

From: equipment@ubuc.org
To: neil@neilminto.co.uk
Subject: IDEST centre observations

Dear Neil,

I am writing to you as the equipment officer for the University of Bristol Underwater Club (UBUC). We have recently noticed some potential issues with our regular test centre (8F), as well as some somewhat aggressive conduct. Though we are unable to prove any of our accusations of the test centre, I thought I should send the details of our [the club committee's] observations for you to be aware of.

I think the email chain with Paul below discusses in sufficient detail what our concerns were at the time and the background of the situation. Apologies that I am only sending you this now as opposed to a few months ago - hopefully it will still be of some interest.

Please do not hesitate to get in contact with me on 07557882538 if you wish to discuss any of the information in this message further.

Best regards

-Sam Walder
University of Bristol Underwater Club Equipment Officer (2017/18)

Background

Below is a brief timeline of when certain events occurred - this may help to give further context to the email chain.

August 2017 - First batch serviced
October 2017 - Second batch serviced
December 2017 - Compressor Issue
January 2018 - Cylinders taken to Bristol Channel Diving Services (BCD)
Late February 2018 - Email to Paul asking for re inspection

Appendices

Initial email requesting re-testing

To: instructor@hotmail.co.uk
Subject: Cylinder testing
Date: 02/02/2018
Body:

Hi Paul,

I am writing today in regards to the work that you recently undertook to service our club cylinders. We have unfortunately been made aware of several issues with them as of late.

A common issue we seem to be finding is that the bonnet nut that holds the spindle in the valve has been over tightened, and on several this has cracked the nut rendering it useless. I have kept an example of this to show to people. This is an odd issue as the torque on this nut should not be all that much, the seal is made via a barrel seal with an O ring. I have found that replacing the O ring often fixes leaking ones and in several other cases the O ring has just been absent from the assembly altogether.

We have been unfortunate recently in that poor operation of our compressor led to contamination of 12 cylinders connected to it in one particular filling run. Though it turned out that little contamination was put into the cylinders, we had to get them all visually inspected to be sure. In this process, it was found that two of the cylinders showed signs of contamination from the compressor run, though some other issues were exposed in the cylinders that were not affected by the compressor.

Whilst the cylinders were being visually inspected, we had 3 of them fail. One of these had only recently been inspected. This failed due to deep pitting in the inside of the cylinder, which I have been advised would have taken some time to accumulate.

After we remedied the problem with the compressor, we had an air purity test conducted, which involved filling a cylinder and taking it to be tested. For this I selected one of the 3L cylinders that you serviced and O2 cleaned for us late last year. The test came back with an odd result and the technician performing the test decided to inspect the cylinder. On opening it he found that it was filled with rust, explaining the air test issue (later the compressor air was verified as being clean). This was from a cylinder that was serviced and O2 cleaned just a few months ago by yourself, and had not been used at all by us as we were preparing to sell it at the beginning of this season.

With regards to the O2 clean cylinders that we have had from you, one of our members hoping to partial pressure blend a nitrox mix decided to check the valves of all of the O2 clean cylinders before using them. He did this as a TDI trained O2 service technician because he had found one of the cracked bonnet nuts when we were troubleshooting some issues. Below is a photo of the inside of one of the cylinder valves (note this is before it had been used for any diving).



He was somewhat baffled by whatever the black stuff is on all of the valve components as only a thin smear of crytox or similar was expected.

I am coming under increasing pressure as the problems with the cylinders stack up, and our members' confidence in their safety has been dwindling. This is particularly in relation to the appearance of the inside of anything marked as "O2 clean". As we have experienced a

failure rate on retest of around 1 in 4, this means we may expect to find another 7 cylinders amongst our collection that could also have terminal issues.

Due to these major issues that I have detailed above, we would like to ask whether you would be willing to remedy every cylinder that we have had tested with you. We are currently seriously concerned about the safety of our cylinders, and I hope that we are able to resolve this issue quickly and amicably, to avoid further disruption to both our activities.

Best regards

-Sam Walder
University of Bristol Underwater Club Equipment Officer

Full email chain

Please see the attached PDF - apologies that this is in reverse order.

Cylinder ID to serial mapping

Our club has an ID for each cylinder allowing us to track it. In many parts of the conversation we have referred to cylinders using this ID. The following is a map of cylinder IDs to their serial numbers:

ID	Manufacturer	Year of manufacture	Serial Number	Other Attributes
cl001			P2987M/A2058	material = aluminium
cl002	Faber	2000	00/9562/103	WC = 10L material = steel
cl003			P2987M/A1391	WC = 10L material = aluminium
cl007	Faber	2004	04/0743/034	WC = 10L material = steel
cl008	Faber	2003	03/0125/075	WC = 10L material = steel
cl011	Faber	2003	03/0125/070	WC = 10L material = steel
cl012	Faber	2011	11/0678/028	WC = 12L material = steel owner = Ed Luff

cl013	Faber	2000	00/9569/080	WC = 10L material = steel
cl015	Faber	2000	00/9562/106	WC = 10L material = steel
cl016	Faber	2003	03/0125/073	WC = 10L material = steel
cl017	Faber	2004	04/2003/165	WC = 12L material = steel
cl021	Faber	2000	00/9562/106	WC = 10L material = steel
cl022	Faber	2000	00/9562/101	WC = 10L material = steel
cl025	Faber	2000	00/9559/079	WC = 10L material = steel
cl026	Faber	2001	01/419/100	WC = 10L material = steel
cl027	Faber	1996	96/9786/075	WC = 3L colour = yellow
cl028	Faber	1999	99/9810/062	WC = 3L colour = white
cl031			BS5045/1/CM/S	
cl032			P2987M/A2057	WC = 10L material = aluminium
cl033	Faber	2000	00/9562/102	WC = 10L material = steel
cl034			P2987M/A2063	WC = 10L material = aluminium
cl037	Faber	1999	99/9641/089	WC = 10L material = steel
cl038			P2987M/A3134	WC = 10L material = aluminium
cl041	Faber	2000	00/9562/122	WC = 10L material = steel

cl071	Faber	2004	04/0743/010	WC = 10L material = steel
cl074	Faber	2004	04/0743/003	WC = 10L material = steel
cl075			P2987M/A2200	WC = 10L material = aluminium
cl081	Faber	2004	04/0743/002	WC = 10L material = steel
cl084	Faber	2004	04/0743/011	WC = 10L material = steel
cl085	Faber	2004	04/0743/008	WC = 10L material = steel
cl087	Faber	2004	04/0743/031	WC = 10L material = steel
cl096	Luxfur	2014	M483451 AA6061	WC = 200 material = steel volume = 2.7L

