

CASE STUDY

REMEDIATION OF CHROMIUM CONTAMINATION FROM GROUNDWATER

PROJECT:

Former Chemical Works, Summerford Park, Falkirk

PROJECT VALUE:

£450,000

PROJECT TIMESCALES:

FIVE YEARS

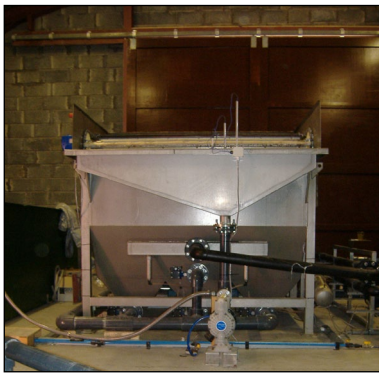
DATE AWARDED:

OCTOBER 2005

TYPE OF CONTRACT:

NEC 3

CHALLENGE:



Former use of the site for chemical works, iron works and precast works had left substantial chromium contamination in an amenity site in Falkirk. Leached hexavalent chromium concentrations were identified, which were shown to be entering the river systems greatly in excess of EQS guidance. ERS was appointed to design a long term, cost-effective remedial system to remove chromium contamination from groundwater which occupied a small footprint on site and could be remotely operated.

SOLUTION:



- Installation of a chemical treatment plant
- ERS scientists and engineers trialled and developed an effective chemical method for the removal of chromium from the groundwater, involving close control of pH and redox conditions to facilitate removal
- A secondary, passive remediation method using zero valent iron was installed to treat the groundwater under conditions of high flow where inflow exceeds the plant specifications

OUTCOMES:



- A remediation system with a 25 year life-span capable of treating 200m³ / day was delivered, reducing chromium concentrations from 100 mg/l to <100 µg/l
- The developed treatment plant was subsequently awarded "The Most Innovative Chemical Treatment" at the Brownfield Briefing Awards 2007