

Sample Box Temperature Recording



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Transport Depot Manager

Dale Farm is Northern Irelands largest milk processor with 1,300 farmer members.

- **All producer samples are tested by Dale Farms own Laboratory based in Ballymena.**
- **Samples are collected by the tankers auto sampler placed in the blue plastic box cooled by ice packs and brought to two main receiving centres in Cookstown and Ballymena.**
- **Samples brought to Ballymena are placed directly in the lab cold room, samples brought to Cookstown are placed in a fridge and transported to Ballymena by temperature controlled van every evening.**



The Problem?

Higher than normal complaints about high bacterial counts in producer samples.

The Questions Raised

- **Is the current ice pack system working?**
 - **Are the ice packs cold enough ?**
- **Are the drivers changing the ice packs regularly?**
- **Are the current blue plastic boxes good enough for the job ?**



How do we rectify this?

- **Check that all ice packs are being frozen correctly.**
 - **Check that we had enough ice packs.**
- **Started to work with two freezer's, one for odd day and one for even day.**
- **Check the condition of the blue boxes for lid security and sealing.**
 - **Start and record blue box temperature with data loggers.**
- **Physically check boxes to see that enough ice packs were present and that ice packs had been changed.**

What conclusions did we come to.

- **Some of the blue boxes were past their best.**
 - **The ice pack system worked.**
- **Physically checking boxes was time consuming.**
- **Data loggers were producing a lot of data to check.**
- **The Data logger was easy to manipulate by drivers placing it close to a frozen ice pack.**
- **Temperature Monitoring ensures Drivers change ice packs as required.**

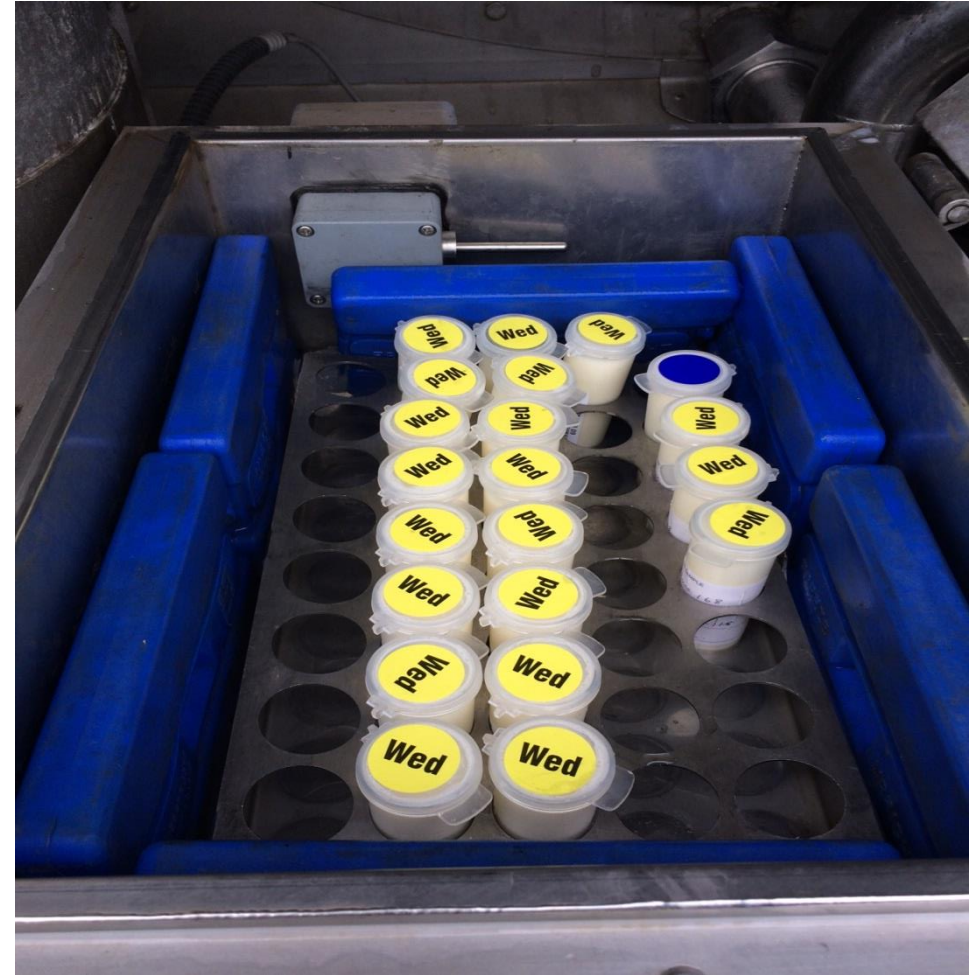
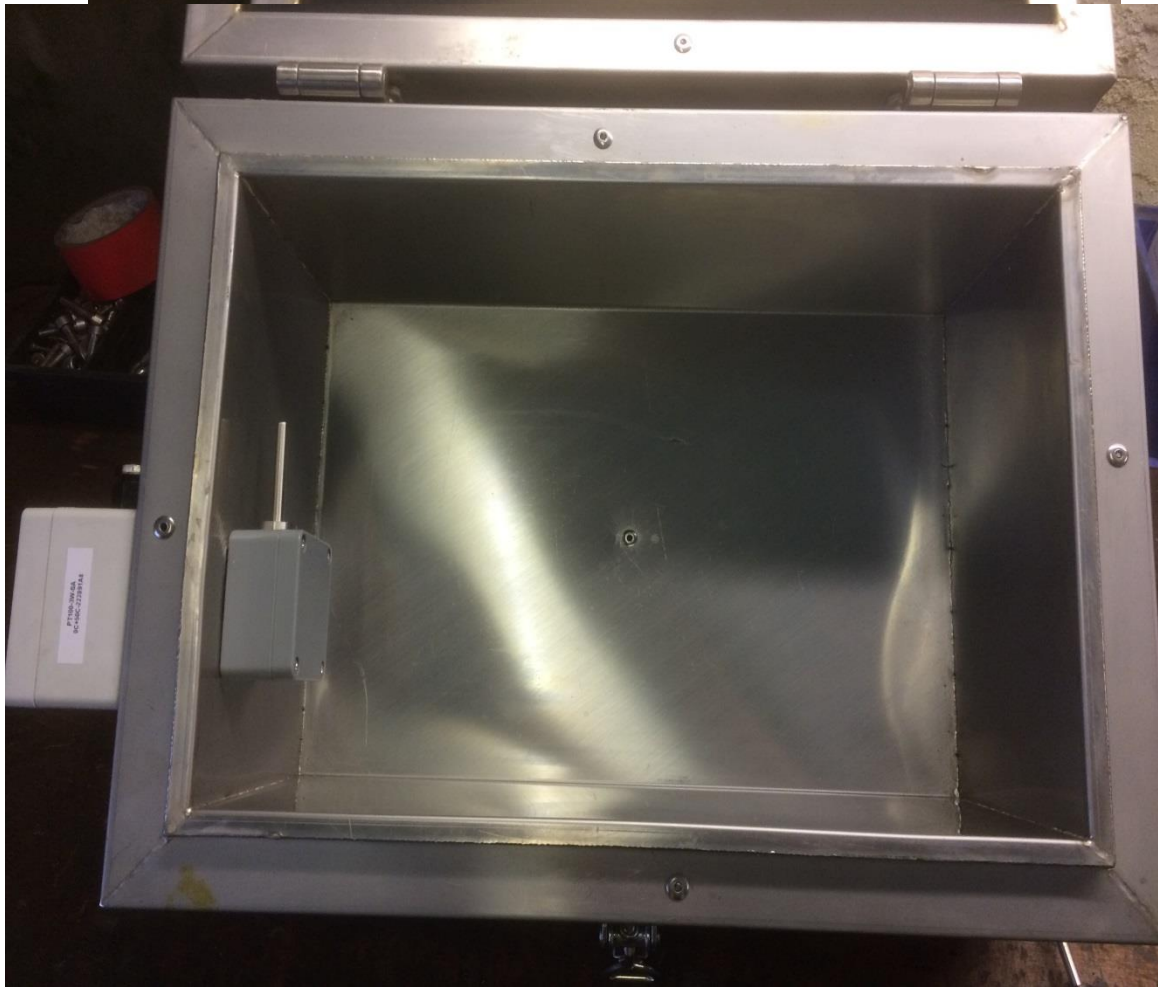
What is the best solution?

- **Look at replacing some of the blue boxes, what was available ? Plastic or Stainless Steel.**
- **A Stainless Steel box was tried and proved to be slightly better at keeping down the temperature.**
- **Temperature Monitoring ensures Drivers change ice packs as required, resulting in a lot less complaints about bacterial counts. So how do we do this with minimum supervision and have the relevant data available to transport and the milk purchaser in an easy to read format?**

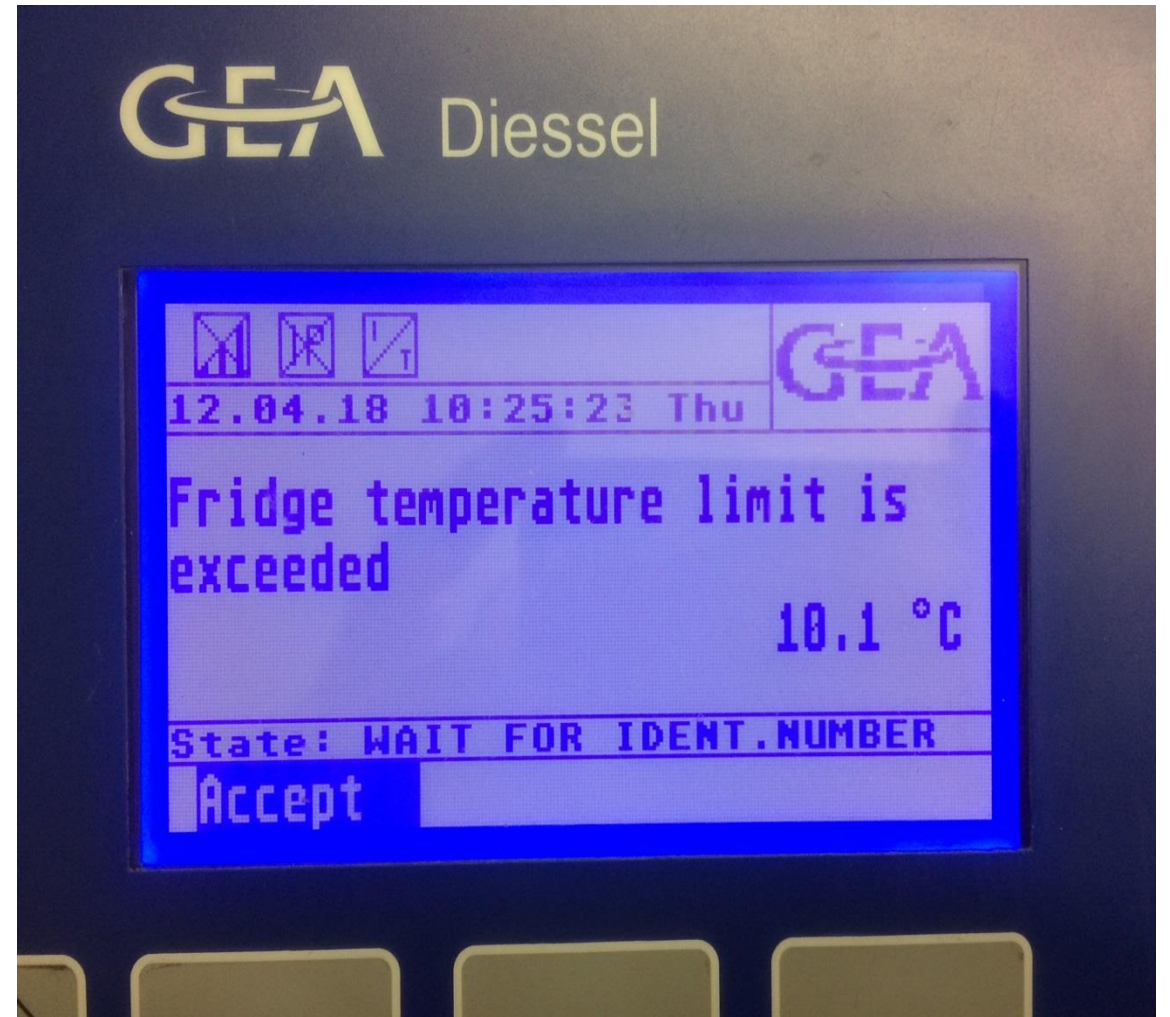
Our solution

- **We asked our meter supplier GEA Diessel if there was an option of recording the sample box temperature on the meter system and downloading the information onto Core along with all the other meter data.**
- **GEA Diessel had done this before with a fridge but never in a sample box.**
- **We then worked together to get the best solution for wiring the sample box and the position of the probe.**

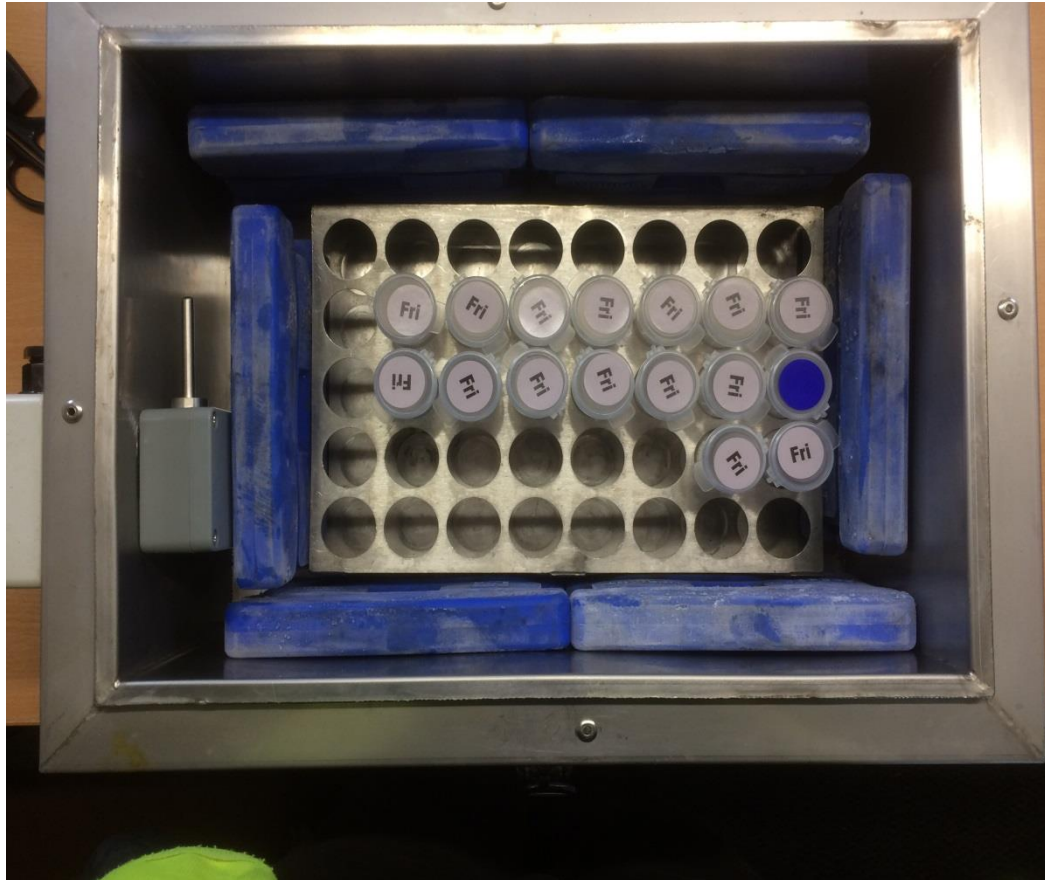
Sample box showing position of probe



The display showing box temp and temp warning



Sample Box layout and tour summary



TOUR SUMMARY

Date : 10.04.2018
Time: Start : 12:02 End : 13:27
BC No. : 182
Haulier : 2012Pennybridge Depot
Driver : 6028Jack Nicholl
Route : 2
Weighbridge : 60Dale Farm Pbridge

Last CIP : 09.04.2018 TEMP: 82.1°C
Fridge Temp : Min 2.6 Max 3.0 Avg 2.8
Suppliers : 2 Quantity: 23534 1
Total Quantity : 23534

● SUPPLIER DETAILS

app.No. Litres Time Temp Km Info

2610620 13647 12:21 4.5 0.0 131111
W & A McMaster Limit
2611045 0887 12:52 4.2 0.0 147100
