Training Manual for the Oyster Field Data Entry Terminal (OFDET)

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Background: This manual is for teaching users how to use the Oyster Field Data Entry Terminal (OFDET). The OFDET was designed as a substitute for paper and pencil recording in the field for the VIMS/Virginia Marine Resources Commission (VMRC) joint annual oyster patent tong survey. It allows for the direct input of large amounts of data directly into a database while in the field. This system was designed and programmed by John Thomas (VIMS IT Department) and field-tested during surveys conducted in 2015 through 2018, with data collected with the OFDET being compared with paper and pencil data from 2016 through 2018 (90% of OFDET data were within – 6% to 7% of the paper totals when oysters were present). The system went "live" for data collection during the 2019 survey.

Equipment used:
Dell Ruggedized Laptop (Latitude 7424 Rugged Extreme Laptop)
Panasonic FZ-G1 Rugged Tablet
Verizon MiFi Hotspot
X-Keys XK24 Programmable Keypad

Software:
Microsoft Excel
Box

Tablet training protocol

Part 1: Start-up sequence

Step 1: Turn on the MiFi (hotspot) device (Figure 1). This device allows data to be sent from the tablet to the back-up computer and from there to an appropriate cloud storage location.

Figure 1: MiFi hotspot

Step 2: Power up the back-up computer. Make sure it is connected to Box or another appropriate cloud storage location (Figure 2).

Figure 2: Back-up computer (ruggedized Dell laptop) with MiFi/hotspot unit.

Step 3: Secure the tablet and keypad to the portable/wearable device (Figure 3) and plug the USB cord from the keypad into the USB port on top of the tablet (Figure 4). Be sure to use a bungee cord to strap down at least one side of the tablet to the board. You can start the training/getting used to the data entry process without performing this step, but you will want to use it for the final step of the training process when simulating conditions in the field.

Figure 3: The wearable device without the tablet and keypad attached. The tablet connects to the Velcro in the red box, the keypad connects to the Velcro in the blue box. The keypad can be moved around to find the position that is most comfortable for the user.

Figure 4: Tablet with keypad hooked up (USB cord from keypad plugged into the USB port on the top of the tablet). Notice the bungee connected to the eyehooks on the left side of the tablet.

Step 4: Power up the tablet (the keypad runs off the tablet's battery power and will power up at the same time as the tablet).

Step 5: Log in to the tablet using the stylus; note the touchscreen should be turned off, so you must use the stylus. (Figure 5).

Figure 5: Powered up toughpad/tablet with keypad hooked up.

Part 2: Tablet training in data acquisition

Training Overview

Spend 5 to 10 minutes, familiarizing yourself with the keys on the keypad. Figure 6 shows a diagram of the keypad. The keypad has two layers: primary (black labeled keys) and secondary (red labeled keys) layers. Keys that only have a black label do NOT have a function in the secondary layer.

1. **Layer 1**: primary layer. Keys labeled in black (blue backlight; Figure 7). Green light in upper left-hand corner is lit up when on this layer.
2. **Layer 2**: secondary layer. Keys labeled in red (red backlight; Figure 8). Access this layer by hitting the "Shift" key. Red light in upper left-hand corner of keypad is lit up when on this layer.

TONG **OPEN**	ERROR **RESET**	SHIFT **SHIFT**	SAVE **QUIT**
DRILL BOX	SPAT BOX	OLD BOX	NEW BOX
7	8 **BKSP**	9	LIVE
4	5 **UNDO**	6	SPAT
1 **•**	2 **↑**	3	E N T E R
BACK **←**	0 **↓**	TAB **→**	

Figure 6: Diagram of keypad layout. The black layer is the primary layer, the red layer is the secondary layer. Press the shift key to go back and forth between the primary (black) and secondary (red) layers.
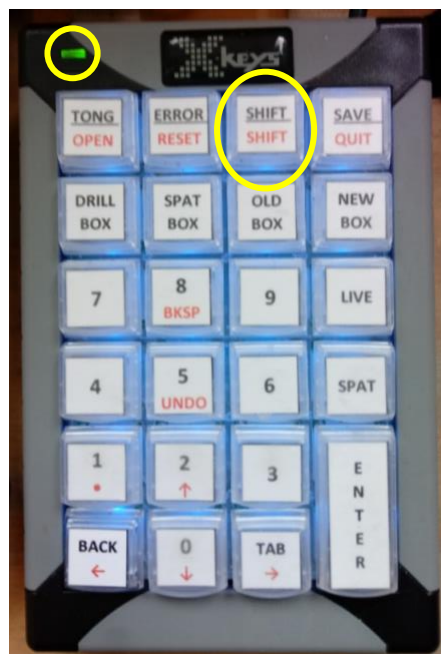

Figure 7: Primary layer on the keypad. Notice that the backlight is blue and the light in the upper left-hand corner is green. The function of each key in this layer is labeled in black. The shift key allows you to go back and forth between the two layers.

Figure 8: Secondary layer on the keypad. Notice that the backlight is red and the light in the upper left-hand corner is red. The function of each key in this layer is labeled in red. The shift key allows you to go back and forth between the two layers.

Key pad functions

Black label/primary layer:

- TONG – takes you from the primary data entry form back to the tong data entry form
- ERROR – hitting this key, voids the last entry and enters a -1 in the field (highlighted in red; see Figure 9)
- SHIFT – allows user to go back and forth between the two layers on the keypad, when in the blue/black layer it will switch the user to the red/secondary layer
- SAVE – saves the file, this will be followed by a prompt to verify the user wishes to save the file
- DRILL BOX, SPAT BOX, OLD BOX, NEW BOX, LIVE AND SPAT – these are all oyster categories. Pressing one will take the cursor to the appropriate place on the data form. This would be followed by a number, then enter.
- BACK – this moves the cursor back one box on the data form
- TAB – this moves the cursor forward one box on the data form
- ENTER– this enters the data into the form and moves the cursor onto the next empty spot
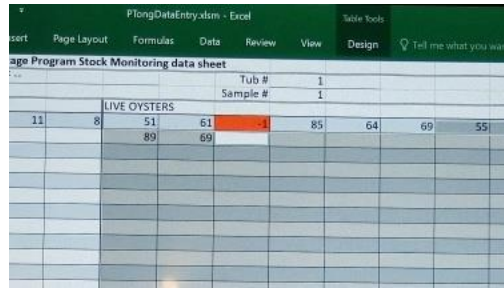
Figure 9: Red highlighted field with a -1 (result of hitting the ERROR key)

Red label/secondary layer (hit the shift key to access this layer)
- OPEN – this opens a new file
- RESET – use this only if when you open a new file, the file is corrupted (already appears to have data in it). This will reset the system with a "clean" form
- SHIFT - allows user to go back and forth between the two layers on the keypad, when in the red/secondary layer it will switch the user to the blue/black layer
- QUIT – this allows you to quit and open a new file WITHOUT saving the file. This will be followed by a prompt to verify the user wishes to quit without saving.
- BKSP – this allows the user to go back a space
- UNDO – this allows the user to undo the last thing they did
- "." – this is a decimal point. It will only be used when entering shell volume data
- ↑ - this will move the cursor up one box on the data form
- ← - this will move the cursor over one box to the left on the data form
- ↓ - this will move the cursor down one box on the data form
- → - this will move the cursor over one box to the right on the data form

Once you feel comfortable with the keys you can begin "learning" the data entry process.

Data Entry Practice

Step 1: Open a new file. To open a new file first press the shift key (the light in the upper left corner should change to red) and then the Open Key. This will bring up the station data file. (Figure 10). You will need to hit the shift key again to return to the blue/primary layer before beginning to enter data.

Figure 10: Image of station data screen. Don't forget to press the shift button again to return to the blue/primary layer before beginning to enter data.

Step 2: **Enter station data**. You can use the sample data shown in Figure 11. Recommend that trainee spends 5 to 10 minutes practicing entering this data before moving on to Step 3. To practice multiple times WITHOUT saving, hit the SHIFT key, then QUIT and say ok when prompted. This will get you out of the file without saving it and allow you to start over.

Notes on station data entry:
- If you make a mistake on this screen. Scroll through by hitting enter until you get back to the field you need to change.
- Both the Latitude and the Longitude need to be entered as 7 digits (without spaces or decimals).
- Only change the date if you need to, this is automatically set to the current date and should NOT need to be changed.
- Sample Category is automatically set to 1 and should NOT need to be changed.
- Brown Shell and Black Shell will be left blank until the end (after oyster size data is entered).
- To switch from the Station Data Entry form to the Oyster Data Entry Form, press any oyster category key (SPAT, LIVE, NEW BOX, OLD BOX, SPAT BOX, DRILL BOX).
- To switch from the Oyster Data Entry Form to the Station Data Entry form, press the TONG key.

The basic workflow is:
1. Start a new data entry session by pressing SHIFT then OPEN
2. SHIFT back to BLUE/BLACK layer by pressing SHIFT
3. Enter the REEF by selecting a number on keypad. It will try to autofill if there is a match (then ENTER)

4. Change the date (key 8 digits only) if necessary (then ENTER)
5. Key the 7-digit LAT (then ENTER)
6. Key the 7-digit Long (then ENTER)
7. Key the Tub (then ENTER)
8. Key the Sample ID (then ENTER)
9. Key Depth (then ENTER)
10. Key Bottom (then ENTER)
11. Key SubSample Factor (this will be obtained from the sample processors on the back deck of the boat)
12. Key any oyster category (SPAT, LIVE, NEW BOX, OLD BOX, SPAT BOX, DRILL BOX). This will switch the screen to the oyster datasheet to begin entering size data

Upper James
#1 UPPER DEEP WATER SHOAL   VIMS ID: 326
313.0857858588E

TUB #	SAMPLE #	YDMS	XDMS	DEPTH	BOTTOM
—	1	37° 8.934'	-76° 37.147'	3	6
—	2	37° 8.973'	-76° 37.180'	3	6
—	3	37° 8.907'	-76° 37.230'	3	6
—	4	37° 8.894'	-76° 37.296'	3	6
8	5	37° 8.868'	-76° 37.329'	5	2
9	6	37° 8.907'	-76° 37.346'	6	2
—	7	37° 8.881'	-76° 37.429'	6	3
10	8	37° 8.894'	-76° 37.462'	6	2
11	9	37° 8.841'	-76° 37.445'	7	2
12	10	37° 8.986'	-76° 37.594'	6	2
—	11	37° 9.052'	-76° 37.478'	6	1
—	12	37° 9.078'	-76° 37.495'	7	1
—	13	37° 9.131'	-76° 37.478'	7	1
—	14	37° 9.052'	-76° 37.429'	6	1
—	15	37° 9.144'	-76° 37.644'	7	1
—	16	37° 9.118'	-76° 37.661'	7	1
13	17	37° 8.986'	-76° 37.760'	4	2
14	18	37° 8.973'	-76° 37.793'	4	4

Figure 11: Sample data for practice entering station data.

Using the data in Figure 11 and the basic work flow prompts above, sample 1 from Figure 11 would be entered as:
1. Press SHIFT then OPEN
2. Press SHIFT to return BLUE/BLACK layer
3. Press 326 (ENTER)
4. (ENTER); to bypass data field
5. Press 3708934 (ENTER)

6. Press 7637147 (ENTER)
7. Press 0 (ENTER)
8. Press 1 (ENTER)
9. Press 3 (ENTER)
10. Press 6 (ENTER)

NOTE: Since this sample had no oysters associated with it (blank tub), the file for this sample would be ready to save. At this point, the screen should look like the picture shown in Figure 12. IF the sample had oysters (i.e. had an associated tub #), the user would move on to enter the oyster information (see below for example).
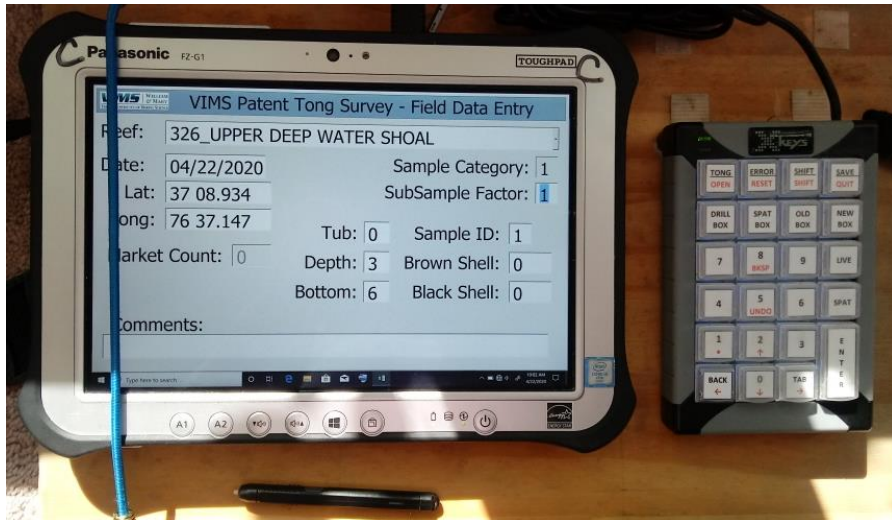
Figure 12: Screen after entering sample 1 from the sample datasheet shown in Figure 10.

Saving Process:
1. Press Save
2. A prompt will come up on the screen (Figure 13). Press either BACK or TAB to toggle to OK and then ENTER to confirm save
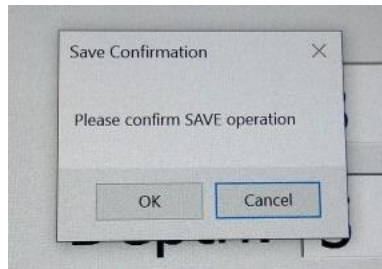
Figure 13: SAVE confirmation prompt. Once it is saved the user cannot make changes to the file.

Using the data in Figure 11 and the basic work flow prompts above, sample 5 from Figure 11 would be entered as:
1. Press SHIFT then OPEN

2. Press SHIFT to return BLUE/BLACK layer
3. Press 326 (ENTER)
4. (ENTER); to bypass data field
5. Press 3708868 (ENTER)
6. Press 7637329 (ENTER)
7. Press 8 (ENTER)
8. Press 5 (ENTER)
9. Press 5 (ENTER)
10. Press 2 (ENTER)

This sample DID have oysters and/or shell in it, so the user would now be ready to start entering oyster size/category data. At this point, the screen should look like Figure 14.
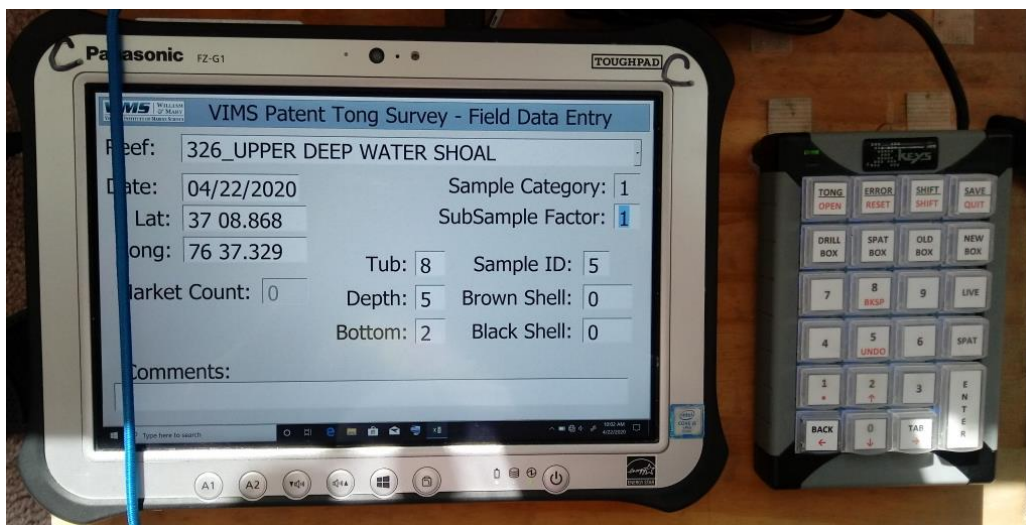
Figure 14: Screen after entering sample 5 from the sample datasheet shown in Figure 10.

The user can practice entering the sample station data shown in Figure 11 until they feel comfortable with the process (use the quit without saving option). When they have a good comfort level move onto the oyster size/category data entry (Step 3).

Quit without saving:
1. Press SHIFT to switch to red/secondary layer
2. Press QUIT
3. A prompt will come up on the screen (Figure 15). Press either BACK or TAB to toggle to OK and then ENTER to confirm quit without saving.
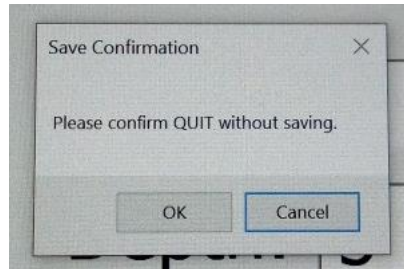
Figure 15: QUIT without saving confirmation prompt.

Step 3: Enter oyster size/category data. In this step the trainee will start by entering practice data in just the SPAT and LIVE categories. As the trainee gains familiarity/comfort with that, they can begin practicing with data sets that have more categories.

NOTE: Any LIVE oyster will be called out as a number only, all other oyster categories will have the category called, followed by a number (see Round 1 example below)

- Switch to the Oyster Data Entry Form by pressing any oyster category key (SPAT, LIVE, NEW BOX, OLD BOX, SPAT BOX, DRILL BOX).
- Have one or two people call out sample data from the attached files. Speed up or slow down as is necessary as trainees get more comfortable with the process.

Round 1: This round includes only SPAT and LIVE oyster categories. Recommend going through this round multiple times (minimum of 3 or 4 depending on comfort level of trainees) before going onto Round 2. Four sets of sample data that can be used in Round 1 can be found in the Appendix (Round 1 – sample data 1 through 4).

Round 2_1: This round includes all oyster categories (SPAT, LIVE, NEW BOX, OLD BOX, SPAT BOX, DRILL BOX). Recommend going through this round multiple times (minimum of 3 or 4 depending on comfort level of trainees) before going onto Round 3. Four sets of sample data that can be used in Round 2 can be found in the Appendix (Round 2 - sample data 1 through 4).

Round 2_2: This round will include intentional errors by the "callers" so the trainees can gain familiarity with the error key (and/or using the red/secondary layer to move around the data sheet to correct errors). The sample data used in Round 2_1 can also be used for this round.

Round 1 example using the highlighted section in the attached Round 1 - sample data 1: The first 15 oysters (highlighted in yellow) would be called out as: 51, 61, SPAT 17, 85, 64, 69, 55, SPAT 7, 73, 46, 84, SPAT 11, 89, SPAT 8, 69

Key Stroke sequence:

LIVE 51 ENTER, LIVE 61 ENTER, SPAT 17 ENTER, LIVE 85 ENTER, LIVE 64 ENTER, LIVE 69 ENTER, LIVE 55 ENTER, SPAT 7 ENTER, LIVE 73 ENTER, LIVE 46 ENTER, LIVE 84 ENTER, SPAT 11 ENTER, LIVE 89 ENTER, SPAT 8 ENTER, LIVE 69 ENTER

At the end of this 15-oyster sequence, the data screen would look like that shown in Figure 16. Note: if the trainee/user happens to enter the oysters in a different order, the screen may look different, but as long as each size is entered under the correct category heading, that is ok.
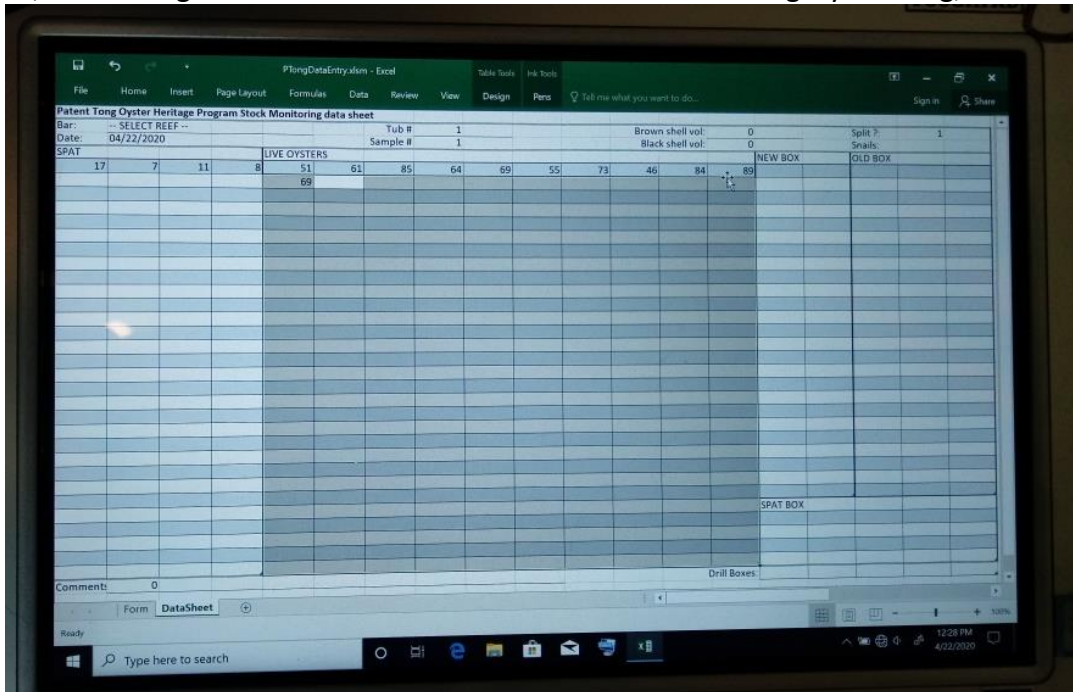
Figure 16: Example of what screen will look like after entering the first 15 oysters given in Appendix Sample Data: Round 1 – sample data 1 (yellow highlighted section).

Round 2_1 example using the highlighted section in the attached Round 2 - sample data 1: The first 20 oysters (highlighted in yellow) would be called out as: 64, Old Box 58, 74, Spat Box 10, New Box 55, 68, Spat 14, 65, 78, 64, Old Box 73, 78, 46, Old Box 70, 66, 60, Spat 8, Old Box 49, Spat 9, Spat Box 6

Key Stroke Sequence: LIVE 64 ENTER, OLD BOX 58 ENTER, LIVE 74 ENTER, SPAT BOX 10 ENTER, NEW BOX 55 ENTER, LIVE 68 ENTER, SPAT 14 ENTER, LIVE 65 ENTER, LIVE 78 ENTER, LIVE 64 ENTER, OLD BOX 73 ENTER, LIVE 78 ENTER, LIVE 46 ENTER, OLD BOX 70 ENTER, LIVE 66 ENTER, LIVE 60 ENTER, SPAT 8 ENTER, OLD BOX 49 ENTER, SPAT 9 ENTER, SPAT BOX 6 ENTER.

At the end of this 20-oyster sequence, the data screen would look like that shown in Figure 17. Note: if the trainee/user happens to enter the oysters in a different order, the screen may look different, but as long as each size is entered under the correct category heading, that is ok.
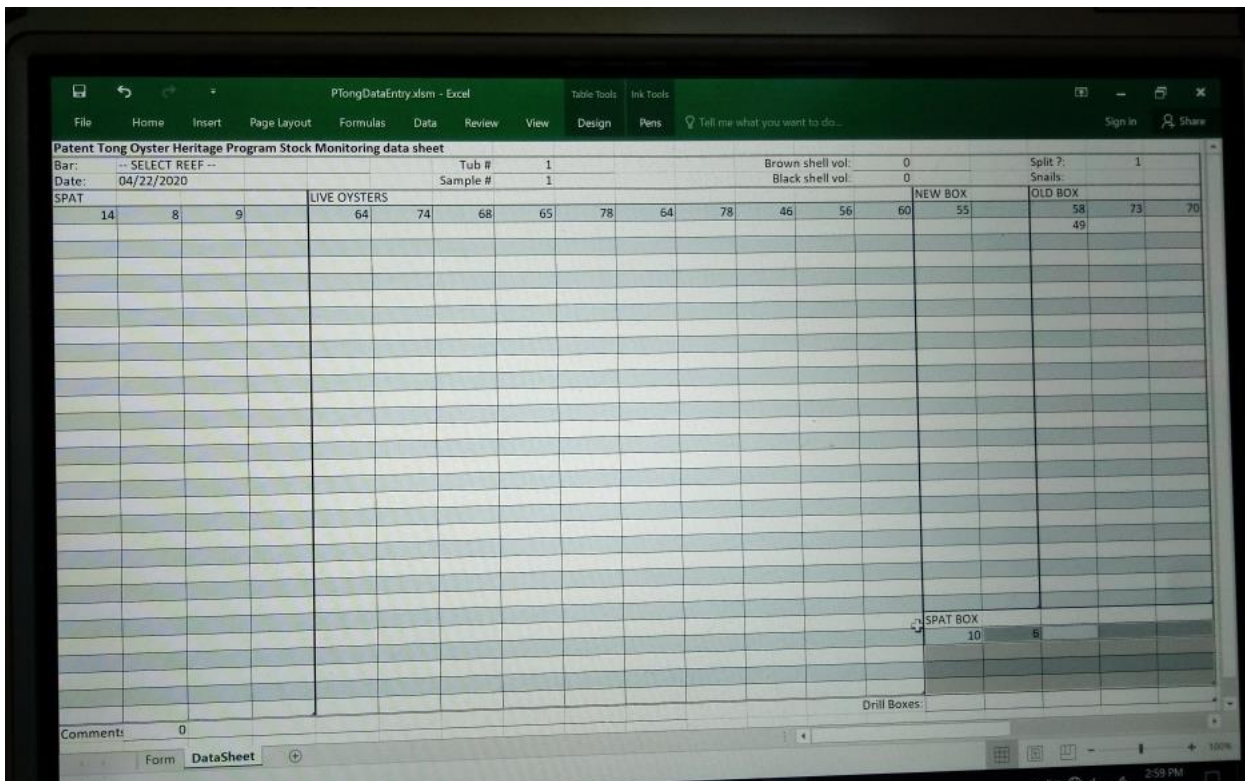
Figure 17: Example of what screen will look like after entering the first 20 oysters given in Appendix Sample Data: Round 2 – sample data 1 (yellow highlighted section).

Round 2_2 example using the highlighted section in the attached Round 2 - sample data 1 (remember in this round, the "callers" want to purposely make a few mistakes and call out a wrong number to give the trainee practice correcting errors): The first 20 oysters (highlighted in yellow) would be called out as: 64, Old Box 58, 74, Spat Box 10, Old Box 55, sorry, that was a New Box 55, 68, Spat 14, 65, 78, 64, Old Box 73, 78, 46, Old Box 70, 56, sorry, that last one was a 66, not 56, 60, Spat 8, Old Box 49, Spat 9, Spat Box 6

Key Stroke Sequence: LIVE 64 ENTER, OLD BOX 58 ENTER, LIVE 74 ENTER, SPAT BOX 10 ENTER, OLD BOX 55 ENTER, ERROR, NEW BOX 55, LIVE 68 ENTER, SPAT 14 ENTER, LIVE 65 ENTER, LIVE 78 ENTER, LIVE 64 ENTER, OLD BOX 73 ENTER, LIVE 78 ENTER, LIVE 46 ENTER, OLD BOX 70 ENTER, LIVE 56 ENTER, ERROR, LIVE 66 ENTER, LIVE 60 ENTER, SPAT 8 ENTER, OLD BOX 49 ENTER, SPAT 9 ENTER, SPAT BOX 6 ENTER.

At the end of this 20-oyster sequence, the data screen would look like that shown in Figure 18. Note: if the trainee/user happens to enter the oysters in a different order, the screen may look different, but as long as each size is entered under the correct category heading, that is ok. Notice where the ERROR key was pressed that box is highlighted red and has a value of -1.
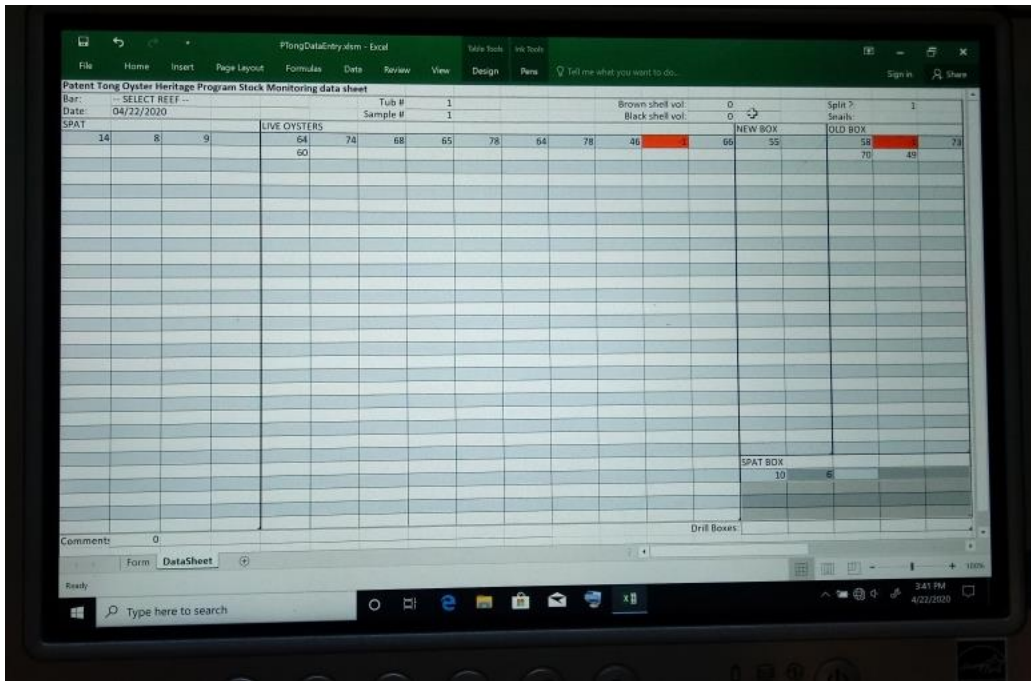
Figure 18: Example of what screen will look like after entering the first 20 oysters given in Appendix Sample Data: Round 2 – sample data 1 (yellow highlighted section) with included errors.

Tips for troubleshooting errors:

1. The EASIEST METHOD of correcting an error is to hit the ERROR key and then move on (continue entering data). The caveat with this method is you HAVE to catch the error when it is made. If you notice it later and KNOW the correct value/category, there are methods for correcting it (when there is time).
2. Use the stylus to highlight the box/field that contains the error and input the correct value. NOTE: After doing this, be sure to hit the next oyster category to be entered BEFORE keying any other values. Failing to do this will move the cursor to the next box/field and override any data that may be in that particular box/field.
3. Use the available keys on the red/secondary layer of the keypad (BKSP and arrow keys) to move the cursor around the data form to get to the box/field that needs to be corrected. Once in the box/field to be corrected, press SHIFT to move back to the

black/primary layer and key the correct value. NOTE: After doing this, be sure to key the next oyster category to be entered BEFORE keying any other values. Failing to do this will move the cursor to the next box/field and override any data that may be in that particular box/field.

4. Key the correct value/oyster category in the next available box/field (ignore the error for now). When there is time, use the stylus to highlight the box/field that contains the error and enter 0.

Step 4: **Entering shell data, saving the file and transferring files to back-up.**

Process to enter shell data: when all of the oysters to be measured have been measured the last piece of data to be entered is shell volume.
1. Press the TONG key to return to the Station Data Entry form
2. Toggle through the fields by pressing either ENTER or TAB until the cursor is in the Brown Shell field
3. Key Brown Shell volume, ENTER
4. Key Black Shell volume, ENTER

Examples:

1. Both of the volume values are whole number (i.e. Brown Shell volume = 12 and Black Shell volume = 2). The keystroke sequence would be as follows (starting on the Oyster Data Entry form:

   - Press TONG (then ENTER until the cursor is in the Brown Shell field)
   - Press 12 (ENTER; the cursor should now be in the Black Shell field)
   - Press 2 (ENTER)

2. One or both of the volumes are a decimal (i.e. Brown Shell volume = 0.5 and Black Shell volume = 0.75). The keystroke sequence would be as follows (starting on the Oyster Data Entry form:

   - Press TONG (then ENTER until the cursor is in the Brown Shell field)
   - Press SHIFT
   - Press "."
   - Press SHIFT
   - Press 5 (ENTER; the cursor should now be in the Black Shell field)
   - Press SHIFT
   - Press "."
   - Press SHIFT
   - Press 75 (ENTER)

Saving the file: this was covered earlier in the manual (on Page 10), but a refresher is included below.

Saving Process:
1. Press Save
2. A prompt will come up on the screen (Figure 13). Press either BACK or TAB to toggle to OK and then ENTER to confirm save

<mark>When in the field and entering real data, the user will also need to get into the habit of periodically backing up the data. It is recommended that this is done every few samples.</mark>

To send the data to the back-up computer: use the stylus to double tap the "Send data" icon located on the desktop of the tablet (Figure 19). The best time to do this is between samples, while the folks measuring the oysters are cleaning the next sample getting it ready for processing.

Figure 19: Send_Data icon located on the tablet's desktop. Double tapping this with the stylus will prompt the tablet to send any new data files to the back-up computer.

Clicking the Send_Data icon will open a screen on the desktop that looks like that shown in Figure 20.

As the data successfully sends in the background, the screen will scroll through showing the files that are being sent. Once all of the new data has successfully sent, the window will show something similar to the image shown in Figure 21. Clicking any key on the keypad will close the window, at which time a new file can be opened and data acquisition can resume.
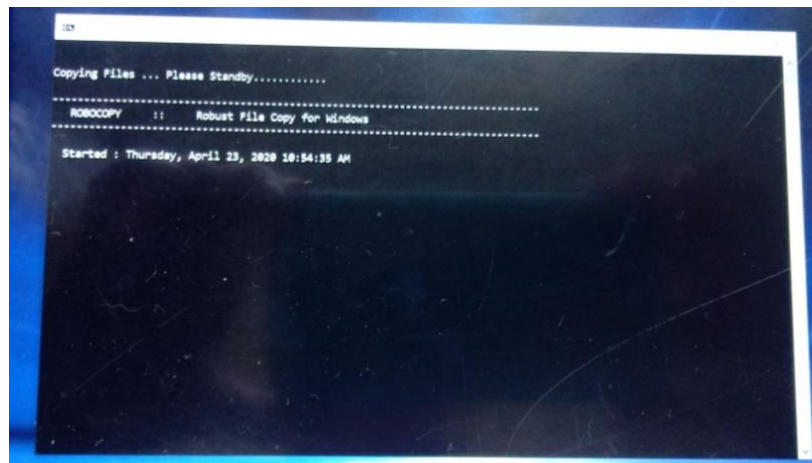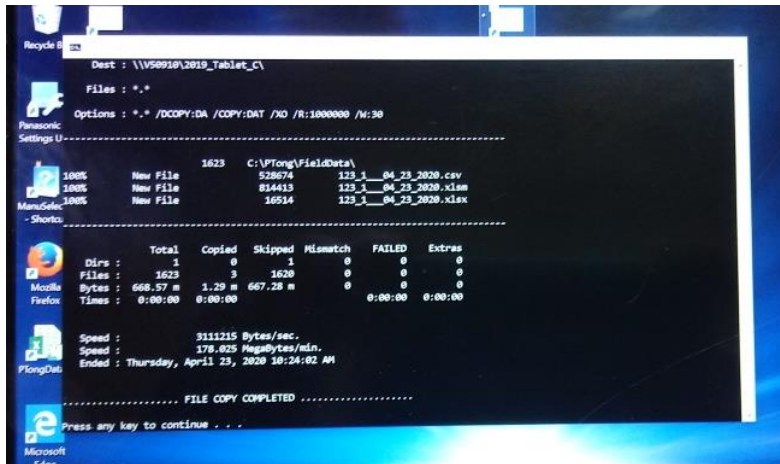
Figure 21: Image showing the pop-up screen that appears after the data has successfully been sent to the back-up computer. Once this screen appears, the user can press any key on the key pad to close the window and resume data acquisition.

If file transfer is unsuccessful:
- Check to see that the tablet is connected to your MiFi/hotspot device
- Check to see that your MiFi/hotspot device and/or your back-up computer has not gone to sleep or turned off
- Try sending the data again

You can verify that all files have been transferred to the back-up computer on site by comparing the file folder on the tablet with the appropriately named file folder on your on-site back-up device. Just as a note: even in locations with poor cell reception (bad connection for MiFi/hotspot device), the files should still easily and readily transfer from the tablets to the on-site back up device.

Final round of training

Testing round. This round is similar to the third round, except that the data entered by trainees will be compared to the simulated data used in the test or will be compared to handwritten data collected simultaneously by an experienced recorder (so it is important that all data is SAVED during this part of the training). Conditions for this round should use real oysters, with at

least two people measuring (shouting out numbers) and if possible be done either in the lab or even better outside to simulate "real-life" conditions of sampling. Trainees should wear the harness with tablet and keypad on the board during this part of the training.

To see how the harness system works, see the included training video.

Each trainee should go through at least 3 simulated data acquisition sessions during this part of the training. Trainees should exceed a certain accuracy threshold (we use less than 5% error rate when compared with a comparable paper and pencil data collection) before being permitted to collect data in the field. As mentioned above, it is important that all data files are SAVED during this part of the training so the trainee's accuracy can be measured.

Appendix: Sample Data Sheets

Round 1 - sample data 1

Category	Length	Category	Length	Category	Length
Live	51	Live	53	Live	58
Live	61	Live	62	Live	56
Spat	17	Live	57	Live	68
Live	85	Live	71	Live	75
Live	64	Spat	10	Live	72
Live	69	Live	62	Live	58
Live	55	Live	70	Live	63
Spat	7	Live	50	Live	60
Live	73	Live	55	Live	69
Live	46	Spat	4	Live	63
Live	84	Spat	9	Live	59
Spat	11	Spat	7	Live	50
Live	89	Live	73	Live	67
Spat	8	Live	57	Live	52
Live	69	Spat	6	Spat	8
Live	96	Spat	9	Live	45
Live	70	Live	58	Live	78
Live	51	Live	62	Live	65
Live	57	Live	63		
Live	75	Spat	6		
Live	64	Live	47		
Live	77	Live	67		
Live	47	Spat	9		
Live	65	Live	50		
Live	74	Live	58		
Live	51	Live	80		
Live	57	Live	69		
Live	91	Spat	14		
Live	86	Live	69		
Live	62	Live	72		
Live	56	Live	65		
Live	85	Live	72		
Live	48	Live	60		
Live	67	Spat	15		
Live	64	Spat	10		
Live	46	Spat	9		
Spat	9	Live	62		
Live	68	Live	64		
Live	76	Live	51		
Live	62	Live	62		
Live	52	Live	46		

Round 1 - sample data 2

Category	Length	Category	Length	Category	Length
Live	51	Live	53	Live	58
Live	61	Live	62	Live	56
Live	85	Live	57	Live	68
Live	64	Live	71	Live	75
Live	69	Spat	10	Live	72
Live	55	Live	62	Live	58
Spat	7	Live	70	Live	63
Live	73	Live	50	Live	60
Live	46	Live	55	Live	69
Live	84	Spat	4	Live	63
Spat	11	Spat	9	Live	59
Live	89	Spat	7	Live	50
Spat	8	Live	73	Live	67
Live	69	Live	57	Live	52
Live	96	Spat	6	Spat	8
Live	70	Spat	9	Live	45
Live	51	Live	58	Live	78
Live	57	Live	62	Live	65
Live	75	Live	63		
Live	64	Spat	6		
Live	77	Live	47		
Live	47	Live	67		
Live	65	Spat	9		
Spat	17	Live	50		
Live	74	Live	58		
Live	51	Live	80		
Live	57	Live	69		
Live	91	Spat	14		
Live	86	Live	69		
Live	62	Live	72		
Live	56	Live	65		
Live	85	Live	72		
Live	48	Live	60		
Live	67	Spat	15		
Live	64	Spat	10		
Live	46	Spat	9		
Spat	9	Live	62		
Live	68	Live	64		
Live	76	Live	51		
Live	62	Live	62		
Live	52	Live	46		

Round 1 - sample data 3

Category	Length	Category	Length	Category	Length
Spat	16	Live	55	Live	70
Live	67	Spat	15	Spat	10
Spat	11	Live	61	Live	66
Live	61	Live	68	Live	64
Live	78	Live	55	Live	76
Spat	5	Live	77	Live	48
Spat	10	Live	72	Live	70
Live	49	Live	64	Live	60
Live	58	Live	73	Live	64
Live	65	Live	65	Live	74
Live	57	Live	66	Spat	12
Live	66	Live	62	Spat	13
Live	67	Live	49	Live	55
Live	70	Live	67	Live	59
Live	53	Spat	11	Spat	7
Live	69	Live	47	Live	77
Spat	15	Live	71	Live	72
Spat	9	Live	60	Live	58
Live	58	Spat	12		
Live	70	Live	68		
Live	58	Spat	12		
Live	58	Live	91		
Live	65	Live	58		
Live	50	Live	71		
Live	66	Live	61		
Live	76	Live	72		
Live	65	Live	55		
Live	46	Spat	8		
Live	58	Live	71		
Live	88	Live	69		
Live	80	Live	78		
Live	53	Live	82		
Live	69	Spat	10		
Live	73	Live	66		
Live	60	Spat	8		
Live	64	Live	84		
Live	67	Live	58		
Live	73	Live	62		
Live	75	Live	63		
Live	55	Live	69		
Live	63	Live	62		

Round 1 - sample data 4

Category	Length	Category	Length	Category	Length
Live	67	Live	65	Live	83
Live	66	Live	49	Live	78
Spat	8	Spat	14	Live	66
Live	60	Live	74	Live	47
Spat	10	Live	64	Live	68
Live	70	Live	62	Live	56
Live	66	Live	69	Spat	9
Live	67	Live	60	Live	65
Live	58	Spat	11	Live	64
Live	84	Live	51	Spat	8
Live	73	Live	54	Live	60
Live	63	Live	74	Spat	14
Spat	14	Live	59	Live	56
Live	72	Live	60	Live	73
Spat	5	Live	67	Spat	12
Live	65	Live	93	Live	62
Live	74	Spat	11	Spat	9
Spat	11	Live	69	Live	68
Spat	18	Live	69		
Live	59	Live	61		
Live	48	Spat	12		
Live	57	Spat	11		
Live	60	Spat	13		
Live	83	Live	75		
Spat	11	Live	66		
Live	60	Live	58		
Live	64	Live	61		
Live	81	Live	69		
Spat	14	Live	71		
Spat	10	Live	75		
Live	52	Spat	11		
Live	71	Live	54		
Spat	7	Live	55		
Live	51	Spat	8		
Live	63	Live	85		
Spat	7	Spat	10		
Live	68	Live	63		
Live	63	Live	75		
Live	44	Live	61		
Live	76	Live	67		
Live	56	Live	70		

Round 2 - sample data 1

Category	Length	Category	Length	Category	Length
Live	64	Spat	7	Live	72
Old Box	58	Live	75	Live	78
Live	74	Drill Box	25	Old Box	74
Spat Box	10	Live	57	Live	70
New Box	55	Live	66	Live	42
Live	68	Live	79	Live	54
Spat	14	Live	68	New Box	94
Live	65	Live	64	Spat Box	7
Live	78	Spat Box	7	Live	60
Live	64	Spat Box	8	Old Box	58
Old Box	73	Spat	13	Live	69
Live	78	Spat	10	Live	50
Live	46	Spat	7	New Box	50
Old Box	70	Live	61	New Box	72
Live	66	Live	59	Spat	15
Live	60	Spat	8	Live	80
Spat	8	Live	52	Live	70
Old Box	49	Live	66	Spat	7
Spat	9	Live	81	Live	47
Spat Box	6	Live	78	Live	70
Live	49	Live	77	Live	70
Spat	9	Live	74	Live	60
Live	34	Spat	12	Old Box	73
Old Box	61	Spat	8	Live	71
Live	69	Spat	12	Drill Box	15
Live	77	Live	45	Live	77
Live	83	Live	64	Live	74
Live	77	Live	77	Live	64
Live	47	Spat Box	7	Live	62
Live	86	Spat	14	Spat	8
Live	74	Live	63	Live	80
Live	58	Spat	9	Live	68
Spat	12	Live	61	Spat	9
Live	61	Spat	9	Spat	6
Live	61	Live	68	Spat	11
Live	56	Live	49	Live	65
New Box	57	Live	79	Live	66
Live	81	Live	71	Spat	15
Live	77	Drill Box	30	Live	69
Live	76	New Box	66	Live	55
Live	67	Live	73	Live	64

Round 2 - sample data 2

Category	Length	Category	Length	Category	Length
Spat	21	Live	82	Old Box	67
Spat	7	Live	70	Live	49
Live	72	Live	84	Live	63
Live	68	Live	59	Spat	8
Live	64	Old Box	53	Spat	10
Live	64	Live	73	Live	64
Live	81	Live	53	Spat	11
Old Box	70	Live	70	Live	59
Spat	11	Live	69	Live	64
Spat	8	Old Box	78	Live	52
Live	67	Live	52	Spat	10
Live	70	Spat	8	Live	65
Live	50	Live	49	Spat Box	12
New Box	69	Live	73	Live	51
Spat	8	Live	71	Spat	8
New Box	69	Live	69	Live	72
Spat	8	Spat	9	Live	58
Spat	8	Live	58	Live	66
Live	69	Live	52	Spat	13
Old Box	36	New Box	75	Live	65
Spat Box	7	Live	77	Live	68
Live	84	Live	62	Live	60
Live	55	Spat Box	8	Live	64
Spat Box	6	Live	65	Live	71
Live	71	Live	63	Live	69
New Box	64	Spat	9	Live	52
Spat	6	Live	61	Live	66
Live	49	Live	77	Old Box	73
Spat	8	Live	54	Live	78
New Box	64	Old Box	73	Spat Box	17
Spat	12	Live	59	Live	73
Live	54	Live	60	Live	66
Old Box	68	Spat	15	Live	70
Live	60	Live	77	Live	58
Live	78	Live	75	Spat Box	7
Spat	4	Spat	13	Live	77
Spat	5	Live	32	Live	65
Spat	10	New Box	57	Live	78
Live	70	Spat	11	Live	56
Live	72	Live	38	Live	53
Live	62	New Box	78	Old Box	53

Round 2 - sample data 3

Category	Length	Category	Length	Category	Length
Live	58	Spat	9	Live	52
Live	84	Live	77	Live	71
Live	54	Live	54	Spat	17
Live	67	Spat	16	Live	47
Spat	10	Spat Box	8	Spat	12
Live	56	Live	60	Old Box	60
Live	61	Live	76	Spat Box	10
Live	58	Spat	9	Spat	14
Spat	8	Live	88	Live	53
Spat	17	Old Box	70	Old Box	54
Live	63	Live	78	New Box	60
Spat	14	Live	68	Live	70
Live	75	Live	65	Spat Box	13
Spat	8	Spat	6	New Box	82
Spat	17	Spat	10	Live	60
Spat	4	Spat Box	8	Spat	11
Spat	9	Spat	9	Live	62
Live	67	Old Box	58	New Box	65
Spat	11	Live	78	Live	70
Live	86	Live	65	Live	61
Live	71	Live	79	Spat	12
Live	72	Live	70	Spat	12
Live	69	Old Box	82	Live	60
Live	71	Old Box	79	Old Box	69
Spat	7	Live	72	Live	64
Live	63	Live	53	Live	80
Live	68	Old Box	59	Live	62
Live	67	Old Box	60	Spat	10
Old Box	63	Live	56	Spat	5
Live	67	Spat	5	Old Box	76
Live	69	Live	53	Old Box	69
Spat	14	Old Box	68	Live	78
Live	71	Live	63	Live	53
Live	59	Live	80	Live	72
Live	69	Live	61	Live	75
Old Box	75	Spat	5	Live	64
Spat Box	9	Live	53	Old Box	70
Live	67	Live	67	New Box	53
Spat	14	Live	45	Spat	13
Live	49	Old Box	64	Live	56
Live	61	Old Box	71	Spat	5

Round 2 - sample data 4

Category	Length	Category	Length	Category	Length
Live	58	Live	67	Spat	7
Live	45	Live	45	Spat	9
Spat	4	Live	61	New Box	49
Old Box	34	Live	30	Live	74
Live	56	Spat	15	Live	79
Spat	20	Spat	8	Live	93
Spat Box	10	Live	52	Live	56
Live	78	Live	60	Live	39
Live	56	Live	70	Live	50
Live	64	Live	45	Live	39
Live	36	Spat Box	12	Spat	7
Spat	9	Old Box	102	Spat	5
Spat	13	Live	63	Spat	17
New Box	75	Live	78	Live	98
Live	45	Live	92	Spat	9
Live	48	Spat	7	New Box	47
Spat	12	Spat	13	Live	73
Old Box	87	Live	56	Live	73
Live	95	Live	67	Live	97
Live	34	Live	49	Old Box	109
Live	67	Live	51	Spat	10
Spat	6	New Box	84	Live	90
Live	74	Spat	14	Live	50
Live	53	Live	69	Live	74
Spat	13	Live	53	Spat	14
Drill Box	12	Live	82	Live	63
Spat	10	Spat	6	Spat	13
Spat	5	Live	39	Live	63
Live	78	Live	53	Live	72
Live	61	Old Box	103	Live	58
Live	60	Old Box	56	Live	50
Live	37	Spat	9	Live	40
Live	80	Live	100	Old Box	40
Live	67	Live	65	Spat Box	12
Spat	15	Live	78	Live	59
Live	63	Live	37	Live	49
Live	45	Live	73	Live	52
Live	42	Spat	16	Live	71
New Box	63	Live	73	Live	52
Old Box	45	Live	67	Live	48
Live	69	Live	46	Live	36