



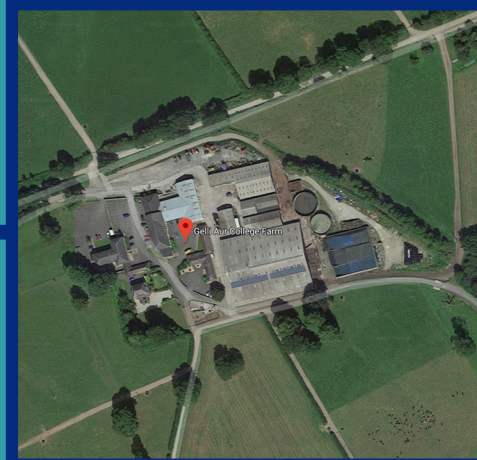
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In partnership with

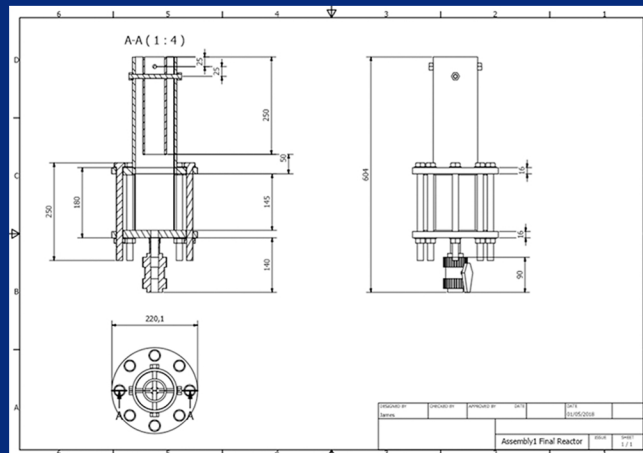
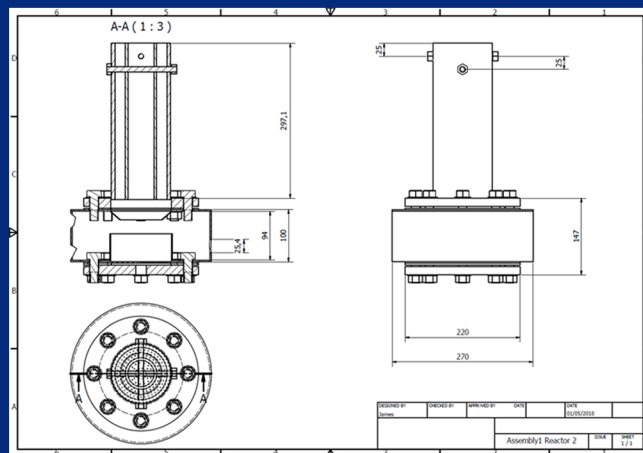
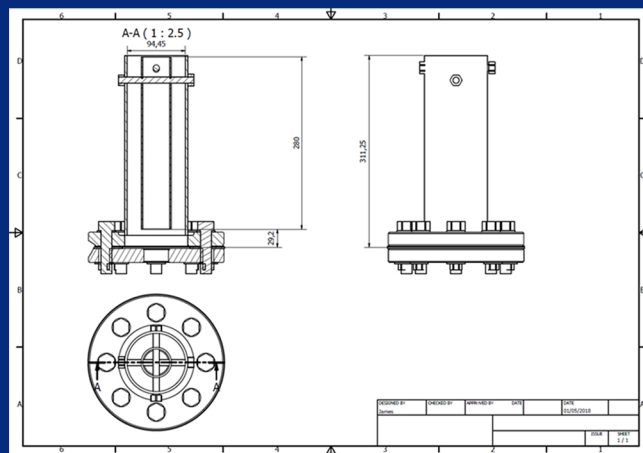


Power & Water

We, Feran Kanda, James Neucker, Liam Thomas & Rhys Miller, were tasked to iterate & improve upon an existing solution to the growing problem of dewatering of cow slurry for the Gelli Aur farm, which was developed in partnership with Power&Water. To gain a better understanding of the issue, extensive research was conducted as well as a visit to the Gelli Aur farm to see first-hand the amount of cow slurry being produced.

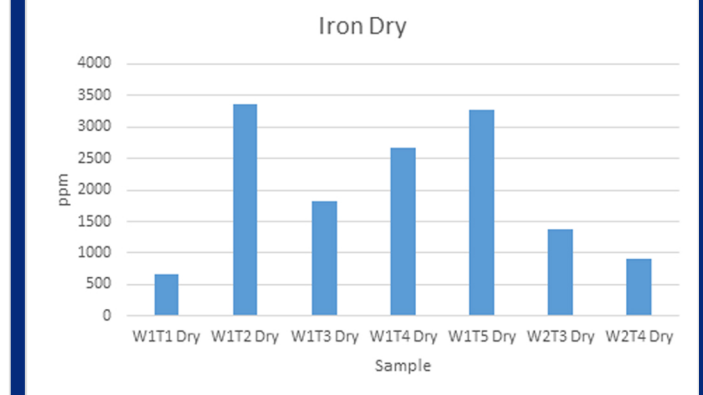
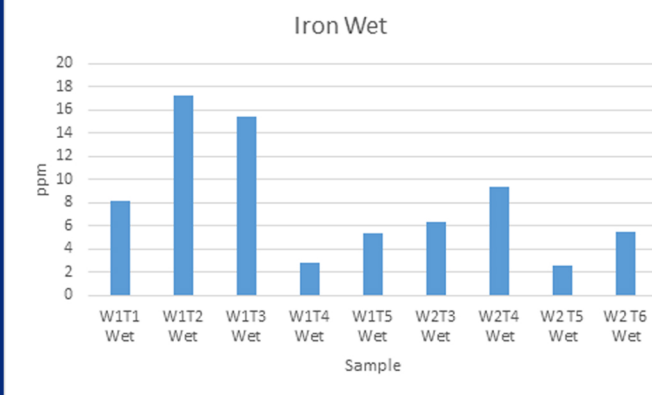
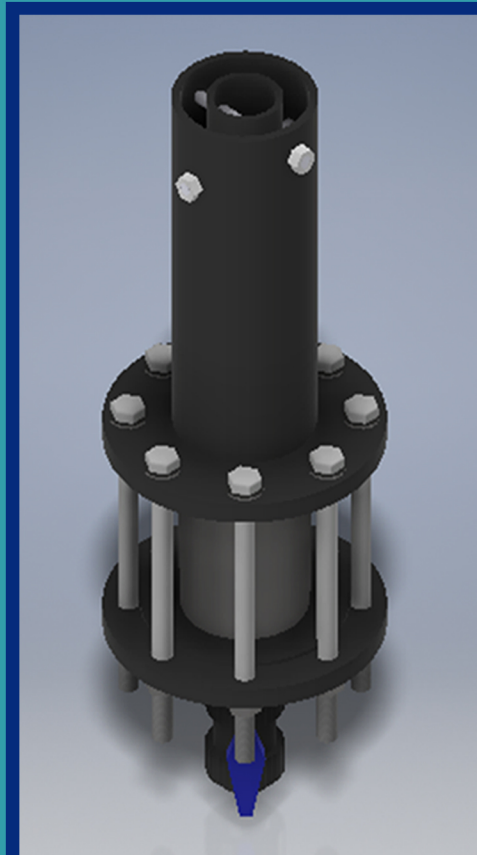


The reactor was tested over a two week period, using two different samples for each week. Different sets of input voltages & currents were used against interchanging sets of filter media. The samples collected were then analysed for overall content using XRF analysis.



Over the course of the development stage, several designs were created to solve the problem of dewatering the slurry. The initial design was improved by first extending the inner chamber to accomodate for an internal filter media as well as the extension of the inner electrodes so that they remain in full contact with the slurry during operation.

After numerous adjustments, a final design was chosen and constructed according to the calculated dimensions. Additional materials were purchased such as several nuts & bolts as well as a replacement electrode as the previous was worn from extensive testing.



Above is a set of charts showing the Iron content in the samples collected across the two week period. From these results, it is clear that the dry slurry remaining inside the reactor after testing retains the iron while the water removed from the slurry is almost devoid of any iron.

To the right is a graph showing the set of results collected from the second week of testing. From this, it is clear that current plays a vital role in the amount of potential water removed along with the selection of filter media used.

