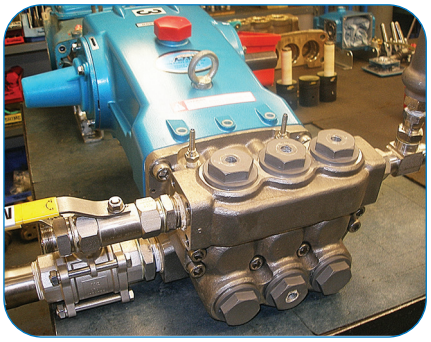
Case Study

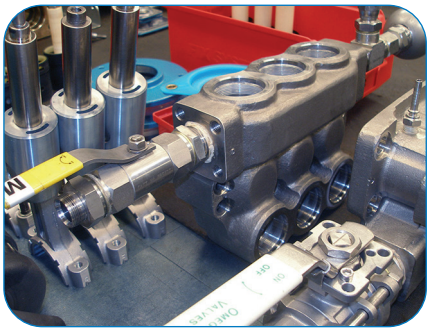
British Antarctic Survey (BAS) – High-Pressure Pump Overhaul



Back in 2012 Cat Pumps (UK) were proud to be selected by the British Antarctic Survey based in Cambridge to supply high-pressure pumps for an ambitious scientific mission, in which water and sediment samples were to be collected from Lake Ellsworth, some 3km beneath Antarctica. Cat Pumps positive displacement pumps were used to feed high pressure hot water as part of an innovative borehole drilling system, operating under arduous conditions.

A separate Case Study providing further information regarding this mission can be found on our websites Case Studies page, titled *"Operating Under Extreme Conditions"*.

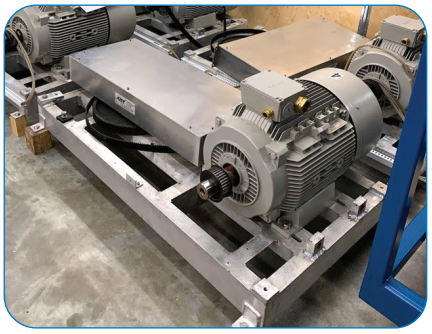
Fast forward to 2020 and British Antarctic Survey have recently returned to Cat Pumps to request a complete service and overhaul of this impressive system.



Cat Pumps believe that the best safeguards against unplanned shut-down or system failure are good preventive maintenance practices and proper pump diagnosis.

Research at the station continues all year round; however, work with machines can only take place during the Antarctic summer (October to February), when temperatures at Rothera Research Station are typically between 0 and 5°C.

Although Cat Pumps triplex pump design offers easy on-site maintenance, on this occasion, due to the location and extreme size, the Antarctic unit was returned to us in house. Here we were able to strip down, clean, repair and reconfigure back to the required specification, including any modifications required to adapt to Antarctica's extreme conditions.



At Cat Pumps (U.K.) we have first-class facilities, skills and over 40 years of experience, providing a one-stop shop and complete in-house solution for the wide variety of pumps we have supplied. This includes fitting facilities for dismantling and assembly of pump units, extensive mechanical reworking facilities, cleaning/overhaul capabilities and flow/performance testing.

The Cat Pumps 3521C pump model used in the initial scientific mission were all fully serviced and ready to be put back into operation at revised operating parameters of 160l/min at 69 bar with water at 90°C. By providing the required maintenance to this important pump and motor unit, we can continue to support the critical work that BAS Cambridge are completing, allowing for further essential hot water drilling to be planned.

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