LeakDAS Version 4 – The Complete Guide

SECTION 4 – LEAKDAS MOBILE
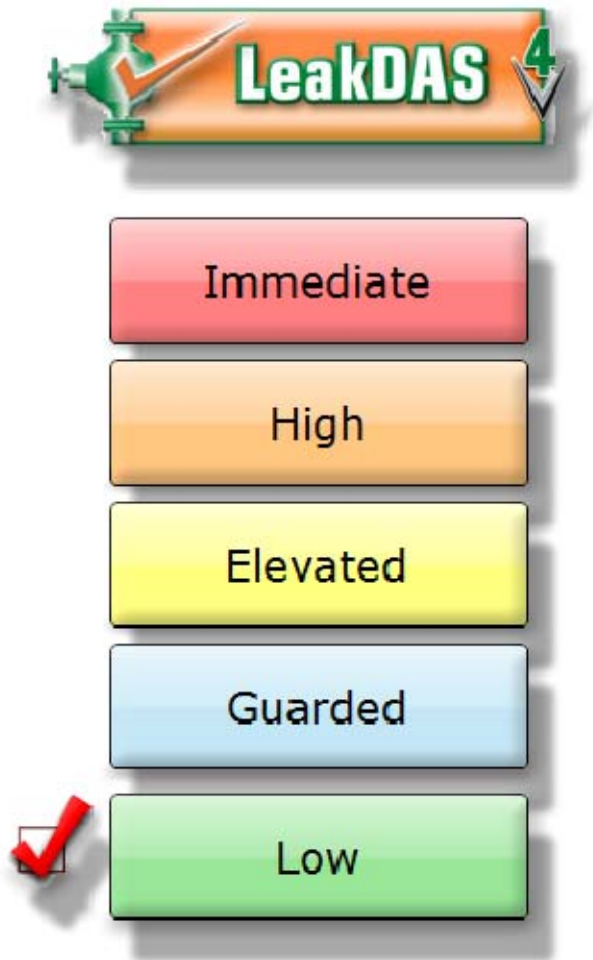
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In Session 4 we are going to be discussing, almost exclusively LeakDAS Mobile and how LeakDAS Mobile works to collect monitoring information, both digital and method 21 and also how LeakDAS Mobile works to do tagging and tag editing. For those of you who have been following the series, we have already discussed rule definitions, regulations and how the regulations drive what happens with inside LeakDAS. We've discussed components and how the components that you enter and when you assign regulations to those components, the components are there inside LeakDAS so that you know what needs to be monitored and when, how the regulations trade to schedule so that the components do get monitored. We've discussed the actual monitoring process, what happens when the data gets stored, where it gets stored, how the history gets written, including the work request, the Leak histories and so forth. That's all the stuff that you folks do and will be doing on a regular basis as the administrators of these databases.

The piece that we're going to be talking about in this session, is what the field technicians do, but it's important for you, the administrator to know this so that not only, can you train the field technicians in proper procedures, but also just so that you know what they're doing and what's realistic for a field technician to do. Using LeakDAS Mobile, we take those components that were generated by LeakDAS and put into the schedule and we take those pieces of components that we talked about in route manager previously and how we're taking this great big piece of pie of 20,000 components or so and we're cutting that down into small chunks that we can send out with the field technicians to go and monitor their components.

So we've talked very, very specifically about route manager and how route manager is used to create these pieces, these chunks that we're going to give to the field technicians. And it is those routes, those pieces that we call routes that actually go out to LeakDAS Mobile. There is no real limit to how many routes, how many components a LeakDAS Mobile device can hold. About the only limitation is how much memory the physical device has. Keep in mind, though, that the more data you send down, the longer the synchronization will take and performance. As you navigate from component to component and open new components and that kind of stuff, the more that's in there, the tiny bit slower it is. But LeakDAS Mobile is very robust. It works on the Windows Mobile Operating System. And so it's very, very stable, able to do a lot of things for you.

CONNECTING LEAKDAS MOBILE TO AN ANALYZER VIA BLUETOOTH

One of the first things that we need to talk about when we talk about LeakDAS Mobile is how it connects to an analyzer and also, how it connects to the LeakDAS database. So let's start with the question about how it connects to an analyzer. If you're going to use this for monitoring purposes, if you're only doing tagging or tag maintenance, then you just don't have to worry about connecting to an analyzer, if you're only doing visual inspections. But if you're going to use this for monitoring purposes and you want to use

it for direct read, in other words, the analyzer reports to the handset the PPM reading that it's gathered, then you do have to have what's called a Bluetooth Dongle.

Bluetooth Devices

There are a couple different companies that make those Bluetooth Dongles, so you have some choices, as far as which device you want to connect to. Right now, in this set up that I have, I have the TVA1000 on the floor next to my desk. I have a WDA2000, which is a device that's manufactured by a company called LDAR Solutions out of the Baytown area of Texas. That WDA2000 is connected to the side of the TVA and literally, is just putting out the same thing you see on the LED screen on the side of the TVA. It's just the PPM value that the TVA is reading. It's getting pumped out through that Bluetooth radio. My handset itself is an Archer from Juniper Systems. It's got a Bluetooth radio inside of it. And so I have just configured the two Bluetooth radios to talk to each other so that they can see each other and get the PPM value. How to actually establish that partnership is a little outside the scope of what we want to talk about here today.

Each of those Bluetooth devices is different. And so what I would encourage you to do, if you're brand new and you don't know how to connect the Bluetooth devices, you can contact our support team. And we're pretty good at those. Or you could contact the person who sold you the Bluetooth device and they should know and should have documentation on how to establish what's called a partnership. That's what you're looking to establish is that partnership. Once the partnership is established, it's established. You don't have to worry about it again. In other words, this Bluetooth device that I have actually has a serial number and I have partnered that up with my Juniper Systems Archer Handset. So that partnership is established.

So every day, when the technician goes to the field, he should be using the same Bluetooth device. He should be using the same handset, so the partnership is always established. And if so, he doesn't have to worry about changing things back and forth and so forth. So pretty straightforward there, some of the devices are easier to establish a partnership than others. But again, once the partnership is established, you're locked in. An important part of establishing that partnership is to tell the handset, not LeakDAS Mobile just yet, but the handset itself what port it's going to be pumping the data out on.

To do this on your handset, you will go to Start, click on the Connections tab and select Bluetooth. I've come into the Bluetooth settings.
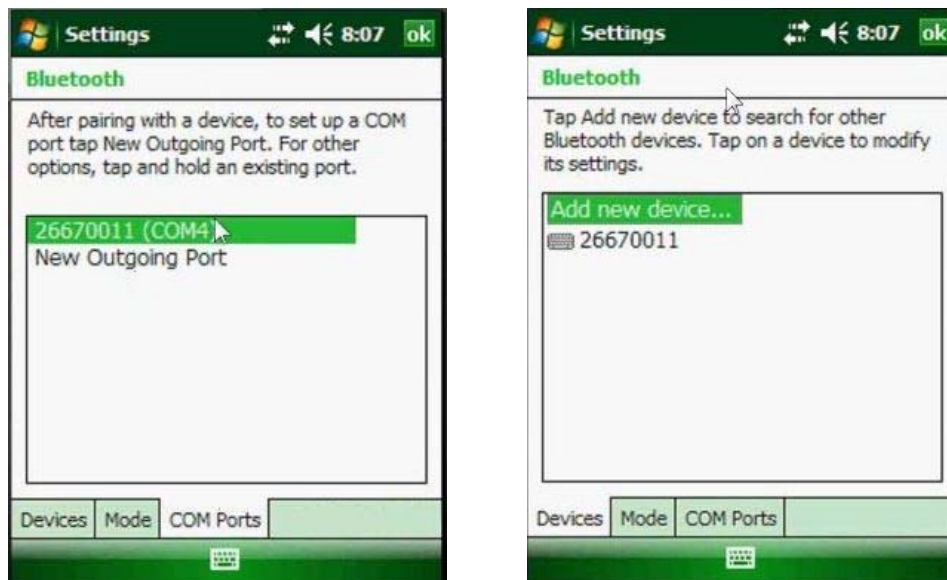
Here's the serial number for the device that I'm connected to. I've told it that I'm going to use its serial port. And then over there on the COM ports, I've told it that I'm using COM port four. So the partnership is established. What that means, then, is that I can go into LeakDAS Mobile itself, go to my Bluetooth tab which is the screen shown below:
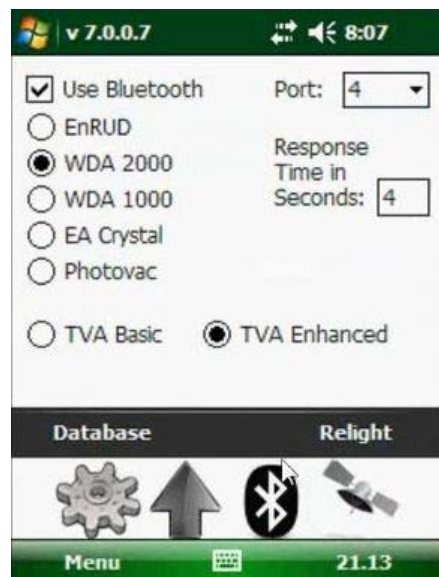
and I tell it yes, I am using Bluetooth. Which Bluetooth am I using? I'm using the WDA2000, which COM port am I expecting that to report on. I've got it set for COM4.

On this page you will also see the different Bluetooth devices we could talk to, the **ENRUD** device. That was the very first device that was developed. The **WDA2000** and the older **WDA1000**, those are both from LDAR Solutions. Environmental Analytics has a company called LDAR Tools. They make a device called an **EA Crystal**. That's one

of the choices. And then the Photovac device, the new **Photovac** device built into that device is a Bluetooth transmitter itself. In that case, you would only need the analyzer. You wouldn't need an external Bluetooth device. So basically, you choose the one you want to use. Some of these use TVA basics on the analyzers. Some of them use the TVA enhanced. That's kind of up to you to determine with the manufacturer, which is which. They do have to be set correctly.

Scan Seconds when using a TVA

The only other thing we have here on this Bluetooth screen that we need to talk about is what's called the response time in seconds. Has little to do with Bluetooth, but rather it has to do with the analyzer that's being used. Let me tell you why that's important. A TVA1000 has a response time of roughly three to four seconds. The response time is one of the required tasks when you do your precision calibration. Before you put the device in the field, every quarter, you have to do this precision calibration. And response time, literally, is you take your known gas sample. Let's say 10,000 PPM gas. We apply the 10,000 PPM gas and we time how long does it take the needle or the digital display to get to 90 percent of that 10,000 PPM value. That's called the response time. In other words, how quickly does the device respond when a gas sample is introduced?

Scan Seconds when using Method 21

Method 21 is pretty clear. When you do your monitoring, you're supposed to monitor all the potential leaking interfaces on a component. And then wherever you find the highest value, then you stay on that highest value for two times response time. We talked in Session 2, when we were talking about components, how you can assign, at the component level, a minimum scan time for each component. Now, let's tie this altogether. LeakDAS Mobile is going to obey that minimum scan time that you've told it to obey for each component. If, during the minimum scan time, we get needle deflection, in other words, we actually get a real PPM reading, then we're going to add in two times the response time, which is the value you've entered here.
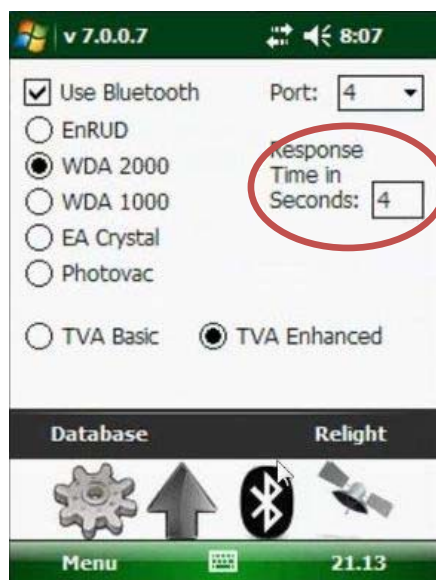
So in this case, if I've got a four, then I'm going to add eight seconds to my minimum scan time to hold you there for an additional eight seconds to make sure that you meet the requirements of Method 21. So you've got min. scan time coming from the component. You've got response time stored in the handset, based on the analyzer that you're using. And the two of them work together to make sure you spend the correct amount of time on a component. If there is no needle deflection, when the min. scan time elapses, you just move on to the next component. Okay, so that's how we connect to the Bluetooth device.

CONNECTING LEAKDAS MOBILE TO THE DATABASE

The next piece we need to talk about is how we connect to the actual LeakDAS database.
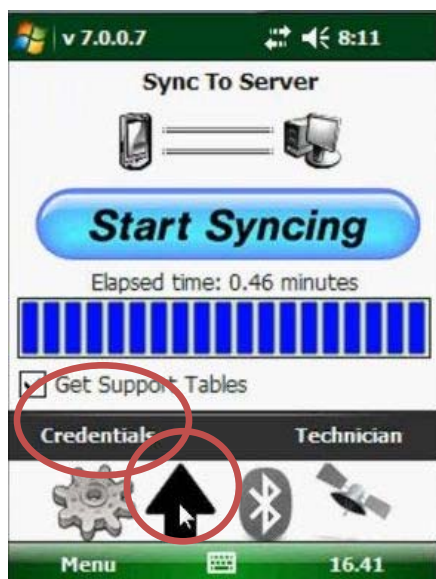
Notice I've got these four big icons across the bottom. I've used the Bluetooth icon. You know what that is. This up arrow, this is my communications form. If I go to the communications form, I can start a sync event to my server or, importantly, I can click on credentials to enter my sync settings.

Active Sync Connection

This credential information only has to be entered once to make a connection to your database. LeakDAS Mobile does not talk to your desktop. It does not talk to the LeakDAS installed on your desktop. LeakDAS Mobile talks directly to the SQL server database where LeakDAS resides. It's very important that you know that. LeakDAS does not have to be running. LeakDAS itself does not have to even be installed on a PC for LeakDAS Mobile to go through and connect to a database. LeakDAS Mobile typically uses what's called an Active Sync connection to make its connection back to the database. In other words, you're either putting the handheld into a cradle or you're connecting it to a cable that's connected to the back of your PC. That's what we call an Active Sync connection.

Wireless Connections

LeakDAS does not have to have an Active Sync connection though. As long as LeakDAS Mobile can connect to your network, it can talk to this database. What I mean by that is if you've got a wireless network in your facility, or just a wireless access point in your office, you can use that wireless connection to get to the database as well. One of our largest clients, down in Texas, puts something like 20 to 25 technicians a day out into the field. Their facility is set up with a wireless connection so that the technicians don't even have to come into the office or come back to the data center to do a synchronization. They're actually able to synchronize from out in the field, just by opening up the sync tab and making sure they're connected to a Wi-Fi point and hitting sync button.

LeakDAS Mobile doesn't care how it gets to the database. If it can get to your network and see the database, then it can sync. So if you've got Wi-Fi in your facility and you want to set it up, give us a call or send us an e-mail and we'll tell you the specifics of making it work. Otherwise, you're doing a cabled connection, which is probably the most common. And again, if you need help with that, certainly let us know.

Credential Information (a.k.a – Sync Settings)

Here's the information that we're storing here. We're storing the name of the SQL server itself. In other words, what's the name of the server where my database is installed? We're storing the name of the database itself. We're storing the SQL user account that has permission to see the database. In this case, I'm set up for the system administrator account. And then we're storing the password itself to get us to the database. This information, we usually have to get with your IT department to help you get this information. Some of it, we can get directly from LeakDAS, such as the server name, the database name. But to get the SQL username and password, we'll have to get assistance from your IT departments to get that. Once it's stored, it's stored. It doesn't change. You don't have to worry about it.

The tech ID is another piece of information. We talked about that briefly when we were talking about route manager. The tech ID is the specific technician who I want to sync – whose data I want to sync when I sync LeakDAS Mobile. So let me show you where we're going to get that. Switch over to LeakDAS and open route manager using the router manger icon near the top left. Previously I added a field technician, named Johnny Jack. So we're going to open up his folder and we're just going to click on any one of his routes. It won't matter which one. And anything that's assigned to Johnny Jack is going to show us that it's got his technician ID assigned to it.
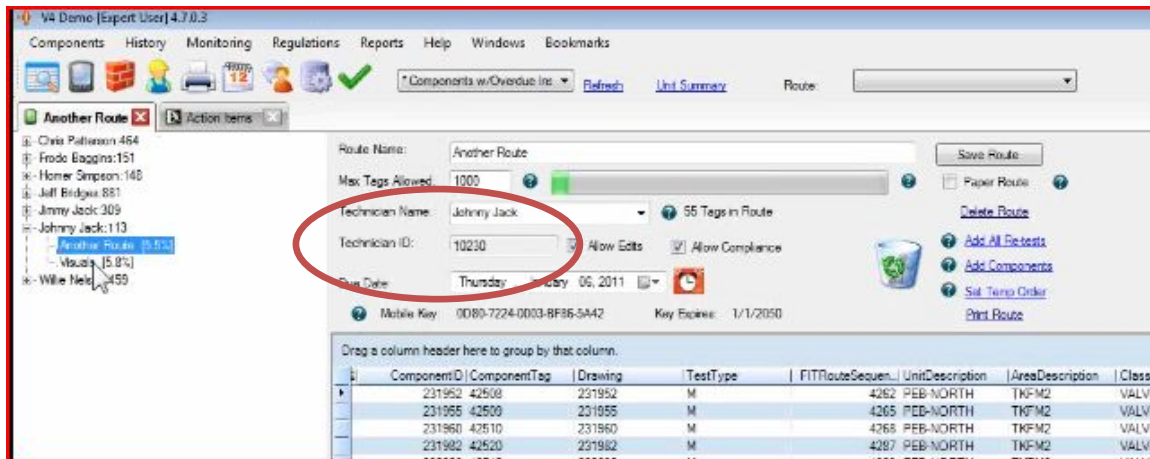
That's the technician ID that I need to put into LeakDAS Mobile. And what that means is that anything that's assigned in LeakDAS to Johnny Jack is going to come down to the handset when he hits the sync button. So the beauty of that is anything I drag into his folder, anything I drop into his folder, next time he syncs, he gets that data. So the facility I was talking about down in Texas, let's say Johnny is out in a certain process unit. Maintenance calls his supervisor and says hey, we made a repair on a component. Can you send somebody over to do a recheck on it? The supervisor can just call Johnny on the radio and say hey, I need you to go do a retest. I realize it's not in your handset. So if you'll just give me a minute and then hit your sync button, I'll send them out to your handset. And you can push data out to the technicians so that they can do the work.

Or maybe it's 2:00 in the afternoon and he's completed the couple hundred sources that you've told him to monitor. Without him coming back to the facility, you can say hey, just hang tight. I'm going to push another 100 components out to your handset and you can just drag them in, drop them into his route with route manager. And then when he syncs, he receives those components. I've seen this happen where a technician gets sent to the far side of the facility to do monitoring. He gets all the way over there and the unit's shut down. He can't monitor it for the day. And so in the old model, he'd have to come all the way back to the office, let me create a new route, send it to his handset. But in the new model, if he can get that handset on to the network, all I have to do is create a new route for him and he can sync from wherever he's at.

So there is some real advantage to a wireless connection, or just having the ability to do an Ethernet connection from somewhere else in the facility. A lot of people are doing that as well. So the tech ID itself, again, anything that goes into Johnny's folder is going to come down to this handset because it's set up to talk to Johnny. I'm going to go ahead and save this. I'm going to close out of it. It takes me back to my main form.

Important Note about changing credentials

Very importantly about this credentials, if I've done monitoring or if I've done any work at all, edits on components, adding new components, I don't want to change the credentials here until I've synced the completed work. You have the potential, if you're not careful, and there's warning screens in LeakDAS to keep you from doing this. But let's say the technician's been out there and he's monitored 200 components and then he comes here and clicks on this credentials button. He's going to get a great big pop-up box that says hey, wait a minute. You've done work and you haven't synced it back to the database. We don't want him changing anything here that's going to orphan those records in his handset. So he would have to click through error messages or informational messages before it would actually throw that data away. We've tried to do is everything possible to minimize the opportunity for data loss. Unfortunately, we can't protect you from a dumb technician. So sometimes it still happens, but it's pretty darn rare.

Once I've entered the credentials, then I can click on this start syncing button to actually pull down everything that's been assigned to Johnny. A few moments later you should start to see some action on your handset as these load the tables.

"The Version of LDM you are running does not match the DB Version"

A very common question we get in our tech support world, somebody hits the sync button, they get a little pop-up message box right here inside LeakDAS that says the version of LeakDAS Mobile you're running does not match the master database version. We get that a lot. I'm going to explain it right now. The version of LeakDAS Mobile

that I'm running is this test release. Right up here at the very top of LeakDAS, it says 7.0.0.7. If I've got 25 field technicians and I update them all to version 7.0.0.7, but I accidentally don't upgrade two of those devices, I'd kind of want to know about that. If those two technicians were out there monitoring with an old build, I would sure like to know about that. So we give you the ability in LeakDAS to identify what your approved version is. And anybody who syncs on an unapproved version will get the message inside LeakDAS that their versions don't match. That's just a red flag to let you know that a handset didn't get updated. So that's what that means. Either the handset hadn't been updated or the handset got updated to a newer version than LeakDAS is expecting. Either way, you've got to make them match. And the way you make that match is to log in as the IT administrator and tell LeakDAS the approved version for your database.

Get Support Tables – What does that mean?

Notice when it finishes, it's syncing. And this only takes a little bit of time, .45 minutes, so less than half a minute to do that synchronization. Once that's done, it lets me know it's done and I can click the DONE button and proceed. Before I do, though, I want to explain what the checkbox that says get support tables means. We talked about the pick lists that are inside LeakDAS, all of the different pick lists that support components that support the inspections. Some of those pick lists can be pretty extensive. If I'm in a big facility, my process stream list can be several hundred or even several thousand records long. My unit list or my area list may be 100 or more characters long, or not characters long, but entries long. Those different pick lists, if they haven't changed, I don't necessarily need to sync them every single time, so I can speed up my sync process if I tell it not to get the support tables. If I know those pick lists haven't changed, I can just uncheck that box. And instead of .45 seconds, I can probably get that a little bit faster.

Now, if I know I've gone in and I've added values to pick list, or I've changed values on pick list, then I would need to check that box to pull the fresh pick list down. Particularly if I'm going to go out and do tagging or tag maintenance, it would make sense to make sure I have the fresh pick list. So that just allows you to control, not that LeakDAS Mobile was ever slow on a synchronization, but I can make it even faster by unchecking that box.

When I click the done button, it's going to take me to my main control panel here, where I spend my time selecting what I want to monitor.

MONITORING

All right, again, the icons across the bottom, the up arrow is my synchronization. The circle with a B is my Bluetooth. The big gear takes me right back to my main control panel where I do my work. The final icon that looks like a satellite is my GPS. If you handset has GPS functions, you can use it when you do your monitoring to keep track of where the technician is while he does the monitoring.
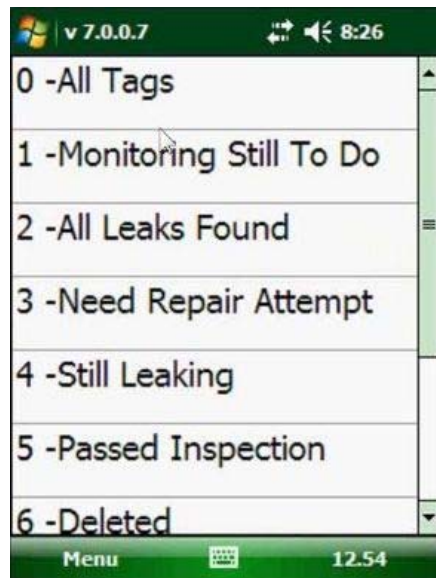
Routes

If I click on the Gear Icon, where I do my filtering and stuff, the routes that I assigned to Johnny Jack are now available on this route pick list.
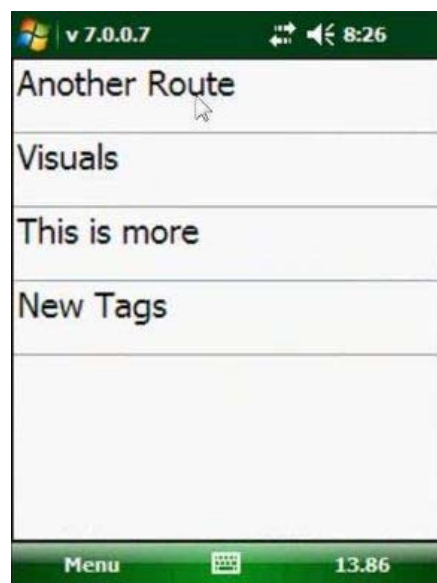
I have three different routes that I've assigned to him. And then I have what's called a new tags route, where if I add any new components, those new components go into the new tags route. So I've got the one, called "Another route". I have a "Visual" route. And then that one I just created, "This is more" route. Basically, Johnny, when he goes to the field, he selects the one he wants to work on. And then if I need to, I can filter inside that, also, for the units that make up, if there are multiple units. In this case it's all just one unit, so I'm just going to leave that alone.

Status

The status box allows me to filter very specifically. I can do everything that's in the route, the all tags. More commonly, I'm going to do this number one, which is monitoring still to do. In other words, I've sent down 28 components into his route or however many components it is. If I monitor ten of those and then refresh my filter with monitoring still to do, it's going to show me what has not been done yet. Make sense? Okay. So it's always just what still needs to be done for the stuff that's been downloaded. Number two, all leaks found, that's pretty self-explanatory, any leaking component that I've found in my monitoring so far, whether it's been repaired or not. Number three, needs repair attempt, that would be a leaking component that has not yet received a first attempt at repair. Maybe I found the leak; I couldn't make the repair, so I moved on. Maintenance calls and says hey, we just made it. I want to filter quickly so I can get back to it. That would be needs repair attempt. Still leaking, whether it's got a repair attempt or not, if it's still actively leaking, I can filter for those. Past inspections, that's pretty straightforward. Deleted, if I've marked anything as deleted, importantly, deleted doesn't mean I'm throwing away. It just means I'm changing its status to deleted. Out of service, if I've marked anything as out of service, I can go back and find those. Edited, anything that I have edited, unedited is anything that I have not edited. So there's a total of ten different filter criteria there that you can use. The one you use most common is this monitoring still to do.

The Filter Grid

So let's go ahead now and we're going to set a filter for the specific route, "this is more" for "monitoring still to do" and click Filter Now. LeakDAS comes back and tells us how many components meet the filter criteria and there are 13 tags in the list. LeakDAS brings me to the following screen.

This is what we call the grid that shows me the details for those 13 components that are in my route. Now, this grid is also finger friendly, so I can scroll it with my finger. I have some navigation down here at the bottom. The Back button takes me to the form I was just on and resets the filter. Top takes me to the top of the route. Bottom takes me to the bottom of the route. If I click Test, I can either set it for Test or Edit, depending on what I want to do with the components. And then I also have a Search that allows me to search for a specific component within the route.

Here's what you need to know about this grid. Screen real estate on a LeakDAS Mobile device is kind of limited, so we can't show you just a huge amount of information about this component. So on the grid, what we've got here is the tag, the drawing, the process unit, the component class, the first part of the location description and then the monitoring results if the component has been monitored. Other fields are the last time it was monitored, what PPM did they get. And then to the far right is the route sequence within the handset, so the order within the handset, the technician's going to see it.

Now if that's not enough information to find the component, you've got two hidden buttons on this grid, one on the left side and one on the right side. The button on the left side is the show me more information button. What that means is this isn't enough to help me find the component, I need to know more. I'm just going to touch on the left hand side. And LeakDAS is going to open up and show me everything about this component, much, much more information, the tag, the drawing, the class and so forth.

```
Taq:    5302
Dwq:    327102
Class:  VALVE
Unit:   E AREA
Area:   2-EHA
Type:   Valve-Uncategorized
Size:   4
Floor:
Ppty:   T 560
Mfq:
Cat:     NORMAL TO MONITOR
Reasn:
Plant:  V4 Demo Site
Score:  0
Bldq:
Dept:
Loc:    4" COV  SE CRNR OF L
        S BLDG

Back | Top | Btm | Test | Search
```

This is read only, and that's fine, but it tells me everything about it, including the entire 100 character long location description if I had one.

Now, a common mistake at this point, people see screen and then they think they need to hit the back button to go back. This back button doesn't take me back to the grid. This back button – remember, this back button takes me back to the form. So don't make that mistake. Let me show you how to get back off of that form, like I did. Left side, again, show me more information. LeakDAS shows you more information. Once you've found the component, all you have to do is touch anywhere on the current screen. You just touch the screen again and it takes you back to the grid. So remember that. Make sure your people know that.

Okay, I've located the component. I'm going to touch the screen again, get to the grid. I'm now ready to go in to monitoring mode. Or in other words, I want to test this component. If I touch on the right side, then that means I'm ready to monitor it, open up the test form because down at the bottom of the screen, I have it set for test. That means the action button, let's call it that, the action button is going to take me in to test mode. If I switch this to edit, then the action button on the right side is going to take me in to edit mode. So let's just call it that, the show me more button is the left hand side and the action button is on the right hand side. Let me set this for test, and I'm going to push the action button.

Test Information

Let's show you what test information looks like. First and foremost, I want the technician to verify for me the date, the time, and then continue.

Verifying the Technician, Instrument and Signiture Capture

Why? Anybody who's used an old style legacy data logger knows that sometimes the clock would get reset. The technician would go out there and he'd monitor all day long with 2005 in his handset. Don't know how he did it, but he did it. Early releases of LeakDAS Mobile had a verification form for date and time, but it wasn't very big. It only filled half the screen instead of the whole screen. And we had technicians who would see it and click right through it and then go monitor with 1993 or 2005 or 2007, anything but today in their handset. So we decided that we needed to slap the technician in the face and show him, big and bold, this is the date and time currently on your handset. So big and bold, he sees it. If it's not correct, all he has to do is click on the little clock and that will open up the little date and time thing from the handset and then we can continue on from there.

Very importantly, LeakDAS Mobile does not have a clock inside of it. LeakDAS Mobile does not have a calendar inside of it. LeakDAS Mobile is trusting the operating system, the Windows mobile operating system to know the date and time. So whatever date and time is set in the physical handset, that's the clock that LeakDAS Mobile is going to use. So if it's wrong, LeakDAS Mobile is going to be wrong.

Now, very importantly, when you connect via active sync, one of the things just built into active sync is to automatically set the handset to match the desktop that you just connected to. So it should be impossible for a technician to monitor the wrong date and time. It should be impossible. But technicians do impossible things. And probably once a month, we get a phone call saying the technician monitored with the wrong date, how do I fix it. Still don't know how they do it, especially with stuff like this, where we're asking for verification. But that's why this is here, so that he can verify it and continue on.

The next form that we get to, verification of the technician ID, of who I am.

You will see a pick list for who's going to actually go out and do the monitoring. And this is actually Johnny Jack that's doing the monitoring, so I'm going to pick his name. What instrument is he using is also a pick list. I'm going to choose the BR549 instrument that he's going to do the monitoring with. And now at this point, I'm going to save and exit. Now, this information gets stored in memory now. And every inspection that I'm going to do from this point on is going to have Johnny Jack and this instrument attached to it. So I don't have to store that information on every inspection over and over again. LeakDAS Mobile does it for me. These are both pick lists coming from LeakDAS. The technician pick list is coming directly from route manager. And the instrument pick list is coming from LeakDAS.

Let me show you where to build that in LeakDAS. We go to the help menu. We go to pick list. We go to instruments.

These are all the instruments that are approved instruments in my facility. So I can enter it. If I want to enter a new one, all I have to do is hit the add new instrument. I can give it the serial number, the manufacturer, the monitor, model, very importantly, the date in service, in other words, what date is it showing up at my facility, and also very importantly, date retired. If I have an instrument that has been retired, not going to be here any more, all I have to do is give it a date retired and it will not go down to LeakDAS Mobile anymore, so a technician can't accidentally choose a retired instrument.

All right, so I've chosen my information. I'm going to save and edit. And then finally, just to make sure that Johnny Jack's paying attention, we're going to do a signature capture here.

The form says signature indicates that you are authorized to perform monitoring as user Johnny Jack and that vapor analyzer BR549 has been properly calibrated. So Johnny has to come in here and sign this from. Signature capture, I've got Johnny's signature now, saying that he did calibrate the machine or that he knows that it was calibrated and that he's an authorized technician to do the work. It should be impossible for the wrong technician or for a guy to monitor with somebody else's name. But again, technicians do impossible things. Importantly, when the synchronization takes place at the end of the day to send the data back to LeakDAS, that signature does get attached through our mobile sync log to the inspections that were performed. So you could go through the mobile sync log and see the signature captures and double-click on them and see the inspections the guy did. It's kind of slick.

Now, let me stress something here. Those forms where I had to select the technician, the instrument and the signature capture, I only have to do those once, as long as the technician keeps working. If I take more than an hour long break, then I've got to select them again. So there's a timer that knows when I last selected those. As I go through the day here, if I just keep working, I'm not going to have to choose those again. For instance, if I close this form, come back in, it's not going to force me to do the signature capture and all that again. It's only if I take a big long break or after I do a synchronization event, then I have to select those things again for the new route that I've gathered.

Okay, I'm finally into monitoring mode on this component.

The Inspection Form

The information I have on the screen are the tag and the drawing, so I know the tag and the drawing that I'm looking at. In blue I can see why I'm here and I'm here to do a scheduled Method 21 test. If this was a visual, it would say visual. If it was a retest, it would say retest. So the technician knows exactly what he's here to do by seeing the words in blue at the top of the screen. Allowed, this is the maximum allowed reading before it gets called a leak. The reading box is where I'm actually going to have my reading, once I store my reading. The net reading would be minus the background.

The last, if I've done multiple tests, for instance if I found a leak and then I'm there to repair a leak, this last field shows me the last reading in the handset for this component. The visual box is if I want to force a visual on it, in addition to my Method 21. The date and time across the middle, this is the last date, time and PPM reading for whoever monitored this component last. So the last time this component was monitored was March 26, 2010, 10:07 and they got a 6 PPM reading. The reason that is there is let's say last quarter, somebody did a monitoring and it was at 416 PPM, and this time I'm there and it's at 492 PPM. I can see from the last time that it's slowly creeping up and I can say this is about to become a leak. Let's do something. Let's tighten the packing. Let's keep it from becoming a reportable leak. We're not giving you that information to help a technician cheat or anything like that. We're trying to give you information so that you can make a knowledgeable decision, so the tech can have some information to help him make a decision.

You can also see the component class and the location description. Now, again, I've got hidden buttons here, so if I need more information about this component, I can just touch anywhere on those two boxes and it opens up just like before and gives me all the information about the component. To close this screen, I just touch it again and it takes me right back into test mode. Notice down here on the bottom left-hand corner, I've got a number that keeps changing. I'm actually connected to this WDA2000 and that's the PPM reading that's being passed across the Bluetooth screen. So at all times, while I'm

sitting on this component, I can know what's going on back here in the background as well. One big button to start the logging process, three different tabs here to store information, test is the screen you see above. That's showing me what needs to be tested. Once it has been tested, the results will be on the not tested tab. We'll go there in just a second. And then the GPS tab that shows me the satellites count, how many satellites I'm connected to and helps me find this component if I need it to.

So let's go in to log mode here. I'm going to hit log reading.

Log Mode
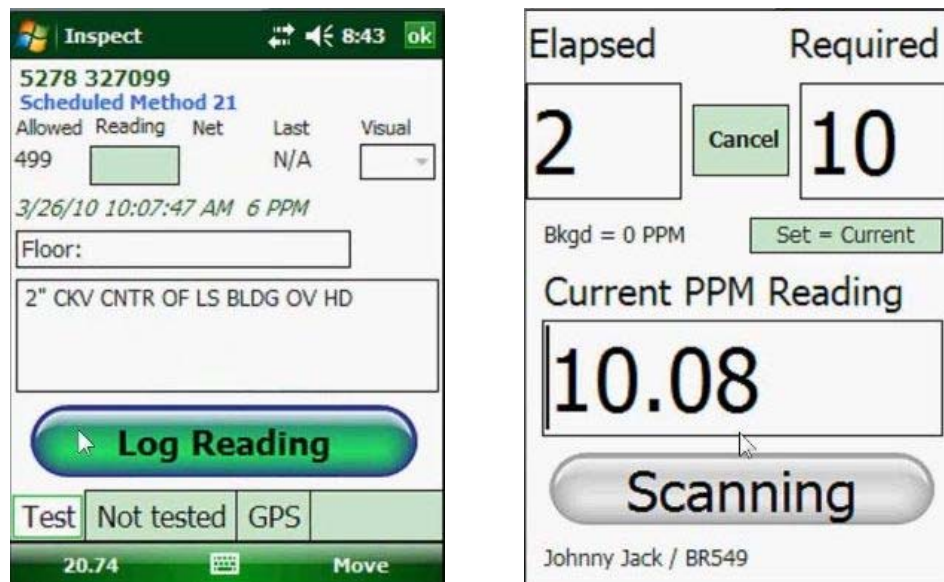
And very importantly, here's my new monitoring screen. Required, this is the required amount of time, coming from LeakDAS that I need to spend on that component. Remember I told you when we talked about components? If you don't populate the field, it's going to be ten seconds. So the default ten seconds comes down. Elapsed time, the clock starts counting. Once the elapsed equals the required, then I can actually move on. So the elapsed now has equaled the required. Here in the middle is the current PPM reading that's coming across. The button down at the bottom represents whatever the highest PPM is that's being gathered. Notice that that button will say scanning for the first ten seconds. Once the time has elapsed, then the button changes. I couldn't press it before. It wouldn't have let me press it before. The button changes and represents the PPM value that I'm going to log. So I know exactly what I'm logging when I log this. I'm logging 34 PPM. If during this required ten second time, or even now while I'm still in scan mode, if I got what we call needle deflection, which is a meaningful reading, then I would add the response time to this ten and you would see that change to an 18, holding me there for 18 seconds.

Right in the middle of the screen, it says background equals zero. This is a button, set. This sets the background to be the current reading. So if I set that, it sets my background

to 11 and restarts my clock here. I have to do eight seconds again. So at any time you can set your background because as you walk through a facility, background fluctuates, right? So I can set my background at any time, just using set equals current. Now I'm going to log a reading of 18. I'll go ahead and click that and it takes me to the new tab here. Notice I changed from the test tab.

Now I'm on the log tab and it says I've logged one reading. I've got four choices here. Here's all my details, the tag, the date, the time, the PPM reading, the background reading, the fact that it's a passing reading. Four choices, I can delete it, start over. Maybe I was on the wrong component. I can enter a repair method. Whether it's a leak or not, I can enter a repair method. I can enter a condition. In other words, a condition is a note, tag missing, open-ended line, something about the component, or I can accept it. If I delete it, it's just going to take me right back and let me start over on that component. That's helpful if I'm on the wrong component. I got a little bit out of sync or maybe the analyzer flamed out or whatever the reason is. Both repair and condition open up a different form.

In repair, it gives me a list of the repair methods. Condition gives me a list of different condition notes. Both repair and condition are filtered by the component class that I'm on, so that I can get a different list of conditions for pumps than I would for valves.

"Does LeakDAS Mobile have the ability to manage and report open-ended lines?"

Yes it does, through the condition notes. For instance, I'm monitoring a valve right now. While I'm monitoring, I notice that there's an open-ended line off the end of that valve that should have been plugged and I want to document that. What I can do on my condition pick list, if in LeakDAS I've added this already, I could have a condition that says open-ended line and I would pick open-ended line off the pick list. In this case, it's not there, but the new form allows me to edit any of the conditions to read the way that I want them too. This feature is new to LeakDASMobile build 7.0.7. You pick off the pick list and then you can also edit the value that you picked. And now, at the end of the day when I sync, that note will be attached to the inspection and I can run a report using my condition history form to go and find those things that I put an OEL type note on. So LeakDAS does have the ability to attach repair information and conditions to every single inspection out there.

Now, in this case, I know I've got a good reading. You'll notice. See how it's put the note there on the screen, so I can see exactly what I'm going to accept here. There's no reason now for a technician to say I was accidentally putting the wrong note on there because he's got to hit the accept button to continue. He should be able to see the date, the time. There's no reason for a technician to say hey, I monitored all day long and I had the wrong date and time in my instrument. That means for 200 components, he looked at this form and still accepted the bad date and time. When I accept this, it rolls me to the next component. So that's the process.

Let's walk through that again. I'm going to hit log reading. I'm going to be monitoring, now, all the potential leaking interfaces on the component, looking for a leak or looking for needle deflection. I get no needle deflection. I spend enough time. I'm going to hit the log button. I'm going to verify, yes, that looks correct. I'm going to hit the accept button, roll to the next component. So it's a minimum amount of button presses for each component. I locate this component. I'm going to log the reading. I'm going to do my monitoring, watching the forms, watching the current PPM that's coming across, looking for needle deflection. If my background reading changes, I change it. Once I've done my elapsed time, I can click the button, verify my information, accept. This is pretty straightforward and hard to go wrong.

Logging a Leak

What happens if I find a leak? I've monitored the components and I receive needle deflection. The needle deflection increases the amount of time I must spend on the component. Once I log the leaking reading, I receive a message which states, you have found a leak, do you want to enter an initial repair attempt? So the handset knows what the lowest leak definition is that's allowed for these components. It knows that because of the regulation that's assigned to the components. So when I exceed the leak definition, the handset's saying hey, wait a minute. You've exceeded it. And it gives me this note

to let me know I've logged a leak. We're going to tell it yes, and it's going to take me immediately to my repair pick list, instead of making me pick the button. I told it I want to enter a repair. And this is, again, filtered by the class of component that I'm sitting on. So we're going to tell it that we're going to tighten the packing. It verifies that. Notice it grabs Johnny Jack. He's the one doing the monitoring. And I told it yes, I want to make a repair attempt. So the assumption is Johnny made the repair attempt. If it was somebody else, just highlight it, change it to the name. Maybe it was maintenance that made the repair attempt.

Here's the repair attempt. Notice it's got the value I chose, plus I can type in any additional note. I'm going to click continue. And now it takes me to my verification screen. I can see the date, the time, the PPM reading. I can see the repair method. I may want to log a condition in at this point that this was actually the valve stem that was leaking. Now that condition is on the screen as well. In this case, maintenance made the repair attempt for me. I'm going to go back now to my test tab. I want to tell it that I want to log an additional reading. So far so good, looks like maintenance. Looks like their repair work, good. We're going to continue this scan. Once my time's elapsed, I'll go ahead and log the reading.
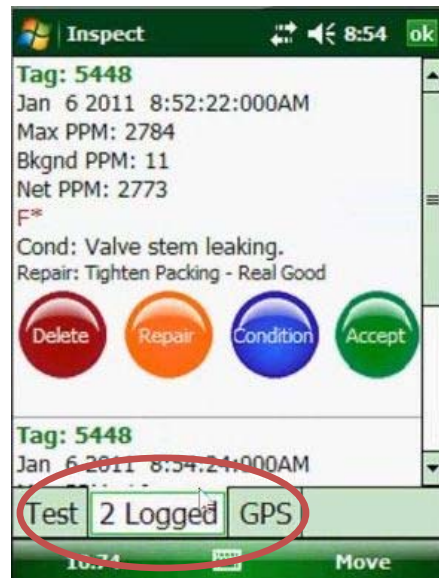
And at this point, now, notice very closely. I have two log readings on my tab and I can see both of those log readings just by scrolling down. So the first reading at 8:52 was 2700 PPM. The condition was that the valve stem was leaking. The repair was made. They tightened the packing real good. And then I did a retest at 8:54. Got a reading of 16 PPM. Once I'm good with this, I'm just going to hit the accept button.

So when you're in monitoring mode – actually if you've told LeakDAS to use the Bluetooth values, those are available everywhere within the LeakDAS Mobile handset. So all right, any questions about LeakDAS Mobile, concerning monitoring? We're going to talk about tag editing and tag maintenance here in a minute, but monitoring, finding leaks, repairing leaks, let's see what we have.

We have three techs with one mobile unit. How do we handle tech ID's properly when sharing the mobile unit? You've only got one mobile unit so it really doesn't matter which technician is receiving that. You're just going to give it to a technician. He's going to go to the field. So in LeakDAS itself, instead of having a folder for each of your technicians, just have a single folder for the handset. And then you're going to load up the handset. You may hand it to technician one today. You may hand it to technician two tomorrow. But you want to control what goes to the handset, not what goes to the technician, in your case. If I have ten technicians with ten handsets, then I'm thinking of it as what am I giving to the technician. In your case, where you have three techs sharing a handset, think of it as what am I putting in to the handset. So again, your LeakDAS route manager would have a single folder with the name of the the handset. And whatever gets assigned to the handset goes to the handset, and then you hand that to the technician, the one of the three that you want.

What is needle deflection and what would trigger that above background? All the previous builds of LeakDAS Mobile – It was 5PPM above background reading in previous builds of LeakDAS Mobile. In this existing build of LeakDAS Mobile, they

would be ten PPM above background reading. So if I've stored a background reading of ten, it would be a reading of 20. If I've stored a background reading of five, it would be a reading of 15. That would trigger needle deflection. So in any version of LeakDAS Mobile 7, it's ten PPM above background. Anything prior to LeakDAS Mobile7, it was five above background.

If the tech completely, 100 percent, finishes taking the reading, can he go back and delete it? What if it is a leak? Can he delete that once the reading has been taken? Yes. This component that I'm sitting on has not been tested. Let's say I just realized that I'm a tag out here. I'm supposed to be on tag 449 or 5449 and I'm off.   And I realize that this component that I just logged as a leak and repaired was actually on the wrong tag number, readings good and everything. I can come back. I can navigate back to this component and then using these delete buttons, I can delete these readings out of LeakDAS Mobile. They haven't been uploaded to the LeakDAS database yet. They haven't been processed through. They haven't created a work request, so I've got full control at the handset level over these components.   So if I realize I'm on the wrong component, I can go back. I just navigate back and I can fix the component. If there are many components, instead of having to navigate back one by one by one by one, he can either go back to the grid or he can go back to the filter and set a filter to get to that component that needs updating.

GPS

Let's talk a second about the GPS tab. If you have a handset that is GPS capable, and most of the new handsets are GPS capable. Anybody who is using a cell phone, which is probably everybody, will know that all your cell phones any more have a GPS chip in them. Geo location is becoming a very big thing, particularly with smart phones. The ability to know where you are and search for shops in your surrounding areas or restaurants and so forth, that technology of using a GPS chip is coming to the industrial type handsets that we are using for LeakDAS Mobile. Now I don't really care about finding a coffee shop with my LeakDAS Mobile. But what we're doing with the GPS chip is what we call an electronic crumb trail.

So if you have a GPS enabled device, it allows you, while the technician is doing his monitoring, it allows you to very silently, in the background, just store where was the technician standing when he did this reading. GPS is accurate to about 50 feet, if you have good satellite signals, a good clear view of the sky. In a facility where you've got a lot of pipes overhead, you've got a lot of columns, you've got a lot of buildings and tanks around you, you may get less than 50 feet. But it's still accurate enough to know if the technician is even close to where he's supposed to be when he's doing this monitoring.

Electronic Crumb Trail

We're not using GPS in LeakDAS Mobile to try and help you find components. We think that's silly. We've got a good location. We know the route. The technician doesn't really need a GPS signal that's only going to be 50 feet accurate to find a valve. If you think about it, a 50 foot circumference area in your facility has got 50 different valves in it. So we don't use GPS to help you find a component. I want to stress that. What we're using GPS for is a quality control feature, again, what I call the electronic crumb trail. So every single component that the technician tests, without him having to do any extra action, every time he logs a component, logs a reading, it just stores the latitude and the longitude of where he was when he logged that reading. So when I sync the information back to LeakDAS, what that means is part of that record will be where the technician was standing when he monitored the component.

Can you track the handset in real time? In other words, would I be able to look out and see where is the technician right now? Unfortunately, that requires two-way communication. I've been asked that question before, and I think that would just be flat, real cool if I could sit at LeakDAS and say show me where my technicians are right now. Theoretically, if you have a Wi-Fi, persistent Wi-Fi, where we could have the LeakDAS handset reporting back, here I am, here I am, here I am, then yes. Theoretically, that would be possible. With the existing technology, I think we're a little ways away from that.

Okay, we've done some monitoring here. Let's go back into LeakDAS Mobile and let's tell LeakDAS that we want to do a sync.

SYNCING THE HANDHELD
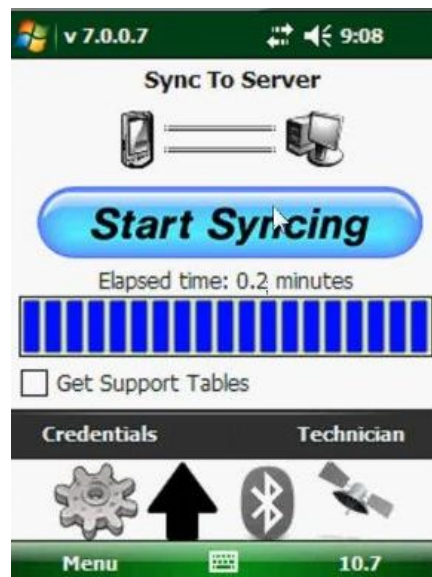
Before I do, let me show you. The credentials that I've talked about, I've done monitoring, if I go in here and try to change credentials, I get this big message.

You have data you haven't synced yet. If you change settings now, you will lose the work you have done since your last sync. I don't want to do that, right, so I'm going to cancel out of that. That's just one of two warnings the technician is going to get if he tries to change his credentials before doing a synchronization event. I spent time. I've done monitoring. I want to send this back to LeakDAS. So I'm ready to do the start syncing button. This monitoring is all done by Jimmy Jack. It's done today.

When I do a sync event, the very first thing the sync event does is it sends all the completed work to the quarantine table in LeakDAS. And not until it gets confirmation back from LeakDAS that it's received that work does it then turn around and pull the route down.   That's very, very important.   Again, we're trying to minimize the opportunity for data loss. So we want to make sure we get the data off the handset, get it to quarantine. We get confirmation and then we pull the route back down. Now, that's complete. I'm going to click done.

If I go back in to route manager screen in LeakDAS here, I was working on the route called "is more", which originally had 18 components sitting in it, and you can see that now my this is more route only has 9 components sitting in it.
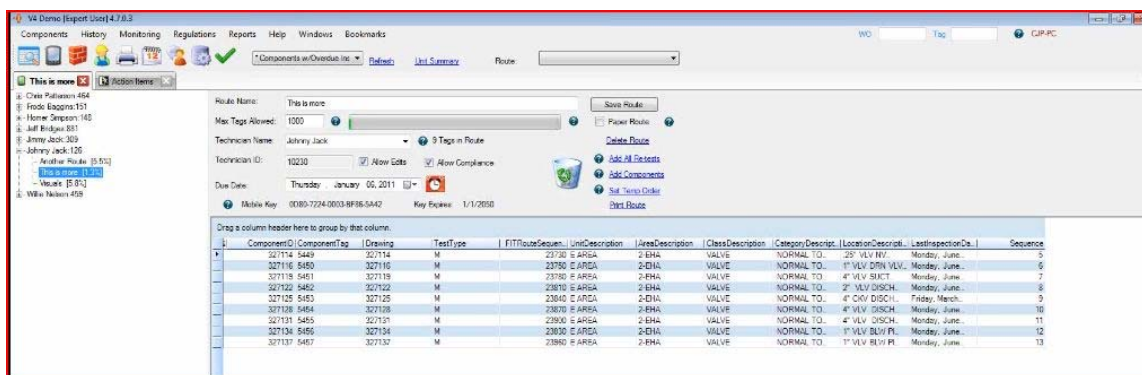
That is automatically done for me. When the data got sent from the handset to quarantine, part of going into quarantine was to delete those completed inspections from route manager. So I used the analogy previously about gas tanks. LeakDAS Mobile, think of it as a gas tank. We're filling the tank. The technician does his monitoring, and then we top the tank off. What's happened now is LeakDAS Mobile was just emptied out from the gas tank the completed components. We don't want the technician to go get those again, have to monitor those again in the field.

Now, very importantly, if during your synchronization you lose connection, for some reason the handset fails or the network goes down, if the synchronization is not successful, then when you sync again, you're uploading the same components again. It's not a big deal because LeakDAS isn't going to process those duplicates through. But I have seen facilities where for some reason they get a network bobble while they're doing a synchronization.

LeakDAS doesn't get that confirmation, yes I've received the components and so it doesn't delete those from the handset. When you sync again, it sends them back up again. There are provisions in LeakDAS to take care of those duplicates, so you don't have to worry too much about that. But if you are getting duplicates in quarantine, duplicate inspections in quarantine, you need to check with your technicians and find out are they getting error messages when they do the sync. Are they getting networking errors? It's pretty rare, but it does happen, so I want you to be aware of it. So I don't have any monitored components on my handset any more. It sent them all to quarantine.

Inspections in Quarantine

So let's go take a look at quarantine now and take a look at those inspections. The inspections were done on January 6th. Notice this opens up this quarantine summary form that we've been talking about.
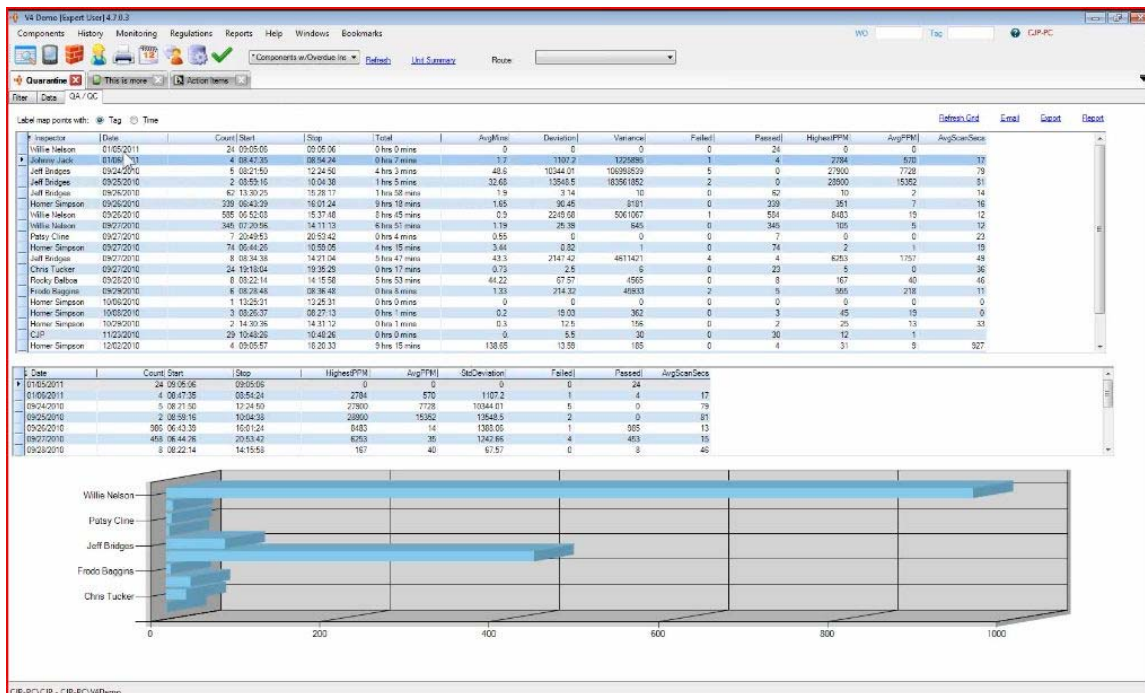
So here, I can find Johnny Jack. Just sort these by dates, so they come up to the top. So I've got Johnny Jack, January 6, 2011 monitored four components, start time of 8:47 and end time of 8:54. So I monitored for a total of seven minutes. Average time is 1.7 minutes per inspection. My deviation and variation on variance are good high numbers because I've got a lot of deviation, a lot of variety in those PPM readings. Again, those are to help you identify if the technician is out there monitoring three PPM, three PPM, three PPM over and over again. Things start to look a little bit odd. So I would get really, really low deviation and variation numbers there where I could dig in and see what's going on. Of my inspections, one failed, four passed. My highest PPM reading 2700, my average 570, and my average scan seconds is 17 seconds. So there's my summary for Johnny Jack.

If I want to see details, I just double-click on that entry and it opens up and shows me the details.

This is in the order the monitoring took place. So I look at my start times, 8:47 to 8:54. I can see what was done, including my latitude and longitude for the monitoring that was collected. And using that latitude and longitude, I can keep track of how many feet he

traveled as he did the monitoring. From this point to the previous point, 69 feet. From this point to the previous point 74 feet. So right now, none of this is real information for me, but in your facility, it's going to be real. You're going to be able to say feed from previous and see how far he traveled. You can compare that travel time to his scan seconds, 14 seconds, 18 seconds, 16 seconds and so forth. I also have a minutes after previous, so I know how much time it took him to travel that 69 feet, how much time it took him to travel that 74 feet. Scan speed and circumference. The circumference is calculated off the size of the component. The scan speed is calculated by taking the scan seconds, dividing that by the circumference. That tells me in scan speed how many inches per second he was moving the wand when he scanned the component.

If I'm good with this information, everything looks good, I've done my review and I'm good with that, these components are on hold, so I'm just going to right click and select all and then I'm going to right click and un-hold selected. I want to make note here, real quickly, of my leaking component, so I can show you what happens. This is tag number 5448. I've un-held these, I've approved them and I'm going to go ahead and process these inspections through. Those are processed through now and I'm going to just go open up that tag 5448 and let's take a look at its history.

So I can look at my history now and I can see on January 6th, a reading of 2700 PPM, color coded in red there, also on January 6th, a reading of 5 PPM. You can see the work request that was opened, the leak history, telling me which reg called it a leak. I have a notes field and a comments section. Basically everything that was gathered by the LeakDAS Mobile field technician is a part of this components record now, the notes,

everything. If I open up the work request, I can see the details. I can see the notes. And then I go in and check the user verify box for that work request to document yeah, I've got everything I need and close that work request totally out.

Is there any other place to view the QAQC data, other than quarantine? Yes, you can view that information, or a lot of that information using the history menu. We can look at technician performance by date. We will filter by date for the information requested and then from there, I can double-click on it, dig in and see the details. So that's one way to see it. I also have, under history, a technician performance by tech that allows me to choose the specific technician I want to look at and I can see his complete history. I can see a technician's complete history in my database, every day he's ever monitored, every count, start time, stop time, total time, all of that information. I can walk through multiple charts and they allow me to see the history on these technicians. If I just click on them, I can watch multiple charts. This is total inspections by day. I click on this, average minutes per inspection, average scan seconds, total minutes, average PPMs, standard deviations and again, back to total inspections. So Again, double-clicking on any specific day opens up the details for the day. So several different ways you can QAQC.

The quarantine form is a little bit different. The quarantine form is where I want to review the data before I process that data in. Anybody's who got a consent decree, that's one of your requirements. You've got to review the data before you process it in. You're looking for scan time anomalies. You're looking for oddities. Using the new GPS stuff that we talked about, how would you like to see on a map where the technician was when he did his monitoring? Let's take a look at that.
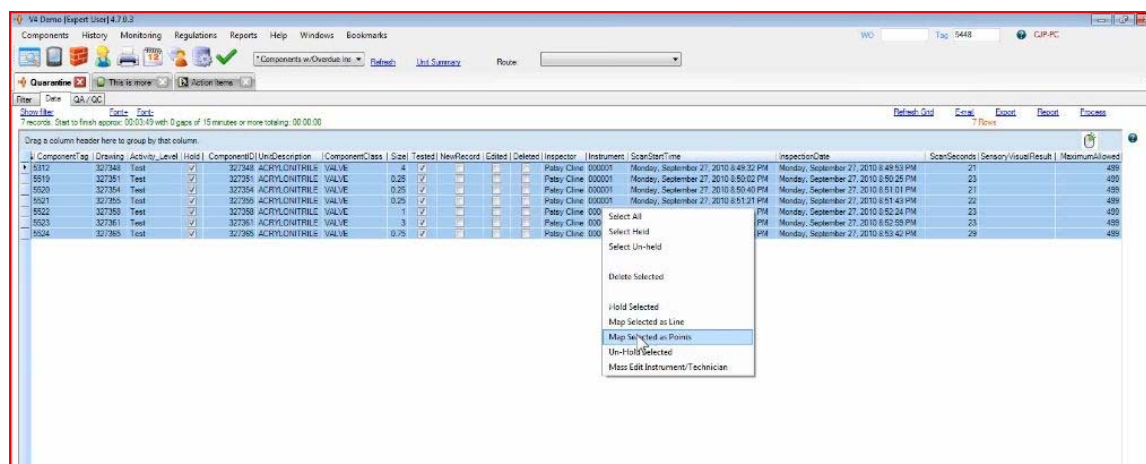
So we're going to take a look at Patsy's inspections here. Let's just do a select all. I'm going to do a right mouse click. Again, these are in quarantine right now, so I'm going to do a right mouse click. I'm going to tell LeakDAS that I want to – I can either map select it as line or I can map select it as points, or I can do both and overlay them over top of each other. Let's go with points first. All of the mapping we do, we use Google Earth. I talked about that previous. We use Google Earth for a couple different reasons, because

it's free and it's very powerful and it already has your facility in the map. It takes a little bit of time to open this initial time.
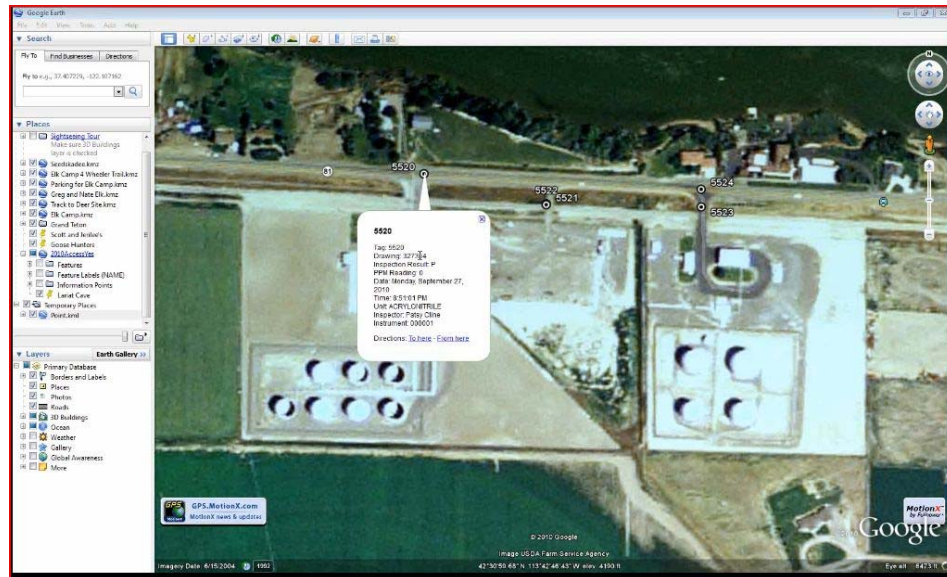
So here's the monitoring that Patsy did. We'd see the tank. She was right at the entranceways to the tank farm here. The individual tags that she monitored are the points. If I click on any of those points, it opens up and gives me the details. Here's the tag, the drawing, the inspection, the date she did the inspection, the unit she was in and so forth. If she had found any leaks, the leaks, instead of being black, the leaks would show up as red.

Let's go back to LeakDAS and tell it to map select it as line. And we're going to overlay the two of those over the top of each other. And now I get the path that she walked or a

rough approximation of it. And it does, in the order that the monitoring took place, it draws a line. So I can see it goes from point to point to point to point as she worked her way through these components. Now, isn't that just flat cool to be able to see where the technician was when they did the monitoring? Imagine taking that into your facility, if you've had issues with technicians. Maybe you had a contractor that messed you up and got you on a consent decree. This gives you that added level of protection, where before I ever process these components through the quarantine table, I can review them. I can see where the technician was, make sure that he was where he was supposed to be, and if he wasn't, I can throw those inspections away and just not let them in to my database, very, very cool. And what's really cool about it, it's automatically done in the background.

Now another thing that this does for you with GPS is when I process those inspections through quarantine, it updated the component record with the GPS component. So now, not only do I know where the technician was when he did the monitoring, but now the component knows where it is in my facility. After however long it takes you to monitor all your components, with GPS, at some point all your components have their latitude and longitude. And then the magic really starts. You can do things, such as set a filter for all my pumps in my database and then say show me on the map where those pumps are. You could say show me all of my pumps that had a reading greater than 100 PPM last quarter and then show yourself on a map where those were. You could say show me all my leaks for 2010 and then see on a map where those leaks were.

So keep gathering GPS as part of the inspection is just the first step on really being able to use latitude and longitude to do some pretty fancy and amazing things. So if you don't have a GPS enabled handset, you might want to consider that when it's time to upgrade your handsets. If you are using an Archer handset, you can upgrade for about, I want to say it's about 300 bucks to add the chip into an Archer handset. I think that's it for monitoring

EDITING EXISTING TAGS

Now let's talk about editing existing tags and how to add new tags to LeakDAS Mobile. Let's say that my technician, let's go ahead and send the technician back out to the field. He's got 55 tags he needs to monitor. And he just spent 20 minutes looking for this component. It was very difficult to find because it had a really bad location description. My technician may say well you know, I'd like to fix this so the next guy doesn't have the problems I have. There's a hidden button in the bottom left hand corner where the GPS signal's coming across. If I hit that hidden button, it pops up a little menu where I can do several things.

I can force the test type to change from a Method 21 to a visual or from a visual to a Method 21. I can force a test type change. I can enter a background reading, just like I did previously, or very importantly, I can edit the tag. And that's what I want to show you here is my technician had a hard time finding this component. I'm going to click on the edit tag button. That takes me into edit mode on this component.

And then I can go in, type in additional location information. Whatever my additional location is, I can change whatever I'm authorized to change. Now, remember I showed you in route manager previously how in route manager you can give a technician permission to do edits or permission to do compliance edits. If my technician doesn't have permission to do edits, I can't get to this form. I just wouldn't be able to because I don't have permission to do edits. If I don't have permission to do compliance edits, I

can't change any of the compliance fields, such as category, class or any of the regulatory information. But in this case, I am authorized to do that. So if all I need to do is just edit one or two components, while I'm doing my monitoring, that's the way I would do it. I would just, from monitoring mode, shift over temporarily into edit mode, make the changes. I'm going to say back. It wants confirmation that I want to save that change. And now, in addition to the monitoring that I gather, it's going to also send to LeakDAS the edit that I made so that when that gets processed through. The next time somebody goes to the component, they've got the new location description to help them find the component. This is a pretty valuable tool. So if while doing monitoring, if you want to make one or two edits or simple edits, just switch from monitoring mode to edit mode using the hidden button down at the bottom left hand corner.

If, however, I'm actually going to the field to do tag maintenance, that's my goal today. Process unit X. They've just done a process unit turn around. They've taken some valves out. They've put some valves in. They reworked some lines. In that case, what I want to do is send the process unit down to the LeakDAS Mobile handset and my technician, instead of doing tests, he's going to switch this to edit mode.

And now when I click the action button over on the right hand side, instead of going into test mode, it takes me directly into edit mode. Now I'm in edit mode. I'm on this same component. I can make the changes I want to do, and then I can just hit next tag, which would take me to the next tag. I'm in live edit mode here, so I can just type in the information that I need. Once I'm good, next tag, save the record. Based on the permissions that I have, again, determines whether I can edit and also whether I can edit compliance fields.

The way this is drawn up, again, I have far less screen real estate than I do with LeakDAS itself. So we have to spread things out a little bit differently.

I've got four tabs, component information, which is the tag, the location, basically what it is and where it is, some of where it is. The location gives me the different plant, building departments, all those different pick lists. Also, we had to put the chemical information on this location tab as well, so we know the stream, the chemical state and so forth. The reg tab is the regulations that are assigned to the component. And then the miscellaneous tab is the five user group fields and also the ability to flag it as out of service. So if the component is out of service, I flag it for the reason why it's out of service and the estimated return date. And when that goes back to LeakDAS, the out of service will get documented. So you're going to use the edit form for editing, for out of service, and so forth. In this case, this would go up as an out of service. If I go next component, it navigates – I'm always going to get prompted do I want to save. Tell it yes, and then it's

going to take me to the next component. So this is pretty straightforward as far as editing existing components.

Can you edit the route sequence with the mobile unit? Yes, route sequence is right on the component tab. It is part of the records. So if you wanted to send a technician to the field to reroute components, let's say that we've got this new line that's been added right in the middle and we want the technician to route that, he can edit that route sequence.

ADDING NEW COMPONENTS IN THE FIELD

Basically, I really don't think there's anything about the component record that you can't edit and make a change to. So it's very, very full featured here. Now, sometimes this is going to happen to you. The technician is out there doing some monitoring or he's out there doing tag maintenance, and he comes across a new component that's been added in the field and he wants to document that new component. The best way to do that is to make a copy of an existing component. Basically what you would do is find the component right next to the new component and then just come down to the bottom of the component tab and hit the copy button. It asks me if I want to save the one I was hitting on, so I'll go ahead and tell it yes. And then the copy, notice the copy, we knocked out the last digit and we replace it with an X. That's a visual clue that you've made a copy. Let's come up here and let's see. I was using V4-, and I think I got up to 007 when I was adding tags the other day. So there's my new tag. I'm not going to edit anything else that's different about that. This is a valve. It's normal to monitor.

If something's different, I just would type in whatever is different about this. And then when I'm ready, I can either make an additional copy, if I want to add another tag. Maybe there's five or six lines or five or six components that have been added. If I hit copy again, it asks me if I want to save that. It's going to save that. Notice it replaces my last digit. Now I'm on tag number eight. And this, instead of being a valve, this is a connector. So I come to my pick list and choose connector. Fill out, again, whatever is different about this component. And then when I'm done adding those new components, all I have to do is just back out. It's going to ask me if I want to save it. And I'm going to tell it yes, and I'm back to my grid. So it's very easy to edit existing components. It's very easy to add new components.

NEW TAGGING

If I want to send a technician out to do nothing but new tagging, let's say I've got a brand new process unit that's just been completed and I want to send a technician out to tag those components, I still would have to sync down all the pick lists. So what I would do is I would create a route with maybe just one component in the route, so that all my pick lists come down to the handset, so he has something in the handset, a starting point. We do have the ability to add a blank new tag. If I come back here to the main screen, I can do a blank new tag.

I don't really like doing blank new tags because that means I have to fill out every single field on all the forms. So notice how everything is pretty much blank here. I have to fill them all out. But once the first one is filled out, then I can just make copy, copy, copy, do my copy, edit trick that I've been showing you, so that I don't have to fill out all the fields. So really, it's the first one that would take some time to populate. So it's not too bad of a deal. But usually, what I like to do is copy an existing tag, the one closest to where I'm working and then I know the route sequence. I have a starting point. I know the stream that's in the line, that kind of stuff.

And I mentioned on this route pick list, I've got three routes in there. But this new tag, this is where all new tags go.
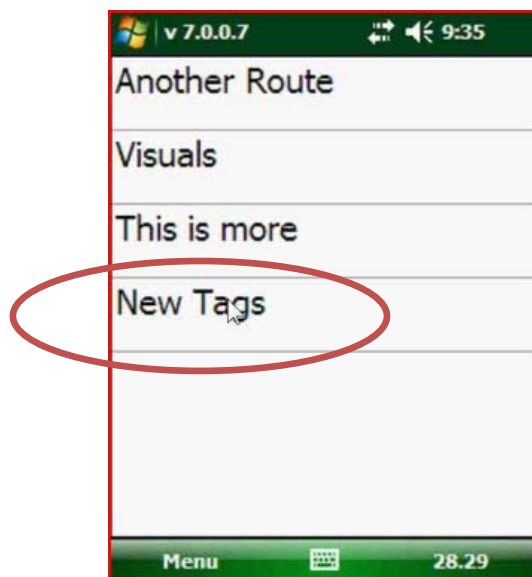
If I click on new tags and then set a filter, now I'm going to be able to see those new tags. And if I wanted to go monitor them, I could go ahead and monitor them as well.

One thing about monitoring a new tag, we don't yet know for sure what the regulation is going to say. We don't yet know what the leak definition is going to be. So these new tags, in the handset, as they're copied go in with a 500 PPM leak definition and a Method 21 test type. So when you send that to LeakDAS, when we process those through, then the right rule gets assigned. The right leak definition gets assigned. And if you exceeded the leak definition on your monitoring, it would call it a leak.

If you're doing documenting and you copy an existing tag, does the route sequence change? Yes, if I copy an existing tag, the route sequence gets a little point off the end. It does do a point zero, zero, one. So the route sequence, the initial one is 4287 and it added a zero, zero, one.

So it's going to be in the right sequence after the one that you copied. The next one should be a zero, zero, two. So we're copying the route sequence and adding a point, zero, zero, one. And then each additional copy would be a point zero, zero, two, point, zero, zero, three, so that when you set them up, they're going to be sequenced correctly. I love LeakDAS.

EDITS IN QUARANTINE

Let's go ahead and sync these. These two new tags that I've added, we're going to go ahead and sync them back to LeakDAS. Again, any adds, edits, any monitoring, that all gets uploaded first, and then it pulls the rules back down again. If I go to quarantine now and set it for edits, here's the edits that I made.

I made four different edits on four different components. And then I also added two new components. The cool thing about the edits, just like I showed you previously, you might wonder what got edited. Remember the pink field represents the field that got changed and then the little show live button here, I can toggle my mouse over off of that and I can see that change and it will show me. The pink is the proposed change. The green is what's on the component right now, prior to the proposed change.

So when this data comes back in from the technician, you're, again, the responsible party. You can take a look. The technician said he edited components. You want to take a look and you want to see what he edited, make sure it's good before you process it through. Very importantly, take note that this component was edited by Johnny Jack. So we know who did the editing. And when that change gets processed through, that's the name that's going to be written on the record in the change log, so we know who changed the record, pretty valuable.

CALIBRATION FORM

One of the things that I skipped right over in LeakDAS Mobile, the calibration forms.

If I go into calibrate from the main screen, I have the ability, in LeakDAS Mobile to enter my calibration information. I don't have any in here right now, so I'm going to click the add new.

It's going to open up the calibration form and I'm going to choose the instrument that I'm calibrating. Who's doing the calibrating? It's going to be Johnny Jack. I have the ability to either enter the calibration cylinder that I'm using, or if I've entered those into the pick list up in LeakDAS, I can select them off the pick list by clicking on these numbers on the side. This opens up a little selector where I can choose. In this case, I'm doing a methane 500 PPM. And then it stores the cylinder number for me and the PPM value, the expiration date and so forth. Over here, in the reading field, this is where I'm going to store the reading that I'm getting when I apply that 500 PPM gas. I can either manually

enter that in, or if I click on the little B, it will pull whatever's coming across the Bluetooth stream right now. Now I don't have 500 PPM gas, so that's just grabbing the value. What that means is I choose my cylinder. I apply the gas. I click the B and it's going to load right there on the screen, whatever the gas is reading on the analyzer. This is brand new with this build of LeakDAS Mobile. I've got up to six different cylinders that I can calibrate off of, so my zero, my 500, my 10,000, whatever, however many cylinders you want to enter, you can do. I'll go ahead and save that so I have a saved record.

Drift Checks

Let's say this afternoon, I have to go out and do my drift checks. I'm going to select the calibration, click on the edit, come down here to my drift checks tab.


And from my drift checks, again, I choose the cylinder I want to use, the 500 gas. I apply the gas to the analyzer, click the Bluetooth. It stores the value. And then I'm able to then click on this calculate drift to tell me what my drift is. But what this allows you to do is store your calibration and store multiple drift checks off those calibrations as you do your monitoring through the day. Here's the magic.

Automatically now, the technician goes out and does monitoring. Automatically, when I do a synchronization, that calibration automatically gets uploaded to LeakDAS. You go ahead and do a sync here. Let's take LeakDAS now and let's go to calibration history. So I'm going to go history, calibrations.
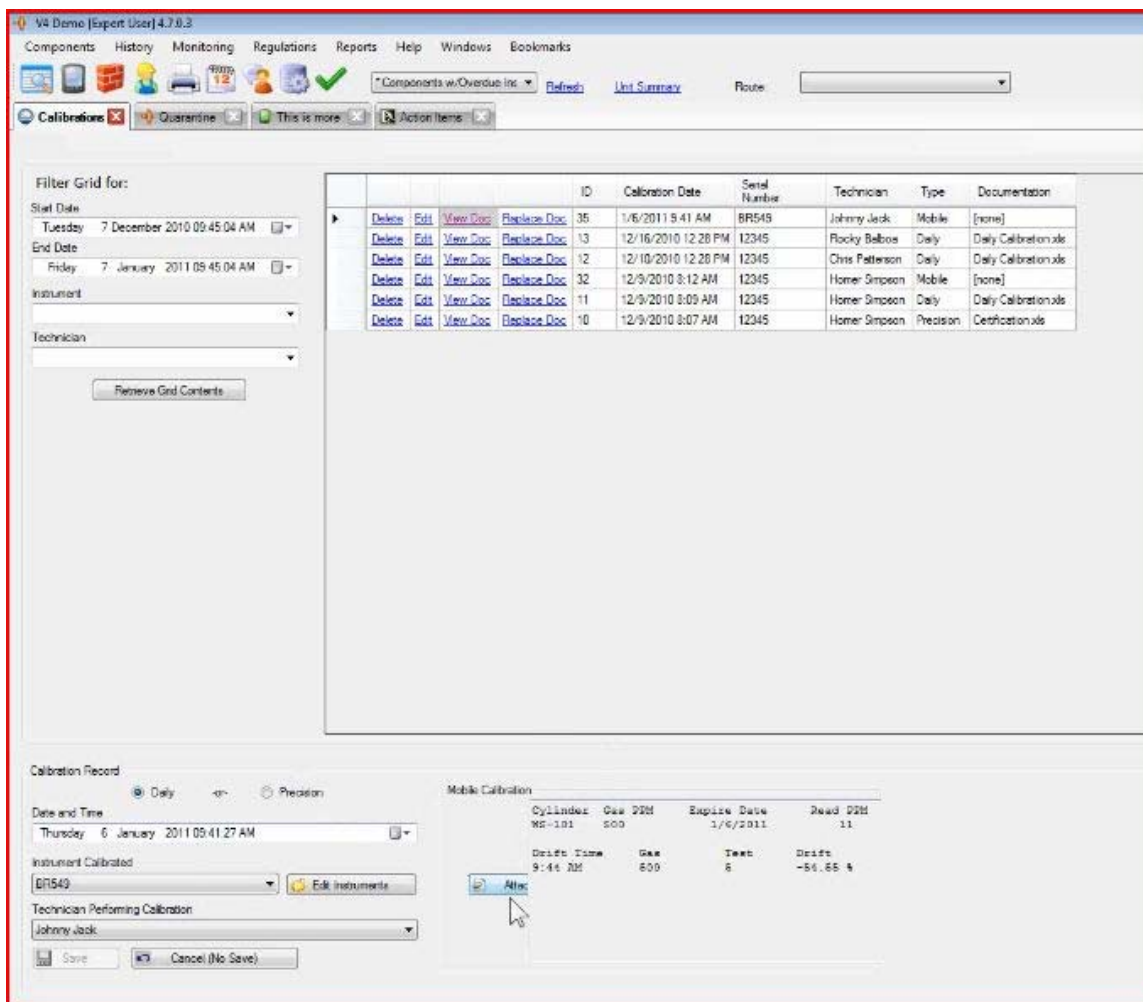
Here's my mobile calibration on January 6th, for instrument BR549, for Johnny Jack. It's a mobile calibration. And if I just click up here on the view, it opens up and shows me all the details that Johnny entered when he did his mobile calibration, the gas cylinders that he used, the drift checks that he did. That upload is all automatically done for me. I don't have to worry about it. If the technician synchronizes two or three times today, it doesn't matter because his calibration is still good for the day.

So tomorrow, he would have to calibrate again, but today, he would never have to calibrate again. I did that sync. That calibration won't disappear from this instrument until tomorrow. It's still going to be here. But tomorrow, when that date changes, that calibration is cleared out and I would have to click an add new, not thrown away, just cleared out. He'd have to add new. If he hasn't uploaded his data logger yet, then the calibration would still, next time you sync, it would upload yesterday's calibration and then go on today. So this is the form. If you want to truly do a paperless calibration system, you've got the ability to do it now with LeakDAS Mobile. Of course, we're talking daily calibrations. We're not talking the quarterly precision calibrations.

I think this is going to work out pretty good. Hopefully it does for the users that want to do a paperless calibration system. I like the way that we've added in to be able to just pull the value coming across the Bluetooth stream, so you don't have to write those any more. You just hit the buttons and grab the calibrations.

SUMMARY FORM

Here on this main form, you click on a summary and get a summary of everything that's in LeakDAS Mobile right now.
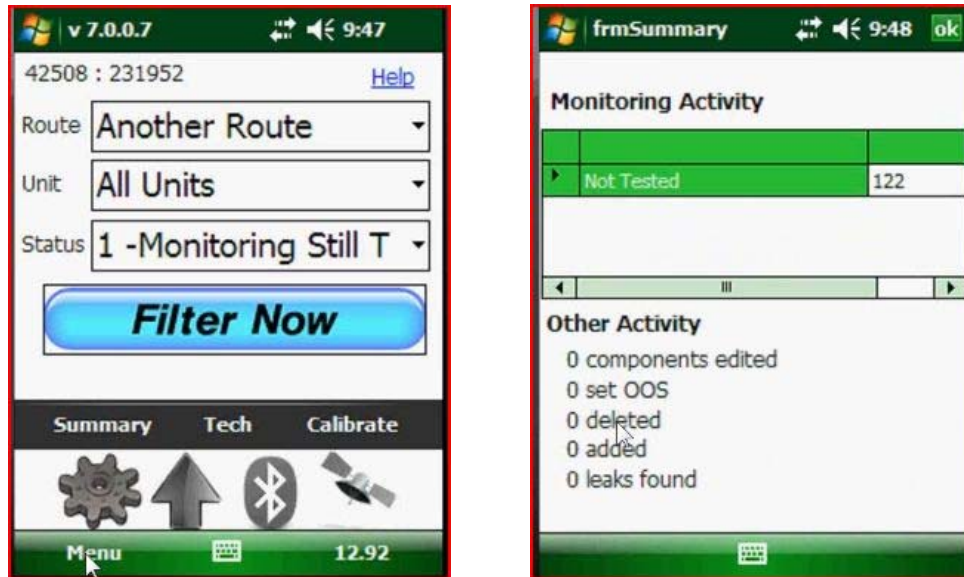

This will give you the total count of how many have been tested, haven't been tested, how many leaks have been found, how many have been set out of service, all of those details in a summary screen, so the technician kind of knows what he's got before he does a synchronization.

RELIGHT

From the Bluetooth tab on the main screen, the WDA2000 and the Photovac allow us to do what's called a relight, for those instances where you get a flameout while you're out in the field.
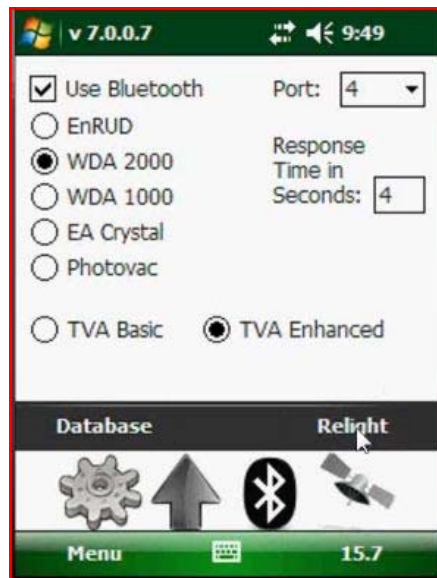
If you're using a WDA2000 or a Photovac, and you get a flameout, you can come here to the Bluetooth tab and you can hit the relight button, which will actually issue a relight command back out to those devices. These other devices do not have two way communications and so they don't have the relight capability. So that's something that's kind of nice. If you get a flameout, you don't have to take the analyzer off your back or out of the backpack to do the relight. The relight would actually show up if you were actually in monitoring mode when they flameout took place. What happens is this PPM value that shows up on the bottom of the screen – get through here. This PPM value, if we had a flameout, would actually change to the word relight, so that you'd know you had a flameout and you can issue the relight command. So it's kind of a nice feature.

That's it for this section. If you're stuck on a LeakDAS concept and still confused about something we've covered here, why don't you sent an email to support@inspectionlogic.com. We'll get you the help you need right away. So, just send an e-mail, and a member of the support team will help you out.