working partnerships with knowledgeable pump specialists. "The next step will be addressing challenges beyond the immediate recovery efforts and improving the existing disaster recovery strategies," explained Gilchrist.



Coastal road closures posed logistical challenges.



The Godwin HL260M pump was airfreighted from the UK to Australia.



Flygt pump rafts enable adjustment to water level fluctuations. The larger image shows the pump and floatation raft working together in a mine drainage application.