
THE GAMGRAM

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集水槽（沉淀槽） - 第三部

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If I had a dollar for every time that a customer has told me, "There is no water in my filter separator sump," I would be very wealthy. I would be almost as wealthy if I had a dollar for every time I found water in a sump that had just been given its "daily drain."

如果每次有客户告诉我“我们的过滤分离器的集水槽（沉淀槽）内没有水分”，我可以得到一美元，那么我会非常富有的。同样，如果每次我在一个刚刚完成“每日排放”的集水槽（沉淀槽）内发现水，我都能得到一美元，那我就几乎也会一样富有了。

Why is it that one man can find no water but another man can? Obviously, it's all in the way you do it.

为什么一个人找不到水，而另一个人可以呢？显然，这一切都与做这件事的方式有关。

The difficulty is that the area where the sump drain is located is usually flat, water collects on the flat surface but it tends to lie in a "heap" until something happens to break the interface. Watch how water acts in a nearly flat-bottomed wash basin. Water lies on the surface for long periods of time when the water valve is turned off. If you touch it with your finger, at the edge of the drain hole, it suddenly begins to flow into the drain. (We strongly recommend doing this experiment in private, away from those who may not understand scientific studies).

问题在于集水槽（沉淀槽）内的排水管连接所在的区域通常是平的，水会聚集在平表面上，但它往往是处于“堆积”状态，直到发生在某些情况打破界面。观察水在几乎平底的盆中是如何作用的。当水阀关闭时，水会长时间停留在平面上。如果你在排水孔的边缘用手指触摸它，水突然开始流入排水管。（我们强烈建议私下进行这个实验，远离那些可能不了解科学研究的人）。

Most filter sump draining seems to be done by cracking open the drain valve and collecting a pint or two. This does not disturb the layer of water enough to break its surface tension and so the water stays on the flat deck.

大多数过滤器集水槽（沉淀槽）的水排放似乎是通过打开排水阀并收集一两品脱（一品脱约473ml）来完成的。这不会对水层造成足够的干扰，从而破坏其表面张力，因此水会停留在平坦的底面上。

If you really want to do a proper job, you must get some velocity down the drain hole and the best way to do this is to turn on the pump to get pressure. Then open the drain valve as far as possible (without giving yourself a kerosene bath) and collect a couple of gallons in a white bucket.

如果你真的想正确地做好水排放工作，你必须以一定的速度进行排放，最好的方法是打开泵来获得压力。然后尽可能地打开排水阀（当然不要给自己洗航煤浴），然后用一个白色桶中收集几加仑。

I'll never forget how I learned this trick. One of the real old-timers in jet fuel met me at an airport where a severe surfactant problem had been found. I sumped the filter separator in the conventional way and got a nice clear bucket of fuel. After a few very critical remarks, he used the method described above and collected a sickening bunch of slime, water and crud with the fuel. (I wonder if TC. remembers this episode?)

我永远不会忘记我是怎么学会这个技巧的。一位航油的老前辈在机场接我，在那里发现了严重表面活性剂问题。我用传统的方法对过滤分离器进行排放，得到了一桶干净的燃油。老前辈在几句严厉的批评之后，他使用了上述方法收集了一堆令人作呕的黏液、水和污垢的燃料。（我想知道TC是否还记得这一幕？）

A doctor can see inside the human body only by looking in your eyes. He uses a bright light and a special glass. Doctors learn many things about your general health this way. The best method we have to learn about the "health" of fuels is to study the water sump.

医生只有通过眼睛才能观察到人体内部结构。他需要用明亮的灯光和特殊的镜子。医生通过这种方式了解到你整体健康的状



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况。我们了解燃料“健康”的最好方法是研究集水槽（沉淀槽）。

This is why we should try to interpret what we see. So much can be learned but only rarely does anyone really look.

这就是为什么我们应该尽力解释我们所看到的。我们可以学到很多东西，但很少有人真正去研究。

- A. **Water** - if it is clear, you are lucky. If it seems to have a brown film on it, this is probably a surfactant layer. If you touch it with a straw, you can often see clear water under it.

水如果是清澈的，那么你就幸运了。如果表面有一层棕色薄膜，这可能是表面活性剂层，如果你用吸管触碰它，你经常可以看到它下面有清澈的水。

Dark water - this is bad news! It generally means a severe surfactant problem but it can also indicate a problem at the refinery or it may be water from dirty fuels (heating oils and crude oil) that were previously handled in the same ship, barge or pipeline. Dark water can also indicate microorganism growth. There is no more certain indicator of trouble than dark water. Does it have sulfur-like odor? More Bad News!

深色的水----这可是个坏消息！它通常意味着严重的表面活性剂问题，但也可能意味着炼油厂的问题，或者也可能是以前在同一船舶、驳船或管道中处理过的不合格的燃料（加热油和原油）产生的水。脏水也表明可能是微生物生长。没有比深色的水更麻烦的现象了。如果它还带有硫磺味，那就更糟糕了！

- B. A white filmy thing seems to float around in the fuel, but you can't collect it or gather it. This is a form of surfactant. Air bubbles that meet it as they rise toward the surface have difficulty penetrating this film but in a few minutes they break through. I have never known of anyone who has successfully analyzed this film because it simply cannot be collected.

一种白色薄膜状的东西似乎漂浮在燃油中，但你无法收集它。这是一种表面活性剂。当气泡上升到表面时很难穿透这层薄膜，但几分钟后它们就会被穿透。我从未听说有人成功地分析过层膜，因为根本无法收集。

- C. Globs, slimes, jellies-microorganism growth. Remember, microorganisms cannot live in fuel. They live in water. If you eliminate water, you can have no growths.

小球状、粘液状、及果冻状等微生物的生长。记住，微生物不能在燃料中生存，它们生活在水里。如果排干净水分，微生物就不会生长。

- D. Large dirt particles-either a coalescer element burst, was incorrectly installed or you didn't clean the sump properly when the elements were last changed.

大的灰尘颗粒污染物可能是聚结器滤芯破裂、安装不正确或上次更换滤芯时未正确清洁集水槽（沉淀槽）所导致的。

What action should be taken when unsatisfactory sump conditions are found? The first step is to insure that contamination does not progress farther in the supply system because every time that a surfactant contaminated fuel passes through a filter separator, its life is shortened and its performance may be degraded. The second step is to trace the source of the contamination and insure that corrective steps are taken. The third step is to clean all of the contaminated equipment and change filters as deemed necessary.

当集水槽（沉淀槽）内发现不符合要求的油品时，应采取什么措施？第一步是确保污染不会在油料供应系统中进一步扩散，因为每次表面活性剂污染的燃油通过过滤器分离器时，会缩短过滤器的寿命，降低过滤器滤芯的性能。第二步是查找、追踪污染源并确保采取纠正措施。第三步是清洁所有受污染的设备，必要时更换过滤器滤芯。

In conclusion, look diligently for water in fuel systems. If you find it, inspect it carefully and report all details.

总之，仔细检查燃油系统中是否有水。如果你发现了水分，仔细检查并报告所有细节。